

# 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:



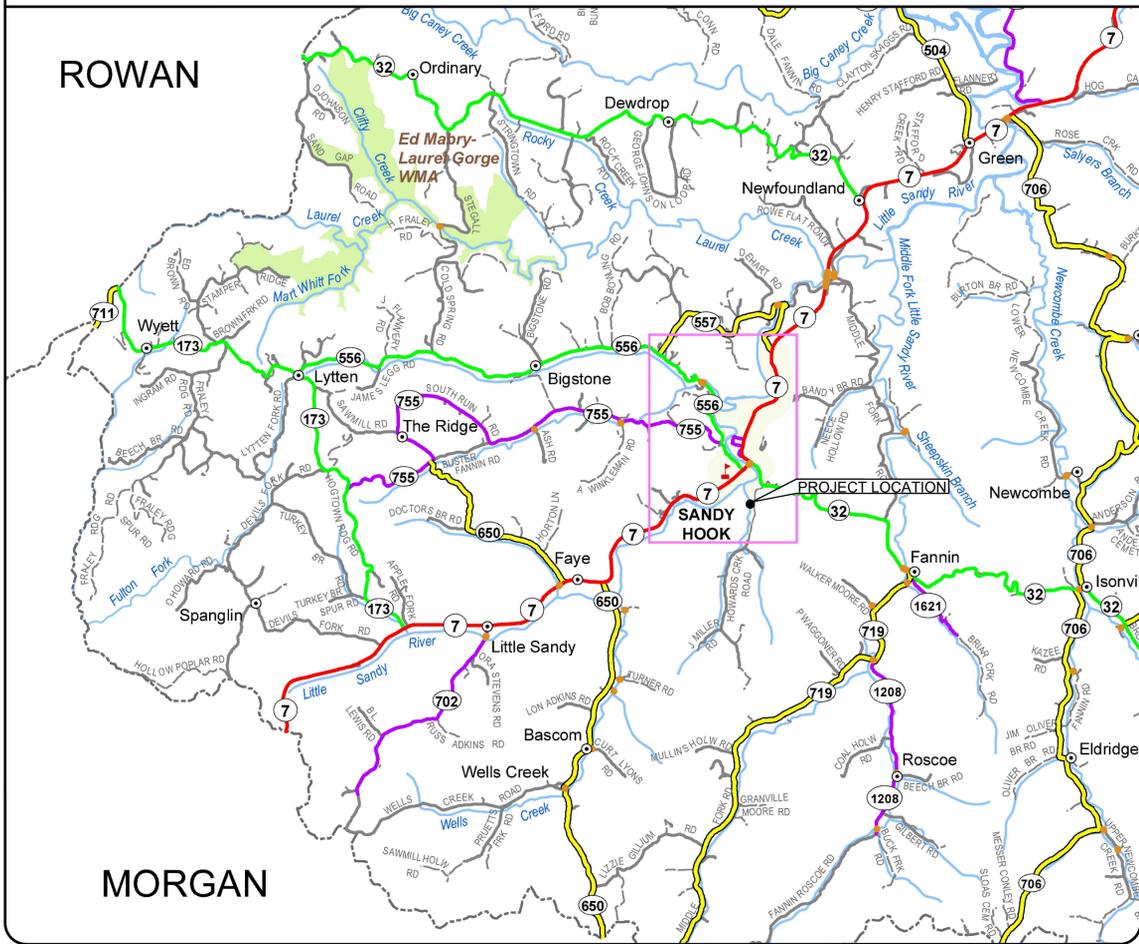
222 East Main Street, Ste. 1 • Georgetown, KY 40324



### PROJECT NO. 19003

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 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.  
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 B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\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.

INDEX OF DRAWINGS

<b>GENERAL</b>		<b>MECHANICAL (PROCESS)</b>		<b>S-05 TYPICAL DETAILS</b>	
-	COVER	M-1-01	WTP BUILDING OVERALL LAYOUT	S-06	TYPICAL DETAILS
G-0-01	GENERAL NOTES, INDEX OF DRAWINGS and LOCATION MAP	M-1-02	WTP BUILDING SECTIONS - HIGH SERVICE, FILTER, AND CHEM FEED ROOM	S-07	SECTIONS
G-0-02	ABBREVIATIONS & METHOD OF SECTIONING/DETAILING	M-1-03	WTP BUILDING SECTIONS - FILTER, BACKWASH, HIGH SERVICE ROOM	S-08	LAGOON PLAN AND DETAILS
G-0-03	GENERAL NOTES & SYMBOLS	M-1-04	WTP BUILDING SECTIONS - FLUORIDE FEED ROOM	<b>MECHANICAL (HVAC &amp; PLUMBING)</b>	
G-0-04	PROCESS FLOW SCHEMATIC	M-1-05	WTP BUILDING SECTIONS - CHLORINE GAS, FILTER ROOMS	M100	FLOOR PLAN - NEW WORK
G-0-05	HYDRAULIC PROFILE	M-1-06	WTP BUILDING SECTIONS - CHEMICAL FEED, FILTER ROOMS	M200	SCHEDULES & DETAILS
<b>CIVIL</b>		M-1-07	WTP BUILDING SECTIONS - TESTING, HIGH SERVICE, BACKWASH ROOMS	P100	PLUMBING PLAN - NEW WORK
C-0-01	ABBREVIATIONS & SYMBOLS	M-1-08	WTP BUILDING LAYOUT - CHEMICAL FEED, PROCESS WATER PIPING	P200	PLUMBING RISER DIAGRAM
C-1-01	AERIAL VIEW - OVERALL SITE PLAN	<b>INSTRUMENTATION</b>		P201	PLUMBING DETAILS
C-1-02	AERIAL VIEW - ENLARGED SITE PLAN	I-1-01	ABBREVIATIONS, LEGEND & SYMBOLS	<b>ELECTRICAL</b>	
C-1-03	SITE GRADING & DRAINAGE PLAN	I-1-02	PRESSURE FILTERS SCHEMATICS	EU-1.1	ELECTRICAL SITE PLAN
C-1-04	SITE LAYOUT & PAVING PLAN	I-1-03	ELECTRICAL FIELD WIRING DIAGRAM	EU-1.2	ELECTRICAL SITE PLAN
C-1-05	YARD PIPING PLAN	I-1-04	PROCESS INSTRUMENTATION PLAN	E-0.1	LIGHTING PLAN
C-1-06	EROSION & SEDIMENTATION CONTROL PLAN	I-1-05	SCADA COMPUTER SYSTEM LAYOUT	E-1.1	LIGHTING PLAN
C-1-07	STREAMBANK STABILIZATION PLAN	I-1-06	SCADA RADIO SYSTEM LAYOUT	E-2.1	GENERAL POWER PLAN
C-1-08	WELL #5 & WATER TREATMENT PLANT SITE MODIFICATIONS	<b>ARCHITECTURAL</b>		E-3.1	LOFT FLOOR PLAN - LIGHTING/POWER
C-2-01	CLEARWELL TANK SECTIONS & DETAILS	A-01	FLOOR PLAN	E-4.1	MECHANICAL EQUIPMENT POWER
C-2-02	CLEARWELL TANK SECTIONS & DETAILS	A-02	LOFT FLOOR PLAN	E-5.1	WATER TREATMENT EQUIPMENT POWER
C-2-03	CLEARWELL TANK STANDARD DETAILS	A-03	REFLECTED CEILING & ROOF PLAN & BACKWASH LAGOON STRUCTURE	E-6.1	WATER TREATMENT EQUIPMENT POWER
C-2-04	CLEARWELL TANK STANDARD DETAILS	A-04	BUILDING ELEVATIONS	E-7.1	WATER TREATMENT EQUIPMENT POWER
C-3-01	BACKWASH LAGOON PLAN	A-05	WALL AND PARTITION TYPES		
C-3-02	HOLDING TANK SECTIONS AND DETAILS	A-06	BUILDING SECTIONS		
<b>DETAILS</b>		A-07	BUILDING SECTIONS		
SD-0-01	STANDARD DETAILS - FENCE & GATES	A-08	BUILDING SECTIONS		
SD-0-02	STANDARD DETAILS - MISCELLANEOUS	A-09	DOOR SCHEDULE & ELEVATIONS AND FINISHES SCHEDULE		
SD-0-03	STANDARD DETAILS - WATER LINES	<b>STRUCTURAL</b>			
SD-0-04	STANDARD DETAILS - PIPE LINES	S-01	GENERAL NOTES		
SD-0-05	STANDARD DETAILS - PIPELINES	S-02	GENERAL NOTES		
SD-0-06	STANDARD DETAILS - GRAVITY SEWER	S-03	FOUNDATION PLAN		
SD-0-07	STANDARD DETAILS - GABION BASKETS	S-04	LOFT FRAMING PLAN		
SD-0-08	STANDARD DETAILS - EROSION CONTROLS				

EXISTING UTILITIES

**Kentucky 811**  
 Know what's below. Call before you dig.

**NOTE:**  
 IN ACCORDANCE WITH KENTUCKY STATE LAW, ANY ACTIVITY THAT RESULTS IN MOVEMENT, PLACEMENT, BORING, PROBING OR DIGGINGS 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

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

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

**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

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

**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



G-0-01

BID SET



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**ABBREVIATIONS**

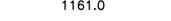
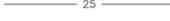
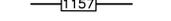
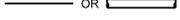
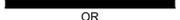
APPROX.	APPROXIMATE
B.O.W.	BOTTOM OF WALL
CB	CATCH BASIN
CSP	CORRUGATED STEEL PIPE
DESCR	DESCRIPTION
DISTR.	DISTRIBUTION
FLG	FLANGE
FM	FORCE MAIN
FUT.	FUTURE
GV	GATE VALVE
INV	INVERT
MH	MANHOLE
OFALL	OUTFALL
OVFLOW	OVERFLOW
PV	PLUG VALVE
PRD	PROCESS DRAIN
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
SD	STORM 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	
⊙ OR ⊚	
⊙ <sup>WM</sup>	
⊙	
⊙	
N/A	
DESCR	
E	
OHE	

**SYMBOLS**

EXISTING	NEW	
N/A	N/A	PROPERTY LINE
		SET BACK LINE
		WOOD OR TREE LINE
		TREE
		FENCE
		SPOT ELEVATION
		CONTOUR
N/A	N/A	WETLAND LIMITS
		SWALE OR DITCH
		BUFFER LINE
		CURB & GUTTER
		SHORELINE
		CONCRETE MONUMENT FOUND
		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 ⊙	 OR 	ELECTRIC MANHOLE/HAND HOLE
N/A		SEWER OR DRAIN MANHOLE
N/A		CHEMICAL MANHOLE
N/A		SECONDARY CONTAINMENT STAND PIPE
N/A	 OR 	YARD PIPING VALVES
⊙ OR ⊚		CLEAN OUT
⊙ OR ⊚ <sup>WM</sup>	N/A	WATER VALVE W/BOX
⊙ <sup>WM</sup>	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.

NO.	DATE	BY

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

**SANDY HOOK**  
  
**WATER DISTRICT**  
 Serving Our Community

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

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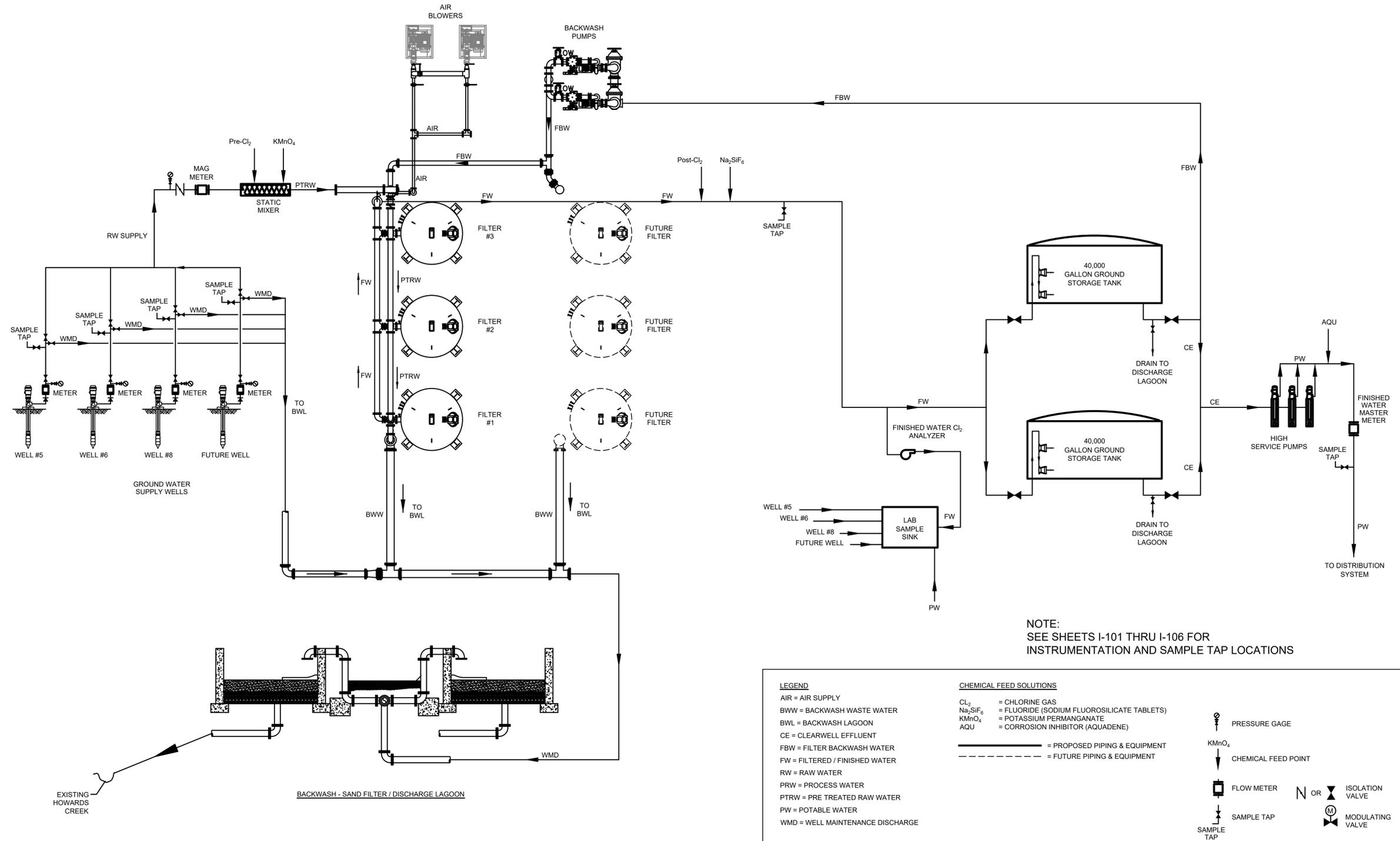
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DATE: APRIL 2022



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

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

**PROCESS FLOW SCHEMATIC**  
NOT TO SCALE

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS  
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 PROCESS FLOW SCHEMATIC

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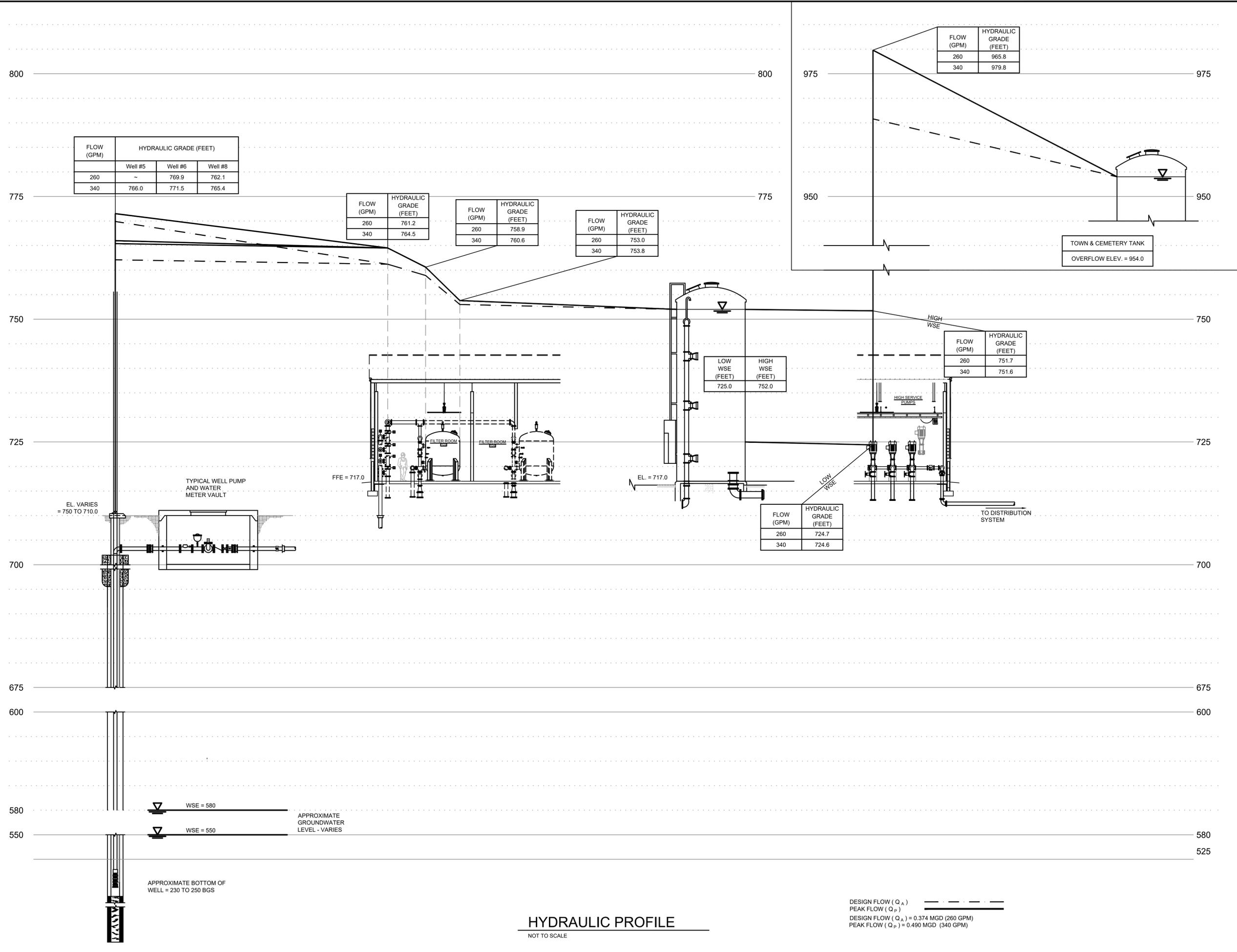
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 CHECKED BY: BKL



G-0-04

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2019 WATER SYSTEM IMPROVEMENTS  
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**HYDRAULIC PROFILE**

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

PROJECT #:	19003
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DRAWN BY:	BKL
CHECKED BY:	BKL



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**PIPE AND FITTING SYMBOLS**

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPING
		PIPING
		FLANGED JOINT
		WELDED JOINT
		MECHANICAL JOINT
		SLEEVE-TYPE MECHANICAL COUPLING
		ELBOW UP
		ELBOW DOWN
		90° ELBOW IN PLANE
		45° ELBOW IN PLANE
		TEE UP
		TEE DOWN
		TEE IN PLANE
		CROSS
		LATERAL WYE UP
		LATERAL WYE DOWN
		LATERAL WYE IN PLANE
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		WYE
		STRAINER
		SEDIMENT TRAP
		TRAP
		CLEANOUT
		DRAIN (PLAN)
		DRAIN (SCHEMATIC)
		QUICK CONNECTION
		FLEX CONNECTION

**VALVE AND GATE SYMBOLS**

	BUTTERFLY VALVE
	CHECK VALVE
	BALL VALVE
	GLOBE VALVE
	GATE VALVE
	ECCENTRIC PLUG VALVE (SEAT END SHADED)
	COCK VALVE
	NEEDLE VALVE
	KNIFE GATE VALVE
	BALANCING VALVE
	DIAPHRAGM VALVE
	PINCH VALVE
	PRESSURE REDUCING VALVE
	BACK PRESSURE VALVE
	ANGLE VALVE
	ANGLE GATE VALVE
	ANGLE GLOBE VALVE
	3 WAY VALVE
	3 WAY BALL VALVE
	3 WAY GLOBE VALVE
	TELESCOPING VALVE
	PRESSURE RELIEF VALVE
	RPZ BACKFLOW VALVE
	MUD VALVE
	HOSE BIBB
	FLUSHING CONNECTION
	SAMPLE TAP
	SLUICE GATE
	PREFABRICATED SLIDE GATE, WEIR GATE OR STOP PLATE
	DIAPHRAGM
	MOTOR OPERATED
	CYLINDER OPERATED
	CYLINDER-HYDRAULIC
	CYLINDER-PNEUMATIC
	CONTROL

**MISCELLANEOUS SYMBOLS**

	FLEXIBLE HOSE
	CALIBRATION PIPE STAND
	POINT OF CONNECTION
	AIR VENT AUTO
	AIR VENT MANUAL
	ROTAMETER
	RUPTURE DISK
	FLAME ARRESTOR
	PULSATION DAMPENERS
	PIPE SLOPE
	PIPE CAP
	GATE
	FIRE HYDRANT (F.H.)
	YARD HYDRANT (Y.H.)

