CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

BID SPECIFICATION PACKAGE

for

PRECIPITATOR, BOTTOM ASH AND BOILER INDUSTRIAL CLEANING – SPRING 2021 OUTAGE

C 130058

Bid Opening Date/Time

Tuesday, February 23, 2021 at 2:00 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

Tylor Robinson
City of Grand Island – Utilities Department
Platte Generating Station
308/385-5496

Date issued: January 29, 2021

ADVERTISEMENT TO BIDDERS
FOR
PRECIPITATOR, BOTTOM ASH AND BOILER INDUSTRIAL CLEANING-SPRING 2021 OUTAGE
FOR
CITY OF GRAND ISLAND, NEBRASKA

Sealed bids for Precipitator, Bottom Ash and Boiler Industrial Cleaning-Spring 2021 Outage will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until **Tuesday, February 23, 2021 at 2:00 p.m. local time,** FOB the City of Grand Island, freight prepaid. Bids will be publicly opened at this time in the Grand Island City Hall City Clerk's Office located on 1st floor of City Hall. **Submit an original and three copies if submitting by mail.** Bid package and any Addendas are also available on-line at www.grand-island.com under Business-Bids and Request for Proposals-Bid Calendar under the bid opening date. Bidding documents, plans and specifications for use in preparing bids may be downloaded from the QuestCDN website www.QuestCDN.com for a small fee. Submitting through QuestCDN requires one original document of the bid to be uploaded. **Bids received after the specified time will not be considered**.

The successful bidder 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. Successful bidder 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.

Each bidder shall submit with the bid a certified check, a cashiers check, or bid bond payable to the City of Grand Island in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the bidder and the entering into a contract within fifteen (15) days at the bid price if accepted by the City. **Your certified check, cashiers check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information and correct number of copies in clearly marked and separate envelopes will result in your bid not being opened or considered.** Only surety companies authorized to do business in the State of Nebraska may issue bid bonds.

Bids will be evaluated by the Purchaser based on price, schedule, quality, adherence to schedule, plan and specifications, economy and efficiency of operation, experience and reputation of the bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

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

No bidder may withdraw his/her bid for a period of thirty (30) days after date of bid opening.

RaNae Edwards, City Clerk

Advertised

(All bids must be submitted on this form)

PRECIPITATOR, BOTTOM ASH AND BOILER INDUSTRIAL CLEANING-SPRING 2021 OUTAGE
BID DATA FORM

CITY OF GRAND ISLAND
GRAND ISLAND, NE

The undersigned Bidder, having examined all specifications and other bidding documents, and all addenda thereto, and being acquainted with and fully understanding all conditions relative to the specified materials and equipment, hereby proposes to provide all necessary supervision, materials, equipment, and labor to provide grit blasting in the precipitator, detonation blasting in the boiler, roding and vacuum in the boiler, high pressure water blasting in the Bottom Ash System and Spray Dry Absorber (SDA), and vacuum cleaning throughout Platte Generating Station FOB the City of Grand Island, freight prepaid, at the following price:

ITEM DESCRIPTION

	Materials	Labor	Applicable Sales Tax	Base Bid
Precipitator Abrasive Cleaning (Firm fixed pricing)	$_____	$_____	$_____	$_____
SDA Vessel Hydro Blasting (Firm fixed pricing)	$_____	$_____	$_____	$_____
Air Heater Hydro Blasting (Firm fixed pricing)	$_____	$_____	$_____	$_____
Boiler Detonation Blasting & Roding (Firm fixed pricing)	$_____	$_____	$_____	$_____
Hydro Blasting Services (Lump Sum – T&M)	$_____	$_____	$_____	$_____
Vacuuming Services (Lump Sum – T&M)	$_____	$_____	$_____	$_____

Total Base Bid $ _____

_____
Bidder Company Name Date

_____
Company Address City State Zip

_____
Print Name of Person Completing Bid Signature

Email:_____ Telephone No._____

*** If bidder fails to include sales tax in their bid price or takes exception to including sales tax in their bid price, the City will add a 7.5% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due. The State of Nebraska Department of Revenue has determined that building cleaning and maintenance services are taxable on both materials and labor.**

☐ **Exceptions Noted -** Bidder acknowledges there are *Exceptions* and/or *Clarifications* noted to the above bid, and those exceptions are fully explained on a separate sheet, clearly marked, and included with the Bid.

☐ By checking this box, Bidder acknowledges that Addenda Number(s) _____ were received and considered in Bid preparation.

According to Nebraska Sales and Use Tax Requirements, Section 1-017, Contractors, check which option you have selected to file with the Nebraska Department of Revenue:

Nebraska law provides a sales and use tax exemption on contractor labor charges for the construction, repair, or annexation of any structure used for the generation, transmission, or distribution of electricity. Separately stated contractor labor would be exempt, all materials are taxable according to the contractor's option.

Option 1 (Section 1-017.05)_____ Option 2 (Section 1-017.06)_____ Option 3 (Section 1-017.07)_____

If the Nebraska sales and use tax election is not filed or noted above, the contractor will be treated as a retailer under Option 1 for sales and use tax purposes.

☐ By checking this box, Bidder acknowledges the specified completion date of the project is **May 9, 2021.**

Note: If Bidder supplies individual unit pricing information as supplemental pricing to the base material and labor cost above, said individual pricing is proprietary information and should not be released under a public records request. The total base bid is not considered proprietary information and will be released pursuant to City Procurement Code.

CHECKLIST FOR BID SUBMISSION

FOR

PRECIPITATOR, BOTTOM ASH AND BOILER INDUSTRIAL CLEANING-SPRING 2021 OUTAGE

Bids must be received by the City Clerk before *2:00 p.m. on Tuesday, February 23, 2021.*

The following items must be completed for your bid to be considered.

- ❑ Submittal of bid documents:
  - ❑ **Option 1 – Mailing**: A signed original and three (3) copies of the bidding documents. Failure to submit the correct number of copies may result in your bid not being considered.
    - ❑ Note: Your certified check, cashiers check or bid bond should be clearly marked in a separate envelope attached to the signed original bid.

  - ❑ **Option 2 – QuestCDN (online)**: Purchase the bid specification through QuestCDN. Upload the signed original of the Bid Data Form, along with any supporting material required to meet the bid specification through QuestCDN. Upload your bid bond online through QuestCDN. *Bidders using Certified check or Cashiers' Check must mail said check to the office of the City Clerk no later than the scheduled bid opening date and time and clearly marked with the project name.*

- ❑ Bidders must complete and sign the Bid Data Form provided in these Documents. All blank spaces must be filled in. Bidders shall acknowledge receipt of any Addenda information on the Bid Data Form.
- ❑ A certified check, cashiers' check or bid bond in a separate envelope attached to the **outside of the envelope containing the original bid**. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened.
- ❑ Selection of Nebraska Sales Tax Option. If the Nebraska sales and use tax election is not filed or noted above, the Contractor will be treated as a retailed under Option 1 for sales and use tax purposes.
- ❑ A reference list of at least three (3) projects of similar scope and complexity.
- ❑ A summary of the experience of the Job Superintendent proposed for this project.
- ❑ If alternative cleaning methods are proposed, other than as generally described herein, full and complete descriptions with separate pricing for the optional utilization of such proposed methods, including references where the system has successfully been used.
- ❑ A copy of your OSHA compliant Confined Space Procedure and Respiratory Protection Procedure, and proof that workers have successfully completed respiratory fit testing and pulmonary function testing and have been trained for confined space entry.
- ❑ Firm lump sum pricing; firm unit pricing in case adjustments are necessary, and breakout of sales tax pricing.
- ❑ A proposed schedule.
- ❑ A detailed breakdown of the individual bid amounts in the same format as will be used for daily time sheets and final billing.
- ❑ Exceptions to the specification or Owner's Contract Document must be submitted with the bid and noted on the Bid Data Form as time is of the essence.
- ❑ Acknowledgment of Addenda Number(s) _____.

Please check off each item as completed to ensure compliance. If you have any questions, please feel free to contact our office prior to the bid opening date/time.

INSTRUCTIONS TO BIDDERS

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 Bid Data Form.

3. PREPARATION OF BIDS.

   Bidders shall use only the Bid Data Form provided in these Documents. All blank spaces in the Bid Data Form must be filled in, preferably in BLACK ink, in both words and figures where required. No changes to the wording or content of the forms is permitted. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures.

   Prices stated shall be f.o.b. with freight and full insurance paid by Bidder, to the job site located in Grand Island, Nebraska.

   The Bidder shall acknowledge receipt of all Addenda in the Bid Data Form. Bids received without acknowledgement or without the Addendum enclosed will be considered informal.

   Individual unit pricing as listed on the Bid Data Form or supplied as supplemental information may be deemed proprietary information and not be released under a public records request. The total amount of the bid is not considered proprietary information and will be released pursuant to City Procurement Code.

4. SUBMISSION OF BIDS.

   All Bids must be submitted intact with the correct number of copies no 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 Bid Data Form provided herein. Each Bid mailed 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.

5. BID SECURITY.

   Bids must be accompanied by cash, a certified check, or cashier's check drawn on a bank which is insured by the Federal Deposit Insurance Corporation, or a bid bond issued by a Surety authorized to issue such bonds in the state where the Work is located, in the amount of 5 percent of the bid amount payable to OWNER. This bid security shall be given as a guarantee that the Bidder will not withdraw their Bid for a period of thirty (30) days after bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish a properly executed Performance Bond and Payment Bond, each in the full amount of the Contract price, within the time specified.

   The Attorney-in-Fact that executes this bond 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. Where State Statue requires, certification by a resident agent shall also be provided.

6. RETURN OF BID SECURITY.

   Within fifteen (15) days after the award of the Contract, the OWNER will return the bid securities to all Bidders whose Bids are not to be further considered in awarding the Contract. All other retained bid securities will be held until the Contract has been finally executed, after which all bid securities, other than Bidders' bonds and guarantees which have been fortified, will be returned to the respective Bidders whose Bids they accompanied.

7. 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:

- Delivery time
- Bid price
- Cost of installation
- Suitability to project requirements
- Conformance with the terms of the Bid Documents
- 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.

8. 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 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.

9. 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.

10. TIME OF COMPLETION.

The time of completion of the Work to be performed under this Contract is the essence of the Contract. The time allowed for the completion of the Work is stated in the Bid Data Form.

11. 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.

12. 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 bids to be published for PRECIPITATOR, BOTTOM ASH AND BOILER INDUSTRIAL CLEANING-SPING 2021 OUTAGE*;* and

WHEREAS, the City, in the manner prescribed by law, has publicly opened, examined, and canvassed the bids submitted, and has determined the aforesaid Contractor to be the lowest responsive and responsible bidder, and has duly awarded to said Contractor a contract therefore, for the sum or sums named in the Contractor's bid, a copy 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, himself/herself, or themselves, and its, his/her, 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. City of Grand Island's Specification for this project.
3. [NAME OF SUCCESSFUL BIDDER] bid signed and dated [DATE OF BID].

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) furnish, as agent for the City, all materials, supplies and equipment specified and required to be incorporated in and form a permanent part of the completed work; (c) provide and perform all necessary labor; and (d) 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 bid;

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, materials, 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:

	Materials	Labor	Applicable Sales Tax	Base Bid
Precipitator Abrasive Cleaning (Firm fixed pricing)	$	$	$	$
SDA Vessel Hydro Blasting (Firm fixed pricing)	$	$	$	$
Air Heater Hydro Blasting (Firm fixed pricing)	$	$	$	$
Boiler Detonation Blasting & Roding (Firm fixed pricing)	$	$	$	$
Hydro Blasting Services (Lump Sum – T&M)	$	$	$	$
Vacuuming Services (Lump Sum – T&M)	$	$	$	$

Total Base Bid $ _____

Contractor Option ____

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 in purchasing materials and supplies for the City for this project. The City shall be obligated to the vendor of the materials and supplies for the purchase price, but the Contractor shall handle all payments hereunder on behalf of the City. The vendor shall make demand or claim for payment of the purchase price from the City by submitting an invoice to the Contractor. Title to all materials and supplies purchased hereunder shall vest in the City directly from the vendor. Regardless of the method of payment, title shall vest immediately in the City. The Contractor shall not acquire title to any materials and supplies incorporated into the project. All invoices shall bear the Contractor's name as agent for the City. This paragraph will apply only to these materials and supplies actually incorporated into and becoming a part of the finished product of the PRECIPITATOR, BOTTOM ASH AND BOILER INDUSTRIAL CLEANING-SPING 2021 OUTAGE.

ARTICLE V. That the Contractor shall start work as soon as possible after the Contract is signed and the required bonds and insurance are approved, and that the Contractor shall deliver the equipment, tools, supplies, and materials F.O.B. Platte Generating Station, and complete the work on or before ***May 9, 2021.***

ARTICLE VI. 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.

ARTICLE VII. 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 BIDDER]

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 BIDS - GENERAL SPECIFICATIONS

The Bid shall be in accordance with the following and with all attached BID DATA and DETAILED SPECIFICATIONS.

All prices are to be furnished and installed FOB, 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.** * If bidder fails to include sales tax in their bid price or takes exception to including sales tax in their bid price, the City will add a 7.5% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.

