

2019 - WATER SYSTEM IMPROVEMENTS

CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS

FOR THE

SANDY HOOK



WATER DISTRICT

Serving Our Community

COMMISSIONERS:

PHILLIP JUSTICE - CHAIRMEN
IRA VEST - SECRETARY
ESTILL HOWARD
BEULIN HILL

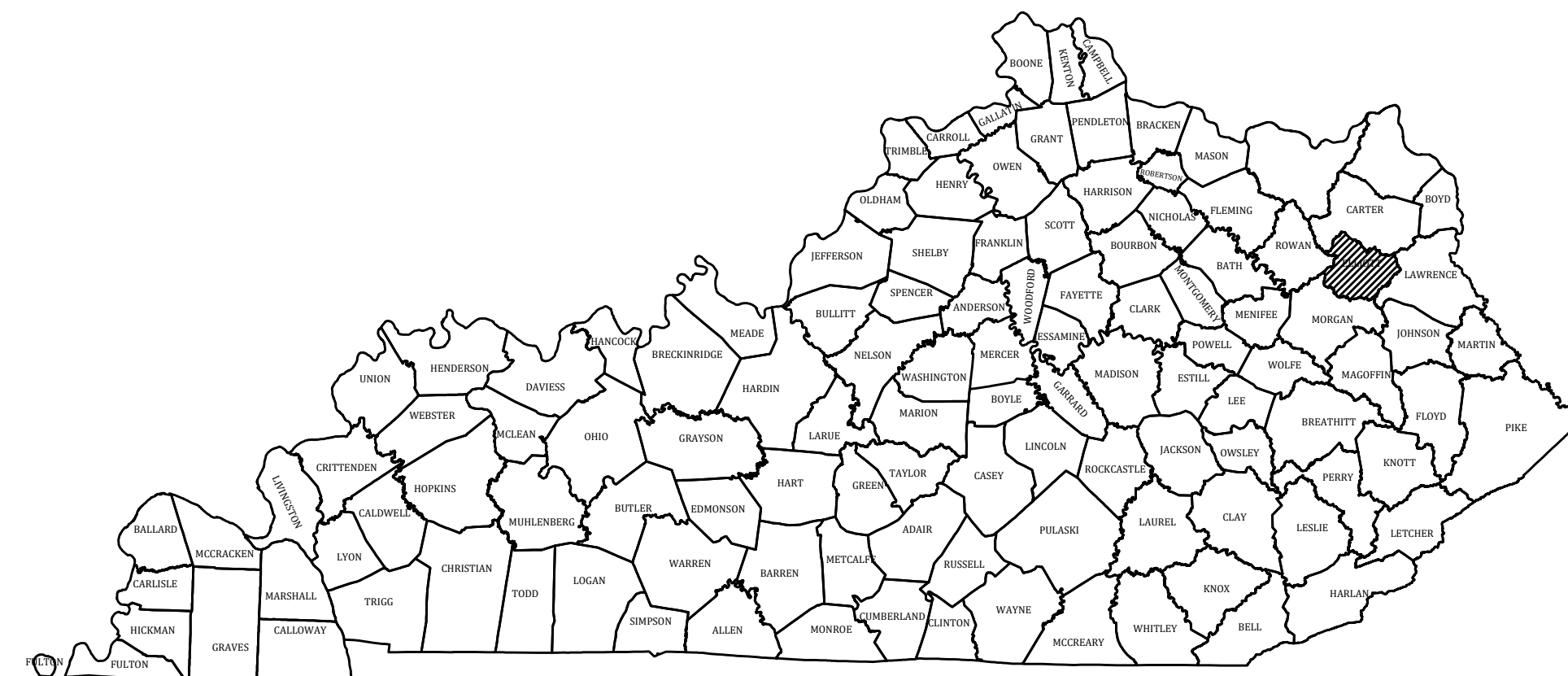
BRIDGETT HOWARD - GENERAL MANAGER
KEVIN WINKLEMAN - SUPERINTENDENT

AUGUST 2021

PREPARED BY:



222 East Main Street, Ste. 1 • Georgetown, KY 40324



RECORD DRAWINGS

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THIS SET OF RECORD DRAWINGS SHOWS THE REPORTED LOCATION OF THE WORK AND SIGNIFICANT CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE RECORD DOCUMENTS ARE BASED ON UNVERIFIED INFORMATION PROVIDED BY OTHER PARTIES WHICH WILL BE ASSUMED RELIABLE. THE DESIGN PROFESSIONAL CANNOT AND DOES NOT WARRANT THEIR ACCURACY.

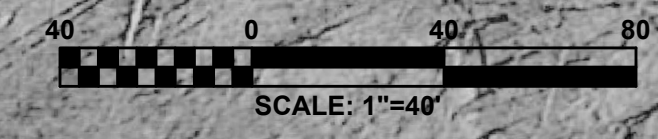
BY: BLUEGRASS ENGINEERING DATE: 06/25

PROJECT NO. 19003

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B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\19003-12-C-101 REVISED 9-1-2022_recover_recover.dwg



RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

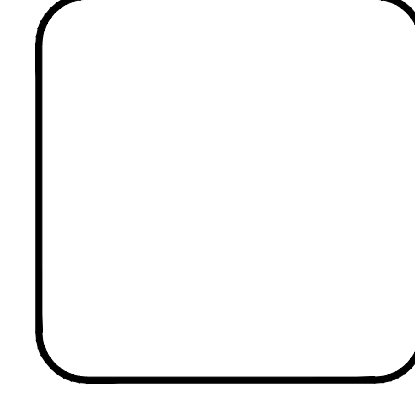
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 AERIAL VIEW
 OVERALL SITE PLAN

SANDY HOOK WATER DISTRICT
 Serving Our Community

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



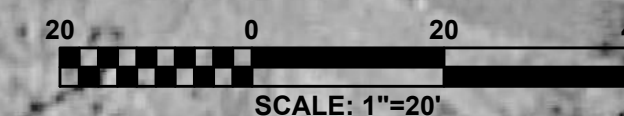
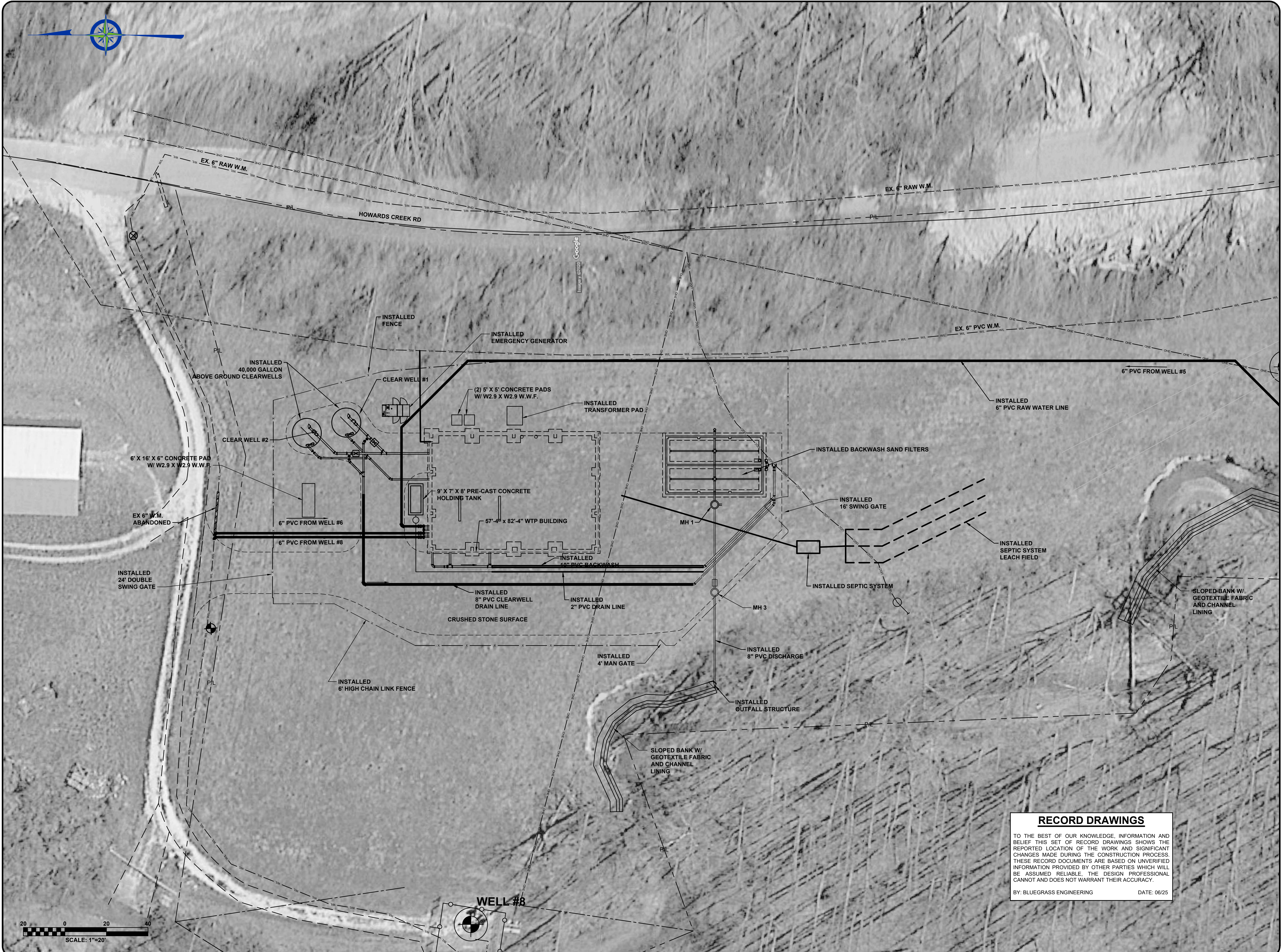
C-1-01

RECORD DRAWINGS

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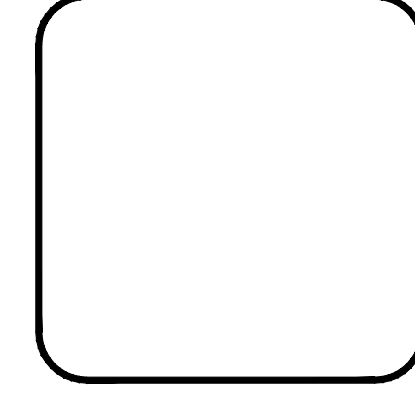
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2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 AERIAL VIEW
 ENLARGED SITE PLAN

SANDY HOOK WATER DISTRICT
 Serving Our Community

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
 DATE: APRIL 2022
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 CHECKED BY: BKL



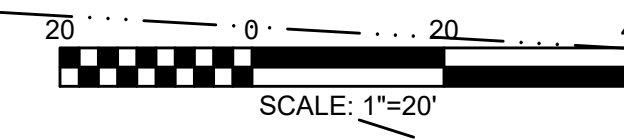
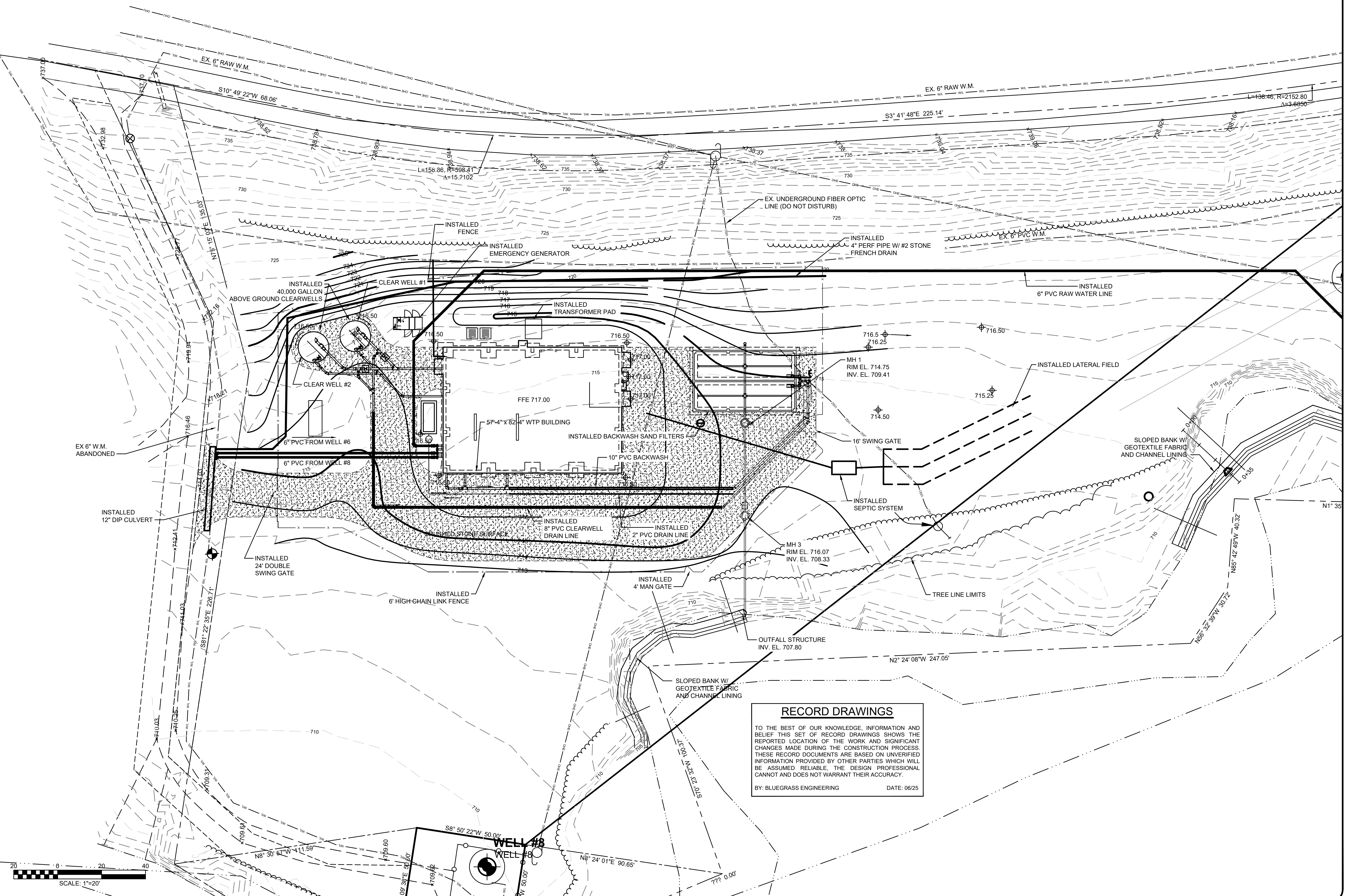
C-1-02

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	REVISIONS	BY

**2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT
IMPROVEMENTS**

SITE GRADING & DRAINAGE PLAN

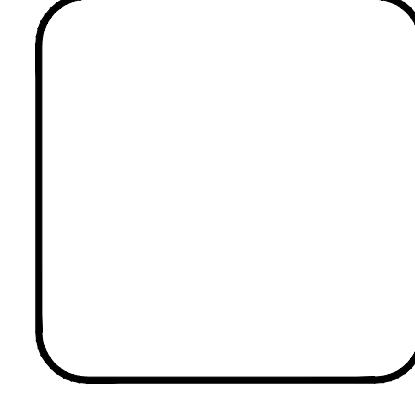


BLUEGRASS ENGINEERING, PLLC

 WATER DISTRICT

222 East Main Street, Ste. 1 - Georgetown, KY 40324
 Serving Our Community

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



C-1-03

RECORD DRAWINGS

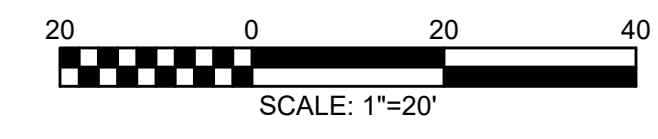
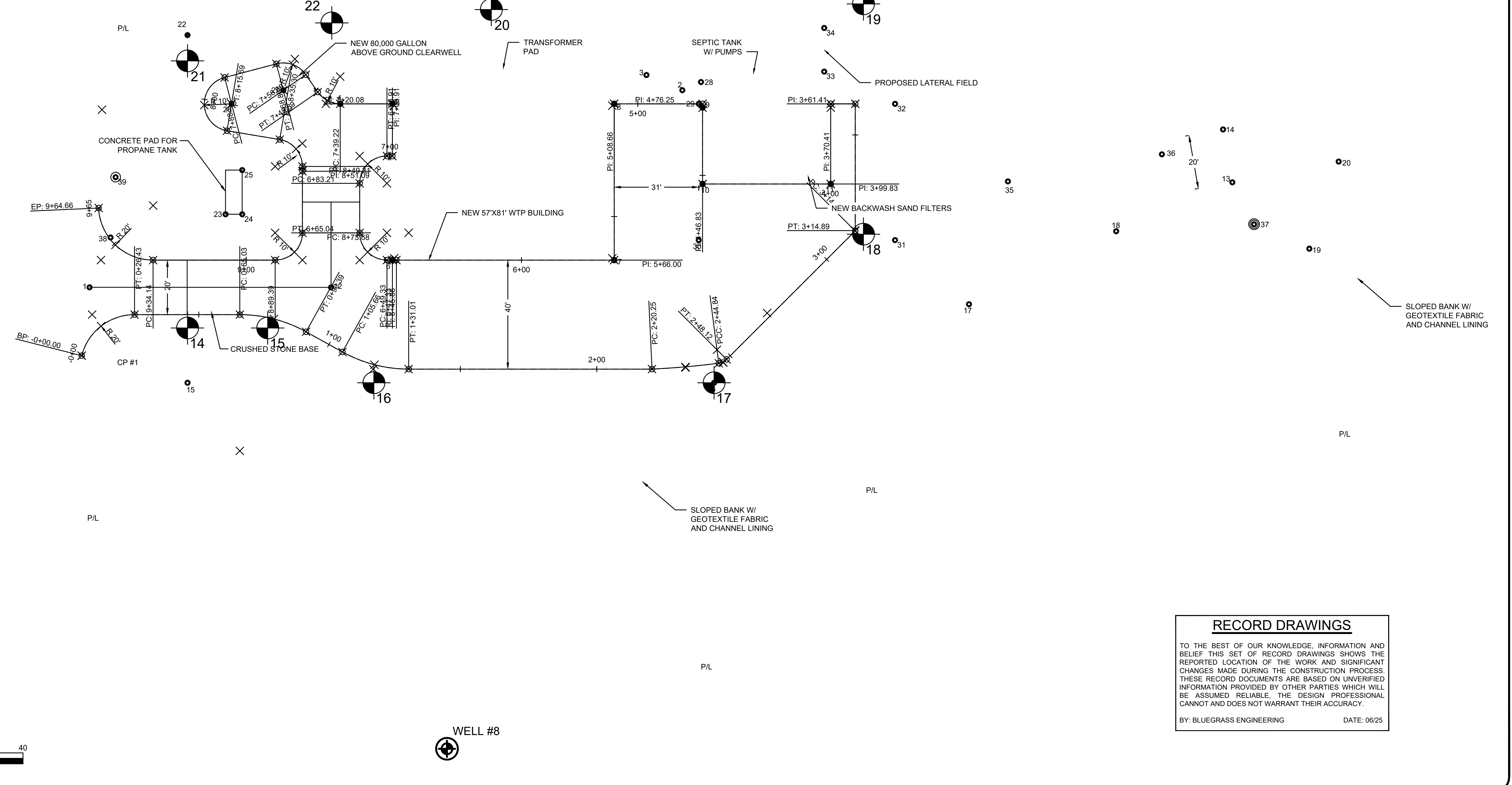
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ID	EASTING	NORTHING	DESCRIPTION
1	5676842.4423	3927833.0144	CL ROAD
2	5676914.7718	3927615.6257	GENERATOR PAD
3	5676920.3388	3927628.7815	GENERATOR PAD
4	5676909.7625	3927741.0945	EDGE PAVEMENT
5	5676909.7625	3927721.9493	CORNER WTP BLDG.
6	5676852.4292	3927721.9497	CORNER WTP BLDG.
7	5676852.4292	3927640.6160	CORNER WTP BLDG.
8	5676909.7625	3927640.6156	CORNER WTP BLDG.
9	5676910.1005	3927525.7557	CORNER BACKWASH SANDFILTERS
10	5676881.7052	3927520.7489	CORNER BACKWASH SANDFILTERS
11	5676890.0692	3927473.3140	CORNER BACKWASH SANDFILTERS
12	5676842.4098	3927744.4611	CL ROAD
13	5676880.9661	3927413.9141	EDGE PAVEMENT
14	5676900.3630	3927417.3343	EDGE PAVEMENT
15	5676807.4292	3927797.0774	FENCE CORNER
16	5676807.4292	3927603.9743	FENCE CORNER
17	5676836.2553	3927510.4972	FENCE CORNER
18	5676863.0053	3927456.5196	FENCE CORNER
19	5676856.6208	3927385.6978	FENCE CORNER
20	5676888.5820	3927374.9330	FENCE CORNER

ID	EASTING	NORTHING	DESCRIPTION
21	5676971.8496	3927384.5644	FENCE CORNER
22	5676934.9273	3927797.0774	FENCE CORNER
23	5676869.2376	3927783.1356	CONCRETE PAD
24	5676869.2376	3927777.0286	CONCRETE PAD
25	5676885.4597	3927777.0286	CONCRETE PAD
26	5676909.7625	3927780.9497	CENTER CLEARWELL #2
27	5676914.7625	3927761.9502	CENTER CLEARWELL #1
28	5676917	3927608.7831	SEPTIC TANK
29	5676909.7625	3927609.6164	CORNER FUTURE MAINT. BLDG.
30	576859.7625	3927609.6160	CORNER FUTURE MAINT. BLDG.
31	576859.7625	3927537.6164	CORNER FUTURE MAINT. BLDG.
32	5676909.7625	3927537.6160	CORNER FUTURE MAINT. BLDG.
33	5676921.5902	3927563.6029	LATERAL FILED
34	576937.5902	3927563.6029	LATERAL FILED
35	5676881.2914	3927496.2206	MANHOLE #1
36	5676891.2473	3927439.7583	MANHOLE #2
37	5676896.2477	3927411.3995	MANHOLE #3
38	5676860.7258	3927825.3089	6" RAW W.M. FROM WELL #8 TIE-IN
39	5676882.8540	3927823.4440	6" RAW W.M. FROM WELL #6 TIE-IN
CP 1	5676815.6920	3927827.1440	CONTROL POINT # 1
CP 2	5676950.3990	3927235.0200	CONTROL POINT #2



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BY: BLUEGRASS ENGINEERING DATE: 06/25

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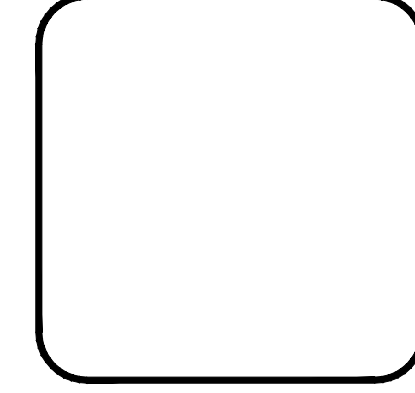
2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS

SITE LAYOUT & PAVING PLAN

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324
Serving Our Community

SANDY HOOK WATER DISTRICT
Serving Our Community

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL

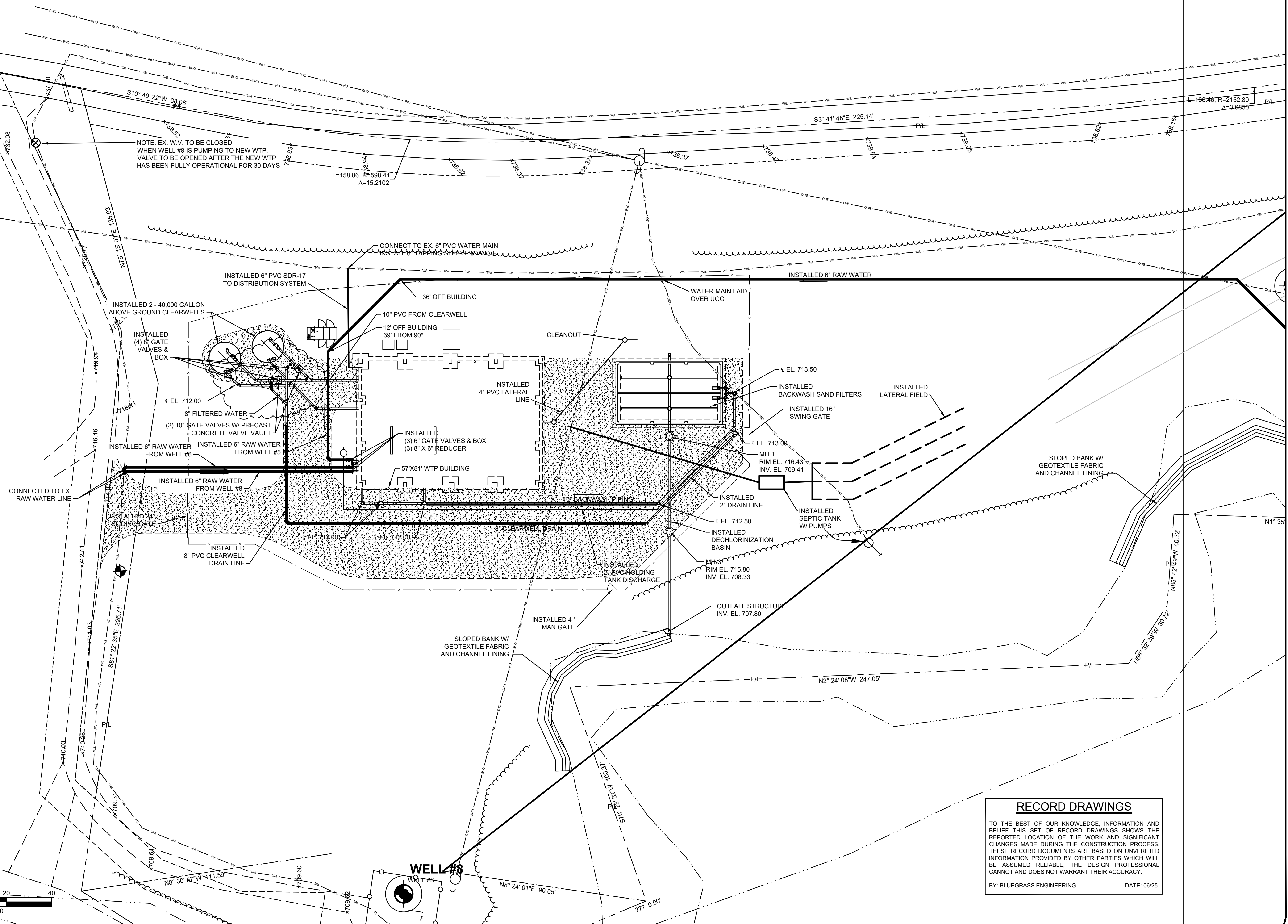
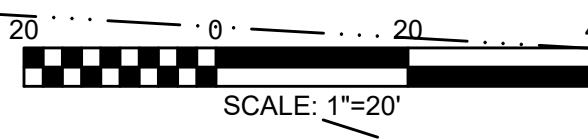


C-1-04

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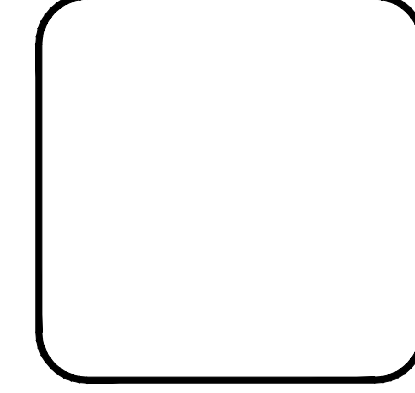
BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
YARD PIPING PLAN

SANDY HOOK
BLUEGRASS ENGINEERING, PLLC
WATER DISTRICT
222 East Main Street, Ste. 1 - Georgetown, KY 40324
Serving Our Community

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



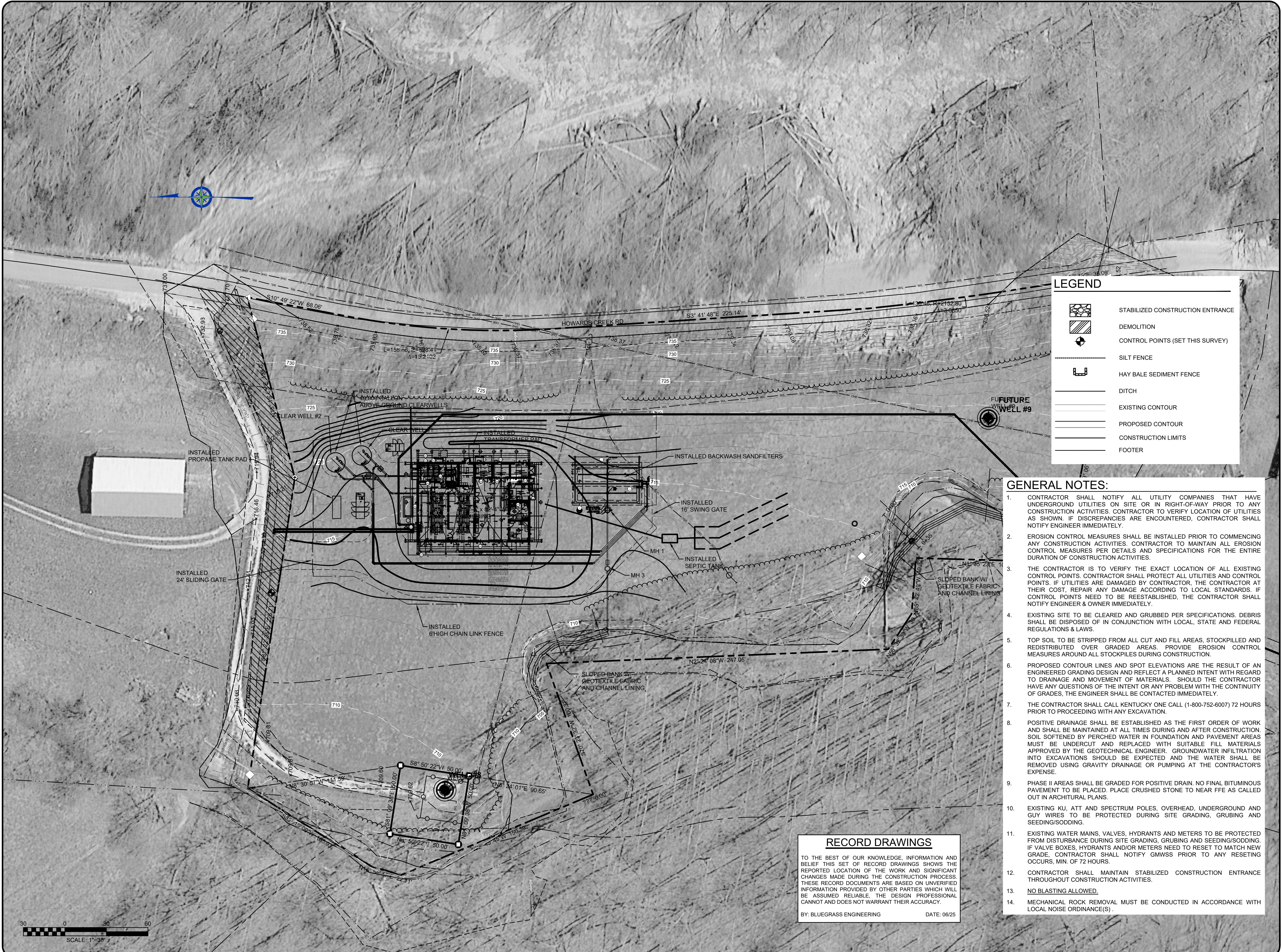
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LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- DEMOLITION
- CONTROL POINTS (SET THIS SURVEY)
- SILT FENCE
- HAY BALE SEDIMENT FENCE
- DITCH
- EXISTING CONTOUR
- PROPOSED CONTOUR
- CONSTRUCTION LIMITS
- FOOTER

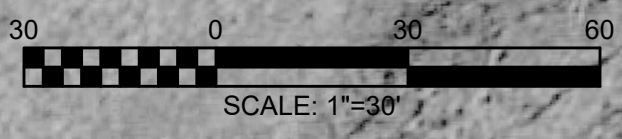
GENERAL NOTES:

1. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES THAT HAVE UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO ANY CONSTRUCTION ACTIVITIES. CONTRACTOR TO VERIFY LOCATION OF UTILITIES AS SHOWN. IF DISCREPANCIES ARE ENCOUNTERED, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES. CONTRACTOR TO MAINTAIN ALL EROSION CONTROL MEASURES PER DETAILS AND SPECIFICATIONS FOR THE ENTIRE DURATION OF CONSTRUCTION ACTIVITIES.
3. THE CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING CONTROL POINTS. CONTRACTOR SHALL PROTECT ALL UTILITIES AND CONTROL POINTS. IF UTILITIES ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR AT THEIR COST, REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS. IF CONTROL POINTS NEED TO BE REESTABLISHED, THE CONTRACTOR SHALL NOTIFY ENGINEER & OWNER IMMEDIATELY.
4. EXISTING SITE TO BE CLEARED AND GRUBBED PER SPECIFICATIONS. DEBRIS SHALL BE DISPOSED OF IN CONJUNCTION WITH LOCAL, STATE AND FEDERAL REGULATIONS & LAWS.
5. TOP SOIL TO BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS. PROVIDE EROSION CONTROL MEASURES AROUND ALL STOCKPILES DURING CONSTRUCTION.
6. PROPOSED CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF AN ENGINEERED GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. SHOULD THE CONTRACTOR HAVE ANY QUESTIONS OF THE INTENT OR ANY PROBLEM WITH THE CONTINUITY OF GRADES, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY.
7. THE CONTRACTOR SHALL CALL KENTUCKY ONE CALL (1-800-752-6007) 72 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION.
8. POSITIVE DRAINAGE SHALL BE ESTABLISHED AS THE FIRST ORDER OF WORK AND SHALL BE MAINTAINED AT ALL TIMES DURING AND AFTER CONSTRUCTION. SOIL SOFTENED BY PERCHED WATER IN FOUNDATION AND PAVEMENT AREAS MUST BE UNDERCUT AND REPLACED WITH SUITABLE FILL MATERIALS APPROVED BY THE GEOTECHNICAL ENGINEER. GROUNDWATER INFILTRATION INTO EXCAVATIONS SHOULD BE EXPECTED AND THE WATER SHALL BE REMOVED USING GRAVITY DRAINAGE OR PUMPING AT THE CONTRACTOR'S EXPENSE.
9. PHASE II AREAS SHALL BE GRADED FOR POSITIVE DRAIN. NO FINAL BITUMINOUS PAVEMENT TO BE PLACED. PLACE CRUSHED STONE TO NEAR FFE AS CALLED OUT IN ARCHITURAL PLANS.
10. EXISTING KU, ATT AND SPECTRUM POLES, OVERHEAD, UNDERGROUND AND GUY WIRES TO BE PROTECTED DURING SITE GRADING, GRUBING AND SEEDING/SODDING.
11. EXISTING WATER MAINS, VALVES, HYDRANTS AND METERS TO BE PROTECTED FROM DISTURBANCE DURING SITE GRADING, GRUBING AND SEEDING/SODDING. IF VALVE BOXES, HYDRANTS AND/OR METERS NEED TO RESET TO MATCH NEW GRADE, CONTRACTOR SHALL NOTIFY GMWSS PRIOR TO ANY RESETTING OCCURS, MIN. OF 72 HOURS.
12. CONTRACTOR SHALL MAINTAIN STABILIZED CONSTRUCTION ENTRANCE THROUGHOUT CONSTRUCTION ACTIVITIES.
13. NO BLASTING ALLOWED.
14. MECHANICAL ROCK REMOVAL MUST BE CONDUCTED IN ACCORDANCE WITH LOCAL NOISE ORDINANCE(S).

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 09/25



NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 EROSION & SEDIMENTATION CONTROL PLAN

SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
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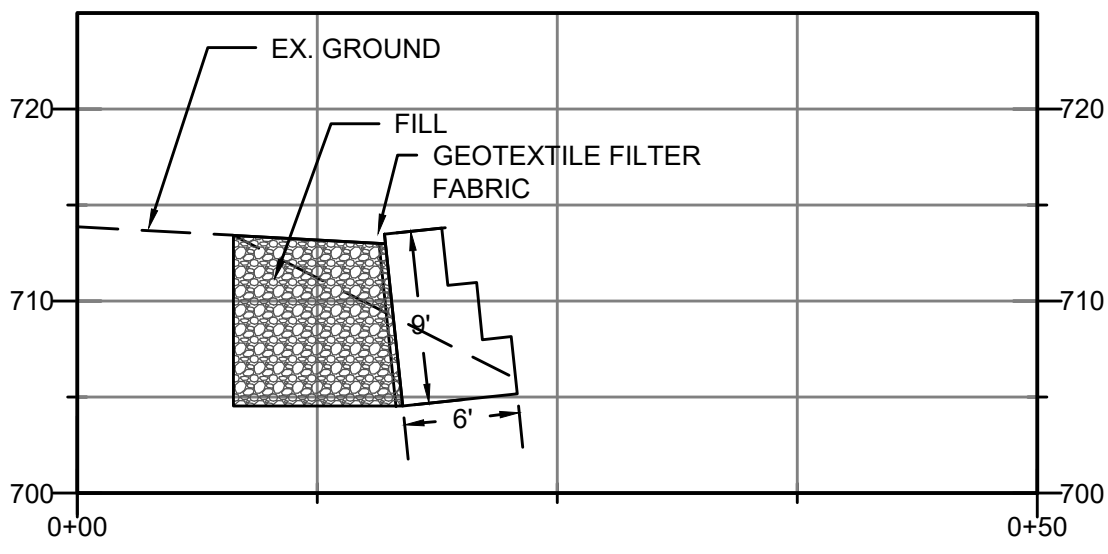
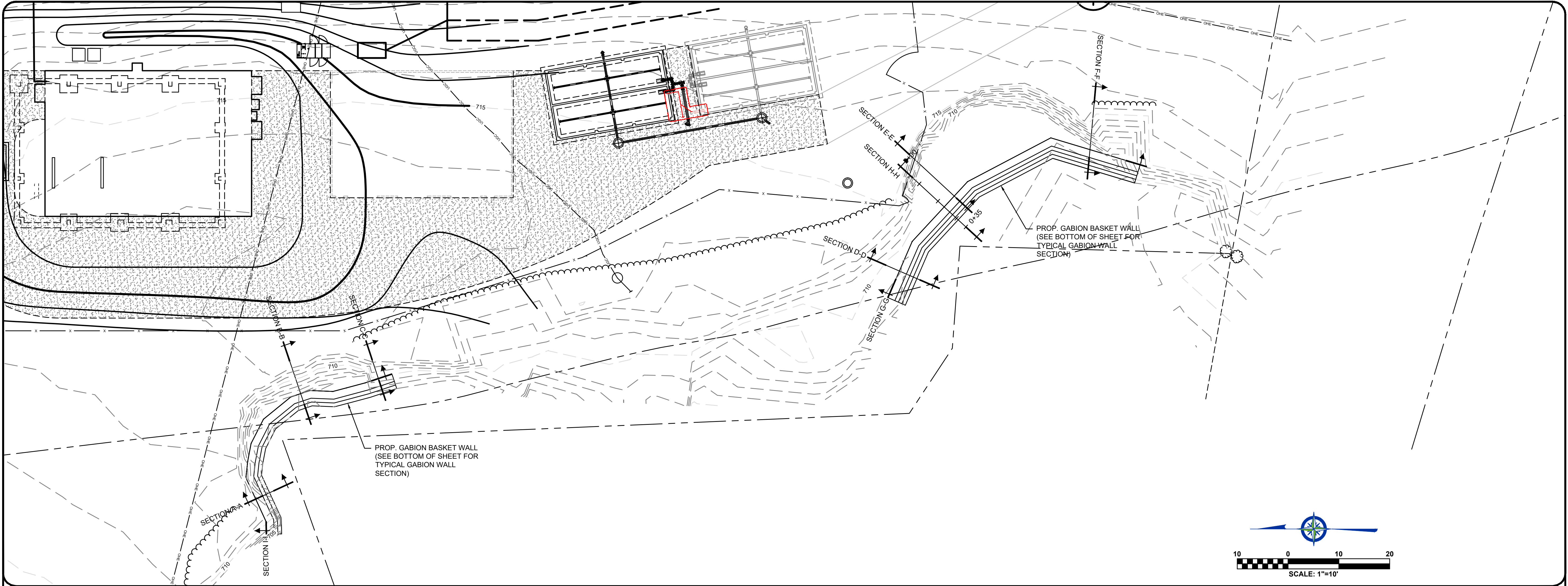
PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL

RECORD DRAWINGS

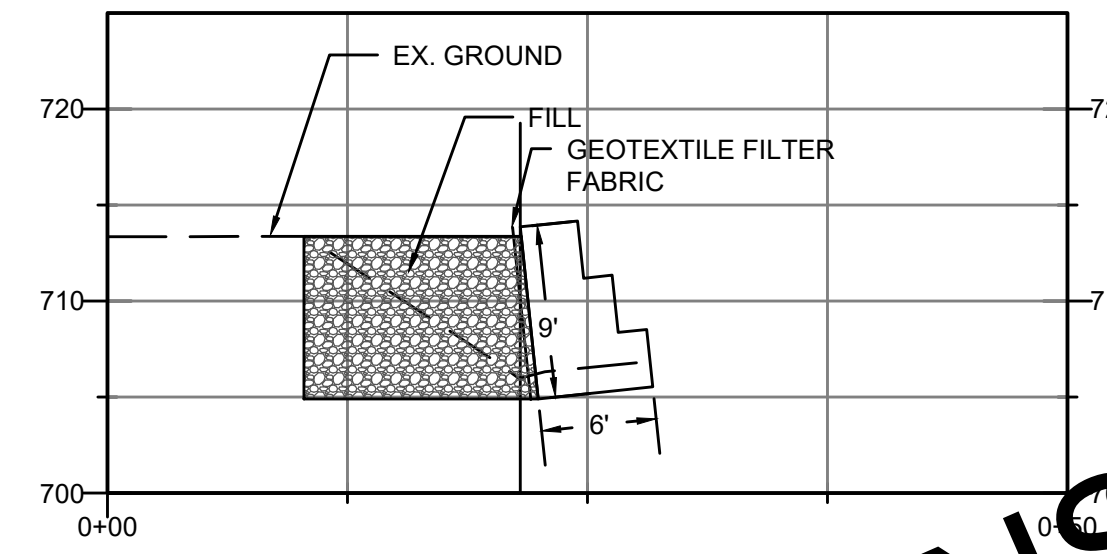
C-1-06

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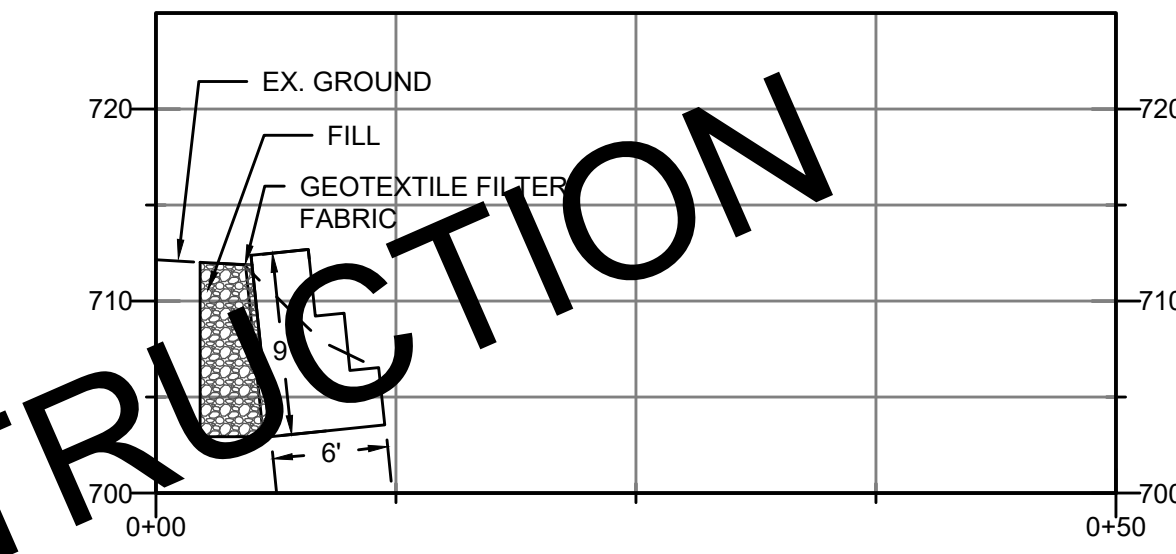
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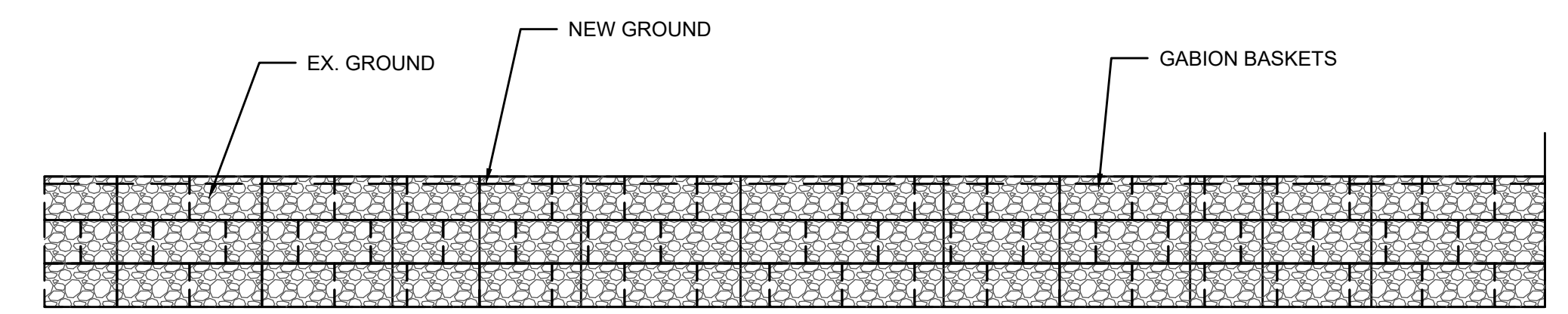
SECTION A-A



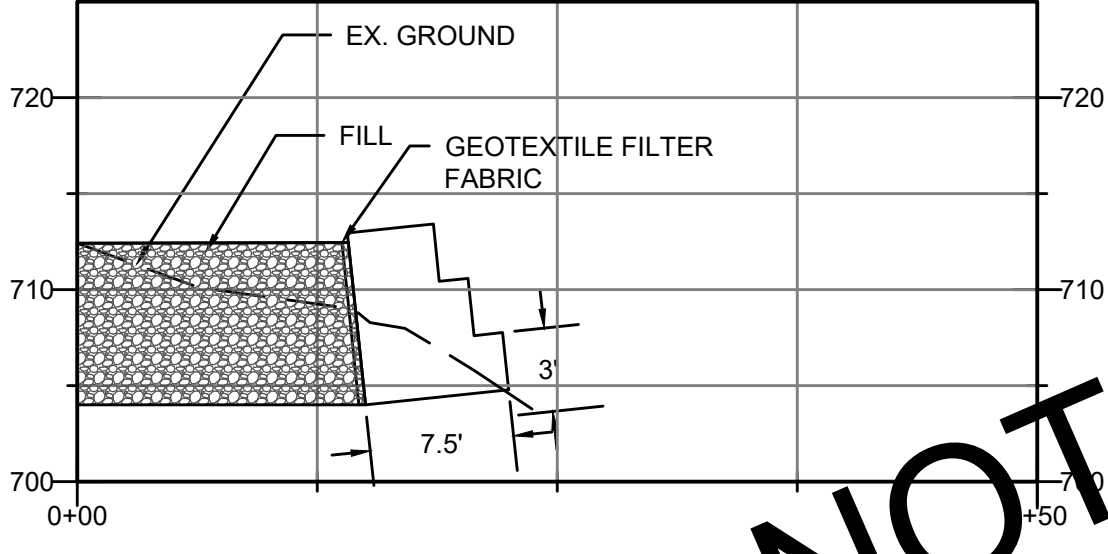
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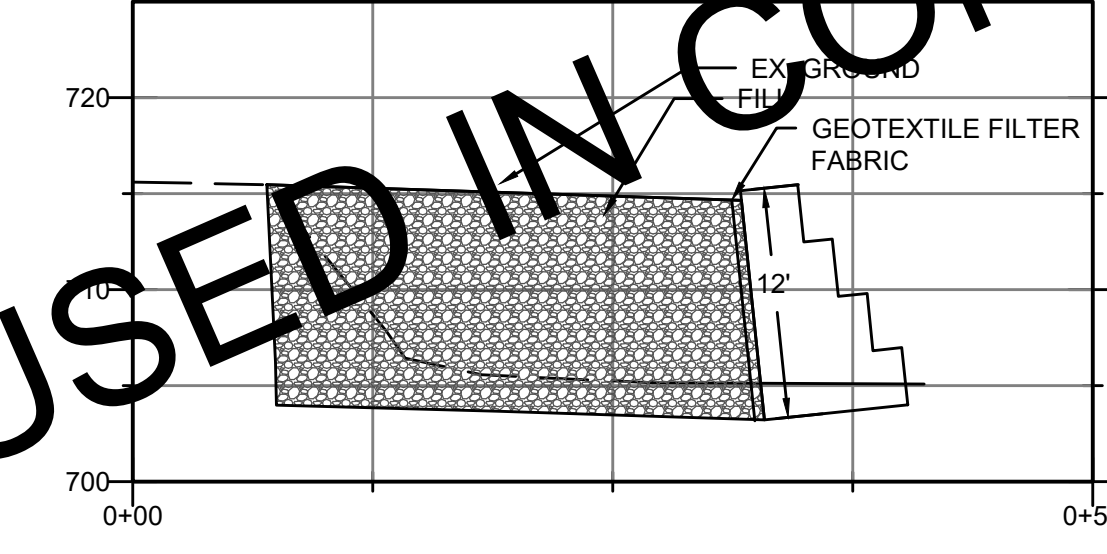
SECTION C-C



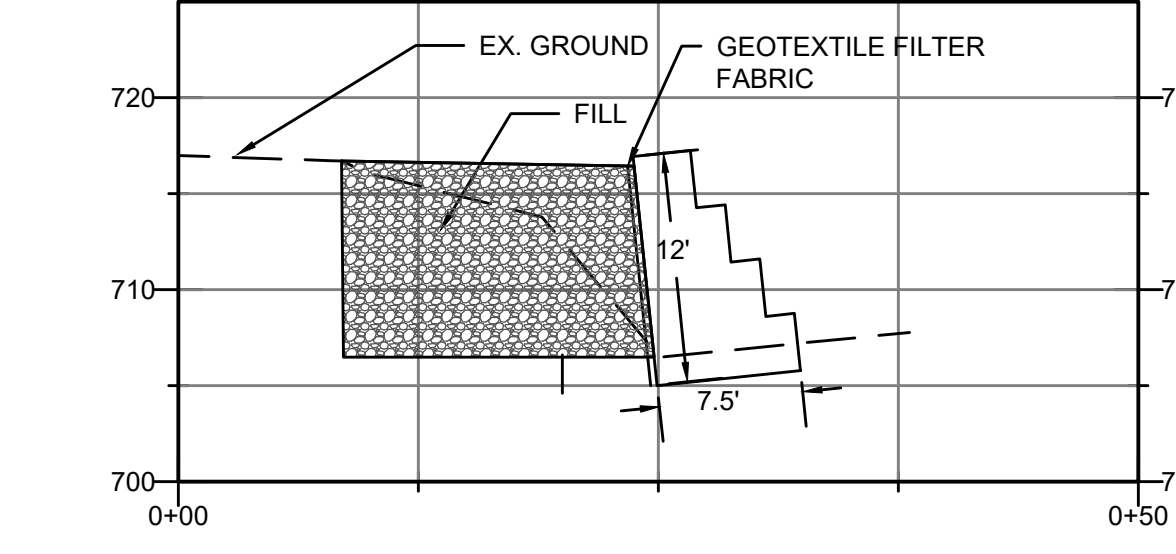
SECTION I-I



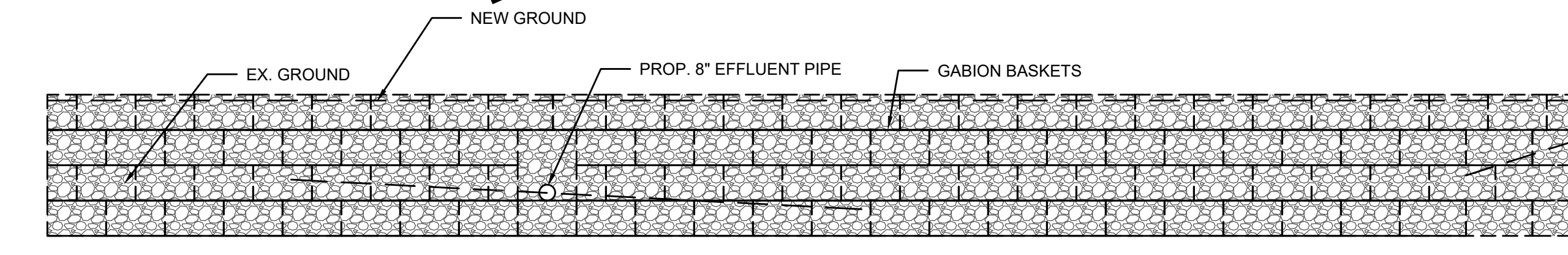
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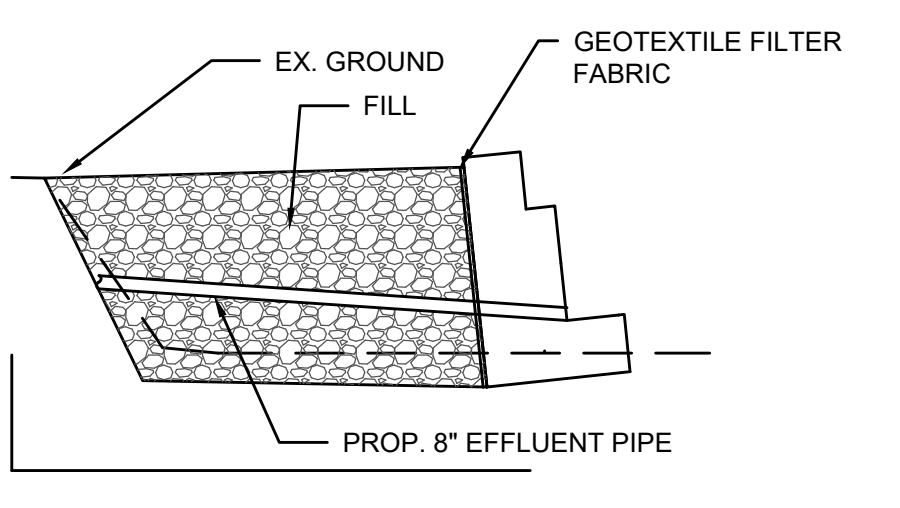
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

NOT USED IN CONSTRUCTION

SCALE: 1" = 10' HORIZ.
1" = 10' VERT.

NOTE:
Gabion Baskets were not used: Channel Lining, Geo-Fabric, and Rip-Rap Rock were used for Stream Bank Restoration.

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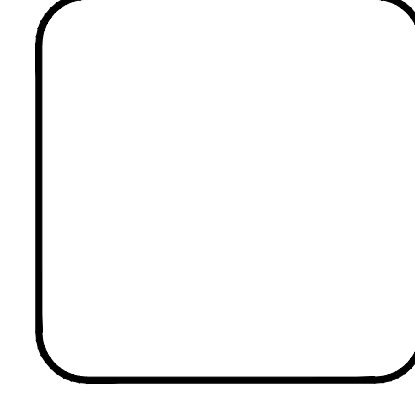
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2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
STREAM BANK STABILIZATION PLAN

SANDY HOOK WATER DISTRICT
Serving Our Community

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
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DRAWN BY: BKL
CHECKED BY: BKL



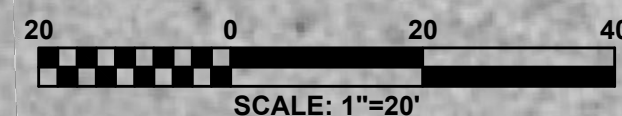
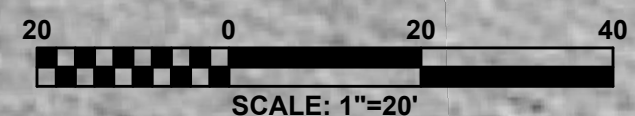
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RECORD DRAWINGS

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BE 6/18/25
 B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\19003-12-C-1-08.dwg



RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

- REFERENCE NOTES:**
- UPON COMPLETED CONSTRUCTION AND OPERATION OF THE NEW WATER TREATMENT PLANT AND IN SERVICE UTILIZING WELL # 8, THE GATE VALVE SHALL BE CLOSED, REDIRECTING RAW WATER FLOW FROM WELL #6 TO THE NEW WATER TREATMENT PLANT.
 - UPON 30 DAYS OF SUCCESSFUL OPERATION OF THE NEW WATER TREATMENT PLANT, THE EXISTING 6-INCH WATER MAIN SHALL BE CAPPED AND PLUGGED ABANDONING THE EXISTING WATER MAIN IN PLACE.

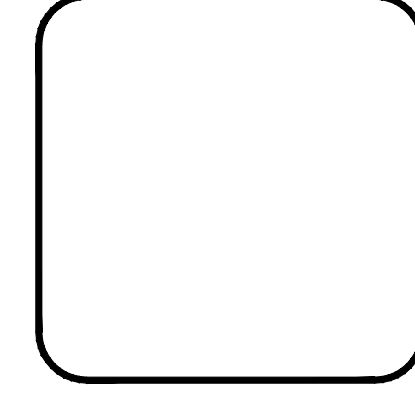
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WELL #5 & WATER TREATMENT PLANT SITE MODIFICATIONS

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324

SANDY HOOK WATER DISTRICT
 Serving Our Community

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



C-1-08

RECORD DRAWINGS

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B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-C-2-01.dwg

GENERAL NOTES:

- FOUNDATION DESIGN AND ANY SUBSEQUENT GEOTECHNICAL REPORT WILL BE THE RESPONSIBILITY OF THE TANK CONTRACTOR, INCLUDING THE SITE CLASS COEFFICIENT FOR SEISMIC DESIGN PER THE KENTUCKY BUILDING CODE.
- FOUNDATION CONSTRUCTION SHALL COMPLY WITH CURRENT (LATEST EDITION) AWWA STANDARDS D100-96, A.C.I. 318-95, A.C.I. 301-96 AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS AND THE PROJECT SOILS REPORT.
- CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI @ 28 DAYS.
- REINFORCEMENT SHALL CONFORM TO A.S.T.M. A615 GR. 60.
- CONSTRUCTION JOINTS SHALL BE ROUGHENED ACROSS ENTIRE FACE WITH 1/4" MINIMUM DEPTH INDENTATIONS.
- ANCHOR BOLTS, ANCHOR BARS, VERTICAL STEEL PIPE, YARD PIPING AND D.I. BASE ELL TO BE FURNISHED BY THE TANK CONTRACTOR.
- ANCHOR BOLTS SHALL BE PLACED WITHIN (+/-) 1/8" OF THE PLAN DIMENSIONS AT THE TOP OF THE CONCRETE, PLUMB WITHIN 1/4" IN 12" AND EXTEND WITHIN 1/2" OF THE SPECIFIED PROJECTION ABOVE THE TOP OF THE FOUNDATION.
- ACCESSORIES SHOWN ON DRAWINGS ARE ROTATED FOR CLARITY
- ALL LADDERS AND SAFETY CLIMB DEVICES SHALL CONFORM WITH CURRENT OSHA STANDARDS
- SEE PROJECT SPECIFICATIONS FOR SHOP AND FIELD PAINT REQUIREMENTS.
- STERILIZE TANK IN ACCORDANCE WITH AWWA C652 (LATEST REVISIONS) AND PROJECT SPECIFICATIONS.

TANK NOTES:

- TANK CONTRACTOR TO SUBMIT, FOR APPROVAL BY THE PROJECT ENGINEER, STRUCTURAL DESIGN PLANS AND CALCULATIONS FOR THE TANK AND FOUNDATION. ANY PROPOSED REVISIONS IN THE SITE PLAN SHOULD ALSO BE INCLUDED. STRUCTURAL PLANS TO BE STAMPED AND SIGNED BY A REGISTERED STRUCTURAL ENGINEER, LICENSED IN THE STATE OF THE OWNER. SEVEN (7) SETS TO BE SUBMITTED. THREE (3) SETS TO BE ORIGINAL.
- TANK CONTRACTOR MAY PROVIDE SUBSEQUENT TANK SITE GEOTECHNICAL REPORT. IF SO, SEVEN (7) SETS TO BE SUBMITTED. THREE (3) SETS TO BE ORIGINAL.
- PRE-LOADING AND TESTING OF WATER TANK MAY BE DEPENDENT UPON THE COMPLETION OF THE WATER TREATMENT PLANT.
- TANK CONTRACTOR TO INSTALL CONDUIT AND SUPPORT BRACKETS FOR ANTENNA. CONTRACTOR TO SUPPLY TELEMETRY CONDUIT AND SUPPORT BRACKETS FOR TELEMETRY.
- GROUND STORAGE TANK SHALL BE WELDED STEEL STORAGE TANK OR GLASS-LINED BOLTED STEEL TANK
- CONTRACTOR SHALL PROVIDE PROPER SEPARATION FOR DISSIMILAR METALS.

GEOTECHNICAL INVESTIGATION NOTES:

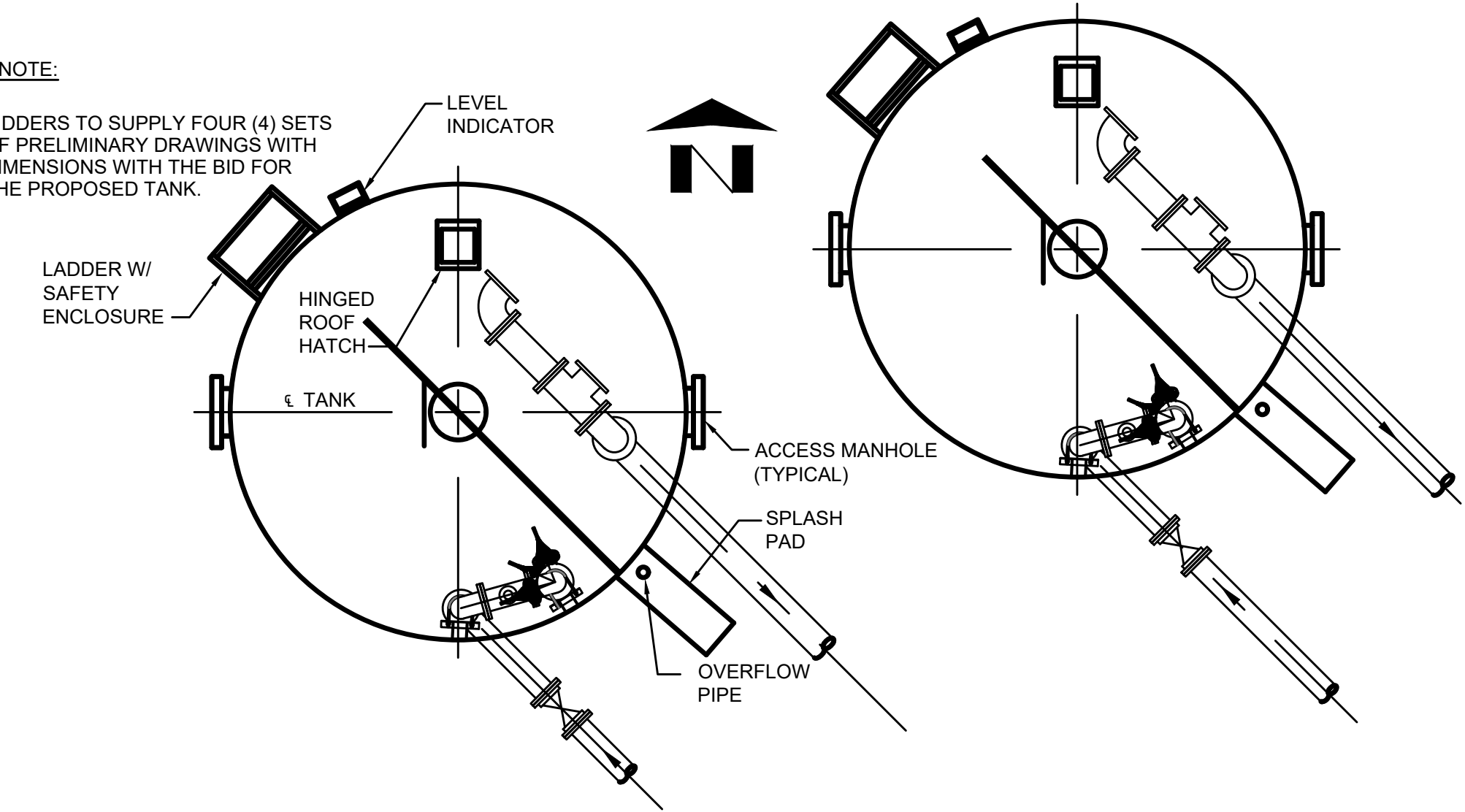
ANY BORING LOGS AND RELATED INFORMATION SHOWN ON THESE DRAWINGS OR IN THE SPECIFICATIONS DEPICT APPROXIMATE SUBSURFACE CONDITIONS ONLY AT THE TIME OF DRILLING. SOIL CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THE BORING LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE IN THE SOIL AT THE BORING LOCATIONS. ANY CORRELATION SHOWN BETWEEN BORINGS ARE GENERALLY BASED ON STRAIGHT-LINE INTERPOLATION. ACTUAL CONDITIONS BETWEEN BORINGS ARE UNKNOWN AND MAY DIFFER FROM THOSE SHOWN.

THE SUBSURFACE INFORMATION AND DATA FURNISHED HEREIN ARE NOT INTENDED AS REPRESENTATION OR WARRANTIES BUT ARE FURNISHED FOR INFORMATION ONLY. IT SHALL BE DISTINCTLY UNDERSTOOD THAT THE OWNER, ENGINEER, AND/OR GEOTECHNICAL ENGINEER WILL NOT BE RESPONSIBLE FOR ANY DEDUCTION, INTERPRETATION, OR CONCLUSION DRAWN THEREFROM BY THE CONTRACTOR. THE INFORMATION IS MADE AVAILABLE IN ORDER THAT THE CONTRACTOR MAY HAVE READY ACCESS TO THE SAME INFORMATION AVAILABLE TO THE OWNER, ENGINEER, AND GEOTECHNICAL ENGINEER. ANY BORING LOG OR RELATED INFORMATION SHOWN IS NOT AND WILL NOT BE CONSIDERED A PART OF THIS CONTRACT.

FOR BIDDING PURPOSES, THE TANK CONTRACTOR SHALL BASE THE DESIGN OF THE FOUNDATION ON THE RECOMMENDED BEARING CAPACITY IN THE GEOTECHNICAL INVESTIGATION REPORT. THE ACTUAL BEARING CAPACITY SHALL BE VERIFIED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER OR SUBSEQUENT REPORTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE TANK FOUNDATION.

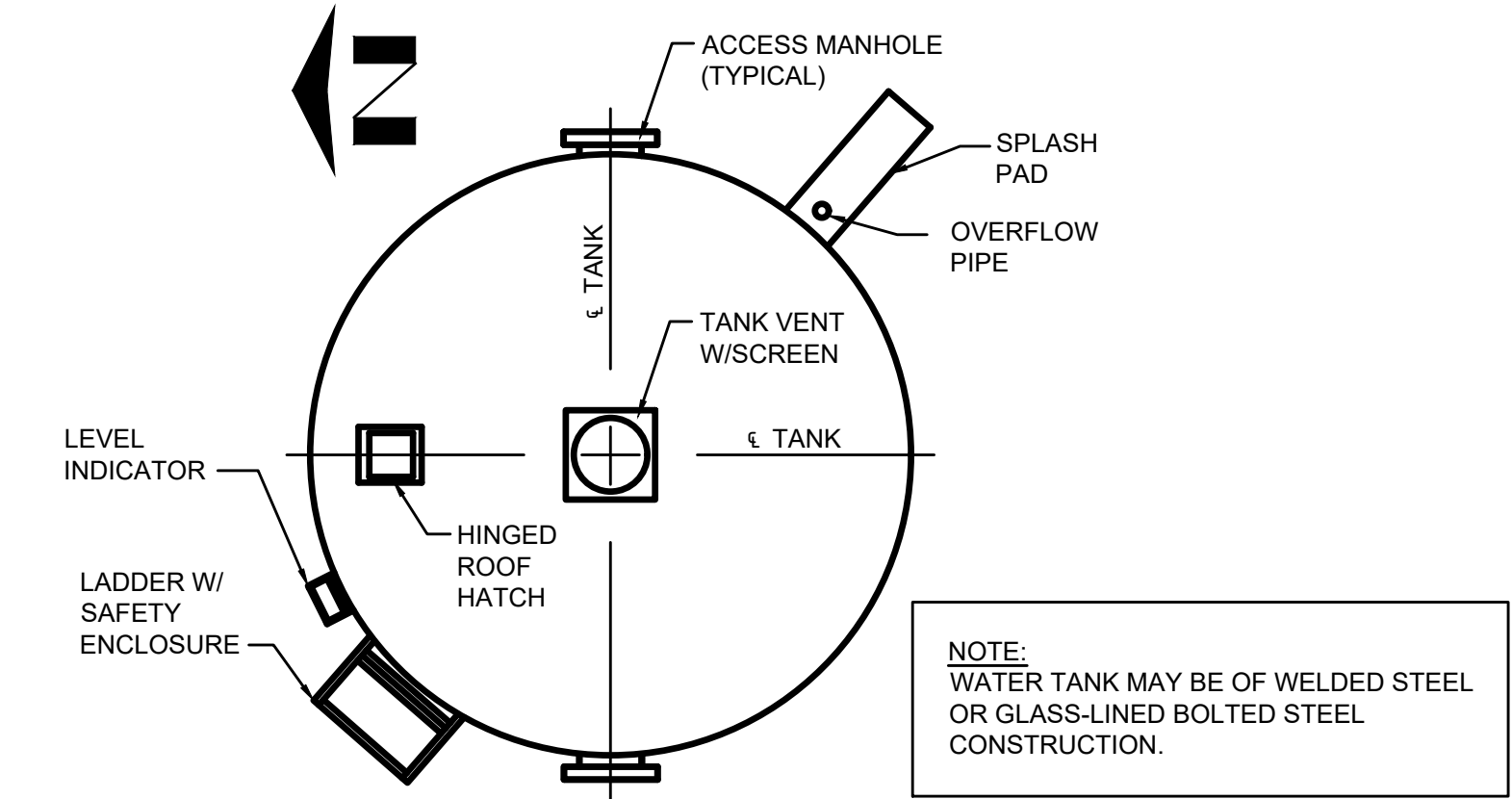
BID NOTE:

BIDDERS TO SUPPLY FOUR (4) SETS OF PRELIMINARY DRAWINGS WITH DIMENSIONS WITH THE BID FOR THE PROPOSED TANK.



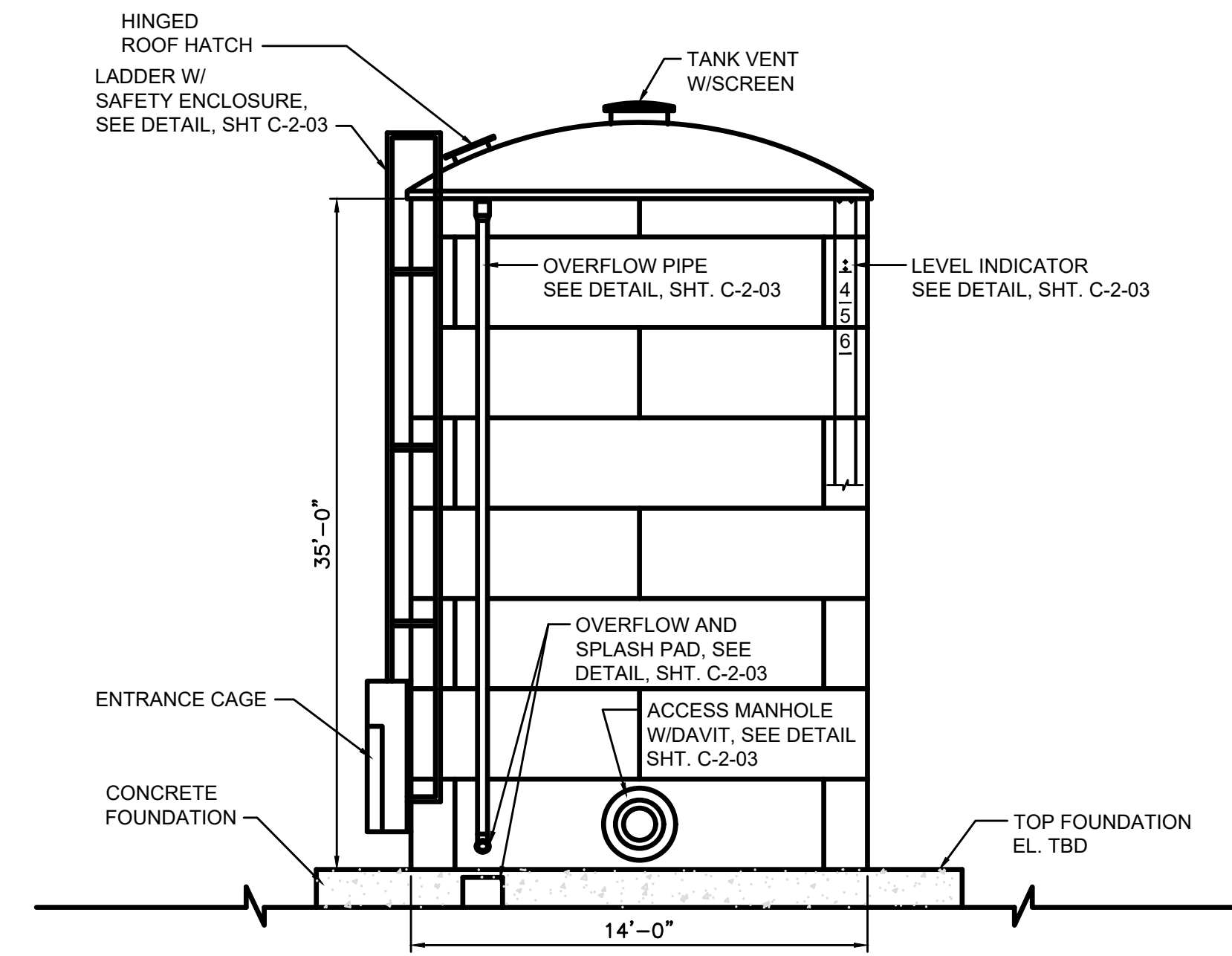
2 - 40,000 CLEARWELL TANK - SITE LAYOUT

NOT TO SCALE



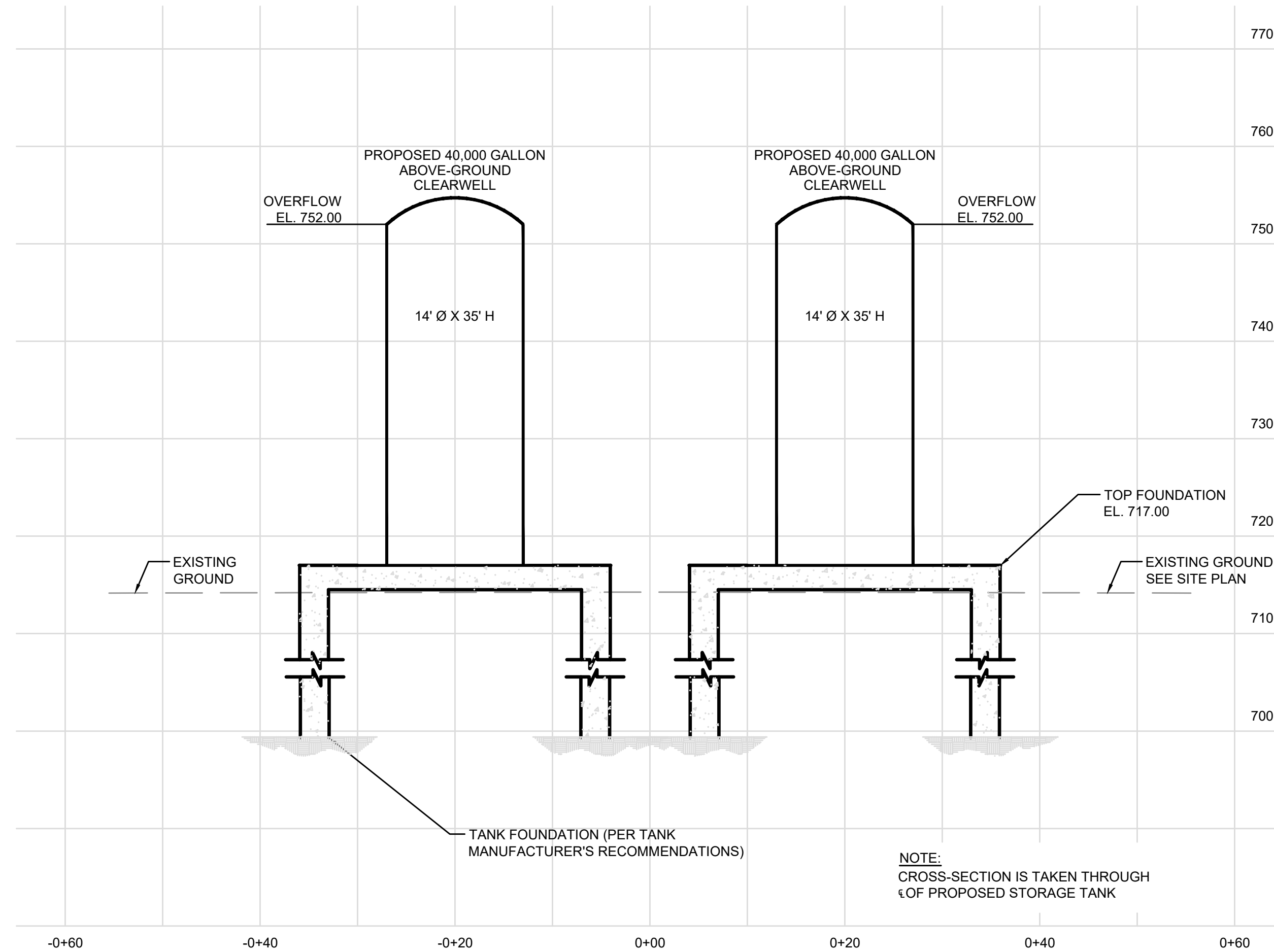
40,000 CLEARWELL TANK - PLAN

NOT TO SCALE



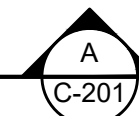
40,000 CLEARWELL TANK - ELEVATION

NOT TO SCALE



SECTION

NOT TO SCALE: 1"=10 HORIZONTAL
1"=10 VERTICAL



RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
CLEARWELL TANK SECTIONS AND DETAILS

SANDY HOOK WATER DISTRICT
SERVING OUR COMMUNITY

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



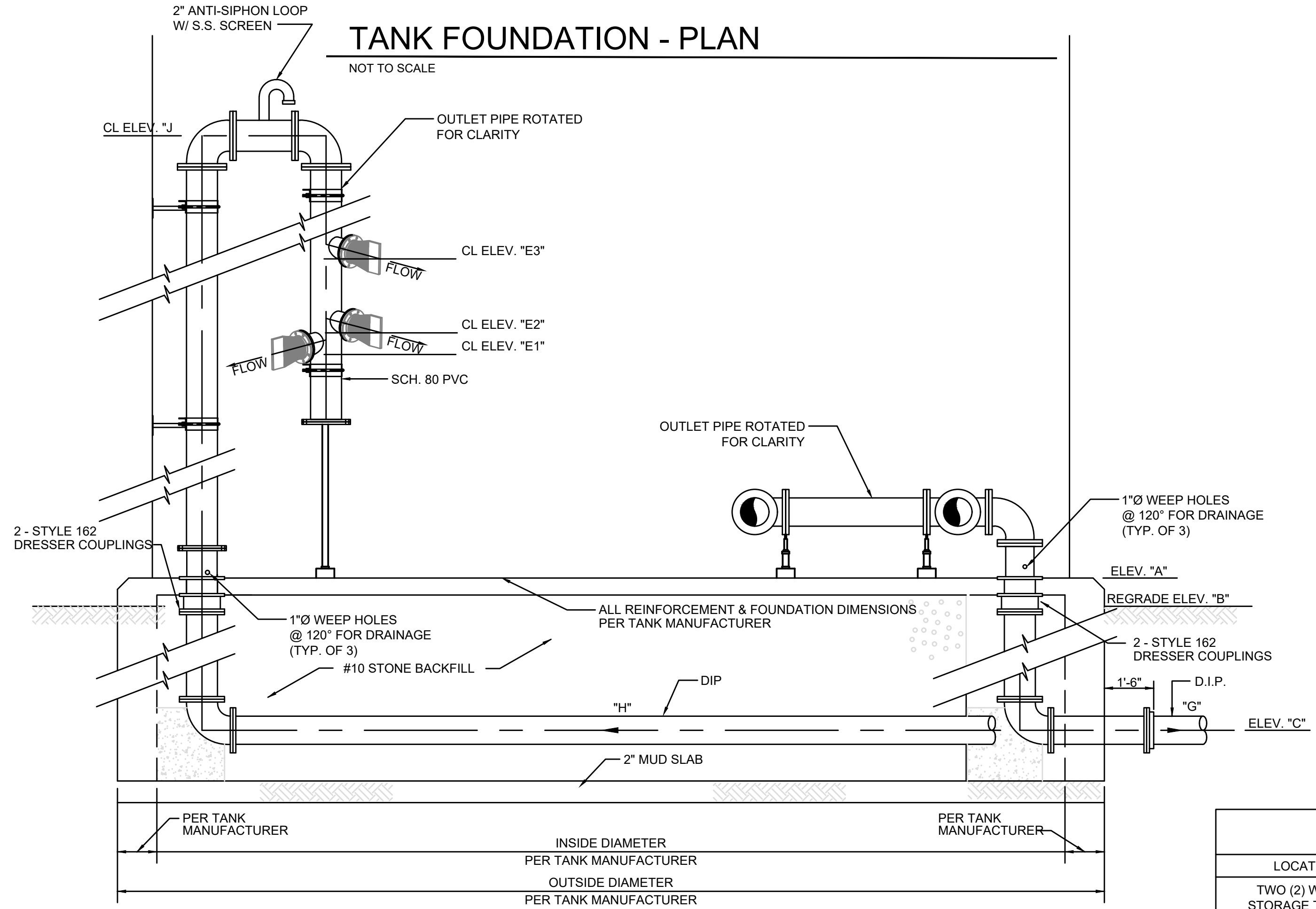
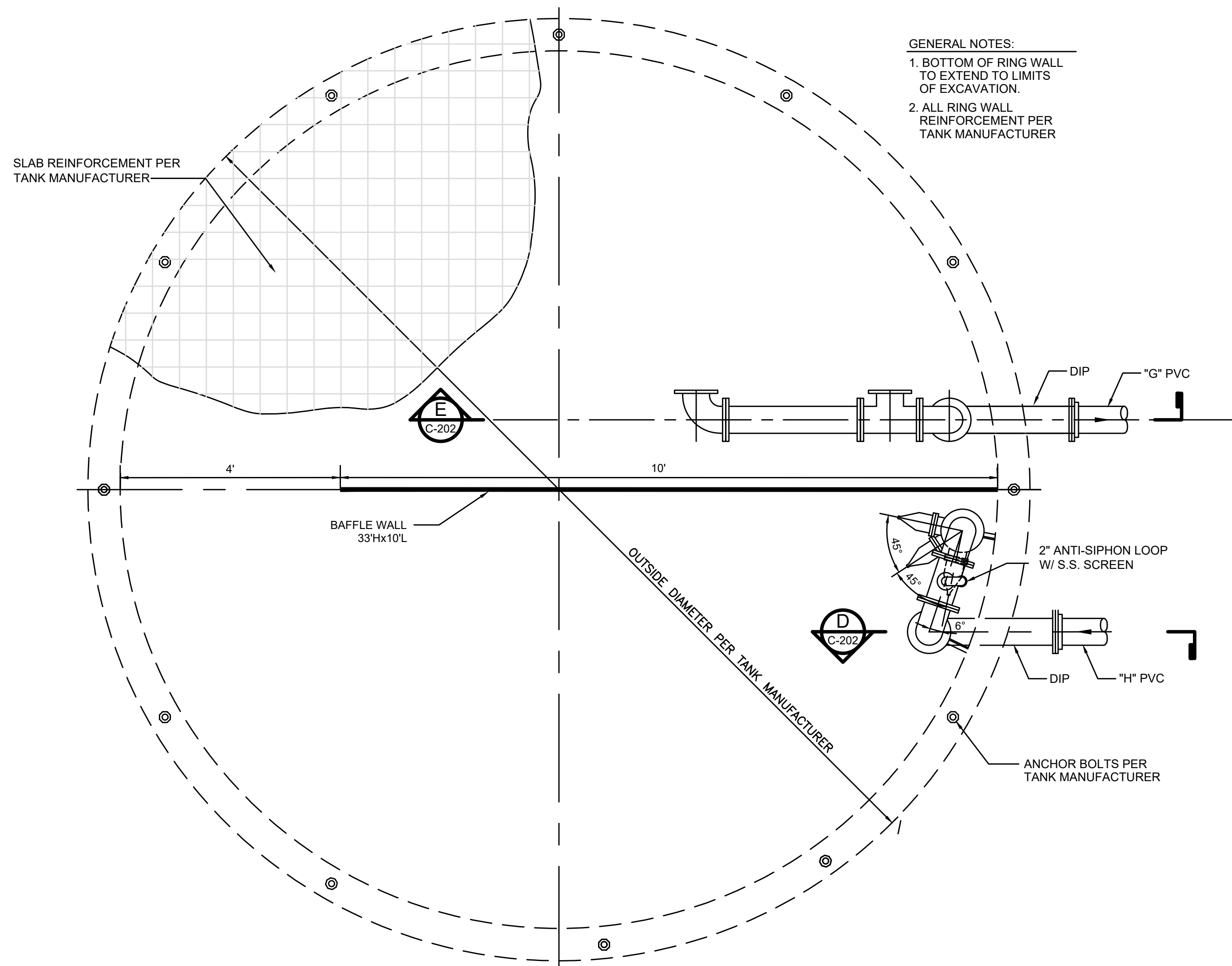
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RECORD DRAWINGS

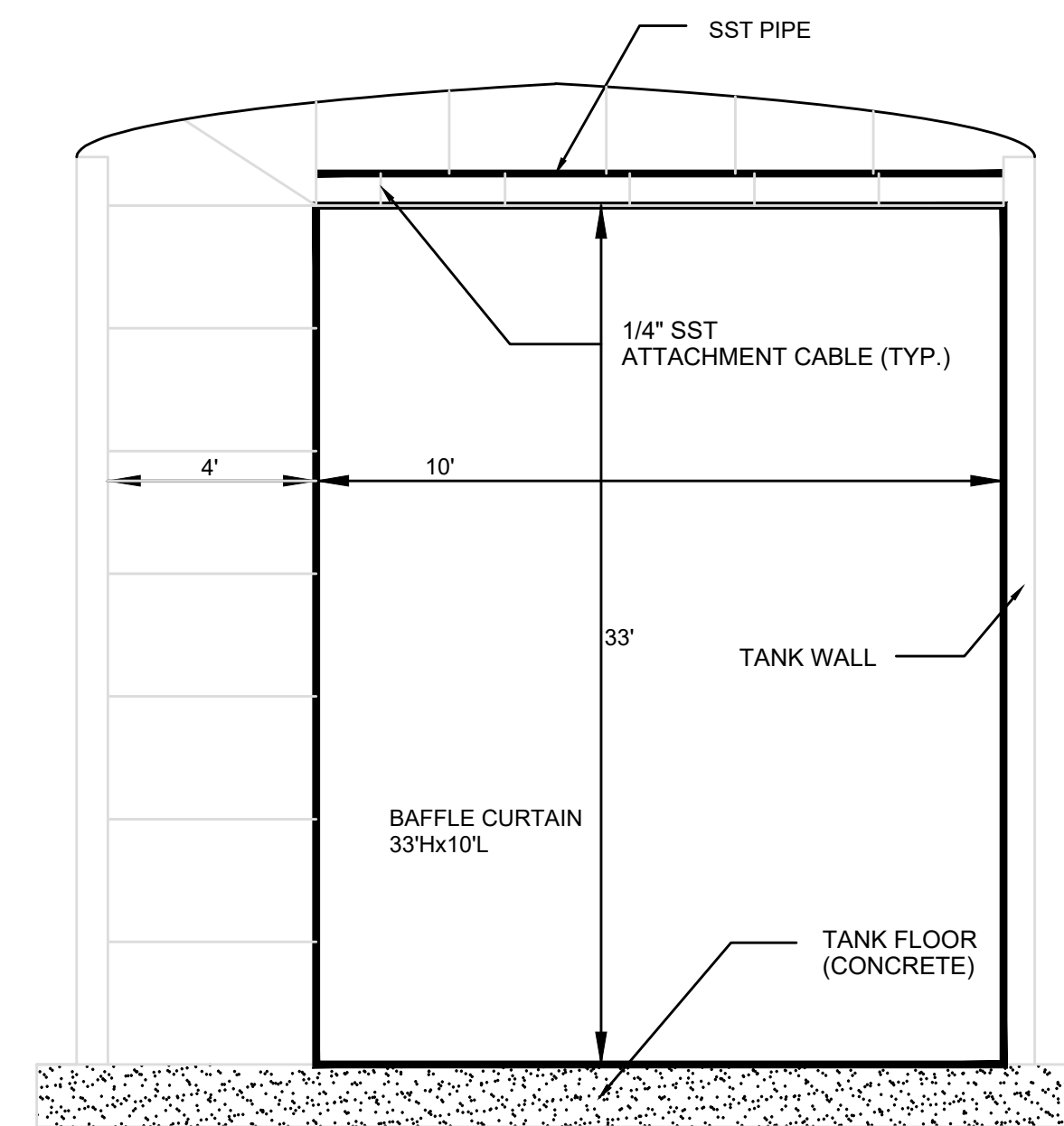
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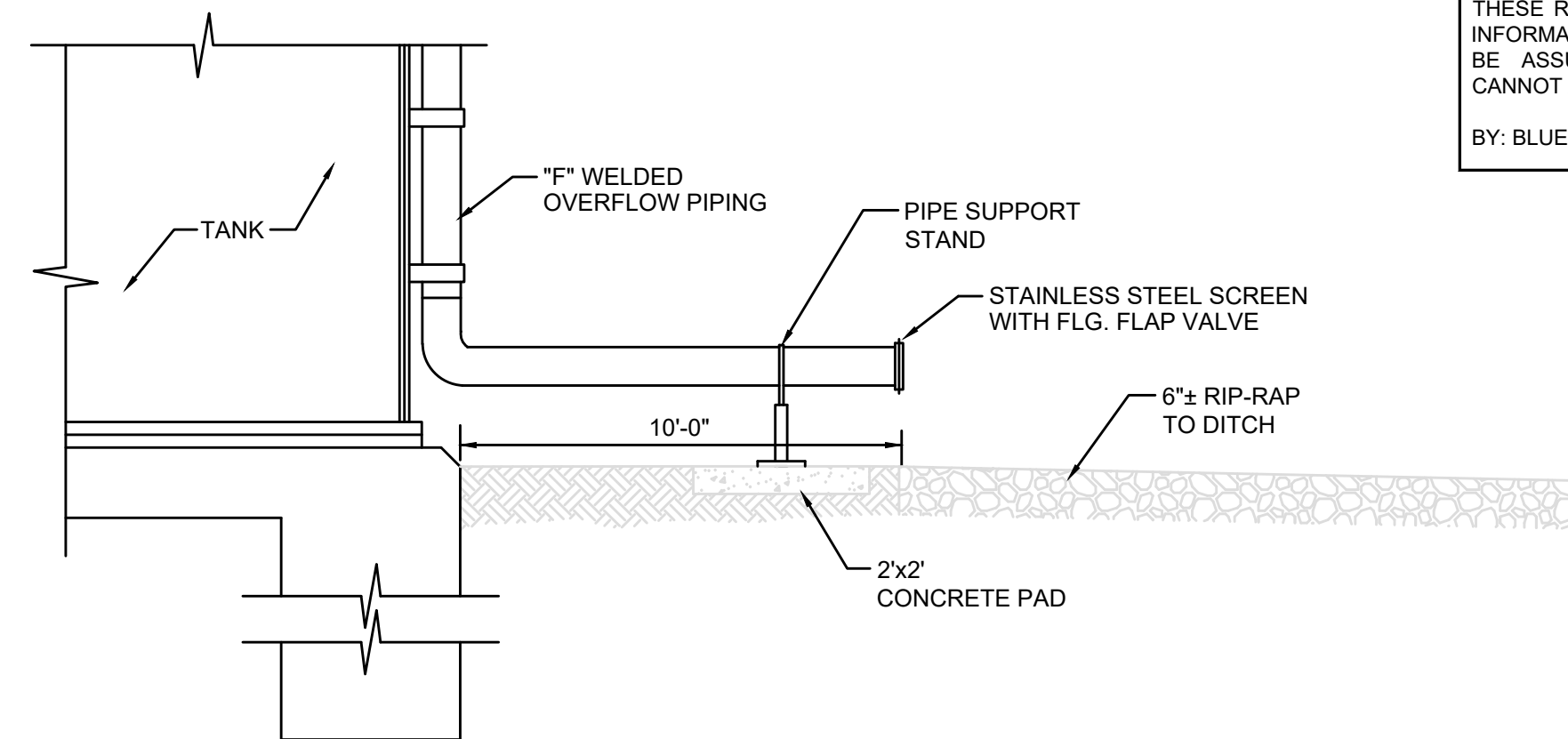
BE 8/16/23
 BE 8/16/23
 B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-C-2-02.dwg



TANK FOUNDATION - SECTION
 NOT TO SCALE



BAFFLE CURTAIN SUSPENSION DETAIL
 NOT TO SCALE



OVERFLOW and SPLASH PAD DETAIL
 NOT TO SCALE

RECORD DRAWINGS
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 BY: BLUEGRASS ENGINEERING DATE: 12/24

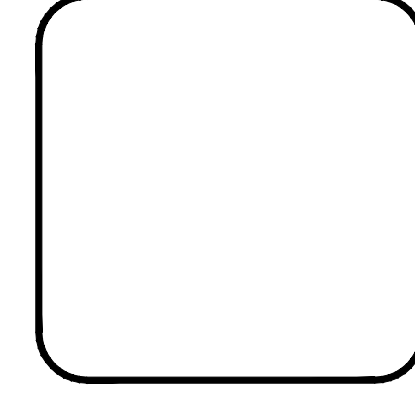
TYPICAL ELEVATIONS AND LINE SIZES												
LOCATION	APPROX. DIA.	APPROX. HGT.	"A"	"B"	"C"	"E1 / E2 / E3"	"F"	"G"	"H"	"I"	"J"	OVERFLOW EL.
TWO (2) WATER STORAGE TANKS - 40,000 GALLON CAPACITY (EA.)	14'-0"	35'-0"	717.00	716.00	712.00	725.0 / 729.0 / 741.0	10"	10"	8"	718.5	750.0	752.00

NO.	DATE	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 CLEARWELL TANK SECTIONS AND DETAILS

SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
 Serving Our Community

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



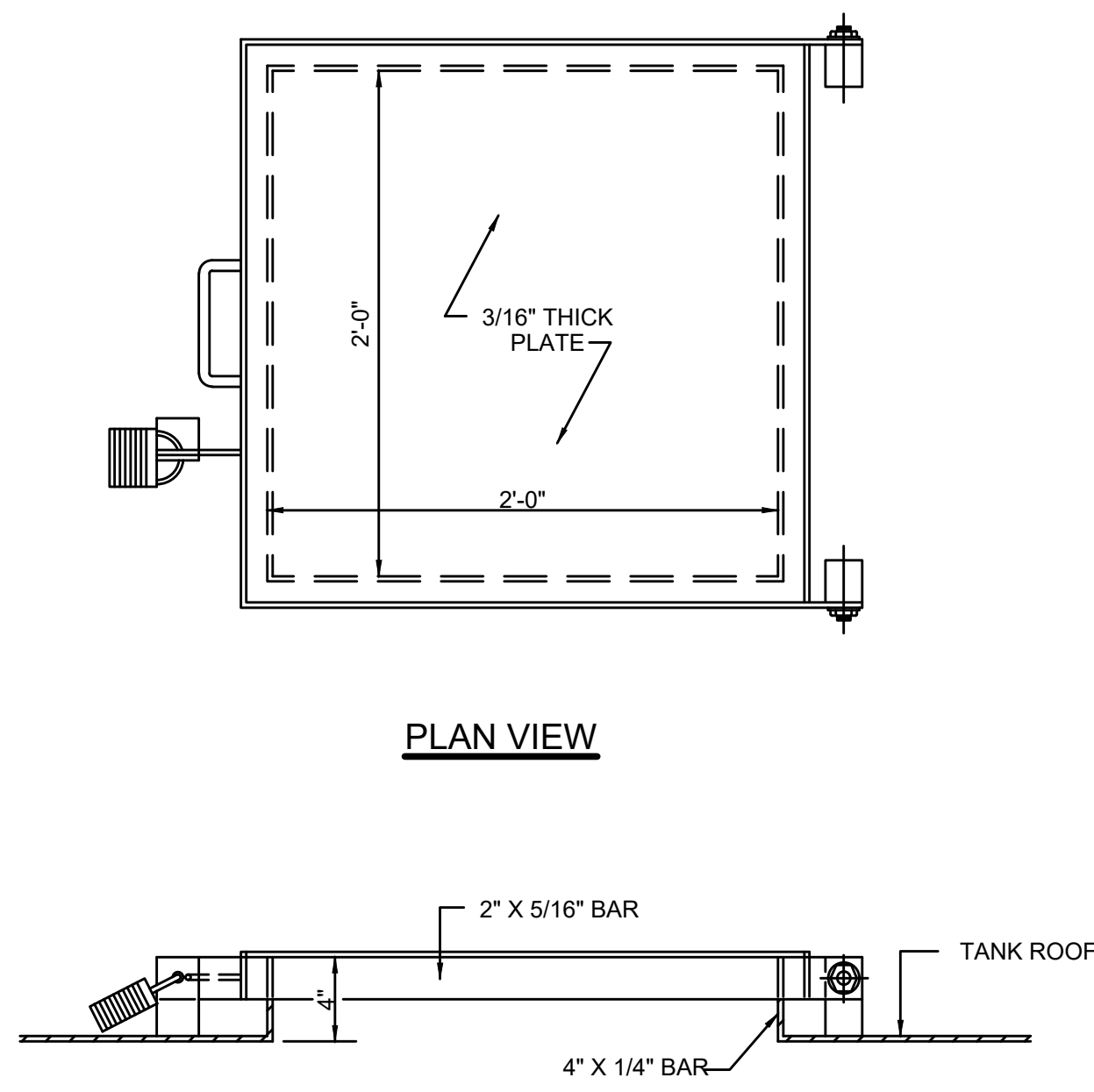
C-2-02

RECORD DRAWINGS

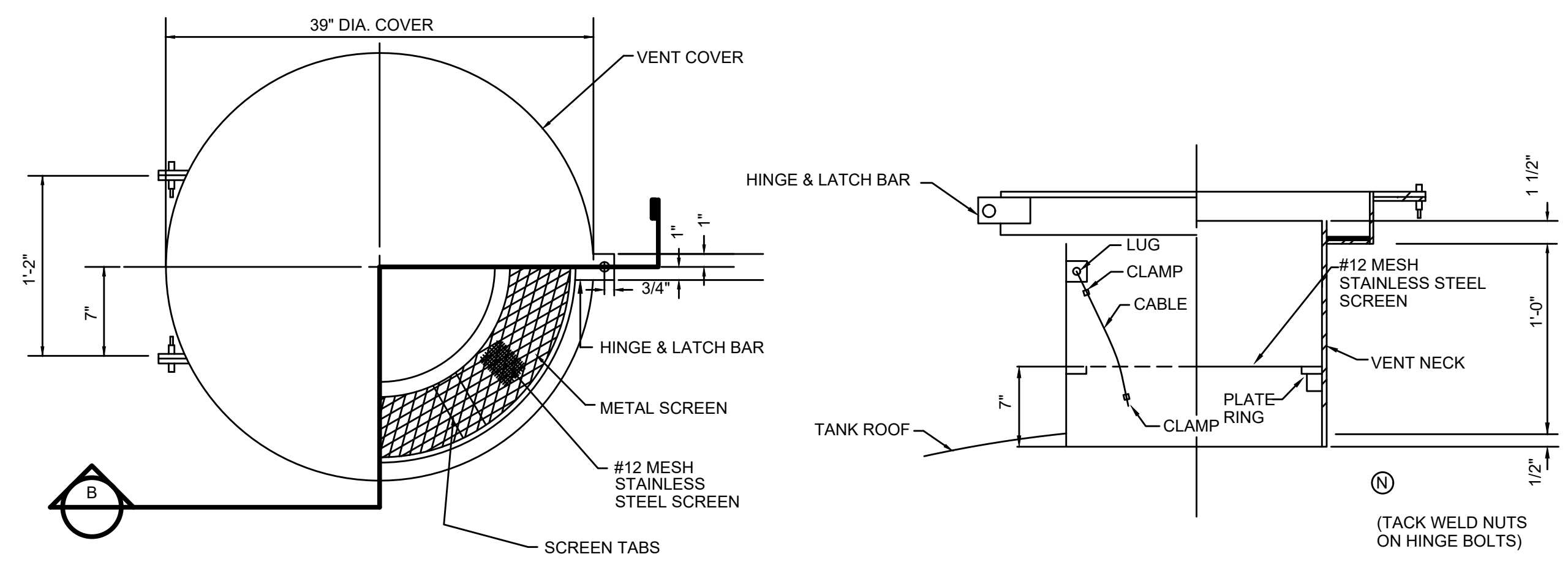
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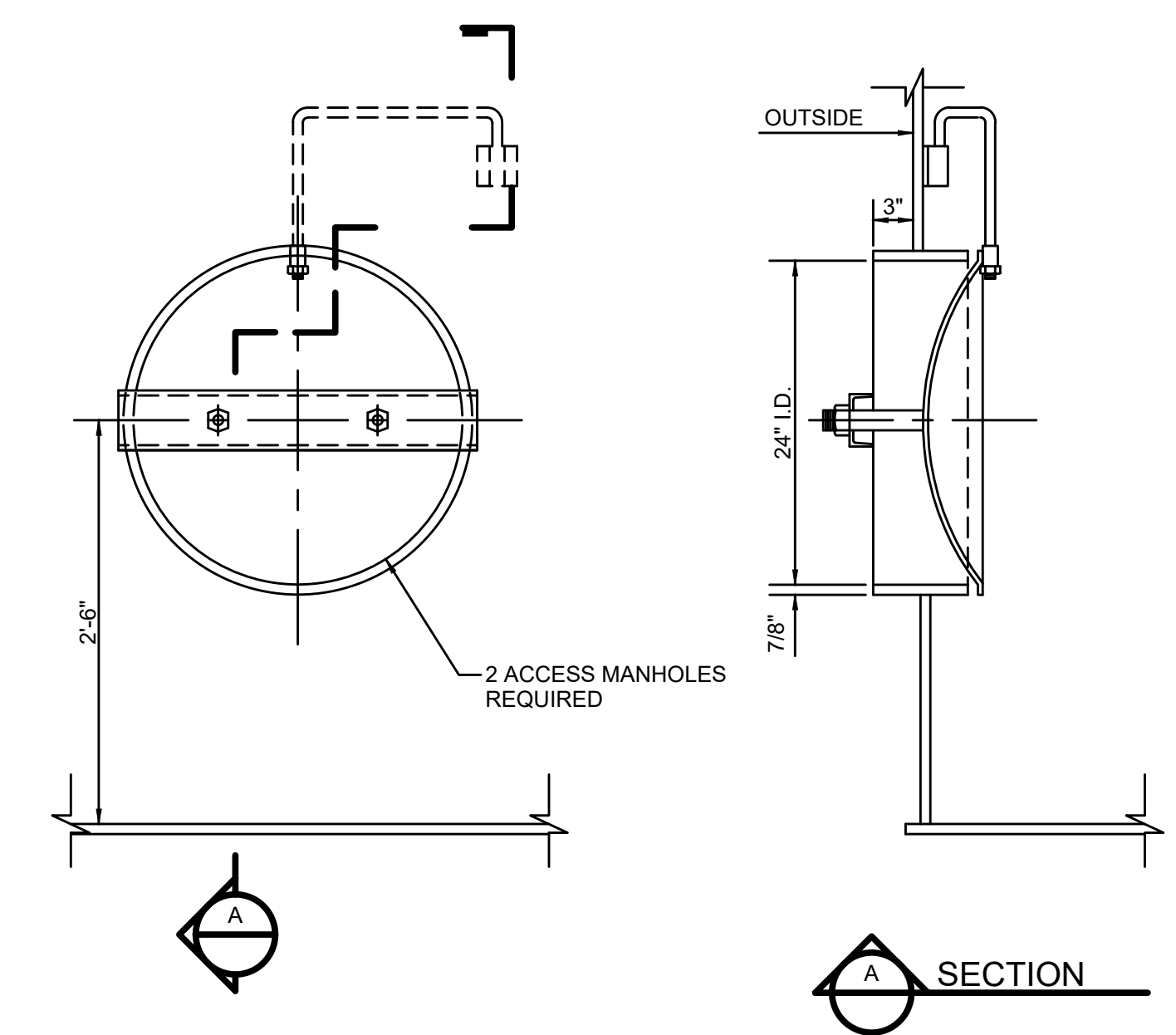
Blueprints/Sandy Hook Water/19003 - 2019 Water System Improvements/DWG/Contract 12 - WTP/Record Drawings/19003-12-C-2-03.dwg



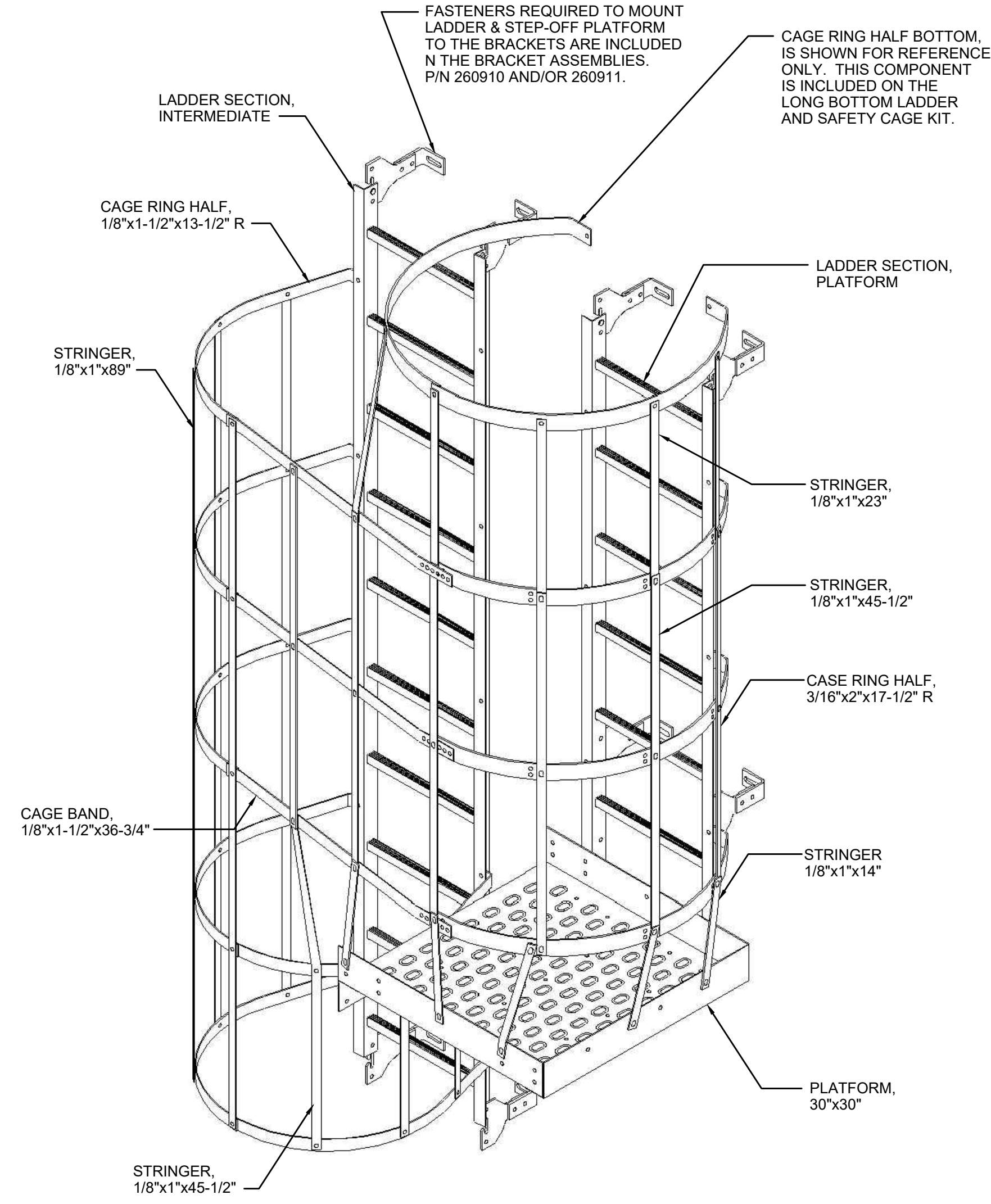
24" ROOF MANHOLE
SCALE: 1 1/2" = 1'-0"



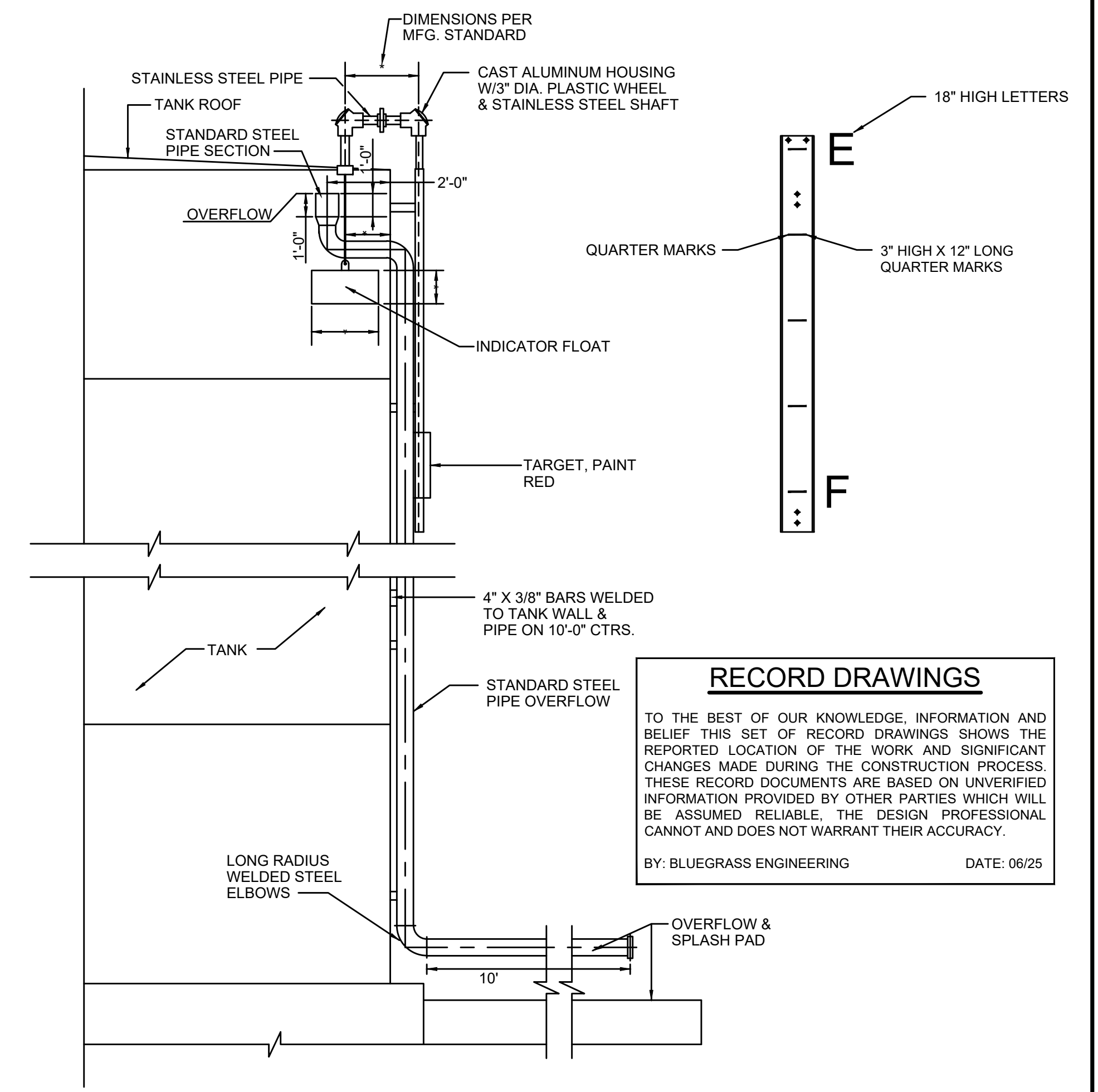
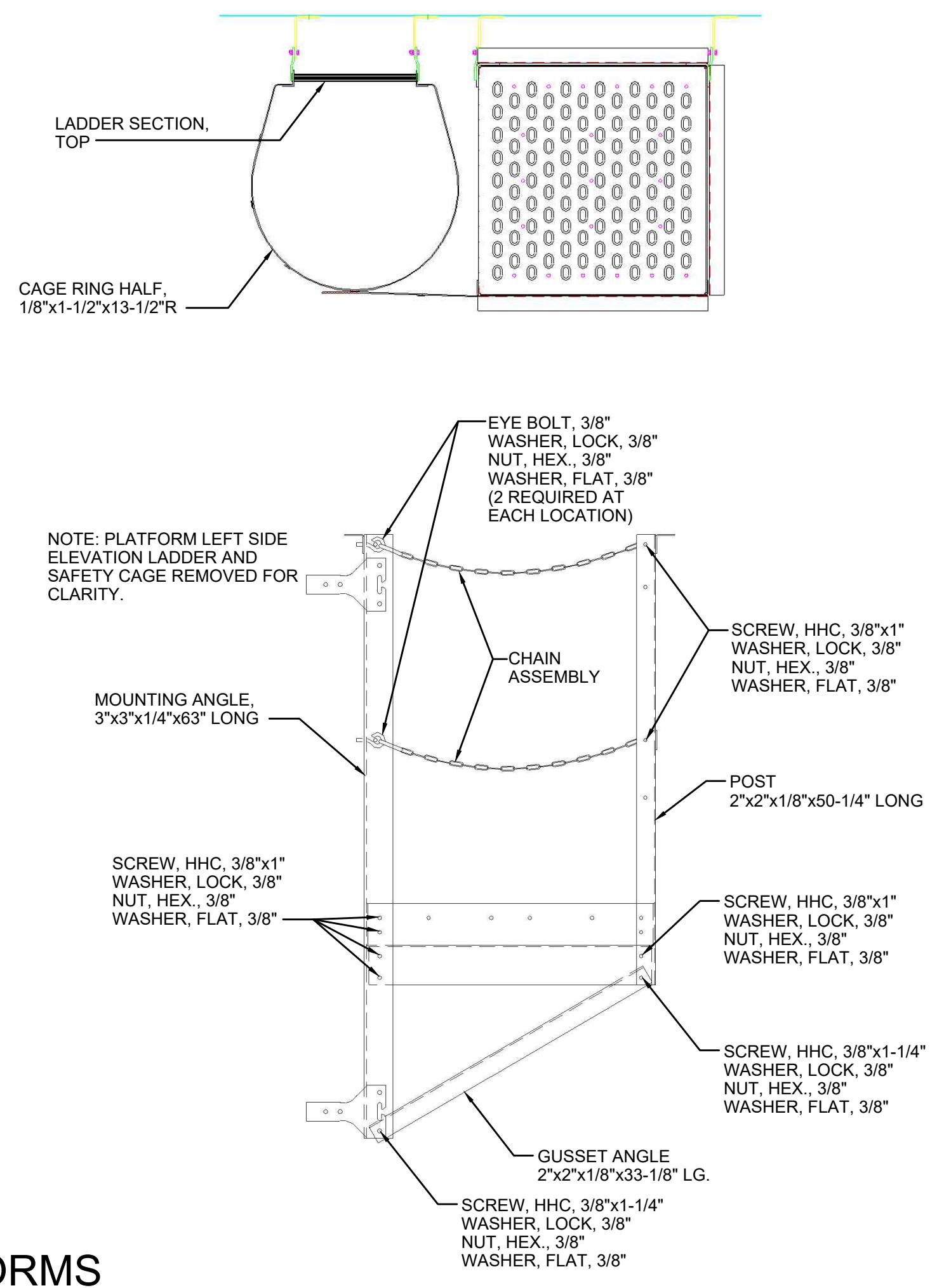
24" DIAMETER ROOF VENT
SCALE: 1 1/2" = 1'-0"



24" ACCESS MANHOLE W/ DAVIT
SCALE: 1" = 1'-0"



LADDER AND PLATFORMS
NOT TO SCALE



OVERFLOW AND HALF-TRAVEL WATER LEVEL INDICATOR
SCALE: 1/2" = 1'-0"

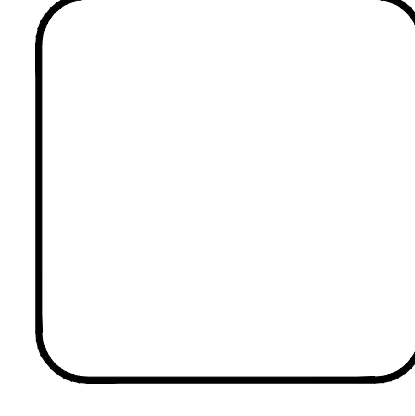
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BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
CLEARWELL TANK - STANDARD DETAILS

SANDY HOOK WATER DISTRICT
Bluegrass Engineering, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324
Serving Our Community

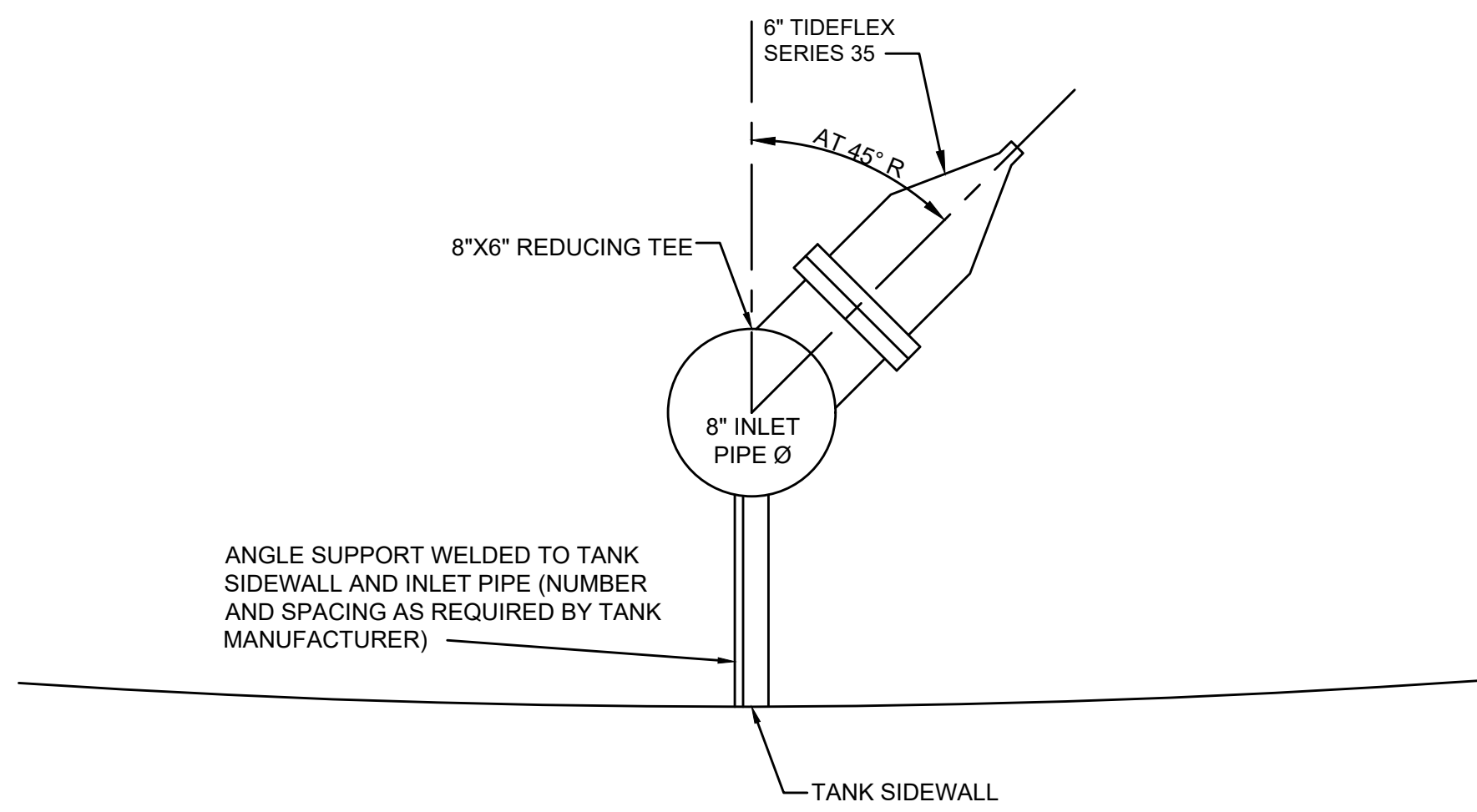
PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



C-2-03

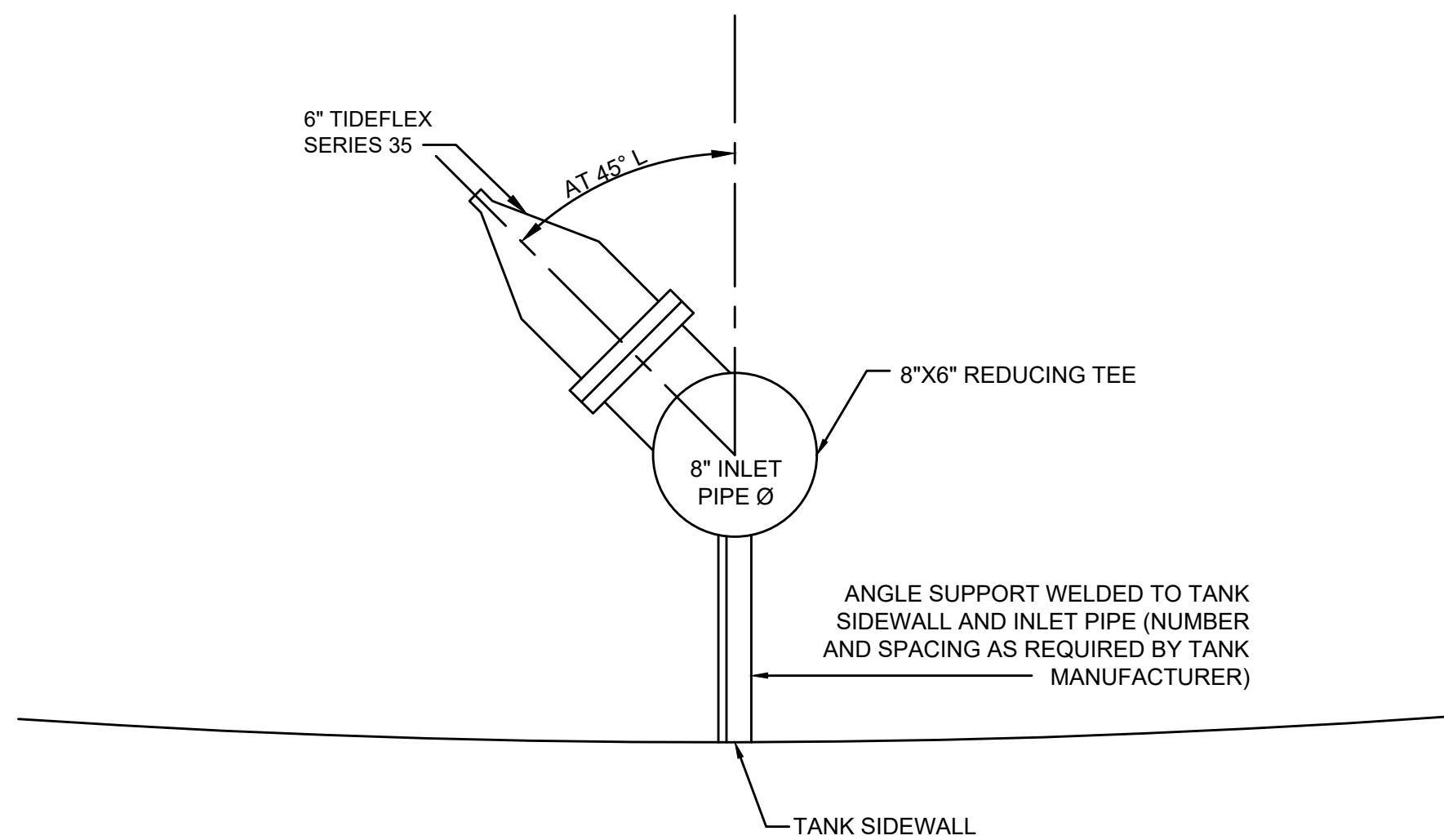
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 BE 816123
 B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-C-2-04.dwg



