

FOR BOARD ACTION

Agenda Item # 5.a.

Meeting Date:

12/13/07

SUBJECT: Emissions Reduction Project
Mechanical Construction I

PREPARED BY: Wally Schlink, Director of Power Resources

ITEM DESCRIPTION:

The Emission Reduction Project (ERP) continues to proceed according to the project schedule. The Utility Board has previously approved a series of engineering and equipment purchase agreements and now we submit the second of the contractor construction activities for the project for the Board's consideration.

The Mechanical Construction I package covers the work required for erection and installation of the spray dryer absorber, pulse jet fabric filter, booster fan, ductwork & supports, ash handling system, lime handling system, structural components, condensate tank, service water piping, potable water piping, cooling water piping, condensate piping, compressed air piping, ash piping, testing, walkways and platforms, insulation & enclosures, painting and concrete.

Through our engineers, Utility Engineering (UE), a specification was distributed to 10 contractors, pre-bid meetings were conducted and we received bid packages from 7 bidders. An initial evaluation of the packages based on price, compliance with submission requirements and exceptions was conducted and it appeared that all the bidders were qualified and met the initial terms of the bid specification.

UE then developed a set of clarifying questions for the 2 lowest bidders, Harris Companies and Moorhead Machinery & Boiler Company, and met with their representatives to confirm that their offerings were compliant with the requirements of the bid document. It was determined that both the Harris and Moorhead offerings complied with the requirements of the bid documents.

Moorhead Machinery & Boiler Company was the low qualified bidder with a bid of \$7,408,702. The engineer's original estimate for this bid package was \$6,646,195.

UE performed the evaluation and has issued a Recommendation to Contracting and a Detailed Bid Tabulation matrix, both of which are attached. Also attached is a copy of the Mechanical Construction I Scope of Work.

This is an approved project in the 2007 capital budget.

Staff will be at the Board meeting to answer any questions on this request.


General Manager


Date

ROCHESTER PUBLIC UTILITIES

FOR BOARD ACTION

Agenda Item # 5.a.

Meeting Date:

12/13/07

UTILITY BOARD ACTION REQUESTED:

Staff recommends that the Board approve the execution of a contract and request that the Mayor execute the same for the Mechanical Construction I per the bid specification with Moorhead Machinery & Boiler Company for a firm lump sum price of \$7,408,702.

General Manager

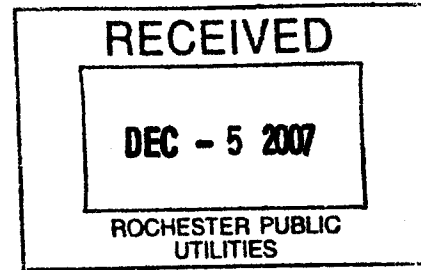
Date

ROCHESTER PUBLIC UTILITIES



901 Marquette Avenue, Suite 2900, Minneapolis, MN 55402
612.215.1300 • Fax 612.766.0360 • Web: www.ue-corp.com

December 4, 2007



Mr. Walter Schlink
Director of Power Production
Rochester Public Utilities
4000 East River Road NE
Rochester, MN 55906-2813

Subject: Silver Lake Plant Unit 4 Emissions Reduction Project
UE Project No. 012668
Recommendation for Contracting with Moorhead Machinery & Boiler
Company for Mechanical Construction I

Dear Mr. Schlink:

Utility Engineering Corporation (UE) recommends contracting with Moorhead Machinery & Boiler Company (Moorhead) to perform the scope of work included in the Mechanical Construction I bid package per their proposal dated November 16, 2007.

Bidding Process

Proposals for Mechanical Construction I were received from AZCO INC., The Boldt Company, Frank Lill & Sons, Inc., Harris Companies, Miron Construction Co., Inc., Moorhead Machinery & Boiler Company and Wrigley Mechanical, Inc.

The Request for Bid (RFB) for Mechanical Construction I was also issued to Himec Mechanical, Jamar and New Mech Companies, Inc. Himec Mechanical participated in the bid process as a joint venture partner with Harris Companies; Jamar participated as a joint venture partner with Miron Construction Co., Inc.; and NewMech Companies, Inc. declined to submit a bid.