**FLOW STREAM LINE SYMBOLS**

	FLOW DIRECTION
	FLOW STREAM CONTINUATION
	EXISTING PIPE
	NEW PIPING
	CONNECTING LINES
	NON-CONNECTING LINES

**ABBREVIATIONS**

ABAND	ABANDONED
APPROX	APPROXIMATE
AUX	AUXILIARY
AV	AIR/VACUUM VALVE
B'FLY	BUTTERFLY
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
DEMO	DEMOLISH
DEMO'D	DEMOLISHED
DIP	DUCTILE IRON PIPE
EL, ELEV	ELEVATION
EX, EXIST	EXISTING
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FL	FLOOR, FLANGE
GAL	GALLON
H	HORIZONTAL
INV	INVERT
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
NPT	NATIONAL PIPE THREAD
PAC	POWDERED ACTIVATED CARBON
PVC	POLYVINYL CHLORIDE
REQ'D	REQUIRED
RPM	REVOLUTIONS PER MINUTE
SD	STANDARD DETAIL
S.S.	SERVICE SINK
SSI/SST	STAINLESS STEEL
SWD	SIDE WATER DEPTH
THRU	THROUGH
TYP	TYPICAL
W/	WITH
WH	WATER HEATER
WSE	WATER SURFACE ELEVATION
V	VERTICAL
VCP	VITRIFIED CLAY PIPE

**SYMBOLS**

	PLAN NORTH (PLAN SHEETS)
	DETAIL SYMBOL
	SECTION CUT
	SECTION TITLE
	BENCHMARK LOCATION
	HORIZONTAL CONTROL POINT LOCATION
	SPOT GRADE (PROPOSED)
	SPOT GRADE (EXISTING)

**SYMBOLS**

	EXISTING STRUCTURE
	NEW STRUCTURE
	EXISTING PIPING TO REMAIN
	NEW PIPING
	PIPING OVER / UNDER
	FH FIRE HYDRANT
	YH FREEZE PROOF YARD HYDRANT
	CO CLEANOUT, (FLUSH W/FIN.GR.)
	MANHOLE
	FLEXIBLE COUPLING
	RESTRAINED FLEXIBLE COUPLING
	FLANGED COUPLING ADAPTER
	FLANGED JOINT PIPING
	MECHANICAL JOINT PIPING
	WATER SURFACE ELEVATION
	HANDWHEEL OPERATED FLOORSTAND
	GRATING
	DOPPLER FLOW METER
	SLUICE GATE
	GATE VALVE
	BALL VALVE
	MOTORIZED BALL VALVE
	PLUG VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	MOTOR OPERATOR
	3 WAY PLUG VALVE
	PINCH VALVE
	FLEXIBLE CONNECTOR, NON-SLIDING EXPANSION JOINT
	STOP PLATE
	STRAP ON SONIC METER
	PROPOSED BITUMINOUS PAVEMENT
	PROPOSED CRUSHED STONE
	FINISHED GRADE
	SOLID ROCK
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING FENCE
	NEW SECURITY FENCE

NO.	DATE	REVISIONS	BY

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

**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



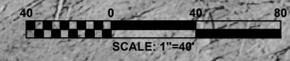
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NO.	DATE	REVISIONS	BY

**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

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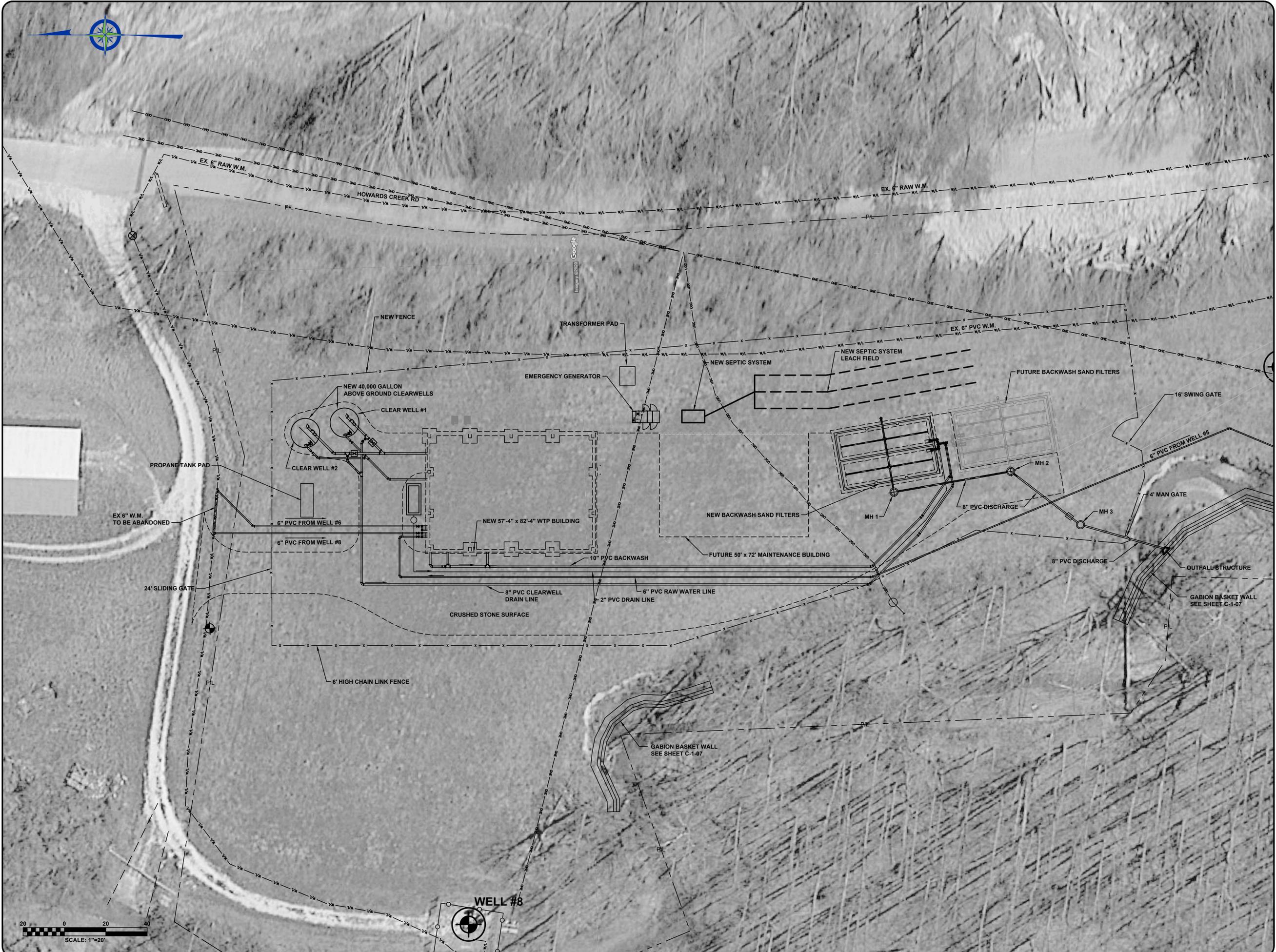
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2019 WATER SYSTEM IMPROVEMENTS  
 CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS  
 AERIAL VIEW  
 ENLARGED SITE PLAN

**SANDY HOOK WATER DISTRICT**  
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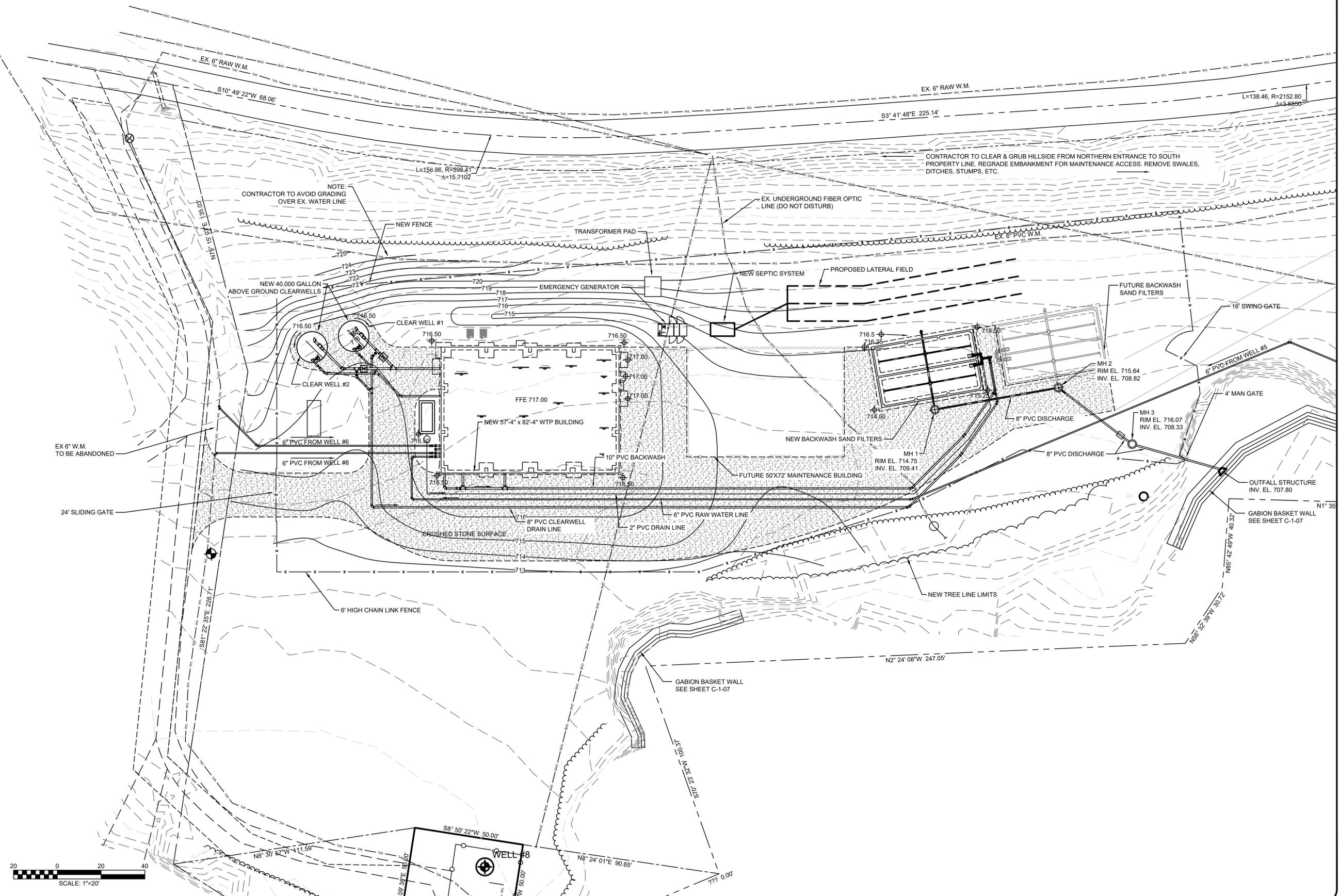
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NO.	DATE	REVISIONS	BY

**2019 WATER SYSTEM IMPROVEMENTS**  
**CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS**  
**SITE GRADING & DRAINAGE PLAN**

**SANDY HOOK WATER DISTRICT**  
**BLUEGRASS ENGINEERING, PLLC**  
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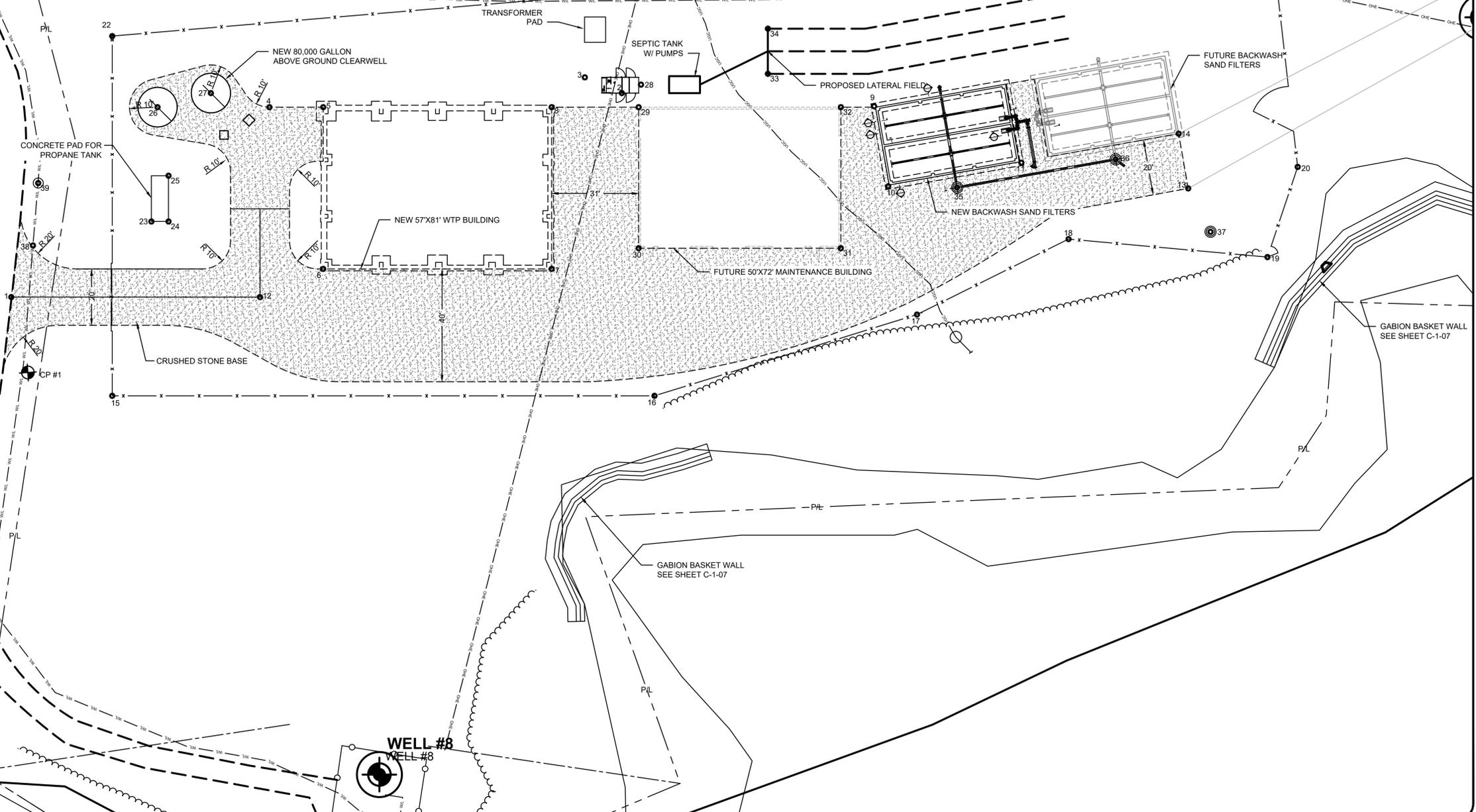
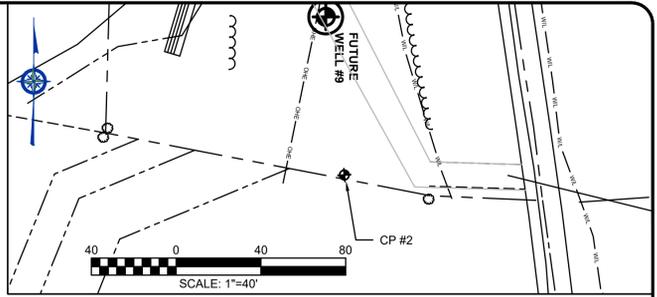
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ID	EASTING	NORTHING	DESCRIPTION
1	5676842.4423	3927833.0144	CL ROAD
2	5676914.7718	3927615.6257	GENERATOR PAD
3	5676920.3388	3927628.7815	GENERATOR PAD
4	5676909.7625	3927741.0945	EDGE PAVEMENT
5	5676909.7625	3927721.9493	CORNER WTP BLDG.
6	5676852.4292	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

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



NO.	DATE	BY	REVISIONS

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

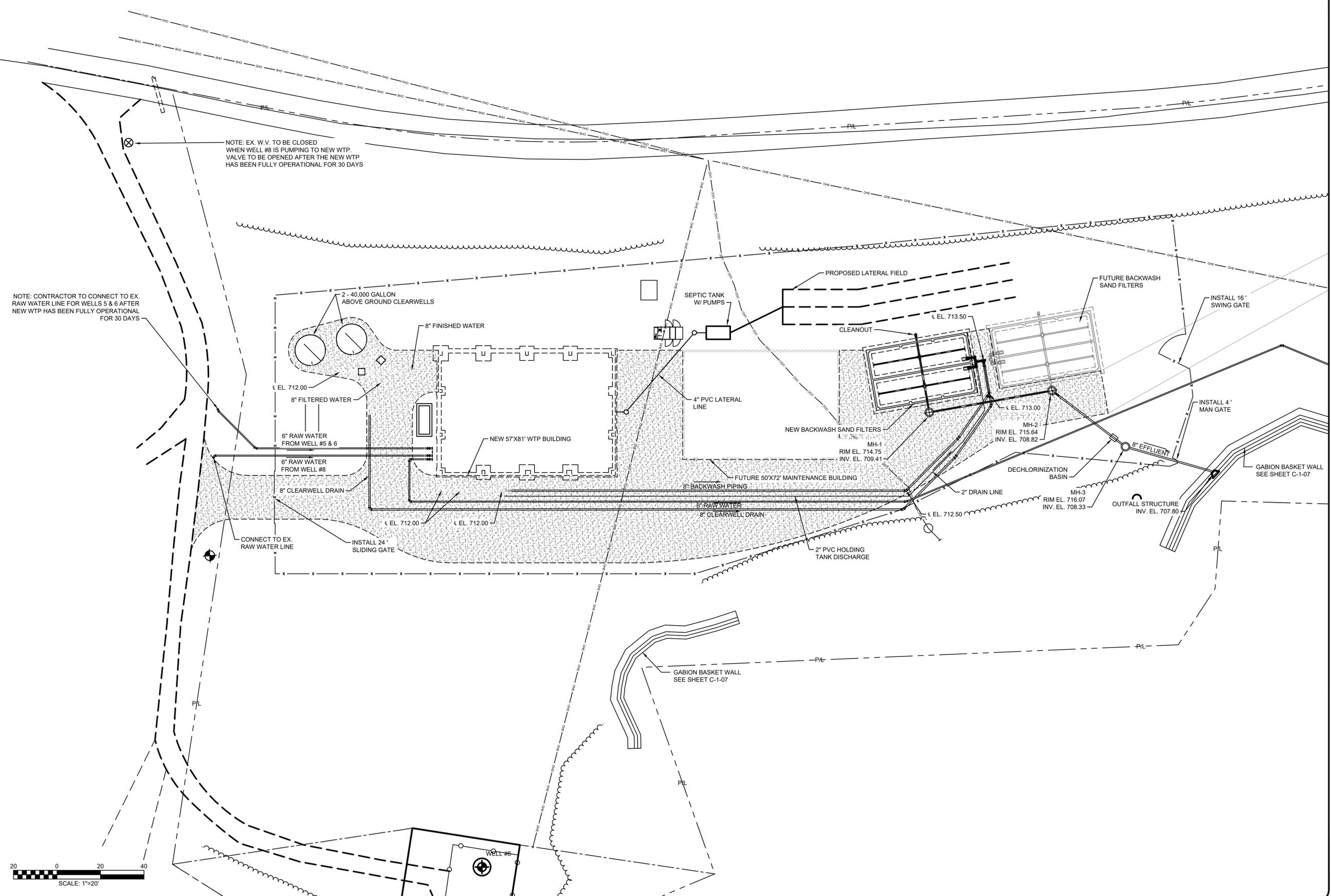
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PROJECT MGR:	LRS
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NOTE: EX. W.V. TO BE CLOSED WHEN WELL #8 IS PUMPING TO NEW WTP. VALVE TO BE OPENED AFTER THE NEW WTP HAS BEEN FULLY OPERATIONAL FOR 30 DAYS

NOTE: CONTRACTOR TO CONNECT TO EX. RAW WATER LINE FOR WELLS 5 & 6 AFTER NEW WTP HAS BEEN FULLY OPERATIONAL FOR 30 DAYS



NO.	DATE	REVISIONS	BY

**2019 WATER SYSTEM IMPROVEMENTS**  
**CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS**  
**YARD PIPING 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  
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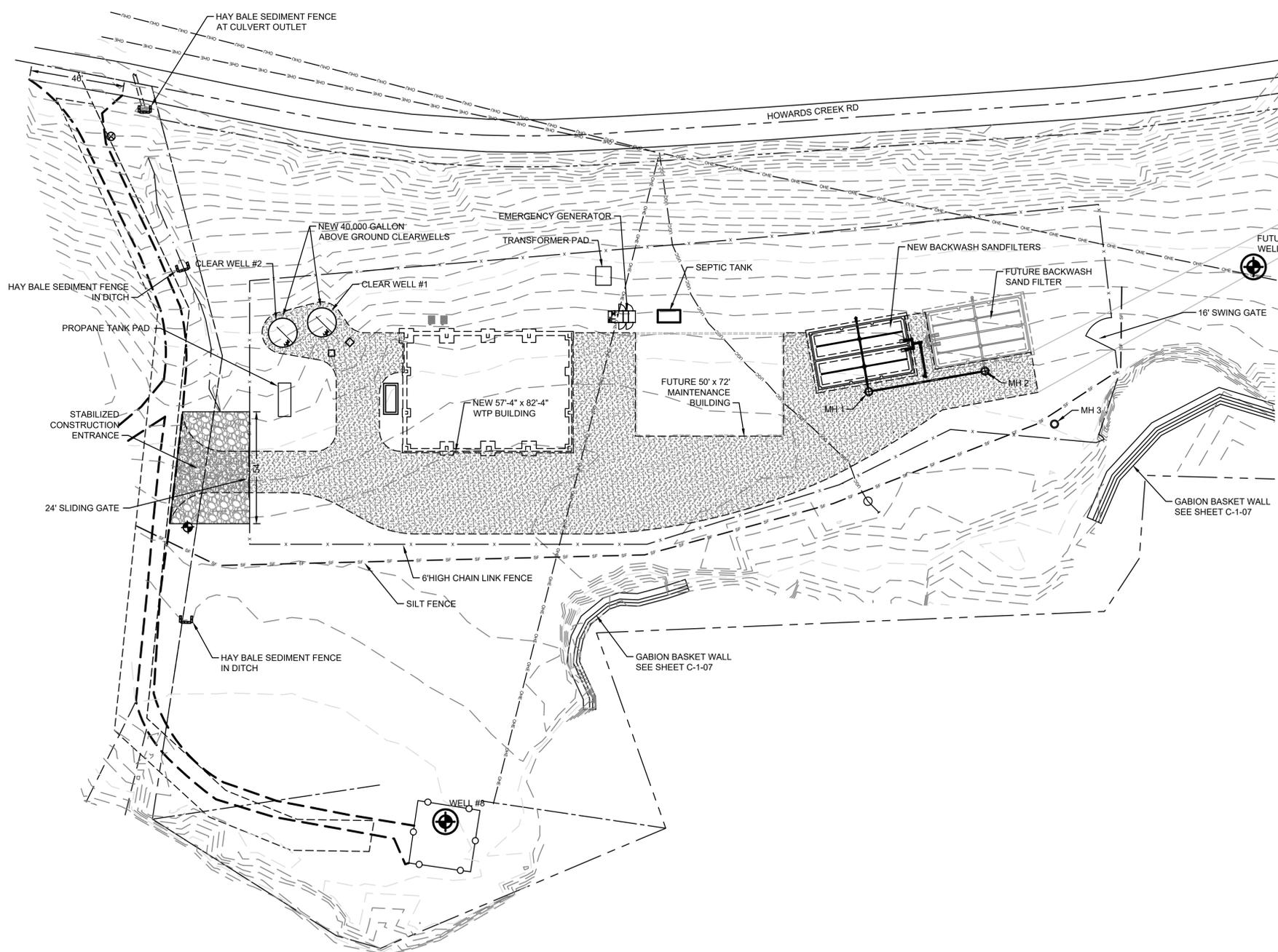
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**LEGEND**

- 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 ENGINEER 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 UNDERROUT 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).

