City of Grand Island

Tuesday, August 13, 2019

Council Session

Item I-4

#2019-216 - Consideration of Approving Proposal for the Burdick Station Maintenance Building

Staff Contact: Tim Luchsinger, Stacy Nonhof

Council Agenda Memo

From: Timothy G. Luchsinger, Utilities Director
Stacy Nonhof, Assistant City Attorney

Meeting: August 13, 2019

Subject: Burdick Station Maintenance Building

Presenter(s): Timothy G. Luchsinger, Utilities Director

Background

The Burdick Station consists of three steam turbine generators and three gas turbines. Units #1 (operational 1956) and #2 (operational 1962) were decommissioned in 2016, and Unit #3 (operational 1972) was decommissioned in 2017. The cooling tower was used to condense steam for Unit #3.

In 2015, Black & Veatch was hired to conduct an engineering study. They looked at the feasibility of utilizing the existing steam unit building for future generation. It was concluded that it is more cost effective to raze the existing building than try to retrofit it. The Burdick Steam unit building will be razed in 2020, eliminating the cost associated with maintaining the building, and mitigating all hazardous materials.

The three gas turbines will remain operational at Burdick Station and provide peaking and emergency backup power to the City. A new maintenance building will be constructed in the location of the existing cooling tower for auxiliary equipment and to perform maintenance on the gas turbines and future generation. The area of the proposed building will be approximately 6,000 square feet.

Plant staff prepared specifications for the new Burdick facility based on the requirements included in the Black & Veatch study.

Discussion

The Request for Proposals for the Burdick Station Maintenance Building was publicly advertised in accordance with the City Purchasing Code and sent to three potential contractors. Only one proposal to complete the project using the design-build process was received from the following company:

Chief Construction, Grand Island, Nebraska $1,740,637.00

The proposal was reviewed by plant management staff and found compliant with specifications and less than the engineer's estimate of $1,800,000.00.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue presented in this motion

Recommendation

City Administration recommends that Council award the proposal for the Burdick Station Maintenance Building to Chief Construction of Grand Island, Nebraska as the best evaluated proposal, with a proposal price of not to exceed $1,740,637.00.

Sample Motion

Move to approve the proposal from Chief Construction of Grand Island, Nebraska, for the Burdick Station Maintenance Building for a price not to exceed $1,740,637.00.

Purchasing Division of Legal Department
INTEROFFICE MEMORANDUM

CITY OF GRAND ISLAND

Stacy Nonhof, Purchasing Agent

Working Together for a Better Tomorrow, Today

REQUEST FOR PROPOSALS
FOR
BURDICK STATION MAINTENANCE BUILDING

RFP DUE DATE:	**June 25, 2019 at 4:00 p.m.**
DEPARTMENT:	**Utilities**
PUBLICATION DATE:	**May 24, 2019**
NO. POTENTIAL BIDDERS:	**3**

PROPOSALS RECEIVED

Chief Construction
Grand Island, NE

cc: Tim Luchsinger, Utilities Director
Jerry Janulewicz, Interim City Administrator
Stacy Nonhof, Purchasing Agent
Pat Gericke, Utilities Admin. Assist.
Patrick Brown, Finance Director
Lynn Mayhew, Assist. Utilities Director

P2135

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into by and between **CHIEF CONSTRUCTION COMPANY**, hereinafter called the Contractor, and the **CITY OF GRAND ISLAND, NEBRASKA**, hereinafter called the City.

WITNESSETH:

THAT, WHEREAS, in accordance with law, the City has caused contract documents to be prepared and an advertisement calling for proposals to be published for *BURDICK STATION MAINTENANCE BUILDING;* and

WHEREAS, the City, in the manner prescribed by law, has evaluated the proposals submitted, and has determined the aforesaid Contractor to be the responsible proposer, and has duly awarded to the said Contractor a contract therefore, for the sum or sums named in the Contractor's proposal, portions thereof being attached to and made a part of this contract.

NOW, THEREFORE, in consideration of the compensation to be paid to the Contractor and of the mutual agreements herein contained, the parties have agreed and hereby agree, the City for itself and its successors, and the Contractor for itself, him/herself, or themselves, and its, his, or their successors, as follows:

ARTICLE I. That the following documents shall comprise the Contract, and shall together be referred to as the "Agreement" or the "Contract Documents";

1. This Contract Agreement.
2. Chief Construction Company's proposal signed and dated June 25, 2019 and revised scope, including detailed work plan, project schedule and fees for services.
3. City of Grand Island's proposal for this project.

In the event of any conflict between the terms of the Contract Documents, the provisions of the document first listed shall prevail.

ARTICLE II. That the Contractor shall (a) furnish all tools, equipment, superintendence, transportation, and other construction materials, services and facilities; (b) provide and perform all necessary labor; and (c) in a good substantial and workmanlike manner and in accordance with the requirements, stipulations, provisions, and conditions of the contract documents as listed in the attached General Specifications, said documents forming the contract and being as fully a part thereof as if repeated verbatim herein, perform, execute, construct and complete all work included in and covered by the City's official award of this contract to the said Contractor, such award being based on the acceptance by the City of the Contractor's proposal;

ARTICLE III. That the City shall pay to the Contractor for the performance of the work embraced in this contract and the Contractor will accept as full compensation therefore the sum (subject to adjustment as provided by the contract) of **One Million Seven Hundred Forty Thousand Six Hundred Thirty-Seven and no/100 Dollars ($1,740,637.00)** for all services and work covered by and included in the contract award and designated in the foregoing Article II; payments thereof to be made in cash or its equivalent in the manner provided in the General Specifications.

The total cost of the Contract includes labor and materials, including sales tax:

Base Bid:	$ 1,740,637.00
Total	$ 1,740,637.00

Option 3 Contractor

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

ARTICLE IV. The Contractor hereby agrees to act as agent for the City. The invoice for contractor's services will be paid after approval at the next regularly scheduled City Council meeting and occurring after departmental approval of invoice. The City Council typically meets the second and fourth Tuesday of each month. Invoices must be received well in advance of Council date to allow evaluation and processing time.

ARTICLE V. The Contractor agrees to comply with all applicable State fair labor standards in the execution of this contract as required by Section 73-102, R.R.S. 1943. The Contractor further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. During the performance of this contract, the Contractor and all subcontractors agree not to discriminate in hiring or any other employment practice on the basis, of race, color, religion, sex, national origin, age or disability. The Contractor agrees to comply with all applicable Local, State and Federal rules and regulations. The Contractor agrees to maintain a drug-free workplace policy and will provide a copy of the policy to the City upon request. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

GRATUITIES AND KICKBACKS

City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

CHIEF CONSTRUCTION COMPANY

By_____ Date _____

Title_____

CITY OF GRAND ISLAND, NEBRASKA

By_____ Date _____
Mayor

Attest:_____
City Clerk

The contract is in due form according to law and hereby approved.

_____ Date _____
Attorney for the City

CHIEF CONSTRUCTION

3935 Westgate Road
PO Box 2078
Grand Island, NE

July 15, 2019

Revised Scope of Work for Burdick Station Maintenance Building RFP

General Conditions

- Full time site superintendent
- Fully implemented and supervised OSHA Safety Program
- Temporary electrical power
- Temporary sanitary facilities
- Job-site office and storage
- Builder's Risk and General Liability Insurance
- Dumpsters and cleanup
- Performance Bond
- Sales Tax

Design & Engineering

- Coordinating Professional fees as required by statute
- Structural, mechanical and electrical engineering
- Soil borings and analysis
- Soil and concrete testing
- Permits for building construction

Site Work & Demolition

- Removal of existing cooling tower foundations and slab at perimeter building footings
- Removal of existing stair tower footings
- Demo cooling tower drain
- Demo steel water lines to pumps
- Removal of chlorine building
- Removal of existing slabs at flume for new storage basin detail
- Strip existing limestone rock in construction area and stockpile for later use
- Spread crushed limestone at completion of project
- Fill cooling tower basin with approximately 3' of clay fill to 97% compaction
- Grade at exterior of building to existing grades. 5% slope maximum at North, South, and West sides.
- Raise (3) existing storm sewer inlets to match new drainage grades. New rings to be installed with new man hole steel ring. Existing grates to be re-used.
- 280 sq ft of 8" thick building approach
- 1,220 sq ft of 6" thick concrete for parking and drives
- 1,062 sq ft of 4" thick concrete sidewalk
- Parking lot striping and (1) ADA parking sign
- Joint sealing of all expansion and control joints for paving and sidewalks
- Downspout drain system to connect all downspouts in underground pipe and connect to existing storm sewer

Concrete

- Reinforced concrete foundations as designed by a licensed Structural Engineer, including anchor bolts and all steel reinforcement are included.
- The design of this foundation assumes an allowable soil bearing pressure of 2,000psf. If the results of the Geotechnical Investigation show a variation in the allowable soil bearing pressure, the foundation design will need to be modified and additional expense could be incurred.
- 6" thick concrete floors in Maintenance Bay and Instrument/Electrician Shop
- 4" thick concrete floors in Office
- Structural Stoops at wall walk doors
- (4) 6" DIA bollard posts at each overhead door
- Polycast trench drains with heavy duty grates as shown on preliminary drawings.
- 8" hollow core deck with 4" topping above storm shelter
- Concrete Storage Basin:
  - Infill of existing opens in lid
  - Form and pour concrete in existing openings for lid and sluice gates
  - Coat interior of existing basin with Tnemic Series 217 at 1" maximum depth for repair and top coat with Tnemec Series 22 at 40DFT

Masonry

- Allowance for brick fascia as shown on preliminary drawings.
- 8" CMU at storm shelter up to concrete deck at 10'-0" A.F.F. grouted full with reinforcement

Chief Pre-Engineered Building

- See preliminary plans for dimensions, eave heights, etc.
- 26 gauge colored AP Wall Panel (35 year Ultra-Kote Premium Wall Panel Finish Warranty)
- 24 gauge MSC Standing Seam Roof Panel (35 year Ultra-Kote Panel Limited Warranty)
- 20psf roof live load, 30psf roof snow load, 25psf ground snow load, 5psf collateral load for lighting, ductwork, partial suspended ceiling, fire sprinklers and insulation
- 120mph basic wind load, Exposure C
- Factory Mutual Wind Uplift Rating (FM 4471) – Roof Panel only, does not apply to wall panels. Class 1-90, Roof panel attachment in the edges and corners are "enhanced" per FM 1-31, utilizing a maximum 1/2 and 1/3 times the purlin spacing in the field of the roof for the perimeter and corners respectively. All other building components including purlins, girts, wall sheeting, and main wind-force resisting systems (MWFRS) shall be designed (only) in accordance with the specified building code.
- (1) 50' below eave canopy with 4' projection. 24 gauge MSC Standing Seam roof panel, 24 gauge FSP soffit panel
- (10) 2'-0" x 10'-0" MSC light transmitting panels
- 8' high liner panel in Maintenance Bay and Instrument/Electrician Shop, 29 gauge CS Standard Color
- Full height partition running full length of building. Sheeting full height (1) side and 8' high on opposite side
- Full height partition wall above Operation Room in Instrument/Electrician Shop.
- Gutter and downspouts at each sidewall
- Loading, crane rails and brackets for (1) 5 ton underhung bridge crane as shown on plan

Thermal & Moisture Protection

- Roof insulation – R35 Simple Saver System with white reinforced vapor barrier
- Wall insulation – R25 Simple Saver System white reinforced vapor barrier
- All interior walls to have sound insulation
- All floors to have 10 mil Stego-Wrap vapor barrier

Doors & Windows

- All exterior doors to be hollow 18 gauge hollow metal doors and 16 gauge hollow metal frames with commercial grade hardware including electric strike with RFID card readers
- Interior doors into Maintenance Bay and Instrument/Electricians Shop to to be hollow 18 gauge hollow metal doors and 16 gauge hollow metal frames with commercial grade hardware
- All interior Office doors to be pre-finished solid core wood doors with hollow metal frames and commercial grade hardware
- Operations Room/Storm Shelter door to be FEMA rated
- All overhead doors to be CHI Model 3241 insulated doors with (3) 24" x 12" insulated windows and electric operators with (2) remotes
- All storefront doors and windows to be Kawneer or equal
- Storefront entrance to be medium style door frame with offset pivots, rim panic device, electric strike, closer, threshold, sweeps and weatherstripping
- All storefront exterior glazing to be 1" bronze insulated low-e glazing
- Interior storefront glazing to be ¼" clear tempered

Interior Finishes

- Office area interior walls to be framed with metal studs, covered with 5/8" drywall taped and finished and painted
- Office area will have 2'x2' suspended acoustical grid ceilng
- Flooring to be carpet tile in Office and Conference Room, LVT in remainder of Office Space
- Rubber base to be installed in all areas with drywall (not in area with liner panel)
- Floor in Maintenance Bay and Instrument/Electrician Shop to be epoxy finish using Sherwin Williams General Polymers 3746 high performance epoxy with Hi-Solids urethane top coat
- Floor in Mech/Elec to be sealed concrete

Specialties

- Toilet accessories to include paper towels dispensers, toilet paper holders, mirrors, grab bars, and soap dispensers
- 10lb fire extinguishers as required by code – Extinguishers in Office area to be in recessed cabinet

Equipment

- (1) 5 ton single girder underhung bridge crane
- 31 span
- 100FPM bridge speed
- Power festoon
- 90 Amp Duct-O-Wire 4 bar electrical system

Fire Sprinkler System

- Complete wet pipe fire sprinkler system throughout designed per requirements of NFPA 13 and Nebraska State Fire Marshal. Sprinkler heads will be plain brass finish in areas without ceiling and recessed chrome or white in areas with ceiling.
- Sprinkler system designed for Ordinary Hazard Group Occupancy

Plumbing

- 6" DI water main tapped from existing 6" main on North side of building
- 1 ½" Domestic water main
- 4" PVC sanitary sewer service from new building to pre-packaged 2 pump with alarm sump pump and bored with 250' of 2" lin to existing grass area South of existing building and tapped into existing sewer line
- (1) each ADA toilet in Men's and Women's Restrooms
- (1) ADA urinal in Men's Restroom
- (1) each ADA wall hung lavatories in Men's and Women's Restrooms
- (1) ADA water cooler
- (1) double bowl tub sink
- Sanitary sewer connection from trench drain to existing oil separator South of building
- Hookups for Break Room sink, and ice maker
- (1) 40 gallon electric water heater
- (1) Fiberglass mop sink Warehouse
- (2) interior hose bibs and (2) exterior hose bibs at ends of drive through bay and (1) hose bib at center of drive through bay
- Provide 6" DI water line ~~with back flower preventer~~ stubbed 5' outside of building for chilled water at Mobile Water Treatment
- Provide 4" PVC sewer line from Mobile Water Treatment to connect to sanitary sewer
- Provide stainless steel fill and suction lines for de-mineralized water using 4" 304 or 316 stainless steel pipe. (1) line from Mobile Water Treatment System to Pumping Station, (1) line from Pumping Station stubbed 20' South of the building for GI Utilities to connect, (1) line from Pumping Station to 1' inside Storage Basin, and (1) line from Pumping Station to bottom of Storage Basin. Pipe to be stubbed up 1' above new building floor.
- Gas piping to mechanical equipment on 2lb system. Tie onto riser with 500lb by 2lb regulator provide by City of Grand Island. All tapping and service with regulator by City of Grand Island.

HVAC

- Office and Operations to have 80,000 BTU 96% gas furnace and 4 ton 13 SEER Condenser, with Aprilaire humidifier, fresh air duct and damper, and digital thermostats
- (2) bath fans duct to outside
- Instrument/Electricians Shop to have 60,000 BTU 96% gas furnace and 3 ton 13 SEER condenser, with Aprilaire humidifier, and digital thermostat
- Maintenance Bay to have (2) 125,000 BTU 50' tube heaters with hangers, flue piping, intake piping and thermostats
- Maintenance Bay to have Tox-Alert system with sensors and alarm with exhaust, intake, and louvers.
- All necessary registers, grilles, ductwork, and duct wrap

Electrical

- All work per 2017 NEC
- All electrical work per specs & drawings listed above
- New Light Fixtures as shown including conduits, fittings, & wire. To Include
- 18 – 2x4 LED Linear Fixtures
- 12 – Round 18L High Bay LED Fixtures
- 14 – Round 30L High Bay LED Fixtures
- 2 – 4' LED Strip Light Fixtures
- 9 – Emergency Lights w/Battery Pack
- 4 – Exit Lights
- 6 – 6" LED Can Lights
- 1 – 4" LED Can Light
- 2 – 2 Lamp Vanity Lights
- 3 – Exterior Wall Lights
- New LED occupancy Sensors & dimmers for ALL new fixtures including all conduits, & wire
- New 200amp 277/480volt service to new building with conduit and wire fed from existing Electrical Building. New 277/480volt 42 circuit panel board, 1- new 75KVA transformer, 1 – 120/208volt 42 circuit panel board. New 200 amp bucket to connect feeders is NOT included. New bucket will need to be engineered and supplied by Eaton Manufacturing.
- All shown receptacles including all necessary conduits & wire
- 1 – Floor Box & cover in conference room with all necessary conduits, wire, & devices
- Connections to Mechanical Equipment such as pump panel, welder outlet, & compressor outlet
- Connections to Overhead Crane
- Rough in for security card readers, door strikes, & door contacts
- Rough in for data/telephone as shown on drawings. This includes 2 new 2" conduits trenched in from
- Existing Duct Bank for Future Fiber Cables
- Temp power fed from existing 480volt power from Warehouse

Well Enclosures

- (2) 16' x 20' single slope rigid frame buildings
- 8' low eave height with 2:12 roof pitch
- 26 gauge colored AP Wall Panel (35 year Ultra-Kote Premium Wall Panel Finish Warranty)
- 26 gauge CS Roof Panel (35 year Ultra-Kote Panel Limited Warranty)
- 20psf roof live load, 30psf roof snow load, 25psf ground snow load, 5psf collateral load for lighting, ductwork, partial suspended ceiling, fire sprinklers and insulation
- 120mph basic wind load, Exposure C
- Gutter and downspouts at low sidewall
- (1) wall to have ¾" AC plywood liner full height painted white semi-gloss on both sides
- (1) 3070 hollow metal door and frame with hardware per specification in each building
- (2) 3' x 3' aluminum insulated sliding windows in each building
- (1) 12" x 12" access panel per specification in each building
- (1) 2'-6" x 3'-0" roof hatch per specification in each building
- Reinforced concrete foundations as designed by a licensed Structural Engineer, including anchor bolts and all steel reinforcement are included.

- The design of this foundation assumes an allowable soil bearing pressure of 2,000psf. If the results of the Geotechnical Investigation show a variation in the allowable soil bearing pressure, the foundation design will need to be modified and additional expense could be incurred.
- 6" thick concrete slab around existing wall foundation
- Structural Stoop at wall walk door
- 6" thick concrete sidewalk around building as shown on plan
- Fine grade around building and sidewalks

Exclusions:

- ~~Sales Tax~~
- De-Watering if required
- Removal and replacement of any unsuitable soils
- Connection of electrical service feeders inside existing Electrical Building
- Tap to existing gas service
- Furniture or window coverings
- Casework and furnishings, appliances
- Office equipment
- Any item not specifically referenced in this proposal

Total: $ 1,740,637.00

Option: Delete 12' from length of building. Space to be taken out of Maintenance Bay and Instrument/Electrician Shop:
Delete: $ 20,824.00

Material Allowances:
Brick: $ 0.65 per brick
Carpet Tile: $20.00 per square yard
LVT: $3.75 per square foot
Floor Epoxy: $ 20,616.00 total for labor and material

Submitted By: Chief Construction

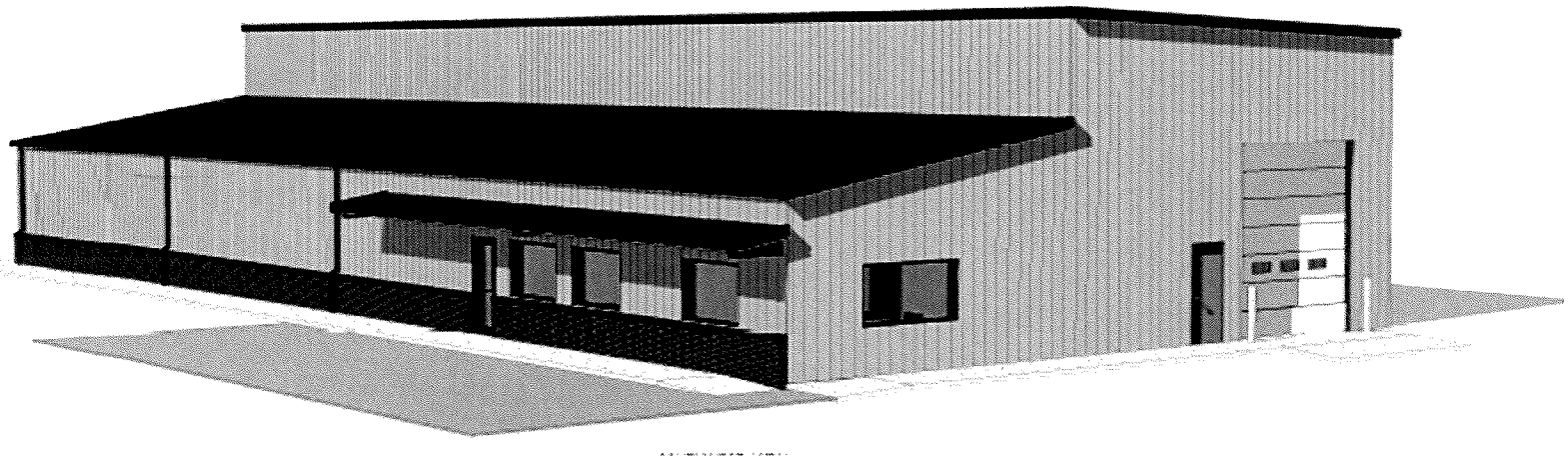
Signature: _____

Printed Name: Lynn Johnson

Title: Project Manager

Date: _____

CITY OF GRAND ISLAND



Burdick Station Maintenance Building

Request for Proposal

June 25, 2019

CHIEF CONSTRUCTION

June 25, 2019

Lynn Mayhew-Assistant Utilities Director
City of Grand Island
City Hall
100 East 1st Street
Grand Island, NE 68802

RE: Request for Proposal - Burdick Station Maintenance Building

Dear Lynn Mayhew,

As a local Grand Island business, our team has a keen pulse on the current and future direction of Grand Island and can provide focused insight on development and construction. For more than 65 years, Chief Construction, a subsidiary of Chief Industries, has been providing construction services throughout Central Nebraska. Our oganization provides numerous benefits to our clients such as our tenured and experienced team, a financially stable company and skilled disciplines to help control the cost and schedule of the build. Our level of expertise and relationships is second to none in the region. We are dedicated to our clients and we are built around the goal of becoming a trusted advisor.

Chief Construction has continued to grow and expand our services over the last 60 years including alternate delivery methods and structure types, including conventional steel, wood and precast framed structures. Within the last three years, our project volume has increased over 300%. To aid in that aggressive growth, we have selected additional team who include several key managers and superintendents that bring experience from other national firms. We have nine specialized project managers, over a dozen superintendents along with self performing concrete, steel, carpentry and electrical crews that allow us to take on small and large projects with ease. Chief Construction also works hand in hand with our sister division of Chief Buildings, who designs and manufactures metal building systems for commercial and industrial applications based on specific customer requirements. This partnership allows us to shorten material lead times.

Our team brings exceptional value to the pre-construction process and can offer value engineering solutions for the overall benefit of the project, budget and schedule. Our project managers, superintendents and crew members are efficient in delivering projects on time and within budget. Our team looks forward to building your vision and we are prepared to move forward with the project upon a notice to proceed. The focus of each project is to keep the best interests of the stakeholders in mind and deliver an exceptional facility that impresses and exceeds expectations. Our emphasis on innovation and value engineering methods provides tangible value to our clients.

Sincerely,

Roger Bullington

Roger Bullington, P.E.
President & General Manager of Construction & Development
Chief Construction Company
3935 Westgate Rd
Grand Island, NE 68803
P: (308) 389-7288
F: (308) 389-7393
roger.bullington@chiefind.com

*OUR **MISSION** IS TO PROVIDE UNPARALLELED PERSONAL ATTENTION TO MEETING THE NEEDS OF OUR CUSTOMERS WHILE TREATING ALL STAKEHOLDERS WITH DIGNITY AND RESPECT, THEREBY ENSURING OUR STRENGTH AND STABILITY.*

THE CONTENTS

QUALIFICATIONS:

In over 65 years of business, Chief Construction has established itself as an industry leader in the design and completion of commercial, industrial, medical and housing construction projects throughout the Midwest. From our experienced concrete and steel crews, architectural design team, project managers, project superintendents and support personnel, to our commitment to pursue the latest technologies and innovations, we are constantly striving to achieve the pinnacle of customer service and construction quality for an efficient price. Our team prides ourselves on our attention to detail, commitment to great quality, vision and delivering on our promises.

- We offer complete turnkey construction services for a wide variety of building applications, featuring professional consultants and field operation supervision.
- Our diverse and extensive project list includes structures from 2,000 to 400,000 sq. ft, and is made up of commercial buildings, manufacturing facilities, medical complexes, schools, churches, strip malls, and more.
- Our projects are located throughout the United States Midwest area. We have also served several Fortune 500 companies.
- Our 65+ years of experience gives us expertise in all stages of construction, from design to move-in readiness.
- Our responsiveness to emerging technologies and ever-changing market trends allows us to bring value and unprecedented insight to projects.
- As a member of the Associated General Contractors of America, Chief Construction stays at the forefront of industry updates and trends.

Financial Strength & Stability

Chief Industries, Inc. and Chief Construction takes pride in our financial strength and stability as a company. Chief Construction's operations have steadily grown over the past 65 years and we have grown exponentially over the past three years. Chief Construction has a strong reputation for timely and complete payment to sub-contractors giving project owners security from payment disputes and lien protection. This also allows us to more confidently negotiate contracts and deliver more projects on time and at or under budget.

Bank Reference and Contact

Wells Fargo
Bill Weber, Relationship Manager
1248 "O" Street
Lincoln, NE 68508
Phone: (402) 450-7706
Email: Bill.K.Weber@wellsfargo.com

Work Completed

Chief Construction Company has never failed to complete work for which a contract was issued nor has it ever defaulted on a protective bond.

Self-Performed Work Versus Bid Work

Chief Construction has assumed the responsibility of solely filling the function of a construction manager for a variety of projects as well as taking on projects where the team has a dual role of construction manager as well as performing portions of the work. Our philosophy is to deliver the best product possible to the owner and end users. We have the capability to self-perform various scopes of work with the approval of the owner group. We will provide competitive pricing for Chief Construction's self-performed work to be compared to sub-contractors bids and be evaluated by the owners group to determine the best solution for the project. Our team keeps quality, project schedule and budget at the top of our minds when qualifying contractors for projects. Only those contractors who best meet the criteria will be selected to perform the work.

