

**CITY OF STORM LAKE
REGULAR COUNCIL SESSION MEETING,
CITY HALL COUNCIL CHAMBERS
MARCH 20, 2023
5:00 PM**



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

AGENDA

Access to the official meeting can also be done through the following ways:

BY TELEPHONE:

Dial: 1-312-626-6799 or toll-free: 1-888-475-4499

Zoom Meeting ID: 933-2006-3301

BY COMPUTER:

<https://zoom.us/j/93320063301>

Open the Meeting

- **Call to Order**
- **Pledge of Allegiance**
- **Proclamation**

- A. **Consideration of Changes in Agenda and Setting the Agenda**
- B. **Disclosure by City Council Members**
- C. **Hear the Public**
- D. **Consent Agenda**
 - 1. [Consent Agenda](#)
 - 2. [Buy Local Information](#)
 - 3. [Resolution No. 43-R- 2022-2023 To Approve Request from Storm Lake United for 2023 Events](#)
 - 4. [SLPD City Code Enforcement Summary](#)
 - 5. [BVU Block Party and Buenafiction Noise Variance Requests](#)
- E. **Unfinished Business**
- F. **New Business**
 - 1. [Resolution No. 44-R-2022-2023 Revising Fees At Sunrise Pointe Golf Course](#)
 - 2. [Resolution No. 45-R-2022-2023 Fixing Date for a Meeting on the Authorization of a Loan Agreement and the Issuance of Not To Exceed \\$6,200,000 Urban Renewal Revenue Capital Loan Notes of the City of Storm Lake, State of Iowa, and Providing for Publication of Notice Thereof.](#)
 - 3. [Public Hearing on FY 2023-2024 Budget](#)
 - 4. [Resolution No. 46-R-2022-2023 Adopting FY 2023-2024 Budget](#)

5. Motion to Approve a Lime Hauling Contract with Custom MRA Custom Applications, LLC Sac City, Iowa
6. Motion to Approve a Biosolid Hauling Contract with Bryce Widman. Storm Lake, Iowa
7. Resolution No. 47-R-2022-2023 Approving Close Out for the Memorial Park Lift Station Improvement Project.
8. Resolution No. 48-R-2022-2023 To Set a Date for a Public Hearing for Council Meeting of May 1, 2023, to Approve Plans, Specifications, Form of Contract, And Engineer's Estimate of Cost and Set Date For Bid Letting for New Production Well 21 Project.
9. Motion to Approve Amendment No. 1 to the Agreement For Grant Administration Services With Simmering-Cory For The Library HVAC CDBG Award
10. Resolution No. 49-R-2022-2023 Setting Public Hearing To Review An Application For A State Revolving Fund (SRF) Loan And To Make Available To The Public The Contents Of An Environmental Information Document And The City's Project Plan
11. Motion to Approve the FY 2027 Regional Transportation Improvement Program Application for Oneida Street Reconstruction Phase 2 Project
12. Ordinance No. 04-O-2022-2023 Amending Title IV of the Storm Lake, Iowa City Code by Amending Section 4-3-2(d) of Chapter 4-3 on Solicitors, Which Section Defines "Transient Merchant," and by Adding New Chapter 4-10 Regulating Mobile Food and Beverage Vendors
13. Resolution No. 50-R-2022-2023 Approving to Adopt the City of Storm Lake Volunteer Program
14. Resolution No. 51-R-2022-2023 Approving to Adopt the City of Storm Lake Donation Program
15. City Council Requested Items

G. Adjourn

Meeting Protocol

If you wish to speak today, please:

1. To speak on an agenda item please approach the podium when that agenda item is called and upon recognition by the Mayor identify yourself by stating your name and address.
2. If your issue is not a topic on the agenda please approach the podium under the "Hear the Public" agenda item and upon recognition by the Mayor identify yourself by stating your name and address.
3. Please keep your remarks to three (3) minutes or less.
4. If you require accommodation for this meeting including but not limited to translation services, hearing assistance, or accessibility please contact the City Clerk at least four (4) hours prior to the start of the meeting.

**If you have concerns about any of the items on the consent agenda, they may be separated from the consent agenda and voted on individually.*

***Ordinances may be read at three consecutive meetings or readings may be waived and ordinances may be passed at only one or two meetings.*

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Find us on the Web at <http://www.stormlake.org>

Staff Summary

03/20/2023

Agenda Item # D.1.



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REPORT TO:

FROM: Mayra Martinez City Clerk

SUBJECT: **Consent Agenda**

BACKGROUND:

List of Bills

- King's Pointe & Sunrise Pointe Disbursements ,
- Approve March 6, 2023 City Council Minutes
- Acknowledge February 2023 Library Minutes
- Acknowledge February 2023 Airport Minutes
- Approve Resolution No.43-R-2022-2023 Approving SLU Events
- Approve Renewal Liquor Licenses for Mo's Tap and Puffs Pending Dram Shop Approval
- Approve BVU Block Party Noise Variance and Buenafiction Day Noise Variance
- Approve Buy Local Information
- Approve Storm Lake Police Department City Code Enforcement Update

FISCAL IMPACT:

The City Will Pay The Following Expenditures:

- List of Bills: \$ 804,499.56
- King's Pointe & Sunrise Pointe Golf Course Bills: \$195,396.85

The City Will Receive The Following Income: Renewal Liquor License Fees:
\$1,690.00

RECOMMENDATION: Approve Consent Agenda

ATTACHMENTS:

[03/20/2023 City Claims Expense Report.pdf](#)
[03/20/2023 King's Pointe Claims 3.2.2023 to 3.15.2023.pdf](#)
[03062023 CC Minutes.pdf](#)
[Library February 2023 Minutes.pdf](#)
[Airport February 2023 Minutes.pdf](#)
[Resolution No. 43-2022-2023 - SLU Events 2023.pdf](#)
[Puffs Liquor Application 2023.pdf](#)
[Puff's Liquor Report 2023.pdf](#)
[Mo's Tap Liquor Application 2023.pdf](#)
[Mos Tap Liquor Report 2023.pdf](#)



Storm Lake, IA

My Buy Local_v1

Payment Date Range: 03/09/2023 - 03/22/2023

Vendor Name	Buy Local Info	Payable Description	Total Payments
BVC			
Buena Vista County Treasurer	BVC	Property Taxes	109,634.00
Buena Vista County Solid Waste	BVC	4th Qtr FY2023 Assessment	95,786.50
Mike's Electronics Inc	BVC	Lime Slaker Screen Services	3,980.00
Power Solutions, Inc	BVC	Mini Split Electrical Work	1,461.57
Mike's Electronics Inc	BVC	South Gate Repairs	2,034.61
4 Seasons Plumbing Heating & Cooling	BVC	Thermostat Installation- Less Tax	162.33
Storm Lake Garage Door Service, LLC	BVC	Door Cable Replacement	125.00
Mike's Electronics Inc	BVC	Crane Repairs	105.00
Buena Vista County Solid Waste	BVC	Recycling	54.08
Yards & Etc	BVC	Snow Removal- 123 Superior Street	38.00
Buena Vista County Recorder	BVC	Recording Fees	22.00
Buena Vista County Solid Waste	BVC	Recycling	20.15
BVC Total:			213,423.24
Contract/Agreement			
I & S Group, Inc	Contract/Agreement	Design Services	47,800.00
Local Government Professionals Services, LLC	Contract/Agreement	Housing Rehab Program	23,256.00
Bolton & Menk, Inc	Contract/Agreement	General Engineering Services	21,105.50
SCE, LLC	Contract/Agreement	KP Water Leak Repairs	16,989.17
Bolton & Menk, Inc	Contract/Agreement	Design Services	8,797.00
Kevin L Gilman	Contract/Agreement	Pay#3 (Final) Almdendarez Project	7,802.00
I & S Group, Inc	Contract/Agreement	Well Design	7,025.00
Bolton & Menk, Inc	Contract/Agreement	Construction Services	11,364.00
I & S Group, Inc	Contract/Agreement	Well Assessment & Permitting	3,850.00
SCE, LLC	Contract/Agreement	Well House Leak Repairs	3,680.98
I & S Group, Inc	Contract/Agreement	General Engineering Services	2,643.75
Kevin L Gilman	Contract/Agreement	Pay#2 of Almdendarez Project	2,588.00
I & S Group, Inc	Contract/Agreement	Construction Admin	530.00
Contract/Agreement Total:			157,431.40
Local			
Holzhauser Ford Lincoln Storm Lake Inc	Local	2022 GMC Sierra 3500- PW	49,342.50
Alliant Energy	Local	Gas Services	14,266.20
Growmark, Inc	Local	Fuel	11,415.89
Jim Bartholomew	Local	March 2023 Airport Contract	5,957.49
Central Bank	Local	Services	4,251.52
Iowa Office Supply Inc	Local	Office Furniture	3,939.36
Rebnord Technologies, Inc	Local	IT Service Agreement	3,833.33
Verizon Wireless Services LLC	Local	Cell Phone Service	3,581.14
Reding's Gravel & Excavating Co., Inc	Local	Rock	1,687.75
Long Lines	Local	Fax Line & Emergency Line Service	1,526.42
Iowa Office Supply Inc	Local	Office Furniture	1,520.00
Larson Oil & Distributing Co, Inc	Local	Propane	945.00
Storm Lake Hydraulics Co, Inc	Local	Couplers	909.95
Edwards Storm Lake	Local	Fuel Pump Replacement	874.01
Larson Oil & Distributing Co, Inc	Local	Propane	811.20
Reding's Gravel & Excavating Co., Inc	Local	Rock	711.87
L & G Products, Inc	Local	Ice Melt	612.50
Michael P. Reinert	Local	Materials	527.10
Havens & Havens	Local	1st Qtr 2023 Meetings	500.00
Edwards Storm Lake	Local	Water Pump Replacement	472.56
The Storm Lake Times	Local	Publications	468.08
Vetter Equipment	Local	Chainsaw Supplies	466.95
Iowa Office Supply Inc	Local	Supplies	352.94
Stanton Electric, Inc	Local	Santa's Castle Lights	343.55

My Buy Local_v1

Payment Date Range: 03/09/2023 - 03/22/2023

Vendor Name	Buy Local Info	Payable Description	Total Payments
Iowa Office Supply Inc	Local	Supplies	293.30
Reding's Gravel & Excavating Co., Inc	Local	Rock	274.94
Dianne Johnson	Local	Ozzy Dental	235.25
Vetter Equipment	Local	Filters	214.25
Graham Tire	Local	Service Call	171.72
North Lake Truck Repair	Local	Cleaner	170.94
Edwards Storm Lake	Local	Sensor Replacement	156.48
Michael P. Reinert	Local	Tubing	281.00
Visual Edge Inc	Local	Copier Maintenance Agreement	136.20
North Lake Truck Repair	Local	Plow Truck #59 Repairs	124.09
Coffee Tree	Local	3/9/23 Coffee w/ a Cop- Less Tax	118.85
Michael P. Reinert	Local	Grapple Repairs	115.50
Larson Oil & Distributing Co, Inc	Local	Propane	109.95
Visual Edge Inc	Local	Copier Maintenance Agreement	95.31
Buena Vista Regional Medical Center	Local	2/7/2023 Testing- Holmes, Huse, Muniz	93.00
Visual Edge Inc	Local	Copier Maintenance Agreement	89.95
Dennis R Julius	Local	Entrance Mat Services	82.80
Storm Lake Hydraulics Co, Inc	Local	Hyd Hose	60.43
Graham Tire	Local	Tire Repairs	56.16
Qwest Corporation	Local	Phone Service	51.80
Dennis R Julius	Local	Laundry Services	97.25
Iowa Office Supply Inc	Local	Office Supplies	46.94
Visual Edge Inc	Local	Copier Maintenance Agreement	46.14
Vetter Equipment	Local	Chainsaw Parts	82.42
Visual Edge Inc	Local	Copier Maintenance Agreement	62.54
Culligan Water Storm Lake	Local	Water Supplies	25.50
Rebnord Technologies, Inc	Local	Car Charger	24.95
Dennis R Julius	Local	Entrance Mat Services	24.00
Angelica C Reyes Grieme	Local	Wellness Coupons	20.00
Paxtons Jewelry	Local	Brass Plates	18.00
Iowa Office Supply Inc	Local	Supplies	17.66
Culligan Water Storm Lake	Local	Water Supplies	17.00
Storm Lake Hydraulics Co, Inc	Local	Supplies	15.55

Local Total: 112,747.18

Non-Local

MRA Custom Applications, LLC	Non-Local	Lime Hauling Services	20,506.71
Municipal Supply, Inc	Non-Local	Meters	19,923.00
The Retail Coach, LLC	Non-Local	Retail Market Analysis	12,500.00
Chicago, Central & Pacific Railroad Co	Non-Local	RR Crossing Surface Repairs- Cayuga St	12,266.00
WesTech Engineering, Inc	Non-Local	VFD Conversion	10,273.00
Mississippi Lime Company	Non-Local	Lime	27,057.81
Pattlen Enterprises, Inc	Non-Local	Lift	8,519.00
Mississippi Lime Company	Non-Local	Lime	7,956.60
Chicago, Central & Pacific Railroad Co	Non-Local	RR Crossing Surface Repairs- Oneida Street	6,657.34
Utility Equipment Co	Non-Local	Valve Box, Couplings, & Gates	6,243.60
Hawkins, Inc	Non-Local	Chemicals	4,895.00
HD Supply, Inc	Non-Local	Muffle Furnace	4,648.61
Municipal Supply, Inc	Non-Local	Supplies	3,871.88
TE Forensics, LLC	Non-Local	Report Services	3,816.00
RJ Thomas Manufacturing Compnay, Inc	Non-Local	Trash Receptacles & Bike Racks	3,690.00
Reliant Fire Apparatus, Inc	Non-Local	Aerial Repairs	3,682.19
Bend Mailing Services, LLC	Non-Local	Bill Printing Services	3,116.06
Cannon Moss Brygger & Associates, PC	Non-Local	Construction Services	2,398.00
Ed M. Feld Equipment Company, Inc	Non-Local	Function Testing	2,218.30
Sta-Mel Enterprises, Inc	Non-Local	Deicing Salt	2,193.00
Hallett Materials	Non-Local	Cold Mix	1,836.00
Tometich Engineering, Inc	Non-Local	Engineering Services	1,826.00
Dale Vitito	Non-Local	Uniform- Winey	1,679.99
Ziegler, Inc	Non-Local	Fuel Transfer Pump Service- Scout Park LS	1,562.90
Foundation Analytical Laboratory, Inc	Non-Local	Testing Services	1,427.50

My Buy Local_v1
Payment Date Range: 03/09/2023 - 03/22/2023

Vendor Name	Buy Local Info	Payable Description	Total Payments
Day's Door Company	Non-Local	Door Opener	1,300.00
Utility Equipment Co	Non-Local	Couplers	1,257.24
Trevor Kruger	Non-Local	Door Closure	860.00
DKOI Inc	Non-Local	Advertising	857.14
Safeware, Inc	Non-Local	Emergency Plug Kit	850.00
Imagine the Possibilities, Inc	Non-Local	Janitorial Services	800.00
ATCO Manufacturing Company	Non-Local	Supplies	738.69
HD Supply, Inc	Non-Local	Freeze Plates & Gaskets	681.84
Ziegler, Inc	Non-Local	Service Sensor	668.77
Foundation Analytical Laboratory, Inc	Non-Local	Testing Services	580.00
W. W. Grainger, Inc	Non-Local	Safety Traction Controls	566.97
Service Master by Rice	Non-Local	Carpet Cleaning Less Tax	558.87
International Code Council	Non-Local	REG III Single Day Class Reg- Olesen	990.00
Foundation Analytical Laboratory, Inc	Non-Local	Testing Services	467.00
RJ Thomas Manufacturing Compnay, Inc	Non-Local	Vinyl	439.85
Midwest Fence & Gate Company	Non-Local	Gate Repairs	382.50
Axon Enterprises, Inc	Non-Local	Batteries	348.80
Werner Sewer & Septic, LLC	Non-Local	Water Line Cleanout	300.00
HD Supply, Inc	Non-Local	Supplies	295.62
W. W. Grainger, Inc	Non-Local	Pet Waste Bags	273.20
Schumacher Elevator Company	Non-Local	Elevator Maintenance	232.80
NJ Criminal Interdiction LLC	Non-Local	Flipping Informants Training- Butler	225.00
Electric Pump Inc	Non-Local	Bushings	223.05
Ziegler, Inc	Non-Local	Air Cleaner Service Call- C65 LS	603.56
Language Line Services, Inc	Non-Local	Interpretation Services	195.49
ABC Pest Control, Inc	Non-Local	Pest Control Services	190.00
Central Iowa Distributing, Inc	Non-Local	Cleaning Supplies	184.00
National Fire Protection Association	Non-Local	FY2023 Member- #1012637	175.00
Demco, Inc	Non-Local	Supplies	163.63
Municipal Supply, Inc	Non-Local	Flags	156.70
HD Supply, Inc	Non-Local	Freeze Plates & Gaskets	156.20
W. W. Grainger, Inc	Non-Local	Safety Jackets	155.70
HD Supply, Inc	Non-Local	Freeze Plates & Gaskets	153.84
Iowa Law Enforcement Academy	Non-Local	MMPI-2 Training- Aldana	150.00
Ziegler, Inc	Non-Local	Air Cleaner Service- GC LS	140.87
HD Supply, Inc	Non-Local	Freeze Plates & Gaskets	139.53
ABC Pest Control, Inc	Non-Local	Pest Control Services	130.00
Iowa League of Cities	Non-Local	Iowa Mayors Assoc EM Symposium Registratic	130.00
HD Supply, Inc	Non-Local	Sling	128.95
UnityPoint Clinic- Occupational Medicine	Non-Local	Testing Services	126.00
Central Iowa Distributing, Inc	Non-Local	Cleaning Supplies	122.50
Salus LLC	Non-Local	February 2023 Memberships	120.00
Cintas First Aid & Safety	Non-Local	First Aid Supplies	115.29
W. W. Grainger, Inc	Non-Local	Safety Jackets	111.32
Brodart Co.	Non-Local	Books	105.02
Guardian Alliance Technologies, Inc	Non-Local	Software Licesnes	102.00
Hotsy Equipment Company	Non-Local	Nozzle	195.00
ABC Pest Control, Inc	Non-Local	Pest Control Services	91.00
Iowa Utility Association	Non-Local	DEV23 Conf Registration- Dutfield	90.00
Stanard & Associates, Inc	Non-Local	Testing Material	86.00
Baker & Taylor, Inc	Non-Local	Books	70.62
Iowa Lakes Regional Water	Non-Local	Water Service	64.87
Cintas First Aid & Safety	Non-Local	First Aid Supplies	64.25
Midwest Tape, LLC	Non-Local	DVDs	119.95
Ace Sign Displays	Non-Local	Exit Signs	55.00
Western Iowa Tourism Region	Non-Local	3/7/2023 Registration- Dutfield & Larsen	50.00
Midwest Tape, LLC	Non-Local	DVDs	49.48
RJ Thomas Manufacturing Compnay, Inc	Non-Local	Vinyl	45.00
Ingram Library Services, Inc	Non-Local	Books	40.98
Junior Library Guild	Non-Local	Books	40.00
Brodart Co.	Non-Local	Books	38.84

My Buy Local_v1

Payment Date Range: 03/09/2023 - 03/22/2023

Vendor Name	Buy Local Info	Payable Description	Total Payments
Midwest Tape, LLC	Non-Local	DVDs	38.23
UPS	Non-Local	Shipping	37.36
Baker & Taylor, Inc	Non-Local	Books	35.68
W. W. Grainger, Inc	Non-Local	Bags	30.54
Secretary of State	Non-Local	2023 Solem Notary	60.00
Barnes & Noble Booksellers, USA Inc	Non-Local	Books	29.68
UPS	Non-Local	Shipping	28.19
Ingram Library Services, Inc	Non-Local	Books	26.67
Brodart Co.	Non-Local	Books	22.05
Ingram Library Services, Inc	Non-Local	Books	21.98
Brodart Co.	Non-Local	Books	21.71
Ingram Library Services, Inc	Non-Local	Books	59.26
Baker & Taylor, Inc	Non-Local	Books	16.29
HD Supply, Inc	Non-Local	Freeze Plates & Gaskets Returned	-658.00
Non-Local Total:			193,288.06
Payroll/Refunds			
Efrain Muniz Guerrero	Payroll/Refunds	12/2/22 WD 2- Test Fee	129.16
Matthew J Beckman	Payroll/Refunds	3/10/2023- Collection System Training	31.00
Custodian of Petty Cash	Payroll/Refunds	February 2023 Postage	22.63
Efrain Muniz Guerrero	Payroll/Refunds	3/13/23 WD 2- Cert Fee	22.04
Brandyn Duanne Barth	Payroll/Refunds	3.6.2023 DW Treat 2- Cert Fee	22.04
Beth Ann Dawson McPherren	Payroll/Refunds	March 2023 Homebound Deliveries	9.83
Payroll/Refunds Total:			236.70
Grand Total:			677,126.58

King's Pointe Resort

Claims Publication

From 3/2/2023 to 3/15/2023

Vendor	Description	Amount
Amazon Capital Services, Inc	Supplies \$	1,474.27
Amtex Supply Holdings	Services \$	1,214.10
Apple Inc	Supplies \$	15.90
Authnet Gateway	Services \$	25.00
Bunkers Feed Supply Inc.	Supplies \$	235.64
Cain Travel Group	Services \$	13.90
Cintas Corporation	Supplies \$	9,975.13
City of Storm Lake	Utilities \$	3,074.16
Crescent Electric Supply Company	Supplies \$	846.99
Daniels Filter Service	Supplies \$	278.76
Doll Distribution	Beverages \$	1,755.50
ECOLAB	Supplies \$	893.20
Fintech	Services \$	61.27
Foundation Analytical Laboratory, Inc	Services \$	66.00
Garbage Hauling Services	Utilities \$	60.00
Grainger	Supplies \$	99.00
GuestSupply	Supplies \$	1,456.22
Hard Tops of Iowa	Supplies \$	1,968.00
Hawk-I Electric	Services \$	528.75
HyVee	Supplies \$	1,145.64
Iowa Sportsman	Advertising \$	400.00
Johnson Brothers	Beverages \$	1,687.85
Jorge Ramirez	Refund \$	375.00
Josh Nielson	Refund \$	225.00
KAYL/KKIA	Advertising \$	446.25
KCAU TV	Advertising \$	500.00
Laurens House of Print, LTD	Supplies \$	72.40
Loews Carpet One	Services \$	252.80
Loffredo Fresh Foods Inc	Food \$	662.40
M3 Accounting Services Inc.	Services \$	345.00
Marcus Lumber Co	Supplies \$	702.26
Martin Brothers	Food \$	11,075.44
Mediacom	Utilities \$	472.90
MId-American Publishing Corporation	Services \$	429.80
Mood Media North America Holding LLC	Services \$	119.45
Pepsi Beverages Company	Beverages \$	1,819.04
Pitney Bowes Global Financial Services Inc.	Services \$	105.37
Plumbing and Heating Wholesale, Inc.	Supplies \$	2,609.92
Rebnord Technologies, Inc.	Services \$	3,188.28
Rent-All Inc.	Services \$	13.28
Sceptre Hospitality Resources, LLC	Services \$	2,281.51
Schumacher Elevator Company	Services \$	3,290.00
Scotty Roxtar	Refund \$	225.00
Sean Dengler	Refund \$	300.00
SHIFT 4	Services \$	10,092.65
Silverware POS Inc.	Services \$	8,650.80
Spencer Radio Group	Advertising \$	92.00

Storm Lake Ace Hardware	Supplies	\$	84.73
Storm Lake Times	Services	\$	390.00
Symmetry Energy Solutions LLC	Supplies	\$	25,098.11
Sysco Iowa, Inc.	Food	\$	9,387.39
TeeHee's Comedy Club	Services	\$	150.00
Tyler Walsh	Services	\$	675.00
Verde Outdoor Media LLC	Services	\$	1,850.00
Verizon Wireless	Utilities	\$	386.17
Vista Paints	Supplies	\$	433.49
Visual Edge IT, INC	Services	\$	146.57
Wells Fargo Financial Leasing, Inc.	Services	\$	235.18
W-O Payroll 3/3/23	Payroll	\$	80,938.38
			\$ 195,396.85

CITY OF STORM LAKE, REGULAR COUNCIL MEETING, CITY HALL COUNCIL CHAMBERS MARCH 6, 2023, 5:00 PM

Present: Mayor Michael Porsch, City Council Members Maggie Martinez, Matt Ricklefs and Tyson Rice. Absent: City Council Members Maria Ramos and Kevin McKinney.

Staff Present: City Manager Keri Navratil, Assistant City Manager David Derragon, City Attorney Phil Havens, King's Pointe Manager Amy VonBank, Police Chief Chris Cole, Fire Chief Glenn Schlessler, Public Works Director Matt Beckman, Building and Code Compliance Director Scott Olesen, Library Director Elizabeth Huff, Development Services Specialist Lee Dutfield, Communications Coordinator Dana Larsen, Public Services Supervisor Scott Bonebrake, Assistant Public Services Supervisor Brandon Ripke, Finance Director Brian Oakleaf via phone, Staff Accountant Tyler Gibbins, Deputy City Clerk Nelda Kirkholm and City Clerk Mayra Martinez.

Media Present: Ryan Thompson with KAYL Radio and Tom Cullen with Storm Lake Pilot Times.

Mayor Porsch called the meeting to order at 5:00 pm.

Pledge of Allegiance

Agenda - Moved by Council Member Martinez to approve setting the agenda as presented. Seconded by Council Member Ricklefs. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Disclosure by City Council Members – No items at this time.

Hear the Public – None at this time.

Consent Agenda - Moved by Council Member Rice to approve the List of Bills Check #'s 79572 through 79647, EFT #'s 1046, 3833 through 3874, DFT #'s 1785 through 1796, 1811 through 1841, approve February 20, 2023 City Council minutes, approve renewal liquor licenses for Lakeshore Café and Zimmy's Bar & Grill, LaIsla Restaurant 2, and Sichanh Inc, approve tax abatement application for 1212 Kelvin Road for Magshu Properties, approve the Northwest Iowa Planning and Development annual agreement, approve renewal agreement with Storm Lake Bakery for concession services for King's Pointe Lighthouse Snack Shack, adopt Resolution No. 41-R-2022-2023 to approve Sunrise Pointe Golf Course Reciprocal Policy, approve Buy Local information and Storm Lake Police Department City Code Enforcement update. Seconded by Council Member Martinez. Roll call vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

RESOLUTION NO. 41-R-2022-2023

**RESOLUTION APPROVING THE SUNRISE GOLF GOURSE RECIPROCAL POLICY AND
WAIVING GREEN FEES FOR THE RECIPROCAL MEMBERS.**

WHEREAS, the City of Storm Lake owns the Sunrise Golf Course; and

WHEREAS, the City of Storm Lake desires to increase the number of rounds of golf played annually at the course; and

WHEREAS, the City of Storm Lake welcomes the opportunity to showcase the golf course to players from other courses in the Midwest Iowa; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA:

To approve waiving fees for golfers from participating courses visiting Sunrise Pointe Golf Course covered in the Sunrise Golf Course Reciprocal Policy.

PASSED AND APPROVED this 6th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Unfinished Business

New Business

Salud - Moved by Council Member Martinez to approve a funding request in the amount of \$600 in financial support for International Women's Day and a 28 E Agreement with Salud for the purpose to provide vital service or activities to promote the quality of life of Storm Lake residents. Seconded by Council Member Ricklefs. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Runway 17/35 Edge Lighting Project - Moved by Council Member Ricklefs to approve setting a Public Hearing for April 3, 2023, at 5:00 pm in the City Hall Council Chambers for the Plans, Specifications, Form of Contract, and Engineer's estimate for the Runway 17/35/ Edge Lighting project. Seconded by Council Member Rice. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Bond Services - Moved by Council Member Rice to approve a contract with Piper Sandler for bond services. Seconded by Council Member Ricklefs. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Fiscal Year 2023-2024 Budget - Moved by Council Member Martinez to approve setting a Public Hearing for March 20, 2023, at 5:00 pm in the City Hall Council Chambers for Fiscal Year 2023 – 2024 budget. Seconded by Council Member Ricklefs. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Industrial Urban Renewal Amendment No. 9- Moved by Council Member Ricklefs to approve an engagement letter with Ahlers Cooney, P.C. for legal services related to Urban Renewal, Urban Revitalization, Development agreements, and Economic Development. Seconded by Council Member Martinez. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Moved by Council Member Rice to adopt Resolution No. 42-R-2022-2023 setting dates of a consultation for March 14, 2023, at 11 am with the taxing entities and Public Hearing for April 3, 2023 at 5:00 in City Council Chambers on a Proposed Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal plan in the City of Storm Lake, State of Iowa. Seconded by Council Member Ricklefs. Roll call vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

RESOLUTION NO. 42-R-2022-2023

RESOLUTION SETTING DATES OF A CONSULTATION AND A PUBLIC HEARING ON A PROPOSED AMENDMENT NO. 9 TO THE STORM LAKE INDUSTRIAL PARK URBAN RENEWAL PLAN IN THE CITY OF STORM LAKE, STATE OF IOWA

WHEREAS, by Resolution No. 33-R-91-92, adopted September 16, 1991, this Council found and determined that certain areas located within the City are eligible and should be designated as an urban renewal area under Iowa law, and approved and adopted the Storm Lake Industrial Park Urban Renewal Plan (the "Plan" or "Urban Renewal Plan") for the Storm Lake Industrial Park Urban Renewal Area (the "Area" or "Urban Renewal Area") described therein, which Plan is on file in the office of the Recorder of Buena Vista County; and

WHEREAS, the Plan has subsequently been amended eight times, lastly by the adoption of Amendment No. 8 to the Plan, adopted by Resolution No. 02-R-2021-2022, adopted July 6, 2021; and

WHEREAS, this Urban Renewal Area currently includes and consists of:

ORIGINAL AREA

A part of the South Half (S1/2) of Section One (1), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.) lying North of the Illinois Central Railroad, and a part of the Northeast Quarter (NE¼) of Section (12), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth

Principal Meridian (5th P.M.) lying North of the Illinois Central Railroad, more particularly described as follows:

Commencing at the Northwest Corner of the Southwest Quarter (SW¹/₄) Section One (1), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.), thence 00°32' East along the West Line of said Southwest Quarter (SW¹/₄) a distance of One Thousand Two Hundred Seven and Seven Tenths Feet (1,207.70') to the Point of Beginning; thence North 90°00' East a distance of Two Thousand Six Hundred Forty Two and Six Hundredths Feet (2,642.06') to the North-South Centerline of said Section One (1); thence South 00°34' East along the North-South Centerline of said Section One (1), a distance of Four Hundred Seven and Eighteen Hundredths Feet (407.18'); thence North 90°00' East a distance of Two Thousand Six Hundred Thirty Eight and Seventy Two Hundredths Feet (2,638.72') to the East Line of said Section One (1); thence South 00°31' East along the East Line of said Section (1) a distance of One Thousand Eighty Seven and Seven Tenths Feet (1,087.7') to the Southeast Corner of said Section One (1), said Point also being the Northeast Corner of Section Twelve (12), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.); thence South 00°20'20" East along the East Line of said Northeast Quarter (NE¹/₄) Section Twelve (12) a distance of Two Hundred Sixty Six and Five Hundredths Feet (266.05') to the North Right of Way Line of the Illinois Central Railroad; thence North 77°07" West along the North Right of Way Line of said Railroad a distance of Five Thousand Four Hundred Twenty Seven and Seven Tenths Feet (5,427.7') to the West Line of the Southwest Quarter (SW¹/₄) said Section One (1); thence North 00° 32' West along the West Line of said Section (1) a distance of Five Hundred Fifty and Seventy One Hundredths Feet (550.71') to the Point of Beginning.

The above parcel contains 115.46 acres in total

MCS Industrial Addition to Storm Lake, Iowa

AND

A PART OF THE SOUTH EAST QUARTER (SE¹/₄) OF SECTION 2, TOWNSHIP 90 NORTH, RANGE 37 WEST OF THE 5TH P.M., BUENA VISTA COUNTY, IOWA AND BEING MORE FULLY DESCRIBED AS FOLLOWS:

Beginning at the Northeast (NE) corner of the Southeast Quarter (SE¹/₄) of said Section 2; thence South 89°45'20" West along the North line of said Southeast Quarter (SE¹/₄), a distance of 2,131.17 feet to a point on the Easterly right of way line of the Chicago, Milwaukee, St. Paul and Pacific Railroad; thence Southerly along the Easterly right of way line of said railroad on a curve whose short chord bearings are as follows: South 29°31'40" East, a distance of 57.05 feet; thence South 23°07'17" East, a distance of 601.83 feet; thence South 16°32'54" East, a distance of 56.08 feet; thence continuing along the Easterly line of said railroad right of way South 15°59'20" East, a distance of 675.12 feet to a point on the Northerly line of the Illinois Central Railroad right of way; thence South 89°44'44" East, along the Northerly line of said railroad, a distance of 824.23 feet; thence South 1°56'40" West, a distance of 238.22 feet; thence South 76°34'40" East, a distance of 872.88 feet to a point on the East line of said Southeast Quarter (SE¹/₄); thence North

along the East line of said Southeast Quarter (SE¼) a distance of 1,759.60 feet to the point of beginning containing 62.91 acres and subject to all easements of record.

The East line of the Southeast Quarter (SE¼) of said Section 2 is assumed to bear due North and South in the above description.

AMENDMENT NO. 1 AREA

All of the property within the corporate limits that is located South of Richland Avenue and East of Flint Drove. The area also includes the full right-of-way of all streets forming the boundary.

AMENDMENT NO. 2 AREA

A parcel in Buena Vista County, Iowa beginning at a point which is at the center of the intersection of the Canadian National Railroad right of way and Radio Road in Storm Lake, Iowa; thence South along the center line of Radio Road to the south right of way line of Highway 7; thence continuing South along the centerline of the County Road just West of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to a point that the center line intersects with the South line of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M.; thence East along a South line of the Northwest Quarter (NW¼), Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to the Southeast corner of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M.; thence North along the East line of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to the point where that East line intersects with the South line of Highway 7; thence East along the South line of Highway 7 to the point where it intersects with the center line of Gilbert Street extended South across Highway 7; thence North along the center line of Gilbert Street to the point where that line intersects with the center line of the Canadian National Railroad right of way; thence Northwesterly along the center line of the Canadian National Railroad right of way to the point of beginning.

AMENDMENT NO. 3 AREA

A tract of land located in the Southwest Quarter of the Southeast Quarter (SW¼SE¼) of Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa, and being more particularly described as follows:

Beginning at the Northwest (NW) Corner of Lot Seven (7), Block One (1), of Industrial Park Addition to Storm Lake; thence on a previously recorded bearing of North 90°00'00" East along the North line of said Lot Seven (7), 581.78 Feet to the West line of the East One Hundred Seventy-Five Feet (175') of said Lot Seven (7); thence North 00°10'50" West along the Northern extension of said West line of the East One Hundred Seventy-Five Feet (175'), 186.90 feet; thence South 90°00'00" West, 583.58 Feet to the East line of Lot Six (6), of said Block One (1); thence South 00°43'45" East, along said East line, 186.90 Feet to the point of beginning.

Tract contains 2.50 acres and is subject to all easements of record.

and

A tract of land located in the Southeast Quarter (SE¼) of Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa, and being more particularly described as follows: Commencing at the Northwest (NW) Corner of the Southeast Quarter (SE¼) of said Section 1; thence on a true bearing of South 00°21'07" East along the West line of said Southeast Quarter (SE¼), 930.76 Feet to the point of beginning; thence South 89°10'02" East 838.14 Feet; thence South 00°21'07" East, 645.29 Feet to the North line of the Industrial Park Addition to the City of Storm Lake; thence North 89°50'14" West, along said North line, 255.00 Feet; thence North 00°02'17" East, 186.90 Feet; thence North 89°47'21" West, 583.58 Feet to the East line of Lot Six (6), Block One (1) of said Industrial Park Addition; thence North 00°32'05" West, along said East line, 220.28 Feet to the Northeast (NE) Corner of said Lot Six (6); thence North 00°21'07" West, along the West line of the Southeast Quarter (SE¼), 247.44 Feet to the point of beginning. Hereafter referred to as Lot C of Lot B in Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa.

Tract contains 10.00 acres and is subject to all easements of record; and

AMENDMENT NO. 7 AREA

A TRACT OF LAND LOCATED IN THE SOUTHWEST QUARTER (SW ¼) OF SECTION 1 TOWNSHIP 90 NORTH, RANGE 37 WEST OF THE 5TH P.M., BUENA VISTA COUNTY, IOWA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

Commencing at the Northeast (NE) corner of the Southwest Quarter (SW ¼) of said Section 1; Thence South 00° 08' 18" East, along the East line of said Southwest Quarter (SW ¼), 131.94 feet to the Point of Beginning. Thence continuing South 00° 08' 18" East, along said West line, 798.82 feet; Thence South 74° 10' 45" West, 456.34 feet; Thence South 00° 08' 18" East, 120.00 feet to the North line of Block One (1), Industrial Park Addition to Storm Lake; Thence North 89° 35' 28" West, along said North line, 2201.55 feet to the West line of the Southwest Quarter (SW ¼); Thence North 00° 09' 20" West, along said West line, 1075.76 feet to the South line of the North eight (8) acres of the Southwest Quarter (SW ¼); Thence South 88° 57' 13" East, along said South line, 2641.68 feet to the Point of Beginning.

Hereafter known as Lot F in Section 1 Township 90 North, Range 37 West of the 5th P.M., Buena Vista, Iowa.

Tract contains 62.48 acres and is subject to all easements of record.

WHEREAS, City staff has caused there to be prepared a form of Amendment No. 9 to the Plan ("Amendment No. 9" or "Amendment"), a copy of which has been placed on file for public inspection in the office of the City Clerk and which is incorporated herein by reference, the purpose of which is to

update the description of a previously approved urban renewal project and to authorize additional urban renewal projects to be undertaken within the Urban Renewal Area; and

WHEREAS, this proposed Amendment No. 9 adds no new land to the Urban Renewal Area; and

WHEREAS, it is desirable that the area be redeveloped as part of the overall redevelopment covered by the Plan, as amended; and

WHEREAS, the Iowa statutes require the City Council to notify all affected taxing entities of the consideration being given to the proposed Amendment No. 9 and to hold a consultation with such taxing entities with respect thereto, and further provides that the designated representative of each affected taxing entity may attend the consultation and make written recommendations for modifications to the proposed division of revenue included as a part thereof, to which the City shall submit written responses as provided in Section 403.5, Code of Iowa, as amended; and

WHEREAS, the Iowa statutes further require the City Council to hold a public hearing on the proposed Amendment No. 9 subsequent to notice thereof by publication in a newspaper having general circulation within the City, which notice shall describe the time, date, place and purpose of the hearing, shall generally identify the urban renewal area covered by the Amendment and shall outline the general scope of the urban renewal project under consideration, with a copy of the notice also being mailed to each affected taxing entity.

NOW THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, STATE OF IOWA:

Section 1. That the consultation on the proposed Amendment No. 9 required by Section 403.5(2), Code of Iowa, as amended, shall be held on March 14, 2023, in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at 11:00 A.M., and the City Manager, or her delegate, is hereby appointed to serve as the designated representative of the City for purposes of conducting the consultation, receiving any recommendations that may be made with respect thereto and responding to the same in accordance with Section 403.5(2), Code of Iowa.

Section 2. That the City Clerk is authorized and directed to cause a notice of such consultation to be sent by regular mail to all affected taxing entities, as defined in Section 403.17(1), Code of Iowa, along with a copy of this Resolution and the proposed Amendment No. 9, the notice to be in substantially the following form:

NOTICE OF A CONSULTATION TO BE HELD BETWEEN THE CITY
OF STORM LAKE, STATE OF IOWA AND ALL AFFECTED TAXING
ENTITIES CONCERNING THE PROPOSED AMENDMENT NO. 9 TO
THE STORM LAKE INDUSTRIAL PARK URBAN RENEWAL PLAN
FOR THE CITY OF STORM LAKE, STATE OF IOWA

The City of Storm Lake, State of Iowa will hold a consultation with all affected taxing entities, as defined in Section 403.17(1), Code of Iowa, as amended, commencing at 11:00 A.M. on March 14, 2023, in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa concerning a proposed Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan for the Storm lake Industrial Park Urban Renewal Area, a copy of which is attached hereto.

Each affected taxing entity may appoint a representative to attend the consultation. The consultation may include a discussion of the estimated growth in valuation of taxable property included in the Urban Renewal Area, the fiscal impact of the division of revenue on the affected taxing entities, the estimated impact on the provision of services by each of the affected taxing entities in the Urban Renewal Area, and the duration of any bond issuance included in the Amendment.

The designated representative of any affected taxing entity may make written recommendations for modifications to the proposed division of revenue no later than seven days following the date of the consultation. The City Manager, or her delegate, as the designated representative of the City of Storm Lake, State of Iowa, shall submit a written response to the affected taxing entity, no later than seven days prior to the public hearing on the proposed Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan, addressing any recommendations made by that entity for modification to the proposed division of revenue.

This notice is given by order of the City Council of the City of Storm Lake, State of Iowa, as provided by Section 403.5, Code of Iowa, as amended.

Dated this 6th day of March, 2023.

City Clerk, City of Storm Lake, State of Iowa

(End of Notice)

Section 3. That a public hearing shall be held on the proposed Amendment No. 9 before the City Council at its meeting which commences at 5:00 P.M. on April 3, 2023, in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa.

Section 4. That the City Clerk is authorized and directed to publish notice of this public hearing in the Storm Lakes Times Pilot, once on a date not less than four (4) nor more than twenty (20) days before the date of the public hearing, and to mail a copy of the notice by ordinary mail to each affected taxing entity, such notice in each case to be in substantially the following form:

(One publication required)

NOTICE OF PUBLIC HEARING TO CONSIDER APPROVAL OF A
PROPOSED AMENDMENT NO. 9 TO THE STORM LAKE
INDUSTRIAL PARK URBAN RENEWAL PLAN FOR AN URBAN
RENEWAL AREA IN THE CITY OF STORM LAKE, STATE OF IOWA

The City Council of the City of Storm Lake, State of Iowa, will hold a public hearing before itself at its meeting which commences at 5:00 P.M. on April 3, 2023 in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, to consider adoption of a proposed Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan (the "Amendment") concerning an Urban Renewal Area in the City of Storm Lake, State of Iowa.

The Storm Lake Industrial Park Urban Renewal Area is generally described as follows:

ORIGINAL AREA

A part of the South Half (S1/2) of Section One (1), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.) lying North of the Illinois Central Railroad, and a part of the Northeast Quarter (NE¼) of Section (12), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.) lying North of the Illinois Central Railroad, more particularly described as follows:

Commencing at the Northwest Corner of the Southwest Quarter (SW¼) Section One (1), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.), thence 00°32' East along the West Line of said Southwest Quarter (SW¼) a distance of One Thousand Two Hundred Seven and Seven Tenths Feet (1,207.70') to the Point of Beginning; thence North 90°00' East a distance of Two Thousand Six Hundred Forty Two and Six Hundredths Feet (2,642.06') to the North-South Centerline of said Section One (1); thence South 00°34' East along the North-South Centerline of said Section One (1), a distance of Four Hundred Seven and Eighteen Hundredths Feet (407.18'); thence North 90°00' East a distance of Two Thousand Six Hundred Thirty Eight and Seventy Two Hundredths Feet (2,638.72') to the East Line of said Section One (1); thence South 00°31' East along the East Line of said Section (1) a distance of One Thousand Eighty Seven and Seven Tenths Feet (1,087.7') to the Southeast Corner of said Section One (1), said Point also being the Northeast Corner of Section Twelve (12), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.); thence South 00°20'20" East along the East Line of said Northeast Quarter (NE¼) Section Twelve (12) a distance of Two Hundred Sixty Six and Five Hundredths Feet (266.05') to the North Right of Way Line of the Illinois Central Railroad; thence North 77°07" West along the North Right of Way Line of said Railroad a distance of Five Thousand Four Hundred Twenty Seven and Seven Tenths Feet (5,427.7') to the West Line of the Southwest Quarter (SW¼) said Section One (1); thence North 00° 32' West along the West Line of said Section (1) a distance of Five Hundred Fifty and Seventy One Hundredths Feet (550.71') to the Point of Beginning.

The above parcel contains 115.46 acres in total

MCS Industrial Addition to Storm Lake, Iowa

AND

A PART OF THE SOUTH EAST QUARTER (SE¼) OF SECTION 2, TOWNSHIP 90 NORTH, RANGE 37 WEST OF THE 5TH P.M., BUENA VISTA COUNTY, IOWA AND BEING MORE FULLY DESCRIBED AS FOLLOWS:

Beginning at the Northeast (NE) corner of the Southeast Quarter (SE¼) of said Section 2; thence South 89°45'20" West along the North line of said Southeast Quarter (SE¼), a distance of 2,131.17 feet to a point on the Easterly right of way line of the Chicago, Milwaukee, St. Paul and Pacific Railroad; thence Southerly along the Easterly right of

way line of said railroad on a curve whose short chord bearings are as follows: South 29°31'40" East, a distance of 57.05 feet; thence South 23°07'17" East, a distance of 601.83 feet; thence South 16°32'54" East, a distance of 56.08 feet; thence continuing along the Easterly line of said railroad right of way South 15°59'20" East, a distance of 675.12 feet to a point on the Northerly line of the Illinois Central Railroad right of way; thence South 89°44'44" East, along the Northerly line of said railroad, a distance of 824.23 feet; thence South 1°56'40" West, a distance of 238.22 feet; thence South 76°34'40" East, a distance of 872.88 feet to a point on the East line of said Southeast Quarter (SE¼); thence North along the East line of said Southeast Quarter (SE¼) a distance of 1,759.60 feet to the point of beginning containing 62.91 acres and subject to all easements of record.

The East line of the Southeast Quarter (SE¼) of said Section 2 is assumed to bear due North and South in the above description.

AMENDMENT NO. 1 AREA

All of the property within the corporate limits that is located South of Richland Avenue and East of Flint Drive. The area also includes the full right-of-way of all streets forming the boundary.

AMENDMENT NO. 2 AREA

A parcel in Buena Vista County, Iowa beginning at a point which is at the center of the intersection of the Canadian National Railroad right of way and Radio Road in Storm Lake, Iowa; thence South along the center line of Radio Road to the south right of way line of Highway 7; thence continuing South along the centerline of the County Road just West of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to a point that the center line intersects with the South line of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M.; thence East along a South line of the Northwest Quarter (NW¼), Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to the Southeast corner of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M.; thence North along the East line of the Northwest Quarter (NW¼) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to the point where that East line intersects with the South line of Highway 7; thence East along the South line of Highway 7 to the point where it intersects with the center line of Gilbert Street extended South across Highway 7; thence North along the center line of Gilbert Street to the point where that line intersects with the center line of the Canadian National Railroad right of way; thence Northwesterly along the center line of the Canadian National Railroad right of way to the point of beginning.

AMENDMENT NO. 3 AREA

A tract of land located in the Southwest Quarter of the Southeast Quarter (SW¼SE¼) of Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa, and being more particularly described as follows:

Beginning at the Northwest (NW) Corner of Lot Seven (7), Block One (1), of Industrial Park Addition to Storm Lake; thence on a previously recorded bearing of North 90°00'00" East along the North line of said Lot Seven (7), 581.78 Feet to the West line of the East One Hundred Seventy-Five Feet (175') of said Lot Seven (7); thence North 00°10'50" West along the Northern extension of said West line of the East One Hundred Seventy-Five Feet (175'), 186.90 feet; thence South 90°00'00" West, 583.58 Feet to the East line of Lot Six (6), of said Block One (1); thence South 00°43'45" East, along said East line, 186.90 Feet to the point of beginning.

Tract contains 2.50 acres and is subject to all easements of record.

and

A tract of land located in the Southeast Quarter (SE¼) of Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa, and being more particularly described as follows: Commencing at the Northwest (NW) Corner of the Southeast Quarter (SE¼) of said Section 1; thence on a true bearing of South 00°21'07" East along the West line of said Southeast Quarter (SE¼), 930.76 Feet to the point of beginning; thence South 89°10'02" East 838.14 Feet; thence South 00°21'07" East, 645.29 Feet to the North line of the Industrial Park Addition to the City of Storm Lake; thence North 89°50'14" West, along said North line, 255.00 Feet; thence North 00°02'17" East, 186.90 Feet; thence North 89°47'21" West, 583.58 Feet to the East line of Lot Six (6), Block One (1) of said Industrial Park Addition; thence North 00°32'05" West, along said East line, 220.28 Feet to the Northeast (NE) Corner of said Lot Six (6); thence North 00°21'07" West, along the West line of the Southeast Quarter (SE¼), 247.44 Feet to the point of beginning. Hereafter referred to as Lot C of Lot B in Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa.

Tract contains 10.00 acres and is subject to all easements of record; and

AMENDMENT NO. 7 AREA

A TRACT OF LAND LOCATED IN THE SOUTHWEST QUARTER (SW ¼) OF SECTION 1 TOWNSHIP 90 NORTH, RANGE 37 WEST OF THE 5TH P.M., BUENA VISTA COUNTY, IOWA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

Commencing at the Northeast (NE) corner of the Southwest Quarter (SW ¼) of said Section 1; Thence South 00° 08' 18" East, along the East line of said Southwest Quarter (SW ¼), 131.94 feet to the Point of Beginning. Thence continuing South 00° 08' 18" East, along said West line, 798.82 feet; Thence South 74° 10' 45" West, 456.34 feet; Thence South 00° 08' 18" East, 120.00 feet to the North line of Block One (1), Industrial Park Addition to Storm Lake; Thence North 89° 35' 28" West, along said North line, 2201.55 feet to the West line of the Southwest Quarter (SW ¼); Thence North 00° 09' 20" West, along said West line, 1075.76 feet to the South line of the North eight (8) acres of the Southwest Quarter (SW ¼); Thence South 88° 57' 13" East, along said South line, 2641.68 feet to the Point of Beginning.

Hereafter known as Lot F in Section 1 Township 90 North, Range 37 West of the 5th P.M., Buena Vista, Iowa.

Tract contains 62.48 acres and is subject to all easements of record.

A copy of the Amendment is on file for public inspection in the office of the City Clerk, City Hall, City of Storm Lake, Iowa.

The City of Storm Lake, State of Iowa is the local public agency which, if such Amendment is approved, shall undertake the urban renewal activities described in such Amendment.

The general scope of the urban renewal activities under consideration in the Amendment is to promote the growth and retention of qualified industries and businesses in the Urban Renewal Area through various public purpose and special financing activities outlined in the Amendment. To accomplish the objectives of the Amendment, and to encourage the further economic development of the Urban Renewal Area, the Amendment provides that such special financing activities may include, but not be limited to, the making of loans or grants of public funds to private entities under Chapter 15A, Code of Iowa. The City also may reimburse or directly undertake the installation, construction and reconstruction of substantial public improvements, including, but not limited to, street, water, sanitary sewer, storm sewer or other public improvements. The City also may acquire and make land available for development or redevelopment by private enterprise as authorized by law. The Amendment provides that the City may issue bonds or use available funds for purposes allowed by the Plan and that tax increment reimbursement of the costs of urban renewal projects may be sought if and to the extent incurred by the City. The Amendment initially proposes specific public infrastructure or site improvements to be undertaken by the City, and provides that the Amendment may be amended from time to time.

The proposed Amendment No. 9 would update the description of a previously approved urban renewal project and authorize additional urban renewal projects to be undertaken within the Urban Renewal Area. The proposed Amendment adds no new land to the Urban Renewal Area.

Other provisions of the Plan not affected by the Amendment would remain in full force and effect.

Any person or organization desiring to be heard shall be afforded an opportunity to be heard at such hearing.

This notice is given by order of the City Council of the City of Storm Lake, State of Iowa, as provided by Section 403.5, Code of Iowa.

Dated this 6th day of March, 2023.

City Clerk, City of Storm Lake, State of Iowa

(End of Notice)

Section 5. That the proposed Amendment No. 9, attached hereto as Exhibit 1, for the Urban Renewal Area described therein is hereby officially declared to be the proposed Amendment No. 9 referred to in the notices for purposes of such consultation and hearing and that a copy of the Amendment shall be placed on file in the office of the City Clerk.

PASSED AND APPROVED this 6th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

EXHIBIT 1

STORM LAKE INDUSTRIAL PARK URBAN RENEWAL PLAN

AMENDMENT NO. 9

CITY OF STORM LAKE, IOWA

Original Area Adopted – 1991

Amendment No. 1 – 2004

Amendment No. 2 – 2010

Amendment No. 3 – 2013

Amendment No. 4 – 2015

Amendment No. 5 – 2016

Amendment No. 6 – 2017

Amendment No. 7 – 2019

Amendment No. 8 – 2021

Amendment No. 9 - 2023

LOCAL GOVERNMENT PROFESSIONAL SERVICES, INC.
DBA SIMMERING-CORY

AMENDMENT NO. 9

to

**STORM LAKE INDUSTRIAL PARK
URBAN RENEWAL PLAN
CITY OF STORM LAKE, IOWA**

The Storm Lake Industrial Park Urban Renewal Plan (“Plan”) for the Storm Lake Industrial Park Urban Renewal Area (“Area” or “Urban Renewal Area”), adopted in 1991, and amended in 2004, 2010, 2013, 2015, 2016, 2017, 2019, and 2021 is being further amended to update a previously authorized urban renewal project and authorize additional urban renewal projects to be undertaken within the Urban Renewal Area by this Amendment No. 9 (“Amendment”).

The original Storm Lake Industrial Park Urban Renewal Area and each of its amendment areas may be referred to as Subareas in this Amendment. The Subareas make up the Urban Renewal Area.

This Storm Lake Industrial Park Urban Renewal Plan, Amendment No. 9 repeats much of the Storm Lake Industrial Park Urban Renewal Plan Amendment No. 8, adopted in 2021. The material changes by this Amendment include the following:

- Updating the Previously Authorized Urban Renewal Projects section (pages 5-7);
- Adding new Eligible Urban Renewal Projects section (pages 7-10);
- Updating the Financial Information section (page 10);

Except as modified by this Amendment, the provisions of the original Storm Lake Industrial Park Urban Renewal Plan, as previously amended, are hereby ratified, confirmed, and approved and shall remain in full force and effect as provided herein. In case of any conflict or uncertainty, the terms of this Amendment shall control.

DESCRIPTION OF THE URBAN RENEWAL AREA

This Amendment does not add or remove any land from the Urban Renewal Area.

AREA DESIGNATION

The Urban Renewal Area previously has been designated as a mixed area for the remediation of blight and promotion of economic development (commercial and industrial) activities. Together these findings continue to support the designation of the entire Urban Renewal Area, excluding the Amendment No. 7 Subarea, which is only designated as an economic development area, as a mixed area appropriate for the remediation of blight and the promotion of economic development (commercial and industrial) activities.

PROJECT OBJECTIVES

Renewal activities are designed to provide opportunities and incentives for community development purposes including new and expanded commercial and industrial development as well as revitalization and alleviation of blighting conditions. More specific objectives include:

1. To achieve a diversified, well balanced economy providing a desirable standard of living, creating job opportunities, and strengthening the tax base.
2. To plan and provide sufficient land for commercial, residential, and industrial development in a manner that is efficient from the standpoint of providing municipal services.
3. To provide for the installation of public works and facilities, which contribute to the revitalization of the Area.

4. To eliminate blighting influences and promote revitalization, through public action and commitment, or by providing incentives to private persons or businesses, to acquire, rehabilitate, renovate, demolish, and/or redevelop existing structures or property.
5. To stimulate through public action and commitment, private investment in residential development as part of blight remediation activities. The City realizes that the availability of affordable, decent, safe, and sanitary housing is important to the overall economic viability of the community.
6. To encourage commercial and industrial growth and expansion through governmental policies which make it economically feasible to do business.
7. To provide a more marketable and attractive investment climate through the use of various federal, state, and local incentives.
8. To stimulate, through public action and commitment, private investment in commercial and industrial expansion.
9. To help develop a sound economic base that will serve as the foundation for future growth and development.
10. To provide facilities offering diversified and expanded recreational opportunities, which will help improve the quality of life and contribute to the overall viability of the community.
11. To achieve a diversified, well-balanced economy providing a desirable standard of living, creating job opportunities, and strengthening the tax base.
12. To enhance the Storm Lake community by fostering an entrepreneurial climate, diversifying the local economy, encouraging opportunities for new businesses, and supporting retention of existing businesses.
13. To provide for the installation and upgrade of public works, infrastructure, including but not limited to, storm water collection and conveyance system, sanitary sewer facilities, water utility infrastructure, pedestrian pathways (sidewalks and trails), roads, and related facilities which alleviate blighting influences and contribute to the sound economic development of the Area.
14. To preserve the health, safety, living environment, general character, and general welfare of the City of Storm Lake, Iowa.
15. To promote development utilizing any other objectives allowed by Chapter 403 of the *Code of Iowa*.

TYPES OF RENEWAL ACTIVITIES

To meet the objectives of this Urban Renewal Plan, as amended, and to encourage the development of the Area, as amended, the City intends to utilize the powers conferred under Chapter 403 and Chapter 15A, *Code of Iowa* including, but not limited to, tax increment financing. Activities may include:

1. To undertake and carry out urban renewal projects through the execution of contracts and other instruments.
2. To provide for the construction of specific site improvements such as grading and site preparation activities, access roads and parking, fencing, utility connections, and related activities.
3. To acquire property through a variety of means (purchase, lease, option, etc.) and to hold, clear, or prepare the property for redevelopment.
4. To dispose of property that has been acquired.
5. To undertake blight remediation activities.
6. To demolish structures and to clear the land for future development so as to revitalize the Area and alleviate blighting conditions.
7. To make loans, forgivable loans, grants, tax rebate payments or other types of grants or incentives to private persons or businesses for economic development, revitalization, or blight remediation purposes, on such terms as may be determined by the City Council.
8. To finance programs which will directly benefit housing conditions and promote the availability of housing in the community.
9. To arrange for or cause to be provided the construction, expansion, or repair of public infrastructure including, but not limited to, streets and sidewalks, traffic lights, pedestrian safety measures, water mains, sanitary sewers, storm sewers, public utilities, bike and walking trails, landscaping, or other recreational facilities and activities in connection with urban renewal project which serve to revitalize the area and alleviate blighting conditions, or promote economic development in the Area.
10. To borrow money and to provide security therefor.
11. To make or have made surveys and plans necessary for the implementation of the Urban Renewal Plan or specific urban renewal projects.
12. To use tax increment financing for a number of purposes, including but not limited to, achieving a more marketable and competitive land offering price and providing for necessary physical improvements and infrastructure.

13. To use tax increment revenues to help leverage grants, loans, or other assistance from state and federal governments (such as providing the local match for such assistance) in support of projects or businesses that advance the objectives of this Plan, as amended.
14. To use any or all other powers granted by the Urban Renewal Act to develop and provide for improved economic conditions for the City of Storm Lake and the State of Iowa.

Nothing herein shall be construed as a limitation on the power of the City to exercise any lawful power granted to the City under Chapter 15, Chapter 15A, Chapter 403, Chapter 427B, or any other provision of the *Code of Iowa* in furtherance of the objectives of this Urban Renewal Plan, as amended.

PREVIOUSLY AUTHORIZED URBAN RENEWAL PROJECTS

Various Urban Renewal Projects were authorized prior to this Amendment No. 9 and are continuing. Such previously authorized urban renewal projects include, but are not limited to:

- King's Pointe Resort, Project AWAYSIS. This project was added in Amendment No. 3 and is complete. The City has \$13,016,112 in certified debt currently outstanding on this project.
- Gold Wing Drive. This project was added in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Memorial Road Resurfacing. This project was added with Amendment No. 3 and has not started as of this Amendment. Additional funds were authorized for this project in Amendment No. 7. With this Amendment, the City is amending the project description and authorizing additional funds for the project. Please see the update details on page 7.
- Acquisition and Demolition of Dilapidated Structures. This project was identified in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- HWY 7 Development Agreements. This project was identified in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Entrance Roads and Sidewalk Along Sunrise Park Road. This project is complete and the City has \$123,382 in certified debt currently outstanding on this project.
- FB Storm Lake II, LLC. This project was added in Amendment No. 5 and additional funds were authorized under Amendment No. 8. The project is currently ongoing and the City anticipates the project will continue over the next few years. Currently there is no debt certified on this project.
- King's Pointe Resort Remodel. The City added this project in Amendment No. 6. The project is ongoing and currently the City has outstanding certified debt of \$108,000 for this project. With this Amendment, the City is amending the project description and authorizing additional funds for the project. Please see the update details on page 7.
- Outdoor Waterpark Concrete. The City added this project in Amendment No. 6 and the project is complete. The City has \$16,822 in certified debt currently outstanding on this project.
- Memorial Park Storm Water Improvements. This project was added in Amendment No. 6 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.

- Water Line Extensions. This project was added in Amendment No. 7. This project is complete. The City has \$452,866 in certified debt currently outstanding for this project.
- Expansion Boulevard Road Improvements. This project was added in Amendment No. 7. This project is completed and the City has \$715,859 in certified debt currently outstanding for this project.
- Tyson Fresh Meats Development Agreement for the Feedmill. This project was added with Amendment No. 7. The project is in process and the City currently has \$250,000 in certified debt outstanding for this project.
- Daycare Development Agreement. This project was added with Amendment No. 8 and is currently ongoing. Currently there is no debt certified on this project.

Collectively, as of the date of this Amendment, certified debt on these projects is approximately \$14,683,041. Other previously authorized projects that have not yet begun are still planned as outlined in previous amendments and are expected to add to the amount of certified debt as they are undertaken.

With the adoption of this Amendment, the City is amending the following previously authorized projects:

1. King's Pointe Resort Remodel: This project was originally authorized in Amendment No. 6 to the Plan, to promote economic development in the Urban Renewal Area. King's Pointe Resort is almost 15 years old and in need of remodeling and renovations. It is industry standard to remodel and renovate hotel rooms and public spaces every seven years. Further, King's Pointe Resort is a leading recreational and tourism feature in the City and is used by members of the City, County, and School communities as well as attracting tourists and business related travelers from outside of the community. King's Pointe spurs tourism and commercial business activity in the community and is a key component of attracting employers, employees, and economic development. A public building analysis was completed for this project as part of Amendment No. 6 and remains applicable to this update of the project.

The City originally authorized \$4,500,000 for this project (in Amendment No. 6). The expected costs of this project have increased since the project was originally authorized as an urban renewal project. With the adoption of this Amendment No. 9, the City is authorizing an additional \$5,500,000 for this project, for overall project costs (funded using TIF) not to exceed \$10,000,000.

2. Memorial Road Resurfacing Project: This project was originally authorized in Amendment No. 3 to the Plan. This project involves the resurfacing of an existing gravel road to a hard surface street more suitable for traffic common to developed areas. Recent developments in the area as well as future projected development will increase traffic on this road and the need for a hard surface street to eliminate costly maintenance and negative impacts to neighboring businesses. The City originally authorized \$300,000 for this project (in Amendment No. 3) and later authorized an additional \$1,100,000 for the project in Amendment No. 7. The expected costs of this project have continued to increase and are now expected to total approximately \$5,500,000. Accordingly, the with adoption of this Amendment No. 9, the City is authorizing an additional \$4,100,000 for this project.

ELIGIBLE URBAN RENEWAL PROJECTS (Amendment No. 9)

Although certain project activities may occur over a period of years, in addition to projects previously authorized in the Plan, as previously amended, the eligible urban renewal projects under this Amendment No. 9 include:

1. Public Improvements.

Project	Estimated Date	Estimated Cost to be Funded by TIF Funds (Not to Exceed)	Rationale
Spoil Site Recreation Area	2023-2028	\$4,300,000 – 5,600,000	The City completed dredging of Storm Lake in the Fall of 2017 and has been exploring ways to utilize the dredge spoil site land based on its existing conditions and the suitability of the property for development. A study was completed, and a plan was developed to construct a recreation area on the spoil site. Improvements to the spoil site may include, but is not limited to, parking lots and access roads/driveways, site restoration, trails, dog park, natural play area, seating areas/overlooks/outdoor classroom spaces, pickleball courts, and tennis courts. The spoil site is a unique landscape with dramatic differences in topography and land cover that is not suitable for certain types of development. Constructing a recreation area that utilizes the natural landscape will assist in eliminating blight and spurring economic development.
Water, Sewer, and Storm Water Infrastructure for Highway 7 Commercial Development	2023-2024	\$5,500,000	Installation of new water, sewer, and storm water infrastructures will support and incentivize the construction of a new gas station and convenience store along Highway 7 on the east side of the City. The gas station and convenience store development is expected to create new jobs within the Urban Renewal Area. The City expects to enter into a development agreement with the gas station/convenience store operator related to the private development and operation of the facility, including creation of jobs through such operations.
	TOTAL:	Not to exceed \$11,100,000	

Note: It may be that the above costs will be reduced by the application of state and/or federal grants or programs; cost-sharing agreements with other entities; or other available sources of funds.

2. Water Reuse System: The City is proposing a project to install an effluent reuse system that will eliminate the need to use potable water from water supply for non-potable uses. The proposed project includes the installation of a six-inch effluent water line (approximately 12,500 linear feet) from the City's Water Reclamation Facility to the City's park maintenance facility. This water main would be a pressurized main that would transport wastewater effluent to the water reuse distribution point at the maintenance facility and will connect to the City's existing irrigation system for reuse in the City's systems. At the Water Reclamation Facility, the City will construct a pre-stressed concrete tank to hold treated effluent and a water reuse building which would contain a pump, chlorine feed system, a 10,000 gallon disinfected water tank, and a booster pump. The booster pump would pump water to the City maintenance facility near the golf course. A second water pump would be located in the building to pump effluent water to the Water Reclamation Facility for non-potable uses at that site.

Drought is becoming more severe in Storm Lake, and contributes to blighting conditions. The City has been looking at ways to reduce the impacts of drought on the community. This project would reduce impacts of drought, and therefore would reduce and prevent blighting conditions in the Urban Renewal Area. It is estimated that this project will provide an immediate reduction of water usage from the water system by approximately 20,000,000 gallons per year.

In addition to reducing and preventing blight, this project would support water supply to recreational amenities within the community, such as the golf course. Having accessible and well-maintained recreational amenities in the community are an important aspect of supporting economic development within the Urban Renewal Area.

This urban renewal project is part of a larger project within the City for which the City is seeking a FEMA grant. The City expects that the FEMA grant, if awarded, would cover 80% to 90% of the overall projects. Because this project involves improvements located outside of the Urban Renewal Area as well as improvements that will be located within the Urban Renewal Area, only that portion of the improvements located within the Urban Renewal Area's boundaries constitute the "urban renewal project" being authorized by this Amendment. Accordingly, the City will determine the amount of any project costs incurred by the City that is proportional to the portion of the project improvements located within the Urban Renewal Area; the City will only seek TIF reimbursement for the proportional amount of the project costs related to improvements constructed within the Area. For example, if 30% of the improvements constructed for the project are within the Area, then the City would use TIF to help finance 30% of the overall project costs incurred by the City. This proportion is not yet known; however, the City expects the amount of project costs to be financed using TIF will not exceed \$1,800,000.

3. Development Agreements: The City expects to consider requests for Development Agreements for the following projects that are consistent with this Plan, in the City's sole discretion.

A. *Future Development Agreements:* The City expects to consider requests for Development Agreements for projects that are consistent with this Plan, as amended, in the City's sole discretion. Such agreements are unknown at this time, but based on past history and dependent on development opportunities and climate the City expects to consider a broad range on incentives as authorized by this Plan, as amended, including, but not limited to, land, loans, grants, tax rebates, public infrastructure assistance, and other incentives. The costs of such development agreements will not exceed \$500,000.

4. Planning, Engineering Fees (for Urban Renewal Plans), Attorney Fees, Administrative, and Other Related Costs to Support Urban Renewal Projects and Planning:

Project	Estimated Date	Estimated Cost to be Funded by TIF Funds
Fees & Costs	Undetermined	Not to Exceed \$25,000

FINANCIAL INFORMATION

1.	July 1, 2022 Constitutional Debt Limit:	\$26,815,398.60
2.	Outstanding General Obligation Debt:	\$13,116,000
3.	Proposed amount of indebtedness to be incurred: A specific amount of debt to be incurred for the Eligible Urban Renewal Projects (Amendment No. 9) has not yet been determined. This document is for planning purposes only. The estimated project costs in this Amendment are estimates only and will be incurred and spent over a number of years. In no event will the City's constitutional debt limit be exceeded. The City Council will consider each project proposal on a case-by-case basis to determine if it is in the City's best interest to participate before approving an urban renewal project or expense. It is further expected that such indebtedness, including interest on the same, may be financed in whole or in part with tax increment revenues from the Urban Renewal Area. Subject to the foregoing, it is estimated that the cost of the Eligible Urban Renewal Projects (Amendment No. 9) as described above and be funded by TIF funds will be approximately as stated in the next column:	<u>Update to Previously Approved Urban Renewal Projects:</u> \$9,600,000 <u>Eligible Urban Renewal Projects (Amendment No. 9)</u> \$13,425,000 This does not include financing costs related to debt issuance, which may be incurred over the life of the area.

DEVELOPMENT PLAN

Storm Lake has a general plan for the physical development of the City, as a whole, outlined in the Storm Lake Comprehensive Plan that was adopted by the City Council in February 2013. The goals, objectives, and projects proposed in this Urban Renewal Plan, as amended, are consistent with the City's Comprehensive Plan.

This Amendment No. 9 does not in any way replace the City's current land use planning or zoning regulation process.

URBAN RENEWAL FINANCING

The City intends to utilize various financing tools, such as those described below, to successfully undertake eligible urban renewal actions. The City has the statutory authority to use a variety of tools to finance physical improvements within the Area, as amended. These include:

A. Tax Increment Financing.

Under Section 403.19 of the *Code of Iowa*, urban renewal areas may utilize the tax increment financing mechanism to finance the costs of public improvements, economic development incentives, or other urban renewal projects. Upon creation of a tax increment district within the Area, by ordinance, the assessment base is frozen and the amount of tax revenue available from taxes paid on the difference between the frozen base and the increased value, if any, is segregated into a separate fund for the use by the City to pay costs of the eligible urban renewal projects. The increased taxes generated by any new development, above the base value, are distributed to the taxing entities, if not requested by the City, and in any event upon the expiration of the tax increment district.

B. General Obligation Bonds.

Under Division III of Chapter 384 and Chapter 403 of the *Code of Iowa*, the City has the authority to issue and sell general obligation bonds for specified essential and general corporate purposes, including the acquisition and construction of certain public improvements or urban renewal projects within the Area, as amended, or incentives for development consistent with this Plan, as amended. Such bonds are payable from the levy of unlimited ad valorem taxes on all the taxable property within the City. It may be that the City will elect to abate some or all of the debt service on these bonds with incremental taxes from this Area, as amended.

The City may also determine to use tax increment financing to provide incentives such as cash grants, loans, tax rebates, or other incentives to developers or private entities in connection with the urban renewal projects identified in the Plan, as amended. In addition, the City may determine to issue general obligation bonds, tax increment revenue bonds or such other obligations, or loan agreements for the purpose of making loans or grants of public funds to private businesses located in the Area for urban renewal projects. Alternatively, the City may determine to use available funds for making such loans or grants or other incentives related to urban renewal projects. In any event, the City may determine to use tax increment financing to reimburse the City for any obligations or advances.

Nothing herein shall be construed as a limitation on the power of the City to exercise any lawful power granted to the City under Chapter 15, Chapter 15A, Chapter 403, Chapter 427B, or any other provision of the *Code of Iowa* in furtherance of the objectives of this Urban Renewal Plan.

PROPERTY ACQUISITION/DISPOSITION

Notwithstanding prior plan provisions, the City will follow any and all applicable requirements for the acquisition and disposition of property upon terms and conditions in the discretion of the City Council.

RELOCATION

The City does not expect there to be any relocation required as part of the eligible urban renewal projects; however, if any relocation is necessary, the City will follow all applicable relocation requirements.

PROPERTY WITHIN AN URBAN REVITALIZATION AREA

The Urban Renewal Area may (now or in the future) also be located within an established Urban Revitalization Area. The Storm Lake City Council, at its sole discretion, shall determine which incentives are available through either: (a) this Plan for urban renewal incentives, if any urban renewal incentives

are offered by the City, at the City Council's sole discretion; or (b) tax abatement incentives through Urban Revitalization but no individual or entity shall be eligible for both (a) and (b).

STATE AND LOCAL REQUIREMENTS

All provisions necessary to conform with State and local laws will be complied with by the City in implementing this Urban Renewal Plan, as amended, and its supporting documents.

REPEALER AND SEVERABILITY CLAUSE

Any parts of the previous Plan, as previously amended, in conflict with this Amendment are hereby repealed. If any part of the Amendment is determined to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity of the previously adopted Plan as a whole or the previous amendments to the Plan, or any part of the Plan not determined to be invalid or unconstitutional.

URBAN RENEWAL PLAN AMENDMENTS

The Urban Renewal Plan may be amended from time to time for a variety of reasons, including, but not limited to, adding or deleting land, adding or amending urban renewal projects, or modifying goals or types of renewal activities.

The City Council may amend this Plan in accordance with applicable State law.

EFFECTIVE PERIOD

This Amendment No. 9 will become effective upon its adoption by the City Council and will remain in effect until it is repealed by the City Council. Notwithstanding anything to the contrary in the Urban Renewal Plan, any prior amendment, resolution, or document, the Urban Renewal Plan, as amended, shall remain in effect until terminated by the City Council. This Amendment has no impact on the duration of the division of revenue in prior amendments. 02168095-2\11149-132

King's Pointe Lighthouse Snack Shack - Moved by Council Member Martinez to approve a bid for HVAC upgrade to King's Pointe Lighthouse Snack Shack in the amount of \$19,928.16. Seconded by Council Member Ricklefs. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Work Session – Assistant City Manager David Derragon reviewed the updated draft of the Volunteer Program and the updated draft of the Donation Program. Requesting Council input of any suggestions or changes to the proposed Programs.

City Council Requested Items – None at this time.

Mayor Porsch reminded City Council and the Public that the Ragbrai logo unveiling will be held at King's Pointe tomorrow March 7th, 2023 from 5:00 pm to 7:00 pm. The committee will have tables set up with information and sign-up sheets as they are looking for volunteers to help with this event.

Adjourn – Moved by Council Member Rice to adjourn at 5:31 pm. Seconded by Council member Martinez. Vote: All ayes with Council Members Ramos and McKinney absent. Motion carried.

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Library Board Meeting, City of Storm Lake, February 13, 2023, 4:00 p.m.

Present: Board President Mary Kay Hudspeth, Jim Eliason, Sarah Freking, Sue Lyngaas, Barb Wells. Also present, Elizabeth Huff, Library Director.

Board President Hudspeth called the meeting to order at 4:00 p.m.

Disclosures by Board Members - None

Agenda – Moved by Board Member Lyngaas to approve February 13 Agenda. Seconded by Board Member Wells. Vote all ayes. Motion carried.

Public Hearing – None

Witter Gallery Report – none

Board President, Agreement Study – Board President Hudspeth received a phone call from Ryan Mohr, Witter Board Member with a request for a copy of the original contract. Board Member Hudspeth will consult the City Manager on this request.

Approval of Minutes – Moved by Board Member Eliason to approve January Minutes. Seconded by Board Member Lyngaas. Vote all ayes. Motion carried.

Director's Report – On the Calendar, Board Member Lyngaas asked about Student ILL service with Joanna Freking-Smith. The Library Director said Mrs. Freking-Smith was in agreement on limiting requests that involved rare or expensive books for research. The next step for the School-Public Library will be Elementary Classroom Accounts instead of Elementary Student Library Accounts. Board Member Eliason asked about the Salud meeting with Di Daniels. Salud has been approached for a grant from the National Library of Medicine and Mrs. Daniels will continue the conversation next month with specific information on partnership. Board Member Lyngaas asked about negative figures on the ledger. The Library Director said it was the accountant's notation to mean there was funds still in the line item. Board Member Eliason said it was an unspent funds notation. The Board Members were informed of asbestos removal and wires in the mezzanine were disconnected. Board Member Eliason questioned why Boilers were not part of the CDBG grant so it was decided that Scott Olesen, City Hall will explain the heating system at the next board meeting. Several ADA questions will be reworked before the February 28th deadline to the State Library and Chris Chambers, City Hall will be consulted. The

Library Director said the Trustees will have to have Continuing Education sessions before the end of each board meeting beginning Summer.

Approval of Bills – Moved by Board Member Freking to approve February Bills. Seconded by Board Member Wells. Vote all ayes. Motion carried.

Work Study: ILL of Archival Microfilm – The Library Board was not in favor of interlibrary loan of uncataloged materials that were expensive such as archival microfilms of local newspapers since they were available online and microfilm interlibrary loans were handled by the State Historical Department. The Library Director will add this decision to the policy.

Library Board Member Requested Items – Scott Oleson, City Hall for discussion on the boiler/heating system.

Adjournment - Moved by Board Member Lyngaas to adjourn the meeting at 4:40 pm. Seconded by Board Member Eliason. Vote all ayes. Motion carried.

Elizabeth Huff, Library Director - Please note the above is an unapproved draft of minutes and will be approved by the Board of Trustees on March 13, 2023.

**Storm Lake Airport Commission
Regular Meeting, Airport Terminal
Monday, February 13, 2023, 4:00 PM**

Present: Commission Members Bob Ansorge, Cynthia Turner, Nathaniel Kitzrow, and Jason Dierking. Staff Present: Tyler Gibbins.

Public Present: Joe Roenfeldt with Bolton and Menk and Brian Lee from Seattle.

Chairman Bob Ansorge called the meeting to order at 4:00 pm.

Hear the Public – No comments.

Minutes – Moved by Commissioner Dierking to approve the January 9, 2023, minutes. Seconded by Commissioner Kitzrow. Vote: All ayes with Commissioner Turner absent. Motion carried.

Commissioner Turner arrived at 4:02 pm.

Financial Report – Moved by Commissioner Dierking to approve the financial reports for January 2023. Seconded by Commissioner Turner. Vote: All ayes. Motion carried.

Fuel Report – Moved by Commissioner Turner to approve the January 2023 Fuel Report. Seconded by Commissioner Kitzrow. Vote: All ayes. Motion carried.

Airport Manager's Monthly Report – Received 7,499 gallons of jet fuel. Moved snow around terminal building and shoveled sidewalks. Called Flight Service and issued NOTAM closing the airport due to ice on January 5th, 2023, then extended NOTAM on January 8, 2023, due to ice. R&R Electric repaired security lights on hangar F and replaced the cord on the dead man switch of the jet fuel pump. Called K&W to have them come out and fix the four runway lights that were down on the end of Runway 17. Called Flight Service on January 10, 2023, and cancelled NOTAM to re-open the airport. We repaired the drive belt on hangar D stall #5 bifold door. Moved snow around terminal building and shoveled sidewalks. January 28, 2023, we issued NOTAM closing the airport due to snow then canceled NOTAM on January 29, 2023 which reopened the airport. Pushed and shoveled snow around the airport and sidewalks.

Courtesy Car Usage: 0 Miles: 0
Fuel Meter Reading: Jet A – 647,440
AV Gas – 157,401.5

Administration Report:

Runway 13/31 Lighting Project Closeout

On February 7th, the grant amendment for this project (which is required to draw 100% of the project costs due) was signed and submitted to the FAA.

Runway 17/35 Lighting Project Update

90% plans and specs have been submitted to the FAA for consideration. Project is still on schedule. Bolton & Menk to provide any additional updates.

Minimum Standards Policy

Work continues with local building officials as well as Bolton & Menk on a developing a minimum standards policy for the commission's considerations. While developing this policy, we continue to look into:

- Through-the-Fence agreement requirements
- Air park allowances
- Consideration of tenant requested hangar improvements

Snow Removal Update

Bart's Flying Service has been provided the City's existing snow removal policy at the airport. If agreed, staff will include language in the Manager's Agreement for commission's consideration.

Adjourn – Moved by Commissioner Dierking to adjourn the meeting at 4:27 pm. Seconded by Commissioner Kitzrow. Vote: All ayes. Motion carried.

Mayra Martinez, City Clerk

RESOLUTION NO. 43-R-2022-2023

A RESOLUTION APPROVING STORM LAKE UNITED REQUESTS FOR A SERIES OF 2023 COMMUNITY EVENTS

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA:

To Approve The Following Events:

Farmers Market:

- Authorization to have sales of farmer raised goods in Public Parking Lot C located at Erie Street and East 6th Street.
- Permission for set up of Farmers Market stands and sales starting Saturday, June 10th, 2023, and running through Saturday, October 28th, 2023 on both Thursday nights from 3:00 pm to 6:30 pm and on Saturday mornings from 7:00 am to 1:00 pm.
- A Noise Variance on Thursday events and Saturday events for the duration.
- **SLAPT on Stage:**
- Date and Time to be determined.

Ridiculous Days:

- Permission to hold sidewalk sales starting Thursday, July 13, 2023, at 7:00 am through Saturday, July 15, 2023 at 5:00 pm in the 500, 600, and 700 blocks of Lake Avenue, including the side streets immediately adjacent on 5th Street and 6th Street.
- Permission to allow community members to sell secondhand goods on Saturday, July 15, 2023, from 8:00 am to 4:00 pm.
- Permission to allow local food vendors on sidewalks on Saturday, July 15, 2023, from 8:00 am to 4:00 pm.

Wood, Wine & Blues:

- Request to use Sunset Park on Friday, August 18, 2023, from 8am to 9pm, Saturday, August 19, 2023, from 8am to 9pm and Sunday, August 20, 2023, from 8:00 am to 6:00 pm for a three day chainsaw carving competition and a wine and arts festival.
- Request to use Sunset Park Bandshell on Saturday, August 19, 2023, from 10 am to 9 pm and Sunday, August 20, 2023, from 10am to 5pm.
- Request a Noise Variance in Sunset Park on Friday, August 18, 2023, from 8am to 9pm, on Saturday August 19, 2023, from 8am to 9pm, and on Sunday August 22, 2023, from 8am to 6pm.
- Request to allow chainsaw competitors to complete tree sculpture carvings with designated logs located in Sunset Park on Friday, 8/18/23 (8am-5:30pm), Saturday, 8/19/23 (8am-5pm), and Sunday, 8/20/23 (8am-3:30pm).
- Request to allow craft vendors to display and sell their products in Sunset Park Saturday, August 19, 2023, and Sunday, August 20, 2023, from 10am to 5pm.
- Permission for Storm Lake United to sell quick carve sculptures created from a quick carve competition via silent auction on Saturday, August 19, 2023, and Sunday August 20, 2023.
- Permission to allow food vendors to sell their products in Sunset Park on Friday, August 18, 2023, Saturday, August 20, 2023, and Sunday, August 20, 2023.

- Permission to allow wine vendors to sell glasses of wine and unopened bottles of Iowa wine in Sunset Park on Saturday, August 19, 2023, and Sunday, August 20, 2023, from 11am to 5pm during the Wood, Wine, and Blues event. Wine vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Request to allow brewery vendors to sell glasses of beer on Saturday, August 19, 2023, and Sunday August 20, 2023, from 11am to 5pm in Sunset Park. Brewery vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Permission to allow the wood carvers to sell their wood carvings in Sunset Park.
- Permission to set-up Koenig portable toilets as needed.
- Permission to allow for a free 32 team cornhole competition open to the community.
- Request for access to electrical power in Sunset Park.
- Request for appropriate support from Parks and Public Safety.
- Request to the City of Storm Lake for assistance to stage and stand the wood carver's logs prior to competition.
- Request the City of Storm Lake for assistance to relocate wood carvings after the competition.

Chills and Thrills

- Request permission for student organizations and local businesses to set-up tables for games and hand out candy in the 500, 600, and 700 blocks of Lake Avenue from 9:00 am to 12:00 pm on Saturday October 28, 2023.
- Request a Noise Variance on Saturday, October 28, 2023, from 9:00 am to 12:00 pm

Miracle on Lake Avenue

- Request a Parade Permit and street closures for Thursday, December 8, 2023, at 6:00 pm.
- Request a Noise Variance in the 500 and 600 block of Lake Avenue for holiday music, a parade, and sidewalk activities on Thursday, December 8, 2022, from 5:00 pm to 9:00 pm.
- Request for a street closure of the 200 block of East 5th Street immediately following the parade for a Tree Lighting ceremony.

In each of the submitted event requests there was also a standing request for appropriate assistance from the Parks, Streets and Police Departments.

PASSED AND APPROVED this 20th Day of March 2023

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY

Three S LLC

NAME OF BUSINESS(DBA)

Puffs

BUSINESS

(712) 732-9820

ADDRESS OF PREMISES

1205 East Lakeshore Dr

PREMISES SUITE/APT NUMBER

CITY

Storm Lake

COUNTY

Buena Vista

ZIP

50588

MAILING ADDRESS

1205 East Lakeshore Dr

CITY

Storm Lake

STATE

Iowa

ZIP

50588

Contact Person

NAME

Lance Bellinghausen

PHONE

(712) 301-3174

EMAIL

puffs.lance@gmail.com

License Information

LICENSE NUMBER

LC0038399

LICENSE/PERMIT TYPE

Class C Retail Alcohol License

TERM

12 Month

STATUS

Pending
Dramshop
Review

EFFECTIVE DATE

Apr 20, 2023

EXPIRATION DATE

Apr 19, 2024

LAST DAY OF BUSINESS

SUB-PERMITS

Class C Retail Alcohol License



State of Iowa

Alcoholic Beverages Division

PRIVILEGES

Outdoor Service

Status of Business

BUSINESS TYPE

Limited Liability Company

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
Lance Bellinghausen	Storm Lake	Iowa	50588	Owner	100.00	Yes

Insurance Company Information

INSURANCE COMPANY

Badger Mutual Insurance
Company

POLICY EFFECTIVE DATE

POLICY EXPIRATION DATE

DRAM CANCEL DATE

OUTDOOR SERVICE EFFECTIVE
DATE

OUTDOOR SERVICE EXPIRATION
DATE

BOND EFFECTIVE DATE

TEMP TRANSFER EFFECTIVE
DATE

TEMP TRANSFER EXPIRATION
DATE

M E M O R A N D U M

TO: MAYRA MARTINEZ

FROM: CHRIS COLE

DATE: March 14, 2023

REFERENCE: LIQUOR LICENSE RENEWAL
PUFF'S
1205 E LAKESHORE DR

Discussion: Per your request I have accessed the depa
for calls of interest to the aforementioned establishm
calls are as follows:

2-27-2021 to
2-5-2022

INCIDENT

911 Hang Up Call	2
Animal Complaint	0
Bar Check	96
Business Assist	1
Business Security	96
Domestic Disturbance	1
Fight	1
Intoxicated Pedestrian	2
Law Department Assist	1
Open Door/Window	2
Pedestrian Stop	0
PR/Talk/Presentation	9
Street Beat	0
Suspicious Person	1
Vehicle Stop	5

ARRESTS

Disorderly Conduct	0
OWI	1
Public Intoxication	3

Recommendation: Approval of liquor license.

rtment computer
ent. The

2-6-2022 to
3-11-2023

1
1
131
0
83
0
0
1
0
0
1
7
2
0
13

1
0
2



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY

Mo's Tap Inc.

NAME OF BUSINESS(DBA)

Mo's

BUSINESS

(712) 732-3292

ADDRESS OF PREMISES

707 Lake Avenue

PREMISES SUITE/APT NUMBER

CITY

Storm Lake

COUNTY

Buena Vista

ZIP

50588

MAILING ADDRESS

111 W 1st Street

CITY

Storm Lake

STATE

Iowa

ZIP

50588

Contact Person

NAME

Marisa Olivarez

PHONE

(712) 299-2969

EMAIL

cashmjm@gmail.com

License Information

LICENSE NUMBER

LC0038268

LICENSE/PERMIT TYPE

Class C Retail Alcohol License

TERM

12 Month

STATUS

Pending
Dramshop
Review

EFFECTIVE DATE

Apr 2, 2023

EXPIRATION DATE

Apr 1, 2024

LAST DAY OF BUSINESS

SUB-PERMITS

Class C Retail Alcohol License

PRIVILEGES



State of Iowa

Alcoholic Beverages Division

Status of Business

BUSINESS TYPE

Corporation

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
Jean Cashman	Storm Lake	Iowa	50588	Vice President	0.00	Yes
Marisa Olivarez	Storm Lake	Iowa	50588	Owner	100.00	Yes

Insurance Company Information

INSURANCE COMPANY

Badger Mutual Insurance
Company

POLICY EFFECTIVE DATE

POLICY EXPIRATION DATE

DRAM CANCEL DATE

OUTDOOR SERVICE EFFECTIVE
DATE

OUTDOOR SERVICE EXPIRATION
DATE

BOND EFFECTIVE DATE

TEMP TRANSFER EFFECTIVE
DATE

TEMP TRANSFER EXPIRATION
DATE

M E M O R A N D U M

TO: MAYRA MARTINEZ

FROM: CHRIS COLE

DATE: March 14, 2023

REFERENCE: LIQUOR LICENSE RENEWAL
MO'S
707 LAKE AVE

Discussion: Per your request I have accessed the department computer for calls of interest to the aforementioned establishment. The calls are as follows:

	2-27-2021 to 1-18-2022	1-19-2022 to 3-11-2023
INCIDENTS		
Ambulance Call	0	2
Bar Check	113	155
Business Assist	1	7
Business Security	30	18
Citizens Assist	3	0
Disturbance	6	3
Domestic Disturbance	0	1
Fight	3	5
Intoxicated Driver	0	2
Intoxicated Pedestrian	1	2
Law Department Assist	1	0
Motorist Assist	0	3
Pedestrian Stop	0	1
PR/Talk/Presentation	17	3
Station Assignment	0	1
Suspicious Vehicle	0	1
Trespass	1	0
Vehicle Stop	2	2
Warrant Service	0	2
White Summons	1	1

ARRESTS

Assault	2	0
Disorderly Conduct	5	5

Driving while barred	1	0
False Identification	0	1
Harassment	0	1
Interference with official acts	1	2
OWI	1	0
Possession Controlled Substance	0	1
Possession Drug Paraphernalia	0	1
Public Intoxication	2	6
Trespass	0	1
Violation of No Contact Order	0	1
Warrant Served	0	3

Recommendation: Approval of liquor license.

Staff Summary

03/20/2023

Agenda Item # D.2.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Mayra Martinez City Clerk

SUBJECT: Buy Local Information

BACKGROUND: Early in 2011 during a Study Session discussion Council asked staff to look at putting together some analysis information regarding the amount of purchases made locally. We have pulled that information together and a provided a summary of purchases identified in the current list of bills to be approved that are purchased locally (within the City of Storm Lake), within Buena Vista County, and outside of Buena Vista County are presented here for Council's review. This information is presented for for both the City and King's Pointe's bills. As the reader reviews the information they should note the following key notes: Costs associated with any major capital project (those bid under the State of Iowa Bid Law) are excluded from the calculation Costs associated with travel is excluded from the calculation and % Costs associated with payroll is excluded from the calculation and % In some cases there is only one vendor or an item is only available from vendors outside of the City limits and/or Buena Vista County – we have not identified these Some departments have fairly minor budgets and a major purchase can skew the % and or amount for a given review period (For Example: the Airport may have normally \$4,000 - \$6,000 in expenses until they purchase Jet Fuel or Av Gas which can be \$10,000 + and as a vendor who is not local this can skew the information for that review period) Local has been determined to be has an office front in the area and based on where the office front is located for local vs. BV County (For Example: Wal-Mart is considered local since they have a store in Storm Lake even though their headquarters is not located here) As with all analytical data it is possible to interpret the numbers in a variety of ways and as we move forward we would be happy to provide further detail and or revise the way in which we show the data. Likewise if you have any questions or concerns please don't hesitate to contact city staff.

FISCAL IMPACT:

BREAKOUT CALCULATED EXPENSES:

Buena Vista County: \$ 213,423.24

Contract/Agreement:	\$ 157,431.40
Local:	\$ 112,747.18
Non-Local:	\$ 193,288.06
<u>Payroll/Refunds/Payroll Tax & Ins:</u>	<u>\$ 127,609.68</u>
TOTAL EXPENSES:	\$ 804,499.56

RECOMMENDATION: Review Buy Local Information

ATTACHMENTS:

[3/20/2023 Project Report.pdf](#)

Summary

Project Summary							
Project Number	Project Name	Total Budget	Date Range Budget	Beginning Balance	Total Activity	Ending Balance	Budget Remaining
01112-0019	WasteWater Treatment Facility Wetlan...	1,173,565.00	0.00	1,171,509.84	0.00	1,171,509.84	2,055.16
01112-0020	10th & Ontario StormWater Improvem...	1,753,734.33	0.00	1,753,734.33	0.00	1,753,734.33	0.00
01112-0021	4th & Oats StormWater Improvements	832,997.63	0.00	833,347.35	0.00	833,347.35	-349.72
OP1.122814	Richland Street, Phase 2 Improvements	174,107.75	174,107.75	174,095.25	0.00	174,095.25	12.50
OP1.124529	2021 Fiber Optic System Improvement	1,512,413.00	0.00	1,512,318.50	0.00	1,512,318.50	94.50
OP1.124889	2021 Cabin Construction	3,300.00	0.00	3,300.00	0.00	3,300.00	0.00
OP1.125106	BRIC	8,573,638.49	8,573,638.49	212,709.99	0.00	212,709.99	8,360,928.50
OP1.126252	Comprehansive Plan & Zoning Code Up...	125,880.00	125,880.00	110,062.50	4,898.00	114,960.50	10,919.50
OT5.128791	Runway 17/35 Lighting Replacement	99,900.00	99,900.00	23,150.00	8,797.00	31,947.00	67,953.00
16-19284	4th & Bartion Storm Water Improvemen..	760,113.88	0.00	760,113.88	0.00	760,113.88	0.00
19-22797	Memorial Lift Station Improvements	2,533,320.00	877.16	2,543,598.46	530.00	2,544,128.46	-10,808.46
20-23848	Storm Lake WTP- Electrical MCC Replac...	268,494.81	0.00	285,519.75	0.00	285,519.75	-17,024.94
20-24387	Radio Park Lift Station Replacement	571,448.36	571,448.36	573,607.61	0.00	573,607.61	-2,159.25
20-HSG-022	2021 Housing Sustainability Project	224,994.00	224,994.00	143,771.12	33,646.00	177,417.12	47,576.88
21-26215	Downtown Master Plan	113,000.00	113,000.00	103,650.00	0.00	103,650.00	9,350.00
22-26698	Storm Lake WTP- Well No. 21	199,028.00	199,028.00	129,654.25	7,025.00	136,679.25	62,348.75
22-26815	W 6th Street Utilities Extension	304,318.00	304,318.00	126,627.20	0.00	126,627.20	177,690.80
22-27926	Storm Lake WTP- Well #22	129,200.00	129,200.00	27,440.00	3,850.00	31,290.00	97,910.00
35665	1st & Mae Street	764,059.53	0.00	764,059.53	0.00	764,059.53	0.00
8406	7th & Geneseo St Sanitary Sewer Impro...	410,306.35	0.00	410,306.35	0.00	410,306.35	0.00
HTG322020	T-Mobile Hometown Grant Q-3-22	0.00	0.00	8,022.00	3,690.00	11,712.00	-11,712.00
IA0091	SL Elevated Water Storage- Tower #5	760,100.15	760,100.15	284,283.92	47,800.00	332,083.92	428,016.23
New	Lead Service Line Replacement Prelim E...	15,500.00	15,500.00	0.00	0.00	0.00	15,500.00
OP1.125220	4th Street Watermain Improvement Pro...	486,673.86	486,673.86	434,591.32	0.00	434,591.32	52,082.54
P11.112742	North Central SW Phase II	1,854,441.25	0.00	1,854,469.26	0.00	1,854,469.26	-28.01
P11.118940	Oneida Street Reconstruction from RR t...	2,526,433.98	-2,121.56	2,513,334.28	0.00	2,513,334.28	13,099.70
P11.120411	Highway 7/110 Traffic Lane/Signalization	4,661,065.85	0.00	4,117,221.13	6,466.00	4,123,687.13	537,378.72
P11.120478	Tulip Lane SW Improvements	443,607.50	0.00	442,111.30	0.00	442,111.30	1,496.20
P11.120650	2020 Expansion Blvd Improvements	1,169,938.10	0.00	1,168,724.60	0.00	1,168,724.60	1,213.50
P11.122266	7th Street Sewer Lining/2021 CIPP	495,443.50	495,443.50	495,287.16	0.00	495,287.16	156.34
SP21122	SL Library CDBG- COVID (CV) Grant	677,887.25	677,887.25	219,930.97	2,398.00	222,328.97	455,558.28
TS1.119823	Runway 13/31 & Taxiway Lighting	459,190.70	0.00	459,190.70	0.00	459,190.70	0.00
Report Total:		34,078,101.27	12,949,874.96	23,659,742.55	119,100.00	23,778,842.55	10,299,258.72

Group Summary						
Group	Total Budget	Date Range Budget	Beginning Balance	Total Activity	Ending Balance	Budget Remaining
Airport Projects	559,090.70	99,900.00	482,340.70	8,797.00	491,137.70	67,953.00
ARPA Project	760,100.15	760,100.15	284,283.92	47,800.00	332,083.92	428,016.23
Building Resilient Infrastructure and Co...	8,573,638.49	8,573,638.49	212,709.99	0.00	212,709.99	8,360,928.50

Staff Summary

03/20/2023

Agenda Item # D.3.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Chris Cole Police Chief

SUBJECT: **Resolution No. 43-R- 2022-2023 To Approve Request from Storm Lake United for 2023 Events**

BACKGROUND:

For the Storm Lake *Farmers Market*, Storm Lake United would like to request permission for the following:

- Authorization to have sales of farmer raised goods in Public Parking Lot C located at Erie Street and 6th Street.
- Permission for set up of *Farmers Market* stands starting on **Saturday, June 10th and running through Saturday, October 28th on both Thursday Nights from 3:00pm to 6:30pm and on Saturday Mornings from 7:00am to 1:00pm.**
- A Noise Variance on Thursday events and Saturday events for the duration.
- **SLAPT on Stage:** Date and Time to be determined

Ridiculous Days will be taking place in the business district on **July 13th through July 15th, 2023.** Storm Lake United would like to request the following for this event:

- Permission to hold sidewalk sales from Thursday, July 13th at 7:00am through Saturday, July 15th at 5:00pm in the 500, 600 & 700 blocks of Lake Avenue including the side streets immediately adjacent on 5th and 6th Streets.
- Permission to allow community members to sell secondhand goods on Saturday, July 15th from 8:00 am to 4:00 pm. Spaces will be assigned to sellers beforehand and will not be in front of any existing open business. A \$20 refundable deposit will be collected by Storm Lake United when a seller signs-up. The deposit will be refunded to the seller once it has been confirmed their assigned space is clear of any items or trash.

- Permission to allow local food vendors on sidewalks on Saturday, July 15th from 8:00am to 4:00pm.

August 18-20, 2023, Storm Lake United is planning to host *Wood, Wine & Blues*. *Wood, Wine & Blues*, a community-wide event that will include a three-day chainsaw carving competition between professional wood carvers and a wine and arts festival on Saturday, August 19th and Sunday August 20th in the park with craft vendors selling their products, Iowa wineries and breweries providing free tastings for the public, a wine trailer, and free daytime concerts from various artists. Should SLU decide to sell beer or bring in a vendor, all Iowa ABD guidelines will be followed, and public safety will be notified. Storm Lake United would like to request permission for the following:

- To use Sunset Park on Friday, August 18th between the hours of 8:00am to 9:00pm. On Saturday, August 19th from 8:00am to 9:00pm. On Sunday, August 20th from 8:00am to 6:00pm.
- To use the Sunset Park Band Shell from 10:00am to 9:00pm on Saturday, August 19th. and from 10:00 am to 5:00 pm on Sunday, August 20th.
- To have a Noise Variance in Sunset Park on Friday, August 18th from 8:00am to 9:00pm. On Saturday, August 19th from 8:00am to 9:00pm. On Sunday, August 22nd from 8:00am to 5:00pm.
- To allow chainsaw competitors to complete tree sculpture carvings with the designated logs located in Sunset Park on Friday, August 18th from 8:00 am to 5:30pm. Saturday, August 19th from 8:00am to 5:00pm. Sunday, August 20th from 8:00am to 3:30pm.
- To allow craft vendors to display and sell their products in Sunset Park Saturday, August 19th and Sunday, August 20th from 10:00 am to 5:00pm.
- To allow Storm Lake United to sell quick carve sculptures that the competing carvers will create in a 90-minute quick carve competition via silent auction on Saturday, August 19th and Sunday, August 20th.
- To allow food vendors to sell their products on Friday, August 18th, Saturday, August 19th and Sunday, August 20st in Sunset Park.
- To allow the wine vendors to sell glasses of wine on Saturday, August 19th and Sunday August 20th from the hours of 11:00 am to 5:00 pm during the Wood, Wine and Blues event. Wine vendors will only be serving wine by the glass and selling unopened bottles of Iowa Wines. Wine vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Should SLU obtain correct licenses from the Iowa ABD, request to allow the brewery vendors to sell glasses of beer on Saturday, August 19th and Sunday, August 20st from the hours of 11:00 am to 5:00 pm during the Wood, Wine and Blues event. Brewery vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- To allow the competing carvers to sell their work in Sunset Park.
- Permission to set-up Koenig portable toilets as needed.
- To allow for a free to enter 32 team cornhole competition that is open to the community.
- For appropriate support from parks and public safety.

- For access to electrical power in Sunset Park.
- Request to the City of Storm Lake for assistance to stage and stand the carvers' logs prior to competition.
- Request to the City of Storm Lake for assistance to relocate wood carvings from Sunset Park after competition.

The competing carvers will be responsible to supply their own safety equipment, including safety netting, fire extinguishers, eye protection, ear plugs, and chainsaw resistant pants or chaps. Each carver will be required to sign a waiver before they will be able to compete in the competition.

Chills and Thrills is the annual Halloween Trick or Treat in Storm Lake that includes coordination with BVU Student Organization and local businesses to provide a family friendly Halloween Trick or Treat event for the citizens of Storm Lake. This year the event is scheduled for **Saturday, October 28th**. Storm Lake United would like to request a permit for the following activities during *Chills and Thrills 2023*:

- A Noise Variance beginning at 9:00am to 12:00pm.
- Permission for student organizations and local businesses to set up tables for games and candy on the 500, 600 & 700 block of Lake Avenue from 9:00am to 12:00pm.

Lastly, ***Miracle on Lake Avenue*** will take place on Thursday, December 7th, 2023. A weather date is also requested for Friday December 8th. Storm Lake United would like to make the request for the following activities on Lake Avenue between 5:00pm and 9:00pm.

- A Noise Variance for holiday music is needed for the parade and sidewalk activities on the 500 and 600 blocks of Lake Avenue from 5:00pm to 9:00pm.
- The parade will start at 6:00pm. The staging area will be in the 500 and 600 blocks of Cayuga Street. The parade will go West on 7th Street, South on Lake Avenue, East on Railroad Street and North on Erie Street ending in the 700 block.
- A street closure at the 200 block of East 5th Street for the Tree Lighting ceremony that will take place immediately following the parade. Once the ceremony is over, the street will be reopened.

FISCAL IMPACT:

The Parks Department and Police Department will accrue staff time associated with each of the planned events. Those staff hours and related equipment will be absorbed in the normal operating budget.

RECOMMENDATION:

Approve Resolution No. 43-R-2022-2023 to approve requests upon receipt of applicable insurance policies and proof of beer and wine

licensing.

ATTACHMENTS:

[Resolution No. 43-R-2022-2023 Approving SLU Events 2023.pdf](#)

RESOLUTION NO. 43-R-2022-2023

A RESOLUTION APPROVING STORM LAKE UNITED REQUESTS FOR A SERIES OF 2023 COMMUNITY EVENTS

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA:

To approve the following events:

Farmers Market:

- Authorization to have sales of farmer raised goods in Public Parking Lot C located at Erie Street and East 6th Street.
- Permission for set up of Farmers Market stands and sales starting Saturday, June 10th, 2023 and running through Saturday, October 28th, 2023 on both Thursday nights from 3:00 pm to 6:30 pm and on Saturday mornings from 7:00 am to 1:00 pm.
- A Noise Variance on Thursday events and Saturday events for the duration.
- **SLAPT on Stage:**
- Date and Time to be determined

Ridiculous Days:

- Permission to hold sidewalk sales starting Thursday, July 13, 2023, at 7:00 am through Saturday, July 15, 2023 at 5:00 pm in the 500, 600, and 700 blocks of Lake Avenue, including the side streets immediately adjacent on 5th Street and 6th Street.
- Permission to allow community members to sell secondhand goods on Saturday, July 15, 2023 from 8:00 am to 4:00 pm.
- Permission to allow local food vendors on sidewalks on Saturday, July 15, 2023, from 8:00 am to 4:00 pm.

Wood, Wine & Blues:

- Request to use Sunset Park on Friday, August 18, 2023, from 8am to 9pm, Saturday, August 19, 2023 from 8am to 9pm and Sunday, August 20, 2023 from 8:00 am to 6:00 pm for a three day chainsaw carving competition and a wine and arts festival.
- Request to use Sunset Park Bandshell on Saturday, August 19, 2023, from 10 am to 9 pm and Sunday, August 20, 2023 from 10am to 5pm.
- Request a Noise Variance in Sunset Park on Friday, August 18, 2023, from 8am to 9pm, on Saturday August 19, 2023, from 8am to 9pm, and on Sunday August 22, 2023, from 8am to 6pm.
- Request to allow chainsaw competitors to complete tree sculpture carvings with designated logs located in Sunset Park on Friday, 8/18/23 (8am-5:30pm), Saturday, 8/19/23 (8am-5pm), and Sunday, 8/20/23 (8am-3:30pm).
- Request to allow craft vendors to display and sell their products in Sunset Park Saturday, August 19, 2023, and Sunday, August 20, 2023, from 10am to 5pm.
- Permission for Storm Lake United to sell quick carve sculptures created from a quick carve competition via silent auction on Saturday, August 19, 2023, and Sunday August 20, 2023.
- Permission to allow food vendors to sell their products in Sunset Park on Friday, August 18, 2023, Saturday, August 20, 2023, and Sunday, August 20, 2023.

- Permission to allow wine vendors to sell glasses of wine and unopened bottles of Iowa wine in Sunset Park on Saturday, August 19, 2023, and Sunday, August 20, 2023, from 11am to 5pm during the Wood, Wine, and Blues event. Wine vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Request to allow brewery vendors to sell glasses of beer on Saturday, August 19, 2023, and Sunday August 20, 2023, from 12pm to 5pm in Sunset Park. Brewery vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Permission to allow the wood carvers to sell their wood carvings in Sunset Park.
- Permission to set-up Koenig portable toilets as needed.
- Permission to allow for a free 32 team cornhole competition open to the community.
- Request for access to electrical power in Sunset Park.
- Request for appropriate support from Parks and Public Safety.
- Request to the City of Storm Lake for assistance to stage and stand the wood carver's logs prior to competition.
- Request the City of Storm Lake for assistance to relocate wood carvings after the competition.

Chills and Thrills

- Request permission for student organizations and local businesses to set-up tables for games and hand out candy in the 500, 600, and 700 blocks of Lake Avenue from 9:00 am to 12:00 pm on Saturday October 28, 2023.
- Request a Noise Variance on Saturday, October 28, 2023, from 9:00 am to 12:00 pm

Miracle on Lake Avenue

- Request a Parade Permit and street closures for Thursday, December 8, 2023, at 6:00 pm.
- Request a Noise Variance in the 500 and 600 block of Lake Avenue for holiday music, a parade, and sidewalk activities on Thursday, December 8, 2022, from 5:00 pm to 9:00 pm.
- Request for a street closure of the 200 block of East 5th Street immediately following the parade for a Tree Lighting ceremony.

In each of the submitted event requests there was also a standing request for appropriate assistance from the Parks, Streets and Police Departments.

PASSED AND APPROVED this 20th Day of March 2023

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Staff Summary

03/20/2023

Agenda Item # D.4.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council
FROM: Chris Cole Police Chief
SUBJECT: **SLPD City Code Enforcement Summary**

BACKGROUND: 3/1/2023 to 3/14/2023

White Summons – 3

CCE Total - 49

Parking Restricted to hard surfaces – 4

Junk Vehicle – 2

Accumulate Junk – 33

Accumulate Trash – 10

Citations - 0

FISCAL IMPACT: None

RECOMMENDATION: None

ATTACHMENTS:

Staff Summary

03/20/2023

Agenda Item # D.5.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Chris Cole Police Chief

SUBJECT: **BVU Block Party and Buenafication Noise Variance Requests**

BACKGROUND:

Buena Vista University is preparing for Buenafication Day on April 20th and for a Block Party on April 29th. They are requesting a noise variance for the following dates and times:

Buenafication Day April 20

8:45am – 10am – Music and PA system to be playing for the Opening Ceremony at the Stadium

BVU Block Party April 29

1:00pm-5:00pm – Music on speaker during day activities

8:00pm-11:00pm – DJ playing on campus outside

These events are similar to those in the past which have all run smoothly with no issues.

BVU Point of Contact: Megan Wescoat, Director of Community and Student Engagement, at 749-2084

FISCAL IMPACT: None

RECOMMENDATION: Approve Request

ATTACHMENTS:

Staff Summary

03/20/2023

Agenda Item # F.1.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Tyler Gibbins Staff Accountant

SUBJECT: **Resolution No. 44-R-2022-2023 Revising Fees At Sunrise Pointe Golf Course**

BACKGROUND: This resolution will amend the fees currently charge at the Sunrise Pointe Golf Course for the 2023 season. These changes will assist the course in being more marketable to the public and address previous year's concerns.

- **Course Rental-** It has been proven difficult to market the course for group outings on the current tiered base system. Many group hosts have the variable of knowing the number participants. This change would remove the tier base system and include a group course closure fee for 9 or 18 holes as well as include a group cart rental fee.
 - Course rental fees will have a minimum of 25 participants.
 - Taking into consideration season pass holders when it comes to course closures, these new rates would be required at the time of booking and require a 72 hour notice of cancellation unless weather related. If cancellation occurs inside the 72 hour window, only 50% of the rental fee will be refunded.
 - If a group would like to bring in outside food, the food provider must have a catering licenses in accordance with state requirements and provide proof of insurance in the amount of \$1,000,000 naming the City of Storm Lake and Weigand-Omega as additionally insured.
- **New Season Pass Special-** For the City of Storm Lake, Sunrise Pointe Golf Course would like to offer a single season pass to all new members for \$150.00. In order to receive this special offer, individuals would not have been a pass holder during the 2022 season. This includes being part of a family pass during the 2022 season.

FISCAL IMPACT:

Sunrise Pointe Golf Course

- New Member Single Season Pass (Not previously a member during the 2022 season) - **\$150.00**
- 9-Hole Course Rental Fee (Minimum 25 participants) - **\$250.00**
- 18-Hole Course Rental Fee (Minimum 25 participants) - **\$400.00**
- Group Cart Rental Fee (25 total carts) - **\$350.00**

All other fees would remain the same for the 2023 season as outlined in the current fee resolution.

RECOMMENDATION:

Approve Resolution No. 44-R-2022-2023 Revising Fees at Sunrise Pointe Golf Course

ATTACHMENTS:

[Resolution No. 44-2022-2023 - Fee Resolution Proposal - Golf Course.pdf](#)

RESOLUTION NO. 44-R-2022-2023

RESOLUTION SETTING FINES AND FEES

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA that the following schedule of fees are approved and effective as of March 20th, 2023.

<u>Administration</u>	<u>Fee</u>	<u>Code Section</u>
Administrative Fee	\$30.00	
City Code Subscription (yearly)	\$50.00	
Garbage Truck Permits (per business)	\$100.00	3-1-5
Insufficient Check Fee	\$30.00	
New Friends List	\$10.00	
Peddlers Transient Merchant Permit (1 Day)	\$25.00	4-3-6
Investigation Fee	\$25.00	4-3-4
Peddlers Transient Merchant Permit (1 Week)	\$75.00	4-3-6
Investigation Fee	\$25.00	4-3-4
Transient Merchant Permit (28 days)	\$150.00	
Investigation Fee	\$25.00	
Solicitors Permit (per person)	\$2.00	4-3-6
Solicitors Permit (principal) (1 day)	\$25.00	4-3-6
Investigation Fee (per organization)	\$25.00	4-3-4
Investigation Fee (per Individual soliciting)		\$5.00
Solicitors Permit (principal) (1 week)	\$75.00	4-3-6
Investigation Fee	\$25.00	4-3-4
Investigation Fee (per Individual soliciting)		\$5.00
Solicitors Permit (principal) (28 days)	\$150.00	
Investigation fee (per organization)	\$25.00	
Investigation Fee (per Individual soliciting)		\$5.00
Taxi Permit (Business)	\$100.00	4-5-3
Taxi Permit (per vehicle)	\$10.00	4-5-3
Cancel Permit Fee	\$25.00	
Freedom of Information Requests (FOIA Request)		
Single Sided Copy 8.5x11	\$.30/page	
Duplex copy 8.5x11	\$.40/page	
Single Sided Legal	\$.35/page	
Duplex Legal copy	\$.45/page	
Single Sided Ledger (11x17)	\$.70/page	
Single Sided Ledger with Color Print	\$.90/page	
Duplex Ledger (11x17)	\$.80/page	
Duplex Ledger with Color Print	\$1.00/page	
Large Format Prints (one side only and in color)	\$8.00/page	
CD Cost (for requests that ask for the files digitally on a CD)	\$10.00	
Research Hourly Rate – per hour/per person	\$25.00	
Mailing Costs – 3 pages	\$1.00	
Mailing Costs – 50 pages	\$5.00	
Mailing Costs – 100 pages	\$10.00	
Special City Council Meeting	\$250.00	

Downtown Parking Space Rental Fees (specific lots)	
Per quarter (paid quarterly)	\$75.00
Per six months (paid bi-annually)	\$112.50
Annually (paid annually)	\$150.00

Airport Hangar Rent (monthly fees)

Hangar A	\$75.00
12 Month Lease Discount Rate	\$65.00
Hangar B	\$75.00
12 Month Lease Discount Rate	\$65.00
Hangar C (VT)	\$400.00
Hangar D	\$92.00
12 Month Lease Discount Rate	\$80.00
Hangar E	\$110.00
12 Month Lease Discount Rate	\$95.00
Hangar F	\$156.00
12 Month Lease Discount Rate	\$135.00
FBO Stall	\$173.00
12 Month Lease Discount Rate	\$150.00

Daily Inside Storage/per night	\$30.00
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Building Official

Central Business District Bench & Flower Pot Permit	\$25.00	
Driveway (Curb) Cut, Inspection & Marking Residential	\$150.00	
Driveway (Curb) Cut, Inspection & Marking Commercial	\$200.00	
ROW Temp Closure Permit	\$25.00	
Building Moving Permit (Per Bldg)	\$100.00	5-1-1
Demolition Permit	\$50.00	
Pool Inspection	\$20.00	8-8-11
Re-inspection Fee (after 1 per inspection)	\$35.00	
No Show Fee (per event)	\$50.00	
Rental Registration Fee – Yearly (July 1st – June 30th)		
Base Registration Fee (Structure and 1 unit)	\$10.00	5-8-9
Additional unit in excess of 1 (per unit)	\$5.00	5-8-9
Late Registration Fee - Per Landlord License		\$50.00 5-8-9
Additional unit in excess of 1 (up to 6 units)	\$50.00	
Property Maintenance Ordinance Appeal	\$150.00	Zoning Ord.
Variance Request	\$150.00	Zoning Ord.
Zoning Request	\$200.00	Zoning Ord.
Conditional Use	\$300.00	Zoning Ord.
Sub-Division Application Fee	\$300.00	
Sidewalk Repair Permit Fee	\$0	
New Construction Incentive		

Single Family Attached and Single Family Detached Dwelling \$1.00
(only valid from March 2, 2020 to December 31, 2020 with
Council approval)

Building & Sign Permit Fees

Building & Sign Permit <\$1,200	\$22.02	5-2-2
Building & Sign Permit \$1,200-2,000		5-2-2
\$22.02 + \$2.88 for each additional \$100.00 over \$1,200		
Building & Sign Permit \$2,001-25,000		5-2-2
\$45.06+ \$9.16 for each additional \$1,000.00 over \$2,000		
Building & Sign Permit \$25,001-50,000		5-2-2
\$255.74 + \$6.22 for each additional \$1,000.00 over \$25,000		
Building & Sign Permit \$50,001-100,000		5-2-2
\$411.24+ \$4.15 for each additional \$1,000.00 over \$50,000		
Building & Sign Permit \$100,001 or more		5-2-2
\$618.74+ \$3.61 for each additional \$1,000.00 over \$100,000		
Portable Sign Permit (14 days)	\$30.00	Zoning Ord.

Electrical Fees

For New Residences		5-4-9
Single Dwelling	\$38.00	
Duplex Dwelling	\$56.75	
Triplex Dwelling	\$75.50	
4-Plex Dwelling	\$113.00	
Multi Units Between 5 and 12	\$156.75	
Over 12 Units	\$156.75 plus \$38.00 each over 12	
For New Commercial or Industrial Buildings		
First \$5,000.00 at \$8.00 per/\$1,000.00 of cost		
Second \$5,000.00 at \$6.75 per /\$1,000.00 of cost		
Third \$5,000.00 at \$5.50 per/\$1,000.00 of cost		
Fourth \$5,000.00 at \$4.25 per/\$1,000.00 of cost		
Fifth \$5,000.00 at \$3.00 per/\$1,000.00 of cost		
All over \$25,000.00 at \$1.50 per/\$1,000.00 of cost		
For Rewiring, Repairs or Alterations on Residence, Commercial and Industrial Buildings		
\$100.00 to \$150.00 electric contract	\$6.75	
\$151.00 to \$200.00 electric contract	\$8.00	
\$201.00 to \$250.00 electric contract	\$9.25	
\$251.00 to \$300.00 electric contract	\$10.50	
\$301.00 to \$350.00 electric contract	\$11.75	
\$351.00 to \$400.00 electric contract	\$13.00	
\$401.00 to \$450.00 electric contract	\$14.25	
\$451.00 to \$500.00 electric contract	\$15.50	
\$501.00 to \$1,000.00 electric contract	\$23.00	
\$1,001.00 to \$2,000.00 electric contract	\$28.00	
All over \$2,001.00	\$28.00 plus \$1.50 per \$100.00	

Plumbing Fees

For New Residences	5-3-10
Single Dwelling	\$38.00
Duplex Dwelling	\$56.75
Triplex Dwelling	\$75.50
4-Plex Dwelling	\$113.00
Multi Units Between 5 and 12	\$156.75
Over 12 Units	\$156.75 plus \$38.00 each over 12
For New Commercial or Industrial Buildings	
First \$5,000.00 at \$8.00 per/\$1,000.00 of cost	
Second \$5,000.00 at \$6.75 per /\$1,000.00 of cost	
Third \$5,000.00 at \$5.50 per/\$1,000.00 of cost	
Fourth \$5,000.00 at \$4.25 per/\$1,000.00 of cost	
Fifth \$5,000.00 at \$3.00 per/\$1,000.00 of cost	
All over \$25,000.00 at \$1.75 per/\$1,000.00 of cost	
For Repairs or Alterations on Residence, Commercial and Industrial Buildings	
\$100.00 to \$150.00 plumbing contract	\$6.75
\$151.00 to \$200.00 plumbing contract	\$8.00
\$201.00 to \$250.00 plumbing contract	\$9.25
\$251.00 to \$300.00 plumbing contract	\$10.50
\$301.00 to \$350.00 plumbing contract	\$11.75
\$351.00 to \$400.00 plumbing contract	\$13.00
\$401.00 to \$450.00 plumbing contract	\$14.25
\$451.00 to \$500.00 plumbing contract	\$15.50
\$501.00 to \$1,000.00 plumbing contract	\$23.00
\$1,001.00 to \$2,000.00 plumbing contract	\$28.00
All over \$2,001.00	\$28.00 plus \$1.50 per \$100.00

Campground

Class A Site	\$30.00
(Lake View, Patio, Water, Sewer, Electric, Cable TV, Fire Pit)	
Class C Site	\$28.00
(Lake View, Patio, Water, Sewer, Electric, Fire Pit)	
Class E Site	\$25.00
(Water, Sewer, Electric)	
Class F Site	\$20.00
(Electric)	
Glass G Site	\$12.00
(Tent)	

Long Term Stay Rate
 Limited to Long Term Stay slots which include Water, Sewer, Electric

Minimum 30 day stay paid in advance – 10% off

Extra Vehicle Parking (if space available)	\$5.00
Non-Campers Dump Station (per event)	\$5.00
Non-Camper Shower (per shower)	\$5.00

Fire Department

False Alarm Fee (after 1)	\$150.00	4-7-16
Liquor License Inspection Fee	\$50.00	
Fireworks Display (Mortar sizes from 1-3 inches)	\$150.00	
Fireworks Display (Mortar size larger than 3 inches)	\$250.00	
Emergency Response and/or Cleanup of Material (per hour)		
Large Fire Apparatus	\$150.00	
Fire Commander Vehicle	\$75.00	

Golf Course

Single Season Pass	\$325.00
New Member- First Year Single Season Pass	\$150.00
Family Season Pass - Family: Two or more persons (one of whom is the householder) related by birth, marriage, or adoption, living together and sharing common living, sleeping, cooking, and eating facilities within and individual housing unit as defined by the Storm Lake Zoning Code.)	
	\$600.00
Junior Season Pass (17 and Under)	\$50.00
Electric Cart Storage	\$300.00
Gas Cart Storage	\$285.00
Locker Rent/yr	\$20.00
Golf Club Rental	\$10.00
Trail Fee (per day)	\$10.00
Pull Cart Rental	\$3.00
Pull Cart (year)	\$65.00
Trail Fee (year)	\$170.00
10 Round Punch Card	\$125.00
Discount Tickets – per 9 holes (sold in advance with minimum quantity of 50)	\$10.00
Weekday 9 Holes	\$15.00
Weekday 18 Holes	\$20.00
Weekend 9 Holes	\$20.00
Weekend 18 Holes	\$25.00
Cart Rental 9 Holes	\$15.00
Cart Rental 18 Holes	\$25.00
Yearly Cart Rental	\$325.00
Hall Rental	\$250.00
Hall Rental - Friday Setup Fee (Valid only after 5:00 pm Friday with following Sat. rental)	\$100.00

Hall Rental (weekday 4hrs or less)	\$100.00
Bar Setup Fee (Event Center Only)	\$100.00
9-Hole Course Rental Fee (Minimum 25 participants)	\$250.00
18-Hole Course Rental Fee (Minimum 25 participants)	\$400.00

*Course Rental Fees are due at the time of booking.