NO.	DATE	REVISIONS	BY

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

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

PROJECT #: 19003  
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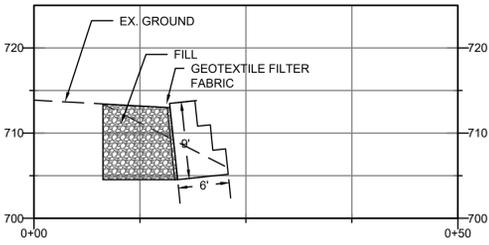
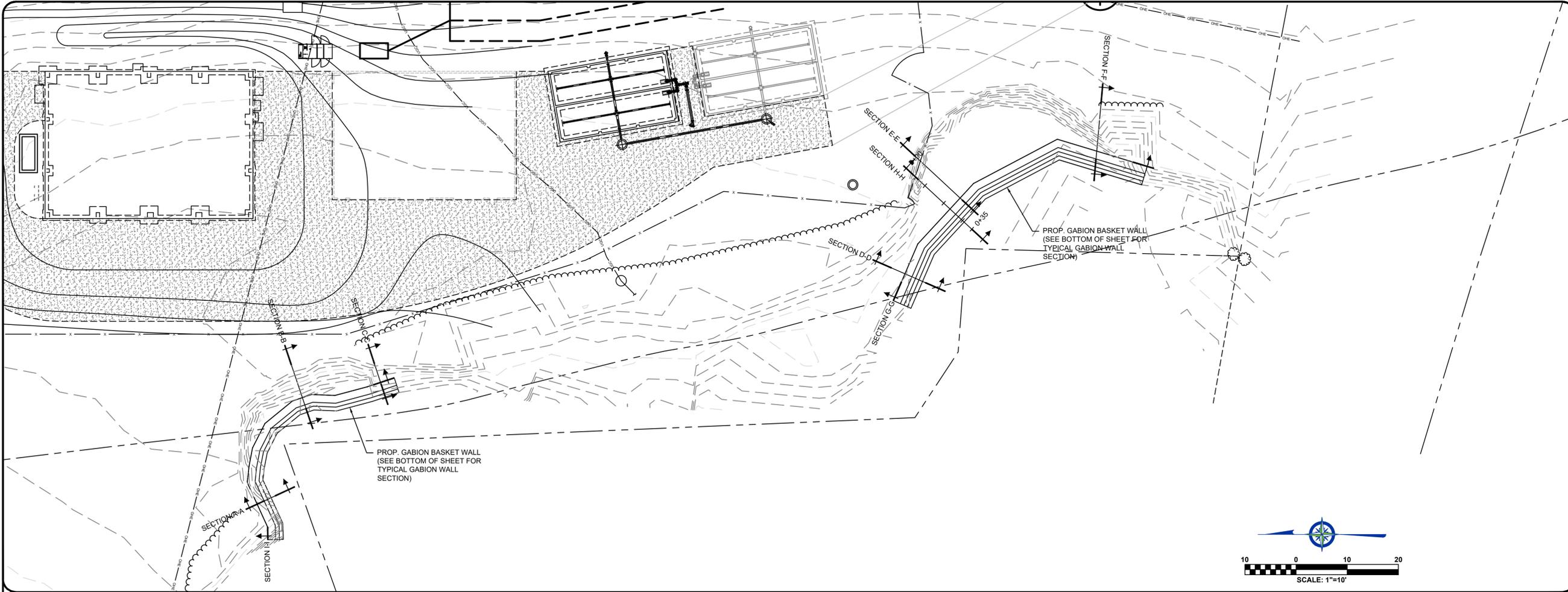
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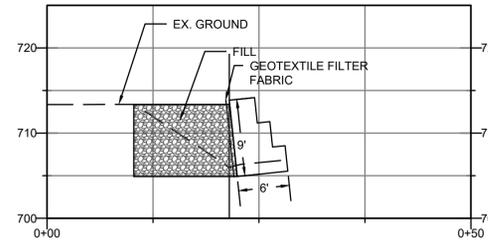
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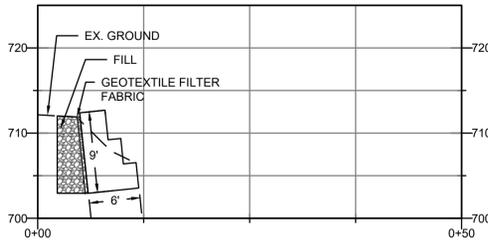
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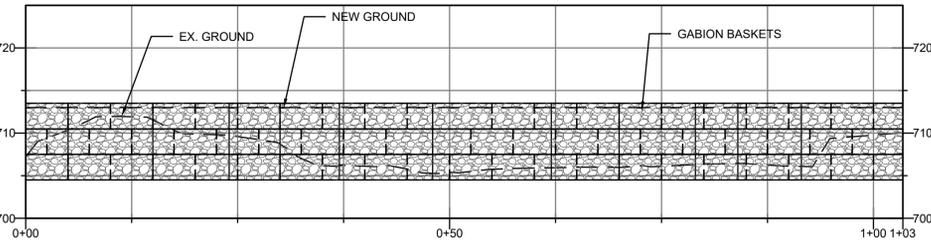
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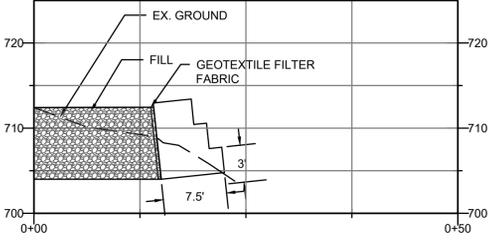
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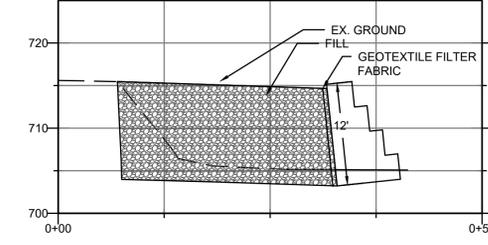
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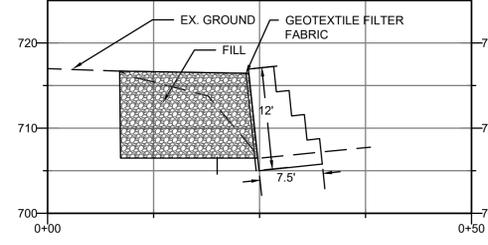
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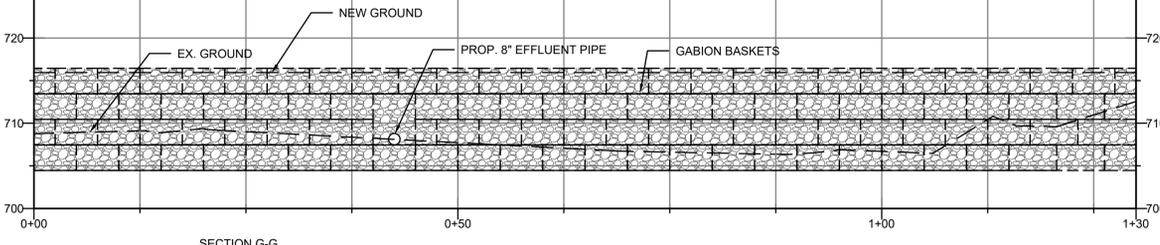
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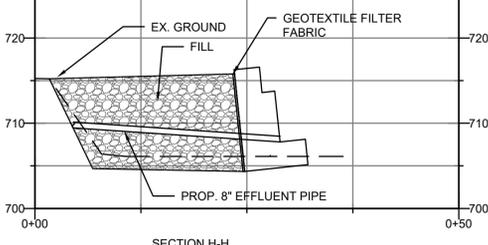
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

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

NO.	DATE	BY

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

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

PROJECT #: 19003  
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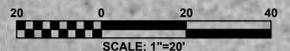
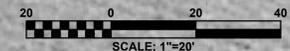
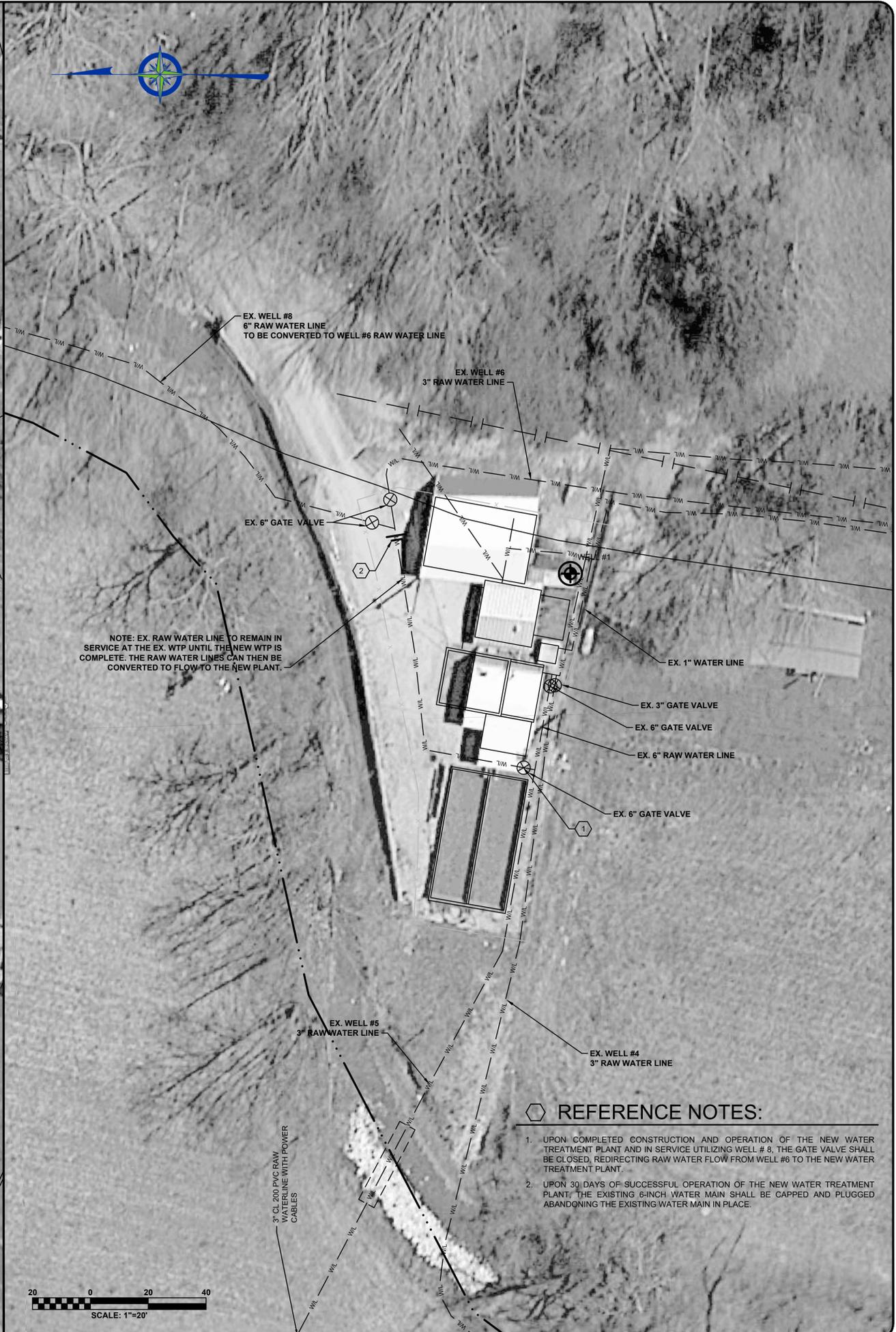
C-1-07

BID SET

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BE 4/26/22  
 B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\19003-12-C-1-08.dwg



**REFERENCE NOTES:**

1. 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.
2. 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 TREATMENTS**  
**PLANT SITE MODIFICATIONS**

**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-1-08

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B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\19003-12-C-201.dwg BE 4/26/22

**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:**

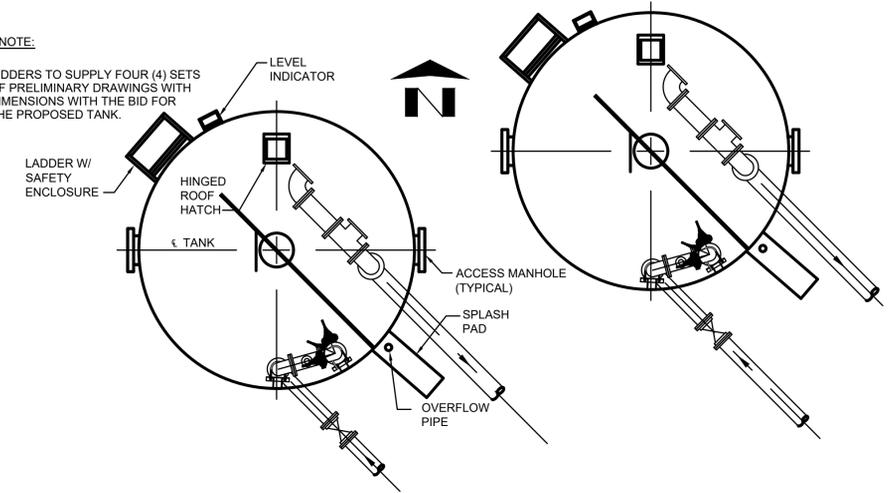
ANY BORING LOGS AND RELATED INFORMATION SHOWN ON THESE DRAWINGS OR IN THE SPECIFICATIONS DEPICT APPROXIMATE SUBSURFACE CONDITIONS ONLY AT THE TIME OF DRILLING. SOIL CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THE BORING LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE 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.

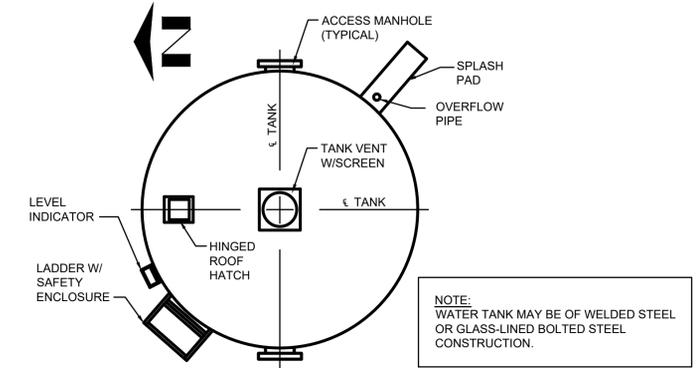
**BID NOTE:**

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



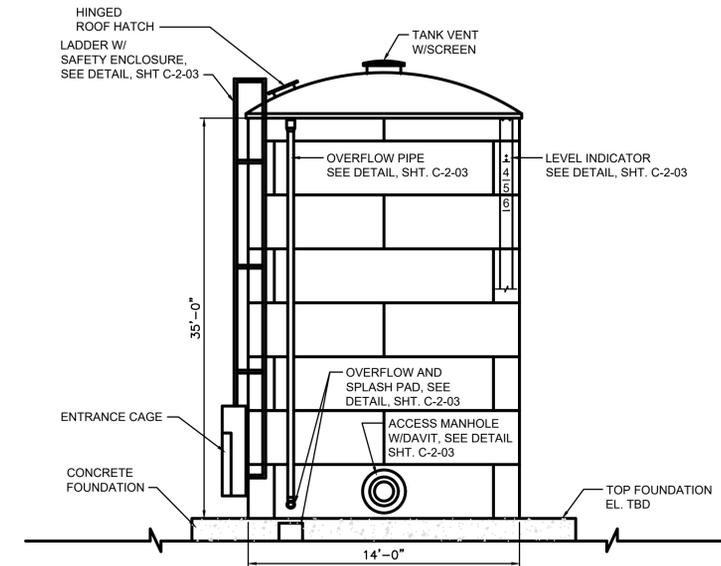
**2 - 40,000 CLEARWELL TANK - SITE LAYOUT**