EXPERIENCES:

Roseland Fire Hall - Roseland, NE

Size: 9,600 square feet

Project Type: Design Build

Project Status: Completed
March 2018

Contract Amount: $846,500

Owner: Roseland Rural Fire Protection District

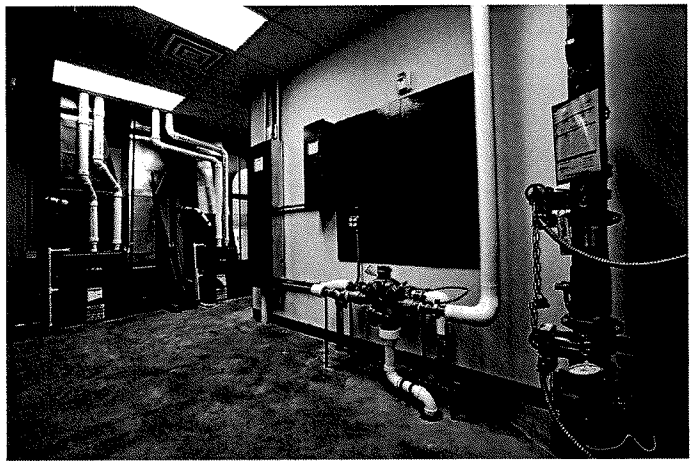
Owner Contact:
Kirk Feeney
308-258-2073
kirk@novatech-inc.com

DESCRIPTION

Roseland Fire Hall is a 9,600 square foot pre-engineered steel building with design elements included to ensure life-cycle cost effectiveness. The building includes a vehicle/equipment storage room, restrooms, kitchen/ serving area, mechanical/utilities/washer/dryer/shower room, an office, entryway and training room. Due to a well-maintained schedule and budget, the project was completed on-time and under budget.

Project Requirements:
- Design Build
- New Construction
- Vehicle Storage
- Office Space
- Training/Multi-purpose Room

Project Team:
- Project Manager
  - Gary Peters
- Project Superintendent
  - Troy Paxton



Oregon Trail - Fairfield, NE

Size: 39,000 square feet

Project Type: Design Build

Project Status: Completed
August 2015

Contract Amount: $3,800,000

Owner: SEC Evergreen, LLC. / Oregon Trail and Equipment

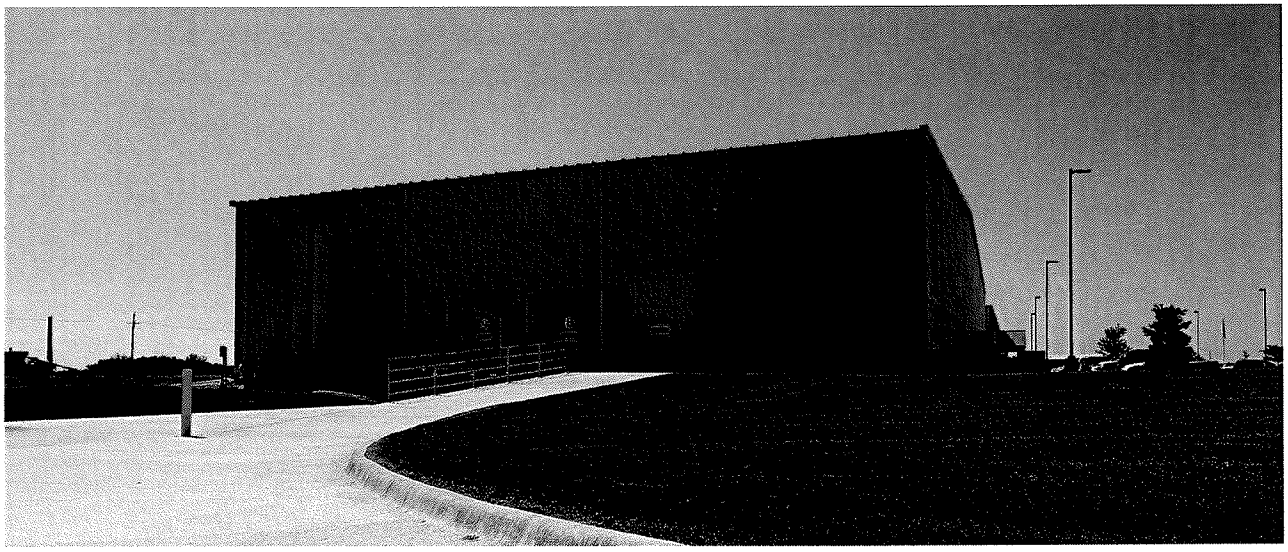
Owner Contact:
Mike Kongs
785-562-2346
mikek@oregontraileq.com

DESCRIPTION

Landmark Implement built a new facility in Fairfield, NE, expanding the John Deere dealership. The 39,000 square foot, design build dealership is comprised of a service area, parts, office space, a large showroom, bathrooms and multiple offices. The large mechanics space is illuminated with T-5 high bay fixtures to provide a well-lit work environment. In addition to the mechanics space, the facility also has retail space and office space that was fitted with the needed electrical components and data cabling.

Project Requirements:
- Design Build
- New Construction
- Space Requirements

Project Team:
- Project Manager
  - Chad Micek
- Project Superintendent
  - Ken Hoban



Nova Tech - Grand Island, NE

Size:
Phase 1: 33,000 sq ft
Phase 2: 22,000 sq ft

Project Type: Design Build

Project Status:
Phase 1: August 2015
Phase 2: March 2017

Contract Amount:
Phase 1:$2,573,548
Phase 2: $5,838,123

Owner: Nova Tech

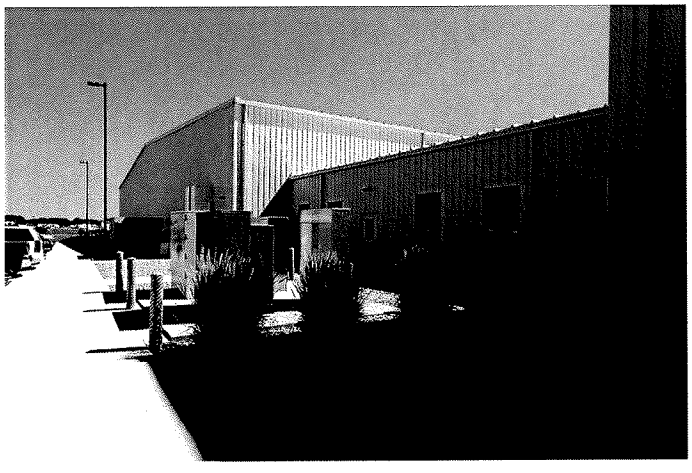
Owner Contact:
Gary Thesenvitz
308-381-8841
gary@novatech-inc.com

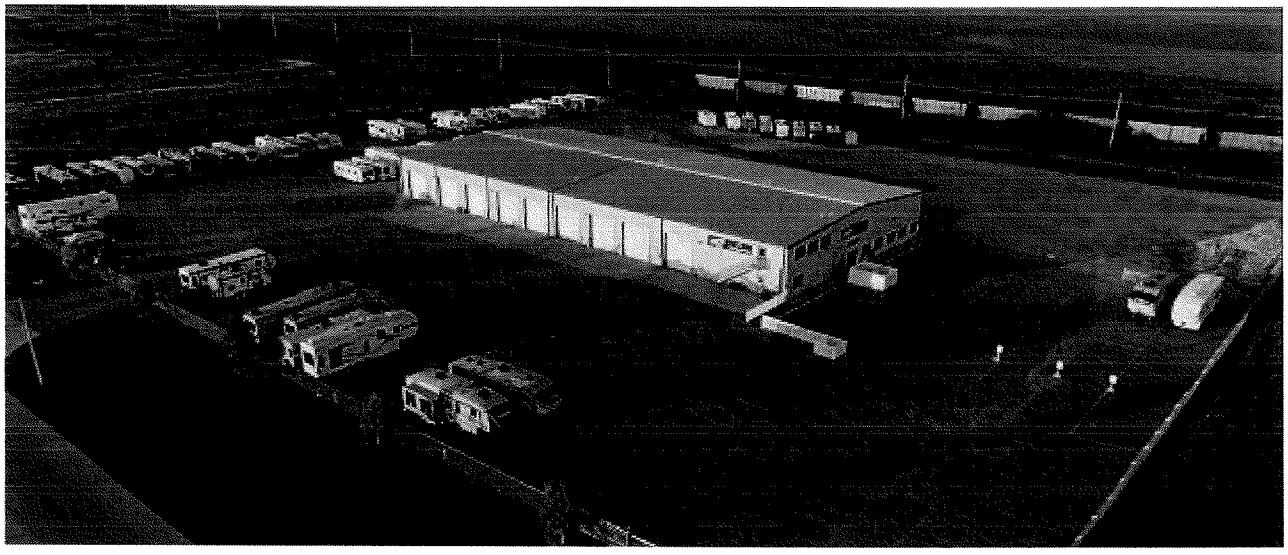
DESCRIPTION

Chief Construction has worked with Nova-Tech on two different phases of builds. The first phase included the build out of the 33,000 square foot temperature controlled warehouse and was completed in August of 2015. The new warehouse has undergone temperature control mapping and testing to ensure that the environment is ideal for storage. Phase two included a 22,000 square foot facility that is now home to additional manufacturing lines. This space required precision in every aspect of the build. The facility is designed and operates under Current Good Manufacturing Practice (CGMP) standards to ensure all clean/sterile standards are met.

Project Requirements:
- Design Build
- New Construction
- Warehouse space

Project Team:
- Project Manager
  - Rob Rasmussen
- Project Superintendent
  - Jace Kluver





Rich and Sons Camper - Grand Island, NE

Size:
Phase 1: 13,200 sq ft
Phase 2: 11,770 sq ft

Project Type: Design Build

Project Status:
Phase 1: 2015
Phase 2: May 2018

Contract Amount:
Phase 1: $1,011,565
Phase 2: $760,098

Owner: Rich and Sons Camper

Owner Contact:
Nick Staab
308-384-2040
nick.staab@richsonsrv.com

DESCRIPTION

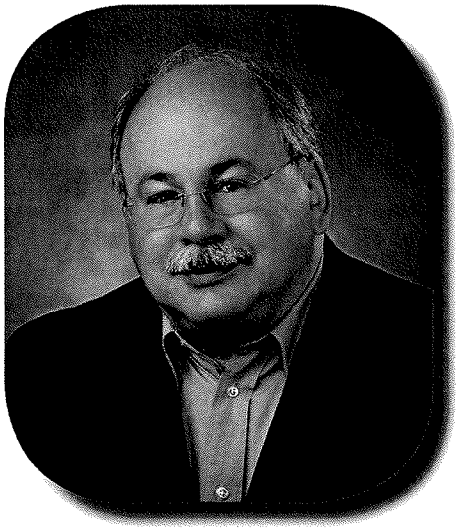
Chief Construction has completed two builds with Rich and Sons Camper. To prepare for construction, the 4.5 acre site had to be developed. This included 80,000 sq ft of paving, approximately 1,800 feet of security chain link fencing, gates ,site drainage and landscaping.

The first build consisted of a 13,200 square foot PEMB RV service facility. The project is located within the Platte Valley Industrial Park development. Phase 1 of Rich and Sons Camper facility is comprised of 4 service bays, 1 wash bay, storage area and a shop office.

The second phase included an addition of 11,770 square foot facility. This addition consists of 8 full service work bays and one drive through wash bay for full size RV's.

Project Requirements:
- Design Build
- New Construction
- Vehicle Storage
- Office Space
- Project Manager

Project Team:
- Project Manager
  - Rob Rasmussen (Phase 1)
  - Lynn Johnson (Phase 2)
- Project Superintendent
  - Reggie Goertzen (Phase 1)
  - Ken Hoban (Phase 2)



Brad Brandenberg *Architect*

Brad Brandenberg joined Chief Construction as the architect and Drafting/ Design Manager in 2005. Brad is a Registered Professional Architect by the state of Nebraska and is certified by the National Council of Architectural Registration Boards. He received his Bachelors of Architecture from the University of Idaho prior to working as a project architect and architect for various organizations.

Today, with over 25 years of professional experience, Brad oversees the drafting/design team providing guidance and insight into our drawings and plans. He is also a very active member in the community, having served as a board member for the First United Methodist Church and the Heartland Amateur Radio Association.

Contact Information

Phone: 308-389-7203

Email: brad.brandenberg@chiefind.com

Employment Experience

Chief Construction, Grand Island, NE
Architect and Drafting/Design Manager (2005 - Present)
Bradley E Brandenberg + Associates, P.C., Lexington, NE
Principal in Charge (2000 - 2005)
Joseph R. Hewgley and Associates, Inc., North Platte, NE
Staff Architect (2000 - 2001)
Tagge Engineering Consultants Inc., Holdrege, NE
Architect (1996 - 2000)
Peters & Associates Architect, P.E., Omaha, NE
Project Architect (1995 - 1996)

Education

Bachelors of Architecture
- University of Idaho

Professional Registration

Registered Professional Architect in the state of Nebraska

Relevant Projects

Sargent Drilling, Aurora, NE
- Role: Architect

Byron Community Center, Byron, NE
- Role: Architect

Lynn Johnson *Project Manager*

Born and raised in Wilcox, Nebraska, Lynn received his Bachelor of Science in Industrial Management from the University of Nebraska at Kearney. Upon graduation Lynn worked for a regional Design Build General Contractor based in Kearney, NE focusing on commercial and industrial projects. Lynn's responsibilities included coordinating projects from conception and preliminary design through final completion as well as managing additional estimating staff. Lynn joined the team at Chief Construction Company in 2004 as a Project Manager where he is responsible for sales, estimating, project development, and project management. Lynn has over 25 years of experience in Design Build Construction, completing numerous projects throughout the Central Nebraska area.

Lynn will be in charge of daily project management during construction, working closely with the project superintendent and on-site staff. He will review construction details to help our estimating team qualify the abilities and resources of interested subcontractors. Lynn will also be responsible for all project data and will coordinate efforts with the superintendent to communicate with subcontractors, project Owner's representatives, design team and the community regarding the job site progress. He will focus on maintaining the budget and schedule from concept planning through punch-list completion.

Contact Information

Phone: 308-627-6687

Email: lynn.johnson@chiefind.com

Experience

Chief Construction, Grand Island, NE
Project Manager (2004 - Present)
Interstate Structures, Inc., Kearney, NE
Estimating Manager / Project Manager (1992 - 2004)

Certifications

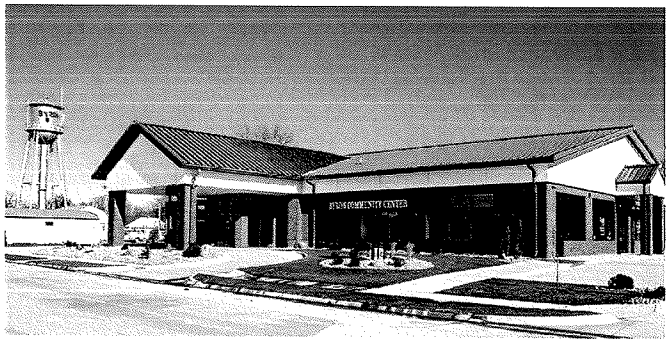
- Safety & OSHA certified

Education

Bachelor of Science in Industrial Management
- University of Nebraska at Kearney

Relevant Projects

Byron Community Center, Byron, NE
- Role: Project Manager



Rich and Sons Camper, Grand Island, NE
- Role: Project Manager

D. Design Approach & Understanding of the Project

Design Approach:

Chief Construction understands that relationships are the foundation of all strong partnerships. It is our goal to begin each project with a complete understanding of the vision, needs and likes of the owners as well as the end users. With this knowledge, our team would be best prepared to design and construct a facility that will exceed expectations and provide full functionality for years to come.

Our design philosophy is to empower all stakeholders to work together toward a vision that collectively brings everyone's needs and wants into perspective. We will integrate the ideas and suggestions into a design that will satisfy the group's end goal while maintaining the budget and projected schedule. The end design will provide a solution that respects the group's vision and mission. This highly collaborative process will be the hallmark of our integrated project delivery model, and we will apply our technology systems, knowledge and experience to ensure we operate efficiently and effectively.

Initial project schedules and budgets are derived from schematic drawings utilizing Chief Construction staff's vast construction knowledge, historical cost information, specialized vendor assistance and proper allocation of contingency funds. The foundation of this baseline budget and schedule is created by using specific quantities for the various scopes of work extracted from the design drawings. In between these budget and schedule updates, Chief Construction will actively attend and provide feedback to the primary stakeholders regarding constructability issues including potential cost and schedule impacts.

Chief Construction will work with the City of Grand Island as a single, unified team to ensure all bases are covered, all problems are resolved and the project moves forward efficiently. Together, our team can deliver unique solutions to your specific build, ensuring value engineering methods are considered each step of the way.

Design Process:

1. Chief Construction will work with Owner's Team to define the "Needs and Goals" of the new facility and analyze all design and construction issues involving feasibility and cost.
2. Chief Construction will set a budget based on preliminary drawings and pre-defined scope of work.
3. Chief Construction will establish project master schedule with milestone dates.
4. Cheif Construction will work with the Owner's Team to finalize preliminary drawings and scope of work including the following:
    a. Site plans
    b. Floor plans and elevations with proposed exterior and interior finish materials
    c. Room finish schedules and door schedules
    d. Defined scope for Mechanical, Electrical, and Special Systems
    e. Defined scope for miscellaneous items, casework, fixtures, door hardware, etc.
5. Chief Construction will provide value engineering as necessary during final design process.
6. Chief Construction will buy out any long lead items during phased solicitation process.

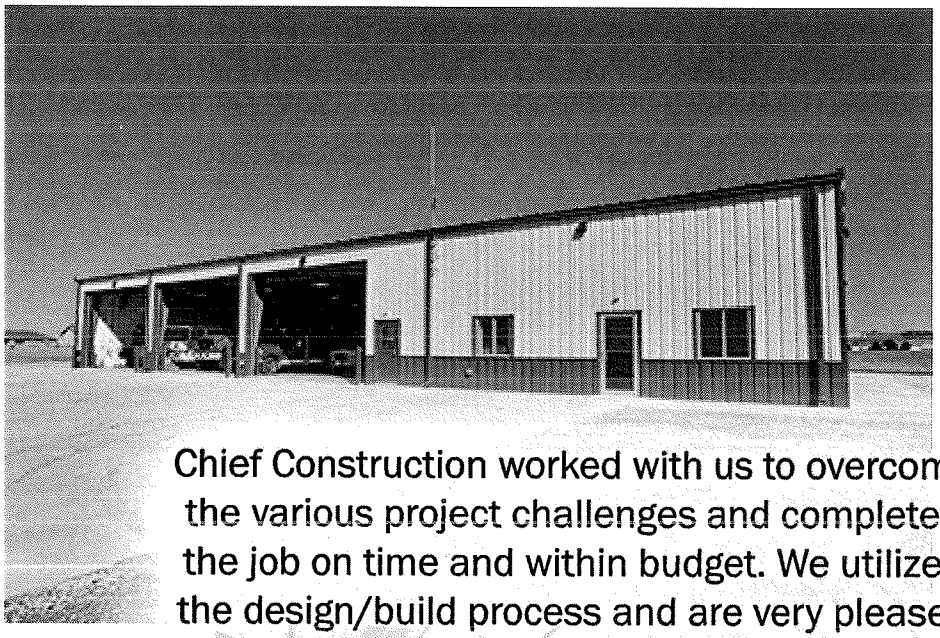
Understanding of the Project:

1. Chief Construction has reviewed all relevant information to the scope of the work and addressed issues related to existing conditions, demolition of existing cooling tower foundations, utility connections, and site work.

2. Chief Construction is familiar with all aspects of building construction and design and has done numerous facilities similar in nature.

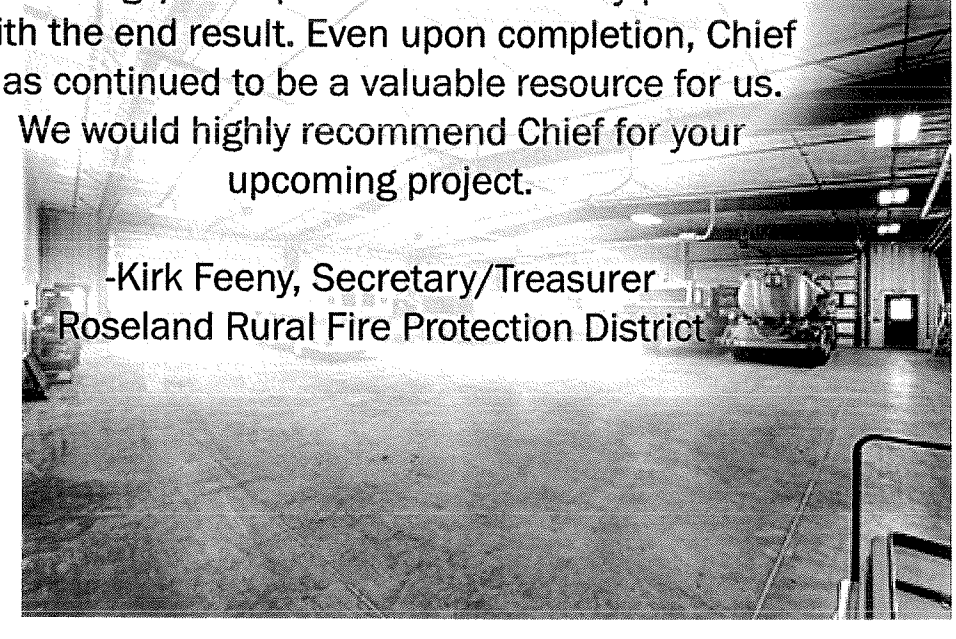
3. Chief Construction has visited site to verify all existing conditions

4. Chief Construction has reviewed all information and scope of work with proposed subcontractors and suppliers to verify RFP requirements



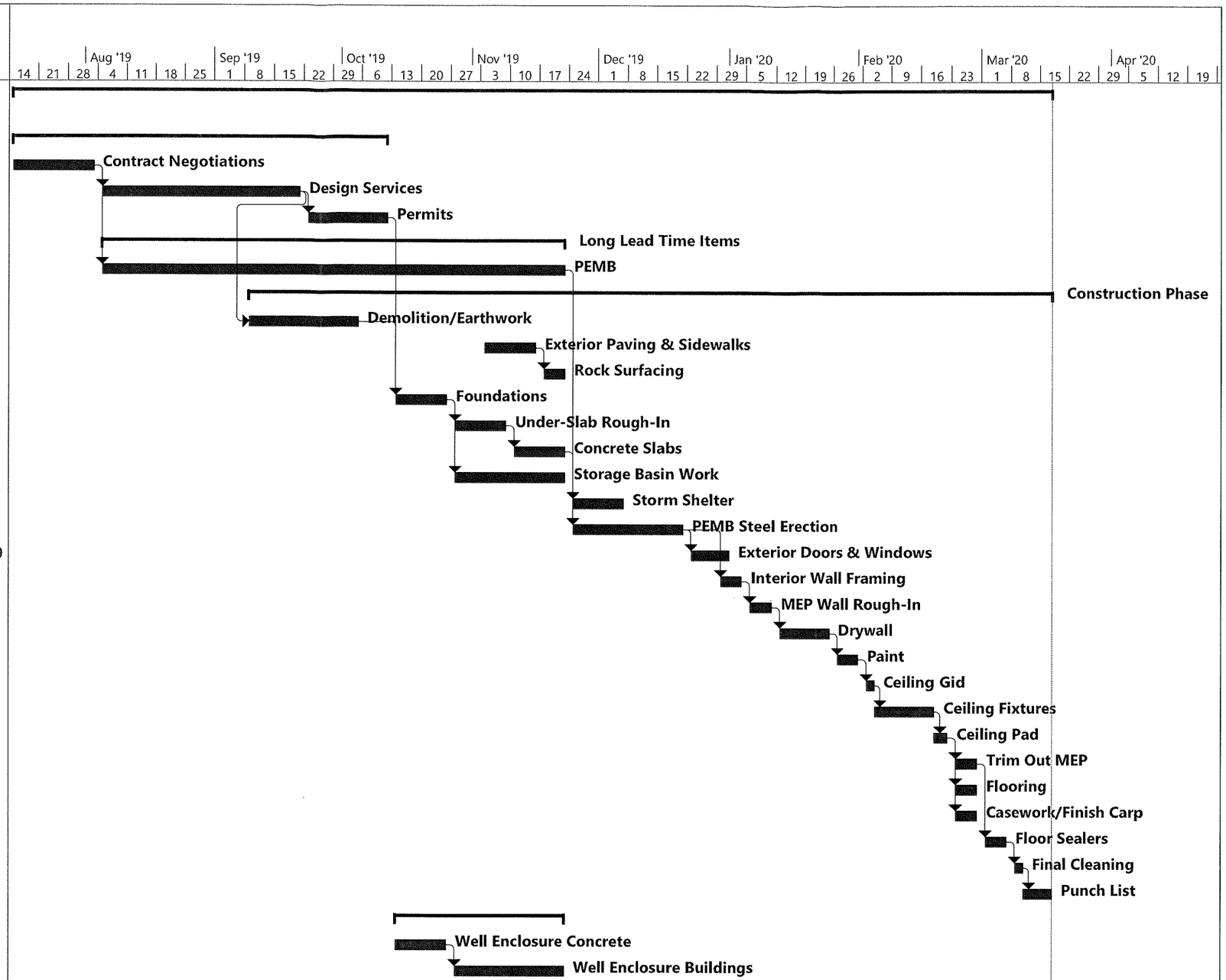
Chief Construction worked with us to overcome the various project challenges and completed the job on time and within budget. We utilized the design/build process and are very pleased with the end result. Even upon completion, Chief has continued to be a valuable resource for us. We would highly recommend Chief for your upcoming project.