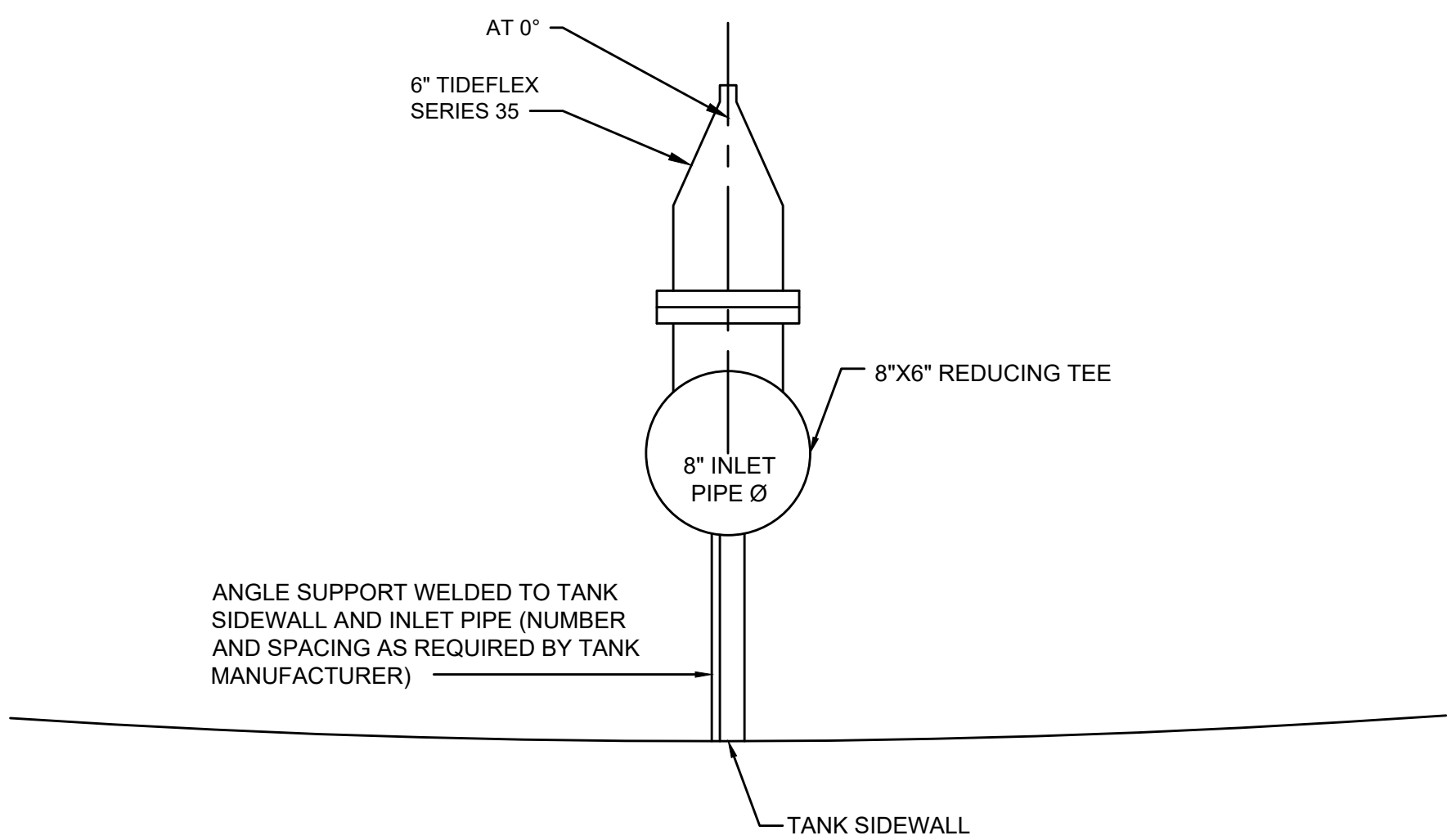
SERIES 35 TIDEFLEX VALVE - PLAN VIEW @ 741.00 LEVEL

NOT TO SCALE



SERIES 35 TIDEFLEX VALVE - PLAN VIEW @ 725.00 LEVEL

NOT TO SCALE



SERIES 35 TIDEFLEX VALVE - PLAN VIEW @ 718.50 LEVEL

NOT TO SCALE

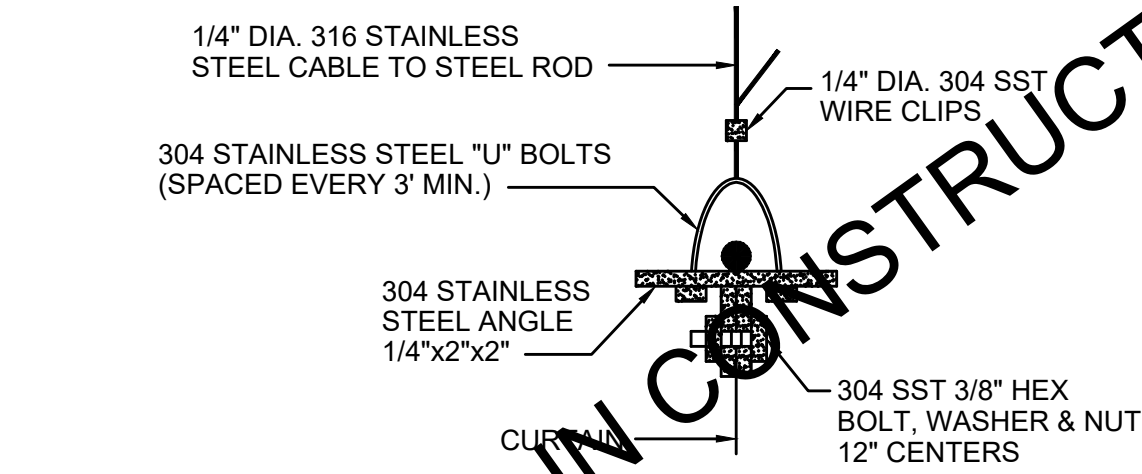
INLET PIPE

RECORD DRAWINGS

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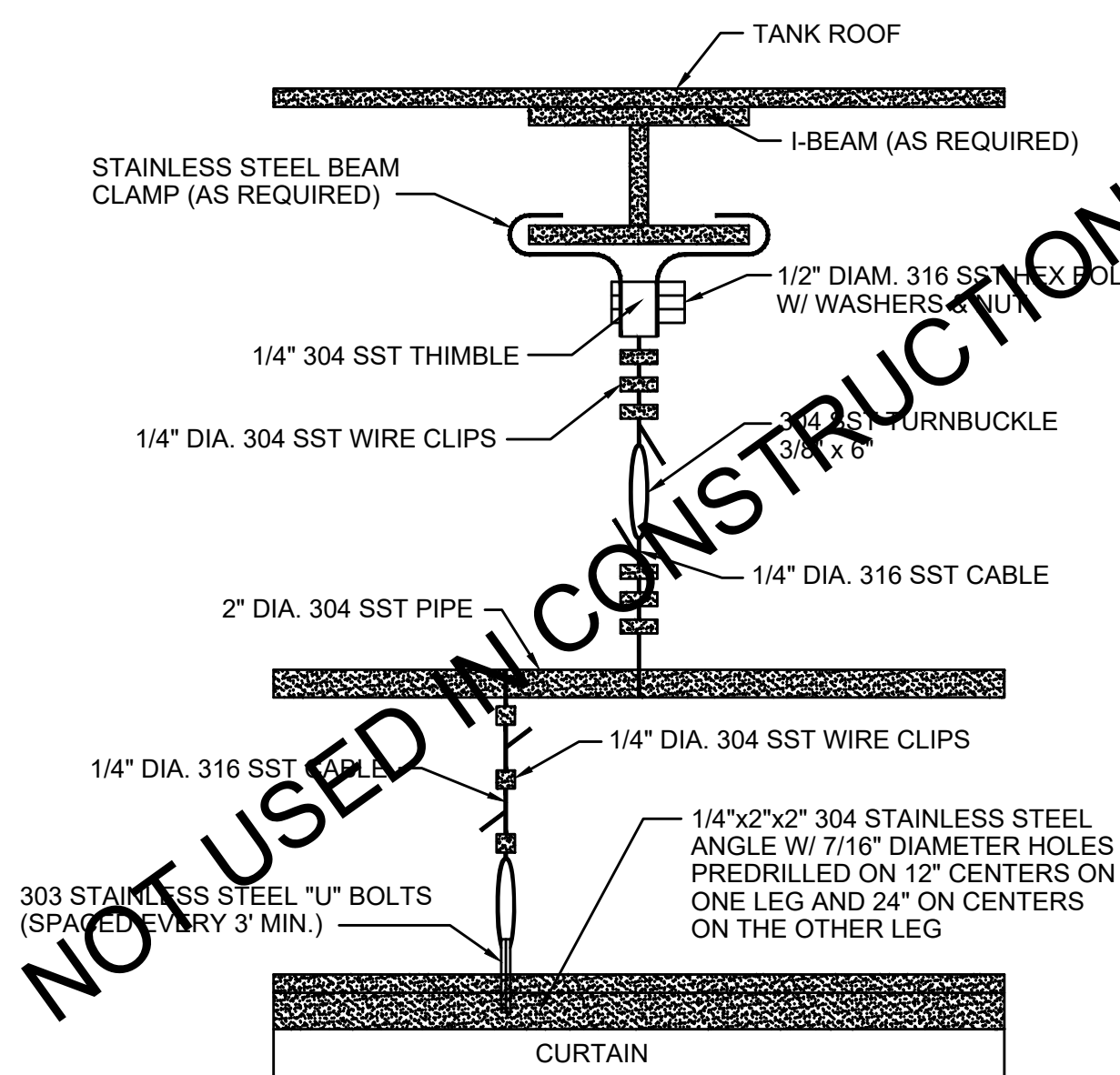
BY: BLUEGRASS ENGINEERING

DATE: 06/25



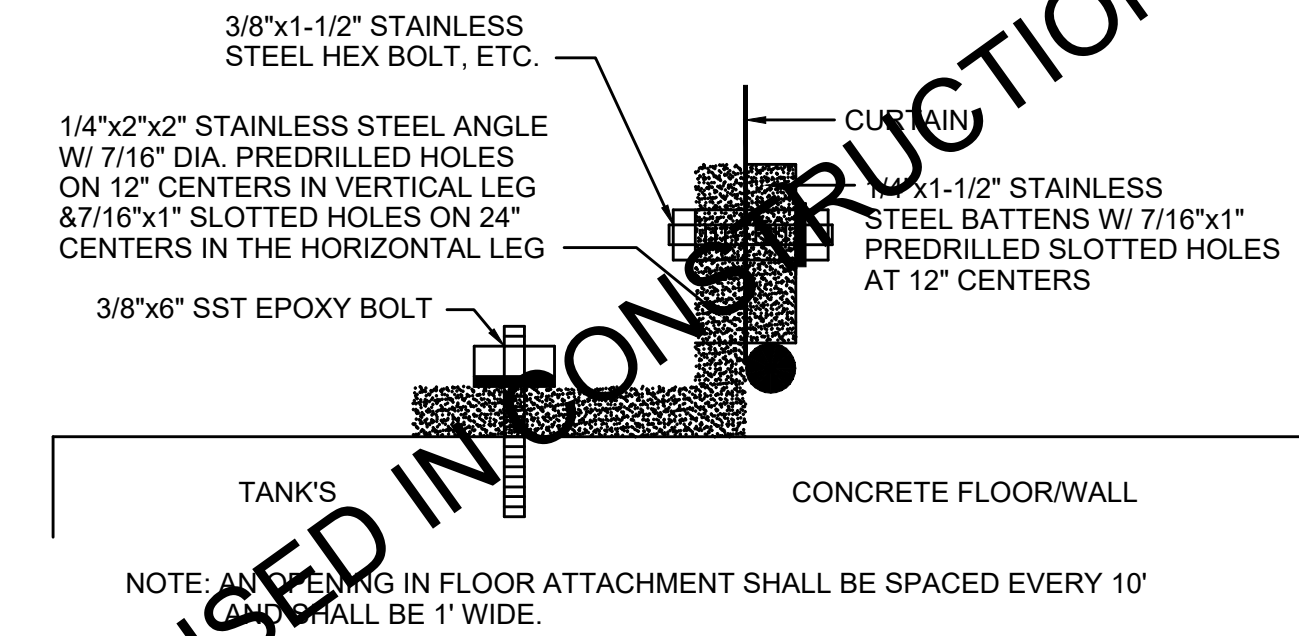
CEILING ATTACHMENT DETAIL BAFFLE CURTAIN SUSPENSION DETAIL

NOT TO SCALE



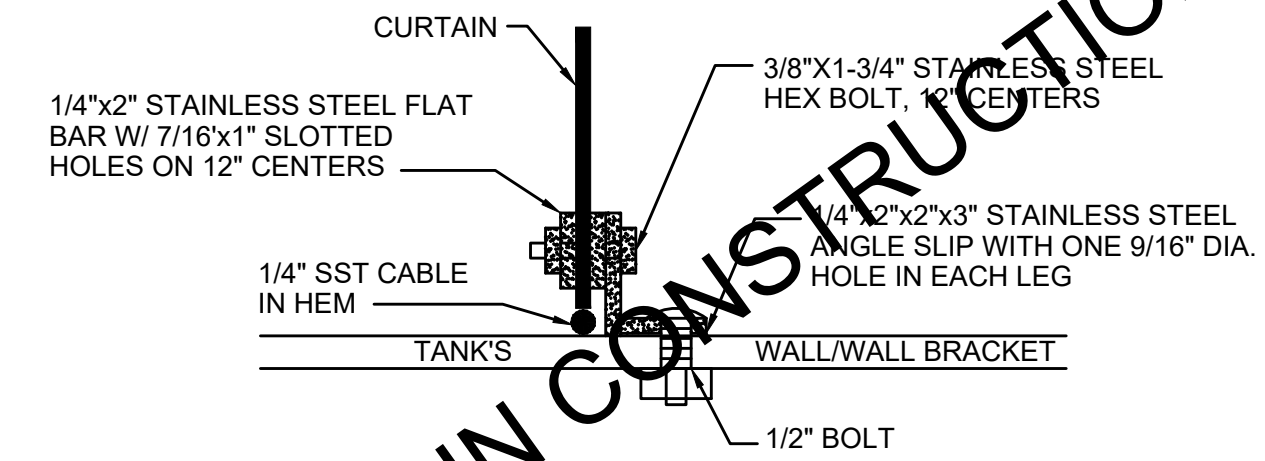
CEILING ATTACHMENT DETAIL

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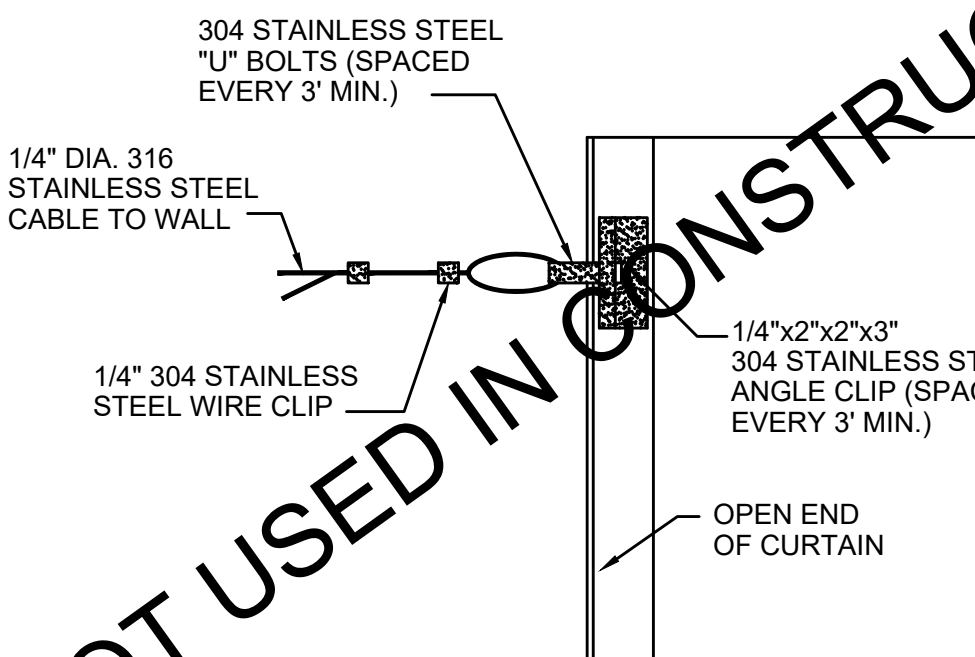
FLOOR ATTACHMENT DETAIL ANCHOR SYSTEM W/ STAINLESS STEEL BATTENS

NOT TO SCALE



WALL ATTACHMENT DETAIL WALL CONNECTION CURTAIN ATTACHED ANGLE

NOT TO SCALE



WALL ATTACHMENT DETAIL WALL CONNECTION OPEN END STAINLESS STEEL CLIP

NOT TO SCALE

NOT USED IN CONSTRUCTION

NOT USED IN CONSTRUCTION

NOT USED IN CONSTRUCTION

NOT USED IN CONSTRUCTION

NO.	DATE	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 CLEARWELL TANK - STANDARD DETAILS

SANDY HOOK WATER DISTRICT
 Serving Our Community

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



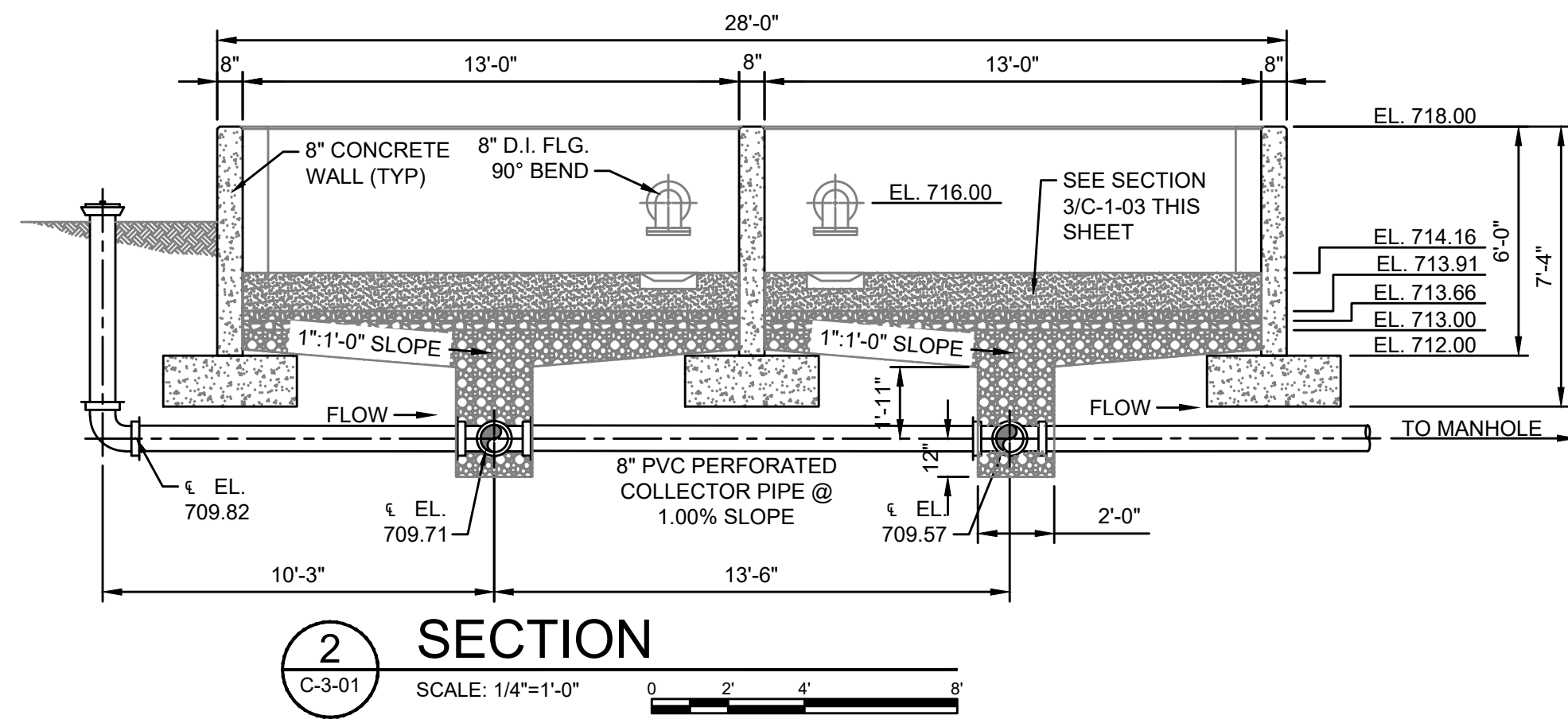
C-2-04

RECORD DRAWINGS

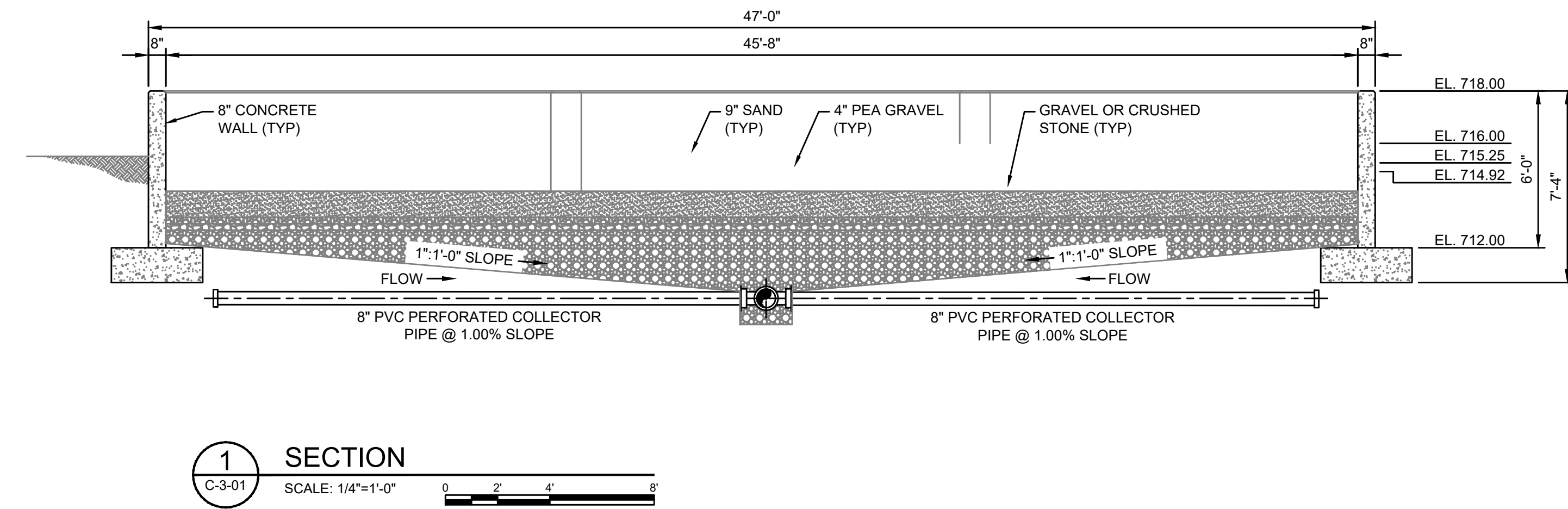
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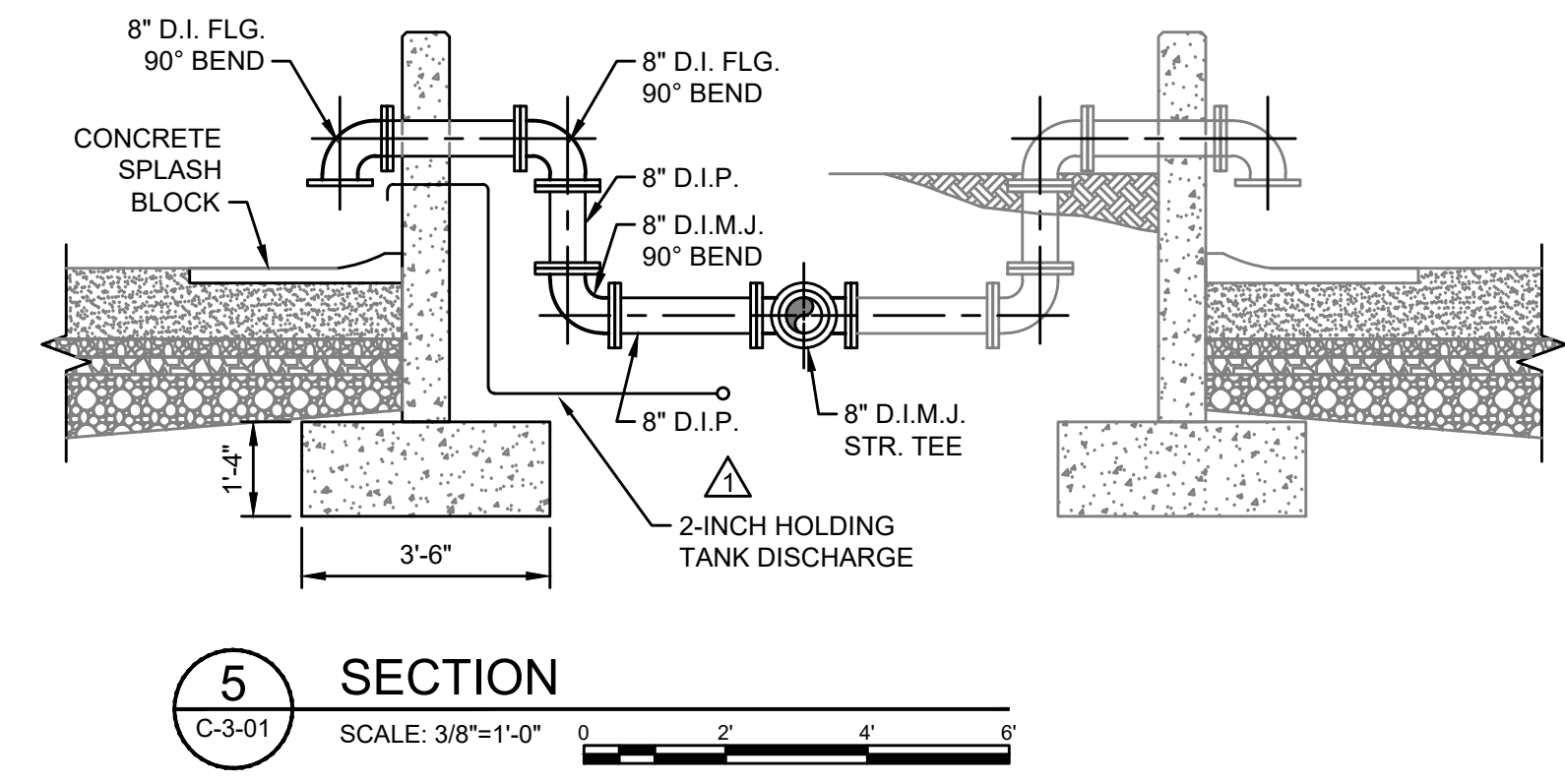
B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\backwash-lagoon-plan.dwg BE 08/25



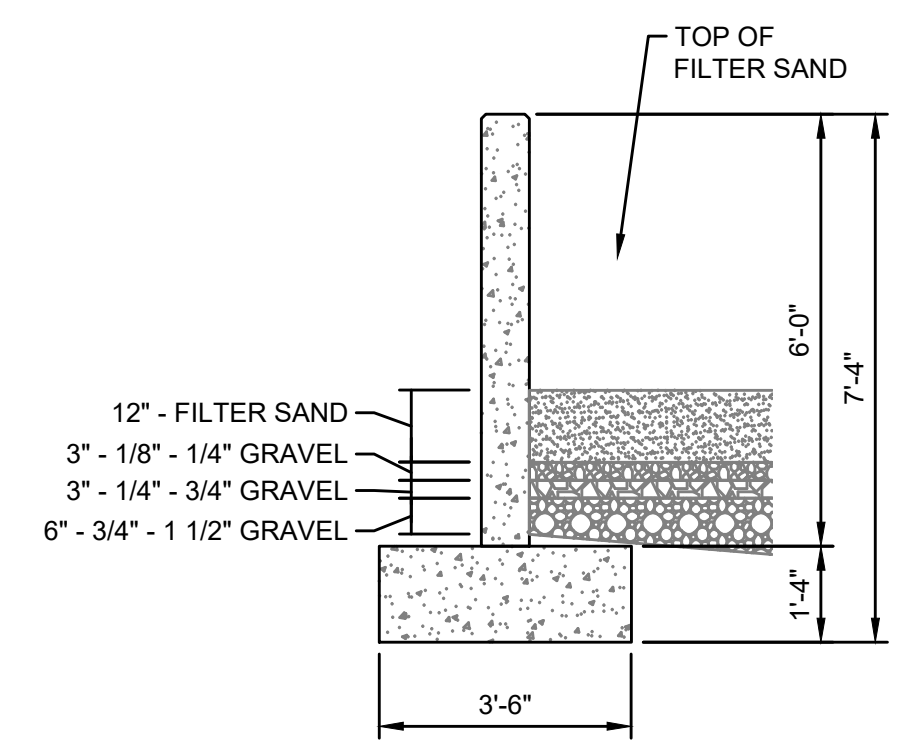
2 SECTION
C-3-01 SCALE: 1/4"=1'-0"



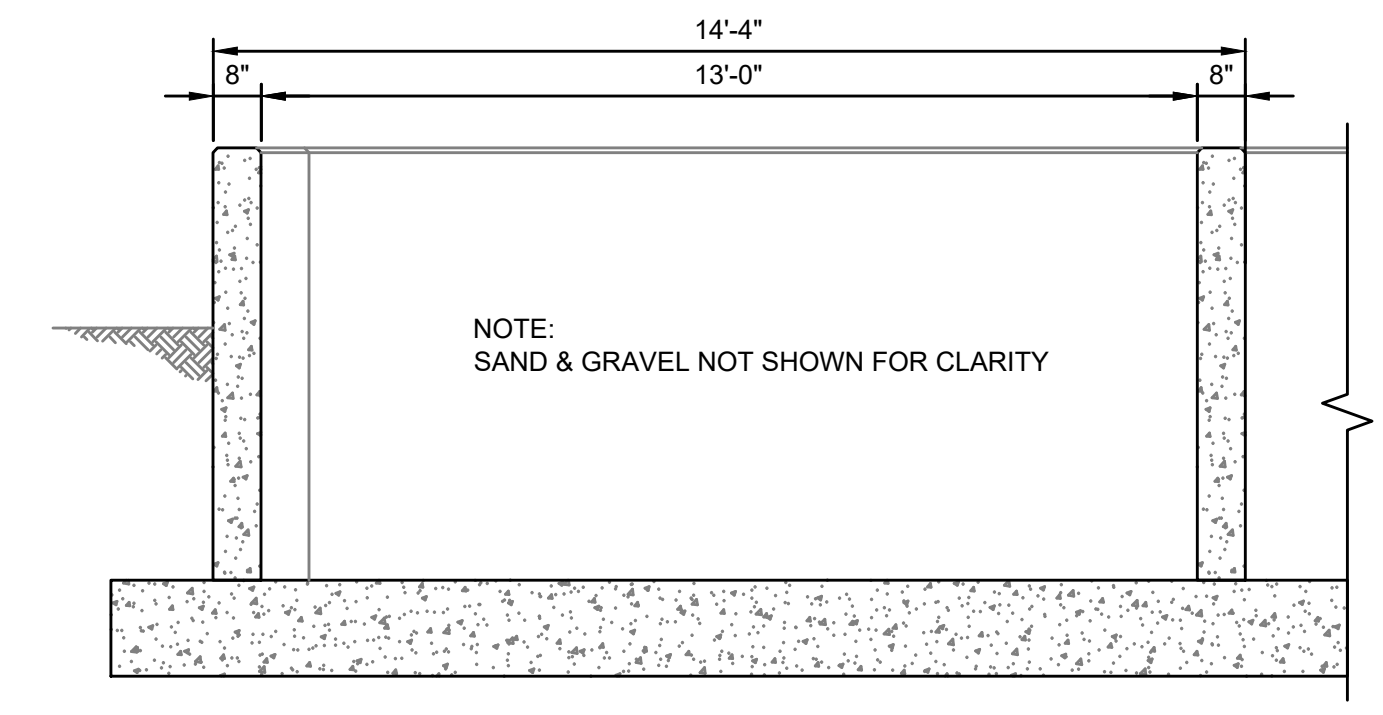
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C-3-01 SCALE: 1/4"=1'-0"



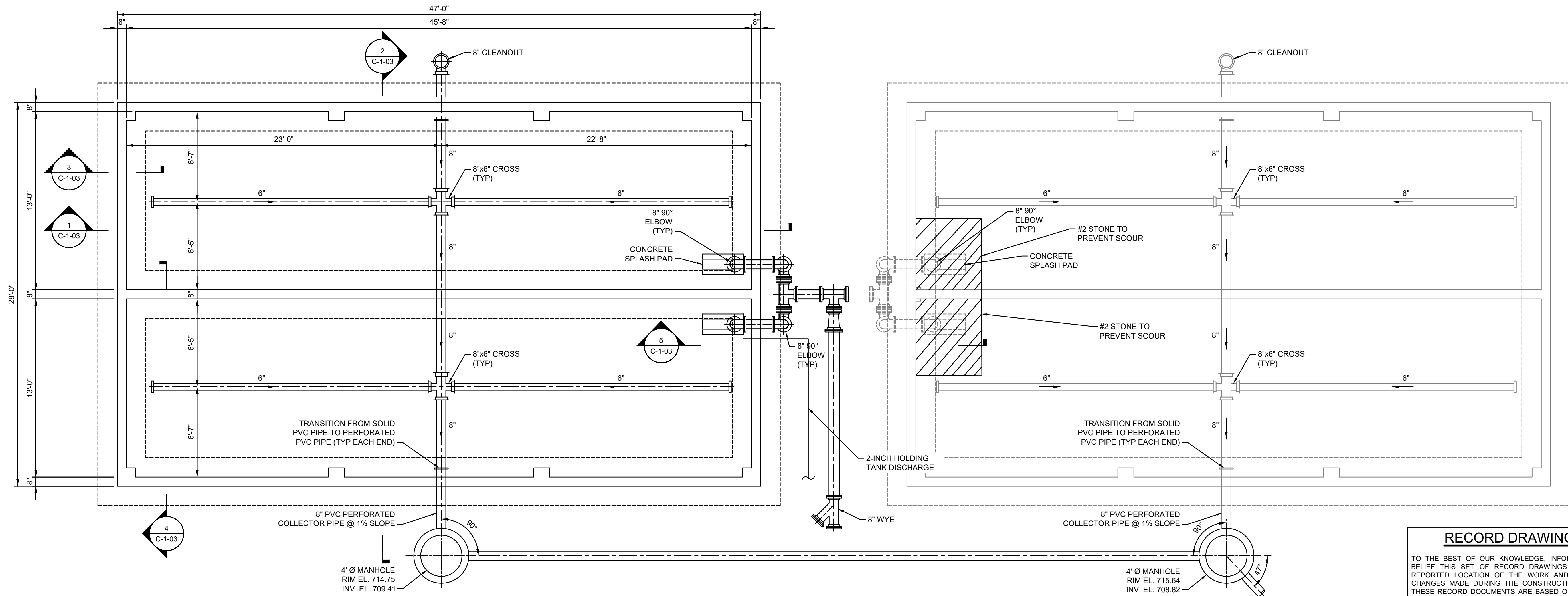
5 SECTION
C-3-01 SCALE: 3/8"=1'-0"



3 SECTION
C-3-01 SCALE: 3/8"=1'-0"



4 SECTION
C-3-01 SCALE: 3/8"=1'-0"



BACKWASH LAGOON PLAN
SCALE: 1/4"=1'-0"

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BY: BLUEGRASS ENGINEERING DATE: 08/25

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
BACKWASH LAGOON PLAN

SANDY HOOK WATER DISTRICT
BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324
Serving Our Community

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



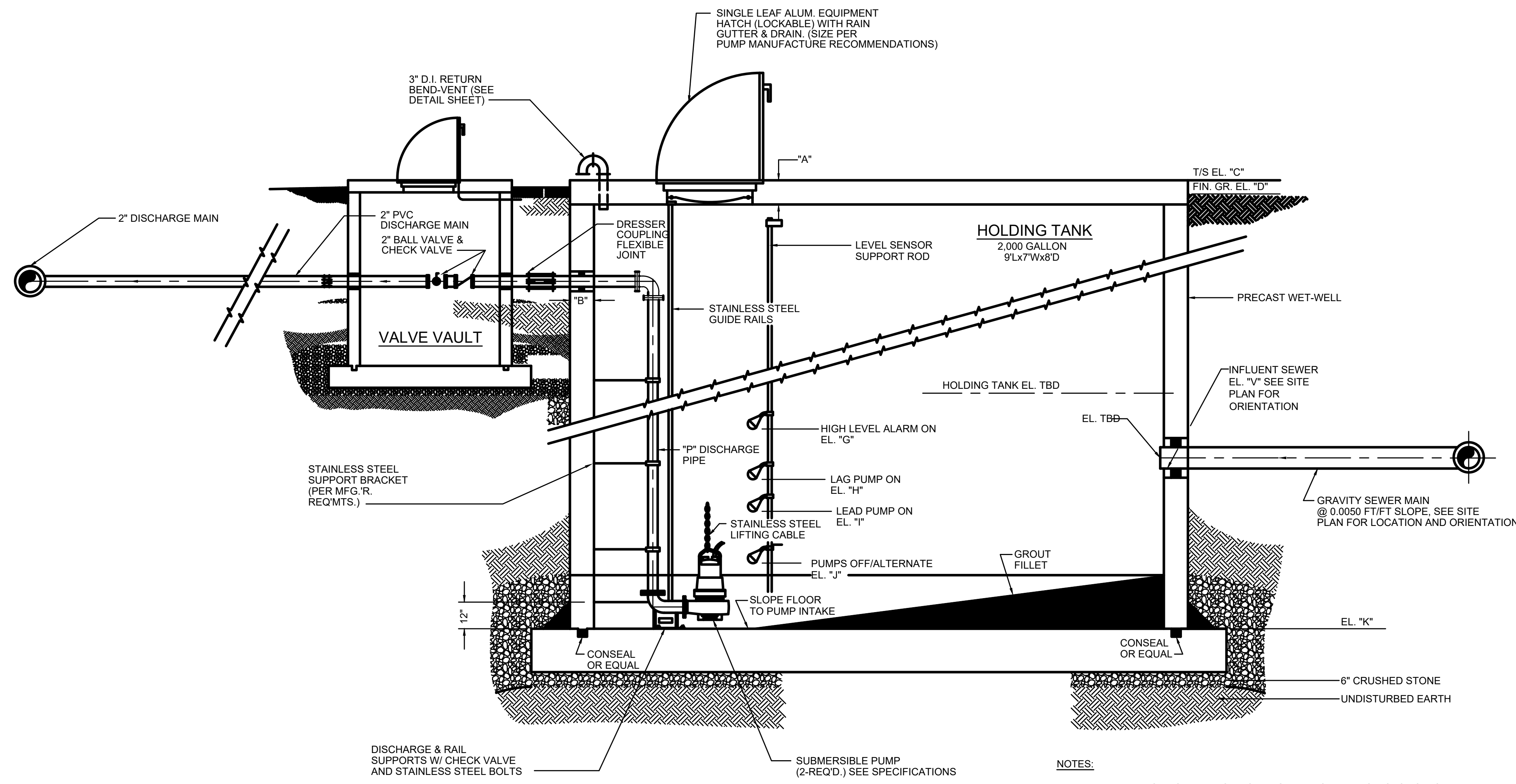
C-3-01

RECORD DRAWINGS

THIS DRAWING HAS BEEN PREPARED AT THE SCALE INDICATED. REPRODUCTION OF THIS DRAWING MAY INTRODUCE INACCURACIES OF THE LISTED SCALE. THE GRAPHIC SCALE BAR SHALL BE USED TO DETERMINE THE ACTUAL SCALE.

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PROJECT: Sandy Hook Water 19003 - 2019 Water System Improvements DWG: Contract 12 - WTP/HOLDING TANK SECTIONS AND DETAILS.dwg BE 6/16/25



TYPICAL SECTION THRU HOLDING AND SEPTIC TANK
NOT TO SCALE

- NOTES:
1. VALVE VAULT IS REQUIRED FOR HOLDING TANK, OTHERWISE, SECTION IS COMMON TO BOTH.

GENERAL NOTES:

1. ACCESS HATCHES SHALL BE SUPPLIED BY THE PUMP MFG./SUPPLIER IN COORDINATION WITH THE SPECIFIED PUMPS.
2. FLOAT TYPE SWITCHES SHALL BE SEALED MERCURY SWITCHES.
3. DISCHARGE PIPE SHALL BE PVC - SCH. 80
4. ALL WALL SLEEVES TO BE "LINK-SEAL" OR APPROVED EQUAL, UNLESS NOTED OTHERWISE.
5. FLOAT TYPE SWITCHES SHALL BE LOCATED SO AS NOT TO BE UNDULY AFFECTED BY TURBULENT FLOWS ENTERING THE TANK OR BY THE TURBULENT SUCTION OF THE PUMPS.

HOLDING TANK DATA		
DESCRIPTION	DIM	HOLDING TANK
MIN. TOP SLAB THICKNESS (in)	A	12
MIN. WALL THICKNESS (in)	B	10
TOP SLAB ELEV. (ft)	C	TBD
FIN. GRADE ELEV. (ft)	D	TBD
DISCHARGE PIPE C ELEV. (ft)	F	TBD
HIGH LEVEL ALARM ELEV. (ft)	G	TBD
LAG PUMP ON ELEV. (ft)	H	TBD
LEAD PUMP ON ELEV. (ft)	I	TBD
PUMP OFF ELEV. (ft)	J	TBD
FLOOR ELEV. (ft)	K	TBD
BOTTOM SLAB THICKNESS (in)	M	12
DISCHARGE PIPE I.D. (in)	P	TBD
WET WELL INV. IN ELEV. (ft)	V	TBD

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

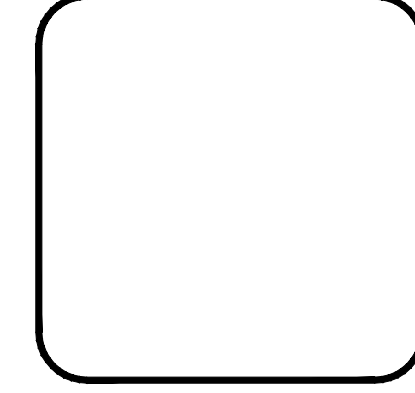
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
HOLDING TANK SECTIONS AND DETAILS

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

SANDY HOOK WATER DISTRICT
Serving Our Community

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL

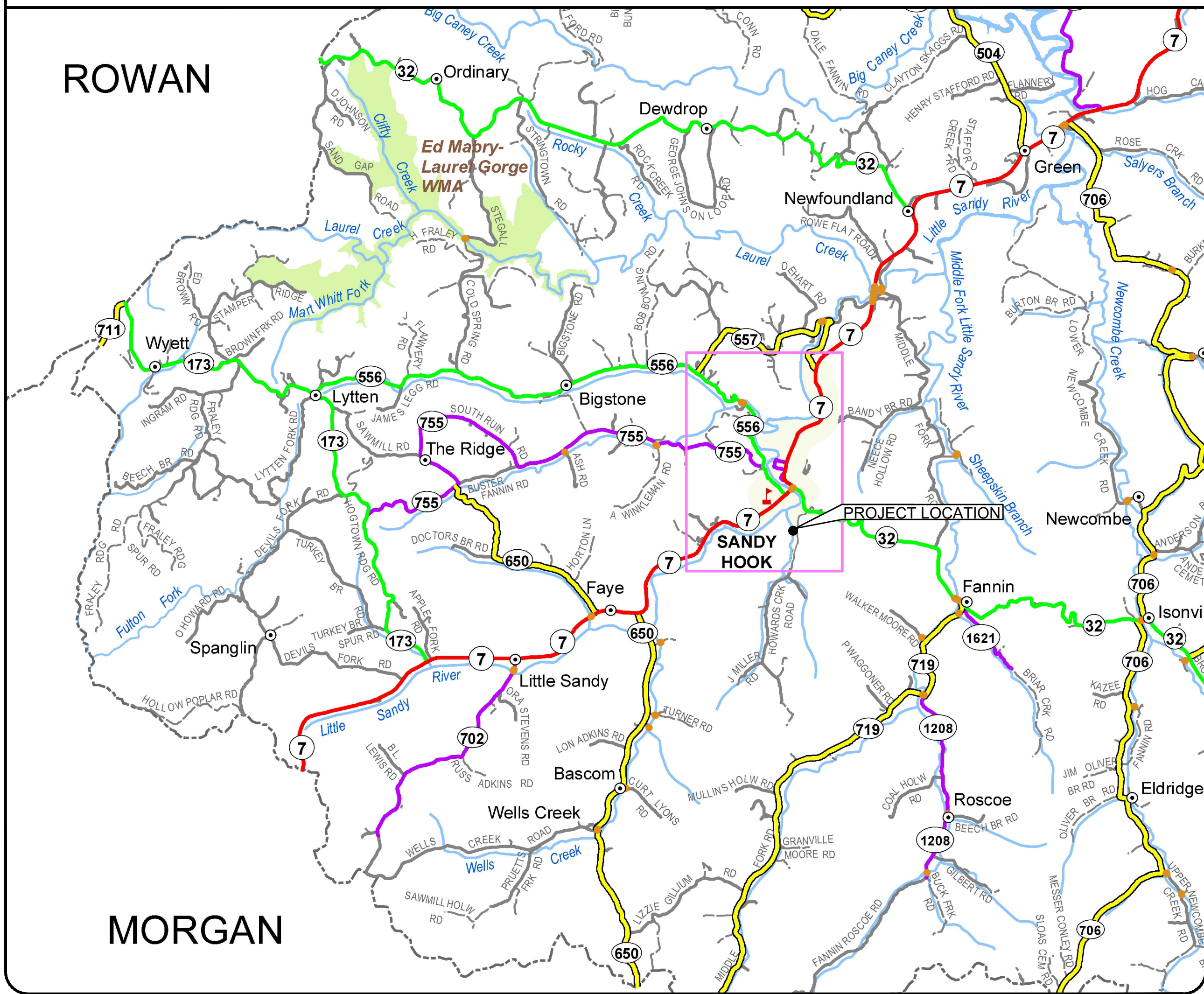


C-3-02

RECORD DRAWINGS

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 BE 816225
 B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-G-01.dwg

LOCATION MAP



GENERAL NOTES

1. THE CONTRACTOR SHALL FIELD LOCATE EXISTING STRUCTURES AND PIPING AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES ENCOUNTERED BEFORE BEGINNING CONSTRUCTION OPERATIONS. PIPING LAYOUT OR DIMENSIONS, WHERE GIVEN, ARE TO SHOW THE ENGINEER'S INTENT AND TO AID THE CONTRACTOR IN PIPE INSTALLATION.
2. DIMENSIONS OF EXISTING STRUCTURES AND/OR SITE RESTRICTIONS ARE APPROXIMATE. ALL NECESSARY DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES & TOPOGRAPHY SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION OPERATIONS.
3. GENERALLY, ALL EXISTING EQUIPMENT, PIPING VALVING, ETC., SHOWN TO BE REMOVED, SHALL, AFTER REMOVAL, BE DISPOSED OF BY THE CONTRACTOR UNLESS SHOWN OTHERWISE ON THESE DRAWINGS. CONTRACTOR SHALL CONSULT PLANT REPRESENTATIVE BEFORE DISPOSAL OF ANY ITEMS.
4. ALL WALL PENETRATIONS FOR PIPING SHALL CONFORM TO THE STANDARD DETAILS AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO WORK ALL APPLICABLE DRAWINGS AND THE APPROPRIATE SPECIFICATIONS AS A UNIT. ANY OMISSIONS, DELETIONS, OR CONFLICTS ARISING AS A RESULT OF FAILURE TO INCORPORATE ALL DRAWINGS AND SPECIFICATIONS THAT APPLY SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER.
6. PIPE AND CONDUIT SUPPORTS ARE TYPICALLY NOT SHOWN, HOWEVER ALL PIPING, INSIDE AND OUTSIDE, SHALL BE ADEQUATELY SUPPORTED AND BLOCKED SO AS NOT TO PRODUCE UNDE STRAIN OR VIBRATION ON PIPE JOINTS OR EQUIPMENT, SEE SPECIFICATIONS.
7. ALL PIPING ABANDONED IN PLACE SHALL BE PROPERLY CAPPED OR PLUGGED AT EACH END AND RENDERED LEAKPROOF.
8. EXACT LOCATIONS OF DUCTS, CONDUITS, LIGHT FIXTURES AND PIPES SHALL BE FIELD LOCATED AND COORDINATED WITH THE WORK OF SUBCONTRACTORS FOR THE VARIOUS TRADES INVOLVED.
9. ELECTRICAL AND INSTRUMENTATION SUBCONTRACTORS SHALL NOTIFY THE CONTRACTOR AND COORDINATE THE SIZES AND LOCATIONS OF ALL OPENINGS AND RECESSES IN STRUCTURES REQUIRED FOR THEIR WORK.
10. THE CONTRACTOR SHALL CONFIRM THE CONTENTS OF ANY AND ALL PIPING INVOLVED IN DEMOLITION REQUIREMENTS AND PROVIDE AND WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE PROTECTION.
11. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR VERIFYING AND CONFIRMING WITH ALL EQUIPMENT MANUFACTURERS AND MATERIAL SUPPLIERS FOR THIS PROJECT OF THE COMPATIBILITY BETWEEN THE EQUIPMENT AND MATERIALS BEING USED AND THE PRODUCT BEING PUMP, STORED, AND/OR TRANSPORTED TO THE VARIOUS LOCATIONS.

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EXISTING UTILITIES



NOTE:
 IN ACCORDANCE WITH KENTUCKY STATE LAW, ANY ACTIVITY THAT RESULTS IN MOVEMENT, PLACEMENT, BORING, PROBING OR DIGGING IN OR ON THE GROUND SHALL CONTACT THE ONE CALL CENTER FOR UNDERGROUND UTILITY LOCATIONS.

WATER
 SANDY HOOK WATER DISTRICT
 100 HOWARDS CREEK RD
 SANDY HOOK, KY 41171
 BRIDGETT HOWARD, MANAGER
 (606) 738-6282 OFFICE

ELECTRIC
 GRAYSON RECC
 109 BAGBY PARK STREET
 GRAYSON, KY 41143
 606-474-5136
 800-562-3532

TELEPHONE & INTERNET
 MOUNTAIN RURAL TELEPHONE
 425 MAIN STREET, SUITE A
 P.O. BOX 399
 WEST LIBERTY, KY 41472
 606-743-3121
 800-939-3121

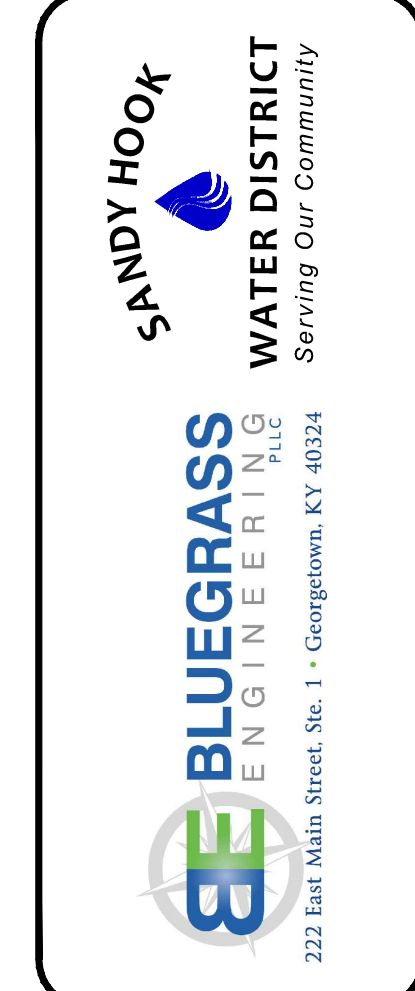
SEWER
 GATEWAY DISTRICT HEALTH DEPARTMENT
 GUDGELL AVENUE
 OWINGSVILLE, KY 40360
 606-674-6396

BUD - Before You Dig
 1-800-752-6007
 or DIAL 811

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NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
GENERAL NOTES, INDEX OF DRAWINGS and LOCATION MAP

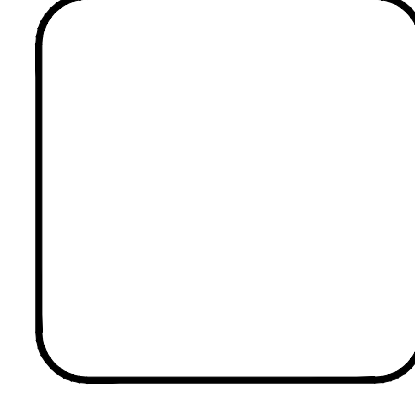


PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25



G-0-01

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ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes entries for 'A' through 'W'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'B' through 'V'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'C' through 'Y'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'Z' through 'HVAC'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'D' through 'E'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'F' through 'L'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'M' through 'P'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'Q' through 'R'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'S' through 'T'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'U' through 'V'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'W' through 'Z'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'AA' through 'ZZ'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'P' through 'Q'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'R' through 'S'.

Table with 2 columns: Abbreviation and Description. Includes entries for 'T' through 'V'.

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Table with 2 columns: Abbreviation and Description. Includes entries for 'U' through 'V'.

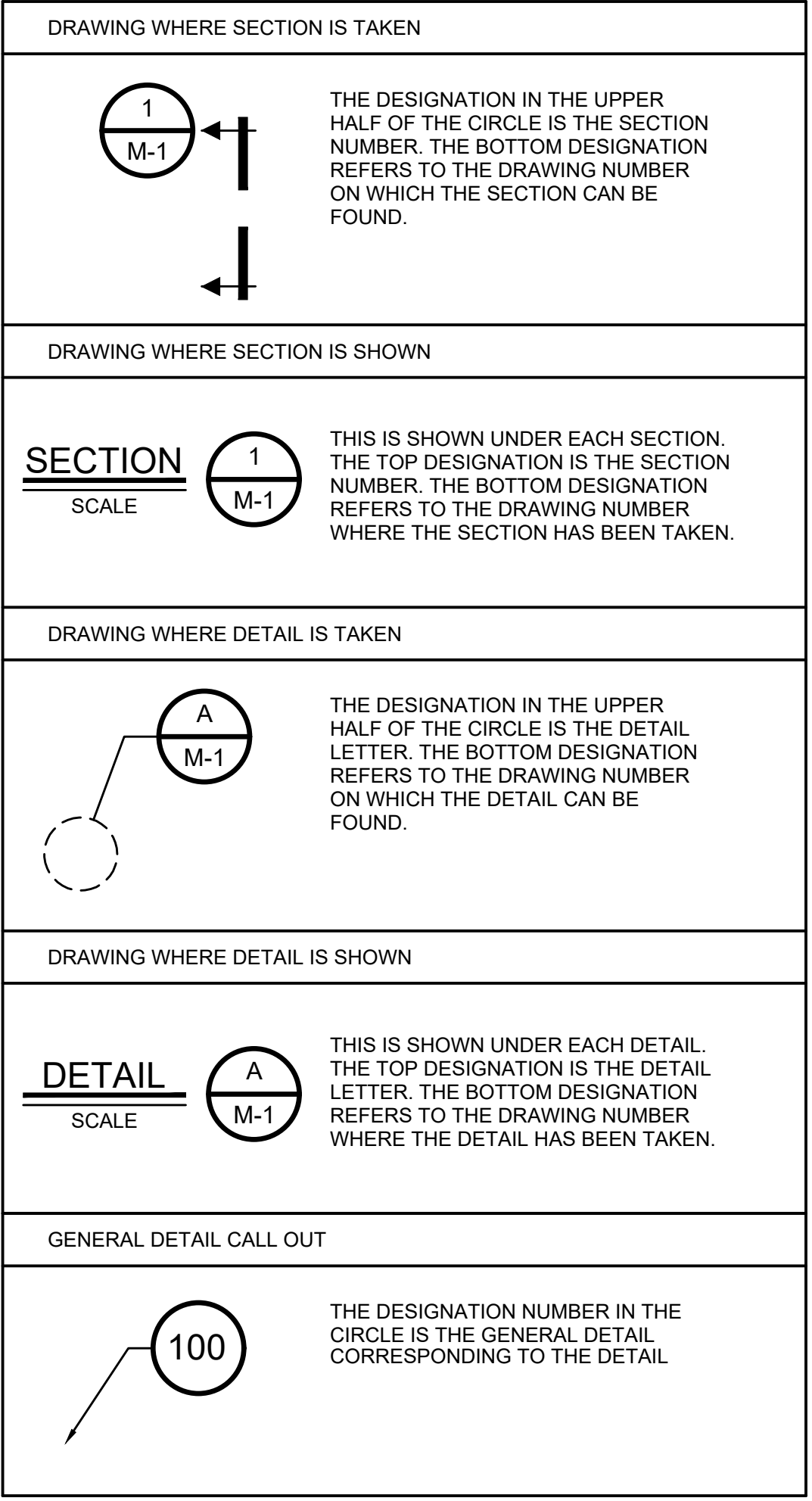
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Table with 2 columns: Abbreviation and Description. Includes entries for 'AAA' through 'ZZZ'.

METHOD OF SECTIONING AND DETAILING

THE DRAWING UPON WHICH A SECTION, VIEW, OR DETAIL HAS BEEN TAKEN AND THE DRAWING UPON WHICH THE SECTION, VIEW, OR DETAIL HAS BEEN SHOWN IS CROSS-REFERENCED WITH SYMBOLS AS FOLLOWS.



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BY: BLUEGRASS ENGINEERING DATE: 06/25

Table for REVISIONS with columns for NO., DATE, and BY.

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
ABBREVIATIONS & METHOD OF SECTIONING/DETAILING

Logos for SANDY HOOK WATER DISTRICT and BLUEGRASS ENGINEERING PLLC. Includes address: 222 East Main Street, Ste. 1 - Georgetown, KY 40324.

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL

GENERAL DETAIL CALL OUT
100
THE DESIGNATION NUMBER IN THE CIRCLE IS THE GENERAL DETAIL CORRESPONDING TO THE DETAIL

G-0-02

RECORD DRAWINGS

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ABBREVIATIONS

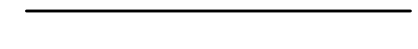
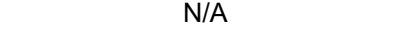




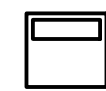




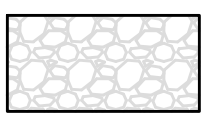






APPROX.	APPROXIMATE
B.O.W.	BOTTOM OF WALL
CB	CATCH BASIN
CSP	CORRUGATED STEEL PIPE
DESCR	DESCRIPTION
DISTR.	DISTRIBUTION
FLG	FLANGE
FM	FORCE MAIN
FUT.	FUTURE
GV	GATE VALVE
INV	INVERT
MH	MANHOLE
OFALL	OUTFALL
OVFLOW	OVERFLOW
PV	PLUG VALVE
PRD	PROCESS DRAIN
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
SD	STORM DRAIN
SICPP	SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE
SWM	STORM WATER MANAGEMENT
T/WALL	TOP OF WALL
T.S.&V.	TAPPING SLEEVE AND VALVE
TYP.	TYPICAL
UV	ULTRAVIOLET
GDOT	GEORGIA DEPARTMENT OF TRANSPORTATION
YH	YARD HYDRANT
YI	YARD INLET

FOR ABBREVIATIONS NOT NOTED HERE, SEE GENERAL ABBREVIATIONS SHEET.

DEMOLITION PLAN SYMBOLS

	LIMITS OF DEMOLITION & REMOVAL
N/A	
SB12	
⊕ OR ⊙	
N/A	
N/A	
N/A	
⊙/o	
⊗ OR ⊘	
○ ^{WM}	
⊕	
⊙	
⊖	
N/A	
—DESCR—	
—E—	
—OHE—	
	
	
N/A	
	
△	
N/A	
N/A	
	

SYMBOLS

EXISTING	NEW	
N/A	N/A	PROPERTY LINE
		SET BACK LINE
		WOOD OR TREE LINE
		TREE
—X—X—	—X—X—	FENCE
x 1154.6	X 1161.0	SPOT ELEVATION
—25—	—1157—	CONTOUR
N/A	N/A	WETLAND LIMITS
—	—	SWALE OR DITCH
—	—	BUFFER LINE
—CURB & GUTTER—	—	CURB & GUTTER
—	—	SHORELINE
□	N/A	CONCRETE MONUMENT FOUND
▲	N/A	MAG NAIL SET
☆	⊕	LIGHT POLE
⊠	●	POST/BOLLARD
⊞	N/A	MAIL BOX
]	]	PIPE CAP
■	□ OR ■	GRATE OR YARD INLET
N/A	⊕	TEST PIT (REQ'D)
SB12	N/A	SOIL BORING LOCATION (APPROX.)
⊕	⊕ OR ⊞	ELECTRIC MANHOLE/HAND HOLE
⊕ OR ⊙	○	SEWER OR DRAIN MANHOLE
N/A	□	CHEMICAL MANHOLE
N/A	□	SECONDARY CONTAINMENT STAND PIPE
N/A	⊕ OR ⊞	YARD PIPING VALVES
⊙/o	⊙	CLEAN OUT
⊗ OR ⊘	N/A	WATER VALVE W/BOX
○ ^{WM}	N/A	WATER METER
⊕	⊕	YARD HYDRANT (Y.H.)
⊙	N/A	VENT
⊖	⊖	VALVE
N/A		ELECTRICAL TRANSFORMER
—DESCR—	— OR —	PROCESS PIPE (SEE PIPE DESIGNATION SYMBOL)
—E—	— OR —	ELECTRICAL CONDUIT OR DUCT BANK
—OHE—	N/A	OVERHEAD ELECTRICAL LINE
		BITUMINOUS PAVING
		CONCRETE PAVING
N/A		RIP-RAP STONE
	N/A	GRAVEL
△	N/A	BENCH MARK
N/A	▶	POINT OF CONNECTION
N/A	⊕	STOP SIGN
	—	SIGN
	▶	STONE CHECK DAM
	⊕	CULVERT INLET SEDIMENT TRAP
	⊕	TEMPORARY SEDIMENT TRAP
	□	SILT FENCE INLET PROTECTION

GENERAL SITE/CIVIL NOTES:

1. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE CAUSED BY HIS OPERATIONS TO EXISTING UTILITIES AND FACILITIES WHICH ARE NOT INCLUDED AS PART OF THE INTENDED WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE RESPECTIVE OWNERS REPRESENTATIVE, AT NO ADDITIONAL COST.
2. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION OPERATIONS WITH ANY AND ALL OTHER CONSTRUCTION ACTIVITIES WHICH MAY BE OCCURRING SIMULTANEOUS ON THE SITE. LACK OF COORDINATION ON THE CONTRACTOR'S PART RESULTING IN EXTRA WORK OR SCHEDULE DELAYS SHALL NOT CONSTITUTE A CHANGE ORDER.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PERTINENT TO THE WORK OF THIS CONTRACT IN THE FIELD.

DRAINAGE NOTES:

1. STORM SEWER PIPE (12" THRU 36" DIAMETER) SHALL BE ADS OR HANCOR, SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (SICPP) WITH EQUIVALENT MANNINGS "N" VALUE OF 0.12 OR LESS, OR APPROVED EQUAL.
2. ALL STRUCTURES AND APPURTENANCES SHALL BE DESIGNED FOR MINIMUM HS-25 LOADINGS.
3. FRAME, GRATES, AND COVERS SHALL BE AS NOTED ON THE DETAIL SHEETS.
4. ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS AND FOREIGN MATTER AND OPERATIONAL AT ALL TIMES THROUGHOUT THE DURATION OF THE CONTRACT.
5. UPON COMPLETION OF THE CONTRACT WORK, ALL PROPOSED DRAINAGE SYSTEMS AND EXISTING DRAINAGE SYSTEMS TO REMAIN WITHIN THE LIMITS OF THIS CONTRACT SHALL BE CLEANED TO THE OWNERS SATISFACTION TO ATTAIN THEIR FULL FLOW CAPABILITIES.
6. ALL COLLARS OR CONNECTING BANDS SHALL BE AT LEAST TWELVE (12) INCHES WIDE AND SHALL BE FURNISHED WITH BOLTS AT LEAST 6 INCHES LONG.
7. PIPE END SECTIONS AND THE TOE PLATE EXTENSIONS SHALL BE STEEL, WHICH REQUIRES THE END SECTION TO INCREASE IN ONE SIZE TO BE COMPATIBLE WITH SICPP.
8. PROPOSED DRAINAGE FACILITIES SHALL NOT BE PUT INTO USE UNTIL OUTFALLS HAVE BEEN ESTABLISHED TO PROVIDE ADEQUATE DRAINAGE.
9. ALL PROPOSED STRUCTURE RIM ELEVATIONS HAVE BEEN IDENTIFIED, HOWEVER THEY MAY REQUIRE ADJUSTMENT TO FINISHED GRADE ELEVATION WHEN CONSTRUCTED.
10. ALL EXISTING DRAINAGE INLETS/OUTLETS SHALL BE CLEANED AND HAVE END SECTION INSTALLED AT THE OUTLET IF NONE EXIST.
11. SAWCUT EXISTING PAVEMENT TO LIMITS OF TRENCH FOR NEW PIPING.

GENERAL UTILITY NOTES:

1. THE APPROXIMATE LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE TRUE LOCATION PRIOR TO COMMENCING WORK. IN THE EVENT A CONFLICT OR POTENTIAL CONFLICT IS IDENTIFIED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
2. THE CONTRACTOR SHALL COORDINATE ALL WORK AFFECTING UTILITIES WITH THE RESPECTIVE UTILITY COMPANY OWNER. ALL DETAILS OF CONSTRUCTION AND/OR RELOCATION SHALL BE APPROVED BY THE UTILITY OWNERS AND OTHER APPROVING AGENCIES, IF REQUIRED.
3. THE CONTRACTOR SHALL VERIFY LOCATION, SIZE AND JOINT TYPE OF EXISTING PIPES AT CONNECTION LOCATIONS PRIOR TO CONSTRUCTION, TO ENABLE A COMPATIBLE CONNECTION.
4. ALL PIPE ELEVATIONS GIVEN ARE INVERT ELEVATIONS, UNLESS SPECIFIED OTHERWISE.

GRADING NOTES:


1. ALL PROPOSED ELEVATIONS SHOWN HEREIN ARE FINISHED GRADE ELEVATIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SEWER RIM ELEVATIONS IN RELATION TO PROPOSED GRADE PRIOR TO INSTALLATION. ALL EXISTING MANHOLE COVERS, CATCH BASINS, VALVE COVERS, ETC. THAT ARE TO REMAIN SHALL BE ADJUSTED (RAISED OR LOWERED) TO FINISHED GRADE.
3. CLEAR AND GRUB SITE TO GRADING LIMITS SHOWN ON THE SITE GRADING PLANS.
4. ALL TOPSOIL AND UNSUITABLE FILL MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF SUBBASE MATERIAL AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
5. ALL EXCAVATED MATERIAL PLACEMENT TO BE COORDINATED WITH THE OWNER FOR AVAILABLE SPOIL LOCATIONS.
6. ALL MATERIAL THAT IS UNSUITABLE FOR GRADING/EMBANKMENT WILL BE RELOCATED OFF-SITE BY THE CONTRACTOR TO A SUITABLE LOCATION AS DIRECTED BY THE OWNER.
7. AREAS SCHEDULED FOR EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
8. ALL EMBANKMENTS SHALL BE COMPACTED AS SPECIFIED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.
9. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO EMBANKMENT SLOPES OF STRUCTURAL FILLS.
10. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF THREE INCHES PRIOR TO PLACEMENT OF TOPSOIL.


RECORD DRAWINGS

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THIS SET OF RECORD DRAWINGS SHOWS THE REPORTED LOCATION OF THE WORK AND SIGNIFICANT CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE RECORD DOCUMENTS ARE BASED ON UNVERIFIED INFORMATION PROVIDED BY OTHER PARTIES WHICH WILL BE ASSUMED RELIABLE. THE DESIGN PROFESSIONAL CANNOT AND DOES NOT WARRANT THEIR ACCURACY.
 BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	BY

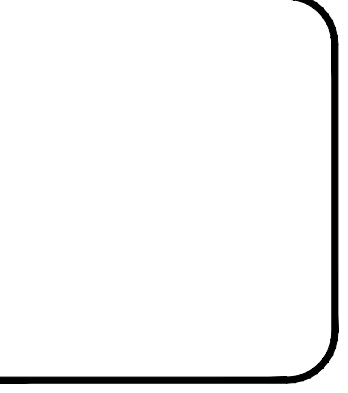
2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
GENERAL NOTES & SYMBOLS





 222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



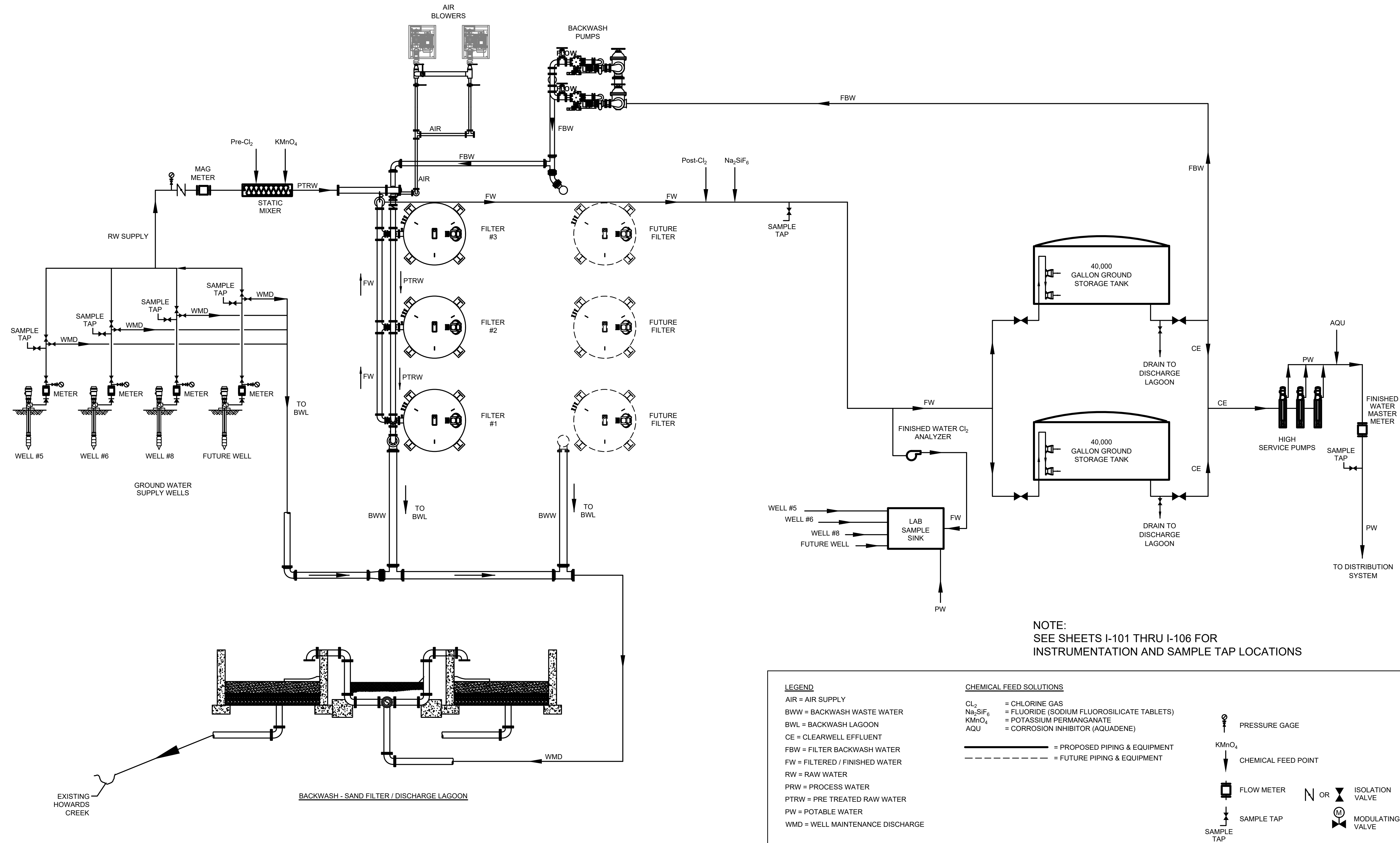
G-0-03

RECORD DRAWINGS

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B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-G-04-LP\PROCESS FLOW SCHEMATIC.dwg BE 06/25



NOTE:
SEE SHEETS I-101 THRU I-106 FOR
INSTRUMENTATION AND SAMPLE TAP LOCATIONS

LEGEND	CHEMICAL FEED SOLUTIONS	SYMBOLS
AIR = AIR SUPPLY	CL ₂ = CHLORINE GAS	○ = PRESSURE GAGE
BWW = BACKWASH WASTE WATER	Na ₂ SIF ₆ = FLUORIDE (SODIUM FLUOROSILICATE TABLETS)	⊥ = CHEMICAL FEED POINT
BWL = BACKWASH LAGOON	KMnO ₄ = POTASSIUM PERMANGANATE	□ = FLOW METER
CE = CLEARWELL EFFLUENT	AQU = CORROSION INHIBITOR (AQUADENE)	⊘ OR ⊚ = ISOLATION VALVE
FBW = FILTER BACKWASH WATER		⊘ = MODULATING VALVE
FW = FILTERED / FINISHED WATER		
RW = RAW WATER		
PRW = PROCESS WATER		
PTRW = PRE TREATED RAW WATER		
PW = POTABLE WATER		
WMD = WELL MAINTENANCE DISCHARGE		
	— = PROPOSED PIPING & EQUIPMENT	
	- - - = FUTURE PIPING & EQUIPMENT	

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

PROCESS FLOW SCHEMATIC
NOT TO SCALE

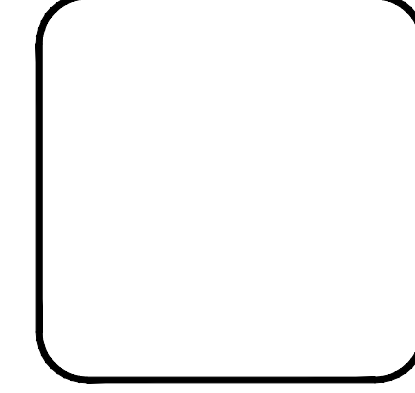
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
PROCESS FLOW SCHEMATIC

SANDY HOOK WATER DISTRICT
Serving Our Community

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

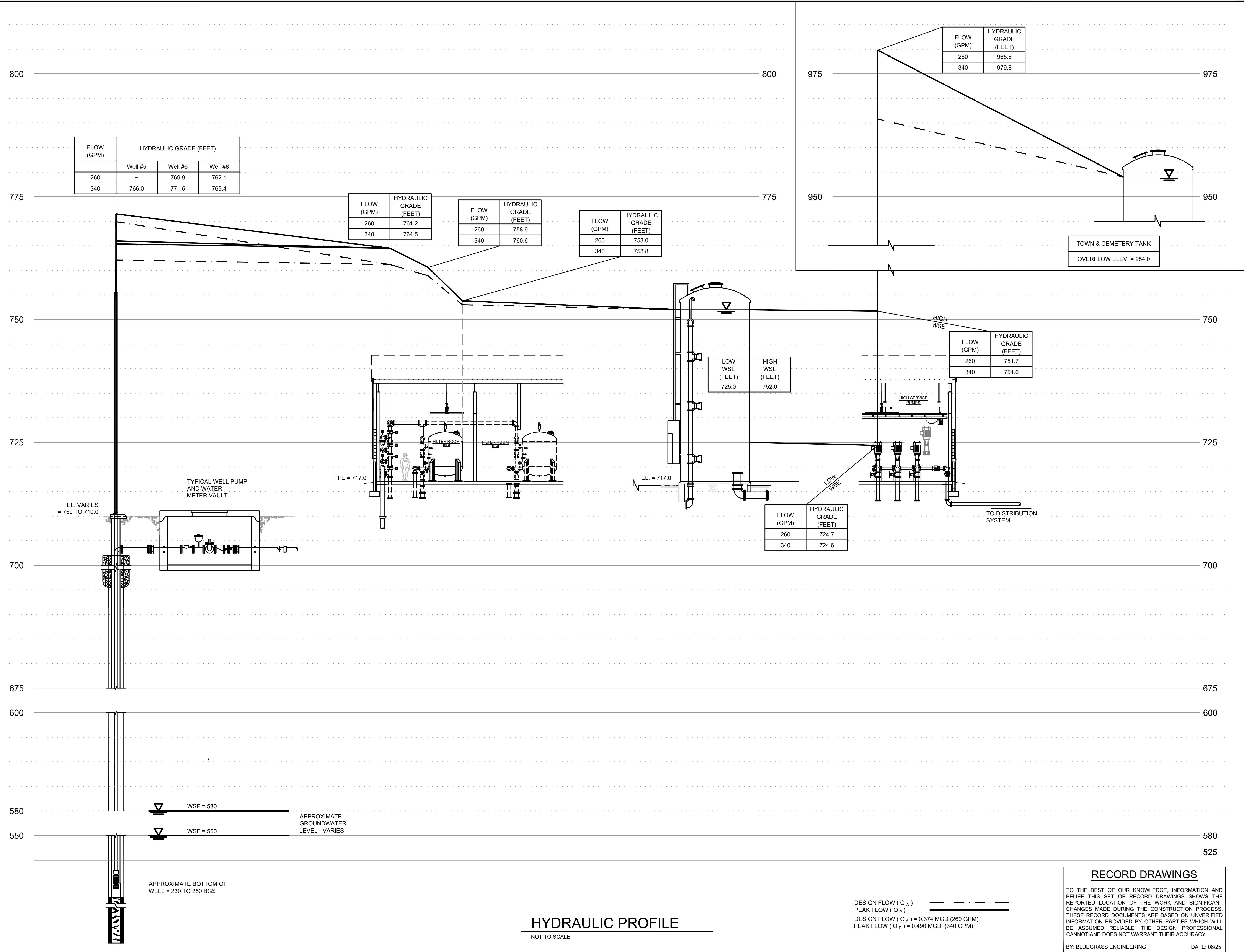
PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



G-0-04

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 B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-G-05_HYDRAULIC PROFILE.dwg



HYDRAULIC PROFILE
NOT TO SCALE

DESIGN FLOW (Q_A)
 PEAK FLOW (Q_P)
 DESIGN FLOW (Q_A) = 0.374 MGD (260 GPM)
 PEAK FLOW (Q_P) = 0.490 MGD (340 GPM)

RECORD DRAWINGS

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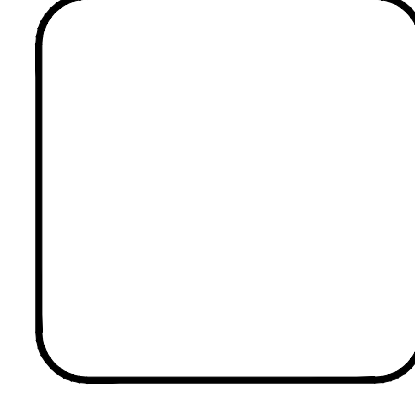
BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
HYDRAULIC PROFILE


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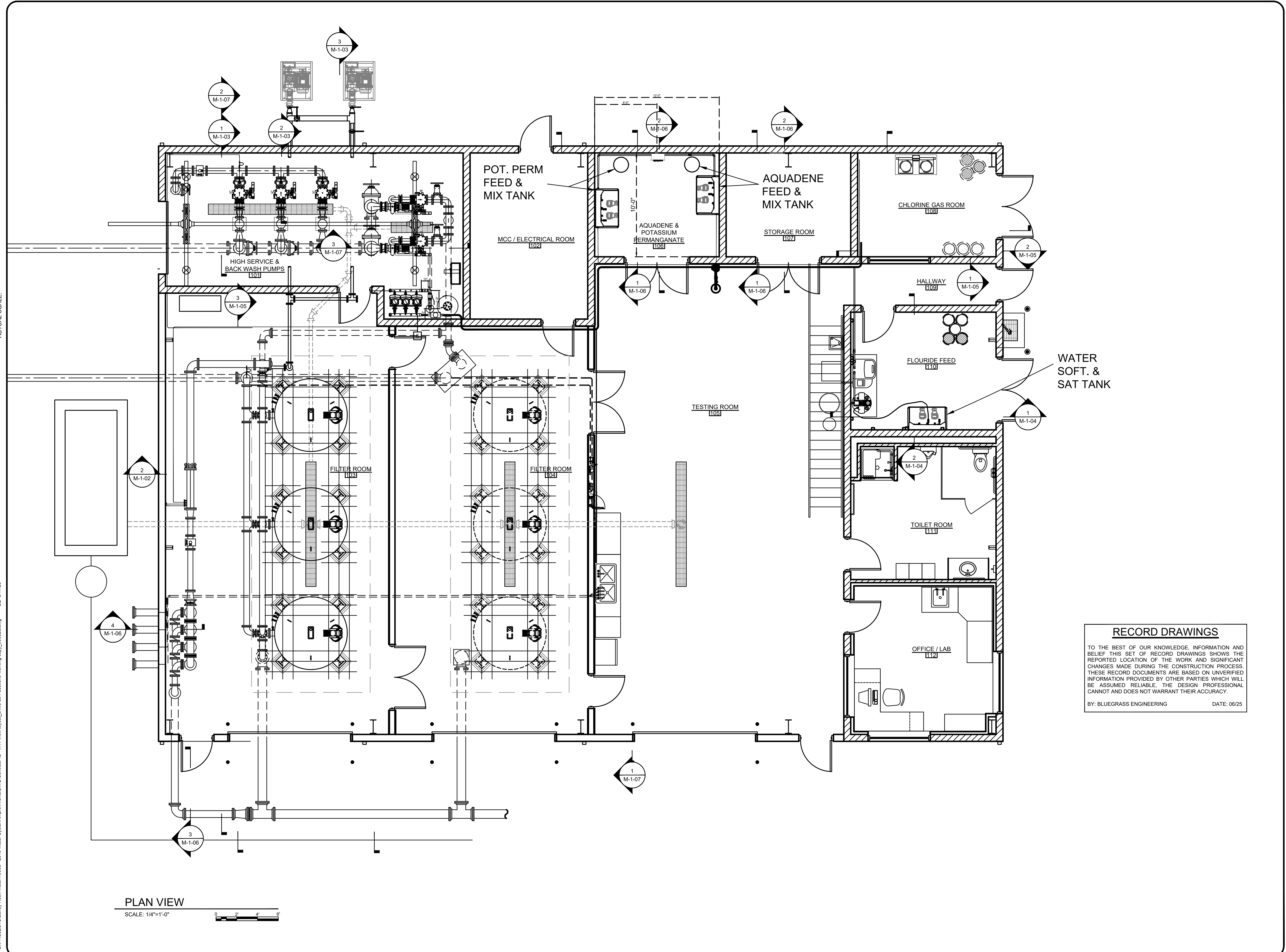
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 DATE: APRIL 2022
 PROJECT MGR: LRS
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G-0-05

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 B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\new layout_shwa-dt1-sections-working copy_05020.dwg



PLAN VIEW
 SCALE: 1/4"=1'-0"
 0 2' 4' 6'

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 08/25

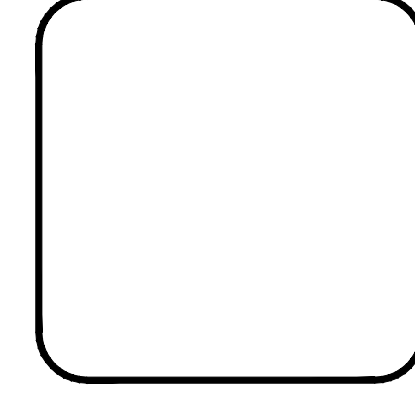
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WTP BUILDING OVERALL LAYOUT

SANDY HOOK WATER DISTRICT
Serving Our Community

BLUEGRASS ENGINEERING PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



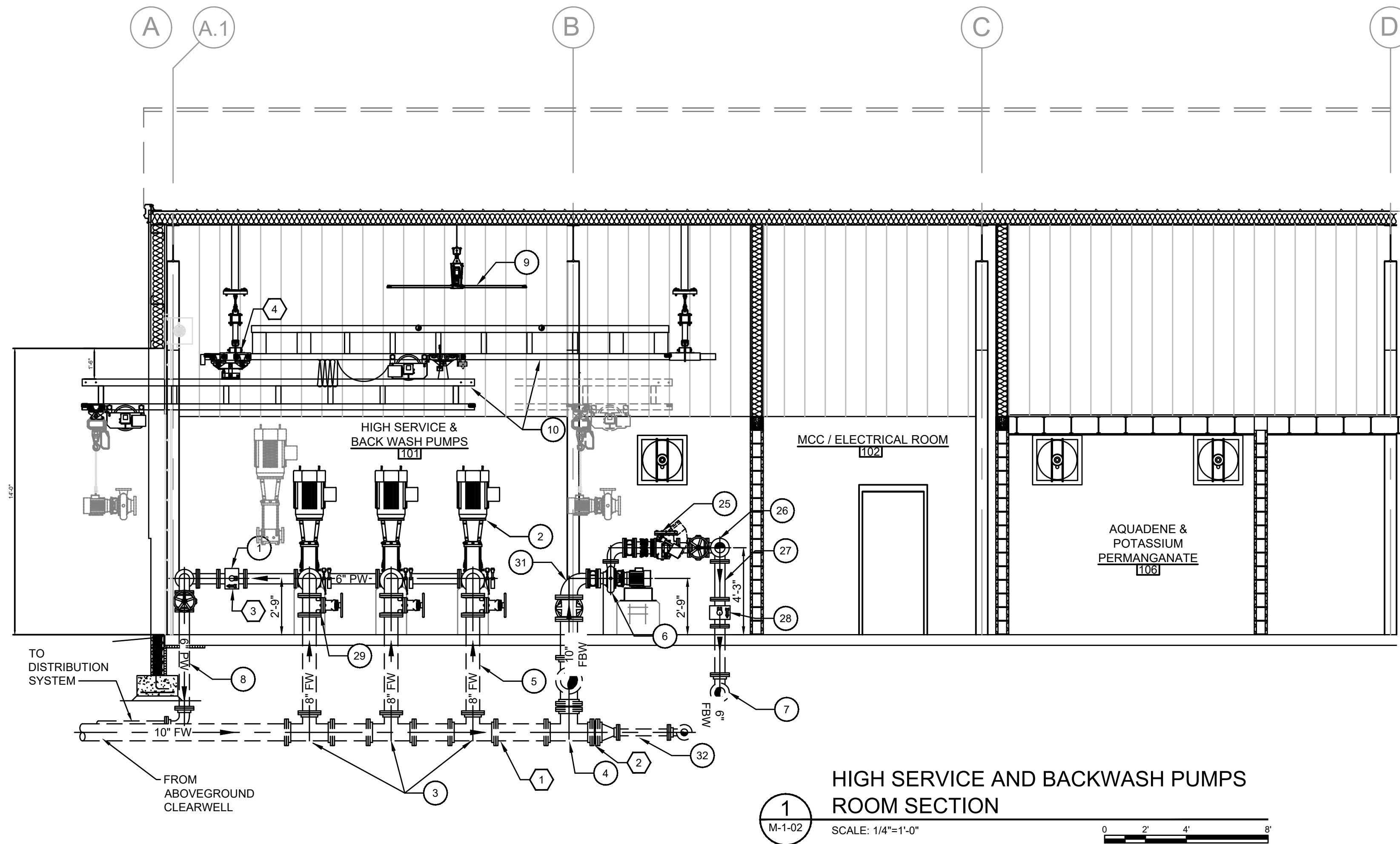
M-1-01

RECORD DRAWINGS

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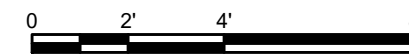
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1
HIGH SERVICE AND BACKWASH PUMPS ROOM SECTION

M-1-02

SCALE: 1/4"=1'-0"



GENERAL NOTES:

1. FLOW METER SEE SPECIFICATIONS FOR DETAILS
2. HIGH SERVICE PUMPS - SEE SPECIFICATIONS FOR DETAILS
3. 10" X 8" D.I.M.J TEE
4. 10" STR. TEE W/ 10" X 4" REDUCER
5. 8" D.I.P. (TYP.)
6. BACKWASH PUMP - SEE SPECIFICATIONS FOR DETAILS
7. 6" D.I.M.J. 90° ELBOW
8. 6" D.I. POTABLE WATER
9. OVERHEAD CEILING FAN (TYP.) - SEE SPECIFICATIONS
10. OVERHEAD CRANE AND HOIST SYSTEM - SEE SPECIFICATIONS
11. MOTOR OPERATED CHECK VALVE
12. 8" D.I. FINISHED WATER LINE
13. 10" X 6" D.I.M.J. REDUCER
14. PRESSURE FILTER VESSEL
15. 8" FUTURE RAW WATER LINE
16. 8" BLIND FLANGE
17. POTASSIUM PERMANGANATE FEED PUMP - SEE SPECIFICATIONS FOR DETAILS
18. POTASSIUM PERMANGANATE DRY FEEDER - SEE SPECIFICATIONS FOR DETAILS
19. CHLORINE GAS TANKS
20. DIGITAL SCALE READER
21. EMPTY CHLORINE GAS TANKS
22. ALUMINUM PLATFORM - SEE SPECIFICATIONS
23. 10" D.I.M.J. 90° ELBOW FOR FUTURE
24. 8" D.I. STR. TEE
25. 6" AIR CUSHIONED CHECK VALVE
26. 6" FLANGED TEE
27. 6" FLANGED SPOOL PIECE (VARYING LENGTHS)
28. 6" FLOW METER
29. 8" GATE VALVE W/ HANDWHEEL
30. D.I.M.J. 10" 90° ELBOW
31. 10" x 6" FLANGED REDUCING ELBOW
32. 4" D.I.P. (TYP.)

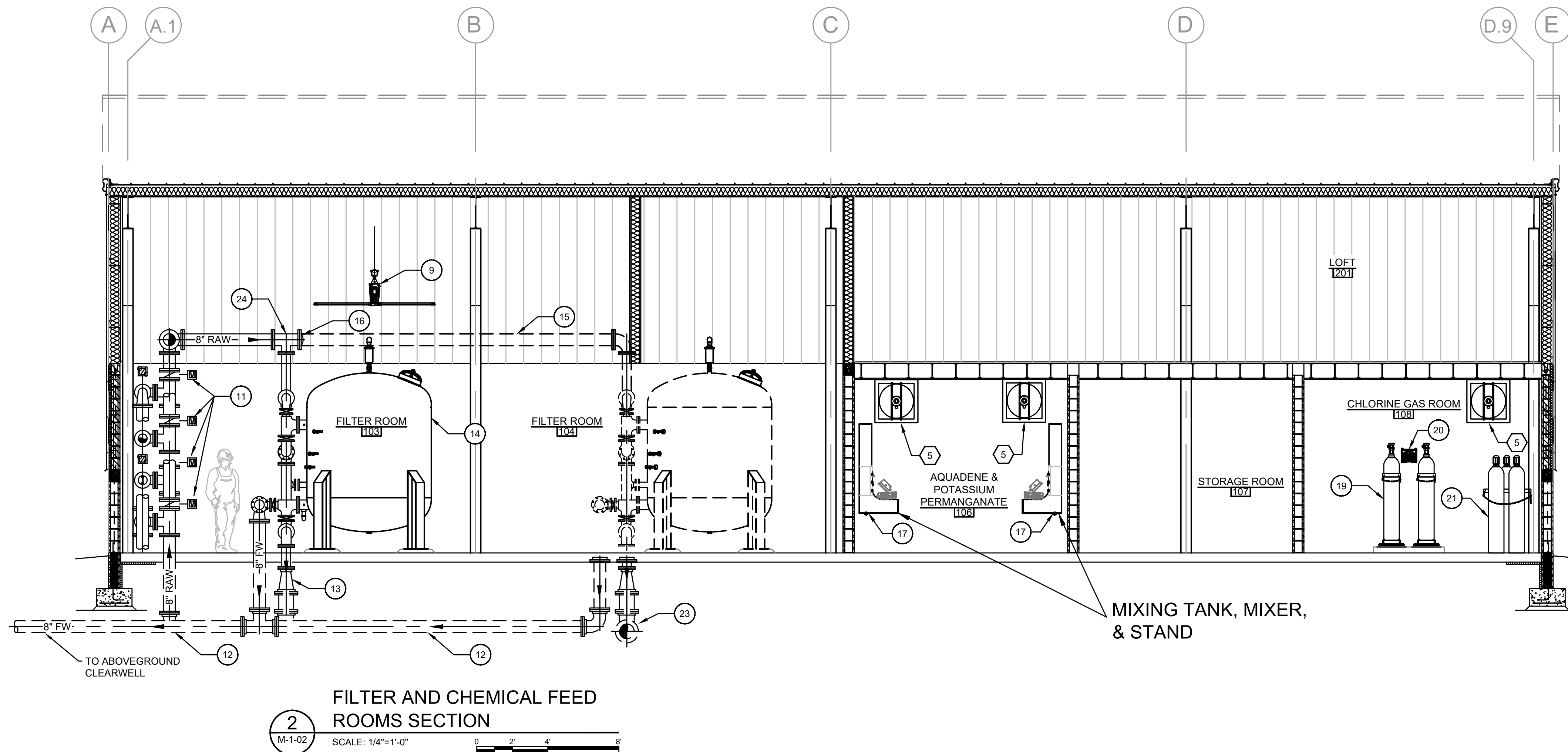
KEYNOTES:

1. ALL D.I. UNDERGROUND PIPING/FITTINGS SHALL BE MECHANICAL JOINT W/ RESTRAINTS.
2. ALL MECHANICAL JOINT FITTING TO FITTING CONNECTIONS SHALL HAVE FOSTER ADAPTORS
3. CONTRACTOR SHALL
4. CONTRACTOR SHALL VERIFY FINAL LOCATION FOR CONDUIT PIPING TO ENSURE THERE ARE NO CONFLICTS
5. SEE HVAC FOR LOCATION

RECORD DRAWINGS

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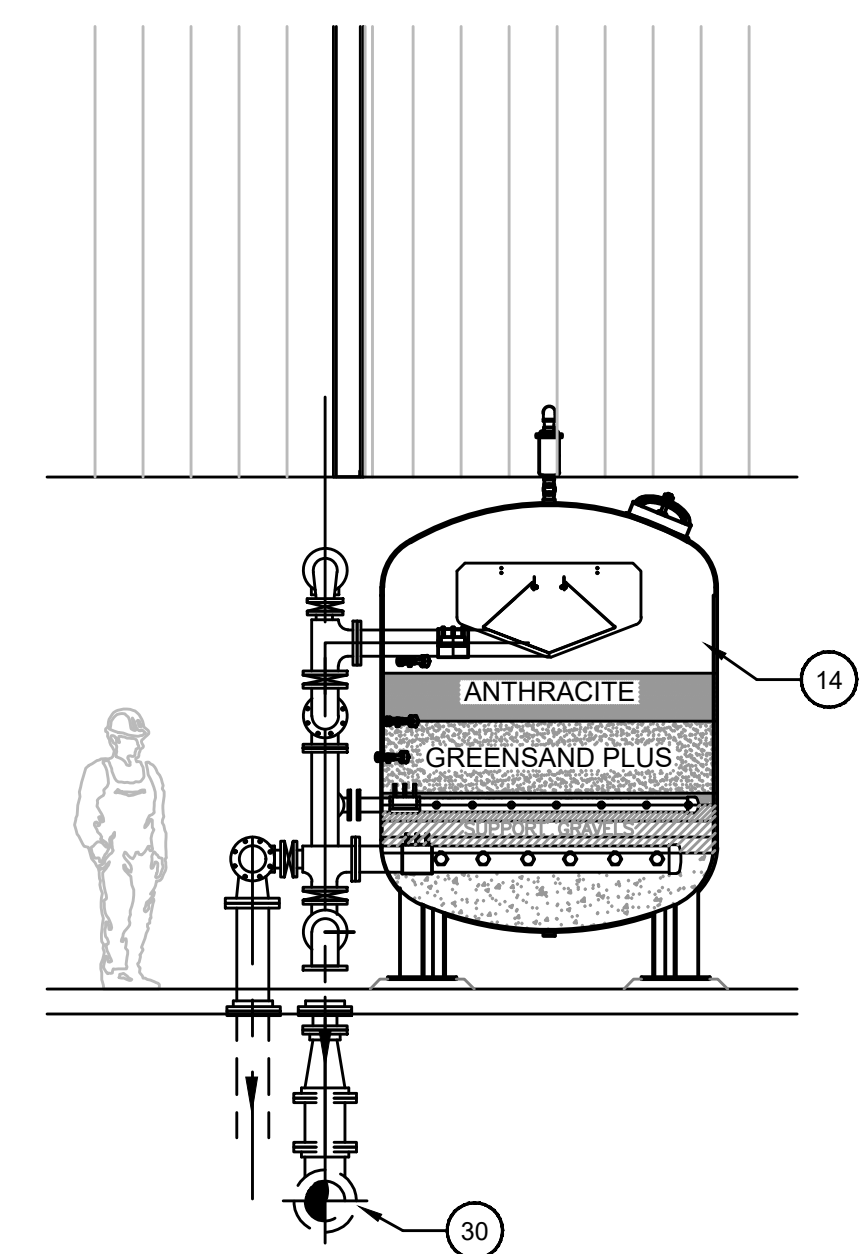
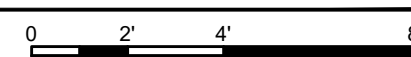
BY: BLUEGRASS ENGINEERING DATE: 06/25



2
FILTER AND CHEMICAL FEED ROOMS SECTION

M-1-02

SCALE: 1/4"=1'-0"

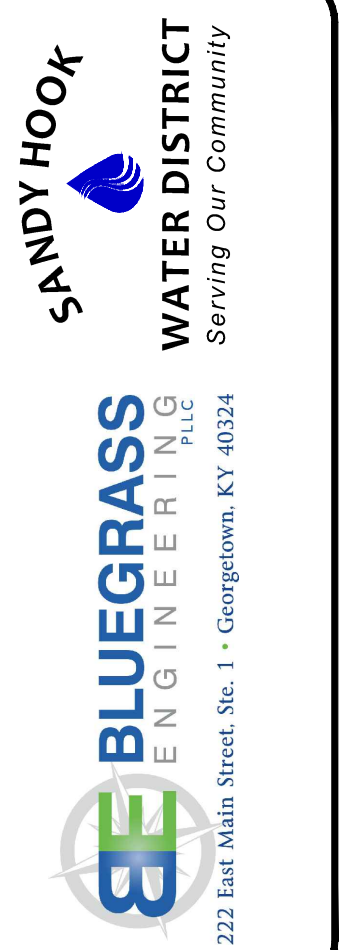


PRESSURE FILTER VESSEL - FILTER MEDIA DETAIL

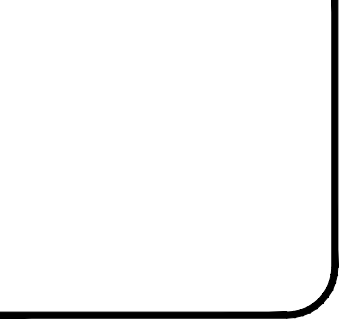
NOT TO SCALE

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WTP BUILDING SECTIONS - HIGH SERVICE, FILTER, AND CHEM FEED ROOM



PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



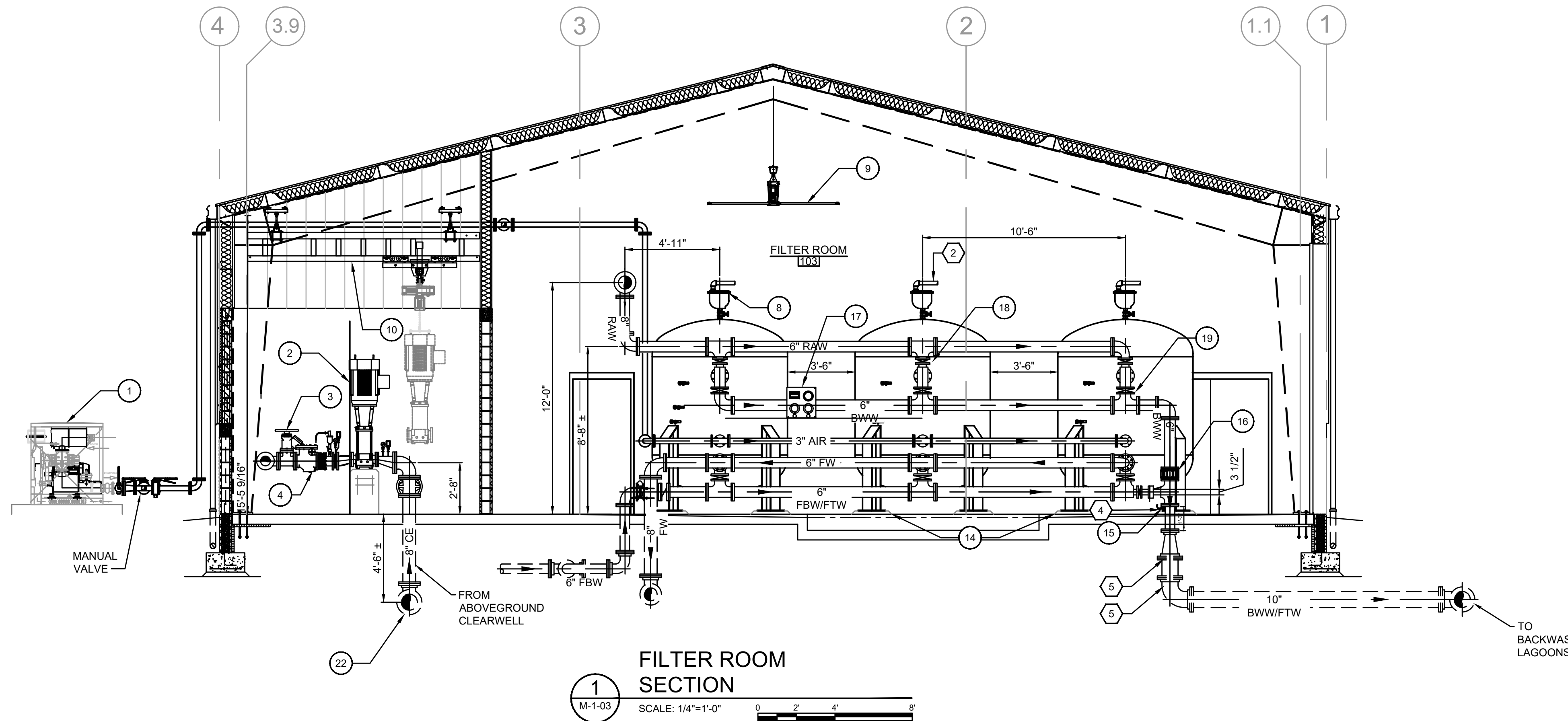
M-1-02

RECORD DRAWINGS

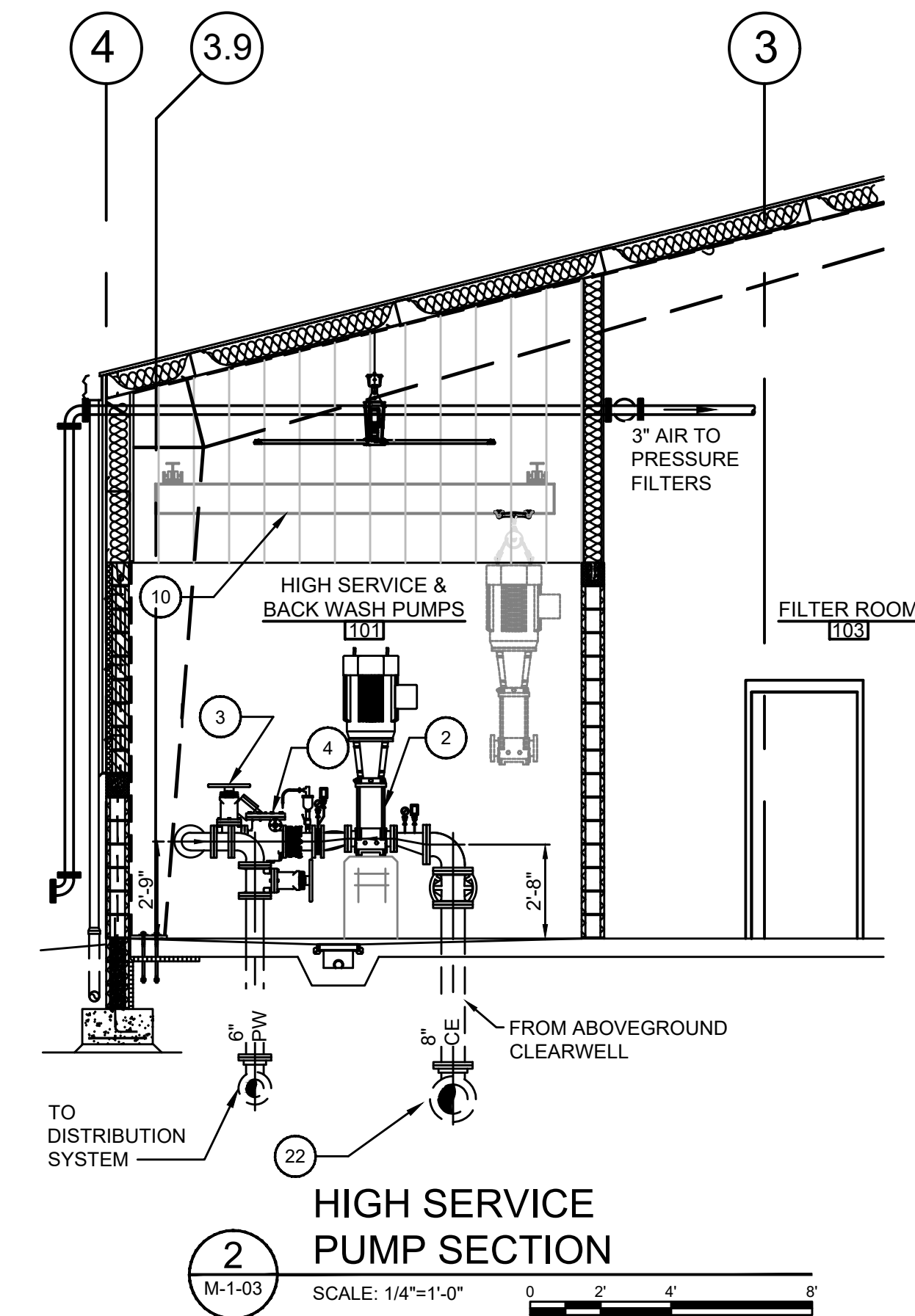
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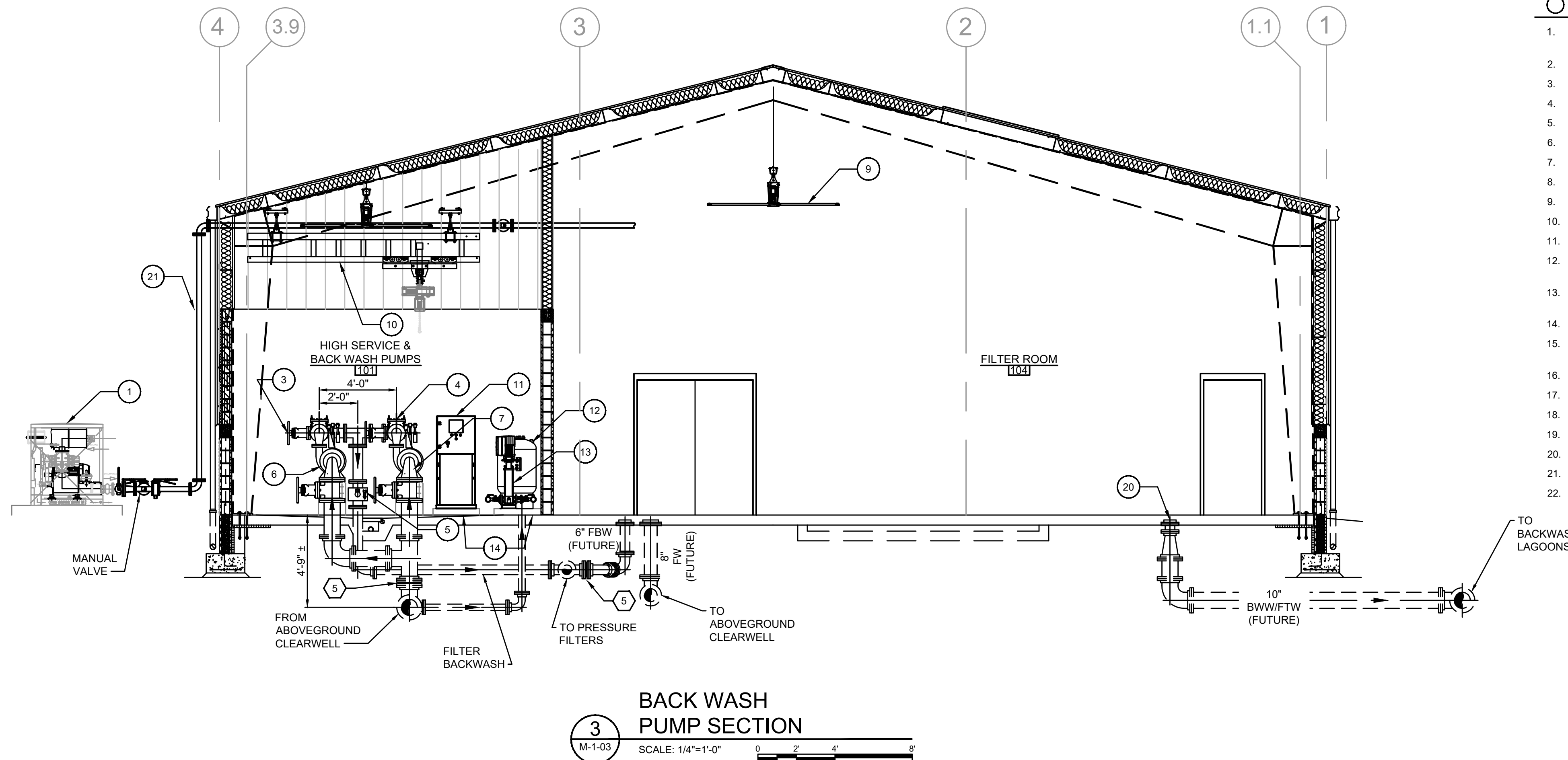
PROJECT: Sandy Hook Water/19003 - 2019 Water System Improvements/DWG/Contract 12 - WTP/Plan/sections-working copy_05020.dwg



1
M-1-03
SCALE: 1/4"=1'-0"
0 2' 4' 8'



2
M-1-03
SCALE: 1/4"=1'-0"
0 2' 4' 8'



3
M-1-03
SCALE: 1/4"=1'-0"
0 2' 4' 8'

- GENERAL NOTES:**
- AIRWASH BLOWER WITH SOUND ENCLOSURE, VALVES, ACTUATORS AND ACCESSORIES (TYP. OF 2). PROVIDE 6 INCH THICK CONCRETE EQUIPMENT PAD PER DETAIL/SPECIFICATIONS.
 - HIGH SERVICE PUMPS (TYP. OF 3) - SEE SPECIFICATIONS FOR DETAILS
 - 6-INCH GATE VALVE WITH HANDWHEEL OPERATOR (TYP.)
 - 6-INCH AIR CUSHIONED CHECK VALVE WITH OUTSIDE WEIGHT AND LEVER (TYP. OF 5)
 - 4-INCH ELECTROMAGNETIC FLOW METER WITH REMOTE READOUT (FOR BACKWASH FLOW)
 - BACKWASH PUMPS (TYP. OF 2) - SEE SPECIFICATIONS FOR DETAILS
 - 10" X 6" REDUCING ELBOW
 - 2" COMBINATION AIR RELEASE VALVE W/ 2" GATE ISOLATION VALVE
 - OVERHEAD CEILING FAN (TYP.) - SEE SPECIFICATIONS
 - OVERHEAD CRANE AND HOIST SYSTEM - SEE SPECIFICATIONS
 - CONTROL PANEL FOR HYDROPNEUMATIC BOOSTER PUMP PACKAGE - SEE SPECIFICATIONS
 - 53 GALLON HYDROPNEUMATIC BLADDER TANK - MODEL FXA-200 BY WESSELS COMPANY OR ENGINEER APPROVED EQUAL - SEE SPECIFICATIONS FOR DETAILS
 - TRIPLEX HYDROPNEUMATIC BOOSTER PUMP PACKAGE WITH VARIABLE FREQUENCY DRIVES - SEE SPECIFICATIONS FOR DETAILS
 - CONCRETE LEVELING PAD
 - ELECTRIC SOLENOID VALVE WITH SAMPLE TUBING TO SAMPLE SINK - ENERGIZED VIA SCADA CONTROL (TYP. - FOR EACH WELL LINE)
 - TUBULAR SIGHT GLASS CLASS ACI INDUSTRIEARMATUREN 150 TYPE 620A OR APPROVED EQUAL
 - 3-GAUGE LOSS OF HEAD PANEL
 - 4" ELECTRIC OPERATED BUTTERFLY VALVE - SEE SPECIFICATIONS
 - 6" ELECTRIC OPERATED BUTTERFLY VALVE - SEE SPECIFICATIONS
 - D.I.M.J. CAP
 - 3" AIR FROM BLOWERS
 - 10" X 8" D.I.M.J. TEE

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

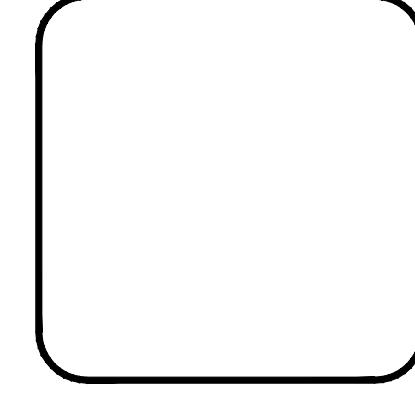
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WTP BUILDING SECTIONS - FILTER, BACKWASH, HIGH SERVICE PUMP ROOM

SANDY HOOK WATER DISTRICT
SERVING OUR COMMUNITY

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



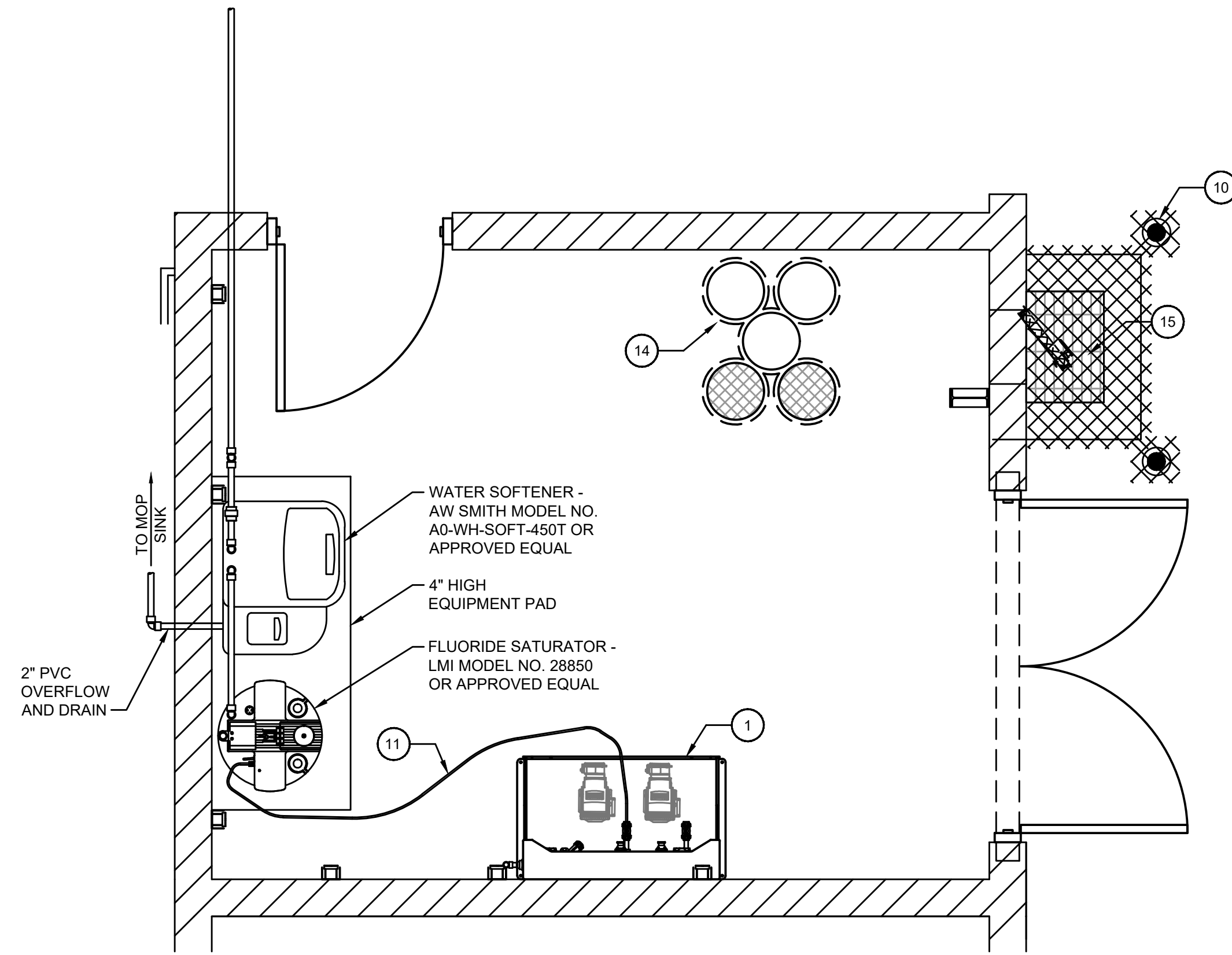
M-1-03

RECORD DRAWINGS

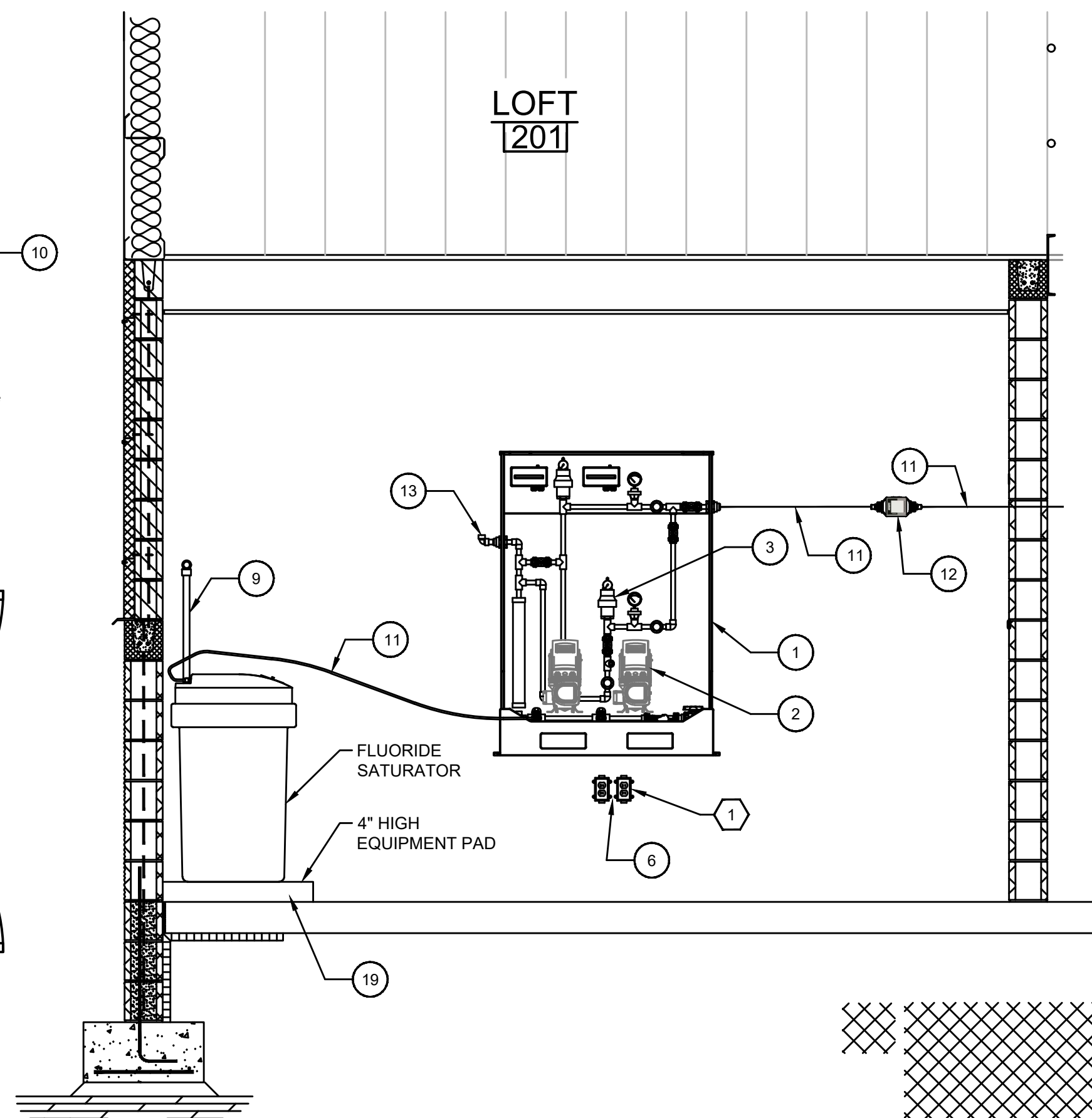
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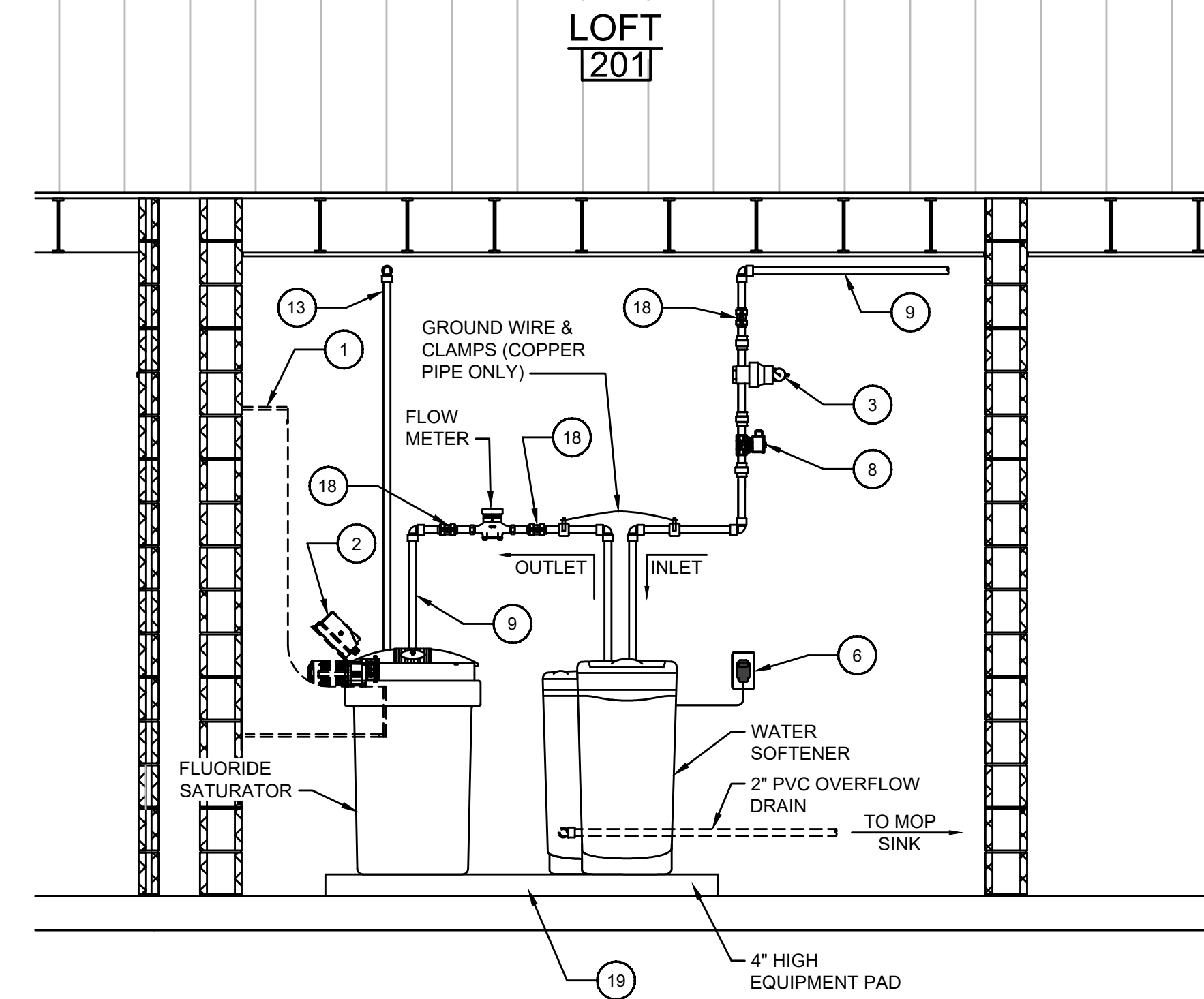
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0
M-1-04
FLUORIDE FEED ROOM 110 - PLAN
SCALE: 1/2"=1'-0"



1
M-1-04
FLUORIDE FEED ROOM 110 - SECTION
SCALE: 1/2"=1'-0"



2
M-1-04
FLUORIDE FEED ROOM 110 - SECTION
SCALE: 1/2"=1'-0"

CHEMICAL FEED SYSTEM					
DESCRIPTION	UNITS	SODIUM FLUORIDE (NaF)	POTASSIUM PERMANGANATE (KMnO4)	CORROSION INHIBITOR (AQUADENE)	CHLORINE GAS (Cl2)
		DRY POWDER	DRY POWDER	DRY POWDER	GASOUS
ESTIMATED DOSING RATE	mg/l	0.7	0.2 TO 2	0.2 TO 4	4 TO 10
CHEMICAL FEED CONCENTRATION	%	4	1.35	25	100
NUMBER OF FEED PUMPS	~	2	2	2	~
CALIBRATION COLUMN	~	Y	Y	Y	~
BACKFLOW PREVENTER	~	Y	Y	Y	~
MAX. DISCHARGE OR BACKPRESSURE	psi	35	35	175	75
PRESSURE RELIEF VALVE	~	Y	Y	Y	~
FLOW METER / FLOW INDICATOR	~	Y	Y	Y	Y
MINIMUM FEED RATE	GAL/HOUR	0.5	0.050	0.050	~
	GAL/DAY	14	1.20	1.20	~
	LBS./DAY	120	10.08	10.06	7.00
MAXIMUM FEED RATE	GAL/HOUR	1.0	0.50	0.30	~
	GAL/DAY	25	12.00	7.20	~
	LBS./DAY	200	100.82	60.35	20.00
DAY TANK - DIAMETER OR L x W	INCHES	18	~	~	~
-- HEIGHT	INCHES	36	~	~	~
-- CAPACITY	GALLONS	50	~	~	~
DAY TANK MATERIAL (INNER / OUTER TANK)	~	LLDPE	~	~	~
DAY TANK SCALES	MODEL	~	~	~	GR150-2
BULK CHEMICAL CONTAINER		BAG/PAIL	55# PAIL	55# PAIL	GAS CYLINDER
-- MATERIAL		DRY POWDER	GRANULAR	GRANULAR	GAS
-- CAPACITY		50 POUNDS	53 POUNDS	53 POUNDS	150# CYLINDER
BULK TANK SCALES	MODEL	~	~	~	GR150-2
SCALES INDICATOR	MODEL	~	~	~	SOLO G2-2
DRY FEED SOLUTION TANK	GALLONS	~	35	35	~

NOTE: ALL CHEMICAL FEED PIPING SHALL BE A MINIMUM 1/2 INCH OR 3/4 INCH PIPING. PIPE SIZE AND MATERIAL SHALL BE VERIFIED BY CHEMICAL FEED SYSTEM AND METERING PUMP MANUFACTURER FOR THE CHEMICAL BEING DELIVERED AND THE POINT OF APPLICATION. CONTRACTOR TO VERIFY AND CONFIRM FINAL PIPING LAYOUT, ARRANGEMENT AND DIMENSIONS VIA SHOP DRAWING SUBMITTAL.