*Cancellations require a 72 hour advanced notice.

*If cancelled inside the 72 hour period, only 50% of the rental Fee will be refunded.

Group Cart Rental Fee (25 Carts)	\$350.00
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Group Golf Rates Without Cart Rental As Set by the Following Table

# Rounds per Event	9 Holes	18 Holes
0-50	\$12.00 / Round	\$15.00 / Round
51-99	\$9.00 / Round	\$10.00 / Round
100+	\$8.00 / Round	\$9.00 / Round

Police

Administrative Fee	\$30.00		
Alarm Business Permit Application	\$75.00	4-7-6	
Alarm Business Permit Renewal	\$75.00	4-7-9	
False Alarm Equip Malfunction (after 3)	\$75.00	4-7-16	
False Alarm	\$75.00	4-7-16	
Building Escorts (per car)	\$75.00	5-1-3	
Cat License – Not Neutered/Spayed (per year)		\$20.00	8-4-2
Neutered/Spayed (per year)	\$10.00		
Dog License – Not Neutered/Spayed (per year)		\$20.00	8-3-2
Neutered/Spayed (per year)	\$10.00		
Fingerprinting	\$10.00		
Impound/Storage Fee (per day)	\$30.00	8-6-5	
Impound Storage Fee – felony related (per day)		\$50.00	
Parking Fine	\$15.00	9-11-4	
Police Escort Fee – per hour, per unit	\$75.00	5-1-3	
Emergency Response and/or Cleanup of Material (per hour)			
Police Vehicle (per vehicle)	\$75.00		

King's Pointe Outdoor Aquatic Center

Family Season Pass	\$275.00
(up to 5 family members can be included on Pass, Children 4 and under need not be on pass, as they are free.)	
Up to 4 additions of children 5-12 years old @\$55 each	
Single Season Pass (children and adults)	\$150.00
Adult BV Resident Daily Pass (Age 12+)	\$8.00
Child BV Resident Daily Pass (Age 5-11)	\$5.00
Children (Age 5-11) Standard Pricing	\$12.00
Adults (Age 12+) Standard Pricing	\$15.00

4 and under	free
Twilight Pricing (after 3:00)	
Age 12+	\$7.50
Age 5-11	\$6.00
Age 0-4	free
Land Lovers	\$5.00
Swim Lessons	\$40.00

Roadway Maintenance

Street Cuts & Replacement - Half Street	\$800.00
Street Cuts & Replacement Full Street	\$1600.00

Sewer

Sewer Svc Permit & Connection Fee	\$150.00	3-2-4
Private Wastewater System Permit	\$50.00	3-2-3

Shelter House

Rental Fee - per side	\$110.00
Damage Deposit – per side	\$200.00
AWAYSIS Pavilions – per time slot (3 times available)	\$25.00
Frank Starr Park Open Shelter – per time slot (2 times available)	\$50.00
Campground Open Shelter – per time slot (2 time slots available)	\$50.00
AWAYSIS Great Lawn – per day	\$200.00
Band Shell – per day	\$25.00

Water

Door Tag Fee	\$20.00	3-5-3
Meter Testing Fee (within 2%)	\$50.00	3-4-20
Shut Off – 8 AM to 3 PM	\$50.00	3-4-19 & 3-5-3
Shut Off – After 3 PM	\$75.00	3-4-19 & 3-5-3
Water Svc Permit & Connect Fee	\$150.00	3-4-5
Water Tapping Fee (per inch)	\$65.00	3-4-5
Outside City Limits Hook-up Fee	\$1,500.00	3-4-6
Combined Utility Deposit	\$160.00	
Bulk Water Sales Access Card	\$10.00	

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Staff Summary

03/20/2023

Agenda Item # F.2.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Resolution No. 45-R-2022-2023 Fixing Date for a Meeting on the Authorization of a Loan Agreement and the Issuance of Not To Exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes of the City of Storm Lake, State of Iowa, and Providing for Publication of Notice Thereof.**

BACKGROUND: This agenda item will set the public hearing for the Authorization of a Loan Agreement and the Issuance of Not To Exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes of the City and proposes authorization for additional action.

The Public Notice, as it would appear upon publication, is included for your review. Please note, as required by Code and to be included in the Publication: **The Notes will not constitute general obligations or be payable in any manner by taxation, but will be payable from and secured by Net Revenues under Iowa Code Section 403.19.**

The stated Purpose of the Bonds is to provide funds to pay the costs of aiding in the planning, undertaking and carrying out of urban renewal projects for the Storm Lake Industrial Park URA, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark.

FISCAL IMPACT: The fiscal impact is the cost of the publication for the Public Hearing which is approximately \$100. This Resolution, in itself, does not obligate the City. Any Obligation may only be pursued after the Public Hearing.

RECOMMENDATION: Adopt Resolution No. 45-R-2022-2023 to fix the date for a Public Hearing and authorize additional action.

ATTACHMENTS:

- [Proceedings Fixing Date of Hearing - Storm Lake UR Revenue CLN__130__02173310x7F7E1_.pdf](#)
- [Storm Lake \(130\) - Notice of Hearing 2023 Urban Renewal Revenue CLN \(02173386x7F7E1\).DOCX](#)
- [Resolution No. 45-R-2022-2023 - RESOLUTION FIXING DATE FOR A MEETING ON THE AUTHORIZATION OF A LOAN AGREEMENT AND THE ISSUANCE OF NOT TO EXCEED.pdf](#)

ITEMS TO INCLUDE ON AGENDA

CITY OF STORM LAKE, IOWA

Not to Exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes

- Resolution fixing date for a meeting on the proposition to authorize a Loan Agreement and the issuance of Notes to evidence the obligations of the City thereunder.

NOTICE MUST BE GIVEN PURSUANT TO IOWA CODE
CHAPTER 21 AND THE LOCAL RULES OF THE CITY.

March 20, 2023

The City Council of the City of Storm Lake, State of Iowa, met in _____ session, in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at _____ .M., on the above date. There were present Mayor _____, in the chair, and the following named Council Members:

Absent: _____

Vacant: _____

* * * * *

Council Member _____ introduced the following Resolution entitled "RESOLUTION FIXING DATE FOR A MEETING ON THE AUTHORIZATION OF A LOAN AGREEMENT AND THE ISSUANCE OF NOT TO EXCEED \$6,200,000 URBAN RENEWAL REVENUE CAPITAL LOAN NOTES OF THE CITY OF STORM LAKE, STATE OF IOWA, AND PROVIDING FOR PUBLICATION OF NOTICE THEREOF", and moved that the same be adopted. Council Member _____ seconded the motion to adopt. The roll was called and the vote was,

AYES: _____

NAYS: _____

Whereupon, the Mayor declared the resolution duly adopted as follows:

RESOLUTION FIXING DATE FOR A MEETING ON THE
AUTHORIZATION OF A LOAN AGREEMENT AND THE
ISSUANCE OF NOT TO EXCEED \$6,200,000 URBAN
RENEWAL REVENUE CAPITAL LOAN NOTES OF THE
CITY OF STORM LAKE, STATE OF IOWA, AND PROVIDING
FOR PUBLICATION OF NOTICE THEREOF

WHEREAS, by Resolution No. 33-R-91-92, adopted September 16, 1991, this Council found and determined that certain areas located within the City are eligible and should be designated as an urban renewal area under Iowa law, and approved and adopted the Storm Lake Industrial Park Urban Renewal Plan (the "Plan" or "Urban Renewal Plan") for the Storm Lake Industrial Park Urban Renewal Area (the "Area" or "Urban Renewal Area") described therein, which Plan is on file in the office of the Recorder of Buena Vista County; and

WHEREAS, the Plan has subsequently been amended, lastly by the adoption of Amendment No. 9 to the Plan, adopted by Resolution No. _____, adopted April 3, 2023; and

WHEREAS, it is deemed necessary and advisable that the City of Storm Lake, State of Iowa, should provide for the authorization of a Loan Agreement and the issuance of Urban Renewal Revenue Capital Loan Notes, to the amount of not to exceed \$6,200,000, as authorized by Sections 384.24A, 403.9 and 403.19, of the Code of Iowa, for the purpose of providing funds to pay costs of carrying out project(s) as hereinafter described; and

WHEREAS, the Loan Agreement and Notes shall be payable solely and only out of the net revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended, and shall be a

first lien on the future Net Revenues of the Storm Lake Industrial Park Urban Renewal Area; and shall not be general obligations of the City or payable in any manner by taxation and the City shall be in no manner liable by reason of the failure of the Net Revenues to be sufficient for the payment of the Loan Agreement and Notes; and

WHEREAS, before the Loan Agreement and Notes may be issued, it is necessary to comply with the provisions of the Code, and to publish a notice of the proposal to issue such notes and of the time and place of the meeting at which the Council proposes to take action for the authorization of the Loan Agreement and Notes and to receive oral and/or written objections from any resident or property owner of the City to such action.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, STATE OF IOWA:

Section 1. That this Council meet in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at _____ .M., on the 3rd day of April, 2023, for the purpose of taking action on the matter of the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, the proceeds of which notes will be used to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, as amended, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark.

Section 2. That the Clerk is hereby directed to cause at least one publication to be made of a notice of the meeting, in a legal newspaper, printed wholly in the English language, published at least once weekly, and having general circulation in the City. The publication to be not less than four clear days nor more than twenty days before the date of the public meeting on the issuance of the Notes.

Section 3. The notice of the proposed action to issue notes shall be in substantially the following form:

(To be published between March 21, 2023 and March 29, 2023)

NOTICE OF MEETING OF THE CITY COUNCIL OF THE
CITY OF STORM LAKE, STATE OF IOWA, ON THE
MATTER OF THE PROPOSED AUTHORIZATION OF A
LOAN AGREEMENT AND THE ISSUANCE OF NOT TO
EXCEED \$6,200,000 URBAN RENEWAL REVENUE CAPITAL
LOAN NOTES, AND THE HEARING ON THE ISSUANCE
THEREOF

PUBLIC NOTICE is hereby given that the City Council of the City of Storm Lake, State of Iowa, will hold a public hearing on the 3rd day of April, 2023, at _____ .M., in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at which meeting the Council proposes to take additional action for the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark. The Notes will not constitute general obligations or be payable in any manner by taxation, but will be payable from and secured by the Net Revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended.

At the above meeting the Council shall receive oral or written objections from any resident or property owner of the City to the above action. After all objections have been received and considered, the Council will at the meeting or at any adjournment thereof, take additional action for the authorization of a Loan Agreement and the issuance of the Notes to evidence the obligation of the City thereunder or will abandon the proposal to issue said Notes.

This notice is given by order of the City Council of the City of Storm Lake, State of Iowa, as provided by Sections 384.24A, 403.9 and 403.19 of the Code of Iowa.

Dated this _____ day of _____, 2023.

City Clerk, City of Storm Lake, State of Iowa

(End of Notice)

PASSED AND APPROVED this 20th day of March, 2023.

Mayor

ATTEST:

City Clerk

CERTIFICATE

STATE OF IOWA)
) SS
COUNTY OF BUENA VISTA)

I, the undersigned City Clerk of the City of Storm Lake, State of Iowa, do hereby certify that attached is a true and complete copy of the portion of the records of the City showing proceedings of the Council, and the same is a true and complete copy of the action taken by the Council with respect to the matter at the meeting held on the date indicated in the attachment, which proceedings remain in full force and effect, and have not been amended or rescinded in any way; that meeting and all action thereat was duly and publicly held in accordance with a notice of meeting and tentative agenda, a copy of which was timely served on each member of the Council and posted on a bulletin board or other prominent place easily accessible to the public and clearly designated for that purpose at the principal office of the Council pursuant to the local rules of the Council and the provisions of Chapter 21, Code of Iowa, upon reasonable advance notice to the public and media at least twenty-four hours prior to the commencement of the meeting as required by law and with members of the public present in attendance; I further certify that the individuals named therein were on the date thereof duly and lawfully possessed of their respective City offices as indicated therein, that no Council vacancy existed except as may be stated in the proceedings, and that no controversy or litigation is pending, prayed or threatened involving the incorporation, organization, existence or boundaries of the City or the right of the individuals named therein as officers to their respective positions.

WITNESS my hand and the seal of the Council hereto affixed this _____ day of _____, 2023.

City Clerk, City of Storm Lake, State of Iowa

(SEAL)

CERTIFICATE

STATE OF IOWA)
) SS
COUNTY OF BUENA VISTA)

I, the undersigned, do hereby certify that I am now and was at the times hereinafter mentioned, the duly qualified and acting Clerk of the City of Storm Lake, in the County of Buena Vista, State of Iowa, and that as such Clerk and by full authority from the Council of the City, I have caused a

NOTICE OF PUBLIC HEARING

(Not To Exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes)

of which the clipping annexed to the publisher's affidavit hereto attached is in words and figures a correct and complete copy, to be published as required by law in the "Storm Lake Times", a legal newspaper published at least once weekly, printed wholly in the English language, published regularly and mailed through the post office of current entry for more than two years and which has had for more than two years a bona fide paid circulation recognized by the postal laws of the United States, and has a general circulation in the City, and that the Notice was published in all of the issues thereof published and circulated on the following date:

_____, 2023.

WITNESS my official signature this _____ day of _____, 2023.

City Clerk, City of Storm Lake, State of Iowa

(SEAL)

(To be published between March 21, 2023 and March 29, 2023)

NOTICE OF MEETING OF THE CITY COUNCIL OF THE
CITY OF STORM LAKE, STATE OF IOWA, ON THE
MATTER OF THE PROPOSED AUTHORIZATION OF A
LOAN AGREEMENT AND THE ISSUANCE OF NOT TO
EXCEED \$6,200,000 URBAN RENEWAL REVENUE CAPITAL
LOAN NOTES, AND THE HEARING ON THE ISSUANCE
THEREOF

PUBLIC NOTICE is hereby given that the City Council of the City of Storm Lake, State of Iowa, will hold a public hearing on the 3rd day of April, 2023, at _____ .M., in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at which meeting the Council proposes to take additional action for the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark. The Notes will not constitute general obligations or be payable in any manner by taxation, but will be payable from and secured by the Net Revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended.

At the above meeting the Council shall receive oral or written objections from any resident or property owner of the City to the above action. After all objections have been received and considered, the Council will at the meeting or at any adjournment thereof, take additional action for the authorization of a Loan Agreement and the issuance of the Notes to evidence the obligation of the City thereunder or will abandon the proposal to issue said Notes.

This notice is given by order of the City Council of the City of Storm Lake, State of Iowa, as provided by Sections 384.24A, 403.9 and 403.19 of the Code of Iowa.

Dated this _____ day of _____, 2023.

City Clerk, City of Storm Lake, State of Iowa

(End of Notice)

RESOLUTION NO. 45-R-2022-2023

**RESOLUTION FIXING DATE FOR A MEETING ON THE
AUTHORIZATION OF A LOAN AGREEMENT AND THE ISSUANCE
OF NOT TO EXCEED \$6,200,000 URBAN RENEWAL REVENUE
CAPITAL LOAN NOTES OF THE CITY OF STORM LAKE, STATE OF
IOWA, AND PROVIDING FOR PUBLICATION OF NOTICE THEREOF**

WHEREAS, by Resolution No. 33-R-91-92, adopted September 16, 1991, this Council found and determined that certain areas located within the City are eligible and should be designated as an urban renewal area under Iowa law, and approved and adopted the Storm Lake Industrial Park Urban Renewal Plan (the "Plan" or "Urban Renewal Plan") for the Storm Lake Industrial Park Urban Renewal Area (the "Area" or "Urban Renewal Area") described therein, which Plan is on file in the office of the Recorder of Buena Vista County; and

WHEREAS, the Plan has subsequently been amended, lastly by the adoption of Amendment No. 9 to the Plan, adopted by Resolution No. _____, adopted April 3, 2023; and

WHEREAS, it is deemed necessary and advisable that the City of Storm Lake, State of Iowa, should provide for the authorization of a Loan Agreement and the issuance of Urban Renewal Revenue Capital Loan Notes, to the amount of not to exceed \$6,200,000, as authorized by Sections 384.24A, 403.9 and 403.19, of the Code of Iowa, for the purpose of providing funds to pay costs of carrying out project(s) as hereinafter described; and

WHEREAS, the Loan Agreement and Notes shall be payable solely and only out of the net revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended, and shall be a first lien on the future Net Revenues of the Storm Lake Industrial Park Urban Renewal Area; and shall not be general obligations of the City or payable in any manner by taxation and the City shall be in no manner liable by reason of the failure of the Net Revenues to be sufficient for the payment of the Loan Agreement and Notes; and

WHEREAS, before the Loan Agreement and Notes may be issued, it is necessary to comply with the provisions of the Code, and to publish a notice of the proposal to issue such notes and of the time and place of the meeting at which the Council proposes to take action for the authorization of the Loan Agreement and Notes and to receive oral and/or written objections from any resident or property owner of the City to such action.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, STATE OF IOWA:

Section 1. That this Council meet in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at 5:00 P.M., on the 3rd day of April, 2023, for the purpose of taking action on the matter of the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, the proceeds of which notes will be used to provide funds to pay the costs

of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, as amended, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark.

Section 2. That the Clerk is hereby directed to cause at least one publication to be made of a notice of the meeting, in a legal newspaper, printed wholly in the English language, published at least once weekly, and having general circulation in the City. The publication to be not less than four clear days nor more than twenty days before the date of the public meeting on the issuance of the Notes.

Section 3. The notice of the proposed action to issue notes shall be in substantially the following form:

(To be published between March 21, 2023 and March 29, 2023)

NOTICE OF MEETING OF THE CITY COUNCIL OF THE CITY OF
STORM LAKE, STATE OF IOWA, ON THE MATTER OF THE
PROPOSED AUTHORIZATION OF A LOAN AGREEMENT AND THE
ISSUANCE OF NOT TO EXCEED \$6,200,000 URBAN RENEWAL
REVENUE CAPITAL LOAN NOTES, AND THE HEARING ON THE
ISSUANCE THEREOF

PUBLIC NOTICE is hereby given that the City Council of the City of Storm Lake, State of Iowa, will hold a public hearing on the 3rd day of April, 2023, at 5:00 P.M., in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at which meeting the Council proposes to take additional action for the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark. The Notes will not constitute general obligations or be payable in any manner by taxation, but will be payable from and secured by the Net Revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended.

At the above meeting the Council shall receive oral or written objections from any resident or property owner of the City to the above action. After all objections have been received and considered, the Council will at the meeting or at any adjournment thereof, take additional action for the authorization of a Loan Agreement and the issuance of the Notes to evidence the obligation of the City thereunder or will abandon the proposal to issue said Notes.

This notice is given by order of the City Council of the City of Storm Lake, State of Iowa, as provided by Sections 384.24A, 403.9 and 403.19 of the Code of Iowa.

Dated this 20th day of March, 2023.

Nelda Kirkholm, Deputy City Clerk
City of Storm Lake, State of Iowa

(End of Notice)

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Staff Summary

03/20/2023

Agenda Item # F.3.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Public Hearing on FY 2023-2024 Budget**

BACKGROUND: This agenda item will hold a public hearing for the Fiscal Year 2023-2024 Budget as required by State of Iowa Code.

Per Iowa Code, the City of Storm Lake has published proper notice of this public hearing.

The FY 2023-2024 Budget will cover the time period of July 1, 2023 through June 30, 2024. The attached Budget Estimate was published on March 8th and summarizes the revenues, expenses, estimated fund balances and levy rate for this budget.

FISCAL IMPACT: There is no fiscal impact for holding the public hearing.

RECOMMENDATION:

- Open Public Hearing
- Accept Oral or Written Comments
- Close Public Hearing

ATTACHMENTS:
[Public Hearing Notice.pdf](#)

NOTICE OF PUBLIC HEARING -- PROPOSED BUDGET

Fiscal Year July 1, 2023 - June 30, 2024

City of: STORM LAKE

The City Council will conduct a public hearing on the proposed Budget at: City Council Chambers 620 Erie St. Storm Lake, IA Meeting Date: 3/20/2023
Meeting Time: 05:00 PM

At the public hearing any resident or taxpayer may present objections to, or arguments in favor of, any part of the proposed budget. This notice represents a summary of the supporting detail of revenues and expenditures on file with the City Clerk and County Auditor.

City budgets are subject to protest. If protest petition requirements are met, the State Appeal Board will hold a local hearing. For more information, consult <https://dom.iowa.gov/local-budget-appeals>.

The Budget Estimate Summary of proposed receipts and expenditures is shown below. Copies of the the detailed proposed Budget may be obtained or viewed at the offices of the Mayor, City Clerk, and at the Library.				
The estimated Total tax levy rate per \$1000 valuation on regular property				13.40670
The estimated tax levy rate per \$1000 valuation on Agricultural land is				3.00375
At the public hearing, any resident or taxpayer may present objections to, or arguments in favor of, any part of the proposed budget.				
Phone Number (712) 732-8000	City Clerk/Finance Officer's NAME Brian T Oakleaf			
		Budget FY 2024	Re-estimated FY 2023	Actual FY 2022
Revenues & Other Financing Sources				
Taxes Levied on Property	1	4,272,141	4,697,246	4,591,765
Less: Uncollected Property Taxes--Levy Year	2	0	0	0
Net Current Property Taxes	3	4,272,141	4,697,246	4,591,765
Delinquent Property Taxes	4	0	0	0
TIF Revenues	5	1,779,143	834,563	828,352
Other City Taxes	6	3,217,668	3,209,899	3,185,817
Licenses & Permits	7	179,695	289,015	206,086
Use of Money and Property	8	7,195	70,190	228,417
Intergovernmental	9	5,930,554	6,617,124	1,872,942
Charges for Fees & Service	10	15,610,158	11,907,688	17,788,667
Special Assessments	11	0	0	0
Miscellaneous	12	32,700	4,790,122	716,529
Other Financing Sources	13	10,613,287	1,450,000	1,422,307
Transfers In	14	18,255,496	9,343,708	10,710,144
Total Revenues and Other Sources	15	59,898,037	43,209,555	41,551,026
Expenditures & Other Financing Uses				
Public Safety	16	3,844,373	3,732,278	3,499,113
Public Works	17	1,983,870	1,927,785	1,877,859
Health and Social Services	18	23,000	18,000	7,743
Culture and Recreation	19	1,761,081	1,362,072	1,405,424
Community and Economic Development	20	1,130,117	629,130	394,870
General Government	21	754,210	678,225	736,296
Debt Service	22	2,326,226	2,336,567	2,223,950
Capital Projects	23	12,338,909	8,499,306	4,877,166
Total Government Activities Expenditures	24	24,161,786	19,183,363	15,022,421
Business Type / Enterprises	25	21,410,224	13,585,625	15,808,450
Total ALL Expenditures	26	45,572,010	32,768,988	30,830,871
Transfers Out	27	18,255,496	9,343,708	10,710,144
Total ALL Expenditures/Transfers Out	28	63,827,506	42,112,696	41,541,015
Excess Revenues & Other Sources Over (Under) Expenditures/Transfers Out	29	-3,929,469	1,096,859	10,011
Beginning Fund Balance July 1	30	22,147,746	21,050,887	21,040,876
Ending Fund Balance June 30	31	18,218,277	22,147,746	21,050,887

Staff Summary

03/20/2023

Agenda Item # F.4.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Resolution No. 46-R-2022-2023 Adopting FY 2023-2024 Budget**

BACKGROUND:

This resolution would adopt the City of Storm Lake's Fiscal Year 2023-2024 Budget.

The Budget outlines these funding and operational priorities for the City in the next fiscal year.

- Funding of Capital Improvement projects that address the Council's adopted Strategic Plan and the City's comprehensive plan
- Careful long-range planning for revenue variables
- Continued planning for current and future action from State Legislature.
- A commitment to critical infrastructure
- Increased support for local cultural, service, recreational and quality of life endeavors.
- Increasing Economic Development
- Managing Debt Capacity to ensure matching funds for large scale Federal Infrastructure programs is available
- A pay increase of 3% for non-contract employees and continuation of top-tier benefits. Once again, we kept employee benefit contributions the same.

FISCAL IMPACT:

- ***Continuing our plan for a stable, controlled tax levy: For this year, a decrease in the tax levy to \$13.40670, down for the 7th year in a row, over the course of which the tax rate has***

declined 8.1%. At its height, City taxes accounted for almost 44% of your property tax bill, this year it is estimated at only 32.05% of the total tax bill.

- All Funds will exceed Council's requested balance of at least 40% of operating expenses. The General Fund, which Council has requested carry at least a \$1M balance will exceed that goal and again exceed the 40% level at just over 54%. In total, the City's combined fund balance is expected to be around \$18.2M, or 55.6% of 2022 actual expenditures, last year our total fund balance was budgeted at 55.3%.
- Our Constitutional Debt Limit is \$26,815,398 and we currently carry \$13,116,000 of GO Debt, 48.9% of the limit. Total debt will be \$27,503,917 at the close of this Fiscal Budget, which includes an additional SRF loan for the Water Tower and a new TIF Bond. For comparison, in 2014 and 2015 we were over 90% of our Debt Limit and right around \$40M in Total Debt.

RECOMMENDATION: Adopt Resolution No. 46-R-2022-2023 Adopting FY 2023-2024 Budget

ATTACHMENTS:

[Resolution No. 46-R-2022-2023 Budget FY2023-2024.pdf](#)
[FY 2024 Budget.pdf](#)

RESOLUTION NO. 46-R-2022-2023

RESOLUTION ADOPTING THE 2023-2024 FISCAL YEAR BUDGET FOR THE CITY OF STORM LAKE, IOWA

Be it resolved by the Council of the City of Storm Lake, Iowa:

Whereas the proposed budget has been published as required by law, and

Whereas the City Council has held a public hearing as required by law, and

Whereas all transfer of funds must be approved by resolution of the City Council.

NOW THEREFORE BE IT RESOLVED that the annual budget for the fiscal year ending June 30, 2024, as set forth in the Budget Summary and in the detailed budget in support thereof showing the revenue estimates, transfers and appropriation expenditures and allocations to program activities for said fiscal year be adopted.

ADOPTED BUDGET SUMMARY City Name: STORM LAKE Fiscal Year July 1, 2023 - June 30, 2024

	GENERAL	SPECIAL REVENUES	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	BUDGET 2024	RE-ESTIMATED 2023	ACTUAL 2022
Revenues & Other Financing Sources										
Taxes Levied on Property	1 2,643,724	996,992		631,425	0			4,272,141	4,697,246	4,591,765
Less: Uncollected Property Taxes-Levy Year	2 0	0		0	0			0	0	0
Net Current Property Taxes	3 2,643,724	996,992		631,425	0			4,272,141	4,697,246	4,591,765
Delinquent Property Taxes	4 0	0		0	0			0	0	0
TIF Revenues	5		1,779,143					1,779,143	834,563	828,352
Other City Taxes	6 1,042,989	2,158,637		16,042	0			3,217,668	3,209,899	3,185,817
Licenses & Permits	7 179,695	0					0	179,695	289,015	206,086
Use of Money and Property	8 7,195	0	0	0	0	0	0	7,195	70,190	228,417
Intergovernmental	9 654,779	1,714,930	0	0	1,007,335		2,553,510	5,930,554	6,617,124	1,872,942
Charges for Fees & Service	10 1,468,008	52,500		0	0	0	14,089,650	15,610,158	11,907,688	17,788,667
Special Assessments	11 0	0		0	0		0	0	0	0
Miscellaneous	12 0	0		0	0	32,700	0	32,700	4,790,122	716,529
Sub-Total Revenues	13 5,996,390	4,923,059	1,779,143	647,467	1,007,335	32,700	16,643,160	31,029,254	32,415,847	29,418,575
Other Financing Sources:										
Total Transfers In	14 1,615,166	1,189,480	250,000	2,326,226	7,493,488	0	5,381,136	18,255,496	9,343,708	10,710,144
Proceeds of Debt	15 0	0	0	0	0		10,613,287	10,613,287	1,450,000	1,422,307
Proceeds of Capital Asset Sales	16 0	0	0	0	0	0	0	0	0	0
Total Revenues and Other Sources	17 7,611,556	6,112,539	2,029,143	2,973,693	8,500,823	32,700	32,637,583	59,898,037	43,209,555	41,551,026
Expenditures & Other Financing Uses										
Public Safety	18 2,878,006	956,367	0			10,000		3,844,373	3,732,278	3,499,113
Public Works	19 437,882	1,545,988	0			0		1,983,870	1,927,785	1,877,859
Health and Social Services	20 23,000	0	0			0		23,000	18,000	7,743
Culture and Recreation	21 1,552,139	179,612	0			29,330		1,761,081	1,362,072	1,405,424
Community and Economic Development	22 648,263	33,862	447,992			0		1,130,117	629,130	394,870
General Government	23 706,512	47,698	0			0		754,210	678,225	736,296
Debt Service	24 0	0	0	2,326,226		0		2,326,226	2,336,567	2,223,950
Capital Projects	25 1,444,710	850,000	0		10,044,199	0		12,338,909	8,499,306	4,877,166
Total Government Activities Expenditures	26 7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330		24,161,786	19,183,363	15,022,421
Business Type Proprietary: Enterprise & ISF	27						21,410,224	21,410,224	13,585,625	15,808,450
Total Gov & Bus Type Expenditures	28 7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330	21,410,224	45,572,010	32,768,988	30,830,871
Total Transfers Out	29 672,210	2,843,576	1,527,131	727,146	0	0	12,485,433	18,255,496	9,343,708	10,710,144
Total ALL Expenditures/Fund Transfers Out	30 8,362,722	6,457,103	1,975,123	3,053,372	10,044,199	39,330	33,895,657	63,827,506	42,112,696	41,541,015
Excess Revenues & Other Sources Over	31									
(Under) Expenditures/Transfers Out	32 -751,166	-344,564	54,020	-79,679	-1,543,376	-6,630	-1,258,074	-3,929,469	1,096,859	10,011
Beginning Fund Balance July 1	33 4,929,020	3,146,737	-28,480	129,468	2,433,330	345,955	11,191,716	22,147,746	21,050,887	21,040,876
Ending Fund Balance June 30	34 4,177,854	2,802,173	25,540	49,789	889,954	339,325	9,933,642	18,218,277	22,147,746	21,050,887

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

FISCAL YEAR JULY 1, 2023 - JUNE 30, 2024
ADOPTION OF BUDGET AND CERTIFICATION OF CITY TAXES
The City of: STORM LAKE County Name: BUENA VISTA COUNTY

Adopted On: (entered upon adoption) Resolution: (entered upon adoption)

The below-signed certifies that the City Council, on the date stated above, lawfully approved the named resolution adopting a budget for next fiscal year, as summarized on this and the supporting pages.

		With Gas & Electric		Without Gas & Electric	
Regular	2a	320,703,523	2b	311,391,402	
DEBT SERVICE	3a	375,865,443	3b	366,553,322	
Ag Land	4a	794,464			

City Number: 11-091
Last Official Census: 11,269

TAXES LEVIED

Purpose	Dollar Limit	ENTER FIRE DISTRICT RATE BELOW		Request with Utility Replacement	Property Taxes Levied		Rate
Regular General levy	8.10000			5	2,597,698	2,522,270	43 8.10000
Non-Voted Other Permissible Levies							
Contract for use of Bridge	0.67500			6		0	44 0.00000
Opr & Maint publicly owned Transit	0.95000			7		0	45 0.00000
Rent, Ins. Maint of Civic Center	Amt Nec			8		0	46 0.00000
Opr & Maint of City owned Civic Center	0.13500			9		0	47 0.00000
Planning a Sanitary Disposal Project	0.06750			10		0	48 0.00000
Aviation Authority (under sec.330A.15)	0.27000			11		0	49 0.00000
Levee Impr. fund in special charter city	0.06750			13		0	51 0.00000
Liability, property & self insurance costs	Amt Nec			14	122,628	119,067	52 0.38237
Support of a Local Emerg.Mgmt.Comm.	Amt Nec			462		0	465 0.00000
Voted Other Permissible Levies							
Instrumental/Vocal Music Groups	0.13500			15		0	53 0.00000
Memorial Building	0.81000			16		0	54 0.00000
Symphony Orchestra	0.13500			17		0	55 0.00000
Cultural & Scientific Facilities	0.27000			18		0	56 0.00000
County Bridge	As Voted			19		0	57 0.00000
Missi or Missouri River Bridge Const.	1.35000			20		0	58 0.00000
Aid to a Transit Company	0.03375			21		0	59 0.00000
Maintain Institution received by gift/devise	0.20500			22		0	60 0.00000
City Emergency Medical District	1.00000			463		0	466 0.00000
Support Public Library	0.27000			23		0	61 0.00000
Unified Law Enforcement	1.50000			24		0	62 0.00000
Total General Fund Regular Levies (5 thru 24)				25	2,720,326	2,641,337	
Ag Land	3.00375			26	2,387	2,387	63 3.00375
Total General Fund Tax Levies (25 + 26)				27	2,722,713	2,643,724	
Special Revenue Levies							
Emergency (if general fund at levy limit)	0.27000			28	86,589	84,076	64 0.27000
Police & Fire Retirement	Amt Nec			29	340,731	330,838	1.06245
FICA & IPERS (if general fund at levy limit)	Amt Nec			30	302,464	293,683	0.94313
Other Employee Benefits	Amt Nec			31	297,019	288,395	0.92615
Total Employee Benefit Levies (29,30,31)				32	940,214	912,916	65 2.93173
Sub Total Special Revenue Levies (28+32)				33	1,026,803	996,992	
As Req		With Gas & Elec Valuation	Without Gas & Elec Valuation				
SSMID 1		0	0	34		0	66 0.00000
SSMID 2		0	0	35		0	67 0.00000
SSMID 3		0	0	36		0	68 0.00000
SSMID 4		0	0	37		0	69 0.00000
SSMID 5		0	0	555		0	565 0.00000
SSMID 6		0	0	556		0	566 0.00000
SSMID 7		0	0	1177		0	1179 0.00000
SSMID 8		0	0	1185		0	1187 0.00000
Total Special Revenue Levies				39	1,026,803	996,992	
Debt Service Levy 76.10(6)	Amt Nec			40	647,467	631,425	70 1.72260
Capital Projects (Capital Improv. Reserve)	0.67500			41		0	71 0.00000
Total Property Taxes (27+39+40+41)				42	4,396,983	4,272,141	72 13.40670

(Signature)

(Date)

(County Auditor)

(Date)

NOTICE OF PUBLIC HEARING - CITY OF STORM LAKE - PROPOSED PROPERTY TAX LEVY

Fiscal Year July 1, 2023 - June 30, 2024

The City Council will conduct a public hearing on the proposed Fiscal Year City property tax levy as follows:

Meeting Date: 2/6/2023 **Meeting Time:** 05:00 PM **Meeting Location:** City Council Chambers 620 Erie St. Storm Lake, IA

At the public hearing any resident or taxpayer may present objections to, or arguments in favor of the proposed tax levy. After adoption of the proposed tax levy, the City Council will publish notice and hold a hearing on the proposed city budget.

City Website (if available)
www.stormlake.org

City Telephone Number
(712) 732-8000

	Current Year Certified Property Tax 2022 - 2023	Budget Year Effective Property Tax 2023 - 2024	Budget Year Proposed Maximum Property Tax 2023 - 2024	Annual % CHG
Regular Taxable Valuation	350,893,279	320,703,523	320,703,523	
Tax Levies:				
Regular General	2,842,235	2,842,235	2,686,489	
Contract for Use of Bridge			0	
Opr & Maint Publicly Owned Transit			0	
Rent, Ins. Maint. Of Non-Owned Civ. Ctr.			0	
Opr & Maint of City-Owned Civic Center			0	
Planning a Sanitary Disposal Project			0	
Liability, Property & Self-Insurance Costs	176,984	176,984	122,628	
Support of Local Emer. Mgmt. Commission			0	
Emergency	94,741	94,741	89,550	
Police & Fire Retirement	308,937	308,937	340,731	
FICA & IPERS	312,883	312,883	302,464	
Other Employee Benefits	360,445	360,445	375,864	
Total Tax Levy	4,096,225	4,096,225	3,917,726	-4.35
Tax Rate	11.67371	12.77262	12.21604	

Explanation of significant increases in the budget:

The State passed legislation that reduced Multi-Residential taxable property values from Commercial Property levels (90% of total value) to Residential Levels (54.1302% this year.) For Storm Lake, Multi-Residential property totaled \$17,166,740 in taxable value in 2015. 8 years later, after tremendous market value increases, Multi-Residential property now only has a taxable value of \$10,254,788. The resulting cost to the City of Storm Lake will be \$139,526 in lost property tax revenue per year moving forward. The State has also passed legislation that removed a State Tax Credit for Business Property and shifted the cost to local governments (schools, cities, counties) in the form of a Tax Exemption. Simply put, the credit previously paid to businesses by the State is now being funded by local governments. The State has also phased out reimbursements to local governments previously made to compensate for the Legislative action that rolled Commercial and Industrial taxable values down to 90%. As a result, Commercial and Industrial property that had a taxable value of \$148,216,467 in the current fiscal year only has a taxable value of \$132,141,433 next year. The \$16,075,034 in taxable value loss will cost the City of Storm Lake \$218,716. The net result of this State Legislation: Residential taxpayers see their valuations, therefore their property taxes, go up, while schools, counties, cities and other local entities see their tax revenues go down. For the City, this equals \$358,242 of lost revenue in fiscal year 2024 alone.

If applicable, the above notice also available online at:

www.stormlake.org

*Total city tax rate will also include voted general fund levy, debt service levy, and capital improvement reserve levy.

**Budget year effective property tax rate is the rate that would be assessed for these levies if the dollars requested is not changed in the coming budget year

FUND BALANCE

City Name: STORM LAKE

Fiscal Year July 1, 2023 - June 30, 2024

		GENERAL	SPECIAL REVENUES	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	TOTAL GOVERNMENT	PROPRIETARY	GRAND TOTAL
Annual Report FY 2022										
	1	3,372,097	4,479,579	-80,772	112,950	2,287,458	480,237	10,651,549	10,389,327	21,040,876
	2	7,520,763	5,347,990	868,852	2,832,897	3,459,476	1	20,029,979	21,521,047	41,551,026
	3	7,024,679	6,067,720	833,979	2,816,379	4,053,577	66,327	20,862,661	20,678,354	41,541,015
	4	3,868,181	3,759,849	-45,899	129,468	1,693,357	413,911	9,818,867	11,232,020	21,050,887
Re-Estimated FY 2023										
	5	3,868,181	3,759,849	-45,899	129,468	1,693,357	413,911	9,818,867	11,232,020	21,050,887
	6	6,385,493	6,430,982	834,563	3,066,802	9,239,279	0	25,957,119	17,252,436	43,209,555
	7	5,324,654	7,044,094	817,144	3,066,802	8,499,306	67,956	24,819,956	17,292,740	42,112,696
	8	4,929,020	3,146,737	-28,480	129,468	2,433,330	345,955	10,956,030	11,191,716	22,147,746
Budget FY 2024										
	9	4,929,020	3,146,737	-28,480	129,468	2,433,330	345,955	10,956,030	11,191,716	22,147,746
	10	7,611,556	6,112,539	2,029,143	2,973,693	8,500,823	32,700	27,260,454	32,637,583	59,898,037
	11	8,362,722	6,457,103	1,975,123	3,053,372	10,044,199	39,330	29,931,849	33,895,657	63,827,506
	12	4,177,854	2,802,173	25,540	49,789	889,954	339,325	8,284,635	9,933,642	18,218,277

LOCAL EMC SUPPORT

City Name: STORM LAKE

Fiscal Year July 1, 2023 - June 30, 2024

As provided in Iowa Code Section 384.12, subsection 22, a city may levy the amount necessary in support of a local Emergency Management Commission. In addition to this individual levy, Emergency Management Commission support may also be included as part of the General Fund Levy. Iowa Code Section 29C.17, subsection 5 states that any support from cities or counties must be separately reported on tax statements issued by the county treasurer. Input the amount of General Fund Levy request to be used for support of an Emergency Management Commission. The total below will reflect the total amount of Emergency Management Commission support provided by the City.

	Request with Utility Replacement	Property Taxes Levied
Portion of General Fund Levy Used for Emerg. Mgmt. Comm.	12,881	12,507
Support of a Local Emerg.Mgmt.Comm.	0	0
TOTAL FOR FY 2024	12,881	12,507

RE-ESTIMATED EXPENDITURES SCHEDULE PAGE 1

City Name: STORM LAKE

Fiscal Year July 1, 2022 - June 30, 2023

GOVERNMENT ACTIVITIES CONT.	GENERAL	SPECIAL REVENUE	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	RE-ESTIMATED 2023	ACTUAL 2022
PUBLIC SAFETY									
Police Department/Crime Prevention	1 2,072,154	722,485						2,794,639	2,715,406
Jail	2							0	0
Emergency Management	3 14,378							14,378	3,180
Flood Control	4							0	0
Fire Department	5 511,504	68,316				7,500		587,320	485,705
Ambulance	6							0	0
Building Inspections	7 243,832	42,414						286,246	177,005
Miscellaneous Protective Services	8							0	0
Animal Control	9 5,523							5,523	3,179
Other Public Safety	10					44,172		44,172	114,638
TOTAL (lines 1 - 10)	11 2,847,391	833,215				51,672		3,732,278	3,499,113
PUBLIC WORKS									
Roads, Bridges, & Sidewalks	12	1,061,270						1,061,270	1,044,432
Parking - Meter and Off-Street	13							0	0
Street Lighting	14	204,556						204,556	212,823
Traffic Control and Safety	15	25,000						25,000	13,986
Snow Removal	16	269,219						269,219	207,671
Highway Engineering	17							0	0
Street Cleaning	18							0	0
Airport (if not Enterprise)	19	367,740						367,740	398,947
Garbage (if not Enterprise)	20							0	0
Other Public Works	21							0	0
TOTAL (lines 12 - 21)	22 0	1,927,785				0		1,927,785	1,877,859
HEALTH & SOCIAL SERVICES									
Welfare Assistance	23							0	0
City Hospital	24							0	0
Payments to Private Hospitals	25							0	0
Health Regulation and Inspection	26							0	0
Water, Air, and Mosquito Control	27							0	0
Community Mental Health	28							0	0
Other Health and Social Services	29 18,000							18,000	7,743
TOTAL (lines 23 - 29)	30 18,000	0				0		18,000	7,743
CULTURE & RECREATION									
Library Services	31 285,472	87,648						373,120	302,091
Museum, Band and Theater	32 8,000							8,000	22,842
Parks	33 289,780	47,061				7,149		343,990	354,049
Recreation	34 394,181	17,759						411,940	402,072
Cemetery	35							0	0
Community Center, Zoo, & Marina	36							0	102,057
Other Culture and Recreation	37 215,887					9,135		225,022	222,313
TOTAL (lines 31 - 37)	38 1,193,320	152,468				16,284		1,362,072	1,405,424

RE-ESTIMATED EXPENDITURES SCHEDULE PAGE 2

City Name: STORM LAKE

Fiscal Year July 1, 2022 - June 30, 2023

	GOVERNMENT ACTIVITIES CONT.	GENERAL	SPECIAL REVENUE	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	RE-ESTIMATED 2023	ACTUAL 2022
	COMMUNITY & ECONOMIC DEVELOPMENT									
	Community Beautification	39								0
	Economic Development	40	410,183	31,565					441,748	330,439
	Housing and Urban Renewal	41							0	0
	Planning & Zoning	42							0	0
	Other Com & Econ Development	43	48,000	83,582					131,582	4,000
	TIF Rebates	44			55,800				55,800	60,431
	TOTAL (lines 39 - 44)	45	458,183	115,147	55,800		0		629,130	394,870
	GENERAL GOVERNMENT									
	Mayor, Council, & City Manager	46	56,780	10,532					67,312	67,687
	Clerk, Treasurer, & Finance Adm.	47	112,241	33,442					145,683	142,216
	Elections	48							0	2,153
	Legal Services & City Attorney	49	50,525						50,525	52,410
	City Hall & General Buildings	50	31,477						31,477	28,081
	Tort Liability	51	176,984						176,984	213,950
	Other General Government	52	206,244						206,244	229,799
	TOTAL (lines 46 - 52)	53	634,251	43,974	0		0		678,225	736,296
	DEBT SERVICE	54			2,336,567				2,336,567	2,223,950
	Gov Capital Projects	55				8,499,306			8,499,306	4,877,166
	TIF Capital Projects	56							0	0
	TOTAL CAPITAL PROJECTS	57	0	0		8,499,306	0		8,499,306	4,877,166
	TOTAL Governmental Activities Expenditures (lines 11+22+30+38+44+52+53+54)	58	5,151,145	3,072,589	55,800	2,336,567	67,956		19,183,363	15,022,421
	BUSINESS TYPE ACTIVITIES Proprietary: Enterprise & Budgeted ISF									
	Water Utility	59						3,633,004	3,633,004	3,897,550
	Sewer Utility	60						2,609,621	2,609,621	4,866,629
	Electric Utility	61							0	0
	Gas Utility	62							0	0
	Airport	63							0	0
	Landfill/Garbage	64						525,827	525,827	448,543
	Transit	65							0	0
	Cable TV, Internet & Telephone	66							0	0
	Housing Authority	67							0	0
	Storm Water Utility	68						324,830	324,830	833,793
	Other Business Type (city hosp., ISF, parking, etc.)	69						5,137,397	5,137,397	5,714,615
	Enterprise DEBT SERVICE	70						435,179	435,179	47,320
	Enterprise CAPITAL PROJECTS	71						919,767	919,767	0
	Enterprise TIF CAPITAL PROJECTS	72							0	0
	TOTAL BUSINESS TYPE EXPENDITURES (lines 59+72)	73						13,585,625	13,585,625	15,808,450
	TOTAL ALL EXPENDITURES (lines 58+73)	74	5,151,145	3,072,589	55,800	2,336,567	67,956	13,585,625	32,768,988	30,830,871
	Regular Transfers Out	75	173,509	3,971,505		730,235		3,707,115	8,582,364	9,936,596
	Internal TIF Loan Transfers Out	76			761,344				761,344	773,548
	Total ALL Transfers Out	77	173,509	3,971,505	761,344	730,235	0	3,707,115	9,343,708	10,710,144
	Total Expenditures and Other Fin Uses (lines 74+77)	78	5,324,654	7,044,094	817,144	3,066,802	67,956	17,292,740	42,112,696	41,541,015
	Ending Fund Balance June 30	79	4,929,020	3,146,737	-28,480	129,468	345,955	11,191,716	22,147,746	21,050,887

RE-ESTIMATED REVENUES DETAIL

City Name: STORM LAKE

Fiscal Year July 1, 2022 - June 30, 2023

REVENUES & OTHER FINANCING SOURCES		GENERAL	SPECIAL REVENUE	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	RE-ESTIMATED 2023	ACTUAL 2022
Taxes Levied on Property	1	2,940,405	1,048,044		708,797				4,697,246	4,591,765
Less: Uncollected Property Taxes - Levy Year	2								0	0
Net Current Property Taxes (line 1 minus line 2)	3	2,940,405	1,048,044		708,797	0			4,697,246	4,591,765
Delinquent Property Taxes	4								0	0
TIF Revenues	5			834,563					834,563	828,352
Other City Taxes:										
Utility Tax Replacement Excise Taxes	6	81,307	29,002		18,259				128,568	16,031
Utility franchise tax (Iowa Code Chapter 364.2)	7		1,010,000						1,010,000	1,019,272
Parimutuel wager tax	8								0	0
Gaming wager tax	9								0	0
Mobile Home Taxes	10								0	0
Hotel/Motel Taxes	11	398,000							398,000	337,569
Other Local Option Taxes	12		1,673,331						1,673,331	1,812,945
Subtotal - Other City Taxes (lines 6 thru 12)	13	479,307	2,712,333		18,259	0			3,209,899	3,185,817
Licenses & Permits	14	289,015							289,015	206,086
Use of Money & Property	15	63,190	4,000			3,000			70,190	228,417
Intergovernmental:										
Federal Grants & Reimbursements	16								0	0
Road Use Taxes	17		1,414,260						1,414,260	1,541,100
Other State Grants & Reimbursements	18	135,099	437,345		11,087	3,515,333			4,098,864	191,338
Local Grants & Reimbursements	19					1,104,000			1,104,000	140,504
Subtotal - Intergovernmental (lines 16 thru 19)	20	135,099	1,851,605	0	11,087	4,619,333		0	6,617,124	1,872,942
Charges for Fees & Service:										
Water Utility	21							4,930,128	4,930,128	4,451,711
Sewer Utility	22							4,445,702	4,445,702	4,440,544
Electric Utility	23								0	0
Gas Utility	24								0	0
Parking	25								0	0
Airport	26	369,000							369,000	0
Landfill/Garbage	27							455,000	455,000	463,554
Hospital	28								0	0
Transit	29								0	0
Cable TV, Internet & Telephone	30								0	0
Housing Authority	31								0	0
Storm Water Utility	32							418,000	418,000	0
Other Fees & Charges for Service	33	1,289,858							1,289,858	8,432,858
Subtotal - Charges for Service (lines 21 thru 33)	34	1,658,858	0	0	0	0	0	10,248,830	11,907,688	17,788,667
Special Assessments	35								0	0
Miscellaneous	36	13,500						4,776,622	4,790,122	716,529
Other Financing Sources:										
Regular Operating Transfers In	37	806,119	815,000		1,567,315	3,166,946		2,226,984	8,582,364	9,936,596
Internal TIF Loan Transfers In	38				761,344				761,344	773,548
Subtotal ALL Operating Transfers In	39	806,119	815,000	0	2,328,659	3,166,946	0	2,226,984	9,343,708	10,710,144
Proceeds of Debt (Excluding TIF Internal Borrowing)	40					1,450,000			1,450,000	1,422,307
Proceeds of Capital Asset Sales	41								0	0
Subtotal-Other Financing Sources (lines 36 thru 38)	42	806,119	815,000	0	2,328,659	4,616,946	0	2,226,984	10,793,708	12,132,451
Total Revenues except for beginning fund balance (lines 3, 4, 5, 12, 13, 14, 19, 33, 34, 35, & 39)	43	6,385,493	6,430,982	834,563	3,066,802	9,239,279	0	17,252,436	43,209,555	41,551,026
Beginning Fund Balance July 1	44	3,868,181	3,759,849	-45,899	129,468	1,693,357	413,911	11,232,020	21,050,887	21,040,876

EXPENDITURES SCHEDULE PAGE 1

City Name: STORM LAKE

Fiscal Year July 1, 2023 - June 30, 2024

GOVERNMENT ACTIVITIES	GENERAL	SPECIAL REVENUES	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	BUDGET 2024	RE-ESTIMATED 2023	ACTUAL 2022
PUBLIC SAFETY										
Police Department/Crime Prevention	1 2,104,134	778,787				10,000		2,892,921	2,794,639	2,715,406
Jail	2							0	0	0
Emergency Management	3 12,881							12,881	14,378	3,180
Flood Control	4							0	0	0
Fire Department	5 491,743	132,538						624,281	587,320	485,705
Ambulance	6							0	0	0
Building Inspections	7 263,248	45,042						308,290	286,246	177,005
Miscellaneous Protective Services	8							0	0	0
Animal Control	9 6,000							6,000	5,523	3,179
Other Public Safety	10							0	44,172	114,638
TOTAL (lines 1 - 10)	11 2,878,006	956,367				10,000		3,844,373	3,732,278	3,499,113
PUBLIC WORKS										
Roads, Bridges, & Sidewalks	12	957,574						957,574	1,061,270	1,044,432
Parking - Meter and Off-Street	13							0	0	0
Street Lighting	14	275,000						275,000	204,556	212,823
Traffic Control and Safety	15	25,000						25,000	25,000	13,986
Snow Removal	16	288,414						288,414	269,219	207,671
Highway Engineering	17							0	0	0
Street Cleaning	18							0	0	0
Airport	19 437,882							437,882	367,740	398,947
Garbage (if not Enterprise)	20							0	0	0
Other Public Works	21							0	0	0
TOTAL (lines 12 - 21)	22 437,882	1,545,988				0		1,983,870	1,927,785	1,877,859
HEALTH & SOCIAL SERVICES										
Welfare Assistance	23							0	0	0
City Hospital	24							0	0	0
Payments to Private Hospitals	25							0	0	0
Health Regulation and Inspection	26							0	0	0
Water, Air, and Mosquito Control	27							0	0	0
Community Mental Health	28							0	0	0
Other Health and Social Services	29 23,000							23,000	18,000	7,743
TOTAL (lines 23 - 29)	30 23,000	0				0		23,000	18,000	7,743
CULTURE & RECREATION										
Library Services	31 284,263	92,830				28,330		405,423	373,120	302,091
Museum, Band and Theater	32 25,500	77						25,577	8,000	22,842
Parks	33 330,301	65,279				1,000		396,580	343,990	354,049
Recreation	34 386,973	21,426						408,399	411,940	402,072
Cemetery	35							0	0	0
Community Center, Zoo, & Marina	36 91,250							91,250	0	102,057
Other Culture and Recreation	37 433,852							433,852	225,022	222,313
TOTAL (lines 31 - 37)	38 1,552,139	179,612				29,330		1,761,081	1,362,072	1,405,424

EXPENDITURES SCHEDULE PAGE 2

City Name: STORM LAKE

Fiscal Year July 1, 2023 - June 30, 2024

GOVERNMENT ACTIVITIES	GENERAL	SPECIAL REVENUES	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	BUDGET 2024	RE-ESTIMATED 2023	ACTUAL 2022
COMMUNITY & ECONOMIC DEVELOPMENT										
Community Beautification										
39								0	0	0
Economic Development	623,263	33,862						657,125	441,748	330,439
40										
Housing and Urban Renewal									0	0
41										
Planning & Zoning									0	0
42										
Other Com & Econ Development	25,000		250,000					275,000	131,582	4,000
43										
TIF Rebates			197,992					197,992	55,800	60,431
44										
TOTAL (lines 39 - 44)	648,263	33,862	447,992			0		1,130,117	629,130	394,870
45										
GENERAL GOVERNMENT										
Mayor, Council, & City Manager	59,999	9,921						69,920	67,312	67,687
46										
Clerk, Treasurer, & Finance Adm.	118,477	37,777						156,254	145,683	142,216
47								0	0	2,153
Elections								90,000	50,525	52,410
48								31,477	31,477	28,081
Legal Services & City Attorney	90,000							187,603	176,984	213,950
49								218,956	206,244	229,799
City Hall & General Buildings	31,477							754,210	678,225	736,296
50								2,326,226	2,336,567	2,223,950
Tort Liability	187,603			2,326,226				12,338,909	8,499,306	4,877,166
51								0	0	0
Other General Government	218,956							12,338,909	8,499,306	4,877,166
52										
TOTAL (lines 46 - 52)	706,512	47,698	0					24,161,786	19,183,363	15,022,421
53										
DEBT SERVICE										
Gov Capital Projects	1,444,710	850,000			10,044,199					
54										
TIF Capital Projects	1,444,710	850,000	0		10,044,199	0				
55										
TOTAL CAPITAL PROJECTS										
TOTAL Government Activities Expenditures (lines 11+22+30+38+45+53+54+57)	7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330				
56										
BUSINESS TYPE ACTIVITIES										
Proprietary: Enterprise & Budgeted ISF										
Water Utility										
59								3,845,392	3,633,004	3,897,550
Sewer Utility								2,984,427	2,609,621	4,866,629
60								0	0	0
Electric Utility								0	0	0
61								0	0	0
Gas Utility								0	0	0
62								0	0	0
Airport								0	0	0
63								511,972	525,827	448,543
Landfill/Garbage								0	0	0
64								0	0	0
Transit								0	0	0
65								0	0	0
Cable TV, Internet & Telephone								0	0	0
66								0	0	0
Housing Authority								0	0	0
67								365,945	324,830	833,793
Storm Water Utility								4,472,148	5,137,397	5,714,615
68								1,202,210	435,179	47,320
Other Business Type (city hosp., ISF, parking, etc.)								8,028,130	919,767	0
69								0	0	0
Enterprise DEBT SERVICE								21,410,224	13,585,625	15,808,450
70								45,572,010	32,768,988	30,830,871
Enterprise CAPITAL PROJECTS								12,235,433	8,582,364	9,936,596
71								250,000	761,344	773,548
Enterprise TIF CAPITAL PROJECTS								18,255,496	9,343,708	10,710,144
72								39,330	63,827,506	41,541,015
TOTAL Business Type Expenditures (lines 59 - 72)										
73										
TOTAL ALL EXPENDITURES (lines 58 + 73)	7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330				
74										
Regular Transfers Out	672,210	2,843,576		727,146						
75										
Internal TIF Loan / Repayment Transfers Out			1,527,131							
76										
Total ALL Transfers Out	672,210	2,843,576	1,527,131	727,146	0	0				
77										
Total Expenditures & Fund Transfers Out (lines 74+77)	8,362,722	6,457,103	1,975,123	3,053,372	10,044,199	39,330				
78										
Ending Fund Balance June 30	4,177,854	2,802,173	25,540	49,789	889,954	339,325		18,218,277	22,147,746	21,050,887
79										

REVENUES DETAILCity Name: STORM LAKE
Fiscal Year July 1, 2023 - June 30, 2024

	GENERAL	SPECIAL REVENUES	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	BUDGET 2024	RE-ESTIMATED 2023	ACTUAL 2022
REVENUES & OTHER FINANCING SOURCES										
Taxes Levied on Property	1 2,643,724	996,992		631,425	0			4,272,141	4,697,246	4,591,765
Less: Uncollected Property Taxes - Levy Year								0	0	0
Net Current Property Taxes (line 1 minus line 2)	3 2,643,724	996,992		631,425	0			4,272,141	4,697,246	4,591,765
Delinquent Property Taxes	4							0	0	0
TIF Revenues	5		1,779,143					1,779,143	834,563	828,352
Other City Taxes:										
Utility Tax Replacement Excise Taxes	6 78,989	29,811		16,042	0			124,842	128,568	16,031
Utility franchise tax (Iowa Code Chapter 364.2)	7 964,000							964,000	1,010,000	1,019,272
Parimutuel wager tax	8							0	0	0
Gaming wager tax	9							0	0	0
Mobile Home Taxes	10							0	0	0
Hotel/Motel Taxes	11	350,000						350,000	398,000	337,569
Other Local Option Taxes	12	1,778,826						1,778,826	1,673,331	1,812,945
Subtotal - Other City Taxes (lines 6 thru 12)	13 1,042,989	2,158,637		16,042	0			3,217,668	3,209,899	3,185,817
Licenses & Permits	14 179,695							179,695	289,015	206,086
Use of Money & Property	15 7,195							7,195	70,190	228,417
Intergovernmental:										
Federal Grants & Reimbursements	16 507,335				507,335		2,553,510	3,568,180	4,930,128	4,451,711
Road Use Taxes	17	1,464,970						1,464,970	1,414,260	1,541,100
Other State Grants & Reimbursements	18 147,444	249,960			500,000			897,404	4,098,864	191,338
Local Grants & Reimbursements	19							0	1,104,000	140,504
Subtotal - Intergovernmental (lines 16 thru 19)	20 654,779	1,714,930	0	0	1,007,335		2,553,510	5,930,554	6,617,124	1,872,942
Charges for Fees & Service:										
Water Utility	21							5,155,938	4,930,128	4,451,711
Sewer Utility	22							3,718,279	4,445,702	4,440,544
Electric Utility	23							0	0	0
Gas Utility	24							0	0	0
Parking	25							0	0	0
Airport	26 381,000							381,000	369,000	0
Landfill/Garbage	27						455,500	455,500	455,000	463,554
Hospital	28							0	0	0
Transit	29							0	0	0
Cable TV, Internet & Telephone	30							0	0	0
Housing Authority	31							0	0	0
Storm Water Utility	32						418,000	418,000	418,000	0
Other Fees & Charges for Service	33 1,087,008	52,500					4,341,933	5,481,441	1,289,858	8,432,858
Subtotal - Charges for Service (lines 21 thru 33)	34 1,468,008	52,500	0	0	0	0	14,089,650	15,610,158	11,907,688	17,788,667
Special Assessments	35							0	0	0
Miscellaneous	36					32,700		32,700	4,790,122	716,529
Other Financing Sources:										
Regular Operating Transfers In	37 1,615,166	1,189,480		2,246,365	7,493,488		3,933,866	16,478,365	8,582,364	9,936,596
Internal TIF Loan Transfers In	38		250,000	79,861			1,447,270	1,777,131	761,344	773,548
Subtotal ALL Operating Transfers In	39 1,615,166	1,189,480	250,000	2,326,226	7,493,488	0	5,381,136	18,255,496	9,343,708	10,710,144
Proceeds of Debt (Excluding TIF Internal Borrowing)	40				0		10,613,287	10,613,287	1,450,000	1,422,307
Proceeds of Capital Asset Sales	41							0	0	0
Subtotal-Other Financing Sources (lines 38 thru 40)	42 1,615,166	1,189,480	250,000	2,326,226	7,493,488	0	15,994,423	28,868,783	10,793,708	12,132,451
Total Revenues except for beginning fund balance (lines 3, 4, 5, 13, 14, 15, 20, 34, 35, 36, & 41)	43 7,611,556	6,112,539	2,029,143	2,973,693	8,500,823	32,700	32,637,583	59,898,037	43,209,555	41,551,026
Beginning Fund Balance July 1	44 4,929,020	3,146,737	-28,480	129,468	2,433,330	345,955	11,191,716	22,147,746	21,050,887	21,040,876
TOTAL REVENUES & BEGIN BALANCE (lines 42+43)	45 12,540,576	9,259,276	2,000,663	3,103,161	10,934,153	378,655	43,829,299	82,045,783	64,260,442	62,591,902

ADOPTED BUDGET SUMMARY

City Name: STORM LAKE

Fiscal Year July 1, 2023 - June 30, 2024

	GENERAL	SPECIAL REVENUES	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	BUDGET 2024	RE-ESTIMATED 2023	ACTUAL 2022
Revenues & Other Financing Sources										
Taxes Levied on Property	1 2,643,724	996,992		631,425	0	0		4,272,141	4,697,246	4,591,765
Less: Uncollected Property Taxes-Levy Year	2 0	0		0	0	0		0	0	0
Net Current Property Taxes	3 2,643,724	996,992		631,425	0	0		4,272,141	4,697,246	4,591,765
Delinquent Property Taxes	4 0	0		0	0	0		0	0	0
TIF Revenues	5		1,779,143					1,779,143	834,563	828,352
Other City Taxes	6 1,042,989	2,158,637		16,042	0	0		3,217,668	3,209,899	3,185,817
Licenses & Permits	7 179,695	0					0	179,695	289,015	206,086
Use of Money and Property	8 7,195	0	0	0	0	0	0	7,195	70,190	228,417
Intergovernmental	9 654,779	1,714,930	0	0	1,007,335		2,553,510	5,930,554	6,617,124	1,872,942
Charges for Fees & Service	10 1,468,008	52,500		0	0	0	14,089,650	15,610,158	11,907,688	17,788,667
Special Assessments	11 0	0		0	0	0	0	0	0	0
Miscellaneous	12 0	0		0	0	32,700	0	32,700	4,790,122	716,529
Sub-Total Revenues	13 5,996,390	4,923,059	1,779,143	647,467	1,007,335	32,700	16,643,160	31,029,254	32,415,847	29,418,575
Other Financing Sources:										
Total Transfers In	14 1,615,166	1,189,480	250,000	2,326,226	7,493,488	0	5,381,136	18,255,496	9,343,708	10,710,144
Proceeds of Debt	15 0	0	0	0	0		10,613,287	10,613,287	1,450,000	1,422,307
Proceeds of Capital Asset Sales	16 0	0	0	0	0	0	0	0	0	0
Total Revenues and Other Sources	17 7,611,556	6,112,539	2,029,143	2,973,693	8,500,823	32,700	32,637,583	59,898,037	43,209,555	41,551,026
Expenditures & Other Financing Uses										
Public Safety	18 2,878,006	956,367	0			10,000		3,844,373	3,732,278	3,499,113
Public Works	19 437,882	1,545,988	0			0		1,983,870	1,927,785	1,877,859
Health and Social Services	20 23,000	0	0			0		23,000	18,000	7,743
Culture and Recreation	21 1,552,139	179,612	0			29,330		1,761,081	1,362,072	1,405,424
Community and Economic Development	22 648,263	33,862	447,992			0		1,130,117	629,130	394,870
General Government	23 706,512	47,698	0			0		754,210	678,225	736,296
Debt Service	24 0	0	0	2,326,226		0		2,326,226	2,336,567	2,223,950
Capital Projects	25 1,444,710	850,000	0		10,044,199	0		12,338,909	8,499,306	4,877,166
Total Government Activities Expenditures	26 7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330		24,161,786	19,183,363	15,022,421
Business Type Proprietary: Enterprise & ISF	27						21,410,224	21,410,224	13,585,625	15,808,450
Total Gov & Bus Type Expenditures	28 7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330	21,410,224	45,572,010	32,768,988	30,830,871
Total Transfers Out	29 672,210	2,843,576	1,527,131	727,146	0	0	12,485,433	18,255,496	9,343,708	10,710,144
Total ALL Expenditures/Fund Transfers Out	30 8,362,722	6,457,103	1,975,123	3,053,372	10,044,199	39,330	33,895,657	63,827,506	42,112,696	41,541,015
Excess Revenues & Other Sources Over	31									
(Under) Expenditures/Transfers Out	32 -751,166	-344,564	54,020	-79,679	-1,543,376	-6,630	-1,258,074	-3,929,469	1,096,859	10,011
Beginning Fund Balance July 1	33 4,929,020	3,146,737	-28,480	129,468	2,433,330	345,955	11,191,716	22,147,746	21,050,887	21,040,876
Ending Fund Balance June 30	34 4,177,854	2,802,173	25,540	49,789	889,954	339,325	9,933,642	18,218,277	22,147,746	21,050,887

LONG TERM DEBT SCHEDULE - LT DEBT1
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

Debt Name	Amount of Issue	Type of Debt Obligation	Debt Resolution Number	Principal Due FY	Interest Due FY	Total Obligation Due FY	Bond Reg./ Paying Agent Fees Due FY	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Funds OTHER THAN Current Year Debt Service Taxes	Amount Paid Current Year Debt Service Levy
Bargloff & Firetruck	1 2,685,000	GO	15-R-2018-2019	240,000	66,450	306,450	500		274,211	32,739
Outdoor Waterpark / Awaysis	2 8,171,000	GO	8-R-2020-2021	641,000	171,738	812,738	500		446,724	366,514
GO Urban Renewal / STIFF	3 5,065,000	GO	89-R-2020-2021	685,000	95,900	780,900	500		533,186	248,214
King's Pointe Revenue Bond	4 1,850,000	GO	15-R-2018-2019	165,000	36,798	201,798	500		202,298	0
Hotel/Motel Tax Revenue	5 1,340,000	GO	103-R-2015-2016	110,000	10,290	120,290	250		120,540	0
Memorial Lift Station SRF	6 1,608,000	GO	3-R-2021-2022	69,000	29,500	98,500	3,300		101,800	0
Water Plant SRF	7 7,500,000	NON-GO	53-R-2002-2003	490,000	9,800	499,800	500		500,300	0
Water Revenue	8 2,185,000	NON-GO	18-R-2019-2020	33,000	36,197	69,197	500		69,697	0
Sewer Revenue	9 4,582,000	NON-GO	17-R-2019-2020	382,000	53,405	435,405	500		435,905	0
Storm Water SRF	10 729,000	NON-GO	27-R-2006-2007	44,000	3,203	47,203	458		47,661	0
Sewer SRF	11 660,000	NON-GO	118-R-2006-2007	40,000	5,010	45,010	418		45,428	0
Tower #5 Revenue Bond	12 7,437,000	NON-GO	x-R-2022-2023	306,083	148,740	454,823	3,300		458,123	0
	13	-				0				0
	14	-				0				0
	15	-				0				0
	16	-				0				0
	17	-				0				0
	18	-				0				0
	19	-				0				0
	20	-				0				0
	21	-				0				0
	22	-				0				0
	23	-				0				0
	24	-				0				0
	25	-				0				0
	26	-				0				0
	27	-				0				0
	28	-				0				0
	29	-				0				0
	30	-				0				0
TOTALS				3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

LONG TERM DEBT SCHEDULE - LT DEBT2
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

Debt Name	Amount of Issue	Type of Debt Obligation	Debt Resolution Number	Principal Due FY	Interest Due FY	Total Obligation Due FY	Bond Reg./Paying Agent Fees Due FY	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Funds OTHER THAN Current Year Debt Service Taxes	Amount Paid Current Year Debt Service Levy
	31	-				0				0
	32	-				0				0
	33	-				0				0
	34	-				0				0
	35	-				0				0
	36	-				0				0
	37	-				0				0
	38	-				0				0
	39	-				0				0
	40	-				0				0
	41	-				0				0
	42	-				0				0
	43	-				0				0
	44	-				0				0
	45	-				0				0
	46	-				0				0
	47	-				0				0
	48	-				0				0
	49	-				0				0
	50	-				0				0
	51	-				0				0
	52	-				0				0
	53	-				0				0
	54	-				0				0
	55	-				0				0
	56	-				0				0
	57	-				0				0
	58	-				0				0
	59	-				0				0
	60	-				0				0
TOTALS				3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

LONG TERM DEBT SCHEDULE - LT DEBT3
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

Debt Name	Amount of Issue	Type of Debt Obligation	Debt Resolution Number	Principal Due FY	Interest Due FY	Total Obligation Due FY	Bond Reg./ Paying Agent Fees Due FY	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Funds OTHER THAN Current Year Debt Service Taxes	Amount Paid Current Year Debt Service Levy
	61	-				0				0
	62	-				0				0
	63	-				0				0
	64	-				0				0
	65	-				0				0
	66	-				0				0
	67	-				0				0
	68	-				0				0
	69	-				0				0
	70	-				0				0
	71	-				0				0
	72	-				0				0
	73	-				0				0
	74	-				0				0
	75	-				0				0
	76	-				0				0
	77	-				0				0
	78	-				0				0
	79	-				0				0
	80	-				0				0
	81	-				0				0
	82	-				0				0
	83	-				0				0
	84	-				0				0
	85	-				0				0
	86	-				0				0
	87	-				0				0
	88	-				0				0
	89	-				0				0
	90	-				0				0
TOTALS				3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

LONG TERM DEBT SCHEDULE - LT DEBT4
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

Debt Name		Amount of Issue	Type of Debt Obligation	Debt Resolution Number	Principal Due FY	Interest Due FY	Total Obligation Due FY	Bond Reg./Paying Agent Fees Due FY	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Funds OTHER THAN Current Year Debt Service Taxes	Amount Paid Current Year Debt Service Levy
	91	-	-				0				0
	92	-	-				0				0
	93		-				0				0
	94		-				0				0
	95		-				0				0
	96		-				0				0
	97		-				0				0
	98		-				0				0
	99		-				0				0
	100		-				0				0
	101		-				0				0
	102		-				0				0
	103		-				0				0
	104		-				0				0
	105		-				0				0
	106		-				0				0
	107		-				0				0
	108		-				0				0
	109		-				0				0
	110		-				0				0
	111		-				0				0
	112		-				0				0
	113		-				0				0
	114		-				0				0
	115		-				0				0
	116		-				0				0
	117		-				0				0
	118		-				0				0
	119		-				0				0
	120		-				0				0
TOTALS					3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

LONG TERM DEBT SCHEDULE - LT DEBT5
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

Debt Name		Amount of Issue	Type of Debt Obligation	Debt Resolution Number	Principal Due FY	Interest Due FY	Total Obligation Due FY	Bond Reg./ Paying Agent Fees Due FY	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Funds OTHER THAN Current Year Debt Service Taxes	Amount Paid Current Year Debt Service Levy
	121	-	-				0				0
	122	-	-				0				0
	123	-	-				0				0
	124	-	-				0				0
	125	-	-				0				0
	126	-	-				0				0
	127	-	-				0				0
	128	-	-				0				0
	129	-	-				0				0
	130	-	-				0				0
	131	-	-				0				0
	132	-	-				0				0
	133	-	-				0				0
	134	-	-				0				0
	135	-	-				0				0
	136	-	-				0				0
	137	-	-				0				0
	138	-	-				0				0
	139	-	-				0				0
	140	-	-				0				0
	141	-	-				0				0
	142	-	-				0				0
	143	-	-				0				0
	144	-	-				0				0
	145	-	-				0				0
	146	-	-				0				0
	147	-	-				0				0
	148	-	-				0				0
	149	-	-				0				0
	150	-	-				0				0
TOTALS					3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

LONG TERM DEBT SCHEDULE - LT DEBT6
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

Debt Name		Amount of Issue	Type of Debt Obligation	Debt Resolution Number	Principal Due FY	Interest Due FY	Total Obligation Due FY	Bond Reg./Paying Agent Fees Due FY	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Funds OTHER THAN Current Year Debt Service Taxes	Amount Paid Current Year Debt Service Levy
	151	-	-				0				0
	152	-	-				0				0
	153						0				0
	154	-	-				0				0
	155						0				0
	156	-	-				0				0
	157	-	-				0				0
	158						0				0
	159						0				0
	160						0				0
	161	-	-				0				0
	162	-	-				0				0
	163	-	-				0				0
	164						0				0
	165	-	-				0				0
	166	-	-				0				0
	167						0				0
	168						0				0
	169	-	-				0				0
	170						0				0
	171						0				0
	172	-	-				0				0
	173	-	-				0				0
	174						0				0
	175						0				0
	176	-	-				0				0
	177						0				0
	178						0				0
	179	-	-				0				0
	180	-	-				0				0
TOTALS					3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

LONG TERM DEBT SCHEDULE - LT DEBT7
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

Debt Name		Amount of Issue	Type of Debt Obligation	Debt Resolution Number	Principal Due FY	Interest Due FY	Total Obligation Due FY	Bond Reg./Paying Agent Fees Due FY	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Funds OTHER THAN Current Year Debt Service Taxes	Amount Paid Current Year Debt Service Levy
	181	-	-				0				0
	182	-	-				0				0
	183						0				0
	184	-	-				0				0
	185						0				0
	186	-	-				0				0
	187	-	-				0				0
	188	-	-				0				0
	189						0				0
	190						0				0
	191	-	-				0				0
	192	-	-				0				0
	193	-	-				0				0
	194						0				0
	195	-	-				0				0
	196	-	-				0				0
	197						0				0
	198						0				0
	199	-	-				0				0
	200						0				0
	201						0				0
	202	-	-				0				0
	203	-	-				0				0
	204						0				0
	205	-	-				0				0
	206						0				0
	207	-	-				0				0
	208						0				0
	209	-	-				0				0
	210	-	-				0				0
TOTALS					3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

LONG TERM DEBT SCHEDULE - GRAND TOTALS
GENERAL OBLIGATION BONDS, TIF BONDS, REVENUE BONDS, LOANS, LEASE-PURCHASE PAYMENTS

	Principal Due FY 2024	Interest Due FY 2024	Total Obligation Due FY 2024	Bond Reg./ Paying Agent Fees Due FY 2024	Reductions due to Refinancing or Prepayment of Certified Debt	Paid from Sources OTHER THAN Budget Year Debt Service Levy	Amount Paid Budget Year Debt Service Levy
GO - TOTAL	1,910,000	410,676	2,320,676	5,550	0	1,678,759	647,467
NON GO - TOTAL	1,295,083	256,355	1,551,438	5,676	0	1,557,114	0
GRAND - TOTAL	3,205,083	667,031	3,872,114	11,226	0	3,235,873	647,467

NOTICE OF PUBLIC HEARING -- PROPOSED BUDGET

Fiscal Year July 1, 2023 - June 30, 2024

City of: STORM LAKE

The City Council will conduct a public hearing on the proposed Budget at: City Council Chambers 620 Erie St. Storm Lake, IA Meeting Date: 3/20/2023
Meeting Time: 05:00 PM

At the public hearing any resident or taxpayer may present objections to, or arguments in favor of, any part of the proposed budget. This notice represents a summary of the supporting detail of revenues and expenditures on file with the City Clerk and County Auditor.

City budgets are subject to protest. If protest petition requirements are met, the State Appeal Board will hold a local hearing. For more information, consult <https://dom.iowa.gov/local-budget-appeals>.

The Budget Estimate Summary of proposed receipts and expenditures is shown below. Copies of the the detailed proposed Budget may be obtained or viewed at the offices of the Mayor, City Clerk, and at the Library.				
The estimated Total tax levy rate per \$1000 valuation on regular property				13.40670
The estimated tax levy rate per \$1000 valuation on Agricultural land is				3.00375
At the public hearing, any resident or taxpayer may present objections to, or arguments in favor of, any part of the proposed budget.				
Phone Number (712) 732-8000	City Clerk/Finance Officer's NAME Brian T Oakleaf			
		Budget FY 2024	Re-estimated FY 2023	Actual FY 2022
Revenues & Other Financing Sources				
Taxes Levied on Property	1	4,272,141	4,697,246	4,591,765
Less: Uncollected Property Taxes-Levy Year	2	0	0	0
Net Current Property Taxes	3	4,272,141	4,697,246	4,591,765
Delinquent Property Taxes	4	0	0	0
TIF Revenues	5	1,779,143	834,563	828,352
Other City Taxes	6	3,217,668	3,209,899	3,185,817
Licenses & Permits	7	179,695	289,015	206,086
Use of Money and Property	8	7,195	70,190	228,417
Intergovernmental	9	5,930,554	6,617,124	1,872,942
Charges for Fees & Service	10	15,610,158	11,907,688	17,788,667
Special Assessments	11	0	0	0
Miscellaneous	12	32,700	4,790,122	716,529
Other Financing Sources	13	10,613,287	1,450,000	1,422,307
Transfers In	14	18,255,496	9,343,708	10,710,144
Total Revenues and Other Sources	15	59,898,037	43,209,555	41,551,026
Expenditures & Other Financing Uses				
Public Safety	16	3,844,373	3,732,278	3,499,113
Public Works	17	1,983,870	1,927,785	1,877,859
Health and Social Services	18	23,000	18,000	7,743
Culture and Recreation	19	1,761,081	1,362,072	1,405,424
Community and Economic Development	20	1,130,117	629,130	394,870
General Government	21	754,210	678,225	736,296
Debt Service	22	2,326,226	2,336,567	2,223,950
Capital Projects	23	12,338,909	8,499,306	4,877,166
Total Government Activities Expenditures	24	24,161,786	19,183,363	15,022,421
Business Type / Enterprises	25	21,410,224	13,585,625	15,808,450
Total ALL Expenditures	26	45,572,010	32,768,988	30,830,871
Transfers Out	27	18,255,496	9,343,708	10,710,144
Total ALL Expenditures/Transfers Out	28	63,827,506	42,112,696	41,541,015
Excess Revenues & Other Sources Over (Under) Expenditures/Transfers Out	29	-3,929,469	1,096,859	10,011
Beginning Fund Balance July 1	30	22,147,746	21,050,887	21,040,876
Ending Fund Balance June 30	31	18,218,277	22,147,746	21,050,887

Staff Summary

03/20/2023

Agenda Item # F.5.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Matt Beckman Public Works Director

SUBJECT: **Motion to Approve a Lime Hauling Contract with Custom MRA Custom Applications, LLC Sac City, Iowa**

BACKGROUND: The Storm Lake Water Plant generates waste lime as a byproduct of the water production process. The Water Department Staff thickens the waste lime into a clay like state which is then hauled away to be spread on farm fields.

There are times when the market value of the lime to haulers is reduced to the point where the city has to pay for lime hauling services. Currently we are in a period where the value of lime is low enough that haulers cannot transport it at a profit unless we pay them a fee.

The Water Plant generates roughly 6,000 tons of waste lime annually. The actual amount varies based on the amount of water that the plant produces.

City Staff sent out an RFQ for lime hauling services and the city received two proposals. Proposals were received from PH Plus LLC of Le Mars (\$9.25 per ton) and MRA Custom Applications of Sac City (\$13.50 per ton).

MRA Custom Applications currently holds the contract for hauling. Both companies have provided this service to the City in the past.

During the recent contract with MRA Custom Applications, the working relationship has been excellent. They are reliable and prompt when loads need to be hauled. No negative interaction have occurred during the contract period.

FISCAL IMPACT: The estimated cost for a one-year lime hauling contract is estimated to be \$81,000.00. This is based on an estimate of 6,000 tons of lime generated for the year.

RECOMMENDATION: Approve A Lime Hauling Contract with MRA Custom Application, LLC. Sac City, Iowa

ATTACHMENTS:

[Lime hauling RFQ.pdf](#)

[Proposals received 2023.pdf](#)

[Signed Agreement MRA.pdf](#)



January 23, 2023

Request for Qualifications
Pressed Lime Hauling Services
Storm Lake Water Treatment Facility

City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

The City of Storm Lake is soliciting qualification proposals for pressed lime hauling services associated with the City Water Treatment facility.

The deadline for qualification proposals is **March 3rd, 2023, at 12:00 p.m.** Qualification proposals shall be submitted to the Storm Lake City Clerk on the form included with this Request for Qualifications.

Proposals can be mailed to City Clerk, PO Box 1086, Storm Lake, IA 50588; hand delivered to City Clerk, 620 Erie St, Storm Lake, IA; or emailed to cityclerk@stormlake.org.

Loading will occur at the lime storage building on the Water Treatment Plant premises. The city will determine the area where the lime hauling contractor will weigh their loads and provide an electronic card to allow for scaling of loads 24 hours a day, seven days a week.

The proposed agreement is also included with this request for the contractors review and provides detailed information on the agreement terms and conditions.

The City reserves the right to reject any and all proposals, to waive any informality in the proposals, and to interview haulers and to make a selection based on the best value to its citizens.

Do not hesitate to contact Kolby Struchen at the Storm Lake Water Treatment Plant with any further questions you may have at 712-732-8031.

Sincerely,

Matthew Beckman
Public Works Director

Enclosure



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

**FORM OF PROPOSAL
PRESSED LIME HAULING SERVICES
CITY OF STORM LAKE
WATER TREATMENT PLANT**

UNIT PRICE PER TON HAULED \$ 9.25

Will you require City Staff to be present or assist in loading? () Yes ☒ No

If yes, please outline assistance necessary and why. _____

If no, what equipment will you be using to load. Skid loader

Please provide any additional comments that would describe your process of removing and hauling pressed lime from the Water Treatment Plant.

Signature [Signature]

Company Name PH Plus LLC

Company Mailing Address and Contact Phone Number 454 13th Street SW
Le Mars, IA 51031. (712) 501-1381



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

**FORM OF PROPOSAL
PRESSED LIME HAULING SERVICES
CITY OF STORM LAKE
WATER TREATMENT PLANT**

UNIT PRICE PER TON HAULED \$13.50

Will you require City Staff to be present or assist in loading? () Yes ☒ No

If yes, please outline assistance necessary and why. _____

If no, what equipment will you be using to load. 299 Cat Skid loader
or 333 John Deere

Please provide any additional comments that would describe your process of removing and hauling pressed lime from the Water Treatment Plant.

We stock pile the wet lime and land
apply in the fall, we have heated shop
for Truck so we are able to haul in the cold months

Signature John M. Dyl

Company Name MRA Custom Applications

Company Mailing Address and Contact Phone Number 922 South 5th

Sac City, Ia. 50583 515-230-2540

AGREEMENT FOR LIME SLUDGE DISPOSAL SERVICES

This Agreement for Lime Sludge Disposal Services ("Agreement") is entered into this 15th day of April 2023 by and between:

City of Storm Lake, Iowa, Water Treatment Plant, 6011 Hwy 110, PO Box 1086 Storm Lake, IA 50588 (herein referred to as "CITY")

and

Contractor (hereinafter referred to as "Contractor")

WITNESSETH:

WHEREAS, CITY operates the City of Storm Lake, Iowa Water Treatment Plant located at 6011 Highway 110 in Storm Lake, Iowa, hereinafter referred to as the "Facility", and desires to have lime sludge disposed of from the Facility;

WHEREAS, Contractor is in the business of providing disposal and application services for lime sludge and seeks to provide its services to CITY;

WHEREAS, the parties wish to enter into this Agreement for Lime Sludge Services that sets out the responsibilities of each party and will govern the relationship between the parties;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and for other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree:

A. GENERAL PROVISIONS

1. Purpose: CITY will provide the lime sludge from the Facility. Contractor will load the lime sludge at the Facility, transport it from the Facility, weigh each load at a CITY-designated commercial scale licensed by the State of Iowa that is located within the City limits, and dispose of the lime sludge as set forth in this Agreement. Contractor agrees to remove lime from the facility at reasonable removal rates determined by the CITY to support the effective operations of the Facility. At the time the lime sludge is removed from the process or storage building at the Facility, Contractor will assume sole liability of the lime sludge and City will not have any further liability.
2. Term and Termination: This Agreement shall commence on April 15th, 2023 and continue through April 14th, 2025, provided that the Agreement may be extended for an additional 2 year period by written agreement of both parties, unless terminated earlier as provided herein. Notwithstanding any information to the contrary, CITY may terminate this Agreement at any time and for any reason upon thirty (30) days' written notice to Contractor.
3. Response Time: The Contractor shall provide CITY with a Lime Hauling Vehicle at Facility not more than 48 hours from the time the Contractor receives a notification call. The Contractor shall provide 24-hour, 7-day week telephone communication. Answering phone services are not permitted. If service is not provided with the specified time, CITY shall have the right to make other arrangements with another Lime Sludge Hauling provider.

4. Compensation:

- a. Contractor shall be solely responsible for the cost of the transportation of the lime sludge from the Facility.
- b. At the beginning of this contract (April 15th) CITY and Contractor agree to discuss the Facility's current lime sludge production and disposal volumes. Based on those discussions, if the parties agree to change any of the terms of this Agreement, the parties will document any changes in an Amendment to be signed by both parties.
- c. CITY will pay contractor \$13.50 per ton of Lime Sludge hauled out of Facility.
- d. Charges for Lime Sludge Hauling shall be forwarded monthly to City Hall for payment and such invoices shall identify each load hauled from Facility and shall be accompanied by scale tickets for each load listed on said invoice.
- e. CITY shall be responsible for payment of Lime Sludge Hauling Services. Payment will occur after the City Council has approved the list of invoices at their regular City Council Meeting. City Council Meetings are held on the 1st and 3rd Monday's of each month.
- f. Contractor shall reimburse CITY for any fees and/or charges associated with another Lime Sludge Hauler as a result of Contractor's inability to meet the maximum response time requirement covered in the this agreement, Section A, subsection 3.

B. RESPONSIBILITY OF CITY

1. CITY shall perform its duties and responsibilities in a timely and workmanlike manner in order to carry out its obligations under this Agreement.
2. CITY and contractor shall coordinate the removal of the lime sludge from the Facility.
3. CITY shall provide proper notification via phone call for impending pickups required.
4. CITY shall bear the cost of weighing the loads of lime sludge and shall provide Contractor with the means of charging the City for each weigh pursuant to this agreement.

C. RESPONSIBILITY OF CONTRACTOR

1. Contractor shall perform its duties in a timely and workmanlike manner and shall use its employees, equipment and materials to carry out its obligations in this Agreement.
2. Contractor shall provide CITY with an empty weight scale ticket at the beginning of each week of hauling for each Lime Sludge Hauling Truck used at Facility.
3. Contractor shall weigh each load of lime sludge and, at the end of each month, provide CITY copies of weight tickets that support Contractor's invoice for lime sludge hauling during the month.
4. Contractor will comply with all applicable national, regional, state and local laws, rules, regulations, ordinances and orders relating to its obligations under this Agreement.
5. Contractor shall obtain, at its own expense, any necessary approvals or permits from all

certification or governmental bodies necessary for it to provide any and all services hereunder.

6. Any records required by regulation or law pertaining to location, acreage, and rate of lime sludge application shall be maintained by contractor and made available to City upon request. Such records shall be accurate and complete.
7. Contractor will secure all stock pile sites and submit a list of qualified stock pile sites to CITY at the beginning of each contract year. Contractor will certify that all qualified stock pile sites meet all regulatory requirements; and are suitable for all weather delivery.
8. Contractor shall be responsible for maintaining the lime sludge loading area at the stock pile sites.
9. Contractor shall be responsible for securing all stockpiles and dispensation of lime from same.
10. Contractor shall be responsible for coordinating the application of the lime sludge on the farmland.
11. Contractor shall provide all equipment and personnel required to load, transport and apply the lime sludge from stock pile sites to the farmland.
12. Contractor shall apply the lime sludge to the farmland in accordance with all applicable national, regional, state and local laws, rules, regulations, ordinances and orders.
13. Contractor is responsible for all land application and site maintenance costs, which include but are not limited to: labor, utilities, chemicals, fuel, vehicles, materials, supplies, equipment and miscellaneous expenses.
14. Should any regulatory agency require documentation related to the services provided by Contractor hereunder, Contractor shall provide all such information to CITY, including but not limited to:
 - a. Applicator load sheets
 - b. Quantities applied & quantity applied per acre
 - c. Acres applied or covered with and location of the application
 - d. Drawing of area covered or applied
 - e. Dates of application to corresponding site
 - f. Names and addresses of farm owner or operators where lime sludge has been or/is applied
 - g. Other information as CITY deems necessary
15. Contractor shall be responsible for any penalties, fines, citations, and judgments issued to, or incurred by, the Contractor and the CITY as a result of any action or inaction by the Contractor relating to the Contractor's responsibilities as outlined herein.

D. OTHER PROVISIONS

1. Mediation: In the event a dispute arises between the parties as to the meaning or intent of any portion of this Agreement, the parties shall promptly meet and attempt to resolve the outstanding issue.

If, despite good faith efforts, the parties are unable to resolve a dispute or claim arising out of or relating to this Agreement or its breach, termination or validity, the parties will first seek to agree on a forum for non-binding mediation to be held in a mutually agreeable location.

Any mediation will be kept confidential and the existence of the proceeding and any element thereof (including but not limited to documents submitted or exchanged) will not be disclosed beyond the parties, their counsel and any person necessary to the conduct of the proceeding, except as may be lawfully required in judicial proceedings or as required by law.

2. Insurance: Contractor will obtain and maintain at its own expense the following minimum limits of insurance, with insurance companies acceptable to City (those rated A-VII or higher by A.M. Best's), to cover the risk of losses associated with this Agreement:

Coverage	Limits
(a) Worker's Compensation	Statutory
(b) Employer's Liability	\$500,000 each accident; \$500,000 each employee; \$500,000 policy limit
(c) Commercial General Liability including products and completed operations liability and contractual liability	\$1,000,000 each occurrence for property damage and bodily injury (PD/BI); \$1,000,000 general aggregate; \$1,000,000 products/completed operations aggregate
(d) Automobile Liability- Owned, hired and non-owned autos	\$1,000,000 Combined Single Limits- each accident
(e) Excess Liability	May be utilized to meet limits outlined above
(f) Property	Contractor shall be solely responsible for protecting and insuring all property owned or leased by Contractor during the Term of this Agreement
(g) Professional Liability	\$1,000,000 each claim/policy limit
(h) Pollution Liability	\$ 1,000,000 each claim/policy limit

Within thirty (30) days after execution of this Agreement, Contractor will provide CITY with a certificate evidencing that such coverages are in full force and effect. Contractor will name CITY as additional insured with respect to coverages (c) and (d) above. All policies will be primary and non-contributory, provide a full waiver of the insurer's right of subrogation in favor of CITY with respect to claims that are covered or should have been covered by valid and collectible insurance provided hereunder. Contractor will not voluntarily permit any cancellation, non-renewal or material change in the insurance coverage to be provided hereunder without thirty (30) days' written notice to CITY.

3. Governing Law: The law of the State of Iowa shall govern and control this Agreement, all performance, and any disputes arising under this Agreement or otherwise arising out of or relating to this Agreement, without regard to its conflicts of laws principles. Any legal or equitable action(s) arising out of, or relating to, this Agreement or the breach thereof shall be brought in state or federal courts of competent jurisdiction in the State of Iowa.
4. Hold Harmless and Indemnification. Contractor agrees to and shall defend, indemnify and hold harmless the CITY, its elected and appointed officers and employees from any liability for claims or damages including without limitation, for personal injury or property which is caused by or arises from any negligent act or willful misconduct of Contractor, for the failure of Contractor to comply with any applicable Federal, State or local laws and regulations, or Contractor's breach or failure to comply with any of its obligations and covenants set out in this Agreement.

CITY agrees to and shall defend, indemnify and hold harmless Contractor from liability for claims or damages for personal injury or property damage which is caused by any negligent act or willful misconduct of CITY or its breach or failure to comply with any of its obligations and covenants set out in this Agreement.

5. Contractor Not an Employee: The performance by Contractor of its duties and obligations under this Agreement will be that of an independent contractor and nothing contained in this Agreement will create or imply an agency, joint venture or partnership between Contractor and the CITY. Neither the employees of Contractor nor those of its subcontractors will be deemed to be employees or agents of CITY or the City. Unless expressly set forth in this Agreement, none of Contractor, its employees or its subcontractors may enter into contracts on behalf of, bind, or otherwise obligate the CITY in any manner whatsoever.
6. Assignment of Agreement: This Agreement is solely with Contractor, based on its reputation and past performance and, as such, no assignment, transfer, conveyance, or subcontracting of this Agreement, in whole or in part, shall be permitted without written consent to the Contractor by CITY. Any attempt to sell, assign, transfer, or convey this Agreement without the written consent of CITY shall be a breach of this Agreement by Contractor.
7. Breach of Contract and Remedies: The essence of this Agreement is the timely removal and application of lime sludge from the Facility in the manner provided by Federal, State, and local laws, rules, regulations, statutes, and ordinances, as now exists or as they may be promulgated in the future. Any failure of the Contractor to perform its duties and responsibilities under any clause of this Agreement shall constitute a breach of contract and CITY may, at its discretion, proceed with any legal or equitable remedy available to it.

In addition to the foregoing remedies, CITY may elect to terminate this Agreement upon ten (10) days written notice for breach of any of its terms by Contractor, unless the defect or non-performance is remedied by Contractor within ten (10) days of such notice. However, CITY may, under any circumstances, immediately terminate this Agreement without notice, upon violation of any provisions of this Agreement by Contractor, resulting in a disruption of lime sludge removal from the Facility, to the extent of exceeding the Facility storage capacities or if CITY or Contractor is ordered to cease its operations in lime sludge disposal by the City or any Federal, State, or local agency, commission, board, or court, in which event this Agreement shall terminate and be null and void.

8. Destruction of Premises: In the event of total or partial destruction of the Facility by fire, windstorm, or other casualty, making it impossible for CITY to perform hereunder, the performance of this Agreement shall be suspended until such time as CITY restores the Facility and is able to perform.
10. Notices: Any notice given under this Agreement shall be in writing and sent (i) by registered or certified mail, postage prepaid, return receipt requested, or (ii) by any other commercial delivery service which delivers to the noticed destination and provides proof of delivery to the sender or (iii) by facsimile with acknowledgment received. All notices will be effective when first received at the following addresses:

If to CITY:	If to Contractor:
City of Storm Lake Water Treatment Plant PO Box 1086 Storm Lake, IA 50588 712-732-8031	MRA Custom Applications 922 South 5 th Sac City, IA 50583 515-230-2540

11. Changes: In the event that a change in the scope of services provided under this Agreement is made necessary due to a change in governmental regulations or reporting requirements, Contractor shall be entitled to request additional compensation. Any approved change in compensation shall be retroactive to the time of the change in scope and negotiated by the parties within (90) ninety days from the date of notification.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

City of Storm Lake, Iowa

Contractor

By: _____
Mayor

Name: _____

Date: _____

By: MRA Custom Applications
Contractor

Name: [Signature]

Date: 3/8/23

Staff Summary

03/20/2023

Agenda Item # F.6.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Matt Beckman Public Works Director

SUBJECT: **Motion to Approve a Biosolid Hauling Contract with Bryce Widman. Storm Lake, Iowa**

BACKGROUND:

The Storm Lake Wastewater Plant Generates Biosolid Waste as part of the treatment process. The Wastewater Department staff thickens and processes the Biosolid Waste into a clay like state which is then hauled away to be spread on farm fields.

There is time when the market value of the Biosolid Waste to haulers is reduced to a point where the city has to pay for hauling services. Currently we are in a period where the value of Biosolid Waste is low enough that haulers cannot transport it at a profit unless we pay them a fee.

The Wastewater Plant generates roughly 520 tons of Biosolid Waste annually. The actual amount varies based on the amount of wastewater that flows into the plant.

Until last year the city owned a spreader truck and did the application of the Biosolid Waste. The Spreader truck was old and parts were hard to find. City Staff decided it was more cost effective to hire this out then it was to buy a new truck and spreader.

The City Staff sent out an RFQ for Biosolid Waste Hauling services and the City Received two proposals. The Proposals were received from Nutri-Ject Systems, INC of Hudson, Iowa (\$96.25 per ton) and Bryce Widman of Storm Lake, Iowa (\$8.00 per ton).

Bryce Widman has been receiving the Biosolid Waste for the past 6 years. The working relationship has been excellent.

FISCAL IMPACT: The estimated cost for a one-year Biosolids Hauling contract is estimated to be \$4,160.00. This based on an estimate of 520 tons of Biosolid Waste generated for the year.

RECOMMENDATION: Approve a Biosolid Hauling Contract with Bryce Widman. Storm Lake, Iowa

ATTACHMENTS:

[Biosolids hauling RFQ.docx](#)

[Proposal Received 2023 - Bryce Widman.pdf](#)

[Proposal Received 2023 - Nutri-Jet Systems.pdf](#)

[Signed Agreement Biosolids 2023.pdf](#)

January 23, 2023

Request for Qualifications
Pressed Biosolids Hauling Services
Storm Lake Wastewater Treatment Facility



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

The City of Storm Lake is soliciting qualification proposals for pressed biosolids hauling services associated with the City Wastewater Treatment facility.

The deadline for proposals is **March 3rd, 2023, at 12:00 p.m.** Qualification proposals shall be submitted to the Storm Lake City Clerk on the form included with this Request for Qualifications.

Proposals can be mailed to City Clerk, PO Box 1086, Storm Lake, IA 50588; hand delivered to City Clerk, 620 Erie St, Storm Lake IA; or emailed to cityclerk@stormlake.org.

Loading will occur at the biosolids storage building on the Wastewater Treatment Plant premises. The city will determine the area where the biosolid hauling contractor will weigh their loads and provide an electronic card to allow for scaling of loads 24 hours a day, seven days a week.

Please reference IDNR Chapter 67 – Standards for the land application of sewage sludge, rule 567-67.8 Land application requirements for Class II sewage sludge, as it pertains to application to land.

The proposed agreement is also included with this request for the contractors review and provides detailed information on the agreement terms and conditions.

The City reserves the right to reject any and all proposals, to waive any informality in the proposals, and to interview haulers and to make a selection based on the best value to its citizens.

Do not hesitate to contact Jorge Tarin at the Storm Lake Wastewater Treatment Plant with any further questions you may have at 712-732-8032.

Sincerely,

Matthew Beckman
Public Works Director

Enclosure





RECEIVED

3/2/23

2:55 pm



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

**FORM OF PROPOSAL
PRESSED BIOSOLIDS HAULING SERVICES
CITY OF STORM LAKE
WASTEWATER TREATMENT PLANT**

UNIT PRICE PER TON HAULED \$8/ton

Will you require City Staff to be present or assist in loading? ☒ Yes ☐ No

If yes, please outline assistance necessary and why. to load spreader
at city plant

If no, what equipment will you be using to load. _____

Please provide any additional comments that would describe your process of removing and hauling pressed Biosolids from the Wastewater Treatment Plant.

would provide the spreader, tractor, and operator
to haul to field 1/2 mile away and spread.

Signature Bruce Wilk

Company Name _____

Company Mailing Address and Contact Phone Number 215 Phillips St.
Storm Lake, IA 50588 712-299-3569





January 23, 2023

Request for Qualifications
Pressed Biosolids Hauling Services
Storm Lake Wastewater Treatment Facility

City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

The City of Storm Lake is soliciting qualification proposals for pressed biosolids hauling services associated with the City Wastewater Treatment facility.

The deadline for proposals is **March 3rd, 2023, at 12:00 p.m.** Qualification proposals shall be submitted to the Storm Lake City Clerk on the form included with this Request for Qualifications.

Proposals can be mailed to City Clerk, PO Box 1086, Storm Lake, IA 50588; hand delivered to City Clerk, 620 Erie St, Storm Lake IA; or emailed to cityclerk@stormlake.org.

Loading will occur at the biosolids storage building on the Wastewater Treatment Plant premises. The city will determine the area where the biosolid hauling contractor will weigh their loads and provide an electronic card to allow for scaling of loads 24 hours a day, seven days a week.

Please reference IDNR Chapter 67 – Standards for the land application of sewage sludge, rule 567-67.8 Land application requirements for Class II sewage sludge, as it pertains to application to land.

The proposed agreement is also included with this request for the contractors review and provides detailed information on the agreement terms and conditions.

The City reserves the right to reject any and all proposals, to waive any informality in the proposals, and to interview haulers and to make a selection based on the best value to its citizens.

Do not hesitate to contact Jorge Tarin at the Storm Lake Wastewater Treatment Plant with any further questions you may have at 712-732-8032.

Sincerely,

Matthew Beckman
Public Works Director

Enclosure

AGREEMENT FOR BIOSOLID SLUDGE DISPOSAL SERVICES

This Agreement for Biosolid Sludge Disposal Services ("Agreement") is entered into this 15th day
of
April 2023 by and between:

**City of Storm Lake, Iowa, Wastewater Treatment Plant, 1234 630th St, PO Box 1086 Storm
Lake, IA 50588 (herein referred to as "CITY")**

and

Contractor (hereinafter referred to as "Contractor")

WITNESSETH:

WHEREAS, CITY operates the City of Storm Lake, Iowa Wastewater Treatment Plant located at 1234 630th St. in Storm Lake, Iowa, hereinafter referred to as the "Facility", and desires to have biosolid sludge disposed of from the Facility;

WHEREAS, Contractor is in the business of providing disposal and application services for biosolid sludge and seeks to provide its services to CITY;

WHEREAS, the parties wish to enter into this Agreement for Biosolid Sludge Services that sets out the responsibilities of each party and will govern the relationship between the parties;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and for other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree:

A. GENERAL PROVISIONS

1. Purpose: CITY will provide biosolid sludge from the Facility. Contractor will load the Biosolid sludge at the Facility, transport it from the Facility, weigh each load at a CITY-designated commercial scale licensed by the State of Iowa that is located within the City limits, and dispose of the biosolid sludge as set forth in this Agreement. Contractor agrees to remove biosolid sludge from the facility at reasonable removal rates determined by the CITY to support the effective operations of the Facility. At the time the biosolid sludge is removed from the process or storage building at the Facility, Contractor will assume sole liability of the biosolid sludge and City will not have any further liability.
2. Term and Termination: This Agreement shall commence on April 15th, 2023 and continue through April 14th, 2025, provided that the Agreement may be extended for an additional 2 year period by written agreement of both parties, unless terminated earlier as provided herein. Notwithstanding any information to the contrary, CITY may terminate this Agreement at any time and for any reason upon thirty (30) days' written notice to Contractor.
3. Response Time: The Contractor shall provide CITY with a Biosolid Hauling Vehicle at Facility not more than 48 hours from the time the Contractor receives a notification call. The Contractor shall provide 24-hour, 7-day week telephone communication. Answering phone services are not permitted. If service is not provided with the specified time, CITY shall have

the right to make other arrangements with another Biosolid Sludge Hauling provider.

4. Compensation:

- a. Contractor shall be solely responsible for the cost of the transportation of the Biosolid sludge from the Facility.
- b. At the beginning of this contract (April 15th) CITY and Contractor agree to discuss the Facility's current biosolid sludge production and disposal volumes. Based on those discussions, if the parties agree to change any of the terms of this Agreement, the parties will document any changes in an Amendment to be signed by both parties.
- c. CITY will pay contractor (Rate) per ton of Biosolid Sludge hauled out of Facility.
- d. Charges for Biosolid Sludge Hauling shall be forwarded monthly to City Hall for payment and such invoices shall identify each load hauled from Facility and shall be accompanied by scale tickets for each load listed on said invoice.
- e. CITY shall be responsible for payment of Biosolid Sludge Hauling Services. Payment will occur after the City Council has approved the list of invoices at their regular City Council Meeting. City Council Meetings are held on the 1st and 3rd Monday's of each month.
- f. Contractor shall reimburse CITY for any fees and/or charges associated with another Biosolid Sludge Hauler as a result of Contractor's inability to meet the maximum response time requirement covered in this agreement, Section A, subsection 3.

B. RESPONSIBILITY OF CITY

1. CITY shall perform its duties and responsibilities in a timely and workmanlike manner in order to carry out its obligations under this Agreement.
2. CITY and contractor shall coordinate the removal of the biosolid sludge from the Facility.
3. CITY shall provide proper notification via phone call for impending pickups required.
4. CITY shall bear the cost of weighing the loads of Biosolid sludge and shall provide Contractor with the means of charging the City for each weigh pursuant to this agreement.

C. RESPONSIBILITY OF CONTRACTOR

1. Contractor shall perform its duties in a timely and workmanlike manner and shall use its employees, equipment and materials to carry out its obligations in this Agreement.
2. Contractor shall provide CITY with an empty weight scale ticket at the beginning of each week of hauling for each Biosolid Sludge Hauling Truck used at Facility.
3. Contractor shall weigh each load of Biosolid sludge and, at the end of each month, provide CITY copies of weight tickets that support Contractor's invoice for biosolid sludge hauling during the month.
4. Contractor will comply with all applicable national, regional, state and local laws, rules, regulations, ordinances and orders relating to its obligations under this Agreement.

5. Contractor shall obtain, at its own expense, any necessary approvals or permits from all certification or governmental bodies necessary for it to provide any and all services hereunder.
6. Any records required by regulation or law pertaining to location, acreage, and rate of Biosolid sludge application shall be maintained by the contractor and made available to City upon request. Such records shall be accurate and complete.
7. Contractor will secure all stock pile sites and submit a list of qualified stock pile sites to CITY at the beginning of each contract year. Contractor will certify that all qualified stock pile sites meet all regulatory requirements; and are suitable for all weather delivery.
8. Contractor shall be responsible for maintaining the biosolid sludge loading area at the stockpile sites.
9. Contractor shall be responsible for securing all stockpiles and dispensation of biosolid from same.
10. Contractor shall be responsible for coordinating the application of the biosolid sludge on the farmland.
11. Contractor shall provide all equipment and personnel required to load, transport and apply the biosolid sludge from stockpile sites to the farmland.
12. Contractor shall apply the biosolid sludge to the farmland in accordance with all applicable national, regional, state and local laws, rules, regulations, ordinances and orders.
13. Contractor is responsible for all land application and site maintenance costs, which include but are not limited to: labor, utilities, chemicals, fuel, vehicles, materials, supplies, equipment and miscellaneous expenses.
14. Contractor is responsible for reading and understanding all land application requirements for Class II sewage sludge as set forth in IDNR Chapter 67 – Standards for the land application of sewage sludge, rule 567-67.8 Land application requirements for Class II sewage sludge, as it pertains to application to land.
15. Should any regulatory agency require documentation related to the services provided by Contractor hereunder, Contractor shall provide all such information to CITY, including but not limited to:
 - a. Applicator load sheets
 - b. Quantities applied & quantity applied per acre
 - c. Acres applied or covered with and location of the application
 - d. Drawing of area covered or applied
 - e. Dates of application to corresponding site
 - f. Names and addresses of farm owner or operators where biosolid sludge has been or is applied
 - g. Other information as CITY deems necessary
15. Contractor shall be responsible for any penalties, fines, citations, and judgments issued to, or incurred by, the Contractor and the CITY as a result of any action or inaction by the Contractor relating to the Contractor's responsibilities as outlined herein.

D. OTHER PROVISIONS

1. **Mediation:** In the event a dispute arises between the parties as to the meaning or intent of any portion of this Agreement, the parties shall promptly meet and attempt to resolve the outstanding issue.

If, despite good faith efforts, the parties are unable to resolve a dispute or claim arising out of or relating to this Agreement or its breach, termination or validity, the parties will first seek to agree on a forum for non-binding mediation to be held in a mutually agreeable location.

Any mediation will be kept confidential and the existence of the proceeding and any element thereof (including but not limited to documents submitted or exchanged) will not be disclosed beyond the parties, their counsel and any person necessary to the conduct of the proceeding, except as may be lawfully required in judicial proceedings or as required by law.

2. **Insurance:** Contractor will obtain and maintain at its own expense the following minimum limits of insurance, with insurance companies acceptable to City (those rated A-VII or higher by A.M. Best's), to cover the risk of losses associated with this Agreement:

Coverage	Limits
(a) Worker's Compensation	Statutory
(b) Employer's Liability	\$500,000 each accident; \$500,000 each employee; \$500,000 policy limit
(c) Commercial General Liability including products and completed operations liability and contractual liability	\$1,000,000 each occurrence for property damage and bodily injury (PD/BI); \$1,000,000 general aggregate; \$1,000,000 products/completed operations aggregate
(d) Automobile Liability- Owned, hired and non-owned autos	\$1,000,000 Combined Single Limits- each accident
(e) Excess Liability	May be utilized to meet limits outlined above
(f) Property	Contractor shall be solely responsible for protecting and insuring all property owned or leased by Contractor during the Term of this Agreement
(g) Professional Liability	\$1,000,000 each claim/policy limit
(h) Pollution Liability	\$ 1,000,000 each claim/policy limit

Within thirty (30) days after execution of this Agreement, Contractor will provide CITY with a certificate evidencing that such coverages are in full force and effect. Contractor will name CITY as additional insured with respect to coverages (c) and (d) above. All policies will be primary and non-contributory, provide a full waiver of the insurer's right of subrogation in favor of CITY with respect to claims that are covered or should have been covered by valid and collectible insurance provided hereunder. Contractor will not voluntarily permit any cancellation, non-renewal or material change in the insurance coverage to be provided hereunder without thirty (30) days' written notice to CITY.

3. Governing Law: The law of the State of Iowa shall govern and control this Agreement, all performance, and any disputes arising under this Agreement or otherwise arising out of or relating to this Agreement, without regard to its conflicts of laws principles. Any legal or equitable action(s) arising out of, or relating to, this Agreement or the breach thereof shall be brought in state or federal courts of competent jurisdiction in the State of Iowa.
4. Hold Harmless and Indemnification. Contractor agrees to and shall defend, indemnify and hold harmless the CITY, its elected and appointed officers and employees from any liability for claims or damages including without limitation, for personal injury or property which is caused by or arises from any negligent act or willful misconduct of Contractor, for the failure of Contractor to comply with any applicable Federal, State or local laws and regulations, or Contractor's breach or failure to comply with any of its obligations and covenants set out in this Agreement.

CITY agrees to and shall defend, indemnify and hold harmless Contractor from liability for claims or damages for personal injury or property damage which is caused by any negligent act or willful misconduct of CITY or its breach or failure to comply with any of its obligations and covenants set out in this Agreement.
5. Contractor Not an Employee: The performance by Contractor of its duties and obligations under this Agreement will be that of an independent contractor and nothing contained in this Agreement will create or imply an agency, joint venture or partnership between Contractor and the CITY. Neither the employees of Contractor nor those of its subcontractors will be deemed to be employees or agents of CITY or the City. Unless expressly set forth in this Agreement, none of Contractor, its employees or its subcontractors may enter into contracts on behalf of, bind, or otherwise obligate the CITY in any manner whatsoever.
6. Assignment of Agreement: This Agreement is solely with Contractor, based on its reputation and past performance and, as such, no assignment, transfer, conveyance, or subcontracting of this Agreement, in whole or in part, shall be permitted without written consent to the Contractor by CITY. Any attempt to sell, assign, transfer, or convey this Agreement without the written consent of CITY shall be a breach of this Agreement by Contractor.
7. Breach of Contract and Remedies: The essence of this Agreement is the timely removal and application of biosolid sludge from the Facility in the manner provided by Federal, State, and local laws, rules, regulations, statutes, and ordinances, as now exists or as they may be promulgated in the future. Any failure of the Contractor to perform its duties and responsibilities under any clause of this Agreement shall constitute a breach of contract and CITY may, at its discretion, proceed with any legal or equitable remedy available to it.

In addition to the foregoing remedies, CITY may elect to terminate this Agreement upon ten (10) days written notice for breach of any of its terms by Contractor, unless the defect or non-performance is remedied by Contractor within ten (10) days of such notice.

However, CITY may, under any circumstances, immediately terminate this Agreement without notice, upon violation of any provisions of this Agreement by Contractor, resulting in a disruption of biosolid sludge removal from the Facility, to the extent of exceeding the Facility storage capacities or if CITY or Contractor is ordered to cease its operations in biosolid sludge disposal by the City or any Federal, State, or local agency, commission, board, or court, in which event this Agreement shall terminate and be null and void.

8. Destruction of Premises: In the event of total or partial destruction of the Facility by fire, windstorm, or other casualty, making it impossible for CITY to perform hereunder, the performance of this Agreement shall be suspended until such time as CITY restores the Facility and is able to perform.
10. Notices: Any notice given under this Agreement shall be in writing and sent (i) by registered or certified mail, postage prepaid, return receipt requested, or (ii) by any other commercial delivery service which delivers to the noticed destination and provides proof of delivery to the sender or (iii) by facsimile with acknowledgment received. All notices will be effective when first received at the following addresses:

If to CITY:	If to Contractor:
City of Storm Lake Wastewater Treatment Plant PO Box 1086 Storm Lake, IA 50588 712-732-8032	Bryce Widman 215 Phillips St. Storm Lake, IA 50588 712-299-3569

11. Changes: In the event that a change in the scope of services provided under this Agreement is made necessary due to a change in governmental regulations or reporting requirements, Contractor shall be entitled to request additional compensation. Any approved change in compensation shall be retroactive to the time of the change in scope and negotiated by the parties within (90) ninety days from the date of notification.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

City of Storm Lake, Iowa

Contractor

By: _____

By: Bryce Widman
Contractor

Name: _____

Date: 3/2/23

Date: _____

Received
11:40
3/3/23



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

**FORM OF PROPOSAL
PRESSED BIOSOLIDS HAULING SERVICES
CITY OF STORM LAKE
WASTEWATER TREATMENT PLANT**

UNIT PRICE PER TON HAULED \$ 16.25 / wet ton

Will you require City Staff to be present or assist in loading? () Yes ☒ No

If yes, please outline assistance necessary and why. None.

If no, what equipment will you be using to load. We will use a wheel loader and dump trucks to haul the sludge to field procured by Nutri-Jet systems

Please provide any additional comments that would describe your process of removing and hauling pressed Biosolids from the Wastewater Treatment Plant.

We will load, haul and spread the biosolids on fields procured by our firm. The bio solids will be applied in strict accordance to all IDNR/EPA regulations pertaining to the land application of biosolids.

Signature

[Signature]

Company Name

Nutri-Jet Systems Inc.

Company Mailing Address and Contact Phone Number

PO Box 398

Hudson, IA 50643 (319) 242-2548 Ryan Broadhead

1. City of Waterloo, IA (25) years
Soil testing/analysis and the transportation, storage of cake solids and agronomic application of biosolids, and all federal EPA and IDNR electronic annual reports.
2. City of Marshalltown, IA (30) years
Procurement of land and the transportation and agronomic application of biosolids.
3. City of Spencer, IA (25) years
Procurement of land, analysis, soil tests, and the transportation and agronomic application of biosolids and all IDNR and EPA annual reports.
4. City of Dubuque, IA (11) years
Soil testing/analysis and the transportation, storage of cake solids and agronomic application of biosolids, and all federal EPA and IDNR annual electronic reports

City of Marshalltown
Bob Ranson
1001 Woodland Ave.
Marshalltown, IA 50158
641-754-5709

City of Spencer
Duane Eternicka
400 10th. Ave. S.E.
Spencer, IA 51301
712-262-5584

City of Dubuque
Willie O Brien
795 Julien Dubuque Dr.
Dubuque, IA 52003
563-589-9175

City of Waterloo
Brian Bowman
1375 Easton Ave.
Waterloo, IA 50704
319-291-4553

NUTRI-JECT SYSTEMS, INC.

515 FIFTH STREET - PO BOX 398 - HUDSON, IOWA 50643

Phone: 319-988-4205 Fax: 319-988-3506

Turnkey Biosolids Management

Dredging, Digester Cleaning, Biosolids Hauling,

Land Application of Dry and Liquid Biosolids

High Pressure Water Blasting

QUOTATION FOR:	City of Storm Lake IA ATTN: Jorge Tarin PO Box 1086 Storm Lake, IA 50588 712-732-8032	DATE OF QUOTE:	3/3/2023
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WE ARE PLEASED TO SUBMIT A QUOTATION FOR THE FOLLOWING:

Land Application of Biosolids for Storm Lake, IA

We propose to provide all labor and equipment necessary to remove, transport, and land apply biosolids for the city of Storm Lake, IA. All of this work will be completed with no disruptions to the day to day operations of the plant and includes all testing required by the USEPA and the IDNR. This proposal includes all required biosolids analysis, soil tests, procurement of suitable farmland, agronomic calculations, and correspondence with the IDNR pertaining to the land application program.

Our cost is as follows:

- Transportation and land application of cake biosolids.....\$96.25 per wet ton

All applications of biosolids will be in strict accordance to the IDNR Chapter "67" rules and regulations pertaining to the land application of stabilized biosolids. Within 20 days after each application reports will be forwarded detailing acres spread, metal loadings, cumulative metals, agronomic loadings, and certifications that management and vector attraction methods have been met.

This quote is good for 30 days. Please let us know of your intentions so that we may schedule accordingly.

