



BOARD OF COUNTY COMMISSIONERS

WARREN COUNTY, OHIO

406 Justice Drive, Lebanon, Ohio 45036

www.co.warren.oh.us

commissioners@co.warren.oh.us

Telephone (513) 695-1250

Facsimile (513) 695-2054

TOM GROSSMANN

SHANNON JONES

DAVID G. YOUNG

ENTER INTO CONTRACT WITH LAYNE CHRISTENSEN COMPANY FOR THE RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT

WHEREAS, pursuant to Res. 19-0077, adopted January 22, 2019, this Board approved a Notice of Intent to Award Bid for the RAR Water Treatment Plant Filter Rehabilitation Project to Layne Christensen Company, for a total bid price of \$669,500.00; and

WHEREAS, all documentation, including performance bonds, insurance certificates, etc., has been submitted by the contractor; and

NOW THEREFORE BE IT RESOLVED, to enter into contract with Layne Christensen Company, 6451 Germantown Road, Middletown, Ohio, for a total contract price of \$669,500.00; as attached hereto and made a part hereof.

Mr. Grossmann moved for adoption of the foregoing resolution being seconded by Mr. Young. Upon call of the roll, the following vote resulted:

Mrs. Jones – yea

Mr. Young – yea

Mr. Grossmann – yea

Resolution adopted this 26th day of February 2019.

BOARD OF COUNTY COMMISSIONERS

Tina Osborne, Clerk

KH\

cc: c/a—Layne Christensen Co.
Water/Sewer (file)
OMB Bid file



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TOM GROSSMANN

SHANNON JONES

DAVID G. YOUNG

**APPROVE NOTICE OF INTENT TO AWARD BID TO LAYNE CHRISTENSEN COMPANY
FOR RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT**

WHEREAS, bids were closed at 11:00 a.m., on November 8, 2018, and the bids received were opened and read aloud for the RAR Water Treatment Plant Filter Rehabilitation Project, and the results are on file in the Commissioners' Office; and

WHEREAS, upon review of such bids by Kathryn Gilbert, Staff Engineer, Layne Christensen Company has been determined to be the lowest and best bidder; and

NOW THEREFORE BE IT RESOLVED, upon recommendation of the Warren County Sanitary Engineer, that it is the intent of this Board to award the contract to Layne Christensen Company, 6451 Germantown Road, Middletown, Ohio, for a total bid price of \$669,500.00; and

BE IT FURTHER RESOLVED, that the President of the Board is hereby authorized to execute a "Notice of Intent to Award."

Mr. Grossmann moved for adoption of the foregoing resolution being seconded by Mrs. Jones. Upon call of the roll, the following vote resulted:

Mr. Young – absent

Mrs. Jones – yea

Mr. Grossmann – yea

Resolution adopted this 22nd day of January 2019.

BOARD OF COUNTY COMMISSIONERS

Tina Osborne, Clerk

KH\

cc: Water/Sewer (file)
OMB Bid file



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TOM GROSSMANN

SHANNON JONES

DAVID G. YOUNG

BID OPENING

November 8, 2018

**BID OPENING – RAR WATER TREATMENT PLANT FILTER REHABILITATION
PROJECT**

Bids were closed at 11:00 a.m. this 8th day of October and the following bids were received, opened and read aloud for the RAR Water Treatment Plant Filter Rehabilitation Project for the Warren County Water and Sewer Department:

Layne Christensen Co.
Middletown, OH

\$ 669,500.00

Kathryn Gilbert, Warren County Staff Engineer, will review bids for a recommendation at a later date.

cc: Bid File

OMB

W/S (file)

November 5, 2018

ADDENDUM #2

**RAR WATER TREATMENT PLANT FILTER REHABILITATION
PROJECT**

2 PAGES TOTAL

This Addendum No. 2 is issued to make certain revisions, additions, and clarifications to the original Contract Documents and shall be incorporated into the original Specifications. This Addendum takes precedence over any and all information previously issued. No other revisions to the Specifications are to be inferred.

SPECIFICATIONS:

- 1) Section 00100, Page 1 – BID PROPOSAL. **Delete** the words:
 - a. Substantial completion shall be within 150 days from Notice to Proceed.
 - b. Final completion, site restoration work, complete, and Contract Closeout shall be within 180 days from Notice to Proceed.

and **Replace** with the following:

- a. Substantial completion shall be within 240 days from Notice to Proceed.
 - b. Final completion, site restoration work, complete, and Contract Closeout shall be within 300 days from Notice to Proceed.
- 2) Section 00200, Page 3, Item 9 – GENERAL INSTRUCTION TO BIDDERS. **Delete** the words:
 - a. Substantial completion shall be within 150 days from Notice to Proceed.
 - b. Final completion, site restoration work, complete, and Contract Closeout shall be within 180 days from Notice to Proceed.

and **Replace** with the following:

- a. Substantial completion shall be within 240 days from Notice to Proceed.
 - b. Final completion, site restoration work, complete, and Contract Closeout shall be within 300 days from Notice to Proceed.
- 3) Section 00400, Page 3 – CONTRACT. **Delete** the words:
 - a. Substantial completion shall be within 150 days from Notice to Proceed.
 - b. Final completion, site restoration work, complete, and Contract Closeout shall be within 180 days from Notice to Proceed.

and **Replace** with the following:

- a. Substantial completion shall be within 240 days from Notice to Proceed.
- b. Final completion, site restoration work, complete, and Contract Closeout shall be within 300 days from Notice to Proceed.

- 4) Section 13220, Page 4, Item 2.4.B – GRAVITY FILTER REHABILITATION. **Delete** the words:
1. Shall be lead free brass, rated for a hydraulic working pressure of 200 psi, full flow shutoff applications, quarter turn operation, lever handle, PTFE seats and seals, and equipped with compression connections.

And **Replace** with the following:

1. Shall be lead free brass, rated for a hydraulic working pressure of 200 psi, full flow shutoff applications, quarter turn operation, lever handle, PTFE seats and seals, and equipped with NPT connections.

QUESTIONS/CLARIFICATIONS:

- 1) Warren County's standard for materials is as follows:

All Materials used shall be Domestic, made in the United States of America.

- 2) Please provide additional details/clarify method of cleaning of Tankage.

Answer: The filter tanks should be pressure washed after new nozzles are installed before new media is installed.

- 3) Section 3.7 Filter Stat-Up: What happens if the Iron or Manganese levels are higher than standard?

Answer: If the Iron or Manganese levels are higher than standard, the second phase would be delayed until the cause of the problem could be determined and corrected.

- 4) It appears that the contractors are to use 3/4" sch 80 pvc thru the wall based on plan sheet 3. Spec section 13220 page 4 only references copper pipe. I take it that all other pipe and fittings are to be copper. Is this correct?

Answer: Yes, except as noted on the drawings and specifications.

THIS ADDENDUM MUST BE SIGNED AND ATTACHED TO YOUR BID.

Acknowledged by

Date

November 5, 2018

ADDENDUM #2

**RAR WATER TREATMENT PLANT FILTER REHABILITATION
PROJECT**

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Answer: If the Iron or Manganese levels are higher than standard, the second phase would be delayed until the cause of the problem could be determined and corrected.

- 4) It appears that the contractors are to use 3/4" sch 80 pvc thru the wall based on plan sheet 3. Spec section 13220 page 4 only references copper pipe. I take it that all other pipe and fittings are to be copper. Is this correct?

Answer: Yes, except as noted on the drawings and specifications.

THIS ADDENDUM MUST BE SIGNED AND ATTACHED TO YOUR BID.

Acknowledged by

Date

October 31, 2018

ADDENDUM #1

**RAR WATER TREATMENT PLANT FILTER REHABILITATION
PROJECT**

1 PAGE TOTAL

This Addendum No. 1 is issued to make certain revisions, additions, and clarifications to the original Contract Documents and shall be incorporated into the original Specifications. This Addendum takes precedence over any and all information previously issued. No other revisions to the Specifications are to be inferred.

SPECIFICATIONS:

- 1) Section 13220 – GRAVITY FILTER REHABILITATION, Page 8, Paragraph 3.2.B.1, **Add** the following paragraph:
“1. Vactor hoses are to have only been used on potable water applications in the past.

DRAWINGS:

- 1) Sheet 5 – RAR WTP CHEMICAL FEED UPGRADES
Change the size of flexible tubing from ¼” to ½”.

QUESTIONS:

- 1) How thick is the wall of the aeration tanks to be cored through?
1’-2”
- 2) Does the allowance on the bid sheet for mag meters include delivery to the site?
Answer: Yes.
- 3) Can more than one aerator be taken out of service at one time?
Answer: A maximum of two aerators can be removed from service at one time. Each aerator can also be isolated from the others.

THIS ADDENDUM MUST BE SIGNED AND ATTACHED TO YOUR BID.

Acknowledged by

Date

RAR Water Treatment Plant Filter Rehabilitation Project

October 24, 2018

The following parties met on at 9:00 AM at the Richard Renneker WTP.

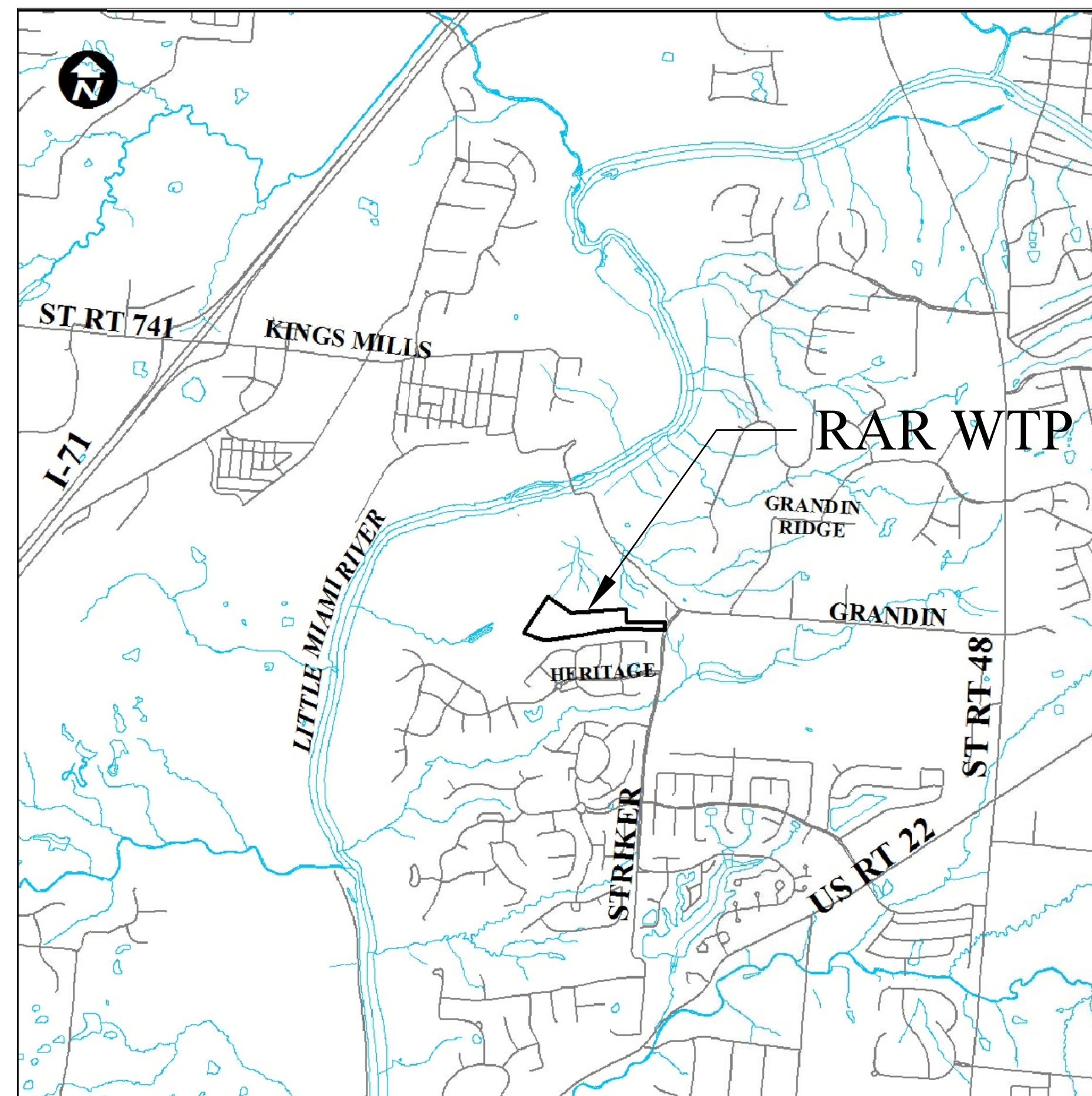
Name	Company	Phone Number	E-mail Address
Kathryn Gilbert	Warren County Water & Sewer	(513) 695-1645	kathryn.gilbert@co.warren.oh.us
John Ware	Warren County Water & Sewer	(513) 683-3687	john.ware@co.warren.oh.us
Chris Brausch	Warren County Water & Sewer	(513) 695-1193	chris.brausch@co.warren.oh.us
Peter Herlihy	Pelton Environmental	513-476-5000	PHerlihy@Peltonenv.com
Donnie Williams	Layne	502-523-9339	donnie.williams@gcinc.com
Stephanie Duke	S4 Water Sales & Service	270-781-0670	sduke@s4water.net
Cheryl Beck	S4 Water Sales and Service	270-781-0670	cbeck@s4water.net
Frank Montecasso	Triton Services	513-250-6071	fmontecasso@triton-services-inc.com
MARTY DAVIDSON	BL ANDERSON	513-609-1955	MARTY@BLANDERSON.COM
Keith Clive	S4 Water Sales & Service	270-779-8135	KClive@s4water.net
Ben Call	BL Anderson BCI	(513) 426-4865	bcall@buildingcrafts.com
Josh Langdon	MPS GROUP	937-623-2849	JLangdon@mpsgroup.com
MARK NEWKIRK	MPS GROUP	937-475-1807	MNEWKIRK@MPSGROUP.COM

WARREN COUNTY WATER AND SEWER DEPARTMENT



RICHARD RENNEKER WATER TREATMENT PLANT GRAVITY FILTER REHAB

WARREN COUNTY, OHIO
HAMILTON TOWNSHIP

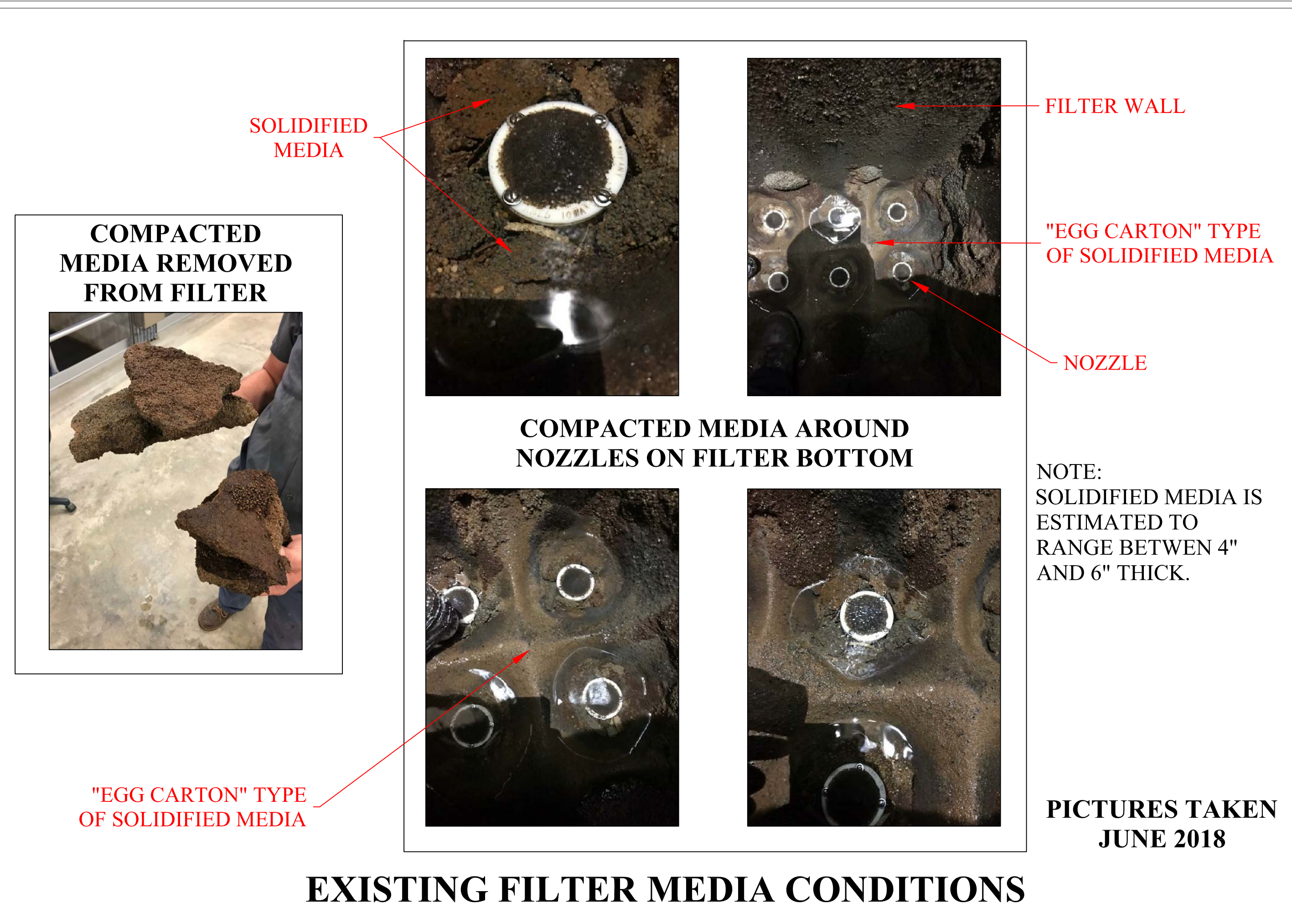
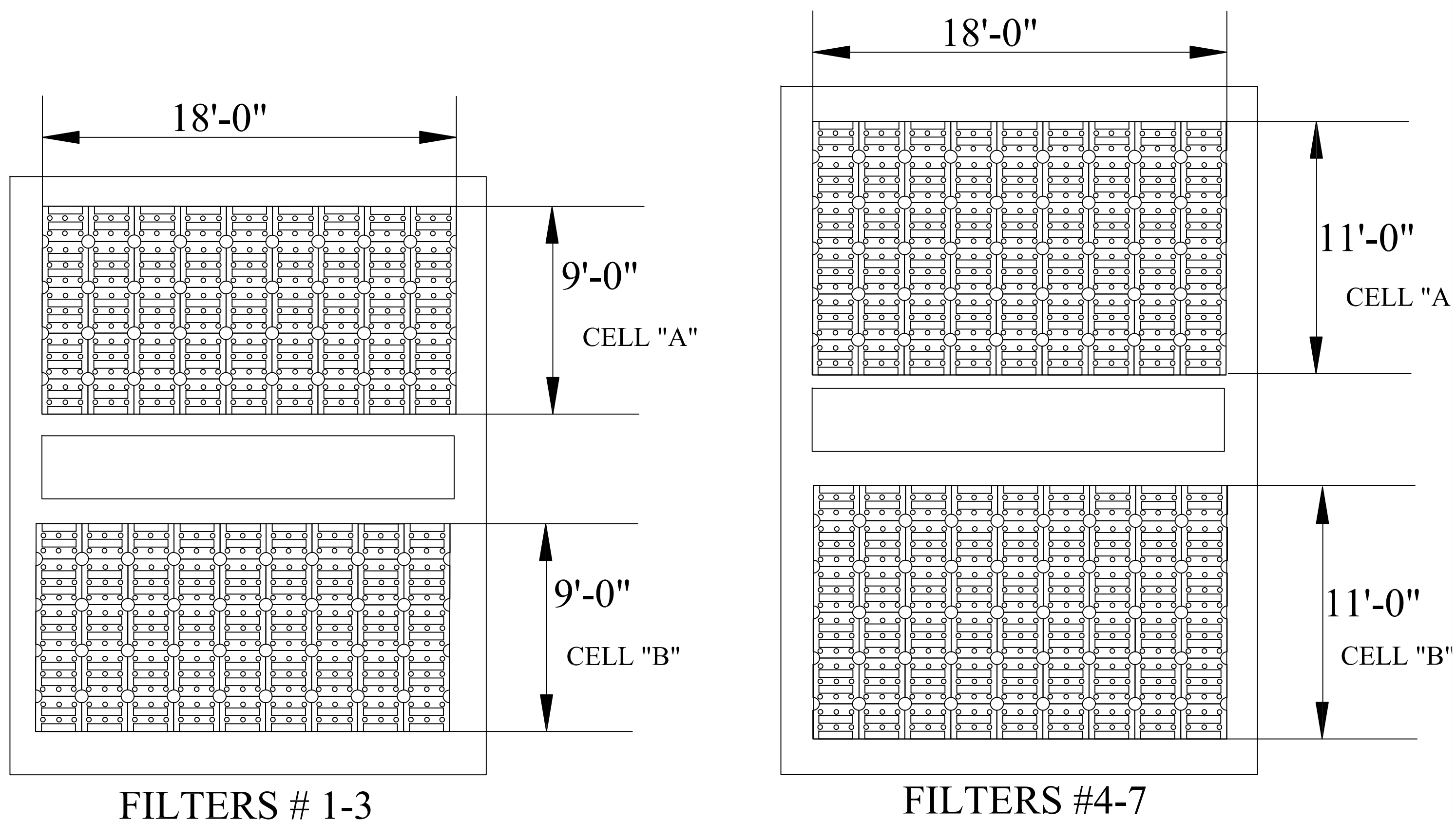


VICINITY MAP

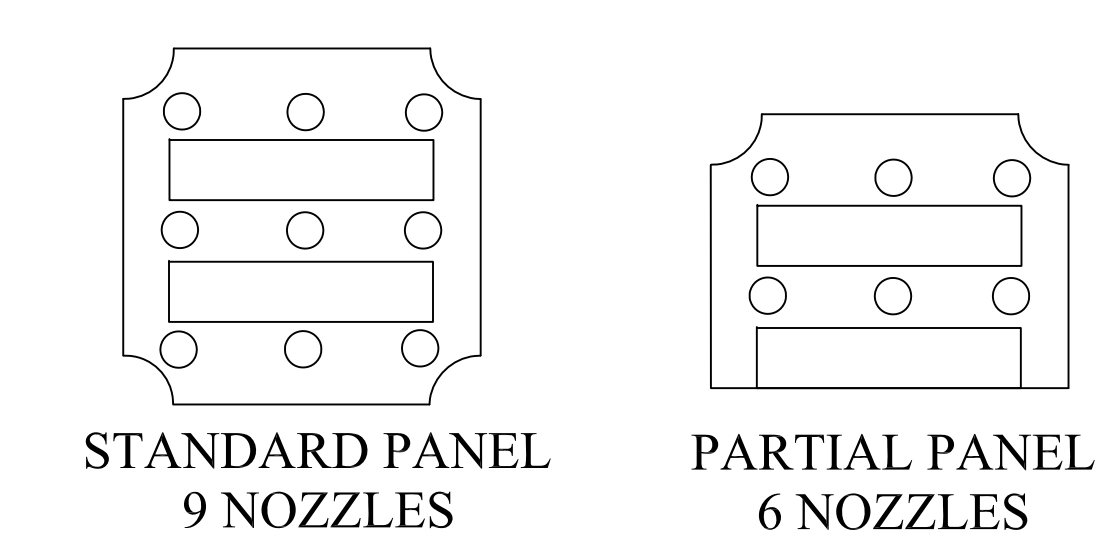
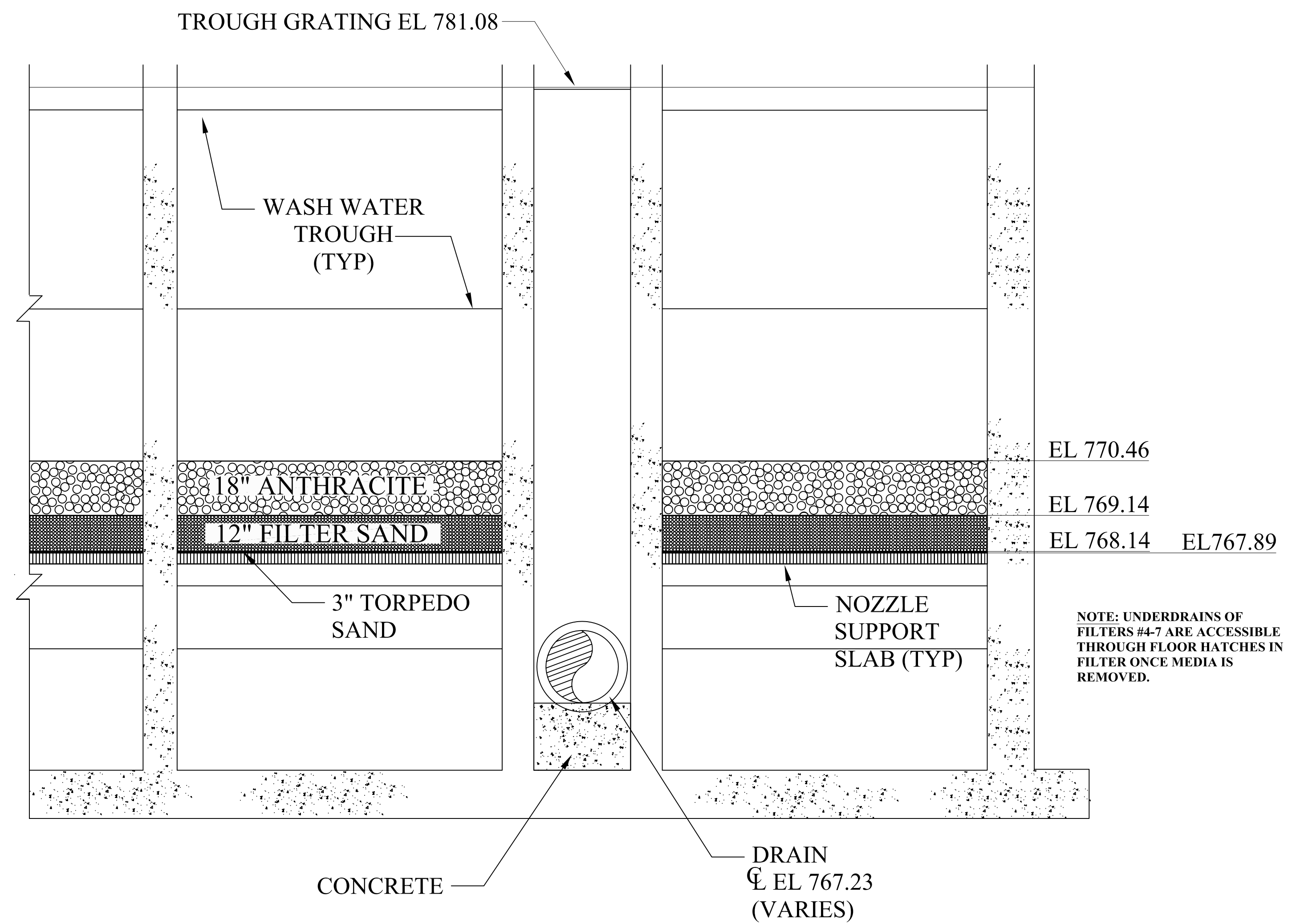
- 1 TITLE SHEET
- 2 PLAN SHEET 1 - FILTER MEDIA
- 3 DIFFERENTIAL PRESSURE PIPING
- 4 AERATORS AND DETENTION TANK PIPING
- 5 CHEMICAL FEED PIPING
- R-1 RECORD DRAWING - ABOVE
- R-2 RECORD DRAWING - PIPE GALLERY
- R-3 RECORD DRAWING - PIPING & INSTRUMENTATION DIAGRAM
- R-4 RECORD DRAWINGS - GRAVITY FILTER BUILDING EXTERIOR ELEVATIONS
- R-5 RECORD DRAWINGS - AERATORS AND DETENTION TANK

**RAR WTP FILTER
REHABILITATION**
HAMILTON TOWNSHIP
WARREN COUNTY, OHIO

Project	RAR FILTER REHAB	Sheet	1
Date	9/28/18		
Scale	NTS		
Designed By	K. Gilbert		
Reviewed By	C. BRAUSCH		



- General Notes**
1. WORK TO INCLUDE THE REMOVAL, DISPOSAL, AND REPLACEMENT OF MEDIA, NOZZLES AND DIFFERENTIAL PRESSURE TRANSMITTERS.
 2. THREE (3) FILTER UNITS (6 FILTER CELLS) MUST BE KEPT IN SERVICE AT ALL TIMES.
 3. NOZZLES & STRAINERS SHALL BE REPLACED BEFORE NEW MEDIA IS PLACED.
 4. ALL FILTERS TO COMPLETE A 30 DAY TEST PERIOD, UPON COMPLETION OF MEDIA REPLACEMENT.
 5. ALL MATERIALS SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.
 6. UNDERDRAINS OF FILTERS #4-7 ARE ACCESSIBLE THROUGH FLOOR HATCHES IN FILTER ONCE MEDIA IS REMOVED.



NUMBER OF NOZZLES				
	CELL A	CELL B	TOTAL/FILTER	TOTAL
FILTERS #1-3	351	351	702	2,106
FILTERS #4-7	432	432	864	3,456
SPARES				30
TOTAL				5592

AMOUNT OF MEDIA / CELL			
	ANTHRACITE	FILTER SAND	TORPEDO SAND
FILTERS #1-3	243 FT ³	162 FT ³	40.5 FT ³
FILTERS #4-7	297 FT ³	198 FT ³	49.5 FT ³

AMOUNT OF MEDIA			
	ANTHRACITE	FILTER SAND	TORPEDO SAND
FILTERS #1-3	1,458 FT ³	972 FT ³	243 FT ³
FILTERS #4-7	2,376 FT ³	1,584 FT ³	396 FT ³
TOTAL	3,834 FT³	2,556 FT³	639 FT³

PLUS 3 ADDITIONAL BAGS OF EACH MEDIA TYPE



WASTED MEDIA DISPOSAL AREA

No.	Revision/Issue	Date

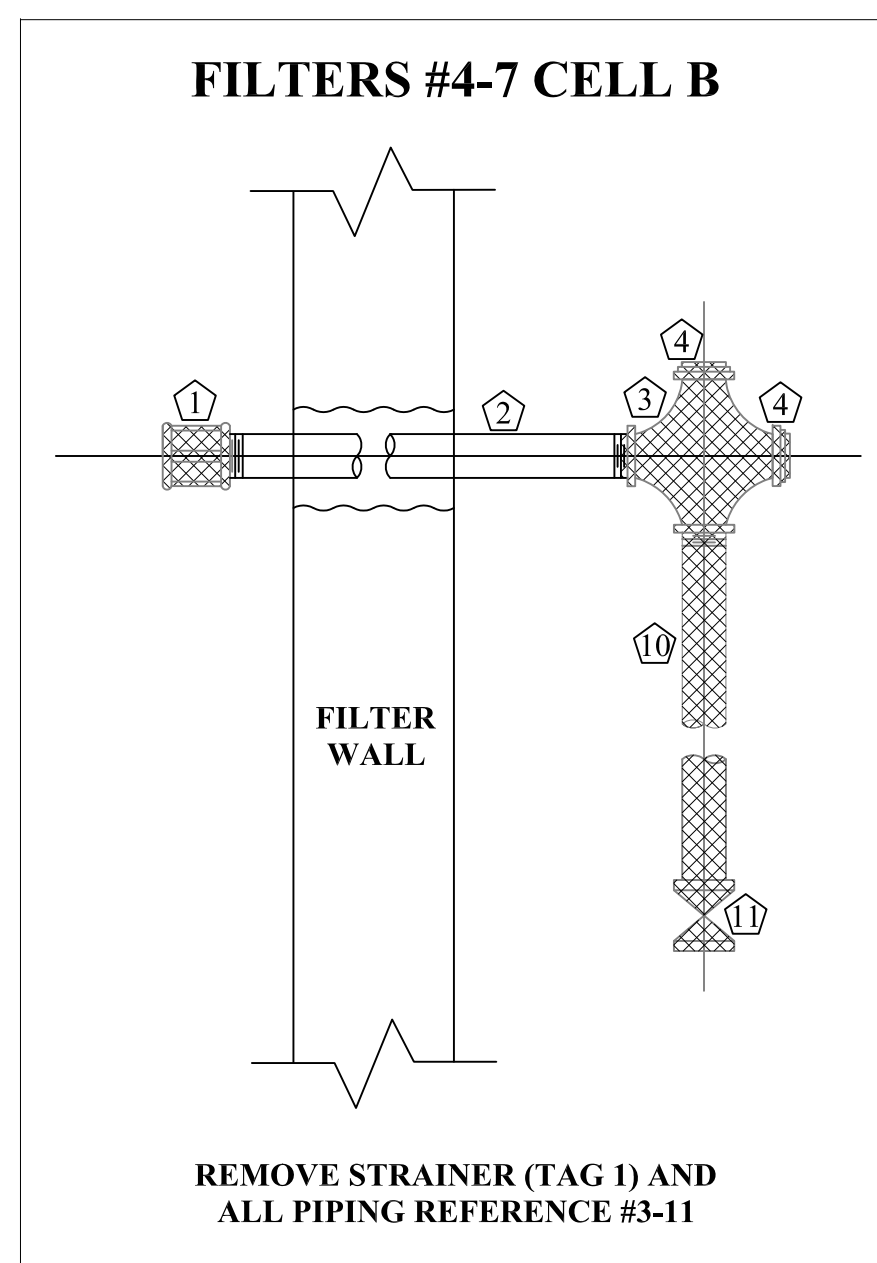
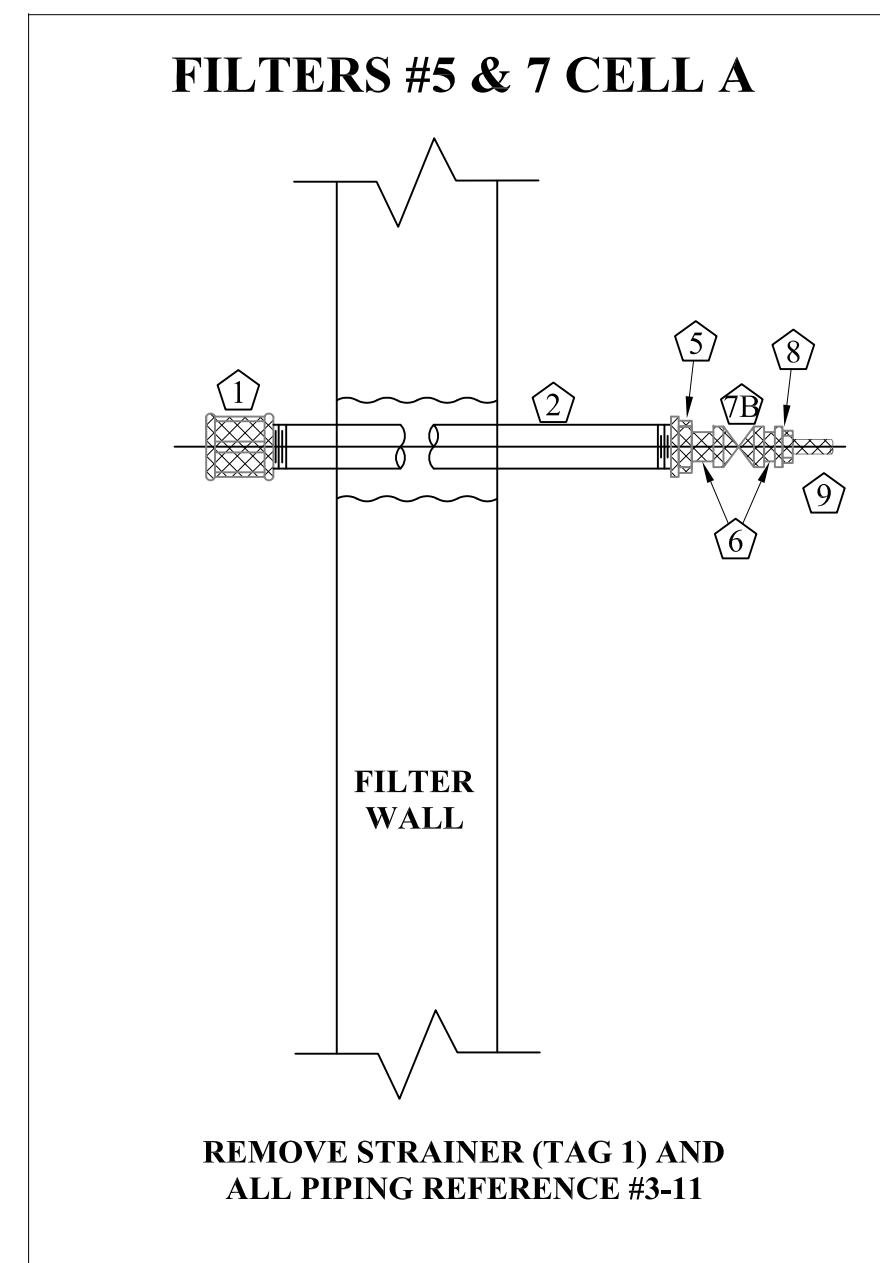
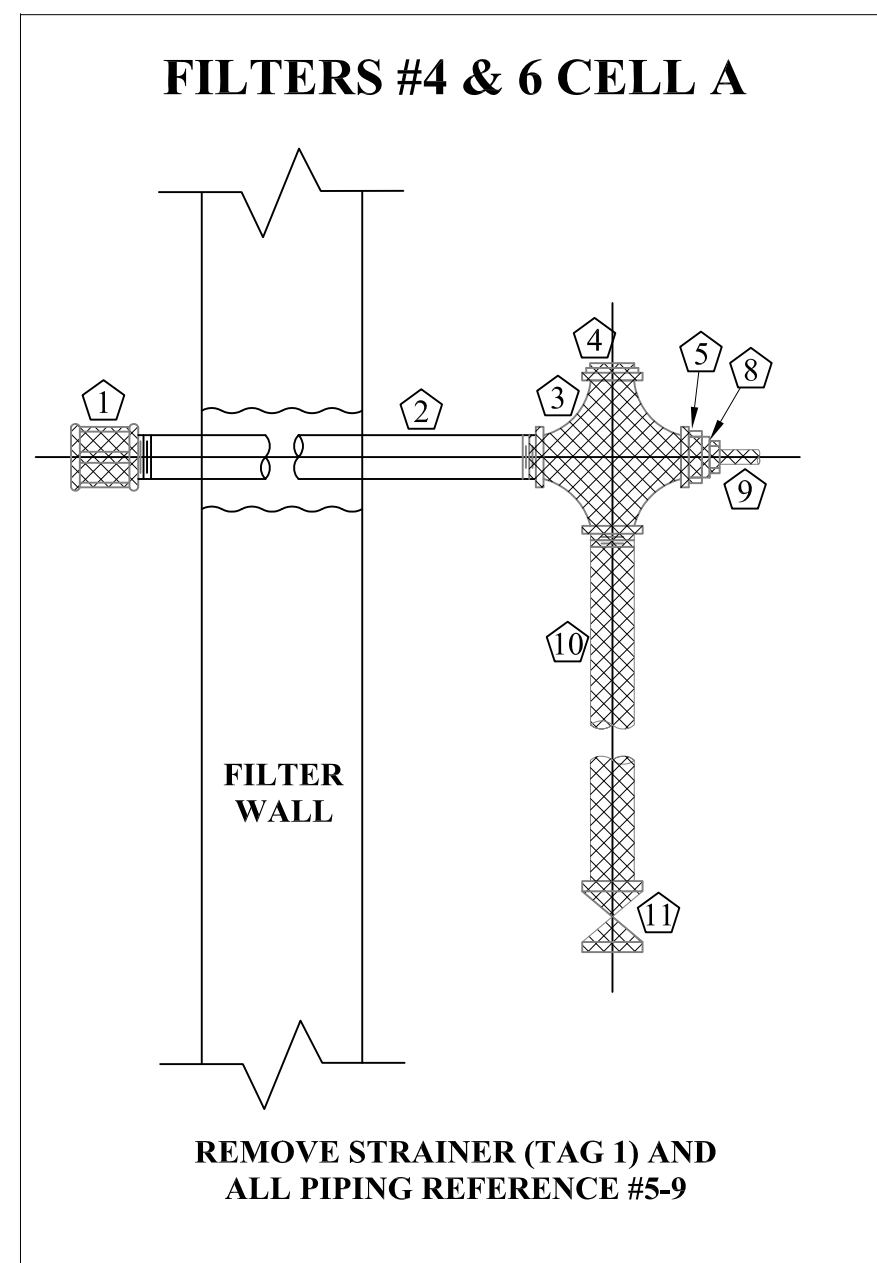
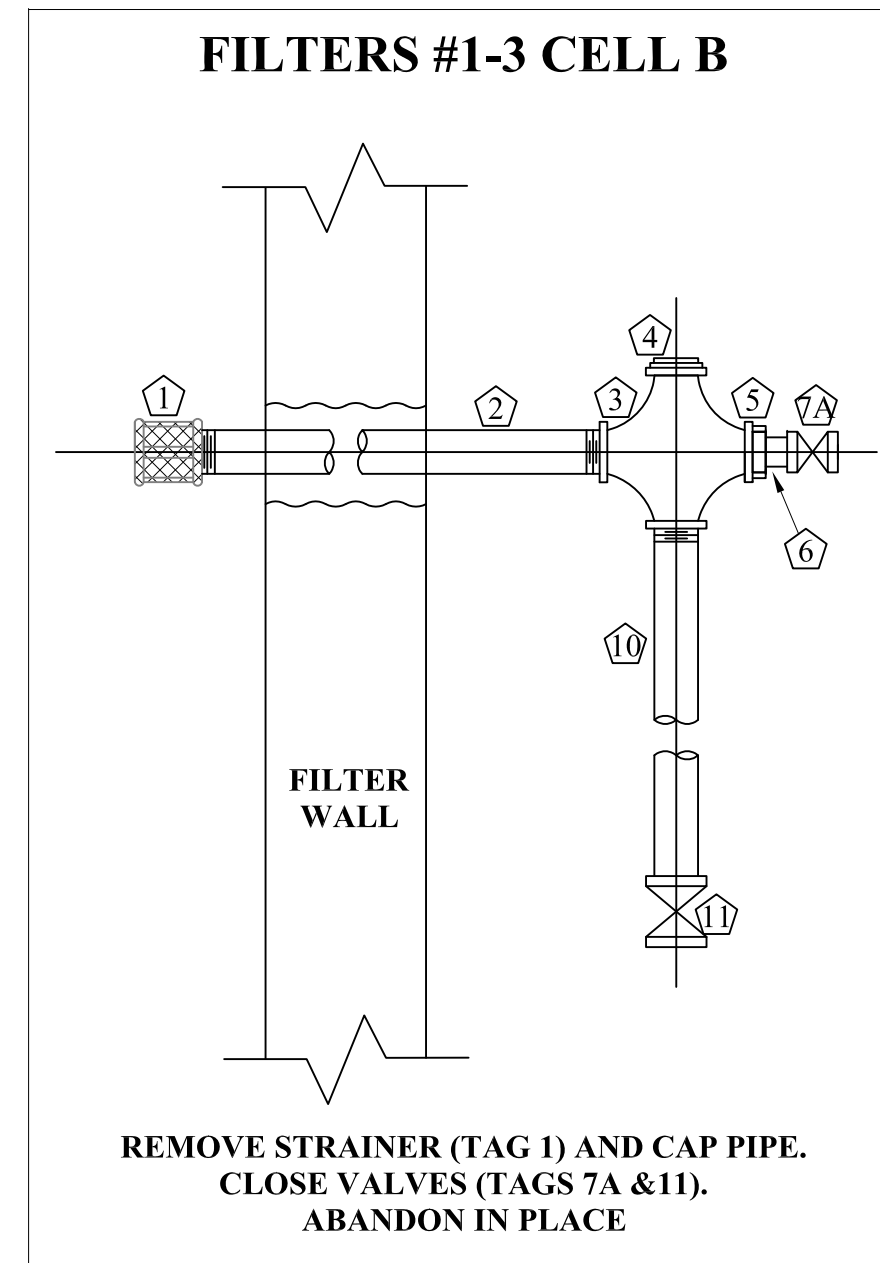
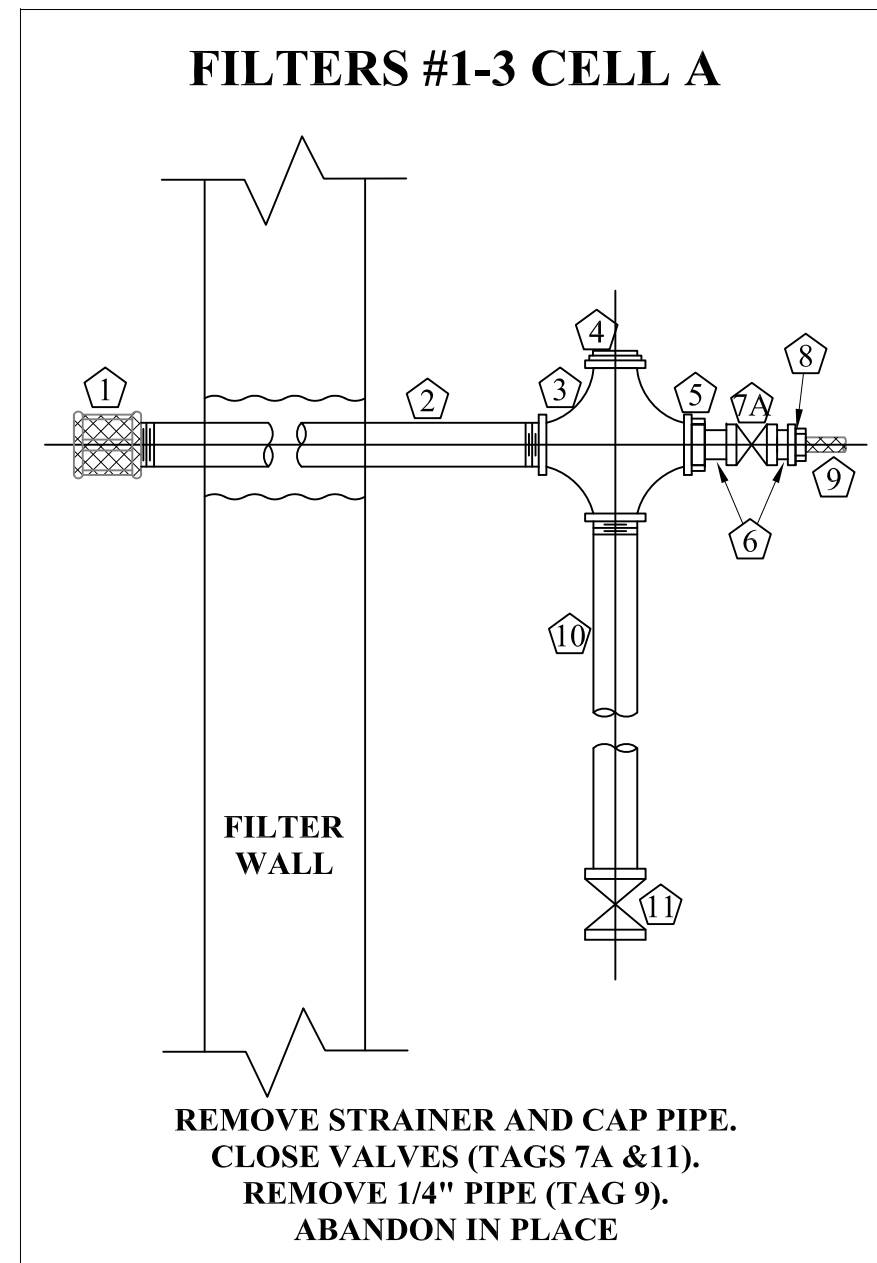
SEAL



RAR WTP FILTER REHABILITATION PLAN

Project	RAR FILTER REHAB	Sheet	
Date	9/28/18		
Scale	NOT TO SCALE		
Designed By	K. Gilbert		
Reviewed By	C. Brausch		

DIFFERENTIAL PRESSURE TRANSMITTER PIPING DEMOLITION

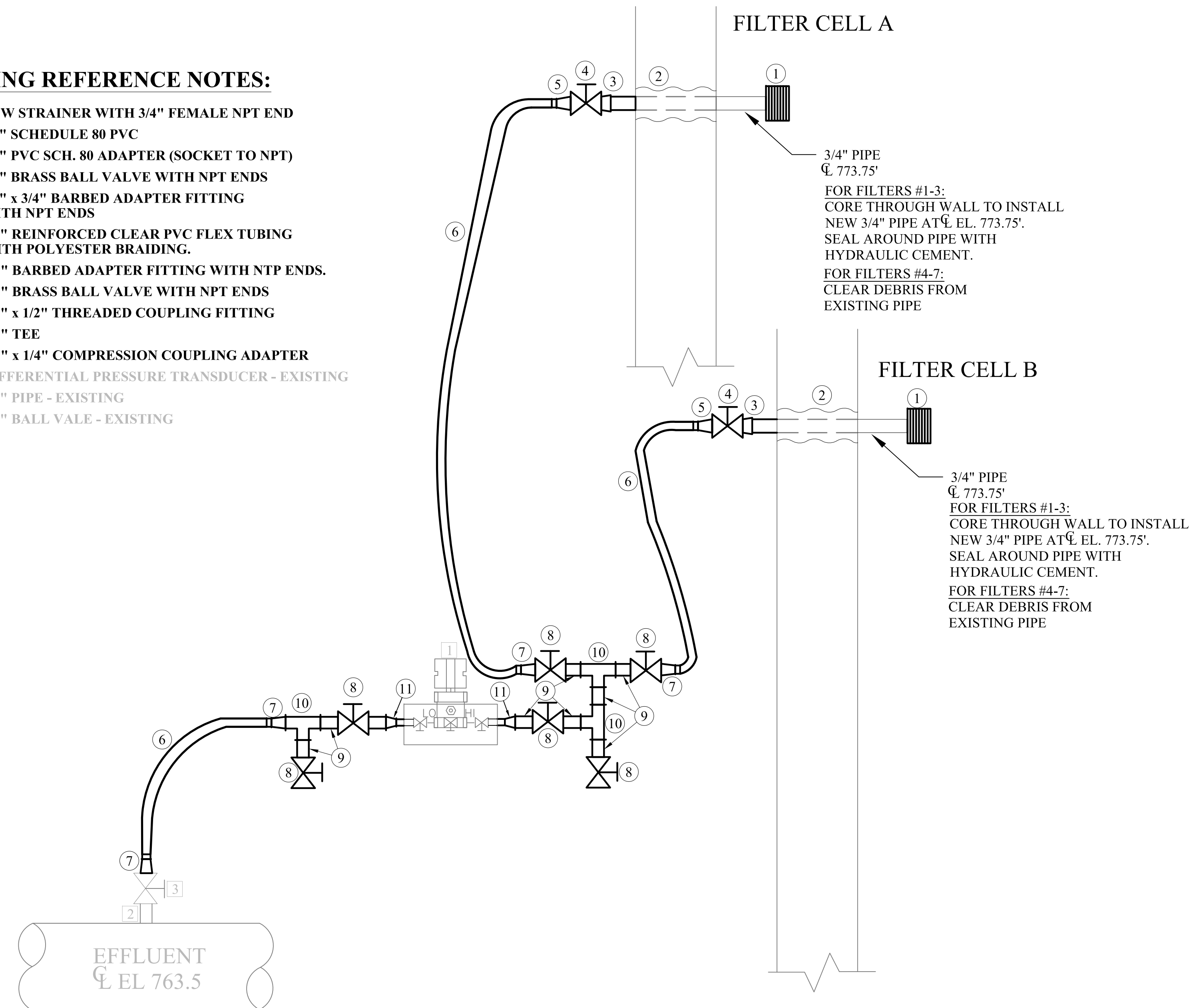


PIPING REFERENCE NOTES:

- ① STRAINER WITH 3/4" FEMALE NPT END
- ② 3/4" GALVANIZED PIPE
- ③ 3/4" CROSS
- ④ 3/4" PIPE PLUG
- ⑤ BUSHING, 3/4" X 1/2"
- ⑥ 1/2" STEEL NIPPLE FITTING
- ⑦ 1/2" GATE VALVE
- ⑧ 1/2" BALL VALVE
- ⑨ 1/2" X 1/4" REDUCING BUSHING
- ⑩ 1/4" COPPER PIPE
- ⑪ 3/4" GALVANIZED PIPE
- ⑫ 3/4" GATE VALVE

PIPING REFERENCE NOTES:

- ① NEW STRAINER WITH 3/4" FEMALE NPT END
- ② 3/4" SCHEDULE 80 PVC
- ③ 3/4" PVC SCH. 80 ADAPTER (SOCKET TO NPT)
- ④ 3/4" BRASS BALL VALVE WITH NPT ENDS
- ⑤ 1/2" X 3/4" BARBED ADAPTER FITTING WITH NPT ENDS
- ⑥ 1/2" REINFORCED CLEAR PVC FLEX TUBING WITH POLYESTER BRAIDING.
- ⑦ 1/2" BARBED ADAPTER FITTING WITH NPT ENDS.
- ⑧ 1/2" BRASS BALL VALVE WITH NPT ENDS
- ⑨ 1/2" X 1/2" THREADED COUPLING FITTING
- ⑩ 1/2" TEE
- ⑪ 1/2" X 1/4" COMPRESSION COUPLING ADAPTER
- ① DIFFERENTIAL PRESSURE TRANSDUCER - EXISTING
- ② 1/2" PIPE - EXISTING
- ③ 1/2" BALL VALE - EXISTING



General Notes

1. DIFFERENTIAL PRESSURE TRANSMITTER LOCATED IN GRAVITY BUILDING PIPE GALLERY.

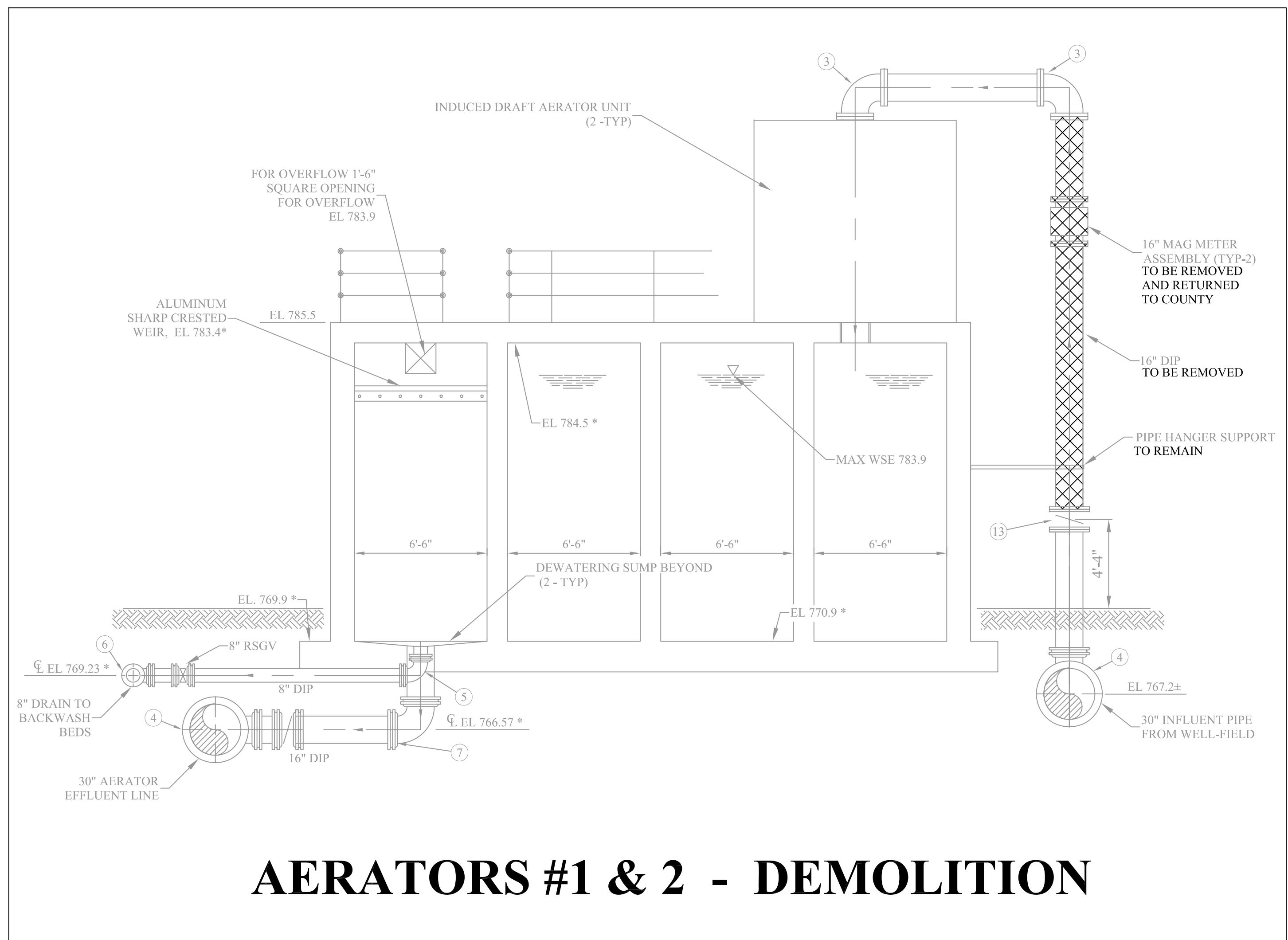
No.	Revision/Issue	Date

SEAL

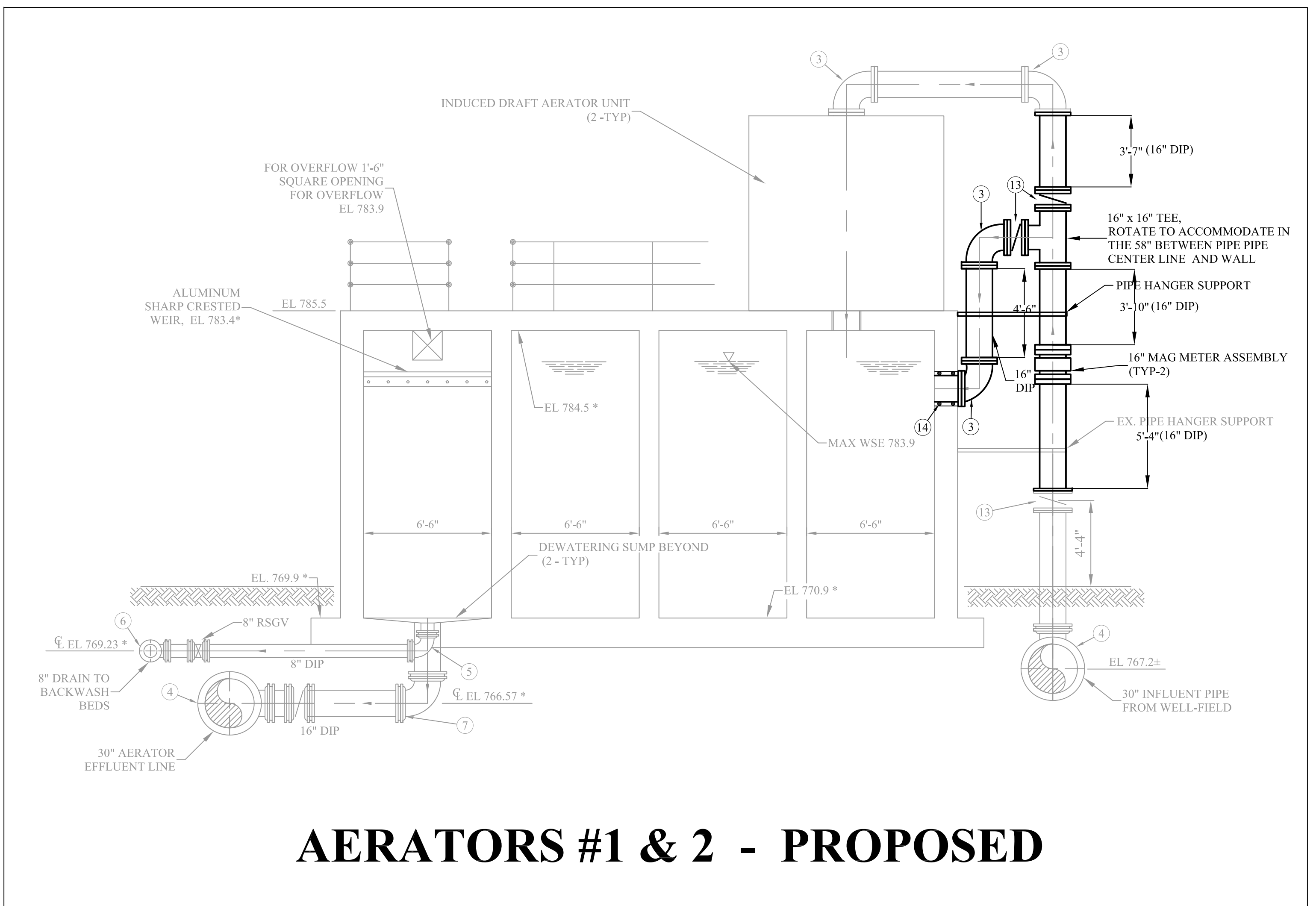


**DIFFERENTIAL
PRESSURE PIPING
DEMOLITION & PLAN**

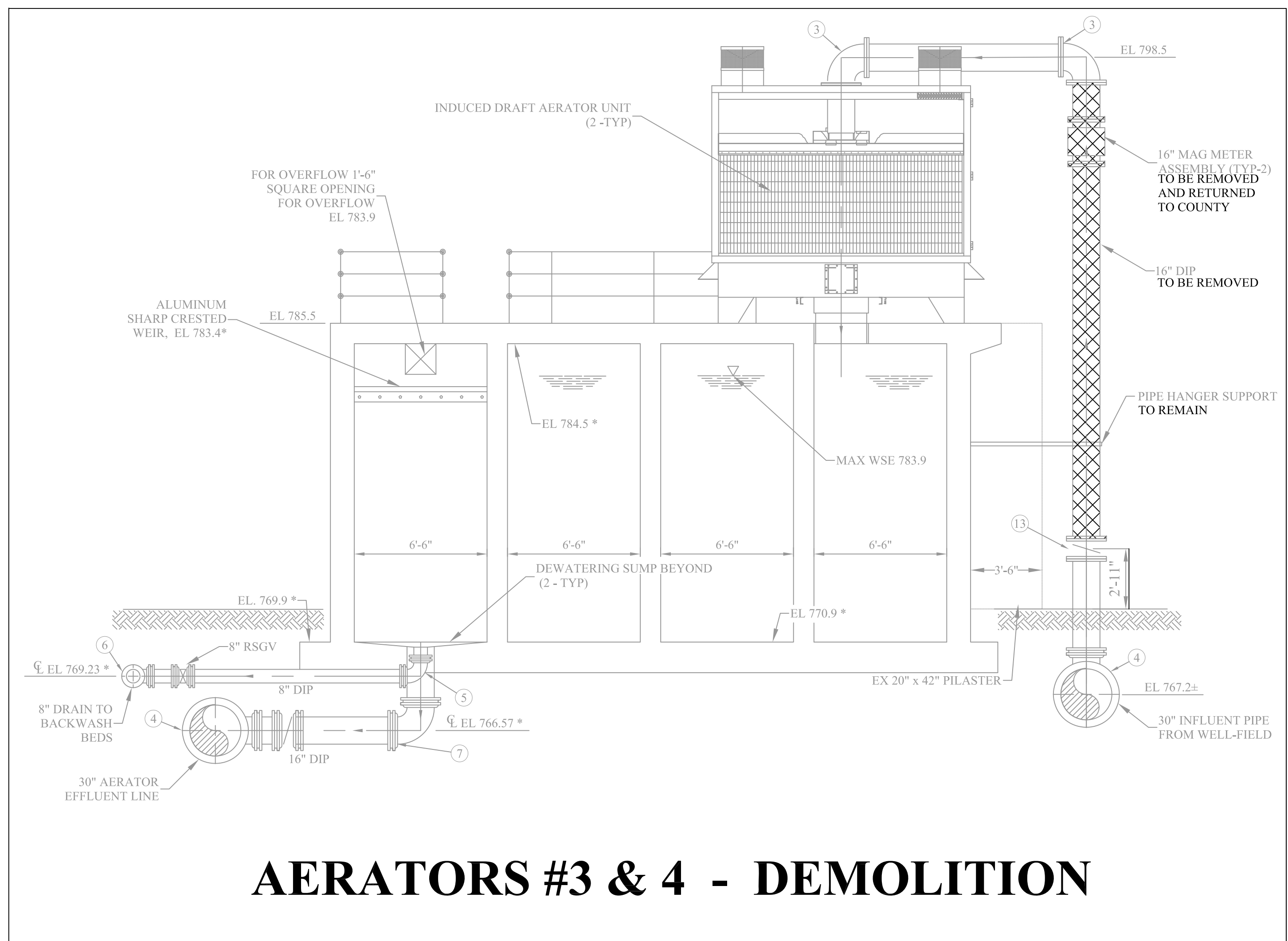
Project RAR FILTER REHAB	Sheet
Date 9/28/18	3
Scale NTS	
Designed By K. Gilbert	
Reviewed By C. Brausch	



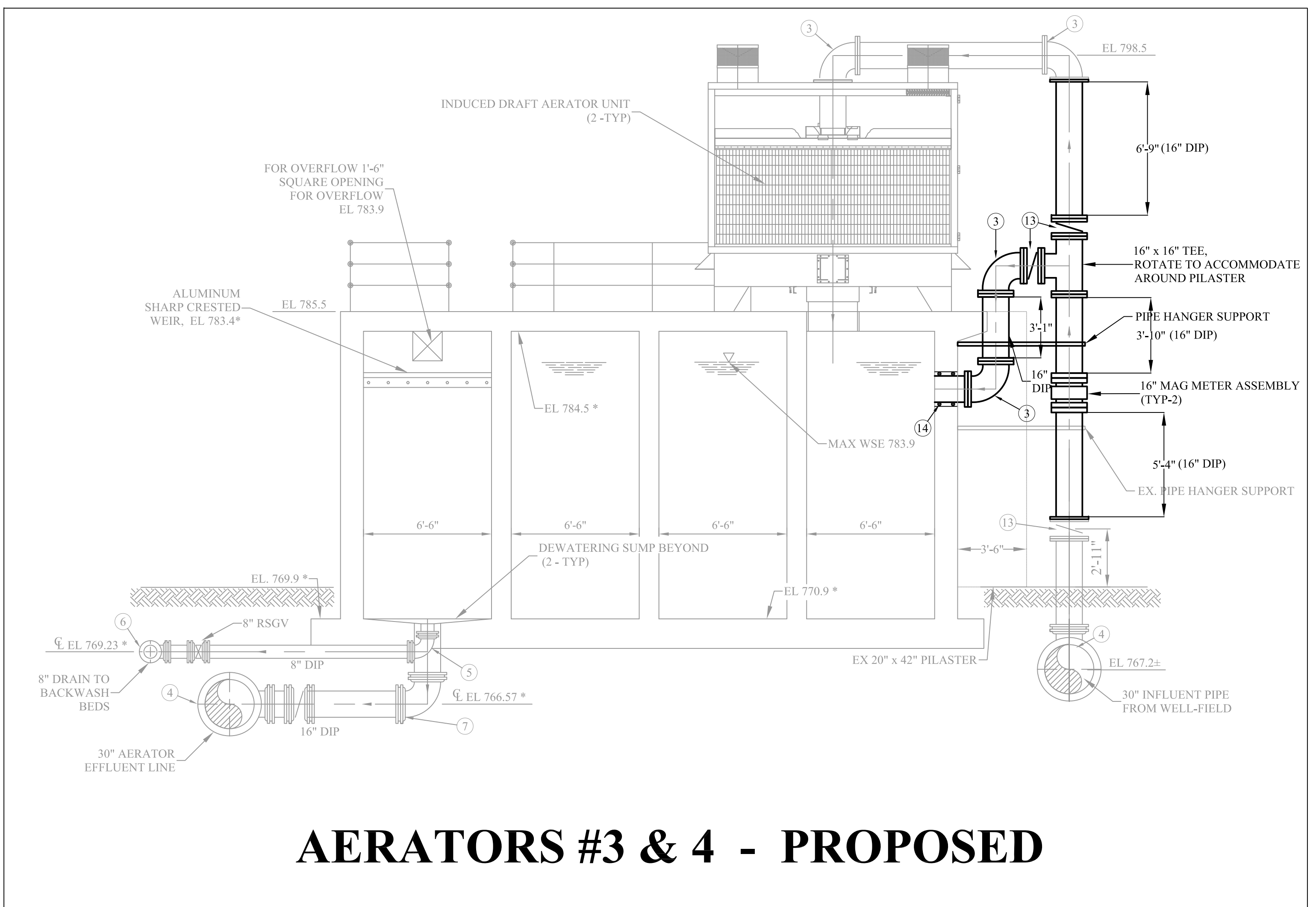
AERATORS #1 & 2 - DEMOLITION



AERATORS #1 & 2 - PROPOSED



AERATORS #3 & 4 - DEMOLITION



AERATORS #3 & 4 - PROPOSED

- Notes**
- 6" DI FL 90° ELBOW
 - 12" DI FL 90° ELBOW
 - 16" DI FL 90° ELBOW
 - 16" x 30" x 30" DI MJ TEE
 - 8" DI MJ 90° ELBOW
 - 8" x 8" DI MJ TEE
 - 16" DI MJ 90° ELBOW
 - 30" DI MJ 90° ELBOW
 - 30" DI MJ PLUG
 - 16" x 16" TEE
 - 30" x 16" REDUCER
 - 30" x 30" TEE
 - 16" FL BFV
 - LINK-SEAL PIPE PENETRATION

- GENERAL NOTES**
- REWORK ELECTRICAL CONDUIT TO ACCOMMODATE FOR LOCATION OF NEW MAG METER ASSEMBLY.
 - ALL NEW PIPE SHALL BE PAINTED TO MATCH EXISTING COLOR AND FINISH
 - ALL NEW BUTTERFLY VALVES SHALL BE EQUIPPED WITH CHAIN OPERATORS.

No.	Revision/Issue	Date

SEAL



**AERATORS AND REACTION TANKS
PIPING MODIFICATIONS**

Project	RAR FILTER REHAB	Sheet	4
Date	9/28/18		
Scale	1/5" = 1'-0"		
Designed By	K. Gilbert		
Reviewed By	C. Wojnicz		

General Notes

- 1/4" FLEXIBLE TUBING TO BE ONE CONTINUOUS PIECE FROM CHEMICAL BUILDING TO CHEMICAL MANHOLE C-7 WITH A SECOND CONTINUOUS PIECE FROM MANHOLE C-7 TO THE CHEMICAL INJECTION MANHOLE.
- FLEXIBLE TUBING CONNECTION TO OCCUR IN CHEMICAL MANHOLE C-7 ONLY.
- FLEXIBLE TUBING TO BE 1/4" BRAIDFLEX 70N PVC TUBING IN 250 FT ROLL LENGTHS OR APPROVED EQUAL.
- ENTIRE 250 FT OF BRAIDFLEX TUBING SHALL BE PULLED THROUGH 6" PIPE, WITH EXCESS COILD IN MANHOLE C-7 AND THE CHEMICAL INJECTION MANHOLE.
- ALL PIPING FROM MANHOLE C-7 TO CHEMICAL INJECTION MANHOLE SHALL BE INSTALLED OUTSIDE OF PAVEMENT.

No.	Revision/Issue	Date

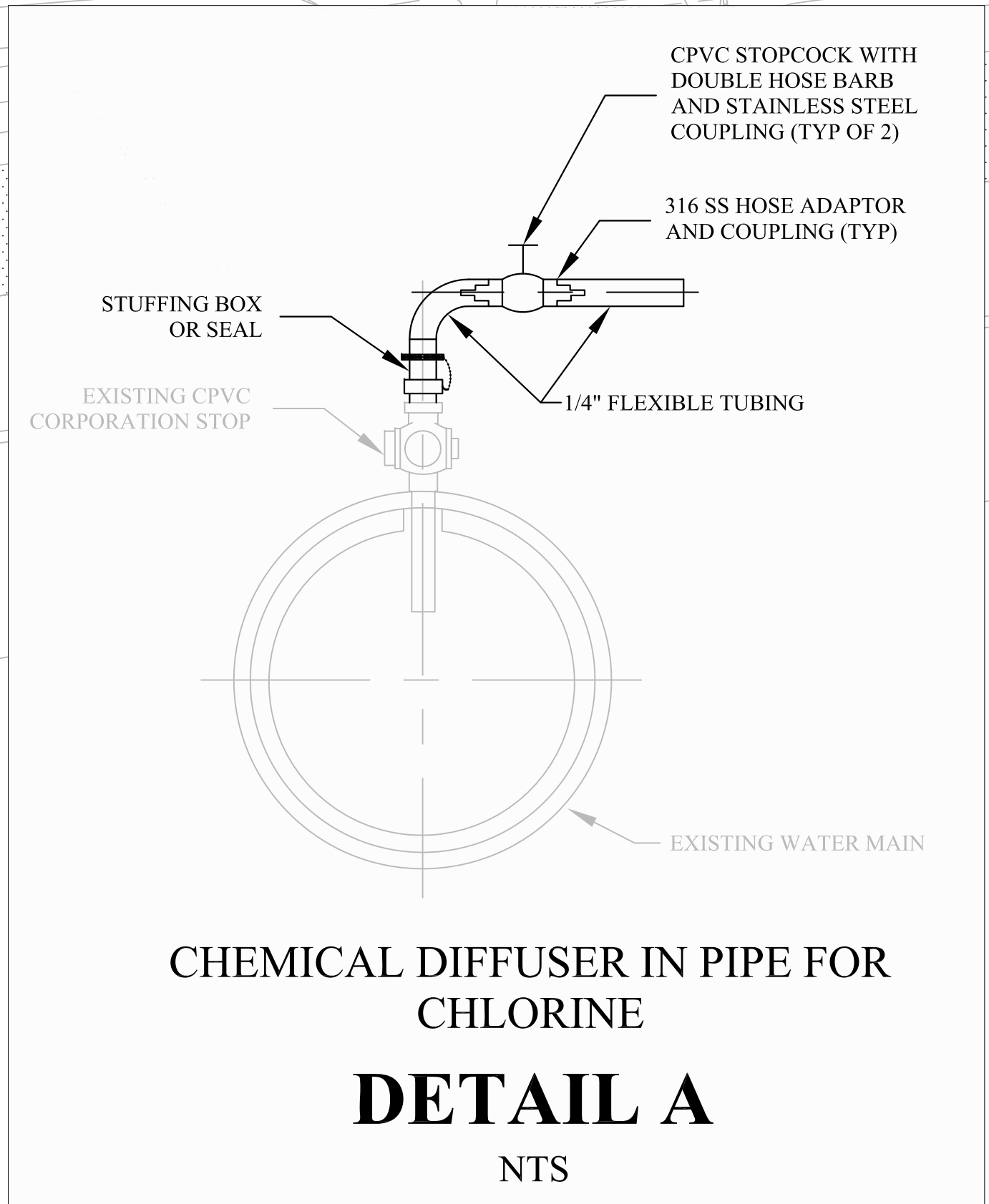
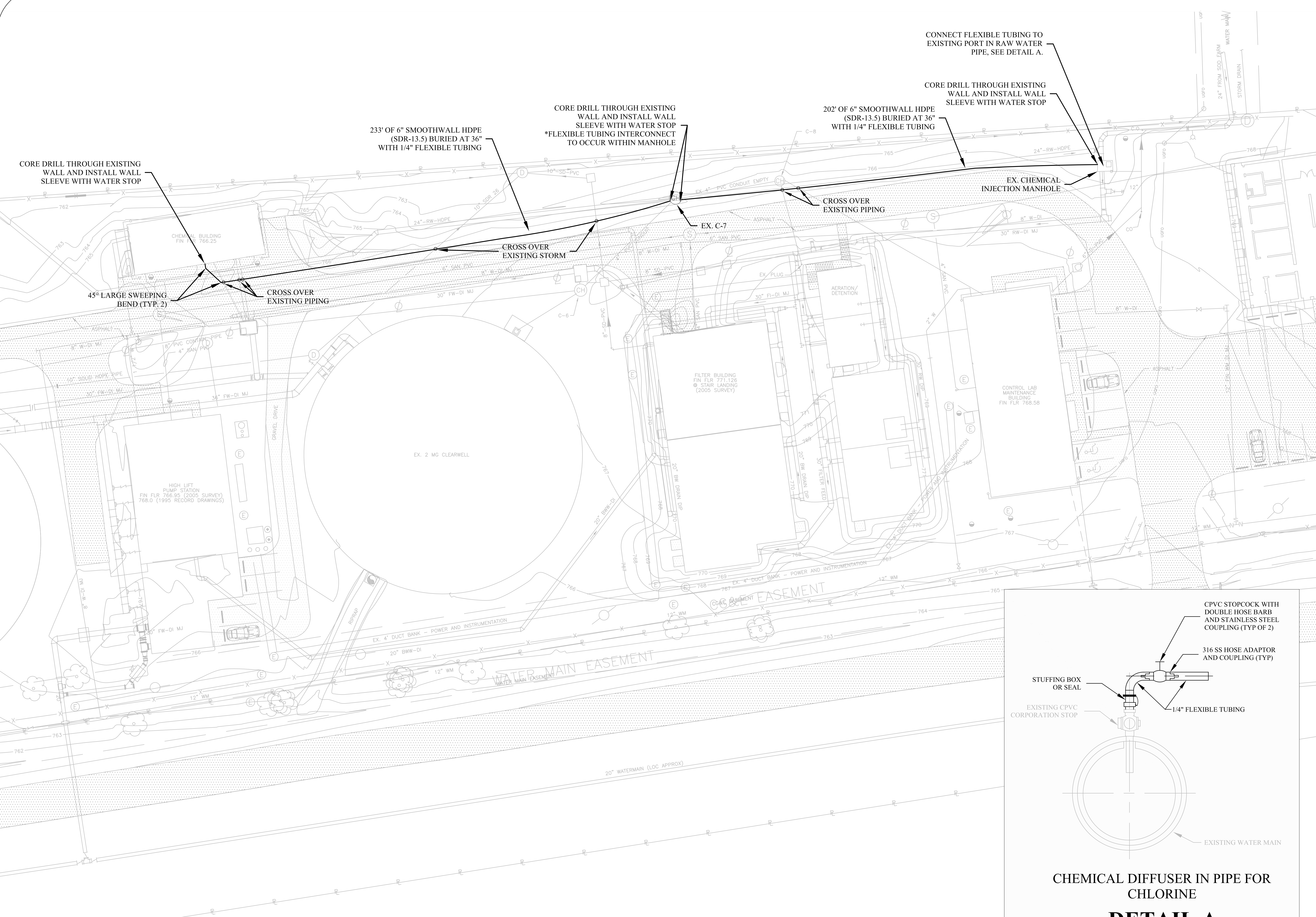
SEAL



RAR WTP CHEMICAL FEED UPGRADES

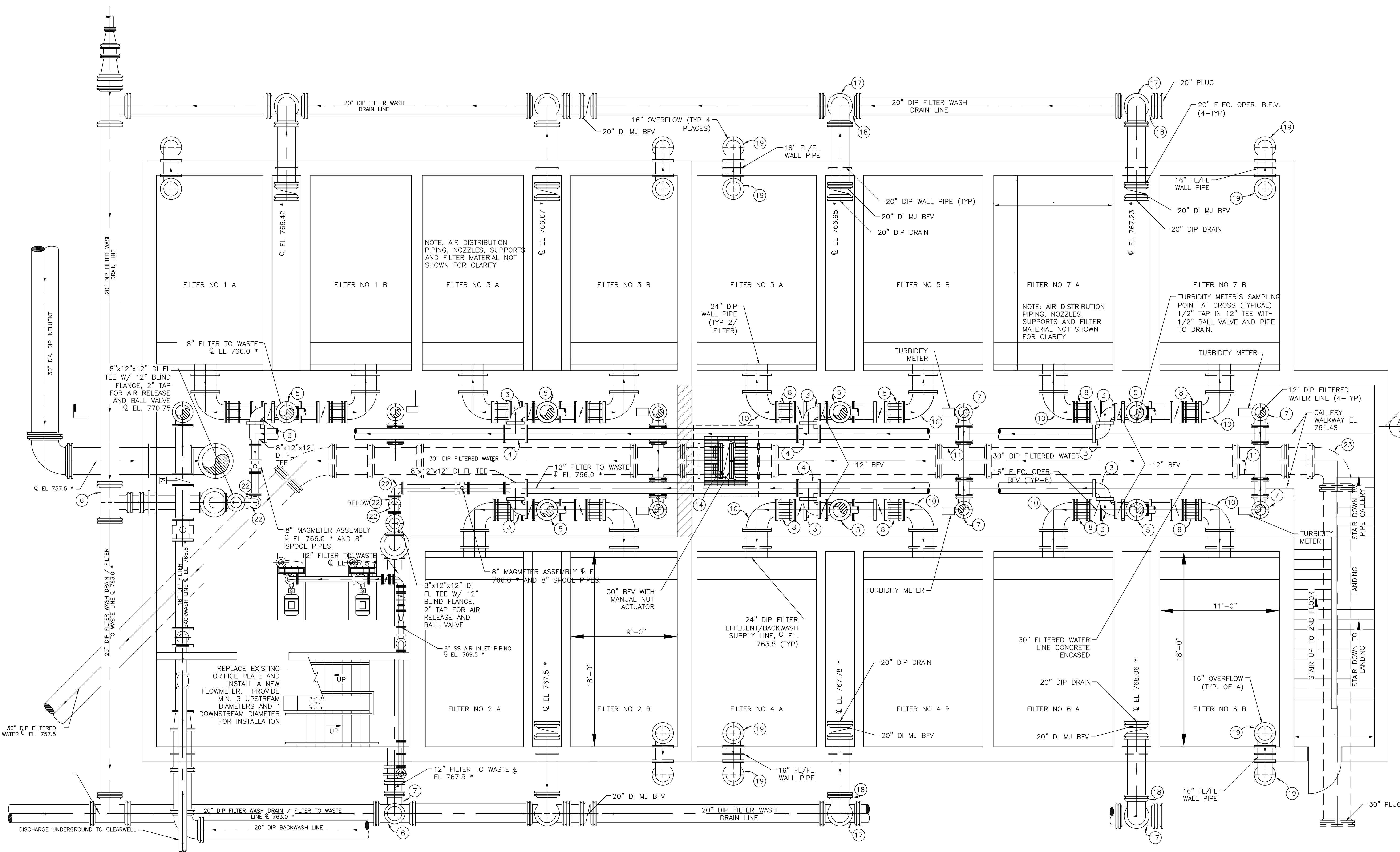
PLAN

Project	RAR CHEMICAL	Sheet	5
Date	9/28/18		
Scale	AS NOTED		
Designed By	K. GILBERT		
Reviewed By	C. Wojnicz		



CHEMICAL DIFFUSER IN PIPE FOR CHLORINE
DETAIL A
NTS

SCALE: 1" = 20'-0"



PLAN @ ELEVATION 761.5
SCALE: 1/5" = 1'-0"

General Notes

PIPING REFERENCE NOTES:

- 3. 12" DI FL 90° ELBOW
- 4. 12" DI FL TEE
- 5. 8"x12"x16"x16" DI FL CROSS
- 6. 12"x20"x20" DI MJ TEE
- 7. 12" DI MJ 90° ELBOW
- 8. 16" DI MJ FLANGED ADAPTER COUPLING
- 10. 16"x24" DI FL 90° REDUCER BEND
- 14. 30" DI FL BFV
- 17. 20" DI MJ TEE
- 18. 20" DI MJ 90° ELBOW
- 19. 16" DI FL 90° BEND
- 22. 8" DI FL 90° BEND
- 23. 30" DI MJ 90° BEND

No.	Revision/Issue	Date

SEAL



RAR WTP FILTER REHABILITATION
GRAVITY FILTER BLDG
RECORD DRAWING

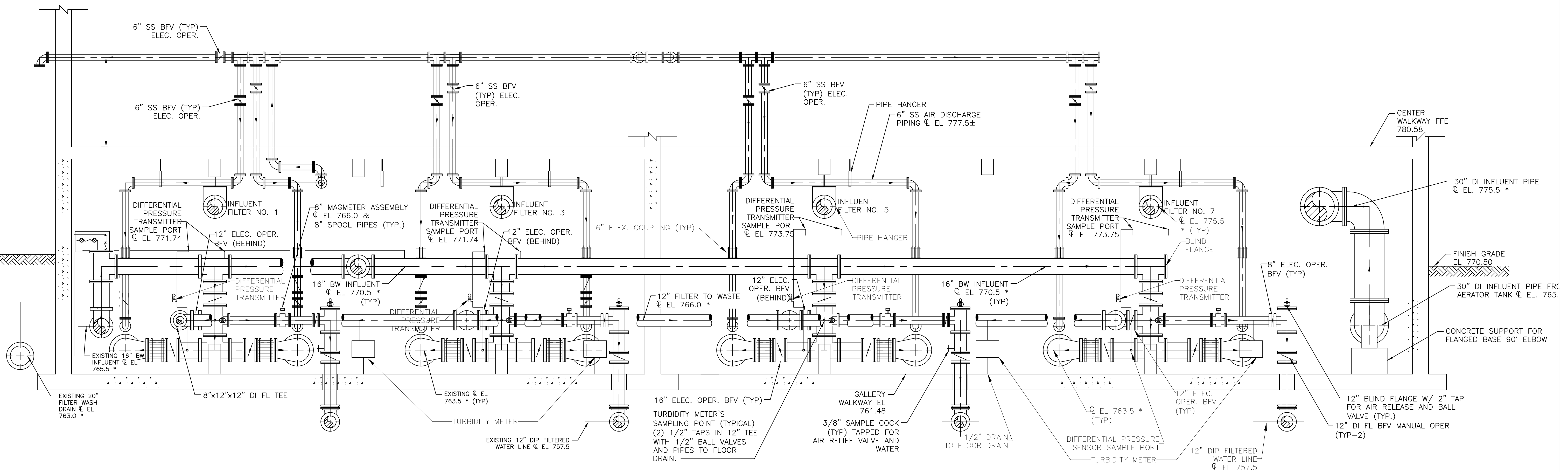
Project	RAR FILTER REHAB	Sheet	R-1
Date	9/28/18		
Scale	AS NOTED		
Designed By			
Reviewed By			

RECORD DRAWING

General Notes

PIPING REFERENCE NOTES:

1. 6" DI FL 90° ELBOW
2. 6" DI FL TEE
3. 12" DI FL 90° ELBOW
4. 12" DI FL TEE
5. 8"x12"x16"x16" DI FL CROSS
6. 12"x20"x20" DI MJ TEE
7. 12" DI MJ 90° ELBOW
8. 16" DI MJ FLANGED ADAPTER COUPLING
9. 16" DI FL TEE
10. 16"x24" DI FL 90° REDUCER BEND
12. 30"x16" DI FL CROSS
15. 30" DI FL 90° BASE ELBOW
16. 8"x12"x12" DI FL TEE
21. 30" DI FL 90° BEND
22. 8" DI FL 90° BEND



SECTION A
SCALE: 1/5"=1'-0"

No.	Revision/Issue	Date

SEAL

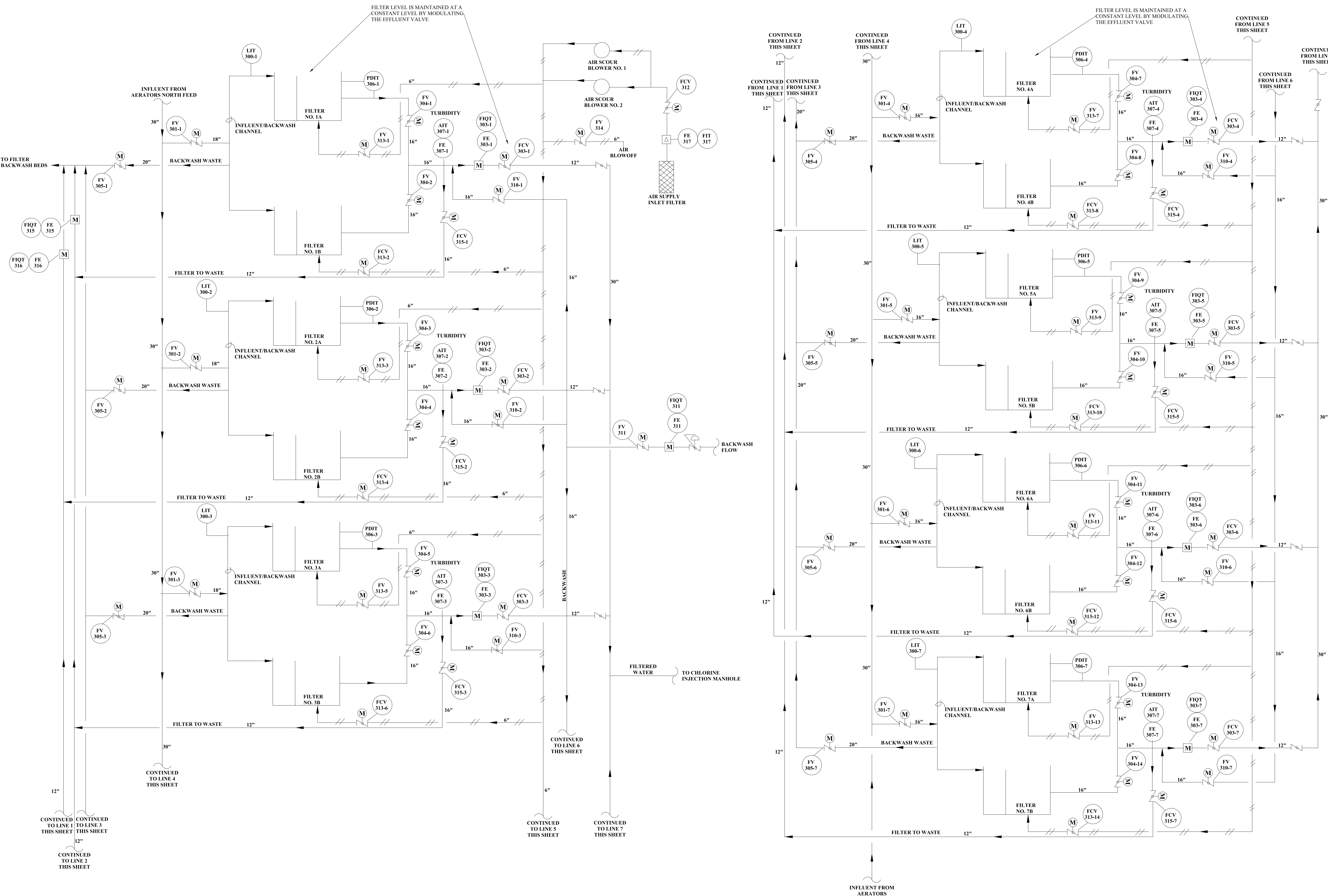


RAR WTP FILTER REHABILITATION
GRAVITY FILTER BLDG
RECORD DRAWING
PIPE GALLERY

RECORD DRAWING

Project	RAR FILTER REHAB	Sheet	R-2
Date	9/28/18		
Scale	AS NOTED		
Designed By			
Reviewed By			

General Notes
GENERAL SHEET NOTES:
 PIPE SIZES ARE SHOWN FOR OWNER'S CONVENIENCE ONLY.



RECORD DRAWING

No.	Revision/Issue	Date

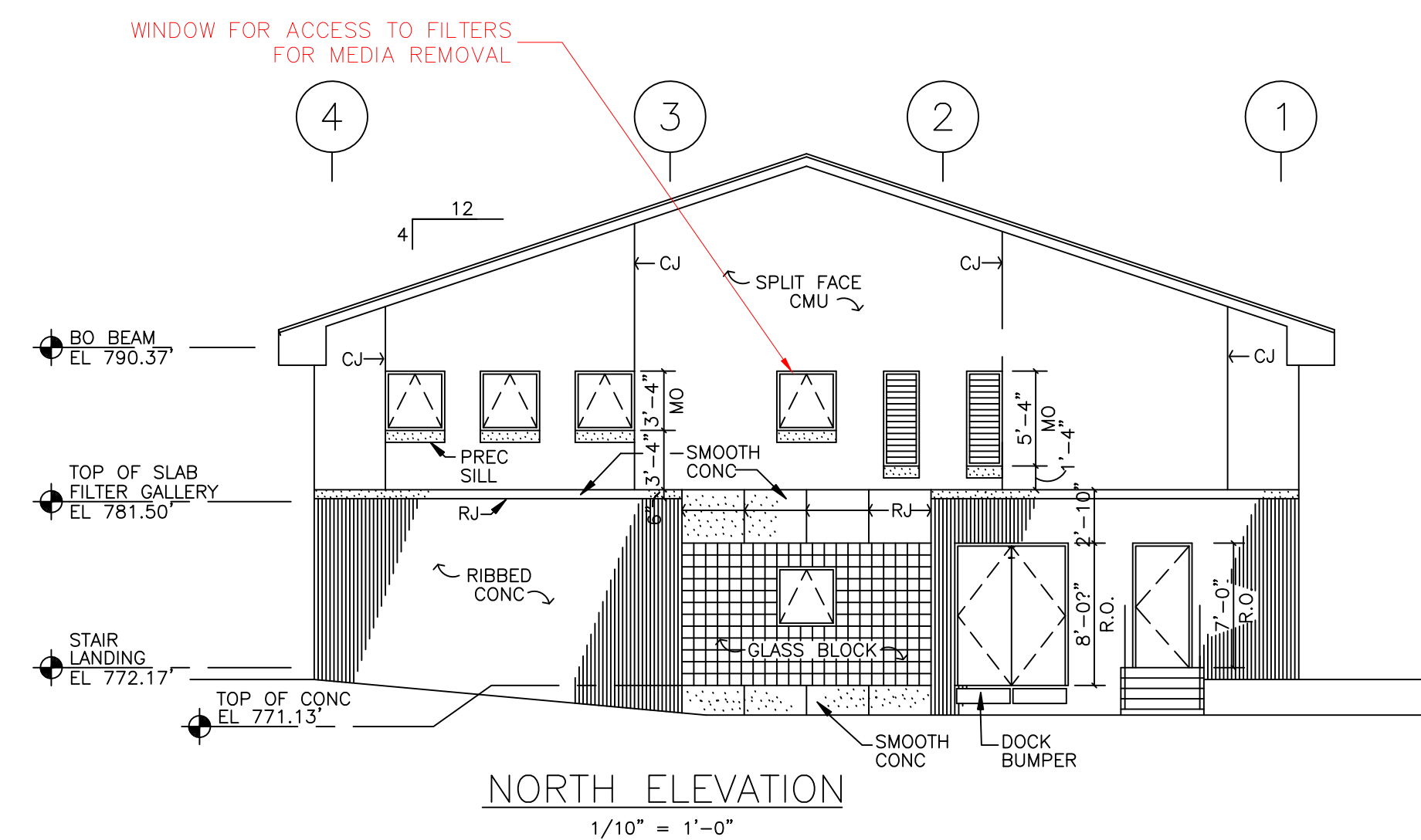
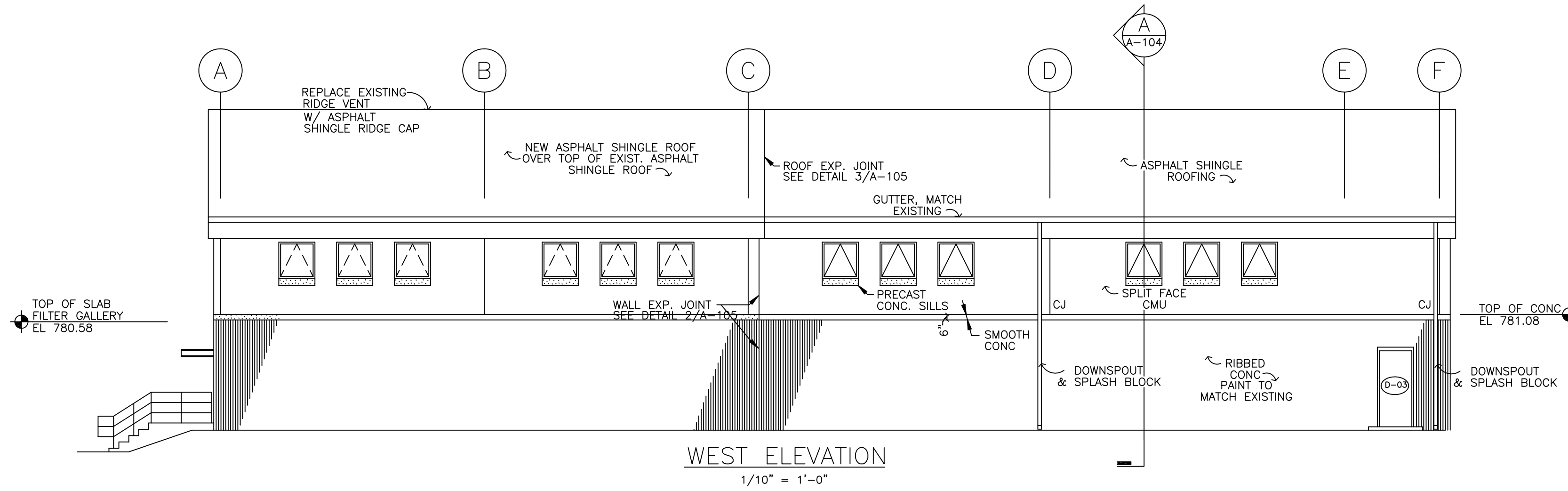
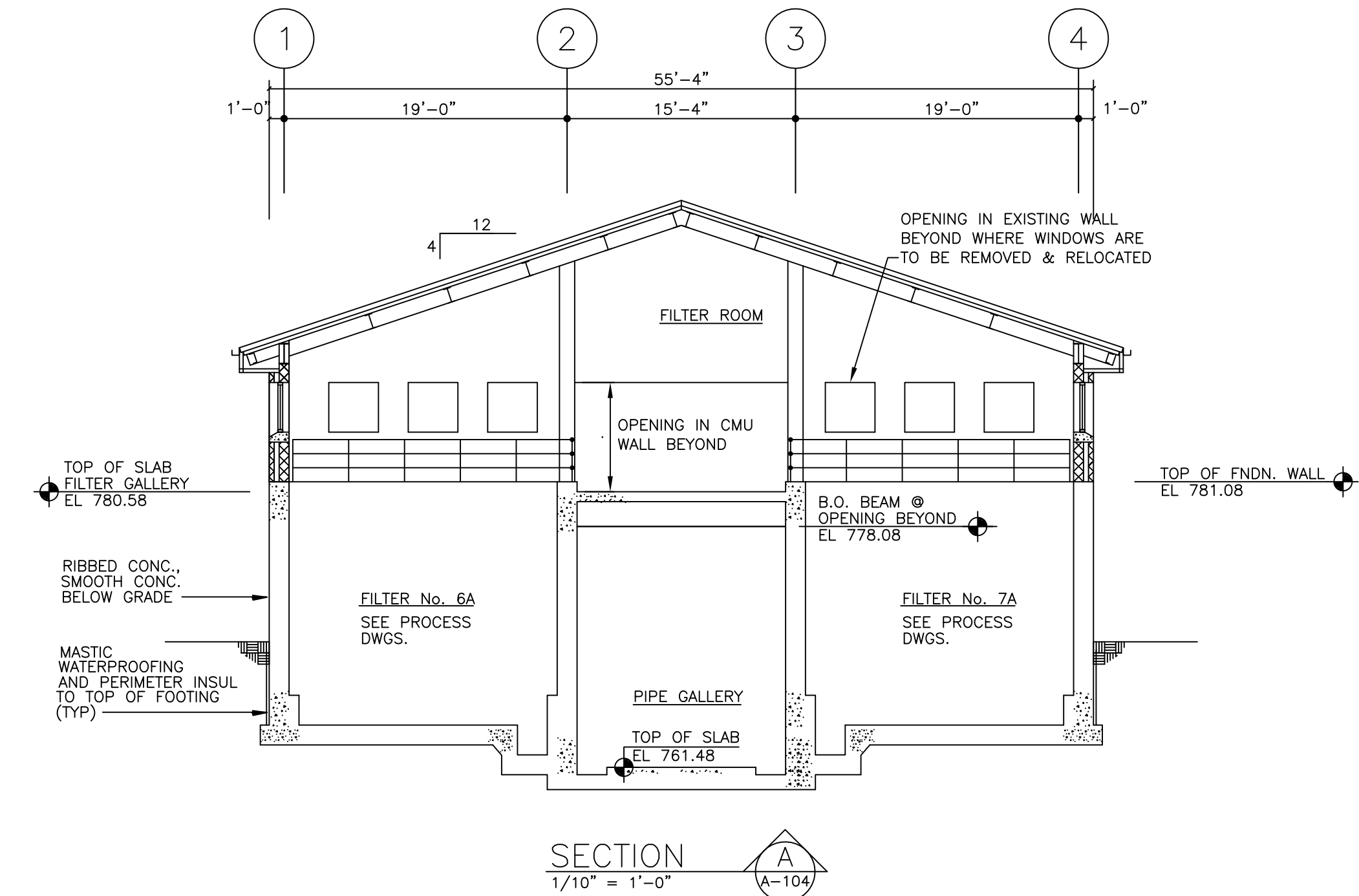
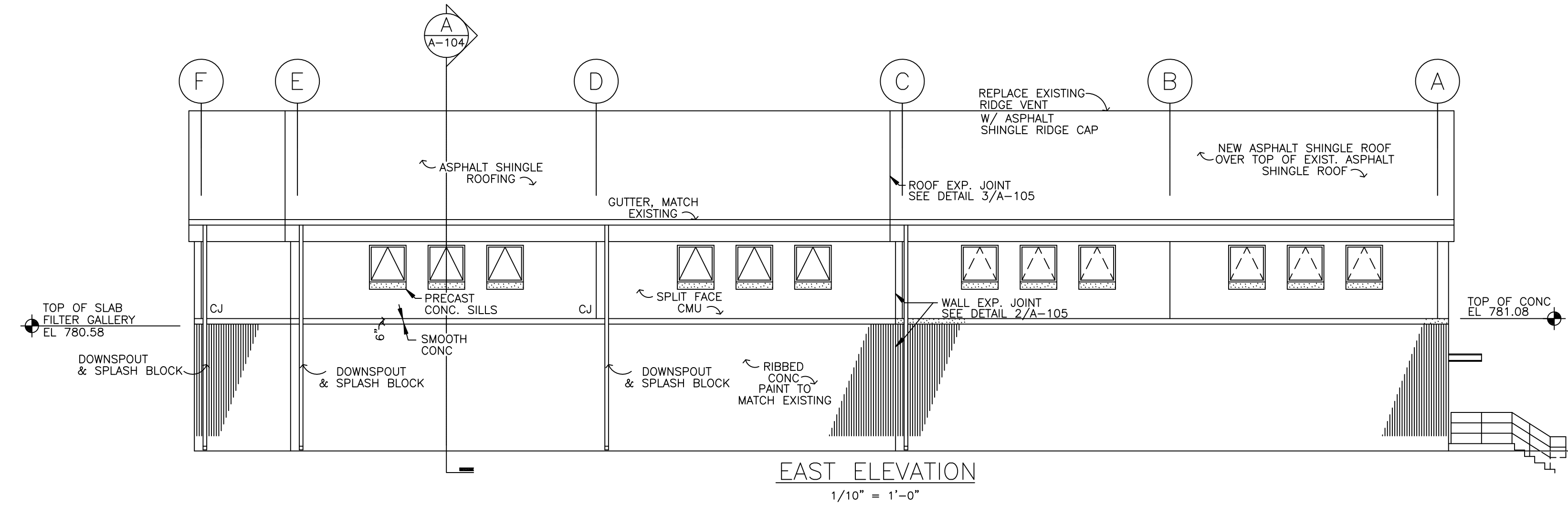
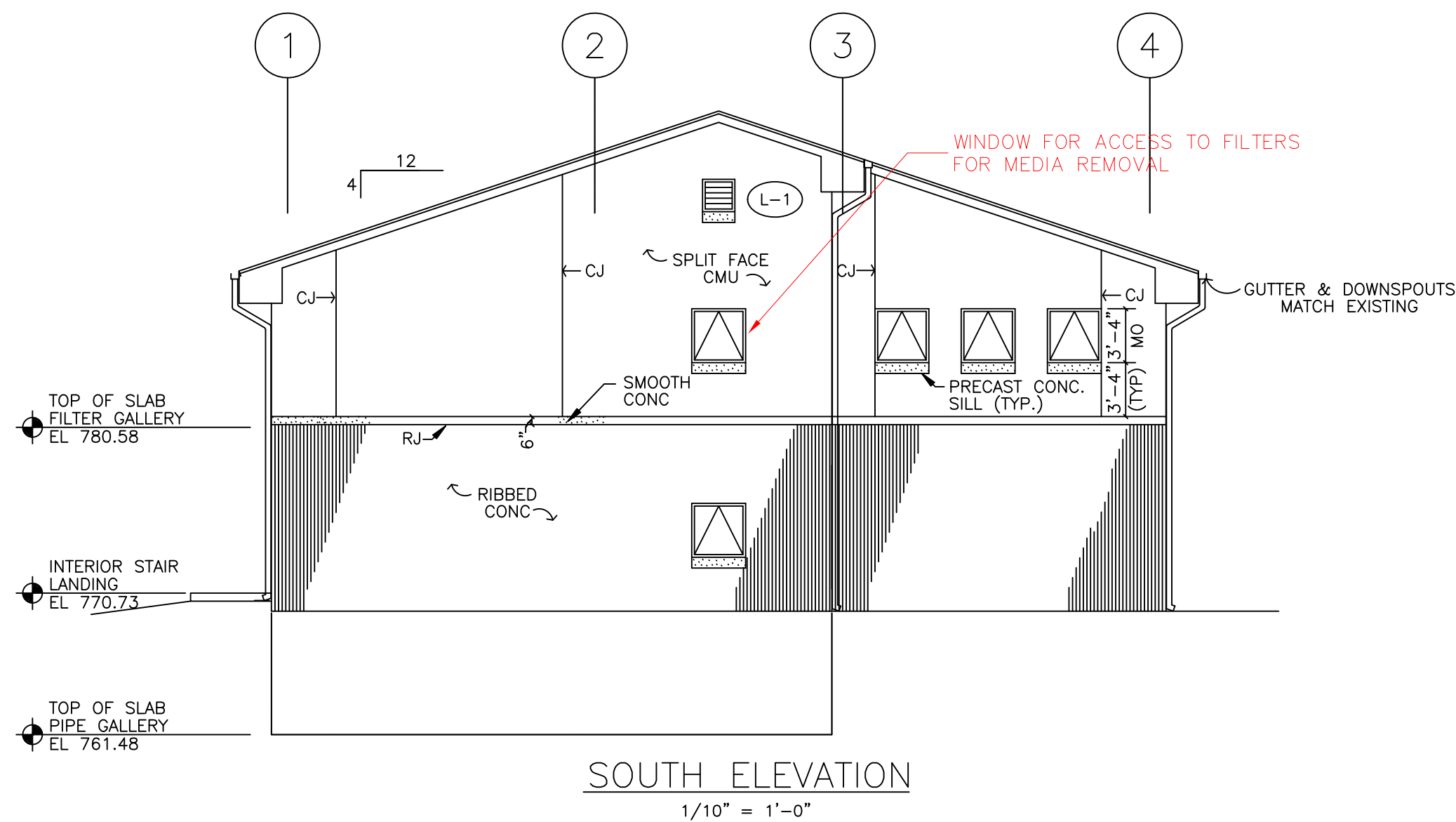
SEAL



RAR WTP FILTER REHABILITATION
 PIPING & INSTRUMENTATION
 DIAGRAM
 RECORD DRAWING

Project	RAR FILTER REHAB	Sheet	R-3
Date	9/28/18		
Scale	NTS		
Designed By			
Reviewed By			

General Notes
**GRAVITY FILTER
 BUILDING EXTERIOR
 ELEVATION
 RECORD DRAWINGS**



RECORD DRAWING

No.	Revision/Issue	Date

SEAL



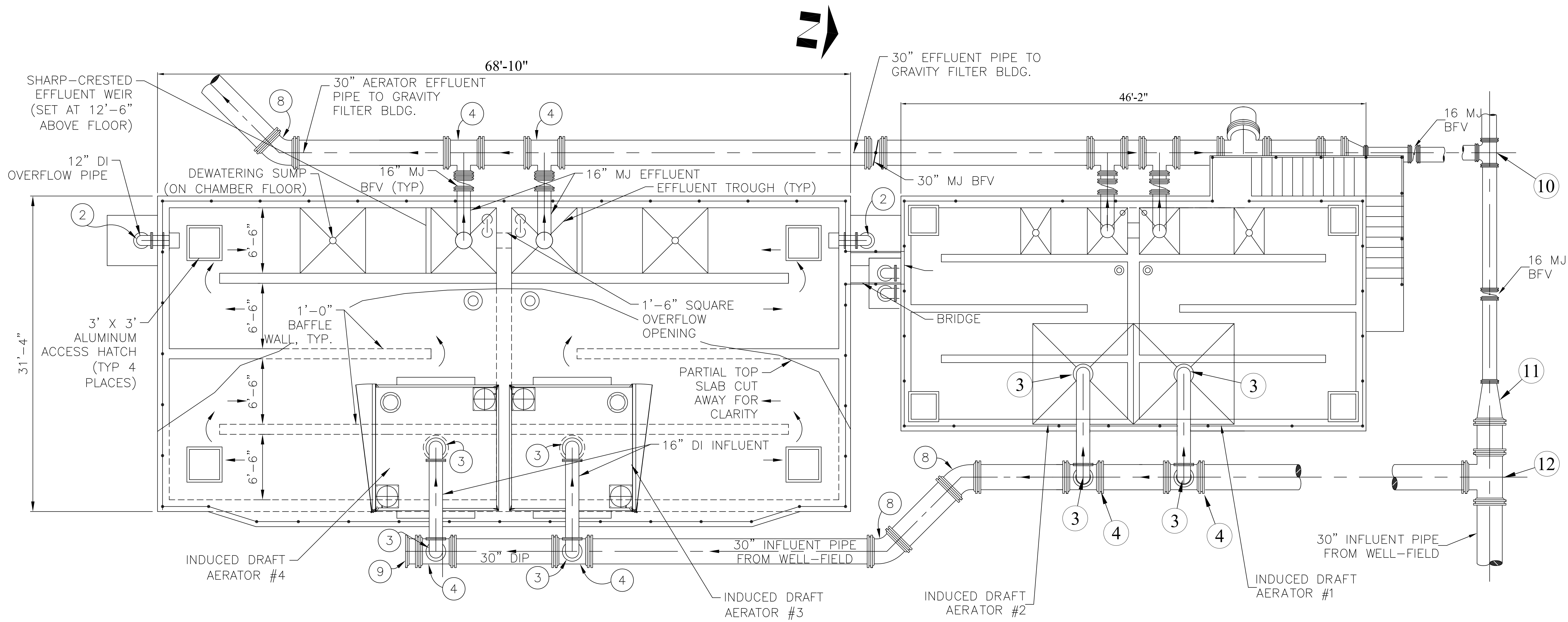
**RAR WTP FILTER
 REHABILITATION**
 GRAVITY FILTER BLDG
 EXTERIOR ELEVATION
 RECORD DRAWING

Project RAR FILTER REHAB	Sheet
Date 9/28/18	R-4
Scale AS NOTED	
Designed By	
Reviewed By	

General Notes

PIPING REFERENCE NOTES:

1. 6" DI FL 90° ELBOW
2. 12" DI FL 90° ELBOW
3. 16" DI FL 90° ELBOW
4. 16" x 30" x 30" DI MJ TEE
5. 8" x 8" DI MJ ELBOW
6. 8" x 8" DI MJ TEE
7. 16" DI MJ 90° ELBOW
8. 30" DI MJ 90° ELBOW
9. 30" DI MJ PLUG
10. 16" x 16" TEE
11. 30" x 16" REDUCER
12. 30" x 30" TEE



No.	Revision/Issue	Date

SEAL



AERATORS AND REACTION TANKS
RECORD DRAWINGS

Project	RAR FILTER REHAB	Sheet	R-5
Date	9/20/18		
Scale	1/6" = 1'-0"		
Designed By			
Reviewed By			

RECORD DRAWINGS

BID/CONTRACT DOCUMENTS

**RAR WATER TREATMENT PLANT FILTER
REHABILITATION PROJECT**

WARREN COUNTY WATER & SEWER
DEPARTMENT

WARREN COUNTY BOARD OF COMMISSIONERS
406 JUSTICE DRIVE
LEBANON, OHIO 45036
(513) 695-1250

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SECTION 00040 - INVITATION TO BIDDERS

Separate sealed bids for the RAR Water Treatment Plant Filter Rehabilitation Project will be received by the Warren County Board of Commissioners at the Office of the Warren County Commissioners, 406 Justice Drive, Lebanon, Ohio 45036, until November 8, 2018 @ 11:00 a.m. and then at said time publicly opened and read aloud.

Bid documents, drawings and specifications are available online at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. Questions regarding the technical specifications should be directed to Kathryn Gilbert at the Warren County Water and Sewer Department, (513) 695-1645. **A Non-mandatory pre-bid meeting has been scheduled for October 24, 2018 @ 9:00 a.m. at the RAR Water Treatment Plant, 6193 Striker Road, Hamilton Township, OH. The County will review the project requirements with potential bidders, receive questions, and visit the project sites during the meeting.**

The project description: Remove and replace the filter media, nozzles, and differential pressure sensor piping for the seven gravity filters at the RAR Water Treatment Plant. Procurement and installation of new Aeration Bypass piping, chlorine feed flexible piping and containment piping. The Engineer's opinion of probable construction cost is \$610,500.00.

A Bid guaranty, as required by Ohio Revised Code, Section 153.54, shall accompany each proposal submitted, as follows:

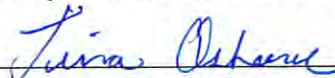
1. A Certified check, cashier's check, or letter of credit equal to ten (10) percent of the bid. A letter of credit may only be revocable by the Owner. Upon entering into a contract with the Owner, the contractor must file a performance bond for the amount of the contract, and the bid guaranty will then be returned to the successful and unsuccessful bidders upon contract execution. **OR**
2. A form of bid guaranty bond (attached) for the full amount of the bid. Such bond is retained for the successful bidder, but returned to unsuccessful bidders after the contract is executed.

Attention of bidders is called to all of the requirements contained in the bid packet. No bidder may withdraw his bid within sixty (60) days after the actual date of the opening thereof. All bids shall be properly signed by an authorized representative of the bidder. All bids shall be sealed and plainly marked:

BID OPENING— RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT, NOVEMBER 8, 2018 @ 11:00 a.m.

Warren County reserves the right to reject any or all bids submitted, to waive any irregularities in bids, and enter into a contract with the Bidder who in Warren County's consideration offered the lowest and best bid.

By order of the Board of County Commissioner, County of Warren, State of Ohio.



Tina Osborne, Clerk

SECTION 00100 – BID PROPOSAL

The undersigned declares that the only persons or parties in this Bid are as stated; that the Bid is made without any collusion with other persons, firms, or corporations; that all the Contract Documents as prepared have been carefully examined; that the undersigned is fully informed in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. The undersigned do hereby propose to furnish all labor, materials, tools, equipment, etc., necessary to complete the work on the RAR Water Treatment Plant, 6193 Striker Road, Hamilton Township, Ohio. The premiums for all Bonds required shall be paid by the Contractor and shall be included in the Contract Price. The undersigned Bidder further agrees that the Bid Security accompanying this Bid shall become the property of the County if the Bidder fails to execute the Agreement.

The undersigned hereby agrees that the Contract Time shall commence on the date stipulated in the Notice to Proceed and to complete the work in accordance with the terms as stated in the Contract Agreement, and in accordance with the following schedule milestones:

The Owner shall issue a “Notice to Proceed” within 14 days of contract execution. The start of the project shall be determined by the successful bidder and identified in a written project schedule submitted by the Bidder to the Owner within 14 days of executing the contract. The Bidder shall complete the work in accordance with the terms as stated in the Contract Agreement, and in accordance with the following schedule milestones:

- a. Substantial completion shall be within 150 days from Notice to Proceed
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 180 days from Notice to Proceed

The undersigned acknowledges receipt of the following Addenda:

No. _____, dated _____, 2018

No. _____, dated _____, 2018

No. _____, dated _____, 2018

Bids shall include all costs incurred for the Work including materials, equipment, supplies, labor, permit fees, taxes, insurance, miscellaneous costs, overhead, and profit. All Material must comply with the specifications shown on the contract drawings.

The written/typed Total Bid price is for the convenience of the Owner in comparing bids. Any discrepancy between the actual sum of the line item totals and the written/typed total bid price shall be resolved in favor of the actual sum of the correct individual line item.

The undersigned hereby certifies under the penalty of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person or entity. The bid proposals shall remain in full force and effect for ninety (90) days after the date of opening bids. The full name and address of all persons and parties interested in the foregoing bids as principals are as follows:

Individual, Partnership, or Corporation

Signature of Corporate Officer, President, or Owner

Notice of acceptance should be mail or delivered to the following:

(Contact Name)

(Contact Title)

(Company Name)

(Business Address)

(City and State)

(Contact Number)

Date: _____

RAR Water Treatment Plant Filter Rehabilitation Project BID SHEET

No.	Description	Units	Quantity	Unit Cost	Cost
1	Mobilization, Demobilization, Bonds, & Insurance	LS	1		
2	Rewrite of Backwash Control Program	LS	1		
3	Removal & Disposal of Existing Lose Media & Nozzles	LS	1		
4	Removal & Disposal of Existing Compacted Media	LS	1		
5	Cleaning of Tankage	LS	1		
6	Procurement & Installation of Nozzles	EA (Nozzles)	5,592		
7	Procurement & Installation of Pipe, Fittings, Valves, & Strainers for Differential Pressure Transmitters	LS	1		
8	Procurement & Installation of Filter Media				
	Anthracite	Cu. Ft.	3,837		
	Filter Sand	Cu. Ft.	2,560		
	Torpedo Sand	Cu. Ft.	645		
9	Procurement of Mag Meter & Associated Equipment	Allowance	1	N/A	\$22,166
10	Installation of 4 Mag Meters	LS	1		
11	Procurement & Installation of Aerator Bypass Piping, Fittings, Valves, and Appurtenances (Aerators #1 & 2)	EA (Aerator)	2		
12	Procurement & Installation of Aerator Bypass Piping, Fittings, Valves, and Appurtenances (Aerators #3 & 4)	EA (Aerator)	2		
13	Procurement & Installation of Chemical Feed Piping	LS	1		
14	Disinfection & Startup	LS	1		
TOTAL BID PRICE					

TOTAL BID PRICE (In Words)

NOTE:

- Quantities are based upon construction plans for RAR Filter Rehabilitation and prepared by the Warren County Water and Sewer Department.

SECTION 00120 - EXCEPTION SHEET

Exceptions: Exceptions to any bid specification must be clearly stated on this sheet. This sheet must be submitted with each bid. If there are no exceptions, please indicate "none" below.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____
- 7) _____
- 8) _____
- 9) _____
- 10) _____

SECTION 00130 - BIDDER IDENTIFICATION

ATTENTION BIDDER: Please fill out this form and submit with your bid.

COMPANY NAME: _____

CHIEF EXECUTIVE OFFICER: _____

ADDRESS: _____

PHONE NUMBER: _____

FAX NUMBER: _____

PROJECT CONTACT PERSON: _____

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

FEDERAL ID #: _____

WEBSITE ADDRESS: _____

SECTION 00200 - GENERAL INSTRUCTIONS TO BIDDERS

1. **Receipt and Opening of Bids:** The Warren County Board of Commissioners (herein referred to as "Owner"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the Office of the Warren County Board of Commissioners until November 8, 2018@ 11:00 a.m. and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Warren County Board of Commissioners at 406 Justice Drive, Lebanon, Ohio 45036, and shall be clearly marked

BID OPENING– RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT, NOVEMBER 8, 2018@ 11:00 a.m.

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual date of the opening thereof.

2. **Bid Documents:** Bid documents, drawings, addenda, plan holders list, and other information are available online, free of charge, at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Default.aspx>. Contact Kathryn Gilbert at kathryn.gilbert@co.warren.oh.us to be added to the plan holders list. All Addenda will be posted on the aforementioned website and shall not be mailed to the bidders. Bidders shall be responsible for checking the website prior to submitting their bids.

3. **Withdraw of Bid:** A Bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids, provided the bid was submitted in good faith and the reason for the price being substantially lower was a clerical mistake as opposed to a judgment mistake and was actually due to an unintentional omission of a substantial quantity of work, labor or material made directly in the compilation of the bid. Request to withdraw such bid must be made in writing and filed with the Owner within two business days after the opening of bids and prior to the acceptance thereof.

4. **Preparation of Bid:** Each bid must be submitted on the prescribed form and such documents as hereunder described. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures, and the foregoing certifications must be fully completed and executed when submitted.

5. **Method of Bidding:** Bids shall be submitted at the time and place indicated in the Invitation to Bidder and shall be included in a sealed envelope, marked with the project title and name and address of the bidder and accompanied by the bid security and other required documents.

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to the opening of bids.

The Owner invites unit price bids for the construction described in the plans and specifications. These unit prices shall be extended by estimated quantities to develop a total price for the project.

The estimate of quantities of work, if included in the Proposal, is approximate only, and will not become the basis for calculating final payment for the work. However, the estimated quantities shall be used by the Owner in calculating the total amount of the Proposal for comparison of bids.

If the total price received from the lowest and best bidder exceeds the amount of funds available to finance the contract, the Owner may:

- a. Reject all bids;
- b. Augment the funds available in an amount sufficient to enable award to the lowest and best bidder or bidders;
- c. Reduce the scope of work by eliminating certain items of work to produce a total bid which is within available funds;
- d. Reduce the scope of work by reducing the quantity of certain items of work to produce a total bid which is within available funds;
- e. Reduce the scope of work by a combination of adjustments as outlined in "c" and "d" above to produce a total bid which is within available funds.
- f. The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates as produces a net amount which is within the available funds.
- g. The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.

6. **Qualification of Bidder:** The Owner may make such investigations as he/she deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein; conditional bids will not be accepted.

7. **Bid Security:** Each bid must be accompanied by cash, cashier's check, certified check of the bidder, letter of credit equal to ten (10) percent of bid, or a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner. (See Invitation to Bidders for required amounts) Such cash, checks or bid bonds will be returned to bidders after the Owner has awarded the bid and has

executed the contract, or, if no award has been made within 60 days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he/she has not been notified of the acceptance of his/her bid.

8. **Liquidated Damages for Failure to Enter into Contract:** The successful bidder, upon his/her failure or refusal to execute and deliver the contract and bonds required within 10 days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid.

9. **Time of Completion and Liquidated Damages:** The Owner shall issue a "Notice to Proceed" within 14 days of contract execution. The start of the project shall be determined by the successful bidder and identified in a written project schedule submitted by the Bidder to the Owner within 14 days of executing the contract. The Bidder shall complete all work within the following requirements:

- a. Substantial completion shall be within 150 days from Notice to Proceed.
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 180 days from Notice to Proceed.

Bidder agrees to pay as liquidated damages the sum of \$200.00 for each consecutive calendar day thereafter. See the General Conditions and Supplemental Conditions for the definition and requirements of substantial completion.

10. **No Damage for Delay:** No payment, compensation or adjustment of any kind shall be made to the contract price for damages incurred by the contractor because of hindrances or delays in the progress of the work from any cause that is not proximately caused by the Owner's action or failure to act. Whether such hindrances or delays are avoidable or unavoidable, the contractor agrees that he or she will make no claim for compensation, damages or mitigation of liquidated damages for any such delays. Examples of delays include (but are in no manner limited to) obtaining all necessary permission from any government agency or any private party, any act or failure to act by any other contractor, subcontractor and/or supplier, all foreseen and unforeseen events and any conditions or acts of God. It is understood and agreed that the contractor assumes all risks of delays in prosecuting or completing the work under the contract that are not proximately caused by the Owner's action or failure to act. The contractor will accept in full satisfaction for such delays, an extension of time, if any, agreed to by the Owner.

11. **Conditions of Work:** Each bidder must inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provisions of his/her contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means or will not cause any interruption of or interference with the work of any other contractor. No plea of ignorance of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work as the result of failure to make such examination and investigation, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every respect, all the requirements of

the Contract, nor will the same be accepted as a basis for any claim whatsoever for extra compensation or for an extension of time.

12. **Addenda and Interpretations:** No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation must be in writing to Kathryn Gilbert at kathryn.gilbert@co.warren.oh.us and to be given consideration must be received at least five days prior to the date fixed for the opening of bids. All such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be posted on the Warren County Commissioners website, no later than three days prior to the date fixed for the opening of bids. Failure of any bidder to monitor the website and download any such addendum or interpretations shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

13. **Security for Faithful Performance:** Simultaneously with his/her delivery of the executed contract, the Contractor shall furnish a performance (surety) bond as security for faithful performance of this contract and for the payment of all persons performing labor on the project under the contract and furnishing materials in connection with the contract. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner. Please note that upon execution of the Contract if a Bid Guaranty/Contract Bond was submitted with your original bid a Performance Bond will not be required.

14. **Power of Attorney:** Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

15. **Laws and Regulations:** The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

16. **Method of Award:** The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates, to the lowest and best bidder, as produces a net amount which is within the available funds.

17. **Obligation of Bidder:** At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect of his/her bid.

18. **Safety Standards and Accident Prevention:** With respect to all work performed under this contract, the Contractor shall:

- a. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the

Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of title 29 of the code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, N. 75, Saturday, April 17, 1971.

- b. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
 - c. Maintain at his/her office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or doctor's care of persons (including employees) who may be injured at the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.
19. **Examination of Site**: Each bidder shall, and is hereby directed to inspect the entire site of the proposed work and judge for him/herself as to all the circumstances affecting the cost and progress of the work and shall assume all patent and latent risks in connection therewith.
20. **Water Supply**: All water for construction purposes, except for the expense of having water conveyed about the work, will be provided by the Owner.
21. **Working Facilities**: The plans show, in the general manner, the existing structures and the land available for construction purposes. The bidders must satisfy themselves of the conditions and difficulties that may be encountered in the execution of the work at this site.
22. **Permits**: The Water and Sewer Department has applied for an OEPA Permit to install, which will be provided to contractor before construction begins.
23. **Signature of Bidders**: The firm, corporate or individual name of the bidder must be signed in ink in the space provided for the signatures on the proposed blanks. In the case of a corporation, the title of the officer signing must be stated and such officer must be thereunto duly authorized and the seal of said corporation duly affixed. In the case of a partnership, the signature of at least one of the partners must follow the firm name, using the term "member of the firm." In the case of an individual, use the terms "doing business as", or "sole owner." The bidder shall further state in his proposal the name and address of each person or corporation interested therein.
24. **Right to Accept or Reject Proposals**: The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.
25. **Non-Collusion Affidavit**: The successful bidder will be required to submit a non-collusion affidavit on the form included in these Bid/Contract documents (SECTION 00220). This affidavit shall be dated and executed as part of this bid.
26. **EEO Compliance**: Bidders please see SECTION 00340 for EEO Compliance Requirements and Affidavit.

27. **Wage Rates:** In the event that the rate of wages paid for any trade or occupant in the locality where such work is being performed are under current collective agreements or understandings between bona fide organizations of labor and employer, then the wages to be paid shall be not less than such agreed wage rates, nor less than the minimum rates compiled by the Federal Labor Standard Act. Copies of these prevailing wage rates have been included in these specifications. Every Contractor and Subcontractor who is subject to Ohio Revised Code, Chapter 4115 shall, as soon as he begins performance under his contract with the Owner, supply the Prevailing Wage Coordinator for the Owner a schedule of the dates on which he is required to pay wages to employees. He shall also deliver to the Prevailing Wage Coordinator within three weeks after each pay date, a certified copy of his payroll which shall exhibit for each employee paid any wages, name, current address, social security number, number of hours worked each day of the pay period and the total for each week, hourly rate of pay, job classification, fringe payments, and deductions from wages. The certification of each payroll shall be executed by the Contractor, Subcontractor, or duly appointed agent thereof and shall recite that the payroll is correct and complete and that the wage rate shown is not less than those required by the contract.

In case the Owner orders the Contractor to perform extra or additional work which may make it necessary for the Contractor or any Subcontractor under this contract to employ a person not herein specified, the Owner will include in the contract change order for such extra or additional work, a minimum wage rate for such trade or occupation, and insofar as such extra or additional work is concerned, there shall be paid to each employee engaged in work of such trade or occupation, not less than the wage so included. Insofar as possible, local labor shall be employed on this work.

28. **Subletting of Contract:** The Contractor shall not sublet, sell, transfer or assign any portion of the contract without written consent of the Owner or his designated agent. When such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization, work amounting to no less than fifty percent of the total contract cost, except that any time designated in the contract before computing the amount of work required to be performed by the Contractor with his own organization, no subcontract, or transfer of contract, shall in any way release the Contractor of his liability under the contract and bonds.

29. **Required Insurance:** In accordance with the specifications, the Contractor, without restricting the obligations and liabilities assumed under the Contract Documents, shall at his own cost and expense purchase and maintain in force until final acceptance of his work, the forms of insurance coverage listed below.

Certificates from the insurance carrier stating the limits of liability and expiration date shall be filed with the Owner before operations are begun. Such certificates shall not merely name the types of policy provided, **but shall specifically refer to this Contract** and shall name the Board of Warren County Commissioners as additionally insured. However, the original policy for Owner's Protective Bodily Injury (Item F) and Property Damages (Item G) shall at this time be delivered to the Owner for its possession.

All policies as hereinafter required shall be so written that the Owner will be notified of cancellation or restrictive amendment at least ten days prior to the effective date of such cancellation or amendment.

Item A - Workmen's Compensation and/or Employer's liability Insurance as required or specified by State Law.

Item B – Comprehensive General Liability Insurance: In an amount not less than \$1,000,000.00 per occurrence for Bodily Injury and \$500,000 for explosion underground and collapse, commonly known as “XCU.” The following endorsement documents provided by Warren County:

- a. CG 20 10 10 01 – additional insured endorsement (or equivalent)
- b. CG 20 37 10 01 – additional insured endorsement (or equivalent)
- c. CG 25 03 03 97 – designated location aggregate (or equivalent)

General Liability needs to be written on Primary/Non-contributory basis for the benefit of the additional insured.

Item C – Umbrella: In an amount not less than \$1,000,000 occurrence and \$1,000,000 aggregate. Umbrella needs to attach to General Liability, Employers Liability, Auto Liability. Umbrella needs to be written on follow-form primary.

Item D - Bodily Injury Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item E - Property Damage Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item F - (If Applicable) - Such Protective (including Railroad Protective) and Contractual Bodily Injury Liability Insurance and such Protective (including Railroad Protective) and Contractual Property Damage Liability Insurance as shall be required by the railroad and other utility companies whose property, facilities or rights-of-way may be affected by the work to be done under this contract, in such amounts and in such form as each such utility company may require.

If any part of the work is sublet, insurance of the same types and limits as required by above items numbered A, B, C, D, E, F, and I shall be provided by or on behalf of the Subcontractors to cover that part

of the work they have contracted to perform including Property Damage Liability Special Hazards coverage if so required by this contract.

Protective and Contractual Bodily Injury Liability Insurance required by Item F (if applicable) shall be in an amount and form as each railroad or utility company may require.

Builders Risk Insurance: All Risk form, including subsidence and theft of materials from the job site. Such coverage shall be maintained until final acceptance of the Contract by the Owner and payable to the Owner for the benefit of the contractor. The limit for Builders Risk shall be the full value of construction.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

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

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

PRODUCER Insurance Agency Name & Address	CONTACT NAME: Insurance Agent Contact PHONE (A/C, No, Ext): _____ FAX (A/C, No): _____ E-MAIL ADDRESS: _____ INSURER(S) AFFORDING COVERAGE INSURER A: Insurance Company A INSURER B: Insurance Company B INSURER C: Insurance Company C INSURER D: Insurance Company D INSURER E: Insurance Company E INSURER F: Insurance Company F
INSURED Contractors Name & Address	

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

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER _____	X	X	POLICY #	EFF DATE	EXP DATE	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000
B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS			POLICY #	EFF DATE	EXP DATE	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED _____ RETENTIONS _____			POLICY #	EFF DATE	EXP DATE	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		Y/N	N/A			PER STATUTE <input type="checkbox"/> OTH-ER <input type="checkbox"/> E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 Board of Warren County Commissions are listed as additional insureds with respects to the General Liability for ongoing and completed operations as per attached CG 2010 10/01 and CG 2037 10/01. General Liability is primary and non-contributory for the benefit of the additional insured. Waiver of subrogation applies to the General Liability.

CERTIFICATE HOLDER Board of Warren County Commissioners 406 Justice Drive Lebanon, OH 45036	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE INSURANCE AGENTS SIGNATURE
---	--

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 10 01

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

Board of Warren County Commissioners
406 Justice Drive, Lebanon, OH 45036

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A. **Section II – Who Is An Insured** is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.
- B. With respect to the insurance afforded to these additional insureds, the following exclusion is added:

2. Exclusions

This insurance does not apply to "bodily injury" or "property damage" occurring after:

- (1) All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the site of the covered operations has been completed; or
- (2) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 10 01

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization: Board of Warren County Commissioners 406 Justice Drive Lebanon, OH 45036
Location And Description of Completed Operations:
Additional Premium:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Section II – Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" at the location designated and described in the schedule of this endorsement performed for that insured and included in the "products-completed operations hazard".

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 25 03 03 97

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED CONSTRUCTION PROJECT(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Construction Projects:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which can be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. A separate Designated Construction Project General Aggregate Limit applies to each designated construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under **COVERAGE A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under **COVERAGE C** regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".
 3. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the Designated Construction Project General Aggregate Limit for that designated construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Construction Project General Aggregate Limit for any other designated construction project shown in the Schedule above.
- 4.** The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Construction Project General Aggregate Limit.
- B.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which cannot be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Designated Construction Project General Aggregate Limit.
- C.** When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Construction Project General Aggregate Limit.

- D. If the applicable designated construction project has been abandoned, delayed, or abandoned and then restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.
- E. The provisions of Limits Of Insurance (SECTION III) not otherwise modified by this endorsement shall continue to apply as stipulated.

30. **Maintenance of Property:** All work activities including storage and stockpiling of materials, is to be conducted within the Owner's property. Bracing, scaffolding, and rigging shall be located within the property unless work agreements are secured from the adjacent property Owners. It is the Contractor's responsibility to secure these work agreements, if deemed necessary. Copies of the work agreements shall be delivered to the Engineer and Owner prior to any work beginning on the affected property.

31. **Foreign Corporation and Contractors:** Definition: "Foreign Corporation" means a corporation incorporated under the laws of another state. No contract shall be entered into with a foreign corporation until the Secretary of State has certified that such corporation is authorized to do business in Ohio: and until, if the bidder so awarded the Contract is a person or partnership, it has filed with the Secretary of State a Power of Attorney designating the Secretary of State as its agent for the purpose of accepting service of summons in any action brought under Ohio Revised Code, Section 153.05 or under Sections 4123.01 to 4123.94, inclusive.

32. **Subcontracts:** Contractor shall provide upon request of the Owner an explanation of all subcontractors intended to be used in performance of the work. In the event the Owner does not object, Contractor may have such work performed by a subcontractor. Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, the Agreement, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in the Agreement shall create any contractual relationship between any subcontractor and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

33. **Real and/or Personal Property Tax Affidavit:** All bidders must complete the Real and/or Personal property tax affidavit (Section 00320) and submit with your bid. This section should be fully completed whether or not you as a vendor/contractor own property in Warren County, Ohio.

34. **Description of Project:**

The project description: Remove and replace the filter media, nozzles, and differential pressure sensor piping for the seven gravity filters at the RAR Water Treatment Plant. Procurement and installation of new Aeration Bypass piping, chlorine feed flexible piping and containment piping. The Engineer's opinion of probable construction cost is \$610,500.00.

35. **Scope of Work:** Provide all work as described in the Specifications and Drawings herein as necessary to provide for project completion.

36. **Required Forms:** Each Bidder shall complete and submit the following forms with his/her bid:

SECTION 00100 – Bid Proposal
SECTION 00120 - Exception Sheet
SECTION 00130 - Bidder Identification
SECTION 00220 - Non-Collusion Affidavit
SECTION 00260 - Bid Guaranty & contract Bond

SECTION 00300 - Experience Statement
SECTION 00320 - Affidavit of Non-Delinquency of Taxes
SECTION 00340 - Certificate of Compliance Non-Discrimination and Equal Employment
Opportunity Affidavit
SECTION 00360 - Findings for Recovery Affidavit

37. **Subcontractors:** The successful Contractor may be required, at the request of the Owner, to submit a list of sub-contractors and/or suppliers for said project.

38. **Additional Obligations Upon Contact Award:** Upon award of the bid but prior to execution of the final agreement and notice to proceed, the Contractor shall submit all of the following documents, completed as required:

- 1) Contract
- 2) Performance Bond
- 3) Certificates of Insurance

39. Entire bid packet must be completed (except SECTION 00400 - Contract) and returned with bid proposal, as the entire bid packet becomes part of the contract documents.

40. **Changes In Work:** Owner may find it necessary and desirable to make changes and/or alterations in the lines, plans, equipment, or materials from time to time, either before or after construction has begun.

The Owner shall notify the Contractor in writing about all changes in the work at any time, and it shall be completed according to the said changes without any alteration in the Contract Price except in those cases where the changes materially affect the amount of work to be done and the cost thereof. The decision of the Owner regarding changes in work shall be final in all cases where no alteration in price is involved. Changes in work which involve any alteration in the amount to be paid to the Contractor shall not be commenced until approved in writing by the Owner.

If the Contractor claims that any written instructions from the Owner, by drawings or otherwise, involved extra cost or an extension of time, he/she shall so notify the Owner in writing within seven (7) days after receipt of such instructions and before proceeding to execute the work.

41. **Partial Payments to Contractor:** The Owner will make partial payments to the Contractor during construction on the basis of an estimate of the value of work performed during the preceding calendar month under this Contract. The partial payment shall be made in accordance with the applicable sections of the Ohio Revised Code. Owner will furnish an estimate of the quantities of work. Owner will determine the value of work performed and prepare the monthly partial estimate.

All materials and work covered by partial payments made shall thereupon become the sole property of the Owner. This provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of work upon which payments have been made or the restoration of any damaged work. The payment of monthly partial estimates does not waive the right of the Owner to require the fulfillment of all the terms of the Contract Documents.

42. **Owner's Right to Withhold Certain Amounts and Make Applicable Thereof:** The Contractor may be required by the Owner to furnish from time to time, satisfactory evidence that all persons who have done work or furnished materials under this Contract, or may have suffered and claimed damage on account of the Contractor's operation, have been fully paid or secured; and in case such evidence is not furnished as aforesaid, the Owner may in addition to the Portion of any estimate retained under the preceding provisions of these Contract Documents, also withhold sufficient amount of any payment otherwise due to the Contractor to cover:

- a. Payments that may be past due or payable for just claims for labor or materials furnished in an about the performance of the work or for damages sustained under this Contract;
- b. For defective work not remedied as hereinbefore provided, and;
- c. For failure of the Contractor to make proper payments to his Subcontractors.

If the Contractor fails to carry on the work within the time set out in his Proposal, the Owner may retain from the moneys that are, or which may become due said Contractor, the Owner's estimated daily cost of the completed work, for each and every calendar day the completion of the work be delayed beyond the time specified herein for such completion. The Contractor shall not be entitled to a bonus for early completion.

43. **The Right of Owner to Terminate Contract:** In the event that any of the provisions of these Contract Documents are violated by the Contractor or any of his/her Subcontractors, the Owner may serve written notice upon the Contractor and the Surety, of his intention to terminate such Contract, such notices to contain the reasons for such intention to terminate the Contract, and unless within ten (10) days after the serving of such notice upon the Contractor such violation shall cease and satisfactory arrangements for corrections be made, the Contract shall, upon the expiration of said ten (10) days cease and terminate. In the event of any termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract, provided, however, that if the Surety does not commence performance thereof within thirty (30) days from the date of the mailing of such Surety or Notice of Termination, the Owner may take over the work and prosecute same to completion by contract for the amount and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may take possession of and utilize in completing the work, such appliances and shop drawings as may be on the site of the work and necessary therefore.

44. **Other Contacts:** The Owner reserves the right to allow other work or to enter into other Contracts for work to be constructed or placed in or about the work herein described, and to order the starting and progress of such other Contracts at any time prior to the completion of this Contract. The Contractor hereby waives any claims for damages or extra compensation by reason of any real or supposed interference with his work.

45. **Suspension of Work:** The Owner reserves the right to suspend the whole or any part of the work to be done hereunder if work is not proceeding in accordance with the Contract Documents, without compensation to the Contractor for such suspension other than extending the time for

completing the work as much as it may have been delayed by such suspension. Such suspension shall be in the form of a written "Stop Order" issued by the Owner.

46. **Retainer:** In accordance with ORC Section 153.12 partial payments to the Contractor for labor performed under either a unit or lump sum price contract shall be made at the rate of ninety-two per cent of the estimates prepared by the Contractor and approved by the Engineer. All labor performed after the job is fifty per cent completed shall be paid for at the rate of one hundred per cent of the estimates submitted by the Contractor and approved by the Engineer.

When the major portion of the project is substantially completed and occupied, or in use, or otherwise accepted, and there exists no other reason to withhold retainage, the retained percentages held in connection with such portion shall be released and paid to the contractor, withholding only that amount necessary to assure completion.

47. **Final Inspection:** Owner shall make a final inspection upon completion of work; and if all the work required to be done under the Contract is found acceptable as required by the Contract Documents, he shall prepare and provide the Contractor a written statement indicating completion of all the work under the Contract.

48. **Final Estimate:** The Owner will pay to the Contractor the total earned compensation as stated in the Final Estimate, less all prior payments. All prior estimates and payments, including those relating to "Changes in Work" or "Ext a Work" shall be subject to correction by this Final Estimate for payment of the work included under these Contract Documents. The one (1) year guarantee period shall commence on the date of the Final Estimate. Final payment will not be released until a written waiver of liens is signed and submitted by all subcontractors and material suppliers.

49. The Engineer's Opinion of Probable Construction Cost is \$610,500.00.

50. **STATEMENT: Do not submit confidential documents or documents of any type that contain trade secrets. All materials submitted become public records once opened and may be copied upon request to anybody including competitive bidders.**

SECTION 00220 - NONCOLLUSION AFFIDAVIT

State of _____

BID Identification _____

CONTRACTOR _____, being first duly sworn, deposes and says that he is _____ (sole owner, a partner, president, secretary, etc.) of _____, the party making the foregoing BID; that such BID is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such BID is genuine and not collusive or sham; that said BIDDER has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or any one else to put in a sham BID, or that any one shall refrain from Bidding; that said BIDDER has not in any manner, directly or indirectly, sought by agreement, communication or conference with any one to fix the BID price of said BIDDER or of any other BIDDER, or to fix any overhead, profit, or cost element of such BID price, or of that of any other BIDDER, or to secure any advantage against the OWNER awarding the contract or anyone interested in the proposed contract; that all statement contained in such BID are true; and, further, that said BIDDER has not, directly or indirectly, submitted his BID price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith, to any corporation, partnership, company, association, organization, BID depository, or to any member or agent thereof, or to any other individual except to such person or persons who have a partnership or other financial interest with said BIDDER in his general business.

Signed:

Subscribed and sworn to before
me this ___ day of _____, 2018.

Seal of Notary

SECTION 00240 - BONDING AND INSURANCE REQUIREMENTS

A state or local unit of government receiving a grant from the federal government which requires contracting for construction of facility improvement shall follow its own requirements relating to bid guarantees, performance bonds, and payment bonds, except for contracts or subcontracts exceeding \$100,000. For contracts or subcontracts exceeding \$100,000, the Federal agency may accept the bonding policy and requirements of the grantee provided the Federal agency has made a determination that the Government's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

- a. A bid guaranty from each bidder. The "bid guaranty" shall consist of a firm commitment such as a bid bond in the amount of one hundred (100) percent of the bid price, or ten (10) percent of the bid price if certified check or other negotiable instrument accompanying a bid, as assurance the bidder will, upon acceptance of his/her bid, execute such contractual documents as may be required within the time specified.
- b. A performance bond on the part of the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

SECTION 00260 - BID GUARANTY AND CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

(Insert full name or legal title of Contractor and Address)

as Principal and _____
(Insert full name or legal title of Surety)

as Surety, are hereby held and firmly bound unto the Warren County Board of Commissioners hereinafter called the Obligee, in the penal sum of the dollar amount of the bid submitted by the Principal to the Obligee on _____ to undertake the project known as:

RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT

The penal sum referred to herein shall be the dollar amount of the Principal's bid to the Obligee, incorporating any additive or deductive alternate proposals made by the Principal on the date referred to above to the Obligee, which are accepted by the Obligee. In no case shall the penal sum exceed the amount of _____ DOLLARS, \$ _____. If this item is left blank, the penal sum will be the full amount of the Principal's bid, including alternates. Alternatively, if completed, the amount stated must not be less than the full amount of the bid, including alternates in dollars and cents. A percentage is not acceptable.

For the payment of the penal sum well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named Principal has submitted a bid on the above referred to project;

NOW, THEREFORE, if the Obligee accepts the bid of the Principal and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the Principal pays to the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid and such larger amount for which the Obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the Obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the Principal will pay the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect. If the Obligee accepts the bid of the Principal and within TEN days after the awarding of the contract, enters into a proper contract in accordance with

the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein; and

IF THE SAID PRINCIPAL SHALL well and faithfully perform each and every condition of such contract; and indemnify the Obligee against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications, and bills of material therefore; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract: we agreeing and assenting that this undertaking shall be for benefit of any materialman or laborer having a just claim, as well as for the Obligee herein; THEN THIS OBLIGATION SHALL be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of said contract or in or to the plans and specifications therefor shall in any wise affect the obligations of said surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

SIGNED AND SEALED this _____ day of _____ 2018.

PRINCIPAL

SURETY

By: _____

By: _____

Attorney-in-fact

Title: _____

Surety Agent's Name and Address:

SECTION 00280 - PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called
(Corporation, Partnership or Individual)

Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

WARREN COUNTY OHIO, BOARD OF COMMISSIONERS
406 Justice Drive
Lebanon, OH 45036

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____) in
lawful money of the United States, for the payment of which sum well and truly to be made, we
bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a
certain contract with the OWNER, dated the _____ day of _____,
2018, a copy of which is hereto attached and made a part hereof for the construction of:

RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the
undertakings, covenants, terms, conditions, and agreements of said contract during the original term
thereof, and any extensions thereof which may be granted by the OWNER, with or without notice
to the Surety and during the guaranty period(s), and if he shall satisfy all claims and demands
incurred under such contract, and shall fully indemnify and save harmless the OWNER from all
costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay
the OWNER all outlay and expense which the OWNER may incur in making good any default,
then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received, hereby stipulates and agrees that
no change, extension of time, alteration or addition of the terms of the contract or the WORK to be
performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its

obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in counterparts, each one of which shall be deemed an original, this the _____ day of _____ 2018.

ATTEST:

(Principal)

(SEAL)

By _____

ATTEST:

(SEAL)

(Surety)

IMPORTANT: Pursuant to Ohio Revised Code §122.87(A) defines surety company as, "... a company that is authorized by the department of insurance to issue bonds as a surety".

SECTION 00300 - EXPERIENCE STATEMENT

The Bidder is required to state in detail in the space provided below, what work he has done of a character similar to that included in the proposed contract, to give references and such other detailed information as will enable the Owner to judge of his responsibility, experience, skill and financial standing. Completion of this statement is required and must be submitted with the Bid in order to qualify for consideration for award of contract.

SUBMITTED FOR:

RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT

SUBMITTED BY:

Name: _____

(Print or Type Name of Bidder)
(A Corporation/A Partnership/An Individual)
[Bidder to strike out inapplicable terms.]

Address: _____

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter.

(Note: Attach Separate Sheets as Required)

1.0 How many years has your organization been in business as a contractor?

2.0 How many years has your organization been in business under its present name?

3.0 Has any construction contracts to which you have been a party been terminated by the owner; have you ever terminated work on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with a contract for which they furnished a bond on your behalf? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including name, address, phone number, and contact person of owner, architect or engineer, and surety, and name and date of project.

No _____ Yes _____, If yes, attach details described above.

10.0 List the states in which your organization is legally qualified to do business.

11.0 List name, address and telephone number of an individual who represents each of the following and whom OWNER may contact for a financial reference:

11.1 A surety:

Name _____

Contact _____

Address _____

_____ Phone No. _____

Financial Reference _____

11.2 A bank:

Name _____

Contact _____

Address _____

_____ Phone No. _____

Financial Reference _____

11.3 A major material supplier:

Name _____

Contact _____

Address _____

Phone No. _____

Financial Reference _____

12.0 Dated at _____, this ___ day of _____, 2018.

(Print or Type Name of Bidder)

By: _____

(Seal, if corporation)

------(Affidavit for Individual)-----

_____, being duly sworn, deposes and says that all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Partnership)-----

_____, being duly sworn, deposes and says that he/she is a member of the partnership of _____ and that all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Corporation)-----

_____, being duly sworn, deposes and says that he/she is _____ of _____, and that all of (Full name of Corporation)

the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Joint Venture)-----

_____ and _____, being duly sworn, deposes and says that they are members of _____ (Full Name of Joint Venture)

, and that all of the foregoing qualification information is true, complete, and accurate.

------(Acknowledgment)-----

_____, being duly sworn, deposes and says that he/she is
of _____;
(Name of Bidder)

affidavit and that he/she makes it on behalf of () himself/herself; () said partnership; () said corporation.

Sworn to before me this _____ day of _____, 2018, in the County of _____, State of _____.

(Notary Public)

My commission expires _____

(Seal)

END OF SECTION

Note to Fiscal Office: If any Real and/or Personal property taxes are delinquent, you must send a copy of this statement to the County Treasurer within 30 days of the date it is submitted.

WARNING: MAKING A FALSE STATEMENT ON THIS AFFIDAVIT MAY BE PUNISHABLE BY A FINE AND/OR IMPRISONMENT

**SECTION 00340 - EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS, BID
CONDITIONS, NON-DISCRIMINATION, AND EQUAL EMPLOYMENT OPPORTUNITY
AFFIDAVIT**

CERTIFICATE OF COMPLIANCE FOR EEO PURPOSES: (This section applies only to those projects that are funded by Federal and State monies)

All bidders on the project shall submit together with their bid, a copy of a valid Certificate of Compliance for Equal Employment Opportunity purposes contained herein.

A copy of the Certificate of Compliance is enclosed with this bid response?

Yes No

BIDDER'S EEO COVENANTS:

Throughout its performance of any contract awarded to it on this project, the bidder agrees to the following covenants:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry or sex. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry of sex. Such action shall include, but is not limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor will in all solicitations or advertisements for employees placed by or on behalf of the prime contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry or sex.
3. The contractor agrees to fully cooperate with the County, the State Equal Employment Opportunity Coordinator and with any other official or agency, or the State or Federal government which seeks to eliminate unlawful employment discrimination, and with all other State and Federal efforts to assure equal employment practices under its contract and the contractor shall comply promptly with all requests and directions from the County, the State Equal Opportunity Coordinator and any of the State of Ohio officials and agencies in this regard, both before and during construction.

4. Full cooperation as expressed in clause (3), above, shall include, but not be limited to, being a witness and permitting employees to be witnesses and complainants in any proceedings involving questions of unlawful employment practices, furnishing all information requested by the County and the State Equal Employment Opportunity Coordinator, and permitting access to its books, records, and accounts by the County and the State Equal Employment Opportunity Coordinator for purposes of investigation to ascertain compliance with applicable rules, regulations and orders.
5. In the event of the contractor's noncompliance with the nondiscrimination clauses of its contract or with any of the said rules, regulations, or orders, its contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further County construction contracts.

In the event that is contract is terminated for a material breach of EEO requirements, the contractor shall become liable for any and all damages which shall accrue to the County as a result of said breach.

6. The contractor will require the inclusion of language reflecting these same six covenants within every subcontract or purchase order it executes in the performance of its contract unless exempted by rules, regulations or orders of the State Equal Employment Opportunity Coordinator so that these provisions will be binding upon each subcontractor or vendor. The contractor will take such as the County may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in any litigation with a subcontractor, vendor or other party as a result of such direction by the County, the contractor may be requested to protect the interests of the County.

The bidder hereby adopts the foregoing covenants?

Yes No

PLEASE NOTE: The bidder's failure to adopt the Bidder's EEO Covenants, and complete the foregoing certification will cause the bidder's proposal to be rejected as being non-responsive.

SECTION 00360 - FINDINGS FOR RECOVERY AFFIDAVIT

STATE OF _____
COUNTY OF _____, SS:

_____, upon being duly cautioned and sworn, hereby states the following based on personal knowledge:

- 1) That he/she is _____ (title), of _____ (name of bidder) and authorized to execute this affidavit; and,
- 2) That _____ (name of bidder) is not a person or entity against whom a finding for recovery has been issued by the Auditor of State, which finding for recovery is unresolved as defined in Ohio Revised Code [General Provisions] Section 9.24 (B); and,
- 3) That _____ (name of bidder) does not appear in the database of unresolved findings of recovery maintained by the Auditor of State pursuant to Ohio Revised Code [General Provisions] Section 9.24 (D).

Affiant

Sworn to and subscribed in my presence this ___ day of _____, 2018.

Notary Public

My Commission expires: _____

SECTION 00400 - CONTRACT

SECTION 00400 - CONTRACT

THIS AGREEMENT, made this _____ day of _____, 2018, with the Warren County Board of Commissioners, 406 Justice Drive, Lebanon, Ohio, hereinafter called "Owner" and **ENTER CONTRACTOR NAME AND ADDRESS HERE**, doing businesses as (an individual, partner, a corporation) hereinafter called "Contractor."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Owner, the Contractor hereby agrees with the Owner to commence and complete the construction described as follows:

RAR WATER TREATMENT PLANT FILTER REHABILITATION PROJECT

hereinafter called the project, for the sum of **\$ENTER AMOUNT HERE AND WRITE IT OUT HERE**, and all work in connection therewith, under the terms as stated in the Conditions of the Contract; and as his (its or their) own proper cost and expense furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, Conditions of the Contract, the Specifications and Contract Documents. "Contract Documents" means and includes the following:

ADDENDUMS

VOLUME I

SECTION 00040 - INVITATION TO BIDDERS

SECTION 00100 - BID PROPOSAL

SECTION 00120 - EXCEPTION SHEET

SECTION 00130 - BIDDER IDENTIFICATION

SECTION 00200 - GENERAL INSTRUCTIONS TO BIDDERS

SECTION 00220 - NONCOLLUSION AFFIDAVIT

SECTION 00240 - BONDING AND INSURANCE REQUIREMENTS

SECTION 00260 - BID GUARANTY AND CONTRACT BOND

SECTION 00280 - PERFORMANCE BOND

SECTION 00300 - EXPERIENCE STATEMENT

SECTION 00320 - AFFIDAVIT OF NON-DELINQUENCY OF REAL AND/OR PERSONAL
PROPERTY TAX

SECTION 00340 - EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS, BID
CONDITIONS, NON-DISCRIMINATION, AND EQUAL EMPLOYMENT
OPPORTUNITY AFFIDAVIT

SECTION 00360 - FINDINGS FOR RECOVERY AFFIDAVIT

SECTION 00400 - CONTRACT

SECTION 00500 - WAGE RATE DETERMINATION

SECTION 00700 - GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

SECTION 00730 - TECHNICAL SPECIFICATIONS

CONTRACTOR hereby agrees to commence work under this contract on or before a date to be specified in a Written "Notice to Proceed" of the OWNER and shall complete all work within the following requirements:

- a. Substantial completion shall be within 150 days from Notice to Proceed.
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 180 days from Notice to Proceed.

Contractor also agrees to pay as liquidated damages, the sum of \$200.00 for each consecutive calendar day thereafter.

This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement. The nonperforming party shall have fifteen calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

OWNER may terminate or suspend performance of this Agreement for OWNER'S convenience upon written notice to the CONTRACTOR. CONTRACTOR shall terminate or suspend performance of the services/work on a schedule acceptable to the OWNER.

The CONTRACTOR will indemnify and save the OWNER, their officers and employees, harmless from loss, expenses, costs, reasonable attorneys fees, litigation expenses, suits at law or in equity, causes of action, actions, damages, and obligations arising from (a) negligent, reckless or willful and wanton acts, errors or omissions by CONTRACTOR, its agents, employees, licensees, consultants, or subconsultants; (b) the failure of the CONTRACTOR, its agents, employees, licensees, consultants or subconsultants to observe the applicable standard of care in providing services pursuant to this agreement; (c) the intentional misconduct of the CONTRACTOR, its agents, employees, licensees, consultants, or subconsultants that result in injury to persons or damage to property for which the OWNER may be held legally liable.

The CONTRACTOR does hereby agree to indemnify and hold the OWNER harmless for any and all sums for which the OWNER may be required to pay or for which the OWNER may be held responsible for failure of the CONTRACTOR or any subcontractors to pay the prevailing wage upon this project.

The OWNER agrees to pay the CONTRACTOR in the manner and at such times as set forth in the General Provisions such amounts as required by the Contract Documents.

This Contract shall be construed under the laws of the State of Ohio, and the parties hereby stipulate to the venue for any and all claims, disputes, interpretations, litigation of any kind arising out of this Contract being exclusively in the Warren County, Ohio Court of Common Pleas (unless both parties mutually agree in writing to alternate dispute resolution), as well as waiving any right to bring or remove such matters in or to any other state or federal court.

This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, this Agreement, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in this Agreement shall create any contractual relationship between any subcontractor and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in two counterparts, each of which shall be deemed an original on the date first above written.

WARREN COUNTY BOARD OF COMMISSIONERS
(Owner)

Tom Grossmann, President

ATTEST:

David G. Young

Name

Shannon Jones

(Seal)

ATTEST:

ENTER CONTRACTOR NAME HERE
(Contractor)

By: _____
Name

Title

Approved as to Form:

Assistant Prosecutor

SECTION 00500 - WAGE RATE DETERMINATION

PART 1 GENERAL

1.01 PREVAILING WAGES

Prevailing wage rates for the State of Ohio apply to this project. Contractors and Subcontractor(s) shall conform to the State of Ohio Department of Labor requirements, guidelines, and laws. Included in this section is a list of the Ohio Prevailing Wage Rates available at the time of publication. It is the responsibility of the Contractor and Subcontractor(s) to verify the wage rates prior to bidding and throughout the project. A complete list of Ohio Prevailing Wage Rates is available at the Ohio Wage and Hour website or from the Ohio Department of Commerce Wage and Hour Bureau.

John R. Kasich
Governor

Jacqueline T. Williams
Director



The Ohio Department of Commerce
Division of Industrial Compliance and Labor
Bureau of Labor and Worker Safety
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
614-644-2223
<http://www.com.ohio.gov>

PREVAILING WAGE PACKET

This packet of information is provided as a summary of the Prevailing Wage guidelines and responsibilities. The Ohio Revised Code, Chapter 4115 should be referred to for the exact words of the law. Also included are references and forms which should be helpful in the compliance of the Prevailing Wage Law.

PACKET INFORMATION INDEX

- A. The Ohio Department of Commerce – Division of Industrial Compliance, Wage and Hour Administration Investigators and their assigned counties
 - 1. The Wage and Hour Investigators for the State of Ohio are listed with their contact information
 - a. If you have questions or need assistance pertaining to Prevailing Wage, you can contact the Investigator in your area
- B. Prevailing Wage Guide for Public Authorities
 - 1. Notice of change of the Prevailing Wage Threshold Level
 - a. A notification will be sent to you when there is a change of the Prevailing Wage threshold level
 - 2. Outline of the Public Authority's responsibilities for Prevailing Wage
 - 3. Public Authority's Compliance Checklist form
 - a. A form for tracking the progress of a Prevailing Wage project
 - 4. Request form for Prevailing Wage Rates
 - a. PW Rates can be obtained on the website www.com.ohio.gov
 - 1. Prevailing Wage Determination Schedule of wages must be attached to and made part of the specifications for the project, and must be printed on the bidding blanks where the work is done by contact
 - 5. Bid Tabulation form
 - a. A form to be completed and returned to ODOC-DIC-Bureau of Wage and Hour Administration when the contract has been awarded
 - 6. Prevailing Wage Bonds form
 - a. Information needed to be kept on file by the PW Coordinator when bonds from the Public Authority are used for a project
- C. Prevailing Wage Guidelines for the Public Authority's Coordinator
 - 1. Guideline for the Prevailing Wage Coordinator
 - a. The Prevailing Wage complaint form and instructions can be obtained on the website www.com.ohio.gov
 - 2. Record of the Certified Payroll Reports Received form
 - a. Helpful form for recording the Certified Payroll Reports and the dates received from the contractors and subcontractors
 - 3. Employee Interview form
 - a. Helpful form for the use by the PW Coordinator when making on-site visits
 - 4. Employee vs. Independent Contractor
 - a. Helpful questions when determining if a person is an Employee or an Independent Contractor
- D. Prevailing Wage Guide for Contractors
(Incorporate this section in the Specs. or supply copies for the pre-construction meeting)
 - 1. Outline of responsibilities for the Prevailing Wage Contractor
 - 2. Notification form from the Contractor to the Employee
 - a. The contractor must submit to employees a completed and signed notification form
 - b. Some PW Coordinators may require a copy of the completed Notification to the Employee form be submitted with the Certified Payroll Reports
 - 3. Certified Payroll Report form
 - a. The contractor can use any form/format he chooses as long as ALL the information has been provided
 - 4. Certified Payroll Report form instruction sheet
 - 5. Corrected Certified Payroll Report Example
 - 6. Affidavit of Compliance form
 - a. No Public Authority shall make final payment unless the Final Affidavits have been filed by the contractors and subcontractors



John R. Kasich
Governor

Jacqueline T. Williams
Director

INVESTIGATORS CONTACT INFORMATION

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov
TTY/TDD: 1-800-750-0750

The Ohio Department of Commerce is an Equal Opportunity Employer and Service Provider



Department of Commerce

Division of Industrial Compliance

John R. Kasich, Governor

Jacqueline T. Williams, Director

Bureau of Wage and Hour Administration

6606 Tussing Road - PO Box 4009

Reynoldsburg, OH 43608-9009

Phone 614-644-2239 | Fax 614-728-8639

TTY/TDD 800-750-0750

com.ohio.gov

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PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors' responsibilities. For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

General Information

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$250,000 for new construction or \$75,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$91,150 for new construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction or \$27,309 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting of a public improvement that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction.

- a) Thresholds are to be adjusted biennially by the Administrator of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration
- b) Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census*, but may not increase or decrease more than 3% for any year

Penalties for violation

Violators are to be assessed the wages owed, plus a penalty of 100% of the wages owed.

Intentional Violations

If an intentional violation is determined to have occurred, the contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means "a willful, knowing, or deliberate disregard for any provision" of the prevailing wage law and includes but is not limited to the following actions:

- Intentional failure to submit payroll reports as required, or knowingly submitting false or erroneous reports.
- Intentional misclassification of employees for the purpose of reducing wages.
- Intentional misclassification of employees as independent contractors or as apprentices.
- Intentional failure to pay the prevailing wage.
- Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration.
- Intentionally employing an officer, of a contractor or subcontractor, that is known to be prohibited from contracting, directly or indirectly, with a public authority.

Responsibilities

- A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration, for the classification of work being performed.
 1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.

2. Overtime must be paid at time and one-half the employee's base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
 3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration - must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.
- B. Use of Apprentices and Helpers cannot exceed the ratios permitted in the wage rate schedules.
1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
 2. Contractors must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.
- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Department of Commerce, Division of Industrial Compliance, and Labor, Bureau of Wage and Hour Administration or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
1. Time cards, time sheets, daily work records, etc.
 2. Payroll ledger\journals and canceled checks\check register.
 3. Fringe benefit records must include program, address, account number, & canceled checks.
 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent in Ohio.
- D. Prevailing Wage Rate Schedule must be posted on the job site where it is accessible to all employees.
- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.
- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
1. **Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.**
- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. A copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.
- H. Supply all subcontractors with the Prevailing Wage Rates and changes.
- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
1. Employees' names, addresses, and social security numbers.
 - (a) Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 2. Employees' work classification.
 - (a) Be specific about the laborers and/or operators (Group)
 - (b) For all apprentices, show level/year and percent of journeyman's rate
 3. Hours worked on the project for each employee.

- (a) The number of hours worked in each day and the total number of hours worked each week.
 4. Hourly rate for each employee.
 - (a) The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.
 - (b) All overtime worked is to be paid at time and one-half for all hours worked more than forty (40) per week.
 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - (a) When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - (b) When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by **dividing the total yearly contribution by 2080**.
 6. Gross amount earned on all projects during the pay period.
 7. Total deductions from employee's wages.
 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete; and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Provide a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.

OHIO DEPARTMENT OF COMMERCE Division of Industrial Compliance Bureau of Wage and Hour Administration Chief, Stephen Clegg	6606 Tussing Road, PO Box 4009 Reynoldsburg, Ohio 43068-9009 614-644-2239 Fax: 614-728-8639 www.com.ohio.gov
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INVESTIGATORS and THEIR ASSIGNED COUNTIES

#48 Dave Horvath PO Box 1512 Lima, Ohio 45802-1512 Voice: (419)302-1200 Fax : (614) 728-8639 Dave.Horvath@com.state.oh.us	Allen *
#30 Mike McKee PO Box 1342 Cambridge, Ohio 43725-2247 Voice: (740) 432-1987 Michael.McKee@com.state.oh.us	Guernsey *
#56 Shawn Miles PO Box 2547 North Canton, Ohio 44720 Voice: (614) 496-9076 Shawn.Miles@com.state.oh.us	Stark *
#37 David Rice PO Box 291843 Kettering, Ohio 45429 Voice: (740) 502-0883, Fax: (614)995-7768 Dave.Rice@com.state.oh.us	Montgomery *
#35 Sean Seibert PO Box 422 Painesville, Ohio 44077-3938 Voice: (614) 557-8662 Fax: (614) 232-9541 Sean.Seibert@com.state.oh.us	Lake *

<p>#11 Kela D. Thompson 6606 Tussing Rd, PO Box 4009 Reynoldsburg, Ohio 43068-9009 Voice: (614) 728-5007 Fax: (614) 232-9537 Kela.Thompson@com.state.oh.us</p>	<p>Franklin *</p>
<p>* Headquarter County</p>	
<p>Stephen Clegg, Chief 6606 Tussing Rd, PO Box 4009 Reynoldsburg, Ohio 43068-9009 Voice: (614) 728-8686 Fax: (614) 728-8639 Stephen.Clegg@com.state.oh.us</p>	<p>#90 Jackie Clark, Supervisor 6606 Tussing Rd, PO Box 4009 Reynoldsburg, Ohio 43068-9009 Voice: (614) 728-5019 Fax: (614) 728-8639 Jackie.Clark@com.state.oh.us</p>



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDE
FOR
PUBLIC AUTHORITIES

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
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TTY/TDD: 1-800-750-0750

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PREVAILING WAGE THRESHOLD LEVELS

IMPORTANT NOTICE

Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the Public Authority shall have the Ohio Department of Commerce-Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.

“New” construction threshold for <i>Building Construction</i>:	\$250,000
---	------------------

“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” threshold level for <i>Building Construction</i>:	\$75,000
---	-----------------

As of January 1, 2018:	
“New” construction that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$91,150

“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$27,309
---	-----------------

- A) Thresholds are to be adjusted biennially by the Director of the Ohio Department of Commerce.
- B) Biennial adjustments to threshold levels are made according to the Building Cost for Skilled Labor Index published by McGraw-Hill’s Engineering News-Record, but may not increase or decrease more than 3% for any year.

If there are questions concerning this notification, please contact:

Ohio Department of Commerce
 Division of Industrial Compliance
 Bureau of Wage and Hour Administration
 6606 Tussing Road, PO Box 4009
 Reynoldsburg, Ohio 43068-9009
 Phone: 614-644-2239
 Fax: 614-728-8639
www.com.ohio.gov

Public Authority Responsibilities
ORC Chapter 4115: Wages and Hours on Public Works
(Prevailing Wage Coordinator)

1. Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the public authority shall have the Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.
 - a) "New" construction has a threshold level of \$250,000.
 - b) "Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" has a threshold level of \$75,000.
 - c) "New" construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction has a threshold level of \$91,150.
 - d) "Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction has a threshold of \$27,309.
 - i.) Thresholds are to be adjusted biennially by the Director of Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration.
 - ii.) Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census, but may not increase or decrease more than 3% for any year.
2. Every contract for public work shall contain a provision that each worker employed by the contractor or subcontractor, or other person about or upon the public work, must be paid the prevailing rate of wages.
3. If contracts are not awarded or construction undertaken within ninety days (90) from the date of the determination of the prevailing wage there shall be a re-determination of the wage rates before the contract is awarded.
4. Within seven (7) working days after the receipt of notification of a change in the prevailing wage rates, the public authority shall notify all affected contractors and subcontractors. If it is determined that a contractor or subcontractor has violated sections 4115.03 to 4115.16 of the Ohio Revised Code because they were not notified as required, **the public authority is liable** for any back wages, fines, damages, court costs and attorney's fees for the period of time covering the receipt of wage changes, until they give the required notice.
5. No public authority shall award a contract for a public improvement to any contractor or subcontractor whose name appears on the list of debarred contractors. This list is filed with the Secretary of State by the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration **The filing of the notice of conviction with the secretary of state constitutes notice to all public authorities.** These contractors are prohibited from working on public improvements for periods ranging from one to three years. The list of debarred contractors can be located on the website www.com.ohio.gov/laws
6. A public authority must designate and appoint **one of its own employees** to serve as the Prevailing Wage Coordinator during the life of the contract for constructing the public improvement. A Prevailing Wage Coordinator must be appointed no later than ten days before the first payment of wages by contractors to employees working on the public improvement.

PUBLIC AUTHORITY'S COMPLIANCE CHECKLIST FOR PREVAILING WAGE

Project:		Number:
Department:		Phone#:
PW Coordinator:		Phone#:
Architect/Engineer:		Phone#:
Contractor:		Phone#:
Contact Person:		Title:
General Contractor:		Prime Contractor:
		Construction Mgr:
Date Completed	Compliance Item Description	
	1.	Request Prevailing Wage Determination Schedule from ODOC-DIC-Wage & Hour
	2.	Received Prevailing Wage Determination Schedule
	3.	Incorporate Determination Schedule in Specs./Bidding Blanks
	4.	Incorporate notice of Prevailing Wage requirements in Invitation for Bids/Notice to Bidders
	5.	Incorporate Prevailing Wage requirements in Contract
	6.	Submit complete Invitation for Bid to ODOC-DIC-Wage & Hour
	7.	Invitation for Bids
	8.	Bid Opening
	9.	Check Listing of Violators
	10.	Award of Contract. (see note)
	11.	Submit Bid Tabulation/Award to ODOC-DIC-WAGE & HOUR
	12.	Notice to Successful Bidder
	13.	Work Commenced...(see note)
	14.	Appoint Prevailing Wage Coordinator
	15.	Received list of Subcontractors' names, addresses, phone #'s & email's
	16.	Received Payroll Date Schedule
	17.	Received Registered Apprenticeship Agreement Certifications
	18.	Received Deduction Agreements
	19.	Received Payroll Reports with Certification...(see attachment)
	20.	Visited project site
	21.	Received Changes to Determination Schedule
	22.	Notice to Contractors of Determination Schedule change
	23.	Request Final Compliance Affidavit from contractors & subcontractors
	24.	Received Final Affidavits from all contractors & subcontractors
	25.	Certify Final Payment

Note: If contract is not awarded or construction undertaken within 90 days from the date of establishment of the Prevailing Wage Rates, a re-determination of the Prevailing Wage Rates is required.

REQUEST FOR STATE OF OHIO PREVAILING WAGE RATES

Date	(Mark (X) One) ~ Residential ~ Construction
------	---

Project Information (only one project and one county per request form please)

County of Project	Project Name	This form MUST be filled out COMPETELY & CORRECTLY for us to process your request. Forms not completed correctly will be RETURNED TO THE SENDER .
Site Address	City	

Owner/Public Authority	Prevailing Wage Rates can be obtained on the website www.com.ohio.gov
------------------------	---

Address	Telephone Number	ODOC-DIC-WAGE & HOUR DATE STAMP
City	Zip Code	
PW Coordinator	Telephone Number	
Issuing Authority of Bonds	Type of Financing	

Estimated Total Overall Project Cost ~ New Construction ~ "Old" Construction * A copy of this form will be returned to you with your wage rates. You must send that copy to us with your bid tabulations once the contract has been awarded.	PLEASE MAIL THIS REQUEST TO: Ohio Department of Commerce Division of Industrial Compliance Bureau of Wage & Hour Administration 6606 Tussing Road, PO Box 4009 Reynoldsburg, Ohio 43068-9009 PHONE: (614) 644-2239 FAX: (614) 728-8639
---	--

Expected Date of Contract Award	PHONE: (614) 644-2239 FAX: (614) 728-8639
---------------------------------	--

Projected Completion Date	
---------------------------	--

Send Wage Rates to: (contractors are charged \$5.00 per county)	ODOC-DIC-W&H DATE STAMP (bid tab)
---	--

~ Mail ~ Pick Up ~ Federal Express Account Number	
---	--

Name	Company or Public Authority	
------	-----------------------------	--

Address	
---------	--

City	Zip	Telephone Number
------	-----	------------------

* "Old" construction is reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

INDUSTRIAL DEVELOPMENT BONDS

Bond Projects require the Public Authority to keep the following information on file			
1. Type of Bonds issued:	Amount:		
2. The total cost of the Project:			
3. The other type of financing involved in the project:			
4. Portion of the project being constructed with each type of financing:			
5. Are Prevailing Wage Rates being applied to all construction on the project: ~ Yes ~ No			
6. The name of the political subdivision who issued the bonds:			
7. When were the bonds issued:			
8. For what purpose were the bonds issued:			
9. Who handles the funds once the bonds are sold:			
10. Who is the lending institution that purchased the bonds:			
11. How are the funds to be paid out:			
12. When are the funds to be paid out:			
13. Who is the Bond Council:			
14. Who has been appointed as the Prevailing Coordinator:			
PWC Address:			
City:	OHIO	Zip:	Telephone #:
15. Obtain a copy of the inducement and other official documents for the issuance of the bonds.			



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDELINES
FOR THE
PUBLIC AUTHORITIES
PW COORDINATOR

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance and Labor
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov
TTY/TDD: 1-800-750-0750

The Ohio Department of Commerce is an Equal Opportunity Employer and Service Provider

Prevailing Wage Coordinator Guidelines

For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

- A. Attend any pre-bid and/or pre-construction meetings.
 - 1. To explain the prevailing wage rate requirements.
 - 2. To explain the contractor's responsibilities.
- B. Set up and maintain files containing all contractors' and subcontractors' payroll reports, affidavits, and related documents. These files must be available for public inspection.
- C. Obtain from each contractor a list of their subcontractors' names, addresses, telephone numbers, and email addresses.
- D. Require each contractor and subcontractor to provide their project dates. This will be used to make a time schedule for receiving their certified payrolls.
- E. Obtain from each contractor, the name and address of their Bonding/Surety Company.
- F. Obtain from out-of-state corporations, the name and address of their Statutory Agent. (This agent must be located in the State of Ohio and registered with the Ohio Secretary of State.)
 - 1. Records made in connection with the public improvement must not be removed from the State of Ohio for the period of one year following the completion of the project.
- G. Supply contractors with any changes in the Prevailing Wage Rates.
- H. Within two weeks after the first pay, obtain a certified payroll report from each contractor. A certified report is one that is sworn to and signed by the contractor.
 - 1. If the job will exceed four months, all reports after the initial report can be filed once per month. (The initial report must be filed within two weeks.)
 - 2. If the job will last less than four months, all reports are to be filed weekly after the initial report.
- I. Establish and follow procedures to monitor compliance by contractors and subcontractors.
 - 1. Visit project to verify posting requirements and job classifications.
 - 2. Review certified payroll reports to ensure they are submitted in a timely fashion and complete with the following information for each employee:
 - a) Name, current address, and their social security number or last 4 when permitted
 - b) Classification (must be specific for laborers and operators, including level)
 - c) Hours worked on the project
 - d) Hourly rate
 - e) Fringe benefits, if applicable
 - f) Total hours worked for the week (all jobs)
 - g) Gross wages, all deductions, net pay
 - 3. Compare rates and fringes reported to rates in prevailing wage schedule.
- J. Upon completion of the project and prior to the final payment, require an affidavit of compliance from each contractor and subcontractor. **No public authority shall make final payment to any contractor or subcontractor unless the final affidavits have been filed by the respective contractor and subcontractor. (O.R.C. section 4115.07)**
- K. Report any non-compliance to Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage & Hour Administration. The PW complaint form and instructions can be obtained on the website www.com.ohio.gov.

RECORD OF THE CERTIFIED PAYROLL REPORTS RECEIVED

Project:		Number:
Contractor:		Phone #: Email:
General Contractor:	Prime Contractor:	Subcontractor:
Date work commenced:	Completed:	Final Affidavit:

Payroll	Payroll Date	Date Received		Payroll	Payroll Date	Date Received
1				33		
2				34		
3				35		
4				36		
5				37		
6				38		
7				39		
8				40		
9				41		
10				42		
11				43		
12				44		
13				45		
14				46		
15				47		
16				48		
17				49		
18				50		
19				51		
20				52		
21				53		
22				54		
23				55		
24				56		
25				57		
26				58		
27				59		
28				60		
29				61		
30				62		
31				63		
32				64		

EMPLOYEE VS. INDEPENDENT CONTRACTOR

EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the employer have the right to control and direct worker?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the worker receive instructions about how and where the work is to be done instead of the employer merely specifying the desired result?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Is payment based on time spent rather than a set price for the work to be performed?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the worker devote virtually all his working time to the employer rather than offering services to the general public?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the worker performing services make their services available to the general public and/or other businesses?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Is there a continuing relationship between employer and worker?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Can the worker be discharged at will?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Did the employer train the worker for the job?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the employer have employees performing the same work as the independent contractor?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR

PREVAILING WAGE INVESTIGATION EMPLOYEE INTERVIEW

Failure to complete this interview form may reduce our ability to recover back wages which may be owed to you.

Project:		Case #:	
Address:		City:	County:
Employee Name:			Last 4 digits of the SS#:
Address:		City:	State: Zip:
Telephone #: (Home)	(Work)	Email:	Best time to be reached:

Another source by which we can contact you. (Someone not living at your address):

Name:	Relationship:	Telephone #:
-------	---------------	--------------

Contractor's Name:	Telephone #:
--------------------	--------------

Address:	City:	State:	Zip:
----------	-------	--------	------

Date hired:	Date started on this project:	Approximate hours - Straight time:	Overtime:
-------------	-------------------------------	------------------------------------	-----------

Method of recording hours: ~ Time Card ~ Called into office	Recorded by: ~ Employee ~ Foreman
---	---

Did you keep a personal record of your hours worked on this project? ~ Yes ~ No	Do you have check stubs? ~ Yes ~ No
---	---

Did anyone else keep a personal record? ~ Yes ~ No	If yes, who:
--	--------------

List your job classification(s):	<input type="checkbox"/> Journeyman <input type="checkbox"/> Helper <input type="checkbox"/> Apprentice - Level
----------------------------------	--

List your specific job duties:	List tools/equipment used:
--------------------------------	----------------------------

Hourly rate of pay for this project:	Your regular rate of pay:
--------------------------------------	---------------------------

Fringe benefits paid by contractor: ~ None ~ Health Insurance ~ Life Insurance ~ Pension ~ Bonus	~ Vacation - Amount _____ ~ Holidays - Amount _____ ~ Apprenticeship training ~ Profit Sharing
~ Other (list):	

Did you work overtime? ~ Yes ~ No	Were hours over 40 per week paid at time and one half? ~ Yes ~ No
---	---

When is your pay day?	Method of payment: ~ Check ~ Cash ~ Direct Deposit
-----------------------	---

List names of co-workers on this project:

Comments:	Please provide a detailed list of the dates, times and hours worked within each classification that may apply to the work performed on a separate sheet.
-----------	--

<p>SIGNATURE AND NOTARY</p> <p>Affiant is further informed that Section 2921.13 of the Ohio Revised Code provides a penalty of a misdemeanor of the first degree and that prosecution will be pursued of those persons who "knowingly swear or affirm the truth of a false statement when ...the statement is sworn or affirmed before a notary public..."</p> <p>Sworn to before me and subscribed by the said:</p> <p>_____</p> <p>in my presence this _____ day of _____, 20_____.</p> <p>_____ Notary Public</p>	<p>I hereby certify that this is a true statement to the best of my knowledge and belief.</p> <p>Signature _____ Date _____</p> <p>Return to: Ohio Department of Commerce Division of Industrial Compliance & Labor Bureau of Wage and Hour Administration 6606 Tussing Road P.O. Box 4009 Reynoldsburg, Ohio 43068-9009 (614) 644-2239 www.com.ohio.gov</p>
---	---

Signature of PW Coordinator:	Date:
------------------------------	-------

EMPLOYEE VS. INDEPENDENT CONTRACTOR-continued

EMPLOYEE	↔	<input type="checkbox"/> YES	Does the worker perform services personally rather than delegating them to others?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the employer set a specific time when the individual services are to be performed?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the employer furnish the tools and materials used by the worker performing services?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Is the employer assuming all the financial risk, rather than the worker making a significant financial investment in the job and having the opportunity to realize a profit or loss from the work?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services publicly advertise these services in for example, the newspaper or yellow pages ?	<input type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services have a business license?	<input type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services operate d.b.a. or under a tradename?	<input type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDE FOR CONTRACTORS

(Revised January 2016)

OHIO DEPARTMENT OF COMMERCE

Division of Industrial Compliance and Labor

Bureau of Wage and Hour Administration

6606 Tussing Road, PO Box 4009

Reynoldsburg, Ohio 43068-9009

Phone: 614-644-2239

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PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors' responsibilities. For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

General Information

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$250,000 for new construction or \$75,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$88,495 for new construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction or \$26,514 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting of a public improvement that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction.

- a) Thresholds are to be adjusted biennially by the Administrator of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration
- b) Biennial adjustments to threshold levels are made according to the Construction Cost Index for Commercial Construction published by McGraw Hill's Engineering News Record.

Penalties for violation

Violators are to be assessed the wages owed, plus a penalty of 100% of the wages owed.

Intentional Violations

If an intentional violation is determined to have occurred, the contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means "a willful, knowing, or deliberate disregard for any provision" of the prevailing wage law and includes but is not limited to the following actions:

- Intentional failure to submit payroll reports as required or knowingly submitting false or erroneous reports.
- Intentional misclassification of employees for the purpose of reducing wages.
- Intentional misclassification of employees as independent contractors or as apprentices.
- Intentional failure to pay the prevailing wage.
- Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration.
- Intentionally employing an officer, of a contractor or subcontractor, that is known to be prohibited from contracting, directly or indirectly, with a public authority.

Responsibilities

- A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration, for the classification of work being performed.
 1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.
 2. Overtime must be paid at time and one-half the employee's base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
 3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of Ohio Department of

Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration - must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.

- B. Use of Apprentices and Helpers cannot exceed the ratios permitted in the wage rate schedules.
 - 1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
 - 2. Contractors must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.

- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
 - 1. Time cards, time sheets, daily work records, etc.
 - 2. Payroll ledger/journals and canceled checks/check register.
 - 3. Fringe benefit records must include program, address, account number, & canceled checks.
 - 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 - 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent in Ohio.

- D. Prevailing Wage Rate Schedule must be posted on the job site where it is accessible to all employees.

- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.

- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
 - 1. **Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.**

- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. A copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.

- H. Supply all subcontractors with the Prevailing Wage Rates and changes.

- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
 - 1. Employees' names, addresses, and social security numbers.
 - (a) Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 - 2. Employees' work classification.
 - (a) Be specific about the laborers and/or operators (Group)
 - (b) For all apprentices, show level/year and percent of journeyman's rate
 - 3. Hours worked on the project for each employee.
 - (a) The number of hours worked in each day and the total number of hours worked each week.
 - 4. Hourly rate for each employee.
 - (a) The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.

- (b) All overtime worked is to be paid at time and one-half for all hours worked more than forty (40) per week.
 - 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - (a) When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - (b) When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by **dividing the total yearly contribution by 2080.**
 - 6. Gross amount earned on all projects during the pay period.
 - 7. Total deductions from employee's wages.
 - 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete; and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Provide a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.

PREVAILING WAGE NOTIFICATION to EMPLOYEE

5.05...the contractor or subcontractor shall furnish each employee NOT covered by a collective bargaining agreement written notification of the job classification to which the employee is assigned, the prevailing wage determined to be applicable to that classification, separated into the hourly rate of pay and the fringe payments, and the identity of the prevailing wage coordinator appointed by the public authority. The contractor or subcontractor shall furnish the same notification to each affected employee every time the job classification of the employee is changed.

Project Name: _____ Job Number: _____

Contractor: _____

Project Location: _____

Prevailing Wage Coordinator	Employee
Public Authority:	Name:
Name of PWC:	Street:
Address:	City:
City:	State/Zip:
State/Zip:	Phone:
	Email:
Phone:	Last 4 Digits of SS #:

You will be performing work on this project that falls under these classifications. You will be paid the appropriate rate for the type of work you are performing.

Classification:	Prevailing Wage Rate Total Package:	Minus your fringe benefits *:	Your hourly base rate and overtime:
			/
			/
			/
			/
			/
			/

Hourly fringe benefits paid on your behalf by this company (Yearly amount the company pays divided by 2080):

Fringe	Amount	Fringe	Amount
Health Insurance		Vacation	
Life Insurance		Holiday	
Pension		Sick Pay	
Other (Specify)		Training	
Other (Specify)		Total Hourly Fringes *	

Contractor's Signature: _____ Date: _____

Employee's Signature: _____ Date: _____

INSTRUCTIONS FOR PREPARING CERTIFIED PAYROLL REPORTS

General:

Contractors and subcontractors are required by law to submit certified payroll reports for work on projects covered by Ohio's Prevailing Wage Law. This form meets the reporting requirements established by Ohio Revised Code Chapter 4115. The use of this form is not mandatory; employers may submit their own forms provided that all of the required information is included. This form may be reproduced, or additional copies obtained from:

Ohio Department of Commerce
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, P.O. Box 4009
Reynoldsburg, Ohio 43068-9009
614-644-2239
www.com.ohio.gov

Certified Payroll Heading:

Employer name and address: Company's full name and address... Indicate if the company is a subcontractor.

Subcontractor: Check and list the name of the General Contractor or Prime.

Project: Name and location of the project, including county.

Contracting Public Authority: Name and address of the contracting public authority... (Owner of the project).

Week Ending: Month, day, and year for last day of reporting period.

Payroll #: Indicates first, second, third, etc. payroll filed by the company for the project.

Page indicator: number of pages included in the report.

Project Number: Determined by the public authority... If there is no number leave blank.

Payroll Information by column:

1. Employee Name, Address and Social Security number: This information must be provided for all employees that perform physical labor on the project. The Social Security number is required; the last four digits may be permitted by the public authority. Corporate officers, partners, and salaried employees are considered employees and must be paid the prevailing rate. Individual sole proprietors do not have to pay themselves prevailing rate but must report their hours on the project.
2. Work Class: List classification of work actually performed by employee. If unsure of work classification, consult the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration. Employees working more than one classification should have separate line entries for each classification. Indicate what year/level for Apprentices. Be specific when using laborer and operator classifications; for example, Backhoe Operator or Asphalt Laborer or by "Group".
3. Hours Worked, Day & Date: In the first row of column 3, enter days of the company's pay period for example; M T W TH F S S. The second row is for the date that corresponds with each day for the pay period. In the employee information section, enter the number of hours worked on the prevailing wage project and which day the hours were worked. Separate rows are labeled for (ST) straight time hours and (OT) overtime hours. All hours worked after 40, must be paid at the appropriate overtime rate.
4. Project Total Hours: Total the hours entered for pay period.
5. Base Rate: Enter actual rate per hour paid to the employee. The overtime hourly rate is time and one-half the base rate listed in the prevailing wage schedule plus fringe benefits at straight time rate. The prevailing wage schedule lists the base rate plus fringe benefit amounts. These amounts added together equal the total prevailing wage rate. Employers must pay this total amount in one of three ways.
 - 1) Total rate may be paid in entirety in the base rate to the employee; in which case, the cash designation will be checked for fringe benefits.
 - 2) Total rate may be paid as listed in prevailing wage rate schedule with total fringe amounts paid approved plans.
 - 3) Total rate may be paid with a combination of base rate and fringe payments to approved plans in amounts other than those listed in schedule.
6. Project Gross: Enter total gross wages earned on the project for straight time and overtime. Project hours "X" base rate should equal project gross.
7. Fringes: If fringe benefits are paid in the hourly base rate, indicate this by marking the Cash space. If fringe benefits are paid to approved plans as listed in the prevailing wage rate schedule, mark the space Approved Plans. If fringe benefits are paid partially in the base rate and partially to approved plans, mark the space Cash & Approved Plans. List the hourly amount paid to approved plans for each fringe. If payments are not made on a per hour basis, calculate the hourly fringe credit by dividing the yearly employer contribution by the lesser of: hours actually worked in the year (these must be documented) or 2080. Fringe benefits include: Employer's share of health insurance, life insurance, retirement plan, bonus/profit sharing, sick pay, holiday pay, personal leave, vacation, and education/training programs. If unsure of a possible fringe benefit, contact the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration.
8. Total Hours All Jobs: Total all hours worked during the pay period including non-prevailing wage jobs.
9. Total Gross All Jobs: Gross amount earned in the pay period for all hours worked.
10. Self explanatory.
11. Self explanatory.

Certified Payroll Report

Report for: _____ **Contract No.:** _____ **Payroll No.:** _____
Company:¹⁾ _____ **If Sub, GC/Prime Contractor Name:** _____ **Project Name & Location:** _____
Address: _____ **Public Authority (Owner):** _____ **Week Ending:** _____
City, State, Zip _____ **Phone No.:** _____ **Sheet:²⁾** _____ of _____

1. Employee Name, Address, & SS# (Last 4 digits if permitted)	2. Work Class ³⁾	3. Prevailing Wage Project Hours Worked - Day & Date	4. Total Hours	5. Base Rate	6. Project Gross	7. Fringes:					8. Total Hrs for all Jobs			9. Total Gross on All Jobs		10. Total Deductions		11. Net Pay on All Jobs
						Fringe Rate Your Company Pays Per Hour					Total	Other	Total	Gross on All Jobs	Deductions	Total	Net	
						H&W	Pens	Vac	Hol	Other								
	OT																	
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1) By signing below, I certify that: (1) I pay, or supervise the payment of the employees shown above; (2) during the pay period reported on this form, all hours worked on this project have been paid at the appropriate prevailing wage rate for the class of work done; (3) the fringe benefits have been paid as indicated above; (4) no rebates or deductions have been or will be made, directly or indirectly from the total wages earned, other than permissible deductions as defined in ORC Chapter 4115; and (5) apprentices are registered with the U.S. Dept. of Labor, Bureau of Apprenticeship and Training. I understand that the willful falsification of any of the above statements may subject the Contractor or Subcontractor to civil or criminal prosecution.

Type or Print Name and Title _____ Signature _____ Date _____

²⁾ Attach additional sheets as necessary. ³⁾ Type in continuous line, text will wrap.

**FINAL
AFFIDAVIT OF COMPLIANCE
PREVAILING WAGES**

I, _____ do hereby certify
(Name of person signing affidavit) (Title)

that the wages paid to all employees of : _____
(Company name)

for all hours worked on project: _____
(Project name)

_____ (Project location)

During the period from _____ to _____ are in compliance with
(Project Dates)

Prevailing Wage requirements of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages paid in connection with this project, other than those provided by law.

(Signature of Officer or Agent)

(Print Name of Officer or Agent)

Sworn to and subscribed in my presence this _____ day of _____, 20____.

(Notary Public)

The above affidavit must be executed and sworn to by the officer or agent of the contractor or subcontractor who supervises the payment of employees. This affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.

of a crew per Article VIII paragraph 65, will not be subject the apprenticeship ratios in this collective bargaining agreement.

DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if they are required to have CDL.

Class 1 - Air Compressors on Steel Erection; Barrier Moving Machine; Boiler Operators, on Compressors or Generators, when mounted on a rig; Cableways, Combination Concrete mixers & Towers; Concrete Pumps; Concrete Plants (over 4 yd capacity); Cranes (all types, including Boom Trucks, Cherry Pickers); Derricks; Draglines, Dredgers (dipper, clam or suction); Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls, Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial - Type Tractors; Jet Engine Dryers (D8 or D9), Diesel Tractors; Locomotives (standard gage); Maintenance Operators (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Side Booms; Slip Form Pavers; Tower Dericks; Tree Shredders; Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators. Rough Terrain Fork-lift with Winch/Hoist; Compact Cranes, track rubber over 4,000 pound capacity, self-erecting cranes; stationary, track or truck (all configurations) Bucket trench machines (over 24 inches wide).

Class 2 - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or skid steer loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Endloaders; Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Maintenance Operators, Class B (Portage and Summit Counties only); Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Trench Machines (24inch wide and under); Vermeer Type Concrete saw. Material Transfer Equipment (Shuttle buggy) Asphalt; All rotomills,grinders and planers of all types. Horizontal Directional Drill (Over 50,000 ft.lbs.thrust and over)

Class 3 - A-Frames; Air Compressors, on tunnel work (low Pressure); Asphalt Plant Engineers; Bobcat-type and/or skid steer loader with or without attachments; Power Boilers (15 lbs pressure and over); Highway Drills (all types); Rollers, asphalt; Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rotator (lime-soil Stabilizer), Switch & Tie Tampers (without lifting and aligning device); Locomotives (narrow gage); Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Utilities Operators, (small equipment); Welding Machines; Material hoist/elevators. Articulating/straight bed end dumps if assigned (minus \$4.00 per hour).

Class 4 -Ballast Re-locator; Backfillers, Batch Plants; Bar and Joint Installing Machines; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yd and under); Conveyors (highway); Concrete Saws (multiple); Crushers; Deckhands; Farm type tractors, with attachments (highway), except masonry; Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway); Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers; Plant Mixers; Post Drivers; Post Hole Diggers (power auger); Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Tractors, pulling sheepsfoot rollers or graders; Steam Firemen; Vibratory Compactors, with integral power.

Class 5 - Compressors (portable, Sewer, Heavy and Highway); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters; Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen; Drum Fireman (in Asphalt Plant); Oil Heaters (Asphalt Plant); Tire Repairmen; VAC/ALLS; Fueling and greasing (plus \$3.00), compact cranes: track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

(1) Registered Apprentice or trainee Engineer through the referral when they are available. An apprentice, while employed as part of a crew per Article VIII, paragraph 77, will not be subject to the apprenticeship ratios in this collective bargaining agreement

CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if required to have CDL

Class 1 - Barrier Moving Machine; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types) Derricks (all types); Draglines Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Gradalls; Helicopter Operators; hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Hydraulic Gantry (lift system); Laser Finishing Machines; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Engineers (Mechanic and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms, Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Rail Tamper (with automatic lifting and aligning device); Rotary Drills (all) used on caissons for foundations and sub-structure work; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Tug Boats. Horizontal Directional Drill, Rough Terrain Fork-lift with Winch/Hoist, Laser Screed, and Like equipment; Compact Cranes, track or rubber over 4,000 pound capacity, self-erecting cranes: stationary, track or truck (all configurations) bucket trench machines (over 24 " wide).

Class 2 - Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs. Bulldozers; CMI type Equipment; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats; Vermeer Type Concrete Saw; All rotomills, grinders & planers of all types. Articulating/end dumps (minus \$4.00/hour from Class 2 rate)

Class 3 - A Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or skid steer loader with or without attachments; Boilers (15 lbs pressure and over); All

concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drillers - all types (with integral power); Hoists (with one drum); House Elevators (except those automatic call button controlled); Man lifts; Mud Jacks; Pressure Grouting; Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie Inserter/Remover; Rotator (Lime-Soil Stabilizer); Submersible Pumps (4 inches and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24 inches and under); Utility Operators; Material hoist/elevators.

Class 4 - Ballast Re-locator; Backfillers and Tampers; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Spreader; Conveyors, used for handling building materials; Concrete Mixers, one bag capacity (side loader); Concrete Mixers, capacity more than one bag; Crushers; Deck Hands; Drum Fireman (in Asphalt Plant); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators; Gunite Machines; Hydro-Seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2 inch discharge); Road Widening Trenchers; Rollers (except asphalt); All Concrete pumps (without Boom with 4 inch or smaller systems); Self-Propelled Power Spreaders; Concrete Spreaders; Self-Propelled Sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepfoot rollers or graders; VAC/ALLS; Vibratory Compactors, with integral power; Welder Operators.

Class 5 - Boilers (less than 15 lbs. pressure); Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen, Submersible Pumps (under 4 inch discharge). Directional Drill Locator and Allen Screed Concrete Paver. Fueling and greasing (plus \$3.00), compact cranes; track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

Class 7 - Boom & Jib 150 - 180 feet

Class 8 - Boom & Jib 180 - 249 feet

Class 9 - Boom & Jib 250 - or over

DEFIANCE, DELAWARE, FAIRFIELD,
 FAYETTE, FRANKLIN, FULTON, GALLIA,
 GREENE, GUERNSEY, HAMILTON,
 HANCOCK, HARDIN, HARRISON, HENRY,
 HIGHLAND, HOCKING, HOLMES, JACKSON,
 JEFFERSON, KNOX, LAWRENCE, LICKING,
 LOGAN, MADISON, MARION, MEIGS,
 MERCER, MIAMI, MONROE,
 MONTGOMERY, MORGAN, MORROW,
 MUSKINGUM, NOBLE, PAULDING, PERRY,
 PICKAWAY, PIKE, PREBLE, PUTNAM,
 RICHLAND, ROSS, SCIOTO, SENECA,
 SHELBY, TUSCARAWAS, UNION, VAN
 WERT, VINTON, WARREN, WASHINGTON,
 WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note : Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Details :

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, *Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

*Bridge Man will perform work as per the October 31, 1949, memorandum on concrete forms, by and between the United Brotherhood of Carpenters and Joiners of America and the Laborers' International Union of North America, which states in; "the moving, cleaning, oiling and carrying to the next point of erection, and the stripping of forms which are not to be re-used, and forms on all flat arch work shall be done by members of the Laborers' International Union of North America."

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Diver, Form Setter, Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), ***Lead Abatement, Hazardous Waste (level C)

***Includes the erecting of structures for the removal, including the encapsulation and containment of Lead abatement process.

Group 3

Blast and Powder Person, Muckers will be defined as shovel men working directly with the miners, Wrencher (mechanical joints & utility pipeline), Yarnier, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Grade Checker, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person will receive the rate equal to the rate paid the Laborer classification for which the Laborer is signaling.

Group 4

Miner, Welder, Gunite Nozzle Person

A.) The Watchperson shall be responsible to patrol and maintain a safe traffic zone including but not limited to barrels, cones, signs, arrow boards, message boards etc.

The responsibility of a watchperson is to see that the equipment, job and office trailer etc. are secure.

1 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice

Special Jurisdictional Note :

Details :

Note:

Group 1: Building & Common Laborer; All general laborers work including all forms of landscaping, Rough Rider - all pump's 4 inch or smaller, Small Pump Portable Generators-Bobcat to Cleanup, Firewatch and Monitor, (Safety Person)

Group 2: Asphalt Raker, Tamper, Smoother, Hand Air Pump, Hand air Tamper, Chisel, Power Tamper, Operator, Switch, Assemblies, Handling & Laying Precast Concrete Floors & Deck Tool Repairman.

Group 3: Concrete Specialist; Skid Steers (with attachments to perform Laborer's duties) Jack Hammer * Concrete Busterman, Barco Tamper Man, Power Georgia Buggy Man, Power Sweeper Man, Vibrator, Concrete Saw Man, Rail Spikers, Acetylene Burner, Pipelayers, Bos'n Cradleman, Bottom Man, Chipping Hammer Grade Checker, Radio Operator, Form Cleanout & blowout Man, Red Concrete Coloring Man (Electrical Safety)

Group 4: Mason Tender, Mortar Mixers & Scaffold Builders

Group 5: Fork Lift for Mason, all work involving Refractory Materials Including Demolition of Refractory Materials.

Asbestos Removal and Hazardous Waste Removal (handling, control, removal abatement, encapsulation or disposal of asbestos & hazardous waste),

Group 6: Gunnite Man, Sand Blaster, Concrete & Grout Pump & Hose Man, Blast Trac, Miners & Muckers, Free Air, Powderman or Blaster, Mortar or Gypsum Machineman, Welder, Scuba Diver.

Group 7: Watchman & Tool Checker/Toolroom Man

LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAKE, LAWRENCE, LICKING,
LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

1 Journeymen to 1 Apprentice
 2 Journeymen to 2 Apprentice
 10 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS*, BROWN, BUTLER*, CLERMONT,
 CLINTON*, HAMILTON, HIGHLAND*,
 WARREN*

Special Jurisdictional Note : Adams County Twps included: Bratton, Scott, Winchester, Wayne. Butler County Twps included: Oxford, St. Clair, Fairfield, Morgan, Liberty, Union, Ross, Reily, Hanover. West Chester. In Clinton County, Manchester and South West Borrow. Highland County Twps included: Dotson, Salem, Clay, White Oak, Hamer, New Market, Concord, Jackson, Washington. Warren County Twps included: Harlan, Deerfield, Hamilton.

Details :

Structural Iron Work but not limited to:field fabrication, all loading to and including the erecting,rigging,assembly,dismantling, placing, temporary and permanent securing by any means of all structural iron,steel,ornamental lead,bronze,brass,copper,aluminum,glass all ferrous and non ferrous metal and composite material, precast prestressed and post-stressed concrete structures. Bridges and bridge rails,bridge viaducts,bucks bulkheads,bumper and bumper post,canopies and unistrut canopies,corrugated ferrous and non ferrous sheets when attached to steel frames,columns,beams,bar-joists,trusses,grinders,roof decking,electrical supports,elevator cars,elevator fronts and enclosures,erection of steel towers,flag poles, gymnasium equipment,stadium and arena seating,jail cell work,jail cell beds,benches,bunks,chairs,tables,mirrors,jail cell access doors,rigging and installation of machinery and equipment(erecting,aligning,anchoring and dismantling, erection and dismantling of tower cranes,derrick monorail systems, Chicago booms,overhead cranes,gantries,material and personnel hoists,tanks,hoppers and conveyors. All pre-engineered metal buildings and their entirety including siding,roofing, gutters, downspouts and erection of all.

Ornamental Iron Work but not limited to:all work in connection with field fabrication,handling including loading/off loading,sorting,cutting,fastening,anchoring,bending,hoisting,placing,burning,welding,and tying,dismantling of all materials used in miscellaneous iron or steel, for stairs,hand railings,rolling doors, rolling gates,rolling shutters,fence,windows,curtain wall,erection and welding of all metal, sash,architectural and ornamental treatments, but not necessarily limited to all sizes and types of ornamental,steel iron,lead,bronze,brass,copper,aluminum,all ferrous and non ferrous metals and composite materials

Fence Erector Iron Worker but not limited to: All work in connection with the field fabrication and erection of chain link fence,which includes but not limited to the loading and of the fence fabric and posts also the installation of the above.

MERCER*, MIAMI, MONTGOMERY,
PREBLE, SHELBY, VAN WERT*, WARREN*

Special Jurisdictional Note : Allen County Twps included are: Auglaize, Perry, Shawnee, Amanda, Spencer, Marion, Sugar Creek, American, Bath, Jackson. Butler County Twps included are: Milford, Wayne, Madison, Lemon. Champaign Cnty Twps included are: Union, Urbana, Jackson, Concord, Salem, Mad River, Johnson, Harrison, Adams. Fayette County Twps included are: Green, Jasper, Concord, Jefferson. Hardin County Twps included are: Round Head, Marion, Liberty. Highland County Twps included are: Fairfield, Penn, Union, Marshall, Liberty, Paint, Brush Creek. Logan County Twps included are: Richland, Stokes, Bloomfield, Washington, Harrison, McArthur, Lake, Liberty, Pleasant, Miami. Madison County Twps included are: Stokes. Mercer County Twps included are: Dublin, Washington, Jefferson, Recovery, Gibson, Union, Liberty, Butler, Granville, Center, Hopewell, Franklin, Marion. VanWert County Twps included are: Jennings. Warren County Twps included are: Franklin, Clear Creek, Turtle Creek, Wayne, Massie, Washington, Salem, Union.

Details :

Structural Iron Work but not limited to:field fabrication, all loading to and including the erecting,rigging,assembly,dismantling, placing, temporary and permanent securing by any means of all structural iron,steel,ornamental lead,bronze,brass,copper,aluminum,glass all ferrous and non ferrous metal and composite material, precast prestressed and post-stressed concrete structures. Bridges and bridge rails,bridge viaducts,bucks bulkheads,bumper and bumper post,canopies and unistrut canopies,corrugated ferrous and non ferrous sheets when attached to steel frames,columns,beams,bar-joists,trusses,grinders,roof decking,electrical supports,elevator cars,elevator fronts and enclosures,erection of steel towers,flag poles, gymnasium equipment,stadium and arena seating,jail cell work,jail cell beds,benches,bunks,chairs,tables,mirrors,jail cell access doors,rigging and installation of machinery and equipment(erecting,aligning,anchoring and dismantling, erection and dismantling of tower cranes,derrick monorail systems, Chicago booms,overhead cranes,gantries,material and personnel hoists,tanks,hoppers and conveyors. All pre-engineered metal buildings and their entirety including siding,roofing, gutters, downspouts and erection of all.

Ornamental Iron Work but not limited to:all work in connection with field fabrication,handling including loading/off loading,sorting,cutting,fastening,anchoring,bending,hoisting,placing,burning,welding,and tying,dismantling of all materials used in miscellaneous iron or steel, for stairs,hand railings,rolling doors, rolling gates,rolling shutters,fence,windows,curtain wall,erection and welding of all metal, sash,architectural and ornamental treatments, but not necessarily limited to all sizes and types of ornamental,steel iron,lead,bronze,brass,copper,aluminum,all ferrous and non ferrous metals and composite materials

Fence Erector Iron Worker but not limited to: All work in connection with the field fabrication and erection of chain link fence,which includes but not limited to the loading and of the fence fabric and posts also the installation of the above.

Special Jurisdictional Note :

Details :

1 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice
5 Journeyman to 1 Apprentice

Special Jurisdictional Note :

Details :

Carpenter duties shall include but not limited to: Pile driving, milling, fashioning, joining, assembling, erecting, fastening, or dismantling of all material of wood, plastic, metal, fiber, cork, and composition, and all other substitute materials: pile driving, cutting, fitting, and placing of lagging, and the handling, cleaning, erecting, installing, and dismantling of machinery, equipment, and erecting pre-engineered metal buildings.

Pile Drivers work but not limited to: unloading,

assembling, erection, repairs, operation, signaling, dismantling, and reloading all equipment that is used for pile driving including pile butts. pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The diver and his tender work as a team and shall arrive at their own financial arrangements with the contractor. Any configuration of wood, steel, concrete, or composite that is jetted, driven, or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary.

Driving bracing, plumbing, cutting off and capping of all piling whether wood, metal, pipe piling or composite. loading, unloading, erecting, framing, dismantling, moving, and handling of pile driving equipment. piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams, and the erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves, docks, shipyards, caissons, piers, bridges, pipeline work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed.

Rate shall include carpenters, acoustic, and ceiling installers, drywall installers, pile drivers, and floorlayers.

MONTGOMERY, PREBLE, SHELBY,
WARREN

Special Jurisdictional Note :

Details :

Scope of work shall include, but not be limited to: receiving,unloading,handling,distribution and installation of all carpeting materials,carpet padding or matting materials and all resilient materials whether for use on walls, floors,counter, sink,table and all preparation work necessary in connection therewith, including sanding work. the installation of nonstructural under-layment and the work of removing, cleaning waxing of any of the above. Carpeting shall include any floor covering composed of either natural or synthetic fibers that are made in breadths to be sewed, fastened or directly glued to floors or over cushioning sound-proofing materials.Resilient Floors shall consist of and include the laying of all special designs of wood,wood block, wood composition, cork, linoleum, asphalt, mastic, plastic, rubber tile,whether nailed or glued.

1 Journeymen to 1 Apprentice

An employer shall have the right to employ one (1) Apprentice for one (1) Journeyman Carpenter in its employment for the first Apprentice employed, and 1 (1) Apprentice for two (2) Journeyman Carpenter for additional Apprentices employed.

Thereafter, every third additional carpenter hired shall be an apprentice, if available, and if practical for the type of work being performed.

BROWN, BUTLER, CHAMPAIGN, CLARK,
CLERMONT, CLINTON, DARKE, GREENE,
HAMILTON, LOGAN, MIAMI,
MONTGOMERY, PREBLE, SHELBY,
WARREN

Special Jurisdictional Note :**Details :**

Highway Construction, Airport Construction, Heavy Construction but not limited to: (tunnels,subways,drainage projects,flood control,reservoirs). Railroad Construction,Sewer Waterworks & Utility Construction but not limited to: (storm sewers, waterlines, gaslines). Industrial & Building Site, Power Plant, Amusement Park, Athletic Stadium Site, Sewer and Water Plants. When the Contractor furnishes the necessary underwater gear for the Diver, the Diver shall be paid one and one half (1&1/2) times the journeyman rate for the time spent in the water.

MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note : Industrial Dock and Door is the installation of overhead doors, roll up doors and dock leveling equipment

Details :

10/27/10 New Contract jc

Details :

All work in connection with Asbestos Removal, Abatement, Encapsulation, Lead Abatement, Hazardous Materials and Fire Stopping which is performed by employees in the Mechanic or Apprentice Classification shall be covered under the terms of this Agreement.

Clear Creek, Franklin, Mossie, Turtle Creek & Wayney). Ashtabula County: (post offices & townships of Ashtabula, Austinburg, Geneva, Harperfield, Jefferson, Plymouth & Saybrook) (townships of Andover, Cherry Valley, Colbrook, Canneaut, Denmark, Dorset, East Orwell, Hartsgrove, Kingville, Lenox, Monroe, Morgan, New Lyme, North Kingsville, Orwell, Pierpoint, Richmond Rock Creek, Rome, Sheffield, Trumbull, Wayne, Williamsfield & Windsor) Erie County: (post offices & townships of Berlin, Berlin Heights, Birmingham, Florence, Huron, Milan, Shinrock & Vermilion)

Details :

Asbestos & lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

An Abatement Journeyman is anyone who has more than 300 hours in the Asbestos Abatement field.

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spray bar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Apprentice	Percent											
First 6 months	80.00	\$21.53	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.03	\$46.79
7-12 months	85.00	\$22.87	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.37	\$48.81
13-18 months	90.00	\$24.22	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.72	\$50.83
19-24 months	95.00	\$25.56	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.06	\$52.85
25-30 months	100.00	\$26.91	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.41	\$54.87

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spray bar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Special Jurisdictional Note :

Details :

HIGHLAND, MIAMI, MONTGOMERY,
PREBLE, SHELBY*, WARREN

Special Jurisdictional Note : Fayette County: Eastern portion of route #41 being the dividing line between locals 372 and 387. Local 387 has jurisdiction of projects built on property which borders route #41 East. Shelby County: Southern portion of routes #47 & 29.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Plasterer Local 132 (Cincinnati)

Change # : LCN01-2016fbLoc132

Craft : Plasterer Effective Date : 06/24/2016 Last Posted : 06/24/2016

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Plasterer	\$23.61		\$5.59	\$6.15	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$36.45	\$48.25
Apprentice	Percent											
1st 900 hours	55.00	\$12.99	\$5.59	\$0.00	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$19.68	\$26.17
2nd 900 hours	60.00	\$14.17	\$5.59	\$0.00	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$20.86	\$27.94
3rd 900 hours	65.00	\$15.35	\$5.59	\$6.15	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$28.19	\$35.86
4th 900 hours	70.00	\$16.53	\$5.59	\$6.15	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$29.37	\$37.63
5th 900 hours	80.00	\$18.89	\$5.59	\$6.15	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$31.73	\$41.17
6th 900 hours	85.00	\$20.07	\$5.59	\$6.15	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$32.91	\$42.94
7th 900 hours	90.00	\$21.25	\$5.59	\$6.15	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$34.09	\$44.71
8th 900 hours	95.00	\$22.43	\$5.59	\$6.15	\$0.50	\$0.00	\$0.60	\$0.00	\$0.00	\$0.00	\$35.27	\$46.48

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Journeyman to 1 Apprentice
- 4 Journeyman to 2 Apprentice
- 7 Journeyman to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BROWN, BUTLER, CLERMONT, HAMILTON, HIGHLAND, WARREN

Special Jurisdictional Note :

Details :

Apprentice and Shop Hand Pension are \$1.00 less than Journeyman.

Helpers shall be permitted to work on ONLY , Exterior Sewers, Concrete, Vitrified Clay or PVC Pipe and Digging and Backfilling for Piping Work. The ratio shall not exceed 2 helpers to 1 Journeymen when performing the scope of work listed above

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : LCN02-2018fbLoc669

Craft : Sprinkler Fitter Effective Date : 04/04/2018 Last Posted : 04/04/2018

Classification	BHR	Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
		H&W Tr.	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Sprinkler Fitter	\$37.78	\$9.67	\$6.40	\$0.52	\$0.00	\$5.12	\$0.00	\$0.00	\$0.00	\$59.49	\$78.38
Indentured Between April 1, 2010-March 31, 2013											
45%	\$17.00	\$7.75	\$0.00	\$0.52	\$0.00	\$0.69	\$0.00	\$0.00	\$0.00	\$25.96	\$34.46
50%	\$18.89	\$7.75	\$0.00	\$0.52	\$0.00	\$0.74	\$0.00	\$0.00	\$0.00	\$27.90	\$37.35
55%	\$20.78	\$9.67	\$6.40	\$0.52	\$0.00	\$0.53	\$0.00	\$0.00	\$0.00	\$37.90	\$48.29
60%	\$22.67	\$9.67	\$6.40	\$0.52	\$0.00	\$0.58	\$0.00	\$0.00	\$0.00	\$39.84	\$51.18
65%	\$24.56	\$9.67	\$6.40	\$0.52	\$0.00	\$1.13	\$0.00	\$0.00	\$0.00	\$42.28	\$54.56
70%	\$26.45	\$9.67	\$6.40	\$0.52	\$0.00	\$1.18	\$0.00	\$0.00	\$0.00	\$44.22	\$57.45
75%	\$28.34	\$9.67	\$6.40	\$0.52	\$0.00	\$1.23	\$0.00	\$0.00	\$0.00	\$46.16	\$60.33
80%	\$30.22	\$9.67	\$6.40	\$0.52	\$0.00	\$1.28	\$0.00	\$0.00	\$0.00	\$48.09	\$63.20
85%	\$32.11	\$9.67	\$6.40	\$0.52	\$0.00	\$1.32	\$0.00	\$0.00	\$0.00	\$50.02	\$66.07
90%	\$34.00	\$9.67	\$6.40	\$0.52	\$0.00	\$1.37	\$0.00	\$0.00	\$0.00	\$51.96	\$68.96
Apprentice Indentured after April 1, 2013	Percent										
CLASS 1	45.00	\$17.00	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$25.27	\$33.77
CLASS 2	50.00	\$18.89	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$27.16	\$36.61
CLASS 3	55.00	\$20.78	\$9.67	\$6.40	\$0.52	\$0.00	\$0.65	\$0.00	\$0.00	\$38.02	\$48.41
CLASS 4	60.00	\$22.67	\$9.67	\$6.40	\$0.52	\$0.00	\$0.65	\$0.00	\$0.00	\$39.91	\$51.24
CLASS 5	65.00	\$24.56	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$42.05	\$54.33
CLASS 6	70.00	\$26.45	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$43.94	\$57.16
CLASS 7	75.00	\$28.33	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$45.83	\$59.99
CLASS 8	80.00	\$30.22	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$47.71	\$62.83
CLASS 9	85.00	\$32.11	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$49.60	\$65.66

CLASS 10	90.00	\$34.00	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$51.49	\$68.49
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Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Sprinkler Fitter work shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all other fire protection systems.

Details :

In order to utilize a Pre-Apprentice, you must have 1 Registered Apprentice in your employ.

Ratio :

- 1 Journeyman to 1 Apprentice
- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentices
- 15 Journeymen to 3 Apprentices
- 20 Journeymen to 4 Apprentices
- 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, BROWN, BUTLER, CLERMONT, GALLIA, HAMILTON, LAWRENCE, PREBLE*, SCIOTO, WARREN, WARREN*

Special Jurisdictional Note : Warren in the townships of Dixon, Gasper, Isrsel, Somers & Gratis in Prebble County

Details :

JACKSON, LAWRENCE, LICKING,
MADISON, MEIGS, MIAMI, MONTGOMERY,
MORGAN, MUSKINGUM, NOBLE, PERRY,
PICKAWAY, PIKE, PREBLE, ROSS, SCIOTO,
VINTON, WARREN

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Boilermaker Local 154

Change # : LCN01-2012kpLoc 154

Craft : Boilermaker Effective Date : 03/22/2012 Last Posted : 03/22/2012

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Boilermaker	\$36.17		\$8.57	\$11.28	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$62.56	\$80.65
Trainee 60%	\$23.25		\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$41.95	\$53.57
Trainee 70%	\$27.13		\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$45.83	\$59.40
Trainee 80%	\$31.00		\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$49.70	\$65.20
Trainee 90%	\$34.88		\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$53.58	\$71.02
Apprentice Registered After 11/01/2005												
	Percent											
1st 6 months	60.00	\$21.70	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$40.40	\$51.25
2nd 6 months	65.00	\$23.51	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$42.21	\$53.97
3rd 6 months	70.00	\$25.32	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$44.02	\$56.68
4th 6 months	75.00	\$27.13	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$45.83	\$59.39
5th 6 months	80.00	\$28.94	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$47.64	\$62.10
6th 6 months	85.00	\$30.74	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$49.44	\$64.82
7th 6 months	90.00	\$32.55	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$51.25	\$67.53
8th 6 months	95.00	\$34.36	\$8.57	\$3.59	\$0.55	\$0.00	\$4.25	\$0.34	\$0.00	\$1.40	\$53.06	\$70.24

the page. **In order to utilize a Pre-Apprentice, you must have 1 Registered Apprentice in your employ.**

Ratio :

- 1 Journeyman to 1 Apprentice
- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentices
- 15 Journeymen to 3 Apprentices
- 20 Journeymen to 4 Apprentices
- 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, BROWN, BUTLER, CLERMONT,
GALLIA, HAMILTON, LAWRENCE,
PREBLE*, SCIOTO, WARREN, WARREN*

Special Jurisdictional Note : Warren in the townships of Dixon, Gasper, Irsel, Somers & Gratis in Prebble County

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Boilermaker Local 105

Change # : LCN02-2013fbLoc 105

Craft : Boilermaker Effective Date : 10/01/2013 Last Posted : 09/25/2013

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Boilermaker	\$35.26		\$7.07	\$13.28	\$0.89	\$0.00	\$3.00	\$0.55	\$0.00	\$0.00	\$60.05	\$77.68
Apprentice	Percent											
1st 6 months	70.03	\$24.69	\$7.07	\$11.30	\$0.89	\$0.00	\$2.10	\$0.55	\$0.00	\$0.00	\$46.60	\$58.95
2nd 6 months	75.02	\$26.45	\$7.07	\$11.30	\$0.89	\$0.00	\$2.25	\$0.55	\$0.00	\$0.00	\$48.51	\$61.74
3rd 6 months	80.00	\$28.21	\$7.07	\$11.30	\$0.89	\$0.00	\$2.40	\$0.55	\$0.00	\$0.00	\$50.42	\$64.52
4th 6 months	85.02	\$29.98	\$7.07	\$11.30	\$0.89	\$0.00	\$2.55	\$0.55	\$0.00	\$0.00	\$52.34	\$67.33
5th 6 months	87.52	\$30.86	\$7.07	\$13.28	\$0.89	\$0.00	\$2.63	\$0.55	\$0.00	\$0.00	\$55.28	\$70.71
6th 6 months	90.03	\$31.74	\$7.07	\$13.28	\$0.89	\$0.00	\$2.70	\$0.55	\$0.00	\$0.00	\$56.23	\$72.11
7th 6 months	92.50	\$32.62	\$7.07	\$13.28	\$0.89	\$0.00	\$2.78	\$0.55	\$0.00	\$0.00	\$57.19	\$73.49
8th 6 months	95.00	\$33.50	\$7.07	\$13.28	\$0.89	\$0.00	\$2.85	\$0.55	\$0.00	\$0.00	\$58.14	\$74.89

Special Calculation Note : Other is Supplemental Health and Welfare

Ratio :

5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ATHENS, BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GREENE, GUERNSEY, HAMILTON, HIGHLAND, HOCKING,

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BUTLER, COLUMBIANA, FAYETTE, JEFFERSON, LAWRENCE, MERCER, WARREN, WASHINGTON

Special Jurisdictional Note :

Details :

Work includes but not limited to: boiler making, acetylene burning, riveting, chipping, caulking, rigging, fitting-up, grinding, reaming, impact machine operating, unloading, and handling of boilermaker's material and equipment. Boilermakers, Blacksmiths, Forgers, Iron Shipbuilders

methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

repair garages, processing plants, storage tanks, warehouses, skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates. Heavy & Highway Bridges-Guard Rails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

Special Jurisdictional Note :**Details :**

Industrial Work paid as commercial work above for each class which includes, Industrial Plants, repair garages, processing plants, storage tanks, warehouses, skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates. Heavy & Highway Bridges-Guard Rails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

HARRISON, HENRY, HIGHLAND, HOCKING,
HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAKE, LAWRENCE, LICKING,
LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Top Helper: Shall perform the responsibilities of a Helper and be responsible for the setup, break down, safety and quality of the company's product.

Helper : Shall be responsible for performing tasks in refinishing, compliance with safety procedures, setting up and breaking down job sites, scaffolding and swing stages and preparing surfaces for refinishing including but not limited to, masking and stripping and cleaning, oxidizing, polishing and scratch removal on various surfaces

Class A Workers: Less than 1 Year of Service.

Class B Workers: More than 1 and less than 8 Years of Service.

Class C Workers: More than 8 Years of Service.

Metal Polisher Scope of Work: Polishing, buffing, stripping, coloring, lacquering, spraying, cleaning and maintenance of ornamental and architectural metals, iron, bronze, nickel, aluminum and stainless steel and in mental specialty work, various stone finishes, stone specialty work and any other work pertaining to the finishing of metal, stones, woods, and any window washing/cleaning done in conjunction with this work, using chemicals, solvents, coatings and hand applied lacquer thinner, removing scratches from mirror finished metals, burnishing of bronze, statuary finishes on exterior and interior surfaces and the use of all tools required to perform such work, including but not limited to polishes, spray equipment and scaffolding.

Swing State Rate: All work on scaffold 4 sections or higher, including any boom lifts and swing stage scaffolds including the rigging and derigging of hanging/suspended swing stage systems and rappelling/bolson chair work, ADD \$1.50 per hour.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 639 Zone 2 Sign

Change # : LCN01-2016fbLoc639

Craft : Painter Effective Date : 08/03/2016 Last Posted : 08/03/2016

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Painter Sign Journeyman Tech/Team Leader Class A	\$21.25	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.57	\$0.00	\$0.00	\$23.29	\$33.92
Painter Sign Journeyman Tech/Team Leader Class B	\$21.25	\$1.33	\$0.14	\$0.00	\$0.41	\$0.00	\$0.57	\$0.00	\$0.00	\$23.70	\$34.32
Painter Sign Journeyman Tech/Team Leader Class C	\$21.25	\$1.33	\$0.14	\$0.00	\$0.82	\$0.00	\$0.57	\$0.00	\$0.00	\$24.11	\$34.74
Painter Sign Journeyman Tech/Team Leader Class D	\$21.25	\$1.33	\$0.14	\$0.00	\$1.23	\$0.00	\$0.57	\$0.00	\$0.00	\$24.52	\$35.14
Sign Journeyman Class A	\$20.98	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.56	\$0.00	\$0.00	\$23.01	\$33.50
Sign Journeyman Class B	\$20.98	\$1.33	\$0.14	\$0.00	\$0.40	\$0.00	\$0.56	\$0.00	\$0.00	\$23.41	\$33.90
Sign Journeyman Class C	\$20.98	\$1.33	\$0.14	\$0.00	\$0.81	\$0.00	\$0.56	\$0.00	\$0.00	\$23.82	\$34.31
Sign Journeyman Class D	\$20.98	\$1.33	\$0.14	\$0.00	\$1.21	\$0.00	\$0.56	\$0.00	\$0.00	\$24.22	\$34.71
Tech Sign Fabrication/Erector Class A	\$15.90	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.43	\$0.00	\$0.00	\$17.80	\$25.75

HIGHLAND, HOCKING, HOLMES, JACKSON,
JEFFERSON, KNOX, LAKE, LAWRENCE,
LICKING, LOGAN, LORAIN, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, PERRY, PICKAWAY,
PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,
SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Cable Splicer: Inspect and test lines or cables, analyze results, and evaluate transmission characteristics. Cover conductors with insulation or seal splices with moisture-proof covering. Install, splice, test, and repair cables using tools or mechanical equipment. This will include the splicing of fiber.

Journeyman Technician I: Must know all aspects of telephone and cable work. This is to include aerial, underground, and manhole work. Must know how to climb and run bucket. Must have all the tools required to perform these tasks. Must be able to be responsible for the safety of the crew at all times. Must also have CDL license and have at least 5 years experience.

Installer/Repairman: Perform tasks of repairing, installing, and testing phone and CATV services.

Technician II: Have at least three years of telephone and CATV experience. Must have the knowledge of underground, aerial, and manhole work. Must be able to climb and operate bucket. Must have CDL. Must have all tools needed to perform these tasks.

Equipment Operator I: Able to operate a digger derrick or bucket truck. Have at least 5 years of experience and must have a valid CDL license.

Equipment Operator II: Able to operate a digger derrick or bucket truck. Have at least 3 years of experience and must have a valid CDL license.

Groundman W/CDL: Must have a valid CDL license and be able to perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Must have at least 5 year's experience.

Groundman: Perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Experience 0-5 years.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside Utility Power

Change # : LCN01-2018fbLoc7

Craft : Lineman Effective Date : 03/28/2018 Last Posted : 03/28/2018

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$40.12	\$5.75	\$1.20	\$0.40	\$0.00	\$8.83	\$0.35	\$0.00	\$0.00	\$56.65	\$76.71
Substation Technician	\$40.12	\$5.75	\$1.20	\$0.40	\$0.00	\$8.83	\$0.35	\$0.00	\$0.00	\$56.65	\$76.71
Cable Splicer	\$41.99	\$5.75	\$1.26	\$0.42	\$0.00	\$9.24	\$0.35	\$0.00	\$0.00	\$59.01	\$80.00
Operator A	\$36.01	\$5.75	\$1.08	\$0.36	\$0.00	\$7.92	\$0.35	\$0.00	\$0.00	\$51.47	\$69.47
Operator B	\$31.90	\$5.75	\$0.96	\$0.32	\$0.00	\$7.02	\$0.35	\$0.00	\$0.00	\$46.30	\$62.25
Operator C	\$25.73	\$5.75	\$0.77	\$0.26	\$0.00	\$5.66	\$0.35	\$0.00	\$0.00	\$38.52	\$51.39
Groundman 0-12 months Exp	\$20.06	\$5.75	\$0.60	\$0.20	\$0.00	\$4.41	\$0.35	\$0.00	\$0.00	\$31.37	\$41.40
Groundman 0-12 months Exp w/CDL	\$22.07	\$5.75	\$0.66	\$0.22	\$0.00	\$4.86	\$0.35	\$0.00	\$0.00	\$33.91	\$44.95
Groundman 1 yr or more	\$22.07	\$5.75	\$0.66	\$0.22	\$0.00	\$4.86	\$0.35	\$0.00	\$0.00	\$33.91	\$44.95
Groundman 1 yr or more w/CDL	\$26.08	\$5.75	\$0.78	\$0.26	\$0.00	\$5.74	\$0.35	\$0.00	\$0.00	\$38.96	\$52.00
Equipment Mechanic A	\$31.90	\$5.75	\$0.96	\$0.32	\$0.00	\$7.02	\$0.35	\$0.00	\$0.00	\$46.30	\$62.25
Equipment Mechanic B	\$28.83	\$5.75	\$0.86	\$0.29	\$0.00	\$6.34	\$0.35	\$0.00	\$0.00	\$42.42	\$56.84
Equipment Mechanic C	\$25.73	\$5.75	\$0.77	\$0.26	\$0.00	\$5.66	\$0.35	\$0.00	\$0.00	\$38.52	\$51.39
	\$28.39	\$5.75	\$0.85	\$0.28	\$0.00	\$6.25	\$0.35	\$0.00	\$0.00	\$41.87	\$56.07

Line Truck w/uuger												
Apprentice	Percent											
1st 1000 hrs	60.00	\$24.07	\$5.75	\$0.72	\$0.24	\$0.00	\$5.30	\$0.35	\$0.00	\$0.00	\$36.43	\$48.47
2nd 1000 hrs	65.00	\$26.08	\$5.75	\$0.78	\$0.26	\$0.00	\$5.74	\$0.35	\$0.00	\$0.00	\$38.96	\$52.00
3rd 1000 hrs	70.00	\$28.08	\$5.75	\$0.84	\$0.28	\$0.00	\$6.18	\$0.35	\$0.00	\$0.00	\$41.48	\$55.53
4th 1000 hrs	75.00	\$30.09	\$5.75	\$0.90	\$0.30	\$0.00	\$6.62	\$0.35	\$0.00	\$0.00	\$44.01	\$59.05
5th 1000 hrs	80.00	\$32.10	\$5.75	\$0.96	\$0.32	\$0.00	\$7.06	\$0.35	\$0.00	\$0.00	\$46.54	\$62.58
6th 1000 hrs	85.00	\$34.10	\$5.75	\$1.02	\$0.34	\$0.00	\$7.50	\$0.35	\$0.00	\$0.00	\$49.06	\$66.11
7th 1000 hrs	90.00	\$36.11	\$5.75	\$1.08	\$0.36	\$0.00	\$7.94	\$0.35	\$0.00	\$0.00	\$51.59	\$69.64

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,

SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note : 0.30 is for Health Retirement Account.

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 High Tension Pipe Type Cable

Change # : LCN01-2018fbLoc7

Craft : Lineman Effective Date : 03/28/2018 Last Posted : 03/28/2018

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Certified Lineman Welder	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Certified Cable Splicer	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Operator A	\$37.98	\$5.75	\$1.14	\$0.38	\$0.00	\$8.36	\$0.35	\$0.00	\$0.00	\$53.96	\$72.95
Operator B	\$33.67	\$5.75	\$1.01	\$0.34	\$0.00	\$7.41	\$0.35	\$0.00	\$0.00	\$48.53	\$65.36
Operator C	\$27.18	\$5.75	\$0.82	\$0.27	\$0.00	\$5.98	\$0.35	\$0.00	\$0.00	\$40.35	\$53.94
Groundman 0-12 months Exp	\$21.16	\$5.75	\$0.63	\$0.21	\$0.00	\$4.66	\$0.35	\$0.00	\$0.00	\$32.76	\$43.34
Groundman 0-12 months Exp w/CDL	\$23.28	\$5.75	\$0.70	\$0.23	\$0.00	\$5.12	\$0.35	\$0.00	\$0.00	\$35.43	\$47.07
Groundman 1 yr or more	\$23.28	\$5.75	\$0.70	\$0.23	\$0.00	\$5.12	\$0.35	\$0.00	\$0.00	\$35.43	\$47.07
Groundman 1 yr or more w/CDL	\$27.51	\$5.75	\$0.83	\$0.28	\$0.00	\$6.05	\$0.35	\$0.00	\$0.00	\$40.77	\$54.53
Equipment Mechanic A	\$33.67	\$5.75	\$1.01	\$0.34	\$0.00	\$7.41	\$0.35	\$0.00	\$0.00	\$48.53	\$65.36
Equipment Mechanic B	\$30.42	\$5.75	\$0.91	\$0.30	\$0.00	\$6.69	\$0.35	\$0.00	\$0.00	\$44.42	\$59.63
	\$27.18	\$5.75	\$0.82	\$0.27	\$0.00	\$5.98	\$0.35	\$0.00	\$0.00	\$40.35	\$53.94

Equipment Mechanic C												
X-Ray Technician	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58	
Apprentice	Percent											
1st 1000 hrs	60.00	\$25.39	\$5.75	\$0.76	\$0.25	\$0.00	\$5.59	\$0.35	\$0.00	\$0.00	\$38.09	\$50.79
2nd 1000 hrs	65.00	\$27.51	\$5.75	\$0.83	\$0.28	\$0.00	\$6.05	\$0.35	\$0.00	\$0.00	\$40.77	\$54.52
3rd 1000 hrs	70.00	\$29.62	\$5.75	\$0.89	\$0.30	\$0.00	\$6.52	\$0.35	\$0.00	\$0.00	\$43.43	\$58.25
4th 1000 hrs	75.00	\$31.74	\$5.75	\$0.95	\$0.32	\$0.00	\$6.98	\$0.35	\$0.00	\$0.00	\$46.09	\$61.96
5th 1000 hrs	80.00	\$33.86	\$5.75	\$1.02	\$0.34	\$0.00	\$7.45	\$0.35	\$0.00	\$0.00	\$48.77	\$65.69
6th 1000 hrs	85.00	\$35.97	\$5.75	\$1.08	\$0.36	\$0.00	\$7.91	\$0.35	\$0.00	\$0.00	\$51.42	\$69.41
7th 1000 hrs	90.00	\$38.09	\$5.75	\$1.14	\$0.38	\$0.00	\$8.38	\$0.35	\$0.00	\$0.00	\$54.09	\$73.13

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

*All Operators of cranes 45 ton or larger shall be paid the journeyman rate of pay. \$0.30 is for Health Retirement Account.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON,

HIGHLAND, HOCKING, HOLMES, JACKSON,
JEFFERSON, KNOX, LAKE, LAWRENCE,
LICKING, LOGAN, LORAIN, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, PERRY, PICKAWAY,
PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,
SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside Cincinnati

Change # : LCN01-2017fbLoc71Cincinnati

Craft : Lineman Effective Date : 03/29/2017 Last Posted : 03/29/2017

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$36.64	\$5.50	\$1.10	\$0.37	\$0.00	\$6.60	\$0.06	\$0.00	\$0.00	\$50.27	\$68.59
Traffic Signal & Lighting Journeyman	\$35.26	\$5.50	\$1.06	\$0.35	\$0.00	\$6.35	\$0.06	\$0.00	\$0.00	\$48.58	\$66.21
Equipment Operator	\$32.24	\$5.50	\$0.97	\$0.32	\$0.00	\$5.80	\$0.06	\$0.00	\$0.00	\$44.89	\$61.01
Groundman 0-12 months (W/O CDL)	\$19.70	\$5.50	\$0.59	\$0.20	\$0.00	\$3.55	\$0.06	\$0.00	\$0.00	\$29.60	\$39.45
Groundman 0-21 Months (W/CDL)	\$21.49	\$5.50	\$0.64	\$0.21	\$0.00	\$3.87	\$0.06	\$0.00	\$0.00	\$31.77	\$42.52
Groundman 1 Year or More (W/CDL)	\$23.28	\$5.50	\$0.70	\$0.23	\$0.00	\$4.19	\$0.06	\$0.00	\$0.00	\$33.96	\$45.60
Traffic Signal Apprentices											
1st 1,000 hours	\$21.16	\$5.50	\$0.63	\$0.21	\$0.00	\$3.81	\$0.06	\$0.00	\$0.00	\$31.37	\$41.95
2nd 1,000 hours	\$22.92	\$5.50	\$0.69	\$0.23	\$0.00	\$4.13	\$0.06	\$0.00	\$0.00	\$33.53	\$44.99
3rd 1,000 hours	\$24.68	\$5.50	\$0.74	\$0.25	\$0.00	\$4.44	\$0.06	\$0.00	\$0.00	\$35.67	\$48.01
4th 1,000 hours	\$26.45	\$5.50	\$0.79	\$0.26	\$0.00	\$4.76	\$0.06	\$0.00	\$0.00	\$37.82	\$51.04
5th 1,000 hours	\$28.21	\$5.50	\$0.85	\$0.28	\$0.00	\$5.08	\$0.06	\$0.00	\$0.00	\$39.98	\$54.09
6th 1,000 hours	\$31.73	\$5.50	\$0.95	\$0.32	\$0.00	\$5.71	\$0.06	\$0.00	\$0.00	\$44.27	\$60.14

Apprentice Lineman	Percent											
1st 1,000 Hours	60.00	\$21.98	\$5.50	\$0.66	\$0.22	\$0.00	\$3.96	\$0.06	\$0.00	\$0.00	\$32.38	\$43.38
2nd 1,000 Hours	65.00	\$23.82	\$5.50	\$0.71	\$0.24	\$0.00	\$4.29	\$0.06	\$0.00	\$0.00	\$34.62	\$46.52
3rd 1,000 Hours	70.00	\$25.65	\$5.50	\$0.77	\$0.26	\$0.00	\$4.62	\$0.06	\$0.00	\$0.00	\$36.86	\$49.68
4th 1,000 Hours	75.00	\$27.48	\$5.50	\$0.82	\$0.27	\$0.00	\$4.95	\$0.06	\$0.00	\$0.00	\$39.08	\$52.82
5th 1,000 Hours	80.00	\$29.31	\$5.50	\$0.88	\$0.29	\$0.00	\$5.28	\$0.06	\$0.00	\$0.00	\$41.32	\$55.98
6th 1,000 Hours	85.00	\$31.14	\$5.50	\$0.93	\$0.31	\$0.00	\$5.61	\$0.06	\$0.00	\$0.00	\$43.55	\$59.13
7th 1,000 Hours	90.00	\$32.98	\$5.50	\$0.99	\$0.33	\$0.00	\$5.94	\$0.06	\$0.00	\$0.00	\$45.80	\$62.28

Special Calculation Note : Other is Safety & Education Fund.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BROWN, BUTLER, CLERMONT, HAMILTON, WARREN

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. A Groundman under no circumstances shall climb poles, towers, ladders, or work from an elevated platform or bucket truck.

No more than three (3) Groundmen shall work alone. Jobs with more than three Groundmen shall be supervised by a Groundcrew Foreman, Journeyman Lineman, Journeyman Traffic Signal Technician or an Equipment Operator.

Scope of Work: installation and maintenance of highway and street lighting, highway and street sign lighting, electronic message boards and traffic control systems, camera systems, traffic signal work, substation and line construction including overhead and underground projects for private and industrial work as in accordance with the IBEW Constitution. This Agreement includes the operation of all tools and equipment necessary for the installation of the above projects.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 82 Voice Data Video

Change # : LCR02-2018fbLoc82VDV

Craft : Voice Data Video Effective Date : 09/13/2018 Last Posted : 09/13/2018

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Installer Technician A	\$23.55		\$6.10	\$0.71	\$0.45	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$34.81	\$46.59
Electrical Installer Technician B	\$22.37		\$6.10	\$0.67	\$0.43	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$33.57	\$44.76
JW Installer Technician	\$21.20		\$6.10	\$0.64	\$0.40	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$32.34	\$42.94
NON BICSI Installer	\$15.31		\$3.00	\$0.46	\$0.29	\$0.00	\$2.00	\$0.00	\$0.00	\$0.00	\$21.06	\$28.71
Apprentice												
	Percent											
1st 0-1000 hours	55.00	\$12.95	\$3.00	\$0.39	\$0.25	\$0.00	\$0.25	\$0.00	\$0.00	\$0.00	\$16.84	\$23.32
2nd 1001-2000 hours	55.00	\$12.95	\$3.00	\$0.39	\$0.25	\$0.00	\$0.25	\$0.00	\$0.00	\$0.00	\$16.84	\$23.32
3rd 2001-3000 hours	60.00	\$14.13	\$6.10	\$0.42	\$0.27	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$24.92	\$31.99
4th 3001-4000 hours	65.00	\$15.31	\$6.10	\$0.46	\$0.29	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$26.16	\$33.81
5th 4001-5000 hours	70.00	\$16.48	\$6.10	\$0.49	\$0.31	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$27.38	\$35.63
6th 5001-6000 hours	75.00	\$17.66	\$6.10	\$0.53	\$0.34	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$28.63	\$37.46
7th 6001-7000 hours	80.00	\$18.84	\$6.10	\$0.57	\$0.36	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$29.87	\$39.29
8th 7001 hours	80.00	\$18.84	\$6.10	\$0.57	\$0.36	\$0.00	\$4.00	\$0.00	\$0.00	\$0.00	\$29.87	\$39.29
Cable Puller	50.00	\$11.78	\$3.00	\$0.35	\$0.22	\$0.00	\$0.25	\$0.00	\$0.00	\$0.00	\$15.60	\$21.48

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Technician to 2 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CLINTON, DARKE, GREENE, MIAMI,
MONTGOMERY, PREBLE, WARREN*

Special Jurisdictional Note : The following townships in Warren County are included: (Clearcreek, Franklin and Wayne)

Details :

Work covered but not limited to: installation which utilize transmission and/or transference of voice, sound, vision or digital for commercial, education, security and entertainment purposes for the following:

TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multimedia, multiplex, nurse call system, radio page, school intercom, sound and low voltage master clock systems.

Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit.

All HVAC control work is not covered by this wage rate but by the Inside Electrical wage rate.

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Technician to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE, WARREN*

Special Jurisdictional Note : The following townships in Warren County are included: (Clearcreek, Franklin and Wayne)

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Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit.

All HVAC control work is not covered by this wage rate but by the Inside Electrical wage rate.

4th period 3501-5000 hrs												
5th period 5001-6500 hrs	60.00	\$17.16	\$6.20	\$5.07	\$0.29	\$0.00	\$1.47	\$0.00	\$0.00	\$0.00	\$30.19	\$38.77
6th period 6501-8000 hrs	75.00	\$21.45	\$6.20	\$6.34	\$0.36	\$0.00	\$1.84	\$0.00	\$0.00	\$0.00	\$36.19	\$46.92

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 to 3 Journeymen to 3 Apprentices
 4 to 6 Journeymen to 6 Apprentices
 per job site

Jurisdiction (* denotes special jurisdictional note) :

CLINTON, DARKE, GREENE, MIAMI,
 MONTGOMERY, PREBLE, WARREN*

Construction Electrician and Construction Wireman Ratio
 There shall be a minimum ratio of one inside Journeyman to every (4) employees of different classification per jobsite. An inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

Special Jurisdictional Note : The following townships in Warren County are included: Clearcreek, Franklin and Wayne.

The scope of work for the light commercial agreement shall apply to the following facilities not to exceed 200,000 square feet; office buildings, shopping centers, auto sales agencies and garages, churches, funeral homes, nursing homes, hotels, retail and wholesale facilities, small stand-alone manufacturing facilities when free standing and not part of a larger facility (not to exceed 50,000 square fee), solar projects (500 panels or less) unless otherwise covered under the agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures, warehouses, gas stations, food service centers, restaurants, entertainment facilities, hospitals, clinics, motels, residential buildings.

Details :

first person assigned to any job site shall be a journeyman

Special Jurisdictional Note : In Warren County the following townships are included: (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union, and Washington)

Details :

Electricians while splicing cable shall receive \$.50 an hour above the regular electrical rate.

All work that requires the use of gas masks or respirators, shall be paid 50% above the appropriate rate of pay. Work up to & including 40 feet shall be paid \$.50 over the journeyman rate. All work from a Boatswain Chair, Swinging Scaffold, or Barrel shall be at double the Journeyman rate. Workmen required to work 50 feet or more below the surface of the earth will be paid 50% above the Journeyman rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 648 Voice Data Video

Change # : LCR01-2018fbLoc648VDV

Craft : Voice Data Video Effective Date : 01/31/2018 Last Posted : 01/31/2018

BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate	
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)			
Classification												
Electrical Installer Technician A	\$23.55	\$6.10	\$0.71	\$0.45	\$0.00	\$4.00	\$0.23	\$0.00	\$0.00	\$35.04	\$46.82	
Electrical Installer Technician B	\$22.37	\$6.10	\$0.67	\$0.43	\$0.00	\$4.00	\$0.23	\$0.00	\$0.00	\$33.80	\$44.99	
JW Installer Technician B	\$21.20	\$6.10	\$0.64	\$0.40	\$0.00	\$4.00	\$0.23	\$0.00	\$0.00	\$32.57	\$43.17	
Non BICSI Installer	\$15.31	\$3.00	\$0.46	\$0.29	\$0.00	\$2.00	\$0.23	\$0.00	\$0.00	\$21.29	\$28.94	
Apprentice	Percent											
1st period 0-800 hrs	50.00	\$11.78	\$6.10	\$0.35	\$0.22	\$0.00	\$0.25	\$0.23	\$0.00	\$0.00	\$18.92	\$24.81
2nd period 801-1600 hrs	50.00	\$11.78	\$6.10	\$0.35	\$0.22	\$0.00	\$0.25	\$0.23	\$0.00	\$0.00	\$18.92	\$24.81
3rd period 1601-2400 hrs	60.00	\$14.13	\$6.10	\$0.42	\$0.27	\$0.00	\$4.00	\$0.23	\$0.00	\$0.00	\$25.15	\$32.22
4th period 2401-3200 hrs	65.00	\$15.31	\$6.10	\$0.46	\$0.29	\$0.00	\$4.00	\$0.23	\$0.00	\$0.00	\$26.39	\$34.04
5th period 3201-4000 hrs	70.00	\$16.48	\$6.10	\$0.49	\$0.31	\$0.00	\$4.00	\$0.23	\$0.00	\$0.00	\$27.61	\$35.86
	75.00	\$17.66	\$6.10	\$0.53	\$0.34	\$0.00	\$4.00	\$0.23	\$0.00	\$0.00	\$28.86	\$37.69

6th period 4001-4800 hrs												
Cable Puller	50.00	\$11.78	\$3.00	\$0.35	\$0.22	\$0.00	\$0.25	\$0.23	\$0.00	\$0.00	\$15.83	\$21.71

Special Calculation Note : Other is National Benifit Fund

Ratio :

1 Technician to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BUTLER, WARREN*

Special Jurisdictional Note : The following townships In Warren County are included:
(Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union, and Washington)

Details :

The following work is excluded from the Teledata Technician work scope:

*The installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.

*The installation of conduit and/or raceways shall be installed by Inside Wireman. On sites where there is no Inside Wireman employed, the

Teledata Technician may install raceway or conduit not greater than 10 ft.

*Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit

*All HVAC control work.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 648 Lt Commercial South West

Change # : LCN01-2018fbLoc648in

Craft : Electrical Effective Date : 09/03/2018 Last Posted : 08/23/2018

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$30.00		\$6.45	\$8.90	\$0.45	\$0.00	\$2.00	\$0.90	\$0.00	\$0.00	\$48.70	\$63.70
CE-3 12,001- 14,000 Hrs	\$21.27		\$5.75	\$0.64	\$0.66	\$0.00	\$0.64	\$0.48	\$0.00	\$0.00	\$29.44	\$40.07
CE-2 10,001- 12,000 Hrs	\$16.71		\$5.75	\$0.50	\$0.66	\$0.00	\$0.50	\$0.48	\$0.00	\$0.00	\$24.60	\$32.96
CE-1 8,001- 10,000 Hrs	\$15.19		\$5.75	\$0.46	\$0.66	\$0.00	\$0.46	\$0.48	\$0.00	\$0.00	\$23.00	\$30.60
CW-4 6,001-8,000 Hrs	\$13.67		\$5.75	\$0.41	\$0.66	\$0.00	\$0.41	\$0.48	\$0.00	\$0.00	\$21.38	\$28.21
CW-3 4,001-6,000 Hrs	\$12.15		\$5.75	\$0.37	\$0.66	\$0.00	\$0.37	\$0.48	\$0.00	\$0.00	\$19.78	\$25.86
CW-2 2,001-4,000 Hrs	\$11.39		\$5.75	\$0.34	\$0.66	\$0.00	\$0.34	\$0.48	\$0.00	\$0.00	\$18.96	\$24.66
CW-1 0- 2,000 Hrs	\$10.63		\$5.75	\$0.32	\$0.66	\$0.00	\$0.32	\$0.48	\$0.00	\$0.00	\$18.16	\$23.48
Apprentice Indentured AFTER 9/1/2006		Percent										
1st period 0-1000 hrs	45.00	\$13.50	\$3.42	\$0.00	\$0.20	\$0.00	\$2.00	\$0.41	\$0.00	\$0.00	\$19.53	\$26.28
2nd period 1001- 2000 hrs	45.00	\$13.50	\$3.42	\$0.00	\$0.20	\$0.00	\$2.00	\$0.41	\$0.00	\$0.00	\$19.53	\$26.28
3rd period 2001- 3500 hrs	50.00	\$15.00	\$6.45	\$4.45	\$0.23	\$0.00	\$2.00	\$0.45	\$0.00	\$0.00	\$28.58	\$36.08

4th period 3501- 5000 hrs	55.00	\$16.50	\$6.45	\$4.90	\$0.25	\$0.00	\$2.00	\$0.50	\$0.00	\$0.00	\$30.60	\$38.85
5th period 5001- 6500 hrs	62.00	\$18.60	\$6.45	\$5.52	\$0.28	\$0.00	\$2.00	\$0.56	\$0.00	\$0.00	\$33.41	\$42.71
6th period 6501- 8000 hrs	71.00	\$21.30	\$6.45	\$6.32	\$0.32	\$0.00	\$2.00	\$0.64	\$0.00	\$0.00	\$37.03	\$47.68

Special Calculation Note : Other is for NEBF (National Electrical Benifit Fund)

Ratio :

1-3 Journeymen to 2 Apprentice
 4-6 Journeymen to 4 Apprentice
 7-9 Journeymen to 6 Apprentice
 first person assigned to any job site shall be a journeyman

Jurisdiction (* denotes special jurisdictional note) :

BUTLER, WARREN*

Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman to every (4) employees of different classification per jobsite. An inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used

Special Jurisdictional Note : In Warren County the following townships are included: (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union, and Washington)

The scope of work for the light commercial agreement shall apply to the following facilities not to exceed 200,000 square feet; office buildings, shopping centers, auto sales agencies and garages, churches, funeral homes, nursing homes, hotels, retail and wholesale facilities, small stand-alone manufacturing facilities when free standing and not part of a larger facility (not to exceed 50,000 square fee), solar projects (500 panels or less) unless otherwise covered under the agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures, warehouses, gas stations, food service centers, restaurants, entertainment facilities, hospitals, clinics, motels, residential buildings.

Details :

Electricians while splicing cable shall receive \$.50 an hour above the regular electrical rate.

All work that requires the use of gas masks or respirators, shall be paid 50% above the appropriate rate of pay. Work up to & including 40 feet shall be paid \$.50 over the journeyman rate. All work from a Boatswain Chair, Swinging Scaffold, or Barrel shall be at double the Journeyman rate. Workmen required to work 50 feet or more below the surface of the earth will be paid 50% above the Journeyman rate.

**SECTION 00700 – STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION
CONTRACT**

PART 1 GENERAL

1.01 GENERAL CONDITIONS

The Warren County Water and Sewer Department has adopted the *Standard General Conditions of the Construction Contract* prepared by the Engineers Joint Contract Documents Committee and issued and published jointly by the American Consulting Engineers Council, the National Society of Professional Engineers, and the American Society of Civil Engineers. This document, contained herein, shall be made part of the Contract and shall be used during the performance of the work.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN COUNCIL OF ENGINEERING COMPANIES

AMERICAN SOCIETY OF CIVIL ENGINEERS

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The Associated General Contractors of America



Construction Specifications Institute

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1801 Alexander Bell Drive, Reston, VA 20191-4400

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does

not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations: Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and

duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by

Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. Intent of Certain Terms or Adjectives

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. Day

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents, or

b. does not meet the requirements of any applicable inspection, reference standard, test, or

approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which

Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other

submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

- a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
- b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor

may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and
2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data*

Authorized: Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
- b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice:

(i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or
(ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence

of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclu-

sion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and

any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and,

in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make

settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques,

sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. "Or-Equal" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute

item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or

royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on

entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the

Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or

indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the

requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to

revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 Delegation of Professional Design Services

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures.

Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 Related Work at Site

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and

disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to

check the quality or quantity of the Work, Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the

Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 Shop Drawings, Change Orders and Payments

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 Determinations for Unit Price Work

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 Limitations on Engineer's Authority and Responsibilities

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,
2. approve the Claim, or
3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All

cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone

directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. Contractor's Fee: When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect any other item of Work; and
3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier

Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections.

tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to

an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment,

including final payment, will impose responsibility on Engineer:

- a. to supervise, direct, or control the Work, or
- b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
- c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
- d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue

a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

- a. all documentation called for in the Contract Documents, including but not limited to the

evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),
2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and
3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment

within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or
2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00730 – TECHNICAL SPECIFICATIONS

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RICHARD A. RENNEKER WATER TREATMENT PLANT
WARREN COUNTY WATER & SEWER DEPARTMENT**

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SECTION 09900

PAINTING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. Contractor shall provide all labor, materials, tools, equipment, and incidentals as shown, specified, and required to furnish and apply paint systems.
 - a. Contractor is responsible for surface preparation and painting of all new exterior aeration bypass piping and associated fittings, valves and appurtenances.
2. Extent of painting includes the Work specified below. Painting shown in schedules may not provide Contractor with complete indication of all painting Work.
 - a. All exterior surfaces of piping, fittings, valves, and appurtenances associated with the Work outlined in Section 13250, Aeration Bypass Piping
 - b. Surface preparation and painting of all new and specifically identified existing items and other surfaces, including items furnished by Owner, are included in the Work.
 - c. Removal of all substances, top coats, primers and all intermediate coats of paint and other protective coatings on those items and surfaces to remain that are identified to receive painting, to provide surfaces acceptable for application of painting specified.

B. Coordination:

1. Review installation, removal, and demolition procedures under other Sections and coordinate them with the Work specified in this Section.
2. Notify OWNER a minimum of 48 hours in advance of all painting.
3. Coordinate primers with finish paint materials to provide primers that are compatible with finish paint materials. Contractor is responsible for coordinating compatibility of all shop primed and field painted items.
4. Furnish information to Owner on characteristics of finish materials proposed for use and ensure compatibility with prime coats used. Provide barrier coats over incompatible primers or remove and repaint as required.
5. Notify Owner in writing of anticipated problems using specified painting systems with surfaces primed by others. Reprime equipment primed in factory and other factory-primed items that are damaged or scratched.

C. Work Not Included: The following Work is not included as painting Work, or are included under other Sections:

1. Operating Parts and Labels:
 - a. Do not paint moving parts of operating units, mechanical and electrical parts such as valve and damper operators, linkages, sensing devices, interior of motors, and fan shafts.
 - b. Do not paint over labels required by governing authorities having jurisdiction at Site, or equipment identification, performance rating, nameplates, and nomenclature plates.
 - c. Cover moving parts and labels during the painting with protective masking. Remove all protective masking upon completion of Work. Remove all paint, coatings, and splatter that comes in contact with such labels.
2. Existing structures, equipment, and other existing surfaces and items unless otherwise shown or specified.

D. Description of Colors and Finishes:

1. Color Selection:
 - a. Color shall match the existing piping adjacent to work.

- b. Owner reserves the right to select non-standard colors for paint systems specified within ability of paint manufacturer to produce such non-standard colors. Provide such colors at no additional expense to Owner.

1.2 Quality Assurance

A. Applicator Qualifications:

1. Engage a single applicator that regularly performs installation of paint materials, with documented skill and successful experience in installing types of products required and that agrees to employ only trained, skilled tradesmen who have successful experience in installing types of products specified.
2. Submit name and qualifications to Owner along with following information for at least three successful, completed projects:
 - a. Names and telephone numbers of owner and design professional responsible for project.
 - b. Approximate contract cost of paint products.
 - c. Amount of area painted.
3. Submit to Owner proof of acceptability of applicator by manufacturer.

B. Testing Agency Qualifications: Provide an independent testing agency for testing specified in this Section. Testing agency shall be selected by Owner and paid for by Contractor.

C. Source Quality Control:

1. Obtain materials from manufacturers that will provide services of a qualified manufacturer's representative at Site at commencement of painting Work, to advise on products, mock-ups, installation, and finishing techniques and, at completion of Work, to advise Owner on acceptability of completed Work and during the course of the Work as may be requested by Owner.
2. Certify long-term compatibility of all coatings with surfaces.
3. Do not submit products that decrease number of coats, surface preparation, or generic type and formulation of coatings specified. Products exceeding VOC limits and chemical content specified will not be approved.
4. Owner may review manufacturers' recommendations concerning methods of installation and number of coats of paint for each painting system. Contractor shall prepare construction costs based on painting systems, number of coats, coverage's and installation methods specified.
5. Submit "or equal" products, when proposed, with direct comparison to products specified, including information on durability, adhesion, color and gloss retention, percent solids, VOC's grams per liter, and recoatability after curing.
6. "Or equal" manufacturers shall furnish same color selection as manufacturers specified, including intense chroma and custom pigmented colors in all painting systems.
7. Color Pigments: Provide pure, non-fading, applicable types to suit surfaces and services to be painted. Comply with:
 - a. Lead and Chromate: Lead and chromate content shall not exceed amount permitted by authorities having jurisdiction.
 - b. Manufacturer shall identify colors that meet the requirements of authorities having jurisdiction at Site for use in locations subject to contact with potable water or water being prepared for use as potable water.
 - c. Comply with paint manufacturer's recommendations on preventing coating contact with levels of carbon dioxide and carbon monoxide that may cause yellowing during application and initial stages of curing of paint.
8. Obtain each product from one manufacturer. Multiple manufacturing sources for the same system component are unacceptable.
9. Certify product shelf life history for each product source for materials manufactured by the

same manufacturer, but purchased and stored at different locations or obtained from different sources.

10. Constantly store materials to be used for painting Work between 60 °F and 90 °F, and per paint manufacturer's written recommendations, for not more than six months. Certify to Owner that painting materials have been manufactured within six months of installation and have not, nor will be, subjected to freezing temperatures.

D. Regulatory Requirements:

1. Comply with VOC content limits of OTC Model Rule for Architectural and Industrial Maintenance Coatings:
 - a. Industrial Maintenance Coatings: 340 grams per liter.
 - b. Interior and Exterior Non-Flat Coatings: 250 grams per liter.
2. Comply with the following:
 - a. 29 CFR 1910.144, Safety Color Code for Marking Physical Hazards.
 - b. 40 CFR, Subpart D-2001, National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - c. Resource Conservation and Recovery Act of 1976 (RCRA).
 - d. SW-846, Toxic Characteristic Leaching Procedure (TCLP).
3. Comply with authorities having jurisdiction at Site for blast cleaning, confined space entry, and disposal of spent abrasive and debris.

1.3 SUBMITTALS:

A. Shop Drawings: Submit the following:

1. Copies of manufacturer's technical information and test performance data, including paint analysis, VOC and chemical component content in comparison to maximum allowed by the Contact Documents, and application instructions for each product proposed for use.
2. Submit proof of acceptability of proposed application techniques by paint manufacturer selected.
3. Copies of Contractor's proposed protection procedures in each area of the Work explaining methods of protecting adjacent surfaces from splatter, for confining application procedures in a manner that allows other work adjacent to surface preparation and painting Work to proceed safely and without interruption, and for maintaining acceptable application, curing, and environmental conditions during and after painting systems application.
4. List each material, identify by manufacturer's catalog number and general classification. State number of gallons of each product being purchased for delivery to Site and square foot area calculated to be covered by each painting system specified based on theoretical loss of 20 percent. Where actual area to be covered by paint system exceeds area submitted to Owner for that system, proof of additional material purchase shall be provided to Owner. Calculated coverage shall be as specified for each component of each painting system specified. This requirement does not take precedence over Contractor's responsibility to provide dry film thickness required for each component of each painting system.
5. Identify maximum exposure times allowable for each paint system component before next coat of paint can be applied. Submit proposed methods for preparing surfaces for subsequent coats if maximum exposure times are exceeded.
6. Information on curing times and environmental conditions that affect curing time of each paint system component and proposed methods for accommodating variations in curing time. Identify this information for each painting system in the Work.
7. Specification for spray equipment with cross-reference to paint manufacturer's recommended equipment requirements.
8. Samples: Submit copies of manufacturer's complete color charts for each coating system.

- B. Certificates: Submit the following:
1. Certificate from paint manufacturer stating that materials meet or exceed Contract Documents requirements.
 2. Evidence of shelf life history for all products verifying compliance with the requirements of the Contract Documents.
 3. Contractor shall provide notarized statement verifying that all painting systems are compatible with surfaces specified. All painting systems components shall be reviewed by an authorized technical representative of paint manufacturer for use as a compatible system. Verify that all painting systems are acceptable for exposures specified and that paint manufacturer is in agreement that selected systems are proper, compatible, and are not in conflict with paint manufacturer's recommended specifications. Show by copy of transmittal form that a copy of letter has been transmitted to paint applicator.
- C. Test Reports: Submit the following:
1. Certified laboratory test reports for required performance and analysis testing in compliance with ASTM E329.
 2. Adhesion testing plan, procedures, and results.
 - a. Based on results of adhesion testing, recommend methods, procedures, and painting system modifications, if necessary, for proceeding with Work.
 3. Locations of and test methods for soil sampling before beginning Work and after Substantial Completion.
 4. Proposed methods for testing, handling, and disposal of waste generated during Work.
 5. Results of alkalinity and moisture content tests performed in accordance with ASTM D4262 and ASTM D4263.
 6. Results of tests of film thickness, holidays, and imperfections.
- D. Manufacturer's Instructions: Provide paint manufacturer's storage, handling, and application instructions prior to commencing painting Work at Site.
- E. Manufacturer's Site Reports: Provide report of paint manufacturer's representative for each visit to Site by paint manufacturer's representative.
- F. Special Procedure Submittals: Submit the following:
1. Proposed protection procedures for each area of Work, explaining methods of protecting adjacent surfaces from splatter.
 2. Site-specific health and safety plan.
 3. Procedures for maintaining acceptable application, curing and environmental conditions during and after painting systems application.
 4. Procedures for providing adequate lighting, ventilation, and personal protection equipment relative to painting Work.
- G. Statement of Application: Upon completion of the painting Work, submit a notarized statement to Owner signed by Contractor and painting applicator stating that Work complies with requirements of the Contract Documents and that application methods, equipment, and environmental conditions were proper and adequate for conditions of installation and use.

1.4 DELIVERY, STORAGE, AND HANDLING:

- A. Product Delivery Requirements: Deliver products to Site in original, new, and unopened packages and containers, accurately and legibly and accurately labeled with the following:
1. Container contents, including name and generic description of product.
 2. Manufacturer's stock number and date of manufacture.

3. Manufacturer's name.
4. Contents by volume, for major pigment and vehicle constituents.
5. Grams per liter of volatile organic compounds.
6. Thinning instructions, where recommended.
7. Application instructions.
8. Color name and number.

B. Product Storage Requirements:

1. Store acceptable materials at Site.
2. Store in an environmentally controlled location as recommended in paint manufacturer's written product information. Keep area clean and accessible. Prevent freezing of products.
3. Store products that are not in actual use in tightly covered containers.
4. Comply with health and fire regulations of authorities having jurisdiction at Site.

C. Product Handling Requirements:

1. Handle products in a manner that minimizes the potential for contamination, or incorrect product catalyzation.
2. Do not open containers or mix components until necessary preparatory work has been completed and approved by Owner and painting Work will start immediately.
3. Maintain containers used in storing, mixing, and applying paint in a clean condition, free of foreign materials and residue.

1.5 SITE CONDITIONS:

A. Environmental Requirements:

1. Apply water-base paints when the temperature of surfaces to be painted and ambient air temperatures are between 55°F and 90°F, unless otherwise permitted by paint manufacturer's published instructions.
2. Surfaces to be painted shall be at least 5°F above dew point temperature and be dry to the touch. Apply paint only when temperature of surfaces to be painted, paint products, and ambient air temperatures are between 65°F and 95°F, unless otherwise permitted by paint manufacturer's published instructions.
3. Apply paint system within shortest possible time consistent with manufacturer's recommended curing instructions for each coat. If chemical, salt, or other contamination contacts paint film between coats, remove contamination per SSPC SP 1 and restore surface before applying paint.
4. Do not paint pipelines containing fluid without specific permission of Owner and only under conditions where "sweating" of outside surface of vessel being painted is not likely to occur within 24 hours of paint application.
5. Do not apply epoxy paints if ambient temperature is expected to go below 50°F within twelve hours of application. Follow manufacturer's instructions when manufacturer's published recommendations require a higher minimum ambient temperature.
6. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85%. Do not apply paint to damp or wet surfaces or when surfaces will reach dew point due to falling or rising temperatures and humidity conditions during course of paint application, unless otherwise permitted by paint manufacturer's published instructions.
7. Do not paint unacceptably hot or cold surfaces until such surfaces can be maintained within temperature and dew point ranges acceptable to paint manufacturer. Arrange for surfaces to be brought within acceptable temperature and dew point ranges as part of painting Work.
8. Moisture content of surfaces shall be verified to Owner as acceptable prior to commencement of painting using methods recommended by paint manufacturer.

B. Protection:

1. Cover or otherwise protect finished work and surfaces not being painted concurrently, or not to be painted.
2. When working with flammable materials, provide fire extinguishers and post temporary signs warning against smoking and open flame.

1.6 MAINTENANCE:

- A. Extra Materials: Furnish, tag, and store an additional one percent by volume of all coatings and colors installed. Provide a minimum of one gallon of each coating and color. Store in unopened containers as specified until turned over to Owner.

PART 2 – PRODUCTS

2.1 PAINTING SYSTEM MANUFACTURERS:

- A. Color: Match color to existing piping.
- B. Products and Manufacturers:
1. Tnemec Company, Inc. (TCI).
 2. The Carboline Company, (TCC).
 3. Sherwin-Williams Company (SWC).
 4. Or Approved Equal.

2.2 PAINTING SYSTEMS:

A. Factory Primer:

1. Generic Components:
 - a. Minimum 67 percent solids, two-component, cycloaliphatic amine- catalyzed epoxy or polyamido-amine epoxy; 334 grams per liter VOC, maximum.
2. Products and Manufacturers: Provide one of the following:
 - a. Series N69 Hi-Build Epoxoline (TCI); Carboguard 954 HB (TCC); Macropoxy HS Epoxy (SWC); Or Approved Equal: One coat, 4.0 dry mils.

B. Shop Prime/Touch-Up/Finish, Satin:

1. Generic Components:
 - a. Minimum 100 percent volume solids, high-build, two-component, polyamide-catalyzed epoxy or polyamido-amine epoxy; 10 grams per gallon VOC, maximum.
2. Products and Manufacturers: Provide one of the following:
 - a. Series N69 Hi-Build Epoxoline (TCI); Carboguard 890 LT (TCC); Dura-Plate UHS (SWC), Or Approved Equal: Three coats, 8.0 to 15.0 dry mils, per coat.

C. Finish: Gloss:

1. Generic Components:
 - a. Minimum 49 percent solids, two-component, aliphatic acrylic, polyurethane coating; 247 grams per liter VOC, maximum.
2. Products and Manufacturers: Provide one of the following:
 - a. Series 1080 Endura-Shield (TCI); Carbothane 134 VOC (TCC); Centurion WB Urethane (SWC); Or Approved Equal: Two coats, 2.0 to 3.0 dry mils, per coat.

Part 3 –Execution

3.1 INSPECTION

- A. Examine areas and conditions under which painting Work is to be performed and notify Owner in writing of conditions detrimental to proper and timely completion of Work. Do not proceed with Work until unsatisfactory conditions have been corrected in a manner acceptable to Owner.
- B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film capable of performing in accordance with claims made in paint manufacturer's product literature for surfaces and conditions encountered.
- C. Do not paint over existing paint where there is no assurance that existing paint will provide an acceptable surface for long-term adherence and durability of painting systems specified or where paint manufacturer requires removal of all existing paint to recommend use of specified painting system.

3.2 SURFACE PREPARATION

- A. Test for moisture content of surfaces before commencement of painting Work. Test for moisture in concrete in compliance with ASTM D4263. Report results to Owner before commencing Work.
- B. Remove as necessary items that must be field-painted where adjacent surfaces cannot be completely protected from splatter or overspray. Following completion of painting of each space or area, the removed items shall be reinstalled by workers skilled in the trades involved.
- C. Clean surfaces to be painted before applying painting system components. Remove oil and grease with clean cloths and cleaning solvents prior to mechanical cleaning.
- D. Prepare surfaces that were improperly shop-painted and abraded or rusted shop-painted surfaces as specified.
- E. Comply with paint manufacturer's recommendations and NAPF 500- 03 for type and size of abrasive to provide a surface profile meeting paint manufacturer's requirements for type, function and location of surface.
- F. Clean ductile and cast iron surfaces to be shop-primed of all oil, grease, dirt, mill scale, and other contamination by solvent cleaning and abrasive blasting complying with NAPF 500-03-01, NAPF 500-03-04, and NAPF 500-03-05 at time of paint system application.
- G. Touch-up shop-applied prime coats that are damaged or have bare areas with primer recommended by paint manufacturer, after power tooling complying with NAPF 500-03 at the time of painting system application.
- H. Remove all contamination on existing ductile and cast iron to sound surfaces by power tool cleaning complying with NAPF 500-03-03

3.3 PROTECTION OF PROPERTY AND STRUCTURES

- I. Protect property and structures adjacent to the Work from waste residues resulting from cleaning, surface preparation and paint application.

- J. Use shrouding, vacuum blasting, or other approved methods for cleaning and surface preparation of exterior surfaces.
- K. For painting of exterior surfaces, use rollers, shrouding or other approved methods as required to protect adjacent property and structures from wind-blown paint residues.
- L. Submit proposed procedures for cleaning, surface preparation and paint application describing methods for protecting adjacent property and structures from residues. Do not proceed with cleaning, surface preparation or painting until proposed procedures are approved by Owner.

3.4 MATERIAL PREPARATION

A. General:

- 1. Mix and prepare paint products in strict accordance with paint manufacturer's product literature.
- 2. Do not mix painting materials produced by different manufacturers, unless otherwise permitted by paint manufacturer's instructions.
- 3. Where thinners are required, they shall be produced by paint system manufacturer unless otherwise permitted by paint manufacturer's product literature and submitted to and accepted by Owner with Shop Drawings.

B. Tinting:

- 1. Where multiple coats of the same material are to be provided, tint each undercoat a lighter shade to facilitate identification of each coat of paint.
- 2. Tint undercoats to match color of finish coat of paint, but provide sufficient difference in shade of undercoats to distinguish each separate coat. Provide a code number to identify material tinted by manufacturer.

C. Mixing:

- 1. For products requiring constant agitation, use methods in compliance with manufacturer's product literature to prevent settling during paint application.
- 2. Mix in containers placed in suitably sized non-ferrous or oxide resistant metal pans to protect floors from slashes or spills that could stain the floor.
- 3. Mix and apply paint in containers bearing accurate product name of material being mixed or applied.
- 4. Stir products before application to produce a mixture of uniform density and as required during the application. Do not stir into the product film that forms on surface; instead, remove film and, if necessary, strain product before using.
- 5. Strain products requiring such mixing procedures. After adjusting mixer speed to break up lumps and after components are thoroughly blended, strain through 35 to 50-mesh screen before application.

3.5 APPLICATION

A. General:

- 1. Apply paint systems by brush, roller, or airless spray per manufacturer's recommendations and in compliance with Paint Application Specifications No. 1 in SSPC Volume 2, where applicable. Use brushes best suited for type of paint applied. Use rollers of carpet, velvet back, or high pile sheeps wool as recommended by paint manufacturer for product and texture required. Use air spray and airless spray equipment recommended by paint manufacturer for specific painting systems specified. Submit a list of application methods proposed, listing paint systems and location.

2. Paint dry film thicknesses required are the same regardless of the application method. Do not apply succeeding coats until previous coat has completely dried.
 3. Apply additional coats until paint film is uniform finish, color, and appearance, particularly for intense chroma primary colors. Ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a film thickness equivalent to that of flat surfaces.
 4. Paint aluminum parts in contact with dissimilar materials with specified paint system.
 5. Omit field-applied primer on metal surfaces that have been primed in the shop. Touch-up paint shop-primed coats and pre-finished items only when approved by Owner using compatible primers and manufacturer's recommended compatible field-applied finishes.
- B. Minimum/Maximum Paint Film Thickness:
1. Apply each product at not less than, nor more than, manufacturer's recommended spreading rate, and provide total dry film thickness as specified.
 2. Apply additional coats of paint if required to obtain specified total dry film thickness.
 3. Maximum dry film thickness shall not exceed 100 percent of minimum dry film thickness, except where more stringent limitations are recommended by paint manufacturer for a specific product.
- C. Scheduling Surface Preparation and Painting:
1. As soon as practical after preparation, apply first-coat material before subsequent surface deterioration due to atmospheric conditions existing at time of surface preparation and painting. Surfaces that have started to rust before first-coat application is complete shall be brought back to required standard by abrasive blasting.
 2. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure and application of another coat of paint does not cause lifting or loss of adhesion to undercoat.
 3. Scarify primers and other painting system components by brush-blasting if paint has been exposed for lengths of time or under conditions beyond manufacturer's written recommendations for painting systems required, intended use, or method of application proposed for subsequent coats of paint.
 4. Schedule cleaning and painting so that dust and other contaminants from cleaning process do not fall on wet, newly painted surfaces.
- D. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage.
- E. Brush Application:
1. Brush out and work all brush coats onto surfaces in an even film. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections are unacceptable.
 2. Brush-apply primer or first coats, unless otherwise permitted to use mechanical applicators.
- F. Mechanical Application:
1. Use mechanical methods for paint application when permitted by governing ordinances, manufacturer, and approved by Owner.
 2. Where spray application is used, apply each coat to provide equivalent hiding of brush-applied coats. Do not double back with spray equipment for purpose of building up film thickness of multiple coats in one pass.
- G. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint Work not in compliance with specified requirements as required by Owner.

3.6 Field Quality Control

- A. OWNER may invoke the following material testing procedure at any time for a maximum of five times during field painting Work:
1. Contractor shall engage service of an independent testing laboratory to sample paints used, as designated by Owner. Samples of products delivered to Site shall be obtained, identified, sealed, and certified as to being products actually applied to surfaces in each area, in presence of Contractor.
 2. A testing laboratory selected by Owner and paid for by Contractor shall perform appropriate tests for any or all of the following:
 - a. Abrasion resistance.
 - b. Apparent reflectivity.
 - c. Flexibility.
 - d. Washability.
 - e. Absorption.
 - f. Accelerated weathering.
 - g. Dry opacity.
 - h. Accelerated yellowness.
 - i. Recoating.
 - j. Skinning.
 - k. Color retention.
 - l. Alkali resistance.
 - m. Quantitative materials analysis.
 3. If test results show that products being used do not comply with specified requirements, Contractor may be directed to stop painting Work and remove non-complying paint, and shall prepare and repaint surfaces with material complying with the Contract Documents.
 4. Notify Owner after completing each coat of paint. After inspection and checking of film thickness, holidays, and imperfections, and after acceptance by Owner, proceed with succeeding coat.
 5. Owner will witness all testing and shall be notified of scheduled testing at least twenty-four hours in advance.
 6. Apply additional coats, if required, to produce specified film thickness and to correct holidays and to completely fill all surface air holes.
- B. For magnetic substrates, measure thickness of dry film nonmagnetic coatings following recommendations of SSPC PA-2. These procedures supplement manufacturers' approved instructions for manual operation of measurement gauges and do not replace such instructions.
- C. Record time, location, number of coats, dry film thickness, holidays, and other imperfections and submit testing results to Owner.

3.7 PROTECTION OF NEW FINISHES

- A. Provide signs that read, "Wet Paint" as required to protect newly painted finishes. Remove temporary wrappings provided for protection of the Work after completion of painting.

3.8 ADJUSTING AND CLEANING

- A. Correct damages through cleaning, repairing or replacing, and repainting, as acceptable to Owner.
- B. During progress of Work, remove from Site all discarded paint materials, rubbish, cans, and rags at end of each workday.
- C. Upon completion of painting, clean paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, while avoiding damaging finished surfaces.

++ END OF SECTION ++

SECTION 13220

GRAVITY FILTER REHABILITATION

PART 1 – GENERAL

1.1 WORK INCLUDED

- A. CONTRACTOR shall provide all work for the removal and replacement of filter media and nozzles for 14 filter cells, as specified herein.
1. There are seven filter units, each with two cells, shown in record drawings included in Appendix A, and specified herein.
 - a. “Old” Filter Units: Three units (6 cells), size: 9’ x 18’.
 - b. “New” Filter Units: Four units (8 cells), size: 11’ x 18’.
 2. Three filtration units (6 cells) must be in service at all times.
 3. Access to extract existing media can be gained through designated windows on the second floor of the filter building.
- B. Work shall include the following:

Item 1. Mobilization, Demobilization, Bonds, and Insurance:

Furnish Performance and Payment Bonds and Certificates of Insurance; assemble, set up and mobilize to site personnel, equipment, sanitary facilities, and other facilities and materials required; demobilization and removal of equipment.

Item 2. Backwash Control Programming:

Provide all work shown and/or specified for the programming of the backwash PLCs.

Item 3. Removal and Disposal of Existing Loose Media and Nozzles:

Provide all work shown and/or specified for the removal and disposal of existing media, nozzles and differential pressure ports and piping. This includes cleaning the existing structure once the media has been removed and prior to the placement of new nozzles, differential pressure ports/piping, and media.

Item 4. Removal and Disposal of Existing Compacted/Solidified Media:

Provide all work shown and/or specified for the removal and disposal of existing compacted media. This includes cleaning the existing structure once the media has been removed and prior to the placement of new nozzles, piping, or media.

Item 5. Procurement & Installation of Filter Nozzles:

Provide all work shown and/or specified for the procurement and installation of system nozzles as described in the specifications.

Item 6. Procurement & Installation of Pipe, Fittings, Valves, and Strainers for Differential Pressure Transmitter:

Provide all work shown and/or specified for the procurement and installation of differential pressure transmitter piping, strainers, and wall ports as described herein and shown on the Contract Drawings.

Item 7. Procurement & Installation of Filter Media:

Provide all work shown and/or specified for the procurement and installation of system media as described in the Specifications.

Item 8. Disinfection & Startup:

All startup, training and material specifications not specifically included under the equipment specification sections. This includes gathering all information from subcontractors and suppliers to ensure that all pertinent information is included, and up to two days startup for each filter cell.

1.2 SEQUENCE OF WORK

- A. The Water Treatment Plant shall be kept in service at all times. Three (3) filter units (6 filter cells) must be kept in service at all times.
- B. Nozzles and Differential Pressure sensor strainers shall be removed with media and replaced before new media is added.
- C. The backwash control program shall be rewritten before any backwash is completed once the new media and components are added.
- D. All differential pressure sensor piping, fittings, and valve shall be installed before final filter disinfection takes place.
- E. Filters shall be disinfected, backwashed and tested for 30 days before being put into service.

1.3 SUBMITTALS

- A. Submit the following for the Media:
 - 1. Sample of materials.
 - 2. Media Supplier's Certificate of Compliance certifying compliance with the applicable specifications and standards.
 - 3. Physical characteristics for Media
 - 4. Supplier's written installation instructions.
- B. Submit the following for the Nozzles and Strainers:
 - 1. Nozzle Supplier's Certificate of Compliance certifying compliance with the applicable specifications and standards.
 - 2. Manufacture drawings, literature, and materials of construction for Nozzles and Strainers.
 - 3. Supplier's written installation instructions.
- C. Submit the following for the Piping & Valves:
 - 1. Manufacture information, drawings, and literature.
 - 2. Supplier's written installation instructions.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. All products, including but not limited to media, nozzles, piping, tubing, and fixtures, shall be delivered to the site in such a manner as to avoid damaging the units.
- B. All products, including but not limited to media, nozzles, piping, tubing, and fixtures, shall be packaged so as to protect from weather or other damaging factors.

1.5 STORAGE OF MATERIALS

- A. Arrange for space to suit needs. Store materials and equipment in manner which will preserve their quality and fitness; materials may be stored on-site, as space is available, in maintenance garage, remove upon completion of work.

- B. Provide suitable protection from weather and vandalism for all materials and equipment to be installed. Storage shall be dry, clean, and safe. Any materials or equipment damaged, deteriorated, rusted, or defaced due to improper storage shall be fully repaired, refinished, or replaced, as directed by the OWNER.

1.6 SUPERVISION BY CONTRACTOR

- A. The CONTRACTOR shall supervise and direct his work. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction for his work, unless specified otherwise.
- B. The CONTRACTOR shall employ and maintain on the site a qualified SUPERVISOR or superintendent who shall be designated in writing by the CONTRACTOR as the CONTRACTOR’S representative at the site.
- C. The SUPERVISOR shall have full authority to act on behalf of the CONTRACTOR and all communications given to the SUPERVISOR shall be as binding as if given to the CONTRACTOR.
- D. The SUPERVISOR shall be present on the site at all times and be required to perform adequate supervision and coordination of the work.

PART 2 – PRODUCTS

2.1 GENERAL

- A. All material used in contact with the water and backwash air shall meet National Sanitation Foundation (NSF) Standard 61 “Drinking Water System Components – Health Effects.”

2.2 FILTER MEDIA

- A. Filter media shall be an EPA approved media and shall consist of the following:

<u>Description</u>	<u>Effective Size</u>	<u>Uniformity Coefficient*</u>	*Uniformity
Anthracite	0.9 – 1.1 mm	1.4	coefficient shall not exceed listed value.
Filter Sand	0.45 – 0.55 mm	1.65	
Torpedo Sand	0.8 – 2.0 mm	1.7	

- B. Filter media shall be installed in each filter cell as follows:

<u>Location</u>	<u>Description</u>	<u>Depth per cell</u>	<u>Volume per 9’ x 18’ Cell</u>	<u>Volume per 11’ x 18’ Cell</u>
Top	Anthracite	18”	243 ft ³	297 ft ³
Middle	Filter Sand	12”	162 ft ³	198 ft ³
Bottom	Torpedo Sand	3”	41 ft ³	49.5 ft ³

- C. Filter media shall be supplied in cubic foot bags.
- D. Media shall meet the requirements for AWWA B100, latest revision, including provisions for skimming.

2.3 ABS PLASTIC NOZZLE SYSTEM

- A. The nozzles shall be General Filter Model MCA 614 or approved equal, equipped with a plastic tail having properly sized orifices located at the bottom of the concrete underdrain slab to provide uniform distribution of air for air scour.
- B. Nozzles shall be constructed of high strength erosion resistant ABS plastic.
- C. The nozzles shall be of the slotted type wherein the slots lie in a horizontal plan so that the backwash water is uniformly discharged horizontally into the filter media.
- D. The slot dimensions shall be designed to present sharp edges to the retained media.
- E. The slots in the nozzles shall be designed to be smaller than the filter media and to get progressively larger towards the inside of the assembly to prevent loading of the media in the slot.
- F. Hardware shall be stainless steel and shall be limited to bolts, nuts and washers and shall not be in contact with distributor opening.

2.4 DIFFERENTIAL PRESSURE TRANSMITTER PIPING

- A. Copper Pipe:
 - 1. ASTM B 88, Type L, hard drawn unless noted otherwise.
 - 2. Fittings: Solder type, either cast bronze conforming to ANSI B16.18 or wrought copper or bronze conforming to ANSI B16.22, except that unions shall conform to FS WW-U-516 and be either brass or bronze and either threaded or soldered.
- B. Ball Valves:
 - 1. Shall be lead free brass, rated for a hydraulic working pressure of 200 psi, full flow shutoff applications, quarter turn operation, lever handle, PTFE seats and seals, and equipped with compression connections.
- C. Flexible Tubing:
 - 1. Shall be reinforced clear polyvinyl chloride tubing with a polyester braid and be rated for a hydraulic working pressure of 125 psi minimum; certified as Pipes and Related Products under NSF/ANSI standard 61: Drinking Water System Components–Health Effects.
- D. Pipe Cap:
 - 1. Shall be lead free brass and rated for a hydraulic working pressure of 200 psi, minimum.
- E. Strainer:
 - 1. The strainers shall be General Filter Model WesTech ¾", FPT, #262KSPM7, or approved equal.
 - 2. Strainers shall be constructed of high strength erosion resistant ABS plastic.
 - 3. The slots in the strainer shall be designed to be smaller than the filter media and to get progressively larger towards the inside of the assembly to prevent loading of the media in the slot.

2.5 HYDRAULIC CEMENT

- A. Shall be rapid setting, high strength cementitious material with a final set time of less than 5 minutes and compressibility of 2500 and 4500 psi at 24 hours and 7 days, respectively.

PART 3 – EXECUTION

3.1 BACKWASH CONTROL PROGRAM PLC

- A. CONTRACTOR shall download, revise, and edit the existing PLC software programs located in Filter Control Cabinets No. 1 and 2. The PLC programs control the backwash operation of the seven filter beds. The existing PLCs are 1756-L62 Control Logix by Allen-Bradley. The controllers will be reprogrammed based on the functional description provided herein.
- B. The PLC program shall allow for automatic, semi-automatic, and manual backwashing of the filters.

3.2 BACKWASH CONTROL FEATURES

- A. Automatic Mode:
 - 1. This feature shall be normally disabled and placed under password protection. Normal operation will occur in semi-automatic control. Enabling of the automatic mode shall be possible via password protection.
 - 2. When the headloss in a filter cell, as measured from the differential pressure transmitter, reaches the high head loss set point, the filter run time reaches the set point or the filtered water turbidity reaches a set point, a backwash is initiated on that filter. **The start of a backwash cycle shall initiate an alarm on SCADA that shall be acknowledged by an operator.**
 - 3. The filter cell will proceed through a backwash cycle and return to service.
 - 4. All cells will be interlocked to allow only one cell to automatically backwash at a time.
- B. Semi-Automatic Mode:
 - 1. When the headloss in a filter cell, as measured from the differential pressure transmitter, reaches the high head loss set point, the filter run time reaches the set point or **the filtered water turbidity reaches a set point, a “Backwash Required” alarm window is activated on the operator interface (OIT).**
 - 2. **A remote alarm will be activated to the SCADA system.**
 - 3. **The alarm must be acknowledged by pressing the Alarm Acknowledge function button on SCADA.**
 - 4. The backwash is initiated by pressing the Semi-Auto Backwash Start function button for that filter on the OIT.
 - 5. The Filter cell will proceed through a backwash cycle and return to service.
 - 6. All cells will be interlocked to allow only one cell to automatically backwash at a time.
 - 7. A high head loss condition, filter run time, or turbidity exceedance does not need to exist to start a semi-auto backwash.
 - 8. A backwash will be initiated by pressing the semi-auto backwash start function button at any time, on the OIT.
- C. Manual Mode:
 - 1. When the headloss in a filter cell, as measured from the differential pressure transmitter,

reaches the high head loss set point, the filter run time reaches the set point or **the filtered water turbidity reaches a set point, backwash required alarm window is activated on the operator interface (OIT).**

2. **A remote alarm will be activated to the SCADA system.**
3. The alarm is acknowledged by pressing the alarm acknowledge function on the OIT.
4. The filter function valves must be operated by manually operating the function switches on **SCADA.**
5. The air wash blower and backwash pump must be manually operated using Hand-Off-Auto function buttons on the OIT to stage the filter cell through a backwash.

3.3 BACKWASH SEQUENCE

A. Automatic Backwash Mode: (Note - Filter #1 tags shown for reference)

The backwash will commence automatically upon high head loss, high run time, or high turbidity and continue to completion as described (bolded parts designate sections to be added):

1. The inlet valve (FV-301-1) of the selected filter closes and the other filter cells are interlocked from backwashing.
2. The effluent valve remains open at the current position until the filter water level reaches a preset level then the effluent valve (FCV-303-1) is closed.
3. The backwash waste valve (FV-305-1) is opened.
4. Cell B effluent isolation valve (FV-304-2) is closed.
5. Air wash supply valve (FV-313-1) is opened and air wash blower is started (Blower #1 for filters #1-3, Blower #2 for Filters #4-7).
6. Air scour flow control valve (FCV-312) is opened until flow rate reaches set point. Filters #1-3 set point is 324 CFM and Filters #4-7 set point is 396 CFM. (2 scfm/sq.ft.)
7. Air Wash blow off valve (FV-314) is closed.
8. **Air scour is continued for 5 to 10 minutes and should be adjusted on startup based on visual inspection.**
9. Backwash supply valve (FV-310-1) is opened.
10. Selected backwash pump is started. Backwash pumps will be automatically alternated after each use if both HOA switches are in Auto.
11. **Backwash flow control valve (FCV-311) is opened slowly over 90 seconds until flow rate reaches a set point. The backwash flow set point for Filters #1-3 is 2,430 GPM and 2,970 GPM for Filters #4-7.**
12. The cell will MULTIWASH[®] (combined air and water backwash) until duration timer reaches its set point (1-20 minute range, initially set at 10).
13. **One minute before the time period expires, a buzzer shall sound for five seconds, and an “extend backwash” light on the filter consul shall be illuminated indicating that there is one minute remaining for this period. During this period, the operator has the option to manually extend the MULTIWASH[®] air/water period by depressing the “Extend Wash” pushbutton at the FCC. This will extend the wash for an additional pre-selected time period (adjustable to 5 minutes).**
14. When the MULTIWASH[®] period expires, the blower stops, the filter air valve (FV-312) closes. The air wash blow-off valve (FV-314) is opened and air wash supply valve (FV-313-1) is closed.
15. Cell will continue to backwash for 5 to 6 minutes to purge air from underdrain and media.
16. **After air purge sequence is complete the backwash flow control valve (FCV-311) is closed slowly over a 90 second to 2 minute time period to allow stratification of media as it settles back into the resting/filtering position.**
17. **The backwash pump is stopped.**

18. Effluent isolation valve on cell A (FV-304-1) is closed and effluent isolation valve on cell B (FV-304-2) is opened.
19. Air wash supply valve (FV-313-2) is opened and air wash blower is started (Blower #1 for filters #1-3, Blower #2 for Filters #4-7).
20. Air scour flow control valve (FV-312) is opened until flow rate reaches set point. Filters #1-3 set point is 324 CFM and Filters #4-7 set point is 396 CFM. (2 scfm/sq.ft.)
21. Air Wash blow off valve (F-314) is closed.
22. **Air scour is continued for 5 to 10 minutes and should be adjusted on startup based on visual inspection.**
23. Selected backwash pump is started. Backwash pumps will be automatically alternated after each use if both HOA switches are in Auto.
24. **Backwash flow control valve (FCV-311) is opened slowly over 90 seconds until flow rate reaches a set point. The backwash flow set point for Filters #1-3 is 2,430 GPM and 2,970 GPM for Filters #4-7.**
25. The cell will MULTIWASH[®] (combined air and water backwash) until duration timer reaches its set point (1-20 minute range, initially set at 10).
26. **One minute before the time period expires, a buzzer shall sound for five seconds, and an “extend backwash” light on the filter consul shall be illuminated indicating that there is one minute remaining for this period. During this period, the operator has the option to manually extend the MULTIWASH[®] air/water period by depressing the “extend wash” pushbutton at the FCC. This will extend the wash for an additional pre-selected time period (adjustable to 5 minutes).**
27. When the MULTIWASH[®] period expires, the blower stops, the filter air valve (FCV-312) closes. The air wash blow-off valve (FV-314) is opened and air wash supply valve (FV-313-2) is closed.
28. Cell will water only backwash for 5 to 6 minutes to purge air from underdrain and media.
29. **After air purge sequence is complete the backwash flow control valve (FCV-311) is closed slowly over a 90 second to 2 minute time period to allow stratification of media as it settle back into the resting/filtering position.**
30. **The backwash pump is stopped.**
31. Backwash supply valve (FV-310-1) is closed.
32. Backwash waste valve (FV-305-1) is closed; both filter effluent isolation valves (FV-304-1 and FV-304-2) are opened.
33. Filter influent valve (FV-301-1) is opened.
34. Filter to waste valve (FCV-315) is opened until flow through filter to waste flow meter #1 (FIQT-315) reaches flow equal to the flow exiting other filters. The valve will be modulated with a PID function to maintain this flow rate. Filters #1, 3, 5, & 7 will use filter waste flow meter #1 (FIQT-315) and Filters #2,4, & 6 will use filter to waste flow meter #2 (FIQT-316).
35. The filter to waste turbidity will be monitored, after a delay period to allow clean water held below the underdrain and piping to discharge, with the effluent/filter to waste turbidimeter (AIT-307-1) until the turbidity drops below 0.3 NTU.
36. When the turbidity drops below 0.3 NTU, the filter to waste control valve (FCV-315) will be closed.
37. The filter effluent valve control is returned to automatic which will allow valve to modulate open when water level reaches the set point or flow rate reaches the maximum.

B. Semi–Automatic Backwash Mode:

1. The backwash will be initiated by pressing the Semi–Auto Backwash Start function button for the selected filter on the operator interface.

2. Each filter cell will proceed through a backwash cycle and continue to completion as described in the automatic backwash description above.

C. Manual Backwash Mode:

1. The operator will control the backwash cycle using function keys on the operator interface to complete the backwash process as described above.

3.1 FILTER SHUTDOWN

A. Before a filter is taken out of service for media replacement or inspection subsequent to media replacement, the following procedure outlined below shall be followed. This procedure requires close coordination with the water treatment plant operator.

1. After backwashing the filter, place the filter cell control panel in the manual mode and close the inlet valve (coordinate with operator).
2. Allow the unit to filter down through the effluent valve. DO NOT drain below the top of the filter media. The media should be removed in a fluidized state.

3.2 MEDIA AND NOZZLE REMOVAL

A. The approximate depth of the media for each filter unit is given below.

Filter Unit	Depth of Media Cell A	Depth of Media Cell B
1	46.5"	49"
2	41"	41"
3	41.5"	44.5"
4	70"	64"
5	62"	61.5"
6	63"	64"
7	36"	36"

1. It should be noted that under this measured layer of media, there is a solidified layer around the nozzles that will need to be removed.
2. Sheet 5 of the Contract Drawings contains pictures taken in June 2018 showing the solidified media in Filter No. 7.

B. Media shall be vacuumed or pumped out of each cell in a fluidized state and properly disposed. Access to the filter units for vacuuming can be achieved through the windows located by each filter, as shown in the "Gravity Filter Building Exterior Elevation" record drawings on page 6 of the contract drawings.

C. Media strainer nozzles shall be removed from inserts. Extreme caution should be used to prevent damage to the nozzle inserts.

D. Solidified media at the bottom of the filters will need to be carefully removed by hammering or other methods. Extreme caution should be used to prevent damage to the nozzle inserts.

E. Once media is removed, the OWNER shall be contacted and allowed ample time to inspect the underdrain system of Filters 4-7 prior to placement of new nozzles and media.

F. Removed media shall be properly disposed of in the designated area of the water treatment plant shown on Sheet 2 of the Contract Drawings.

3.3 DIFFERENTIAL PRESSURE TRANSMITTER SAMPLE PORT AND PIPING

- A. The existing differential pressure transmitter piping located in the Filter Building Piping Gallery shall be removed as shown on Sheet 3 of the Contract Drawings.
- B. The differential pressure transmitter piping shall be replaced as shown in the Contract Drawings.
 - 1. New wall pipe shall be installed on Filters #1-3 (Cells A and B) by core drilling through the filter wall and seal around pipe with hydraulic cement.
 - 2. All new piping and fittings shall be thoroughly disinfected and flushed prior to connecting to filter effluent piping.

3.4 NOZZLE AND MEDIA INSTALLATION

- A. Before installing the media, ensure each nozzle is properly installed in each underdrain unit. There should be no open inserts which could pass media to the underdrain. Be certain that all strainers are properly installed and operational.
- B. Each filter shall be cleaned thoroughly prior to media placement.
- C. Before media is placed, a continuous level line must be placed inside the filter to depict the top elevation of each layer of filter media.
- D. Boards or plywood capable of supporting the weight of the workers should be placed to prevent workers from directly walking or standing on the media during installation.
- E. Bulk media may be placed dry by using a chute or conveyor to discharge the materials onto a platform from where they may be scattered with a hand trowel. Bulk media may also be placed hydraulically by pump ejector. If the wet method is used, the media will be added through the water and then backwashed for leveling.
- F. The top elevation of the media layers can be checked by filling the filter with water to previously marked line or by measuring from a straight edge laid across the top of the wash troughs. The top elevation of each layer should be equal to the finished elevation plus the thickness of media required for skimming.
- G. After each layer has been placed into the filter cell, slowly fill the filter by adding water up through the underdrain. Once the media has been submerged, slowly backwash the filter. **(Note: the backwash control program must be rewritten as described above before this back wash can occur.)** Following the initial backwash scrape the filter media as directed by the plant operator or owner. The operator shall operate controls to accomplish the backwash cycle. Each filter should be backwashed three times between additional scrapings if so required. **(Note: Each individual filter will be backwashed one-half at a time.)**
- H. After final scraping, add additional media as required to bring the top surface of the media to the correct elevation.

3.5 DISINFECTION

- A. Disinfect each filter cell in accordance with AWWA C653-13 prior to putting into service, as follows:
 - 1. After all other work is completed, and before the filter is placed in service, the entire filter basin up to the maximum water level shall be disinfected by chlorination.
 - 2. This can be accomplished, preferably, by injecting sufficient chlorine into the backwash water to produce a free chlorine residual of at least 25 mg/L throughout the filter.
 - 3. After this has been accomplished, the chlorinated water shall be allowed to stand in the filter for at least 12 hours.
 - 4. At the end of the 12-hour contact time, the chlorinated water shall be tested to determine the amount of free chlorine residual.
 - a. If the free residual is less than 15 mg/L, the chlorination process should be repeated.
 - 5. Sufficient tests should be made both from the top and bottom of the unit (and at intermediate points if feasible) to ensure that the residual readings measure the lowest chlorine level existing in the unit at the end of the 12-hour period.
 - 6. If satisfactory chlorine residuals are obtained after the chlorine retention period, the filter shall be run to waste or backwashed thoroughly to remove the highly chlorinated water.
 - 7. Chlorinated discharge shall be disposed of following federal, state, and local environmental regulations.

3.6 BACTERIOLOGICAL SAMPLING

- A. Bacteriological sampling shall be completed in accordance with AWWA C653-97 after the chlorination procedure is completed and before the filters are placed in service.
 - 1. At least duplicate samples shall be taken from the filter not less than 30 minutes apart and shall be tested for the presence of coliform in accordance with the latest edition of *Standard methods for the Examination of Water and Wastewater*.
 - 2. If none of the samples show the presence of coliform, the filter may be placed in start-up with a 30 day test period.
 - 3. If any of the samples shows the presence of coliform, the disinfection procedure must be repeated.

3.7 FILTER START-UP

- A. Filters must operate for 30 day without an Iron or Manganese secondary limit violation before it can be put into full service.
- B. Filters operating in the 30 day start-up period do not count towards the total number of required filters in service at all times.

END OF SECTION

SECTION 13230

AERATION BYPASS PIPING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide all labor, materials, equipment and incidentals as specified, and required to complete all Aeration Bypass Piping Work. The Work includes, but is not limited to, the following:
 - a. Furnish and install all new piping and fittings related to the aeration bypass piping.
 - b. Furnish and install valves and appurtenances, complete and operational.
 - c. Furnish and install all wall pipes.
 - d. Work on or affecting existing piping and pipe supports.
 - e. Testing.
 - f. Cleaning and disinfecting.
 - g. Incorporation of valves, meters and special items shown or specified into the piping systems, as required.

B. Coordination:

1. Review installation procedures under this and other Sections and coordinate the installation of items that must be installed with, or before Aeration Bypass Piping Work.
2. Review the extent of potable water pipe or equipment to be disinfected to ensure that all items have been installed in sufficient time to allow the disinfection work to proceed.

1.2 QUALITY ASSURANCE

A. Ductile Iron Pipe:

1. Manufacturer Qualifications:

- a. Manufacturer shall have a minimum of five years successful experience producing ductile iron pipe and fittings and shall be able to show evidence of at least five installations in satisfactory operation in the United States that are similar applications to the specified service.
- b. Lining and coating products shall be manufactured by a firm with a minimum of five years successful experience in protecting pipelines exposed to the specified service conditions, and shall be able to show evidence of at least five installations in satisfactory operation in the United States that are similar applications to the specified service.
- c. When not applied by the manufacturer, lining and coating Subcontractor shall have a minimum of five years successful experience in the application of the specified linings and coatings for similar applications for the specified service, and shall be able to show evidence of at least five installations in satisfactory operation in the United States.

2. Component Supply and Compatibility:

- a. Unless otherwise approved by Owner, obtain all pipe, fittings, and appurtenances related to the ductile iron pipe work from a single ductile iron pipe manufacturer.
- b. Ductile iron pipe manufacturer shall review and approve or prepare all Shop Drawings and other submittals for all pipe, fittings, and appurtenances furnished relating to the ductile iron pipe.
- c. All pipe, fittings, and appurtenances shall be suitable for the specified service and shall be integrated into the overall piping system by ductile iron pipe manufacturer.

- d. Ductile iron pipe manufacturer shall be responsible for all products and all factory-applied linings and coatings, whether installed at pipe manufacturer's facility or at manufacturer's Subcontractor's facility.

B. Valves and Appurtenances:

1. Manufacturer Qualifications:
 - a. Manufacturer shall have a minimum of five years of experience producing substantially similar equipment and able to show evidence of at least five installations in satisfactory operation for at least five years.
2. Component Supply and Compatibility:
 - a. Obtain all equipment relating to the valves and appurtenances, regardless of the component manufacturer, from the valves manufacturer.
 - b. The valves equipment manufacturer to review and prepare all Shop Drawings and other submittals for all components furnished relating to the valves and appurtenances.
 - c. All components shall be specifically constructed for the specified service conditions and shall be integrated into the overall assembly by the valves equipment manufacturer.

C. Wall Pipe:

1. Component Supply and Compatibility:
 - a. Obtain all equipment pertaining to the wall pipe, regardless of the component manufacturer from a single wall pipes manufacturer.
 - b. The wall pipes manufacturer to review and approve or to prepare all Shop Drawings and other submittals for all components furnished with the wall pipes.
 - c. All components shall be specifically constructed for the specified service conditions and shall be integrated into the overall assembly by the wall pipe manufacturer.

D. Disinfection:

1. Contractor's Qualifications:
 - a. Contractor regularly engaged in potable water piping and equipment disinfections and who agrees to employ only tradesmen with specific skill and experience in this type of Work. Submit name and qualifications to OWNER.
2. Regulatory Requirements: Comply with applicable provisions and recommendation of the following, except as otherwise shown or specified.
 - a. American National Standards Institute, (ANSI).
 - b. Institute of Electrical and Electronic Owners, (IEEE).
 - c. National Electrical Code, (NEC).
 - d. National Electrical Manufacturers' Association, (NEMA).
 - e. National Fire Protection Association, (NFPA).
 - f. Underwriters' Laboratories, Inc., (UL).
 - g. Local and State Building Codes and Ordinances.
 - h. Permits: CONTRACTOR shall obtain and pay for all required permits, fees and inspections.

1.3 SUBMITTALS

A. Ductile Iron Pipe:

1. Shop Drawings: Submit the following with Shop Drawings required under Exposed Piping:
 - a. Detailed drawings and data for pipe, fittings, gaskets, appurtenances, linings, and coatings.
 - b. Tests: Submit description of proposed testing methods, procedures and apparatus. Submit copies of test report for each test.
 - c. Details of piping, valves, supports, accessories, specials, joints, harnessing, and

connections to existing pipes and structures.

2. Record Drawings:
 - a. During progress of the Work keep an up-to-date set of the Record Drawings showing field and Shop Drawing modifications. Immediately upon completion of the Work submit CAD drawings showing the actual in place installation of all piping and equipment installed under this Section at a scale satisfactory to the Owner.
 - b. One print and one electronic copy of the CADD files shall be furnished no later than 30 days prior to Substantial Completion of the Contract and prior to final payment.
3. Certificates:
 - a. Submit a certificate signed by manufacturer of each product that product conforms to applicable referenced standards and the Contract Documents.
 - b. Submit a certificate signed by the applicator of the linings and coatings stating that the product to be applied conforms to applicable referenced standards and that the applicator shall conform to the Contract Documents.

B. Valves and Appurtenances:

1. Shop Drawings: Submit the following:
 - a. Product data sheets.
 - b. Complete catalog information, including dimensions, weight, specifications, and identification of materials of construction of all parts.
 - c. Cv values and headloss curves.
 - d. Control characteristics of modulating valves.
 - e. Certificates of compliance with AWWA Standards, where applicable.
 - f. Corrosion resistance information to confirm suitability of the valve materials for the application. Information on chemical resistance of elastomers shall be furnished from the elastomer manufacturers.
 - g. Special tools list.
2. Certified copies of test results and inspection data.
3. Samples:
 - a. One foot of chain for wheel operated valves.
4. Manufacturer's qualifications including list of existing installations with contact names and telephone numbers

C. Wall Pipes:

1. Shop Drawings: Submit the following:
 - a. Detailed drawings and data on all wall pipe, and pipe sleeves. Submit and coordinate these with Shop Drawings required for all piping systems.

D. Disinfection:

1. Shop Drawings: Submit the following:
 - a. Description of the forms of chlorine, dosages, and proposed methods of application to the OWNER for approval.
2. Test Reports:
 - a. Submit bacteriological test report.

1.4 DELIVERY, STORAGE, AND HANDLING:

A. Packing, Shipping, Handling and Unloading:

1. Deliver materials to the Site to ensure uninterrupted progress of the Work.
2. Unload pipe, fittings and specials opposite to or as close to the place where they are to be installed as is practical to avoid unnecessary handling. Keep pipe interiors completely free from dirt and foreign matter.

3. Inspect delivered pipe for cracked, gouged, chipped, dented or other damaged material and immediately remove from Site.
4. Handle all pipe, fittings and accessories carefully with approved handling devices. Do not drop or roll pipe off trucks. Do not otherwise drop, roll or skid piping.

B. Storage of Materials:

1. Store materials to permit easy access for inspection and identification. Keep all material off the ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from corrosion and deterioration.
2. Store all equipment in covered storage off the ground and prevent condensation and in accordance with the manufacturer's recommendations for long-term storage.
3. Store pipes and fittings on heavy wood blocking or platforms so they are not in contact with the ground.

C. Acceptance at Site:

1. All boxes, crates and packages shall be inspected by Contractor upon delivery to the Site. Contractor shall notify Owner, in writing, if any loss or damage exists to equipment or components. Replace loss and repair damage to new condition in accordance with manufacturer's instructions.

PART 2 – PRODUCTS

2.1 GENERAL:

A. Ductile Iron Pipe:

1. Piping systems shall be suitable for their intended use.
2. Joints shall be as specified in Exposed Piping Installation. If not specified, provide flanged joints for exposed piping and push-on or mechanical joints for buried piping. Provide couplings on pipe with plain or grooved ends where shown or where approved by Owner.

B. Valves and Appurtenances:

1. Manually operated valves, with or without extension stems, shall require not more than a 40-pound pull on the manual operator to open or close a valve against the specified criteria. The gear actuator and the valve components shall be able to withstand a minimum pull of 200 pounds on the manual operator and an input torque of 300-foot pounds to an actuator nut. Manual operators include handwheel, chain, crank, lever and a T-handle wrench.
2. Provide all valves to turn clockwise to close, unless otherwise specified.
3. Provide all valves with permanent markings for direction to open.
4. Provide exposed valves with flanged ends conforming to ANSI B16.1. The pressure class of the flanges shall be equal to or greater than the specified pressure rating of the valves.
5. Provide buried valves with mechanical or push-on joints, restrained or unrestrained, as required by the piping with which they are installed.
6. All materials of construction of the valves shall be suitable for the application as shown.
7. Protect wetted parts from galvanic corrosion due to contact of two different metals.
8. Provide all valves with manufacturer's name and rated pressure cast in raised letters on the valve body.
9. Provide valves with brass or Type 316 stainless steel nameplates attached with Type 316 stainless steel screws. Nameplates shall have engraved letters and shall include the following information as a minimum:
 - a. Valve size.
 - b. Pressure and temperature ratings.
 - c. Application (other than water and wastewater).

- d. Date of manufacture.
 - e. Manufacturer's name.
10. Clean and descale fabricated stainless steel items in accordance with ASTM A380, and as follows:
- a. Passivate all stainless steel welded fabricated items after manufacture by immersion in a pickling solution of six percent nitric acid and three percent hydrofluoric acid. Temperature and detention time shall be sufficient for removal of oxidation and ferrous contamination without etching the surface. Perform a complete neutralizing operation by immersion in a trisodium phosphate rinse followed by a clean water wash.
 - b. Scrub welds with the same pickling solution or pickling paste and clean with stainless steel wire brushes or by grinding with non-metallic abrasive tools to remove weld discoloration, and then neutralize and wash clean.
11. For stainless steel bolting, except where Nitronic-60 nuts are required, use antiseize compound, graphite free, to prevent galling. Strength of the joint shall not be affected by the use of anti-seize compound.

C. Disinfection:

- 1. Provide all necessary equipment and materials, including chemicals, to perform the disinfecting operations.

D. Pipe Schedule:

- 1. Service: Water
- 2. Size: 16"
- 3. Material: Ductile Iron
- 4. Lining: Cement Lined
- 5. Thickness/Pressure Class: Class 53
- 6. Joint: Flanged
- 7. Test: HY (150 psig)

2.2 MATERIALS:

A. Ductile Iron Pipe:

- 1. Ductile Iron Pipe and Fittings:
 - a. Flanged Pipe: Fabricate in accordance with ANSI/AWWA C115.
 - 1) Pressure Class: Class 53.
 - b. Flanged Joints: Conform to ANSI/AWWA C110 and ANSI/AWWA C115 capable of meeting the pressure class or special thickness class, and test pressure specified in piping schedule.
 - 1) Gaskets: Unless otherwise specified, gaskets shall be at least 1/8-inch thick, ring or full-face as required for the pipe, of a synthetic rubber compound containing not less than 50 percent by volume nitrile or neoprene, and shall be free from factice, reclaimed rubber, and other deleterious substances. Gaskets shall be suitable for the service conditions specified, specifically designed for use with ductile iron pipe and fittings.
 - a) Gasket Sealing Compounds: Provide high temperature resistant sealing compound (Loctite PST 592 or equivalent) with Dimethacrylate-ester base, and Teflon.
 - 2) Bolts: Conform to ANSI B18.2.1.
 - a) Exposed: ASTM A 307, Grade B.
 - 3) Nuts: Conform to ANSI B18.2.2.
 - a) Exposed: ASTM A 563, Grade A, Heavy hex.
 - c. Flanged Fittings: Conform to ANSI/AWWA C110 and ANSI/AWWA C115.

- 1) Pressure Rating: As specified above for flanged joints.
 - 2) Material: Ductile iron.
 - 3) Gaskets: As specified above for flanged joints.
 - 4) Bolts and Nuts: As specified above for flanged joints.
2. Cement-mortar Lining:
 - a. Pipe and fittings shall be lined with a bituminous seal coated cement-mortar lining in accordance with ANSI/AWWA C104.
- B. Valves and Appurtenances:
1. Circular, Iron Body Butterfly Valves:
 - a. Standards: Valves shall conform to AWWA C504.
 - b. Body Type: Short body, except where otherwise shown or required to obtain required clearance for valve operator or disc.
 - c. Class: 150B
 - d. Construction:
 - 1) Body: Cast iron or ductile iron.
 - 2) Disc: Cast iron or ductile iron with 316 stainless steel edge.
 - 3) Shaft: Type 304 stainless steel.
 - 4) Seat: EPDM.
 - 5) Packing: EPDM.
 - e. Required Features:
 - 1) Valves for air service shall be rated for temperatures to 290°F.
 - 2) Fully flanged, ANSI B16.1, Class 125 flanges.
 - 3) Body shall be completely lined by seat.
 - 4) High temperature bearings and paint.
 - 5) Valve and seat shall be rated for zero leakage at 150 psi differential pressure on isolation and dead end service without the use of downstream flanges.
 - f. Manufacturer and Model:
 - 1) DeZurik, AWWA Model.
 - 2) Milliken, Model 511.
 2. Valve Appurtenances:
 - a. General:
 - 1) For valves located less than five feet above the operating floor, provide levers on 4-inch quarter turn valves and handwheels on all other valves, unless otherwise shown or specified.
 - 2) For valves located at five feet or more above the operating floor, provide chain operators.
 - b. Handwheels:
 - 1) Conform to the applicable AWWA Standards.
 - 2) Material of Construction: Ductile iron or cast aluminum.
 - 3) Arrow indicating direction of opening and word "OPEN" shall be cast on the trim of the handwheel.
 - 4) Maximum Handwheel Diameter: 30-inches.
 - c. Chain Operators:
 - 1) For valves more than five feet above the operating floor provide chain operators.
 - 2) Chains shall extend to three feet above the operating floor.
 - 3) A 1/2-inch stainless steel hook bolt shall be provided to keep the chain out of the walking area.
 - 4) Materials of Construction:
 - a) Chain: Type 316L stainless steel.
 - b) Chain wheel: Recessed groove type made out of Type 316 stainless steel.
 - c) Guards and Guides: Type 316L stainless steel.

- 5) Chain Construction:
 - a) Chain shall be of welded link type with smooth finish. Chain that is crimped or has links with exposed ends shall not be acceptable.
- 6) Provide geared operators where required to position chain wheels in vertical position.

C. Wall Pipe:

1. Material: Same as specified for the piping connected to wall pipe, unless otherwise approved by OWNER.
2. Thickness: Same as specified for the piping connected to wall or floor pipe.
3. Collars: Provide collars at mid-point of wall for anchorage and watertightness.
4. Pipes ends shall be flush with wall face, unless otherwise shown.
5. Drill and tap flanged ends and mechanical joint bells for studs. Provide studs of same material as connected piping, except submerged and buried studs shall be of Type 316 stainless steel.
6. Pipe Sleeve: Use ductile iron furnished with integral wall collar. Dimensions shall be as required for flanged joint to pass through sleeve, length as required.

2.3 Exterior Surface Preparation and Coatings:

A. Exposed Piped and Fittings:

1. Exterior steel, cast-iron, and ductile iron surfaces, except machined surfaces of all exposed valves and appurtenances, shall be finish painted in the shop. The surface preparation, priming, finish painting, and field touch-up painting shall conform to the requirements of Section 09900, Painting.

Part 3 –Execution

3.1 INSPECTION

- A. Inspect piping to assure that piping is free from defects in material and workmanship. Verify compatibility of all pipe, fittings, gaskets, linings, and coatings.

3.2 EXPOSED PIPING INSTALLATION

A. General:

1. Install piping as shown, specified and as recommended by the manufacturer.
2. If there is a conflict between manufacturer's recommendations and the Contract Documents request instructions from Owner, in writing, before proceeding.
3. Pipe, fittings and accessories that are cracked, damaged, in poor condition or have damaged linings will be rejected.
4. Present conflicts between piping systems and equipment or structures to the Owner for review of corrective measures before proceeding.

B. Piping Installation:

1. Install straight runs true to line and elevation.
2. Install vertical pipe truly plumb in all directions.
3. Install piping parallel or perpendicular to building walls. Piping at angles and 45 degree runs across corners will not be accepted, unless specifically shown or approved by the Owner.
4. Install small diameter piping generally as shown when specific locations and elevations are not indicated. Locate such piping as required to avoid ducts, equipment, beams, and other obstructions.
5. Install piping so as to leave all corridors, walkways, work areas, and like spaces unobstructed.

Unless otherwise approved, by the Owner, provide a minimum headroom clearance under all piping of 7 feet-6 inches.

6. Protect and keep clean water pipe interiors, fittings and valves.
7. Provide temporary caps or plugs over all pipe openings at the end of each days Work, and when otherwise required or directed by the Owner.
8. Cutting: Cut pipe from measurements verified at the Site, not from Drawings.
9. Install dielectric unions wherever dissimilar metals are connected, except for bronze or brass valves in ferrous piping.
10. Provide a union downstream of each valve with screwed connections.
11. Provide screwed or flanged unions at each piece of equipment, where shown, and where necessary to install or dismantle piping.

C. Joints:

1. General:

- a. Make joints in accordance with the pipe manufacturer's recommendations and the requirements below.
- b. Cut piping accurately and squarely and install without forcing or springing.
- c. Ream out all pipes and tubing to full inside diameter after cutting. Remove all sharp edges on end cuts.
- d. Remove all cuttings and foreign matter from the inside of pipe and tubing before installation. Thoroughly clean all pipe, fittings, valves, specials, and accessories before installing.

2. Flanged Joints:

- a. Assemble flanged joints using 1/8-inch ring-type gaskets for raised face flanges. Use full face gaskets for flat face flanges, unless otherwise approved by Owner. Gaskets shall be suitable for the service intended in accordance with the manufacturer's ratings and instructions. Gaskets shall be properly centered.
- b. Bolts shall be tightened in a sequence which will ensure equal distribution of bolt loads.
- c. The length of bolts shall be uniform, and they shall not project beyond the nut more than 1/4-inch or fall short of the nut when fully taken up. The ends of bolts shall be machine cut so as to be neatly rounded. No washers shall be used.
- d. Bolt threads and gasket faces for flanged joints shall be lubricated prior to assembly.
- e. Alternately tighten bolts 180 degrees apart to compress the gasket evenly.

D. Installing Valves and Accessories:

1. Provide supports for large valves, flow meters and other heavy items as shown or required.
2. Install floor stands as shown and as recommended by the manufacturer.
3. Provide lateral restraints for extension bonnets and extension stems as shown and as recommended by the manufacturer.
4. Provide steel sleeves where operating stems pass through floor. Extend sleeves 2-inches above floor.
5. Position valve operators as shown. When the position is not shown, install the valve so that it can be conveniently operated and as approved by Owner. Avoid placing operators at angles to the floors or walls.
6. Position flow measuring devices in pipe lines at specific location as shown in drawings.

E. Unions:

1. Install dielectric unions wherever dissimilar metals are connected, except for bronze or brass valves in ferrous piping.
2. Provide a union downstream of each valve with screwed connections.
3. Provide screwed or flanged unions at each piece of equipment, where shown, and where necessary to install or dismantle piping.

- F. Transitions from One Type of Pipe to Another:
 - 1. Provide all necessary adapters, specials and connection pieces required when connecting different types and sizes of pipe or connecting pipe made by different manufacturers.
- G. Taking Existing Pipelines Out of Service:
 - 1. Do not take pipelines out of service unless specifically shown or approved by Owner.
 - 2. Notify Owner, in writing, at least 48 hours prior to taking pipeline out of service.
- H. Work on Existing Pipelines:
 - 1. Cut or tap pipes as shown or required with machines specifically designed for this Work.
 - 2. Install temporary plugs to keep out all dirt, water and debris.
 - 3. Provide all necessary adapters, fittings, pipe and appurtenances required.

3.3 VALVES AND APPURTENANCES

- A. Installation:
 - 1. Install all valves and appurtenances in accordance with the manufacturer's instructions.
 - 2. Conform to appendices of AWWA Standards, where applicable.
 - 3. Install all valves so that operating handwheels or levers can be conveniently turned from operating floor without interfering with access to other valves and equipment, and as approved by the Owner. Orient chain operators out of the way of the walking areas. Mount valves so that indicator arrows are visible from floor level.
 - 4. Install all valves plumb and level. Install all valves to be free from distortion and strain caused by misaligned piping, equipment or other causes.
- B. Field Tests and Adjustments:
 - 1. Adjust all parts and components as required to provide correct operation of the valves.
 - 2. Conduct a functional field test on each valve in the presence of the Owner to demonstrate that each valve operates correctly.
 - 3. Verify satisfactory operation and controls of motor operated valves.
 - 4. Demonstrate satisfactory opening and closing of valves at the specified criteria requiring not more than 40 pounds effort on the manual actuators.
 - 5. Test ten percent valves of each type by applying 200 pounds effort on the manual operators. There shall be no damage to the gear actuator or the valve.

3.4 WALL PIPE INSTALLATION

- A. Wall Pipes: Install as shown and in accordance with approved Shop Drawings.
- B. Pipe Sleeves:
 - 1. Use sleeves wherever pipes pass through walls, unless otherwise shown.
 - 2. All sleeves through walls shall be flush with wall face.
 - 3. All pipe joints and annular spaces in exterior walls or walls subjected to hydrostatic pressure shall be completely watertight.
 - 4. Use link type seals to seal sleeve against hydrostatic pressure. Size sleeves to provide annular space required to suit the link type mechanical seals that are used.
 - 5. Do not install sleeves and pipes through structural members, unless specifically shown and approved by OWNER.
 - 6. Size sleeves as follows: $(\text{Sleeve ID}) - (\text{Pipe or Insulation OD}) = 2\text{-}3$ inches.

3.5 DISINFECTION

C. General:

1. Water handling equipment items that are part of the potable water distribution system shall be disinfected in the same manner as described herein for the pipelines.
2. The method to be followed shall be that prescribed by the local authorities or in accordance with the procedures recommended by AWWA C651 and C652, except as specified below.
3. Before application of chlorine, flush the piping system at a velocity of not less than 2.5 feet per second. Do not flush the system if the tablet method, as specified in the above standard, is used.
4. After the applicable retention period, flush the system using potable water.

3.6 Field Quality Control

- A. Testing: Perform bacteriological test in accordance with AWWA C651.

+ + END OF SECTION + +

SECTION 13240

ELECTROMAGNETIC FLOW METER

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide all labor, materials, equipment and incidentals as specified, and required to complete all Electromagnetic Flow Meter Work. This Work includes, but is not limited to, the following:
 - a. Furnish and install new electronic flow meters.
 - b. Calibration of new electromagnetic flow meters.
 - c. Work affecting existing piping.

B. Coordination:

1. Review installation procedures under this and other Sections and coordinate the installation of items that must be installed with, or before Electromagnetic Flow Meter Work.
2. Review the extent of potable water pipe or equipment to be disinfected to ensure that all items have been installed in sufficient time to allow the disinfection work to proceed.

1.2 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Manufacturer shall have a minimum of five years of experience producing substantially similar equipment and able to show evidence of at least five installations in satisfactory operation for at least five years.

B. Contractor's Qualifications:

1. Not Used.

C. Component Supply and Compatibility:

1. Obtain all equipment included in this Section regardless of the component manufacturer from a single electromagnetic flow meter and appurtenances manufacturer.
2. The electromagnetic flow meter and appurtenances equipment manufacturer to review and prepare all Shop Drawings and other submittals for all components furnished under this Section.
3. All components shall be specifically constructed for the specified service conditions and shall be integrated into the overall assembly by the electromagnetic flow meter and appurtenances equipment manufacturer.

D. Regulatory Requirements:

1. Perform all work associated with electromagnetic flow meter equipment in compliance with applicable requirements of governing agencies having jurisdiction.
 - a. NEMA – National Electrical Manufacturers Association.
 - b. NEC – National Electrical Code.
 - c. UL – Underwriters' Laboratories, Inc

1.3 SUBMITTALS

A. Shop Drawings and Product Data:

1. Submit for approval the following:
 - a. System shall be submitted as a complete submittal including all external connections and internal details.
 - b. Complete description in sufficient detail to permit comparison with the technical specifications.
 - c. Weights and performance data.
 - d. Wiring diagrams and specifications for all electrical equipment.
 - e. Affidavits of compliance with referenced standards and codes.
 - f. Manufacturer's literature, including:
 - 1) Dimensions.
 - 2) Materials.
 - 3) Size.
 - 4) Weight.
 - g. Confirm that equipment and piping shown is suitable for service conditions specified.
 - h. Show locations and sizes for all connections to associated equipment and utilities.
 - i. List of spare parts and optional equipment.

B. Operation and Maintenance Data:

1. Operation and Maintenance Manuals:
 - a. Submit complete installation, operation and maintenance manuals including copies of all approved Shop Drawings.
2. Required Operation Data:
 - a. Complete, detailed operating instructions for each piece of equipment with moving parts.
 - b. Explanations for all safety considerations relating to operations.
 - c. Recommended spare parts list.
3. Required Maintenance Data:
 - a. Maintenance data shall include all information and instructions required by plant personnel to keep equipment properly lubricated and adjusted so that it functions economically throughout its full design life.
 - b. Explanation with illustrations as necessary for each maintenance task.
 - c. Recommended schedule of maintenance tasks.
 - d. Lubrication charts and tables of alternate lubricants.
 - e. Trouble shooting instructions.
 - f. List of maintenance tools and equipment.
 - g. Name, address and phone number of manufacturer and manufacturer's local service representative.

C. Guarantee and Warranty:

1. Provide a 1-year complete parts and service warranty for the electromagnetic flow meter as described below:
 - a. The electromagnetic flow meter and all of its components shall be guaranteed against mechanical failure due to materials, workmanship, or wear under the original specified operating conditions for a period of 1 year from the date of Substantial Completion.
 - b. If any defect is found within this period, the electromagnetic flow meter manufacturer at its option and expense shall either repair the meters or furnish and

- install replacement components.
- c. The meter manufacturer shall be responsible for paying all costs associated with the repair or replacement of the equipment.
 - d. After repair, the meter warranty shall remain in effect for the residual periods of the initial warranty.
 - e. The Owner may make routine preventive maintenance and repairs without voiding the meter warranty. Other repairs and modifications shall not void the warranty when approved by the meter manufacturer. Long-term storage shall not void the warranty when stored in conformance with the meter manufacturer's recommendations.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Packing, Shipping, Handling, and Unloading:

1. All equipment and materials shall be inspected against approved Shop Drawings at time of delivery. Equipment and materials damaged or not meeting requirements of the approved Shop Drawings shall be immediately returned to the manufacturer for replacement or repair.
2. Equipment and materials shall on delivery, storage, and installation be handled in an approved manner according to manufacturer's instructions.

B. Storage of Materials:

1. All equipment and materials after inspection shall be carefully prepared for storage and labeled. Equipment and materials shall be stored in a dry location and protected from harm according to manufacturer's instructions.

C. Acceptance at Site:

1. All boxes, crates and packages shall be inspected by Contractor upon delivery to the Site. Contractor shall notify Owner, in writing, if any loss or damage exists to equipment or components. Replace loss and repair damage to new condition in accordance with manufacturer's instructions.

PART 2 – PRODUCTS

2.1 GENERAL

- A. The electromagnetic flow meter shall consist of a flow sensor based on Faraday's Law of Electromagnetic Induction and microprocessor-based signal converter.

2.2 MATERIALS

A. Sensor:

1. Operating Principle: Utilizing Faraday's Law of Electromagnetic Induction, the flow of liquid through the sensor induces an electrical voltage that is proportional to the velocity of the flow.
2. Construction:
 - a. The sensor flow tube shall be 304 stainless steel surrounded by two coils.
 - b. Linear material shall be hard rubber (Ebonite).
 - c. Measurement and grounding electrodes shall be Hastelloy C-276.
 - d. Connecting flanges shall be carbon steel.

3. Installation: A minimum of 4 pipe diameters up stream and 3 pipe diameters downstream.
4. Operating Temperature: -4° to 158 °F.
5. Size: 16” Diameter

B. Signal Converter:

1. Type: NEMA 4X enclosure
2. Display: Background illumination with alphanumeric 3-line, 20-character display to indicate flow rate, totalized values, settings, and faults (a blind version of the MAG 6000 signal converter is available).
3. Power supply: 115/230 VAC or 11-24 VCD.
4. Operating Temperature: -4° to 140 °F
5. Outputs: 0-20 mA or 4-20mA into 800 ohms max. One relay rated at 42 VAC/SA, 24DC/1A. Digital (frequency or pulse) for external display of flow rate or totalizer.

C. Sensor and Signal Converter Performance:

1. Flow Range: 0.1 m/s (0.3 ft/s) to 12 m/s (39 ft/s)
2. Accuracy: Mag 600: ±0.2% (±1mm/s); Mag 5000: ±0.4% (±1mm/s)
3. Bi-directional flow capabilities shall be standard.

D. Totalizer

1. Two eight-digit counters for forward, net, or reverse flow.

E. Manufacturer / Model:

1. The electromagnetic flow meter shall be a Siemens Model MAG 5100W flow sensor with a Siemens Model MAG 5000 or 6000 signal converter. Insertion type flow meters will not be accepted.

2.3 Calibration

A. SENSORPROM® Memory Unit

1. Each flow sensor shall be wet calibrated and all of the calibration information and factory settings matching the sensors shall be stored in an integrally mounted SENSORPROM® memory unit.
2. The SENSORPROM® shall store sensor calibration data and signal converter setting for the lifetime of the product.
3. At initial commissioning, the flow meter commences measurement without any initial programming.
4. Any customer specified settings are downloaded to the SENSORPROM®.
5. Should the signal converted need to be replaced, the new signal converter will upload all previous settings and resume measurement without any need for reprogramming or rewiring.

B. A certificate of calibration shall accompany each flow sensor.

C. Programming of the transmitter must be performed by pressing buttons on a keypad.

2.4 Signal Converter Function

- A. The following functions shall be provided with the signal converter:
 - 1. All programming shall be accomplished through an integral keypad with press buttons.
 - 2. All programming shall be protected by a user-defined password.
 - 3. The signal converter shall be integrally mounted or remotely mounted using a remote-mount kit provided by the manufacturer.
 - 4. The signal converter shall provide a 0/4-20 mA DC signal proportional to flow rate into 800 ohms max. Output shall be selectable as unidirectional or bi-directional.
 - 5. The relay shall be programmable as error indicator, limit alarm, or pulsed output.
 - 6. The signal converter system shall be equipped with an error and status log with four groups of information:
 - a. Information without a functional error involved.
 - b. Warnings which may cause malfunction in the application.
 - c. Permanent errors, which may cause malfunction in the application.
 - d. Fatal error, which is essential for the operation of the flow meter.
 - 7. A system error shall be indicated by a flashing icon on the display or activation of the relay when set as an error alarm.
 - 8. The first nine standing errors shall be stored in the error pending log. A corrected error is removed from the error pending log. A status log shall be provided to store the last nine error messages received for 180 days regardless of correction.

2.5 SPARE PARTS

- A. Spare parts for the equipment shall include the following, unless otherwise noted:
 - 1. One set of manufacture's recommended spare parts.
 - 2. Extra operation manuals as required.

PART 3 – Execution

3.1 GENERAL

- A. CONTRACTOR shall inspect the area in which the equipment is to be installed and verify that the equipment is ready for installation.
- B. CONTRACTOR shall notify OWNER of any discrepancies.
- C. CONTRACTOR shall make all necessary field connections required to place the aeration influent piping and electromagnetic flow metering systems in proper operation in accordance with manufacturer's instructions and recommendations.

3.2 INSPECTION

- A. CONTRACTOR shall verify that pipes and equipment are compatible.
- B. Make adjustments required to place system in proper operating condition.

3.3 INSTALLATION

- A. The electromagnetic flow meter shall be installed a minimum of four pipe diameters downstream of the existing butterfly valve and three pipe diameters upstream of the proposed tee.
- B. Wiring between flow sensors and remote mounted signal converters shall be cable type and use procedures as per manufacturers' recommendations.

3.4 FIELD QUALITY CONTROL

- A. All equipment will be given running tests by CONTRACTOR at the job Site following installation of the equipment and controls. Should the tests indicate any malfunction, CONTRACTOR shall make any necessary repairs and adjustments. Such tests and adjustments shall be repeated until, in the opinion of the OWNER, the installation is complete and the equipment is functioning properly and accurately, and is ready for permanent operation.
- B. Verification:
 - 1. Procedure:
 - a. Verification using a stand-alone Siemens MAGFLO Verificator to measure a number of selected parameters in the flow sensor and signal converter, which affects the integrity of the flow measurement, shall be available through a factory verification service.
 - 2. Parameters:
 - a. Verification of the Flow Meter shall consist of the following test routines:
 - 1) Installation test of the entire flow meter system and cables.
 - 2) Test of sensor magnetic properties.
 - 3) Signal converter gain, linearity, and zero point tests.
 - 4) Digital output test.
 - 5) Analog output test.
 - 3. Certificate:
 - a. A certificate of verification shall be issued if the flow meter passes all of the tests within 2% of the original factory test parameters.

+ + END OF SECTION + +

SECTION 13250

CHEMICAL INJECTION PIPING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide all labor, materials, equipment and incidentals as specified, and required to complete all Chemical Injection Piping Work. This Work includes, but is not limited to, the following:
 - a. Furnish and install all piping, flexible tubing, and fittings related to the chemical injection piping.
 - b. Furnish and install valves and appurtenances, complete and operational.
 - c. Work on or affecting existing piping and structures.
 - d. Restoration to all areas disturbed during Work.

B. Coordination:

1. Review installation procedures under this and other Sections and coordinate the installation of items that must be installed with, or before Chemical Injection Piping Work.

1.2 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Manufacturer shall have a minimum of five years of experience producing substantially similar equipment and able to show evidence of at least five installations in satisfactory operation for at least five years.

B. Component Supply and Compatibility:

1. Unless otherwise approved by Owner, all thermoplastic pipe and fittings shall be obtained from a single thermoplastic pipe and fittings supplier.
2. The piping and fittings supplier shall review and prepare all Shop Drawings and other submittals for all components furnished under this Section.

1.3 SUBMITTALS

A. Shop Drawings and Product Data:

1. Submit for approval the following:
 - a. Full details of piping, specials, joints, harnessing and thrust blocks, and connections to piping, structures, equipment and appurtenances.

B. Guarantee and Warranty:

1. Submit certificates of compliance with referenced standards.

C. Record Documents:

1. Maintain accurate and up-to-date record documents showing field and Shop Drawing modifications. Record documents for buried piping Work shall show actual location of all piping and appurtenances at same scale as the Contract Drawings.

2. Record documents shall show piping with elevations referenced to the project datum and dimensions to at least three permanent structures, when possible. For straight runs of pipe provide offset dimensions as required to document pipe location.
3. Include profile drawings with buried piping record documents when the Contract Documents include pipe profile drawings.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Packing, Shipping, Handling, and Unloading:

1. Deliver materials to the Site to ensure uninterrupted progress of the Work.
2. All equipment and materials shall be inspected against approved Shop Drawings at time of delivery.
 - a. Inspect pipe and appurtenances for cracked, gouged, chipped, dented, and other damage to the material and immediately remove damaged material from the site.
 - b. Equipment and materials damaged or not meeting requirements of the approved Shop Drawings shall be immediately returned to the manufacturer for replacement or repair.
3. Equipment and materials shall on delivery, storage, and installation be handled in an approved manner according to manufacturer's instructions.
4. Handle all pipe, fittings, specials and accessories carefully with approved handling devices. Do not drop or roll material off trucks. Do not otherwise drop, roll or skid piping.
5. Avoid unnecessary handling of pipe.
6. Keep pipe interiors free from dirt and foreign matter.
7. Protect interior linings and exterior coatings of pipe and fittings from damage during handling. Pipe and fittings with damaged lining shall be replaced regardless of cause of damage.

B. Storage of Materials:

1. Store materials to allow convenient access for inspection and identification. Keep material off the ground using pallets, platforms, or other supports.
2. PVC and CPVC pipe and fittings stored outdoors shall be covered.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Manufacturer shall cast or paint material, type and pressure designation on each piece of pipe or fitting 4-inches in diameter and larger.
- B. Pipe and fittings smaller than 4-inches in diameter shall be clearly marked by manufacturer as to material, type and rating.

2.2 MATERIALS

A. Polyvinyl Chloride (PVC) Pipe

1. Material: Unless otherwise shown or specified, PVC pipe shall be:
 - a. Type, Grade: Type 1, Grade 1
 - b. Schedule: Schedule 80 conforming to ASTM D1785 and US Product Service PS 21-70 as having the same OD dimension as iron pipe.
 - c. Temperature Rating: Maximum temperature rating shall be 140°F.

- d. Color: Gray
 - 2. Fittings: Type, grades, schedule, and color of fitting shall match pipe.
 - a. Solvent Weld: Solvent welded fittings shall conform to ASTM D 2467 for socket type.
 - 3. Joints:
 - a. Solvent: Use primer and solvent cement as recommended by PVC pipe manufacturer. Primer shall be in accordance with ASTM F 656. Solvent cement shall be in accordance with ASTM D 2564.
 - 4. Manufacturers: Provide product of one of the following:
 - a. Ipex Pipe Valves & Fittings, Inc.
 - b. Spears Manufacturing Company.
 - c. Or Approved Equal.
- B. High Density Polyethylene (HDPE) Pipe
- 1. SDR 13.5
 - 2. Fittings: Recommended by manufacturer,
 - 3. Manufactures:
 - a. Dura-Line.
 - b. Or Approved Equal
- C. PVC Braided Flexible Tubing
- 1. Material: Material shall conform to FDA CFR 21 for food packaging. Unless otherwise shown or specified, PVC tubing shall be:
 - a. Utility (chemical) grade.
 - b. Color: Clear
 - c. Temperature Rating 25 to 100 deg F
 - d. Pressure Rating: 75 psig
 - 2. Fittings: Fittings shall be insert type fittings or as recommended by the tubing manufacturer.
 - 3. Manufacturers: Provide products of one of the following:
 - a. Finger Lakes Extrusion Corporation
 - b. Kuri Tec
 - c. Or Equal
- D. Buried Piping Identification: Detectable Underground Warning Tape for Non-Metallic Pipelines:
- 1. Tape shall be of inert, acid and alkali-resistant, polyethylene, 5 mil thick, six inches wide with aluminum backing, and have 1,500 psi strength and 140 percent elongation capability. Tape shall be suitable for direct burial.
 - 2. Message shall read, “CAUTION [insert name of pipe service, i.e., “WATERLINE”, “SANITARY SEWER”, “CHLORINE GAS”, etc.] PIPE BURIED BELOW” with bold letters approximately two inches high. Messages shall be printed at maximum intervals of two feet.
 - 3. Manufacturer: Provide products of one of the following:
 - a. Brady Corporation
 - b. Seton Identification Products
 - c. Marking Services, Inc.

2.3 Source Quality Control

A. Shop Tests:

1. Piping manufacturer shall maintain a continuous Quality Control Program. All CPVC plastic molding materials used to manufacturer pipe and fittings under this Section shall be tested for conformance to the requirements of ASTM D 1784.

PART 3 – Execution

3.1 GENERAL

- A. Install piping as shown, specified and as recommended by the manufacturer.
- B. If there is a conflict between manufacturer's recommendations and the Contract Documents, request instructions from Engineer, in writing, before proceeding.
- C. Owner shall inspect all trench excavations and bedding prior to laying pipe. Notify Owner, in writing, in advance of excavating, bedding pipe laying, and backfill operations.
- D. Minimum cover over piping shall be four feet, unless otherwise shown or accepted by Owner.
- E. All areas disturbed during construction shall be restored to as good condition as they were previous to the commencement of the Work and in accordance with applicable local and state highway specifications or requirements.

3.2 INSPECTION

- A. Inspect all piping to assure that it is free from defects in material and workmanship.
- B. Verify compatibility of all pipe, fittings, and coatings.

3.3 INSTALLATION

A. Manufacturer's Installation Specialist:

1. Provide the services of a competent installation specialist of the pipe manufacturer when pipe laying commences for the Thermoplastic pipe.
2. Retain installation specialist at the Site for a minimum of two days or until competency of the pipe laying crew has been satisfactorily demonstrated.

B. Bedding Pipe: Bed pipe as specified below and in accordance with the details shown.

1. Where Owner deems the existing bedding material unsuitable, remove and replace it with approved granular materials. Payment for the additional excavation and crushed stone or gravel refill will be made at the unit prices bid in the Bid Form.
2. Where pipe is installed in rock excavation, provide a minimum of three inches of granular bedding material underneath pipe smaller than 4-inch diameter and a minimum of six inches of granular bedding material underneath pipes 4-inch diameter and larger.
3. Excavate trenches below the pipe bottom by an amount shown and specified. Remove all loose and unsuitable material from the trench bottom.
4. Carefully and thoroughly compact all pipe bedding with hand held pneumatic compactors.

5. Do not lay pipe until the Owner approves the bedding condition. If a conflict exists obtain direction from Owner before proceeding.
6. No pipe shall be brought into position until the preceding length has been bedded and secured in its final position.

C. Laying Pipe:

1. Conform to manufacturer's instructions and requirements of standards and manuals listed below:
 - a. ASTM D232, ASTM D2774, ANSI/AWWA C605, AWWA M23, AWWA M45, AWWA M55
2. Install all pipe accurately to line and grade shown, unless otherwise approved by Owner. Remove and relay pipes that are not laid correctly.
3. Slope piping uniformly between elevations shown.
4. Ensure that ground water level in trench is at least 6-inches below bottom of pipe before laying piping. Do not lay pipe in water. Maintain dry trench conditions until jointing and backfilling are complete and protect and keep clean water pipe interiors, fittings and valves.
5. Start laying pipe at lowest point and proceed towards the higher elevations, unless otherwise approved by Owner.
6. Place bell and spigot pipe so that bells face the direction of laying, unless otherwise approved by Owner.
7. Place concrete pipe containing elliptical reinforcement with minor axis of reinforcement in a vertical position.
8. Excavate around joints in bedding and lay pipe so that the barrel bears uniformly on the trench bottom.
9. Deflections at joints shall not exceed 75 percent of the amount allowed by the pipe manufacturer.
10. Carefully examine all pipe, fittings and specials for cracks, damage or other defects while suspended above the trench before installation. Immediately remove defective materials from the Site.
11. Inspect interior of all pipe and fittings and completely clean all dirt, gravel, sand, debris or other foreign material from pipe interior and joint recesses before it is moved into the trench. Bell and spigot mating surfaces shall be thoroughly wire brushed, and wiped clean and dry immediately before the pipe is laid.
12. Field cut pipe, where required, with a machine specially designed for cutting piping. Make cuts carefully, without damage to pipe or lining, and with a smooth end at right angles to the axis of pipe. Cut ends on all types of push-on joints shall be tapered and sharp edges filed off smooth. Flame cutting will not be allowed.
13. Blocking under piping will not be permitted, unless specifically approved by Owner for special conditions. If permitted, conform to requirements of AWWA C600.
14. Touch up protective coatings in a satisfactory manner prior to backfilling.
15. Contractor shall notify Owner in advance of backfilling operations. All piping shall be inspected by the Owner prior to any backfilling.

D. Jointing Pipe:

1. Solvent Cement Joints:
 - a. Bevel pipe ends and remove all burrs before making joints. Clean both pipe and fittings thoroughly. Do not attempt to make solvent cement joints if temperature is below 40 degrees F nor in wet conditions.
 - b. Use solvent cement supplied or recommended by the pipe manufacturer.

- c. Apply joint primer and solvent cement and assemble joints in strict accordance with the recommendations and instructions of the manufacturer of the joint materials and the pipe manufacturer.
 - d. Observe safety precautions with the use of joint primers and solvent cements. Allow air to circulate freely through pipelines to permit solvent vapors to escape. Slowly admit water when flushing or filling pipelines to prevent compression of gases within pipes.
- E. Tracer Tape Installation: Detectable Underground Warning Tape for Non-Metallic Pipelines:
 - 1. Provide polyethylene tracer tape with aluminum backing for buried, nonmetallic piping.
 - 2. Provide magnetic tracer tape 12 to 18 inches below finished grade, above and parallel to buried pipe.
 - 3. For pipelines buried eight feet or greater below finished grade, provide a second line of magnetic tracer tape 2.5 feet above crown of buried pipe, aligned along the pipe centerline.
 - 4. Tape shall be spread flat with message side up before backfilling.
- F. Backfilling:
 - 1. Place backfill as the Work progresses. Backfill by hand and use power tampers until pipe is covered by at least on foot of backfill.

3.4 RESTORING AND RESURFACING EXISTING ROADWAYS AND FACILITIES

- A. Place 1-1/2 inches of temporary bituminous pavement immediately after backfilling trenches in paved roadways which are to be retained for permanent use. Maintain the surface of the paved area over the trench in good and safe condition during progress of the entire Work, and promptly fill all depressions over and adjacent to the trench caused by settlement of backfilling. The permanent replacement pavement shall be equal to that of the existing roadways, unless otherwise specified.
- B. Pavement, gutters, curbs, sidewalks or roadways disturbed or damaged by CONTRACTOR'S operations shall be restored by CONTRACTOR at his own expense to as good condition as they were previous to the commencement of the Work and in accordance with applicable local and state highway specifications or requirements.

3.5 FIELD QUALITY CONTROL

- A. Vertical Deflection Test for Thermoplastic Pipe:
 - 1. The vertical deflection test shall be conducted after the final backfill has been in place at least 30 days.
 - 2. Contractor shall manually pull a pin-type vertical gauge mounted on a sled through the pipe. Gauge shall be set so that if vertical deflection of pipe exceeds five percent, it will stop. Contractor shall excavate and relay all such piping.
 - 3. Gage shall be as manufactured by Quality Test Products, or equal.

+ + END OF SECTION + +



BOARD OF COUNTY COMMISSIONERS

WARREN COUNTY, OHIO

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ADVERTISEMENT FOR BIDS

Sealed bids will be received by the Clerk of the County Commissioners, Warren County, Ohio, 406 Justice Drive, Lebanon, Ohio 45036, until November 8, 2018 @ 11:00 a.m., at the Office of the Warren County Commissioners, and then at said time bids will be opened and read aloud for the RAR Water Treatment Plant Filter Rehabilitation Project.

Bid documents and specifications are available online at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. Questions regarding the technical specifications should be directed to Kathryn Gilbert at the Warren County Water and Sewer Department, (513) 695-1645. **A Non-mandatory pre-bid meeting has been scheduled for October 24, 2018 @ 9:00 a.m. at the RAR Water Treatment Plant, 6193 Striker Road, Hamilton Township, OH. The County will review the project requirements with potential bidders, receive questions, and visit the project sites during the meeting.** Each bid shall contain the full name of each person or company submitting the bid and be accompanied by a bid bond for the full amount of the bid or a certified check in the amount equal to ten (10) percent of the bid.

The project description: Remove and replace the filter media, nozzles, and differential pressure sensor piping for the seven gravity filters at the RAR Water Treatment Plant. Procurement and installation of new Aeration Bypass piping, chlorine feed flexible piping and containment piping. The Engineer's opinion of probable construction cost is \$610,500.00.

This notice is posted on the Warren County Government internet site. The Warren County Government Web Site can be accessed by logging onto the internet and typing in the following address <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. To access bid project information, under the "Your Government" heading click on the "Board of Commissioners" tab, then click on the "Bid Projects" tab and choose the project you wish to obtain information about. Please contact the Warren County Commissioners Office at (513) 695-1250 if you have trouble with this procedure or if you need additional information on accessing bid project information on our web site. Please be aware that if you are downloading this document to bid this project, addendums to the scope may be issued prior to the bid date. In order to stay updated on any change, please email Kiana Hawk in the Commissioner's Office at Kiana.Hawk@co.warren.oh.us with your contact information.

The Board of Warren County Commissioners reserve the right to accept the lowest and best bid, to reject all bids, and to waive any irregularities in bids.

By order of the Board of County Commissioners, Warren County, Ohio.

Tina Osborne, Clerk