Mailed bids shall include the following on the **outside** of the mailing envelope: **"Precipitator, Bottom Ash and Boiler Industrial Cleaning-Spring 2021 Outage".** All bids submitted by mail must include **an original and three copies** of the bid. The bid specification and on-line bidding forms are also available 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 for a fee. If submitting through QuestCDN, **one** original document of the bid is required to be uploaded. No verbal bids will be considered. All sealed bids are due no later than Tuesday, **February 23, 2021 at 2:00 p.m. local time**. to:

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

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

Bids will be opened at this time in the City Hall City Clerk's Office located on 1st floor of City Hall. Any bid received after the specified date will not be considered.

Bids will be evaluated by the Purchaser based on price, schedule, quality, adherence to schedule, plan and specifications, economy and efficiency of operation, experience and reputation of the bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

The successful bidder 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 equipment and materials must be new, the latest make or model, unless otherwise specified. Prior to approving the invoice for payment, the City reserves the right to thoroughly inspect and test the equipment to confirm compliance with specifications. Any equipment or material which does not meet the City's requirements will be returned at vendor's expense for correction. The invoice 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.

Each bidder shall submit with the bid a certified check, a cashier's check, or bid bond payable to the City of Grand Island in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the Bidder and the entering into a contract within fifteen (15) days at the bid price if accepted by the City. **Your certified check, cashier's check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information and correct number of copies in clearly marked and separate envelopes will result in your bid not being opened or considered.** Only surety companies authorized to do business in the State of Nebraska may issue bid bonds.

Successful bidder shall comply with the City's insurance requirements; performance and payment bonds are required for this project as outlined in the Detailed Specifications and Instructions to Bidders. All bids shall be valid for at least thirty (30) working days after the bid deadline for evaluation purposes.

All bids must be on the bid form and 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 Bid. Any changes that are found made to the original bid specification, other than Owner generated Addendums, would result in your bid not being considered. Please contact Tylor Robinson at 308-385-5495, for questions concerning this specification.

PRECIPITATOR, BOTTOM ASH AND BOILER INDUSTRIAL CLEANING

Spring 2021 Outage
Grand Island Utilities Department - Detailed Specification

1.0 PROJECT DECRIPTION

1.1 Background

The Unit 1 steam generator is a tangential fired, natural circulation, superheat/reheat, pulverized coal-fired boiler manufactured by ABB-CE (CE Contract No. 13477). The steam generator produces 765,000 lb/hr (MCR) of steam at 1000 F and 1800 psi which is delivered to a 100,000 kW steam turbine. The unit uses Powder River Basin Coal from various mines in the basin. Flue gas from the boiler is contained in a series of ducts that funnel it through the air heater, precipitator and spray dry absorption system. Build up of ash and other combustion materials periodically need to be cleaned from the flue gas path.

The electrostatic precipitator is a hot-side precipitator designed by Joy-Western Precipitator, and is described as follows:

Discharge Electrodes	7120
Collecting Plates	640
Plate Size	9' x 30'
Ash Hoppers	15 (12 Precipitator and 3 Economizer)
Overall Height	36' (excluding hoppers)
Overall Width	97'
Distance from Grade	62' (to top of precipitator hoppers)

The air heater is a vertical post, rotary regenerative air heater, air-to-flue gas heat exchanger manufactured by Ljungstrom Air Preheater Company, Model# 27-VI-90 serial # 6765 manufactured by ABB-CE, Contract No. 13477. It is located in the flue gas path between the precipitator and the induced draft fan, and in the air path between the forced draft fan and wind boxes.

Additional specifications are as follows:

Heating element hot end	#24 gauge, 42” deep
Heating element intermediate	#24 gauge, 36” deep
Heating element cold end	#18 gauge, 12” deep
Radial seals hot end	#16 gauge low alloy
Radial seals cold end	#16 gauge stainless steel
Diameter	29’- 6”
Rotating speed w/ electric motor	1 – 1.5 rpm
Rotating speed w/ air drive	Variable, approx. 0.5 rpm
Height above grade elevation	Approximately 53’

The Spray Dry Absorption (SDA) vessel is a vertical silo used to enhance the interaction of the flue gas stream, along with a fine spray of reagent slurry droplets in a manner which promotes chemical absorption of sulfur dioxide by the droplets and results in a drying of the spent reagent to a particulate

suspended in the desulfurized flue gas stream. The SDA vessel, previously coated in the Fall of 2017, needs to be inspected.

The areas to be inspected on the Platte Generating Station Spray Dry Absorber vessel include:

- 47’ tall x 42’dia main cylinder interior
- 36’ tall hopper interior tapered from 42’ diameter to a 2’ diameter base outlet valve
- 42’ diameter ceiling interior less the 3 – 8’-71/2” diameter atomizer holes in roof and less the equipment inside the atomizer hole boundaries
- 10’-6”w x 10’-6”h x 10’-10” deep exit duct from the SDA hopper including all interior duct surfaces and all surfaces exposed to the flue gas where the duct is inside the SDA.
- The interior surface of all access doors and attachments

1.2 LOCATION

The Platte Generating Station is located at 1035 W. Wildwood Drive, two (2) miles south of Grand Island, Nebraska. The plant entrance is located two (2) miles south of U.S. Highway 34 and 1 ½ miles east of U.S. Highway 281.

1.3 CONTACT

Question regarding this specification may be directed to:

Tylor Robinson
Platte Generating Station
1035 W. Wildwood Dr.
Grand Island, NE 68801
Ph. (308) 385-5495
trobinson@giud.com

2.0 SCOPE

2.1 General

Platte Generating Station has a Spring maintenance outage scheduled from **April 22, 2021 to May 9, 2021**. All work completed under this contract is expected to commence on Day 1, April 22, 2021.

The Contractor shall provide all necessary supervision, materials, equipment, and labor to provide industrial cleaning services at the Platte Generating Station (PGS). This scope will generally consist of grit blasting in the precipitator, detonation blasting in the superheat, rodding and vacuum in the superheat, high pressure water blasting in the Bottom Ash System and Spray Dry Absorber (SDA), and vacuum cleaning throughout the power station.

Platte Generating Station (PGS) will provide:

- An owner’s designated representative for on-site coordination with PGS.
- Safety orientation for all contractor employees as related to PGS site safety considerations.
- Dumpsters for trash and debris.
- Portable toilet facilities with hand wash stations.
- Potable water source for contractor’s drinking water containers.
- Designated contractor parking on site.
- Electrical service connections for job trailers and equipment.

- The bottom ash system will be open and inspected by plant personnel for contractor to clean.

There is no separate contractor entrance at the Platte Generating Station. There is one gate with a card access security system and the Contractor may request to use access cards to gain entry rather than request entry and exit each trip. There is a $25.00 charge for all access cards that are not returned.

This contract will be awarded to a single prime Contractor for the full scope of services. The Contractor shall provide a qualified Superintendent who shall be responsible for coordinating all aspects of the specified scope of work, including coordination of all work provided by such subcontractors as may be utilized by the prime Contractor and coordination with other work in progress performed by PGS and such other contractors as may be on site.

Contractor will coordinate closely with PGS personnel on execution of all phases of the work and all safety requirements, including but not limited to:

- Provide information on all employees arriving at PGS
- Lock Out/Tag Out
- Confined Space Entry
- PGS Equipment Operation, such as fans and dampers
- Scheduling sequence of work scope items and related plant system preparations for work execution
- Inspections of completed work

No ash or diesel fuel will be permitted to be spilled on equipment, structures, plant site grounds, or roads. The contractor shall maintain its equipment in top working condition to eliminate fluid leaks and equipment breakdowns that could delay the progress of the work. The contractor is responsible for having on site the capability to take any and all extraordinary measures to fully contain and clean up any and all leaks from the contractor's equipment as well as to implement any and all necessary repairs to equipment as required to eliminate and avoid such leaks from further occurrence. The Contractor is responsible for cleanup of all spilled ash and any diesel fuel spilled from equipment fueling operations. Upon completion, the Contractor shall leave the premises in a neat and clean condition with respect to his own operation. All unused materials shall remain the property of the Contractor and will be removed by the Contractor on demobilization from the site.

2.2 Abrasive Cleaning

The Contractor shall furnish all necessary materials, supplies, tooling, equipment, and labor, including but not limited to material handling, blasting and cleaning equipment, compressed air, blasting media, materials, sundries and personal protective equipment for its employees. Electrical power will be available at the plant site.

A suitable grade of Black Beauty or comparable material shall be used as the media. The Contractor shall have enough media on site to complete the work; including a margin of extra media should the work require an extended effort. Unused media shall remain the property of the Contractor and will be removed by the contractor on demobilization from the site.

Alternate blast media proposals may be submitted only as an option to the use of Black Beauty and will be considered at the sole discretion of the Utility. Information regarding source of media, MOH

scale hardness, mesh size and mean particle size, required air blasting pressure **shall be provided with the bid** for both the Black Beauty and any proposed alternates.

2.2.1 Precipitator

The Contractor shall blast clean all collecting plates, electrodes, inlet and outlet distribution plates, both the perforated plates and zig zag plates and the internal structural steel. The contractor's personnel, equipment, procedures and practices must accomplish the ash removal without damage to the base metals, wires and collector plates. Only well trained, experienced and qualified personnel shall be used.

It is approximately 10 feet from the internal walkways to the perforated plates on both the inlet and the outlet fields. The contractor shall provide such hose to nozzle pipe extensions as may be required to thoroughly clean the perforated plates from the internal walkway access.

Adequate manpower, hoses and equipment shall be provided to assure the precipitator abrasive cleaning is accomplished within the **24 hour blasting** period as scheduled.

The precipitator ash hoppers will be emptied by plant personnel prior to the Contractor beginning work. Hopper doors will be closed by plant personnel prior to the commencement of Contractor cleaning operations unless such doors have been tagged open through the issuance of a red tag by the Owner's equipment tag out authority. Immediately prior to blasting, the Contractor shall contact the Owner's representative and review the status of equipment access doors.

The precipitator shall have all ash removed to bare metal without causing damage to electrodes, plates, fasteners, or structures, resulting in a 95% ash removal efficiency. Any remaining residual ash deposits where blast cleaning fails to remove the material, the Contractor shall utilize other methods of ash removal that accomplish the remaining cleaning without damage to the components and as are acceptable to the PGS designated representative. These cleanliness criteria will only be applied as an expected removal efficiency of the ash deposits from all surfaces and will not be applied to any remaining mill scale, rust, discoloration or other surface abnormalities of the underlying steel.

2.3 Hydro Blasting

Tools needed for the hydro blast work include but are not limited to:

A minimum of two high pressure, high volume water pumps and blasting systems capable of a minimum 20 gpm at 20,000 psi and a minimum 100gpm at 10,000 psi, BJV blasting nozzles, 1" pipe nozzle, 6" pipe nozzle, 200' of blasting hose, supply hose from truck to foot pedal, and shot gun blaster. Rodding equipment suitable for removal of the ash and slag in designated areas.

The Contractor's pumping equipment shall have the full pressure and flow capabilities required to provide an effective cleaning of the hard ash buildups.

2.3.1 Lime Slurry Tank

The Spray Dry Absorber lime slurry tank will have a layer of lime crusted on the interior surface of the tank. The Contractor's hydro blast crew will be tasked with manually hydro

jetting the interior of the lime slurry tank. Access to the tank is through a hatch at the base of the tank. The contractor will be required to hydro vac the tank before gaining access to the interior of the tank.

2.3.2 Swirl Vanes

The Spray Dry Absorber and three Swirler Vanes at the top of the SDA periodically get plugged up with lime ash. The Contractor's hydro blast crew will be tasked with manually hydro jetting those vanes and the transition duct above the vanes with lower pressure handheld wands. Access to the vanes is through the SDA inlet duct at the top of the SDA. The plant will have a dumpster with a liner located at the bottom of the SDA to catch lime ash and water from the cleaning process.

2.3.3 Spray Dry Absorber

The internal surfaces of the Spray Dry Absorber were coated in the Fall of 2017, which requires an inspection. This requires removal of the lime deposits from all internal surfaces of the SDA before turning the vessel over to the inspection service.

The Contractor shall perform a remote, medium pressure water blasting of the SDA vessel using no more than 4000 psi water pressure. In order to protect the coating, under no circumstances can the water pressure be greater than 4000psi. Tugging cables can be dropped through the three holes in the SDA roof down through the 2-foot knife gate valve at the bottom of the vessel hopper. The 3D or 2D nozzles can then be attached to the cable to be pulled up through the SDA using the tugging cables. By running the nozzles up and down the vessel with the cables and moving this operation between the three separate atomizer holes the full vessel can be cleaned. Use of the 3D nozzle is needed to clean the roof and the swirler vanes mounted in the roof. The 2D nozzle may be more beneficial on the vertical walls.

The goal is to clean all the lime deposits from the inside surfaces in a **12-hour shift** or less, using as little water as possible. This requires selection of nozzles that minimize the water use while effectively removing the lime deposits. This is due to the fact that there is no wastewater drainage under the SDA. The Owner shall place a lined roll off under the SDA to catch all of the lime wastewater and scale. The contractor shall then use a vacuum truck to remove the lime laden wastewater from the roll off and transport it to a temporary on-site holding cell. Residual rust and corrosion that settles out in the roll off shall then be removed and disposed of in a separate dumpster provided by the Owner.

The SDA cleaning may not begin until the Precipitator blasting is complete, the SDA inlet dampers are isolated and locked out, the duct between the SDA and the Fabric filter has been cleaned and vacuumed out and the Fabric Filter dampers and bypass damper isolated and locked out.