TERMS: 30 DAYS

DELIVERY: AS SCHEDULED

CUSTOMER'S NAME: City of Tiffin, IA

NUTRI-JECT SYSTEMS, INC.

By: _____

Date: _____

Ryan Broadhead, Project Manager

This quotation becomes a contract for delivery and payment of the merchandise listed above only when signed by the customer or one of its officers.

AGREEMENT FOR BIOSOLID SLUDGE DISPOSAL SERVICES

This Agreement for Biosolid Sludge Disposal Services ("Agreement") is entered into this 15th day
of
April 2023 by and between:

City of Storm Lake, Iowa, Wastewater Treatment Plant, 1234 630th St, PO Box 1086 Storm
Lake, IA 50588 (herein referred to as "CITY")

and

Contractor (hereinafter referred to as "Contractor")

WITNESSETH:

WHEREAS, CITY operates the City of Storm Lake, Iowa Wastewater Treatment Plant located at 1234 630th St. in Storm Lake, Iowa, hereinafter referred to as the "Facility", and desires to have biosolid sludge disposed of from the Facility;

WHEREAS, Contractor is in the business of providing disposal and application services for biosolid sludge and seeks to provide its services to CITY;

WHEREAS, the parties wish to enter into this Agreement for Biosolid Sludge Services that sets out the responsibilities of each party and will govern the relationship between the parties;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and for other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree:

A. GENERAL PROVISIONS

1. Purpose: CITY will provide biosolid sludge from the Facility. Contractor will load the Biosolid sludge at the Facility, transport it from the Facility, weigh each load at a CITY-designated commercial scale licensed by the State of Iowa that is located within the City limits, and dispose of the biosolid sludge as set forth in this Agreement. Contractor agrees to remove biosolid sludge from the facility at reasonable removal rates determined by the CITY to support the effective operations of the Facility. At the time the biosolid sludge is removed from the process or storage building at the Facility, Contractor will assume sole liability of the biosolid sludge and City will not have any further liability.
2. Term and Termination: This Agreement shall commence on April 15th, 2023 and continue through April 14th, 2025, provided that the Agreement may be extended for an additional 2 year period by written agreement of both parties, unless terminated earlier as provided herein. Notwithstanding any information to the contrary, CITY may terminate this Agreement at any time and for any reason upon thirty (30) days' written notice to Contractor.
3. Response Time: The Contractor shall provide CITY with a Biosolid Hauling Vehicle at Facility not more than 48 hours from the time the Contractor receives a notification call. The Contractor shall provide 24-hour, 7-day week telephone communication. Answering phone services are not permitted. If service is not provided with the specified time, CITY shall have

the right to make other arrangements with another Biosolid Sludge Hauling provider.

4. Compensation:

- a. Contractor shall be solely responsible for the cost of the transportation of the Biosolid sludge from the Facility.
- b. At the beginning of this contract (April 15th) CITY and Contractor agree to discuss the Facility's current biosolid sludge production and disposal volumes. Based on those discussions, if the parties agree to change any of the terms of this Agreement, the parties will document any changes in an Amendment to be signed by both parties.
- c. CITY will pay contractor \$8.00 per ton of Biosolid Sludge hauled out of Facility.
- d. Charges for Biosolid Sludge Hauling shall be forwarded monthly to City Hall for payment and such invoices shall identify each load hauled from Facility and shall be accompanied by scale tickets for each load listed on said invoice.
- e. CITY shall be responsible for payment of Biosolid Sludge Hauling Services. Payment will occur after the City Council has approved the list of invoices at their regular City Council Meeting. City Council Meetings are held on the 1st and 3rd Monday's of each month.
- f. Contractor shall reimburse CITY for any fees and/or charges associated with another Biosolid Sludge Hauler as a result of Contractor's inability to meet the maximum response time requirement covered in this agreement, Section A, subsection 3.

B. RESPONSIBILITY OF CITY

1. CITY shall perform its duties and responsibilities in a timely and workmanlike manner in order to carry out its obligations under this Agreement.
2. CITY and contractor shall coordinate the removal of the biosolid sludge from the Facility.
3. CITY shall provide proper notification via phone call for impending pickups required.
4. CITY shall bear the cost of weighing the loads of Biosolid sludge and shall provide Contractor with the means of charging the City for each weigh pursuant to this agreement.

C. RESPONSIBILITY OF CONTRACTOR

1. Contractor shall perform its duties in a timely and workmanlike manner and shall use its employees, equipment and materials to carry out its obligations in this Agreement.
2. Contractor shall provide CITY with an empty weight scale ticket at the beginning of each week of hauling for each Biosolid Sludge Hauling Truck used at Facility.
3. Contractor shall weigh each load of Biosolid sludge and, at the end of each month, provide CITY copies of weight tickets that support Contractor's invoice for biosolid sludge hauling during the month.
4. Contractor will comply with all applicable national, regional, state and local laws, rules, regulations, ordinances and orders relating to its obligations under this Agreement.

5. Contractor shall obtain, at its own expense, any necessary approvals or permits from all certification or governmental bodies necessary for it to provide any and all services hereunder.
6. Any records required by regulation or law pertaining to location, acreage, and rate of Biosolid sludge application shall be maintained by the contractor and made available to City upon request. Such records shall be accurate and complete.
7. Contractor will secure all stock pile sites and submit a list of qualified stock pile sites to CITY at the beginning of each contract year. Contractor will certify that all qualified stock pile sites meet all regulatory requirements; and are suitable for all weather delivery.
8. Contractor shall be responsible for maintaining the biosolid sludge loading area at the stockpile sites.
9. Contractor shall be responsible for securing all stockpiles and dispensation of biosolid from same.
10. Contractor shall be responsible for coordinating the application of the biosolid sludge on the farmland.
11. Contractor shall provide all equipment and personnel required to load, transport and apply the biosolid sludge from stockpile sites to the farmland.
12. Contractor shall apply the biosolid sludge to the farmland in accordance with all applicable national, regional, state and local laws, rules, regulations, ordinances and orders.
13. Contractor is responsible for all land application and site maintenance costs, which include but are not limited to: labor, utilities, chemicals, fuel, vehicles, materials, supplies, equipment and miscellaneous expenses.
14. Contractor is responsible for reading and understanding all land application requirements for Class II sewage sludge as set forth in IDNR Chapter 67 – Standards for the land application of sewage sludge, rule 567-67.8 Land application requirements for Class II sewage sludge, as it pertains to application to land.
15. Should any regulatory agency require documentation related to the services provided by Contractor hereunder, Contractor shall provide all such information to CITY, including but not limited to:
 - a. Applicator load sheets
 - b. Quantities applied & quantity applied per acre
 - c. Acres applied or covered with and location of the application
 - d. Drawing of area covered or applied
 - e. Dates of application to corresponding site
 - f. Names and addresses of farm owner or operators where biosolid sludge has been or/is applied
 - g. Other information as CITY deems necessary
15. Contractor shall be responsible for any penalties, fines, citations, and judgments issued to, or incurred by, the Contractor and the CITY as a result of any action or inaction by the Contractor relating to the Contractor's responsibilities as outlined herein.

D. OTHER PROVISIONS

1. Mediation: In the event a dispute arises between the parties as to the meaning or intent of any portion of this Agreement, the parties shall promptly meet and attempt to resolve the outstanding issue.

If, despite good faith efforts, the parties are unable to resolve a dispute or claim arising out of or relating to this Agreement or its breach, termination or validity, the parties will first seek to agree on a forum for non-binding mediation to be held in a mutually agreeable location.

Any mediation will be kept confidential and the existence of the proceeding and any element thereof (including but not limited to documents submitted or exchanged) will not be disclosed beyond the parties, their counsel and any person necessary to the conduct of the proceeding, except as may be lawfully required in judicial proceedings or as required by law.

2. Insurance: Contractor will obtain and maintain at its own expense the following minimum limits of insurance, with insurance companies acceptable to City (those rated A-VII or higher by A.M. Best's), to cover the risk of losses associated with this Agreement:

Coverage	Limits
(a) Worker's Compensation	Statutory
(b) Employer's Liability	\$500,000 each accident; \$500,000 each employee; \$500,000 policy limit
(c) Commercial General Liability including products and completed operations liability and contractual liability	\$1,000,000 each occurrence for property damage and bodily injury (PD/BI); \$1,000,000 general aggregate; \$1,000,000 products/completed operations aggregate
(d) Automobile Liability- Owned, hired and non-owned autos	\$1,000,000 Combined Single Limits- each accident
(e) Excess Liability	May be utilized to meet limits outlined above
(f) Property	Contractor shall be solely responsible for protecting and insuring all property owned or leased by Contractor during the Term of this Agreement
(g) Professional Liability	\$1,000,000 each claim/policy limit
(h) Pollution Liability	\$ 1,000,000 each claim/policy limit

Within thirty (30) days after execution of this Agreement, Contractor will provide CITY with a certificate evidencing that such coverages are in full force and effect. Contractor will name CITY as additional insured with respect to coverages (c) and (d) above. All policies will be primary and non-contributory, provide a full waiver of the insurer's right of subrogation in favor of CITY with respect to claims that are covered or should have been covered by valid and collectible insurance provided hereunder. Contractor will not voluntarily permit any cancellation, non-renewal or material change in the insurance coverage to be provided hereunder without thirty (30) days' written notice to CITY.

3. Governing Law: The law of the State of Iowa shall govern and control this Agreement, all performance, and any disputes arising under this Agreement or otherwise arising out of or relating to this Agreement, without regard to its conflicts of laws principles. Any legal or equitable action(s) arising out of, or relating to, this Agreement or the breach thereof shall be brought in state or federal courts of competent jurisdiction in the State of Iowa.
4. Hold Harmless and Indemnification: Contractor agrees to and shall defend, indemnify and hold harmless the CITY, its elected and appointed officers and employees from any liability for claims or damages including without limitation, for personal injury or property which is caused by or arises from any negligent act or willful misconduct of Contractor, for the failure of Contractor to comply with any applicable Federal, State or local laws and regulations, or Contractor's breach or failure to comply with any of its obligations and covenants set out in this Agreement.

CITY agrees to and shall defend, indemnify and hold harmless Contractor from liability for claims or damages for personal injury or property damage which is caused by any negligent act or willful misconduct of CITY or its breach or failure to comply with any of its obligations and covenants set out in this Agreement.

5. Contractor Not an Employee: The performance by Contractor of its duties and obligations under this Agreement will be that of an independent contractor and nothing contained in this Agreement will create or imply an agency, joint venture or partnership between Contractor and the CITY. Neither the employees of Contractor nor those of its subcontractors will be deemed to be employees or agents of CITY or the City. Unless expressly set forth in this Agreement, none of Contractor, its employees or its subcontractors may enter into contracts on behalf of, bind, or otherwise obligate the CITY in any manner whatsoever.
6. Assignment of Agreement: This Agreement is solely with Contractor, based on its reputation and past performance and, as such, no assignment, transfer, conveyance, or subcontracting of this Agreement, in whole or in part, shall be permitted without written consent to the Contractor by CITY. Any attempt to sell, assign, transfer, or convey this Agreement without the written consent of CITY shall be a breach of this Agreement by Contractor.
7. Breach of Contract and Remedies: The essence of this Agreement is the timely removal and application of biosolid sludge from the Facility in the manner provided by Federal, State, and local laws, rules, regulations, statutes, and ordinances, as now exists or as they may be promulgated in the future. Any failure of the Contractor to perform its duties and responsibilities under any clause of this Agreement shall constitute a breach of contract and CITY may, at its discretion, proceed with any legal or equitable remedy available to it.

In addition to the foregoing remedies, CITY may elect to terminate this Agreement upon ten (10) days written notice for breach of any of its terms by Contractor, unless the defect or non-performance is remedied by Contractor within ten (10) days of such notice.

However, CITY may, under any circumstances, immediately terminate this Agreement without notice, upon violation of any provisions of this Agreement by Contractor, resulting in a disruption of biosolid sludge removal from the Facility, to the extent of exceeding the Facility storage capacities or if CITY or Contractor is ordered to cease its operations in biosolid sludge disposal by the City or any Federal, State, or local agency, commission, board, or court, in which event this Agreement shall terminate and be null and void.

8. Destruction of Premises: In the event of total or partial destruction of the Facility by fire, windstorm, or other casualty, making it impossible for CITY to perform hereunder, the performance of this Agreement shall be suspended until such time as CITY restores the Facility and is able to perform.
10. Notices: Any notice given under this Agreement shall be in writing and sent (i) by registered or certified mail, postage prepaid, return receipt requested, or (ii) by any other commercial delivery service which delivers to the noticed destination and provides proof of delivery to the sender or (iii) by facsimile with acknowledgment received. All notices will be effective when first received at the following addresses:

If to CITY:	If to Contractor:
City of Storm Lake Wastewater Treatment Plant PO Box 1086 Storm Lake, IA 50588 712-732-8032	Bryce Widman 215 Phillips Street Storm Lake, IA 50588 712-299-3569

11. Changes: In the event that a change in the scope of services provided under this Agreement is made necessary due to a change in governmental regulations or reporting requirements, Contractor shall be entitled to request additional compensation. Any approved change in compensation shall be retroactive to the time of the change in scope and negotiated by the parties within (90) ninety days from the date of notification.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

City of Storm Lake, Iowa

Contractor

By: _____
Mayor

By: Bryce Widman
Contractor

Name: _____

Name: Bryce Widman

Date: _____

Date: 3/13/23

Staff Summary

03/20/2023

Agenda Item # F.7.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Matt Beckman Public Works Director

SUBJECT: **Resolution No. 47-R-2022-2023 Approving Close Out for the Memorial Park Lift Station Improvement Project.**

BACKGROUND: This Resolution would be to close out the Memorial Park Lift Station Improvement Project. This project started with planning in 2019, construction started in early 2020 and completed in 2023. All items on punch list have been completed.

FISCAL IMPACT: The close out retainage for the project is \$ 106,428.25

RECOMMENDATION: Approve Resolution 47-R-2022-2023 Approving Close Out for the Memorial Park Lift Station Improvement Project.

ATTACHMENTS:

- [22797 Pay Application #7 - \(2-24-23\).pdf](#)
- [SRF Works in Operation \(Engineer Signed\).pdf](#)
- [Resolution No. 47-R-2022-2023 Memorial Lift Station Close Out__3-20-2023.pdf](#)

Contractor's Application for Payment No. 7

Approved Change Order Summary:			
No.	Date Approved	Additions	Deductions
1	6/7/2021	\$23,612.00	
2	9/6/2021	\$2,116.00	
3	11/24/2021	\$15,794.00	
4	2/7/2022	\$11,043.00	
TOTALS		\$52,565.00	\$0.00
NET CHANGE BY CHANGE ORDERS			\$52,565.00

1. ORIGINAL CONTRACT PRICE.....	\$	2,076,000.00
2. Net change by Change Orders.....	\$	52,565.00
3. Current Contract Price (Line 1 + 2).....	\$	2,128,565.00
4. TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate).....	\$	2,128,565.00
5. RETAINAGE:		
a. 5% X \$0.00 Work Completed.....	\$	0.00
b. 5% X \$0.00 Stored Material.....	\$	0.00
c. Less Total Retainage Released Early.....	\$	0.00
d. Total Retainage (Line 5a + Line 5b - Line 5c).....	\$	0.00
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c).....	\$	2,128,565.00
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application).....	\$	2,022,136.75
8. AMOUNT DUE THIS APPLICATION.....	\$	106,428.25
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above).....	\$	0.00

The undersigned Contractor certifies that to the best of its knowledge: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:  Date: 12/5/22

is approved by: _____ (Owner) _____ (Date)

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Memorial Lift Station Improvements - Storm Lake, IA

Gridor Constr., Inc.

Item No.	B Description of Work	C Scheduled Value	D	E Work Completed		F Material Presently Stored (Not in D or E)	G Total Completed and Stored To Date (D+E+F)	H Percent Completed (G/C)	I Balance To Finish (C-G)	
				From Previous Application	This Period					
					Percent					Amount
Division 1										
1.001	Mobilization	\$100,000	\$100,000				\$100,000	100.0%	\$0	
1.002	Bonds & Insurance	\$30,000	\$30,000				\$30,000	100.0%	\$0	
1.003	Record Drawings	\$1,000	\$1,000				\$1,000	100.0%	\$0	
Subtotal for	Division 1	\$131,000	\$131,000				\$131,000	100.0%	\$0	
							check	\$131,000		
Division 2										
2.001	Demolition	\$50,000	\$50,000				\$50,000	100.0%	\$0	
Subtotal for	Division 2	\$50,000	\$50,000		\$0	\$0	\$50,000	100.00%	\$0	
							check	Check	\$50,000	
Division 3										
3.001	Reinforced Cast-in-Place Concrete	\$60,000	\$60,000				\$60,000	100.0%	\$0	
3.002	Reinforcing Steel Material	\$15,000	\$15,000				\$15,000	100.0%	\$0	
3.003	Reinforcing Steel Installed	\$15,000	\$15,000				\$15,000	100.0%	\$0	
3.004	Concrete Repair	\$20,000	\$20,000				\$20,000	100.0%	\$0	
Subtotal for	Division 3	\$110,000	\$110,000		\$0	\$0	\$110,000	100.00%	\$0	
							check	Check	\$110,000	
Division 4										
4.001	Masonry	\$18,000	\$18,000				\$18,000	100.0%	\$0	
Subtotal for	Division 4	\$18,000	\$18,000.00		\$0	\$0	\$18,000	100.00%	\$0	
							check	Check		
Division 5										
5.001	Misc Metals	\$100,000	\$100,000				\$100,000	100.0%	\$0	
5.002	Light Guage Steel Framing	\$6,000	\$6,000				\$6,000	100.0%	\$0	
Subtotal for	Division 5	\$106,000	\$106,000		\$0	\$0	\$106,000	100.00%	\$0	
							check	Check		
Division 6										
6.001	Rough Carpentry	\$5,000	\$5,000				\$5,000	100.0%	\$0	

Memorial Lift Station Improvements - Storm Lake, IA

Gridor Constr., Inc.

Item No.	B Description of Work	C Scheduled Value	D		E		F Material Presently Stored (Not in D or E)	G Total Completed and Stored To Date (D+E+F)	H Percent Completed (G/C)	I Balance To Finish (C-G)
			From Previous Application	This Period						
				Percent	Amount					
6.002	Fiberglass Grating	\$21,000	\$21,000				\$21,000	100.0%	\$0	
Subtotal for	Division 6	\$26,000	\$26,000.00			\$0	\$0	\$26,000	100.00%	\$0
checkCheck										
Division 7										
7.001	Spray Applied Thermal & Acoustical Insulation	\$41,000	\$41,000				\$41,000	100.0%	\$0	
7.002	Roofing	\$20,000	\$20,000				\$20,000	100.0%	\$0	
7.003	Joint Sealants	\$7,000	\$7,000				\$7,000	100.0%	\$0	
Subtotal for	Division 7	\$68,000	\$68,000.00			\$0	\$0	\$68,000	100.00%	\$0
checkCheck										
Division 8										
8.001	Hollow Metal Door, Frame & Hardware	\$8,000	\$8,000				\$8,000	100.0%	\$0	
8.002	Floor Access Hatch	\$21,000	\$21,000				\$21,000	100.0%	\$0	
8.003	Sectional Steel Overhead Doors	\$3,000	\$3,000				\$3,000	100.0%	\$0	
Subtotal for	Division 8	\$32,000	\$32,000			\$0	\$0	\$32,000	100.00%	\$0
checkCheck\$32,000										
Division 9										
9.001	Gypsum Board Assemblies	\$9,000	\$9,000				\$9,000	100.0%	\$0	
9.002	Resilient Flooring	\$3,000	\$3,000				\$3,000	100.0%	\$0	
9.003	Coatings	\$265,000	\$265,000				\$265,000	100.0%	\$0	
Subtotal for	Division 9	\$277,000	\$277,000.00			\$0	\$0	\$277,000	100.00%	\$0
checkCheck										
Division 22 & 23										
22.001	Plumbing & HVAC	\$242,000	\$242,000				\$242,000	100.0%	\$0	
Subtotal for	Division 22 & 23	\$242,000	\$242,000.00			\$0	\$0	\$242,000	100.00%	\$0
checkCheck\$242,000										
Division 26										
26.001	Electrical & Supervisory Controls	\$460,000	\$460,000				\$460,000	100.0%	\$0	
Subtotal for	Division 26	\$460,000	\$460,000.00			\$0	\$0	\$460,000	100.00%	\$0

Memorial Lift Station Improvements - Storm Lake, IA

Gridor Constr., Inc.

Item No.	B Description of Work	C Scheduled Value	D	E		F Material Presently Stored (Not in D or E)	G Total Completed and Stored To Date (D+E+F)	H Percent Completed (G/C)	I Balance To Finish (C-G)
			From Previous Application	Work Completed This Period					
				Percent	Amount				
			check			Check	\$460,000		
Division 31									
31.001	Site Grading	\$5,000	\$5,000				\$5,000	100.0%	\$0
31.002	Excavation & Fill	\$35,000	\$35,000				\$35,000	100.0%	\$0
31.003	Bypassing	\$50,000	\$50,000				\$50,000	100.0%	\$0
31.004	Storm Water Management & Erosion Control	\$7,000	\$7,000				\$7,000	100.0%	\$0
Subtotal for	Division 31	\$97,000	\$97,000.00		\$0	\$0	\$97,000	100.00%	\$0
			check			Check	\$97,000		
Division 33									
33.001	Valve Vault	\$13,000	\$13,000				\$13,000	100.0%	\$0
33.002	Exterior Piping	\$5,000	\$5,000				\$5,000	100.0%	\$0
Subtotal for	Division 33	\$18,000	\$18,000.00		\$0	\$0	\$18,000	100.00%	\$0
			check			Check	\$18,000		
Division 40									
40.001	Process Piping & Valves	\$210,000	\$210,000				\$210,000	100.0%	\$0
40.002	Process Piping Misc	\$15,000	\$15,000				\$15,000	100.0%	\$0
40.003	Hydrastop	\$61,000	\$61,000				\$61,000	100.0%	\$0
Subtotal for	Division 40	\$286,000	\$286,000		\$0	\$0	\$286,000	100.00%	\$0
			check			Check	\$286,000		
Division 45									
43.001	Drypit Submersible Pumps	\$155,000	\$155,000				\$155,000	100.0%	\$0
Subtotal for	Dvision 45	\$155,000	\$155,000.00		\$0	\$0	\$155,000	100.00%	\$0

Memorial Lift Station Improvements - Storm Lake, IA

Gridor Constr., Inc.

Item No.	B Description of Work	C Scheduled Value	D		E		F Material Presently Stored (Not in D or E)	G Total Completed and Stored To Date (D+E+F)	H Percent Completed (G/C)	I Balance To Finish (C-G)
			From Previous Application	This Period						
				Percent	Amount					
Change Orders										
CO #1	Misc Changes (Slide Gate & Hatches)	\$23,612	\$23,612				\$23,612	100.0%	\$0	
CO #2	Insulation & Transformer	\$2,116	\$2,116				\$2,116	100.0%	\$0	
CO #3	Crack Seal & Pipe Supports	\$15,794	\$15,794				\$15,794	100.0%	\$0	
CO #4	Sludge Removal & Level Controls	\$11,043	\$11,043				\$11,043	100.0%	\$0	
Subtotal for	Change Orders	\$52,565	\$52,565.00		\$0	\$0	\$52,565	100.00%	\$0	

Grand Total	\$2,128,565	\$2,128,565	\$0	\$0	2,128,565	100.00%	\$0
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Memorial Lift Station Improvements

Stored Materials & Equipment Summary

Gridor Constr., Inc.
3990 27th Street SE
Buffalo, MN 55313



Pay Req. No. 7
Period Ending: 12/5/2022

Pay Item No.	Pay Application Work Item	Scheduled Value	Previous Stored To Date	New Storage This Month	Vendor/Description for New Storage	Total Stored to Date	Previous Installed to date	Installed this month	Total Installed to date	Amount Remaining in Storage
Grand Totals		\$0								
1.001	Mobilization									
1.002	Bonds & Insurance									
1.003	Record Drawings									
Subtotal for	Division 1	\$0								

Division 2										
2.001	Demolition									
Subtotal for	Division 2	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0

Division 3										
3.001	Reinforced Cast-in-Place Concrete									
3.002	Reinforcing Steel Material		\$7,645		Hamis Rebar	\$7,645	\$7,645		\$7,645	
3.003	Reinforcing Steel Installed									
3.004	Concrete Repair									
Subtotal for	Division 3	\$0	\$7,645	\$0		\$7,645	\$7,645	\$0	\$7,645	\$0

Division 4										
4.001	Masonry									
Subtotal for	Division 4	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0

Division 5										
5.001	Misc Metals		\$68,075		Breuer Metal	\$68,075	\$68,075		\$68,075	
5.002	Light Gauge Steel Framing									
Subtotal for	Division 5	\$0	\$68,075	\$0		\$68,075	\$68,075	\$0	\$68,075	\$0

Division 6										
6.001	Rough Carpentry									
6.002	Fiberglass Grating		\$14,500		American Grating	\$14,500	\$14,500		\$14,500	
Subtotal for	Division 6	\$0	\$14,500	\$0		\$14,500	\$14,500	\$0	\$14,500	\$0

Division 7										
7.001	Spray Applied Thermal & Acoustical Insulation									
7.002	Roofing									
7.003	Joint Sealants									
Subtotal for	Division 7	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0

Division 8										
8.001	Hollow Metal Door, Frame & Hardware									
8.002	Floor Access Hatch		\$17,379		Nystrom	\$17,379	\$17,379		\$17,379	
8.003	Sectional Steel Overhead Doors									
Subtotal for	Division 8	\$0	\$17,379	\$0		\$17,379	\$17,379	\$0	\$17,379	\$0

Division 9										
9.001	Gypsum Board Assemblies									
9.002	Resilient Flooring									

Memorial Lift Station Improvements

Stored Materials & Equipment Summary

Grider Constr., Inc.
3980 27th Street SE
Buffalo, MN 55313



Pay Req. No. 7
Period Ending: 12/5/2022

Pay Item No.	Pay Application Work Item	Scheduled Value	Previous Stored To Date	New Storage This Month	Vendor/Description for New Storage	Total Stored to Date	Previous Installed to date	Installed this month	Total Installed to date	Amount Remaining in Storage
9.003	Coatings									
Subtotal for	Division 9	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0
Division 22 & 23										
22.001	Plumbing & HVAC									
Subtotal for	Division 22 & 23	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0
Division 26										
7.001	Electrical & Supervisory Controls									
Subtotal for	Division 26	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0
Division 31										
31.001	Site Grading									
31.002	Excavation & Fill									
31.003	Bypassing									
31.004	Storm Water Management & Erosion Control									
Subtotal for	Division 31	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0
Division 33										
33.001	Valve Vault									
33.002	Exterior Piping									
Subtotal for	Division 33	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0
Division 40										
40.001	Process Piping & Valves		\$112,560		Core & Main	\$112,560	\$112,560		\$112,560	
40.002	Process Piping Hangers & Supports									
40.003	Hydrastop									
Subtotal for	Division 40	\$0	\$112,560	\$0		\$112,560	\$112,560	\$0	\$112,560	\$0
Division 45										
43.001	Drypit Submersible Pumps		\$123,500		Electric Pump	\$123,500	\$123,500		\$123,500	
Subtotal for	Division 45	\$0	\$123,500	\$0		\$123,500	\$123,500	\$0	\$123,500	\$0
Grand Totals										
		\$0	\$343,659	\$0		\$343,659	\$343,659	\$0	\$343,659	\$0

Written Notice of Works In Operation, Loan Receipt Acceptance and Certification of Project Completion

Loan Recipient:	City of Storm Lake
SRF Number(s):	CS-1920960-01
DNR Construction Permit Number(s):	2020-0429S

Project Description:

Replacement of two 60 HP dry pit centrifugal pumps with two new 60 HP dry pit centrifugal pumps with each pump of 3760 GPM and 42' TDH, replacement of 14' plug valves, 12' check valves and 12' plug valves and related piping. A new valve vault and new isolation valve. Replacement of the electrical MCC, variable frequency drives, controls, lighting and related work, replacement and relocation of HVAC ventilation and heating system; structural rehabilitation, roof replacement, and access modifications. All related appurtenances necessary to complete the project in accordance with the approved plans and specifications.

WRITTEN NOTICE OF WORKS IN OPERATION

This is to provide written notification of the date that the referenced project funded with State Revolving Fund loan assistance was placed in useful operation or was capable of being placed in useful service.

Date of Initiation of Operation:	4/1/2022
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Project Acceptance

The above public improvements project has been completed and accepted by the authorized representative of the Loan Recipient below.

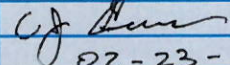
Loan Recipient

Representative:	
Title:	
Signature:	
Date:	

Certification of Project Completion

In accordance with 567 IAC 64.2(11) or 567 IAC 43.4, I hereby certify that the project approved by the above permit was completed in accordance with approved plans and specifications.

Licensed Professional Consulting Engineer

Firm:	ISG
Project Officer:	CJ Gross
Signature:	
Date:	02-23-2023

RESOLUTION NO. 47-R-2022-2023

**RESOLUTION APPROVING CLOSE OUT FOR THE
MEMORIAL LIFT STATION PROJECT**

WHEREAS, the plans, specifications, form of contract, estimate of cost, and award bid were filed with the CITY for the construction of certain public improvements described in general as the Memorial Lift Station Project; and

WHEREAS, notice of hearing on plans, specifications, form of contract and estimate of cost for said public improvements was published as required by law; and

WHEREAS, a contract in the amount of \$2,076,000.00 was awarded to Gridor Construction, Inc. for the project; and

WHEREAS, Change Order No. 1, approved on June 7, 2021, increased the project cost in the amount of \$23,612.00 for a total contract amount of \$2,099,612.00; and

WHEREAS, Change Order No. 2, approved on September 7, 2021, increased the project cost in the amount of \$2,116.00 for a total contract amount of \$2,101,728.00; and

WHEREAS, Change Order No. 3, approved on December 6, 2021, increased the project cost in the amount of \$15,794.00 for a total contract amount of \$2,117,522.00;

WHEREAS, Change Order No. 4, approved on February 7, 2022, increased the project cost in the amount of \$11,043.00 to the contract for a total contact amount of \$2,128,565.00 and set the Substantial Completion date as April 1, 2022, and the new Final Completion date as May 2, 2022.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA;

Section 1. To approve final close out of the Memorial Lift Station Project and final payment in the amount of \$106,428.25.

Section2. That the Mayor and Clerk are hereby directed to execute this Close Out Resolution.

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Staff Summary

03/20/2023

Agenda Item # F.8.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Matt Beckman Public Works Director

SUBJECT: **Resolution No. 48-R-2022-2023 To Set a Date for a Public Hearing for Council Meeting of May 1, 2023, to Approve Plans, Specifications, Form of Contract, And Engineer's Estimate of Cost and Set Date For Bid Letting for New Production Well 21 Project.**

BACKGROUND: This agenda item will set a Public Hearing to approve plans, specifications, form of contract, and engineer's Estimate of cost.

The Public Hearing will be Monday, May 1st, 2023 at 5:00 P.M. in City Council Chambers.

FISCAL IMPACT: The Fiscal impact to set the public hearing is the cost of publication.

RECOMMENDATION: Approve Resolution No. 48-R-2022-2023 to Set the public hearing for the May 1st, 2023 City Council meeting and to set a date for bid letting.

ATTACHMENTS:

- [03202023 - Well 21 Specs 03-03-2023.pdf](#)
- [03202023 - Well 21 Plans 2023-03-03.pdf](#)
- [03202023 - Well 21 Cost Estimate 2023-03-16.pdf](#)
- [Resolution No. 48-R-2022-2023 Resolution Adopting Plans, Specs, Form Of Contract, Estimate of Cost Well 21 Project.pdf](#)

New Production Well No. 21

Storm Lake, Iowa

Project Manual For: City of Storm Lake

Date: March 2023

Project No.: 22-26698

**For Review Only
Not for Construction**



Architecture
Engineering
Environmental
Planning

ISGInc.com

OWNER:
City of Storm Lake
620 Erie Street
Storm Lake, Iowa 50588

FROM:
ISG
1725 North Lake Avenue
Storm Lake, Iowa 50588
712.732.7745

CERTIFICATIONS PAGE
FOR
CITY OF STORM LAKE NEW PRODUCTION WELL NO. 21
CITY OF STORM LAKE
STORM LAKE, IA
MARCH 2023
PROJECT NO. 22-26698

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa. _____ Jason M. Burns <u>03/03/2023</u> Date License Number: 26658 My License Renewal Date is 12/31/2024 Pages or sheets covered by this seal: <u>S Sheets</u>
---	---

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa. _____ Matthew Larsen <u>03/03/2023</u> Date License Number: 24003 My License Renewal Date is 12/31/2024 Pages or sheets covered by this seal: <u>M Sheets</u>
---	---

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.	
	_____ Royal D. Streed	_____ 03/03/2023 Date
	License Number: 26593	
	My License Renewal Date is 12/31/2024	
	Pages or sheets covered by this seal: <u>E Sheets</u>	

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.	
	_____ Amanda L. Goodenow	_____ 03/03/2023 Date
	License Number: 25734	
	My License Renewal Date is 12/31/2024	
	Pages or sheets covered by this seal: <u>G, C, & P Sheets</u>	

ISG
1725 N LAKE AVE
STORM LAKE, IA 50588

END OF CERTIFICATION PAGE

**PROJECT MANUAL
FOR
CITY OF STORM LAKE NEW PRODUCTION WELL NO. 21**

**CITY OF STORM LAKE, IA
MARCH 2023
PROJECT NO. 22-26698
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1.01 DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

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- C. C-200 Instructions to Bidders
- D. C-410 Bid Form
- E. C-430 Bid Bond
- F. Bidder Status Form
- G. C-510 Notice of Award
- H. C-520 Form of Agreement
- I. C-550 Notice to Proceed
- J. C-610 Performance Bond
- K. C-615 Payment Bond
- L. C-620 Contractor's Application for Payment
- M. C-625 Certificate of Substantial Completion
- N. C-626 Notice of Acceptability of Work
- O. C-700 Standard General Conditions
- P. C-800 Supplementary Conditions
- Q. C-941 Change Order

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- A. 07 2100 – Thermal Insulation

DIVISION 13 – SPECIAL CONSTRUCTION

- A. 13 3000 Prefabricated Building

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- B. 22 1005 – Plumbing Piping
- C. 22 1006 – Plumbing Piping Specialties

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- B. 23 3700 – Air Outlets and Inlets
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- A. 26 0010 – Basic Electrical Requirements
- B. 26 0519 – Low Voltage Electrical Power Conductors and Cables
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- F. 26 0533.16 – Boxes for Electrical Systems
- G. 26 0553 – Identification for Electrical Systems
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- I. 26 0583 – Wiring Connections
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- A. 33 1113 – Water Supply Wells

DIVISION 46 – WATER AND WASTEWATER EQUIPMENT

- A. 46 0913 – Monitoring and Control Instrumentation

DETAILS

2.01 DETAILS

- A. 8030.102 Work off of Pavement with Minor Encroachment onto Traveled way

ATTACHMENTS

2.02 ATTACHMENTS

- A. Geotechnical Report
- B. Test Well Log
- C. Plan Set (Separate Attachment)

NOTE: Where there may be a variation between the plans, procurement and contracting requirements, specifications, and the referenced standards, the order of procedure shall be:

1. Detailed Plans
2. Quantity and Estimate Reference
3. Procurement and Contracting Requirements, and Specifications
4. Recommended Standards for Water Works (10 States Standards)
5. Statewide Urban Design and Specifications (SUDAS), 2023

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Division 00: Procurement and Contracting Requirements

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PROPOSED PLANS AND SPECIFICATIONS, FORM OF
CONTRACT AND ESTIMATE OF COST FOR THE CONSTRUCTION OF THE CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21 PROJECT

Notice is hereby given that the City Council of Storm Lake, Iowa, will meet at 620 Erie Street, Storm Lake, Iowa 50588 on the **1st day of May, 2023, at 5:00p.m.**, at which time and place a hearing will be held on the proposed plans and specifications, form of contract and estimate of cost for City of Storm Lake New Production Well No. 21, in and for Storm Lake, Iowa. Any interested person may appear at said hearing and file objections to the proposed plans, specifications, form of contract and estimated costs for said improvements.

The project is located in Storm Lake, Iowa on the North end of Frank Starr Park.

The general description of types of construction and their limits for which bids will be received shall be as follows:

Base Bid

Includes construction of prefabricated well house, controls, electrical, generator, process piping, E production well, water main (open cut and jack & bore), concrete driveway, retaining wall, plants, seeding, grading, and other miscellaneous work.

Alternate A

Includes PVC well casing for base bid well.

Alternate B

Includes stainless steel casing for base bid well.

Project shall be awarded to Base Bid + Alternate A or Base Bid + Alternate B.

Plans and specifications governing the construction of the proposed improvements have been prepared by the Engineer. These plans and specifications, and the proceedings of the City referring to and defining said improvements, are hereby made a part of this Notice and the proposed contract by reference, and the proposed contract shall be executed to comply therewith.

Published upon order of the Storm Lake City Council in Storm Lake, Iowa.

City of Storm Lake

BY /s/ Mike Porsch
Mayor

ATTEST:

BY /s/ Keri Navratil
City Manager

NOTICE TO BIDDERS

FOR THE CONSTRUCTION OF CITY OF STORM LAKE NEW PRODUCTION WELL NO. 21 FOR STORM LAKE, IOWA

Sealed bids will be received by the City of Storm Lake, Iowa at 620 Erie Street, Storm Lake, Iowa before **10:00 a.m.** on the **27th day of April, 2023**, for the construction of the New Production Well No. 21 project in Storm Lake, Iowa. At the above time and place all bids received by the City will be opened and publicly read with the results being reported to the Council at their meeting on **May 1st, 2023, at 5:00 p.m.**, at 620 Erie Street, Storm Lake, Iowa, at which time and place the City may take action on the proposals submitted or at such time as may then be fixed.

The general description of types of construction and their limits for which bids will be received shall be as follows:

Base Bid

Includes construction of prefabricated well house, controls, electrical, generator, process piping, E production well, water main (open cut and jack & bore), concrete driveway, retaining wall, plants, seeding, grading, and other miscellaneous work.

Alternate A

Includes PVC well casing for base bid well.

Alternate B

Includes stainless steel casing for base bid well.

Project shall be awarded to Base Bid + Alternate A or Base Bid + Alternate B.

A more detailed description of the kinds and approximate quantities of materials and types of construction for which bids will be received are set forth in the Bid Form included in the specifications prepared by I+S Group, Inc. (ISG) of Storm Lake, Iowa, which, together with the proposed form of contract, have heretofore been approved by the City, and are now on file for public examination in the office of the City Clerk and are by this reference made part hereof as though fully set out and incorporated herein.

All proposals shall be made on official proposal forms furnished by the Engineer and must be enclosed in a separate sealed envelope and plainly identified and addressed to the City of Storm Lake.

Each proposal shall be accompanied by a cashier's check or certified check drawn on a state-chartered or federally chartered bank, or a certified share draft drawn on a state-chartered or federally chartered credit union, or a bidder's bond with corporate surety satisfactory to the Board in an amount equal to Ten percent (10%) of the total amount of the proposal. If bid bond is submitted, it must be in the form provided in these specifications. Said check or share draft may be cashed, or the bid bond forfeited as liquidated damages in the event the successful bidder fails or refuses to enter into a contract within ten (10) days of issuance of a Notice of Award and post bond satisfactory to the Board insuring the faithful fulfillment of the contract and maintenance of said improvements as required by law. The bid bond should be executed by a corporation authorized to contract as a surety in the State of Iowa, and must not contain any conditions either in the body or as an endorsement thereon.

The successful bidder will be required to furnish a corporate surety bond in an amount equal to one hundred per cent (100%) of the contract price, said bond to be issued by a responsible surety approved by the City, and shall guarantee the faithful performance of the contract and the terms and conditions therein contained, the payment for materials used in the project and the maintenance of said improvements in good repair for not less than **two (2) year** from the time of acceptance of said improvements by the City.

The City reserves the right to defer acceptance of any proposal for a period not to exceed sixty (60) calendar days from the date of receipt of bids. The City reserves the right to reject any or all bids and to waive informalities.

Payment of the cost of said project will be made from such cash funds of the City may be legally used for said purpose at the discretion of the City, including but not limited to, the net revenue of the water department, the proceeds from the sale of Revenue or General Obligation Bonds, and/or the proceeds from the sale of warrants, as authorized by Section 384.57 of the Code of Iowa, made payable from any or all of the above-mentioned sources.

The Contractor will be paid ninety-five per cent (95%) of the Engineer's estimate of the value of acceptable work completed at the end of the preceding month. Final payment will be made not less than thirty-one (31) days after completion of the work and acceptance by the City, subject to the conditions and in accordance with the provisions of Chapter 573 of the Code of Iowa.

No such final payment will be due until the Contractor certifies to the City that the materials, labor, and services involved in the final estimate have been paid for in accordance with the requirements stated in the specifications. The City of Storm Lake is exempt from paying Sales and Use Tax and will supply Contractor with an "Iowa Sales Tax Exemption Certificate" and an authorization letter to allow the Contractor to buy equipment and material for the project tax free.

The work on this project shall commence within ten (10) days after receipt by the contractor of a written notice to proceed. The work shall be substantially completed by **December 31, 2023**, subject to any changes in the contract period as provided for in these specifications.

Liquidated damages in the amount of **\$500** per calendar day will be assessed for each day that the work shall remain uncompleted after the **above referenced completion date** with due allowance for extensions of the contract period due to conditions beyond control of the Contractor.

By virtue of statutory authority, a preference will be given to products and provisions grown and coal produced within the State of Iowa.

In accordance with Iowa statutes, a resident bidder shall be allowed a preference as against a nonresident bidder from a state or foreign country if that state or foreign country gives or requires any preference to bidders from that state or foreign country, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

Plans and specifications governing the construction of the proposed improvements have been prepared by the Engineer. These plans and specifications, and the proceedings of the City referring to and defining said improvements, are hereby made a part of this Notice and the proposed contract by reference, and the proposed contract shall be executed to comply therewith.

Copies of said plans and specifications and form of contract are now on file in the office of City Clerk of Storm Lake, IA, for examination by bidders. Copies may be obtained from ISG, 1725 North Lake Avenue, Storm Lake, IA 50588, (712) 732-7745 upon deposit of one hundred dollars (\$100.00) which shall be refunded upon return of the plans and specifications within fourteen days after award of the project. If the plans and specifications are not returned within fourteen days after award of the project and in a reusable condition, the deposit shall be forfeited. Plans and specifications may also be obtained by download from the ISG website at www.isginc.com.

Any bidder or equipment supplier whose firm or affiliate is listed in the GSA publication "List of Parties Excluded from Federal Procurement and Non-procurement Programs" will be prohibited from the bidding process. Anyone submitting a bid who is listed in this publication will be determined to be a non-responsive bidder in accordance with 40 CFR Part 31.

Published upon order of the City of Storm Lake, Iowa.

City of Storm Lake

BY /s/ Mike Porsch
Mayor

ATTEST:

BY /s/ Keri Navratil
City Manager

INSTRUCTIONS TO BIDDERS

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ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued and the bidding procedures are to be administered as outlined in the Advertisement for Bids for Construction Contracts.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within 14 days after award of the project.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within five (5) days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:
- A. Evidence of Bidder's authority to do business in the state where the Project is located.
- B. Bidder's state or other contractor license number, if applicable.
- C. Subcontractor and Supplier qualification information; coordinate with provisions of Article 12 of these Instructions, "Subcontractors, Suppliers, and Others."
- D. Other required information regarding qualifications
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

- 4.01 *Site and Other Areas*
- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any

additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:
 - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
 - b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
 - c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

- A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- D. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;
- E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations

obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of [10%] percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in

the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.

- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall comply with the requirements of Paragraphs 7.04 and 7.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for the Work.
- If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.
- 13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.04 A Bid by an individual shall show the Bidder's name and official address.

- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.
- 13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.02 *Allowances*

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.
- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with

the notation "BID ENCLOSED." A mailed Bid shall be addressed to [City Clerk City of Storm Lake, 620 Erie Street, Storm Lake, Iowa 50588].

- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 19.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

- B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 20 – BONDS AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 – SALES AND USE TAXES

- 22.01 Owner is exempt from Iowa state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid. Refer to Paragraph SC-7.09 of the Supplementary Conditions for additional information.

ARTICLE 23 – CONTRACTS TO BE ASSIGNED (NOT USED)

BID FORM

CITY OF STORM LAKE NEW PRODUCTION WELL NO. 21

Storm Lake, Iowa

Project No. 22-26698

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

***City of Storm Lake
Attn: City Clerk
620 Erie Street
Storm Lake, Iowa 50588***

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and

observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):
See Attached Exhibit A
- 5.02 Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.
- 5.03 Bids may be submitted for to Base Bid + Alternate A or Base Bid + Alternate B (any combination is acceptable).
- 5.04 Contract will be awarded to the lowest responsible bidder.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete on or before December 31, 2023, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within thirty-one (31) calendar days after the completion of the work and acceptance by the owner.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
 - A. Required Bid security;
 - B. Required Bidder Status Form.
 - C. DUNS number, tax ID number, and Iowa Contractor's license number.

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name]

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach
evidence of authority to sign.)

Attest:

[Signature]

[Printed name]

Title:

Submittal Date:

Address for giving notices:

Telephone Number:

Fax Number:

Contact Name and e-mail address:

Bidder's License No.:

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

BID

Bid Due Date:

Description (*Project Name— Include Location*):

BOND

Bond Number:

Date:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Bidder Status Form

To be completed by all bidders

Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No

My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No

My company has an office to transact business in Iowa.

☐ Yes ☐ No

My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No

My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No

My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders

Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ / _____ / _____ to _____ / _____ / _____

Address: _____

City, State, Zip: _____

Dates: _____ / _____ / _____ to _____ / _____ / _____

Address: _____

City, State, Zip: _____

Dates: _____ / _____ / _____ to _____ / _____ / _____

Address: _____

City, State, Zip: _____

You may attach additional sheet(s) if needed.

To be completed by non-resident bidders

Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

2. Does your company's home state or foreign country offer preferences to bidders who are residents?

☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

You may attach additional sheet(s) if needed.

To be completed by all bidders

Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids
per 875 Iowa Administrative Code Chapter 156.
This form has been approved by the Iowa Labor Commissioner.

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

- ☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.
- ☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.
- ☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.
- ☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.
- ☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.
- ☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.
- ☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.
- ☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.
- ☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.
- ☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.
- ☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

NOTICE OF AWARD

Date of Issuance:

Owner:

Owner's Contract No.:

Engineer: ISG Inc.

Engineer's Project No.: 26698

Project:

Contract Name:

Bidder:

Bidder's Address:

TO BIDDER:

You are notified that Owner has accepted your Bid dated [] for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

[describe Work, alternates, or sections of Work awarded]

The Contract Price of the awarded Contract is: \$ [] [note if subject to unit prices, or cost-plus]

[] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically. [revise if multiple copies accompany the Notice of Award]

☐ a set of the Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of this Notice of Award:

1. Deliver to Owner [] counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security [e.g., performance and payment bonds] and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner:

Authorized Signature

By:

Title:

Copy: Engineer

**AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between _____ (“Owner”) and
_____, (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

- 2.01 *The Project, of which the Work under the Contract Documents is a part, is generally described as follows:* _____

ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by I+S Group, Inc.
- 3.02 The Owner has retained I+S Group, Inc. to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

- 4.01 *Time of the Essence*
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Dates*
- A. The Work will be substantially completed on or before _____, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **thirty-one (31) calendar days** after the completion of the work acceptance by the owner.
- 4.03 *Liquidated Damages*
- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of

requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner \$500 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$500 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

4.04 *Special Damages*

- A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 – **CONTRACT PRICE**

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

ARTICLE 6 – **PAYMENT PROCEDURES**

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 20th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. Ninety-five percent (95%) of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. Ninety-five percent (95%) of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to Ninety-five percent (95%) percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less two hundred percent (200%) of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – **INTEREST**

- 7.01 All amounts not paid when due shall bear interest at the rate of 10% percent per annum.

ARTICLE 8 – **CONTRACTOR'S REPRESENTATIONS**

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – **CONTRACT DOCUMENTS**

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to 7, inclusive).
 - 2. Performance bond (pages 1 to 3, inclusive).
 - 3. Payment bond (pages 1 to 3, inclusive).
 - 4. General Conditions (pages 1 to 65, inclusive; not attached but incorporated by reference and provided in the Project Manual).
 - 5. Supplementary Conditions (pages 1 to 10, inclusive; not attached but incorporated by reference and provided in the Project Manual).
 - 6. Specifications as listed in the table of contents of the Project Manual (not attached but incorporated by reference).

7. Drawings (not attached but incorporated by reference) consisting of __ sheets with each sheet bearing the following general title: _____.
8. Addendums: Addendum No. 1 () (not attached but incorporated by reference)
9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages 1 to __ inclusive; not attached but incorporated by reference).
10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____

NOTICE TO PROCEED

Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: ISG Inc.	Engineer's Project No.: 26698
Project:	Contract Name:
	Effective Date of Contract:

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [REDACTED], 20[REDACTED]. *[see Paragraph 4.01 of the General Conditions]*

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, [the date of Substantial Completion is _____], and the date of readiness for final payment is _____].

Before starting any Work at the Site, Contractor must comply with the following:
[Note any access limitations, security procedures, or other restrictions]

Owner:

Authorized Signature

By:

Title:

Date Issued:

Copy: Engineer

PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☒ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence,

to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims

for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☒ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(seal)

Contractor's Name and Corporate Seal

(seal)

Surety's Name and Corporate Seal

By: _____

Signature

By: _____

Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____

Signature

Attest: _____

Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
 - 16.1 **Claim:** A written statement by the Claimant including at a minimum:
 1. The name of the Claimant;
 2. The name of the person for whom the labor was done, or materials or equipment furnished;
 3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 4. A brief description of the labor, materials, or equipment furnished;
 5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 7. The total amount of previous payments received by the Claimant; and
 - 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
 - 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

Contractor's Application for Payment No. _____

Application Period:		Application Date:	
From (Contractor):		Via (Engineer):	I+S Group, Inc. (ISG)
Project:	City of Storm Lake Well No. 21	Contract:	
Owner's Contract No.:		Contractor's Project No.:	
		Engineer's Project No.:	21-26698

Application For Payment Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
TOTALS	\$0.00	\$0.00
NET CHANGE BY CHANGE ORDERS	\$0.00	

1. ORIGINAL CONTRACT PRICE.....	\$	
2. Net change by Change Orders.....	\$	\$0.00
3. Current Contract Price (Line 1 ± 2).....	\$	\$0.00
4. TOTAL COMPLETED AND STORED TO DATE (Column F total on Progress Estimates).....	\$	\$0.00
5. RETAINAGE:		
a. 5% X \$0.00 Work Completed.....	\$	\$0.00
b. 5% X \$0.00 Stored Material.....	\$	\$0.00
c. Total Retainage (Line 5.a + Line 5.b).....	\$	\$0.00
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c).....	\$	\$0.00
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application).....	\$	
8. AMOUNT DUE THIS APPLICATION.....	\$	\$0.00
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G total on Progress Estimates + Line 5.c above).....	\$	\$0.00

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents

Contractor Signature

By:	Date:
-----	-------

Payment of:	\$	\$0.00	
			(Line 8 or other - attach explanation of the other amount)
is recommended by:	_____	_____	
	(Engineer)	(Date)	
Payment of:	\$	\$0.00	
			(Line 8 or other - attach explanation of the other amount)
is approved by:	_____	_____	
	(Owner)	(Date)	
Approved by:	_____	_____	
	Funding or Financing Entity (if applicable)	(Date)	

Progress Estimate - Lump Sum Work

Contractor's Application

[illegible]

Progress Estimate - Unit Price Work

Contractor's Application

[illegible]

Progress Estimate - Lump Sum Work

Contractor's Application

[illegible]

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: ISG Inc.	Engineer's Project No.: 26698
Project:	Contract Name:

This [preliminary] [final] Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.]*

Amendments to Owner's responsibilities: ☐ None
☐ As follows

Amendments to Contractor's responsibilities: ☐ None
☐ As follows:

The following documents are attached to and made a part of this Certificate: *[punch list; others]*

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

EXECUTED BY ENGINEER:	RECEIVED:	RECEIVED:
By: _____ (Authorized signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

NOTICE OF ACCEPTABILITY OF WORK

PROJECT:

OWNER:

CONTRACTOR:

OWNER'S CONSTRUCTION CONTRACT IDENTIFICATION:

EFFECTIVE DATE OF THE CONSTRUCTION CONTRACT:

ENGINEER: I + S GROUP, INC. (ISG)

NOTICE DATE:

To: _____
City of
Owner

And To: _____
Contractor

From: _____
ISG
Engineer

The Engineer hereby gives notice to the above Owner and Contractor that the Engineer has inspected the completed Work for the Project, and that the Work furnished and performed by Contractor is in compliance with the terms of the above Construction Contract and is acceptable, expressly subject to the provisions of the related Contract Documents, the Agreement between Owner and Engineer for Professional Services dated _____, and the following terms and conditions of this Notice:

CONDITIONS OF NOTICE OF ACCEPTABILITY OF WORK

The Notice of Acceptability of Work ("Notice") is expressly made subject to the following terms and conditions to which all those who receive said Notice and rely thereon agree:

1. The total cost of the completed work is \$ _____
2. This Notice is given with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
3. This Notice reflects and is an expression of the Engineer's professional opinion.

4. This Notice is given as to the best of Engineer's knowledge, information, and belief as of the Notice Date.
5. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's work) under Engineer's Agreement with Owner, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Agreement.
6. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the related Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Construction Contract Documents, or to otherwise comply with the Construction Contract Documents or the terms of any special guarantees specified therein.
7. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.
- 8.

By: _____

Title: _____ Project Manager

Dated: _____

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

- A. *Limitation on Use of Site and Other Areas:*
 - 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
- 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 - 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 - 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
 4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS

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I. SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

ARTICLE 2 – PRELIMINARY MATTERS

SC-2.02 Copies of Documents

SC-2.02.A. Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor [3] copies of the Contract Documents (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional copies will be furnished upon request at the cost of reproduction.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Subsurface and Physical Conditions

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.B:

- C.** The following reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to Owner:
 - 1.** Report dated November 16, 2023, prepared by Certified Testing Services, Inc., Sioux City, IA., entitled: "Geotechnical Engineering Report for Prefabricated Well House, Frank Starr Park Storm Lake, Iowa", consisting of 24 pages. The Technical Data contained in such report upon whose accuracy Contractor may rely are those indicated in the definition of Technical Data in the General Conditions.
- D.** The following drawings of physical conditions relating to existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities) are known to Owner:
 - 1.** Drawings dated August 2022, Test Well Logs and supporting documents, prepared by Sargent Drilling, Geneva, NE., entitled: "24 Hour Constant Test Log" and "Test Hole Log", Foundation Analytical Laboratory, Cherokee, IA., entitled: "Certificate of Analysis" and Johnson Screens, entitled: "Sand Analysis" consisting of 5 sheets, inclusive.]
 - a.** None of the contents of such drawings is Technical Data on whose accuracy Contractor may rely.

- E. Contractor may examine copies of reports and drawings identified in SC 5.03.C and SC 5.03.D that were not included with the Bidding Documents at ISG, Inc. 1725 N Lake Ave, Storm Lake, IA during regular business hours, or may request copies from Engineer.
- F. The reports and drawings identified above are not part of the Contract Documents, but the “technical data” contained therein upon which Contractor may rely, as expressly identified and established above, are incorporated in the Contract Documents by reference. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Engineer.

SC-5.06 Hazardous Environmental Conditions

SC 5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.

SC-5.07 Historic or Paleontological Conditions at Site

SC 5.07 Add the following new paragraph immediately following Paragraph 5.06:

- A. Immediately upon discovery of potential historical objects of an archeological or paleontological nature with the Project Site do the following:
 - 1. Restrict or suspend operations in the immediate area of the discovery to preserve the potential historical objects, and
 - 2. Notify Engineer of presence of potential historical objects.
- B. Engineer will make arrangements for objects disposition or record the desired relevant data.
- C. Support the preservation and salvage effort directed by Engineer. Do not perform Work related to preservation and salvage efforts that Contractor considers Extra Work without written approval of Engineer.
- D. Owner may restrict or suspend Contractor's operations in the immediate area of the historical objects for a period not to exceed 72-hours, without a Contractor claim for damages. Owner will not impose restrictions over 72-hours, unless agreed by Contractor and Owner in writing.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.03 Contractor's Liability Insurance

SC 6.03 Add the following new paragraph immediately after Paragraph 6.03.J:

- K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State:	<u>Statutory</u>
Federal, if applicable (e.g., Longshoreman's):	<u>Statutory</u>
Jones Act coverage, if applicable:	
Bodily injury by accident, each accident	\$ <u>1,000,000</u>
Bodily injury by disease, aggregate	\$ <u>1,000,000</u>
Employer's Liability:	
Bodily injury, each accident	\$ <u>1,000,000</u>
Bodily injury by disease, each employee	\$ <u>1,000,000</u>
Bodily injury/disease aggregate	\$ <u>2,000,000</u>
For work performed in monopolistic states, stop-gap liability coverage shall be endorsed to either the worker's compensation or commercial general liability policy with a minimum limit of:	\$ <u>1,000,000</u>
Foreign voluntary worker compensation	<u>Statutory</u>

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	\$ <u>2,000,000</u>
Products - Completed Operations Aggregate	\$ <u>2,000,000</u>
Personal and Advertising Injury	\$ <u>1,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	\$ <u>1,000,000</u>

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Bodily Injury:	
Each person	\$ <u>1,000,000</u>
Each accident	\$ <u>2,000,000</u>
Property Damage:	
Combined Single Limit of	\$ <u>2,000,000</u>

4. Excess or Umbrella Liability under Paragraph 6.03.E. of the General Conditions:

Per Occurrence	\$ <u>1,000,000</u>
General Aggregate	\$ <u>2,000,000</u>

5. Contractor's Pollution Liability under Paragraph 6.03.F. of the General Conditions:



If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

6. Additional Insureds: The Owner and Engineer shall be named as additional insureds on the Contractor's general liability, automobile liability, umbrella or excess, and pollution liability policies. The inclusion of more than one named insured shall not operate to impair the rights of one insured against another insured, and the coverages afforded shall apply as though separate policies had been issued to each insured.

7. Any insurance agent shall have in force for any coverage provided by this Contract an Errors and Omissions Coverage with limits of not less than:

Per Occurrence	\$ <u>1,000,000</u>
Annual Aggregate	\$ <u>1,000,000</u>

- L. Prior to commencement of this agreement, the Contractor shall obtain certificates of all insurance required on a form approved by the Owner, signed by an authorized representative of the insurance carrier and stating that all provisions of the specified requirements are satisfied. The certificates shall be submitted directly to the Owner for review and approval with a record copy only to the Engineer for their files. The Contractor shall not begin any work until the Owner has reviewed and approved the insurance certificates and has so notified the Contractor directly in writing. Any notice to proceed that is issued shall be subject to such approval by the Owner.
- M. The insurance policy shall be a standard form policy provided for by a carrier approved by the State of Iowa and shall not contain any exclusions that will restrict coverage on any operations performed by the Contractor or any subcontractor hereof.
- N. The insurance policy shall provide full insurance to cover the Contractor's operating exposures including the picking up of materials, the operation of vehicles, the operation of collection and processing sites, explosion, remote borrow site activities, collapse, underground hazards, and contractual liability as required in Articles 7.17 and 7.18.
- O. It is a condition of the Contract that the policy waives any or all governmental immunity as a defense in any action brought against the insured or any other party to the Contract.

- P. Approval of the insurance by the Owner shall not in any way relieve or decrease the liability of the Contractor hereunder, and it is expressly understood that the Owner or Engineer does not in any way represent that the above specified insurance or limits of liabilities are sufficient or adequate to protect the Contractor's interest or liabilities.

SC-6.04 Owner's Liability Insurance

- SC 6.04** Delete Paragraph 6.04.A in its entirety and reference is made to the additional Paragraph 6.03.K.6.

SC-6.05 Property Insurance

- SC-6.05.A.1** Add the following new subparagraph after subparagraph 6.05.A.1:

- a. In addition to Owner, Contractor, and all Subcontractors, include as insureds the following:
Engineer – I+S Group, Inc.

- SC-6.05.A.** Add the following to the list of items in Paragraph 6.05.A, as numbered items:

14. include for the benefit of Owner loss of profits and soft cost coverage including, without limitation, fixed expenses and debt service for a minimum of 12 months with a maximum deductible of 30 days, plus attorney's fees and engineering or other consultants' fees, if not otherwise covered;

- SC 6.05** Add the following new paragraphs immediately after Paragraph 6.05.F:

- G. All responsibility for maintaining property insurance on any project premises or structures owned, operated, or being constructed by the Contractor remains solely with the Contractor, who may at their option insure against any other perils, and such responsibility shall remain with the Contractor until such time as this Contract is terminated. Before commencement of the Work, the Contractor shall submit written evidence that the Contractor has obtained and paid, for this period of the Contract, Builder's Risk "All-Risk" Completed Value Insurance Coverage upon entire project, which is the subject of this Contract, and including completed Work, Work in progress, and materials stored off site or in transit. Such insurance shall include as additional named insureds: Owner, Engineer and their consultants, and each of their officers, employees and agents, and any other persons with an insurable interest designated by the Owner.
- H. In the event of conflict between additional Paragraph 6.05.G with other provisions within Paragraph 6.05 of the General Conditions or Paragraph SC-6.05 of the Supplemental Conditions, Paragraph 6.05.G will assume precedence.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

SC-7.01 Supervision and Superintendence

- SC 7.01** Add the following new paragraphs immediately after Paragraph 7.01.B:

- C. Contractor's assigned competent resident superintendent shall be personally available at the site of the work within 24 hour notice, and authorized to act in the Contractor's Behalf. This individual shall be fully authorized to:

1. Conduct all business with the subcontractors.
 2. Negotiate and execute all Supplemental Agreements.
 3. Execute the orders and directions of the Engineer without delay.
 4. Promptly supply the materials, equipment, tools, labor, and incidentals necessary for prosecution of the work.
- D. The Contractor shall have a complete set of Drawings and Specifications available on the Project at all times while work is in progress, and shall assume full responsibility for supervision of the work irrespective of the quantity of work subcontracted.
- E. At all times while work is actually being performed, the Contractor shall have at the site of the work a competent individual who is:
1. Authorized and fully capable of managing, directing, and coordinating the work in progress.
 2. Thoroughly experienced in the type of work being performed.
 3. Capable of reading and thoroughly understanding the Drawings and Specifications.
 4. Authorized to receive instructions from the Engineer.

SC-7.02 Labor; Working Hours

SC 7.02 Add the following new subparagraph immediately after Paragraph 7.02.A:

1. Any person employed by the Contractor or by any subcontractor who does not perform assigned work in a proper and skillful manner, or who is intemperate or disorderly, shall be removed from the Project forthwith by the Contractor upon written order of the Engineer, and shall not be employed again on any portion of the Work without Engineer's consent. Should Contractor fail to remove such person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work, Engineer may suspend the Work until Contractor has complied with the orders.

SC-7.02.B. Add the following new subparagraphs immediately after Paragraph 7.02.B:

1. Regular working hours will be 7:00AM to 6:00PM, Monday through Friday.
2. Owner's legal holidays are New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas.

SC-7.02.C. Add the following new paragraph immediately after Paragraph 7.02.B:

- C. Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

1. For purposes of administering the foregoing requirement, additional overtime costs are defined as services performed by the Engineer (including the Resident Project Representative), Owner's representative, and materials testing laboratories considered routine to the project scope and not necessitated from a situation where the public welfare is put at risk.
- D. Upon request by the Engineer, Contractor shall submit satisfactory qualification evidence for any person engaged in special work requiring professional training.

SC-7.09 Taxes

SC 7.09 Add a new paragraph immediately after Paragraph 7.09.A:

- B. Owner is exempt from payment of sales and compensating use taxes of the State of Iowa and of cities and counties thereof on all materials to be incorporated into the Work.
 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.03 Project Representative

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

- B. The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.
 1. General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
 2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.
 3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.
 4. Liaison:
 - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.

- b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
- 5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
- 6. Shop Drawings and Samples:
 - a. Record date of receipt of Samples and Contractor-approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
 - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.
- 7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
- 8. Review of Work and Rejection of Defective Work:
 - a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- 9. Inspections, Tests, and System Start-ups:
 - a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

10. Records:

- a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
- b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
- c. Maintain records for use in preparing Project documentation.

11. Reports:

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.

12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

14. Completion:

- a. Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
- b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a

final punch list of items to be completed and deficiencies to be remedied.

- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor’s work.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

SC-17.01 Methods and Procedures

SC-17.02 Add the following new paragraphs immediately after Paragraph 17.01.B.

- C. In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the Contractor and the Engineer agree that all disputes between them arising out of or relating to this agreement shall be resolved, if possible, at the lowest possible staff level. If the dispute cannot be resolved between Contractor and Engineer staff, the presidents of the respective firms will meet to attempt to resolve the dispute(s). If resolution is not achieved, the dispute shall be submitted to non-binding mediation.
- D. The rights and remedies available to the Contractor shall be limited to breach of Contract, and no other cause of action, including, without limitation, negligence, misrepresentation or other tort theory. Any litigation concerning claims under the Contract shall be venued in the County District Court of the County the project is located within. Neither the Engineer, nor the Contractor shall be entitled to a jury trial in any such action. If the Owner or Engineer is a prevailing party the Contractor shall reimburse the Owner or Engineer its costs and

reasonable attorney's fees. The right and remedies to the Owner hereunder shall be in addition to and shall not be construed in any way as a limitation of any rights and remedies available to the Owner which are otherwise available by law or contract, by special warranty or guarantee, or by other provision of the Contract documents. The provision of this paragraph shall be as effective as if repeated specifically in the contract documents in connection with each particular duty, obligation, right and remedy to which it may apply. All representations, warranties and guarantees made in the Contract documents shall survive final payment, termination or completion of this agreement.

- E. No waiver or failure to enforce any part or provision of the contract documents, including but not limited to the change order process, shall be deemed to be waiver by the Owner of any subsequent default or breach of the same or any other part of provision contained herein, or right to enforce the same or any other part or provision contained herein.

Date of Issuance:

Effective Date:

PROJECT:	ENGINEER'S PROJECT NUMBER:
OWNER:	DATE OF CONTRACT:
CONTRACTOR:	OWNER'S CONTRACT NUMBER:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments:

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
----------------------------------	----------------------------------

Original Contract Price:

.....

(Increase) (Decrease) from previously approved

Change Orders Number to

.....

Contract Price prior to this Change Order:

..... \$0.00

(Increase) (Decrease) of this Change Order:

..... \$0.00

Contract Price Incorporating this Change Order:

..... \$0.00

Original Contract Times: ☐ Working Days ☐ Calendar Days

Substantial Completion (day or dates):

Ready for Final Payment (day or dates):

(Increase) (Decrease) from previously approved

Change Orders Number to

Substantial completion (day or dates):

Ready for Final Payment (day or dates):

Contract Times prior to this Change Order:

Substantial Completion (day or dates):

Ready for Final Payment (day or dates):

(Increase) (Decrease) of this Change Order:

Substantial Completion (day or dates):

Ready for Final Payment (day or dates):

Contract Times with all approved Change Orders:

Substantial Completion (day or dates):

Ready for Final Payment (day or dates):

RECOMMENDED:

I +S GROUP

By:

Engineer (Authorized Signature)

ACCEPTED:

0

By:

Owner (Authorized Signature)

ACCEPTED:

0

By:

Contractor (Authorized Signature)

Date:

Date:

Date:

EJCDC® C-941, Change Order.

Prepared and published 2013 by the Engineers Joint Contract Documents Committee.

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					Amount	
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	Increase	Decrease

TOTALS

NET CHANGE IN CONTRACT PRICE

INCREASE (DECREASE) IN CONTRACT TIME, days

\$0.00	\$0.00
\$0.00	

Justification For Changes:

Division 01: General Requirements

**SECTION 01 3510
STRUCTURAL TESTING AND SPECIAL INSPECTION**

PART 1 GENERAL

1.01 INTENT AND CONDITIONS

- A. Intent
 - 1. Define and coordinate structural testing and special inspection services.
 - 2. Define and coordinate conventional testing and inspection services.
 - 3. Provide greater confidence that the specified work is constructed in compliance with the contract documents and Chapter 17 of the 2015 International Building Code.
 - 4. Testing and Inspection services are intended to assist in determining probable compliance of the work with requirements specified. These services do not relieve the Contractor of responsibility for compliance with the requirements of the contract documents.
- B. Conditions
 - 1. If inspection of fabricator's work is required, the Owner's representative may require testing and inspection of the work at the plant, before shipment. Owner, Architect and Structural Engineer of Record (SER) reserve the right to reject material not complying with the contract documents.
 - 2. Testing and inspection shall be performed in accordance with the industry standard used as the reference for the specific material or procedure unless other criteria are specified. In the absence of a referenced standard, tests shall be accomplished in accordance with generally accepted industry standards.
 - 3. Work shall be checked as it progresses, but failure to detect any defective work or materials shall in no way prevent later rejection if defective work or materials are discovered, nor shall it obligate Owner to accept such work.

1.02 RELATED REQUIREMENTS

- A. Refer to PART 3 for technical scope sections regarding specific qualifications, inspections, tests, frequency and standards required.

1.03 DEFINITIONS

- A. Testing – Evaluation of systems, primarily requiring physical manipulation and analysis of materials, in accordance with approved standards.
- B. Inspection – Evaluation of systems, primarily requiring observation and engineering judgment.
- C. Structural Testing and Special Inspection – Structural Testing and Special Inspection Services herein include items required by the 2015 International Building Code, and other items which in the professional judgment of the Structural Engineer of Record, are critical to the integrity of the building structure.
- D. Conventional Testing and Inspection – Conventional Testing and Inspection Services herein describe those items not specially required by Code but may be considered essential to the proper performance of the building systems.
- E. Architect of Record – The prime consultant in charge of overall design and coordination of the project.
- F. Structural Engineer of Record (SER) – The Licensed Engineer in responsible charge of the structural design for the project.
- G. Licensed Structural Engineer: – A professional engineer with education and experience in the design of structures similar to this project licensed to practice in the state in which the project is located.
- H. Testing Agency (TA) – The properly qualified firm performing testing services.
- I. Special Inspector (SI) – A properly qualified individual or firm performing special inspections.
- J. Building Official – The Officer or his duly authorized representative charged with the administration and enforcement of the 2015 International Building Code.
- K. Continuous –The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.
- L. Periodic –The part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.

1.04 REFERENCES

- A. ASTM E329-13 - Standard Specification for Agencies Engaged in Construction, Inspection, Testing, or Special Inspection.
- B. ASTM E543-15 - Standard Practice for Agencies Performing Nondestructive Testing.
- C. ASTM C1077-15 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
- D. ASTM C1093-15 - Standard Practice for Accreditation of Testing Agencies for Masonry.
- E. ASTM D3740-12 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- F. AISC Steel Construction Manual 14th Edition (2010)
- G. 2015 International Building Code.
- H. See technical sections of PART 3 for specific references.

1.05 QUALIFICATIONS

- A. Testing Agency (TA) – The testing agency shall be an approved independent testing agency acceptable to the Owner, Architect, SER and as noted below:
 - 1. Authorized to operate in the state in which the project is located and experienced with the requirements and testing methods specified in the technical scope sections of PART 2.
 - 2. Meeting applicable requirements of Section 1.04 "References".
 - 3. Testing equipment shall be calibrated at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards, or to accepted values of natural physical constants.
- B. Special Inspector (SI) – The special inspector shall be under the direct supervision of a registered civil/structural engineer, experienced with the type of work requiring structural testing and special inspection.
 - 1. The categories of special inspector are:
 - a. Special Inspector - Technical I, II, and III: Usually an employee of a testing agency.
 - b. Special Inspector - Structural I and II: Preferably an employee of the SER's firm.
 - 2. Unique special inspector requirements, for specific materials and system, are noted in related technical specification sections.

1.06 RESPONSIBILITIES

- A. Structural Testing and Special Inspection
 - 1. Special Inspectors:
 - a. Sign the Structural Testing and Special Inspection Summary Schedule in conjunction with other responsible parties prior to commencement of construction.
 - b. If requested, attend a pre-construction meeting to review the scope of structural testing and special inspection.
 - c. Test and/or inspect the work assigned for conformance with the building department approved design drawings, specifications and applicable material and workmanship provisions of the Code. Perform testing and inspection in a timely manner to avoid delay of work.
 - d. Bring discrepancies to the immediate attention of the contractor for correction, confirm that they are corrected and, if uncorrected after a reasonable period of time, bring to the attention of the Structural Engineer of Record, the Building Official, and to the Architect.
 - e. Submit test and/or inspection reports to the Building Official, Contractor, the Structural Engineer of Record, and other designated persons in accordance with the Structural Testing and Special Inspection Summary Schedule.
 - f. Submit a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications and the applicable workmanship provisions of the Code.
 - 2. Testing Agency:
 - a. Sign the Structural Testing and Special Inspection Summary Schedule in conjunction with other responsible parties prior to commencement of construction.

- b. If requested, attend a pre-construction meeting to review the scope of structural testing and special inspection.
 - c. When engaged as a special inspector, provide structural testing and special inspection services as previously described.
- 3. Architect of Record (or other prime consultant):
 - a. Complete and sign the Structural Testing and Special Inspection Summary Schedule in conjunction with other responsible parties prior to commencement of construction. Provide a completed copy of the schedule to all signed parties including Building Official.
 - b. If appropriate, arrange and attend a pre-construction meeting to review the scope of structural testing and special inspection. Include Contractor, Building Official, SER, Testing Agency and other parties concerned.
 - c. Coordinate the flow of reports and related information to expedite resolution of construction issues.
- 4. Structural Engineer of Record (SER):
 - a. Identify items requiring structural testing and special inspection including special cases.
 - b. Define "type" of special inspector required for "description" of work indicated on the structural testing and special inspection schedule.
 - c. Complete and sign the Structural Testing and Special Inspection Summary Schedule prior to commencement of construction.
 - d. If requested, attend a pre-construction meeting to review the scope of structural testing and special inspection.
 - e. Review reports submitted by special inspectors.
 - f. If engaged as a special inspector, provide structural testing and special inspection services as previously described.
- 5. Contractor:
 - a. Sign the Structural Testing and Special Inspection Summary Schedule in conjunction with other responsible parties prior to commencement of construction.
 - b. Coordinate efforts to gain signatures of all signing parties other than the Architect and Structural Engineer of Record (SER).
 - c. If requested, attend a pre-construction meeting to review the scope of structural testing and special inspection.
 - d. Post or make available the Structural Testing and Special Inspection Summary Schedule within its office at the job site. Also, provide adequate notification to those parties designated on the schedule so they may properly prepare for and schedule their work.
 - e. Provide the special inspectors access to the approved drawings and specifications at the job site.
 - f. Review reports submitted by special inspectors.
 - g. Retain at the job site all reports submitted by the special inspectors for review by the building official upon request.
 - h. Correct in a timely manner, deficiencies identified in inspection and/or testing reports.
 - i. Provide the special inspector safe access to the work requiring inspection and/or testing.
 - j. Provide labor and facilities to provide access to the work and to obtain, handle and deliver samples, to facilitate testing and inspection and for storage and curing of test samples.
 - k. Verification of conformance of the work within specified construction tolerances is solely the Contractor's responsibility.
- 6. Fabricator:
 - a. Sign the Structural Testing and Special Inspection Summary Schedule in conjunction with other responsible parties prior to commencing construction.
 - b. Submit a Certificate of Compliance to the Building Official, Special Inspector, and Structural Engineer of Record that the work was performed in accordance with the approved plans and specifications.
- 7. Building Official (Typical responsibilities noted for information only):
 - a. Determine work, which in the Building Officials opinion, involves unusual hazards or conditions in accordance with the 2015 International Building Code.

- b. Review special inspector qualifications.
 - c. Accept and sign the completed Structural Testing and Special Inspection Summary Schedule.
 - d. Review all fabricators who perform work in their shop, which requires special inspection.
 - e. Review reports and recommendations submitted by the special inspectors.
 - f. Review the "final signed reports" submitted by the special inspector(s). These documents should be accepted and approved by the building department prior to issuance of a Certificate of Occupancy.
- 8. Owner:
 - a. Establish direct funding to provide for cost of structural testing and special inspection services.
 - b. Provide special inspector with approved design drawings, specifications and approved shop drawings.
 - c. Provide special inspectors and testing agencies with full access to site at all times.
 - d. Sign the Structural Testing and Special Inspection Summary Schedule in conjunction with other responsible parties prior to commencement of construction.
- B. Conventional Testing and Inspection
 - 1. Testing Agency:
 - a. Test or inspect the work assigned, for conformance with building department approved plans, specifications and applicable workmanship provisions of the 2015 International Building Code.
 - b. Bring non-conforming items to the immediate attention of the Contractor, and if uncorrected to the Architect of Record.
 - c. Submit test and/or inspection reports to the Architect of Record, the Contractor and other designated persons.
 - 2. Contractor:
 - a. Provide adequate notification to testing agency so they may properly prepare for and schedule their work.
 - b. Provide testing agency with access to the approved design drawings, approved shop drawings and specifications at the job site.
 - c. Correct in a timely manner, deficiencies identified in test and/or inspection reports.
 - d. Provide testing agency with safe access to the work requiring testing and inspection.
 - e. Provide labor and facilities to provide access to the work and to obtain and handle samples, to facilitate testing and inspection and for storage and curing of test samples.
 - f. Verification of conformance of the work within specified construction tolerances is solely the Contractor's responsibility.
 - 3. Architect of Record (or other prime consultant):
 - a. Coordinate the flow of reporting and related information to expedite resolution of construction issues.
- C. Inspections by Building Official
 - 1. Contractor shall provide adequate notice for inspections performed by the Building Official, as required by the 2015 International Building Code, and local ordinance.
- D. Periodic Site Observations by Design Consultant
 - 1. Special structural testing and inspection, conventional testing and inspection, and periodic inspections by the Building Official do not preclude the normal field involvement and site observations by Architect or Structural Engineer of Record, nor shall it relieve the Contractor of any responsibility to complete the work in accordance with the approved drawings and specifications.
- E. Limits of Authority
 - 1. Testing agents and/or special inspectors may not waive or alter contract requirements, or approve or accept any portion of the work unless specifically authorized by the Architect or Structural Engineer of Record. They may not assume any duties of the Contractor, and they have no authority to stop or reject "Work".

1.07 PAYMENT

- A. Owner shall directly employ and pay for services of the special inspectors to perform required Structural Testing and Special Inspection.
- B. Owner shall employ and pay for services of the testing agency to perform required Conventional Testing and Inspection.
- C. Unless noted otherwise, the Contractor shall provide and pay for all materials, samples, mock-ups, and assemblies required for testing and inspection and shall pay for all shipping costs related to delivery of this work. Testing agency will pay for shipping costs of samples transported from site to lab.
- D. If exploratory work is required to determine the cause of defects, the cost of such work shall be paid by the Contractor, if the work is found to be defective, in the judgment of the Architect/Engineer. Contractor shall reimburse the Owner for all costs incurred in this event.
- E. Any tests required to qualify the Contractor, or the workmen for any phase of the work, shall be performed at no additional cost to the Owner.

1.08 INSPECTION NOTICE

- A. Contractor shall provide minimum of 24 hours notice for all items requiring testing or inspection. Items requiring testing and inspection services prior to or during placement shall not be placed until testing and inspection services are available. Items requiring testing and inspection services after placement shall not be enclosed or obscured until testing and inspection services are performed.

1.09 REPORTS

- A. Testing agency and/or special inspectors shall submit reports in accordance with the Structural Testing and Special Inspection Summary Schedule and shall conduct and interpret tests and inspections and state in each report whether; (1) test specimens and observations comply with Contract Documents, and specifically state any deviations, (2) record types and locations of defects found in work, (3) record work required and performed, to correct deficiencies.
- B. Reports for structural testing and special inspection, shall be submitted in timely manner to the Contractor, Building Official, SER, and Architect of Record.
 - 1. Submit reports for ongoing work, to provide the information noted below:
 - a. Date issued.
 - b. Project title and number.
 - c. Firm name and address.
 - d. Name and signature of tester or inspector.
 - e. Date and time of sampling.
 - f. Date of test or inspection.
 - g. Identification of product and specification section.
 - h. Location in project, including elevations, grid location and detail.
 - i. Type of test or inspections.
 - j. Results of tests or inspections and interpretation of same.
 - k. Observations regarding compliance with Contract Documents or deviations there from.
 - 2. Submit a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications and the applicable workmanship provisions of the code.
- C. Reports for conventional testing and inspection shall be submitted in a timely manner to the Contractor and the Architect of Record.

1.10 FREQUENCY OF TESTING AND INSPECTION

- A. For detailed requirements see technical sections of PART 3.

1.11 PROTECTION AND REPAIR

- A. Upon completion of testing, sample-taking, or inspection, the Contractor shall repair damaged work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed surfaces, as judged solely by the Architect/Engineer of Record. Protect work exposed by or for testing and/or inspection and protect repaired work. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for testing and/or inspection.

1.12 TESTS TO DEMONSTRATE QUALIFICATION

- A. If the Contractor proposes a product material, method, or other system that has not been pre-qualified, the Architect may require applicable tests, to establish a basis for acceptance or rejection. These tests will be paid for by the Contractor.
- B. The Architect/Engineer of Record reserves the right to require certification or other proof that the system proposed, is in compliance with any tests, criteria or standards called for. The certificate shall be signed by a representative of an independent testing agency.

PART 2 MATERIALS (NOT USED)

PART 3 SCOPE OF TESTING AND INSPECTION

3.01 STRUCTURAL TESTING AND SPECIAL INSPECTION PROGRAM SUMMARY

- A. The parties involved shall complete and sign the Structural Testing and Special Inspection Summary Schedule. The Program, including Summary Schedule, shall be submitted to the building official for approval prior to issuance of a building permit. The completed schedule includes the following:
 - 1. A specific listing of the items requiring inspection and testing.
 - 2. The associated technical scope sections that define the applicable standards by which to judge conformance with the approved plans and specifications in accordance with 2015 International Building Code. The technical scope sections should also include the degree or basis of inspection and testing; i.e., intermittent/will-call or full-time/continuous.
 - 3. The frequency of reporting, i.e., weekly, monthly, per test/inspection, per floor, etc.
 - 4. The parties responsible for performing the inspection and testing work.
 - 5. The required acknowledgments by each designated party.

3.02 CONVENTIONAL TESTING AND INSPECTION

- A. (Not Used)

3.03 STRUCTURAL TESTING AND SPECIAL INSPECTION STATEMENT OF SPECIAL INSPECTIONS

- A. Refer to attached Program Summary Schedule for this project. It includes a schedule of Special Inspection services applicable to this project and the identity of agencies to be retained for conducting these inspections and tests.
- B. The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the Building Official, the Architect and Structural Engineer of Record. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official, the Architect and SER. The Special Inspection program does not relieve the Contractor of his or her responsibilities.
- C. Interim reports shall be submitted to the Building Official, Architect, and SER.
- D. A Final Report of Special Inspections documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

3.04 TECHNICAL SECTIONS

- A. **Section 31 2200 - Earthwork - Grading, Excavation Filling**
 - 1. (Not Used)
 - 2. Definitions
 - a. Refer to PART 1 for standard definitions.
 - b. Special Inspector – Technical
 - 1) Technical I: Technician shall be under the direct supervision of a Technical III. Work shall be performed in a qualified geotechnical/testing laboratory.
 - 2) Technical II: Technical with a minimum of 2 years experience, or a graduate engineer, and is an employee of a qualified and approved geotechnical/testing laboratory, under the direct supervision of a Technical III.
 - 3) Technical III: A civil/geotechnical engineer regularly engaged in this type of work with a minimum of 4 years experience, licensed in the State in which the project is located, and is an employee of a qualified and approved geotechnical/testing laboratory. This licensed engineer shall review and

- approve all final field reports.
3. Structural Testing and Special Inspection Requirements (Item and Frequency and Qualifications)
 - a. Classification of materials used and encountered during construction per ASTM:D2488 and ASTM:D2487. Technical I
 - b. Performance of laboratory testing of materials, as needed (Proctor, Sieve Analysis, Atterberg Limits, Consolidation Test, etc.). Technical I
 - c. Field Density Tests: Technical I
 - d. Provide periodic results of field compaction and laboratory work for general compliance with Contract Documents and Geotechnical Reports. Technical I
 - e. Observe all subgrades/excavation bases below footings and slabs and verify design bearing capacity is achieved. Technical II
 - f. Document presence of groundwater within excavations. Technical I
 - g. Provide reports of subgrade observations for general compliance with Contract Documents and Geotechnical Report. Technical II
 - h. Verify cut and fill slopes as specified in the contract documents. Technical III
 4. Conventional Testing and Inspections Requirements
 - a. Contractor shall verify that footings comply with frost depth requirements and shall report any variances to the SER in a timely manner.
- B. Section 03 3000 - Cast-in-Place Concrete**
1. General
 - a. Structural testing is required for all concrete. Thus, Special inspections as outlined below are not required for the following items:
 - 1) Isolated spread footings of buildings three stories or less in height that are fully supported on earth or rock.
 - 2) Strip footings of buildings three stories or less in height that are fully supported on earth or rock, where the footings support walls of light frame construction, the footings are designed in accordance with Table 1809.7, or the footing structural design is based on a f 'c no greater than 2500 psi.
 - 3) Non-structural slabs on grade, including prestressed slabs on grade when effective prestress in concrete is less than 150 pounds per square inch.
 - 4) Concrete foundation walls constructed in accordance with Table 1807.1.6.2.
 2. Definitions
 - a. Refer to PART 1 for standard definitions.
 - b. Special Inspector – Technical
 - 1) Technical I: ACI Certified Grade I inspector. Inspector shall be employed by a testing laboratory, under the direct supervision of a Technical III.
 - 2) Technical II: ACI Certified Grade II inspector. Inspector shall be employed by a testing laboratory, under the direct supervision of a Technical III.
 - 3) Technical III: A civil/structural engineer regularly engaged in this type of work, with a minimum of 4 years experience and licensed in the State in which the project is located and is an employee of a qualified and approved testing laboratory. The licensed engineer shall review and approved all reports.
 - 4) Testing laboratory shall have C.C.R.L. certification at the National Bureau of Standards.
 - c. Special Inspector – Structural
 - 1) Structural I: Graduate civil/structural engineer, or other personnel acceptable to the SER, with experience in the design of structural systems of this type. Inspections shall be performed under the direct supervision of a Structural II.
 - 2) Structural II: Civil/structural engineer regularly engaged in the design of structural systems of this type, licensed in the State in which the project is located. The licensed engineer shall review and approve all inspection reports.
 - 3) Special Inspector - Structural may be an employee of the SER.
 3. Structural Testing and Special Inspection Requirements (Item and Frequency and Qualifications)
 - a. Sample and test all cast in place concrete; Technical I.
 - 1) Prepare compression test specimens (ASTM C31), one set of four standard cylinders of concrete for each compressive strength test, mold and store

- cylinders for laboratory-cured specimens. Specimens shall be 4x8 cylinders except where an alternate size has been approved by the structural engineer.
- 2) Perform compressive strength tests (ASTM C39). One set of four cylinders for each day's pour between one and 25 cubic yards. If a day's pour exceeds 25 cubic yards, one set of four cylinders for each additional 50 cubic yards, or fraction thereof. One specimen at seven days, two at 28 days, and one specimen retained in reserve for later testing if required. For post tensioned concrete, make and test an additional cylinder at three days to verify strength prior to stressing. (When frequency of testing will provide less than five strength tests for a given class of concrete, conduct at least five strength tests from randomly selected batches. If fewer than five batches are used, conduct one test from each batch.)
 - 3) Slump (ASTM C143): One test at point of discharge for each set of compression test specimens; additional tests when concrete consistency appears to have changed.
 - 4) Air entrainment (ASTM C231): Test the first batch of air entrained concrete and one additional test for each set of compression test specimens.
 - 5) Concrete Temperature: Test concrete temperature hourly when air temperature is 40F and below and when 80F and above, and each time a set of compression test specimens is made.
- b. On a periodic basis, perform concrete mix verification; Technical I:
 - 1) Verify mixer truck trip ticket conforms to approved mix design.
 - 2) Verify that total water added to mix on site does not exceed that allowed by concrete mix design.
 - 3) Verify that concrete quality is indicative of adequate mixing time, consistency, and relevant time limits. Technical I
 - c. On a continuous basis, inspect preparation and placement of all concrete.
 - 1) Verify the following; Structural I:
 - (a) Verify acceptable general condition of concrete base prior to placement.
 - (b) Verify concrete has been sampled for required concrete tests.
 - (c) Verify that concrete conveyance and depositing avoids segregation and contamination.
 - (d) Verify that concrete is properly consolidated.
 - (e) Verify reinforcement remains at proper location.
 - (f) Unless noted, inspections shall be on a continuous basis. Inspections may be performed on a periodic basis for the following types of work:
 - d. On a periodic basis, observe protection and curing methods for all concrete requiring inspections as outlined above; Structural I:
 - 1) Verify specified curing procedures are followed.
 - 2) Verify specified hot and cold weather procedures are followed.
 - e. On a continuous basis, inspect all bolts installed in concrete prior to and during concrete placement; Structural I:
 - 1) Verify specified size, type, spacing, configuration, embedment, and quantity.
 - 2) Verify proper concrete placement and means have been taken to achieve consolidation around all bolts.
4. Conventional Testing and Inspection Requirements
 - a. (Not Used)

END OF SECTION

Division 03: Concrete

**SECTION 03 3000
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete formwork.
- B. Floors and slabs on grade.
- C. Concrete foundation walls.
- D. Concrete reinforcement.
- E. Joint devices associated with concrete work.
- F. Concrete curing.
- G. Concrete finishing.
 - 1. Floor surfaces to be left exposed.

1.02 RELATED REQUIREMENTS

- A. Section Division 22 - Plumbing Piping Specialties: Mechanical items for casting into concrete.
- B. Section Division 26 - Grounding and Bonding for Electrical Systems: Electrical items for casting into concrete. Coordinate location with electrical contractor.
- C. Section Division 32 - Exterior Concrete Flatwork. Refer to concrete flatwork for all aspects of exterior concrete flatwork except stoops, aprons, and any other concrete element bearing on the building's foundation walls.

1.03 REFERENCE STANDARDS

- A. ACI 207.1R - Guide to Mass Concrete (Re-approved 2012).
- B. ACI 211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide 2022.
- C. ACI 301 - Specifications for Concrete Construction 2020.
- D. ACI 302.1R - Guide to Concrete Floor and Slab Construction 2015.
- E. ACI 302.2R - Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials
- F. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).
- G. ACI 305R - Guide to Hot Weather Concreting 2020.
- H. ACI 306R - Guide to Cold Weather Concreting 2016.
- I. ACI 308R - Guide to External Curing of Concrete 2016.
- J. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).
- K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.
- L. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete 2018.
- M. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2018.
- N. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens 2021.
- O. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2022a.
- P. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens) 2021.
- Q. ASTM C150/C150M - Standard Specification for Portland Cement 2022.
- R. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete 2020.
- S. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method 2016.
- T. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).

- U. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete 2022.
- V. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing 2017.
- W. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete 2021.
- X. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures 2020.
- Y. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete 2018.
- Z. ASTM E1155 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers 2020.
- AA. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs 2018a.
- BB. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs 2017.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
- C. Mix designs: Submit mix design for each mix showing compliance with specified requirements.
- D. Test Reports: Submit report for each test or series of tests specified.
- E. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.
- F. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
 - 2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 - 3. Form Ties: Contractor's choice of standard product type that will leave no metal within 1-1/2 inches of concrete surface.

2.02 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Unfinished, unless otherwise indicated.
- B. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
 - 3. Do not use clay bricks or similar blocks/chunks of material as rebar chairs. Concrete dobies as rebar chairs are acceptable.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
 - 1. Acquire cement for entire project from same source.
- B. Cement: ASTM C150/C150M, Type I - Normal, Type II - Moderate, Portland type; or ASTM C595 Type IL - Portland-Limestone Cement Type.
 - 1. Acquire cement for entire project from same source.
- C. Fine and Coarse Aggregates: ASTM C33/C33M.
 - 1. Acquire aggregates for entire project from same source.
 - 2. Provide aggregate free of shale at all slab locations exposed to freeze/thaw action.
- D. Fly Ash: ASTM C618, Class C or F.
- E. Calcined Pozzolan: ASTM C618, Class N.
- F. Silica Fume: ASTM C1240, proportioned in accordance with ACI 211.1.
- G. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

- A. Chemical Admixture:
 - 1. Manufacturers by concrete supplier:
 - a. Master Builders Solutions: www.master-builders-solutions.com.
 - b. Grace Construction Products: www.grace.com.
 - c. Fritz-Pak: www.fritzpak.com.
 - d. Mapei GRT: www.mapei.com.
 - e. Sika Corporation U.S.: www.sika.com.
 - f. Euclid Chemical: www.euclidchemical.com.
 - g. Substitutions: See Section 01 6000 - Product Requirements.
- B. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- C. Admixtures shall comply with ASTM C494.
- D. Air Entrainment Admixture: ASTM C260/C260M.

2.05 ACCESSORY MATERIALS

- A. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
 - 1. Minimum Compressive Strength at 48 Hours: 2,000 pounds per square inch.
 - 2. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch.
- B. Epoxy Grout Systems: Where indicated provide Hilti Hit-Hy 200 Epoxy System; other indicated systems; or approved equivalent system.
 - 1. Hilti: www.hilti.com.
 - 2. Substitutions: See Section 01 6000 - Product Requirements.

2.06 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-redispersible acrylic latex, complying with ASTM C1059 Type II.
 - 1. Products:
 - a. SpecChem, LLC; Strong Bond Acrylic Bonder: www.specchemllc.com/#sle.
 - b. W. R. Meadows, Inc; ACRY-LOK-: www.wrmeadows.com/#sle.
 - c. Substitutions: See Section 01 6000 - Product Requirements.
- B. Expansion-Joint Filler: Polyethylene/polypropylene semi-rigid closed-cell backing complying with ASTM D 3575/ASTM D 8139/ASTM D 1751, 1/2 inch thick and full depth of slab less 1/2 inch with peel-off feature. Provide product by Master Builders Solutions, W.R. Meadows, Namaco, or equivalent.
 - 1. Place peel-off feature at top of slab when sealants are specified. Remove peel-off portion of expansion-joint filler prior to application of sealants.
 - 2. Place peel off feature at bottom of slab when no sealants are specified.

2.07 CURING MATERIALS

- A. Liquid Membrane Curing Compound: ASTM C 309, Type 2, Class B, White Pigmented.
 - 1. Product: L&M CURE R2 by Laticrete or approved equivalent.

- a. Other Approved Products:
 - 1) SpecRez White by SpecChem.
- 2. Application Locations: Exterior Concrete surfaces unless indicated otherwise. Finish surfaces to a light broom finish prior to applying curing compound.
- B. Moisture-Retaining Sheet: ASTM C171.
 - 1. White-burlap-polyethylene sheet, weighing not less than 3.8 ounces per square yard.

2.08 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
 - 1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
- D. Materials In General: Do not use materials or combinations thereof that will result in a reaction that is detrimental to the structural integrity or visual appearance of concrete.
- E. Normal Weight Concrete: Refer to structural notes on the drawings.

2.09 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C94/C94M.
- C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
 - 1. Use latex bonding agent only for non-load-bearing applications.
- E. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING

- A. Locate joints as indicated on drawings.

1. If no pattern is shown, contractor shall provide for 15 by 15 feet saw cut areas and shall contact Engineer for exact locations of joints.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
 1. Install wherever necessary to separate slab from other building members, including columns, walls, equipment foundations, footings, stairs, manholes, sumps, and drains.
- D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 24 hours after placing; use 3/16 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.
 1. Do not exceed 2 inches deep when/if slab thicknesses are greater than 8 inches.
- E. Construction Joints: Where not otherwise indicated, use materials compatible with plate dowel system steel plate dowel and plastic dowel sleeves with integral fasteners for attachment to formwork.
- F. Because of the effects of aggregate size and gradation, concrete consolidation, workmanship, detailing, cure, and other factors; contractor is responsible for cracking in base slabs and walls of liquid-holding structures, and shall repair any leaking cracks by sealing, injecting, or otherwise filling them. Where sealing is judged necessary by either contractor or engineer, contractor shall submit material and description of sealing to be used for review by engineer. Note that crystalline waterproofing as specified will heal tight cracks (less than approximately 1/64") over time in warm temperatures, but wide cracks or leak tests attempted in cold temperatures will require additional measures. Any wall which is or may be subject to external groundwater is considered liquid holding.
- G. Concrete walls in liquid-holding structures shall have waterstopped construction joints at a maximum spacing of 20 feet for concrete proportioned according to these notes and the specification. Full horizontal reinforcing shall extend through these joints and be developed each side of joint. At least 36 hours shall pass between adjacent wall pours in liquid-holding structures. Joint spacing in walls shall be measured between corners in a straight line or along a curve, but not around corners. For this purpose, a T-intersection counts as a corner at the intersecting wall but not at the continuing wall.
- H. Alternatively, a low-shrinkage mix may be proposed and shrinkage measured for the specific concrete mix to be used in the walls, and the maximum construction joint spacing determined by the equation $\text{spacing} = 1.50 / \text{sh}$, where "sh" is the shrinkage in percent from the 35 day shrinkage test described below; and the spacing is limited to 50 feet. Concrete placed in the walls shall have the same or lesser water content as that used in the test. Measurement of shrinkage shall be according to ASTM C157, except that the specimens should be moist cured (burlap and poly) for 7 days as required for in situ concrete rather than soaked in a lime-saturated bath for 28 days. Shrinkage shall be reported based on measurements at the end of the 7 day moist cure, and at 28 days after cessation of moist curing.
- I. Concrete base slabs in liquid-holding structures shall have waterstopped construction joints at a maximum spacing of 40 feet in each direction, with full reinforcing through the joint and developed each side of each joint. At least 36 hours shall pass between adjacent slab pours in liquid-holding structures.
- J. Alternatively, shrinkage may be measured as specified above for the specific concrete mix to be used in the base slab, and the maximum spacing determined by the equation $\text{spacing} = 3.0 / \text{sh}$, where "sh" is the shrinkage in percent from the 35 day shrinkage test described above and the spacing is limited to 100 feet. Concrete placed in the base slab shall have the same or lesser water content as that used in the test.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Refer to structural notes on the drawings.

3.07 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
 1. Where indicated install mechanical plugs for tie holes in accordance with manufacturers instructions.

- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide other finishes as follows:
 - 1. Grout-Cleaned Finish (Class A per ACI 347): Wet concrete surfaces and apply grout of a consistency of thick paint to coat surface and fill small holes. Mix one part portland cement to one and one-half parts fine sand with 1:1 moisture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
 - a. Locations: Provide this finish only where indicated on the drawings.
- D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.
 - a. Installation of sealant is recommended prior to installation of floor sealers to prevent the need for cleaning of saw cut joints for proper sealant adhesion.
 - b. Chemical Curer/Sealer/Dustproofer/Hardener(When Applicable): Apply product per manufacturer's instructions after curing and protection procedures are complete.
 - 1) Acceptable Product:
 - (a) Laticrete: www.laticrete.com.
 - (b) Product: L&M Dress & Seal; Acrylic Cure, Sealer, and Dustproofer.
 - (1) Location: Storage/mechanical/exposed areas not to receive other finishes.
 - (c) Product: L&M Seal Hard; Concrete Sealer, Densifier, Chemical Hardener.
 - (1) Location: Garage/shop/warehouse type areas.
 - 2) Other Acceptable Manufacturers:
 - (a) Dayton Superior Corporation: www.daytonsuperior.com.
 - (b) Master Builders Solutions: www.master-builders-solutions.com.
 - (c) Ashford Formula by Curecrete Distribution, Inc: www.ashfordformula.com.
 - (d) L.M. Scofield Company: www.scofield.com.
 - (e) The Euclid Chemical Company: www.euclidchemical.com.
 - 3) Substitutions: See Section 01 6000 - Product Requirements.
 - E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains as indicated on drawings.
 - F. At exterior slabs, aprons, and other horizontal locations provide a light broom finish and liquid membrane curing compound finish unless indicated otherwise.
 - G. At interior slabs do not over trowel where concrete is to be left exposed to avoid slippery surfaces when wet. Review finishing with Architect's representative prior to completing the work.

3.08 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Surfaces Not in Contact with Forms:
 - 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than 7 days by saturated burlap unless noted otherwise.
 - a. Saturated Burlap: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides; maintain in place.
 - 2. Final Curing: Begin after initial curing but before surface is dry.
 - 3. Where damp curing is not feasible due to location, and with written permission of SER, spray with an approved curing compound. In general, curing compound is not an acceptable substitute for damp curing.

3.09 MASS CONCRETE

- A. Unless otherwise noted, any concrete member with least dimension greater than 29 inches is defined as Mass Concrete. Smaller elements utilizing high strength concrete may be identified as Mass Concrete in the drawings or specification.
- B. Mass Concrete is subject to the following temperature limitations:
 - 1. Maximum internal temperature is 150 degrees Fahrenheit.
 - 2. Maximum differential (gradient) between internal (core) and nearby surface temperatures is 35 degrees Fahrenheit. Maximum differential between core and surface temperatures more than 20 feet apart is 40 degrees Fahrenheit.
- C. Contractor shall submit a Thermal Control and Placement Plan containing:
 - 1. Calculations of maximum internal temperature and maximum gradient, based on the approved mix design or designs.
 - 2. Required concrete temperature at time of placement (Maximum Placement Temperature).
 - 3. Estimated set time and finishing plan.
 - 4. Number and approximate location of temperature sensors, and measurement interval.
 - 5. Intended blanketing, with assumed likely range of external temperatures during and after placement. Note that blankets may be required in warm weather to control temperature gradient.
 - 6. Likely length of time that blankets are required to minimize gradient.
 - 7. If necessary, Plan shall also include cooling through internal piping.
 - 8. Through-thickness construction joints.
 - 9. Placement methodology (bucketing, pumps, conveyors, etc.) and intended placement rate.
 - 10. Placement intent for slabs (full thickness, or layers).
- D. On slabs, recheck surface elevations for changes due to subsidence or sloughing after initial screeding.
- E. Typical wet curing requirements apply to Mass Concrete, but blanket requirements in other sections are superseded by requirement C.5 above. Blankets are required in warm weather to reduce thermal gradient. Maintain blankets until core and surface temperatures are and are expected to remain within 40 degrees of one another; but blankets need not be maintained for more than two weeks.
- F. Typical cold weather temperature requirements apply to Mass Concrete unless superseded by the approved Thermal Control and Placement Plan.

3.10 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - Quality Requirements.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to Architect for review prior to commencement of concrete operations.
- D. For testing requirements refer to structural notes on the drawings and, where applicable, as indicated below.
- E. Refer to Section 01 3510 - Structural Testing and Special Inspection Requirements for testing requirements.

3.11 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
 - 1. Concrete damaged by the construction activities required to complete the Work of this section shall also be considered defective concrete.
- C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.12 PROTECTION

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

Division 07: Thermal and Moisture Protection

**SECTION 07 2100
THERMAL INSULATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Board insulation at perimeter foundation wall and underside of floor slabs.

1.02 REFERENCE STANDARDS

- A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation 2022.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.

1.04 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 FOAM BOARD INSULATION MATERIALS

- A. Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces.
 - 1. Type and Compressive Resistance: Type IV, 25 psi (173 kPa), minimum.
 - 2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
 - 3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 - 4. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature.
 - 5. Board Size: 48 x 96 inch.
 - 6. Board Thickness: As indicated on the drawings.
 - 7. Board Edges: Square.
 - 8. Thermal Conductivity (k factor) at 75 degrees F: 0.18.
 - 9. Compressive Resistance: 25 psi.
 - 10. Installation Locations:
 - a. Natural Skin Surfaces: All locations unless indicated otherwise.
 - b. Cut Cell Surfaces: Locations at grade where parging is indicated.
 - 11. Manufacturers:
 - a. DuPont de Nemours, Inc: building.dupont.com/#sle.
 - b. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
 - c. Kingspan Insulation LLC: www.trustgreenguard.com.
 - d. Diversifoam Products: www.diversifoam.com.
 - 12. Substitutions: See Section 01 6000 - Product Requirements.

2.02 ACCESSORIES

- A. Sill Plate Sealer: Closed-cell foam tape with rubberized adhesive membrane; bridges gap between foundation structure and sill plate or skirt board.
 - 1. Width: 3-1/2 inches.
 - 2. Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 30 days of weather exposure.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Apply adhesive to back of boards:
 - 1. By methods approved by board and adhesive manufacturers.
- B. Install boards horizontally on foundation perimeter.
- C. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 BOARD INSTALLATION UNDER CONCRETE SLABS

- A. Place insulation under slabs on grade after base for slab has been compacted.
- B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- C. Prevent insulation from being displaced or damaged while placing vapor retarder and placing slab.

3.04 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

Division 13: Special Construction

PREFABRICATED ENGINEERED CONTROL MODULE

PART 1 - SUMMARY

- 1.1 In accordance with the plans and specifications, the Contractor shall provide and install a complete pre-fabricated, pre-tested control building, including all required equipment, accessories, wiring and adjusting as indicated in the project specifications, on the project plan, and installed in accordance with applicable National, State and Local Codes.
- 1.2 All materials used and work performed under this section shall comply with rules and regulations of the latest edition of the State Electrical Code and local ordinances. Shop drawings and materials lists shall be submitted for equipment listed under this section.
- 1.3 It will be the responsibility of the contractor to protect and maintain all materials and work furnished and installed under this section until acceptance. The control module shall consist of two separate components:
 - A. Site poured concrete foundation. Base shall be poured by contractor prior to delivery of the control building.
 - B. Control module designed to be set over top of foundation and house all mechanical piping and valves, electrical, generator, pump controls and networking equipment. General Contractor to determine what equipment shall be field installed and what equipment shall be provided with the Control module. The control module shall be a packaged system.
- 1.4 Manufacturer alternatives to the proposed product shall be submitted for equivalent substitution during the bidding process.

PART 2 - QUALITY ASSURANCE

2.1 MANUFACTURER EXPERIENCE AND CAPABILITIES

- A. The prefabricated control structure and control panel(s) shall be manufactured by and at the same factory to ensure proper coordination and system integrity.
- B. The manufacturer shall be normally engaged in the manufacture of the described system(s).

The manufacturer shall be a company specializing in manufacturing of prefabricated control buildings.

- C. The manufacturer shall provide, or provide a modified version of, their standard product to meet these specifications.
- D. Upon request, the manufacturer shall provide the following information:
 - a. Successful installations list with locations, dates and drawings, as proof of conformance to the above requirements.
 - b. Minimum of three (3) end-user/customer references.

2.2 SUPPLIER CAPABILITIES

- A. Supplier shall have staffed services and parts office(s) within 4 hours of the project site.

PART 3 - SUBMITTALS

3.1 Submittals shall be provided as described herein for the prefabricated control building. Submittal and Shop Drawings' format shall be as described below.

3.2 The Submittals shall be a PDF document organized as follows:

- A. Cover with the following information:
 - a. Manufacturer product line.
 - b. Project name.
 - c. General description of equipment.
 - d. Project City and State.
 - e. Date of submittal in MM/YYYY format.
- B. Table of Contents:
 - a. Control building drawing set.
 - b. Control panel drawing set.
 - c. Control building bill of materials.
 - d. Control panel bill of materials.
 - e. Product Documentation.
- C. Building drawing set in the following format:
 - a. Title block with the following information:
 - I. Project City and State.
 - II. Project number/name.
 - III. Drawing by, checked by, and approved by.
 - IV. Date.
 - V. Space for record of drawing revision (e.g. "As-built") with MM/YY date of revision.
 - VI. Manufacturer contact information.
 - VII. Drawing file save path.
 - VIII. Date and time of most recent drawing save.
 - b. Cover with the following information:
 - I. Product model number.
 - II. Project description.
 - III. Equipment description.
 - IV. Project locations.
 - V. Local area map with install location noted.
 - VI. Drawing set index.
 - c. Structure elevations.
 - I. Exterior colors shall be noted in a table, which notes specific colors for each item:
 - i. Exterior.
 - ii. Louvers.
 - iii. Ventilation Fan.
 - iv. Fascia.
 - v. Soffits.
 - vi. Doors.
 - vii. Trim.
 - viii. Junction boxes.

PREFABRICATED ENGINEERED CONTROL MODULE

- ix. Roof steel
 - II. Elevations shall be labeled by site orientation (e.g. "North View").
 - III. All major items shall be identified with leaders.
 - IV. Scale noted
 - V. Elevations' width, length, and height.
 - VI. Roof pitch.
 - d. Structure floor plan.
 - I. Typical abbreviations and component descriptions.
 - II. Floor plan, which details pertinent dimensions.
 - III. Site orientation.
 - e. Structure mounting details.
 - I. Plan and section view of proposed concrete foundation.
 - II. Anchoring detail.
 - f. Field connections page.
 - I. Termination points required to be connected to by the site electrician shall be duplicated at the end of the drawing set, so that all required field connections are depicted in one dedicated location.
- D. Product Documentation.
- a. Datasheets for all major equipment shall be included with specific selections indicated with red boxes, underlines, arrows, and/or text.

PART 4 - FACTORY TESTING

- 4.1 The completed assemblies and any electrical and control panels and devices provided shall be tested at the factory prior to shipment. Electrical equipment shall be energized using the project specific voltage configuration. Controls shall be tested to confirm proper operation in all modes.
- 4.2 Factory witness testing shall be available to the Engineer and Owner upon request.

PART 5 - CONTROL MODULE

- 5.1 The walk-in module specified herein shall be designed to be set on and anchored to the foundation assembly described below. System module shall be adequately sized to incorporate all mechanical, piping, electrical, and control equipment shown in plans and specifications.

5.2 CONTROL MODULE FOUNDATION

- A. Foundation shall consist of concrete slab, with frost wall footings, properly dimensioned for the control building. Provide submittal of foundation for approval. Placement of piping stubbed up through this slab is critical as the control building arrives with a floor opening for installation. Contractor to coordinate with Prefabricated Control Module supplier. See drawings and related sections for additional information.
- B. Valves and piping within the control module shall be field assembled as shown on the drawings (Supplied by Contractor).

5.3 CONTROL MODULE GENERAL DESCRIPTION

- A. Control module shall be a weather-tight completely prewired automatic walk-in style control system for pump control and alarming. The Walk-In Module shall be Arrow Model G Series with the following included:
 - a. Prefabricated Module with nominal dimensions of 12' Wide x 28' Long x 11/13' High.
 - b. Fiberglass Entry Door.
 - c. Electrical equipment as determined by the General Contractor.
 - d. Generator with discharge and exhaust duct pre-installed.
 - e. All equipment and devices provided with Control Module shall be pre-wired in the factory before the Control Module is delivered unless noted otherwise.

5.4 CONTROL MODULE CONSTRUCTION

- A. **Control Module shall be designed and stamped by a Professional Engineer licensed in the state of Iowa per local loads and requirements.**
- B. Wall and Roof requirements:
 - a. Walls shall have a minimum effective R-Value of 15.5 at a maximum panel thickness of 5"
 - b. Roof shall have a minimum effective R-Value of 23.4 at a maximum panel thickness of 7"
 - c. Structure Roof and walls - The sum of the ratios of applied loads over allowable loads must be less the 1.0.
 - d. The core material, for the walls and roof, shall be Type 1 expanded polystyrene (EPS) foam plastic with a minimum thickness of 3-1/2".
 - e. The EPS shall be supplied to Unitized Control Structure by a manufacturer having ICC-ES evaluation reports, which are listed in the ICC-ES approved Insulspan quality control documentation.
 - f. The Wall and Roof structural material shall comply with the 2015 International Building Code.
 - g. Panel facing material shall be 7/16"-thick, Exposure 1, oriented strand board (OSB) with a span rating of 24/16 and complying with the performance-rated panel requirements specified in U.S. Department of Commerce Product Standard PS-2 and supplied by a manufacturer listed in the ICC-ES approved quality control documentation.
 - h. The roof covering must comply with Chapter 15 of the IBC, or IRC Section R901, as applicable. Roofs with hot-asphalt or hot-coal tar pitch are prohibited.
 - i. The exterior face of wall panels is required to be covered with a wall covering complying with the applicable code or recognized in a current ICC-ES evaluation report.
 - j. A water-resistive barrier must be installed over the panels in accordance with IBC Section 1404.2 or IRC Section R703.2, as applicable, prior to application of the wall covering.
 - k. The manufacturer of the Wall and Roof structural material shall have the following evidence submitted
 - I. Reports of tests conducted in accordance with ASTM E 119.
 - II. Report of a room corner fire test conducted in accordance with NFPA 286.
 - l. The Wall and Roof panels must have a label containing the name and address of the panel manufacturer, the product panel number, the evaluation report number and the name of the inspection agency.
 - m. 1/2" non-combustible gypsum core drywall shall be installed between structurally insulated

PREFABRICATED ENGINEERED CONTROL MODULE

- panels and interior surface FRP panels.
- n. Interior wall and ceiling surfaces shall be white FRP panels.
- C. Exterior requirements:
- a. Control Module shall be provided with a standing seam metal roof over synthetic weather barrier felt and faux-brick exterior, as shown on the drawings and described.
- I. Steel roof requirements are as follows:
- i. Panel specifications:
- 1) Material: Structural strength ASTM-A653 grade 80 steel pre-painted to ASTM-A755 specifications
 - 2) Rib Spacing: 16" on center
 - 3) Hail Resistance: Class 4
 - 4) Fire Rating: Class A
 - 5) Coating: G100 galvanization plus zinc phosphate
 - 6) Tensile Strength: Nominal 100,000 PSI
 - 7) Thickness: 0.0157"
 - 8) Weight: 0.77 PSF
 - 9) Fy: 82 KSI
 - 10) Wind Load: 182 PSF (based on 2ft girt spacing)
 - 11) Live Load: 127 PSF (based on 2ft purlin spacing)
 - 12) Fade Rating: Will not fade more than 7 NBS Rating: (Hunter) Units on non-vertical installations for a period of 30 years as determined by ASTM D-2244 and ASTM D-3964. (Distance from salt water environment must exceed 2000 meters for warranty to apply.)
- b. Control Module wall exterior shall be covered with faux-brick exterior panel system.
- c. Faux-brick exterior panel system shall be constructed of fiber cement stone panels based on autoclaved, wood fiber reinforced cement panels. Wood fiber bundles mixed with Portland cement and silica.
- d. Faux-brick panel system shall have the following typical properties:
- I. Linear Variation with Change in Moisture Content: M.D.: -0.006 in./ft., C.D.: 0.003 in./ft.
 - II. Wet Flexural Strength: Avg. 1155.51 psi.
 - III. Water Tightness: No water droplets observed on any specimen
 - IV. Freeze-thaw: No damage or defects observed.
 - V. Warm Water: No evidence of cracking, de-lamination, swelling, or other defects observed.
 - VI. Heat-Rain: No crazing, cracking, or other deleterious effects, surface or joint changes observed in any specimen.
 - VII. Mean Coefficient of Linear Thermal Expansion: Avg. 3.18×10^{-6} in./in. F.
 - VIII. Surface Burning: Flame Spread: 0, Smoke Developed: 5.
 - IX. Wind Load: Positive: Avg. 148.03 psf. Negative: Avg. 120.29 psf.
 - X. Water Penetration: No water leakage observed into wall cavity.
 - XI. Weather Resistant: No cracking, checking, crazing, erosion, or other detrimental effects observed.
 - XII. Steady-State heat flux and thermal Transmission Properties Test: test results showing that the panels to have a thermal resistance of R Value of 1.23 F.
 - XIII. Fire Resistant: The walls successfully endured a 60-minute fire exposure without developing excessive unexposed surface temperature or allowing flaming on the

- unexposed side of the assembly.
- e. Faux-brick panel system shall meet or exceed the following criteria:
 - I. ICC Evaluation Service, Inc. (ICC-ES) Evaluation Report No. ESR-1694.
 - II. ICC-ES Legacy Report No. 5915.
 - III. Canadian Construction materials Centre (CCMC) Evaluation Report No. CCMC 13083-R.
- D. Floor requirements:
 - a. Control Module shall be constructed with an integral steel frame base.
 - b. Floor decking shall be constructed of gray slip-resistant fiberglass.
 - I. Interlocking plank.
 - II. Fine grit gray surface.
 - III. 2" channel depth.
- E. Door requirements:
 - a. Moisture-resistant fiberglass entry doors.
 - b. Sized as shown on the Project plan drawings.
 - c. Hold-open type door closer shall be provided.
 - d. Color selection by Owner.
 - e. Closed cellular structure ensures doorframe and molding will not absorb moisture and resists splitting, rotting and insect damage.
 - f. Door shall be labeled with 'Well 21', visible from roadway.
- F. Door Lockset:
 - a. Grade 2 ANSI/BHMA certified
 - b. Commercial grade clutching motor drive; tested to one million cycles.
 - c. Vandal resistant clutching lever and knob design.
 - d. Code control; 6-digit programming code required to add and delete user codes.
 - e. Warning sounds after four incorrect codes entered; keypad disabled for 30 seconds.
 - f. Mechanical key override.
 - g. 19 user code capacity; 10,000 user code combinations.
 - h. Emergency exit feature; allows for panic-free exit.
 - i. Certifications and Standard Features:
 - I. Latch: 1" x 2-1/4" radius corner faceplate, 7/8" housing diameter, Triple-Option™ square corner, radius corner and circular drive-in faceplates.
 - II. Strikes: 1-5/8" x 2-1/4", square and radius corner, full lip, no box, latch strike.
 - III. Backset: Universal backset, fits 2-3/8" to 2-3/4" backsets.
 - IV. Cylinder: 5-pin solid brass, keyed 5-pin, C keyway, keyed different (KD).
 - V. Keys: Nickel silver cut keys, 5-pin, C-section.
 - VI. Codes: Pre-set random six-digit programming code, two pre-set four-digit user codes (19 code capacity).
 - VII. Minimum 5-1/2" center-to-center distance between cross bore holes.
 - VIII. 9-volt battery included with average three-year battery life.
 - IX. All-metal chassis and escutcheons.
 - X. Silicone rubber, wear-resistant buttons with LED backlight.
 - XI. ANSI A 156.2-2003 bored locks and latches.
 - XII. A 156.5-2001 Grade 2 cylinders.
 - XIII. FCC Part 15
 - XIV. CE Mark

- j. Or City Selected preferred lock system
 - G. Hydraulic Door Closer:
 - a. Heavy duty, hold-open type.
 - b. Standards:
 - I. ANSI A156.4 Grade 2
 - II. UL and cUL Listed.
 - c. Finish: Aluminum painted.
 - d. Max. door opening: 140 degrees.
 - e. Interior/exterior rated.
 - H. Lifting and Mounting
 - a. The Control Module shall be provided with integral fastening provisions which shall serve as the attachment location for both the lifting eyes and the anchoring plates (lifting eyes and anchoring plates provided by the control module manufacturer).
 - b. Contractor shall coordinate delivery to the jobsite with the Control Module manufacturer.
 - c. Contractor shall be responsible for providing a properly sized crane and spreader bars for offloading and setting of the Control Module onto the foundation.
 - d. Contractor shall be responsible for securing the Control Module to the foundation and provide the necessary anchors, epoxy, and other for proper installation. Contractor to contact Control Module manufacturer to verify provisions required for proper installation prior to installation.
 - e. As outlined in factory installation instructions.
 - I. Structural supports and Penetrations
 - a. Control Module surfaces shall support all equipment within plans and specifications provided with Control Module or field installed. Coordinate with General Contractor.
 - b. Provide necessary penetrations and coordinate field installed penetrations required.
- 5.5 Engine Generator
- A. Provide and install generator.
 - B. Refer to Section 26 3213 Engine Generators.