NOT TO SCALE



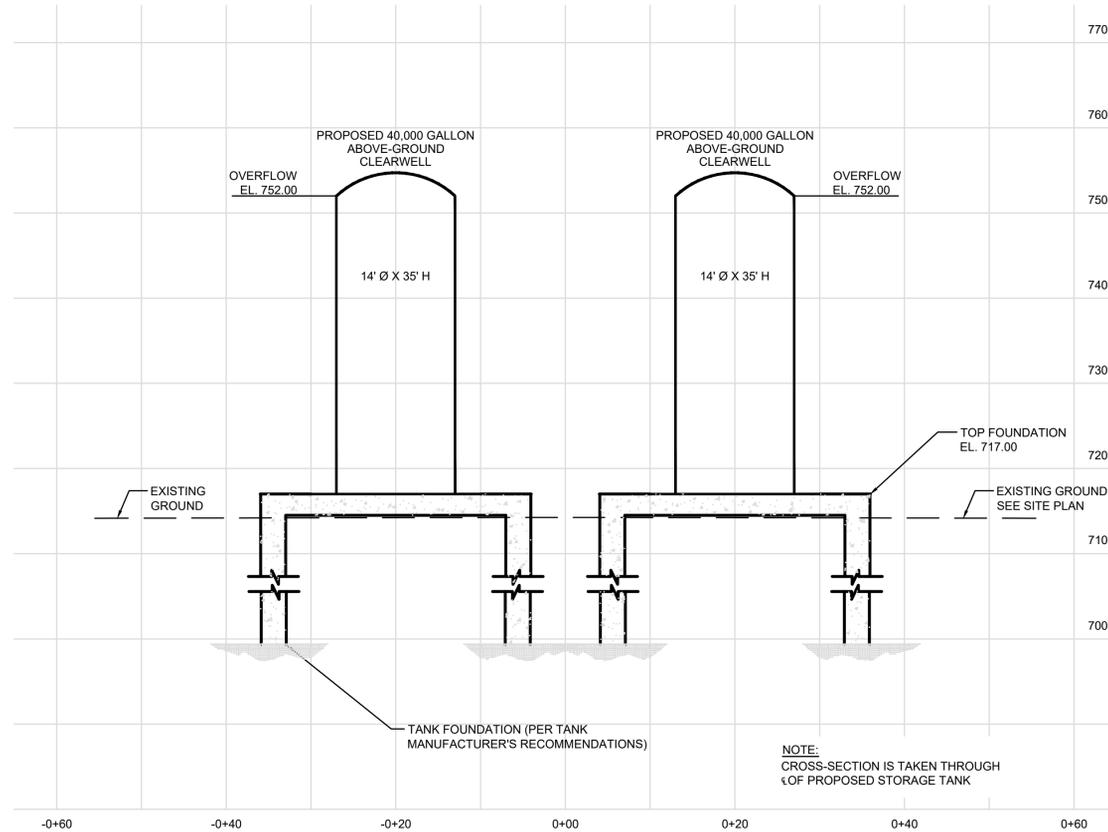
**40,000 CLEARWELL TANK - PLAN**

NOT TO SCALE



**40,000 CLEARWELL TANK - ELEVATION**

NOT TO SCALE



**SECTION**

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



NOTE:  
CROSS-SECTION IS TAKEN THROUGH  
OF PROPOSED STORAGE TANK

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



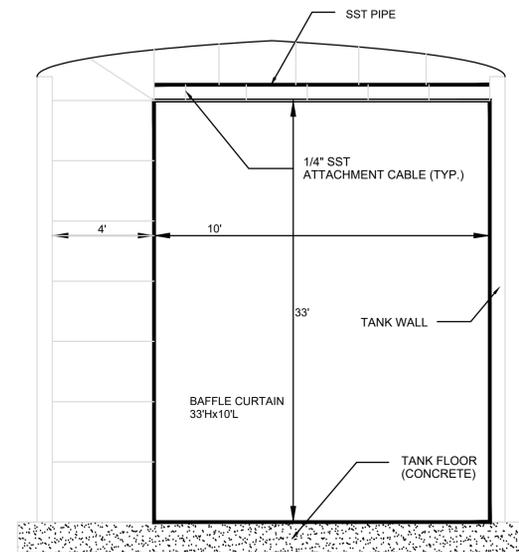
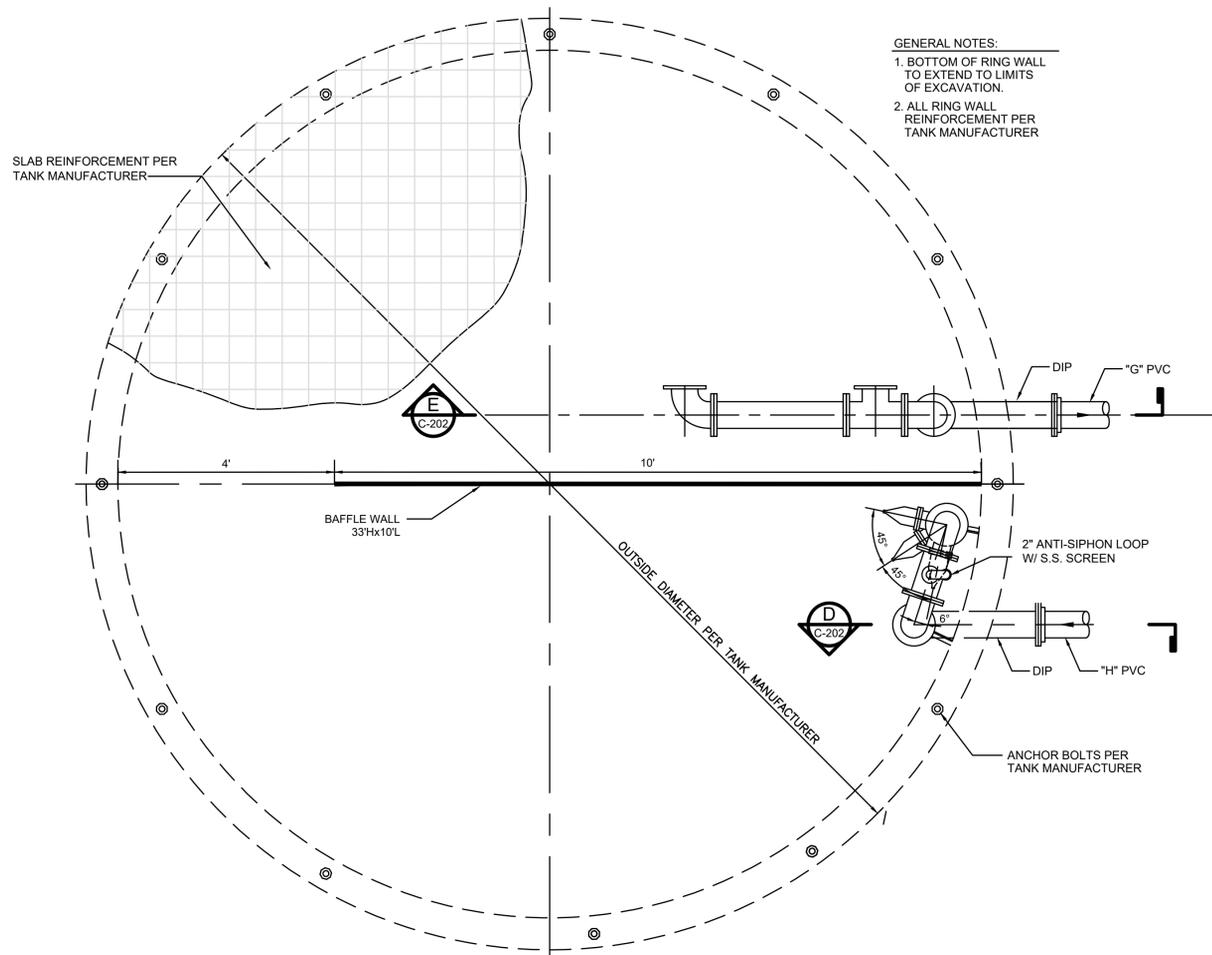
C-2-01

BID SET

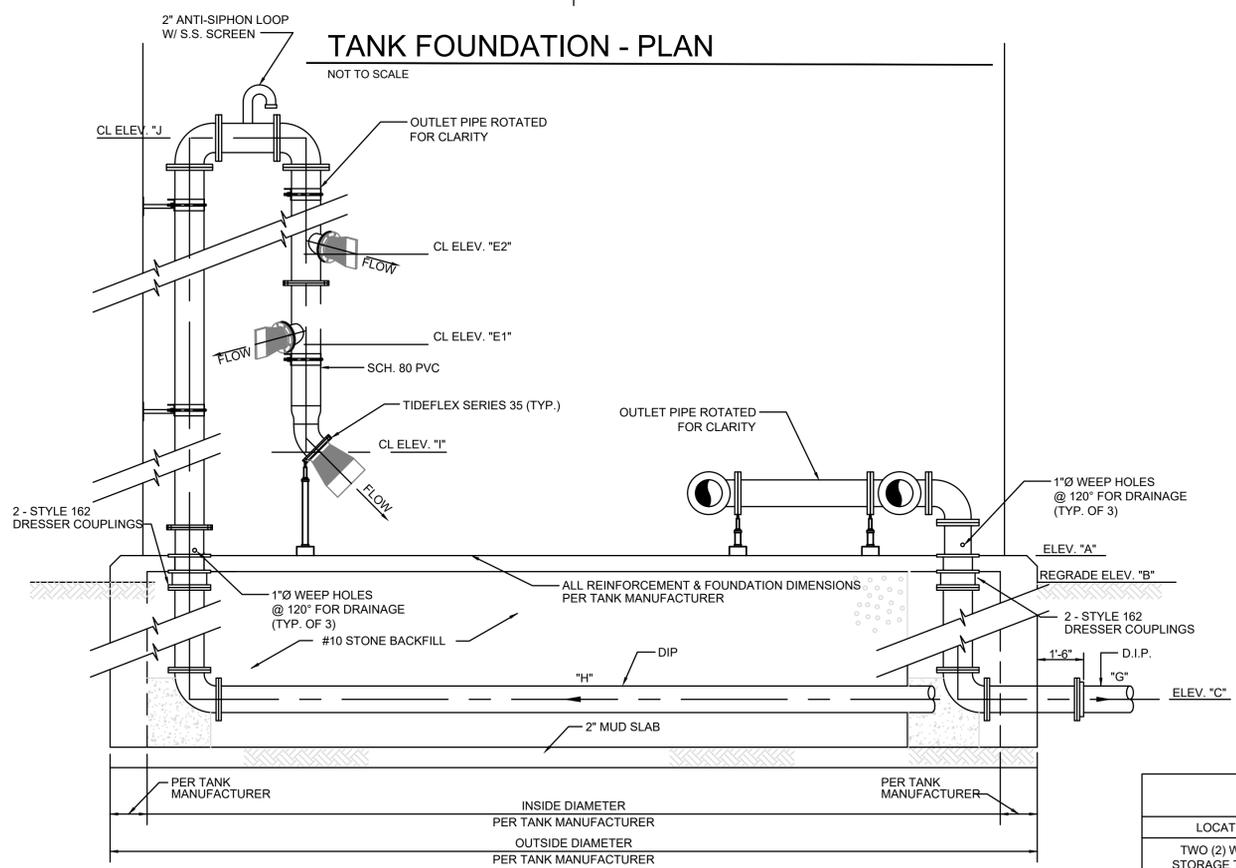
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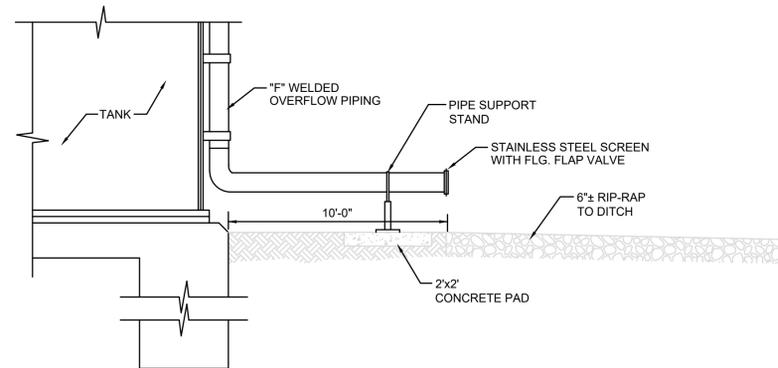
B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\19003-12-C-202.dwg BE 4/26/22



**BAFFLE CURTAIN SUSPENSION DETAIL**  
NOT TO SCALE



**TANK FOUNDATION - SECTION**  
NOT TO SCALE



**OVERFLOW and SPLASH PAD DETAIL**  
NOT TO SCALE

TYPICAL ELEVATIONS AND LINE SIZES												
LOCATION	APPROX. DIA.	APPROX. HGT.	"A"	"B"	"C"	"E1 / E2"	"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 / 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**  
 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



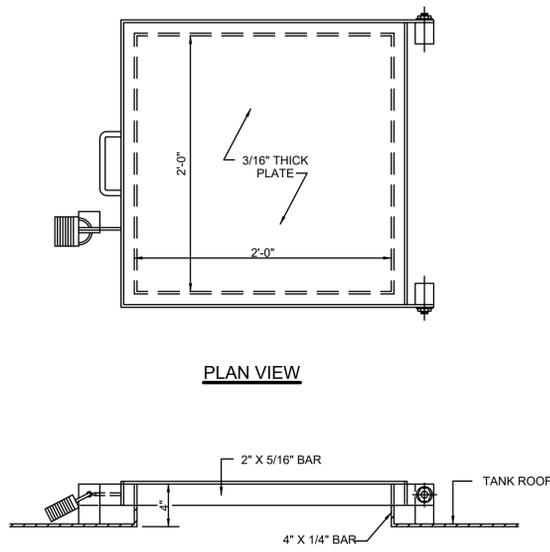
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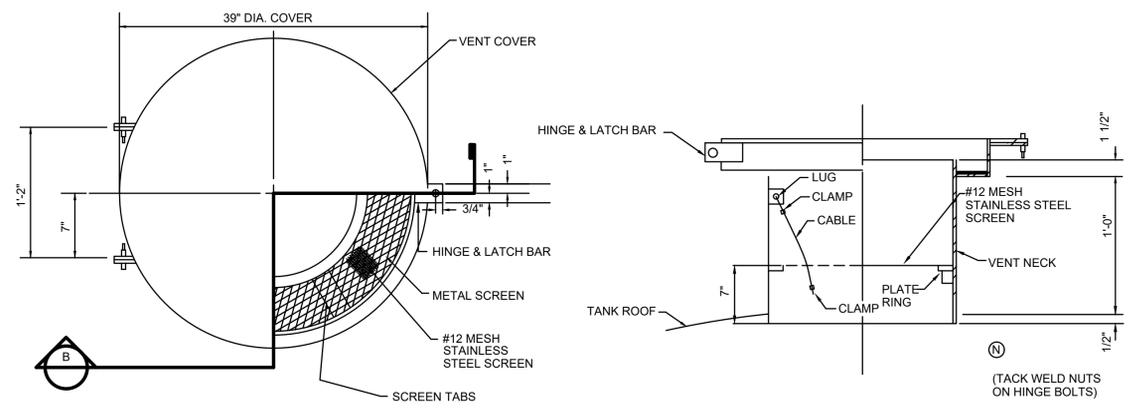
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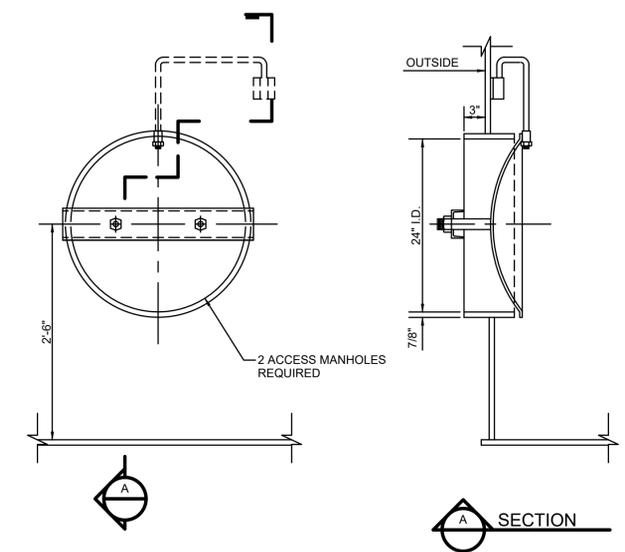


**24" ROOF MANHOLE**  
 SCALE: 1 1/2" = 1'-0"

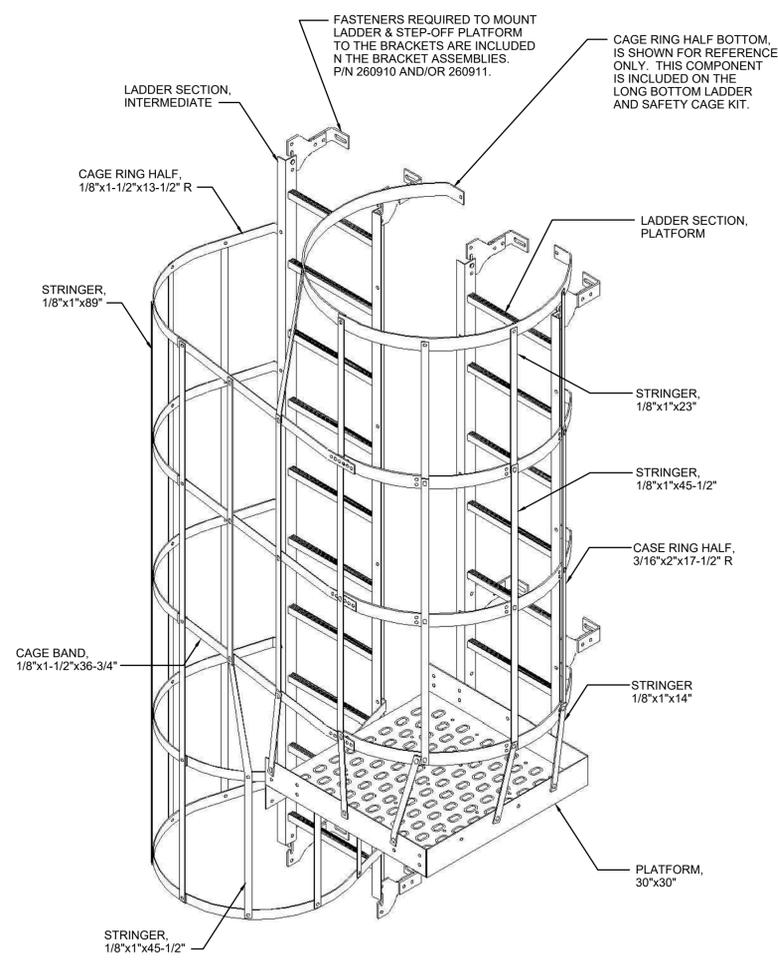


**24" DIAMETER ROOF VENT**  
 SCALE: 1 1/2" = 1'-0"

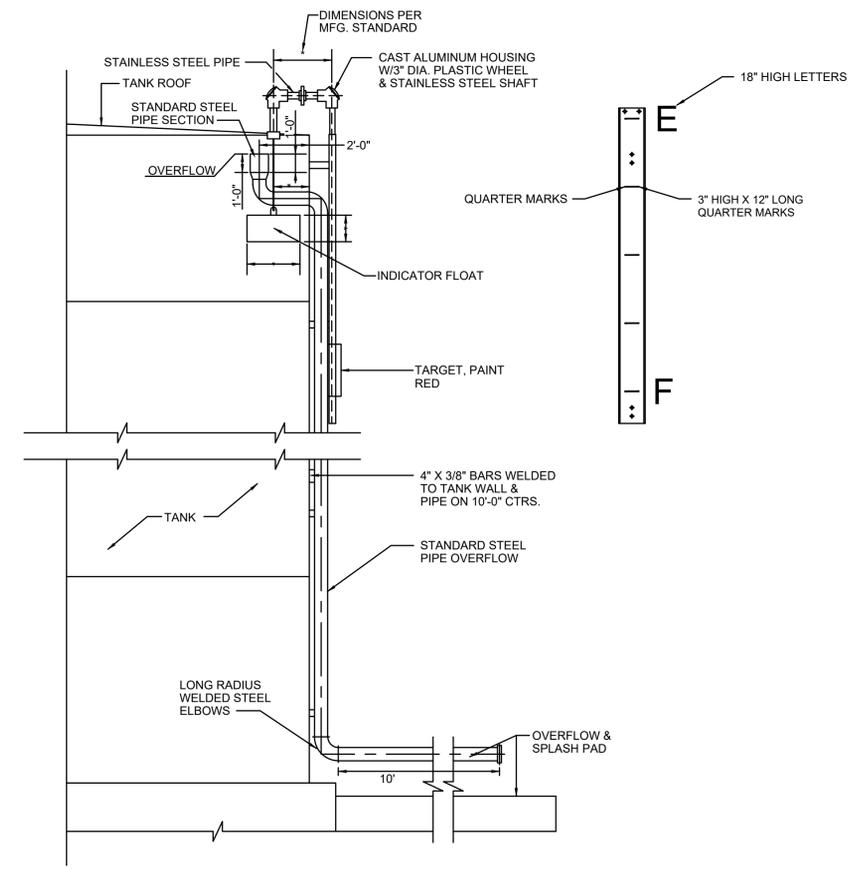
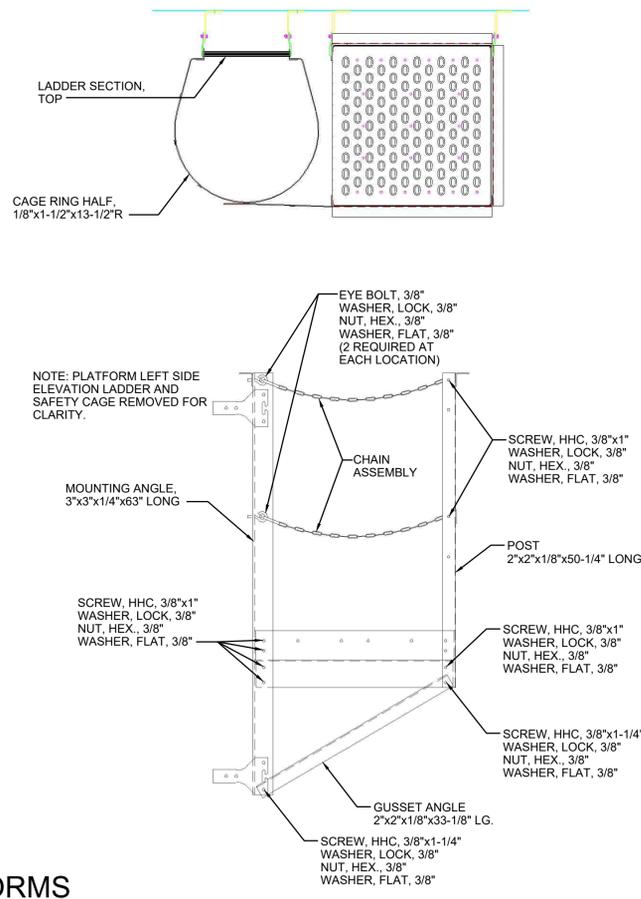
NOTE:  
 SHOP TO FIT VENT WITH 1"x1" LUG W/ HOLE FOR 1/8" Ø STAINLESS STEEL CABLE W/ (2) CABLE CLAMPS AS SHOWN. ASSEMBLY TO SUPPORT SCREEN IN EVENT OF FAILURE.