-Kirk Feeny, Secretary/Treasurer
Roseland Rural Fire Protection District



E. PROPOSED SCHEDULE

ID	Task Mode	Task Name	Duration	Start	Finish
1		***City of Grand Island-Burdick Station Maintenance Bldg***	**177 days**	**Mon 7/15/19**	**Tue 3/17/20**
2		**Pre-Construction Services**	**65 days**	**Mon 7/15/19**	**Fri 10/11/19**
3		Contract Negotiations	15 days	Mon 7/15/19	Fri 8/2/19
4		Design Services	35 days	Mon 8/5/19	Fri 9/20/19
5		Permits	15 days	Mon 9/23/19	Fri 10/11/19
6		***Long Lead Time Items***	**80 days**	**Mon 8/5/19**	**Fri 11/22/19**
7		PEMB	80 days	Mon 8/5/19	Fri 11/22/19
8		***Construction Phase***	**137 days**	**Mon 9/9/19**	**Tue 3/17/20**
9		Demolition/Earthwork	20 days	Mon 9/9/19	Fri 10/4/19
10		Exterior Paving & Sidewalks	10 days	Mon 11/4/19	Fri 11/15/19
11		Rock Surfacing	5 days	Mon 11/18/19	Fri 11/22/19
12		Foundations	10 days	Mon 10/14/19	Fri 10/25/19
13		Under-Slab Rough-In	10 days	Mon 10/28/19	Fri 11/8/19
14		Concrete Slabs	10 days	Mon 11/11/19	Fri 11/22/19
15		Storage Basin Work	20 days	Mon 10/28/19	Fri 11/22/19
16		Storm Shelter	10 days	Mon 11/25/19	Fri 12/6/19
17		PEMB Steel Erection	20 days	Mon 11/25/19	Fri 12/20/19
18		Exterior Doors & Windows	7 days	Mon 12/23/19	Tue 12/31/19
19		Interior Wall Framing	5 days	Mon 12/30/19	Fri 1/3/20
20		MEP Wall Rough-In	5 days	Mon 1/6/20	Fri 1/10/20
21		Drywall	10 days	Mon 1/13/20	Fri 1/24/20
22		Paint	5 days	Mon 1/27/20	Fri 1/31/20
23		Ceiling Gid	2 days	Mon 2/3/20	Tue 2/4/20
24		Ceiling Fixtures	10 days	Wed 2/5/20	Tue 2/18/20
25		Ceiling Pad	3 days	Wed 2/19/20	Fri 2/21/20
26		Trim Out MEP	5 days	Mon 2/24/20	Fri 2/28/20
27		Flooring	5 days	Mon 2/24/20	Fri 2/28/20
28		Casework/Finish Carp	5 days	Mon 2/24/20	Fri 2/28/20
29		Floor Sealers	5 days	Mon 3/2/20	Fri 3/6/20
30		Final Cleaning	2 days	Mon 3/9/20	Tue 3/10/20
31		Punch List	5 days	Wed 3/11/20	Tue 3/17/20
32		**Well Enclosures**	**30 days**	**Mon 10/14/19**	**Fri 11/22/19**
33		Well Enclosure Concrete	10 days	Mon 10/14/19	Fri 10/25/19
34		Well Enclosure Buildings	20 days	Mon 10/28/19	Fri 11/22/19

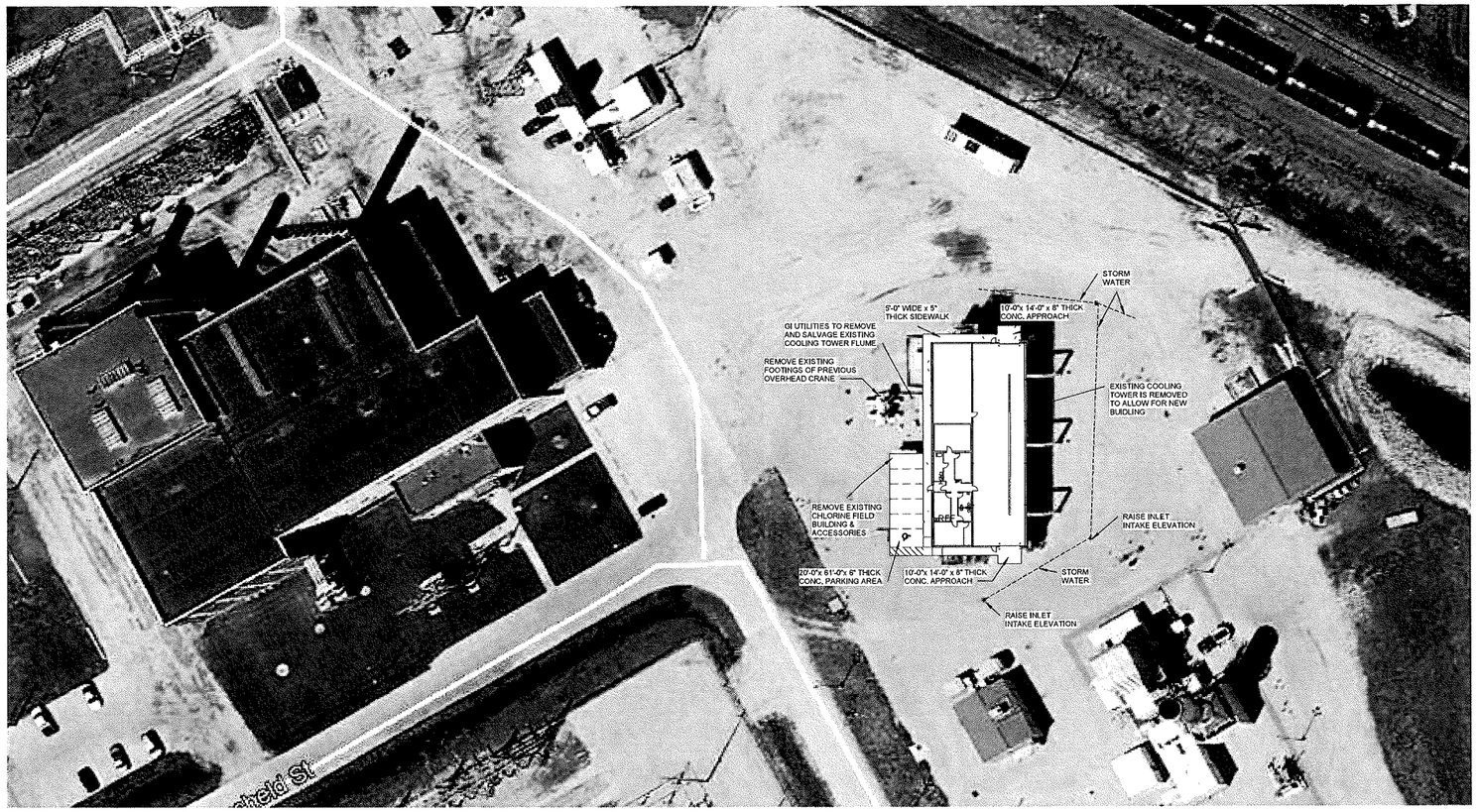


Project: Burdick Station Mainte
Date: Tue 6/25/19

Task	Project Summary	Manual Task	Start-only	Deadline			
Split	Inactive Task	Duration-only	Finish-only	Progress			
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress			
Summary	Inactive Summary	Manual Summary	External Milestone				

Page 1

F. Proposed Rendering and Layout



SITE PLAN
1" = 40'-0"

NOT FOR CONSTRUCTION

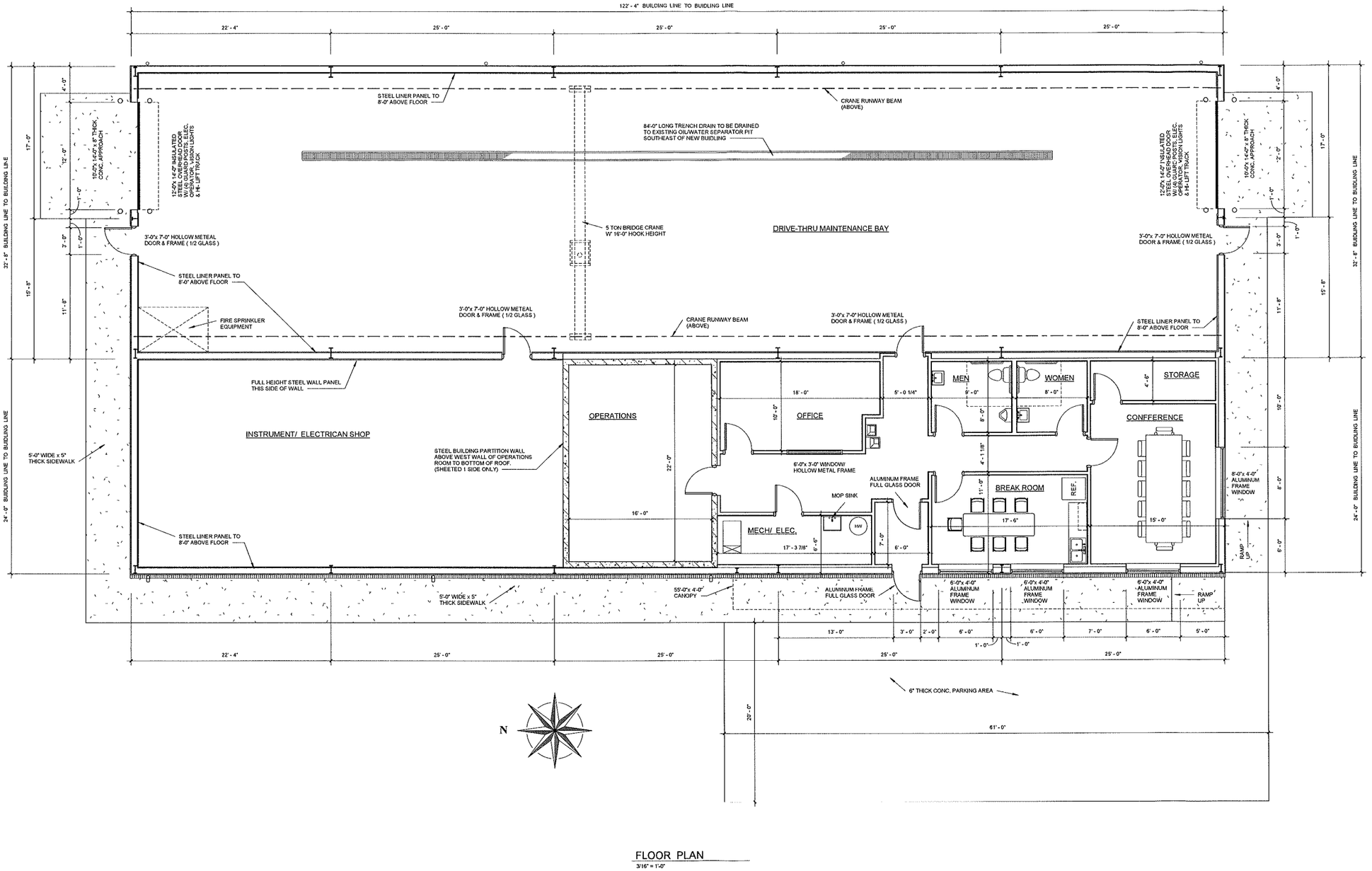
DESIGN/BUILD – GENERAL CONTRACTORS
GRAND ISLAND, NE (308) 389-7222
KEARNEY, NE (308) 238-2755
http://www.chiefconstruction.us

CHIEF CONSTRUCTION

PROJECT NAME:
GRAND ISLAND UTILITIES DEPT.
GRAND ISLAND, NEBRASKA

DRAWN BY: Gary
DATE: 06/14/2019
PROJECT NO: 19039
SCALE: 1" = 40'-0"
SHEET NO: C-1.0

No.	Description	Date



FLOOR PLAN
3/16" = 1'-0"

No.	Description	Date

CONFIDENTIAL

These plans are the property of CHIEF CONSTRUCTION. They are not to be reproduced or distributed in any manner without the written consent of CHIEF CONSTRUCTION.

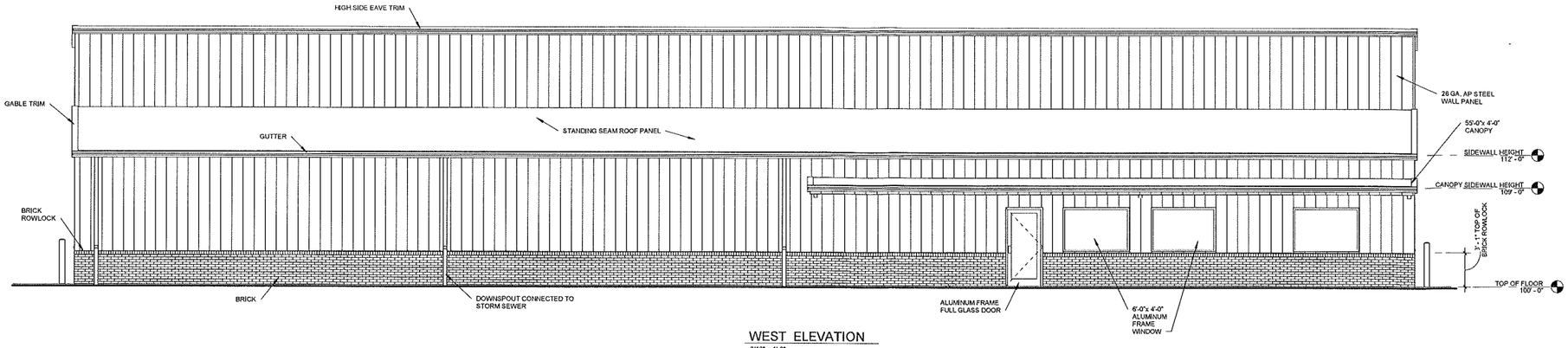
NOT FOR CONSTRUCTION

DESIGN/BUILD — GENERAL CONTRACTORS
GRAND ISLAND, NE (308) 389-7222
KEARNEY, NE (308) 238-2755
http://www.chiefconstruction.us

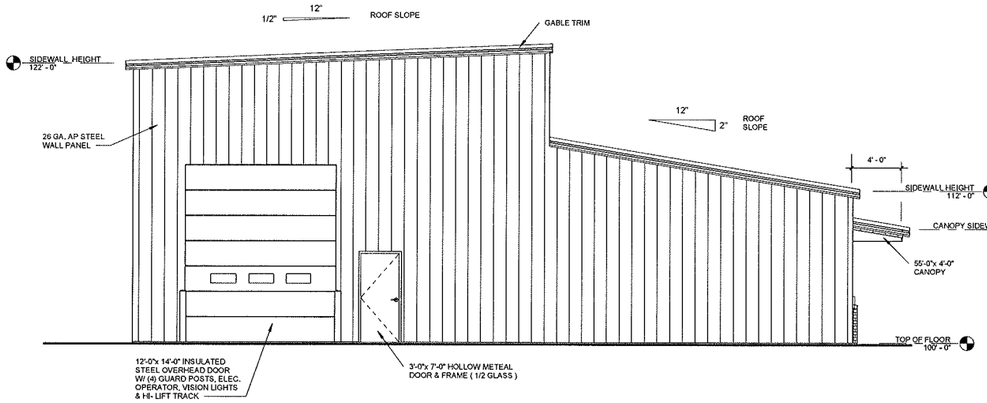
CHIEF CONSTRUCTION

PROJECT NAME:
GRAND ISLAND UTILITIES DEPT.
GRAND ISLAND, NEBRASKA

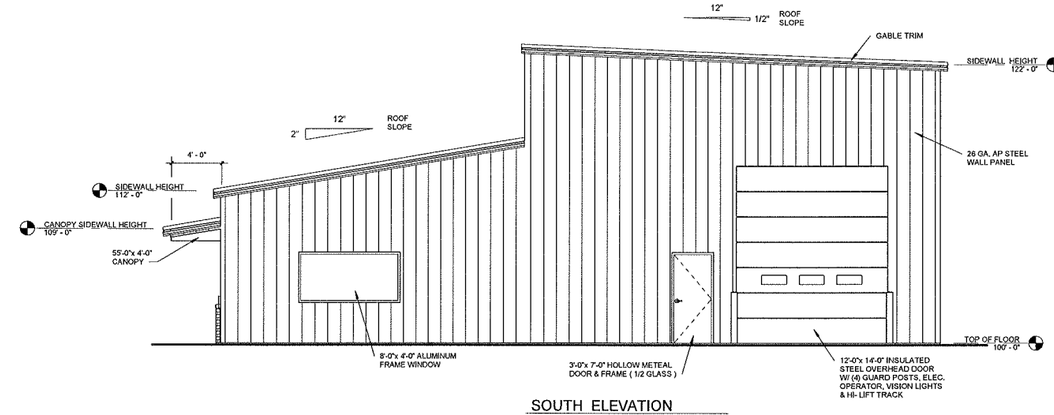
DRAWN BY: Gary
DATE: 06/13/2019
PROJECT NO: 19039
SCALE: 3/16" = 1'-0"
SHEET NO: A-1.0



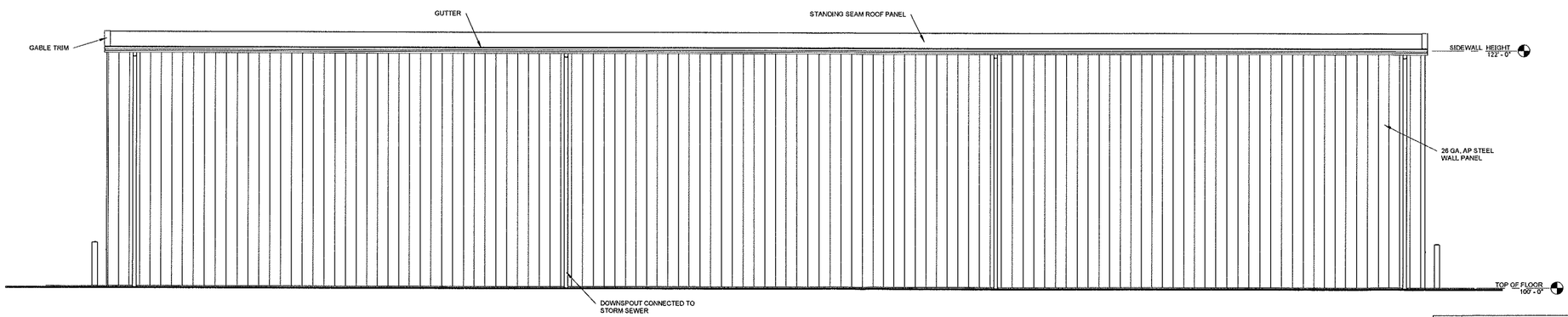
WEST ELEVATION
3/16" = 1'-0"



NORTH ELEVATION
3/16" = 1'-0"



SOUTH ELEVATION
3/16" = 1'-0"



EAST ELEVATION
3/16" = 1'-0"

No.	Description	Date

CONFIDENTIAL

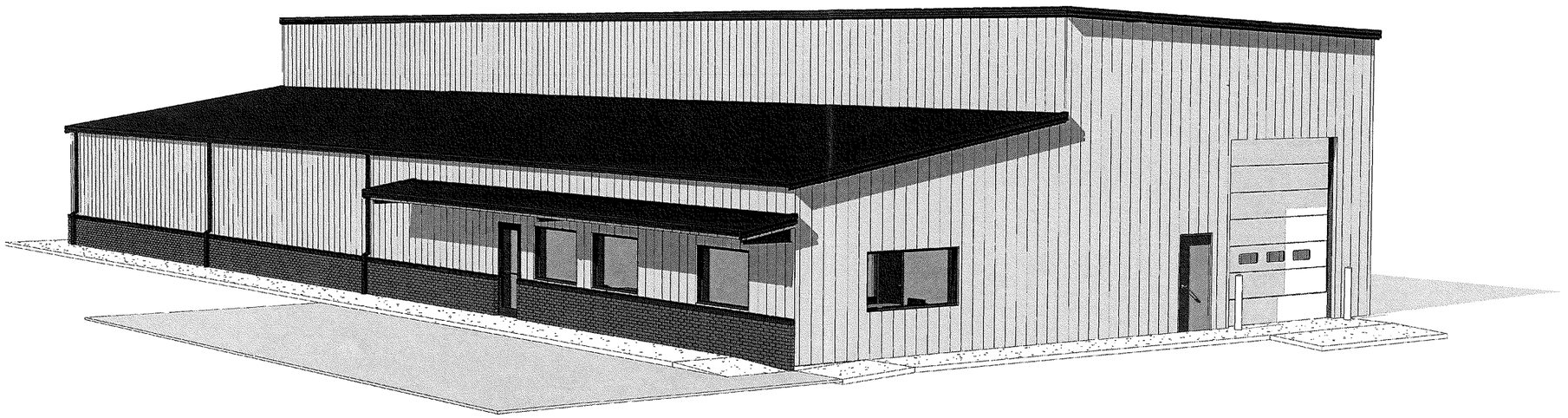
These plans are the property of CHIEF CONSTRUCTION. They are not to be reproduced or distributed in any manner without the written consent of CHIEF CONSTRUCTION.

NOT FOR CONSTRUCTION

CHIEF CONSTRUCTION
DESIGN/BUILD — GENERAL CONTRACTORS
GRAND ISLAND, NE (308) 389-7222
KEARNEY, NE (308) 238-2755
http://www.chiefconstruction.us

PROJECT NAME:
GRAND ISLAND UTILITIES DEPT.
GRAND ISLAND, NEBRASKA

DRAWN BY: Gary
DATE: 06/14/2019
PROJECT NO: 19039
SCALE: 3/16" = 1'-0"
SHEET NO: A-2.0



SOUTHWEST VIEW

NOT FOR CONSTRUCTION

CHIEF CONSTRUCTION

DESIGN/BUILD – GENERAL CONTRACTORS
GRAND ISLAND, NE (308) 389-7222
KEARNEY, NE (308) 238-2755
https://www.chiefconstruction.us

PROJECT NAME:
GRAND ISLAND UTILITIES DEPT.
GRAND ISLAND, NEBRASKA

DRAWN BY: Gary
DATE: 06/21/2019
PROJECT NO: 19039
SCALE:
SHEET NO: A-2.1

No.	Description	Date

General Conditions

- Full time site superintendent
- Fully implemented and supervised OSHA Safety Program
- Temporary electrical power
- Temporary sanitary facilities
- Job-site office and storage
- Builder's Risk and General Liability Insurance
- Dumpsters and cleanup
- Performance Bond

Design & Engineering

- Coordinating Professional fees as required by statute
- Structural, mechanical and electrical engineering
- Soil borings and analysis
- Soil and concrete testing
- Permits for building construction

Site Work & Demolition

- Removal of existing cooling tower foundations and slab at perimeter building footings
- Removal of existing stair tower footings
- Demo cooling tower drain
- Demo steel water lines to pumps
- Removal of chlorine building
- Removal of existing slabs at flume for new storage basin detail
- Strip existing limestone rock in construction area and stockpile for later use
- Spread crushed limestone at completion of project
- Fill cooling tower basin with approximately 3' of clay fill to 97% compaction
- Grade at exterior of building to existing grades. 5% slope maximum at North, South, and West sides.
- Raise (3) existing storm sewer inlets to match new drainage grades. New rings to be installed with new man hole steel ring. Existing grates to be re-used.
- 280 sq ft of 86" thick building approach
- 1,220 sq ft of 6" thick concrete for parking and drives
- 1,062 sq ft of 4" thick concrete sidewalk
- Parking lot striping and (1) ADA parking sign
- Joint sealing of all expansion and control joints for paving and sidewalks
- Downspout drain system to connect all downspouts in underground pipe and connect to existing storm sewer

Concrete

- Reinforced concrete foundations as designed by a licensed Structural Engineer, including anchor bolts and all steel reinforcement are included.
- The design of this foundation assumes an allowable soil bearing pressure of 2,000psf. If the results the Geotechnical Investigation show a variation in the allowable soil bearing pressure, the foundation design will need to be modified and additional expense could be incurred.
- 6" thick concrete floors in Maintenance Bay and Instrument/Electrician Shop
- 4' thick concrete floors in Office
- Structural Stoops at wall walk doors
- (4) 6" DIA bollard posts at each overhead door

- Polycast trench drains with heavy duty grates as shown on preliminary drawings.
- 8" hollow core deck with 4" topping above storm shelter
- Concrete Storage Basin:
  -- Infill of existing opens in lid
  -- Form and pour concrete in existing openings for lid and sluice gates
  -- Coat interior of existing basin with Tnemic Series 217 at 1" maximum depth for repair and top coat with Tnemec Series 22 at 40DFT

Masonry
- Allowance for brick fascia as shown on preliminary drawings.
- 8" CMU at storm shelter up to concrete deck at 10'-0" A.F.F. grouted full with reinforcement

Chief Pre-Engineered Building
- See preliminary plans for dimensions, eave heights, etc.
- 26 gauge colored AP Wall Panel (35 year Ultra-Kote Premium Wall Panel Finish Warranty)
- 24 gauge MSC Standing Seam Roof Panel (35 year Ultra-Kote Panel Limited Warranty)
- 20psf roof live load, 30psf roof snow load, 25psf ground snow load, 5psf collateral load for lighting, ductwork, partial suspended ceiling, fire sprinklers and insulation
- 120mph basic wind load, Exposure C
- Factory Mutual Wind Uplift Rating (FM 4471) – Roof Panel only, does not apply to wall panels. Class 1-90, Roof panel attachment in the edges and corners are "enhanced" per FM 1-31, utilizing a maximum 1/2 and 1/3 times the purlin spacing in the field of the roof for the perimeter and corners respectively. All other building components including purlins, girts, wall sheeting, and main wind-force resisting systems (MWFRS) shall be designed (only) in accordance with the specified building code.
- (1) 50' below eave canopy with 4' projection. 24 gauge MSC Standing Seam roof panel, 24 gauge FSP soffit panel
- (10) 2'-0" x 10'-0" MSC light transmitting panels
- Full height liner panel in Maintenance Bay and Instrument/Electrician Shop, 29 gauge CS

Standard Color
- Full height partition running full length of building.
- Full height partition wall above Operation Room in Instrument/Electrician Shop.
- Gutter and downspouts at each sidewall
- Loading, crane rails and brackets for (1) 5 ton underhung bridge crane as shown on plan

Thermal & Moisture Protection
- Roof insulation – R35 Simple Saver System with white reinforced vapor barrier
- Wall insulation – R25 Simple Saver System white reinforced vapor barrier
- All interior walls to have sound insulation
- All floors to have 10 mil Stego-Wrap vapor barrier

Doors & Windows
- All exterior doors to be hollow 18 gauge hollow metal doors and 16 gauge hollow metal frames with commercial grade hardware including electric strike with RFID card readers
- Interior doors into Maintenance Bay and Instrument/Electricians Shop to to be hollow 18 gauge hollow metal doors and 16 gauge hollow metal frames with commercial grade hardware
- All interior Office doors to be pre-finished solid core wood doors with hollow metal frames and

commercial grade hardware
- Operations Room/Storm Shelter door to be FEMA rated
- All overhead doors to be CHI Model 3241 insulated doors with (3) 24" x 12" insulated windows and electric operators with (2) remotes
- All storefront doors and windows to be Kawneer or equal
- Storefront entrance to be medium style door frame with offset pivots, rim panic device, electric strike, closer, threshold, sweeps and weatherstripping
- All storefront exterior glazing to be 1" bronze insulated low-e glazing
- Interior storefront glazing to be ¼" clear tempered