PART 6 - INSTALLATION

6.1 It shall be Arrow Starnet's responsibility to secure from the manufacturer – installation instructions prior to delivery. Arrow Starnet shall coordinate delivery with manufacturer at least 4 weeks prior to shipment of the Control Module to the jobsite. The Contractor shall study the instructions and drawings provided and direct any questions they have to the Control Module manufacturer representative for answers before proceeding with the station installation. The Contractor shall then install the Control Module in complete conformance with the manufacturer's recommendations.

6.2 CALIBRATION, ADJUSTMENTS AND TESTING

- A. Devices requiring field calibration shall be calibrated in the presence of the Owner's representative and be documented.

6.3 STATION START-UP

- A. The Contractor/Arrow Starnet/Electric Pump shall include in their Bid Price the cost of a field installation inspection and equipment start-up trip performed by the equipment manufacturer's authorized representative. The authorized representative shall certify in writing to the Engineer that the installation is in accordance with the respective manufacturer's requirements and that the warranty is validated.
- B. All factory wire terminations shall be verified and re-torqued/re-terminated after Control Station is delivered.
- C. The Contractor shall provide Operation & Maintenance manuals (including as-built wiring diagrams) for any controls, electrical, and instrumentation devices provided. The Operations and Maintenance manuals shall be submitted to and approved by the Contractor and then submitted to the Engineer. The manuals shall be complete at the time of the start-up. The Contractor shall also provide machine-specific Lockout and Tag-out procedures for all station equipment. Owner's representative shall sign off on the start-up. Start-up shall include the respective representatives for the following:
 - a. Control Module
 - b. Generator
 - c. Electrical Controls and Instrumentation provided.
- D. Demonstrate proper operation of all system features and functions to the Owner's representative and Engineer. Coordinate installation and start-up scheduling with Owner and Engineer.

PART 7 - OPERATIONS & MAINTENANCE MANUALS (O&Ms)

7.1 O&Ms shall be provided as described herein for the prefabricated control building. Manual and Shop Drawings' format shall be as described below.

7.2 The O&M shall be a PDF and hardcopy document organized as follows:

- A. Cover with the following information:
 - a. Manufacturer product line.
 - b. Project name.
 - c. General description of equipment.
 - d. Project City and State.
 - e. Date of submittal in MM/YYYY format.
- B. Table of Contents:
 - a. Control building drawing set.
 - b. Control building bill of materials.
 - c. Product Documentation.
- C. Building drawing set in the following format:
 - a. Title block with the following information:
 - I. Project City and State.
 - II. Project number/name.

- III. Drawing by, checked by, and approved by.
- IV. Date.
- V. Space for record of drawing revision (e.g. "As-built") with MM/YY date of revision.
- VI. Manufacturer contact information.
- VII. Drawing file save path.
- VIII. Date and time of most recent drawing save.
- b. Cover with the following information:
 - I. Product model number.
 - II. Project description.
 - III. Equipment description.
 - IV. Project locations.
 - V. Local area map with install location noted.
 - VI. Drawing set index.
- c. Structure elevations.
 - I. Exterior colors shall be noted in a table, which notes specific colors for each item:
 - i. Exterior.
 - ii. Louvers.
 - iii. Ventilation Fan.
 - iv. Fascia.
 - v. Soffits.
 - vi. Doors.
 - vii. Trim.
 - viii. Junction boxes.
 - ix. Roof steel/shingles.
 - II. Elevations shall be labeled by site orientation (e.g. "North View").
 - III. All major items shall be identified with leaders.
 - IV. Scale noted
 - V. Elevations' width, length, and height.
 - VI. Roof pitch.
- d. Structure floor plan.
 - I. Typical abbreviations and component descriptions.
 - II. Floor plan, which details pertinent dimensions.
 - III. Site orientation.
- e. Structure mounting details.
 - I. Plan and section view of proposed concrete foundation.
 - II. Anchoring detail.
- f. Cover with the following information:
 - I. Product model number.
 - II. Project description.
 - III. Equipment description.
 - IV. Project locations.
 - V. Local area map with install location noted.
 - VI. Drawing set index.
- g. Typical symbols and abbreviations.
 - I. Explanations for symbols and abbreviations commonly used in the schematics.
- h. Equipment elevations and nameplate schedule.
 - I. Tag/location for individual compartments/panels.

- II. Dimensions.
- III. Door component layout(s) with numerical ID for each component depicted.
- i. Electrical Schematics of equipment provided.
 - I. Each sheet shall have two sets of sequential rung numbers.
 - II. Component tags and wire numbers shall reference the first rung they appear at within the drawing set.
 - III. Voltage characteristics shall be identified.
 - IV. Ampacity/trip rating shall be identified for fuses, circuit breakers and similar.
 - V. Each component or circuit shall be described in a margin to the right.
 - VI. Spare rungs may be reserved between pages to accommodate future additions or for unused optional features.
- j. Field connections page.
 - I. Termination points required to be connected to by the site electrician shall be duplicated at the end of the drawing set, so that all required field connections are depicted in one dedicated location.
- D. Product Documentation.
 - a. Datasheets for all major equipment shall be included with specific selections indicated with red boxes, underlines, arrows, and/or text.
 - b. Manufacturer's manuals shall be included for all components which are programmable, configurable, or have specific maintenance requirements.

PART 8 - GUARANTEE

- 8.1 Manufacturer of the Control Module shall furnish a limited warranty of 12-months from start-up that all equipment shall be free from defects in design, materials, and workmanship. The manufacturer shall furnish replacement parts for any component proven defective within the provided equipment, whether assembled by them or other manufacturer during the warranty period, excepting only those items which are normally consumed in service.

Division 22: Plumbing

SECTION 22 0010
BASIC MECHANICAL PLUMBING REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Basic Mechanical Plumbing Requirements specifically applicable to Division 22 in addition to Division 1 - General Requirements.

1.02 SCOPE OF WORK

- A. The Mechanical Plumbing Contract shall also include furnishing and installing a complete plumbing system for the new building and all other related work as called for under the specifications and shown on plans.

1.03 WORK INCLUDED

- A. The Mechanical Plumbing Contract shall include all work under the listed Division 22 of the Specifications Index and all related Mechanical work as shown on the Drawings for the project.
- B. A Complete table of Mechanical Reference Symbols is shown on the plans.
- C. Under this Contract the Mechanical Contractor shall furnish the Owner with a PDF of all pertinent systems related documents stored on a solid state external hard drive or a single flash stick. Submit a single PDF to the Engineer for his review. The Engineer will then turn information provided over to the Owner. The PDF shall contain the following items:
 - 1. Shop drawings on all major equipment.
 - 2. Operating Instructions for all major equipment.
 - 3. Maintenance Instructions for all major equipment.
 - 4. Wiring diagrams for all equipment.
 - 5. Test and Balance Reports.
 - 6. The Mechanical installation to be made under Division 23 is set up for contract bidding as follows:
 - a. Mechanical HVAC Contractor is a sub-contractor to the General Contractor.
 - 1) The Mechanical contractor is responsible for own equipment, such as cranes, lifts, etc. in order to provide a complete installation of mechanical systems.
 - 2) The Mechanical contractor shall be a sub-contractor to the General Contractor and shall include in his bid, prices from sub-contractors for control wiring, and other trades necessary to complete the entire job.
- D. Under this Contract the Mechanical Contractor shall furnish the Owner with two 3-ring binders of all pertinent systems related documents. Submit manuals to the Engineer for his review. The Engineer will then turn books over to the Owner. The books shall contain the following items:
 - 1. Shop drawings on all major equipment.
 - 2. Operating Instructions for all major equipment.
 - 3. Maintenance Instructions for all major equipment.
 - 4. Wiring diagrams for all equipment.
 - 5. Test and Balance Reports.
- E. The Mechanical Contractor is responsible for contacting the utility companies and coordinating the water, sewer and natural gas connections for the building service. Include all costs in bid.
- F. The Mechanical installation to be made under Divisions 22 is set up for contract bidding as follows:
 - 1. Mechanical Plumbing Contractor is a sub-contractor to the General Contractor.
 - a. The Mechanical contractor is responsible for own equipment, such as cranes, lifts, etc. in order to provide a complete installation of mechanical systems.
 - b. The Mechanical contractor shall be a sub-contractor to the General Contractor and shall include in his bid, prices from sub-contractors for control wiring, and other trades necessary to complete the entire job.

1.04 SPECIFICATIONS COMPLIANCE

- A. The requirements of these specifications shall be complied with in every respect. Therefore, it shall be absolutely mandatory that the job foreman, all lead mechanics, subcontractors and their foreman have completely studied these specifications, be completely knowledgeable as to

their entire contents, and maintain a copy at the job-site. Failure to comply with this requirement will be reason to presume the mechanic or subcontractor is not in responsible charge of his work due to ignorance of job requirements, and will be reason for the owner to require dismissal and replacement with approved personnel. Every foreman and lead mechanic shall be provided with a complete copy of this specification.

1.05 INCONSISTENCIES

- A. If there is an inconsistency in the quality and/or quantity of Work required by the Contract Documents, either the greater quality and/or quantity of Work indicated shall be provided in accordance with the Engineer/Architect's interpretation without change in the contract sum.

1.06 WORK NOT INCLUDED

- A. The following work is not included as part of the Contract.
 - 1. The removal and storage of any equipment in the building required to be moved or relocated during the construction process.

1.07 CODES, FEES AND LATERAL COSTS

- A. The Plumbing Installation shall meet all applicable local, state and federal codes and standards.
- B. All permits necessary for a complete plumbing installation shall be paid for by this Contractor.
- C. This contractor shall contact the local utilities for gas, water, sanitary and storm sewers, and include in their bid the any costs associated with service installation charges of the utility(s).
- D. Except in those municipalities which provide state- approved electrical inspection, all installation of electrical equipment wiring shall be inspected by the State Board of Electricity. Allowance shall be made in the bid and contract for the cost of such inspection.
 - 1. Fees for such inspection will be charged in accordance with the rules and regulations of the State Board of Electricity. Evidence of payment of fees shall be provided by the Contractor with his Request for Payment.

1.08 REFERENCES

- A. All equipment, piping, etc., shall be new and shall be installed to meet the approval of the following additional ordinances: ASME Rules for Pressure Tanks, National Board of Fire Underwriter's Rules, American Waterworks and the American Gas Association.

1.09 SUBMITTALS

- A. Submit under provisions of Division 01 3000.
- B. Products Scheduled on the Drawings by Naming one Manufacturer, but not Indicating Other Approved Manufactures in the Specifications: Use any equivalent product complying with the specifications in general and equivalent to the "Basis of Design" identified in the drawing's schedules. Pre-bid substitutions are not required in this situation.
- C. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal.
- D. All documents shall be submitted in .pdf format unless pre-approved by Engineer.
- E. The contractor shall not use any equipment or materials that does not have the engineer's stamped approval.
- F. Mark dimensions and values in units to match those specified.

1.10 PROJECT/SITE CONDITIONS

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.

1.11 SEQUENCING AND SCHEDULING

- A. Construct Work in sequence under provisions of Division 1.

1.12 PRE-CONSTRUCTION COORDINATION AND VERIFICATION

- A. This Contractor shall coordinate his work with other Contractors on this job. Any conflict which cannot be resolved shall be settled by the Architect/Engineer.
- B. Field verification of scale dimensions on plans is directed since actual locations, distances and levels will be governed by actual field conditions.

- C. The Contractors shall check architectural, structural, plumbing, heating, ventilating and electrical plans to avert possible installation conflicts. Should drastic changes from original plans be necessary to resolve such conflicts this Contractor shall notify the Architect/Engineer and secure written approval and agreement on necessary adjustments before the installation is started.
- D. Discrepancies shown on different plans or between plans and actual field conditions or between plans and specifications shall promptly be brought to the attention of the Architect/Engineer for a decision.
- E. The Contractor shall consider and review the complete set of documents, etc., Architectural, Structural, Mechanical, Electrical, etc., (Drawings and Specifications) as his complete set. He will be responsible for any and all mechanical work shown or stated (to be by him), to include this work in his bid and install such items even though they are not specifically shown or stated on the Mechanical section of the plans and specifications.

1.13 COORDINATION

- A. Contractor shall be responsible for continual coordination of the mechanical work with other trades so as to avoid conflicts in installation. Contractor shall cooperate with other trades to assure that construction proceeds in an orderly and timely manner.
- B. Study the civil, structural, electrical, shop and any specialty drawings and specifications to determine required coordination.
 - 1. Anchor bolts, sleeves, inserts and supports that may be required for the mechanical work shall be furnished and installed under the same division of the specifications as the respective items to be supported. Excluded from this requirement are cast in place anchor bolts.
 - 2. Slots, chases, openings and recesses through floors and walls as specified will be provided by the various trades in their respective materials, but the trade requiring them shall see that they are properly located in zones provided or otherwise approved by the Engineer or Architect and/or Owner.
 - 3. Locations of pipes, panels, equipment, fixtures, etc., shall be adjusted to accommodate interferences encountered. The Project Coordinator shall determine the exact rerouting and location of each pipe and/or duct encountered prior to fabrication.
 - a. Right-of-Way: Lines which pitch shall have the right of way over those which do not pitch. Lines whose elevations cannot be changed shall have the right of way over lines whose elevations can be changed.
 - b. Offsets, transitions and changes in direction in pipes shall be made as required to maintain proper head room and pitch of sloping lines whether or not indicated on the drawings.
 - 4. Installation of Arrangement: The contractor shall install all mechanical work to permit removal of, and access to, (without damage to other parts) all parts requiring periodic replacement or maintenance.
- C. Contractor to expose and verify
- D. Layout Priority:
 - 1. All trades shall understand that other trades will need to work in the same areas during the project. All final decisions as to the right-of-way and runs of utility lines (pipes, ducts, etc.) shall be made by Owner and/or Architect. In general, priority shall be given as follows:
 - a. Process piping which must be drainable
 - b. Sheet metal ductwork
 - c. Light Fixtures
 - d. Plumbing waste lines, downspouts, and vents
 - e. Sprinkler piping
 - f. Gravity water lines
 - g. Ice water or steam lines
 - h. Refrigerant lines
 - i. Gas and air lines
 - j. Plumbing water
 - k. Electrical conduit
 - l. Control air lines

- E. PREPARE DETAILED SHOP DRAWINGS WHERE NECESSARY TO ASSURE PROPER FIT AND NECESSARY CLEARANCE.

1.14 CUTTING, PATCHING AND FIRESTOPPING

- A. The Plumbing Contractor shall set all sleeves in construction for their Work.
- B. Where cutting is required, it shall be done by the Plumbing Contractor.
- C. All patching shall be done by Plumbing Contractor.
- D. All cutting of any kind must be done with great care so as not to leave unsightly surfaces which may not be entirely concealed by plates, escutcheons, or their normal concealing construction, if such unsightly conditions occur, Plumbing Contractor will be required, at their own expense, to replace the damaged construction.
- E. This Plumbing Contractor shall provide and install firestopping materials per Section 07 8400 - Firestopping.

1.15 ACCESS PANELS REQUIRED BY TRADE

- A. Trade requiring access shall provide and install access panels where not shown or specified.
- B. The finished appearance and function will be subject to approval by the Architect/Owner.
- C. Provide panels that accommodate adjacent finishes in finished spaces.
- D. Access panels shall meet all code requirements for each location they are installed and shall be sized appropriately.

1.16 ELECTRICAL

- A. Electrical Contractor shall furnish all motor starters and motor controls and provide all wiring for motor control operation, except if specified otherwise.

1.17 ADDITIONAL ELECTRICAL COSTS

- A. If the Mechanical Contractor substitutes equipment for specified units, the mechanical contractor shall be responsible for any additional electrical installation costs for this substitution whether the other equipment was listed as equal in the specification or was approved equal after the project was in the bidding process.

1.18 GUARANTEE

- A. This Contractor shall be responsible for the proper installation and working of everything in this contract and shall guarantee to remedy free of charge any defects in workmanship and materials that may appear to give or gives rise to trouble of any kind for a period of one year from date of final substantial completion.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 22 1005
PLUMBING PIPING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe, pipe fittings, specialties, and connections for piping systems.
 - 1. Sanitary sewer.
 - 2. Condensate.
 - 3. Natural Gas.

1.02 REFERENCE STANDARDS

- A. ASME B16.3 - Malleable Iron Threaded Fittings: Classes 150 and 300 2021.
- B. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings: DWV 2021.
- C. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings—DWV 2017.
- D. ASME B31.1 - Power Piping 2022.
- E. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.
- F. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service 2022.
- G. ASTM B32 - Standard Specification for Solder Metal 2020.
- H. ASTM B302 - Standard Specification for Threadless Copper Pipe, Standard Sizes 2017.
- I. ASTM D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems 2020.
- J. ASTM D2665 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings 2020.
- K. ASTM D2855 - Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets 2020.
- L. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings 2021.
- M. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation 2018, with Amendment (2019).
- N. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends 2010, with Errata .
- O. NSF 61 - Drinking Water System Components - Health Effects 2022, with Errata.
- P. NSF 372 - Drinking Water System Components - Lead Content 2022.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with applicable codes.
- B. Valves: Manufacturer's name and pressure rating marked on valve body.
- C. Identify pipe with marking including size, ASTM material classification, ASTM specification, potable water certification, water pressure rating.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Potable Water Supply Systems: Provide piping, pipe fittings, and solder and flux (if used), that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.02 SANITARY SEWER PIPING, BURIED WITHIN 5 FEET OF BUILDING

- A. PVC Pipe: ASTM D2665 or ASTM D3034.
 - 1. Fittings: PVC.
 - 2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.03 CONDENSATE PIPING ABOVE GRADE

- A. Copper Pipe: ASTM B42.
 - 1. Fittings: ASME B16.23, cast copper, or ASME B16.29, wrought copper.
 - 2. Joints: ASTM B32, alloy Sn50 solder.
- B. PVC Pipe: ASTM D2665.
 - 1. Fittings: PVC.
 - 2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.04 NATURAL GAS PIPING, ABOVE GRADE

- A. Steel Pipe: ASTM A53/A53M Schedule 40 black.
 - 1. Fittings: ASME B16.3, malleable iron, or ASTM A234/A234M, wrought steel welding type.
 - 2. Joints: Threaded or welded to ASME B31.1.

2.05 PIPE HANGERS AND SUPPORTS

- A. Provide hangers and supports that comply with MSS SP-58.
 - 1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
 - 2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
 - 3. Trapeze Hangers: Welded steel channel frames attached to structure.
 - 4. Vertical Pipe Support: Steel riser clamp.

2.06 MANUFACTURED SLEEVE-SEAL SYSTEMS

- A. Modular/Mechanical Seal:
 - 1. Synthetic rubber interlocking links continuously fill annular space between pipe and wall/casing opening.
 - 2. Provide watertight seal between pipe and wall/casing opening.
 - 3. Elastomer element size and material in accordance with manufacturer's recommendations.
 - 4. Glass reinforced plastic pressure end plates.

2.07 BALL VALVES

- A. Manufacturers:
 - 1. Anvil International; []: www.anvilintl.com/#sle.
 - 2. Apollo Valves; []: www.apollovalves.com/#sle.
 - 3. Grinnell Products; []: www.grinnell.com/#sle.
 - 4. Nibco, Inc; []: www.nibco.com/#sle.
- B. Construction, 4 inch and Smaller: MSS SP-110, Class 150, 400 psi CWP, bronze or ductile iron body, 304 stainless steel or chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle with balancing stops, threaded or grooved ends with union.

PART 3 EXECUTION

3.01 PREPARATION

- A. Remove scale and dirt, on inside and outside, before assembly.
- B. Prepare piping connections to equipment with flanges or unions.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. PVC Pipe: Make solvent-welded joints in accordance with ASTM D2855.

END OF SECTION

**SECTION 22 1006
PLUMBING PIPING SPECIALTIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Drains.

1.02 REFERENCE STANDARDS

- A. Applicable State Plumbing Code with Amendments
- B. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- C. ASME A112.6.3 - Floor and Trench Drains 2019.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide component sizes, rough-in requirements, service sizes, and finishes.
- C. Shop Drawings: Indicate dimensions, weights, and placement of openings and holes.

PART 2 PRODUCTS

2.01 DRAINS

- A. Floor Drain (FD-1):
 - 1. ASME A112.6.3; lacquered cast iron or stainless steel, two piece body with double drainage flange, weep holes, reversible clamping collar, and round, adjustable nickel-bronze strainer.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

END OF SECTION

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Division 23: Heating, Ventilating, and Air-Conditioning (HVAC)

SECTION 23 0010
BASIC MECHANICAL HVAC REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Basic Mechanical HVAC Requirements specifically applicable to Division 23 in addition to Division 1 - General Requirements.

1.02 SCOPE OF WORK

- A. The Mechanical HVAC Contract shall also include furnishing and installing a complete heating, ventilating and air conditioning system for the new building and all other related work as called for under the specifications and shown on plans.

1.03 WORK INCLUDED

- A. The Mechanical HVAC Contract shall include all work under the listed Division 23 of the Specifications Index and all related Mechanical work as shown on the Drawings for the project.
- B. A Complete table of Mechanical Reference Symbols is shown on the plans.
- C. Under this Contract the Mechanical Contractor shall furnish the Owner with a PDF of all pertinent systems related documents stored on a solid state external hard drive or a single flash stick. Submit a single PDF to the Engineer for his review. The Engineer will then turn information provided over to the Owner. The PDF shall contain the following items:
 - 1. Shop drawings on all major equipment.
 - 2. Operating Instructions for all major equipment.
 - 3. Maintenance Instructions for all major equipment.
 - 4. Wiring diagrams for all equipment.
 - 5. Test and Balance Reports.
 - 6. The Mechanical installation to be made under Division 23 is set up for contract bidding as follows:
 - a. Mechanical HVAC Contractor is a sub-contractor to the General Contractor.
 - 1) The Mechanical contractor is responsible for own equipment, such as cranes, lifts, etc. in order to provide a complete installation of mechanical systems.
 - 2) The Mechanical contractor shall be a sub-contractor to the General Contractor and shall include in his bid, prices from sub-contractors for control wiring, and other trades necessary to complete the entire job.

1.04 SPECIFICATIONS COMPLIANCE

- A. The requirements of these specifications shall be complied with in every respect. Therefore, it shall be absolutely mandatory that the job foreman, all lead mechanics, subcontractors and their foreman have completely studied these specifications, be completely knowledgeable as to their entire contents, and maintain a copy at the job-site. Failure to comply with this requirement will be reason to presume the mechanic or subcontractor is not in responsible charge of his work due to ignorance of job requirements, and will be reason for the owner to require dismissal and replacement with approved personnel. Every foreman and lead mechanic shall be provided with a complete copy of this specification.

1.05 INCONSISTENCIES

- A. If there is an inconsistency in the quality and/or quantity of Work required by the Contract Documents, either the greater quality and/or quantity of Work indicated shall be provided in accordance with the Engineer/Architect's interpretation without change in the contract sum.

1.06 WORK NOT INCLUDED

- A. The following work is not included as part of the Contract.
 - 1. The removal and storage of any equipment in the building required to be moved or relocated during the construction process.

1.07 CODES, FEES AND LATERAL COSTS

- A. The Heating, Ventilation and Air Conditioning Installation shall meet all applicable local, state and federal codes and standards.
- B. All permits necessary for a complete heating and ventilation installation shall be paid for by this Contractor.

- C. Except in those municipalities which provide state- approved electrical inspection, all installation of electrical equipment wiring shall be inspected by the State Board of Electricity. Allowance shall be made in the bid and contract for the cost of such inspection.
 - 1. Fees for such inspection will be charged in accordance with the rules and regulations of the State Board of Electricity. Evidence of payment of fees shall be provided by the Contractor with his Request for Payment.

1.08 REFERENCES

- A. All equipment, piping, etc., shall be new and shall be installed to meet the approval of the following additional ordinances: ASME Rules for Pressure Tanks, National Board of Fire Underwriter's Rules, American Waterworks and the American Gas Association.

1.09 SUBMITTALS

- A. Submit under provisions of Division 01 3000.
- B. Products Scheduled on the Drawings by Naming one Manufacturer, but not Indicating Other Approved Manufactures in the Specifications: Use any equivalent product complying with the specifications in general and equivalent to the "Basis of Design" identified in the drawing's schedules. Pre-bid substitutions are not required in this situation.
- C. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal.
- D. All documents shall be submitted in .pdf format unless pre-approved by Engineer. The contractor shall not use any equipment or materials that does not have the engineer's stamped approval.
- E. Mark dimensions and values in units to match those specified.

1.10 PROJECT/SITE CONDITIONS

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.

1.11 SEQUENCING AND SCHEDULING

- A. Construct Work in sequence under provisions of Division 1.

1.12 PRE-CONSTRUCTION COORDINATION AND VERIFICATION

- A. This Contractor shall coordinate his work with other Contractors on this job. Any conflict which cannot be resolved shall be settled by the Architect/Engineer.
- B. Field verification of scale dimensions on plans is directed since actual locations, distances and levels will be governed by actual field conditions.
- C. The Contractors shall check architectural, structural, plumbing, heating, ventilating and electrical plans to avert possible installation conflicts. Should drastic changes from original plans be necessary to resolve such conflicts this Contractor shall notify the Architect/Engineer and secure written approval and agreement on necessary adjustments before the installation is started.
- D. Discrepancies shown on different plans or between plans and actual field conditions or between plans and specifications shall promptly be brought to the attention of the Architect/Engineer for a decision.
- E. The Contractor shall consider and review the complete set of documents, etc., Architectural, Structural, Mechanical, Electrical, etc., (Drawings and Specifications) as his complete set. He will be responsible for any and all mechanical work shown or stated (to be by him), to include this work in his bid and install such items even though they are not specifically shown or stated on the Mechanical section of the plans and specifications.

1.13 COORDINATION

- A. Contractor shall be responsible for continual coordination of the mechanical work with other trades so as to avoid conflicts in installation. Contractor shall cooperate with other trades to assure that construction proceeds in an orderly and timely manner.
- B. Study the civil, structural, electrical, shop and any specialty drawings and specifications to determine required coordination.
 - 1. Anchor bolts, sleeves, inserts and supports that may be required for the mechanical work shall be furnished and installed under the same division of the specifications as the

respective items to be supported. Excluded from this requirement are cast in place anchor bolts.

2. Slots, chases, openings and recesses through floors and walls as specified will be provided by the various trades in their respective materials, but the trade requiring them shall see that they are properly located in zones provided or otherwise approved by the Engineer or Architect and/or Owner.
 3. Locations of pipes, panels, equipment, fixtures, etc., shall be adjusted to accommodate interferences encountered. The Project Coordinator shall determine the exact rerouting and location of each pipe and/or duct encountered prior to fabrication.
 - a. Right-of-Way: Lines which pitch shall have the right of way over those which do not pitch. Lines whose elevations cannot be changed shall have the right of way over lines whose elevations can be changed.
 - b. Offsets, transitions and changes in direction in pipes shall be made as required to maintain proper head room and pitch of sloping lines whether or not indicated on the drawings.
 4. Installation of Arrangement: The contractor shall install all mechanical work to permit removal of, and access to, (without damage to other parts) all parts requiring periodic replacement or maintenance.
- C. Layout Priority:
1. All trades shall understand that other trades will need to work in the same areas during the project. All final decisions as to the right-of-way and runs of utility lines (pipes, ducts, etc.) shall be made by Owner and/or Architect. In general, priority shall be given as follows:
 - a. Process piping which must be drainable
 - b. Sheet metal ductwork
 - c. Light Fixtures
 - d. Plumbing waste lines, downspouts, and vents
 - e. Sprinkler piping
 - f. Gravity water lines
 - g. Ice water or steam lines
 - h. Refrigerant lines
 - i. Gas and air lines
 - j. Plumbing water
 - k. Electrical conduit
 - l. Control air lines

- D. PREPARE DETAILED SHOP DRAWINGS WHERE NECESSARY TO ASSURE PROPER FIT AND NECESSARY CLEARANCE.

1.14 CUTTING, PATCHING, AND FIRESTOPPING

- A. The Mechanical Contractor shall set all sleeves in construction for their Work.
- B. Where cutting is required, it shall be done by the Mechanical Contractor.
- C. All patching shall be done by Mechanical Contractor.
- D. All cutting of any kind must be done with great care so as not to leave unsightly surfaces which may not be entirely concealed by plates, escutcheons, or their normal concealing construction, if such unsightly conditions occur, Mechanical Contractor will be required, at their own expense, to replace the damaged construction.
- E. This Mechanical Contractor shall provide and install firestopping materials per Section 07 8400 - Firestopping.

1.15 ACCESS PANELS REQUIRED BY TRADE

- A. Trade requiring access shall provide and install access panels where not shown or specified.
- B. The finished appearance and function will be subject to approval by the Architect/Owner.
- C. Provide panels that accommodate adjacent finishes in finished spaces.
- D. Access panels shall meet all code requirements for each location they are installed and shall be sized appropriately.

1.16 ELECTRICAL

- A. Electrical Contractor shall furnish all motor starters and motor controls and provide all wiring for motor control operation, except if specified otherwise.

1.17 ADDITIONAL ELECTRICAL COSTS

- A. If the Mechanical Contractor substitutes equipment for specified units, the mechanical contractor shall be responsible for any additional electrical installation costs for this substitution whether the other equipment was listed as equal in the specification or was approved equal after the project was in the bidding process.

1.18 GUARANTEE

- A. This Contractor shall be responsible for the proper installation and working of everything in this contract and shall guarantee to remedy free of charge any defects in workmanship and materials that may appear to give or gives rise to trouble of any kind for a period of one year from date of final substantial completion.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 23 3700
AIR OUTLETS AND INLETS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Louvers.

1.02 REFERENCE STANDARDS

- A. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating 2012 (Reapproved 2015).
- B. ASHRAE Std 70 - Method of Testing the Performance of Air Outlets and Air Inlets 2006 (Reaffirmed 2021).
- C. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible 2021.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.
 - 1. Include complete performance data and descriptive literature including finish and accessory items.
- C. Project Record Documents: Record actual locations of air outlets and inlets.

1.04 QUALITY ASSURANCE

- A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.
- B. Test and rate louver performance in accordance with AMCA 500-L.

PART 2 PRODUCTS

2.01 LOUVERS

- A. Type: 6 inch deep with blades on 45 degree slope with center baffle and return bend, heavy channel frame, 1/2 inch square mesh screen over exhaust and 1/2 inch square mesh screen over intake.
- B. Mounting: Furnish with interior flat flange for installation.

PART 3 EXECUTION

3.01 INSTALLATION

- A. The contractor shall inspect all equipment for damage upon delivery and shall immediately report damage to the owner and replace or repair such damage to the satisfaction of the owner. Install in accordance with manufacturer's instructions.
- B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.
- C. Install items in accordance with manufacturer's instructions.

3.02 ADJUSTING AND CLEANING

- A. All installed materials shall have debris removed and shall be vacuumed clean of dust. Remove any strippable protective coating using manufacturer's recommended method.

END OF SECTION

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**SECTION 23 8119
SELF-CONTAINED AIR-CONDITIONERS**

<<<< UPDATE NOTES

PART 1 GENERAL

2.01 SECTION INCLUDES

- A. Packaged terminal air conditioning units.

2.02 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide drawings indicating dimensions, rough-in connections, and electrical characteristics and connection requirements.

2.03 DELIVERY, STORAGE, AND HANDLING

- A. Protect finished cabinets from physical damage by leaving factory packing cases in place before installation and providing temporary covers after installation.

PART 2 PRODUCTS

3.01 MANUFACTURERS

- A. Bard Manufacturing Company, Inc. www.bardhvac.com
- B. Substitutions: See Section 01 6000 - Product Requirements.

3.02 PERFORMANCE REQUIREMENTS

- A. See Schedule on plan drawings.

3.03 AIR CONDITIONING UNITS

- A. Description: Packaged, self-contained, through-the-wall air cooled terminal air conditioning units, with wall sleeve, room cabinet, electric refrigeration system, electric heating, outside air louvers, built-in temperature controls; fully charged with refrigerant and filled with oil.

3.04 CABINET

- A. Each exterior casing panel to be bonderized and finished with baked-on exterior polyester enamel paint prior to assembly. The baked-on cured paint finish shall pass the industry rub test with a minimum of 72 rubs MEK (Methyl Ethyl Ketone) or standard rub test of a minimum of 100 rubs using Toluene.
- B. Cooling section shall be fully insulated with a non –fiberglass material with heavy duty foil facing for durability and ease of cleaning. Fiberglass insulation is not acceptable.
- C. Openings shall be provided for power connections. Access openings appropriate for outside structure to all fan motors and compressor for making repairs and for removing internal components without removing unit from its permanent installation. Fresh air intake and outdoor coil shall be protected from intrusions by a sturdy metal grating with less than 1/4 inch openings.

3.05 DRAIN PAN

- A. Drain pan shall be constructed of 20-gauge galvanized steel, bonderized and finished with baked-on exterior polyester enamel paint.

3.06 REFRIGERATION SYSTEM

- A. All models shall use a high efficiency hermetic scroll compressor. The refrigeration circuit shall be equipped with factory installed high and low pressure controls, suction and liquid access valves, compressor control module and liquid line filter dryer. A refrigerate metering device is included. Compressor shall be mounted on rubber grommets. Unit shall be provided with R-410A (HFC) non-ozone depleting refrigerant.
- B. The condenser coil shall be constructed of aluminum plate fins mechanically bonded to seamless copper tubes. The condenser fan, motor and shroud shall be of slide out configuration for easy access. Condenser fan motor shall be enclosed casing with ball bearings. Open winding motors are not accepted.
- C. The evaporator coil shall constructed of aluminum fins mechanically bonded to seamless copper tubes. Aluminum fins shall have a hydrophilic coatings, to aid in condensate drainage,

inhibit mold growth and protect aluminum fins from oxidation. 5 speed indoor blower motor shall be twin wheels with forward curve blades. Motor shall be high efficiency ECM with overload protection.

3.07 ELECTRICAL COMPONENTS

- A. Electrical components are easily accessible for routine inspection and maintenance through front service panels. Circuit breaker is standard on all 208/230-volt models equipped with electric heat. Circuit breaker disconnect access is through lockable access panel.
- B. The internal control circuit shall consist of a current limiting 24VAC type transformer with resettable circuit. Auto reset high pressure switch and auto reset low pressure switch shall standard, compressor control module with adjustable voltage protection and adjustable delay on make and break shall be standard. To prevent rapid compressor short cycling, a five minute time delay circuit shall be factory installed. A low-pressure bypass shall be factory installed to prevent nuisance tripping during low temperature start-up.

3.08 ELECTRIC HEAT

- A. The air conditioner shall have a factory electric resistance heater available, designed specifically for the unit. Heater shall include automatic limit safety controls.

3.09 ECONOMIZER

- A. The Economizer is internally mounted and allows outside air to be used for free-cooling when temperature and humidity conditions are favorable. The amount of exhaust air varies in response to the system controls and settings defined by the user. It includes a built in exhaust air damper.

3.10 CONTROLS

- A. Unit to be provided with low ambient controls.
- B. Unit to be provided with programmable thermostat.

PART 3 EXECUTION

4.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Coordinate installation of units with architectural, mechanical, and electrical work.

END OF SECTION

Division 26: Electrical

SECTION 26 0010
BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. Basic Electrical Requirements specifically applicable to Division 26 Sections, in addition to Division 01 - General Requirements.

1.02 SCOPE OF WORK:

- A. The Electrical Contract Installation shall include a complete Electrical Installation for the project. All conduit, fixtures and equipment herein specified, mentioned or shown on Drawings, shall be furnished and installed in place, connected up and ready for normal operation except for such items as are specifically mentioned to be furnished by others.

1.03 WORK INCLUDED:

- A. The Electrical Contract shall include all work under the listed Sections of the Specifications Index and all related Electrical work as shown on the Drawings for the project.
- B. A Complete table of Electrical Reference Symbols is shown on the plans.
- C. Under this Contract the Electrical Contractor shall furnish the Owner with a USB flash drive and PDF set of all pertinent systems related documents. The documents shall contain the following items:
 - 1. Shop drawings on all major equipment.
 - 2. Operating Instructions for all major equipment.
 - 3. Maintenance Instructions for all major equipment.
 - 4. Wiring diagrams for all equipment.
 - 5. Control drawings for any systems not furnished under other contracts.
- D. The Electrical Contractor is responsible for own equipment, such as cranes, lifts, etc. in order to provide a complete installation of Electrical systems.
- E. The Electrical Contractor is responsible for contacting the utility company and coordinating the power connection for the building service. Include all costs in bid.
- F. Coordinate utility service outages and reconnections with Utility Company and Owner.
- G. Branch feeders, branch wiring, receptacles, special outlets, switches, light fixtures, dimmers, contactors, starters, timers, etc., as shown on the plans or required for operation of the electrical system.
- H. Repair of all damage done to the premises as a result of the installation and removal of all debris or surplus material left by those engaged in the work.
- I. All new outside building lighting and sign lighting, including wiring, timers, photocells, switches and circuit breakers.

1.04 SPECIFICATIONS COMPLIANCE

- A. The requirements of these specifications shall be complied with in every respect. Therefore, it shall be absolutely mandatory that the job foreman, all lead electricians, subcontractors and their foreman have completely studied these specifications, be completely knowledgeable as to their entire contents, and maintain a copy at the job-site. Failure to comply with this requirement will be reason to presume the electrician or subcontractor is not in responsible charge of their work due to ignorance of job requirements, and will be reason for the Owner to require dismissal and replacement with approved personnel. Every foreman and lead mechanic shall be provided with a complete copy of this specification.

1.05 INCONSISTENCIES

- A. If there is an inconsistency in the quality and/or quantity of Work required by the Contract Documents, either the greater quality and/or quantity of Work indicated shall be provided in accordance with the Engineer/Architect's interpretation without change in the contract sum.

1.06 CODES, FEES AND LATERAL COSTS:

- A. The Electrical Installation shall meet all applicable local, state and federal codes and standards. All permits necessary for a complete electrical installation shall be paid for by this Contractor.

- B. Except in those municipalities which provide state-approved electrical inspection, all installation of electrical equipment wiring shall be inspected by the State Board of Electricity. Allowance shall be made in the bid and contract for the cost of such inspection.
- C. Fees for such inspection will be charged in accordance with the rules and regulations of the State Board of Electricity. Evidence of payment of fees shall be provided by the Contractor with the Request for Payment.

1.07 REGULATORY REQUIREMENTS:

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed by Underwriters Laboratories, Inc. or other testing firm acceptable to authority having jurisdiction.

1.08 SUBMITTALS:

- A. Submit under provisions of Division 01.
- B. Submit shop drawings and product data of related systems, products, and accessories.
- C. Mark dimensions and values in units to match those specified.

1.09 PROJECT/SITE CONDITIONS:

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.

1.10 SEQUENCING AND SCHEDULING:

- A. Construct Work in sequence under provisions of Division 1.

1.11 PRE-CONSTRUCTION COORDINATION AND VERIFICATION:

- A. This Contractor shall coordinate their work with other Contractors on this job. Any conflict which cannot be resolved shall be settled by the Architect/Engineer.
- B. Field verification of scale dimensions on plans is directed since actual locations, distances and levels will be governed by actual field conditions.
- C. The Contractors shall check architectural, structural, plumbing, heating, ventilating and electrical plans to avert possible installation conflicts. Should drastic changes from original plans be necessary to resolve such conflicts this Contractor shall notify the Architect/Engineer and secure written approval and agreement on necessary adjustments before the installation is started.
- D. Discrepancies shown on different plans or between plans and actual field conditions or between plans and specifications shall promptly be brought to the attention of the Architect/Engineer for a decision.
- E. The Contractor shall consider and review the complete set of documents, etc., Architectural, Structural, Mechanical, Electrical, etc., (Drawings and Specifications) as a complete set. They will be responsible for any and all electrical work shown or stated (to be by the Contractor), to include this work in their bid and install such items even though they are not specifically shown or stated on the Electrical section of the plans and specifications.
- F. The drawings are indicative of the work to be installed, but do not show all bends, fittings, boxes and specialties required to complete the installation.
- G. All conduits, wires, outlets boxes, switches, receptacles, devices and fixtures shall be included in the work.
- H. Where it is stated that the Contractor shall "provide" a device or piece of equipment, it shall mean that such a device or equipments are finished and installed.

1.12 CUTTING, PATCHING, AND FIRESTOPPING:

- A. The Electrical Contractor shall set all sleeves in construction for their Work.
- B. Where cutting is required, it shall be done by the Electrical Contractor.
- C. All patching shall be done by Electrical Contractor.
- D. All conduit and outlet installations and cutting of any kind must be done with great care so as not to leave unsightly surfaces which may not be entirely concealed by plates, escutcheons, or their normal concealing construction, if such unsightly conditions occur, Electrical Contractor will be required, at their own expense, to replace the damaged construction.

- E. This Electrical Contractor shall provide and install firestopping materials per Section 07 8400 - Firestopping.

1.13 SCAFFOLDING:

- A. Furnish and erect all scaffolding, ladders, etc., required in the installation of wiring, equipment and fixtures.

1.14 ADDITIONAL ELECTRICAL COSTS:

- A. If the Mechanical Contractor substitutes equipment for specified units, the mechanical contractor shall be responsible for any additional electrical installation costs for this substitution whether the other equipment was listed as equal in the specification or was approved equal after the project was in the bidding process.

1.15 GUARANTEE:

- A. This Contractor shall be responsible for the proper installation and working of everything in this contract and shall guarantee to remedy free of charge any defects in workmanship and materials that may appear to give or gives rise to trouble of any kind for a period of one year from date of final substantial completion.

PART 2 NOT USED

PART 3 EXECUTION

3.01 EQUIPMENT CONNECTIONS:

- A. Provide necessary power wiring for equipment furnished by others. Verify requirements with the Contractors responsible to supply each piece of equipment. Provide heavy duty disconnect switches as indicated.

3.02 AS-BUILT DRAWINGS:

- A. Contractor shall keep an accurate record of all deviations from contract drawings and specifications. Edits shall neatly and correctly enter in colored crayon any deviations on drawings affected, and shall keep drawings available for inspection. Extra set of drawings will be furnished for this purpose.
- B. At the completion of the job, and before final acceptance, the Contractor shall provide a complete set of as-built drawings. The Contractor shall show locations for all major electrical devices, including panelboards and all major runs of conduit, the circuiting of each fixture, outlet, etc., shall be shown. Certify to the accuracy of each print, by signature thereon, and deliver same to Architect.

END OF SECTION

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SECTION 26 0519
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Single conductor building wire.
- B. Power and control tray cable.
- C. Variable-frequency drive cable.
- D. Wiring connectors.
- E. Electrical tape.
- F. Heat shrink tubing.
- G. Wire pulling lubricant.
- H. Cable ties.

1.02 RELATED REQUIREMENTS

- A. Section 07 8400 - Firestopping.
- B. Section 26 0526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.
- C. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

- A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire 2013 (Reapproved 2018).
- B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft 2011 (Reapproved 2017).
- C. ASTM B33 - Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes 2010, with Editorial Revision (2020).
- D. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation 2004 (Reapproved 2020).
- E. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape 2017.
- F. ASTM D4388 - Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes 2020.
- G. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- H. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy 2021.
- I. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- J. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- K. NFPA 79 - Electrical Standard for Industrial Machinery 2021.
- L. UL 44 - Thermoset-Insulated Wires and Cables Current Edition, Including All Revisions.
- M. UL 83 - Thermoplastic-Insulated Wires and Cables Current Edition, Including All Revisions.
- N. UL 267 - Outline of Investigation for Wire-Pulling Compounds Most Recent Edition, Including All Revisions.
- O. UL 486A-486B - Wire Connectors Current Edition, Including All Revisions.
- P. UL 486C - Splicing Wire Connectors Current Edition, Including All Revisions.
- Q. UL 486D - Sealed Wire Connector Systems Current Edition, Including All Revisions.
- R. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape Current Edition, Including All Revisions.

- S. UL 1277 - Electrical Power and Control Tray Cables with Optional Optical-Fiber Members Current Edition, Including All Revisions.
- T. UL 1569 - Metal-Clad Cables Current Edition, Including All Revisions.
- U. UL 2277 - Outline of Investigation for Flexible Motor Supply Cable and Wind Turbine Tray Cable Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
 - 3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.07 FIELD CONDITIONS

- A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F, unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Architect and obtain direction before proceeding with work.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS

- A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
- B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.
- C. Nonmetallic-sheathed cable is not permitted.
- D. Underground feeder and branch-circuit cable is not permitted.
- E. Service entrance cable is not permitted.
- F. Armored cable is not permitted.

2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
- D. Comply with NEMA WC 70.
- E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
- F. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.
- G. Conductor Material:
 - 1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
 - 2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise

- indicated.
- 3. Tinned Copper Conductors: Comply with ASTM B33.
- H. Minimum Conductor Size:
 - 1. Branch Circuits: 12 AWG.
 - a. Exceptions:
 - 1) 20 A, 120 V circuits longer than 75 feet: 10 AWG, for voltage drop.
 - 2) 20 A, 120 V circuits longer than 150 feet: 8 AWG, for voltage drop.
 - 3) 20 A, 277 V circuits longer than 150 feet: 10 AWG, for voltage drop.
 - 2. Control Circuits: 14 AWG.
- I. Conductor Color Coding:
 - 1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
 - 2. Color Coding Method: Integrally colored insulation.
 - a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.
 - 3. Color Code:
 - a. 208Y/120 V, 3 Phase, 4 Wire System:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - 4) Neutral/Grounded: White.
 - b. Equipment Ground, All Systems: Green.
 - c. For modifications or additions to existing wiring systems, comply with existing color code when existing code complies with NFPA 70 and is approved by the authority having jurisdiction.

2.03 SINGLE CONDUCTOR BUILDING WIRE

- A. Description: Single conductor insulated wire.
- B. Conductor Stranding:
 - 1. Feeders and Branch Circuits:
 - a. Size 10 AWG and Smaller: Stranded.
 - b. Size 8 AWG and Larger: Stranded.
 - 2. Control Circuits: Stranded.
- C. Insulation Voltage Rating: 600 V.
- D. Insulation:
 - 1. Copper Building Wire: Type THHN/THWN-2, except as indicated below.
 - a. Size 4 AWG and Larger: Type XHHW-2.
 - b. Installed Underground: Type XHHW-2.

2.04 POWER AND CONTROL TRAY CABLE

- A. Description: NFPA 70, Type TC cable listed and labeled as complying with UL 1277.
- B. Conductor Stranding: Stranded.
- C. Insulation Voltage Rating: 600 V.
- D. Insulation: Type XHHW or XHHW-2.
- E. Jacket: PVC or Chlorinated Polyethylene (CPE).

2.05 VARIABLE-FREQUENCY DRIVE CABLE

- A. Description: Flexible motor supply cable listed and labeled as complying with UL 2277 in accordance with NFPA 79; specifically designed for use with variable frequency drives and associated nonlinear power distortions.
- B. Conductor Stranding: Stranded.
- C. Insulation Voltage Rating: 1000 V.
- D. Insulation: Use only thermoset insulation types; thermoplastic insulation types are not permitted.

- E. Grounding: Full-size integral equipment grounding conductor or symmetrical arrangement of multiple conductors of equivalent size.
- F. Provide metallic shielding.
- G. Jacket: PVC or Chlorinated Polyethylene (CPE).

2.06 WIRING CONNECTORS

- A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
- B. Wiring Connectors for Splices and Taps:
 - 1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
 - a. Push-in wire connectors are not permitted.
 - 2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors.
- C. Wiring Connectors for Terminations:
 - 1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
 - 2. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
 - 3. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
 - 4. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors where connectors are required.
- D. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
- E. Mechanical Connectors: Provide bolted type.

2.07 ACCESSORIES

- A. Electrical Tape:
 - 1. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F.
 - 2. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.
 - 3. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil; suitable for continuous temperature environment up to 194 degrees F and short-term 266 degrees F overload service.
 - 4. Electrical Filler Tape: Rubber-based insulating moldable putty, minimum thickness of 125 mil; suitable for continuous temperature environment up to 176 degrees F.
 - 5. Moisture Sealing Electrical Tape: Insulating mastic compound laminated to flexible, all-weather vinyl backing; minimum thickness of 90 mil.
- B. Heat Shrink Tubing: Heavy-wall, split-resistant, with factory-applied adhesive; rated 600 V; suitable for direct burial applications; listed as complying with UL 486D.
- C. Wire Pulling Lubricant:
 - 1. Listed and labeled as complying with UL 267.
 - 2. Suitable for use with conductors/cables and associated insulation/jackets to be installed.
 - 3. Suitable for use at installation temperature.
- D. Cable Ties: Material and tensile strength rating suitable for application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that work likely to damage wire and cable has been completed.

- C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.
- D. Verify that field measurements are as indicated.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

- A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.03 INSTALLATION

- A. Circuiting Requirements:
 - 1. Unless dimensioned, circuit routing indicated is diagrammatic.
 - 2. When circuit destination is indicated without specific routing, determine exact routing required.
 - 3. Arrange circuiting to minimize splices.
 - 4. Include circuit lengths required to install connected devices within 10 ft of location indicated.
 - 5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
 - 6. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are indicated as separate, combining them together in a single raceway is permitted, under the following conditions:
 - a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
 - b. Increase size of conductors as required to account for ampacity derating.
 - c. Size raceways, boxes, etc. to accommodate conductors.
 - 7. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.
- B. Install products in accordance with manufacturer's instructions.
- C. Perform work in accordance with NECA 1 (general workmanship).
- D. Installation in Raceway:
 - 1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
 - 2. Pull all conductors and cables together into raceway at same time.
 - 3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
 - 4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
- E. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
- F. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
- G. Terminate cables using suitable fittings.
 - 1. Metal-Clad Cable (Type MC):
 - a. Use listed fittings.
 - b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.
- H. Variable-Frequency Drive Cable: Terminate shielding at both variable-frequency motor controller and associated motor using glands or termination kits recommended by manufacturer.
- I. Install conductors with a minimum of 12 inches of slack at each outlet.

- J. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
- K. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
- L. Make wiring connections using specified wiring connectors.
 - 1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
 - 2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
 - 3. Do not remove conductor strands to facilitate insertion into connector.
 - 4. Clean contact surfaces on conductors and connectors to suitably remove corrosion, oxides, and other contaminants. Do not use wire brush on plated connector surfaces.
 - 5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
- M. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
 - 1. Dry Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
 - a. For taped connections, first apply adequate amount of rubber splicing electrical tape or electrical filler tape, followed by outer covering of vinyl insulating electrical tape.
 - 2. Damp Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
 - a. For connections with insulating covers, apply outer covering of moisture sealing electrical tape.
 - b. For taped connections, follow same procedure as for dry locations but apply outer covering of moisture sealing electrical tape.
 - 3. Wet Locations: Use heat shrink tubing.
- N. Insulate ends of spare conductors using vinyl insulating electrical tape.
- O. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.
- P. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
- Q. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION

SECTION 26 0526
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Grounding and bonding requirements.
- B. Conductors for grounding and bonding.
- C. Connectors for grounding and bonding.
- D. Ground bars.
- E. Ground rod electrodes.

1.02 RELATED REQUIREMENTS

- A. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.
- B. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- B. NEMA GR 1 - Grounding Rod Electrodes and Grounding Rod Electrode Couplings 2017.
- C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 467 - Grounding and Bonding Equipment Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Verify exact locations of underground metal water service pipe entrances to building.
 - 2. Coordinate the work with other trades to provide steel reinforcement complying with specified requirements for concrete-encased electrode.
 - 3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not install ground rod electrodes until final backfill and compaction is complete.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

PART 2 PRODUCTS

2.01 GROUNDING AND BONDING REQUIREMENTS

- A. Existing Work: Where existing grounding and bonding system components are indicated to be reused, they may be reused only where they are free from corrosion, integrity and continuity are verified, and where acceptable to the authority having jurisdiction.
- B. Do not use products for applications other than as permitted by NFPA 70 and product listing.
- C. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.
- D. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- E. Grounding Electrode System:
 - 1. Provide connection to required and supplemental grounding electrodes indicated to form grounding electrode system.
 - a. Provide continuous grounding electrode conductors without splice or joint.

- b. Install grounding electrode conductors in raceway where exposed to physical damage. Bond grounding electrode conductor to metallic raceways at each end with bonding jumper.
- 2. Metal Underground Water Pipe(s):
 - a. Provide connection to underground metal domestic and fire protection (where present) water service pipe(s) that are in direct contact with earth for at least 10 feet at an accessible location not more than 5 feet from the point of entrance to the building.
 - b. Provide bonding jumper(s) around insulating joints/pipes as required to make pipe electrically continuous.
 - c. Provide bonding jumper around water meter of sufficient length to permit removal of meter without disconnecting jumper.
- 3. Metal In-Ground Support Structure:
 - a. Provide connection to metal in-ground support structure that is in direct contact with earth in accordance with NFPA 70.
- 4. Concrete-Encased Electrode:
 - a. Provide connection to concrete-encased electrode consisting of not less than 20 feet of either steel reinforcing bars or bare copper conductor not smaller than 4 AWG embedded within concrete foundation or footing that is in direct contact with earth in accordance with NFPA 70.
- 5. Ground Rod Electrode(s):
 - a. Provide two electrodes unless otherwise indicated or required.
 - b. Space electrodes not less than 10 feet from each other and any other ground electrode.
 - c. Where location is not indicated, locate electrode(s) at least 5 feet outside building perimeter foundation as near as possible to electrical service entrance; where possible, locate in softscape (uncovered) area.
- 6. Provide additional ground electrode(s) as required to achieve specified grounding electrode system resistance.
- 7. Ground Bar: Provide ground bar, separate from service equipment enclosure, for common connection point of grounding electrode system bonding jumpers as permitted in NFPA 70. Connect grounding electrode conductor provided for service-supplied system grounding to this ground bar.
 - a. Ground Bar Size: 1/4 by 2 by 12 inches unless otherwise indicated or required.
 - b. Where ground bar location is not indicated, locate in accessible location as near as possible to service disconnect enclosure.
 - c. Ground Bar Mounting Height: 18 inches above finished floor unless otherwise indicated.
- 8. Ground Riser: Provide common grounding electrode conductor not less than 3/0 AWG for tap connections to multiple separately derived systems as permitted in NFPA 70.
- F. Service-Supplied System Grounding:
 - 1. For each service disconnect, provide grounding electrode conductor to connect neutral (grounded) service conductor to grounding electrode system. Unless otherwise indicated, make connection at neutral (grounded) bus in service disconnect enclosure.
 - 2. For each service disconnect, provide main bonding jumper to connect neutral (grounded) bus to equipment ground bus where not factory-installed. Do not make any other connections between neutral (grounded) conductors and ground on load side of service disconnect.
- G. Bonding and Equipment Grounding:
 - 1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.
 - 2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
 - 3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.

4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
 5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
 6. Provide bonding jumper across expansion or expansion/deflection fittings provided to accommodate conduit movement.
 7. Provide bonding for interior metal piping systems in accordance with NFPA 70. This includes, but is not limited to:
 - a. Metal water piping where not already effectively bonded to metal underground water pipe used as grounding electrode.
 - b. Metal gas piping.
- H. Communications Systems Grounding and Bonding:
1. Provide bonding jumper in raceway from intersystem bonding termination to each communications room or backboard and provide ground bar for termination.
 - a. Bonding Jumper Size: 6 AWG, unless otherwise indicated or required.
 - b. Raceway Size: 3/4 inch trade size unless otherwise indicated or required.
 - c. Ground Bar Size: 1/4 by 2 by 12 inches unless otherwise indicated or required.

2.02 GROUNDING AND BONDING COMPONENTS

- A. General Requirements:
1. Provide products listed, classified, and labeled as suitable for the purpose intended.
 2. Provide products listed and labeled as complying with UL 467 where applicable.
- B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 26 0526:
1. Use insulated copper conductors unless otherwise indicated.
 - a. Exceptions:
 - 1) Use bare copper conductors where installed underground in direct contact with earth.
 - 2) Use bare copper conductors where directly encased in concrete (not in raceway).
- C. Connectors for Grounding and Bonding:
1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
 2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
 3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.
- D. Ground Bars:
1. Description: Copper rectangular ground bars with mounting brackets and insulators.
 2. Holes for Connections: As indicated or as required for connections to be made.
- E. Ground Rod Electrodes:
1. Comply with NEMA GR 1.
 2. Material: Copper-bonded (copper-clad) steel.
 3. Size: 3/4 inch diameter by 10 feet length, unless otherwise indicated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that work likely to damage grounding and bonding system components has been completed.
- B. Verify that field measurements are as indicated.
- C. Verify that conditions are satisfactory for installation prior to starting work.
- D. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).

- C. Ground Rod Electrodes: Unless otherwise indicated, install ground rod electrodes vertically. Where encountered rock prohibits vertical installation, install at 45 degree angle or bury horizontally in trench at least 30 inches (750 mm) deep in accordance with NFPA 70 or install at 45 degree angle or bury horizontally in trench at least 30 inches (750 mm) deep in accordance with NFPA 70.
 - 1. Outdoor Installations: Unless otherwise indicated, install with top of rod 6 inches below finished grade.
- D. Make grounding and bonding connections using specified connectors.
 - 1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
 - 2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
 - 3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
 - 4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
 - 5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
- E. Identify grounding and bonding system components in accordance with Section 26 0553.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Perform ground electrode resistance tests under normally dry conditions. Precipitation within the previous 48 hours does not constitute normally dry conditions.
- C. Investigate and correct deficiencies where measured ground resistances do not comply with specified requirements.

END OF SECTION

**SECTION 26 0529
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete equipment pads.
- B. Section 26 0533.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.
- C. Section 26 0533.16 - Boxes for Electrical Systems: Additional support and attachment requirements for boxes.

1.03 REFERENCE STANDARDS

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.
- C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel 2023.
- D. MFMA-4 - Metal Framing Standards Publication 2004.
- E. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- F. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes and arrangement of supports and bases with actual equipment and components to be installed.
 - 2. Coordinate work to provide additional framing and materials required for installation.
 - 3. Coordinate compatibility of support and attachment components with mounting surfaces at installed locations.
 - 4. Coordinate arrangement of supports with ductwork, piping, equipment and other potential conflicts.
 - 5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not install products on or provide attachment to concrete surfaces until concrete has cured; see Section 03 3000.

1.05 QUALITY ASSURANCE

- A. Product Listing Organization Qualifications: Organization recognized by OSHA as Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

- A. General Requirements:
 - 1. Provide required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for complete installation of electrical work.
 - 2. Provide products listed, classified, and labeled as suitable for purpose intended, where applicable.
 - 3. Do not use products for applications other than as permitted by NFPA 70 and product listing.
 - 4. Steel Components: Use corrosion-resistant materials suitable for environment where installed.

- a. Indoor Dry Locations: Use zinc-plated steel or approved equivalent unless otherwise indicated.
 - b. Outdoor and Damp or Wet Indoor Locations: Use stainless steel unless otherwise indicated.
 - c. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
 - d. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.
- B. Conduit and Cable Supports: Straps and clamps suitable for conduit or cable to be supported.
 - 1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
 - 2. Conduit Clamps: Bolted type unless otherwise indicated.
- C. Outlet Box Supports: Hangers and brackets suitable for boxes to be supported.
- D. Metal Channel/Strut Framing Systems:
 - 1. Description: Factory-fabricated, continuous-slot, metal channel/strut and associated fittings, accessories, and hardware required for field assembly of supports.
 - 2. Comply with MFMA-4.
 - 3. Channel Material:
 - a. Indoor Dry Locations: Use painted steel, zinc-plated steel, or galvanized steel.
 - b. Outdoor and Damp or Wet Indoor Locations: Use stainless steel.
- E. Hanger Rods: Threaded, zinc-plated steel unless otherwise indicated.
- F. Anchors and Fasteners:
 - 1. Unless otherwise indicated and where not otherwise restricted, use anchor and fastener types indicated for specified applications.
 - 2. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
 - 3. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
 - 4. Hollow Masonry: Use toggle bolts.
 - 5. Hollow Stud Walls: Use toggle bolts.
 - 6. Steel: Use beam clamps, machine bolts, or welded threaded studs.
 - 7. Sheet Metal: Use sheet metal screws.
 - 8. Wood: Use wood screws.
 - 9. Plastic and lead anchors are not permitted.
 - 10. Preset Concrete Inserts: Continuous metal channel/strut and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
 - a. Manufacturer: Same as manufacturer of metal channel/strut framing system.
 - b. Comply with MFMA-4.
 - c. Channel Material: Use galvanized steel.
 - 11. Post-Installed Concrete and Masonry Anchors: Evaluated and recognized by ICC Evaluation Service, LLC (ICC-ES) for compliance with applicable building code.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that mounting surfaces are ready to receive support and attachment components.
- B. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install hangers and supports in accordance with NECA 1.
- C. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.
- D. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
- E. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.
- F. Unless specifically indicated or approved by Architect, do not provide support from roof deck.
- G. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

- H. Equipment Support and Attachment:
 - 1. Use metal, fabricated supports or supports assembled from metal channel/strut to support equipment as required.
 - 2. Use metal channel/strut secured to studs to support equipment surface mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
 - 3. Use metal channel/strut to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
 - 4. Unless otherwise indicated, mount floor-mounted equipment on properly sized concrete pad 4 inches in height; see Section 03 3000.
 - 5. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
- I. Preset Concrete Inserts: Use manufacturer provided closure strips to inhibit concrete seepage during concrete pour.
- J. Secure fasteners in accordance with manufacturer's recommended torque settings.
- K. Remove temporary supports.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements for additional requirements.
- B. Inspect support and attachment components for damage and defects.
- C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- D. Correct deficiencies and replace damaged or defective support and attachment components.
- E. Install hangers and supports as required to adequately and securely support electrical system components, in a neat and workmanlike manner, as specified in NECA 1.
 - 1. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
 - 2. Obtain permission from Architect before drilling or cutting structural members.
- F. Rigidly weld support members or use hexagon-head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
- G. Install surface-mounted cabinets and panelboards with minimum of four anchors.
- H. In wet and damp locations use steel channel supports to stand cabinets and panelboards 1 inch off wall.
- I. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

END OF SECTION

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**SECTION 26 0533.13
CONDUIT FOR ELECTRICAL SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Galvanized steel rigid metal conduit (RMC).
- B. Aluminum rigid metal conduit (RMC).
- C. Galvanized steel intermediate metal conduit (IMC).
- D. Flexible metal conduit (FMC).
- E. Liquidtight flexible metal conduit (LFMC).
- F. Galvanized steel electrical metallic tubing (EMT).
- G. Aluminum electrical metallic tubing (EMT).
- H. Rigid polyvinyl chloride (PVC) conduit.
- I. High-density polyethylene (HDPE) conduit.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete encasement of conduits.
- B. Section 07 8400 - Firestopping.
- C. Section 26 0526 - Grounding and Bonding for Electrical Systems.
 - 1. Includes additional requirements for fittings for grounding and bonding.
- D. Section 26 0529 - Hangers and Supports for Electrical Systems.
- E. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC) 2020.
- B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S) 2020.
- C. ANSI C80.5 - American National Standard for Electrical Rigid Metal Conduit -- Aluminum (ERMC-A) 2020.
- D. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit 2018.
- E. ASTM F2160 - Standard Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD) 2016.
- F. ASTM F2176 - Standard Specification for Mechanical Couplings Used on Polyethylene Conduit, Duct and Innerduct 2017.
- G. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- H. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT) 2020.
- I. NECA 102 - Standard for Installing Aluminum Rigid Metal Conduit 2004.
- J. NECA 111 - Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC) 2017.
- K. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable 2014.
- L. NEMA RN 1 - Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Metal Conduit and Intermediate Metal Conduit 2018.
- M. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit 2020.
- N. NEMA TC 3 - Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing 2021.
- O. NEMA TC 7 - Solid-Wall Coilable and Straight Electrical Polyethylene Conduit 2021.
- P. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- Q. UL 1 - Flexible Metal Conduit Current Edition, Including All Revisions.

- R. UL 6 - Electrical Rigid Metal Conduit-Steel Current Edition, Including All Revisions.
- S. UL 6A - Electrical Rigid Metal Conduit-Aluminum, Red Brass, and Stainless Steel Current Edition, Including All Revisions.
- T. UL 360 - Liquid-Tight Flexible Metal Conduit Current Edition, Including All Revisions.
- U. UL 514B - Conduit, Tubing, and Cable Fittings Current Edition, Including All Revisions.
- V. UL 651 - Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings Current Edition, Including All Revisions.
- W. UL 651A - Schedule 40 and 80 High Density Polyethylene (HDPE) Conduit Current Edition, Including All Revisions.
- X. UL 797 - Electrical Metallic Tubing-Steel Current Edition, Including All Revisions.
- Y. UL 797A - Electrical Metallic Tubing - Aluminum and Stainless Steel Current Edition, Including All Revisions.
- Z. UL 1242 - Electrical Intermediate Metal Conduit-Steel Current Edition, Including All Revisions.
- AA. UL 2419 - Outline of Investigation for Electrically Conductive Corrosion Resistant Compounds Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate minimum sizes of conduits with actual type and quantity of conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate arrangement of conduits with structural members, ductwork, piping, equipment, and other potential conflicts.
 - 3. Verify exact conduit termination locations required for boxes, enclosures, and equipment.
 - 4. Coordinate work to provide roof penetrations that preserve integrity of roofing system and do not void roof warranty.
 - 5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not begin installation of conductors and cables until installation of conduit between termination points is complete.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittals procedures.
- B. Project Record Documents: Record actual routing for conduits installed underground, conduits embedded within concrete slabs, and conduits 2-inch (53 mm) trade size and larger.

1.06 QUALITY ASSURANCE

- A. Product Listing Organization Qualifications: Organization recognized by OSHA as Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70, manufacturer's instructions, and product listing.
- B. Unless otherwise indicated and where not otherwise restricted, use conduit types indicated for specified applications. Where more than one listed application applies, comply with most restrictive requirements. Where conduit type for particular application is not specified, use galvanized steel rigid metal conduit.
- C. Underground:
 - 1. Under Slab on Grade: Use galvanized steel rigid metal conduit or rigid PVC conduit.
 - 2. Exterior, Direct-Buried: Use galvanized steel rigid metal conduit, rigid PVC conduit, or HDPE conduit.

3. Where rigid polyvinyl chloride (PVC) conduit or high-density polyethylene (HDPE) conduit is provided, transition to galvanized steel rigid metal conduit (RMC) or galvanized steel intermediate metal conduit (IMC) where emerging from underground.
 4. Where rigid polyvinyl (PVC) conduit larger than 2-inch (53 mm) trade size is provided, use galvanized steel rigid metal conduit (RMC) elbows, galvanized steel intermediate metal conduit (IMC) elbows, or concrete-encased PVC elbows for bends.
- D. Embedded Within Concrete:
1. Within Slab on Grade: Not permitted.
 2. Within Slab Above Ground: Not permitted.
 3. Where rigid polyvinyl (PVC) conduit is provided, transition to galvanized steel rigid metal conduit (RMC) or galvanized steel intermediate metal conduit (IMC) where emerging from concrete.
- E. Concealed Within Hollow Stud Walls: Use galvanized steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), or galvanized steel electrical metallic tubing (EMT).
- F. Concealed Above Accessible Ceilings: Use galvanized steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), or galvanized steel electrical metallic tubing (EMT).
- G. Interior, Damp Locations: Use aluminum rigid metal conduit or galvanized or aluminum electrical metallic tubing (EMT).
- H. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), or galvanized steel electrical metallic tubing (EMT).
- I. Exposed, Exterior, Not Subject to Severe Physical Damage: Use galvanized steel rigid metal conduit (RMC), aluminum rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), or galvanized steel electrical metallic tubing (EMT).
- J. Flexible Connections to Vibrating Equipment:
1. Dry Locations: Use flexible metal conduit (FMC).
 2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit (LFMC).
 3. Maximum Length: 6 feet unless otherwise indicated.
 4. Vibrating equipment includes, but is not limited to:
 - a. Motors.
 - b. Generator.

2.02 CONDUIT - GENERAL REQUIREMENTS

- A. Comply with NFPA 70.
- B. Provide conduit, fittings, supports, and accessories required for complete raceway system.
- C. Provide products listed, classified, and labeled as suitable for purpose intended.
- D. Minimum Conduit Size, Unless Otherwise Indicated:
 1. Branch Circuits: 3/4 inch (21 mm) trade size.
 2. Branch Circuit Homeruns: 3/4 inch (21 mm) trade size.
 3. Control Circuits: 3/4 inch (21 mm) trade size.
 4. Flexible Connections to Luminaires: 1/2 inch (16 mm) trade size.
 5. Underground, Interior: 1 inch (27 mm) trade size.
 6. Underground, Exterior: 1 inch (27 mm) trade size.
- E. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Manufacturers:
 1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
 2. Nucor Tubular Products: www.nucortubular.com/#sle.
 3. Wheatland Tube, a division of Zekelman Industries: www.wheatland.com/#sle.
- B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.

- C. Fittings:
 - 1. Manufacturers:
 - a. Bridgeport Fittings Inc: www.bptfittings.com/#sle.
 - b. Emerson Electric Co; O-Z/Gedney: www.emerson.com/#sle.
 - 2. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6.
 - 3. Material: Use steel or malleable iron.
 - 4. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.04 ALUMINUM RIGID METAL CONDUIT (RMC)

- A. Manufacturers:
 - 1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
 - 2. Nucor Tubular Products: www.nucortubular.com/#sle.
 - 3. Wheatland Tube, a division of Zekelman Industries: www.wheatland.com/#sle.
- B. Description: NFPA 70, Type RMC aluminum rigid metal conduit complying with ANSI C80.5 and listed and labeled as complying with UL 6A.
- C. Fittings:
 - 1. Manufacturers:
 - a. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
 - b. Emerson Electric Co; O-Z/Gedney: www.emerson.com/#sle.
 - 2. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6A.
 - 3. Material: Use aluminum.
 - 4. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.05 GALVANIZED STEEL INTERMEDIATE METAL CONDUIT (IMC)

- A. Manufacturers:
 - 1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
 - 2. Nucor Tubular Products: www.nucortubular.com/#sle.
 - 3. Wheatland Tube, a division of Zekelman Industries: www.wheatland.com/#sle.
- B. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.
- C. Fittings:
 - 1. Manufacturers:
 - a. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
 - b. Emerson Electric Co; O-Z/Gedney: www.emerson.com/#sle.
 - 2. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 1242.
 - 3. Material: Use steel or malleable iron.
 - 4. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.06 FLEXIBLE METAL CONDUIT (FMC)

- A. Manufacturers:
 - 1. AFC Cable Systems, a division of Atkore International: www.afcweb.com/#sle.
 - 2. Electri-Flex Company: www.electriflex.com/#sle.
 - 3. International Metal Hose: www.metalhose.com/#sle.
 - 4. Substitutions: See Section 01 6000 - Product Requirements.
- B. Description: NFPA 70, Type FMC standard-wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems.
- C. Fittings:
 - 1. Manufacturers:
 - a. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
 - b. Emerson Electric Co; O-Z/Gedney: www.emerson.com/#sle.

2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.

2.07 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Manufacturers:
 1. AFC Cable Systems, a division of Atkore International: www.afcweb.com/#sle.
 2. Electri-Flex Company: www.electriflex.com/#sle.
 3. International Metal Hose: www.metalhose.com/#sle.
 4. Substitutions: See Section 01 6000 - Product Requirements.
- B. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.
- C. Fittings:
 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 2. Material: Use steel or malleable iron.

2.08 GALVANIZED STEEL ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:
 1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
 2. Wheatland Tube, a Division of Zekelman Industries: www.wheatland.com/#sle.
- B. Description: NFPA 70, Type EMT galvanized steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
- C. Fittings:
 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 2. Material: Use steel or malleable iron.
 3. Connectors and Couplings: Use compression/gland or set-screw type.
 - a. Do not use indenter type connectors and couplings.

2.09 ALUMINUM ELECTRICAL METALLIC TUBING (EMT)

- A. Description: NFPA 70, Type EMT aluminum electrical metallic tubing listed and labeled as complying with UL 797A.
- B. Fittings:
 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B; listed for use with aluminum EMT.
 2. Material: Use aluminum.
 3. Connectors and Couplings: Use compression/gland or set-screw type.
 - a. Do not use indenter type connectors and couplings.

2.10 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

- A. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80 where subject to physical damage; rated for use with conductors rated 90 degrees C.
- B. Fittings:
 1. Manufacturer: Same as manufacturer of conduit to be connected.
 2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

2.11 HIGH-DENSITY POLYETHYLENE (HDPE) CONDUIT

- A. Description: NFPA 70, Type HDPE high-density polyethylene solid-wall conduit complying with ASTM F2160 and NEMA TC 7; list and label as complying with UL 651A; Schedule 40 unless otherwise indicated.
- B. Joining Methods: Approved by HDPE conduit manufacturer.
- C. Mechanical Fittings: Comply with ASTM F2176; list and label as complying with UL 651A.

2.12 ACCESSORIES

- A. Conduit Joint Compound: Corrosion-resistant, electrically conductive compound listed as complying with UL 2419; suitable for use with conduit to be installed.
- B. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.
- C. Sealing Compound for Hazardous/Classified Location Sealing Fittings: Listed for use with particular fittings to be installed.
- D. Sealing Systems for Concrete Penetrations:
 - 1. Sleeves: Provide water stop ring or cement coating that bonds to concrete to prevent water infiltration.
 - 2. Rate for minimum of 40 psig; suitable for sealing around conduits to be installed.
- E. Sealing Systems for Roof Penetrations: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for conduits and roofing system to be installed; designed to accommodate existing penetrations where applicable.
- F. Firestop Sleeves: Listed; provide as required to preserve fire resistance rating of building elements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive conduits.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install conduit in accordance with NECA 1.
- C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.
- D. Install aluminum rigid metal conduit (RMC) in accordance with NECA 102.
- E. Install intermediate metal conduit (IMC) in accordance with NECA 101.
- F. Install rigid polyvinyl chloride (PVC) conduit in accordance with NECA 111.
- G. Conduit Routing:
 - 1. Unless dimensioned, conduit routing indicated is diagrammatic.
 - 2. When conduit destination is indicated without specific routing, determine exact routing required.
 - 3. Conceal conduits unless specifically indicated to be exposed.
 - 4. Conduits in the following areas may be exposed, unless otherwise indicated:
 - a. Electrical rooms.
 - b. Mechanical equipment rooms.
 - c. Within joists in areas with no ceiling.
 - 5. Conduits installed underground or embedded in concrete may be routed in shortest possible manner unless otherwise indicated. Route other conduits parallel or perpendicular to building structure and surfaces, following surface contours where practical.
 - 6. Arrange conduit to maintain adequate headroom, clearances, and access.
 - 7. Arrange conduit to provide no more than equivalent of four 90-degree bends between pull points.
 - 8. Route conduits above water and drain piping where possible.
 - 9. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.
 - 10. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
 - 11. Maintain minimum clearance of 12 inches between conduits and hot surfaces. This includes, but is not limited to:
 - a. Heaters.
 - b. Hot water piping.

- c. Flues.
- 12. Group parallel conduits in same area on common rack.
- H. Conduit Support:
 - 1. Secure and support conduits in accordance with NFPA 70 using suitable supports and methods approved by authorities having jurisdiction; see Section 26 0529.
 - 2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
 - 3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
 - 4. Use conduit strap to support single surface-mounted conduit.
 - a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
 - 5. Use metal channel/strut with accessory conduit clamps to support multiple parallel surface-mounted conduits.
 - 6. Use conduit clamp to support single conduit from beam clamp or threaded rod.
 - 7. Use trapeze hangers assembled from threaded rods and metal channel/strut with accessory conduit clamps to support multiple parallel suspended conduits.
 - 8. Use of wire for support of conduits is not permitted.
- I. Connections and Terminations:
 - 1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
 - 2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
 - 3. Use suitable adapters where required to transition from one type of conduit to another.
 - 4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
 - 5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
 - 6. Provide insulating bushings, insulated throats, or listed metal fittings with smooth, rounded edges at conduit terminations to protect conductors.
 - 7. Secure joints and connections to provide mechanical strength and electrical continuity.
- J. Penetrations:
 - 1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
 - 2. Make penetrations perpendicular to surfaces unless otherwise indicated.
 - 3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
 - 4. Conceal bends for conduit risers emerging above ground.
 - 5. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
 - 6. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty.
 - 7. Install firestopping to preserve fire resistance rating of partitions and other elements; see Section 07 8400.
- K. Underground Installation:
 - 1. Minimum Cover, Unless Otherwise Indicated or Required:
 - a. Underground, Exterior: 24 inches.
 - b. Under Slab on Grade: 12 inches to bottom of slab.
 - 2. Provide underground warning tape along entire conduit length for service entrance where not concrete-encased; see Section 26 0553.
- L. Telecommunications Conduit:
 - 1. Provide 3/4" empty conduit with proper mud ring or box stubbed up into corridor ceiling space for all voice, data, and television locations.

- M. Concrete Encasement: Where conduits not otherwise embedded within concrete are indicated to be concrete-encased, provide minimum concrete cover of 3 inches on all sides unless otherwise indicated; see Section 03 3000.
- N. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:
 - 1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
 - 2. Where calculated in accordance with NFPA 70 for rigid polyvinyl chloride (PVC) conduit installed above ground to compensate for thermal expansion and contraction.
 - 3. Where conduits are subject to earth movement by settlement or frost.
- O. Conduit Sealing:
 - 1. Use foam conduit sealant to prevent entry of moisture and gases. This includes, but is not limited to:
 - a. Where conduits enter building from outside.
 - b. Where service conduits enter building from underground distribution system.
 - c. Where conduits enter building from underground.
 - d. Where conduits may transport moisture to contact live parts.
 - 2. Where conduits cross barriers between areas of potential substantial temperature differential, use foam conduit sealant at accessible point near penetration to prevent condensation. This includes, but is not limited to:
 - a. Where conduits pass from outdoors into conditioned interior spaces.
 - b. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
 - 3. Where conduits cross boundaries of hazardous/classified locations, provide identified/listed sealing fittings or conduit mechanical seals as approved by authorities having jurisdiction; locate as indicated or in accordance with NFPA 70.
- P. Provide grounding and bonding; see Section 26 0526.

3.03 CLEANING

- A. Clean interior of conduits to remove moisture and foreign matter.

END OF SECTION

SECTION 26 0533.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.
- B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.
- C. Underground boxes/enclosures.

1.02 RELATED REQUIREMENTS

- A. Section 07 8400 - Firestopping.
- B. Section 08 3100 - Access Doors and Panels: Panels for maintaining access to concealed boxes.
- C. Section 26 0529 - Hangers and Supports for Electrical Systems.
- D. Section 26 2726 - Wiring Devices:
 - 1. Wall plates.

1.03 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices 2016.
- C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- D. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable 2014.
- E. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports 2013 (Reaffirmed 2020).
- F. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports 2013 (Reaffirmed 2020).
- G. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- H. SCTE 77 - Specifications for Underground Enclosure Integrity 2017.
- I. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.
- J. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.
- K. UL 508A - Industrial Control Panels Current Edition, Including All Revisions.
- L. UL 514A - Metallic Outlet Boxes Current Edition, Including All Revisions.
- M. UL 514C - Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
 - 4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
 - 5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
 - 6. Coordinate the work with other trades to preserve insulation integrity.

7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
8. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
- B. Products: Provide products listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 BOXES

- A. General Requirements:
 1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
 2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
 3. Provide products listed, classified, and labeled as suitable for the purpose intended.
 4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
 5. Provide grounding terminals within boxes where equipment grounding conductors terminate.
- B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:
 1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
 2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
 3. Use nonmetallic boxes where exposed rigid PVC conduit is used.
 4. Use suitable concrete type boxes where flush-mounted in concrete.
 5. Use suitable masonry type boxes where flush-mounted in masonry walls.
 6. Use raised covers suitable for the type of wall construction and device configuration where required.
 7. Use shallow boxes where required by the type of wall construction.
 8. Do not use "through-wall" boxes designed for access from both sides of wall.
 9. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
 10. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
 11. Nonmetallic Boxes: Comply with NEMA OS 2, and list and label as complying with UL 514C.
 12. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
 13. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes unless specifically indicated or permitted.
 14. Wall Plates: Comply with Section 26 2726.
- C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
 1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
 2. NEMA 250 Environment Type, Unless Otherwise Indicated:
 3. Junction and Pull Boxes Larger Than 100 cubic inches:
 - a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.

4. Finish for Painted Steel Enclosures: Manufacturer's standard grey unless otherwise indicated.
- D. Underground Boxes/Enclosures:
 1. Description: In-ground, open bottom boxes furnished with flush, non-skid covers with legend indicating type of service and stainless steel tamper resistant cover bolts.
 2. Size: As indicated on drawings.
 3. Depth: As required to extend below frost line to prevent frost upheaval, but not less than 12 inches.
 4. Applications:
 - a. Sidewalks and Landscaped Areas Subject Only to Occasional Nondeliberate Vehicular Traffic: Use polymer concrete enclosures, with minimum SCTE 77 Tier 8 load rating.
 - b. Do not use polymer concrete enclosures in areas subject to deliberate vehicular traffic.
 5. Polymer Concrete Underground Boxes/Enclosures: Comply with SCTE 77.
 - a. Combination fiberglass/polymer concrete boxes/enclosures are acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive boxes.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Unless otherwise indicated, provide separate boxes for line voltage and low voltage systems.
- E. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.
- F. Unless otherwise indicated, boxes may be surface-mounted where exposed conduits are indicated or permitted.
- G. Box Locations:
 1. Locate boxes to be accessible. Provide access panels in accordance with Section 08 3100 as required where approved by the Architect.
 2. Unless dimensioned, box locations indicated are approximate.
 3. Locate boxes so that wall plates do not span different building finishes.
 4. Locate boxes so that wall plates do not cross masonry joints.
 5. Unless otherwise indicated, where multiple outlet boxes are installed at the same location at different mounting heights, install along a common vertical center line.
 6. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches horizontal separation unless otherwise indicated.
- H. Box Supports:
 1. Secure and support boxes in accordance with NFPA 70 and Section 26 0529 using suitable supports and methods approved by the authority having jurisdiction.
 2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.
 3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
- I. Install boxes plumb and level.
- J. Flush-Mounted Boxes:

1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
 2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
 3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.
- K. Install boxes as required to preserve insulation integrity.
- L. Underground Boxes/Enclosures:
1. Install enclosure on gravel base, minimum 6 inches deep.
 2. Install additional bracing inside enclosures in accordance with manufacturer's instructions to minimize box sidewall deflections during backfilling. Backfill with cover bolted in place.
- M. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
- N. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
- O. Close unused box openings.
- P. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.
- Q. Provide grounding and bonding in accordance with Section 26 0526.
- R. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

3.03 CLEANING

- A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

END OF SECTION

**SECTION 26 0553
IDENTIFICATION FOR ELECTRICAL SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Electrical identification requirements.
- B. Identification nameplates and labels.
- C. Wire and cable markers.
- D. Underground warning tape.
- E. Warning signs and labels.

1.02 RELATED REQUIREMENTS

- A. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables: Color coding for power conductors and cables 600 V and less; vinyl color coding electrical tape.
- B. Section 26 0573 - Power System Studies: Arc flash hazard warning labels.

1.03 REFERENCE STANDARDS

- A. ANSI Z535.2 - American National Standard for Environmental and Facility Safety Signs 2011 (Reaffirmed 2017).
- B. ANSI Z535.4 - American National Standard for Product Safety Signs and Labels 2011 (Reaffirmed 2017).
- C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 969 - Marking and Labeling Systems Current Edition, Including All Revisions.

1.04 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.

PART 2 PRODUCTS

2.01 IDENTIFICATION REQUIREMENTS

- A. Existing Work: Unless specifically excluded, identify existing elements to remain that are not already identified in accordance with specified requirements.
- B. Identification for Equipment:
 - 1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
 - a. Motor Control Centers:
 - 1) Use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
 - b. Panelboards:
 - 1) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces using pencil.
 - 2) For power panelboards without a door, use identification nameplate to identify load(s) served for each branch device. Identify spares and spaces.
 - c. Enclosed switches, circuit breakers, and motor controllers:
 - 1) Identify voltage power source and circuit number. Include location when not within sight of equipment.
 - 2) Identify load(s) served. Include location.
 - d. Transfer Switches:
 - 1) Identify short circuit current rating based on the specific overcurrent protective device type and settings protecting the transfer switch.
 - 2. Service Equipment:
 - a. Use identification nameplate to identify each service disconnecting means.
 - 3. Use identification nameplate to identify equipment utilizing series ratings, where permitted, in accordance with NFPA 70.
 - 4. Use identification label or handwritten text using indelible marker on inside of door at each fused switch to identify required NEMA fuse class and size.

5. Use identification label to identify overcurrent protective devices for branch circuits serving fire alarm circuits. Identify with text "FIRE ALARM CIRCUIT".
 6. Available Fault Current Documentation: Use identification label to identify the available fault current and date calculations were performed at locations requiring documentation by NFPA 70 including but not limited to the following.
 - a. Service equipment.
 - b. Industrial control panels.
 - c. Motor control centers.
 - d. Elevator control panels.
 - e. Industrial machinery.
 7. Arc Flash Hazard Warning Labels: Comply with Section 26 0573.
 8. Use warning signs to identify electrical hazards for entrances to all rooms and other guarded locations that contain exposed live parts operating at 600 V nominal or less with the word message "DANGER; Electrical hazard; Authorized personnel only" or approved equivalent.
- C. Identification for Conductors and Cables:
1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 0519.
 2. Use identification nameplate or identification label to identify color code for ungrounded and grounded power conductors inside door or enclosure at each piece of feeder or branch-circuit distribution equipment when premises has feeders or branch circuits served by more than one nominal voltage system.
- D. Identification for Devices:
1. Use identification label to identify fire alarm system devices.
 2. Use identification label or engraved wallplate to identify serving branch circuit for all receptacles.
 3. Use identification label to identify receptacles protected by upstream GFI protection, where permitted.

2.02 IDENTIFICATION NAMEPLATES AND LABELS

- A. Identification Nameplates:
1. Materials:
 - a. Indoor Clean, Dry Locations: Use plastic nameplates.
 - b. Outdoor Locations: Use plastic, stainless steel, or aluminum nameplates suitable for exterior use.
 2. Plastic Nameplates: Two-layer or three-layer laminated acrylic or electrically non-conductive phenolic with beveled edges; minimum thickness of 1/16 inch; engraved text.
 3. Stainless Steel Nameplates: Minimum thickness of 1/32 inch; engraved or laser-etched text.
 4. Aluminum Nameplates: Anodized; minimum thickness of 1/32 inch; engraved or laser-etched text.
 5. Mounting Holes for Mechanical Fasteners: Two, centered on sides for sizes up to 1 inch high; Four, located at corners for larger sizes.
- B. Identification Labels:
1. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
 2. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.
- C. Format for Equipment Identification:
1. Minimum Size: 1 inch by 2.5 inches.
 2. Legend:
 - a. Equipment designation or other approved description.
 3. Text: All capitalized unless otherwise indicated.
 4. Minimum Text Height:
 - a. Equipment Designation: 1/2 inch.
 5. Color:
 - a. Normal Power System: White text on black background.

2.03 WIRE AND CABLE MARKERS

- A. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth, wrap-around self-adhesive vinyl self-laminating, heat-shrink sleeve, plastic sleeve, plastic clip-on, or vinyl split sleeve type markers suitable for the conductor or cable to be identified.
- B. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.
- C. Legend: Power source and circuit number or other designation indicated.
- D. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.
- E. Minimum Text Height: 1/8 inch.
- F. Color: Black text on white background unless otherwise indicated.

2.04 UNDERGROUND WARNING TAPE

- A. Materials: Use non-detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.
- B. Non-detectable Type Tape: 6 inches wide, with minimum thickness of 4 mil.
- C. Legend: Type of service, continuously repeated over full length of tape.
- D. Color:
 - 1. Tape for Buried Power Lines: Black text on red background.

2.05 WARNING SIGNS AND LABELS

- A. Comply with ANSI Z535.2 or ANSI Z535.4 as applicable.
- B. Warning Signs:
 - 1. Materials:
 - a. Indoor Dry, Clean Locations: Use factory pre-printed rigid plastic or self-adhesive vinyl signs.
 - 2. Rigid Signs: Provide four mounting holes at corners for mechanical fasteners.
 - 3. Minimum Size: 7 by 10 inches unless otherwise indicated.
- C. Warning Labels:
 - 1. Materials: Use factory pre-printed or machine-printed self-adhesive polyester or self-adhesive vinyl labels; UV, chemical, water, heat, and abrasion resistant; produced using materials recognized to UL 969.
 - 2. Machine-Printed Labels: Use thermal transfer process printing machines and accessories recommended by label manufacturer.
 - 3. Minimum Size: 2 by 4 inches unless otherwise indicated.

PART 3 EXECUTION

3.01 PREPARATION

- A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
 - 1. Surface-Mounted Equipment: Enclosure front.
 - 2. Flush-Mounted Equipment: Inside of equipment door.
 - 3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
 - 4. Elevated Equipment: Legible from the floor or working platform.
 - 5. Branch Devices: Adjacent to device.
 - 6. Interior Components: Legible from the point of access.
 - 7. Conductors and Cables: Legible from the point of access.
 - 8. Devices: Outside face of cover.
- C. Install identification products centered, level, and parallel with lines of item being identified.
- D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws and to interior surfaces using self-adhesive backing or epoxy cement.

- E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.
- F. Install underground warning tape above buried lines with one tape per trench at 3 inches below finished grade.
- G. Secure rigid signs using stainless steel screws.
- H. Mark all handwritten text, where permitted, to be neat and legible.

END OF SECTION

**SECTION 26 0573
POWER SYSTEM STUDIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Short-circuit study.
- B. Protective device coordination study.
- C. Arc flash and shock risk assessment.
 - 1. Includes arc flash hazard warning labels.
- D. Criteria for the selection and adjustment of equipment and associated protective devices not specified in this section, as determined by studies to be performed.

1.02 RELATED REQUIREMENTS

- A. Section 26 0553 - Identification for Electrical Systems: Additional requirements for arc flash hazard warning labels.
- B. Section 26 2100 - Low-Voltage Electrical Service Entrance.
- C. Section 26 2416 - Panelboards.
- D. Section 26 2419 - Motor-Control Centers.
- E. Section 26 2816.13 - Enclosed Circuit Breakers.

1.03 REFERENCE STANDARDS

- A. ANSI Z535.4 - American National Standard for Product Safety Signs and Labels 2011 (Reaffirmed 2017).
- B. IEEE 141 - IEEE Recommended Practice for Electrical Power Distribution for Industrial Plants 1993 (Reaffirmed 1999).
- C. IEEE 242 - IEEE Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems 2001, with Errata (2003).
- D. IEEE 399 - IEEE Recommended Practice for Industrial and Commercial Power Systems Analysis 1997.
- E. IEEE 551 - IEEE Recommended Practice for Calculating Short-Circuit Currents in Industrial and Commercial Power Systems 2006.
- F. IEEE 1584 - IEEE Guide for Performing Arc-Flash Hazard Calculations 2018, with Errata (2019).
- G. NEMA MG 1 - Motors and Generators 2021.
- H. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- I. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. NFPA 70E - Standard for Electrical Safety in the Workplace 2021.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work to provide equipment and associated protective devices complying with criteria for selection and adjustment, as determined by studies to be performed.
 - 2. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Submit study reports prior to or concurrent with product submittals.
 - 2. Do not order equipment until matching study reports and product submittals have both been evaluated by Architect.
 - 3. Verify naming convention for equipment identification prior to creation of final drawings, reports, and arc flash hazard warning labels (where applicable).

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Study reports, stamped or sealed and signed by study preparer.
- C. Certification that field adjustable protective devices have been set in accordance with requirements of studies.
- D. Project Record Documents: Revise studies as required to reflect as-built conditions.
 - 1. Include hard copies with operation and maintenance data submittals.
 - 2. Include computer software files used to prepare studies with file name(s) cross-referenced to specific pieces of equipment and systems.

1.06 POWER SYSTEM STUDIES

- A. Scope of Studies:
 - 1. Except where study descriptions below indicate exclusions, analyze system at each bus from primary protective devices of utility source down to each piece of equipment involved, including parts of system affecting calculations being performed (e.g. fault current contribution from motors).
 - 2. Include in analysis alternate sources and operating modes (including known future configurations) to determine worst case conditions.
- B. General Study Requirements:
 - 1. Comply with NFPA 70.
 - 2. Perform studies utilizing computer software complying with specified requirements; manual calculations are not permitted.
- C. Data Collection:
 - 1. Compile information on project-specific characteristics of actual installed equipment, protective devices, feeders, etc. as necessary to develop single-line diagram of electrical distribution system and associated input data for use in system modeling.
 - a. Utility Source Data: Include primary voltage, maximum and minimum three-phase and line-to-ground fault currents, impedance, X/R ratio, and primary protective device information.
 - 1) Obtain up-to-date information from Utility Company.
 - b. Generators: Include manufacturer/model, kW and voltage ratings, and impedance.
 - c. Motors: Include manufacturer/model, type (e.g. induction, synchronous), horsepower rating, voltage rating, full load amps, and locked rotor current or NEMA MG 1 code letter designation.
 - d. Transformers: Include primary and secondary voltage ratings, kVA rating, winding configuration, percent impedance, and X/R ratio.
 - e. Protective Devices:
 - 1) Circuit Breakers: Include manufacturer/model, type (e.g. thermal magnetic, electronic trip), frame size, trip rating, voltage rating, interrupting rating, available field-adjustable trip response settings, and features (e.g. zone selective interlocking).
 - 2) Fuses: Include manufacturer/model, type/class (e.g. Class J), size/rating, and speed (e.g. time delay, fast acting).
 - f. Protective Relays: Include manufacturer/model, type, settings, current/potential transformer ratio, and associated protective device.
 - g. Conductors: Include feeder size, material (e.g. copper, aluminum), insulation type, voltage rating, number per phase, raceway type, and actual length.
- D. Short-Circuit Study:
 - 1. Comply with IEEE 551 and applicable portions of IEEE 141, IEEE 242, and IEEE 399.
 - 2. For purposes of determining equipment short circuit current ratings, consider conditions that may result in maximum available fault current, including but not limited to:
 - a. Maximum utility fault currents.
 - b. Maximum motor contribution.
 - c. Known operating modes (e.g. utility as source, generator as source, utility/generator in parallel, bus tie breaker open/close positions).
 - 3. For each bus location, calculate the maximum available three-phase bolted symmetrical and asymmetrical fault currents. For grounded systems, also calculate the maximum available line-to-ground bolted fault currents.

- E. Protective Device Coordination Study:
 - 1. Comply with applicable portions of IEEE 242 and IEEE 399.
 - 2. Analyze alternate scenarios considering known operating modes (e.g. utility as source, generator as source, utility/generator in parallel, bus tie breaker open/close positions).
 - 3. Analyze protective devices and associated settings for suitable margins between time-current curves to achieve full selective coordination while providing adequate protection for equipment and conductors.
- F. Arc Flash and Shock Risk Assessment:
 - 1. Comply with NFPA 70E.
 - 2. Perform incident energy and arc flash boundary calculations in accordance with IEEE 1584 (as referenced in NFPA 70E Annex D), where applicable.
 - 3. Analyze alternate scenarios considering conditions that may result in maximum incident energy, including but not limited to:
 - a. Maximum and minimum utility fault currents.
 - b. Maximum and minimum motor contribution.
 - c. Known operating modes (e.g. utility as source, generator as source, utility/generator in parallel, bus tie breaker open/close positions).
- G. Study Reports:
 - 1. General Requirements:
 - a. Identify date of study and study preparer.
 - b. Identify study methodology and software product(s) used.
 - c. Identify scope of studies, assumptions made, implications of possible alternate scenarios, and any exclusions from studies.
 - d. Identify base used for per unit values.
 - e. Include single-line diagram and associated input data used for studies; identify buses on single-line diagram as referenced in reports, and indicate bus voltage.
 - f. Include conclusions and recommendations.
 - 2. Short-Circuit Study:
 - a. For each scenario, identify at each bus location:
 - 1) Calculated maximum available symmetrical and asymmetrical fault currents (both three-phase and line-to-ground where applicable).
 - 2) Fault point X/R ratio.
 - 3) Associated equipment short circuit current ratings.
 - b. Identify locations where the available fault current exceeds the equipment short circuit current rating, along with recommendations.
 - 3. Protective Device Coordination Study:
 - a. For each scenario, include time-current coordination curves plotted on log-log scale graphs.
 - b. For each graph include (where applicable):
 - 1) Partial single-line diagram identifying the portion of the system illustrated.
 - 2) Protective Devices: Time-current curves with applicable tolerance bands for each protective device in series back to the source, plotted up to the maximum available fault current at the associated bus.
 - 3) Conductors: Damage curves.
 - 4) Transformers: Inrush points and damage curves.
 - 5) Generators: Full load current, overload curves, decrement curves, and short circuit withstand points.
 - 6) Motors: Full load current, starting curves, and damage curves.
 - 7) Capacitors: Full load current and damage curves.
 - c. For each protective device, identify fixed and adjustable characteristics with available ranges and recommended settings.
 - 1) Circuit Breakers: Include long time pickup and delay, short time pickup and delay, and instantaneous pickup.
 - 2) Include ground fault pickup and delay.
 - 3) Include fuse ratings.
 - 4) Protective Relays: Include current/potential transformer ratios, tap, time dial, and instantaneous pickup.

- d. Identify cases where either full selective coordination or adequate protection is not achieved, along with recommendations.
- 4. Arc Flash and Shock Risk Assessment:
 - a. For the worst case for each scenario, identify at each bus location:
 - 1) Calculated incident energy and associated working distance.
 - 2) Calculated arc flash boundary.
 - 3) Bolted fault current.
 - 4) Arcing fault current.
 - 5) Clearing time.
 - 6) Arc gap distance.
 - b. For purposes of producing arc flash hazard warning labels, summarize the maximum incident energy and associated data reflecting the worst case condition of all scenarios at each bus location.

1.07 QUALITY ASSURANCE

- A. Study Preparer Qualifications: Professional electrical engineer licensed in the State in which the Project is located and with minimum five years experience in the preparation of studies of similar type and complexity using specified computer software.
- B. Computer Software for Study Preparation: Use the latest edition of commercially available software utilizing specified methodologies.

PART 2 PRODUCTS

2.01 ARC FLASH HAZARD WARNING LABELS

- A. Provide warning labels complying with ANSI Z535.4 to identify arc flash hazards for each work location analyzed by the arc flash and shock risk assessment.
 - 1. Materials: Comply with Section 26 0553.
 - 2. Minimum Size: 3 by 4 inches.
 - 3. Legend: Provide custom legend in accordance with NFPA 70E based on equipment-specific data as determined by arc flash and shock risk assessment.
 - a. Include orange header that reads "WARNING" unless otherwise indicated.
 - b. Include the text "Arc Flash and Shock Hazard; Appropriate PPE Required" or approved equivalent.
 - c. Include the following information:
 - 1) Arc flash boundary.
 - 2) Available incident energy and corresponding working distance.
 - 3) Nominal system voltage.
 - 4) Limited approach boundary.
 - 5) Restricted approach boundary.
 - 6) Equipment identification.
 - 7) Date calculations were performed.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install arc flash warning labels in accordance with Section 26 0553.

3.02 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Adjust equipment and protective devices for compliance with studies and recommended settings.
- D. Notify Architect of any conflicts with or deviations from studies. Obtain direction before proceeding.

3.03 CLOSEOUT ACTIVITIES

- A. Training: Include as an alternate to the base bid training for Owner's personnel on electrical safety pertaining to arc flash and shock hazards.
 - 1. Use site-specific arc flash and shock risk assessment report as training reference, supplemented with additional training materials as required.

2. Provide minimum of four hours of training.
3. Instructor: Representative of entity performing study.
4. Location: At project site.

END OF SECTION

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**SECTION 26 0583
WIRING CONNECTIONS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Electrical connections to equipment.

1.02 RELATED REQUIREMENTS

- A. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables.
- B. Section 26 0533.13 - Conduit for Electrical Systems.
- C. Section 26 0533.16 - Boxes for Electrical Systems.
- D. Section 26 2726 - Wiring Devices.

1.03 REFERENCE STANDARDS

- A. NEMA WD 1 - General Color Requirements for Wiring Devices 1999 (Reaffirmed 2020).
- B. NEMA WD 6 - Wiring Devices - Dimensional Specifications 2021.
- C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Products: Listed, classified, and labeled as suitable for the purpose intended.
- C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Cords and Caps: NEMA WD 6; match receptacle configuration at outlet provided for equipment.
 - 1. Colors: Comply with NEMA WD 1.
 - 2. Cord Construction: NFPA 70, Type SO, multiconductor flexible cord with identified equipment grounding conductor, suitable for use in damp locations.
 - 3. Size: Suitable for connected load of equipment, length of cord, and rating of branch circuit overcurrent protection.
 - 4. Substitutions: See Section 01 6000 - Product Requirements.
- B. Wiring Devices: As specified in Section 26 2726.
- C. Flexible Conduit: As specified in Section 26 0533.13.
- D. Wire and Cable: As specified in Section 26 0519.
- E. Boxes: As specified in Section 26 0533.16.

2.02 EQUIPMENT CONNECTIONS

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that equipment is ready for electrical connection, wiring, and energization.

3.02 ELECTRICAL CONNECTIONS

- A. Make electrical connections in accordance with equipment manufacturer's instructions.

- B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
- C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.
- D. Provide receptacle outlet to accommodate connection with attachment plug.
- E. Provide cord and cap where field-supplied attachment plug is required.
- F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
- G. Install disconnect switches, controllers, control stations, and control devices to complete equipment wiring requirements.
- H. Install terminal block jumpers to complete equipment wiring requirements.
- I. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.
- J. Coolers and Freezers: Cut and seal conduit openings in freezer and cooler walls, floor, and ceilings.

END OF SECTION

**SECTION 26 0915
SUPERVISORY AND PROCESS CONTROL**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General Requirement.
- B. Control Panel Enclosures.
- C. Programmable Logic Controller (PLC).
- D. Operator Interface.

1.02 RELATED REQUIREMENTS

- A. The requirements within this section apply to all components of the controls system unless indicated otherwise.

1.03 REFERENCE STANDARDS

- A. NEMA ICS 1 - Industrial Control and Systems General Requirements; 2000 (Reaffirmed 2015).
- B. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts; 2000 (R2005), with errata, 2008.
- C. NEMA ICS 6 - Industrial Control and Systems: Enclosures; 1993 (Reaffirmed 2016).
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. Underwriters Laboratories (UL). UL 508 Industrial Control Panel Equipment.
- F. IEC 61131-3 - Programmable Controllers - Part 3: Programming Languages.
- G. IEEE C37.90 - Standard for Relays and Relay Systems Associated With Electric Power Apparatus.
- H. IEEE C62.41.1 - Guide on the Surge Environment in Low-Voltage (1000 V and Less) AC Power Circuits.
- I. IEEE C62.41.2 - Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits.

1.04 ADMINISTRATION REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings:
 - 1. Catalog cut sheets for all components and devices.
 - 2. Dimension drawings, wiring and/or hydraulic drawings for field and pipeline mounted equipment.
 - 3. System schematic drawings illustrating all components being supplied including elevations, legend, bill of material, construction details, and layout with complete pneumatic and electrical connections. Actual system schematic drawings shall be provided. Manufacturers catalog cuts or standard drawings merely showing "typical" circuitry are not acceptable.
 - 4. As-built drawings shall be provided upon project completion in CAD and PDF format.
 - 5. Communications and network diagrams.
 - 6. Fabrication and nameplate legend drawings.
 - 7. Operator interface graphic display screen shots.
- C. Operation and Maintenance Manuals.
 - 1. Manufacturers O&M manuals for all equipment supplied.

2. Recommended maintenance intervals and procedures.
3. Operational manual for operator interface displays, including but not limited to; screen shots, explanation of graphics, navigation, step by step procedures, security, passwords, and alarms.
4. As-built drawings of entire system in CAD and PDF format.
5. Recommended spare parts list.
6. Project Records: Provide Parameter Schedule containing all setpoints and specific parameters for all equipment including but not limited to:
 - a. Variable frequency drives (VFD's).
 - b. Operator adjustable setpoints.
 - c. PID loop parameters.
 - d. Instrument list with make, model, and calibrated range.
7. Final copy of PLC program subroutines with comments in PDF format.
8. USB drive containing final PLC and operator interface programs.
9. PLC I/O point list; identify point tag, description, type, range, location, and point address.
10. All documentation to be provided electronically and two copies in 3-ring binders with labeled tabs separating sections.

1.06 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. The Controls System Integrator (CSI) shall be in full conformance with Specifications:
 1. Thompson Knows.
 - a. Ireton, IA.
 - b. Dustin Wenger
 - c. Office: 712-224-3800
 - d. Mobile: 712-635-1326
- C. The control panel shall be built by a registered UL 508 Industrial Control Panel builder. Each control panel shall bear a serialized "Enclosed Industrial Control Panel Label." Panels that utilize intrinsically safe barriers shall be upgraded from standard 508A to standard 698 and bear serialized label to that effect. The control panel submittal shall contain a copy of the front page of the control panel builders UL508A and 698 (if applicable) standard that shows their UL file number. The name on the front page of the UL Standard shall match the name in the title block of the control panel submittal.
- D. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and indicated.
- E. All equipment shall be furnished by a single supplier. The supplier shall be responsible for the correct operation of the equipment as specified.
- F. Contractor shall guarantee system operation and workmanship for a period of one year from date the system was accepted by the owner.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store components in a clean, dry area; maintain temperature to NEMA ICS 1.

1.08 FIELD CONDITIONS

- A. Maintain temperature above 32 degrees F and below 104 degrees F during and after installation of products.
- B. Maintain area free of dirt and dust during and after installation of products.

1.09 SEQUENCING AND SCHEDULING

- A. Prerequisite activities: Do not start key project activities until prerequisite activities have been completed and satisfied.
 1. Shop drawing reviews by engineer.

1.10 GENERAL REQUIREMENTS

- A. Contractor shall use a Controls System Integrator (CSI) to furnish, install, calibrate, start-up, test, and adjust all required equipment for a complete process control system. Equipment shall be furnished as required to meet the requirements shown on the Plans and include within the

Specifications and also include any incidental items necessary for a complete system even though it is not detailed.

- B. It is the intent of the Construction Documents that all control equipment specified be supplied by a single-source supplier. The supplier shall assume full responsibility along with the Contractor for furnishing, installing, and start-up procedures so as to make the system operate per the intent of the Construction Documents.
- C. It is the responsibility of the CSI to examine all new and existing equipment that will be powered from or will receive or send signals from equipment within in the Specifications and Plans. The CSI shall provide all necessary devices to interface with existing and new equipment including but not limited to signal converters, amplifiers, and isolation devices.
- D. Process Control System: Provide a system that monitors and automatically controls operation of process equipment and instrumentation using programmable controllers.
 - 1. Provide a control system in which control sequence logic resides in the local controllers and which is not dependent on any supervisory control software or centralized functionality.
 - 2. Provide end-to-end process control loop accuracy from sensor to display and final control element.
 - 3. Use sequences of operation, setpoints, settings and alarm limits as indicated.
 - 4. Provide for operator interaction, set-points, settings, and alarm limits as indicated.
 - 5. Include all necessary sensors, field preamplifiers, signal conditioners, offset and span adjustments, amplifiers, transducers, transmitters, control devices, and engineering unit conversions and algorithms for applications.
 - 6. Provide network and control hardware that can be replaced by similar control equipment from other equipment manufacturers without loss of system functionality.
 - 7. Provide all software, programming, and configuration required for a complete operating Supervisory Control and Data Acquisition (SCADA) system.
- E. Process Control Network
 - 1. Network Design: Ethernet; as required to connect all process control devices and points.
 - 2. Provide all network drivers, components, and configuration to make a fully functional control network.
 - 3. All network devices shall be powered by uninterruptible power supply. This includes any network devices used for motor control (locally or remotely mounted).
 - 4. Security measures shall be provided to protect control system from Cyber attacks.
 - 5. Network Access Jacks and Connections:
 - a. Provide wall mounted jacks when required outside control panel enclosures.
 - b. Provide DIN-rail mounted modules for field termination inside control panel enclosures.
 - c. Factory molded patch cables shall be provided for connection between devices within the same enclosure.
 - d. Field installed RJ45 connectors are not allowed.
- F. Remote access
 - 1. Utilize existing Owner Control Network connected to Water Plant
 - 2. System shall be configured for remote support.
 - a. Connection to all PLCs, operator interface units, and all other networked devices for remote programming and monitoring.
 - 3. System shall be configured for remote monitoring/control of operator interface screens.
- G. Inputs and Outputs (I/O)
 - 1. Monitor I/O shown on plans.
 - 2. Each control panel with an electronic controller or PLC shall monitor presence of incoming control power.
 - 3. Each uninterruptible power supply alarm state shall be monitored.
 - 4. Each control panel surge protection device shall be monitored.
 - 5. Provide panel mounted alarm strobe light.
- H. Major work items include but are not limited to:
 - 1. Provide pump control panel to operate well 21.

- a. Primary control signals to come from existing water treatment plant control system via Owner fiber optic network.
 - b. Coordinate network requirements with Rebnord Technologies.
 - 1) Tim Rebnord or Jason Knapton.
 - 2) 1044 W. Milwaukee, Storm Lake, IA 50588.
 - 3) 712-732-6449.
 - c. PCP well 21 pump control panel.
 - 1) PLC processor and I/O.
 - 2) 50HP VFD.
 - (a) Make: Allen Bradley.
 - (b) Communications: Ethernet/IP.
 - (c) Remote HIM module panel mounted in control panel door.
 - 3) Operator interface.
 - 4) 120/208V 3 phase, 4 wire power supply.
 - 5) Lockable fused or non fused disconnect on incoming power supply panel mounted in door.
 - 6) Hand-Off-Auto selector switch panel mounted in door.
 - 7) Runtime hour meter in panel door.
 - 8) 3 phase power monitor.
2. Modify existing water plant SCADA system.
 - a. Remove abandoned well.
 - b. Incorporate well 21.
 - c. Incorporate alarms for well 21 including but not limited to:
 - 1) Pump failure.
 - 2) Power failure.
 - 3) Space temperature low/high.
 - 4) Generator Alarm.
 - 5) Generator Running.
 - 6) ATS position.
 - d. Incorporate Well 21 flow rate, flow totals, and building space temperature.
 - e. Maintain existing PLC programming standards.
 - f. Maintain existing Operator interface standards.
 - g. Modify existing PLC and HMI/SCADA programs as required to make a complete working system.
 3. Network Enclosure (MDF)
 - a. Network enclosure for communication interface between PCP and existing owner fiber optic network.
 - b. MDF shall be supplied by owner preferred supplier (Rebnord Technologies).
 - c. Include all costs associated with MDF.
 - 1) Rebnord Technologies
 - 2) Contact: Tim Rebnord or Jason Knapton.
 - 3) 1044 W. Milwaukee, Storm Lake, IA 50588
 - 4) 712-732-6449

PART 2 PRODUCTS

2.01 GENERAL

- A. Devices supplied shall be of the latest field proven models, unless otherwise specified to match existing equipment.
- B. Instruments and devices performing similar operations shall be of the same type and model, and shall be from a single manufacturer.
- C. Analog measurements and control signals shall be 4 to 20 mA DC except as indicated. Signals where required by special devices may be 0 to 5 volts or 0 to 10 volts DC. Standard pneumatic signals shall be 3 to 15 psig.
- D. Surge Protection:
 1. Equipment Connected to AC Circuits: Provide equipment that is internally protected against power-line surges or provide separate protection against power-line surges; provide protection meeting requirements of IEEE C62.41.2; do not use fuses.

2. Equipment Connected to Transmitter and Control Wiring That is Installed Outdoors: Provide equipment that is internally protected against induced waveform surges or provide separate protection against waveform surges as follows:
 - a. A waveform with 8-microsecond rise time, 20-microsecond decay time and peak current of 500 amps.
 3. Equipment Connected to Network Media or Communications Cables Installed Outdoors: Provide surge and lightning protection; provide protection meeting requirements of IEC 61643-21.
- E. Pump/Equipment Protection:
1. Where seal leakage, motor over temperature, or other protective features are available at new or existing equipment; Provide and install relay(s) to monitor equipment as recommended by the manufacturer.
 - a. Provide a minimum of one normally open and one normally closed contact for each condition being monitored.
 - b. Status indication by LEDs.
- F. Unless otherwise specified, provide products rated for continuous operation under following conditions:
1. Products Installed Indoors: Ambient temperatures in range of 32 to 122 degrees F.
 2. Products Installed Outdoors or in Unconditioned Indoor Spaces: Ambient temperatures in range of minus 35 to plus 151 degrees F.
 3. Air Pressure: Conditions normally encountered in installed locations.
 4. Vibration: Conditions normally encountered in the installed locations.
 5. Humidity: 10 to 95 percent relative humidity, non-condensing.

2.02 CONTROL PANEL ENCLOSURES

- A. General.
1. Control Station Enclosures: NEMA ICS 6.
 2. Relay Enclosures: NEMA ICS 6.
 3. Fabrication: Shop fabricate control panels to NEMA ICS 1, using cabinets and terminal blocks furnished in accordance with Section 26 0533.16.
 4. All components shall be mounted to the enclosure back panel. Components shall not be mounted to the enclosure sides.
 5. 25% free space shall be maintained within enclosure back panels for future components.
 6. Shall have engraved label identifying panel name on panel door.
 7. Panel mounted components shall have matching style and appearance.
 8. Panel mounted components with digital displays installed outdoors shall be protected from direct sunlight.
 9. Panel mounted devices shall be a minimum of 4 feet above finished floor elevation.
 10. Penetrations through the top of control enclosures is not permissible.
 11. Interior Light: Inside panel, provide linear LED light automatically operated when panel door is open, on same circuit as convenience receptacle if available.
- B. Terminal blocks
1. Shall be furnished, installed, and wired to each I/O point of a chassis or rack mounted I/O module.
 2. Shall be provided and connected to each unused I/O point.
 3. Shall be provided for all field connections terminating inside enclosure.
 4. Enclosures shall have 25% spare terminal blocks for future connection.
 5. Terminal blocks shall not be required for connection of distributed I/O modules. Field wires shall directly terminated to distributed I/O terminal bases.
 6. Terminal blocks shall not be installed when factory wired I/O interface modules (IFM's) are used. Field wires shall directly terminate to the IFM.
 7. All terminal blocks shall be labeled, and labels shall be by terminal manufacturer with electronic print.
- C. Enclosure environment:
1. Panels shall be rated for environment of installed location.
 - a. Indoor, dry or damp location: Type 12 painted steel.
 - b. Indoor, wet, or corrosive location: Type 4X, 316 stainless steel.

- c. Outdoor location:
 - 1) Type 4X, 316 stainless steel.
 - 2. All equipment installed in hazardous or classified areas shall be suitable for use in the area.
 - 3. Indoor and outdoor control panel and instrument enclosures shall be suitable for operation in the ambient conditions at the installed location. Ventilation, heating, cooling, and dehumidifying equipment shall be provided in enclosures to maintain electronic components within manufacturers recommended ambient temperature and humidity operating ranges.
 - a. Ventilation System: Provide one or more ventilation fans inside panel, each with line voltage thermostat.
 - 1) Air Flow: 100 cfm, minimum.
 - 2) Thermostat Setpoints: Adjustable in minimum range of 70 to 140 degrees F.
 - 3) Fan Power: 120 volt AC, single phase.
 - 4) Filters: At each supply and exhaust grille provide filter that is easily removed for cleaning or replacement.
 - b. Heating System: Provide thermostatically controlled electric heater inside panel, capable of maintaining enclosure inside temperature at minimum 35 degrees F.
 - c. Air Conditioning System: Provide mechanical refrigeration air conditioning system for panel, capable of maintaining enclosure inside temperature at maximum of 100 degrees F.
 - 1) Locate compressor and condenser outside panel enclosure.
 - 2) Make provisions to remove condensate from panel and to protect devices within enclosure from condensate.
- D. Control panel wiring
 - 1. Single conductors shall be flexible stranded copper type MTW, and shall be rated for 600 volts.
 - 2. Signal cables shall be #18 AWG shielded twisted pair or triad cables with copper conductors.
 - 3. Wire numbers shall be marked using plastic coated cloth type labels with black text printed on white background.
 - 4. Incoming power source shall accept 120 VAC minimum 20 amp circuit.
 - 5. Circuit breaker shall be provided in control panel for incoming power source overcurrent protection and disconnecting means.
 - 6. Individual fuse protection with disconnecting means shall be provided for each I/O module, and each electrical component that consumes power.
 - 7. Individual fuse protection with disconnecting means shall be provided for each field installed device that consumes power.
 - 8. Primary and secondary fuse protection with disconnecting means shall be provided on all power supplies.
 - 9. Fuse blocks and disconnecting means shall be labeled.
- E. Control panel components.
 - 1. Manufacturers.
 - a. Allen-Bradley/Rockwell Automation; www.ab.rockwellautomation.com.
 - b. Eaton Corporation; www.eaton.com/#sle.
 - c. Schneider Electric; Square D Products; www.schneider-electric.us/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
 - 2. Circuit breakers.
 - a. Shall be Allen Bradley 1492-SP series or approved equal.
 - 3. Fuse holders.
 - a. Shall be Allen Bradley 1492-H series with blown fuse indicator or approved equal.
 - 4. Push buttons, operators, & signaling devices.
 - a. General
 - 1) Style: Round with lens color as indicated.
 - 2) Size: To fit 0.875 inch mounting hole.
 - 3) Identification: Legend plate labeled to reflect function being indicated.
 - b. Manufacturers
 - 1) Allen-Bradley Bulletin 800T or approved equal in dry areas.

- 2) Allen-Bradley Bulletin 800H or approved equal in damp/wet areas.
- c. Indicator Lights: Heavy-duty long-life LED type complying with NEMA ICS1, NEMA ICS2, and UL 508; push to test (lamp) type.
 - 1) Lens color as indicated.
- d. Selector Switches: Heavy-duty, complying with NEMA ICS1, NEMA ICS2, and UL 508, with switch positions as indicated or required by sequence of operation.
 - 1) Illuminated.
 - 2) Rating: 600 volts, 10 amperes continuous.
 - 3) Auxiliary Contacts: Where indicated or required, provide dual auxiliary contacts for the automatic position to provide position sensing by SCADA system; rated for 120 volt AC, 1A minimum.
 - 4) Key Operation: Where indicated, provide key-operated switches; keyed alike.
- e. Push Buttons: Heavy-duty, complying with NEMA ICS1, NEMA ICS2, and UL 508, with number and type of contacts as indicated or required by sequence of operation.
 - 1) Rating: 600 volts, 10 amperes continuous.
- f. Emergency stop switches shall be trigger action, two position maintained, twist release, & red.
- 5. Control relays.
 - a. Manufacturer: Allen-Bradley Bulletin 700, Type HB, or equal.
 - b. General purpose control relays shall be provided with dust covers and with plug-in configuration. Sockets to be DIN rail mounted.
 - c. Minimum rating of 10 amps at 150 volts and DPDT. If more poles are required, relays shall be paralleled.
 - d. Mechanical flag indicator to show status of contacts.
- 6. Three phase power monitor relay.
 - a. Control power to the phase failure relay circuit shall be separate from other control power.
 - b. Shall detect phase reversal, phase loss, undervoltage, and overvoltage conditions.
 - c. Relay shall be of plug-in type utilizing DIN rail mounted socket.
 - d. Shall provide one NO and one NC 3 amp relay contact.
 - e. Shall be installed in MCC bucket.
- F. Programmable Logic Controller (PLC) Panel Requirements
 - 1. Panels: Factory assembled PLCs and their accessories in enclosed panels, delivered as complete unit with panel fabrication and device mounting as indicated or otherwise required.
 - a. Power and Control Connection Points: Bottom Entry.
 - b. Power Circuits: Each panel powered by dedicated 120 volts AC circuit, with minimum size 10 amp fuse, and disconnect switch located inside panel.
 - c. Terminate wiring inside panel on terminal blocks.
 - 2. Uninterruptible Power Supply (UPS): Self-contained UPS sized to provide a minimum of 10 minutes of PLC operation, with surge suppression, noise filtering (normal and common mode), short circuit protection and voltage regulation (brownout and overvoltage protection), complete with all necessary power supplies, transformers, batteries, and accessories.
 - a. Visual indication of normal power operation, UPS operation, abnormal operation and visual and audible indication of low battery power.
 - b. Relay contact for indication of alarm condition.
 - c. Comply with 47 CFR 15, Part A for radio noise emissions.
 - d. Shall provide power to all electronic controllers, and network devices.
 - 3. Convenient Outlet: Inside panel, provide 120 volt AC, 20 amp, ground fault interruption (GFI) type duplex convenience outlet. Energize from dedicated control panel circuit breaker with a minimum rating of 10 amps.