The bid drawings and specifications were prepared to allow for a consistent bid approach that would allow for bids to be evaluated as evenly as possible. The contractors were allowed to provide options that would reduce the overall contract costs. Environmental Plant Services, Inc. and Gagnon Inc. requested and also received a copy of the RFB to assist in preparation of their bids to the above mentioned contractors.

Pre-Bid meetings were conducted on October 11, 2007 and on October 29, 2007.

Bid Evaluation & Recommendation

Proposal pricing for Mechanical Construction I ranged from \$7,324,839 to \$12,645,785 for the base scope of work and from \$7,403,452 to \$12,690,040 for the base scope of work plus options. The options included the addition of a storage annex to be located on the north side of the plant and a price reduction if the asbestos content in the north wall of the plant structure is less than 1%. (It was recently determined that the asbestos content in the north wall exceeds 1% so the deduct price for this option is no longer applicable.)

The Moorhead base bid price was \$55,161 lower than Harris Companies (Harris) base bid price. When options are included, Moorhead's total price was \$243,750 lower than Harris' bid.

Questions were prepared for Harris and Moorhead. Meetings were conducted with both bidders on November 29, 2007. Based on responses to the questions regarding their proposals, it was determined both the Harris and Moorhead offerings complied with the requirements of the bid documents.

Due to their low bid for the base scope of work and the base scope of work including options, UE recommends the award of this contract to Moorhead.

Recommended Contract Price

UE recommends the issuance of a contract to Moorhead for a firm lump-sum price of \$7,408,702 for Mechanical Construction I for the SLP Unit 4 ERP. Moorhead's base bid price is \$7,324,839 which includes a \$535,000 contingency amount, the cost of the Performance Bond of \$43,687, and the cost of \$83,863 for the boiler building annex. To ensure the timely completion of contractor submittals, UE also recommends a contract agreement for Mechanical Construction I to be executed by December 31, 2007.

Sincerely,

Roger B. Anderson LMR

Roger B. Anderson, P.E.
Senior Project Manager

Luther M. Raatikka

Luther M. Raatikka, P.E.
Senior Design Consultant, Mechanical

LMR/dlk

Enclosure

Rochester Public Utilities

Silver Lake Plant Unit 4 Emissions Reduction Project

Mechanical Package I Scope of Work

August 10, 2007

Revision A

PART 1 GENERAL

1.1 PROJECT DESCRIPTION

- A. An Emissions Reduction Project (ERP) will be performed for Silver Lake Plant (SLP) Unit 4. The purpose of the project is to control emissions of sulfur dioxide, the oxides of nitrogen and particulate matter within limits required by the facility's air permit.

1.2 MECHANICAL PACKAGE I SCOPE OF WORK

- A. Spray Dryer Absorber Installation
- B. Pulse Jet Fabric Filter Installation
- C. Booster Draft Fan Installation
- D. Flue Gas Ductwork & Supports Installation
- E. Ash Handling System Installation
- F. Lime Handling System Installation
- G. Structural Component Erection
- H. Condensate Tank Installation
- I. Service Water Piping Installation
- J. Potable Water Piping Installation
- K. Closed Cooling Water Piping Installation
- L. Condensate Transfer Piping Installation
- M. Compressed Air System Installation
- N. Ash Piping Installation

- O. Testing
- P. Walkways and Platforms
- Q. Insulation and Enclosures
- R. Painting
- S. Concrete
- T. Masonry Mortar and Grout
- U. Asbestos Abatement

1.3 RELATED SECTIONS

- | | | |
|----|-------------------------------|---------------------------------------|
| A. | Section 00001 | Project Specific Information |
| B. | Section 01320 | Submittals for Construction |
| C. | Section 01400 | Quality Assurance and Quality Control |
| D. | Section 01410 | Testing Laboratory Services |
| E. | Section 01572 | Asbestos Abatement |
| F. | Section 01600
Requirements | General Material and Equipment |
| G. | Section 01650 | Starting of Systems |
| H. | Section 01660 | Testing of Piping Systems |
| I. | Section 01700 | Contract Closeout |
| J. | Section 01730 | Demolition |
| K. | Section 03050 | Mixing and Delivering Concrete |
| L. | Section 03100 | Concrete Formwork |
| M. | Section 03200 | Concrete Reinforcement |
| N. | Section 03300 | Cast-in-Place Concrete |
| O. | Section 03390 | Concrete Curing |
| P. | Section 04065 | Masonry Mortar and Grout |
| Q. | Section 04300 | Unit Masonry System |