Interior Finishes
- Office area interior walls to be framed with metal studs, covered with 5/8" drywall taped and finished and painted
- Office area will have 2'x2' suspended acoustical grid ceilng
- Flooring to be carpet tile in Office and Conference Room, LVT in remainder of Office Space
- Rubber base to be installed in all areas with drywall (not in area with liner panel)
- Floor in Maintenance Bay and Instrument/Electrician Shop to be epoxy finish using Dur-A-Flex PolyCrete SLB resinous floor system.
- Floor in Mech/Elec to be sealed concrete

Specialties
- Toilet accessories to include paper towels dispensers, toilet paper holders, mirrors, grab bars, and soap dispensers
- 10lb fire extinguishers as required by code – Extinguishers in Office area to be in recessed cabinet

Equipment
- (1) 5 ton single girder underhung bridge crane
- 31 span
- 100FPM bridge speed
- Power festoon
- 90 Amp Duct-O-Wire 4 bar electrical system

Fire Sprinkler System
- Complete wet pipe fire sprinkler system throughout designed per requirements of NFPA 13 and Nebraska State Fire Marshal. Sprinkler heads will be plain brass finish in areas without ceiling and recessed chrome or white in areas with ceiling.
- Sprinkler system designed for Ordinary Hazard Group Occupancy

Plumbing
- 6" DI water main tapped from existing 6" main on North side of building
- 1 ½" Domestic water main
- 4" PVC sanitary sewer service from new building to pre-packaged 2 pump with alarm sump pump and bored with 250' of 2" lin to existing grass area South of existing building and tapped into existing sewer line
- (1) each ADA toilet in Men's and Women's Restrooms
- (1) ADA urinal in Men's Restroom
- (1) each ADA wall hung lavatories in Men's and Women's Restrooms
- (1) ADA water cooler
- (1) double bowl tub sink

- Sanitary sewer connection from trench drain to existing oil separator South of building
- Hookups for Break Room sink, and ice maker
- (1) 40 gallon electric water heater
- (1) Fiberglass mop sink Warehouse
- (2) interior hose bibs and (2) exterior hose bibs at ends of drive through bay and (1) hose bib at center of drive through bay
- Provide 6" DI water line with back flower preventer stubbed 5' outside of building for chilled water at Mobile Water Treatment
- Provide 4" PVC sewer line from Mobile Water Treatment to connect to sanitary sewer
- Provide stainless steel fill and suction lines for de-mineralized water using 4" 304 or 316 stainless steel pipe. (1) line from Mobile Water Treatment System to Pumping Station, (1) line from Pumping Station stubbed 20' South of the building for GI Utilities to connect, (1) line from Pumping Station to 1' inside Storage Basin, and (1) line from Pumping Station to bottom of Storage Basin. Pipe to be stubbed up 1' above new building floor.
- Gas piping to mechanical equipment on 2lb system. Tie onto riser with 500lb by 2lb regulator provide by City of Grand Island. All tapping and service with regulator by City of Grand Island. HVAC
- Office and Operations to have 80,000 BTU 96% gas furnace and 4 ton 13 SEER Condenser, with Aprilaire humidifier, fresh air duct and damper, and digital thermostats
- (2) bath fans duct to outside
- Instrument/Electricians Shop to have 60,000 BTU 96% gas furnace and 3 ton 13 SEER condenser, with Aprilaire humidifier, and digital thermostat
- Maintenance Bay to have (2) 125,000 BTU 50' tube heaters with hangers, flue piping, intake piping and thermostats
- Maintenance Bay to have Tox-Alert system with sensors and alarm with exhaust, intake, and louvers.
- All necessary registers, grilles, ductwork, and duct wrap

Electrical

- All work per 2017 NEC
- All electrical work per specs & drawings listed above
- New Light Fixtures as shown including conduits, fittings, & wire. To Include
- 18 – 2x4 LED Linear Fixtures
- 12 – Round 18L High Bay LED Fixtures
- 14 – Round 30L High Bay LED Fixtures
- 2 – 4' LED Strip Light Fixtures
- 9 – Emergency Lights w/Battery Pack
- 4 – Exit Lights
- 6 – 6" LED Can Lights
- 1 – 4" LED Can Light
- 2 – 2 Lamp Vanity Lights
- 3 – Exterior Wall Lights
- New LED occupancy Sensors & dimmers for ALL new fixtures including all conduits, & wire
- New 200amp 277/480volt service to new building with conduit and wire fed from existing Electrical Building. New 277/480volt 42 circuit panel board, 1- new 75KVA transformer, 1 – 120/208volt 42 circuit panel board. New 200 amp bucket to connect feeders is NOT included.

New bucket will need to be engineered and supplied by Eaton Manufacturing.

- All shown receptacles including all necessary conduits & wire
- 1 – Floor Box & cover in conference room with all necessary conduits, wire, & devices
- Connections to Mechanical Equipment such as pump panel, welder outlet, & compressor outlet
- Connections to Overhead Crane
- Rough in for security card readers, door strikes, & door contacts
- Rough in for data/telephone as shown on drawings. This includes 2 new 2" conduits trenched in from
- Existing Duct Bank for Future Fiber Cables
- Temp power fed from existing 480volt power from Warehouse

Well Enclosures

- (2) 16' x 20' single slope rigid frame buildings
- 8' low eave height with 2:12 roof pitch
- 26 gauge colored AP Wall Panel (35 year Ultra-Kote Premium Wall Panel Finish Warranty)
- 26 gauge CS Roof Panel (35 year Ultra-Kote Panel Limited Warranty)
- 20psf roof live load, 30psf roof snow load, 25psf ground snow load, 5psf collateral load for lighting, ductwork, partial suspended ceiling, fire sprinklers and insulation
- 120mph basic wind load, Exposure C
- Gutter and downspouts at low sidewall
- (1) wall to have ¾" AC plywood liner full height painted white semi-gloss on both sides
- (1) 3070 hollow metal door and frame with hardware per specification in each building
- (2) 3' x 3' aluminum insulated sliding windows in each building
- (1) 12" x 12" access panel per specification in each building
- (1) 2'-6" x 3'-0" roof hatch per specification in each building
- Reinforced concrete foundations as designed by a licensed Structural Engineer, including anchor bolts and all steel reinforcement are included.
- The design of this foundation assumes an allowable soil bearing pressure of 2,000psf. If the results of the Geotechnical Investigation show a variation in the allowable soil bearing pressure, the foundation design will need to be modified and additional expense could be incurred.
- 6" thick concrete slab around existing wall foundation
- Structural Stoop at wall walk door
- 6" thick concrete sidewalk around building as shown on plan
- Fine grade around building and sidewalks

Exclusions:

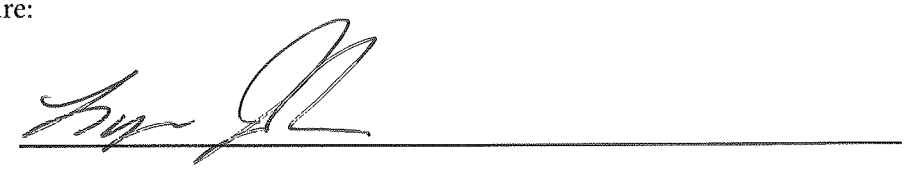
- Sales Tax
- De-Watering if required
- Removal and replacement of any unsuitable soils
- Connection of electrical service feeders inside existing Electrical Building
- Tap to existing gas service
- Furniture or window coverings
- Casework and furnishings, appliances
- Office equipment
- Any item not specifically referenced in this proposal

Total: $ 1,781,678.00

Material Allowances:
Brick: $ 0.65 per brick
Carpet Tile: $20.00 per square yard
LVT: $3.75 per square foot
Floor Epoxy: $ 37,898.00 total for labor and material

Submitted By: Chief Construction

Signature:



Printed Name: Lynn Johnson

Title: Project Manager

Date: 6/25/2019

CHIEF CONSTRUCTION

Trusted. Tested. True.

PROPOSAL

CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

BURDICK STATION MAINTENANCE BUILDING

REQUEST FOR PROPOSAL

C127888

Proposals due

Tuesday, June 25, 2019 @ 4:00 p.m. (local time)
City of Grand Island
City Hall
100 East 1st Street, P.O. Box 1968
Grand Island, NE 68802-1968

Contact Information

City of Grand Island Utilities Department
Lynn Mayhew, Assistant Utilities Director
Platte Generating Station
Grand Island, NE 68801
O: 308-385-5496

Issued: May 23, 2019

ADVERTISEMENT FOR PROPOSALS
BURDICK STATION MAINTENANCE BUILDING
FOR
CITY OF GRAND ISLAND, NEBRASKA

Proposals will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until **Tuesday, June 25, 2019** at 4:00 p.m. local time for the above Proposal, FOB the City of Grand Island. Site inspections can be arranged by contacting Lynn Mayhew (308) 385-5494 for an appointment.

Proposals received after the specified time will be returned unopened to sender. Proposals shall include the following on the *outside* of the envelope: "**Proposal for BURDICK STATION MAINTENANCE BUILDING**". All proposals must be signed and dated in order to be accepted. Proposals shall be addressed to the attention of Lynn Mayhew-Assistant Utilities Director. **Four complete copies with the original** proposal shall be submitted for evaluation purposes if submitting by mail. Proposal package and any Addendas is also available on-line at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the bid opening date and "Click here for bid document link" through QuestCDN. Submitting through QuestCDN requires one original document of the bid to be uploaded.

Proposals will be evaluated by the Purchaser based on Contractor's approach and understanding of the project, experience and qualifications of design-build and proposed staff, ability to meet project requirements and pricing to perform the project required.

The Purchaser reserves the right to reject any or all proposals, to waive irregularities therein, and to accept whichever proposal that may be in the best interest of the City, at its sole discretion.

RaNae Edwards, City Clerk

Advertised

INSTRUCTIONS TO BIDDERS - PROPOSAL

1. GENERAL INFORMATION.

   The following instructions outline the procedure for preparing and submitting Bids. Bidders must fulfill all requirements as specified in these Documents.

2. TYPE OF BID.
   Bidders shall be required to submit prices for all items listed in the Detailed Specifications.

3. PREPARATION/SUBMISSION OF BIDS.

   All Bids must be submitted intact not later than the time prescribed, at the place, and in the manner set forth in the ADVERTISEMENT FOR BIDS. Bids must be made on the Contractor's official letterhead, and must be signed and dated to be accepted. Each Bid must be submitted intact in a sealed envelope, so marked as to indicate its contents without being opened, and delivered in person or addressed and mailed in conformance with the instructions in the ADVERTISEMENT FOR BIDS.

   Proposal package and any Addenda is also available on-line at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the bid opening date and "Click here for bid document link" through QuestCDN. Submitting through QuestCDN requires one original document of the bid to be uploaded (no zip files). Any Proposal received after the specified date will not be considered. No verbal Proposal will be considered.

   The Bidder shall acknowledge receipt of all addenda. Bids received without acknowledgement or without the Addendum enclosed will be considered informal.

   If exceptions and/or clarifications are noted to the bid, those exceptions must be fully explained on a separate sheet, clearly marked, and included with the Proposal. Any changes that are found made to the original specification, other than Owner generated Addendums, could result in your bid not being considered.

4. BASIS OF AWARD
   The award will be made by the OWNER on the basis of the Bid from the lowest responsive, responsible Bidder which, in the OWNER's sole and absolute judgment will best serve the interest of the OWNER. All Bids will be considered on the following basis, unless otherwise noted in the General or Detailed Specification:

Conformance with the terms of the Bid Documents	Suitability to project requirements.
Bid Price	Delivery time
Cost of installation	Responsibility and qualification of Bidder.

   The OWNER reserves the right to reject all Bids, or any Bid not in conformance with the intent of the Bid Documents, and to waive any informalities and irregularities in said Bids.

5. EXECUTION OF CONTRACT.

   The successful Bidder shall, within fifteen (15) days after receiving notice of award, sign and deliver to the OWNER the Contract hereto attached, if required, together with the acceptable bonds as

required in these Bid Documents. Within fifteen (15) days after receiving the signed Contract with acceptable bond(s) from the successful Bidder, the OWNER's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

6. PERFORMANCE AND PAYMENT BONDS.

The successful Bidder shall file with the OWNER Performance and Payment Bonds in the full amount (100 percent) of the Contract price, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the Work under this Contract, and to cover all guarantees against defective workmanship or materials, or both, for a period of one (1) year after the date of final acceptance of the Work by the OWNER. The Surety furnishing these bonds shall have a record of service satisfactory to the OWNER, be authorized to do business in the State where the OWNER's project is located and shall be named on the current list of approved Surety Companies, acceptable on Federal bonds as published by the Audit Staff, Bureau of Accounts, U.S. Treasury Department.

The Attorney-in-Fact (Resident Agent) who executes these bonds on behalf of the Surety must attach a notarized copy of his/her power-of-attorney as evidence of his/her authority to bind the Surety on the date of execution of the bond.

7. TIME OF COMPLETION.

The time of completion of the Work to be performed under this Contract is the essence of the Contract.

8. GRATUITIES AND KICKBACKS

City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

9. FISCAL YEAR

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into by and between **[SUCCESSFUL BIDDER]**, hereinafter called the Contractor, and the **CITY OF GRAND ISLAND, NEBRASKA**, hereinafter called the City.

WITNESSETH:

THAT, WHEREAS, in accordance with law, the City has caused contract documents to be prepared and an advertisement calling for proposals to be published for *BURDICK STATION MAINTENANCE BUILDING;* and

WHEREAS, the City, in the manner prescribed by law, has evaluated the proposals submitted, and has determined the aforesaid Contractor to be the responsible proposer, and has duly awarded to the said Contractor a contract therefore, for the sum or sums named in the Contractor's proposal, portions thereof being attached to and made a part of this contract.

NOW, THEREFORE, in consideration of the compensation to be paid to the Contractor and of the mutual agreements herein contained, the parties have agreed and hereby agree, the City for itself and its successors, and the Contractor for itself, him/herself, or themselves, and its, his, or their successors, as follows:

ARTICLE I. That the following documents shall comprise the Contract, and shall together be referred to as the "Agreement" or the "Contract Documents":

1. This Contract Agreement.
2. Appendix A - City of Grand Island's Request for Proposals.
3. Appendix B – Detailed Work Plan.
4. Appendix C – Project Schedule.
5. Appendix D – Fees for Services

In the event of any conflict between the terms of the Contract Documents, the provisions of the document first listed shall prevail.

ARTICLE II. That the Contractor shall (a) furnish all tools, equipment, superintendence, transportation, and other construction materials, services and facilities; (b) provide and perform all necessary labor; and (c) in a good substantial and workmanlike manner and in accordance with the requirements, stipulations, provisions, and conditions of the contract documents as listed in the attached General Specifications, said documents forming the contract and being as fully a part thereof as if repeated verbatim herein, perform, execute, construct and complete all

work included in and covered by the City's official award of this contract to the said Contractor, such award being based on the acceptance by the City of the Contractor's proposal;

ARTICLE III. That the City shall pay to the Contractor for the performance of the work embraced in this contract and the Contractor will accept as full compensation therefore the sum (subject to adjustment as provided by the contract) of **[DOLLAR AMOUNT] ($00.00)** for all services and work covered by and included in the contract award and designated in the foregoing Article II; payments thereof to be made in cash or its equivalent in the manner provided in the General Specifications.

The total cost of the Contract includes:

Base Bid:	$ .00
Sales Tax on Materials/Equipment:	$ .00
Sales Tax on Labor:	$ .00
Total	$ .00

Option ___ Contractor

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

ARTICLE IV. The Contractor hereby agrees to act as agent for the City. The invoice for contractor's services will be paid after approval at the next regularly scheduled City Council meeting and occurring after departments approval of invoice. The City Council typically meets the second and fourth Tuesday of each month. Invoices must be received well in advance of Council date to allow evaluation and processing time.

ARTICLE V. The Contractor agrees to comply with all applicable State fair labor standards in the execution of this contract as required by Section 73-102, R.R.S. 1943. The Contractor further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. During the performance of this contract, the Contractor and all subcontractors agree not to discriminate in hiring or any other employment practice on the basis, of race, color, religion, sex, national origin, age or disability. The Contractor agrees to comply with all applicable Local, State and Federal rules and regulations. The Contractor agrees to maintain a drug-free workplace policy and will provide a copy of the policy to the City upon request. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services

within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

GRATUITIES AND KICKBACKS

City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

[SUCCESSFUL PROPOSER]

By_____ Date _____

Title_____

CITY OF GRAND ISLAND, NEBRASKA

By_____ Date _____
Mayor

Attest:_____
City Clerk

The contract is in due form according to law and hereby approved.

_____ Date _____
Attorney for the City

CITY OF GRAND ISLAND

Working Together for a Better Tomorrow, Today.

REQUEST FOR PROPOSALS

GENERAL SPECIFICATIONS

The Proposal shall be in accordance with the following and with the attached DETAILED SPECIFICATIONS.

All prices are to be F.O.B. Grand Island, Nebraska. **All prices shall be firm, and shall include all sales and use taxes as lawfully assessed under laws and regulations of the State of Nebraska.**

Proposals shall include the following on the **outside** of the mailing envelope: "**Proposal for Burdick Station Maintenance Building**". All proposals must be signed and dated to be accepted. Proposals shall be addressed to the attention of Lynn Mayhew, Assistant Utilities Director. All proposals submitted by mail must include **four (4) complete copies.** The specification is also available at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the specified opening date and "Click here for bid document link" through QuestCDN. If submitting through QuestCDN, **one** original document of the proposal and supporting materials is required to be uploaded. All proposals shall be submitted for evaluation purposes no later than **4:00 p.m. Tuesday, June 25, 2019**, to the following:

Mailing Address: RaNae Edwards, City Clerk
City Hall
P. O. Box 1968
Grand Island, NE 68802-1968

Street Address: RaNae Edwards, City Clerk
City Hall
100 E. First Street
Grand Island, NE 68801

Any Proposal received after the specified date will not be considered. No verbal Proposal will be considered.

Proposals will be evaluated by the Purchaser based on Contractor's response to the proposal, experience of the company and project personnel, commercial terms, and pricing to perform the project required.

The successful contractor will be required to comply with fair labor standards as required by Nebraska R.R.S.73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. Contractor shall maintain a drug free workplace policy. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

The invoice for Contractor's services will be paid after approval at the next regularly scheduled City Council meeting and occurring after departmental approval of invoice; the City Council typically meets the second and

fourth Tuesday of each month. Invoices must be received well in advance of City Council date to allow evaluation and processing time.

The City reserves the right to reject any or all proposals and to select the proposal, which is deemed to be in the City's best interest, at its sole discretion.

All Proposals shall be valid for at least thirty (30) working days after the Proposal deadline for evaluation purposes.

All Proposals must be signed and dated to be accepted. If exceptions and/or clarifications are noted to the bid, those exceptions must be fully explained on a separate sheet, clearly marked, and included with the Proposal. Any changes that are found made to the original specifications, other than Owner generated Addendums, would result in your bid not being considered. Please contact Lynn Mayhew at 308-385-5494, for questions concerning this specification.

BURDICK STATION MAINTENANCE BUILDING
FOR
CITY OF GRAND ISLAND, NEBRASKA
DETAILED SPECIFICATION

REQUEST FOR PROPOSAL

SECTION 01, GENERAL INFORMATION

100 OVERVIEW

Burdick Station is located at 800 E. Bischeld in Grand Island, NE. It is used as a peaking and emergency generating facility for the City of Grand Island. The station has three gas turbines providing 78 MW of generating capacity. The existing steam unit building will be razed in 2020 for future generation. To provide a location to conduct maintenance on the gas turbines and future generation, a new facility will be built in the location of the existing cooling tower.

101 PROJECT SCOPE

The proposal is for a complete building as described in these specifications ready for occupancy, including all interior finishes to all exterior grading and landscaping.

102 REQUIRMENTS FOR PROPOSAL

- Qualifications and experiences of the design-build contractor.
- Qualifications and experiences of the designated Architect
- Qualifications and experiences of the designated Project Manager
- Design approach and understanding of the project.
- Proposed schedule.
- Proposed rendering and layout.
- Breakdown of allowances for items to be selected by owner.

103 PROPOSAL INFORMATION

- Proposals are to be submitted by the designated time and date, late proposals will NOT be accepted.
- Proposals which do not include all the required information may be rejected.
- Only information submitted will be evaluated.
- Only clarifications to submitted information will be allowed to maintain equality of proposals.

SECTION 02, SPECIFICATIONS

200 GENERAL

All Divisions of the City of Grand Island Specifications and Standard Plan Drawings shall be considered a part of this Proposal, whether attached into these specifications, and it shall be the Design-Build's responsibility to comply with all requirements thereof.

No attempt has been made in these specifications to segregate work to be performed by any trade or subcontractor. Any segregation between the trades or crafts will be solely a matter for agreement between the Design-Build and their employees or their subcontractors. The specifications will govern the entire work. The applicable provisions whereof will govern work to be performed under each section.

201 REFERENCES

- AISI - North American Specification for the Design of Cold-Formed Steel Structural Members - 2007 Edition
- ANSI/AISC 360-05 - Specification for Structural Steel Buildings, ASD 2005, 13th Edition, and Steel Design Guide Series 3 - Serviceability Design Considerations for Low-Rise Building – Second Edition 2003
- ASTM A36 - Specification for Carbon Structural Steel
- ASTM A325 - Specification for Structural Bolts, Steel, Heat Treated
- ASTM A475 - Specification for Zinc-Coated Steel Wire Strand
- ASTM A529 - Specification for High-Strength Carbon-Manganese Steel of Structural Quality
- ASTM A572 - Specification for High Strength Low-Alloy Columbium-Vanadium Steel
- ASTM A1011 SS or ASTM A1011HSLAS - Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
- ASTM A792 - Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot Dip Process
- ASTM A992 - Specification for Structural Steel Shapes
- ASTM D1494 - Test Method for Diffuse Light Transmission Factor of Reinforced Plastic Panels
- ASTM D2244 - Practice for Calculation of Color Differences from Instrumentally Measured Color Coordinates
- ASTM D4214 - Test Method for Evaluating the Degree of Chalking of Exterior Paint Films
- ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials
- ASTM E283 - Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
- ASTM E331 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference
- ASTM E1592 - Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
- ASTM E1646 - Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference
- ASTM E1680 - Test Method for Rate of Air Leakage through Exterior Metal Roof Panel Systems
- AWS A2.4 - Standard Welding Symbols
- AWS D1.1 - Structural Welding Code – Steel
- AWS D1.3 - Structural Welding Code - Sheet Steel
- FM4471 – Factory Mutual Research Corporation Standard 4471 Class 1
- IAS – International Accreditation Service, Inc.

- MBMA Metal Building Systems Manual - 2006 Edition with 2010 Supplement
- NAIMA 202 - Standard for Flexible Fiberglass Insulation Systems in Metal Buildings
- UL 580 - Underwriters Laboratory -Tests for Uplift Resistance of Roof Assemblies
- UL 790 – Underwriters Laboratory – Test Methods for Fire Tests of Roof Coverings
- UL 2218 Underwriters Laboratory – Impact Resistance of Prepared Roof Covering Material
- SSPC-SP2 - Steel Structures Painting Council, Surface Preparation Specification No. 2, Hand Tool Cleaning

202 DESIGN BUILD

- Provide full project supervision, architectural services, engineering services, building design, construction management, installation, inspection, and testing for the job complete.
- Providing all labor, materials, tools and equipment necessary for and incidental to the complete and proper provision and installation of the pre-engineered metal building.
- Obtain all required permits or licenses for the construction, installation, and waste disposal.
- Provide and maintain all barricades, warning signs, and fencing adjacent to all work area.
- All work shall be conducted in accordance with OSHA standards and guidelines.
- Provide personnel work site sanitation services.
- Project kickoff meeting and intermittent meetings throughout the project's development.
- Provide, furnish, maintain and staff a jobsite office trailer.
- Certify completed construction in compliance with specifications and plans.
    - Prepare and submit to City complete "as-constructed" records, documents and drawings. Submissions shall include, but are not limited to CAD files, reports, studies, accounts, etc., in an electronic format acceptable to the City of Grand Island.

203 QUALIFICATIONS

- The metal building supplier shall be a member of The Metal Building Manufacturers Association (MBMA), and
    - be in compliance with the International Accreditation Service, Inc., Accreditation Criteria for Inspection Programs for Manufactures of Metal Building Systems (IAS AC472).
    - have a minimum of 20 years' experience in the manufacture of metal building systems.
- Design-Build erector shall have a minimum of 5 years' experience in similar building installations.

204 DESIGN-BUILD FACILITIES

- The Design-Build shall furnish, install, maintain, and remove all temporary light, power, and water at its own expense.
- The Design-Build shall provide and maintain enclosed toilets for the use of employees engaged in the Work Area. These accommodations shall comply with all applicable laws, ordinances, and regulations and be maintained in a neat and sanitary condition.

205 DEMOLITION

- Under a separate contract, the City will remove the existing cooling tower and accessories from site, including:
    - Removing the cooling tower structure.
    - Removing the stair towers on the north and south ends.

  - Capping the existing water line to the cooling tower on the west side (By Utilities).
  - Removing the above ground circulating lines on the east side of the cooling tower.
- The Design-Build shall demolish and remove the following accessories associated with the existing cooling towers:
  - Remove the foundations for the stair towers on the north and south ends.
  - Remove the cooling tower basin, its walls, and its foundation. At Design-Build's option the concrete floor of the basin may remain intact with the new building constructed above.
  - Remove the existing cooling tower drain line and cap on the east side.
  - Remove the two underground 54" Circulating Water lines from the cooling tower to just east of the existing pump station.
  - Remove the chlorine building, its accessories, and its foundation on the west side.
  - Remove two concrete footings of the abandoned overhead crane on the west side.
  - The concrete flume of the pump station on the west side of the cooling tower will be repurposed into a demineralized water storage basin. GI Utilities will remove and salvage the existing pumps and motors.
  - The Design-Build shall provide the following work in the conversion of the existing concrete flume into a demineralized water storage basin:
    - Removal of approximately 7-feet of the concrete lid on the east end, concrete fill-in two sluice gate openings on east wall, and backfill to accommodate the construction of the new building.
    - Sawcut and remove approximately 3-feet of the concrete lid overhang on the west end.
    - Concrete fill-in of two round openings left in the top by removal of the existing pumps.
    - Concrete fill-in of the two rectangular openings left in the top by removal of the existing sluice gates.
    - Concrete fill-in of the rectangular opening left in the top by removal of the existing screening.
    - Concrete fill-in of three small round openings in the top. One of the two level controls will remain in place.
    - Coat the inside of the remaining basin to prevent the demineralized water absorbing minerals from the concrete per the supplemental specification for demineralized water storage tank coating.
    - Install piping described in Section 210– Drive-Thru Maintenance Bay and Section 211– Instrument/Electrician Shop.
- Stockpile the existing limestone rock on site and reuse around the new building. Additional limestone rock needed for the project shall be supplied and placed by the Design-Build.

206 GENERAL SITE WORK

- Remove concrete surfaces, steps, paving and curbs as required to accomplish new work. Where required, neatly saw-cut at right angle to surface.
- Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public employees.