2.03 PROGRAMMABLE LOGIC CONTROLLER (PLC)

- A. Manufacturer
 - 1. Rockwell Automation, Allen-Bradley; CompactLogix series.
- B. General
 - 1. Minimum Number of PLCs: As indicated on drawings.

2. Power Supply: 120 volts AC, single phase, 60 Hz power source; provide local transformers as needed for signal transmission and subsystem operation.
 3. Furnish and install complete PLC system with all necessary components to make a fully functional system as specified within the Plans and Specifications.
 4. PLC shall be configured to perform the specified operations.
- C. Functionality
1. PLC shall be capable of receiving discrete and analog inputs and, through programming, able to control discrete and analog output functions, perform data handling operations and communicate with external devices; complete with all hardware and software required to perform functions indicated.
 - a. Programmability: Support the full complement of process control functions as described in IEC 61131-3; allow for use of any combination of function blocks, ladder logic diagrams, sequential function charts, and text programming within a single controller.
 - b. Provide a scheme of priority levels that prevents interference with a command of high priority by a command of lower priority; make override commands entered by operator have higher priority than those of resident programs.
 - c. Provide for operation of PLC in stand-alone mode.
 2. Communications Interfaces: Provide peer-to-peer communication with other controllers, devices, and operator stations; acceptable communication protocols:
 - a. Ethernet architecture and protocol.
 3. Basic Operation: Continuously 1) scan inputs and record status, 2) execute resident programs and record outputs, and 3) update outputs; 4) periodically perform self-diagnostics.
 - a. Maintain point database in memory containing parameters, constraints, and latest value or status of points connected.
 - b. Use data in memory for execution of resident program.
 4. Resident Programs: Program each PLC to achieve the sequences of operation, parameters, constraints, and interlocks necessary to provide indicated process control.
 - a. Ensure that resident programs do not conflict with each other.
 - b. Default Values: To accommodate conditions where specific program inputs are not available, define appropriate "default" values or virtual points that allow the program to operate.
 - c. Failure Mode: In the event of PLC failure, make the controlled equipment continue to function in its indicated failure mode.
 5. Point Definitions:
 - a. AO: Analog output.
 - b. AI: Analog input.
 - c. DO: Digital output.
 - d. DI: Digital input.
 - e. PA: pulse accumulator input.
 6. Startup: Automatic commencement of operation upon power-up without human intervention, including startup of all connected I/O functions; restart upon detection of power failure at the PLC, with start time delays between successive commands to prevent demand surges or overload trips.
 7. Failure Mode: Upon failure for any reason, perform an orderly shutdown and update all PLC outputs to their predetermined failure mode state.
 8. Logic (Virtual) Points: Provide for software points that are not directly associated with a physical I/O function to be entered and recorded in point database.
 - a. Allow for analog and discrete points created either by calculation from physical points or by entering other data having properties of real points, including alarms, without associated hardware.
 - b. Use point identification that is consistent with physical point identification.
 9. State Variables: Where an analog point represents more than two (up to 8) specific states, allow for each state to be named with names usable in programs and for display; e.g. "high", "low", alarm states.
 10. Constraints: Provide constraints checking function requiring constraints values to "pass" before execution of relevant program.

- a. Allow for unique constraints to be assigned to each point.
 - b. For analog inputs, allow for high and low "reasonableness" values or one differential "rate-of-change" value.
 - c. Allow constraints checking to be disabled for any individual point from central station.
 - d. Equipment constraint types, for example:
 - 1) Maximum starts (cycles) per hour.
 - 2) Minimum off time.
 - 3) Minimum on time.
 - 4) High limit (value in engineering units).
 - 5) Low limit (value in engineering units).
 - 11. Analog Totalization: Provide analog totalization function as required in description of operation.
 - 12. Data Storage: Provide data storage function that allows analog or calculated points to be temporarily stored in PLC memory.
 - a. Provide data storage as required in description of operation.
 - b. Data to be viewed from operator terminal unit.
 - 13. Alarm Processing: Provide alarm processing function for analog input, discrete input, and pulse accumulation input for all real and virtual points connected to that PLC.
 - a. Automatically suppress alarm reporting for a particular point when the alarm point is turned off.
 - b. Discrete alarms are those abnormal conditions indicated for the discrete input point.
 - c. Analog alarms are those conditions higher or lower than the defined value for the analog input point.
- D. Hardware
- 1. Programmable Logic Controllers (PLCs): Modular or Fixed type; microprocessor based.
 - a. Comply with requirements of Class A computing devices, labeled as set forth in 47 CFR 15.
 - b. Conducted Susceptibility: Able to withstand test as specified in NEMA ICS 1, NEMA ICS 2, and NEMA ICS 3.
 - c. Surge Withstand Capability: Able to withstand test as specified in IEEE C37.90.1.
 - d. Central Processing Units: Provide time of day, scanning, application program execution, storage of application programs, storage of numerical values related to application process and logic, I/O bus traffic control, peripheral and external device communications, and self-diagnostics.
 - e. Service Temperature Range: Function properly at temperatures between 32 and 122 degrees F at 5 to 95 percent relative humidity non-condensing.
 - f. Storage Temperature Range: Tolerate storage temperatures between minus 40 and plus 140 degrees F at 5 to 95 percent relative humidity non-condensing.
 - g. Analog inputs and outputs shall be 4-20 mA DC, unless otherwise required.
 - h. Digital outputs shall be relay type, or shall be protected by buffer relays. 120 VAC or 24 VDC as required.
 - 2. Modular PLCs: Modular, field expandable design allowing system to be tailored to process control application.
 - a. Expandable through use of additional hardware and/or user software.
 - b. As minimum, include mounting backplane, power supply module, self-contained central processing unit module, communications module, and input/output modules grouped together in a single mounting rack or cabinet for each PLC.
 - c. Communications between modules accomplished through mounting backplane, with all modules plugging directly into backplane; no wire connectors permitted between modules.
 - d. Rack size: As needed.
 - e. Hot Plugging and Hot Swapping: Allow for installation, removal, and replacement of modules under power and without restarting.
 - f. Power Supply Module: Provide power supply modules as required to power other modules installed in same cabinet and to remote cabinets or modules as indicated.
 - 1) Power Characteristics: 120 volts AC nominal, plus or minus 5 percent.
 - 2) Protection: Monitor incoming line voltage level and provide over current and over voltage protection.

- 3) Voltage Out Of Range: Continue to provide power for adequate amount of time to allow for safe and orderly shutdown.
- 4) Uninterruptibility: Capable of withstanding power loss for minimum of 20 milliseconds while still remaining in operation and providing adequate power to all connected modules.
- 5) On-Off-Switch: Integral to power supply module: If not standard equipment, provide a miniature toggle type switch located near PLC and clearly label as to its function.
- 6) Indicating Light: Show proper operation of module by lighted indicator.
- g. Input/Output Modules: Self-contained microprocessor based units that provide interface to field devices; visual indication of on-off status of individual inputs or outputs.
3. Fixed Type PLCs: Fixed I/O design with possibility of expansion; micro-processor based.
 - a. Include at minimum, central processing unit, program memory, power supply, input/output capability, network communications capability, display, and keyboard.
 - b. Control display and keypad:
 - 1) Display I/O status.
 - 2) Change Mode.
 - 3) Configure communications ports.
 - 4) View system information and fault codes.
 - c. Power Supply to Controller: 120 volts AC, or 24 volts DC as required.
 - d. Power Consumption: 25 watts, maximum.
 - e. Noise Isolation: Provide electrical noise isolation between AC power line and process variable inputs, remote setpoint inputs, and output signals not less than 100 dB at 60 Hz common mode rejection ratio and not less than 60 dB at 60 Hz normal-mode rejection ratio.
4. Program Storage/Memory Requirements: Memory capacity based on system control requirements and such that, when system is completely programmed and functional, no more than 50 percent of memory allocated for these purposes is used.
 - a. Operating System: Manufacturer's standard nonvolatile memory.
 - b. Application Memory: Battery backed random access memory (RAM).
 - c. Storage of User Programs: Electronically erasable, programmable, read only memory (EEPROM), loaded operator interface panel, central station, or portable computer plugged into controller.
5. Input/Output Characteristics: Allow for analog input, analog output, discrete input, and discrete output in number and type as indicated.
 - a. Accuracy: Plus or minus 0.25 percent of input span.
 - b. Spare Capacity: Minimum of 20 percent spare input and output points (no less than two points) for each point type provided in each PLC.
 - c. Malfunction Tolerance: During normal operation, prevent malfunction in any input/output channel from affecting operation of CPU and other channels.
 - d. Input and Output Circuits: Minimum optical isolation of 1500 VRMS and filtered to guard against high voltage transients from externally connected devices.
 - e. Analog Input Circuits: Plus/minus 10V
 - f. Discrete Input Circuits: 5 volt TTL.
 - g. Analog Output Circuits: Plus/minus 10V.
 - h. Discrete Output Circuits: 5 volt TTL.
6. Wiring Connections: Heavy duty, self-lifting, pressure type screw terminals with easy wire insertion and secure connections; capable of accepting two #14 AWG wires; hinged protective cover, with write-on areas for identification of the external circuits.
7. On-Off Switch: Provide integral ON-OFF power switch for each PLC; if not standard equipment, provide miniature toggle type switch located in panel near PLC, clearly labeled as to its function.
8. Self-Diagnostics: Diagnostic routines implemented in firmware that provide information on configuration and status of CPU, memory, communications, and input/output; continuously executed along with normal operations.
 - a. At Power Up and Normal Shutdown: Provide more extensive diagnostics.
 - b. Fault Logging: Store input/output and system faults in fault tables accessible for display.

- c. Shutdown on Fault: When a fault affects input/output or communications modules, shut down only affected hardware and continue operation using unaffected components.
- d. Fault Annunciation: At PLC operator interface.
- e. Provide access to diagnostic software via all specified operator interfaces.

2.04 OPERATOR INTERFACE

- A. General
 - 1. Furnish and install complete Operator Interface system with all necessary components to make a fully functional system including software, hardware, and programming.
 - 2. Operator interface shall be configured to perform the specified operations.
 - 3. Shall use Ethernet as means of communication to PLC.
 - 4. Shall be panel mounted in door of control panel.
 - 5. Contractor is responsible for ensuring compatibility between specified operator interface and all functions required. If compatibility is an issue an alternate device must be submitted for approval.
- B. Graphic Display Terminal
 - 1. Manufacturer
 - a. Rockwell Automation, Allen-Bradley; PanelView Plus 7 Performance Series.
 - b. Substitutions: See Section 01 6000 - Product Requirements.
 - 2. Color touchpad display.
 - 3. 10 inch minimum display size.

PART 3 EXECUTION

3.01 FIELD INSTALLATION AND TESTING REPORTS

- A. Complete adjustment, test, calibration, and status reports for all work.
- B. Test electrical grounding in panels.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Furnish a complete working system by a competent manufacturer's representative and include instruction to the Owner on proper operation and maintenance.
- C. Follow manufacturers' installation instructions for all materials and equipment, unless otherwise indicated or directed by Engineer.
- D. Wiring connected to components and assemblies, including power wiring in accordance with requirements of Section 26.
- E. Electrical raceways as specified in Section 26.
- F. Identification as specified in Section 26.
- G. Process Control Network.
 - 1. Install network wiring without splices between control devices and in accordance with NFPA 70.
 - 2. Install grounding as recommended by device manufacturers and as necessary to prevent ground loops, noise, and surges from adversely affecting operation of the system; test ground rods as specified in IEEE 142.
 - 3. Install wiring that is outside of enclosures in raceways.
 - 4. Tag wiring at both ends with identifier shown on shop drawings.

3.03 FIELD QUALITY CONTROL - PRIOR TO STARTUP

- A. Adjust, calibrate, measure, program, configure, and otherwise perform all necessary actions to ensure that process control system will function as required by Contract Documents.
- B. Physical Inspection:
 - 1. Verify that each component of the process control system has been installed and is correctly connected to its power source and to the process control network.
 - 2. Verify that instruments without built-in transceivers are correctly connected to their transceiver.

3. Verify that instruments are correctly installed in the manner necessary to sense the variables they are intended for.
 4. Verify that software has been installed and programmed.
 5. Verify that controller configuration settings and/or programs are correct.
- C. Shutdown Condition Demonstration: Set all controller Hand-Off-Auto switches to OFF.
1. Verify that power and air, where required, are available.
 2. Verify that output devices are in their OFF positions.
 3. Verify that all display panels indicate shutdown conditions.
- D. Field testing may not be done contiguously, and may require multiple trips to the site. The Contractor shall determine the number of testing periods requiring separate trips to the site in order to complete functional and performance testing requirements.
- E. Functional Testing:
1. Prior to facility startup and performance evaluation period, inspect, test, and document that all equipment is ready for operation.
 2. Test all control related network media, devices, configuration, and operation.
- F. Correct deficiencies and replace damaged or defective equipment.
- G. Owner reserves the right to reject installed equipment if performance appears to be unachievable with installed equipment.

3.04 FIELD QUALITY CONTROL - AFTER STARTUP

- A. Controller Tuning: Tune controllers initially at whatever flow conditions exist; verify adequate tuning and re-tune if necessary until tuning is satisfactory for peak flow, average daily flow, and minimum flow conditions.
1. Adjust proportional, integral, and derivative settings to provide stable closed-loop control.
 - a. Make controlled variables settle out at a new setpoint with no more than two oscillations above and below setpoint with steady output.
 - b. With the exception of naturally slow processes, make controllers settle out at new setpoints within five minutes.
 2. Set controllers to correct setpoints and record final PID configuration setting on project record Parameter Schedule and submit with O&M data.
- B. Performance Evaluation: Demonstrate compliance of process control system with Contract Documents, using approved test plans.
1. Coordinate functional testing with Owner and Engineer. Notify Owner and Engineer two weeks prior to the start of performance testing.
 2. Engineer and Owner may actively participate in tests, and reserve the right to test or retest specified functions and hold final decision-making rights as to whether testing is acceptable and complete.
 3. Demonstrate all physical and functional requirements of system.
 4. Show, step-by-step, the actions and results for each sequence of operation.
 5. Demonstrate that all alarms work correctly.
- C. If test results are unsatisfactory or equipment cannot be adjusted to perform properly, modify, repair, or replace, and retest.
1. When new units are installed, restart testing from beginning.
 2. Owner reserves the right to reject installed equipment if performance appears to be unachievable with installed equipment.
 3. Prior to retesting, obtain Owner's approval of retesting schedule.

3.05 CLOSEOUT ACTIVITIES

- A. Functional Tests must be completed and approved as described in specification.
- B. Provide As-Built drawings of all systems.
- C. Provide Operation and Maintenance manuals of all systems.
- D. Training: Train Owner's personnel on operation, adjustment, and maintenance of all systems.
1. Provide an integrated training program for Owner's personnel to meet the specific needs of the Owner's personnel.
 2. Including training sessions in a classroom setting and in the field. Train managers, engineers, operators, and maintenance personnel.

3. The Owner reserves the right to record and reuse training sessions.
4. Location: At project site.

3.06 WARRANTY PERIOD WORK

- A. During the warranty period defined in the Conditions of the Contract, correct all deficiencies in process control system upon notification by Owner.

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SECTION 26 2100
LOW-VOLTAGE ELECTRICAL SERVICE ENTRANCE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Electrical service requirements.

1.02 RELATED REQUIREMENTS

1.03 DEFINITIONS

- A. Service Point: The point of connection between the facilities of the serving utility and the premises wiring as defined in NFPA 70, and as designated by the Utility Company.

1.04 REFERENCE STANDARDS

- A. IEEE C2 - National Electrical Safety Code(R) (NESC(R)) 2023.
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. No later than two weeks following date of the Agreement, notify Utility Company of anticipated date of service.
- B. Coordination:
 - 1. Verify the following with Utility Company representative:
 - a. Utility Company requirements, including division of responsibility.
 - b. Exact location and details of utility point of connection.
 - c. Utility easement requirements.
 - d. Utility Company charges associated with providing service.
 - 2. Coordinate the work with other trades to avoid placement of other utilities or obstructions within the spaces dedicated for electrical service and associated equipment.
 - 3. Coordinate arrangement of service entrance equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- C. Arrange for Utility Company to provide permanent electrical service. Prepare and submit documentation required by Utility Company.
- D. Utility Company charges associated with providing permanent service to be paid by Contractor..
- E. Preinstallation Meeting: Convene one week prior to commencing work of this section to review service requirements and details with Utility Company representative.
- F. Scheduling:
 - 1. Where work of this section involves interruption of existing electrical service, arrange service interruption with Owner.
 - 2. Arrange for inspections necessary to obtain Utility Company approval of installation.

1.06 QUALITY ASSURANCE

- A. Comply with the following:
 - 1. IEEE C2 (National Electrical Safety Code).
 - 2. NFPA 70 (National Electrical Code).
 - 3. The requirements of the Utility Company.
- B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
- B. Store products indoors in a clean, dry space having a uniform temperature to prevent condensation (including outdoor rated products which are not weatherproof until completely and properly installed). Maintain factory wrapping or provide an additional heavy canvas or

heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

- C. Handle products carefully to avoid damage to internal components, enclosure, and finish.

PART 2 PRODUCTS

2.01 ELECTRICAL SERVICE REQUIREMENTS

- A. Provide new electrical service consisting of all required conduits, conductors, equipment, metering provisions, supports, accessories, etc. as necessary for connection between Utility Company point of supply and service entrance equipment.
- B. Electrical Service Characteristics: As indicated on drawings.
- C. Utility Company: MidAmerican Energy.
 - 1. Point of Contact: Steve Heckert.
 - 2. Phone: 712-749-7126.
 - 3. Email: steven.heckert@midamerican.com.
- D. Division of Responsibility:
 - 1. Pad-Mounted Utility Transformers:
 - a. Transformer Vaults and Pads: Furnished and installed by Contractor per Utility Company requirements.
 - b. Transformers: Furnished and installed by Utility Company.
 - c. Transformer Grounding Provisions: Furnished and installed by Contractor per Utility Company requirements.
 - d. Primary:
 - 1) Trenching and Backfilling: Provided by Contractor.
 - 2) Conduits: Furnished and installed by Contractor.
 - 3) Conductors: Furnished and installed by Utility Company.
 - e. Secondary:
 - 1) Trenching and Backfilling: Provided by Contractor.
 - 2) Conduits: Furnished and installed by Contractor.
 - 3) Conductors: Furnished and installed by Contractor (Service Point at transformer).
 - 2. Metering Provisions:
 - a. Meter Bases: Furnished and installed by Contractor per Utility Company requirements.
- E. Products Furnished by Contractor: Comply with Utility Company requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that ratings and configurations of service entrance equipment are consistent with the indicated requirements.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

- A. Verify and mark locations of existing underground utilities.

3.03 INSTALLATION

- A. Install products in accordance with manufacturer's instructions and Utility Company requirements.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Arrange equipment to provide minimum clearances and required maintenance access.
- D. Provide required support and attachment components in accordance with Section 26 0529.
- E. Provide grounding and bonding for service entrance equipment in accordance with Section 26 0526.
- F. Identify service entrance equipment, including main service disconnect(s) in accordance with Section 26 0553.

END OF SECTION

**SECTION 26 2416
PANELBOARDS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Power distribution panelboards.
- B. Lighting and appliance panelboards.
- C. Overcurrent protective devices for panelboards.

1.02 RELATED REQUIREMENTS

- A. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- B. Section 26 0529 - Hangers and Supports for Electrical Systems.
- C. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

- A. FS W-C-375 - Circuit Breakers, Molded Case; Branch Circuit and Service 2013e, with Amendment (2017).
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- C. NECA 407 - Standard for Installing and Maintaining Panelboards 2015.
- D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- E. NEMA PB 1 - Panelboards 2011.
- F. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less 2013.
- G. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- H. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- I. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.
- J. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.
- K. UL 67 - Panelboards Current Edition, Including All Revisions.
- L. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures Current Edition, Including All Revisions.
- M. UL 869A - Reference Standard for Service Equipment Current Edition, Including All Revisions.
- N. UL 943 - Ground-Fault Circuit-Interrupters Current Edition, Including All Revisions.
- O. UL 1699 - Arc-Fault Circuit-Interrupters Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted panelboards where indicated.
 - 4. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
 - 5. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for panelboards, enclosures, overcurrent protective devices, and other installed components and accessories.
 - 1. Include characteristic trip curves for each type and rating of overcurrent protective device upon request.
- C. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, overcurrent protective device arrangement and sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
 - 1. Include dimensioned plan and elevation views of panelboards and adjacent equipment with all required clearances indicated.
 - 2. Include wiring diagrams showing all factory and field connections.
- D. Project Record Documents: Record actual installed locations of panelboards and actual installed circuiting arrangements.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.
 - 2. Panelboard Keys: Two of each different key.

1.06 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store panelboards in accordance with manufacturer's instructions and NECA 407.
- B. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- C. Handle carefully in accordance with manufacturer's written instructions to avoid damage to panelboard internal components, enclosure, and finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. ABB/GE: www.geindustrial.com/#sle.
- B. Eaton Corporation: www.eaton.com/#sle.
- C. Schneider Electric; Square D Products: www.schneider-electric.us/#sle.
- D. Siemens Industry, Inc: www.usa.siemens.com.
- E. Source Limitations: Furnish panelboards and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier.

2.02 PANELBOARDS - GENERAL REQUIREMENTS

- A. Provide products listed, classified, and labeled as suitable for the purpose intended.
- B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
 - 1. Altitude: Less than 6,600 feet.
 - 2. Ambient Temperature:
 - a. Panelboards Containing Circuit Breakers: Between 23 degrees F and 104 degrees F.
- C. Short Circuit Current Rating:
 - 1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.

2. Listed series ratings are not acceptable.
- D. Panelboards Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.
- E. Mains: Configure for top or bottom incoming feed as indicated or as required for the installation.
- F. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.
- G. Bussing: Sized in accordance with UL 67 temperature rise requirements.
 1. Provide fully rated neutral bus unless otherwise indicated, with a suitable lug for each feeder or branch circuit requiring a neutral connection.
 2. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.
- H. Conductor Terminations: Suitable for use with the conductors to be installed.
- I. Enclosures: Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.
 1. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
 - a. Indoor Clean, Dry Locations: Type 1.
 - b. Outdoor Locations: Type 3R.
 2. Boxes: Galvanized steel unless otherwise indicated.
 - a. Provide wiring gutters sized to accommodate the conductors to be installed.
 3. Fronts:
 - a. Fronts for Surface-Mounted Enclosures: Same dimensions as boxes.
 - b. Fronts for Flush-Mounted Enclosures: Overlap boxes on all sides to conceal rough opening.
 4. Lockable Doors: All locks keyed alike unless otherwise indicated.
- J. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.
- K. Load centers are not acceptable.

2.03 POWER DISTRIBUTION PANELBOARDS

- A. Description: Panelboards complying with NEMA PB 1, power and feeder distribution type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.
- B. Conductor Terminations:
 1. Main and Neutral Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
 2. Main and Neutral Lug Type: Mechanical.
- C. Bussing:
 1. Phase and Neutral Bus Material: Aluminum.
 2. Ground Bus Material: Aluminum.
- D. Circuit Breakers:
 1. Provide bolt-on type or plug-in type secured with locking mechanical restraints.
- E. Enclosures:
 1. Provide surface-mounted enclosures unless otherwise indicated.

2.04 LIGHTING AND APPLIANCE PANELBOARDS

- A. Description: Panelboards complying with NEMA PB 1, lighting and appliance branch circuit type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.
- B. Conductor Terminations:
 1. Main and Neutral Lug Material: Copper suitable for terminating copper conductors only.
 2. Main and Neutral Lug Type: Mechanical.
- C. Bussing:
 1. Phase Bus Connections: Arranged for sequential phasing of overcurrent protective devices.

2. Phase and Neutral Bus Material: Copper.
3. Ground Bus Material: Copper.
- D. Circuit Breakers: Thermal magnetic bolt-on type unless otherwise indicated.
- E. Enclosures:
 1. Provide surface-mounted or flush-mounted enclosures as indicated.
 2. Fronts: Provide door-in-door trim with hinged cover for access to load terminals and wiring gutters, and separate lockable hinged door with concealed hinges for access to overcurrent protective device handles without exposing live parts.
 3. Provide clear plastic circuit directory holder mounted on inside of door.

2.05 OVERCURRENT PROTECTIVE DEVICES

- A. Molded Case Circuit Breakers:
 1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
 2. Interrupting Capacity:
 - a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated, but not less than:
 - 1) 10,000 rms symmetrical amperes at 240 VAC or 208 VAC.
 - 2) 14,000 rms symmetrical amperes at 480 VAC.
 - b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
 3. Conductor Terminations:
 - a. Lug Material: Copper suitable for terminating copper conductors only.
 4. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.
 5. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.
 6. Provide the following circuit breaker types where indicated:
 - a. Ground Fault Circuit Interrupter (GFCI) Circuit Breakers: Listed as complying with UL 943, class A for protection of personnel.
 - b. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Combination type listed as complying with UL 1699.
 7. Do not use tandem circuit breakers.
 8. Do not use handle ties in lieu of multi-pole circuit breakers.

2.06 SOURCE QUALITY CONTROL

- A. Factory test panelboards according to NEMA PB 1.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive panelboards.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship).
- B. Install products in accordance with manufacturer's instructions.
- C. Install panelboards in accordance with NECA 407 and NEMA PB 1.1.
- D. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- E. Provide required support and attachment in accordance with Section 26 0529.
- F. Install panelboards plumb.

- G. Install flush-mounted panelboards so that trims fit completely flush to wall with no gaps and rough opening completely covered.
- H. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches above the floor or working platform.
- I. Provide minimum of three spare 1 inch trade size conduits out of each flush-mounted panelboard stubbed into accessible space above ceiling and below floor.
- J. Provide grounding and bonding in accordance with Section 26 0526.
- K. Install all field-installed branch devices, components, and accessories.
- L. Provide filler plates to cover unused spaces in panelboards.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Molded Case Circuit Breakers: Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for all main circuit breakers. Tests listed as optional are not required.
- D. Test GFCI circuit breakers to verify proper operation.
- E. Test AFCI circuit breakers to verify proper operation.
- F. Correct deficiencies and replace damaged or defective panelboards or associated components.

3.04 ADJUSTING

- A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.
- B. Adjust alignment of panelboard fronts.
- C. Load Balancing: For each panelboard, rearrange circuits such that the difference between each measured steady state phase load does not exceed 20 percent and adjust circuit directories accordingly. Maintain proper phasing for multi-wire branch circuits.

3.05 CLEANING

- A. Clean dirt and debris from panelboard enclosures and components according to manufacturer's instructions.
- B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

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SECTION 26 2726 WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wall switches.
- B. Receptacles.
- C. Wall plates.

1.02 RELATED REQUIREMENTS

- A. Section 26 0533.16 - Boxes for Electrical Systems.

1.03 REFERENCE STANDARDS

- A. FS W-C-596 - Connector, Electrical, Power, General Specification for 2014h, with Amendments (2017).
- B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush Mounted (General Specification) 2014g, with Amendment (2017).
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- D. NECA 130 - Standard for Installing and Maintaining Wiring Devices 2016.
- E. NEMA WD 1 - General Color Requirements for Wiring Devices 1999 (Reaffirmed 2020).
- F. NEMA WD 6 - Wiring Devices - Dimensional Specifications 2021.
- G. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- H. UL 20 - General-Use Snap Switches Current Edition, Including All Revisions.
- I. UL 498 - Attachment Plugs and Receptacles Current Edition, Including All Revisions.
- J. UL 514D - Cover Plates for Flush-Mounted Wiring Devices Current Edition, Including All Revisions.
- K. UL 943 - Ground-Fault Circuit-Interrupters Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the placement of outlet boxes with millwork, furniture, equipment, etc. installed under other sections or by others.
 - 2. Coordinate wiring device ratings and configurations with the electrical requirements of actual equipment to be installed.
 - 3. Coordinate the installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
 - 4. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.
- B. Sequencing:
 - 1. Do not install wiring devices until final surface finishes and painting are complete.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Products: Listed, classified, and labeled as suitable for the purpose intended.
- D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.06 DELIVERY, STORAGE, AND PROTECTION

- A. Store in a clean, dry space in original manufacturer's packaging until ready for installation.

PART 2 PRODUCTS

2.01 WIRING DEVICE APPLICATIONS

- A. Provide wiring devices suitable for intended use and with ratings adequate for load served.
- B. For single receptacles installed on an individual branch circuit, provide receptacle with ampere rating not less than that of the branch circuit.
- C. Provide weather resistant GFCI receptacles with specified weatherproof covers for receptacles installed outdoors or in damp or wet locations.
- D. Unless noted otherwise, do not use combination switch/receptacle devices.

2.02 WIRING DEVICE FINISHES

- A. Provide wiring device finishes as described below unless otherwise indicated.
- B. Wiring Devices, Unless Otherwise Indicated: Gray with galvanized steel wall plate.

2.03 WALL SWITCHES

- A. Manufacturers:
 - 1. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
 - 2. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
- B. Wall Switches - General Requirements: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20 and where applicable FS W-S-896; types as indicated on the drawings.
 - 1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.

2.04 RECEPTACLES

- A. Manufacturers:
 - 1. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
 - 2. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
- B. Receptacles - General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498 and where applicable FS W-C-596; types as indicated on the drawings.
 - 1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
 - 2. NEMA configurations specified are according to NEMA WD 6.
- C. Convenience Receptacles:
 - 1. Standard Convenience Receptacles: Commercial specification grade, 20A, 125V, NEMA 5-20R; single or duplex as indicated on the drawings.
- D. GFCI Receptacles:
 - 1. GFCI Receptacles - General Requirements: Self-testing, with feed-through protection and light to indicate ground fault tripped condition and loss of protection; listed as complying with UL 943, class A.
 - a. Provide test and reset buttons of same color as device.
 - 2. Standard GFCI Receptacles: Commercial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style.
 - 3. Weather Resistant GFCI Receptacles: Commercial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as weather resistant type complying with UL 498 Supplement SE suitable for installation in damp or wet locations.

2.05 WALL PLATES

- A. Manufacturers:
 - 1. Hubbell Incorporated: www.hubbell-wiring.com/#sle.
 - 2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
 - 3. Lutron Electronics Company, Inc: www.lutron.com.
 - 4. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
- B. Wall Plates: Comply with UL 514D.
 - 1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.

2. Size: Standard.
 3. Screws: Metal with slotted heads finished to match wall plate finish.
- C. Nylon Wall Plates: Smooth finish, high-impact thermoplastic.
 - D. Stainless Steel Wall Plates: Brushed satin finish, Type 302 stainless steel.
 - E. Weatherproof Covers for Damp Locations: Gasketed, cast aluminum, with self-closing hinged cover and corrosion-resistant screws; listed as suitable for use in wet locations with cover closed.
 - F. Weatherproof Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
- C. Verify that wall openings are neatly cut and will be completely covered by wall plates.
- D. Verify that final surface finishes are complete, including painting.
- E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
- F. Verify that openings in access floor are in proper locations.
- G. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
- B. Coordinate locations of outlet boxes provided under Section 26 0533.16 as required for installation of wiring devices provided under this section.
 1. Mounting Heights: Unless otherwise indicated, as follows:
 - a. Wall Switches: 48 inches above finished floor to top of box.
 - b. Wall Dimmers: 48 inches above finished floor to top of box.
 - c. Fan Speed Controllers: 48 inches above finished floor to top of box.
 - d. Receptacles: 20 inches above finished floor to top of box or 6 inches above counter.
 2. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
 3. Where multiple receptacles or wall switches are installed at the same location and at the same mounting height, gang devices together under a common wall plate.
 4. Locate wall switches on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Architect to obtain direction prior to proceeding with work.
 5. Locate receptacles for electric drinking fountains concealed behind drinking fountain according to manufacturer's instructions.
- C. Install wiring devices in accordance with manufacturer's instructions.
- D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
- E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.
- F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.

- G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
- H. Unless otherwise indicated, GFCI receptacles may be connected to provide feed-through protection to downstream devices. Label such devices to indicate they are protected by upstream GFCI protection.
- I. Install wiring devices plumb and level with mounting yoke held rigidly in place.
- J. Install wall switches with OFF position down.
- K. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.
- L. Do not share neutral conductor on branch circuits utilizing wall dimmers.
- M. Install vertically mounted receptacles with grounding pole on bottom and horizontally mounted receptacles with grounding pole on left.
- N. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.
- O. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Inspect each wiring device for damage and defects.
- C. Operate each wall switch with circuit energized to verify proper operation.
- D. Test each receptacle to verify operation and proper polarity.
- E. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.
- F. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.05 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

3.06 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION

**SECTION 26 2816.13
ENCLOSED CIRCUIT BREAKERS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Enclosed circuit breakers.

1.02 RELATED REQUIREMENTS

- A. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- B. Section 26 0529 - Hangers and Supports for Electrical Systems.
- C. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.
- D. Section 26 0573 - Power System Studies: Additional criteria for the selection and adjustment of equipment and associated protective devices specified in this section.

1.03 REFERENCE STANDARDS

- A. FS W-C-375 - Circuit Breakers, Molded Case; Branch Circuit and Service 2013e, with Amendment (2017).
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- D. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- E. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.
- G. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.
- H. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures Current Edition, Including All Revisions.
- I. UL 869A - Reference Standard for Service Equipment Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for circuit breakers, enclosures, and other installed components and accessories.
- C. Shop Drawings: Indicate outline and support point dimensions, voltage and current ratings, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Maintain one copy of each document on site.
- C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- B. Handle carefully in accordance with manufacturer's written instructions to avoid damage to enclosed circuit breaker internal components, enclosure, and finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Source Limitations: Furnish enclosed circuit breakers and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier.

2.02 ENCLOSED CIRCUIT BREAKERS

- A. Description: Units consisting of molded case circuit breakers individually mounted in enclosures.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
 - 1. Altitude: Less than 6,600 feet.
 - 2. Ambient Temperature: Between 23 degrees F and 104 degrees F.
- D. Short Circuit Current Rating:
- E. Enclosed Circuit Breakers Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.
- F. Conductor Terminations: Suitable for use with the conductors to be installed.
- G. Provide electronic trip circuit breakers where indicated.
- H. Provide solidly bonded equipment ground bus in each enclosed circuit breaker, with a suitable lug for terminating each equipment grounding conductor.
- I. Enclosures: Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.
 - 1. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
 - a. Indoor Clean, Dry Locations: Type 1.
 - b. Outdoor Locations: Type 3R.
 - 2. Finish for Painted Steel Enclosures: Manufacturer's standard, factory applied grey unless otherwise indicated.
 - 3. Provide surface-mounted enclosures unless otherwise indicated.
- J. Provide externally operable handle with means for locking in the OFF and ON position.
- K. Selectivity: Where the requirement for selectivity is indicated, furnish products as required to achieve selective coordination.

2.03 MOLDED CASE CIRCUIT BREAKERS

- A. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489 and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
- B. Interrupting Capacity:
 - 1. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated, but not less than:
 - 2. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
- C. Conductor Terminations:
 - 1. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
- D. Electronic Trip Circuit Breakers: Furnish solid state, microprocessor-based, true rms sensing trip units.
 - 1. Provide the following field-adjustable trip response settings:
 - a. Long time pickup, adjustable by setting dial.
 - b. Long time delay.
 - c. Short time pickup and delay.
 - d. Instantaneous pickup.
- E. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.

- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Provide required support and attachment in accordance with Section 26 0529.
- E. Install enclosed circuit breakers plumb.
- F. Except where indicated to be mounted adjacent to the equipment they supply, mount enclosed circuit breakers such that the highest position of the operating handle does not exceed 79 inches above the floor or working platform.
- G. Provide grounding and bonding in accordance with Section 26 0526.
- H. Set field-adjustable circuit breaker tripping function settings as determined by overcurrent protective device coordination study performed according to Section 26 0573.

3.02 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Inspect and test in accordance with manufacturer's instructions and NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for circuit breakers used for service entrance and for circuit breakers larger than [] amperes. Tests listed as optional are not required.
- D. Correct deficiencies and replace damaged or defective enclosed circuit breakers.

END OF SECTION

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**SECTION 26 2816.16
ENCLOSED SWITCHES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Enclosed safety switches.

1.02 RELATED REQUIREMENTS

- A. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- B. Section 26 0529 - Hangers and Supports for Electrical Systems.
- C. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.
- D. Section 26 2813 - Fuses.

1.03 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- B. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- C. NEMA KS 1 - Heavy Duty Enclosed and Dead-Front Switches (600 Volts Maximum) 2013.
- D. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.
- F. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.
- G. UL 98 - Enclosed and Dead-Front Switches Current Edition, Including All Revisions.
- H. UL 869A - Reference Standard for Service Equipment Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades. Avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and within working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
 - 4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for enclosed switches and other installed components and accessories.
- C. Shop Drawings: Indicate outline and support point dimensions, voltage and current ratings, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
- D. Project Record Documents: Record actual locations of enclosed switches.

1.06 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

- D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- B. Handle carefully in accordance with manufacturer's written instructions to avoid damage to enclosed switch internal components, enclosure, and finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Source Limitations: Furnish enclosed switches and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier.

2.02 ENCLOSED SAFETY SWITCHES

- A. Description: Quick-make, quick-break enclosed safety switches listed and labeled as complying with UL 98; heavy duty; ratings, configurations, and features as indicated on the drawings.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
 - 1. Altitude: Less than 6,600 feet.
 - 2. Ambient Temperature: Between -22 degrees F and 104 degrees F.
- D. Horsepower Rating: Suitable for connected load.
- E. Voltage Rating: Suitable for circuit voltage.
- F. Short Circuit Current Rating:
 - 1. Provide enclosed safety switches, when protected by the fuses or supply side overcurrent protective devices to be installed, with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.
- G. Enclosed Safety Switches Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.
- H. Provide with switch blade contact position that is visible when the cover is open.
- I. Fuse Clips for Fusible Switches: As required to accept fuses indicated.
 - 1. Where NEMA Class R fuses are installed, provide rejection feature to prevent installation of fuses other than Class R.
- J. Conductor Terminations: Suitable for use with the conductors to be installed.
- K. Provide solidly bonded equipment ground bus in each enclosed safety switch, with a suitable lug for terminating each equipment grounding conductor.
- L. Enclosures: Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.
 - 1. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
 - a. Indoor Clean, Dry Locations: Type 1.
 - b. Outdoor Locations: Type 3R.
 - 2. Finish for Painted Steel Enclosures: Manufacturer's standard, factory applied grey unless otherwise indicated.
- M. Provide safety interlock to prevent opening the cover with the switch in the ON position with capability of overriding interlock for testing purposes.
- N. Heavy Duty Switches:
 - 1. Comply with NEMA KS 1.
 - 2. Conductor Terminations:
 - a. Lug Material: Copper suitable for terminating copper conductors only.

3. Provide externally operable handle with means for locking in the OFF position, capable of accepting three padlocks.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that the ratings of the enclosed switches are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive enclosed safety switches.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Provide required support and attachment in accordance with Section 26 0529.
- E. Install enclosed switches plumb.
- F. Except where indicated to be mounted adjacent to the equipment they supply, mount enclosed switches such that the highest position of the operating handle does not exceed 79 inches above the floor or working platform.
- G. Provide grounding and bonding in accordance with Section 26 0526.
- H. Provide fuses complying with Section 26 2813 for fusible switches as indicated or as required by equipment manufacturer's recommendations.

3.03 ADJUSTING

- A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.

3.04 CLEANING

- A. Clean dirt and debris from switch enclosures and components according to manufacturer's instructions.
- B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

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**SECTION 26 3213
ENGINE GENERATORS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Packaged engine generator system and associated components and accessories:

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- B. NECA/EGSA 404 - Standard for Installing Generator Sets 2014.
- C. NEMA MG 1 - Motors and Generators 2021.
- D. NFPA 37 - Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines 2021.
- E. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. NFPA 110 - Standard for Emergency and Standby Power Systems 2022.
- G. UL 1236 - Battery Chargers for Charging Engine-Starter Batteries Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate compatibility of generator sets to be installed with work provided under other sections or by others.
 - 2. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment or other potential obstructions within the spaces dedicated for engine generator system.
 - 3. Coordinate arrangement of equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 4. Coordinate the work to provide electrical circuits suitable for the power requirements of the actual auxiliary equipment and accessories to be installed.
 - 5. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Preinstallation Meeting: Convene one week before starting work of this section; require attendance of all affected installers.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product, including ratings, configurations, dimensions, finishes, weights, service condition requirements, and installed features. Include alternator starting capabilities, engine fuel consumption rates, and cooling, combustion air, and exhaust requirements.
- C. Shop Drawings: Include dimensioned plan views and sections indicating locations of system components, required clearances, and field connection locations. Include system interconnection schematic diagrams showing all factory and field connections.
- D. Fuel Storage Tank Calculations: Indicate maximum running time for generator set configuration provided.
- E. Manufacturer's factory emissions certification.
- F. Source quality control test reports.
- G. Manufacturer's detailed field testing procedures.
- H. Field quality control test reports.
- I. Operation and Maintenance Data: Include detailed information on system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.

- J. Department of Natural Resources (DNR) construction permit for Internal Combustion Engines 400 brake horsepower or greater:
 - 1. Fill out Construction Permit forms with all necessary information required by DNR, or similar regulatory agency on behalf of owner. Submit to engineer for review.
 - 2. Owner responsible for permit fee, and submission of forms to regulatory agency.
 - 3. Obtain construction permit before associated construction activities begin.

1.06 QUALITY ASSURANCE

- A. Comply with the following:
 - 1. NFPA 70 (National Electrical Code).
 - 2. NFPA 37 (Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines).
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
 - 1. Authorized service facilities located within 200 miles of project site.
- C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store generator sets in accordance with manufacturer's instructions and NECA/EGSA 404.
- B. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- C. Handle carefully in accordance with manufacturer's instructions to avoid damage to generator set components, enclosure, and finish.

1.08 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Packaged Engine Generator Set - Basis of Design: MTU On-Site Energy #10V0068 GS75.
- B. Packaged Engine Generator Set- Other Acceptable Manufacturers:
 - 1. Cummins Power Generation Inc: www.cumminspower.com/#sle.
- C. Products other than basis of design are subject to compliance with specified requirements and prior approval of Engineer. By using products other than basis of design, Contractor accepts responsibility for costs associated with any necessary modifications to related work, including any design fees.
- D. Source Limitations: Furnish engine generator sets and associated components and accessories produced by a single manufacturer and obtained from a single supplier.

2.02 PACKAGED ENGINE GENERATOR SYSTEM

- A. Provide new engine generator system consisting of all required equipment, sensors, conduit, boxes, wiring, piping, supports, accessories, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. System Description:
 - 1. Application: Emergency/standby.
 - 2. Configuration: Single packaged engine generator set operated independently (not in parallel).
- D. Packaged Engine Generator Set:
 - 1. Type: Gaseous (spark ignition).
 - 2. Power Rating: As indicated on drawings, standby.
 - 3. Voltage: As indicated on drawings.

4. Main Line Circuit Breaker:
 - a. Type: Electronic trip with long time and short time delay and instantaneous pickup.
 - b. Trip Rating: As indicated on drawings.
- E. Generator Set General Requirements:
 1. Prototype tested in accordance with NFPA 110 for Level 1 systems.
 2. Factory-assembled, with components mounted on suitable base.
 3. List and label engine generator assembly as complying with UL 2200.
 4. Power Factor: Unless otherwise indicated, specified power ratings are at 0.8 power factor for three phase voltages and 1.0 power factor for single phase voltages.
 5. Provide suitable guards to protect personnel from accidental contact with rotating parts, hot piping, and other potential sources of injury.
 6. Main Line Circuit Breakers: Provide factory-installed line side connections with suitable lugs for load side connections.
- F. Service Conditions: Provide engine generator system and associated components suitable for operation under the service conditions at the installed location.
- G. Starting and Load Acceptance Requirements:
 1. Cranking Method: Cycle cranking complying with NFPA 110 (15 second crank period, followed by 15 second rest period, with cranking limiter time-out after 3 cycles), unless otherwise required.
 2. Cranking Limiter Time-Out: If generator set fails to start after specified cranking period, indicate overcrank alarm condition and lock-out generator set from further cranking until manually reset.
 3. Start Time: Capable of starting and achieving conditions necessary for load acceptance within 10 seconds (NFPA 110, Type 10).
 4. Maximum Load Step: Supports 100 percent of rated load in one step.
- H. Exhaust Emissions Requirements:
 1. Comply with federal (EPA), state, and local regulations applicable at the time of commissioning; include factory emissions certification with submittals.
 2. Do not make modifications affecting generator set factory emissions certification without approval of manufacturer and Engineer. Where such modifications are made, provide field emissions testing as necessary for certification.
- I. Sound Level Requirements:
 1. Comply with applicable noise level regulations.
- J. Interface with building field installed motorized dampers. Automatically open and close dampers to provide adequate ventilation to generator.

2.03 ENGINE AND ENGINE ACCESSORY EQUIPMENT

- A. Provide engine with adequate horsepower to achieve specified power output at rated speed, accounting for alternator efficiency and parasitic loads.
- B. Engine Fuel System - Gaseous (Spark Ignition):
 1. Fuel Source: Natural gas.
 2. Engine Fuel Connections: Provide suitable, approved flexible fuel lines for coupling engine to fuel source.
 3. Provide components/features indicated and as necessary for operation and/or required by applicable codes, including but not limited to:
 - a. Carburetor.
 - b. Gas pressure regulators.
 - c. Fuel shutoff control valves.
 - d. Low gas pressure switches.
- C. Engine Starting System:
 1. System Type: Electric, with DC solenoid-activated starting motor(s).
 2. Battery(s):
 - a. Battery Type: Lead-acid.
 - b. Battery Capacity: Size according to manufacturer's recommendations for achieving starting and load acceptance requirements under worst case ambient temperature; capable of providing cranking through two complete periods of cranking limiter time-

- outs without recharging.
- c. Provide battery rack, cables, and connectors suitable for the supplied battery(s); size battery cables according to manufacturer's recommendations for cable length to be installed.
- 3. Battery-Charging Alternator: Engine-driven, with integral solid-state voltage regulation.
- 4. Battery Charger:
 - a. Provide dual rate battery charger with automatic float and equalize charging modes and minimum rating of 10 amps; suitable for maintaining the supplied battery(s) at full charge without manual intervention.
 - b. Capable of returning supplied battery(s) from fully discharged to fully charged condition within 24 hours, as required by NFPA 110 for Level 1 applications while carrying normal loads.
 - c. Recognized as complying with UL 1236.
 - d. Furnished with integral overcurrent protection; current limited to protect charger during engine cranking; reverse polarity protection.
 - e. Provide integral DC output ammeter and voltmeter with five percent accuracy.
 - f. Provide alarm output contacts as necessary for alarm indications.
- D. Engine Speed Control System (Governor):
 - 1. Single Engine Generator Sets (Not Operated in Parallel): Provide electronic isochronous governor for controlling engine speed/alternator frequency.
 - 2. Frequency Regulation, Electronic Isochronous Governors: No change in frequency from no load to full load; plus/minus 0.25 percent at steady state.
- E. Engine Lubrication System:
 - 1. System Type: Full pressure, with engine-driven, positive displacement lubrication oil pump, replaceable full-flow oil filter(s), and dip-stick for oil level indication. Provide oil cooler where recommended by manufacturer.
- F. Engine Cooling System:
 - 1. System Type: Closed-loop, liquid-cooled, with unit-mounted radiator/fan and engine-driven coolant pump; suitable for providing adequate cooling while operating at full load under worst case ambient temperature.
 - 2. Fan Guard: Provide suitable guard to protect personnel from accidental contact with fan.
 - 3. Ducted Radiators: Where ducted radiator air discharge is to be field-installed, provide suitable radiator duct flange/adaptor.
 - 4. Coolant Heater: Provide thermostatically controlled coolant heater to improve starting under cold ambient conditions; size according to manufacturer's recommendations for achieving starting and load acceptance requirements under worst case ambient temperature.
- G. Engine Air Intake and Exhaust System:
 - 1. Air Intake Filtration: Provide engine-mounted, replaceable, dry element filter.
 - 2. Engine Exhaust Connection: Provide suitable, approved flexible connector for coupling engine to exhaust system.

2.04 ALTERNATOR (GENERATOR)

- A. Alternator: 4-pole, 1800 rpm (60 Hz output) revolving field, synchronous generator complying with NEMA MG 1; connected to engine with flexible coupling; voltage output configuration as indicated, with reconnectable leads for 3 phase alternators.
- B. Exciter:
 - 1. Exciter Type: Brushless; provide permanent magnet generator (PMG) excitation system; self-excited (shunt) systems are not permitted.
 - 2. PMG Excitation Short-Circuit Current Support: Capable of sustaining 300 percent of rated output current for 10 seconds.
 - 3. Voltage Regulation (with PMG excitation): Plus/minus 0.5 percent for any constant load from no load to full load.
- C. Temperature Rise: Comply with UL 2200.
- D. Insulation System: NEMA MG 1, Class H; suitable for alternator temperature rise.
- E. Enclosure: NEMA MG 1, drip-proof.

F. Total Harmonic Distortion: Not greater than five percent.

2.05 GENERATOR SET CONTROL SYSTEM

- A. Provide microprocessor-based control system for automatic control, monitoring, and protection of generator set. Include sensors, wiring, and connections necessary for functions/indications specified.
- B. Control Panel:
 - 1. Control Panel Mounting: Unit-mounted unless otherwise indicated; vibration isolated.
 - 2. Generator Set Control Functions:
 - a. Automatic Mode: Initiates generator set start/shutdown upon receiving corresponding signal from remote device (e.g. automatic transfer switch).
 - b. Manual Mode: Initiates generator set start/shutdown upon direction from operator.
 - c. Reset Mode: Clears all faults, allowing generator set restart after a shutdown.
 - d. Emergency Stop: Immediately shuts down generator set (without time delay) and prevents automatic restarting until manually reset.
 - e. Cycle Cranking: Programmable crank time, rest time, and number of cycles.
 - f. Time Delay: Programmable for shutdown (engine cooldown) and start (engine warmup).
 - g. Voltage Adjustment: Adjustable through range of plus/minus 5 percent.
 - 3. Generator Set Status Indications:
 - a. Voltage (Volts AC): Line-to-line, line-to-neutral for each phase.
 - b. Current (Amps): For each phase.
 - c. Frequency (Hz).
 - d. Real power (W/kW).
 - e. Reactive power (VAR/kVAR).
 - f. Apparent power (VA/kVA).
 - g. Power factor.
 - h. Duty Level: Actual load as percentage of rated power.
 - i. Engine speed (RPM).
 - j. Battery voltage (Volts DC).
 - k. Engine oil pressure.
 - l. Engine coolant temperature.
 - m. Engine run time.
 - n. Generator powering load (position signal from transfer switch).
 - 4. Generator Set Protection and Warning/Shutdown Indications:
 - a. Comply with NFPA 110; configurable for NFPA 110 Level 1 or Level 2, or NFPA 99 systems including but not limited to the following protections/indications:
 - 1) Overcrank (shutdown).
 - 2) Low coolant temperature (warning).
 - 3) High coolant temperature (warning).
 - 4) High coolant temperature (shutdown).
 - 5) Low oil pressure (shutdown).
 - 6) Overspeed (shutdown).
 - 7) Low fuel level (warning).
 - 8) Low coolant level (warning/shutdown).
 - 9) Generator control not in automatic mode (warning).
 - 10) High battery voltage (warning).
 - 11) Low cranking voltage (warning).
 - 12) Low battery voltage (warning).
 - 13) Battery charger failure (warning).
 - b. In addition to NFPA 110 requirements, provide the following protections/indications:
 - 1) High AC voltage (shutdown).
 - 2) Low AC voltage (shutdown).
 - 3) High frequency (shutdown).
 - 4) Low frequency (shutdown).
 - 5) Overcurrent (shutdown).
 - c. Provide contacts for local and remote common alarm.

- d. Provide lamp test function that illuminates all indicator lamps.
- 5. Other Control Panel Features:
 - a. Event log.

2.06 SOURCE QUALITY CONTROL

- A. Perform production tests on generator sets at factory to verify operation and performance characteristics prior to shipment. Include certified test report with submittals.
- B. Generator Set production testing to include, at a minimum:
 - 1. Operation at rated load and rated power factor.
 - 2. Single step load pick-up.
 - 3. Transient and steady state voltage and frequency performance.
 - 4. Operation of safety shutdowns.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that the ratings and configurations of generator sets and auxiliary equipment are consistent with the indicated requirements.
- C. Verify that rough-ins for field connections are in the proper locations.
- D. Verify that mounting surfaces are ready to receive equipment.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship).
- B. Install products in accordance with manufacturer's instructions.
- C. Install generator sets and associated accessories in accordance with NECA/EGSA 404.
- D. Arrange equipment to provide minimum clearances and required maintenance access.
- E. Unless otherwise indicated, mount generator set on properly sized, minimum 6 inch high concrete pad constructed in accordance with Section 03 3000.
- F. Provide required support and attachment in accordance with Section 26 0529.
- G. Provide required vibration isolation and/or seismic controls.
- H. Use manufacturer's recommended oil and coolant, suitable for the worst case ambient temperatures.
- I. Provide duct for cooling air intake/exhaust in accordance with Section 23 3100.
- J. Provide engine exhaust piping in accordance with Section 23 5100, where not factory installed.
 - 1. Include piping expansion joints, piping insulation, thimble, condensation trap/drain, rain cap, hangers/supports, etc. as indicated or as required.
 - 2. Do not exceed manufacturer's maximum back pressure requirements.
- K. Provide grounding and bonding in accordance with Section 26 0526.
- L. Identify system wiring and components in accordance with Section 26 0553.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Provide services of a manufacturer's authorized representative to prepare and start systems and perform inspection and testing. Include manufacturer's detailed testing procedures and field reports with submittals.
- C. Notify Owner and Architect at least two weeks prior to scheduled inspections and tests.
- D. Notify authorities having jurisdiction and comply with their requirements for scheduling inspections and tests and for observation by their personnel.
- E. Provide all equipment, tools, and supplies required to accomplish inspection and testing, including load bank and fuel.
- F. Preliminary inspection and testing to include, at a minimum:

1. Inspect each system component for damage and defects.
 2. Verify tightness of mechanical and electrical connections are according to manufacturer's recommended torque settings.
 3. Check for proper oil and coolant levels.
- G. Prepare and start system in accordance with manufacturer's instructions.
- H. Perform acceptance test in accordance with NFPA 110.
- I. Inspection and testing to include, at a minimum:
1. Verify compliance with starting and load acceptance requirements.
 2. Verify voltage and frequency; make required adjustments as necessary.
 3. Verify phase sequence.
 4. Verify control system operation, including safety shutdowns.
 5. Verify operation of auxiliary equipment and accessories (e.g. battery charger, heaters, etc.).
 6. Perform load tests in accordance with NFPA 110 (1.5 hour building load test followed by 2 hour full load test).
- J. Provide field emissions testing where necessary for certification.
- K. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.
- L. Submit detailed reports indicating inspection and testing results and corrective actions taken.

3.04 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.05 CLOSEOUT ACTIVITIES

- A. Demonstration: Demonstrate proper operation of system to Owner, and correct deficiencies or make adjustments as directed.
- B. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
 2. Provide minimum of four hours of training.
 3. Instructor: Manufacturer's authorized representative.
 4. Location: At project site.
- C. After successful acceptance test and just prior to Substantial Completion, replace air, oil, and fuel filters and fill fuel storage tank.

3.06 PROTECTION

- A. Protect installed engine generator system from subsequent construction operations.

END OF SECTION

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**SECTION 26 3600
TRANSFER SWITCHES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Transfer switches for low-voltage (600 V and less) applications and associated accessories:
 - 1. Automatic transfer switches.
 - 2. Includes service entrance rated transfer switches.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- B. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- C. NEMA ICS 10 Part 1 - Industrial Control and Systems Part 1: Electromechanical AC Transfer Switch Equipment 2020.
- D. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- E. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. UL 1008 - Transfer Switch Equipment Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate compatibility of transfer switches to be installed with work provided under other sections or by others.
 - 2. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances required by NFPA 70.
 - 3. Coordinate arrangement of equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 4. Coordinate the work with placement of supports, anchors, etc. required for mounting.
 - 5. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product, including ratings, configurations, dimensions, finishes, weights, service condition requirements, and installed features.
- C. Shop Drawings: Include dimensioned plan views and sections indicating locations of system components, required clearances, and field connection locations. Include system interconnection schematic diagrams showing all factory and field connections.

1.06 QUALITY ASSURANCE

- A. Comply with the following:
 - 1. NFPA 70 (National Electrical Code).
- B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store transfer switches in accordance with manufacturer's instructions.
- B. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- C. Handle carefully in accordance with manufacturer's instructions to avoid damage to transfer switch components, enclosure, and finish.

1.08 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Transfer Switches:
 - 1. ASCO Power Technologies: www.ascopower.com.
 - 2. Same as manufacturer of engine generator(s) used for this project.
- B. Products other than basis of design are subject to compliance with specified requirements and prior approval of Engineer. By using products other than basis of design, Contractor accepts responsibility for costs associated with any necessary modifications to related work, including any design fees.
- C. Source Limitations: Furnish transfer switches and accessories produced by a single manufacturer and obtained from a single supplier.

2.02 TRANSFER SWITCHES

- A. Provide complete power transfer system consisting of all required equipment, conduit, boxes, wiring, supports, accessories, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Applications:
 - 1. Utilize open transition transfer unless otherwise indicated or required.
- D. Construction Type: Only "contactor type" (open contact) transfer switches are acceptable. Do not use "breaker type" (enclosed contact) transfer switches.
- E. Automatic Transfer Switch:
 - 1. Transfer Switch Type: Automatic transfer switch.
 - 2. Transition Configuration: Open-transition (no neutral position).
 - 3. Voltage: As indicated on the drawings.
 - 4. Ampere Rating: As indicated on the drawings.
 - 5. Neutral Configuration: Solid neutral (unswitched), except as indicated.
- F. Comply with NEMA ICS 10 Part 1, and list and label as complying with UL 1008 for the classification of the intended application (e.g. emergency, optional standby).
- G. Do not use double throw safety switches or other equipment not specifically designed for power transfer applications and listed as transfer switch equipment.
- H. Load Classification: Classified for total system load (any combination of motor, electric discharge lamp, resistive, and tungsten lamp loads with tungsten lamp loads not exceeding 30 percent of the continuous current rating) unless otherwise indicated or required.
- I. Switching Methods:
 - 1. Open Transition:
 - a. Provide break-before-make transfer without a neutral position that is not connected to either source, and with interlocks to prevent simultaneous connection of the load to both sources.
 - 2. Obtain control power for transfer operation from line side of source to which the load is to be transferred.
- J. Service Conditions: Provide transfer switches suitable for continuous operation at indicated ratings under the service conditions at the installed location.
- K. Enclosures:
 - 1. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
 - a. Indoor Clean, Dry Locations: Type 12.
 - b. Outdoor Locations: Type 3R or Type 4.
 - 2. Provide lockable door(s) for outdoor locations.
 - 3. Finish: Manufacturer's standard unless otherwise indicated.

- L. Short Circuit Current Rating:
 - 1. Withstand and Closing Rating: Provide transfer switches, when protected by the supply side overcurrent protective devices to be installed, with listed withstand and closing rating not less than 35,000 rms symmetrical amperes.
- M. Automatic Transfer Switches:
 - 1. Description: Transfer switches with automatically initiated transfer between sources; electrically operated and mechanically held.
 - 2. Control Functions:
 - a. Automatic mode.
 - b. Test Mode: Simulates failure of primary/normal source.
 - c. Voltage and Frequency Sensing:
 - 1) Undervoltage sensing for each phase of primary/normal source; adjustable dropout/pickup settings.
 - 2) Undervoltage sensing for alternate/emergency source; adjustable dropout/pickup settings.
 - 3) Underfrequency sensing for alternate/emergency source; adjustable dropout/pickup settings.
 - d. Outputs:
 - 1) Contacts for engine start/shutdown (except where direct generator communication interface is provided).
 - 2) Auxiliary contacts; one set(s) for each switch position.
 - e. Adjustable Time Delays:
 - 1) Engine generator start time delay; delays engine start signal to override momentary primary/normal source failures.
 - 2) Transfer to alternate/emergency source time delay.
 - 3) Retransfer to primary/normal source time delay.
 - 4) Engine generator cooldown time delay; delays engine shutdown following retransfer to primary/normal source to permit generator to run unloaded for cooldown period.
 - f. Engine Exerciser: Provides programmable scheduled exercising of engine generator selectable with or without transfer to load; provides memory retention during power outage.
 - g. Retransfer to Normal Switch: Bypasses time delays for retransfer to primary/normal source.
 - 3. Status Indications:
 - a. Connected to alternate/emergency source.
 - b. Connected to primary/normal source.
 - c. Alternate/emergency source available.
 - 4. Automatic Sequence of Operations:
 - a. Upon failure of primary/normal source for a programmable time period (engine generator start time delay), initiate starting of engine generator where applicable.
 - b. When alternate/emergency source is available, transfer load to alternate/emergency source after programmable time delay.
 - c. When primary/normal source has been restored, retransfer to primary/normal source after a programmable time delay. Bypass time delay if alternate/emergency source fails and primary/normal source is available.
 - d. Where applicable, initiate shutdown of engine generator after programmable engine cooldown time delay.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that the ratings and configurations of transfer switches are consistent with the indicated requirements.
- B. Verify that rough-ins for field connections are in the proper locations.
- C. Verify that mounting surfaces are ready to receive transfer switches.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship).
- B. Install products in accordance with manufacturer's instructions.
- C. Arrange equipment to provide minimum clearances and required maintenance access.
- D. Install transfer switches plumb and level.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Prepare and start system in accordance with manufacturer's instructions.
- C. Automatic Transfer Switches:
 - 1. Inspect and test in accordance with NETA ATS, except Section 4.
 - 2. Perform inspections and tests listed in NETA ATS, Section 7.22.3. The insulation-resistance tests listed as optional are not required.
- D. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.

3.04 CLOSEOUT ACTIVITIES

- A. Demonstration: Demonstrate proper operation of transfer switches to Owner, and correct deficiencies or make adjustments as directed.

END OF SECTION

**SECTION 26 4300
SURGE PROTECTIVE DEVICES**

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 RELATED REQUIREMENTS

- A. Section 26 0526 - Grounding and Bonding for Electrical Systems.

1.03 ABBREVIATIONS AND ACRONYMS

- A. SPD: Surge Protective Device.

1.04 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- B. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 1449 - Standard for Surge Protective Devices Current Edition, Including All Revisions.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate size and location of overcurrent device compatible with the actual surge protective device and location to be installed. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to ordering equipment.

1.06 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Include detailed component information, voltage, surge current ratings, repetitive surge current capacity, voltage protection rating (VPR) for all protection modes, maximum continuous operating voltage (MCOV), nominal discharge current (I-n), short circuit current rating (SCCR), connection means including any required external overcurrent protection, enclosure ratings, outline and support point dimensions, weight, service condition requirements, and installed features.
- C. Shop Drawings: Include wiring diagrams showing all factory and field connections with wire and circuit breaker/fuse sizes.

1.07 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.08 DELIVERY, STORAGE, AND PROTECTION

- A. Store in a clean, dry space in accordance with manufacturer's written instructions.

1.09 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.10 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Manufacturer's Warranty: Provide minimum five year warranty covering repair or replacement of surge protective devices showing evidence of failure due to defective materials or workmanship.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Field-installed, Externally Mounted - Current Technology; a company of ABB; Model #SL3-080-XXX-XX-MNB-M3-F; www.tnbpowersolutions.com. Without disconnect.
- B. Products other than basis of design are subject to compliance with specified requirements and prior approval of Engineer. By using products other than basis of design, Contractor accepts

responsibility for costs associated with any necessary modifications to related work, including any design fees.

2.02 SURGE PROTECTIVE DEVICES - GENERAL REQUIREMENTS

- A. Description: Factory-assembled surge protective devices (SPDs) for 60 Hz service; listed, classified, and labeled as suitable for the purpose intended; system voltage as indicated on the drawings.
- B. Unless otherwise indicated, provide field-installed, externally-mounted SPDs.
- C. List and label as complying with UL 1449, Type 1 when connected on line side of service disconnect overcurrent device and Type 1 or 2 when connected on load side of service disconnect overcurrent device.
- D. Protected Modes:
 - 1. Wye Systems: L-N, L-G, N-G, L-L.
- E. UL 1449 Voltage Protection Ratings (VPRs):
 - 1. Equivalent to basis of design.
- F. UL 1449 Maximum Continuous Operating Voltage (MCOV): Not less than 115% of nominal system voltage.
- G. Enclosure Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
 - 1. Indoor clean, dry locations: Type 12.
 - 2. Outdoor locations: Type 3R.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that the service voltage and configuration marked on the SPD are consistent with the service voltage and configuration at the location to be installed.
- C. Verify system grounding and bonding is in accordance with Section 26 0526, including bonding of neutral and ground for service entrance and separately derived systems where applicable. Do not energize SPD until deficiencies have been corrected.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship).
- B. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- C. Install conductors between SPD and equipment terminations as short and straight as possible, not exceeding manufacturer's recommended maximum conductor length. Breaker locations may be reasonably rearranged in order to provide leads as short and straight as possible. Twist conductors together to reduce inductance.
- D. Do not energize SPD until bonding of neutral and ground for service entrance and separately derived systems is complete in accordance with Section 26 0526 where applicable. Replace SPDs damaged by improper or missing neutral-ground bond.

3.03 CLEANING

- A. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

Division 32: Exterior Improvements

SECTION 32 9300 PLANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preparation of subsoil.
- B. Topsoil bedding.
- C. Shrubs and Perennials.
- D. Mulch and Fertilizer.
- E. Landscape Edging.
- F. Maintenance.

1.02 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading: Topsoil material.
- B. Section 31 2323 - Fill: Topsoil material.

1.03 DEFINITIONS

- A. Weeds: *Agrostis* spp. (Bent Grass), *Allium ursinum* (Wild Garlic), *Brassica rapa* (Field Mustard), *Bromus inermis* (Brome Grass), *Chenopodium album* (Lambsquarter), *Cirsium arvense* (Canadian Thistle), *Convolvulus arvensis* (Field Bindweed), *Cynodon dactylon* (Bermuda Grass), *Cyperus rotundus* (Nutgrass), *Datura stramonium* (Jimsonweed), *Digitaria* spp. (Crabgrass), *Equisetum* spp. (Horsetail), *Elymus repens* (Quackgrass), *Ipomoea* spp. (Morning Glory), *Jacobaea vulgaris* (Tansy Ragwort), *Lepidium sativum* (Garden Cress), *Muhlenbergia schreberi* (Nimble Will), *Rubus* spp. (Blackberry), *Rumex scutatus* (Perennial Sorrel), *Sorghum halepense* (Johnson Grass), *Stellaria media* (Chickweed), *Taraxacum* (Dandelion), *Toxicodendron diversilobum* (Poison Oak), *Toxicodendron radicans* (Poison Ivy).
- B. Plants: Living trees, plants, and ground cover specified in this Section , and described in ANSI Z60.1.

1.04 REFERENCE STANDARDS

- A. ANSI/AHIA Z60.1 - American National Standard for Nursery Stock 2014.
- B. ANSI A300 Part 1 - American National Standard for Tree Care Operations - Tree, Shrub, and Other Woody Plant Management - Standard Practices (Pruning) 2017.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: For each type of product indicated, including soils.
 - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
 - 2. Plant Photographs: Include photos of each required tree species (minimum of one representative photo per species) and include a scale reference within photo.
- C. Material Test Reports: For existing native surface topsoil and imported or manufactured topsoil.

1.06 QUALITY ASSURANCE

- A. Nursery Qualifications: Company specializing in growing and cultivating the plants with three years documented experience.
- B. Maintenance Services: Performed by installer.

1.07 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of plants, fertilizer and herbicide mixture.
- C. Plant Materials: Certified by federal department of agriculture; free of disease or hazardous insects.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

- B. Protect and maintain plant life until planted.
- C. Deliver plant life materials immediately prior to placement. Keep plants moist.

1.09 FIELD CONDITIONS

- A. Do not install plant life when ambient temperatures may drop below 35 degrees F or rise above 90 degrees F.
- B. Do not install plant life when wind velocity exceeds 30 mph.

1.10 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide one year warranty.
- C. Warranty: Include coverage for one continuous growing season; replace dead or unhealthy plants.
- D. Replacements: Plants of same size and species as specified, planted in the next growing season, with a new warranty commencing on date of replacement.

PART 2 PRODUCTS

2.01 PLANTS

- A. Plants: Species and size identified in plant schedule, grown in climatic conditions similar to those in locality of the work.

2.02 SOIL MATERIALS

- A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or impurities, plants, weeds and roots; minimum pH value of 5.4 and maximum 7.0.

2.03 SOIL AMENDMENT MATERIALS

- A. Fertilizer: Containing fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, as indicated in analysis.
- B. Peat Moss: Shredded, loose, sphagnum moss; free of lumps, roots, inorganic material or acidic materials; minimum of 85 percent organic material measured by oven dry weight, pH range of 4 to 5; moisture content of 30 percent.
- C. Bone Meal: Raw, finely ground, commercial grade, minimum of 3 percent nitrogen and 20 percent phosphorous.
- D. Lime: Ground limestone, dolomite type, minimum 95 percent carbonates.
- E. Water: Clean, fresh, and free of substances or matter that could inhibit vigorous growth of plants.

2.04 MULCH

- A. Rock mulch shall be natural washed river rock from 3/4-in. to 2-in. diameter.

2.05 ACCESSORIES

- A. Landscape Edging;
 - 1. Steel Edging: Standard commercial-steel edging, rolled edge, fabricated in sections of standard lengths, with loops stamped from or welded to face of sections to receive stakes.
 - a. Edging Size: 3/16 inches wide by 4 inches deep
 - b. Stakes: Tapered steel, a minimum of 16 inches long, 30 inches on center minimum.
 - c. Accessories: Standard tapered ends, corners, and splicers.
 - d. Finish: Standard paint.
 - e. Color: Black.
 - f. Manufacturers: Subject to compliance with requirements.
 - 1) Border Concepts, Inc.
 - 2) JD Russell Company.
 - 3) Sure-Loc Edging Corporation.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that prepared subsoil and planters are ready to receive work.
- B. Saturate soil with water to test drainage.
- C. Verify that required underground utilities are available, in proper location, and ready for use.

3.02 PREPARATION OF SUBSOIL

- A. Prepare subsoil to eliminate uneven areas. Maintain profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated subsoil.
- C. Scarify subsoil to a depth of 6 inches where plants are to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.
- D. Dig pits and beds 6 inches larger than plant root system.

3.03 PLACING TOPSOIL

- A. Spread topsoil to a minimum depth of 6 inches over area to be planted. Rake smooth.
- B. Place topsoil during dry weather and on dry unfrozen subgrade.
- C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.
- D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- E. Install topsoil into pits and beds intended for plant root balls, to a minimum thickness of 6 inches.

3.04 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions.
- B. Apply after initial raking of topsoil.
- C. Mix thoroughly into upper 2 inches of topsoil.
- D. Lightly water to aid the dissipation of fertilizer.

3.05 MAINTENANCE

- A. Provide maintenance at no extra cost to Owner; Owner will pay for water.
- B. Maintain plant life for three months after Date of Substantial Completion.
- C. Irrigate sufficiently to saturate root system and prevent soil from drying out.
- D. Cultivate and weed plant beds and tree pits.
- E. Remove dead or broken branches and treat pruned areas or other wounds.
- F. Neatly trim plants where necessary.
- G. Immediately remove clippings after trimming.
- H. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions.
- I. Control insect damage and disease. Apply pesticides in accordance with manufacturers instructions.
- J. Remedy damage from use of herbicides and pesticides.
- K. Replace mulch when deteriorated.
- L. Maintain wrappings, guys, turnbuckles, and stakes. Adjust turnbuckles to keep guy wires tight. Repair or replace accessories when required.

END OF SECTION

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Division 33: Utilities

**SECTION 33 1113
WATER SUPPLY WELLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Water Supply Well
- B. Well Pump
- C. Pitless Well Unit

1.02 REFERENCE STANDARDS

- A. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.
- B. ASTM A312/A312M - Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes 2022a.
- C. ASTM C150/C150M - Standard Specification for Portland Cement 2022.
- D. ASTM D1784 - Standard Classification System and Basis for Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds 2020.
- E. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series) 2020.
- F. ASTM F480 - Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80 2014.
- G. AWWA A100 - Water Wells 2020.
- H. AWWA C200 - Steel Water Pipe, 6 In. (150 mm) and Larger 2017.
- I. AWWA C206 - Field Welding of Steel Water Pipe 2017.
- J. AWWA C220 - Stainless-Steel Pipe, 1/2 in. (13 MM) and Larger 2017.
- K. AWWA C231 - Field Welding of Stainless-Steel Water Pipe 2017.
- L. AWWA C654 - Disinfection of Wells 2021.
- M. AWWA E102 - Submersible Vertical Turbine Pumps 2017.
- N. NEMA MG 1 - Motors and Generators 2021.
- O. NSF 61 - Drinking Water System Components - Health Effects 2022, with Errata.
- P. Ten State Standards - Recommended Standards for Waterworks: Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers 2018.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Provide all permits, certificates, and licenses required by law for execution of work.
- C. Shop Drawings: Include data indicating well screen, gravel pack, pump, motor, column pipe, casing pipe, grout, check valve, and all special construction items.
- D. Well Design
 - 1. Proposed diameter, length and depths of casing
 - 2. grouting mixture and placement details
- E. Well pump: dimensional data, descriptive data, performance data, pump curve data, electrical schematic diagrams, and manufacturer's installation instructions.
 - 1. Pump curve data:
 - a. Capacity in gallons per minute
 - b. Net positive suction head (NPSH)
 - c. Total Dynamic Head in feet.
 - d. Efficiency.
 - e. Pumping horsepower
- F. Record and submit well log and sieve analysis of water bearing formation.

- G. Submit construction log, yield and drawdown test results, and water quality sample results to the Iowa Department of Natural Resources (Iowa DNR) and Engineer.
- H. Record all well formation data and samples in accordance with state geological agency requirements and standard procedures.
- I. Record production well information during construction:
 - 1. Record the lengths and depths of all casing and submit to the Engineer record drawings.
 - 2. Submit daily reports showing the work done during each day, the nature of the material encountered, and such other pertinent data as requested by the Engineer.
- J. Chemical Analysis
 - 1. Submit certified analysis to the Owner and Engineer.
 - 2. Information to include with the samples:
 - a. PWSID #: IA1178097
 - b. Facility ID #: Request from Engineer at time of submittal
 - c. Sample Point: "New"
 - d. Sample Type: Request from Engineer at time of submittal
 - e. Local Well Name: WELL 21
 - 3. Obtain one (1) water sample at each well site at conclusion of test pumping and provide complete chemical and radiological analysis in conformance with 567 – Chapter 43 and for Chemicals and Radionuclides listed in 567 – Chapter 41 of the Iowa Administrative Code including:
 - a. Inorganic Chemicals 567 - Chapter 41.3
 - b. Organic Chemicals (Synthetic and Volatile) 567 - Chapter 41.5
 - c. Radionuclides 567 Chapter 41.8
 - 4. In addition, the chemical analysis shall include the following parameters.

Ammonia	Antimony
Chloride	Arsenic
Total Nitrate & Nitrite	Cyanide (as free Cyanide)
Sulfate	Barium
Asbestos	Beryllium
Nitrite	Cadmium
Nitrate	Chromium
Nickel	Alkalinity
Total Alkalinity	Selenium
Specific Conductance	Thallium
Fluoride	Copper
Total Hardness	Manganese
pH	Zinc
Silica as SiO ₂	Sodium
Total Dissolved Solids	Iron
Mercury	Magnesium
Potassium	Gross Alpha including Uranium
Dissolved Iron	Gross Alpha excluding Uranium
Uranium	Radium-226
Radium-228	Combined Radium
Total Coliform Bacteria	E.coli
Free Chlorine	Total Chlorine
Specific Conductance	Copper
Lead	Orthophosphate
Temperature	Total Filterable Residue (TDS)
- K. Submit executed certification of well pump after performance testing.
- L. Manufacturer's Installation Instructions: Indicate rigging, assembly, and installation instructions.
- M. Operation and Maintenance Data: [_____].

1.04 WELL DESIGN

- A. Scope of Work
 1. Furnish all labor, materials, transportation, tools, supplies, equipment, and appurtenances to construct, develop, disinfect, and test water supply well as indicated in the Drawings.
 2. New water wells shall comply with AWWA A100.
 3. Perform aquifer pumping test per AWWA A100.
 4. Materials coming into contact with potable water supply shall meet the requirements of NSF 61.
 5. Submersible well pumps shall comply with AWWA E102.
 6. All materials provided shall be new and unused.
- B. Design Parameters
 1. Well Capacity: 530 gpm
 2. Casing Diameter: Indicated on Drawings
 3. Total Depth: Indicated on Drawings
 4. Screen Length: Indicated on Drawings
 5. Target Aquifer: Pleistocene

1.05 QUALITY ASSURANCE

- A. Contractor shall notify the Engineer a minimum of 24 hours in advance of performing the following work.
 1. Stringing Casing
 2. Grouting
 3. Development
- B. Work shall not be performed without the presence of the Engineer.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 CASING PIPE

- A. Carbon Steel
 1. Steel casing pipe shall conform to ASTM A53/A53M and AWWA C200.
 2. Wall thickness: Per Table 4 AWWA A100, or as indicated in the Drawings.
 3. Joints: welded or threaded and coupled per AWWA C206
 - a. Welded Joints: welds shall be full-depth, full penetration, full circumferential welds
- B. Stainless Steel
 1. Stainless steel casing pipe shall conform to ASTM A312/A312M and AWWA C220.
 2. Wall thickness: Per Table 4 AWWA A100, or as indicated in the Drawings.
 3. Joints: welded or threaded and coupled per AWWA C231
 - a. Welded Joints: welds shall be full-depth, full penetration, full circumferential welds
- C. Polyvinyl Chloride (PVC)
 1. PVC casing pipe shall conform to ASTM F480 and ASTM D1784.
 2. Standard dimension ratio (SDR) classified pipe shall conform to ASTM D2241.
 3. PVC casing pipe shall meet or exceed the maximum collapse pressure (in feet of water head) per Table K.4 AWWA A100.
 4. Pipe Classification: SDR 21
 5. Joints: Shall be threaded and coupled, solvent welded, or spline locked per ASTM F480.

2.02 COLUMN PIPE

- A. Pipe
 1. Size: Indicated on Drawings
 2. Material: Stainless steel, ASTM A312/A312M
 3. Joints: threaded and coupled
- B. Install check valve on column piping within 25 feet of the pump below the draw down level of the water supply.
- C. Check valves shall be installed at a maximum separation of 200 feet of column pipe.

2.03 WELL CONSTRUCTION

- A. General
 - 1. Well construction shall consist of a commercial well screen and gravel pack design.
 - 2. Detailed design shall be completed by the Contractor and approved by the Engineer. Drawings provide general design parameters.
 - 3. Drilling Method: Dual-rotary drilling method
 - 4. Circulating drilling fluid shall meet the requirements of AWWA A100 and be only clear water or drilling mud as approved by the Engineer.
 - 5. Sand content of the water shall not be greater than 5 ppm after 15 minutes of pumping.
- B. Well Screen
 - 1. Design: Size screen length and slot opening size required to permit the entrance of the design flow of water at a velocity of 0.1 foot per second or less through the screen. Screen designed to produce the minimum drawdown between water bearing strata and well.
 - 2. Type, diameter, and size of screen opening, spacing, location of screens with respect to the water bearing formations shall be designed by the Contractor and submitted to the Engineer prior to well construction.
 - 3. Combinations of different screen slot sizes may be used as required by the well conditions and Contractor design.
 - 4. Sections of screen may be separated throughout zones of fine grain material by sections of Casing Pipe.
 - 5. Weld all sections and connections.
 - 6. Bottom of well screen shall be sealed with a minimum 0.5 inch stainless steel plate.
 - 7. Material: Stainless steel
 - 8. Type: Continuous slot wire wound screen
 - 9. Manufacturer: Johnson Screens, or Engineer approved equal.
- C. Gravel Pack
 - 1. Gravel pack design shall be submitted to the Engineer prior to installation.
 - 2. Gravel pack gradation design shall be based on sieve analysis of the water bearing formation.
 - 3. Size of gravel pack shall be carefully selected with reference to the character and effective size of the water bearing formation to ensure the free flow of water into the well at a non-sand carrying velocity.
 - 4. Material shall be washed, well rounded particle, granitic gravel free of foreign materials.
 - 5. Uniformity coefficient: Less than 1.7.
- D. Sealing Mixture
 - 1. Mix design shall be submitted to the Engineer.
 - 2. Design: ASTM C150/C150M, Type 1, Portland Cement and water with maximum water-cement ratio of 0.533.
 - 3. A clay slurry using native or commercial clay mixed with a minimum of 30% bentonite may be used in the upper portion of the well upon approval by the Engineer.
- E. Level Indicator
 - 1. Pressure Gage
 - a. Shall be brass construction, containing no lead, and suitable for water and air applications.
 - b. Rated for commercial wells and outdoor use

2.04 SUBMERSIBLE WELL PUMP

- A. General requirements
 - 1. All pumps shall be NSF 61 certified
 - 2. Complete pumping systems, including motor and drive, manual operator, automatic actuators (where indicated), piping, valves, conduit and wiring, supporting structures, electrical and process controls, overload protection, and alarms; capable of continuous operation without overheating and without excessive vibration, noise, or power consumption.
 - 3. Pumps shall be provided for the application indicated. Alternative pump selections are allowed. Increases in power requirements shall be coordinated with the Engineer. Contractor responsible for work associated with increasing power requirements including but not limited to VFD sizing, wiring, all appurtenant electrical work and piping.

4. Each pump shall have a nameplate including manufacturer's name, address, catalog or model number, design head, and design flow rate permanently marked and readily visible.
 5. Pumps shall include lifting eyebolts or lugs for ease of removal and handling.
- B. Pump Design Conditions
1. Pump Type: Vertical multistage, close coupled submersible motor
 2. Design Conditions:
 - a. Design Flow: 530 gallons per minute
 - b. Total Dynamic Head: 135 feet
 - c. Static Head: 120 feet
 - d. Minimum hydraulic efficiency: 75%
 - e. BEP: Design point shall be within 25% of best efficiency point
 3. Pump Setting
 - a. Pump Setting Depth: Indicated on Drawings
 - b. Discharge Size: Indicated on Drawings
 - c. Column Pipe Size: Indicated on Drawings
 4. Impeller Type: one-piece, enclosed type, statically and dynamically balanced.
 5. Pump Control: control based on [_____].
- C. Pump Materials: Minimum acceptable requirements. Pump materials shall meet or exceed materials indicated.
1. Bowl Assembly: 316 Stainless Steel.
 2. Impeller: 316 Stainless Steel
 3. Strainer: 316 Stainless Steel
 4. Pump Shaft: Single piece, 316 stainless steel
 5. Pump motor coupling: 416 Stainless steel
 6. Design water passages with smooth surfaces.
- D. Motor
1. Design: Motor shall be an integral part of the complete pumping unit. Designed to operate continuously without exceeding its horsepower rating, exclusive of its service factor for the entire range of the pump curve.
 2. Motor Type: Totally enclosed submersible .
 3. Electrical Characteristics: 460 volts ac, 3 phase, 60 Hz.
 4. Service Factor: 1.15
 5. NEMA Design B with normal starting torque. per NEMA MG 1
 6. Motor insulation Class F for Class B heat rise.
 7. Inverter duty operation to match anticipated flow ranges.
 8. Premium efficient for use with variable speed drives.
 9. Thrust bearing with ample capacity to carry weight of all rotating parts plus hydraulic thrust.
 10. Capable of continuous operation under water.
- E. Acceptable manufacturers:
1. Goulds
 2. Grundfos
 3. Flowserve
 4. Engineer approved equal
- F. Basis of Design:
1. Manufacturer: Flowserve
 2. Style/Model: 08EHM
 3. Impeller Size: 6
 4. Rated Motor Horsepower: 30

2.05 PITLESS WELL UNIT

- A. Unit shall be shop shop fabricated from point of connection to unit cover.
- B. Materials shall be compatible with well casing material.
- C. Casing vent shall be covered with #24 mesh corrosion resistant screen with a minimum 1-1/2 inch minimum diameter.

- D. Unit shall be equipped with a contamination proof cover and electrical entrance connection.
- E. Unit shall be equipped with a capped passageway for inserting temporary level measurement or sampling tubes and lines.
- F. Unit shall be equipped with an integrated sample tap.
- G. Minimum pressure rating: 100 psi
- H. Discharge connection size: Indicated on Drawings
- I. Water level measuring equipment
 - 1. Polyethylene drawdown line attached securely every 20 feet
 - 2. Lower end at pump intake
 - 3. Altitude gage with 3-1/2 inch dial
 - 4. Calibration range: 0 feet to 30 feet of water
 - 5. Install with air pump connection
- J. Manufacturer: Monitor by Baker Manufacturing Company or Engineer approved equal.

2.06 CATHODIC PROTECTION

- A. Install as indicated in the Drawings.
- B. Cathodic protection system shall be provided to prevent corrosion to the well and appurtenances.
- C. Cathodic protection: #17 magnesium anode pack with insulated copper leads
- D. Anodes shall be welded to the casing pipe.

PART 3 EXECUTION

3.01 SAMPLING AND RECORD KEEPING

- A. A qualitative record of approximate rate of penetration, taking into account wear on the bit, shall be kept by the driller.
- B. Provide and maintain a suitable area where samples will be stored in an orderly arrangement.
- C. Provide suitable containers for packing and shipping of all samples.
- D. Obtain cutting samples continuously in each five feet of water supply test holes.
 - 1. The lithologic sampling interval may be changed at the discretion of the Engineer.
 - 2. Lithologic sampling shall be as follows:
 - a. As each five-foot interval of formation is penetrated, collect samples from the pipe discharging to the mud pit and not from the pit itself.
 - b. Bit may be stopped and the hole circulated clean of cuttings at the discretion of the Engineer.
 - c. Place cuttings in sample containers and label with hole number, depth of sample, job name
 - d. One set of samples for each well shall be sent to the Iowa Geological Survey at
 - e. Deliver lithologic samples designated by the Engineer to a laboratory for sieve analysis.

3.02 WELL DRILLING AND DEVELOPMENT

- A. Installation
 - 1. Install well per the approved method and final detailed plan by Contractor.
 - 2. Provide temporary surface or conductor casing as required to maintain the surface of the bore hole. At the completion of well construction fill the annulus between the well casing and conductor casing with grout or concrete.
 - 3. Below surface casing, drill the well and ream throughout the entire thickness of water bearing material to the depths indicated in the detailed well design.
 - 4. Install screen concentrically in bottom of drill hole.
 - 5. Fit casing with proper centering brackets at a maximum spacing of 50 feet.
- B. Grouting and Sealing
 - 1. Grout placement method: Tremie Method
 - 2. Fill annular space from bottom of casing and ground surface with neat cement grout.
 - 3. Install in one continuous operation.

4. Introduce grout at bottom of space to be grouted.
 5. The circulation of water or any method equivalent to shall be used for the protection from the heat of hydration. Rise in temperature shall be monitored so that no damage to the casing due to the heat of hydration occurs. Contractor is completely responsible for proper placement and grouting of casing, considering temperature effects, grout pressure, grouting rate, and grout temperature.
 6. No work which may damage the grout will be permitted in the well within 72 hours after grouting the casing.
 7. Before the grout sets, check the casing for plumbness and correct if necessary.
 8. Grout shall meet Ten State Standards Section 3.2.4.9.
- C. Well Development
1. Develop using approved methods necessary to give the maximum yield of water per foot of drawdown and extract from the water-bearing formation the maximum practical quantity of such sands as may, during the life of the well, be drawn when the well is pumped under maximum conditions of drawdown.
 2. Submit proposed methods of development to the Engineer for approval before they are used in the development of the well.
 3. Furnish all chemical additives, such as polyphosphates, required at no additional cost to Owner.
 4. Final stages of the development of the well shall consist of pumping from a level determined by the Engineer. The development of the well will not be accepted if the water discharged contains more than 1 ppm of sand by volume.

3.03 WELL PUMP INSTALLATION

- A. Install pump in well per manufacturer's instructions.
- B. Dust control with calcium hypochlorite is required.
- C. Attach to designated drop pipe.
- D. Provide services of a competent manufacturer's representative to check equipment, place it into operation, and instruct Owner in operation and maintenance.
- E. Run equipment, check for and correct any shaft misalignment and excessive vibrations.
- F. Test and adjust control system and auxiliary equipment under actual operating conditions.

3.04 DISINFECTION AND PROTECTION

- A. Disinfection
 1. Disinfect the supply well prior to the start of the final pumping test.
 2. Disinfect well and all components in contact with raw, partially treated, and treated water in accordance with AWWA A100 and AWWA C654.
 3. Remove all foreign materials including tools, timbers, rope, and debris.
 4. Swab casing pipe with alkalis to remove oil, grease, and joint compound.
 5. Disinfect with chlorine solution using a calcium or sodium hypochlorite compound with 70 percent available chlorine.
 - a. Provide concentration of 50 ppm in all parts of well.
 - b. Let well sit for 12 hours. Obtain two (2) bacteria test ½ hour apart. Dependent on results, if bacteria tests are in compliance with no detection, final pump tests can be performed by following three (3) below. If not, repeat process at 100 ppm.
 - c. Do not commence pumping tests until at least 24 hours after chlorine odor is detected.
 6. Submit water sample for microbiological analysis to approved laboratory after removal of chlorine solution. Do not place well in service until analysis results are satisfactory.
- B. Top Well Seal
 1. After all well construction and testing is completed, seal well casing with a 1/4 inch steel cover
 2. The top of the completed well casing and top seal shall be a minimum of 18 inches above ground level.
 3. Pitless unit with 18 inches above ground design may be used in place of this temporary welded plate.
- C. Water Quality Protection

1. Perform necessary work to eliminate contamination. Re-disinfect due to neglect after well completion.
2. Protect well from tampering or entrance of foreign material during progress of work.
3. Provide welded cap until pitless unit is installed.

3.05 TESTING

A. Plumbness and Alignment

1. Test plumbness and alignment of the water supply well by lowering into the well a section of pipe or dummy 40 feet long which shall have an outside diameter 1/2 inch smaller than the inside diameter of the casing.
2. Should the pipe or dummy fail to move freely throughout the length of the casing, or should the well vary from vertical in excess of one (1) degree, or $0.0067 \times$ smallest diameter of casing per foot whichever is less, correct the plumbness or alignment.

B. Pump Testing General

1. Notify Engineer of readiness for pumping tests.
2. Furnish necessary equipment to include but not limited to following:
 - a. Pump capable of 24 hour operation at uniform rate.
 - b. Pump capable of discharging 1.5 times design pumping rate with throttling devices to reduce discharge to 10% of test pump rate.
 - c. Discharge pipe of sufficient size and length to conduct water to specified discharge point.
 - d. Equipment to accurately measure flow of water.
 - e. Necessary devices to measure water levels during pumping test including a water level sounding pipe extending from the surface to near the pump bowls.
 - f. During the pumping tests and recovery time specified, monitor the water level in the pumping well. Measurements shall be by approved methods consisting of electric tapes.
3. Calibrate test pump and flow meter prior to initiation of test.
4. Aquifer tests shall consist of a step-drawdown test and a constant rate test. Tests shall be conducted after water has been allowed to stabilize after development of the well.
 - a. The step-drawdown test shall be performed at a rate of 150% of the design flow required from the well. Contractor may use other rates upon approval by engineer.
 - b. Water samples shall be collected at one (1) hour into the continuous test, at intervals of 1/4, 1/2, and 3/4 of the total test time, and at the end of the test.

C. Step-Drawdown Test

1. Before commencing the tests, monitor the water level until it is essentially stable.
2. Each step shall be for a period of 30 minutes, providing the pumping rate is properly adjusted in the first five minutes of the test. Tests in which the pumping rate is not properly adjusted in the first five minutes shall be discontinued and shall commence again after the water level in the well has stabilized.
3. At the end of each 30-minute pumping period, shut off pump and monitor water levels. Monitoring shall be for a minimum time as approved by engineer after each step and may be extended at the direction of the Engineer. In each step test, take and record water level measurements at the following time intervals after the pump is started and stopped: one minute, two minutes, three minutes, five minutes, seven minutes, ten minutes, twenty minutes, thirty minutes, and at ten minutes thereafter during recovery.

D. Constant Rate Pumping Test

1. Before commencing the constant rate pumping test, monitor water level until it is essentially stable.
2. Pumping rate shall be approved by Engineer.
3. Measure water levels in the pumping wells.
4. After monitoring water levels in the well to be pumped for a minimum of two hours, start the pump, measure, and record water levels in the pumped well at the following time intervals: one minute, two minutes, three minutes, five minutes, seven minutes, ten minutes, twenty minutes, fifty minutes, seventy minutes, 100 minutes, and at one-hour intervals thereafter.
5. Take water level measurements at the same time intervals for two hours after the pump is stopped.

6. Do not remove test pump until two hours after the pump is stopped.
 7. Engineer reserves the right to continue monitoring water levels in the pumped well for up to 48 hours after the test.
 8. Remove by bailing, sand pumping, or other methods, any sand, stones, or other foreign material that may have been deposited in the well during the test.
 9. The Engineer reserves the right to perform other tests simultaneously with the pumping tests which aid in the design of other wells, such as flow meter tests. The Contractor will assist the Engineer in preparation and performance of the tests.
- E. Minimum Well Efficiency
1. Wells with efficiencies of less than 70 percent as determined by a pumping test after 24 hours will not be acceptable.
 2. If the well efficiency as calculated at the end of 24 hours is less than 70 percent, the Engineer shall have the option of terminating the pumping test and requiring additional development and testing.

3.06 ACIDIZATION

- A. It may be determined that acid is an acceptable and necessary method of development, The procedure for acidization of the well shall be the responsibility of the Contractor. The following is a suggested method. Acidization method and proposed chemicals shall be approved by the Engineer.
1. Tremmie line shall be installed to a point 10 feet below the lower most portion of the casing or liner.
 2. The top of the well shall be modified to be capable of containing 300 psi of pressure and controlling the pressure.
 3. 4000 gallons 20 degree Baume Hydrochloric acid shall be pumped into the open hole portion of the well through the Tremmie line.
 4. The acid shall remain in place until the depletion of any residual pressure. After neutral pressure has occurred, the well shall be surged with air pressure for 6 hours.
 5. Within 36 hours of installing acid solution into the well, the solution shall be brought back out of the well.
 6. The solution shall be neutralized to a pH of 6.5 and shall be properly disposed of per Well Water Pollution Prevention Plan.
 7. Any sediment that has accumulated in the bottom of the well shall be removed per approved methods.
 8. Contractor is aware that acidizing can cause sand caving and shall notify Engineer for remediation immediately.

3.07 WELL ABANDONMENT

- A. Comply with AWWA A100, A1-13, 567 IAC Chapter 39, and State of Iowa Regulations.
- B. Abandon well for the following reasons:
1. Not constructed plumb and true.
 2. Lost drilling tools or apparatus in well bore.
 3. Improper drilling methods and/or development procedures.
- C. Drill new well at no additional cost to the Owner.

3.08 SITE RESTORATION

- A. Clean up site to acceptable condition.
- B. Replace all damaged site structures, plantings, etc. as determined by Engineer.
- C. Place fill material around Pitless Unit to form 2% minimum slope away from well in all directions.

END OF SECTION

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Division 46: Water and Wastewater Equipment

**SECTION 46 0923
MONITORING AND CONTROL INSTRUMENTATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sensors, analyzers, transmitters, and accessory components.
- B. Instrumentation enclosures.

1.02 RELATED REQUIREMENTS

- A. Section 26 0915 Supervisory and Process Control.

1.03 REFERENCE STANDARDS

- A. ASME B1.20.1 - Pipe Threads, General Purpose, Inch 2013 (Reaffirmed 2018).
- B. ASME B1.20.2M - Pipe Threads, 60 Deg, General Purpose 2006 (Reaffirmed 2011).
- C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, and Section 46 0500 for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each item of equipment, showing compliance with specified requirements and detailed technical characteristics; where multiple components are shown on the same data sheet, mark the specific component referred to.
- C. Shop Drawings: See Section 46 0903.
- D. Field Quality Control Reports.
- E. Operation and Maintenance Data: See Section 46 0106.

1.05 QUALITY ASSURANCE

PART 2 PRODUCTS

2.01 INSTRUMENTATION - GENERAL

- A. In addition to devices indicated, provide all transformers, field preamplifiers, signal conditioners, offset and span adjustments, amplifiers, transducers, transmitters, control devices, signal transmission, and control and power wiring suitable for the application, as necessary to provide complete end-to-end process control loop accuracy from sensor to display and final control element.
- B. Where necessary provide devices that make engineering units conversions and have specific algorithms for applications.
- C. Transmitters: Provide a transmitter for each sensor unless otherwise indicated; transmitter selected to match sensor, with following characteristics unless otherwise indicated:
 - 1. Display: Four digit or analog visual display of measured parameter.
 - 2. Output Signal: 4 to 20 mA DC, proportional to level of measured parameter.
 - 3. Accuracy: Plus/minus 0.5 percent of full scale reading with output error not exceeding Plus/minus 0.25 percent of the calibrated measurement.
 - 4. Mounting: Integral with sensor, pipe mounted, wall mounted or installed in control panel.
 - 5. Location, if Not Integral with Sensor: Where indicated; if not indicated, not more than the distance from the sensor recommended by manufacturer.
- D. Liquid Service Devices: Rated for continuous duty service at specified fluid approach velocities with correspondingly higher constriction velocities over the specified fluid temperature range at specified pressures.
- E. Gas and Vapor Service Devices: Rated for continuous duty service at specified fluid approach velocities with correspondingly higher constriction velocities over the specified fluid temperature range at specified pressures.

2.02 FLOW INSTRUMENTATION

- A. Manufacturers:
- B. Flow Instrumentation - General:
 - 1. Liquid Indication: In gallons per minute and liters per second.

2. Air/Gas/Vapor Indication: In cubic feet per minute and cubic meters per second.
 3. Flow Rate Control: Plus/minus 5 percent of design flow.
 4. Mounting: Easily removed for periodic maintenance.
 - a. Provide appropriate snubbers for pressure taps.
 - b. For Liquids: Mount sensors in horizontal piping, unless otherwise indicated or otherwise recommended by manufacturer.
 - c. For Air, Gases, and Vapors: Mount sensors in vertical piping.
 5. Straight Run Piping Requirements: Minimum straight unobstructed piping of 10.0 pipe diameters upstream and 5.0 pipe diameters downstream, unless otherwise indicated.
- C. Flow Transmitters:
1. Readout: Digital readout of volumetric flow rate to 3 significant figures.
 2. Signal: Proportional to volumetric flow rate and compensated for fluid temperature, unless otherwise indicated.
 3. Accuracy: Plus/minus one percent of full flow.
 4. Location: Within 15 feet of flow element.
- D. Flowmeters, Magnetic: Non-intrusive type, measuring fluid flow through use of self-generated magnetic field; encapsulated in type 300 stainless steel; metering tube of type 316 stainless steel.
1. Flow Velocity: Capable of measuring clean or dirty flow up to 10 feet per second.
 2. Pressure Drop: 5 psi, across meter and appurtenances, at maximum flow rate.
 3. Mounting in Vertical Piping: So that flow tube remains full of process fluid under all operating conditions.
 4. Straight Run Piping Requirements: Minimum of five pipe diameters upstream and two pipe diameters downstream.

2.03 TEMPERATURE INSTRUMENTATION

- A. Temperature Instrumentation:
1. Temperature Ranges: As indicated.
 2. Do not use mercury in thermometers.
 3. Do not use strap-on temperature sensing devices unless specifically indicated.
 4. Provide thermowell for each sensing device installed in liquid systems.
 5. For space temperature sensing, include housing suitable for wall mounting.
 6. For outside air sensing, provide instrument shelter or sun shield to minimize solar effects and mounting location to minimize building effects.
- B. Temperature Sensors, Resistance Temperature Detector, Continuous Averaging Type: Bendable copper sheath; sufficient length to ensure that resistance represents average over cross-section in which installed.
1. Accuracy: Plus/minus 0.9 degrees F at reference temperature.
 2. Mounting: Readily accessible and installed to allow easy replacement.
- C. Thermowells: Sized for accurate fit to temperature sensing device and calibrated to compensate for thermal transmission delay.
1. Material: Stainless steel, TP316, unless otherwise indicated.
 2. Immersion Length: As indicated on drawings.
 3. Connection box sized to accommodate device and transmitter.
 4. For insulated pipe, provide lagging extension sufficient to protrude through insulation.
 5. Threaded attachment unless otherwise indicated.
 6. Fixed Hex Nipples: Male threaded sockets; ASME B1.20.1 (ASME B1.20.2M) threads.
 7. Thermowells Used with RTDs and Thermocouples: Provide terminal connection heads rated NEMA 250 Type 4X.

2.04 INSTRUMENTATION ENCLOSURES

- A. Weather Shields and Shelters:
1. Provide for sensors located outdoors.
 2. Prevent the sun from directly striking sensor.
 3. Provide adequate ventilation so sensing element responds to ambient conditions.
 4. Prevent rain from directly striking or dripping onto sensor; for sensors near outside air intake ducts allow for normal outside air flow.

5. Construction Materials: Fiberglass reinforced plastic, aluminum, stainless steel, galvanized steel, or PVC.
6. Color/Finish: White, painted; or natural aluminum or stainless steel.
7. Locations as indicated on drawings and as required.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions and as indicated on drawings.
- B. Install devices with adequate clearance for maintenance.
- C. Do not obstruct access to or clearances required for maintenance of other equipment and systems.
- D. Local Indicators: Install direct-reading indicator devices, thermometers, and pressure gauges so that they can be easily read from floor level and are readily accessible for maintenance and service.
- E. Adjust or replace devices not complying with specified requirements; except factory sealed devices must be replaced, rather than adjusted.

3.02 FIELD QUALITY CONTROL - SENSOR CALIBRATION - PRIOR TO STARTUP

- A. Calibrate monitoring and control instrumentation; devices with factory calibration certification need not be field calibrated.
- B. Calibrate using methods described below; alternate methods may be used, if approved by Owner beforehand.
- C. Make reports of calibrations performed, documenting methods, and initial, intermediate, and final results.
- D. Calibration Accuracy and Tolerances: As indicated for each device.
- E. Calibration Equipment: Provide equipment of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified. If not otherwise noted, the following minimum equipment calibration requirements apply:
 1. Temperature Sensors and Digital Thermometers: Certified calibration within past year to accuracy of 0.5 degree F and resolution of plus/minus 0.1 degree F.
 2. Pressure Sensors: Accuracy of plus/minus 2.0 percent of the value range being measured (not full range of meter), calibrated within the last year.
 3. Equipment Calibration: According to the manufacturer's recommended intervals and when dropped or damaged; affix calibration tags or keep certificates readily available for inspection.
- F. All Sensors:
 1. Verify that sensor location is appropriate and away from potential causes of erratic operation.
 2. Verify that sensors with shielded cable are grounded only at one end.
 3. For sensor pairs that are used to determine a temperature or pressure difference, for temperature make sure they are reading within 0.2 degree F of each other, and for pressure, within tolerance equal to 2 percent of the reading, of each other.
 4. Tolerances for critical applications may be tighter.
- G. Sensors Without Transmitters:
 1. Make a reading with a calibrated test instrument within 6 inches of the site sensor.
 2. Verify that the sensor reading is within the specified tolerances of the instrument-measured value.
 3. If not, install offset, calibrate or replace sensor.
- H. Sensors With Transmitters:
 1. Disconnect sensor.
 2. Connect a signal generator in place of sensor to simulate desired characteristic.
 3. Connect ammeter in series between transmitter and process control panel.
 4. Adjust transmitter potentiometer zero until 4 mA is read by the ammeter.
 5. Repeat for the maximum characteristic matching 20 mA to the potentiometer span or maximum and verify at the process control system.

6. Record all values and recalibrate controller as necessary to comply with specified control ramps, reset schedules, proportional relationship, reset relationship and P/I reaction.
 7. Reconnect sensor.
 8. Make a reading with a calibrated test instrument within 6 inches of the site sensor.
 9. Verify that the sensor reading, via the permanent local display or the process control system, is within the specified tolerances of the instrument-measured value.
 10. If not, replace sensor and repeat.
- I. After calibration, perform calibration accuracy check:
1. Conduct two-point accuracy check of calibration of each control system sensing element and transmitter by comparing value from test instrument to corresponding sensor/transmitter output variable.
 2. Use digital indicating test instruments at least twice as accurate as specified sensor accuracy, with calibration traceable to National Institute of Standards and Technology standards.
 3. Verify that sensing element-to-control system readout accuracies at two points are within specified product accuracy tolerances.
 4. If not, recalibrate or replace device and repeat calibration check.

END OF SECTION

Details

Use only on minor, low speed (≤ 40 mph) streets. Provide a lane closure for higher speed traffic conditions.

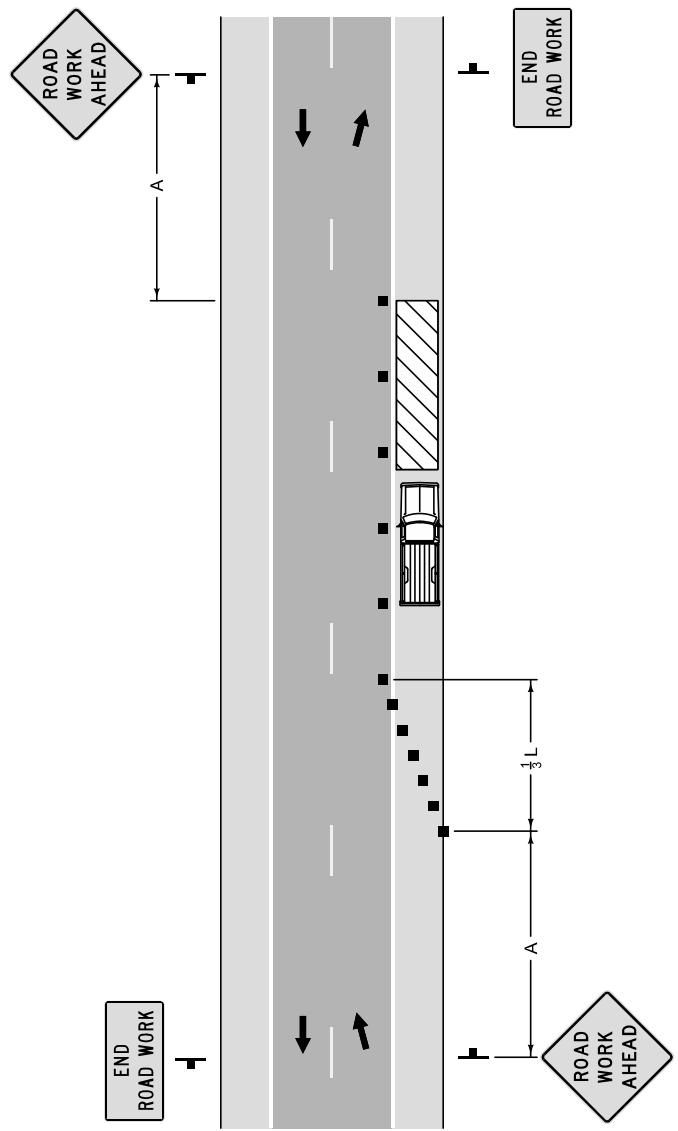
Maintain a minimum lane width of 10 feet as measured to the near face of channelizing devices. For short-term use on low speed, low volume roads without wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.

Where the opposite shoulder is suitable for carrying vehicular traffic, lanes may be shifted by using closely spaced channelizing devices provided the resulting lane widths are at least 10 feet wide.

Additional advanced warning may be appropriate, such as a ROAD NARROWS sign.

For short-term work, the taper and channelizing devices may be omitted if a shadow vehicle with activated vehicle warning lights is used.

Refer to Figure 8030.101 for symbol key and sign spacing.



 SUDAS	REVISION		
	New	10-17-17	
	8030.102		
		SHEET 1 of 1	
SUDAS Standard Specifications			
WORK OFF OF PAVEMENT WITH MINOR ENCROACHMENT ONTO TRAVELED WAY			

Attachments



Certified Testing Services, Inc.

GEOTECHNICAL ENGINEERING REPORT

**Prefabricated Well House
Frank Starr Park
Storm Lake, Iowa**

Prepared For:
ISG
Storm Lake, Iowa

CTS Project No. G6859
ISG Project No. 26698



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

Signature: Matthew R. Dailey 11-16-2022

Name: Matthew R. Dailey, P.E. (date)

License Number: 19700

My license renewal date is December 31, 2023.

Pages or sheets covered by this seal:

This bound report contains 23 pages, including this page.
CTS File Number G6859



Certified Testing Services, Inc.

419 W. 6th Street • P.O. Box 1193 • Sioux City, Iowa 51102 • Phone (712) 252-5132

November 16, 2022

Attn: Ms. Amanda Goodenow, P.E.
Civil Engineer
ISG
1725 North Lake Avenue
Storm Lake, IA 50588

Re: Geotechnical Engineering Report
Prefabricated Well House
Storm Lake, Iowa
CTS Job No. G6859
ISG Project No. 26698

Dear Ms. Goodenow:

Certified Testing Services, Inc. is pleased to transmit our Geotechnical Engineering Report for the referenced project. This report includes the results of field and laboratory testing, and recommendations for foundation design, as well as general site development.

We appreciate the opportunity to perform this Geotechnical Study and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report or if we may be of further service, please contact our office.

Respectfully submitted,
CERTIFIED TESTING SERVICES, INC.

James A. Bertsch, P.E. IA 12121
Senior Geotechnical Engineer

Matthew R. Dailey, P.E. IA 19700
Geotechnical Department Manager

JAB/MRD/jb

GEOTECHNICAL ENGINEERING REPORT

**PREFBRICATED WELL HOUSE
STORM LAKE, IOWA**

**CTS PROJECT NO. G6859
ISG PROJECT NO. 26698**

PREPARED FOR

**ATTN: MS. AMANDA GOODENOW, P.E.
CIVIL ENGINEER
ISG
1725 NORTH LAKE AVENUE
STORM LAKE, IA 50588**

NOVEMBER 16, 2022

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PROJECT INFORMATION

Project Authorization

Certified Testing Services, Inc. has completed the report for the subsurface exploration for the Prefabricated Well House in Storm Lake, Iowa. Ms. Amanda Goodenow, P.E., Civil Engineer for ISG, authorized our work by signing our proposal on October 20, 2021. This work was performed in accordance with CTS Proposal Number 6162 dated October 19, 2022.

Project Description

Ms. Amanda Goodenow, P.E., Civil Engineer of ISG, presented project information in emails on October 18 and 25, 2022. The October 18, 2022, email included an RFP that included a drawing titled “Soil Boring Exhibit” that was dated October 10, 2022. The October 25, 2022, email included an updated drawing titled “Soil Boring Exhibit” showing the new location of the building. The following is our understanding of the project.

Prefabricated Building

- Single story structure
- Plan dimensions of approximately 24 feet by 48 feet
- Frost depth foundations
- Report is based on maximum foundation loading of 2 KLF
- Report is also based on less than 2 feet of cut/fill to bring the site to grade

The geotechnical recommendations presented in this report are based on the available project information, building location and the subsurface materials described in this report. If the noted information is incorrect, please inform CTS in writing so that we may amend the recommendations presented in this report if appropriate. CTS will not be responsible for the implementation of its recommendations when it is not notified of changes in the project.

Purpose and Scope of Services

The purpose of this study was to explore the subsurface conditions at the site in order to provide recommendations for the proposed construction. Our scope of services included performing two soil test borings to depths of 15 feet below the existing grade in the building area. The scope of work also included select laboratory testing, and preparation of this geotechnical report. This report briefly outlines the testing procedures, presents available project information, describes the site and subsurface conditions, and presents recommendations regarding the following:

- Suitability of site for the construction of the proposed project
- Site preparation and grading procedures for project
- Foundation types, depths, allowable bearing capacities and estimate for potential settlement
- Comments regarding factors that will impact construction and performance of the proposed construction.

The scope of services did not include an environmental assessment of the site.

SITE AND SUBSURFACE CONDITIONS

Site Location and Description

The site is located on the east side of Hwy 110 approximately 1,400 feet southwest of the intersection of Hwy 110 and 85th Avenue in Storm Lake, Iowa. The site is bordered by a sidewalk to the north, Storm Lake to the east, park to the south, and Hwy 110 to the west.

At the time of drilling, the site was covered with grass. The site was relatively flat with less than a foot of elevation change between the boring locations. The site was firm at the time of our site visit and the drill rig did not experience some difficulty moving around the site.

Subsurface Conditions

The site subsurface conditions were explored with two borings sampled to depths of 15 feet below the existing grade in the project area. The boring locations and depths were chosen by CTS personnel based on the information supplied by ISG. CTS located the borings in the field using a measuring wheel and measuring from known surface features. The surface elevations at the boring locations were determined in the field using conventional leveling techniques and are for general reference only. The base of the light pole located west of Boring B2 was used as a benchmark and an elevation of 1403 feet was interpolated for the benchmark based on the drawing titled, "Soil Boring Exhibit". The approximate locations of the borings are indicated on the drawing in the "Boring Location Plan" section of the attached Appendix, which is a modified copy of drawing titled "Soil Boring Exhibit" provided by in an email by Ms. Goodenow.

The borings were advanced using hollow stem auger drilling methods and soil samples were routinely obtained during the drilling process. Select soil samples were later tested in the laboratory to determine the material's engineering properties for our evaluation. Drilling, soil sampling and the laboratory testing were accomplished generally in accordance with ASTM procedures. The borings were backfilled with on-site material after performing our work; however, it should be noted that some settlement of the backfill material may occur and it is the client's responsibility to backfill the borings once we have left the site.

The subsurface conditions below the surface material generally consisted of fat clay fill lean clay with sand fill, clayey sand alluvium, silty sand alluvium, poorly graded sand with silt alluvium, and lean clay alluvium. The boring logs included in the Appendix should be reviewed for specific information at the individual boring locations. The boring logs include soil/rock descriptions, stratifications, penetration resistances, and locations of the samples and laboratory test data. The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations may occur and should be expected at other locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual. Water level information obtained during field operations is also shown on the boring logs. The samples that were not altered by laboratory testing will be retained for 30 days from the date of this report and then will be discarded.

Water Level Measurements

Free water was encountered in the borings between the depths of 7.2 feet and 8.1 feet below the existing grade at the time of drilling. Water levels should be expected to fluctuate with changes in climatic conditions. The water level measurements presented in this report are the levels that were measured at the time of our field activities.

EVALUATIONS AND RECOMMENDATIONS

Geotechnical Discussion

CTS has several concerns from a geotechnical standpoint. The first concern is the existing undocumented fill material encountered in the top 4.5 feet in the borings. The existing undocumented fill material has moisture contents that range from 18 percent to 35 percent, dry densities that vary from 82 PCF to 107 PCF and standard penetration test value of 8 BPF. Based on the moisture content of 35 percent, dry density of 82 PCF, and standard penetration test value of 8 BPF, and the existing undocumented fill material containing fat clay, it is CTS's opinion that the existing undocumented fill material is not suitable to support the proposed structure. Due to the potential for the fat clay existing fill material to be mixed with the lean clay material during the excavation process, CTS recommends that the existing fill material not be used for structural fill. The overexcavation to remove the existing fill material should extend horizontally a minimum of 10 inches in every direction beyond the outer edges of the foundations for each foot of cut below the bottom of the foundations. New structural fill material meeting the recommendations in the "Site Preparation" section of this report.

The second concern is the expansive fat clay fill material that will be under the modular building floor area. In order to minimize the potential for vertical movement due to the expansive fat clay, if the existing fill is not removed in the modular building floor area, CTS recommends an 8 inch void between the subgrade and the modular building floor.

The third concern is for the clayey sand that will be encountered below the existing fill to be disturbed due to normal construction activity. CTS recommends that the top 8 inches to 12 inches of the clayey sand be scarified, moisture conditioned and compacted to meet the recommendations in the "Site Preparation" section of this report prior to new fill placement.

The seismic site classification for the site soils, in accordance with ASCE 7, Chapter 20, is a Class D. Due to the low seismic activity in the area, we are not aware of special designs or details for foundation structures due to seismic action.

Site Preparation

CTS recommends that the topsoil/disturbed material, vegetation, soft material, organic material, roots larger than 3/8-inch and unsuitable soils in the construction areas be stripped from the site and either wasted or stockpiled for later use in landscaping. The site soils are not suitable for use as structural fill material. A representative of the geotechnical engineer should determine the depth of removal at the time of construction.

If the existing fill material is removed in the entire building area, the bottom of the excavation should be proofrolled with the heaviest rubber-tired equipment that will be used on the site. Soils that are observed to rut or deflect excessively (typically greater than 1-inch) under the moving load should be undercut and replaced with properly compacted fill. The proofrolling and undercutting activities should be witnessed by a representative of the geotechnical engineer and should be performed during a period of dry weather. If excessive movement is observed during the proofrolling, the proofrolling should be stopped and the site evaluated by the geotechnical engineer. After the proofrolling has been performed that top 8 inches to 12 inches of the clayey sand should be scarified, moisture conditioned and compacted to meet the recommendations in the “Site Preparation” section of this report prior to new fill placement.

After subgrade preparation and observations have been completed, fill placement may begin. Fill materials should be lean clay, if trench footings are used, or granular material free of organic or other deleterious materials, have a maximum particle size less than 3 inches, and have a liquid limit less than 45 and plasticity index less than 22. It should be noted that granular fill material is not recommended if trench footings are used

Structural fill should be placed in maximum loose lifts of 4 inches for hand compaction equipment and 8 inches for riding compaction equipment and lean clay fill should be compacted to at least 95 percent of the materials' standard Proctor maximum dry density and granular fill should be compacted to at least 98 percent of the. Lean clay should be compacted at a moisture content of between a minus 3 percent to a plus 3 percent of optimum moisture content as determined by ASTM D698. Backfill of the foundation excavations should be compacted to a minimum of 93 percent around the perimeter of the structure with the exception of structural areas under pavement, sidewalks, and other structural areas. Every other lift of compacted-engineered fill should be tested by a representative of the geotechnical engineer prior to placement of subsequent lifts.

Shallow Foundation Recommendations

The planned construction should be supported on new structural fill meeting the “Site Preparation” section of this report after the existing fill material has been removed, as recommended in the “Geotechnical Discussion” section of this report. Spread footings for building columns and continuous footings for bearing walls can be designed for a net allowable soil bearing pressure of 2,000 PSF, based on dead load plus design live load. Minimum dimensions of 18 inches for continuous footings and 12 inches for trench footings should be used in foundation design to minimize the possibility of a local bearing capacity failure.

Exterior footings and footings in unheated areas should be located at a depth of 42 inches or deeper below the final exterior grade to provide adequate frost protection. If the building is to be constructed during the winter months or if footings will likely be subjected to freezing temperatures after foundation construction, then all footings should be protected from freezing. Otherwise, interior footings can be located at nominal depths compatible with architectural and structural considerations.

The foundation excavations should be observed by a representative of CTS prior to steel or concrete placement to assess that the foundation materials are capable of supporting the design loads and are consistent with the materials discussed in this report. Soft or loose soil

zones encountered at the bottom of the footing excavations should be removed and replaced with properly compacted structural fill as directed by the geotechnical engineer.