CHEMICAL FEED SCHEDULE

GENERAL NOTES:

- DUPLEX METERING PUMP SKID
- CHEMICAL FEED METERING PUMP (WATSON MARLO QDOS 60 OR APPROVED EQUAL)
- REGULATOR VALVE
- NEW WAVE FLUORINATION SYSTEM OR APPROVED EQUAL (SEE SPECIFICATION)
- 4" HIGH EQUIPMENT PAD
- ELECTRICAL OUTLETS (TYP.)
- 1" BADGER METER (OR APPROVED EQUAL)
- 1" SOLENOID VALVE
- 1" PVC PIPING
- 1/2" KYNAR FLEX TUBING
- CHEMICAL FEED FLOW METER
- 1" VENT LINE
- 45 POUND FLUORIDE TABLET PALES
- 1" ISOLATION BALL VALVE
- CONCRETE LEVELING PAD

KEYNOTES:

- CHEMICAL FEED METERING PUMP ON-OFF CONTROL WILL BE ACTIVATED FROM THE FILTER CONTROL PANEL. METERING PUMP CIRCUIT SHALL BE ENERGIZED UPON FLOW INDICATION IN THE RAW WATER FLOW METER. METERING PUMP CIRCUIT SHALL BE DE-ENERGIZED UPON THE INDICATION OF ZERO FLOW IN THE RAW WATER FLOW METER. VARIABLE SPEED CONTROL OF THE METERING PUMP SHALL BE BASED ON A PROPORTIONAL FLOW INDICATION FROM THE SCADA HMI PC FOR THE RAW WATER FLOW.
- INFLUENT FLOW TO THE FEEDER TUBES SHALL BE CONTROLLED VIA THE 1-INCH SOLENOID VALVE AND LIQUID LEVEL IN THE BUFFER TANK. THE SOLENOID VALVE SHALL BE CONTROLLED VIA LEVEL FLOAT SWITCH AND SHALL BE ENERGIZED TO OPEN UPON A LIQUID LEVEL BELOW FOUR (4) INCHES AND DE-ENERGIZED TO CLOSE UPON A LIQUID LEVEL ABOVE TWENTY (20) INCHES.

REFERENCE NOTES:

- ALL PIPING SHALL BE SCH 80 PVC, UNLESS OTHERWISE NOTED. ALL PIPING SHALL BE LABELED AND FLOW DIRECTION INDICATED.
- ROUTE VENT PIPING THROUGH ROOF. SEAL ALL GAPS AND OPENINGS WITH CHEMICAL RESISTANT SEALANT. PROVIDE BIRD/INSECT SCREEN AND RAIN CAP.
- INSTALL TWO-SPEED EXHAUST FAN AND DUCT FOR FLUORIDE FEED ROOM.
- CONTRACTOR TO SEAL ALL OPENINGS, CRACKS, AND GAPS IN WALLS, FLOORS, AND AT WALL/CEILING INTERSECTION WITH CHEMICAL RESISTANT SEALANT.
- PROVIDE BUZZER AND INTERLOCK WITH DAY TANK SCALE CONTROL PANEL AND CHEMICAL TRANSFER PUMP. PUMP CONTROLS SHALL BE LOCATED IN FEED ROOM.
- A 4-INCH THICK CONCRETE PAD SHALL BE CONSTRUCTED PRIOR TO COATING THE FLOOR UNDER EACH CHEMICAL TANK. THE CONCRETE PAD SHALL BE APPROXIMATELY 4" LARGER THAN THE TANK SCALES. CONTRACTOR SHALL PROVIDE 6X6-W1.4XW1.4 WELDED WIRE FABRIC (WWF) IN THE CONCRETE PAD AND USE 4,000 PSI CONCRETE.
- THE BULK TANK SHALL BE FILLED FROM A "FILL STATION" NEAR ON THE SIDE OF THE BUILDING. A HORN AND RED LIGHT SHALL BE INTERLOCKED WITH THE BULK TANK SCALES TO INDICATE WHEN THE BULK TANK IS FULL.
- ELECTRONIC TANK SCALES AND INDICATOR SHALL BE AS MANUFACTURED BY FORCE FLOW, CONCORD, CA OR APPROVED EQUAL AND AS LISTED IN CHEMICAL FEED SCHEDULE.
- CONTRACTOR SHALL PROVIDE THE CHEMICAL TRANSFER PUMP AS MANUFACTURED BY MARCH PUMPS, GLENVIEW, IL. OR APPROVED EQUAL AND AS FOLLOWS:
MAGNETIC DRIVE PUMP - SERIES 5, MODEL TE-5.5C-MD, SINGLE PHASE, 2.562" IMP. W/ TEFLOON O-RING OR EQUAL. CHEMICAL TRANSFER PUMP SHALL BE CAPABLE OF HANDLING EACH CHEMICAL BEING USED AT THE CONCENTRATION PURCHASED.
- DOUBLE-WALL TANKS SHALL BE AS MANUFACTURED BY SNYDER INDUSTRIES, LINCOLN, NE OR APPROVED EQUAL.
- THE CHEMICAL TRANSFER PUMP CONTROLS SHALL BE USED TO PUMP THE CHEMICAL FROM THE BULK TANK TO THE DAY TANK AND LOCATED IN THE FEED ROOM. THE CHEMICAL TRANSFER PUMP SHALL BE OPERATED WITH A "DEADMAN SWITCH".
- ALL CHEMICAL FEED PIPING LOCATED OUTSIDE OF THE ASSOCIATED CHEMICAL ROOMS SHALL BE PLACE IN CONTAINMENT PIPING. THE FILL STATION AT THE EXTERIOR OF THE BUILDING SHALL HAVE A ISOLATION VALVE WITH LOCKABLE COVER. THE AREA SHALL BE PROTECTED WITH BOLLARDS OR EQUIVALENT AND A SPILL CONTAINMENT AREA DESIGNATED FOR LIQUID THAT MAY ESCAPE FROM THE PIPING OR FILL HOSE DURING FILLING.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR VERIFYING AND CONFIRMING WITH ALL EQUIPMENT MANUFACTURERS AND MATERIAL SUPPLIERS FOR THIS PROJECT OF THE COMPATIBILITY BETWEEN THE EQUIPMENT AND MATERIALS BEING USED AND THE CHEMICALS BEING PUMP, STORED, AND/OR TRANSPORTED TO THE VARIOUS LOCATIONS.

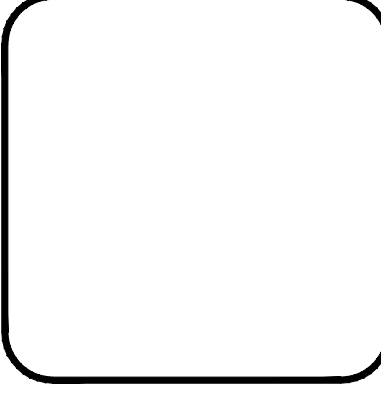
RECORD DRAWINGS
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BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WTP BUILDING SECTIONS -
FLUORIDE FEED ROOM

SANDY HOOK WATER DISTRICT
BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324
Serving Our Community

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



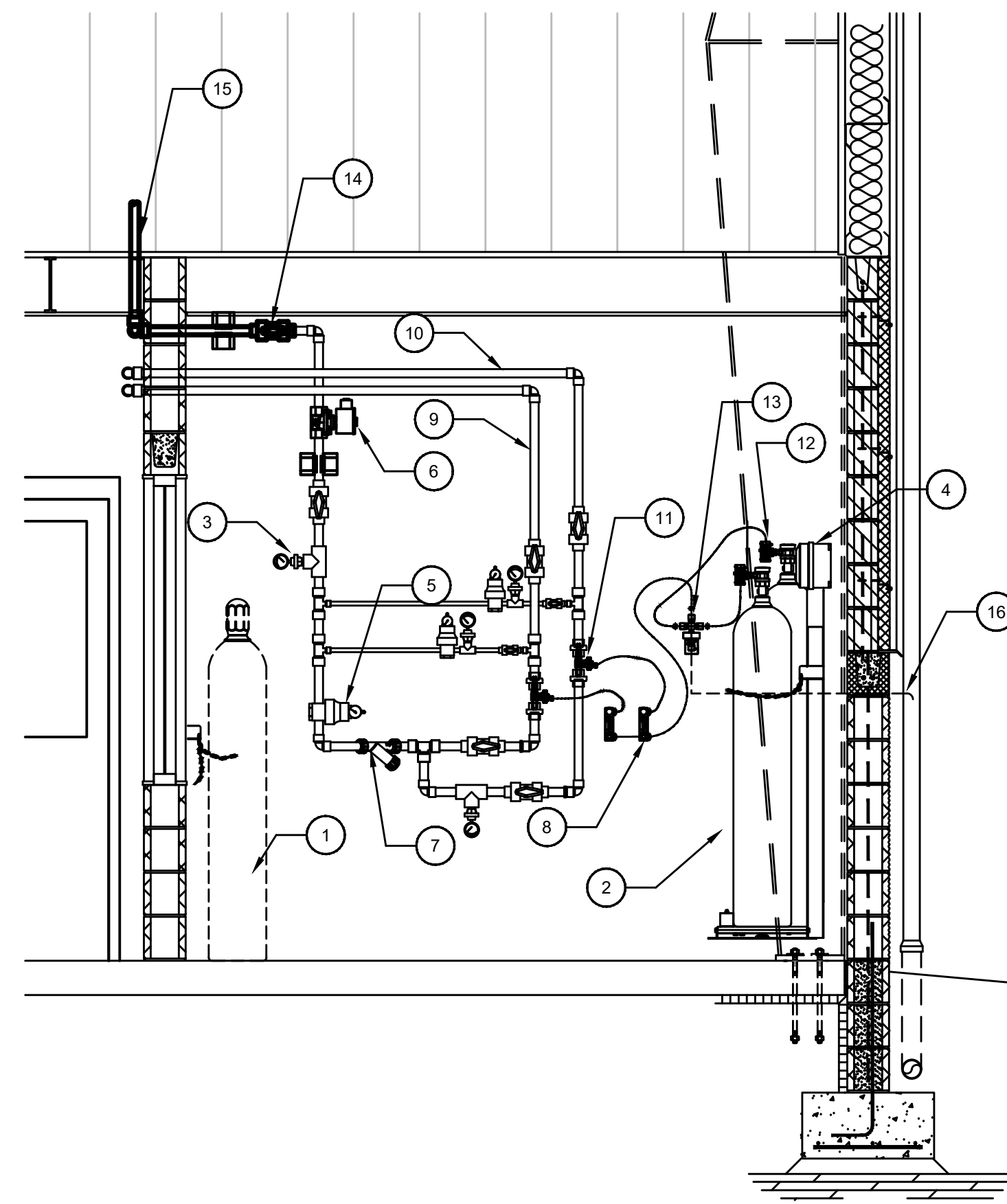
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RECORD DRAWINGS

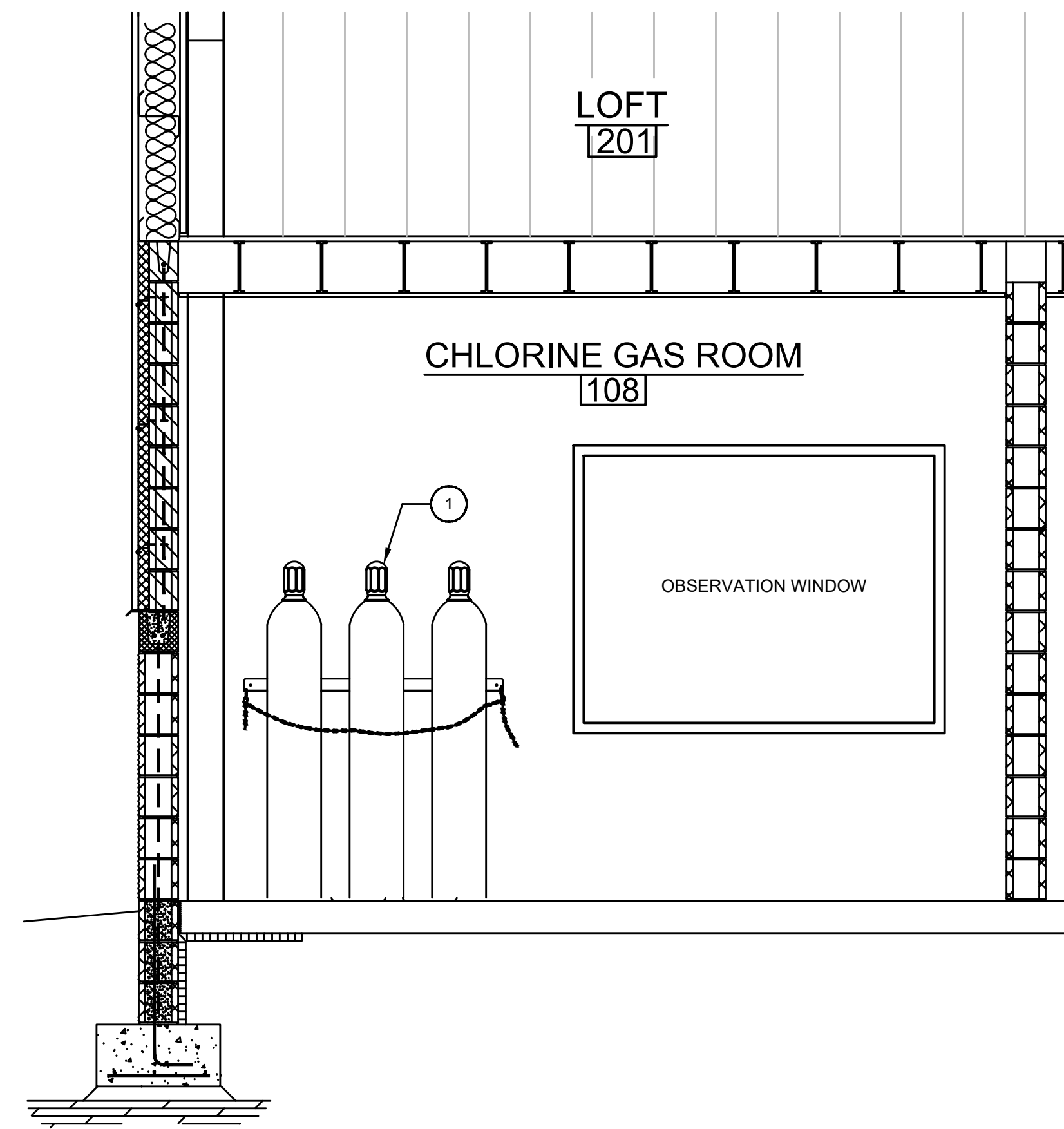
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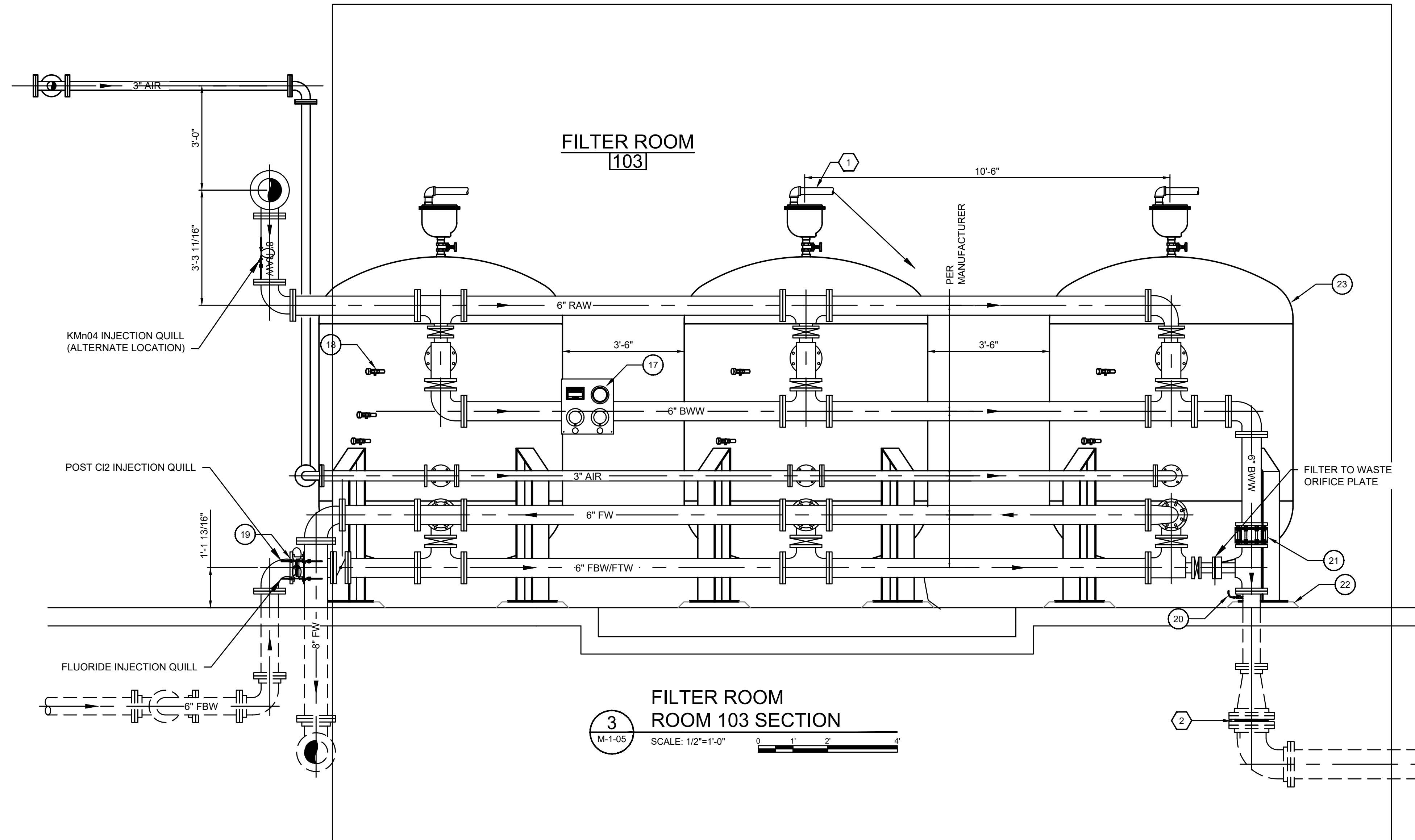
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1
CHLORINE GAS ROOM
ROOM 108 SECTION
M-1-05 SCALE: 1/2"=1'-0"



2
CHLORINE GAS ROOM
ROOM 108 SECTION
M-1-05 SCALE: 1/2"=1'-0"



3
FILTER ROOM
ROOM 103 SECTION
M-1-05 SCALE: 1/2"=1'-0"

GENERAL NOTES:

1. EMPTY CHLORINE GAS TANK
2. CHLORINE GAS TANK
3. PRESSURE GAUGE (TYP.)
4. CHLORINE GAS TANK SCALE
5. REGULATOR VALVE
6. SOLENOID VALVE
7. STRAINER
8. ROTO METER (TYP.)
9. POST CHLORINATION FEED
10. PRE CHLORINATION FEED
11. CHLORINE EJECTOR
12. REGAL CHLORINE GAS REGULATOR (OR APPROVED EQUAL)
13. AUTOMATIC SWITCHOVER VALVE
14. BALL VALVE (TYP.)
15. 1.5" PROCESS WATER LINE
16. VENT TUBE
17. 3 GAUGE LOSS OF HEAD PANEL
18. SAMPLE TAP - 3 PER FILTER VESSEL
19. CHLORINE INJECTOR QUILL
20. ELECTRIC SOLENOID VALVE WITH SAMPLE TUBING TO SAMPLE SINK - ENERGIZED VIA SCADA CONTROL (TYP. - FOR EACH WELL LINE)
21. TUBULAR SIGHT GLASS CLASS 150 TYPE 620A OR APPROVED EQUAL
22. PRESSURE FILTER LEVELING PAD (TYP.)
23. PRESSURE FILTER VESSEL - SEE SPECIFICATIONS

KEYNOTES:

1. 2" COMBINATION AIR RELEASE VALVE TO HAVE 2" PVDF KYNAR FLEX 2750 TUBING ROUTED TO FLOOR DRAIN
2. ALL MECHANICAL JOINT FITTING TO FITTING CONNECTIONS SHALL HAVE FOSTER ADAPTORS

RECORD DRAWINGS

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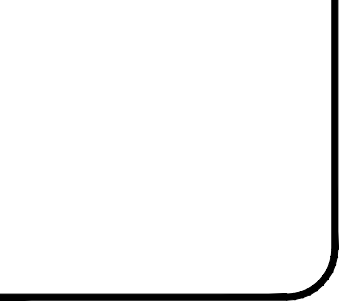
BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT
IMPROVEMENTS
WTP BUILDING SECTIONS - CHLORINE
GAS, FILTER ROOM



PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL

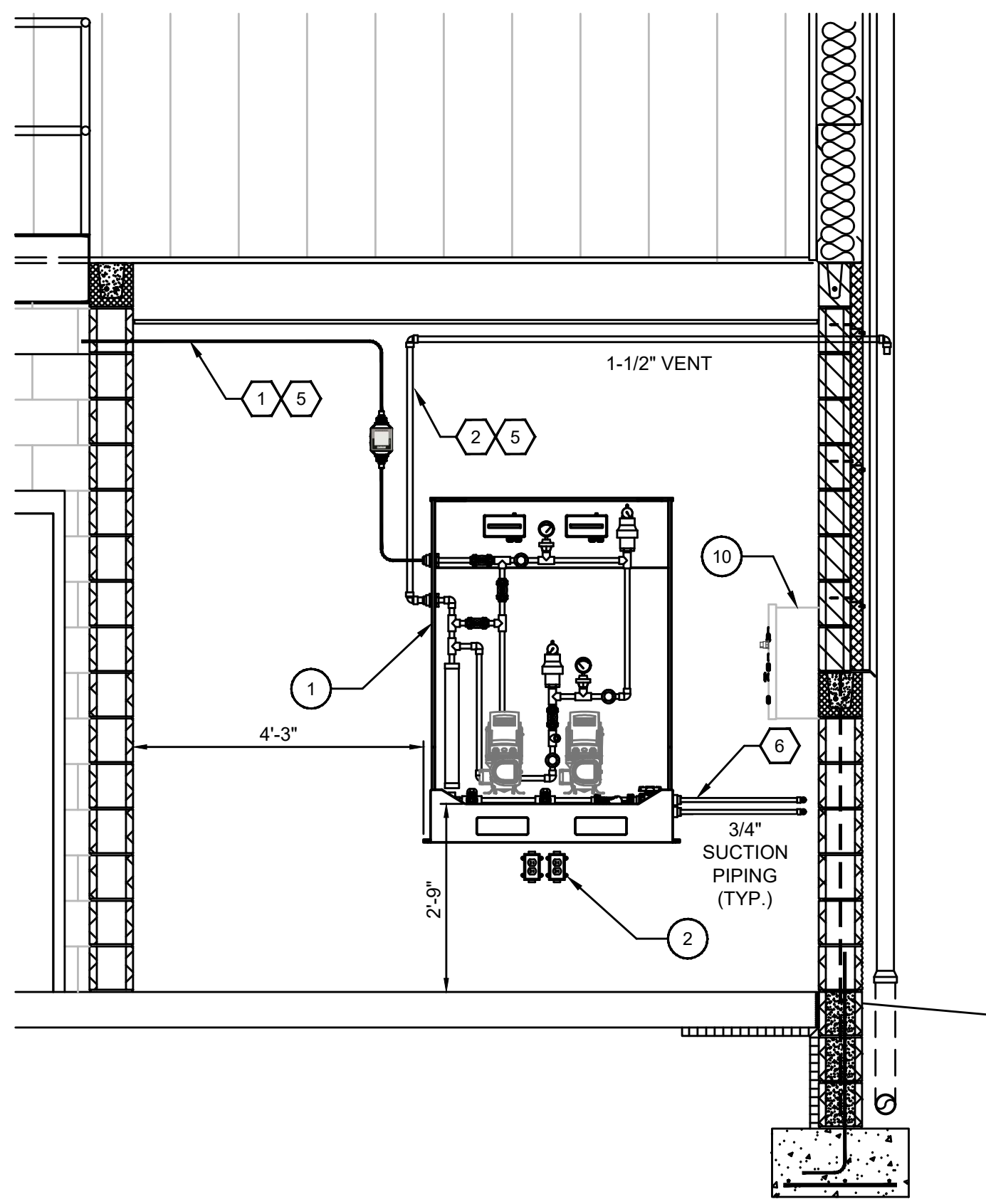


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RECORD DRAWINGS

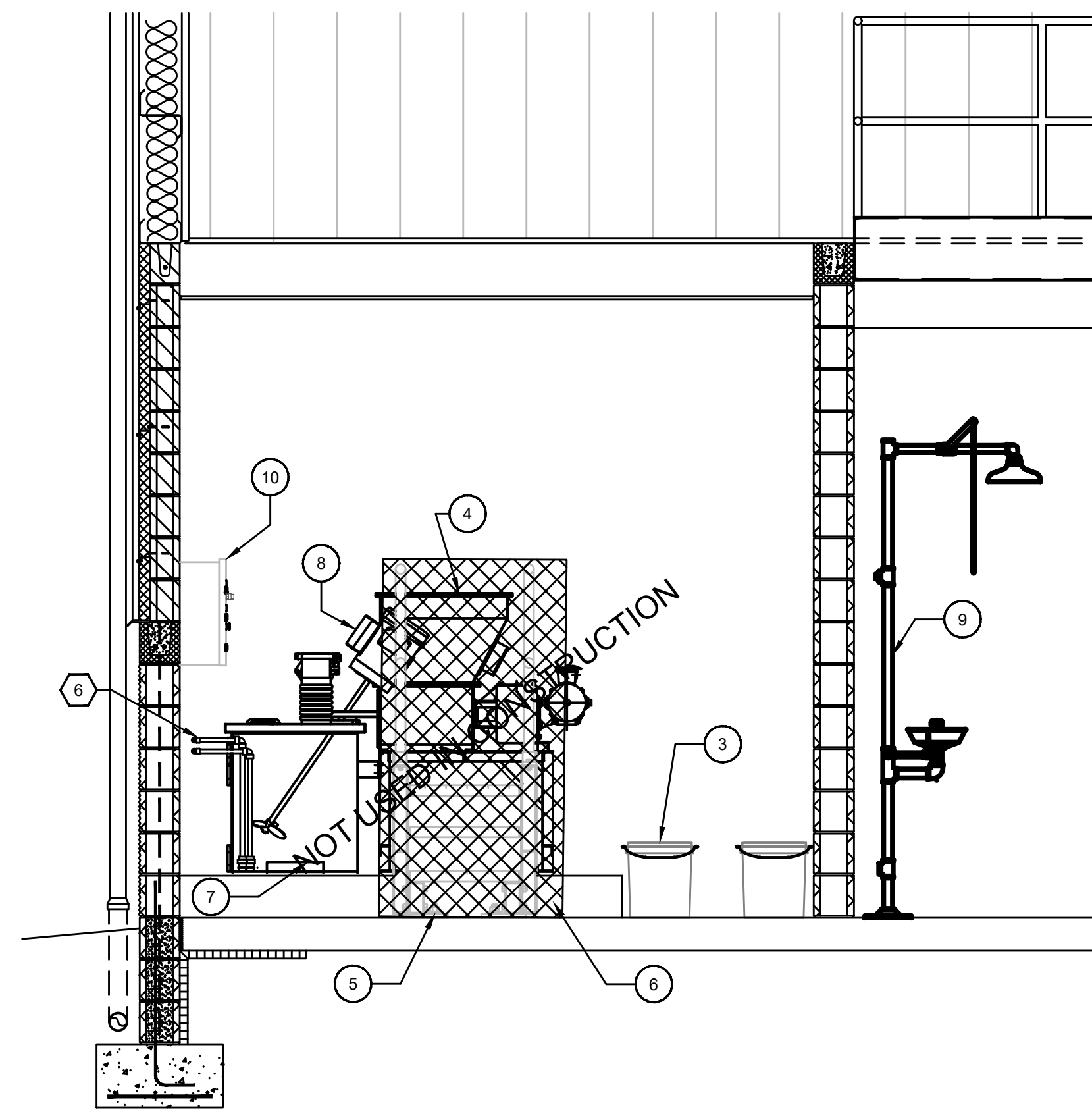
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1
M-1-06 SCALE: 1/2"=1'-0"
0 1' 2'

POTASSIUM PERMANGANATE & AQUADENE FEED ROOMS
ROOM 106 - SECTION



2
M-1-06 SCALE: 1/2"=1'-0"
0 1' 2'

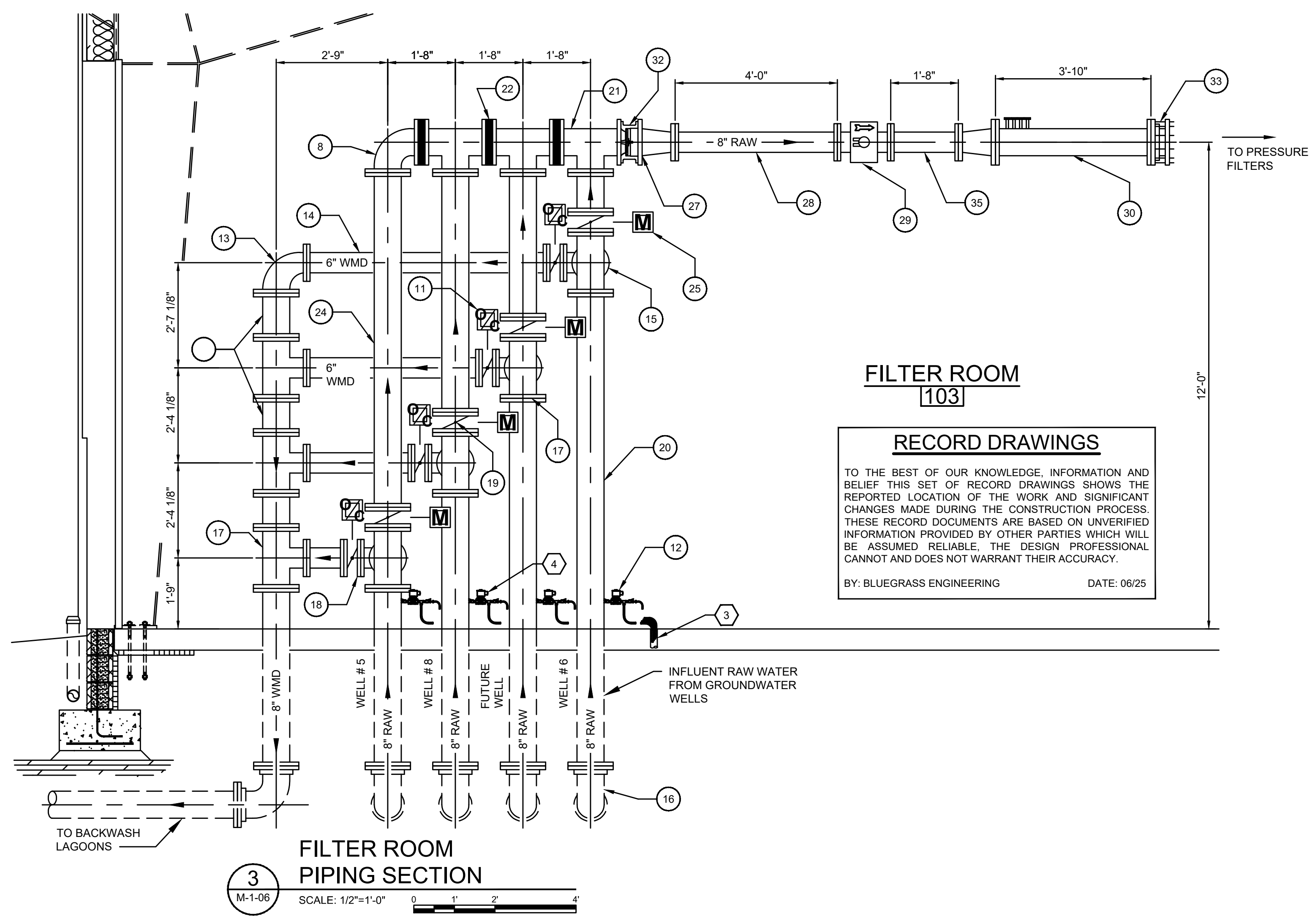
POTASSIUM PERMANGANATE & AQUADENE FEED ROOMS
ROOM 106 - SECTION

GENERAL NOTES:

- DUPLEX METERING PUMP SKID WITH ISOLATION VALVES, GAGES, PRESSURE RELIEF, CALIBRATION COLUMN, AND ACCESSORIES PER SPECIFICATIONS - MODEL QDOS 60LH BY WASTON MARLOW OR ENGINEER APPROVED EQUAL
- DUPLEX ELECTRICAL OUTLET FOR EACH METERING PUMP. ENERGIZED VIA SCADA CONTROLS (TYP.)
- 25 KG PAIL WITH HANDLE FOR DRY CHEMICAL (TYP.)
- VOLUMETRIC DRY CHEMICAL FEEDER WITH HOPPER, METERING AUGER, CONDITIONING CHAMBER, 50 GALLON SOLUTION TANK, AND CONTROLS
- ALUMINUM ACCESS STAIRS AND HANDRAIL WITH FRP GRATING TO FEEDER HOPPER
- 8-INCH HIGH X 6-INCH WIDTH CONCRETE CONTAINMENT AREA (4' X 6' I.D.) WITH FRP GRATING. PROVIDE CONCRETE PADS AS NEEDED FOR EQUIPMENT SUPPORT.
- 50-GALLON SOLUTION TANK
- SOLUTION TANK MIXER AND MOTOR
- EMERGENCY EYE WASH/SHOWER STATION - MODEL GUARDIAN G1950 OR ENGINEER APPROVED EQUAL
- VOLUMETRIC DRY CHEMICAL FEEDER CONTROL PANEL
- ELECTRIC BUTTERFLY VALVE ACTUATOR - OPEN/CLOSE TYPE
- ELECTRIC SOLENOID VALVE WITH SAMPLE TUBING TO SAMPLE SINK - ENERGIZED VIA SCADA CONTROL (TYP. - FOR EACH WELL LINE)
- 6X8 REDUCING FLG. ELBOW
- 6-INCH FLG. SPOOL PIECE - VARYING LENGTH (TYP.)
- 6-INCH FLG. ELBOW (TYP.)
- 8-INCH RESTRAINT MJ ELBOW
- 8X6 FLG TEE
- 6-INCH LUG WAFER BUTTERFLY VALVE (TYP.)
- 8-INCH LUG WAFER BUTTERFLY VALVE (TYP.)
- 8-INCH FLG. X PE SPOOL PIECE - VARYING LENGTH (TYP.)
- 8-INCH FLG. TEE (TYP.)
- 8-INCH FLG. FILLER - VARYING THICKNESS (TYP.)
- 6-INCH FLG. SPOOL PIECE (TYP.)
- 8-INCH FLG. SPOOL PIECE (TYP.)
- 8-INCH FLG. SPOOL PIECE (TYP.)
- ELECTRIC BUTTERFLY VALVE ACTUATOR - MODULATION TYPE
- 6-INCH FLG. FILLER - VARYING THICKNESS (TYP.)
- 6X8 FLG. CONCENTRIC REDUCER (TYP.)
- 6-INCH FLG. SPOOL - 48 INCH LENGTH
- 6-INCH ELECTROMAGNETIC FLOW METER W/ REMOTE READOUT
- 8-INCH STATIC MIXER WITH FOUR (4) INJECTOR PORTS
- 8-INCH SPOOL PIECE - VARYING LENGTH
- 8-INCH DOUBLE DISC IN-LINE CHECK VALVE
- 8-INCH FLG. COUPLING ADAPTER
- 8-INCH BLIND FLG.
- 6-INCH FLG. SPOOL - 20 INCH LENGTH

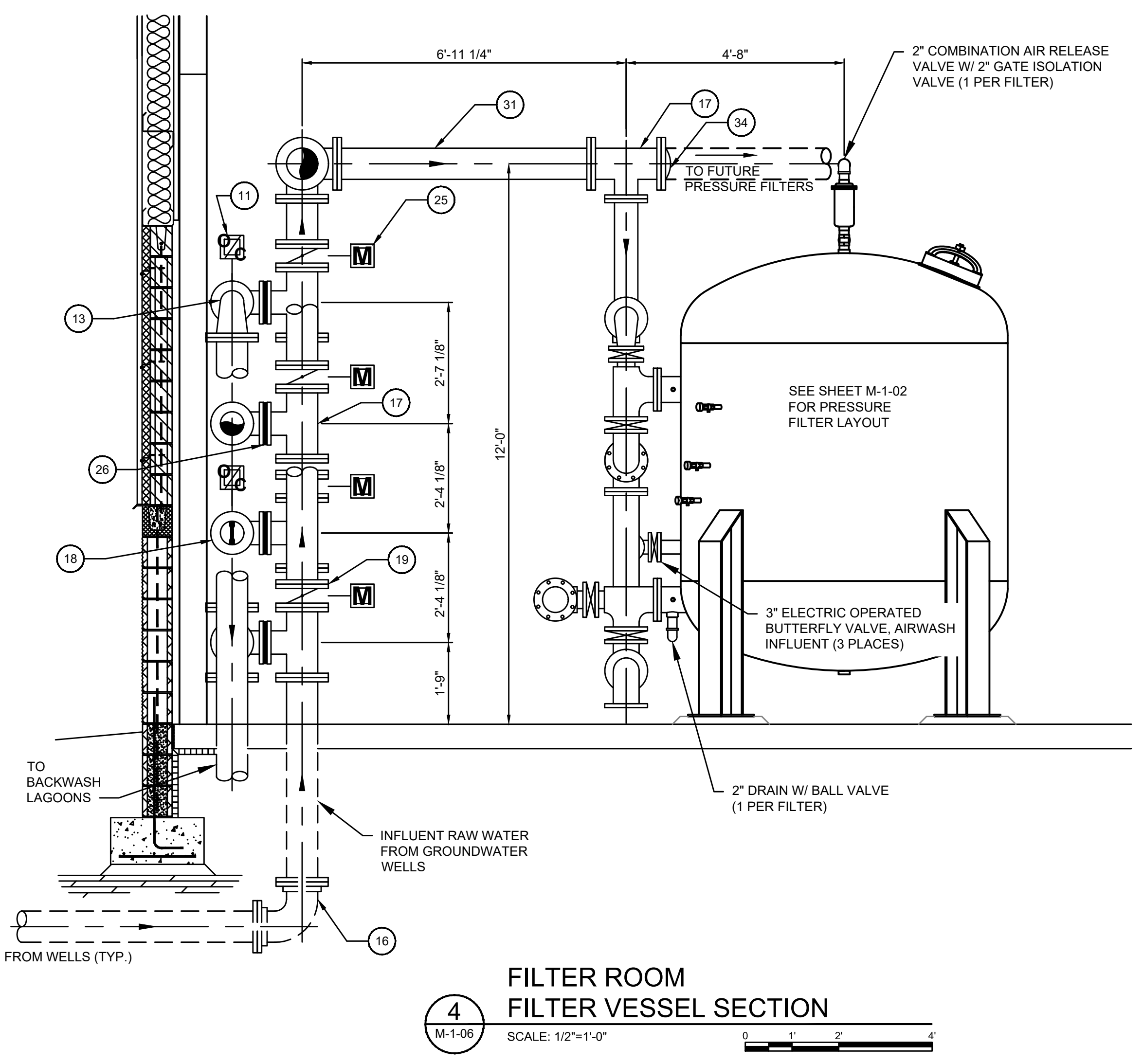
KEYNOTES:

- CHEMICAL FEED LINE (TYP.) SHALL BE 1/8-INCH I.D., 1/4-INCH O.D., HEAVY WALL PVDF KYNAR FLEX 2750 TUBING (OR ENGINEER APPROVED EQUAL) INSTALLED IN 2-INCH SCH 40 PVC PIPE W/ SWEEPING BENDS. CONTRACTOR TO INSTALL FEED LINE FROM METERING PUMPS TO INJECTION POINT WITH NO JOINTS IN TUBING. CONTRACTOR TO INSTALL DRIP-LEG WITH TEST VALVE AT ALL TUBING JOINTS, IF TUBING JOINTS ARE INSTALLED.
- ROUTE 1-1/2 INCH VENT PIPING THROUGH EXTERIOR WALL. SEAL ALL GAPS AND OPENINGS WITH CHEMICAL RESISTANT SEALANT. PROVIDE BIRD/INSECT SCREEN AND RAIN CAP.
- WELL SAMPLE LINES (TYP.) SHALL BE 3/8-INCH I.D., 1/2-INCH O.D., HEAVY WALL PVDF KYNAR FLEX 2750 TUBING (OR ENGINEER APPROVED EQUAL) INSTALLED IN 3-INCH SCH 40 PVC PIPE WITH SWEEPING BENDS UNDERNEATH THE CONCRETE SLAB. CONTRACTOR TO INSTALL ALL SAMPLE LINES IN SINGLE CONDUIT FROM INFLUENT PIPE TO SAMPLE SINK IN ROOM 105 WITH NO JOINTS IN TUBING.
- PROVIDE AND INSTALL A RED HAT SERIES 8210, 2-WAY, 120-VOLT, 3/4-INCH SOLENOID VALVE, NORMALLY CLOSED AND ENERGIZED TO OPEN FOR EACH OF THE SAMPLE LINES. CONTROL WIRE SHALL BE FROM THE SOLENOID VALVE TO THE ASSOCIATED WELL VALVE AND CONNECTED FOR VALVE OPERATION.
- ALL PIPING SHALL BE SCH. 80 PVC, UNLESS OTHERWISE NOTED. ALL PIPING SHALL BE LABELED AND FLOW DIRECTION INDICATED.
- PROVIDE 3/4 INCH SUCTION PIPING TO SOLUTION TANK. SUCTION PIPING SHALL BE LOCATED NEAR BOTTOM OF SOLUTION TANK AND SHALL HAVE A FOOT VALVE INSTALLED ON EACH LINE.



3
M-1-06 SCALE: 1/2"=1'-0"
0 1' 2'

FILTER ROOM
PIPING SECTION



4
M-1-06 SCALE: 1/2"=1'-0"
0 1' 2'

FILTER ROOM
FILTER VESSEL SECTION

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT
IMPROVEMENTS
WTP BUILDING SECTIONS - CHEMICAL
FEED, FILTER ROOM

SANDY HOOK
WATER DISTRICT
Serving Our Community

BLUEGRASS
ENGINEERING
PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL

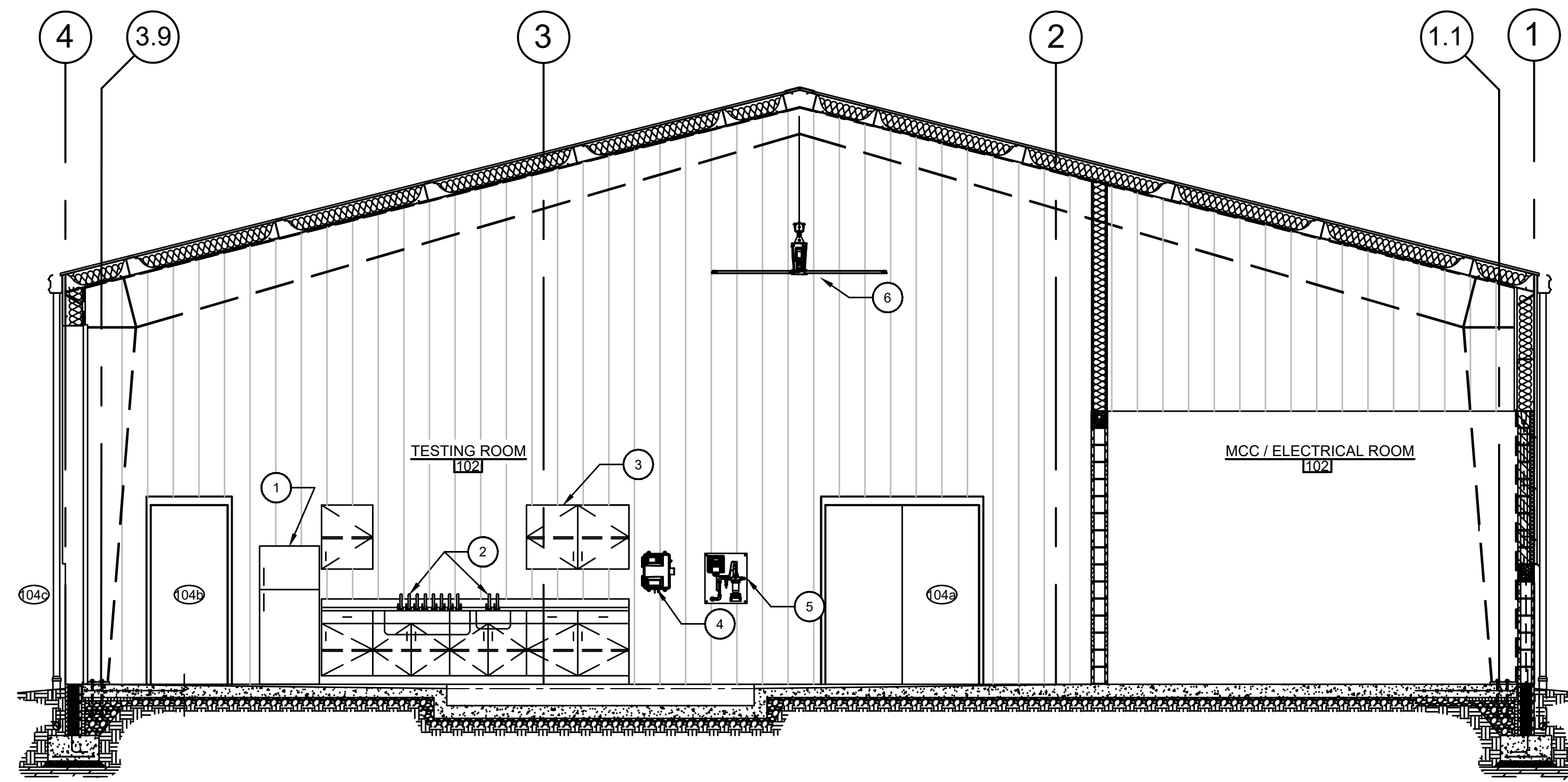
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M-1-06

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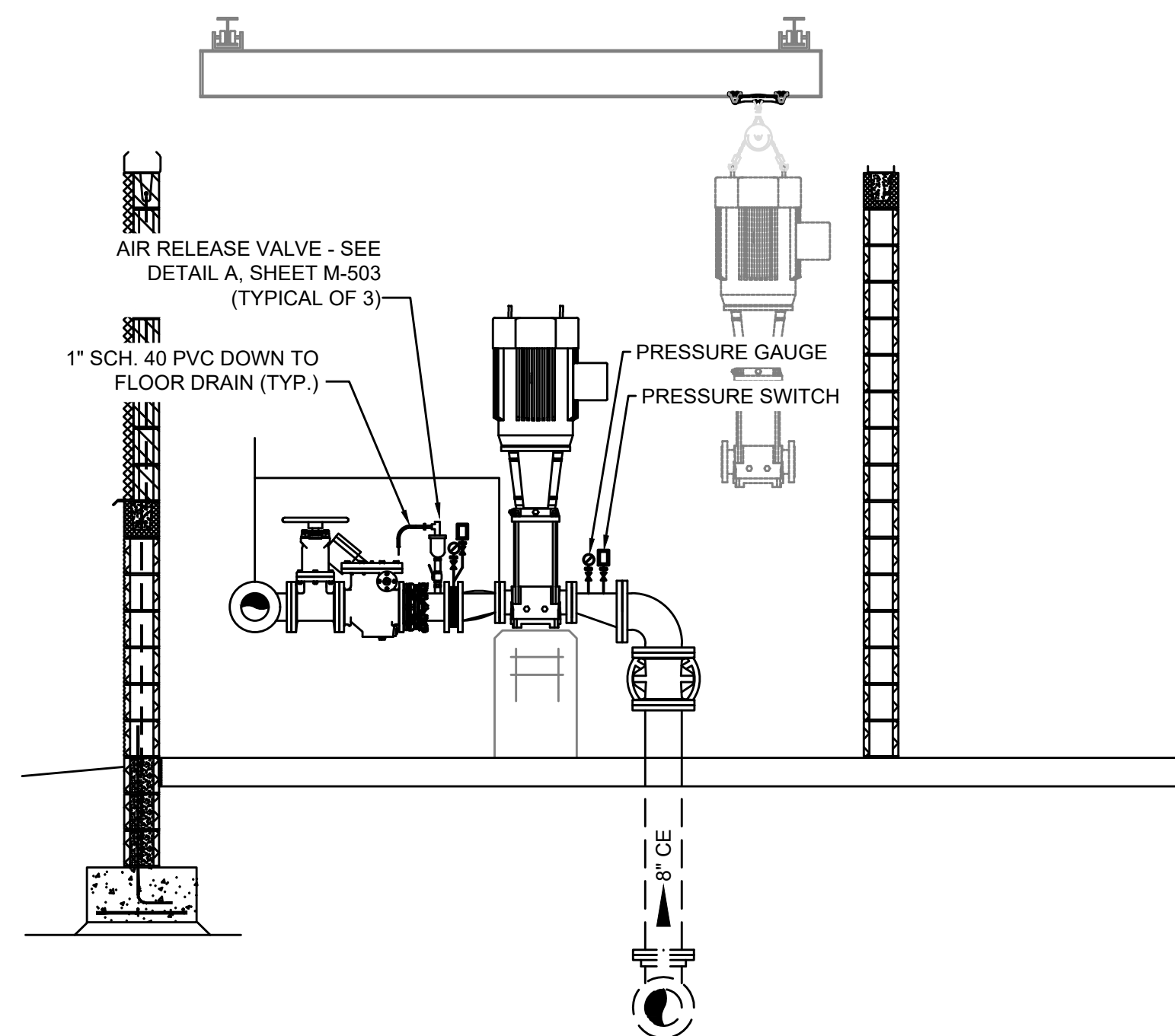
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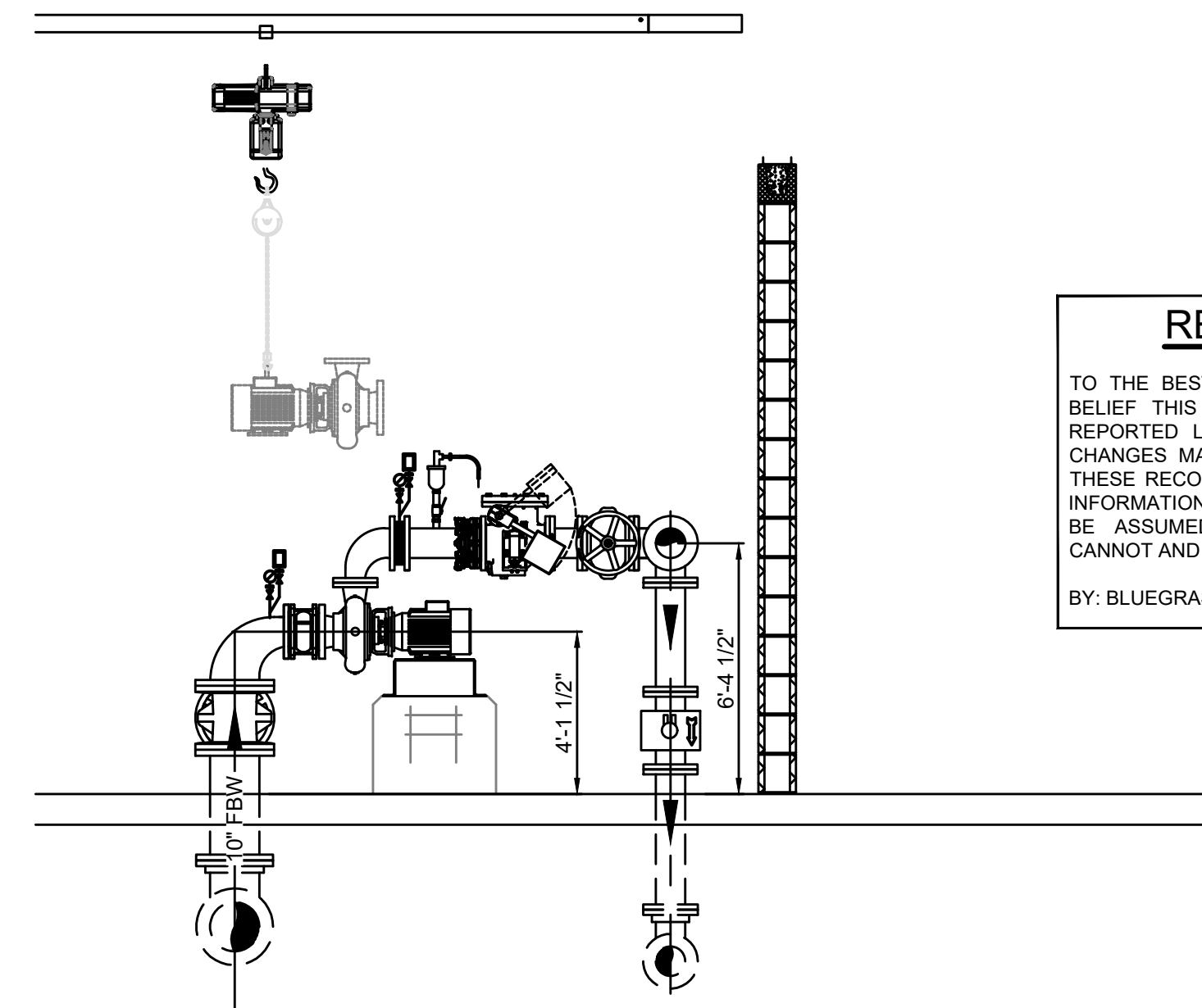
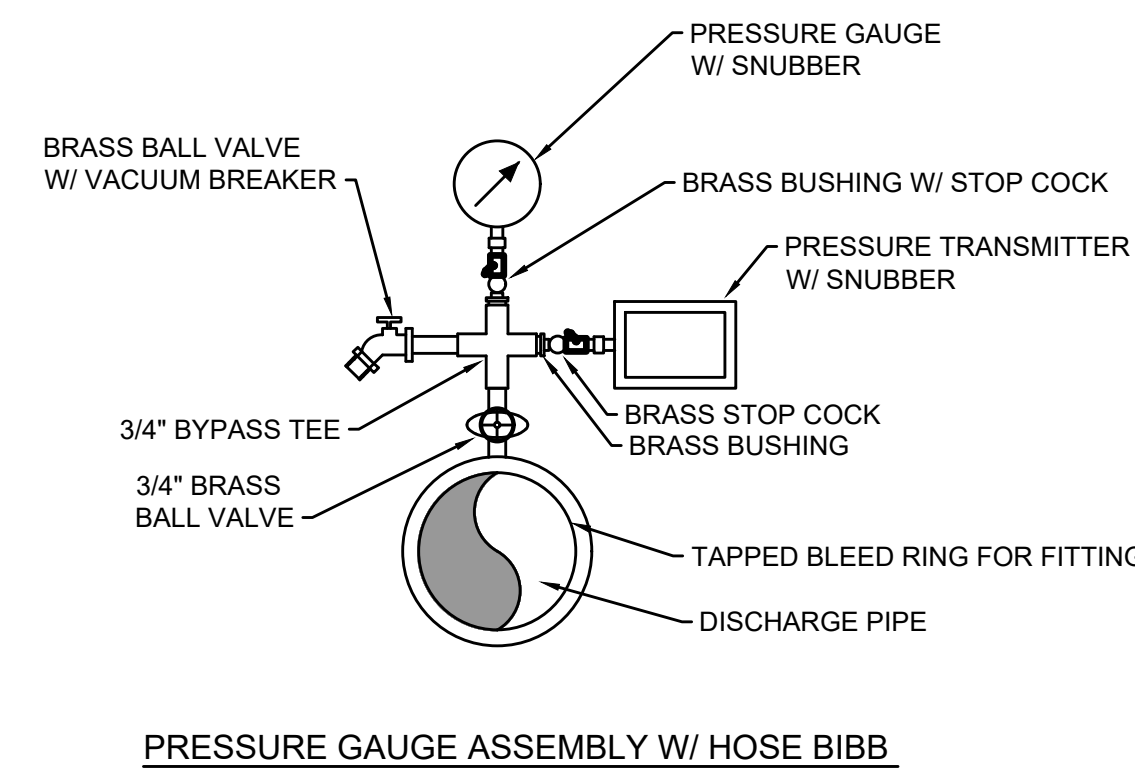


- GENERAL NOTES:
1. STAINLESS STEEL REFRIGERATOR - SEE SPECIFICATIONS
 2. SAMPLING SINKS
 3. STAINLESS STEEL CABINET - SEE SPECIFICATIONS
 4. CHLORINE ANALYZER
 5. FLUORIDE ANALYZER
 6. OVERHEAD CEILING FAN (TYP.) - SEE SPECIFICATIONS

1
M-1-07 SCALE: 1/4"=1'-0"
0 2' 4' 8'



2
M-1-07 SCALE: 1/4"=1'-0"
0 2' 4' 8'



3
M-1-07 SCALE: 1/4"=1'-0"
0 2' 4' 8'

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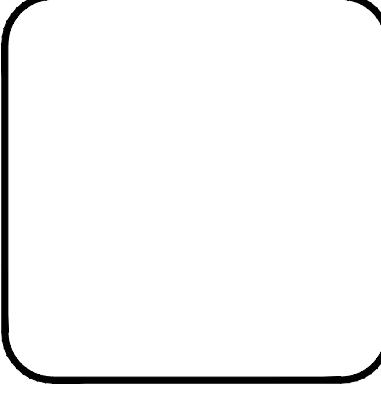
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2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WTP BUILDING SECTIONS - TESTING, HIGH SERVICE, BACKWASH ROOM

SANDY HOOK WATER DISTRICT
Serving Our Community

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



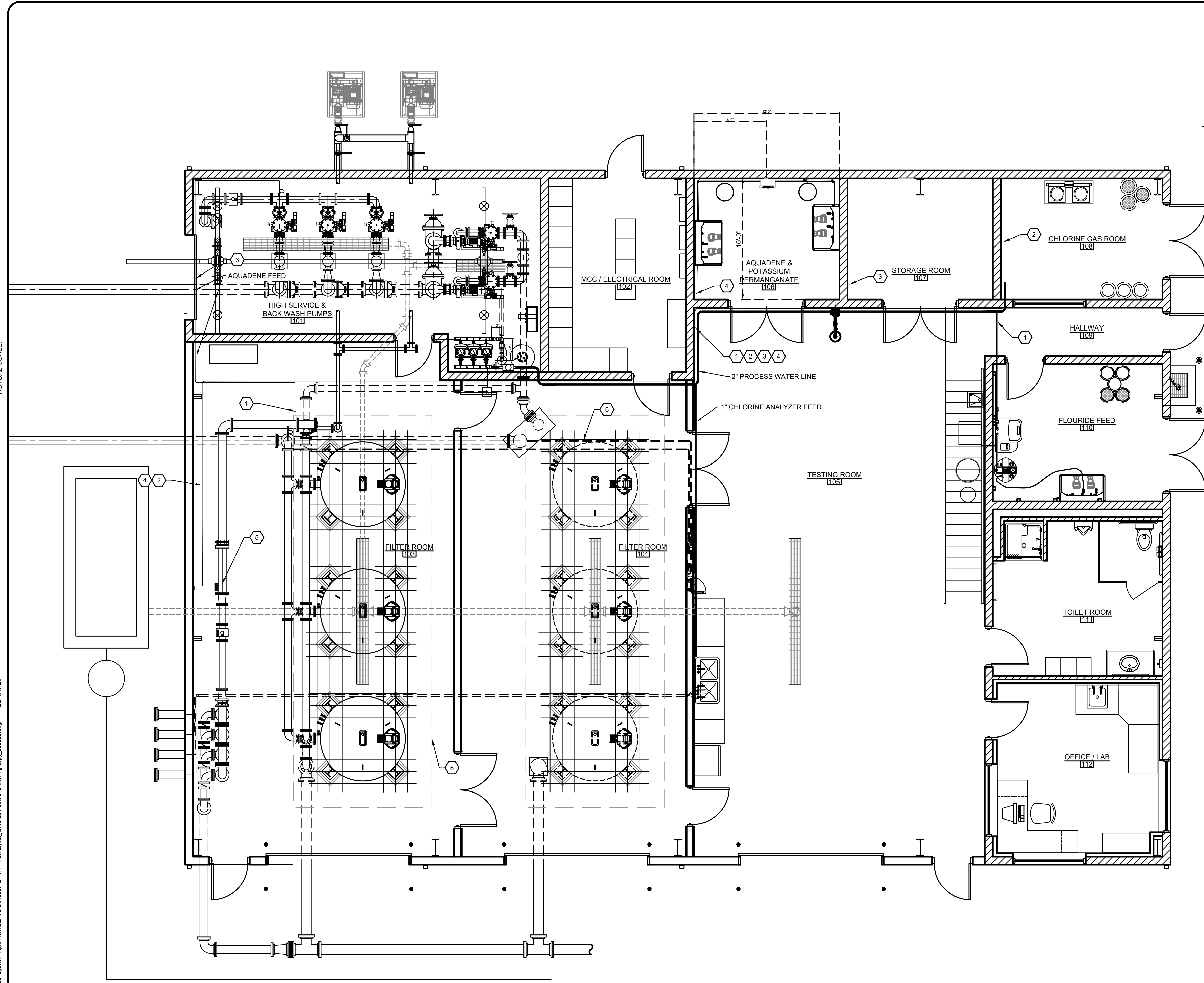
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- KEYNOTES:**
1. 1/4" O.D. 1/8" I.D. HEAVY WALL PVDF KYNAR FLEX 2750 TUBING FLUORIDE FEED LINE (OR ENGINEER APPROVED EQUAL) IN 1" SCH. 40 PVC PIPE. CONTRACTOR TO INSTALL FLUORIDE FEED LINE FROM METERING PUMP TO INJECTION POINT WITH NO JOINTS IN TUBING. CONTRACTOR TO INSTALL DRIP-LEG WITH TEST VALVE AT ALL TUBING JOINTS, IF JOINTS ARE INSTALLED.
 2. 1-1/2" I.D. HEAVY WALL PVDF KYNAR FLEX 2750 TUBING CHLORINE GAS FEED LINE (OR ENGINEER APPROVED EQUAL) IN 1" SCH. 40 PVC PIPE. CONTRACTOR TO INSTALL FLUORIDE FEED LINE FROM METERING PUMP TO INJECTION POINT WITH NO JOINTS IN TUBING. CONTRACTOR TO INSTALL DRIP-LEG WITH TEST VALVE AT ALL TUBING JOINTS, IF JOINTS ARE INSTALLED.
 3. 1/4" O.D. 1/8" I.D. HEAVY WALL PVDF KYNAR FLEX 2750 TUBING AQUADENE FEED LINE (OR ENGINEER APPROVED EQUAL) IN 1" SCH. 40 PVC PIPE. CONTRACTOR TO INSTALL FLUORIDE FEED LINE FROM METERING PUMP TO INJECTION POINT WITH NO JOINTS IN TUBING. CONTRACTOR TO INSTALL DRIP-LEG WITH TEST VALVE AT ALL TUBING JOINTS, IF JOINTS ARE INSTALLED.
 4. 1/4" O.D. 1/8" I.D. HEAVY WALL PVDF KYNAR FLEX 2750 TUBING POTASSIUM PERMANGANATE FEED LINE (OR ENGINEER APPROVED EQUAL) IN 1" SCH. 40 PVC PIPE. CONTRACTOR TO INSTALL FLUORIDE FEED LINE FROM METERING PUMP TO INJECTION POINT WITH NO JOINTS IN TUBING. CONTRACTOR TO INSTALL DRIP-LEG WITH TEST VALVE AT ALL TUBING JOINTS, IF JOINTS ARE INSTALLED.
 5. STATIC MIXER SHALL HAVE 3 SAF-T-FLO (OR ENGINEER APPROVED EQUAL) INJECTION QUILL PORTS, 1 FOR CHLORINE GAS FEED, 1 FOR POTASSIUM PERMANGANATE FEED, AND 1 SPARE.
 6. WELL SAMPLE LINES (TYP.) SHALL BE 3/8-INCH I.D., 1/2-INCH O.D., HEAVY WALL PVDF KYNAR FLEX 2750 TUBING (OR ENGINEER APPROVED EQUAL) INSTALLED IN 3-INCH SCH. 40 PVC PIPE WITH SWEEPING BENDS UNDERNEATH CONCRETE SLAB. CONTRACTOR TO INSTALL ALL SAMPLE LINES IN SINGLE CONDUIT FROM INFLUENT PIPE TO SAMPLE SINK IN ROOM 105 WITH NO JOINTS IN TUBING.

CHEMICAL FEED PLAN
SCALE: 1/4"=1'-0"

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BY: BLUEGRASS ENGINEERING DATE: 06/25

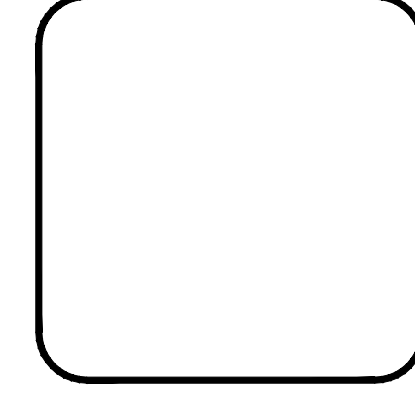
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WTP BUILDING LAYOUT - CHEMICAL FEED PIPING

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

SANDY HOOK WATER DISTRICT
Serving Our Community

PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



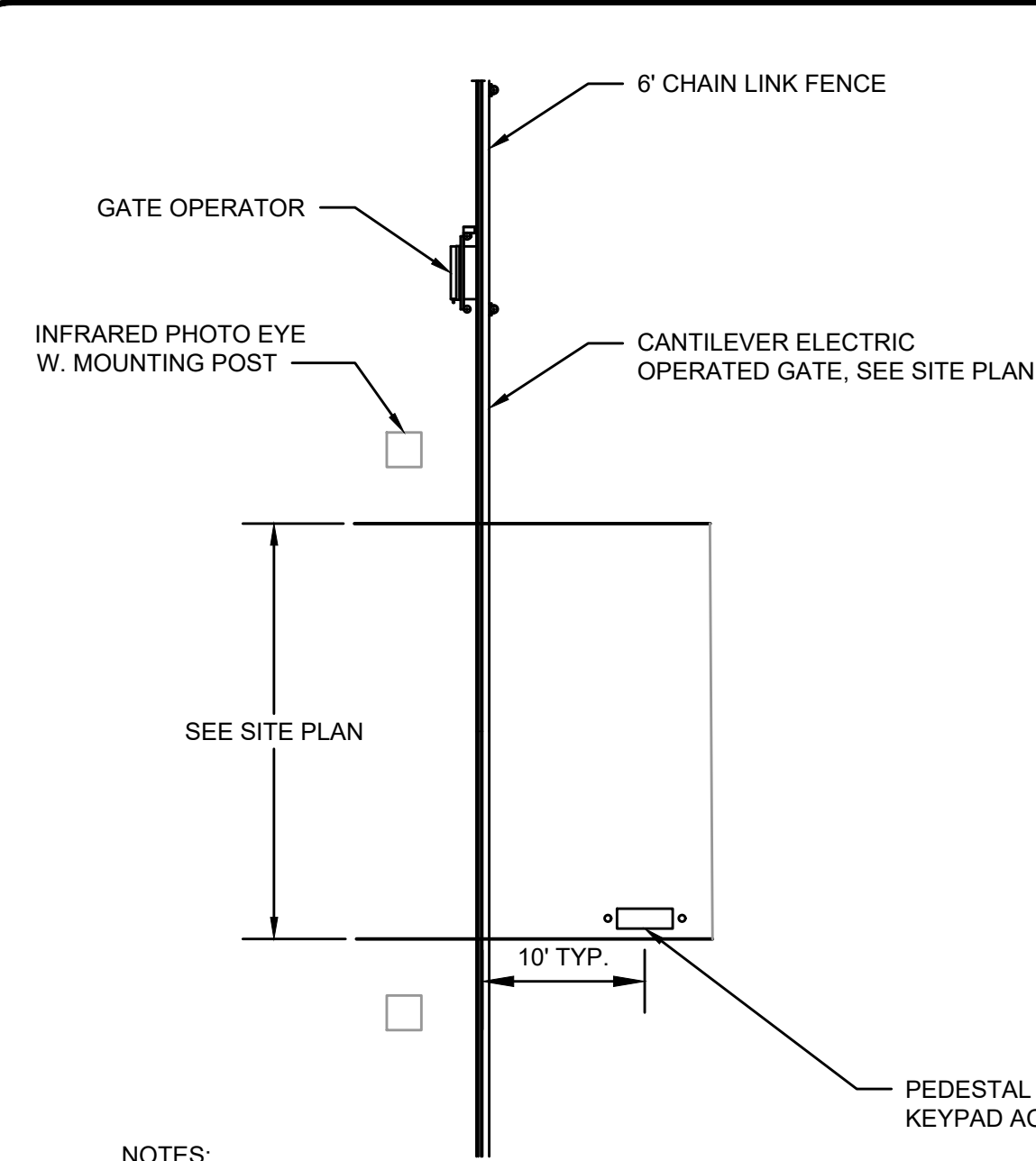
M-1-08

RECORD DRAWINGS

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B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-SD-01-1_FENCE.dwg

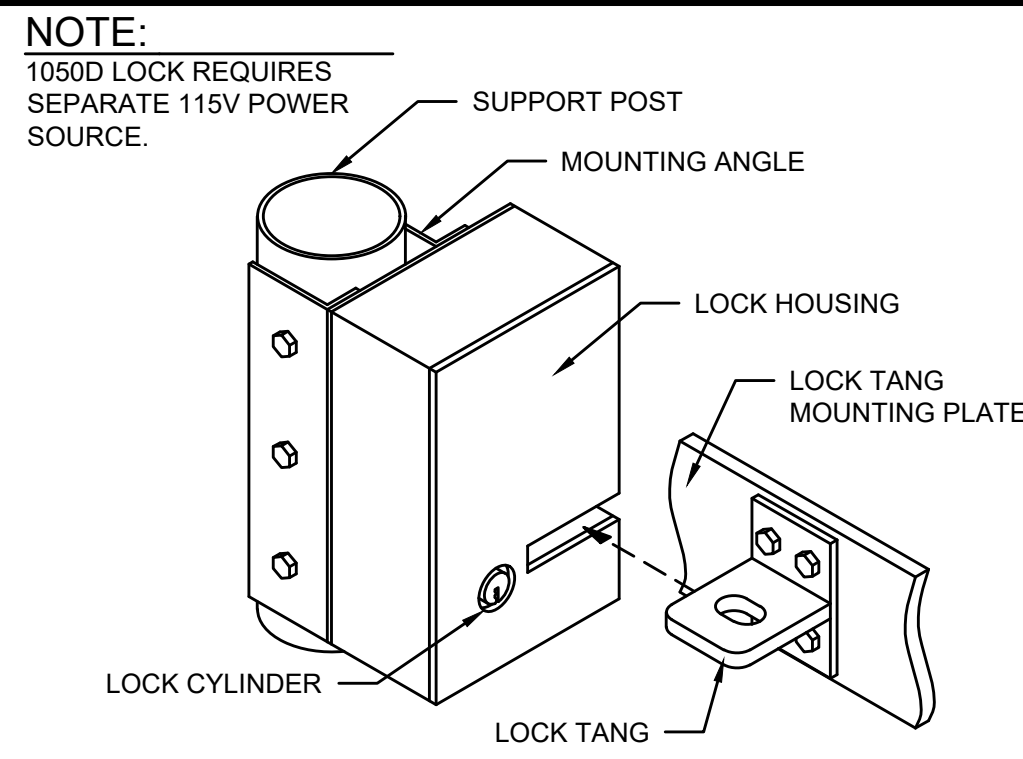


CANTILEVER GATE PLAN

NOT TO SCALE

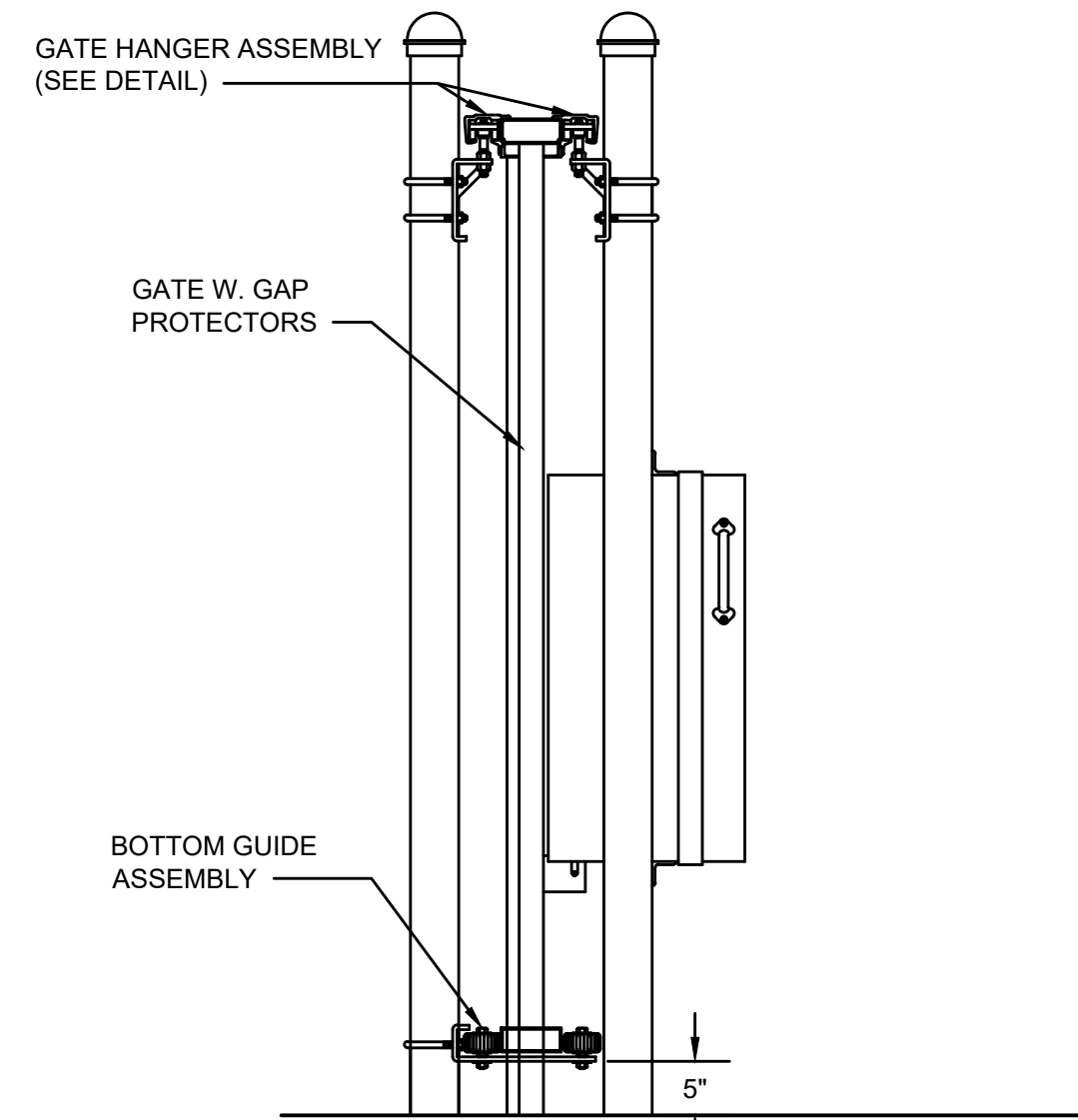
NOTES:

1. INFRARED PHOTO EYE TO BE INSTALLED BY CONTRACTOR PER MANUFACTURERS RECOMMENDATIONS.
2. SEE THIS SHEET FOR FENCE/POST/GATE DETAILS.
3. SEE ELECTRICAL DRAWINGS FOR ROUTING COMMUNICATION AND CONTROL WIRING. ACCESS PANEL TO HAVE PUSH BUTTONS FOR OPEN, CLOSE AND STOP. INTERCOM CALL BUTTON AND CALL BOX SHALL ALSO BE INSTALLED AT ACCESS STATION.



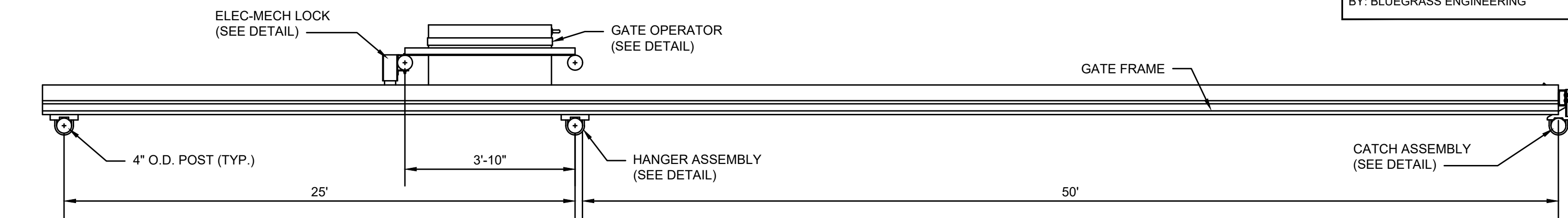
ELECTROMECHANICAL LOCK

NOT TO SCALE

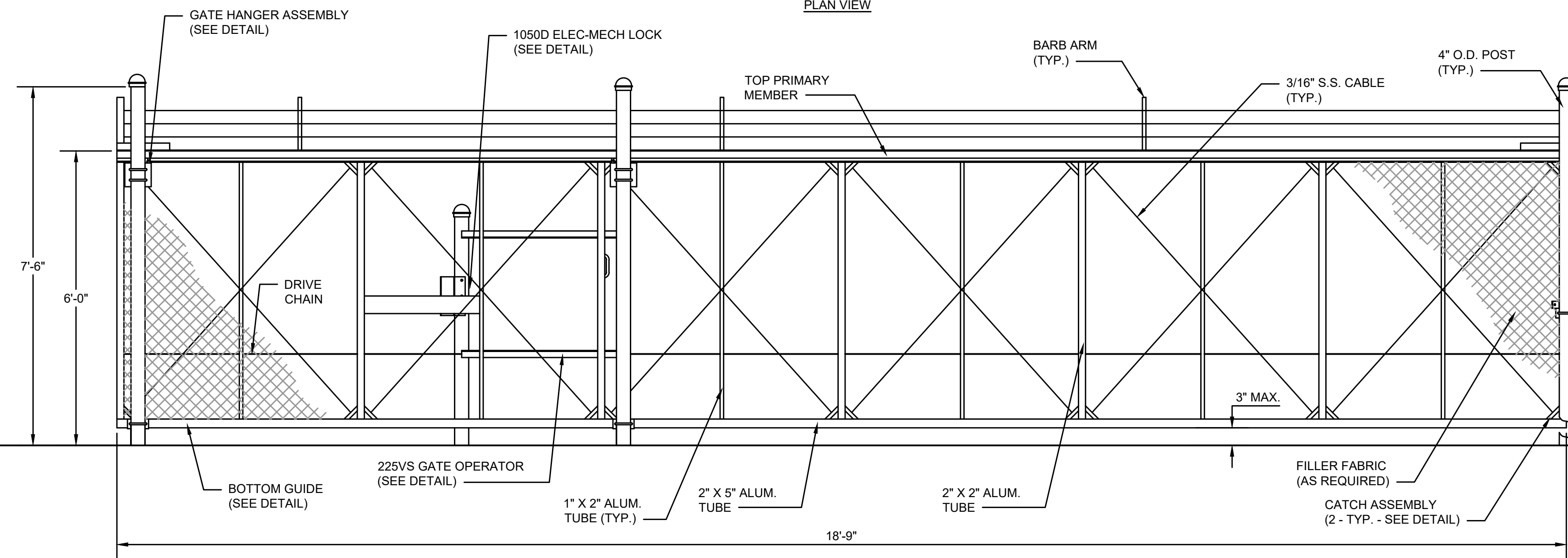


CANTILEVER OPERATOR SECTION

NOT TO SCALE



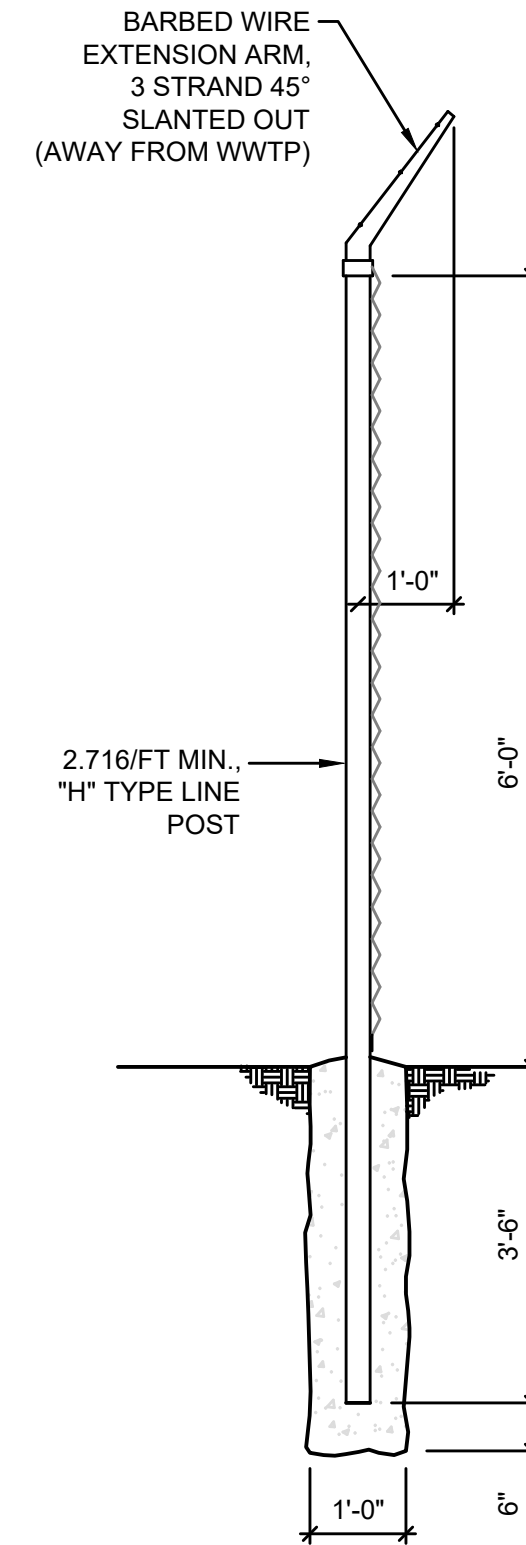
PLAN VIEW



ELEVATION VIEW

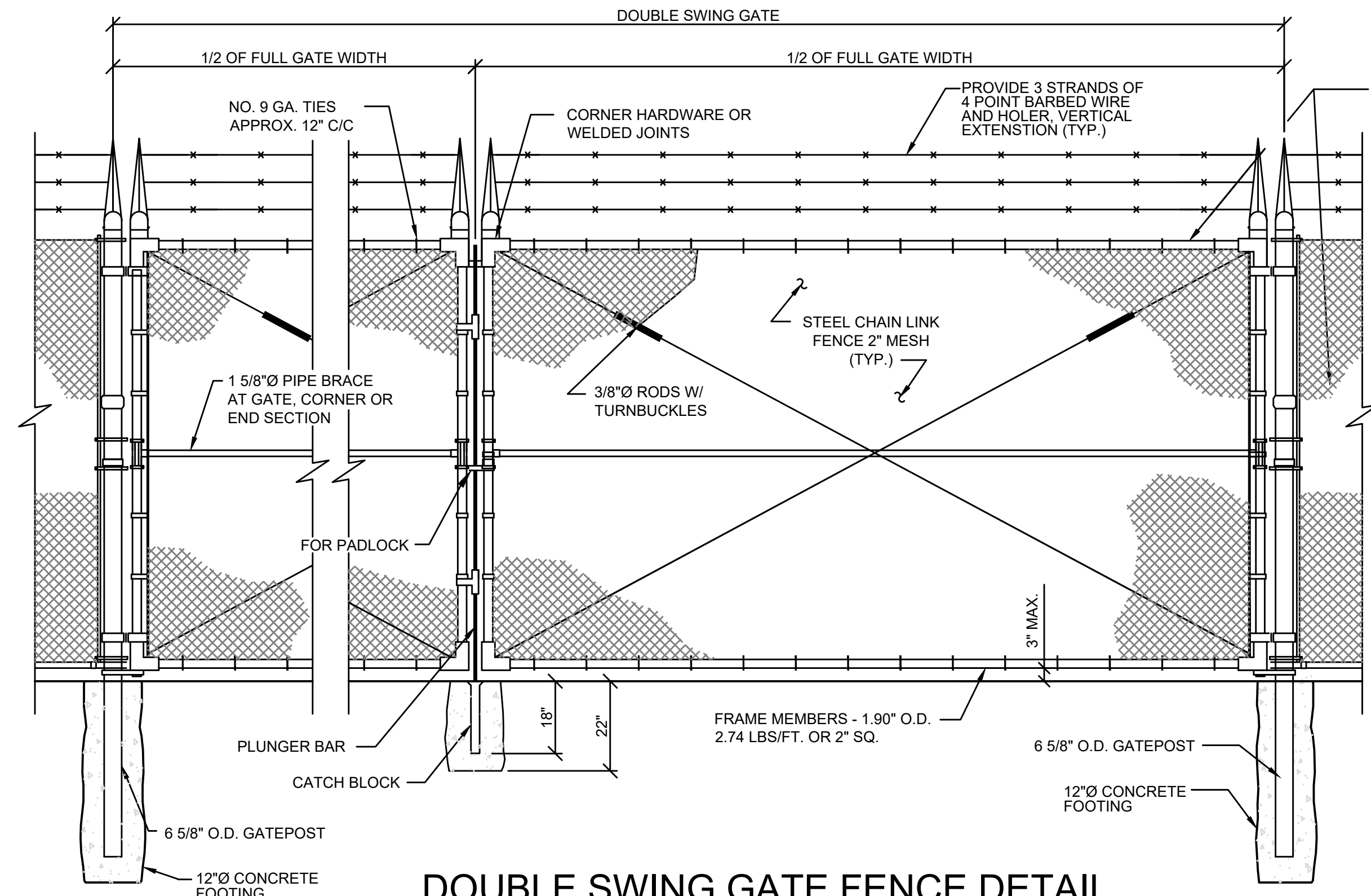
CANTILEVER GATE WITH OPERATOR DETAIL

NOT TO SCALE



FENCE POST DETAIL

NOT TO SCALE



DOUBLE SWING GATE FENCE DETAIL

NOT TO SCALE

NOTES:

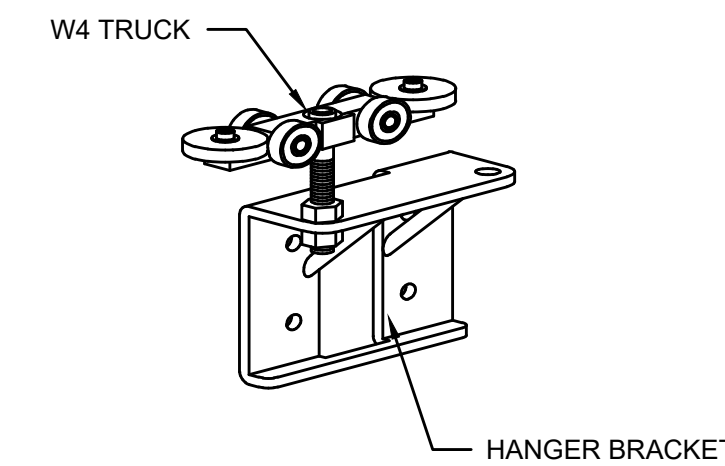
1. SUBMIT SHOP DWGS. FOR APPROVAL.
2. FOOTING WIDTH TO BE 4 TIMES POST WIDTH. MIN. DEPTH TO BE 4'-0\"/>
- 3. INSTALL FIXED FENCE FOR ENTIRE LENGTH OF OPEN GATE DIMENSION.
- 4. SEE SPECS. FOR HARDWARE FOR ELECTRICALLY OPERATED GATES.

RECORD DRAWINGS

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THIS SET OF RECORD DRAWINGS SHOWS THE REPORTED LOCATION OF THE WORK AND SIGNIFICANT CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE RECORD DOCUMENTS ARE BASED ON UNVERIFIED INFORMATION PROVIDED BY OTHER PARTIES WHICH WILL BE ASSUMED RELIABLE. THE DESIGN PROFESSIONAL CANNOT AND DOES NOT WARRANT THEIR ACCURACY.

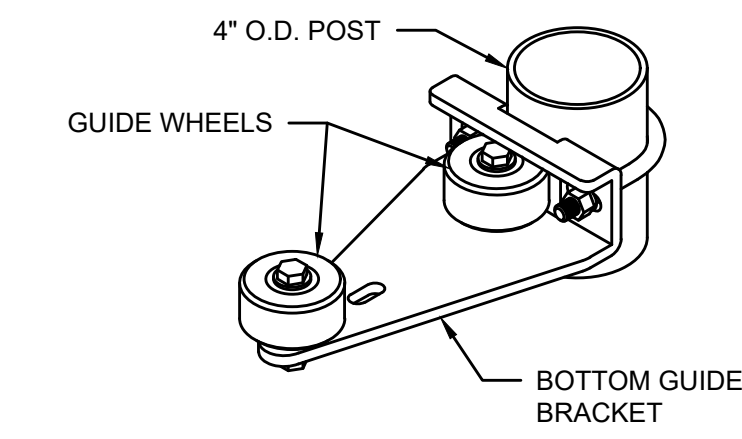
BY: BLUEGRASS ENGINEERING

DATE: 06/25



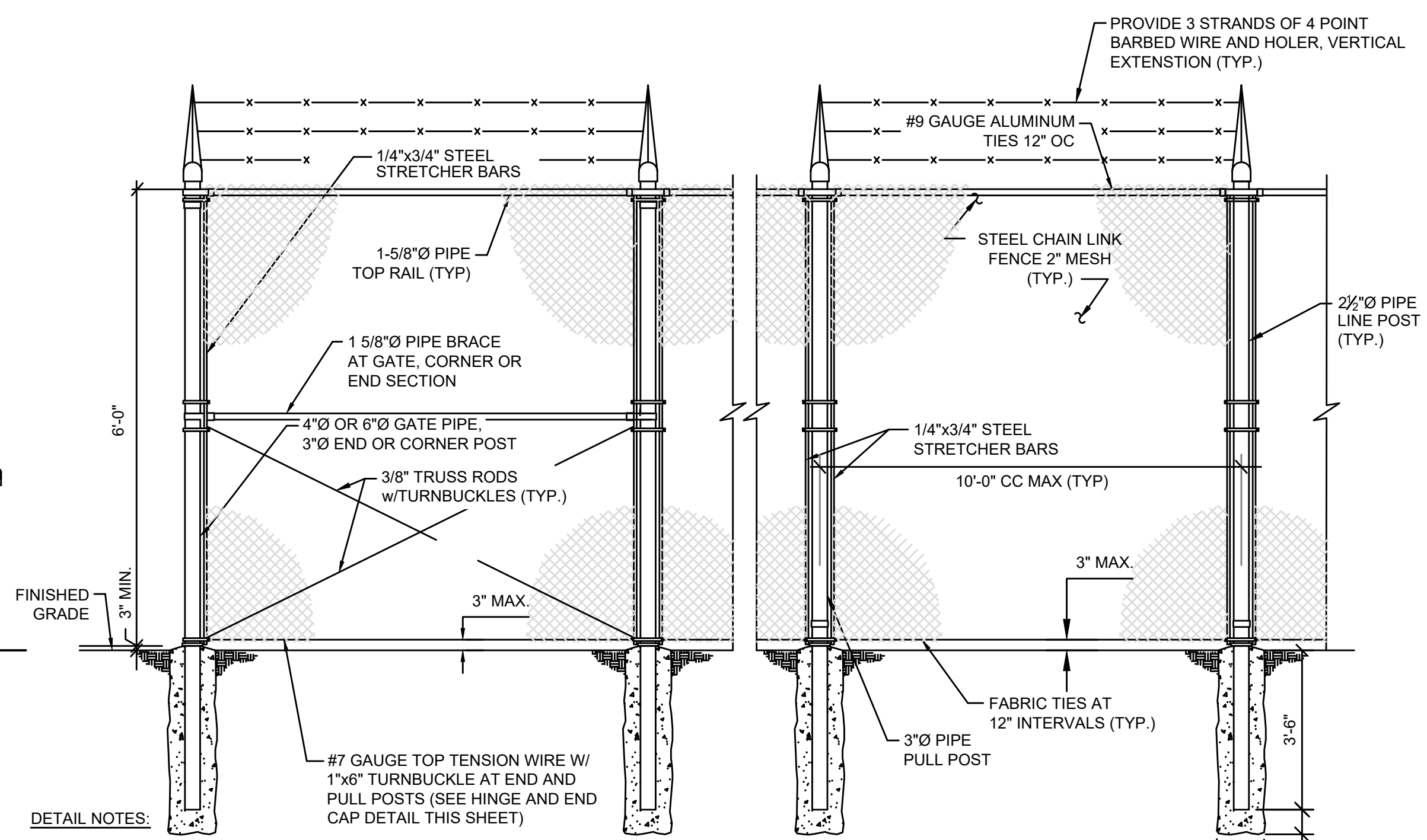
GATE HANGER ASSEMBLY

NOT TO SCALE



BOTTOM GUIDE ASSEMBLY

NOT TO SCALE



FENCE DETAIL

NOT TO SCALE

DETAIL NOTES:

1. BARBED WIRE SHALL BE POSITIONED AT AN ANGLE OF 45 DEGREES AWAY FROM THE WWTP.
2. CHAINLINK FENCE SHALL MATCH EXISTING FENCE.
3. CONTRACTOR TO INSTALL 8' HIGH FENCE AROUND ELECTRICAL SUBSTATION.

NO.	DATE	REVISIONS	BY
1	FEB 2018	CONFORMED SET WITH ADDENDUM AND REVISIONS ADDED	BKL

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 STANDARD DETAILS
 CHAIN LINK FENCE

SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
 Serving Our Community

PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



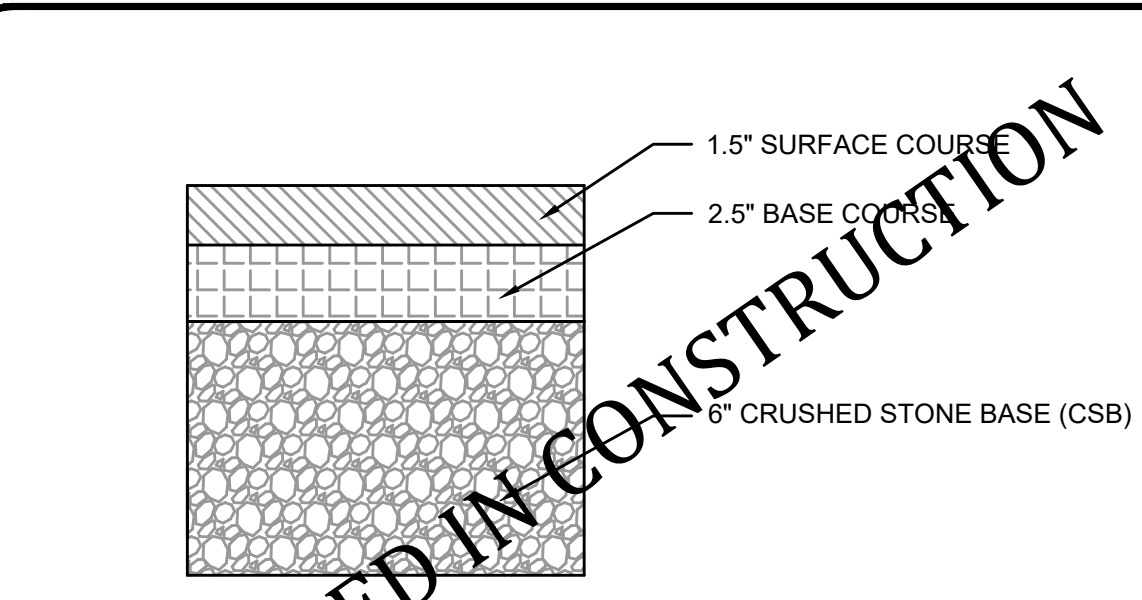
SD-0-01

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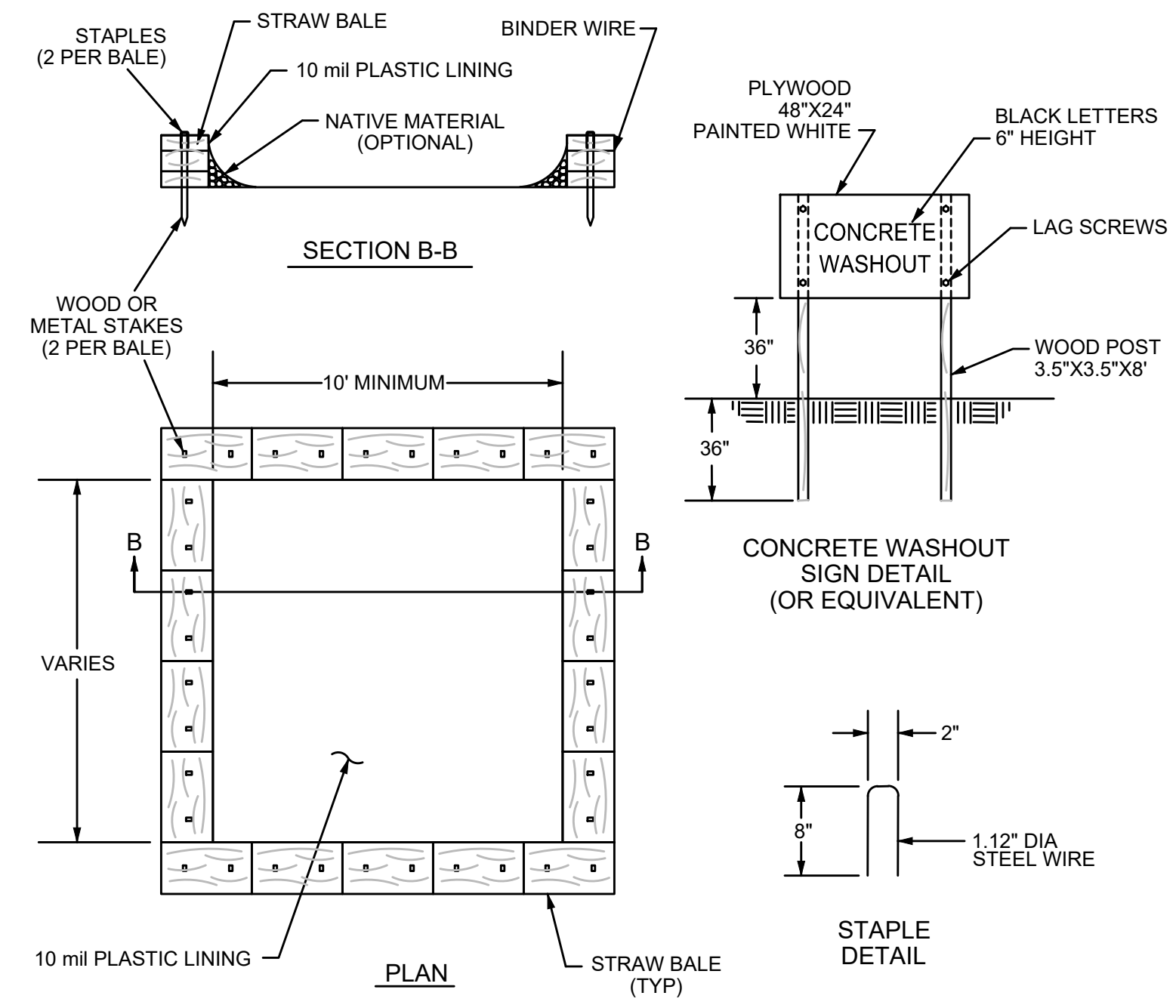
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BY: BLUEGRASS ENGINEERING DATE: 06/25



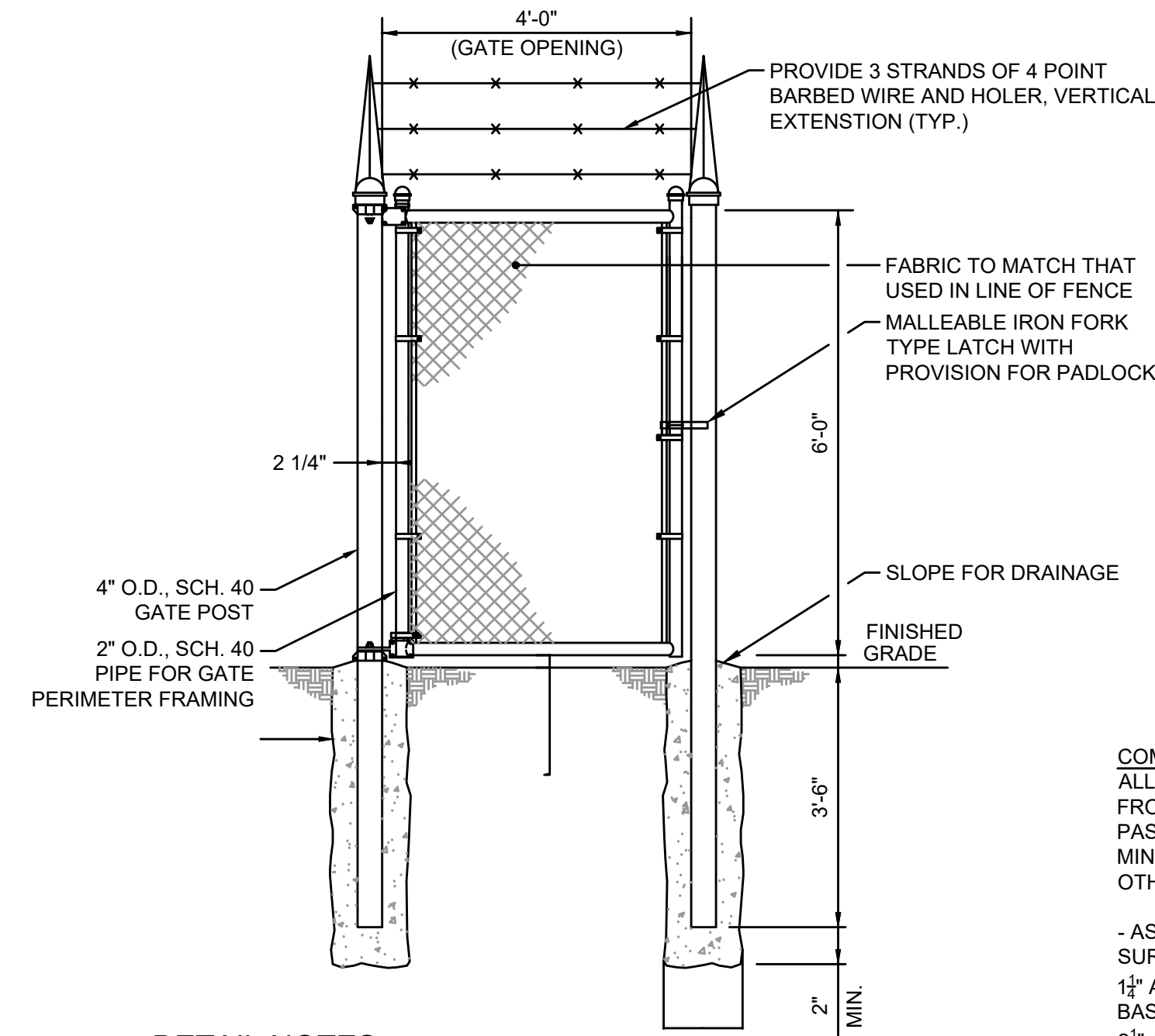
ENTRANCE PAVEMENT DETAIL
NOT TO SCALE

- ENTRANCE PAVEMENT DETAIL SHALL BE FOR ACCESS FROM HOWARDS CREEK ROAD.
- WTP SITE PAVEMENT SHALL BE 6-INCHES OF CRUSHED STONE BASE (CSB).



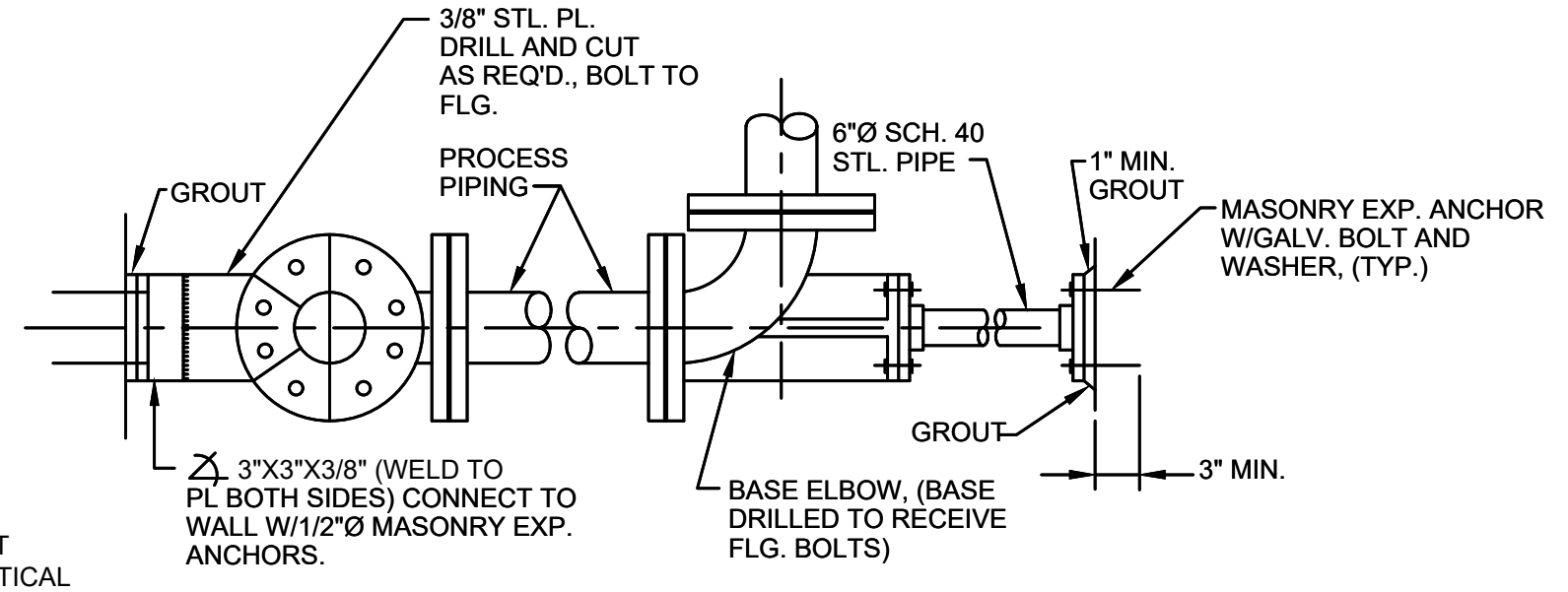
CONCRETE WASHOUT DETAIL
NOT TO SCALE

- DETAIL NOTES:**
- ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
 - A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
 - MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
 - HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED & STABILIZED TO PREVENT EROSION.



MAN GATE DETAIL
NOT TO SCALE

- DETAIL NOTES:**
- MISCELLANEOUS HARDWARE SIMILAR TO THAT USED IN LINE FENCE.
 - SUBMIT SHOP DRAWINGS FOR APPROVAL.

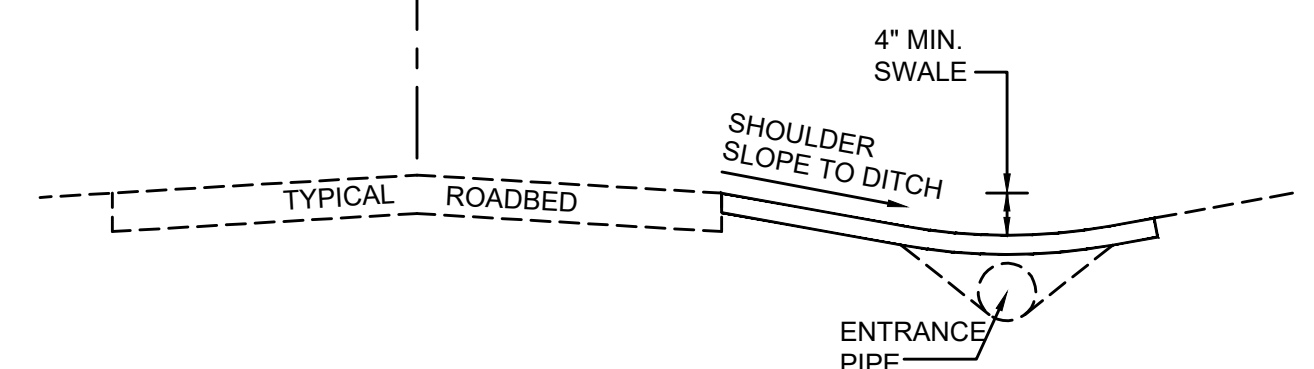


PIPE BRACE DETAIL
NOT TO SCALE

COMMERCIAL ENTRANCE APPROACH
ALL COMMERCIAL ENTRANCES MUST BE PAVED FROM THE EDGE OF DRIVING LANE TO A POINT PAST THE DITCH LINE AS SHOWN USING THE MINIMUM PAVEMENT DEPTHS BELOW UNLESS OTHERWISE PERMITTED BY THE ENGINEER.

- ASPHALT ENTRANCE APPROACH
SURFACE MATERIAL:
1 1/2\"/>

ROADWAY DRAINAGE DETAIL
EXTEND SHOULDER SLOPE TO DITCH (1/2\"/>

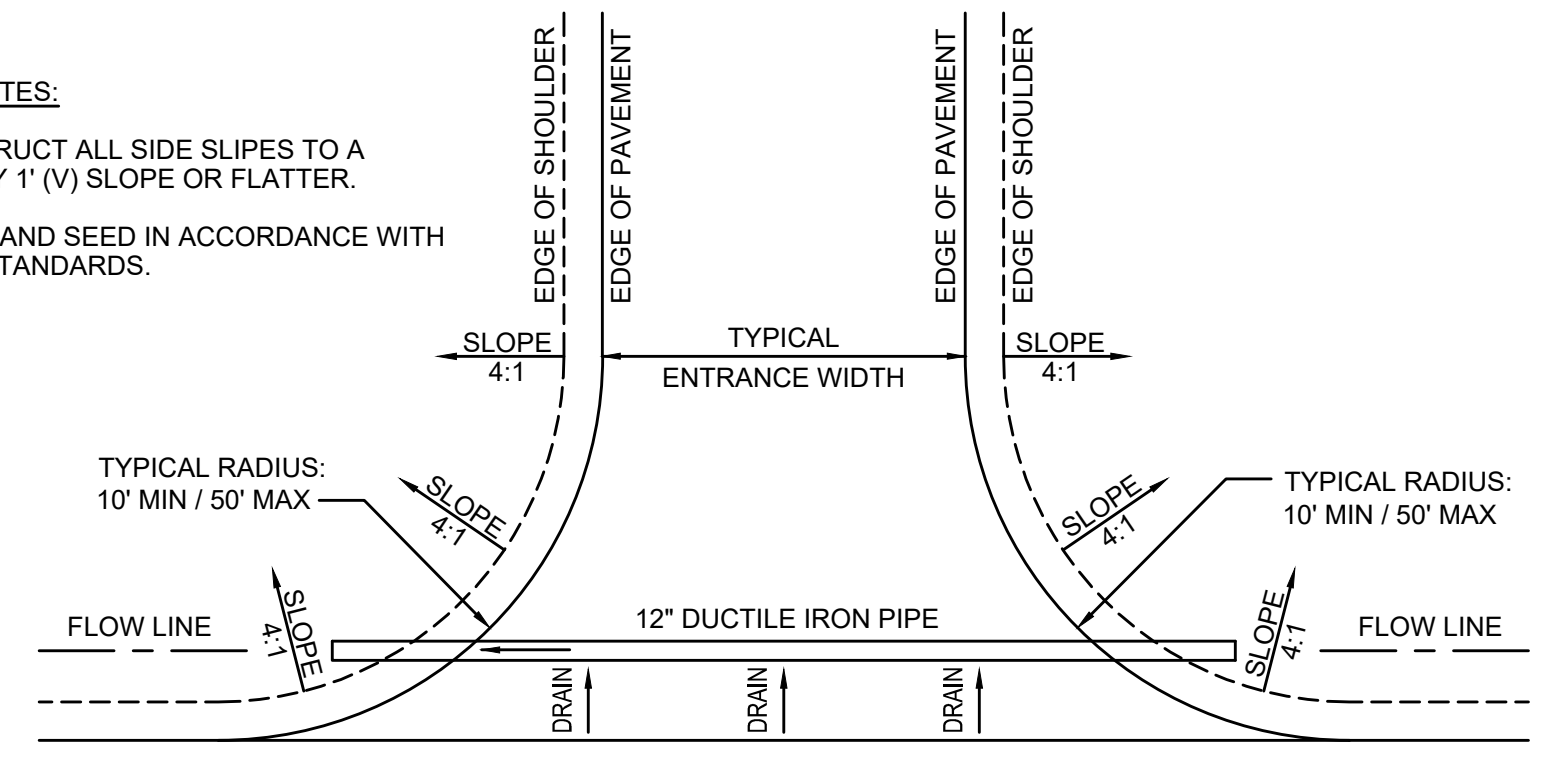


- SPECIAL NOTES:**
- CONSTRUCT ENTRANCE SO THAT ALL RUNOFF WILL DRAIN AWAY FROM ROADWAY AND IS NOT ALLOWED ONTO THE SHOULDER OR DRIVING LANE.
 - DITCHING OR OTHER EXCAVATION MAY BE NECESSARY TO ASSURE PROPER PIPE COVERAGE AND PROVIDE POSITIVE DRAINAGE.
 - MINIMUM DITCH FLOWLINE SLOPE OF 1/2' PER 100'.
 - USE CORRUGATED METAL ENTRANCE PIPE.
 - PIPE SIZE SHALL BE 15-INCH MINIMUM.
 - CONSTRUCT 4:1 AT PIPE ENDS.

TYPICAL APPROACH SECTION
NOT TO SCALE

SPECIAL NOTES:

- CONSTRUCT ALL SIDE SLOPES TO A 4' (H) BY 1' (V) SLOPE OR FLATTER.
- DRESS AND SEED IN ACCORDANCE WITH KYTC STANDARDS.



TYPICAL PIPE SECTION
NOT TO SCALE

COMMERCIAL ENTRANCE DETAIL

EXTERIOR PIPE MATERIAL SCHEDULE			
MARK	PROCESS DESCRIPTION	MATERIAL	REMARKS
AIR	AIR SUPPLY	DIP	DIP SHALL BE UNLINED FOR AIR SUPPLY
BWW	BACKWASH WASTE WATER	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
BWL	BACKWASH LAGOON	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
CE	CLEARWELL EFFLUENT	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
FBW	FILTER BACKWASH WATER	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
FW	FINISHED WATER	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
RW	RAW WATER	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
PRW	PROCESS WATER	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
PTRW	PRE TREATED RAW WATER	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
PW	POTABLE WATER	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35
WMD	WELL MAINTENANCE DISCHARGE	PVC	PRESSURE PIPE = SDR-21 OR C900 DR-18 GRAVITY PIPE = SDR-35

NOTE:

PIPE MATERIAL SCHEDULES **DO NOT** INCLUDE DOMESTIC PLUMBING, AND SANITARY WASTE PIPING.

ALL PIPING UNDER CONCRETE SLAB AND/OR PROTRUDING THROUGH CONCRETE SLAB SHALL BE DUCTILE IRON PIPE

INTERIOR PIPE MATERIAL SCHEDULE			
MARK	PROCESS DESCRIPTION	MATERIAL	REMARKS
AIR	AIR SUPPLY	DIP	DIP SHALL BE UNLINED FOR AIR SUPPLY
BWW	BACKWASH WASTE WATER	DIP	CL. 350
BWL	BACKWASH LAGOON	DIP	CL. 350
CE	CLEARWELL EFFLUENT	DIP	CL. 350
FBW	FILTER BACKWASH WATER	DIP	CL. 350
FW	FINISHED WATER	DIP	CL. 350
RW	RAW WATER	DIP	CL. 350
PRW	PROCESS WATER	SCH. 80 PVC	
PTRW	PRE TREATED RAW WATER	DIP	CL. 350
PW	POTABLE WATER	DIP	CL. 350

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	BY	REVISIONS

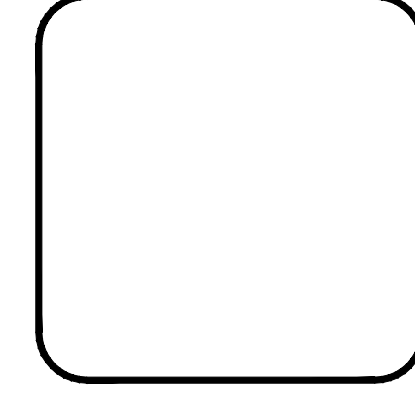
2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS

STANDARD DETAILS - MISCELLANEOUS

SANDY HOOK
WATER DISTRICT
Serving Our Community

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL

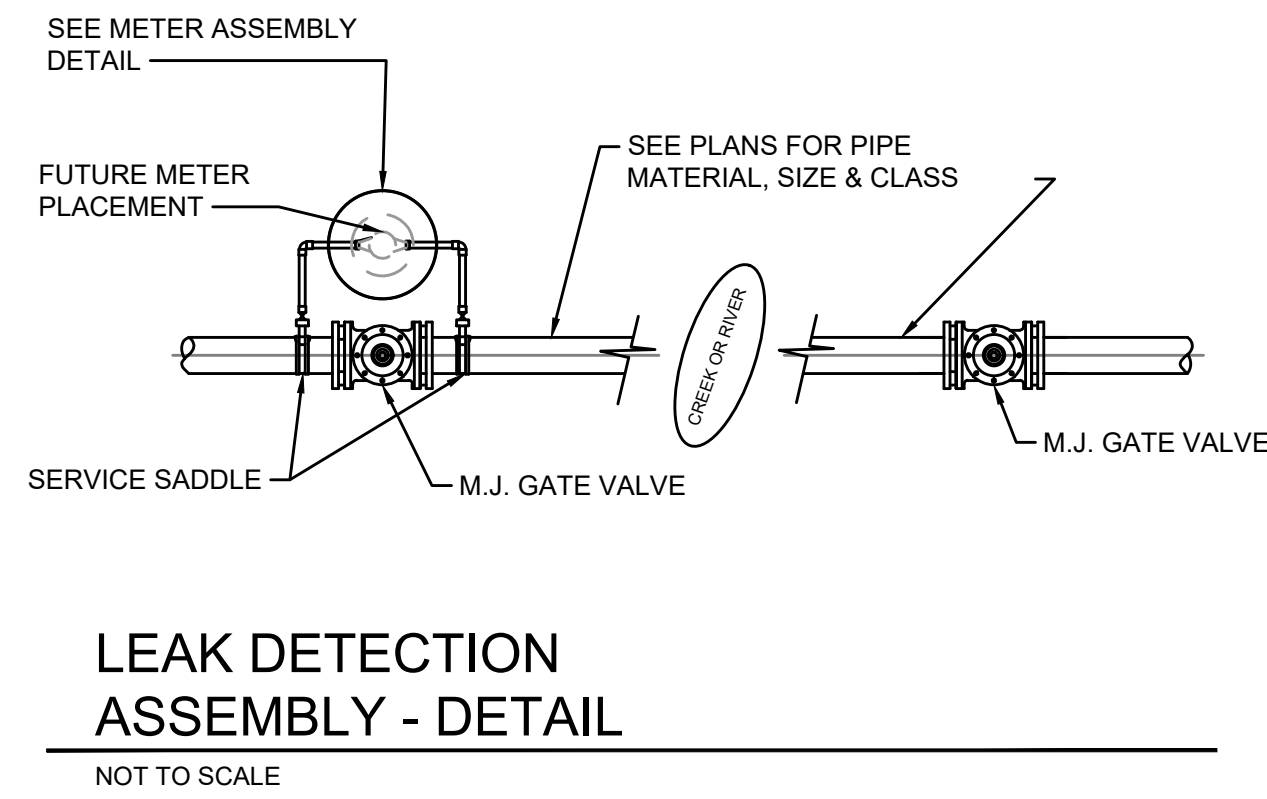


SD-0-02

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 B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-SD-03-02_STANDARD DETAILS - WATERLINES.dwg

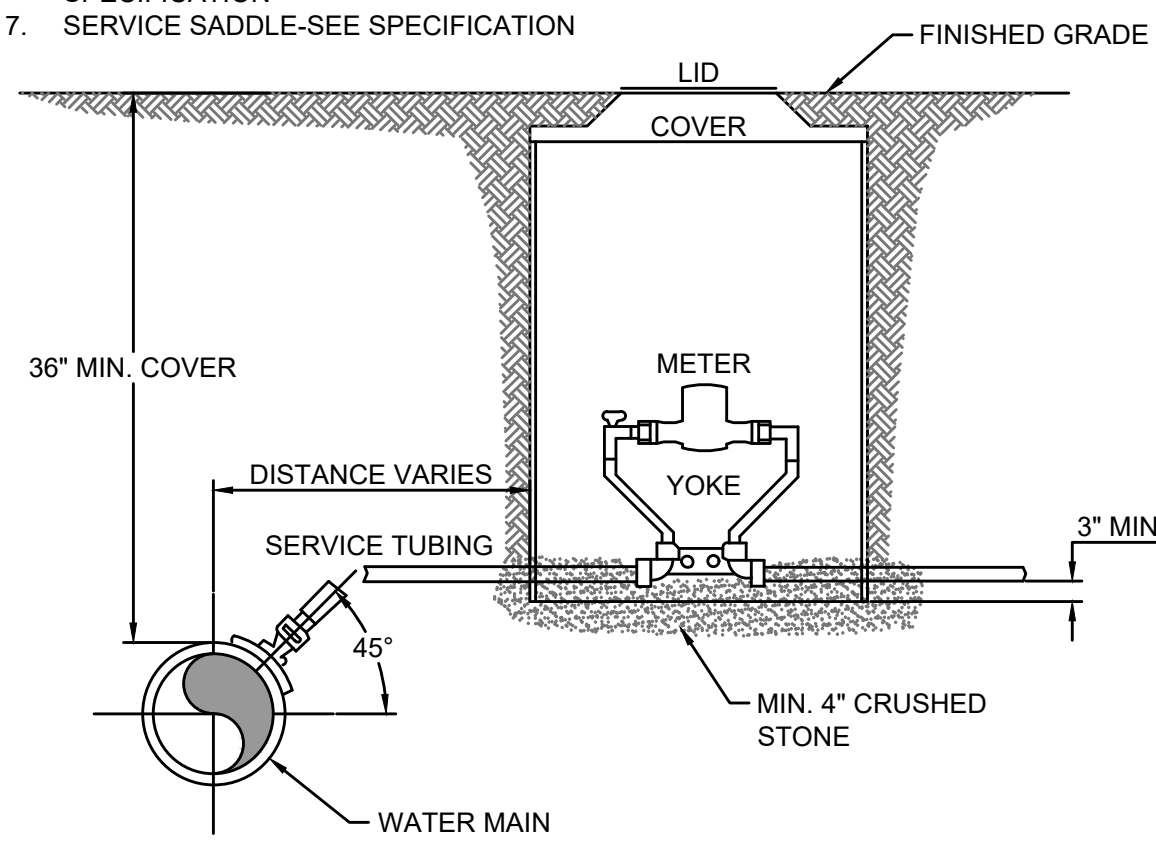


METER MATERIAL SCHEDULE

1. YOKE-SEE SPECIFICATIONS
2. METER BOX-SEE SPECIFICATIONS
3. COVER-SEE SPECIFICATIONS
4. METER-SEE SPECIFICATIONS
5. INDIVIDUAL PRESSURE REDUCING VALVE (IPRV)-SEE SPECIFICATIONS
6. CORPORATION STOP-SEE SPECIFICATION
7. SERVICE SADDLE-SEE SPECIFICATION

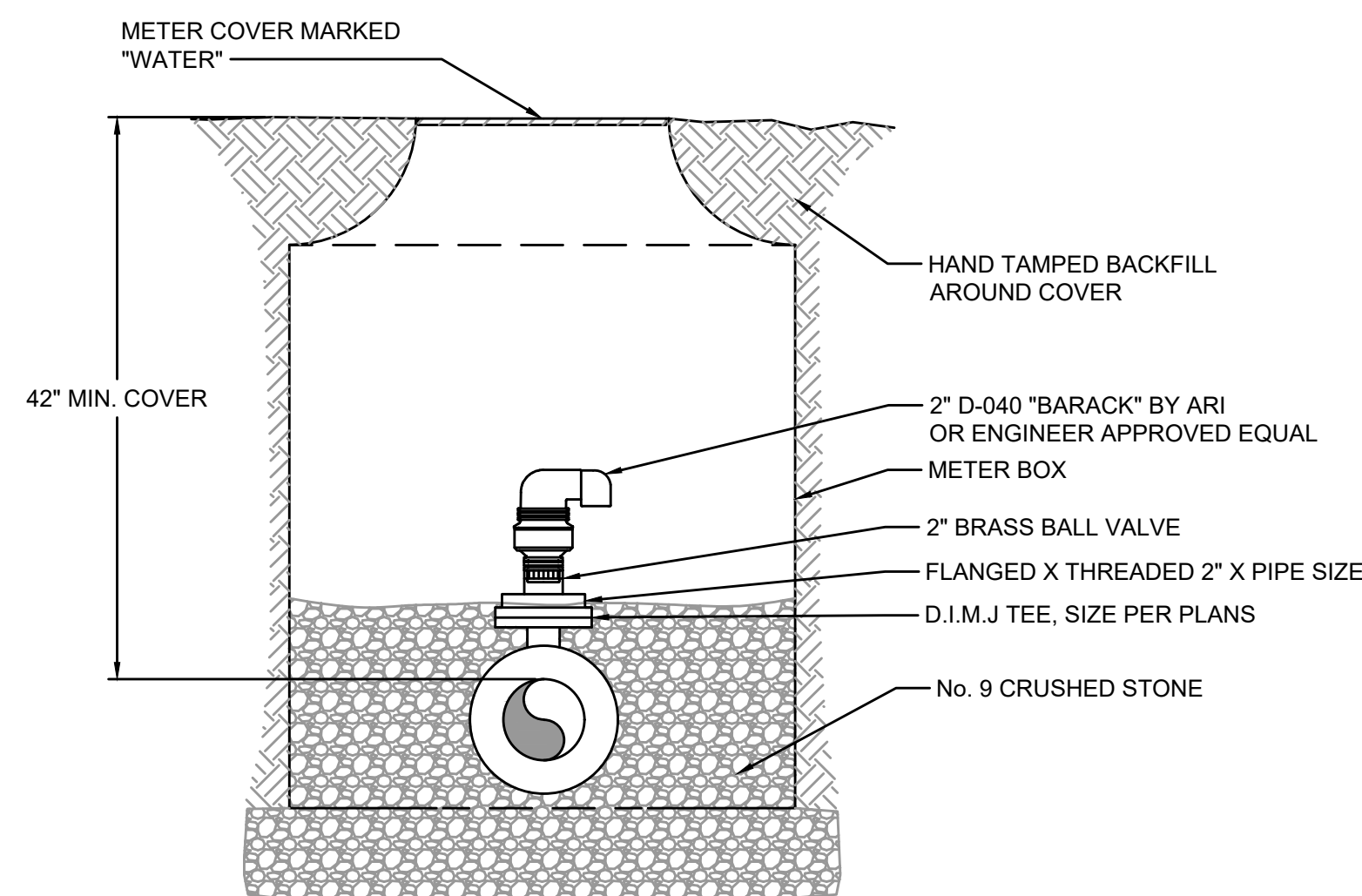
NOTE:

1. CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING PERMITS & ASSOCIATED COSTS.
2. SEE SPECIFICATIONS REGARDING SPECIFIC MAKE, MODEL, TYPE & STYLE OF FITTINGS, METER, METER BOX, COPPER SETTERS, IPRVs, BOX LID, ETC.
3. INDIVIDUAL PRESSURE REDUCING VALVES REQUIRED ON ALL METERS WHERE PRESSURE EXCEEDS 90 PSI.
4. TRACER WIRE TO BE CONNECTED TO WATER MAIN TRACER WIRE AND RAN ON NEW SERVICE TUBING AND TERMINATING IN THE METER BOX.