R.	Section 05120	Structural Steel
S.	Section 05510	Metal Stairs and Handrail
T.	Section 09900	Painting
U.	Section 09902	Field Applied Coatings
V.	Section 13120	Enclosures
W.	Section 14510	Lime Slurry Preparation System Installation
X.	Section 14550	Ash Handling System Installation
Y.	Section 15000	Piping – General Requirements
Z.	Section 15002	Piping Fabrication
AA.	Section 15080	Mechanical Systems Insulation
BB.	Section 15100	Valves
CC.	Section 15120	Piping Specialties
DD.	Section 15140	Pipe Hangers & Supports
EE.	Section 15210	Compressed Air System Installation
FF.	Section 15220	Potable Water Piping Installation
	Section 15221	Closed Cooling Water Piping Installation
HH.	Section 15222	Service Water Piping Installation
	Section 15550	Flue Gas Ductwork & Supports Installation
JJ.	Section 15830	Booster Draft Fan Installation
KK.	Section 15860	Spray Dryer Absorber Installation
LL.	Section 15861	Pulse Jet Fabric Filter Installation

1.4 ATTACHMENTS

- A. Appendix A – Utility Engineering Drawing List.
- B. Appendix B – Reference Drawing List.
- C. Appendix C – Geotechnical Report

D. Appendix D – Asbestos Abatement Plan and Inventory

PART 2 SUMMARY OF WORK (Refer to Related Sections for Detailed Requirements)

2.1 SPRAY DRYER ABSORBER INSTALLATION

A. Install new SDA and SDA enclosure consisting of :

1. Components supplied by CBEEC:
 - a. One (1) SDA vessel
 - b. One (1) SDA penthouse enclosure
 - c. Three (3) rotary atomizers
 - d. One (1) lime receiving, storage & slurry preparation system
 - e. One (1) lime slurry pump house
2. Components supplied by Mechanical Contractor:
 - a. Insulation & lagging for SDA penthouse enclosure
 - b. Insulation & lagging for SDA
 - c. Girts for SDA base enclosure
 - d. Insulated metal wall panel for base of SDA
 - e. Air, water and slurry piping and fittings

2.2 PULSE JET FABRIC FILTER INSTALLATION

A. Install new PJFF and PJFF enclosure consisting of :

1. Components supplied by CBEEC:
 - a. Ten (10) fabric filter modules with lift off top covers
 - b. One (1) top enclosure with lift off cover bridge crane and access doors
 - c. One (1) set inlet ductwork
 - d. Ten (10) inlet dampers
 - e. One (1) set outlet ductwork

- f. Ten (10) outlet dampers
 - g. Support steel
 - h. Girts for fabric filter base enclosure
 - i. Hopper vibrators and heaters
 - j. Hopper level detectors
 - k. Pulse jet air headers and control valves
2. Components supplied by Mechanical Contractor:
- a. Insulated metal wall panel for fabric filter top enclosure
 - b. Insulation and lagging for fabric filter modules
 - c. Insulation and lagging for fabric filter inlet and outlet ductwork
 - d. Insulated metal wall panel for fabric filter base enclosure
 - e. Air piping and fittings

2.3 BOOSTER DRAFT FAN INSTALLATION

A. Install all new booster draft fan and platform as follows:

- 1. Components supplied by CBEEC:
 - a. Booster draft fan
 - b. Vibration isolation platform
- 2. Components supplied by Mechanical Contractor:
 - a. Concrete for interior of vibration isolation platform
 - b. Fan bearing cooling water piping
 - c. Structural steel and girts for fan enclosure
 - d. Access doors for fan enclosure
 - e. Access platforms and walkways to and from fan enclosure
 - f. Insulated metal wall panel for fan enclosure
 - g. Lift off roof section for fan rotor removal

2.4 FLUE GAS DUCTWORK & SUPPORTS

A. Install new interconnecting duct work as follows:

1. Components supplied by CBEEC:
 - a. Transition duct between the air heater outlet and duct to the SDA inlet with access
 - b. SDA inlet duct
 - c. Ductwork between the new SDA and the new PJFF
 - d. Ductwork between the new PJFF and the new Booster Draft fan
 - e. Ductwork between the new booster draft fan and existing stack
 - f. Expansion joints as determined by vendor specifications
 - g. Duct supports as determined by vendor specifications
 - h. Ductwork turning vanes as determined by vendor specifications