After opening, footing excavations should be observed and concrete placed as quickly as possible to avoid exposure of the footing bottoms to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. If possible, the foundation concrete should be placed during the same day the excavation is made. If it is required that footing excavations be left open for more than one day, they should be protected to reduce evaporation or entry of moisture.

Consolidation testing was beyond the scope of this exploration. Based on the known subsurface conditions and site geology, laboratory testing, and past experience, we anticipate that properly designed and constructed footings supported on the recommended material should experience total and differential settlements between adjacent columns and within a 50 feet length of wall of less than 1-inch and $\frac{3}{4}$ -inch, respectively.

Slab Recommendations

If the prefabricated building is placed on a slab, CTS recommends that existing fill material be removed in the building area and the slab be supported on new structural fill meeting the “Site Preparation” section of this report. **Final slab preparation, including density testing, should occur just prior to concrete placement for proper slab support.** CTS recommends that a compacted free draining granular mat with a minimum thickness of 4 inches be placed beneath the floor slab to enhance drainage. The granular mat should consist of coarse sand or well-graded gravel with a maximum size particle of 1-inch and have less than 5 percent passing the #200 sieve. It should be noted that the material passing the #200 sieve should not contain clay. Polyethylene sheeting, if used, should be placed in accordance with the “Manual of Concrete Practice of the American Concrete Institute”. The floor slabs should have an adequate number of joints to reduce cracking resulting from differential movement and shrinkage. Floor slabs should not be constructed on frozen ground.

Subgrade prepared as recommended would have a modulus of subgrade reaction, k value, of 72 kips per cubic foot (kcf), based on an allowable settlement of 1-inch, and friction factor of 0.3 for lean clay and silt materials and friction factor of 0.4 for cohesionless soils that may be used in the slab-on-grade design.

CONSTRUCTION CONSIDERATIONS

CTS should be retained to provide observation and testing of construction activities involved in the foundation, earthwork, and related activities of this project. CTS cannot accept responsibility for conditions that deviate from those described in this report, nor for the performance of the foundation system if not engaged to also provide construction observation and testing for this project.

Moisture Sensitive Soils and Weather Related Concerns

The fine-grained soils encountered at this site will be sensitive to disturbances caused by construction activity and to changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support capabilities. In addition, soils that become wet may be slow to dry and thus significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork and foundation construction activities during dry weather.

Drainage and Groundwater Considerations

Water should not be allowed to collect in the foundation excavation, on floor slab areas, or on prepared subgrade of the construction area either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of collected rainwater, groundwater, or surface runoff. Positive site drainage should be provided to reduce infiltration of surface water around the perimeter of the structure and beneath the floor slabs. The grades should be sloped away from the buildings and surface drainage should be collected and discharged such that water is not permitted to infiltrate the backfill and floor slab areas. Footings and slab subgrade should be inspected prior to placing of reinforcing steel and concrete, particularly after heavy rains or when water has set on the subgrade.

Free groundwater was encountered in the borings at the time of drilling and should not affect construction. It is possible that seasonal variations will cause fluctuations or a water table to be present in the upper soils. Collected water should be removed from excavations by pumping. Should excessive and uncontrolled amounts of seepage occur, the Geotechnical engineer should be consulted.

Excavations

In Federal Register, Volume 54, Number 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document was issued to better enhance the safety of workers entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be utility trenches, basement excavation or footing excavations, be constructed in accordance with the new OSHA guidelines. It is our understanding that these regulations are being strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. The clay materials are a Class B material and the sand materials are a Class C material in accordance with OSHA criteria.

We are providing this information solely as a service to our client. CTS does not assume responsibility for construction site safety or the contractor's or other party's compliance with local, state, and federal safety or other regulations.

REPORT LIMITATIONS

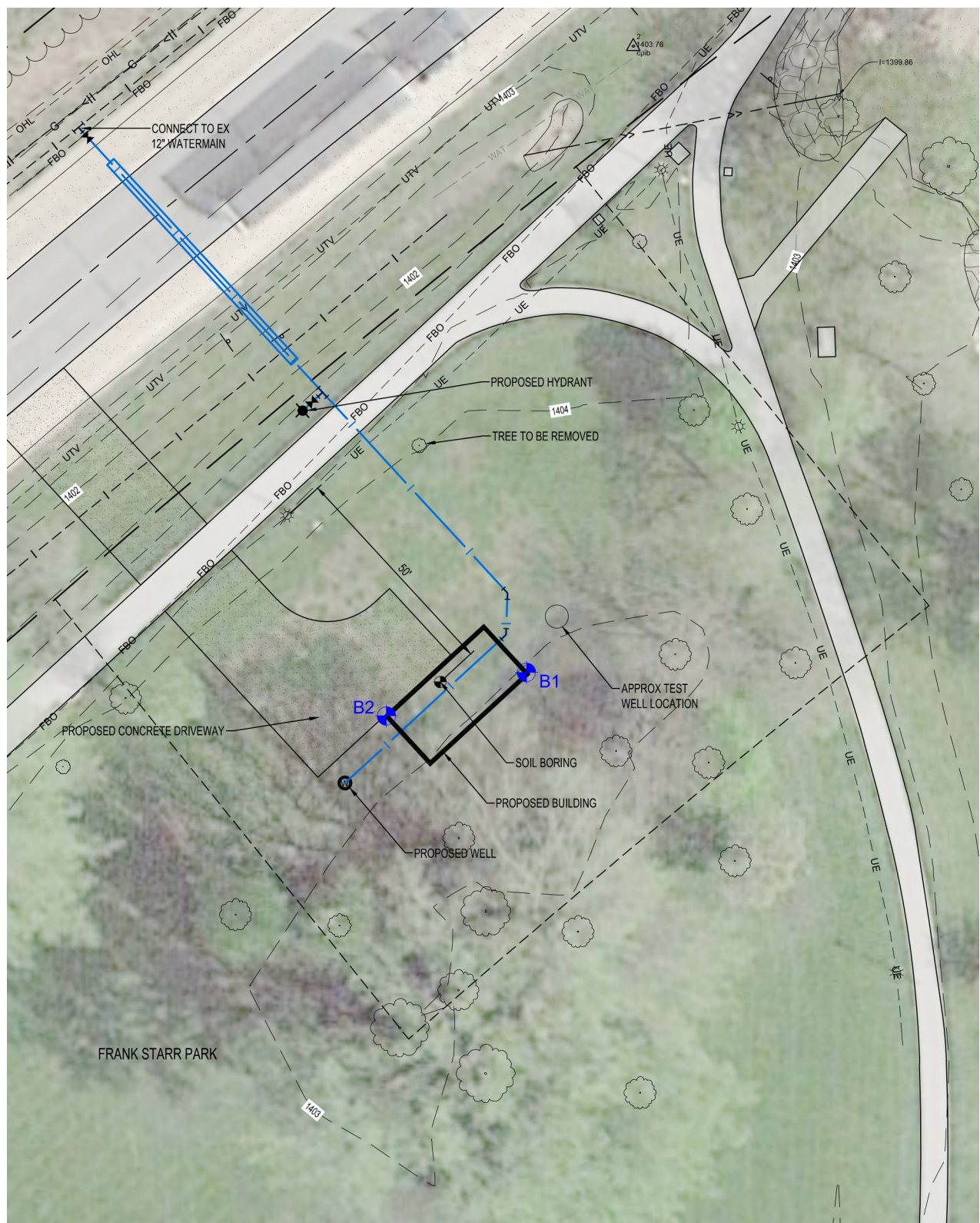
The recommendations submitted are based on the available subsurface information obtained by CTS and design details furnished by Ms. Amanda Goodenow, P.E., Civil Engineer of ISG. If deviations from the subsurface conditions noted in this report are encountered during construction, CTS should be notified immediately to determine if changes in the foundation recommendations are required. If CTS is not retained to perform these functions, CTS will not be responsible for the impact of those conditions on the project.

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

After the plans and specifications are more complete, the geotechnical engineer should be retained and provided the opportunity to review the final design plans and specifications to check that our engineering recommendations have been properly incorporated into the design documents. At that time, it may be necessary to submit supplementary recommendations. This report has been prepared for the exclusive use of ISG and City of Storm Lake and their consultants for the specific application to Prefabricated Well House project in Storm Lake, Iowa.

APPENDIX

BORING LOCATION PLAN



STORM LAKE PRODUCTION WELL NO.21

STORM LAKE, IOWA - 10/25/2022

ISG PROJECT NO. 22-26698

BORING LOGS

LOG OF EXPLORATORY BORING

Sheet 1 of 1



Job Number: **G6859**
 Project: **Prefabricated Well House**
 Date Started: **11/4/22**
 Date Completed: **11/4/22**

Boring No.: **B-1**
 Boring Location: **Storm Lake, IA**
 Drill Type: **Hollow Stem**
 Ground Elev.: **1402.2**

Depth in Feet	Graphic Log	Sample Type	 Shelby Tube	 Standard Split Spoon	 Water Level ATD	USCS	Blow Counts SPT (N) Blows/Foot	Moisture Content, %	Dry Density (PCF)	% Saturation	Hand Penetrometer (TSF)	Unconfined Comp. Strength (TSF)	Liquid Limit %	Plastic Limit %	Plasticity Index %	Cone Penetrometer (Blows/ 1-3/4")
			 Modified California	 Grab Sample	 Water Level After 24-Hours											
SOIL DESCRIPTION																
			6-Inch Root Zone													
			FILL, Fat Clay, Dark Gray, Very Moist				3-4-4 N= 8	32					70	24	46	
5			CLAYEY SAND, Medium Gray, Very Moist, Alluvium			SC		35	82	93	1.75					
			SILTY SAND, Medium Gray, Very Moist to Wet, Medium Dense, Alluvium			SM	3-5-5 N= 10	19								
10			POORLY GRADED SAND WITH SILT, Light Gray, Wet, Loose, Medium Grained, Alluvium			SP-SM	5-5-4 N= 9									
15			LEAN CLAY, Dark Gray, Wet, Soft, Alluvium			CL	3-1-2 N= 3									
			END OF BORING AT 15 FEET FREE WATER WAS ENCOUNTERED AT 8.1 FEET AT TIME OF DRILLING													

19

LOG OF BORING G6859.GPJ CERTIFIED TESTING.GDT 11/15/22

LOG OF EXPLORATORY BORING

Sheet 1 of 1



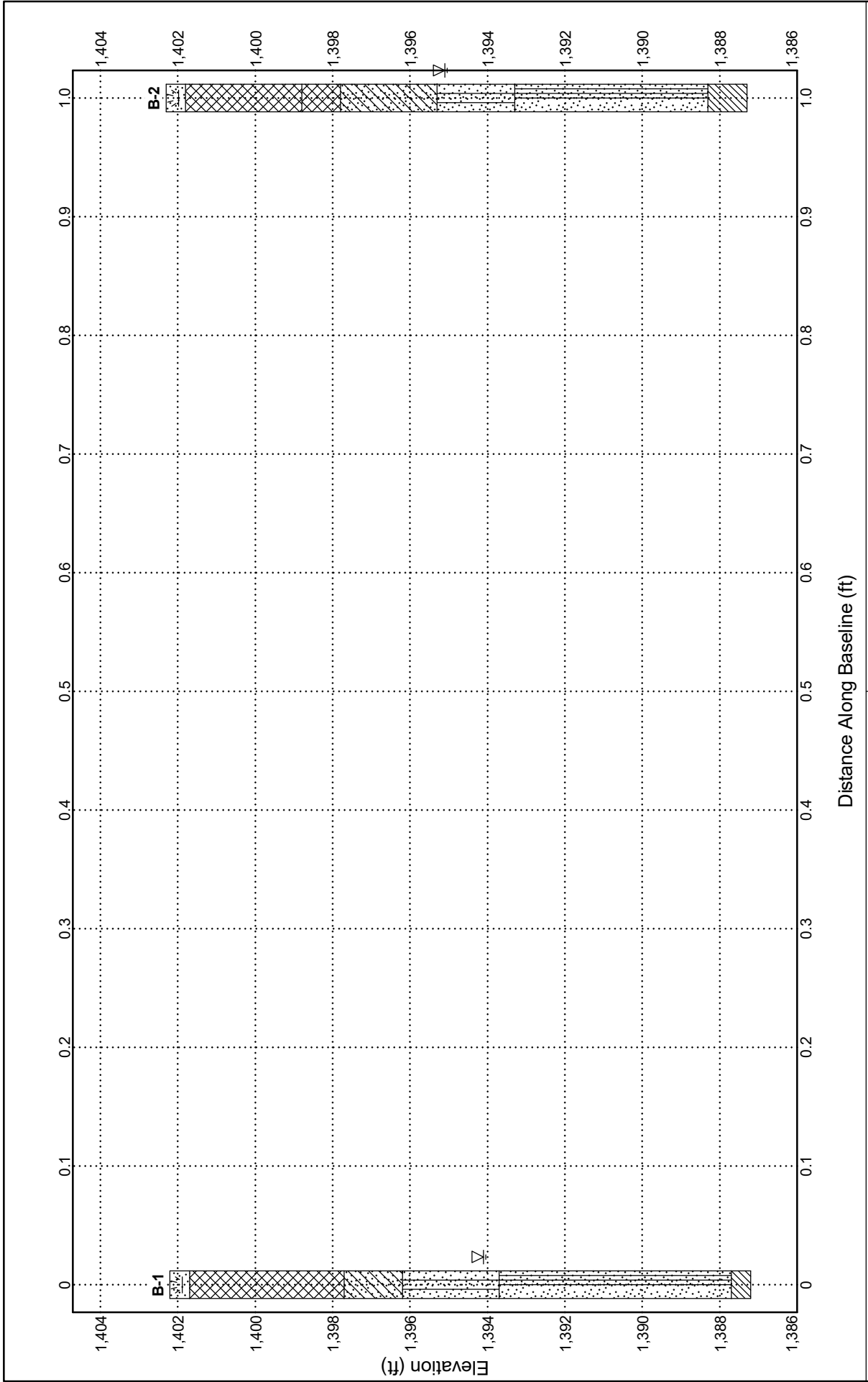
Job Number: **G6859**
 Project: **Prefabricated Well House**
 Date Started: **11/4/22**
 Date Completed: **11/4/22**

Boring No.: **B-2**
 Boring Location: **Storm Lake, IA**
 Drill Type: **Hollow Stem**
 Ground Elev.: **1402.3**

Depth in Feet	Graphic Log	Sample Type	 Shelby Tube	 Standard Split Spoon	 Water Level ATD	USCS	Blow Counts SPT (N) Blows/Foot	Moisture Content, %	Dry Density (PCF)	% Saturation	Hand Penetrometer (TSF)	Unconfined Comp. Strength (TSF)	Liquid Limit %	Plastic Limit %	Plasticity Index %	Cone Penetrometer (Blows / 1-3/4")
			 Modified California	 Grab Sample	 Water Level After 24-Hours											
			SOIL DESCRIPTION													
			6-Inch Root Zone													
			FILL, Lean Clay with Sand, Dark Gray and Gray Brown, Moist					18	107	90	3.75					
			FILL, Fat Clay, Dark Gray, Moist				4-4-5 N= 9									
5			CLAYEY SAND, Medium Gray, Moist, Alluvium			SC	9									
			 SILTY SAND, Medium Gray, Wet, Medium Dense, Alluvium			SM	7-8-9 N= 17									
10			POORLY GRADED SAND WITH SILT, Light Gray, Wet, Loose, Medium Grained, Alluvium			SP-SM	4-4-5 N= 9									
			LEAN CLAY, Dark Gray, Wet, Soft, Alluvium			CL	4-1-1 N= 2	38								
15			END OF BORING AT 15 FEET FREE WATER WAS ENCOUNTERED AT 7.2 FEET AT TIME OF DRILLING													

LOG OF BORING G6859.GPJ CERTIFIED TESTING.GDT 11/15/22

BORING PROFILES





Certified Testing Services, Inc.
 419 W. 6th Street, PO Box 1193
 Sioux City, Iowa 51102
 Telephone: 712-252-5132
 Fax: 712-252-0110

Prefabricated Well House
Storm Lake, IA

Project Number: G6859

SOIL CLASSIFICATION CHART AND GENERAL NOTES

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

GENERAL NOTES

SAMPLING SYMBOLS:

	STANDARD PENETRATION TEST – 1 3/8" I.D., 2" O.D.
	SHELBY THIN-WALLED TUBE – 3" O.D. UNDISTURBED SAMPLE
	GRAB SAMPLE
	ROCK CORE
	AUGER SAMPLE
	NO RECOVERY

WATER LEVEL MEASUREMENT SYMBOLS:

	WATER LEVEL AT TIME OF DRILLING
	WATER LEVEL AFTER 7 DAYS

CONSISTENCY OF FINE-GRAINED SOILS	
UNCONFINED COMPRESSIVE STRENGTH, QU, PSF	CONSISTENCY
< 500	VERY SOFT
500 - 1,000	SOFT
1,001 - 2,000	MEDIUM
2,001 - 4,000	STIFF
4,001 - 8,000	VERY STIFF
8,001 - 16,000	HARD
> 16,000	VERY HARD

RELATIVE DENSITY OF COARSE GRAINED SOILS	
N-BLOWS/FT.	RELATIVE DENSITY
0 - 3	VERY LOOSE
4 - 9	LOOSE
10 - 29	MEDIUM DENSE
30 - 49	DENSE
50 - 80	VERY DENSE
80 +	EXTREMELY DENSE

RELATIVE PROPORTIONS OF SAND AND GRAVEL	
DESCRIPTIVE TERM(S) (OF COMPONENTS ALSO PRESENT IN SAMPLE)	PERCENT OF DRY WEIGHT
WITH	15 - 29
MODIFIER	> 30

RELATIVE PROPORTIONS OF FINES	
DESCRIPTIVE TERM(S) (OF COMPONENTS ALSO PRESENT IN SAMPLE)	PERCENT OF DRY WEIGHT
WITH	15 - 29
MODIFIER	> 30

GRAIN SIZE TERMINOLOGY	
MAJOR COMPONENT OF SAMPLE	SIZE RANGE
BOULDERS	OVER 12 IN. (300MM)
COBBLES	12 IN. TO 3 IN. (300 MM TO 75 MM)
GRAVEL	3 IN. TO #4 SIEVE (75MM TO 4.75MM)
SAND	#4 TO #200 SIEVE (4.75MM TO 0.075 MM)
SILT OR CLAY	PASSING #200 SIEVE (0.075MM)



Sargent Drilling
INDUSTRIAL ENGINEERING
COMPLETE MUNICIPAL AND INDUSTRIAL
WELL AND PUMP SERVICE

PO Box 367
Geneva, NE 68361-0367

846 South 13th St.

Phone: (402) 759-3902
1-888-496-3902

TEST HOLE LOG

CUSTOMER: City of Storm Lake	
WELL ID: TW 2022-1	
LOCATION:	
LATITUDE: 42° 38' 25.1"	
LONGITUDE: 95° 14' 1.5"	
FOOTAGES:	
ELEVATION: 1388'	
DATE: 8-15-22	DRILLED BY: Scott

SWL: 28' 6"
PWL: 50' 6"
GPM: 330

<u>from feet</u>	<u>- to feet</u>	
0	8	Top soil and brown and gray clay
8	20	Fine medium coarse sand and fine medium coarse gravel and rocks with hard clay layer
20	29	Fine medium coarse sand and fine medium coarse gravel and rocks
29	40	Gray clay
40	59	Gray clay with rocks
59	60	Fine medium coarse sand and fine medium coarse gravel
60	67	Gray clay
67	70	Fine medium coarse sand and fine medium coarse gravel and rocks
70	75	Gray clay
75	97	Fine medium coarse sand and fine medium coarse gravel and rocks
97	100	Gray clay
100	109	Fine medium coarse sand and fine gravel
109	127	Gray clay
127	140	Shale

WELL CONSTRUCTION:

Well Depth: 110'
Bore Hole Diameter: 12"
Plain casing: 75' – 6" PVC
Perf. casing: 35' – 6" PVC slot size: .050"
Gravel pack: 70' – 110' - 1 SS #50 Gravel
Grout: 0' – 70' - 1 ½ Pallet Bentonite Seal

Phone: (402) 759-3902

CUSTOMER: City of Storm Lake	
WELL ID: Test Well 2022-1	WELL TYPE: Test Well
TEST START DATE: 08/16/2022	TEST END DATE: 08/17/2022
READINGS TAKEN BY: Derek Schweitzer	
STATIC WATER LEVELS: 28.6'	
ACTUAL START TIME: (am/pm): 1:30 PM	
REFERENCES POINT:	DISTANCE FROM REFERENCE POINT TO GROUND:

500



Certificate of Analysis

Report Date: 8-23-2022
Report Number: 22-235-0051
Lab ID Number: 22027544

Sargent Drilling
2016 Industrial Park Rd.
Carroll, IA 51401

Date Submitted: 8-17-2022
Date Received: 8-17-2022
Contact: Derek Schweitzer

Sample Description: Routine - TW 2022 - 1 [OT01]
Sampled: 8-17-2022 @ 13:30 by Derek Schweitzer
Received: 8-17-2022 @ 14:10 by BR (9.1°C)

Page 1 of 2

Test Requested	Result	Analysis Date / Time	Analyst	Method
Alkalinity (mg/L as CaCO ₃)	360	8-19-2022 7:09	SK	SM 2320B - 2011
Ammonia as N (mg/L)	1.33	8-19-2022 15:03	MM	EPA 350.1
Arsenic (ppm)	0.00079	8-19-2022 13:49	MM	EPA 200.8
Calcium (ppm)	168	8-19-2022 13:25	SW	EPA 200.7
Chloride (ppm)	14.2	8-17-2022 16:08	MM	EPA 300.0
Hardness (mg/L)	610	8-19-2022 7:10	SK	SM 2340 C - 2011
Iron (ppm)	3.33	8-19-2022 13:25	SW	EPA 200.7
Magnesium (ppm)	54.3	8-19-2022 13:25	SW	EPA 200.7
Manganese (ppm)	0.0814	8-19-2022 13:49	MM	EPA 200.8
Nitrate as N (ppm)	< 0.1	8-17-2022 16:08	MM	EPA 300.0
Nitrite as N (ppm)	< 0.1	8-17-2022 16:08	MM	EPA 300.0
Potassium (ppm)	4.73	8-19-2022 13:25	SW	EPA 200.7
Silica as SiO ₂ (ppm)	28.9	8-23-2022 8:28	SW	EPA 200.7
Sodium (ppm)	32.8	8-19-2022 13:25	SW	EPA 200.7
Sulfate (ppm)	288	8-17-2022 16:08	MM	EPA 300.0
Zinc (ppm)	0.0186	8-19-2022 13:49	MM	EPA 200.8

Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis.

The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (Alkalinity @ 6 hrs, Ammonia as N (mg/L) @ 6 hrs, Chloride @ 6 hrs, Hardness (mg/L) @ 6 hrs, Hardness (mg/L) @ 6 hrs, Nitrate as N @ 6 hrs, Nitrite as N @ 6 hrs, Sulfate @ 6 hrs).

Respectfully submitted by

Molly Lundsgaard
Laboratory Administrator

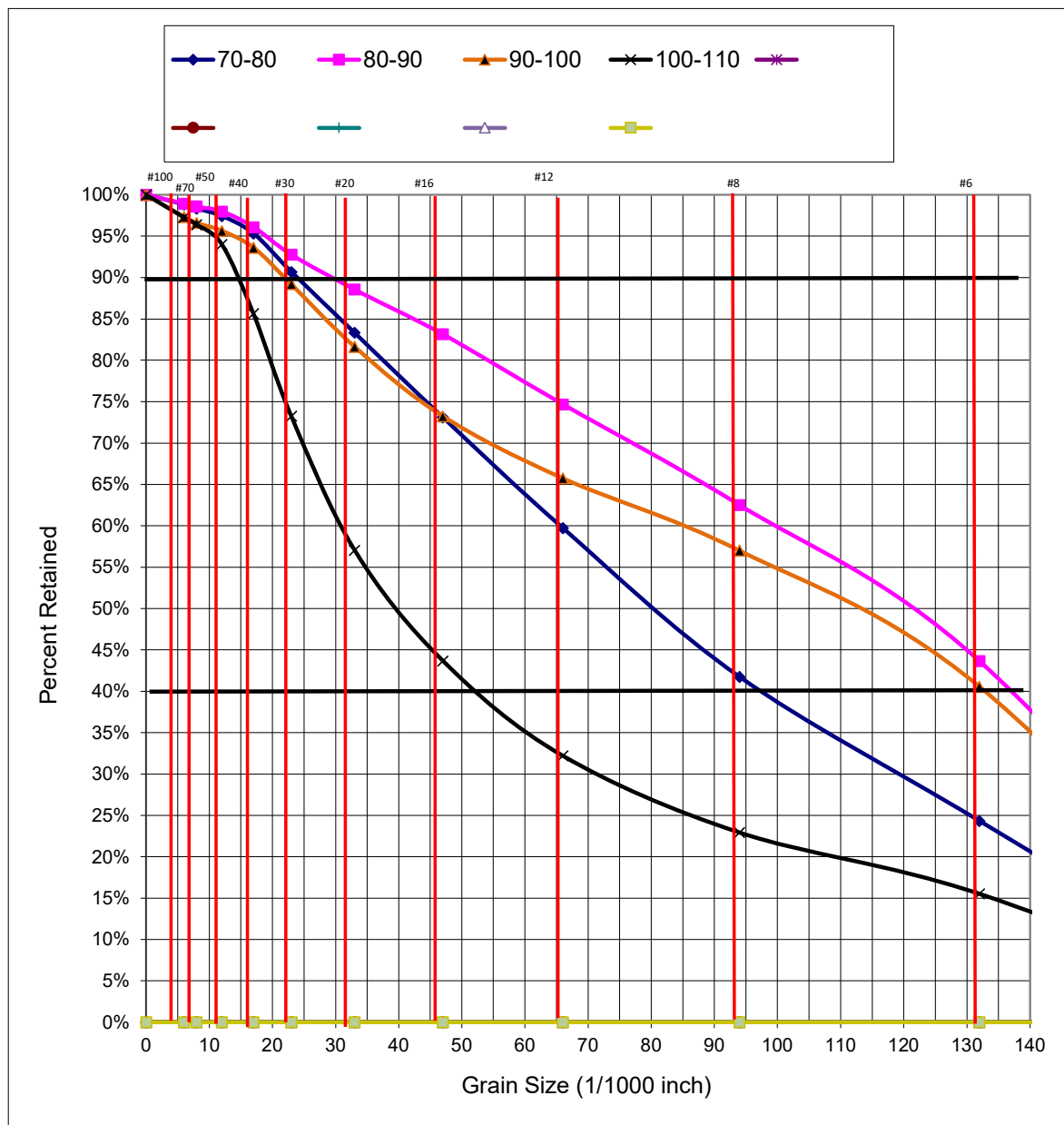


Foundation
Analytical Laboratory

723 Sleezer Road
Cherokee, IA 51012
Phone: 712-225-6989
www.foundationanalytical.com

Certificate of Analysis

**** End Certificate of Analysis ****



Job Name Test Well 2022-1
Location Storm Lake, IA
Driller Sargent Drilling - Doug

Sample ID Sargent provided data
Analyzed by: Duvall, Steven
Date: 8/23/2022

Casing ϕ 16 in
Screen ϕ 16 in

Desired Yield 600 GPM
SWL (ft) 28.5

Recommended Slot Size: 100 slot (0.100") from 75' to 110' bgs.
Recommended Gravel Pack: Northern Gravel 1/4 x 1/8

Based exclusively on the samples provided by the contractor, a sieve analysis graph and suggested screen slot size is provided as requested. Since numerous construction considerations and site circumstances influence successful well completion, Johnson Screens assumes no responsibility for final well performance nor awareness of local regulations pertaining to well installations.

STORM LAKE IA PRODUCTION WELL 21 CONSTRUCTION PLANS

STORM LAKE, IOWA

ISG PROJECT # 22-26698



NOTE:
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CITY OF STORM LAKE NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 TITLE
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE SHEET

SHEET
G1-10

LEGEND

EXISTING	
	CITY LIMITS
	SECTION LINE
	QUARTER SECTION LINE
	RIGHT OF WAY LINE
	PROPERTY / LOTLINE
	EASEMENT LINE
	ACCESS CONTROL
	WATER EDGE
	WETLAND BOUNDARY
	WETLAND / MARSH
	FENCE LINE
	CULVERT
	STORM SEWER
	SANITARY SEWER
	SANITARY SEWER FORCEMAIN
	WATER
	GAS
	OVERHEAD ELECTRIC
	UNDERGROUND ELECTRIC
	UNDERGROUND TELEPHONE
	UNDERGROUND TV
	OVERHEAD UTILITY
	UNDERGROUND UTILITY
	UNDERGROUND FIBER OPTIC
	CONTOUR (MAJOR)
	CONTOUR (MINOR)
	DECIDUOUS TREE
	CONIFEROUS TREE
	TREE LINE
	MANHOLE/STRUCTURE
	CATCH BASIN
	HYDRANT
	VALVE
	CURB STOP
	POWER POLE
	UTILITY PEDESTAL / CABINET
PROPOSED	
	LOT LINE
	RIGHT OF WAY
	EASEMENT
	CULVERT
	STORM SEWER
	STORM SEWER (PIPE WIDTH)
	SANITARY SEWER
	SANITARY SEWER (PIPE WIDTH)
	WATER
	GAS
	OVERHEAD ELECTRIC
	UNDERGROUND ELECTRIC
	UNDERGROUND TV
	CONTOUR
	MANHOLE (STORM, SANITARY)
	CATCH BASIN
	HYDRANT
	VALVE



LOCATION MAP

SCALE IN FEET
0 600 1200

ABBREVIATIONS:

AC	ACRE	CMP	CORRUGATED METAL PIPE	FDN	FOUNDATION	HR	HOUR	MB	MAIL BOX	PVC	POLYVINYL CHLORIDE	TEL	TELEPHONE
ADA	AMERICANS WITH DISABILITIES ACT	CO	CLEANOUT	FFE	FINISHED FLOOR ELEVATION	HWL	HIGH WATER LEVEL	MECH	MECHANICAL	PVMT	PAVEMENT	TEMP	TEMPORARY
ADD	ADDENDUM	CONC	CONCRETE	FPM	FEET PER MINUTE	HWY	HIGHWAY	MH	MANHOLE	QTY	QUANTITY	THRU	THROUGH
AFF	ABOVE FINISHED FLOOR	CONST	CONSTRUCTION	FPS	FEET PER SECOND	HYD	HYDRANT	MIN	MINIMUM	RAD	RADIUS	TNHF	TOP NUT OF FIRE HYDRANT
AGG	AGGREGATE	CONT	CONTINUOUS	FT	FOOT, FEET	I	INVERT	MISC	MISCELLANEOUS	RC	REINFORCED CONCRETE PIPE	TRANS	TRANSFORMER
APPROX	APPROXIMATE	CY	CUBIC YARD	FTG	FOOTING	ID	INSIDE DIAMETER	NO	NUMBER	RD	ROOF DRAIN	TV	TELEVISION
ARCH	ARCHITECT, ARCHITECTURAL	C&G	CURB AND GUTTER	GAL	GALLON	IN	INCH	NTS	NOT TO SCALE	REBAR	REINFORCING BAR	T/W	TOP OF WALL
BFE	BASEMENT FLOOR ELEVATION	DEMO	DEMOLITION	GALV	GALVANIZED	INV	INVERT	NWL	NORMAL WATER LEVEL	REM	REMOVE	TYP	TYPICAL
BIT	BITUMINOUS	DIA	DIAMETER	GC	GENERAL CONTRACTOR	IP	IRON PIPE	OC	ON CENTER	ROW	RIGHT OF WAY	UT	UTILITY, UNDERGROUND
CAD	COMPUTER-AIDED DESIGN	DS	DIMENSION	GFC	GENERAL FLOOR ELEVATION	IPS	IRON PIPE SIZE	OCEW	ON CENTER EACH WAY	R/W	RIGHT OF WAY	UT	UTILITY, UNDERGROUND
CB	CATCH BASIN	DS	DOWNSPOUT	GFE	GARAGE FLOOR ELEVATION	J-BOX	JUNCTION BOX	OH	OVERHEAD	SAN	SANITARY	VCP	VITRIFIED CLAY PIPE
CFS	CUBIC FEET PER SECOND	EA	EACH	GL	GUTTER LINE	JT	JOINT	OHD	OVERHEAD DOOR	SCH	SCHEDULE	W/O	WITHOUT
CF	CUBIC FOOT	ELEC	ELECTRICAL	GPM	GALLONS PER MINUTE	LF	LINEAR FEET	OZ	OUNCE	SF	SQUARE FOOT	W/	WITH
CI	CAST IRON	ELEV	ELEVATION	GV	GATE VALVE	LIN	LINEAR	PED	PEDESTAL, PEDESTRIAN	SPEC	SPECIFICATION	YD	YARD
CIP	CAST IRON PIPE	EOF	EMERGENCY OVERFLOW	HDPE	HIGH DENSITY POLYETHYLENE	LPS	LOW PRESSURE STEAM	PERF	PERFORATED	SQ	SQUARE	YR	YEAR
CIPC	CAST IN PLACE CONCRETE	EQ	EQUAL	LD	HEAVY DUTY	LS	LUMP SUM	PL	PROPERTY LINE	STA	STATION		
CL	CONTROL JOINT	EX	EXISTING	HH	HANDHOLE	LSO	LOWEST STRUCTURAL OPENING	PP	POLYPROPYLENE	SY	SQUARE YARD		
CL	CENTERLINE	FDC	FIRE DEPARTMENT CONNECTION	HORIZ	HORIZONTAL	MAX	MAXIMUM	PSI	POUNDS PER SQUARE INCH	T/C	TOP OF CURB		

PROJECT INDEX:

OWNER:

CITY OF STORM LAKE
KERI NAVRATIL
620 ERIE STREET
PO 1086
STORM LAKE, IA 50588
PH: 712.732.8000

PROJECT

ADDRESS / LOCATION:

SECTION 5 / T-90N / R-37W
FRANK STARR PARK

HAYES TWP
STORM LAKE, IOWA

MANAGING OFFICE:

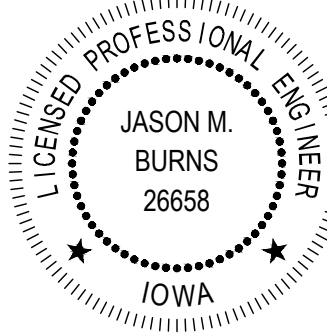
STORM LAKE OFFICE
1725 LAKE AVE. NORTH
STORM LAKE, IA 50588
PHONE: 712.732.7745

PROJECT MANAGER: AMANDA GOODENOW, PE
EMAIL: AMANDA.GOODENOW@ISGINC.COM

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G1-30	SITE DETAILS
G1-40	ESTIMATE INFO & QUANTITIES
G1-41	ESTIMATE INFO & QUANTITIES
G1-42	ESTIMATE INFO & QUANTITIES
C1-10	WWPPP PLAN
C1-20	WWPPP NOTES
C2-10	EXISTING SITE & REMOVALS
C3-10	OVERALL SITE PLAN
C3-20	WELL SITE PLAN
C3-21	UTILITY PROFILE
C3-30	WELL SECTION & NOTES
C4-10	GRADING PLAN
C5-10	PLANTING PLAN
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PP5-30	PROCESS PIPING SECTION
M2-11	FIRST FLOOR HVAC PLAN
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E2-00	ELECTRICAL AND CONTROL SITE PLAN
E2-11	POWER, LIGHTING, AND CONTROL PLAN
E4-11	ONE LINE DIAGRAMS
E4-12	SYMBOLS, PREFIXES, AND DETAILS
E5-11	SCHEDULES

SEAL



I hereby certify that this engineering document was prepared by me or under direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

(signature) (date)

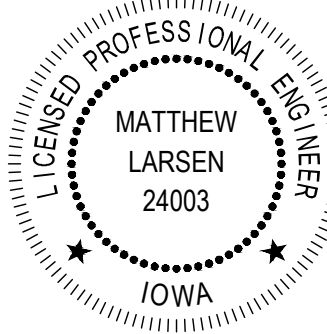
Printed or typed name JASON M. BURNS

License number 26658

My license renewal date is December 31, 2024

Pages or sheets covered by this seal:
S SHEETS

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I hereby certify that this engineering document was prepared by me or under direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

(signature) (date)

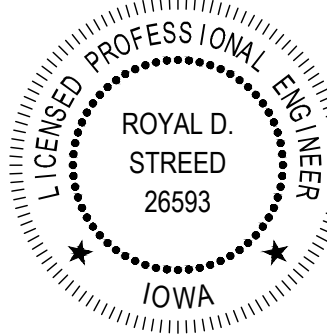
Printed or typed name MATTHEW LARSEN

License number 24003

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(signature) (date)

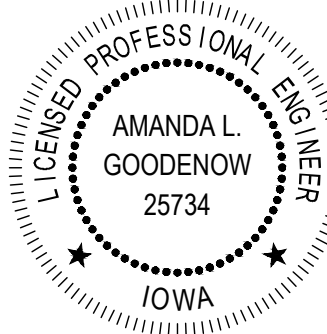
Printed or typed name ROYAL D. STREED

License number 26593

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(signature) (date)

Printed or typed name AMANDA L. GOODENOW

License number 25734

My license renewal date is December 31, 2024

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SPECIFICATIONS REFERENCE

ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF STORM LAKE REQUIREMENTS AND WITH THE 2023 EDITION OF THE STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) FOR PUBLIC IMPROVEMENTS, UNLESS DIRECTED OTHERWISE.

PROJECT DATUM

HORIZONTAL COORDINATES HAVE BEEN REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), ON THE IOWA REGIONAL COORDINATE SYSTEM, ZONE 1, IN U.S. SURVEY FEET. ELEVATIONS HAVE BEEN REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). RTK GPS METHODS WERE USED TO ESTABLISH HORIZONTAL AND VERTICAL COORDINATES FOR THIS PROJECT.

B.M. ELEVATION=1404.22

NORTH SIDE OF CONCRETE LIGHT BASE
NORTHEAST OF WELL SITE NEAR FORK
IN EXISTING SIDEWALK

TOPOGRAPHIC SURVEY

THIS PROJECT'S TOPOGRAPHIC SURVEY CONSISTS OF DATA COLLECTED IN SEPTEMBER / 2022 BY ISG.

PRELIMINARY NOT FOR CONSTRUCTION

1.

ALL WORK SHALL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.
2.

ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE OWNER – CONTRACTOR AGREEMENT, THE PROJECT MANUAL (WHICH INCLUDES GENERAL SUPPLEMENTARY CONDITIONS AND SPECIFICATIONS), DRAWINGS AND ALL ADDENDA, AND MODIFICATIONS AND CLARIFICATIONS ISSUED BY THE ENGINEER.
3.

CONTRACT DOCUMENTS SHALL BE ISSUED TO ALL SUBCONTRACTORS BY THE GENERAL CONTRACTOR IN COMPLETE SETS IN ORDER TO ACHIEVE THE FULL EXTENT AND COMPLETE COORDINATION OF ALL WORK.
4.

ALL PROPERTY PINS SHALL BE PROTECTED FROM GRADING OR OTHER OPERATIONS. ANY PINS DISTURBED SHALL BE RESET AT THE CONTRACTOR'S EXPENSE.
5.

THE 2023 EDITION OF THE STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) AND THE RECOMMENDED STANDARDS FOR WATER WORKS (10 STATE STANDARDS), 2012 EDITION, SHALL APPLY TO THE CONSTRUCTION WORK ON THE PROJECT, PLUS THE BIDDING INFORMATION, CONTRACT PROVISIONS, AND SPECIAL PROVISIONS OF ISG (I+S GROUP, INC.). A FULL IOWA SUDAS SPECIFICATIONS MANUAL CAN BE FOUND ONLINE FOR FREE AT WWW.IOWASUDAS.ORG.
6.

THE WORK TO BE ACCOMPLISHED FOR THE CONSTRUCTION OF THIS PROJECT WILL OCCUR ON OWNER'S PROPERTY AND EASEMENT. THE CONTRACTOR SHOULD CONFINE OPERATION, PEOPLE, AND EQUIPMENT TO THE OWNER'S PROPERTY AND EASEMENT.
7.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIALS NOT TO BE INCORPORATED IN THE WORK INVOLVED IN THE PROJECT (UNSUITABLE EXCAVATION, WASTE PIPE, ETC.).
8.

THE LOCATION AND TYPE OF ALL INPLACE UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND ARE ACCURATE AND COMPLETE TO THE BEST OF THE KNOWLEDGE OF ISG (I+S GROUP, INC.). NO WARRANTY OR GUARANTEE IS IMPLIED. THE CONTRACTOR SHALL VERIFY THE SIZES, LOCATIONS AND ELEVATIONS OF ALL INPLACE UTILITIES PRIOR TO CONSTRUCTION AND AVOID DAMAGE THERETO. NO CLAIM FOR ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN. ANY NECESSARY FIXTURE ADJUSTMENTS SHALL BE INCIDENTAL.
9.

PUBLIC UTILITY FIXTURES ARE EXISTING WITHIN THE CONSTRUCTION AREA. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THESE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR ANY NECESSARY MODIFICATION OF SERVICES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.
10.

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE ALL NECESSARY TRAFFIC CONTROL SIGNS, DEVICES, ETC., AND TO PLACE, MAINTAIN, AND REMOVE SAME AS CONSTRUCTION COMMENCES AND IS COMPLETED IN ACCORDANCE WITH THE CURRENT EDITION OF THE IOWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS. FAILURE TO COMPLY WITH THIS PORTION OF THE SPECIFICATIONS WILL RESULT IN SUSPENSION OF WORK UNTIL THE SITUATION IS CORRECTED. A REDUCTION IN THE LUMP SUM TO BE PAID WILL BE MADE FOR EXCESSIVE NONCOMPLIANCE WITH REQUIRED TRAFFIC CONTROL. NO WORK SHALL COMMENCE IN ANY GIVEN AREA UNTIL ALL APPROPRIATE TRAFFIC CONTROL IS IN PLACE.
11.

THE CONTRACTOR SHALL NOT DISTURB GRASSED AREAS AND TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREA(S) WILL BE SUBJECT TO APPROVAL OF THE ENGINEER.
12.

ALL EXISTING TREES AND BUSHES SHALL BE MAINTAINED AND PROTECTED UNLESS NOTED OTHERWISE. AREAS OF HAND FORMING MAY BE REQUIRED TO PROTECT TREES.
13.

THE CONSTRUCTION OPERATIONS ARE TO TAKE PLACE IN A RECREATIONAL AREA. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS INCLUDED IN THE SPECIFICATIONS IN REGARD TO POSITIVE DUST CONTROL DURING ALL OPERATIONS TO INCLUDE REMOVAL, CLEAN UP, ETC.
14.

EXISTING STORM SEWERS, SANITARY SEWERS, AND WATER MAINS ARE LOCATED BASED ON CITY RECORDS AND ACTUAL LOCATION MAY VARY GREATLY FROM THAT SHOWN.
15.

ELEVATIONS GIVEN ON THE PLAN AND PROFILE SHEETS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.
16.

CONTRACTOR(S) SHALL BE RESPONSIBLE FOR SECURING THE SERVICES OF AN INDEPENDENT TESTING LABORATORY FOR ALL MATERIAL TESTING FOR THIS PROJECT.
17.

PROPOSED WATER DISTRIBUTION LINE SHALL BE INSTALLED WITH A MINIMUM OF FIVE AND A HALF FEET (5.5') OF COVER. IN LOCATIONS WITH A SEPARATION DISTANCE OF LESS THAN TEN FEET (10') FROM SANITARY SEWER OR STORM SEWER, THE SANITARY SEWER OR STORM SEWER SHALL BE INSTALLED EIGHTEEN INCHES (18") BELOW THE BOTTOM OF THE WATER MAIN AND SHALL BE PLACED IN A SEPARATE TRENCH AT A MINIMUM HORIZONTAL SEPARATION OF THREE FEET PER SUDAS SPECIFICATIONS.
18.

AT ALL SEWER AND WATER MAIN CROSSOVERS, MAINTAIN A MINIMUM OF 18" SEPARATION BETWEEN BOTTOM OF WATER MAIN AND TOP OF SEWER. PLACE ONE FULL LENGTH OF WATER PIPE, LOCATED SO BOTH JOINTS ARE AS FAR AS POSSIBLE FROM SEWER. USE LOW PERMEABILITY SOIL FOR BACKFILL WITHIN 10' OF CROSSOVER.
19.

THRUST BLOCKS SHALL BE POURED CONCRETE, INSTALLED BEHIND ALL BENDS, TEES AND DEAD ENDS IN ACCORDANCE WITH SPECIFICATIONS.
20.

FLUSH WATER FROM DISINFECTION PROCESS SHALL BE DISPOSED OF BY DIRECTING FLUSH WATER TO SANITARY SEWER SYSTEM. DECHLORINATE HIGHLY CHLORINATED WATER FROM TESTING BEFORE RELEASING INTO THE SANITARY SEWER SYSTEM.
21.

GRANULAR BEDDING IS REQUIRED FOR ANY TYPE OF PIPE USED AND SHALL BE AS SPECIFIED.
22.

A NEAT VERTICAL EDGE WILL BE REQUIRED FOR ALL JOINTS BETWEEN THE NEW PAVEMENT SURFACE AND EXISTING PAVING AS SHOWN IN THE PLANS. SAW CUTTING OR OTHER TECHNIQUES MAY BE USED TO PROVIDE THIS EDGE. COST OF THE SAW CUT IS TO BE CONSIDERED INCIDENTAL. ADDITIONAL REMOVAL AND REPLACEMENT DUE TO THE CONTRACTOR'S OPERATION WILL NOT BE MEASURED SEPARATELY BUT WILL BE THE CONTRACTOR'S RESPONSIBILITY.
23.

THE CONTRACTOR SHALL GIVE THE IDOT 48 HOURS NOTICE OF INTENTION TO START CONSTRUCTION WITHIN ROW.
24.

ALL WORK PERFORMED WITHIN THE IDOT ROW SHALL BE RESTRICTED TO A TIME FRAME OF 30 MINUTES AFTER SUNRISE TO 30 MINUTES BEFORE SUNSET.
25.

ANY DEWATERING NECESSARY FOR CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO INDIVIDUAL CONSTRUCTION ITEM. PLEASE REFER TO SUBSURFACE EXPLORATION REPORT FOR ANTICIPATED SITE CONDITIONS. REPORT IS FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT GUARANTEE CONDITIONS TO BE EXPERIENCED.
26.

THE CONTRACTOR SHALL INSPECT AND VERIFY SOIL CONDITIONS AS NECESSARY IN ORDER TO DETERMINE THE TYPE OF CONSTRUCTION TO EMPLOY. NATURAL OBSTRUCTIONS TYPICAL TO THIS AREA MAY BE ENCOUNTERED IN THE SOIL. THESE CONTRACT DOCUMENTS DO NOT WARRANT THE NATURE OR CONDITIONS OF THE SOILS, AND DO NOT WARRANT THAT NATURAL OBSTRUCTIONS WILL NOT BE ENCOUNTERED, NOR GUARANTEE THE EXTENT TO WHICH ROCKS, BOULDERS, OR OTHER OBSTRUCTIONS, REGARDLESS OF SIZE, MAY BE ENCOUNTERED DURING BORING OPERATIONS. THE CONTRACTOR SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR ANY NATURAL OBSTRUCTIONS TYPICAL TO THIS AREA ENCOUNTERED DURING CONSTRUCTION.
- CONCRETE AND GROUT WASHOUT AREA SHALL REMAIN WITHIN CONFINES OF PROJECT AREA AND SHALL BE PROPERLY REMOVED UPON PROJECT COMPLETION.
- WELL CUTTINGS AND DRILLING MUD CAN BE DISPOSED OF ONSITE BUT SHALL BE EVENLY SPREAD THROUGHOUT THE OWNER'S PROPERTY, ENGINEER RESERVES THE RIGHT TO INSTRUCT CONTRACTOR FOR FURTHER ONSITE WORK TO INCLUDE BUT NOT LIMITED TO EXCAVATING, DISKING, AND GRADING SO THAT DISPOSAL DOES NOT INTERFERE WITH FUTURE LAND USE.
- A WELL WATER POLLUTION PREVENTION PLAN (WWPPP) HAS BEEN DEVELOPED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING, UPDATING, INSPECTING, AND CERTIFYING THE WWPPP. CONTRACTOR SHALL SPREAD WASTEWATER FLOW AWAY FROM NEARBY BUILDINGS/OTHER PROPERTIES BUT STILL MAINTAIN PROPER FILTRATION AND INFILTRATION INTO THE GROUND. THE WWPPP AND GUIDANCE DOCUMENTS ARE PROVIDED AS A SEPARATE DOCUMENT. PROJECT ITEMS TO BECOME PROPERTY OF CONTRACTOR FOR PROPER DISPOSAL UNLESS OTHERWISE NOTED ON PLANS OR CITY/ENGINEER NOTIFIES CONTRACTOR OTHERWISE.
- OWNER WILL PROVIDE CONSTRUCTION STAKING FOR PROJECT THROUGH ISG (I+S GROUP, INC.) AND CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE BEFORE STAKING IS REQUIRED.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATIONS AND ELEVATIONS OF WATER CONNECTION. REPAIR AND RELOCATION OF CONFLICTING OR DAMAGED UTILITIES SHALL BE INCIDENTAL TO WATER MAIN INSTALLATION.

SEEDING AND FERTILIZING IS INCLUDED IN THIS CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING AND PREPARING AREAS DISTURBED BY CONTRACTOR'S OPERATIONS FOR SEEDING. ALL DEBRIS GREATER THAN GOLF BALL SIZE SHALL BE REMOVED AND AREA SHALL BE RAKED SMOOTH. CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE OF THE OWNER'S PROPERTY DURING OPERATIONS AND SHALL MAKE A REASONABLE EFFORT TO NOT DISTURB AREAS GREATER THAN NECESSARY DURING CONSTRUCTION. AREAS OF NONGERMINATION WILL BE RESEEDED AND REFERTILIZED BY THE CONTRACTOR. COST IS TO BE CONSIDERED INCIDENTAL.

PROJECT GENERAL NOTES

1.

ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE OWNER - CONTRACTOR AGREEMENT, THE PROJECT MANUAL (WHICH INCLUDES GENERAL SUPPLEMENTARY CONDITIONS AND SPECIFICATIONS), DRAWINGS OF ALL DISCIPLINES AND ALL ADDENDA, MODIFICATIONS AND CLARIFICATIONS ISSUED BY THE ARCHITECT/ENGINEER.
2.

CONTRACT DOCUMENTS SHALL BE ISSUED TO ALL SUBCONTRACTORS BY THE GENERAL CONTRACTOR IN COMPLETE SETS IN ORDER TO ACHIEVE THE FULL EXTENT AND COMPLETE COORDINATION OF ALL WORK.
3.

WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
4.

FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
5.

DETAILS SHOWN ARE INTENDED TO BE INDICATIVE OF THE PROFILES AND TYPE OF DETAILING REQUIRED THROUGHOUT THE WORK. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO DETAILS SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, NOTIFY ENGINEER BEFORE PROCEEDING WITH THE WORK.
6.

ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED AND CONDITIONED ACCORDING TO MANUFACTURERS' INSTRUCTIONS. IN CASE OF DISCREPANCIES BETWEEN MANUFACTURERS' INSTRUCTIONS AND THE CONTRACT DOCUMENTS, NOTIFY ENGINEER BEFORE PROCEEDING WITH THE WORK.
7.

ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
8.

THE LOCATION AND TYPE OF ALL INPLACE UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND ARE ACCURATE AND COMPLETE TO THE BEST OF THE KNOWLEDGE OF I & S GROUP, INC. (ISG). NO WARRANTY OR GUARANTEE IS IMPLIED. THE CONTRACTOR SHALL VERIFY THE SIZES, LOCATIONS AND ELEVATIONS OF ALL INPLACE UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN.
9.

THE CONTRACTOR IS TO CONTACT "IOWA ONE CALL" FOR UTILITY LOCATIONS, MINIMUM 2 BUSINESS DAYS PRIOR TO ANY EXCAVATION / CONSTRUCTION (1-800-292-8999).

UTILITIES

ALLIANT ENERGY (ANW)
CONTACT NAME: ALLIANT FIELD ENGINEER
CONTACT PHONE: 800-255-4268
CONTACT EMAIL: LOCATE_IPL@ALLIANTENERGY.COM

LONG LINES BROADBAND (LBIA07)
CONTACT NAME: MILES PATTON
CONTACT PHONE: 712-271-5550
CONTACT EMAIL: MILES.PATTON@LONGLINES.BIZ

MIDAMER-ELEC (M56E)
CONTACT NAME: MARK WITTROCK
CONTACT PHONE: 712-749-7116
CONTACT EMAIL: MARK.WITTROCK@MIDAMERICAN.COM

MIDAMER-GAS (M56G)
CONTACT NAME: BRIAN SEWELL
CONTACT PHONE: 515-574-5042
CONTACT EMAIL: BJSEWELL@MIDAMERICAN.COM

STORM LAKE, CITY OF (STL)
CONTACT NAME: KERI NAVRATIL
CONTACT PHONE: 712-732-8000
CONTACT EMAIL: NAVRATIL@STORMLAKE.ORG

MEDIACOM (T11)
CONTACT NAME: MIKE LAWLER
CONTACT PHONE: 515-571-2183
CONTACT EMAIL: MLAWLER@MEDIACOMCC.COM

IOWA DOT
CONTACT NAME: MICHAEL THAYER
CONTACT PHONE: 712-732-4549
CONTACT EMAIL: MICHAEL.THAYER@IOWADOT.US

SUDAS DETAILS	
DETAIL NUMBER	DETAIL NAME
3010.101	TRENCH BEDDING AND BACKFILL ZONES
3010.104	PRESSURE PIPE TRENCH BEDDING
4040.231	SUBDRAINS
5010.101	THRUST BLOCKS
5010.102	TRACER SYSTEM
5020.201	FIRE HYDRANT ASSEMBLY
6010.512	CIRCULAR AREA INTAKES
6010.604	CASTINGS FOR AREA INTAKES
9040.105	WATTLE
9040.119	SILT FENCE

NOTE: DETAILS LISTED IN PLAN SET ARE MEANT TO BE A GENERAL SAMPLING OF THOSE ANTICIPATED FOR THE PROJECT AND ARE NOT MEANT TO COVER ALL POSSIBLE SITUATIONS. CONTRACTOR SHALL REFERENCE SUDAS SPECIFICATIONS MANUAL FOR FULL LIST OF DETAILS.



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PROJECT		
CITY OF STORM LAKE		
NEW PRODUCTION WELL NO. 21		
STORM LAKE IOWA		
REVISION SCHEDULE		
DATE	DESCRIPTION	BY

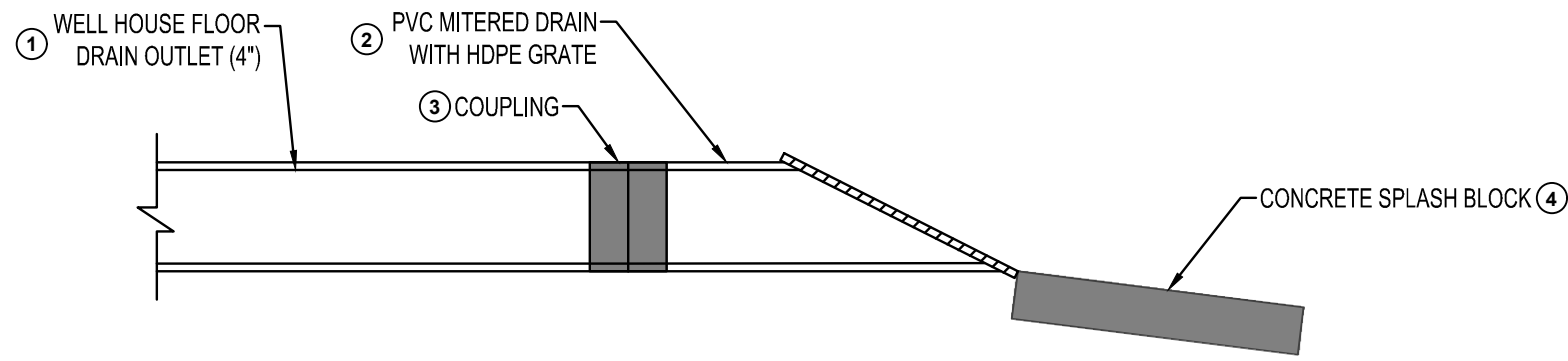
PROJECT NO.	22-26698
FILE NAME	26698 TITLE
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

CONSTRUCTION NOTES

SHEET

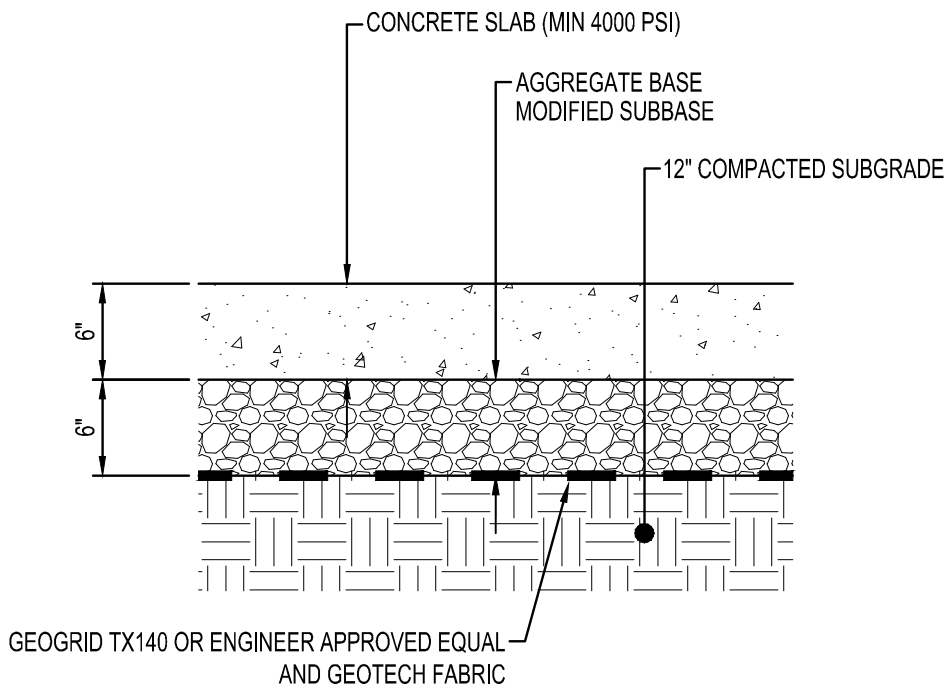
G1-20



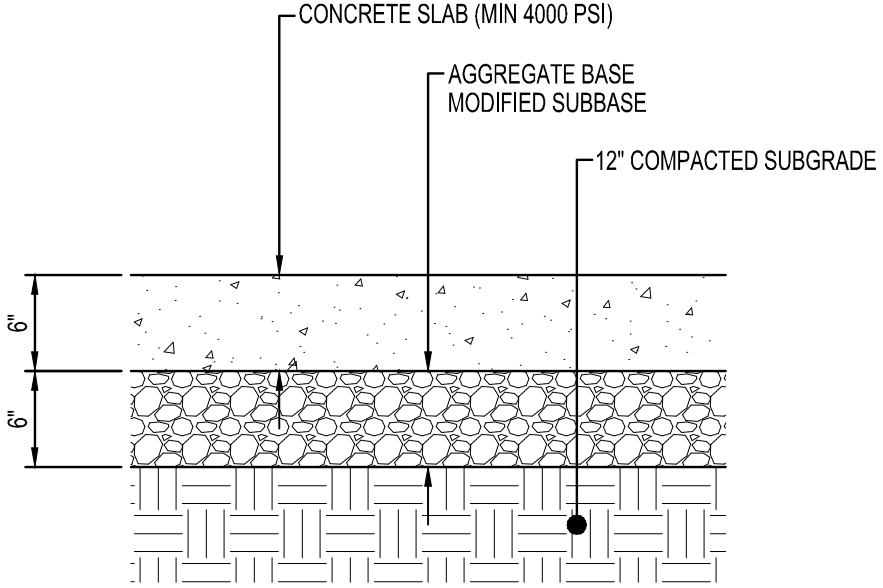
NOTES:

- 1. REFER TO PLANS, REFER TO ESTIMATE REFERENCE AND SUDAS FOR INSTALLATION.
- 2. DRAIN AND GRATE SHALL BE APPROVED BY ENGINEER. FOLLOW MANUFACTURER INSTRUCTIONS FOR INSTALLATION.
- 3. COUPLING SHALL BE A MANUFACTURED PRODUCT APPROVED OF BY THE ENGINEER.
- 4. SPLASH BLOCK SHALL BE CONCRETE AND A MINIMUM OF 12" BY 18" BY 5". SPLASH BLOCK SHALL BE PLACED ON CLAY PLUG. AREA AROUND SPLASH BLOCK SHALL BE PROTECTED BY EROSION CONTROL BLANKET. (INCIDENTAL TO INSTALLATION)

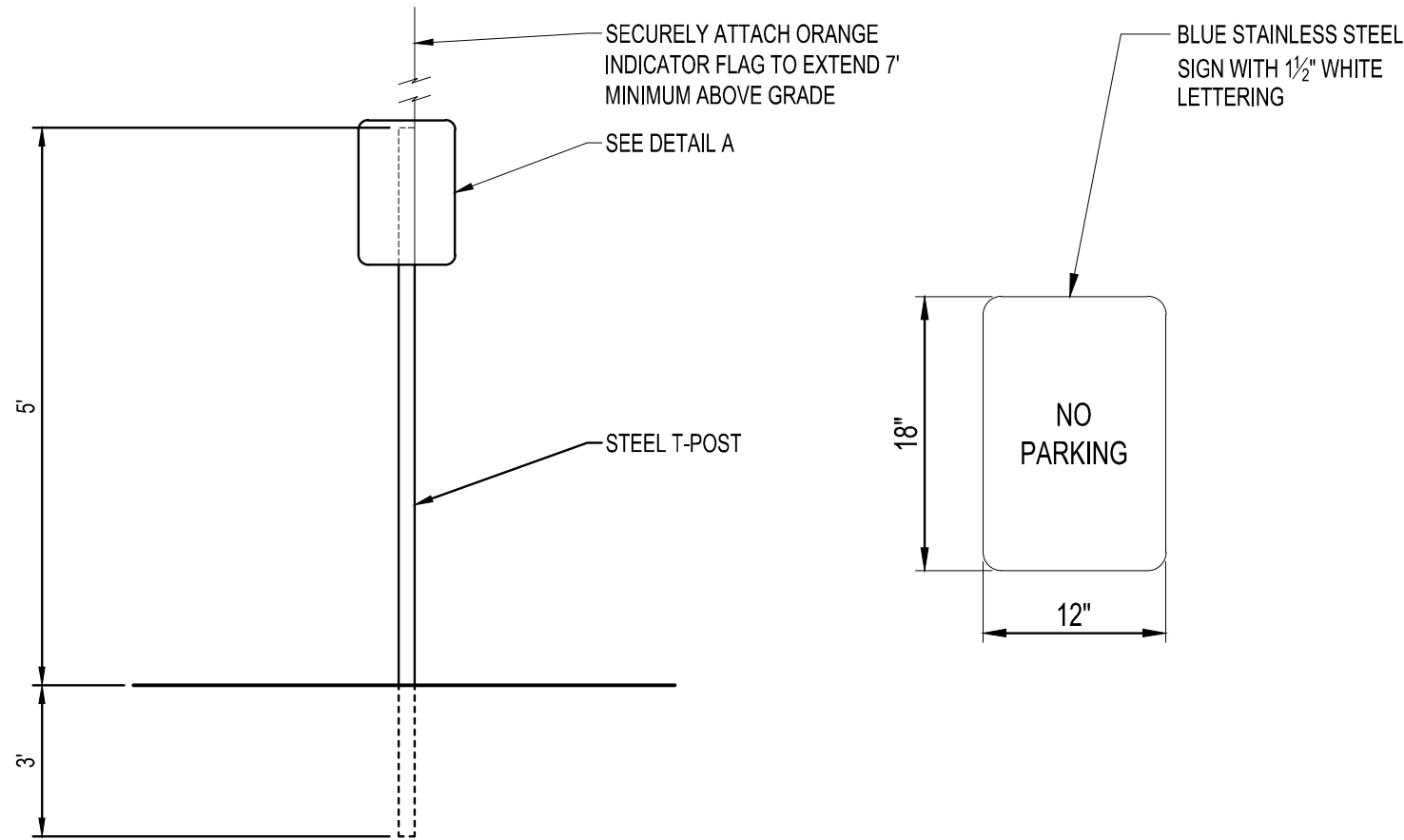
WELL HOUSE FLOOR DRAIN OUTLET
NTS



STANDARD
CONCRETE PAVEMENT
NTS



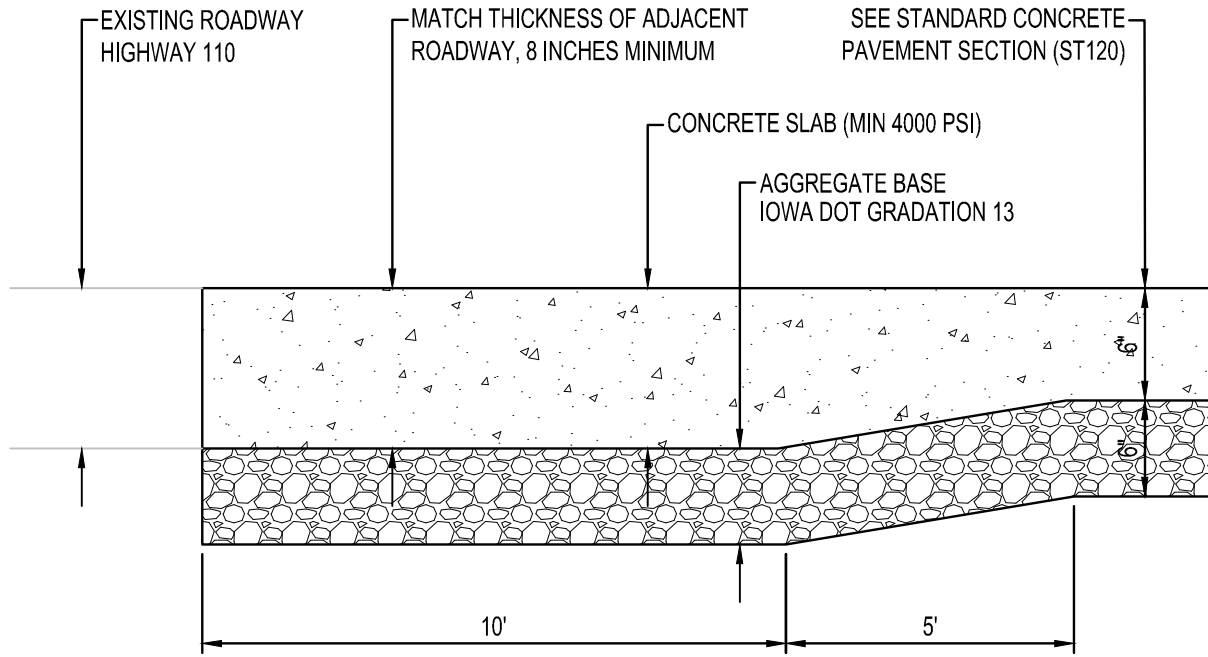
CONCRETE WALK
NTS



DETAIL A

- NOTES:
- 1. INSTALL 1 MARKING POST WITH IN 2' OF EACH APPURTENANCE
 - 2. INSTALL MARKING POST ON FIELD SIDE OF APPURTENANCE TO PROTECT FROM AGRICULTURAL WORK.

MARKING
SIGN POST
NTS



ROADWAY THICKENED EDGE
NTS ST340



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PROJECT

**CITY OF
STORM LAKE**
**NEW PRODUCTION
WELL NO. 21**

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 TITLE
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

SITE DETAILS

SHEET

G1-30

	ESTIMATED PROJECT QUANTITIES				
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANT	AS BUILT QUANT.
1	2010-C	CLEARING AND GRUBBING	LS	1	
2	2010-D-1	TOPSOIL, ON-SITE	CY	275	
3	2010-E	EXCAVATION, CLASS 10, BORROW	CY	300	
4	2010-G	SUBGRADE PREPARATION	SY	395	
5	2010-I	SUBGRADE TREATMENT, GEO-GRID	SY	283	
6	2010-J	SUBBASE, MODIFIED, 6 INCHES	SY	395	
7	4020-A-1	STORM SEWER, TRENCHED, HDPE, 4 INCH	LF	67	
8	4030-A-1	PIPE CULVERT, TRENCHED, RCP, 15 INCH	LF	58	
9	4030-B	PIPE APRON, RCP, 15 INCH	EA	2	
10	4030-C	FOOTING FOR CONCRETE PIPE APRON, CIP	EA	2	
11	4030-D	PIPE APRON GUARD	EA	2	
12	4040-X	FLOOR DRAIN OUTLET	EA	1	
13	5010-A-1	WATER MAIN, TRENCHED, DIP, 6 INCH	LF	20	
14	5010-A-1	WATER MAIN, TRENCHED, C900, 6 INCH	LF	97	
15	5010-B-2	WATER MAIN WITH STEEL CASING PIPE, TRENCHLESS, C900, 6 INCH	LF	93	
16	5020-B	TAPPING VALVE ASSEMBLY, 6 INCH	EA	1	
17	7030-C	SHARED USE PATH, PCC, 6 INCH	SY	93	
18	7030-E	SIDEWALK, PCC, 6 INCH	SY	7	
19	7030-H-1	DRIVEWAY, PAVED, PCC, 6 INCH	SY	231	
20	7030-X-X	TRANSFORMER PAD	LS	1	
21	7040-H	PAVEMENT REMOVAL	SY	91	
22	8020-X-X	TYPE A SIGN, SHEET ALUMINUM	EA	1	
23	8030-A	TEMPORARY TRAFFIC CONTROL	LS	1	
24	9010-B	HYDRAULIC SEEDING, SEEDING AND MULCHING	LS	1	
25	9030-B	PLANTS WITH WARRANTY, _____ (TYPE)	EA	29	
26	9040-A-2	SWPPP MANAGEMENT	LS	1	
27	9040-F-1	WATTLE, STRAW, 12 INCH	LF	70	
28	9040-F-2	WATTLE, REMOVAL	LF	70	
29	9040-N-1	SILT FENCE	LF	200	
30	9040-N-3	SILT FENCE, REMOVAL OF DEVICE	LF	200	
31	9040-O-2	STABILIZED CONSTRUCTION EXIT	TON	40	
32	9040-Q-2	EROSION CONTROL MULCHING, HYDROMULCHING	LS	1	
33	9040-T-1	INLET PROTECTION DEVICE, SILT FENCE	EA	2	
34	9070-A	MODULAR BLOCK RETAINING WALL	SF	240	
35	10010-A	DEMOLITION WORK	LS	1	
36	10010-B	PLUG WELL	EA	1	
37	11020-A	MOBILIZATION	LS	1	
38	11050-A	CONCRETE WASHOUT	LS	1	
39	20000-X-X	WELL WATER POLLUTION PREVENTION PLAN MAINTENANCE	LS	1	
40	20000-X-X	SAND SCREEN, STAINLESS STEEL, 8"	VF	34	
41	20000-X-X	NOMINAL DRILL HOLE, 18"	VF	78	
42	20000-X-X	NOMINAL DRILL HOLE, 12"	VF	34	
43	20000-X-X	SUBMERSIBLE PUMP	LS	1	
44	20000-X-X	COLUMN PIPE, STAINLESS STEEL, 6 INCH	LF	59	
45	20000-X-X	PITLESS WELL UNIT	LS	1	
46	20000-X-X	WATER QUALITY ANALYSIS	EA	1	
47	20000-X-X	PLUMBNESS & ALIGNMENT TEST	EA	1	
48	20000-X-X	GROUTING, SET UP & REMOVAL	LS	1	
49	20000-X-X	GROUT/SEAL CASING	CF	110	
50	20000-X-X	WELL DEVELOPMENT/TEST PUMPING SET-UP & REMOVAL	EA	1	
51	20000-X-X	WELL DEVELOPMENT	HR	24	
52	20000-X-X	SAND CONTENT TEST	EA	1	
53	20000-X-X	TELEVISION SURVEY	EA	1	
54	20000-X-X	STEP-DRAWNDOWN AQUIFER PUMPING TEST	EA	1	
55	20000-X-X	CONSTANT-RATE AQUIFER PUMPING TEST	EA	1	
56	20000-X-X	AQUIFER RECOVERY TEST	EA	1	
57	20000-X-X	WELL ACIDIZATION SET-UP & REMOVAL	LS	1	
58	20000-X-X	WELL ACID SOLUTION	GAL	4000	
59	20000-X-X	WELL ACID SURGING	HR	8	
60	20000-X-X	WELL ACID REMOVAL & PROPER DISPOSAL	LS	1	
61	20000-X-X	DISINFECT WELL	EA	1	
62	20000-X-X	PREFABRICATED WELL HOUSE	LS	1	

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANT.	AS BUILT QUANT.
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ALTERNATE A

A1	20000-X-X	PRODUCTION CASING, SDR-21, 12"	VF	78	
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ALTERNATE B

B1	20000-X-X	PRODUCTION CASING, STAINLESS STEEL, 12"	VF	78	
B2	20000-X-X	CATHODIC PROTECTION	EA	1	

ALTERNATE C

C1	9010-D	WATERING	LS	1	
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PROJECT

CITY OF
STORM LAKE

NEW PRODUCTION
WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 TITLE
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

ESTIMATE INFO &
QUANTITIES

SHEET

G1-40

PRELIMINARY NOT FOR CONSTRUCTION

ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
1	2010-C	<u>CLEARING AND GRUBBING</u> ITEM IS FOR CLEARING AND GRUBBING OF TREES, LOGS, STUMPS, ROOTS, HEDGE, BRUSH, FENCE, SIGNS, VEGETATION IN EXCESS FILL MATERIAL LOCATION, AND ANY OTHER DEBRIS LOCATED IN PROJECT AREA. QUANTITIES SHALL BE CONSIDERED FINAL AND THE CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF ALL REMOVED MATERIAL.
2	2010-D-1	<u>TOPSOIL, ON-SITE</u> ITEM IS FOR THE STRIPPING OF AN ESTIMATED 6" OF TOPSOIL. ALL DISTURBED AREAS SHALL BE DRESSED WITH A MINIMUM OF 6" OF TOPSOIL. QUANTITIES SHALL BE CONSIDERED FINAL AND NO PAYMENT FOR OVERHAUL WILL BE ALLOWED. UNSUITABLE EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL NOT BE KEPT ON SITE. CONTRACTOR SHALL PROCURE LOCATION TO DISPOSE OF MATERIAL. CONTRACTOR SHALL USE CARE NOT TO OVERCOMPACT TOPSOIL.
3	2010-E	<u>EXCAVATION, CLASS 10, BORROW</u> ALL EXCESS MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL NOT BE KEPT ON SITE. CONTRACTOR SHALL PROCURE LOCATION TO DISPOSE OF MATERIAL. QUANTITIES SHALL BE CONSIDERED FINAL AND NO PAYMENT FOR OVERHAUL WILL BE ALLOWED. INCLUDES REMOVAL, PLACEMENT AND GRADING TO MEET FINAL SUBGRADE ELEVATIONS. INCLUDES XXX CY OF CUT AND XXXX CY OF FILL WITH A TOTAL OF XXXX CY OF EXCESS FILL. UNSUITABLE MATERIAL MAY BE USED AS FILL MATERIAL OUTSIDE BUILDING, APRON, PARKING LOT AND STOOP OUTLINES. A XX% SHRINKAGE FACTOR WAS USED FOR ESTIMATING THE COMPACTED VOLUME OF THE FILL. ITEM INCLUDES GRAVEL EXCAVATION AT HWY 110 SHOULDER FOR DRIVEWAY INSTALL.
4	2010-G	<u>SUBGRADE PREPARATION</u> SUBGRADE SHALL EXTEND 2 FEET BEYOND THE EDGE OF PAVEMENT. ITEM INCLUDES PROOF ROLLING OF SUBGRADE.
5	2010-I	<u>SUBGRADE TREATMENT, GEO-GRID</u> ITEM INCLUDES TYPE 3 GEO-GRID AND WOVEN GEOTEXTILE FABRIC. ITEMS SHALL EXTEND 2 FEET BEYOND THE EDGE OF PAVEMENT. GEOGRID SHALL BE TENSAR TX 140; ALTERNATE MANUFACTURERS SHALL BE APPROVED BY THE ENGINEER.
6	2010-J	<u>SUBBASE, MODIFIED, 6 INCHES</u> SUBBASE IS TO EXTEND 2' BEHIND THE EDGE OF PAVEMENT. SUBBASE IS TO BE PROOF ROLLED. MATERIAL SHALL COMPLY WITH GRADATION #14, MODIFIED SUBBASE, IN ACCORDANCE WITH IOWA DOT SPECIFICATION 4123. RECYCLED ASPHALT PAVEMENT WILL NOT BE ALLOWED IN ANY PERCENTAGE.
7	4020-A-1	<u>STORM SEWER, TRENCHED, HDPE, 4 INCH</u> FOLLOW TYPE F-2 TRENCH BEDDING PER SUDAS SW-103.
8	4030-A-1	<u>PIPE CULVERT, TRENCHED, RCP, 15 INCH</u> BLACK MASTIC OR ENGINEERING FABRIC SHALL BE USED. INCLUDES R-2 TRENCH BEDDING PER SUDAS SW-102. WHERE CULVERT IS BENEATH PAVED DRIVEWAY, TRENCH SHALL BE COMPLETELY FILLED WITH ROCK TO THE BOTTOM OF SUBBASE.
9	4030-B	<u>PIPE APRON, RCP, 15 INCH</u> INCLUDES TIED JOINTS.
10	4030-C	<u>FOOTING FOR CONCRETE PIPE APRON, CIP</u> REFER TO SUDAS FIGURE 4030.211. APPLIES TO ALL CONCRETE APRONS.
11	4030-D	<u>PIPE APRON GUARD</u> FOLLOW SUDAS 4030.224.
12	4040-X	<u>FLOOR DRAIN OUTLET</u> REFER TO DETAIL ON PLAN SHEETS.
13	5010-A-1	<u>WATER MAIN, TRENCHED, DIP, 6 INCH</u> ITEM INCLUDES ALL FITTINGS, TRACER WIRE, AND TRACER WIRE STATION. INSTALLED BY OPEN CUT. TRACER WIRE SHALL BE #12 AWG COPPER CLAD STEEL, HIGH STRENGTH WITH MINIMUM 450 LB BREAK LOAD, WITH MINIMUM 30 ML HDPE INSULATION THICKNESS. CONTRACTOR SHALL DEMONSTRATE TO OWNER TRACER WIRE PERFORMANCE. TRENCH BEDDING SHALL BE TYPE P-2.
14	5010-A-1	<u>WATER MAIN, TRENCHED, C900, 6 INCH</u> ITEM INCLUDES ALL FITTINGS, TRACER WIRE, AND TRACER WIRE STATION. INSTALLED BY OPEN CUT. TRACER WIRE SHALL BE #12 AWG COPPER CLAD STEEL, HIGH STRENGTH WITH MINIMUM 450 LB BREAK LOAD, WITH MINIMUM 30 ML HDPE INSULATION THICKNESS. CONTRACTOR SHALL DEMONSTRATE TO OWNER TRACER WIRE PERFORMANCE. TRENCH BEDDING SHALL BE TYPE P-2.
15	5010-B-2	<u>WATER MAIN WITH STEEL CASING PIPE, TRENCHLESS, C900, 6 INCH</u> CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY CROSSINGS PRIOR TO STARTING BORE. DEWATERING IS ANTICIPATED TO BE REQUIRED. ITEM SHALL BE JACK & BORE AND INCLUDES END SEALS. CASING DIAMETER SHALL BE A MINIMUM OF 14 INCHES.
16	5020-B	<u>TAPPING VALVE ASSEMBLY, 6 INCH</u> CONTRACTOR SHALL FIELD VERIFY EXISTING WATER MAIN LOCATION, TYPE, AND SIZE.
17	7030-C	<u>SHARED USE PATH, PCC, 6 INCH</u> USE C MIX WITH CLASS 3 COARSE AGGREGATE DURABILITY. COARSE AGGREGATE SHALL BE LIMESTONE. ITEM INCLUDES JOINTING, SAMPLING, AND TESTING.
18	7030-E	<u>SIDEWALK, PCC, 6 INCH</u> USE C MIX WITH CLASS 3 COARSE AGGREGATE DURABILITY. COARSE AGGREGATE SHALL BE LIMESTONE. ITEM INCLUDES JOINTING, SAMPLING, AND TESTING.
19	7030-H-1	<u>DRIVEWAY, PAVED, PCC, 6 INCH</u> USE C MIX WITH CLASS 3 COARSE AGGREGATE DURABILITY. COARSE AGGREGATE SHALL BE LIMESTONE. ITEM INCLUDES ADDITIONAL THICKNESS AT THICKENED EDGES, JOINTING, SAMPLING, AND TESTING.
20	7030-X-X	<u>TRANSFORMER PAD</u> USE C MIX WITH CLASS 3 COARSE AGGREGATE DURABILITY. COARSE AGGREGATE SHALL BE LIMESTONE. ITEM SHALL FOLLOW TRANSFORMER MANUFACTURER'S RECOMMENDATIONS.

21	7040-H	<u>PAVEMENT REMOVAL</u> INCLUDES REMOVING EXISTING PORTLAND CEMENT CONCRETE PAVEMENT VIA FULL-DEPTH SAW CUT, BREAKING, REMOVAL, AND DISPOSAL. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND CONTRACTOR SHALL PROCURE LOCATION TO DISPOSE OF MATERIAL. EXISTING PAVEMENT THICKNESS IS ESTIMATED AT 6 INCHES.
22	8020-X-X	<u>TYPE A SIGN, SHEET ALUMINUM</u> REFER TO PLAN DETAIL.
23	8030-A	<u>TEMPORARY TRAFFIC CONTROL</u> REFER TO SPECIFICATIONS MANUAL AND PLAN SHEETS FOR TRAFFIC CONTROL EXPECTATIONS. PEDESTRIAN TRAFFIC CAN BE ROUTED TO EASTERN TRAIL ALONG LAKE.
24	9010-B	<u>HYDRAULIC SEEDING, SEEDING AND MULCHING</u> INCLUDES ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO PREPARE SEED BED, SEED, AND MULCH AND ESTABLISH GROWTH IN DISTURBED AREAS. INCLUDES SUPPLEMENTAL WATERING AS REQUIRED AND RESEEDING AREAS OF NON-GERMINATION. QUANTITIES SHOWN ON EROSION CONTROL SHEETS ARE FOR ESTIMATE PURPOSES ONLY. NO FERTILIZER SHALL BE UTILIZED WITHIN 200 FT OF WELL LOCATIONS. MULCH SHALL BE BONDED FIBER MATRIX (BFM).
25	9030-B	<u>PLANTS WITH WARRANTY, _____(TYPE)</u> INCLUDES 2-YEAR WARRANTY ON ALL PLANTS, ROCK MULCH, AND LANDSCAPE EDGING. REFER TO LANDSCAPE SHEETS.
26	9040-A-2	<u>SWPPP MANAGEMENT</u> A GENERAL PERMIT NO. 2 WILL NOT BE REQUIRED FOR THE WORK ON THIS PROJECT. HOWEVER, DUE TO THE PROXIMITY TO THE LAKE AND THE HIGH LEVELS OF PEDESTRIAN TRAFFIC, THE CONTRACTOR SHALL MAINTAIN THE SITE TO THE UTMOST STANDARD FOR EROSION CONTROL. THE CONTRACTOR SHALL INSPECT THE SITE ONCE EVERY SEVEN DAYS. UNDER THIS ITEM, THE CONTRACTOR SHALL STABILZE THE SITE WITHIN 14 DAYS WHEN NOT BEING ACTIVELY WORKED.
27	9040-F-1	<u>WATTLE, STRAW, 12 INCH</u> INCLUDES PLACEMENT AND MAINTENANCE. EXACT LOCATION AND LENGTH OF WATTLES NEEDED WILL BE DETERMINED DURING CONSTRUCTION.
28	9040-F-2	<u>WATTLE, REMOVAL</u> CONTRACTOR SHALL PROCURE LOCATION TO DISPOSE OF REMOVED MATERIAL.
29	9040-N-1	<u>SILT FENCE</u> INCLUDES FURNISHING AND INSTALLING SILT FENCE PER SUDAS SPECIFICATIONS. SILT FENCE LOCATIONS AND SIZES ARE APPROXIMATE. EXACT LOCATION AND LENGTH OF SILT FENCE NEEDED WILL BE DETERMINED DURING CONSTRUCTION.
30	9040-N-3	<u>SILT FENCE, REMOVAL OF DEVICE</u> INCLUDES RESTORATION OF THE AREA TO FINISHED GRADE AND REMOVAL AND DISPOSAL OF FENCE, POSTS, AND ACCUMULATED SEDIMENT. REMOVE AFTER CONSTRUCTION IS COMPLETE AND SEEDING HAS BEEN ESTABLISHED.
31	9040-O-2	<u>STABILIZED CONSTRUCTION EXIT</u> INCLUDES INSTALLING AND REMOVING STONE MEETING IOWA DOT SECTION 4122, GRADATION 13, MACADAM CRUSHED STONE AND WOVEN, UV-STABILIZED GEOTEXTILE. REFER TO FIGURE 9040.120. ITEM WILL BE PAID BASED ON SCALE TICKETS PROVIDED BY CONTRACTOR.
32	9040-Q-2	<u>EROSION CONTROL MULCHING, HYDROMULCHING</u> ITEM SHALL BE USED IF THE PROJECT IS COMPLETED OUTSIDE OF THE SEEDING WINDOW.
33	9040-T-1	<u>INLET PROTECTION DEVICE, SILT FENCE</u> TO BE USED AT INTAKES AS NEEDED FOR EROSION CONTROL. INCLUDES PLACEMENT, MAINTENANCE, REMOVAL AND OFFSITE DISPOSAL OF SEDIMENT, AND REMOVAL OF DEVICE. CULVERT ENTRANCES SHALL BE PROTECTED VIA SILT FENCE.
34	9070-A	<u>MODULAR BLOCK RETAINING WALL</u> FOLLOW SUDAS DETAIL 9070.102. SUBDRAIN IS NOT REQUIRED. GEOGRID SHALL BE USED ON LEVELING PAD.
35	10010-A	<u>DEMOLITION WORK</u> INCLUDES DEMOLITION AND REMOVAL OF WELL HOUSE #3, ALL INTERIOR EQUIPMENT, AND ALL FOUNDATIONS AND FOOTINGS. EXISTING WATER MAIN SHALL BE PROPERLY CAPPED. CONTRACTOR SHALL PROCURE LOCATION TO DISPOSE OF REMOVED MATERIAL. REMOVAL SITE SHALL BE SPREAD WITH 6 INCHES OF TOPSOIL AND SEEDED.
36	10010-B	<u>PLUG WELL</u> UPON ENGINEER'S APPROVAL, COMPLY WITH IOWA ADMINISTRATIVE CODE 567-39 FOR CLASS 2 WELLS. FILL WELL WITH BENTONITE TO 4 FEET BELOW GROUND SURFACE THEN CAP WITH NEAT CEMENT, SAND CEMENT GROUT OR CONRETE. PROPER WELL ABANDONMENT DOCUMENTATION (REFER TO IOWA DNR FORM 542-1226) SHALL BE SUBMITTED TO PROPER AUTHORITIES, ENGINEER, AND OWNER. WELL NO. 3 SHALL NOT BE ABANDONED WITHOUT APPROVAL OF ENGINEER AND CLIENT.
37	11020-A	<u>MOBILIZATION</u>
38	11050-A	<u>CONCRETE WASHOUT</u> CONSTRUCT CONCRETE WASHOUT MEETING SUDAS STANDARDS IF WASHOUT OCCURS ONSITE. ITEM WILL NOT BE PAID UNLESS WASHOUT IS CONSTRUCTED PER SUDAS. ALTERNATIVELY, CONCRETE TRUCKS CAN WASHOUT AT CONCRETE PLANT.
39	20000-X-X	<u>WELL WATER POLLUTION PREVENTION PLAN MAINTENANCE</u> PROPOSED METHODS OF TREATING WASTEWATER DISCHARGES ASSOCIATED WITH PRODUCTION WELL CONSTRUCTION, DEVELOPMENT ANDTEST PUMPING HAVE BEEN DEVELOPED AND PREPARED BY ENGINEER SHOWING THE PROPOSED MEANS AND METHODS OF PRODUCTION WELL WATER TREATMENT. ACTUAL IMPLEMENTATION AND UPDATING OF WWPPP IS CONTRACTOR'S RESPONSIBILITY. OWNER AND CONTRACTOR TO REVIEW WWPPP, AGREE UPON METHODS AND SIGN WWPPP. NOTIFICATION TO THE APPROPRIATE IOWA DNR REGIONAL FIELD SERVICES OFFICE IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR. INCLUDES THE INSTALLATION, MAINTENANCE, MANAGEMENT, INSPECTION AND REMOVAL OF ALL REQUIRED BEST MANAGEMENT PRACTICES. ALSO INCLUDES ANY ADDITIONAL LABOR AND MATERIALS REQUIRED TO FOLLOW AND IMPLEMENT WWPPP.
40	20000-X-X	<u>SAND SCREEN, STAINLESS STEEL, 8"</u> INSTALL CLOSED BOTTOM, STAINLESS STEEL SCREEN. CONTRACTOR TO VERIFY SCREEN LENGTH, SCREEN OPENING, SCREEN DEPTH, AND GRAVEL PACK DESIGN THROUGH PROPER SIEVE ANALYSIS AND MANUFACTURER RECOMMENDATIONS WITH APPROVAL BY ENGINEER. SIEVE ANALYSIS AND INSTALLATION RECOMMENDATIONS TO BE PERFORMED BY JOHNSON SCREENS.
41	20000-X-X	<u>NOMINAL DRILL HOLE, 18"</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND DRILL APPROPRIATE SIZED OPEN HOLE TO ACCOMODATE CASING SPECIFIED. REFER TO SECTION 33 2115 OF THE PROJECT MANUAL. QUANTITY MAY VARY FROM THAT SHOWN PER SITE-SPECIFIC GEOLOGICAL FORMATIONS AND NO ADJUSTMENT IN UNIT PRICE WILL BE CONSIDERED.



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PROJECT

**CITY OF
STORM LAKE**

**NEW PRODUCTION
WELL NO. 21**

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 TITLE
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

**ESTIMATE INFO &
QUANTITIES**

SHEET

G1-41

PRELIMINARY NOT FOR CONSTRUCTION

42	20000-X-X	<u>NOMINAL DRILL HOLE, 12"</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND DRILL APPROPRIATE SIZED OPEN HOLE TO ACCOMODATE CASING SPECIFIED. REFER TO SECTION 33 2115 OF THE PROJECT MANUAL. QUANTITY MAY VARY FROM THAT SHOWN PER SITE-SPECIFIC GEOLOGICAL FORMATIONS AND NO ADJUSTMENT IN UNIT PRICE WILL BE CONSIDERED.
43	20000-X-X	<u>SUBMERSIBLE PUMP</u> FURNISH AND INSTALL SUBMERSIBLE PUMP. REFER TO SECTION 33 1224 OF THE PROJECT MANUAL.
44	20000-X-X	<u>COLUMN PIPE, STAINLESS STEEL, 6 INCH</u> FURNISH AND INSTALL COLUMN PIPE. REFER TO SECTION 33 1224 OF THE PROJECT MANUAL.
45	20000-X-X	<u>PITLESS WELL UNIT</u> FURNISH AND INSTALL PITLESS WELL UNIT WITH SPECIFIED DISCHARGE CONNECTION. REFER TO SECTION 33 2118 OF THE PROJECT MANUAL.
46	20000-X-X	<u>WATER QUALITY ANALYSIS</u> FURNISH ALL MATERIALS, LABOR, AND EQUIPMENT AND PROVIDE ONE (1) CHEMICAL ANALYSIS AND TWO (2) BACTERIOLOGICAL ANALYSIS OF THE POST-DEVELOPMENT AND POST-DISINFECTION WELL WATER. ITEM INCLUDES TAKING OF THE SAMPLE, DELIVERY TO CERTIFIED LAB, TESTING AS SPECIFIED, AND PREPARATION OF REPORT. TEMPERATURE READINGS SHALL BE RECORDED BY CONTRACTOR ONE (1) TIME AT SITE IMMEDIATELY AFTER WATER WITHDRAWAL AND VERIFIED BY ENGINEER. ADDITIONAL SAMPLE SHALL BE TAKEN FOR REDUNDANCY PURPOSES.
47	20000-X-X	<u>PLUMBNESS & ALIGNMENT TEST</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT TO CONDUCT PLUMBNESS AND ALIGNMENT TEST PER SPECIFICATIONS. ITEM INCLUDES ALL NECESSARY CORRECTIONS TO CASING TO PASS PLUMBNESS AND ALIGNMENT TEST.
48	20000-X-X	<u>GROUTING, SET UP & REMOVAL</u> ITEM INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT TO SET-UP AND REMOVE FOR GROUTING OF CASING.
49	20000-X-X	<u>GROUT/SEAL CASING</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND GROUT AROUND CASINGS USING NEAT CEMENT GROUT TO SEAL OFF VARIOUS GEOLOGICAL FORMATIONS. REFER TO SECTION 33 2115 OF THE PROJECT MANUAL. ITEM WILL BE MEASURED IN CUBIC FEET OF ACTUAL QUANTITY USED AS VERIFIED BY RECEIPTS / SCALE TICKETS SUPPLIED TO THE ENGINEER BY THE CONTRACTOR. QUANTITY MAY VARY FROM THAT SHOWN PER SITE-SPECIFIC GEOLOGICAL FORMATIONS AND NO ADJUSTMENT IN UNIT PRICE WILL BE CONSIDERED. ITEM IS ESTIMATED WITH AN ADDITIONAL 50% QUANTITY TO ACCOUNT FOR ANY VOIDS.
50	20000-X-X	<u>WELL DEVELOPMENT/TEST PUMPING SET-UP & REMOVAL</u> ITEM INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT TO SET-UP AND REMOVE FOR WELL DEVELOPMENT AND ALL TEST PUMPING PROCEDURES. ITEM INCLUDES A TEST PUMP CAPABLE OF UP TO 1.5X THE DESIRED FLOW RATE (OR MAXIMUM SUSTAINABLE WELL YEILD TO BE DETERMINED AT TIME OF TEST), FURNISHING THE DISCHARGE PIPING, AND POWER FOR OPERATING THE TEST PUMP.
51	20000-X-X	<u>WELL DEVELOPMENT</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT FOR PROPER WELL DEVELOPMENT TO ACHIEVE A FINAL SAND CONTENT OF NO MORE THAN 5 PPM. ITEM SHALL INCLUDE ALL ROCK AND MATERIAL REMOVAL AND PROPER DISPOSAL, AS DIRECTED BY ENGINEER.
52	20000-X-X	<u>SAND CONTENT TEST</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT FOR SAND CONTENT TESTING OF DEVELOPED WELL WATER USING A ROSSUM SAND CONTENT TESTER. CONTRACTOR TO UTILIZE TEST FOR VERIFICATION OF SAND CONTENT FOR OWN KNOWLEDGE AND ITEM IS FOR ADDITIONAL TESTING AS REQUESTED BY ENGINEER. ITEM SHALL INCLUDE TAKING THE SAMPLE, TESTING OF THE SAMPLE, AND REPORTING OF THE RESULTS.
53	20000-X-X	<u>TELEVISION SURVEY</u> TELEWISE WELL AFTER ALL CASINGS AND OPEN HOLE ARE COMPLETE. CONTRACTOR SHALL SUPPLY A COPY OF A COMPLETED AND CLEAR TELEVISING VIDEO TO OWNER AND ENGINEER BEFORE DISINFECTION.
54	20000-X-X	<u>STEP-DRAWNDOWN AQUIFER PUMPING TEST</u> ITEM INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR STEP-DRAWDOWN AQUIFER PUMPING TEST. ITEM SHALL BE VERIFIED BY CONTRACTOR AND ENGINEER WITH RESULTS PROVIDED TO ENGINEER, IOWA DNR, AND IOWA GEOLOGICAL SURVEY. ENGINEER RESERVES THE RIGHT TO PERFORM FURTHER TESTING.
55	20000-X-X	<u>CONSTANT-RATE AQUIFER PUMPING TEST</u> ITEM INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR CONSTANT-RATE AQUIFER PUMPING TEST. ITEM SHALL BE VERIFIED BY CONTRACTOR AND ENGINEER WITH RESULTS PROVIDED TO ENGINEER, IOWA DNR, AND IOWA GEOLOGICAL SURVEY. ENGINEER RESERVES THE RIGHT TO PERFORM FURTHER TESTING.
56	20000-X-X	<u>AQUIFER RECOVERY TEST</u> ITEM INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR AQUIFER RECOVERY TEST. ITEM SHALL BE VERIFIED BY CONTRACTOR AND ENGINEER WITH RESULTS PROVIDED TO ENGINEER, IOWA DNR, AND IOWA GEOLOGICAL SURVEY. ENGINEER RESERVES THE RIGHT TO PERFORM FURTHER TESTING.
57	20000-X-X	<u>WELL ACIDIZATION SET-UP & REMOVAL</u> ITEM INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT TO SET-UP AND REMOVE FOR WELL ACIDIZATION. REQUIRED USE OF BID ITEM SHALL BE DETERMINED DURING PROJECT.
58	20000-X-X	<u>WELL ACID SOLUTION</u> ITEM INCLUDES ALL WELL ACID SOLUTION QUANTITIES AS VERIFIED BY RECEIPTS / SCALE TICKETS SUPPLIED TO THE ENGINEER BY THE CONTRACTOR. REQUIRED USE OF BID ITEM SHALL BE DETERMINED DURING PROJECT.
59	20000-X-X	<u>WELL ACID SURGING</u> FURNISH ALL MATERIALS, LABOR, AND EQUIPMENT FOR WELL ACID SURGING. QUANTITY SHALL BE VERIFIED FOR PROPER ACIDIZING OF WELL BY AGREEMENT BETWEEN ENGINEER AND CONTRACTOR. REQUIRED USE OF BID ITEM SHALL BE DETERMINED DURING PROJECT.
60	20000-X-X	<u>WELL ACID REMOVAL & PROPER DISPOSAL</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT FOR WELL ACID REMOVAL AND PROPER DISPOSAL. REQUIRED USE OF BID ITEM SHALL BE DETERMINED DURING PROJECT.
61	20000-X-X	<u>DISINFECT WELL</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND DISINFECT WELL. PROPER TESTING ANALYSIS AND RESULTS TO BE SUBMITTED TO ENGINEER BEFORE WELL IS PLACED INTO SERVICE. REFER TO SECTION 33 2115 OF THE PROJECT MANUAL.
62	20000-X-X	<u>PREFABRICATED WELL HOUSE</u> ITEM SHALL BE A PACKAGED PRODUCT ACCORDING TO SPECIFICATIONS. BID ITEM INCLUDES WELL HOUSE, SITE ELECTRICAL & CONTROLS, PLUMBING, FOUNDATION AND ASSOCIATED EXCAVATION, AND ALL OTHER LABOR AND MATERIALS REQUIRED TO COMPLETE A FULLY FUNCTIONAL WELL AND COMPLETE THE PROJECT ACCORDING TO THE ENGINEERED PLANS. PREFABRICATED HOUSE SHALL BE BY ARROW STARNET BUILDINGS OR ENGINEER APPROVED EQUAL. COLOR SCHEME SHALL BE NAKOTA.

ESTIMATE REFERENCE INFORMATION (ALTERNATE A)		
ITEM NO.	ITEM CODE	DESCRIPTION
A1	20000-X-X	<u>PRODUCTION CASING, SDR-21, 12"</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND INSTALL CASING PIPE. REFER TO SECTION 33 2115 OF THE PROJECT MANUAL. QUANTITY MAY VARY FROM THAT SHOWN PER SITE-SPECIFIC GEOLOGICAL FORMATIONS AND NO ADJUSTMENT IN UNIT PRICE WILL BE CONSIDERED.

ESTIMATE REFERENCE INFORMATION (ALTERNATE B)		
ITEM NO.	ITEM CODE	DESCRIPTION
B1	20000-X-X	<u>PRODUCTION CASING, STAINLESS STEEL, 12"</u> FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND INSTALL CASING PIPE. REFER TO SECTION 33 2115 OF THE PROJECT MANUAL. QUANTITY MAY VARY FROM THAT SHOWN PER SITE-SPECIFIC GEOLOGICAL FORMATIONS AND NO ADJUSTMENT IN UNIT PRICE WILL BE CONSIDERED.
B2	20000-X-X	<u>CATHODIC PROTECTION</u> FURNISH ALL MATERIALS, LABOR, AND EQUIPMENT AND INSTALL CATHODIC PROTECTION PER SPECIFICATIONS. ITEM INCLUDES SET-UP AND INSTALLATION. REFER TO SECTION 33 2115 OF THE PROJECT MANUAL AND FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS.

ESTIMATE REFERENCE INFORMATION (ALTERNATE C)		
ITEM NO.	ITEM CODE	DESCRIPTION
C1	9010-D	<u>WATERING</u> INCLUDES WATERING VEGETATION AND ENSURING ESTABLISHMENT FOR THE LENGTH OF THE PERFORMANCE BOND.



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PROJECT
CITY OF STORM LAKE

NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 TITLE
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE
ESTIMATE INFO & QUANTITIES

SHEET

G1-42

PRELIMINARY NOT FOR CONSTRUCTION



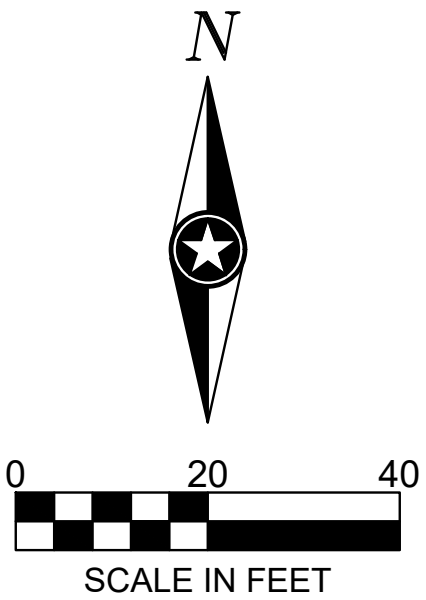
ESTIMATED WWPPP QUANTITIES		
		QUANTITY
	EXISTING DRAINAGE DIRECTION	
	FRAC TANK	1 LS
	TEMPORARY WATER LINE	60 LF
NOTE: ALL QUANTITIES LISTED ABOVE ARE INCLUDED IN WWPPP BID ITEM AND INCLUDE ITEM MAINTENANCE AND REMOVAL UPON CONSTRUCTION COMPLETION.		

EROSION CONTROL LEGEND	
SYMBOL	DESCRIPTION
	WATTLE
	SILT FENCE, PREASSEMBLED
	STORM DRAIN INLET PROTECTION
	EXISTING DRAINAGE ARROW
	PROPOSED DRAINAGE ARROW
	EXISTING CONTOUR (MINOR INTERVAL)
	EXISTING CONTOUR (MAJOR INTERVAL)
	PROPOSED CONTOUR (MINOR INTERVAL)
	PROPOSED CONTOUR (MAJOR INTERVAL)

CONSTRUCTION ACTIVITIES & SCHEDULING	
ACTIVITY	SCHEDULE
Install all BMP's needed and associated with the Well Construction Phase such as silt fence and etceteras.	Prior to any construction.
Implement the installation of access drive and construction staging area.	Stabilization measures must be initiated as soon as possible in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
Proceed with construction in accordance with the well plan, while disturbing no more than necessary.	After Installing all BMP's needed and associated with the Well Construction Phase. Furthermore, INSPECTOR approval must be obtained before the start of any construction.
Proceed with removal of BMP's.	BMP's may not be removed until all construction is complete. Full development shall mean landscaping and fully established permanent seeding. Furthermore, INSPECTOR approval must be obtained before the removal of any BMP's.

BEST MANAGEMENTPRACTICES (BMPs)

CONTRACTOR IS TO VERIFY USE OF BEST MANAGEMENT PRACTICES (BMPs) FOR THE WELL WATER POLLUTION PREVENTION PLAN (WWPPP). SUGGESTED BMPs ARE FOR GUIDANCE ONLY AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE WATER IS TREATED PROPERLY BEFORE REACHING A WATER OF THE UNITED STATES. DEPENDENT ON TIME OF YEAR OF CONSTRUCTION, METHODS MAY NEED TO BE MODIFIED AND CARE SHOULD BE TAKEN TO LIMIT DISTURBANCE OF ANY CROPS IN SURROUNDING FIELDS. ALL METHODS SHALL BE REVIEWED WITH OWNER/ENGINEER PRIOR TO IMPLEMENTATION.



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PROJECT

CITY OF STORM LAKE

NEW PRODUCTION WELL NO. 21

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 C1-WWPPP
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

WWPPP PLAN

SHEET

C1-10

PRELIMINARY NOT FOR CONSTRUCTION

WELL WATER POLLUTION PREVENTION PLAN NOTES:

GENERAL PROJECT INFORMATION:

PROJECT NARRATIVE:

This project consists of new well development, test pumping, new water main installation, well house construction, and surface replacement for the prior listed improvements, perimeter and other erosion and sediment controls.

PROJECT PHASING:

See construction notes.

RESPONSIBLE PARTIES:

Engineer has started WWPDP documents of National Pollution Discharge Elimination System (NPDES) General Permit No. 6. Contractor must verify well water pollution prevention and sediment control BMP's, sign all relevant documents, complete and submit Field Office Notification Form, routinely inspect site for WWPDP compliance, and manage overall WWPDP.

Contractor and owner shall identify a person knowledgeable and experienced in the application of well water pollution prevention and sediment control BMP's who will oversee the implementation of the WWPDP.

Company: Contact Person: Phone:

Company: Contact Person: Phone:

Owner shall identify the entity responsible for the long term Operation and Maintenance of the well water management system.

Company: Contact Person: Phone:

PROJECT AREA:

Total project size (disturbed area) = 0.566 acres
Existing area of impervious surface = 0.054 acres
Post construction area of impervious surface = 0.106 acres

Total new impervious surface area created = 0.052 acres

WELL WATER MANAGEMENT / BMP SELECTION:

Types of well water management that are proposed are checked below. Contractor to make final determination of BMPs.

[X] Silt Fence [X] Storm Drain Inlet Protection [X] Frac Tank
[X] Street Cleaning / Sweeping [X] Permanent Seeding

RECEIVING WATERS:

Surface waters which will receive well water from the construction site are as follows:

Name of Water Body	Type (ditch, pond, wetland, etc.)
CITY OF STORM LAKE STORM SEWER SYSTEM	PIPE
STORM LAKE	LAKE

SOIL TYPES:

Hydrologic Soil Group – Summary by Map Unit – Buena Vista County, Iowa			
Map Unit Symbol	Map Unit Name	Rating	Percent of AOI
504	FILL LAND	N/A	100

CONSTRUCTION / IMPLEMENTATION:

Once all entities have agreed and signed the WWPDP, construction of the project may begin. Remember to follow the requirements for notification to the appropriate IDNR Regional Field Services Office. Notification must be provided no earlier than 5 days before well services are started and no later than 24 hours of start. General Permit No. 6 can also be referenced for further information. The contractor must also do the following things that are indicated in the Well Water Pollution Prevention Plan:

1. Implement Controls
2. Inspect and Maintain the Controls
3. Update / change the WWPDP to keep it current based on the wastewater discharge quantity and quality.
4. Report any hazardous condition to the Iowa DNR Field Services Offices in which Field Office Notifications were submitted.

CONSTRUCTION ACTIVITY NOTES:

WELL WATER POLLUTION PREVENTION:

Construction of silt fence and all other pollution control measures shall be complete before other construction activity occurs.

Use phased construction wherever practical to minimize sediment transport.

SEDIMENT CONTROL PRACTICES:

Construction of silt fence and all other well water pollution control measures shall be complete prior to land disturbing activities occurring.

A rock construction entrance or other approved alternative may be constructed at the entry point to the well site to not stress existing ground. Contractor is responsible for replacement of any broken property.

Silt fence shall be installed and maintained until new well has been properly constructed.

The contractor shall be responsible to control erosion from leaving the construction zone. All eroded material that leaves the construction zone shall be collected by the contractor and returned to the site at the contractor's expense.

All streets must be swept within 24 hours when any tracking occurs.

Silt fence or other effective well water pollution control measures must be installed around the perimeter of any soil stockpiles, including temporary stockpiles. Stockpiles cannot be placed in surface waters, including storm water conveyances such as curb and gutter systems, or conduits and ditches.

CONSTRUCTION ACTIVITY NOTES:

SEQUENCE OF ACTIVITIES:

1. Notify Engineer and Owner of commencement of construction.
2. Install all site perimeter and sedimentation controls.
3. Drill new well and install all water main per plans. Develop and test.
4. Construct Well House.
5. When all construction is completed and site is stabilized, remove site perimeter and sedimentation controls.

WELL WASTEWATER PRODUCTION:

During drilling, only clear water or drilling mud will be used depending on approval by engineer. As such, a portable "mud pit" will be used if drilling mud is utilized. Any drilling fluid produced during this phase will be evenly spread across the site and prepared for final seeding. BMPs shall be prepared by the contractor to prevent any erosion or damage to neighboring properties.

During the development phase (bailing, surging, and air lifting), wastewater will be generated. This water will be pumped through a frac tank and to the approved drainage ditch. The amount of wastewater generated during development is estimated at 5,000 gallons.

The development wastewater will be low quality sediment laden water during the early portion of development and clearing to semi-high quality wastewater at the end of development. The development wastewater will be filtered through a frac tank before it is piped to The City Storm Sewer.

After the new well is completed, test pumping will be required. Water generated during test pumping will be of semi-high quality with some suspended solids. It is anticipated that the new well will be test pumped at approximately 800 GPM for 24 hours (or maximum sustainable yield). Test pumping may produce up to 1.15 million gallons of water; of which, 100% is expected to reach Waters of the United States.

All test pump water will be piped to a portable frac tank where it will receive a minimum of 3 minutes of retention time. It will then leave the frac tank and be piped to The City Storm Sewer. The contractor will transport wastewater from the development phase to the frac tank as well. Wastewater from the development phase must receive a minimum of 5 minutes of retention time. Additionally, a reducing agent must be applied to any heavily chlorinated water.

CONSTRUCTION ACTIVITY NOTES:

POLLUTION PREVENTION:

All hazardous materials (oil, gasoline, fuel, paint, etc) must be properly stored to prevent spills, leaks or other discharge, storage areas shall provide secondary containment and a hazardous materials spill kit. Storage and disposal of hazardous waste must be in compliance with all applicable regulations.

Equipment maintenance areas must be limited to a defined area of the site. All runoff containing any hazardous material must be properly collected and disposed. No engine degreasing shall be allowed on site.

The contractor is responsible for monitoring air pollution and ensuring it does not exceed levels set by local, state, or federal regulations. This includes dust created by work being performed on the site. Air pollution and dust control correction is considered incidental to the unit bid prices for which work is being performed. Additional dust control measures may be required by the Engineer.

INSPECTION AND MAINTENANCE:

Contractor's qualified personnel must routinely inspect the construction site once every six (6) hours and following any storm event of 0.5 inches or greater and at least once per week until commencement of well construction.

All inspections performed during construction must be recorded and records retained with the WWPDP.

Contractor is responsible for keeping a record of all rainfall information & erosion control maintenance until well construction procedures have commenced.

All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches ½ of the height of the fence.

Erosion control, and other BMP's must be replaced, repaired, or supplemented when they reach 50% design load.

FINAL STABILIZATION:

The Permittees must ensure final stabilization of the site.

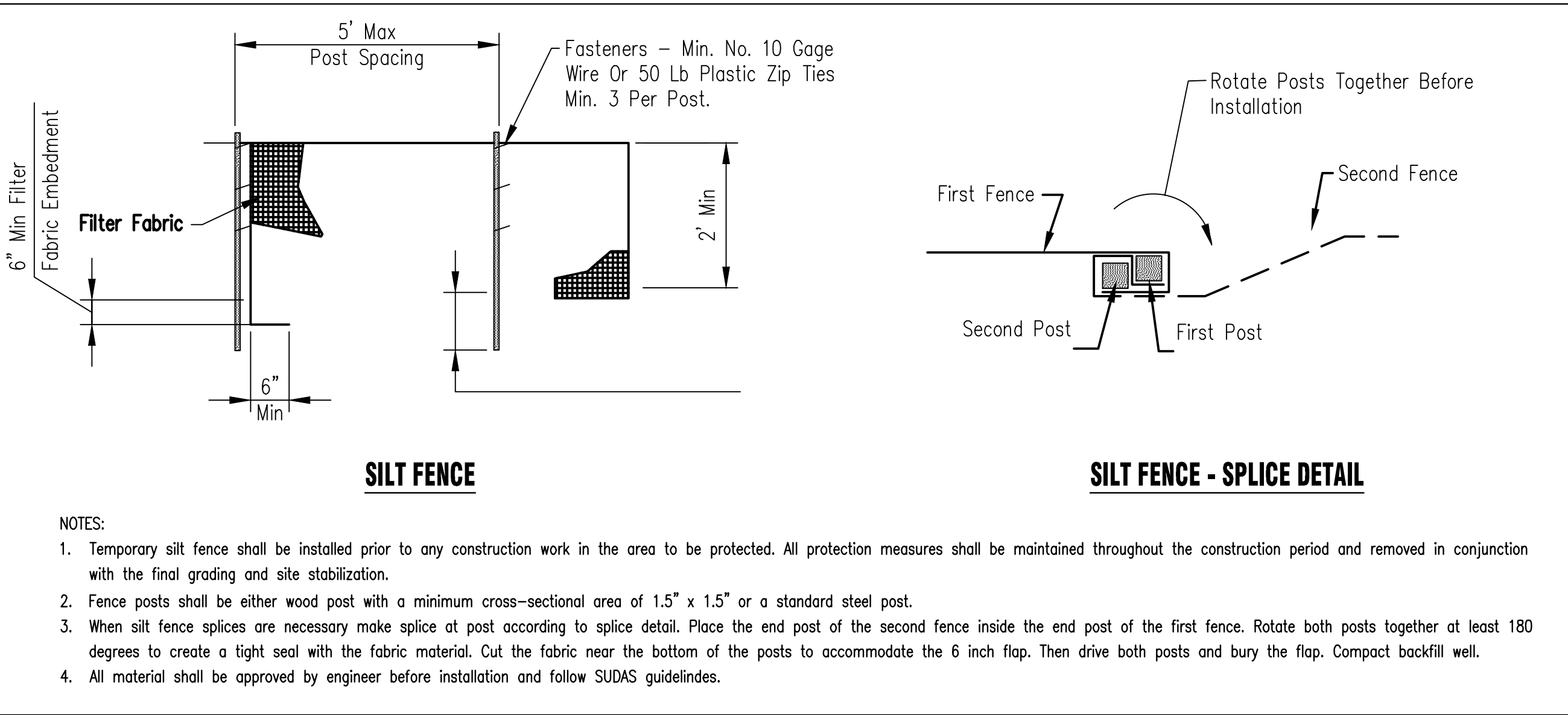
All temporary erosion control measures and BMP's must be removed as part of the final site stabilization.

NPDES General Permit No. 6 further defines final stabilization and its requirements.

MAINTENANCE SCHEDULE

The following Maintenance Schedule has been provided. The INSPECTOR must perform the inspections. The OPERATOR/CONTRACTOR must perform all needed maintenance. Furthermore, all erosion control features requiring maintenance may not be listed below. The OPERATOR/CONTRACTOR and INSPECTOR must perform their respective duties on all BMP's that are not listed below as well.

1. Access Drive and Construction Staging Area – The entrance shall be maintained in a condition which will prevent tracking or flow of sediment onto public rights-of-way. This may require periodic top dressing and repair and/or cleanout of any structures used to trap sediment. All materials spilled, dropped, washed, or materials dropped, washed or tracked onto roadways will not be permitted under any circumstances. Access drive and construction staging area must protect existing site, contractor is responsible for all damage to existing site.
2. Silt Fence – The maintenance measures are as follows; (2.1) silt fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall, any required repairs shall be made immediately; (2.2) close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting; (2.3) should the fabric on a silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly; (2.4) sediment deposits must be removed when the level of deposition reaches approximately one-half the height of the barrier; and (2.5) any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform to the existing grade, prepared and seeded.
3. Street Cleaning / Sweeping – The maintenance measures are as follows: (3.1) evaluate access points daily for sediment tracking; (3.2) when tracked or spilled sediment is found on paved surfaces, it will be removed daily, during times of heavy track-out, such as during rains, cleaning may be done several times throughout the day; (3.3) unknown spills or objects will not be mixed with the sediment; and (3.4) if sediment is mixed with other pollutants, it will be disposed of properly at an authorized landfill.



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PROJECT

CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 C1-WWPDP
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

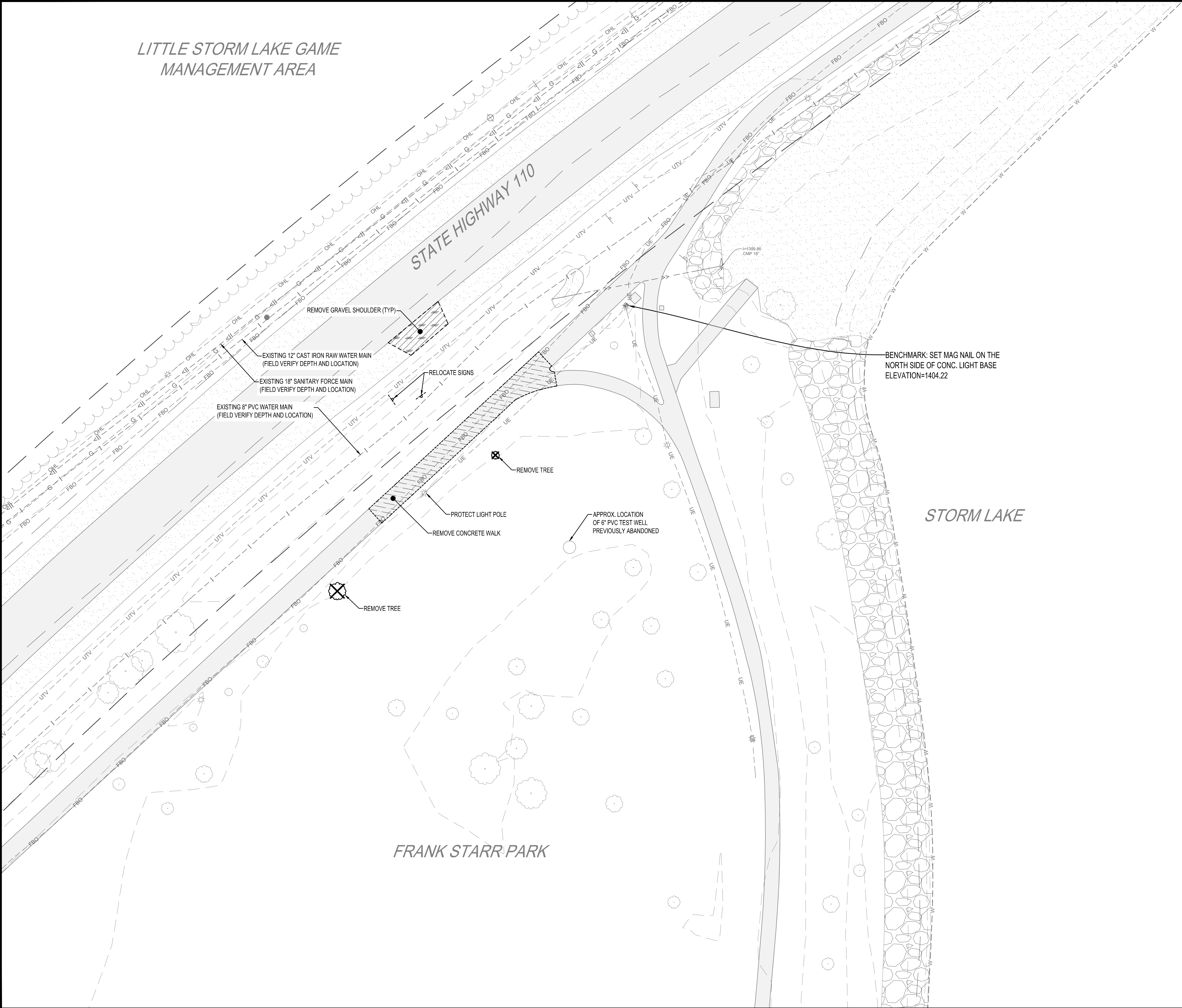
TITLE

WWPDP NOTES

SHEET

C1-20

PRELIMINARY NOT FOR CONSTRUCTION



REMOVAL LEGEND	
SYMBOL	DESCRIPTION
	REMOVE CONCRETE WALK
	REMOVE DECIDUOUS TREE (CLEAR AND GRUB)
CONTRACTOR SHALL VERIFY EXISTING PAVEMENT SECTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES. PAVEMENT REMOVALS SHALL INCLUDE FULL DEPTH SAWCUT AND SECTION REMOVAL.	