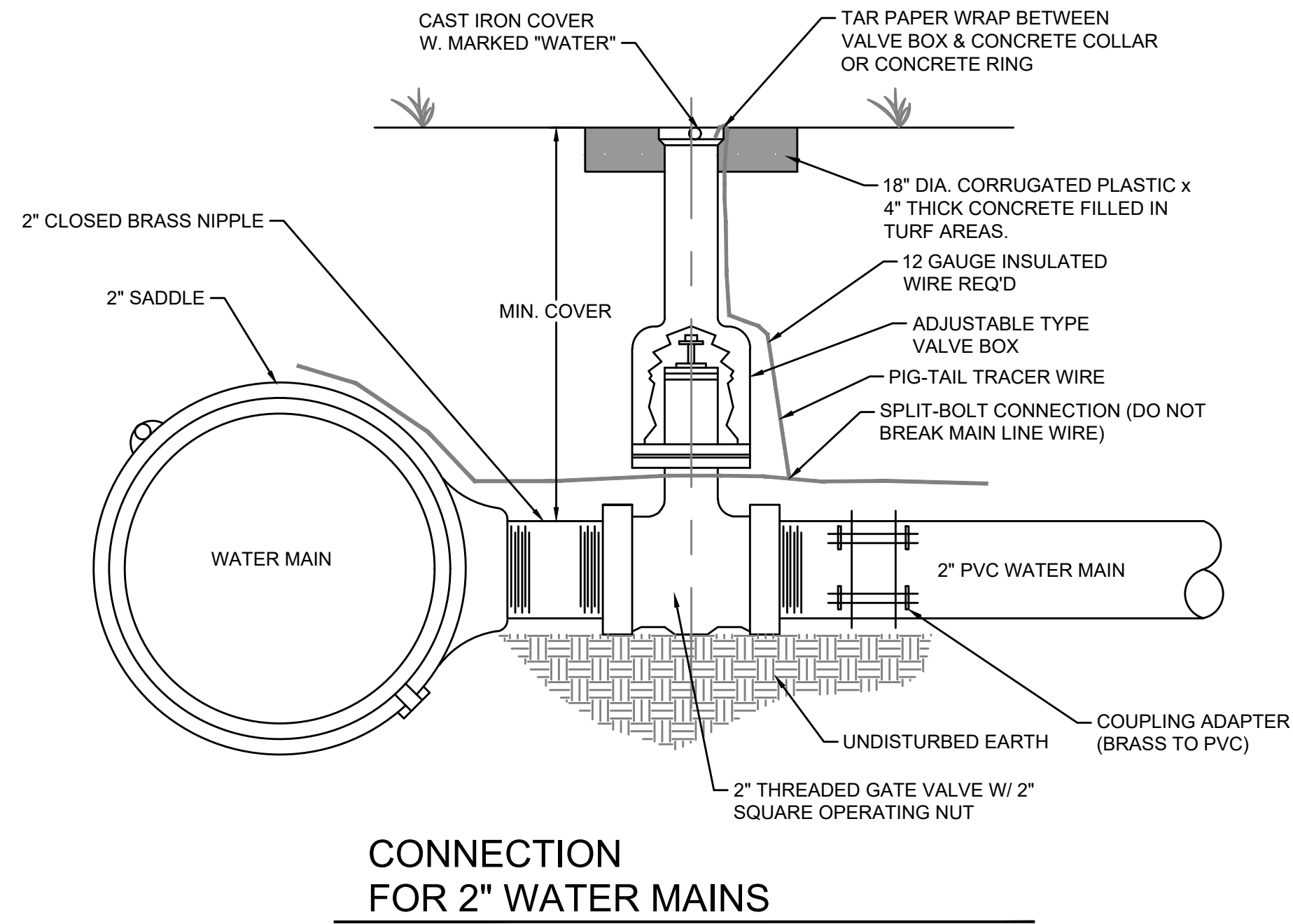
METER ASSEMBLY - DETAIL

NOT TO SCALE



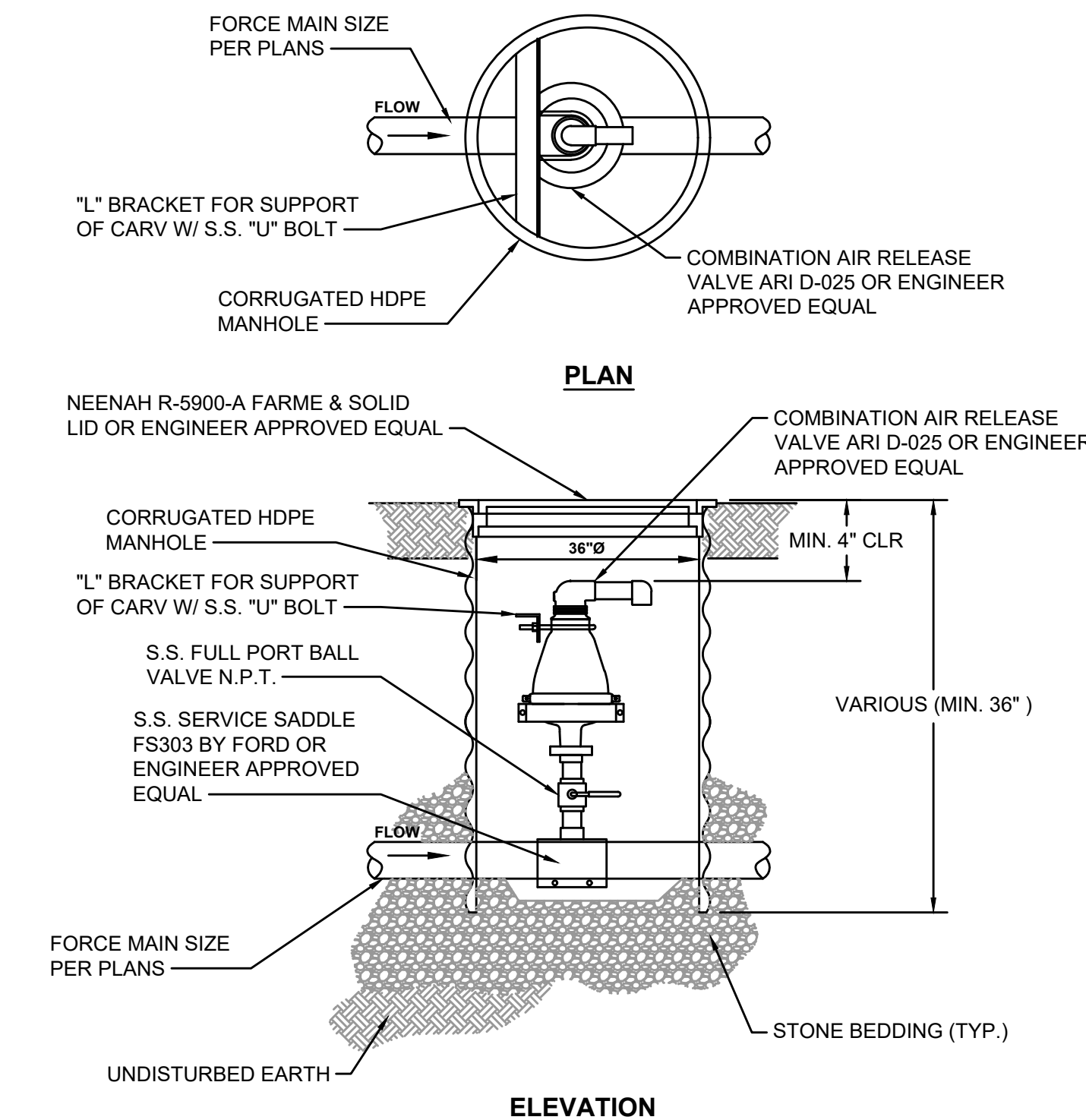
AIR RELEASE VALVE ASSEMBLY WATERLINE ONLY - DETAIL

NOT TO SCALE



CONNECTION FOR 2\"/>

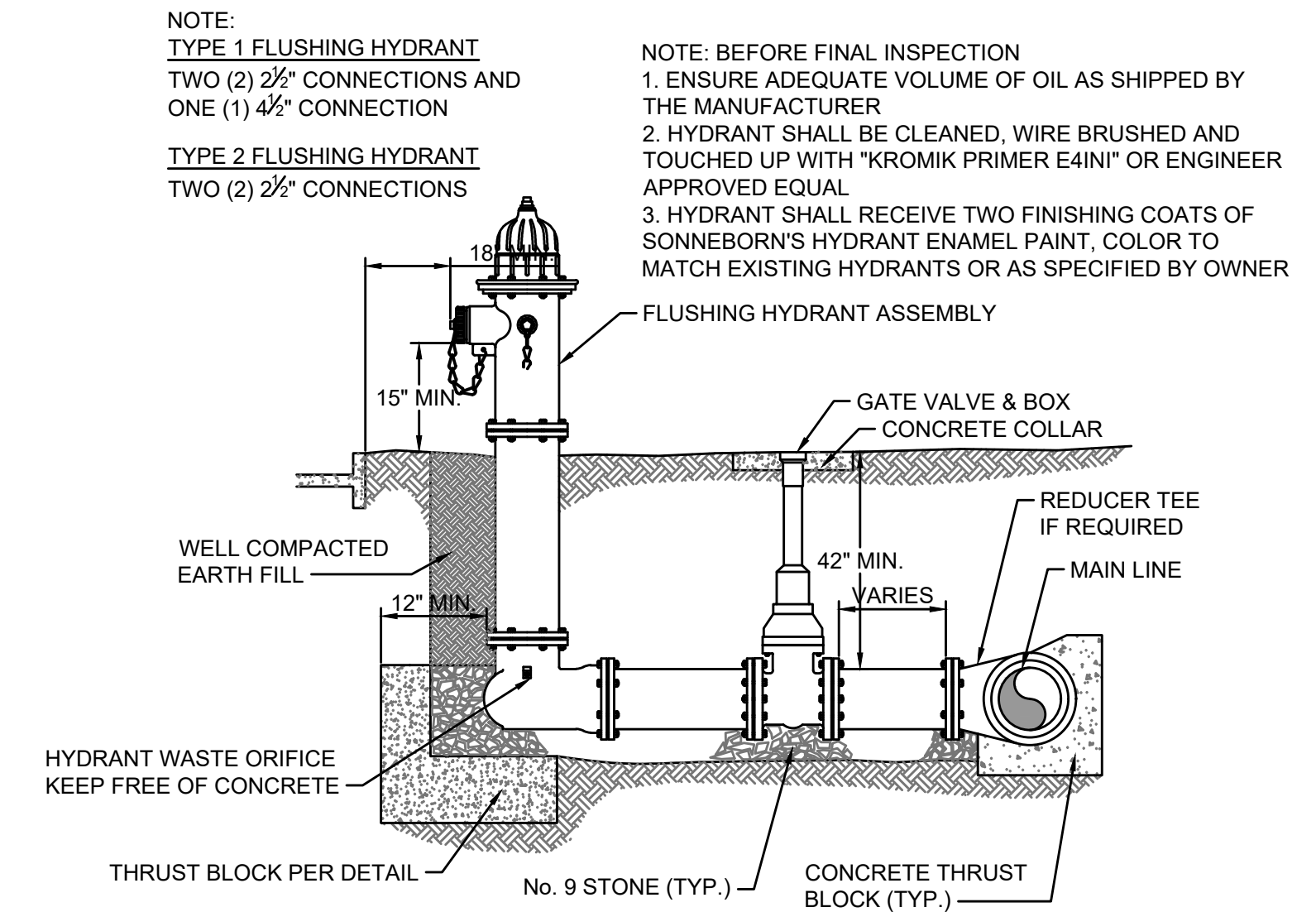
NOT TO SCALE



COMBINATION AIR RELEASE VALVE ASSEMBLY FORCE MAIN ONLY - DETAIL

NOT TO SCALE

SANITARY SEWER AIR & VACUUM RELEASE VALVES SHALL BE A.R.I. MODEL D-025 OR ENGINEER APPROVED EQUAL W/2\"/>



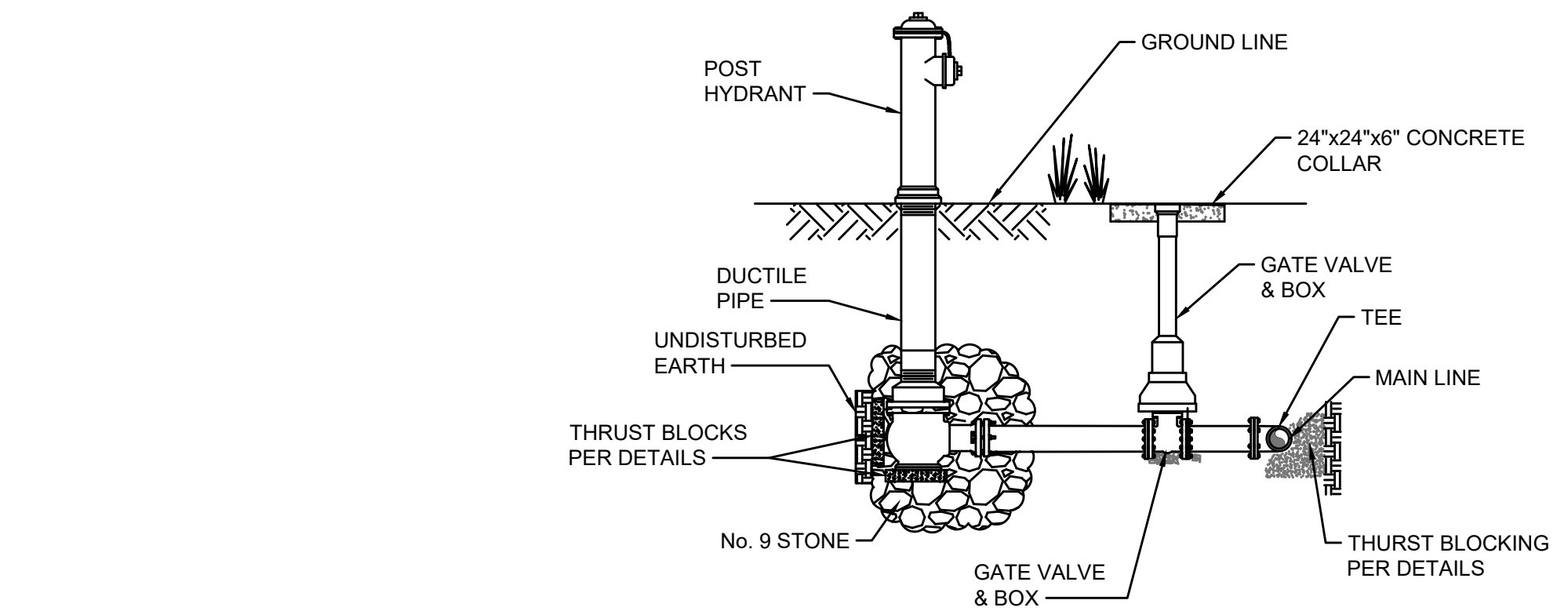
FLUSHING HYDRANT ASSEMBLY TYPE 1 & 2 - DETAIL

NOT TO SCALE

NOTE:
 TYPE 1 FLUSHING HYDRANT
 TWO (2) 2\"/>

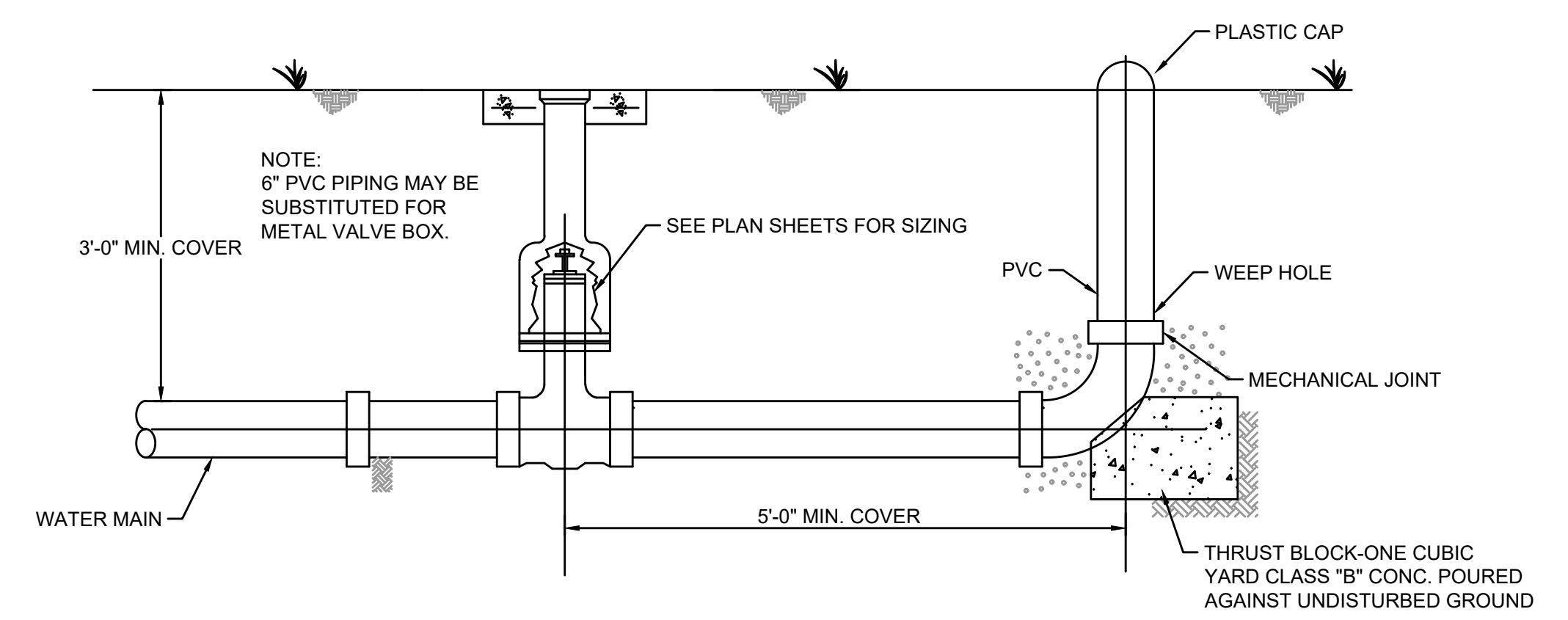
TYPE 2 FLUSHING HYDRANT
 TWO (2) 2\"/>

NOTE: BEFORE FINAL INSPECTION
 1. ENSURE ADEQUATE VOLUME OF OIL AS SHIPPED BY THE MANUFACTURER
 2. HYDRANT SHALL BE CLEANED, WIRE BRUSHED AND TOUCHED UP WITH 'KROMIK PRIMER E4INI' OR ENGINEER APPROVED EQUAL
 3. HYDRANT SHALL RECEIVE TWO FINISHING COATS OF SONNEBORN'S HYDRANT ENAMEL PAINT, COLOR TO MATCH EXISTING HYDRANTS OR AS SPECIFIED BY OWNER



FLUSHING HYDRANT ASSEMBLY, TYPE 3 - DETAIL

NOT TO SCALE



E.O.L. 2\", 3\", OR 4\"/>

NOT TO SCALE

RECORD DRAWINGS

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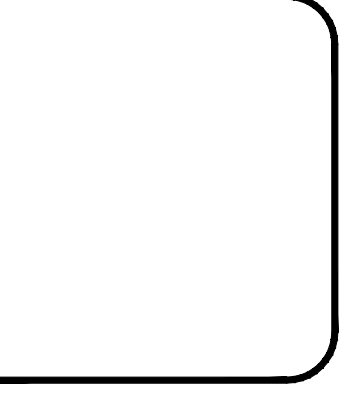
BY: BLUEGRASS ENGINEERING DATE: 06/25

NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 STANDARD DETAILS - WATER LINES

SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
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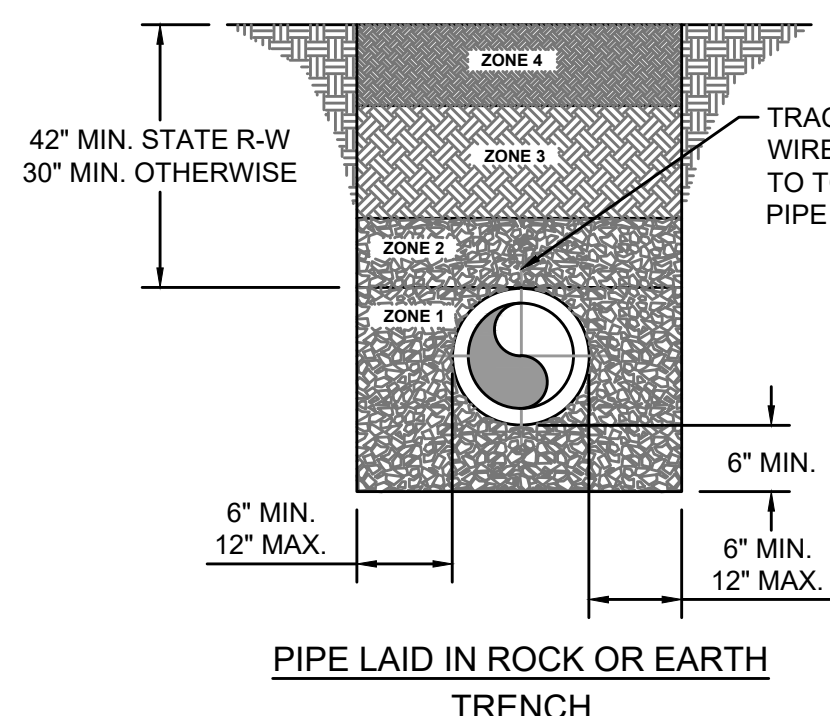
PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



SD-0-03

RECORD DRAWINGS

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 B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-SD-04-Standard Details - PIPELINES.dwg BE 6/16/25



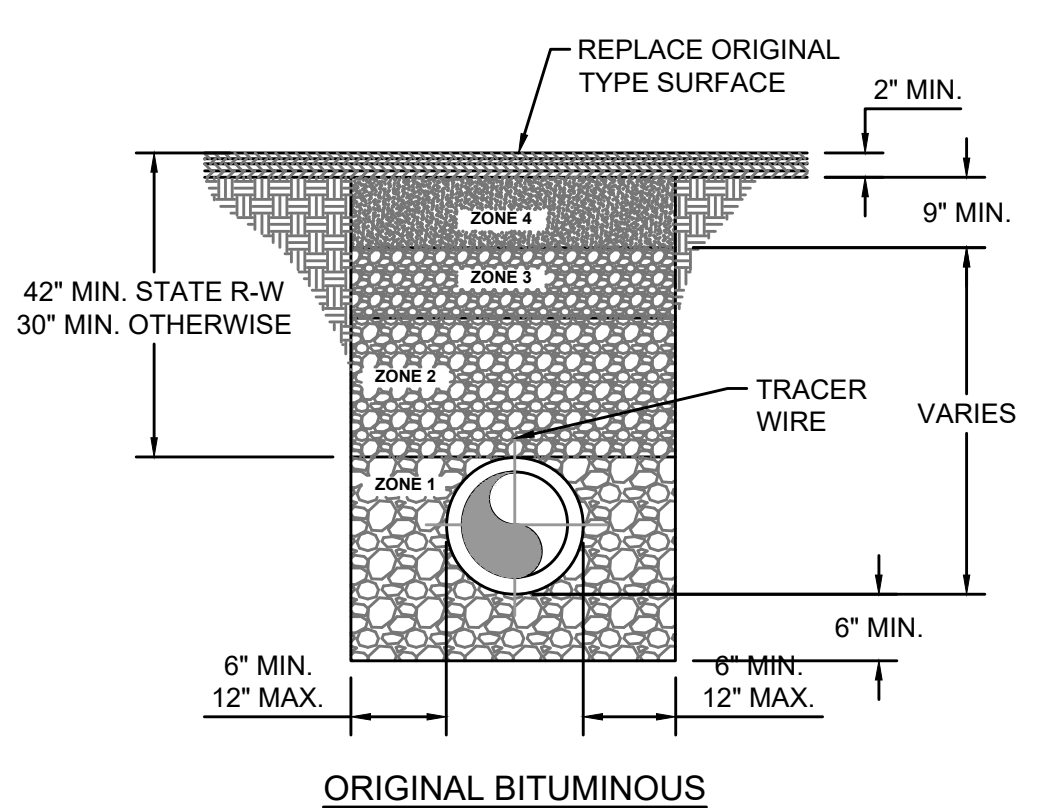
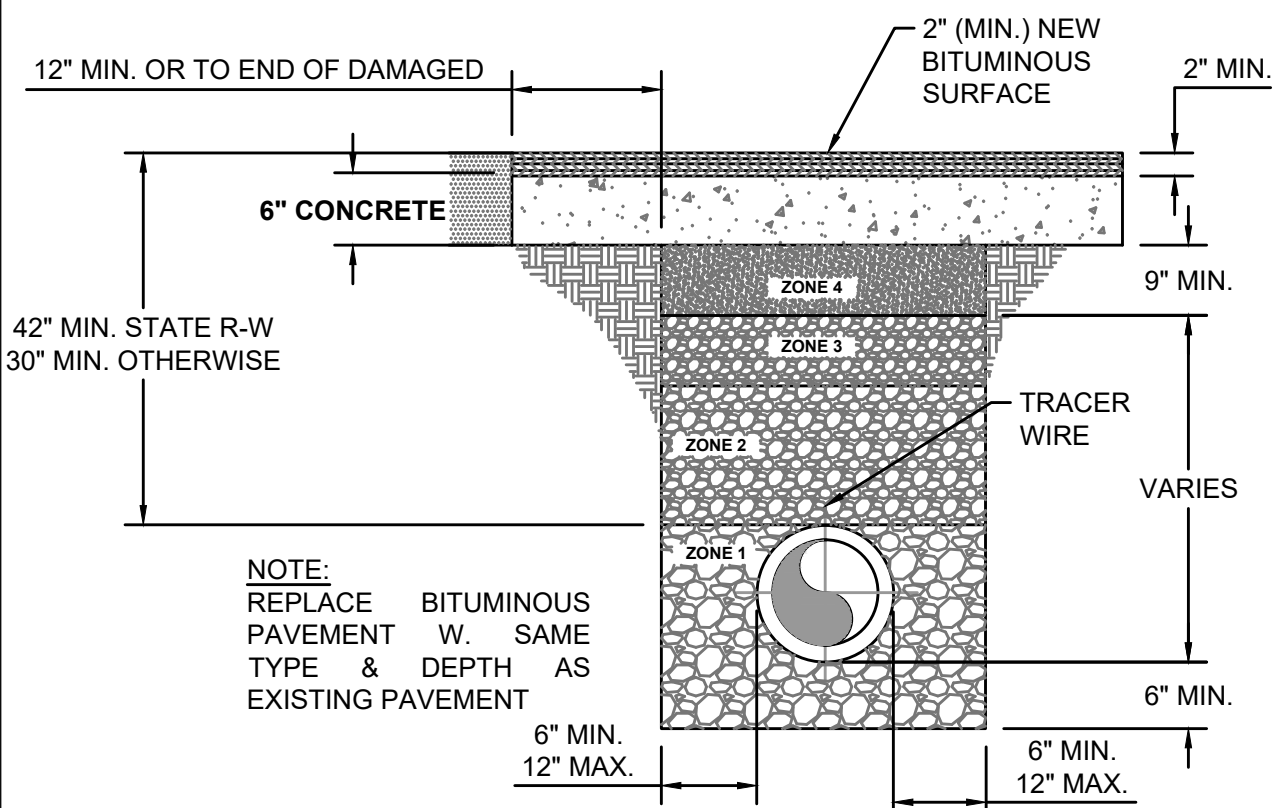
DETAIL NOTES:

- COVER UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
- ZONE 4 - 6" MIN. CONSOLIDATION EARTH BACKFILL INCLUDING TOPSOIL, NO ROCK ALLOWED.
- ZONE 3 - CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER) NO. 9, 57 OR 78 STONE
- ZONE 2 - FROM THE SPRINGLINE OF THE PIPE TO A DISTANCE 12 INCHES ABOVE THE PIPE, THE CONTRACTOR SHALL USE THE SAME MATERIAL AS SPECIFIED FOR BEDDING. COMPACTION IS REQUIRED IN AREAS SUBJECT TO TRAFFIC.
- ZONE 1 - BEDDING MATERIAL, IN EARTH EXCAVATION AREAS, SHALL BE CLEAN EARTH, FREE FROM ROCKS, DEBRIS OR OTHER FOREIGN MATERIAL. THE CONTRACTOR SHALL USE CRUSHED STONE, SAND OR GRAVEL AS BEDDING MATERIAL WHERE ROCK EXCAVATION IS ENCOUNTERED.

THRUST BLOCK SCHEDULE

PIPE SIZE	90° BEND					45° BEND					22 1/2° BEND					11 1/2° BEND					TEE & DEAD ENDS				
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L
4"	3.750	.21	18	30	18	1.750	.10	18	18	14	1.000	.06	18	12	12	.500	.02	12	12	6	2.250	.13	18	18	18
6"	7.000	.39	18	42	24	3.750	.21	18	30	18	2.000	.11	18	24	12	1.000	.04	12	12	6	5.000	.28	18	30	24
8"	12.250	.91	24	42	42	7.500	.56	24	36	30	4.000	.30	24	24	24	2.000	.11	18	24	12	9.000	.67	24	36	36
10"	20.000	1.48	24	60	48	10.500	.78	24	42	36	6.000	.44	24	36	24	3.000	.17	18	24	18	14.000	1.04	24	48	42
12"	30.000	2.78	30	72	60	15.750	1.46	30	54	42	7.500	.69	30	36	30	4.000	.30	24	24	24	20.000	1.85	30	60	48
14"	39.000	4.33	36	78	72	20.000	2.22	36	60	48	10.500	1.17	36	42	36	6.000	.56	30	36	24	27.500	3.06	36	66	60
16"	49.000	6.35	42	84	84	27.500	3.56	42	66	60	14.000	1.81	42	48	42	7.500	.83	36	36	30	37.750	4.63	42	78	66

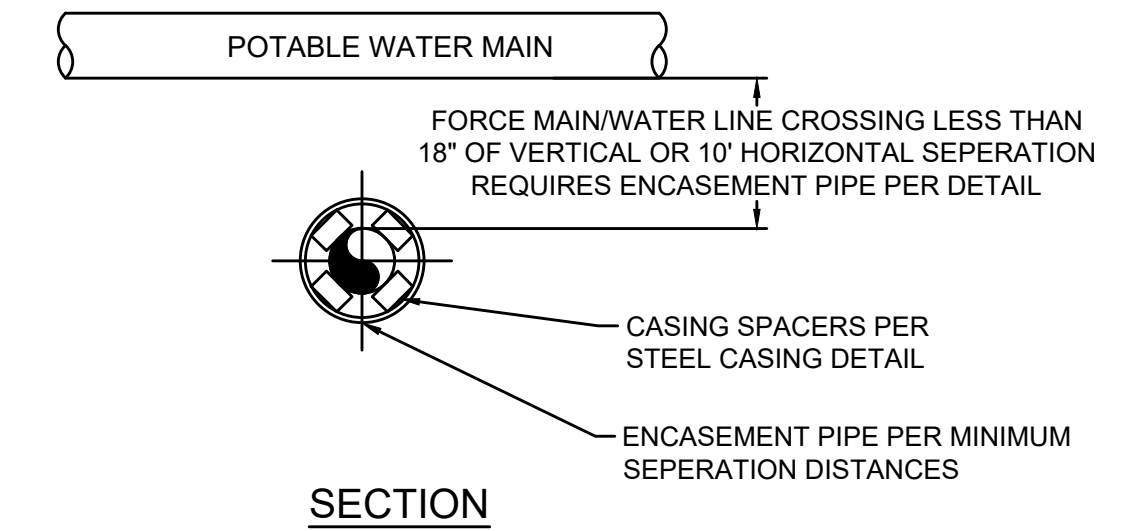
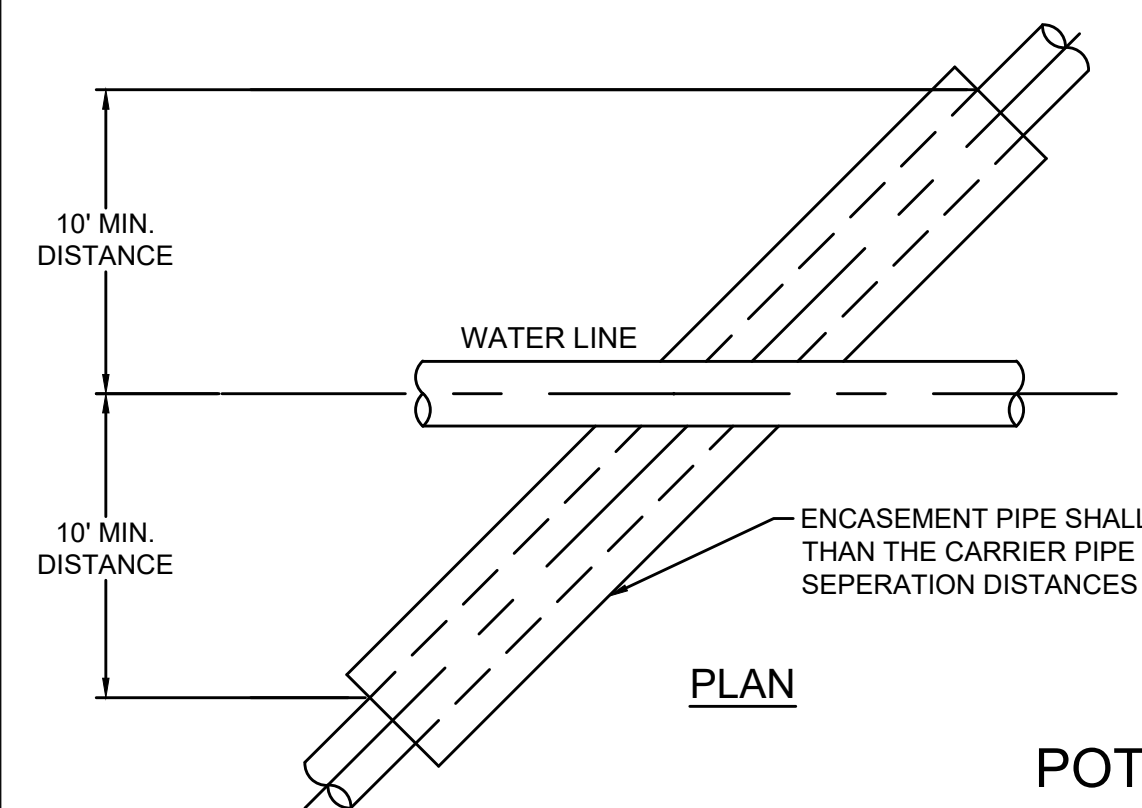
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 BY: BLUEGRASS ENGINEERING DATE: 06/25



ZONE 4 - COMPACTED DGA
 ZONE 3 - NO. 9, 57, OR 78 STONE
 ZONE 2 - 12" MIN. NO. 9 STONE
 ZONE 1 - NO. 9 STONE

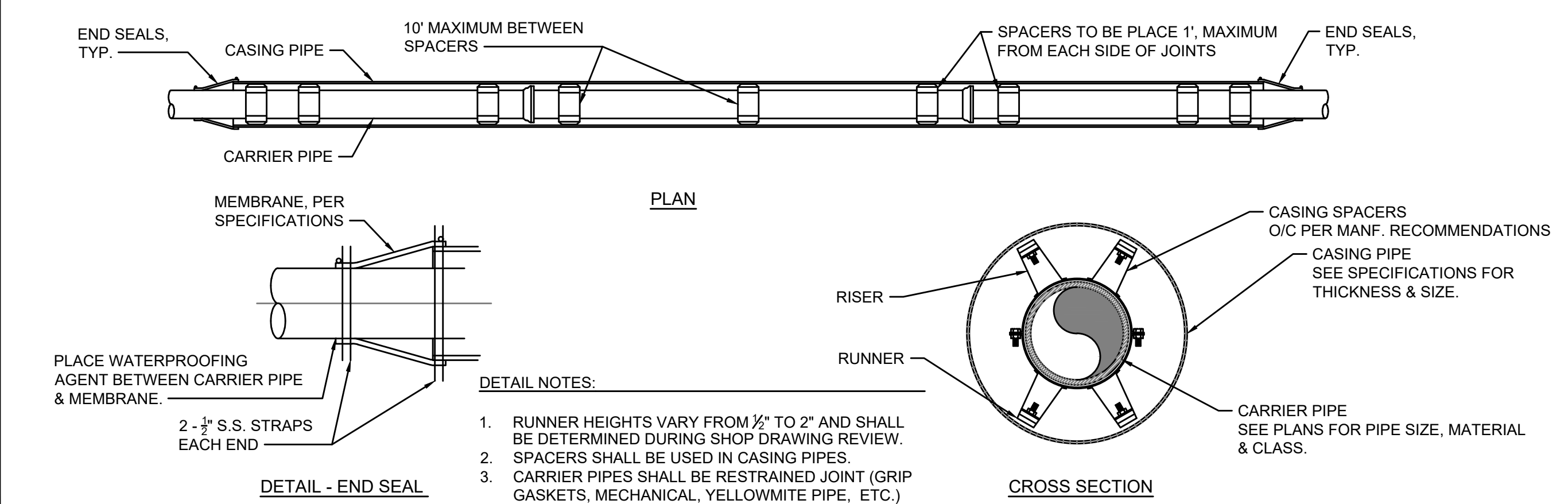
PIPE BACKFILL - DETAIL

NOT TO SCALE



POTABLE WATER LINE & FORCE MAIN CROSSING - DETAIL

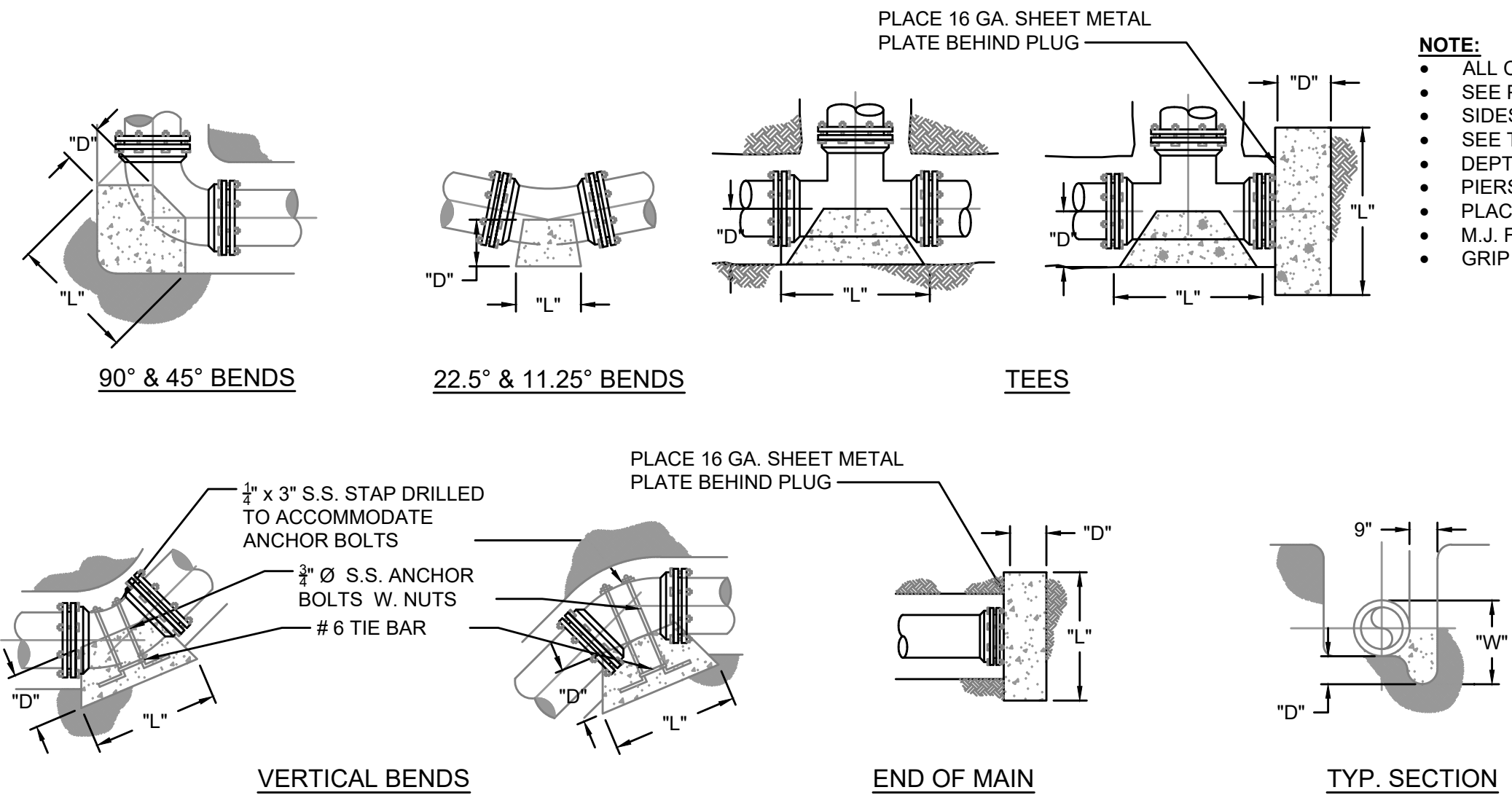
NOT TO SCALE



- DETAIL NOTES:**
- RUNNER HEIGHTS VARY FROM 1/2" TO 2" AND SHALL BE DETERMINED DURING SHOP DRAWING REVIEW.
 - SPACERS SHALL BE USED IN CASING PIPES.
 - CARRIER PIPES SHALL BE RESTRAINED JOINT (GRIP GASKETS, MECHANICAL, YELLOWMITE PIPE, ETC.)

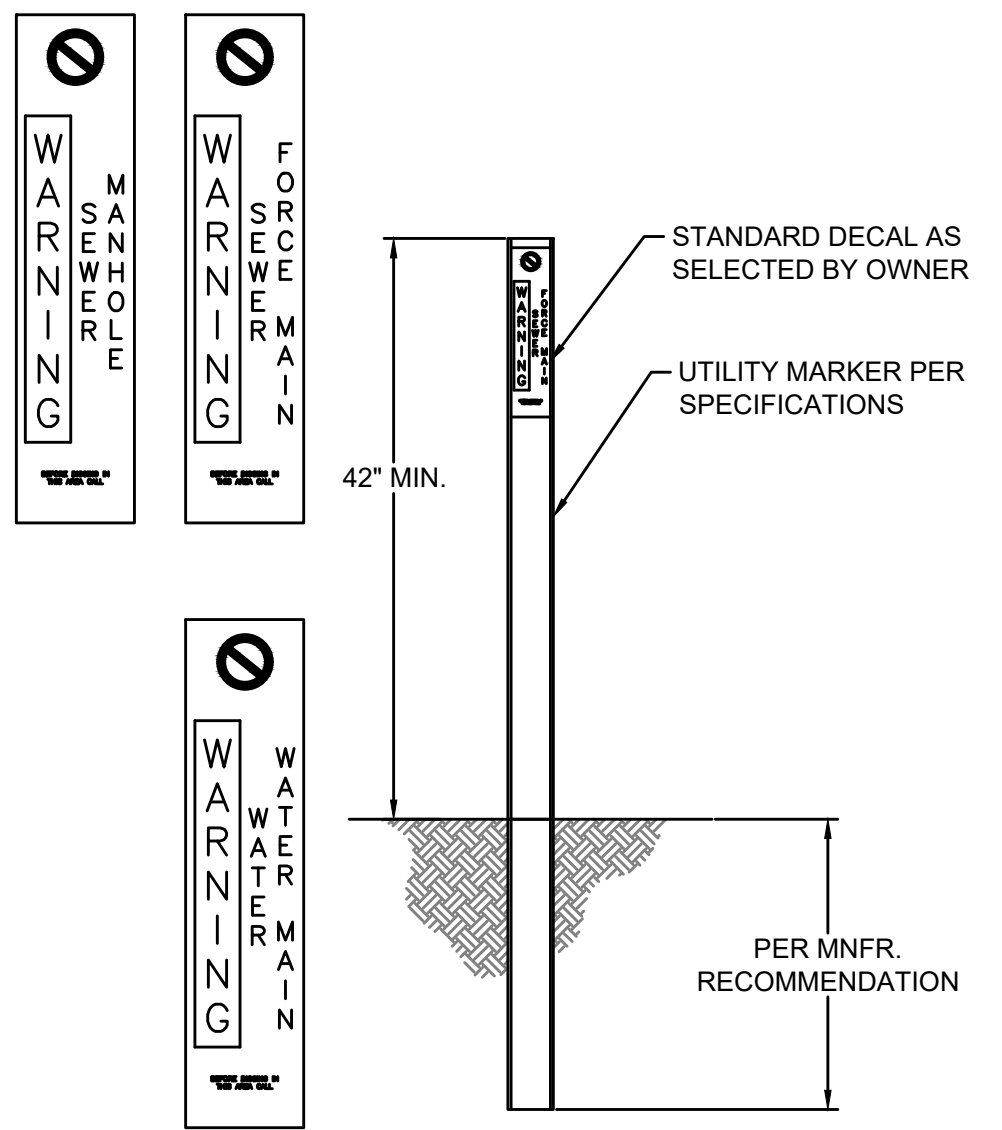
CASING - DETAIL

NOT TO SCALE



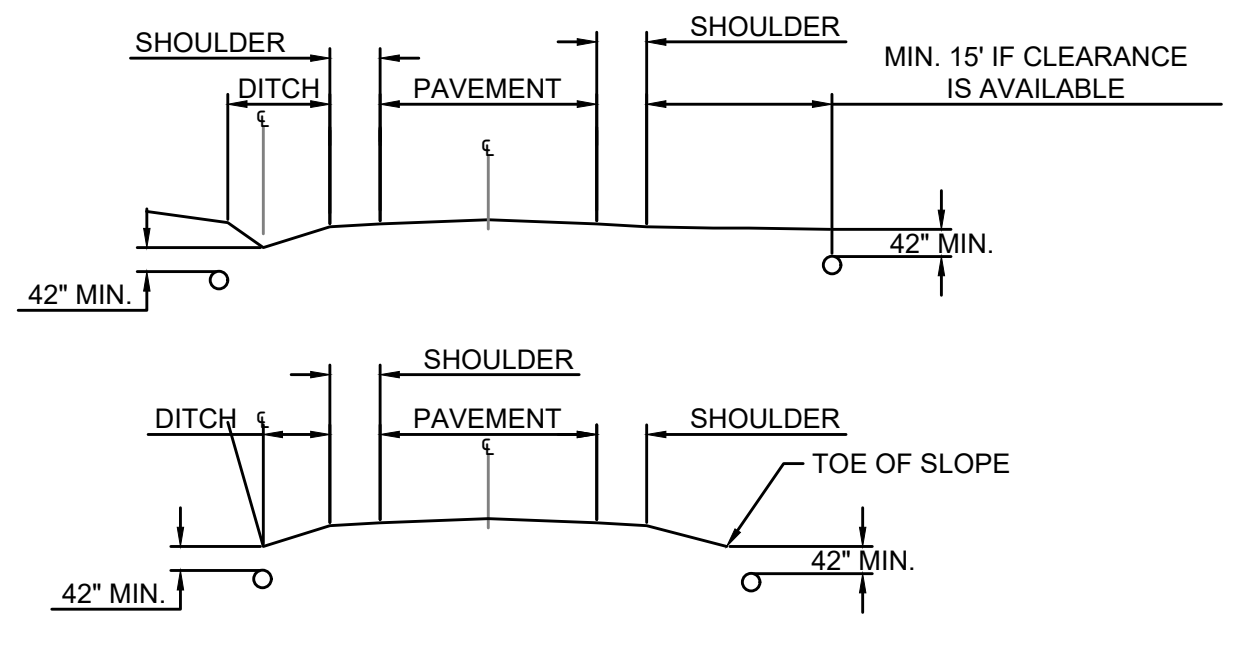
CONCRETE THRUST BLOCK - DETAIL

NOT TO SCALE



UTILITY MARKER - DETAIL

NOT TO SCALE



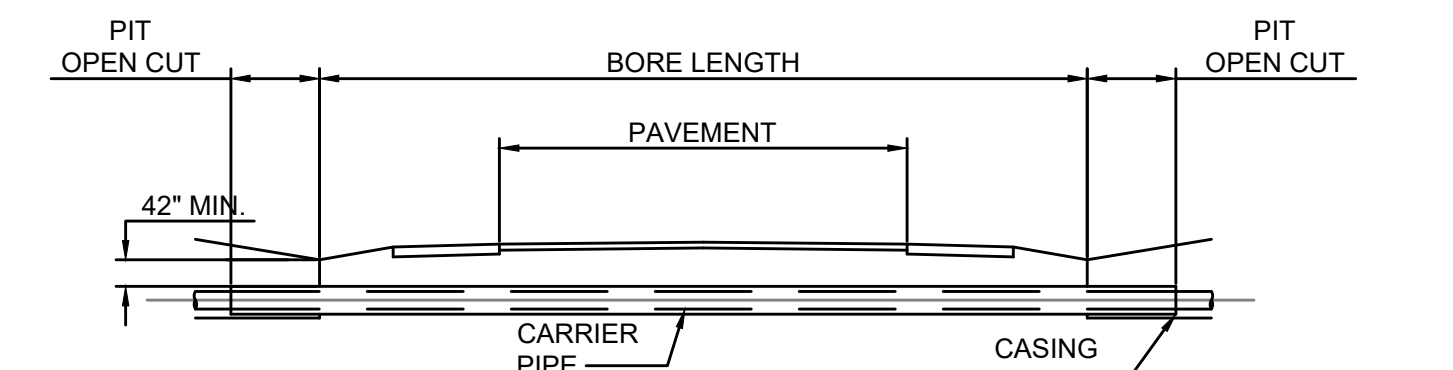
UTILITY PIPELINE WITHIN KTC ROW - DETAIL

NOT TO SCALE

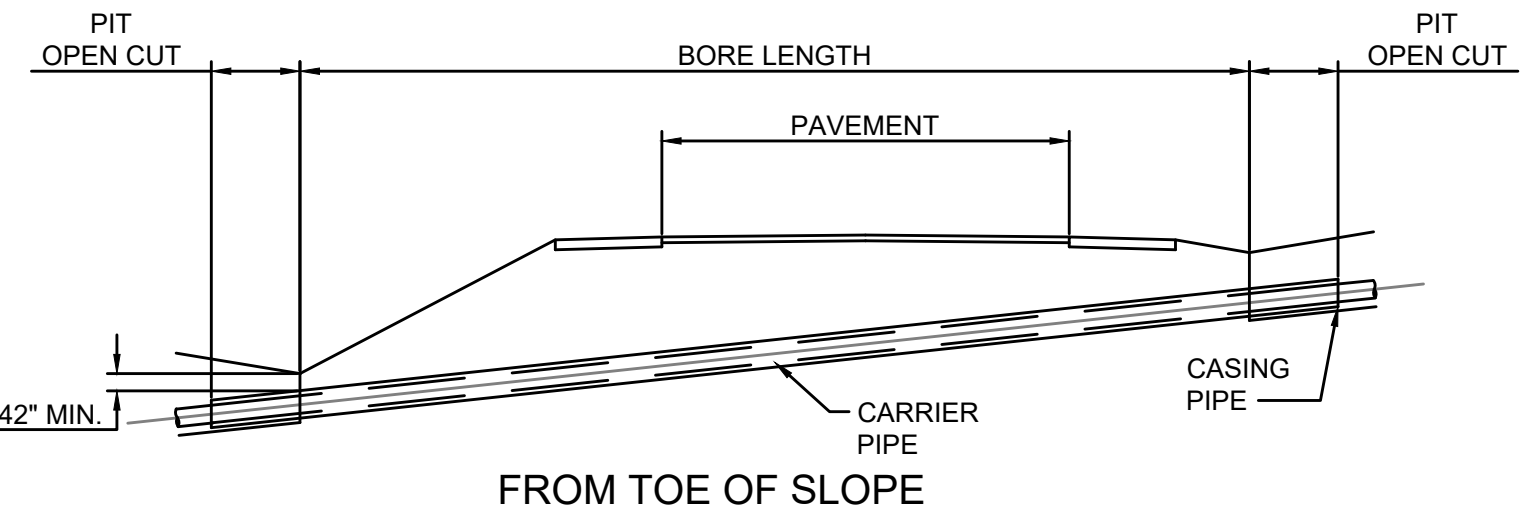
- NOTE:**
- ALL CONCRETE SHALL BE A MIN. OF 3,500 PSI
 - SEE PLAN SHEETS FOR SIZE, MATERIAL & LOCATION OF PIPE.
 - SIDES OF ALL TRENCHES TO BE UNDISTURBED SOIL.
 - SEE THIS SHEET FOR BACK FILL DETAILS.
 - DEPTH 'D' MAY NOT BE SMALLER THAN SPECIFIED.
 - PIERS SHALL BE PLACED AGAINST UNDISTURBED SOIL.
 - PLACE CONCRETE ANCHORS 25' C/C.
 - M.J. FITTING(S) SHALL BE WRAPPED IN PLASTIC WRAP
 - GRIP RINGS SHALL BE USED ON ALL FITTINGS

NOTE:

- ALL JOINTS OF STEEL CASING SHALL BE SOLIDLY WELDED. END OF CASING SHALL BE SEALED AFTER LINE HAS BEEN INSTALLED AND TESTED.
- MINIMUM DEPTHS MAY INCREASE IN AREAS WHICH REQUIRE MINIMUM SEPARATION WITH OTHER FACILITIES.
- OPEN TRENCH NO CLOSER THAN THE DITCHLINE OR TOE OF FILL FROM THE EDGE OF THE PAVEMENT OR AS DIRECTED BY THE SPECIFICATIONS.
- HIGHWAY CROSSINGS SHALL UTILIZE STEEL CASING PIPE. STEEL CASING PIPES WALL THICKNESS & DIAMETER PER SPECIFICATIONS. ALL BORED AND JACKED ENCASEMENT PIPE SHALL BE INSTALLED IN BORE HOLES NO LARGER THEN THE OUTSIDE DIA-METER OF THE ENCASEMENT PIPE.
- SEE CASING SPACER DETAIL FOR PLACEMENT OF SPACER.



OFFSET FROM EDGE OF PAVEMENT



KTC CROSSING - DETAIL

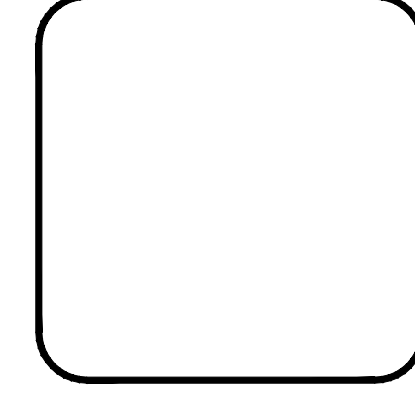
NOT TO SCALE

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 STANDARD DETAILS - PIPE LINES

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
 Serving Our Community

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



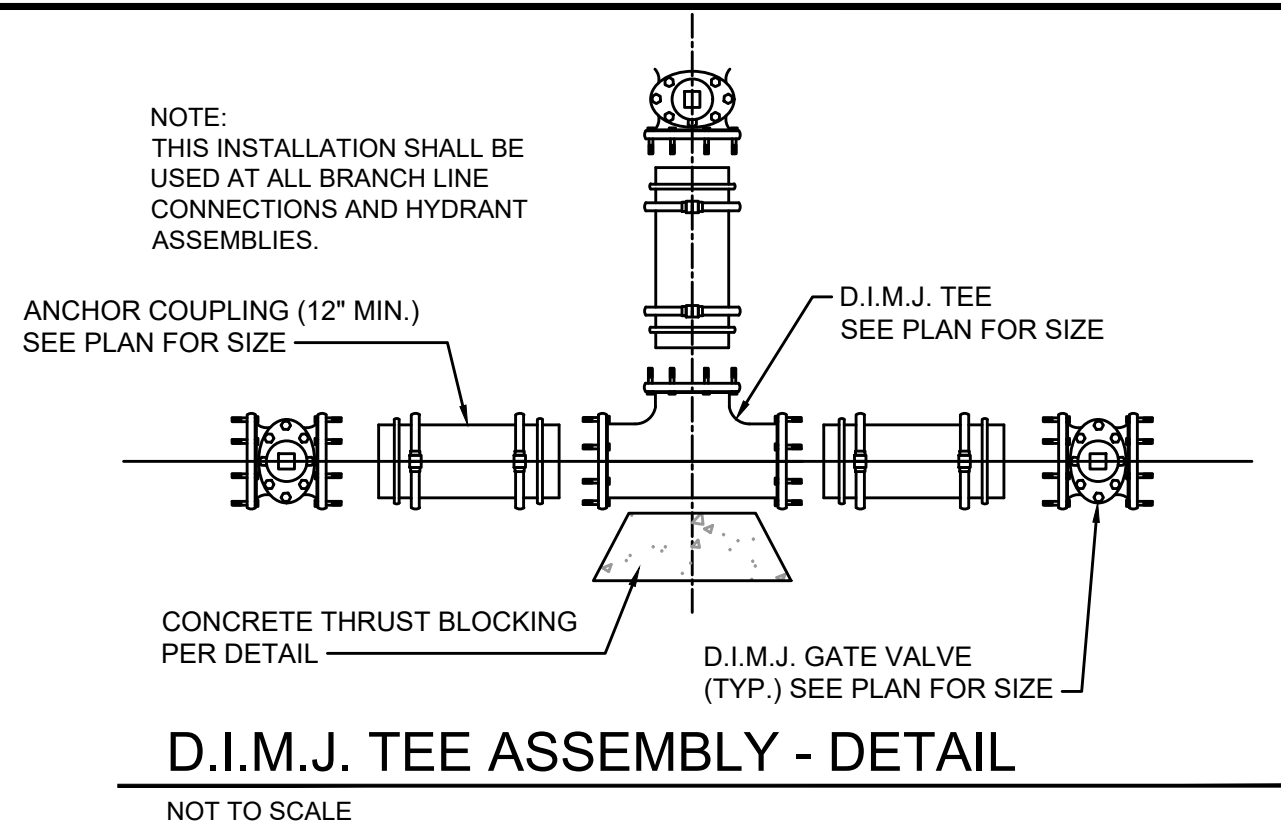
SD-0-04

RECORD DRAWINGS

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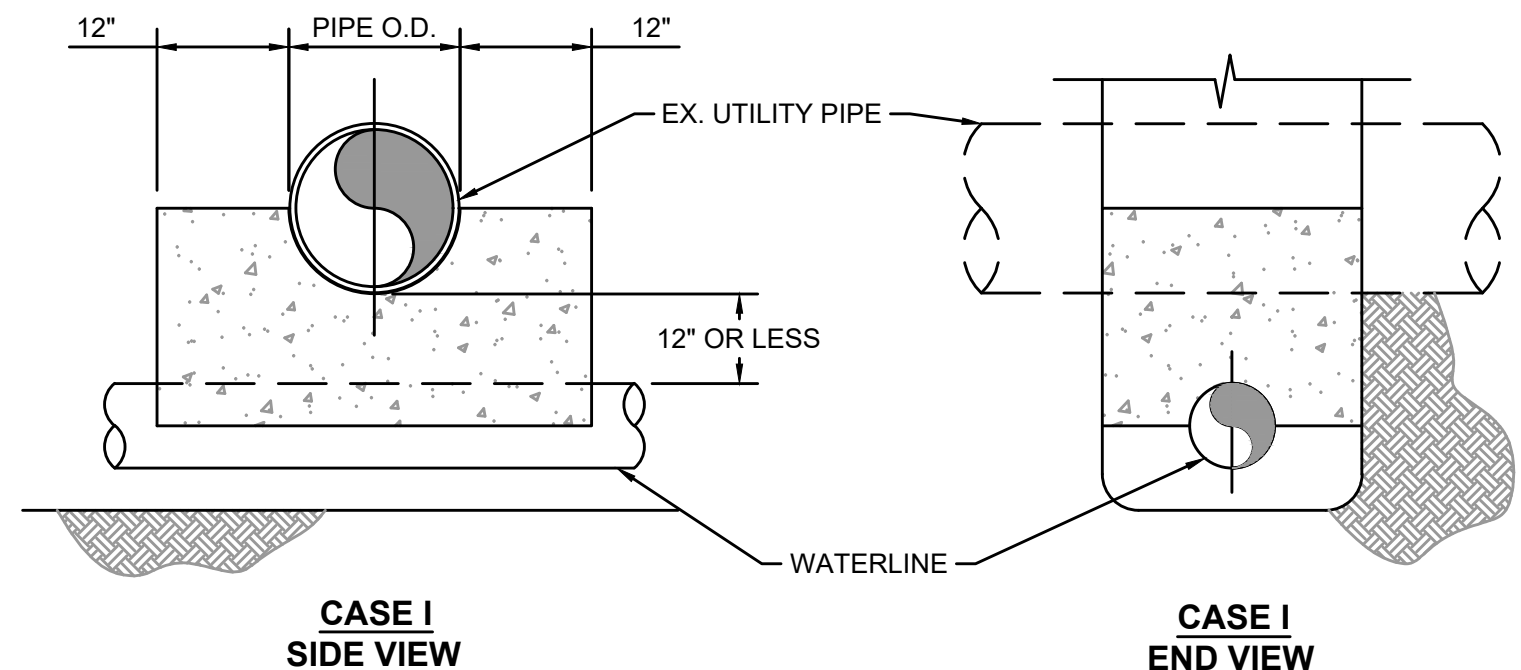
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D.I.M.J. TEE ASSEMBLY - DETAIL

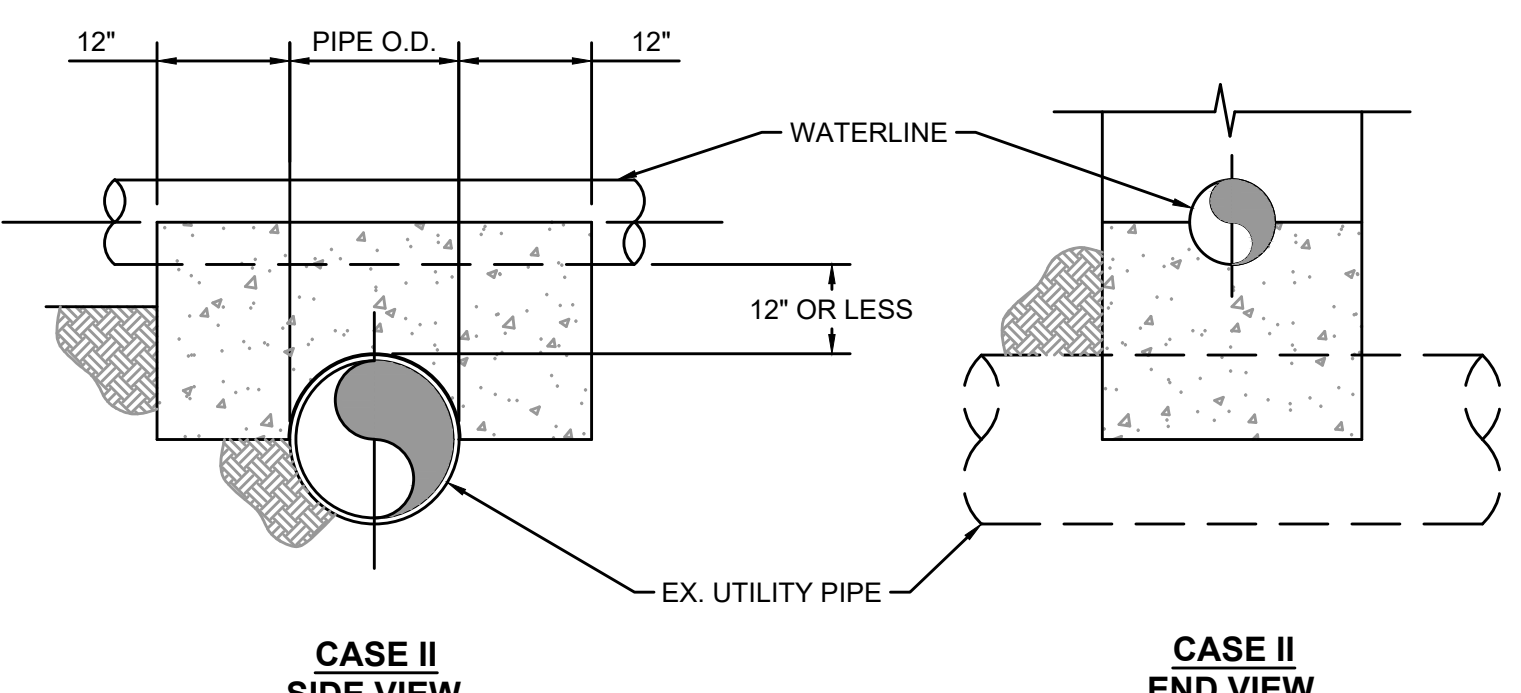
NOT TO SCALE

- NOTES:
1. THIS DETAIL IS ONLY FOR NON-CONTAMINATE PIPE/CONDUIT. UTILITY PIPE IS DEFINED AS WATER, NATURAL GAS, TELEPHONE, ELECTRICAL CONDUITS OR STORM SEWER.
 2. IF "UTILITY PIPE" IS A SANITARY SEWER PIPE (FORCE MAIN OR GRAVITY) SEE DETAIL FOR POTABLE WATER & FORCE MAIN CROSSING.
 3. CONCRETE SEPARATOR SHALL BE USED WHEN CLEARANCE BETWEEN NEW WATERLINE & EXISTING UTILITY PIPE/CONDUIT IS LESS THAN 12".



CASE I SIDE VIEW

CASE I END VIEW



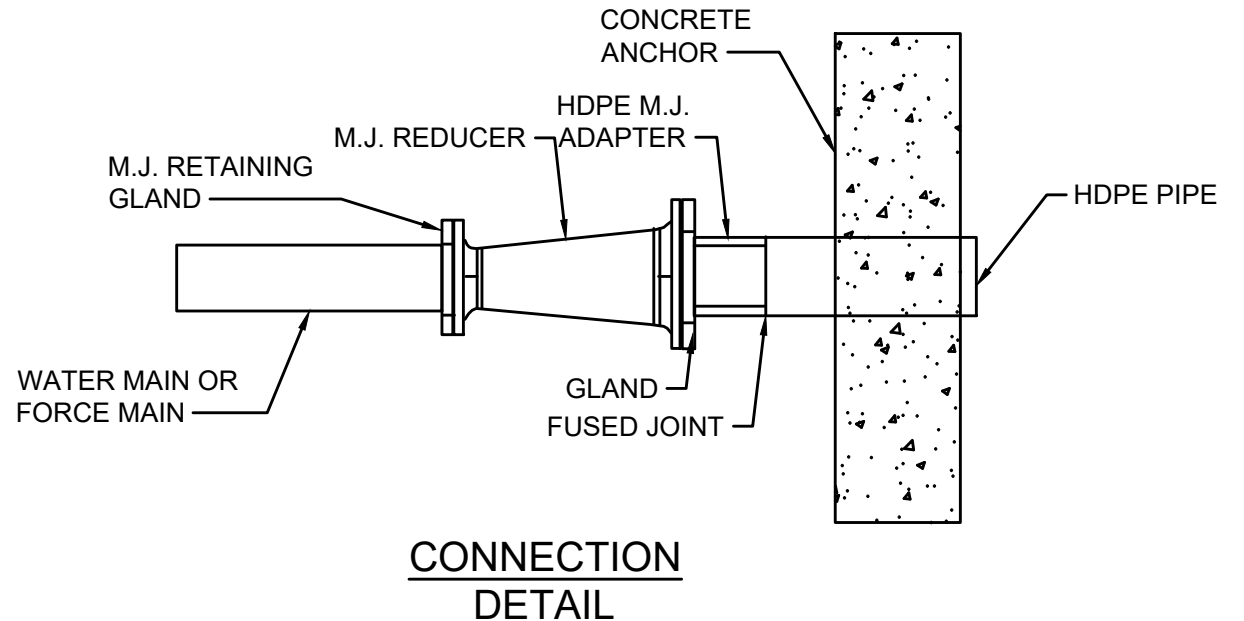
CASE II SIDE VIEW

CASE II END VIEW

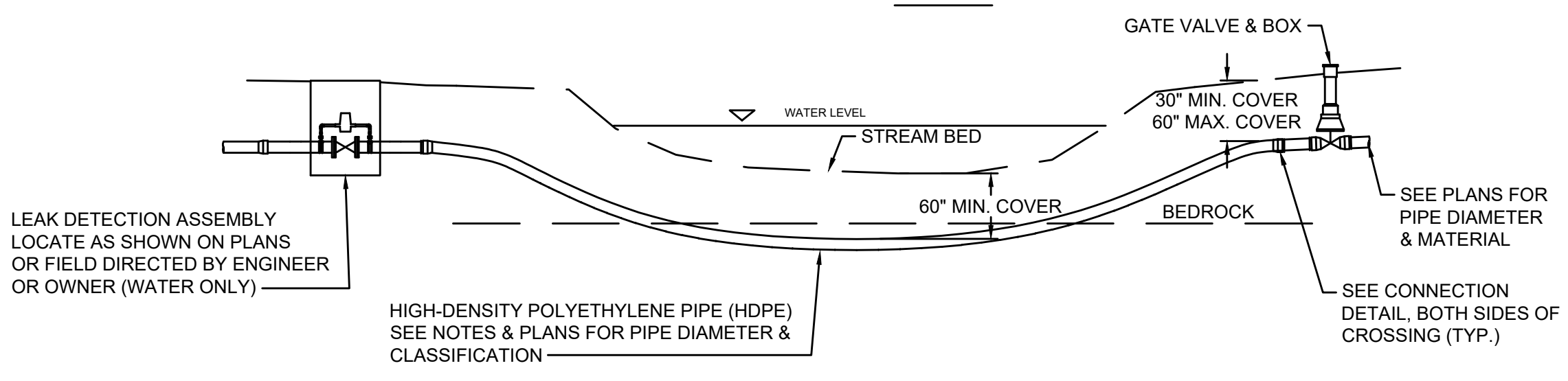
UTILITY CROSSING CONCRETE ASSEMBLY - DETAIL

NOT TO SCALE

- NOTES:
1. CONNECTION OF THE HDPE TO THE PVC OR DUCTILE IRON WATERLINE SHALL BE NO DEEPER THAN 5 FEET FROM THE GROUND ELEVATION.
 2. DIRECTIONAL BORE SHALL BE MADE IN BED ROCK WITH A MIN DEPTH OF 36".
 3. WHEN USING HDPE THE PIPE SHALL BE SIZED UP ONE PIPE SIZE TO ALLOW THE I.D. OF THE HDPE TO EQUAL THE I.D. OF THE CONNECTING PIPE.
 4. SEE PLANS FOR PIPE LOCATION, MATERIAL & SIZE.
 5. USE ANGLED FITTINGS AS NECESSARY TO MAKE CONNECTION BETWEEN PIPES.

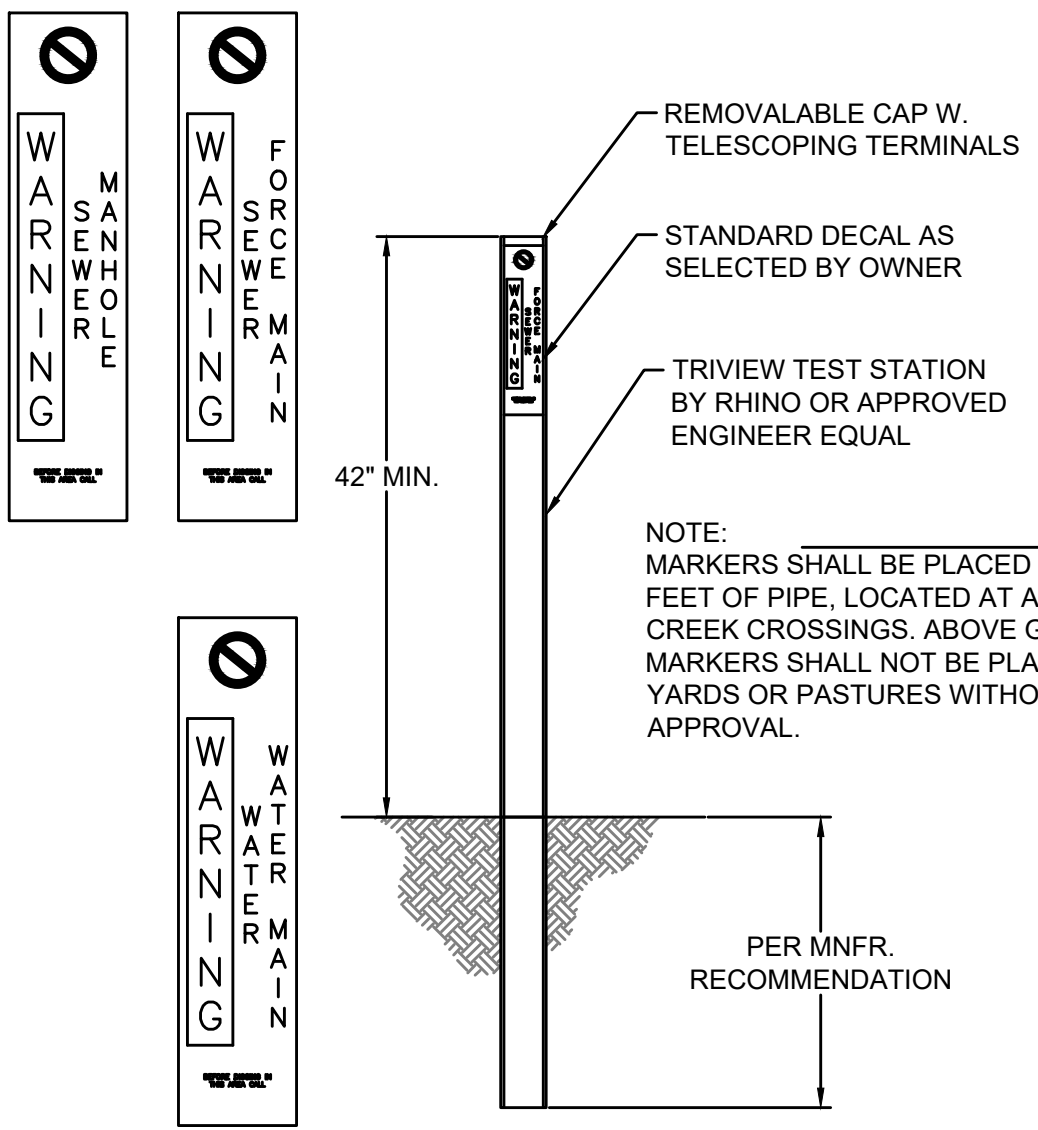


CONNECTION DETAIL



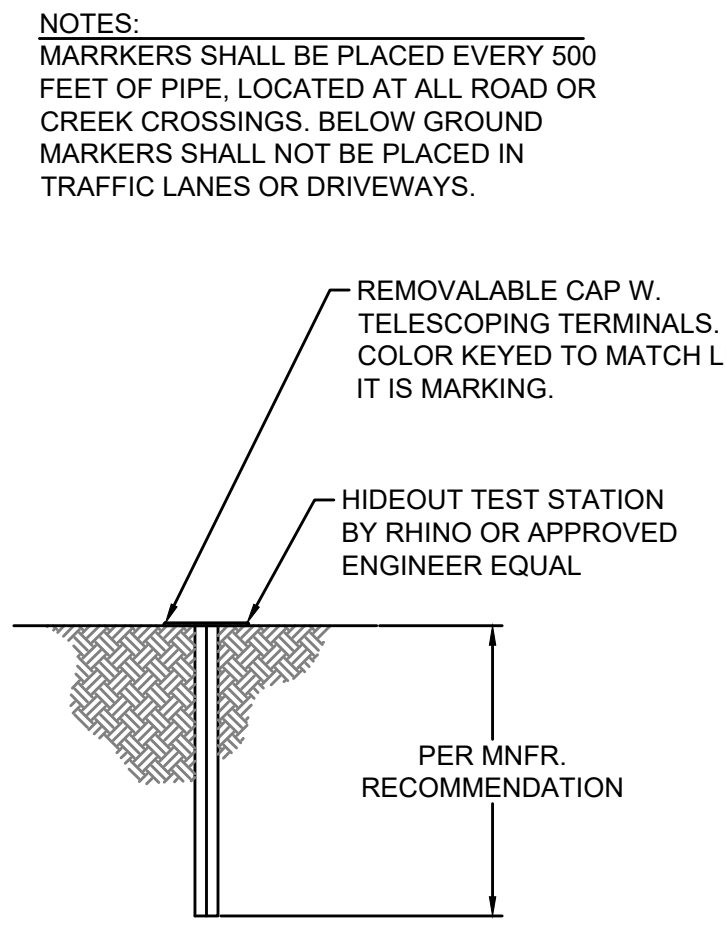
DIRECTIONAL DRILLED CREEK CROSSING - DETAIL

NOT TO SCALE



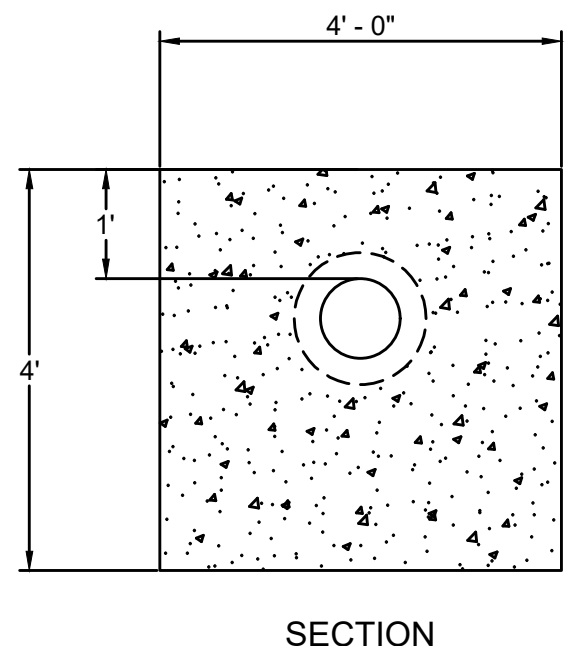
ABOVE GROUND TEST STATION - DETAIL

NOT TO SCALE



BELOW GROUND TEST STATION - DETAIL

NOT TO SCALE

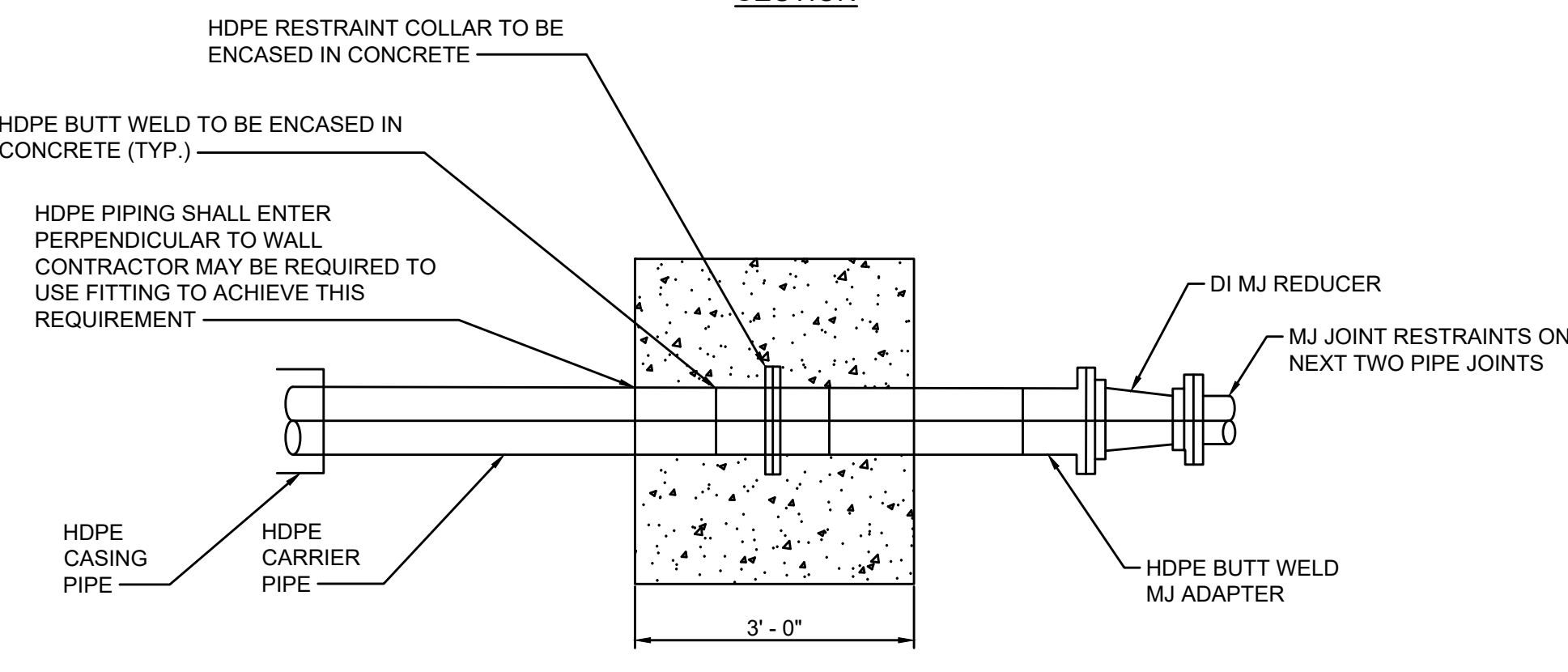


SECTION

RECORD DRAWINGS

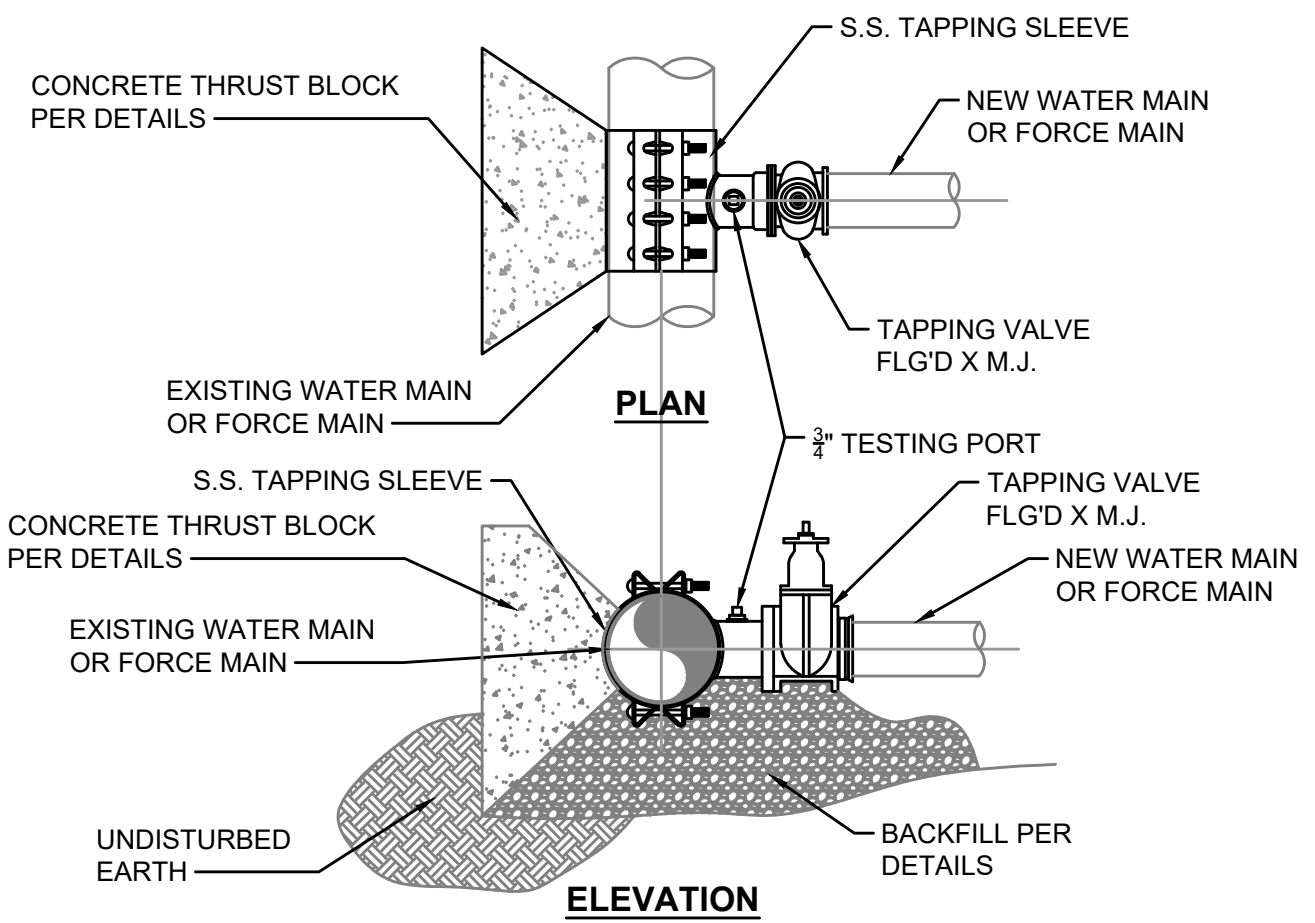
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BY: BLUEGRASS ENGINEERING DATE: 06/25



HDPE RESTRAINT WALL

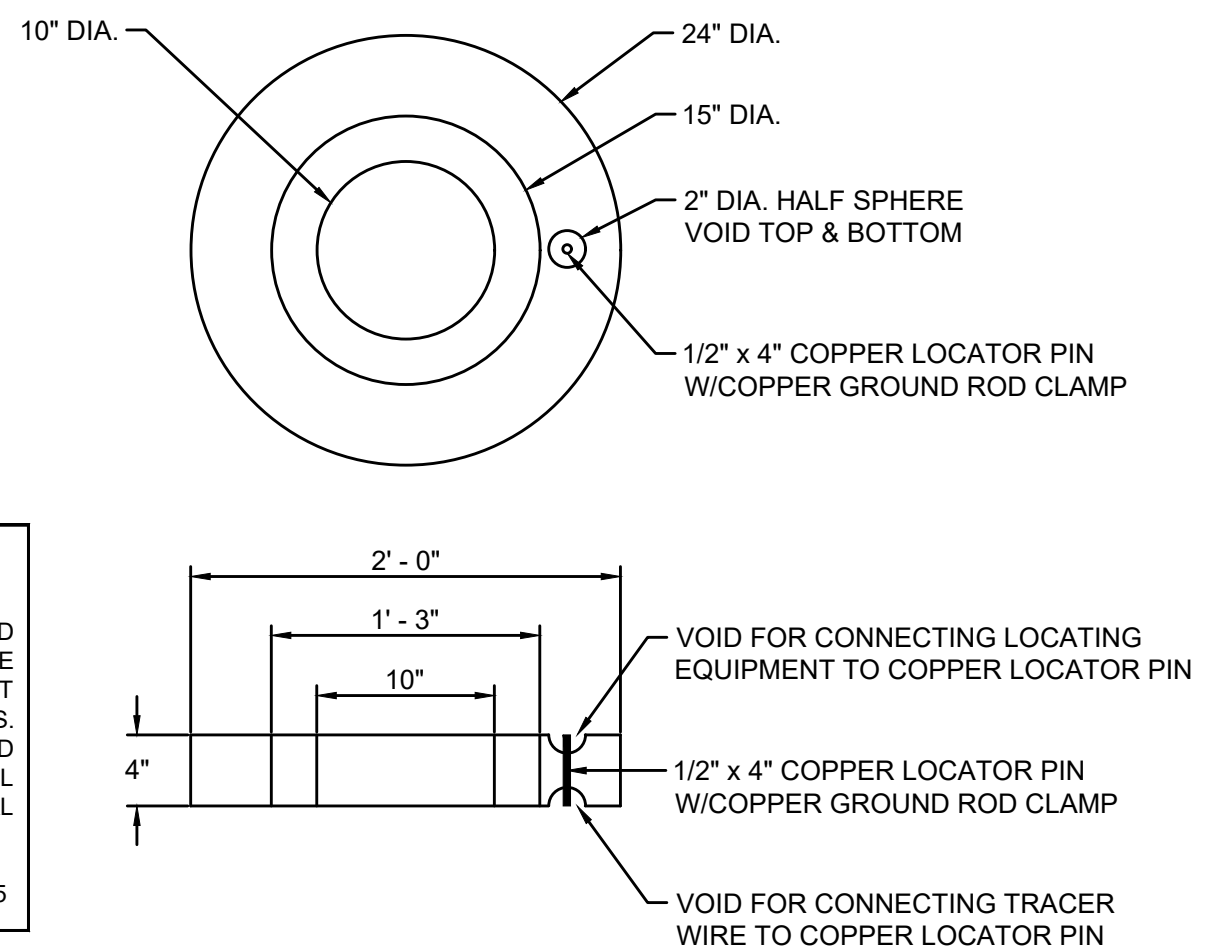
NOT TO SCALE



STAINLESS STEEL TAPPING SLEEVE & VALVE ASSEMBLY - DETAIL

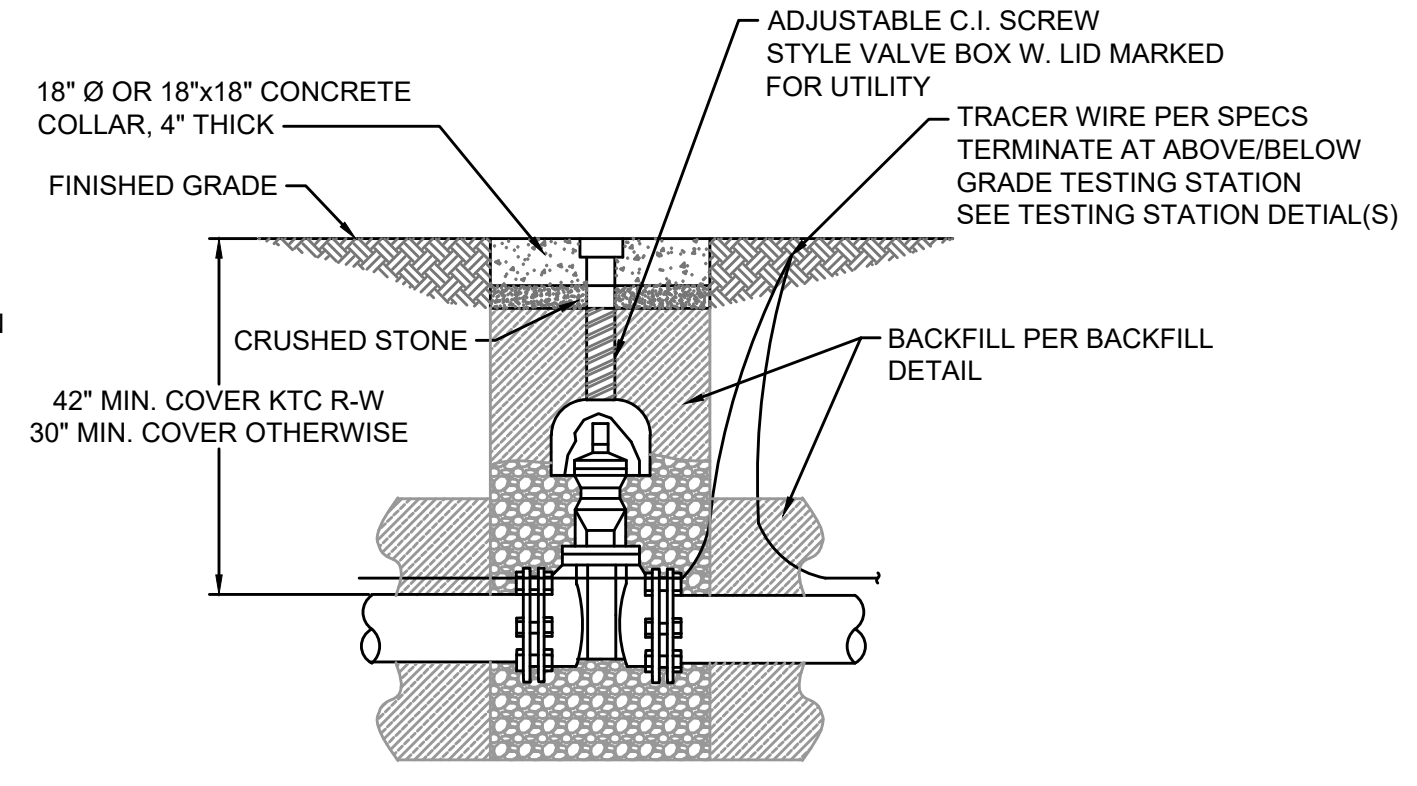
NOT TO SCALE

- NOTE:
- TAPPING SLEEVE & VALVE TO BE TESTED PER MANUFACTURERS RECOMMENDATIONS
 - NO SIZE FOR SIZE TAPPING SLEEVE ALLOWED WITHOUT WRITTEN APPROVAL OF MUPB.



24\"/>

NOT TO SCALE



GATE VALVE ASSEMBLY - DETAIL

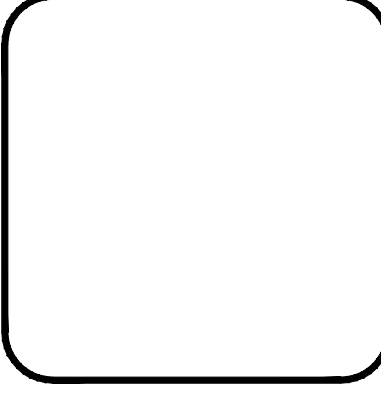
NOT TO SCALE

NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 STANDARD DETAILS - PIPE LINES

SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
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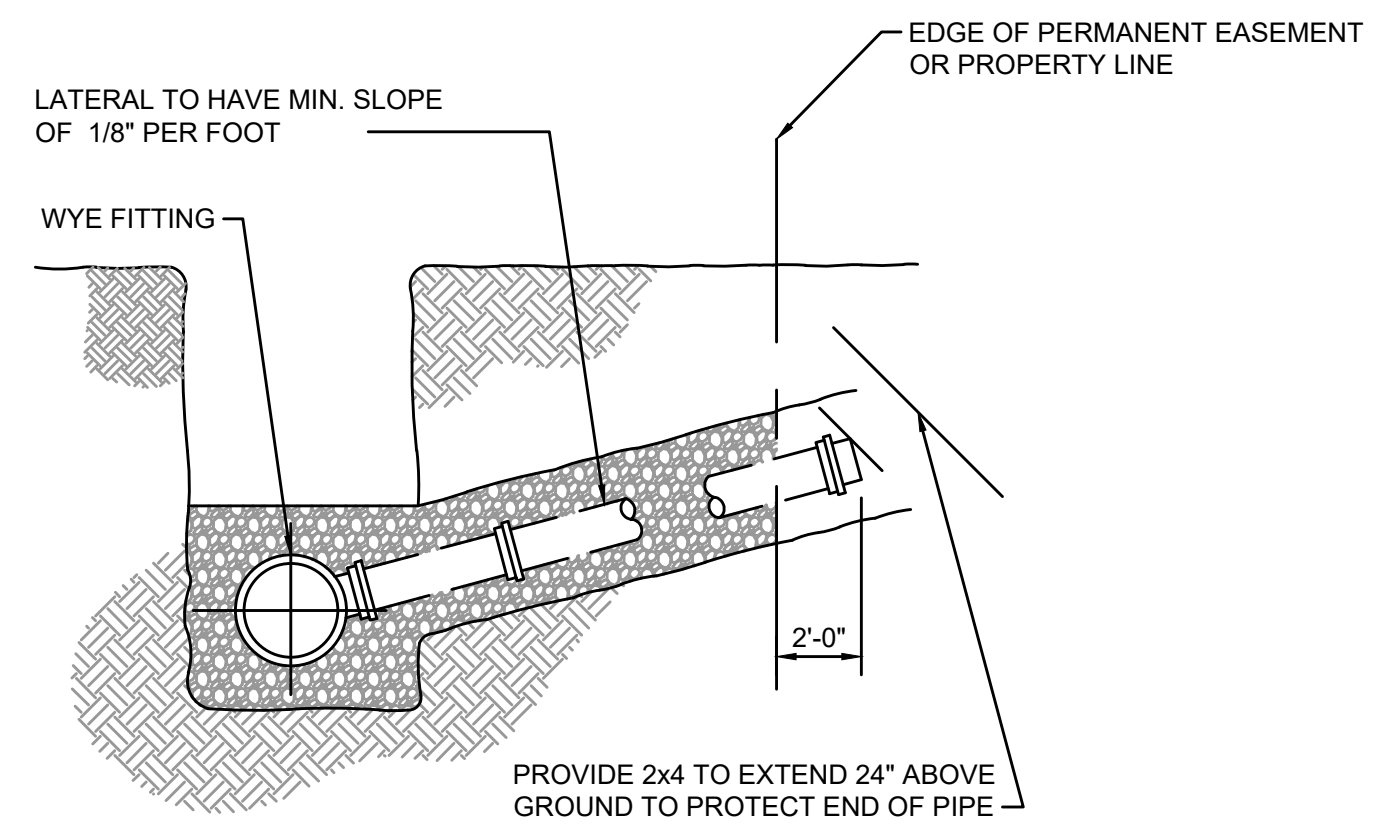
PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



SD-0-05

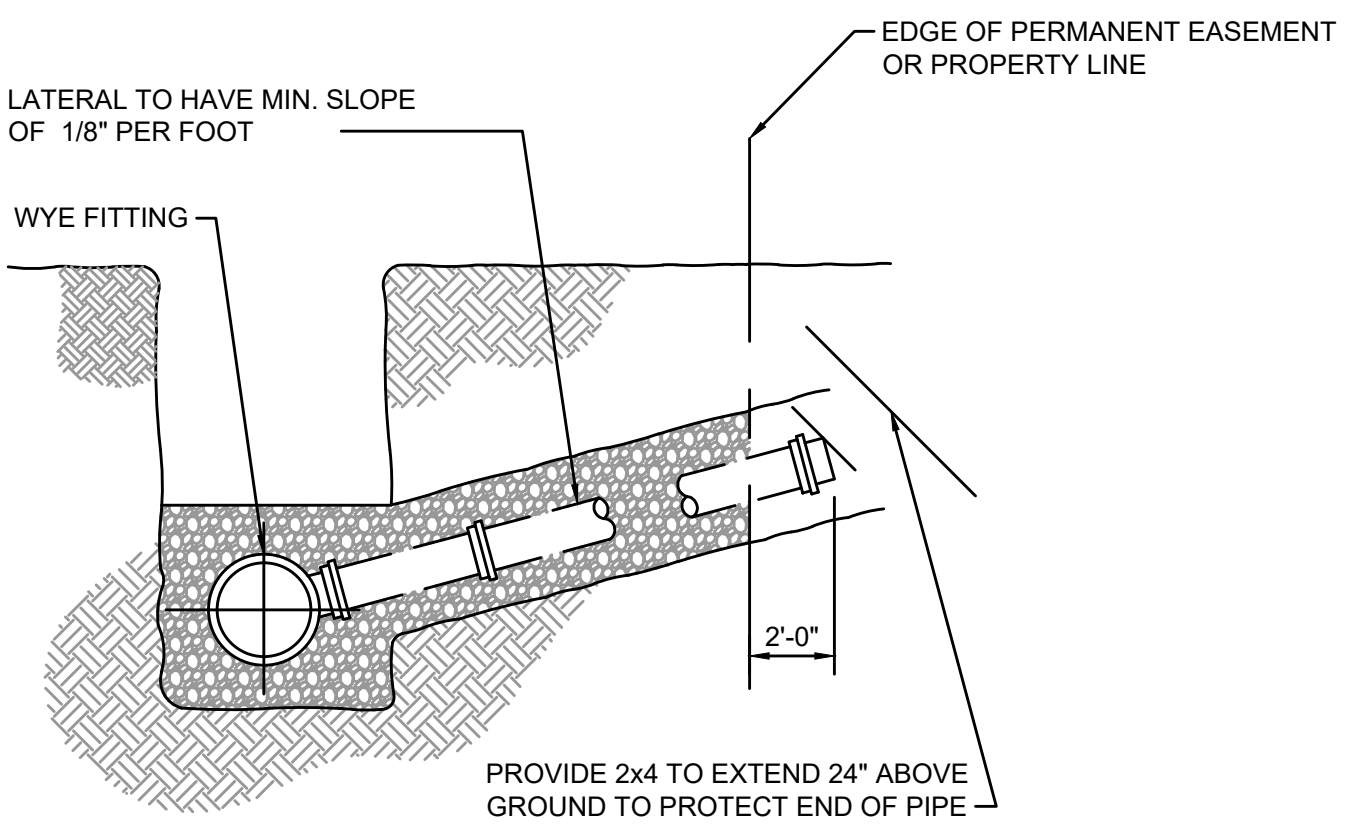
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 BY PROJECTS/Sandy Hook Water/19003 - 2019 Water System Improvements/DWG/Contract 12 - WTP/Record Drawings/19003-12-SD-06-02_STANDARD DETAILS - GRAVITY SEWER.dwg BE 01/17/25



LATERAL FOR SEWER MAIN (< 10') - DETAIL

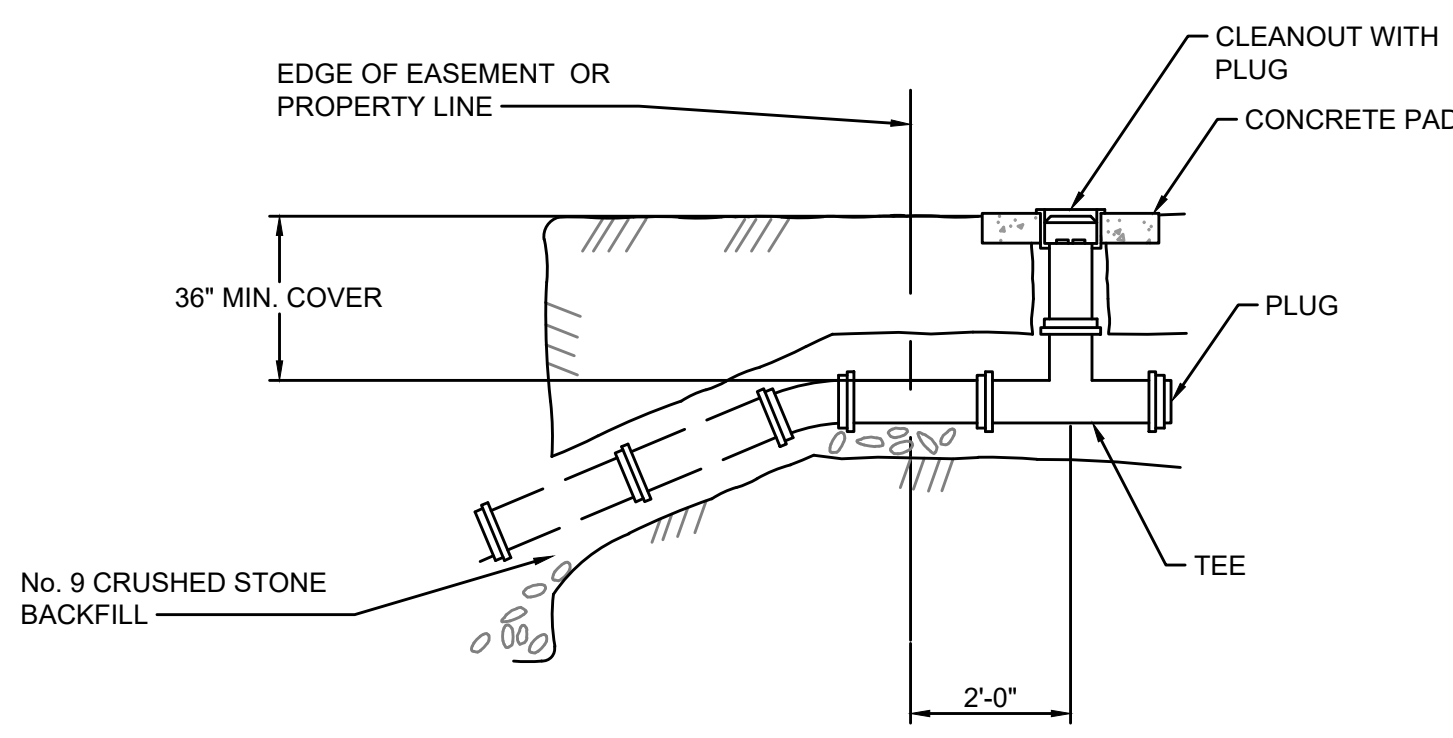
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LATERAL FOR SEWER MAIN (< 10') - DETAIL

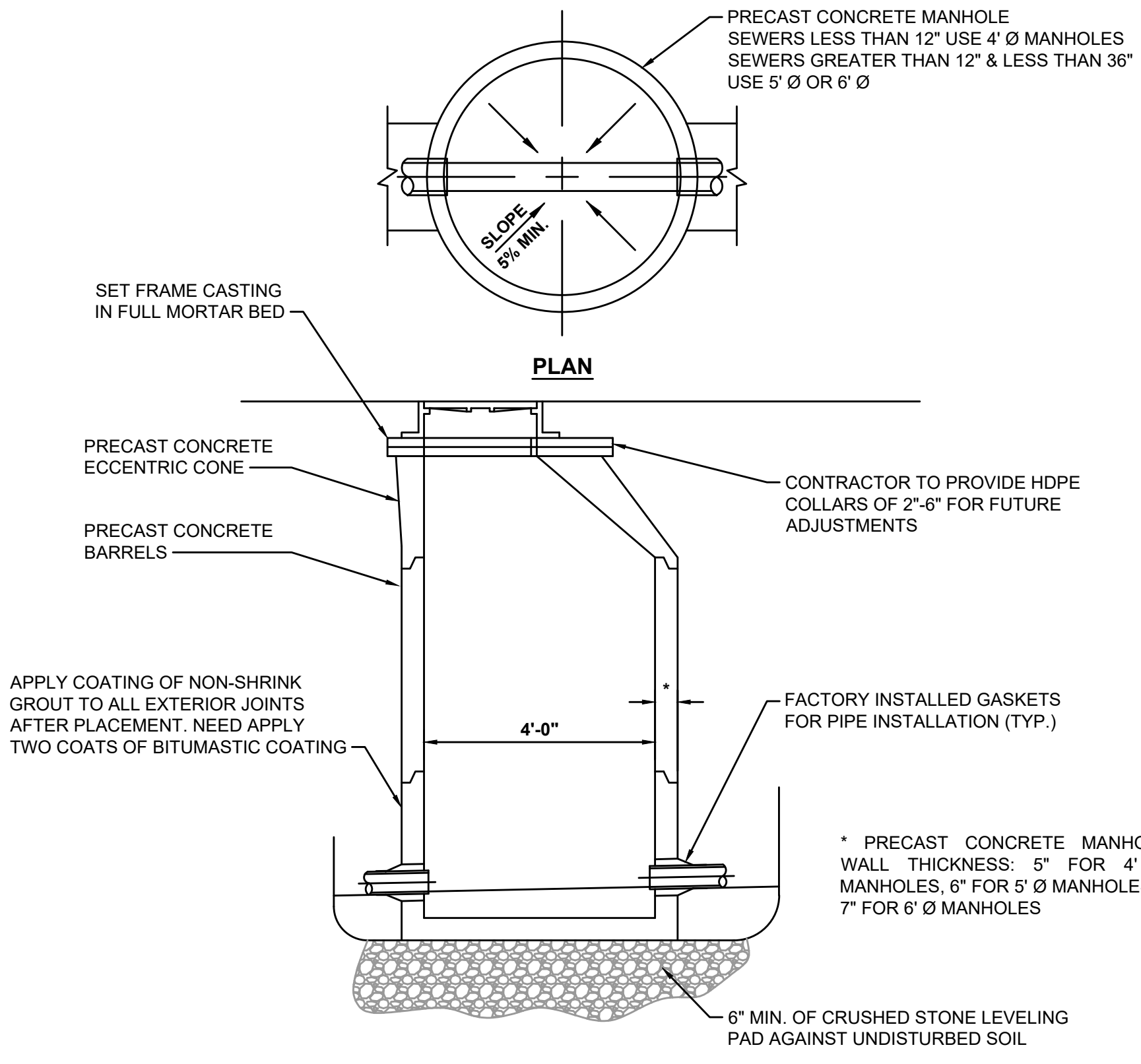
NOT TO SCALE

NOTE:
FOR MAINS LAID ON PUBLIC RIGHT-OF-WAY, THE LATERAL SHALL BE LAID TO THE PROPERTY LINE AND BEYOND TO THE DISTANCE INDICATED.



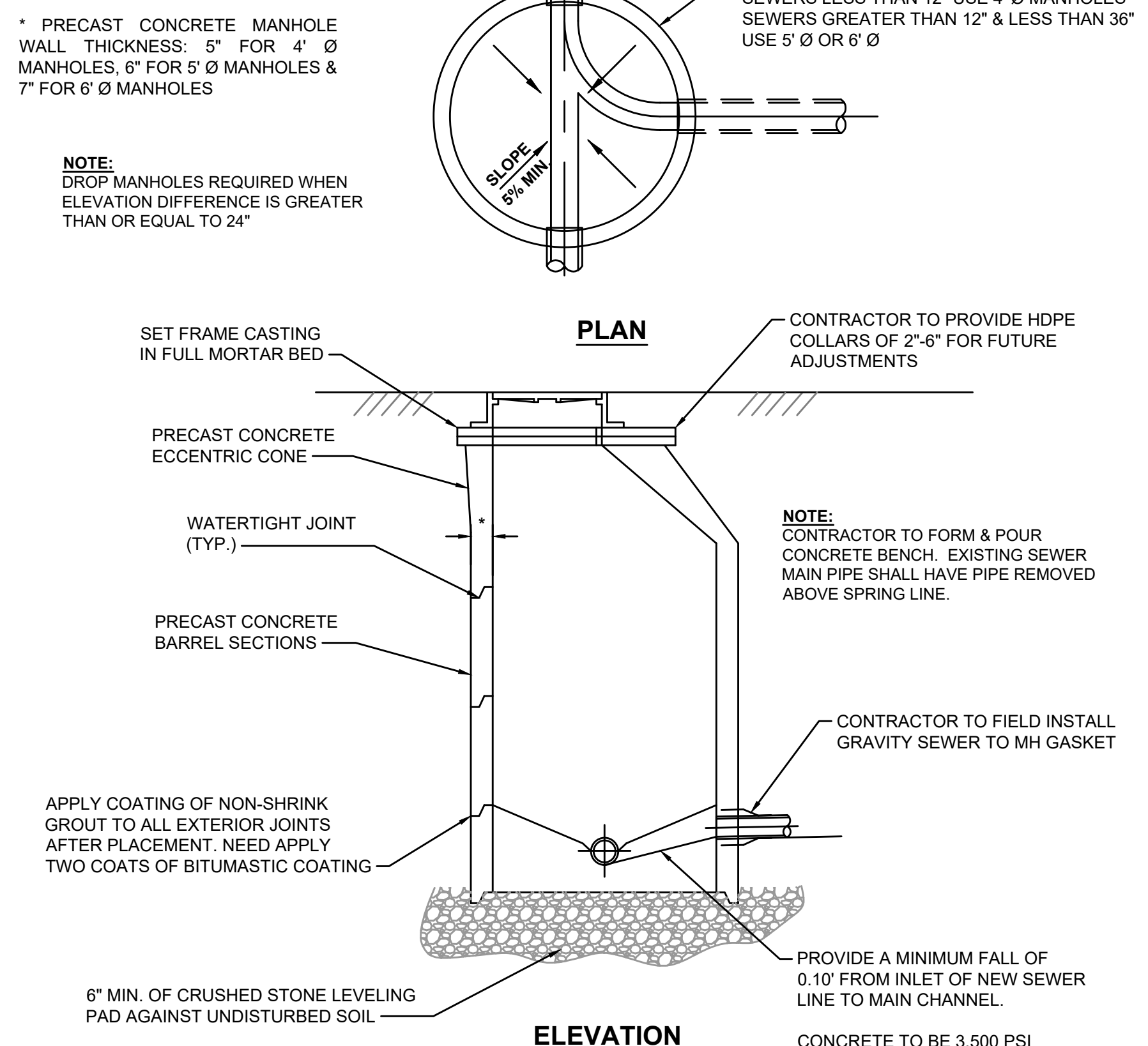
LATERAL CLEANOUT ASSEMBLY - DETAIL

NOT TO SCALE



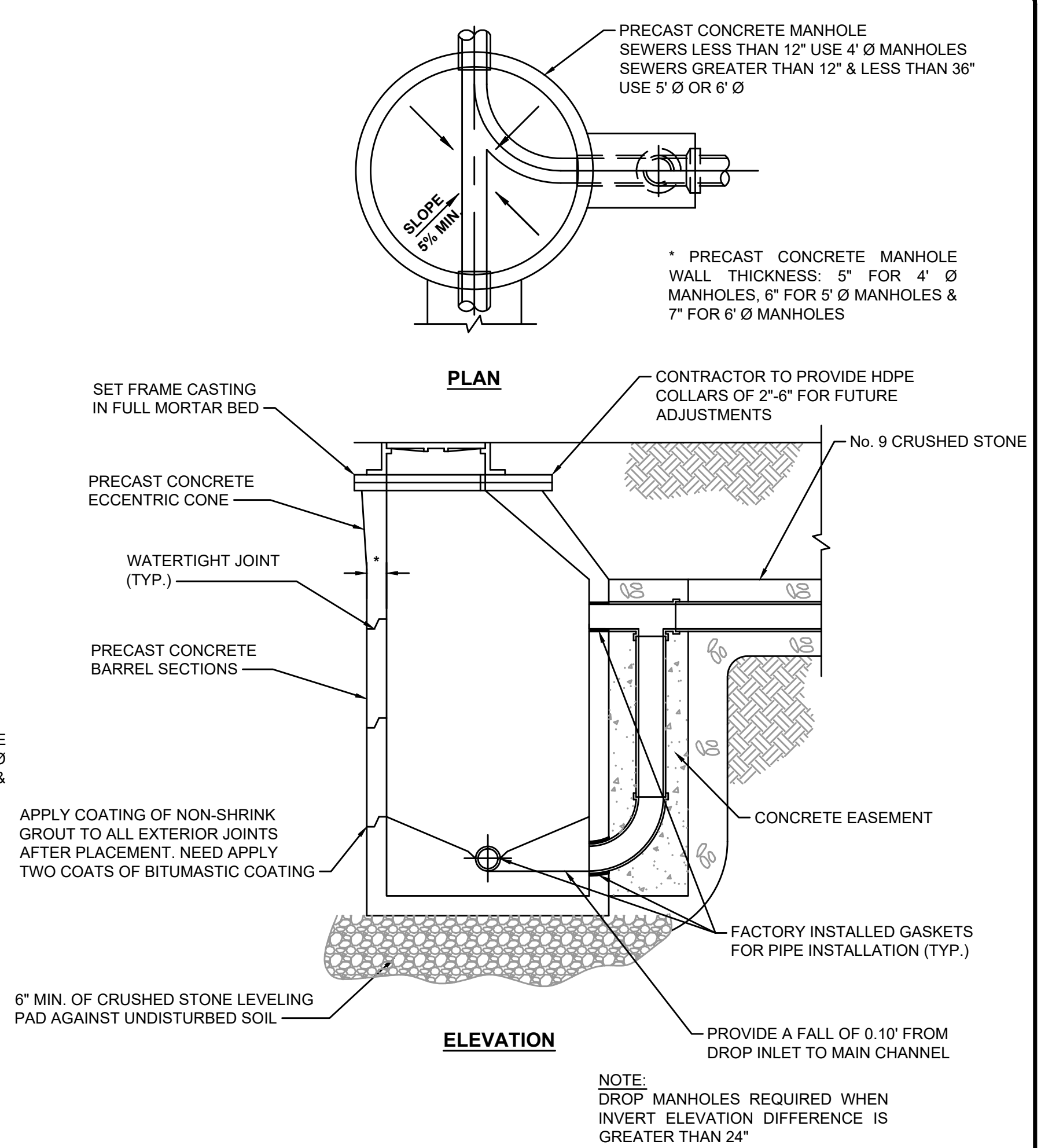
STANDARD MANHOLE - DETAIL

NOT TO SCALE



DOGHOUSE MANHOLE - DETAIL

NOT TO SCALE

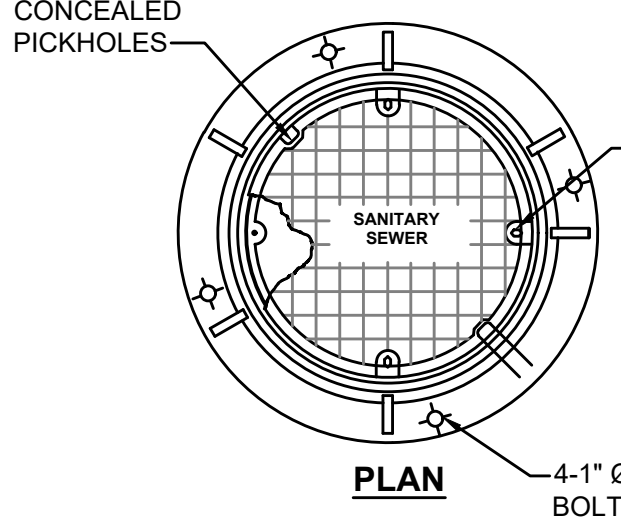
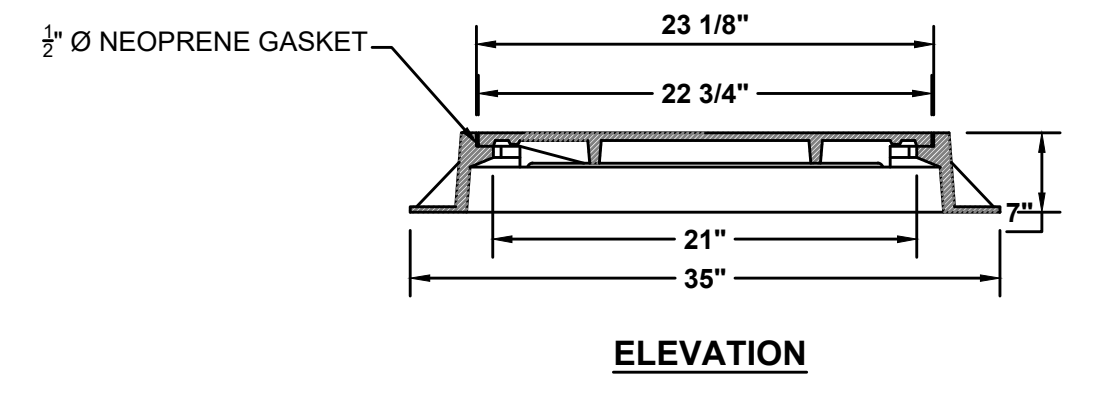


DROP MANHOLE - DETAIL

NOT TO SCALE

DETAIL NOTE:

1. MANHOLE LID & FRAME SHALL BE J.R. HOE MC 350 OR ENGINEERING APPROVED EQUAL.
2. ALL MANHOLE LIDS SHALL BE WATERTIGHT.



STANDARD MANHOLE LID & FRAME - DETAIL

NOT TO SCALE

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

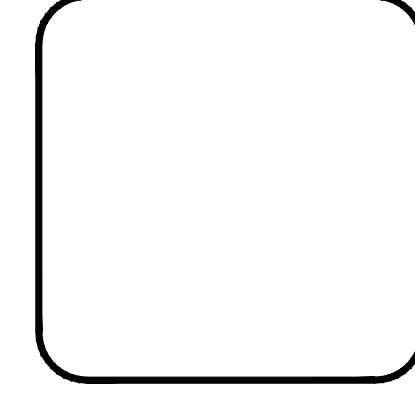
NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 STANDARD DETAILS - GRAVITY SEWER

BLUEGRASS ENGINEERING, PLLC

 222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



SD-0-06

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B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-12-SD-07-STANDARD DETAILS - GABION WALL.dwg

UNPACKING & ASSEMBLY PROCESS

MACCAFERRI GABIONS ARE DELIVERED TO THE JOB SITE IN BUNDLES. THEY ARE COMPRESSED AND STRAPPED IN THE FACTORY FOR EASIER SHIPPING AND HANDLING.

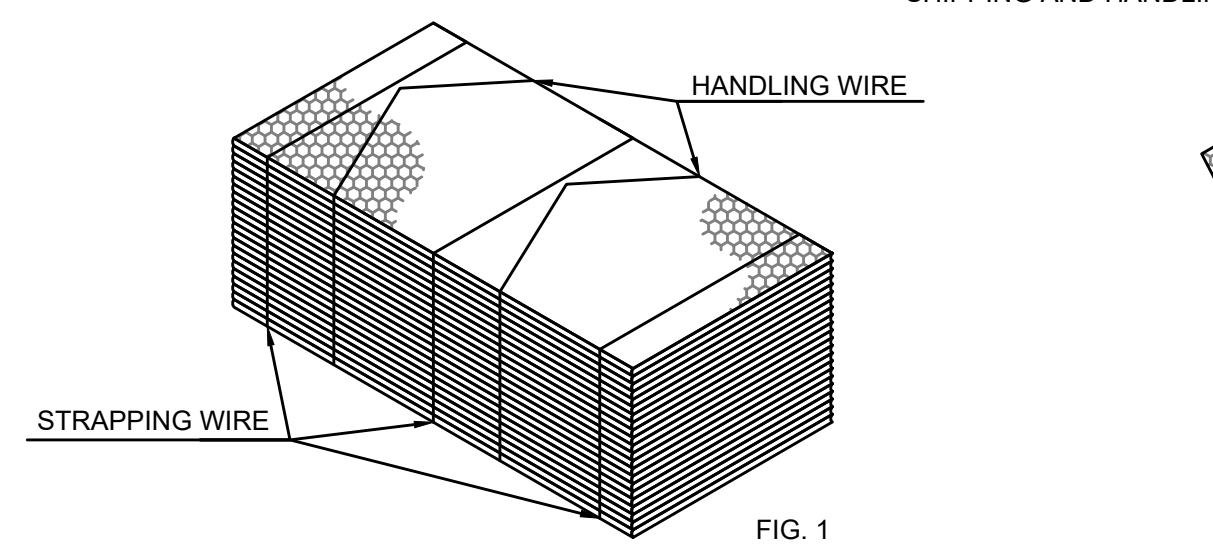


FIG. 1

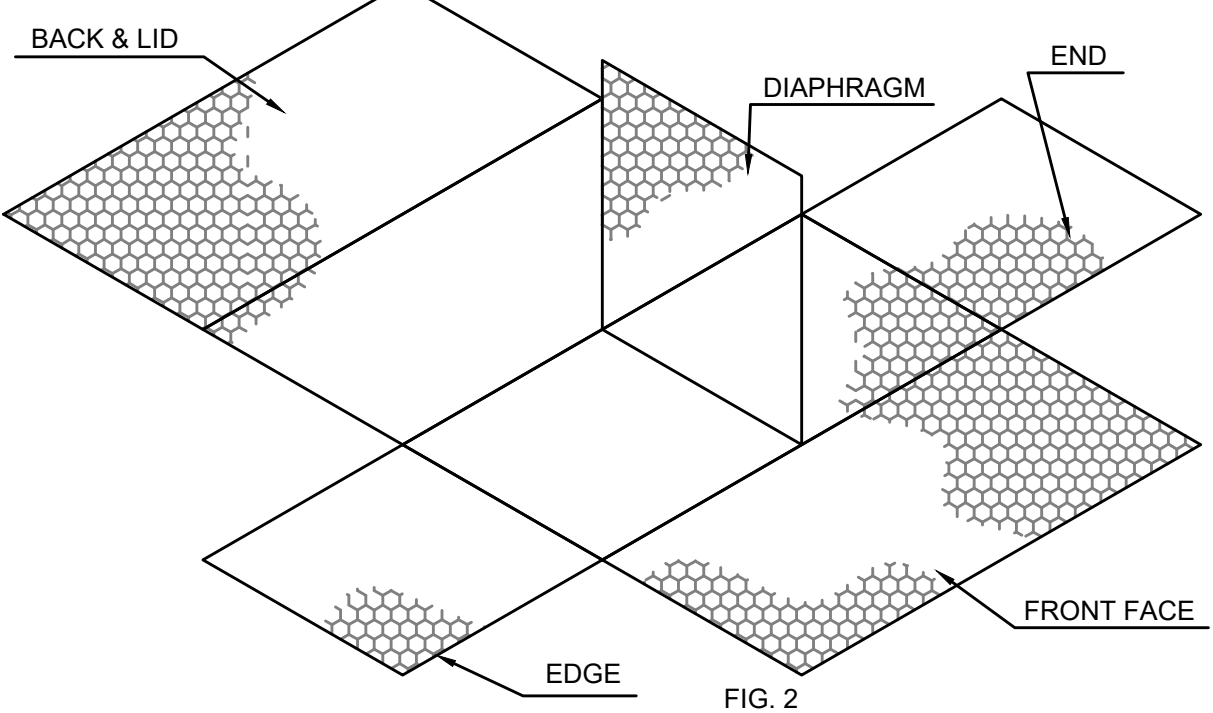


FIG. 2

1. OPEN AND UNFOLD THE GABIONS ONE BY ONE ON A FLAT, HARD SURFACE. ELIMINATE ALL FOLDS DUE TO THE PACKAGING.

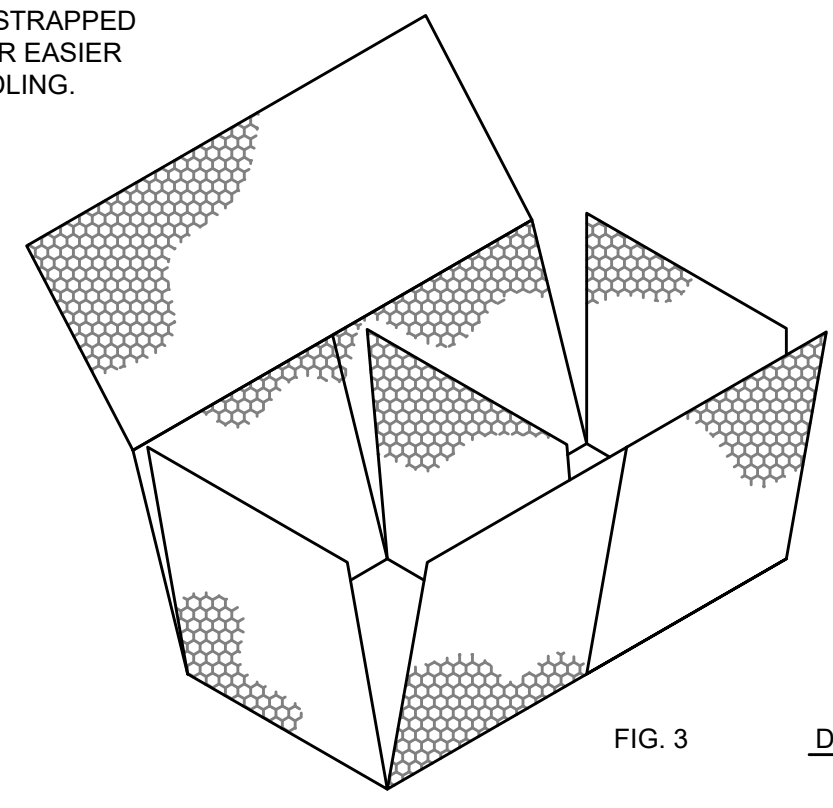


FIG. 3

2. PULL UP THE SIDES AND THE DIAPHRAGMS TO FORM AN OPEN BOX. BE SURE THE TOP OF THE FACE AND THE SIDE ARE AT THE SAME LEVEL.