2.5 ASH HANDLING SYSTEM INSTALLATION

A. Install new ash silo and ash silo penthouse enclosure as follows:

1. Components supplied by NCC
 - a. One (1) ash silo
 - b. Two (2) mechanical ash exhausters
 - c. Two (2) aeration blowers
 - d. All necessary ash piping
 - e. All necessary expansion joints
2. Components furnished by Mechanical Contractor
 - a. Air and water piping
 - b. Concrete for ash mixer elevation
 - c. Insulated metal wall panel for ash mixer area enclosure

- d. Access platform and enclosure from top of ash silo to boiler enclosure

2.6 LIME HANDLING SYSTEM INSTALLATION

A. Install new lime handling system consisting of:

1. Components supplied by CBEEC:

- a. Lime silo
- b. Bin vent filter
- c. Bin discharger
- d. Lime feeder
- e. Lime slaker
- f. Grit screen
- g. Grit screen conveyor
- h. Slurry storage tank
- i. Slurry pump house

2.7 STRUCTURAL COMPONENT ERECTION

A. Structural component erection shall include:

- 1. Erection of PJFF support platforms and support platform enclosures
 - a. All necessary support steel, bracing, girts, framed openings, doors, concrete, concrete reinforcing, and anchor bolts as determined by vendor specifications.
- 2. Erection of SDA support platforms and support platform enclosures
 - a. All necessary support steel, bracing, girts, framed openings, doors, concrete, concrete reinforcing, and anchor bolts as determined by vendor specifications.
- 3. Erection of duct support steel
 - a. All necessary support steel as determined by vendor specifications.

4. Erection of lime system support platforms, lime silo support steel, and lime silo penthouse enclosure
 - a. All necessary support steel, bracing, girts, framed openings, doors, concrete, concrete reinforcing, and anchor bolts as determined by vendor specifications.
5. Erection of ash system support steel
 - a. All necessary support steel, bracing, girts, framed openings, doors, concrete, concrete reinforcing, and anchor bolts as determined by vendor specifications.
6. Erection of walkway enclosures
 - a. Furnish girts and all necessary roof and wall panels for access walkways.
 - b. Erect all girts and roof and wall panels to enclose access walkways.

2.8 CONDENSATE TANK INSTALLATION

A. Installation of new condensate shall include:

1. Components supplied by Midwest Tank Co.:
 - Condensate Tank
2. Components supplied by Mechanical Contractor:
 - a. Insulation and lagging for exterior of tank
 - b. Level indicator
 - c. Above ground piping
 - d. Insulation and heat tracing of above ground piping

2.9 SERVICE WATER PIPING INSTALLATION

- ### A.
- Mechanical contractor shall furnish and install all above ground piping and pipe hangers required from existing plant service water system to new equipment as specified in vendor drawings. Routing of service water piping shall be in accordance with Engineer's isometric drawings.

2.10 POTABLE WATER PIPING INSTALLATION

- A. Mechanical contractor shall furnish and install all above ground piping and pipe hangers required from existing plant potable water system to new equipment as specified in vendor drawings. Routing of service water piping shall be in accordance with Engineer's isometric drawings.

2.11 CLOSED COOLING WATER PIPING INSTALLATION

- A. Mechanical contractor shall furnish and install all above ground piping and pipe hangers required from existing plant closed cooling water system to new equipment as specified in vendor drawings. Routing of service water piping shall be in accordance with Engineer's isometric drawings.

2.12 CONDENSATE TRANSFER PIPING INSTALLATION

- A. Mechanical contractor shall furnish and install all above ground piping and pipe hangers required from existing plant condensate control station to the new condensate storage tank as specified in the Engineer's drawings. Routing of service water piping shall be in accordance with Engineer's isometric drawings.

2.13 COMPRESSED AIR SYSTEM INSTALLATION

- A. Installation of compressed air system shall include:

- 1. Components supplied by CBEEC:

- a. One (1) air compressor

- b. One (1) air dryer

- Components supplied by Mechanical Contractor:

- a. All piping required for new equipment as specified in vendor drawings.