- Provide, erect, and maintain temporary barriers, bracing, shoring, and security devices.
- Protect existing structures and prevent movement or settlement of adjacent structures.
- Remove debris, junk, trash and leave site ready for subsequent work.
- Clean up spillage and wind-blown debris from public and private property.
- To accommodate a smoother drive pattern for the new building, three existing stormwater sewer inlets (MH-10, MH-11 & MH-12) need intake elevations raised.
- A staging area for the Design-Build will be provided just north of the existing cooling tower. Travel lanes north of the existing cooling tower will need to be maintained.

207 UTILITIES

- Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits. Locate, mark and protect existing utilities from damage.
- The new sanitary sewer for the building shall be piped to the existing sanitary sewer line located in the grassy area just south of the Burdick Station building. The Design-Build may consider a force main and/or boring the new sanitary sewer line, due to the substantial amount of underground utilities between the new building and Burdick Station.
- Water for the building shall be tapped to the 6" water main to the north of the existing cooling tower. Provide 6" or 8" water line for fire sprinkler system with backflow preventer.
- Stormwater around the building shall be surface flowed to the existing catch basins and/or inlets.
- Stormwater from the building downspouts shall be piped to the existing stormwater manholes to the south or east of the building.
- Outflow from the building trench drain of the maintenance space shall be piped to the existing oil/water separator pit to the southeast of the building.
- Natural gas for the building shall tap to the existing 6" gas main to the north of the building. The existing gas line is a high-pressure line (500-600 psi), thus a pressure reducer will be necessary for service to the new building.
- Electrical service to the building shall be from the existing electrical equipment building to the south of the existing cooling tower.

208 BUILDING SYSTEM

- The building shall include all primary and secondary structural framing members, connection bolts, roof and wall covering, trim, fasteners, closures, sealer, canopies, windows, doors, skylights, insulation, gutters, downspouts, louvers, ventilators and other miscellaneous items for a complete system.
- Primary framing shall consist of transverse rigid frames of rafters and columns with solid webs. The rigid frame shall be fabricated of shop-welded steel plate and designed for erection by field bolting.
- Roof and wall system of preformed steel panels, trim, and accessories for a complete installation.
- Roof shall be mechanically seamed construction (MSC) w/ UL Class 90 uplift rating, with gutters and downspouts and trim/flashing, and skylights in the drive-thru mechanical bay for natural interior lighting.
    - o 24-gauge minimum thickness.
    - o 1" minimum thermal blocks on purlins.
    - o ½" to 12" minimum roof pitch.

  - Substrate shall be Galvalume AZ50 coating, or approved equal, in accordance with ASTM A792.
- Exterior Wall Panels: AP (Architectural Panel) Panels: Preformed metal panels of vertical profile, with sub-girt framing/anchorage assembly, and accessory components.
  - 26-gauge minimum thickness.
  - Each panel shall provide a minimum coverage of 36".
  - Substrate shall be Galvalume AZ50 coating, or approved equal, in accordance with ASTM A792.
- Interior Liner Panels: AP (Architectural Panel) Panels: Preformed metal panels of vertical profile, with sub-girt framing/anchorage assembly, and accessory components.
  - 29-gauge minimum thickness with white polyester finish.
  - Full perimeter of Drive-Thru Maintenance Bay and Instrument/Electrician Shop, including finished office space, and CMU wall surfaces.
  - 8'-0" minimum height.
- Materials and erection of the pre-engineered structure, roof sheeting, wall sheeting and insulation shall meet Factory Mutual Insurance requirements.
- Gutter and downspouts shall be installed on all sidewalls and shall be piped to the existing stormwater manholes to the south of the building.
- Below eave canopy shall be a minimum width of 4' and extend the full length of the concrete parking located in front of the office space. Canopy materials shall match the metal building components.
- Complete insulating system with vapor barrier on interior face, with a min. ten-year limited material warranty. Insulation shall be formaldehyde-free fiberglass batt or blanket per ASTM C 991.
  - Wall insulation shall be simple saver system with minimum R= 25.
  - Roof insulation shall be simple saver system with minimum R= 30.
- Exterior Walk Doors
  - Commercial grade steel 3070 with half glass, frames, threshold closures, and weather- stripping.
  - Electronic door strike with RFID card access and panic push-bar exit.
  - Provide structural stoops.
- Overhead Sectional Doors
  - Commercial grade flush, steel, standard lift operating style with track, hardware, and weather seals.
  - Insulated, minimum R-7.35.
  - Vision glass.
  - Electric openers w/ building (2 ea.) and vehicle operated remote controls (2 ea.).
- Windows & Storefronts
  - Manufactured of aluminum and thermally broken.
  - Glazing to be Low-E insulated glass to minimize solar gain.
- Skylights
  - Insulated translucent roof panel assemblies w/ UL Class 90 uplift rating.
  - Panels shall seal against air leakage and delamination.
  - Light transmission shall be not be less than 45%.

- Sprinkler system required for the entire building.
- Ventilators w/ bird screen shall be a low-profile design to provide gravity type ventilation.
- All concrete shall be Type 47-B Modified per GI Standard Specifications, Division II.
- Electrical
    - Permanent power will be derived from the existing electrical equipment building to the south of the existing cooling tower.
    - Temporary construction power will be the responsibility of the contractor.
    - All work and materials shall be in accordance with the latest revision of the National Electrical Code adopted by the City, local building codes, and shall carry the UL label where applicable.
    - Lighting units shall be LED luminaires from a single manufacturer and of the same type (prismatic troffer, wall pack, industrial, etc.).
    - Coordinate the installation of electrical materials and fixtures with structural members, ductwork, supports, anchors, piping, equipment, system components, etc.

209 BUILDING DESIGN

- Building components shall be designed in accordance with City of Grand Island building codes.
    - 2015 IBC w/ City of Grand Island Amendments
    - 120 mph Wind, Exposure C
    - 30 psf minimum roof snow load
- Design structural members and exterior covering materials for applicable load and combinations of loads in accordance with the building codes.
- Design loads shall be in accordance with AISC and/or AISI, including but not limited to, dead load, roof live load, wind load, roof snow load, and ground snow load.
- Design, place, and testing all concrete footings, foundations, stoops, steps, floor, etc.
- Maximum building occupants is 12.
- Approximate building dimensions of 56’-8” x 122’-4” and eave height to accommodate a 5-ton underhung bridge crane.
- A geotechnical report for the new building site is not available. Design-Build shall obtain and pay for geotechnical services at its own discretion.
- A topographical survey for the new building site is not available. Utilities will provide available existing plans to be used by Design-Build at its own risk. Design-Build shall obtain and pay for a topographical survey at its own discretion.

210 DRIVE-THRU MAINTENANCE BAY

- Provide maintenance bay space with 6” minimum concrete floor, reinforced with 6x6, 6-gauge, welded wire fabric centered in slab.
- Floor to be coated with epoxy finish.
- Provide and install one 5-ton underhung bridge crane with a minimum 16’ hook height that serves the entire drive-thru bay. Crane Service Classification shall be Class A (Standby or Infrequent Service). Crane shall be electric, pendant operated.
- Provide a full height metal building partition wall between the Drive-Thru Maintenance Bay and the Instrument/Electrician Shop. Partition wall panel shall match the exterior wall panel. Sound insulation is required in the partition wall.

- Provide gas-fired radiant heat in the maintenance bay. Radiant heat shall be able to maintain temperature in maintenance bay between 60-70°F when outside temp. is -20°F. AC is not to be provided.
- Install hook-ups for Chilled Water and mobile water treatment system on east wall. Provide 6" line with backflow preventer to 5 feet outside building for connection to Chilled Water line (Utilities to extend line to 18" Chilled Water north of building). Provide 6" Chilled Water feed for mobile water treatment system, plus a 4" sewer line connection for reject water. Provide 6" demineralized water line (Stainless Steel) to storage basin (converted flume of existing pump station).
- Provide potable hose bib at each end of bay for wash down, both inside and outside of building. Provide additional hose bib near center of bay.
- Provide potable water for wash sink and drinking fountain.
- Provide trench drain (H-20 load rated) connected to the existing oil/water separator pit.
- Provide skylights for the drive-thru bay.
- Install 120V electrical duplex receptacles evenly spaced around interior (12 ea.).
- Install 220V electrical outlet for welder and air compressor.
- Install engine exhaust detection & control system w/carbon monoxide sensors and audible alarm.

211 INSTRUMENT/ELECTRICIAN SHOP

- Provide shop space with 4" minimum concrete floor, reinforced with 6x6, 9-gauge, welded wire fabric centered in slab.
- Floor to be coated with epoxy finish.
- Provide a full height metal building partition wall between the Instrument/Electrician Shop and the office space. Partition wall panel shall match the exterior wall panel. Sound insulation is required in the partition wall.
- Natural gas heat and AC is to be provided in this space typical to the Office Space.
- Install 120V electrical duplex receptacles evenly spaced around interior (10 ea.).
- Utilities to provide and install a pump station on the west wall for feed to the Gas Turbines south of the building. Design-Build to provide 6" demineralized water line (PVC or Stainless Steel) from storage basin (converted flume of existing pump station) to new pumping station. Design-Build to provide new 6" demineralized water line (PVC or Stainless Steel) from new pump station to 5' outside of building (Utilities to extend line to Gas Turbines).

212 OFFICE SPACE

- Provide office space with 4" minimum concrete floor, reinforced with 6x6, 9-gauge, welded wire fabric centered in slab.
- All interior stud walls to be filled with sound batt insulation.
- The Operations Room shall be considered a storm shelter facility and designed to be compliant with ICC 500 / FEMA 361. Walls are to be constructed with fully-grouted, reinforced 8" CMU or with 8" minimum cast-in-place reinforced concrete. The ceiling is to be constructed with 8" hollowcore with a minimum 4" concrete topping or an 8" minimum cast-in-place reinforced concrete slab.

- The area above the offices shall not be used for storage. All office space, except the Operations Room, shall have framed ceilings with sound batt insulation, with space for mechanical duct, electrical, cable, phone, etc.
- All office space, including the Operations Room, shall have acoustical panel ceilings.
- Install duct bank for power, fiber communications and controls.
- Design-Build is to stub out telephone and fiber conduit. Utilities will connect telephone and fiber lines.
- Restrooms to be ADA compliant.
- Provide one urinal in the men's restroom.
- Hot water heater required for Restrooms, Breakroom, and Drive-Thru Maintenance Bay.
- All office walls shall be 5/8" drywall, painted, and have rubber base.
- Flooring shall consist of carpet square carpet tiles in the Office and Conference Room. Remaining office area to be tile/vinyl.
- General space requirements for offices/rooms are indicated on the preliminary plans. Final layout to be determined by Design-Build in cooperation with Utilities.
- The Conference Room shall be sized to accommodate 12 people.
- The Breakroom shall be sized to accommodate seating for 6 people.
- All Breakroom furnishings, including cabinetry, are to be supplied by Utilities. Design-Build to provide set up for double sink, refrigerator, and counter-top microwave.
- Gas furnaces shall be self-contained factory assembled units, pre-wired with cabinet, supply fan, heating element, controls, air filter, humidifier, and accessories; wired for single power connection with control transformer.
    - Low voltage programmable solid-state microcomputer-based thermostat.
    - High limit temperature control de-energizes heating elements, automatic resets.
    - Washable replaceable air filters.
- HVAC may be located above the office space at Design-Build's option.

213 BUILDING EXTERIOR

- Provide 10'x14' concrete approaches (8" un-reinforced) to each overhead door.
- Provide concrete parking (6" un-reinforced) for six (6) vehicles in front of the office space.
- Provide concrete sidewalk (5" un-reinforced) from each overhead door and walk door to the parking area.
- Provide a brick wainscot to underside of windows on the west side of the building.
- Security lighting shall be provided.
- Card scanner required to all exterior doors for security.

214 WARRANTY

- The Design-Build shall be responsible for any and all defects which may develop in any part of the entire installation furnished by said Design-Build and, upon receipt of written notice from the City, shall immediately replace and make good without expense to the City any such faulty part or parts and damage done by reason of same during a period of one (1) year from the date of formal acceptance of the work.

- The pre-engineered metal building manufacturer shall warrant for minimum of five (5) years that components were free from defects in composition of material and workmanship from date of Substantial Completion.
    - Building manufacturer shall provide a Wall Panel Finish Limited Warranty of a minimum of twenty-five (25) years from date of Substantial Completion.
    - Building manufacturer shall provide a Roof Panel Finish Limited Warranty of a minimum of twenty (20) years from date of Substantial Completion.

215 WELL ENCLOSURES

The City of Grand Island and Utilities Department will include two (2) well enclosures to be part of this Project. The two (2) well enclosures are located away from the New Burdick Station Office/Maintenance Building. Refer to the Supplemental Specifications for Burdick Wells #7 and #10 Enclosures attached to the end of SECTION 02, SPECIFICATIONS.

216 ANTICIPATED SCHEDULE

- RFP Issued	May 2019
- Proposal Due Date	June 2019
- Contract Negotiations	July 2019
- City Council Approval of Agreement	July 2019
- Notice to Proceed / Begin Construction	August 2019
- Project Completion	March 2020

217 SELECTION PROCESS

The selection/evaluation process for this project will not follow the selection criteria as listed in the General Information. The following selection criteria will be utilized for the Burdick Station New Office/Maintenance Building:

o Approach and understanding of Project	40%
o Experience/Qualifications of Design-Build and Proposed Staff	20%
o Ability to meet project requirements	20%
o Proposal Fee	20%

218 PROJECT CONTACT

Lynn Mayhew, P.E.
Assistant Utilities Director – Production
Platte Generating Station
City of Grand Island
1035 W. Wildwood Drive
lmayhw@giud.com
308-385-5494

MINIMUM INSURANCE REQUIREMENTS
CITY OF GRAND ISLAND, NEBRASKA

The successful bidder shall obtain insurance from companies authorized to do business in Nebraska of such types and in such amounts as may be necessary to protect the Bidder and the interests of the City against hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Bidder's operations and completed operations. Failure to maintain adequate coverage shall not relieve Bidder of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

1. WORKERS COMPENSATION AND EMPLOYER'S LIABILITY

This insurance shall protect the Bidder against all claims under applicable State workers compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The liability limits shall not be less than the following:

Workers Compensation	Statutory Limits
Employers Liability	$100,000 each accident
	$100,000 each employee
	$500,000 policy limit

2. BUSINESS AUTOMOBILE LIABILITY

This insurance shall be written in comprehensive form and shall protect the Bidder, Bidder's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$ 500,000 Combined Single Limit

3. COMPREHENSIVE GENERAL LIABILITY

The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$ 500,000 each occurrence
	$1,000,000 aggregate

4. UMBRELLA LIABILITY INSURANCE

This insurance shall protect the Bidder against claims in excess of the limits provided under employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$1,000,000 each occurrence
	$1,000,000 general aggregate

5. ADDITIONAL REQUIREMENTS

The City may require insurance covering a Bidder or subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

Insurance as herein required shall be maintained in force until the City releases the Bidder of all obligations under the Contract.

The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

6. CERTIFICATE OF INSURANCE

Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this Contract**. The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the Bidder cannot have the "endeavor to" language stricken, the Bidder may elect to provide a new certificate of insurance every thirty (30) days during the contract. Bidder shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.**

Additional Information and Documentation

SUPPLEMENTAL SPECIFICATION FOR

BURDICK WELLS #7 and #10 ENCLOSURES

SCOPE: The Contractor shall furnish all labor, material, tools, transportation, equipment rental, licensing, permits, fees, and tools necessary to design and build two 16 foot by 20 foot (nominal), post & beam steel buildings, in accordance with these specifications. This work shall include foundations, plates, framing, swing doors, windows, roof hatch, thermal insulation and steel panels, and final grading.

LOCATION: The project locations for the well enclosures are:
- Well #7 – 777 S. Stuhr Road.
- Well #10 – 800 Bischeld just south of the Burlington Northern railroad tracks and east of Stuhr Road.

INTENT OF SPECIFICATIONS: It is the intent of these specifications to describe in detail the complete construction of two Wellfield pump enclosures including exterior concrete slabs.

GUARANTEE: All material must be new and of best quality. All work shall be executed by competent personnel. The Contractor shall guarantee in writing that all work will be free from defects in material and workmanship, provided any such defect is brought to his attention within two years after completion of the work.

SCHEDULE: Tentative schedule:
- **Advance notification is required to allow electrical rough-in by City personnel. The Contractor shall notify the City two weeks prior to starting construction and one week prior to pouring the building foundations.**

ORDINANCES: The Contractor shall comply with local and state building and health ordinances and codes; obtain and pay for all permits.

SITE PROTECTION: The Contractor shall avoid activity in the Wellfield Wetland Areas. The City shall provide the Contractor with a map outlining the wetland areas. Spoils from the job shall be removed from the work site and disposed of by the Contractor.

TECHNICAL SPECIFICATIONS

FURNISH AND ERECTION OF PRE-ENGINEERED METAL BUILDING

SCOPE: The Contractor shall design, furnish and erect two 16 ft by 20 ft (nominal) post & beam framed, Clear-Span, pre-engineered steel buildings, including roof and wall framing. Roof and wall system, exerior metal doors and frames with finish hardware. Enclosure accessories including metal flashing and trim. Shop and finish painting. Grouting under columns, as required. Anchor bolts, baseplates and other items to be installed in concrete.

The Contractor shall provide all tools, equipment, consumable construction materials, labor, and competent personnel for supervision and services necessary for performance of all activities required to accomplish the work outlined herein.

QUALITY STANDARDS: Design, fabrication and erection shall be by a manufacturer and erector regularly engaged in the design, fabrication and erection of pre-engineered buildings. Provide new, unused materials, free from defects and imperfections which meet or exceed the physical requirements of this design, fabrication and installation process.

Work shall be in compliance with applicable building codes and the following:

-Specification for the Design of Cold-Formed Steel Structural Members	AISI 2001
-Specification for Structural Steel Buildings	AISC ASD 1989
-Structural steel	ASTM A36
-Carbon steel bolts and studs, 60 ksi tensile	ASTM A307
-Zinc coating on assemble steel products	ASTM A386
-Sheet steel, zinc coated by hot dip process	ASTM A446 and ASTM A525
-Structural steel with 42 ksi min yield point	ASTM A529
-Structural Welding Code - Steel	AWS D1.1
-Structural Welding Code – Sheet Steel	AWS D1.3
-Specification for Structural Bolts, Steel, Heat Treated 120/105 ksi	ASTM 325

PRE-MIXED CONCRETE: All concrete shall be 47-B (modified) concrete as per City of Grand Island Specifications -Section 11, Division II. The concrete shall be vibrated to eliminate voids and air pockets.

DESIGN CRITERIA: Rigid frame, clear span, weathertight building. Members to withstand dead load, applicable snow load and design loads due to pressure and suction of wind calculated in accordance with applicable International Building Code and design load schedule. Design calculations shall be available for review by the Owner or designated representative.

Deflection based on wind shall be based on a 10-year map. The building shall be designed to meet the following minimum deflection requirements:

- Frame rafters – L/150
- Frame sideways – H/60
- Purlins – L/150
- Girts – L/120
- Endwall posts – L/180
- Roof panels – L/150
- Wall panels – L/120

The building shall conform to UL requirements for wind uplift of 90. Assembly to permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects when subject to an ambient temperature range of -20 to 110 deg F.

Wind Load: In accordance with ASCE 7-10, 120 mph Exposure C. Convert pressure load on various portions of the building using pressure coefficients conforming to the most recent revision of the International Building Code.

Snow Load: In accordance with ASCE 7-10, 25 psf Ground Snow Load, with a minimum uniform Roof Snow Load of 30 psf, and a Thermal Factor of 1.2.

Collateral loads (Hung from Rigid Frame Structure): 5 psf for lighting, conduit and piping.

SUBMITTALS**: Product data for wall/roof panels, fasteners, and hardware shall be submitted with the bid.**

Shop drawings shall be submitted prior to initiating work on the project:

-Indicate profiles, sizes, spacing and locations of structural members, connections, attachments, openings, fasteners, cambers and loads.

-Manufacturer's published standard installation drawings. Anchor bolt setting plan including wind column location and column base plate hole sizes.

WARRANTY: The Manufacturer shall provide their standard manufacturer's warranty for exterior prefinished surfaces against rusting, chipping, cracking, grazing, blistering, peeling, chalking or fading.

PRODUCTS: Subject to compliance with these specifications and requirements, provide products by one of the following or approved equal:

Butler Building Systems	Varco Pruden	Steelox Systems
ARMCO Building Systems	York Building Systems	Behlen Building Systems
Chief Building Systems	Sentinel Building Systems	Kirby Building Systems

Items of the same or better function, configuration and performance are acceptable subject to the approval of the Owner. These specifications are intended to represent a quality product acceptable to this project and are not intended to restrict other building manufacturers herein listed as acceptable.

STRUCTURAL STEEL FRAMING: Primary and secondary structural framing shall be shop fabricated and field bolted. If required for minor modification of secondary framing or for field located accessories, field cutting, drilling and welding shall be noted on the building manufacturer's drawings.

The minimum thickness of framing members shall be:

- Cold formed primary framing members	14 gauge
- Cold formed secondary framing members	16 gauge
- Webs of welded built-up members	1/8 inch
- Flanges of welded built-up members	3/16 inch

- Brace rods 1/2 inch diameter (minimum)

Framing materials shall be primed with the manufacturer's standard rust inhibitive primer. Framing materials which require grouting shall use an owner approved premixed compound consisting of nonmetallic aggregate, cement, water reducing and plasticizing agents, developing minimum compressive strength of 2,400 psi in two days and 7,000 psi in 28 days.

ROOF PANELS: Roof panels shall have 1 1/8" deep major ribs spaced at 12" on center, be manufactured from minimum 26 gauge, 80 ksi material. Provide roof panels that meet ASTM E1680 for air leakage and ASTM E1646 for water penetration. Panel substrate shall be Galvalume AZ50 coating in accordance with ATSM A792. Panels shall have lapped edges fitted with continuous length sealant or gaskets. Joint seals and gaskets shall be the manufactures' standard types. Standing seam roofs shall not be permitted.

WALL PANELS: Wall Panels shall have a 1 1/8" major ribs spaced at 12" on center, be manufactured from 26 gauge, 50 or 80 ksi material. Provide wall panels that meet ASTM E283 for air leakage and ASTM E331 for water penetration. Panel substrate shall be Galvalume AZ50 coating in accordance with ATSM A792. Sheets shall be coated with a fluoropolymer topcoat containing not less than 70% polyvinylidine fluoride over primer with a total DFT of 0.8-1.0. Panels shall have lapped edges fitted with continuous length sealant or gaskets. Joint seals and gaskets shall be the manufactures' standard types.

Internal and external corners of panels shall be the same material thickness and finish as adjacent material, profile break formed to required angles. Flashings, closure pieces, fascia, infills, caps and other accessories shall be the same material and finish as adjacent material. Fasteners shall be the manufacturer's standard type, finish to match adjacent surfaces when exposed to the exterior.

Girts and purlins shall be roll-formed structural shape to receive siding, roof sheet and liner sheet, primed with the manufacturer's standard rust inhibitive primer.

One interior wall shall be covered in ¾" AC plywood. The plywood shall be painted white semi-gloss on both sides. See the attached Wellhouse Details drawing.

PERSONNEL METAL DOORS: Doors shall be 18-gauge, hollow metal, like Imperial or Medallion models by Ceco Door Products or approved alternative. 1-3/4-inch thick with double rabbited 14-gauge frame, factory applied rust inhibitive prime coat, complete with the following hardware:

1-1/2 pair	Hinges, Stanley US32D, 4-1/2 x 4-1/2 x FBB199 X NRP
1	Lockset, Yale 5300 series, LF5307. **Note: Door locksets shall be keyed to the same key as the City's Wellfield Well Buildings #17-21.**
1	Closure, LCN, 4040 x SBL
1	Threshold, Zero Weatherstripping Co., Aluminum 565A x 367A
1	Head and jams, weatherstripping, Zero Weatherstripping, 328

FRAMING FABRICATION:

- Eave height: 8 feet, nominal
- Roof slope: 2 inches in 12 inches
- Anchor bolts: Formed with straight shank, zinc coated to ASTM A386, assembled with template for casting in concrete.
- Coating: Manufacturer's standard rust inhibitive primer (do not prime surfaces to be welded).

INSULATION: Furnish and install 3-inch fiberglass insulation on interior roof and walls. Insulation shall have a 0.50 pound per cubic foot density (minimum) with reinforced white vinyl or polypropylene facing. Insulation shall be neatly and accurately applied, covering all interior metal panel surfaces.

FRAMING ERECTION: Erect framing in accordance with AISC Code of Standard Practice. Framing members shall be set 1/4 inch (maximum) from level and 1/8 inch (maximum) from plumb. Do not field cut or alter structural members without written approval of the manufacturer. After erection, prime welds, abrasions and surfaces not shop primed with a primer consistent with the shop coat.

WALL AND ROOF SYSTEMS: Install in accordance with the manufacturer's erection drawings and published instructions. Wall and roof panels shall be 1/8 inch (maximum) from true position. Exercise care when cutting prefinished material to ensure that cuttings do not remain on finish surface. Fasten panels to structural supports,

aligned, level and plumb. Locate end laps over supports. End lap panels a minimum of 2 inches. Place sidelaps over bearing. Install sealant and gaskets to prevent weather penetration. Protect siding surfaces in contact with cementitious materials and other dissimilar metals with bituminous paint or isolation tape or other Owner approved method.

The building shall be free of rattles, noise due to thermal movement and wind whistles.

ACCESSORIES: Provide and install for each building, one 2'-6" by 3'-0" roof hatch, L.J. Industries, Model RHG-1 or equal, in accordance with the drawings and manufactures recommendations. Weight 150 lbs.

Provide and install for each building, one insulated weather tight 12 inch by 12 inch, removable access panel that shall be field located on the wall of each building, as shown on the drawings, to facilitate 6-inch blow-off piping.

Provide and install for each building, two 3' x 3' insulated aluminum horizontal sliding windows. Windows shall be finished with Bronze acrylic electrostatically applied enamel finish. Windows shall be equipped with automatic locks made from non-corrosive material. Removable aluminum framed screens shall be provided with either aluminum or fiberglass 18 x 16 mesh screen cloth.

Provide and install rain gutter with downspout, above the door and across the full length of the entrance side of each building.

All wall and roof accessories shall be made watertight and weathertight with approved sealants.

Provide electrical conduit in floor slab. One 2" for incoming power. One 2" from power panel to well base. One 1" from control panel to center of building for water meter wiring.

Dimensions on drawings attached to this specification shall be field confirmed by the Contractor.