**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"

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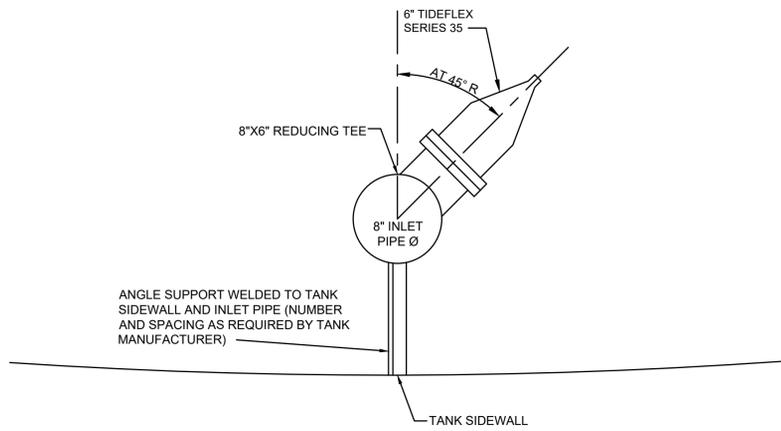
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DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



C-2-03

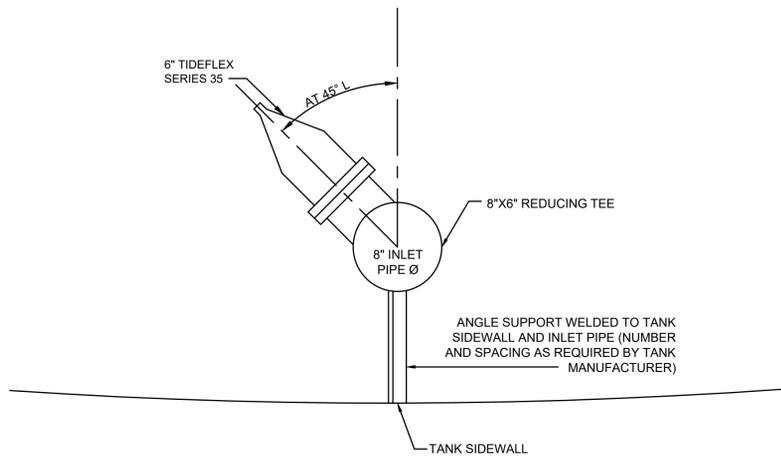
BID SET

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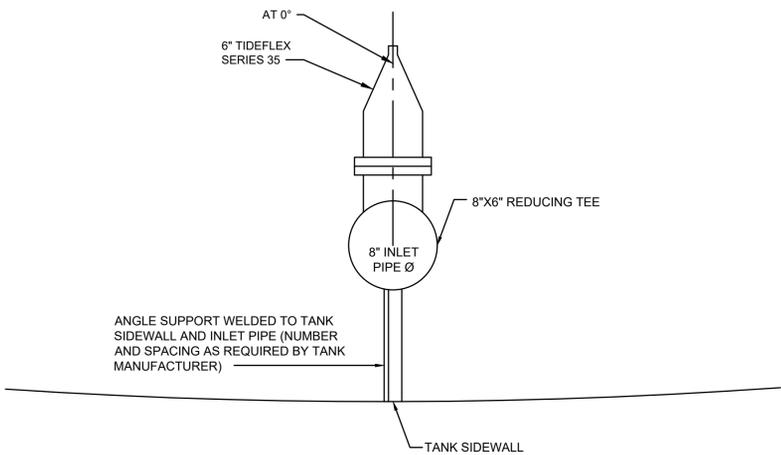
**SERIES 35 TIDEFLEX VALVE - PLAN VIEW @ 741.00 LEVEL**

NOT TO SCALE



**SERIES 35 TIDEFLEX VALVE - PLAN VIEW @ 725.00 LEVEL**

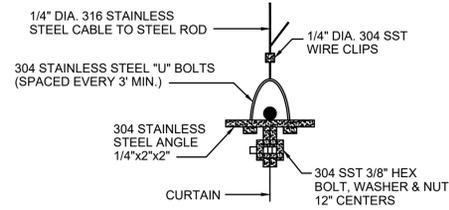
NOT TO SCALE



**SERIES 35 TIDEFLEX VALVE - PLAN VIEW @ 718.50 LEVEL**

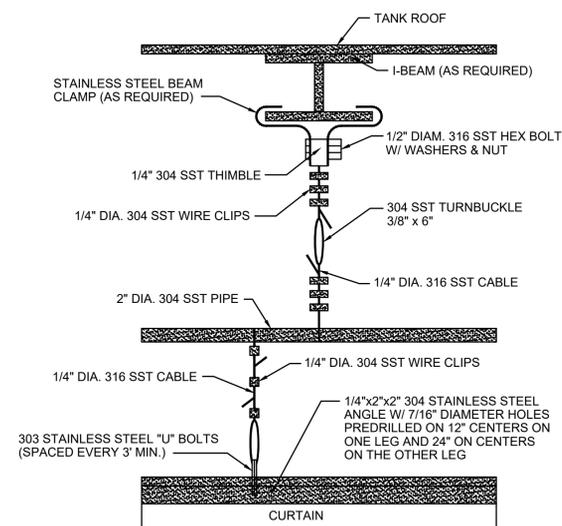
NOT TO SCALE

**INLET PIPE**



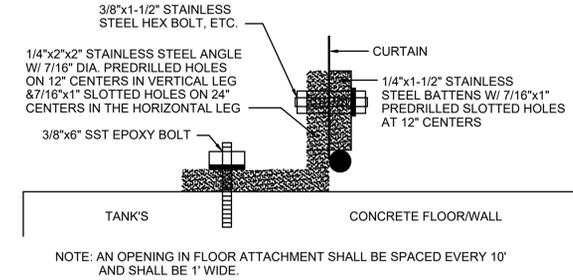
**CEILING ATTACHEMENT DETAIL  
BAFFLE CURTAIN SUSPENSION DETAIL**

NOT TO SCALE



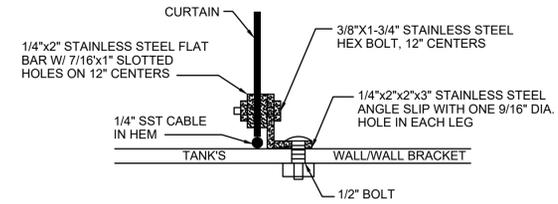
**CEILING ATTACHMENT DETAIL**

NOT TO SCALE



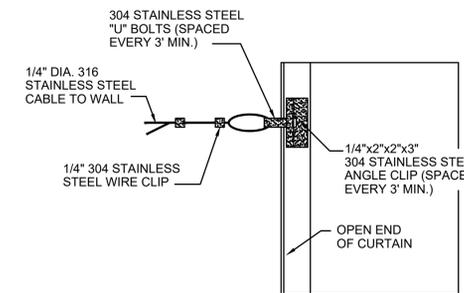
**FLOOR ATTACHMENT DETAIL  
ANCHOR SYSTEM W/  
STAINLESS STEEL BATTENS**

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

NO.	DATE	REVISIONS	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



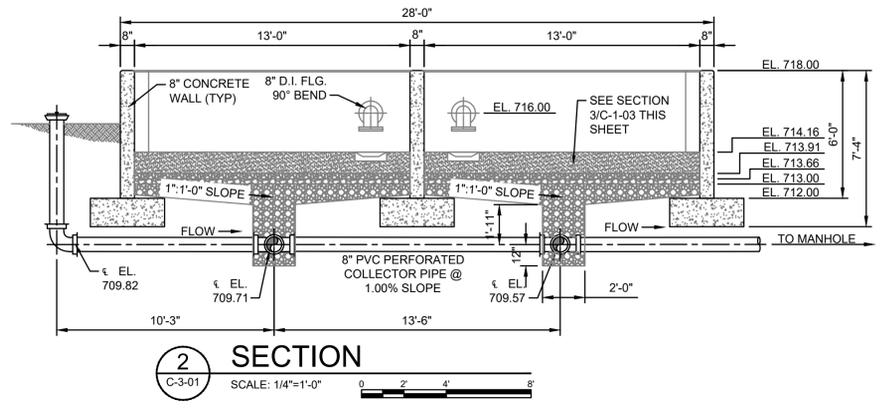
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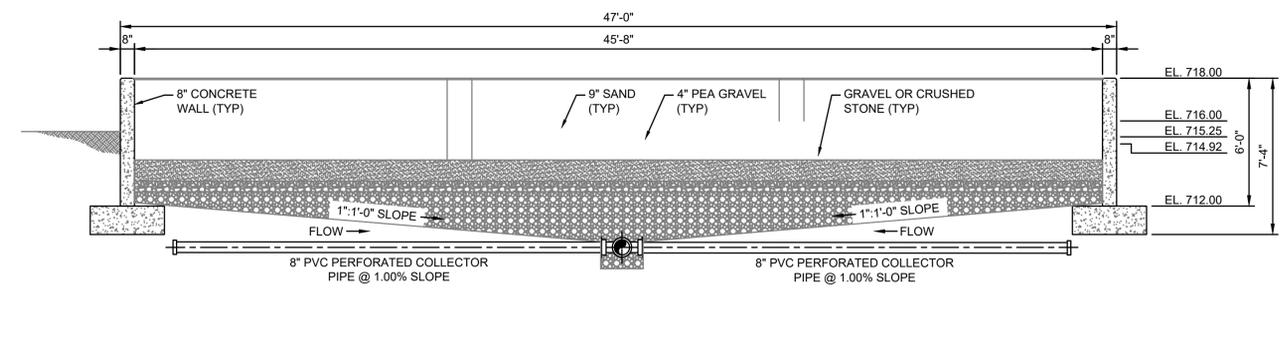
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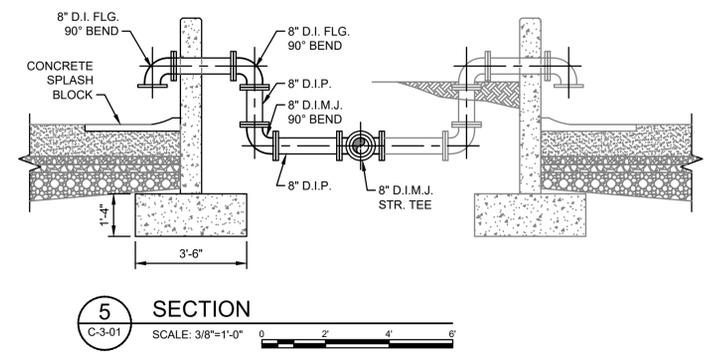
PROJECT: Sandy Hook Water/19003 - 2019 Water System Improvements/DWG/Contract 12 - WTP/m-model backwash lagoon-plan.dwg  
 BE 4/28/22



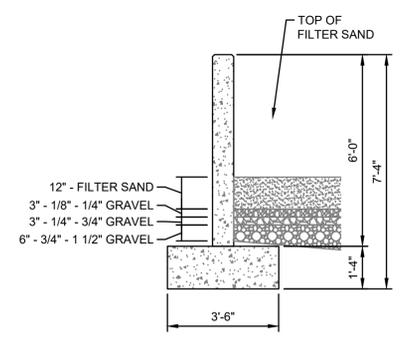
**2 SECTION**  
 C-3-01 SCALE: 1/4"=1'-0"



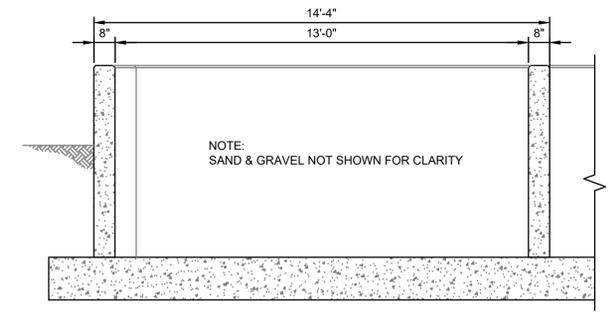
**1 SECTION**  
 C-3-01 SCALE: 1/4"=1'-0"



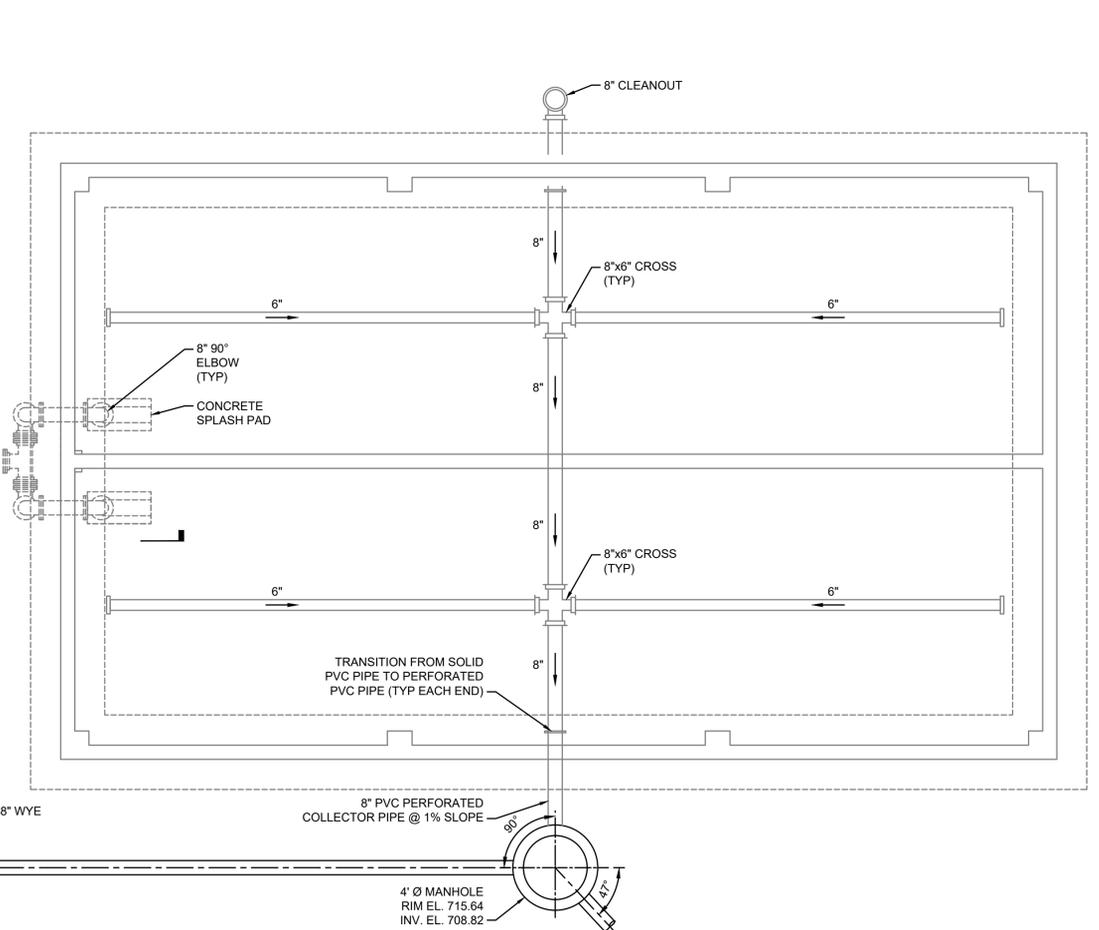
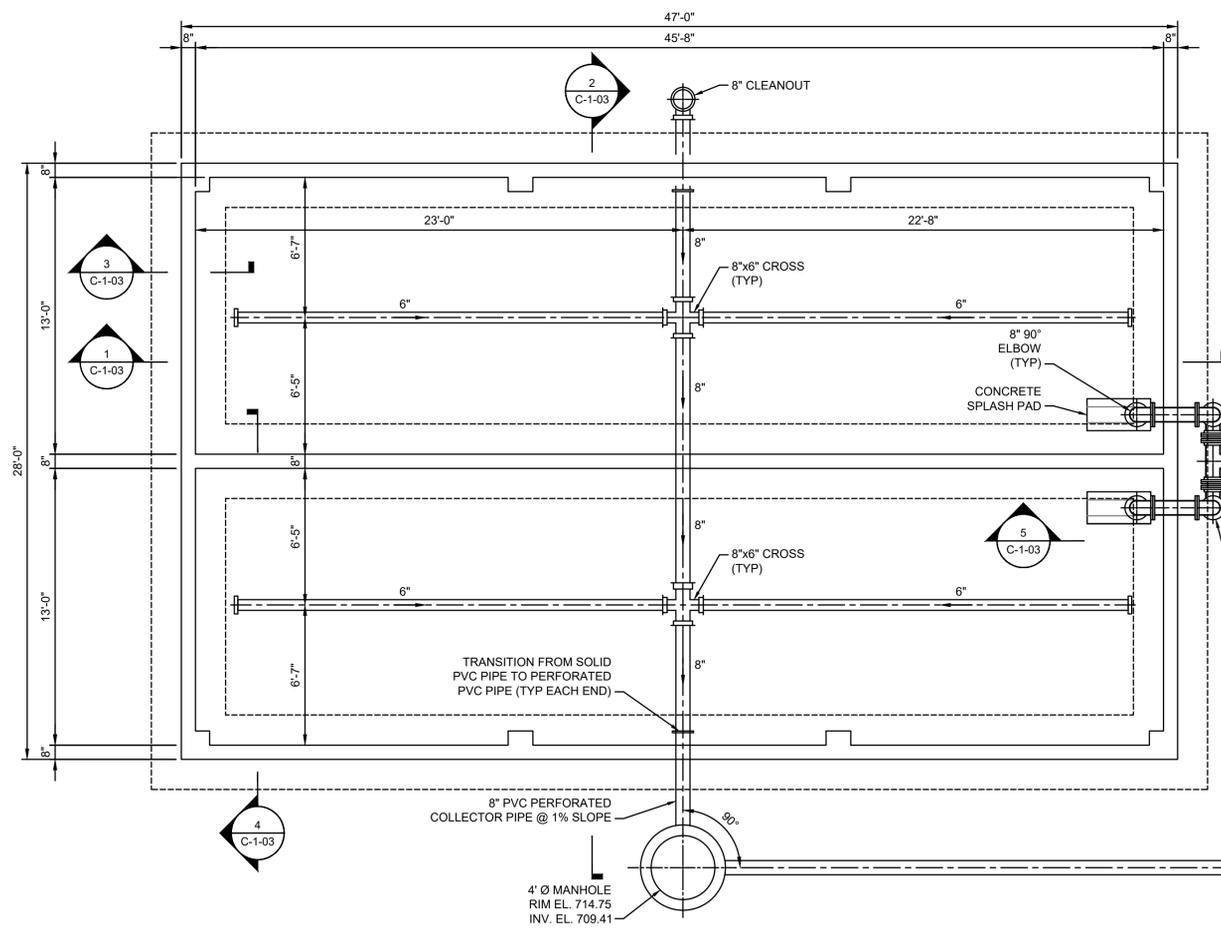
**5 SECTION**  
 C-3-01 SCALE: 3/8"=1'-0"



**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"

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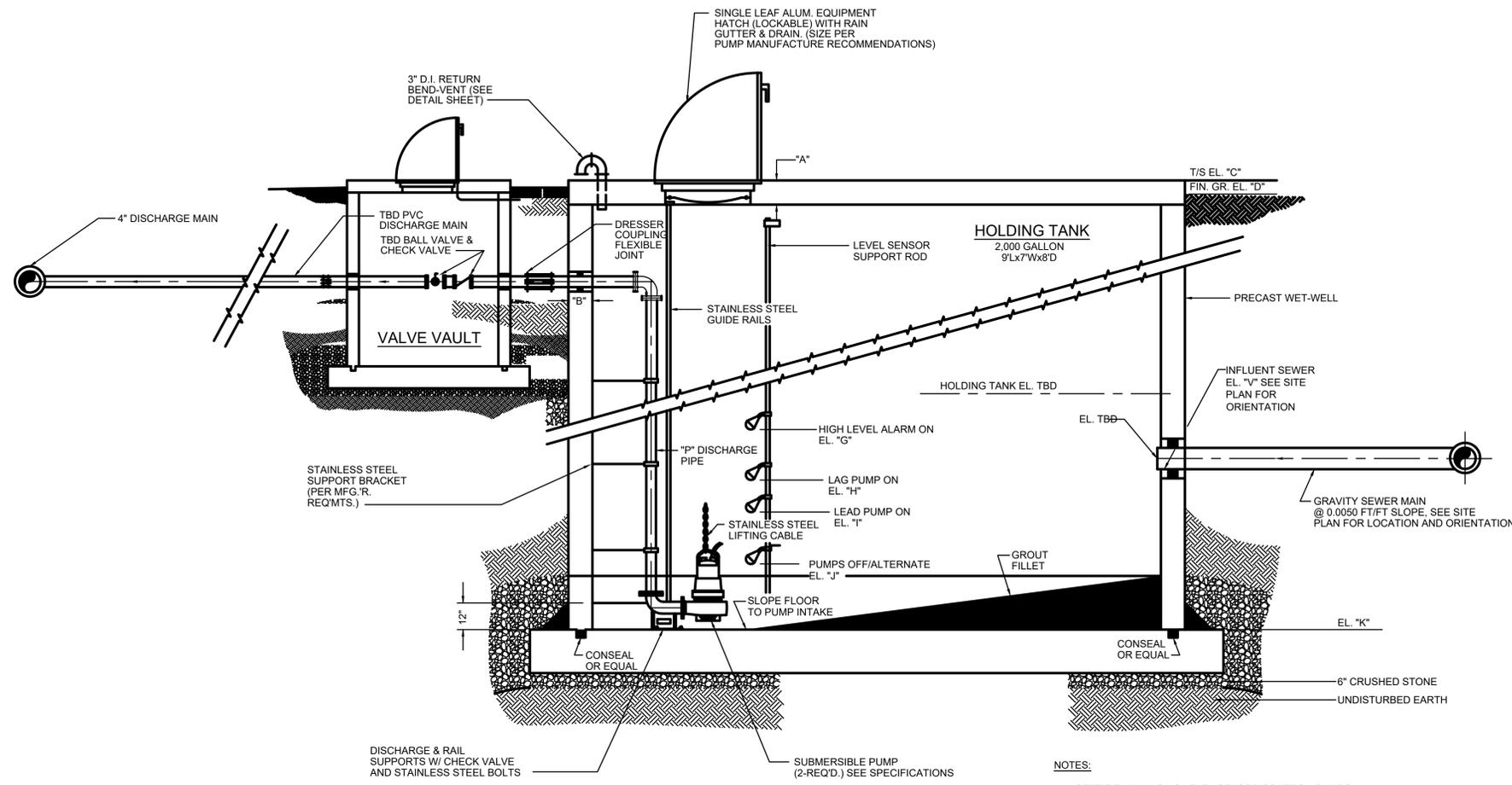
PROJECT #: 19003  
 DATE: APRIL 2022  
 PROJECT MGR: LRS  
 DRAWN BY: BKL  
 CHECKED BY: BKL



C-3-01

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



- NOTES:**
- SEPTIC TANK HAS NO LEVEL SENSOR/CONTROL, PUMPS, GROUT FILLET, ETC. AND DOES NOT CONNECT TO HOLDING TANK.
  - VALVE VAULT IS REQUIRED FOR HOLDING TANK, OTHERWISE, SECTION IS COMMON TO BOTH.