2.3.4 Air Heater

The Contractor shall clean all hot, intermediate, and cold end heat transfer (basket) surfaces with high pressure water top down wash, so that all ash deposits are removed. The interior air heater structure, to include the housing, sides, and bottom, shall be water blasted also. The air heater will undergo a full, thorough inspection and maintenance after the wash, requiring all surfaces to be cleaned and free of ash.

A 36-hour period is scheduled for set up, wash, rinse and tear down. The owner shall install scaffolding as required by the Contractor, requiring that the Contractor identify the specific scaffolding requirements by the Morning before beginning the air heater wash. Any additional hydro equipment required for the air heater wash shall be mobilized by the day prior to beginning the air heater wash. All equipment must be removed from the boiler area and either taken off site or relocated to another area of the plant site immediately after completing the air heater wash. Another contractor will be mobilizing their equipment to that area the following morning for work in the air heater. It is required that bare metal cleanliness is obtained without damage to the baskets or the housing. All wastewater will be removed by drains and directed to the onsite waste pond.

The cleaning process shall be continued without interruption so that ash doesn't solidify.

It is expected that the drain lines from the two air heater hoppers will plug-up. The Contractor shall include the work to water blast clean the drains from the air heater hoppers to the first manhole. All the piping is 10" diameter. Approximately 20' of piping exists, on each drain, between the hopper outlets and where they wye. A common pipe, approximately 85' long, exists between this wye and the terminal manhole.

Electrical power and water (150psi hydrant) are available at the plant site.

The Contractor shall provide all hoses, fittings, adequate standby equipment, and spare parts. Bids shall detail these provisions.

2.3.5 Bottom Ash System

The bottom ash system consists of the items listed below. Each area shall be inspected and determined if cleaning is needed by plant personnel.

- Settling and surge and pump manifolds on top of dewatering bins.
- Upper, middle, and lower dewatering bin screens and tank walls.
- Drip pans at bottom of both bins.
- Lower dewatering legs.
- Bottom ash hopper fluting lines.
- Bottom ash hopper water boxes.
- Slope flush headers to bottom ash hoppers.
- Low pressure ash sluice line suction and supply lines from pump to building, header at bottom of boiler on seal trough, and before seal trough.
- Surge and settling tank sludge return in bottom ash building.
- Flushing header at the bottom of the boiler.
- Dewatering bin drain lines.
- Slope nozzle legs if needed (both hoppers).

2.3.6 Misc. Piping and Drains

The plant miscellaneous piping and drains shall consist of, but not be limited to the below listed items. Each area shall be inspected and determined if cleaning is needed by plant personnel.

- Fan room drains out to manhole.
- Bottom ash floor drains to manhole.
- Mechanical exhauster room drain.

- Blow down tank drain header to manhole.
- Floor drains that are plugged.
- Bottom ash sluice line drain to bottom ash sump.
- Air heater hot side gas hoppers to manhole (which will need to be done before water blasting air heater).
- Manhole by precipitator transformers to surge tank overflow manhole.
- Mechanical exhauster room floor drain to bottom ash drains.
- Base of the exhaust stack

2.4 Detonation Blasting

During the last boiler inspection, areas of the finishing superheat assemblies showed partial ash build up along in the upper portion of the middle third of the elements. The upper horizontal superheat assemblies also showed partial medium hard ash build up within and between the assemblies in the forward, middle third of the section.

The contractor shall use controlled detonation blasting and manual rodding to remove all material from these elements. This work must be coordinated with others on site so that no others are in the boiler during this cleaning. This will require the Contractor to coordinate with the Owner in determining a specific time to perform the work. The owner will have scaffolding installed half-way up the Finishing SH elements by a separate contractor. The cleaning contractor shall provide all required tooling for performing the rodding. One end of the tool shall have a cross member to prevent the tool from falling between the tubes. Such work shall be executed to avoid any physical damage to the boiler tubes, attachments and other unit components.

This explosive ash removal work shall be performed by professional, licensed personnel under a supervisor with no less than five (5) years of experience performing such work. The Contractor shall be responsible for compliance with all safety requirements related to all aspects of this work, including but not limited to, worker safety, transportation, recordkeeping and documentation,

permits and notifications, storage and disposal. The Contractor shall coordinate all such efforts with PGS representatives and other work in progress.

The contractor shall **submit with the bid** a detailed process and procedure, a daily/hourly estimated schedule of activities showing how this work will be executed and details as to the explosive materials to be used to perform the work, how they will be installed and anticipated results.

Adequate manpower, materials and equipment shall be provided to assure boiler tube cleaning is accomplished within the 24 hour blasting period as scheduled.

All materials shall be captured immediately below the sections being cleaned using wire mesh to prevent the waste material from migrating to other areas of the boiler. All waste material shall be removed by the Contractor though manual removal and vacuum. This shall include removal of all material from the economizer hoppers and main boiler slag tank.

Photos and a drawing of these two areas are provided for reference.

77-1 5/8" OD SH Vertical Rear Super Heat Assemblies
86- 1 ¾" OD SH Horizontal Rear Upper Assemblies

The Contractor shall be responsible for compliance with all safety requirements related to all aspects of this work, including but not limited to, worker safety, transportation, recordkeeping and documentation, permits and notifications, storage and disposal. The contractor shall coordinate all such efforts with plant personnel and other work in progress.

2.5 Vacuum Services

The contractor will be required to provide vacuum truck service to the plant. Vacuum services shall consist of wet and dry vacuum services. The contractor shall provide a minimum of two vacuum trucks continuously operating for the full length of the contract. Vacuuming services shall be provided to support plant personnel and contracting personnel detailed in this specification. Material collected in the vacuum trucks shall be transported to a designated containment area.

2.5.1 Lime Slurry Tank

The Contractor shall vacuum all remaining lime slurry from the lime slurry tank and transport it to a designated on-site containment area. Any slurry mixture spilled by the Contractor shall be fully cleaned by the Contractor.

2.5.2 Precipitator

The Contractor shall vacuum all accumulated ash and media from the precipitator, precipitator hoppers, gas outlet and inlet flue areas, and other areas of work performed by the Contractor as described herein and dispose into on-site disposal areas. Any ash which is spilled by the Contractor onto the precipitator building floor or surrounding areas shall be fully cleaned by the Contractor. There are clean-out taps connected to the precipitator hoppers and ash removal lines.

2.5.3 Ductwork and Hoppers

Vacuum work in the ducts shall generally consist of removing all ash from all boiler hot air ducts and boiler gas ducts. Attention shall be paid to all expansion joints and any areas indicating a possible leak in the duct work. These areas shall include, but not be limited to:

- Precipitator outlet plenum to air heater gas inlet.
- Fly ash collects on the gas distribution devices, perforated plates and zig zag plates within the inlet and exit transition sections of the precipitator and accumulates on the sloped floors. Whereas all of the distribution plates must be blast cleaned, the contractor shall be responsible for staging and coordinating the vacuum work in these areas accordingly. The inlet and outlet transitions shall have all ash removed and the gas passages of the distribution plates shall be 100% opened and free of ash accumulations.
- The economizer ash hoppers and economizer gas exit duct work to each of four (4) precipitator inlet ducts and inlet nozzles up to the zig zag inlet distribution plates.
- Air heater gas outlet hoppers.
- Air heater air side exit through wind box, to each aux air corner duct, and through each horizontal duct to up to the vertical drop for each mill.
- Flue gas exit duct from the ID fan to the SDA. Ash and carbon build up in the guide vanes and horizontal duct upstream of the SDA inlet dampers.
- One (1) SDA Hopper
- Flue gas duct from the SDA to the Fabric Filter.
- Six (6) fabric filter Hoppers.

2.5.4 Economizer

The contractor shall vacuum all debris and ash that collects in the economizer boiler tubes and economizer ash hoppers. While blasting and rodding the superheat and economizer tubes wire screens shall be put in place to collect falling debris. Vacuums shall be used to remove accumulating debris as it collects on the screens.

2.5.5 Air Heater

The contractor shall vacuum debris and ash that collect during the air heater hydro blasting. The contractor shall provide sufficient vacuum services to allow for continuous washing of the air heater and prevent plugging of the air heater hoppers and drainage system.

2.5.6 Cooling Tower Basin

The cooling tower basin will be cleaned and washed by plant personnel. The wastewater from the basin shall be vacuumed out by the contractor and transported to a designated containment area on the site.

2.5.7 Bottom Ash System

Vacuum support will be required to hydro blast the Bottom Ash System. This will include emptying the dewatering bins, settling tank, and surge tank. The bottom ash sump pit and hopper areas will also be vacuumed out to remove all slag build up.

2.5.8 Additional Vacuum Cleaning

The contractor shall provide support to additional wet and dry vacuum efforts typically occur during the outage, such as:

- Lime Slurry Tank
- Boiler Penthouse floors and dead air spaces in the upper boiler arch.
- The blowdown tank will be power washed and vacuumed out
- Coal Piping and boiler grating

2.6 Alternative Services

If the Contractor proposes alternative cleaning methods for consideration by the Owner other than as generally described herein for any portion of the work, full and complete descriptions must be included with the bid with separate pricing for the optional utilization of such proposed methods. References where the system has successfully been used must be included.

2.7 Inspection

All work performed by the Contractor will be inspected by the owner's designated representative or other assigned plant personnel upon notification by the Contractor that the Contractor considers that portion of the work to be completed. The Contractor will be required to re-clean any areas in which bare metal cleanliness was not achieved, ash accumulations remain, or are deemed unsuitable by the plant representative.

2.8 Schedule

Day 1	PGS unit is scheduled to be taken off-line at approximately 10:00 AM Contractor may mobilize for staging of equipment and making all preparations required for grit blasting of the precipitator. Mobilize Vacuum equipment for work to begin morning of day 1. Mobilize Hydro blasting equipment for work to begin morning of day 1. Empty and Hydro blast lime slurry silo
Day 2	Set up vacuum 1 for wet vac at cooling tower followed by emptying bottom ash system. Precipitator is released 24 to 30 hours after the unit is removed from service. Blast cleaning of precipitator may begin at approximately noon.
Day 3	Complete the blast cleaning of the precipitator by noon. Teardown and demobilize precipitator blast cleaning. Hydro blast and clean bottom ash system Prepare boiler detonation blasting Scaffold Boiler Superheat tubes, Install wire mesh in economizer and front nose arch

Day 4	Complete boiler tube detonation blasting and rodding Complete Hydro blast and clean bottom ash system Setup Hydro Blast in SDA Vessel, layout containment under vessel
Day 5	Hydro blast SDA Vessel Vacuum economizer and misc. boiler areas Vacuum duct work from the outlet of the precip. to air heater. Install scaffold in the air heater
Day 6	Vacuum economizer hoppers and inlet ducts to the precipitator Begin air heater wash
Day 7	Vacuum duct work from ID fan to SDA inlet, duct between SDA Vessel and baghouse Air heater wash
Day 8	Complete air heater wash and clean air heater drains Clean Misc. Piping and Drains Clean Base of Stack Clean Misc. Boiler Areas

3.0 BIDDING

The Contractor shall include in his bid a lump sum not-to-exceed estimate of all costs associated with the scope of work herein. Including, but not limited to all expenses, equipment, labor, mobilization and demobilization, and subcontractors. Please ensure that all bids contain the following as a minimum:

Bids will be evaluated by the Owner based on price, schedule, quality, economy of operation, experience of contractor, and adherence to specification. The primary evaluation factor will be the lump sum price. The owner reserves the right to reject any or all bids or waive informalities and to accept whichever bid that may be in the best interest of owner, at its sole discretion. Bids must be received by 2:00 P.M. Tuesday, February 23nd, 2021.

Bidder is solely responsible for obtaining any clarifications to this specification as may be required for the Bidder to submit an accurate and complete bid proposal.

3.1 UNIT PRICING

The Contractor shall include in the bid firm not to exceed price estimates for the following Contractor responsibilities.

3.1.1 Precipitator Abrasive Blasting

A firm, lump sum fixed price including any and all costs associated with the Precipitator Abrasive Cleaning portion of work including, but not limited to, all expenses, equipment, travel and mileage, per diems, labor, mobilization and demobilization, setup and teardown of equipment, subcontractors, blast media and sundries. The base bid shall be based on use of Black Beauty and any alternative media must be proposed separately as an alternate, along with all information regarding the alternate media necessary for the owner, at its sole discretion, to make a determination as to the suitability of the media for use in this application.

3.1.2 SDA Vessel Hydro Blasting

A firm, lump sum fixed price for SDA Vessel cleaning services including any and all costs associated with the swirl vane and vessel water blast services portion of the work including, but not limited to, all expenses, equipment, travel and mileage, per diems, labor, mobilization and demobilization, setup and teardown of equipment, subcontractors, tooling and sundries.

3.1.3 Air Heater Hydro Blasting

A firm, lump sum fixed price for air heater cleaning services including any and all costs associated with the air heater water blast services portion of the work including, but not limited to, all expenses, equipment, travel and mileage, per diems, labor, mobilization and demobilization, setup and teardown of equipment, subcontractors, tooling and sundries.

3.1.4 Boiler Detonation Blasting and Roding

A firm, lump sum fixed price for boiler tubing in the vertical and horizontal superheat cleaning services including any and all costs associated with detonation blasting, rodding, and vacuuming services portion of the work including, but not limited to, all expenses, equipment, travel and mileage, per diems, labor, mobilization and demobilization, setup and teardown of equipment, subcontractors, tooling and sundries.