- b. All above ground piping required to tie new compressed air system into existing plant air system.

2.14 ASH PIPING INSTALLATION

- A. Installation of ash piping shall include all above ground piping and pipe hangers required to connect new PJFF hoppers and SDA hopper to new ash silo as specified in vendor drawings.

2.15 TESTING

- A. All installed piping shall be test according to Section 01666.

2.16 WALKWAYS AND PLATFORMS

- A. Installation of walkways and platforms shall include all necessary support steel, grating, checker plate, hand rails, ladders, cages and staircases as specified in vendor drawings.
- B. Mechanical contractor shall furnish all girts and roof and wall panels required for all walkway enclosures specified.

2.17 INSULATION AND ENCLOSURES

- A. Installation of insulation and enclosures shall include:
 - 1. Mechanical Contractor shall supply all necessary insulation and lagging as determined by the vendor to insulate and enclose as follows:
 - a. PJFF
 - 1) Insulate the PJFF modules and ductwork
 - 2) Enclose and insulate the PJFF hopper area
 - 3) Enclose and insulate the ends of the PJFF above the hopper area to the PJFF roof
 - 4) Enclose and insulate the PJFF support platform
 - b. SDA
 - 1) Enclose and insulate the SDA
 - 2) Enclose and insulate the SDA penthouse
 - c. Booster Draft fan
 - 1) Enclose an insulate booster draft fan
 - d. Condensate Storage Tank
 - 1) Insulate side walls and top of condensate storage tank
 - 2) Insulate above ground condensate transfer piping

e. Ductwork

- 1) Insulate transition ducts between the air heater outlet and duct to the SDA inlet
- 2) Insulate the SDA inlet duct
- 3) Insulate ducting between the new SDA and new PJFF
- 4) Insulate ducting between the new PJFF and the new booster draft fan
- 5) Insulate ducting between the new booster draft fan and the existing stack

f. Lime System

- 1) Insulate and enclose lime silo
- 2) Insulate and enclose lime silo penthouse
- 3) Insulate and enclose lime preparation pump house

g. Ash System

- 1) Insulate and enclose ash silo
- 2) Insulate and enclose ash silo penthouse

h. Walkways and Platforms

- 1) Insulate and enclose walkway from existing boiler building to SDA penthouse
- 2) Insulate and enclose walkway from existing boiler building to PJFF weather enclosure
- 3) Insulate and enclose walkway from existing boiler building to PJFF inlet

2.18 PAINTING

- A. All enclosures and exposed steel shall be painted according to vendor specifications

2.19 CONCRETE

- A. All concrete shall be provided as specified in vendor drawings.

2.20 MASONRY MORTAR AND GROUT

- A. All masonry mortar and grout shall be provided as specified in vendor drawings.

2.21 ASBESTOS ABATEMENT

- A. Asbestos abatement shall include removal of all asbestos containing materials as listed in the asbestos inventory and in accordance with the asbestos abatement plan. All asbestos abatement shall be done in a safe manner and in accordance with all federal, state and local regulations and requirements.

2.22 WORK NOT INCLUDED IN THIS CONTRACT

- A. All below ground piping and cable trays
- B. Equipment foundations
- C. Booster draft fan support columns

PART 3 CONTRACTOR REQUIREMENTS AND RESPONSIBILITY

3.1 SUPERVISION AND SUPERINTENDENCE

- A. The Contractor shall supervise and direct the work competently and efficiently, devoting such attention and applying such skills and expertise as may be necessary to perform the work in accordance with the contract documents. The Contractor shall be solely responsible for and have control over its surveying and construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work. The Contractor shall be responsible to see that the finished work complies accurately with the contract documents.

- B. The Contractor shall keep onsite a competent Project Superintendent at all times during its progress. The Project Superintendent shall not be replaced without written notice to and agreement from the City and City's Engineer except under extraordinary circumstances. The Project Superintendent shall be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the Project Superintendent shall be as binding as if given to the Contractor.

3.2 LABOR, EQUIPMENT AND MATERIALS

- A. The Contractor shall provide competent, suitably qualified personnel to survey, lay out the work and perform construction as required by the contract documents. The Contractor shall, at all times, maintain good

discipline and order at the site. Unless otherwise specified, the Contractor shall furnish and assume full responsibility for all equipment and materials, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the work.