**TYPICAL SECTION THRU HOLDING AND SEPTIC TANK**  
NOT TO SCALE

**GENERAL NOTES:**

- ACCESS HATCHES SHALL BE SUPPLIED BY THE PUMP MFG./SUPPLIER IN COORDINATION WITH THE SPECIFIED PUMPS.
- FLOAT TYPE SWITCHES SHALL BE SEALED MERCURY SWITCHES.
- DISCHARGE PIPE SHALL BE PVC - SCH. 80
- ALL WALL SLEEVES TO BE "LINK-SEAL" OR APPROVED EQUAL, UNLESS NOTED OTHERWISE.
- 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

NO.	DATE	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  
 Serving Our Community

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



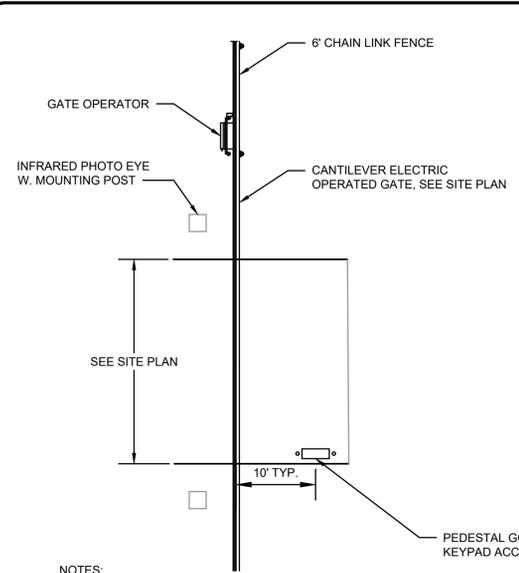
C-3-02

KNOW SUBMITTAL - NOT APPROVED FOR CONSTRUCTION

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

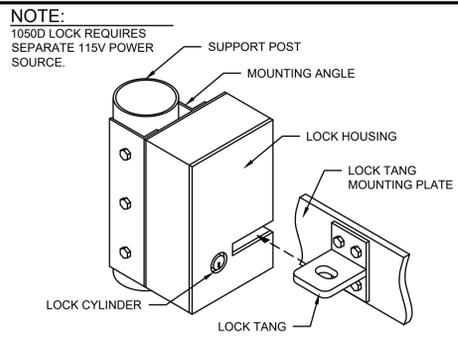


**CANTILEVER GATE PLAN**

NOT TO SCALE

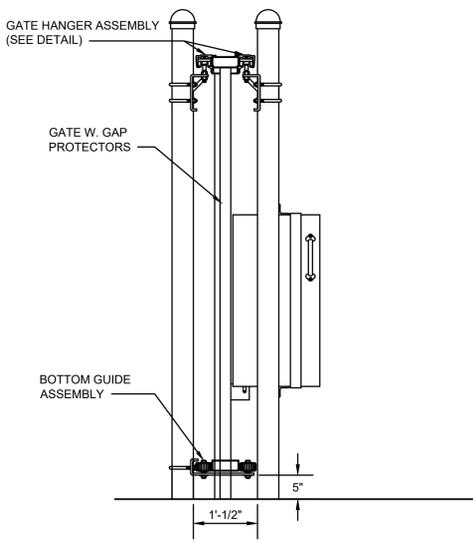
**NOTES:**

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.



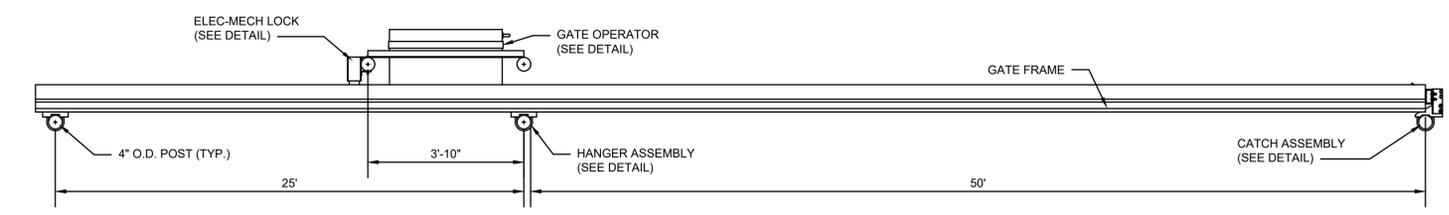
**ELECTROMECHANICAL LOCK**

NOT TO SCALE

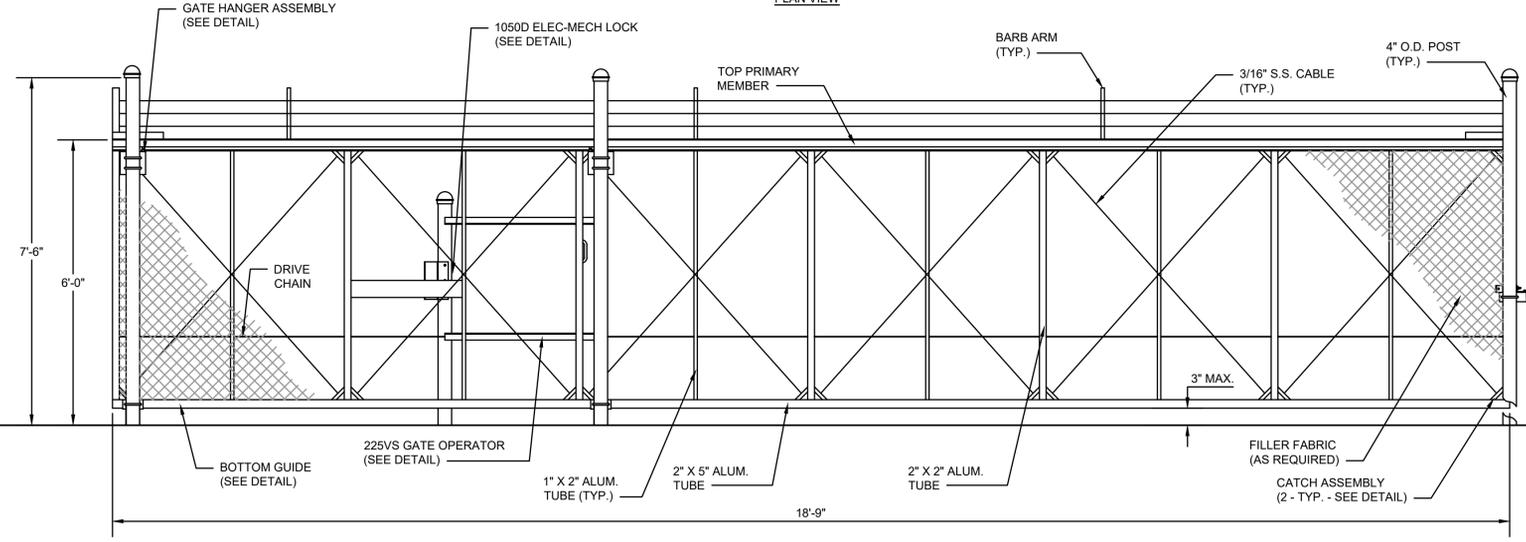


**CANTILEVER OPERATOR SECTION**

NOT TO SCALE



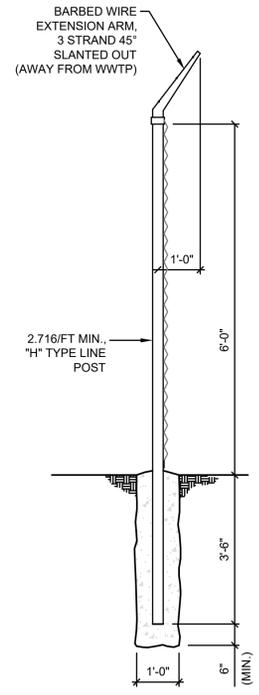
**PLAN VIEW**



**ELEVATION VIEW**

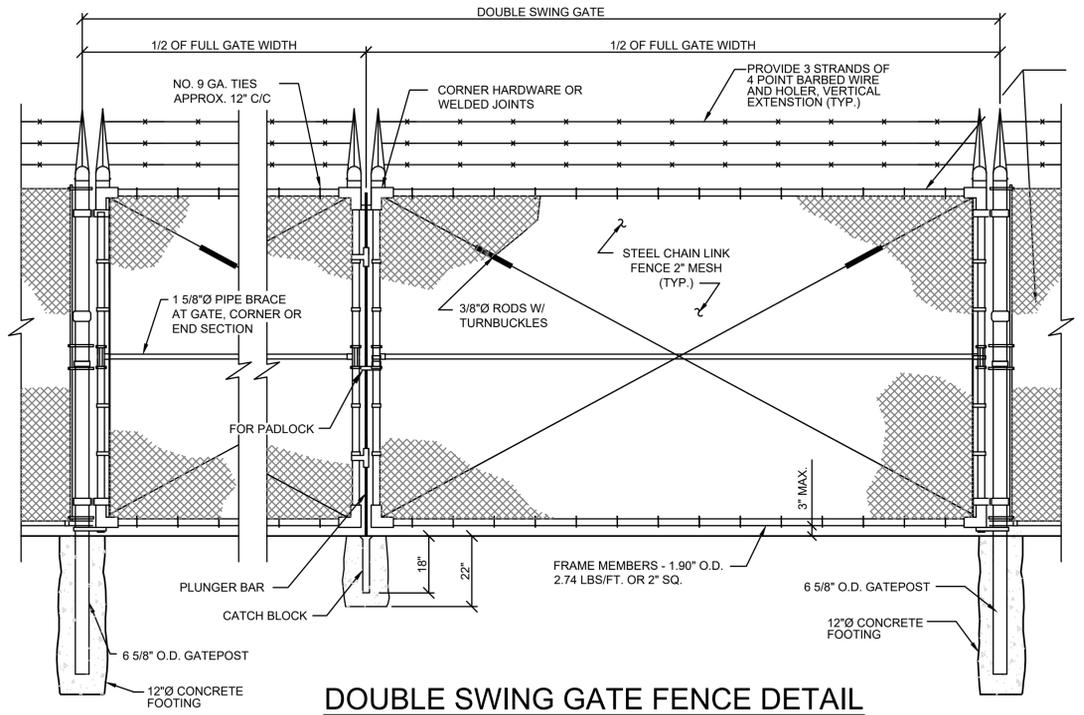
**CANTILEVER GATE WITH OPERATOR DETAIL**

NOT TO SCALE



**FENCE POST DETAIL**

NOT TO SCALE

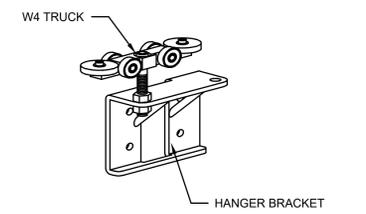


**DOUBLE SWING GATE FENCE DETAIL**

NOT TO SCALE

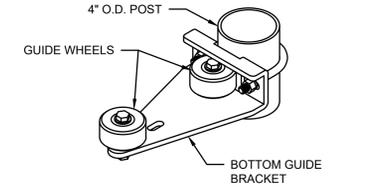
**NOTES:**

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.



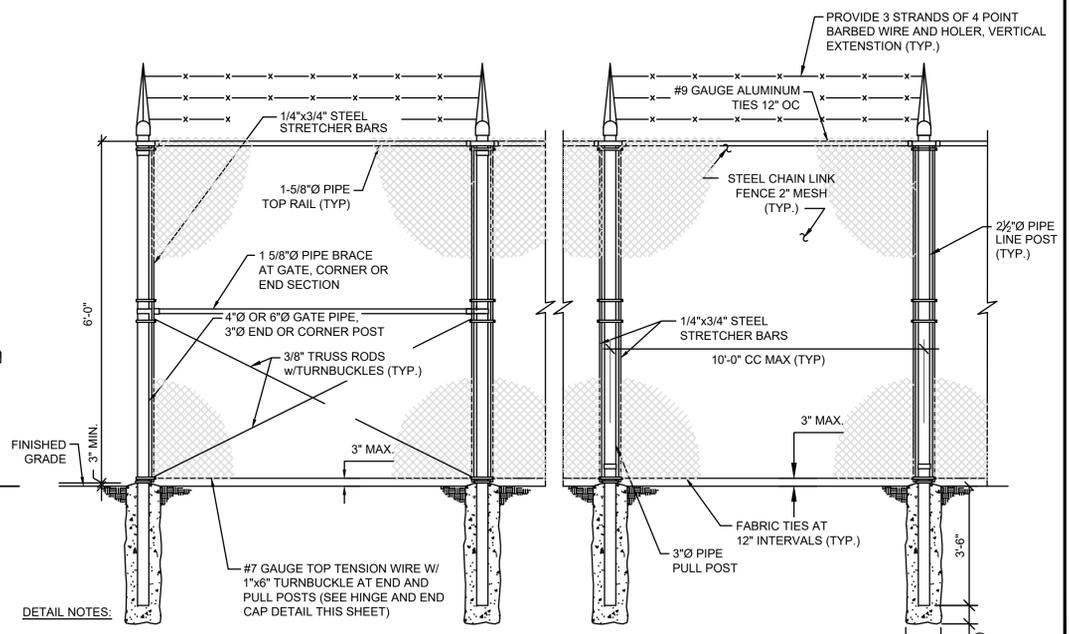
**GATE HANGER ASSEMBLY**

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.

BY	
BKL	
REVISIONS	
CONFIRMED SET WITH ADDENDUM AND REVISIONS ADDED	
DATE	FEB 2018
NO.	A

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

**SANDY HOOK WATER DISTRICT**  
 BLUEGRASS ENGINEERING, PLLC  
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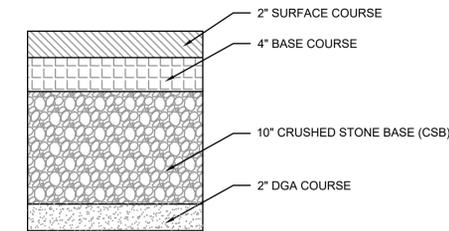
PROJECT #:	19003
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CHECKED BY:	BKL



SD-0-01

BID SET

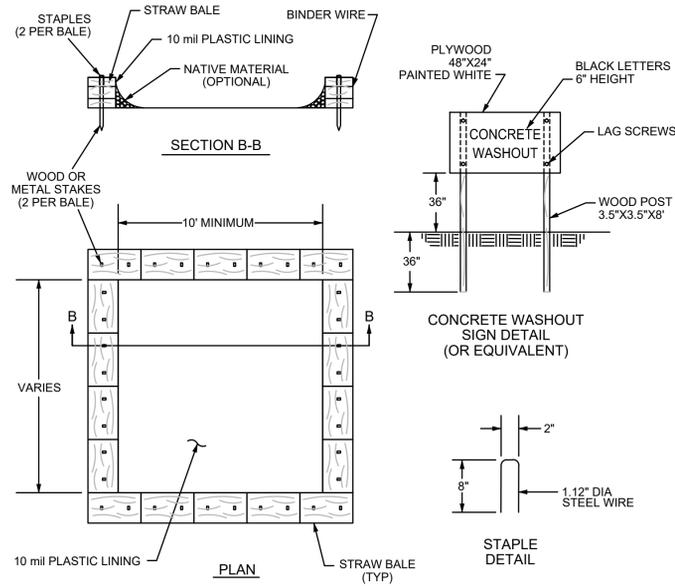
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 B:\PROJECTS\Sandy Hook\Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\19003-12-SD-02 - MISCELLANEOUS DETAILS.dwg BE 4/26/22



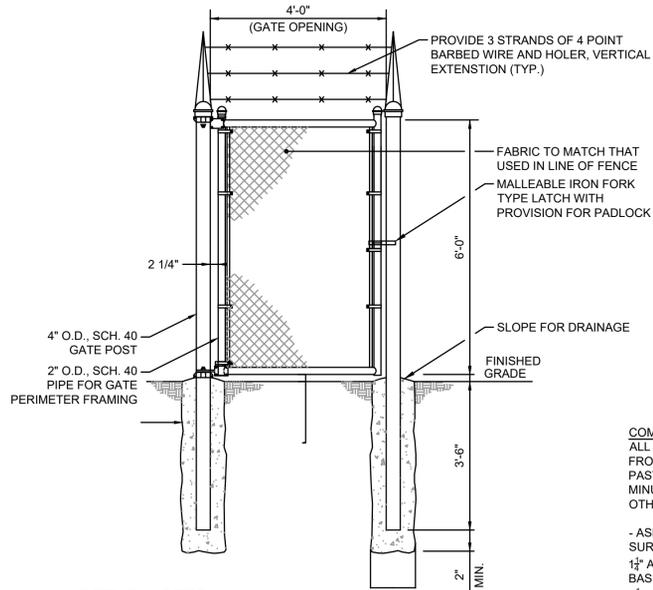
**PAVEMENT DETAIL**  
NOT TO SCALE

**DETAIL NOTES:**

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



**CONCRETE WASHOUT DETAIL**  
NOT TO SCALE



**DETAIL NOTES:**

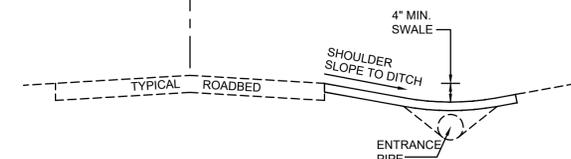
1. MISCELLANEOUS HARDWARE SIMILAR TO THAT USED IN LINE FENCE.
2. SUBMIT SHOP DRAWINGS FOR APPROVAL.

**MAN GATE 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" ASPHALT SURFACE CL I 0.38 E PG. 64-22  
BASE MATERIAL:  
2 3/4" ASPHALT BASE CL I 1.0 E PG 64-22  
SUB BASE MATERIAL:  
6" DENSE GRADED AGGREGATE (DGA)

**ROADWAY DRAINAGE DETAIL**  
EXTEND SHOULDER SLOPE TO DITCH (1/2" PAVED OR STONE, 1" EARTH) AND CONSTRUCT SWALE OR LOW POINT OVER PIPE.



**SPECIAL NOTES:**

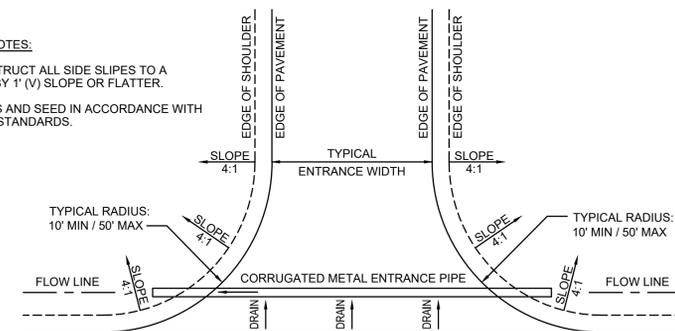
1. CONSTRUCT ENTRANCE SO THAT ALL RUNOFF WILL DRAIN AWAY FROM ROADWAY AND IS NOT ALLOWED ONTO THE SHOULDER OR DRIVING LANE.
2. DITCHING OR OTHER EXCAVATION MAY BE NECESSARY TO ASSURE PROPER PIPE COVERAGE AND PROVIDE POSITIVE DRAINAGE.
3. MINIMUM DITCH FLOWLINE SLOPE OF 1/2' PER 100'.
4. USE CORRUGATED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

**TYPICAL APPROACH SECTION**

NOT TO SCALE

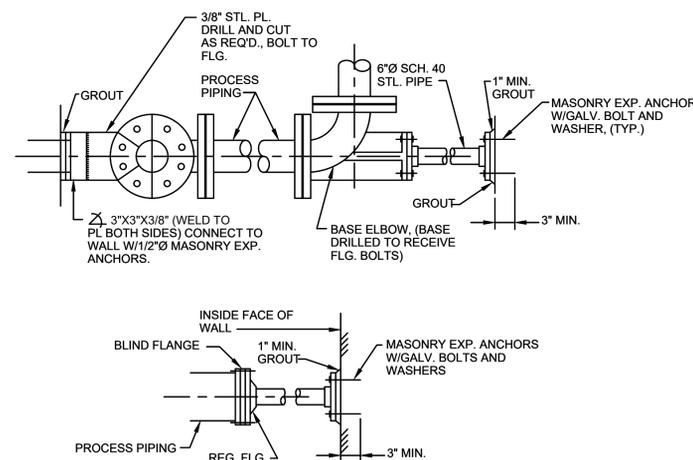
**SPECIAL NOTES:**

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



**TYPICAL PIPE SECTION**  
NOT TO SCALE

**COMMERCIAL ENTRANCE DETAIL**



**PIPE BRACE DETAIL**  
NOT TO SCALE

NO.	DATE	BY	REVISIONS
		BKL	

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

**SANDY HOOK**  
**BLUEGRASS ENGINEERING, PLLC**  
 WATER DISTRICT  
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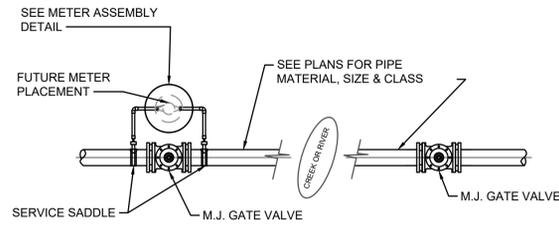


SD-0-02

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**LEAK DETECTION ASSEMBLY - DETAIL**

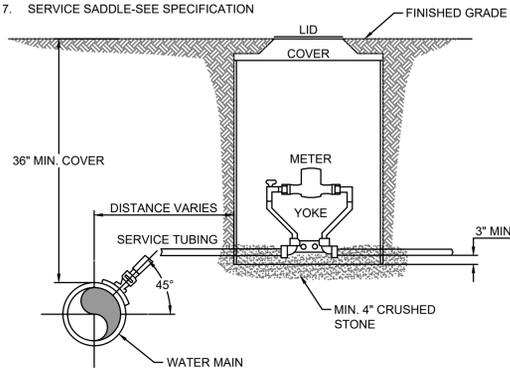
NOT TO SCALE

**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

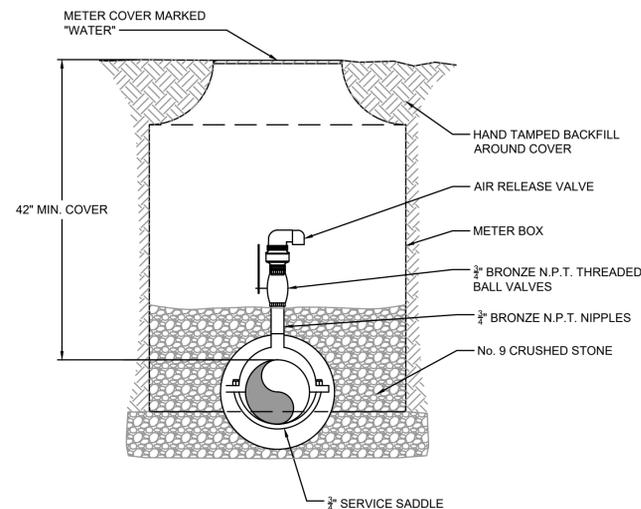
**NOTE:**

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.