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PROJECT
CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

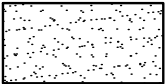
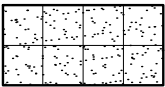
PROJECT NO.	22-26698
FILE NAME	26698 C2-EXIST
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE
EXISTING SITE & REMOVALS

SHEET
C2-10

PRELIMINARY NOT FOR CONSTRUCTION



PAVEMENT LEGEND	
SYMBOL	DESCRIPTION
	CONCRETE PAVEMENT
	CONCRETE WALK



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PROJECT
CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

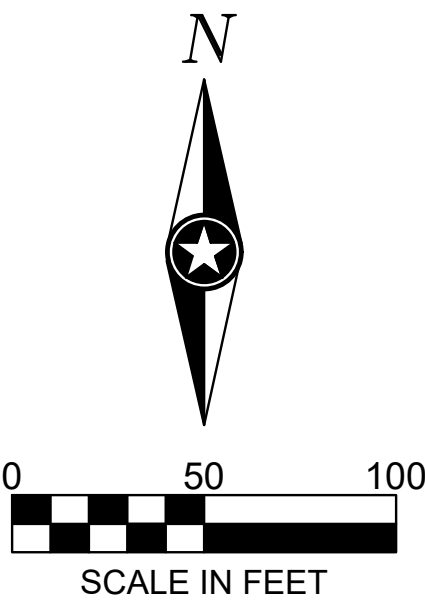
STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

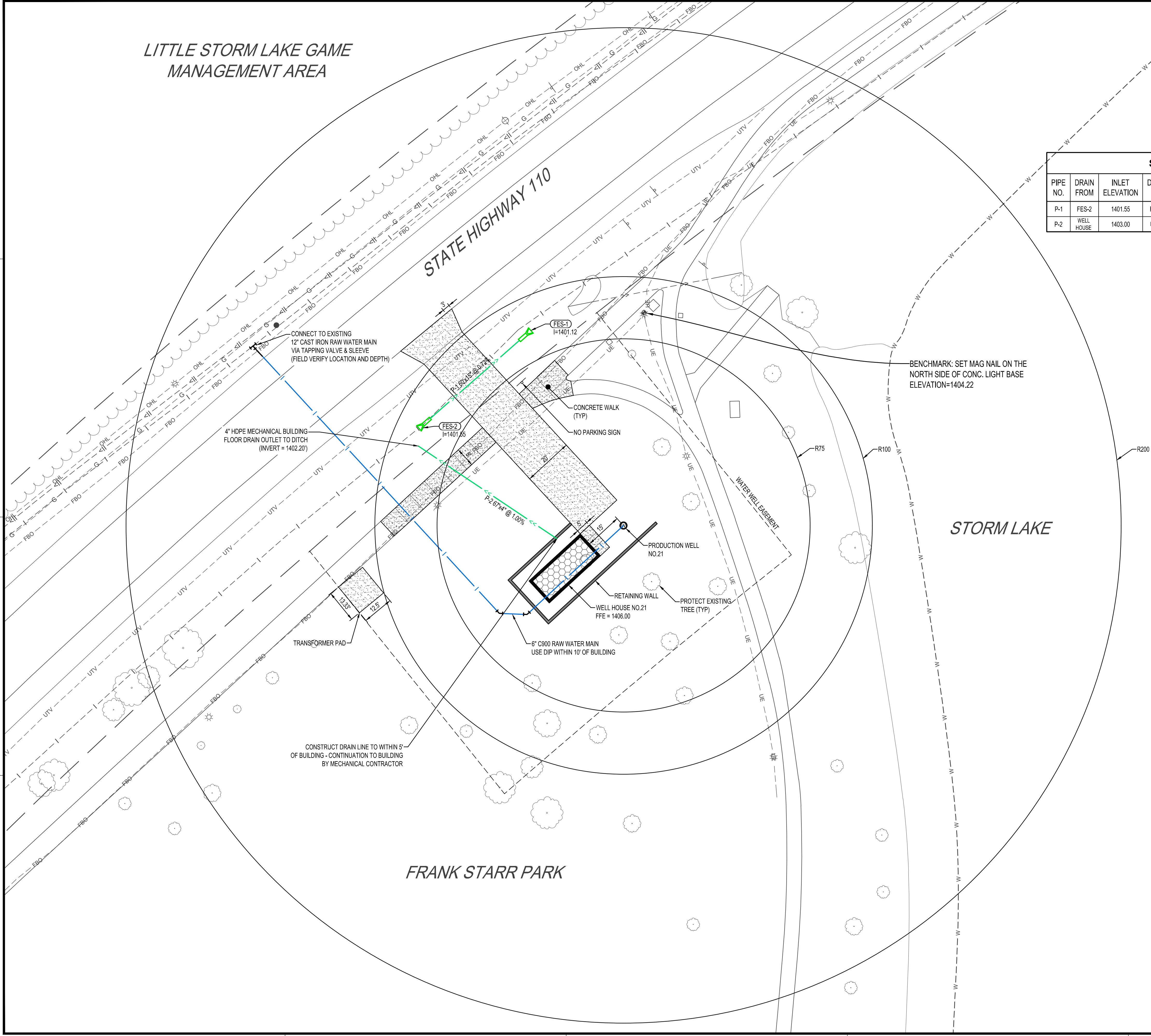
PROJECT NO.	22-26698
FILE NAME	26698 C3-WELL SITE PLAN
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE
OVERALL SITE PLAN

SHEET
C3-10



PRELIMINARY NOT FOR CONSTRUCTION



PAVEMENT LEGEND	
SYMBOL	DESCRIPTION
	CONCRETE PAVEMENT
	CONCRETE WALK

STORM DRAIN PIPE SCHEDULE									
PIPE NO.	DRAIN FROM	INLET ELEVATION	DRAIN TO	OUTLET ELEVATION	PIPE SIZE (IN)	MATERIAL	PIPE CLASS	PIPE GRADE	PIPE LENGTH (FT)
P-1	FES-2	1401.55	FES-1	1401.12	15	RCP	RCP	0.72%	60
P-2	WELL HOUSE	1403.00	DITCH	1402.33	4	HDPE	HDPE	1.00%	67

STORM DRAIN APRON SCHEDULE				
APRON NO.	APRON SIZE (IN)	APRON MATERIAL	INVERT ELEVATION	PIPE NO.
FES-1	15	RC	1401.12	P-1
FES-2	15	RC	1401.55	P-1



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PROJECT

CITY OF STORM LAKE

NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

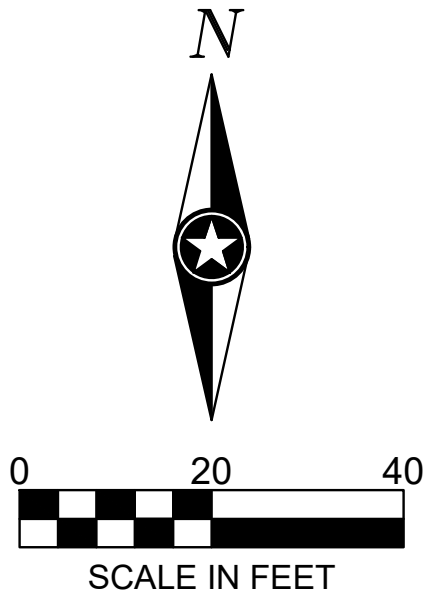
PROJECT NO.	22-26698
FILE NAME	26698 C3-WELL SITE PLAN
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

WELL SITE PLAN

SHEET

C3-20



PRELIMINARY NOT FOR CONSTRUCTION



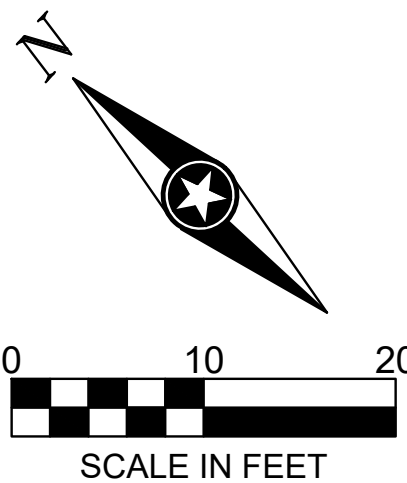
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STORM LAKE IOWA

PROJECT NO.	22-26698
FILE NAME	SX-26698-UTILITY
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23

SHEET

C3-21



26698 WATERMAIN

Plan view showing the proposed watermain alignment (blue line) and existing utilities (black lines) along Highway 110. The alignment starts at station 0+00 and ends at 3+00. Key features include:

- EXISTING FIBER LINE (FIELD VERIFY DEPTH AND LOCATION)
- EXISTING GAS MAIN (FIELD VERIFY DEPTH AND LOCATION)
- EXISTING 8" WATER MAIN (FIELD VERIFY DEPTH AND LOCATION)
- EXISTING 12" CAST IRON RAW WATER MAIN (FIELD VERIFY DEPTH AND LOCATION)
- EXISTING 18" SANITARY SEWER (FIELD VERIFY DEPTH AND LOCATION)
- PROPOSED GROUND (TYP)
- EXISTING GROUND (TYP)
- SHOULDER
- HIGHWAY 110
- INSULATE ALL WATER MAIN NOT MEETING 5.5' MINIMUM COVER
- EXISTING FIBER LINE (FIELD VERIFY DEPTH AND LOCATION)
- 5.5' MIN
- 6" C900 PIPE
- 6" DUCTILE IRON PIPE
- 45° BENDS
- WELL HOUSE
- JACK & BORE 93 LF OF 14" (MIN) STEEL CASING PIPE WITH 6" C900 RESTRAINED JOINT CARRIER PIPE
- 45° VERTICAL BENDS
- CONNECT TO EXISTING 12" CAST IRON RAW WATER MAIN (FIELD VERIFY DEPTH AND LOCATION)
- EXISTING 18" SANITARY SEWER (FIELD VERIFY DEPTH AND LOCATION)

Stationing: 0+00, 0+25, 0+50, 0+75, 1+00, 1+25, 1+50, 1+75, 2+00, 2+25, 2+50, 2+75, 3+00.



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PROJECT

**CITY OF
STORM LAKE**

**NEW PRODUCTION
WELL NO. 21**

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 C3-WELL DETAILS
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

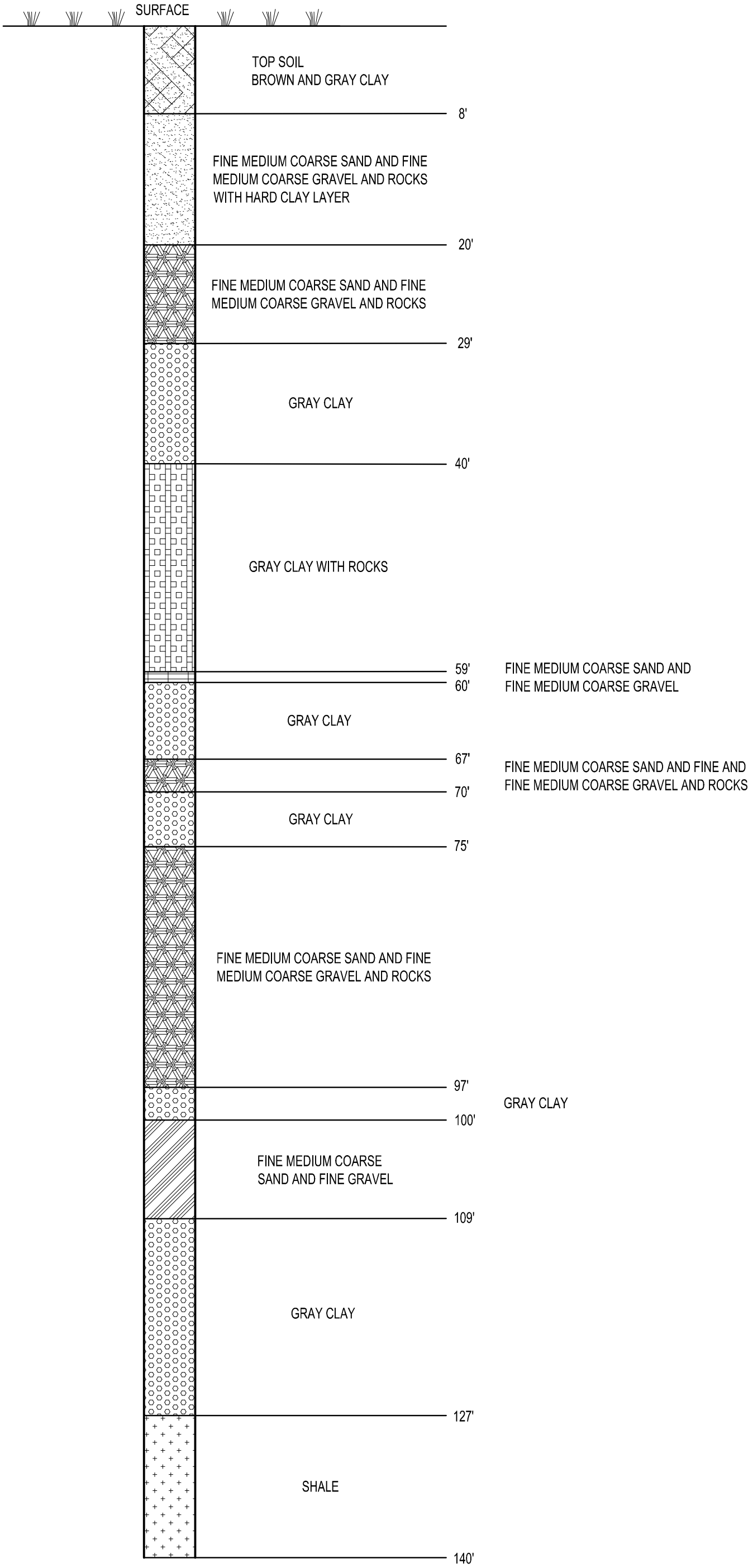
TITLE

**WELL SECTION &
NOTES**

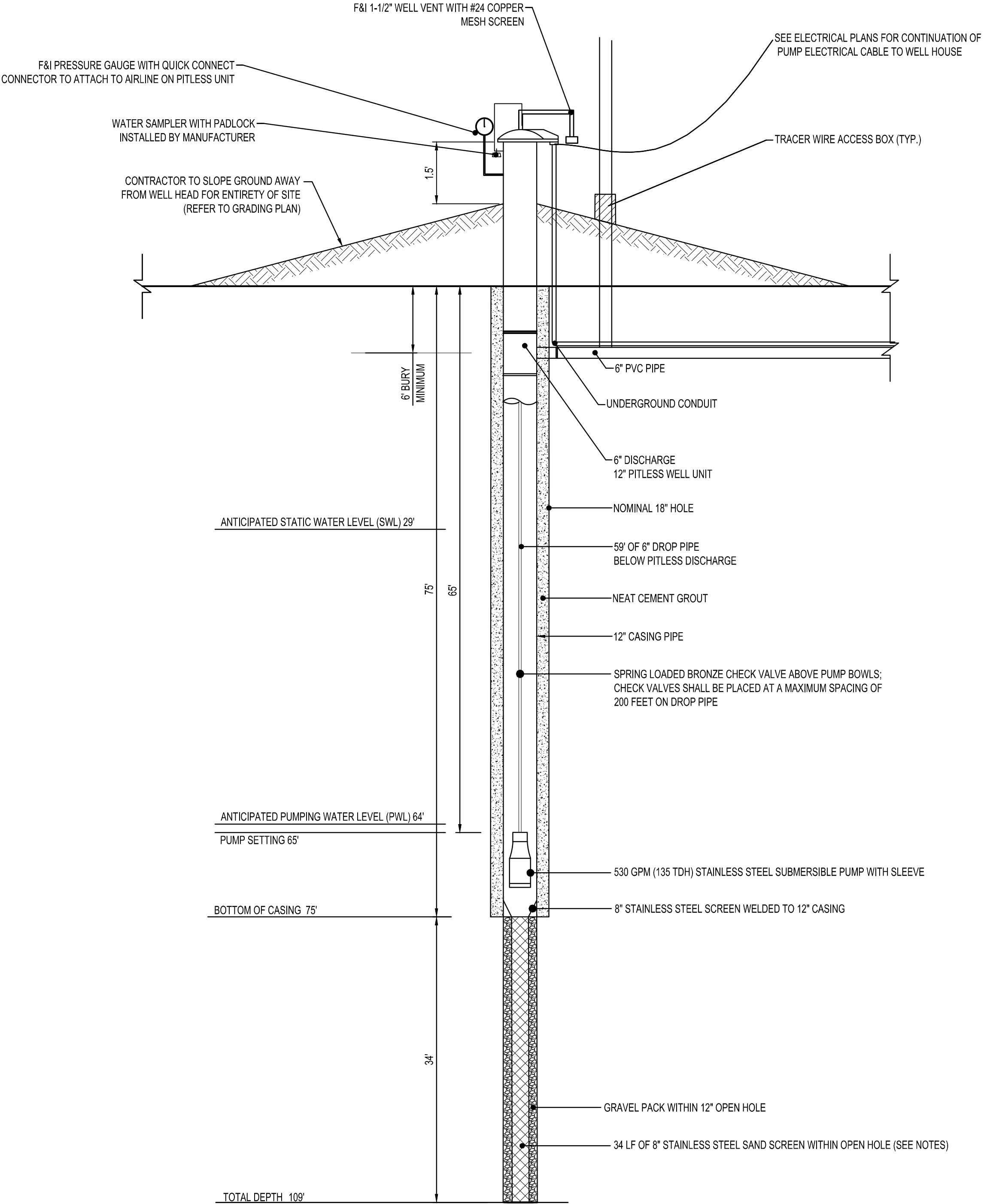
SHEET

C3-30

NOTE:
LOG IS BASED ON ABANDONED TEST WELL
TW 2022-1. THIS WELL IS LOCATED
APPROXIMATELY 20 FEET SOUTH FROM THE
PROPOSED LOCATION OF NEW WELL.



ANTICIPATED BORING LOG
NOT TO SCALE

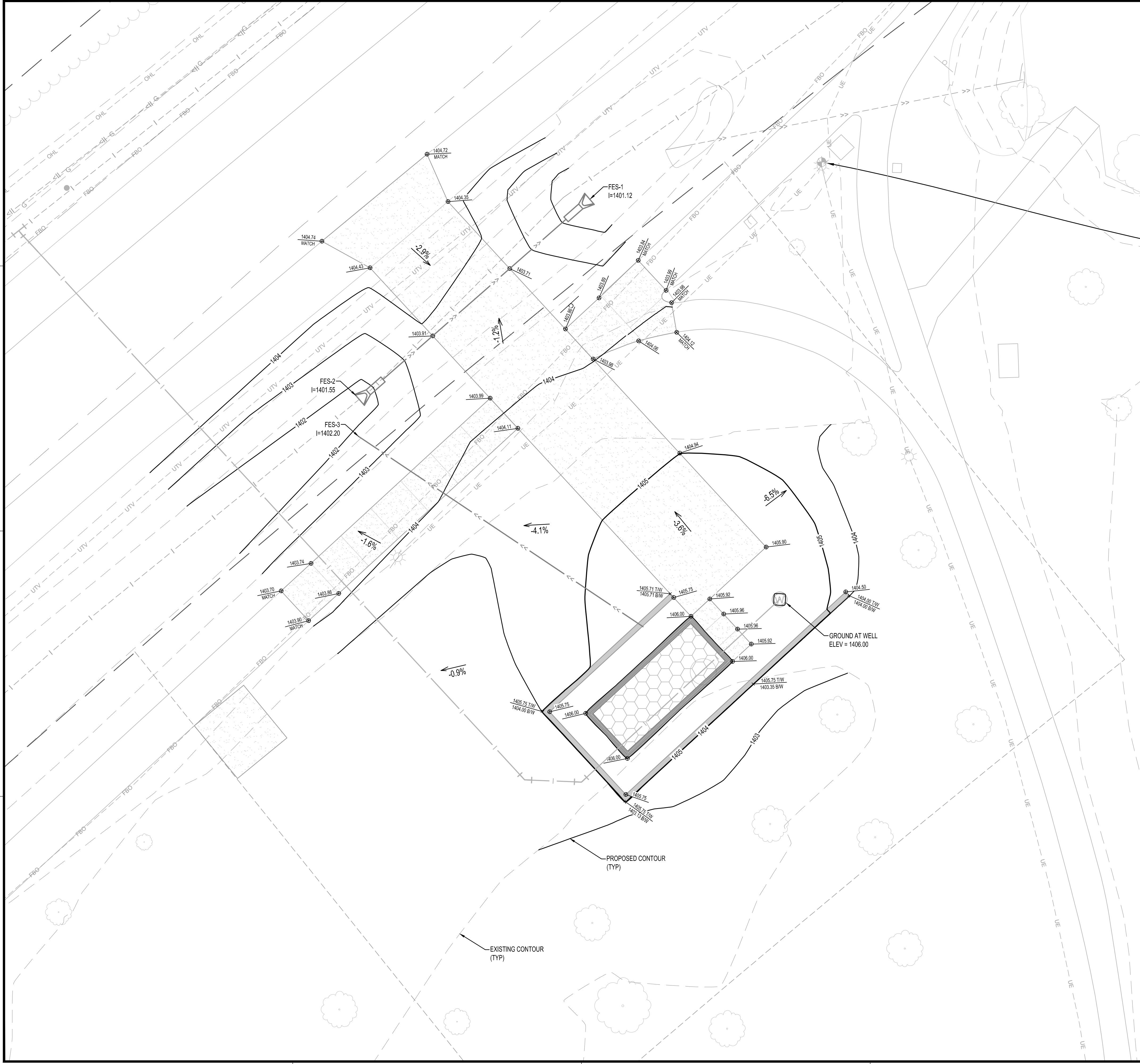


NEW WELL - SECTION
NOT TO SCALE

WELL NOTES

- ALL PROPOSED MEASUREMENTS ARE ESTIMATES. CONTRACTOR IS TO VERIFY INSTALLATION DEPTHS WITH ENGINEER AND CONSTRUCT WELL TO PRODUCE REQUIRED FLOW RATE OF 530 GPM.
- ANODE PACK TO BE INSTALLED ON NEW WELL PER MANUFACTURER'S RECOMMENDATIONS, SPECIFICATIONS, AND ESTIMATE REFERENCE.
- SIEVE ANALYSIS TO BE CONDUCTED ON MATERIAL AT SCREEN DEPTH BY JOHNSON SCREENS. SCREEN SLOT SIZE AND GRAVEL PACK GRADATION TO BE RECOMMENDED BY JOHNSON SCREEN AND REVIEWED/APPROVED BY ENGINEER.
- WITH ENGINEER'S REVIEW AND APPROVAL, BORE HOLE DIAMETER MAY BE ADJUSTED. MINIMUM 1.5" GROUT MUST BE PLACED IN ANNULAR SPACE AROUND ALL CASING AND WELDS; ADJUST HOLE SIZE AS NEEDED BASED ON ACTUAL CASING AND WELDS WITH ENGINEER'S REVIEW AND APPROVAL.
- CONTRACTOR TO POT HOLE TO VERIFY THE DEPTH OF EXISTING UTILITIES. RESTORATION OF THOSE POTHOLES IS CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR TO PROTECT WELL FROM TAMPERING OR ENTRANCE OF FOREIGN MATERIAL DURING PROGRESS OF WORK WHEN NOT IN CONSTRUCTION.

PRELIMINARY NOT FOR CONSTRUCTION



GRADING LEGEND	
	EXISTING CONTOUR (MINOR INTERVAL)
	EXISTING CONTOUR (MAJOR INTERVAL)
	PROPOSED CONTOUR (MINOR INTERVAL)
	PROPOSED CONTOUR (MAJOR INTERVAL)
	PROPOSED SPOT ELEVATION
	PROPOSED TOP OF RETAINING WALL (TW) AND BOTTOM OF RETAINING WALL (BW)
	SURFACE GRADE / DIRECTION

GENERAL GRADING NOTES	
PROPOSED CONTOURS SHOW FINISHED GRADE ELEVATIONS. BUILDING PAD AND PAVEMENT HOLD DOWNS ARE NOT INCLUDED. WHEN CONSTRUCTING BUILDING PADS WITH A HOLD DOWN, GRADE AREAS TO ENSURE POSITIVE BUILDING PAD DRAINAGE.	

EARTHWORK - SITE BALANCE			
TOPSOIL			
CUT/STRIP (EV):	149	CY	
FILL (CV):	-156	CY	
SHRINK LOSS 33%	-48	CY	
BALANCE (CV):	-56	CY	
EMBANKMENT			
CUT (EV):	68	CY	
FILL (CV):	-178	CY	
SHRINK LOSS 33%	-22	CY	
BALANCE (CV):	-132	CY	
TOTAL SUMMARY			
TOPSOIL (CV):	-56	CY	
CLAY (CV):	-132	CY	

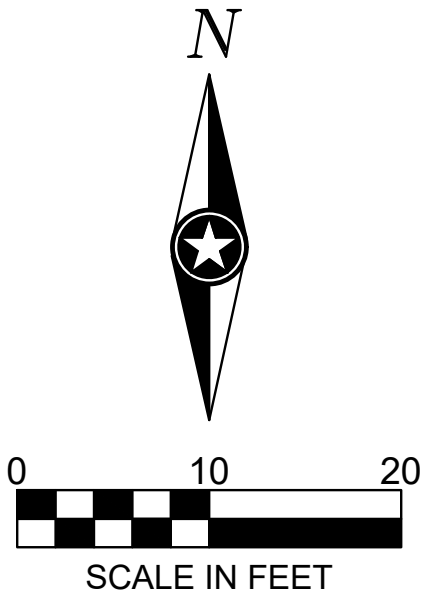
NOTES:

1. SHRINK AND SWELL FACTORS WERE APPLIED TO CALCULATIONS. ESTIMATED QUANTITIES PROVIDED ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY. NO GUARANTEE, EXPRESSED OR IMPLIED, IS MADE TO THEIR ACCURACY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO SUBMITTING A BID FOR THE PROJECT.

2. EARTHWORK QUANTITIES WITH A POSITIVE NUMBER ARE CUT OR MATERIAL GENERATED. A NEGATIVE NUMBER IS FILL OR MATERIAL APPLIED. A POSITIVE BALANCE INDICATES AN EXCESS IN MATERIAL. A NEGATIVE BALANCE INDICATES A SHORTAGE OF MATERIAL.

3. 6" OF TOPSOIL WAS CALCULATED IN ALL TOPSOIL STRIP AREAS. ALL AREAS SHALL BE DRESSED WITH A MINIMUM OF 6" OF TOPSOIL.

4. THE SITE BALANCE PROVIDED ABOVE IS FOR INFORMATIONAL PURPOSES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL QUANTITIES PRIOR TO SUBMITTING A BID FOR THE PROJECT.



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PROJECT

CITY OF STORM LAKE

NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 C4-GRADE
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

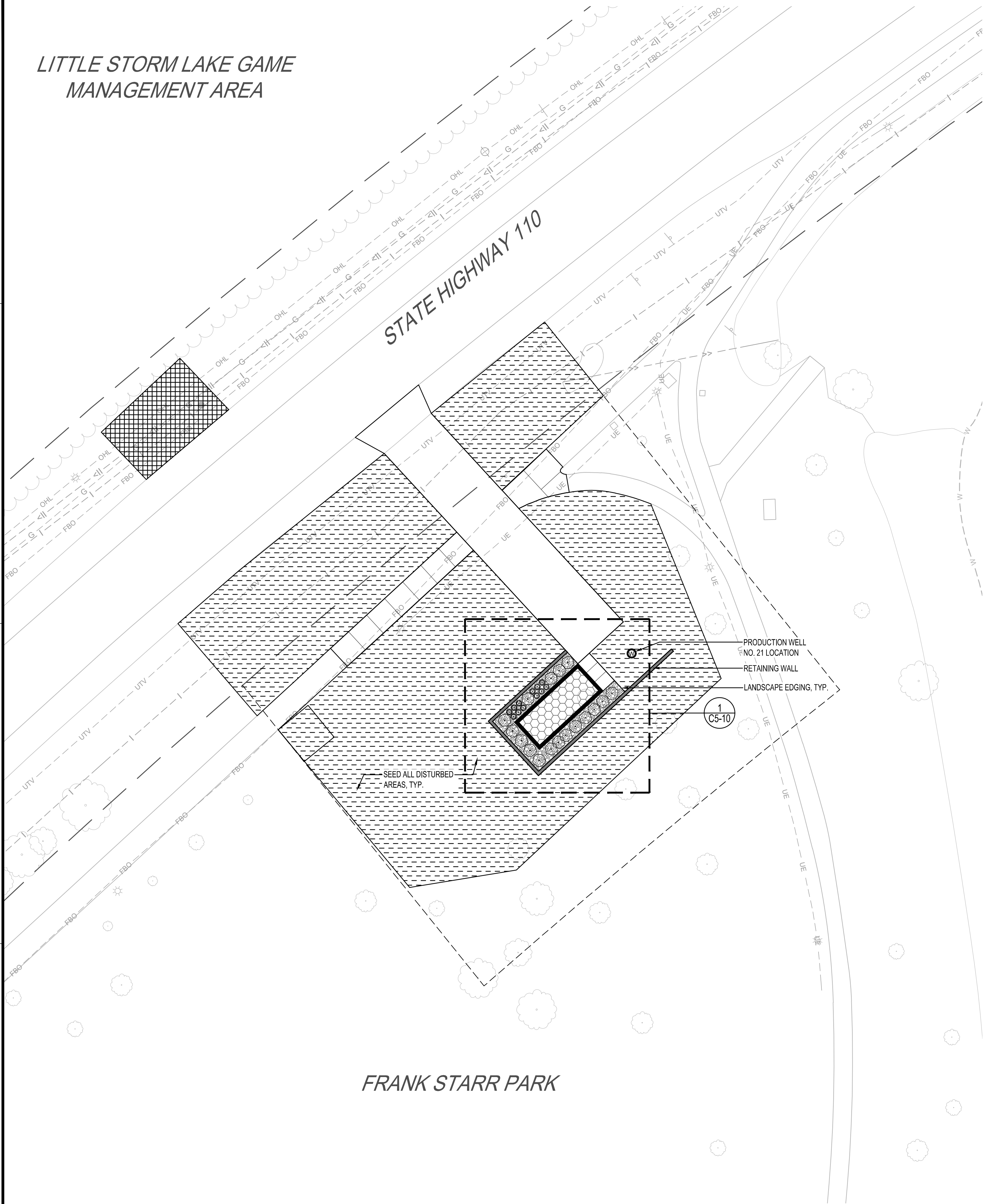
GRADING PLAN

SHEET

C4-10

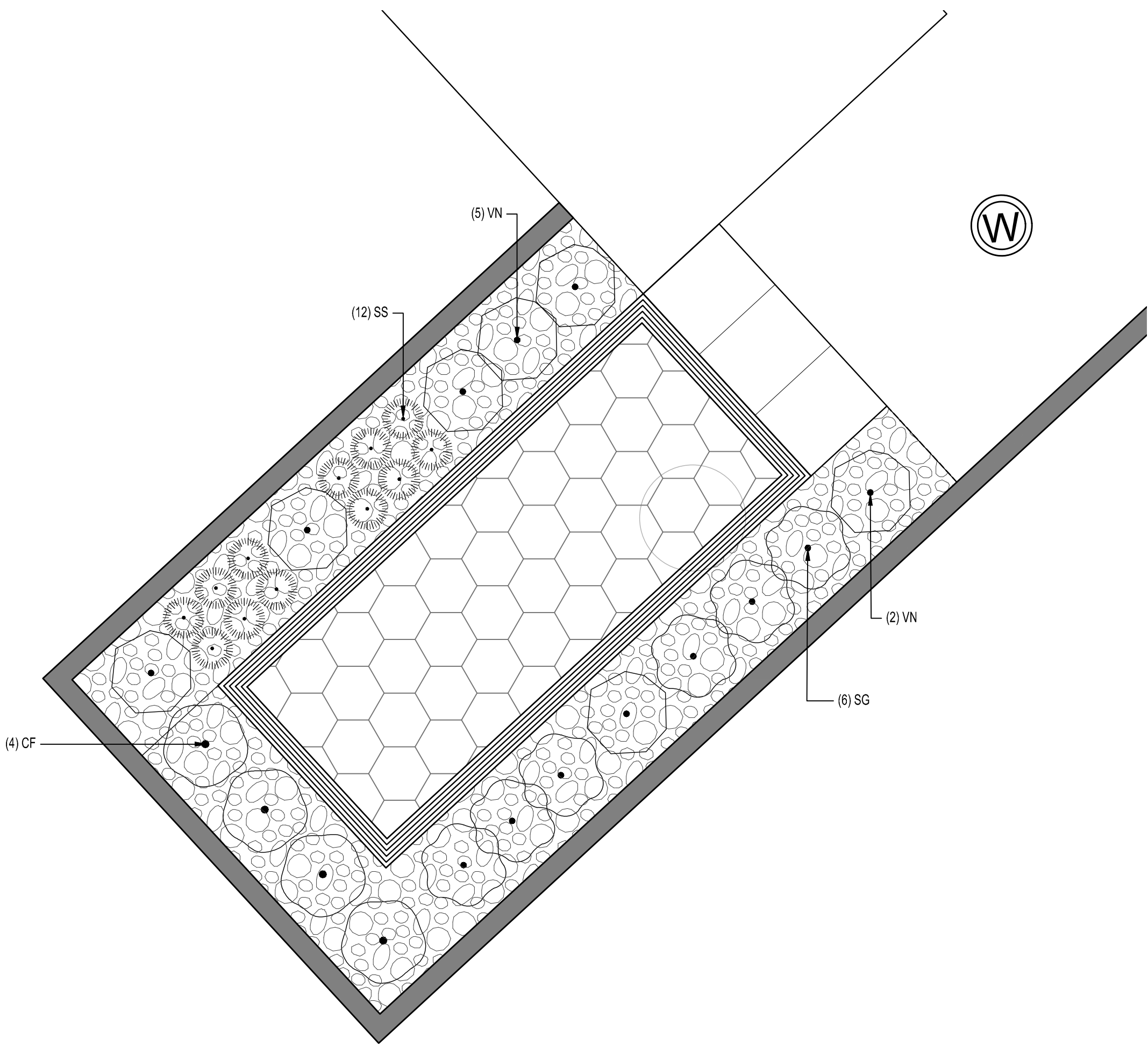
PRELIMINARY NOT FOR CONSTRUCTION

LITTLE STORM LAKE GAME
MANAGEMENT AREA



SITE RESTORATION PLAN - 2
1" = 20'

PLANTING PLAN - 1
1" = 5'



PLANT SCHEDULE					
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
	CF	4	CORNUS SERICEA 'FARROW' ARCTIC FIRE® RED TWIG DOGWOOD	3 GAL	CONT
	SG	6	SPIRAEA X BUMALDA 'GOLDFLAME' GOLDFLAME SPIREA	3 GAL	CONT
	VN	7	VIBURNUM OPULUS 'NANUM' DWARF EUROPEAN CRANBERRYBUSH	3 GAL	CONT
PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
	SS	12	SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION' STANDING OVATION LITTLE BLUESTEM	3 GAL	CONT
GROUND COVER	BOTANICAL / COMMON NAME				
	ROCK MULCH, SEE ROCK MULCH DETAIL				
	SUDAS TYPE 1 SEED MIX SEED				
	SUDAS TYPE 2 SEED MIX SEED				



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PROJECT

**CITY OF
STORM LAKE**
**NEW PRODUCTION
WELL NO. 21**

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 C5-LAND
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

PLANTING PLAN

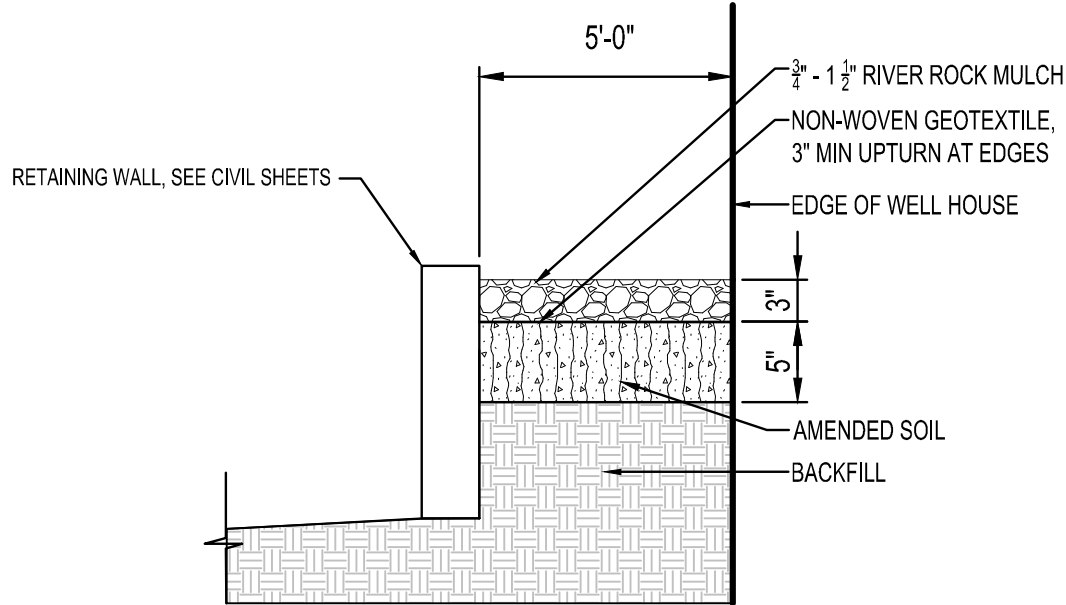
SHEET

C5-10

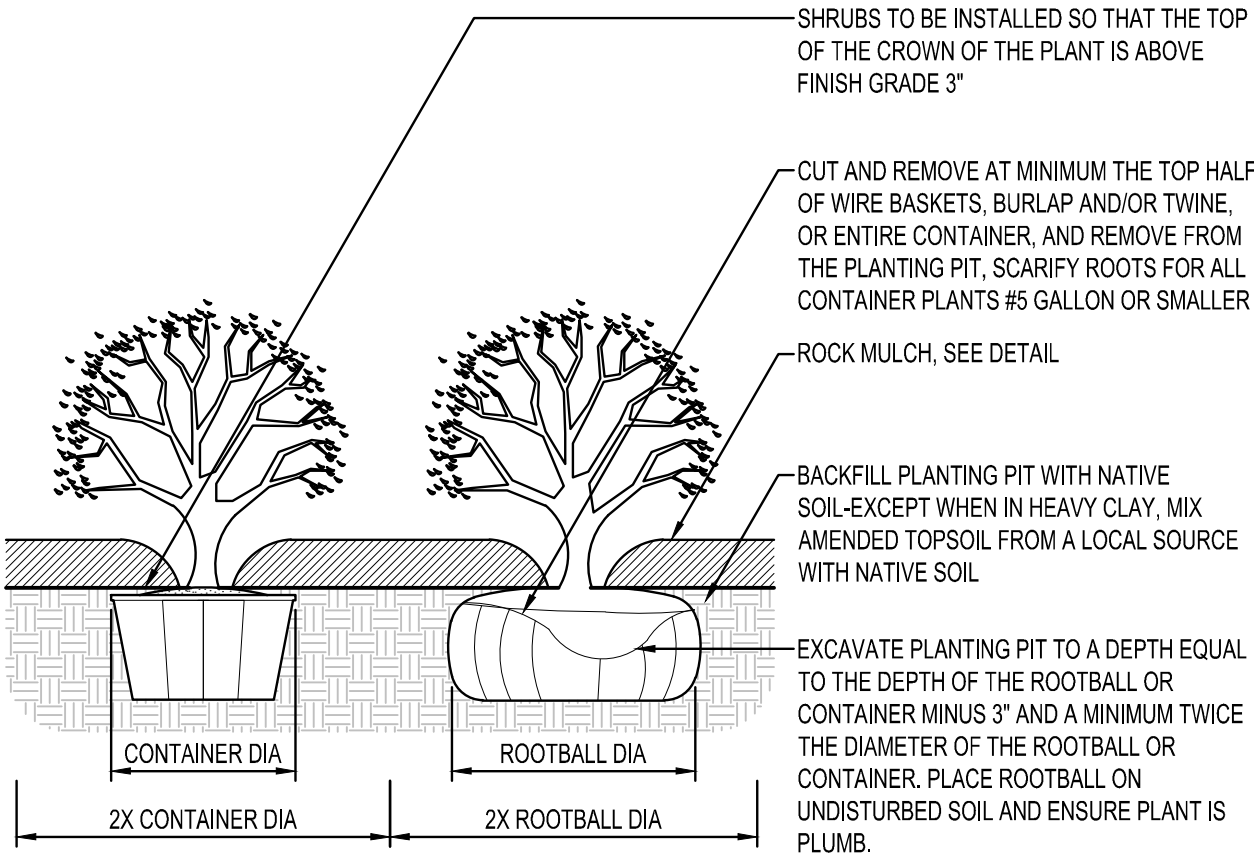
PRELIMINARY NOT FOR CONSTRUCTION

PLANTING NOTES

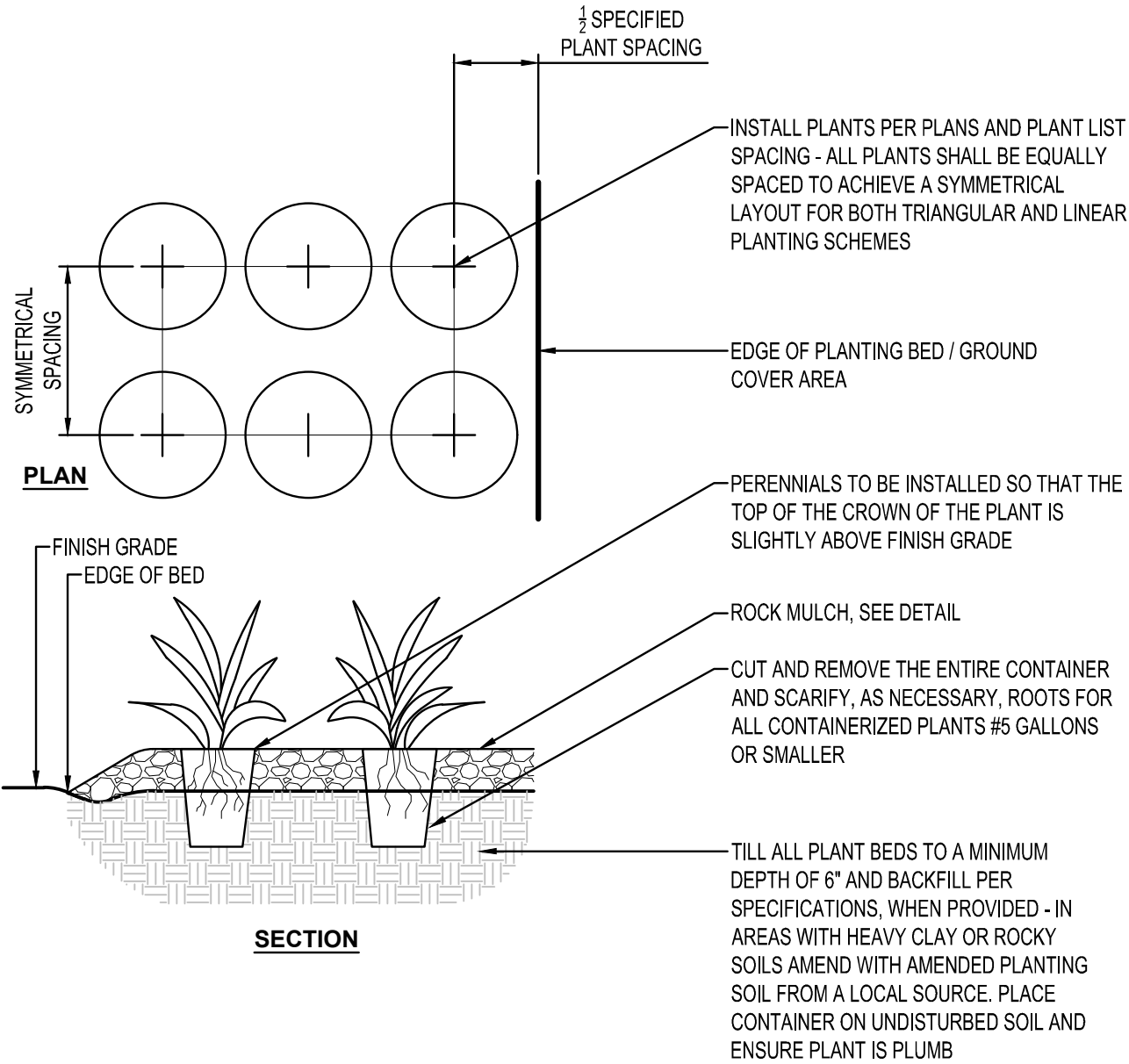
1. COORDINATE LOCATION OF ALL UTILITIES (LINES, DUCTS, CONDUITS, SLEEVES, FOOTINGS, ETC.) WITH LOCATIONS OF PROPOSED LANDSCAPE ELEMENTS (FENCE, FOOTINGS, TREE ROOTBALLS, ETC.). CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.
2. SAVE AND PROTECT ALL EXISTING TREES NOT NOTED TO BE REMOVED.
3. REMOVE ALL CONSTRUCTION DEBRIS AND MATERIALS INJURIOUS TO PLANT GROWTH FROM PLANTING PITS AND BEDS PRIOR TO BACKFILLING WITH PLANTING MIX.
4. REFER TO PLANTING DETAILS FOR AMENDED SOIL DEPTH IN PLANTING BEDS AND SURROUNDING TREES.
5. FIELD STAKE PLANTINGS ACCORDING TO PLAN. OWNER'S REPRESENTATIVE SHALL APPROVE ALL PLANT LOCATIONS PRIOR TO INSTALLATION. OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REVISE PLANTING LAYOUT AT TIME OF INSTALLATION.
6. ALL PLANT MATERIALS SHALL BE TRUE TO THEIR SCIENTIFIC NAME AND SIZE AS INDICATED IN THE PLANT SCHEDULE.
7. IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE SCHEDULE, THE PLANTING PLAN SHALL GOVERN.
8. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
9. ALL PLANT MATERIALS MUST CONFORM TO AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1), LATEST EDITION PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, WASHINGTON D.C. LARGER SIZED PLANT MATERIALS OF THE SPECIES LISTED MAY BE USED IF THE STOCK CONFORMS TO ANSI Z60.1.
10. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN A LIVE AND HEALTHY GROWING CONDITION FOR ONE FULL GROWING SEASON (ONE YEAR) AFTER FINAL PROJECT ACCEPTANCE OR SHALL BE REPLACED BY THE CONTRACTOR FREE OF CHARGE WITH THE SAME GRADE AND SPECIES.
11. ALL TREES SHALL HAVE A STRONG CENTRAL LEADER. ANY TREES DEEMED NOT TO HAVE A STRONG CENTRAL LEADER SHALL BE REJECTED.
12. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DUE TO CONSTRUCTION OPERATIONS. ANY AREAS THAT ARE DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL PROVIDE SAMPLE OF MULCH TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
14. INDICATED QUANTITIES ARE ESTIMATES AND SHALL BE CONFIRMED BY THE CONTRACTOR.
15. ADJUST SPACING OF PLANT MATERIALS AROUND ADJACENT UTILITY STRUCTURES.



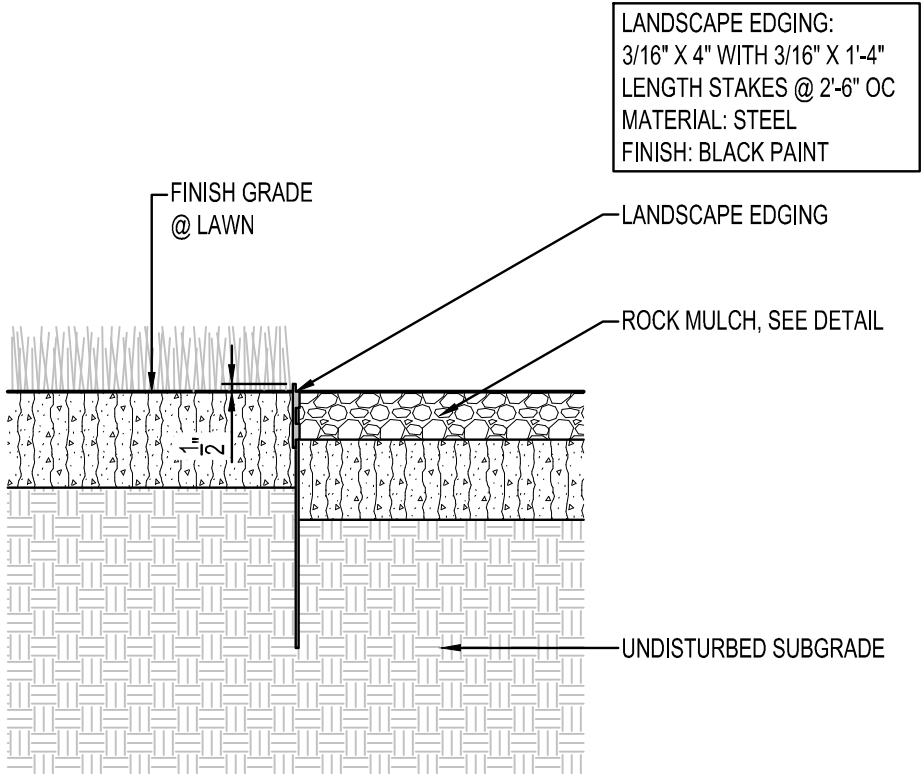
ROCK MULCH
NTS



SHRUB PLANTING
NTS



PERENNIAL PLANTING
NTS



LANDSCAPE EDGING
NTS



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PROJECT
CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 C5-LAND
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE
PLANTING DETAILS

SHEET
C5-20

0 1/4" 1/2" 1" 2"

GENERAL NOTES

- A. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER THESE STANDARD STRUCTURAL NOTES. TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE.
- B. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE STARTING WORK; AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED, IN WRITING, OF ANY DISCREPANCIES.
- C. IN NO CASE SHALL DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THE STRUCTURAL DRAWINGS.
- D. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN THE AREA TO BE EXCAVATED BEFORE BEGINNING EXCAVATION.
- E. NO PIPES, DUCTS, SLEEVES, CHASES, ETC., SHALL BE PLACED IN SLABS OR WALLS, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC.
- F. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPORARY SHORING AND BRACING OF EXISTING STRUCTURAL ELEMENTS DURING CONSTRUCTION. ALL SHORING SHALL BE ADEQUATE TO SUPPORT ALL STRUCTURAL LOADS DURING THE REMOVAL OF THE EXISTING STRUCTURE. TEMPORARY SHORING MUST REMAIN IN PLACE UNTIL ALL NEW STRUCTURAL ELEMENTS ARE SECURED INTO PLACE PER CONSTRUCTION DOCUMENTS.
- G. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR REQUIREMENTS, DIMENSIONS AND EXACT LOCATIONS OF FLOOR DRAINS, TRENCHES, DRAIN TILE, PUMPS AND EQUIPMENT INCLUDING ANCHORING SYSTEMS AND HOUSEKEEPING PADS. GENERAL CONTRACTOR TO COORDINATE ALL OF THESE ITEMS WITH ALL DISCIPLINES INVOLVED.
- H. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES AND MANUALS (LATEST ADOPTED EDITION):
1. AMERICAN CONCRETE INSTITUTE (ACI).
 2. CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE (FOR PLACING AND DETAILING OF ALL REINFORCING).
 3. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
 4. AMERICAN WELDING SOCIETY (AWS) STANDARDS FOR WELDING AS MODIFIED BY AISC SPECIFICATION.
 5. MASONRY STANDARDS JOINT COMMITTEE (MSJC)
 6. AMERICAN FOREST & PAPER ASSOCIATION NATIONAL DESIGN SPECIFICATION (AF & PA NDS)

DESIGN LOADS CRITERIA

- A. CODES USED:
1. 2015 IOWA STATE BUILDING CODE
 2. 2015 INTERNATIONAL BUILDING CODE
 3. 2010 AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD 7 (ASCE 7-10)
- B. RISK CATEGORY: III
- C. WIND LOAD CRITERIA:
1. ULTIMATE WIND SPEED, V = 120 MPH (3 SECOND GUST)
 2. NOMINAL WIND SPEED, V = 93 MPH (3 SECOND GUST)
 3. WIND LOAD EXPOSURE: C
 4. INTERNAL PRESSURE COEFFICIENT: +/- 0.18 (ENCLOSED BUILDING)
 5. WIND TOPOGRAPHIC FACTOR: Kzt = 1.0
 6. C & C WIND WALL PRESSURE: REFER TO COMPONENT AND CLADDING WIND PRESSURE TABLE
 7. WIND NET UPLIFT: 15 PSF (NOMINAL)
- D. SNOW LOAD CRITERIA:
1. GROUND SNOW LOAD, Pg = 30 PSF
 2. FLAT-ROOF SNOW LOAD (BALANCED), Pr = 23.1 PSF
 3. SNOW LOAD IMPORTANCE FACTOR, Is = 1.1
 4. SLOPE FACTOR, Cs = 1.0
 5. THERMAL FACTOR, Ct = 1.0
 6. SNOW EXPOSURE FACTOR, Ce = 1.0
 7. UNBALANCED SNOW LOAD: ON PLAN IF APPLICABLE
- E. EARTHQUAKE LOAD CRITERIA
1. SEISMIC IMPORTANCE FACTOR: Ie = 1.0
 2. MAPPED SPECTRAL RESPONSE ACCELERATIONS:
 - Ss = 6.1% g
 - S1 = 3.7% g
 3. SOIL SITE CLASS: D
 4. SPECTRAL RESPONSE COEFFICIENT:
 - Sds = 0.065
 - Sd1 = 0.059
 5. SEISMIC DESIGN CATEGORY = A
 6. SEISMIC FORCE RESISTING SYSTEM: LIGHT-FRAMED 9COLD-FORMED STEEL) WALLS SHEATHED
 7. SEISMIC RESPONSE COEFFICIENT, Cs = 0.013
 8. RESPONSE MODIFICATION FACTOR, R = 6.5
 9. OVER-STRENGTH FACTOR: Ω = 3
 10. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL-FORCE ANALYSIS
- F. LIVE LOADS
1. ROOF: 20 PSF
 2. FLOOR: 50 PSF
 3. RAILING: 200 LBS AT ANY POINT OR 50 PLF, WHICHEVER PRODUCES MAXIMUM LOAD EFFECT
 4. PARTITIONS: 15 PSF
- G. DEAD LOADS
1. ROOF: 15 PSF
 2. FRAMING: ACTUAL
 3. MISCELLANEOUS CEILING: 6 PSF
 4. MECHANICAL: SEE PLAN

FOOTINGS AND FOUNDATIONS

- A. SOIL BEARING DESIGN VALUE:
1. 1500 PSF (PRESUMED).
 2. BEARING VALUE TO BE VERIFIED IN FIELD BY GEOTECHNICAL ENGINEER.
- B. PROTECT FOUNDATION EXCAVATIONS FROM FROST; DO NOT PLACE CONCRETE ON FROZEN GROUND.
- C. FOUNDATION EXCAVATIONS SHALL BE KEPT FREE OF LOOSE MATERIAL AND STANDING WATER AND SHALL BE CHECKED AND APPROVED BY THE ENGINEER BEFORE THE PLACEMENT OF ANY CONCRETE.
- D. DESIGN FROST PENETRATION DEPTH: 42 INCHES (HEATED) OR 60 INCHES (UNHEATED)
- E. MINIMUM OF 6" COMPACTED GRANULAR SUBGRADE BELOW SLABS.

FOOTINGS AND FOUNDATIONS (CONTINUED)

MATERIAL COMPACTION CRITERIA	
LOCATION	MINIMUM RELATIVE COMPACTION PERCENTAGE (ASTM D698 STANDARD PROCTOR DENSITY (SPD))
1'-0" BELOW FOUNDATION AND SLAB SUBGRADE ELEVATIONS	98%
ABOVE BOTTOM OF FOUNDATIONS AND BELOW SLAB SUBGRADE ELEVATIONS	95%
BELOW EXTERIOR SLAB, WITHIN 1'-0" OF SUBGRADE ELEVATIONS	98%
BELOW EXTERIOR SLAB, MORE THAN 1'-0" BELOW SUBGRADE ELEVATIONS	95%

CONCRETE

- A. CONCRETE SHALL BE STANDARD WEIGHT MIX UNLESS NOTED OTHERWISE AND MEET THE FOLLOWING CRITERIA:
- | LOCATIONS | Fc @ 28 DAYS | AIR ENTRAINMENT | MAX. WATER/CEMENT RATIO |
|-------------------------|--------------|-----------------|-------------------------|
| FOOTINGS / FOUNDATIONS | 4000 PSI | | 0.55 |
| FLOORS ON GRADE | 4000 PSI | | 0.55 |
| COLUMNS | 4000 PSI | | 0.55 |
| EXTERIOR SLABS ON GRADE | 4500 PSI | 6% ± 1.5% | 0.45 |
| EXPOSED EXTERIOR WALLS | 4500 PSI | 6% ± 1.5% | 0.45 |
- B. CEMENT SHALL CONFORM TO ASTM C150, TYPE I / II OR ASTM C595 TYPE II.
- C. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
- D. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 (LATEST EDITION) "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THESE NOTES.
- E. ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE, BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT (CALCIUM CHLORIDE SHALL NOT BE USED).
- F. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR APPROVAL 10 DAYS PRIOR TO FABRICATION AND INSTALLATION. ALL CONCRETE MIXES SHALL BE DESIGNED AND CERTIFIED BY A MATERIALS TESTING COMPANY.
- G. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS DETAILED OR NOTED OTHERWISE.
- H. PLACE VAPOR RETARDER OR VAPOR BARRIER DIRECTLY BELOW FLOOR SLAB.
- I. CONCRETE FLOOR SHALL BE CURED IN ACCORDANCE WITH ASTM C309. CONCRETE FLOOR SHALL BE PROTECTED FROM MOISTURE LOSS FOR A MINIMUM OF 14 DAYS, USING AN APPROVED SHEET MEMBRANE IN ACCORDANCE WITH C171.
- J. FLOOR FLATNESS AND LEVELNESS TOLERANCES:
1. UNLESS NOTED OTHERWISE, FLOORS SHALL CONFORM TO THE FOLLOWING SURFACE PROFILE TOLERANCES:
 - a. FLOOR FLATNESS NUMBER (F1)
 - SPECIFIED OVERALL VALUE = 20
 - MINIMUM LOCAL VALUE = 15
 - b. FLOOR LEVELNESS NUMBER (F1)
 - SPECIFIED OVERALL VALUE = 20
 - MINIMUM LOCAL VALUE = 15
 2. FLOOR TOLERANCE (FF AND FL) MEASUREMENTS SHALL BE TESTED IN ACCORDANCE WITH ASTM E 1155. ACTUAL OVERALL F-NUMBERS SHALL BE CALCULATED USING THE INFERIOR / SUPERIOR AREA METHOD.
 3. CORRECT DEFECTIVE SLABS BY GRINDING OR REMOVING AND REPLACING DEFECTIVE WORK. RE-MEASURE CORRECTED AREAS BY THE SAME PROCESS.

REINFORCING STEEL

- A. BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60.
- B. MINIMUM DEVELOPMENT LENGTH OF REINFORCING BARS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.
- | MINIMUM LENGTH FOR STANDARD UN-COATED BARS IN NORMAL WEIGHT CONCRETE | | | | | | |
|--|---|--------------------|-----------------|-----------------------------|--|-------|
| CONCRETE STRENGTH Fc IN PSI | DEVELOPMENT LENGTH (Ld) FOR STRAIGHT BARS (MIN. OF 12 INCHES) | | | | | |
| | TENSION CLASS A | TENSION CLASS B | COMPRESSION | #18, #14, & #11 AND SMALLER | FOR 90 DEGREE HOOKED BARS, HOOK DEVELOPMENT LENGTH | |
| 3000 | #6 AND SMALLER 44 Db | #6 & SMALLER 55 Db | #7 TO #11 57 Db | 71 Db | 30 Db | 22 Db |
| 3500 | 41 Db | 51 Db | 53 Db | 66 Db | 30 Db | 20 Db |
| 4000 | 38 Db | 47 Db | 49 Db | 62 Db | 30 Db | 19 Db |
| 4500 | 36 Db | 45 Db | 47 Db | 58 Db | 30 Db | 18 Db |
| 5000 | 34 Db | 42 Db | 44 Db | 55 Db | 30 Db | 17 Db |
- NOTE: Db = DIAMETER OF REINFORCEMENT. Ld = DEVELOPMENT LENGTH
- C. TYPICAL SPLICES: CLASS B AS DEFINED IN ACI 318, UNLESS NOTED OTHERWISE
- D. ADJUSTMENT FACTORS FOR STRAIGHT BARS IN TENSION
1. LIGHTWEIGHT CONCRETE = 1.3.
 2. EPOXY COATED = 1.2.
 3. EPOXY COATED WITH COVER LESS THAN 3DB OR CLEAR SPACING LESS THAN 6 DB = 1.5.
 4. HORIZONTAL "TOP" BARS WITH 12" OF CONCRETE CAST BELOW = 1.3
 5. EPOXY COATED HORIZONTAL "TOP" BARS WITH 12" OF CONCRETE CAST BELOW = NOT GREATER THAN 1.7.
- E. ADJUSTMENT FACTORS FOR STRAIGHT HOOKS IN TENSION
1. LIGHTWEIGHT CONCRETE = 1.3.
 2. EPOXY COATED = 1.2.
- F. REINFORCING STEEL SHALL BE PROVIDED WITH THE FOLLOWING AMOUNTS OF COVER FOR CAST-IN-PLACE CONCRETE UNLESS NOTED OTHERWISE:

MINIMUM CLEAR CONCRETE COVER FOR REINFORCING STEEL	
CONCRETE ON SOIL (DIRECT CONTACT)	3"
SLAB ON GRADE	CENTERED
WALLS, STRUCTURAL SLABS EXPOSED TO SOIL OR WEATHER	
#6 TO #18 REBAR	2"
#5 AND SMALLER REBAR	1 1/2"
WALLS, STRUCTURAL SLABS NOT EXPOSED TO EARTH OR WEATHER	
#11 AND SMALLER REBAR	3/4"
COLUMNS AND PIERS (COVER TO STIRRUPS AND TIES)	1 1/2"

- G. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS SHALL BE SECURED IN POSITION WITH WIRE POSITIONERS, OR EQUAL, BEFORE PLACING CONCRETE OR GROUT.
- H. DOWELS BETWEEN FOOTINGS AND WALLS SHALL BE THE SAME GRADE, SIZE, AND SPACING AS VERTICAL WALL REINFORCING.
- I. CONTRACTOR SHALL SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL A MINIMUM OF 10 DAYS PRIOR TO FABRICATION AND INSTALLATION.
- J. BARS TO BE WELDED SHALL BE ASTM A706, GRADE 60. WELDING OF REINFORCING BARS SHALL CONFORM TO AWS D1.4.

SPECIAL INSPECTIONS

CAST-IN-PLACE CONCRETE (IBC 1705.3)

SPECIAL INSPECTION TYPE	FREQUENCY
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	PERIODIC
REINFORCING BAR WELDING:	
VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.	PERIODIC
INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16".	PERIODIC
INSPECT ALL OTHER WELDS.	CONTINUOUS
INSPECT ANCHORS CAST IN CONCRETE.	PERIODIC
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	
ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	CONTINUOUS
MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE.	PERIODIC
VERIFY USE OF REQUIRED DESIGN MIX.	PERIODIC
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC
FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	CONTINUOUS AT TIME OF TESTING
SAMPLE FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS. A MINIMUM OF FIVE STRENGTH TESTS SHOULD BE MADE FOR A GIVEN PROJECT.	

STRUCTURAL STEEL (IBC 1705.2)

SPECIAL INSPECTION TYPE	FREQUENCY
FABRICATOR CERTIFICATION/QUALITY CONTROL PROCEDURES: REVIEW SHOP FABRICATION AND QUALITY CONTROL PROCEDURES.	FABRICATOR EXEMPT
AISC CERTIFICATION (TYPE BU) OF STEEL FABRICATOR REQUIRED	
MATERIAL VERIFICATION OF STRUCTURAL STEEL. REVIEW CERTIFIED MILL TEST REPORTS AND IDENTIFICATION MARKING ON WIDE FLANGE SHAPES, HIGH STRENGTH BOLTS, NUTS AND WELDING ELECTRODES.	PERIODIC
SHOP AND FIELD WELDING: WELDING INSPECTION TO BE IN COMPLIANCE WITH AWS D1.1. ALL WELDS SHALL BE VISUALLY INSPECTED. ALL MATERIALS, WELDING PROCEDURES, AND QUALIFICATIONS OF WELDERS SHALL BE VERIFIED PRIOR TO THE START OF WORK.	
SINGLE PASS FIELD WELD LESS THAN OR EQUAL TO 5/16"	PERIODIC
FIELD WELDS GREATER THAN 5/16"	CONTINUOUS
MULTI-PASS FILLET WELDS	CONTINUOUS
PARTIAL/COMPLETE PENETRATION WELDS TESTED ULTRASONICALLY OR BY ANOTHER APPROVED METHOD	CONTINUOUS
LIGHT GAUGE METAL FRAMING WELDING	PERIODIC
FLOOR AND ROOF DECK WELDING	PERIODIC
INSPECT MECHANICAL FASTENERS AT FLOOR AND ROOF DECK. INSPECT FLOOR AND ROOF DECK SIDE SEAM CONNECTIONS AND/OR BUTTON PUNCHES.	PERIODIC
INSPECT INSTALLATION AND TIGHTENING OF HIGH-STRENGTH BOLTS. VERIFY THAT SPLINES HAVE SEPARATED FROM TENSION CONTROL BOLTS. VERIFY PROPER TIGHTENING SEQUENCE. (NOTE THAT CONTINUOUS INSPECTION OF BOLTS IN SLIP- CRITICAL CONNECTIONS IS REQUIRED UNLESS USING TURN-OF-THE-NUT METHOD WITH MATCH MARKING TECHNIQUES)	PERIODIC
INSPECT SIZE, NUMBER, POSITIONING AND WELDING OF SHEAR CONNECTORS. INSPECT STUDS FOR FULL 360 DEGREE FLASH. RING TEST ALL SHEAR CONNECTORS WITH A 3 LB. HAMMER. BEND TEST ALL QUESTIONABLE STUDS TO 15 DEGREES.	PERIODIC
INSPECT STEEL FRAME FOR COMPLIANCE WITH STRUCTURAL DRAWINGS, INCLUDING BRACING, MEMBER CONFIGURATION, AND CONNECTION DETAILS.	PERIODIC



03/03/23

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PROJECT

CITY OF STORM LAKE
NEW PRODUCTION
WELL NO.21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	
DRAWN BY	KK
DESIGNED BY	JMB
REVIEWED BY	JMB
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	

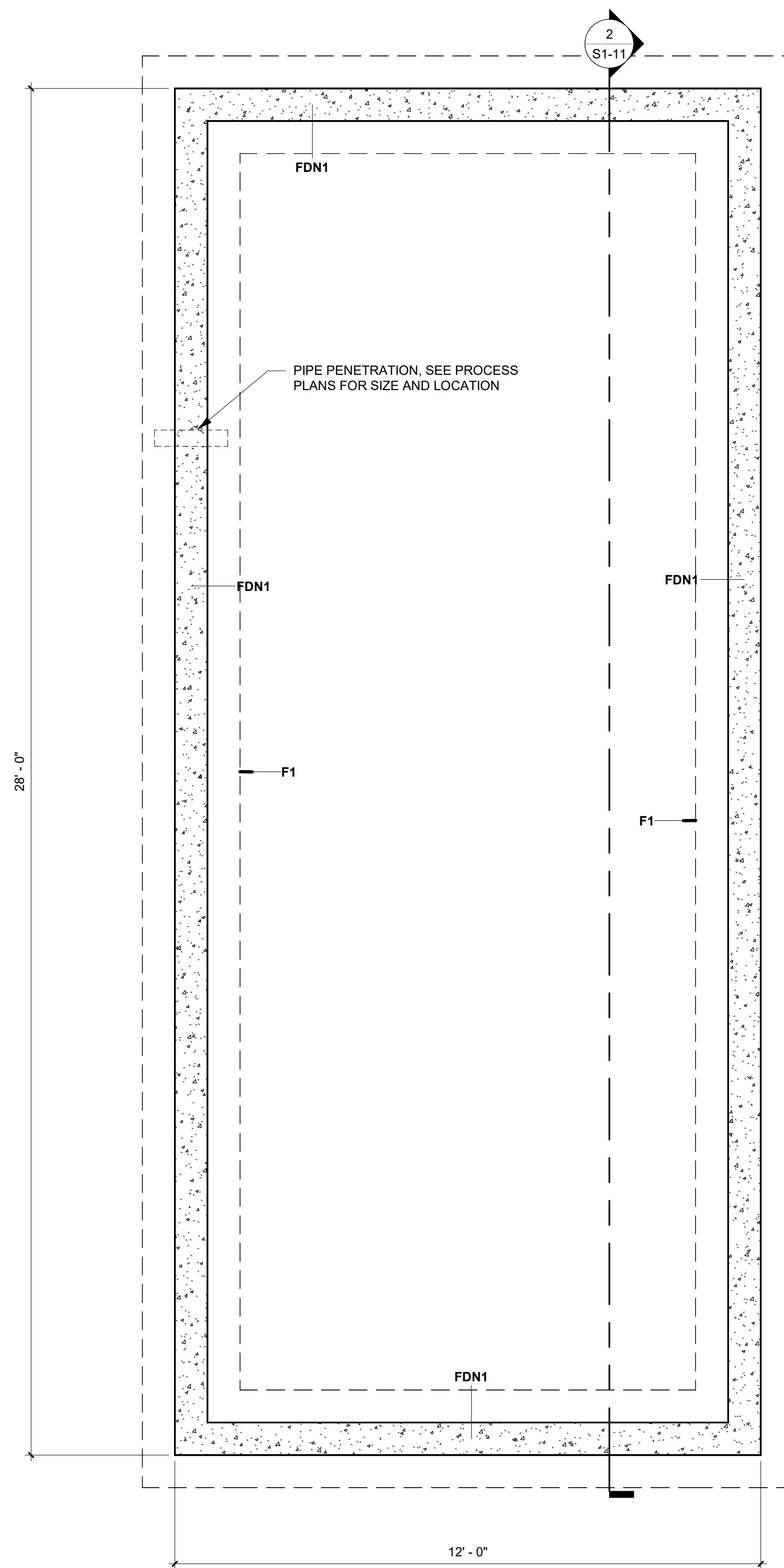
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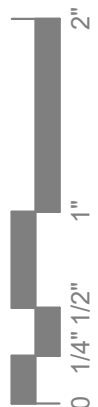
STRUCTURAL
NOTES

SHEET

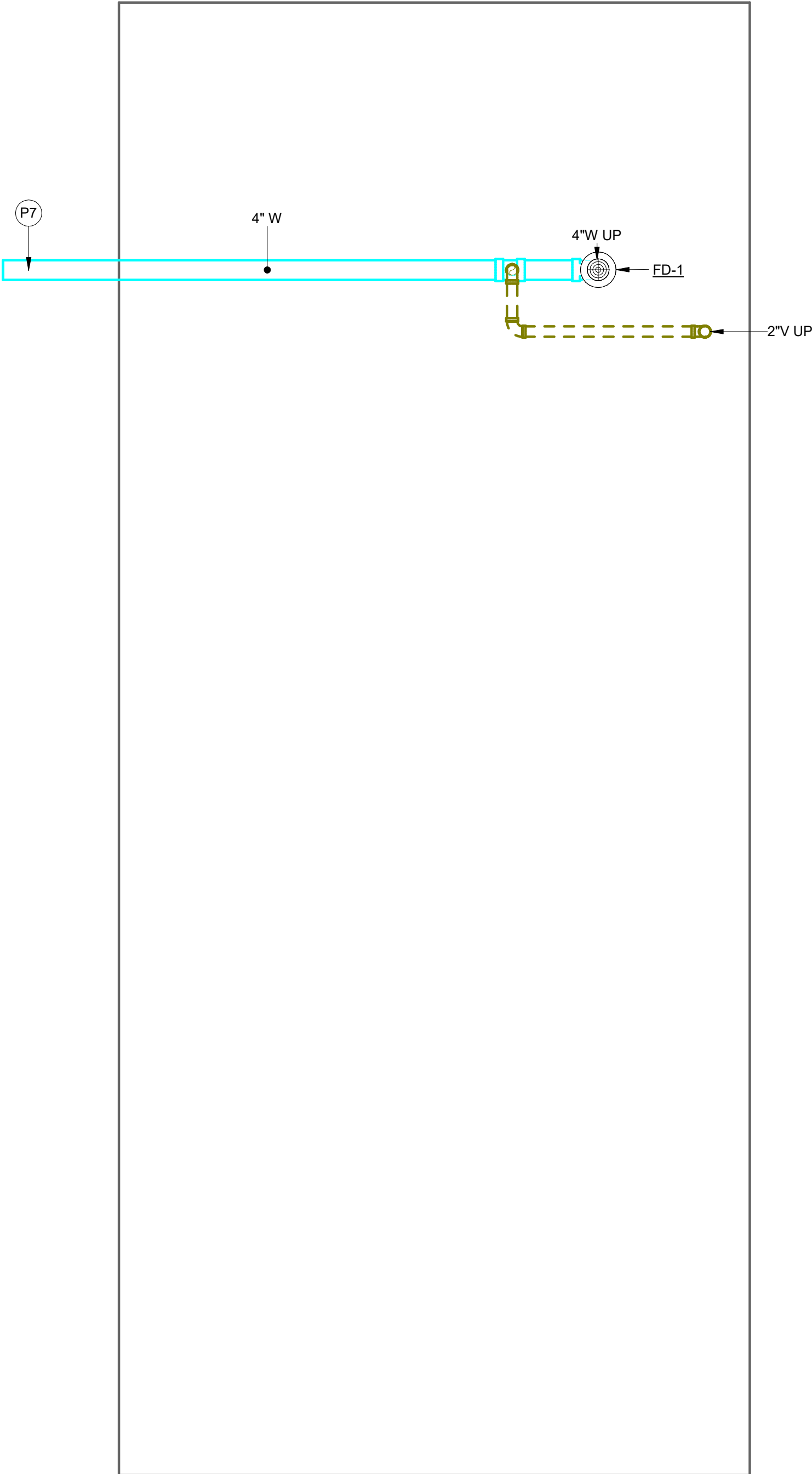
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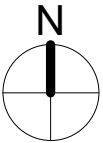




1 FOUNDATION SANITARY PLAN
1/2" = 1'-0"



KEYNOTE LEGEND	
P7	ROUTE 4" DRAIN TO 5' BEYOND BUILDING WALL. COORDINATE ELEVATION AND CONTINUATION WITH CIVIL DRAWINGS.



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PROJECT
CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

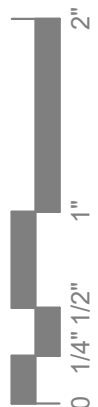
STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-06698
FILE NAME	
DRAWN BY	M.J.L
DESIGNED BY	M.J.L
REVIEWED BY	M.J.L
ORIGINAL ISSUE DATE	03/02/23
CLIENT PROJECT NO.	

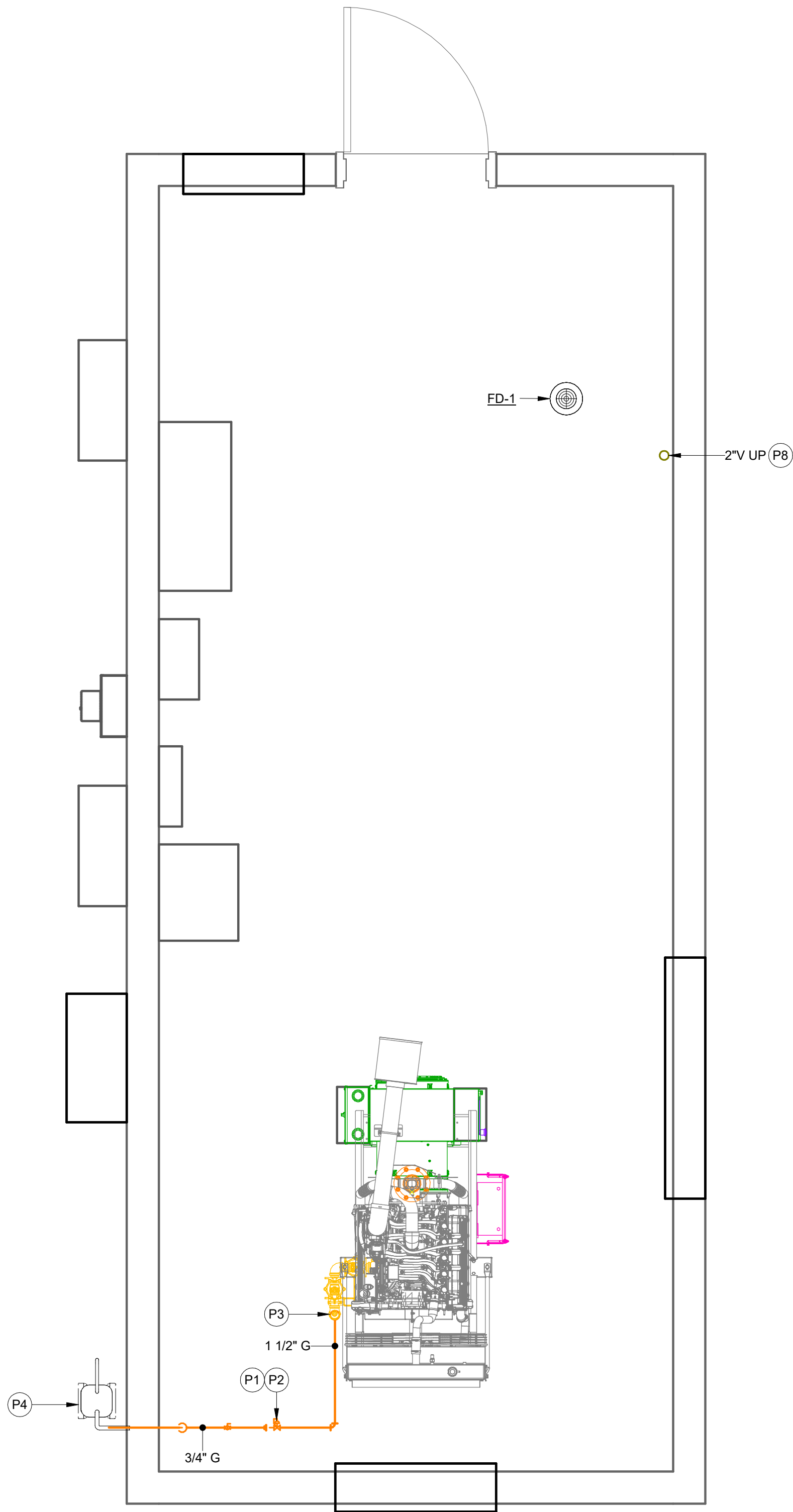
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**LOWER FLOOR
SANITARY
PLUMBING PLAN**

SHEET
P2-10

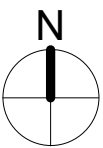


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1 FIRST FLOOR PLUMBING PLAN
1/2" = 1'-0"



KEYNOTE LEGEND	
P1	COORDINATE NATURAL GAS REGULATOR PRESSURE WITH GENERATOR REQUIREMENTS. SET AT 9 IN H2O FOR BASIS OF DESIGN GENERATOR.
P2	INSTALL REGULATOR, 4" DIRT LEG, AND SHUT-OFF VALVE ON GAS PIPING, SEE GAS PIPING DETAIL. VENT GAS REGULATOR TO OUTDOORS.
P3	CONNECT TO GENERATOR GAS SUPPLY.
P4	NEW GAS METER. TOTAL GAS LOAD OF 1000 CFM. PIPING SIZED FOR OUTLET PRESSURE FROM METER OF 2 PSI WITH 1 PSI PRESSURE DROP.
P8	TERMINATE ABOVE ROOF.



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PROJECT	
CITY OF STORM LAKE	
NEW PRODUCTION WELL NO. 21	
STORM LAKE	IOWA

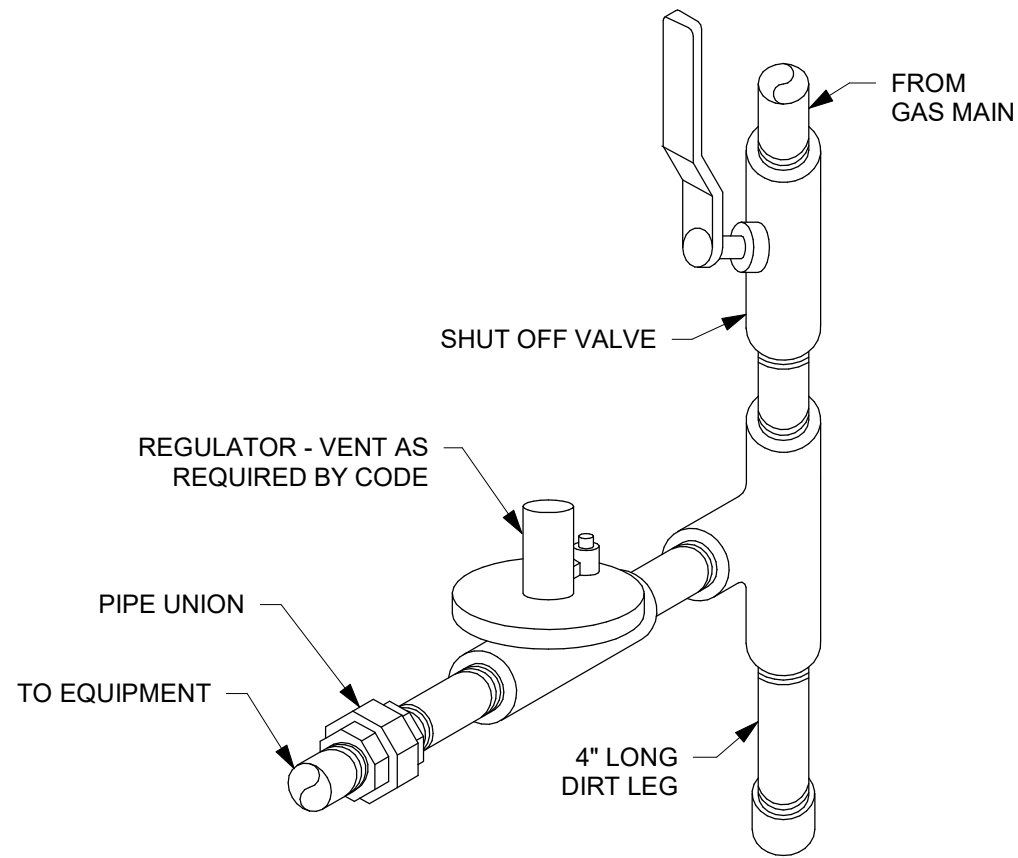
REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-06698
FILE NAME	
DRAWN BY	M.J.L.
DESIGNED BY	M.J.L.
REVIEWED BY	M.J.L.
ORIGINAL ISSUE DATE	03/02/23
CLIENT PROJECT NO.	

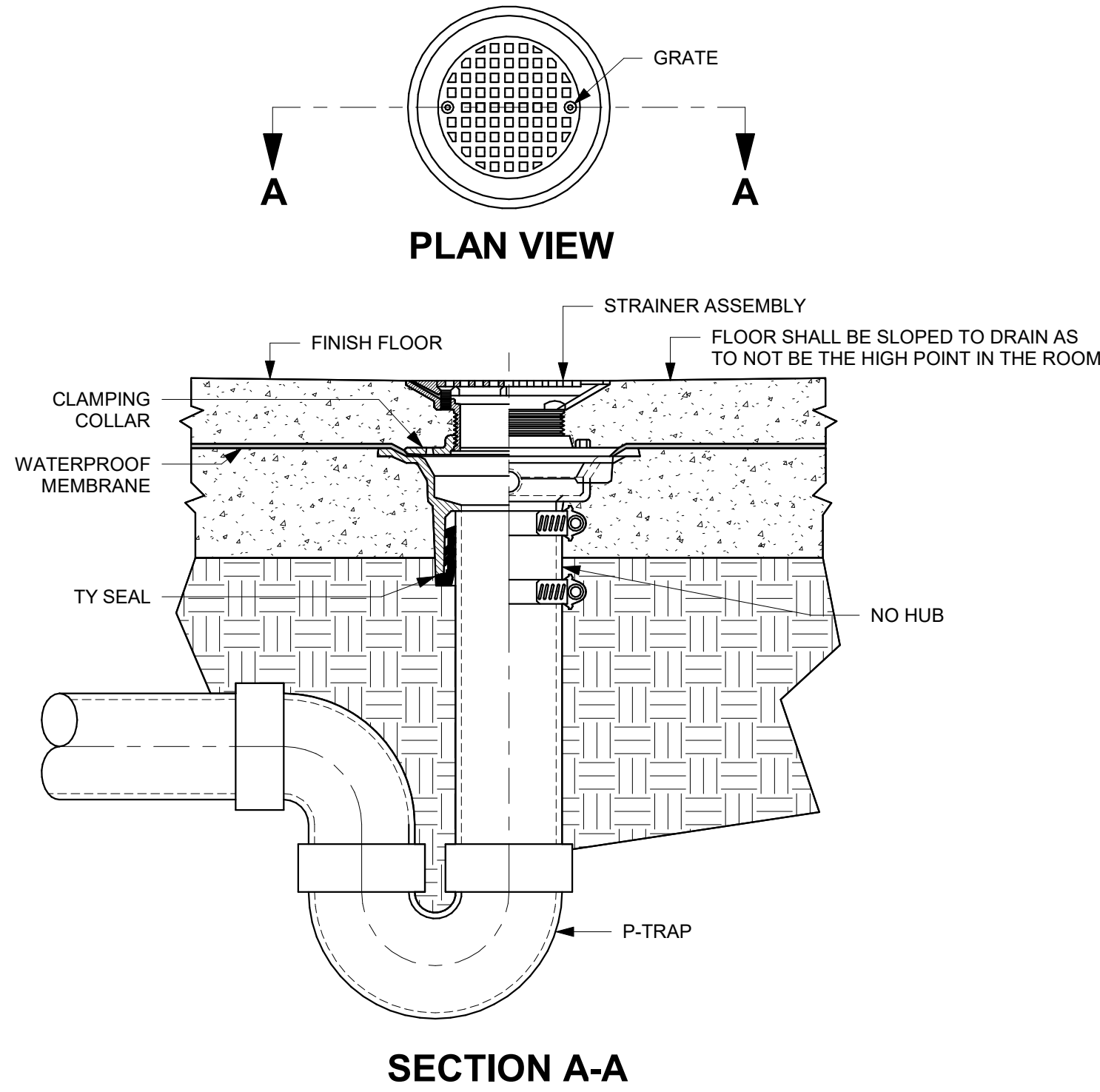
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FIRST FLOOR PLUMBING PLAN

SHEET
P2-21

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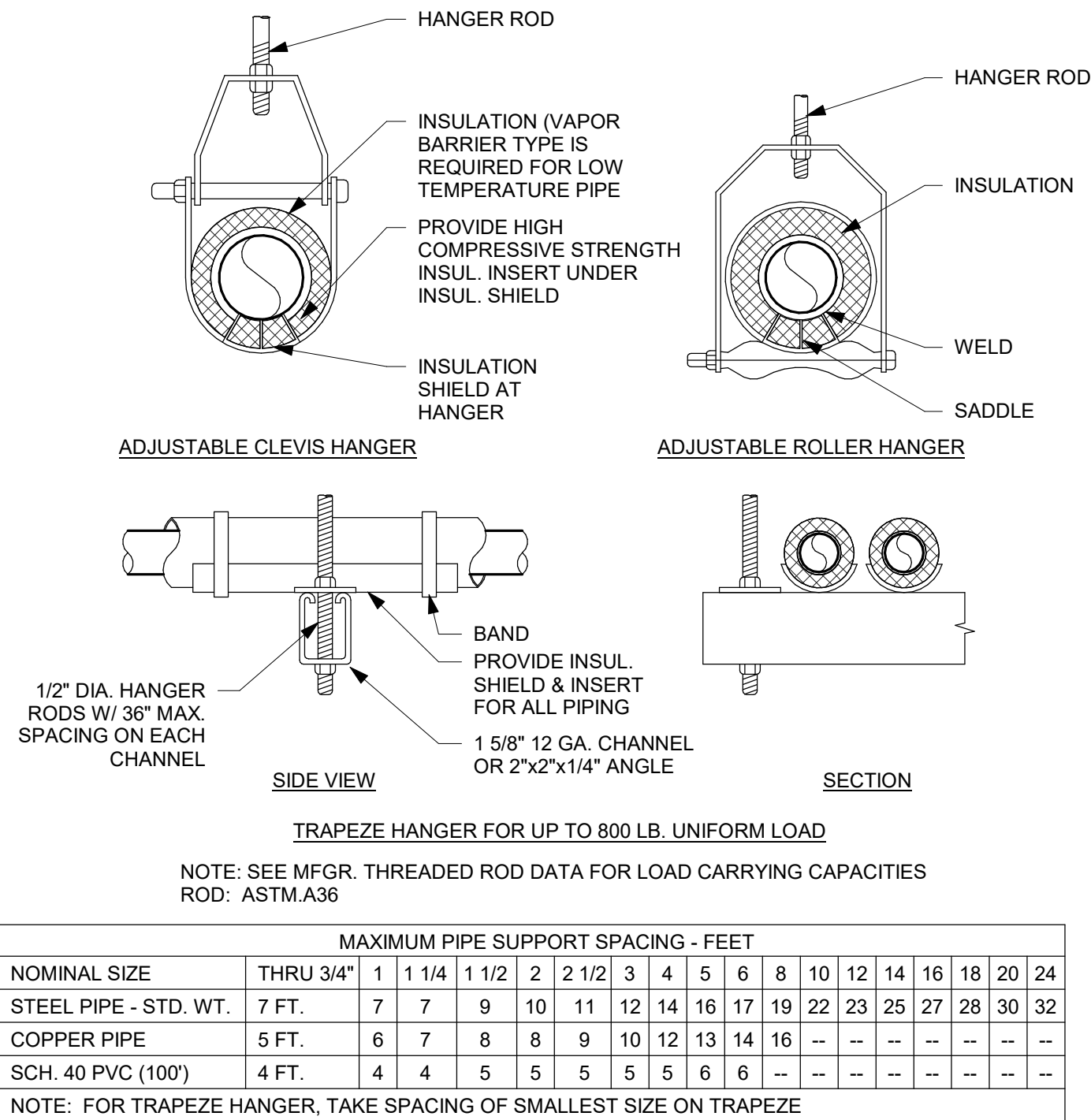


1 GAS REGULATOR DETAIL
1/8" = 1'-0"



2 TYPICAL FLOOR DRAIN DETAIL
1/8" = 1'-0"

PLUMBING SYMBOL SCHEDULE			
	BALL VALVE		W SANITARY WASTE
	BUTTERFLY VALVE		A COMPRESSED AIR PIPING
	GATE VALVE		G GAS
	GAS COCK		V VENT
	CHECK VALVE		DCW COLD WATER
	IN LINE PUMP		DHW HOT WATER
	STRAINER		DHWR HOT WATER RECIRC
	MANUAL FLOW CONTROL VALVE		FCO- FLOOR CLEANOUT
	UNION		WHTR- ELECTRIC WATER HEATER
	METER		FD- FLOOR DRAIN
	PIPING DROP		HB- HOSE BIBB
	INLINE PIPING DROP		LAV- LAVATORY
	PIPING RISE		MB- MOP BASIN
	PIPE CAP		RPBP- REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
	PIPE BREAK		SK- SINK
	WALL CLEANOUT/ END FERRULE CLEANOUT		UR- URINAL
	CONNECT TO EXISTING		VTR- VENT THROUGH ROOF
	THERMOMETER		WSB- WATER SUPPLY BOX
	CLEAN OUT		WC- WATER CLOSET
	FLOOR DRAIN		NFWH- FIRE CONNECTION / WALL HYDRANT
	FLOOR SINK		WCO- WALL CLEANOUT
	WALL HYDRANT/ HOSE BIBB		A.F.F. ABOVE FINISHED FLOOR
	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER		



3 PIPE SUPPORT
1/8" = 1'-0"

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PROJECT

CITY OF STORM LAKE

NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-06698

FILE NAME

DRAWN BY M.J.L.

DESIGNED BY M.J.L.

REVIEWED BY M.J.L.

ORIGINAL ISSUE DATE 03/23

CLIENT PROJECT NO.

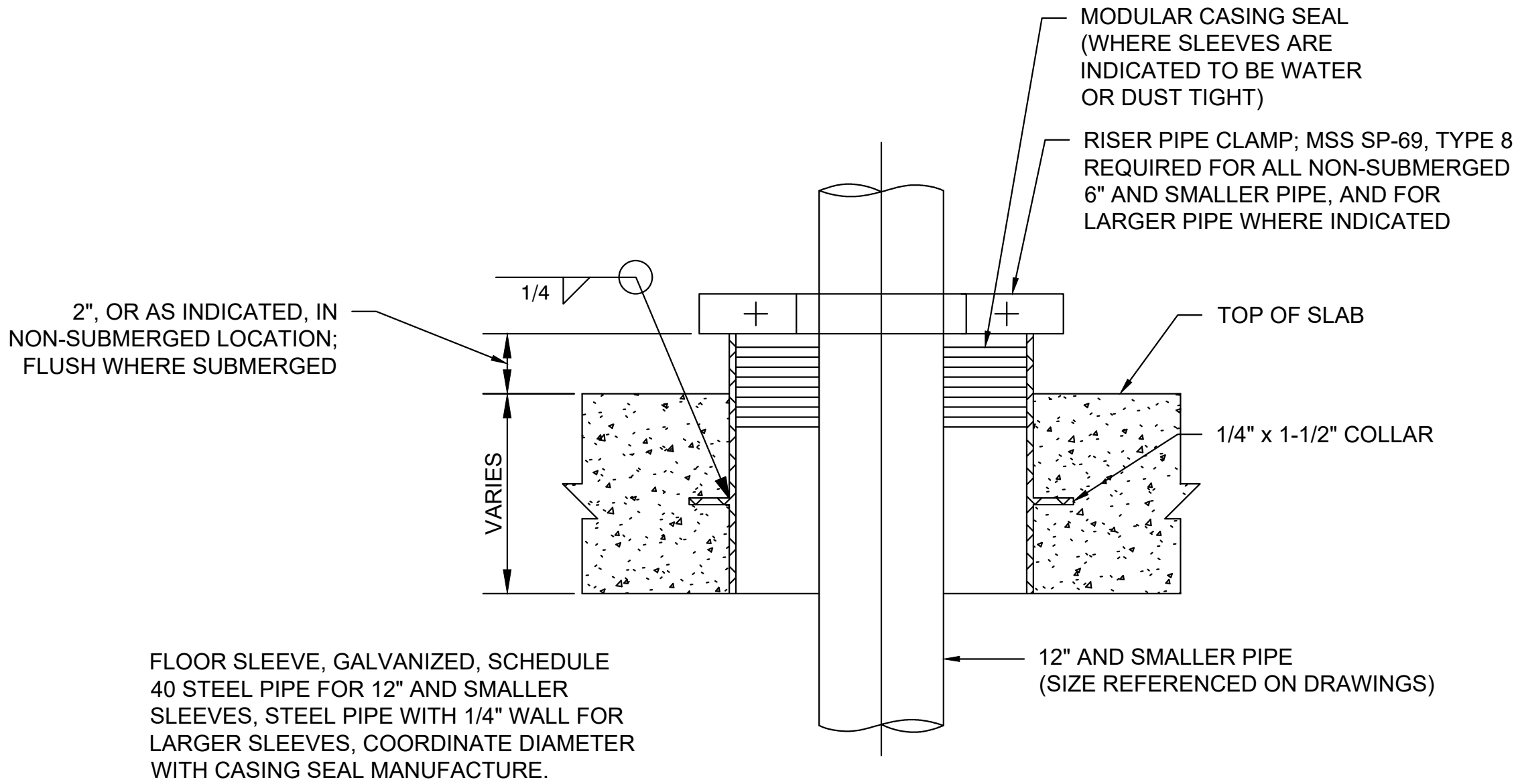
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PLUMBING DETAILS

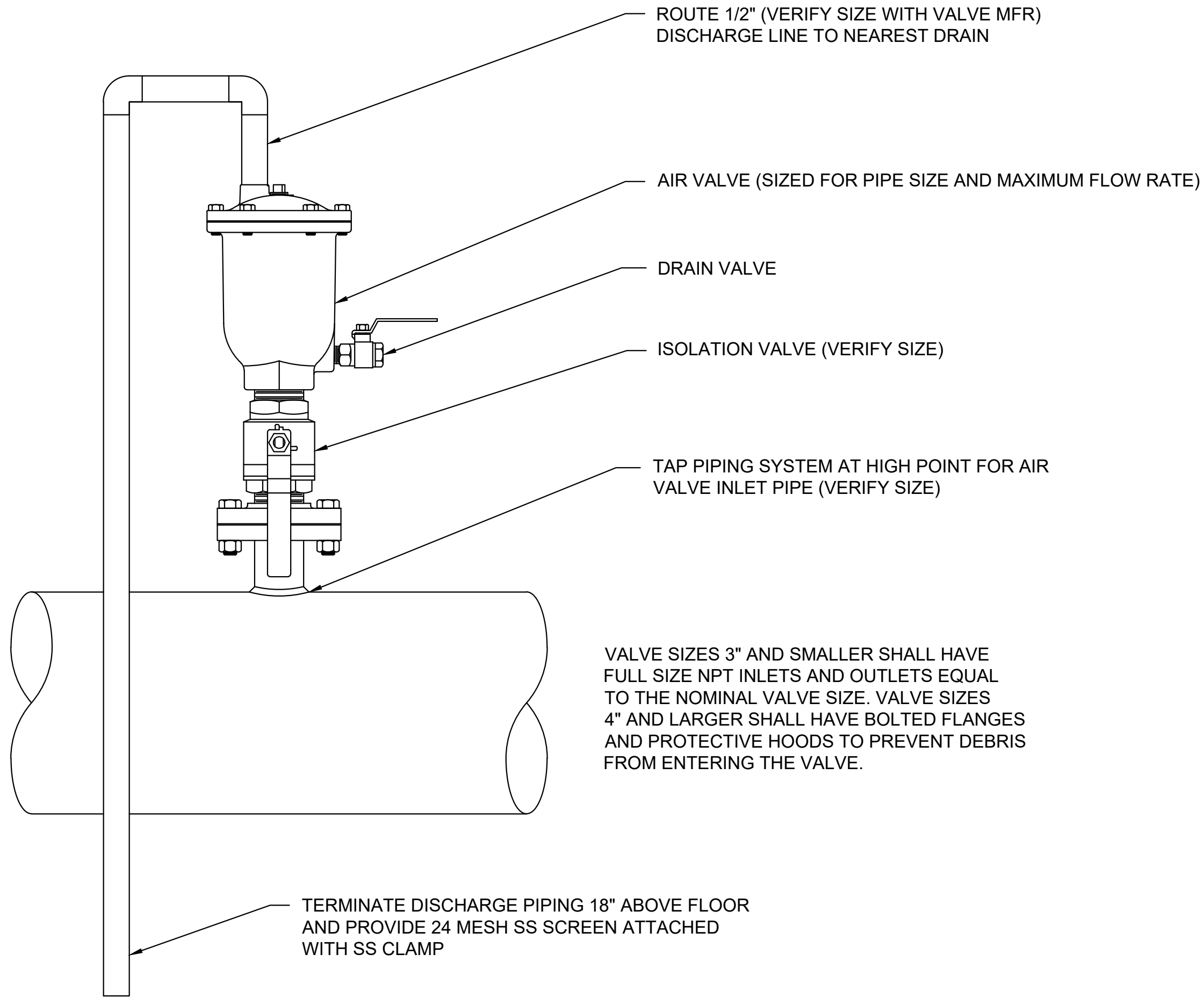
SHEET

P5-11

S:\PROJECTS\26000 PROJ\26600-26699\26698 CITY OF STORM LAKE WELL NO 21-STORM LAKE IA\26698 PLANT PROJECT\26698 STORM LAKE PRODUCTION WELL 21\ORTHOS\DWGS\26698 DETAILS.DWG



1 FLOOR SLEEVE WITH SEAL-DETAIL
SCALE: NOT TO SCALE



2 AIR RELEASE VALVE DETAIL
SCALE: NOT TO SCALE



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PROJECT

CITY OF STORM
LAKE

NEW PRODUCTION
WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 DETAILS
DRAWN BY	BLF
DESIGNED BY	ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/2023
CLIENT PROJECT NO.	----

TITLE

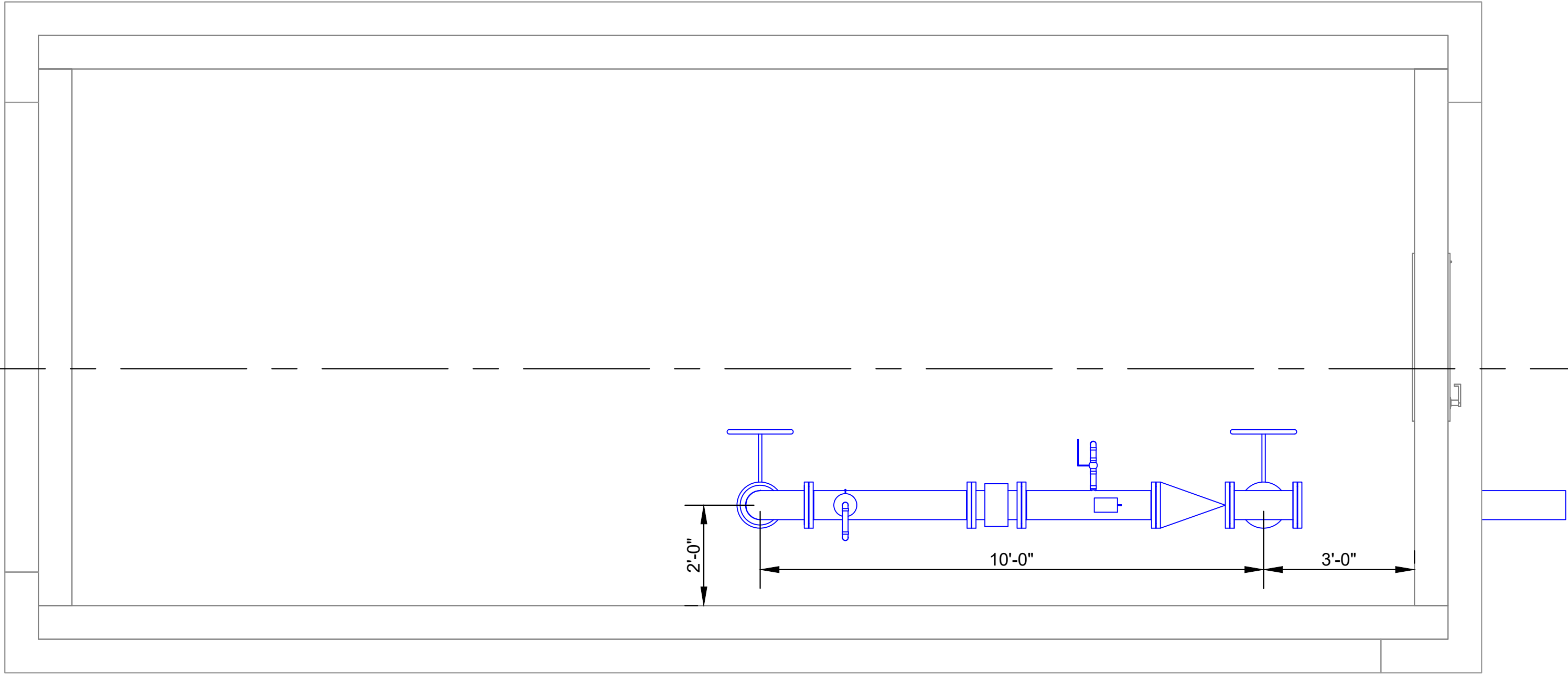
DETAILS

SHEET

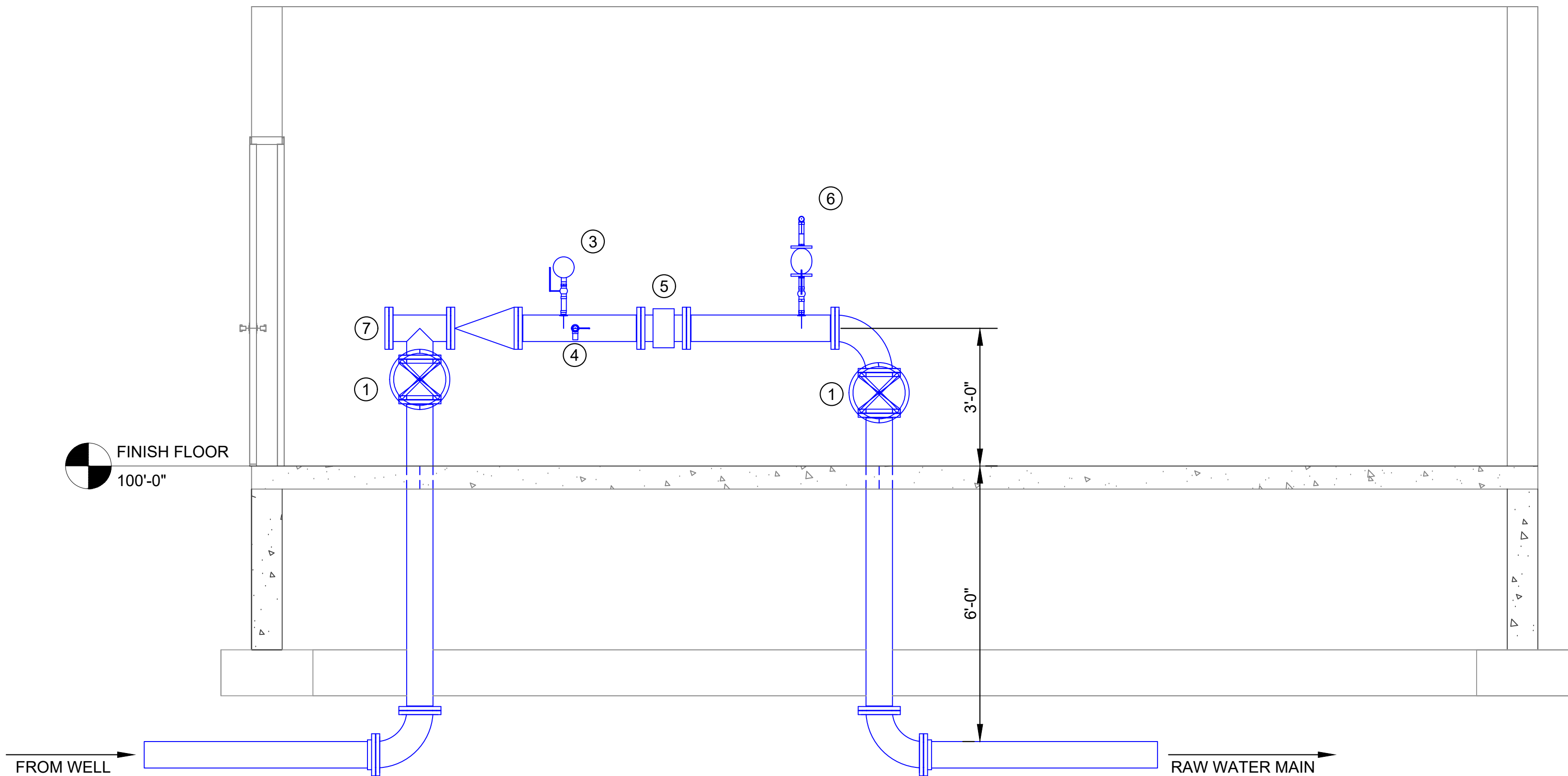
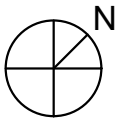
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S:\PROJECTS\26000 PROJ\26600-26699\26698 CITY OF STORM LAKE WELL NO 21-STORM LAKE IA\26698 PLANT PROJECT\26698 STORM LAKE PRODUCTION WELL 21\ORTHOS\DWGS\26698 PROCESS NEW.DWG

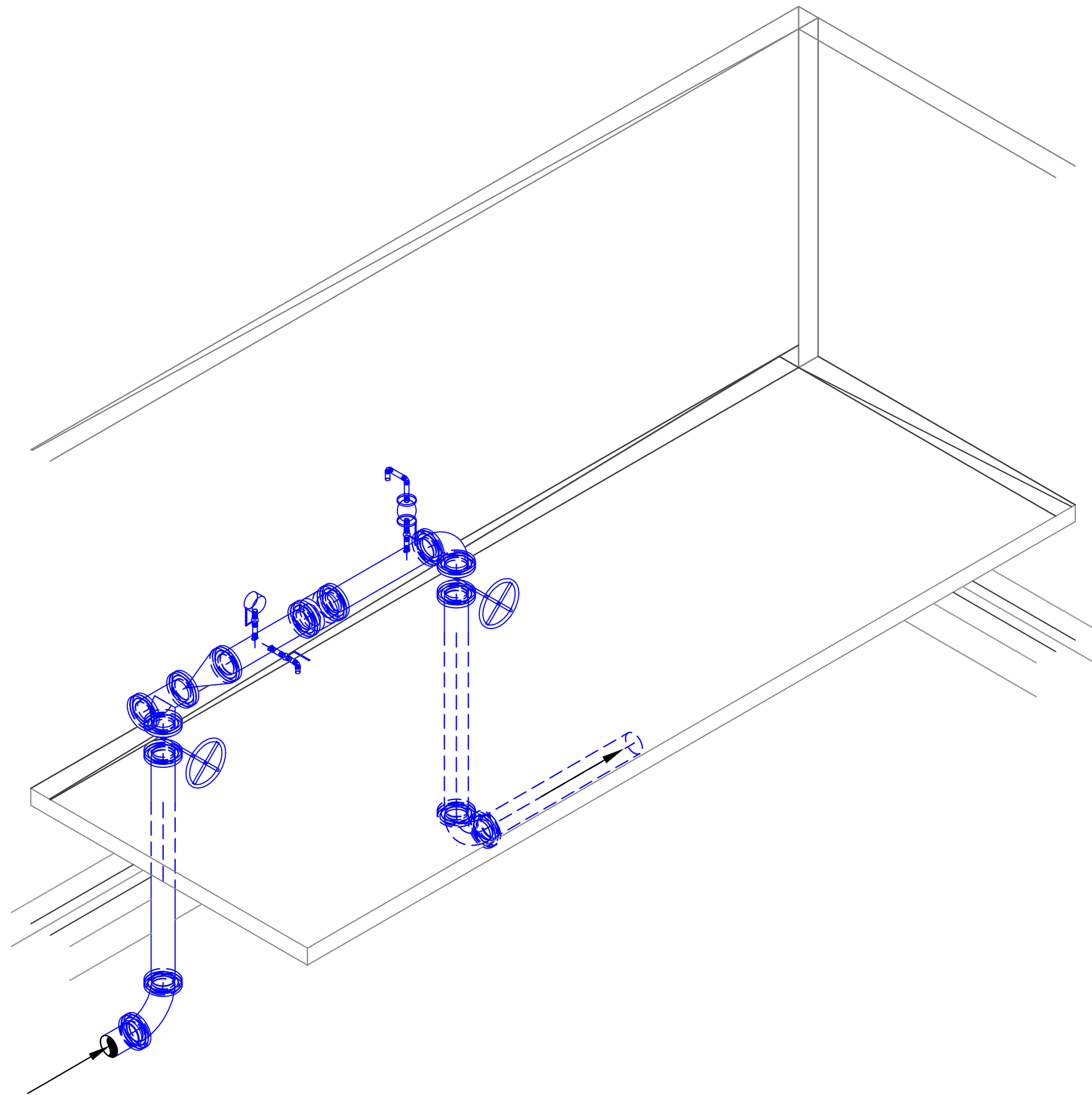
2
PP5-30



1 PROCESS PIPING - PLAN VIEW
SCALE: 1/2" = 1'-0"



2 PROCESS PIPING - SECTION VIEW
SCALE: 1/2" = 1'-0"



3 PROCESS PIPING - ISO VIEW
SCALE: 3/8" = 1'-0"

KEYNOTE LEGEND

1.	6" GATE VALVE
2.	6" CHECK VALVE
3.	PRESSURE INDICATOR
4.	SAMPLE TAP
5.	MAGNETIC FLOW METER. PROVIDE A MINIMUM OF 5 DIAMETERS OF UNOBSTRUCTED LENGTH UPSTREAM AND 2 PIPE DIAMETERS OF UNOBSTRUCTED LENGTH DOWNSTREAM OF FLOW METER.
6.	COMBINATION AIR RELIEF VALVE, 1"
7.	6" BLIND FLANGE, FOR EMERGENCY PUMP BYPASS CONNECTION



NOTE:
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COLOR COPIES. IF THIS TEXT DOES NOT APPEAR IN
COLOR, THIS IS NOT AN ORIGINAL PLAN SET AND MAY
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PROJECT

CITY OF STORM
LAKE

NEW PRODUCTION
WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-26698
FILE NAME	26698 PROCESS NEW
DRAWN BY	BLF
DESIGNED BY	ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/2023
CLIENT PROJECT NO.	----

TITLE

PROCESS PIPING
SECTION

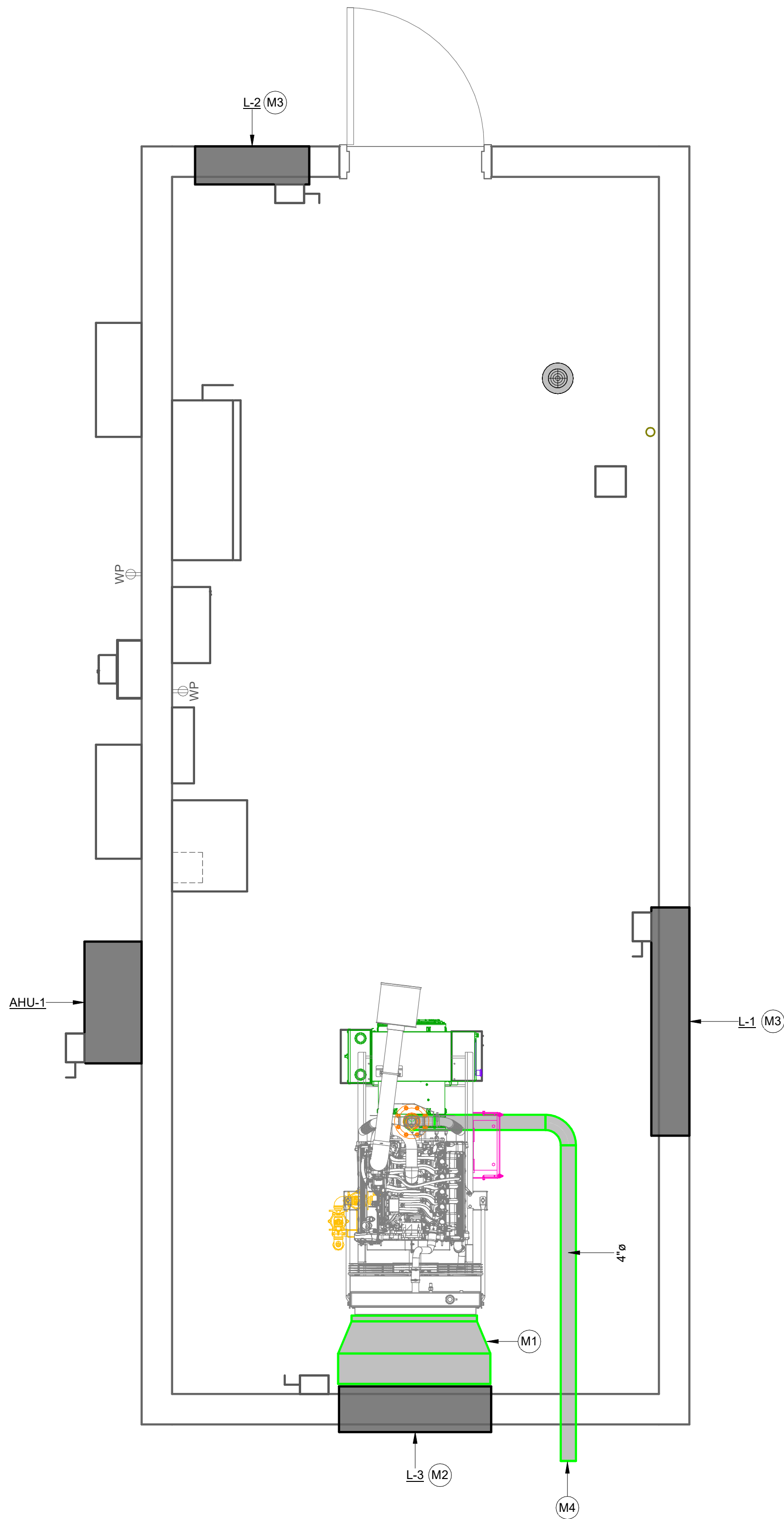
SHEET

PP5-30

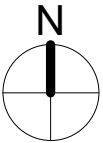


3/2/2023 8:31:33 AM

1 FIRST FLOOR HVAC PLAN
1/2" = 1'-0"



KEYNOTE LEGEND	
M1	CONNECT RADIATOR FLANGE TO LOUVER WITH GALVANIZED STEEL DUCT.
M2	COORDINATE MOUNTING HEIGHT WITH GENERATOR.
M3	MOUNT BOTTOM OF LOUVER 2' ABOVE FINISHED FLOOR.
M4	TERMINATE EXHAUST DUCT WITH VENDOR-APPROVED VENT CAP.



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PROJECT
CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

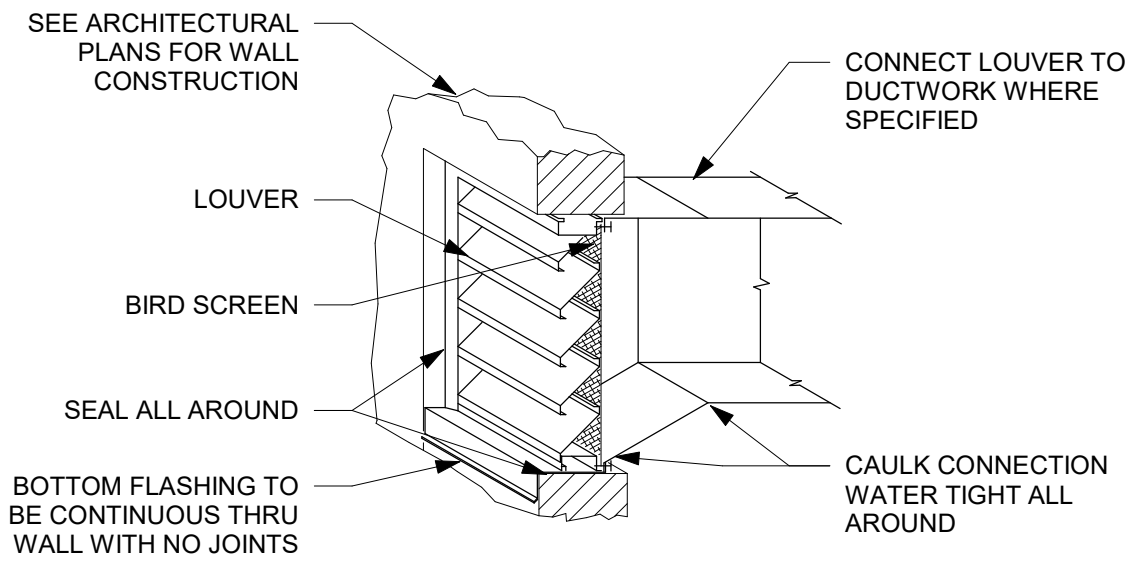
PROJECT NO.	22-06698
FILE NAME	
DRAWN BY	MJL
DESIGNED BY	MJL
REVIEWED BY	MJL
ORIGINAL ISSUE DATE	03/02/23
CLIENT PROJECT NO.	