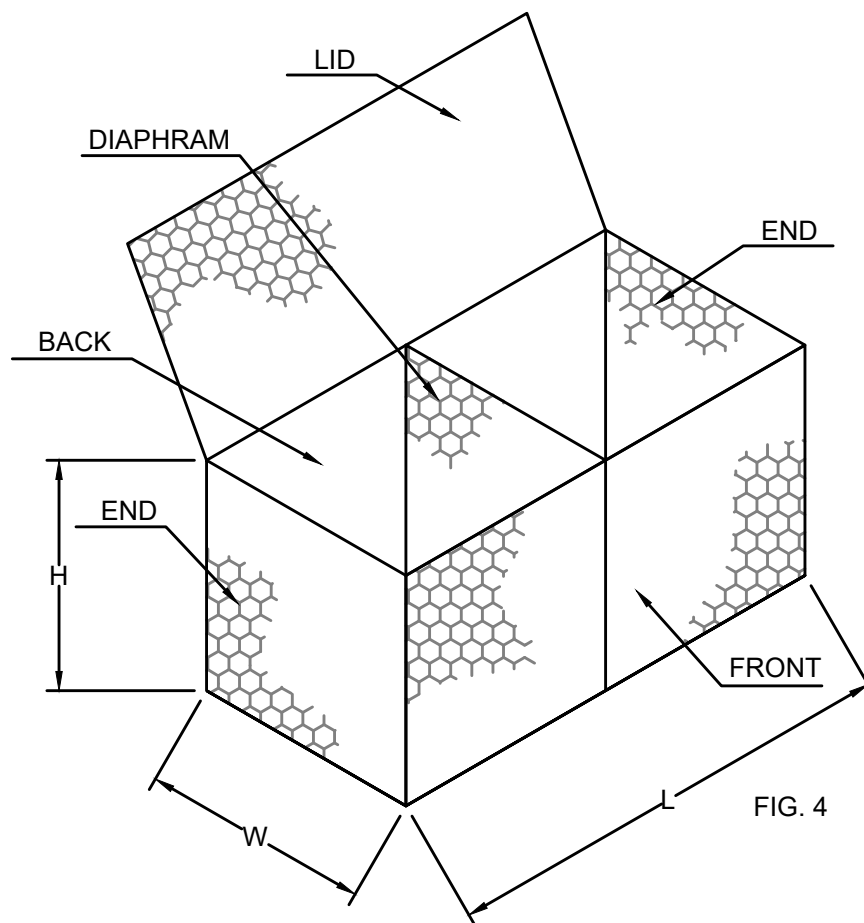
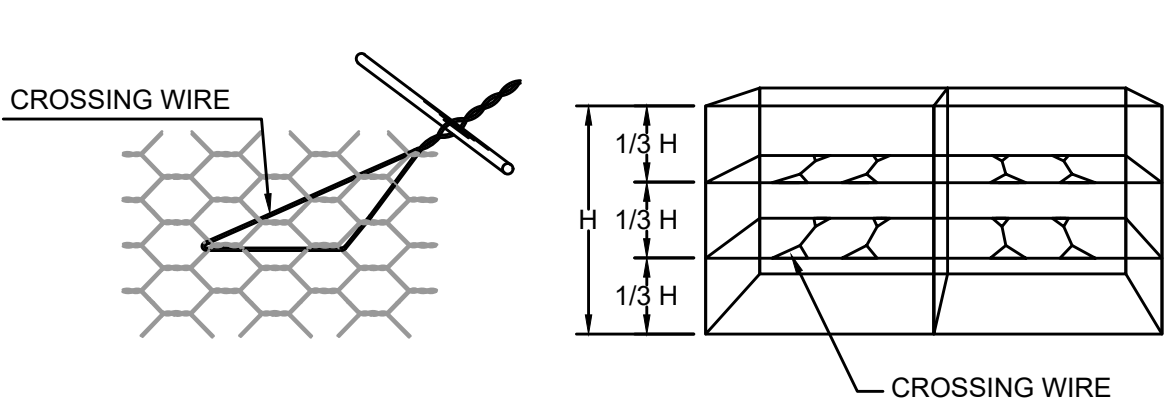


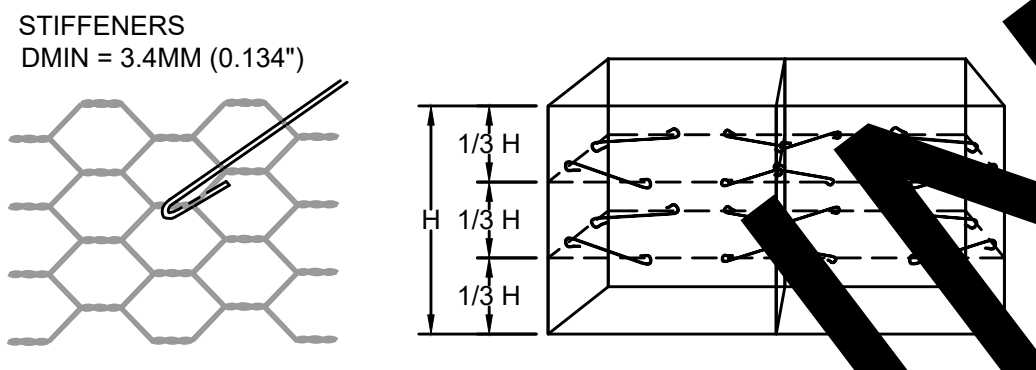
FIG. 4

3. FOLD BY HAND THE END OF THE REINFORCING WIRE OF THE MAIN UNIT AND THE DIAPHRAGMS ALLOWING THE GABION TO STAND BY ITSELF.

ASSEMBLED GABION BASKET

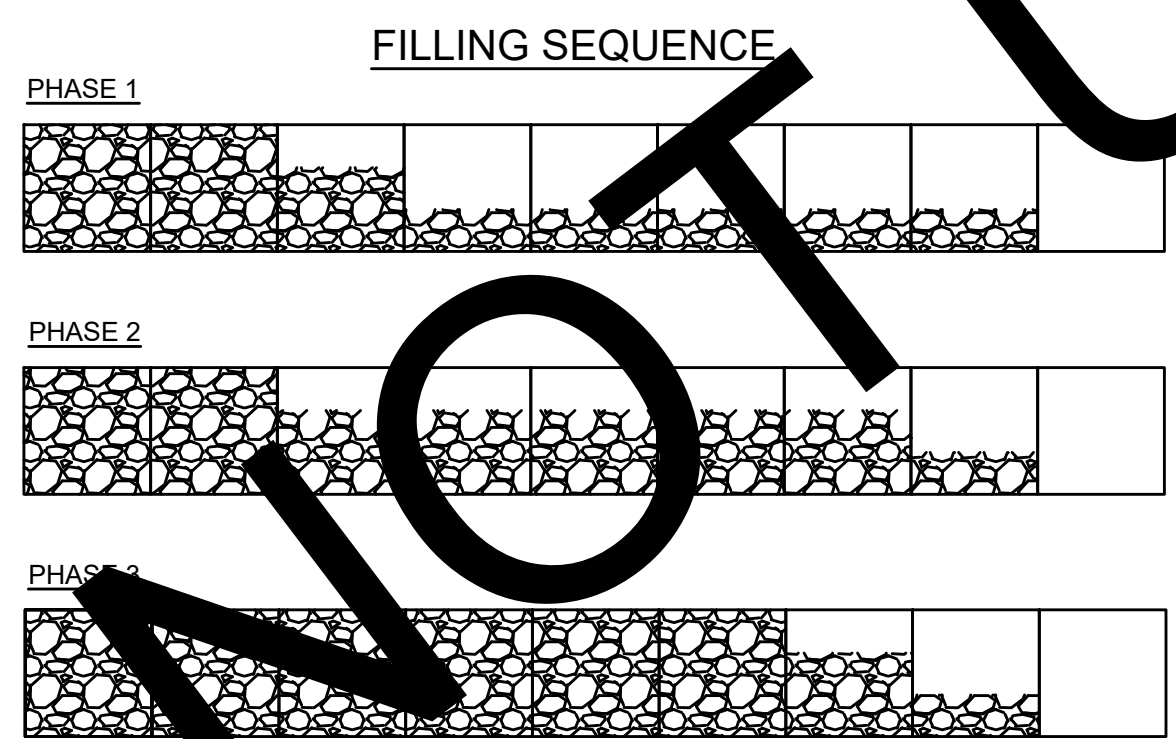
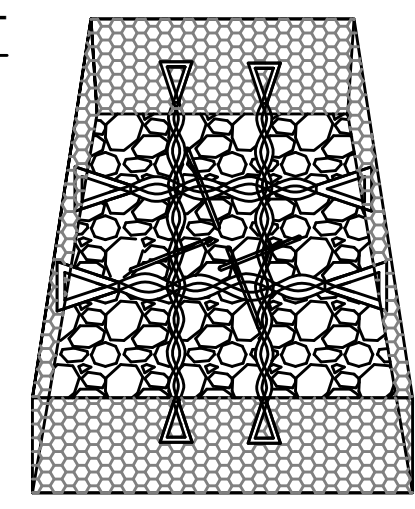


REINFORCING DETAIL

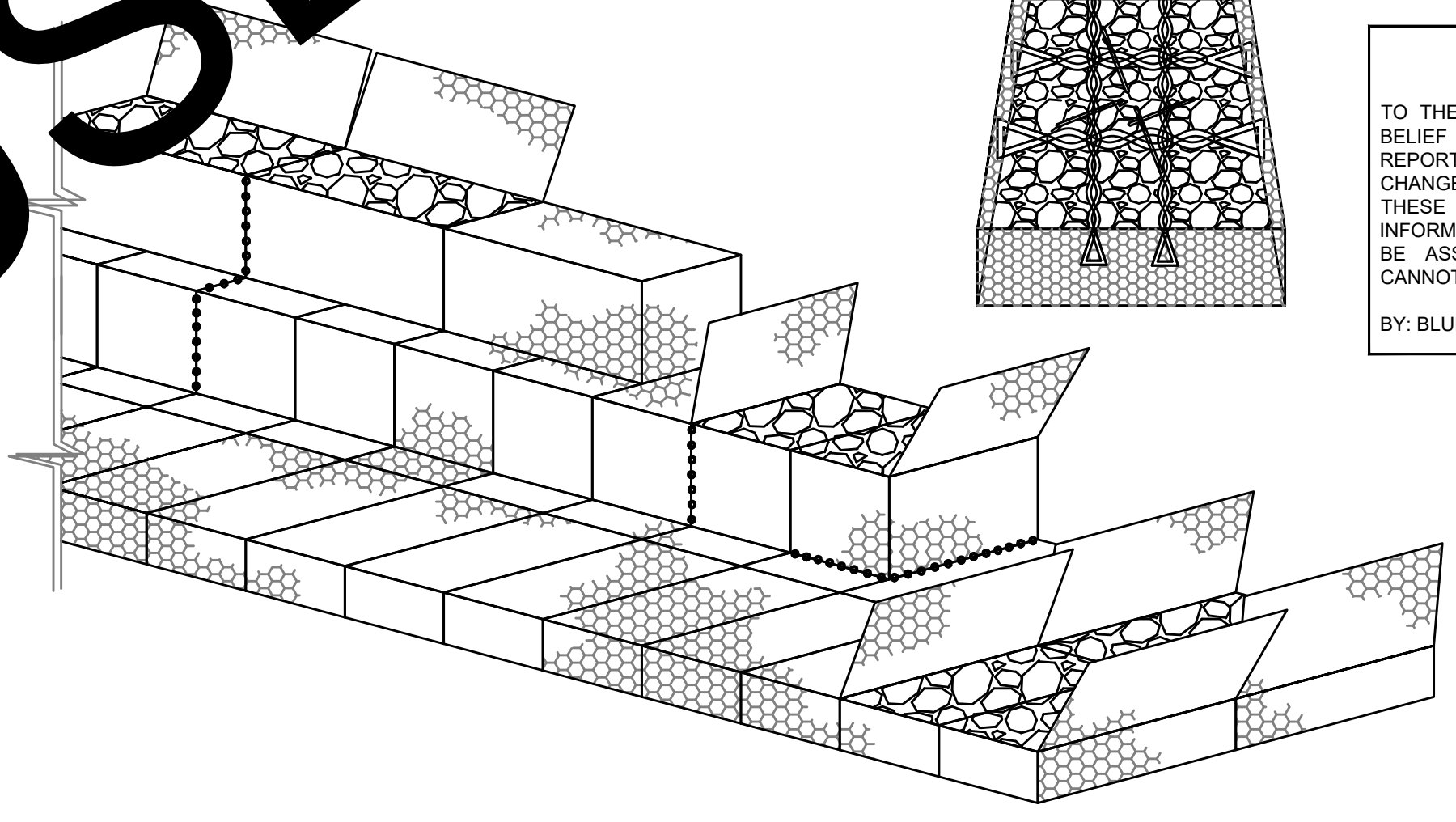


STIFFENERS
D_{MIN} = 3.4MM (0.134")

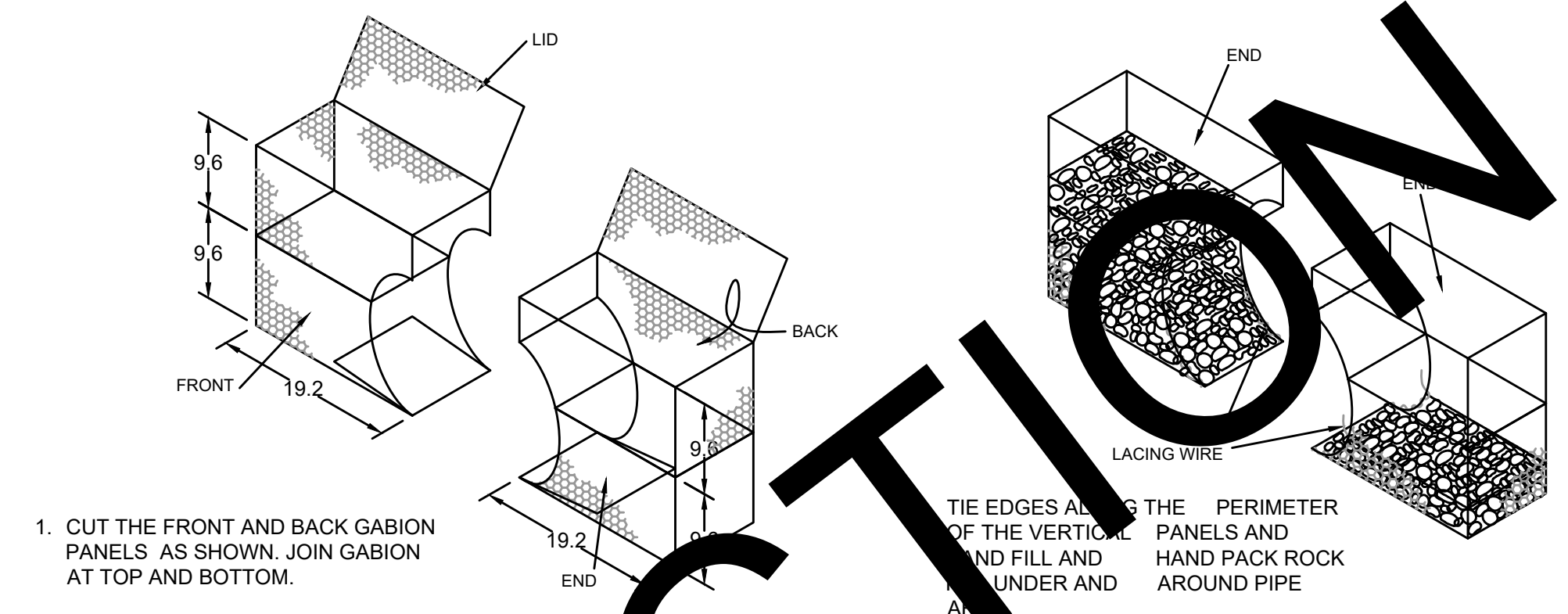
REINFORCEMENT VIEW



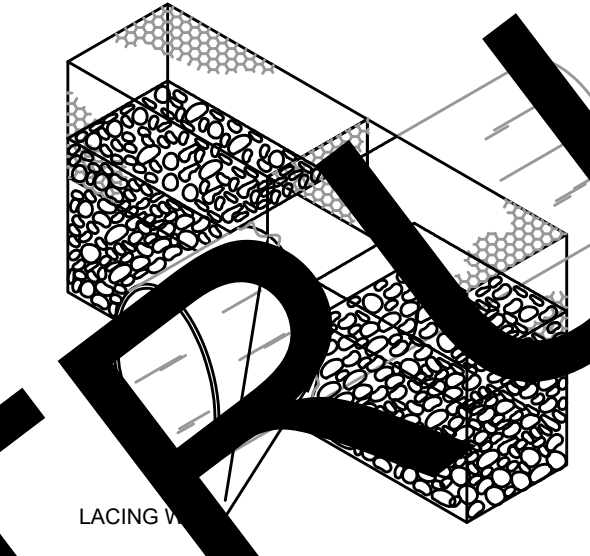
FILLING SEQUENCE



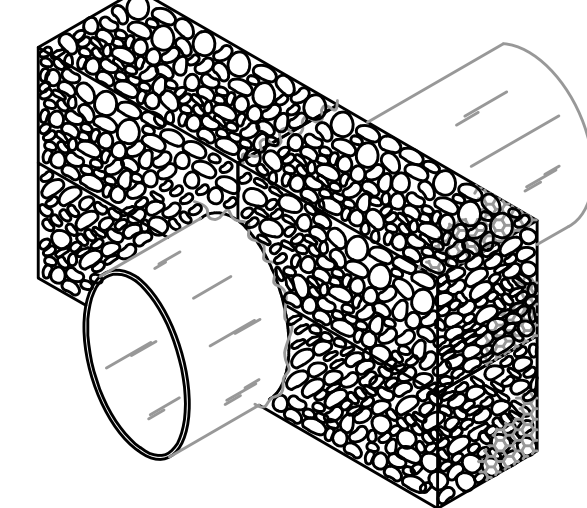
FILLING PROCESSES



1. CUT THE FRONT AND BACK GABION PANELS AS SHOWN. JOIN GABION AT TOP AND BOTTOM.



2. PLACE THE PIPE AND LIFT END PANELS AROUND PIPE AND TIE THEM TOGETHER AT TOP OF PIPE



4. COMPLETE FILLING AND CLOSE LIDS

CLOSING PROCESS

EDGES ARE JOINED TOGETHER, USING THE APPROPRIATE LACING TECHNIQUES.
MANUAL: CONTINUOUS WIRE LOOPED TIGHTLY AROUND EVERY OTHER MESH OPENING, ALTERNATING SINGLE AND DOUBLE LOOPS (FIG. 5).
MECHANICAL: USING A PNEUMATIC OR HAND POWER TOOL, EMPLOYING STAINLESS STEEL "C" SHAPED FASTENERS. FOR CONTINUITY AND STRENGTH, THE RECOMMENDED SPACING IS 8 TO 12 CM, MAX 150MM (FIG. 4).

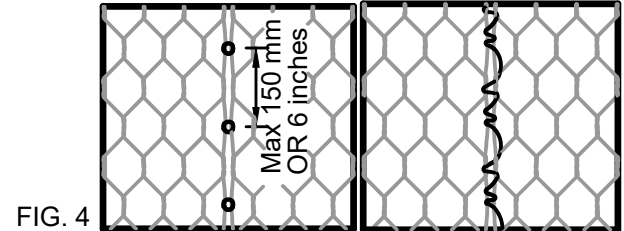


FIG. 4

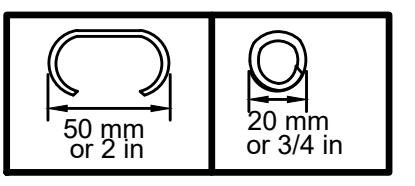
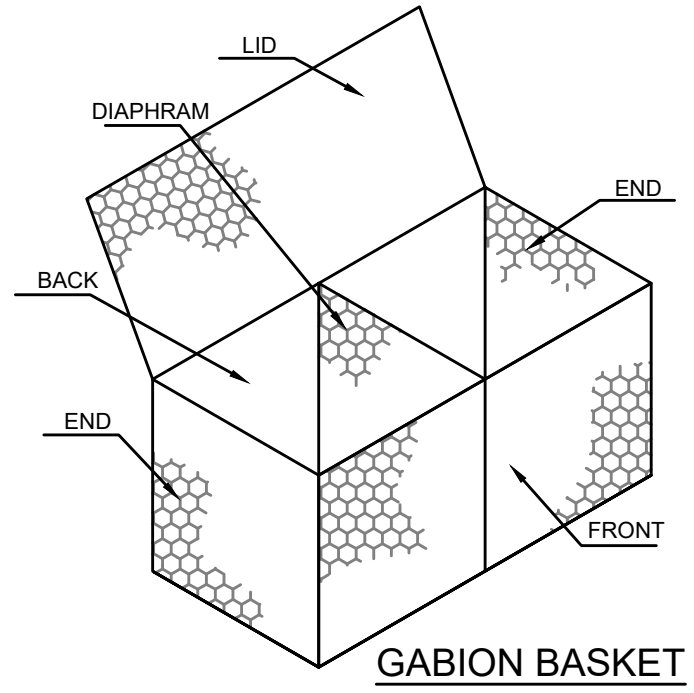
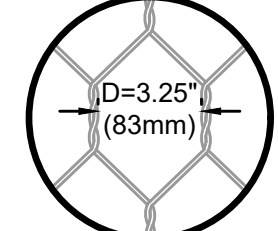
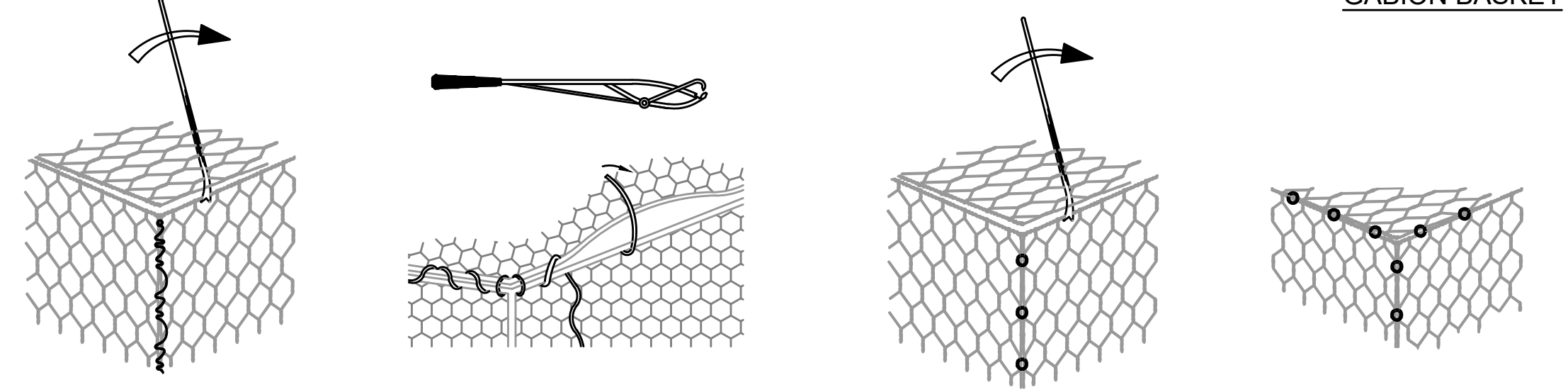


FIG. 5

THE STAINLESS STEEL FASTENER HAS A DIAMETER OF 50 MM OPEN AND 20 MM CLOSED.



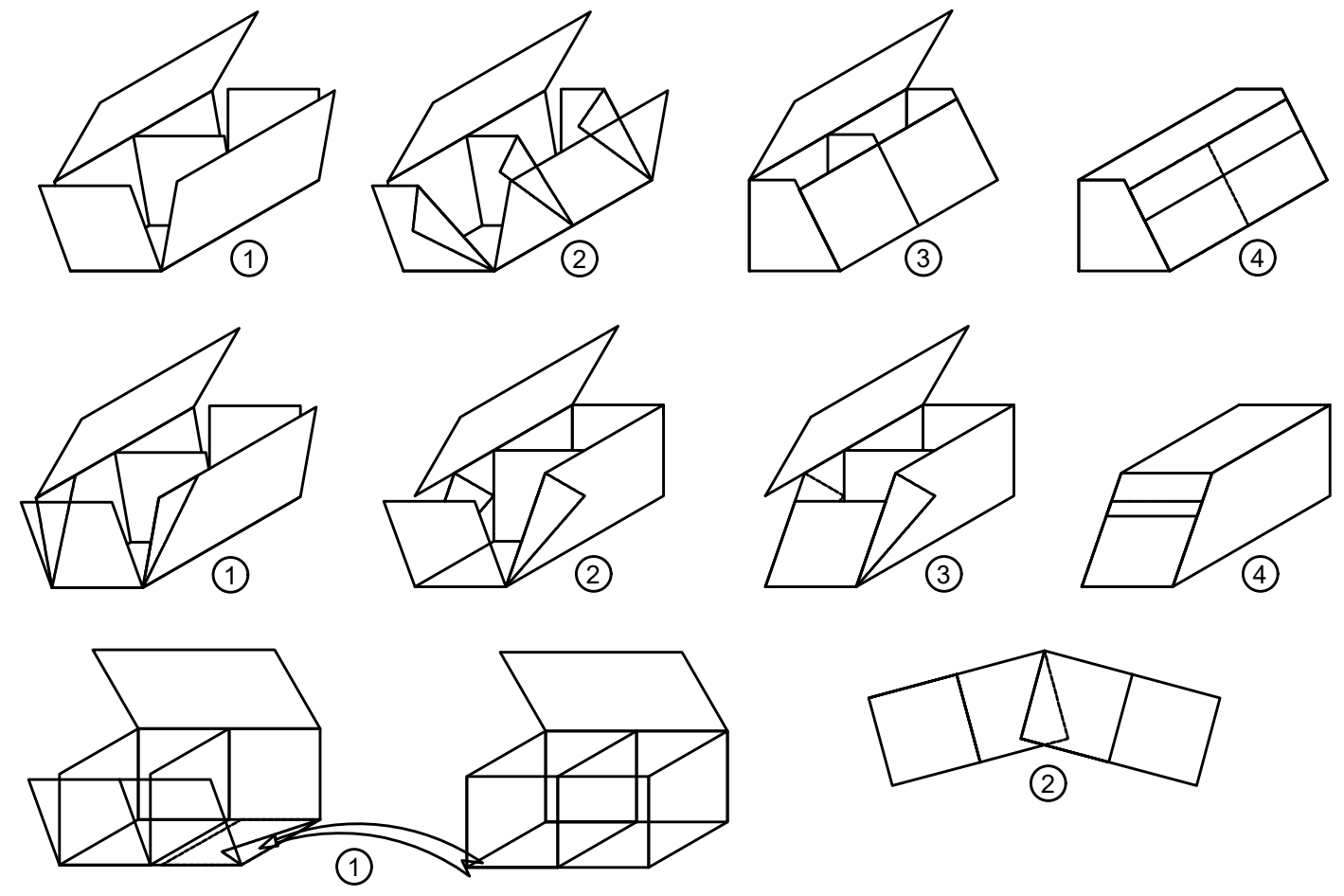
GABION BASKET



RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25



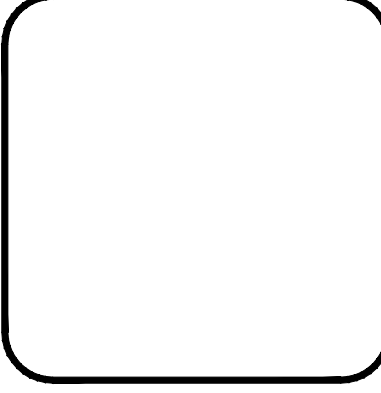
FOLDING PROCESS

NO.	DATE	BY

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SANDY HOOK WATER DISTRICT
BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
 Serving Our Community

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



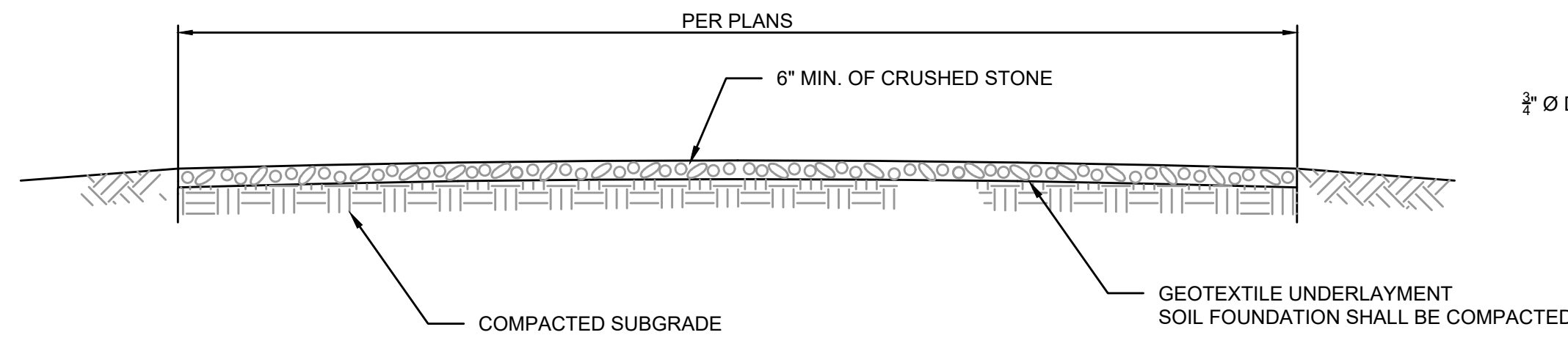
SD-0-07

RECORD DRAWINGS

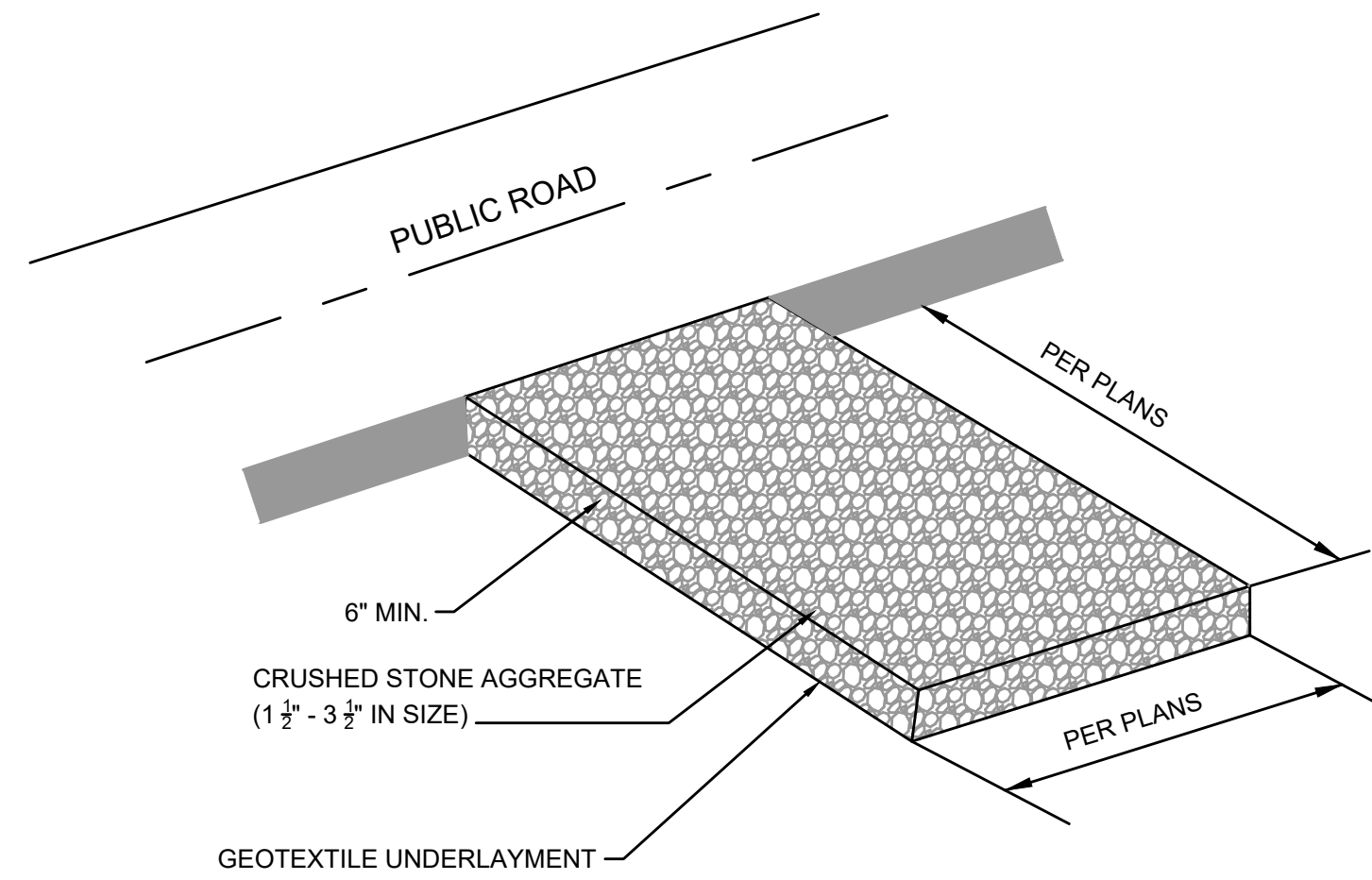
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 502-863-1111
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STABILIZED CONSTRUCTION ENTRANCE - SECTION
 NOT TO SCALE



NOTES:

1. A STABILIZED ENTRANCE PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. GEOTEXTILE (KYTC TYPE III) SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.
3. TREES, STUMPS, ROOTS, BRUSH, WEEDS, AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED FROM THE WORK AREA.
4. UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE ROADBED AND PARKING AREAS.
5. GRADING, SUBGRADE PREPARATION, AND COMPACTION SHALL BE DONE AS NEEDED. FILL MATERIAL SHALL BE DEPOSITED IN LAYERS NOT TO EXCEED 9 INCHES AND COMPACTED WITH THE CONTROLLED MOVEMENT OF COMPACTING AND EARTH MOVING EQUIPMENT.
6. THE ROADBED SHALL BE GRADED TO THE ELEVATION AS SHOWN. SUBGRADE PREPARATION AND PLACEMENT OF THE SURFACE COURSE SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
7. ALL CUT AND FILLS SHALL BE 2:1 OR FLATTER TO THE EXTENT POSSIBLE.
8. WATER BREAKS OR BARS MAY BE USED TO CONTROL SURFACE RUNOFF.

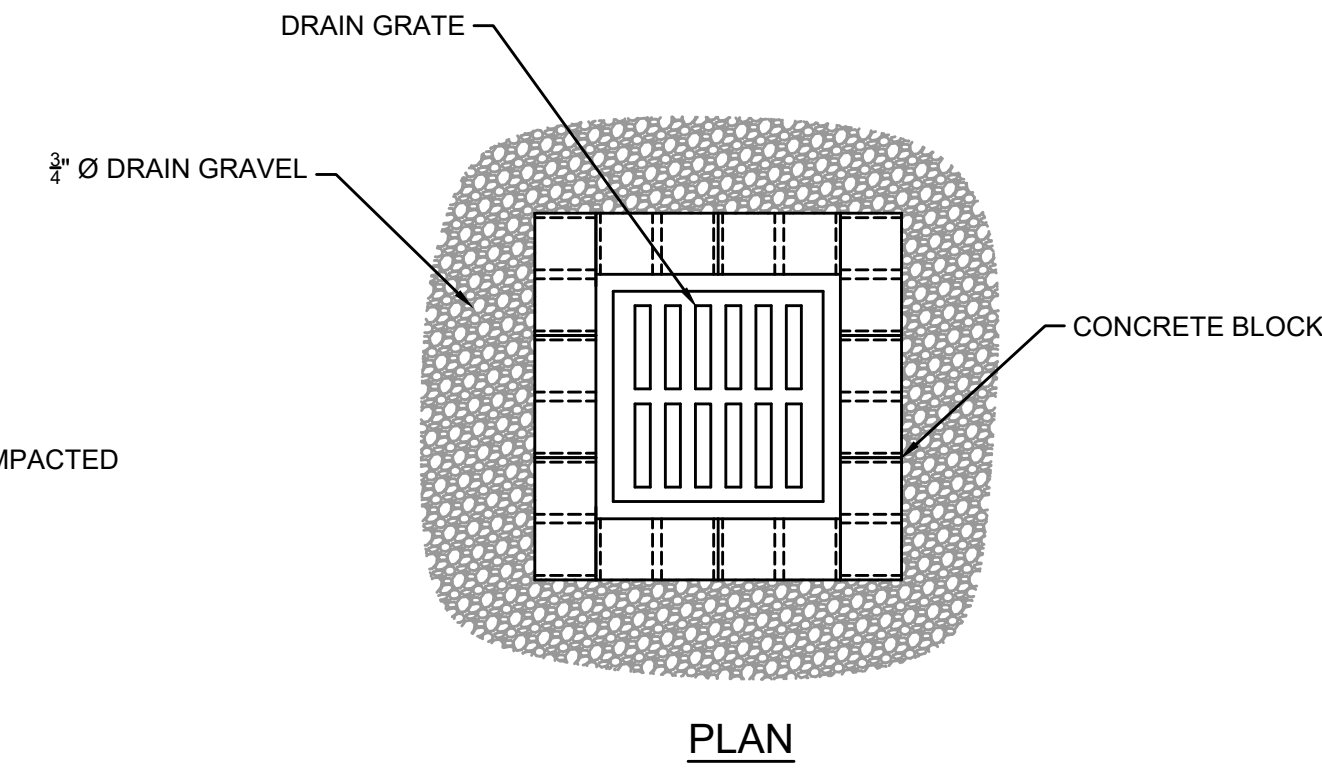
STABILIZED CONSTRUCTION ENTRANCE - DETAIL
 NOT TO SCALE

EROSION CONTROL NOTES:

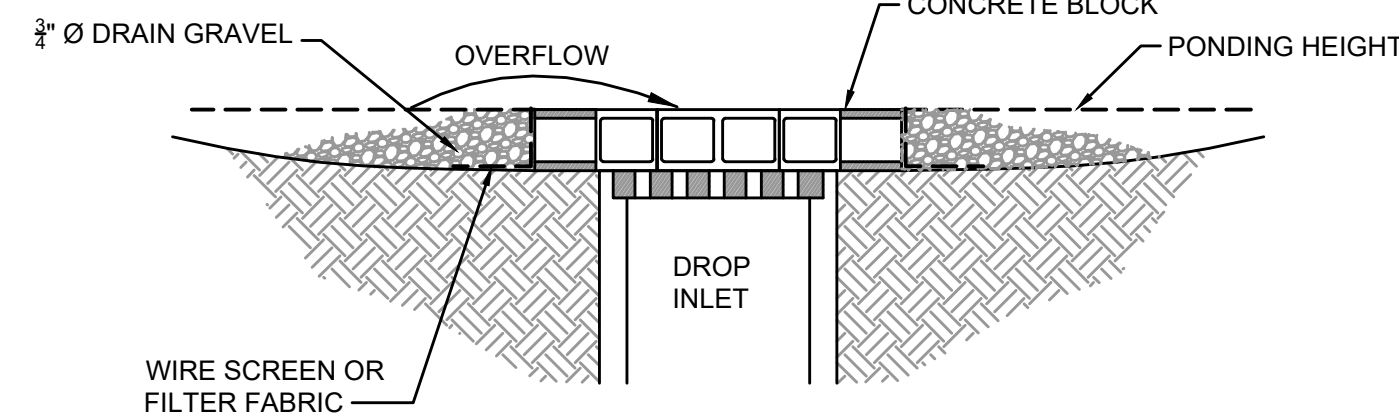
1. A KPDES STORMWATER PERMIT IS REQUIRED. COVERAGE STARTS WHEN THE KY DIVISION OF WATER ACKNOWLEDGES RECEIPT OF A NOTICE OF INTENT FOR COVERAGE.
2. FINAL STABILIZATION SHALL BEGIN WITHIN 14 DAYS ON AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED OR HAVE BEEN SUSPENDED FOR MORE THAN 180 DAYS. WHEN SNOW COVER CAUSES DELAYS, STABILIZATION SHALL BEGIN AS SOON AS POSSIBLE. STABILIZATION PRACTICES INCLUDE SEEDING, MULCHING, PLACING SOD, PLANTING TREES OR SHRUBS, AND USING GEOTEXTILE FABRICS AND OTHER APPROPRIATE MEASURES. SEEDING RATES, DATES, AND MATERIALS MAY BE OBTAINED FROM THE LOCAL NATURAL RESOURCES CONSERVATION SERVICE FIELD OFFICE.
3. FOR ALL CRITICAL AREAS (WITHIN 25' OF A STREAM), SOIL STABILIZATION TECHNIQUES SHALL BE IMPLEMENTED WITHIN 24 HOURS OR AS SOON AS PRACTICAL AFTER COMPLETION OF GRADING OR DISTURBANCE. TEMPORARY STABILIZATION PRACTICES SHALL BE INITIATED WITHIN 14 DAYS OF CESSATION OF CONSTRUCTION ACTIVITIES.
4. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE DEVELOPED AND IMPLEMENTED AS OUTLINED IN THE KPDES STORMWATER PERMIT KYR 10.
5. SEDIMENT BASINS (DEBRIS BASINS, DESILTING BASINS, OR SEDIMENT TRAPS) SHALL BE PROPERLY DESIGNED.
6. SEDIMENT BASINS (DEBRIS BASINS, DESILTING BASINS, OR SEDIMENT TRAPS) SHALL BE INSTALLED DURING THE INITIAL GRADING AT LOCATIONS THAT WILL PROVIDE THE BEST PROTECTION FROM OFF-SITE DAMAGES.
7. ALL SLOPES EXCEEDING 3:1 SHALL HAVE EXTRA SLOPE PROTECTION SUCH AS NETTING.
8. INLET PROTECTION IS REQUIRED TO MINIMIZE DISCHARGE OF SEDIMENT LADEN WATER.
9. SITE PERIMETER CONTROLS ARE REQUIRED AND SHALL BE INSTALLED TO PREVENT THE DEPOSIT OF SOIL AND DEBRIS FROM GRADED SURFACES ONTO PUBLIC STREETS, INTO DRAINAGE CHANNELS OR SEWERS, OR ONTO ADJOINING LAND. STREETS MUST BE CLEAN AT ALL TIMES, ANY DEBRIS LEAVING THE SITE MUST BE CLEANED UP IMMEDIATELY.
10. EROSION CONTROL MEASURES SHOWN ARE THE MINIMUM REQUIRED, CONTRACTOR SHALL PROVIDE ADDITIONAL CONTROL AND REVISE THE CONTROLS AS NEEDED.

INSPECTIONS AND MAINTENANCE

1. ALL EROSION CONTROL MEASURES, DISCHARGE LOCATIONS, VEHICLE EXITS, DISTURBED AREAS OF THE SITE, AND MATERIALS STORAGE AREAS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER. EACH INSPECTION MUST BE DOCUMENTED IN ACCORDANCE WITH THE KPDES GENERAL PERMIT FOR STORMWATER POINT SOURCE DISCHARGES FROM CONSTRUCTION ACTIVITIES (KYR10).
2. SEDIMENT ACCUMULATED AT THE SILT FENCES, INLET PROTECTION AREAS, AND OTHER SILT CHECK DEVICES SHOULD BE REMOVED NO LATER THAN WHEN IT REACHES 1/3 HEIGHT OF THE FENCE OR 9 INCHES MAXIMUM.
3. SEDIMENT MUST BE REMOVED FROM ANY SEDIMENT BASINS WHEN THE NO MORE THAN 1/3 VOLUME HAS BEEN FILLED WITH COLLECTED SEDIMENT.
4. ALL REQUIRED REPAIRS ARE TO BE MADE IMMEDIATELY.
5. REMOVED SEDIMENT MUST BE SPREAD AND VEGETATED OR OTHERWISE STABILIZED IN A MANNER THAT DOES NOT RESULT IN MUDDY RUNOFF TO NEARBY DITCHES AND WATERBODIES.
6. INSPECT THE CONSTRUCTION ENTRANCE DAILY TO ENSURE NO TRACKING OR DIRT ONTO LOCAL ROADWAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS MUST BE REMOVED IMMEDIATELY. SEE NOTE 3 FOR HANDLING OF REMOVED SEDIMENT.
7. MAINTAIN THE ENTRANCE AS NECESSARY TO PREVENT TRACKING OF DIRT.



PLAN

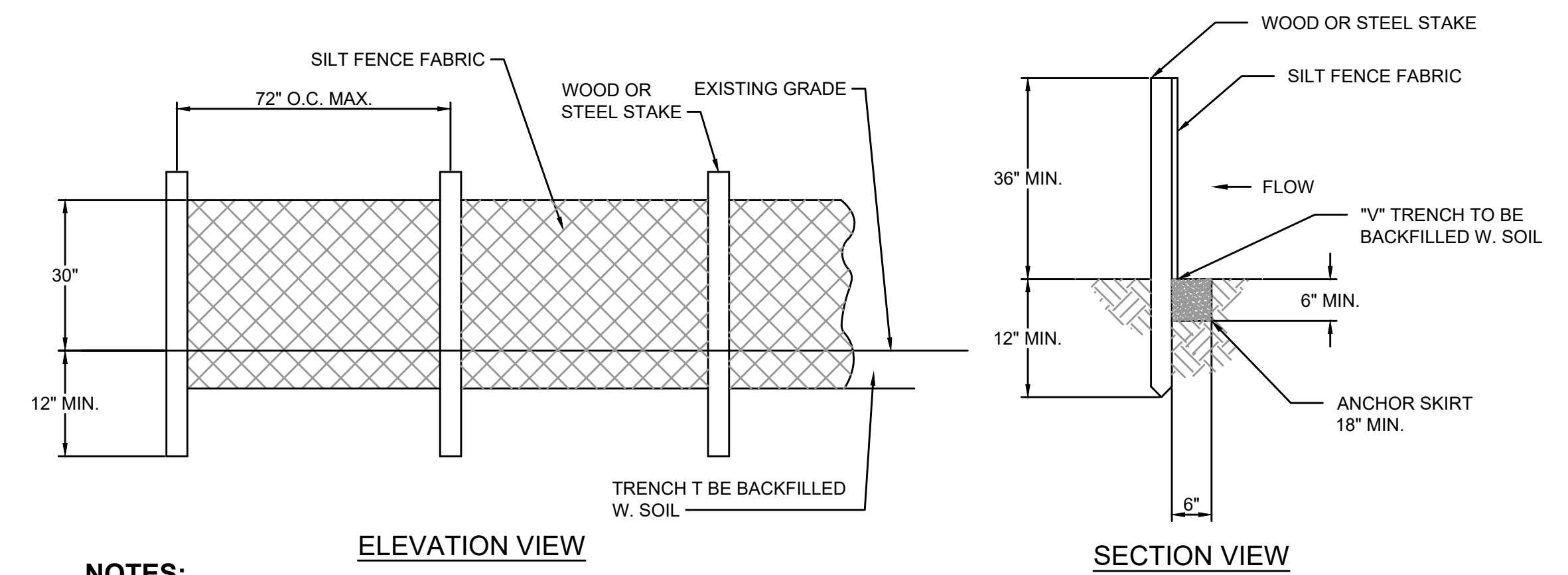


SECTION

NOTES:

1. DROP INLET PROJECTION ARE TO BE USED FOR NEARLY LEVEL DRAINAGE AREAS.
2. EXCAVATE A BASIN OF SUFFICIENT SIZE ADJACENT TO THE DROP INLET.
3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

DROP INLET PROTECTION - DETAIL
 NOT TO SCALE



ELEVATION VIEW

SECTION VIEW

NOTES:

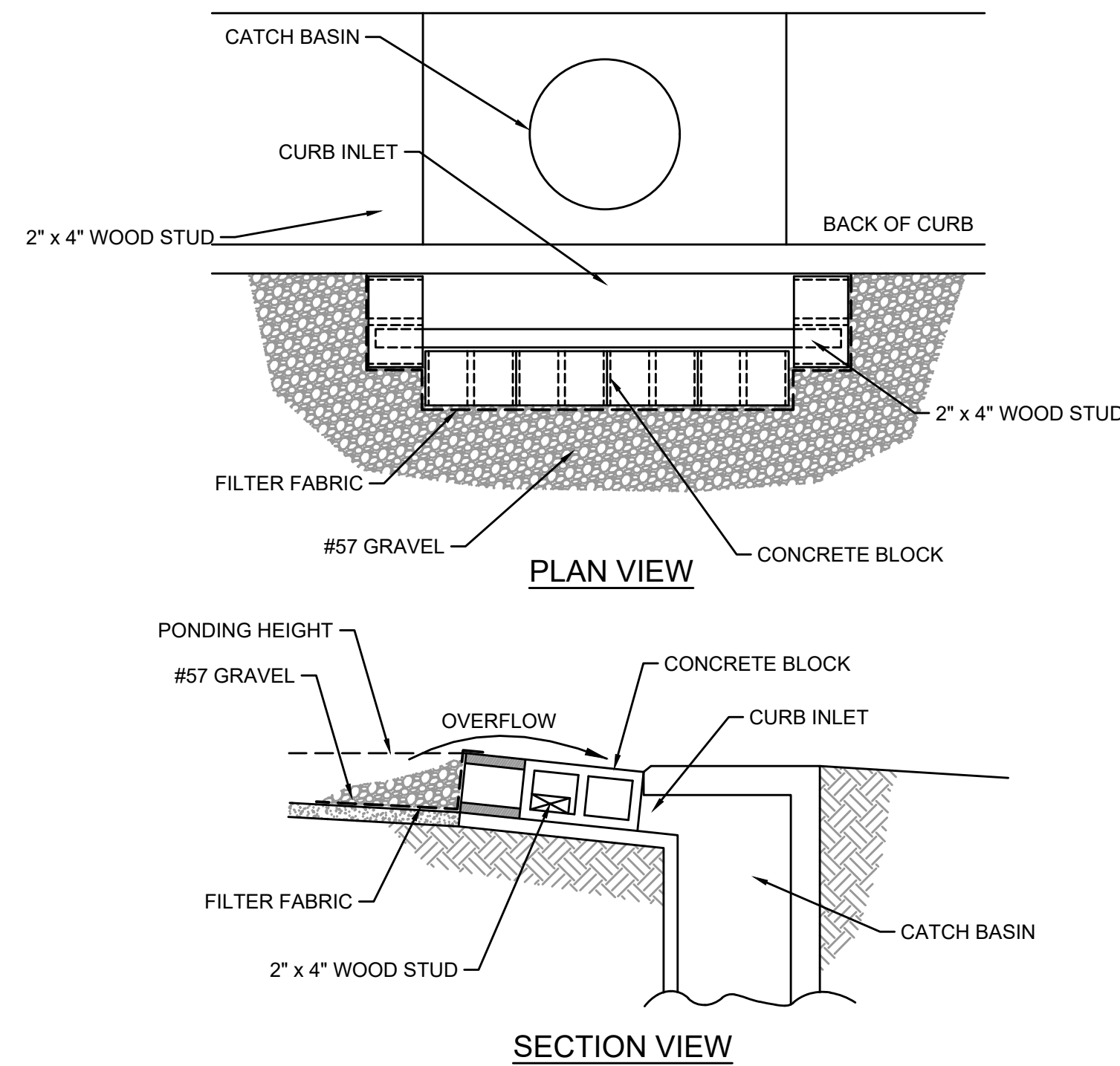
1. SILT FENCE FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE OF THE BARRIER. WHEN JOINTS CANNOT BE AVOID, SILT FENCE FABRIC SHALL BE SPLICED TOGETHER ONLY AT A POST WITH 3 FOOT MIN. OVERLAP, AND SECURELY SEALED.
2. POSTED SHALL BE AT LEAST 5 FEET IN LENGTH.
3. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE AND FABRIC.
4. WOOD POSTS SHALL BE 2 INCHES BY 2 INCHES OR EQUIVALENT. STEEL POSTS SHALL BE 1/33 LBS PER LINEAR FOOT.
5. IF REQUIRED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH IN LENGTH, WIRE TIES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE
6. TURN SILT FENCE UP SLOPE AT ENDS.

SILT FENCE - DETAIL
 NOT TO SCALE

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25



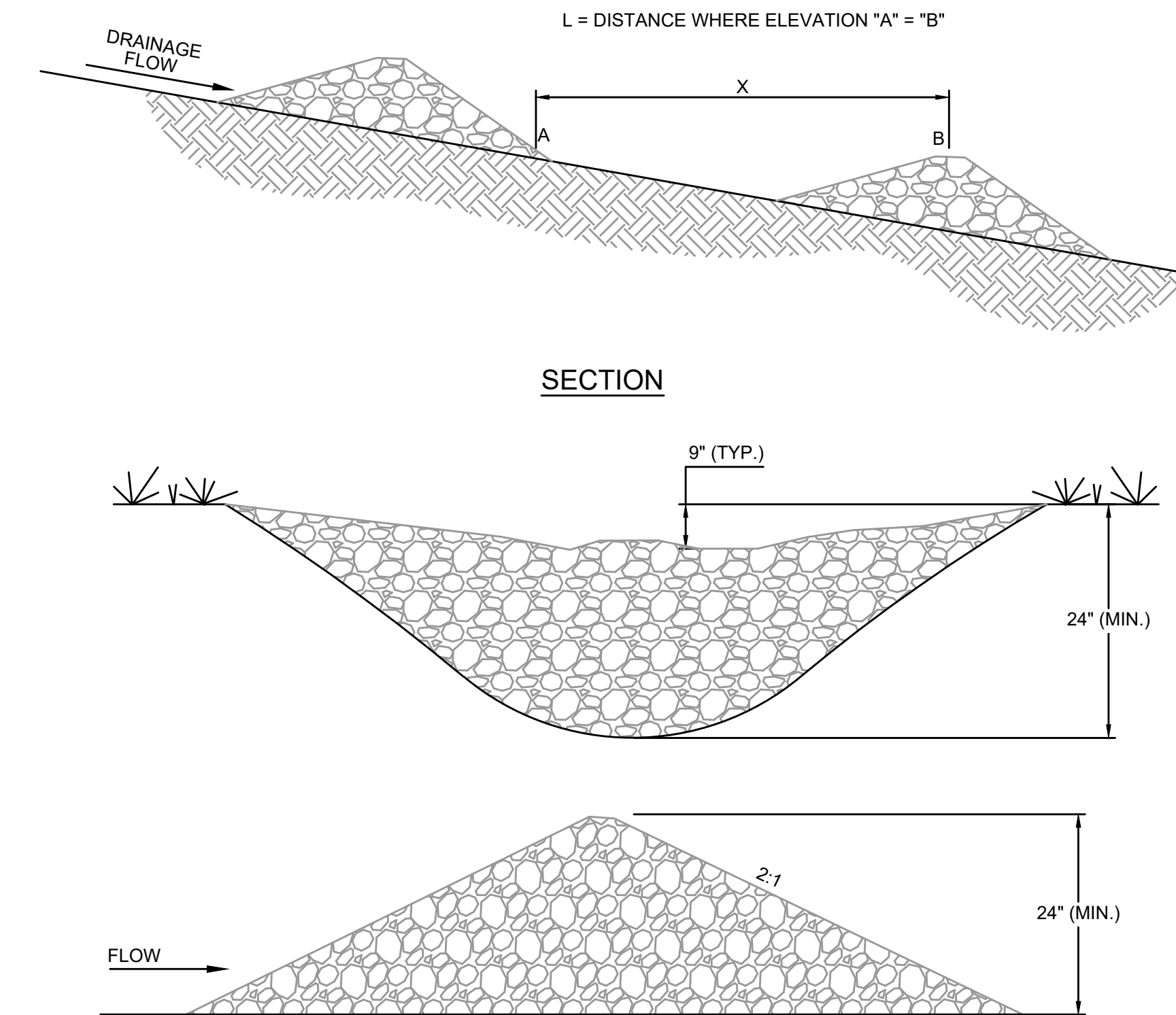
PLAN VIEW

SECTION VIEW

NOTES:

1. USE BLOCK AND GRAVEL TYPE SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET SEGMENT WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET SEDIMENT BARRIER - DETAIL
 NOT TO SCALE



SECTION

NOTES:

1. ROCK CHECK DAMS SHOULD BE CONSTRUCTED OF GRADED 5 TO 10 INCH STONE. MECHANICAL OR HAND PLACEMENTS SHALL BE REQUIRED TO ENSURE COMPLETE COVERAGE OF THE ENTIRE WIDTH OF DITCH OR SWALE AND THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
2. INSPECT BEHIND RIPRAP CHECKDAM DAILY AND CLEAN WHEN COLLECTED DEBRIS EXCEEDS HALF OF ITS DEPTH.

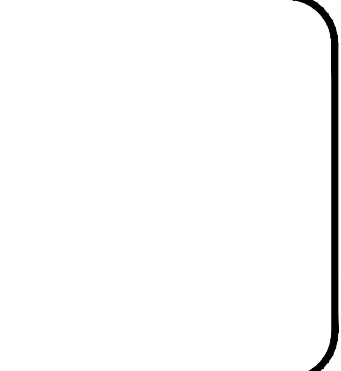
ROCK CHECK DAM - DETAIL
 NOT TO SCALE

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 STANDARD DETAILS - PIPE LINES

SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
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PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



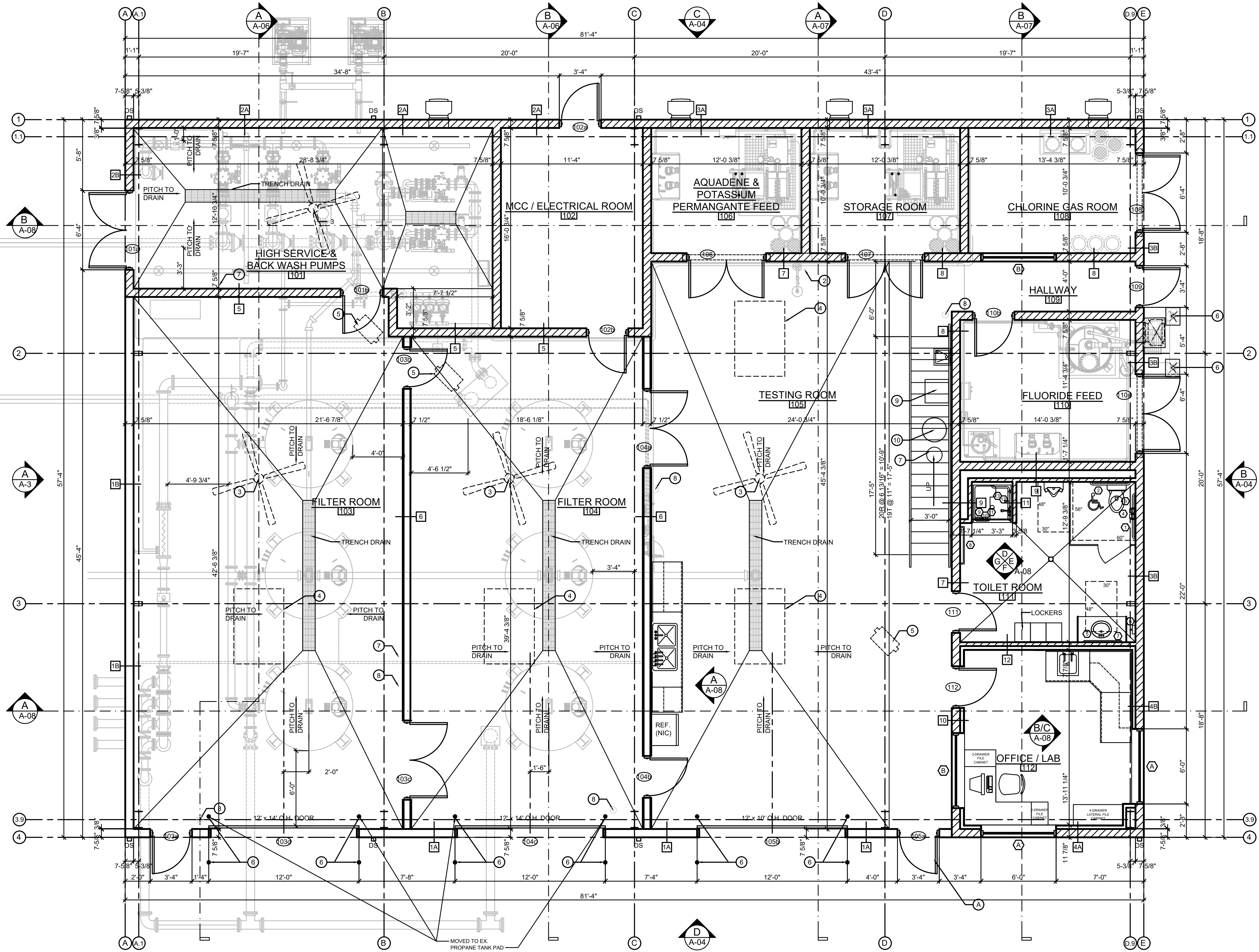
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A FLOOR PLAN
A-01 SCALE: 1/4" = 1'-0"

- SHEET KEY NOTES** ○
- BRONZE WALL PLAQUE
 - SHOWER / EYE WASH
 - CEILING FAN
 - 4' x 6' SKYLIGHT
 - GAS HEATING UNIT - MOUNTED ABOVE. REFER TO MECHANICAL FOR ACTUAL LOCATIONS.
 - CONCRETE FILLED STEEL BOLLARDS - 6" DIAMETER
 - EXPANSION TANK. REFER TO MECHANICAL FOR ACTUAL LOCATIONS.
 - FE - FIRE EXTINGUISHER
 - MOP SINK
 - HOT WATER HEATER. REFER TO MECHANICAL FOR ACTUAL LOCATIONS.

RECORD DRAWINGS

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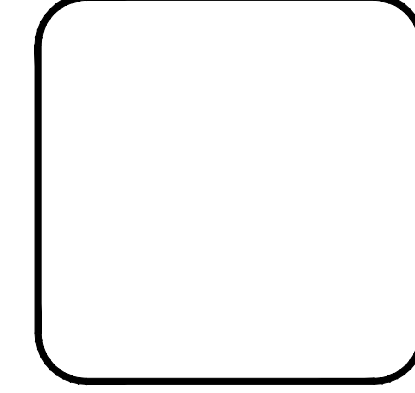
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
FLOOR PLAN

SANDY HOOK WATER DISTRICT
SERVING OUR COMMUNITY

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
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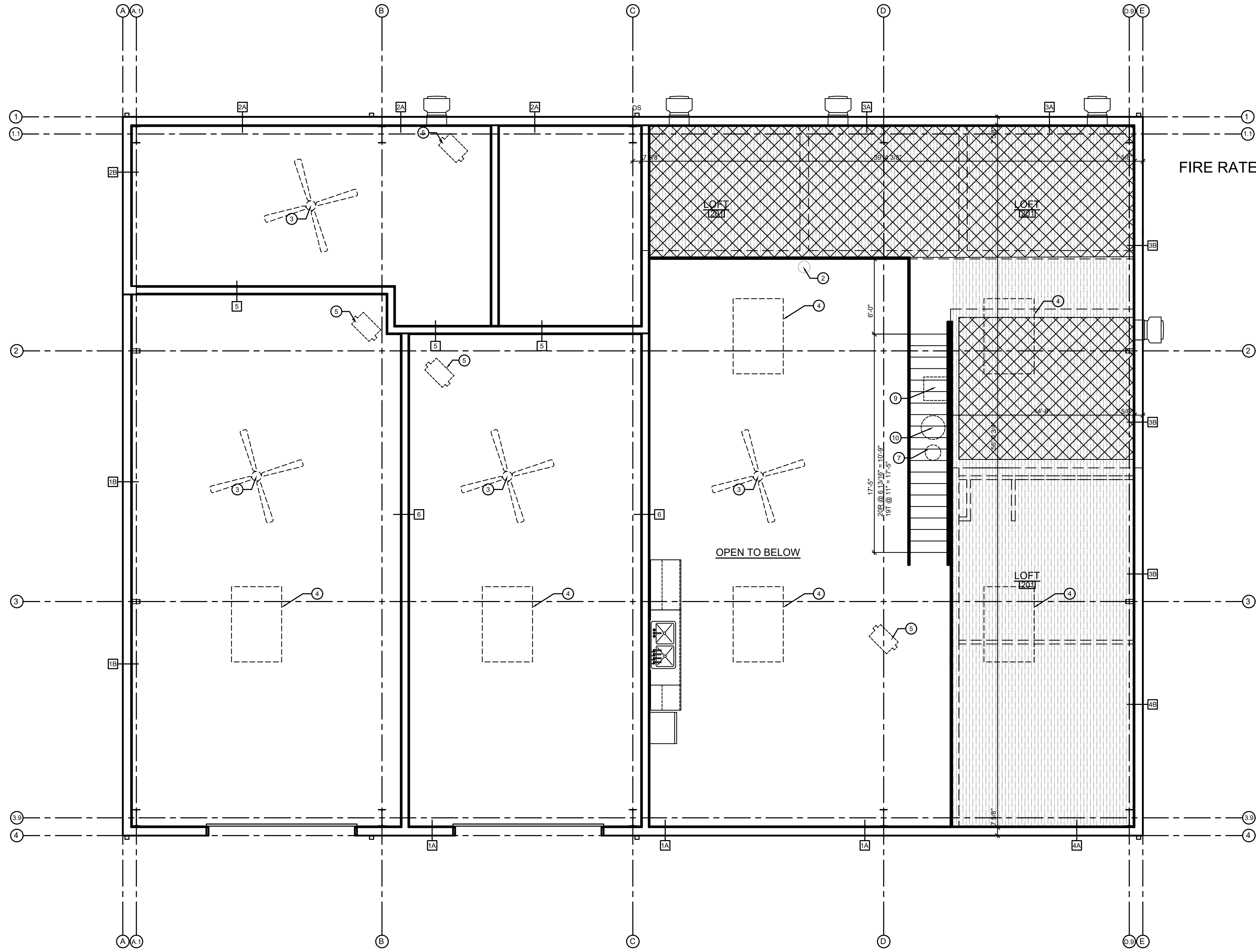
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A-01

RECORD DRAWINGS

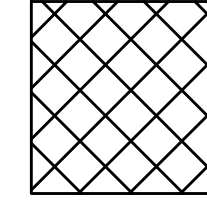
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FIRE RATED CEILING & FLOORING ADDED



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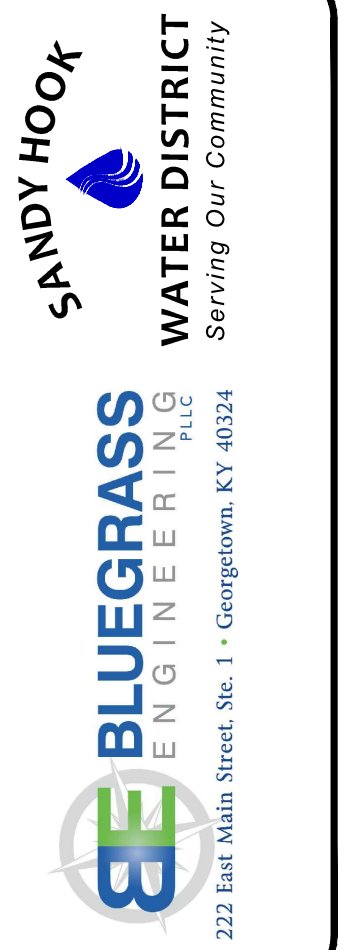
SHEET KEY NOTES ○

1. BRONZE WALL PLAQUE
2. SHOWER / EYE WASH
3. CEILING FAN
4. 4' x 6' SKYLIGHT
5. GAS HEATING UNIT - MOUNTED ABOVE
6. CONCRETE FILLED STEEL BOLLARDS - 6" DIAMETER
7. EXPANSION TANK
8. FE - FIRE EXTINGUISHER
9. MOP SINK
10. HOT WATER HEATER

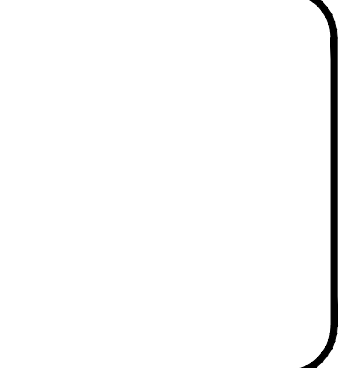
A LOFT FLOOR PLAN
 A-02 SCALE: 1/4" = 1'-0"

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 LOFT FLOOR PLAN



PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
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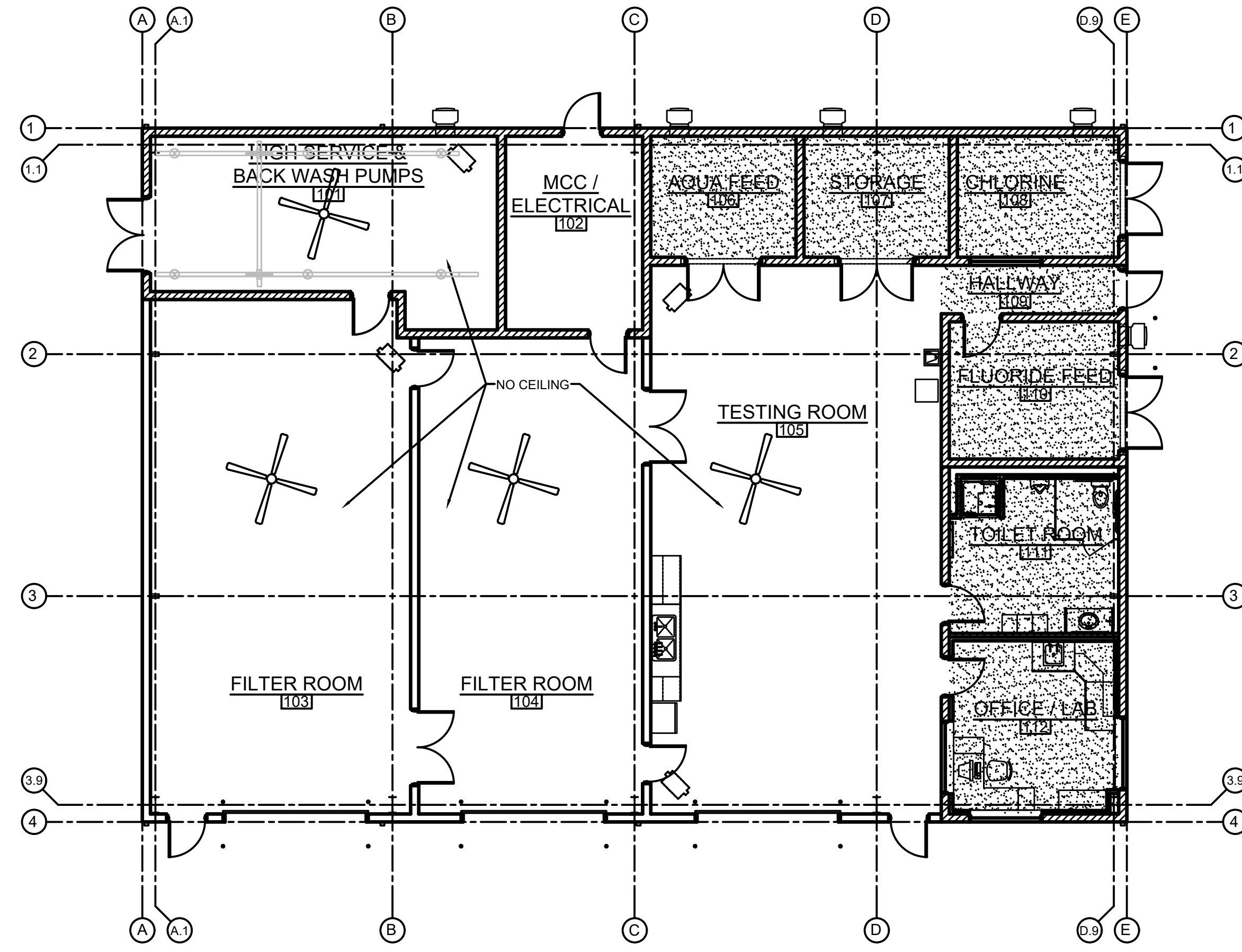
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RECORD DRAWINGS

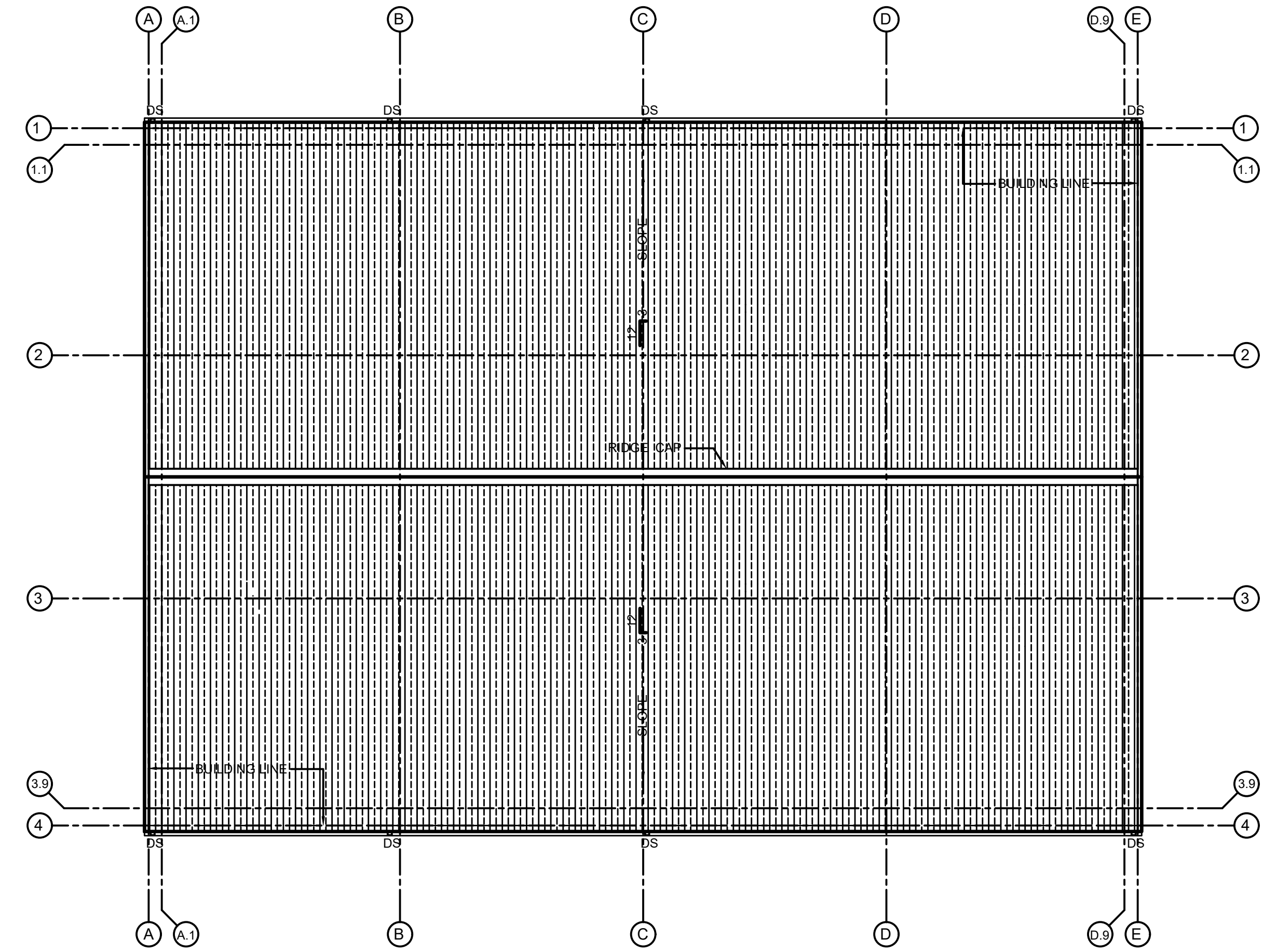
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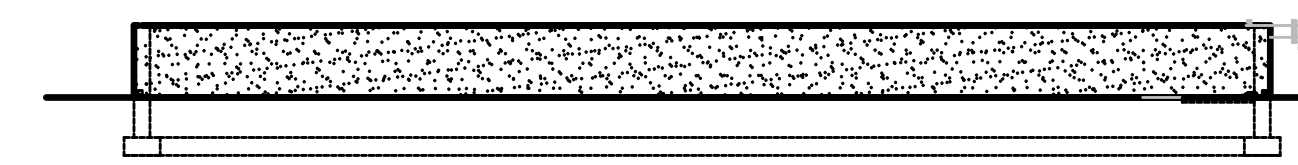
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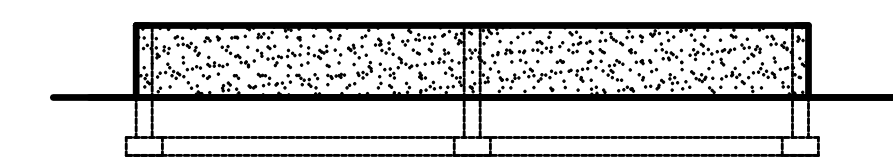
A REFLECTED CEILING PLAN
A-03 SCALE: 1/8" = 1'-0"



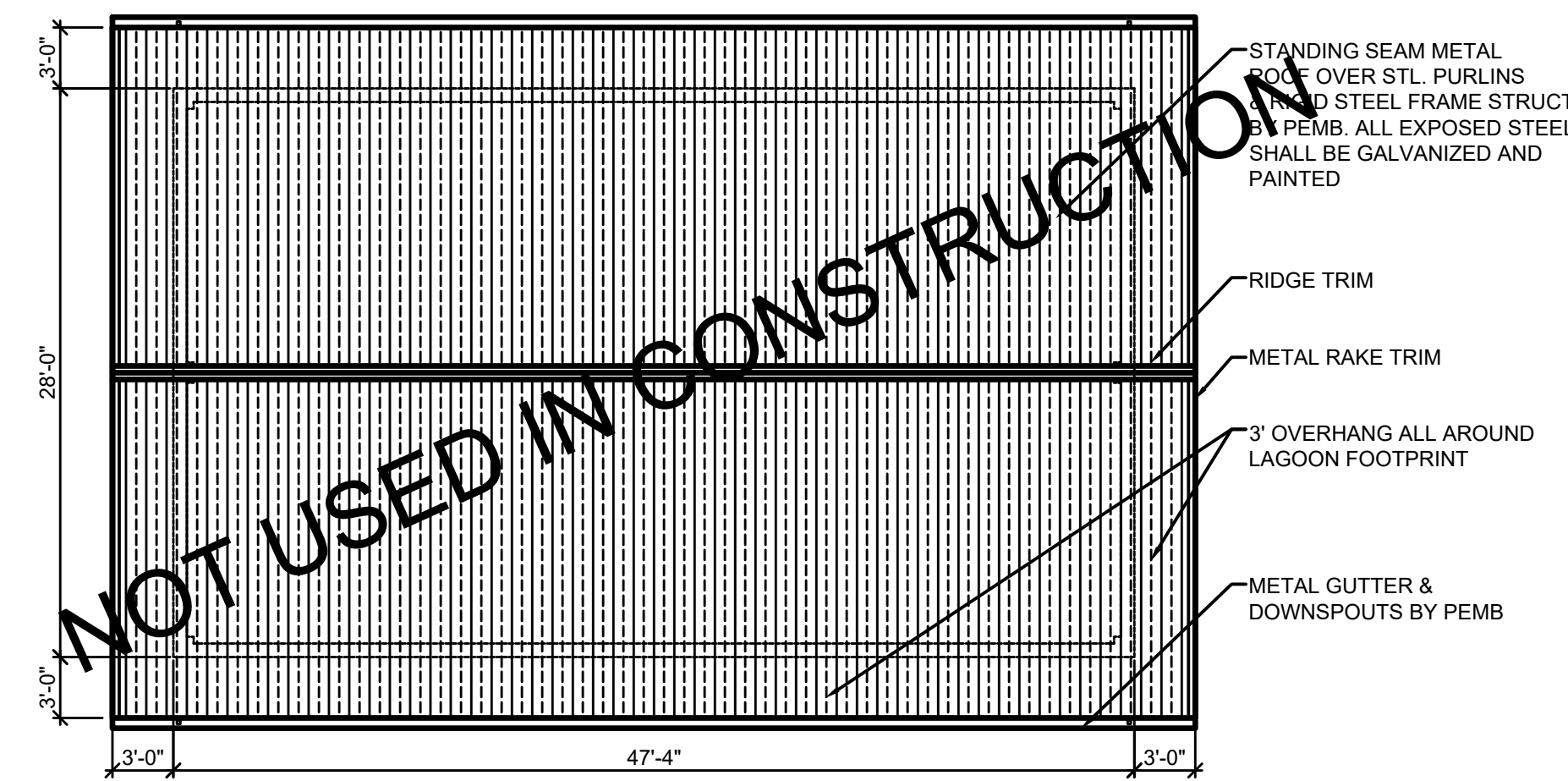
B ROOF PLAN
A-03 SCALE: 1/8" = 1'-0"



C BACKWASH LAGOON - SIDE ELEVATION
A-03 SCALE: 1/8" = 1'-0"



D BACKWASH LAGOON - END ELEVATION
A-03 SCALE: 1/8" = 1'-0"



E BACKWASH LAGOON - ROOF PLAN
A-03 SCALE: 1/8" = 1'-0"

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

NOT USED IN CONSTRUCTION

BACKWASH LAGOON STRUCTURE
SCALE: 1/8" = 1'-0"

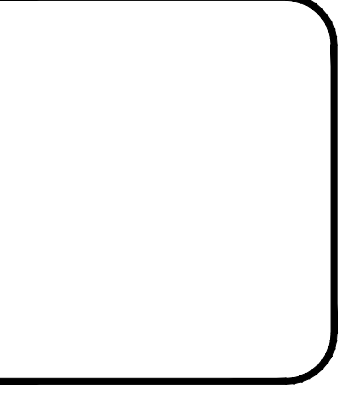
NO.	DATE	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
REFLECTED CEILING & ROOF PLANS & BACKWASH LAGOON STRUCTURE

SANDY HOOK WATER DISTRICT
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PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



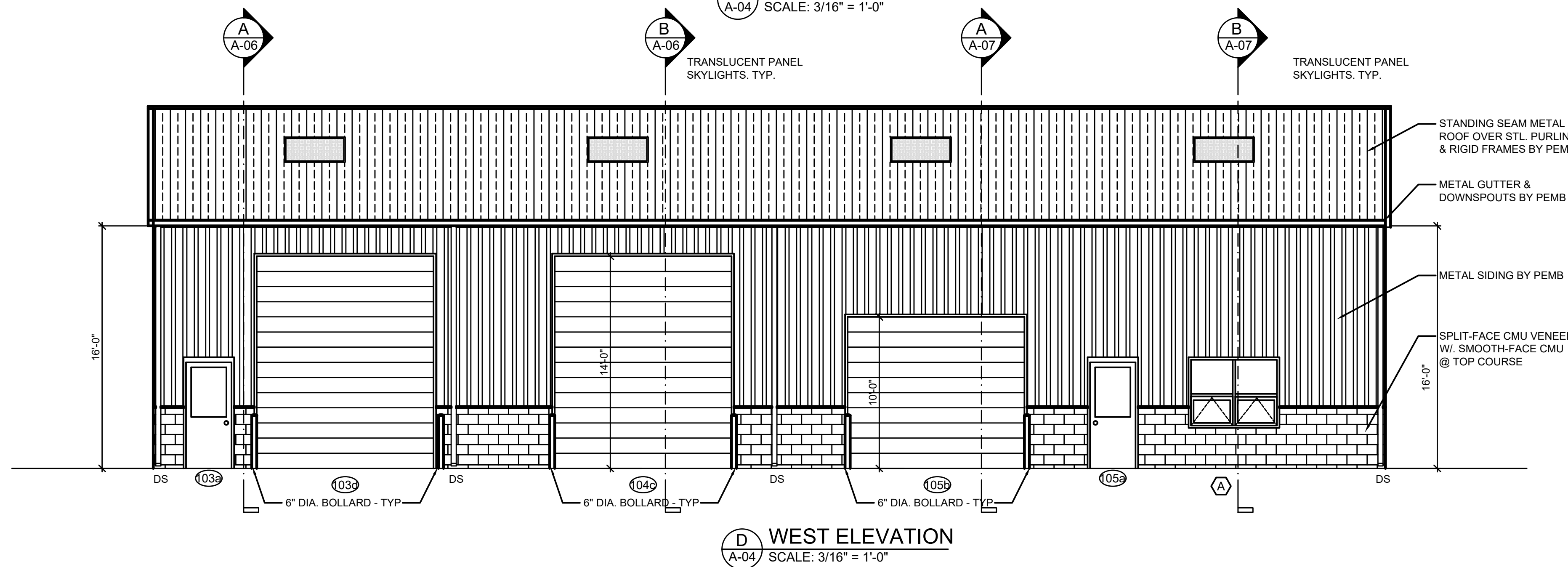
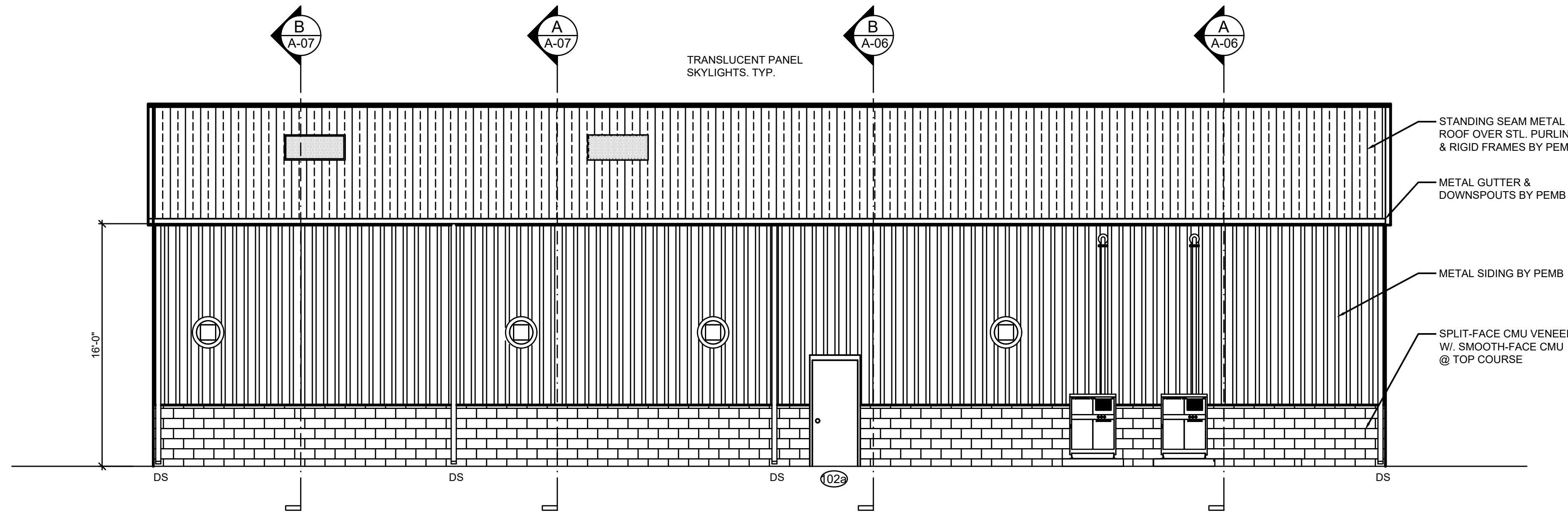
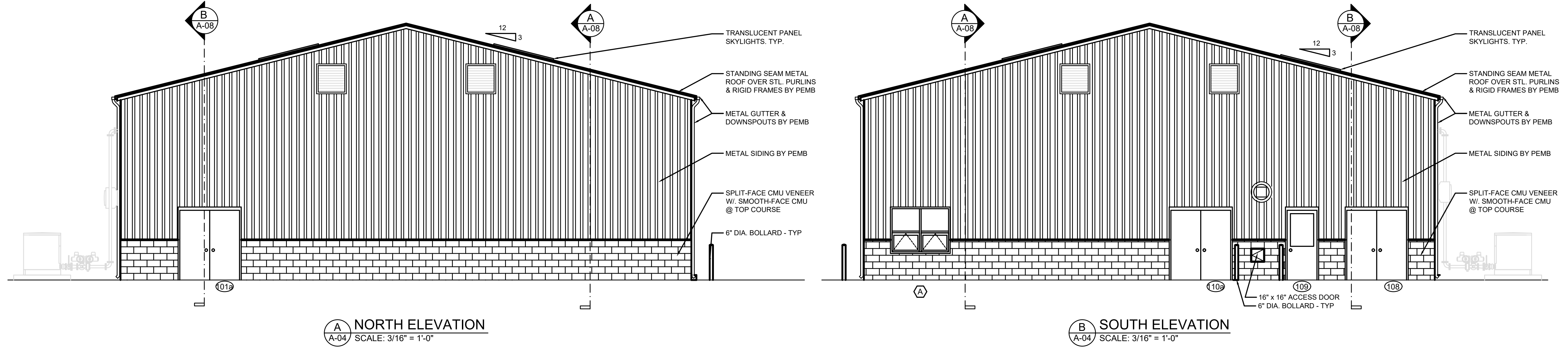
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BY: BLUEGRASS ENGINEERING DATE: 06/25

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 131 Prosperous Place, Suite 190 • Lexington, Kentucky 40509
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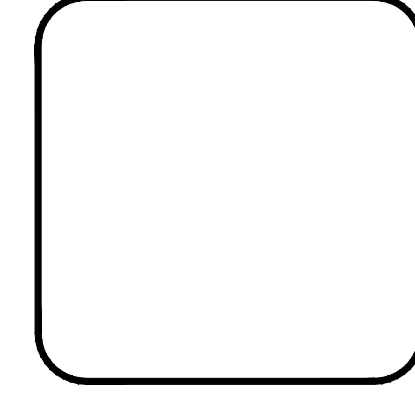
NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 BUILDING ELEVATIONS

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 222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 19003
 DATE: APRIL 2022
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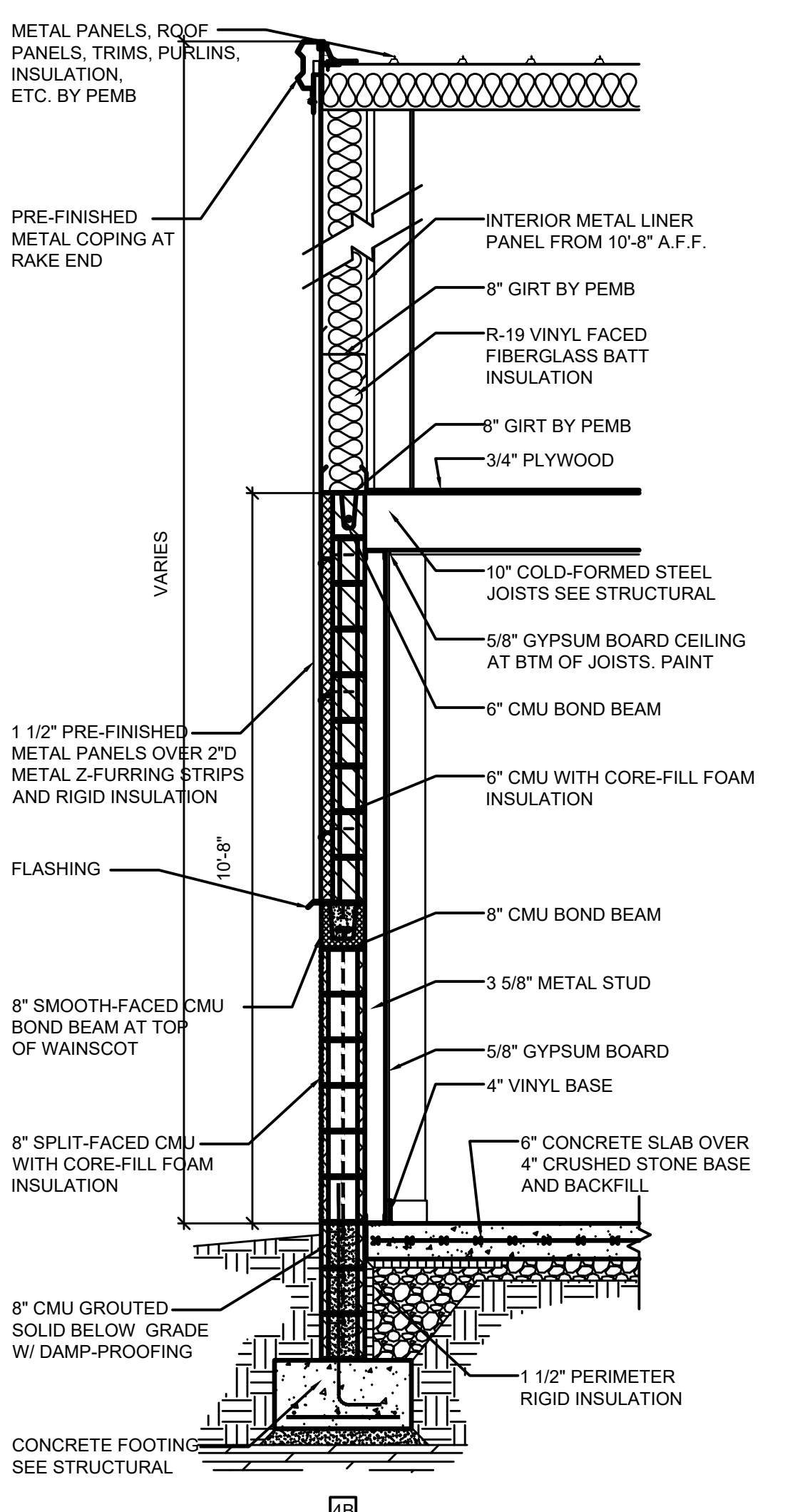
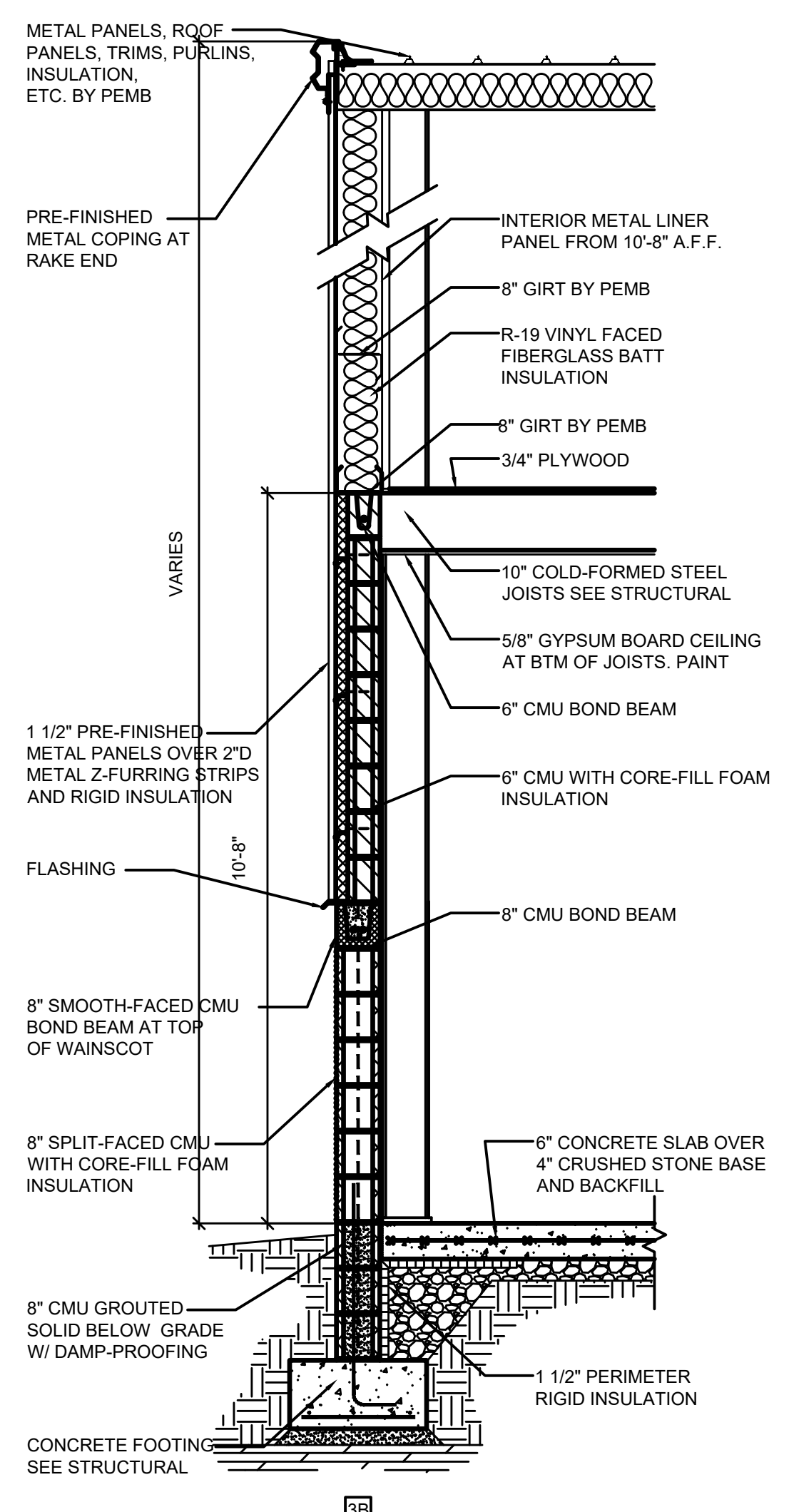
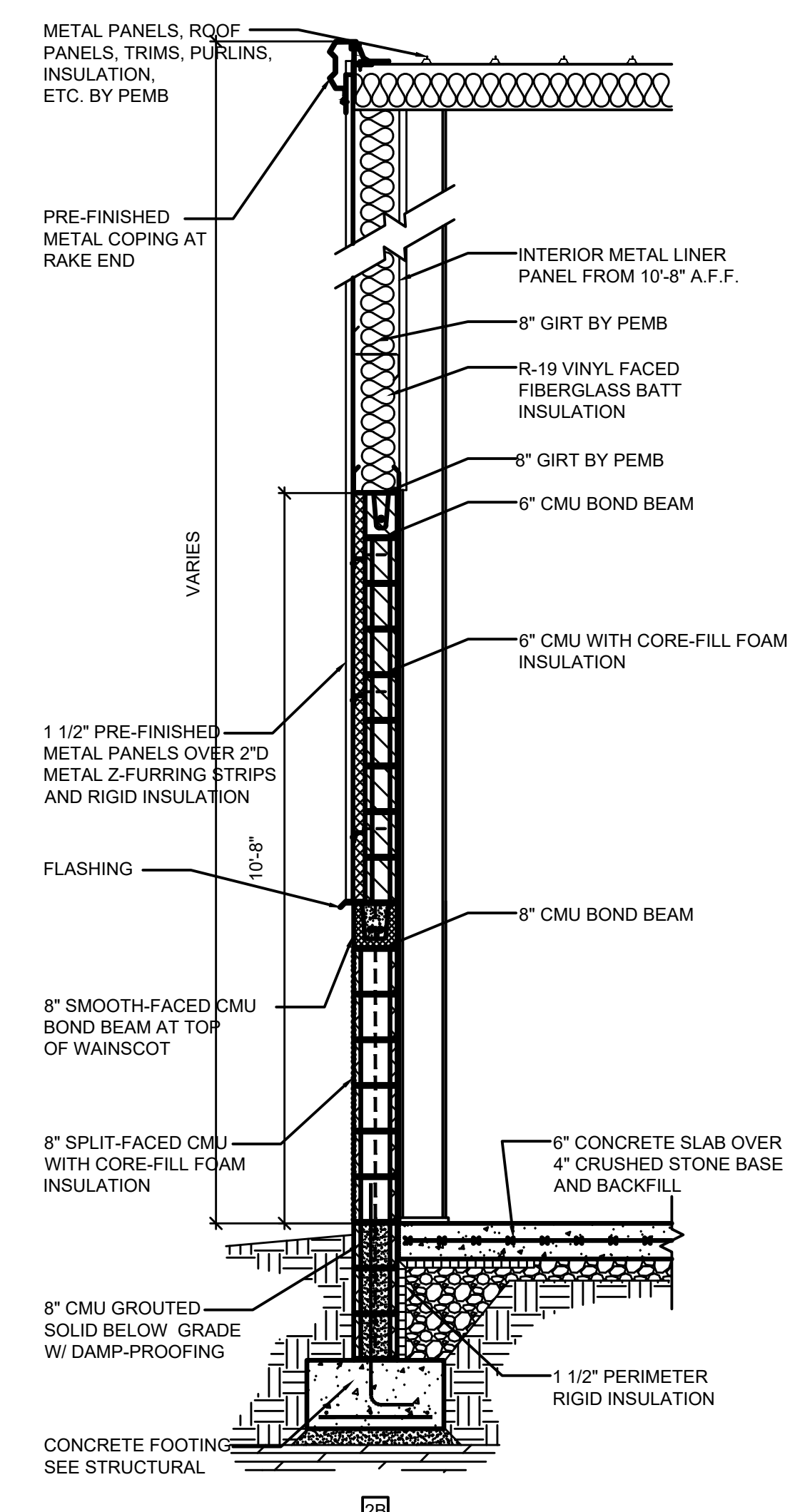
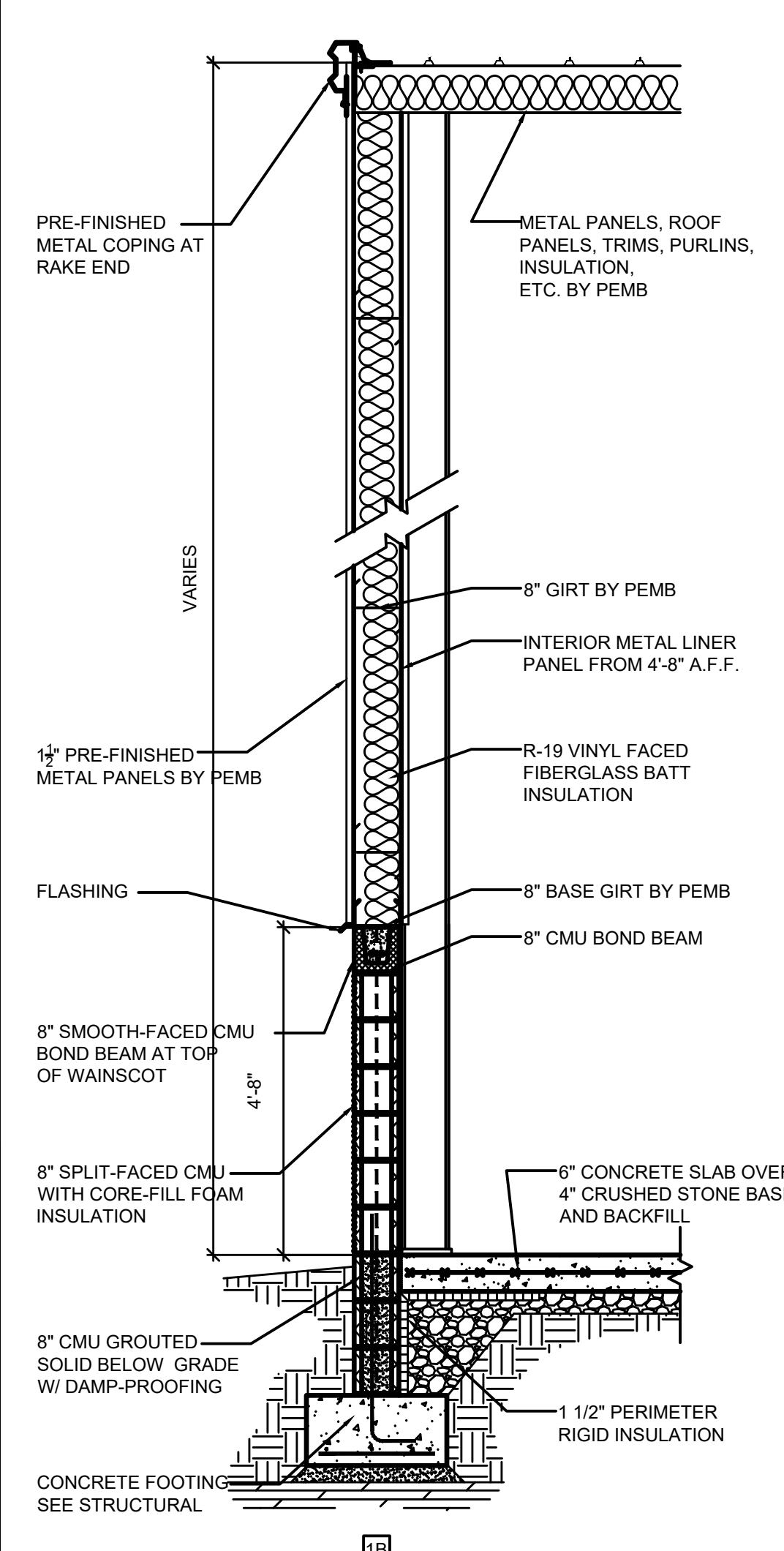
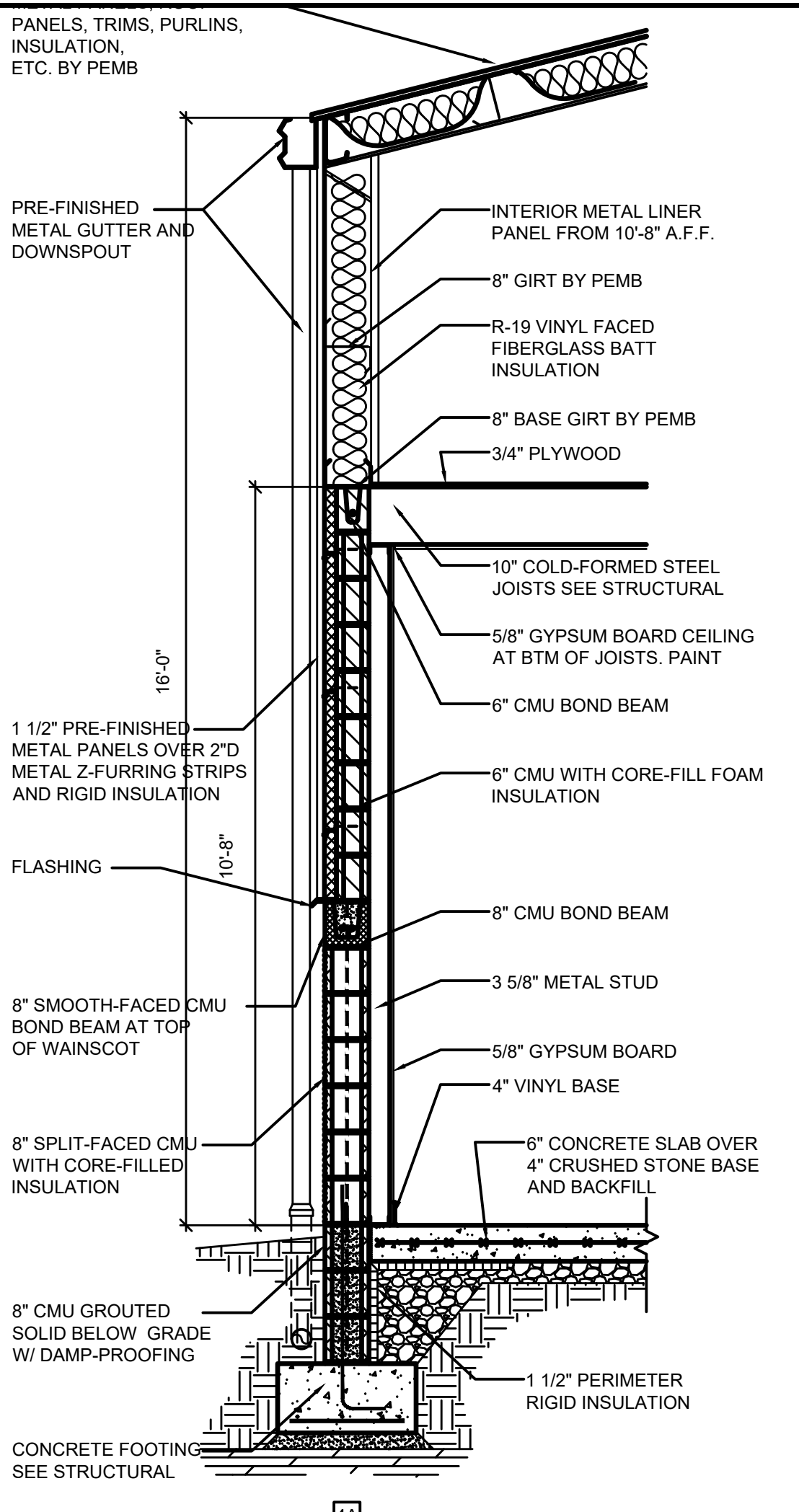
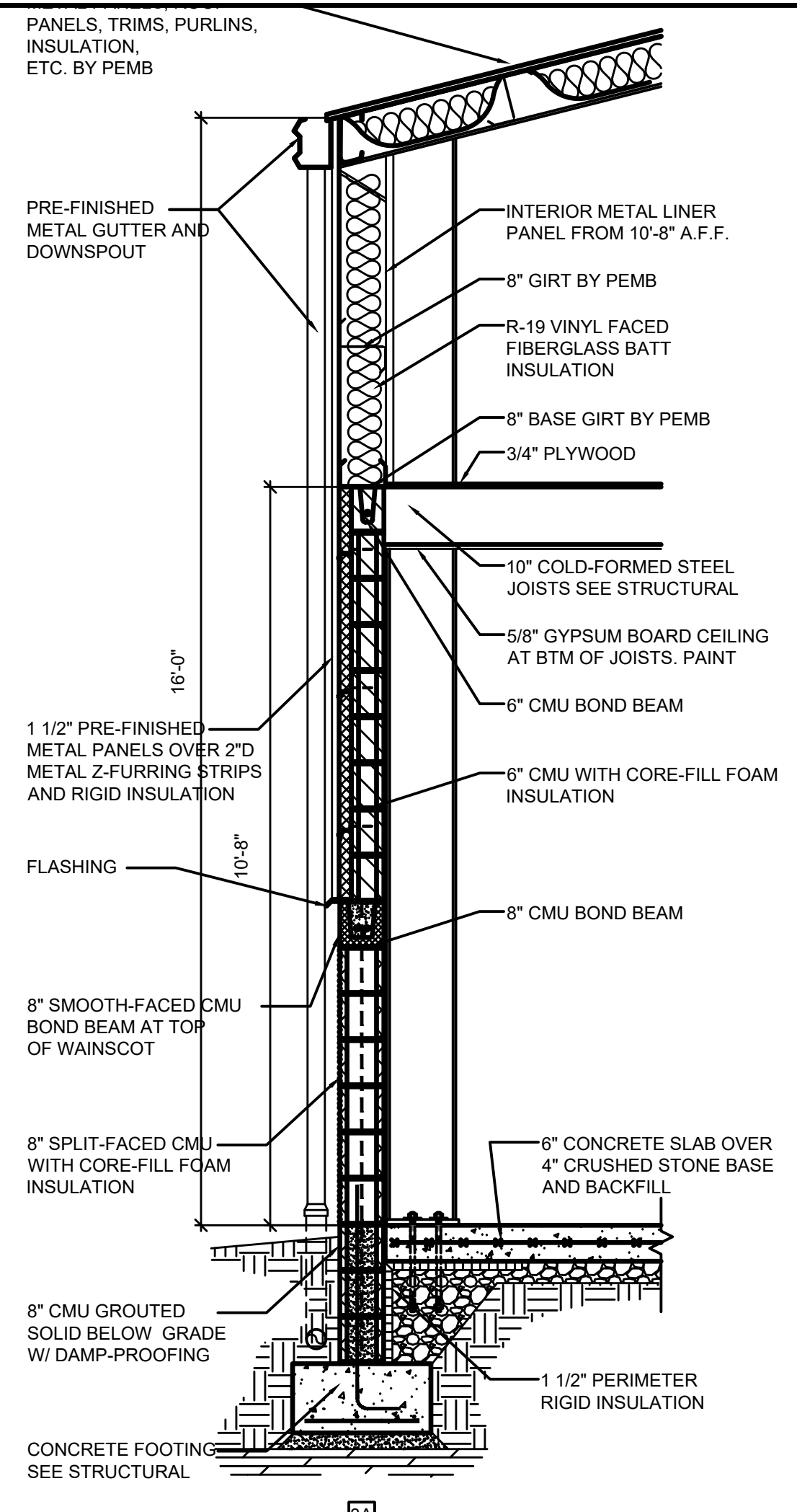
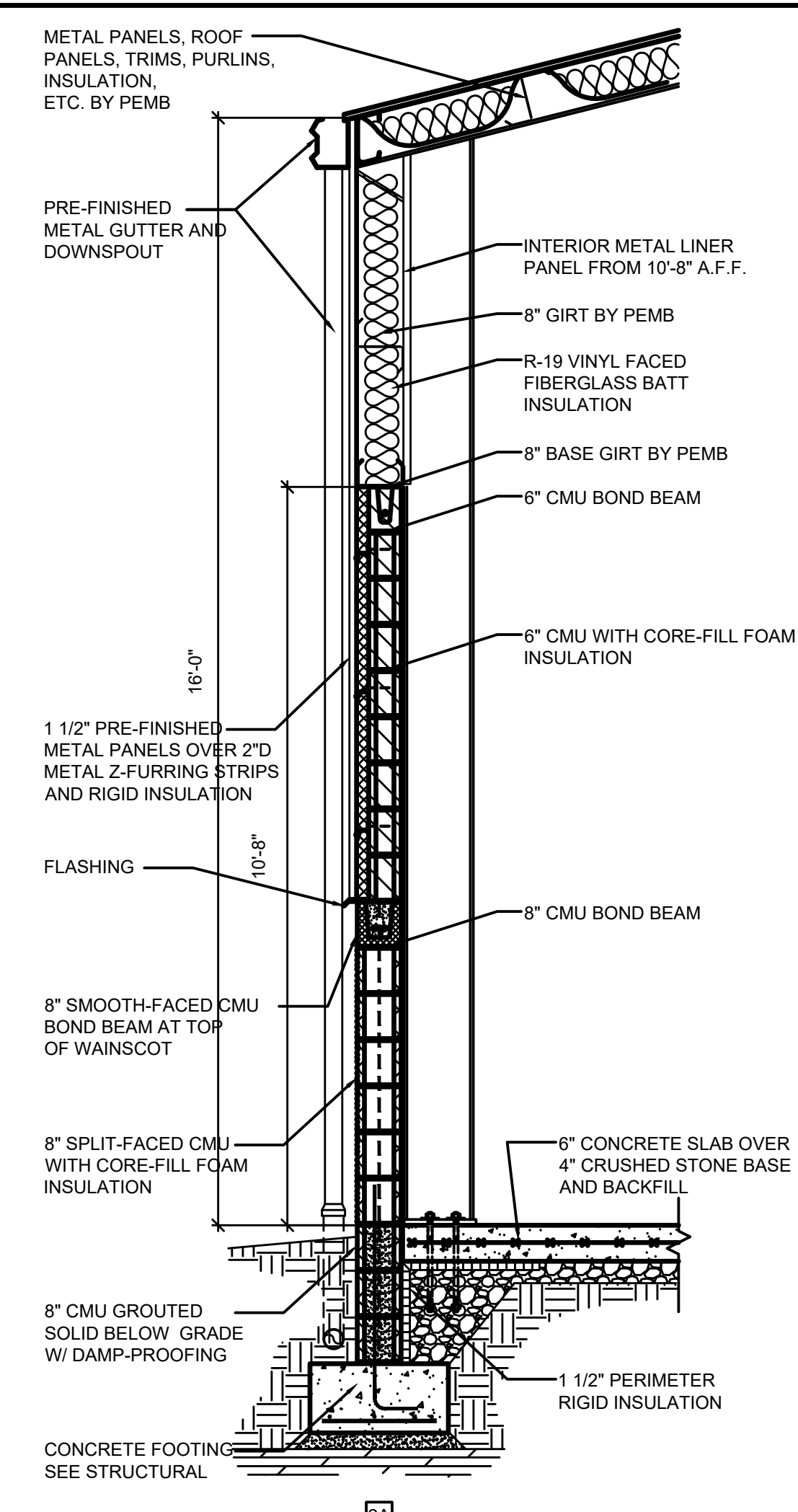
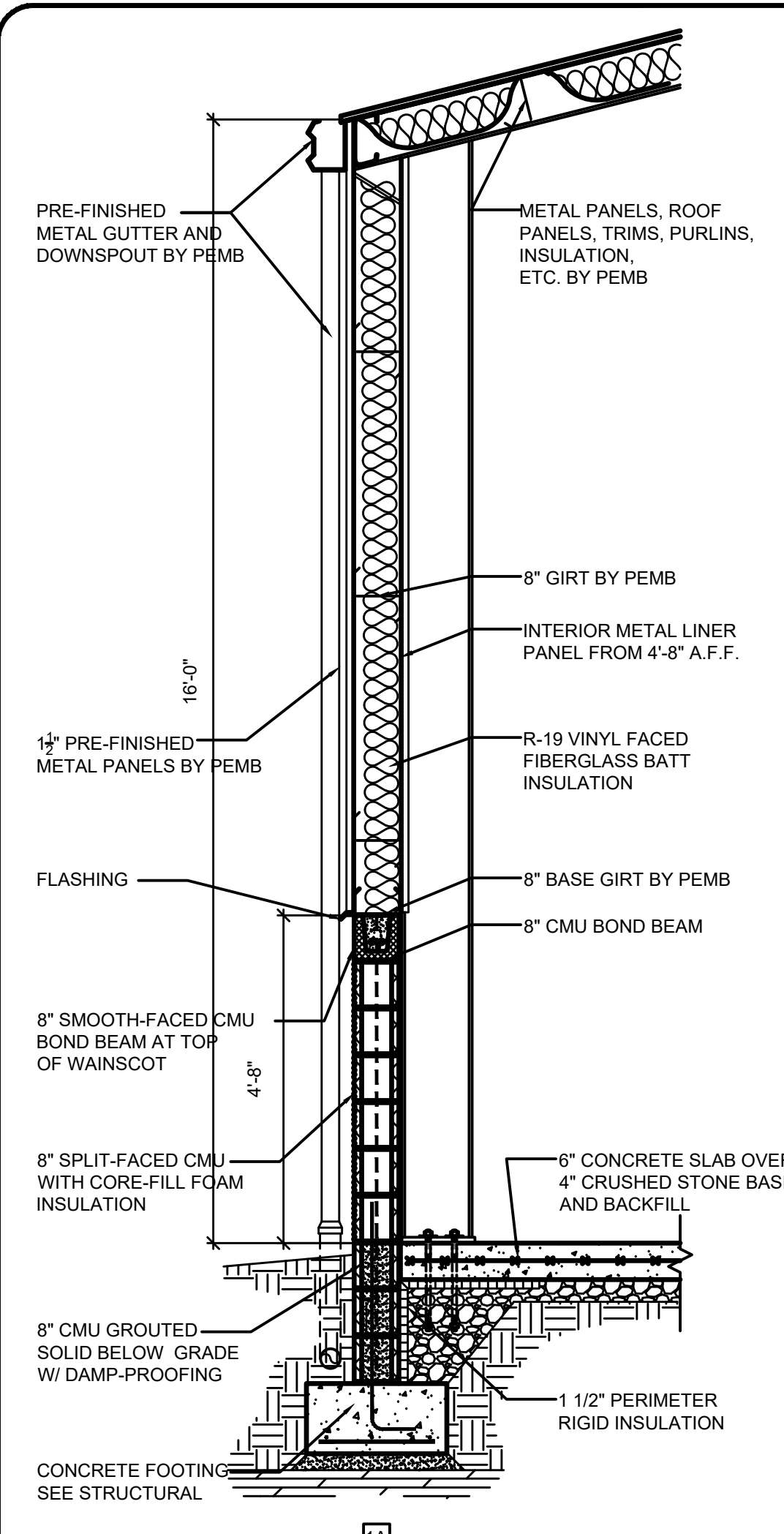
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A-04

RECORD DRAWINGS

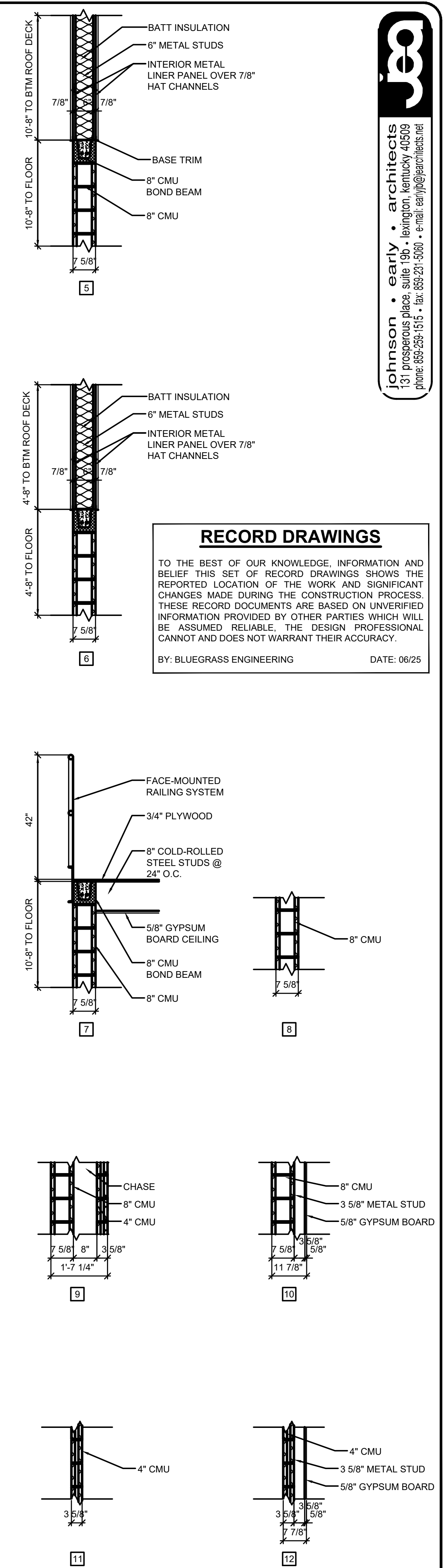
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WALL TYPES
SCALE: 1/2" = 1'-0"



PARTITION TYPES
SCALE: 1/2" = 1'-0"

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BY: BLUEGRASS ENGINEERING DATE: 06/25

johnson • early • architects
131 Prosperous Place, Suite 190 • Lexington, Kentucky 40509
phone: 606-259-1515 • fax: 606-251-5069 • e-mail: early@johnsonearly.com

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
WALL AND PARTITION TYPES

SANDY HOOK WATER DISTRICT
Serving Our Community

BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL

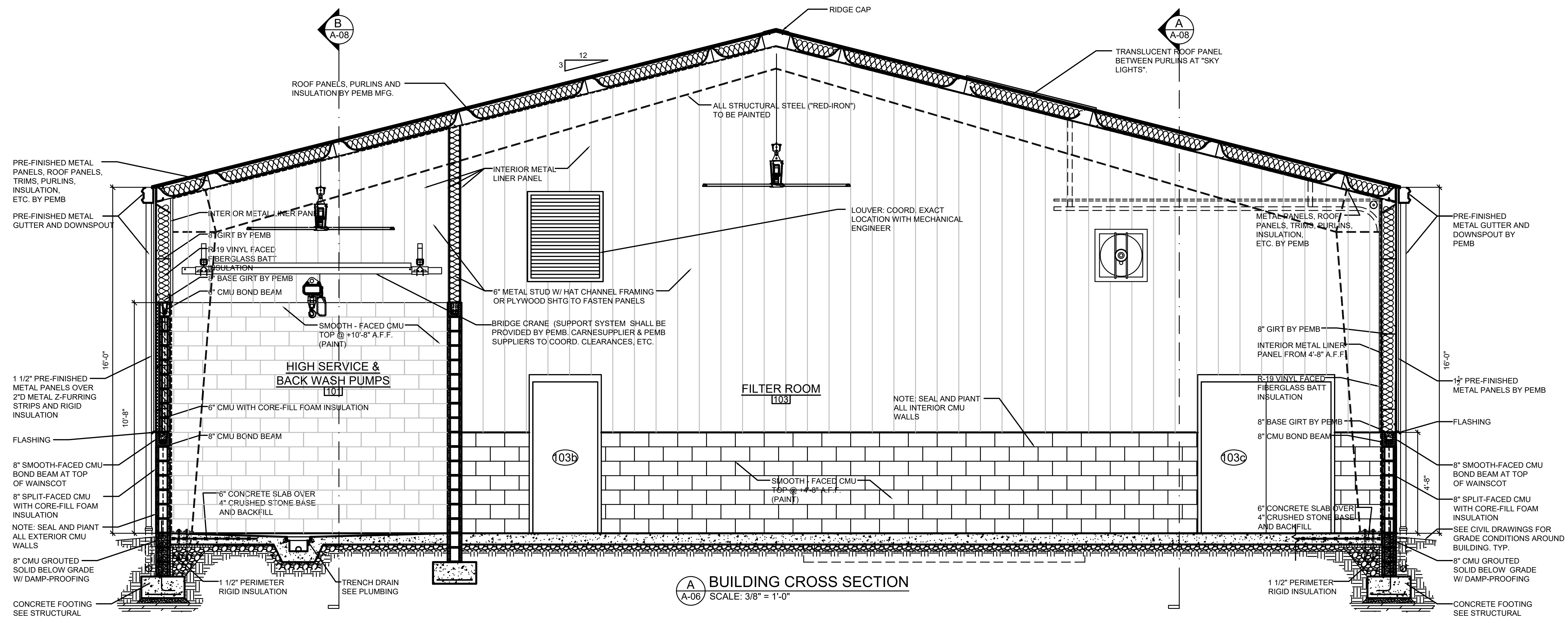
SHEET NO.
A-05

RECORD DRAWINGS

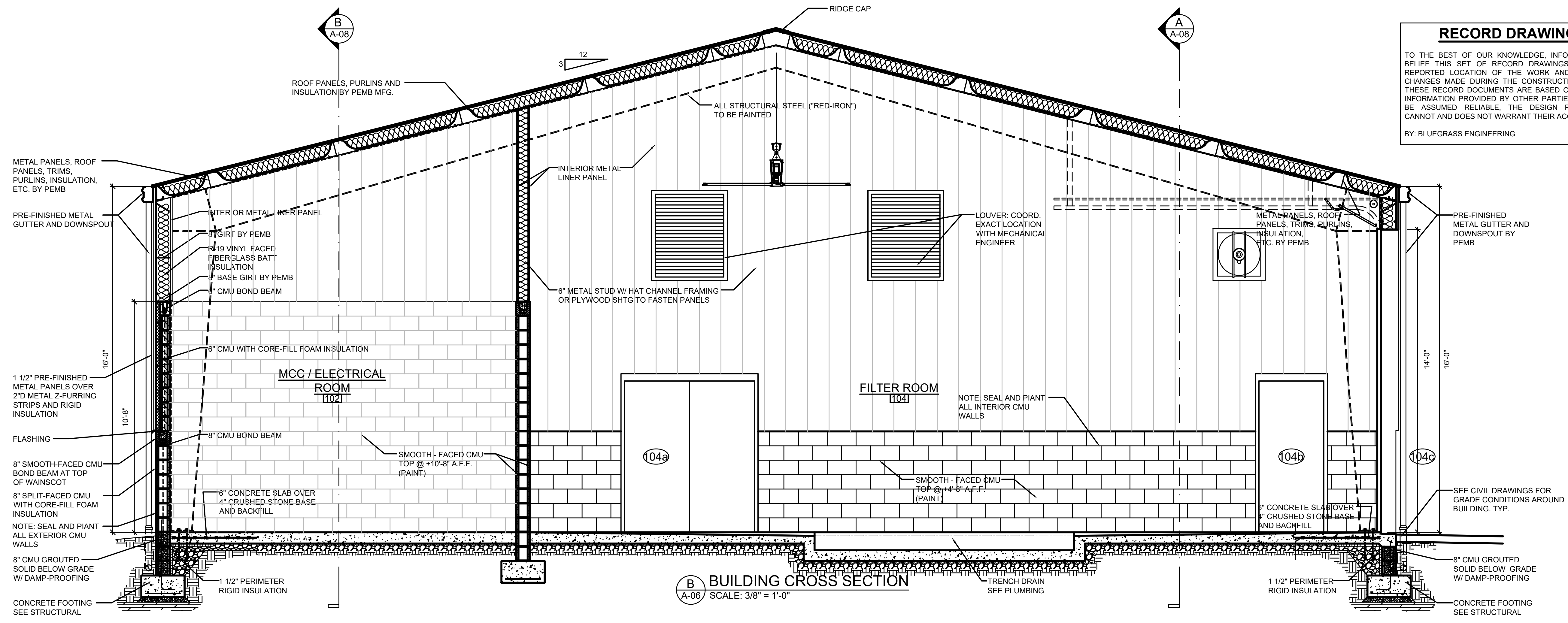
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A BUILDING CROSS SECTION
A-A-06 SCALE: 3/8" = 1'-0"



B BUILDING CROSS SECTION
A-A-06 SCALE: 3/8" = 1'-0"

RECORD DRAWINGS

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2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS

BUILDING SECTIONS

SANDY HOOK WATER DISTRICT
SERVING OUR COMMUNITY

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222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 19003
DATE: APRIL 2022
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SEE CIVIL DRAWINGS FOR GRADE CONDITIONS AROUND BUILDING. TYP.