3.1.5 Hydro Blasting Services

A lump sum, time and material, not to exceed price based on forty-eight (48) service hours of all-inclusive water blasting services including any and all costs associated with the High Pressure water blast cleaning and line cleaning portion of the work including, but not limited to, all expenses, equipment, travel and mileage, per diems, labor, mobilization and demobilization, subcontractors, supplies, fuel surcharges, and sundries. Daily Time Sheets and job logs must be completed to accurately document the service hours. Separate T&M costs shall be provided that represents the variable cost adjustment for more or fewer service hours from the base 48 hours.

3.1.6 Vacuuming Services

A lump sum, time and material, not to exceed price for two (2) vacuum trucks working simultaneously for ninety-six (96) service hours each including any and all costs associated with the Vacuum Cleaning Services portion of the work including, but not limited to, all expenses, equipment, travel and mileage, per diems, labor, mobilization and demobilization, subcontractors, set up and tear down of equipment, supplies, fuel surcharges and sundries. Daily Time Sheets and job logs must be completed to accurately document the service hours. Separate T&M costs shall be provided that represents the variable cost adjustment for more

or fewer service hours from the base 96 hours of operation. The contractor shall log run hours on vacuuming equipment daily.

3.2 RATES

The Bid shall include, as a separate T&M rate attachment, firm unit pricing for all labor, equipment, fuel surcharges, sundries **and expenses reflecting the charges to be used in billing the T&M portions of the work as well as for making any** adjustments that may be required for new work scope additions, additional services other than what is required in this specification or reductions in the same. All travel time and per diems shall be included in the hourly labor rates. The City of Grand Island will not be responsible for travel expenses to and from plant site. The City of Grand Island will not be responsible for any associated overnight expenses.

3.2.1 Terms and Conditions

Provide all other proposed terms and conditions which will be in effect during the performance of the work as a separate attachment **with the bid**. Any exceptions the bidder wishes to take regarding the Owners specifications and contract documents must be submitted **with the bid**.

Time is of the essence in the evaluation of proposals, the execution of contract documents and/or issuance of a Purchase Order for the execution of the work. Submittal of proposals that include terms and conditions unacceptable to the Owner, or that lack the information and clarity required by these specifications may be subject to rejection at the sole discretion of the Owner.

A single contract will be awarded for all work included in this specification.

3.2.2 Time and Material Accounting

Contractor shall be required to maintain accurate job logs describing work performed by each crew throughout each day and daily time sheets detailing all work performed and expenses incurred **in the same format as the bid detail submittal**. Daily time sheets shall identify all individuals by name, craft and all hours worked on each portion of the work. Such job logs and time sheets shall accurately account for all man-hours with clear separation and identification of Time, equipment and Material as required accounting for the actual Vacuum and Hydro-blasting service hours and expenses. A sample timesheet shall be included in the bid to be approved by the owner's designated representative.

The timesheets/logs shall clearly detail the specific work that was accomplished during the shift. These sheets shall be presented to the owner's representative on a daily basis for review with the contractor's superintendent. Any presentation of timesheets/logs deferred more than 48 hrs. before being presented to the owner's representative shall be null and void. The Owners representative will sign these documents as a record of receipt and review. Any corrections that need to be made to such signed documents shall be implemented upon the discovery of the error and both parties shall initial the change made on the form. These records will then serve as record of the work performed and a basis for determining the final billing.

The Platte Generating Station is NOT tax exempt and is subject to 7.5% sales tax. See the Nebraska Department of Revenue web site at www.revenue.state.ne.us for contractor's tax information.

3.3 TERMS AND CONDITIONS

Provide any standard terms and conditions which will be in effect during this completion of this scope of work.

3.4 DEVIATIONS

The bid shall provide any explanation of any anticipated deviations from the detailed scope of work or schedules.

4.0 QUALIFICATIONS

The Contractor shall be a firm specializing in the provision of services as outlined within this scope for large-scale utility precipitators and boilers used in the electric power industry. The Contractor shall substantiate its experience through the submittal of three (3) similar projects' **reference list with the bid**. The Contractor will be expected to perform the work without the assistance of Platte Generating Station personnel or tools and comply with plant safety regulations and equipment lockout/tag out procedures.

4.1 Superintendent

The Contractor shall provide well qualified supervisor(s) and a Job Superintendent who will fully direct all field operations for the duration of the project, serve as liaison to the Owner's designated representatives, be fully authorized to make any and all decisions affecting the work in the field and coordinate activities between the Contractor and its subcontractors, if any. A summary of the experience of the Superintendent proposed for this project shall be **provided with the bid**.

5.0 SAFETY

The Contractor is required to follow their OSHA regulations for work in areas that are contaminated with fly ash and for areas that may be considered as confined spaces. NOTE: All contractors must submit **with the bid** a copy of their OSHA compliant Confined Space Procedure and Respiratory Protection Procedure. The Contractor will be required to provide proof that workers have successfully completed respiratory fit testing and pulmonary function testing and have been trained for confined space entry.

The Contractor shall be responsible for compliance with all safety practices as required by the regulatory agencies governing the Contractor's operations as well as any and all safety requirements of the Contractor's organization and shall submit historical evidence of such compliance. All personnel working on site will be required to participate in the plant's safety orientation prior to performing any work on site at PGS.

The plant has an equipment lockout/tag out procedure to prevent the unauthorized starting of motors and the unauthorized movement of valves and dampers. The Contractor is required to use the procedure and add its own locks/tags on top of the plant lock/tags if required. *Removal of plant locks/tags is not allowed and is cause for removal from the plant site.*

6.0 INSURANCE

The contractor shall comply with the attached City's insurance requirements

7.0 PERFORMANCE AND PAYMENT BOND

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 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 power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.

8.0 DRAWINGS AND SITE INFORMATION

A selection of drawings has been provided with the bid package for reference only. Additional drawings are available for review at Platte Generating Station office. The Contractor is responsible for making such pre-bid site visits as required to obtain additional details for bidding and execution of the work and for clarification of any questions or concerns the bidder may have related to the work scope and site conditions.

ATTACHMENTS:

425-4404	Location of Ductwork Expansion Joints
425-4402	Expansion Joint "U" Type Detail
13477	Boiler Schematic Arrangement, Highlighted Areas that need Detonation Blasting
D-183702	Boiler Right Side Elevation
13477-4C-1292	Boiler Tube Material Diagram
13477-4C-1291	Boiler Tube Material Diagram
13477-4C-1290	Boiler Tube Material Diagram
GA-109	AQCS SDA General Arrangement West Elevation View
GA-105	AQCS SDA General Arrangement North Elevation View

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

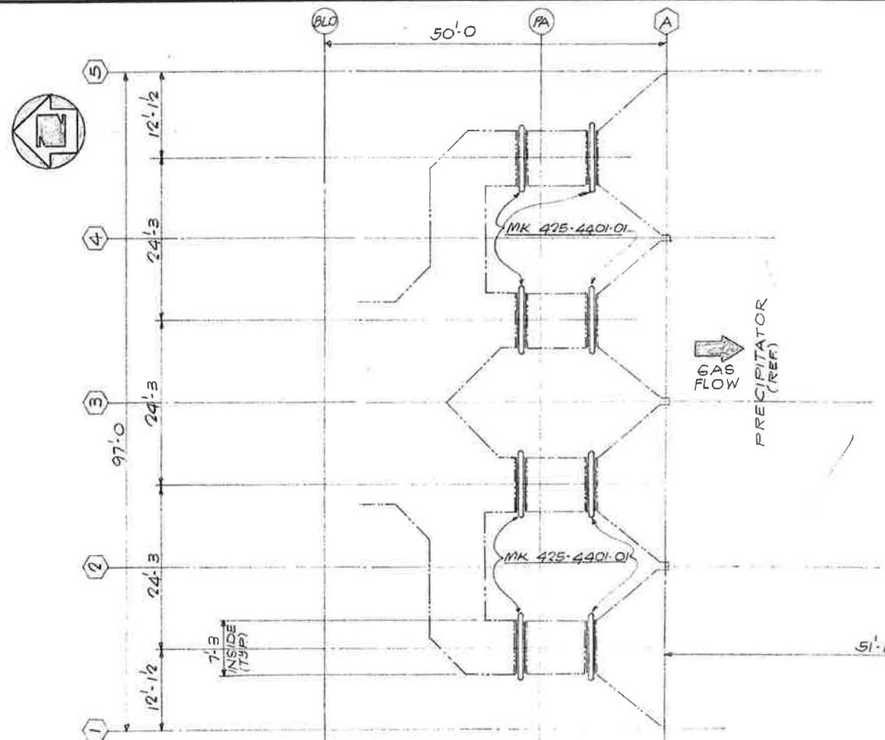
The City may require insurance covering a Bidder or subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

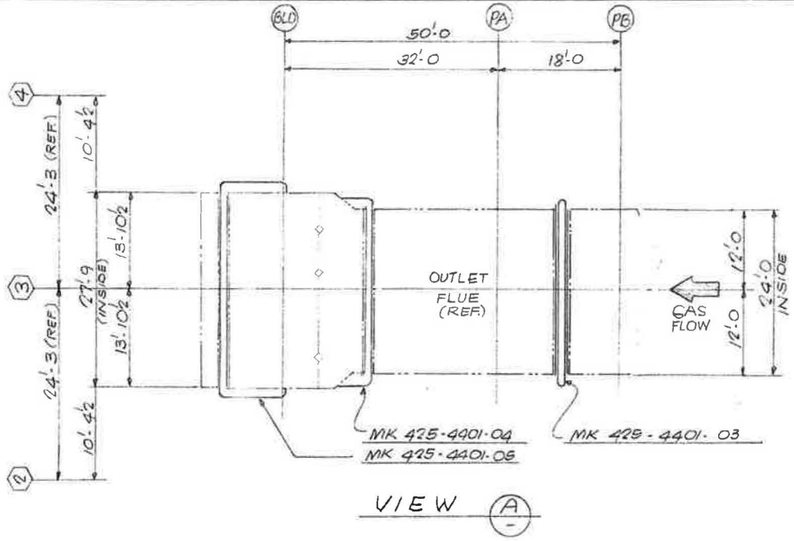
Insurance as herein required shall be maintained in force until the City releases the Bidder of all obligations under the Contract.

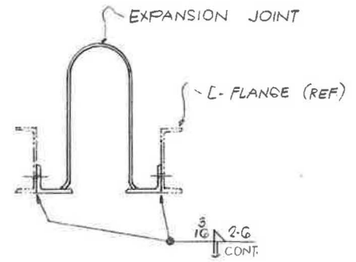
The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

6. CERTIFICATE OF INSURANCE

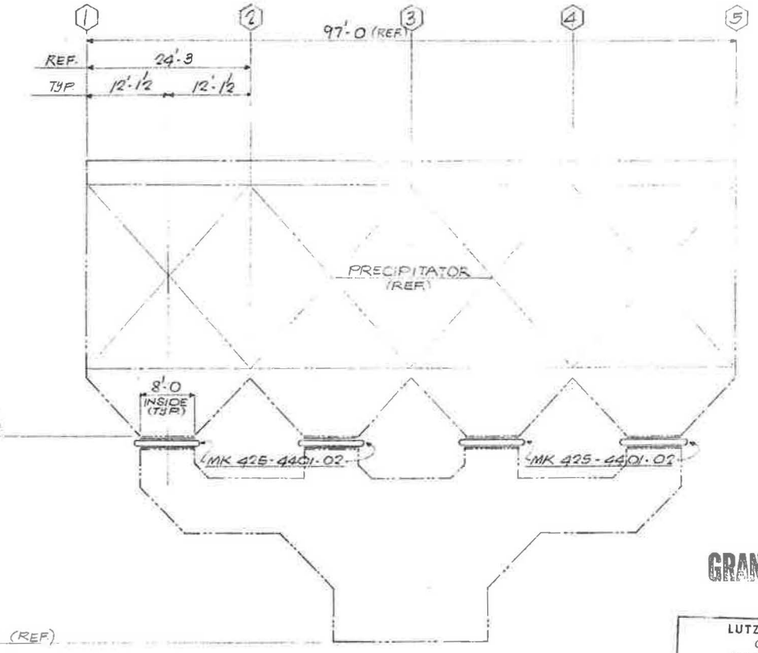
Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this Contract**. The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given 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.**







TYPICAL FIELD DETAIL



GRAND ISLAND 77-8

LUTZ, DAILY & BRAIN
Consulting Engineers
SHAWNEE MISSION, KANSAS

APPROVED AS NOTED 3-7-79 BY
APPROVED AS NOTED
RETURNED

Approval is only for general conformance to Plans and Specifications. Approval does not relieve any part of contract or guarantee detailed quantities or dimensions.

FEB 09 1979

DRAWING RELEASE RECORD					
REV.	DATE	REVISED BY	CKD. BY	ENG. APP.	DESCRIPTION

DRAWING RELEASE RECORD					
REV.	DATE	REVISED BY	CKD. BY	ENG. APP.	DESCRIPTION

DRAWN BY	R.V.	12-19-78
ENGINEER	DCE	1-29-79
CHECKED BY	EPM	2-26-79
CHIEF ENG.		
PROJ. ENG.		

