

ADDENDUM NO. 2

This Addendum consists of the following **CHANGES TO THE BID DOCUMENTS FOR OFFICIAL NOTICE 14-2013:**

1. SPECIFICATION SECTION 01010:

REMOVE THE FOLLOWING:

Remove Specification Section 01010 entirely.

INSERT THE FOLLOWING:

Insert “Revised” Specification Section 01010

INSERT THE FOLLOWING:

Insert EXHIBIT “A” at the end of specification section 01010.

**2. SPECIFICATIONS FOR LINNWOOD PURIFICATION PLANT
WP-316: LINNWOOD OZONE BY PASS VALVES**

REMOVE THE FOLLOWING:

Remove page 2, “TABLE OF CONTENTS” entirely.

INSERT THE FOLLOWING:

Insert revised page 2 “TABLE OF CONTENTS”

SECTION 01010
SUMMARY OF WORK

PART 1 - SCOPE OF THE CONTRACT

1.01 CONTRACT DESCRIPTION

- A. This contract includes the furnishing and installation of all equipment, labor, supervision, materials and appurtenances for and in connection with improvements to Linnwood Water Purification Plant.

1.02 MECHANICAL IMPROVEMENTS

- A. The work covered by this part of the specification shall consist of, but not be limited to, the furnishing of all material, labor, equipment, and supervision for the following:
1. Valve #1: East Raw Water Conduit to North Coagulation Basin
 - a) Demolish and remove part of the existing concrete foundations where the old switchgear was located as indicated on the drawings.
 - b) Excavate and expose the existing valve pit and steel piping on the North and South ends of the pit.
 - c) Saw cut and remove concrete roof of the valve pit and portions of the North and South pit walls to facilitate removal of existing piping and valve. Note that existing steel pipe beyond pit is concrete encased, 12" thick approximate.
 - d) Remove existing 60" butterfly valve (BFV), Dutchman flanges and piping as indicated on the drawings.
 - e) Re-coat the interior and exterior of the existing steel piping where cut for removal.
 - f) Install new fabricated steel piping and fittings to accommodate new 60" BFV and electric operator.
 - g) Replace and repair concrete roof and walls of the valve pit and encase new pipe in concrete.
 - h) Install new electrical as required for lighting, valve operator and SCADA signal wiring.
 2. Valve #2: West Raw Water Conduit to South Coagulation Basin
 - a) Excavate and expose the existing valve pit and steel piping on the North and South ends of the pit.
 - b) Saw cut and remove concrete roof of the valve pit and portions of the North and South pit walls to facilitate removal of existing piping and valve. Note the existing pipe is concrete encased, 12" thick approximate.

- c) Remove existing 60" butterfly valve (BFV), Dutchman flanges and piping as indicated on the drawings.
 - d) Re-coat the interior and exterior of the existing steel piping where cut for removal.
 - e) Install new fabricated steel piping and fittings to accommodate new 60" BFV and electric operator.
 - f) Replace and repair concrete roof and walls of the valve pit and encase new pipe.
 - g) Install new electrical as required for lighting, valve operator and SCADA signal wiring.
3. Valve #3: Raw Water Main to Ozone
- a) Excavate, expose and remove sections of existing 120" diameter PCCP underground piping to accommodate valve installation.
 - b) Prepare bedding material for installation of new pipe and fittings.
 - c) Install new 72" Direct Bury BFV and associated PCCP fabricated pipe fittings to accommodate the valve installation.
 - d) Supply and install valve box, operator rods, extension couplings, and valve position indicator.
4. Valve #4: Ozonated Water Isolation to South Coagulation Basin
- a) Excavate, expose and remove sections of existing 90" diameter PCCP underground piping.
 - b) Prepare bedding material for installation of new pipe and fittings.
 - c) Install new 72" BFV and associated PCCP fabricated pipe fittings to accommodate the valve installation.
 - d) Supply and install valve box, operator rods, extension couplings, and valve position indicator.
5. Valve #5: Ozonated Water Isolation To North Coagulation Basin
- a) Excavate, expose and remove sections of existing 78" diameter PCCP underground piping.
 - b) Prepare bedding material for installation of new pipe and fittings.
 - c) Install new 72" BFV and associated fabricated pipe fittings to accommodate the valve installations.
 - d) Supply and install valve box, operator rods, extension couplings, and valve position indicator.

1.03 CONSTRUCTION SEQUENCE

A. Construction sequence, subject to change, is as follows:

1. Valves #1 and #5 are to be done first to allow the plant to operate while the North Coagulation Basins are out of service. This work is anticipated to be started in September of 2013 and completed by January of 2014.
2. While the pipe is opened for the valve replacement in sequence 1, an internal and external inspection and structural analysis shall be conducted for the east raw water discharge piping. See Exhibit 'A' located at the end of this specification section for the description of work to be performed.
3. Valves #2, #3, and #4 need to be done sequentially second to allow the plant to operate while the South Coagulation Basins are out of service and without Ozonation. This work is anticipated to be started in April of 2014 and completed by June of 2014. It is critical the contractor include this requirement into the overall project schedule.
4. While the pipe is opened for the valve replacement in sequence 3, an internal and external inspection and structural analysis shall be conducted for the west raw water discharge piping. See Exhibit 'A' located at the end of this specification section for the description of work to be performed.