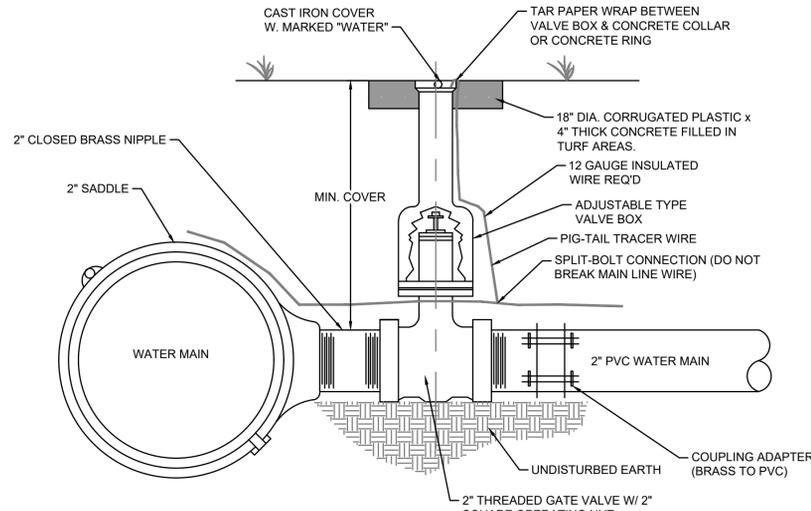
**METER ASSEMBLY - DETAIL**

NOT TO SCALE



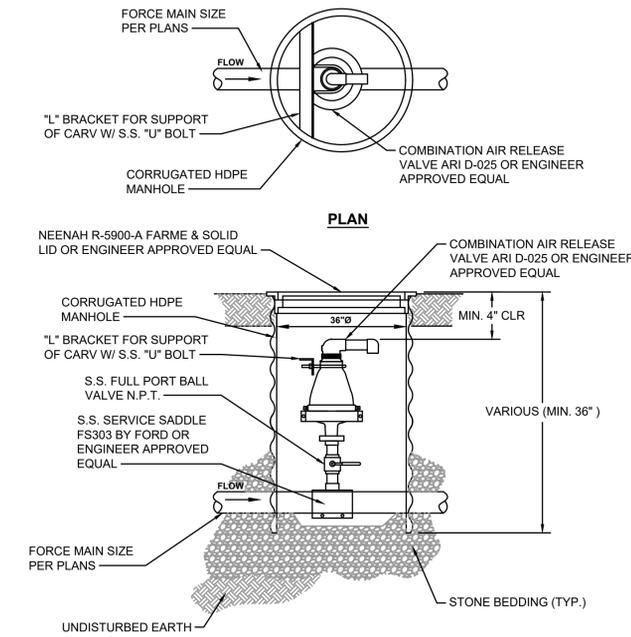
**AIR RELEASE VALVE ASSEMBLY WATERLINE ONLY - DETAIL**

NOT TO SCALE



**CONNECTION FOR 2" WATER MAINS**

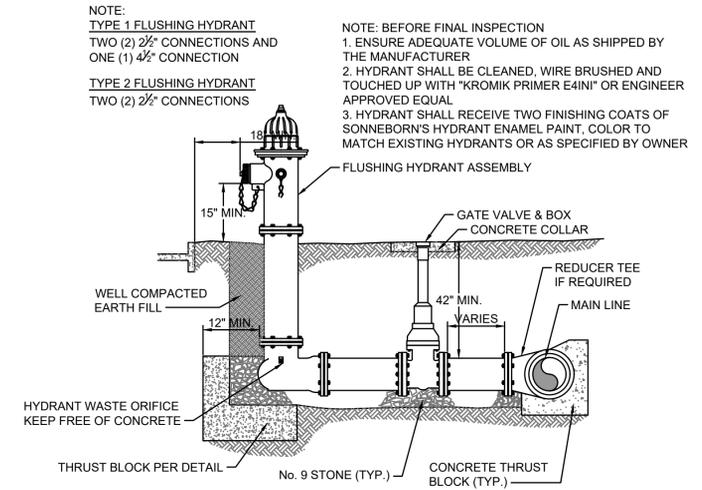
NOT TO SCALE



**COMBINATION AIR RELEASE VALVE ASSEMBLY FORCE MAIN ONLY - DETAIL**

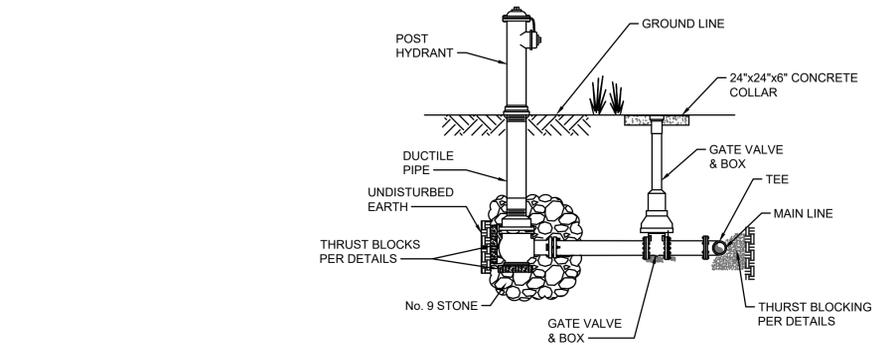
NOT TO SCALE

SANITARY SEWER AIR & VACUUM RELEASE VALVES SHALL BE A.R.I. MODEL D-025 OR ENGINEER APPROVED EQUAL W/2" INLET AND OUTLET. ALL VALVES SHALL BE PROVIDED W/ BACKFLUSHING ATTACHMENTS.



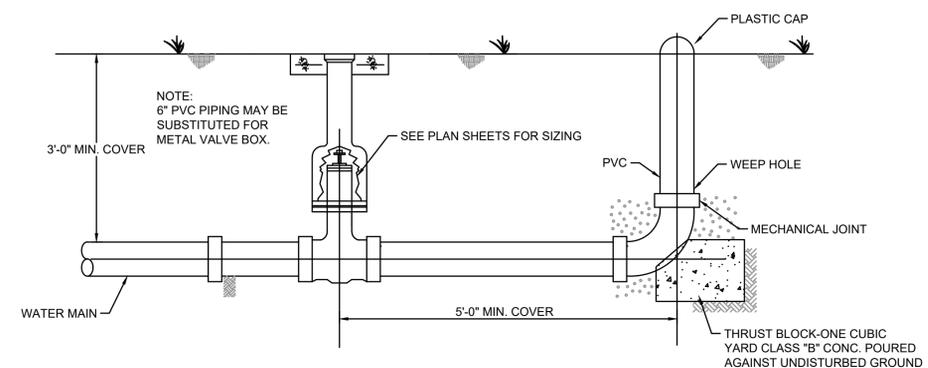
**FLUSHING HYDRANT ASSEMBLY TYPE 1 & 2 - DETAIL**

NOT TO SCALE



**FLUSHING HYDRANT ASSEMBLY, TYPE 3 - DETAIL**

NOT TO SCALE



**E.O.L. 2", 3", OR 4" UNDERGROUND BLOWOFF ASSEMBLY**

NOT TO SCALE

NO.	DATE	BY	REVISIONS

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

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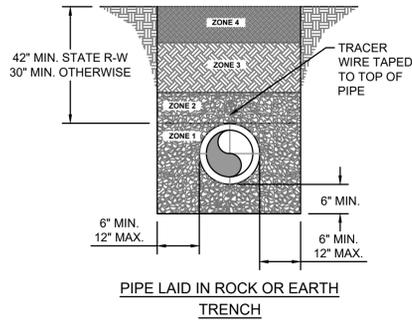
PROJECT #:	19003
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CHECKED BY:	BKL



SD-0-03

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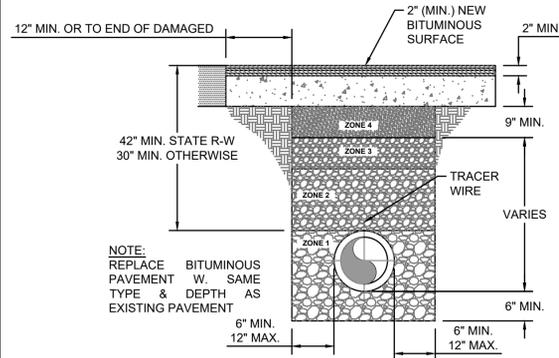
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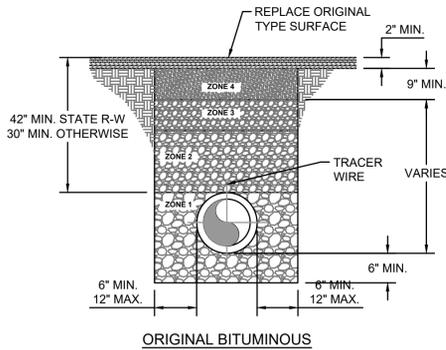
PIPE LAID IN ROCK OR EARTH TRENCH

**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.



ORIGINAL BITUMINOUS SURFACING OVER 2"

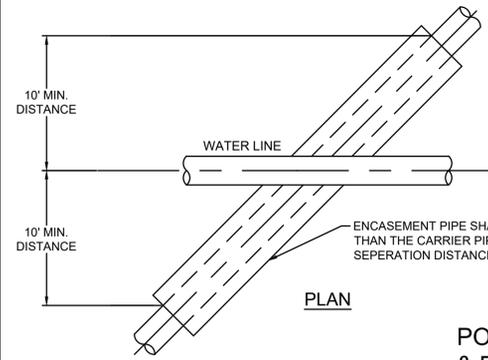


ORIGINAL BITUMINOUS SURFACING 2" OR LESS AND TRAFFIC BOUND MACADAM

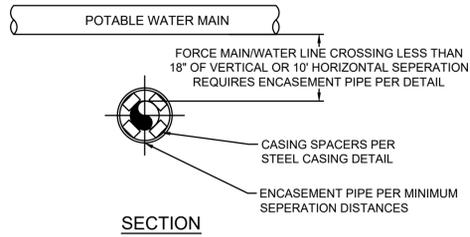
- ZONE 4 - COMPACTED DGA
- ZONE 3 - NO. 9, 57, OR 78 STONE
- ZONE 2 - 12" MIN. NO. 9 STONE
- ZONE 1 - NO. 9 STONE

**PIPE BACKFILL - DETAIL**

NOT TO SCALE



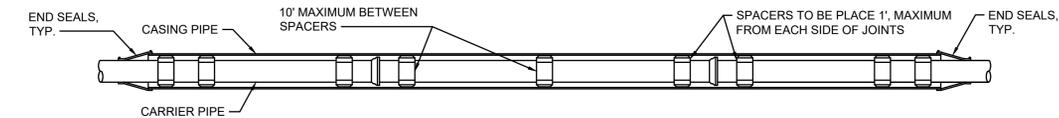
PLAN



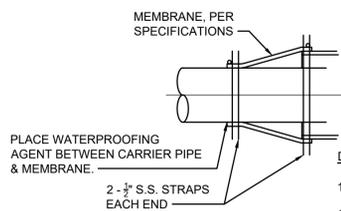
SECTION

**POTABLE WATER LINE & FORCE MAIN CROSSING - DETAIL**

NOT TO SCALE



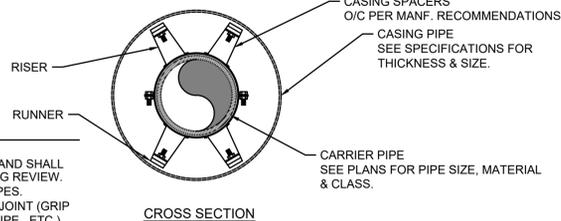
PLAN



DETAIL - END SEAL

**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.)

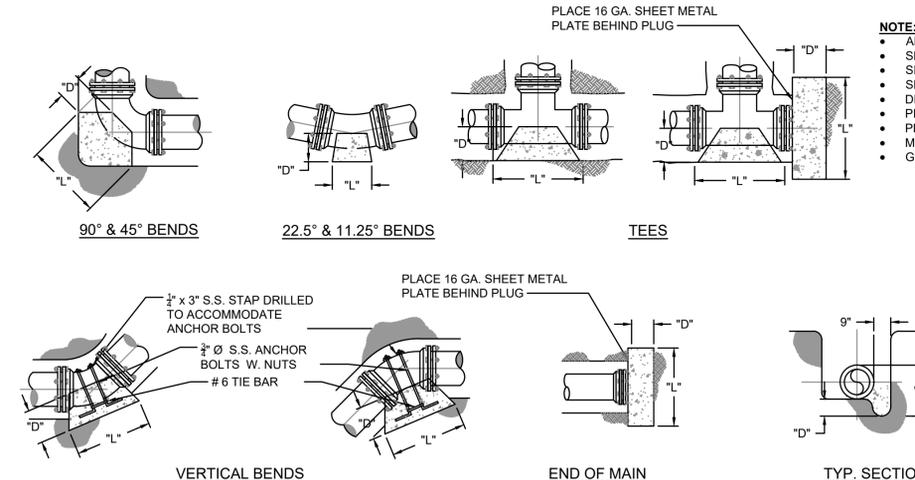


CROSS SECTION

**CASING - DETAIL**

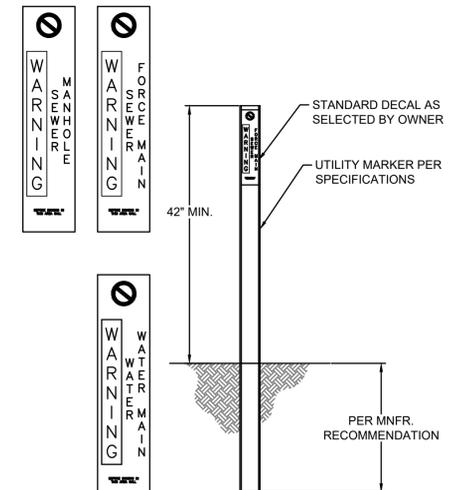
NOT TO SCALE

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	18	18	18	18	18	18	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	12	5.000	.28	18	30	24	24	24	24	24	24	24	24	24	24	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	36	36	36	36	36	36	36	36	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	42	42	42	42	42	42	42	42	42	42	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	48	48	48	48	48	48	48	48	48	48	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	60	60	60	60	60	60	60	60	60	60	60	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	24	37.750	4.63	42	78	66	66	66	66	66	66	66	66	66	66	66	66	66																							



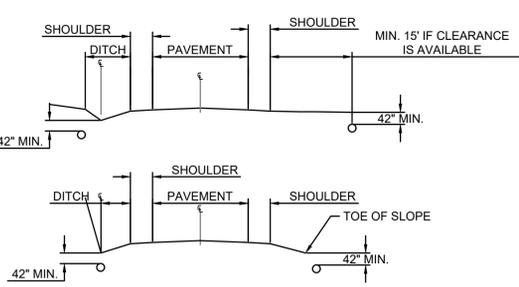
**CONCRETE THRUST BLOCK - DETAIL**

NOT TO SCALE



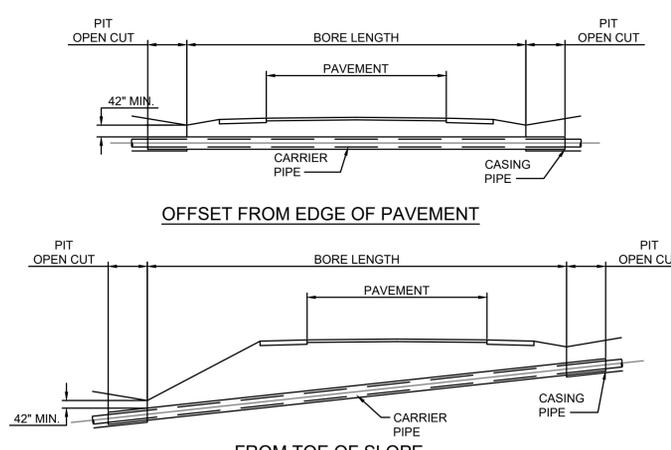
**UTILITY MARKER - DETAIL**

NOT TO SCALE



**UTILITY PIPELINE WITHIN KTC ROW - DETAIL**

NOT TO SCALE



**KTC CROSSING - DETAIL**

NOT TO SCALE

- 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 ENCASUREMENT PIPE SHALL BE INSTALLED IN BORE HOLES NO LARGER THEN THE OUTSIDE DIA-METER OF THE ENCASUREMENT PIPE.
  - SEE CASING SPACER DETAIL FOR PLACEMENT OF SPACER.

NO.	DATE	BY

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

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DRAWN BY:	BKL
CHECKED BY:	BKL



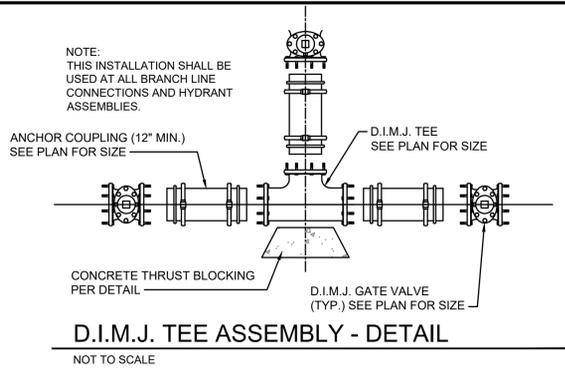
SD-0-04

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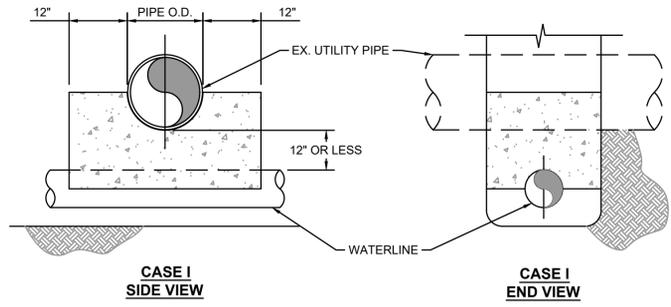
PROJECTS/Sandy Hook Water/19003 - 2019 Water System Improvements/DWG/Contract 12 - WTP/19003-12-SD-05 - STANDARD DETAILS - PIPELINES 2.dwg



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

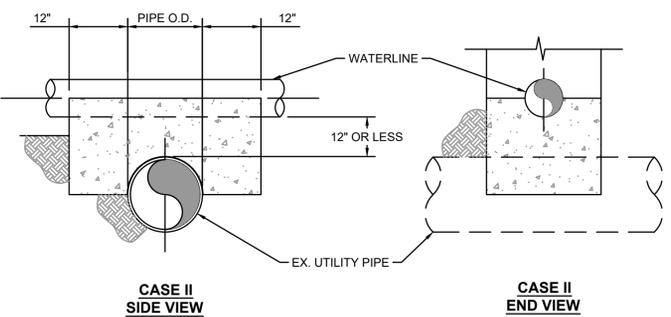
NOT TO SCALE

- 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**



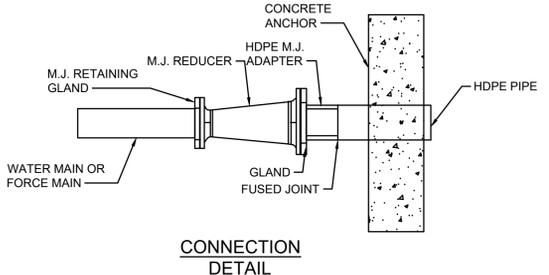
**CASE II SIDE VIEW**

**CASE II END VIEW**

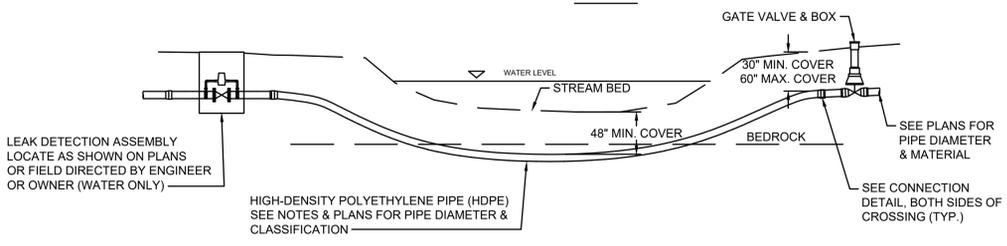
**UTILITY CROSSING CONCRETE ASSEMBLY - DETAIL**

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.