B. All equipment and materials incorporated in the work shall be designed to meet the applicable safety standards of federal, state and local laws and regulations.

C. The Contractor shall also be responsible for the following:

1. Designate delivery dates for equipment and materials in the Project progress schedule.
2. Receive, handle, store and unload all equipment and materials supplied by the City at the site, including uncrating and storage.
3. Promptly inspect products at the time of receiving, record shortages and damaged or defective items and notify the City or Engineer.
4. Protect products from damage and exposure to elements as required.
5. Assemble, install, connect, adjust and finish equipment and materials per the Manufacturer's or Supplier's recommendations.
6. Provide inspections required by public authorities.
7. Repair or replace (at the City's discretion) items damaged by the Contractor's operations.

3.3 LAW AND REGULATIONS

A. Contractor shall give all notices and comply with all laws and regulations applicable to furnishing and performance of the work. Except where otherwise expressly required by applicable laws and regulations, neither the City nor the City's Engineer shall be responsible for monitoring the Contractor's compliance with any laws or regulations.

B. If the Contractor observes that the specifications or drawings are at variance with any laws or regulations, the Contractor shall make necessary changes authorized by the City or the City's Engineer. If

Contractor performs any work knowing or having reason to know that it is contrary to such laws or regulations, the Contractor shall bear all governmental fines, penalties and legal costs associated therewith; however, it shall be the Contractor's primary responsibility to make certain the specifications and drawings are in accordance with such laws and regulations.

- C. Minnesota state law requires anyone digging, grading or excavating to obtain a field location of all utilities. For field locations, call Gopher One call 1-800-252-1166.

3.4 USE OF PREMISES

- A. The Contractor shall confine construction equipment, storage of equipment and materials and operations of workers to the site, land and areas identified in and permitted by the contract documents, and other land and areas permitted by laws and regulations, rights-of-way, permits, easements and shall not unreasonably encumber the premises with construction equipment or materials. The Contractor shall assume full responsibility for any damage to any such land or area.
- B. During the progress of the work, the Contractor shall keep the site free from accumulations of waste materials, rubbish and other debris resulting from the work. The Contractor shall restore affected construction area to its original condition. The Contractor shall be responsible for all costs for compliance with this requirement.
- C. The Contractor shall not load, nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of adjacent property to stresses or pressures that will endanger it.

3.5 SAFETY AND PROTECTION

- A. The Contractor shall comply with OSHA 1926 – Safety and Health regulations for construction and the City's safety system.
- B. The Contractor shall coordinate their work with the City to accommodate the heavy traffic of the coal yard, ash removal and coal delivery.
- C. Employees and equipment must stay at least 16 feet away from overhead power transmission lines. If this clearance cannot be maintained, construction activities should stop and RPU should be notified immediately so appropriate action can be taken to maintain a safe work environment for all personnel. Overhead transmission

power lines are generally 30 – 35 feet above grade, but the Contractor is responsible to verify in the field.

- D. If required, the Contractor shall be responsible to notify RPU on a daily basis to let them know when, where and how long the daily work will be done near an energized power line. The Contractor shall take all reasonable steps to keep RPU apprised of work near the overhead power transmission lines and to maximize safety.
- E. When mechanical equipment is being operated near overhead power lines, employees standing on the ground may not contact the equipment unless it is located so the required clearance cannot be violated, even at the maximum reach of the equipment. Safety takes precedence. The Contractor shall be very conscious of where auxiliary equipment and vehicles are located with respect to the 16 foot clearance of each power line conductor.
- F. The safety program of the Contractor shall be submitted with the bid proposal for review by the City or Engineer. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of and provide the necessary protection to prevent damage, injury or loss to:
1. All employees, Subcontractors or agents of the Contractor on the site and other persons and organizations who may be affected.
 2. All the work, materials and equipment to be incorporated therein, whether in storage on or off the site.
 3. Other property at the site or adjacent to the site including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.
- G. The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property to protect them from damage, injury or loss and shall erect and maintain all necessary safeguards for such safety and protection.
- H. The Contractor shall notify the City's Engineer of adjacent property underground facilities and the City's facilities, when execution of the work may affect them, and shall cooperate in the protection, removal, relocation and replacement of their property. The Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all work is completed and the City's Engineer has issued a notice to the City and Contractor that the work is

acceptable except as otherwise expressly provided in connection with completion.