TITLE
FIRST FLOOR HVAC PLAN

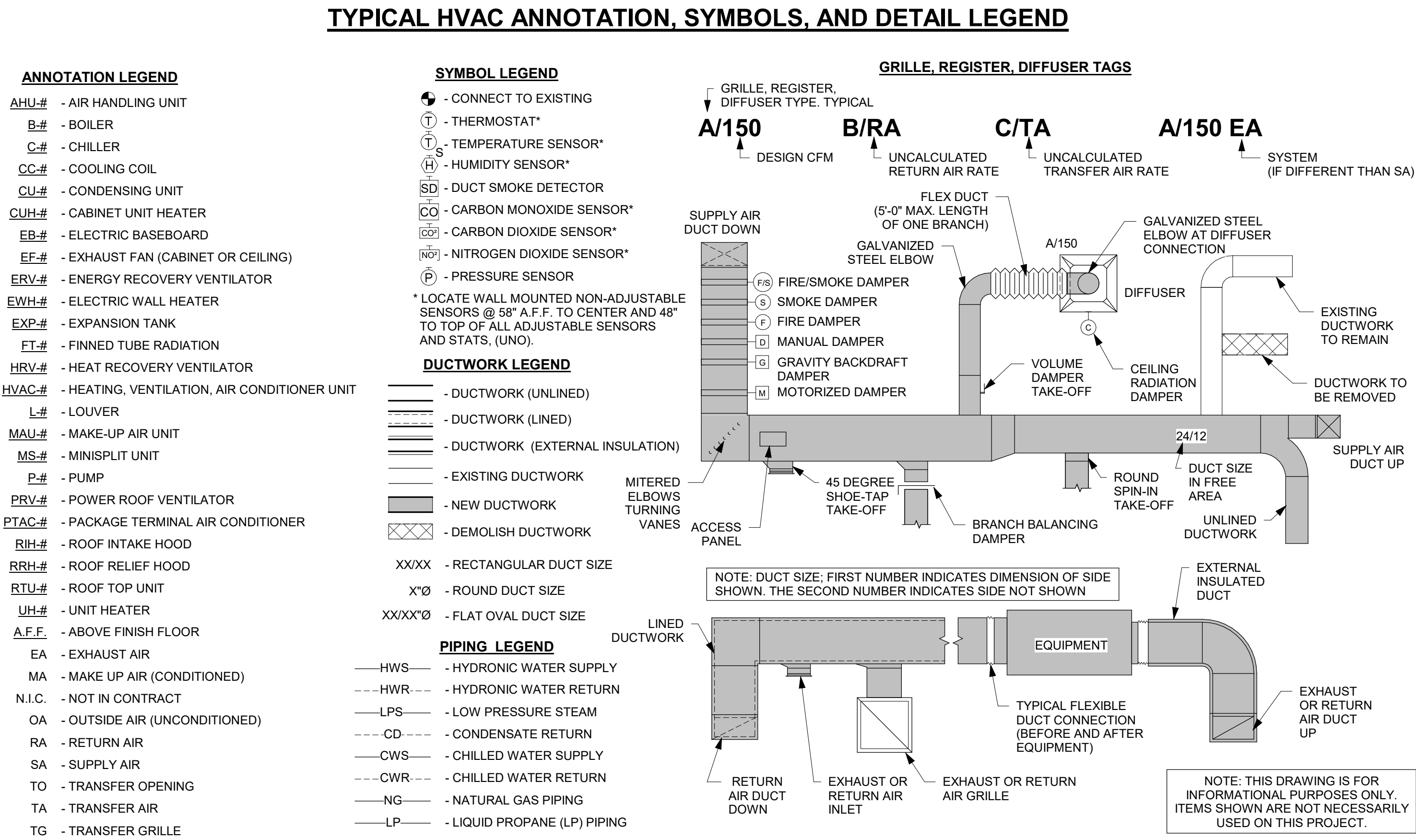
SHEET
M2-11

PRELIMINARY NOT FOR CONSTRUCTION

2 LOUVER DETAIL
1/8" = 1'-0"



1 Typical HVAC Symbols and Details
1/8" = 1'-0"



AIR HANDLING UNIT SCHEDULE														
MARK	MFG	MODEL	WEIGHT (LBS)	EER	SUPPLY AIR		HEATING		COOLING		ELECTRICAL			COMMENTS
					CFM	ESP	TYPE	LOAD (KW)	TYPE	LOAD (Btuh)	VOLT/PH	FLA	BLOWER HP	
AHU-1	BARD	W12AB-A05EPXXE	500	11	425	1	ELECTRIC	5	DX	13,000	208/1	28	1/8	1,2,3,4,5,6
NOTES:														
1 INSTALL UNIT AS SHOWN AND AS PER MANUFACTURER'S INSTRUCTIONS														
2 PROVIDE UNIT WITH FACTORY-MOUNTED DISCONNECT AND SINGLE ELECTRICAL CONNECTION														
3 DIMENSIONS ARE APPROXIMATE, CHECK SUBMITTAL DRAWINGS FOR EXACT DIMENSIONS														
4 SUPPLY UNIT WITH SUPPLY AND RETURN DIFFUSERS AND DUCTWORK AS NECESSARY														
5 UNIT SHALL BE EQUIPPED WITH ENTHALPY ECONOMIZER														
6 PROVIDE WITH PROGRAMMABLE THERMOSTAT														

LOUVER SCHEDULE					
MARK	MFG	MODEL	SIZE	CFM	COMMENTS
L-1	RUSKIN	ELF6375DX	60"x60"	10,600	1,2,3,4
L-2	RUSKIN	ELF6375DX	30"x60"	5,300	1,2,3,4
L-3	RUSKIN	ELF6375DX	48"x48"	10,715	1,2,5
NOTES: 1. INSTALL UNIT AS SHOWN AND AS PER MANUFACTURER'S INSTRUCTIONS. 2. PROVIDE UNIT WITH BIRD SCREEN. 3. PROVIDE UNIT WITH LOW LEAKAGE MOTORIZED DAMPER. DAMPER TO BE FAIL OPEN. 4. DAMPER TO BE INTERLOCKED WITH GENERATOR. DAMPER TO OPEN WHEN GENERATOR TURNS ON. 5. PROVIDE WITH LOW LEAKAGE GRAVITY EXHAUST DAMPER.					

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PROJECT
CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

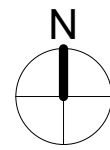
REVISION SCHEDULE		
DATE	DESCRIPTION	BY

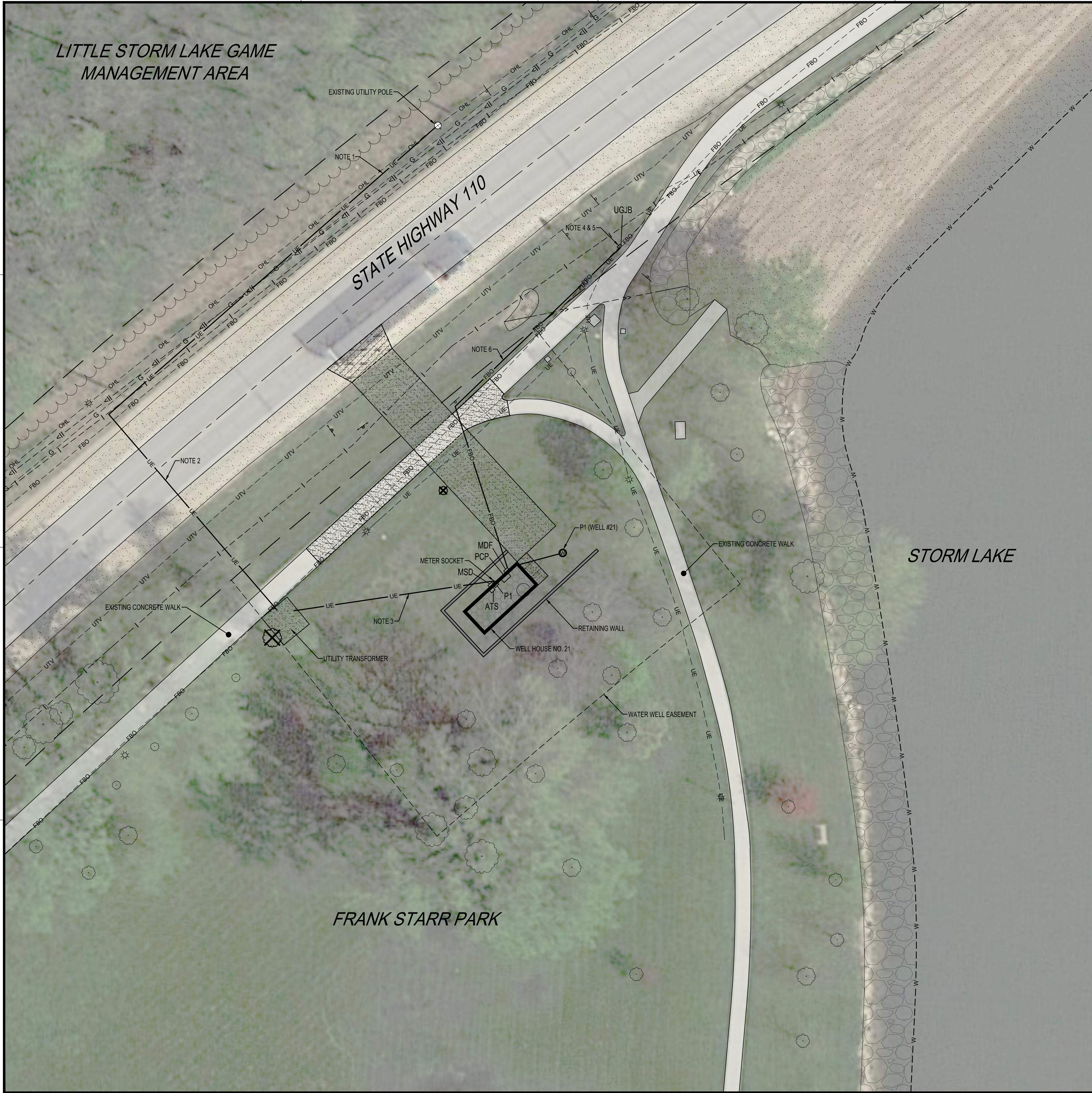
PROJECT NO. 22-26698
FILE NAME
DRAWN BY MJL
DESIGNED BY MJL
REVIEWED BY MJL
ORIGINAL ISSUE DATE 03/03/23
CLIENT PROJECT NO.

TITLE
HVAC DETAILS AND SCHEDULES

SHEET
M5-11

PRELIMINARY NOT FOR CONSTRUCTION





LITTLE STORM LAKE GAME
MANAGEMENT AREA

STATE HIGHWAY 110

STORM LAKE

FRANK STARR PARK

- SHEET NOTES:
- A) ALL PROPOSED UNDERGROUND ELECTRIC LINES SHOWN ARE DIAGRAMMATICAL. CONTRACTOR RESPONSIBLE FOR DETERMINING BEST ROUTE.
 - B) CONTRACTORS CHOICE TO UTILIZE DIRECTIONAL BORING OR TRENCHING FOR UNDERGROUND UTILITIES SHOWN UNLESS NOTED OTHERWISE. WHERE TRENCHING IS UTILIZED AND CROSSING CONCRETE; CONCRETE AREA SHALL BE SAW CUT AND REMOVED. NEW CONCRETE SHALL BE INSTALLED MATCHING EXISTING.
 - C) REBNORD TECHNOLOGIES SHALL BE UTILIZED TO PROVIDE ALL NETWORK MEDIA AND NETWORK EQUIPMENT REQUIRED TO EXTEND EXISTING OWNER FIBER OPTIC NETWORK TO WELL #21 BUILDING. ALL COSTS ASSOCIATED WITH FIBER OPTIC MATERIALS AND INSTALLATION FROM REBNORD TECHNOLOGIES SHALL BE INCLUDED IN CONTRACTORS BID. REBNORD TECHNOLOGIES CONTACT: TIM REBNORD OR JASON KNAPTON 1044 W. MILWAUKEE, STORM LAKE, IA 50588, 712-732-6449.
- PLAN NOTES:
- 1) PROPOSED UNDERGROUND ELECTRIC FROM UTILITY POLE TO UTILITY TRANSFORMER (REFER TO ONE LINE DIAGRAM). COORDINATE POLE LOCATION WITH UTILITY AS THEY MAY USE EXISTING POLE OR INSTALL NEW.
 - 2) CONTRACTOR SHALL UTILIZE DIRECTIONAL BORE OR JACK AND BORE UNDERNEATH HIGHWAY AS ALLOWED BY THE IOWA DEPARTMENT OF TRANSPORTATION. CONTRACTOR RESPONSIBLE FOR ALL PERMITS REQUIRED TO CROSS HIGHWAY. DIRECTIONAL BORING SHALL BE UTILIZED BETWEEN HIGHWAY AND UTILITY TRANSFORMER.
 - 3) PROPOSED UNDERGROUND ELECTRIC FROM UTILITY TRANSFORMER TO WELL HOUSE NO. 21 (REFER TO ONE LINE DIAGRAM).
 - 4) FIELD VERIFY EXISTING CONDITIONS AND EXISTING OWNER FIBER OPTIC CABLE LOCATION. EXISTING DEPTH IS ESTIMATED BETWEEN 24-30 INCHES. F&I UNDERGROUND JUNCTION BOX OVER EXISTING FIBER OPTIC CONDUIT EXPOSING EXISTING CONDUIT FOR SPLICING. COORDINATE AND SIZE JUNCTION BOX AS REQUIRED BY REBNORD TECHNOLOGIES IN ORDER TO SPLICE FIBER OPTIC CABLE. (REFER TO NOTE 5).
 - 5) SPLICE EXISTING OWNER FIBER OPTIC CABLES AT UGJB TO SERVE MDF. UTILIZE REBNORD TECHNOLOGIES.
 - 6) PROPOSED UNDERGROUND FIBER OPTIC FROM UNDERGROUND JUNCTION BOX (UGJB) TO MDF AT WELL #21 BUILDING. REFER TO NETWORK ONE LINE DIAGRAM. ROUTE UNDERGROUND LINE WITHIN EASEMENTS.



NOTE:
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PROJECT

**CITY OF
STORM LAKE**

**NEW PRODUCTION
WELL NO. 21**

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

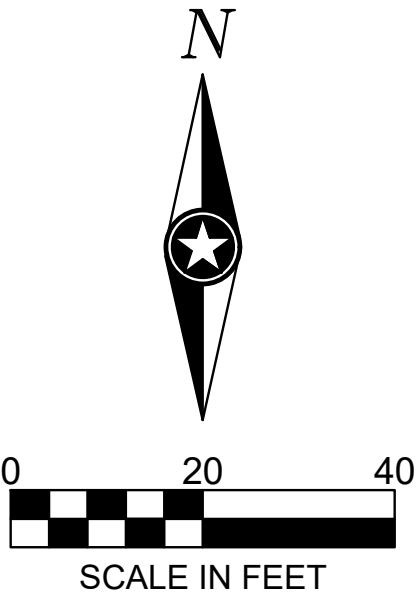
PROJECT NO.	22-26698
FILE NAME	26698 E2-SITE PLAN
DRAWN BY	GRJ
DESIGNED BY	GRJ, ALG
REVIEWED BY	ALG
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	-

TITLE

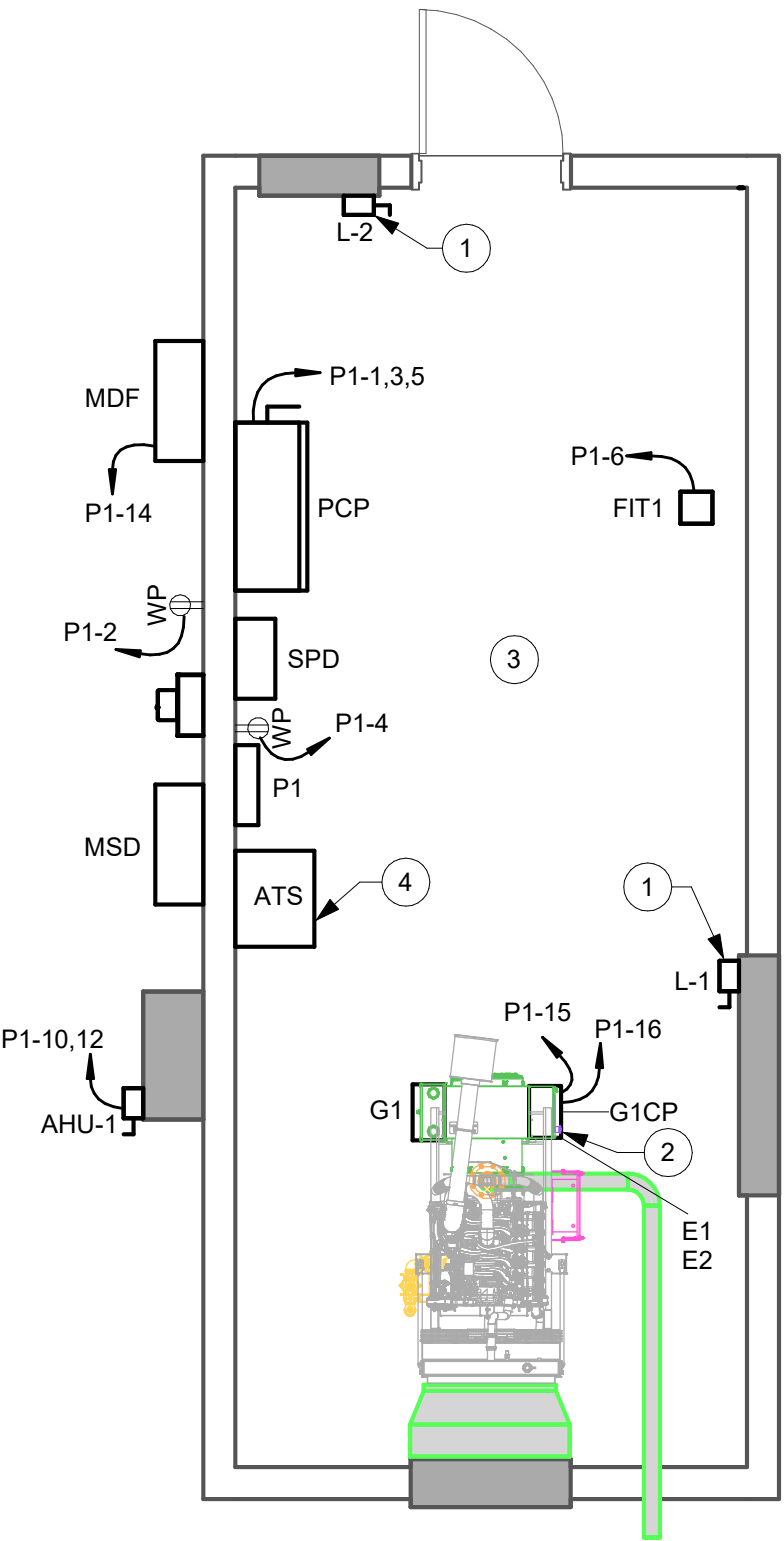
**ELECTRICAL AND
CONTROL SITE
PLAN**

SHEET

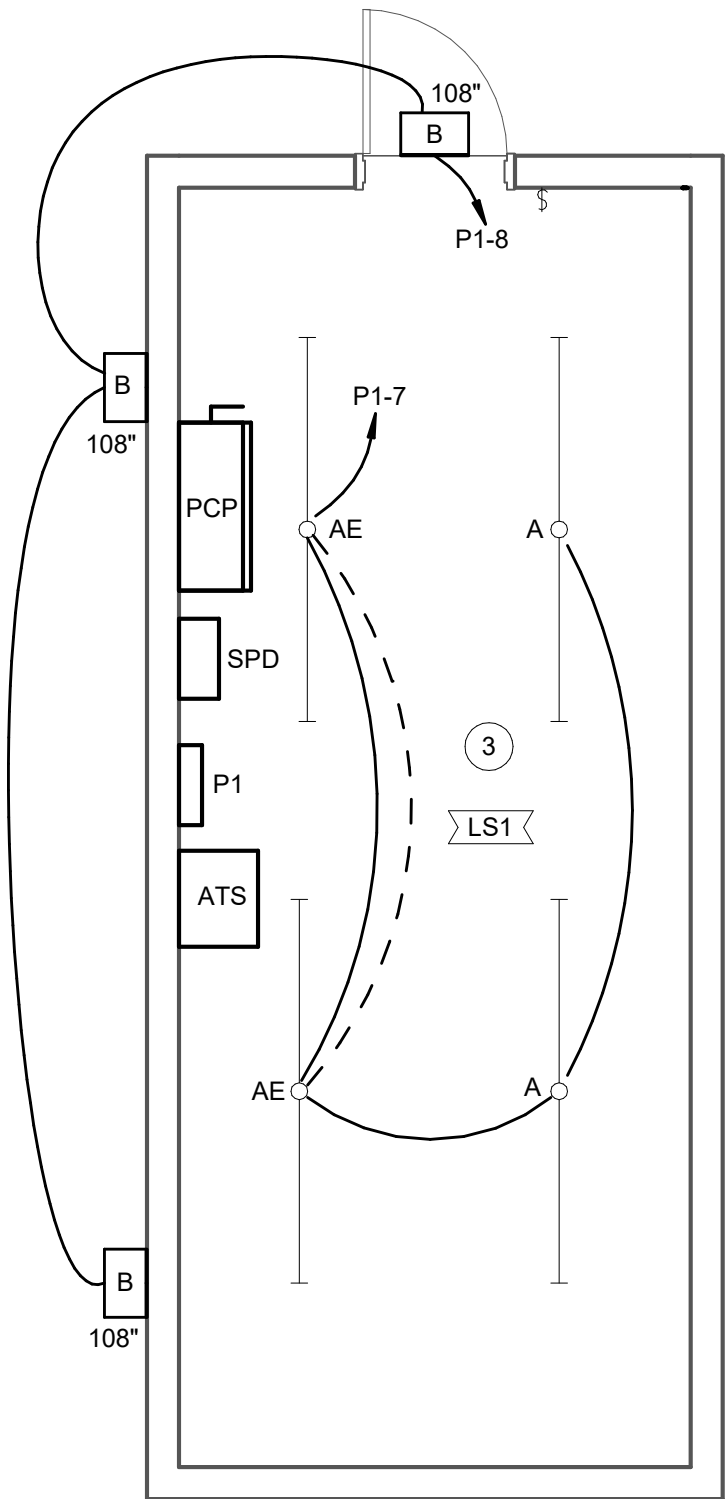
E2-00



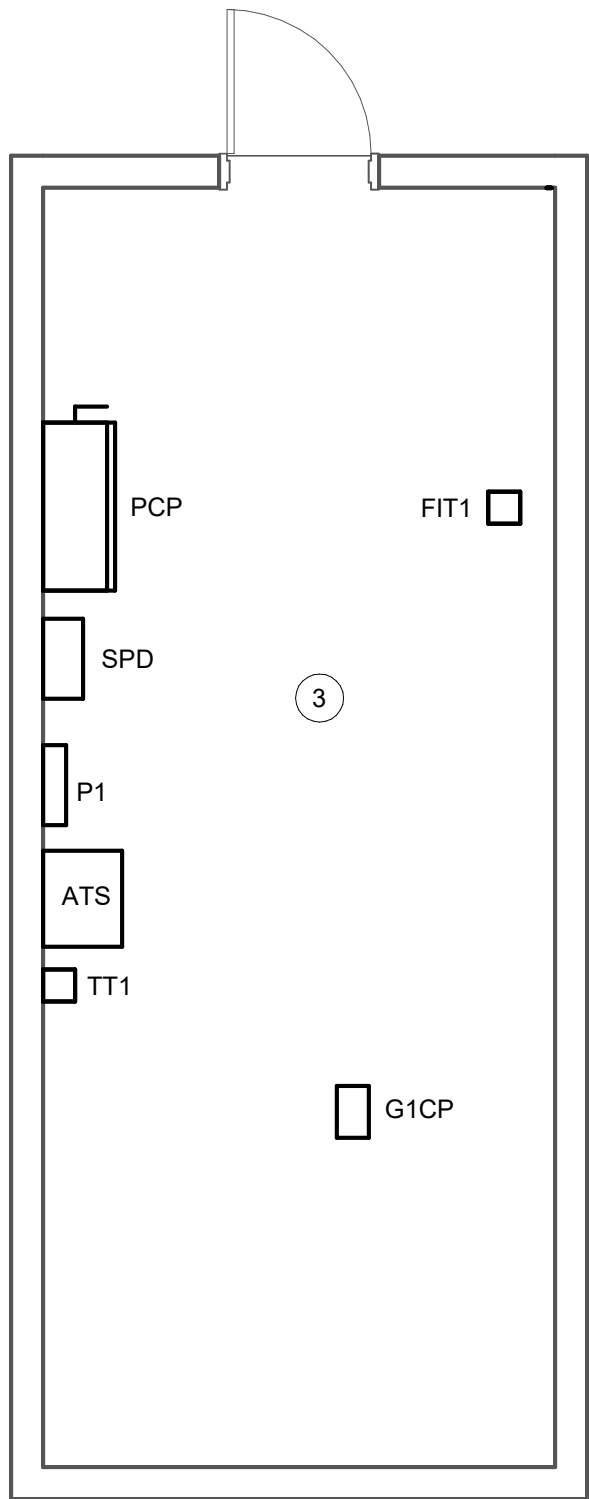
PRELIMINARY NOT FOR CONSTRUCTION



1 POWER PLAN
1/4" = 1'-0"



2 LIGHTING PLAN
1/4" = 1'-0"



3 CONTROL PLAN
1/4" = 1'-0"

SHEET NOTES

1. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE COMPATIBLE LIGHTING CONTROL DEVICES ARE SUPPLIED WITH LIGHTING PACKAGE.
2. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.
3. ALL LIGHTING SHALL COMPLY WITH LOCAL AND STATE ENERGY CODES.
4. PROVIDE UNSWITCHED HOT TO ALL EXIT AND EMERGENCY LIGHT FIXTURES.
5. INSTALL RECEPTACLES 46" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.

ELECTRICAL KEYNOTE LEGEND

KEY	KEYNOTE TEXT
1	INTERLOCK LOUVER WITH G1 GENERATOR AS RECOMMENDED BY GENERATOR MANUFACTURER. F&I ALL NECESSARY ELECTRICAL EQUIPMENT, CONTROLS, AND CONDUCTORS IN CONDUIT TO MAKE A COMPLETE WORKING SYSTEM.
2	REMOTE MOUNT GENERATOR BATTERY CHARGER AS REQUIRED. F&I ALL NECESSARY CONDUCTORS IN CONDUIT TO MAKE A COMPLETE WORKING SYSTEM.
3	SPACE IS CONSIDERED A DAMP LOCATION.
4	F&I 1" CONDUIT TO GENERATOR FOR START/STOP SIGNAL. F&I CONDUCTORS AND WIRE DEVICES PER MANUFACTURERS DIRECTION.



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PROJECT
CITY OF STORM LAKE
NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

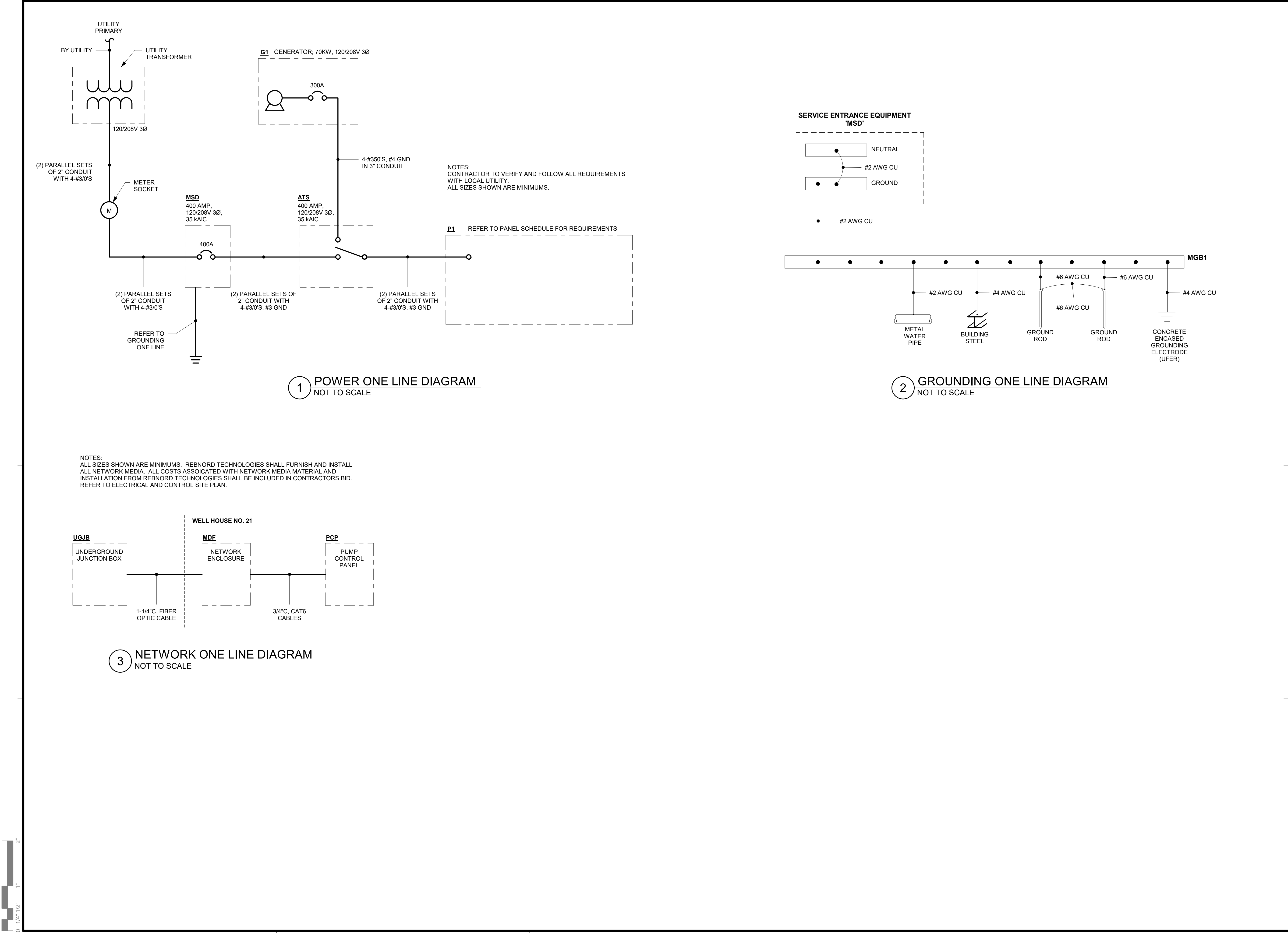
PROJECT NO.	23-26698
FILE NAME	26698 Elec R22
DRAWN BY	CRI
DESIGNED BY	CRI
REVIEWED BY	RDS
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	

TITLE
POWER, LIGHTING, AND CONTROL PLANS

SHEET
E2-11

PRELIMINARY NOT FOR CONSTRUCTION



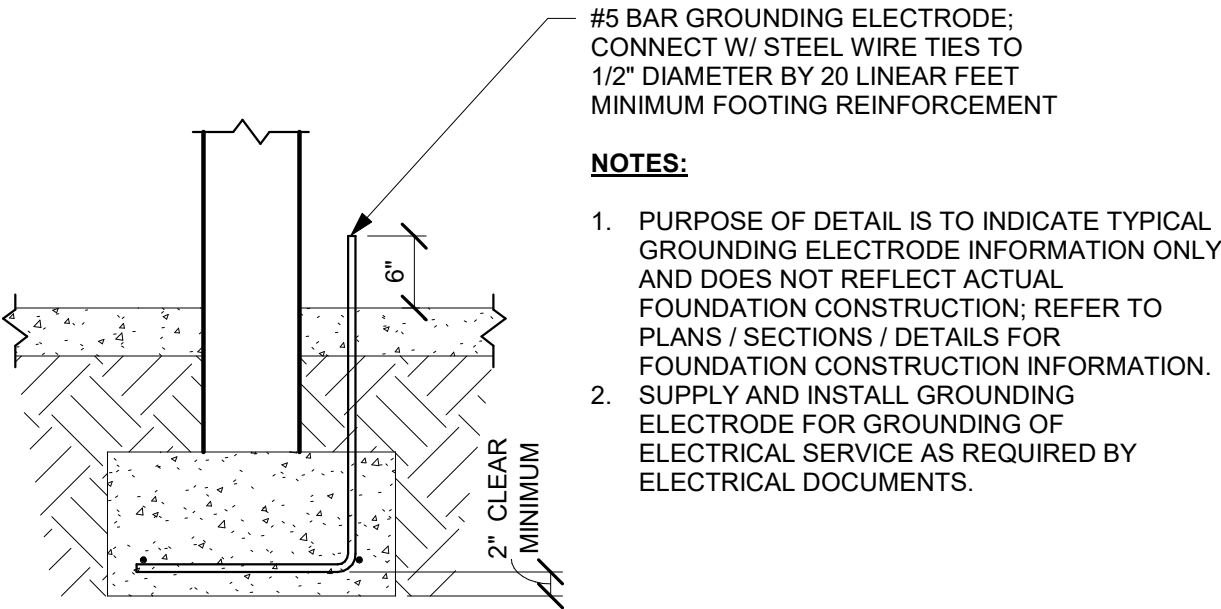


ELECTRICAL SYMBOLS LEGEND

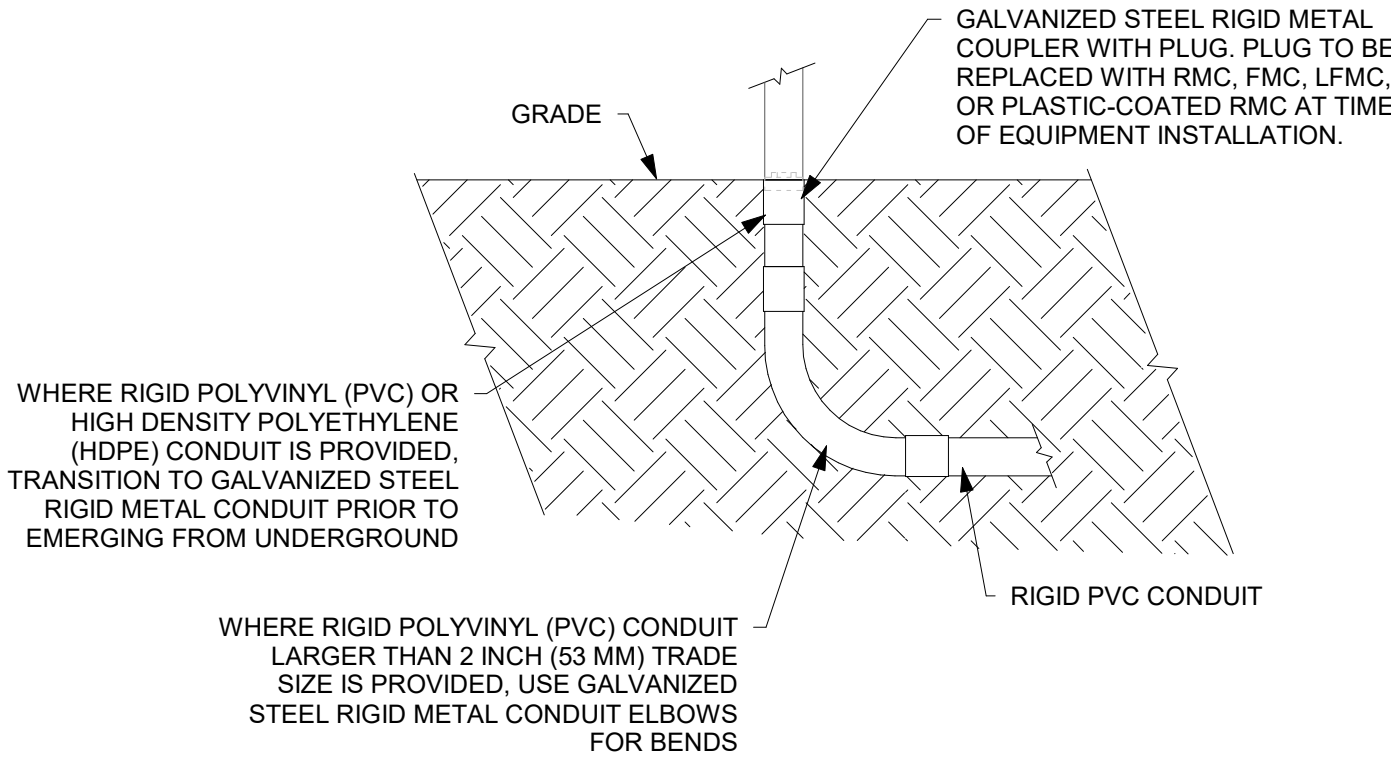
RECEPTACLES		SWITCHES		MISC. POWER SYMBOLS	COMMUNICATIONS	SECURITY	ELECTRICAL PANELS	TAG DESCRIPTIONS	
	SIMPLEX DUPLEX	\$	SINGLE POLE		DISCONNECT		ACCESS CONTROLLED DOOR		LIGHTING SCENARIO
	ISOLATED GROUND	\$2	DOUBLE POLE		FUSED DISCONNECT		ADA DOOR OPERATOR		KEYNOTE
	TAMPER RESISTANT	\$3	3-WAY		FAN		CAMERA		
	WEATHER PROOF W/GFI	\$4	4-WAY		ELECT. CONTROLLED VALVE		CARD READER - ELECTRONIC		
	GROUND FAULT INTERRUPT	\$E	EMERGENCY		FUSESTAT		DURESS BUTTON		
	CONTROLLED RECEPTACLE	\$F	FAN		HAND DRYER		DOOR CONTACT		
	COUNTERTOP RECEPTACLE	\$K	KEY OPERATED		HAIR DRYER		RECEIVER		
	COMBOTO RECEPTACLE / USB	\$LV	LOW VOLTAGE		HEATER		DOOR ALARM ANNUNCIATOR		
	HIGH VOLTAGE	\$P	PILOT LIGHT		JUNCTION BOX		ELECTRIC LOCK		
	SPLIT WIRE	\$T	TIMER		MOTOR		DOOR SECURITY MONITOR		
	DOUBLE DUPLEX	\$CB	CIRCUIT BREAKER		MOTOR WITH DISCONNECT		KEY CARD PAD		
	220 VOLT	\$D	DIMMER		RELAY		PUSH BUTTON		
	SPECIAL PURPOSE	\$H	ILLUMINATED HANDLE		SOLENOID VALVE		AREA OF RESCUE-CALL		
	CEILING MOUNTED RECPT	\$M	MOTOR		COMBINATION STARTER & DISC		SECURITY ALARM HORN		
	CEILING MOUNTED SP RECPT	\$SC	SPEED CONTROLLER		MOTOR STARTER				
	FLOOR BOX RECEPTACLE	\$W	SPRING WOUND TIMER		THERMOSTAT				
		\$MC	MOMENTARY CONTACT		DUCT-TYPE SMOKE DETECTOR				
		\$WP	WEATHER PROOF		USB CHARGING STATION				
		\$OS	OCCUPANCY SENSOR-WALL						
		\$VS	VACANCY SENSOR-WALL						
		\$OS	OCCUPANCY SENSOR-CLG						
		\$VS	VACANCY SENSOR-CLG						
		[PC]	PHOTO CELL						
		[...]	3-BUTTON SWITCH						
		\$L2	LOW VOLTAGE SWITCH / TYPE						

INPUT DEVICE TAG PREFIXES

PARAMETER	ELEMENT/ SENSOR	INDICATOR	TRANSMITTER		SWITCH		
			BLIND	INDICATING	SWITCH	HIGH	LOW
AMMONIUM	AME	AMI	AMT	AMIT	AMS	AMSH	AMSL
ANALYTICAL	AE	AI	AT	AIT	AS	ASH	ASL
AUXILIARY					AUX		
BURNER	BE	BI	BT	BIT	BS	BSH	BSL
CHLORINE	CHE	CHI	CHT	CHIT	CHS	CHSH	CHSL
CONDUCTIVITY	CE	CI	CT	CIT	CS	CSH	CSL
CURRENT	IE	II	IT	IIT	IS	ISH	ISL
DISSOLVED OXYGEN	DOE	DOI	DOT	DOIT	DOS	DOH	DOL
EVENT/STATE/PRESENCE	YE	YI			YS	YSH	YSL
FLOW RATE	FE	FI	FT	FIT	FS	FSH	FSL
HYDROGEN SULFIDE	HSE	HSI	HST	HSIT	HSS	HSH	HSL
LEVEL	LE	LI	LT	LIT	LS	LSH / LSHH	LSL / LSLL
LIMIT					LMS		
MOTOR/MOISTURE	ME	MI	MT	MIT	MS	MSH	MSL
NITROGEN	NE	NI	NT	NIT	NS	NSH	NSL
ORP	ORE	ORI	ORT	ORIT	ORS	ORH	ORL
OXYGEN	OXE	OXI	OXT	OXIT	OXS	OXH	OXL
OZONE	OZE	OZI	OZT	OZIT	OZS	OZH	OZL
PH	PHE	PHI	PHT	PHIT	PHS	PHH	PHL
POSITION	ZE	ZI	ZT	ZIT	ZS	ZSC (CLOSED)	ZSO (OPEN)
POWER	PWE	PWI	PWT	PWIT	PWS	PWH	PWL
PRESSURE	PE	PI	PT	PIT	PS	PSH / PSHH	PSL / PSLL
PRESSURE DIFFERENTIAL	PDE	PDI	PDT	PDIT	PDS	PDH	PDL
REED					RS		
RELATIVE HUMIDITY	RHE	RHI	RHT	RHIT	RHS	RHH	RHL
SPEED	SE	SI	ST	SIT	SS	SH	SL
SUSPENDED SOLIDS	SSE	SSI	SST	SSIT	SSS	SSH	SSL
TEMPERATURE	TE	TI	TT	TIT	TS	TSH / TSHH	TSL / TSLL
TURBIDITY	TUE	TUI	TUT	TUIT	TUS	TUH	TUL
ULTRAVIOLET (UV)	UVE	UVI	UVT	UVIT	UVS	UVH	UVL
UNCLASSIFIED/MISCELLANEOUS	XE	XI	XT	XIT	XS	XSH	XSL
VIBRATION			VB	VB			
VOLTAGE	EE	EI	ET	EIT	ES	EH	EL
WEIGHT/FORCE	WE	WI	WT	WIT	WS	WH	WL



1 GROUNDING ELECTRODE DETAIL
NOT TO SCALE



2 BELOW GRADE PVC/HDPE CONDUIT DETAIL
NOT TO SCALE



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PROJECT

CITY OF
STORM LAKE

NEW PRODUCTION
WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	23-26698
FILE NAME	26698 Elec R22
DRAWN BY	CRI
DESIGNED BY	CRI
REVIEWED BY	RDS
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	

TITLE

SYMBOLS,
PREFIXES, AND
DETAILS

SHEET

E4-12

PRELIMINARY NOT FOR CONSTRUCTION



Branch Panel: P1													
Location:				Volts: 120/208 Wye				A.I.C. Rating: 35,000					
Supply From: ATS				Phases: 3				Mains Type: MLO					
Mounting: Surface				Wires: 4				Mains Rating: 400 A					
Enclosure: Type 12								MCB Rating: 400 A					
Notes:													
CKT	Circuit Description	Trip	Pole	A		B		C		Pole	Trip	Circuit Description	CKT
1				17333	180					1	20 A	Receptacle Panelboard	2
3	PCP Pump Control Panel	250 A	3			17333	180			1	20 A	Receptacle Exterior	4
5								17333	30	1	15 A	FIT1 Flow Meter	6
7	Lighting - Interior	20 A	1	153	33					1	20 A	Lighting - Exterior	8
9						17	2912			2	30 A	AHU-1	10
11	SPD Surge Protection Device	60 A	3					17	2912				12
13				17	300					1	20 A	MDF Network	14
15	G1 Gen Coolant Heater	20 A	1			1200	1000			1	20 A	G1 Gen Battery Charger	16
17	SPARE	20 A	1					0	0	1	20 A	SPARE	18
19	SPARE	20 A	1	0	0					1	20 A	SPARE	20
21	SPARE	20 A	1			0	0			1	20 A	SPARE	22
23	SPARE	20 A	1					0	0	1	20 A	SPARE	24
25	BLANK	--	1	--	--					1	--	BLANK	26
27	BLANK	--	1			--	--			1	--	BLANK	28
29	BLANK	--	1					--	--	1	--	BLANK	30
Total Load:				18006 VA		22642 VA		20292 VA					
Total Amps:				150 A		192 A		172 A					
Legend:													

ELECTRICAL EQUIPMENT SCHEDULE													
ITEM#	DESCRIPTION	POWER REQUIREMENTS				PNL - CKT	WIRE #SIZE, GND, MINIMUM CONDUIT	STARTER		DISCONNECT		NOTES	
		HP	VOLTS	POLES	VA			TYPE	BY	TYPE	BY		
AHU-1	AIR HANDLER UNIT		208 V	2	5824 VA	P1 - 10,12	3/4"C, 2-#10's, #10GND	(none)	(none)	NF	WU		
E1	G1 GENERATOR COOLANT HEATER		120 V	1	1200 VA	P1 - 15	3/4"C, 2-#12's, #12GND	(none)	(none)	NF	EC		
E2	G1 GENERATOR BATTERY CHARGER		120 V	1	1000 VA	P1 - 16	3/4"C, 2-#12's, #12GND	(none)	(none)	NF	EC		
L-1	LOUVER - GENERATOR VENTILATION		120 V	1	150 VA	G1CP - 1	3/4"C, 2-#12's, #12GND	(none)	(none)	NF	EC	SNAP SWITCH TYPE DISCONNECT MAY BE PROVIDED IF ALLOWED BY CODE	
L-2	LOUVER - GENERATOR VENTILATION		120 V	1	150 VA	G1CP - 1	3/4"C, 2-#12's, #12GND	(none)	(none)	NF	EC	SNAP SWITCH TYPE DISCONNECT MAY BE PROVIDED IF ALLOWED BY CODE	
P1	WELL NO. 21 SUBMERSIBLE PUMP	50	208 V	3	51516 VA	PCP - 1,3,5	2"C, 3-#3/0's, #6GND	(none)	(none)	(none)	(none)		
PCP	PUMP CONTROL PANEL		208 V	3	52000 VA	P1 - 1,3,5	2-1/2"C, 4-#250's, #4GND	VFD	WU	F	WU		
SPD	SURGE PROTECTION DEVICE		208 V	3	50 VA	P1 - 9,11,13	1"C, 4-#6's, #6GND	(none)	(none)	(none)	(none)	F&I CONDUCTORS RECOMMENDED BY MANUFACTURER	

STARTER TYPE		STARTER BY		DISCONNECT TYPE		DISCONNECT BY	
COMB	COMBINATION STARTER	EC	ELECTRICAL CONTRACTOR	BO	BY OTHERS	EC	ELECTRICAL CONTRACTOR
ECM	ELECTRONICALLY CONTROLLED MOTOR	ES	EQUIPMENT SUPPLIER	F	FUSED DISCONNECT	ES	EQUIPMENT SUPPLIER
MAG	MAGNETIC STARTER	MC	MECHANICAL CONTRACTOR	NF	NON-FUSED DISCONNECT	MC	MECHANICAL CONTRACTOR
MAN	MANUAL STARTER	WU	WITH UNIT			WU	WITH UNIT
SS	SOFT STARTER						
VFD	VARIABLE FREQUENCY DRIVE						

INPUT AND OUTPUT CONTROL SCHEDULE						
ITEM#	DESCRIPTION	PANEL	MINIMUM CONDUIT, WIRE #, SIZE, GND	I/O	DEVICE BY	NOTES
ATS	AUTO TRANSFER SWITCH POSITION	PCP	3/4"C, 2-#14'S		DI EC	
FIT1	FLOW METER	PCP	3/4"C, 1-#20 TWISTED PAIR SHIELDED, 2-#14'S		AI, DI EC	
G1CP	G1 GENERATOR ALARM & RUNNING	PCP	3/4"C, 4-#14'S		2 DI ES	
SPD	SURGE PROTECTION DEVICE ALARM	PCP	3/4"C, 2-#14'S		DI EC	
TT1	BUILDING TEMPERATURE	PCP	3/4"C 1-#20 TWISTED PAIR SHIELDED		AI EC	

I/O		SUPPLIED BY	
AI	ANALOG INPUT	BO	BY OWNER
AO	ANALOG OUTPUT	EC	ELECTRICAL CONTRACTOR
DI	DIGITAL INPUT	ES	EQUIPMENT SUPPLIER
DO	DIGITAL OUTPUT	MC	MECHANICAL CONTRACTOR
ENET	ETHERNET	PC	PROCESS CONTRACTOR
		WU	WITH UNIT

LIGHT FIXTURE SCHEDULE						
TYPE	DESCRIPTION	MANUFACTURER	MODEL	LAMP	WATTS	TYPE COMMENTS
A	8FT LINEAR	LITHONIA LIGHTING	CLX LED-L96-60000-LM-SEF-RDL-ND-MVOLT-GZ10-40K-80CRI	5697LM	38 W	
AE	8FT LINEAR	LITHONIA LIGHTING	CLX LED-L96-60000-LM-SEF-RDL-ND-MVOLT-GZ10-40K-80CRI	5697LM	38 W	PROVIDE #E10W/CP EMERGENCY BATTERY AND #SPD OPTIONS
B	WALL PACK	LITHONIA LIGHTING	ARG2LED-F1-30K-MVOLT-PE-DBLXD	1502LM	11 W	PROVIDE #PE PHOTOCCELL OPTION

LIGHTING SCENARIO SCHEDULE	
SCENARIO#	LIGHTING SCENARIO DESCRIPTION
LS1	MANUAL ON MANUAL OFF



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PROJECT

CITY OF STORM LAKE

NEW PRODUCTION WELL NO. 21

STORM LAKE IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	23-26698
FILE NAME	26698 Elec R22
DRAWN BY	CRI
DESIGNED BY	CRI
REVIEWED BY	RDS
ORIGINAL ISSUE DATE	03/03/23
CLIENT PROJECT NO.	

TITLE

SCHEDULES

SHEET

E5-11

PRELIMINARY NOT FOR CONSTRUCTION

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

New Production Well No. 21

City of Storm Lake

ISG PROJECT NO. 26698

ISG

March 16, 2023

Item No.	Item	Unit	Estimated Quantity	Unit Price	Total Amount
1	CLEARING AND GRUBBING	LS	1	\$1,500.00	\$1,500.00
2	TOPSOIL, ON-SITE	CY	275	\$20.00	\$5,500.00
3	EXCAVATION, CLASS 10, BORROW	CY	300	\$30.00	\$9,000.00
4	SUBGRADE PREPARATION	SY	395	\$5.00	\$1,975.00
5	SUBGRADE TREATMENT, GEO-GRID	SY	283	\$6.00	\$1,698.00
6	SUBBASE, MODIFIED, 6 INCHES	SY	395	\$15.00	\$5,925.00
7	STORM SEWER, TRENCHED, HDPE, 4 INCH	LF	67	\$50.00	\$3,350.00
8	PIPE CULVERT, TRENCHED, RCP, 15 INCH	LF	58	\$65.00	\$3,770.00
9	PIPE APRON, RCP, 15 INCH	EA	2	\$1,500.00	\$3,000.00
10	FOOTING FOR CONCRETE PIPE APRON, CIP	EA	2	\$1,200.00	\$2,400.00
11	PIPE APRON GUARD	EA	2	\$500.00	\$1,000.00
12	FLOOR DRAIN OUTLET	EA	1	\$750.00	\$750.00
13	WATER MAIN, TRENCHED, DIP, 6 INCH	LF	20	\$200.00	\$4,000.00
14	WATER MAIN, TRENCHED, C900, 6 INCH	LF	97	\$80.00	\$7,760.00
15	WATER MAIN WITH STEEL CASING PIPE, TRENCHLESS, C900, 6 INCH	LF	93	\$775.00	\$72,075.00
16	TAPPING VALVE ASSEMBLY, 6 INCH	EA	1	\$10,000.00	\$10,000.00
17	SHARED USE PATH, PCC, 6 INCH	SY	93	\$75.00	\$6,975.00
18	SIDEWALK, PCC, 6 INCH	SY	7	\$75.00	\$525.00
19	DRIVEWAY, PAVED, PCC, 6 INCH	SY	231	\$75.00	\$17,325.00
20	TRANSFORMER PAD	LS	1	\$1,200.00	\$1,200.00
21	PAVEMENT REMOVAL	SY	91	\$15.00	\$1,365.00
22	TYPE A SIGN, SHEET ALUMINUM	EA	1	\$500.00	\$500.00
23	TEMPORARY TRAFFIC CONTROL	LS	1	\$7,500.00	\$7,500.00
24	HYDRAULIC SEEDING, SEEDING AND MULCHING	LS	1	\$5,000.00	\$5,000.00
25	PLANTS WITH WARRANTY, ____ (TYPE)	EA	29	\$250.00	\$7,250.00
26	SWPPP MANAGEMENT	LS	1	\$5,000.00	\$5,000.00
27	WATTLE, STRAW, 12 INCH	LF	70	\$4.00	\$280.00
28	WATTLE, REMOVAL	LF	70	\$1.00	\$70.00
29	SILT FENCE	LF	200	\$4.00	\$800.00
30	SILT FENCE, REMOVAL OF DEVICE	LF	200	\$1.00	\$200.00
31	STABILIZED CONSTRUCTION EXIT	TON	40	\$50.00	\$2,000.00
32	EROSION CONTROL MULCHING, HYDROMULCHING	LS	1	\$3,000.00	\$3,000.00
33	INLET PROTECTION DEVICE, SILT FENCE	EA	2	\$400.00	\$800.00
34	MODULAR BLOCK RETAINING WALL	SF	240	\$40.00	\$9,600.00
35	DEMOLITION WORK	LS	1	\$10,000.00	\$10,000.00
36	PLUG WELL	EA	1	\$8,000.00	\$8,000.00
37	MOBILIZATION	LS	1	\$79,000.00	\$79,000.00
38	CONCRETE WASHOUT	LS	1	\$5,000.00	\$5,000.00
39	WELL WATER POLLUTION PREVENTION PLAN MAINTENANCE	LS	1	\$5,000.00	\$5,000.00
40	SAND SCREEN, STAINLESS STEEL, 8"	VF	34	\$600.00	\$20,400.00
41	NOMINAL DRILL HOLE, 18"	VF	78	\$240.00	\$18,720.00
42	NOMINAL DRILL HOLE, 12"	VF	34	\$190.00	\$6,460.00
43	SUBMERSIBLE PUMP	LS	1	\$60,000.00	\$60,000.00
44	COLUMN PIPE, STAINLESS STEEL, 6 INCH	LF	59	\$200.00	\$11,800.00
45	PITLESS WELL UNIT	LS	1	\$30,000.00	\$30,000.00
46	WATER QUALITY ANALYSIS	EA	1	\$4,000.00	\$4,000.00

47	PLUMBNESS & ALIGNMENT TEST	EA	1	\$4,500.00	\$4,500.00
48	GROUTING, SET UP & REMOVAL	LS	1	\$4,500.00	\$4,500.00
49	GROUT/SEAL CASING	CF	110	\$60.00	\$6,600.00
50	WELL DEVELOPMENT/TEST PUMPING SET-UP & REMOVAL	EA	1	\$15,000.00	\$15,000.00
51	WELL DEVELOPMENT	HR	24	\$500.00	\$12,000.00
52	SAND CONTENT TEST	EA	1	\$1,500.00	\$1,500.00
53	TELEVISION SURVEY	EA	1	\$2,500.00	\$2,500.00
54	STEP-DRAWNDOWN AQUIFER PUMPING TEST	EA	1	\$2,000.00	\$2,000.00
55	CONSTANT-RATE AQUIFER PUMPING TEST	EA	1	\$10,000.00	\$10,000.00
56	AQUIFER RECOVERY TEST	EA	1	\$1,500.00	\$1,500.00
57	WELL ACIDIZATION SET-UP & REMOVAL	LS	1	\$8,500.00	\$8,500.00
58	WELL ACID SOLUTION	GAL	4000	\$4.00	\$16,000.00
59	WELL ACID SURGING	HR	8	\$500.00	\$4,000.00
60	WELL ACID REMOVAL & PROPER DISPOSAL	LS	1	\$11,000.00	\$11,000.00
61	DISINFECT WELL	EA	1	\$3,000.00	\$3,000.00
62	PREFABRICATED WELL HOUSE	LS	1	\$500,000.00	\$500,000.00

OPINION OF PROBABLE CONSTRUCTION COST: \$1,064,073.00

ALTERNATE A

A1	PRODUCTION CASING, SDR-21, 12"	VF	78	\$350.00	\$27,300.00
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ALTERNATE A - PROBABLE CONSTRUCTION COST: \$27,300.00

ALTERNATE B

B1	PRODUCTION CASING, STAINLESS STEEL, 12"	VF	78	\$650.00	\$50,700.00
B2	CATHODIC PROTECTION	EA	1	\$5,000.00	\$5,000.00

ALTERNATE B - PROBABLE CONSTRUCTION COST: \$55,700.00

ALTERNATE C

C1	WATERING	LS	1	\$5,000.00	\$5,000.00
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ALTERNATE C - PROBABLE CONSTRUCTION COST: \$5,000.00

BASE BID + ALTERNATES - OPINION OF PROBABLE CONSTRUCTION COST: \$1,152,073.00

RESOLUTION NO. 48-R-2022-2023

A RESOLUTION SETTING THE TIME AND PLACE FOR A PUBLIC HEARING TO APPROVE PLANS, SPECIFICATIONS, FORM OF CONTRACT, AND ENGINEERS ESTIMATE OF COST FOR NEW PRODUCTION WELL 21 PROJECT

WHEREAS, the City Council of the City of Storm Lake has undertaken a public improvement project for a New Production Well 21 Project; and

WHEREAS, the engineer on the project has developed plans, specifications, and form of contract for the proposed project that are now on file with the City Clerk; and

WHEREAS, the City Council wishes to conduct a public hearing concerning the plans, specifications, and form of contract for the project.

NOW THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA, that a public hearing is hereby established to review the plans, specifications, and form of contract and to establish a bid opening date for the New Production Well 21 Project.

BE IT FURTHER RESOLVED, that a public hearing be set for Monday, May 1, 2023 at 5:00 p.m. in the City Hall Council Chambers at 620 Erie Street, Storm Lake, Iowa for the purposes of reviewing and taking public input on the plans, specifications, and form of contractor for the proposed project.

BE IT FURTHER RESOLVED, that the City Clerk be directed to publish notice of said public hearing in the City's official newspaper not less than four days before the date of the hearing and not more than 20 days prior to the hearing date.

PASSED, APPROVED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE THIS 20th DAY OF MARCH 2023.

BY THE CITY COUNCIL OF THE
CITY OF STORM LAKE, IOWA

Michael Porsch, Mayor

ATTEST

Nelda Kirkholm, Deputy City Clerk

Staff Summary

03/20/2023

Agenda Item # F.9.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Keri Navratil City Manager

SUBJECT: **Motion to Approve Amendment No. 1 to the Agreement For Grant Administration Services With Simmering-Cory For The Library HVAC CDBG Award**

BACKGROUND: The City advertised for proposals from qualified firms for grant writing and administration services related to a projects eligible for CDBG-CV funding. On July 19, 2021, the City Council approved the selection of Simmering-Cory for Professional Services.

With the approval of the Community Development Block Grant- CV funding from the Iowa Economic Development Authority (IEDA) the City is need for grant administration services.

On November 15, 2021, the Council approved an agreement with Simmering-Cory for grant administration services. The amendment will add necessary Federal language to the agreement and correct the amount of compensation for the services.

FISCAL IMPACT: Amount to not exceed \$18,000

RECOMMENDATION: Approve Amendment No. 1 Agreement For Grant Administration Services With Simmering-Cory For The Library HVAC CDBG Award

ATTACHMENTS:
[Amendment No. 1 Final 3-20-2023.pdf](#)

**AMENDMENT NO 1 TO
AGREEMENT FOR ADMINISTRATIVE SERVICES**

ARTICLE I. This AMENDMENT NO 1 made and entered into this 20TH day of MARCH, 2023, by and between the City of Storm Lake, hereinafter called the CITY, and Local Government Professional Services, Inc., DBA Simmering-Cory, hereinafter called LGPS, WITNESSETH:

WHEREAS, the CITY and LGPS previously entered into an agreement on November 15, 2021 for professional services related to grant administration services related to CDBG Project 20-CVN-006, Library HVAC Project; and,

WHEREAS, the State of Iowa and the Iowa Economic Development Authority has requested that additional federal language be included in the agreement between the two parties; and

WHEREAS, both parties are in agreement with the additional language being added to the original agreement; and

WHEREAS, a typographical error was found in the compensation section of the original agreement that needs to be fixed.

NOW THEREFORE, in consideration of these premises and of the mutual covenants herein set forth, the parties hereto agree to amend the original Agreement Dated November 15, 2021, as follows:

ARTICLE II. SCOPE OF WORK CHANGES.

NONE

ARTICLE III. COMPENSATION.

The original agreement shall be amended to revise the amount to of the compensation due to LGPS by reducing the cost in the agreement by two thousand dollars (\$2,000.00). Total compensation due to LGPS following this Amendment No. 1 for grant administration services will be \$18,000.00.

ARTICLE IV. AMENDMENTS.

The original agreement shall be amended to include updated federal contract language as required by the funding source which is included and hereby made a part of this amendment as Appendix A:

There being no additional changes to the original agreement beyond what is identified in the sections and language of this amendment. Both LGPS and the CITY agree to the language of this amendment as denoted by their signatures below.

City of Storm Lake

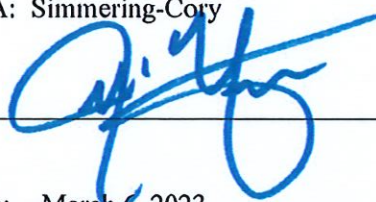
By: _____

Date: March 20, 2023

Attest:

By: _____

Local Government Professional Services, Inc.
DBA: Simmering-Cory

By:  _____

Date: March 6, 2023

APPENDIX A FEDERAL CONTRACT LANGUAGE

The proposed project is funded in part by federal dollars under a HUD Community Development Block Grant. As such all contractors, subcontractors, and project consultants shall comply with the following federal guidelines and provisions.

ACCESS AND MAINTENANCE OF RECORDS.

The contractor must maintain records, including supporting documentation, for three years from the closeout of the grant to the State of Iowa.

At any time during normal business hours and as frequently as is deemed necessary, the contractor shall make available to the Iowa Economic Development Authority, the State Auditor, the General Accounting Office, and the Department of Housing and Urban Development, for their examination, all of its records pertaining to all matters covered by this contract and permit these agencies to audit, examine, make excerpts or transcripts from such records, contract, invoices, payrolls, personnel records, conditions of employment, and all other matters covered by this contract.

CIVIL RIGHTS

The contractor must comply with the following laws and regulations:

1. Title VI of the Civil Rights Act of 1964 (P.L. 88-352).
States that no person may be excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, or national origin.
2. Title VIII of the Civil Rights Act of 1968 (Fair Housing Act), as amended.
3. Federal Executive Order 11063, as amended by Executive Order 12259 Equal Opportunity Housing.
4. Iowa Civil Rights Act of 1965.
This Act mirrors the Federal Civil Rights Act.
5. Section 109 of Title 1 of the Housing and Community Development Act of 1974, as amended (42 U.S.C. 5309).
Provides that no person shall be excluded from participation in, denied the benefits of, or subjected to discrimination on the basis of race, color, national origin, sex, age, or handicap under any program or activity funded in part or in whole under Title 1 of the Act.
6. The Age Discrimination Act of 1975, as amended (42 U.S.C. 1601 et seq.)

Provides that no person on the basis of age, be excluded from participation in, be denied the benefits of or be subjected to discrimination under any program or activity receiving Federal financial assistance.

7. Section 504 of the Rehabilitation Act of 1973, as amended (P.L. 93-112, 29 U.S.C. 794).

Provides that no otherwise qualified individual shall solely by reason of his/her handicap be excluded from participation in, be denied the benefits of, or be discriminated against under any program or activity receiving Federal financial assistance.

8. Americans with Disabilities Act (P.L. 101-336, 42 U.S.C. 12101-12213). *Provides comprehensive civil rights to individuals with disabilities in the areas of employment, public accommodations, State and local government services, and telecommunications.*

9. Section 3 of the Housing and Urban Development Act of 1968, as amended (12 U.S.C. 1701u).

The purpose of Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u)(Section 3) is to ensure that employment and other economic opportunities generated by certain HUD financial assistance shall, to the greatest extent feasible, and consistent with existing Federal, State and local laws and regulations, be directed to low- and very low-income persons, particularly those who are recipients of government assistance for housing, and to business concerns which provide economic opportunities to low- and very low-income persons.

TERMINATION CLAUSE.

All contracts utilizing CDBG funds must contain a termination clause that specifies the following:

1. Under what conditions the clause may be imposed.
2. The form the termination notice must take (e.g., certified letter).
3. The time frame required between the notice of termination and its effective date.
4. The method used to compute the final payment(s) to the contractor.

CERTIFICATION REGARDING GOVERNMENT-WIDE RESTRICTION ON LOBBYING.

All contracts utilizing CDBG funds must contain the following certification concerning restriction of lobbying:

“The Recipient certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the Recipient, to any person for influencing or attempting to influence an

officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the Recipient shall complete and submit Standard Form-LLL, "Disclosure Form to Report Federal Lobbying" in accordance with its instruction.

3. The Recipient shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000.00 and not more than \$100,000.00 for each such failure."

LEAD-SAFE HOUSING REGULATIONS (As Applicable).

24 CFR Part 35 et. al.

Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Properties and Housing Receiving Federal Assistance, Final Rule.

RECYCLED MATERIALS.

The contractor agrees to comply with all the requirements of the Code of Iowa Chapter 8A.315-317 and Iowa Administrative Code Chapter 11-117.6(5) – Recycled Product and Content which states:

When appropriate, specifications shall include requirements for the use of recovered materials and products.

The specifications shall not restrict the use of alternative materials, exclude recovered materials, or require performance standards that exclude products

containing recovered materials unless the subrecipient seeking the product can document that the use of recovered materials will impede the intended use of the product.

**NOTICE OF AWARDING AGENCY REQUIREMENTS AND REGULATIONS
PERTAINING TO REPORTING.**

The Contractor must provide information as necessary and as requested by the Iowa Economic Development Authority for the purpose of fulfilling all reporting requirements related to the CDBG program.

**SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1965 (AS
AMENDED).**

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 75, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.

C. The contractor agrees to post copies of a notice advising workers of the Contractor's commitments under Section 3 in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to provide written notice of employment and contracting opportunities to all known Section 3 Workers and Section 3 Businesses

E. The contractor agrees to employ, to the greatest extent feasible, Section 3 workers or provide written justification to the recipient that is consistent with 24 CFR Part 75, describing why it was unable to meet minimum numerical Section 3 worker-hours goals, despite its efforts to comply with the provisions of this clause.

F. The contractor agrees to maintain records documenting Section 3 Workers that were hired to work on previous Section 3 covered projects or activities that were retained by the contractor for subsequent Section 3 covered projects or activities.

G. The contractor agrees to post contract and job opportunities to the Opportunity Portal and will check the Business Registry for businesses located in the project area.

H. The contractor agrees to include compliance with Section 3 requirements in every subcontract for Section 3 projects as defined in 24 CFR part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 75.

I. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 75.

J. The contractor will certify that they have followed prioritization of effort in 24 CFR part 75.19 for all employment and training opportunities. The contractor will further certify that it meets or exceeds the applicable Section 3 benchmarks, defined in 24 CFR Part 75.23, and if not, shall describe in detail the qualitative efforts it has taken to pursue low- and very low-income persons for economic opportunities.

K. Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

SECTION 3 BUSINESSES ARE ENCOURAGED TO RESPOND TO THIS PROPOSAL.

A Section 3 business is one that satisfies one of the following requirements:

1. It is at least 51 percent owned and controlled by low- or very low-income persons.
2. Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 Workers,* or

3. It is a business at least 51 percent owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

*A Section 3 Worker is defined as any worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:

1. The worker's income for the previous or annualized calendar year is below the applicable income limit established by HUD.
2. The worker is employed by a Section 3 business concern: or
3. The worker is a Youth Build participant.

Businesses that believe they meet the Section 3 criteria are encouraged to register as a Section 3 Business through HUD's website:

<https://hudapps.hud.gov/OpportunityPortal/>

FEDERAL EXECUTIVE ORDERS 11246 and 11375. (All Contracts in Excess of \$10,000.00)

Provides that no one be discriminated in employment.

“During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising

the labor union or workers' representative of the contractor's commitments under Section 202 of the Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

5. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

6. In the event of the contractor's non-compliance with the nondiscrimination clause of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies involved as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

7. The contractor will include the provisions of Paragraphs 1 through 7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

ENERGY EFFICIENCY.

Mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act. Pub. L. 94-163, 89 Stat. 871.

FEDERAL LABOR STANDARDS PROVISIONS (INCLUDING DAVIS-BACON PREVAILING WAGE RATES APPLICABILITY).

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor

Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

(1) Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill except as provided in Sec. 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: provided that, the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under Paragraph (a)(1)(ii) of this section and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination, and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate including fringe benefits where appropriate determined pursuant to Paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The EPA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and

records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs

(ii)

(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the SIMMERING CORY ON BEHALF OF THE CITY AND IEDA. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/programs/dbra/forms.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the SIMMERING CORY ON BEHALF OF THE CITY AND IEDA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be provided under Sec. 5.5(a)(3)(ii) of Regulations, 29 CFR Part 5, the appropriate information is being maintained under Sec. 5.5(a)(3)(i) of Regulations, 29 CFR Part 5, and that such information is correct and complete;
- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate,

either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by Paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under Paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or

subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act Requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in

any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract Termination.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes Concerning Labor Standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor and any of its subcontractors and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of Eligibility.**

(i) By entering into this contract, the contractor certifies that neither it nor he or she nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3 a of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3 a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) **Contract Work Hours and Safety Standards Act.** The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in Paragraphs (1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Sec. 5.5(1) or 4.6 of Par 4 of this title. As used in this paragraph, the terms laborer and mechanics include watchmen and guards.

(1) **Overtime Requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) **Violation, Liability for Unpaid Wages, Liquidated Damages.** In the event of any violation of the clause set forth in Paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory, for liquidated damages. Such liquidated damages shall be computed with respect to each individual

laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in Paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in Paragraph (b)(1) of this section

(3) Withholding for Unpaid Wages and Liquidated Damages. The loan recipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in Paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in Paragraphs (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in Paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in Paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec. 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

ALL CONTRACTS IN EXCESS OF \$100,000.

In addition to the preceding provisions, contracts in excess of \$100,000 shall require compliance with the following laws and regulations:

1. Section 306 of the Clean Air Acts [42 U.S.C. 1857 (h)].
2. Section 508 of the Clean Water Act [33 U.S.C. 1368].
3. Executive Order 11738.
4. EPA Regulations – 40 CFR, Part 15.

In accordance with the Clean Air and Water Act, the contractor agrees as follows:

1. The Contractor will certify that any facility to be utilized in the performance of any nonexempt contract or subcontract is not listed on the List of Violating Facilities issued by the Environmental Protection Agency pursuant to 40 CFR 15.20.
2. The Contractor agrees to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 U.S.C. 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1318) relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.
3. The Contractor agrees that as a condition for the award of a Contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that a facility utilized or to be utilized for the Contract is under consideration to be listed on the Environmental Protection Agency List of Violating Facilities.
4. The Contractor agrees that it will include or cause to be included the criteria and requirements in Paragraphs (1) through (4) of this section in every nonexempt subcontract and require every subcontractor to take such action as the Government may direct as a means of enforcing such provisions.

ALL CONTRACTS IN EXCESS OF \$2,000.

In addition to the preceding provisions, all construction contracts in excess of \$2,000 must include the Federal Labor Standards Provisions:

1. Davis-Bacon and Related Acts.
2. Contract Work Hours and Safety Standard Act.
3. Copeland Anti-Kickback Act.

Staff Summary

03/20/2023

Agenda Item # F.10.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Keri Navratil City Manager

SUBJECT: **Resolution No. 49-R-2022-2023 Setting Public Hearing To Review An Application For A State Revolving Fund (SRF) Loan And To Make Available To The Public The Contents Of An Environmental Information Document And The City's Project Plan**

BACKGROUND:

The City of Storm Lake will be holding a Public Hearing to review an application for a State Revolving Fund (SRF) loan and to make available to the public the contents of an environmental information document and the City's project plan. These documents include design and environmental information related to the proposed improvements to the City's water supply system.

The proposed project consists of a 1.75 million-gallon composite elevated water tank and all piping and appurtenances to connect to the existing water distribution system. The connection of the tank to the distribution system is estimated to be made with a 16" water main between the tower and existing 12" water main on East 3rd Street. The tank will be equipped with a submersible mixer. The project will include an access road.

The purpose of this Public Hearing is to inform area residents of the community of Storm Lake of this proposed action, discuss the actual cost and user fees associated with this project, and to address citizen's concerns, if any, with the plan.

Public Hearing is scheduled for May 1, 2023 at 5:00 p.m. at City Hall Council Chambers located at 620 Erie Street.

FISCAL IMPACT: Publication cost.

RECOMMENDATION: Approve Resolution No. 49-R-2022-2023 and set Public Hearing for May 1, 2023 at 5:00 p.m. at City Hall Council Chambers located at 620 Erie Street.

ATTACHMENTS:

[Storm Lake FNSI Public Notice - Water Tower Project.pdf](#)

[Resolution No. 49-R-2022-2023 Setting Public Hearing on An Application for SFR Loan For New Water Tower.pdf](#)



SRF Public Notice Example

PUBLIC HEARING NOTICE

The City of Storm Lake will be holding a Public Hearing to review an application for a State Revolving Fund (SRF) loan and to make available to the public the contents of an environmental information document and the City's project plan. These documents include design and environmental information related to the proposed improvements to the City's water supply system.

The proposed project consists of a 1.75 million-gallon composite elevated water tank and all piping and appurtenances to connect to the existing water distribution system. The connection of the tank to the distribution system is estimated to be made with a 16" water main between the tower and existing 12" water main on East 3rd Street. The tank will be equipped with a submersible mixer. The project will include an access road.

The purpose of this Public Hearing is to inform area residents of the community of Storm Lake of this proposed action, discuss the actual cost and user fees associated with this project, and to address citizen's concerns, if any, with the plan.

The Public Hearing location and time are as follows:

May 1, 2023 – 5:00 p.m.
Storm Lake City Hall
620 Erie Street
Storm Lake, Iowa 50588

All interested persons are encouraged to attend this hearing. Written comments on this proposal may also be submitted prior to the hearing. Questions regarding this hearing or the availability of documentation may be directed to the City Clerk's Office at 712-732-8000.

Mayra A. Martinez, City Clerk
City of Storm Lake, Iowa

RESOLUTION NO. 49-R-2022-2023

**Setting Public Hearing To Review An Application For A State
Revolving Fund (SRF) Loan And To Make Available To The
Public The Contents Of An Environmental Information
Document And The City's Project Plan**

WHEREAS, the City Council of the City of Storm Lake desires to apply for a State Revolving Fund (SRF) loan, and

WHEREAS, the City will be holding a Public Hearing to review an application for a State Revolving Fund (SRF) loan and to make available to the public the contents of an environmental information document and the City's project plan. These documents include design and environmental information related to the proposed improvements to the City's water supply system.

WHEREAS, The purpose of this Public Hearing is to inform area residents of the community of Storm Lake of this proposed action, discuss the actual cost and user fees associated with this project, and to address citizen's concerns, if any, with the plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF STORM LAKE, IOWA, that a public hearing be conducted by the City Council in the Council Chambers, located in City Hall at 620 Erie Street, Storm Lake, Iowa on Monday, May 1, 2023, at 5:00 p.m.

BE IT FURTHER RESOLVED, that the City Clerk shall give notice of said public hearing by publication of a notice in the Storm Lake Times Pilot at least once, not less than four (4) and not more than twenty (20) days before the meeting.

PASSED, APPROVED, AND ADOPTED this 20th DAY OF MARCH, 2023

BY THE CITY COUNCIL OF THE
CITY OF STORM LAKE, IOWA

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Staff Summary

03/20/2023

Agenda Item # F.11.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: David Derragon Assistant City Manager

SUBJECT: **Motion to Approve the FY 2027 Regional Transportation Improvement Program Application for Oneida Street Reconstruction Phase 2 Project**

BACKGROUND: The City of Storm Lake receives Federal Transportation allocations which are administered by the Northwest Iowa Planning and Development Commission. Comprised of 9 counties and the associated cities within, this organization requires an application process for determining funding priorities within the region. The City of Storm Lake is making an application to replace Oneida (Phase 2) from East Railroad Street to Lakeshore. This would be a complete reconstruction of the paving surface with complete upgrades to the storm sewer, water, and sanitary sewer systems.

The grant application requests 37% funding for the DOT eligible paving and storm water improvements, or \$1,000,000 of the total estimated cost of \$2,734,000.

FISCAL IMPACT: The total project cost, including engineering, is expected to be \$4,640,000. Of this amount, \$1,734,000 will be using local match money funded from Road Use, Franchise Fee, and LOST funds. The City of Storm Lake is requesting grant funding in the amount of \$1,000,000 with this application.

RECOMMENDATION: Move to Authorize the Mayor and City Clerk to sign the application and submit to the Northwest Iowa Planning and Development Commission

ATTACHMENTS:
[SL 2023 App - NWIPDC 3-20-2023.pdf](#)

LYON	OSCEOLA	DICKINSON	EMMET
SIOUX	O'BRIEN	CLAY	PALO ALTO
		BUENA VISTA	

REGION III

REGIONAL SURFACE TRANSPORTATION

APPLICATION

2024-2027 Regional Transportation Improvement Program Years

Application Produced by: The Northwest Iowa Planning & Development Commission

APPLICATION FOR REGION III TRANSPORTATION PROJECTS

Complete and return the original plus copy to: Ted Kourousis, Executive Director, NWIPDC

P.O. Box 1493, Spencer, Iowa 51301 by 4:30 p.m. **3/31/2023**

(Fully executed applications will be accepted electronically: **ted.kourousis@nwipdc.org** Do not send maps larger than 8.5" x 14" legal size paper)

1. Project Name: Oneida Street Reconstruction – Phase 2		Date: 3/6/2023	
2. Contact Person: David M Derragon, Assistant City Manager		Phone Number: 712-732-8000	
3. Address of Contact Person PO Box 1086	City Storm Lake	County Buena Vista	Zip Code 50588
4. Project Sponsor (lead entity if multi-jurisdictional) City of Storm Lake		Sponsor Signature	

5. Classification of Project: (check all that apply)

- | | |
|---|--|
| ☒ Highway | ☐ Transit |
| ☒ Construction, reconstruction
resurfacing, restoration, and
rehabilitation | ☐ Capital Costs for
transit projects |
| ☐ Highway safety improvements
Capital and operating costs for traffic
management and control | ☐ Surface Trans.
planning for transit
technology transfer
activities |
| ☐ Surface Transportation planning, highway
And research and development | |
| ☐ Operational Improvements | |
| ☐ Fringe and corridor parking facilities | |
| ☐ Most transportation control measures in
The Clean Air Act | |
| ☐ Development and establishment of
management system | |

6. Please describe the proposed project within the space provided.

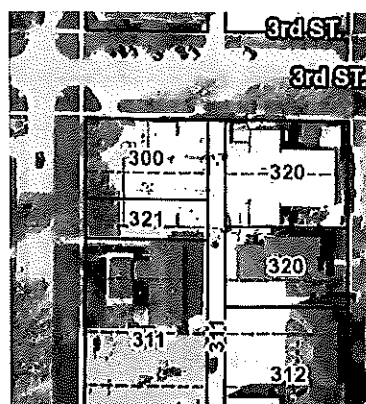
This project involves the reconstruction of Oneida Street from East Railroad Street to Lakeshore om the City. Project includes removal and replacement of a 70+ year old collector street in a 100 foot right of way with a new roadway designed to carry the current traffic loading. The roadway is beyond its useful life and requires substantial patching and other repairs yearly. The corridor has heavy commercial and industrial users along its west side with dependence on good infrastructure to serve its clients. The roadway is also a main north-south corridor that connects the schools with the main residential areas of the community. Businesses located along the roadway include service companies such as a feed mill with scales that service Hillshire and Tyson Foods and the School Transportation Fleet Facility. This road also serves as a primary north – south route for public safety services. The project will consist of removal and replacement of approximately 1800 feet of 31-foot-wide roadway with replacement using a 31-foot wide PCCC pavement, 8" thick on a modified subgrade with subdrains. The total project cost is approximately \$4,640,000, including watermain and sanitary sewer improvement. The city applying for 37% funding in the amount of \$1,000,000 for the roadway and storm water portion of the project which totals \$2,734,000. Other improvements to be financed by the city include water main and sanitary sewer improvements along with the engineering costs. Total city investment into the project is \$3,640,000. No easement or right of way acquisition is anticipated with the project.

7. Please provide a brief description of the project area. Include a map with the area marked (please do not enclose and color maps or maps larger than 8.5" x 14" (legal size) paper

Oneida Street is a main north – south corridor in the city that runs from 13th Street on the north side of the city to the lake on the south. The roadway serves as a collector roadway in the community and is a main route for public safety services. See attached map of the city.

8. Project Budget

EXPENSES		REVENUE		
ITEM	COST	SOURCE	AMOUNT	%
Land/Site Acquisition Costs		Regional	1,000,000	22
Construction/Materials Costs	2,734,000	Local	3,640,000	78
Engineering/Consulting Costs	684,000			
Capital Acquisition				
explain:				
Other (expl.)				
Non-DOT Eligible Costs				
Water Main	\$ 583,000			
Sewer	395,000			
Engineering	244,000			
Total Non-DOT Eligible	\$1,222,000			
TOTAL COST	4,640,000	TOTAL COST	4,640,000	100

	DOT Funding Eligible (Construction Only)		Non-DOT Eligible		
			Street, Grading, and Sidewalk	Storm Sewer	Sanitary Sewer
	Total Estimated Construction	\$1,678,000.00	\$488,000.00	\$313,000.00	\$462,000.00
	Engineering, Administration, & Legal	\$420,000.00	\$122,000.00	\$78,000.00	\$116,000.00
	Total Estimated Project Cost (2023)	\$2,098,000.00	\$610,000.00	\$391,000.00	\$578,000.00
	Projected Construction Cost*	\$2,118,000.00	\$616,000.00	\$395,000.00	\$583,000.00
	Projected Engineering, Administration, & Legal*	\$530,000.00	\$154,000.00	\$98,000.00	\$146,000.00
	Projected DOT Funding Eligible Cost*	\$2,734,000.00		\$0.00	
	Projected Non-DOT Funding Eligible Cost*	\$684,000.00		\$1,222,000.00	
Projected Total Estimated Project Cost*	\$4,640,000.00				

Note:

*Anticipated 6% inflation increase per year through FY 2027



Real People. Real Solutions.

Disclaimer:

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information, and data located in various city, county, and state offices, and other sources affecting the area shown, and is to be used for reference purposes only. The City of Storm Lake is not responsible for any inaccuracies herein contained.

© Bolton & Menk, Inc - Web GIS 1/27/2022 1:15 PM



Oneida Street

9. Work plan and schedule for project completion (please be sure to coincide the work plan with the correct federal fiscal year, fiscal year for this cycle is 2024-2027(Federal fiscal year is October 1-September 30)

The proposed schedule for the improvements anticipated to be construction in the CY 2027 follows: 1) Design Phase May 2026 to October 2026; 2) Letting December 2025 – January 2027; 3) Construction April 2027 to September 2027; 4) Project Closeout October 2027 – December 2027.

10. Is there a need to coordinate with another entity in the programming and/or implementation of this project?

☐ Yes

☒ No

If yes, list other entities involved and describe the interaction needed and coordination to date.

850

Collector

Unknown

PROJECT CHECKLIST

14. The following items are required		Note: Applications must specifically and directly answer each criterion within the space provided to receive points. Pertinent attachments are allowed such as maps, drawings, and/or photos as long as they are reproducible
☒	Project Description	
☒	Project Location Map (reproducible)	
☒	Project Budget	
☒	Project work plan with schedule	

Please fill in the following appropriate blanks:

funding of \$3,640,000, which is 78% of the anticipated project costs.

BY: _____
Michael Porsch, Mayor

ATTEST: _____
Nelda Kirkholm, Deputy City Clerk

Staff Summary

03/20/2023

Agenda Item # F.12.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: David Derragon Assistant City Manager

SUBJECT: **Ordinance No. 04-O-2022-2023 Amending Title IV of the Storm Lake, Iowa City Code by Amending Section 4-3-2(d) of Chapter 4-3 on Solicitors, Which Section Defines “Transient Merchant,” and by Adding New Chapter 4-10 Regulating Mobile Food and Beverage Vendors**

BACKGROUND: The City of Storm Lake has experienced an increase in the number of mobile food and beverage vendors engaged in business within its city limits.

With the increase in number, there is a need to license and regulate such enterprises for the protection of the City’s residents, the preservation of the attractiveness of the City’s public spaces, and the encouragement of fair and orderly growth of the mobile food and beverage segment of the local economy.

Adoption of this ordinance will provide guidance for mobile vendors occupying public spaces when conducting business.

FISCAL IMPACT: N/A

RECOMMENDATION: Move to Adopt on First Reading Ordinance No. 047-O-2022-2023 Amending Title IV of the Storm Lake, Iowa City Code by Amending Section 4-3-2(d) of Chapter 4-3 on Solicitors, Which Section Defines “Transient Merchant,” and by Adding New Chapter 4-10 Regulating Mobile Food and Beverage Vendors

First Reading: March 20, 2023
Second Reading: April 3, 2023
Third Reading: April 17, 2023

ATTACHMENTS:

[Ordinance No. 04-O-2022-2023 - Mobile Food Vendor Ordinance - Storm Lake 2023 DRAFT-as modified by Havens-revised to include penalty provision.pdf](#)

ORDINANCE NO. 04-O-2022-2023

AN ORDINANCE AMENDING TITLE IV OF THE STORM LAKE, IOWA CITY CODE BY AMENDING SECTION 4-3-2(d) OF CHAPTER 4-3 ON SOLICITORS, WHICH SECTION DEFINES “TRANSIENT MERCHANT,” AND BY ADDING NEW CHAPTER 4-10 REGULATING MOBILE FOOD AND BEVERAGE VENDORS

WHEREAS, the City of Storm Lake has experienced an increase in the number of mobile food and beverage vendors engaged in business within its city limits; and

WHEREAS, the Storm Lake City Council sees the need to license and regulate such enterprises for the protection of the City’s residents, the preservation of the attractiveness of the City’s public spaces, and the encouragement of fair and orderly growth of the mobile food and beverage segment of the local economy;

NOW THEREFORE, BE IT ORDAINED by the City Council of the City of Storm Lake, Iowa as follows:

Section 1. Paragraph (d) under Section 2, entitled “Definitions,” in Chapter 4-3 on Solicitors is amended by inserting at the end of the definition of “Transient Merchant” the following sentence:

Notwithstanding the foregoing definition of “Transient Merchant,” the term, “Transient Merchant” shall not include a “Mobile Vendor,” as defined in Chapter 4-10 on Mobile Food and Beverage Vendors.

Section 2. Title IV of the Storm Lake City Code, on Business, is amended by inserting the following new Chapter 4-10, entitled “Mobile Food and Beverage Vendors,” immediately after existing Chapter 4-9:

4-10-1 PURPOSE. The purpose of this chapter is to protect residents of the City against fraud, unfair competition, and unsafe food sources; preserve the attractiveness of the City’s public spaces; and encourage the fair and orderly growth of the mobile food and beverage segment of the local economy by licensing and regulating mobile food and beverage vendors.

4-10-2 DEFINITIONS. The following words, terms and phrases when used in this Chapter shall have the following meanings:

Food Service Establishment shall have the meaning established by Section 481-30.2 of the Iowa Administrative Code.

Mobile Vendor means a person engaged in the business of selling food, beverages, or both, from a Mobile Vendor Vehicle on public property.

Mobile Vendor Vehicle means a licensed motorized vehicle, a licensed trailer, or both, used for the sale of food, beverages, or both, for immediate consumption. The definition of Mobile Vendor Vehicle includes but is not limited to the common term “Food Truck.”

Restaurant means a food service establishment which derives at least fifty percent (50%) of its gross receipts from the sale of food, beverages, or both, for immediate consumption on the premises.

4-10-3 MOBILE VENDOR LICENSE REQUIRED. Before offering for sale any food or beverage in the City, a Mobile Vendor shall obtain a license for their sale from the City Clerk as provided in this Chapter. A separate Mobile Vendor License shall be required for each Mobile Vending Vehicle.

For any community event, the City Clerk may issue a license to the organization hosting the event to allow Mobile Vendors authorized by the hosting organization to operate without an individual Mobile Vendor license for a limited number of days, not to exceed the number of days of the event being hosted. Regulations relating to the allowed location or area of Mobile Vendors' operations may be modified by the City for community events.

4-10-4 APPLICATION FOR LICENSE. A Mobile Vendor shall apply to the City Clerk for a Mobile Vendor license at least three (3) business days prior to its use by providing the following information upon a form to be provided by the City Clerk, providing the required documents specified below, and paying the application fee for the period of the license's duration in the amount set in the Schedule of Fees as adopted by the City Council by resolution:

- A. The full name, age, permanent address, e-mail address, if any, and telephone number of the applicant.
- B. The business name and address.
- C. A description of the licensed motorized vehicle or licensed trailer from which the sale will be conducted, including the license plate number, and the length of the motorized vehicle or the trailer and tow vehicle.
- D. A summary of the food and beverages to be sold.
- E. The period of time the applicant has been engaged in the same or similar business and the jurisdictions in which the applicant has previously conducted business in the last year.
- F. The application must be accompanied by a copy of the Retail Sales Tax Permit issued to the applicant by the Iowa Department of Revenue.
- G. If the Mobile Vendor sells food or beverages other than prepackaged items that do not require hot or cold handling procedures, then the application shall also contain the following:
 - 1. A copy of the Mobile Food Unit License issued by the Iowa Department of Inspections and Appeals for the Mobile Vendor Vehicle.
 - 2. The addresses of the businesses or facilities at which any fat, oil or grease generated in the operation of the Mobile Vendor business are disposed of, including the contact information for the individual or business responsible for the operation of each such business or facility.
- H. The location where the Mobile Vendor Vehicle will be regularly parked when not in use.
- I. The precise location or locations in the city where the Mobile Vendor Vehicle will conduct sales.

- J. The requested period of duration for the license which shall be one of the periods specified in Section 4-10-9.

4-10-5 POLICE DEPARTMENT REVIEW. Each application for a Mobile Vendor license may be provided to the Police Chief for review and comment and the applicant's submission of such an application authorizes the police to conduct a background check with respect to the applicant.

4-10-6 ACTION BY CITY CLERK. All references to the City Clerk in this chapter shall be deemed to include the City Clerk's designee.

4-10-7 AREAS OF MOBILE VENDOR VEHICLE OPERATION.

- A. Operation of Mobile Vendor Vehicles shall not be permitted on public road rights-of-way, but shall be permitted on designated public parking areas of City property as permitted by the City, within intended locations to be designated on a map or diagram submitted with the application together with dates and times of operation.
- B. Mobile Vendor Vehicle operation may be permitted in Storm Lake City Parks only upon approval of the City in accordance with Park Department Rules.

4-10-8 LICENSE ISSUANCE.

- A. A Mobile Vendor license may be denied to any applicant who has operated a Mobile Vendor business in material violation of any of the requirements of this article or any other chapter of this Code within the prior one hundred eighty (180) days.
- B. If the City Clerk finds that the information provided in an application for a Mobile Vendor license is true and correct and that the requirements of this Chapter for issuance of the license have been satisfied, the City Clerk shall issue a Mobile Vendor license for the period of duration authorized by Section 4-10-9 that is requested by the applicant. The license shall identify whether the Mobile Vendor is limited to the sale of prepackaged food and beverages that do not require hot or cold handling procedures.
- C. The City Clerk shall deny any application for the operation of a Mobile Vendor business that does not conform with all applicable requirements of this article, the City Code, the Iowa Code and the Iowa Administrative Code.
- D. In the event an application for a Mobile Vendor license is denied, the City Clerk shall cause notice of such denial to be promptly communicated to the applicant or the applicant's representative by telephone at the telephone number provided in the application. Written notice shall also be sent to the applicant at the business address identified in the application informing the applicant of the denial, the reason therefor, and the applicant's right to appeal the denial to the City Council of the City of Storm Lake, Iowa, by filing a written notice of appeal with the City Clerk within ten (10) business days after the date of such notice.

4-10-9 DURATION OF LICENSE. The Mobile Vendor license may be issued for a period of one day, seven consecutive days, or twenty-eight consecutive days. No licensee shall be permitted more than 183 one-day licenses in a calendar year, more than 26 seven-day licenses in a calendar year, or more than 6 twenty-eight day licenses in a calendar year. In

addition, no licensee shall be permitted licenses of any duration whose periods exceed 183 days in the aggregate each calendar year.

4-10-10 BOND REQUIRED. Before a license under this Chapter shall be issued, each proposed licensee shall post with the City Clerk a bond issued by a surety company authorized to engage in the business of insuring the fidelity of others in Iowa, in the amount of one thousand dollars (\$1,000.00), to the effect that the licensee and the surety company shall consent to the forfeiture of the principal sum of the bond or such part thereof as may be necessary (1) to indemnify the City of Storm Lake for any penalties or costs occasioned by the enforcement of this Chapter, and (2) to make payment of any judgment rendered against the licensee as a result of a claim or litigation arising out of or in connection with any activities regulated or covered by this Chapter. Said bond shall not be retired until a lapse of one (1) year from the expiration of the license which it covers. Notwithstanding the foregoing requirement to post a bond, a licensee who has posted such a bond for a license previously issued under this Chapter that remains in effect at the time the new such license is to be issued shall not be required to post a new bond provided that the bond that remains in effect, by its original terms or any amendment or extension thereof, will not expire until a lapse of one (1) year from the expiration of the new license. Before issuance of the new license, the City Clerk shall require written evidence from the surety company that the bond previously issued will not expire until a lapse of at least one (1) year from the expiration of the new license.

4-10-11 MOBILE VENDOR LICENSES NOT TRANSFERRABLE. Mobile Vendor licenses issued under this chapter are not transferrable.

4-10-12 GENERAL REGULATIONS.

A. Hours of Operation. Mobile Food Vendors may operate between the hours of 7:00 a.m. and 11:00 p.m. local time.

B. Allowed Locations.

1. No Mobile Vendor shall conduct any sale from the Mobile Vendor Vehicle which is not parked as shown or as set out in the Mobile Vendor's license application.
2. No Mobile Vendor shall conduct any sale from a parking space which is designated as an "Accessible Parking Space" or otherwise designated as "Limited Parking."
3. No Mobile Vendor shall conduct any sale from a Mobile Vendor Vehicle located within one hundred (100) feet of any public entrance of any street level restaurant then open for business, unless authorized by the restaurant.
4. No Mobile Vendor shall conduct any sale in a residential neighborhood unless such sales are specifically authorized in the Mobile Vendor's license and then shall only be in the specific areas stated in the license.
5. No Mobile Vendor shall conduct any sale from a Mobile Vendor vehicle unless such sales are specifically authorized in the Mobile Vendor's license.
6. The Mobile Vendor Vehicle must be removed from the location of operation after the hours of operation.

7. No Mobile Vendor Vehicle shall be operated within 10 feet of any building or other structure, and shall not be operated within 50 feet of any other Mobile Vendor Vehicle, unless specifically approved for a special event by the City Clerk.
- C. Mobile Vendor Vehicle.
1. Any vehicle used as a Mobile Vendor Vehicle shall be no larger than thirty-seven (37) feet long and eight and a half (8 ½) feet wide. Any trailer used as a Mobile Vendor Vehicle, together with the tow vehicle, shall be no longer than thirty-seven (37) feet long and eight and a half (8 ½) feet wide.
 2. A Mobile Vendor Vehicle shall not have a second story or any interior space used for customer service or seating.
 3. Any generator used by the Mobile Vendor must be as quiet as possible to avoid being a disruption to the area in which it is located. The generator should have a decibel rating of 60dB or less. If necessary, sound proofing can be used to reach the desired rating.
- D. Display of License. License required by this Chapter and a valid Sales Tax Permit for such business shall be displayed within the Mobile Vendor Vehicle in a manner such that it is readily visible to all persons seeking to conduct business with the Mobile Vendor.
- E. Sale of Merchandise. No Mobile Vendor shall offer any merchandise or wares for sale other than food and beverages for immediate consumption.
- F. Food Safety. Any Mobile Vendor who offers food or beverages for sale, other than prepackaged items that do not require hot or cold handling procedures, shall be subject to the following additional requirements:
1. A valid Mobile Vendor license for the Mobile Vendor Vehicle shall be displayed within the Mobile Vendor Vehicle in a location that is readily visible to all customers.
 2. No Mobile Vendor shall operate the business in a manner that violates any applicable food or sanitation laws.
- G. Use of Street and Sidewalk. No Mobile Vendor shall place any tables, chairs, furniture, equipment, signage or other material on the ground, streets or sidewalks. No Mobile Vendor shall place any food, materials or equipment on the ground or on tables, chairs, or shelves that are not incorporated into the Mobile Vendor Vehicle, or immediately adjacent to the Mobile Vendor Vehicle.
- H. Trash Receptacles. A Mobile Vendor shall provide one or more trash receptacles readily accessible to its customers either in or attached to the Mobile Vendor Vehicle. All accumulations of trash and litter shall be removed from the site by the Mobile Vendor before departing.
- I. All Sales from Safe Locations. No Mobile Food Vendor shall conduct any sales from outside the Mobile Vendor Vehicle. All sales, activities and transfer of food and beverages to the customer shall occur only from a safe location such that the customer is not exposed to traffic on the street. No Mobile Vendor shall sell to any persons situated in a motor vehicle. The requirements of this paragraph do not apply to Mobile Vendors operating on private property.

4-10-13 SUSPENSION OR REVOCATION OF LICENSE.

- A. Upon complaint or a reasonable suspicion that a licensee or the licensee's employees have furnished any false information required under this chapter or has violated or

failed to comply with any of the requirements of this chapter or any other provisions of the City Code, the City Clerk may cause the matter to be investigated. If the City Clerk finds that a violation has occurred, the City Clerk shall give notice to the licensee of intent to suspend or revoke the license, or to deny its renewal.

- B. Notice of the City's intent to suspend, revoke, or deny renewal of a license shall be served upon the licensee by personal service or by certified mail, return receipt requested. The suspension, revocation, or denial of renewal shall become effective seven (7) days after notice is served or mailed.

4-10-14 APPEAL. Any applicant or licensee aggrieved by the refusal of the City Clerk to issue a license or by suspension, revocation, or non-renewal of a license under this chapter has the right to appeal the City Clerk's decision to the City Council of the City of Storm Lake, Iowa. Such appeal shall be requested by submitting a written request to the City Clerk within ten (10) days of the action of the City Clerk which is appealed. The City Council shall consider the appeal at the first regularly scheduled meeting following the filing of the appeal before which meeting sufficient time exists to give the public the required notice of the existence of the appeal hearing on the agenda. At the appeal hearing, the appellant shall be entitled to present his or her appeal orally or in writing. The City Council shall act on the appeal within twenty-one (21) days of the hearing and shall either uphold the action of the City Clerk or shall direct the issuance of a license.

4-10-15 MUNICIPAL INFRACTION. A violation of any provision of this Chapter shall constitute a Municipal Infraction subject to the penalties and alternative relief authorized by Title I, Chapter 20 of this Code and by Section 364.22 of the Code of Iowa.

Section 3. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 4. If any section, provision or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

Section 5. This ordinance shall be in effect following its final passage, approval and publication as provided by law.

PASSED AND APPROVED this _____ day of _____, 2023.

Michael Porsch, Mayor

ATTEST:

Mayra Martinez, City Clerk

1st Reading:
2nd Reading:
3rd Reading:
Passed & Approved:
Publication Date:



City of Storm Lake

Application for Food Truck/Mobile Food Vendor Permit

Business name: _____

Business contact person: _____

Business phone: _____

Business address: _____

Address vehicle parks when not operating: _____

Type of permit: (circle one)

One-Day Permit (\$25)

3-Day Permit (\$50)

Annual Permit (\$150)

Description of vehicle, trailer, and generator (including decibel limits) used for business:

Summary of cuisine and beverages sold:

Planned locations of operation:

Address 1: _____

Location on property: _____

Address 2: _____

Location on property: _____

Additional addresses: Describe on back of page or additional page

Check if business has:

☐ State Mobile Food Unit License (attach) ☐ Arrangements for trash/grease/fat disposal

☐ Appropriate Retail Sales Tax Permit ☐ Written approval from property owner

**Please return form with fee for permit or call (712) 732-8000 to pay by credit card

2023

Staff Summary

03/20/2023

Agenda Item # F.13.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: David Derragon Assistant City Manager

SUBJECT: **Resolution No. 50-R-2022-2023 Approving to Adopt the City of Storm Lake Volunteer Program**

BACKGROUND: The work session held on March 6, 2023 introduced the updated Volunteer Program for the City.

Recognizing the value of volunteers, updating the program to be more inclusive to available opportunities was necessary. As the Sesquicentennial year is celebrated, numerous opportunities exist for volunteers to connect with the community. It is also a time when volunteers can indicate what opportunities they visualize for their community.

The program offers to our residents and visitors opportunities to visualize and achieve what our community can be if we work together while being Storm Lake Proud.

FISCAL IMPACT: N/A

RECOMMENDATION: Approve Resolution No. 50-R-2022-2023 to Adopt the City of Storm Lake Volunteer Program

ATTACHMENTS:

[Volunteer Program FINAL 3-20-2023.docx](#)

[Resolution No. 50-R-2022-2023 - Volunteer Program Adoption 3-20-2023.pdf](#)

EXHIBIT 1

CITY OF STORM LAKE

STORM LAKE PROUD VOLUNTEER PROGRAM

2023



PROGRAM PURPOSE

A cornerstone of a vibrant, successful community is the pride its residents display in efforts to improve the appearances of multiple aspects of the city. Each resident plays an important role, no matter how big or small, in contributing to this success.

It is imperative that available volunteer options are meaningful in order to ensure that the tasks completed by residents, local groups and, at times, visitors provide the opportunity for the volunteer to truly feel what being Storm Lake Proud is all about.

The suggested opportunities listed in the document are a starting point. The City is open to suggestions that motivate a volunteer to action. We are ready to accommodate that motivation!

PROGRAM DETAILS

To showcase your talent, the first step in volunteering is to complete the application in this packet. The application can be emailed to woltman@stormlake.org, delivered in person at the Storm Lake City Hall at 620 Erie Street, or mailed to PO Box 1086, Storm Lake, IA 50588.

As applications are received, the City will contact the volunteer to begin scheduling the day and time of the volunteer activity. The talent, skill and ability of the volunteer will be considered in assigning the appropriate opportunity to ensure a positive experience occurs. The City shall have final determination as to where the activity will take place, so it provides the greatest benefit to the City.

Volunteer Responsibilities

- Sign a liability waiver
- Provide city staff with a desired activity
- Work in a safe manner and wear all required safety apparel
- Allow media coverage if applicable

City Responsibilities

- Keep records of the volunteer and the activity.
- Provide assistance when needed.
- Provide safety apparel if necessary.

General questions about the Volunteer Program can be directed to City Hall at telephone number 712-732-8000 or Public Services at telephone number 712-732-8029.



Being Storm Lake Proud is not one day, one week, one month or one event. Being Storm Lake Proud is a magnificent lifestyle!

Volunteer Agreement

Date: _____

Volunteer Activity Requested: _____

The organization or individual requests permission to engage in a volunteer activity located on City property.

By this agreement between the City of Storm Lake and

_____ the Volunteer, the right to perform activity on city property is granted as described below:

- Volunteer will be maintained under and in accordance with the City of Storm Lake's Volunteer Program conditions attached to this agreement and incorporated herein by reference.
- Every effort will be made on the City's part to grant the approval of the activity for volunteering, however if the activity is not suitable for whatever reasons the Volunteer agrees to the let the City offer a different activity.
- The Volunteer shall abide by all regulations relating to the maintenance, safety, and all other conditions as required by the City regulations for the Volunteer Program.
- The Volunteer will, at all times, assume all risk relating to, and indemnify, defend and hold harmless City of Storm Lake, its Council, agents, employees and representatives against any and all claims, lawsuits, losses, damages, responsibility, liability, attorney's fees, costs and expenses arising from, allegedly arising from or related to, the exercise or attempted exercise by the Volunteer, its employees, agents, contractors and representatives, of the Volunteer obligations, rights and privileges in this agreement. This paragraph shall survive termination of this agent.
- The Volunteer agrees that City of Storm Lake may terminate this agreement at any time the Volunteer does not comply with the conditions in this agreement or at any time the City determines the activity is unsafe or causes a conflict with public improvements. The City of Storm Lake reserves the right to revise or discontinue this program at any time.

Signature of Volunteer

Date

Contact Name

Email Address

Phone

Names of all Volunteers associated with the Organization who may participate in the activity:

VOLUNTEER OPPORTUNITIES

Volunteer Opportunity	Department	Contact	Description
Adopt A Planter	Public Services	Kim Woltman woltman@stormlake.org	Maintain Downtown Planters
Adopt a Storm Water Feature	Public Services	Kim Woltman woltman@stormlake.org	Maintain Rain Gardens and other features
Adopt a Park	Public Services	Kim Woltman woltman@stormlake.org	General clean-up of sticks and other debris
Adopt a Beach	Public Services	Kim Woltman woltman@stormlake.org	General clean-up of debris and other materials
Adopt Discovery Center	Public Services	Kim Woltman woltman@stormlake.org	General clean-up of debris
Paint Park Benches	Public Services	Kim Woltman woltman@stormlake.org	Painting
Butterfly Garden	Public Services	Kim Woltman woltman@stormlake.org	Install and maintain
Golf Course	Public Services	Brandon Ripke ripke@stormlake.org	General clean-up around hole markers, etc
Wood Carvings	Public Services	Kim Woltman woltman@stormlake.org	Apply sealer to all carvings
Youth Sports Programs	Community Education	Joe Kucera jkucera@slcsd.org	Assist with volunteer programs
Paint picnic tables	Public Services	Kim Woltman woltman@stormlake.org	Painting
Kids Fest	All Departments	Kim Woltman woltman@stormlake.org	General volunteering to assist with event
Storm Water Intakes	Public Services	Kim Woltman Woltman@stormlake.org	Assist with clean out of intakes
Storm Lake Library	Library	Elizabeth Huff huff@stormlake.org	Assist with Library programs, etc
Public Art	Administration	Administration cityhall@stormlake.org	Creation of public art in various locations
Graffiti removal	Public Services	Kim Woltman woltman@stormlake.org	Removal of graffiti as needed
Neighborhood Outreach	Police Department	Police Department	Hold a block party on National Night Out

Note: This list of opportunities for volunteering is not intended to be all inclusive. The City is open to any and all possibilities that may attract the interest of an inspired volunteer.

Employee Volunteer Program

The City of Storm Lake encourages employees to become involved in our community, lending their voluntary support to programs that positively impact the quality of life in our community.

The following guidelines are for employees who serve as volunteers in community programs that are of personal interest.

Volunteer Time:

- Employees may take up to eight (8) hours of paid time off each month to participate in their specific volunteer program.
- Volunteer time must be requested in advance and when possible, should be regular and on a set schedule to help with the coordination of other work-related responsibilities.
- Volunteer time should not conflict with the peak work schedule and other work-related responsibilities, create need for overtime or cause conflicts with other employees' schedules.

Eligibility:

- All full-time employees are eligible.
- Interested employees should have expected performance or above.
- Interested employees should meet with their managers to discuss their volunteer choice, schedule and to receive approval.

RESOLUTION NO. 50-R-2022-2023

RESOLUTION ADOPTING A VOLUNTEER PROGRAM FOR THE CITY OF STORM LAKE IOWA

WHEREAS, a cornerstone of a vibrant, successful community is the pride its residents display in efforts to improve the appearances of multiple aspects of the city; and

WHEREAS, it is imperative that available volunteer options are meaningful in order to ensure that the tasks completed by residents, local groups and, at times, visitors provide the opportunity for the volunteer to truly feel what being Storm Lake Proud is all about; and

WHEREAS, the list of opportunities for volunteering is open to any and all possibilities that may attract the interest of an inspired volunteer; and

WHEREAS, the City of Storm Lake encourages employees to become involved in our community, lending their voluntary support to programs that positively impact the quality of life in our community.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA;

Section 1. That the City of Storm Lake, Iowa hereby adopts a volunteer policy as attached and noted as Exhibit 1.

Section 2. That the City of Storm Lake, Iowa will coordinate volunteer opportunities for the public to enhance the community.

Section 3. That the City of Storm Lake, Iowa employees will commit to volunteering their time in the community.

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Staff Summary

03/20/2023

Agenda Item # F.14.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
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[f \(712\) 732-4114](tel:(712)732-4114)

REPORT TO: Honorable Mayor & Council

FROM: David Derragon Assistant City Manager

SUBJECT: **Resolution No. 51-R-2022-2023 Approving to Adopt the City of Storm Lake Donation Program**

BACKGROUND: The work session held on March 6, 2023 introduced the updated Donation Program for the City.

Recognizing the value of donations, updating the program to be more inclusive to available opportunities was necessary. As the Sesquicentennial year is celebrated, opportunities exist for donations to connect with the community. It is also a time when donations can create opportunities for the community.

The program offers opportunities to visualize and achieve what our community can be if we work together while being Storm Lake Proud.

FISCAL IMPACT: N/A

RECOMMENDATION: Approve Resolution No. 51-R-2022-2023 to Adopt the City of Storm Lake Donation Program

ATTACHMENTS:

[Donation Program - FINAL 3-20-2023.docx](#)

[Resolution No. 51-R-2022-2023 - Donation Program Adoption 3-20-2023.pdf](#)



EXHIBIT 1

CITY OF STORM LAKE

DONATION PROGRAM GUIDELINES

OBJECTIVE:

Donations of every type are offered to the City of Storm Lake for general or specific purposes. The City receives several requests each year from individuals wishing to donate items in honor of an individual. The most popular donation request is a memorial bench with a personalized plaque embedded in the bench back. The City is appreciative to receive such generous donations.

This policy will guide the review and acceptance of such donations, confirm that the City has relevant and adequate resources to manage such donations, and ensure that the City appropriately acknowledges the generosity of the donor. Partnership opportunities for donations for community benefits should respect relevant legislative and policy provisions and occur within an ethical framework that preserves the integrity of municipal decision-making processes.

The purpose of this policy is to establish guidelines that 1) ensure donations occur at arm's length from any City decision making process, 2) provide criteria and process for the acceptance of donations, and 3) give the City the ability to accept donations that meet its needs and capacity to maintain the donation.

This policy relates to voluntary donations to the City for community benefit. The City desires to encourage donations, while at the same time considering fiscal impacts and on-going maintenance and operational costs. While this policy predominantly focuses on material donations, this policy should be considered to have broad applicability for unseen future donations.

The City has 11 playgrounds, 4 bathrooms, 3 ballfields, 2 tennis courts, 1 beach, Chautauqua Shelter, and other open shelters. The City is open to developing recreational areas with basketball courts, pickle ball courts, exercise stations and other options. Providing multiple and varied options for enjoying recreation and the amenities in the community by improving facilities is a desired outcome.

LEVELS OF DONATIONS:

The form includes a place for the donor to indicate what donation amount is desired. Each level of donation has several options from which to choose. The life cycle of a donated asset is considered in determining the value.

\$500 - \$999:

- Concrete benches
- Trash cans
- Golf ball washers w/wastebasket
- Animal waste stations
- Grills

\$1,000 - \$1,499:

- Picnic tables
- Bike racks

\$1,500 - \$1,999:

- Basketball hoops and poles
- Flower beds

\$2,000 - \$2,499:

- Statues/Art work
- Butterfly garden/Flower beds

\$2,500 – above:

- Gazebos
- Docks
- Statues/Art work
- Playground equipment
- Holiday decorations
- Drinking water fountains – dependent on availability of a water line nearby

MEMORIAL TREES:

There are two parks which have plaque board recognition for donors to donate a tree in memory of an individual. However, the City is always interested in placing trees with a donation plaque throughout any of the Parks System.

OTHER OPTIONS:

As an example, the City has fifteen animal waste stations throughout the parks. The City provides the waste bags and maintenance. We are open to other options that fit the donor's wishes as well.

CURRENT INSTALLATIONS:

Below are the current installations of benches and picnic tables in various locations in the City. It is important to consider locations carefully as to not crowd specific locations with installations.

Current Installations		
Location	Benches	Picnic Tables
Awaysis Park	26	5
Chautauqua Park	21	34
Sunrise Park Road	12	0
Circle Park	2	7
Emerald Park	2	1
Frank Starr Park	20	22
Lakeshore Drive	16	0
Oscar Bauman Park	2	0
Radio Park	2	0
Rose Lane Park	1	0
Kiwanis Park	1	0
Scout Park	7	6
Seneca Park	2	2
Sunrise Park	2	0
Sunset Park	18	9
West 9th Park	1	1
Total	135	87

FUTURE INSTALLATIONS - SUGGESTIONS:

Below are suggestions for future installations in a few locations. The City is always open to requests from donors for future enhancements.

Future Installations		
Location	Benches	Picnic Tables
Radio Park	1	1
Rose Lane Park	1	1
Kiwanis Park	1	1
Total	3	3

FUTURE IDEAS:

A Butterfly garden at the end of Geneseo Street in the Sunset Park area would be a nice addition. A lighthouse or other art piece could be located here also.

Strategically located exercise stations along the shared use path are another idea for enhancement to current facilities. Upgrades to play equipment, elderly play areas and other ideas will always be considered.

Asset	Location	Useful Life	Donation	Total Asset Value
Play Equipment	Various	15 years		
Dog Park	TBD	20 years		
Bench	Various	7 years		
Dog Waste Stations	Various around Parks	7 years		
Dredge Spoils Site Amenities	Dredge Site development	TBD		
Pickle Ball Courts	Chautauqua Park	15 years		\$70,000
Trash Cans	Various Locations	5 years		
Golf Ball Washers	Golf Course	7 years		
Bicycle Racks	Various Locations	10 years		
Grills	Parks/Campground	5 years		
Fire Rings	Campground	5 years		
Picnic tables	Various Locations	10 years		
Basketball courts	Various Locations	10 Years		
Flower beds	Various Locations	1 year		
Gazebos	Various Locations	15 Years		
Docks	Various Locations	10 Years		
Public Art	Various Locations	TBD		
Holiday Decorations	Various Locations	10 Years		
Butterfly Gardens	Various Locations	Yearly		
Elderly play areas	TBD	TBD		
Golf Course Clubhouse	Golf Course	25 Years		\$1M
Recreation Center	Recreation Site	40 Years		\$50M

INSTALLATION OF DONATED ITEMS:

The City will assemble and install the donated item, if applicable. Incidental expenses will be considered an in-kind match to the donation and will be covered at the City's expense. The City will order the donation item and plaque following payment of the agreed amount by the donor. If the donated item is not on the list the donor will need to submit a picture and written request to have it placed.

Installation of the donation will take place in the spring of year. After installation, a picture of the donation and the memorial plaque will be taken. A GPS location will be completed with this information placed in the City's GIS system.

Every attempt will be made to honor the wishes of the donor to place the item in the location they have chosen.

MAINTENANCE:

Maintenance for donated improvements is at the expense of the City unless other arrangements or agreements have been made. Maintenance will continue through the anticipated life of the asset.

INQUIRIES:

When an inquiry is received regarding a donation, information should be gathered on a form provided by the City to the donor. This information should then be forwarded to the Program Coordinator for review. City staff will then review the request and within 10 business days notify the individuals of the outcome.

The City will make every effort to grant the request of where to place the donated item, however current items in the location will be considered when making the decision.

DONATION AGREEMENT

Date: _____

Donation location preference: _____

Item donated: _____

To honor the memory of a loved one or organization, _____ requests permission to place a donation on City property. By this agreement between the City of Storm Lake and _____, the Donor Sponsor, the right to place the donation on city property is granted as described below:

- Donation will be maintained under and in accordance with the City of Storm Lake's Donation Program conditions attached to this agreement and incorporated herein by reference.
- The Donor Sponsor shall abide by all regulations relating to the maintenance, safety, and all other conditions as required by the City regulations for the Donation Program.
- The Donor Sponsor agrees to allow the City to remove/relocate the donated item if it impedes any future public improvements the City does in the area.
- Every effort will be made on the City's part to grant the approval of the location for the donation. However, if the location is not suitable for whatever reasons the Donor Sponsor agrees to the let the City place it in a different location.
- The Donor Sponsor will, at all times, assume all risk relating to, and indemnify, defend and hold harmless City of Storm Lake, its Council, agents, employees and representatives against any and all claims, lawsuits, losses, damages, responsibility, liability, attorney's fees, costs and expenses arising from, allegedly arising from or related to, the exercise or attempted exercise by the Donor Sponsor, its employees, agents, contractors and representatives, of the Donor Sponsor's obligations, rights and privileges in this agreement. This paragraph shall survive termination of this agent.
- The Donor Sponsor agrees that City of Storm Lake may terminate this agreement at any time the Donor Sponsor does not comply with the conditions in this agreement or at any time the City determines the donation is unsafe or causes a conflict with public improvements. The City of Storm Lake reserves the right to revise or discontinue this program at any time.

Signature of Donor Date

Contact Name Email Address Phone

Sign Inscription:

RESOLUTION NO. 51-R-2022-2023

RESOLUTION ADOPTING A DONATION PROGRAM FOR THE CITY OF STORM LAKE IOWA

WHEREAS, individuals, community groups and businesses may wish to make donation to the City in either cash or in-kind contribution that enhance projects, facilities and programs; and

WHEREAS, the need for projects, facilities and program exceeds the City's ability to fund all such needed projects; and

WHEREAS, the purpose of this policy is to establish guidelines that 1) ensure donations occur at arm's length from any City decision making process, 2) provide criteria and process for the acceptance of donations, and 3) give the City the ability to accept donations that meet its needs and capacity to maintain the donation.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA;

Section 1. That the City of Storm Lake, Iowa hereby adopts a donation policy as attached and noted as Exhibit 1.

Section 2. That donations shall be accepted through a written agreement and approved by the City Council.

Section 3. That in-kind capital donations will subject to normal City review, permitting, inspection and insurance requirements.

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Staff Summary

03/20/2023

Agenda Item # F.15.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
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REPORT TO: Honorable Mayor & Council

FROM: Mayra Martinez City Clerk

SUBJECT: City Council Requested Items

BACKGROUND:

FISCAL IMPACT:

RECOMMENDATION: Future work session or presentations:

To Be Determined - Facility For Indoor Mini Pitch Soccer

ATTACHMENTS: