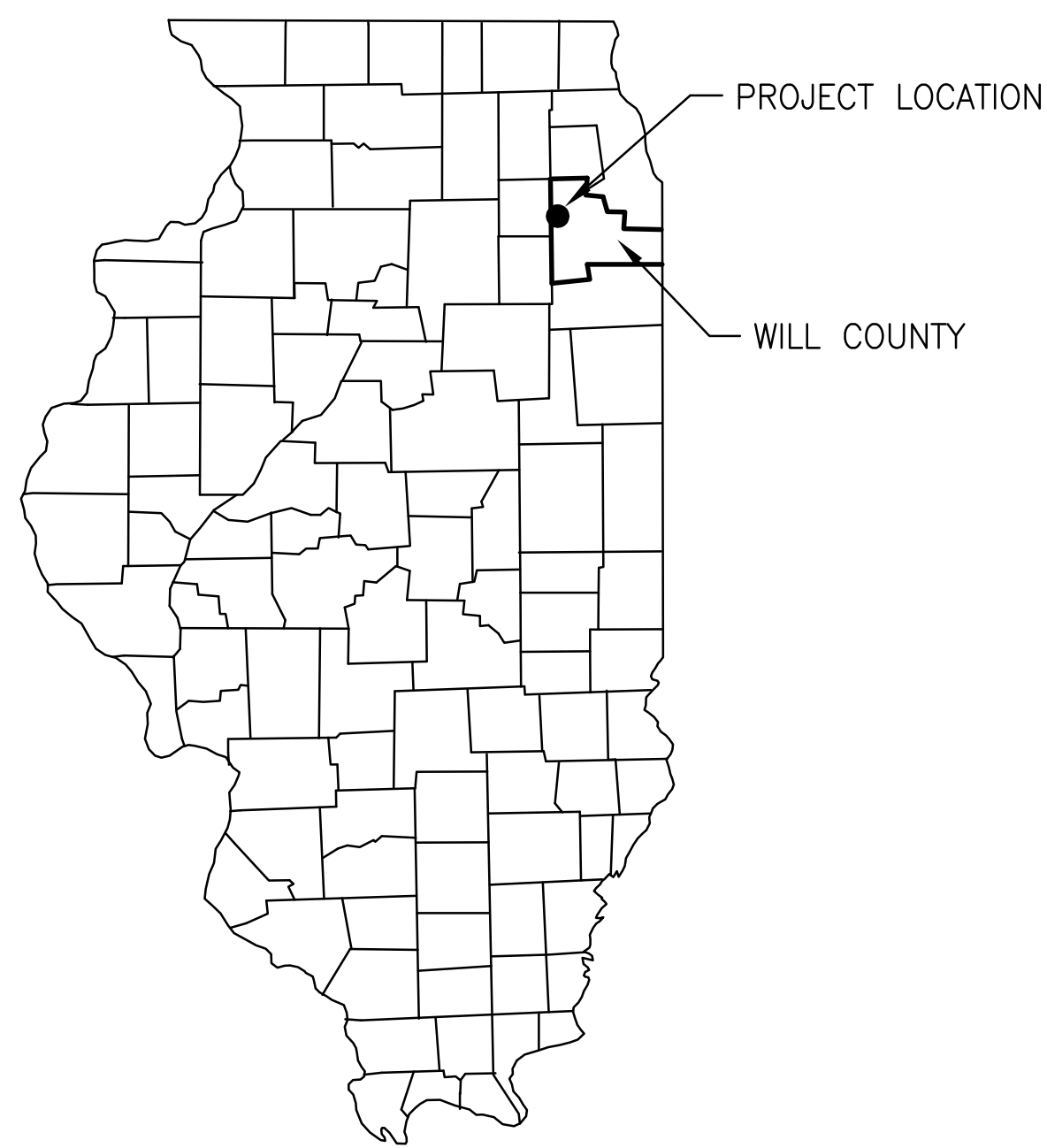
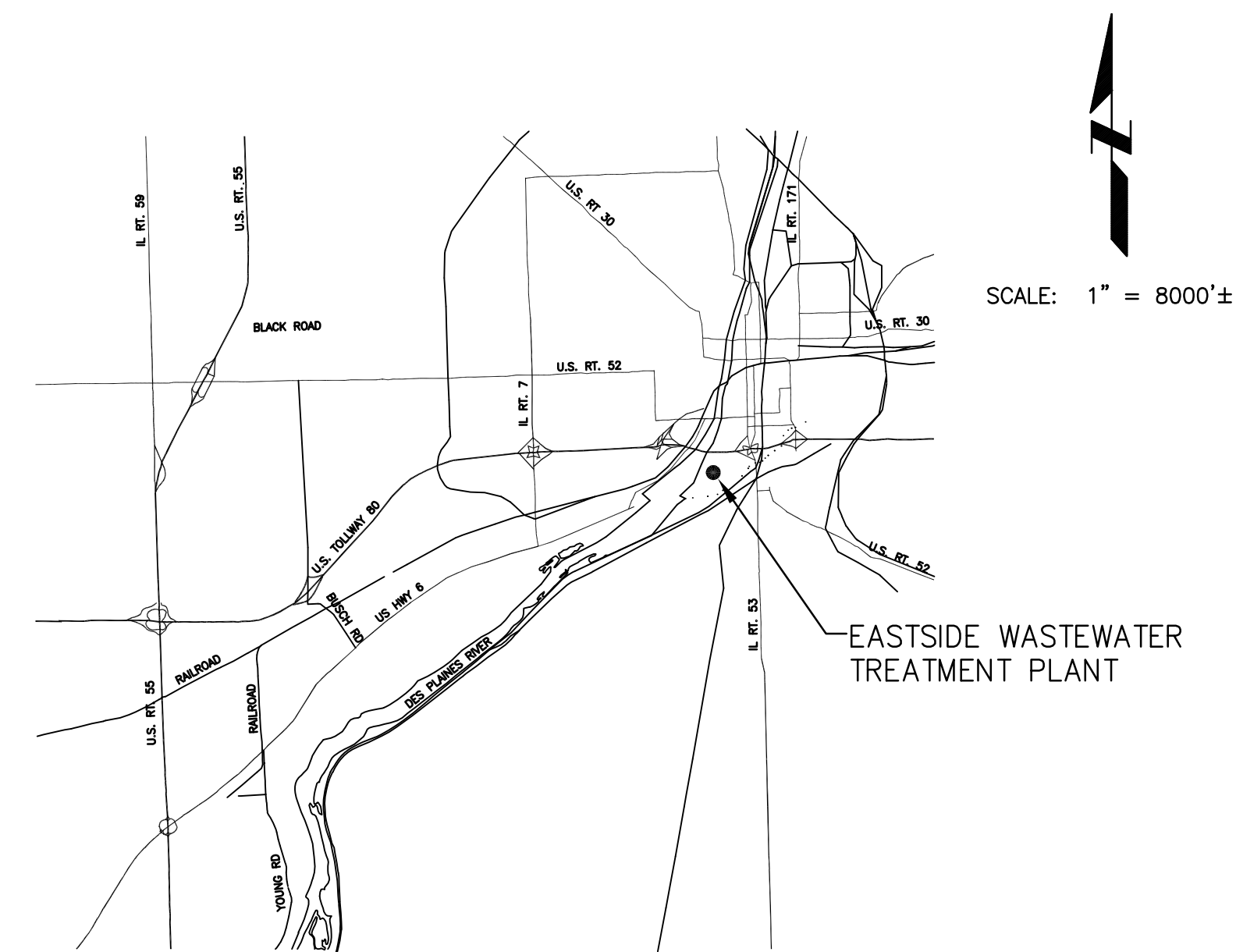


CITY OF JOLIET, ILLINOIS EASTSIDE WWTP BLOWER AND FINE BUBBLE AERATION EQUIPMENT REPLACEMENT

CONTRACT NO. 1831-1211 OCTOBER 2011



GENERAL LOCATION MAP

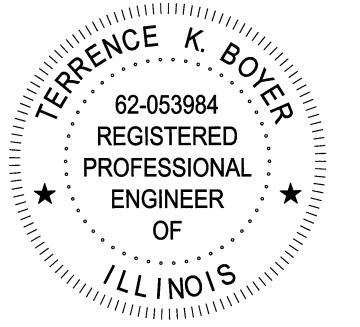


PROJECT LOCATION MAP

Clark Dietz
ENGINEERS

DESIGN FIRM REGISTRATION
No. 184-000450

125 WEST CHURCH STREET
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PHONE : 217.373.8900
FAX : 217.373.8923



EXPIRES NOV. 30, 2011

Terrance K. Boer
SIGNATURE

10/31/2011
DATE

PROJECT TITLE
CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT

DESIGNED BY: ...
DRAWN BY: ...
CHECKED BY: ...
DATE CHECKED: .../.../...

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DATE	REVISION

DATE REVISION

DRAWING TITLE
COVER

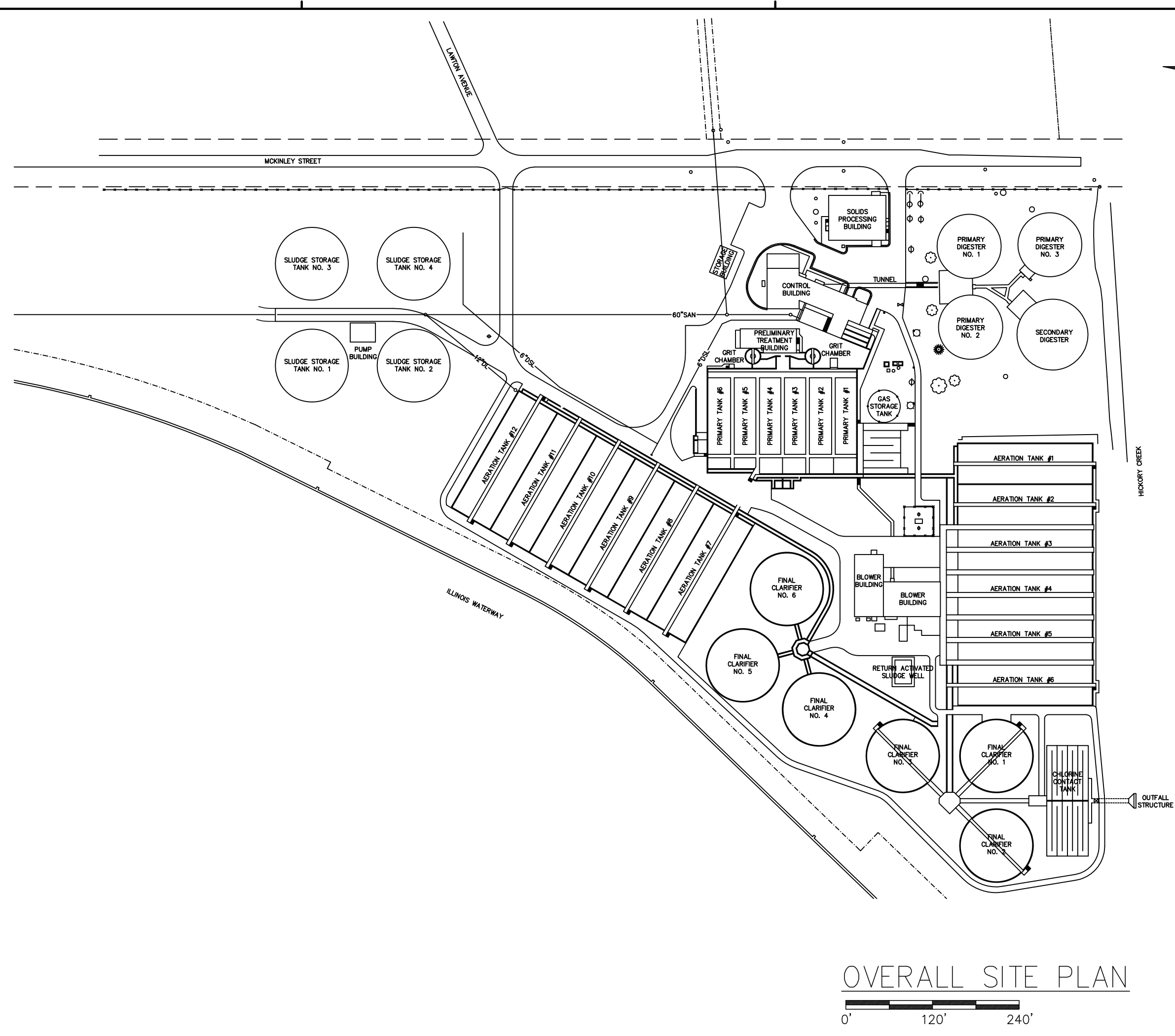
PROJECT No.
J0020690

DRAWING No.
G-001

DWG 1 OF 43 DWGS

FOR CONSTRUCTION

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12 OF 12	SUPPORT LOCATIONS DETAILS
1 OF 1	STANDARD SUPPORT DETAILS



OVERALL SITE PLAN
0' 120' 240'

GENERAL NOTES

- NOT ALL OF THE GAS, POWER, OR TELEPHONE LINES, WHETHER ABOVE OR BELOW GROUND, HAVE BEEN SHOWN ON THE DRAWINGS. THE CONTRACTOR MUST REALIZE THAT THE ACTUAL LOCATIONS OF THE UTILITIES SHOWN ON THE DRAWINGS MAY BE DIFFERENT FROM THE LOCATIONS INDICATED.
- THE LOCATIONS OF THE EXISTING YARD PIPING, SUCH AS RAW SEWAGE LINES, DRAIN LINES, NON-POTABLE WATER LINES, AIR LINES, ETC., AS SHOWN ON THE DRAWINGS, HAS BEEN DETERMINED FROM PLANS FOR THE EXISTING FACILITIES AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR MUST ASSUME RESPONSIBILITY FOR ALL PIPING AND MUST REALIZE THAT THE ACTUAL LOCATIONS MAY BE DIFFERENT FROM THOSE INDICATED ON THE DRAWINGS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE THE WASTEWATER TREATMENT FACILITY. ALL EXISTING PROCESS PIPING, AND ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER.
- BEFORE WORKING WITH OR AROUND EXISTING UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE CONTACTED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL PRESERVE AND PROTECT PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKS AND CITY BENCH MARKS, SUCH AS STONES, PIPES, OR OTHER MONUMENTS ENCOUNTERED. IF THE CONTRACTOR MUST RELOCATE THE PROPERTY MARKERS OR MONUMENTS, THEIR LOCATION SHALL BE REFERENCED BY A REGISTERED LAND SURVEYOR AND THE OWNER NOTIFIED BEFORE MOVING. ALL PROPERTY MARKERS AND MONUMENTS RELOCATED DURING CONSTRUCTION SHALL BE RE-ESTABLISHED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE AREA AND NO EXTRA COMPENSATION CONNECTED WITH OVERHEAD UTILITIES WILL BE ALLOWED.
- THE CONTRACTOR IS RESPONSIBLE FOR DUST AND MUD CONTROL.
- ROADWAY SURFACING AND BASE MATERIALS, OR ANY OTHER PROPERTY REMOVED OR DAMAGED, SHALL BE REPLACED OR REPAIRED AS PROVIDED FOR IN THE SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION TRAFFIC CONTROL.
- IT IS INTENDED THAT GRADING BE PROVIDED TO ASSURE ADEQUATE DRAINAGE AWAY FROM THE BUILDINGS AND STRUCTURES. ALL GRADING SHALL BE APPROVED BY THE OWNER.
- THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING EROSION CONTROL AND THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OR WORK ON THE PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- INFORMATION ON DETAIL DRAWINGS TAKES PRIORITY OVER ALL GENERAL DRAWINGS AND SCHEDULES. CONFLICTS SHALL BE RESOLVED ACCORDINGLY.
- WHEN CONNECTIONS ARE TO BE MADE TO EXISTING PIPING AND STRUCTURES, THE LOCATION AND ELEVATION OF THE EXISTING PIPING SHALL BE FIELD VERIFIED AND NOTIFICATION GIVEN TO THE OWNER IF THE EXISTING PIPING IS FOUND TO BE DIFFERENT THAN THAT SHOWN ON THE DRAWINGS.
- THE COST OF ABIDING BY THE PROVISIONS OF PERMITS ISSUED BY VARIOUS AGENCIES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. ALL ASSOCIATED BONDING REQUIREMENTS AND COSTS ARE INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS FROM THE WILL COUNTY HIGHWAY DEPARTMENT (815/727-8476) WHEN OVERWEIGHT LOADS ARE TO BE TRANSPORTED TO AND FROM THE PLANT SITE. THE PERMIT WILL BE NECESSARY FOR LOADS EXCEEDING THE STATE MAXIMUM WEIGHT LIMIT OF 73,280 LBS. AN INDIVIDUAL PERMIT WILL BE REQUIRED FOR EACH OVERWEIGHT LOAD. THE CONTRACTOR MAY APPLY FOR THE PERMIT BY PHONE AND PICK UP AND SIGN THE PERMIT AT THE HIGHWAY DEPARTMENT OFFICES IN JOLIET. THE FOLLOWING INFORMATION WILL BE NEEDED:
 - A DESCRIPTION OF THE LOAD.
 - THE LOAD ORIGIN AND DESTINATION.
 - THE LOAD'S TOTAL LENGTH, WIDTH, AND HEIGHT.
 - WEIGHTS OF SEPARATE COMPONENTS OF THE LOAD (TRACTOR WEIGHT, TRAILER WEIGHT, AND THE WEIGHT OF THE OBJECT BEING MOVED).
 - LICENSE NUMBERS OF THE TRACTOR AND TRAILER BEING USED.
 - DATE THAT THE MOVE WILL TAKE PLACE.

BENCHMARK

TBM #1: NORTHWEST BOLT ON FIRE HYDRANT WEST SIDE OF MCKINLEY NORTH OF MAIN ENTRANCE. ELEV. 523.41

DESIGN CRITERIA

1. DESIGN FLOWS AND LOADING YEAR

DESIGN INFLUENT FLOWS:

DESIGN AVERAGE FLOW (DAF), MGD	18.2
DESIGN MAXIMUM FLOW (DMF), MGD	45.5

DESIGN AVERAGE INFLUENT LOADING RATE:

CBOD5, LBS/DAY	18,345
TSS, LBS/DAY	13,287
AMMONIA, LBS/DAY	1,096

2. NPDES EFFLUENT REQUIREMENTS

RECEIVING STREAM:

DES PLAINES

CBOD5

MONTHLY AVERAGE, MG/L	10
DAILY MAXIMUM, MG/L	20

TSS

MONTHLY AVERAGE, MG/L	12
DAILY MAXIMUM, MG/L	36

AMMONIA-NITROGEN

APRIL-MAY/SEPT-OCT

MONTHLY AVERAGE, MG/L	1.2
DAILY MAXIMUM, MG/L	2.9

JUNE-AUGUST

MONTHLY AVERAGE, MG/L	1.2
WEEKLY AVERAGE, MG/L	2.6
DAILY MAXIMUM, MG/L	2.9

NOVEMBER-FEBRUARY

MONTHLY AVERAGE, MG/L	2.4
DAILY MAXIMUM, MG/L	4.6

MARCH

MONTHLY AVERAGE, MG/L	1.5
DAILY MAXIMUM, MG/L	3.8

DISSOLVED OXYGEN

MINIMUM, MG/L	6.0
---------------	-----

FECAL COLIFORM

DAILY MAXIMUM, CFU/100 ML	400
---------------------------	-----

PH

MINIMUM, SU	6.0
MAXIMUM, SU	9.0

EFFLUENT COPPER

FINAL

MONTHLY AVERAGE, MG/L	0.5
DAILY MAXIMUM, MG/L	1.0

EFFLUENT ZINC

MONTHLY AVERAGE, MG/L	1.0
DAILY MAXIMUM, MG/L	2.0

3. UNIT DESIGN CRITERIA

A. PRIMARY TREATMENT:

PRIMARY CLARIFIERS

TYPE	RECTANGULAR
NUMBER	4
LENGTH, FT	131
WIDTH, FT	33.5
SIDE WATER DEPTH, FT	9.5
WEIR LENGTH, FT	400

MAXIMUM SURFACE SETTLING RATE

@ DAF, GALLON/DAY/SQ FT	1,200
@ DMF, GALLON/DAY/ SQ FT	3,000
HYDRAULIC RESIDENCE TIME, HR	2.4

ACTUAL SURFACE SETTLING RATE

@ DAF, GALLON/DAY/SQ FT	722
@ DMF, GALLON/DAY/SQ FT	1,805
HYDRAULIC RESIDENCE TIME, HR	2.4

WEIR LOADING RATE

@DAF, GALLON/DAY/FT	8,000
@DMF, GALLON/DAY/FT	20,000

B. SECONDARY TREATMENT: ACTIVATED SLUDGE PROCESS

TYPE	RECTANGULAR
NUMBER	12
LENGTH, FT	185
WIDTH, FT	30
SIDE WATER DEPTH, FT	15
NUMBER OF PASSES	2
AREA, TOTAL SQ FT	133,200
VOLUME, TOTAL CU FT	1,998,000

HYDRAULIC RESIDENCE TIME

@ MINIMUM, HR	8
@ AVAILABLE, HR	18.9

ORGANIC LOADING RATE, LBS BOD5/1,000 CU FT	6.1
--	-----

RAS FLOW RATE, MGD	19.0
AIR REQUIRED FOR MIXING, PASS #1, TOTAL, SCFM	6,660
AIR REQUIRED FOR MIXING, PASS #2, TOTAL, SCFM	6,660

ACTUAL OXYGEN REQUIREMENT, LBS/DAY	16,700
STANDARD OXYGEN REQUIREMENT, LBS/DAY	65,400
OXYGEN TRANSFER EFFICIENCY, %	30
REQUIRED AIRFLOW RATE, SCFM	14,120

C. BLOWERS

TOTAL AIR REQUIRED, SCFM	16,000
--------------------------	--------

EXISTING BLOWERS

BLOWER MOTOR LOAD, HP, EACH	600
NUMBER OF BLOWER IS USE	3
TOTAL MOTOR LOAD, HP	1,800
USED FOR	STAND BY

NEW TURBO BLOWERS

BLOWER MOTOR LOAD, HP, EACH	350
NUMBER OF BLOWERS TO MEET DEMAND	2
BLOWER MOTOR TURNDOWN, APPROXIMATE % TOTAL HP	50%
MAXIMUM BLOWER CAPACITY, SCFM, EACH	8,500
MINIMUM BLOWER CAPACITY, SCFM, EACH	3,100
DESIGN BLOWER CAPACITY, SCFM, EACH	8,000
DISCHARGE PRESSURE, PSI	7.5
AVERAGE BLOWER MOTOR LOAD, APPROXIMATE, % TOTAL HP	75%
AVERAGE BLOWER MOTOR LOAD, APPROXIMATE, HP EACH	340
USED FOR	DEMAND LOAD

Clark Dietz
ENGINEERS

DESIGN FIRM REGISTRATION
No. 184-000450

125 WEST CHURCH STREET
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PROJECT TITLE
CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT

DESIGNED BY: AWB
DRAWN BY: CWL
CHECKED BY: TKB
DATE CHECKED: ---

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DRAWING TITLE
DESIGN CRITERIA

PROJECT No.
J0020690

DRAWING No.
G-003

DWG 3 OF 43 DWGS

FOR CONSTRUCTION

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PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: ...
DRAWN BY: ...
CHECKED BY: ...
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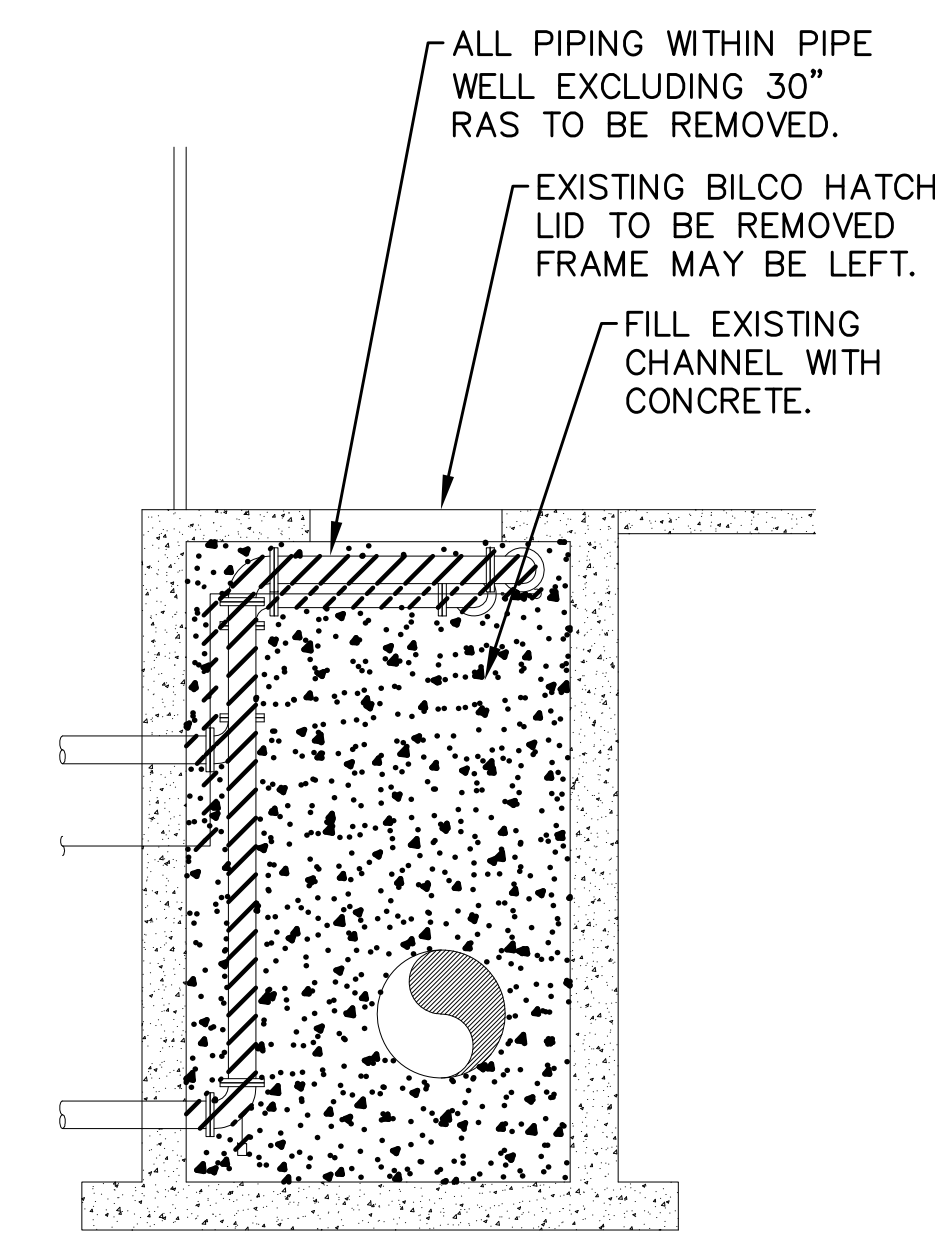
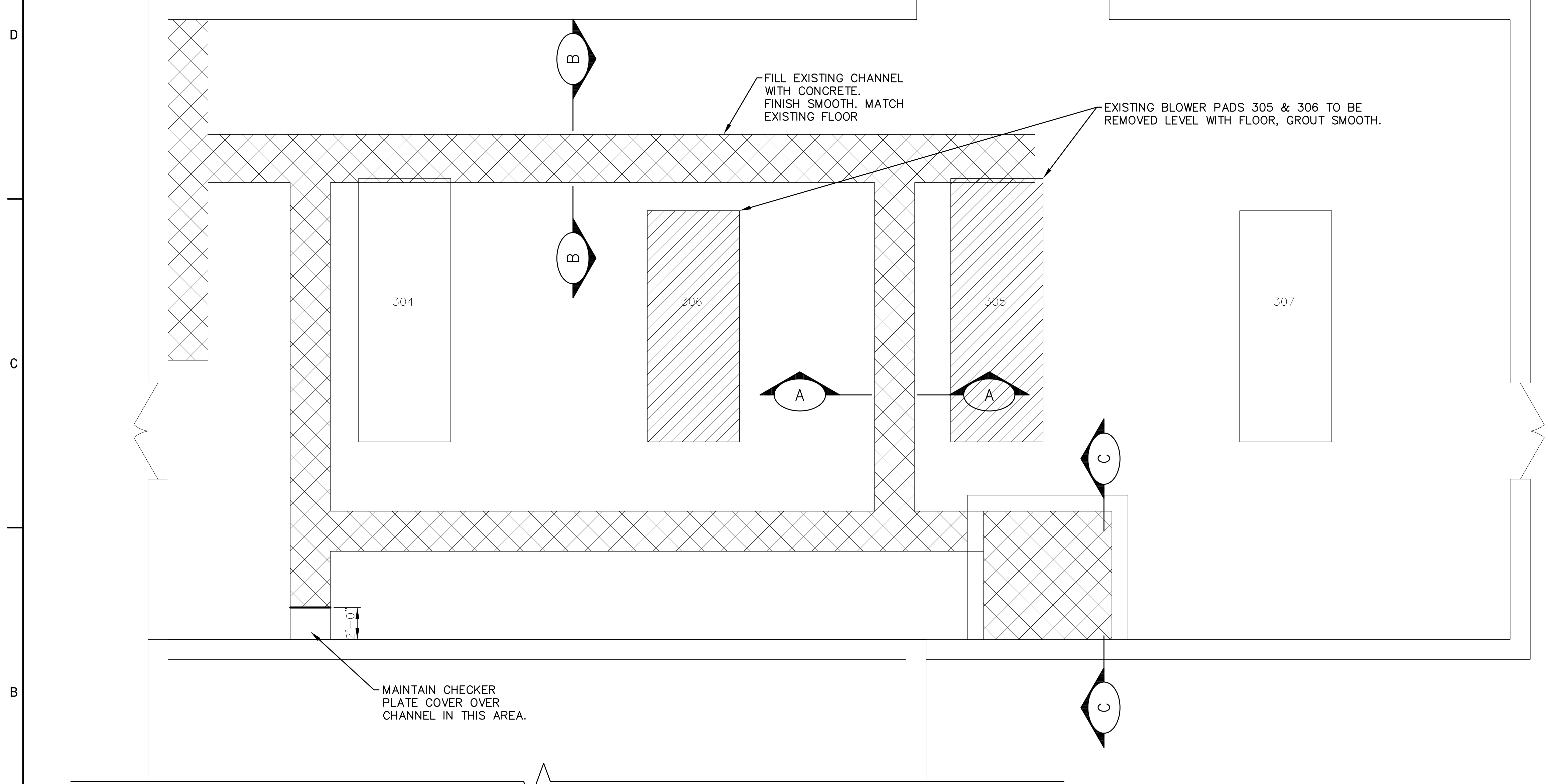
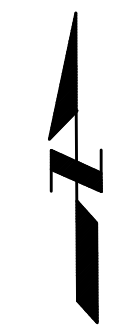
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**BLOWER BUILDING
STRUCTURAL PLAN AND
DETAILS**

PROJECT No.
J0020690

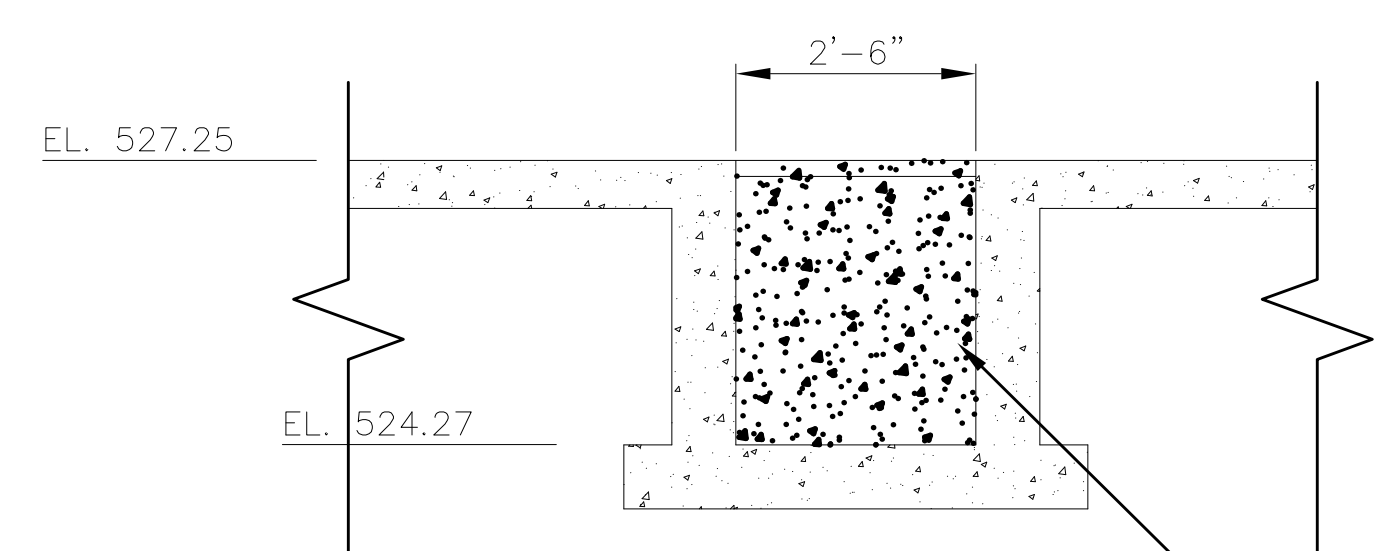
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S-001

DWG 4 OF 43 DWGS



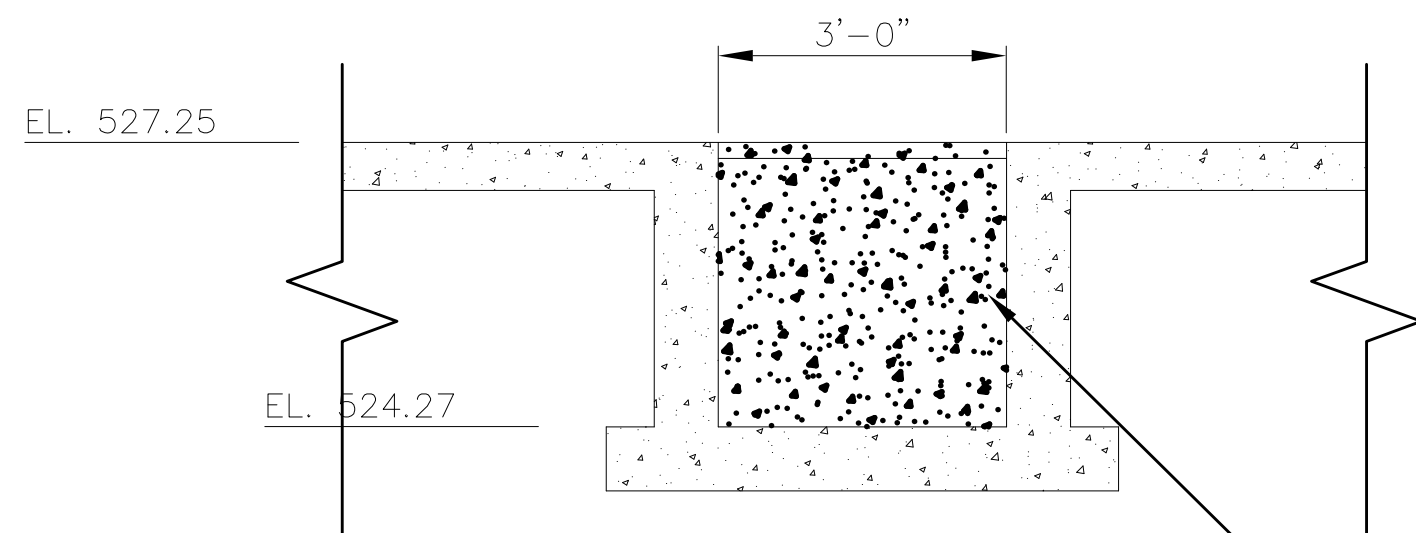
SECTION C-C
0 1' 2' 4' 8'

PLAN
0 1' 2' 4' 8'



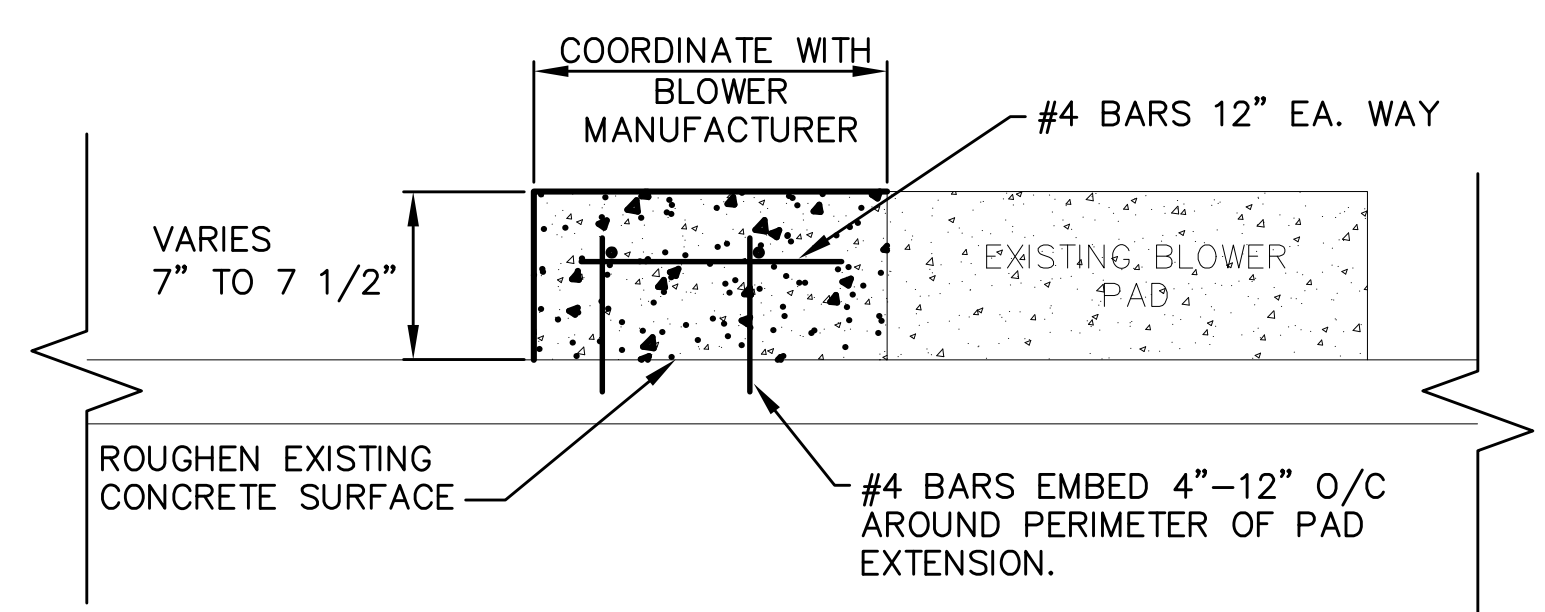
SECTION A-A
0 1' 2' 4'

FILL EXISTING CHANNEL WITH CONCRETE. FINISH SMOOTH. MATCH EXISTING FLOOR.



SECTION B-B
0 1' 2' 4'

FILL EXISTING CHANNEL WITH CONCRETE. FINISH SMOOTH. MATCH EXISTING FLOOR.

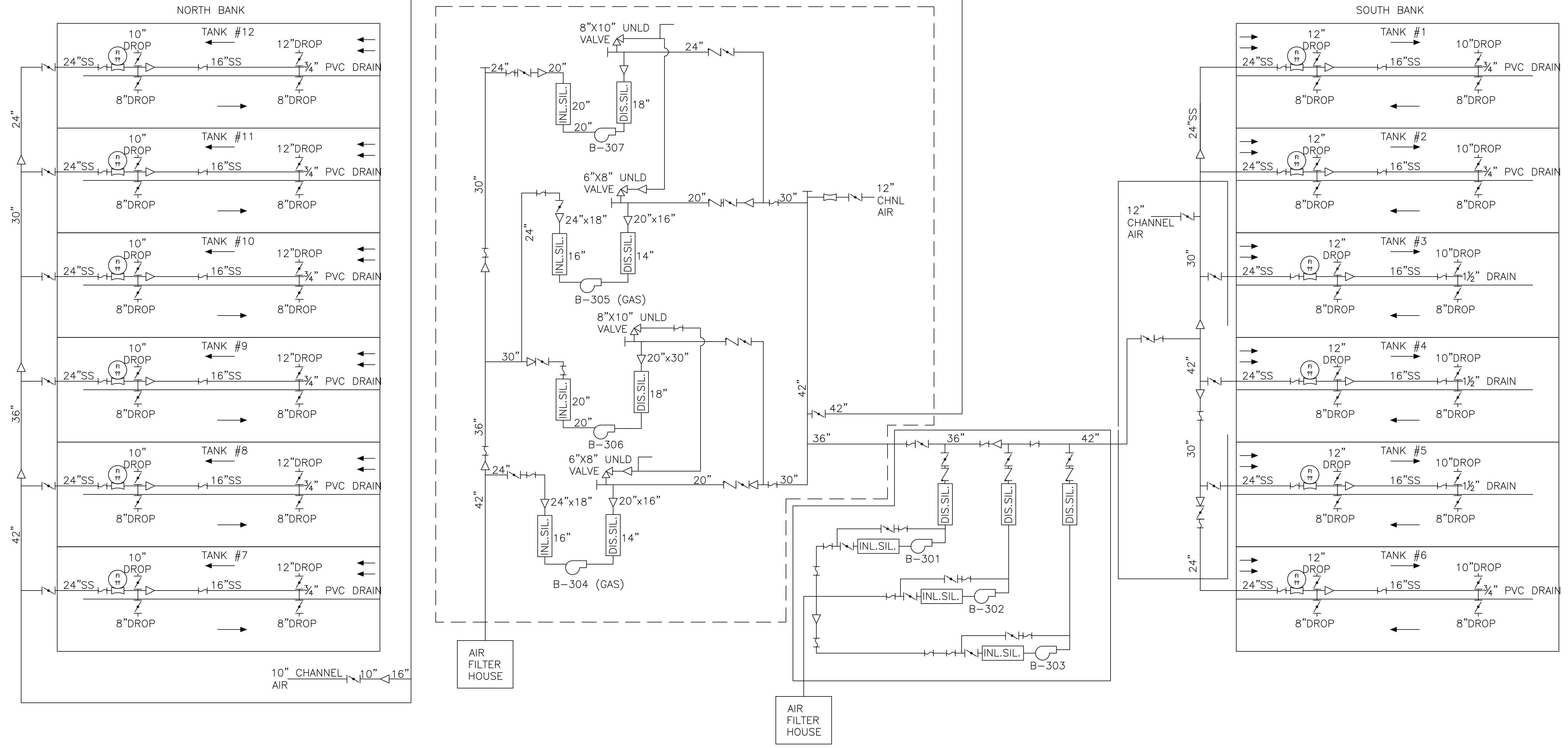


BLOWER PAD DETAIL
0 1' 2' 4'

- NOTES:**
- COORDINATE ACTUAL SIZE WITH BLOWER MANUFACTURER APPROVED DRAWINGS. PAD SHOULD EXTEND 4" OUTSIDE BLOWER IN ALL DIRECTIONS.
 - CONTRACTOR SHALL ANCHOR BLOWERS TO THE BLOWER PAD WITH 316 SS ANCHORS IN ACCORDANCE WITH THE BLOWER MANUFACTURER RECOMMENDATIONS.

P:\2020\2020_01\01 - Effluent Refuser Regeneration, Effluent Refuser (1) - 0 Drawings\11-4 For Construction\0220690 - Joliet East Side Blower ESP Construction\0220690 - Joliet East Side Blower ESP Construction.dwg, 12/29/2011 1:55:48 PM, -04

D
C
B
A



PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY:
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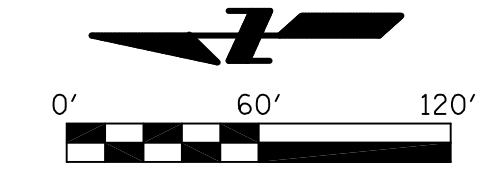
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**DETAILED PROCESS FLOW
DIAGRAM - EXISTING
AERATION SYSTEM**

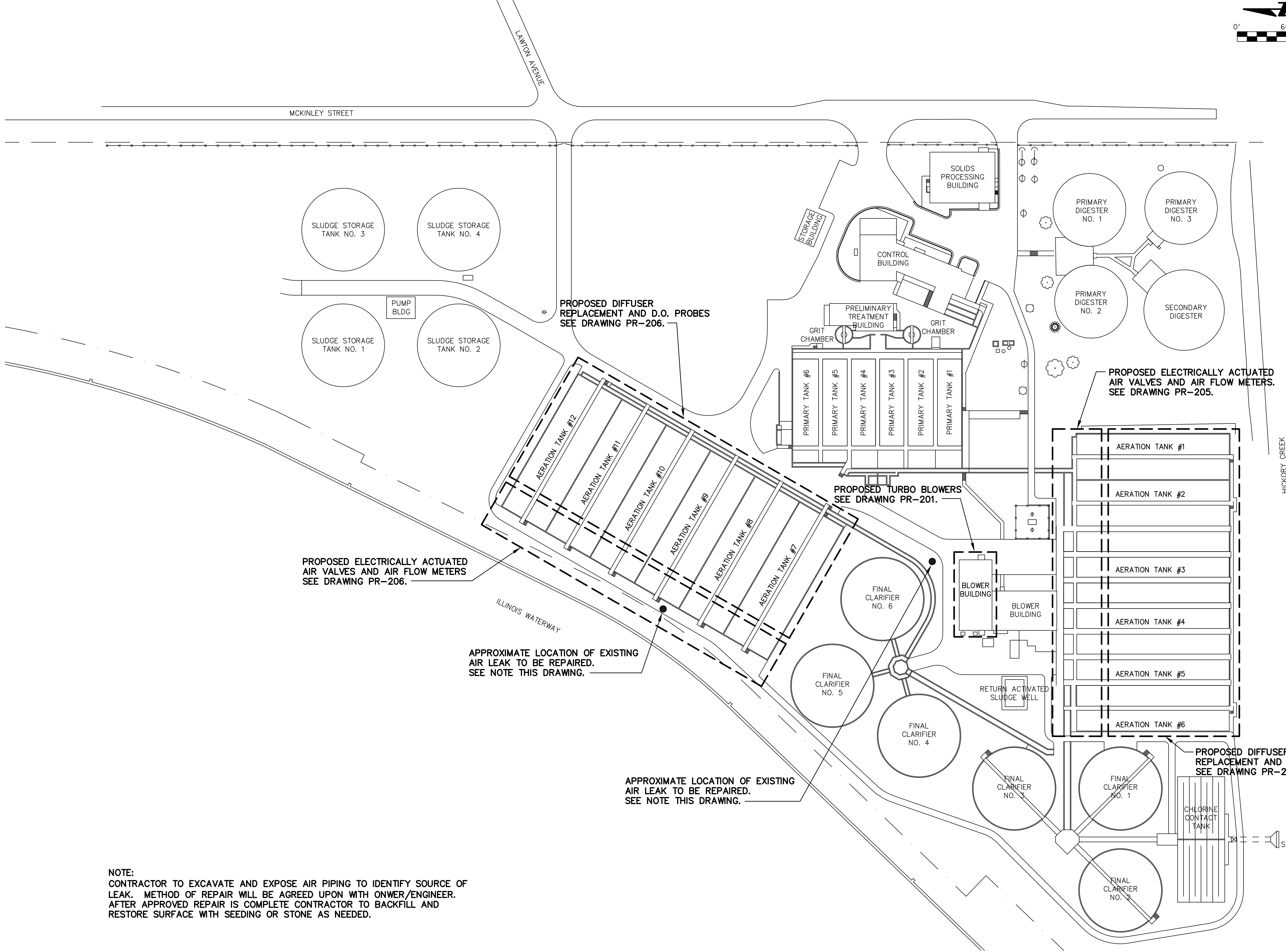
PROJECT No.
J0020690

DRAWING No.
PR-002

DWG 6 OF 43 DWGS



D
C
B
A



PROPOSED DIFFUSER REPLACEMENT AND D.O. PROBES
SEE DRAWING PR-206.

PROPOSED ELECTRICALLY ACTUATED AIR VALVES AND AIR FLOW METERS.
SEE DRAWING PR-205.

PROPOSED TURBO BLOWERS
SEE DRAWING PR-201.

PROPOSED ELECTRICALLY ACTUATED AIR VALVES AND AIR FLOW METERS
SEE DRAWING PR-206.

APPROXIMATE LOCATION OF EXISTING AIR LEAK TO BE REPAIRED.
SEE NOTE THIS DRAWING.

APPROXIMATE LOCATION OF EXISTING AIR LEAK TO BE REPAIRED.
SEE NOTE THIS DRAWING.

PROPOSED DIFFUSER REPLACEMENT AND D.O. PROBES.
SEE DRAWING PR-205.

NOTE:
CONTRACTOR TO EXCAVATE AND EXPOSE AIR PIPING TO IDENTIFY SOURCE OF LEAK. METHOD OF REPAIR WILL BE AGREED UPON WITH ONWER/ENGINEER. AFTER APPROVED REPAIR IS COMPLETE CONTRACTOR TO BACKFILL AND RESTORE SURFACE WITH SEEDING OR STONE AS NEEDED.

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: ...
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DATE	REVISION

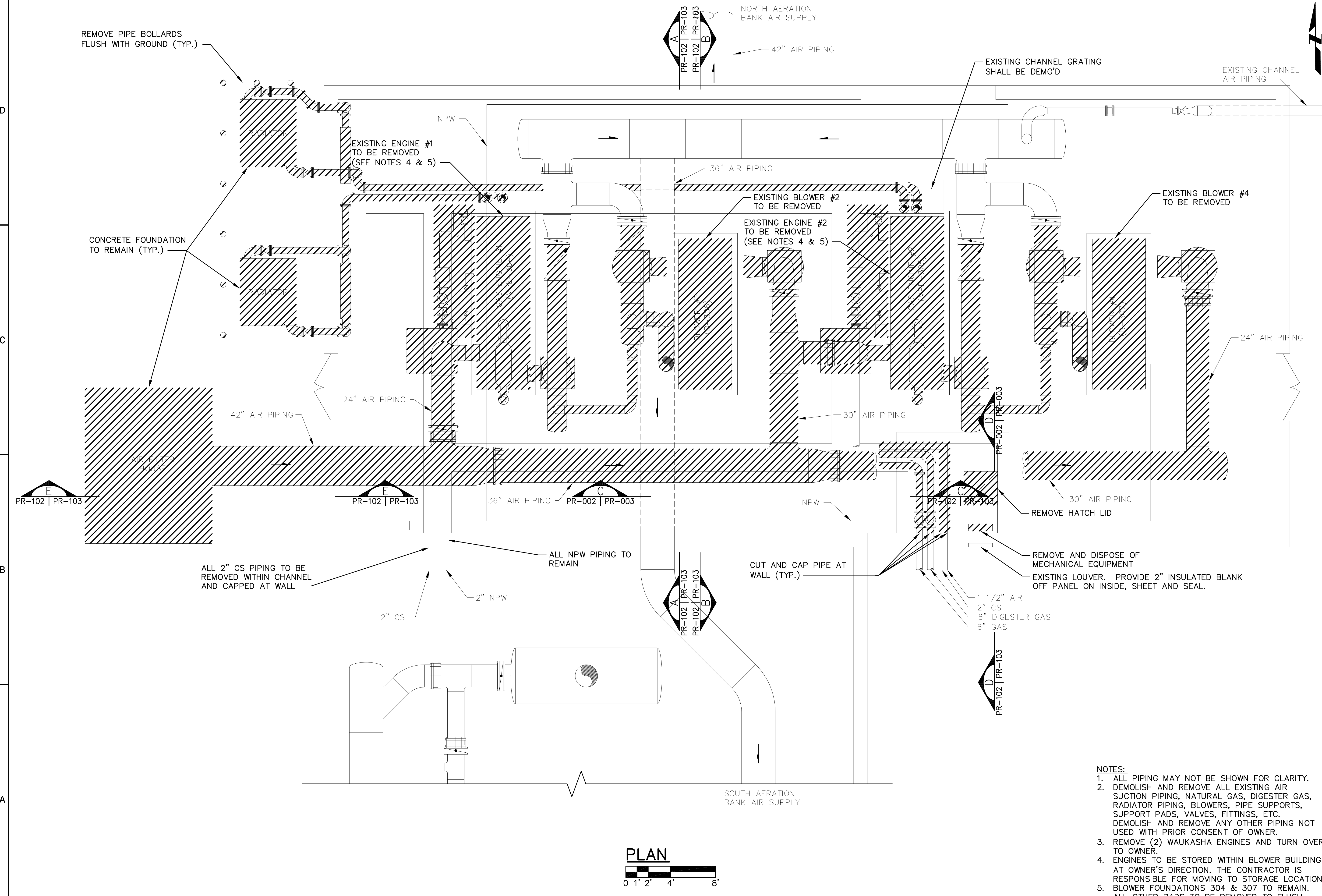
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EASTSIDE WWTTP SITE PLAN

PROJECT No.
J0020690

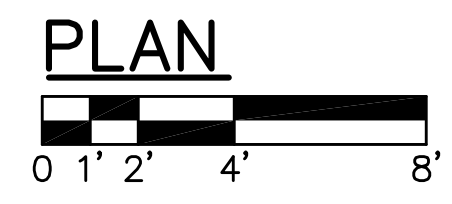
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PR-101

DWG 8 OF 43 DWGS

DESIGNED BY:	...
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DATE CHECKED:	.../.../...
DATE	REVISION



- NOTES:**
- ALL PIPING MAY NOT BE SHOWN FOR CLARITY.
 - DEMOLISH AND REMOVE ALL EXISTING AIR SUCTION PIPING, NATURAL GAS, DIGESTER GAS, RADIATOR PIPING, BLOWERS, PIPE SUPPORTS, SUPPORT PADS, VALVES, FITTINGS, ETC. DEMOLISH AND REMOVE ANY OTHER PIPING NOT USED WITH PRIOR CONSENT OF OWNER.
 - REMOVE (2) WAUKASHA ENGINES AND TURN OVER TO OWNER.
 - ENGINES TO BE STORED WITHIN BLOWER BUILDING AT OWNER'S DIRECTION. THE CONTRACTOR IS RESPONSIBLE FOR MOVING TO STORAGE LOCATION.
 - BLOWER FOUNDATIONS 304 & 307 TO REMAIN. ALL OTHER PADS TO BE REMOVED TO FLUSH WITH FLOOR. FLOOR TO BE GROUTED SMOOTH.



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PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
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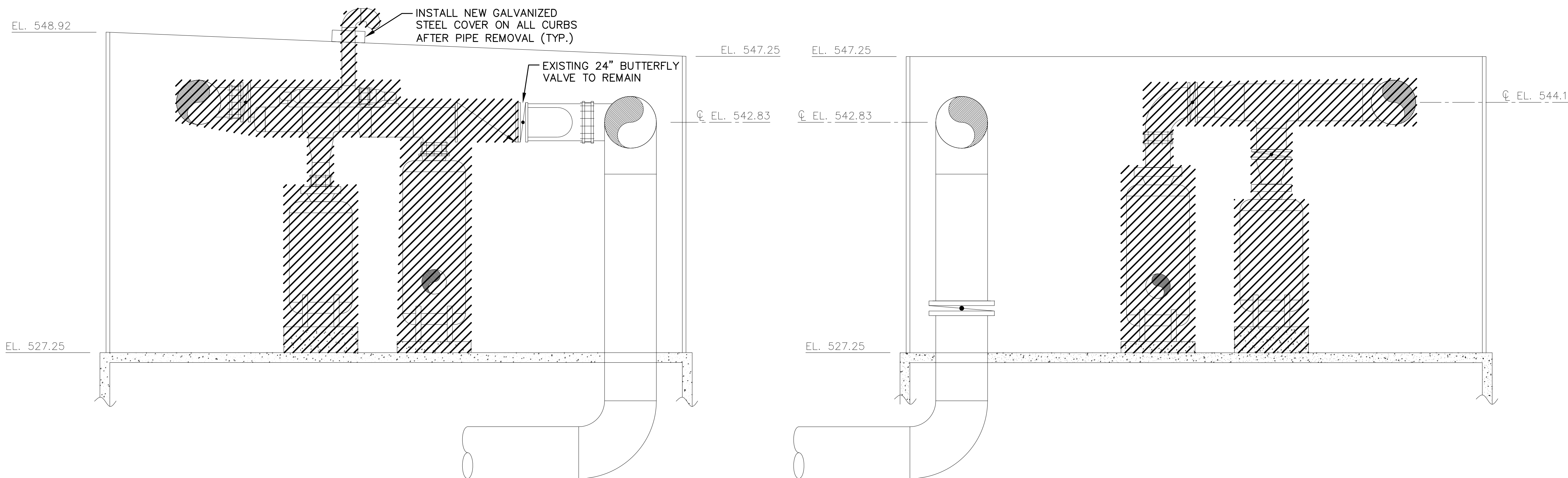
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**BLOWER BUILDING
DEMOLITION SECTIONS**

PROJECT No.
J0020690

DRAWING No.
PR-103

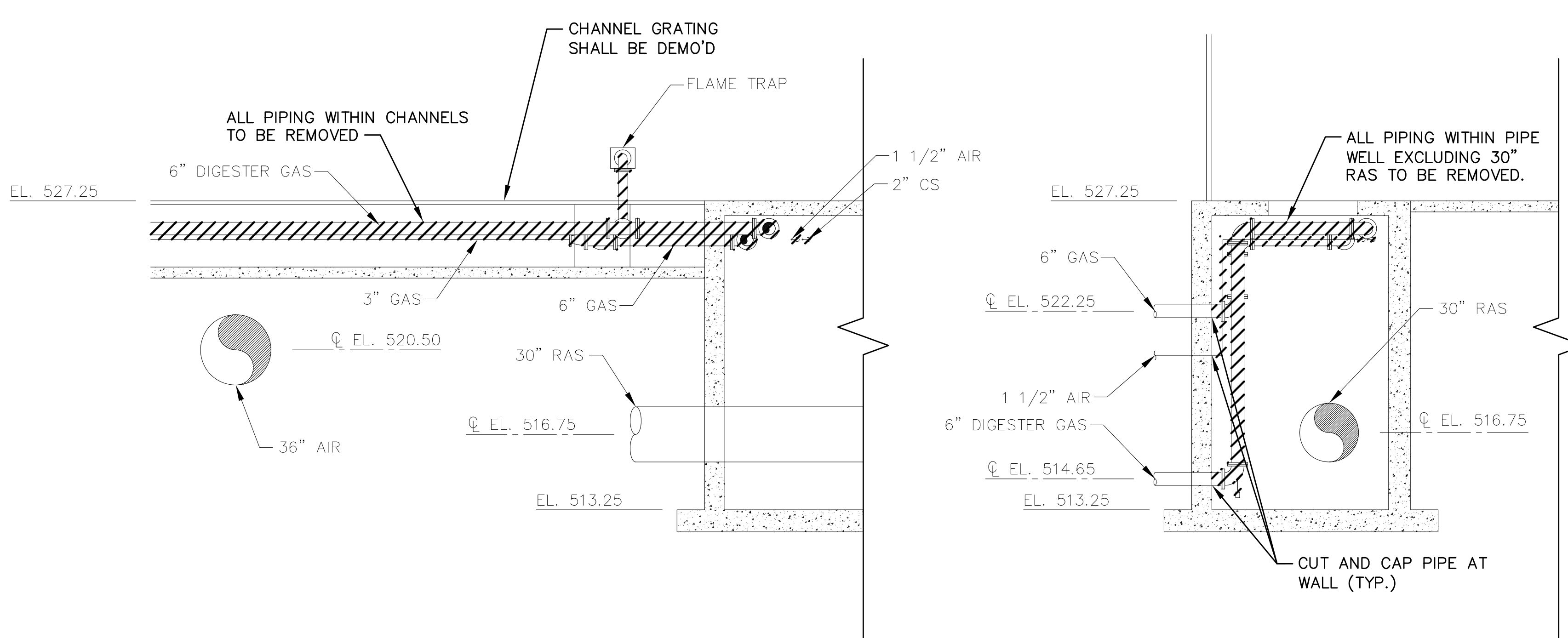
DWG 10 OF 43 DWGS

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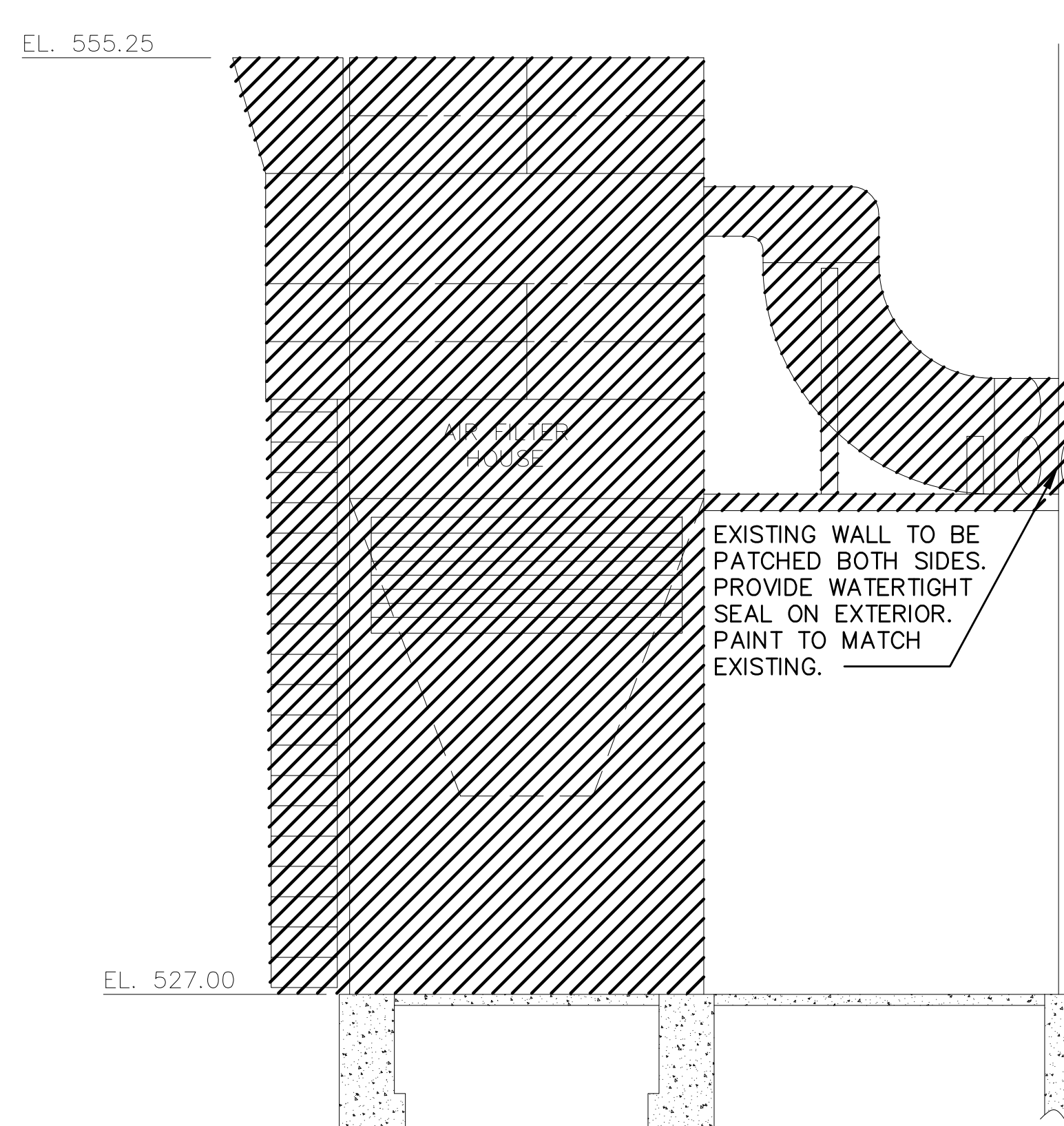
SECTION A-A
0 1' 2' 4' 8'

SECTION B-B
0 1' 2' 4' 8'



SECTION C-C
0 1' 2' 4' 8'

SECTION D-D
0 1' 2' 4' 8'



SECTION E-E
0 1' 2' 4' 8'

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Clark Dietz
ENGINEERS

DESIGN FIRM REGISTRATION
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PROJECT TITLE
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EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
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DRAWING TITLE
**SOUTH AERATION TANK
DEMOLITION PLAN AND
SECTION**

PROJECT No.
J0020690

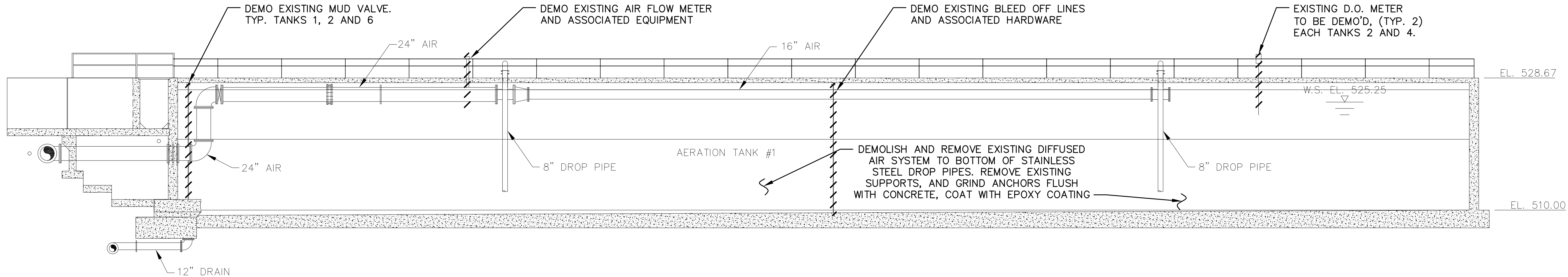
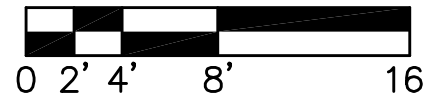
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PR-104

DWG 11 OF 43 DWGS

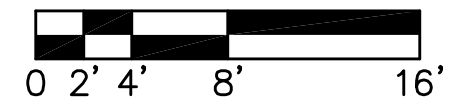
DEMOLISH AND REMOVE EXISTING DIFFUSED
AIR SYSTEM TO BOTTOM OF STAINLESS
STEEL DROP PIPES. REMOVE EXISTING
SUPPORTS, AND GRIND ANCHORS FLUSH WITH
CONCRETE, COAT WITH EPOXY COATING



TYPICAL TANK PLAN
(TANK 1 SHOWN DEMO SIMILAR 2-6)



SECTION A-A



NOTE:
EXISTING AIR METERS FOR TANKS 3, 4 & 5
ARE WITHIN "Y" WALL UNDER CHECK PLATE
TO BE DEMO'D AND PIPE REPAIRED.

P:\2022\2022_0101 - Effluent Diffuser Replacement - East Side Blower Equipment - South Aeration Tank Demolition Plan.dwg, 12/29/2011 1:56:41 PM, -1

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: ...
DRAWN BY: ...
CHECKED BY: ...
DATE CHECKED: ...

NOTE: DIMENSIONAL DATA
IS NOT TO BE OBTAINED BY
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THIS DRAWING.

DATE	REVISION

DRAWING TITLE
**NORTH AERATION TANK
DEMOLITION PLAN AND
SECTION**

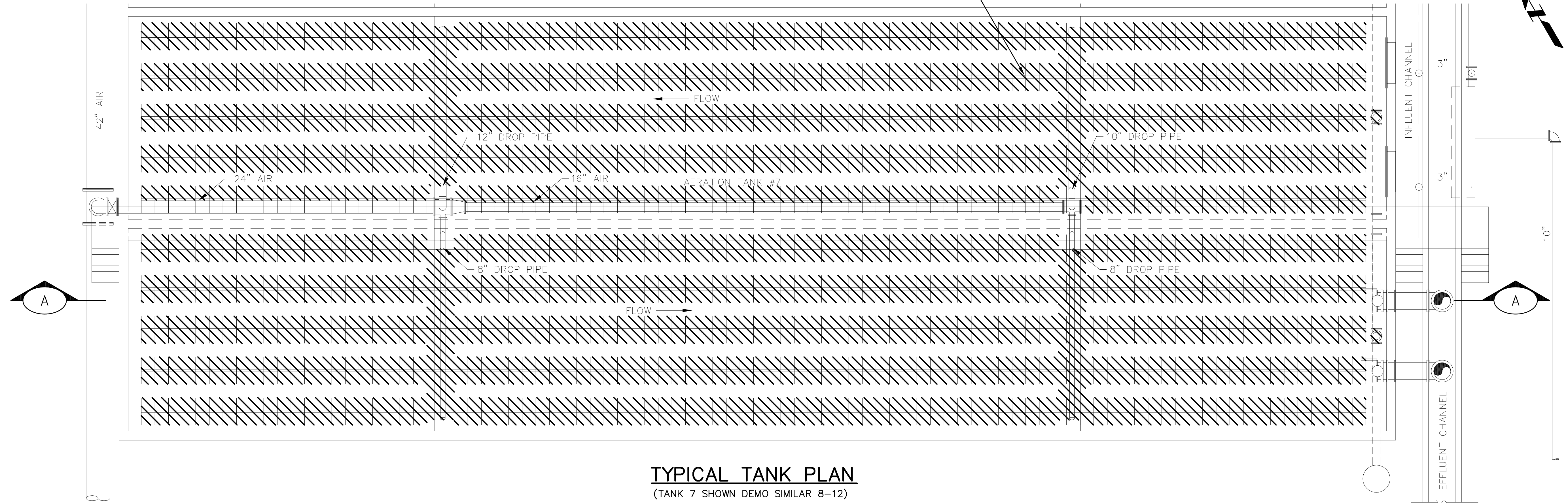
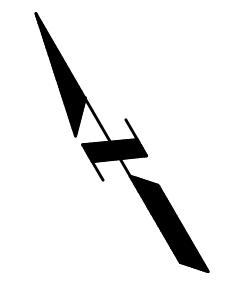
PROJECT No.
J0020690

DRAWING No.
PR-105

DWG 12 OF 43 DWGS

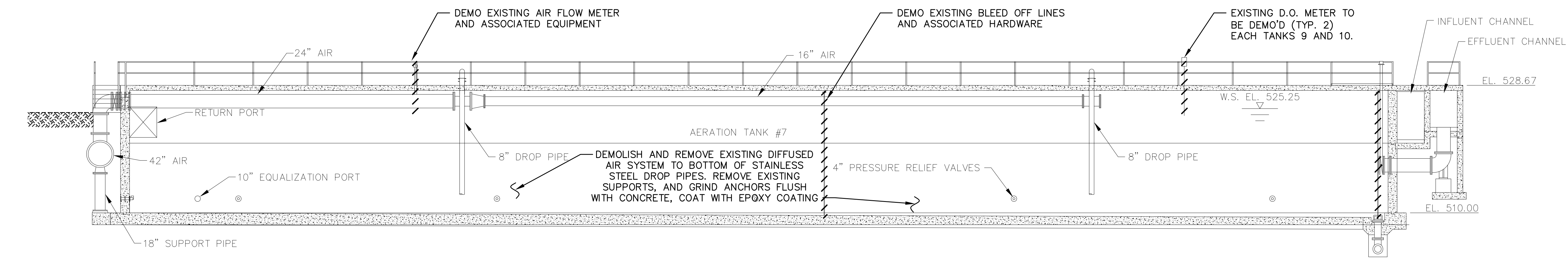
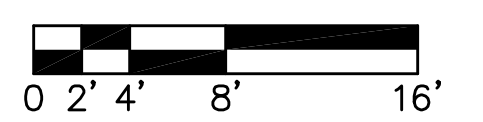
FOR CONSTRUCTION

DEMOLISH AND REMOVE EXISTING DIFFUSED AIR SYSTEM TO BOTTOM OF STAINLESS STEEL DROP PIPES. REMOVE EXISTING SUPPORTS, AND GRIND ANCHORS FLUSH WITH CONCRETE, COAT WITH EPOXY COATING

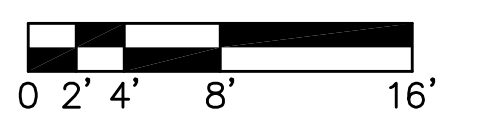


TYPICAL TANK PLAN

(TANK 7 SHOWN DEMO SIMILAR 8-12)



SECTION A-A



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PROJECT TITLE
CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT

DESIGNED BY: ...
DRAWN BY: ...
CHECKED BY: ...
DATE CHECKED: -/-

NOTE: DIMENSIONAL DATA
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DATE	REVISION

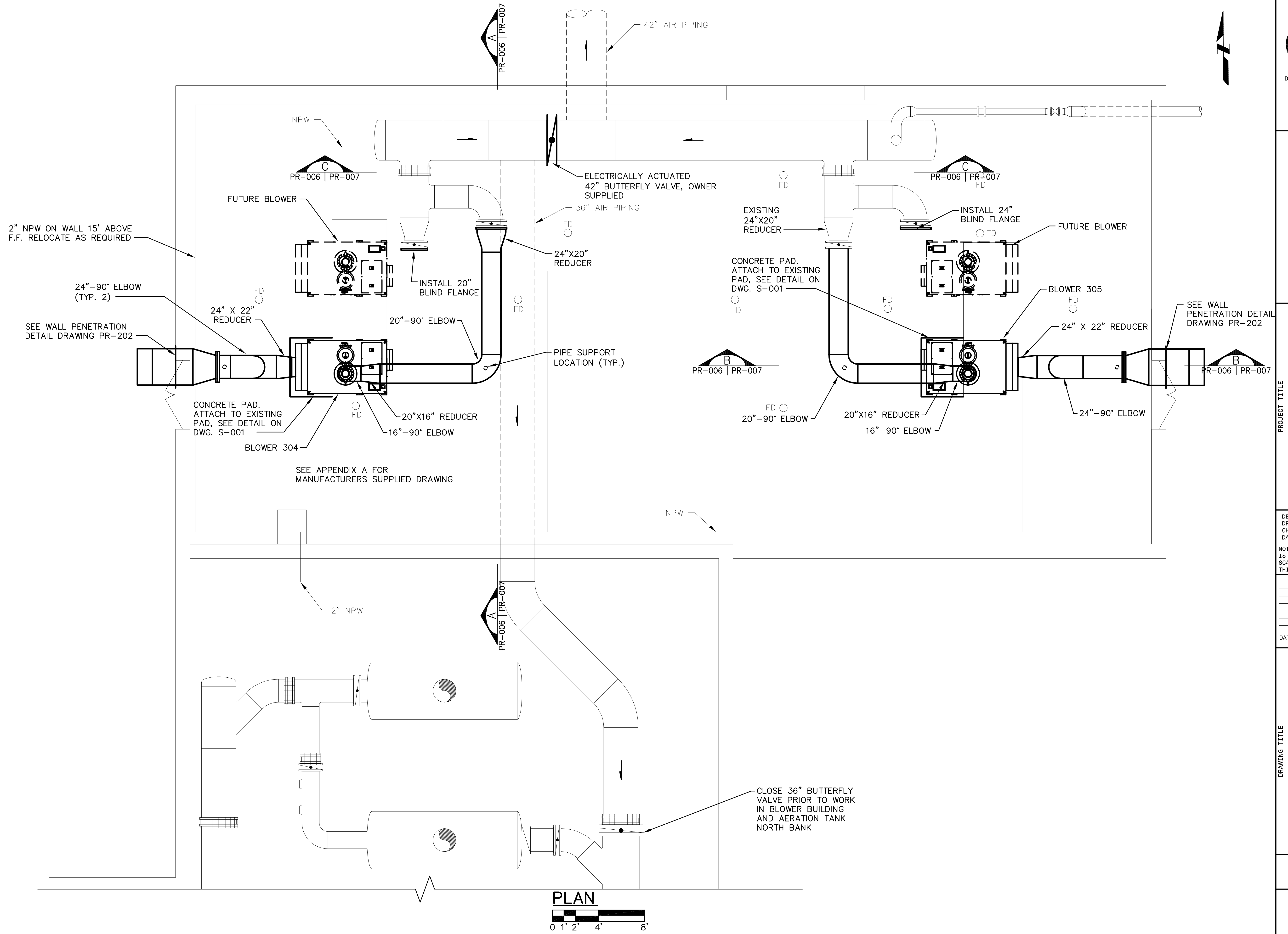
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BLOWER BUILDING PLAN

PROJECT No.
J0020690

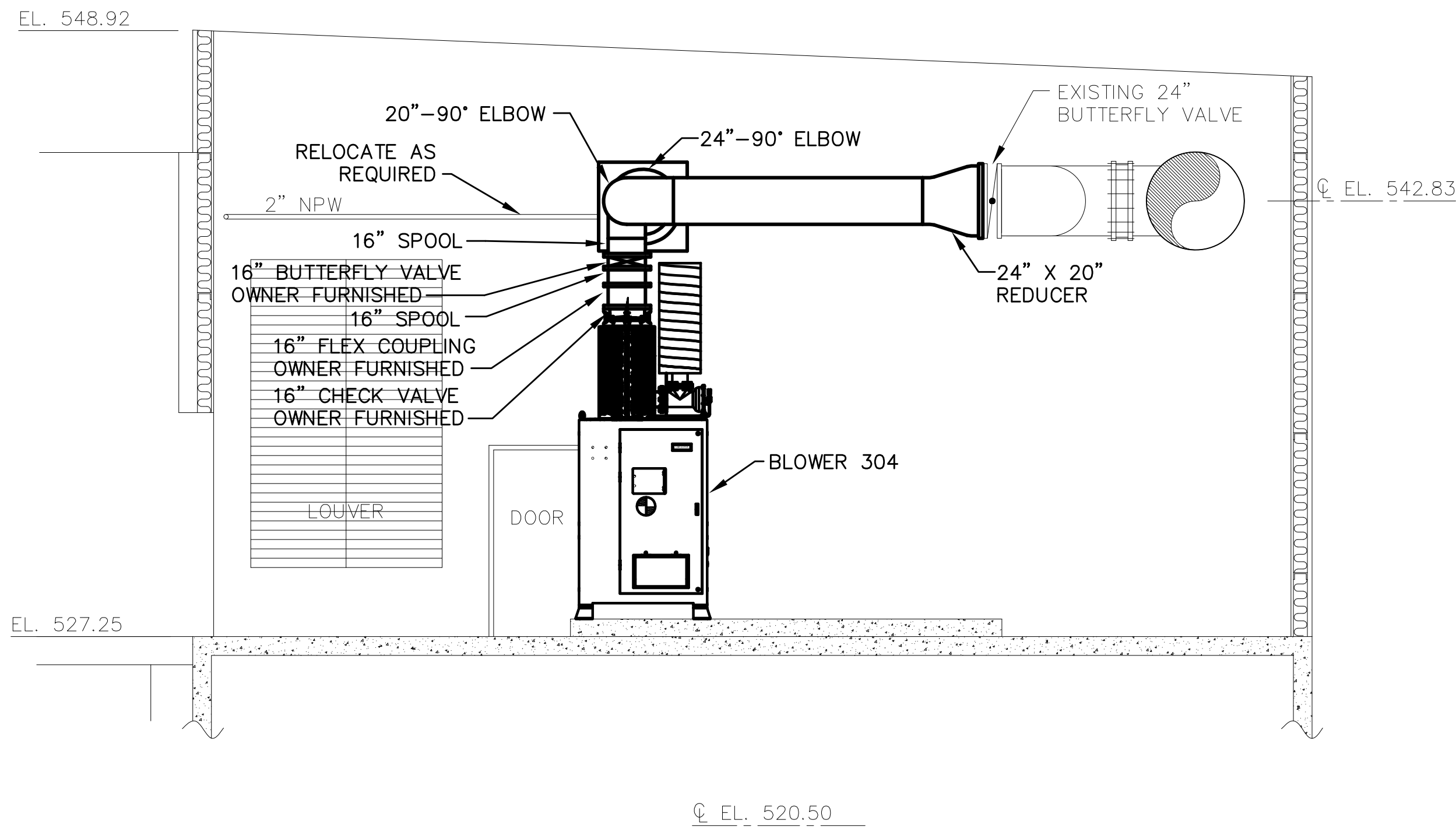
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DWG 13 OF 43 DWGS

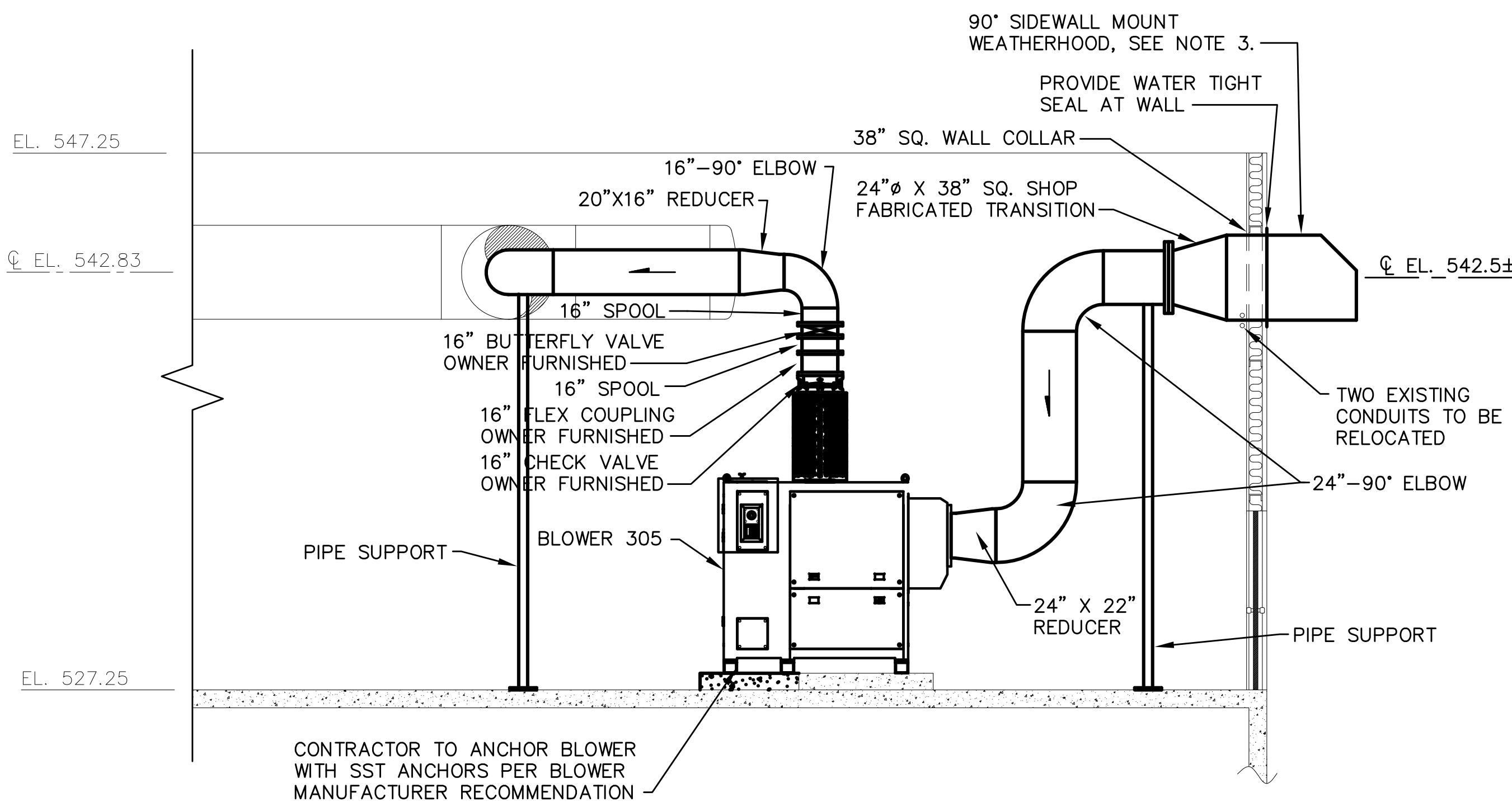
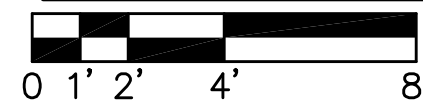
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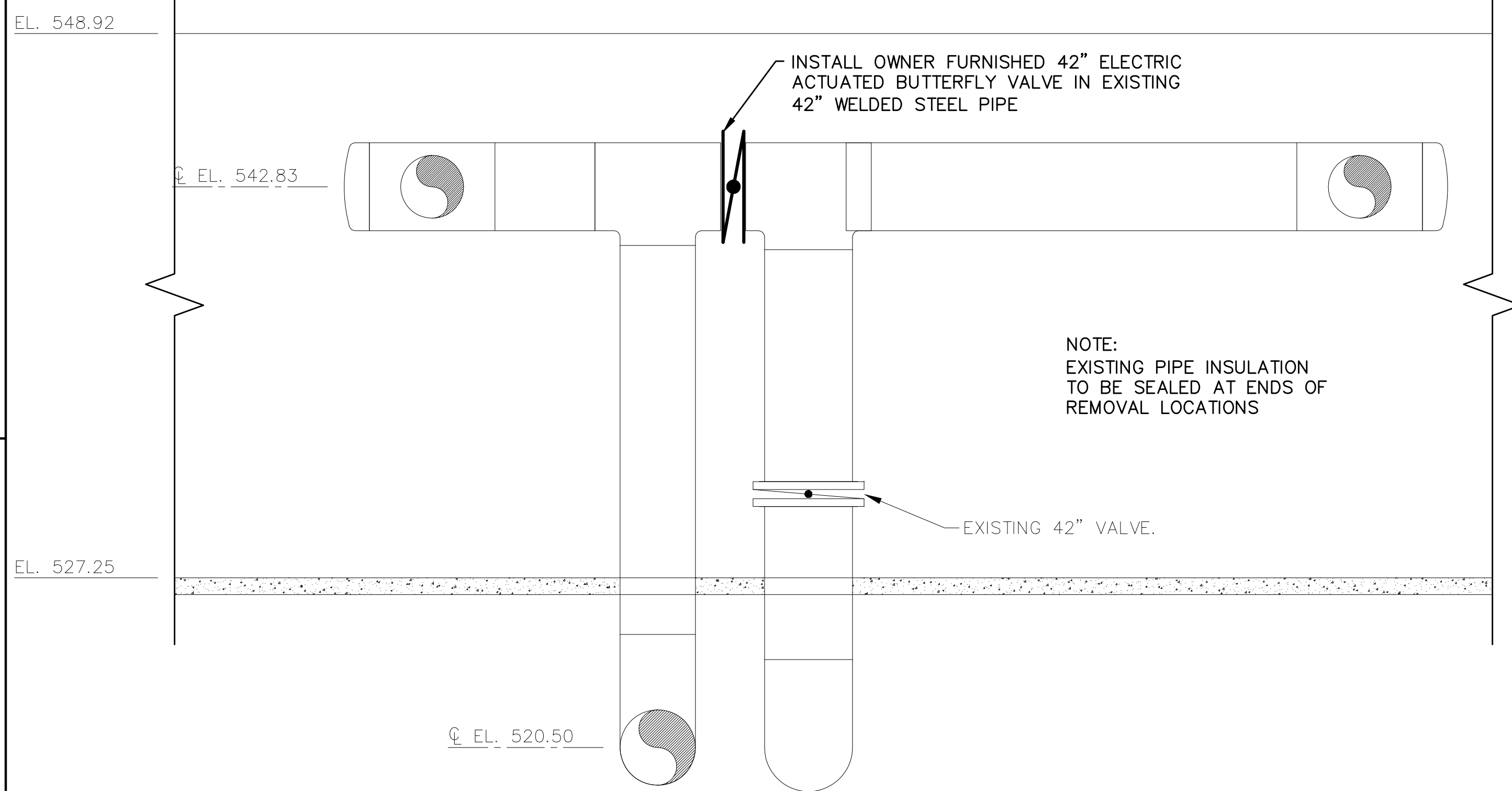
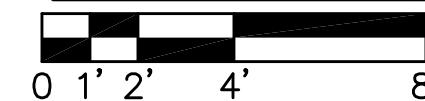
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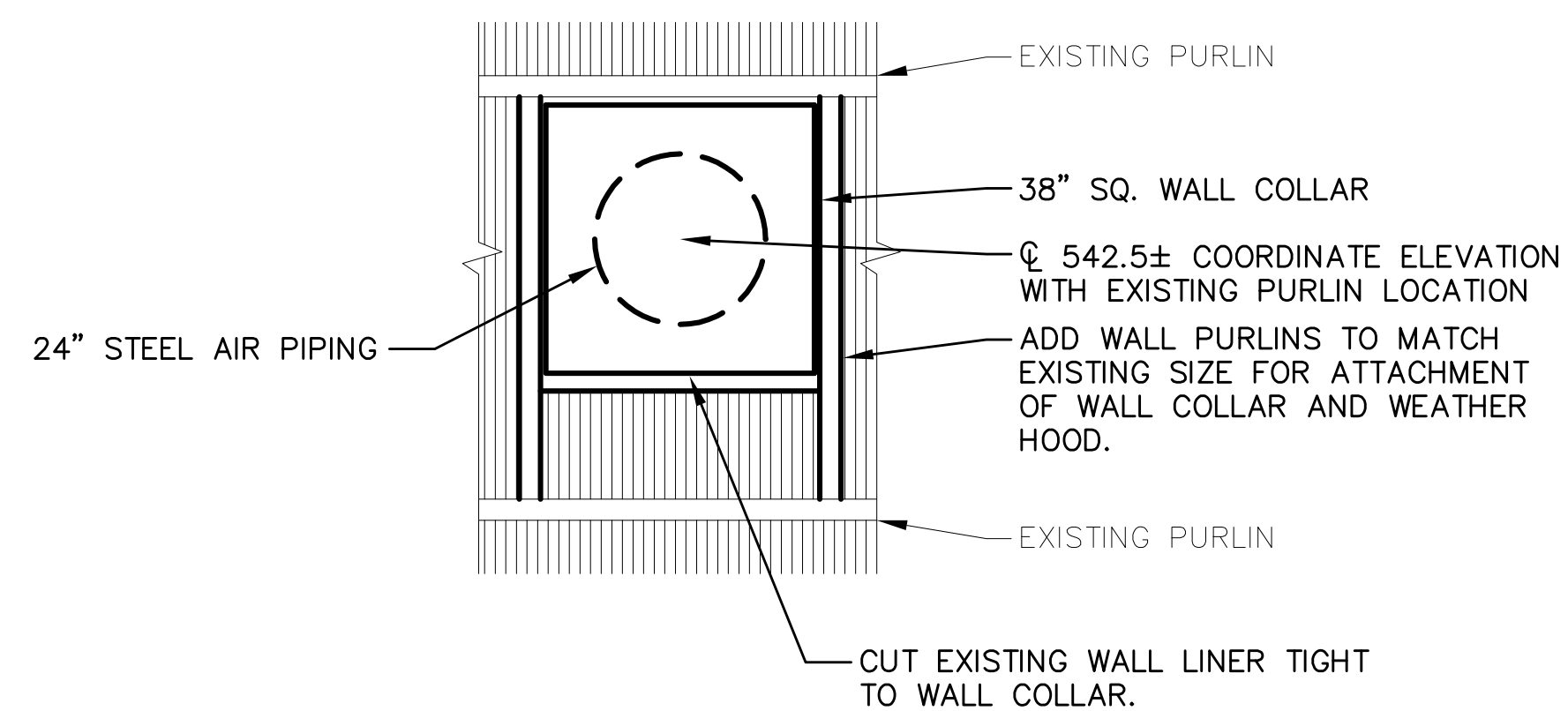
SECTION A-A



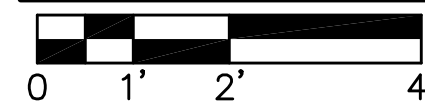
SECTION B-B



SECTION C-C



WALL PENETRATION DETAIL



NOTES:

1. ALL NEW AND EXISTING BLOWER PIPING BOTH INSULATED AND PLAIN TO BE PAINTED, INCLUDING ALL APPURTANCES.
2. EXISTING PIPE SUPPORTS MAY BE MODIFIED AND REUSED.
3. SIDEWALL OUTSIDE AIR INTAKE HOOD. PROVIDE GREENHECK SIZE 30, 90° WEATHERHOOD, 30" X 30" THROAT, 40" X 35" INLET WITH WALL COLLAR AND BIRD SCREEN. PROVIDE SHOP FABRICATED DUCT TRANSITION TO 24" BLOWER INTAKE PIPING.

P:\2022\2022_01\11 - Blower Diffuser Replacement - East - Blower ESP Construction\0220690 - Joliet East Side Blower ESP Construction\0220690 - Blower Building Sections.dwg 12/29/2011 2:38:57 PM, cad

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: : : :
DRAWN BY: : : :
CHECKED BY: : : :
DATE CHECKED: : - / -

NOTE: DIMENSIONAL DATA
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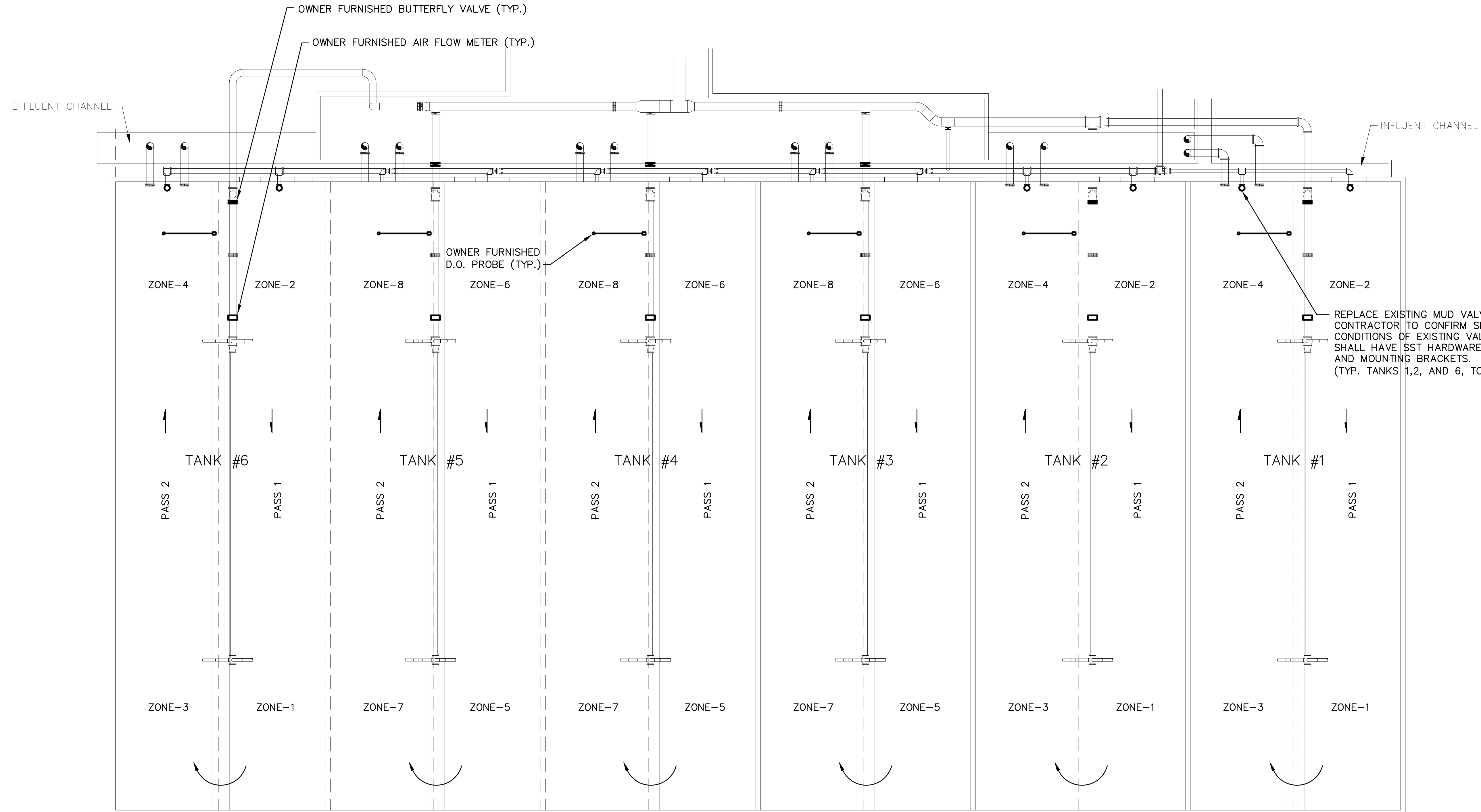
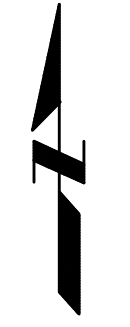
DATE REVISION

DRAWING TITLE
SOUTH AERATION TANKS

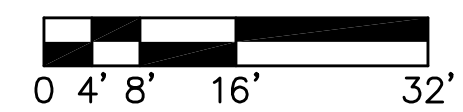
PROJECT No.
J0020690

DRAWING No.
PR-203

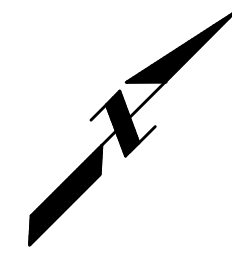
DWG 15 OF 43 DWGS



SOUTH AERATION TANKS PLAN



NOTE:
1. SEE MUD VALVE NOTES ON DWG. PR-204.



Clark Dietz
ENGINEERS

DESIGN FIRM REGISTRATION
No. 184-000450

125 WEST CHURCH STREET
CHAMPAIGN, IL 61820
PHONE : 217.373.8900
FAX : 217.373.8923

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: ...
DRAWN BY: ...
CHECKED BY: ...
DATE CHECKED: ...

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DATE	REVISION

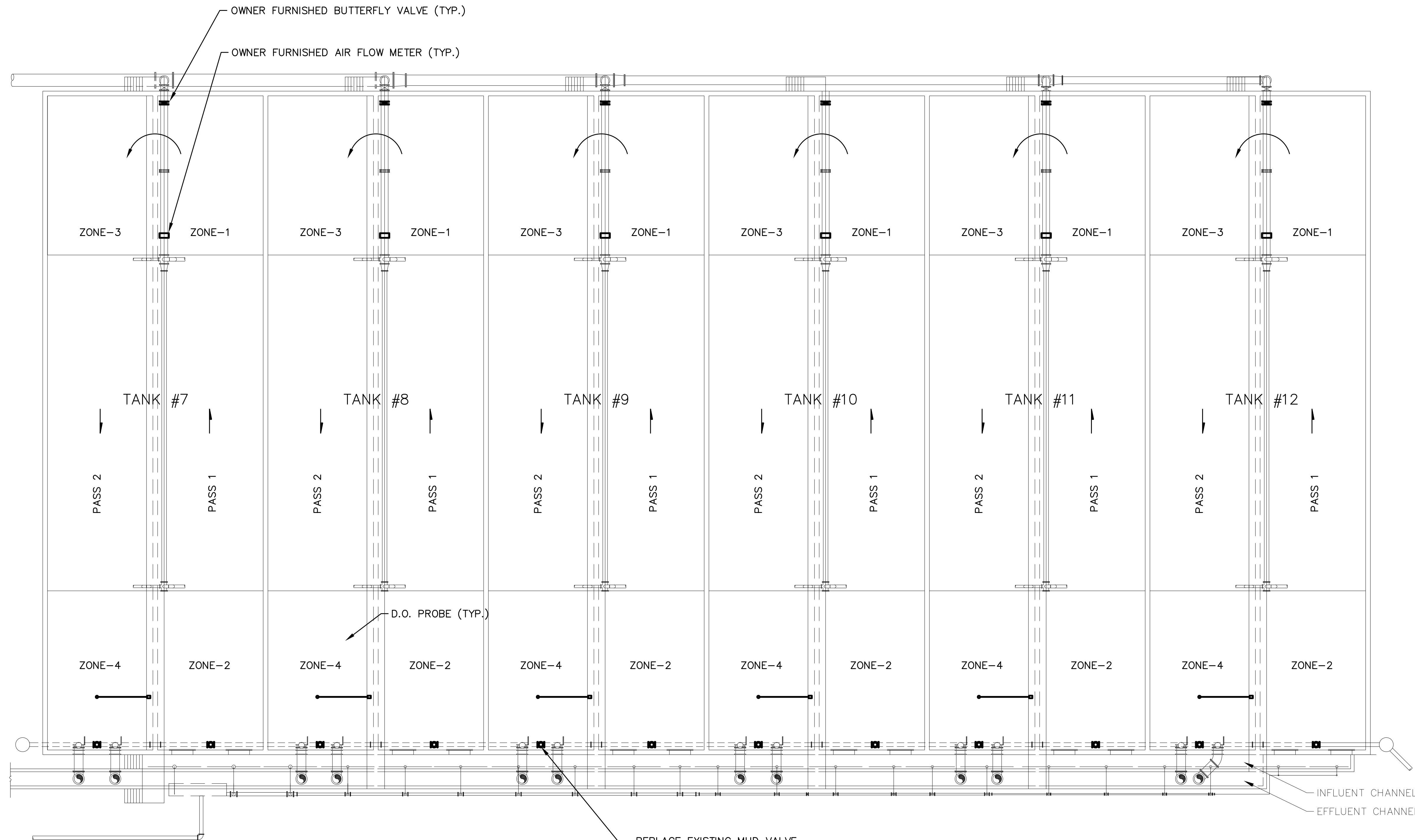
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NORTH AERATION TANKS

PROJECT No.
J0020690

DRAWING No.
PR-204

DWG 16 OF 43 DWGS

FOR CONSTRUCTION

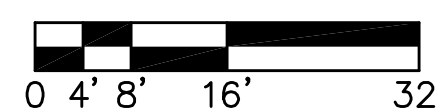


REPLACE EXISTING MUD VALVE.
CONTRACTOR TO CONFIRM SIZE OF EXISTING
VALVE. NEW VALVE SHALL HAVE SST
HARDWARE, GUIDES, STEM AND MOUNTING
BRACKETS (TYP. TANKS 7-12, 12 TOTAL)

MUD VALVE NOTES (TYPICAL ALL 12 TANKS)

- MUD VALVE SHALL PROVIDE POSITIVE SEAL IN BOTH SEATING AND UNSEATING HEAD CONDITIONS.
- MUD VALVE SHALL BE NON-RISING STEM STYLE.
- FRAME, PLUG, OPERATING STEM, YOKE AND SEATING SURFACE SHALL BE STAINLESS STEEL.
- PLUG SEAT SHALL BE NITRATE BUNA-N FOR POSITIVE SEAL.
PROVIDE VALVE OPERATING STEMS, FLOOR STANDS, STEM GUIDES AND HAND WHEEL OPERATORS.
INSTALL SUCH THAT HAND WHEEL OPERATOR IS ACCESSIBLE BY OPERATIONS PERSONNEL ABOVE
THE AERATION TANK IN A SAFE MANNER.
- STAINLESS STEEL SHALL BE 316.
- AS BUILT DRAWINGS SHOW MUD VALVES AS 12" ON TANKS 1,2, AND 7-12 AND 10" ON TANK 6.
CONTRACTOR SHALL FIELD VERIFY SIZE PRIOR TO SUBMITTING SHOP DRAWINGS.
- MUD VALVE SHALL BE MANUFACTURED BY TROY VALVE, MODEL A25600-NRS-316, OR EQUAL.

NORTH AERATION TANKS PLAN





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DESIGN FIRM REGISTRATION
No. 184-000450

125 WEST CHURCH STREET
CHAMPAIGN, IL 61820
PHONE : 217.373.8900
FAX : 217.373.8923

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: ...
DRAWN BY: ...
CHECKED BY: ...
DATE CHECKED: ...

NOTE: DIMENSIONAL DATA
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DATE REVISION

DRAWING TITLE
**SOUTH AERATION TANKS
PLAN AND SECTION**

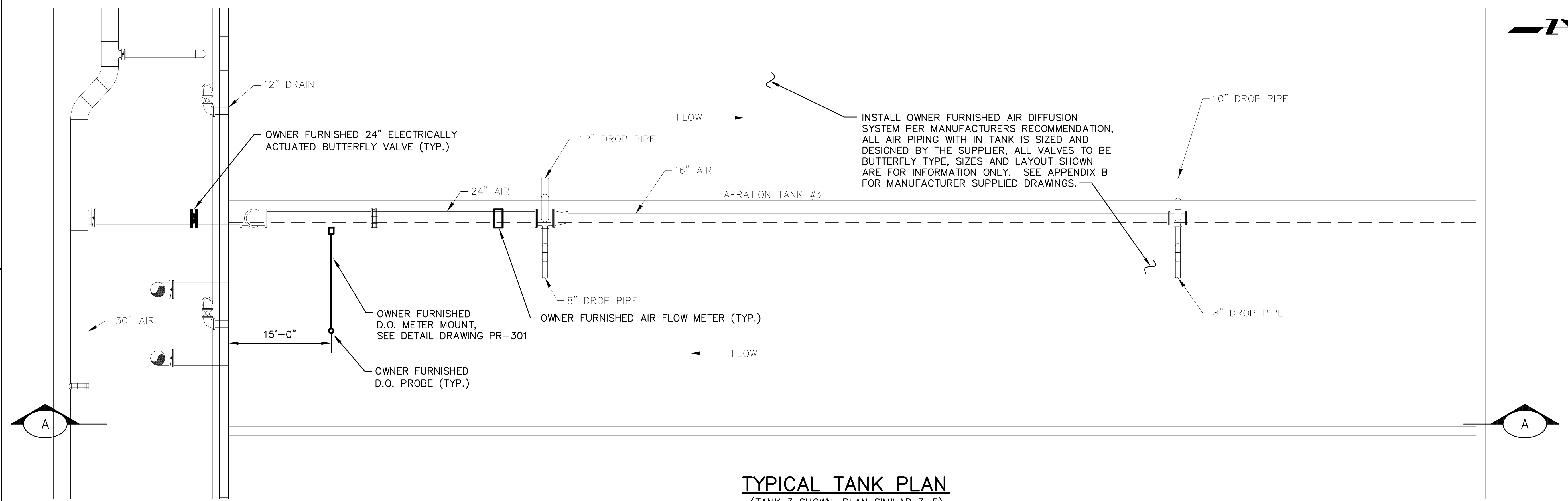
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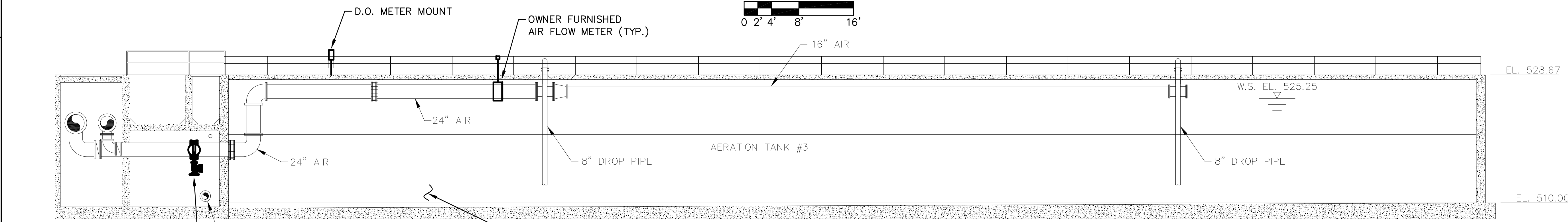
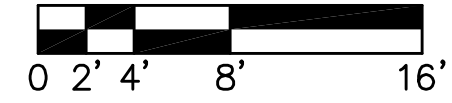
DWG 17 OF 43 DWGS

FOR CONSTRUCTION

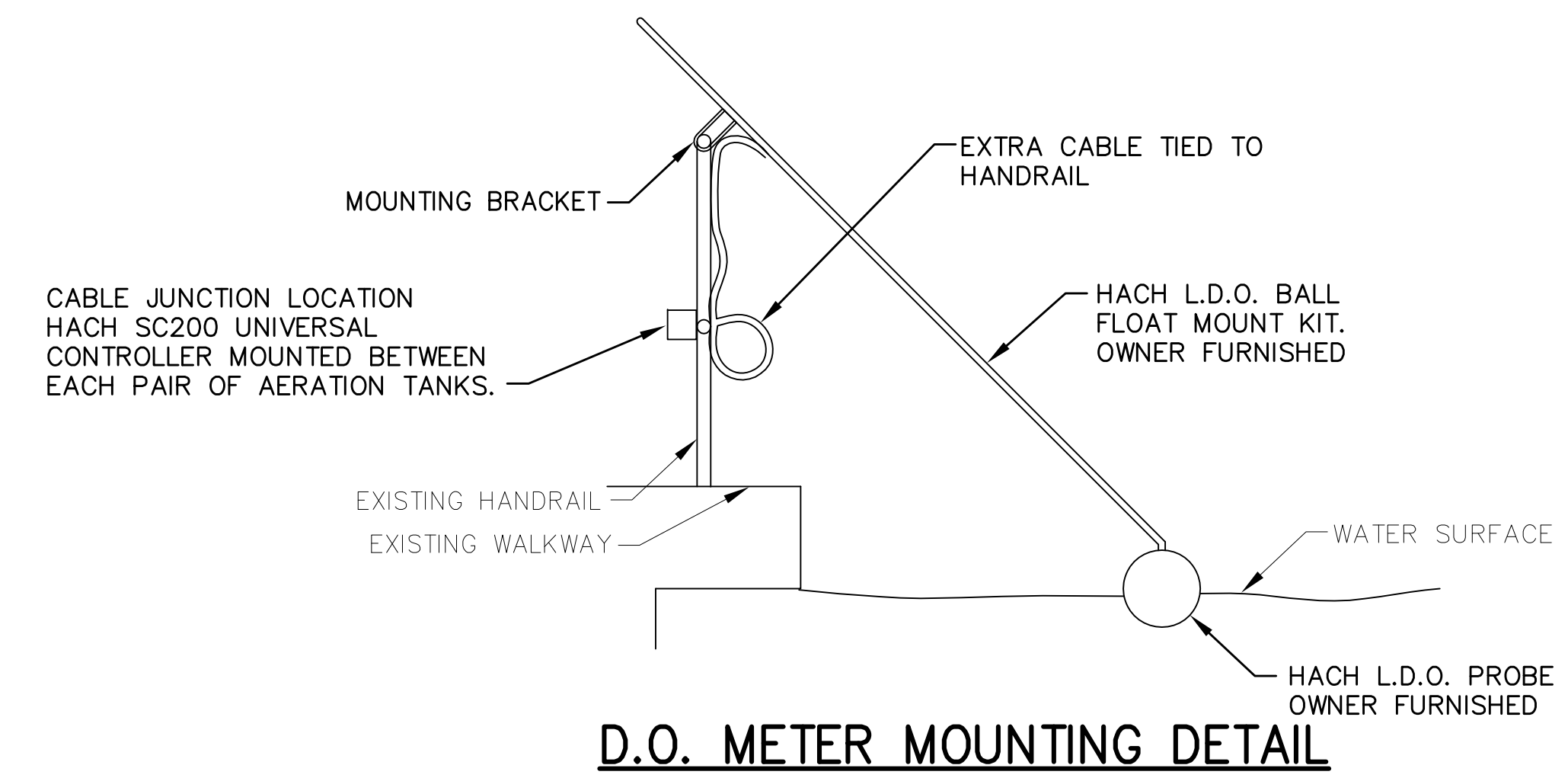
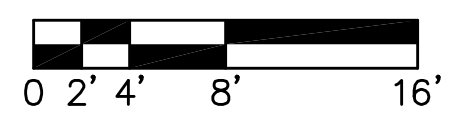
D
C
B
A



TYPICAL TANK PLAN
(TANK 3 SHOWN, PLAN SIMILAR 3-5)



SECTION A-A



D.O. METER MOUNTING DETAIL

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: ...
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CHECKED BY: ...
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DATE	REVISION

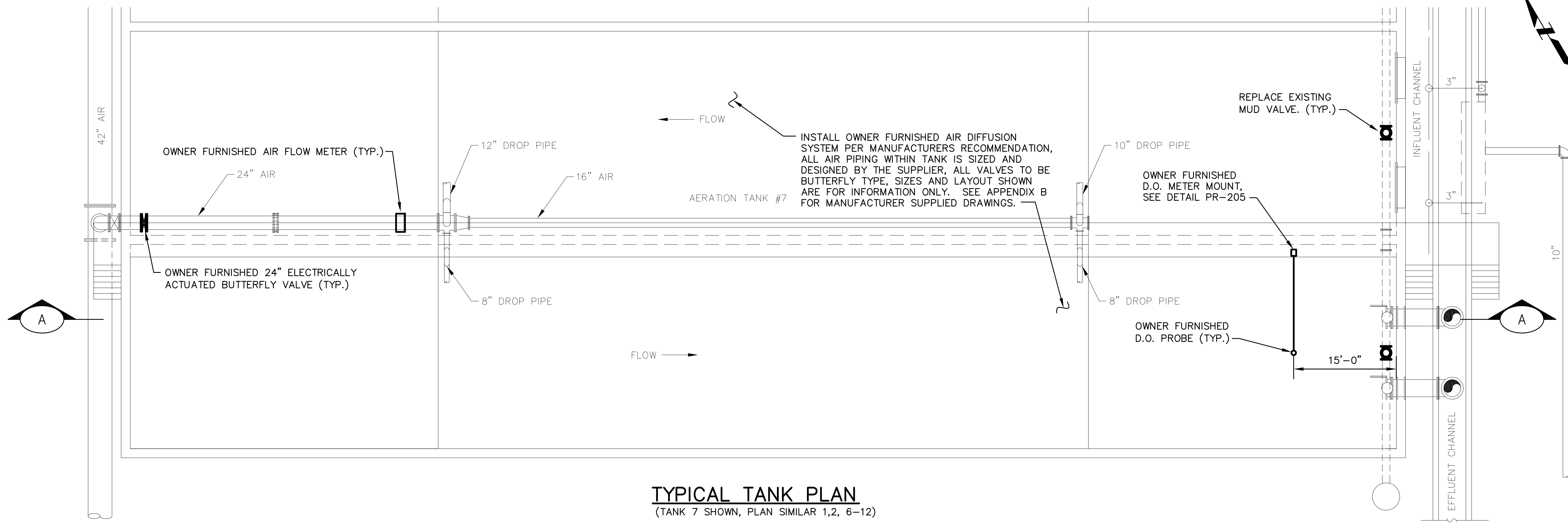
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**NORTH AERATION TANKS
PLAN AND SECTION**

PROJECT No.
J0020690

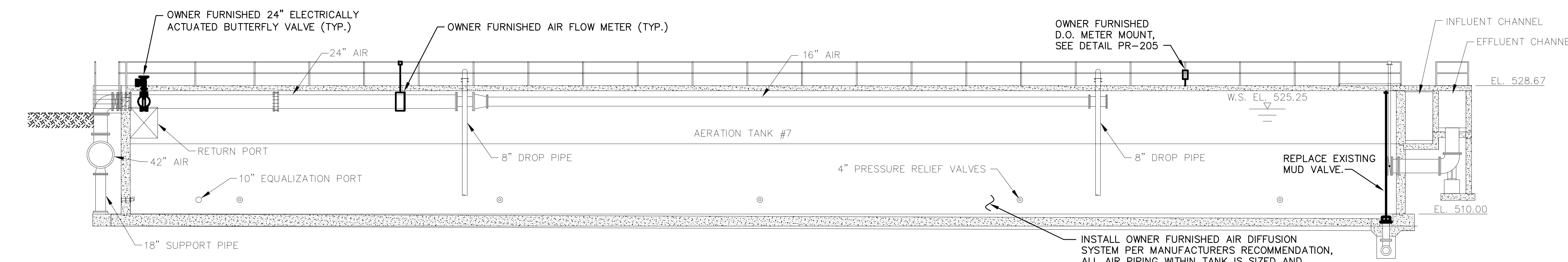
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DWG 18 OF 43 DWGS

FOR CONSTRUCTION

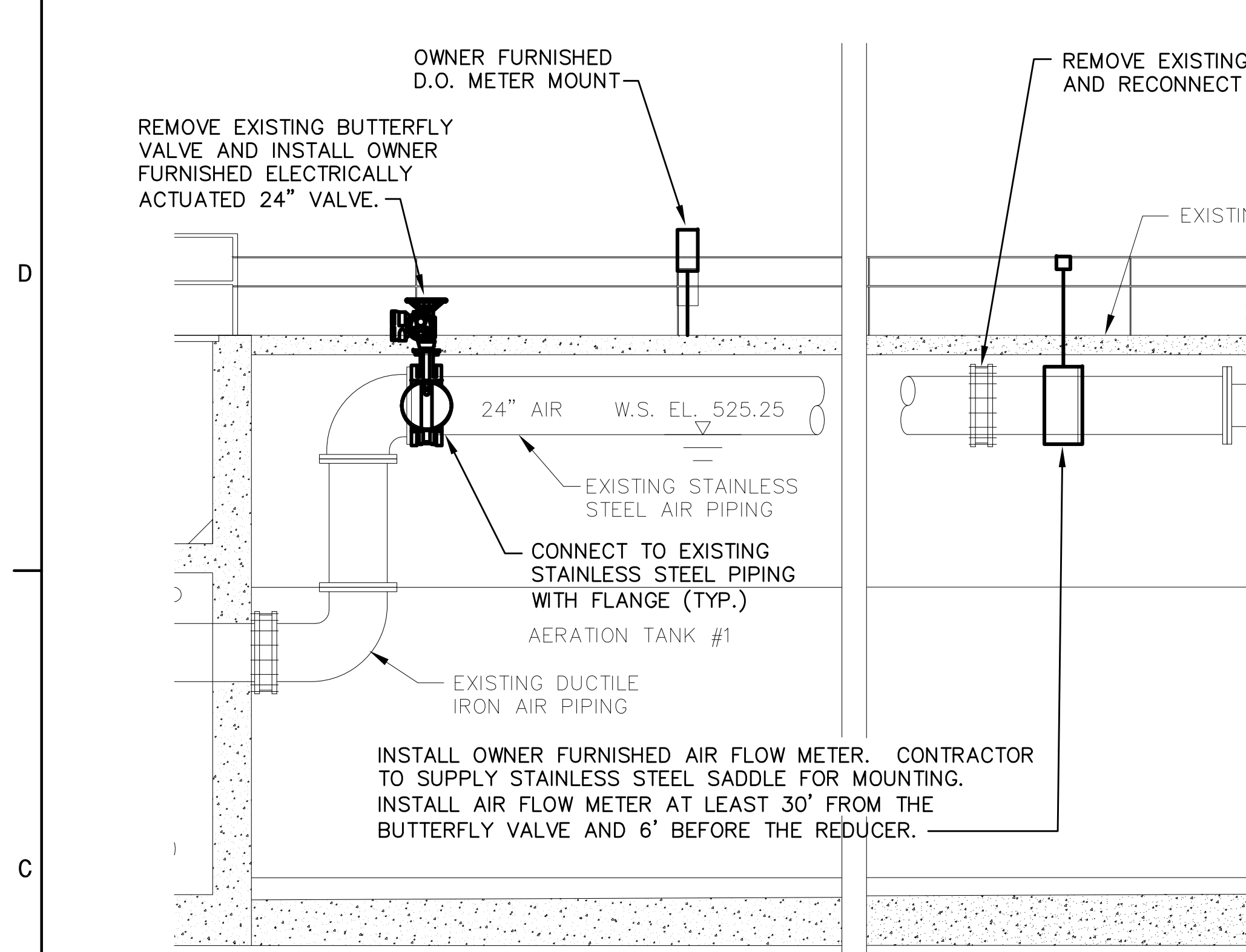


TYPICAL TANK PLAN
(TANK 7 SHOWN, PLAN SIMILAR 1,2, 6-12)
0 2' 4' 8' 16'

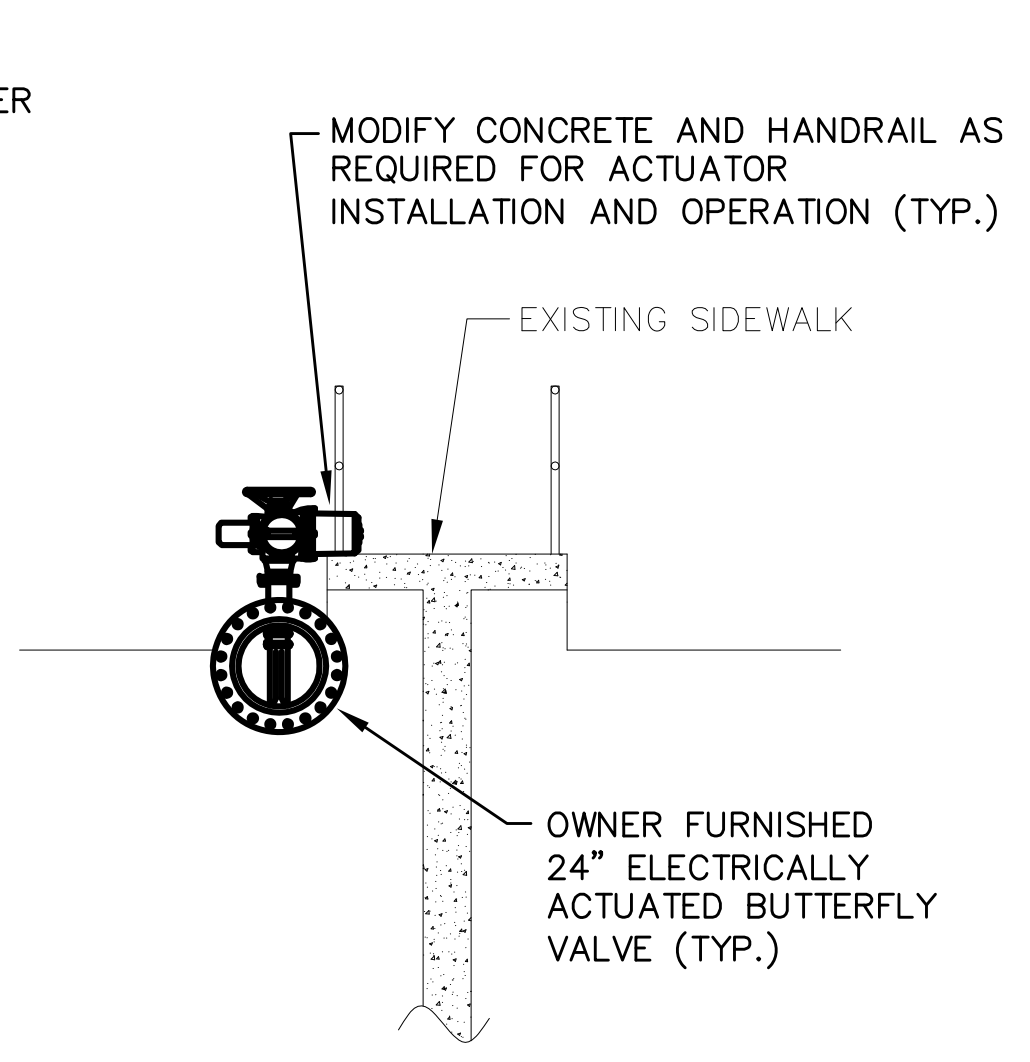
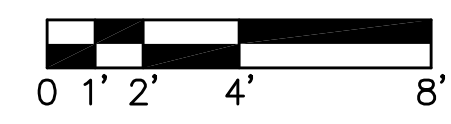


SECTION A-A
0 2' 4' 8' 16'

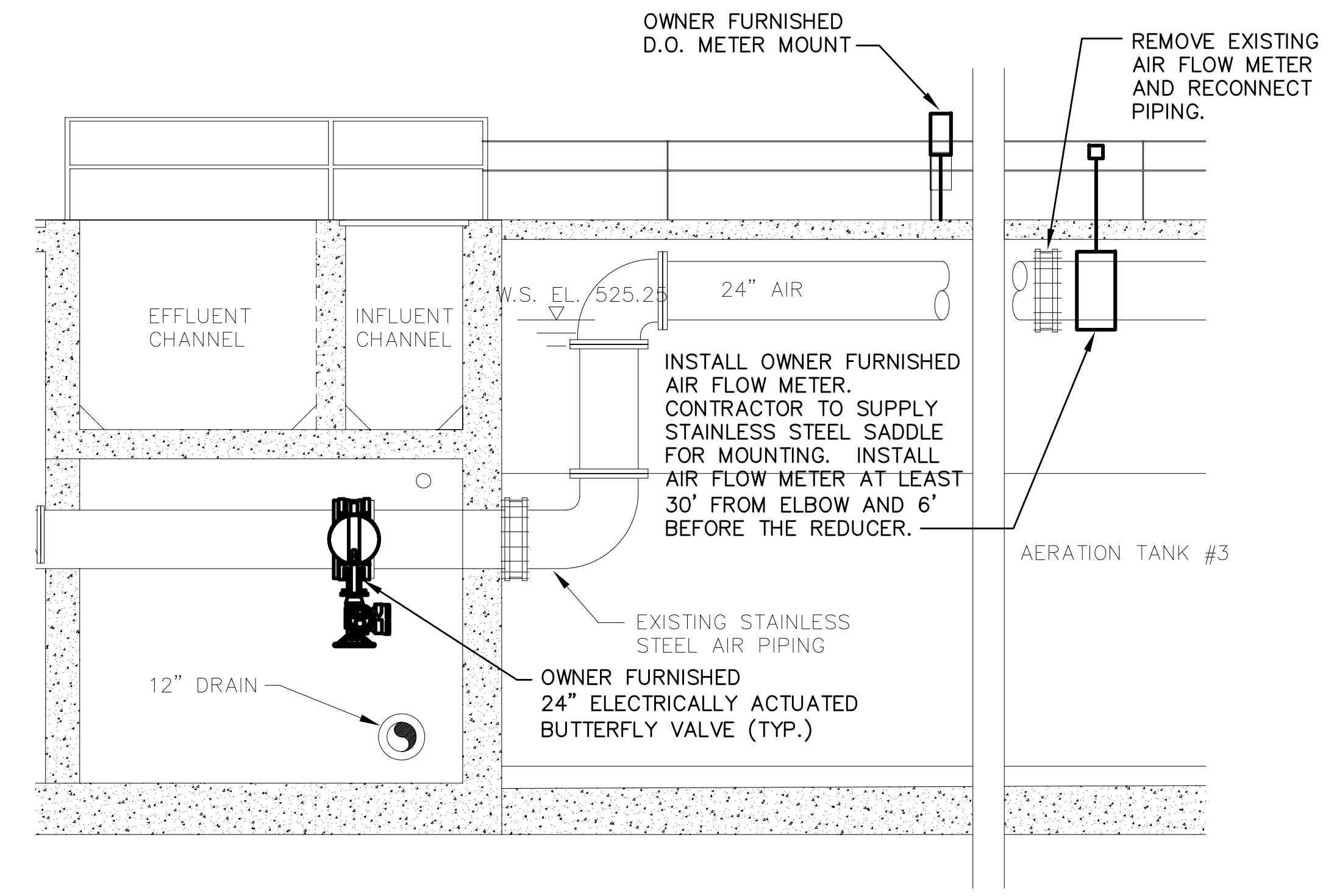
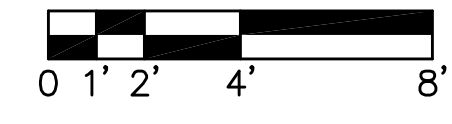
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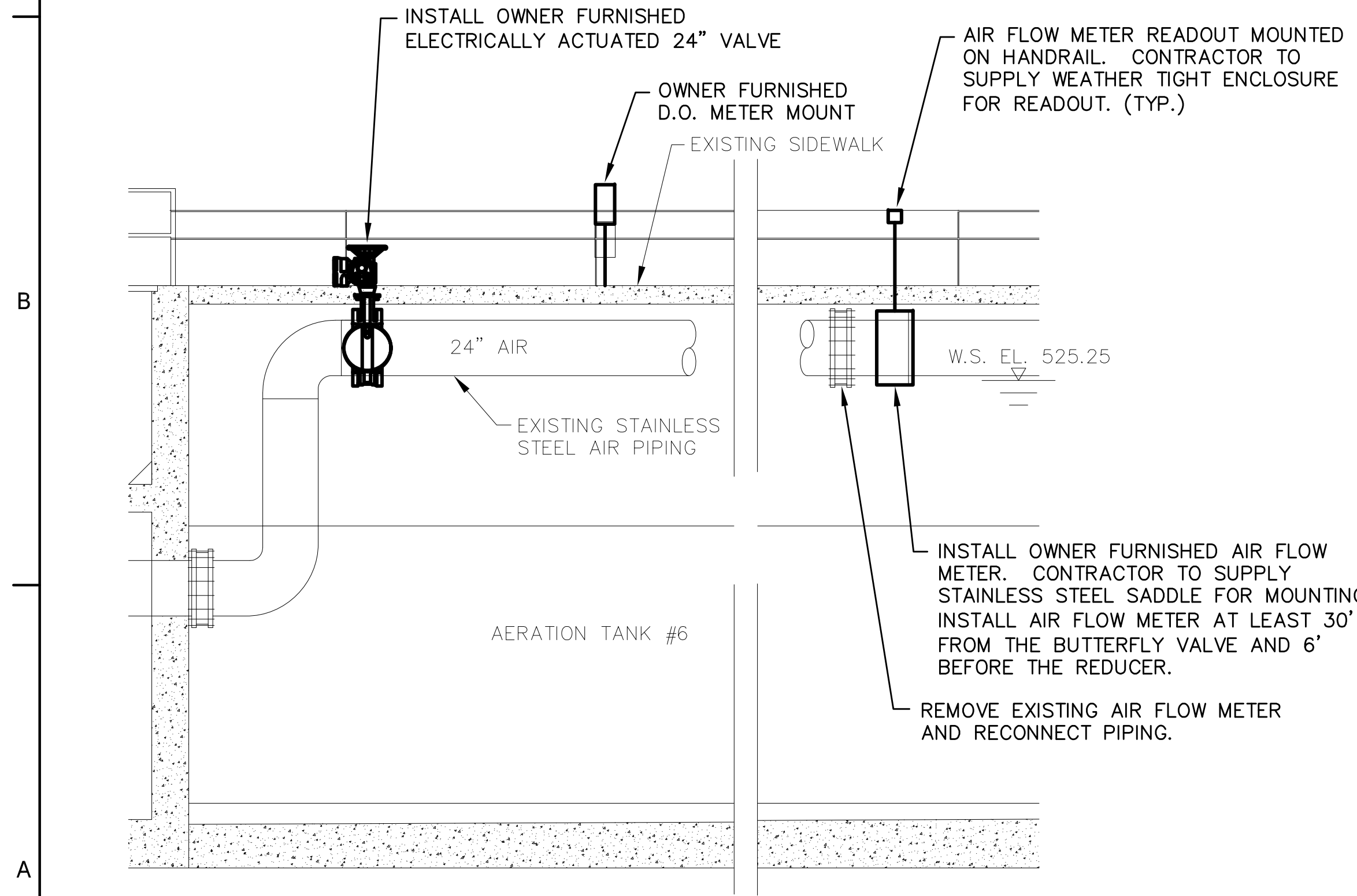
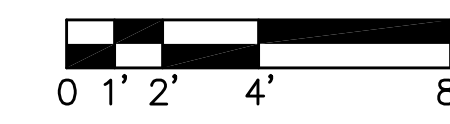
TANKS 1 & 2 SECTIONS



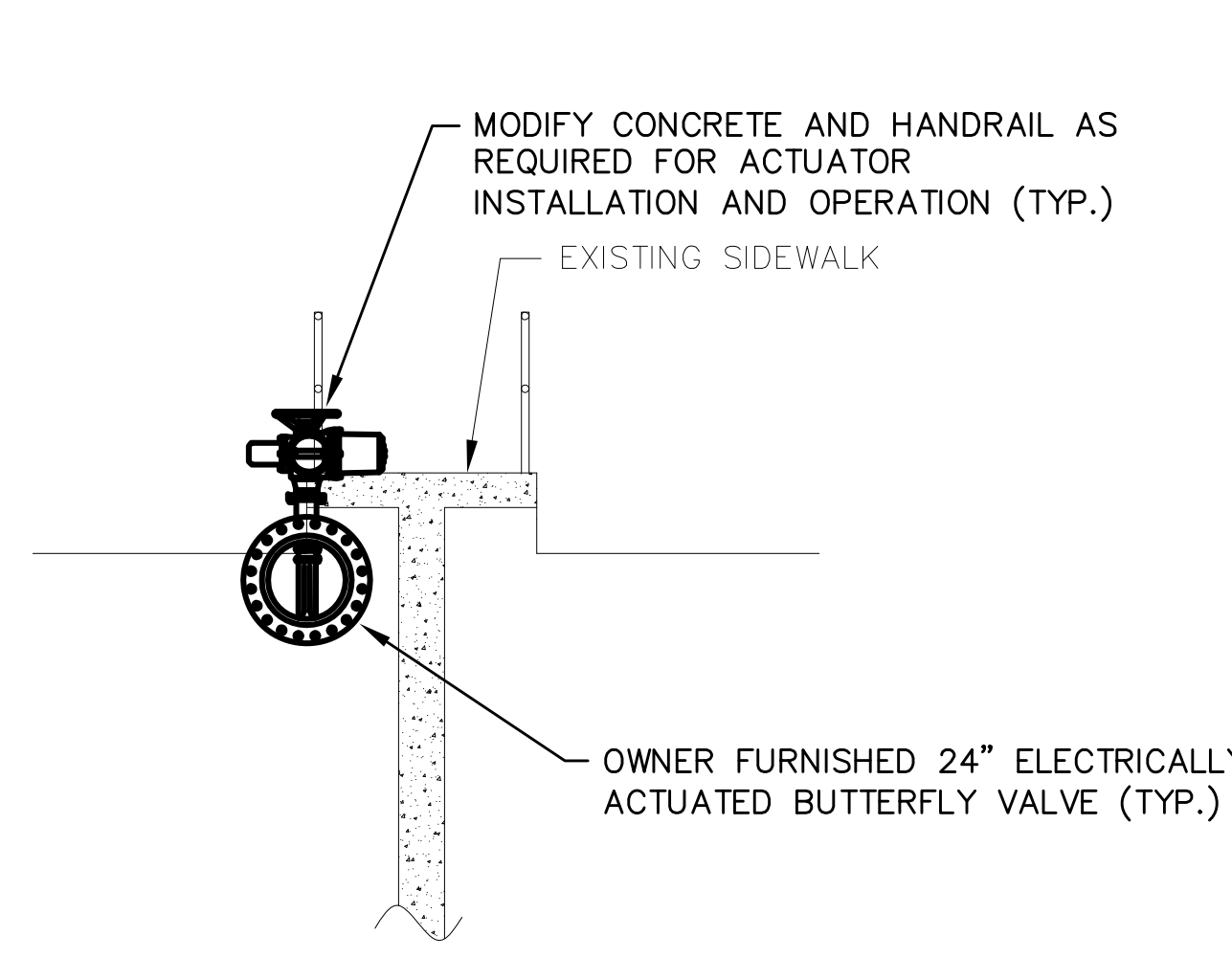
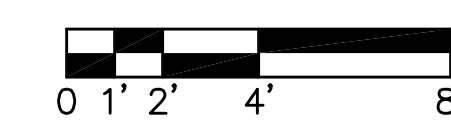
TANKS 1, 2 & 6



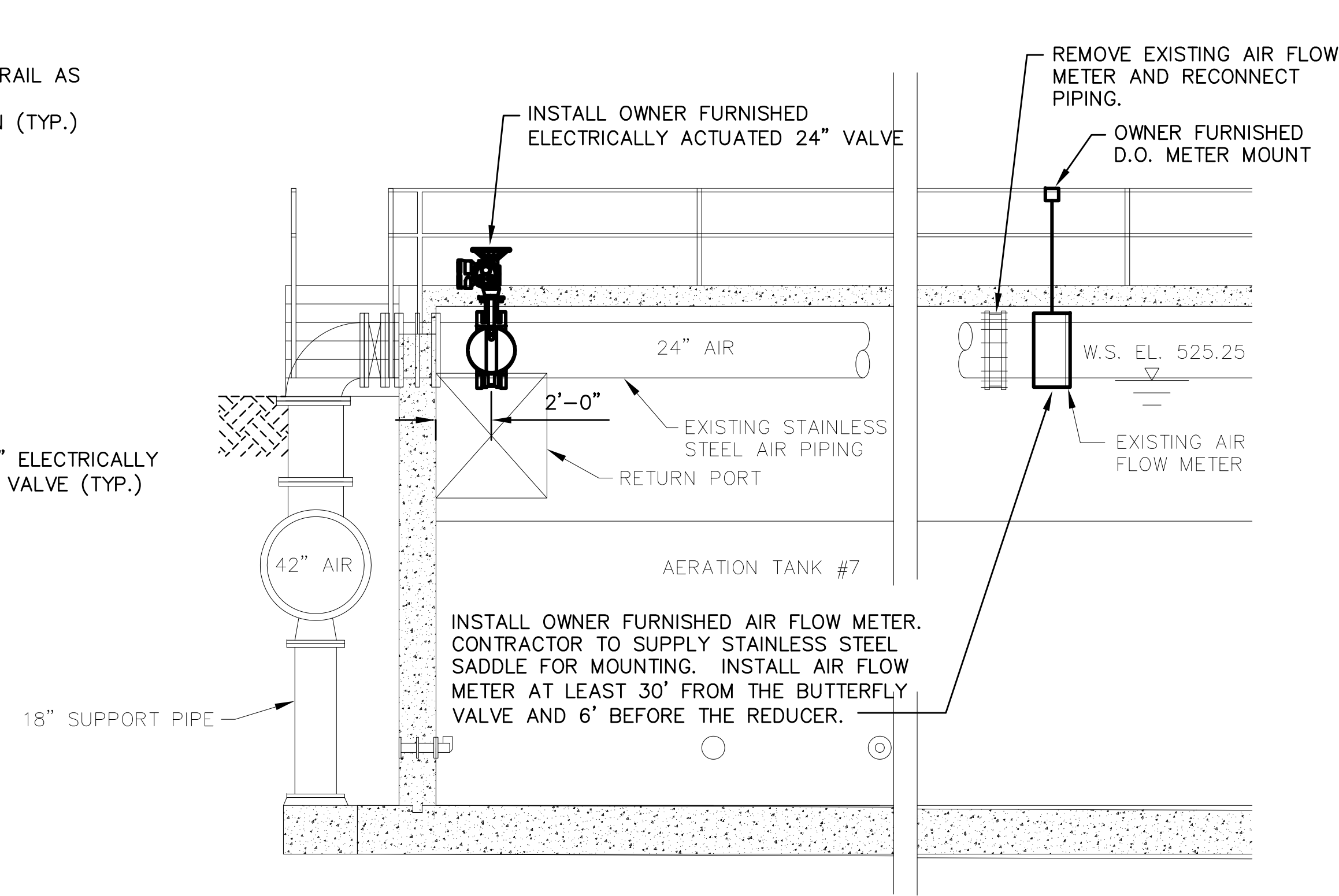
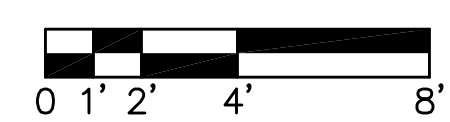
TANKS 3, 4 & 5 SECTIONS



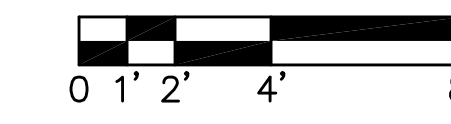
TANK 6 SECTION



TANKS 7-12



TANKS 7-12 SECTIONS



NOTE:
EXISTING AIR HEADER PIPING IN ALL TANKS TO BE MODIFIED AS REQUIRED FOR REMOVAL OF EXISTING VALVES AND AIR FLOW METERS AND INSTALLATION OF NEW VALVES AND AIR FLOW METERS.

P:\2020\2020_01\01 - Blower - Replacement - Equipment - Details - For Construction\0220690 - Joliet - East Side Blower For Construction\0220690 - Joliet - East Side Blower For Construction\12/29/2011 1:57:31 PM.dwg

GENERAL ELECTRICAL NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2011 NATIONAL ELECTRICAL CODE, THE MOST CURRENT EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL APPLICABLE LOCAL ORDINANCES.
- CONTRACTOR SHALL FURNISH ALL MATERIALS FOR A COMPLETE AND WORKABLE SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND FOR PROVIDING ALL SUPERVISION, LABOR AND TOOLS FOR THE PROJECT.
- ALL WORK IS TO CONFORM TO A TIME SCHEDULE TO BE ESTABLISHED BY THE OWNER.
- CONTRACTOR SHALL COORDINATE THE WORK SCHEDULE WITH THE OWNER. ALL OUTAGES SHALL BE COORDINATED WITH THE OWNER AT LEAST 72 HOURS PRIOR TO THE OUTAGE.
- ALL MATERIALS FURNISHED BY THE CONTRACTOR ARE TO BE NEW AND APPROVED BY THE OWNER AS TO MANUFACTURER AND TYPE.
- ALL CONDUITS SHALL BE PROVIDED WITH AN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR COLOR CODED AND SIZED IN ACCORDANCE WITH THE 2011 NATIONAL ELECTRICAL CODE.
- ALL LOCATIONS AND DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL ELECTRICAL EQUIPMENT LOCATIONS AND EQUIPMENT DIMENSIONS.
- POWER, INSTRUMENTATION, AND CONTROL WIRING SHALL EACH BE INSTALLED IN SEPARATE CONDUITS. SHIELDED CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME CONDUIT AS ANY UNSHIELDED CONDUCTORS.
- PROVIDE SEPARATE NEUTRALS FOR ALL CIRCUITS.
- PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES (WHITE WITH BLACK LETTERS) FOR THE FOLLOWING:
 - DISCONNECT SWITCHES
 - CONTROL PANEL - AS NOTED FOR EXTERIOR AND INTERIOR
 - VARIABLE FREQUENCY DRIVES
 - PANELBOARDS
 - INSTRUMENTATION
- ALL CONTROL WIRING IN CONTROL PANELS SHALL TERMINATE AT TERMINAL BLOCKS. ALL TERMINAL BLOCKS AND WIRES SHALL BE LABELED TO MATCH SCHEMATIC DIAGRAMS.
- ALL CONTROL WIRING COUNTS (INCLUDING CONTROL, ANALOG, AND DATA) SHOWN ON THE DRAWINGS DO NOT INCLUDE SPARE WIRING. CONTRACTOR SHALL INCLUDE THE FOLLOWING MINIMUM SPARE WIRING IN ALL CONTROL, ANALOG, AND DATA CONDUITS:
 - CONTROL WIRING - 20% SPARE, MINIMUM 4 SPARE WIRES.
 - ANALOG WIRING - 20% SPARE, MINIMUM 2 SPARE WIRES.
 - DATA WIRING - 20% SPARE, MINIMUM 2 SPARE WIRES.
- ALL CONDUIT INSTALLED OUTDOORS ABOVE-GROUND SHALL BE PVC-COATED RIGID GALVANIZED STEEL, UNLESS OTHERWISE NOTED. ALL CONDUITS INSTALLED BELOW GROUND SHALL BE SCHEDULE 40 PVC, ENCASED IN 2" MINIMUM CONCRETE. ALL OTHER CONDUIT SHALL BE RIGID GALVANIZED STEEL, UNLESS OTHERWISE NOTED. MINIMUM SIZE CONDUIT SHALL BE 3/4".
- LIQUID-TIGHT FLEXIBLE METAL CONDUIT (MAXIMUM OF 24") SHALL BE USED IN CONNECTING MOTORS, SENSING ELEMENTS, INSTRUMENTS, OR ANY OTHER DEVICE WHICH TRANSMIT VIBRATION OR NOISE, REQUIRE MOVEMENT FOR ADJUSTMENT, OR REQUIRE REMOVAL FOR MAINTENANCE. MINIMUM SIZE OF FLEXIBLE CONDUIT SEAL SHALL BE 1/2".
- CONDUIT, PULL BOXES, CABINETS, ETC. SHALL FORM A CONTINUOUS CONDUCTIVE GROUND SYSTEM. AT TRANSITIONS AND BREAKS, CONDUIT SHALL BE BONDED.
- CONDUIT SHALL NOT BE FASTENED TO OTHER EQUIPMENT OR INSTALLED SO AS TO PREVENT THE READY REMOVAL OF OTHER EQUIPMENT FOR REPAIRS.
- INSTALLATION OF CONDUITS MUST NOT INTERFERE WITH ACCESS WAYS OR LADDERS.
- ONLY PULL BOXES SPECIFICALLY REQUIRED BY THE ENGINEER IN LOCATIONS SHOWN ARE IDENTIFIED. CONTRACTOR SHALL PROVIDE ALL PULLBOXES REQUIRED TO MEET APPLICABLE CODES.
- THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE SURVEY AND ARE NOT NECESSARILY COMPLETE OR CORRECT. THE EXACT LOCATION AND PROTECTION OF UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION THE CONTRACTOR SHALL USE DILIGENCE TO PROTECT ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF SAME IN ACCORDANCE WITH THE DIRECTIONS OF THE ENGINEER AND FOR ANY RESULTING CONTINGENT DAMAGES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY UTILITY WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER.
- BEFORE WORKING WITH OR AROUND EXISTING UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE CONTACTED BY THE CONTRACTOR.

ELECTRICAL ABBREVIATIONS

A	AMPERE(S), AUTO
AFF	ABOVE FINISHED FLOOR
AL., ALUM.	ALUMINUM
AWG	AMERICAN WIRE GAUGE
C.B.	CIRCUIT BREAKER
CIR. BRKR.	CIRCUIT BREAKER
CKT. NO.	CIRCUIT NUMBER
CSDS	COMBINATION STARTER / DISCONNECT SWITCH
CT	CONTROL TRANSFORMER, CURRENT TRANSFORMER
D	DEPTH
DEM	DEMAND
DIA	DIAMETER
EA.	EACH
ETM	ELAPSED TIME METER
FLA	FULL LOAD AMPS
FVNR	FULL VOLTAGE NON REVERSING
G	GREEN, GROUND
GFI	GROUND FAULT INTERRUPTER
GND, GRD	GROUND
H	HEIGHT, HAND, HIGH
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HV	HIGH VOLTAGE
I/O	INPUT/OUTPUT
INFL	INFLUENT
ITC	INSTRUMENTATION TERMINATION CABINET
KA	KILO AMPERES
KV	KILO VOLT
KVA	KILO VOLT AMPERES
L	LOW
LA	LIGHTNING ARRESTOR
LCP	LOCAL CONTROL PANEL
LG	LINE TO GROUND
LL	LINE TO LINE
LTS	LIGHTS
L.O.	LOCK OUT
LP	LIGHTING PANEL
MAX	MAXIMUM
MIN	MINIMUM
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MD	MOTORIZED DAMPER
MFR	MANUFACTURER
MMS	MANUAL MOTOR STARTER
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N.E.C.	NATIONAL ELECTRICAL CODE
O	OFF
OC	OVER CURRENT
OL'S	OVERLOAD RELAYS
P	POLE(S), PUMP
PB	PUSHBUTTON
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PRI	PRIMARY
PVC	POLY-VINYL CHLORIDE
QTY	QUANTITY
R	RED
RECEP	RECEPTACLE
REPL	REPLACE
RGS	RIGID GALVANIZED STEEL
SEC.	SECONDARY
SEL. SW.	SELECTOR SWITCH
SPEC.	SPECIFICATION
SS	STAINLESS STEEL
T.D.O.	TIME DELAY OPENING
TSP	TWISTED SHIELDED PAIR
TYP.	TYPICAL
V	VOLT
VA	VOLT AMPERES
VT	VARIABLE TORQUE
VFD	VARIABLE FREQUENCY DRIVE
W	WHITE, WIDTH
W/	WITH
XFMR, XF	TRANSFORMER

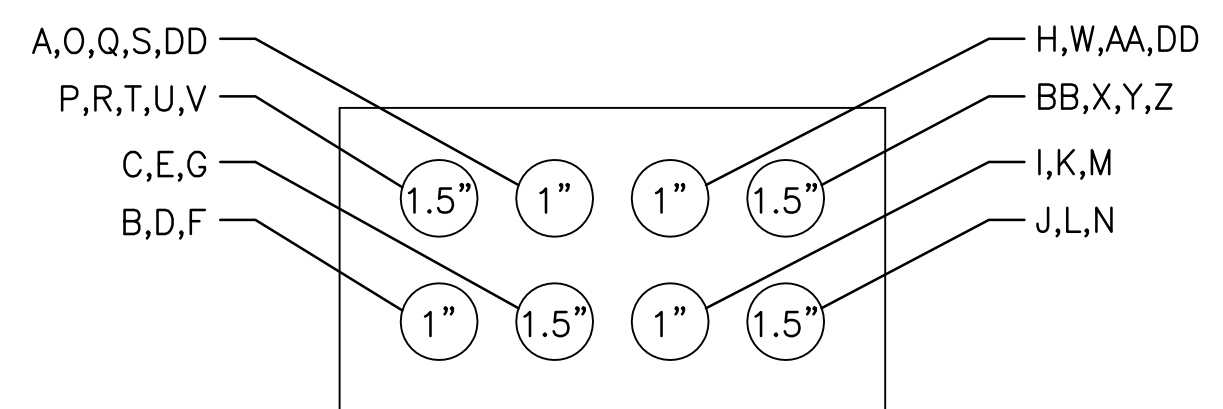
SYMBOL LIST

⊖	MOTOR	⊖	DUPLEX RECEPTACLE
⊖	DISCONNECT SWITCH	GFI	GROUND FAULT INTERRUPTER
⊖	FUSIBLE DISCONNECT SWITCH	AC	ABOVE COUNTER
⊖	COMBINATION STARTER/DISCONNECT SWITCH	WP	WEATHERPROOF
⊖	MANUAL MOTOR STARTER/MOTOR SWITCH	⊖	SINGLE RECEPTACLE
⊖	SINGLE POLE SWITCH	⊖	VALVE OPERATOR
	WP = WEATHERPROOF	⊖	PUSHBUTTON CONTROL STATION

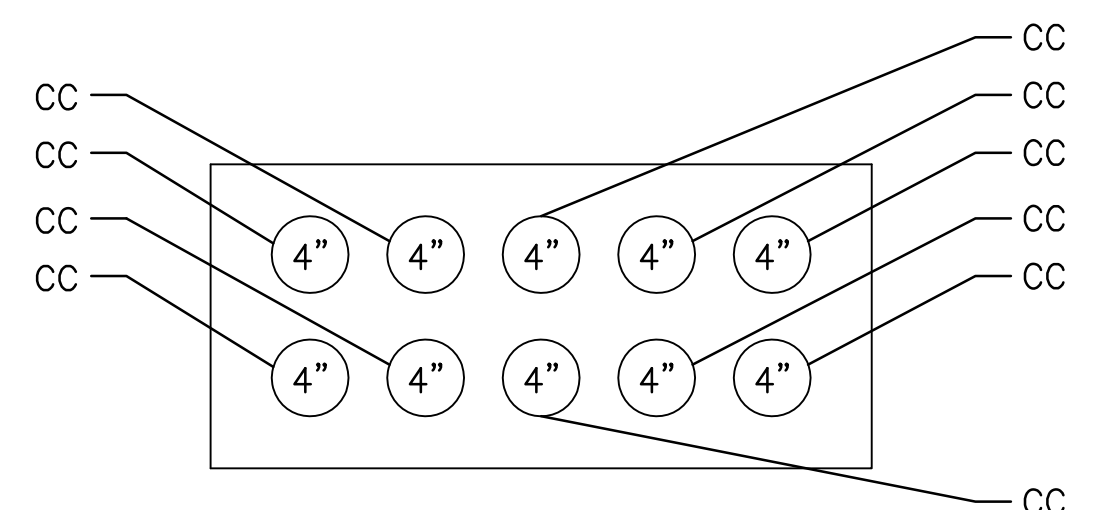
DUCTBANK CABLE SCHEDULE

MARK	FROM	TO	WIRE	NOTES
A	FLOW CONTROL VALVES FCV-07, FCV-08, & FCV-09	POWER PANEL PP-1	3#10, 1#10G (POWER)	
B	FLOW CONTROL VALVE FCV-07	MAIN CONTROL PANEL	2#12, 1#12G (CONTROL)	
C	FLOW CONTROL VALVE FCV-07	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
D	FLOW CONTROL VALVE FCV-08	MAIN CONTROL PANEL	2#12, 1#12G (CONTROL)	
E	FLOW CONTROL VALVE FCV-08	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
F	FLOW CONTROL VALVE FCV-09	MAIN CONTROL PANEL	2#12, 1#12G (CONTROL)	
G	FLOW CONTROL VALVE FCV-09	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
H	FLOW CONTROL VALVES FCV-10, FCV-11, & FCV-12	POWER PANEL PP-1	3#10, 1#10G (POWER)	
I	FLOW CONTROL VALVE FCV-10	MAIN CONTROL PANEL	2#12, 1#12G (CONTROL)	
J	FLOW CONTROL VALVE FCV-10	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
K	FLOW CONTROL VALVE FCV-11	MAIN CONTROL PANEL	2#12, 1#12G (CONTROL)	
L	FLOW CONTROL VALVE FCV-11	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
M	FLOW CONTROL VALVE FCV-12	MAIN CONTROL PANEL	2#12, 1#12G (CONTROL)	
N	FLOW CONTROL VALVE FCV-12	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
O	DO CONTROLLER DIT-D	PANEL LP-1	2#10, 1#10G (POWER)	
P	DO CONTROLLER DIT-D	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
Q	DO CONTROLLER DIT-E	PANEL LP-1	2#10, 1#10G (POWER)	
R	DO CONTROLLER DIT-E	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
S	FLOW METERS FM-07, FM-08, FM-09	PANEL LP-1	2#10, 1#10G (POWER)	
T	FLOW METER FM-07	MAIN CONTROL PANEL	1-2#18, TSP (ANALOG)	
U	FLOW METER FM-08	MAIN CONTROL PANEL	1-2#18, TSP (ANALOG)	
V	FLOW METER FM-09	MAIN CONTROL PANEL	1-2#18, TSP (ANALOG)	
W	FLOW METERS FM-10, FM-11, FM-12	PANEL LP-1	2#10, 1#10G (POWER)	
X	FLOW METER FM-10	MAIN CONTROL PANEL	1-2#18, TSP (ANALOG)	
Y	FLOW METER FM-11	MAIN CONTROL PANEL	1-2#18, TSP (ANALOG)	
Z	FLOW METER FM-12	MAIN CONTROL PANEL	1-2#18, TSP (ANALOG)	
AA	DO CONTROLLER DIT-F	PANEL LP-1	2#10, 1#10G (POWER)	
BB	DO CONTROLLER DIT-F	MAIN CONTROL PANEL	2-2#18, TSP (ANALOG)	
CC	TRANSFORMER T-4	SWITCHGEAR SWGR-1	4#600 (POWER)	
DD	EXISTING AERATION TANK LIGHT POLE	PANEL LP-1	2#10, 1#10G (POWER)	

NOTES:
1. ALL CONDUIT IN DUCTBANK SHALL BE PVC, EXCEPT FOR THE FIRST TEN FEET OF CONDUIT LEAVING A BUILDING, STRUCTURE OR HANDHOLE WHICH SHALL BE RGS, UNLESS OTHERWISE NOTED.

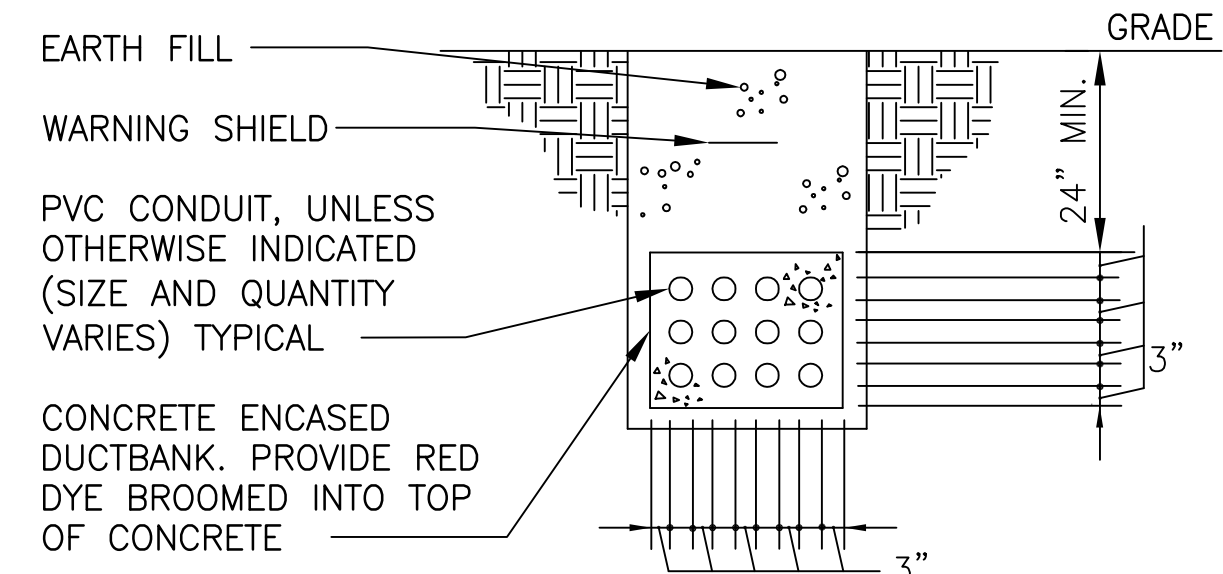


SECTION A



SECTION B

NOTE:
ALL DUCTBANKS SHALL BE CONCRETE ENCASED.



1 DETAIL - CONCRETE ENCASED DUCTBANK
NO SCALE

2 DUCTBANK SECTIONS
NO SCALE

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION
No. 184-000450
125 WEST CHURCH STREET
CHAMPAIGN, IL 61820
PHONE : 217.373.8900
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PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJF
DRAWN BY: JJF
CHECKED BY: MLS
DATE CHECKED: 11/11

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE	REVISION

DRAWING TITLE
**ELECTRICAL GENERAL NOTES
SYMBOLS AND
ABBREVIATIONS**

PROJECT No.
J0020690

DRAWING No.
E-001

DWG 20 OF 43 DWGS

FOR CONSTRUCTION

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJJ
DRAWN BY: JJJ
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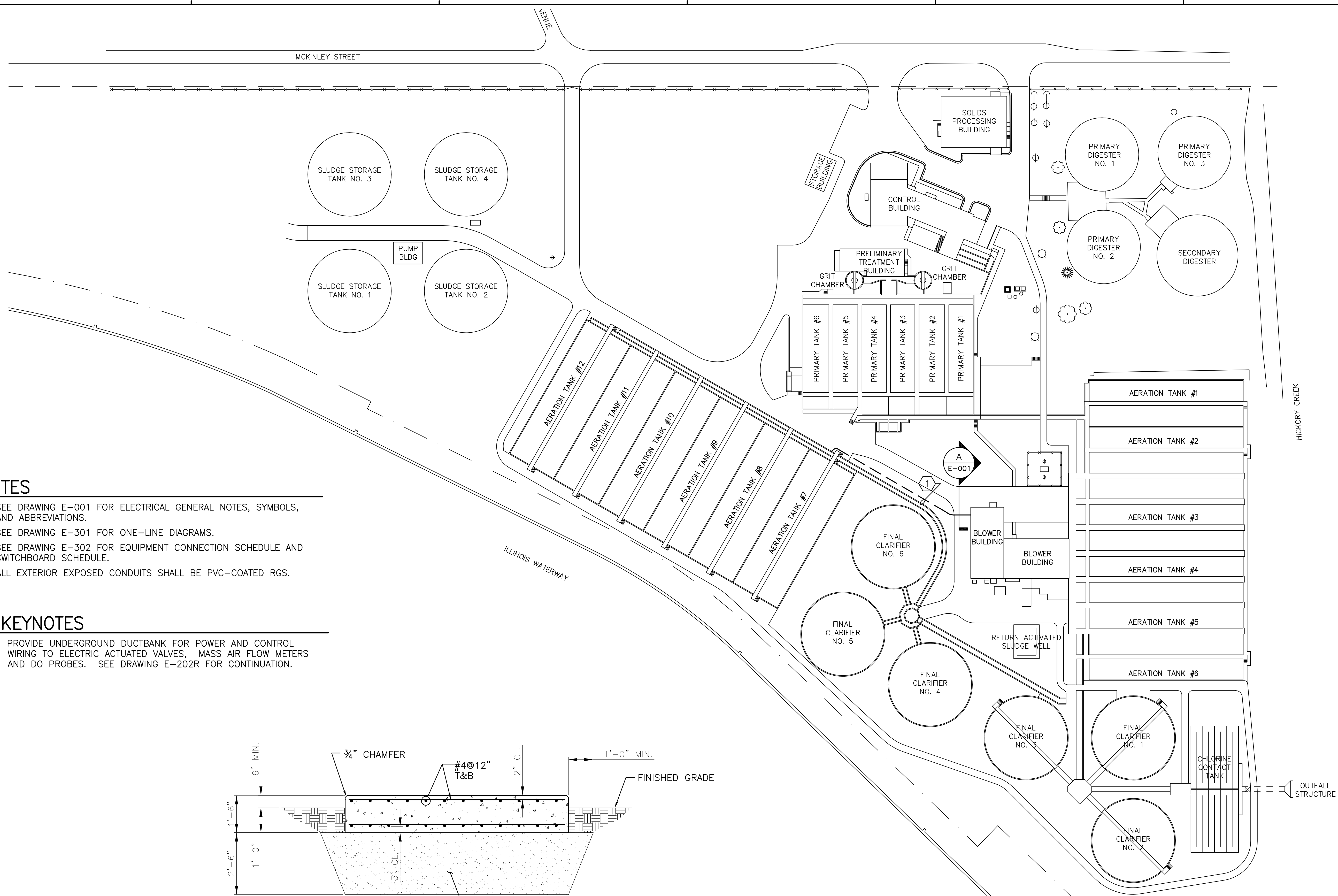
DRAWING TITLE
ELECTRICAL SITE PLAN

PROJECT No.
J0020690

DRAWING No.
E-002

DWG 21 OF 43 DWGS

FOR CONSTRUCTION

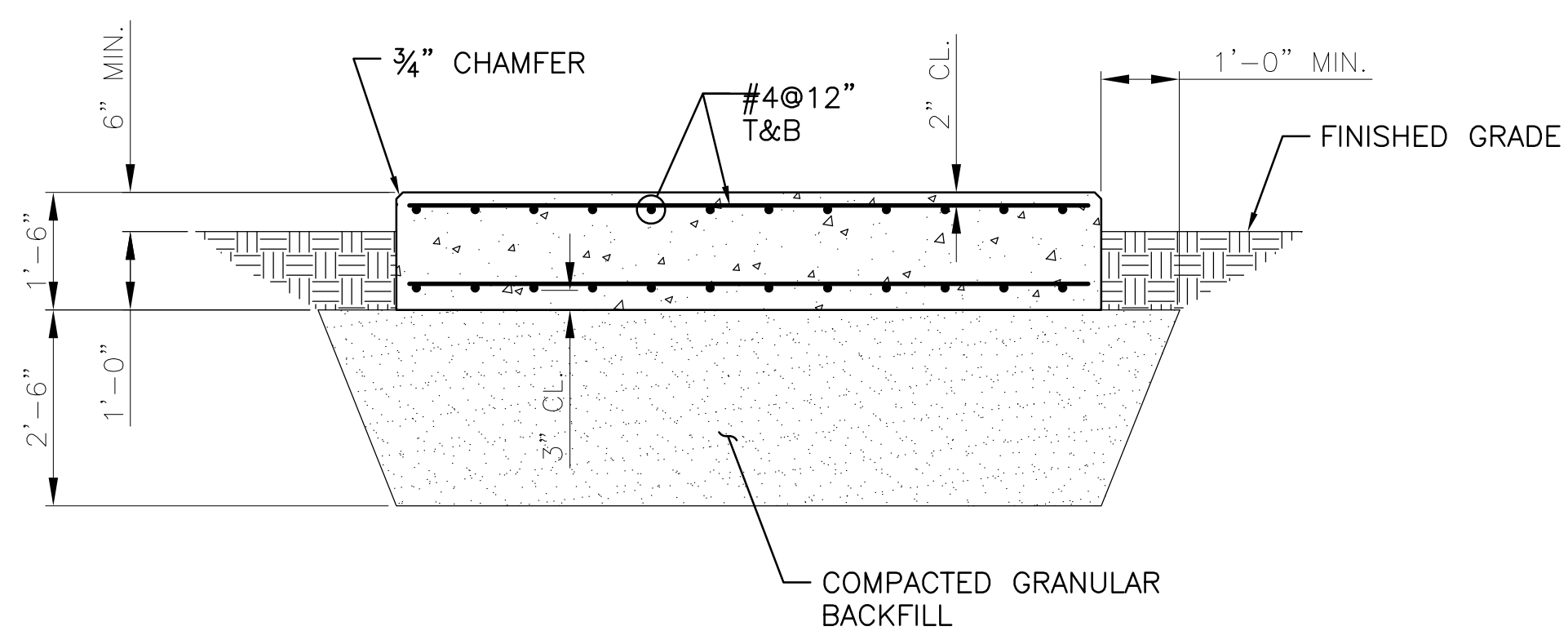


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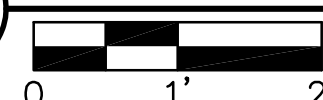
- SEE DRAWING E-001 FOR ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
- SEE DRAWING E-301 FOR ONE-LINE DIAGRAMS.
- SEE DRAWING E-302 FOR EQUIPMENT CONNECTION SCHEDULE AND SWITCHBOARD SCHEDULE.
- ALL EXTERIOR EXPOSED CONDUITS SHALL BE PVC-COATED RGS.

KEYNOTES

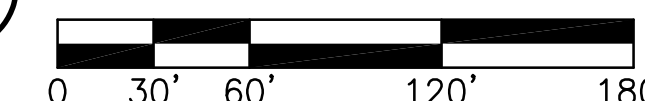
- PROVIDE UNDERGROUND DUCTBANK FOR POWER AND CONTROL WIRING TO ELECTRIC ACTUATED VALVES, MASS AIR FLOW METERS AND DO PROBES. SEE DRAWING E-202R FOR CONTINUATION.



2 TRANSFORMER PAD DETAIL



1 ELECTRICAL SITE PLAN



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PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJJ
DRAWN BY: JJJ
CHECKED BY: ---
DATE CHECKED: --/--

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DATE	REVISION

DRAWING TITLE
**BLOWER BUILDING
ELECTRICAL DEMOLITION
PLAN**

PROJECT No.
J0020690

DRAWING No.
E-101

DWG 22 OF 43 DWGS

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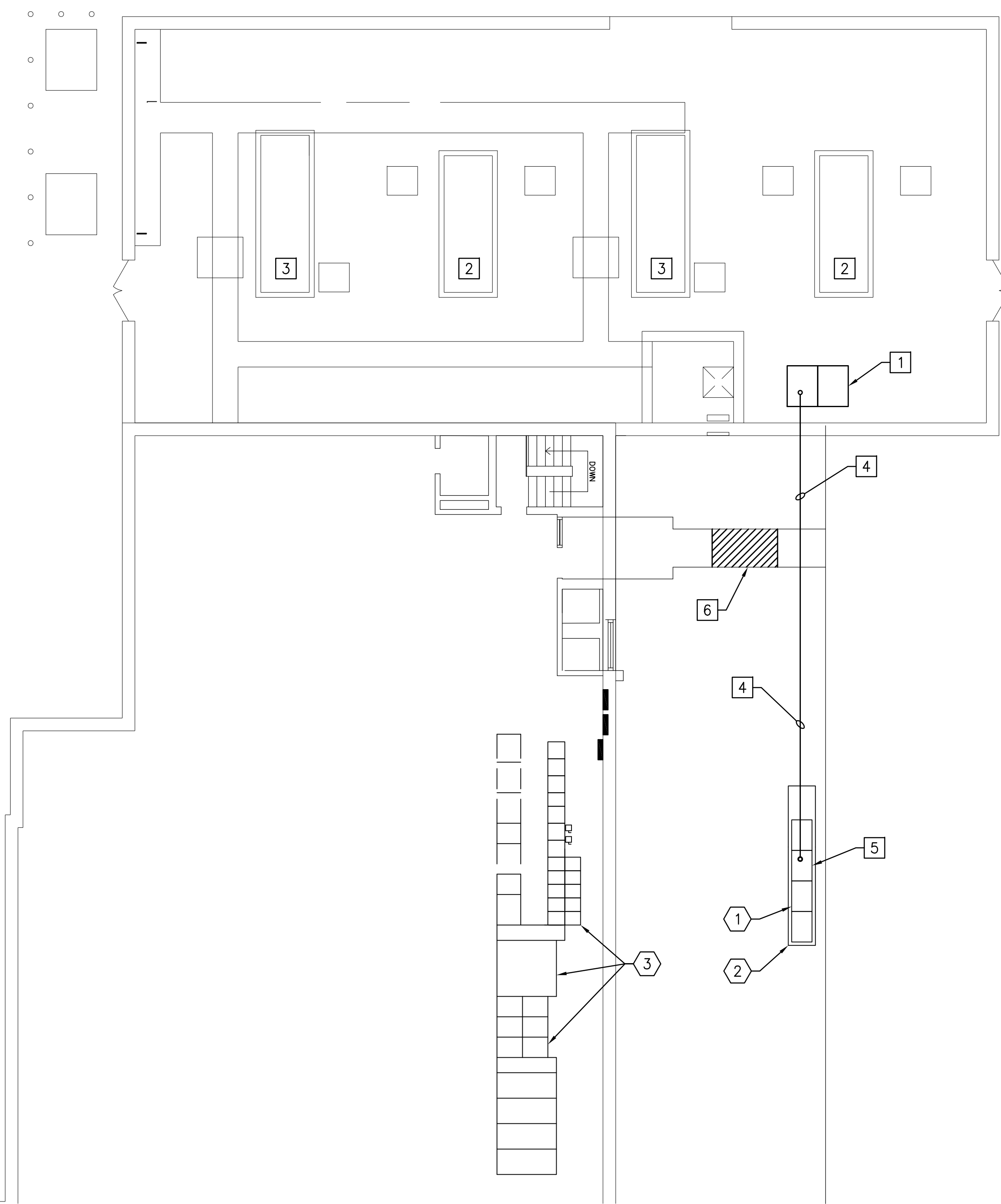
- SEE DRAWING E-001 FOR ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
- SEE DRAWING E-201 FOR NEW WORK.
- SEE DRAWING E-301 FOR ONE-LINE DIAGRAMS.
- SEE DRAWING E-302 FOR EQUIPMENT CONNECTION SCHEDULE AND SWITCHBOARD SCHEDULE.

DEMOLITION KEYNOTES

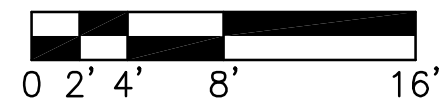
- DISCONNECT AND REMOVE EXISTING 5KV MCC-F. EXISTING CONDUIT FEEDING MCC-F SHALL BE CUT OFF FLUSH WITH THE FLOOR AND THE FLOOR SHALL BE PATCHED.
- DISCONNECT EXISTING CONDUCTORS FEEDING EXISTING 5KV BLOWER TO ALLOW FOR REMOVAL OF EXISTING BLOWER. REMOVE CONDUIT AND CONDUCTORS FROM BLOWER BACK TO EXISTING MCC-F. DISCONNECT AND REMOVE EXISTING CONTROLS CONDUIT AND WIRING BACK TO SOURCE.
- DISCONNECT AND REMOVE EXISTING CONTROLS CONDUIT AND WIRING FROM EXISTING ENGINE DRIVE BLOWER BACK TO SOURCE TO ALLOW FOR REMOVAL OF EXISTING BLOWER.
- REMOVE EXISTING CONDUCTORS FEEDING MCC-F BACK TO SWITCH IN PMG-1. EXISTING CONDUITS SHALL REMAIN AND BE REROUTED TO FEED NEW TRANSFORMER T-4. SEE DRAWING E-201.
- REMOVE EXISTING FUSES IN EXISTING SWITCH BAY THAT FED MCC-F.
- REMOVE SECTION OF EXISTING SIDEWALK (BETWEEN EXISTING JOINTS) AS REQUIRED TO ALLOW FOR INSTALLATION OF NEW DUCTBANK AND GROUNDING ELECTRODE CONDUCTOR.

KEYNOTES

- EXISTING S&C SWITCHGEAR LINE-UP, PMG-1 TO REMAIN.
- EXISTING CONCRETE PAD TO REMAIN.
- EXISTING MCC-D TO REMAIN.



1 BLOWER BUILDING ELECTRICAL DEMOLITION PLAN



D
C
B
A

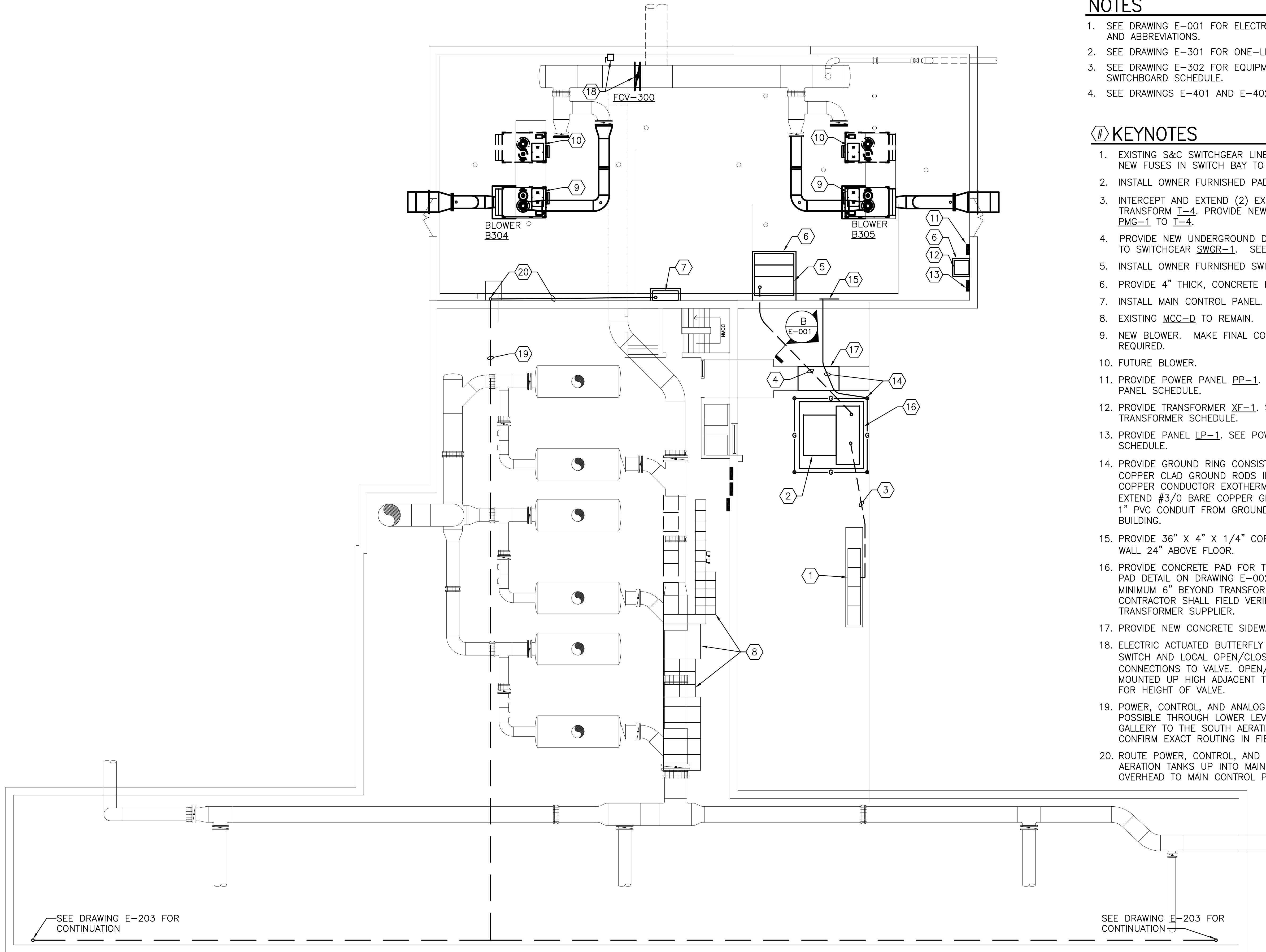
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NOTES

1. SEE DRAWING E-001 FOR ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. SEE DRAWING E-301 FOR ONE-LINE DIAGRAMS.
3. SEE DRAWING E-302 FOR EQUIPMENT CONNECTION SCHEDULE AND SWITCHBOARD SCHEDULE.
4. SEE DRAWINGS E-401 AND E-402 FOR INTERCONNECT DIAGRAMS.

KEYNOTES

1. EXISTING S&C SWITCHGEAR LINE-UP, PMG-1 TO REMAIN. PROVIDE NEW FUSES IN SWITCH BAY TO FEED TRANSFORMER I-4.
2. INSTALL OWNER FURNISHED PAD MOUNTED TRANSFORMER, I-4.
3. INTERCEPT AND EXTEND (2) EXISTING 4" CONDUITS UP TO TRANSFORM I-4. PROVIDE NEW 5KV CONDUCTORS IN CONDUIT FROM PMG-1 TO I-4.
4. PROVIDE NEW UNDERGROUND DUCTBANK FROM TRANSFORMER I-4 TO SWITCHGEAR SWGR-1. SEE ONE-LINE DIAGRAM FOR SIZE.
5. INSTALL OWNER FURNISHED SWITCHGEAR SWGR-1.
6. PROVIDE 4" THICK, CONCRETE HOUSEKEEPING PAD.
7. INSTALL MAIN CONTROL PANEL.
8. EXISTING MCC-D TO REMAIN.
9. NEW BLOWER. MAKE FINAL CONNECTIONS TO BLOWER CORE AS REQUIRED.
10. FUTURE BLOWER.
11. PROVIDE POWER PANEL PP-1. SEE POWER ONE-LINE DIAGRAM AND PANEL SCHEDULE.
12. PROVIDE TRANSFORMER XF-1. SEE POWER ONE-LINE DIAGRAM AND TRANSFORMER SCHEDULE.
13. PROVIDE PANEL LP-1. SEE POWER ONE-LINE DIAGRAM AND PANEL SCHEDULE.
14. PROVIDE GROUND RING CONSISTING OF (4) 3/4"Ø X 10' LONG COPPER CLAD GROUND RODS INTERCONNECTED BY #3/0 BARE COPPER CONDUCTOR EXOTHERMICALLY WELDED TO GROUND RODS. EXTEND #3/0 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" PVC CONDUIT FROM GROUND RING TO GROUND BUS IN BLOWER BUILDING.
15. PROVIDE 36" X 4" X 1/4" COPPER GROUND BUS MOUNTED TO WALL 24" ABOVE FLOOR.
16. PROVIDE CONCRETE PAD FOR TRANSFORMER I-4. SEE TRANSFORMER PAD DETAIL ON DRAWING E-002. CONCRETE PAD SHALL EXTEND MINIMUM 6" BEYOND TRANSFORMER FOOTPRINT IN ALL DIRECTIONS. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE DIMENSIONS WITH TRANSFORMER SUPPLIER.
17. PROVIDE NEW CONCRETE SIDEWALK TO MATCH EXISTING SIDEWALK.
18. ELECTRIC ACTUATED BUTTERFLY VALVE. PROVIDE DISCONNECT SWITCH AND LOCAL OPEN/CLOSE CONTROL STATION. MAKE FINAL CONNECTIONS TO VALVE. OPEN/CLOSE CONTROL STATION SHALL BE MOUNTED UP HIGH ADJACENT TO VALVE. SEE PROCESS DRAWINGS FOR HEIGHT OF VALVE.
19. POWER, CONTROL, AND ANALOG CONDUITS ROUTED AS HIGH AS POSSIBLE THROUGH LOWER LEVEL OF BLOWER BUILDING AND PIPE GALLERY TO THE SOUTH AERATION TANKS. CONTRACTOR SHALL CONFIRM EXACT ROUTING IN FIELD.
20. ROUTE POWER, CONTROL, AND ANALOG CONDUITS FROM THE SOUTH AERATION TANKS UP INTO MAIN LEVEL BLOWER ROOM AND EXTEND OVERHEAD TO MAIN CONTROL PANEL.



1 BLOWER BUILDING ELECTRICAL PLAN

0 2' 4' 8' 16'

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJF
DRAWN BY: JJF
CHECKED BY: MSL
DATE CHECKED: 11/11

NOTE: DIMENSIONAL DATA
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DATE	REVISION

DRAWING TITLE
**BLOWER BUILDING
ELECTRICAL PLAN**

PROJECT No.
J0020690

DRAWING No.
E-201

DWG 23 OF 43 DWGS

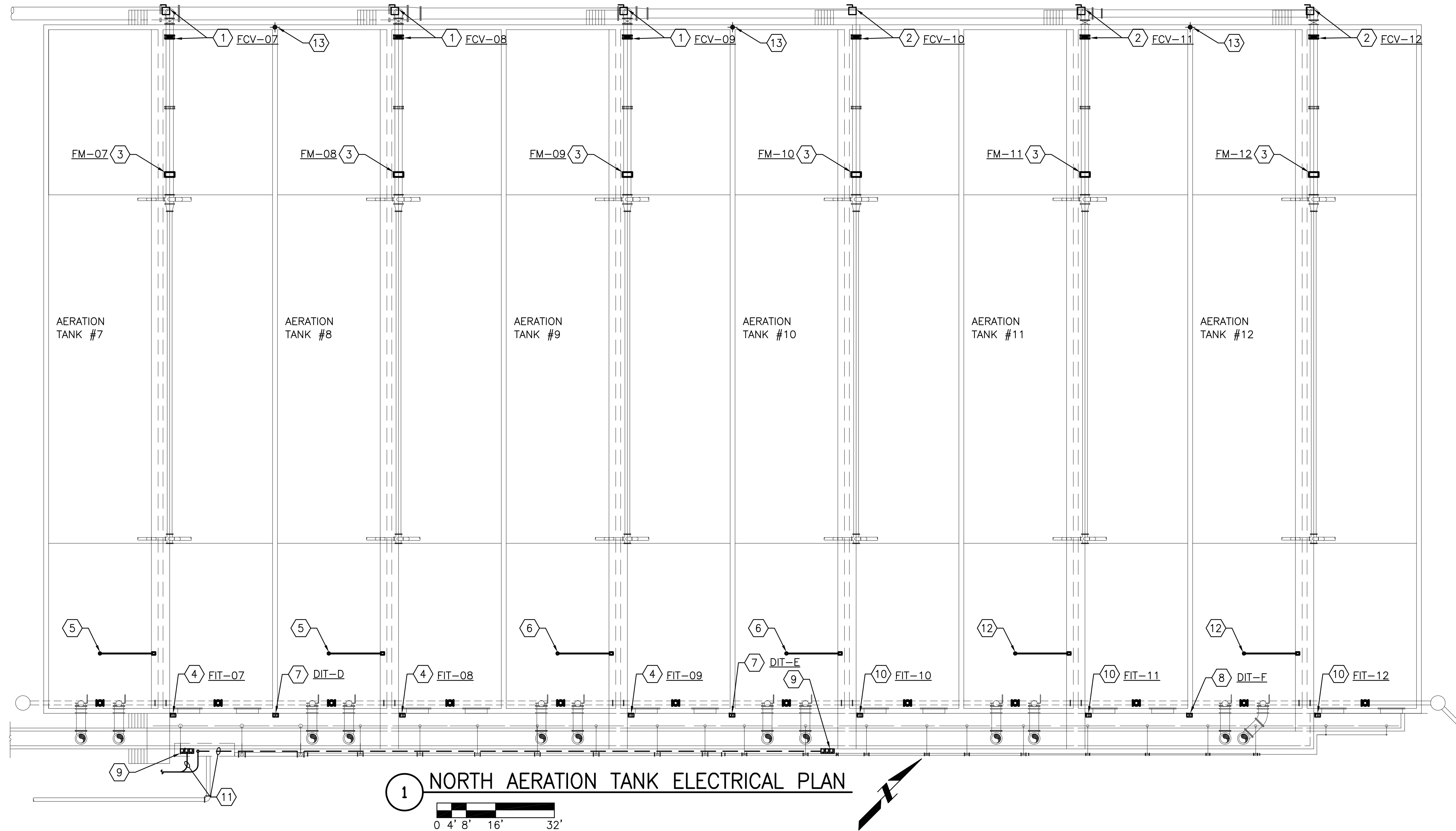
FOR CONSTRUCTION

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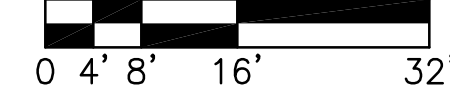
- SEE DRAWING E-001 FOR ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
- SEE DRAWING E-002 FOR ELECTRICAL SITE PLAN FOR DUCTBANK ROUTING.
- SEE DRAWING E-301 FOR ONE-LINE DIAGRAMS.
- SEE DRAWING E-302 FOR EQUIPMENT CONNECTION SCHEDULE AND SWITCHBOARD SCHEDULE.
- ALL EXPOSED CONDUIT AT AERATION TANKS SHALL BE PVC-COATED RGS.
- SEE INTERCONNECT DIAGRAM ON DRAWING E-401 FOR WIRING COUNTS AND SIZES.
- CONDUITS SHOWN ON THIS DRAWING SHALL BE ROUTED ALONG TANK WALLS ABOVE HIGH WATER LINE. CONTRACTOR SHALL CORE DRILL TANK WALLS AS REQUIRED TO ROUTE CONDUITS.
- UNISTRUT AND OTHER MOUNTING HARDWARE USED AT THE AERATION TANKS FOR EQUIPMENT AND CONDUITS SHALL BE STAINLESS STEEL.
- ALL EXISTING POWER AND CONTROL CONDUITS AND WIRING ON AERATION TANK WALLS, HANDRAILS AND CHANNEL WALLS SHALL BE REMOVED UNLESS OTHERWISE INDICATED. CONDUITS UNDERGROUND MAY BE ABANDONED IN PLACE.

KEYNOTES

- ELECTRIC ACTUATED BUTTERFLY VALVE. PROVIDE DISCONNECT SWITCH MOUNTED TO HAND RAIL AND MAKE FINAL CONNECTIONS TO VALVE AS REQUIRED. ROUTE POWER, ANALOG AND CONTROL CONDUITS FROM VALVE/DISCONNECT SWITCH BACK TO ASSOCIATED JUNCTION BOXES AT SOUTH END OF TANK #7. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- ELECTRIC ACTUATED BUTTERFLY VALVE. PROVIDE DISCONNECT SWITCH MOUNTED TO HAND RAIL AND MAKE FINAL CONNECTIONS TO VALVE AS REQUIRED. ROUTE POWER, ANALOG AND CONTROL CONDUITS FROM VALVE/DISCONNECT SWITCH BACK TO ASSOCIATED JUNCTION BOXES AT SOUTH END OF TANK #10. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- AIR FLOW METER. MAKE FINAL CONNECTIONS TO METER AS REQUIRED. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO FLOW TRANSMITTER LOCATED AT SOUTH END OF TANK. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- AIR FLOW TRANSMITTER. MOUNT TRANSMITTER IN NEMA 4X STAINLESS STEEL JUNCTION BOX MOUNTED TO HAND RAIL. JUNCTION BOX SHALL BE 12"x12"x6" MINIMUM SIZE (CONTRACTOR SHALL INCREASE JUNCTION BOX SIZE AS REQUIRED TO ADEQUATELY HOUSE THE FLOW TRANSMITTER) WITH HINGED COVER AND 6" SQUARE LEXAN VIEWING WINDOW IN COVER. MAKE FINAL CONNECTIONS TO TRANSMITTER AS REQUIRED. ROUTE POWER AND ANALOG CONDUITS FROM TRANSMITTER BACK TO ASSOCIATED JUNCTION BOX AT SOUTH END OF TANK #7. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO PROBE. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO DO CONTROLLER DIT-D LOCATED SOUTH END OF TANKS #7 AND #8. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO PROBE. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO DO CONTROLLER DIT-E LOCATED AT SOUTH END OF TANKS #9 AND #10. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO CONTROLLER (DIT-D OR DIT-E). MOUNT CONTROLLER TO HAND RAIL AND MAKE FINAL CONNECTIONS TO CONTROLLER AS REQUIRED. ROUTE POWER AND ANALOG CONDUITS FROM DO CONTROLLER BACK TO ASSOCIATED JUNCTION BOXES AT SOUTH END OF TANK #7. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO CONTROLLER DIT-F. MOUNT CONTROLLER TO HAND RAIL AND MAKE FINAL CONNECTIONS TO CONTROLLER AS REQUIRED. ROUTE POWER AND DATA CONDUITS FROM DO CONTROLLER BACK TO ASSOCIATED JUNCTION BOXES AT SOUTH END OF TANK #10. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- PROVIDE (3) 12"x12"x6" NEMA 4X STAINLESS STEEL JUNCTION BOXES MOUNTED TO HANDRAIL OR TANK WALL. ONE JUNCTION BOX EACH FOR POWER WIRING (PROVIDE TERMINAL STRIPS IN JUNCTION BOX AS REQUIRED TO SPLICE POWER WIRING), ANALOG WIRING, AND CONTROL WIRING. PROVIDE CONDUIT WITH WIRING FROM EACH JUNCTION BOX TO DUCT BANK.
- AIR FLOW TRANSMITTER. MOUNT TRANSMITTER IN NEMA 4X STAINLESS STEEL JUNCTION BOX MOUNTED TO HAND RAIL. JUNCTION BOX SHALL BE 12"x12"x6" MINIMUM SIZE (CONTRACTOR SHALL INCREASE JUNCTION BOX SIZE AS REQUIRED TO ADEQUATELY HOUSE THE FLOW TRANSMITTER) WITH HINGED COVER AND 6" SQUARE LEXAN VIEWING WINDOW IN COVER. MAKE FINAL CONNECTIONS TO TRANSMITTER AS REQUIRED. ROUTE POWER AND ANALOG CONDUITS FROM TRANSMITTER BACK TO ASSOCIATED JUNCTION BOX AT SOUTH END OF TANK #10. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- PROVIDE CONDUITS FROM POWER, ANALOG, AND CONTROL JUNCTION BOXES (SEE KEYED NOTE 9) BACK TO DUCT BANK. RUN CONDUIT ALONG SIDE OF AERATION TANK WALL. SEE SITE PLAN ON DRAWING E-002 FOR LOCATION OF DUCT BANK.
- DO PROBE. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO DO CONTROLLER DIT-F LOCATED AT SOUTH END OF TANKS #11 AND #12. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- EXISTING LIGHT POLE TO REMAIN. INTERCEPT EXISTING CONDUIT FEEDING EXISTING LIGHT POLE AT NORTH END OF TANK NEAR STAIRS AND EXTEND 2#10, 1#10G IN CONDUIT WITH 480V POWER TO ELECTRIC ACTUATED VALVES BACK TO POWER JUNCTION BOX LOCATED AT SOUTH END OF AERATION TANK. MAKE FINAL CONNECTIONS AS REQUIRED TO REFEED LIGHT POLES.



1 NORTH AERATION TANK ELECTRICAL PLAN



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PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJJ
DRAWN BY: JJJ
CHECKED BY: MLS
DATE CHECKED: 11/11

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE	REVISION

DRAWING TITLE
**NORTH AERATION TANKS
ELECTRICAL PLAN**

PROJECT No.
J0020690

DRAWING No.
E-202

DWG 24 OF 43 DWGS

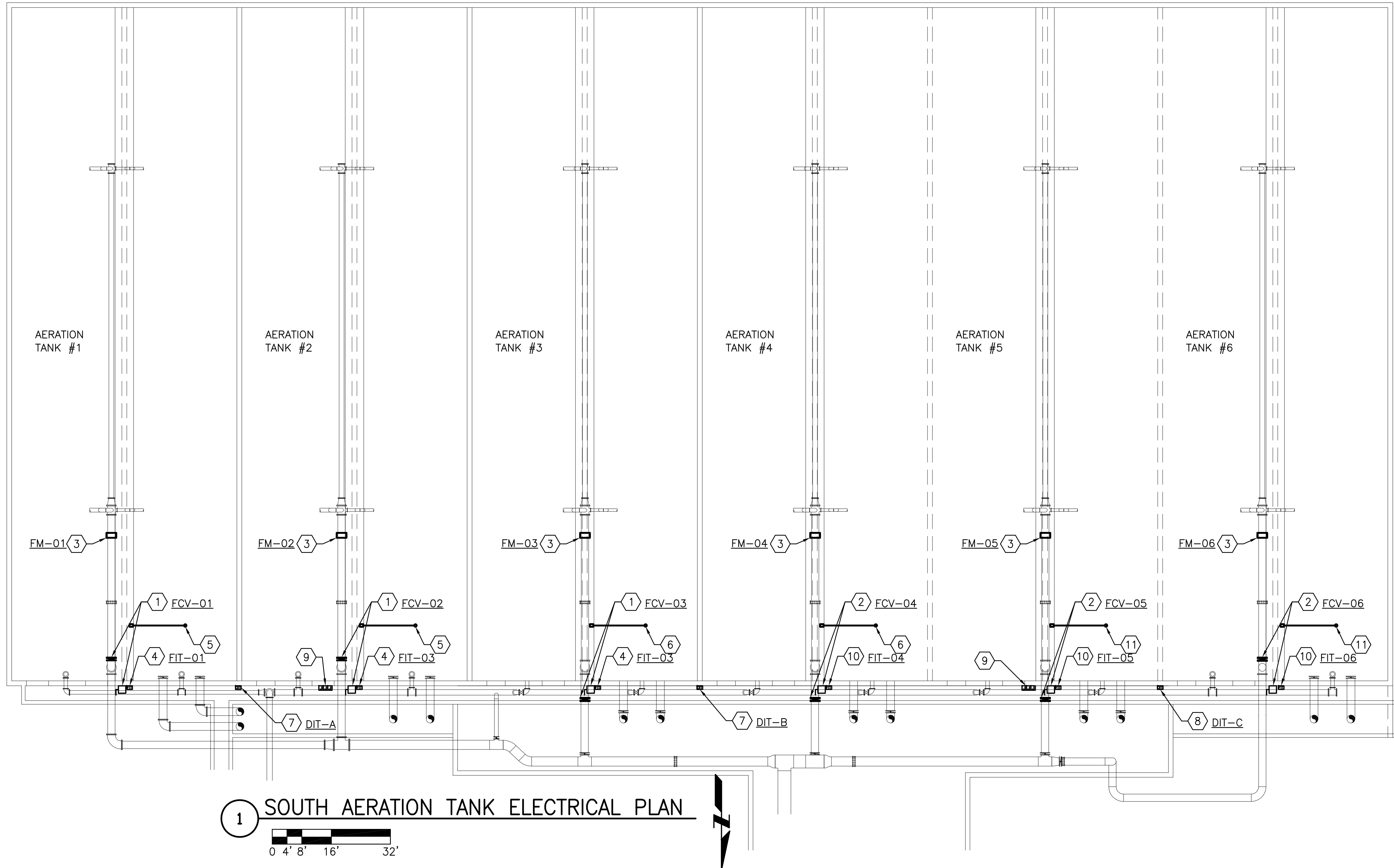
FOR CONSTRUCTION

NOTES

- SEE DRAWING E-001 FOR ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
- SEE DRAWING E-301 FOR ONE-LINE DIAGRAMS.
- SEE DRAWING E-302 FOR EQUIPMENT CONNECTION SCHEDULE AND SWITCHBOARD SCHEDULE.
- ALL EXPOSED CONDUIT AT AERATION TANKS SHALL BE PVC-COATED RGS.
- SEE INTERCONNECT DIAGRAMS ON DRAWINGS E-401 AND E-402 FOR WIRING COUNTS AND SIZES.
- CONDUITS SHOWN ON THIS DRAWING SHALL BE ROUTED ALONG TANK WALLS ABOVE HIGH WATER LINE. CONTRACTOR SHALL CORE DRILL TANK WALLS AS REQUIRED TO ROUTE CONDUITS.
- UNISTRUT AND OTHER MOUNTING HARDWARE USED AT THE AERATION TANKS FOR EQUIPMENT AND CONDUITS SHALL BE STAINLESS STEEL.

KEYNOTES

- ELECTRIC ACTUATED BUTTERFLY VALVE. PROVIDE DISCONNECT SWITCH MOUNTED TO HAND RAIL AND MAKE FINAL CONNECTIONS TO VALVE AS REQUIRED. ROUTE POWER, ANALOG AND CONTROL CONDUITS FROM VALVE/DISCONNECT SWITCH BACK TO ASSOCIATED JUNCTION BOXES AT NORTH END OF TANK #2. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- ELECTRIC ACTUATED BUTTERFLY VALVE. PROVIDE DISCONNECT SWITCH MOUNTED TO HAND RAIL AND MAKE FINAL CONNECTIONS TO VALVE AS REQUIRED. ROUTE POWER, ANALOG AND CONTROL CONDUITS FROM VALVE/DISCONNECT SWITCH BACK TO ASSOCIATED JUNCTION BOXES AT NORTH END OF TANK #5. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- AIR FLOW METER. MAKE FINAL CONNECTIONS TO METER AS REQUIRED. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO FLOW TRANSMITTER LOCATED AT NORTH END OF TANK. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- AIR FLOW TRANSMITTER. MOUNT TRANSMITTER IN NEMA 4X STAINLESS STEEL JUNCTION BOX MOUNTED TO HAND RAIL. JUNCTION BOX SHALL BE 12"x12"x6" MINIMUM SIZE (CONTRACTOR SHALL INCREASE JUNCTION BOX SIZE AS REQUIRED TO ADEQUATELY HOUSE THE FLOW TRANSMITTER) WITH HINGED COVER AND 6" SQUARE LEXAN VIEWING WINDOW IN COVER. MAKE FINAL CONNECTIONS TO TRANSMITTER AS REQUIRED. ROUTE POWER AND ANALOG CONDUITS FROM TRANSMITTER BACK TO ASSOCIATED JUNCTION BOXES AT SOUTH END OF TANK #2. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO PROBE. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO DO CONTROLLER DIT-A LOCATED AT NORTH END OF TANKS #1 AND #2. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO PROBE. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO DO CONTROLLER DIT-B LOCATED AT NORTH END OF TANKS #3 AND #4. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO CONTROLLER (DIT-A OR DIT-B). MOUNT CONTROLLER TO HAND RAIL AND MAKE FINAL CONNECTIONS TO CONTROLLER AS REQUIRED. ROUTE POWER AND ANALOG CONDUITS FROM DO CONTROLLER BACK TO ASSOCIATED JUNCTION BOXES AT SOUTH END OF TANK #2. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO CONTROLLER DIT-C. MOUNT CONTROLLER TO HAND RAIL AND MAKE FINAL CONNECTIONS TO CONTROLLER AS REQUIRED. ROUTE POWER AND ANALOG CONDUITS FROM DO CONTROLLER BACK TO ASSOCIATED JUNCTION BOXES AT SOUTH END OF TANK #5. RUN CONDUITS ALONG TANK WALL ABOVE HIGH WATER LINE.
- PROVIDE (3) 12"x12"x6" NEMA 4X STAINLESS STEEL JUNCTION BOXES MOUNTED TO HANDRAIL OR TANK WALL. ONE JUNCTION BOX EACH FOR POWER WIRING (PROVIDE TERMINAL STRIPS IN JUNCTION BOX AS REQUIRED TO SPLICE POWER WIRING), ANALOG WIRING, AND CONTROL WIRING. PROVIDE CONDUIT WITH WIRING FROM EACH JUNCTION BOX DOWN TO PIPE GALLERY BELOW. ROUTE CONDUIT ALONG SIDE OF AERATION TANK TO PIPE GALLERY. SEE DRAWING E-201 FOR ROUTING THROUGH PIPE GALLERY.
- AIR FLOW TRANSMITTER. MOUNT TRANSMITTER IN NEMA 4X STAINLESS STEEL JUNCTION BOX MOUNTED TO HAND RAIL. JUNCTION BOX SHALL BE 12"x12"x6" MINIMUM SIZE (CONTRACTOR SHALL INCREASE JUNCTION BOX SIZE AS REQUIRED TO ADEQUATELY HOUSE THE FLOW TRANSMITTER) WITH HINGED COVER AND 6" SQUARE LEXAN VIEWING WINDOW IN COVER. MAKE FINAL CONNECTIONS TO TRANSMITTER AS REQUIRED. ROUTE POWER AND ANALOG CONDUITS FROM TRANSMITTER BACK TO ASSOCIATED JUNCTION BOX AT NORTH END OF TANK #5. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.
- DO PROBE. EXTEND MANUFACTURER FURNISHED CABLE IN CONDUIT TO DO CONTROLLER DIT-C LOCATED AT NORTH END OF TANKS #5 AND #6. RUN CONDUIT ALONG TANK WALL ABOVE HIGH WATER LINE.



1 SOUTH AERATION TANK ELECTRICAL PLAN

0 4' 8' 16' 32'

Clark Dietz
ENGINEERS

DESIGN FIRM REGISTRATION
No. 184-000450

125 WEST CHURCH STREET
CHAMPAIGN, IL 61820
PHONE : 217.373.8900
FAX : 217.373.8923

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJJ
DRAWN BY: JJJ
CHECKED BY: MLS
DATE CHECKED: 11/11

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE	REVISION

DRAWING TITLE
**SOUTH AERATION TANKS
ELECTRICAL PLAN**

PROJECT No.
J0020690

DRAWING No.
E-203

DWG 25 OF 43 DWGS

FOR CONSTRUCTION

NOTES

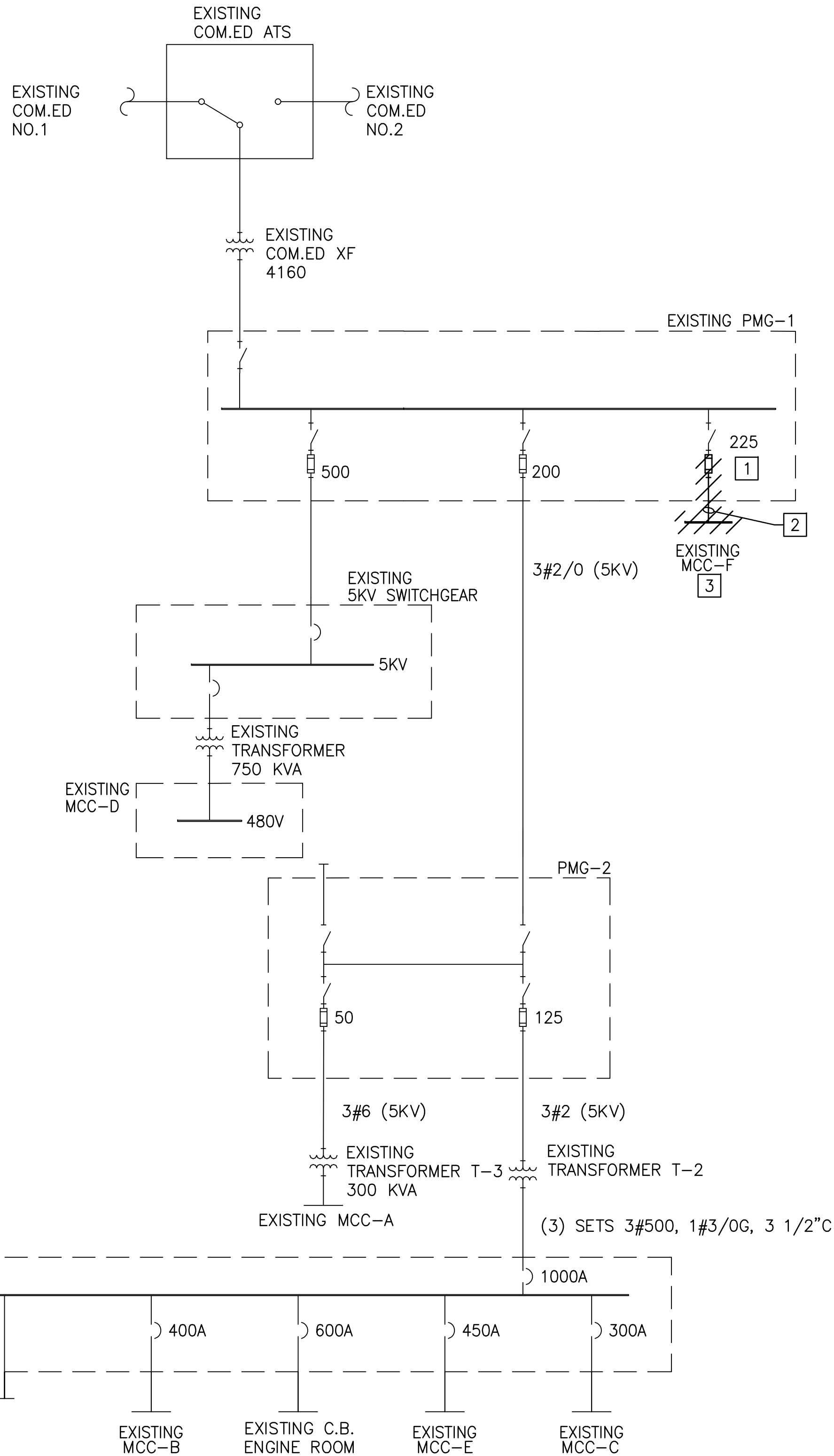
1. NOT ALL LOADS ARE SHOWN IN ONE-LINE DIAGRAMS. ONLY LOADS SERVED BY A 100A OR LARGER BREAKER ARE SHOWN.
2. ALL BREAKERS ARE 3 POLE BREAKERS UNLESS NOTED OTHERWISE.

DEMOLITION KEYNOTES

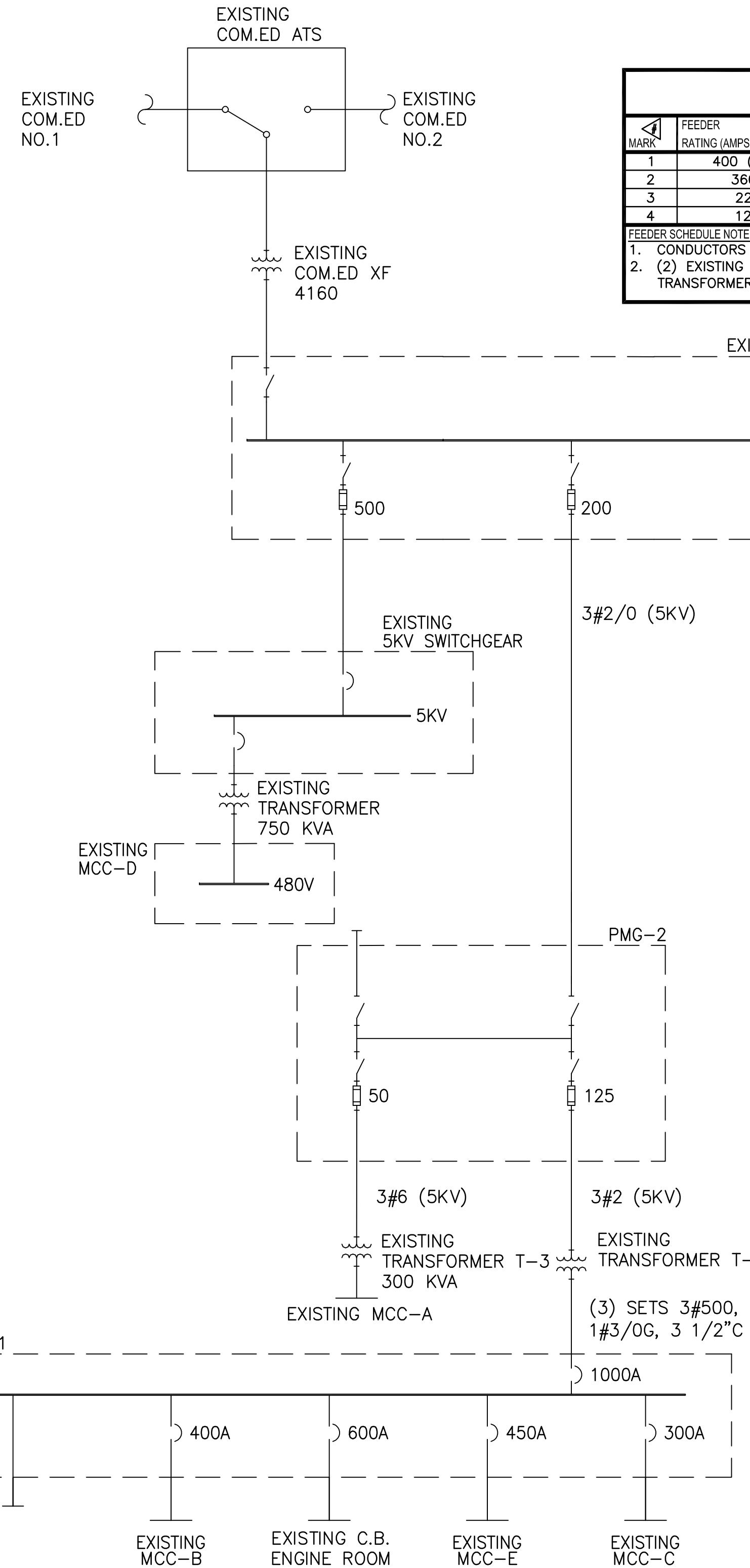
1. REMOVE EXISTING FUSES FROM FEEDER BAY.
2. DISCONNECT AND REMOVE EXISTING 5KV CONDUCTORS BETWEEN MCC-F AND PMG-1. EXISTING CONDUIT SHALL REMAIN AND BE REUSED.
3. DISCONNECT AND REMOVE EXISTING 5KV MCC-F.

KEYNOTES

1. 36" X 4" X 1/4" COPPER GROUND BUS.
2. GROUND RING CONSISTING OF (4) 3/4" X 10' LONG COPPER CLAD STEEL GROUND RODS INTERCONNECTED BY #3/0 BARE COPPER CONDUCTOR EXOTHERMICALLY WELDED TO GROUND RODS.
3. TO BUILDING STEEL. EXOTHERMICALLY WELD CONDUCTOR TO BUILDING STEEL.
4. BRANCH CIRCUITS-SIZE VARIES. EQUIPMENT GROUNDING CONDUCTOR INSTALLED IN CONDUIT WITH PHASE CONDUCTORS.
5. DO NOT BOND GROUND BUS TO NEUTRAL BUS.
6. TO UNDERGROUND METAL WATER PIPE. CONNECTION TO PIPE SHALL BE BY A LISTED GROUND CLAMP.
7. EQUIPMENT GROUND CONDUCTOR INSTALLED IN CONDUIT WITH PHASE CONDUCTORS BACK TO PMG-1. SEE FEEDER SCHEDULE FOR SIZE.
8. NEUTRAL CONDUCTOR INSTALLED IN CONDUIT WITH PHASE CONDUCTORS. SEE FEEDER SCHEDULE FOR SIZE.



1 DEMOLITION POWER ONE-LINE DIAGRAM
NO SCALE



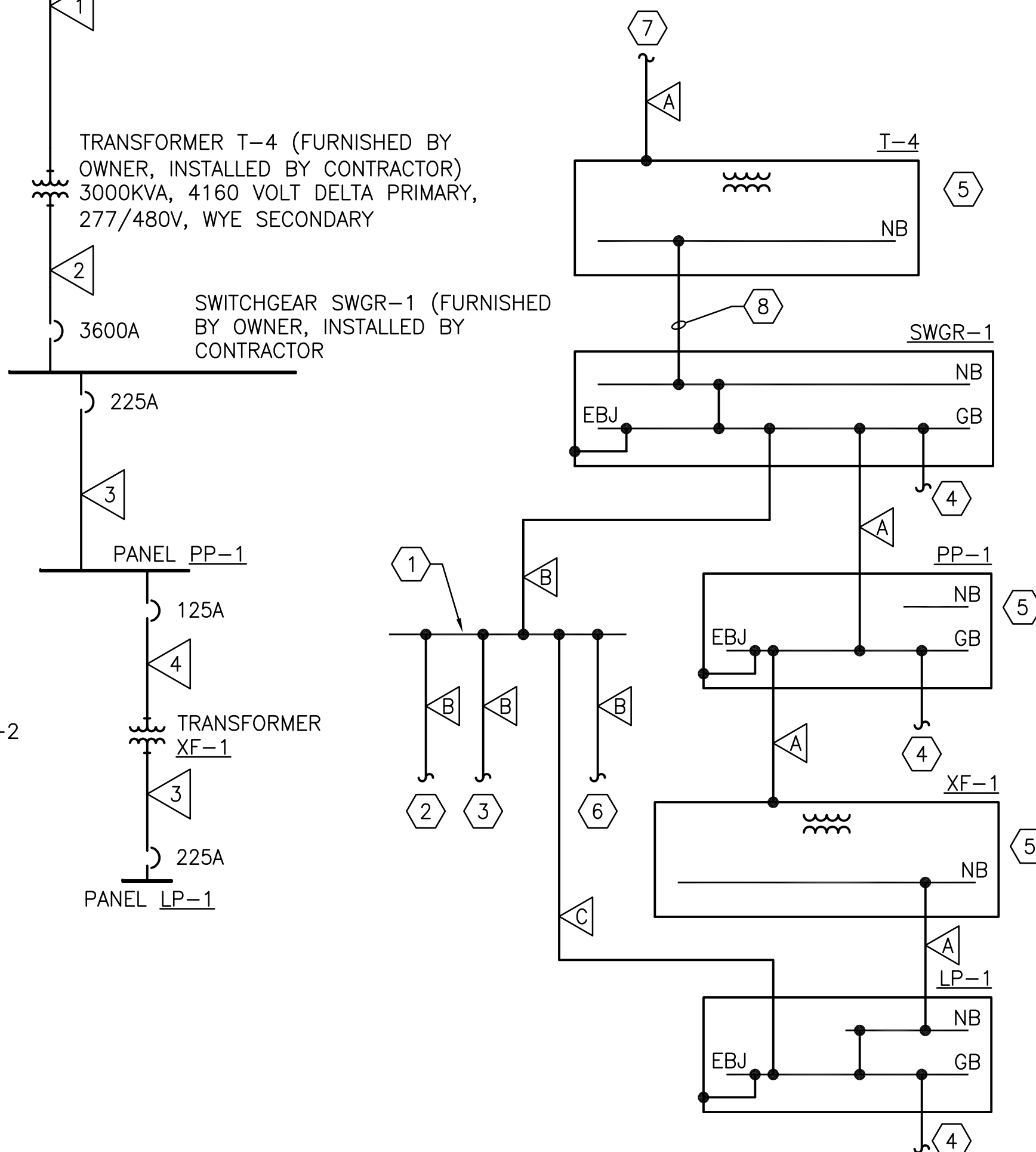
2 POWER ONE-LINE DIAGRAM
NO SCALE

MARK	FEEDER RATING (AMPS)	CONDUIT			CONDUCTOR			GROUND	
		QTY	SIZE	TYPE	SETS	NO. PER SET	SIZE	SIZE	NOTES
1	400 (5KV)	2	4"	NOTE 2	2	3	3/0 (5KV)	3	
2	3600	10	4"	NOTE 1	10	4	600	--	
3	225	1	2.5"	RGS	1	4	4/0	4	
4	125	1	1.5"	RGS	1	4	1	6	

FEEDER SCHEDULE NOTES
 1. CONDUCTORS SHALL BE INSTALLED IN CONCRETE ENCASED DUCTBANK.
 2. (2) EXISTING 4" CONDUITS SHALL BE INTERCEPTED UNDERGROUND AND EXTENDED UP TO TRANSFORMER T-4. CONTRACTOR SHALL PROVIDE 4" RGS CONDUIT AS REQUIRED TO EXTEND CONDUITS.

MARK	CONDUIT		CONDUCTOR		NOTES
	SIZE	TYPE	SIZE		
A	1"	PVC	3/0		1
B	1"	PVC	3/0		
C	1"	PVC	6		

GROUND SCHEDULE NOTES
 1. SEE FEEDER SCHEDULE



3 GROUNDING ONE-LINE DIAGRAM
NO SCALE

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION
No. 184-000450
125 WEST CHURCH STREET
CHAMPAIGN, IL 61820
PHONE : 217.373.8900
FAX : 217.373.8923

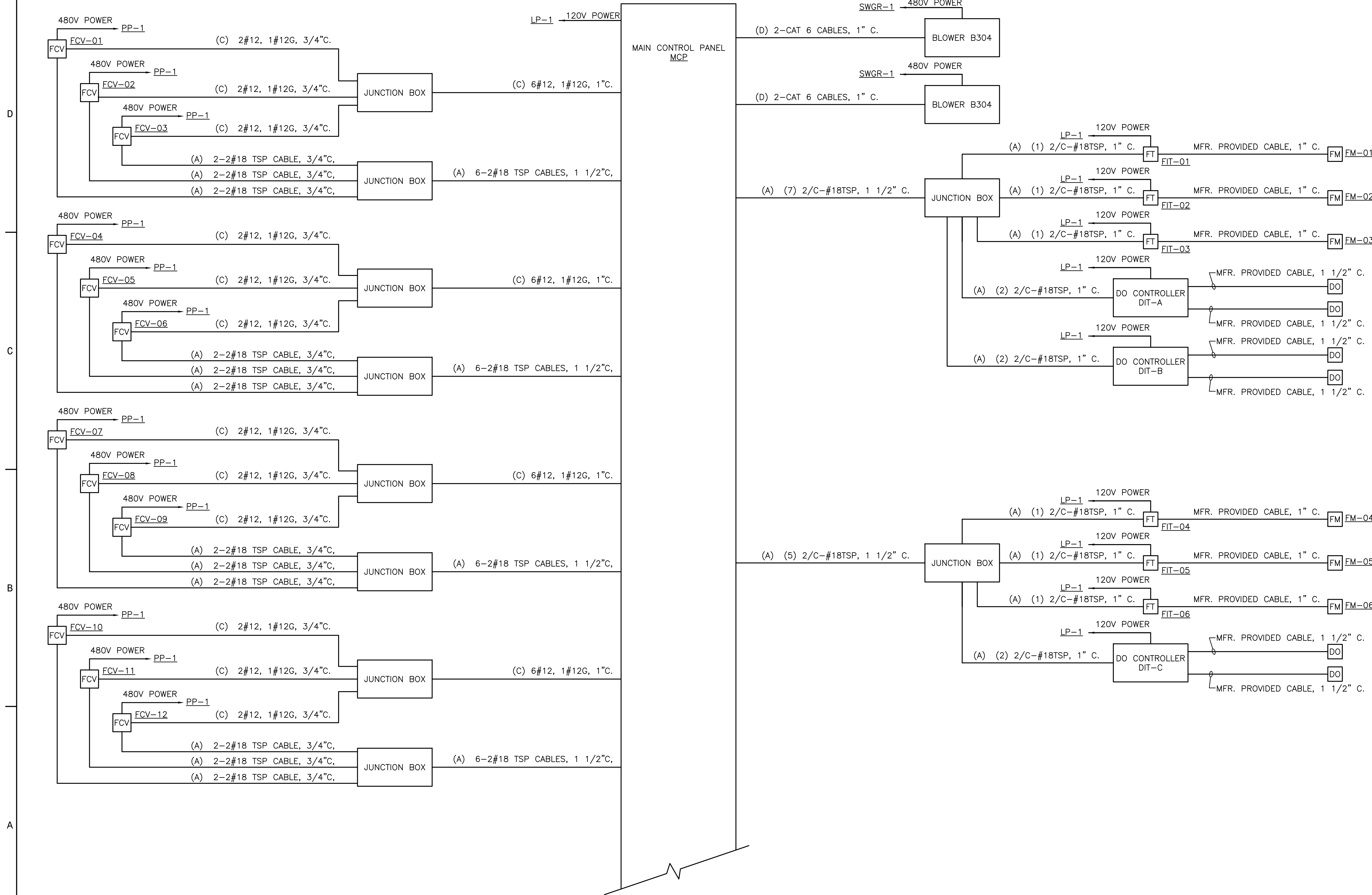
PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJF
DRAWN BY: JJF
CHECKED BY: MLS
DATE CHECKED: 11/11
NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DRAWING TITLE
ONE-LINE DIAGRAMS

PROJECT No.
J0020690
DRAWING No.
E-301
DWG 26 OF 43 DWGS

DATE	REVISION



1 INTERCONNECT DIAGRAM
NO SCALE

PROJECT TITLE
**CITY OF JOLIET, IL
EASTSIDE WWTP
BLOWER AND FINE BUBBLE
AERATION EQUIPMENT
REPLACEMENT**

DESIGNED BY: JJF
DRAWN BY: JJF
CHECKED BY: MLS
DATE CHECKED: 11/11

NOTE: DIMENSIONAL DATA
IS NOT TO BE OBTAINED BY
SCALING ANY PORTION OF
THIS DRAWING.

DATE	REVISION

DRAWING TITLE
INTERCONNECT DIAGRAM

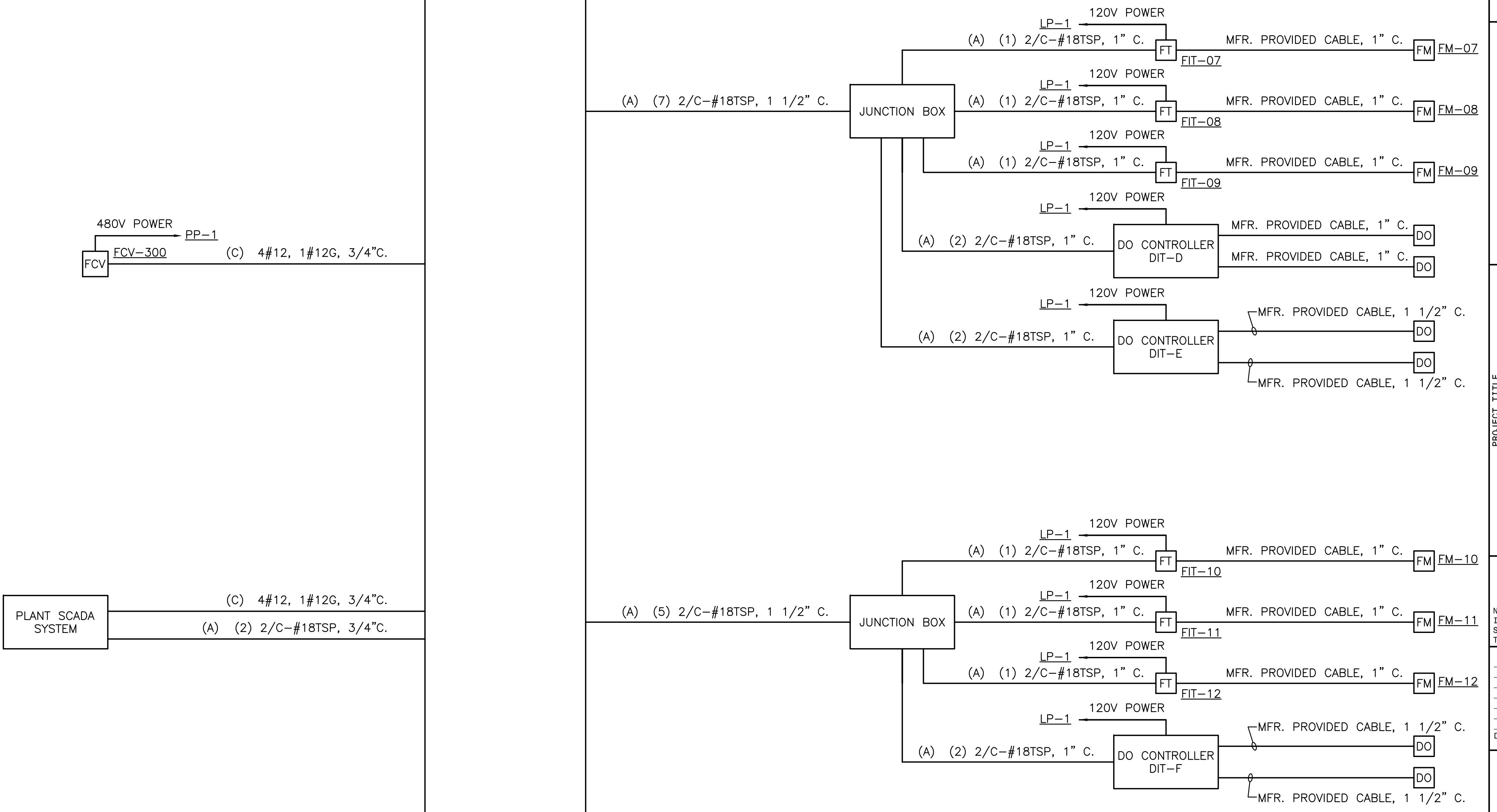
PROJECT No.
J0020690

DRAWING No.
E-402

DWG 29 OF 43 DWGS

FOR CONSTRUCTION

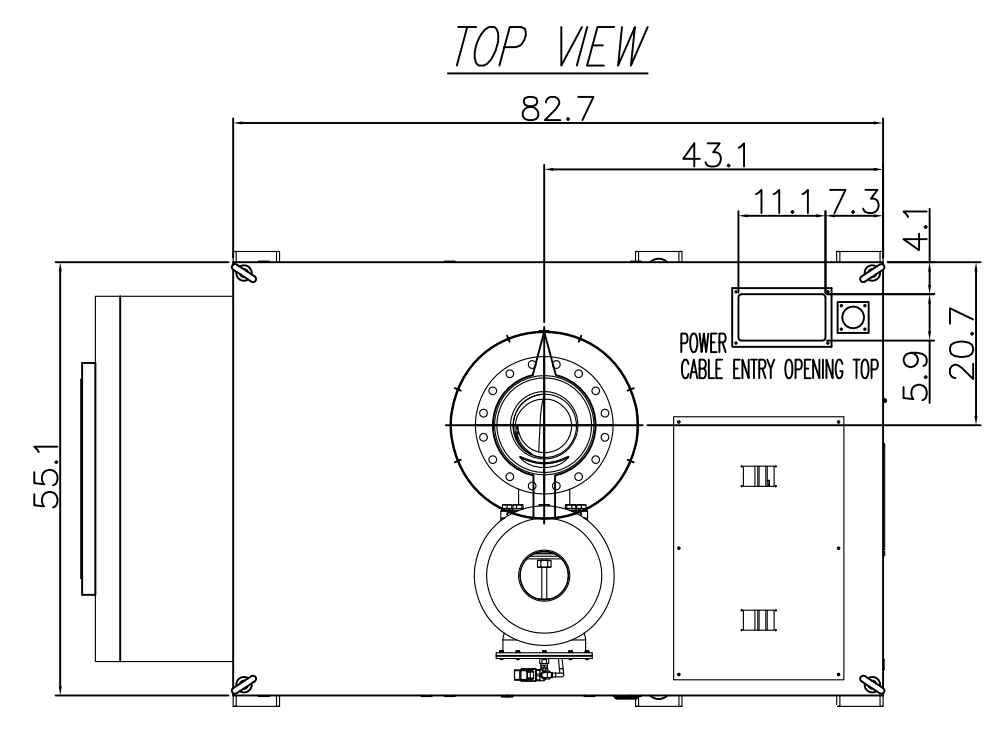
MAIN CONTROL PANEL
MCP



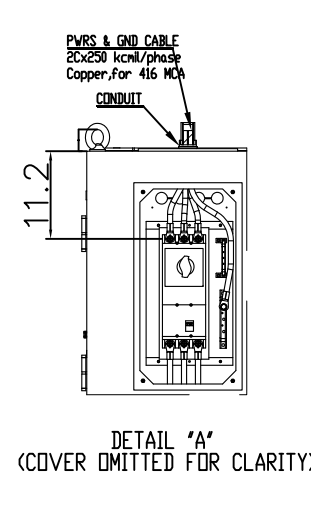
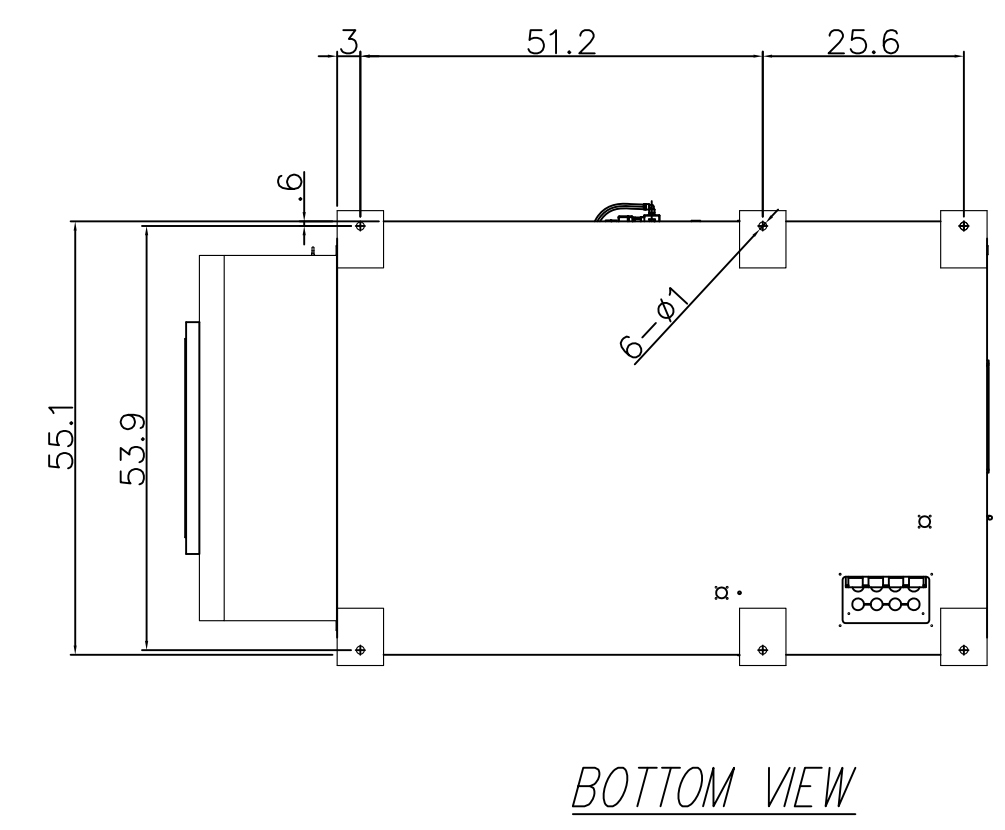
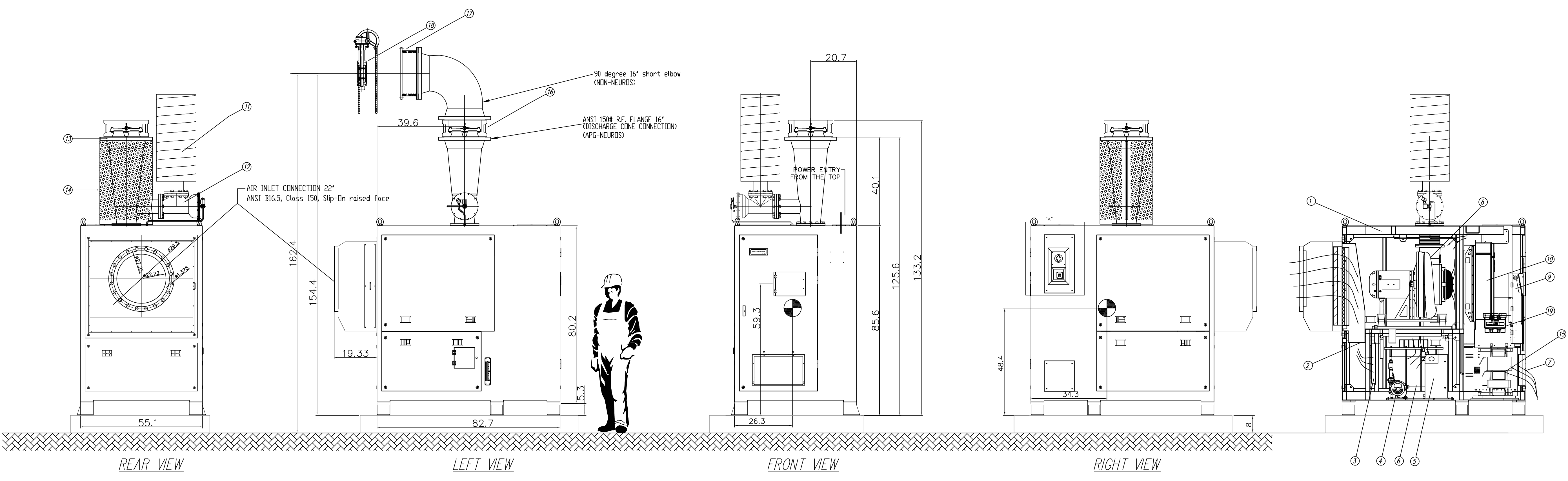
1 INTERCONNECT DIAGRAM
NO SCALE

D
C
B
A

P:\2022\2022_01\01 - Blower Replacement - East Side Blower ESP Construction\0220690 - 43 Interconnect Diagram.dwg 12/25/2011 1:33:31 PM, cad




NO	DESCRIPTION	Q'TY	REMARK
1	BLOWER ENCLOSURE	1	PX4331-SR-SPL07061801 (KCC)
2	NOISE SUPPRESSION COVER	1	
3	RADIATOR	1	
4	WATER PUMP	1	CHN2-30 A-B-I AQQE ML71 Motor
5	WATER TANK	1	
6	SINUS FILTER	1	30.Z1-G04-1003
7	SERVICE DOOR WITH FILTER	1	
8	BLOWER CORE	1	NX350-C070
9	LCP with PLC	1	Allen Bradley Micrologix 1400 + TOUCH SCREEN Panelview 6"
10	INVERTER	1	30.F5.E0W-Y01H 395kVA
11	BLOW-OFF SILENCER	1	BLR054- 150A-10K Flange 6"
12	BLOW-OFF VALVE	1	BLR 065
13	DISCHARGE CONE	1	BLR059-16-E
14	DISCHARGE CONE GUARD	1	BLR094-16-E
15	HARMONIC FILTER PANEL	1	AUHF-350-480-60 350HP - Lineator integrated
16	Check-valve 16"	1	W16" CI AB W S R (Wafer style, Cast Iron, Aluminum Br disc, Viton B, Stainless spring
17	Flex Joint 16" x 8" long	1	Maxi Joint Style 1015 EPDM rubber, 300F in Air
18	Butterfly valve with Chain wheel	1	TRIAD model TRI-751-16-DSEGO and CIRG 2.5 chain wheel + 22ft chain
19	Input Reactor	1	29.Z1.B05-1002 (KEB America)



FOR INFORMATION ONLY

NOTE.
 *- Symbol " indicate center of gravity.
 - Unit weight: 4268 lbs



1270 MICHÈLE-BOHEC, BLAINVILLE
 QUÉBEC, CANADA J7C 5S4
 TEL: (450) 939-0799
 FAX: (450) 939-2115

FOR CITY OF JOLIET
 1021 MCKINLEY STREET, JOLIET, IL, 60432-4158

TITLE: 22" INLET, 16" DISCHARGE WITH APPURTENANCES
 NX350-C070

PROJECT NO. 11-0034 DRAWING NO. L-NX350-01

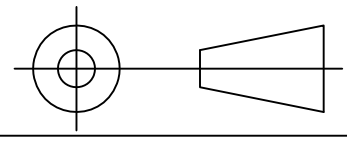
MSTR NO. SC. 1:1 SHEET 1 OF 1 REV. -

DESIGNED BY KC | 01.01.2011 DRAWN BY AB | 22/09/2011 REFERENCE

CHECKED BY FA | 25/09/2011 APPROVED BY FA | 27/09/2011 UNIQUE ID IA-100-A DWG SIZE B

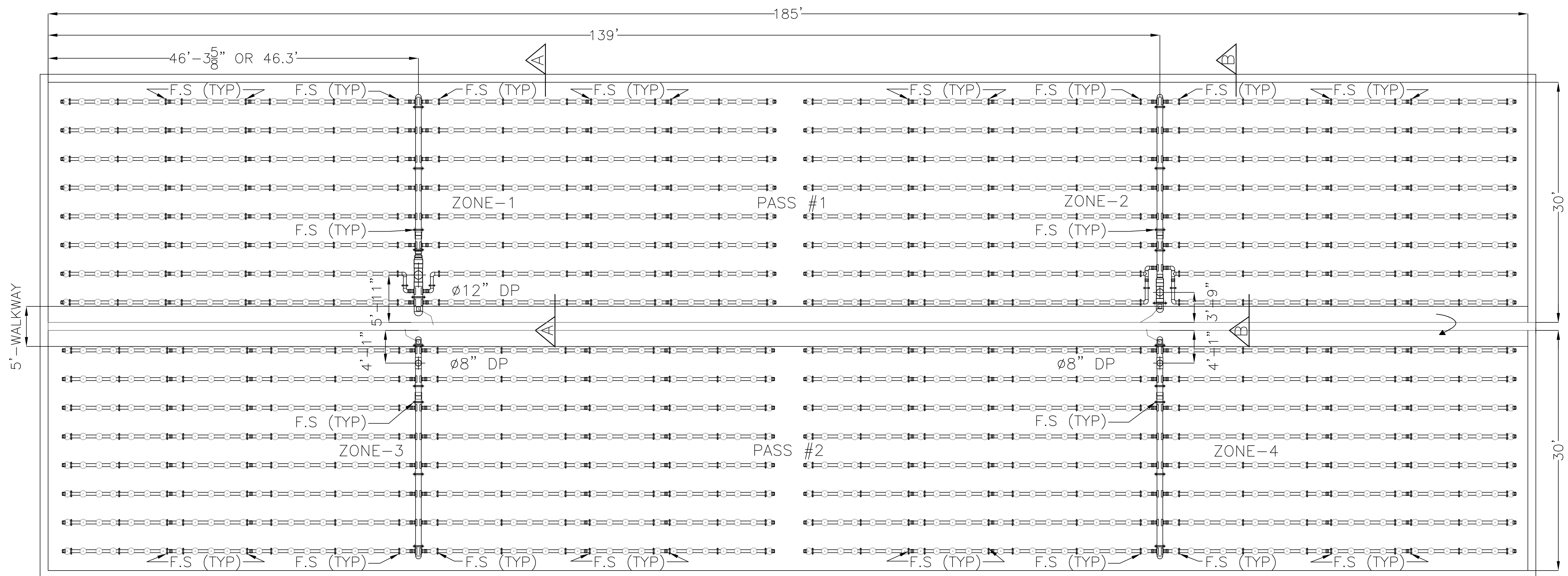
FILE NAME APPENDIX A BLOWERS.DWG SAVED ON 12/22/2011

UNLESS OTHERWISE NOTED:
 *- ALL DIMENSIONS ARE IN INCHES
 *- THIRD ANGLE PROJECTION:

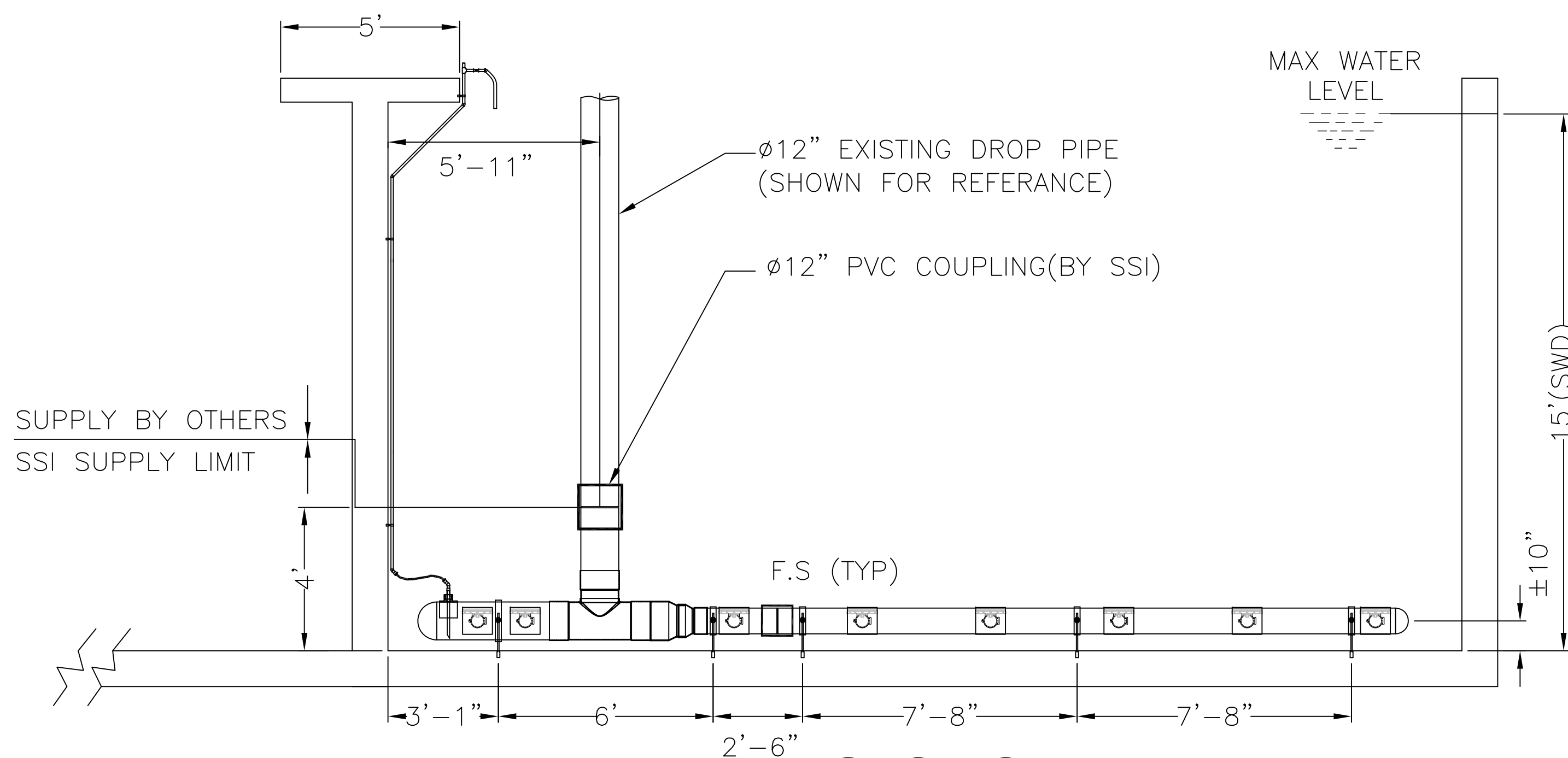


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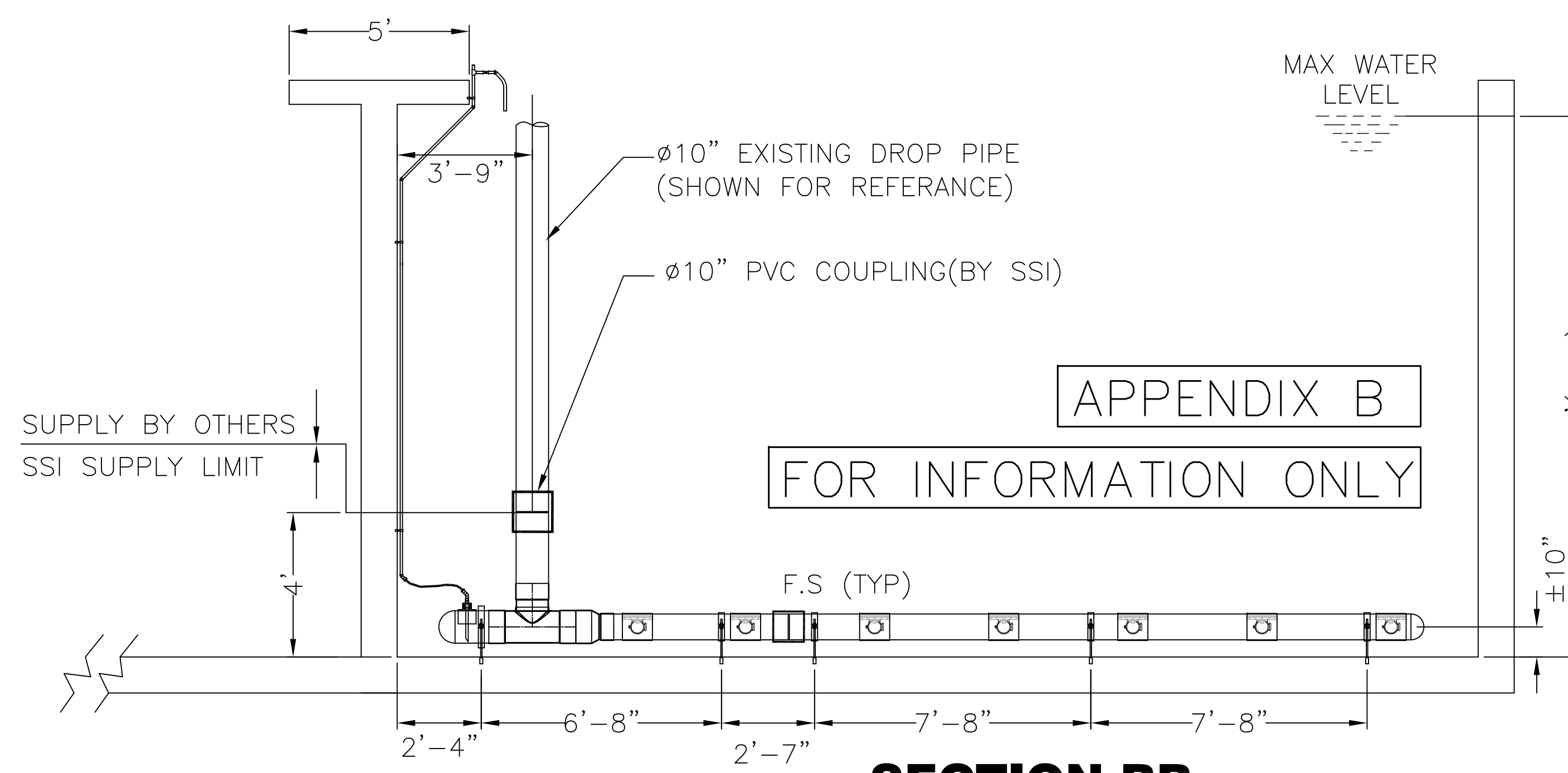
APPENDIX A



AERATION TANK #1 LAYOUT PLAN



SECTION AA



SECTION BB

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/18/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

**SSI-AFD270(9")-P FINE BUBBLE DISC
DIFFUSERS WITH PTFE COATED
EPDM MEMBRANE c/w Q.C SADDLE**

Joliet East Side WWTP, ILLINOIS

**185' x 60' x 15'(SWD)
AERATION TANKS - 1-6 NO.S
LAYOUT PLAN & SECTIONS**

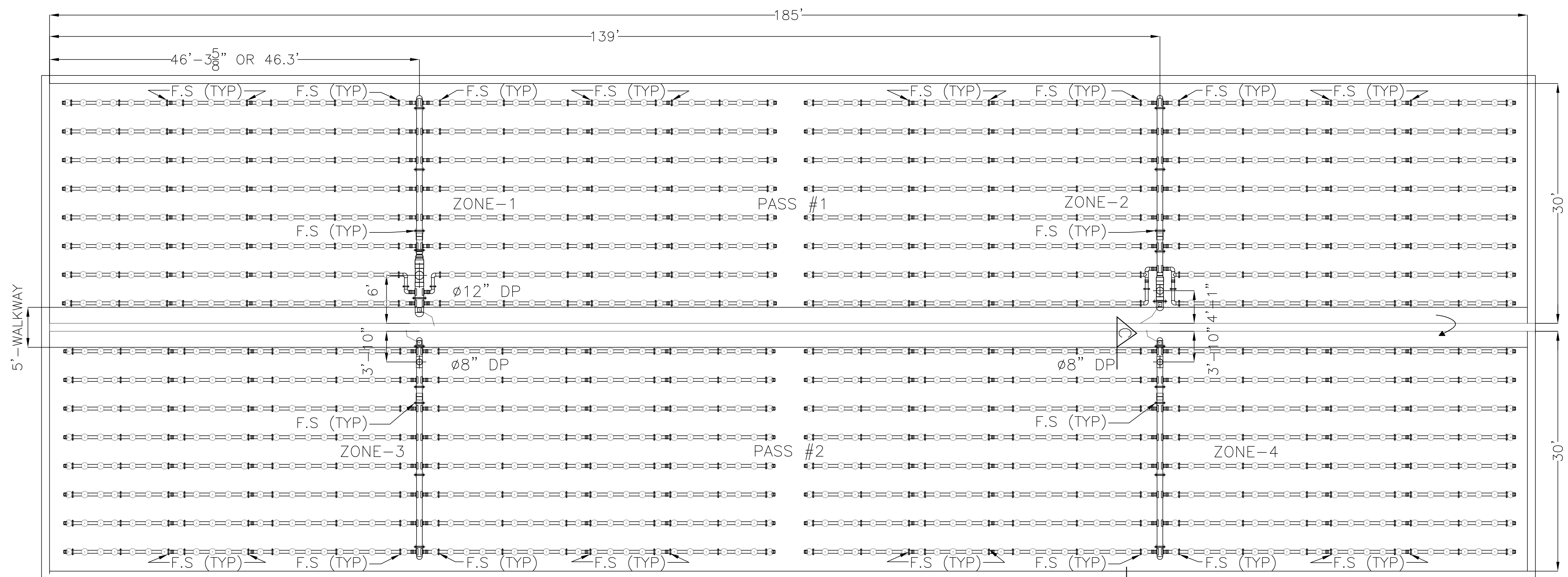
**SSI-Aeration, Inc
CLEAR WATER DEPT.**

SUBMITTED:
SCALE:
DATE: SEPT, 2011

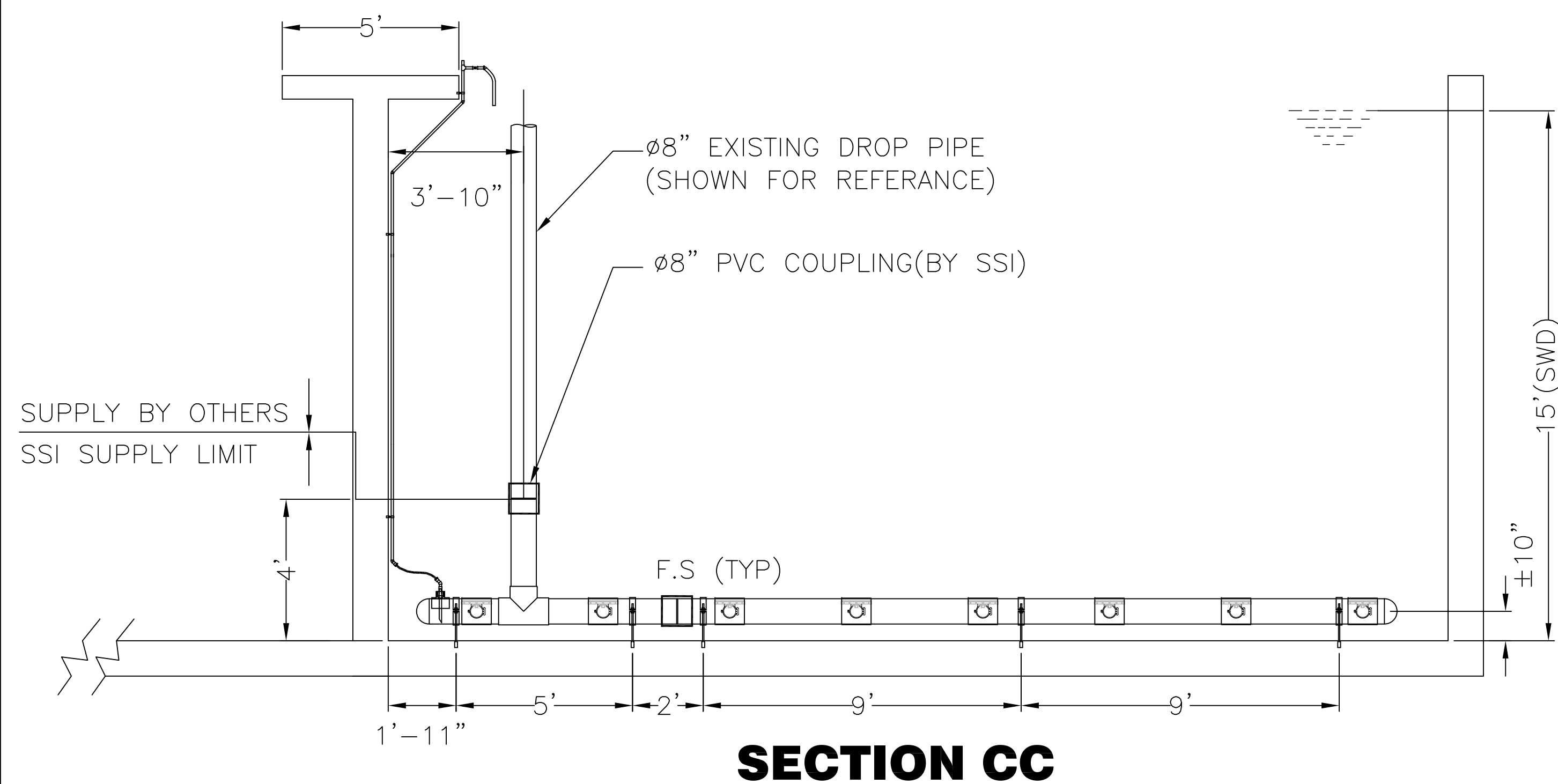
DESIGNED BY: G.Pinto
DRAWN BY: KARTHIK
SHEET NO. 1 OF 6

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 1-6_AFD270P_D01_Rev[2]



AERATION TANK #2 LAYOUT PLAN



SECTION CC

NOTE:

- 1). F.S. DENOTES FIXED SUPPORTS WITH CLAMPS (STRAPS) GRIPPED TIGHT TO THE O.D OF THE PIPE
- 2). UNLESS NOTED OTHERWISE SUPPORTS ARE GUIDE SUPPORTS WITH A COUPLE OF WASHER'S PLACED B/W THE CLAMPS, SO THAT THERE IS APPROX $\frac{1}{16}$ " GAP B/W THE O.D OF THE PIPE AND I.D OF THE CLAMPS.

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/18/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

SSI-AFD270(9")-P FINE BUBBLE DISC DIFFUSERS WITH PTFE COATED EPDM MEMBRANE c/w Q.C SADDLE

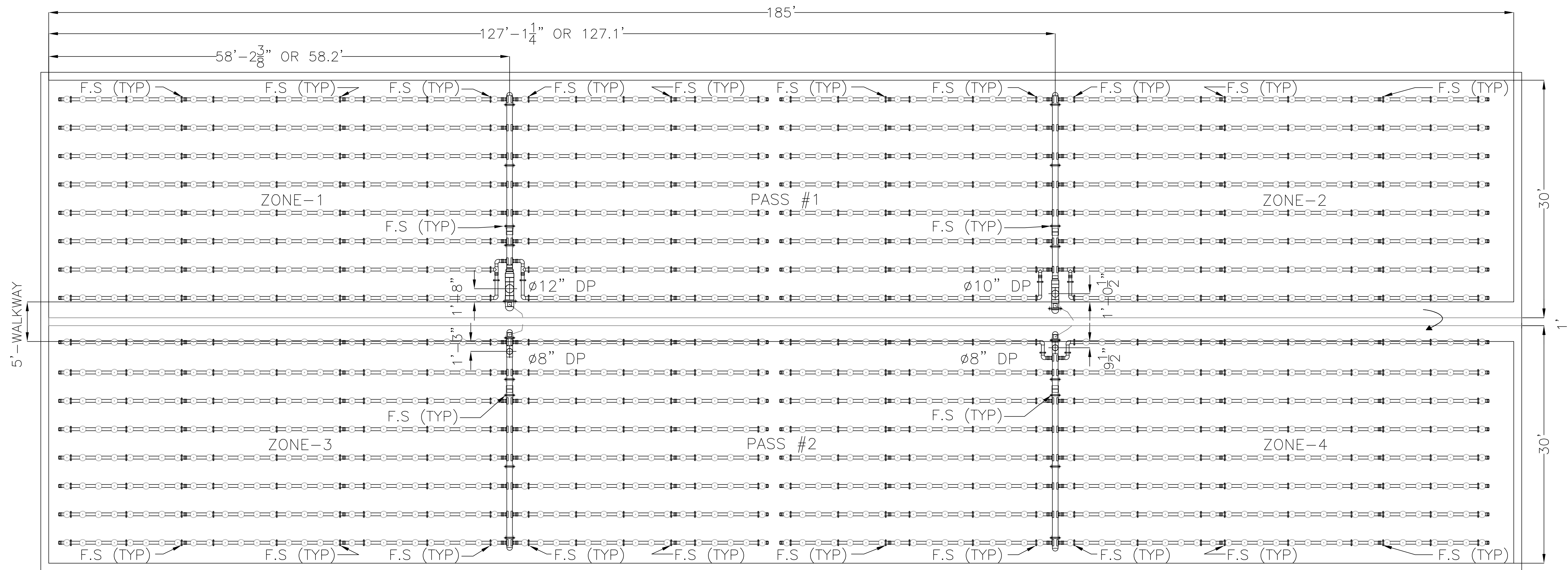
Joliet East Side WWTP, ILLINOIS

185' x 60' x 15'(SWD) AERATION TANKS - 1-6 NO.S LAYOUT PLAN & SECTIONS

SSI-Aeration, Inc CLEAR WATER DEPT.

SUBMITTED:	DESIGNED BY: G.Pinto
SCALE:	DRAWN BY: KARTHIK
DATE: SEPT, 2011	SHEET NO. 2 OF 6
SUBMITTAL ISSUE	

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 1-6_AFD270P_D01_Rev[2]



AERATION TANK #3 LAYOUT PLAN

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/18/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

**SSI-AFD270(9")-P FINE BUBBLE DISC
DIFFUSERS WITH PTFE COATED
EPDM MEMBRANE c/w Q.C SADDLE**

Joliet East Side WWTP, ILLINOIS

**185' x 60' x 15'(SWD)
AERATION TANKS - 1-6 NO.S
LAYOUT PLAN**

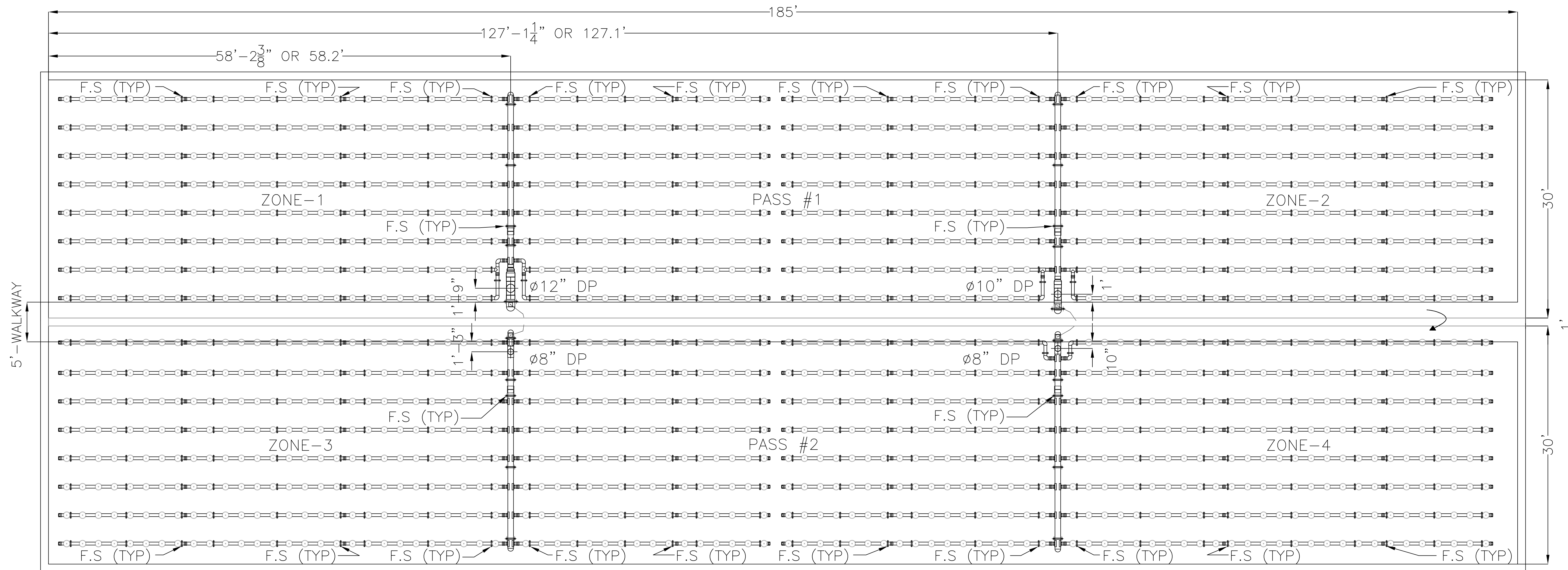
**SSI-Aeration, Inc
CLEAR WATER DEPT.**

SUBMITTED:
SCALE:
DATE: SEPT, 2011

DESIGNED BY: G.Pinto
DRAWN BY: KARTHIK
SHEET NO. 3 OF 6

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 1-6_AFD270P_D01_Rev[2]



AERATION TANK #4 LAYOUT PLAN

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/18/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

**SSI-AFD270(9")-P FINE BUBBLE DISC
DIFFUSERS WITH PTFE COATED
EPDM MEMBRANE c/w Q.C SADDLE**

Joliet East Side WWTP, ILLINOIS

**185' x 60' x 15'(SWD)
AERATION TANKS - 1-6 NO.S
LAYOUT PLAN**

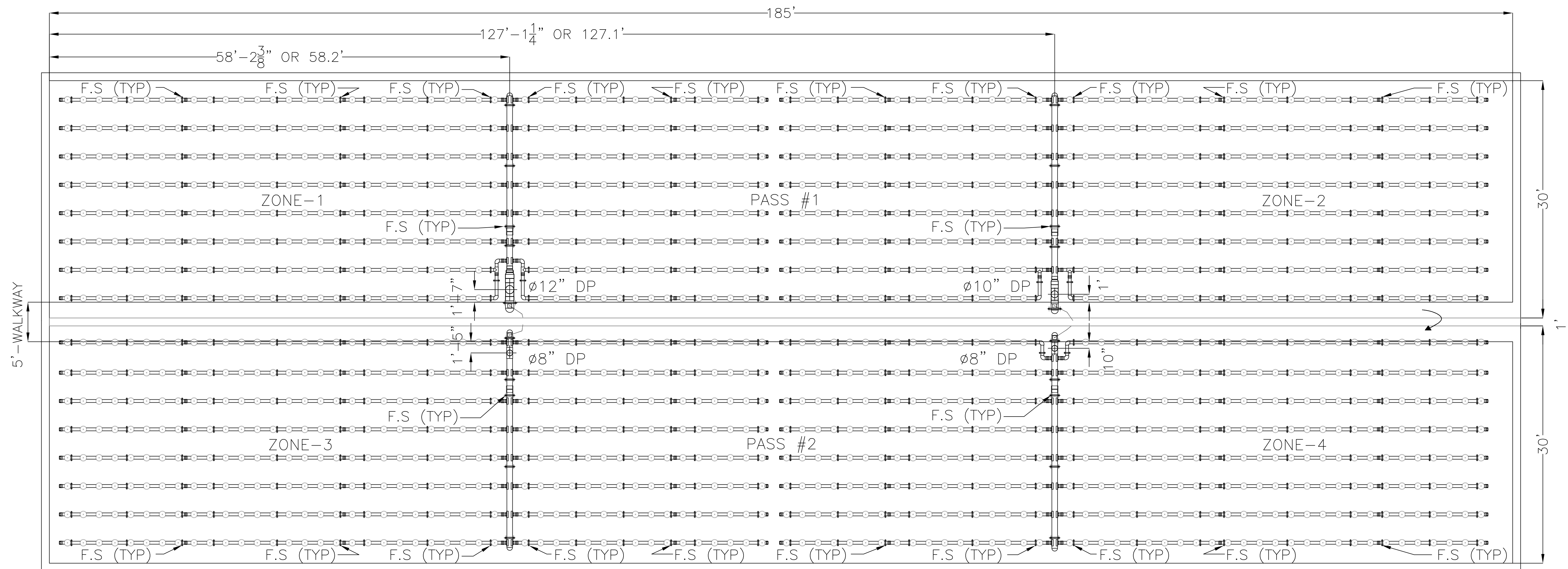
**SSI-Aeration, Inc
CLEAR WATER DEPT.**

SUBMITTED:
SCALE:
DATE: SEPT, 2011

DESIGNED BY: G.Pinto
DRAWN BY: KARTHIK
SHEET NO. 4 OF 6

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 1-6_AFD270P_D01_Rev[2]



AERATION TANK #5 LAYOUT PLAN

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/18/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

SSI-AFD270(9")-P FINE BUBBLE DISC DIFFUSERS WITH PTFE COATED EPDM MEMBRANE c/w Q.C SADDLE

Joliet East Side WWTP, ILLINOIS

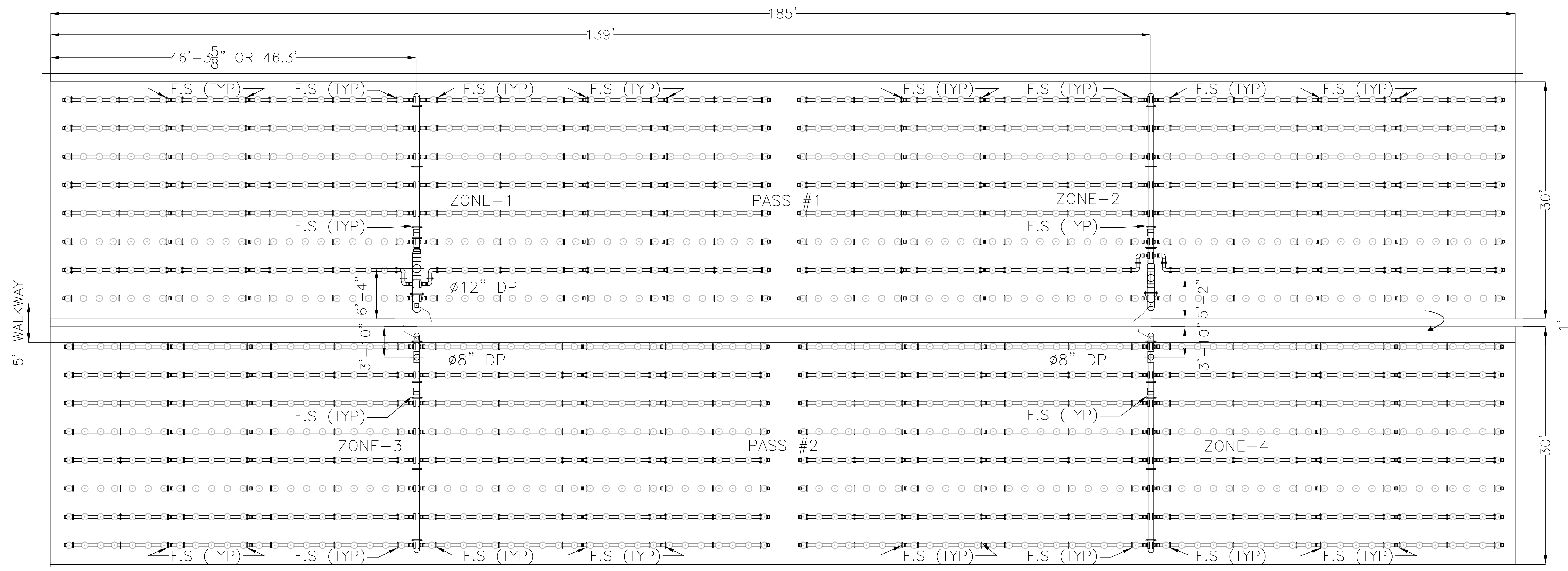
**185' x 60' x 15'(SWD)
AERATION TANKS - 1-6 NO.S
LAYOUT PLAN**

**SSI-Aeration, Inc
CLEAR WATER DEPT.**

SUBMITTED: DESIGNED BY: G.Pinto
SCALE: DRAWN BY: KARTHIK
DATE: SEPT, 2011 SHEET NO. 5 OF 6

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 1-6_AFD270P_D01_Rev[2]



AERATION TANK #6 LAYOUT PLAN

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/18/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

**SSI-AFD270(9")-P FINE BUBBLE DISC
DIFFUSERS WITH PTFE COATED
EPDM MEMBRANE c/w Q.C SADDLE**

Joliet East Side WWTP, ILLINOIS

**185' x 60' x 15'(SWD)
AERATION TANKS - 1-6 NO.S
LAYOUT PLAN & SECTIONS**

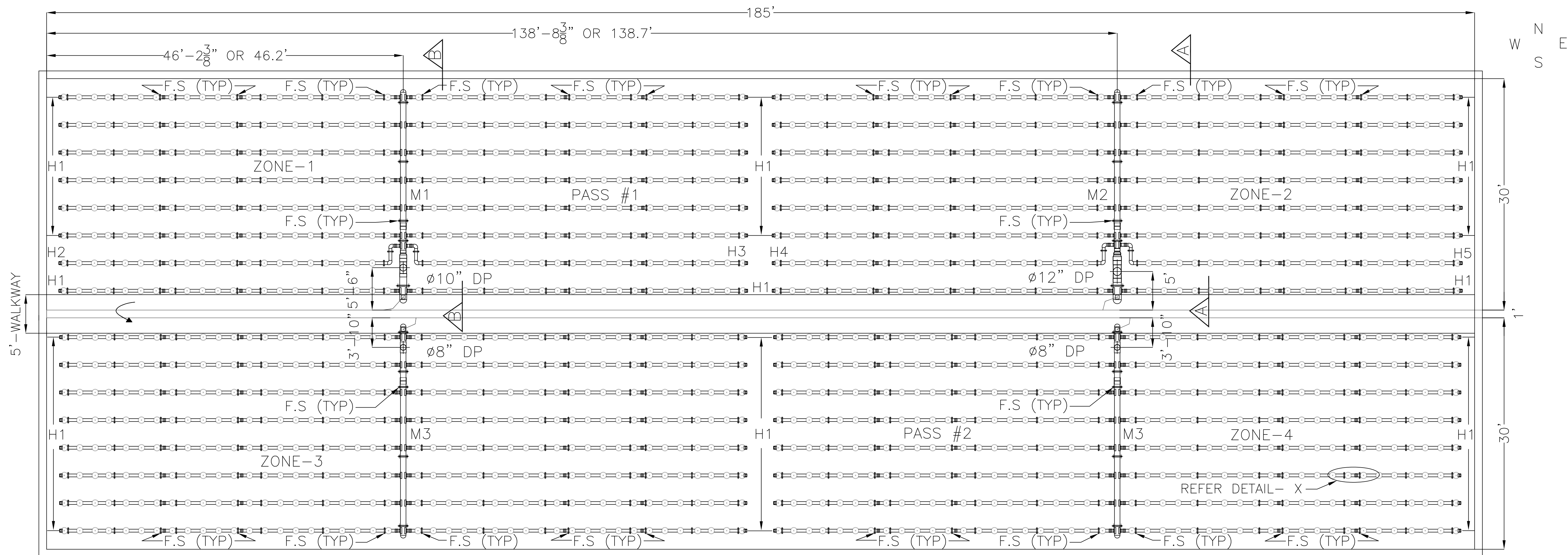
**SSI-Aeration, Inc
CLEAR WATER DEPT.**

SUBMITTED:
SCALE:
DATE: SEPT, 2011

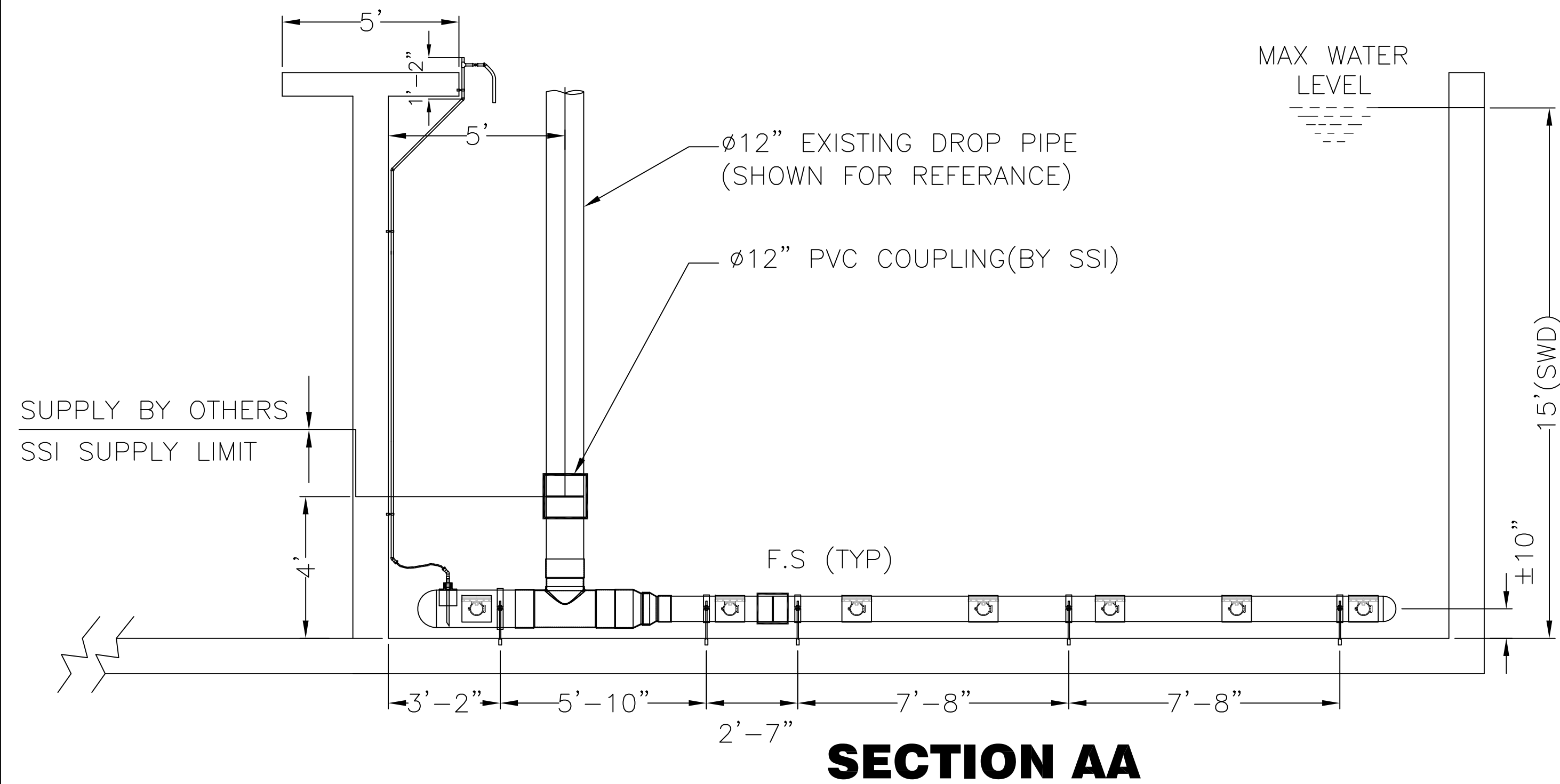
DESIGNED BY: G.Pinto
DRAWN BY: KARTHIK
SHEET NO. 6 OF 6

SUBMITTAL ISSUE

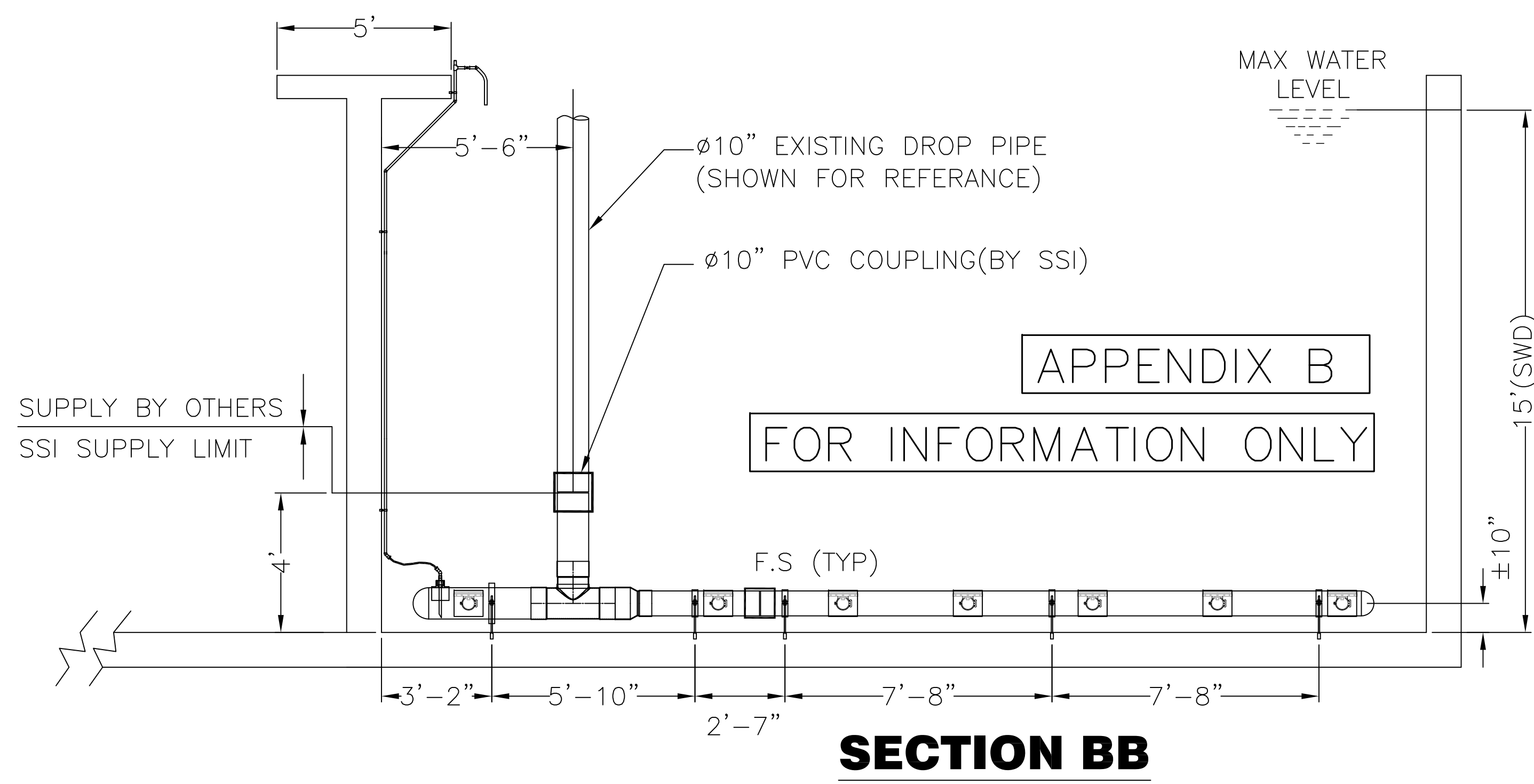
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AERATION TANK #7 LAYOUT PLAN



SECTION AA



SECTION BB

APPENDIX B
FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/16/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

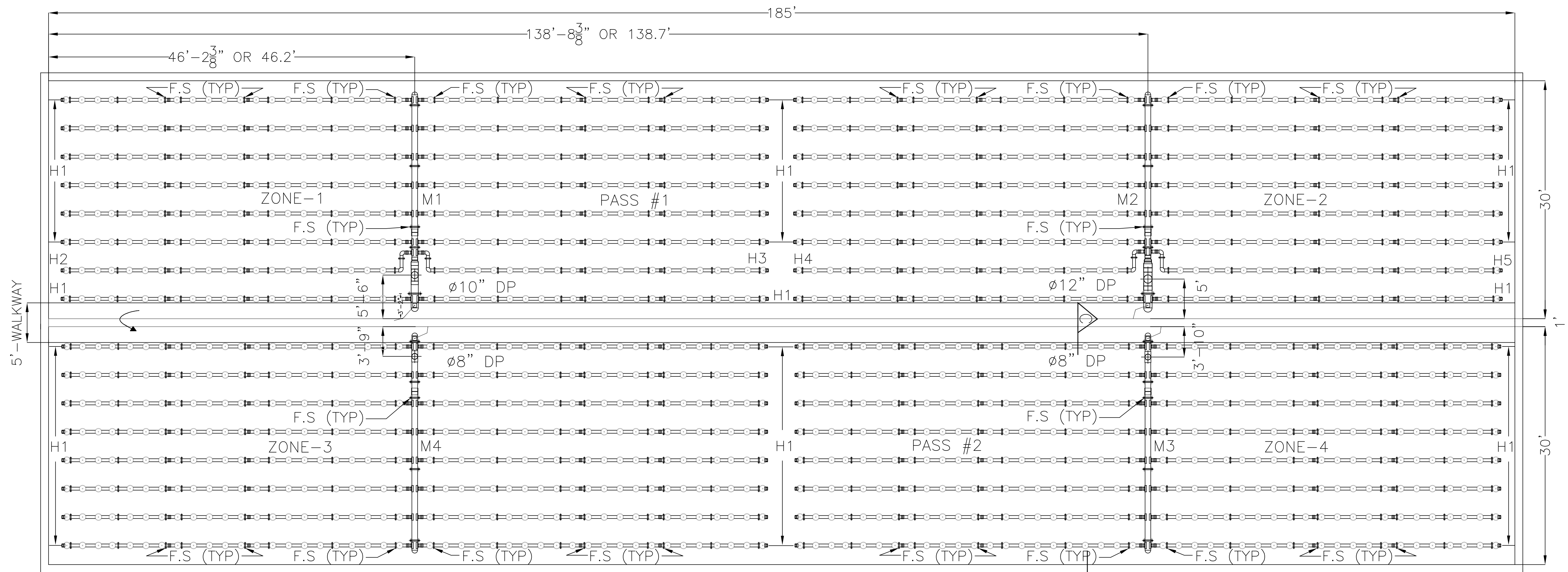
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**SSI-Aeration, Inc
CLEAR WATER DEPT.**

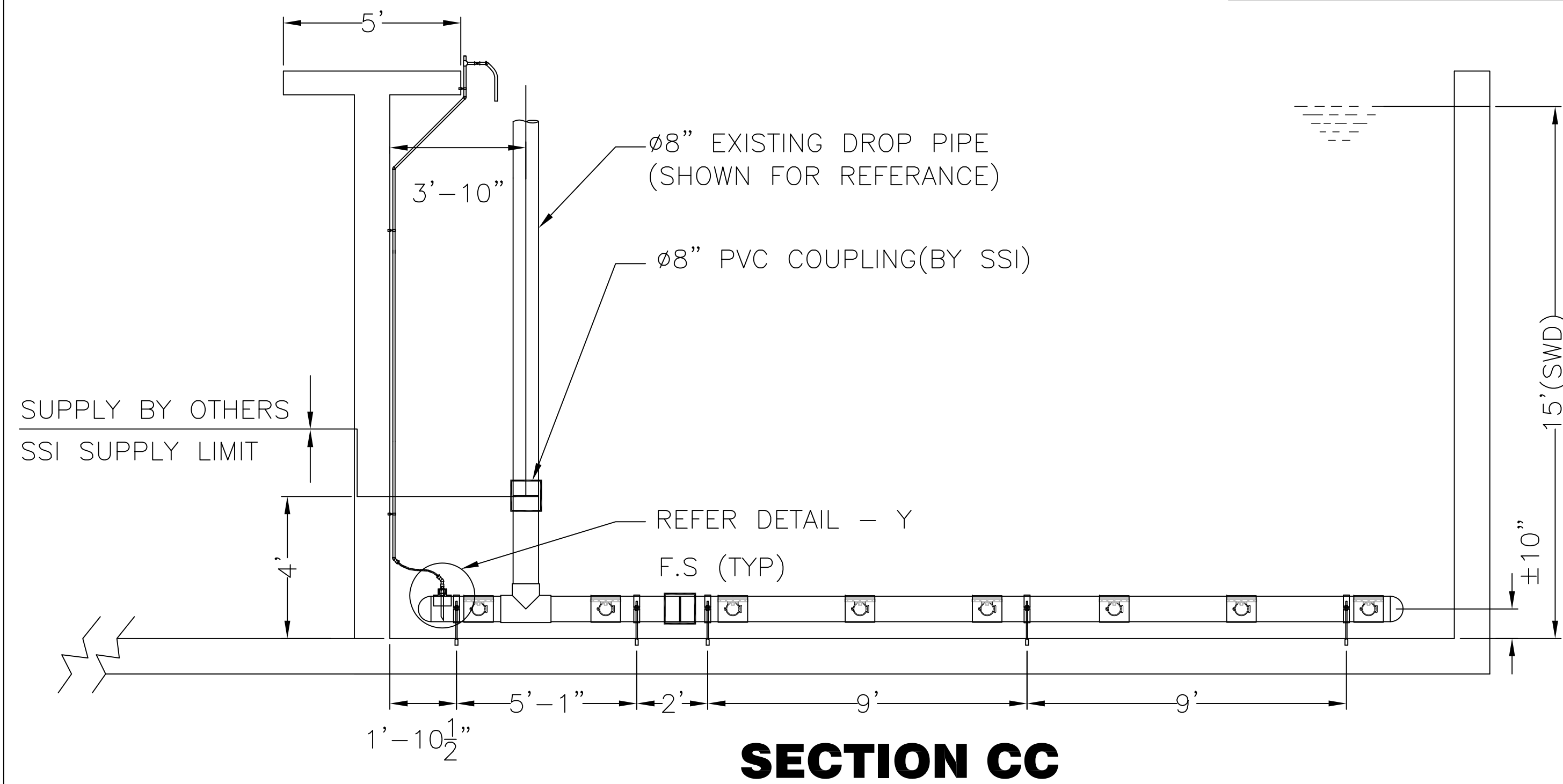
SUBMITTED: DESIGNED BY: G.Pinto
SCALE: DRAWN BY: KARTHIK
DATE: SEPT, 2011 SHEET NO. 1 OF 13

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 7-12_AFD270P_D01_Rev[2]



AERATION TANK #8 LAYOUT PLAN



SECTION CC

NOTE:

- 1). F.S. DENOTES FIXED SUPPORTS WITH CLAMPS (STRAPS) GRIPPED TIGHT TO THE O.D. OF THE PIPE
- 2). UNLESS NOTED OTHERWISE SUPPORTS ARE GUIDE SUPPORTS WITH A COUPLE OF WASHER'S PLACED B/W THE CLAMPS, SO THAT THERE IS APPROX $\frac{1}{16}$ " GAP B/W THE O.D. OF THE PIPE AND I.D. OF THE CLAMPS.

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/16/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

**SSI-AFD270(9")-P FINE BUBBLE DISC
DIFFUSERS WITH PTFE COATED
EPDM MEMBRANE c/w Q.C SADDLE**

Joliet East Side WWTP, ILLINOIS

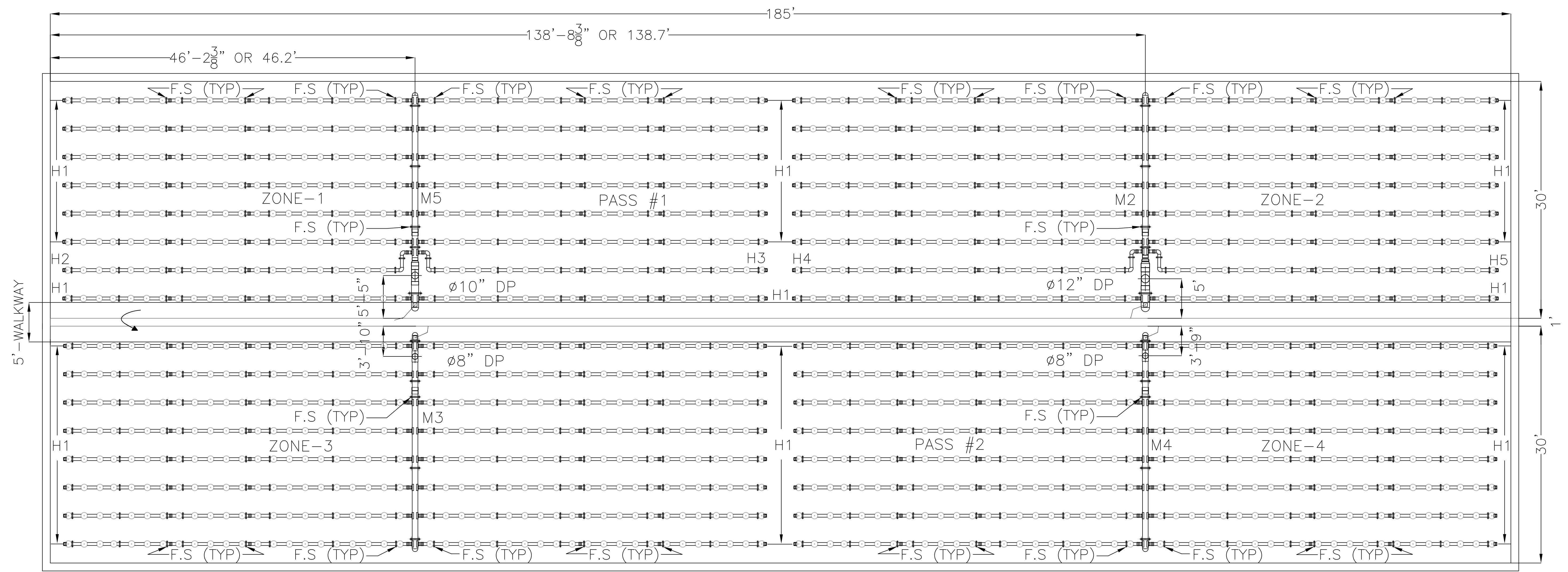
**185' x 60' x 15'(SWD)
AERATION TANKS - 12NO.S
LAYOUT PLAN & SECTION**

**SSI-Aeration, Inc
CLEAR WATER DEPT.**

SUBMITTED:
SCALE:
DATE: SEPT, 2011

DESIGNED BY: G.Pinto
DRAWN BY: KARTHIK
SHEET NO. 2 OF 13
SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 7-12_AFD270P_D01_Rev[2]



AERATION TANK #9 LAYOUT PLAN

AERATION TANKS (7 TO 12)

EACH WITH FOUR (4) ZONES

TANK DESCRIPTION	ZONE DESCRIPTION	NUMBER OF GRIDS/ZONE	NUMBER OF DIFFUSERS/GRID	NUMBER OF ROWS/GRID	ROW SPACING	DIFFUSERS SPACING	DIAMETER OF LOWER DROP /MANIFOLD (SCH.40 PVC)	DIAMETER OF HEADER (SDR.26 PVC)
PASS-1	ZONE-1	1	350PCS	16	3'-7"	2'	10"/8"	4"
	ZONE-2	1	350PCS	16	3'-7"	2'	12"/8"	4"
PASS-2	ZONE-3	1	352PCS	16	3'-7"	2'	8"	4"
	ZONE-4	1	352PCS	16	3'-7"	2'	8"	4"

TOTAL NUMBER OF DIFFUSER OF THE SYSTEM (6 TANKS) - 8,424PCS

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/16/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

SSI-AFD270(9")-P FINE BUBBLE DISC DIFFUSERS WITH PTFE COATED EPDM MEMBRANE c/w Q.C SADDLE

Joliet East Side WWTP, ILLINOIS

185' x 60' x 15'(SWD) AERATION TANKS - 12NO.S LAYOUT PLAN & GRID DETAILS

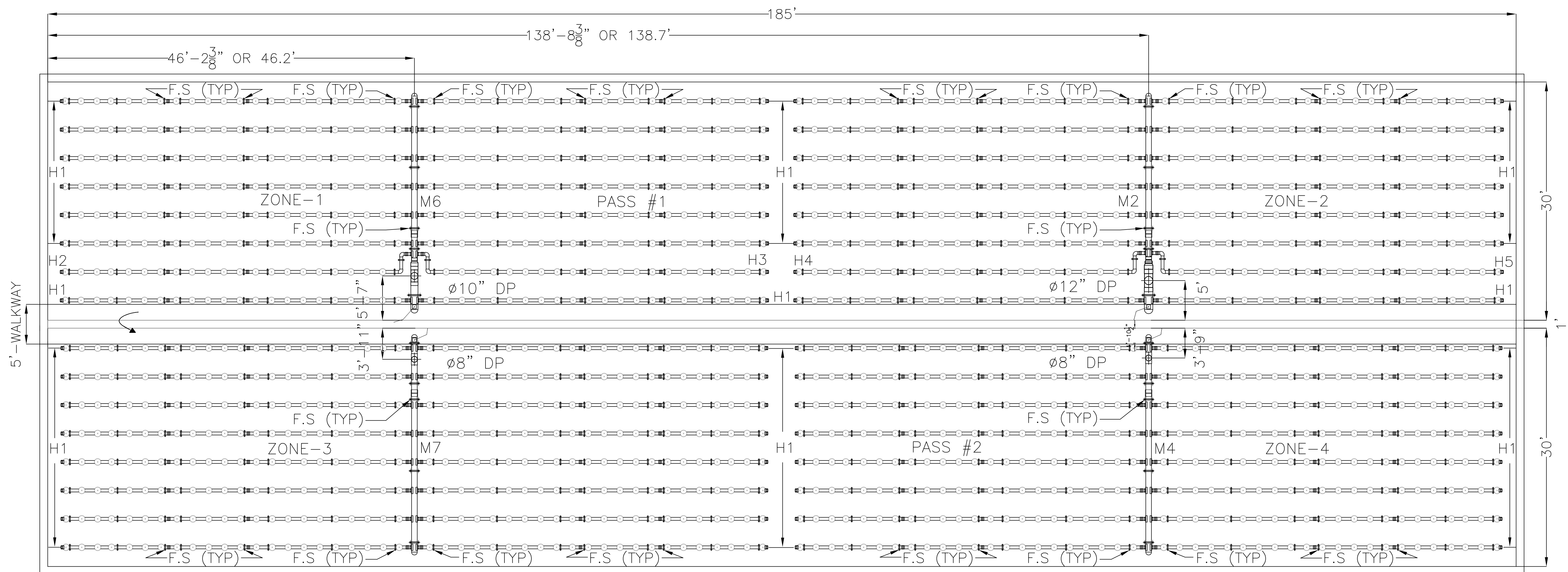
SSI-Aeration, Inc CLEAR WATER DEPT.

SUBMITTED: _____
 SCALE: _____
 DATE: SEPT, 2011

DESIGNED BY: G.Pinto
 DRAWN BY: KARTHIK
 SHEET NO. 3 OF 13

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 7-12_AFD270P_D01_Rev[2]



AERATION TANK #10 LAYOUT PLAN

FOR TANKS - 7 TO 12
10" DROP PIPE

SS1		MATERIAL LIST FOR THE SYSTEM				
ITEM	QTY	DESCRIPTION	MATERIAL	WEIGHT (lbs)	VOLUME (cft)	APPLICATION
1)	1	10" COUPLINGS SS SHEARS	PVC	6 X 1 = 6	0.472 X 1 = 0.47	LOWER DROP PIPE
2)	5'	10" SCH.40 PVC PIPE	PVC	7.5 X 5 = 37.5	0.6303 X 5 = 3.15	LOWER DROP PIPE
3)	1	10" PVC TEE	PVC	23.62 X 1 = 23.62	1.19 X 1 = 1.19	DROP PIPE
4)	1	10"x8" PVC REDUCER	PVC	8.4 X 1 = 8.4	0.496 X 1 = 0.496	DROP PIPE
5)	1	10" SUPPORTS	304SS	6 X 1 = 6	0.241 X 1 = 0.241	MANIFOLD
6)	30'	8" SCH.40 PVC PIPE	PVC	5.305 X 30 = 159.15	0.4057 X 30 = 12.17	MANIFOLD, LOWER DP
7)	4	8" SUPPORTS	304SS	4 X 4 = 16	0.15 X 4 = 0.6	MANIFOLD
8)	1	8" PVC COUPLINGS SS SHEARS	PVC	4 X 1 = 4	0.472 X 1 = 0.472	MANIFOLD
9)	1	8" ENDCAP	PVC	4.35 X 1 = 4.35	0.25 X 1 = 0.25	MANIFOLD
10)	1	10" ENDCAP	PVC	5 X 1 = 5	0.3 X 1 = 0.3	MANIFOLD
11)	14	8"x4" PVC SADDLES	PVC	2.13 X 14 = 29.8	0.118 X 14 = 1.65	MANIFOLD
12)	2	10"x4" PVC SADDLES	PVC	2.9 X 2 = 5.8	0.162 X 2 = 0.324	MANIFOLD
13)	720'	4" SDR.26 PVC PIPE	PVC	1.494 X 720 = 1075.68	0.1094 X 720 = 79	HEADERS
14)	130	4" SUPPORTS (Ø3/8" RODS)	304SS	2.1 X 130 = 273	0.074 X 130 = 9.62	HEADERS
15)	48	4" PVC COUPLINGS SS SHEARS	PVC	1.5 X 48 = 72	0.049 X 48 = 2.35	HEADERS
16)	4	4" PVC ELBOWS	PVC	1 X 4 = 4	0.01 X 4 = 0.04	HEADERS
17)	16	4" REMOVABLE ENDCAPS	PVC	0.75 X 16 = 12	0.036 X 16 = 0.58	HEADERS
18)	350 PCS	AFD270(9") DISC DIFFUSERS	PP/PTFE	1.5 X 350 = 525	0.03 X 350 = 10.5	HEADERS
19)	350 PCS	Q.C SADDLES	PP	0.5 X 350 = 175	0.01 X 350 = 3.5	HEADERS
20)	1	MOISTURE PURGE SYSTEM	PVC	0.214/FT X 1 = 0.214	0.036/FT X 1 = 0.036	MANIFOLD

APPROX. SHIPPING WEIGHT FOR ONE (1) 10" DROP PIPE GRID - 2,580 LBS
 APPROX. SHIPPING VOLUME FOR ONE (1) 10" DROP PIPE GRID - 135 CFT
 APPROX. SHIPPING WEIGHT FOR SIX (6) 10" DROP PIPE GRID - 15,480 LBS
 APPROX. SHIPPING VOLUME FOR SIX (6) 10" DROP PIPE GRID - 810 CFT

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/16/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

SSI-AFD270(9")-P FINE BUBBLE DISC DIFFUSERS WITH PTFE COATED EPDM MEMBRANE c/w Q.C SADDLE

Joliet East Side WWTP, ILLINOIS

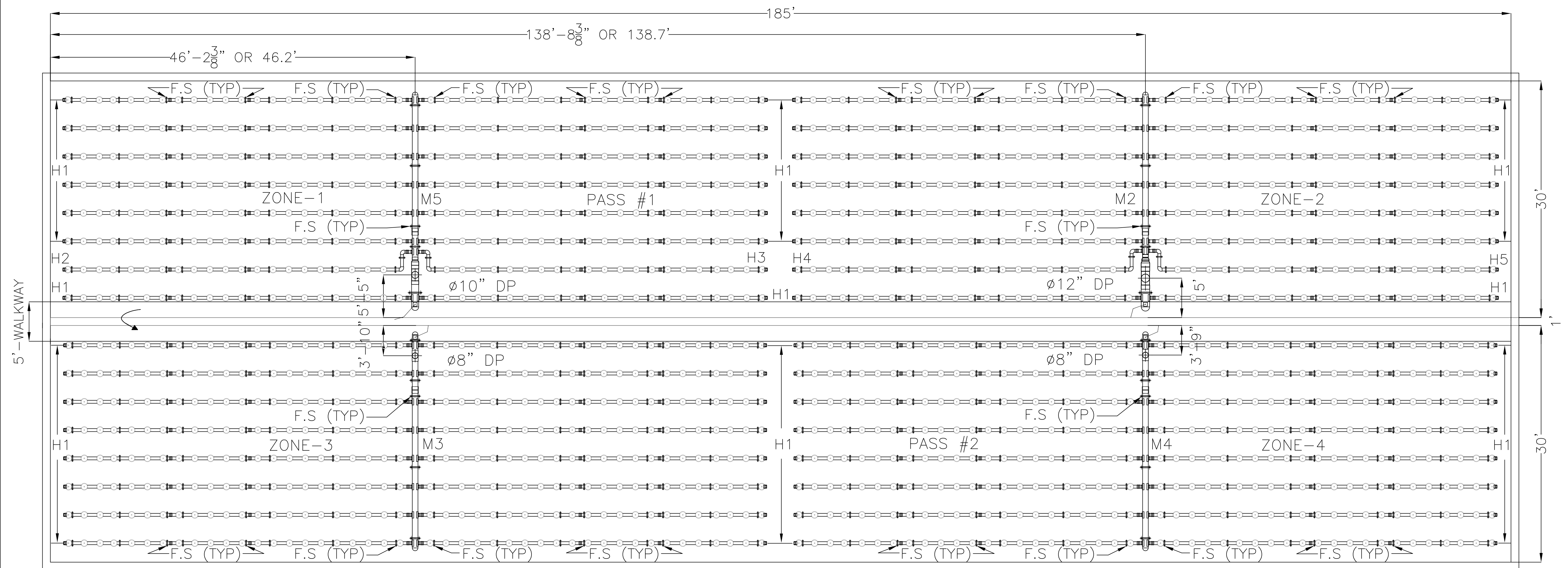
185' x 60' x 15'(SWD) AERATION TANKS - 12NO.S

LAYOUT PLAN, BOM & COUPLING DETAILS

SSI-Aeration, Inc CLEAR WATER DEPT.

SUBMITTED: DESIGNED BY: G.Pinto
 SCALE: DRAWN BY: KARTHIK
 DATE: SEPT, 2011 SHEET NO. 4 OF 13
 SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 7-12_AFD270P_D01_Rev[2]



AERATION TANK #11 LAYOUT PLAN

FOR TANKS - 7 TO 12
12" DROP PIPE

SS1		MATERIAL LIST FOR THE SYSTEM				
ITEM	QT'Y	DESCRIPTION	MATERIAL	WEIGHT (lbs)	VOLUME (cft)	APPLICATION
1)	1	12" COUPLINGS SS SHEARS	PVC	8.5 X 1 = 8.5	0.472 X 1 = 0.47	LOWER DROP PIPE
2)	5'	12" SCH.40 PVC PIPE	PVC	9.9 X 5 = 49.5	0.8866 X 5 = 4.43	LOWER DROP PIPE
3)	1	12" PVC TEE	PVC	36.92 X 1 = 36.92	1.28 X 1 = 1.28	MANIFOLD, LOWER DP
4)	1	12"x8" PVC REDUCER	PVC	8.67 X 1 = 8.67	0.656 X 1 = 0.66	MANIFOLD, LOWER DP
5)	1	12" SUPPORTS	304SS	5.6 X 1 = 5.6	0.189 X 1 = 0.189	MANIFOLD
6)	30'	8" SCH.40 PVC PIPE	PVC	5.305 X 30 = 159.15	0.4057 X 30 = 12.17	MANIFOLD, LOWER DP
7)	4	8" SUPPORTS	304SS	4 X 4 = 16	0.15 X 4 = 0.45	MANIFOLD
8)	1	8" PVC COUPLINGS SS SHEARS	PVC	4 X 1 = 4	0.472 X 1 = 0.472	MANIFOLD
9)	1	8" ENDCAP	PVC	4.35 X 1 = 4.35	0.25 X 1 = 0.25	MANIFOLD
10)	1	12" ENDCAP	PVC	5 X 1 = 5	0.3 X 1 = 0.3	MANIFOLD
11)	14	8"x4" PVC SADDLES	PVC	2.13 X 14 = 29.8	0.118 X 14 = 1.65	MANIFOLD
12)	2	12"x4" PVC SADDLES	PVC	3.6 X 2 = 7.2	0.179 X 2 = 0.358	MANIFOLD
13)	720'	4" SDR.26 PVC PIPE	PVC	1.494 X 720 = 1075.68	0.1094 X 720 = 79	HEADERS
14)	130	4" SUPPORTS (#3/8" RODS)	304SS	2.1 X 130 = 235	0.074 X 130 = 8	HEADERS
15)	48	4" PVC COUPLINGS SS SHEARS	PVC	1.5 X 48 = 72	0.049 X 48 = 2.35	HEADERS
15)	4	4" PVC ELBOWS	PVC	1 X 4 = 4	0.01 X 4 = 0.04	HEADERS
16)	16	4" REMOVABLE ENDCAPS	PVC	0.75 X 16 = 12	0.036 X 16 = 0.58	HEADERS
17)	350 PCS	AFD270(9") DISC DIFFUSERS	PP/PTFE	1.5 X 350 = 516	0.03 X 350 = 10.32	HEADERS
18)	350 PCS	Q.C SADDLES	PP	0.5 X 350 = 174	0.01 X 350 = 3.48	HEADERS
19)	1	MOISTURE PURGE SYSTEM	PVC	0.214/FT X 1 = 2.68	0.036/FT X 1 = 0.45	MANIFOLD

APPROX. SHIPPING WEIGHT FOR ONE (1) 12" DROP PIPE GRID - 2,580 LBS
 APPROX. SHIPPING VOLUME FOR ONE (1) 12" DROP PIPE GRID - 135 CFT
 APPROX. SHIPPING WEIGHT FOR SIX (6) 12" DROP PIPE GRID - 15,480 LBS
 APPROX. SHIPPING VOLUME FOR SIX (6) 12" DROP PIPE GRID - 810 CFT

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/16/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

SSI-AFD270(9")-P FINE BUBBLE DISC DIFFUSERS WITH PTFE COATED EPDM MEMBRANE c/w Q.C SADDLE

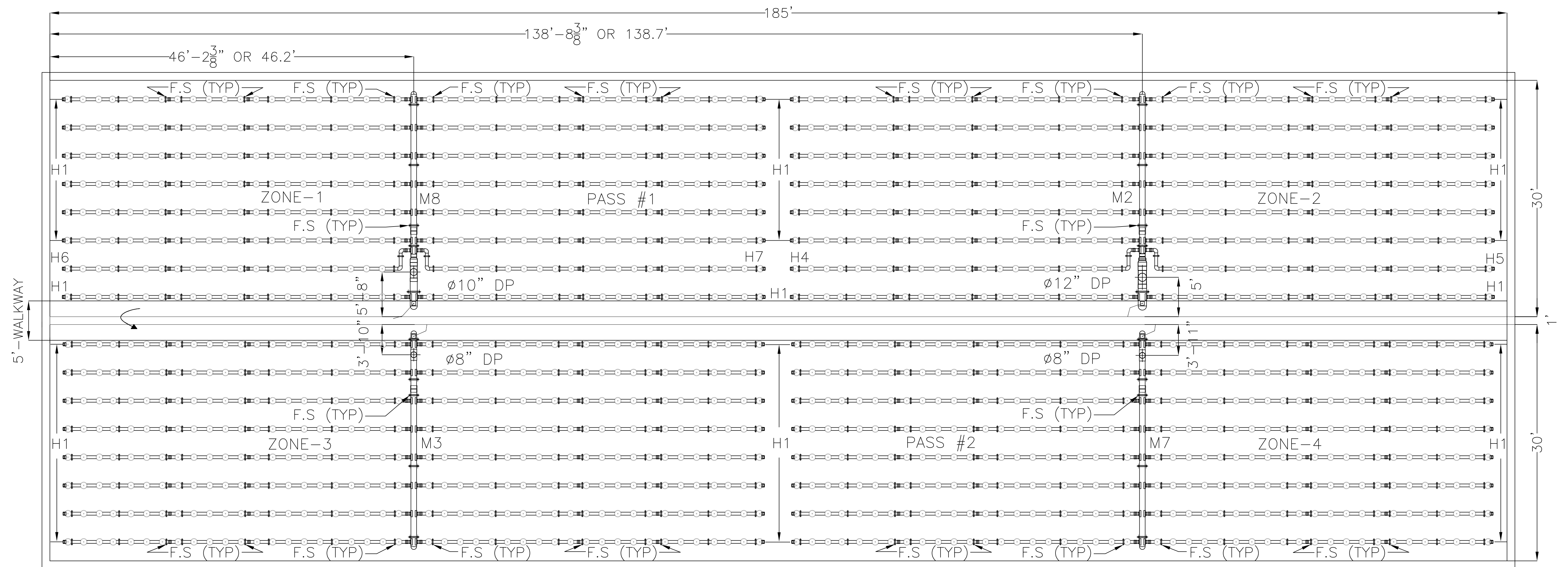
Joliet East Side WWTP, ILLINOIS

185' x 60' x 15'(SWD) AERATION TANKS - 12NO.S LAYOUT PLAN & BOM

SSI-Aeration, Inc CLEAR WATER DEPT.

SUBMITTED: DESIGNED BY: G.Pinto
 SCALE: DRAWN BY: KARTHIK
 DATE: SEPT, 2011 SHEET NO. 5 OF 13
 SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 7-12_AFD270P_D01_Rev[2]



AERATION TANK #12 LAYOUT PLAN

FOR TANKS - 7 TO 12
8" DROP PIPE

MATERIAL LIST FOR THE SYSTEM						
ITEM	QT'Y	DESCRIPTION	MATERIAL	WEIGHT (lbs)	VOLUME (cft)	APPLICATION
1)	1	8" PVC COUPLINGS SS SHEARS	PVC	4 X 1 = 4	0.472 X 1 = 0.47	DROP PIPE
2)	1	8" PVC TEE	PVC	8.67 X 1 = 8.67	0.656 X 1 = 0.66	MANIFOLD
3)	35'	8" SCH.40 PVC PIPE	PVC	5.305 X 35 = 185.675	0.4057 X 35 = 14.2	MANIFOLD, LOWER DP
4)	5	8" SUPPORTS	304SS	4 X 5 = 20	0.15 X 5 = 0.6	MANIFOLD
5)	1	8" PVC COUPLINGS SS SHEARS	PVC	4 X 1 = 4	0.472 X 1 = 0.472	MANIFOLD
6)	2	8" ENDCAPS	PVC	4.35 X 2 = 8.73	0.25 X 2 = 0.5	MANIFOLD
7)	16	8"x4" PVC SADDLES	PVC	2.13 X 16 = 34.08	0.118 X 16 = 1.89	MANIFOLD
8)	720'	4" SDR.26 PVC PIPE	PVC	1.494 X 720 = 1075.68	0.1094 X 720 = 79	HEADERS
9)	128	4" SUPPORTS (ø3/8" RODS)	304SS	2.1 X 128 = 235	0.074 X 128 = 8	HEADERS
10)	48	4" PVC COUPLINGS SS SHEARS	PVC	1.5 X 48 = 72	0.049 X 48 = 2.35	HEADERS
11)	16	4" REMOVABLE ENDCAPS	PVC	0.75 X 16 = 12	0.036 X 16 = 0.58	HEADERS
12)	352 PCS	AFD270(9") DISC DIFFUSERS	PP/PVDF	1.5 X 352 = 516	0.03 X 352 = 10.32	HEADERS
13)	352 PCS	Q.C SADDLES	PP	0.5 X 352 = 174	0.01 X 352 = 3.48	HEADERS
14)	1	MOISTURE PURGE SYSTEM	PVC	0.214/FT X 1 = 2.68	0.036/FT X 1 = 0.45	MANIFOLD

APPROX. SHIPPING WEIGHT FOR ONE (1) 8" DROP PIPE GRID - 2,580 LBS

APPROX. SHIPPING VOLUME FOR ONE (1) 8" DROP PIPE GRID - 135 CFT

APPROX. SHIPPING WEIGHT FOR TWELVE (12) 8" DROP PIPE GRID - 30,960 LBS

APPROX. SHIPPING VOLUME FOR TWELVE (12) 8" DROP PIPE GRID - 1,620 CFT

TOTAL SHIPPING WEIGHT FOR SIX (6) TANKS - 61,920 LBS

TOTAL SHIPPING VOLUME FOR SIX (6) TANKS - 3,240 CFT

APPENDIX B

FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/16/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

SSI-AFD270(9")-P FINE BUBBLE DISC DIFFUSERS WITH PTFE COATED EPDM MEMBRANE c/w Q.C SADDLE

Joliet East Side WWTP, ILLINOIS

**185' x 60' x 15'(SWD)
AERATION TANKS - 12NO.S
LAYOUT PLAN & BOM**

**SSI-Aeration, Inc
CLEAR WATER DEPT.**

SUBMITTED:

SCALE:

DATE: SEPT, 2011

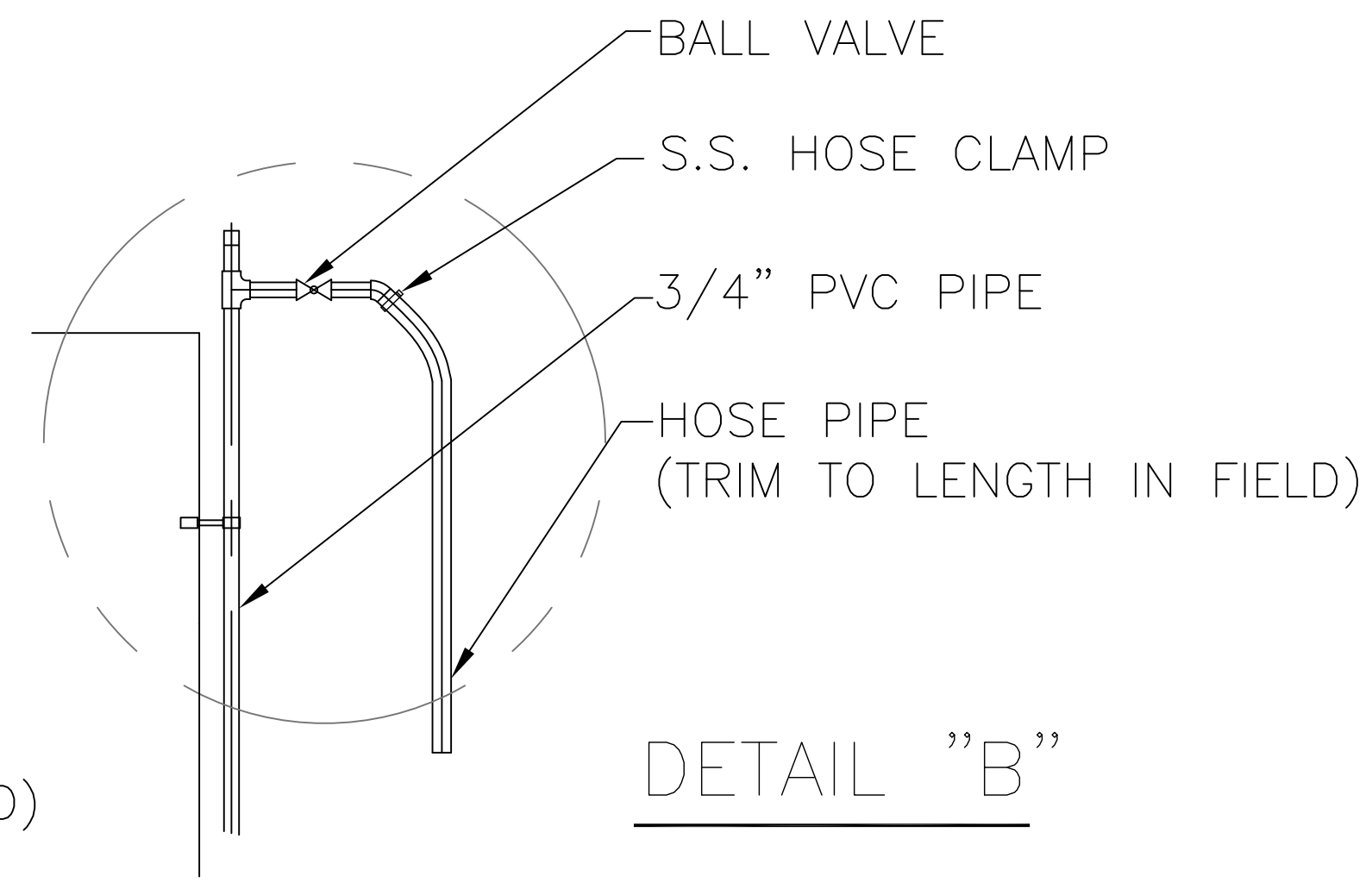
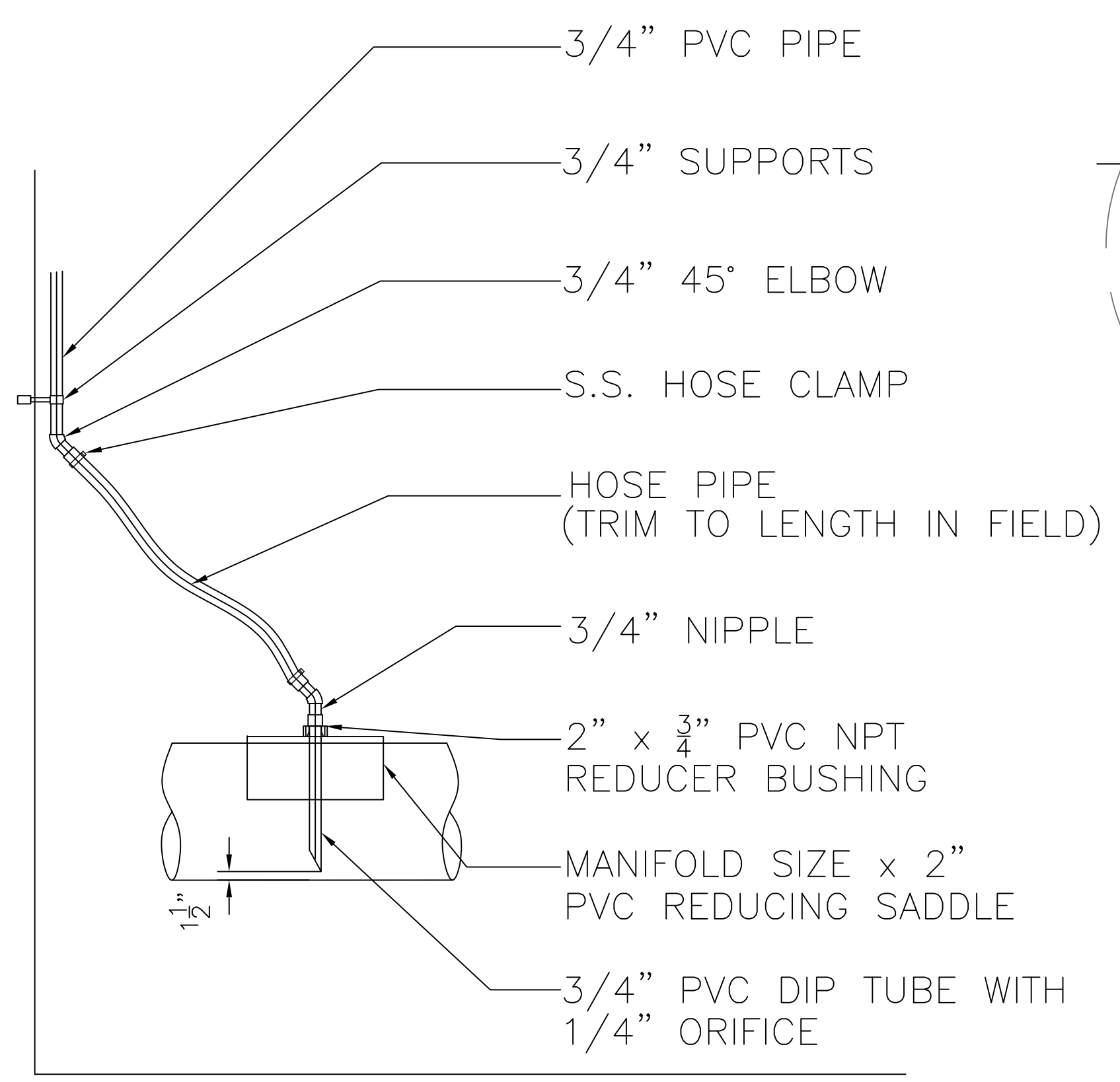
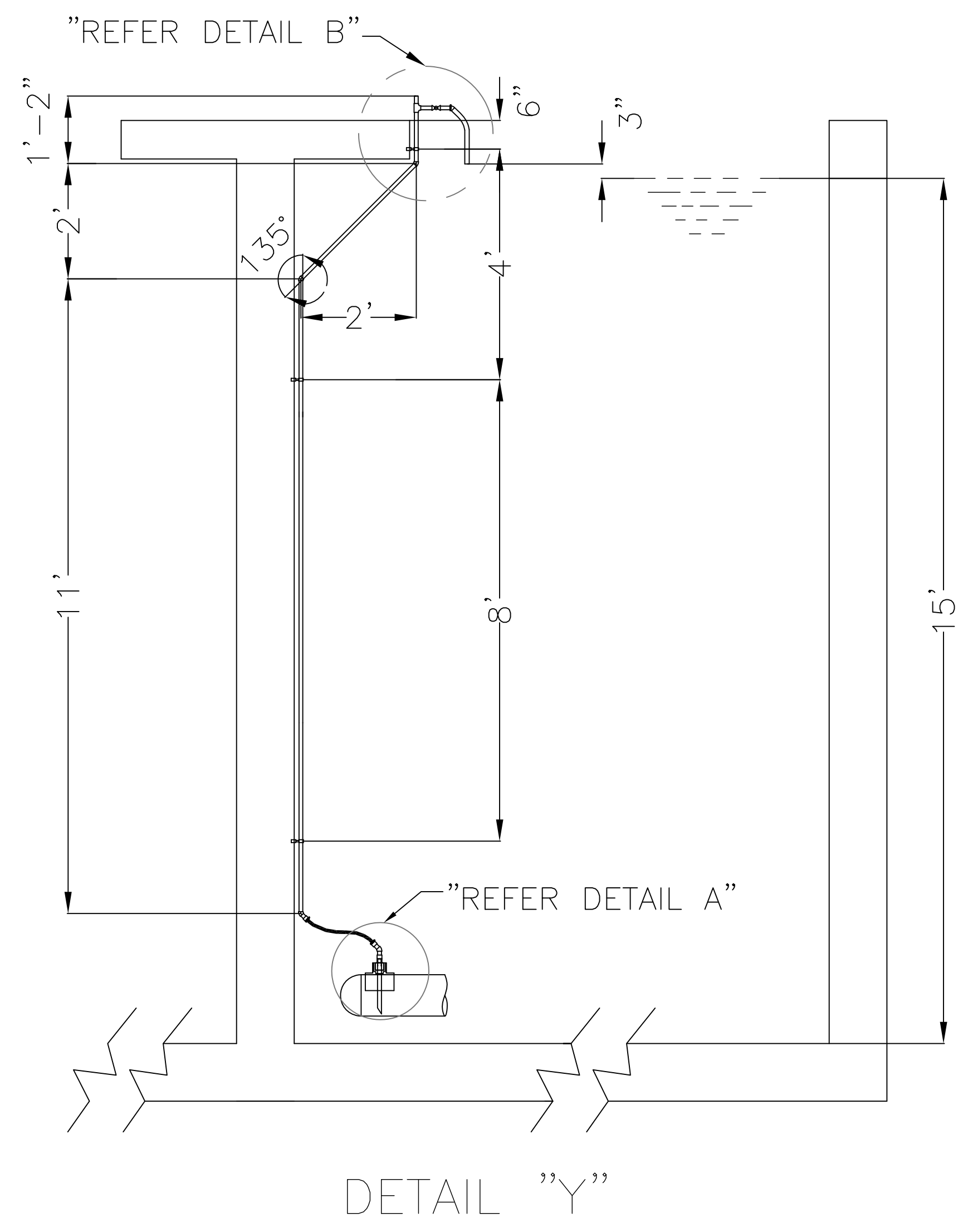
DESIGNED BY: G.Pinto

DRAWN BY: KARTHIK

SHEET NO. 6 OF 13

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 7-12_AFD270P_D01_Rev[2]



- NOTE:**
1. ANGLE FOR PIPE IS SHOWN FOR REFERANCE ONLY.
 2. DUE TO INTERFERENCE OF WALK WAY AND AIR SUPPLY PIPE FROM BLOWERS TO DROP PIPE IT IS DIFFICULT FOR SSI TO JUDGE THE ANGLE AND DISTANCE FROM WALL TO PIPE CENTER
 3. ALL THE PIPES AND FITTINGS WILL BE SUPPLIED LOOSE. CONTRACTOR HAS TO FIX THEM AT SITE WITH REQUIRED ANGLE AND DISTANCE

DETAIL "A"
MOISTURE PURGE SYSTEM
 24 NUMBERS REQUIRED

APPENDIX B
 FOR INFORMATION ONLY

REV	DESCRIPTION	DATE	BY
2	ISSUED FOR RE-SUBMITTAL	11/16/11	KARTHIK
1	ISSUED FOR RE-SUBMITTAL	11/04/11	KARTHIK
0	ISSUED FOR SUBMITTAL	09/08/11	KARTHIK

SSI-AFD270(9")-P FINE BUBBLE DISC DIFFUSERS WITH PTFE COATED EPDM MEMBRANE c/w Q.C SADDLE

Joliet East Side WWTP, ILLINOIS

185' x 60' x 15'(SWD) AERATION TANKS - 12NO.S MOISTURE PURGE DETAILS

SSI-Aeration, Inc
CLEAR WATER DEPT.

SUBMITTED: DESIGNED BY: G.Pinto
 SCALE: DRAWN BY: KARTHIK
 DATE: SEPT, 2011 SHEET NO. 12 OF 13

SUBMITTAL ISSUE

DWG.No:#10279-Joliet East Side WWTP,IL_Aeration Tanks 7-12_AFD270P_D01_Rev[2]