- I. The Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's Project Superintendent unless otherwise designated in writing by the Contractor to the City.
- J. Any work completed on premises other than the City's shall be done in accordance with the owner of the premises.

3.6 EMERGENCIES

- A. In emergencies affecting the safety or protection of persons, work or property at the site or adjacent to the site, Contractor, without special instruction or authorization from the City or the City's Engineer is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the City's Engineer prompt written notice if the Contractor believes that any significant changes in the work or variations from the contract documents have been caused. If the City's Engineer determines that a change to the contract documents is required because of the action taken in response to an emergency, a change order will be issued to document the consequences of the changes or variations.

3.7 PROJECT SCHEDULE AND PROGRESS REPORTS

- A. The Contractor shall keep and furnish to the City and the City's Engineer updated monthly schedules of the work to be performed, including critical path schedule and Monthly Progress Report of actual progress of the work performed. The Contractor shall be responsible for ensuring that performance of the work proceeds in accordance with the Project Schedule to meet Schedule Milestones.
- B. The Project Schedule shall be updated on a monthly basis in Microsoft Project or Primavera as the work progresses and shall include delay and acceleration analyses where appropriate. The Project Schedule shall be resource loaded. The Contractor shall submit a monthly report to the City by the 7th of the following month (e.g., March report due by April 7th). The monthly report shall include, as a minimum, the following: updated cash flow forecast, safety report for last month and job to-date, earned value percent complete, discussion of progress including milestones achieved and milestones planned for next month, updated schedule and four (4) to six (6) construction photos (prefer that the photos are emailed).

3.8 TEMPORARY BARRIERS AND CONTROLS

A. For protection of existing finish work, the Contractor shall:

1. Provide design, materials and installation of interior and exterior shoring, bracing or other supports as determined by the Contractor's Engineer to prevent movement, settlement or collapse of structures or elements to be demolished, including adjacent facilities or equipment, which will remain in place. Design shall be prepared by technically competent and qualified professionals and shall be submitted to the City for approval prior to the commencement of installation.
2. Protect from damage existing finish work that is to remain in place, which becomes exposed during construction and demolition. Protect floors with suitable coverings as necessary. All damage shall be repaired at the Contractor's expense.

B. For environmental protection control the Contractor shall:

1. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of hazardous or toxic substances from the Contractor's construction operations.
2. Provide equipment and personnel, perform emergency measures required to contain any spillages by the Contractor. Remove the spill or liquids contaminated by the Contractor. Excavate and dispose of contaminated earth offsite in approved locations and replace with suitable compacted fill and topsoil.
3. Take special measures to prevent harmful substances generated by the Contractor from entering public waters, sanitary or storm sewers.
4. Concrete, rubble and other materials shall not be disposed of in the river, except where approved for use as riprap.

3.9 ACCESS ROADS, PARKING AND TRAFFIC

- A. Conduct construction and demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks and other adjacent occupied or used facilities.
- B. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from the City or authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways where required by governing regulations,

authorities and as requested by the City's construction representative. The City's required access roads that may not be blocked for more than a few minutes are indicated on the attached drawings. Blockage of any roads shall be coordinated with the City 24 hours in advance of the requested blockage.

3.10 DRAWINGS

- A. The drawings listed in Appendix A – Utility Engineering Drawing List of this section, are enclosed as part of this specification. The Contractor shall furnish and install all work in accordance with this specification and as shown on the drawings and other drawings that may subsequently be furnished or approved by the City to provide greater detail.
- B. Drawings and specifications are intended to be descriptive only and any errors or omissions of details in either shall not relieve the Contractor from an obligation to install, in correct detail, all materials necessary for complete and operable systems to extent shown on the drawings and described in this specification.
- C. In the event the Contractor finds any discrepancy, errors, omissions or conflicts between the contract, other documents and the drawings, the Contractor shall refer the matter to the City immediately for clarification.
- D. Changes, additions or deletions shall be made only with written approval or instruction from the City. A separate, complete and accurate as-built file of Contractor's and Manufacturers' drawings shall be maintained by the Contractor at all times using the latest issues of drawings marked to show all subsequent data, approved deviations and critical locations determined during the course of construction. Contractor's as-built file shall be kept up-to-date throughout the project on a daily basis, and all changes shall reference the appropriate change requested and approval. The as-built file shall be turned over to the City within 30 days of the completion of construction.
- E. The arrangement of the new equipment and structure is shown on the City's drawings. Equipment and structures to be removed are shown on the demolition drawings. Pertinent equipment information is shown on Vendor drawings. Additional drawings of the existing plant equipment and facilities will be made available to the successful bidder after contract award.
- F. Contractor shall be aware that the specifications and drawings describe the minimum requirements. Components and modifications which are