SUPPLEMENTAL SPECIFICATION FOR
DEMINERLIZED WATER STORAGE

HIGH-BUILD EPOXY COMPOSITE LINER FOR CONCRETE STRUCTURES EXPOSED TO DEMINERALIZED WATER

PART 1 GENERAL

1.01 SCOPE.

This section covers all workmanship, materials, equipment, and quality requirements for resurfacing and lining work of structures for demineralized water conditions. Provide and apply all epoxy lining materials as specified, as indicated on drawings, and per Manufacturer's instructions design details. Procedures for cleaning, surface preparation, application and testing are described herein.

1.02 GENERAL.

Cleaning, surface preparation, coating application, and thicknesses shall be as specified herein and shall meet or exceed the coating manufacturer's recommendations. When the manufacturer's minimum recommendations exceed the specified requirements, CONTRACTOR shall comply with the Manufacturer's minimum recommendations.

1.03 RELATED WORK.

A. Division 1 – General Requirements
B. Section 01300 – Submittals
C. Section 07150 – Sealants

1.04 REFERENCES.

This section contains references to the governing standards and documents listed below. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the more stringent of the requirements shall prevail.

Unless otherwise specified, references to documents shall mean the documents in effect at the time of receipt of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.

Referenced publications found within this specification shall be the latest revision unless otherwise specified; and applicable parts of the referenced publications shall become a part of this specification as if fully included.

A. American Concrete Institute (ACI):

1. ACI 301 Specifications for Structural Concrete

2. ACI 308R Guide to Curing Concrete

B. ASTM International (ASTM):

1. ASTM D4285 Standard Test Method for Indicating Water or Oil in Compressed Air;

2. ASTM D4263 Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

3. ASTM E337 Standard Test Method for Measuring Humidity with a Psychrometer;

4. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

C. International Concrete Repair Institute (ICRI):

1. Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays

D. NACE International (NACE):

1. NACE Publication 6D-173 A Manual for Painter Safety;

2. NACE RP0188 Standard Recommended Practice, Discontinuity (Holiday) Testing of Protective Coatings

E. SSPC: The Society for Protective Coatings (SSPC):

1. SSPC-SP13/NACE No. 6 Surface Preparation of Concrete;

2. SSPC-Guide 12 Guide for Illumination of Industrial Painting Projects;

3. SSPC-PA3 A Guide to Safety in Paint Applications

1.05 DEFINITIONS.

A. The term “resurfacer” as used herein means an epoxy polymer modified cementitious material used to restore the concrete substrate to provide a contiguous concrete surface for subsequent lining materials.

B. The term “coating” and “lining” as used herein are considered interchangeable and mean coating systems materials, including any applicable resinous primers and finish coats that function to provide protection of steel or concrete substrates.

C. The terms “coating system” and “lining system” as used herein are considered interchangeable and mean all total resurfacing and coating materials combined to function as a total system to provide the designed protection.

1.06 QUALITY ASSURANCE.

A. REQUIREMENTS:

1. If any requirements of this specification conflict with a referenced standard, the more stringent requirement shall apply.

2. Do not use or retain contaminated, outdated, or diluted materials for coating operations. Do not use materials from previously opened containers.

3. Use only products of the approved Manufacturer. Use products of one manufacturer in any one resurfacing system with compatible materials. Provide same material product for touch-up as for original material.

4. Make available all locations and phases of the work for access by the ENGINEER or other personnel designated by the ENGINEER. The CONTRACTOR shall provide ventilation and egress to safely access the coating work areas for inspection.

5. Conduct work so that the lining system is installed as specified herein. Inspect work continually to ensure that the lining system is installed as specified herein. The CONTRACTOR shall inspect the work to determine conformance with the specifications and referenced documents. The CONTRACTOR shall inform the ENGINEER of the progress and the quality of the work through daily reports as specified below. Any nonconforming coating system work shall be corrected as specified herein or as recommended by the Manufacturer.

6 Summarize test data, work progress, areas covered, ambient conditions, quality control inspection test findings, and other information pertinent to the lining system installation in daily reports to be submitted to the ENGINEER or the ENGINEER's Representative.

7. The methods of construction shall be in accordance with all requirements of this specification.

8. Employ only tradespeople who have at least three years of experience performing lining system work of similar size and complexity as the work specified in this Section. Submittals to verify these qualifications are to be made within thirty (30) days of the Notice-to-Proceed and are subject to approval by the ENGINEER.

9. Specified System is the minimum standard of quality for this project.

Submissions of alternative manufacturers shall be approved by the ENGINEER and owner in writing ten days prior to bid date.

B. SINGLE SOURCE RESPONSIBILITY:

1. All lining system materials, including resurfacing materials, primers, and applicable topcoats shall be products of a single manufacturer.

1.07 SUBMITTALS.

A. Comply with Section 01300, Submittals

B. Submit the following prior to commencing with any phase of the work covered by this Section:

1. Manufacturer's recommended resurfacing material, including: generic description, surface preparation, mixing instructions, application procedures, minimum and maximum thickness, ACI 308R curing procedures (including method(s) and duration), subsequent preparation necessary to receive epoxy lining materials, and minimum and maximum curing/recoating times, all must be submitted in writing and shall be followed in detail by the CONTRACTOR.
2. Manufacturer's project reference lists containing a minimum of 10 projects of similar capacity within the last three years. The reference list shall comprise of the project location, and coating system.
3. Manufacturer's current printed recommendations and product data sheets for all coating system products supplied under this section including surface preparation and application instructions, volatile organic compound (VOC) data, and safety requirements.
4. Manufacturer's Performance Criteria Data Sheet
5. Material Safety Data Sheets (MSDS) for any materials brought on-site including all solvents and lining system materials.
6. Submit certification that all materials comply with Federal, State, and Local regulations for VOC (Volatile Organic Compounds).
7. Submit storage and application temperature requirements for all coating system materials.
8. Manufacturer's recommended standard lining details for all materials specified, including: leading edge termination, metal embedment in concrete, termination at pipe penetration, control/construction joint, and expansion joint detail. All details must be computer generated by the coating Manufacturer and approved by the ENGINEER.
9. CONTRACTOR shall submit list of projects of similar size and complexity along with names of tradesman and work experience employed by the CONTRACTOR.

C. Submit the following information at the completion of the work identified within the scope of this section:

1. Submit daily reports that contain the following information: surface preparation, substrate conditions, ambient conditions, application procedures, coating materials used, coating material quantities, batch numbers of materials used, and work completed and location thereof. Mark-up drawings that show location of work.

1.08 DELIVERY AND STORAGE.

Materials shall be stored in accordance with Manufacturer's recommendations in enclosed structures and shall be protected from weather and adverse temperature conditions. Flammable materials shall be stored in accordance with state and local codes. Materials exceeding storage life recommended by the Manufacturer shall be removed from the site.

A. Store all materials only in area or areas designated by the ENGINEER solely for this purpose. Confine mixing, thinning, clean-up and associated operations, and storage of materials-related debris before authorized disposal, to these areas. All materials are to be stored on pallets or similar storage/handling skids off the ground in sheltered areas in which the temperature is maintained between 40^{o} F and 90^{o} F.

B. Mix all lining materials in an enclosed mixing area designated by the ENGINEER. This enclosed area must protect the mixing operation and materials from direct sunlight, inclement weather, freezing, or other means of damage or contamination. Protect all other concrete and metallic surfaces and finishes from any spillage of material(s) within the mixing area. The material temperature should be between 70^{o} F and 90^{o} F prior to application, unless noted otherwise on the product data sheet.

C. Do not use floor drains, dikes or storm drains for disposal of coating system materials.

D. The CONTRACTOR shall take all precautions and implement all measures necessary to avert potential hazards associated with the resurfacing system materials as described on the pertinent Material Safety Data Sheets or container labels.

E. Deliver all materials to the jobsite in their original, unopened containers. Each container shall bear the Manufacturer's name and label.

1. Labels on all material containers must show the following information:

a. Name or title of product.
b. Federal Specification Number if applicable.
c. Manufacturer's batch number and date of manufacture. d. Manufacturer's name.
e. Generic type of material.
f. Application and mixing instructions.
g. Hazardous material identification label. h. Shelf life date.
i. Storage requirements.

F. All containers shall be clearly marked indicating any personnel safety hazards associated with the use of or exposure to the materials.

1. All materials shall be handled and stored to prevent damage or loss of label.

2. Coating material storage and mixing areas shall be designated by the ENGINEER.

3. Do not use or retain contaminated, outdated, prematurely opened, diluted materials, or materials which have exceeded their shelf life.

1.09 COORDINATION OF WORK.

A. WORK AREAS:

The work areas on the jobsite will be designated by the ENGINEER. The CONTRACTOR's personnel shall not be permitted in any area other than those expressly designated by the ENGINEER.

B. COORDINATION:

The contractor shall coordinate with the ENGINEER regarding availability of work areas, completion times, safety, access and other factors which can impact plant operations.

1.10 SAFETY.

A. The CONTRACTOR's work forces should comply all federal, state and local regulations as well as with the provisions outlined in the following documents:

SSPC-PA-3	"A Guide to Safety in Paint Application"
NACE Pub. 6D-173	"A Manual for Painter Safety"

B. The CONTRACTOR shall provide personnel with all safety equipment necessary to protect them during any phase of the work. This shall include, but not be limited to, safety glasses, goggles, earplugs, hard hats, steel toed work shoes, appropriate personal protective clothing, gloves, NIOSH approved respirators, and plant approved escape respirators (where required).

C. No work shall be performed until the appropriate Work Requests and Lockouts are approved by the Engineer. The Work Request system provides a mechanism to advise plant staff of a contractor's work activities. The Lockout system is a safety procedure to prevent unintended equipment activation.

D. Keep any flammable materials such as cleaning solvents, thinners, or resurfacing materials away from open flames, sparks or temperatures higher than 150^{o} F. Drums containing flammable materials shall be grounded.

E. Power tools are to be in good working order to avoid open sparking. No spark producing tools shall be utilized in restricted areas as indicated herein.

F. The CONTRACTOR shall maintain a clean work area and having Underwriter's Laboratories approved fire extinguishers on-hand. The CONTRACTOR shall furnish these fire extinguishers.

G. Workers performing abrasive blasting operations shall wear a fresh air supplied protective helmet and hood and personal protective clothing acceptable to industry standards and all government regulations.

H. Workers performing coating operations shall wear the appropriate personal protective equipment, clothing, and NIOSH approved respirator acceptable to industry standards and all government regulations.

I. Dispose of rags used for wiping up resurfacing materials, solvents, and thinners by drenching them with water and placing in a metal container with a tight fitting metal cover. Complete this disposal process at the end of each day. Final disposal of these materials is the CONTRACTOR's responsibility.

J. Matches, smoking, flames, or sparks resulting from any source including welding, must be remote from the work area during coating work. Smoking is permitted only in designated areas of the plant.

1.11 PROJECT CONDITIONS.

A. WEATHER:

1. Air and Surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range in accordance with Manufacturer's instructions.
2. Surface Temperature: Minimum of 5 degrees F (3 degrees C) above the dew point.
3. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range in accordance with Manufacturer's instructions.
4. Precipitation: Do not prepare surfaces or apply coatings in rain, snow, fog, or mist.
5. Wind: Do not spray coatings if wind velocity causes overspray of the coating materials.

B. VENTILATION:

1. Provide ventilation during and following coating application per the Manufacturer's instructions.
2. Ventilation must be maintained a minimum of 24 hrs following the completion of application, as directed by the Manufacturer, to facilitate cure of the materials.

C. DUST AND CONTAMINANTS:

1. Schedule coating work to avoid excessive dust and airborne contaminants.
2. Protect work areas from excessive dust and airborne contaminates during coating application and curing.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS.

A. Standard Portland cement or new concrete must be well cured prior to application of the protective coating system. Generally, 28 days is adequate cure time for standard Portland. However, sufficient cure must be verified in accordance with SSPC- SP13/NACE No. 6 prior to the commencement of application.

B. Remove all existing cementitious curing membranes in accordance with SSPC-SP13/NACE No. 6 prior to the commencement of application.

C. Remove all existing coatings prior to application of the new protective coating system.

2.02 MANUFACTURERS.

A. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a minimum standard of quality. Equivalent materials of other manufacturers may be submitted a minimum ten days prior to bid date on written approval of the ENGINEER. As part of the proof of quality, the ENGINEER will require at the cost of the CONTRACTOR, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the ENGINEER between the product specified and the requested substitution.

B. All requests for product substitution shall be made a minimum ten days prior to bid date in accordance with the general construction documents and Section 1.07—Submittals herein.

C. Any material savings shall be passed to the owner in the form of a contract dollar reduction.

2.03 MATERIALS:

A. CEMENTITIOUS RESURFACING MATERIAL(S):

1. Materials specified herein are the only approved materials unless an “Or Equal” is approved in writing by the ENGINEER in accordance with this document.

2. Resurfacing: Tnemec Series 217 MortarCrete shall be used to restore the concrete surface to a contiguous plane and to reduce outgassing of the concrete. The Series 217 shall be applied to the entire surface at a minimum 1/4 inch thickness and a maximum of 2 inches. [1]

3. The resurfacing materials must not require wet or membrane curing compounds for preservation of moisture, nor shall require additional surface preparation prior to receiving subsequent lining materials.

B. EPOXY LINING MATERIALS:

1. Materials specified herein are the only approved standard coating systems unless an "or equal" is approved in writing by the ENGINEER in accordance with this document.

2. Interior Concrete Structures

Surface Preparations:	SSPC SP-13 Brush off blast
Primer/Resurfacer:	Tnemec Series 217 MortarCrete @ minimum 1/4" And a max of 2.0'' over all areas that are more than ¼'' deteriorated.
Surface Preparations:	SSPC SP-13 Brush off blast
Epoxy Topcoat:	1 Coat Tnemec 22 Epoxoline @ 20-30 DFT

1. Interior Steel Structures

Surface Preparation:	SSPC-10 Near white metal blast cleaning
Primer/topcoat:	1 coat Tnemec 22 Epoxoline @ 16-24 DFT

D. SEALANTS:

1. Refer to Section 07150.

2. Where directed, use a non-sag industrial Polysulfide Joint Sealant Thiokol 2235M manufactured by PolySpec, Houston, TX, or equal.

3. The approved joint sealants shall be installed at joints and cracks in the concrete in conjunction with the coating material in accordance with the instructions and details of the Coating Manufacturer and as follows:

   a. All joints to receive sealant shall be cleaned, primed, backed and caulked in complete accordance with the sealant manufacturer's instructions. Existing caulk joints and residual caulking where new caulk joints will be applied or where surfaces will be left exposed in the new work shall all be removed by grinding or other approved means to leave surfaces acceptable to receive sealant or clean as approved where surfaces will be left exposed. Provide specified backing rods for all joints or, where authorized, approved bond breaker tape.

PART 3 EXECUTION

3.01 GENERAL.

A. HOISTING, SCAFFOLDING, STAGING, AND PLANKING:

1. Provide, set-up, and maintain all required hoists, scaffolds, and staging and planking, and perform all access related hoisting work required to complete the work of this section as indicated and specified.

2. Scaffolds shall have solid backs and floors to prevent dropping materials from there to the floors or ground below.

B. ENVIRONMENTAL REQUIREMENTS:

1. Comply with the Manufacturer's recommendations as to environmental conditions under which lining system materials can be applied.

2. Air and Surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range in accordance with Manufacturer's instructions.

3. Surface Temperature: Minimum of 5 degrees F (3 degrees C) above the dew point.

4. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range in accordance with Manufacturer's instructions.

5. Precipitation: Do not prepare surfaces or apply coatings in rain, snow, fog, or mist.

6. Wind: Do not spray coatings if wind velocity is above Manufacturer's limit or causes overspray of the coating materials.

7. Provide ventilation during and following coating application per the Manufacturer's instructions.

8. Ventilation must be maintained a minimum of 24 hrs following the completion of application to facilitate cure of the materials, or as directed by the Manufacturer.

9. CONTRACTOR to provide all necessary artificial lighting in accordance with SSPC-Guide 12.

C. PROTECTION:

1. Cover or otherwise protect finish work or other surfaces not being coated within the scope of this section.

2. Erect and maintain protective tarps, enclosures and/or masking to contain debris (such as dust or airborne particles resulting from surface preparation) generated

during any and all work activities. This includes, but is not limited to, the use of dust/debris collection apparatus as required.

D. INITIAL INSPECTION OF SURFACES TO BE COATED:

1. It is the responsibility of the CONTRACTOR to inspect and report unacceptable substrate surface conditions to the ENGINEER prior to the commencement of surface preparation activities.
2. Unacceptable concrete surface conditions are defined as the presence of water infiltration/inflow, cracked surfaces or concrete deteriorated to a depth of greater than 1" or otherwise unable to withstand surface preparation as specified herein.
3. Verify that the pH of the cleaned concrete surfaces to be coated is within the range of 9 to 11. Application of coating materials outside this range will not be permitted without written approval from the ENGINEER.
4. Unacceptable steel or ductile/cast iron surface conditions are defined as severely corroded and/or perforated metals and are unable to withstand surface preparation as specified herein.

E. THINNERS AND SOLVENTS:

The Contractor shall use only solvents and thinners as recommended by the Manufacturer.

3.02 SURFACE PREPARATION.

A. GENERAL:

1. All specified surface preparation shall be performed in accordance with the latest version of the SSPC, NACE, ICRI, ACI and other standards referenced in this section.
2. Surface preparation shall be scheduled so that dust and other contaminants from the cleaning process will not fall on wet, newly applied areas.
3. Prepare concrete joint and install chemical resistant sealant following lining system installation per Section 07150 where specified.

B. CONCRETE SURFACES:

1. All existing concrete surfaces to be coated shall be decontaminated to remove all microorganisms, acid constituents, grease, oil, and other contaminants prior to commencement of surface preparation (Reference SSPC-SP13/NACE No. 6).

2. Verify that the pH of the cleaned concrete surfaces to be coated is within the range of to 9 to 11. Application of coating materials outside this range will not be permitted without written approval from the ENGINEER.

3. Allow new concrete to cure for a minimum of 28 days.

4. Test concrete for moisture following the 28 day curing period in accordance with ASTM D4263 and/or F1869.

5. Concrete surfaces shall be prepared in accordance with SSPC-SP13/NACE No. 6, Severe Service, and shall produce a minimum surface profile of a CSP-5 as noted in ICRI Guideline 03732 and SSPC-SP13/NACE No. 6.

3.03 SPECIFIC SURFACE PREPARATION REQUIREMENTS.

A. In addition to the requirement in Section 3.02, the CONTRACTOR will follow the requirements of this section.

B. Where the coating is specified to be terminated, the CONTRACTOR shall prepare and apply materials as outlined in Tnemec Drawing TLS-01, Leading Edge Termination Detail.

C. Where the coating is specified to be terminated at a metal embedment, the CONTRACTOR shall prepare and apply materials as outlined in Tnemec Drawing TLS-02, Metal Embedment Detail.

D. For applications around pipe penetrations and/or drains, the CONTRACTOR shall prepare and apply coatings as detailed on Tnemec Drawing TLS-03, Pipe Penetrations.

E. Where the coating is specified over control or construction joints, the CONTRACTOR shall prepare and apply coatings as detailed on Tnemec Drawing TLS-04, Termination at Control or Construction Joints for Cracks.

F. Where the coating is specified over expansion joints, the CONTRACTOR shall prepare and apply coatings as detailed on Tnemec Drawing TLS-05, Expansion Joint Treatment Detail.

G. When the coating is specified to adjoin adjacent T-Lock (or similar PVC sheet lining materials), the CONTRACTOR shall prepare and apply coatings as detailed on Tnemec Drawing TLS-06, Termination at Existing T-Lock Liner.

H. When encountered, the CONTRACTOR shall prepare the surfaces exposing rebar as detailed on Tnemec Drawing TLS-09, Exposed Rebar Repair.

I. Where encountered, the CONTRACTOR shall transition from wall to slab as detailed on Tnemec Drawing TLS-10, Wall to Top Slab Transition.

J. The CONTRACTOR shall notify the ENGINEER should jobsite conditions prevent the above operations and/or applications.

3.04 APPLICATION REQUIREMENTS.

A. GENERAL:

1. Areas not to receive lining system shall be masked using duct tape or other protection materials to prevent these surfaces from being coated.

2. Ensure straight, even termination of resurfacing/topcoat materials on wall edges and flush with embedded steel.

3. The CONTRACTOR must follow the minimum and maximum recoat limitation times and related temperature range restrictions between successive lifts for all products specified herein per Manufacturer's stated requirements.

4. All equipment and procedures used for lining system application shall be as recommended by the Manufacturer.

5. Unless specified elsewhere herein, the CONTRACTOR shall comply with the Manufacturer's most recent written instructions with respect to the following:

a. Mixing of All Materials.
b. Protection and Handling of All Materials. c. Recoat Limitation and Cure Times.
d. Minimum Ambient and Substrate Temperatures, Substrate's Degree of Dryness, Relative Humidity, and Dew Point of Air.
e. Application. f. Final Curing.
g. Use of Proper Application Equipment.

6. Curing of Lining System: The applied lining system shall be protected from damage during curing and shall be cured as recommended by the Manufacturer. Ambient conditions shall be controlled by the CONTRACTOR during curing to ensure the minimum air temperature and minimum relative humidity as required by the Manufacturer is maintained.

B. DEMINERALIZED LINING SYSTEM:

Apply the Tnemec resurfacing and lining system in accordance with Section 2.03 and the Manufacturer’s instructions.

3.05 FIELD QUALITY CONTROL INSPECTION AND TESTING.

A. Inspection by the ENGINEER or others does not limit the CONTRACTOR's responsibilities for quality control inspection and testing as specified herein or as required by the Manufacturer's instructions.

B. CONTRACTOR to perform the quality control procedures listed below in conjunction with the requirements of this Section.

1. Inspect all materials upon receipt to ensure that all are supplied by the approved Manufacturer.

2. Provide specified storage conditions for the coating materials and applicable

solvents.

3. Inspect and record findings for the degree of cleanliness of substrates used. The pH of the concrete substrate will be measured using pH indicating papers. The pH testing is to be performed once every 50 sq. ft. Acceptable pH values shall be between 9.0 and 11.0 as measured by a full-range (1-12) color indicating pH paper with readable color calibrations and a scale at whole numbers (minimum). Use Hydrion Insta-Check Jumbo 0-13 or 1-12 or equal. The paper shall be touched to the surface once using moderate gloved finger pressure. The surface shall not be wiped or moved laterally to disturb the surface during pH testing. Following the one touch, lift the paper vertically to not "wipe" the surface. Compare the color indicated with the scale provided and record the pH. Spot check any areas that may be questionable with phenolphthalein.

4. Inspect and record substrate profile (anchor pattern). Surfaces shall be abraded, at a minimum, equal to the roughness of CSP-5 in accordance with ICRI Guideline 03732 and SSPC-SP13/NACE No. 6.

5. Measure and record ambient air temperature once every two hours of each shift using a thermometer and measure and record substrate temperature once every two hours using an infrared or other surface thermometer.

6. Measure and record relative humidity and dew point temperature every two hours of each shift using a sling psychrometer in accordance with ASTM E337.

7. Provide correct mixing of coating materials in accordance with the Manufacturer's instructions.

8. Inspect and record that the "pot life" of coating materials is not exceeded during installation.

9. Verify curing of the coating materials in accordance with the Manufacturer's instructions.

10. Upon full cure, the installed lining system shall be checked by high voltage spark detection in accordance with NACE RP0188, and the Manufacturer's printed application guide to verify a pinhole-free surface. Areas which do not pass the spark detection test shall be corrected at no cost to the Owner and rechecked upon cure.

11. Upon completion of the lining system installation, the lined area shall be cleaned and prepared to permit close visual inspection by the ENGINEER or the ENGINEER's representative. Any and all deficiencies or defective work (not in compliance with this section or related sections) will be marked for repair or removal/replacement by the CONTRACTOR at no additional cost to the Owner.

3.06 ACCEPTANCE CRITERIA.

A. ~~ACCEPTANCE CRITERIA FOR SURFACE PREPARATION WORK:~~

All surfaces shall be prepared in accordance with the specification and referenced standards therein.

B. Acceptance Criteria for Coating System Application Work

1. Acceptable coating work will be based upon the following:

   a. No pock-marks, trowel marks, depressions, waviness or ridges, pinholes or holidays in either size or frequency.
   b. No intercoat bond failures between lifts. c. Proper curing of coatings.

2. The ENGINEER or ENGINEER's Representative shall, at their discretion, inspect the following:

   a. Profile and degree of cleanliness of substrate.
   b. Thickness of materials/coverage rate confirmation.
   c. Ambient temperature and humidity requirements and substrate temperature.
   d. Curing and recoat times.
   e. Proper curing of the resurfacing materials.

3. Rework required on any holidays or any other inadequacies found by the ENGINEER or the ENGINEER's Representative in the quality of the coating work shall be marked. Such areas shall be re-cleaned and reworked by the CONTRACTOR according to these specifications and the Manufacturer's recommendations at no additional cost to the Owner.

4. The CONTRACTOR is responsible for keeping the ENGINEER informed of all progress so that inspection for quality can be achieved.

5. The CONTRACTOR is ultimately responsible for the quality performance of the applied materials and workmanship. Inspections by the ENGINEER or the ENGINEER's Representative do not limit this responsibility.

3.07 FINAL INSPECTION.

Perform a final inspection to determine whether the resurfacing system work meets the requirements of the specifications. The ENGINEER and the ENGINEER's Representative will conduct final inspection with the CONTRACTOR.

3.08 CLEANUP.

Upon completion of work, the CONTRACTOR shall remove surplus materials, equipment, protective coverings, and accumulated rubbish, and thoroughly clean all surfaces and repair any work-related damage. The surrounding surface areas including roadways and all other surfaces shall be restored to their pre-project condition.

END OF SECTION

PRODUCT PROFILE

GENERIC DESCRIPTION	Cementitious Repair Mortar
COMMON USAGE	A single-component, rapid setting, non-shrinking hydraulic cementitious resurfacer used to restore deteriorated concrete surfaces.
COLORS	Gray
SPECIAL QUALIFICATIONS	Series 217 is acceptable for use on the interior of potable water concrete storage tanks and reservoirs when topcoated with an NSF/ANSI Std. 61 certified protective coating. Contact your Tnemec representative for approved systems and additional information.

COATING SYSTEM

PRIMERS	Concrete: Series 217 Bond Coat † † A thin bond coat (scrub coat) is required. Refer to the Series 217 MortarCrete Surface Preparation and Application Guide or Contact Tnemec Technical Services with questions.
TOPCOATS	Series 22, FC22, 27WB, 46H-413, L69, L69F, N69, N69F, V69, V69F, 120, L140, L140F, N140, N140F, V140, V140F, 201, 215, 218, 237SC, 239SC, 434, 435, 436, 446 Note: Series 217 must be mechanically prepared in accordance with SSPC-SP13/NACE 6, ICRI-CSP4-5 surface profile prior to application of recommended topcoats. Shrinkage cracks in the Series 217 may require filling with Series 215 or Series 218 to prevent transfer or telegraphing of any cracks. Contact Tnemec Technical Services for additional information.