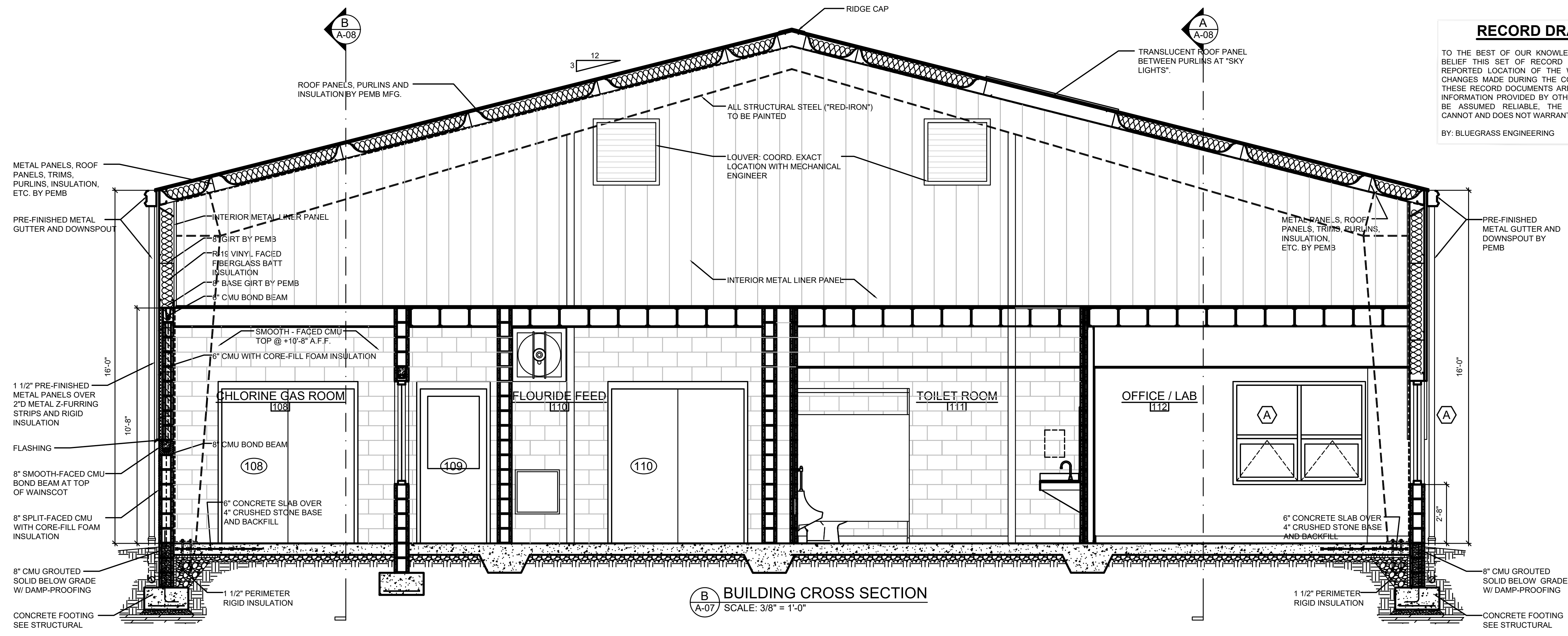
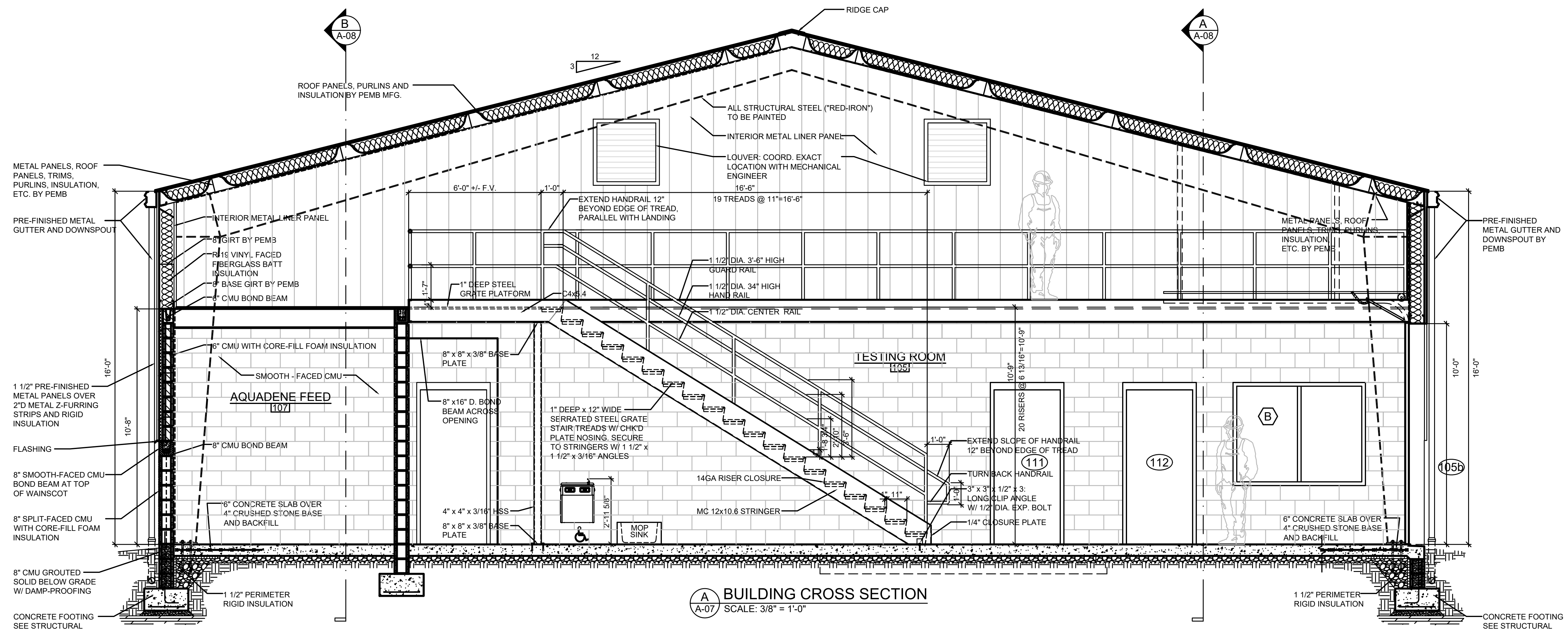
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2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
BUILDING SECTIONS

SANDY HOOK WATER DISTRICT
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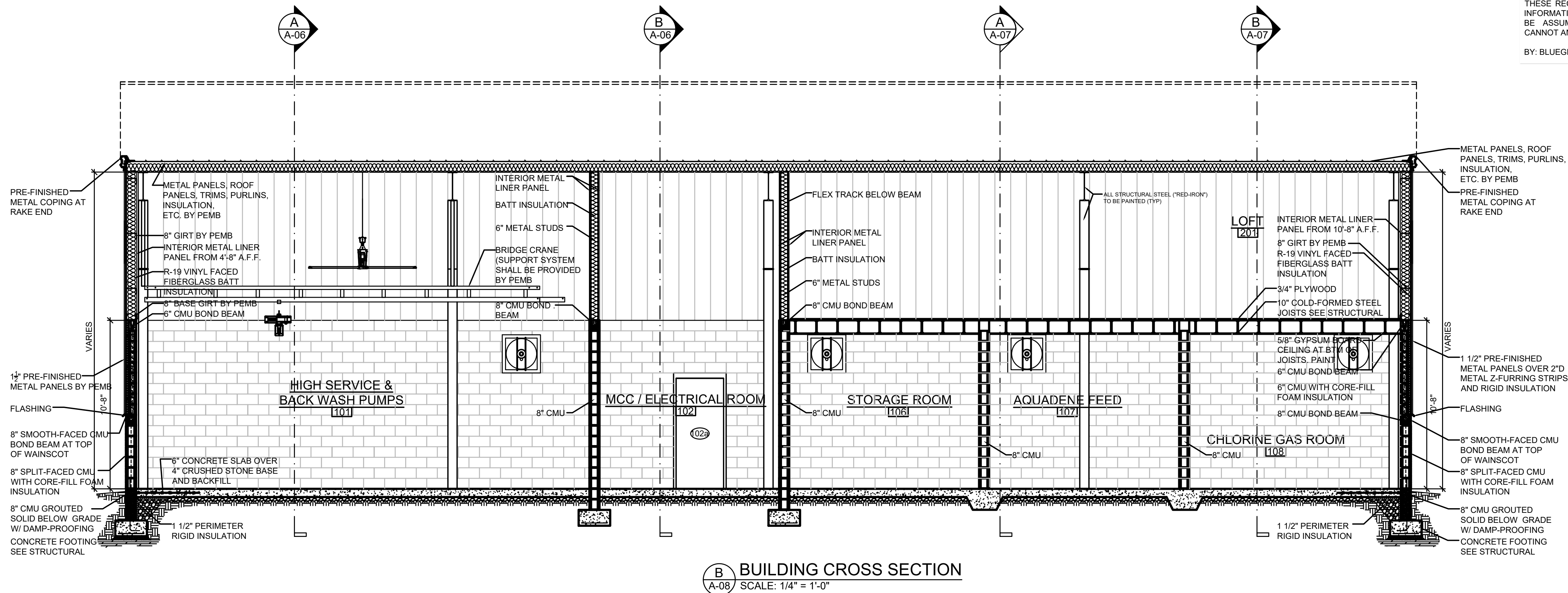
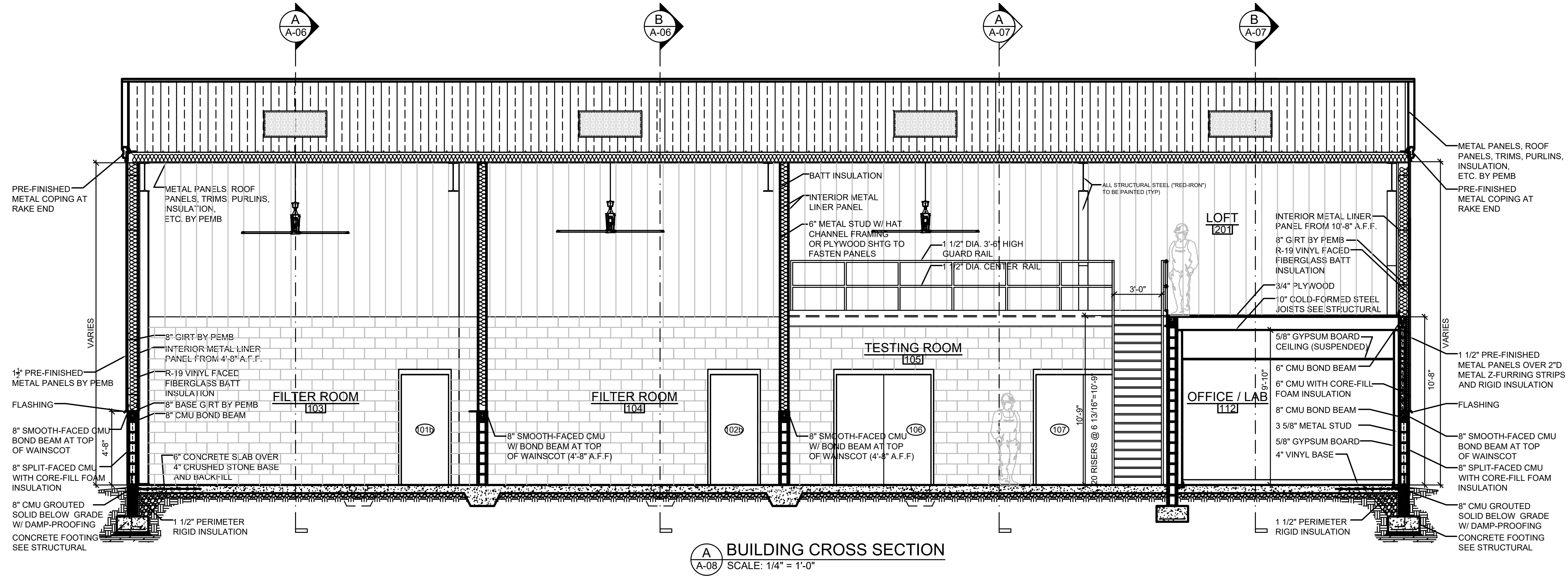
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NO.	DATE	REVISIONS	BY

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BUILDING SECTIONS

SANDY HOOK WATER DISTRICT
BLUEGRASS ENGINEERING, PLLC
222 East Main Street, Ste. 1 - Georgetown, KY 40324
Serving Our Community

PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
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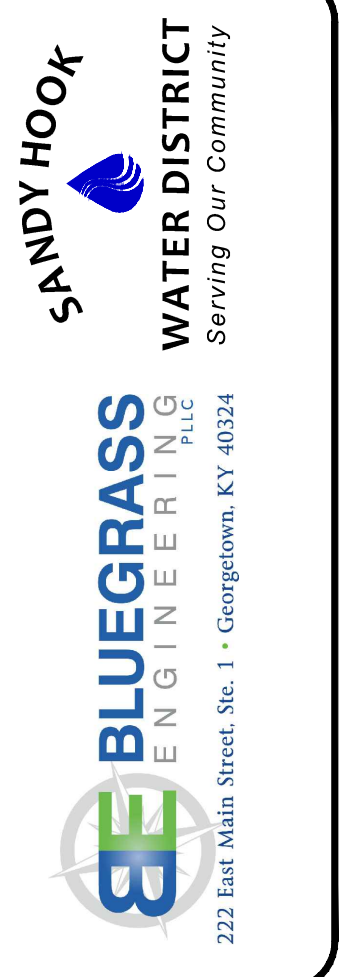
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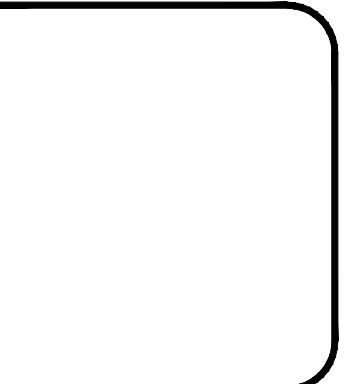
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NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
ABBREVIATIONS, LEGEND, & SYMBOLS



PROJECT #: 19003
DATE: APRIL 2022
PROJECT MGR: LRS
DRAWN BY: BKL
CHECKED BY: BKL



I-1-01

RECORD DRAWINGS

LEGEND

VALVES

OPEN **CLOSED**

- BUTTERFLY
- BALL
- DIAPHRAGM
- GATE
- NEEDLE
- PLUG
- GLOBE
- CHECK
- V-BALL
- BALL-3-WAY
- DRAIN
- SAMPLE
- SOLENOID
- SOLENOID-3-WAY
- FLOAT
- FOOT
- PRESSURE REGULATING (PRV): SELF REGULATING
- PRESSURE REGULATING (PRV): EXTERNAL REGULATING
- BACK PRESSURE (BPV): SELF REGULATING
- BACK PRESSURE (BPV): EXTERNAL REGULATING

ACTUATORS

- MOTORIZED
- MODULATING
- PISTON: DOUBLE-ACTING
- SPRING OPEN
- SPRING CLOSE
- DIAPHRAGM
- MANUAL
- CHAINWHEEL

RELIEF

- PRESSURE SAFETY
- RUPTURE DISK: PRESSURE
- RUPTURE DISK: VACUUM
- PULSATION DAMPENER
- VACUUM BREAKER

FITTINGS

- THREADED
- THREADED: PLUGGED
- FLANGE
- BLIND FLANGE
- SOCKET
- SOCKET: PLUGGED
- SANITARY
- SANITARY: PLUGGED
- CAMLOCK
- CAMLOCK: PLUG/CAP
- UNION
- COMPRESSION
- GROOVED: BLOCKER
- GROOVED: COUPLING
- GROOVED: CAP
- INJECTION QUILL
- HOSE BARB
- HOSE
- REDUCER

TANK ACCESSORIES

- MANWAY
- HANDHOLE
- SITEGLASS
- VENT
- TANK LEVEL GAUGE

FLOW

- PADDLEWHEEL
- MAGNETIC
- ULTRASONIC
- VORTEX
- ROTAMETER: WITH VALVE
- ROTAMETER: WITHOUT VALVE
- ORIFICE PLATE

HOUSINGS

- ULTRAFILTER/MICROFILTER
- RO HOUSING: TOP/BOTTOM ENTRY
- RO HOUSING: SIDE ENTRY
- RO HOUSING: END ENTRY

TANKS/VESSELS

- PRESSURE VESSEL
- CONE-BOTTOM
- CLOSED TOP-FLAT
- OPEN TOP-FLAT
- DOMED
- FRP
- DRUM

PUMPS/BLOWERS

- CENTRIFUGAL: HORIZONTAL
- CENTRIFUGAL: VERTICAL
- CENTRIFUGAL: SUMP
- CENTRIFUGAL: SUBMERGED
- VERTICAL CANNED
- CHEMICAL METERING
- AOD
- PERISTALTIC
- ROTARY LOBE
- SCREW
- PROGRESSIVE CAVITY

HEAT EXCHANGERS

- SHELL & TUBE
- SHELL & TUBE
- PLATE & FRAME

MISCELLANEOUS

- EXPANSION JOINT
- STATIC MIXER
- FLEX HOSE
- DUCTOR
- IN-LINE HEATER
- IMMERSION HEATER
- WYE STRAINER
- CONE STRAINER
- FILTER HOUSING #1
- FILTER HOUSING #2
- ULTRASONIC LEVEL
- CALIBRATION COLUMN
- GAUGE GUARD
- MIXER
- CORROSION COUPON HOLDER

LINE TYPES

- MAIN PROCESS
- MINOR PROCESS
- FUTURE
- PNEUMATIC
- SOFTWARE/DATA
- ELECTRICAL
- CAPILLARY
- HEAT TRACED: STEAM
- HEAT TRACED: ELECTRIC
- INSULATED

OTHERS

- DESIGN CONDITIONS
- NOTES
- CONTINUATION
- REVISION CLOUD
- REVISION NOTES
- DRAIN

EQUIPMENT ABBREVIATIONS

- AB = ABSORBER
- AC = AIR COMPRESSOR
- ACF = ACTIVATED CARBON FILTER
- AE = AERATOR
- ARV = AIR RELEASE VALVE
- B = BLOWER
- BF = BAG FILTER
- BPV = BACK PRESSURE VALVE
- C = CENTRIFUGE
- CC = CALIBRATION COLUMN
- CD = CONDENSER
- CE = CONTROL ENCLOSURE
- CH = CHILLER
- CHL = CHLORINATOR
- CIP = CLEAN-IN-PLACE
- CL = CLARIFIER
- CON = CONVEYOR
- CR = CRYSTALLIZER
- CD = CHEMICAL SYSTEM
- CO = COOLING TOWER
- CV = CHECK VALVE
- DAF = DISSOLVED AIR FLOTATION
- DR = AIR DRIER
- E = EDUCTOR
- ED = ELECTRODIALYSIS
- EDI = ELECTRODEIONIZATION
- EOR = ELECTRODIALYSIS REVERSAL
- EJ = EXPANSION JOINT
- EV = EVAPORATOR
- F = FILTER
- FAN = FAN
- F.C. = FAIL CLOSE
- FDA = FORCED DRAFT AERATOR
- F.O. = FAIL OPEN
- FO = ORIFICE PLATE
- F.L. = FAIL LAST
- FP = FILTER PRESS
- GF = GRAVITY FILTER
- GG = GAUGE GUARD
- HF = HEPA FILTER
- HMI = HUMAN-MACHINE INTERFACE
- H-O-A = HAND-OFF-AUTO SUPPLY
- HTR = HEATER
- HX = HEAT EXCHANGER
- IAS = INSTRUMENT AIR SUPPLY
- IQ = INJECTION QUILL
- IX = ION EXCHANGE
- LS = LINE SOFTENER
- M = MOTOR
- MBR = MEMBRANE BIO REACTOR
- MCC = MOTOR CONTROL CENTER
- MD = MEMBRANE DECLASSIFIER
- MF = MICROFILTRATION
- ML = MUFFLER/SILENCER
- MMF = MULTIMEDIA FILTER
- MX = MIXER
- NC = NORMALLY CLOSED
- NF = NANOFILTRATION
- NO = NORMALLY OPEN
- OC = OXYGEN CONCENTRATOR
- OZ = OZONATOR
- P = PUMP
- PD = PULSATION DAMPENER
- PLC = PROGRAMMABLE LOGIC CONTROLLER
- PRV = PRESSURE REG. VALVE
- PSF = RUPTURE DISC
- PSV = PRESSURE SAFETY VALVE
- RO = REVERSE OSMOSIS
- RP = ROTARY PRESS
- RT = RESIN TRAP
- SC = SCRUBBER
- SCR = SCRAPER
- SFT = SOFTENER
- SKM = SKIMMER
- SM = STATIC MIXER
- SP = SET POINT
- ST = STEAM TRAP
- STK = MEMBRANE STACK
- STR = STRAINER
- SV = SAMPLE VALVE
- TK = TANK
- TBB = TURBINE
- UF = ULTRAFILTRATION
- UPS = UNINTERRUPTIBLE POWER SUPPLY
- UV = ULTRAVIOLET
- VUB = VACUUM BREAKER
- VD = VACUUM DEGASIFIER

LINE DESIGNATION

11 - X" - YYYY - SS PP WW - A" I

INSULATION/HEAT TRACE

- I = INSULATED
- E = HEAT TRACE: ELECTRICAL
- S = HEAT TRACE: STEAM
- N = NONE
- X = NOT SPECIFIED

INSULATION THICKNESS (IF APP.)

WELDING/FINISH

- A1 = ASME B31.1
- A3 = ASME B31.3
- A9 = ASME B31.9
- S2B = 2B MILL FINISH
- S3 = NO. 3 FINISH
- S4 = NO. 4 FINISH
- BB = BEAD BLAST
- EP = ELECTO-POLISH
- N = NONE
- X = NOT SPECIFIED

PIPE MATERIAL

- A1 = ALLOY 20
- A2 = ALLOY 625
- A3 = ALLOY 2205
- A4 = ALX 6% MOLY
- A5 = AL-6XN
- A6 = HASTELLOY C
- C1 = CAST IRON
- CP = CARBON STEEL - PVDF LINED
- CS = CARBON STEEL - PP LINED
- CT = CARBON STEEL - TEFLON LINED
- CU = COPPER
- DI = DUCTILE IRON
- F1 = FRP
- G1 = GALVANIZED
- S1 = 304/304L SS
- S2 = 316/316L SS
- S3 = 904L SS
- P1 = PVC
- P2 = CPVC
- P3 = HDPE
- P4 = POLYETHYLENE
- P5 = POLYPROPYLENE
- P6 = PVDF
- P7 = TEFLON
- P8 = ABS
- X = NOT SPECIFIED

SCHEDULE

- 05 = SCH 5
- 10 = SCH 10
- 20 = SCH 20
- 30 = SCH 30
- 40 = SCH 40
- 80 = SCH 80
- C1 = TYPE K COPPER
- C2 = TYPE L COPPER
- C3 = TYPE M COPPER
- T1 = 22 GAUGE
- T2 = 20 GAUGE
- T3 = 18 GAUGE
- T4 = 16 GAUGE
- T5 = 14 GAUGE
- T6 = 12 GAUGE
- T7 = 0.035" TUBE
- T8 = 0.049" TUBE
- T9 = 0.065" TUBE
- X = NOT SPECIFIED

UNIQUE LINE IDENTIFIER

LINE SIZE

UNIT NUMBER

SCOPE

- OTHERS
- USWEE
- SCOPE BOUNDARY

INSTRUMENT SYMBOLS

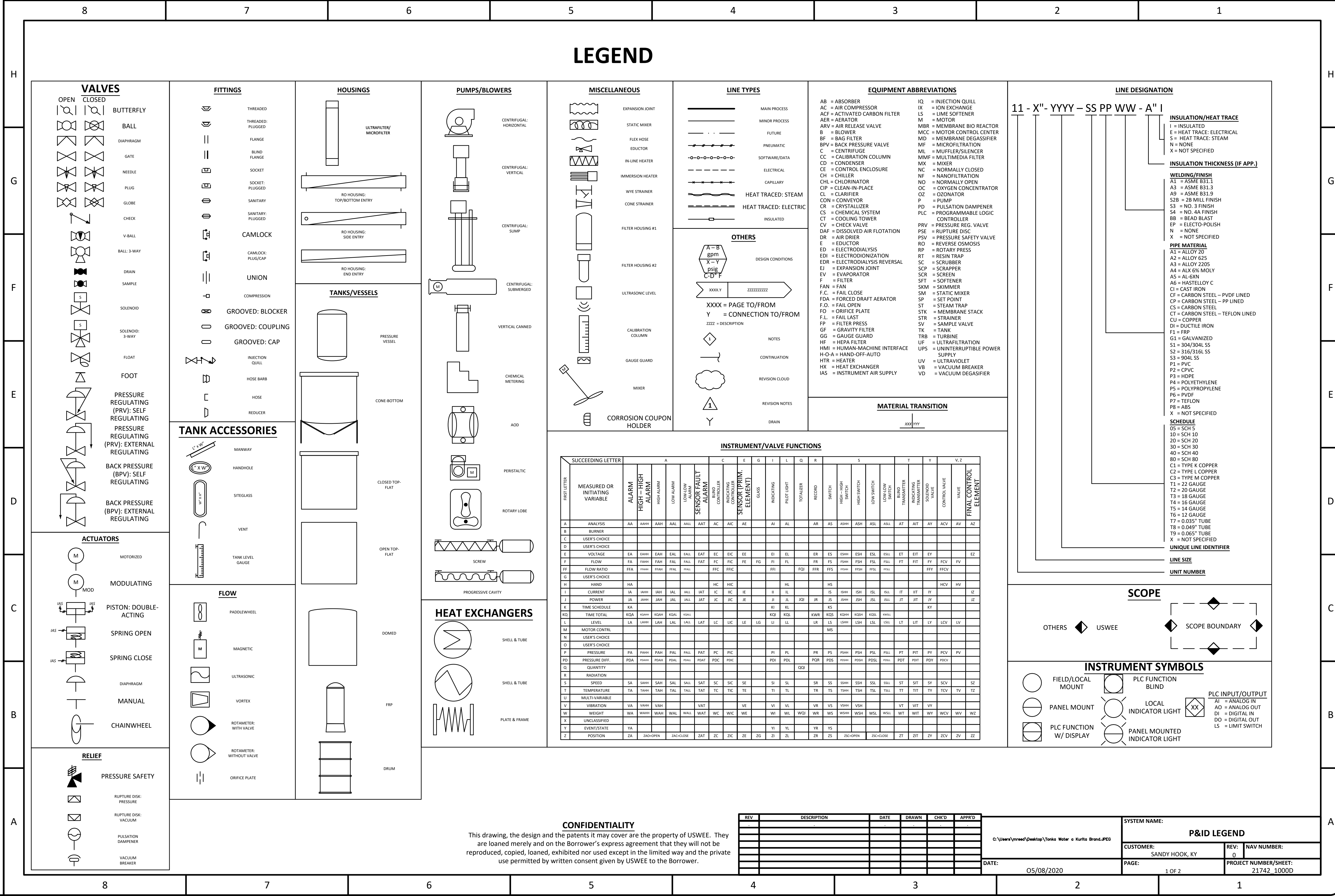
- FIELD/LOCAL MOUNT
- PANEL MOUNT
- PLC FUNCTION W/ DISPLAY
- PLC FUNCTION BLIND
- LOCAL INDICATOR LIGHT
- PANEL MOUNTED INDICATOR LIGHT
- PLC INPUT/OUTPUT
- AI = ANALOG IN
- AO = ANALOG OUT
- DI = DIGITAL IN
- DO = DIGITAL OUT
- LS = LIMIT SWITCH

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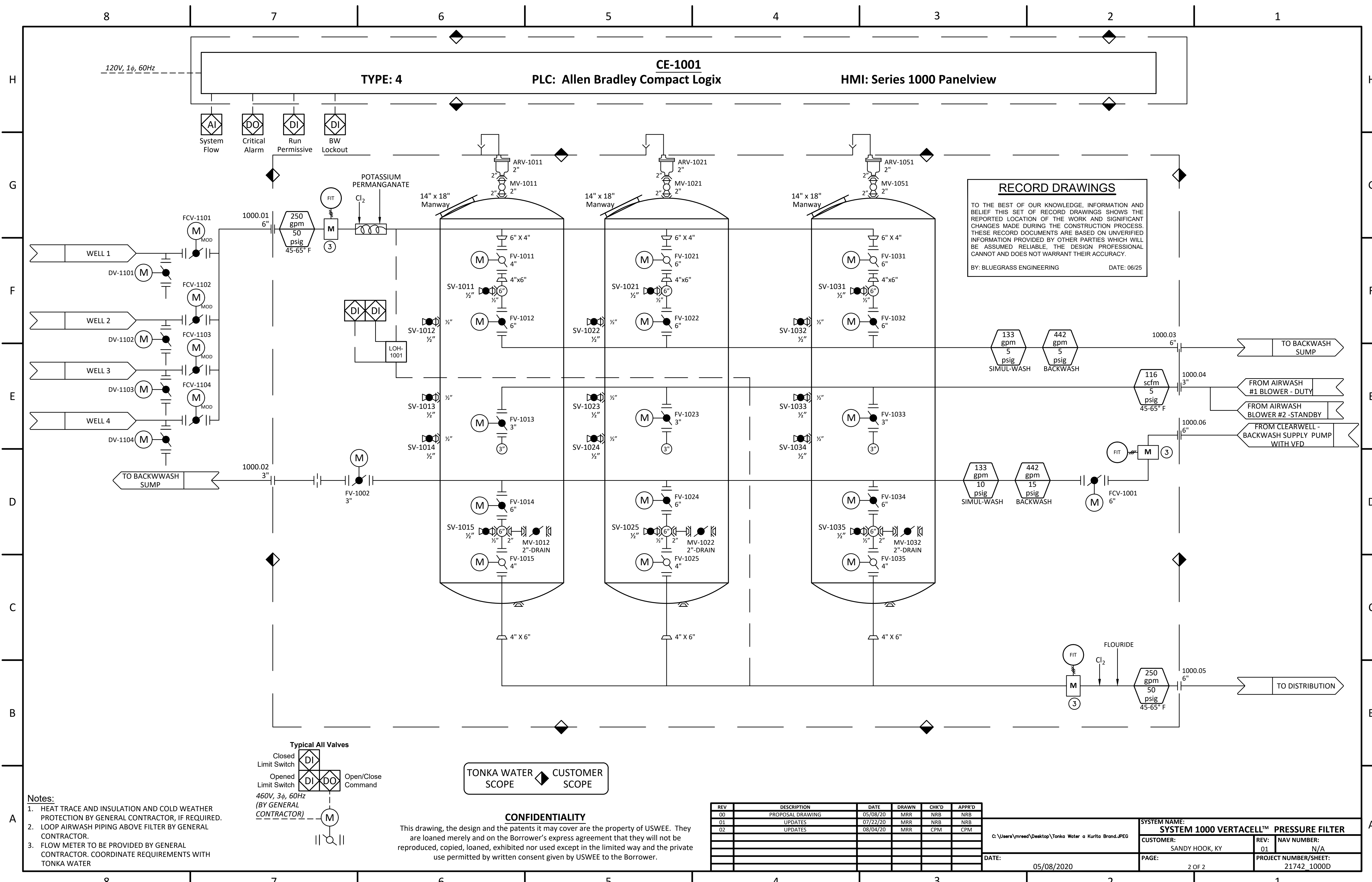
SYSTEM NAME: P&ID LEGEND	
CUSTOMER: SANDY HOOK, KY	REV: 0
PAGE: 1 OF 2	NAV NUMBER: 21742 1000D
DATE: 05/08/2020	PROJECT NUMBER/SHEET: 21742 1000D

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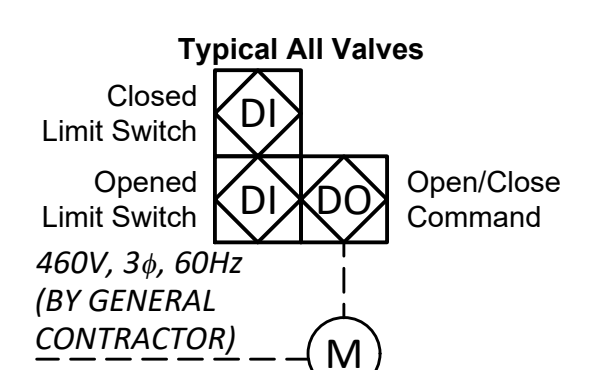


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TONKA WATER SCOPE CUSTOMER SCOPE

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- Notes:**
- HEAT TRACE AND INSULATION AND COLD WEATHER PROTECTION BY GENERAL CONTRACTOR, IF REQUIRED.
 - LOOP AIRWASH PIPING ABOVE FILTER BY GENERAL CONTRACTOR.
 - FLOW METER TO BE PROVIDED BY GENERAL CONTRACTOR. COORDINATE REQUIREMENTS WITH TONKA WATER

REV	DESCRIPTION	DATE	DRAWN	CHK'D	APPR'D
00	PROPOSAL DRAWING	05/08/20	MRR	NRB	NRB
01	UPDATES	07/22/20	MRR	NRB	NRB
02	UPDATES	08/04/20	MRR	CPM	CPM

DATE: 05/08/2020

SYSTEM NAME: **SYSTEM 1000 VERTACELL™ PRESSURE FILTER**

CUSTOMER: SANDY HOOK, KY REV: 01 NAV NUMBER: N/A

PAGE: 2 OF 2 PROJECT NUMBER/SHEET: 21742_1000D

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NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 PRESSURE FILTERS SCHEMATICS

SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
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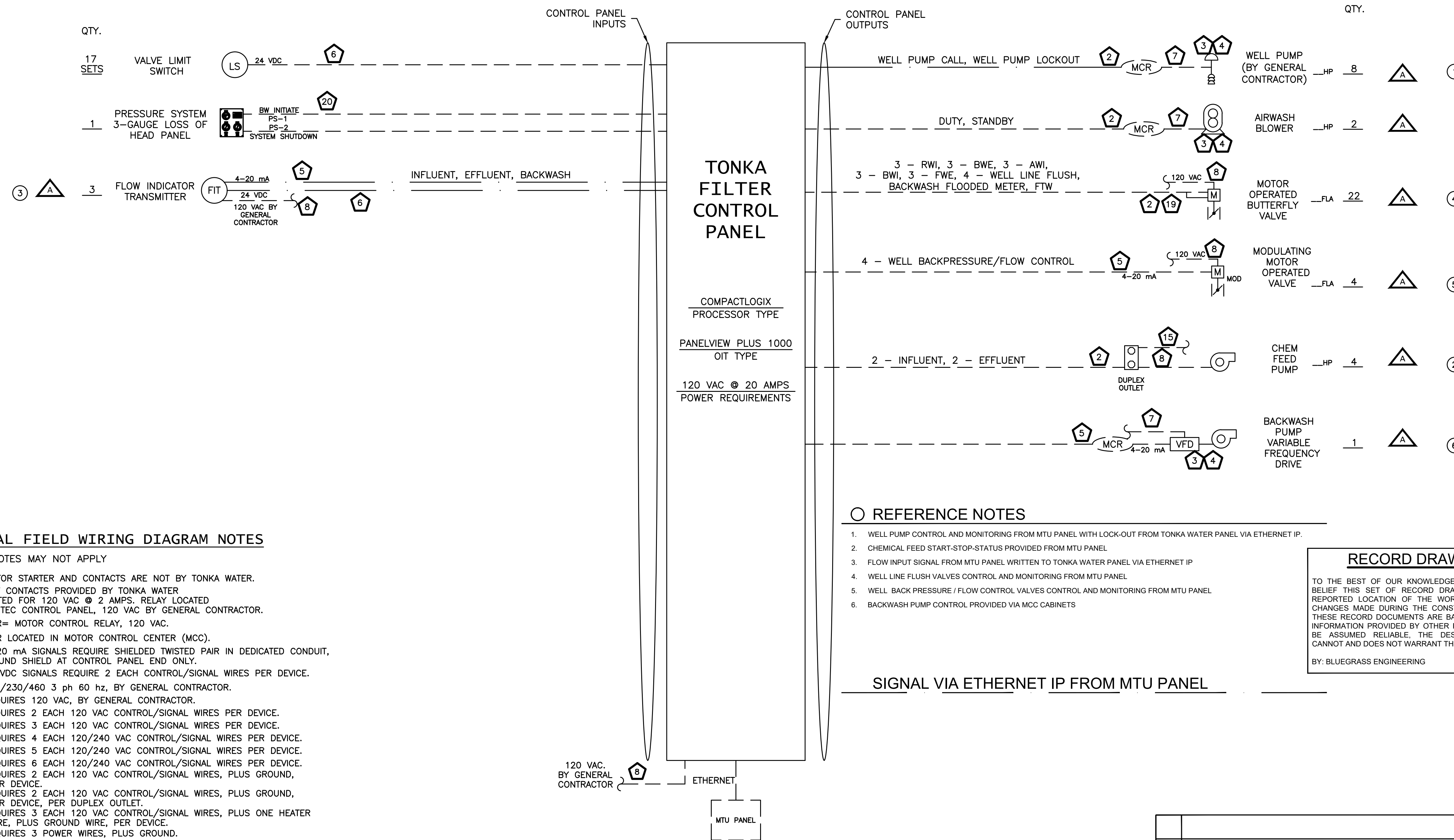
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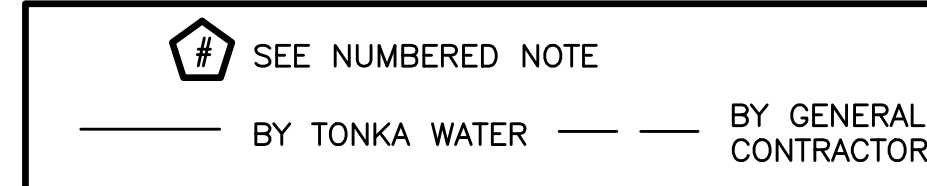
**IMPORTANT NOTE TO ELECTRICAL CONTRACTOR:
NO PENETRATION IS ALLOWED THROUGH TOP OF ENCLOSURE!!! WARRANTY WILL BE VOID!!!**



ELECTRICAL FIELD WIRING DIAGRAM NOTES

- * SOME NOTES MAY NOT APPLY
- 1) MOTOR STARTER AND CONTACTS ARE NOT BY TONKA WATER.
 - 2) DRY CONTACTS PROVIDED BY TONKA WATER RATED FOR 120 VAC @ 2 AMPS. RELAY LOCATED IN TEC CONTROL PANEL, 120 VAC BY GENERAL CONTRACTOR.
 - 3) MCR= MOTOR CONTROL RELAY, 120 VAC.
 - 4) MCR LOCATED IN MOTOR CONTROL CENTER (MCC).
 - 5) 4-20 mA SIGNALS REQUIRE SHIELDED TWISTED PAIR IN DEDICATED CONDUIT, GROUND SHIELD AT CONTROL PANEL END ONLY.
 - 6) 24 VDC SIGNALS REQUIRE 2 EACH CONTROL/SIGNAL WIRES PER DEVICE.
 - 7) 208/230/460 3 ph 60 hz, BY GENERAL CONTRACTOR.
 - 8) REQUIRES 120 VAC, BY GENERAL CONTRACTOR.
 - 9) REQUIRES 2 EACH 120 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 10) REQUIRES 3 EACH 120 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 11) REQUIRES 4 EACH 120/240 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 12) REQUIRES 5 EACH 120/240 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 13) REQUIRES 6 EACH 120/240 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 14) REQUIRES 2 EACH 120 VAC CONTROL/SIGNAL WIRES, PLUS GROUND, PER DEVICE.
 - 15) REQUIRES 2 EACH 120 VAC CONTROL/SIGNAL WIRES, PLUS GROUND, PER DEVICE, PER DUPLEX OUTLET.
 - 16) REQUIRES 3 EACH 120 VAC CONTROL/SIGNAL WIRES, PLUS ONE HEATER WIRE, PLUS GROUND WIRE, PER DEVICE.
 - 17) REQUIRES 3 POWER WIRES, PLUS GROUND.
 - 18) REQUIRES ONE NEUTRAL WIRE PER SOLENOID BANK, PLUS ONE CONTROL/SIGNAL WIRE PER SOLENOID, PLUS ONE SPARE WIRE PER SOLENOID BANK, PLUS GROUND WIRE.
 - 19) REQUIRES ONE NEUTRAL WIRE, PLUS TWO CONTROL/SIGNAL WIRES, PLUS ONE HEATER WIRE, PLUS GROUND, PER VALVE ACTUATOR.
 - 20) 24 VDC SIGNALS REQUIRE 2 EACH CONTROL/SIGNAL WIRES PER DEVICE. MULTI-SWITCH DEVICES REQUIRE ONE WIRE FOR +24 VDC PLUS ONE WIRE PER SWITCH.
 - 21) 4-20mA SIGNALS AND 24 VDC PULSE SIGNALS REQUIRE SHIELDED 2 WIRE TWISTED PAIR GROUNDED AT CONTROL PANEL ONLY.
 - 22) 4-20mA SIGNALS REQUIRES SHIELDED TWISTED PAIR IN DEDICATED CONDUIT, GROUND SHIELD AT CONTROL PANEL END ONLY.
 - 23) FLOW METER PULSE OUTPUT REQUIRES SHIELDED 2-WIRE CABLE GROUNDED AT CONTROL PANEL END ONLY.
 - 24) REQUIRES 4 WIRE SHIELDED CABLE.
 - 25) REQUIRES 2 EACH 24 VDC WIRES PER DEVICE.
 - 26) ANTENNA CABLE TO BE ELPRO #CC10/900 WITH TYPE N CONNECTORS, OR EQUAL.

NOTE: 1) SOME ITEMS SHOWN MAY BE BY GENERAL CONTRACTOR - REFER TO TONKA WATER'S LETTER OF QUOTATION FOR ITEMS IN TONKA WATER'S SCOPE OF SUPPLY. SYSTEM SCHEMATIC SHOWN FOR REFERENCE PURPOSES ONLY.
2) ALL NATIONAL, (NEC) STATE, AND LOCAL CODES SHALL APPLY.
3) SUPPLY AND INSTALLATION OF WIRE AND CONDUIT BY GENERAL CONTRACTOR.



REFERENCE NOTES

1. WELL PUMP CONTROL AND MONITORING FROM MTU PANEL WITH LOCK-OUT FROM TONKA WATER PANEL VIA ETHERNET IP.
2. CHEMICAL FEED START-STOP-STATUS PROVIDED FROM MTU PANEL
3. FLOW INPUT SIGNAL FROM MTU PANEL WRITTEN TO TONKA WATER PANEL VIA ETHERNET IP
4. WELL LINE FLUSH VALVES CONTROL AND MONITORING FROM MTU PANEL
5. WELL BACK PRESSURE / FLOW CONTROL VALVES CONTROL AND MONITORING FROM MTU PANEL
6. BACKWASH PUMP CONTROL PROVIDED VIA MCC CABINETS

RECORD DRAWINGS

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THIS SET OF RECORD DRAWINGS SHOWS THE REPORTED LOCATION OF THE WORK AND SIGNIFICANT CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE RECORD DOCUMENTS ARE BASED ON UNVERIFIED INFORMATION PROVIDED BY OTHER PARTIES WHICH WILL BE ASSUMED RELIABLE. THE DESIGN PROFESSIONAL CANNOT AND DOES NOT WARRANT THEIR ACCURACY.

BY: BLUEGRASS ENGINEERING DATE: 06/25

SIGNAL VIA ETHERNET IP FROM MTU PANEL

DRAWING SIZE: D		ALL RIGHTS TO MANUFACTURE, COPY, REPRODUCE OR DISPOSE OF THIS DRAWING OR ITS CONTENTS ARE RESERVED UNLESS OTHERWISE SPECIFIED IN WRITING BY BLUEGRASS ENGINEERING		12270 43rd St. NE St. Michael, MN 55376	
DRAWN BY: m. REED		DATE: 07/22/2020		SHEET NUMBER: 1 OF 1	
PROJECT MGR: NRB		SCALE: NONE		REV: A	
APPR. BY: NRB		APPR. DATE: 07/22/2020		DRAWING NUMBER: 00096691	
ELECTRICAL FIELD WIRING DIAGRAM				PROJECT NUMBER: 21742	
PROPOSAL DRAWING				SANDY HOOK, KY	

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
ELECTRICAL FIELD WIRING DIAGRAM



PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL

RECORD DRAWINGS

I-1-03

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 B:\PROJECTS\Sandy Hook\Water19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-I-01_00_INSTRUMENTATION SYMBOLS.dwg BE 6/17/25

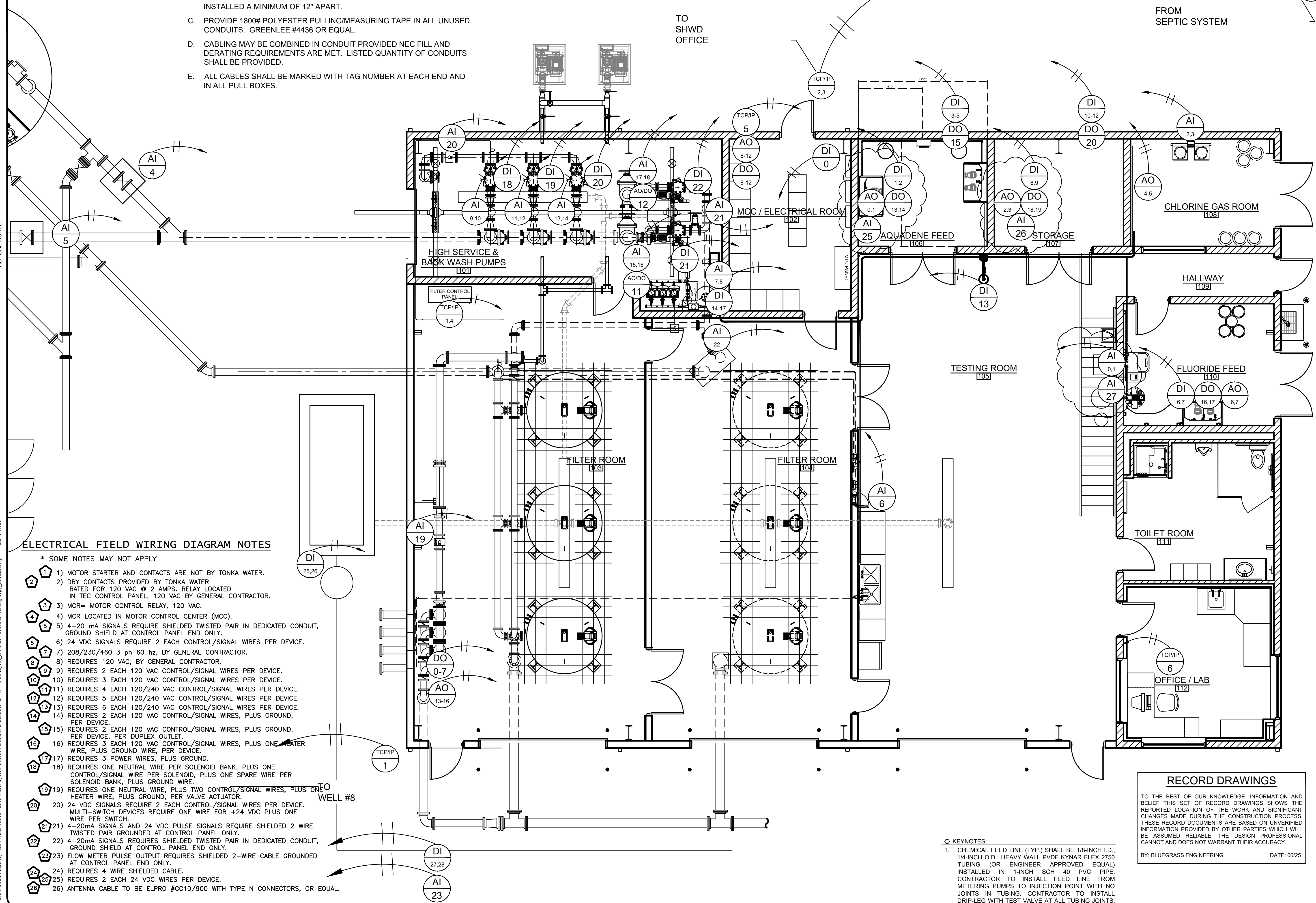
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 BE 017125
 B:\PROJECTS\Sandy Hook\Water19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\new layout_dwg\ad1-sections-wiring.dwg

GENERAL NOTES:

- A. ANALOG AND DIGITAL INSTRUMENTATION CABLING SHALL BE ROUTE IN SEPARATE CONDUITS.
- B. POWER AND INSTRUMENTATION/COMMUNICATION CONDUITS SHALL BE INSTALLED A MINIMUM OF 12" APART.
- C. PROVIDE 1800# POLYESTER PULLING/MEASURING TAPE IN ALL UNUSED CONDUITS. GREENLEE #4436 OR EQUAL.
- D. CABLING MAY BE COMBINED IN CONDUIT PROVIDED NEC FILL AND DERATING REQUIREMENTS ARE MET. LISTED QUANTITY OF CONDUITS SHALL BE PROVIDED.
- E. ALL CABLES SHALL BE MARKED WITH TAG NUMBER AT EACH END AND IN ALL PULL BOXES.

ELECTRICAL FIELD WIRING DIAGRAM NOTES

- * SOME NOTES MAY NOT APPLY
- 1) MOTOR STARTER AND CONTACTS ARE NOT BY TONKA WATER.
 - 2) DRY CONTACTS PROVIDED BY TONKA WATER RATED FOR 120 VAC @ 2 AMPS. RELAY LOCATED IN TEC CONTROL PANEL, 120 VAC BY GENERAL CONTRACTOR.
 - 3) MCR= MOTOR CONTROL RELAY, 120 VAC.
 - 4) MCR LOCATED IN MOTOR CONTROL CENTER (MCC).
 - 5) 4-20 mA SIGNALS REQUIRE SHIELDED TWISTED PAIR IN DEDICATED CONDUIT, GROUND SHIELD AT CONTROL PANEL END ONLY.
 - 6) 24 VDC SIGNALS REQUIRE 2 EACH CONTROL/SIGNAL WIRES PER DEVICE.
 - 7) 208/230/460 3 ph 60 hz, BY GENERAL CONTRACTOR.
 - 8) REQUIRES 120 VAC, BY GENERAL CONTRACTOR.
 - 9) REQUIRES 2 EACH 120 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 10) REQUIRES 3 EACH 120 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 11) REQUIRES 4 EACH 120/240 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 12) REQUIRES 5 EACH 120/240 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 13) REQUIRES 6 EACH 120/240 VAC CONTROL/SIGNAL WIRES PER DEVICE.
 - 14) REQUIRES 2 EACH 120 VAC CONTROL/SIGNAL WIRES, PLUS GROUND, PER DEVICE.
 - 15) REQUIRES 2 EACH 120 VAC CONTROL/SIGNAL WIRES, PLUS GROUND, PER DEVICE, PER DUPLEX OUTLET.
 - 16) REQUIRES 3 EACH 120 VAC CONTROL/SIGNAL WIRES, PLUS ONE HEATER WIRE, PLUS GROUND WIRE, PER DEVICE.
 - 17) REQUIRES 3 POWER WIRES, PLUS GROUND.
 - 18) REQUIRES ONE NEUTRAL WIRE PER SOLENOID BANK, PLUS ONE CONTROL/SIGNAL WIRE PER SOLENOID, PLUS ONE SPARE WIRE PER SOLENOID BANK, PLUS GROUND WIRE.
 - 19) REQUIRES ONE NEUTRAL WIRE, PLUS TWO CONTROL/SIGNAL WIRES, PLUS ONE HEATER WIRE, PLUS GROUND.
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RECORD DRAWINGS

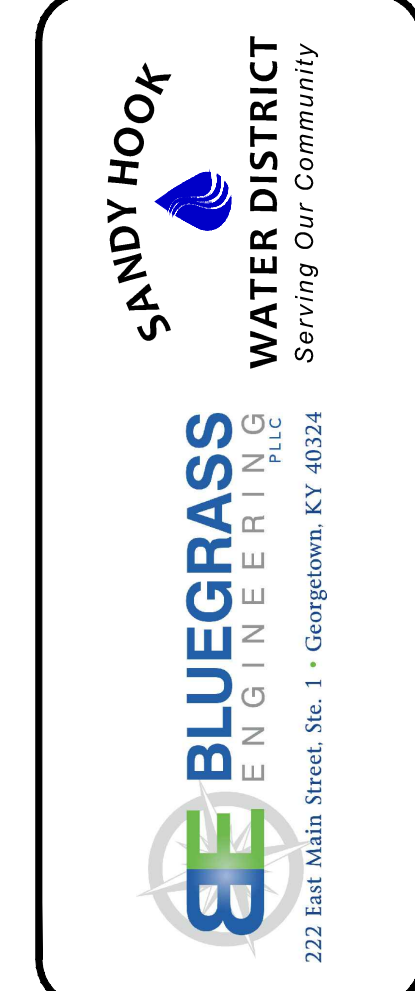
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BY: BLUEGRASS ENGINEERING DATE: 06/25

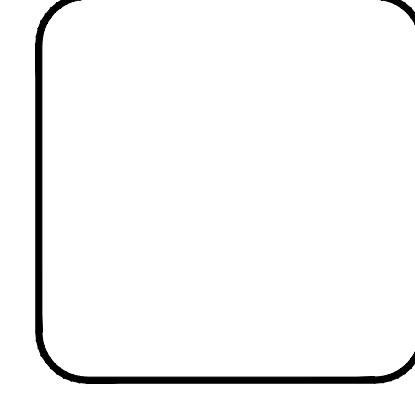
KEYNOTES:
 1. CHEMICAL FEED LINE (TYP.) SHALL BE 1/8-INCH I.D., 1/4-INCH O.D., HEAVY WALL PVDF KYMAR FLEX 2750 TUBING (OR ENGINEER APPROVED EQUAL) INSTALLED IN 1-INCH SCH 40 PVC PIPE. CONTRACTOR TO INSTALL FEED LINE FROM METERING PUMPS TO INJECTION POINT WITH NO JOINTS IN TUBING. CONTRACTOR TO INSTALL DRIP-LEG WITH TEST VALVE AT ALL TUBING JOINTS.

NO.	DATE	REVISIONS	BY

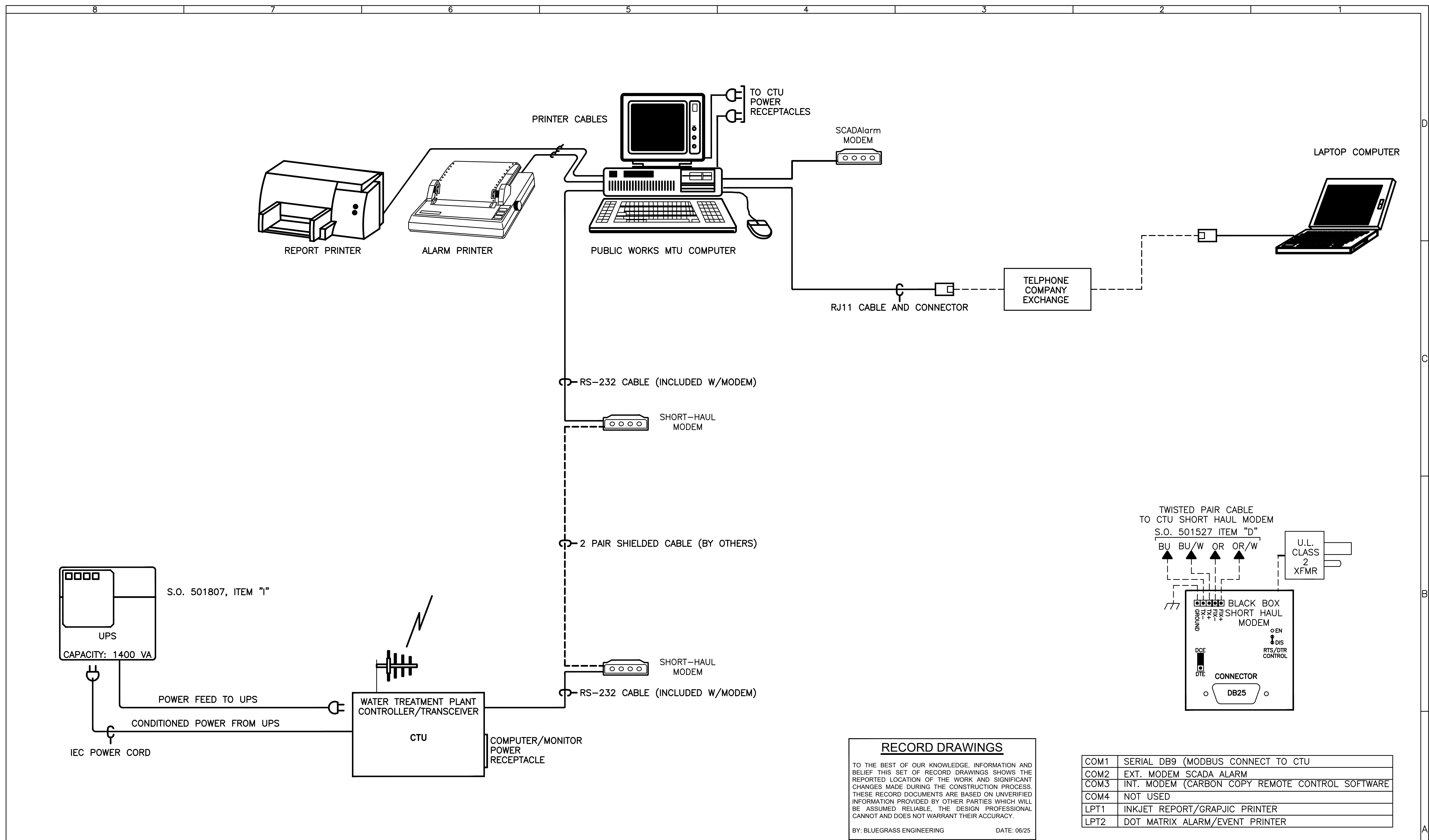
2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 PROCESS INSTRUMENTATION PLAN



PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



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 B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\Record Drawings\19003-H-101_00_INSTRUMENTATION SYSTEMS\CSL.dwg

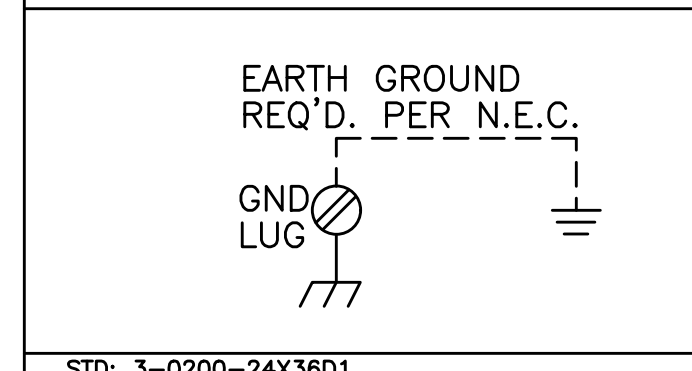


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BY: BLUEGRASS ENGINEERING DATE: 06/25

COM1	SERIAL DB9 (MODBUS CONNECT TO CTU)
COM2	EXT. MODEM SCADA ALARM
COM3	INT. MODEM (CARBON COPY REMOTE CONTROL SOFTWARE)
COM4	NOT USED
LPT1	INKJET REPORT/GRAPJIC PRINTER
LPT2	DOT MATRIX ALARM/EVENT PRINTER



- NOTES:
- REFER TO ELECTRICAL/HYDRAULIC SYMBOL SHEET FOR SYMBOL DEFINITION (DWG. NO. MB00015).
 - FOR FULL LISTING OF JOB DRAWINGS AND PRODUCT CUT SHEETS SEE TABLE OF CONTENTS.
 - FOR FULL LISTING OF JOB PARTS REFER TO BILL OF MATERIAL.
 - DASHED WIRING IS NOT SUPPLIED BY U.S. FILTER CONTROL SYSTEMS.
 - GROUNDING LUG TO BE GROUNDED BY CUSTOMER AS PER N.E.C.
 - UNLESS NOTED, RELAY CONTACTS ARE RATED @ 240VAC. CURRENT AND P.F. RATINGS ARE SHOWN ON THE ACTUAL RELAY.

REV	DESCRIPTION	DATE	DWN	CHKD	APVD	ECN
B	AS-BUILT	1/3/02				
A	PRE-PRODUCTION	8/01/01				

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DESIGNER	DMM	DATE		TITLE	COMPUTER SYSTEM LAYOUT
CHECKER	BT	DATE		CLIENT	SANDY HOOK, KY
ENGINEER	DMM	DATE			
MANAGER	DMM	DATE			
FILE:					
SCALE:					

USFilter US FILTER CONTROL SYSTEMS
 VADNAIS HEIGHTS, MN
 PH. 651-766-2700

STD: 3-0200-24X36D1

INTL. REF:

NO.	DATE	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 SCADA COMPUTER SYSTEM LAYOUT

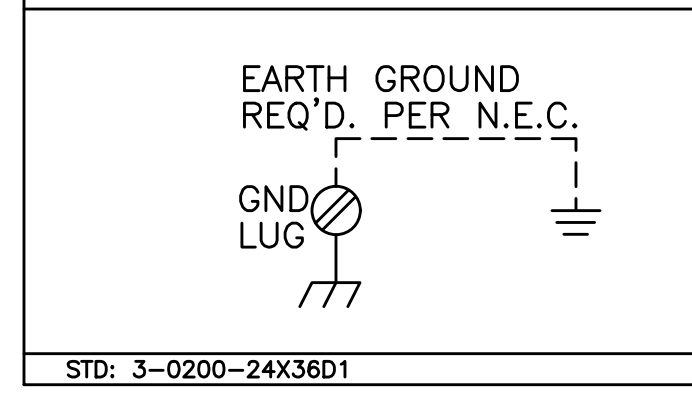
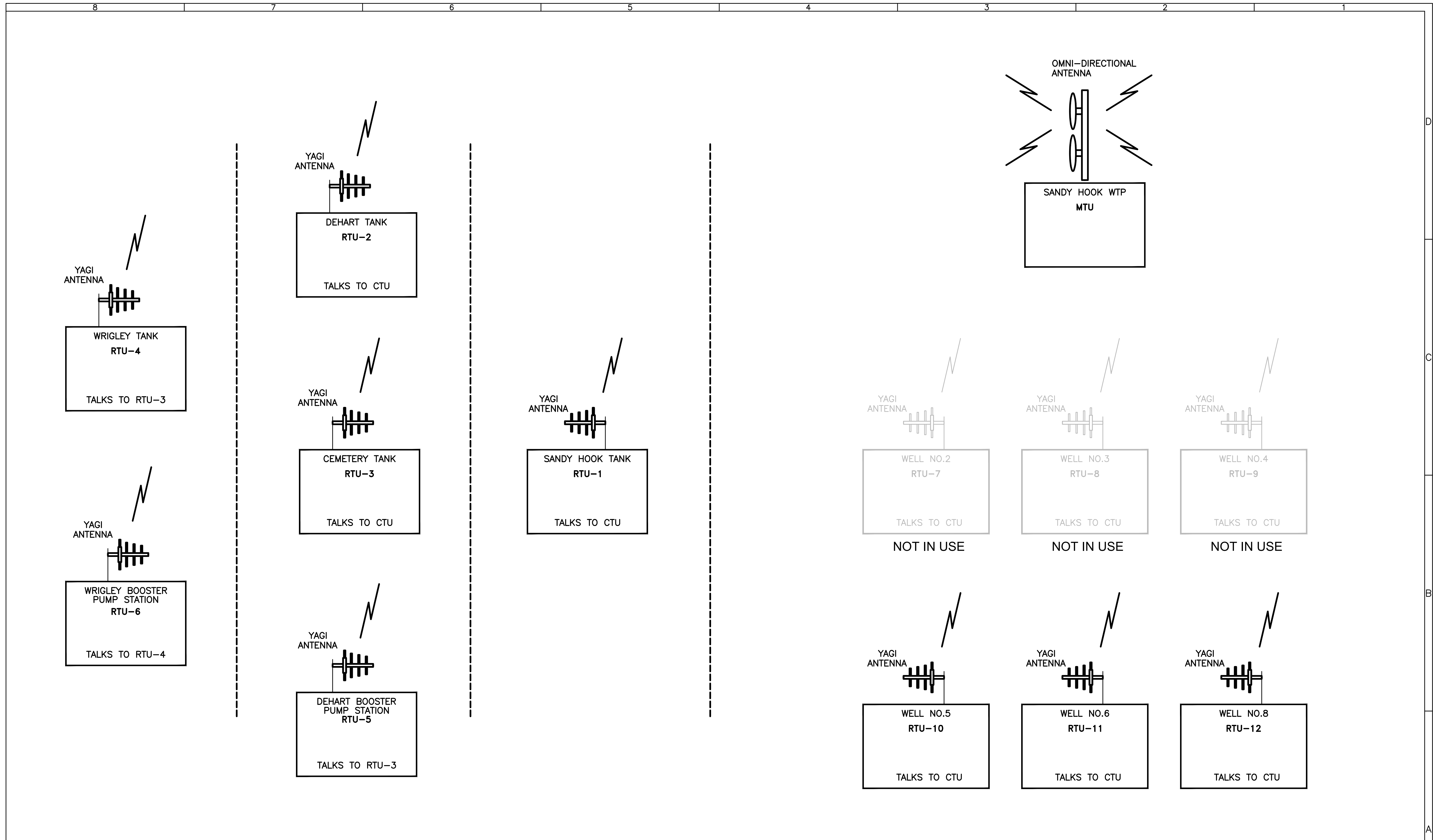
SANDY HOOK WATER DISTRICT
 BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324
 Serving Our Community

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL

RECORD DRAWINGS

I-1-05

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- NOTES:
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 - FOR FULL LISTING OF JOB DRAWINGS AND PRODUCT CUT SHEETS SEE TABLE OF CONTENTS.
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 - UNLESS NOTED, RELAY CONTACTS ARE RATED @ 240VAC. CURRENT AND P.F. RATINGS ARE SHOWN ON THE ACTUAL RELAY.
- INTL. REF:

REV	DESCRIPTION	DATE	DWN	CHKD	APVD	ECN
E	MISCELLANEOUS UPDATE	11/21/05				504214
D	ADD SIX WELL RTUs	08/05				504214
C	CHANGE IN COM. PATH	6/23/03				
B	AS-BUILT	1/3/02				
A	PRE-PRODUCTION	8/01/01				

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DESIGNER: DMM DATE: _____
 CHECKER: BJ DATE: _____
 ENGINEER: DMM DATE: _____
 MANAGER: MN DATE: _____

SCALE: _____

TITLE: D620i/E985
 RADIO SYTEM LAYOUT
 CLIENT: SANDY HOOK, KY

USFilter
 US FILTER CONTROL SYSTEMS
 VADNAIS HEIGHTS, MN
 PH. 651-766-2700

PROJECT: 501807
 CODE: _____
 DRAWING: B501807RSL
 SHEET: 1 OF 1
 REV: E

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

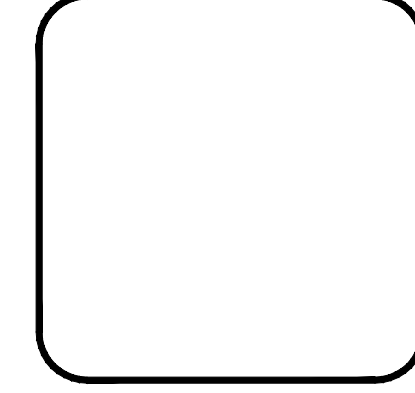
NO.	DATE	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 SCADA RADIO SYSTEM LAYOUT

SANDY HOOK WATER DISTRICT
 Serving Our Community

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 - Georgetown, KY 40324

PROJECT #: 19003
 DATE: APRIL 2022
 PROJECT MGR: LRS
 DRAWN BY: BKL
 CHECKED BY: BKL



I-1-06

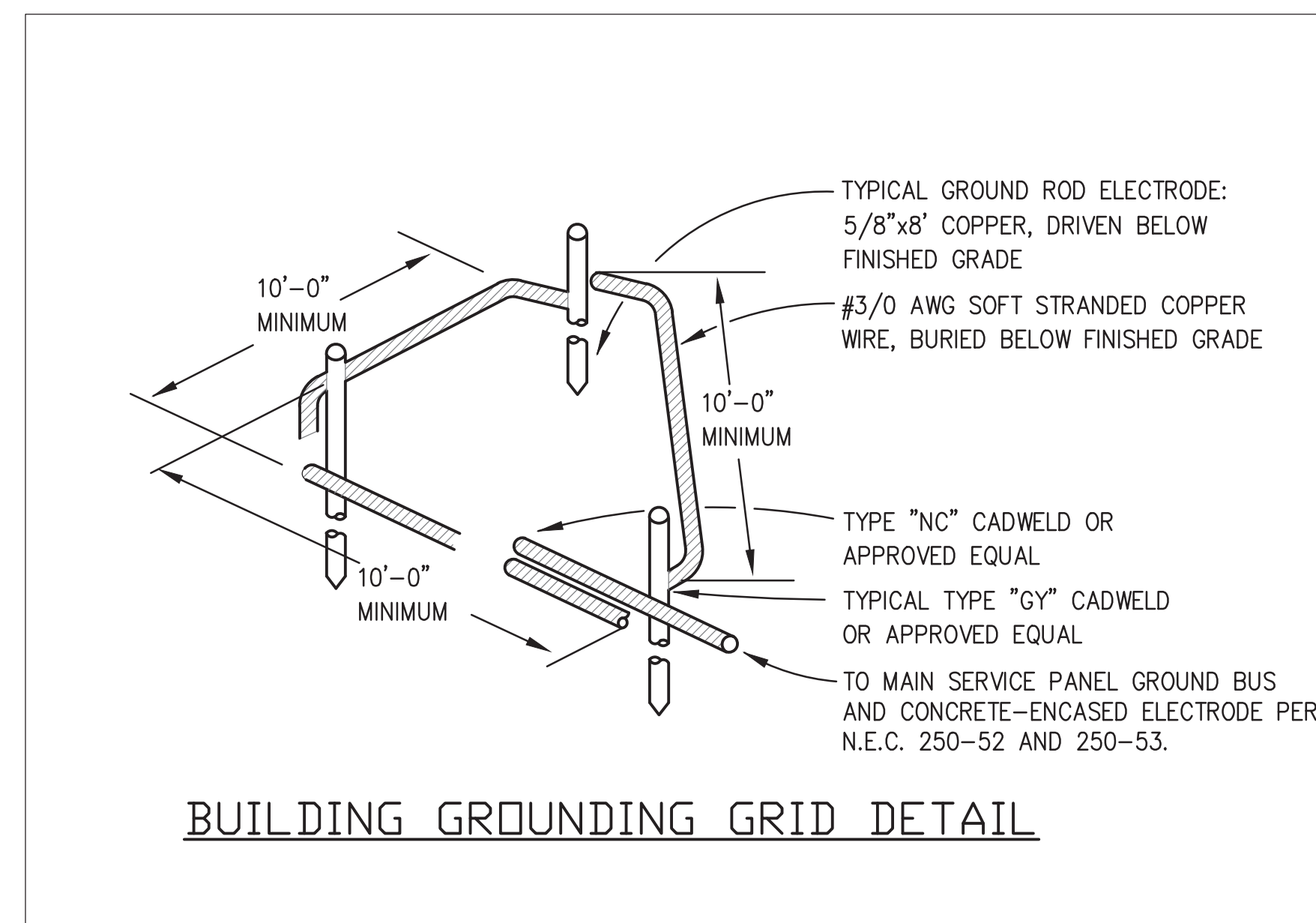
RECORD DRAWINGS

LEGEND OF ELECTRICAL SYMBOLS

- 2'x4' RECESSED FLUORESCENT LIGHTING FIXTURE WITH JUNCTION BOX AND FIXTURE WHIP (LENGTH AS REQUIRED)
- METAL HALIDE, HIGH INTENSITY DISCHARGE LIGHTING FIXTURE
- METAL HALIDE, HIGH INTENSITY DISCHARGE LIGHTING FIXTURE WITH QUARTZ RESTRIKE
- RECESSED DOWNLIGHT - FLUORESCENT (INTERIOR)
- EXTERIOR SURFACE MOUNTED, H.L.D., BUILDING SECURITY LIGHT
- 4', SURFACE MOUNTED, FLUORESCENT LIGHTING FIXTURE
- 4', SURFACE MOUNTED, FLUORESCENT LIGHTING FIXTURE
- WALL MOUNTED FLUORESCENT LIGHTING FIXTURE
- EXPLOSION PROOF (CLASS 1, DIVISION 2), METAL HALIDE, LIGHTING FIXTURE
- METAL HALIDE, FLOODLIGHT
- SURFACE MOUNTED, COMPACT FLUORESCENT, LIGHTING FIXTURE
- EXIT SIGN WITH BATTERY BACKUP & 2 INTEGRAL EGRESS LAMP HEADS
- EXIT SIGN WITH BATTERY BACKUP; ARROWS DENOTE DIRECTION OF EXIT CHEVRONS
- REMOTE EMERGENCY LAMP HEADS RATED FOR HAZARDOUS AREA (CLASS 1, DIVISION 2)
- REMOTE MOUNTED BATTERY PACK FOR EXPLOSION PROOF EMERGENCY LAMP HEADS
- STANDARD EMERGENCY EGRESS UNIT WITH BATTERY BACKUP & 2 LAMP HEADS
- EXTERIOR PERSONNEL DOOR WITH D.C. SOCKET FOR EMERGENCY EGRESS LIGHTING
-
-
-
-
- SIMPLEX RECEPTACLE OUTLET; SUBSCRIPT DENOTES STANDARD NEMA #
- ELECTRIC WATER COOLER OUTLET
- WEATHER PROOF 120 VOLT DUPLEX RECEPTACLE MOUNTED OUTSIDE AND AT ROOFTOP HVAC UNITS
- IN-SLAB, FLOOR BOX; NUMBER OF COMPARTMENTS AND PROVISIONS FOR POWER, TELEPHONE, AND DATA AS NOTED ON THE PLANS
- 120V DUPLEX CONVENIENCE RECEPTACLE MOUNTED ABOVE COUNTER
-
-
- JUNCTION BOX, SIZED PER N.E.C. (CURRENT EDITION)
- SURFACE MOUNTED PANELBOARD
-
-
-
-
- DRY-TYPE, LOW VOLTAGE, TRANSFORMER
- MOTOR CONNECTION
- EXHAUST FAN CONNECTION
- FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
- MANUAL MOTOR SWITCH - RATED 240V, 30A
- NON-FUSED DISCONNECT SWITCH - "30/3" INDICATES 30 AMP, 3 POLE NONFUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH - "30/3/15" INDICATES 30 AMP, 3 POLE FUSED DISCONNECT SWITCH WITH 15 AMP FUSES
- MAGNETIC STARTER - SUBSCRIPT INDICATES MOTOR HP
- COMBINATION MAGNETIC STARTER/DISCONNECT - SUBSCRIPT INDICATES HORSEPOWER RATING
- REMOTE UP/DOWN CONTROLLER FOR OVERHEAD DOORS
- TELEPHONE EQUIPMENT BOARD
- CONTINUATION SYMBOL
- A.F.F. ABOVE FINISHED FLOOR
- U.O.N. UNLESS OTHERWISE NOTED
- CONDUIT IN/UNDER SLAB OR BELOW GRADE
- FLEXIBLE CONDUIT FIXTURE WHIP
- CONDUIT IN CEILING SPACE ABOVE OR EXPOSED AT STRUCTURE (IF NO CEILING)
- HOME RUN TO CIRCUIT PANEL
- CONDUIT WITH # 12 AWG CONDUCTORS. LONG TICKS INDICATE PHASE CONDUCTORS, SHORT TICK INDICATES NEUTRAL, ANGLED TICK INDICATES GREEN EQUIPMENT GROUNDING CONDUCTOR

FIXTURE SCHEDULE - SANDY HOOK MUNICIPAL WATER & SEWER SERVICE, SANDY HOOK, KY.							
QUANTITY	TYPE	MANUFACTURER	CATALOG #	LAMP			DESCRIPTION
				NO	TYPE	VOLT	
	A	AZZ LIGHTING	MHL09-L-D-4-U-RIG	1	LED	120	4' ENCLOSED/GASKETED LED STRIP, NEMA 4x RATED, DIFFUSE LENS, MOUNTING BRACKET, 2 SAFETY CABLES, 9,750 LUMENS
	B	AZZ LIGHTING	MHL11-L-D-4-U-RIG	1	LED	120	4' ENCLOSED/GASKETED LED STRIP, NEMA 4x RATED, DIFFUSE LENS, MOUNTING BRACKET, 2 SAFETY CABLES, 11,250 LUMENS
	C	AZZ LIGHTING	MHL07-L-D-4-U-RIG	1	LED	120	4' ENCLOSED/GASKETED LED STRIP, NEMA 4x RATED, DIFFUSE LENS, MOUNTING BRACKET, 2 SAFETY CABLES, 7,260 LUMENS
	D	NOT USED	NOT USED	1	LED	120	NOT USED
	E	NOT USED	NOT USED	1	LED	120	NOT USED
	F	LITHONIA	WPX1-LED-P1-40K-MVOLT-PE-DBXD	1	LED	120	EXTERIOR FULL CUT OFF WALL PACK, INTEGRAL PHOTOCELL, 1,550 LUMEN OUTPUT
	G	LITHONIA	WPX2-LED-40K-MVOLT-PE-DBXD	1	LED	120	EXTERIOR FULL CUT OFF WALL PACK, INTEGRAL PHOTOCELL, 6,000 LUMEN OUTPUT
	XH	ISOLITE	MAX-C-6V42W-R-BK-MB	-	INCLUDED	120	EXIT SIGN, DUAL INTEGRAL HEADS & BATTERY BACKUP (COLOR BY ARCHITECT), NEMA 4x RATED
	EM1	ISOLITE	HZN-NC-6V42W-MBC	-	INCLUDED	120	EGRESS UNIT, DUAL INTEGRAL HEADS & BATTERY BACKUP (COLOR BY ARCHITECT), NEMA 4x RATED
	EM2	ISOLITE	BUG-6W-WH-MB	-	INCLUDED	120	EGRESS UNIT, DUAL INTEGRAL HEADS & BATTERY BACKUP (COLOR BY ARCHITECT), NEMA 4x RATED
	ER	ISOLITE	OWL-EM-BZ-MB-HX	-	N/A	120	EXTERIOR EGRESS UNIT, INTEGRAL HEATER (COLOR BY ARCHITECT)
	SOC	LITHONIA LIGHTING	WSX PDT XX	-	N/A	120	WALL OOC. SENSOR (DUAL TECHNOLOGY)
	COC	LITHONIA LIGHTING	NCM PDT 9 RJB	-	N/A	120	CEILING OOC. SENSOR (DUAL TECHNOLOGY)
	PP	LITHONIA LIGHTING	NPP16 D EFP	-	N/A	120	POWER PACK FOR CEILING OCCUPANCY SENSORS

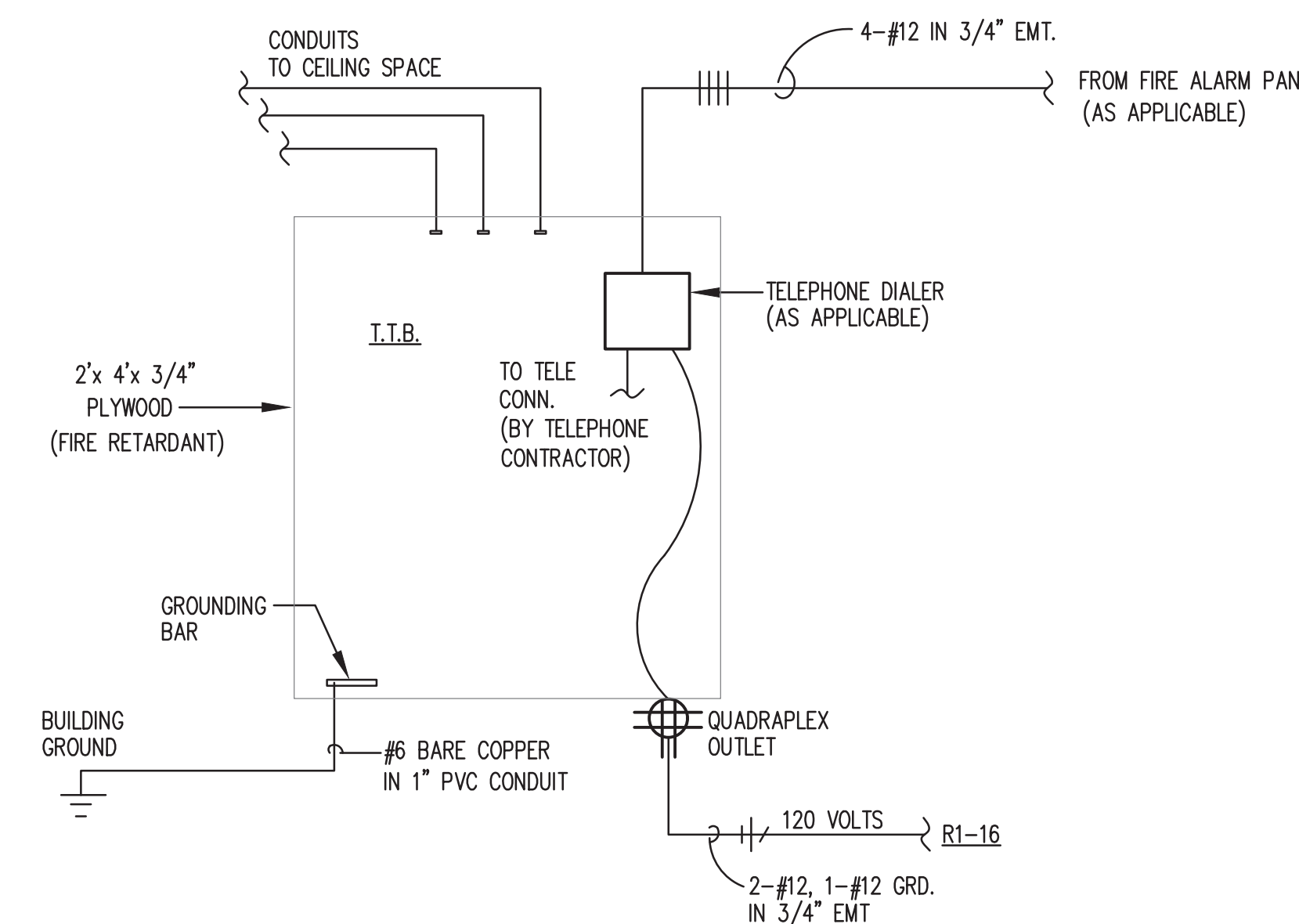
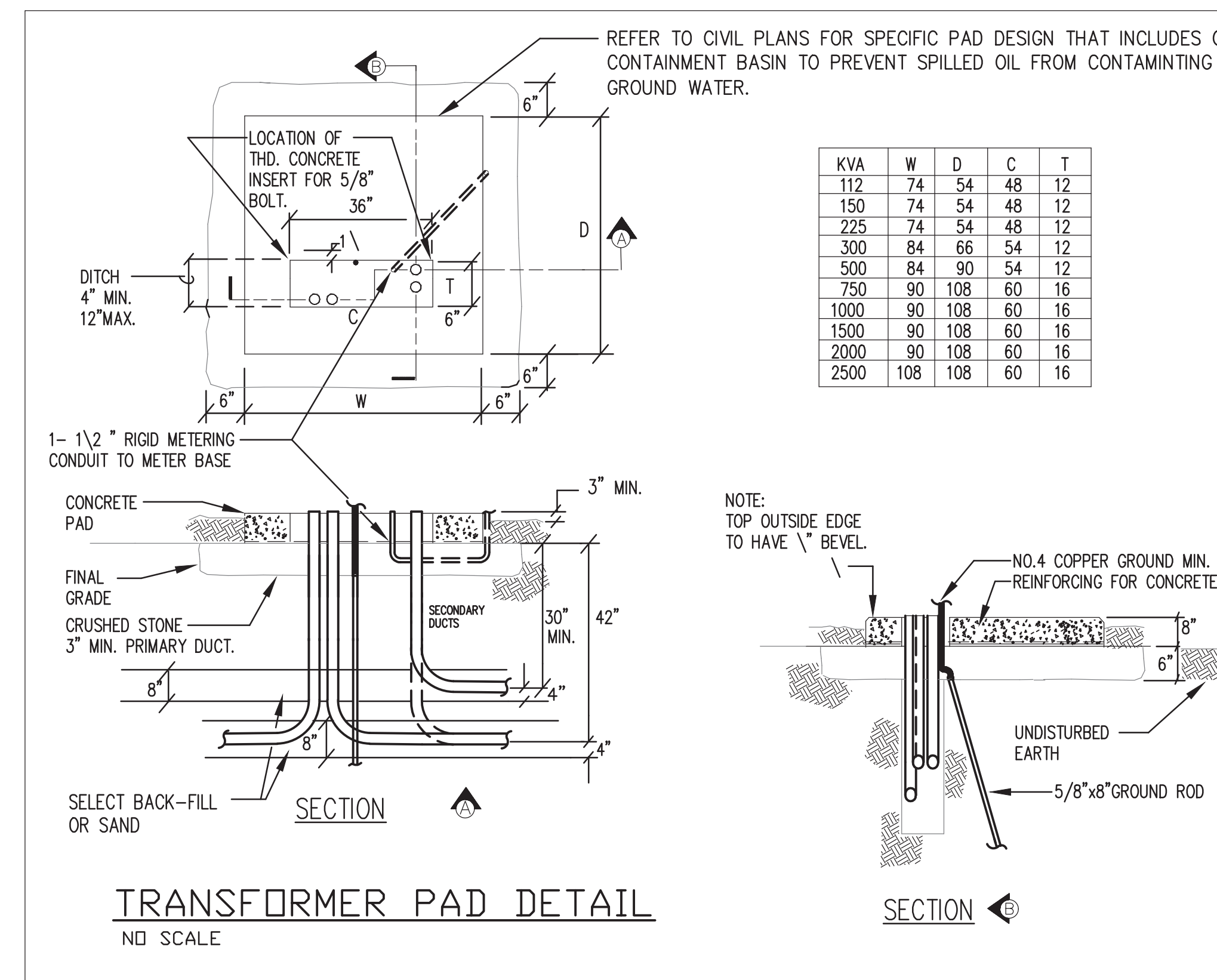
NOTES: 1) COLOR RENDERING INDEX (CRI) FOR ALL LAMPING SHALL BE 4000 DEGREES KELVIN TEMPERATURE.
 2) VERIFY NECESSARY MOUNTING TRIMS WITH ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT CEILING TYPES.
 3) INTERIOR/EXTERIOR FIXTURE FINISHES SUBJECT TO APPROVAL/CHANGE BY ARCHITECT. VERIFY PRIOR TO RELEASE OF ORDER AND SHOP DRAWING SUBMITTAL.
 4) ALL EMERGENCY AND EXIT FIXTURES ARE TO MEET N.F.P.A. 101 LIFE SAFETY REQUIREMENTS.
 5) THE LISTED MANUFACTURERS AND CAT. NOS. ARE THE BASIS OF DESIGN.



RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25



1 E0.1 ELECTRICAL LEGEND, SCHEDULES & DETAILS PLAN

SCALE: NOT TO SCALE



NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12-WATER TREATMENT PLANT IMPROVEMENTS

LIGHTING PLAN

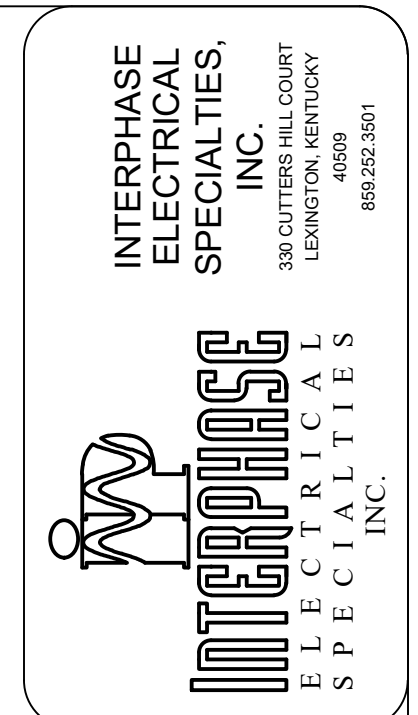
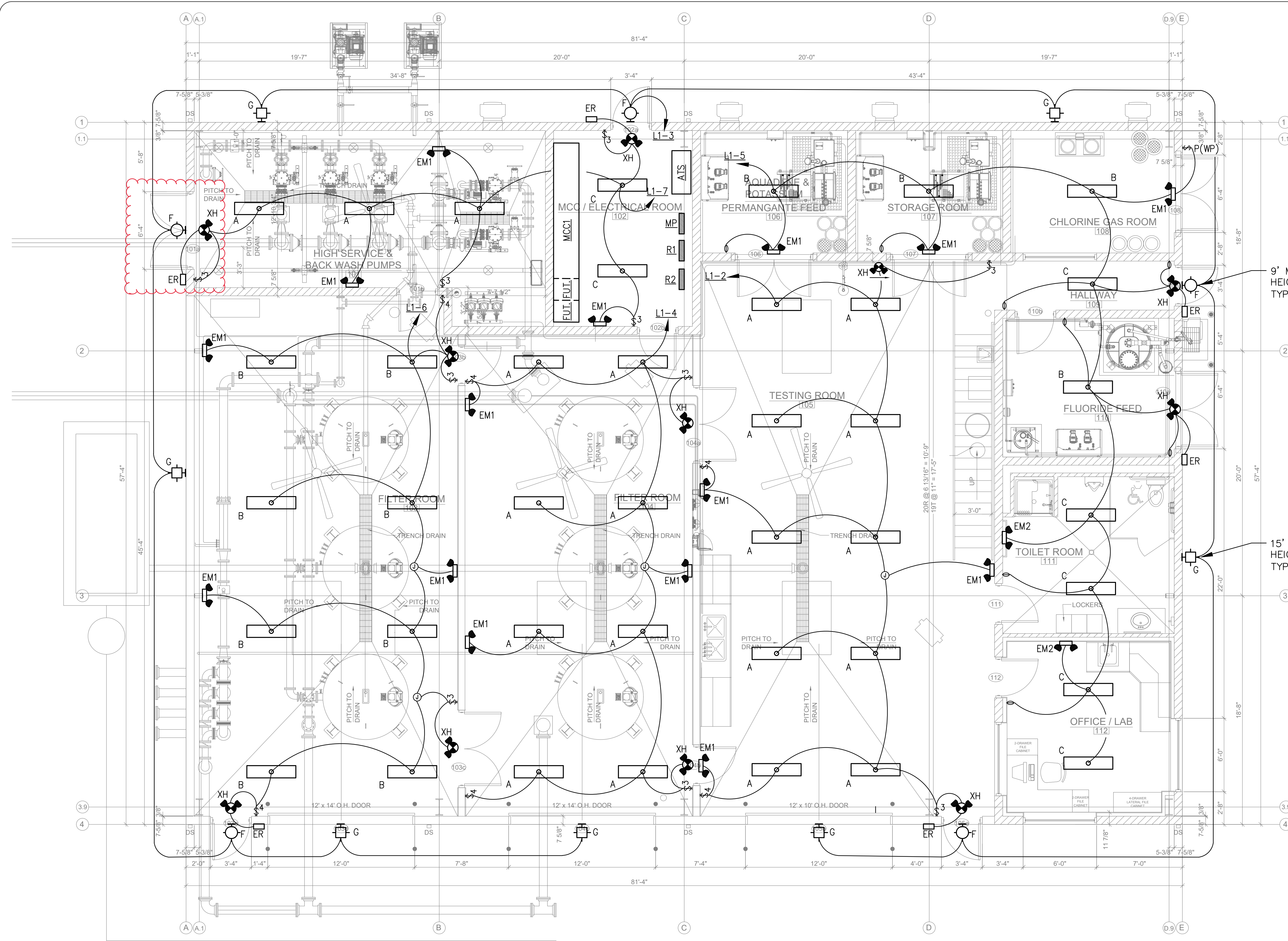


PROJECT #:	19003
DATE:	AUGUST 2021
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG



SHEET NO.
E-0.1

RECORD DRAWINGS



NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

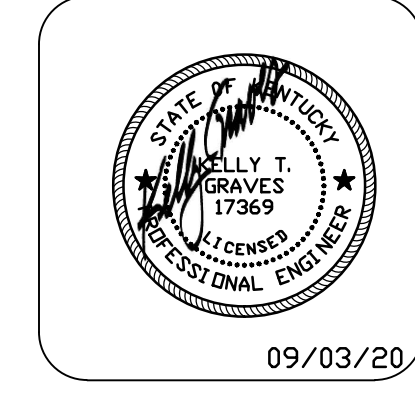
2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12-WATER TREATMENT PLANT
 IMPROVEMENTS
 LIGHTING PLAN



PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG

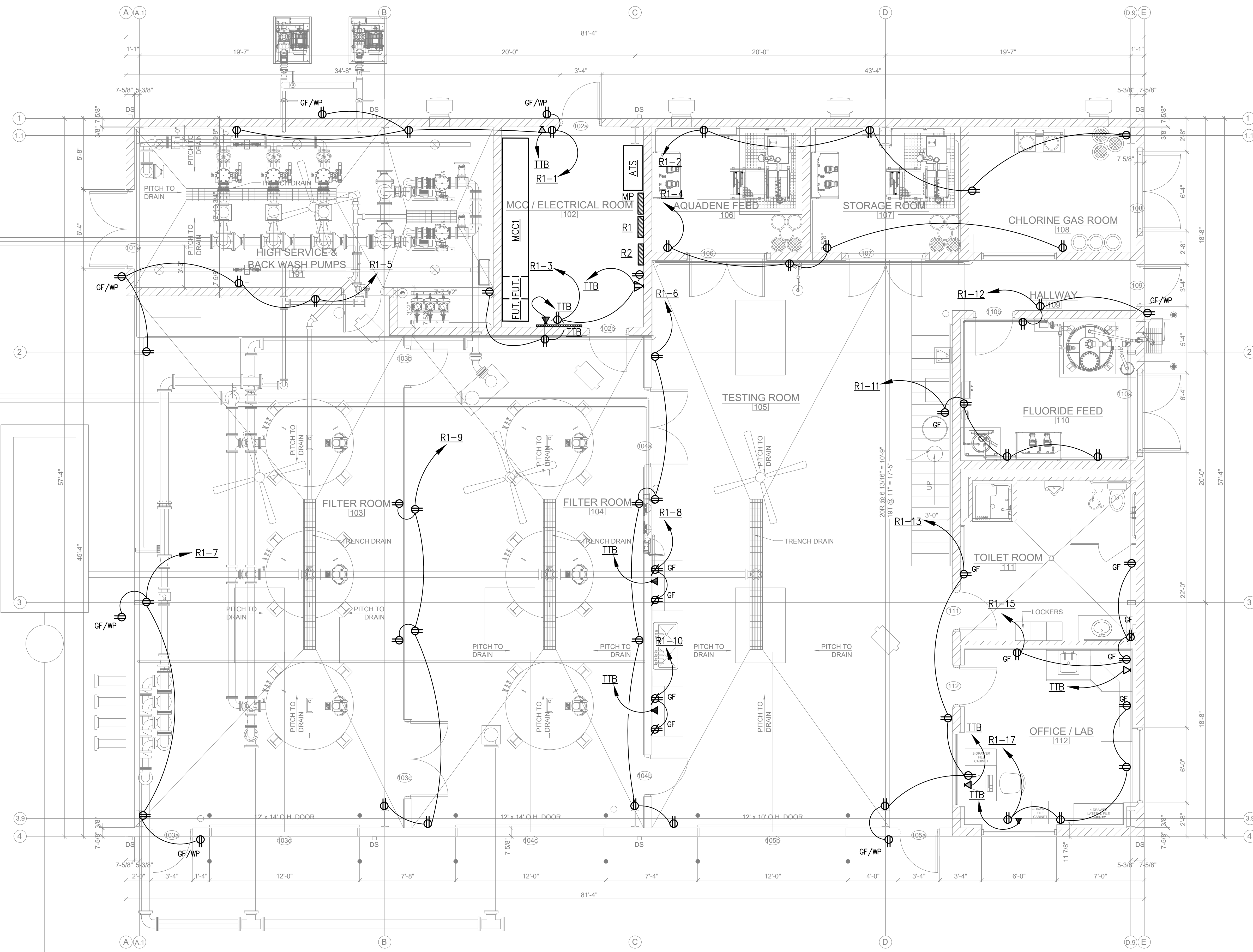
1 LIGHTING PLAN
 E1.1 SCALE: 1/4" = 1'-0"

RECORD DRAWINGS
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 BY: BLUEGRASS ENGINEERING DATE: 12/24



SHEET NO.
E-1.1

RECORD DRAWINGS



1 GENERAL POWER PLAN
 E2.1 SCALE: 1/4" = 1'-0"

INTERPHASE ELECTRICAL SPECIALTIES, INC.
 40259
 899.252.3901
 100 EAST MAIN STREET
 LEAVENWORTH, KENTUCKY

NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12-WATER TREATMENT PLANT IMPROVEMENTS
GENERAL POWER PLAN

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 • Georgetown, KY 40324

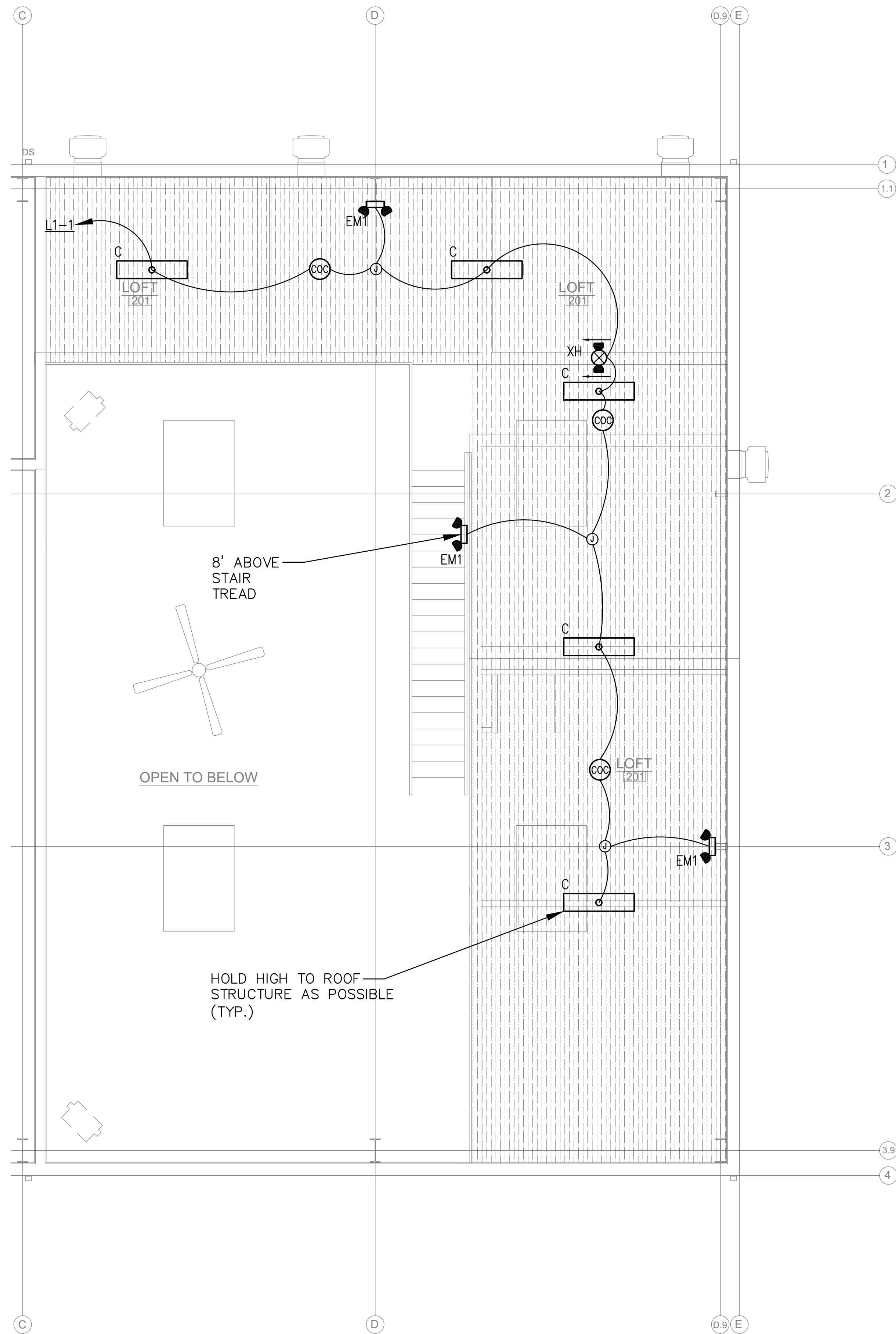
PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG

PROFESSIONAL ENGINEER
 KY 17969
 09/03/20

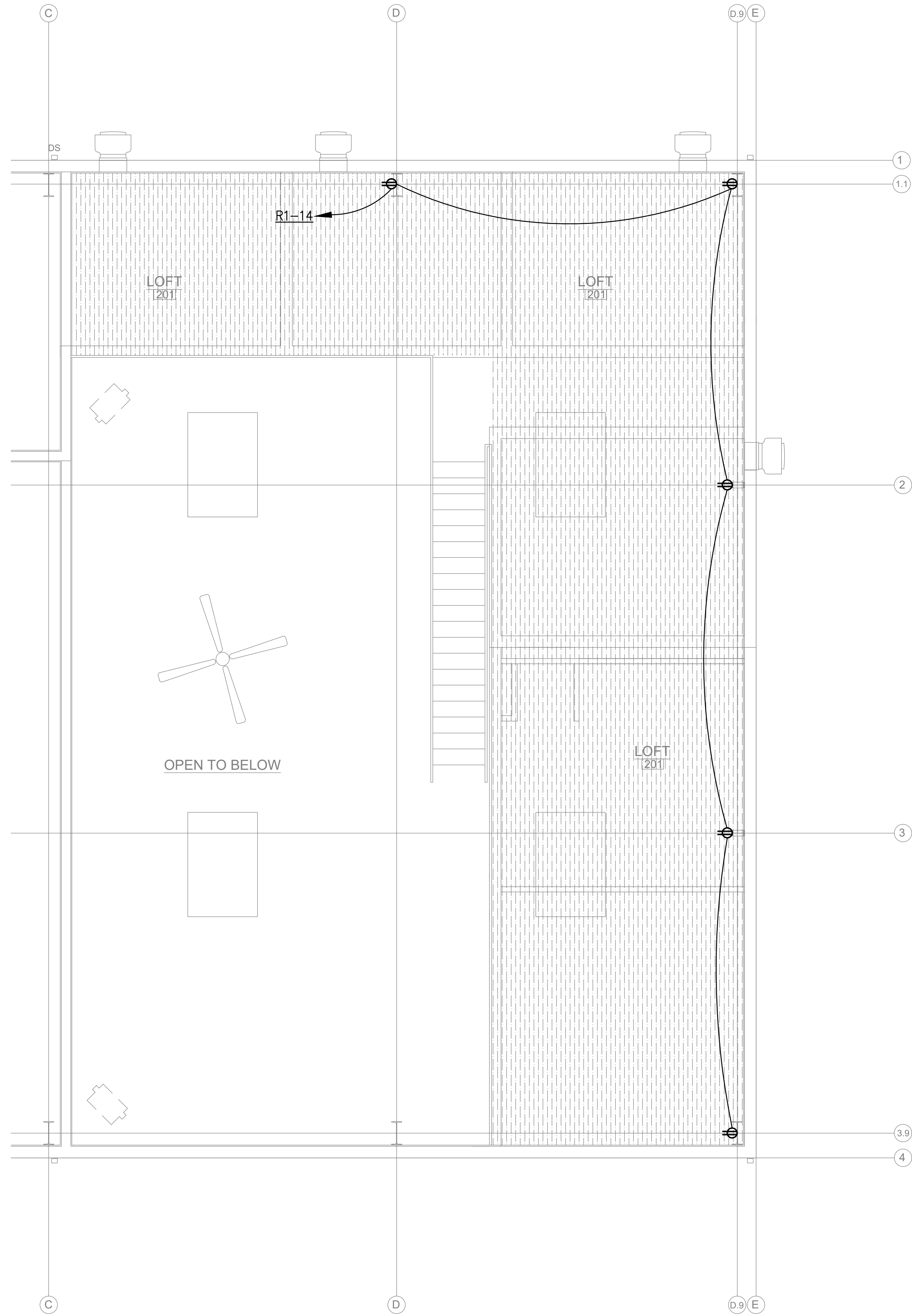
RECORD DRAWINGS
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 BY: BLUEGRASS ENGINEERING DATE: 06/25

SHEET NO.
E-2.1

RECORD DRAWINGS



1 LOFT FLOOR PLAN-LIGHTING
E3.1 SCALE: 1/4" = 1'-0"



2 LOFT FLOOR PLAN-POWER
E3.1 SCALE: 1/4" = 1'-0"

INTERPHASE ELECTRICAL SPECIALTIES, INC.
100 EAST MAIN STREET, STE. 1 • GEORGETOWN, KY 40324
40309
889.252.3801

INTERPHASE ELECTRICAL SPECIALTIES, INC.

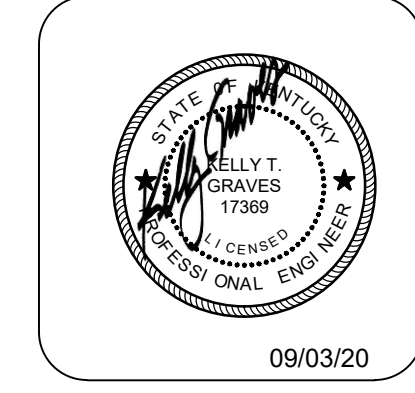
NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

**2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12-WATER TREATMENT PLANT
IMPROVEMENTS**

**LOFT FLOOR PLAN
LIGHTING/POWER**

BLUEGRASS ENGINEERING PLLC
222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG



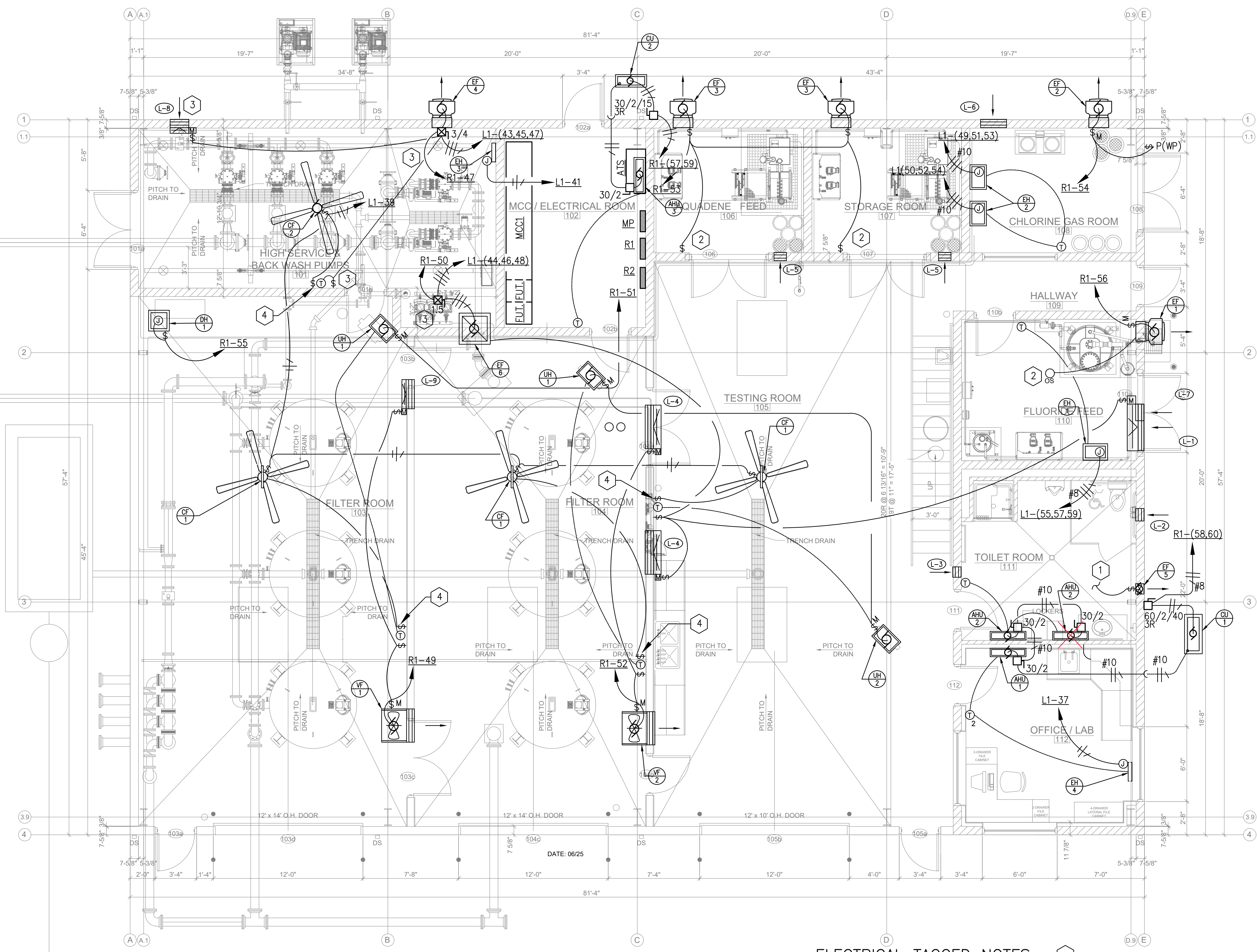
SHEET NO.
E-3.1

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

RECORD DRAWINGS



1 MECHANICAL EQUIPMENT POWER PLAN
 E4.1 SCALE: 1/4" = 1'-0"

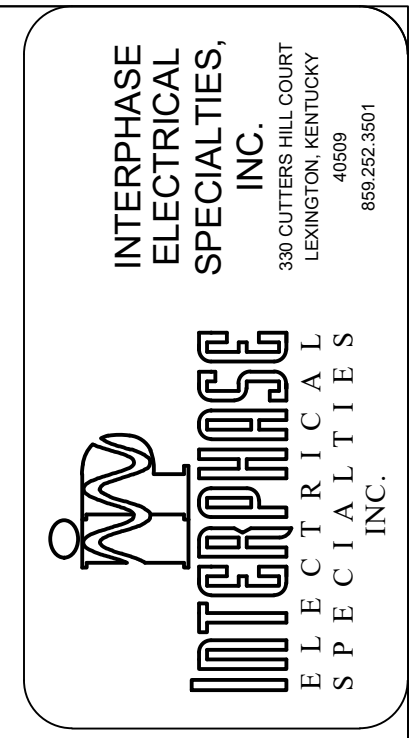
RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

ELECTRICAL TAGGED NOTES:

1. PROVIDE 2 POLE FUNCTION OCCUPANCY SWITCH FOR 277v ROOM LIGHTING CONTROL AND 120v FAN CONTROL FOR SIMULTANEOUS OPERATION.
2. TWO SPEED FAN CONTROLLER BY MECHANICAL CONTRACTOR, WIRED/INSTALLED BY ELECTRICAL CONTRACTOR.
3. COMBINATION MAGNETIC STARTER/FUSED DISCONNECT FOR ROOM EXHAUST FAN POWER AND CONTROL. PROVIDE 120v CONTROL POWER TRANSFORMER, RED RUN PILOT LIGHT, HAND-OFF-AUTO SWITCH (HOA) AND AUXILIARY CONTACTS AS FOLLOWS: (2) SETS OF N.O. AND (1) N.C. SET. CONTROL IN AUTOMATIC MODE IS BY ROOM THERMOSTAT AND HAND MODE IS BY MANUAL WALL SWITCH AS SHOWN ON MECHANICAL DRAWING M100. IN EITHER SCENARIO, ASSOCIATED MOTORIZED LOUVER SHALL BE INTERLOCKED TO OPEN WITH FAN OPERATION.
4. OVERHEAD FAN SPEED CONTROLLER BY MECHANICAL CONTRACTOR/WIRED BY ELECTRICAL CONTRACTOR.



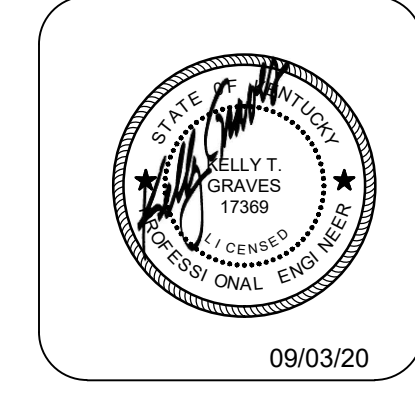
NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

**2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12-WATER TREATMENT PLANT
 IMPROVEMENTS**

MECHANICAL EQUIPMENT POWER



PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG



SHEET NO.
E-4.1

RECORD DRAWINGS

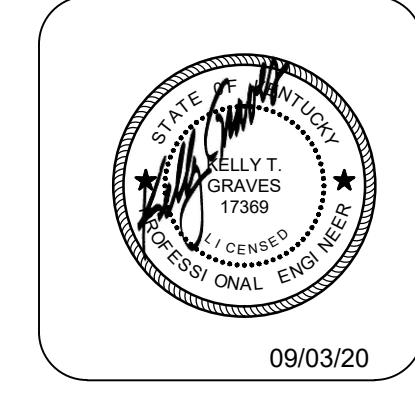


NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

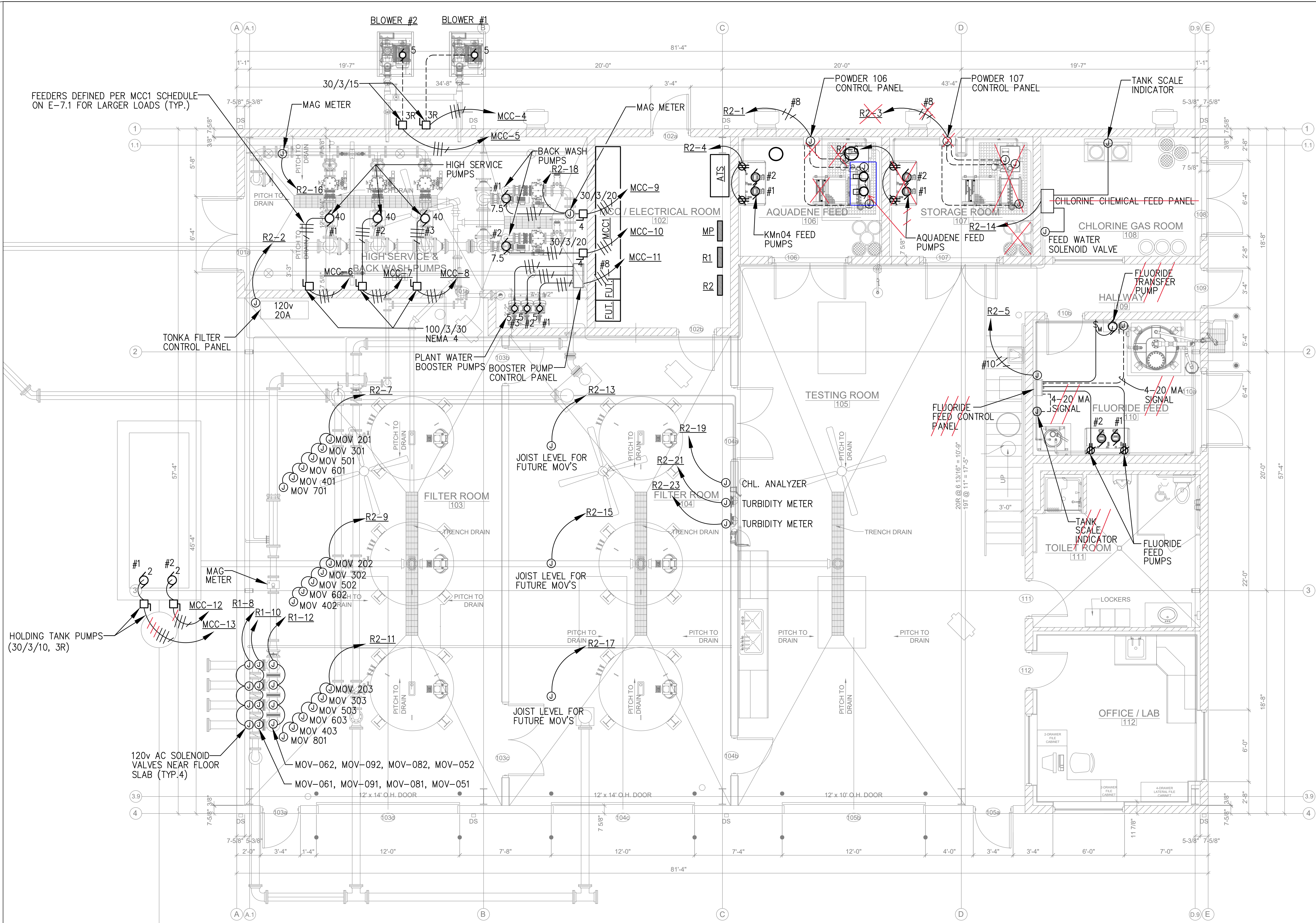
2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12-WATER TREATMENT PLANT
 IMPROVEMENTS
 WASTE WATER EQUIPMENT POWER



PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG



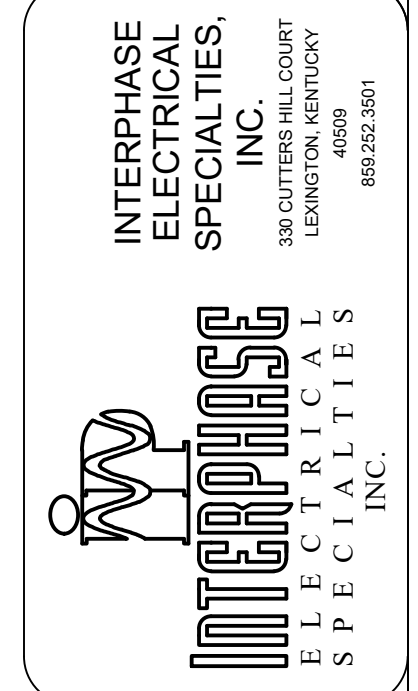
SHEET NO.
E-5.1



1 WASTE WATER EQUIPMENT POWER PLAN
 E5.1 SCALE: 1/4" = 1'-0"

RECORD DRAWINGS
 TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THIS SET OF RECORD DRAWINGS SHOWS THE REPORTED LOCATION OF THE WORK AND SIGNIFICANT CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE RECORD DOCUMENTS ARE BASED ON UNVERIFIED INFORMATION PROVIDED BY OTHER PARTIES WHICH WILL BE ASSUMED RELIABLE. THE DESIGN PROFESSIONAL CANNOT AND DOES NOT WARRANT THEIR ACCURACY.
 BY: BLUEGRASS ENGINEERING DATE: 06/25

RECORD DRAWINGS



ELECTRICAL NOTES:

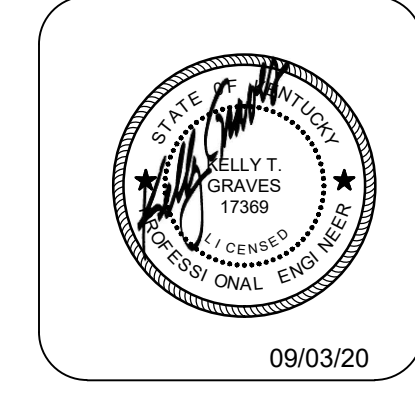
1. LUGS/TERMINALS FOR PANELBOARDS AND PANELBOARD BREAKERS ARE TO BE RATED AND U.L. APPROVED FOR OPERATION AT 75° CELSIUS.
2. VARIOUS FEEDERS MAY BE UPSIZED TO ACCOUNT FOR VOLTAGE DROP.
3. PROVIDE "HACR" RATED BREAKERS FOR HVAC EQUIPMENT.
4. GROUND MAIN DISTRIBUTION PANEL "MP" TO BOTH THE BUILDING GROUND TRIANGLE AND AN UNDERGROUND WATER PIPE WITH A #3/0 BARE COPPER GROUND WIRE.
5. PROVIDE A CIRCUIT BREAKER FOR THE MAIN SERVICE DISCONNECT. THIS MAIN DEVICE FRAME SIZE SHALL BE 1000A . MANUFACTURER TO BE SQUARE D, SEIMEN'S, G.E. OR APPROVED MANUFACTURER.
6. INCLUDE ARC FLASH STUDY (SHORT CIRCUIT) AND LABELS FOR DISTRIBUTION EQUIPMENT THAT SHALL INCLUDE MAIN PANEL "MP", AUTOMATIC TRANSFER SWITCH, GENERATOR MAIN BREAKER, "MCC1", TRANSFORMERS, PANELBOARDS AND BRANCH LEVEL DISCONNECT SWITCHES.

NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

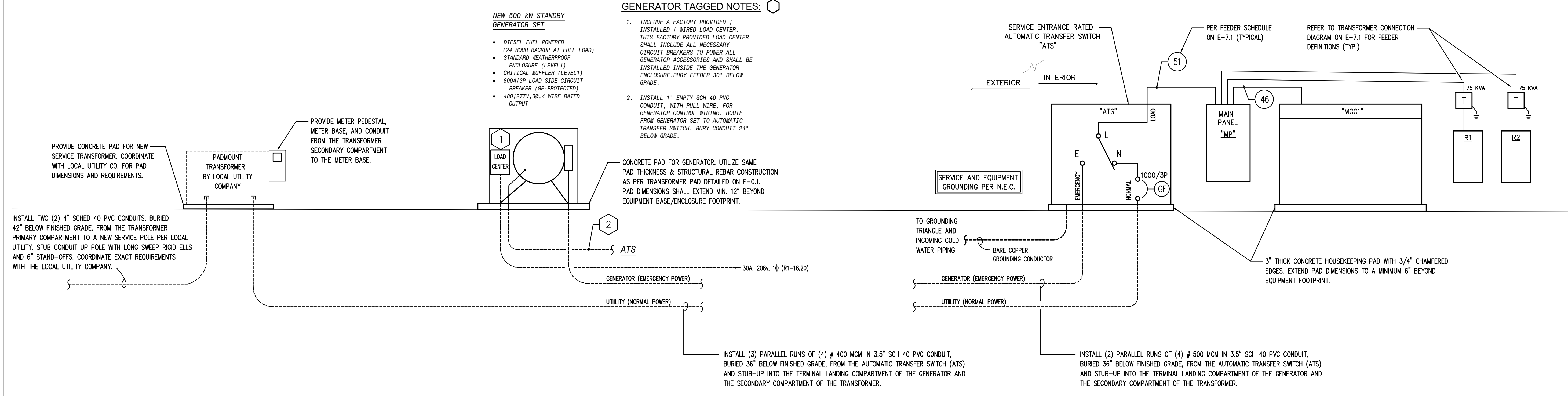
2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12-WATER TREATMENT PLANT IMPROVEMENTS
 WASTE WATER EQUIPMENT POWER



PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG



SHEET NO.
E-6.1



1 ELECTRICAL RISER DIAGRAM
 E6.1 SCALE: NOT TO SCALE

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

RECORD DRAWINGS



INTERPHASE ELECTRICAL SPECIALTIES, INC.
 150 SOUTH MAIN STREET
 GEORGETOWN, KY 40324
 502-366-4000
 888.252.3901

INTERPHASE ELECTRICAL SPECIALTIES, INC.