not specifically referenced herein, but are obviously required to complete the work and provide the City with a finished, complete and operable project, shall be the responsibility of the Contractor. It shall also be the responsibility of the Contractor to obtain from the City or City's Engineer, in a timely manner, any additional drawings or other information deemed necessary to prepare the bid package and complete the work after contract award.

- G. After contract award, the Contractor shall be responsible for gathering and verifying all necessary as-built field information for completing the work as described herein and as shown on the drawings.

3.11 CODES AND STANDARDS

- A. All work shall be performed in accordance with all applicable local, state and federal codes, regulations, laws and standards.
- B. Codes and standards applicable to the work described in each division are listed separately within each division. The latest edition of the document in effect as of the date of the Request for Bid shall be used.
- C. Specification sections refer to codes, standards and other documents which establish product, installation and quality standards of industry-recognized associations and institutes. If there is, or seems to be, a conflict between this specification and a referenced document, the matter shall be referred to the City.

3.12 QUALITY PROGRAM REQUIREMENTS

- A. The Contractor shall have an effective Quality Assurance (QA) and Quality Control (QC) program to ensure compliance with the contract documents and specifications. The Contractor shall submit the QA/QC program to the City and the City's Engineer for review prior to commencing work.
- B. The program shall ensure that required procedures are prepared and implemented, required test/measurements are made using calibrated tools and equipment, referenced codes and standards are available for use, personnel are trained and qualified to perform the specified task as required by codes, standards and the specification deviations, defects are identified and corrected in compliance with specification requirements, and materials are procured, handled and shipped in compliance with the contract documents.
- C. The Contractor shall identify in contract documents to all Subcontractors the applicable quality requirement imposed by the Engineer's specification on the Contractor and shall ensure compliance thereto. Subcontracting of any work shall not relieve the Contractor of

responsibility for that portion of the work performed by the Subcontractor.

3.13 HOLD POINTS

- A. The City and the City's Engineer shall have the right to establish hold points for which the Contractor shall give prior notification. Hold points require the Contractor to give prior notification at least 48 hours in advance of the schedule time of performance. The City and the City's Engineer may require activities performed without prior notification and work covered prior to inspection be repeated for the City or the City's Engineer's observation at the Contractor's expense.
- B. The City or the City's Engineer will inform the Contractor of its desire to witness the event or will authorize the Contractor to proceed without witnessing the event. The above may be performed by telephone communication.
- C. A written waiver shall be issued if requested by the Contractor and agreed to by the City or the City's Engineer.

3.14 QUALITY PROGRAM INTERFACE

- A. The Contractor is subject to audits, inspections and witnessing by the City or the City's Engineer to ensure compliance with the requirements of the specification, codes and standards, drawings and the right to inspect, witness or audit and any subsequent approval by the City/Engineers, shall not relieve the Contractor of his obligation to comply with the terms and conditions of the Contract. Any request for approval of deviations or non-conformances to the contract documents shall be submitted in written form and processed in accordance with the specification. Deviations and non-conformances shall only be binding with approval by the City.

END OF SECTION



RESOLUTION

BE IT RESOLVED by the Public Utility Board of the City of Rochester, Minnesota to approve a contract agreement with Moorhead Machinery & Boiler Company and that the Mayor and City Clerk execute the agreement for

Mechanical Construction I
Emissions Reduction Project

The amount of the agreement to be SEVEN MILLION FOUR HUNDRED AND EIGHT THOUSAND SEVEVEN HUNDRED AND TWO AND NO/100 (\$7,408,702.00), and Moorhead Machinery & Boiler Company being lowest responsible bidder.

Passed by the Public Utility Board of the City of Rochester, Minnesota, this 13th day of December, 2007.

President

Secretary