JOY
WESTERN PRECIPITATION DIVISION
JOY MANUFACTURING COMPANY
LOS ANGELES, CALIF. U.S.A.
MONTREAL LONDON SYDNEY JOHANNESBURG

LUTZ, DAILY, and BRAIN

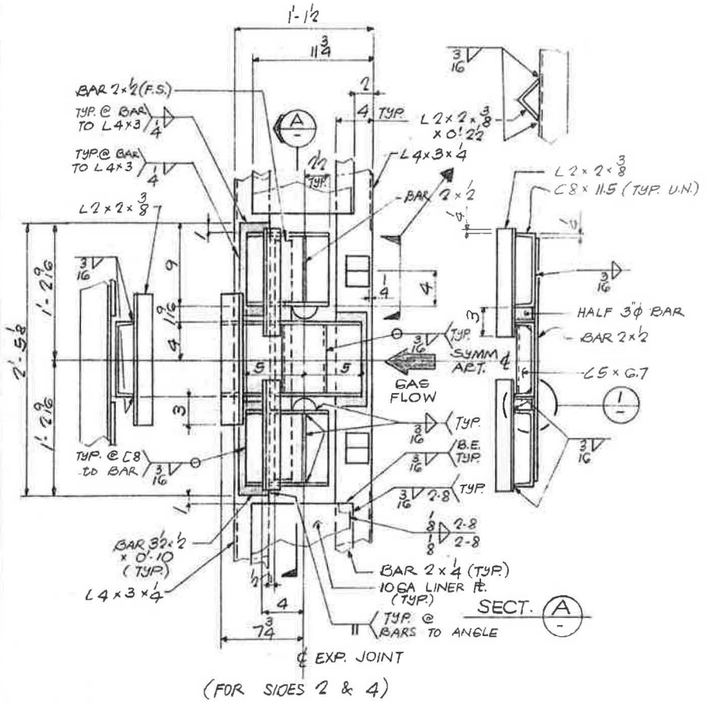
CITY OF GRAND ISLAND, NEBRASKA
PLATTE GENERATING STATION

LOCATION OF EXPANSION JOINTS

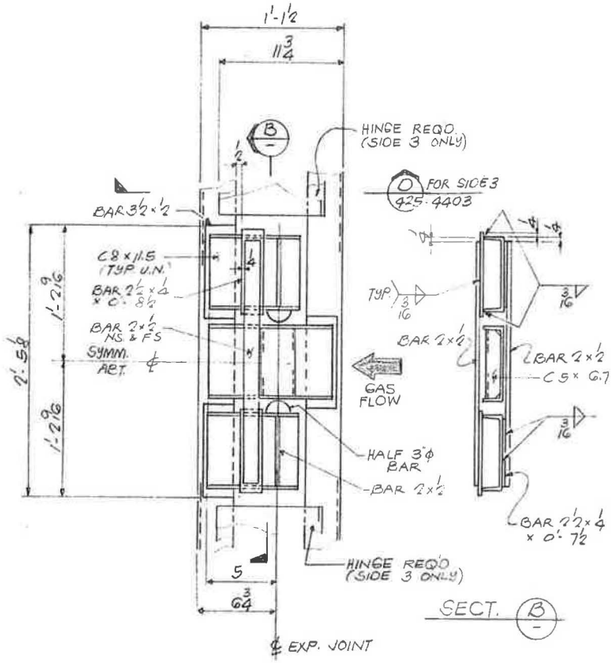
SCALE:	NTS
CONTRACT NO.:	0-78-005-17
DRAWING NO.:	425-4404
REV.	A

MAR 05 1979

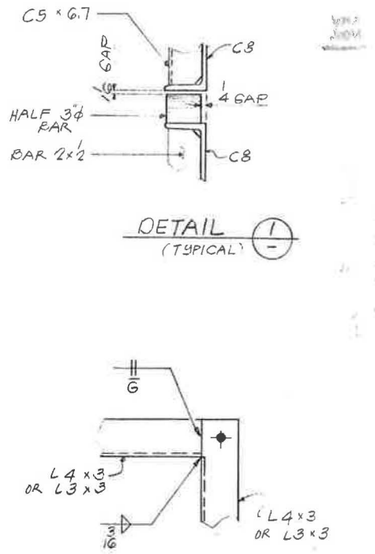
56-125

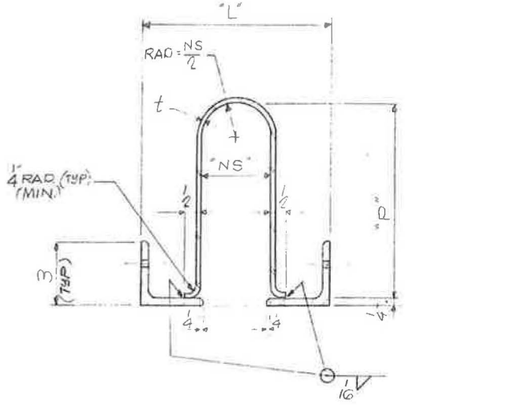


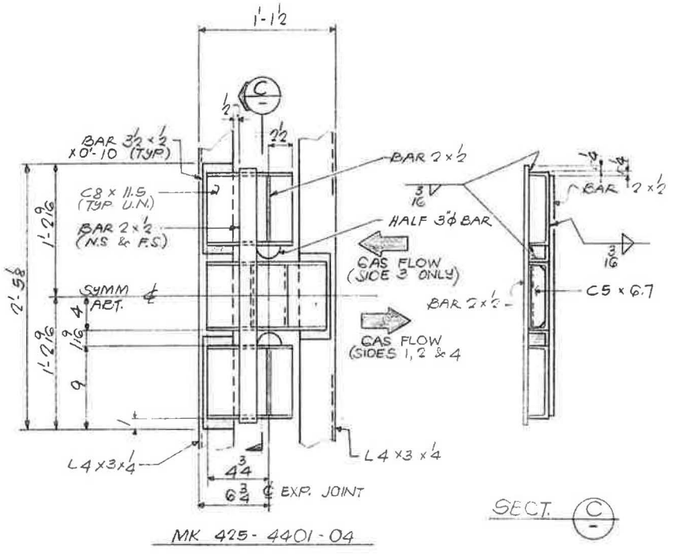
MK 425-4401-01



[FOR { SIDE 1 (AS SHOWN) / SIDE 3 (AS SHOWN & NTK)







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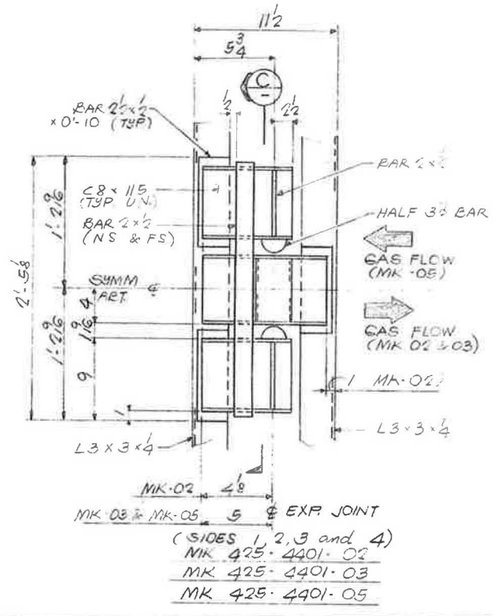
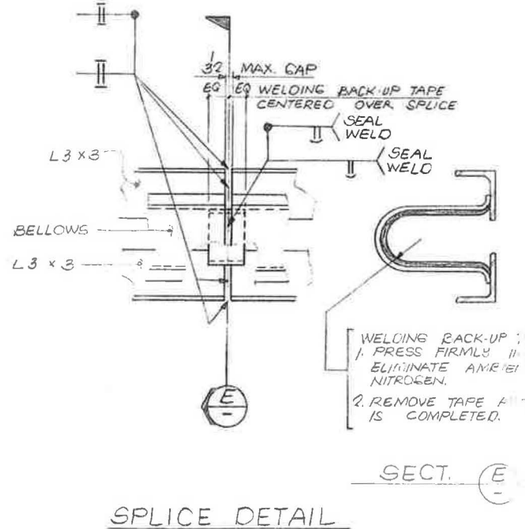


MK 425-4401-02
MK 425-4401-03
MK 425-4401-05



SPLICE DETAIL

LUTZ, DAILY & BRAIN
Consulting Engineers
SHAWNEE MISSION, KANSAS
3-1-79 MCL
Engineers Plans and Specifications. ... any part of contract or guarantee detailed conditions or this system.

GRAND ISLAND 77-8

FEB 09 1979

DRAWING RELEASE RECORD						
REV.	DATE	REVISED BY	CKD. BY	ENG. APP.	DESCRIPTION	

DRAWING RELEASE RECORD						
REV.	DATE	REVISED BY	CKD. BY	ENG. APP.	DESCRIPTION	

DRAWN BY	RV	2-15-79
ENGINEER	DCE	1-25-79
CHECKED BY	ERM	4-26-79
CHIEF ENG.		
PROJ. ENG.		

JOY
WESTERN PRECIPITATION DIVISION
JOY MANUFACTURING COMPANY
LOS ANGELES, CALIF. U.S.A.
MONTREAL LONDON SYDNEY JOHANNESBURG

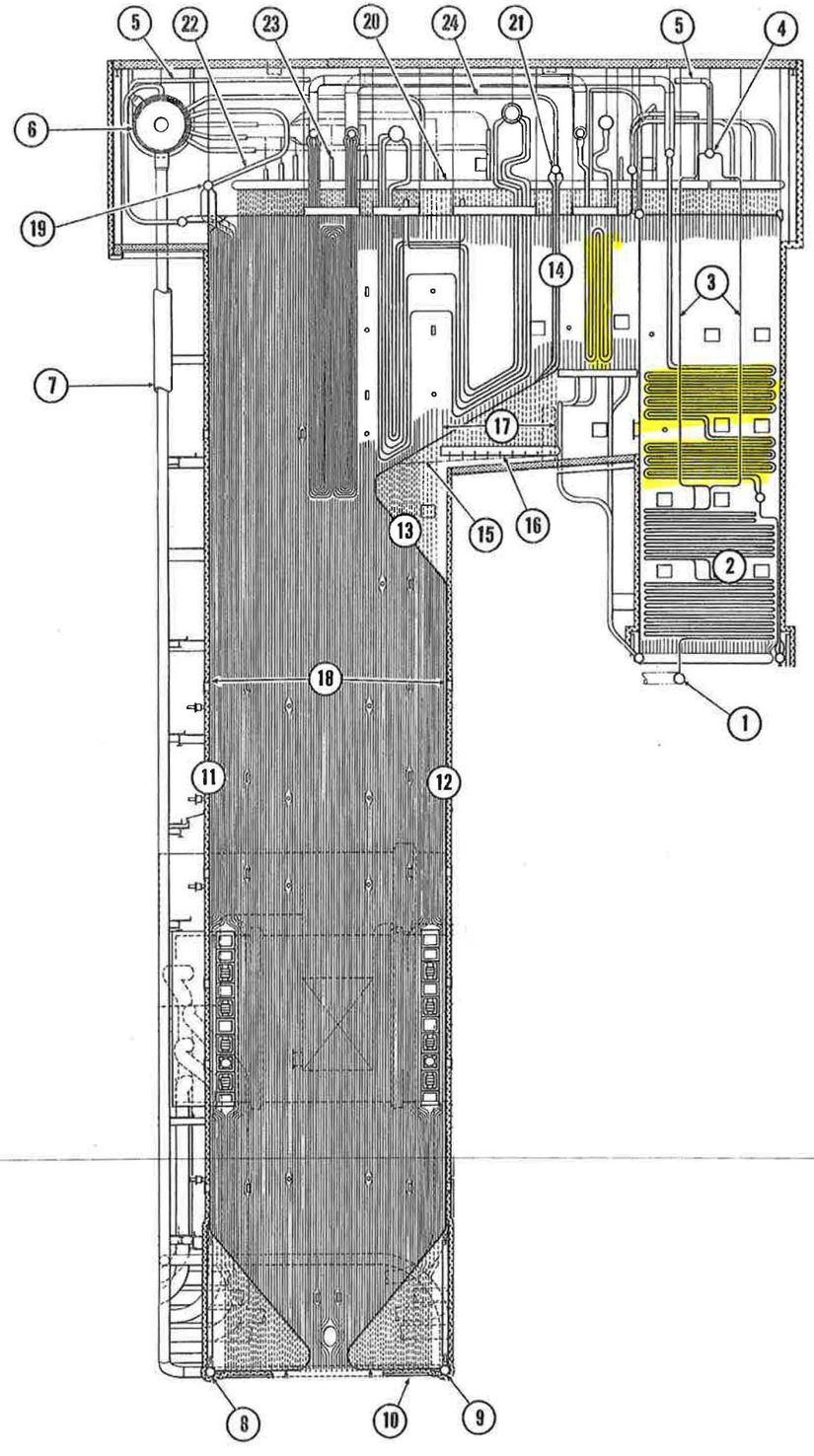
LUTZ, DAILY & BRAIN
CITY OF GRAND ISLAND, NEBRASKA
PLATTE GENERATING STATION
EXPANSION JOINT "U" TYPE
LINER ASSEMBLY DETAILS

SCALE: NTE
CONTRACT NO. 5-78-008-17
DRAWING NO. 425-4401 REV. A

56-123

MAR 05 1979

20/77 DIETERICH-POST CLEARPRINT 100H1-8

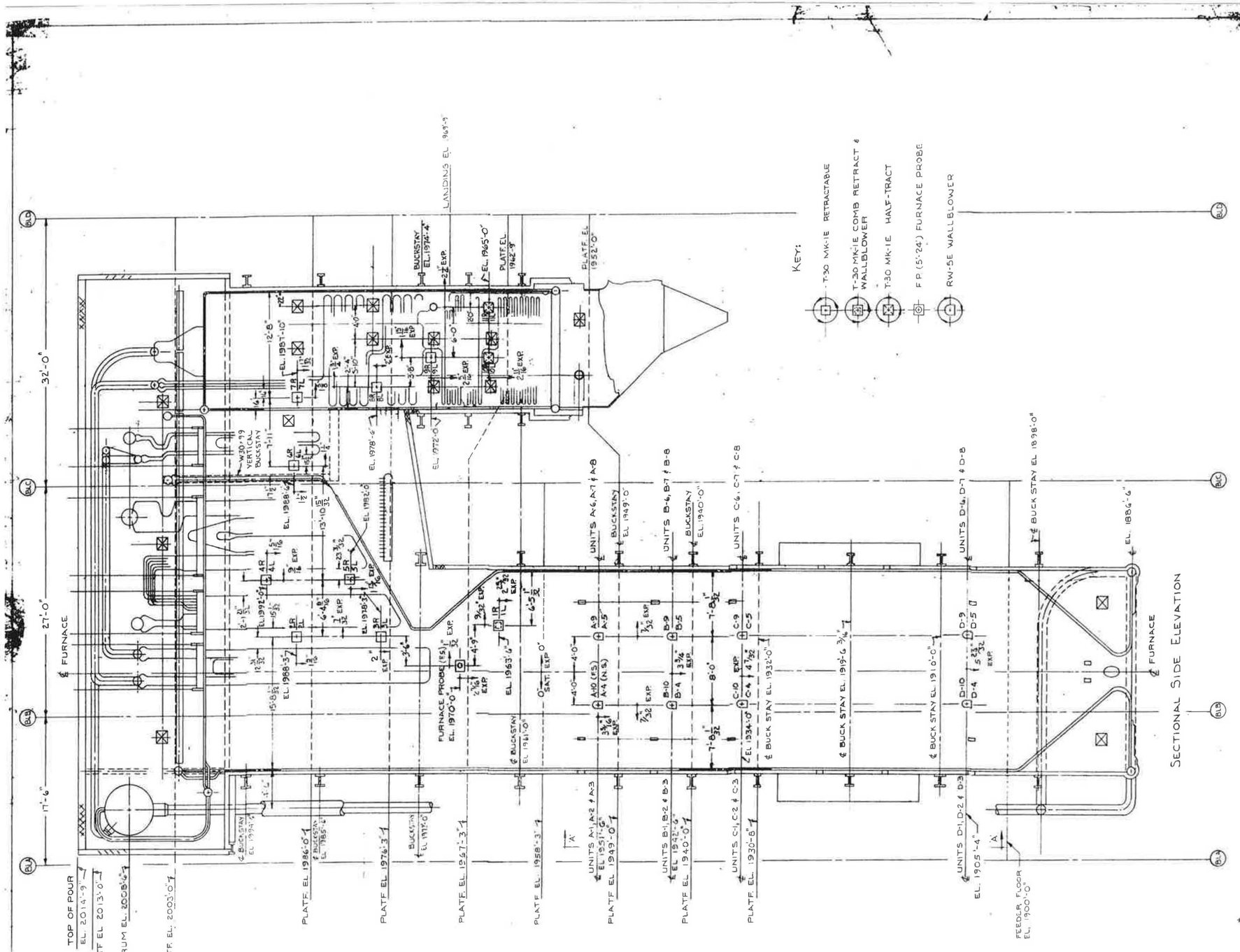


WATER CIRCUITS

MK NO.	QUANT.	SIZE	DESCRIPTION
1	1	12-3/4" O.D.	Economizer Inlet Header
2	86	2" O.D.	Bare Tube Economizer Elements (Upper and Lower Banks) on 4" Ctrs.
3	86	2" O.D.	Economizer Terminal Tubes on 8" Ctrs.
4	1	10-3/4" O.D.	Economizer Outlet Header
5	2	6-5/8" O.D.	Economizer Outlet Links
6	1	60" I.D.	Steam Drum
7	4	14" O.D.	Furnace Downcomers
8	1	14" O.D.	Furnace Lower Front Header
9	1	14" O.D.	Furnace Lower Rear Header
10	2	14" O.D.	Furnace Lower Side Headers, One Per Side
11	117	2-1/2" O.D.	Furnace Front Wall Tubes, Fusion Welded on 3" Ctrs.
12	117	2-1/2" O.D.	Furnace Rear Wall Tubes, Fusion Welded on 3" Ctrs.
13	117	2-1/2" O.D.	Furnace Rear Arch Tubes on 3" Ctrs, Fin Welded at Each Side in Vicinity of Extended Side Supply Tubes, Remainder Fusion Welded.
14	99	2-1/2" O.D.	Furnace Rear Screen Tubes on 9" Ctrs.
15	18	2-1/2" O.D.	Furnace Extended Side Supply Tubes, 9 Per Side
16	2	8-5/8" O.D.	Furnace Extended Side Wall Inlet Headers, 1 Per Side
17	56	2-1/2" O.D.	Furnace Extended Side Wall Tubes, 28 Per Side Fin Welded on 5" Ctrs.
18	164	2-1/2" O.D.	Furnace Side Wall Tubes, 82 Per Side Fusion Welded on 3" Ctrs.
19	1	10-3/4" O.D.	Furnace Upper Front Header
20	2	10-3/4" O.D.	Furnace Upper Side Headers, 1 Per Side
21	1	10-3/4" O.D.	Furnace Upper Rear Outlet Header
22	14	6" O.D.	Furnace Upper Front Header Riser Tubes
23	16	6" O.D.	Furnace Upper Side Header Riser Tubes, 8 Per Side
24	10	6" O.D.	Furnace Upper Rear Outlet Header Riser Tubes

SCHEMATIC ARRANGEMENT
WATER & SATURATED STEAM CIRCUITS

13477



REV	DESCRIPTION
6-29	ADDED UNITS 9R/L THRU 11R/L T-30 MK-IE HALF-TRACT TO KEY
6-30	REV'D UNIT LOCATIONS & ADDED BUCKSTAY EL'S. PER

GRAND ISLAND 17-8

AUG 25 1983

PART CODE 6

CVI DRAWINGS

0001 GENERAL ARRG'T. RIGHT SIDE ELEV.

CVI COMPLEMENTARY DRAWINGS

B-183703	T-30 MK-IE COMB RET./WB. SOOT BLOWER VIEWS
B-183701	T-30 MK-IE SOOT BLOWER VIEWS
B-183705	T-30 MK-IE RETRACT & COMB. RETRACT & WB. SLEEVE VIEWS
L-183706	HEATER ARRG'T FOR: T-30 MK-IE RETRACT & T-30 MK-IE COMB. RETRACT/WB.
B-183707	RW-5E SOOT BLOWER VIEWS
B-183703	F.P. (5'-24') FURNACE PROBE VIEWS
B-183709	SCHEMATIC PIPING DIAGRAM
B-183884	VIEW 'A-A' SOOT BLOWER ARRANGEMENT
M-184092	STEAM CONSUMPTION DATA
D-185795	PHYSICAL PIPING DIAGRAM RIGHT SIDE ELEVATION
D-185796	PHYS. PIPING DIAGRAM FRONT ELEVATION
D-185797	PRESS REDUCING STATION, PIPING NOTES & DETAILS
B-185798	HANGER, ANCHER & GUIDE DETAILS
S-185799	PIPING BILL OF MATERIAL
B-266773	T-30 MK-IE HALF-TRACT VIEWS
L-266774	T-30 MK-IE HALF-TRACT SLEEVE VIEWS

BOILER DATA

MFGR. & TYPE BOILER: C.E. RADIANT REHEAT

DESIGN PRESSURE: 2225 PS.I.G.

OPER. PRESSURE: 1930 PSIG. @ 1005° F.

FUEL: COAL NO. OF BOILERS: ONE (1)

SOOT BLOWER INFORMATION

CAST STEEL MODEL 'D' 2½" 600# STD. HEAD

1. BLOWING PRESSURE CAN BE REGULATED BY AN EXTERNAL ADJUSTING SCREW ON ALL MODEL "D" HEADS.
2. PIPE, VALVES, AND FITTINGS BY COPES-VULCAN DIVISION EXCEPT AS NOTED
3. ITEMS MARKED "N" NOT FURNISHED BY COPES-VULCAN DIVISION.
4. SOOT BLOWING MEDIUM: STEAM 1005 PSIG @ 764°F SOURCE: S.H. OUTLET HDR.
5. SLOPE BLOWING MEDIUM PIPING TO DRAIN.
6. HAND OF INSTALLATION: FACING FURNACE RIGHT & LEFT - PROBE LEFT - WALL RIGHT, LEFT FRONT & REAR
7. * MIN. BLOWING PRESS. REQ'D. FOR LANCE COOLING. DO NOT OPERATE BLOWER AT ANY PRESS. LESS THAN NOTED
8. COEFFICIENT OF EXPANSION = .0057/FT.

51-721

SOOT BLOWER START-UP PRESSURE

UNIT NO	TYPE OF BLOWER	BLOWING PRESSURE
1R/L	COMBINATION W.B. RETRACT	215
2R/L 3R/L	RETRACTABLE	165
4R/L 5R/L	RETRACTABLE	135
6R/L - 8R/L	RETRACTABLE	110
ALL BANDS	WALLBLOWERS	150

PRESSURES LISTED ARE TO BE CONSIDERED AS START-UP PRESSURES ONLY, AND NOT TO BE INTERPRETED AS FINAL. FREQUENCY OF BLOWER OPERATION, GRADE OF FUEL BURNED, AND BOILER OPERATION WILL AFFECT THESE PRESSURES. 13477-8-2E5

COPES-VULCAN, INC.
Div. of the Chas. Lockhart Industries
LAKE CITY ERIE CO., PA. U.S.A.

CITY OF GRAND ISLAND
POWER GENERATING STATION
UNIT NO. 1
C.E. INC. CONT.# 13477
C.E. INC. P.O.# 1870500

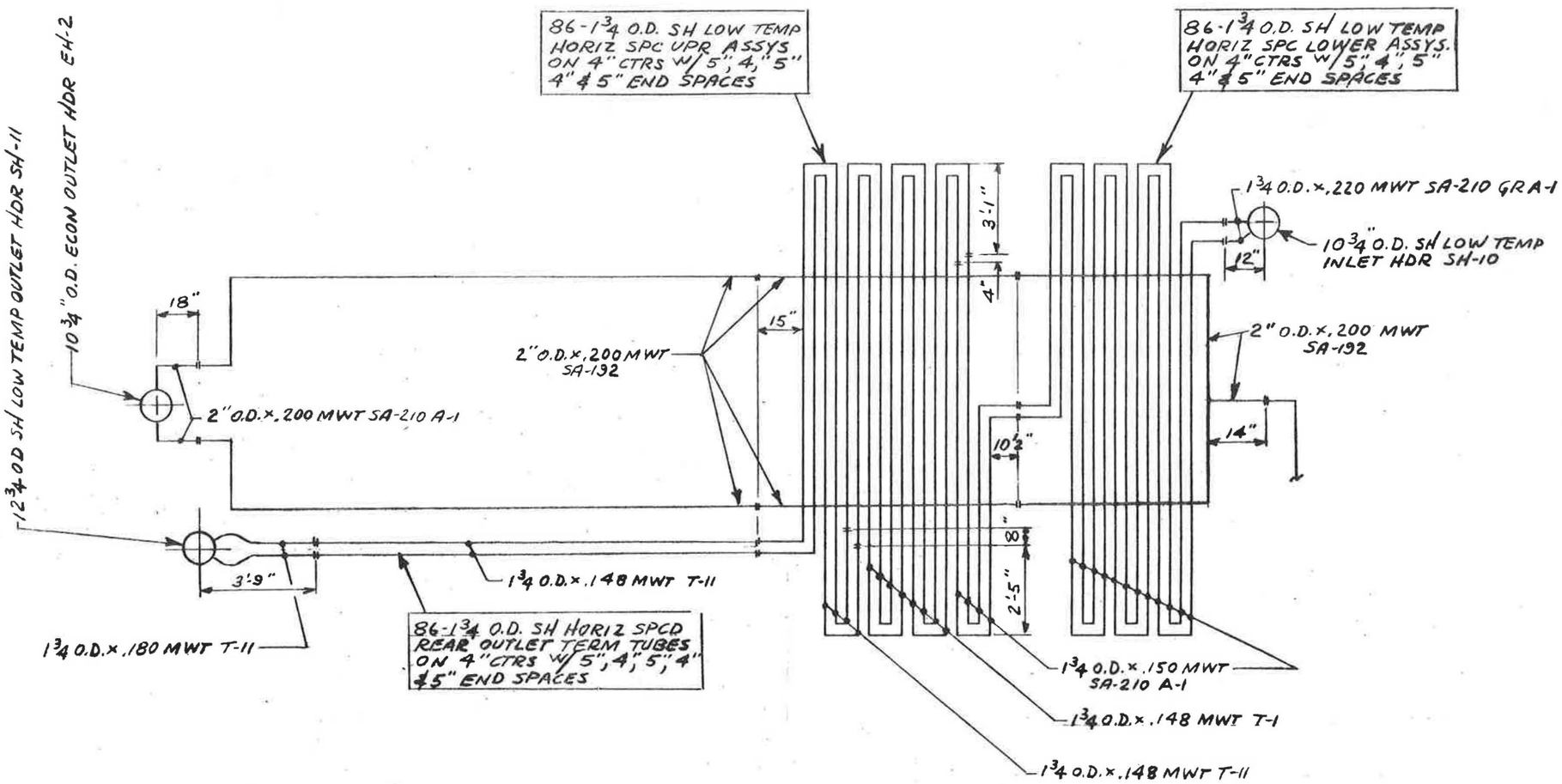
RIGHT SIDE ELEVATION
SOOT BLOWER ARRANGEMENT