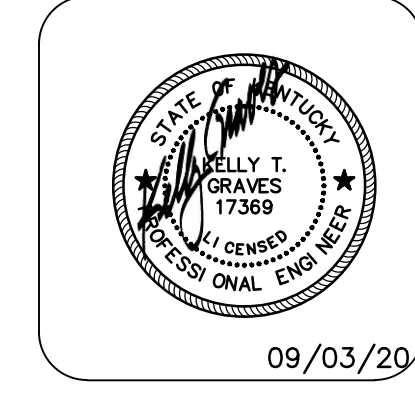
NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12-WATER TREATMENT PLANT

ELECTRICAL SITE PLAN

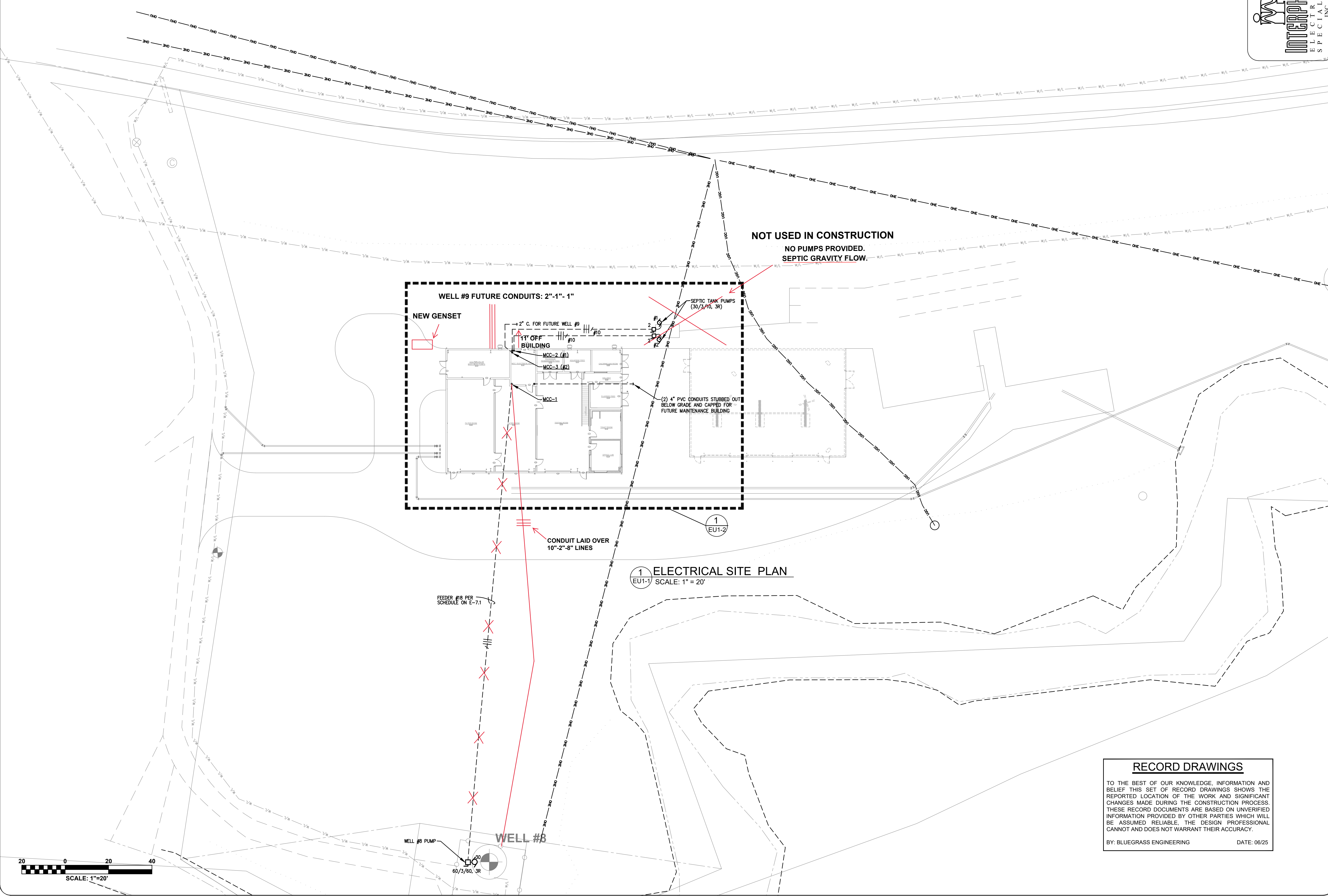
BLUEGRASS ENGINEERING PLLC
 222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG



SHEET NO.
EU-1.1

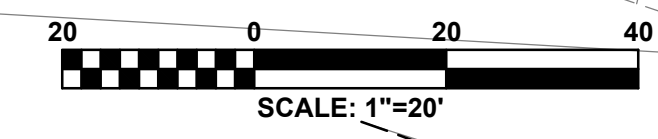
RECORD DRAWINGS



RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25



NO.	DATE	REVISIONS	BY
1	09/03/20	FOR REVIEW ONLY	KG

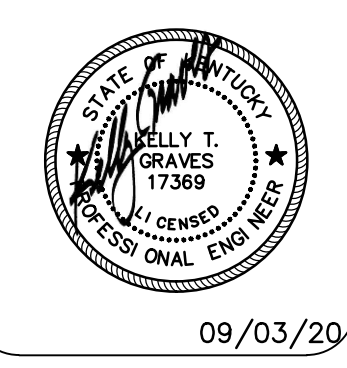
2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12-WATER TREATMENT PLANT

ELECTRICAL SITE PLAN

BLUEGRASS
 ENGINEERING PLLC

222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	KG
DRAWN BY:	MC
CHECKED BY:	KG

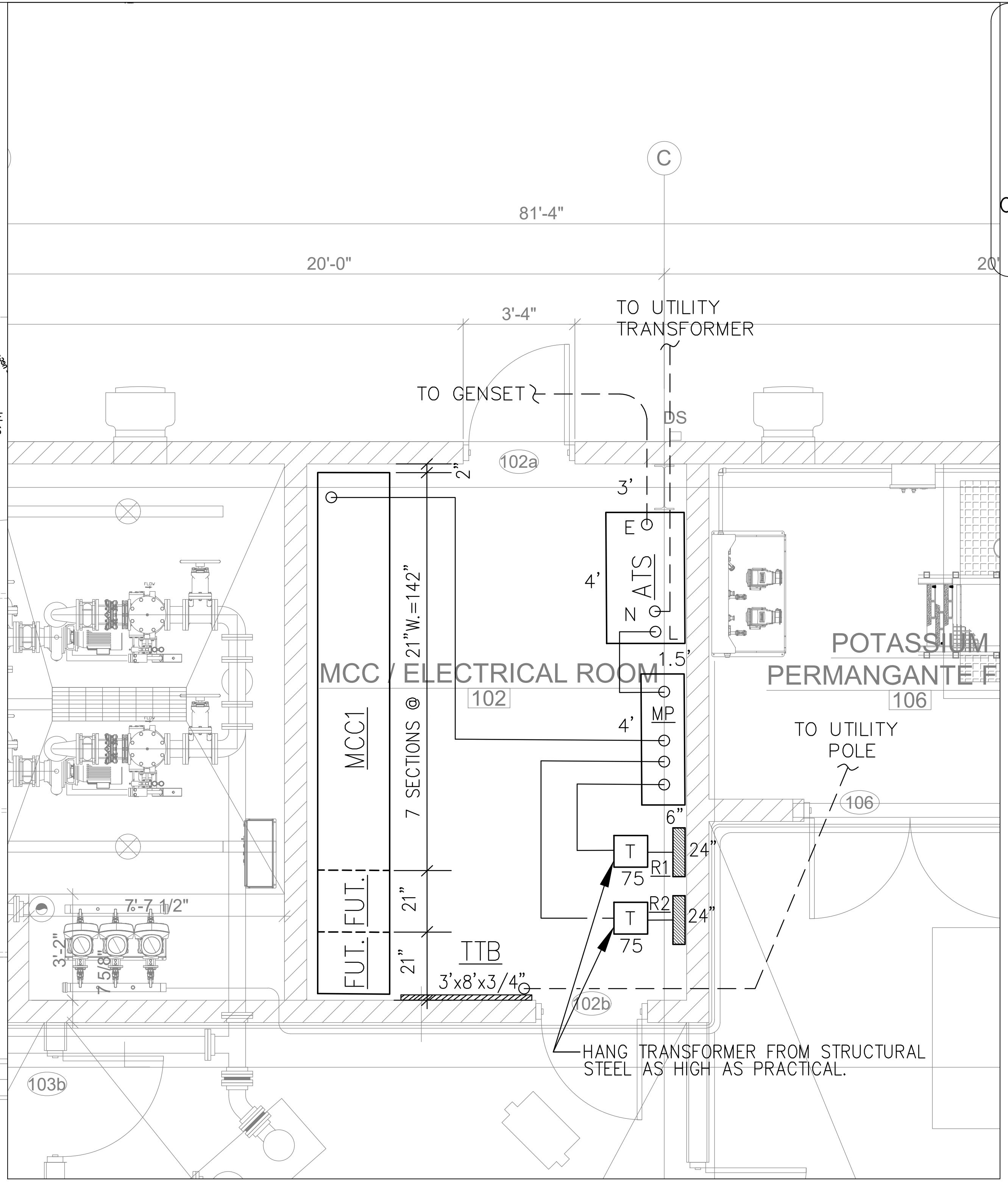


SHEET NO.
EU-1.2

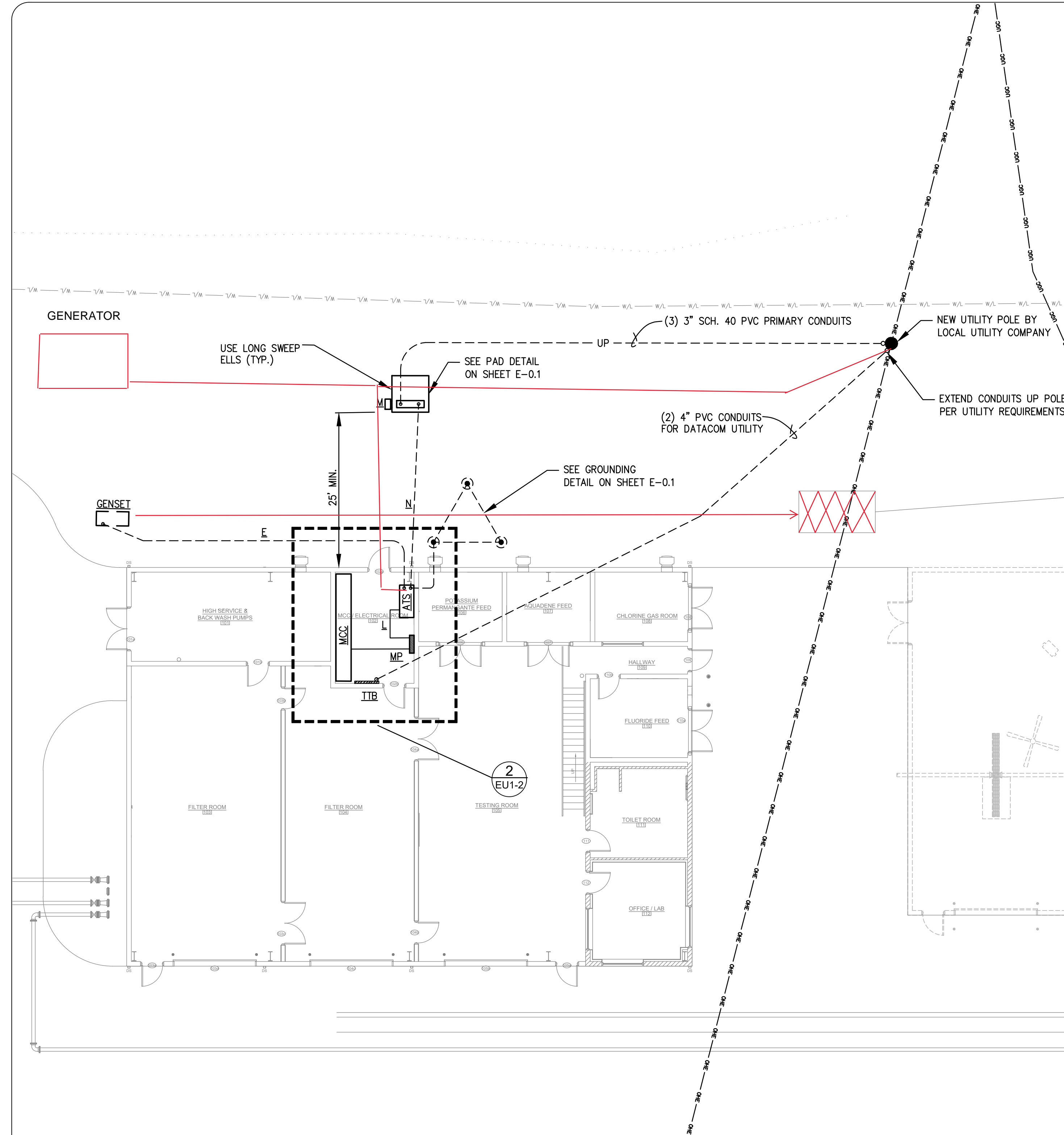
RECORD DRAWINGS

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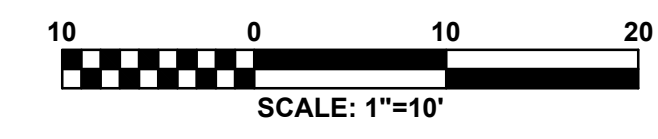
BY: BLUEGRASS ENGINEERING DATE: 06/25



2 ENLARGED MCC/ELECTRICAL ROOM EQUIPMENT PLAN
 SCALE: 1/2" = 1'-0"



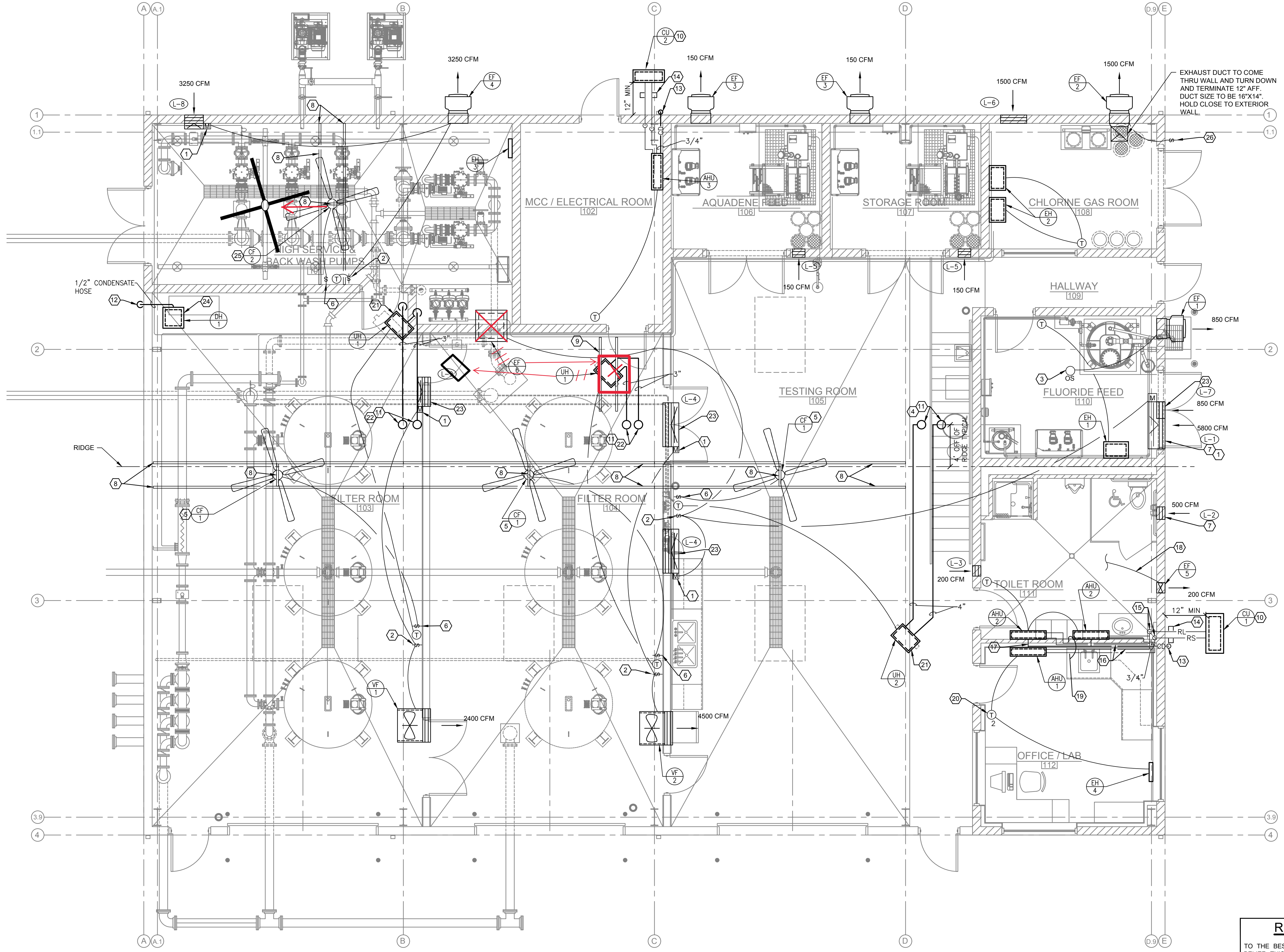
1 ENLARGED ELECTRICAL SITE PLAN
 SCALE: 1" = 10'



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BE 11/19/20
 Y:_libs-2020\Sandy Hook - SHW\DRAWINGS\M100.dwg



- TAGGED NOTES**
1. LOUVER WITH MOTORIZED DAMPER.
 2. WIRED MANUAL SWITCH.
 3. 2 SPEED FAN WITH OCCUPANCY SENSOR. LOW SPEED IS FOR NORMAL OPERATIONS. HIGH SPEED TO BE USED WHEN ROOM IS OCCUPIED.
 4. 4" FLUE AND COMBUSTION AIR VENTED THROUGH ROOF.
 5. 56" DIAMETER CEILING FAN, VARIABLE SPEED AND REVERSIBLE, 3 BLADED, 277 VOLT SINGLE PHASE, 0.36 AMPS, 28,000 CFM CAPABILITY, VES MANUFACTURING MODEL NUMBER: INDB562774L. FAN TO BE STEM MOUNTED, PROVIDED WITH SAFETY CABLE AND WALL MOUNT FAN CONTROLS.
 6. PROVIDE FAN WITH SPEED CONTROLLER.
 7. LOUVER IS PLACED HIGH ON EXTERIOR WALL. BOTTOM OF LOUVER TO NO LESS THAN 11' AFG.
 8. (2) SUPPORTING UNIT/STRUT MEMBERS FOR FAN. SUPPORT FROM MAIN STRUCTURE.
 9. UNIT HEATER TO BE MOUNTED FROM UNISTRUT.
 10. CONDENSING UNITS TO BE MOUNTED ON PRECAST CONCRETE PAD.
 11. FLUE FOR UNIT HEATER TO BE PLACED 4' BEHIND THE RIDGE OF BUILDING.
 12. DEHUMIDIFIER CONDENSATE HOSE SPILL TO GRADE AT 8" AFG. PROVIDE INSECT SCREEN.
 13. CONDENSATE DRAIN SPILL TO GRADE AT 8" AFG. PROVIDE INSECT SCREEN.
 14. REFRIGERANT PIPING OUTSIDE TO BE SUPPORTED.
 15. REFRIGERANT PIPING TO TURN UP INSIDE THE BUILDING, AND GO UP ABOVE CEILING.
 16. REFRIGERANT PIPING ABOVE CEILING, CONNECT TO AHU'S FROM ABOVE.
 17. CONDENSATE PIPING TO BE ABOVE CEILING.
 18. WIRE INTO LIGHTING CONTROL.
 19. REFRIGERANT PIPING AND 3/4" CD CONCEALED ABOVE CEILING.
 20. 2-STAGE HEATING, 1-STAGE COOLING THERMOSTAT WITH 2ND STAGE TO ENGAGE WALL HEATER.
 21. HANG UNIT HEATER FROM STRUCTURE.
 22. 3" FLUE AND COMBUSTION AIR VENTED THROUGH ROOF.
 23. LOUVER TO BE PLACED ABOVE HEIGHT OF DOOR. BOTTOM OF LOUVER TO BE PLACED NO LESS THAN 8" AFG.
 24. QUEST HI-E DRY 195 DEHUMIDIFIER, 115V SINGLE PHASE, 13.1 AMPS, 610 CFM BLOWER, 1500 WATT NUMBER: 4036710.
 25. 56" DIAMETER CEILING FAN, VARIABLE SPEED AND REVERSIBLE, 3 BLADED, 277 VOLT SINGLE PHASE, 0.36 AMPS, 28,000 CFM CAPABILITY, VES MANUFACTURING MODEL NUMBER: INDB562774L. FAN TO BE STUB MOUNTED, PROVIDED WITH SAFETY CABLE AND WALL MOUNT FAN CONTROLS.
 26. WEATHERPROOF HOUSING FOR SWITCH. SWITCH ENGAGES HIGH FAN SPEED.

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

M FLOOR PLAN - NEW WORK
 M100 SCALE: 1/4" = 1'-0"

johnson • early • architects
 131 prospero place suite 190 • lexington, kentucky 40509
 phone: 606-251-1515 • fax: 606-251-5060 • e-mail: early@johnsonearly.com

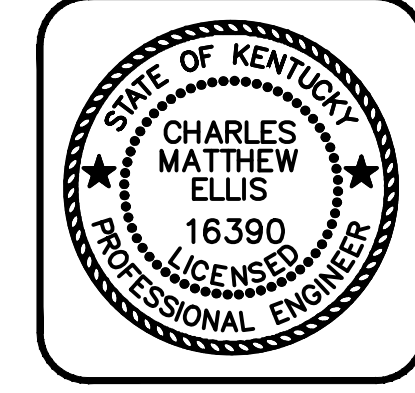


NO	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
FLOOR PLAN - NEW WORK



PROJECT #: 19003
 DATE: OCTOBER 2020
 PROJECT MGR: LRS
 DRAWN BY: JSD
 CHECKED BY: CME



SHEET NO.
M100

RECORD DRAWINGS

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BE 11/06/20

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ELECTRIC HEATERS										
MARK	MARKET SERIES	HEATER TYPE	MOUNTING	TYPICAL LOCATION	CFM	KW	ELECTRICAL		REMARKS	
							FLA	VOLTS/Ø		
EH-1	HLA 20-480360-20.0-24	UNIT HEATER	WALL	FLUORIDE RM	2450	20	25.1	480/3	1,2,3,4,5	
EH-2	HLA 20-480360-15.0-24	UNIT HEATER	WALL	CHLORINE RM	2450	15	19	480/3	1,2,3,4,5	
EH-3	G3423T	WALL HEATER	WALL	HIGH SERVICE BACK WASH	245	3	10.8	277/1	1,2,3,4,5	
EH-4	F3422T	WALL HEATER	WALL	OFFICE/LAB	245	2	7.2	277/1	1,2,3,4,5	

- REMARKS:
 1. PROVIDE INTEGRAL THERMOSTAT.
 2. MANUAL RESET THERMAL LIMIT.
 3. WHITE POWDER COATED 18 GA. STEEL GRILL.
 4. FURNISH UL LISTED AND NEC COMPLIANT DISCONNECT MEANS.
 5. PROVIDE WITH ACCESSORY SURFACE MOUNT FRAME.

UNIT HEATER SCHEDULE									
MARK	MANUFACTURER	MODEL	INPUT	OUTPUT	CFM	ELECTRICAL		REMARKS	
						FLA	MOC		
UH-1	REZNOR	UDAS60	60,000	49,800	769	2.4	15	1,2,3,4,5,6	
UH-2	REZNOR	UDAS100	100,000	87,150	1345	3.9	15	1,2,3,4,5,6	

- REMARKS:
 1. TOTALLY ENCLOSED FAN MOTOR.
 2. MOUNTING BRACKETS.
 3. DUST SHIELD.
 4. FAN GUARD.
 5. TWO-STAGE PROPANE GAS VALVE.
 6. PROVIDE WITH THERMOSTAT.

LOUVER SCHEDULE										
MARK	MANUFACTURER	MODEL	MATERIAL	DIMENSIONS	PERCENT FREE AREA	MAXIMUM AIR VELOCITY	DEPTH	CFM	P.D. IN.WG.	REMARKS
L-2	RUSKIN	L811	GALVANIZED	24"x16"	32%	589 FPM	4"	500	0.07	1,2,3
L-3	RUSKIN	L811	GALVANIZED	16"x16"	30%	370 FPM	4"	200	0.03	1,3
L-4	RUSKIN	L375D	GALVANIZED	42"x48"	51%	720 FPM	4"	5150	0.06	3,4
L-5	RUSKIN	L811	GALVANIZED	16"x16"	30%	278 FPM	4"	150	0.02	3
L-6	RUSKIN	L375D	GALVANIZED	32"x24"	44%	646 FPM	4"	1500	0.05	1,2,3
L-7	RUSKIN	L375D	GALVANIZED	16"x24"	40%	792 FPM	4"	850	0.07	1,2,3
L-8	RUSKIN	L375D	GALVANIZED	32"x40"	49%	753 FPM	4"	3250	0.06	1,2,3,4
L-9	RUSKIN	L375D	GALVANIZED	28"x33"	46%	808 FPM	4"	2400	0.07	3,4

- REMARKS:
 1. BIRDSCREEN
 2. FIXED BLADES, DRAINABLE
 3. LOUVER PRIMED FOR PAINT. COLOR BY ARCHITECT.
 4. PROVIDE WITH MOTORIZED DAMPER.

SPLIT SYSTEM AIR HANDLERS													
MARK	CARRIER MODEL #	SUPPLY FAN					OA CFM	TOTAL COOLING (MBH)	TOTAL HEATING (MBH)	AUXILIARY HEATER (KW)	ELECTRICAL		REMARKS
		CFM	TYPE	DRIVE	HP	E.S.P.					FLA	VOLTS/Ø	
AHU-1	40GXM009-3	283	CABINET	-	1/5	-	-	6.5	7.5	-	.26	208/1	1,3,5
AHU-2	40GXM012-3	341	CABINET	-	1/5	-	-	8.9	10.4	-	.26	208/1	3,4,5
AHU-3	40MVQ12-3	425	CABINET	-	1/20	-	-	12	11.5	-	1.18	208/1	2,3,4,5

- * EXTERNAL STATIC PRESSURE OVER AND ABOVE THE LOSSES OF A WET DX COIL AND CLEAN FILTER.
 REMARKS:
 1. FACTORY 2-STAGE HEATING/COOLING THERMOSTAT.
 2. PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR INDOOR BLOWER MOTOR
 3. PROVIDE WITH INTERNAL CONDENSATE PUMP ACCESSORY.
 4. SINGLE STAGE HEATING/COOLING THERMOSTAT.
 5. AH UNIT FED BY POWER FROM CONDENSING HEAT PUMP UNIT.

SPLIT SYSTEM HEAT PUMPS												
MARK	CARRIER MODEL #	SERVICE	NOMINAL TONNAGE	SEER RATING	TOTAL COOLING (MBH)	HEATING CAPACITY (MBH)/(F)	ELECTRICAL			REMARKS		
							MCA	MOP	VOLTS/Ø			
CU-1	38GXM430-3	OFFICE/TOILET ROOM	2.5	14.5	26	28/14	24	40	208/1	1,2,3,4,5		
CU-2	38MVQ12-3	MCC/ELECTRICAL ROOM	1	13	12	12/5	9	15	208/1	1,2,3,4,5		

- REMARKS:
 1. COOLING CAPACITY IS BASED ON 95°F AMBIENT AIR TEMP & RATED IN ACCORDANCE WITH D.O.E. TESTS & A.R.I. STANDARDS.
 2. PROVIDE UNIT WITH SUCTION AND DISCHARGE SERVICE VALVES.
 3. PROVIDE UNIT WITH THERMAL EXPANSION VALVES AND HARD START KITS
 4. PROVIDE CRANKCASE HEATER, FILTER-DRIER, AND LOW PRESSURE SWITCH.
 5. 5 YEAR COMPRESSOR WARRANTY.

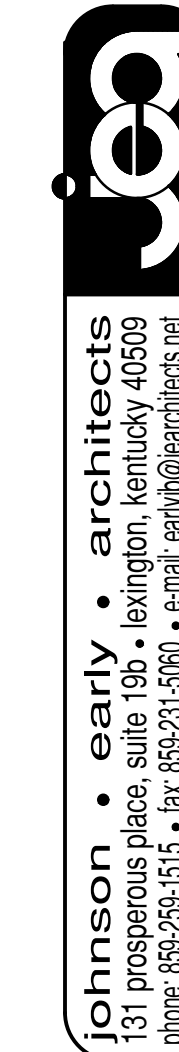
EXHAUST FANS										
MARK	MANUFACTURER	MODEL NO.	MOUNTING	FAN DATA				ELECTRIC DATA		REMARKS
				CFM	DRIVE	E.S.P.	SONES	HP	VOLTS/Ø	
EF-1	GREENHECK	CUBE-099	WALL	850	BELT	0.1	8.4	1/4	115/1	1,3,4,5
EF-2	GREENHECK	CUBE-101	WALL	1500	BELT	0.1	13.7	1/3	115/1	1,3,4,5
EF-3	GREENHECK	CUE-060-VG	WALL	150	DIRECT	0.1	3.2	1/15	115/1	1,2,3,4
EF-4	GREENHECK	CUBE-161	WALL	3250	BELT	0.1	15.8	3/4	460/3	1,2,3,4
EF-5	BROAN	509	WALL	200	DIRECT	0.1	8.5	-	120/1	1,2
EF-6	GREENHECK	GB-180	ROOF	5800	BELT	0.1	24	1.5	460/3	1,2,3,6

- REMARKS:
 1. PROVIDE BIRDSCREEN.
 2. PROVIDE GRAVITY DAMPER.
 3. PROVIDE NON-FUSED DISCONNECT SWITCH.
 4. PROVIDE WITH SLEEVE MATCHING THE RECOMMENDED DUCT SIZE FOR FAN.
 5. PROVIDE WITH 2-SPEED FAN MOTOR.
 6. SLOPED ROOF CURB.

VENTILATING FANS									
MARK	GREENHECK MODEL NO.	MOUNTING	FAN DATA				ELECTRIC DATA		REMARKS
			CFM	DRIVE	E.S.P.	SONES	HP	VOLTS/Ø	
VF-1	SBE-1L20	WALL	2400	BELT	0.125	11.5	1/4	115/1	1,2,3,4
VF-2	SBE-1L20	WALL	4500	BELT	0.125	16.4	1/2	115/1	1,2,3,4

- REMARKS:
 1. PROVIDE BIRDSCREEN.
 2. PROVIDE NON-FUSED DISCONNECT SWITCH.
 3. PROVIDE DISCHARGE GRAVITY DAMPER.
 4. OSHA MOTORIZED FAN CAGE.

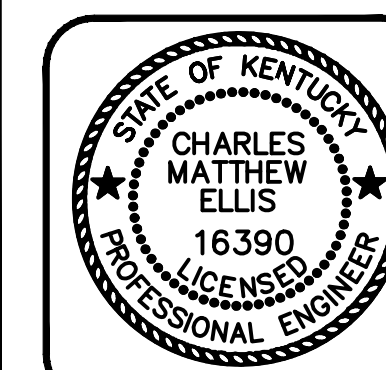
RECORD DRAWINGS
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 BY: BLUEGRASS ENGINEERING DATE: 06/25



2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
 SCHEDULES & DETAILS



PROJECT #: 19003
 DATE: OCTOBER 2020
 PROJECT MGR: LRS
 DRAWN BY: JSD
 CHECKED BY: CME



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M200

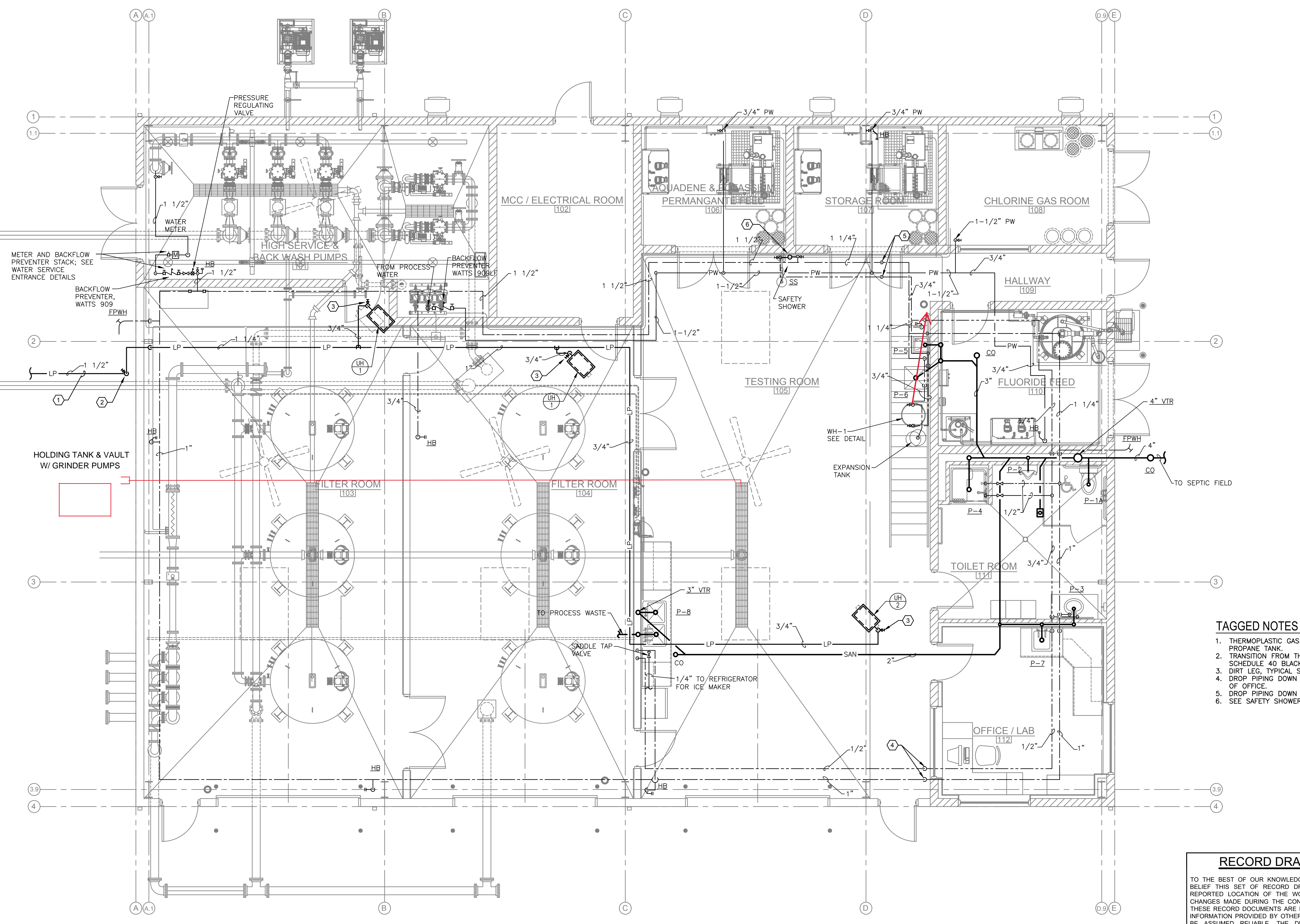
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- TAGGED NOTES**
1. THERMOPLASTIC GAS LINE UNDER GRADE FROM PROPANE TANK.
 2. TRANSITION FROM THERMOPLASTIC PIPING TO SCHEDULE 40 BLACK STEEL WITH ANODELESS RISER. DIRT LEG, TYPICAL SEE DETAIL.
 3. DROP PIPING DOWN TO RUN ABOVE LAY-IN CEILING OF OFFICE.
 4. DROP PIPING DOWN BELOW MEZZANINE LEVEL.
 5. SEE SAFETY SHOWER DETAIL.

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 BY: BLUEGRASS ENGINEERING DATE: 06/25

P PLUMBING PLAN - NEW WORK
 P100 SCALE: 1/4" = 1'-0"

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 phone: 606-253-1515 • fax: 606-251-5060 • e-mail: early@johnsonearly.com



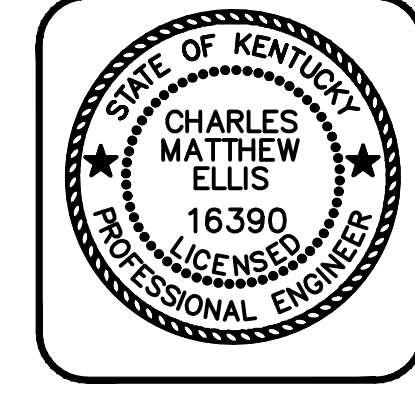
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 606-265-5985

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
PLUMBING PLAN - NEW WORK

BLUEGRASS ENGINEERING PLLC
 222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 19003
 DATE: OCTOBER 2020
 PROJECT MGR: LRS
 DRAWN BY: JSD
 CHECKED BY: CME



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BE 11/08/20

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PLUMBING GENERAL NOTES

- THE FIXTURE ROUGH-INS AND THEIR LOCATIONS FOR ALL CONNECTIONS ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE. IN SOME INSTANCES THE OWNER OR SUPPLIER MAY MAKE SUBSTITUTIONS OR THE FIXTURE MAY VARY FROM WHAT IS SHOWN. THEREFORE, THESE ITEMS SHALL BE VERIFIED WITH THE SUPPLIER. THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED, PRIOR TO CONSTRUCTION, OF ANY DEVIATIONS FROM WHAT IS SHOWN OR IMPLIED ON THESE DRAWINGS. FAILURE OF THE APPROPRIATE CONTRACTOR TO VERIFY ROUGH-INS OR THEIR LOCATIONS SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATION AND/OR ADDITIONAL ROUGH-INS DIRECTLY UPON THE CONTRACTOR.
- CONTRACTOR SHALL SUPPLY TO THE ARCHITECT EIGHT COPIES OF SHOP DRAWINGS FOR APPROVAL, SO THE QUALITY OF INTENDED MATERIALS OR EQUIPMENT CAN BE REVIEWED BEFORE INSTALLATION.
- DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL FLOOR PLAN FOR BUILDING DIMENSIONS.
- THE SUBMISSION OF A PROPOSAL WILL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND LABOR BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED, IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE.
- PLUMBING CONTRACTOR SHALL INSTALL ALL SOIL AND WASTE PIPING WITH A MINIMUM SLOPE OF 1/8" PER FOOT UNLESS OTHERWISE REQUIRED BY THE STATE OR LOCAL ADMINISTRATIVE AUTHORITY.
- FURNISH & INSTALL 1/2" (MIN.) FIBERGLASS INSULATION WITH ALL SERVICE JACKET ON ALL HOT & COLD WATER LINES ABOVE SLAB.
- MATERIALS, EQUIPMENT, ASSEMBLIES AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF NATIONALLY RECOGNIZED TESTING ORGANIZATION SUCH AS THE UL, ASH, ASSE, AWWA AND NFPA.
- ALL VENT PIPE TO BE COMPATIBLE WITH STRUCTURE, MECHANICAL EQUIPMENT AND DUCTWORK, ELECTRICAL EQUIPMENT AND LIGHTING.
- THE CONTRACTOR SHALL COOPERATE FULLY AMONG THE TRADES.
- ALL EQUIPMENT, FIXTURES AND MATERIALS SHALL BE OF NEW AND UNUSED CONDITION. EQUIPMENT SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS (U.O.N.). PROVIDE COMPLETE WITH ALL TRIM, STOPS, HANGERS, CARRIERS, SUPPORTS, ETC. INCLUDING PROVISION FOR THE HANDICAPPED, IF REQUIRED. WHERE FIXTURES ARE ACCESSIBLE TO THE HANDICAPPED, FIXTURES MUST COMPLY WITH ALL FEDERAL A.D.A. REGULATIONS.
- THE POTABLE WATER SUPPLY SHALL BE PROTECTED AGAINST BACKFLOW AND SIPHONAGE BOTH NATURAL AND INDUCED. ALL EQUIPMENT CONNECTED TO THE POTABLE WATER SYSTEM BEING CAPABLE OF POLLUTING OR CONTAMINATING THE POTABLE WATER DISTRIBUTION SYSTEM OR ANY PART THEREOF BY MEANS OF A REVERSAL OF FLOW, PRESSURE DROP, PRESSURE LOSS, INDUCED VACUUM OR BY INJECTION BECAUSE OF ANY PRIMARY OR AUXILIARY PUMPING SYSTEM CONNECTED THERETO MUST BE ISOLATED AND CONTAINED BY MEANS OF APPROVED BACKFLOW DEVICES, CHECK VALVES, AIR GAPS OR VACUUM BREAKERS. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL THESE DEVICES PER LOCAL CODE REQUIREMENTS.
- ALL ROOF PENETRATIONS SHALL BE MADE IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURER'S GUIDELINES. COORDINATE WITH ARCHITECTURAL DETAILS FOR ROOF SYSTEM USED.
- FURNISH AND INSTALL SHUTOFF OR BALL VALVE AND DIELECTRIC UNION ON ALL HOT AND COLD WATER LINES. PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO PLUMBING FIXTURES. ALL SHUT-OFFS TO BE IN ACCESSIBLE LOCATIONS.
- PROVIDE CHROME PLATED ESCUTCHEONS AT ALL VISIBLE WALL, CEILING AND FLOOR PENETRATIONS.
- ALL V.T.R.'S SHALL BE EXTENDED TO A MINIMUM OF 1' ABOVE ROOF AND MAINTAINED 10"-0" MINIMUM FROM ALL OUTSIDE AIR INTAKES.
- VERIFY MOUNTING HEIGHTS OF ALL HANDICAP FIXTURES WITH ARCHITECTURAL PLANS.
- HANDICAPPED LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT SOOR BY BROOK (1-800-827-1207) OR EQUAL. ABRASION RESISTANT EXTERIOR COVER SHALL BE SMOOTH AND HAVE 1/8" MIN. WALL OVER CUSHIONED FOAM INSERT. FASTENERS SHALL REMAIN SUBSTANTIALLY OUT OF SIGHT.
- BIDDERS SHALL BE LICENSED CONTRACTORS IN ACCORDANCE WITH LOCAL AND STATE LAWS.
- ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE. REPLACE ANY AND ALL CONTRACTOR SUPPLIED DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF PROJECT.
- ALL PERMITS AND FEES REQUIRED FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR AND INCLUDED IN THE BID PRICE.
- THE WATER PIPING SYSTEM SHALL BE FLUSHED AND STERILIZED IN ACCORDANCE WITH LOCAL REGULATIONS.

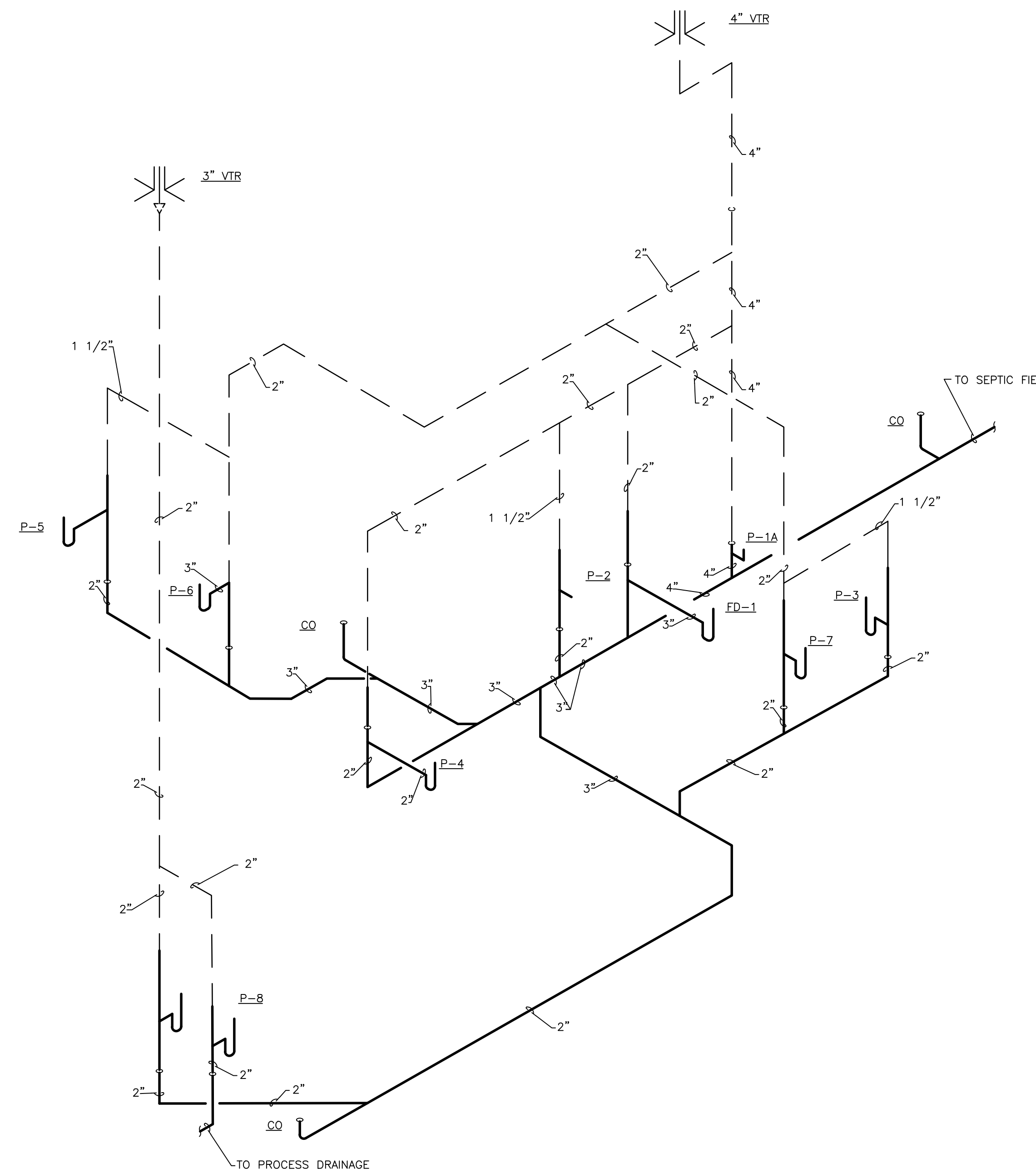
PLUMBING FIXTURE SCHEDULE				
MARK	ITEM	HW	CW	WASTE DESCRIPTION
P-1A	WATER CLOSET (ADA ACCESSIBLE)	--	1-1/2"	3" or 4" AMERICAN STANDARD ONE PIECE, FLOOR MOUNTED, FLUSH VALVE TYPE WATER CLOSET, VITREOUS CHINA ELONGATED BOWL WITH 17" HIGH RIM, OPEN FRONT SEAT LESS COVER, 1.6 GAL./FLUSH, INSTALL WITH BOLT CAPS, WAX RING AND TOILET FLANGE.
P-2	URINAL	--	3/4"	2" AMERICAN STANDARD ALLBROOK, #6541.132 1.0 GAL. FLUSH, WALL HUNG, SIPHON JET, SLOAN ROYAL FLUSH VALVE #186-1, MOUNT TOP OF LIP AT 17" ABOVE FINISHED FLOOR.
P-3	LAVATORY (DROP-IN BARRIER FREE)	1/2"	1/2"	1-1/4" AMERICAN STANDARD #OVALYN DROP-IN VITREOUS CHINA, 4" CENTERS, FAUCET #2385.004 WITH SINGLE LEVER HANDLE, GRID DRAIN & 0.5 GPM AERATOR. PROVIDE CHROME PLATED P-TRAP AND SUPPLIES. WRAP FITTINGS AND TRAP FOR BARRIER FREE PROTECTION.
P-4	SHOWER	1/2"	1/2"	2" ONE PIECE ACRYLIC SHOWER WITH LEFT HAND SEAT, CENTER DRAIN, 36X36X80. PROVIDE WITH SHOWER ROD AND CURTAIN. INSTALL GRID DRAIN, TEMPERATURE AND PRESSURE CONTROL VALVE, DIVERTER VALVE, SHOWER HEAD AND HAND HELD HEAD ON SLIDE ROD. PROVIDE ADA HAND RAIL BAR.
P-5	WATER COOLER	--	1/2"	1-1/2" ELKAY EBFSA-4 MODEL, FLEX GUARD SAFETY BUBBLER, FRONT AND SIDE PUSH BAR OPERATOR, MOUNTING HANGER, GPH CAP. 7.5, 4.8 AMPS, 3.9KW, COMP. 1/5 HP., MOUNT CENTER LINE OF BUBBLER AT 36" ABOVE FINISHED FLOOR. ENTIRE CHASSIS, SKIRT AND APRON TO BE STAINLESS STEEL. PROVIDE A CUP DISPENSER WALL MOUNT NEXT TO WATER FOUNTAIN.
P-6	MOP SINK	3/4"	3/4"	3" FIAT MSB 3624, FAUCET #830AA WITH VACUUM BREAKER & INTEGRAL STOPS. MOP HANGER, HOSE & HOSE BRACKET #832 AA, STAINLESS STEEL BUMPER GUARDS ON TWO SIDES.
P-7	1 COMPARTMENT BAR SINK	1/2"	1/2"	1-1/2" JUST SLX-1921-A-GR COUNTER TOP LAY-IN TYPE 308 STAINLESS STEEL 18 GAUGE SELF RIMMING SINK, THREE HOLE PUNCH. INSTALL A DECK MOUNTED SWING FAUCET WITH 4" WRIST BUREAU HANDLES, AERATOR, P TRAP, TAIL PIECE W/ CRUMB CUP DRAIN. PROVIDE STOPS, SUPPLIES.
P-8	DOUBLE COMPARTMENT CUSTOM SINK	1/2" (2)	1/2" (2)	1-1/2" (2) JUST CUSTOM SINK 24"x61" WITH (2) 12" BASINS. THE FIRST BASIN TO BE 38"x19" WITH 8-HOLE PUNCH AT BACK FOR EIGHT (8) CHICAGO FAUCET 928-3680P LAB FAUCETS WITH INTEGRAL VACUUM BREAKER, GOOSENECK SPOUT AND SERRATED HOSE NOZZLE. THE SECOND BASIN TO BE 16"x19" WITH 2-HOLE PUNCHED REAR. PROVIDE SMALL BASIN WITH P TRAP, AND TAIL PIECE. THE REAR LEDGE FOR THE SMALL SINK TO HAVE TWO (2) CHICAGO FAUCET LAB FAUCETS WITH INTEGRAL VACUUM BREAKERS. PROVIDE HOT WATER TO THE LEFT FAUCET AND COLD WATER TO THE RIGHT FAUCET. DRAIN TO BE PLUMBED TO SMALL BASIN. THE WATER AND DRAIN CONNECTIONS FOR THE LARGE BASIN TO BE DESIGNED BY CIVIL ENGINEER FROM PROCESS TEST PIPING. ALSO PROVIDE SINK WITH GRID DRAIN FOR THE LARGE BASIN, AND CRUMB CUP STRAINER FOR SMALL BASIN.
FD-1	FLOOR DRAIN	--	--	LINE SIZE EPOXY-COATEDCAST IRON CAST IRON BODY, 6" ROUND POLISHED BRONZE TOP. PROVIDE WITH TRAP PRIMER CONNECTION.
CO	CLEANOUT	--	--	LINE SIZE JAY R. SMITH, 4040 SERIES DUCO CAST IRON BODY WITH SQUARE, POLISHED BRONZE TOP.
HB	HOSE BIBB	--	1/2"	-- WOODFORD MODEL 24P-1/2 WITH REMOVABLE KEY HANDLE, VACUUM BREAKER AND POLISHED CHROME FINISH.
FPWH	WALL HYDRANT	--	3/4"	-- WOODFORD MODEL 68, AUTOMATIC DRAINING, FREEZELESS, WITH VACUUM BREAKER, LOOSE KEY WITH COVER PLATE.
ESEW	EMERGENCY SHOWER AND EYEWASH	1-1/4"	3/4"	-- GRANGER/GUARDIAN G1950P FREE STANDING DRENCH SHOWER WITH EYE AND FACE WASH, 10" DIAMETER SHOWER HEAD. INSTALLED 84" ABOVE FINISHED FLOOR. EQUIPPED WITH 1" PS STAY OPEN BALL VALVE. PROVIDE VALVE OPERATION WITH 24" STAINLESS STEEL PULL-ROD WITH TRIANGLE HANDLE. PULL DOWN OPENS VALVE, PUSH UP TO CLOSE. STAINLESS STEEL BOWL WITH 2 GS PLUS SPRAY HEADS 3/4" PS STAY OPEN BALL VALVE, OPERATED BY FLAG HANDLE. PROVIDE ANSI COMPLIANT SINGAGE. INSTALL A POWERS MIXING VALVE ETV 400, 1" INLETS, 1 1/2" OUTLET, 20 GPM AT 30 PSI. FLOW CAPACITY AT 85 F.

PLUMBING FIXTURE SCHEDULE NOTES:

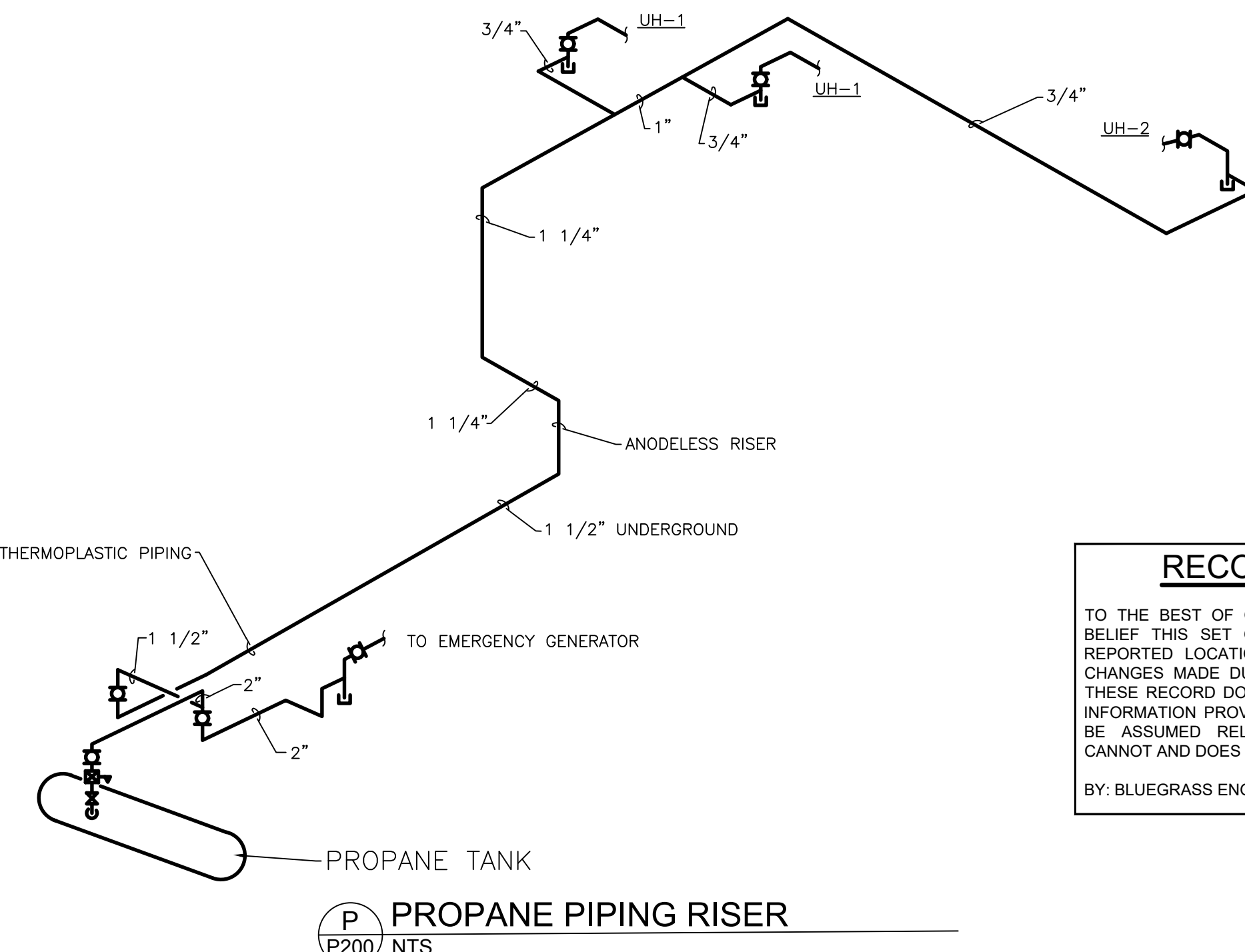
- CONTRACTOR SHALL FURNISH AND INSTALL CARRIER FOR EACH FIXTURE WHICH IS WALL HUNG, UNLESS OTHERWISE NOTED. PROVIDE APPROPRIATE CARRIER PER FIXTURE TYPE AND REQUIREMENTS.
- ACCEPTABLE ALTERNATE MANUFACTURERS FOR ITEMS INCLUDING BUT NOT LIMITED TO:
 - A. WATER CLOSETS: KOHLER, ELJER, CRANE, MANSFIELD
 - B. LAVATORIES: SAME AS WATER CLOSETS.
 - C. SINK: JUST, ELKAY, KRAUS
- ENCLOSE ALL EXPOSED SUPPLIES AND P-TRAPS OF BARRIER FREE LAVATORIES WITH A PROTECTIVE INSULATING MATERIAL AND A SMOOTH JACKET (TRAP-WRAP OR EQUAL).
- SHOCK ARRESTORS FOR BRANCH PIPING TO FIXTURES WITH QUICK CLOSING VALVES SHALL BE BY P.P.P. INC., ZURN (OR EQUAL), SIZED PER PDI REQUIREMENTS.

ELECTRIC TANK WATER HEATER SCHEDULE								
MARK	MANUFACTURER	MARK	TANK SIZE	GPH RECOVERY AT 80° F RISE	KW INPUT	HT. DIA.	ELECTRICAL FLA VOLTS/Ø	REMARKS
WH-1	A. O. SMITH	DEN-40	40 GAL.	23 GPH	4.5 KW	46" 20.5"	-- 277/1	1, 2, 3, 4

- REMARKS:
- FURNISH WITH ASME TEMPERATURE AND PRESSURE GAUGES.
 - TEMPERATURE CONTROL W/HIGH TEMP CUT OFF.
 - GPH BASED ON NON SIMULTANEOUS OPERATION.
 - SEE DETAIL.



SOIL, WASTE, AND VENT DIAGRAM



PROPANE PIPING RISER

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

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NO.	DATE	BY	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
PLUMBING RISER DIAGRAM

BLUEGRASS ENGINEERING, PLLC
 222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #:	19003
DATE:	OCTOBER 2020
PROJECT MGR:	LRS
DRAWN BY:	JSD
CHECKED BY:	CME

STATE OF KENTUCKY
CHARLES MATTHEW ELLIS
 16390
 LICENSED PROFESSIONAL ENGINEER

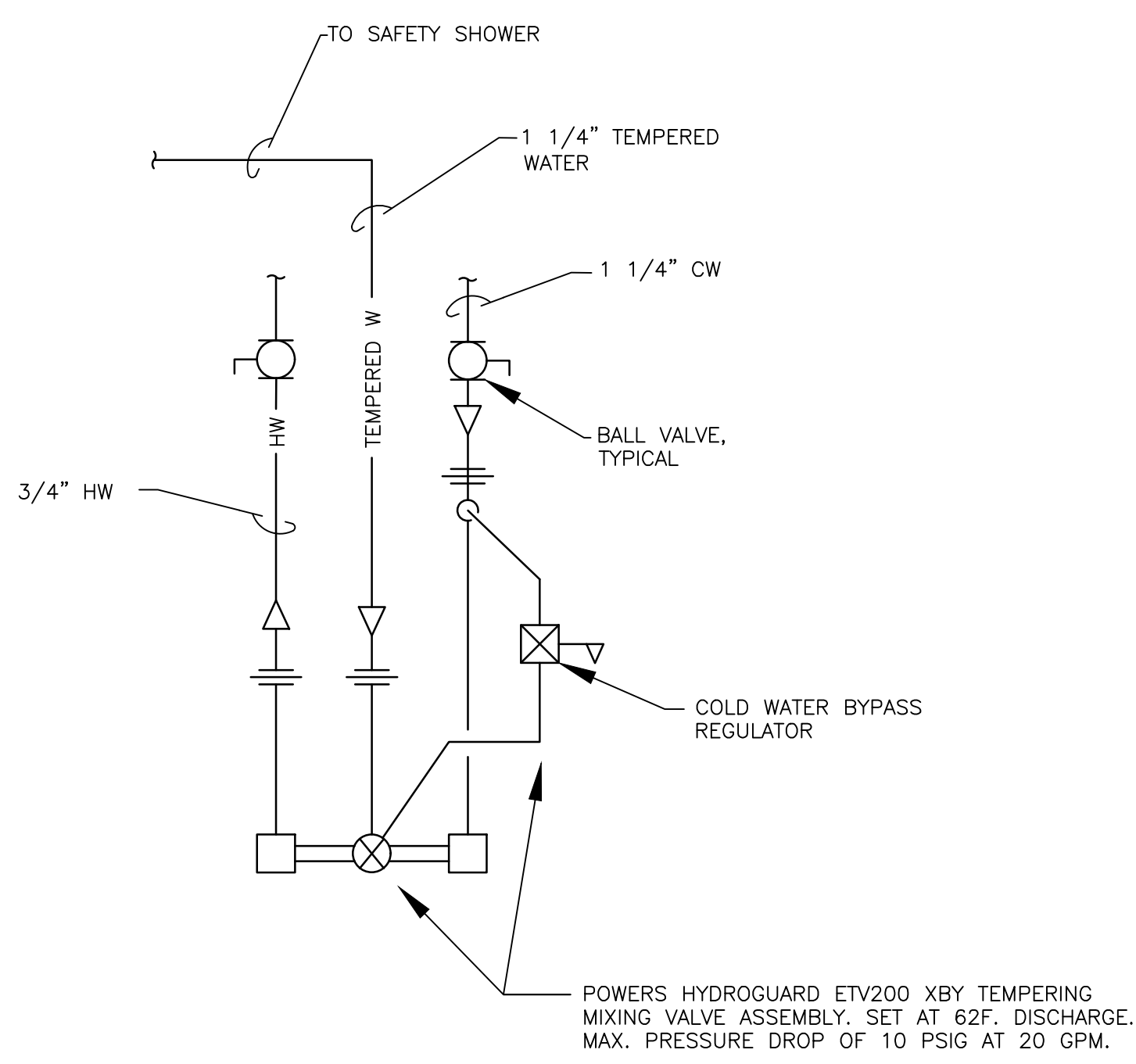
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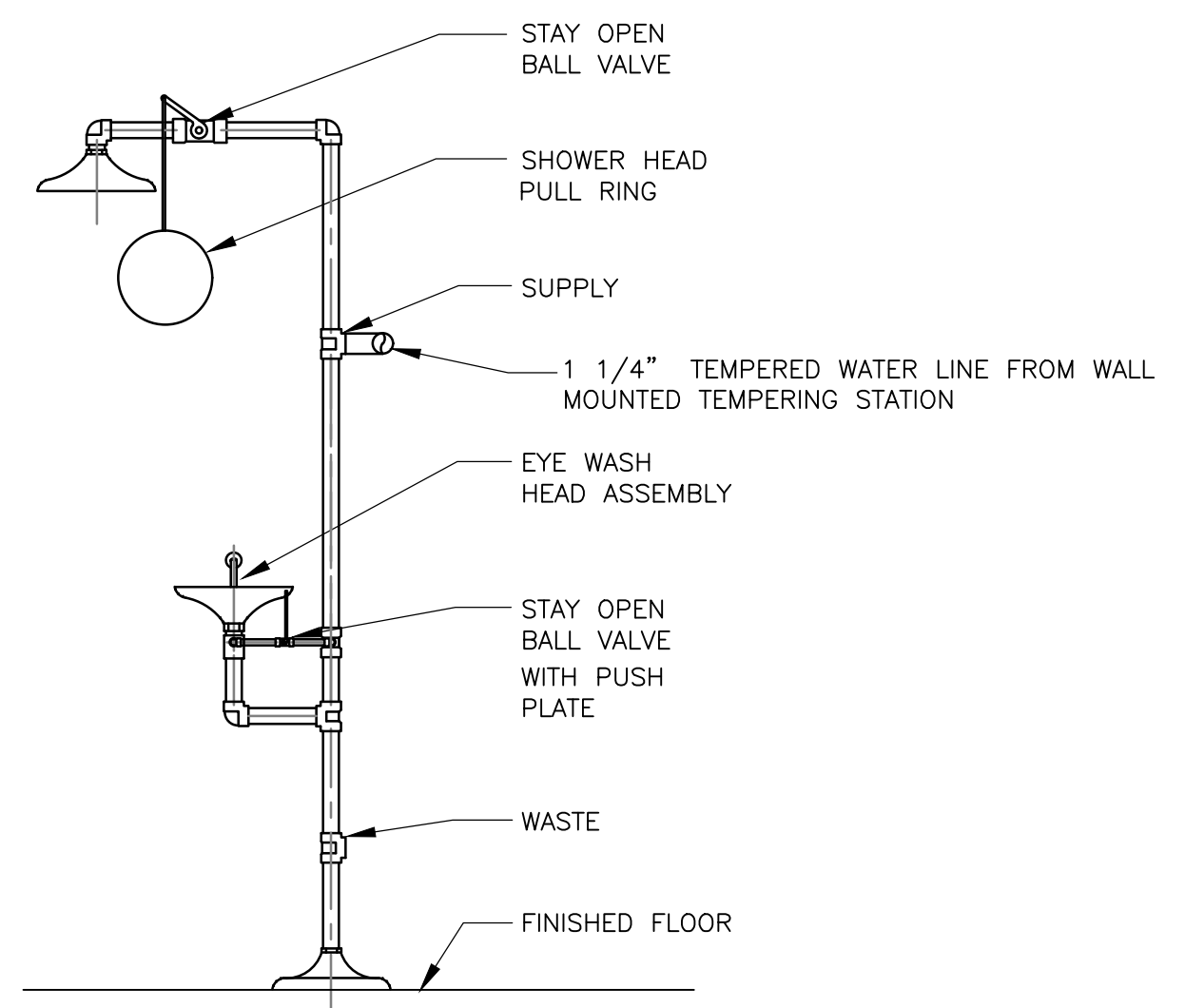
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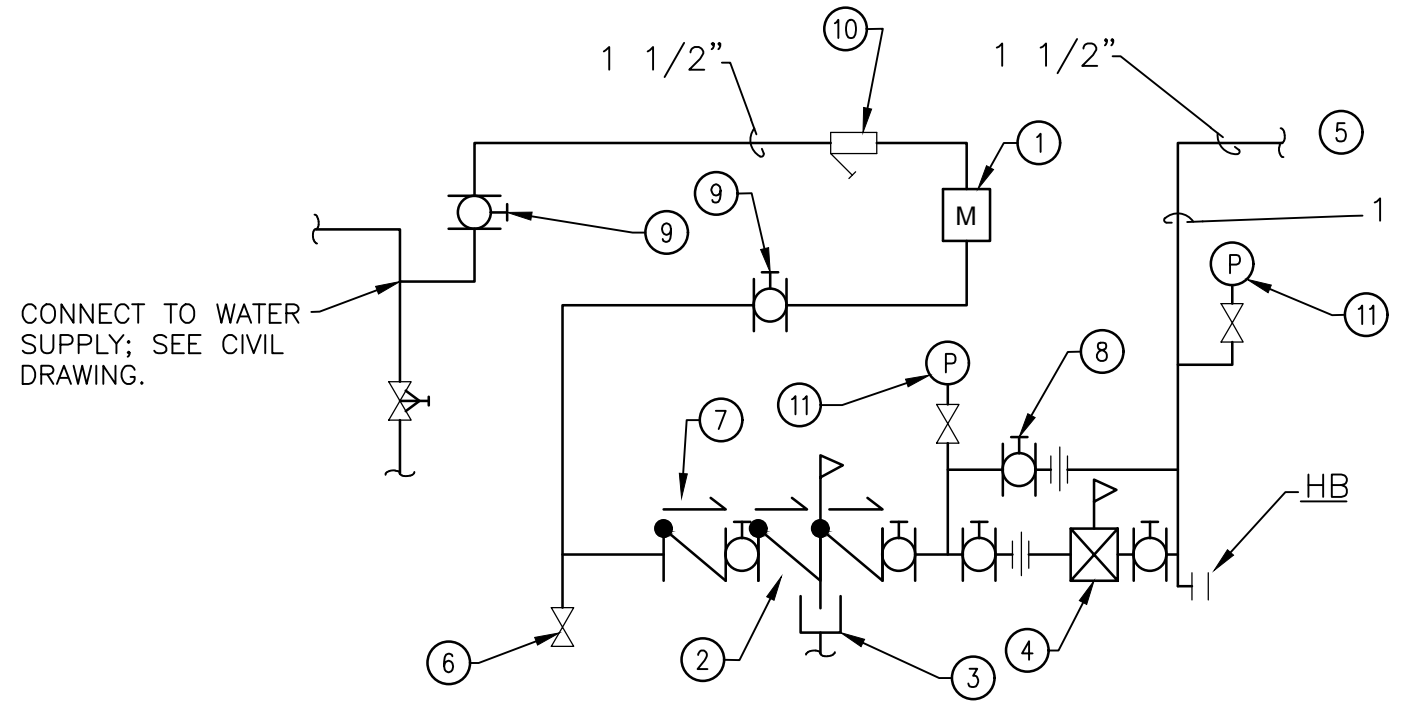
BE 11/08/20
Y:_jobs\2020\Sandy Hook - SHW\DR\WINGS\F200.dwg



TEMPERING STATION
NO SCALE



EMERGENCY SHOWER WITH EYE WASH-ESEW
N.T.S.

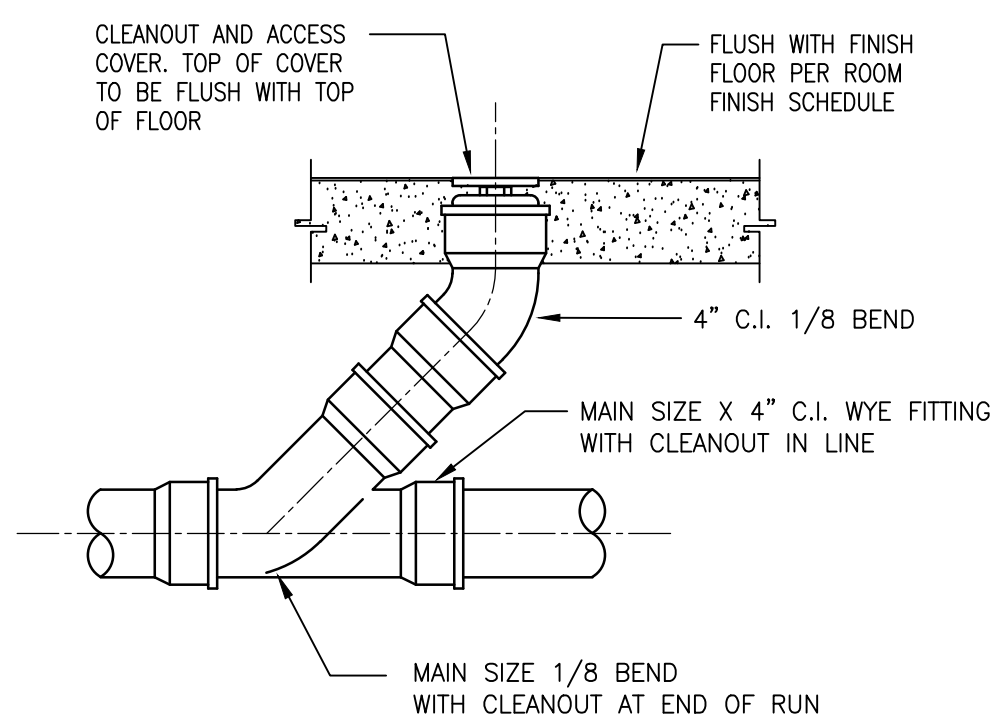


DOMESTIC WATER ENTRANCE DETAIL
NO SCALE

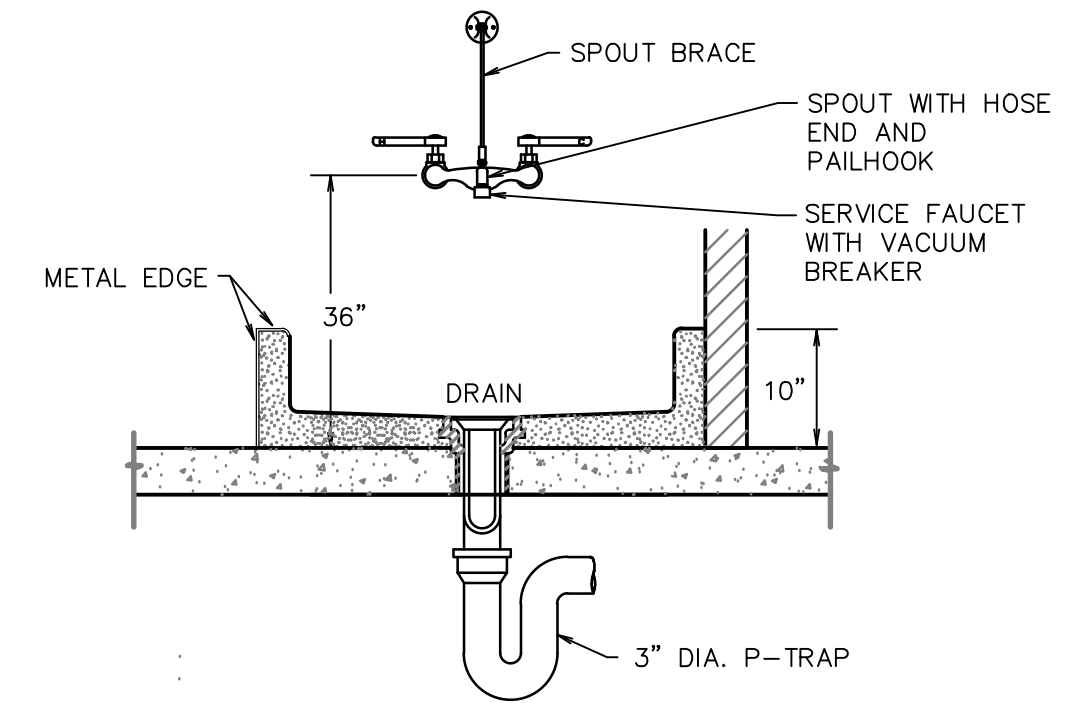
- DOMESTIC WATER ENTRANCE NOTES
1. DOMESTIC WATER METER. PROVIDE BY CUSTOMER; INSTALLED BY CONTRACTOR.
 2. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER WITH STRAINER AND BALL VALVES. INSTALL WITH CENTERLINE OF PIPING AT 36" ABOVE FINISHED FLOOR. VERIFY MINIMUM AND MAXIMUM CLEARANCES WITH VALVE MANUFACTURER.
 3. AIR GAP FITTING. PIPE DRAIN LINE FULL SIZE TO FLOOR OR TRENCH DRAIN.
 4. ADJUSTABLE PRESSURE REGULATING VALVE. SET AT 65 PSIG LEAVING PRESSURE.
 5. TO BUILDING SYSTEM. SEE FLOOR PLAN FOR CONTINUATION.
 6. 3/4" DRAIN VALVE.
 7. CHECK VALVE.
 8. BYPASS VALVE.
 9. BALL VALVE, TYPICAL.
 10. STRAINER.
 11. PRESSURE GAUGE WITH COCK.

PLUMBING LEGEND

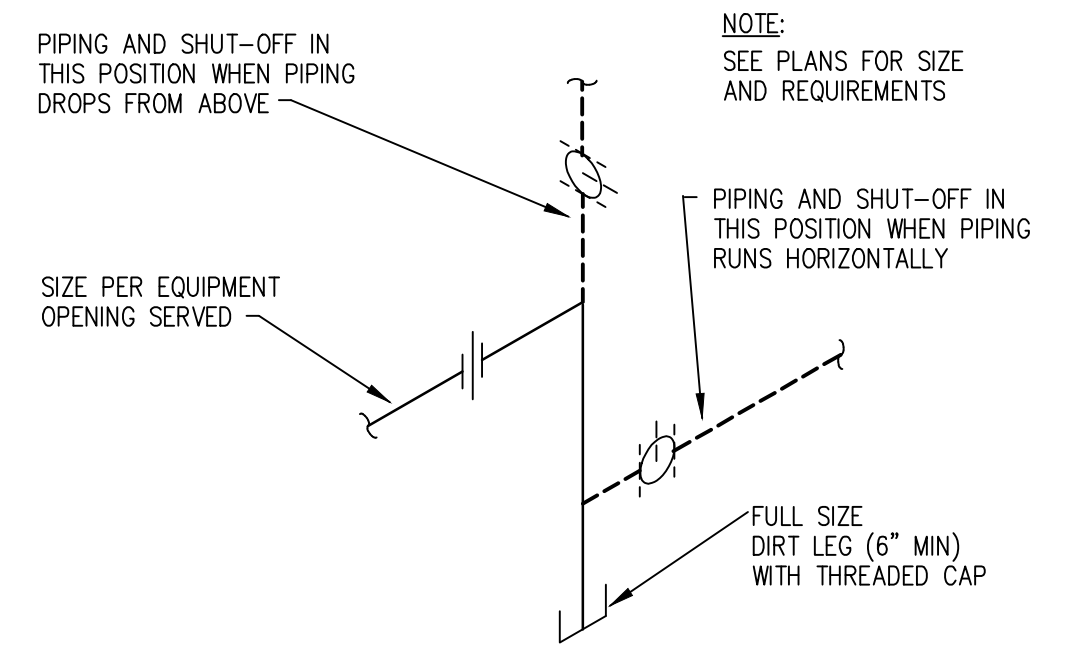
- DOMESTIC COLD WATER (POTABLE)
- DOMESTIC HOT WATER (POTABLE)
- DOMESTIC HOT WATER CIRCULATING (POTABLE)
- SANITARY SEWER
- VENT PIPING
- GREASE WASTE
- VALVE IN HORIZONTAL PIPE
- VALVE IN VERTICAL PIPE
- CHECK VALVE
- DIRECTION OF FLOW
- STRAINER
- UNION
- PRESSURE GAUGE
- THERMOMETER
- BACKFLOW PREVENTION DEVICE (REDUCED ZONE)
- HOSE BIBB
- FLOOR DRAIN
- CLEAN-OUT (FLOOR)
- CLEAN-OUT (WALL)
- VENT THRU ROOF
- PIPE RISING UP
- PIPE DROPPING DOWN
- PIPE CONNECTION DOWN
- CLEANOUT
- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- P=# FIXTURE DESIGNATION



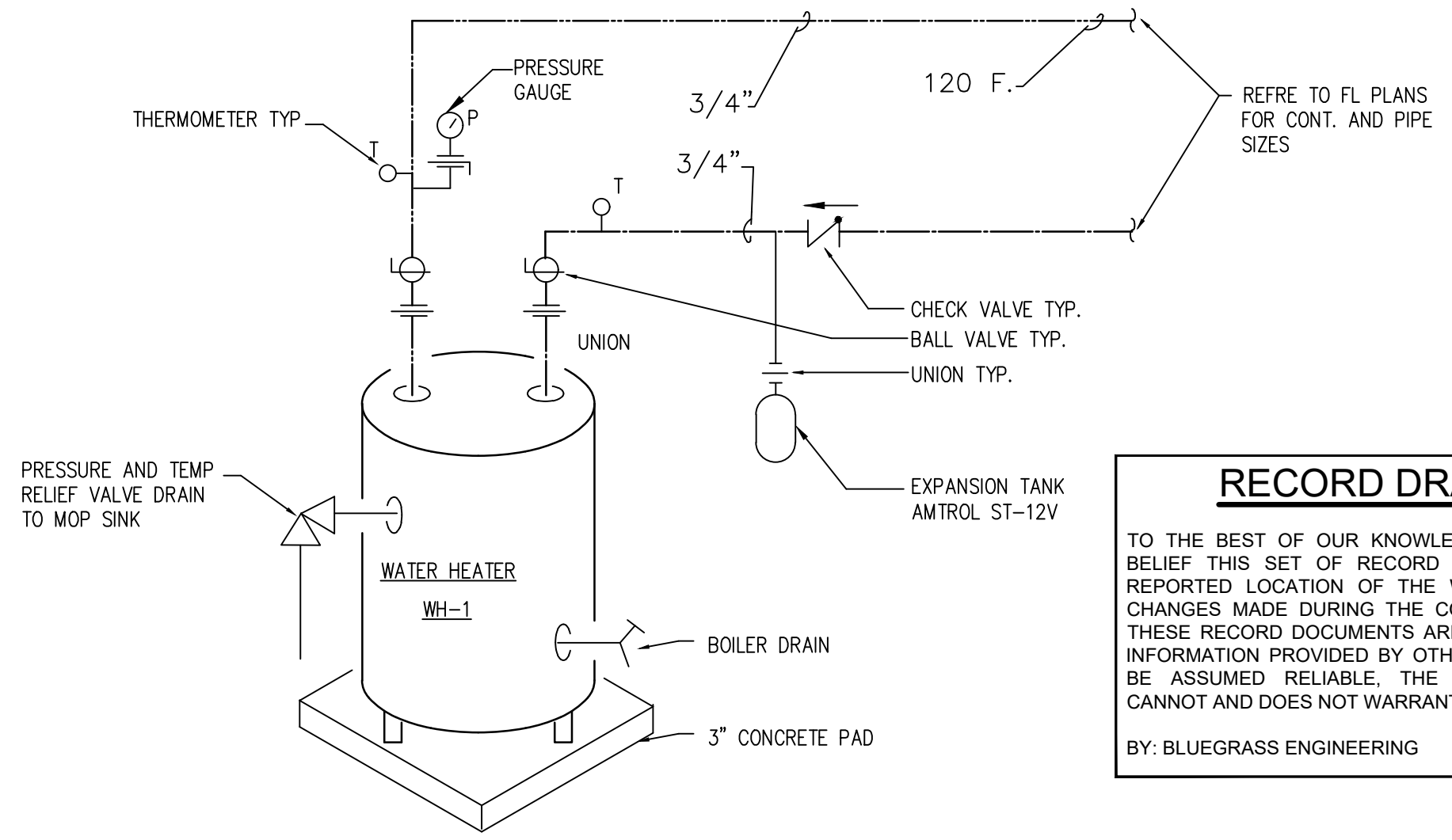
FLOOR CLEANOUT DETAIL
NO SCALE



MOP SINK DETAIL
N.T.S.



FUEL GAS DIRT LEG DETAIL
NO SCALE



ELECTRIC WATER HEATER PIPING DETAIL
NO SCALE

RECORD DRAWINGS

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THIS SET OF RECORD DRAWINGS SHOWS THE REPORTED LOCATION OF THE WORK AND SIGNIFICANT CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE RECORD DOCUMENTS ARE BASED ON UNVERIFIED INFORMATION PROVIDED BY OTHER PARTIES WHICH WILL BE ASSUMED RELIABLE. THE DESIGN PROFESSIONAL CANNOT AND DOES NOT WARRANT THEIR ACCURACY.

BY: BLUEGRASS ENGINEERING DATE: 06/25

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TECHNICAL HORIZONS
Industrial • Commercial • Institutional
501 Darby Creek, Ste. #31 Lexington, KY 40503-5985

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
PLUMBING DETAILS

BLUEGRASS ENGINEERING, PLLC

222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 19003
DATE: OCTOBER 2020
PROJECT MGR: LRS
DRAWN BY: JSD
CHECKED BY: CME

STATE OF KENTUCKY
CHARLES MATTHEW ELLIS
16390
LICENSED PROFESSIONAL ENGINEER

SHEET NO.
P201

RECORD DRAWINGS

THIS DRAWING HAS BEEN PREPARED AT THE SCALE INDICATED. REPRODUCTION OF THIS DRAWING MAY INTRODUCE INACCURACIES OF THE LISTED SCALE. THE GRAPHIC SCALE BAR SHALL BE USED TO DETERMINE THE ACTUAL SCALE.

IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.

10/12/2020 10:10:27 AM

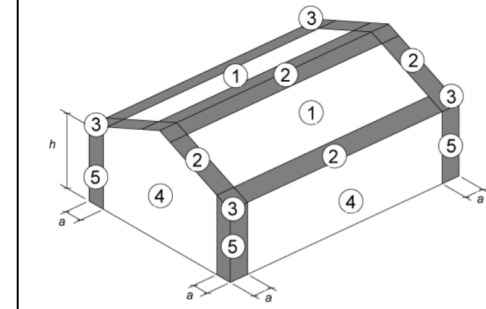
GENERAL NOTES

DESIGN LOADS

STRUCTURAL RISK CATEGORY	.....	CATEGORY II
FLOOR LIVE LOAD		
LOFT STORAGE	.....	125 PSF
SLAB ON GRADE	.....	150 PSF
STAIRS	.....	100 PSF
ROOF LIVE LOAD		
.....	.....	20 PSF MIN
ROOF SNOW LOAD (PER ASCE 7-10)		
GROUND SNOW LOAD	.....	P _s = 15 PSF
IMPORTANCE FACTOR	.....	I _s = 1.0
SNOW EXPOSURE FACTOR	.....	C _e = 1.0
THERMAL FACTOR (BUILDING)	.....	C _t = 1.0
FLAT-ROOF SNOW LOAD* (P _f = 0.7C _e C _t P _s) (BUILDING)	.....	P _f = 10.5 PSF
MINIMUM-ROOF SNOW LOAD (P _g)	.....	P _m = 15 PSF
SLOPED-ROOF SNOW LOAD* (P _s = C _s P _f) (BUILDING)	.....	P _s = 10.5 PSF
*INCREASE FOR DRIFTING PER ASCE 7-10, SECTIONS 7.7 & 7.8		
WIND LOAD (PER ASCE 7-10)		
ULTIMATE DESIGN WIND SPEED	.....	V _{ult} = 115 MPH
NOMINAL DESIGN WIND SPEED	.....	V ₅₀ = 89 MPH
WIND EXPOSURE	.....	EXPOSURE C
ENCLOSURE	.....	PARTIALLY ENCLOSED
INTERNAL PRESSURE COEFFICIENT	.....	G _{ci} = ± 0.55
END ZONE WIDTH	.....	a = 5.7 FT

EFFECTIVE WIND AREA (SQ FT)	LOCATION PER ASCE 7-10				
	(1)	(2)	(3)	(4)	(5)
≤ 10	27.1	27.1	27.1	39.9	39.9
	-37.4	-58.0	-81.2	-42.5	-50.3
20	25.5	25.5	25.5	38.6	38.6
	-36.6	-54.1	-76.5	-41.2	-47.5
50	23.5	23.5	23.5	36.8	36.8
	-35.6	-49.0	-70.4	-34.3	-43.9
100	21.9	21.9	21.9	35.4	35.4
	-34.8	-45.1	-65.7	-33.0	-41.2
500	↓	↓	↓	-34.8	-34.8

- NOTES:**
- WIND LOADING PROVIDED ARE ULTIMATE (LRFD) LOADING. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.
 - LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS SPECIFIED.
 - PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
 - PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
 - EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
 - FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA.
 - INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
 - THE NET C&C PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE.
 - NOTATION:
 - a: 10 PERCENT OF LEAST HORIZONTAL DIMENSION OR 0.4', WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 3 FT.
 - h: MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES $\theta \leq 10\%$.
 - θ : ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.



(GABLE ROOF ($\theta \leq 6 \leq 45^\circ$))

EARTHQUAKE DESIGN DATA

COUNTY / STATE	.....	ELLIOTT / KENTUCKY
IMPORTANCE FACTOR	.....	I _s = 1.0
MAPPED SHORT PERIOD RESPONSE ACCELERATION	.....	S _s = 0.174
MAPPED 1 SECOND PERIOD RESPONSE ACCELERATION	.....	S ₁ = 0.076
SITE CLASS	.....	CLASS C
DESIGN SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT	.....	S _{ds} = 0.186
DESIGN 1 SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT	.....	S _{d1} = 0.122
SEISMIC DESIGN CATEGORY	.....	CATEGORY B
PRE-ENGINEERED METAL BUILDING (PEMB)	.....
SEE PEMB SHOP DRAWINGS FOR BASIC STRUCTURAL SYSTEM, SEISMIC RESISTING SYSTEM, METHOD OF ANALYSIS, AND SEISMIC BASE SHEAR.	.....

DESIGN STRESSES

CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS:		
FOOTINGS	.....	f _c = 3,000 PSI
INTERIOR SLABS ON GRADE	.....	f _c = 4,000 PSI
CONCRETE EXPOSED TO FREEZE/THAW	.....	f _c = 4,000 PSI
REINFORCING BARS (ASTM A615 GRADE 60)	.....	f _y = 60,000 PSI
WELDED WIRE FABRIC (ASTM A1064)	.....	f _y = 65,000 PSI
CHANNELS, ANGLES, PLATES AND BARS (ASTM A572)	.....	f _y = 50,000 PSI
HOLLOW STRUCTURAL SECTIONS - RECTANGULAR STEEL TUBES (ASTM A500 GRADE C)	.....	f _y = 50,000 PSI
STRUCTURAL STEEL PIPE (ASTM A53 GRADE B)	.....	f _y = 35,000 PSI
MASONRY ASSEMBLY COMPRESSIVE STRENGTH	.....	f _m = 2,000 PSI
CONCRETE MASONRY UNIT STRENGTH	.....	f _m = 2,000 PSI
TYPE S MORTAR STRENGTH	.....	f _m = 2,000 PSI
MASONRY GROUT (ASTM C476) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS	.....	f _m = 2,000 PSI
SOIL BEARING PRESSURE FOR FOUNDATIONS (FROM GEOTECH)	.....	2,000 PSF

DESIGN CRITERIA

- STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2018 KENTUCKY BUILDING CODE, 2ND EDITION (2015 IBC).
- NO PROVISION HAS BEEN MADE FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.

GENERAL

- THE REQUIREMENTS OF THESE GENERAL NOTES APPLY UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONTRACT DOCUMENTS, ADDENDA, AND SUPPLEMENTARY INFORMATION AND DISTRIBUTING SUCH TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS, FABRICATION, AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES THAT MAY EXIST.
- ANY DISCREPANCIES BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER. DO NOT SCALE DRAWINGS.
- THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY BRACINGS REQUIRED TO PROPERLY CONSTRUCT THE BUILDING UNTIL COMPLETE.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS TO CONSTRUCT THE STRUCTURE, INCLUDING VERIFICATION OF LOAD CAPACITY AND THE STRUCTURE TO SUPPORT CONSTRUCTION ACTIVITIES, EQUIPMENT, ETC. AND FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED. DAMAGE TO THE STRUCTURE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE CORRECTED BY THE RESPONSIBLE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- SHOP DRAWINGS MUST BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION.
- NON-STRUCTURAL ELEMENTS OF THE BUILDING (ARCHITECTURAL FINISHES, MASONRY VENEER AND ASSOCIATED TIES, INSULATION, SHEATHING, DUCTWORK, PIPING, FOUNDATION/FLOOR/ROOF DRAINS, ETC.) ARE TYPICALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. WHERE NON-STRUCTURAL ELEMENTS ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY ARE SHOWN FOR REFERENCE AND DESIGN INTENT ONLY. NON-STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL, ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS.
- WALL OPENINGS AND TERMINATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE DIAGNOSTIC ONLY. WALL TERMINATIONS AND OPENING JAMBS, HEADS, AND SILLS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. WHERE VENEERS WRAP JAMBS, DETAIL AND FABRICATE LINTELS TO BEAR ON SOLID STRUCTURE. DO NOT BEAR LINTELS OR BEAMS ON VENEERS (BRICKS, SIDING, ETC.). IF THE ARCHITECTURAL DRAWINGS DO NOT INCLUDE THE DETAILS FOR ANY OF THESE CONDITIONS, CONSULT WITH ARCHITECT FOR DIRECTION.
- DETAILS LABELED TYPICAL ON THESE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR AND SHALL APPLY REGARDLESS OF WHETHER THEY ARE KEVED ON THE PLANS. CONSTRUCTION NOT SPECIFICALLY INDICATED BY DETAIL OR SECTION SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.

FOUNDATION CONSTRUCTION

- FOUNDATIONS ON THIS PROJECT ARE DESIGNED IN ACCORDANCE WITH RECOMMENDATIONS MADE BY GREENBAUM ASSOCIATES, INC., GEOTECHNICAL ENGINEERS, IN THEIR REPORT DATED MAY 18, 2020. THE GEOTECHNICAL REPORT IS PROVIDED AS REFERENCE INFORMATION AVAILABLE TO BIDDERS, BUT IS NOT PART OF THE CONTRACT DOCUMENTS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL REPORT.
- ELEVATIONS GIVEN ARE TO THE TOP OF FOOTINGS.
- ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. CONTRACTOR SHALL PROBE BEARING STRATA WITH DRIVEN RODS, REMOVE SHALLOW BEDROCK (AND OVERLYING SOIL) WITHIN TWO FEET BELOW BOTTOM OF FOOTING, AND REPLACE WITH ENGINEERED SOIL BACKFILL.
- FOR GRANULAR SOILS (SANDS AND GRAVEL) THE SOIL SHALL BE MECHANICALLY TAMPED TO A HARD SURFACE IMMEDIATELY PRIOR TO PLACING FOOTING.
- LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION. COORDINATE WITH UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL-ACTIVE LINES.
- WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL BE LOWERED BY AN ACCEPTABLE Dewatering SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2'-0" BELOW THE EXCAVATION.
- PROVIDE MINIMUM (2) #5 CONTINUOUS IN ALL FOOTINGS DIRECTLY UNDER MASONRY WALLS.
- FOR PLACEMENT AND COMPACTION OF FILL UNDER SLABS ON GRADE, SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, COMPACT ALL FILL TO 98% OF OPTIMUM LABORATORY DENSITY IN ACCORDANCE WITH ASTM D998 STANDARD PROCTOR METHOD. PLACE FILL IN 6" TO 8" LAYERS AND COMPACT WITH VIBRATORY TAMPING EQUIPMENT.
- WHERE ELECTRICAL CONDUIT CONGREGATES BELOW ELECTRICAL ROOMS AND PANELS, CONTRACTOR SHALL HOLD DOWN SUBGRADE APPROPRIATELY FOR CONDUIT TO BE BELOW SLAB. COVER CONDUIT WITH FLOWABLE FILL (LEAN CONCRETE) TO BOTTOM OF SLAB ELEVATION WITH FLOWABLE FILL (LEAN CONCRETE) TO BOTTOM OF ARCHITECTURAL AND SITE DRAWINGS FOR CONTOUR AND LAYOUT OF SITE WALKS AND BREEZEWAYS. SLOPE EXTERIOR CONCRETE 1/8" FT AWAY FROM BUILDING, UNLESS NOTED OTHERWISE.
- SURFACE RUNOFF SHALL BE DIRECTED AWAY FROM FOUNDATION EXCAVATIONS AND NOT BE PERMITTED TO POND WITHIN THE BUILDING FOOTPRINT. PROVIDE DRAINAGE TRENCHES FROM FOUNDATION EXCAVATIONS TO DIRECT RAINWATER OUT OF EXCAVATIONS.

CONCRETE CONSTRUCTION

- ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 301-10, ACI 318-14 AND ACI DETAILING MANUAL.
- FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION.
- PROVIDE PLASTIC, PLASTIC-COATED (NOT PLASTIC-TIPPED) OR STAINLESS STEEL CHAIRS IN ALL CONCRETE EXPOSED TO VIEW IN COMPLETED STRUCTURE.
- PROVIDE PIPE SLEEVES AND INSERTS IN CONCRETE WORK WHERE REQUIRED. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- OBTAIN APPROVAL OF STRUCTURAL ENGINEER BEFORE LOCATING SLEEVES, HOLES, OR INSERTS IN SLABS WITHIN 2'-0" OF FACE OF PIERS OR ANYWHERE IN PIERS.
- CONSTRUCTION JOINTS SHALL BE POSITIONED SO AS NOT TO CHANGE THE STRUCTURAL DESIGN REQUIREMENTS. RATIO OF LENGTH TO WIDTH OF POUR SHALL NOT EXCEED 2. LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.
- WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED.
- PROVIDE HORIZONTAL KEYWAYS IN CONSTRUCTION JOINTS IN WALL FOOTINGS; MINIMUM 1 1/2" DEPTH WITH HEIGHT EQUAL TO ONE-THIRD OF MEMBER DEPTH, UNLESS OTHERWISE SHOWN OR NOTED.
- REINFORCING FOR SLABS ON SHEETS (IN FLAT SHEETS) SHALL BE IN THE MIDDLE OF THE SLAB EXCEPT AS OTHERWISE NOTED AND SHALL BE POSITIVELY SUPPORTED AND MAINTAINED IN THIS POSITION DURING PLACEMENT OF CONCRETE.
- BEND ALL HORIZONTAL FOOTING BARS 1'-0" AROUND CORNERS OR PROVIDE CORNER BARS WITH 2'-0" LAP.
- PROVIDE FOUNDATION DOWELS FOR ALL PIERS SAME SIZE AND SPACING AS VERTICAL STEEL.
- PROVIDE FOUNDATION DOWELS FOR MASONRY WALLS SAME SIZE AND SPACING AS VERTICAL STEEL. ALL DOWELS SHALL BE WITHIN 8" LATERALLY OF WALL REINFORCING ABOVE AND IN LINE WITH THE WALL REINFORCING. PROVIDE DOWELS FOR ALL ADDITIONAL WALL REINFORCING AT CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS. ONLY DOWELS AT THESE ADDITIONAL LOCATIONS MAY BE POST INSTALLED / DRILLED AND ADHESIVE FASTENED WITH EMBEDMENT AS REQUIRED TO DEVELOP FULL YIELD STRENGTH OF REINFORCING.
- SPICES: ALL REINFORCING SPICES SHALL BE AS TENSION LAP. U.N.O.
 - A. LAP ALL TENSION SPICES IN ACCORDANCE WITH THE FOLLOWING TABLE. MODIFY LENGTHS AS NOTED:

BAR SIZE	CONCRETE COMPRESSIVE STRENGTH		1. INCREASE SPICE LENGTH BY THE FOLLOWING: 2. NOTE: INCREASED LENGTHS ARE ACCUMULATIVE.
	3,000 PSI	4,000 PSI	
#4	29"	25"	1. HORIZONTAL TOP BARS WITH GREATER THAN 12" OF CONCRETE BELOW +30% 2. BAR SPACING LESS THAN 2 BAR DIAMETERS +50%
#5	36"	31"	
#6	43"	37"	

- CONCRETE PROTECTION FOR REINFORCEMENT: COVER
 - A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH..... 3"
 - B. CONCRETE EXPOSED TO EARTH OR WEATHER
 - NO. 6 THROUGH NO. 18 BARS..... 2"
 - NO. 5 BAR, W31 OR D31 WIRE AND SMALLER..... 1 1/2"
 - C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS
 - NO. 11 BAR AND SMALLER..... 3/4"

LOOSE LINTEL SCHEDULE

- THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS, INCLUDING NON-BEARING PARTITION WALLS AND VENEERS.
 - A. ANGLES AND SUPPORT PLATES EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED.
 - B. MINIMUM BEARING LENGTH FOR ANGLES AND WTS SHALL BE 6" EACH END. MINIMUM BEARING LENGTH FOR TUBES SHALL BE 8" EACH END. SEE TYPICAL DETAILS FOR BOND BEAM CONSTRUCTION.
 - C. PROVIDE STEEL ANGLE LINTELS ABOVE ALL DUCT PENETRATIONS 16" AND WIDER THROUGH MASONRY WALLS.
- FOR 6" MASONRY WALLS PROVIDE:
 - SPAN LIMITS
 - 0" TO 4'-0" WTS x 6.0
 - 4'-1" TO 6'-4" WTS x 8.5
- FOR 8" MASONRY WALLS PROVIDE:
 - SPAN LIMITS
 - 0" TO 6'-0" WTS x 6.0
 - 6'-1" TO 12'-0" 16" BOND BEAM TYPE ML-8 SEE DET F-6-06

MASONRY WALL CONSTRUCTION

- MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-13/ASCE 5-13/TMS 402-13).
- MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530-13/ASCE 5-13/TMS 402-13) AND THE PROJECT SPECIFICATIONS. IF THERE ARE ANY CONFLICTS BETWEEN THE TWO, THE MORE RESTRICTIVE REQUIREMENT SHALL BE APPLICABLE.
- DETERMINE COMPRESSIVE STRENGTH OF MASONRY (f_m) BY THE UNIT STRENGTH METHOD (SECTION 1.48 2 OF ACI 530-13/ASCE 5-13/TMS 402-13). THE STRENGTH OF GROUT SHALL BE DETERMINED BY TESTS IN ACCORDANCE WITH ASTM C1019.
- MATERIALS:
 - C.M.U. - ASTM C55 OR C90
 - GROUT - ASTM C476
 - MORTAR - TYPE S
- USE TYPE S MORTAR FOR C.M.U. IN ALL STRUCTURAL BEARING AND CURTAIN WALLS.
- INTERSECTING BEARING WALLS SHALL BE ANCHORED BY ONE OF THE FOLLOWING METHODS:
 - A. FIFTY PERCENT OF THE UNITS AT THE INTERSECTION SHALL BE LAID IN AN OVERLAPPING MASONRY BONDING PATTERN, WITH ALTERNATE UNITS HAVING A BEARING OF NOT LESS THAN 3" ON THE UNIT BELOW.
 - B. WALLS SHALL BE TIED BY GALVANIZED STEEL STRAPS 1 1/2" x 1/4" x 24" WITH 2" BEND AT 90° EACH END. GROUT STRAPS SOLID INTO CORES OF BLOCK AT 24" MAXIMUM VERTICAL SPACING.
 - C. THE ABOVE DO NOT APPLY AT CONTROL JOINTS OR WHERE NON-LOAD-BEARING PARTITIONS ABUT BEARING WALLS.
- CORNERS OF BEARING AND EXTERIOR WALLS SHALL BE BUILT IN RUNNING BOND.
- ALL STRUCTURAL WALLS SHALL BE LAID IN RUNNING BOND. STACK BOND IS NOT ALLOWED.
- PROVIDE A MINIMUM OF 16" DEPTH OF SOLID MASONRY UNDER THE BEARING ENDS OF ALL BEAMS. GROUT CELLS (2 MINIMUM) BELOW LINTEL BEARING AT JAMBS DOWN TO FOUNDATION OR BOND BEAM, WHICHEVER OCCURS FIRST.
- PROVIDE CORNER MASONRY MORTARED INTO PLACE AROUND BEARING ENDS OF ALL BEAMS. COMPLETELY FILL BEARING POCKETS. CUT MASONRY NEATLY AT EXPOSED CONDITIONS.
- NO CHASES, RISERS, CONDUITS, OR TOOTHING OF MASONRY SHALL OCCUR IN MASONRY WALLS WITHIN 18 INCHES OF BEAM BEARING CENTERLINE.
- PROVIDE HORIZONTAL JOINT REINFORCEMENT PER ASTM A951, GALVANIZED, AT 16" CENTERS VERTICALLY. SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, PROVIDE A GALVANIZED LADDER TYPE JOINT REINFORCEMENT.
- WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED.
- LAP SPICES FOR REINFORCING CENTERED IN CORES TO BE IN ACCORDANCE WITH THE FOLLOWING TABLE:

BAR SIZE	WALL THICKNESS	
	8" CMU	6" CMU
#4	32"	32"
#5	40"	40"

- SEE DETAILS AND SCHEDULES FOR LOCATIONS AND SIZES OF HORIZONTAL AND VERTICAL REINFORCEMENT.
- REINFORCE BOND BEAMS WITH (2) #4 CONTINUOUS, UNLESS OTHERWISE NOTED. PROVIDE CORNER BARS FOR ALL BOND BEAM REINFORCEMENT.
- IN ADDITION TO SPACING INDICATED IN SCHEDULE, PROVIDE VERTICAL BARS AT ALL CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS.
- EXTEND ALL VERTICAL REINFORCEMENT THRU MID-HEIGHT BOND BEAMS. EXTEND VERTICAL REINFORCING INTO BOND BEAMS AT TOP OF WALL AND TERMINATE AT 2' DOWN FROM TOP OF WALL.
- PROVIDE DOWELS FROM SUPPORTING MEMBER (FOOTING, BEAM, OR SLAB) FOR ALL REINFORCED WALLS, SAME SIZE, LOCATION, AND SPACING AS WALL REINFORCING. VERTICAL REINFORCEMENT SHALL BE CENTERED IN CELLS OF MASONRY UNIT, UNLESS OTHERWISE NOTED.
- WHERE REQUIRED BY CONSTRUCTION GEOMETRY/DETAILING, BAR POSITIONERS SHALL BE USED TO HOLD BOND BEAM REINFORCEMENT IN PROPER ALIGNMENT.
- BAR POSITIONERS SHALL BE USED TO HOLD VERTICAL REINFORCEMENT IN PROPER ALIGNMENT WHERE C.M.U. BLOCK IS CONSTRUCTED SUCH THAT THE GROUT POUR HEIGHT EXCEEDS 5 FEET 4 INCHES.
- BAR POSITIONERS ARE NOT REQUIRED WHERE GROUT POURS ARE 5 FEET 4 INCHES OR LESS WITH VERTICAL BARS CENTERED IN THE C.M.U. CELL. THE ENGINEER OF RECORD MAY REQUIRE THE USE OF BAR POSITIONERS REGARDLESS OF GROUT POUR HEIGHT IF SPECIAL INSPECTIONS AND/OR SITE OBSERVATIONS INDICATE THAT BARS ARE NOT BEING CORRECTLY POSITIONED.
- WHERE BAR POSITIONERS ARE REQUIRED, VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 4 FEET.
- GROUTING OF MASONRY LINTELS OVER OPENINGS SHALL BE ACCOMPLISHED IN ONE CONTINUOUS OPERATION.
- WHERE LOW CUT WEB, OPEN CELLED C.M.U. ARE USED FOR BOND BEAMS, PROVIDE A CONTINUOUS METAL LATH GROUT RETAINER IN THE BED JOINT TO RETAIN GROUT IN CELLS.
- VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM CLEARANCE OF 3/4" FROM THE MASONRY SURFACE AND NOT LESS THAN ONE BAR DIAMETER BETWEEN BARS.
- MAINTAIN CLEAR DISTANCE OF 1/4" MINIMUM FOR FINE GROUT OR 1/2" MINIMUM FOR COARSE GROUT BETWEEN REINFORCING BARS AND ANY FACE OF MASONRY UNIT.
- MASONRY PROTECTION FOR REINFORCEMENT: COVER
 - A. MASONRY EXPOSED TO EARTH OR WEATHER
 - NO. 5 BAR AND SMALLER..... 1 1/2"
 - B. MASONRY NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND ALL BARS..... 1 1/2"
- REMOVE MORTAR PROTRUSIONS GREATER THAN 1/2" FROM CELLS BEFORE GROUTING.
- GROUTING SHALL BE STOPPED 1 1/2" BELOW THE TOP OF A COURSE TO FORM A KEY AT THE POUR JOINT.
- GROUT ALL CELLS OF CONCRETE MASONRY UNITS BELOW GRADE.
- DO NOT EXCEED THE MAXIMUM GROUT POUR HEIGHT FOR EACH GROUT TYPE AND SPACE GIVEN IN THE FOLLOWING TABLE:

GROUT TYPE	MAXIMUM GROUT POUR HEIGHT	MINIMUM WIDTH OF GROUT SPACE	MINIMUM GROUT SPACE DIMENSIONS FOR GROUTING CELLS OF HOLLOW UNITS
FINE	1'-0"	3/4"	1 1/2" x 2"
FINE	5'-4"	2"	2" x 3"
FINE	12'-0"	2 1/2"	2 1/2" x 3"
FINE	24'-0"	3"	3" x 3"
COARSE	1'-0"	1 1/2"	1 1/2" x 3"
COARSE	5'-4"	2"	2 1/2" x 3"
COARSE	12'-0"	2 1/2"	3" x 3"
COARSE	24'-0"	3"	3" x 4"

RECORD DRAWINGS

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THIS SET OF RECORD DRAWINGS SHOWS THE REPORTED LOCATION OF THE WORK AND SIGNIFICANT CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE RECORD DOCUMENTS ARE BASED ON UNVERIFIED INFORMATION PROVIDED BY OTHER PARTIES WHICH WILL BE ASSUMED RELIABLE. THE DESIGN PROFESSIONAL CANNOT AND DOES NOT WARRANT THEIR ACCURACY.

BY: BLUEGRASS ENGINEERING DATE: 06/25

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BROWN + KUBICAN
STRUCTURAL ENGINEERS
PSC

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
GENERAL NOTES

BLUEGRASS ENGINEERING PLLC
222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 20177
DATE: OCTOBER 2020
PROJECT MGR: BM
DRAWN BY: ABJ
CHECKED BY: DK

STATE OF KENTUCKY
SAN KUBICAN
20172
LICENSED PROFESSIONAL ENGINEER
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SHEET NO.
S-01

RECORD DRAWINGS

THIS DRAWING HAS BEEN PREPARED AT THE SCALE INDICATED. REPRODUCTION OF THIS DRAWING MAY INTRODUCE INACCURACIES OF THE LISTED SCALE. THE GRAPHIC SCALE BAR SHALL BE USED TO DETERMINE THE ACTUAL SCALE.

IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.

10/12/2020 10:10:29 AM

34. PLACE GROUT IN LIFTS NOT EXCEEDING 12'-6" WHERE MASONRY HAS CURED AT LEAST 4 HOURS, THE GROUT SLUMP IS MAINTAINED BETWEEN 10 AND 11 INCHES, AND THERE ARE NO INTERMEDIATE REINFORCED BOND BEAMS BETWEEN THE TOP AND THE BOTTOM OF THE POUR HEIGHT. AT ALL LOCATIONS ELSEWHERE PLACE GROUT IN LIFTS NOT EXCEEDING 5'-4".
35. CONSOLIDATE GROUT POURS 12 INCH OR LESS IN HEIGHT BY MECHANICAL VIBRATION OR PUDDLING. CONSOLIDATE POURS EXCEEDING 12 INCH IN HEIGHT BY MECHANICAL VIBRATION AND RECONSOLIDATE BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED.
36. PROVIDE CLEANOUT HOLES AT LEAST 3 INCHES IN LEAST DIMENSION FOR GROUT POURS OVER 5 FEET IN HEIGHT.
 - A. AT STRUCTURALLY REINFORCED WALLS PROVIDE CLEANOUT HOLES AT EACH STRUCTURAL VERTICAL REINFORCING BAR.
 - B. AT SOLID GROUTED MASONRY, PROVIDE CLEANOUT HOLES AT NOT MORE THAN 32" ON CENTER.
 - C. CLEANOUT CLOSURES SHALL BE BRACED TO RESIST GROUT PRESSURES.
 - D. GROUT POURS SHALL BE PLANNED SO THAT CLEANOUT HOLES ARE CONCEALED BELOW SLAB OR BEHIND TRIM, CEILING, OR OTHER FINISHES. WHERE CLEANOUTS CANNOT BE CONCEALED, GROUT SHALL BE APPLIED IN POURS LESS THAN 5 FEET TALL TO FORM CLEANOUTS.
37. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF VERTICAL CONTROL JOINTS AND BEARING WALLS.
38. PROVIDE VERTICAL CONTROL JOINT BETWEEN ALL NON-LOADBEARING PARTITIONS AND BEARING WALLS.
39. PROVIDE GALVANIZED STEEL SLEEVE / 8 GA WIRE STABILIZING ANCHORS AT 24" O.C. VERTICAL AT ALL JOINTS BETWEEN MASONRY PARTITIONS AND IN-PLACE MASONRY CONSTRUCTION (BEARING OR EXISTING WALL CONSTRUCTION). FASTEN ANCHOR TO IN-PLACE WALL W/ (2) 3/16" x 1 1/4" MASONRY SCREWS.
40. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 28 FEET.
41. AT VERTICAL CONTROL JOINTS, BOND BEAM REINFORCEMENT AND JOINT REINFORCEMENT SHALL BE DISCONTINUOUS. PROVIDE TWO 3/4" DIAMETER SMOOTH DOWELS BY 1'-4" ACROSS EACH CONTROL JOINT AT EACH BOND BEAM. GREASE ONE END. PROVIDE 3/8" THICK FOAM POUR STOP IN HEAD JOINT OF ALL BOND BEAMS AT CONTROL JOINT TO PREVENT BINDING.
42. LAP SPLICES FOR HORIZONTAL REINFORCING SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
43. DO NOT CONSTRUCT NON-LOADBEARING MASONRY TIGHT TO UNDERSIDE OF STRUCTURE. PROVIDE MINIMUM 3/4" GAP AROUND STRUCTURE AND INFILL WITH COMPRESSIBLE INSULATION/SEALANT AS REQUIRED TO MEET ARCHITECTURAL REQUIREMENTS.

STEEL CONSTRUCTION

1. STEEL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE, AND THE AWS STRUCTURAL WELDING CODE.
2. CONNECTIONS - WELDED OR HIGH-STRENGTH BOLTED.
 - A. A325-N WITH HARDENED WASHERS - USE FOR ALL CONNECTIONS.
 - B. UNLESS SNUG-TIGHT CONNECTIONS ARE NOTED ON THE DRAWINGS AS BEING PERMITTED, ALL BOLTS SHALL BE TIGHTENED TO FULL PRETENSIONING LOAD.
 - C. UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OR WITHOUT WRITTEN PERMISSION FROM THE ENGINEER, ALL BOLTS FOR THE PROJECT SHALL BE OF ONE ASTM TYPE AND ONE DIAMETER.
 - D. USE STANDARD HOLES WITH THE FOLLOWING EXCEPTIONS: OVERSIZE HOLES ARE PERMITTED WHEN BOLTS ARE LOADED IN TENSION; SHORT-SLOTTED HOLES ARE PERMITTED FOR SHEAR LOADING PERPENDICULAR TO THE SLOT IN ANY ONE PLY AT EACH PLYING SURFACE.
 - E. HARDENED WASHERS SHALL BE USED OVER ALL OVERSIZED OR SHORT-SLOTTED HOLES IN AN OUTER PLY. WHERE LONG-SLOTTED HOLES ARE USED IN AN OUTER PLY, 5/16" THICK A36 PLATE WASHERS OR CONTINUOUS BAR WITH STANDARD HOLES SHALL BE PROVIDED.
3. WELDING ELECTRODES SHALL BE E70XX EXCEPT WHERE OTHER ELECTRODES ARE REQUIRED FOR COMPATIBILITY WITH MATERIAL BEING WELDED.
4. SHOP DRAWINGS ARE REQUIRED AND SHALL NOTE TYPE OF ELECTRODES, SIZE OF ALL WELDS, AND TYPE AND SIZE OF ALL BOLTS.
5. SEE SPECIFICATIONS FOR ALL PRIMING REQUIREMENTS.
6. ALL SHOP AND FIELD WELDING SHALL BE DONE BY A CERTIFIED WELDER.
7. MISCELLANEOUS STEEL MEMBERS (CHANNELS) THAT SUPPORT RAIL AROUND THE PERIMETER OF A FLOOR AREA SHALL BE CONTINUOUS, EXCEPT AT WALL CONTROL JOINTS. WHERE SPLICES IN THESE MEMBERS MUST OCCUR TO FACILITATE ERECTION, PROVIDE PARTIAL PENETRATION SQUARE GROOVE WELD (BUTT JOINT) WITH 3/16" EFFECTIVE THROAT ON ONE SIDE, EACH LEG.
8. MISCELLANEOUS HANGING LOADS SUCH AS STAIR STRINGERS, PIPES, MECHANICAL UNITS, ETC., SUPPORTED BY STEEL MEMBERS SHALL HAVE THESE LOADS APPLIED IN SUCH A MANNER THAT NO TORSIONAL FORCES ARE INDUCED IN THESE MEMBERS, I.E., LOADS SHALL PASS THROUGH THE CENTRELINE OF WIDE FLANGE SECTIONS AND THROUGH THE SHEAR CENTER OF CHANNELS.

WOOD CONSTRUCTION

1. CONSTRUCTION SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.
2. FRAMING PLANS ARE SCHEMATIC; SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.

COLD-FORMED STEEL FRAMING

1. THE FOLLOWING NOTES APPLY ONLY TO LOAD BEARING FRAMING. SEE ARCHITECTURAL DRAWINGS FOR NON-LOAD BEARING INTERIOR PARTITIONS, SOFFITS, AND OTHER MISCELLANEOUS FRAMING.
2. ALL COLD-FORMED STEEL FRAMING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE "COLD-FORMED STEEL DESIGN MANUAL" (AISI, LATEST EDITION).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL TEMPORARY SHORING AND BRACING REQUIRED DURING CONSTRUCTION FOR ERECTION STABILITY AND SAFETY.
4. THE FORMAT FOR MEMBER DESIGNATION IS AS FOLLOWS:

WEB DEPTH; SECTION TYPE, FLANGE WIDTH - BASE METAL THICKNESS (IN MILS) SECTION TYPE DESIGNATIONS ARE AS FOLLOWS:

§ STUD AND JOIST SECTION WITH FLANGE STIFFENERS (RETURN LIPS)

T TRACK SECTIONS (NO FLANGE STIFFENERS)

EXAMPLE: 60S162-54 DESIGNATES A 6" STUD WITH A FLANGE WIDTH OF 1 5/8" AND 54 MILS BASE STEEL THICKNESS.

EXAMPLE: 400T125-43 DESIGNATES A 4" TRACK WITH A FLANGE WIDTH OF 1 1/4" AND 43 MILS BASE STEEL THICKNESS.
5. THE MINIMUM BASE METAL THICKNESS FOR COLD-FORMED STEEL FRAMING MATERIAL SHALL BE AS FOLLOWS:

MIL THICKNESS (0.001 INCHES)	GAGE DESIGNATION (FOR REFERENCE ONLY)	MINIMUM BASE METAL THICKNESS PRIOR TO GALVANIZING (INCH)
54	16	0.0538
68	14	0.0677
97	12	0.0966

6. ALL MATERIAL SHALL BE COLOR-CODED TO INDICATE DIFFERENT STEEL MATERIAL THICKNESSES.
7. ALL MATERIAL EQUAL TO OR GREATER THAN 54 MILS IN THICKNESS SHALL CONFORM TO ASTM A653 WITH G90 GALVANIZED COATING AND HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.
8. ALL SCREWS SHALL BE SELF-DRILLING, SELF-THREADING, ZINC-COATED STEEL DRILL SCREWS, WITH LOW PROFILE HEADS WHEN USED BENEATH SHEATHING. MAINTAIN MINIMUM CLEARANCES AS SPECIFIED BELOW.

SCREW NUMBER DESIGNATION	NOMINAL SCREW DIAMETER (IN)	MINIMUM CENTER-TO-CENTER SPACING	MINIMUM EDGE DISTANCE	TOTAL PANEL THICKNESS STEEL TO STEEL
10	0.190	9/16"	9/16"	0.11 MAXIMUM #2 POINT 0.175 MAXIMUM #3 POINT

9. POWDER ACTUATED FASTENERS USED FOR FASTENING COLD-FORMED METAL FRAMING (RUNNER TRACKS, CLIP ANGLES, ETC.) TO CMU SHALL BE 1 1/4" LONG, 0.157" SHANK DIAMETER, WITH PRE-MOUNTED PLASTIC WASHER. OTHER FASTENERS OF EQUIVALENT OR LARGER DIMENSION AND WITH EQUIVALENT OR GREATER LOAD CAPACITY MAY BE SUBSTITUTED UPON REVIEW AND APPROVAL FROM THE STRUCTURAL ENGINEER. FASTENERS SHALL BE ZINC PLATED WITH A MINIMUM ZINC THICKNESS OF 5 MICRONS.
10. POWDER ACTUATED FASTENERS USED FOR FASTENING COLD-FORMED METAL FRAMING (RUNNER TRACKS, CLIP ANGLES, ETC.) TO STEEL SHALL BE 3/4" LONG, 0.145" SHANK

DIAMETER, WITH PRE-MOUNTED PLASTIC WASHER. OTHER FASTENERS OF EQUIVALENT OR LARGER DIMENSION AND WITH EQUIVALENT OR GREATER LOAD CAPACITY MAY BE SUBSTITUTED UPON REVIEW AND APPROVAL FROM THE STRUCTURAL ENGINEER. FASTENERS SHALL BE ZINC PLATED WITH A MINIMUM ZINC THICKNESS OF 5 MICRONS. BOTTOM FLANGE BRIDGINGS AND TOP FLANGE SHEATHING SHALL BE IN PLACE PRIOR TO PLACEMENT OF SUPERIMPOSED LOADS ON JOIST ASSEMBLIES. STRAP BRIDGING SHALL BE TAUT BY PRE-TENSIONING. PRE-TENSIONING LOAD SHALL NOT EXCEED VALUES LISTED IN TABLE BELOW. INTERPOLATION MAY BE UTILIZED.

ONE-INCH WIDE STRAP BASE STEEL THICKNESS (MILS)	MAXIMUM ALLOWABLE PRETENSION LOAD PER INCH WIDTH (LBS)
33	75
43	100
54	180
68	230

12. JOIST ENDS SHALL BE SAWN TO FIT SQUARELY AND EVENLY AGAINST THE CONNECTING MEMBER. STUDS SHALL NOT BE THERMALLY CUT.
13. THE OWNER MAY EMPLOY AN INDEPENDENT TESTING AGENCY TO PERFORM FIELD TESTS AND INSPECTION OF COLD-FORMED CONSTRUCTION FOR CONFORMANCE WITH CONTRACT DOCUMENTS. THE CONTRACTOR SHALL FACILITATE AND ALLOW ACCESS TO THE WORK FOR TESTS AND INSPECTIONS TO BE PERFORMED.
14. SUBMIT REPORTS DETAILING RESULTS OF ALL INSPECTIONS AND TESTING TO THE ARCHITECT/ENGINEER FOR APPROVAL WITHIN FIVE DAYS OF COMPLETION OF THE TESTS.
15. FIELD MODIFICATIONS OF COLD-FORMED STEEL SYSTEMS SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY ENGINEER OF RECORD.

PRE-ENGINEERED STEEL BUILDING CONSTRUCTION

1. PRE-ENGINEERED BUILDING CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE BUILDING STRUCTURE.
2. CONTRACTOR SHALL SUBMIT DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF KENTUCKY FOR REVIEW BY THE ARCHITECT AND ENGINEER.
3. STRUCTURE SHALL BE DESIGNED FOR:
 - A. STRUCTURE SELFWEIGHT (INCLUDING ROOF SYSTEM).
 - B. COLLATERAL DEAD LOAD OF 5 PSF.
 - C. SNOW, WIND, EARTHQUAKE AND ROOF LIVE LOAD AS SHOWN IN "DESIGN LIVE LOADS" SECTION.
 - D. ROOF SUPPORTED MECHANICAL UNITS (COORDINATE WITH MECHANICAL CONTRACTOR).
4. LIMIT BUILDING DRIFT TO H/180 UNDER LOAD COMBINATIONS THAT INCLUDE WIND AND INSTALLATION OF THE BUILDING STRUCTURE.
5. IN ADDITION TO THE BUILDING FRAME, THE PRE-ENGINEERED BUILDING CONTRACTOR SHALL DESIGN, PROVIDE, AND INSTALL:
 - A. ANCHOR BOLTS (DIAMETER SELECTION FOR SHEAR AND TENSION)
 - B. FRAMING FOR WALL OPENINGS
 - C. FRAMING FOR ROOF OPENINGS
6. COLUMN PIERS AND FOOTINGS ARE DESIGNED ASSUMING PINNED COLUMN BASES. FIXED COLUMN BASES ARE NOT PERMITTED.
7. THE COMPLETE FOUNDATION SYSTEM MUST BE INSTALLED PRIOR TO ERECTING THE STEEL STRUCTURE.
8. METAL ROOFING SHALL BE ASSUMED TO HAVE ZERO CAPACITY FOR DIAPHRAGM ACTION.
9. DEFLECTION OF FRAME BEAM SHALL NOT EXCEED L/120, WHERE L IS THE DISTANCE FROM EAVE TO EAVE.

SPECIAL INSPECTION

1. SPECIAL INSPECTIONS AS DEFINED IN SECTIONS 1704 AND 1705 OF THE KENTUCKY BUILDING CODE ARE REQUIRED.
2. SPECIAL INSPECTIONS SHALL BE PERFORMED BY A QUALIFIED TESTING AGENCY APPROVED BY THE ARCHITECT AND THE STRUCTURAL ENGINEER AND PAID FOR BY THE OWNER.
3. THE INSPECTOR SHALL OBSERVE WORK FOR CONFORMANCE WITH THE APPROVED STRUCTURAL DRAWINGS AND SPECIFICATIONS AND PREPARE INSPECTION REPORTS STATING HISHER OBSERVATIONS. COPIES OF THE INSPECTION REPORTS SHALL BE SUBMITTED TO THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER.
4. ALL DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE WORK BEING PERFORMED SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT AND THE STRUCTURAL ENGINEER PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
5. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT OF INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS.
6. SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING WORK:

INSPECTION OF FABRICATORS

PERFORM SPECIAL INSPECTIONS PER SECTION 1704.2.5 OF THE KENTUCKY BUILDING CODE.

STEEL CONSTRUCTION

PERFORM SPECIAL INSPECTIONS PER SECTION 1705.2 OF THE KENTUCKY BUILDING CODE.

CONCRETE CONSTRUCTION

PERFORM SPECIAL INSPECTIONS PER SECTION 1705.3 OF THE KENTUCKY BUILDING CODE.

MASONRY CONSTRUCTION

PERFORM SPECIAL INSPECTIONS PER SECTION 1705.4 OF THE KENTUCKY BUILDING CODE.

SOILS

PERFORM SPECIAL INSPECTIONS PER SECTION 1705.6 OF THE KENTUCKY BUILDING CODE.

ROOF, FLOOR, OR WALL OPENINGS

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR MECHANICAL OR ELECTRICAL ITEMS.
2. SLEEVES AND OPENINGS SHALL BE LOCATED IN A MANNER THAT WILL MAINTAIN THE STRUCTURAL INTEGRITY OF THE ROOF, FLOOR, OR WALL SYSTEM.
3. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

OPENINGS / PENETRATIONS / ATTACHMENTS TO STRUCTURE BY OTHER TRADES

1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR OTHER TRADES IN STRUCTURAL ELEMENTS.

TO STRUCTURAL STEEL

1. FIELD CUTTING/DRILLING OF HOLES LARGER THAN 3/8" INTO BEAM FLANGES OR COLUMNS IS PROHIBITED EXCEPT WHERE REQUIRED FOR STRUCTURAL STEEL CONNECTIONS.
2. PENETRATIONS / HOLES THROUGH BEAM WEBS MAY BE POSSIBLE. TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING COST TO VERIFY ADEQUACY AND DESIGN AND FOR INSTALLATION COST OF OPENING AND ANY REINFORCEMENT.

TO COLD-FORMED METAL JOISTS:

1. DO NOT USE DRILLED ANCHORS (WHICH CAUSE SECTION LOSS AND TENSION PUNCHING) THROUGH THE HORIZONTAL CHORDS OR FLANGES OF COLD-FORMED STEEL FRAMING. DO NOT USE DRILLED ANCHORS OR ECCENTRIC CLAMP CONNECTIONS (WHICH CAUSE SECTION LOSS / TENSION PUNCHING OR FLANGE TWISTING) THROUGH THE FLANGES OF COLD-FORMED STEEL FRAMING.
2. ALL CONNECTIONS TO COLD-FORMED STEEL STRUCTURAL FRAMING SHALL HAVE SHEAR PLATES THAT USE SELF-DRILLING SCREWS (IN SHEAR) TO THE VERTICAL FACE OF THE MEMBER WEB.