SURFACE PREPARATION

REINFORCING STEEL	The repair of deteriorated concrete resulting from reinforcing steel corrosion should be in accordance with ICRI Technical Guideline No. 310.1R. Concrete reinforcing steel (rebar) can be primed with Tnemec Series 1 or 69.
CONCRETE	Remove all loose materials, deteriorated concrete, laitance, existing coatings, and other bond-inhibiting materials from the surface in accordance with SSPC-SP13/NACE 6, minimum surface profile of ICRI-CSP6.
EDGE CONDITIONING	The edges of the patch should be sawcut perpendicular to the surface to a depth of at least 1/4 inch (6 mm). Break out the complete repair area to a minimum depth of 1/4 inch (6 mm) up to the sawed edge to prevent feather edging. Avoid cutting the reinforcing steel.
ALL SURFACES	Must be clean and free of oil, grease and other contaminants. Always take precautions to prohibit the surface from becoming contaminated prior to product application.

TECHNICAL DATA

RECOMMENDED DFT: Horizontal/Vertical: 1/4 inch (6 mm) to 4 inches (102 mm)
Overhead: 1/4 inch (6 mm) to 2 inches (51 mm)

CURING TIME

Temperature	Initial Set	Final Set	To Topcoat
70°F (21°C)	60 minutes	90 minutes	12 hours

Note: Use Series 211-217 Slow Set additive to extend set times. Refer to Series 211-217 Slow Set product data sheet for information.

VOLATILE ORGANIC COMPOUNDS	0.0 lbs/gallon (0 grams/litre)
NUMBER OF COMPONENTS	One: 2.4 gallons/0.3 cu ft (9.0 L) (dry volume) approximately
MIXING RATIO	Add 3 to 5 quarts (2.8 to 4.7 L) potable water per 55 lb (23 kg) plant-proportioned, pre-blended unit. Do not mix partial units.
PACKAGING	5 gallon bucket
NET WEIGHT	55 lbs (23 kg)
STORAGE TEMPERATURE	Condition product to 65°F-75°F (18°C-24°C) 24 hours before using. Protect from moisture; store in dry environment.
SHELF LIFE	6 months in original, unopened packaging at recommended storage conditions.
HEALTH & SAFETY	This product contains chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product. Keep out of the reach of children.

MORTARCRETE® | SERIES 217

APPLICATION

SPREADING RATE

Prior to application, review the Series 217 MortarCrete Surface Preparation and Application Guide.
Approximate theoretical spread rate based upon 4 quarts (3.8 L) of water to yield 3.4 gal/0.45 cu ft (12.9 L) unit.

Thickness	0.25 in. (.635 cm)	0.50 in. (1.27 cm)	0.75 in. (1.91 cm)	1.00 in. (2.54 cm)	1.25 in. (3.18 cm)	1.50 in. (3.81 cm)	1.75 in. (4.45 cm)	2.00 in. (5.08 cm)
Coverage	21.6 (2.01 m²)	10.8 (1.00 m²)	7.2 (.67 m²)	5.4 (.50 m²)	4.32 (.40 m²)	3.6 (.33 m²)	3.0 (.28 m²)	2.7 (.25 m²)

Thickness	2.25 in. (5.72 cm)	2.50 in. (6.35 cm)	2.75 in. (6.99 cm)	3.00 in. (7.62 cm)	3.25 in. (8.26 cm)	3.50 in. (8.89 cm)	3.75 in. (9.53 cm)	4.00 in. (10.16 cm)
Coverage	2.4 (.22 m²)	2.2 (.20 m²)	2.0 (.19 m²)	1.8 (.17 m²)	1.7 (.16 m²)	1.5 (.14 m²)	1.4 (.13 m²)	1.3 (.12 m²)

Note: Application below minimum or above maximum spreading rates may adversely affect product performance.

WORKING TIME

Approximately 20-30 minutes at 75ºF (24ºC), & 50% R.H. Placement time is dependent on environmental conditions and mixing water/set control amounts. Do not retemper the mortar with additional water. Note: Do not wait for bleed water. Finish surface as soon as material condition allows.

MIXING

Remove Series 217 from the 5-gallon plastic pail. Add 3-5 quarts (2.8 to 4.7 L) of potable water to a clean bucket. Note: Elevated water temperature can significantly reduce working time.
Optional: Dependent upon the ambient temperature and desired consistency, add up to 3 packets of Series 211-217 Slow Set additive into the mixing water (refer to the Series 211-217 product data sheet). Under mechanical agitation with a slow-speed drill (400-600 rpm) and H-Style (box blade) mixing paddle, slowly sift powder into mixing bucket. Mix 1-4 minutes until fully blended. Avoid extended over-mixing.

APPLICATION

Substrate: Concrete substrate shall be "pre-wet" or dampened with potable water to a Saturated Surface Dry (SSD) condition prior to Series 217 application; the concrete substrate is darkened by water but there is no pooling of water on the concrete.
Bond Coat: Using a masons brush or rubber sponge, work a thin bond coat (scrub coat) of Series 217 into the SSD substrate to ensure intimate contact and to help prevent sloughing or sagging of repair materials on vertical and overhead surfaces.
Mortar: Apply the Series 217 with adequate pressure before the scrub coat dries. Thoroughly consolidate the repair material into the corners of patch and around any exposed reinforcement steel in the repair zone. Full encapsulation of the reinforcement and intimate contact with substrate is important for long-term durability.
Finishing: Do not wait for bleed water. Finish Series 217 by striking off with a straight edge and close with the recommended concrete finishing tools, as conditions allow, to create a smooth, even surface.

CURING

External curing is required in accordance with ACI recommendations. Water cure for a minimum of one hour. Cooler temperatures or the use of Series 211-217 may require longer curing times. Contact Tnemec Technical Services for additional information.

APPLICATION EQUIPMENT

Hand troweling can be accomplished using steel concrete finishing trowels, broad knives, rubber floats, wooden floats or plastic floats. Material may be spray transferred using low-pressure grout pumps or high-pressure wet-mix shotcrete equipment. Contact Tnemec Technical Services for additional information.

Spray Application Equipment

Pump	Fluid Line	Spray Gun	Fluid Tips	Fluid Pressure	Atomizing Pressure	Hopper
Graco M680 10:1 Ratio	25' 1" Diameter 10' 3/4" Diameter	Flex Hose	No. 5 Nozzle	300 psi (Adjust as necessary)	Adjust at gun for proper atomization	10 Gallons Stainless Steel

Refer to the operation manual for application instructions. Atomization air must be dry, the use of an after cooler is recommended.

TEMPERATURE REQUIREMENT

Minimum substrate and ambient application temperature 45°F (7°C) and rising. Do not apply if expected to fall below this temperature within 24 hours of application.

CLEANUP

Uncured material can be removed with water. Cured material can only be removed mechanically.

PRODUCT PROFILE

GENERIC DESCRIPTION Modified Polyamine Epoxy

COMMON USAGE An advanced generation, 100% solids, high-build epoxy for the protection of steel and concrete. It provides excellent resistance to abrasion and is suitable for immersion service. Specialized curing mechanism allows for faster cure response with airless spray application.

COLORS WH11 Off-White, 1218 Light Blue, 1255 Beige

FINISH Semi-Gloss

SPECIAL QUALIFICATIONS Series 22-WH11 Off-White, 22-1218 Light Blue and 22-1255 Beige are certified by NSF International in accordance with NSF/ANSI Std. 61 and are qualified for use on tanks and reservoirs of five (5) gallons capacity or greater, pipes 1/2" in diameter or greater and valves 1/2" in diameter or greater. Conforms to AWWA C 210. Contact your Tnemec representative for systems and additional information.

COATING SYSTEM

SURFACER/FILLER/PATCHER Series 215, 217, 218

PRIMERS Steel: Self-priming, 66, L69, L69F, N69, N69F, V69, V69F, 90-97, H90-97, 90G-1K97, H91-H_2O, 94-H_2O, L140, L140F, N140, N140F, V140, V140F, 161

TOPCOATS Series 73, 740, 750, 1028, 1029, 1074, 1074U, 1075, 1075U, 1080, 1081. Note: Series 22 exterior (sunlight) exposed for longer than maximum recoat requires scarification by abrasive blasting prior to topcoating.

SURFACE PREPARATION

STEEL Non-Immersion Service: SSPC-SP6/NACE 3 Commercial Blast Cleaning with a minimum angular anchor profile of 1.5 mils for dry film thicknesses at 16.0 to 20.0 mils.
Immersion Service: SSPC-SP10/NACE 2 Near-White Blast Cleaning with a minimum angular anchor profile of 3.0 mils for dry film thicknesses at 20.0 mils or greater.
Enclosed, Protected & Mild Environments: Contact your Tnemec representative or Tnemec Technical Service.

CONCRETE Allow new cast-in-place concrete to cure a minimum of 28 days at 75°F (24°C). Verify concrete dryness and prepare concrete surfaces in accordance with NACE 6/SSPC-SP13 Joint Surface Preparation Standards and ICRI Technical Guidelines. Moisture vapor transmission should not exceed three lbs per 1,000 sq ft in a 24 hour period (reference ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride"). Relative humidity should not exceed 80% (reference ASTM F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes"). Abrasive blast, shot-blast, water jet or mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, sealers and other contaminants and to provide a minimum ICRI-CSP 5 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer.

ALL SURFACES Must be clean, dry and free of oil, grease, chalk and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS 100% (mixed) †

RECOMMENDED DFT 16 to 40 mils (400 to 1016 microns) in one or two coats.

CURING TIME

Temperature	To Touch	Dry Through	Minimum to Recoat	Return to Service	Maximum to Recoat
95°F (35°C)	2 1/2 hours	5 1/2 hours	4 hours	5 days	7 days
75°F (24°C)	7 hours	18 hours	16 hours	5 days	7 days
50°F (10°C)	24 hours	27 hours	32 hours	7 days	7 days

Note: These times are based on 20.0 mil (500 micron) dry film thickness. Cure time varies with surface temperature, air movement, humidity, and film thickness. Ventilation: When used as a tank lining or in enclosed areas, provide adequate ventilation during application and cure.

VOLATILE ORGANIC COMPOUNDS Unthinned: 0.10 lbs/gallon (12 grams/litre)
Thinned 5%: 0.44 lbs/gallon (52 grams/litre) †

HAPS Unthinned: 0.0 lbs/gal solids
Thinned 5%: 0.37 lbs/gal solids

THEORETICAL COVERAGE 1,604 mil sq ft/gal (39.4 m²/L at 25 microns). See APPLICATION for coverage rates. †

NUMBER OF COMPONENTS Two: Part A (polyamine) and Part B (epoxy)

MIXING RATIO By volume: One (Part A) to one (Part B).

PACKAGING

	PART A	PART B	When Mixed
Large Kit	5 gallon pail	5 gallon pail	10 gallons (37.85 L)
Medium Kit	6 gallons pail (partial fill)	3 gallon can (partial fill)	5 gallons (15.14 L)
Small Kit	1 gallon can (partial fill)	1 gallon can (partial fill)	1 gallon (3.79 L)

Large kit offered for plural component application.

NET WEIGHT PER GALLON 12.70 ± 0.25 lbs (5.76 ± .11 kg) (mixed) †

STORAGE TEMPERATURE Minimum 20°F (-6°C) Maximum 110°F (43°C)

TEMPERATURE RESISTANCE (Dry) Continuous 250°F (121°C) Intermittent 275°F (135°C)

SHELF LIFE Part A: 12 months and Part B: 12 months at recommended storage temperature.

FLASH POINT - SETA: Part A and Part B: >200°F (97°C)

HEALTH & SAFETY: Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product.
Keep out of the reach of children.

APPLICATION

COVERAGE RATES

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m²/Gal)
Minimum	16.0 (400)	16.0 (400)	100 (9.3)
Maximum	40.0 (1016)	40.0 (1016)	40 (3.7)

Allow for overspray and surface irregularities. Film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance. †

MIXING: Mix the entire contents of Part A and Part B separately. Scrape all of the Part A and Part B into a suitable container by using a flexible spatula. Use a variable speed drill with a PS Jiffy blade and mix the blended components for a minimum of two minutes. Apply the mixed material within the spray or pot life limits after agitation. For optimum application characteristics, material temperature should be between 70°F (21°C) and 80°F (27°C). Note: A large volume of material will gel quickly if not applied or reduced in volume.
Caution: Do not reseal mixed material. An explosion hazard may be created.

THINNING: May thin up to 5% or 6 fluid ounces per gallon with No. 2 Thinner. DO NOT thin in areas with strict extractable regulations.

POT LIFE: 45 minutes at 75°F (24°C) and 5% thinning

SPRAY LIFE: 25 minutes at 75°F (24°C) and 5% thinning

APPLICATION EQUIPMENT: Airless Spray

Spray Gun	Pump Size	Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
Graco XHF, XTR7 or WIWA 500F	56:1, X50 or X60	0.019"-0.023" (483-585 microns)	5500-6000 psi (379-413 bar)	See Below	N/R

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.
Note: Remove all filters. Material needs to be gravity fed through a material hopper. Material will not feed through a suction tube.
Material Hose ID (Nominal 100 feet): Attach 100' x ½" hose to the pump. Attach 10' x 3/8" hose (whip) to the ½" line.
Material Hose ID (Nominal 200 feet): Attach 100' x ¾" hose to the pump. Attach 100' x ½" hose to the ¾" line. Attach 10' x 3/8" hose (whip) to the ½" line.
Plural Component Application: Contact Tnemec Technical Service for detailed equipment requirements.
Brush: Recommended for small areas only. Use high quality natural or synthetic bristle brushes.
Roller: Application not recommended.

SURFACE TEMPERATURE: Minimum 50°F (10°C) Maximum 130°F (54°C)
The surface temperature should be at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature. To avoid outgassing, concrete temperature should be stable or in a descending temperature mode.

MATERIAL TEMPERATURE: Prior to application, the material temperature should be between 70°F and 80°F (21°C and 27°C). It is suggested the material be stored at these temperatures at least 48 hours prior to use. Temperature will affect the workability. Cool temperatures increase viscosity and decrease workability. Warm temperatures will decrease viscosity and shorten pot life.

HOLIDAY TESTING: If required by the project specifications, holiday testing should be performed in accordance with NACE SP0188. Contact Tnemec Technical Service for voltage recommendations and curing parameters prior to testing.

CLEANUP: Flush and clean all equipment immediately after use with Tnemec No. 4 Thinner. Use Tnemec No. 68 Thinner when needed to comply with VOC regulations.

† Values may vary with color.

C127888

EXISTING COOLING TOWER FLUME TO REMAIN AND BE REPURPOSED INTO DEMINERLIZED WATER STORAGE BASIN. GI UTILITIES TO REMOVE AND SALVAGE.

REMOVE EXISTING FOOTINGS OF PREVIOUS OVERHEAD CRANE

REMOVE BOTH EXISTING 54" CIRCULATED WATER PIPES TO EXISTING COOLING TOWER TO THIS POINT

REMOVE EXISTING CHLORINE FEED BUILDING AND ACCESSORIES

5' CONCRETE SIDEWALK

CONCRETE APPROACH

56'-8"x122'-4" OFFICE/ MAINTENANCE BUILDING

REMOVED EXISTING COOLING TOWER AND ACCESSORIES

RAISED INLET INTAKE ELEVATION

CONCRETE PARKING

5' CONCRETE SIDEWALK

RAISE INLET INTAKE ELEVATION

CONCRETE APPROACH

4" FORCE MAIN

OIL/WATER SEPARATOR

EXISTING ELECTRICAL EQUIPMENT BUILDING

BURDICK STATION

LEGEND

SWS – STORM WATER SEWER
OWS – OIL WATER SEWER
CW – CIRCULATED WATER
S – SANITARY SEWER
G – GAS
W – WATER

1 SITE PLAN
SCALE: 1"=20'

PLANT NORTH

TRUE NORTH

Burdick Station - New Office / Maintenance Building

Site Address: 800 Bischeld St. Grand Island, NE

Drawn by: MDS

Approved : LMM

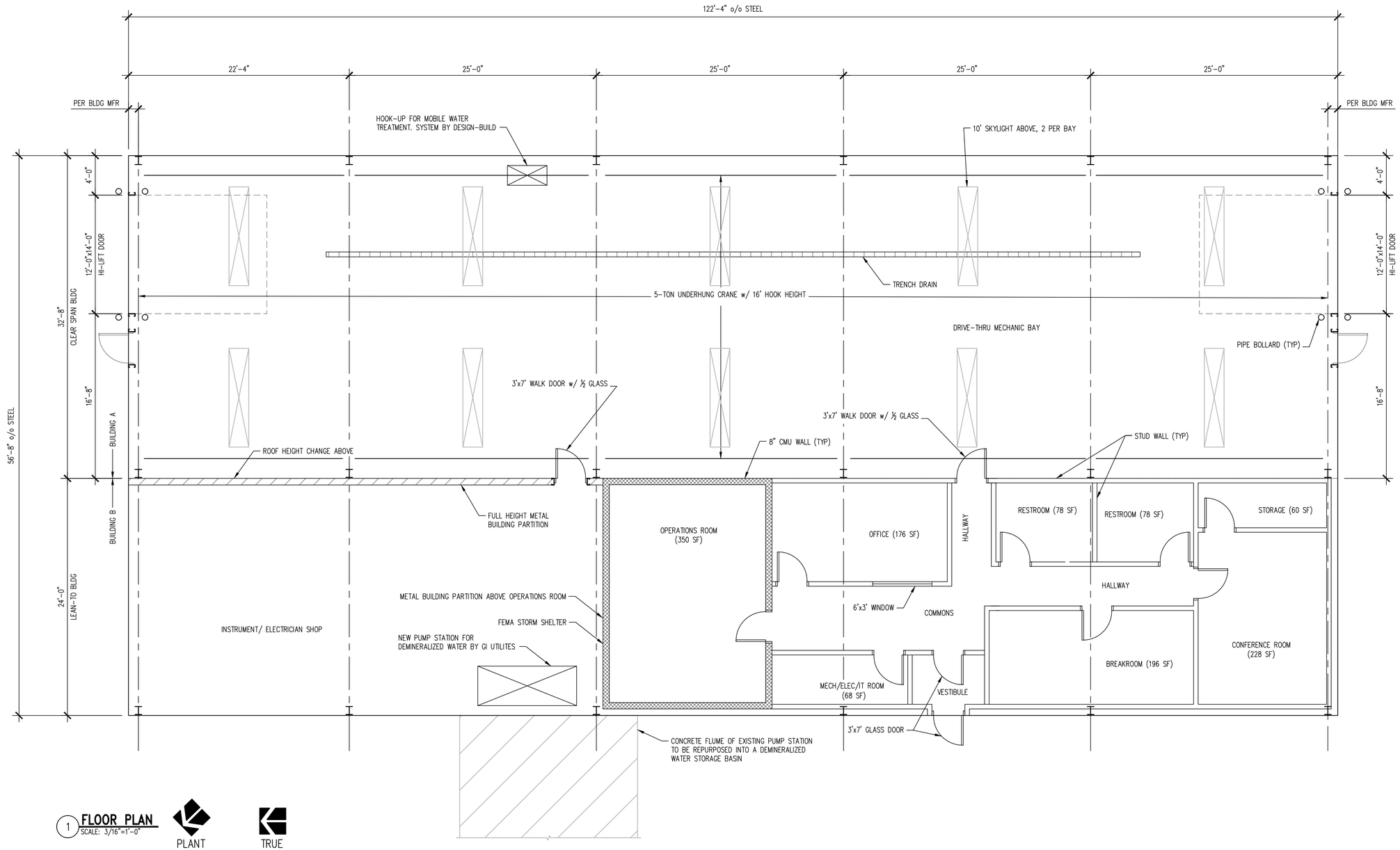
Date: 04.02.2019

Scale: See Plan

Sheet No. 1 of 5

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

NO.	DATE	REVISION	BY	APVD



1 **FLOOR PLAN**
SCALE: 3/16"=1'-0"

PLANT NORTH

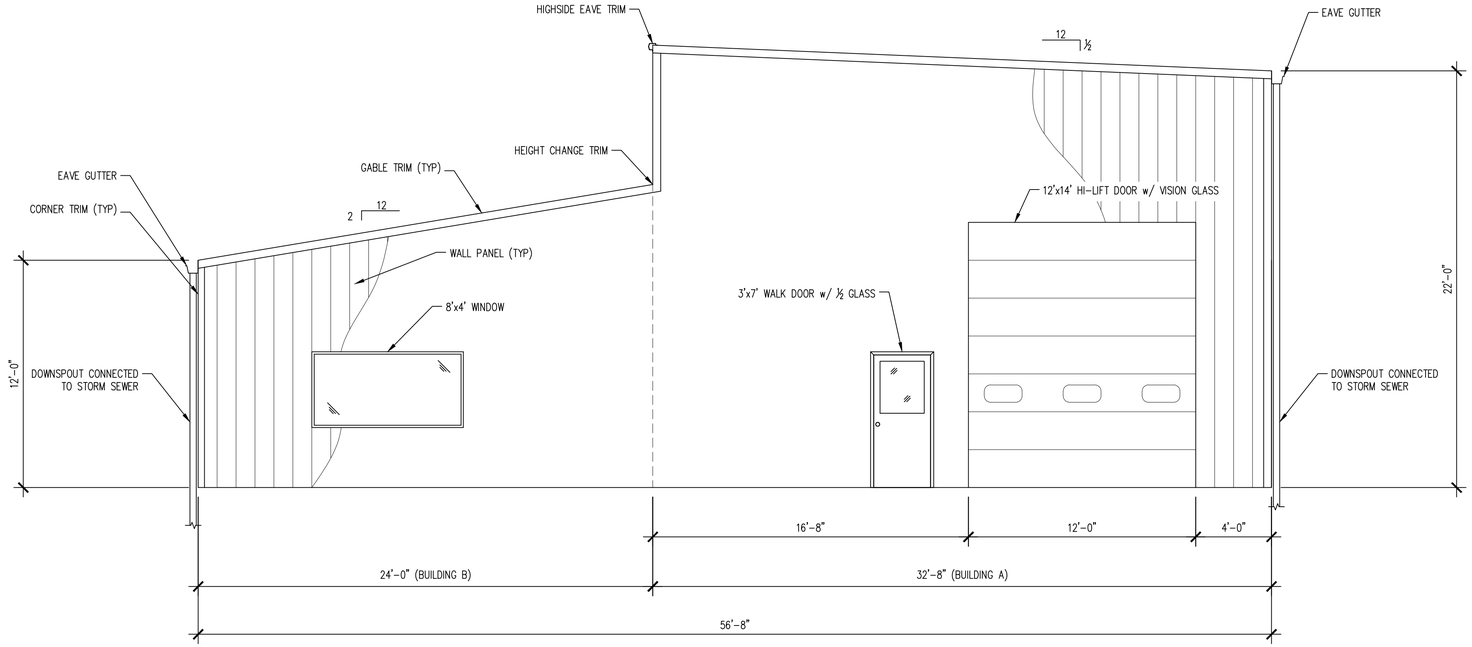
TRUE NORTH

Burdick Station - New Office / Maintenance Building

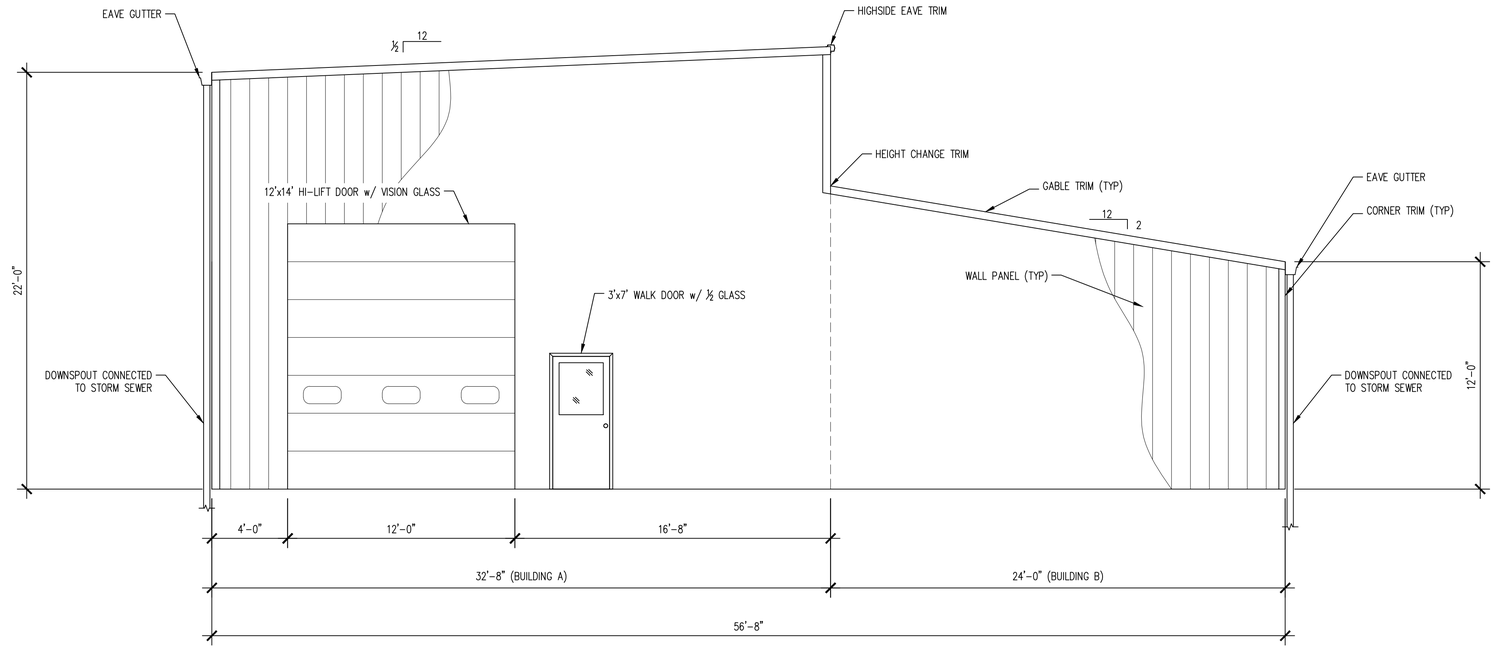
Site Address: 800 Bischeld St. Grand Island, NE
Drawn by: MDS
Approved : LMM
Date: 04.02.2019
Scale: See Plan
Sheet No. 2 of 5

CITY OF GRAND ISLAND UTILITIES DEPARTMENT

NO.	DATE	REVISION	BY	APVD



1 **SOUTH ELEVATION**
SCALE: 1/4"=1'-0"