DRAWN	HARDNER DATE 4-13-78	JOB NO.	7830-86081
CHECKED	RJD DATE 5/4/78	SCALE	1/4" = 1'-0"
APPR.	DATE 7/20/78		

DWG NO D-183702 REV. 2

13477-4C-1292

REVISIONS



MATL TO BE WELDED	CE WELD PROCEDURE
SA-192 TO SA-192	SMA 1.1V-300
SA-192 TO SA-210 A-1	SMA 1.1V-300
SA-210 A-1 TO SA-210 A-1	SMA 1.1V-300
SA-210 A-1 TO T-1	SMA 1.3V-300
T-1 TO T-1	SMA 3.3 V-300
T-1 TO T-11	SMA 3.4V-300
T-11 TO T-11	SMA 4.4V-300

MATERIAL SPECIFICATIONS PER SI-17-64 INDEX SI-14.2:
SA-192 = CARBON STEEL SPEC. SA-192.
SA-210 = CARBON STEEL SPEC. SA-210.
T-1 = CARBON MOLY SPEC. SA-209 GR. T-1.
T-11 = 1.25% Cr. - .5% Mo. SPEC. SA-213 GR. T-11.
~~T-22 = 2.25% Cr. - 1% Mo. SPEC. SA-213 GR. T-22.~~
~~T-9 = 9% Cr. - 1% Mo SPEC. SA-213 GR. T-9.~~
~~304H = 18% Cr. - 8% Ni. SPEC. SA-213 GR. TP-304H.~~
~~347H = 18% Cr. - 8% Ni. - Cb. SPEC. SA-213 GR. TP-347H.~~

MATL IT # 245
247
255
257

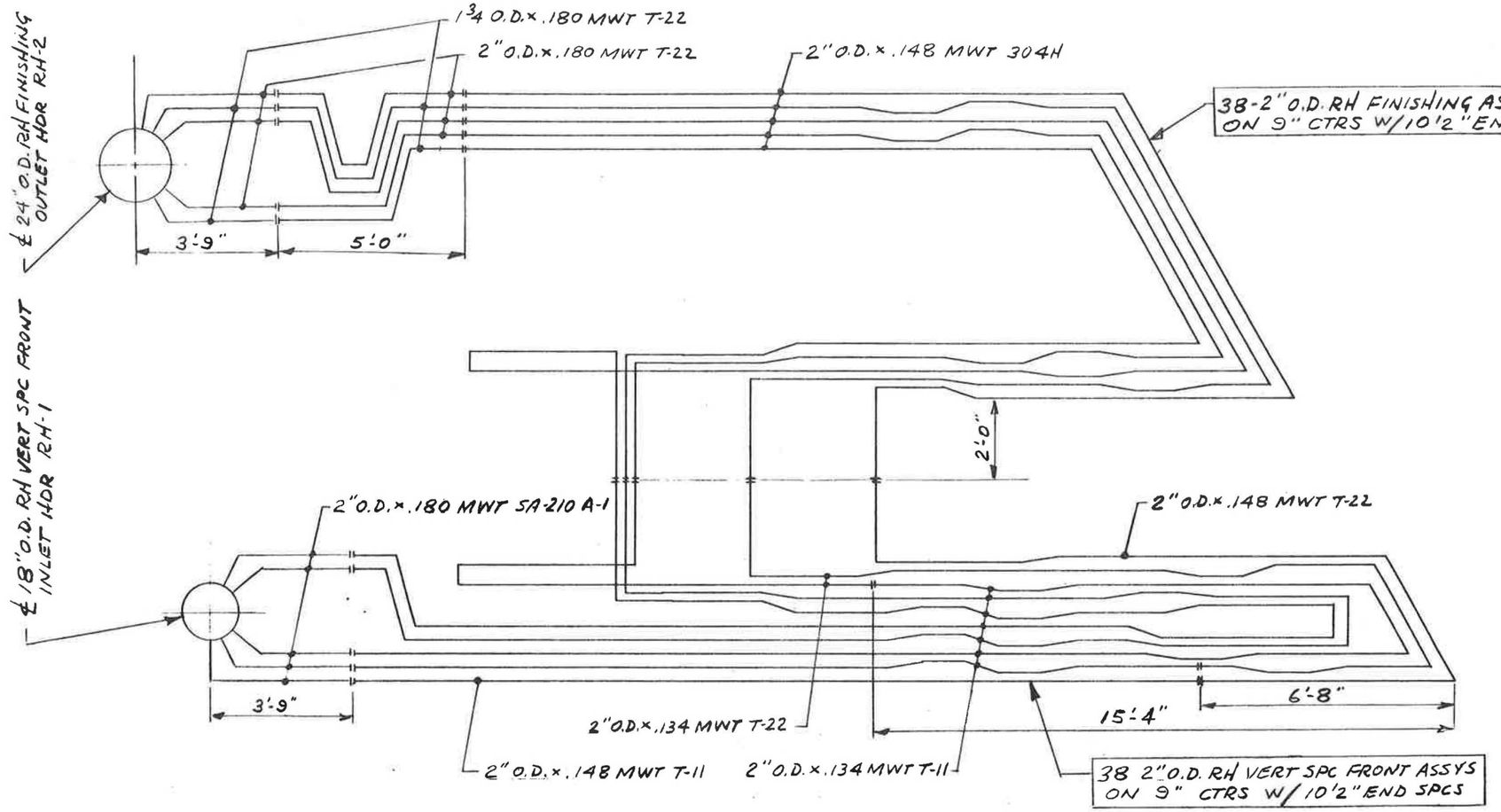
CHANGE POINT OF O.D., MAT'L., THICKNESS OR FIELD WELD. ALL DIMENSIONS LOCATING THESE POINTS ARE APPROXIMATE. WITH (SMA) OR (GTA-SMA) PROCEDURES, HALF THE ELECTRODE REQUIREMENTS SHOULD BE FURNISHED IN 3/32" DIA., THE REST IN 1/8" DIA. SPECIFY THE AWS-ASME CLASS WITH SUFFIX DENOTING CHEMICAL ANALYSIS AND CARBON LIMITATIONS.

UNIT MATERIAL DIAGRAM
CITY OF GRAND ISLAND
PLATTE GENERATING STATION-UNIT #1
GRAND ISLAND, NEBRASKA

POWER SYSTEMS
COMBUSTION ENGINEERING, INC.

SCALE .
DRAWN BY . R B EAGLE DATED . 6-18-79
CHECKED BY . RLW DATED . 6-19-79
APPROVED BY . DATED .
COMP. CODE .
DRAWING NO. 13477-4C-1292
REV. 0

13477-4C-1291 REVISION



MAT'L TO BE WELDED	CE WELD PROCEDURE
SA-210 TO SA-210	SMA 1.1V -300
SA-210 TO T-11	SMA 1.4V -300
T-11 TO T-11	SMA 4.4V -300
T-11 TO T-22	SMA 4.5V- 300
T-22 TO T-22	SMA 5.5V- 300
T-11 TO 304H	SMA 4.8V -300
T-22 TO 304H	SMA 5.8V -300
304H TO 304H	SMA 8.8V -300

MATERIAL SPECIFICATIONS PER SI-17-64 INDEX SI-14.2:

~~SA-192 = CARBON STEEL SPEC. SA-192.~~
SA-210 = CARBON STEEL SPEC. SA-210. MATL IT #247
~~T-1 = CARBON MOLY SPEC. SA-200 GR. T-1.~~
T-11 = 1.25% Cr. - .5% Mo. SPEC. SA-213 GR. T-11. #257
T-22 = 2.25% Cr. - 1.% Mo. SPEC. SA-213 GR. T-22. #258
~~T-9 = 9.% Cr. - 1.% Mo. SPEC. SA-213 GR. T-9.~~
304H = 18.% Cr. - 8.% Ni. SPEC. SA-213 GR. TP-304H. #266
~~347H = 18.% Cr. - 8.% Ni. Cb. SPEC. SA-213 GR. TP-347H.~~

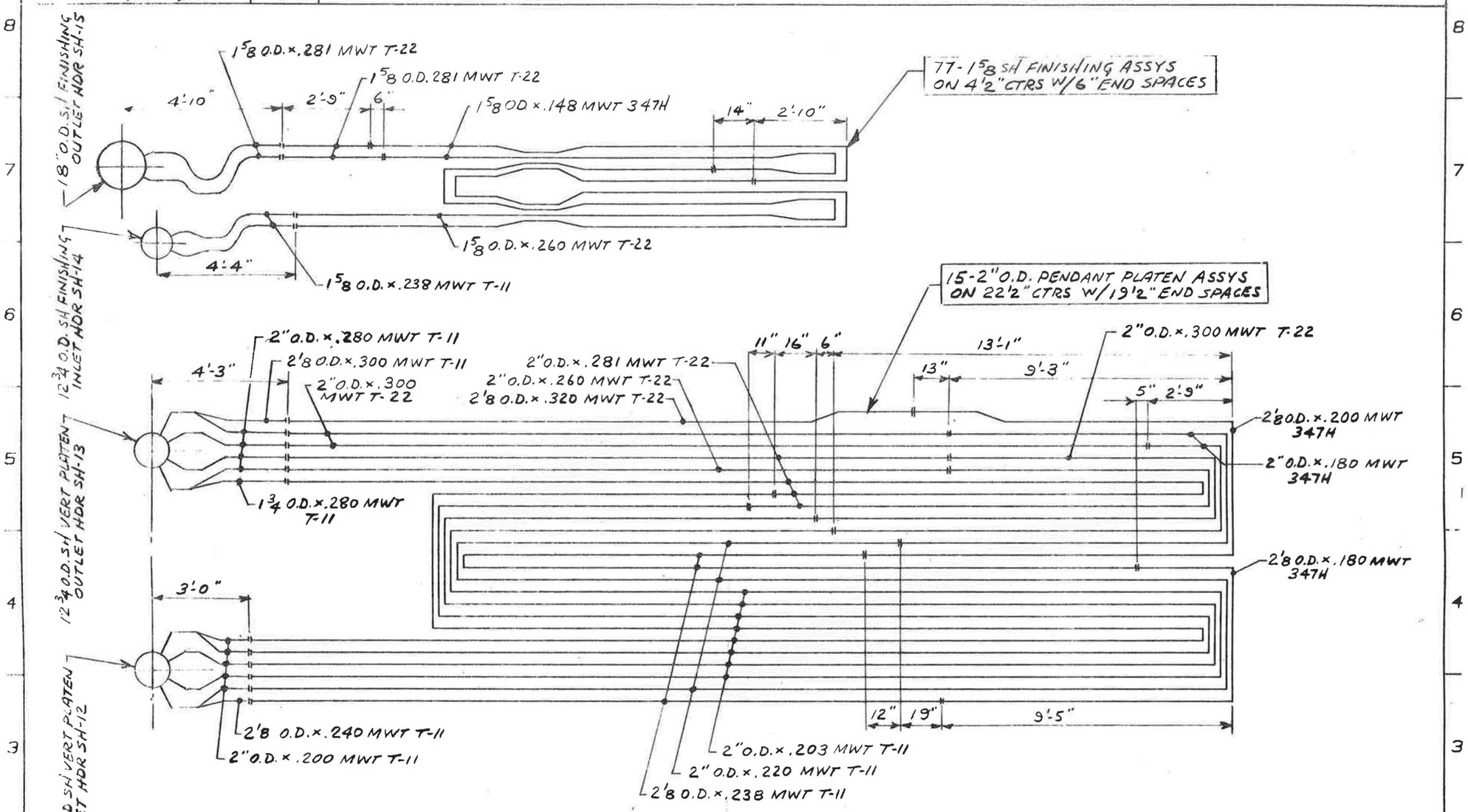
CHANGE POINT OF O.D., MAT'L., THICKNESS OR FIELD WELD. ALL DIMENSIONS LOCATING THESE POINTS ARE APPROXIMATE. WITH (SMA) OR (GTA-SMA) PROCEDURES, HALF THE ELECTRODE REQUIREMENTS SHOULD BE FURNISHED IN 3/32" DIA., THE REST IN 1/8" DIA. SPECIFY THE AWS-ASME CLASS WITH SUFFIX DENOTING CHEMICAL ANALYSIS AND CARBON LIMITATIONS.

UNIT MATERIAL DIAGRAM
CITY OF GRAND ISLAND
PLATTE GENERATING STATION-UNIT #1
GRAND ISLAND, NEBRASKA

POWER SYSTEMS
COMBUSTION ENGINEERING, INC.