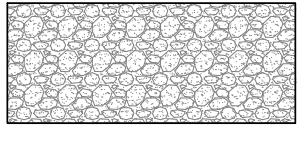
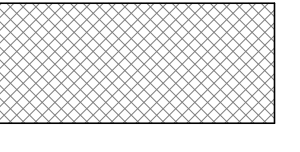
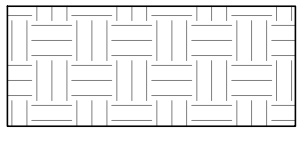
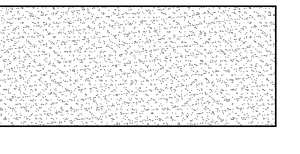
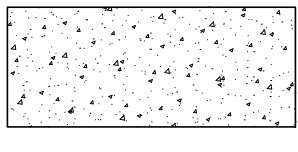
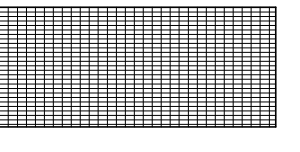
MAINTENANCE STATEMENT AND STRUCTURE LIFESPAN

1. THE ENGINEER MAKES NO CLAIM OR AGREEMENT AS TO THE LIFESPAN OF THE BUILDING STRUCTURE. THE CLIENT AND OWNER SHALL UNDERSTAND THAT STRUCTURAL TYPES DO HAVE LIFESPAN RELATIVE TO INITIAL COST AND MAINTENANCE AND THAT BY REQUESTING OR ACCEPTING A STRUCTURAL SYSTEM OF LOWER INITIAL COST THAT THE USEABLE LIFESPAN WILL DECREASE AND MAINTENANCE INCREASE.
2. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. THE ENGINEER SHALL NOT BE HELD LIABLE FOR MAINTENANCE REQUIREMENTS OR DETERIORATION RESULTING FROM LACK OF BUILDING MAINTENANCE.
3. A PLANNED PROGRAM OF MAINTENANCE SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO: PROTECTIVE COATING FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, TIMELY REPAIR OF SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF STRUCTURAL ELEMENTS EXPOSED TO A SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

STRUCTURAL ABBREVIATIONS

APA	AMERICAN PLYWOOD ASSOCIATION	GALV	GALVANIZED
ARCH	ARCHITECTURAL	GA	GAUGE
BOT	BOTTOM	HORIZ	HORIZONTAL
BTWN	BETWEEN	HSS	HOLLOW STRUCTURAL SECTION
CLR	CLEAR	L.D.H.	LONG DIMENSION HORIZONTAL
C.F.S.	COLD-FORMED STEEL	L.D.V.	LONG DIMENSION VERTICAL
C.I.P.	CAST-IN-PLACE	MAX	MAXIMUM
C.M.U.	CONCRETE MASONRY UNIT	MECH	MECHANICAL
COLUMN	COLUMN	M.E.P.	MECHANICAL/ELECTRICAL/PLUMBING
COL	COLUMN	MIN	MINIMUM
CONC	CONCRETE	N.S.	NEAR SIDE
CONT	CONTINUOUS	N.T.S.	NOT TO SCALE
D	DEEP	O.C.	ON CENTER
D.G.A.	DENSE GRADE AGGREGATE	O.P.H.	OPPOSITE HAND
DET	DETAIL	P.A.F.	POWDER ACTUATED FASTENER
DWGS	DRAWINGS	P.E.M.B.	PRE-ENGINEERED METAL BUILDING
EA	EACH	PL	PLATE
E.F.	EACH FACE	R	RADIUS
ELEV	ELEVATION	REIN	REINFORCEMENT
EMBED	MINIMUM EMBEDMENT DEPTH INTO SUBSTRATE	REIN	REINFORCEMENT
E.O.S.	EDGE OF SLAB	SIM	SIMILAR
E.W.	EACH WAY	S.O.G.	SLAB ON GRADE
EX	EXISTING	S.S.	STAINLESS STEEL
EXP	EXPANSION	TYP	TYPICAL
F.F.E.	FINISHED FLOOR ELEVATION	U.N.O.	UNLESS NOTED OTHERWISE
F.S.	FAR SIDE	VERT	VERTICAL
FTG	FOOTING	W	WIDE
F.V.	FIELD VERIFY	W.W.F.	WELDED WIRE FABRIC

MATERIAL LEGEND

	DENSE GRADED AGGREGATE (DGA)		C.M.U. "IN SECTION"
	NATIVE EARTH / ENGINEERED FILL		GROUT
	CONCRETE		GRATING 1/8" SCALE

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

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BROWN + KUBICAN
 STRUCTURAL ENGINEERS P.S.C.

2019 WATER SYSTEM IMPROVEMENTS
 CONTRACT 12 - WATER TREATMENT PLANT
 IMPROVEMENTS

GENERAL NOTES

NO.	DATE	REVISIONS	BY

BLUEGRASS ENGINEERING PLLC
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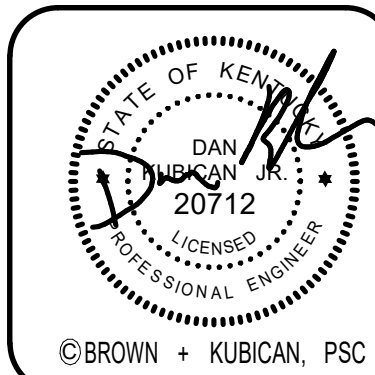
PROJECT #: 20177

DATE: OCTOBER 2020

PROJECT MGR: BM

DRAWN BY: ABJ

CHECKED BY: DK



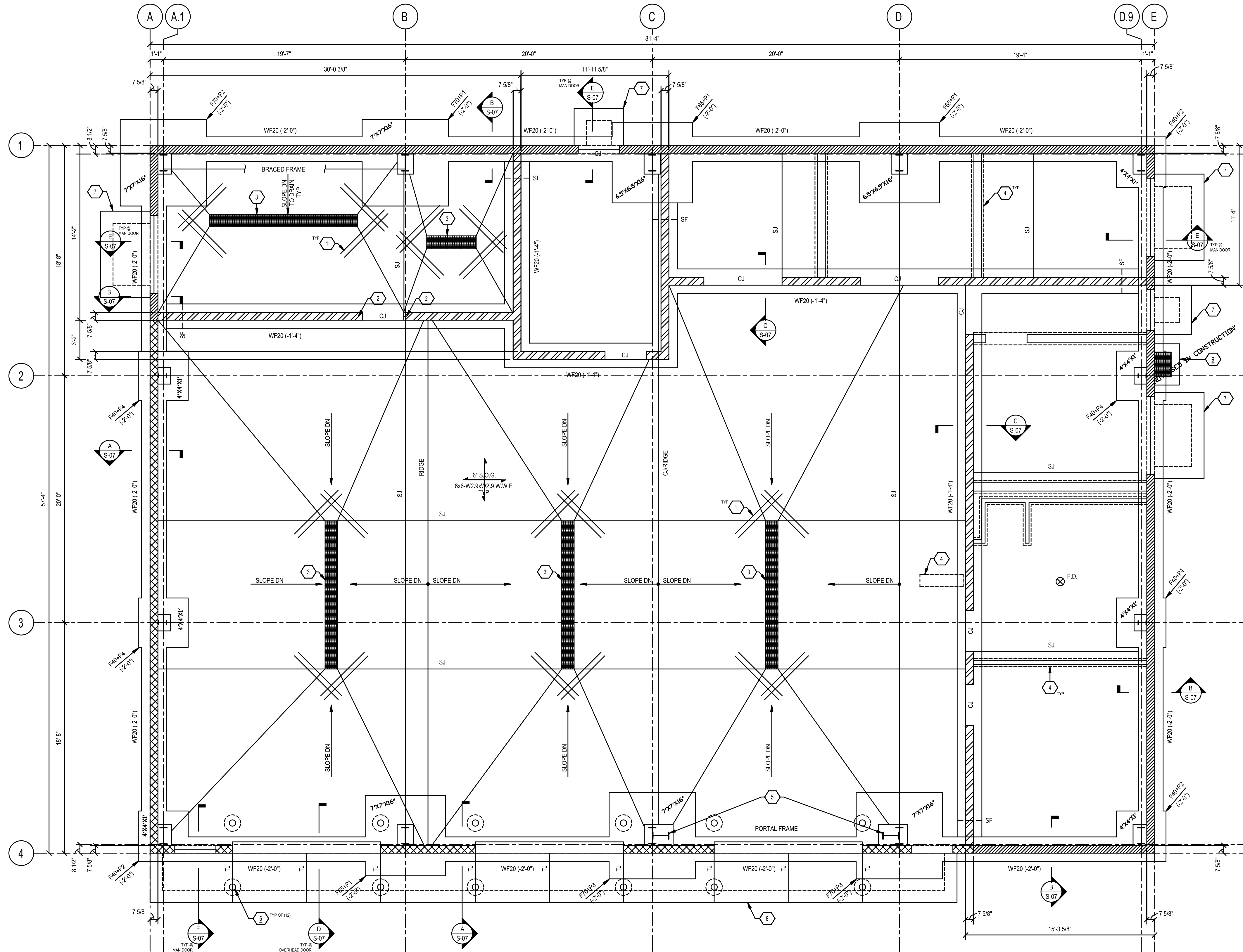
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SHEET NO.
S-02

RECORD DRAWINGS

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FOUNDATION PLAN
1/4" = 1'-0"

RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25

2,000 PSF

SPREAD FOOTING SCHEDULE				
MARK	LENGTH	WIDTH	THICKNESS	REINFORCING E.W. BOTTOM
F40	4'-0"	4'-0"	1'-0"	(6) #4
F65	6'-6"	6'-6"	1'-4"	(8) #5
F70	7'-0"	7'-0"	1'-4"	(8) #5

2,000 PSF

WALL FOOTING SCHEDULE				
MARK	WIDTH	THICKNESS	REINFORCING CONT BOTTOM	TRANSVERSE REINFORCING BOTTOM
WF15	1'-6"	1'-0"	(2) #4	96"48" O.C.
WF20	2'-0"	1'-0"	(3) #4	96"48" O.C.

FOUNDATION PLAN NOTES

- ELEVATIONS SHOWN ARE TO THE TOP OF THE FOUNDATION AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
- CENTER ALL WALL FOOTINGS ON WALL CENTERLINE U.N.O.
- CENTER ALL SPREAD FOOTINGS ON PEMB COLUMN U.N.O.
- SEE DWGS S-01 & S-02 FOR GENERAL NOTES.
- SEE DWGS S-05 & S-06 FOR TYPICAL FOUNDATION DETAILS.
- SLAB ON GRADE SHALL BE PLACED ON VAPOR RETARDER (SEE SPECIFICATIONS) OVER 4" MINIMUM COMPACTED DENSE GRADED AGGREGATE.
- REINFORCE SLABS ON GRADE AT RE-ENTRANT CORNERS PER DETAIL B/S-06. REINFORCING BARS MAY NOT BE SHOWN GRAPHICALLY ON PLAN IN ALL LOCATIONS.
- ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. CONTRACTOR SHALL PROBE BEARING STRATA WITH DRIVEN RODS, REMOVE SHALLOW BEDROCK (AND OVERLYING SOIL) WITHIN TWO FEET BELOW BOTTOM OF FOOTING, AND REPLACE WITH ENGINEERED SOIL BACKFILL.
- THE ANCHOR BOLTS SHALL NOT BE ORDERED OR INSTALLED UNTIL RECEIPT AND APPROVAL BY THE ENGINEER OF STAMPED ANCHOR BOLT SETTING PLANS FROM THE PEMB MANUFACTURER.
- JOINTS TO BE FILLED W/ SEMI-RIGID JOINT FILLER AND SLAB TO RECEIVE PENETRATING SEALER. SEE SPECIFICATIONS.

FOUNDATION LEGEND

- F40 = SPREAD FOOTING. SEE SCHEDULE.
- WF20 = WALL FOOTING. SEE SCHEDULE.
- P1 = COLUMN PIER. SEE DETAIL E/S-05
- TJ = TOOLED CONTRACTION JOINT.
- (-2'-0") = TOP OF FOOTING ELEVATION.
- SF = STEP FOOTING. SEE DETAIL F/S-05
- SJ = SAWN CONTRACTION JOINT. SEE DETAIL D/S-06
- CJ = CONSTRUCTION JOINT. SEE DETAIL D/S-06
- F.D. = FLOOR DRAIN. SLOPE SLAB TO DRAIN. SEE ARCH DWGS FOR LOCATIONS AND DETAIL C/S-06 FOR REINFORCEMENT.
- DB = DIAGONAL BRACING.
- 8" C.M.U. WALL REINFORCED W/ #4@48" O.C. VERT CENTERED IN CORE.
- 8" C.M.U. WALL REINFORCED W/ #4@32" O.C. VERT CENTERED IN CORE.
- 6" C.M.U. OVER 8" C.M.U. WALL REINFORCED W/ #4@32" O.C. VERT CENTERED IN CORE.
- NON-BEARING MASONRY PARTITION WALL. SEE ARCH DWGS FOR WALL THICKNESS, TYPE AND LAYOUT.

TAG NOTES

- RE-ENTRANT BARS. SEE DETAIL B/S-06
- REINFORCE (3) CELLS AT EACH SIDE OF DOOR WITH (1) #4 VERT PER CELL. ADHESIVE EMBED EACH BAR 8" INTO THICKENED SLAB BELOW.
- TRENCH DRAIN. SEE ARCH DWGS AND DETAIL C/S-05
- THICKENED SLAB. SEE DETAIL A/S-06. AT CONTRACTOR'S OPTION, WF15 (4'-8") MAY BE SUBSTITUTED FOR THICKENED SLAB. C.M.U. WOULD EXTEND DOWN TO FOOTING.
- PEMB PORTAL FRAMES TO BE NESTED TO ALLOW FOR INSTALLATION OF PIPE BOLLARDS AND PROVIDE MAXIMUM OPENING CLEARANCE.
- PIPE BOLLARD. SEE ARCH DWGS AND DETAIL J/S-07
- 5" S.O.G. W/ 6x6-W2.1xW2.1 W.W.F. TURN DOWN EDGES 12"Wx16"D W/ (1) #4 BOTTOM.
- 8" S.O.G. W/ #4@12" O.C. E.W. TURN DOWN EDGES 12"Wx16"D W/ (1) #4 BOTTOM.
- CONCRETE PIT REINFORCED W/ 4x4-W1.4xW1.4 W.W.F. SEE SITE/CIVIL.

IMPORTANT PEMB NOTES:

- UNLESS SPECIFICALLY NOTED OTHERWISE, ALL STRUCTURAL STEEL ELEMENTS REQUIRED FOR A COMPLETE BUILDING STRUCTURE SHALL BE DESIGNED, SUPPLIED AND INSTALLED BY THE PEMB CONTRACTOR.
- COLUMN FOOTINGS SHALL BE CENTERED ON STEEL COLUMN CENTERLINES. STEEL COLUMN CENTERLINES SHALL BE DETERMINED BY PEMB CONTRACTOR UNLESS OTHERWISE NOTED. FOUNDATION CONTRACTOR SHALL COORDINATE.
- DO NOT INSTALL FOOTINGS OR FABRICATE REBAR UNTIL PEMB SHOP DRAWINGS HAVE BEEN SUBMITTED, REVIEWED, AND APPROVED. FOOTINGS SHOWN SHALL BE USED FOR BASE BID. HOWEVER, THEY ARE DESIGNED BASED ON ESTIMATED PEMB REACTIONS. PEMB SUPPLIER SHALL PROVIDE SHOP DRAWINGS WITH BUILDING REACTIONS FOR ENGINEER'S REVIEW. ADJUSTMENTS TO FOOTINGS SHOWN MAY OCCUR AFTER ENGINEER'S REVIEW OF PEMB REACTIONS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- CONCRETE FOUNDATION CONTRACTOR SHALL PROVIDE AND INSTALL ANCHOR BOLTS FOR PEMB ATTACHMENT TO THE FOUNDATION. ANCHOR BOLT DIAMETER AND LAYOUT SHALL BE DESIGNED BY THE PEMB MANUFACTURER AND COORDINATED BY THE GENERAL CONTRACTOR. SEE DETAIL K/S-08 FOR TYPICAL ANCHOR BOLT DETAIL.
- SEE ARCH DWGS FOR PEMB ELEMENT ELEVATIONS AND LOCATIONS THAT ARE NOT SHOWN ON STRUCTURAL DWGS.
- SEE ARCH DWGS AND SPECIFICATIONS FOR INFORMATION ABOUT ROOF DECK AND METAL WALL PANELS.
- PURLINS AND WIND GIRT SPACING AND QUANTITY ARE NOT SHOWN ON STRUCTURAL DWGS AND SHALL BE PER PEMB DESIGN.
- ROOFING SHALL BE INSTALLED BY PEMB INSTALLER.
- ROOF DIAPHRAGM BRACING IS REQUIRED AS DESIGNED BY PEMB SUPPLIER.

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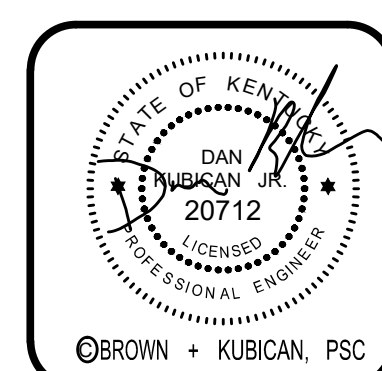
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NO.	DATE	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
FOUNDATION PLAN

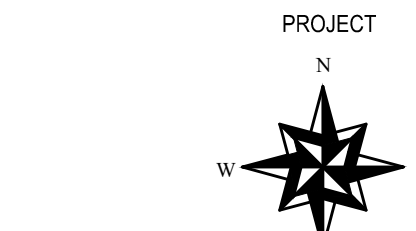
BLUEGRASS ENGINEERING PLLC
222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 20177
DATE: JULY 2020
PROJECT MGR: BM
DRAWN BY: ABJ
CHECKED BY: DK



SHEET NO.
S-03

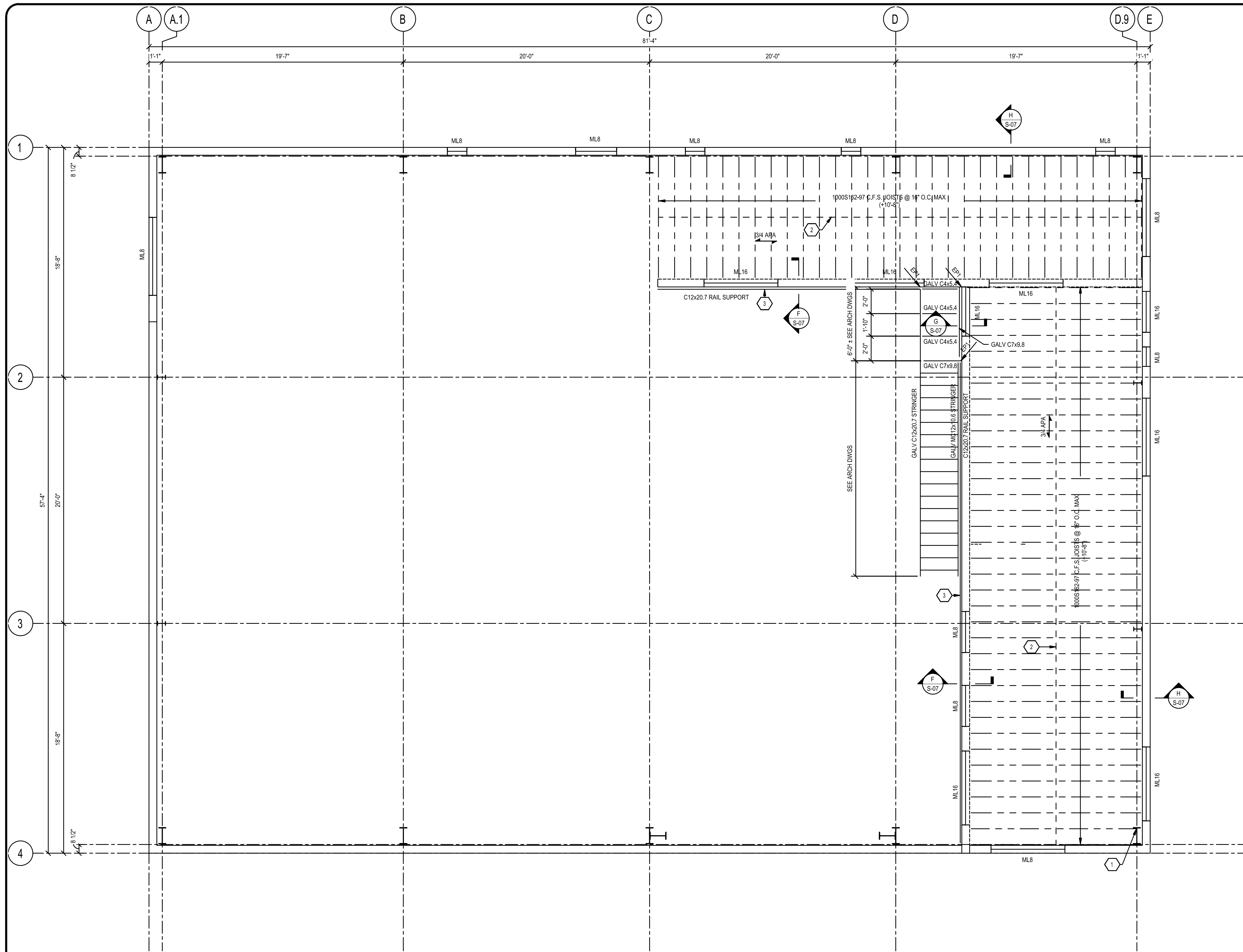
RECORD DRAWINGS



REFERENCE ELEVATION (0'-0") = 717'-0" SEA LEVEL

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LOFT FRAMING PLAN
1/4" = 1'-0"

FRAMING PLAN NOTES

- ELEVATIONS SHOWN ARE TO THE TOP OF STEEL AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
- FINISHED LOFT ELEVATION (+10'-8 3/4").
- SEE DWGS S-01 & S-02 FOR GENERAL NOTES.
- SEE DWGS S-05 & S-06 FOR TYPICAL DETAILS.
- SPACE C.F.S. JOISTS EVENLY THROUGHOUT BAY U.N.O.
- ALL C.F.S. FRAMING TO BE 50 KSI YIELD STRENGTH WITH G90 PROTECTIVE COATING.
- PEMB FRAME, GIRTS, ETC SHALL BE GALVANIZED.

FRAMING LEGEND

- 3/4 APA = 23/32" TAG APA RATED STURD-FLOOR, EXTERIOR RATED PLYWOOD.
- (±0'-0") = TOP OF STEEL ELEVATION REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
- 8" C.M.U. WALL REINFORCED W/ #4@8" O.C. VERT CENTERED IN CORE.
- 6" C.M.U. OVER 8" C.M.U. WALL REINFORCED W/ #4@8" O.C. VERT CENTERED IN CORE.
- EP1 = EMBED PLATE. SEE DETAIL G/S-06
- ML8 = MASONRY LINTEL. SEE DETAIL F/S-06. SEE ARCH DWGS FOR EXACT LOCATIONS.

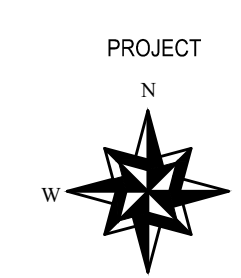
TAG NOTES

- ATTACH C.F.S. JOIST TO PEMB COLUMN W/ SFC6 25-54 CLIP BY SIMPSON STRONG-TIE OR EQUAL W/ (4) #10 SCREWS TO JOIST AND (6) P.A.F. TO COLUMN.
- CONTINUOUS C.F.S. 1 1/4" x 16GA FLAT STRAP BRIDGING AT MID-SPAN AND ENDS (AS SHOWN) ALONG BOTTOM SIDE OF JOIST FRAMING. FASTEN TO EACH JOIST BOTTOM FLANGE WITH (1) #10 SCREW. 1000S162-97 BLOCKING AT 12'-0" O.C. ALONG BRIDGING LINES.
- STOP AND RESTART CHANNEL AT MASONRY CONTROL JOINTS.

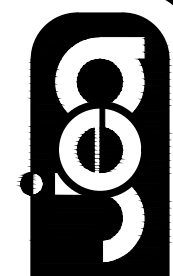
RECORD DRAWINGS

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BY: BLUEGRASS ENGINEERING DATE: 06/25



REFERENCE ELEVATION (0'-0") = 717'-0" SEA LEVEL



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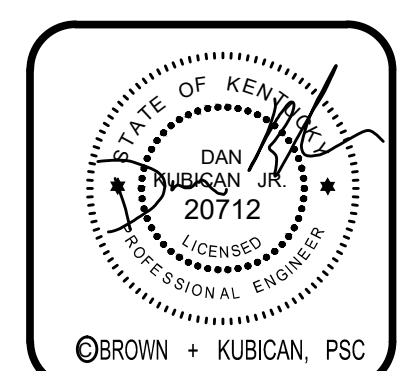
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NO.	DATE	REVISIONS

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
LOFT FRAMING PLAN



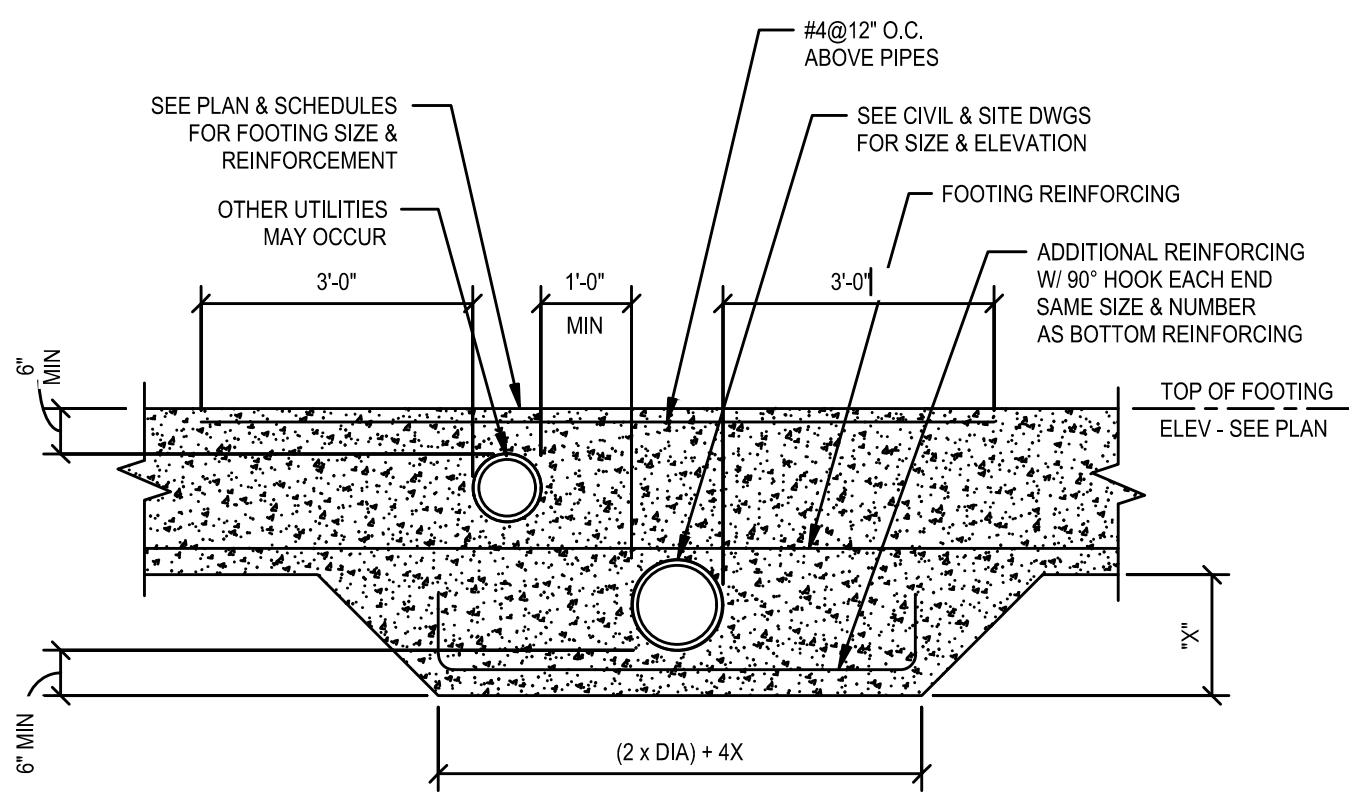
PROJECT #:	20177
DATE:	JULY 2020
PROJECT MGR:	BM
DRAWN BY:	ABJ
CHECKED BY:	DK



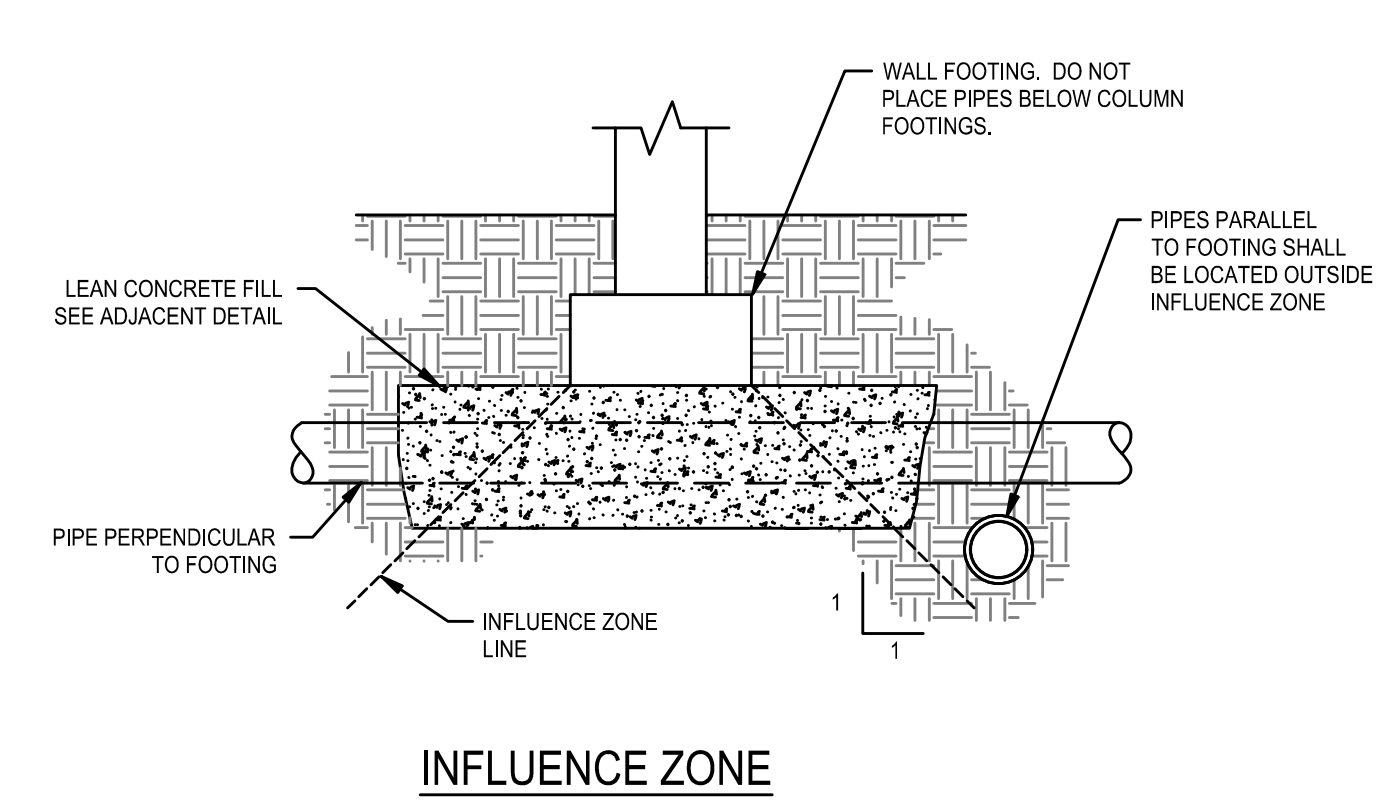
PROJECT NO.
S-04

RECORD DRAWINGS

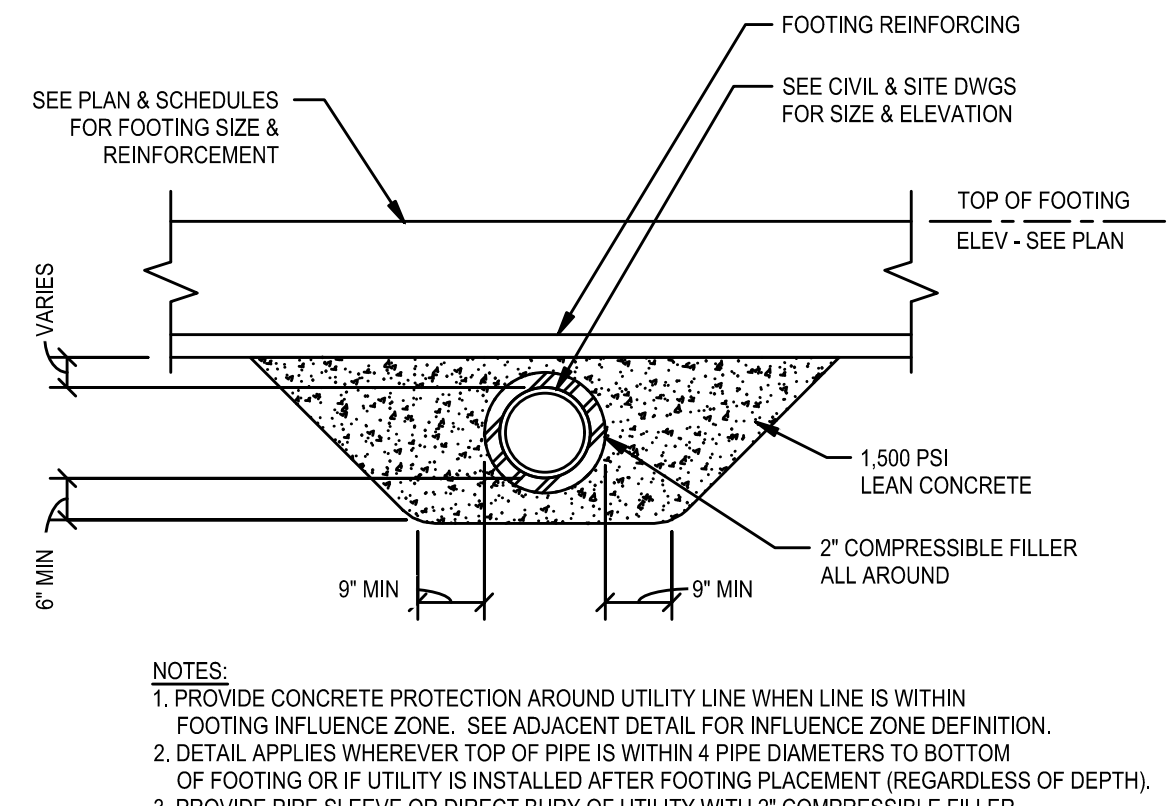
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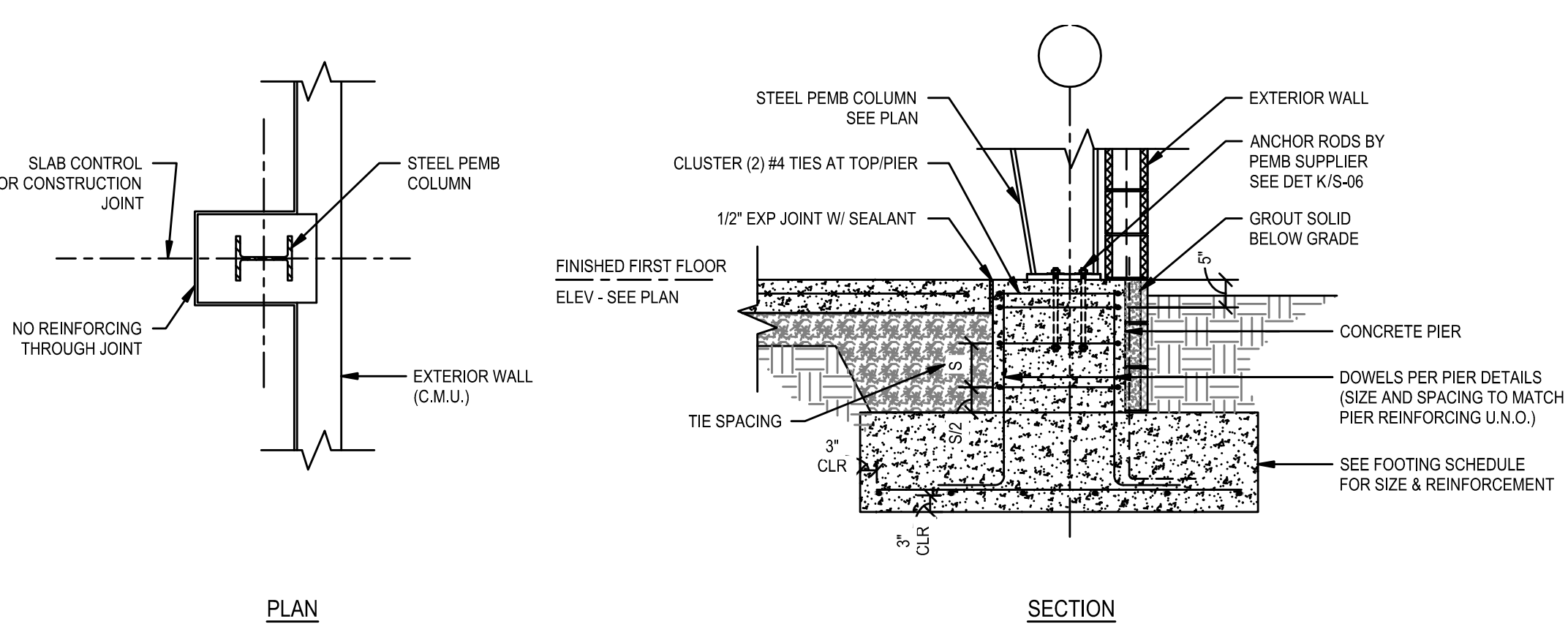
A S-05
TYPICAL FOOTING PENETRATION/SLEEVE DETAIL
NOT TO SCALE



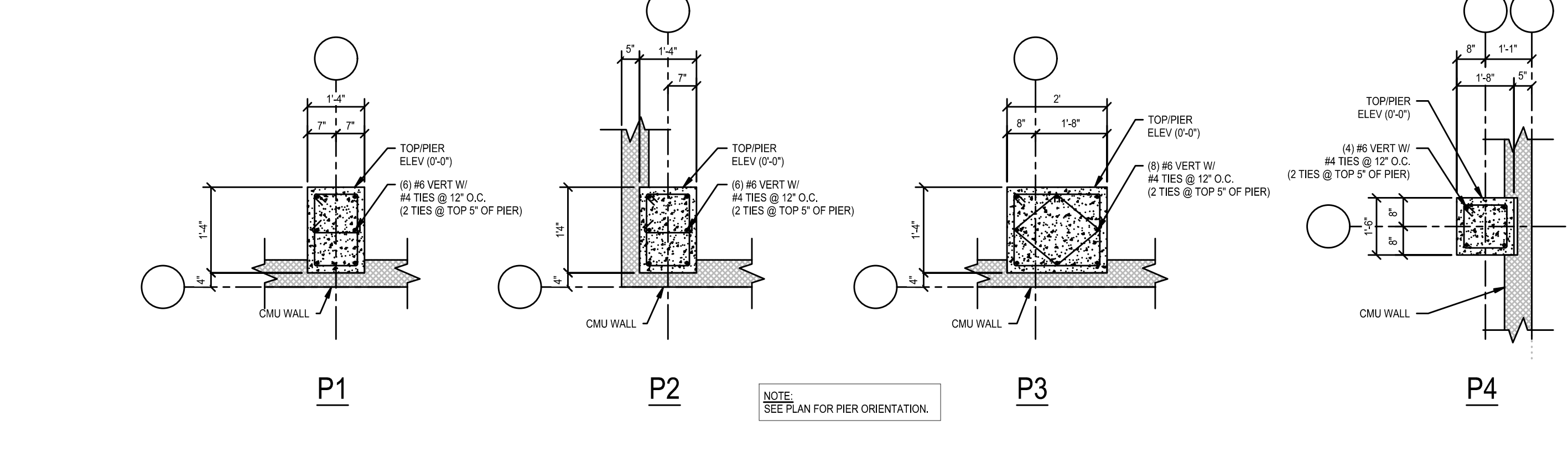
B S-05
TYPICAL UTILITY LINE BELOW FOOTING DETAIL
NOT TO SCALE



C S-05
SECTION AT TRENCH DRAIN
NOT TO SCALE



D S-05
TYPICAL PEMB COLUMN AND FOOTING DETAIL
NOT TO SCALE

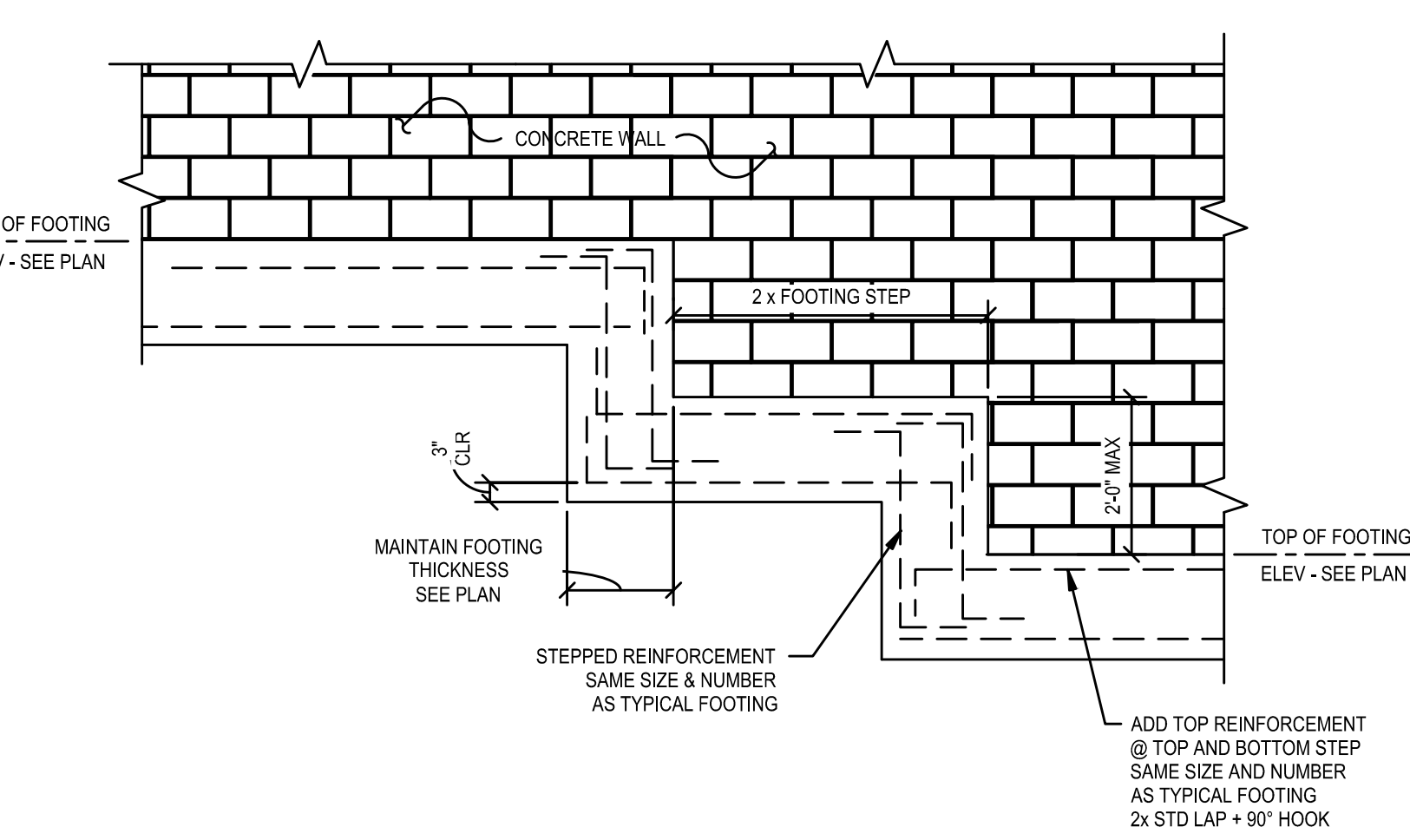


E S-05
PIER DETAILS
NOT TO SCALE

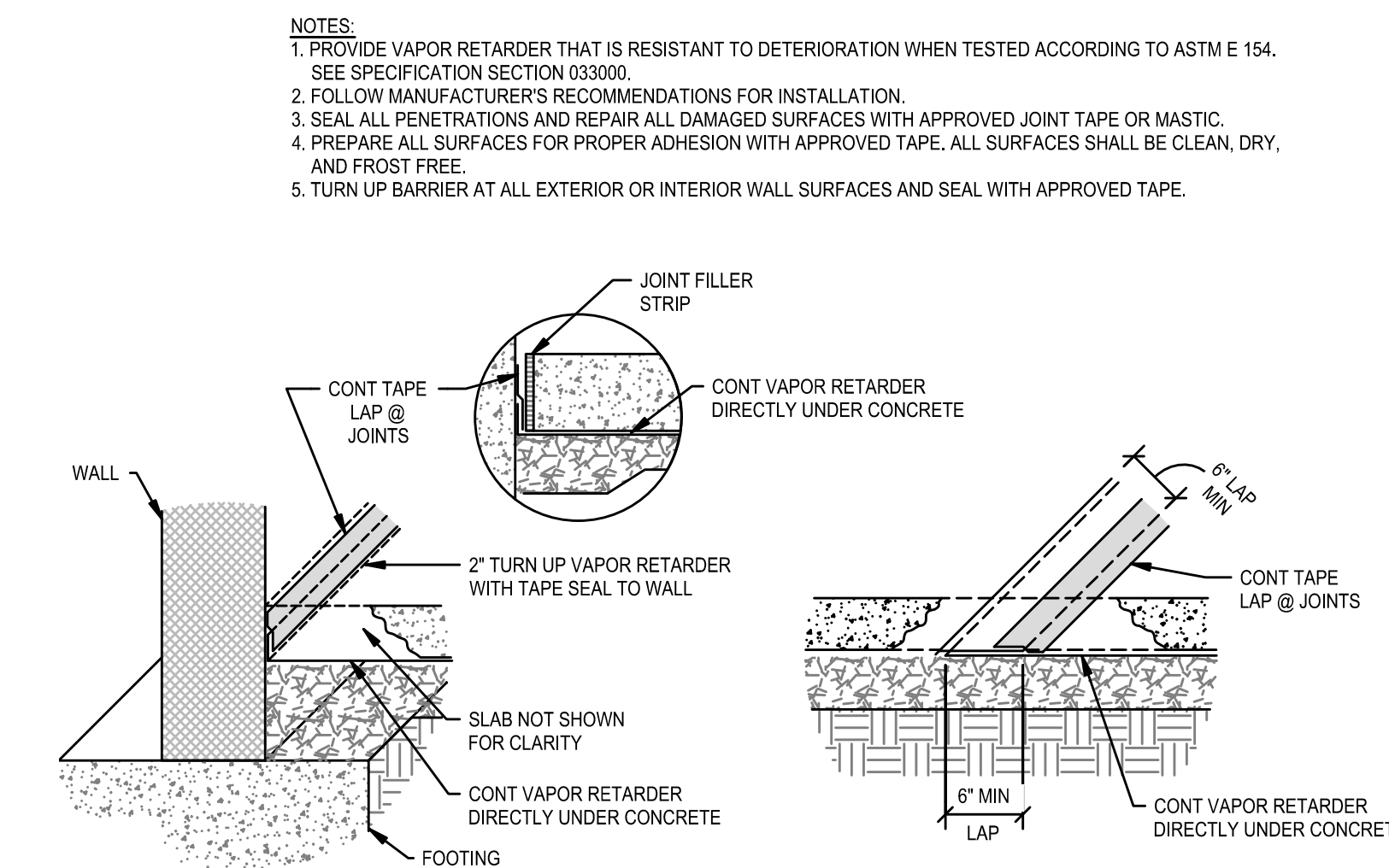
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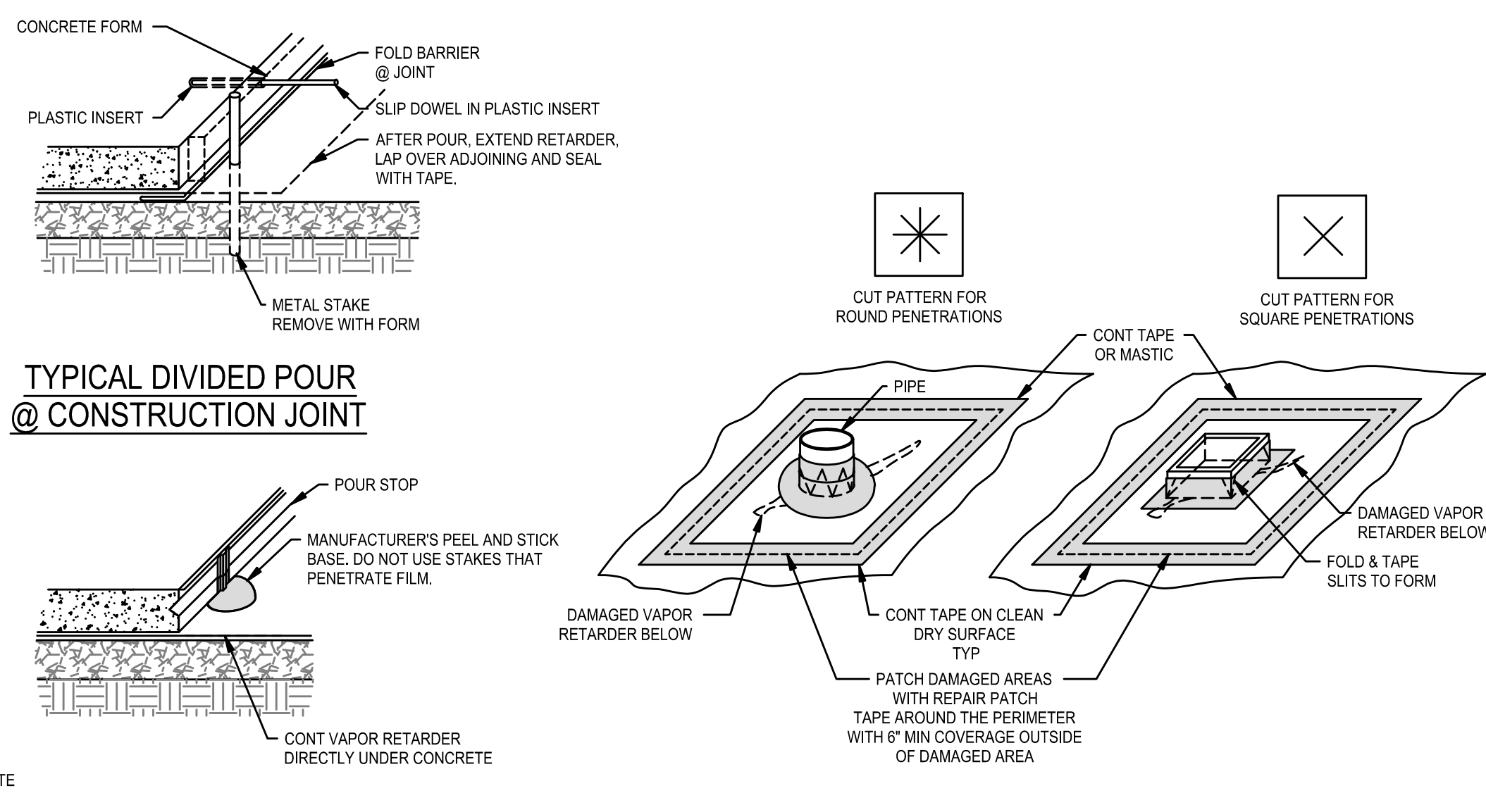
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F S-05
TYPICAL STEP FOOTING DETAIL
NOT TO SCALE



G S-05
TYPICAL VAPOR RETARDER DETAILS
NOT TO SCALE



TYPICAL DIVIDED POUR @ CONSTRUCTION JOINT
TYPICAL PIPE REPAIR
TYPICAL RECTANGULAR REPAIR

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NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
TYPICAL DETAILS

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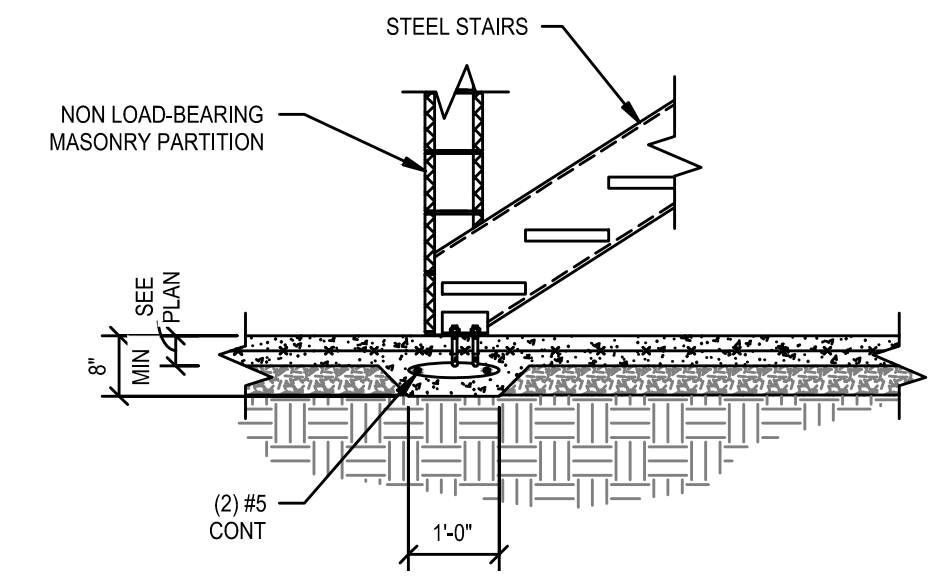
PROJECT #: 20177
DATE: JULY 2020
PROJECT MGR: BM
DRAWN BY: ABJ
CHECKED BY: DK

STATE OF KENTUCKY
DAN KUBICAN JR.
2017
PROFESSIONAL ENGINEER

SHEET NO.
S-05

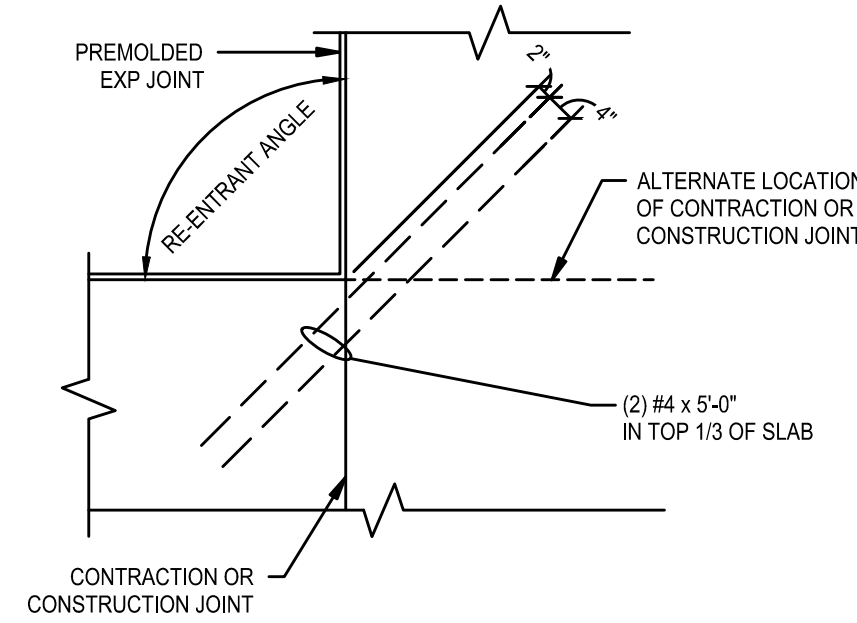
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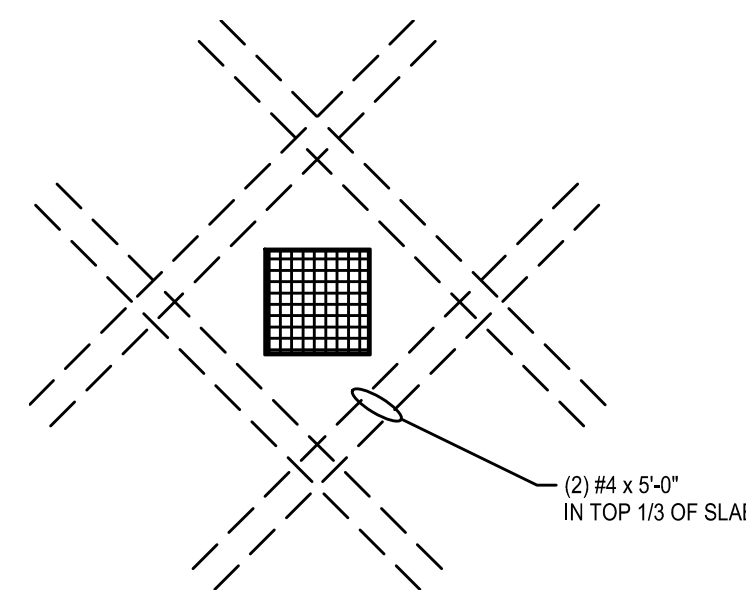
TYPICAL THICKENED SLAB BELOW MASONRY PARTITIONS AND STEEL STAIRS DETAIL

A
S-06
NOT TO SCALE



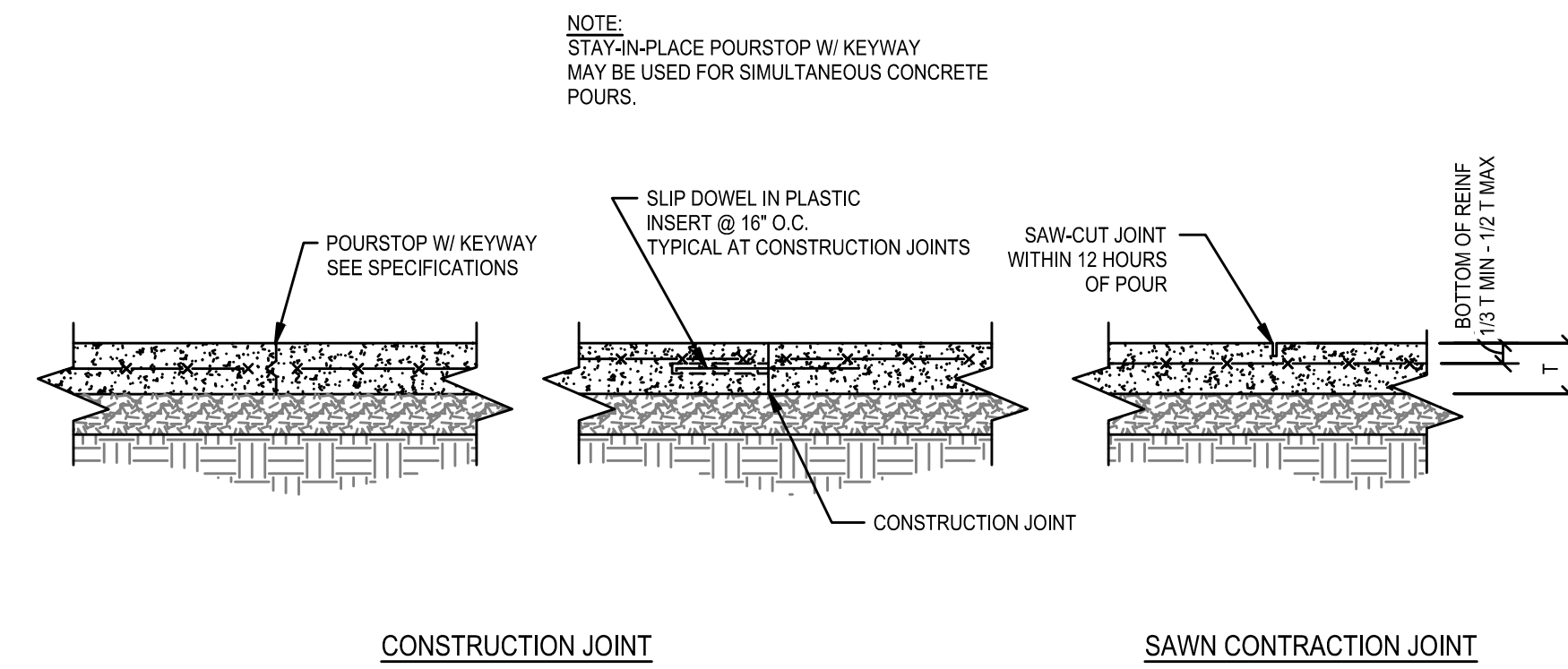
TYPICAL SLAB ON GRADE JOINT AT RE-ENTRANT CORNER

B
S-06
NOT TO SCALE



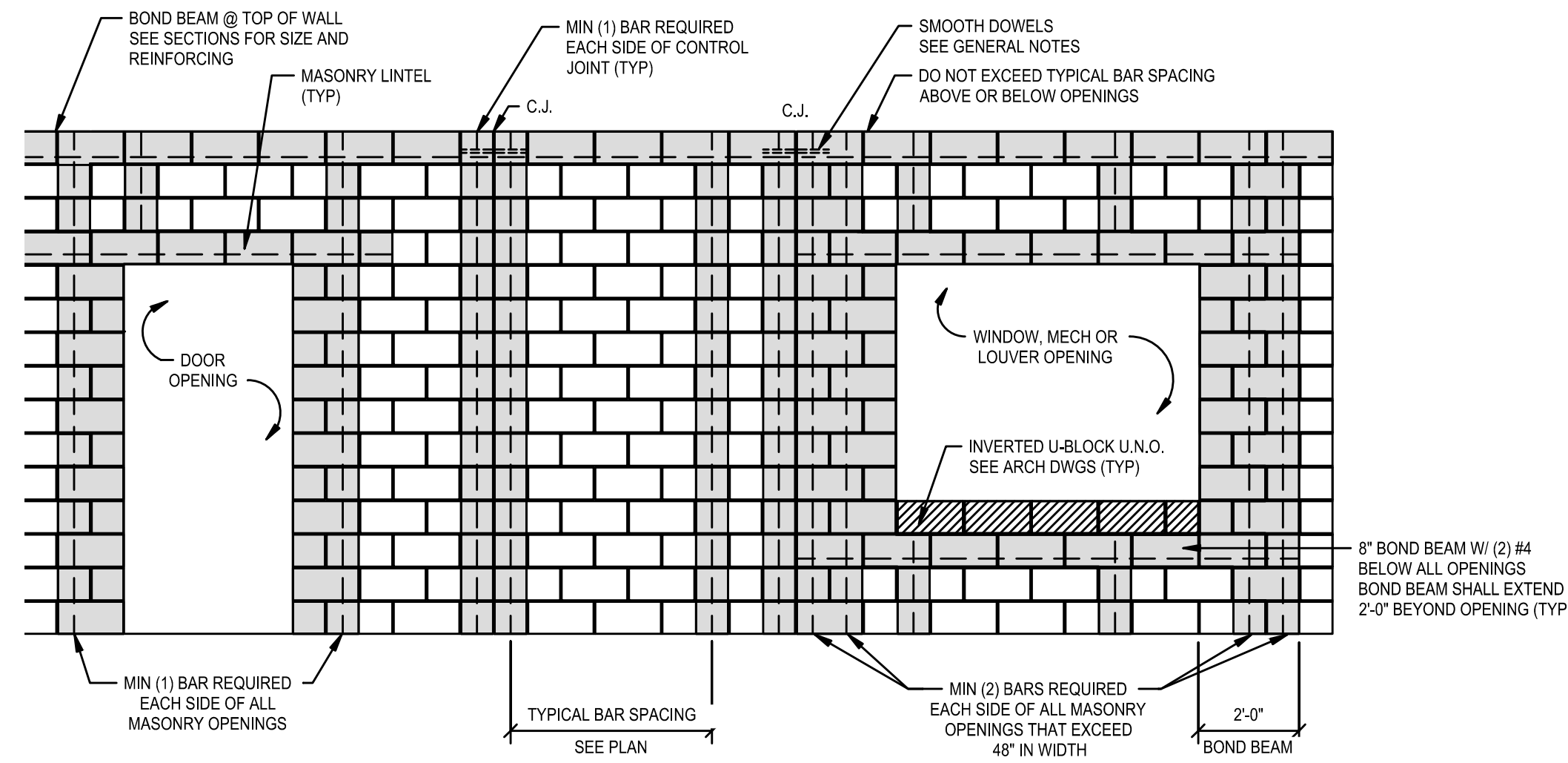
TYPICAL SLAB REINFORCEMENT AT FLOOR BOXES, TRENCH DRAINS, ETC DETAIL

C
S-06
NOT TO SCALE



SLAB ON GROUND JOINT DETAIL

D
S-06
NOT TO SCALE



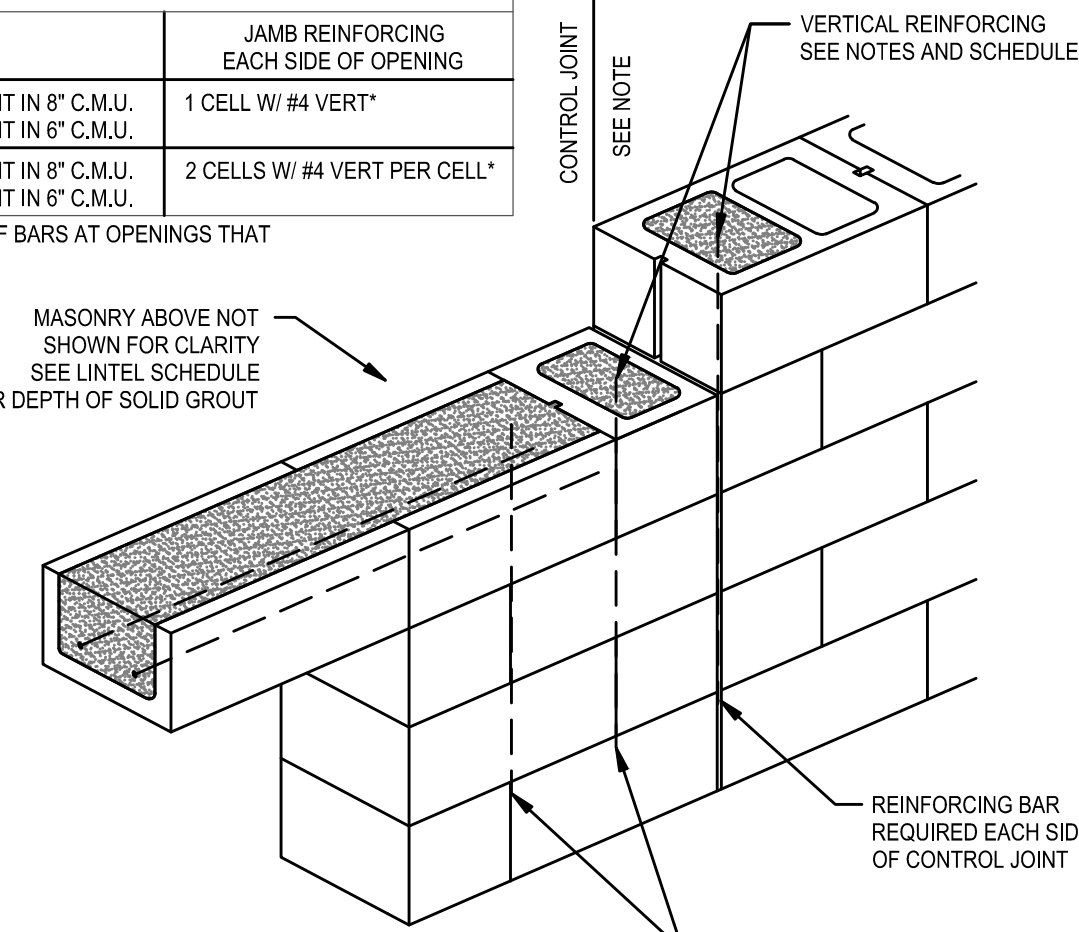
TYPICAL MASONRY WALL REINFORCING DETAIL

E
S-06
NOT TO SCALE

LINTEL SCHEDULE

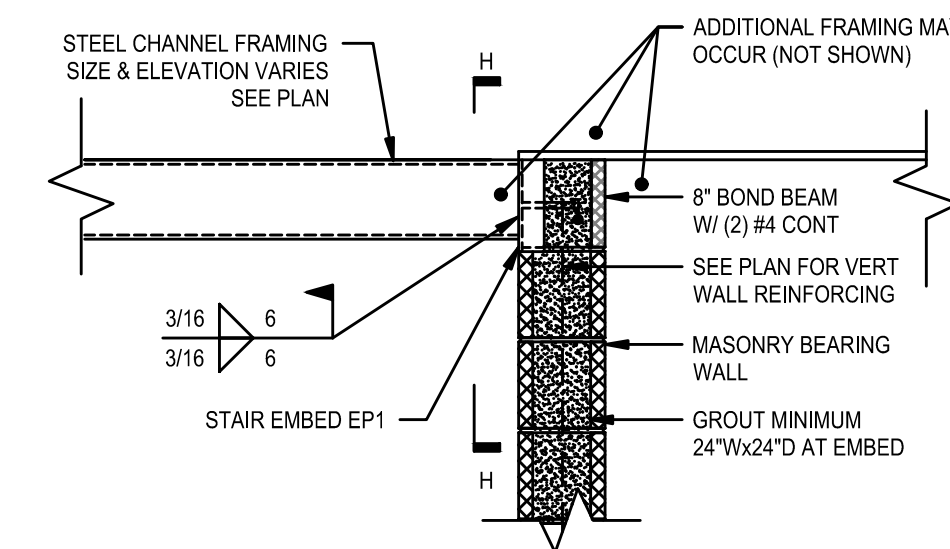
MARK	DEPTH	HORIZ REINFORCING	JAMB REINFORCING EACH SIDE OF OPENING
ML8	8"	(2) #4 BOT CONT IN 8" C.M.U. (1) #4 BOT CONT IN 8" C.M.U.	1 CELL W/ #4 VERT*
ML16	16"	(2) #4 BOT CONT IN 8" C.M.U. (1) #4 BOT CONT IN 8" C.M.U.	2 CELLS W/ #4 VERT PER CELL*

*SEE DETAIL FOR MINIMUM NUMBER OF BARS AT OPENINGS THAT EXCEED 4'-0" IN WIDTH.



TYPICAL MASONRY LINTEL BEARING DETAIL

F
S-06
NOT TO SCALE



TYPICAL STAIR EMBED DETAIL

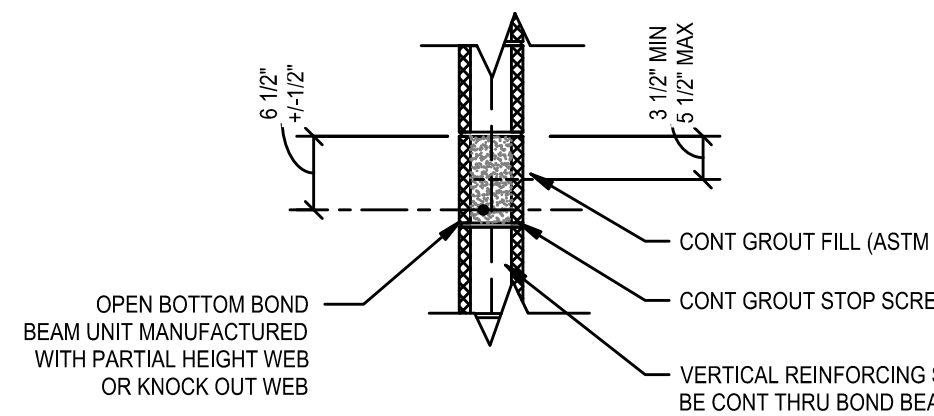
G
S-06
NOT TO SCALE

- NOTES:**
- SEE MASONRY GENERAL NOTES FOR REINFORCING NOT SHOWN AND GROUTING PROCEDURES.
 - CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
 - CONTROL JOINTS SHALL BE LOCATED OUTSIDE MASONRY OPENING JAMB REINFORCING.
 - WHERE 2'-0" OF WALL DOES NOT OCCUR BEYOND OPENING, TERMINATE LINTEL REINFORCEMENT IN JAMB W/ STANDARD 90° HOOK.

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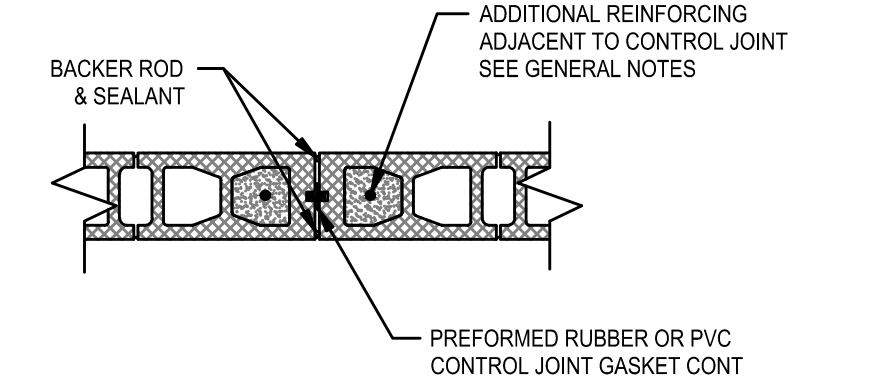
BY: BLUEGRASS ENGINEERING DATE: 06/25



- NOTES:**
- MORTAR WEBS OF BLOCK AT VERTICAL REINFORCING TO PREVENT GROUT FROM FLOWING INTO THE ADJACENT CELL.
 - UNLESS OTHERWISE SHOWN OR NOTED, REINFORCING SHALL BE PLACED IN THE BOTTOM OF THE BOND BEAM AS SHOWN IN THIS DETAIL. WHERE REINFORCING IS SHOWN OR NOTED TO BE IN THE TOP OF THE BOND BEAM, BAR LOCATION SHALL BE 6 1/2" ± 1/2" FROM THE BOTTOM OF THE BOND BEAM AND THE BOND BEAM UNIT SHALL BE INVERTED SUCH THAT THE REMAINING WEB IS IN THE BOTTOM.
 - REINFORCING SHALL HAVE 1/2" MINIMUM GROUT COVER TO ALL C.M.U. SURFACES.
 - GROUT STOP SCREEN SHALL BE DUR-O-STOP AS MANUFACTURED BY DUR-O-WAL OR OTHER APPROVED EQUIVALENT.
 - USE LINTEL BLOCK WHERE BOND BEAM OCCURS DIRECTLY ABOVE WINDOW, DOOR OR LOUVER OPENING.

TYPICAL C.M.U. BOND BEAM DETAIL

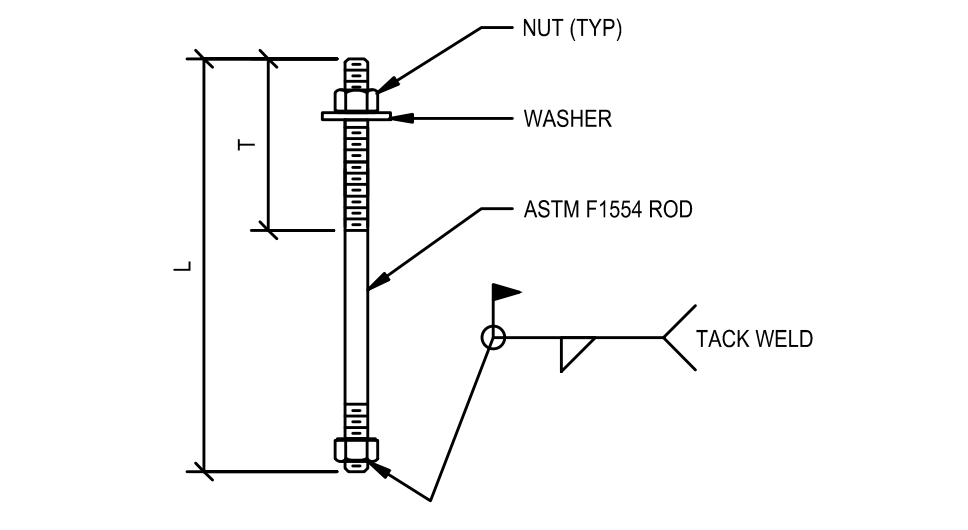
H
S-06
NOT TO SCALE



- NOTES:**
- HORIZONTAL JOINT REINFORCING IN BLOCK SHALL BE DISCONTINUOUS AT CONTROL JOINTS.
 - SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
 - UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 25 FEET AT EXTERIOR WALLS AND 32 FEET AT INTERIOR WALLS.

TYPICAL C.M.U. CONTROL JOINT DETAIL (C.J.)

J
S-06
NOT TO SCALE

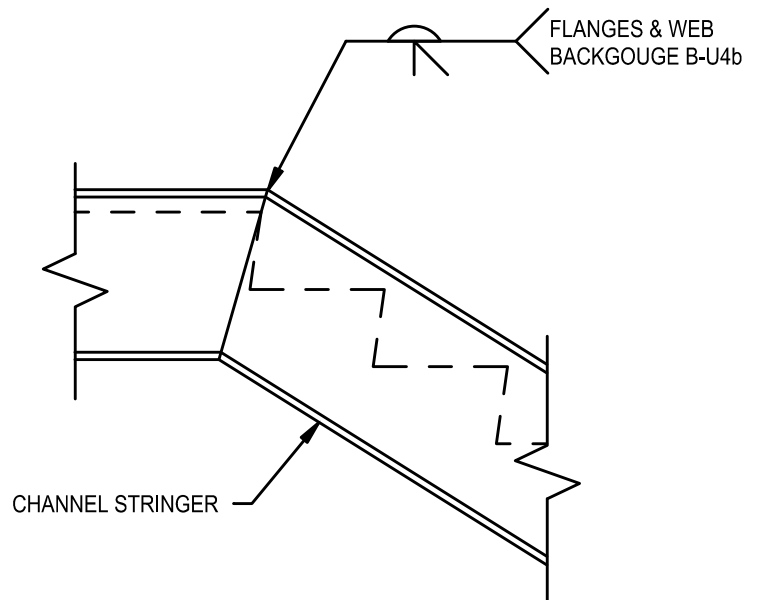


DIAMETER	L	T	PROJECTION	GRADE	MIN WASHER DIM
1/2" **	6 1/2"	3"	2"	36	STD ROUND
5/8"	10"	3"	2"	36	3/16" x 1 3/4" x 1 3/4"
3/4"	1'-7"	5"	3"	36	1/4" x 2" x 2"
1"	2'-0"	6"	4"	36	3/8" x 3" x 3"

- NOTES:**
- 1/2" BOLT MAY BE ASTM A307 MACHINE BOLT WITH NUT AND WASHER.
 - ANCHOR RODS AND ACCESSORIES SHALL BE GALVANIZED.

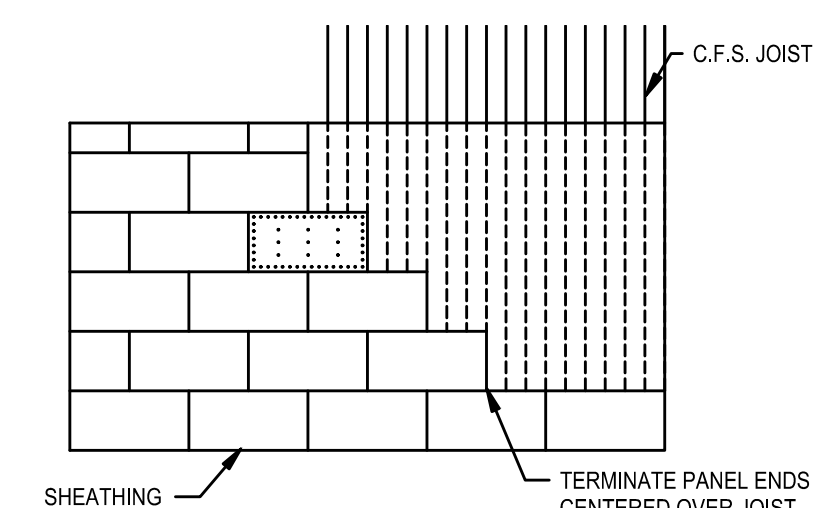
TYPICAL ANCHOR ROD DETAIL

K
S-06
NOT TO SCALE



TYPICAL STAIR STRINGER BEND DETAIL

L
S-06
NOT TO SCALE



- NOTES:**
- LAYOUT PANELS IN RUNNING BOND W/ LONG DIMENSIONS OF PANELS PERPENDICULAR TO C.F.S. JOISTS. END JOINTS IN PANELS MUST BE OVER C.F.S. JOISTS SO THAT ADJACENT PANEL EDGES MAY BE FASTENED TO SAME JOIST.
 - FASTEN PANEL TO C.F.S. JOISTS AND TOPS OF MASONRY WALLS W/ SCREWS PER SPECIFICATION. PANEL FASTENER SPACING TO BE 6" O.C. AT PANEL PERIMETER AND 12" O.C. AT INTERMEDIATE SUPPORTS.
 - EMBED ADJACENT TONGUE AND GROOVE PANEL EDGES.

ROOF SHEATHING LAYOUT

M
S-06
NOT TO SCALE

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NO.	DATE	REVISIONS	BY

**2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT
IMPROVEMENTS**

TYPICAL DETAILS

BLUEGRASS ENGINEERING, PLLC

222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 20177
DATE: JULY 2020
PROJECT MGR: BM
DRAWN BY: ABJ
CHECKED BY: DK

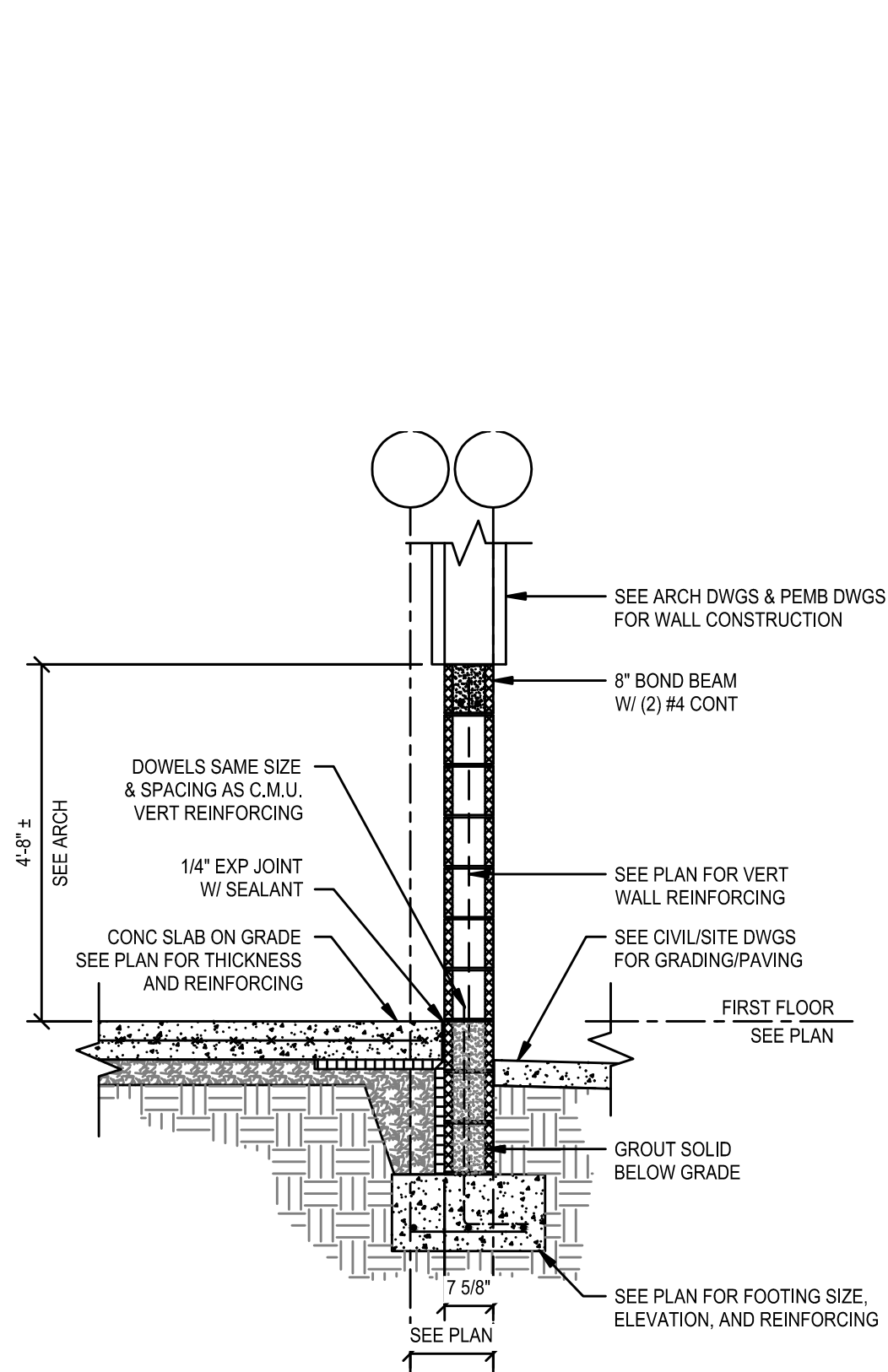
STATE OF KENTUCKY
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S-06

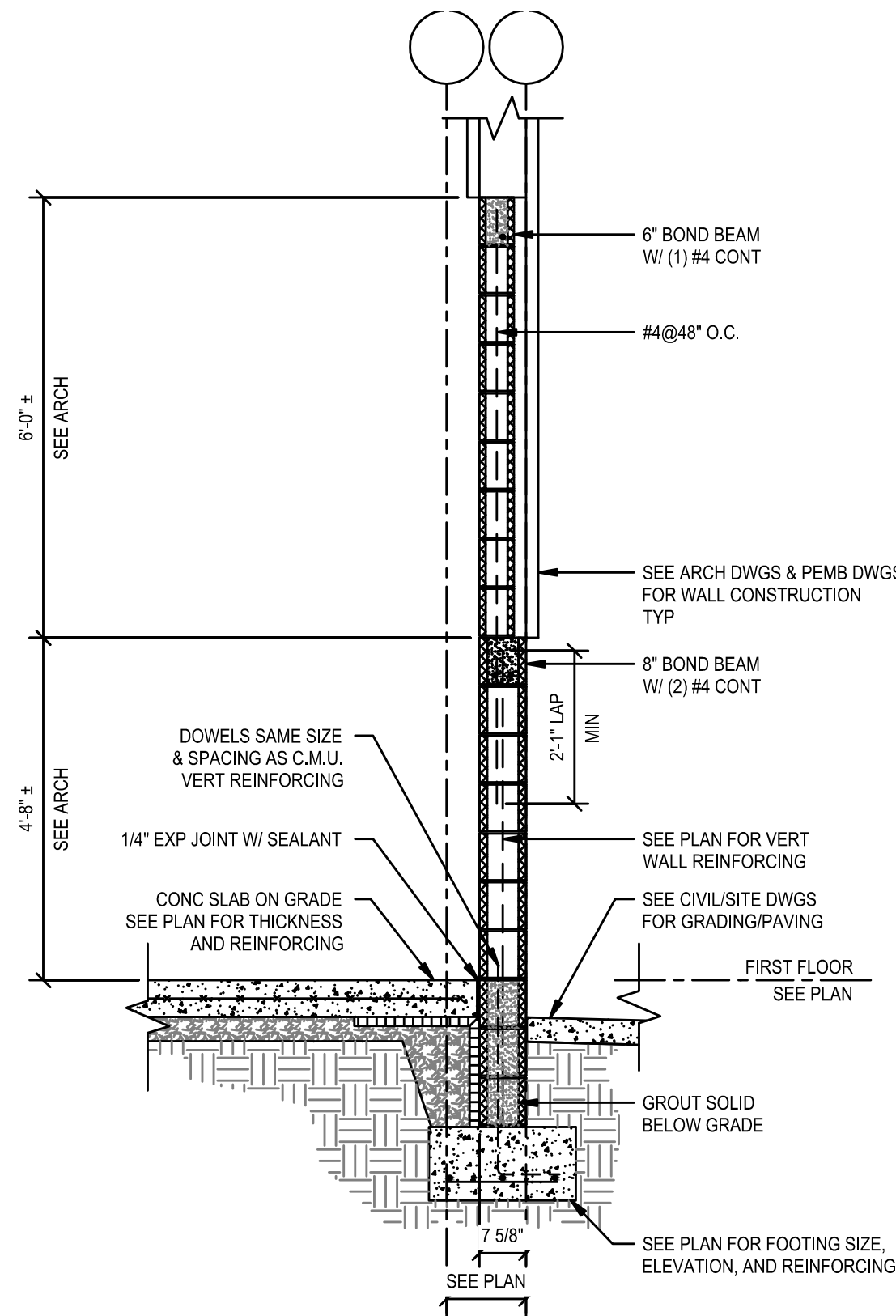
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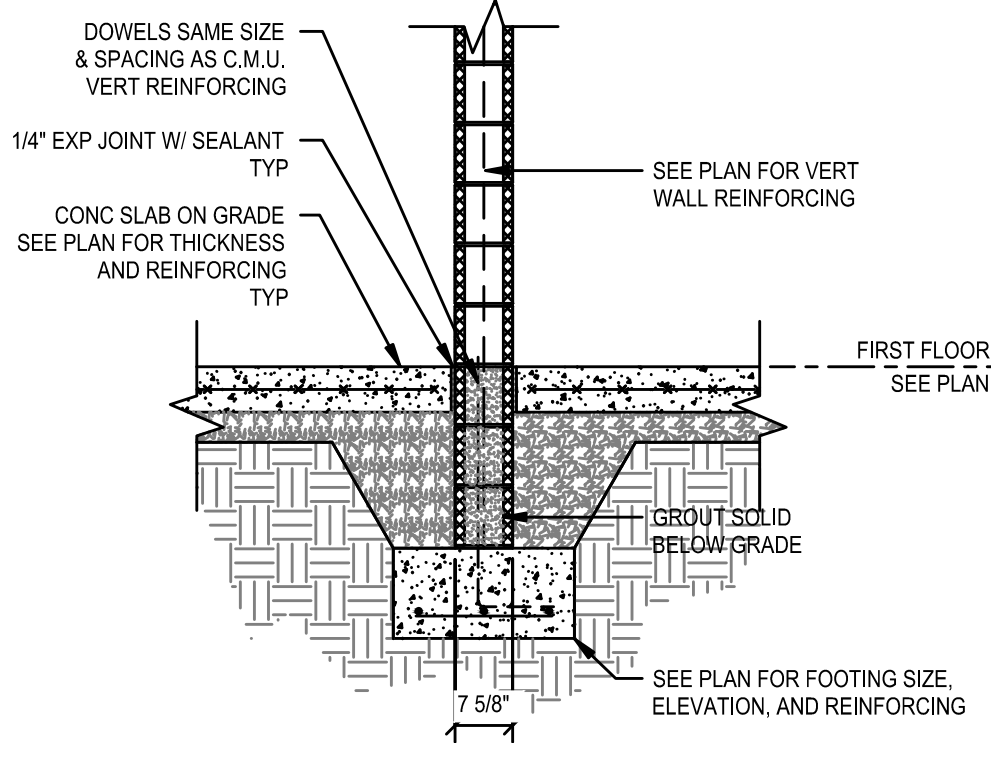
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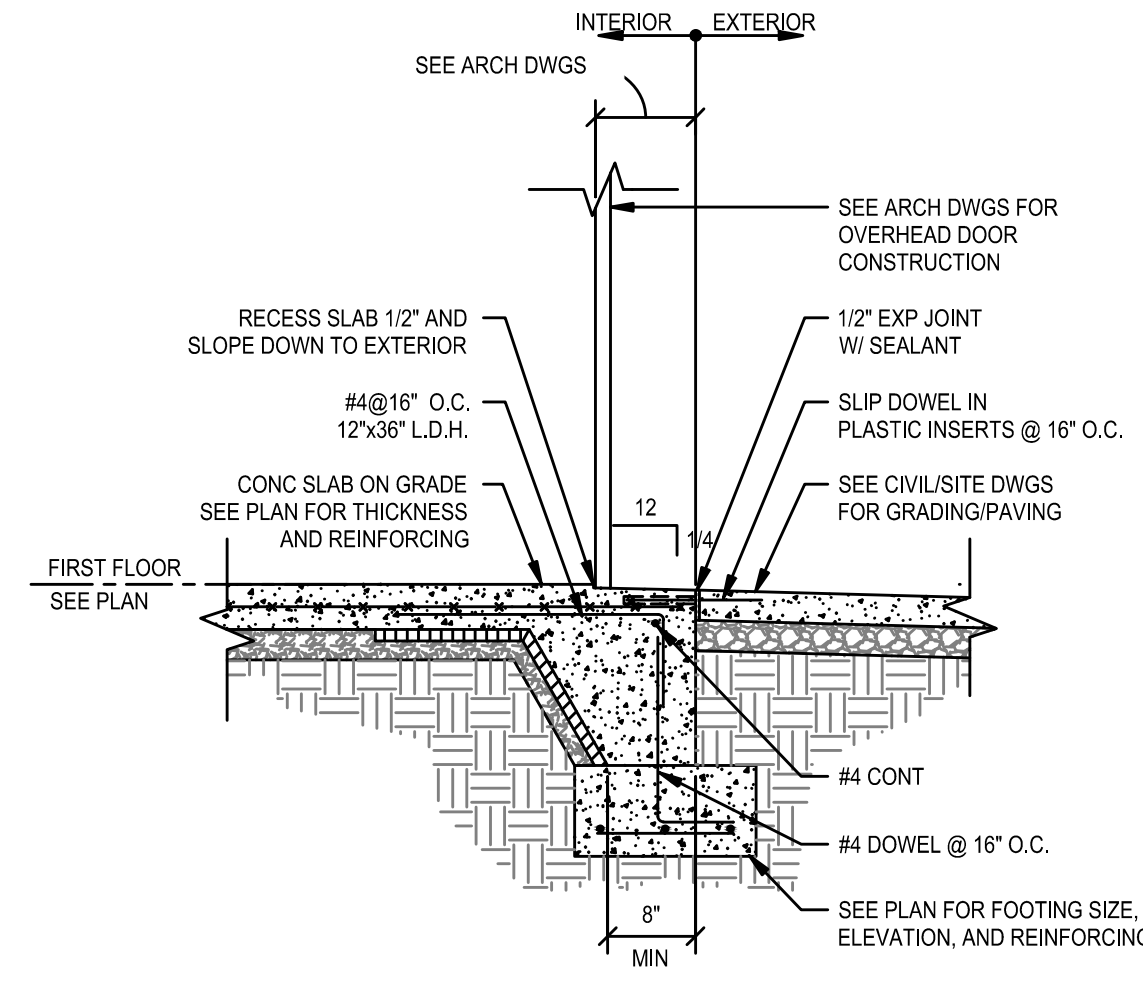
A SECTION
S-07
1/2" = 1'-0"



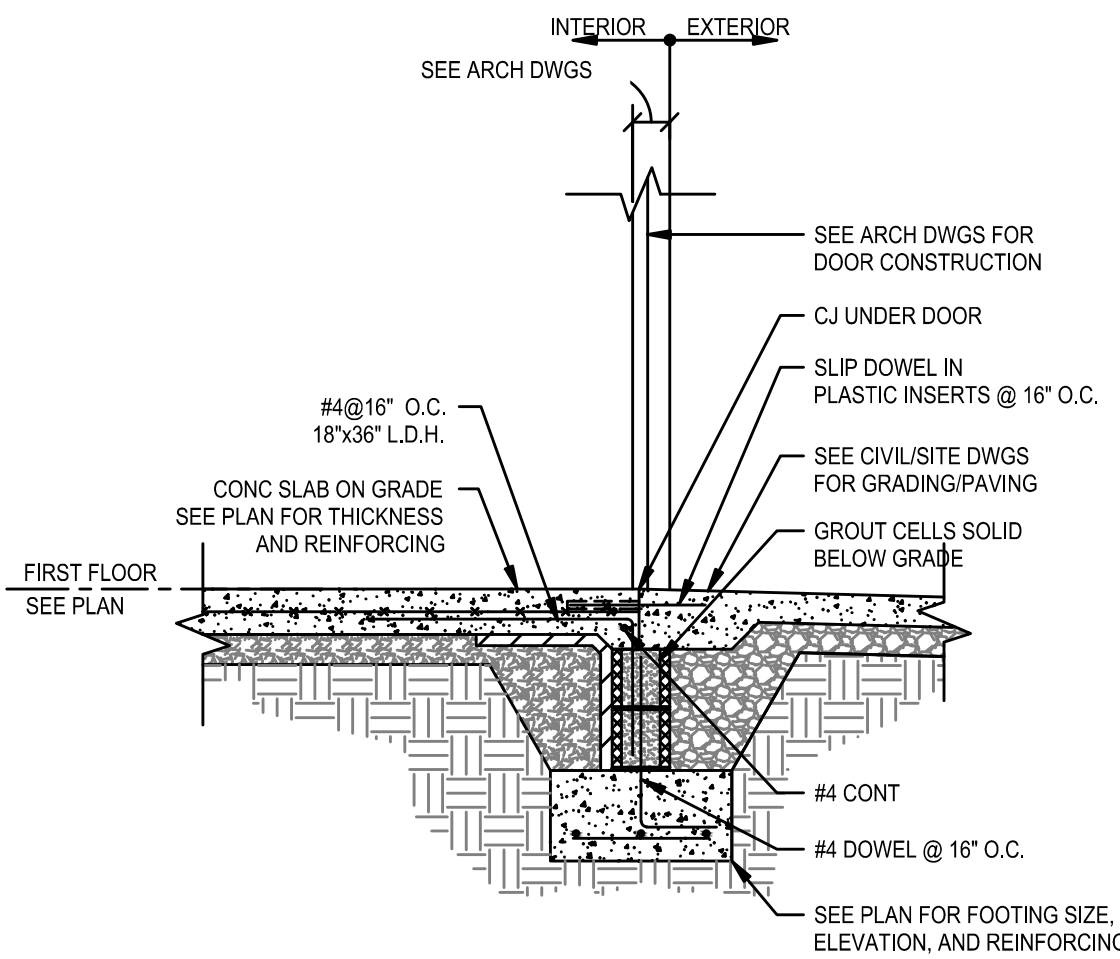
B SECTION
S-07
1/2" = 1'-0"



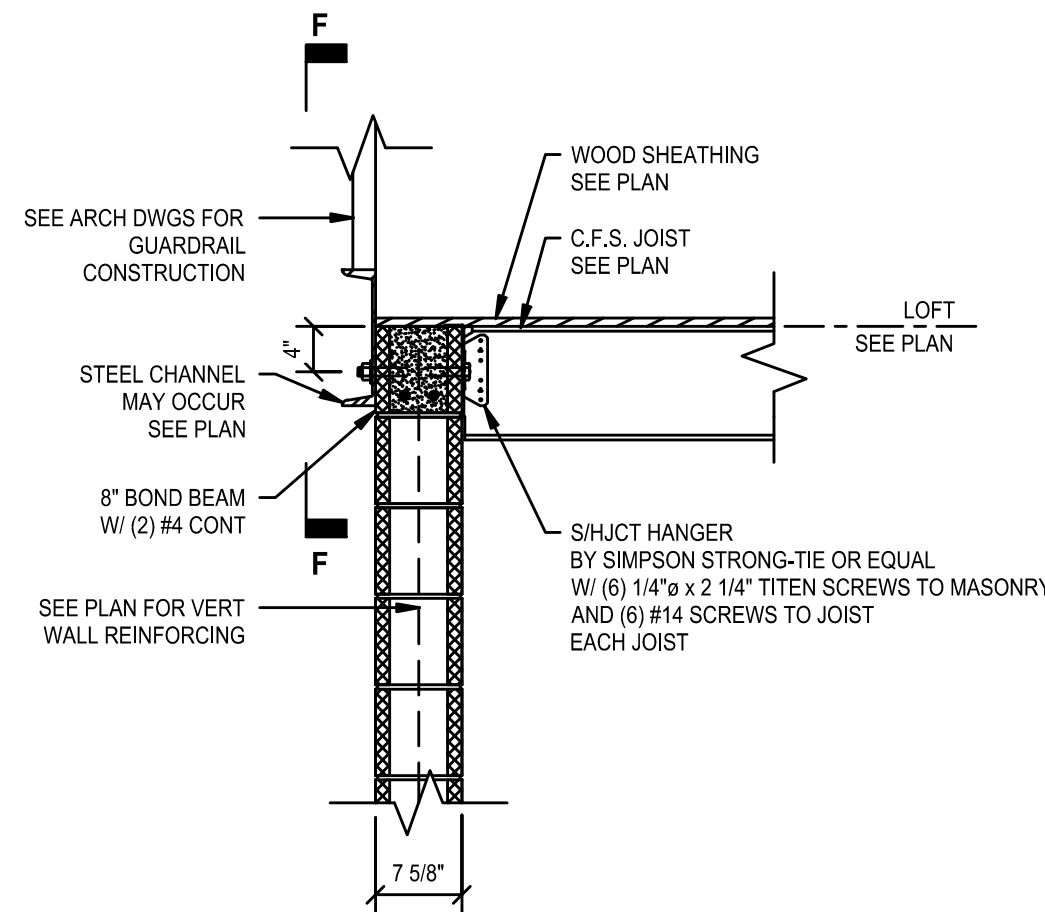
C SECTION
S-07
1/2" = 1'-0"



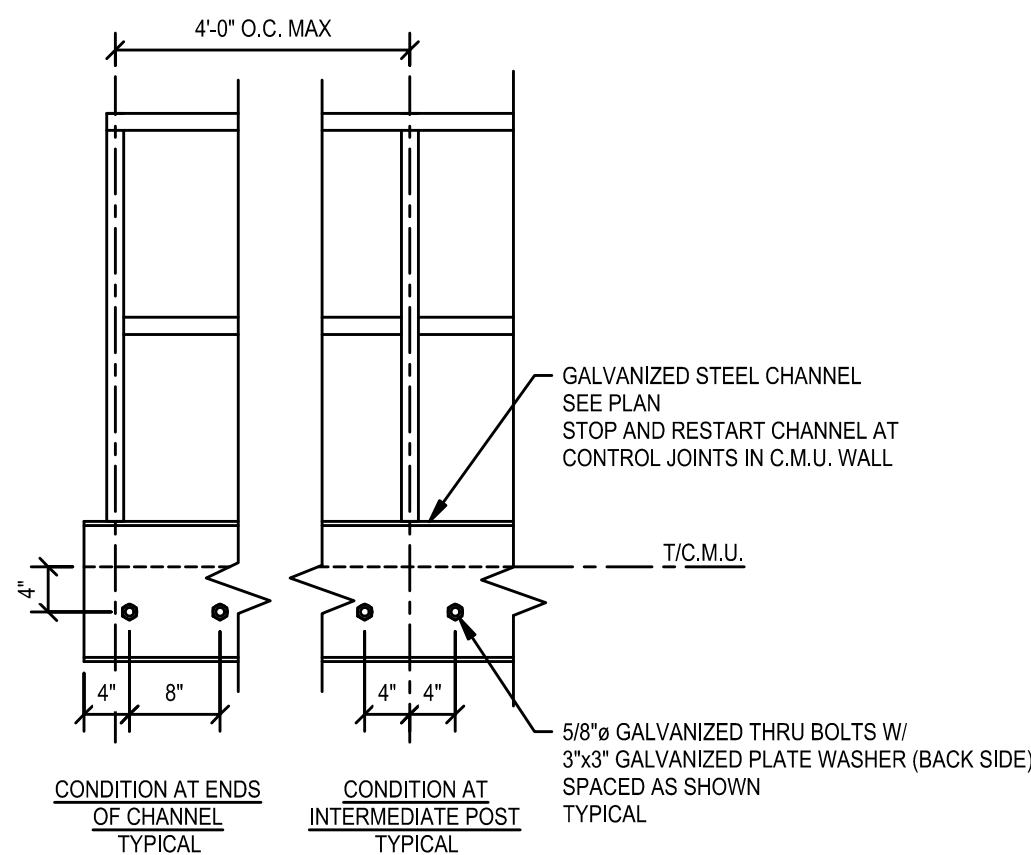
D SECTION AT OVERHEAD DOOR
S-07
1/2" = 1'-0"



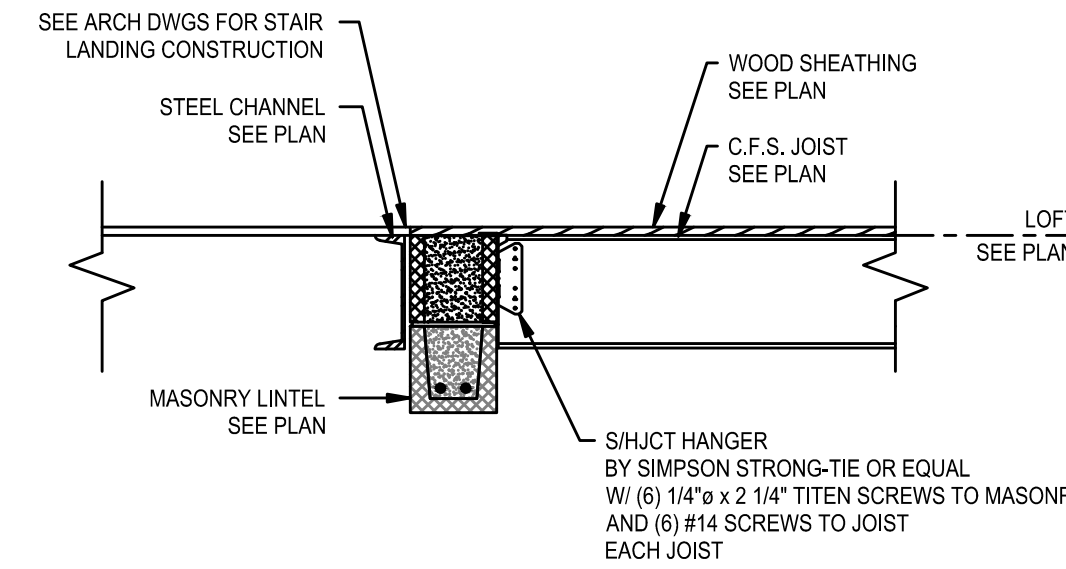
E SECTION AT MAN DOOR
S-07
1/2" = 1'-0"



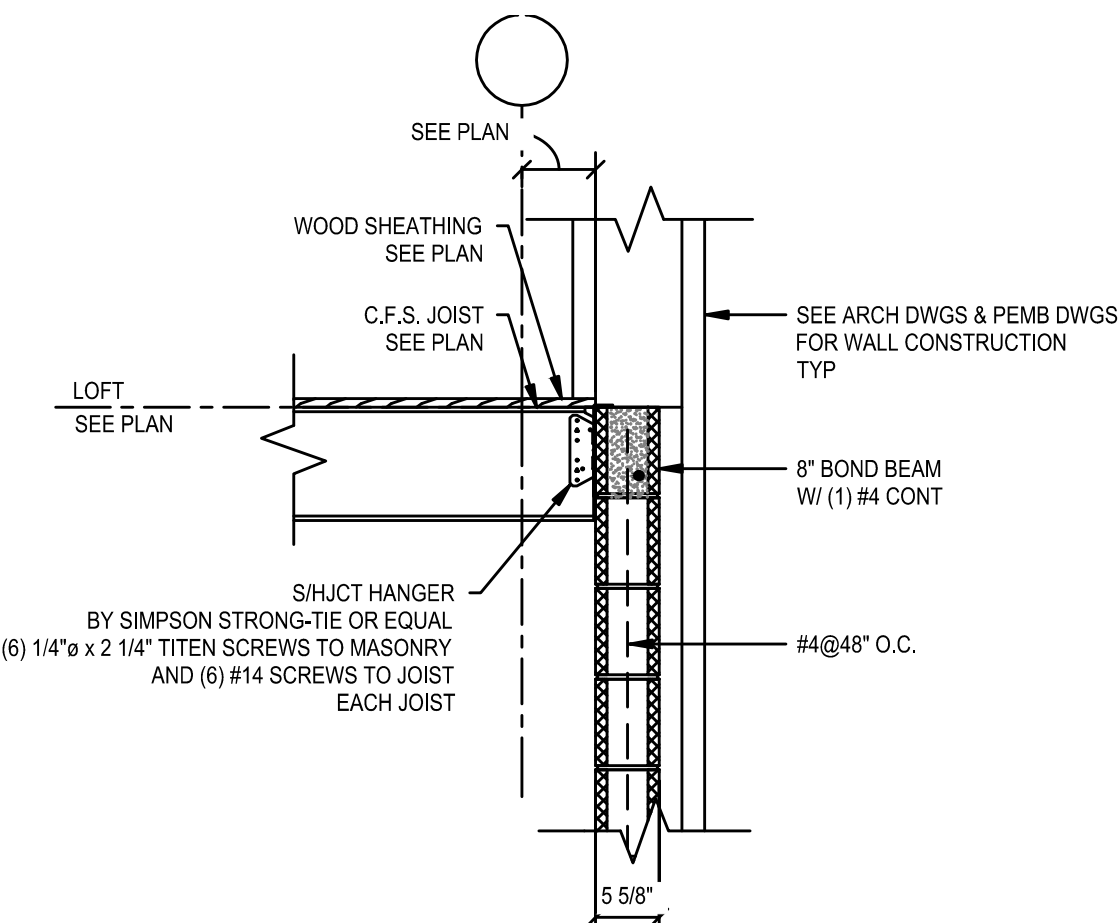
F SECTION
S-07
3/4" = 1'-0"



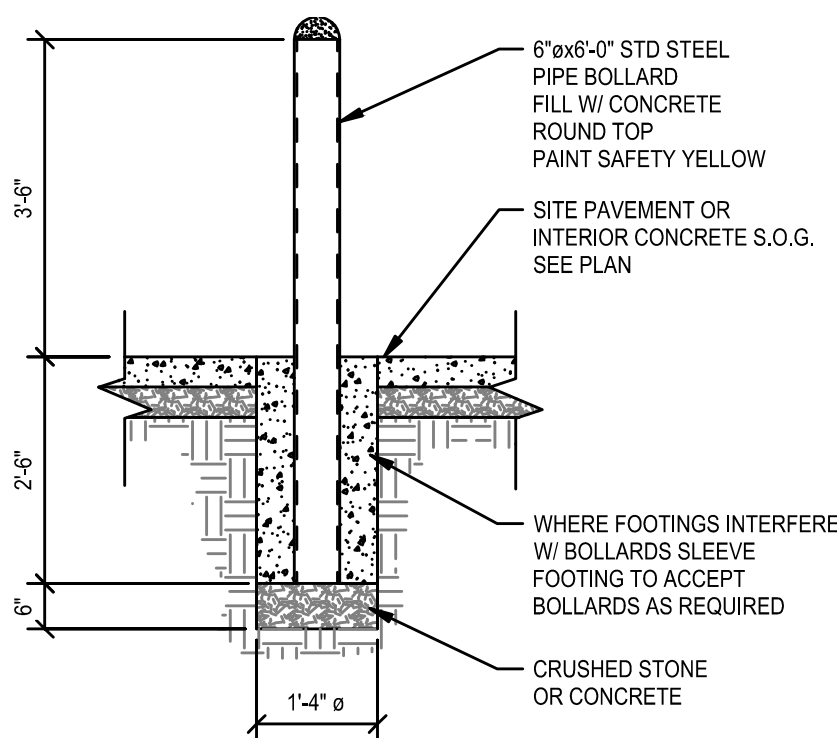
SECTION F-F



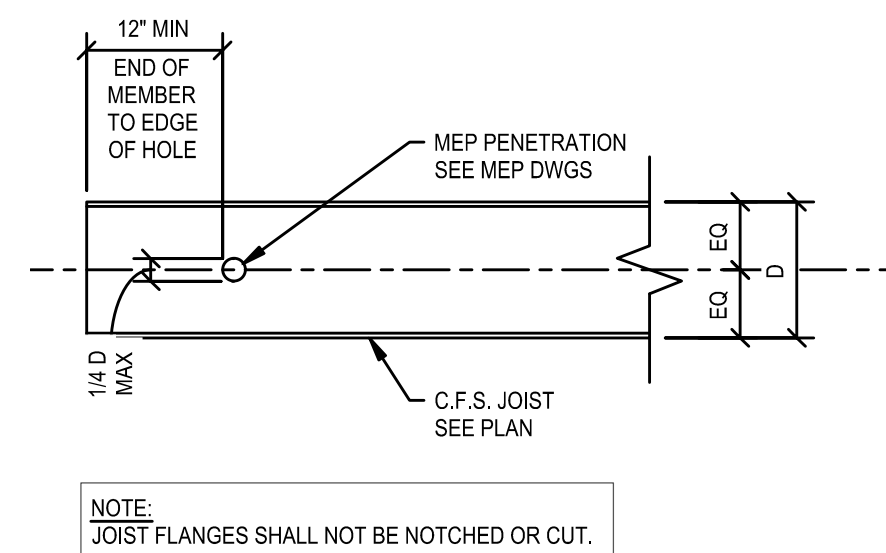
G SECTION
S-07
3/4" = 1'-0"



H SECTION
S-07
3/4" = 1'-0"



J PIPE BOLLARD DETAIL
S-07
NOT TO SCALE



K TYPICAL C.F.S. JOIST PENETRATION DETAIL
S-07
NOT TO SCALE

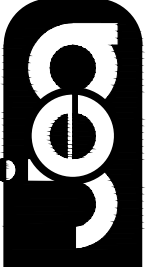
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BY: BLUEGRASS ENGINEERING DATE: 12/24

PROJECT #: 20177
DATE: JULY 2020
PROJECT MGR: BM
DRAWN BY: ABJ
CHECKED BY: DK

STATE OF KENTUCKY
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2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS

SECTIONS

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ENGINEERING PLLC
222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 20177
DATE: JULY 2020
PROJECT MGR: BM
DRAWN BY: ABJ
CHECKED BY: DK

STATE OF KENTUCKY
DAN KUBICAN JR.
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PROFESSIONAL ENGINEER

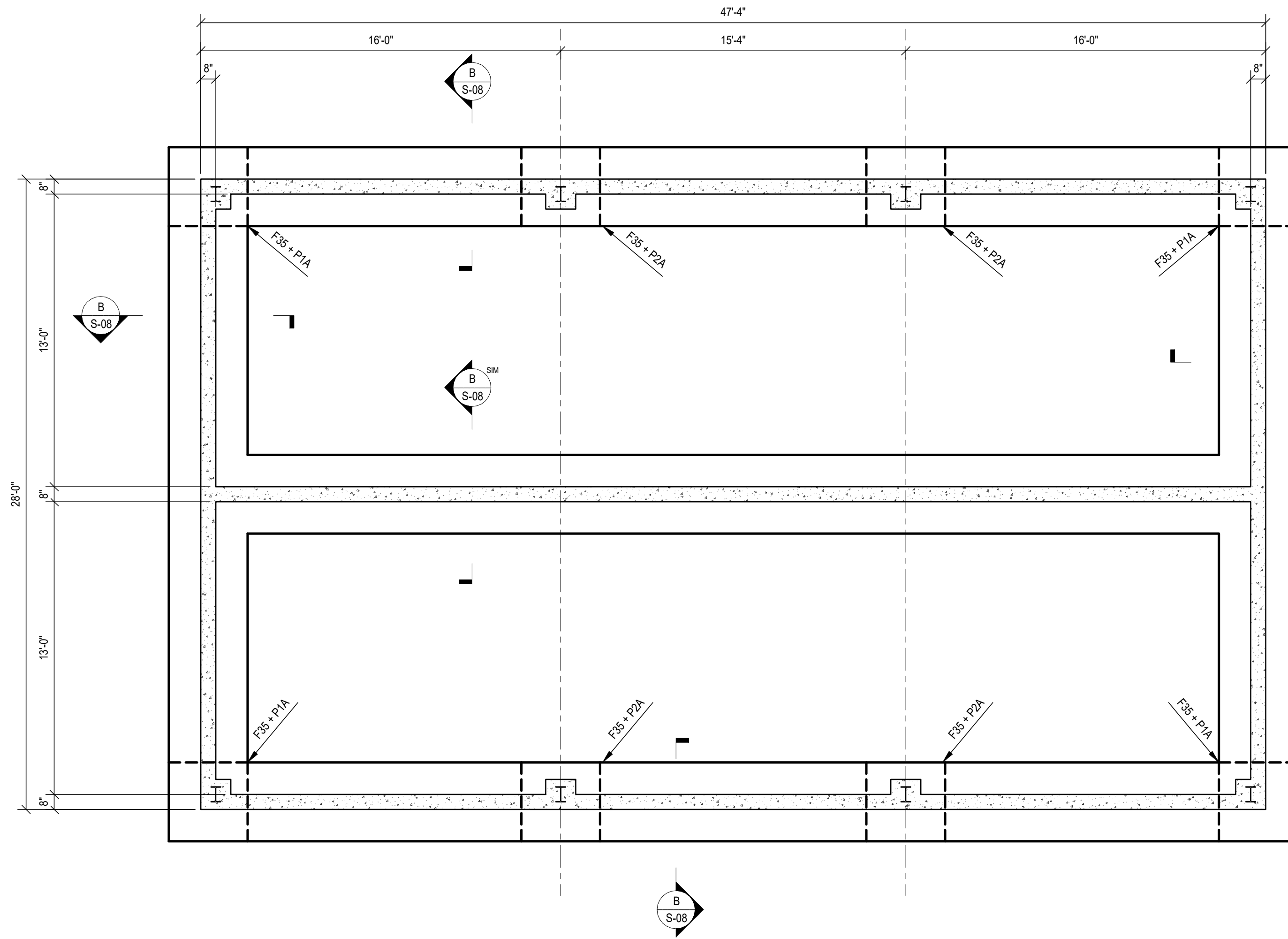
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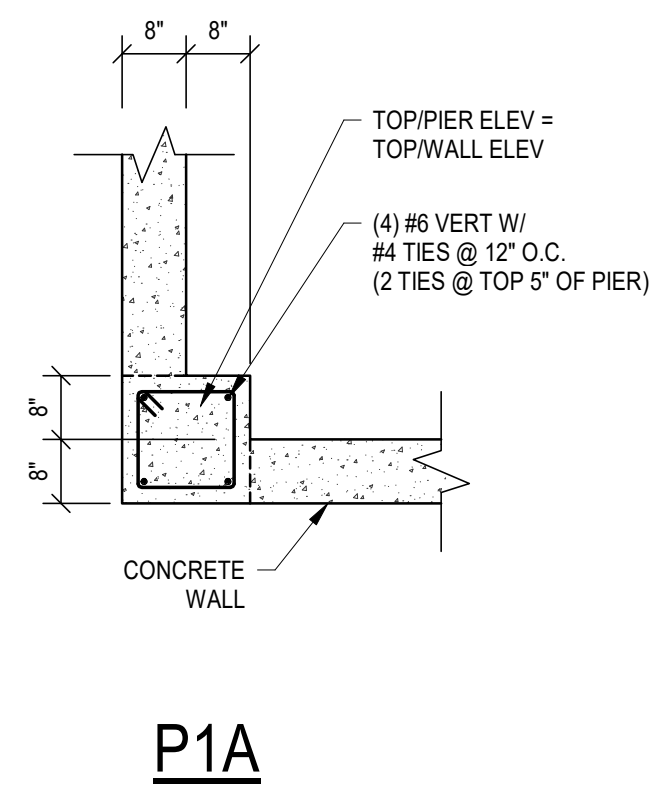
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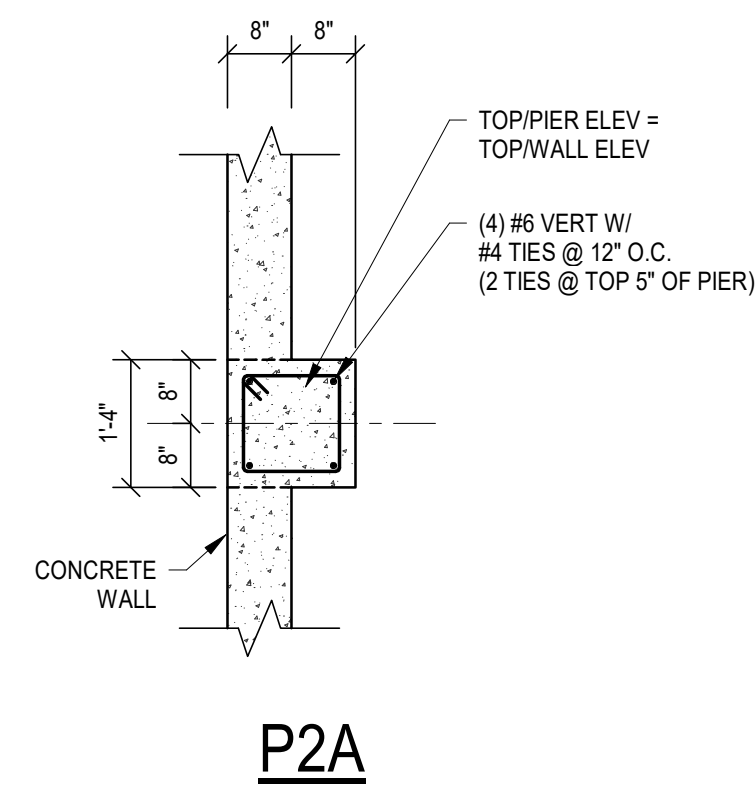


A
S-08
LAGOON FOUNDATION PLAN
1/4" = 1'-0"



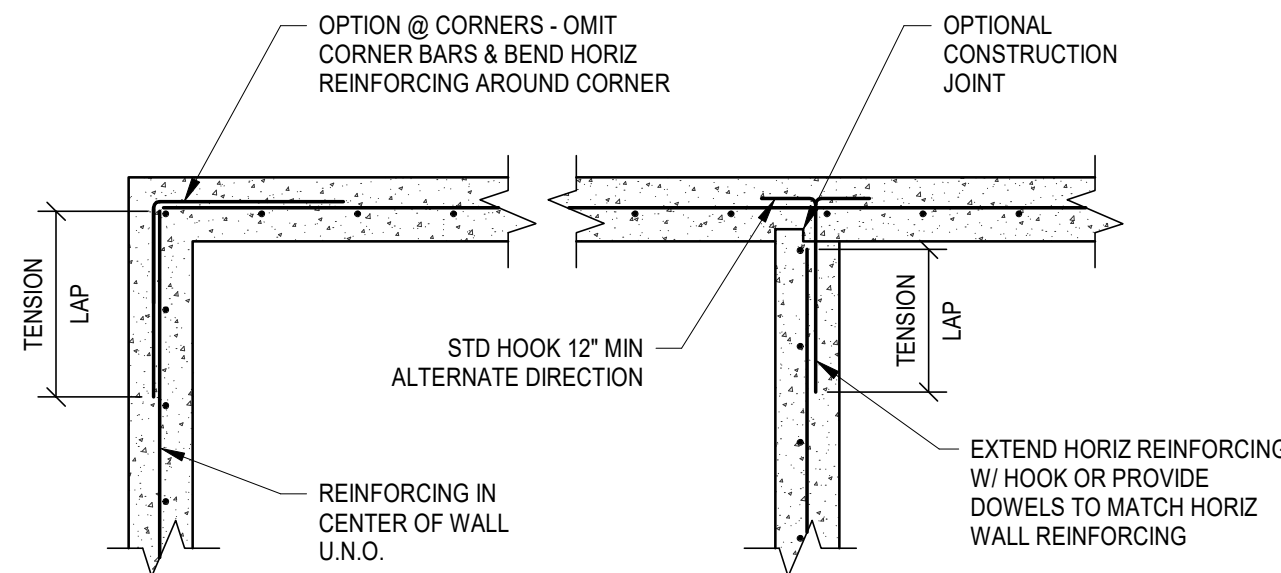
P1A

NOTE:
SEE PLAN FOR PIER ORIENTATION.

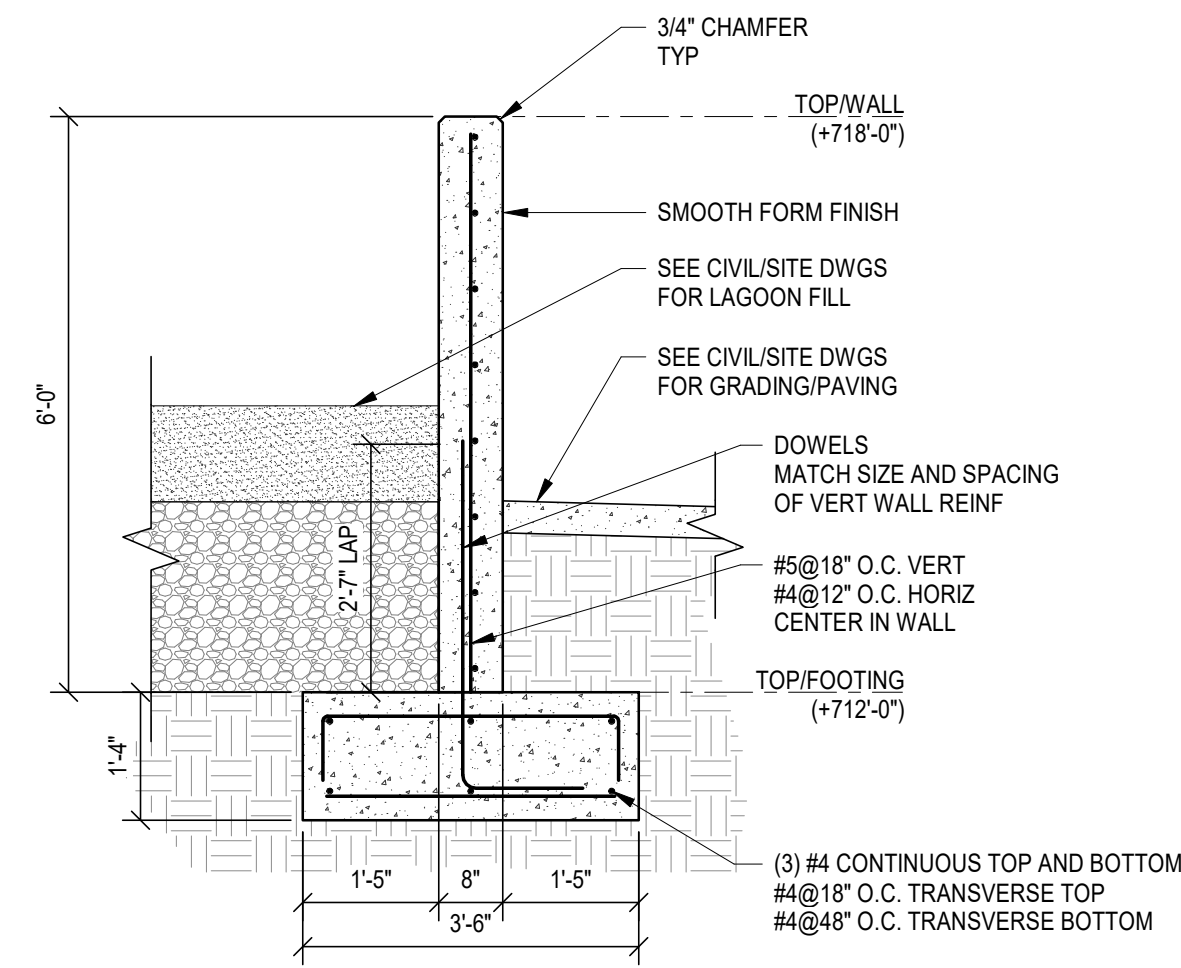


P2A

C
S-08
LAGOON PIER DETAILS
NOT TO SCALE



D
S-08
TYPICAL CONCRETE WALL REINFORCING DETAIL
NOT TO SCALE



B
S-08
SECTION
1/2" = 1'-0"

NOTES:
1. WATERSTOPS ARE NOT REQUIRED.
2. TOP OF FOOTING SHALL BE 2'-0" MINIMUM BELOW FINISHED GRADE.

LAGOON FOUNDATION PLAN NOTES

- CENTER ALL WALL FOOTINGS ON WALL CENTERLINE U.N.O.
- SEE DWGS S-01 & S-02 FOR GENERAL NOTES.
- ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. CONTRACTOR SHALL PROBE BEARING STRATA WITH DRIVEN RODS, REMOVE SHALLOW BEDROCK (AND OVERLYING SOIL) WITHIN TWO FEET BELOW BOTTOM OF FOOTING, AND REPLACE WITH ENGINEERED SOIL BACKFILL.
- THE ANCHOR BOLTS SHALL NOT BE ORDERED OR INSTALLED UNTIL RECEIPT AND APPROVAL BY THE ENGINEER OF STAMPED ANCHOR BOLT SETTING PLANS FROM THE PEMB MANUFACTURER.

LAGOON FOUNDATION LEGEND

- P1 = COLUMN PIER. SEE DETAIL C/S-08.
F35 = ADD #4@12" O.C. E.W. BOTTOM FOR 3'-6" x 3'-6" COLUMN FOOTING.

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BY: BLUEGRASS ENGINEERING DATE: 06/25

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2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS
LAGOON PLAN AND DETAILS

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222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 20177
DATE: OCTOBER 2020
PROJECT MGR: BSM
DRAWN BY: ABJ
CHECKED BY: DK

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RECORD DRAWINGS