1.04 LEAD PAINT:

A. The contractor is responsible for and shall take any and all precautions necessary for the safe removal of any existing piping and valve parts and other items containing lead based paint. The removal plan shall be submitted to and approved by the City.

1.05 QUALIFICATIONS

A. The new valves, operators, instrumentation, and all piping and fittings as specified shall be standard equipment manufactured by a company with no less than ten (10) years experience in the manufacturing of such equipment. Upon request by the Project Engineer, the manufacturer shall provide proof of such experience by providing installation lists, brochures, catalogue cuts, reference lists etc.

1.06 SPECIFICATIONS AND STANDARDS

A. All materials, general design, design loads, allowable stresses, joint design, shop fabrication and field construction shall conform to the requirements of the following latest standard specifications of any technical society, organization, or association, or to codes of local or state authorities:

1. NEC, National Electric Code
2. NEMA, Standards of National Electrical Manufacturers Association
3. IEEE, Institute of Electrical and Electronic Engineers.
4. ASTM, American Society for Testing and Material

5. EPA, United States Environmental Protection Agency
 6. AWWA, American Water Works Association
 7. AFBMA, Anti-Friction Bearing Manufacturers Association
 8. ANSI, American National Standards Institute
 9. SSPC, Steel Structures Painting Council
 10. CRSI, Concrete Reinforcing Steel Institute
 11. ACI, American concrete Institute
 12. The Wisconsin Administrative Code
 13. OSHA, U.S. Department of Labor Occupational Safety and Health Act
 14. National Electric Motor Association
 15. ACPA, American concrete Pipe Association
 16. ACPPA, American Concrete Pressure Pipe Association
- B. The contractor shall be familiar with the requirements of the above agencies. Any conflict in the contract drawings, these specifications, the contractor's design or construction methods shall result in this contractor performing in a manner which conforms to the applicable requirements.

1.07 SHOP DRAWINGS AND SUBMITTALS

- A. Within three (3) weeks after Notice to Proceed is issued, the contractor shall submit to the City of Milwaukee (City) for approval a minimum three (3) copies of all shop, fabrication, assembly, other drawings and engineering data required by the specifications; all drawings of equipment and devices offered by the contractor; all drawings showing essential details of any change in design or construction proposed by the contractor; and all necessary wiring and piping layouts. Drawings of equipment and devices shall show sufficient detail to adequately depict the construction and operation of each item.
- B. Each shop drawing shall bear City of Milwaukee, the name and location of the project, job number, the name of the contractor, the date of the drawing, the date of each correction or revision, and the specification numbers and plan sheet numbers applicable thereto.
- C. Each submittal shall cover items from only one section of the specification unless the item consists of components from several sources. Contractor shall submit a complete initial submittal including all components. When an item consists of components from several sources, contractor's initial submittal shall be complete including all components.
- D. Each submittal shall indicate the intended use of the item in the work. When catalog pages or cut sheets are submitted, applicable items shall be clearly identified and inapplicable data crossed out. The current revision, issue number, and date shall be indicated on all drawings and other descriptive data.

- E. Three (3) revised copies of each drawing shall be submitted each time a drawing is returned to the contractor for revision. Upon final approval of a drawing, eight (8) copies shall be submitted to the City for record and distribution to authorized persons.
- F. After reviewed by the City, all such drawings shall become a part of the contract documents and the work or equipment shown thereby shall be furnished and installed as shown unless otherwise required by the City. No work shall be performed or equipment manufactured until drawings have been approved. The review of drawings submitted by the contractor will be for, and will cover only general conformity to the plans and specifications and will not constitute a blanket approval of all dimensions, quantities, or details of the material or equipment shown by such drawings, nor shall such approval relieve the contractor of responsibility for errors contained therein.
- G. At the completion of work and prior to final payment, the contractor shall provide the City with six (6) sets of "as-built" drawings for the completed job showing all new equipment and piping. All concealed piping, conduit or similar items shall be located by dimensions and elevations. The contractor will be responsible for the accuracy of these drawings. Two (2) copies of the above "as-built" drawings shall be submitted in an electronic format compatible with the latest edition of MICROSTATION® (currently V8).

1.08 WARRANTY AND GUARANTEE

- A. The contractor shall furnish a written two (2) years warranty from the date of official acceptance against defective materials or workmanship before the final payment is made.
- B. During the period of two (2) years from and after the date of the final acceptance by the City of the work embraced by this contract, the contractor shall make all needed repairs arising out of defective workmanship or materials, or both, which in the judgment of the Commissioner of Public Works (Commissioner), shall become necessary during such period.
- C. Whenever defective equipment or materials are replaced, the equipment or materials shall be guaranteed for one (1) year from the date that the replacement is performing satisfactorily.
- D. If within ten (10) business days after mailing of a notice in writing to the contractor, or his agent, the said contractor shall neglect to make, or undertake with due diligence to make, the aforesaid repairs, the City is hereby authorized to make such repair at the contractor's expense; providing, however, that in case of an emergency where, in the judgment of the Commissioner, delay would cause serious loss or damage, repairs may be made without notice being sent to the contractor, and the contractor shall pay the cost thereof.
- E. The contractor shall also furnish written guarantees as required by each section. Length of time and requirements of guarantees, if applicable, are specified in each section. Each guarantee shall commence on the date of official acceptance. Final payment will not be paid until the City receives all guarantees.

1.09 EROSION CONTROL IMPLEMENTATION PLAN

- A. Section 02200 Earthwork, contains requirements for completing and submitting an Erosion Control Implementation Plan for review and approval by the City.

END OF SECTION

EXHIBIT "A"

WP-316: Raw Water Pipe Inspections
Linnwood Avenue Water Purification Plant
3000 North Lincoln Memorial Drive
Milwaukee, Wisconsin

PROJECT OVERVIEW

The Milwaukee Water Works (MWW) is seeking an internal and external inspection and structural analysis of the Linnwood Avenue Water Purification Plant's (WP) raw water discharge pipe lines.

The intent of these inspections is to perform an internal visual and external (where feasible) inspection and structural analysis of the WP raw water discharge lines at their current operating condition. Prepare documentation (visual and written) that show the condition of the lines and indicates particularly poor as well as particularly good areas, and recommendations on methods and options available to make the lines operable as close as possible to original installation conditions.

DESCRIPTION OF FACILITY

The WP is located at 3000 North Lincoln Memorial Drive in the City of Milwaukee. The plant is responsible for taking Lake Michigan water and treating it to produce drinking water for the City of Milwaukee and several surrounding suburban communities. The WP was constructed in the late thirties and started operation in 1939. These lines were the primary path for raw water to be delivered to different chemical feed points and the coagulation basins. After ozone was added to the treatment process the parts of the east piping have not been used as the path of ozone treatment bypasses around this piping going directly to the north coagulation basins. The west discharge line includes a tie-in structure where ozonated water is feed into the piping and on to the south coagulation basins.

SCOPE OF WORK

Perform the work below:

1. East Raw Water Discharge Line

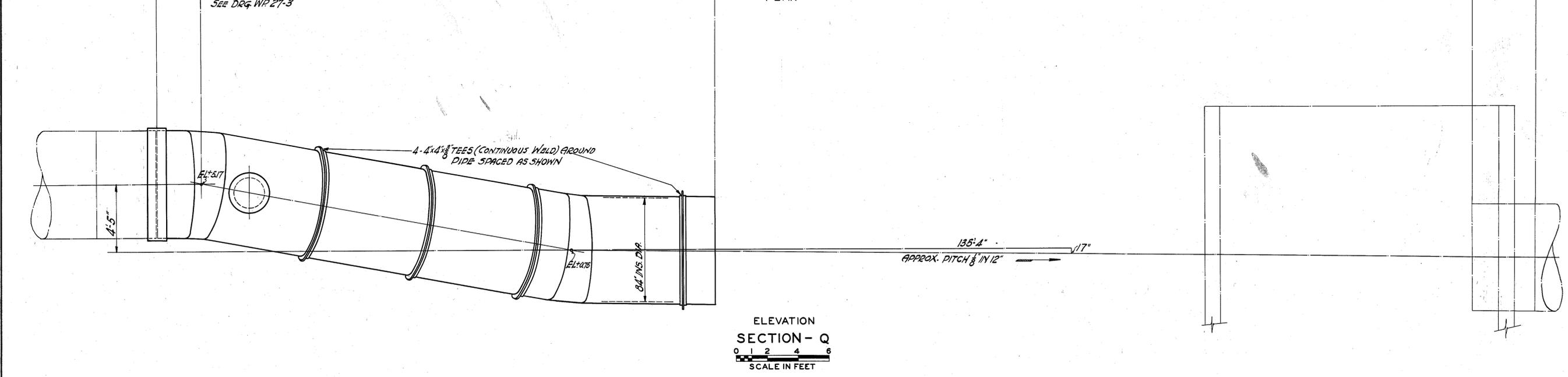
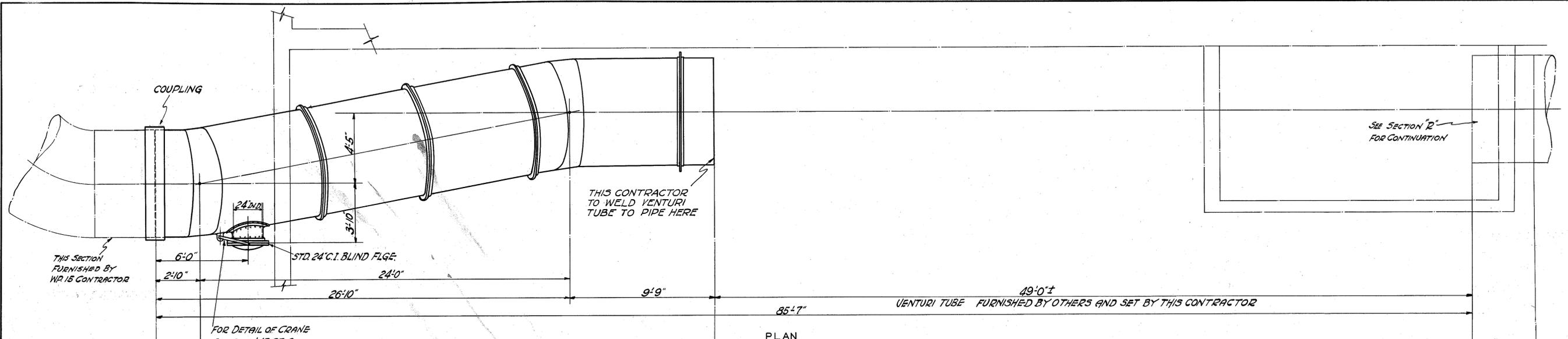
- A. The inspection and assessment of the 60" and 84" diameter raw water discharge piping from the removal point of the existing 60" diameter balance valve to the east north balance valve located in the northern part of the main pump room building; through the discharge tees for raw water pumps 4, 6, and 8; through the 90 degree bend and to the 60" diameter butterfly valve. The estimated length of this inspection is 135 feet.

- B. The inspection and assessment of the 72” and 84” diameter raw water discharge piping from the removal point of the existing 60” diameter balance valve to near the entrance to the north coag basin; through the reducers and 45 degree bends entering into the pump building; through both 90 degree bends; up to the closed 30” diameter crossover valve; passing through the 84” x 30” venture meter and ending at the 24” diameter manway access to the pipe. If inspection through the existing venture meter is not possible, the line shall be inspected up to the venture meter from each side. The estimated length of this inspection is 320 feet.

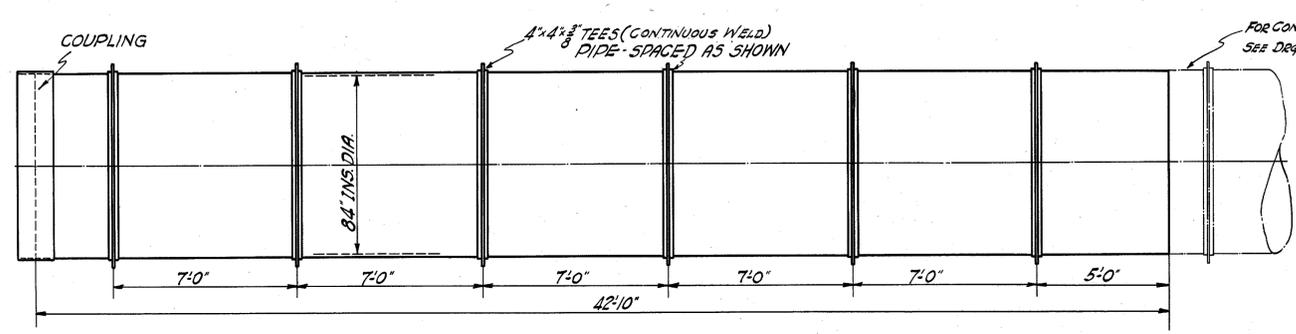
2. West Raw Water Discharge Line

- A. The inspection and assessment of the 60” and 84” diameter raw water discharge piping from the removal point of the existing 60” diameter balance valve to the west north balance valve located in the northern part of the main pump room building; through the discharge tees for raw water pumps 3, 5, and 7; through the 90 degree bend and to the 60” diameter butterfly valve. The estimated length of this inspection is 135 feet.
 - B. The inspection and assessment of the 84” diameter raw water discharge piping from the removal point of the existing 60” diameter balance valve to near the entrance to the south coag basin; through the reducers and 45 degree bends entering into the pump building; through Junction Structure ‘B’ as labeled on WP-235-10 and WP-235-11, through all bends; up to the closed 30” diameter crossover valve; passing through the 84” x 30” venture meter and ending at the 24” diameter manway access to the pipe. If inspection through the existing venture meter is not possible, the line shall be inspected up to the venture meter from each side. The estimated length of this inspection is 450 feet.
3. All inspections shall be manned and documented via video recording. A written inspection report shall be generated including footage markers of problems, total inspection footage and all relevant observations and notes. Photographs of particularly poor areas shall also be recorded and included in the report. This pipeline is a confined space and the contractor shall be responsible for all costs associated with following the proper safety and ventilation protocol.
 4. A structural analysis (pipe thickness) of all the wash water lines shall be performed via an ultrasonic inspection or another approved method for gauging pipe thickness.

5. Prepare a Report. Provide eight (8) hardcopy and one (1) electronic copy of report's final draft to MWW. At a minimum, the final report shall include the following sections:
- Introduction
 - Executive Summary
 - Sections discussing and analyzing the following:
 - a. Visual walkthrough inspection
 - b. Structural analysis (pipe thickness)
 - c. Conclusion(s) about integrity (life expectancy) of the pipes
 - d. Recommendations for repair/replacement (**3 options**)
 - e. Cost estimates for repair options
 - The Visual Inspection (**DVD format preferred**)
 - Report log for the visual inspection
 - Detailed map of the visual inspection (**Microstation V8 format preferred**)
6. The following additional drawings are attached to supplement the original reference drawings:
- WP-27-2 – Pump Piping – Clear Well Run North Half
 - WP-27-3 – Pump Piping – Bends at Clearwell
 - WP-27-7 – Pump Piping – Clearwell Run South Half



ELEVATION
SECTION - Q
0 1 2 4 6
SCALE IN FEET



SECTION - R
0 1 2 4 6
SCALE IN FEET

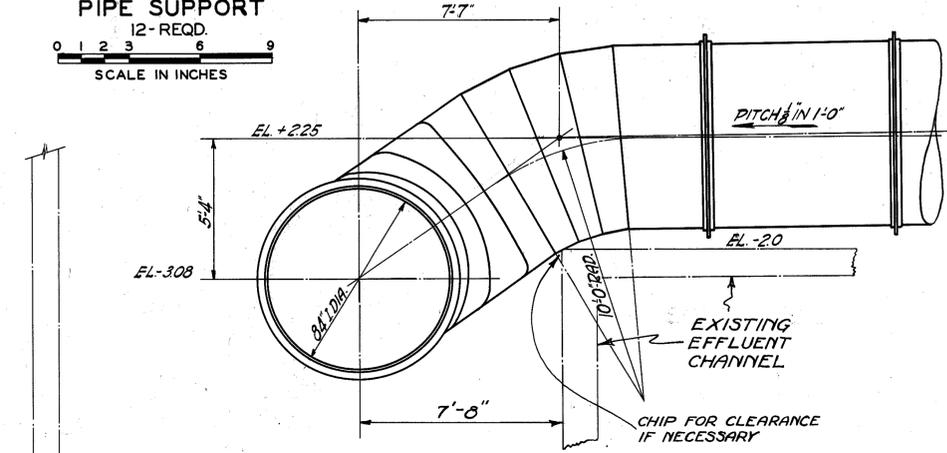
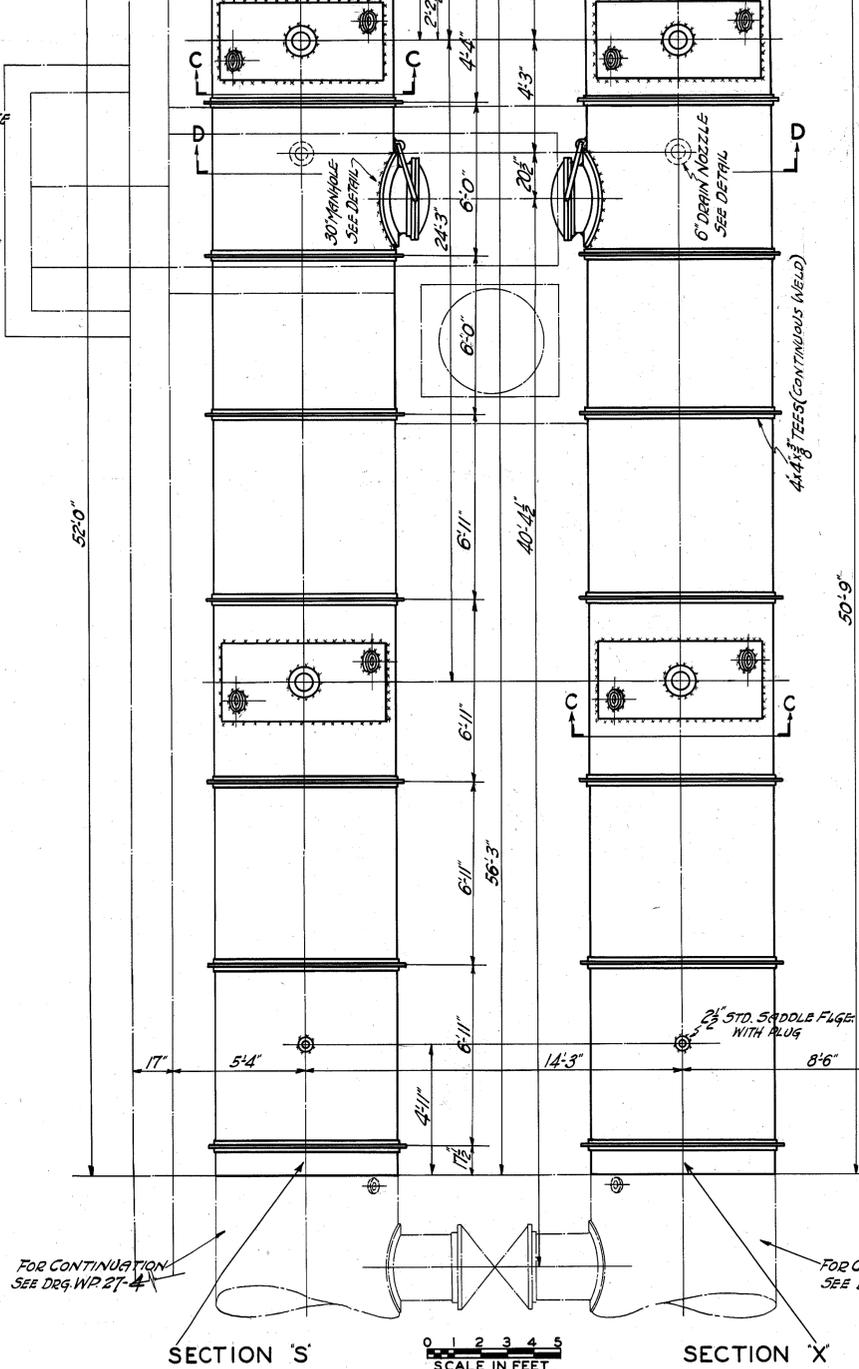
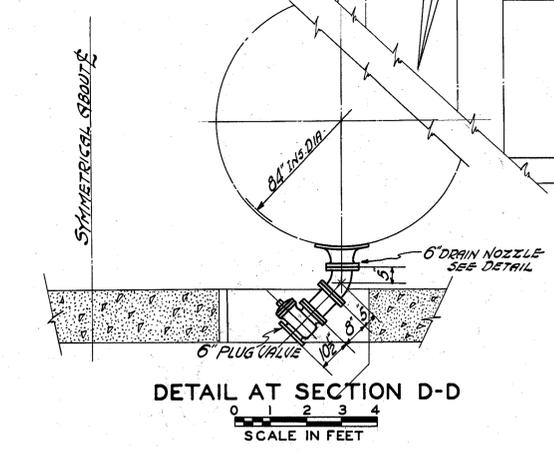
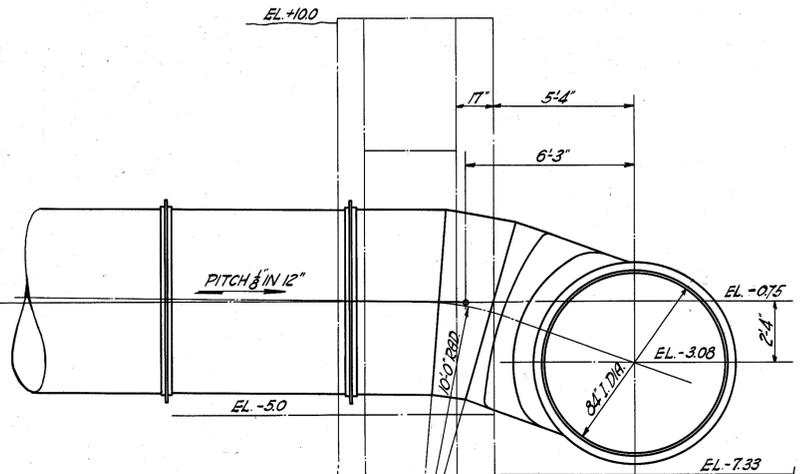
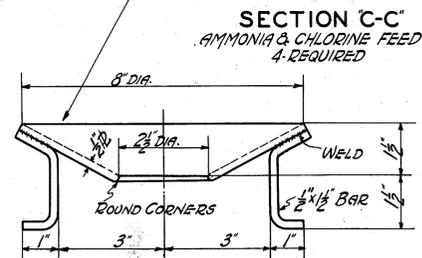
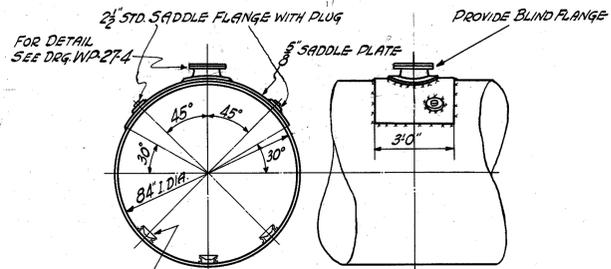
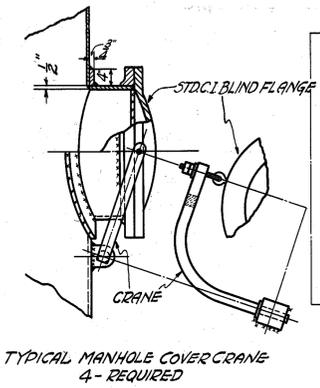
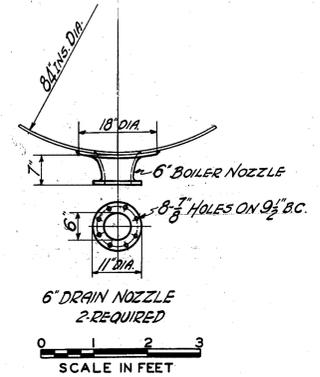
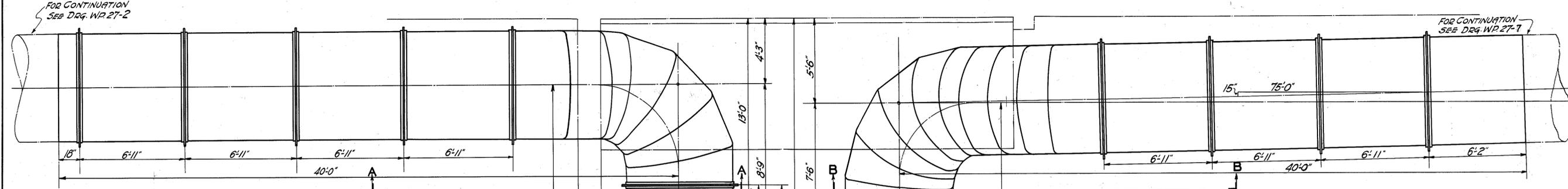
CITY ENGINEER'S OFFICE, MILWAUKEE, WIS.
MILWAUKEE WATER WORKS
WATER PURIFICATION PLANT
SUBSTRUCTURES AND PIPING
PUMP PIPING
CLEAR WELL RUN - NORTH HALF

APPROVED: *[Signature]* Consulting Engineer
APPROVED: *[Signature]* Engineer in Charge
APPROVED: *[Signature]* Comm. of Public Works
APPROVED: *[Signature]* City Engineer

DESIGNED BY E. A. HANSEN
DRAWN BY E. A. HANSEN
CHECKED BY H. LOCKHART

DATE: 7-1-36
SCALE AS SHOWN

MICROFILMED 5-28-74
FILE 3-8-4 DRWG. WP 27-2



CITY ENGINEER'S OFFICE, MILWAUKEE - WIS.
MILWAUKEE WATER WORKS
WATER PURIFICATION PLANT
SUBSTRUCTURES AND PIPING
PUMP PIPING
BENDS AT CLEAR WELL

APPROVED [Signature] ENGINEER

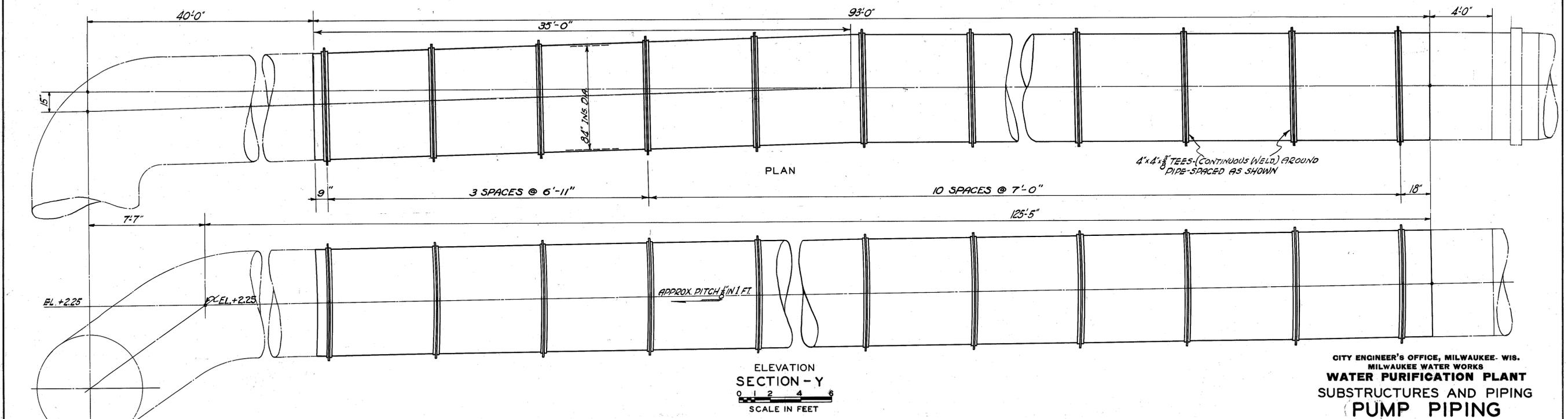
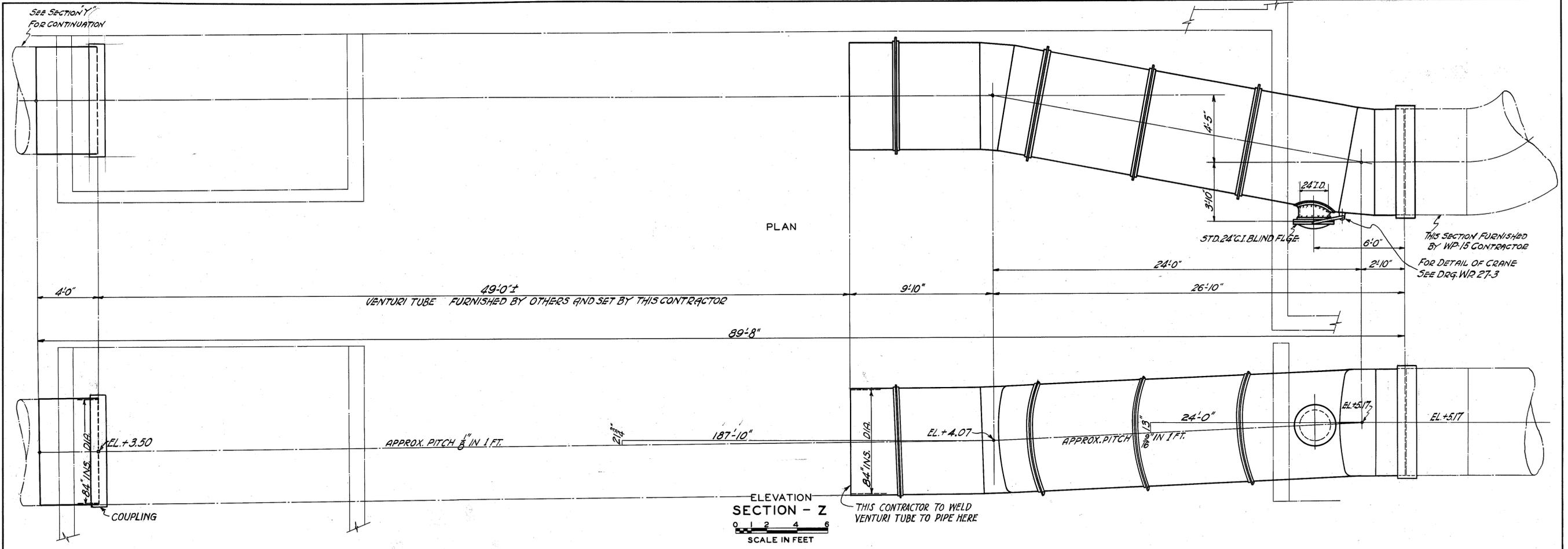
APPROVED [Signature] CHIEF ENGINEER

DESIGNED BY E. A. HANSEN
DRAWN BY E. A. HANSEN
CHECKED BY A. RYNDERS

DATE 7-1-36
SCALE AS SHOWN

FILE 3-8-4DRWG. WP 27-3

MICROFILMED 5-28-74



CITY ENGINEER'S OFFICE, MILWAUKEE - WIS.
 MILWAUKEE WATER WORKS
WATER PURIFICATION PLANT
 SUBSTRUCTURES AND PIPING
PUMP PIPING
 CLEAR WELL RUN - SOUTH HALF

APPROVED *[Signature]* APPROVED *[Signature]*

APPROVED *[Signature]* APPROVED *[Signature]*

DESIGNED BY E. A. HANSEN
 DRAWN BY E. A. HANSEN
 TRACED BY T. MORTAG
 CHECKED BY A. RYNDERS

DATE 7-1-36
 SCALE AS SHOWN

FILE 3-8-4 DRWG. WP 27-7

MICROFILMED 5-28-74

GENERAL REQUIREMENTS

- PART 1** DEPARTMENT OF PUBLIC WORKS - GENERAL SPECIFICATIONS
(The Department of Public Works General Specifications applies to all contracts.)
http://www.mpw.net/services/bids_home
- PART 2** SPECIFIC OFFICIAL NOTICE AND GENERAL OFFICIAL NOTICE
The Specific Official Notice as it appears in The Daily Reporter and General Official Notice are a part of these contract documents.
- PART 3** SPECIFICATIONS

WP-316: Linnwood Ozone By-Pass Valves

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