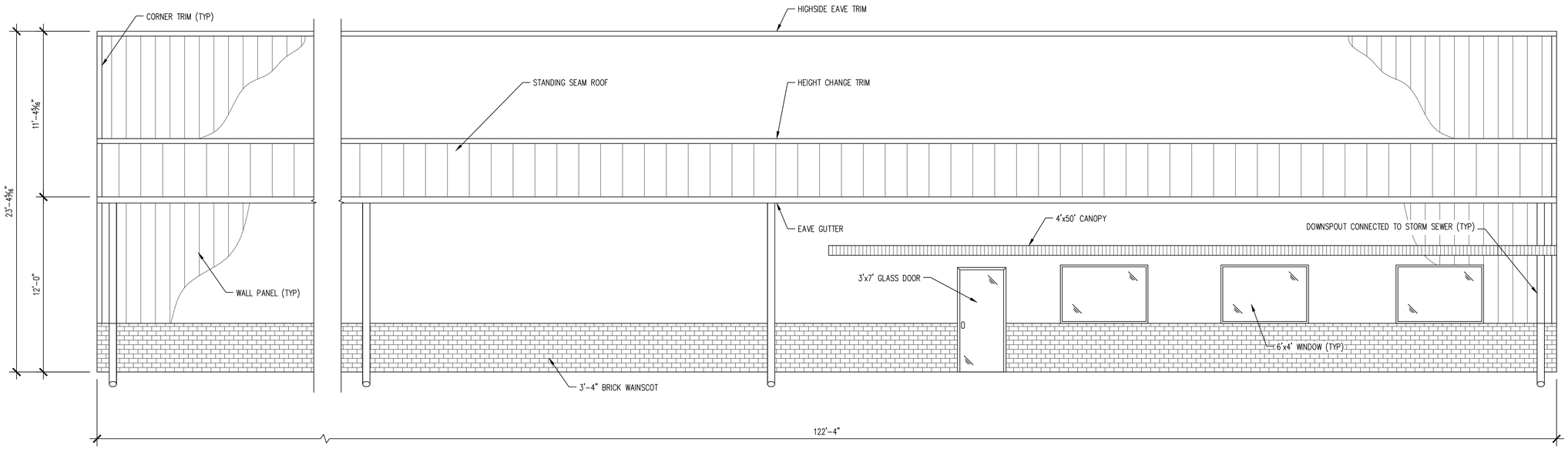


2 **NORTH ELEVATION**
SCALE: 1/4"=1'-0"

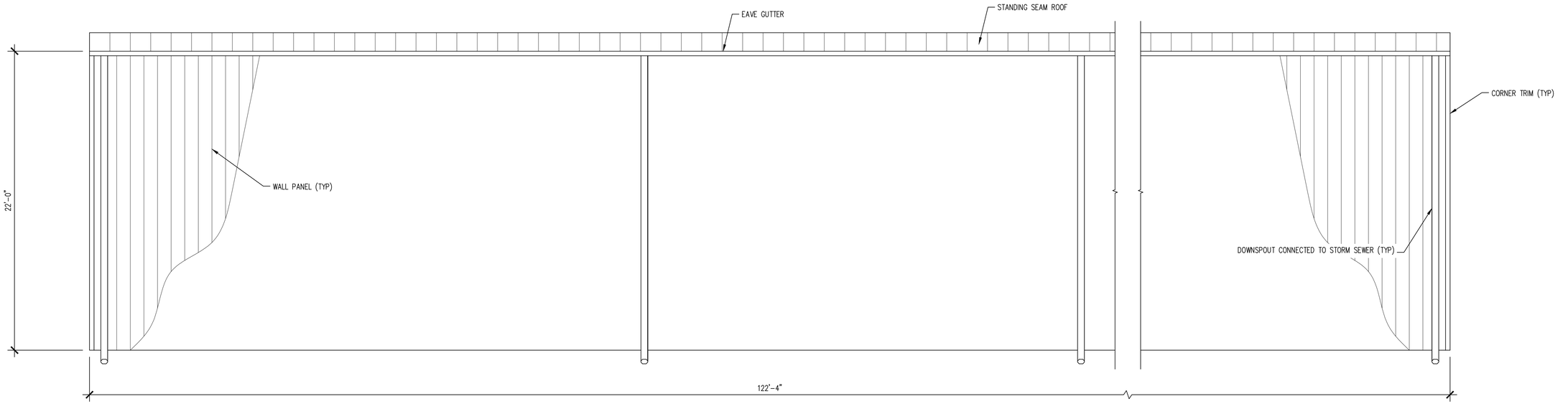
Burdick Station - New Office / Maintenance Building
Site Address: 800 Bischeld St. Grand Island, NE
Drawn by: MDS
Approved : LMM
Date: 04.02.2019
Scale: See Plan
Sheet No. 3 of 5

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

NO.	DATE	REVISION	BY	APVD



1 **WEST ELEVATION**
SCALE: 1/4"=1'-0"



2 **EAST ELEVATION**
SCALE: 1/4"=1'-0"

Burdick Station - New Office / Maintenance Building

Site Address: 800 Bischeld St. Grand Island, NE

Drawn by: MDS

Approved : LMM

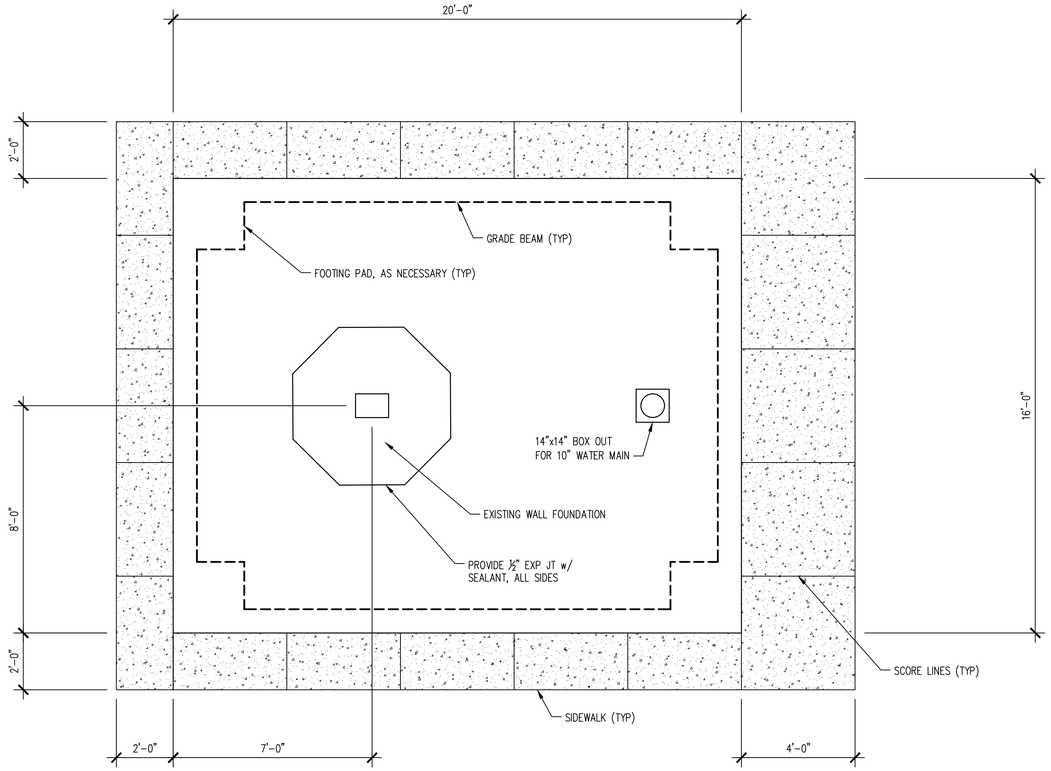
Date: 04.02.2019

Scale: See Plan

Sheet No. 4 of 5

CITY OF GRAND ISLAND UTILITIES DEPARTMENT

NO.	DATE	REVISION	BY	APVD



1 FOUNDATION PLAN
SCALE: 3/8"=1'-0"

GENERAL NOTES

1. CODE: 2015 INTERNATIONAL BUILDING CODE w/ CITY OF GRAND ISLAND AMENDMENTS
2. LIVE LOAD — 20.0 PSF w/ NO TRIBUTARY REDUCTION
3. DEAD LOAD
   - BUILDING WEIGHT — PER BUILDING MANUFACTURER
   - COLLATERAL — 5.0 PSF
4. SNOW

GROUND SNOW LOAD (Pg)	25.0 PSF
SNOW EXPOSURE CATEGORY (Ce)	1.0
SNOW IMPORTANCE FACTOR (Is)	1.2
SNOW THERMAL FACTOR (Ct)	1.2
FLAT-ROOF SNOW LOAD (Pf)	25.2 PSF
MINIMUM ROOF SNOW LOAD	30.0 PSF (CITY)

5. WIND

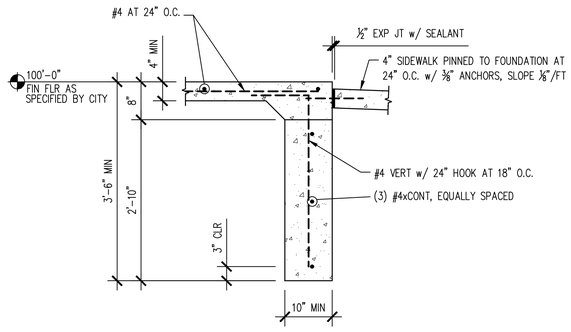
BASIC WIND SPEED (V)	120 MPH
WIND EXPOSURE CATEGORY	C
INTERNAL PRESSURE COEFF (GCpi)	±0.18

6. SEISMIC

SEISMIC USE GROUP	II
SEISMIC SITE CLASS	D
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	B
SPECTRAL RESPONSE COEFF (Ss)	12.6%
SPECTRAL RESPONSE COEFF (S1)	4.1%

7. FOUNDATION DESIGN IS RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SIGNED BY A LICENSED PROFESSIONAL ENGINEER.
8. FOUNDATION DESIGN SHALL BE BASED ON A NET SOIL BEARING PRESSURE OF 1,500 PSF. CONTRACTOR IS RESPONSIBLE FOR ASSURING THAT A MINIMUM 1,500 PSF SOIL BEARING PRESSURE IS OBTAINED PRIOR TO PLACEMENT OF THE FOUNDATION.
9. PROVIDE (2) #4 BAR x 3'-0" LONG, DIAGONALLY AT REENTRANT CORNERS, CENTER IN SLAB.
10. HORIZONTAL REINFORCING IN FOOTINGS AND STEMWALLS SHALL BE CONTINUOUS. PROVIDE CORNER BARS AT ALL CORNERS AND INTERSECTIONS.
11. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 301.
12. MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'c) OF CONCRETE FOUNDATION AND STEMWALL SHALL BE 3000 PSI, SAND AND GRAVEL MIX. MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'c) OF CONCRETE SLAB SHALL BE 4000 PSI, 47B WITH 15% ROCK.
13. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, U.N.O.
14. LAP SPLICES ARE TO BE 48 BAR DIAMETERS, WITH A MINIMUM LAP OF 24".
15. STRUCTURAL CONCRETE SHALL BE MECHANICALLY CONSOLIDATED IN ACCORDANCE WITH ACI 309.
16. PROVIDE CONTROL JOINTS AT 12'-6" O.C. MAXIMUM OR AT THE DIRECTION OF THE OWNER.
17. ALL ANCHOR BOLTS SHALL BE ASTM A307 MINIMUM.
18. ALL SOIL COMPACTION SHALL BE 95%

2 GENERAL NOTES
SCALE: N.T.S.



3 TYPICAL GRADE BEAM
SCALE: 3/4"=1'-0"

Burdick Station - New Office / Maintenance Building

Site Address: 800 Bischeld St. Grand Island, NE

Drawn by: MDS

Approved : LMM

Date: 04.02.2019

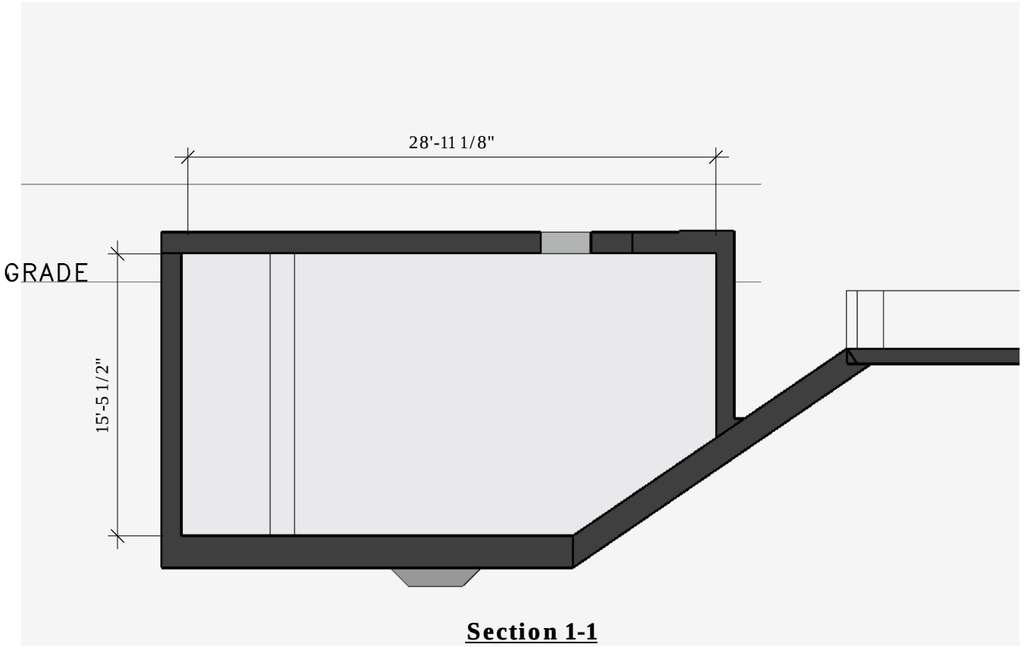
Scale: See Plan

Sheet No. 5 of 5

CITY OF GRAND ISLAND UTILITIES DEPARTMENT

NO.	DATE	REVISION	BY	APVD

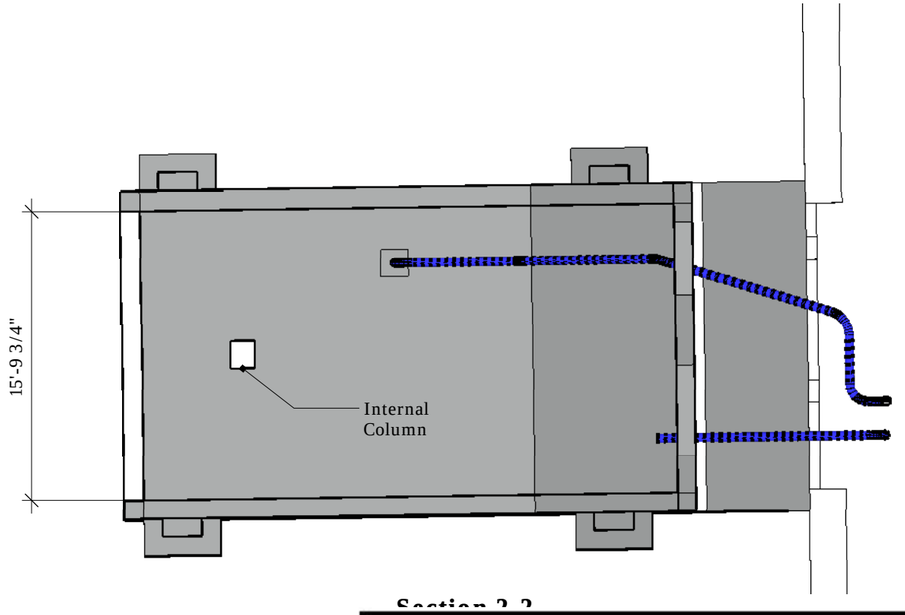

NEW OFFICE / MAINTENANCE
BULDING OVER REMOVED
COOLING TOWER FOOTPRINT
N
BISCHELD ST
CITY OF
GRAND ISLAND
UTILITIES DEPARTMENT
Page 51 of 52
© 2018 Google
Google earth
1993
Image Date: 4/21/2016 40°55'21.82" N 98°19'32.58" W elev 1845 ft eye alt 2456 ft



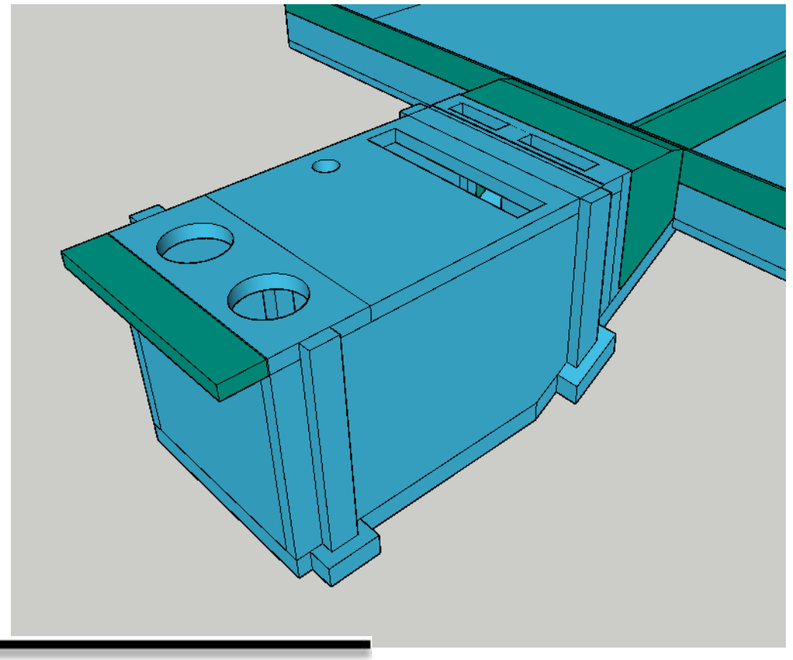
Section 1-1
Scale 1/8" = 1'-0"

Notes:

1. Basin fill and suction lines are to be 4" pipe.
2. Pipe 304 or 316 Stainless steel.
3. Pipe to extend above finish floor 1'-0" with standard flanged connection, location inside building 4' from inside wall.
4. Suction pipe shall be 4" above basin floor.
5. Fill line shall extend 1'-0" inside basin wall.
6. Pipe route to be determined by contractor, meeting locations specified, and minmizing bends.
7. Pipe must be pressure tested to 100 psi prior to concrete pour.
8. All pipe supports and fasteners are to be 304 Stainless Steel, with epoxy anchors to concrete.



Section 2-2
Scale 1/8" = 1'-0"



C127888

REVISIONS

	MM/DD/YY	REMARKS
1	--/--/--	...
2	--/--/--	...
3	--/--/--	...
4	--/--/--	...
5	--/--/--	...

City of GRAND ISLAND

Burdick Station

BASIN PIPING

A | 01

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
08/02/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Aon Risk Services Central, Inc.
Kansas City MO Office
4801 Main Street
Suite 350
Kansas City MO 64112 USA

CONTACT NAME:
PHONE (A/C. No. Ext): (866) 283-7122 **FAX (A/C. No.):** (800) 363-0105
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Zurich American Ins Co	16535
INSURER B:	Westchester Fire Insurance Company	10030
INSURER C:		
INSURER D:		
INSURER E:		
INSURER F:		

INSURED
Chief Construction
3935 Westgate Road
Grand Island NE 68803 USA

COVERAGES **CERTIFICATE NUMBER:** 570077750170 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** [ ] CLAIMS-MADE [X] OCCUR X Contractual Liab. X incl XCU Hazards; GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [X] LOC [ ] OTHER:	Y		GLO937508816	07/01/2019	07/01/2020	EACH OCCURRENCE	$1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$300,000
							MED EXP (Any one person)	$10,000
							PERSONAL & ADV INJURY	$1,000,000
							GENERAL AGGREGATE	$2,000,000
							PRODUCTS - COMP/OP AGG	$2,000,000
							Total Agg Limit	$20,000,000
A	**AUTOMOBILE LIABILITY** X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY X $1,000 Comp/Coll de X incl HCPD	Y		BAP 9375087-16	07/01/2019	07/01/2020	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
							BODILY INJURY (Per person)	
							BODILY INJURY (Per accident)	
							PROPERTY DAMAGE (Per accident)	
B	X **UMBRELLA LIAB** X OCCUR [ ] **EXCESS LIAB** [ ] CLAIMS-MADE [ ] DED X RETENTION $10,000	Y		G22014158014	07/01/2019	07/01/2020	EACH OCCURRENCE	$1,000,000
							AGGREGATE	$1,000,000
A A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? [N] **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WC011118802 WC011118902	07/01/2019 07/01/2019	07/01/2020 07/01/2020	X PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE-EA EMPLOYEE	$1,000,000
							E.L. DISEASE-POLICY LIMIT	$1,000,000
A	Excess WC			EWS011119002 NE - XS WC $350,000 SIR SIR applies per policy terms & conditions	07/01/2019	07/01/2020	EL Each Accident EL Disease - Policy EL Disease - Ea Emp	$650,000 $650,000 $650,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
The Certificate Holder is included as blanket additional insured (General, Auto and Umbrella Liability), when so required by written contract. Holder notice of cancellation complies with policy provisions.

CERTIFICATE HOLDER

City of Grand Island Burdick Station
800 E. Bischeld Street
Grand Island NE 68801 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services Central, Inc.

Holder Identifier :

Certificate No : 570077750170

ACORD 25 (2016/03) The ACORD name and logo are registered marks of ACORD

Blanket Notification to Others of Cancellation or Non-Renewal

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
BAP 9375087-16	07/01/2019	07/01/2020		30380000	**INCL**	

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Commercial Automobile Coverage Part

A. If we cancel or non-renew this Coverage Part by written notice to the first Named Insured, we will mail or deliver notification that such Coverage Part has been cancelled or non-renewed to each person or organization shown in a list provided to us by the first Named Insured if you are required by written contact or written agreement to provide such notification. However, such notification will not be mailed or delivered if a conditional notice of renewal has been sent to the first Named Insured. Such list:

1. Must be provided to us prior to cancellation or non-renewal;

2. Must contain the names and addresses of only the persons or organizations requiring notification that such Coverage Part has been cancelled or non-renewed; and

3. Must be in an electronic format that is acceptable to us.

B. Our notification as described in Paragraph **A.** of this endorsement will be based on the most recent list in our records as of the date the notice of cancellation or non-renewal is mailed or delivered to the first Named Insured. We will mail or deliver such notification to each person or organization shown in the list:

1. Within seven days of the effective date of the notice of cancellation, if we cancel for non-payment of premium; or

2. At least 30 days prior to the effective date of:

a. Cancellation, if cancelled for any reason other than nonpayment of premium; or

b. Non-renewal, but not including conditional notice of renewal.

C. Our mailing or delivery of notification described in Paragraphs **A.** and **B.** of this endorsement is intended as a courtesy only. Our failure to provide such mailing or delivery will not:

1. Extend the Coverage Part cancellation or non-renewal date;

2. Negate the cancellation or non-renewal; or

3. Provide any additional insurance that would not have been provided in the absence of this endorsement.

D. We are not responsible for the accuracy, integrity, timeliness and validity of information contained in the list provided to us as described in Paragraphs **A.** and **B.** of this endorsement.

All other terms and conditions of this policy remain unchanged.

Blanket Notification to Others of Cancellation or Non-Renewal

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.	
Policy No. GLO 9375088-16	Effective Date: 07/01/2019

This endorsement applies to insurance provided under the:

Commercial General Liability Coverage Part

A. If we cancel or non-renew this Coverage Part by written notice to the first Named Insured, we will mail or deliver notification that such Coverage Part has been cancelled or non-renewed to each person or organization shown in a list provided to us by the first Named Insured if you are required by written contact or written agreement to provide such notification. Such list:

1. Must be provided to us prior to cancellation or non-renewal;

2. Must contain the names and addresses of only the persons or organizations requiring notification that such Coverage Part has been cancelled or non-renewed; and

3. Must be in an electronic format that is acceptable to us.

B. Our notification as described in Paragraph **A.** of this endorsement will be based on the most recent list in our records as of the date the notice of cancellation or non-renewal is mailed or delivered to the first Named Insured. We will mail or deliver such notification to each person or organization shown in the list:

1. Within 10 days of the effective date of the notice of cancellation, if we cancel for non-payment of premium; or

2. At least 30 days prior to the effective date of:

a. Cancellation, if cancelled for any reason other than nonpayment of premium; or

b. Non-renewal, but not including conditional notice of renewal,

unless a greater number of days is shown in the Schedule of this endorsement for the mailing or delivering of such notification with respect to Paragraph **B.1.** or Paragraph **B.2.** above.

C. Our mailing or delivery of notification described in Paragraphs **A.** and **B.** of this endorsement is intended as a courtesy only. Our failure to provide such mailing or delivery will not:

1. Extend the Coverage Part cancellation or non-renewal date;

2. Negate the cancellation or non-renewal; or

3. Provide any additional insurance that would not have been provided in the absence of this endorsement.

NOTIFICATION TO OTHERS OF CANCELLATION ENDORSEMENT

This endorsement is used to add the following to Part Six of the policy.

PART SIX
CONDITIONS

A. If we cancel this policy by written notice to you for any reason other than nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each person or organization shown in the Schedule below. Notification to such person or organization will be provided at least 10 days prior to the effective date of the cancellation, as advised in our notice to you, or the longer number of days notice if indicated in the Schedule below.

B. If we cancel this policy by written notice to you for nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each person or organization shown in the Schedule below at least 10 days prior to the effective date of such cancellation.

C. If notice as described in Paragraphs **A.** or **B.** of this endorsement is mailed, proof of mailing will be sufficient proof of such notice.

SCHEDULE	
Name and Address of Other Person(s) / Organization(s):	**Number of Days Notice:**
AS REQUIRED BY WRITTEN CONTRACT	30

All other terms and conditions of this policy remain unchanged.

R E S O L U T I O N 2019-216

WHEREAS, the City of Grand Island requested proposals for Burdick Station Maintenance Building, according to plans and specifications on file with the Utilities Department; and

WHEREAS, on June 25, 2019, one proposal was received, opened and reviewed; and

WHEREAS, Chief Construction, or Grand Island, Nebraska, supplied a proposal in an amount not to exceed $1,740,637.00, in accordance with the terms of the advertisement and specifications, plans and all other statutory requirements contained therein.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the proposal from Chief Construction in an amount not to exceed $1,740,637.00, is hereby approved as the lowest responsible proposal for the Burdick Station Maintenance Building.

- - -

Adopted by the City Council of the City of Grand Island, Nebraska, August 13, 2019.

_____
Roger G. Steele, Mayor

Attest:

_____
RaNae Edwards, City Clerk

Approved as to Form ¤ _____
August 9, 2019 ¤ City Attorney