SCALE:
DRAWN BY: R B EAGLE DATE: 6-18-79
CHECKED BY: RLW DATE: 6-19-79
APPROVED: DATE:
COMPONENT CODE:
DRAWING NO. 13477-4C-1291 REV. 00

13477-4C-1290 REVISIONS



MATERIAL SPECIFICATIONS PER SI-17-64 INDEX SI-14.2:

~~SA-192 CARBON STEEL SPEC. SA-192.~~
~~SA-210 CARBON STEEL SPEC. SA-210.~~
~~T-1 CARBON-MOLY SPEC. SA-209 GR. T-1.~~
T-11 = 1.25% Cr. - .5% Mo. SPEC. SA-213 GR. T-11. MATL IT #257
T-22 = 2.25% Cr. - 1.% Mo. SPEC. SA-213 GR. T-22. #258
~~T-9 = 8.% Cr. - 1.% Mo. SPEC. SA-213 GR. T-9.~~
~~304H = 18.% Cr. - 8.% Ni. SPEC. SA-213 GR. TP-304H.~~
347H = 18.% Cr. - 8.% Ni. - Cb. SPEC. SA-213 GR. TP-347H. #268

MATL TO BE WELDED	CE WELD PROCEDURE
T-11 TO T-11	SMA 4.4V-300
T-11 TO T-22	SMA 4.5V-300
T-22 TO T-22	SMA 5.5V-300
T-11 TO 347H	SMA 4.8V-300
T-22 TO 347H	SMA 5.8V-300
347H TO 347H	SMA 8.8V-301

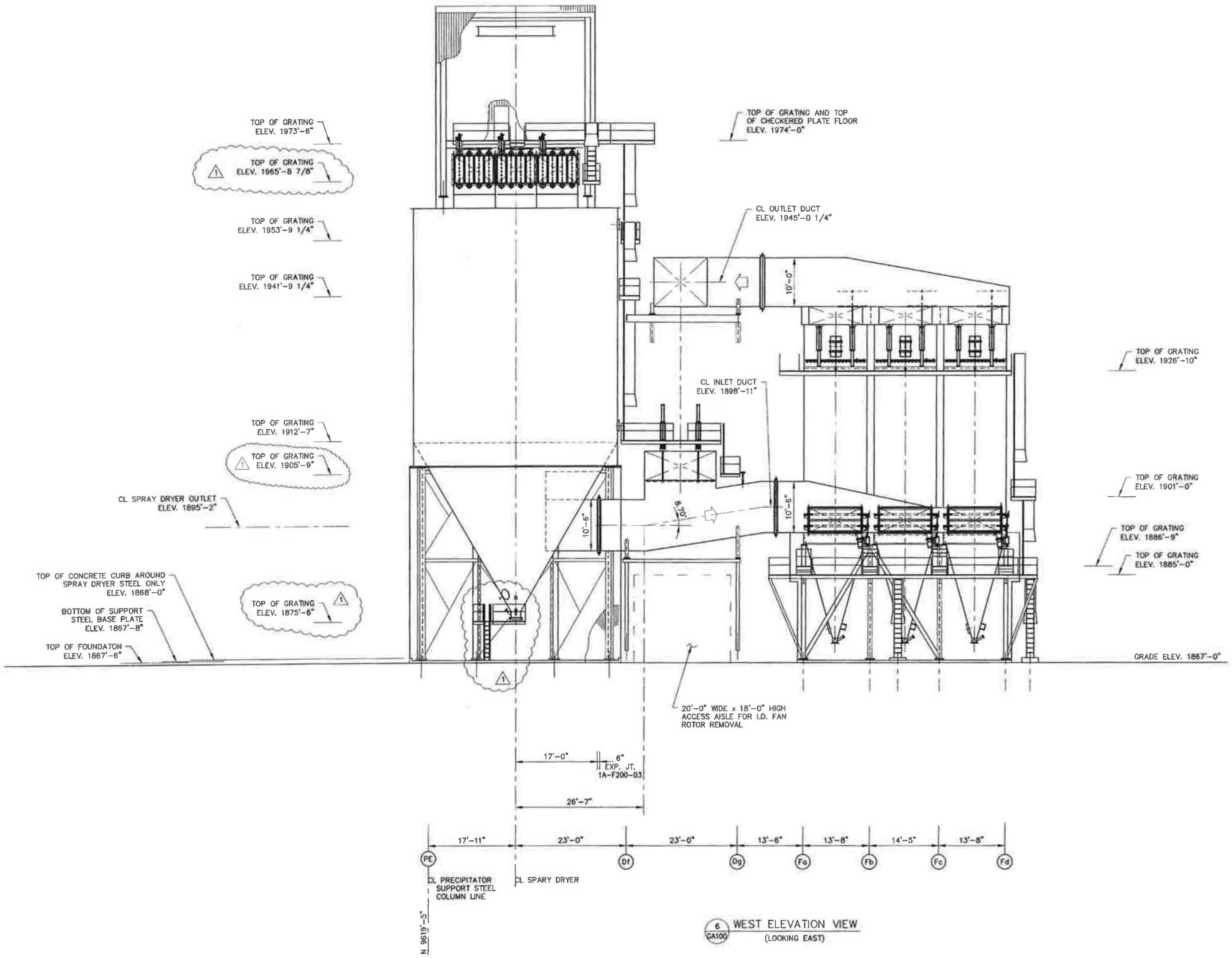
+ CHANGE POINT OF O.D., MAT'L., THICKNESS OR FIELD WELD. ALL DIMENSIONS LOCATING THESE POINTS ARE APPROXIMATE. WITH (SMA) OR (GTA-SMA) PROCEDURES, HALF THE ELECTRODE REQUIREMENTS SHOULD BE FURNISHED IN 3/32" DIA., THE REST IN 1/8" DIA. SPECIFY THE AWS-ASME CLASS WITH SUFFIX DENOTING CHEMICAL ANALYSIS AND CARBON LIMITATIONS.

UNIT MATERIAL DIAGRAM
CITY OF GRAND ISLAND
PLATTE GENERATING STATION - UNIT #1
GRAND ISLAND, NEBRASKA

CE POWER SYSTEMS
COMBUSTION ENGINEERING, INC.

SCALE:
DRAWN BY R.B.EAGLE DATE 6-18-79
CHECKED BY RLW DATE 6-19-79
APPROVED BY DATE
COMP. CODE

DRAWING NO. 13477-4C-1290 REV. 0.0



6 GA100 WEST ELEVATION VIEW
(LOOKING EAST)

REFERENCE DRAWINGS:

C2082-GA-100 GENERAL ARRANGEMENT PLAN VIEW AT GRADE ELEVATION 1867'-0"

MET
Marsulex Environmental Technologies

CITY OF GRAND ISLAND UTILITIES
GRAND ISLAND, NEBRASKA
PLATTE STATION UNIT #1
AIR QUALITY CONTROL SYSTEMS UPGRADE

GENERAL ARRANGEMENT
WEST ELEVATION VIEW

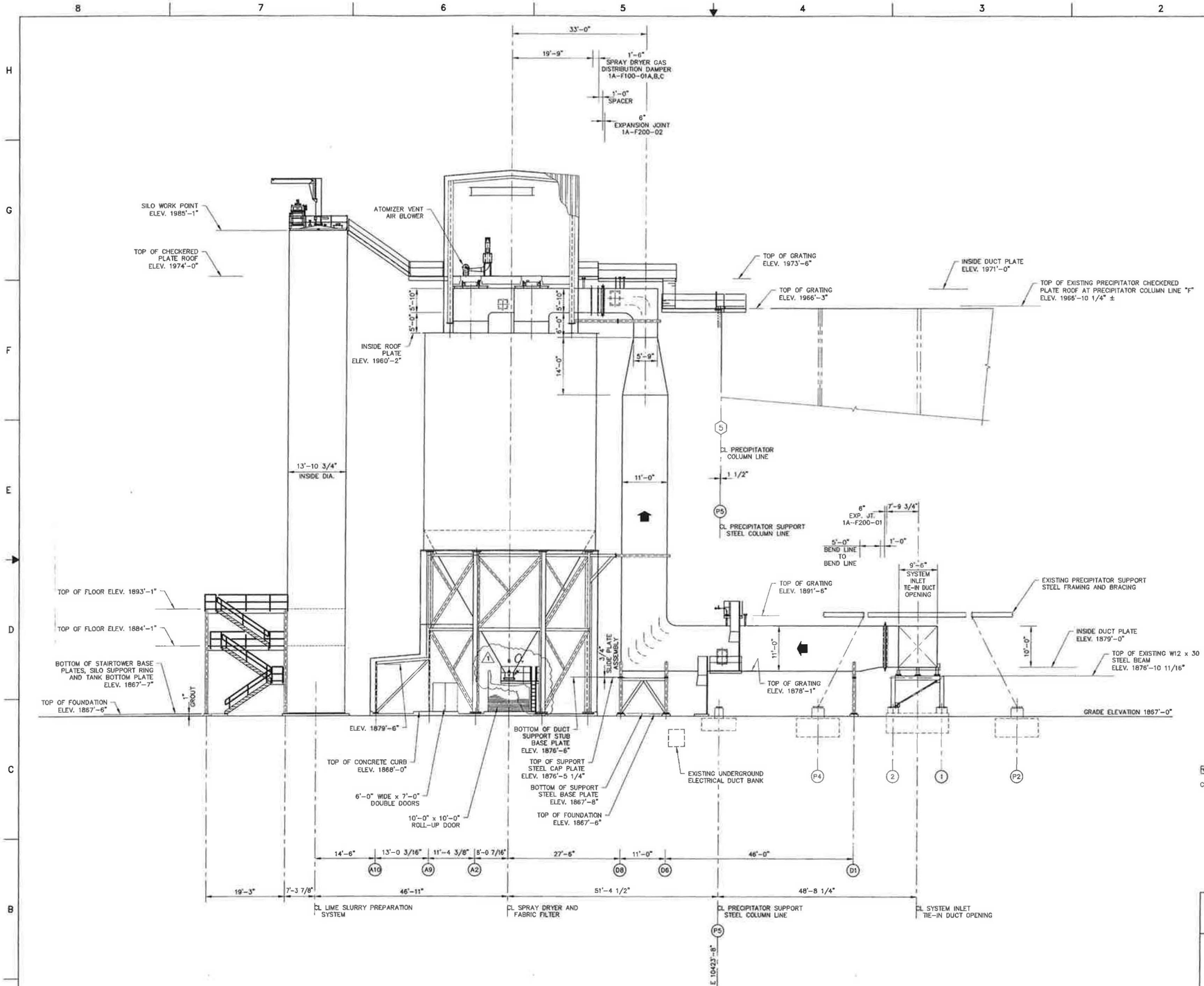
REVISION	DESCRIPTION
1- 11/19/13, BDF, B. FOX	UPDATED PLATFORM ELEVATIONS TO MATCH DESIGN DRAWINGS
0-9/3/13, BDF, DL MARTEL, M WALSH, R WARNER, R WARNER, 03 SEP 13	ISSUED FOR CONSTRUCTION
A-4/2/13, BDF, DL MARTEL, R WARNER, R WARNER, 02 APR 13	ISSUED FOR DESIGN

REVISION / DRAWN BY / CHECKED BY / REVIEWED FOR DESIGN / APPROVED FOR ENGINEERING / PROJECT ENGINEER APPROVAL / PROJECT MANAGER APPROVAL / APPROVAL DATE

ISSUED FOR CONSTRUCTION — DATE 19 NOV 2013
DRAWING SCALE: 3/8" = 1'-0"
PLOTTING SCALE: 1 = 96

AUTHORIZATION NO.	DRAWING NUMBER	REVISION
C2082	GA-109	1

FILE NAME: C2082GA09 E
SHEET NO.: 01 OF 01



1 GA100 NORTH ELEVATION VIEW
(LOOKING SOUTH)

REFERENCE DRAWINGS:

C2082-GA-100 GENERAL ARRANGEMENT
PLAN VIEW AT GRADE ELEVATION 1867'-0"

REVISION		DESCRIPTION		DESCRIPTION		DESCRIPTION		DESCRIPTION		DESCRIPTION		DESCRIPTION	1	11/19/13	DESCRIPTION	0	9/3/13	DESCRIPTION	A	4/2/13	DESCRIPTION
DRAWN BY														BDF	REVISED SPRAY DRYER HOPPER PLATFORM ELEV.		BDF	ISSUED FOR CONSTRUCTION		BDF	ISSUED FOR DESIGN
CHECKED BY														B.Fox			DL MARTEL			DL MARTEL	
REVIEWED FOR DESIGN																	M. WALSH				
APPROVED FOR ENGINEERING																	R. WARNER			R. WARNER	
PROJECT ENGINEER APPROVAL																	R. WARNER			R. WARNER	
PROJECT MANAGER APPROVAL																	'02 APR 13			'02 APR 13	
APPROVAL DATE														19NOV13							

MET
Marsulex Environmental Technologies

CITY OF GRAND ISLAND UTILITIES
GRAND ISLAND, NEBRASKA
PLATTE STATION UNIT #1
AIR QUALITY CONTROL SYSTEMS UPGRADE

GENERAL ARRANGEMENT
NORTH ELEVATION VIEW

ISSUED FOR CONSTRUCTION — DATE 19NOV 2013

DRAWING SCALE	1/8" = 1'-0"		
PLOTTING SCALE	1 = 96		
AUTHORIZATION NO.	DRAWING NUMBER		REVISION
C2082	GA-105	SHEET NO.: 01 OF 01	1

FILE NAME: C2082GA105