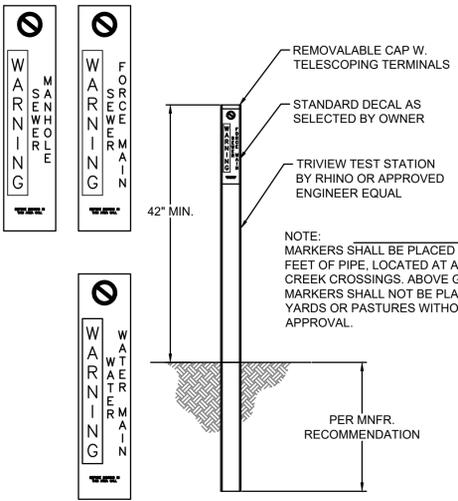


**CONNECTION DETAIL**



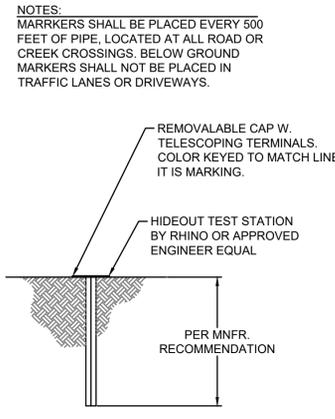
**DIRECTIONAL DRILLED CREEK CROSSING - DETAIL**

NOT TO SCALE



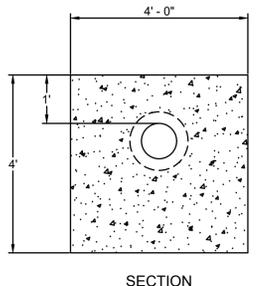
**ABOVE GROUND TEST STATION - DETAIL**

NOT TO SCALE

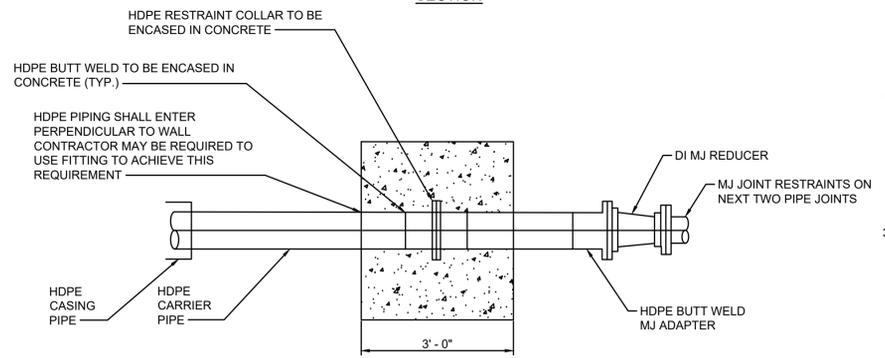


**BELOW GROUND TEST STATION - DETAIL**

NOT TO SCALE

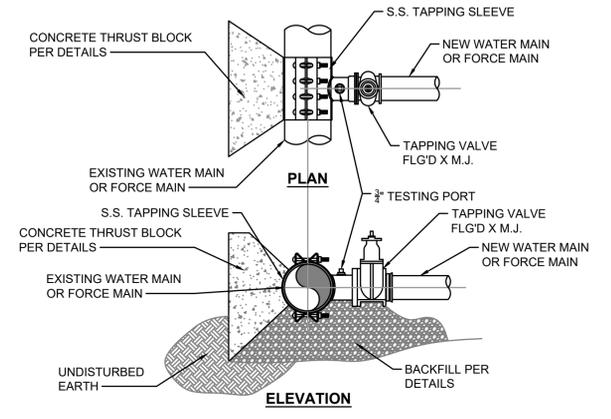


**SECTION**



**HDPE RESTRAINT WALL**

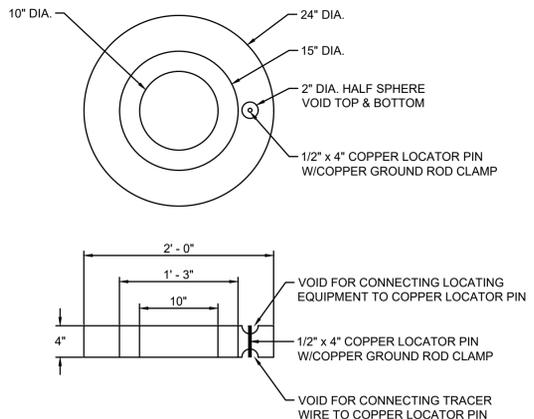
NOT TO SCALE



**STAINLESS STEEL TAPPING SLEEVE & VALVE ASSEMBLY - DETAIL**

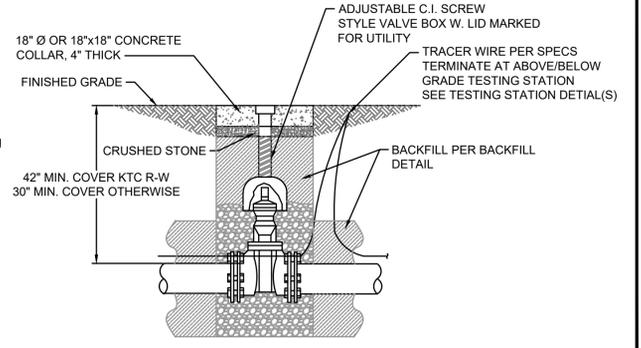
NOT TO SCALE

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

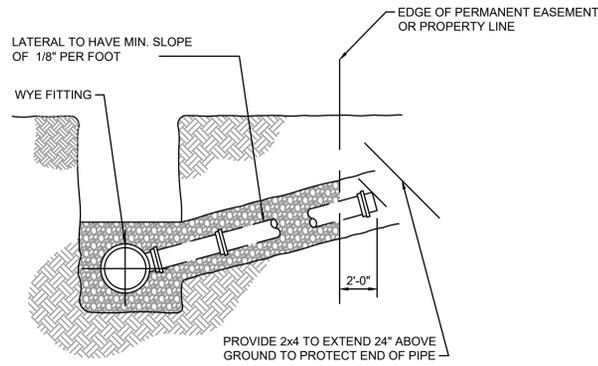
PROJECT #:	19003
DATE:	APRIL 2022
PROJECT MGR:	LRS
DRAWN BY:	BKL
CHECKED BY:	BKL



SD-0-05

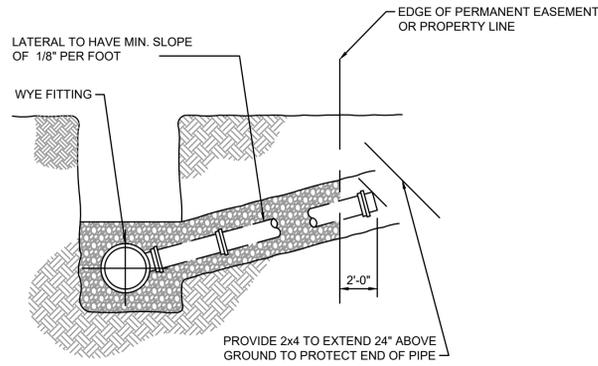
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 SD-06  
 BE 4/26/22



**LATERAL FOR SEWER MAIN (< 10') - DETAIL**

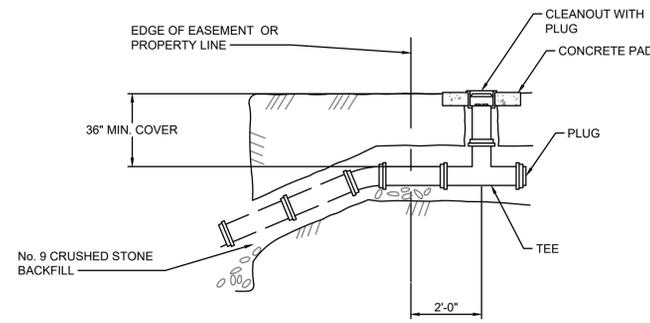
NOT TO SCALE



**LATERAL FOR SEWER MAIN (< 10') - DETAIL**

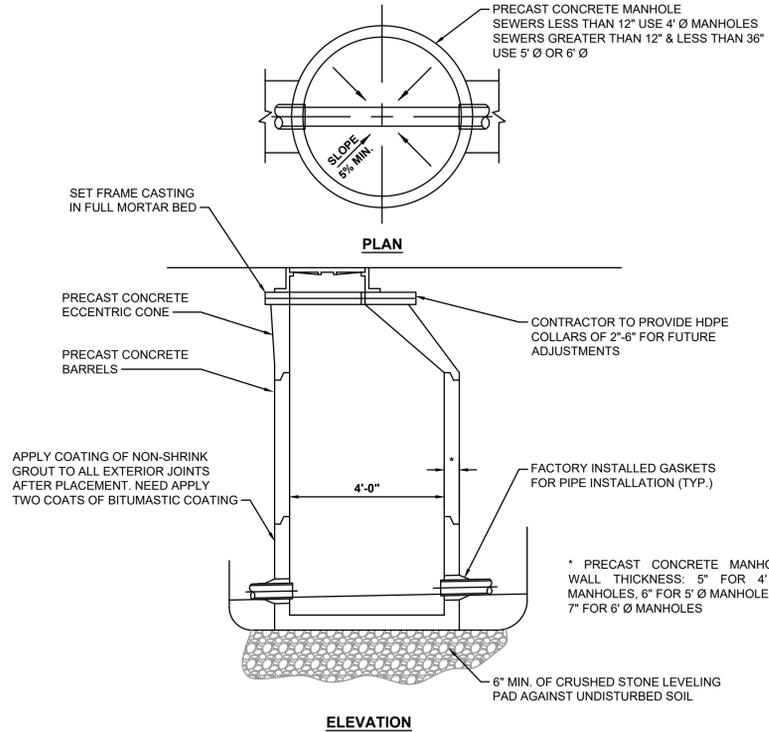
NOT TO SCALE

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



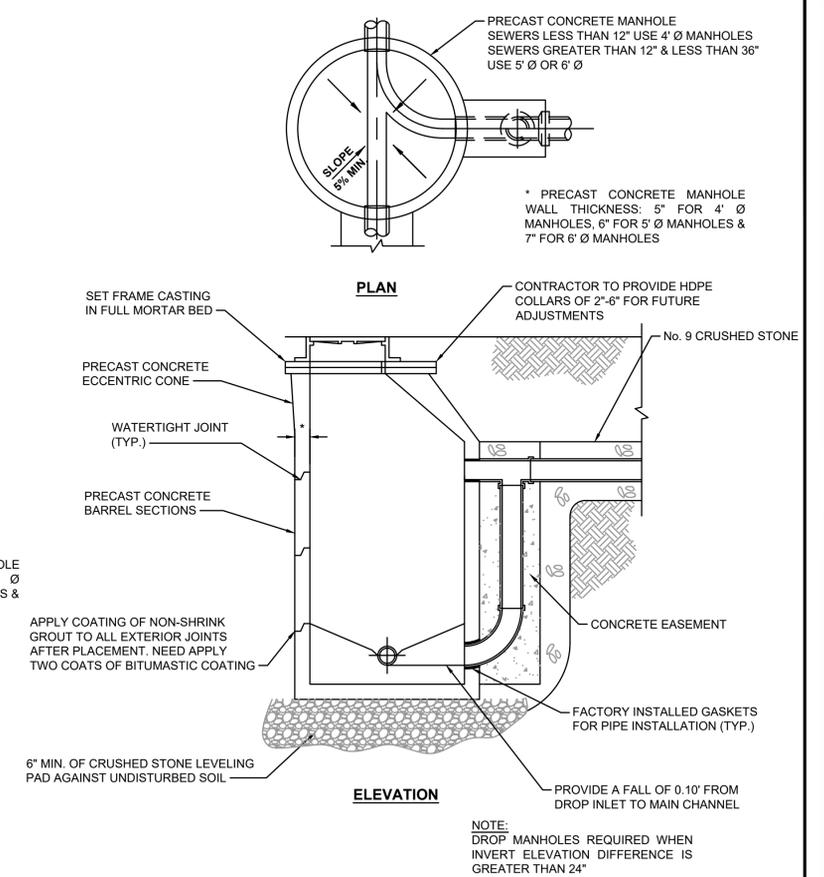
**LATERAL CLEANOUT ASSEMBLY - DETAIL**

NOT TO SCALE



**STANDARD MANHOLE - DETAIL**

NOT TO SCALE

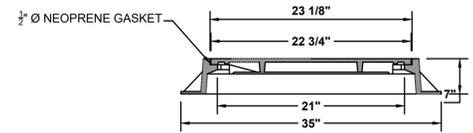


**DROP MANHOLE - DETAIL**

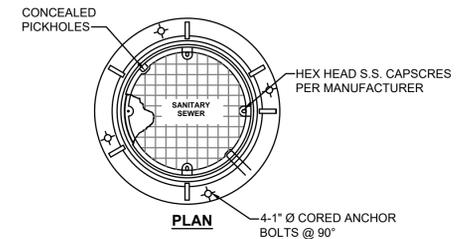
NOT TO SCALE

DETAIL NOTE:

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



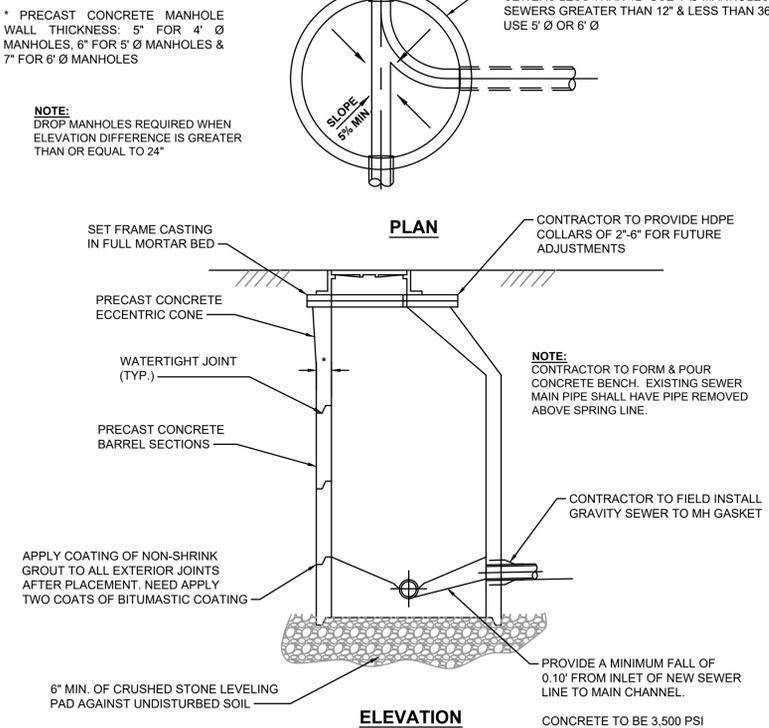
**ELEVATION**



**PLAN**

**STANDARD MANHOLE LID & FRAME - DETAIL**

NOT TO SCALE



**DOGHOUSE MANHOLE - DETAIL**

NOT TO SCALE

NO.	DATE	BY	REVISIONS

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

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

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



SD-0-06

BID SET

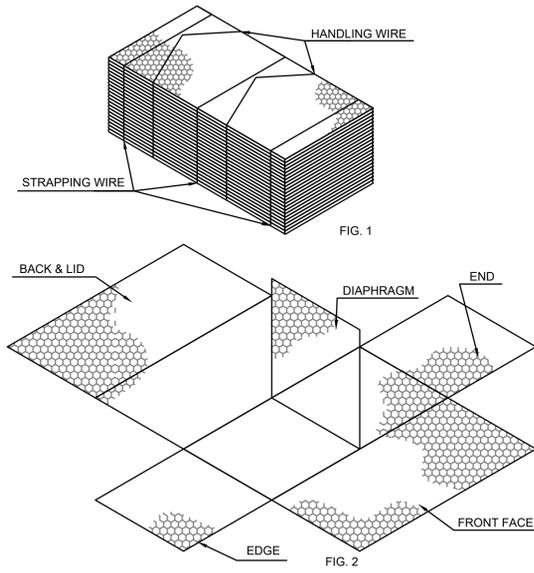
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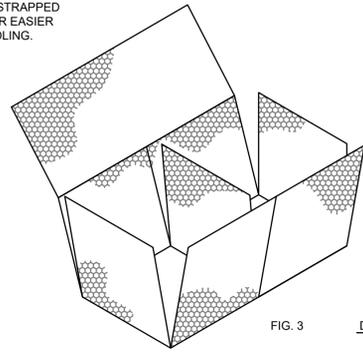
B:\PROJECTS\Sandy Hook Water\19003 - 2019 Water System Improvements\DWG\Contract 12 - WTP\19003-12-SD-07 - STANDARD DETAILS - GABION WALL.dwg

**UNPACKING & ASSEMBLY PROCESS**

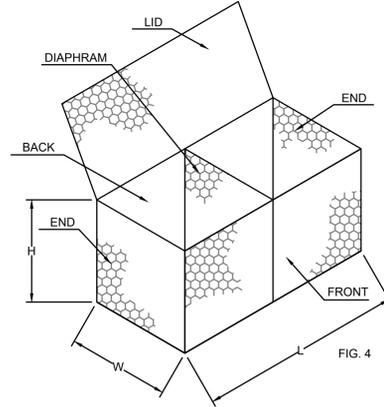
MACCAFERRI GABIONS ARE DELIVERED TO THE JOB SITE IN BUNDLES. THEY ARE COMPRESSED AND STRAPPED IN THE FACTORY FOR EASIER SHIPPING AND HANDLING.



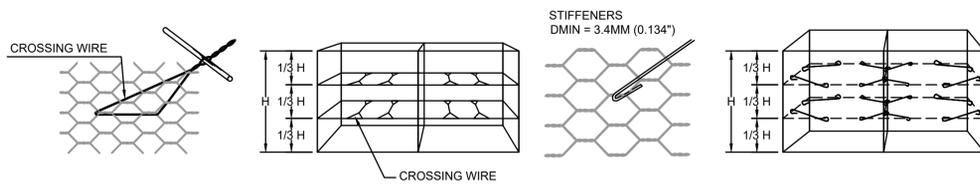
1. OPEN AND UNFOLD THE GABIONS ONE BY ONE ON A FLAT, HARD SURFACE. ELIMINATE ALL FOLDS DUE TO THE PACKAGING.



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

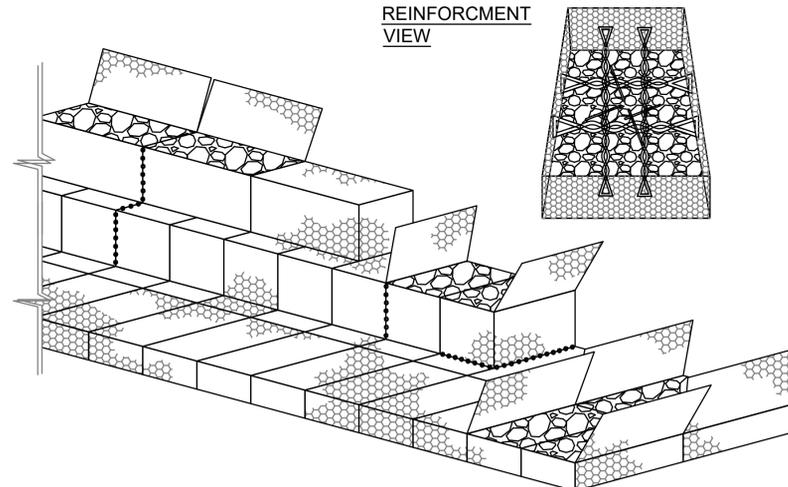


**ASSEMBLED GABION BASKET**

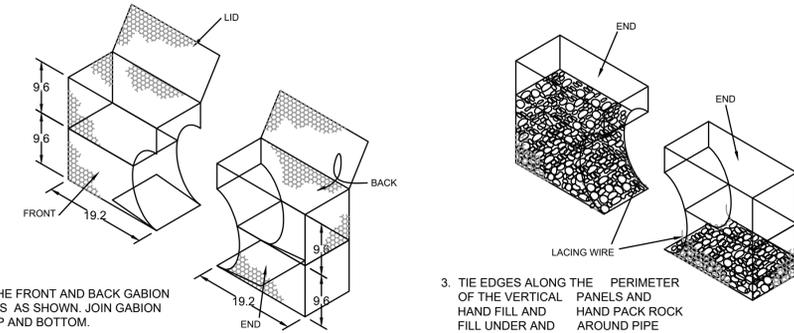
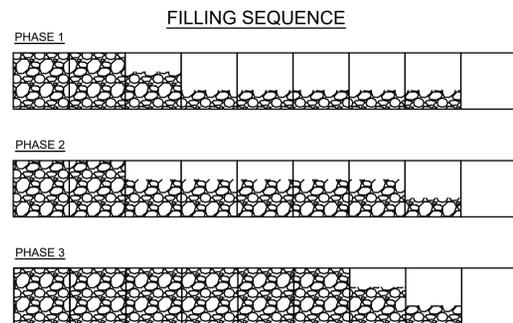


**REINFORCING DETAIL**

**REINFORCEMENT VIEW**

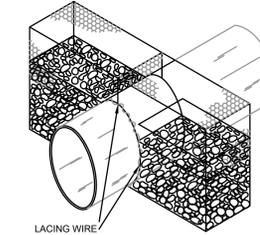


**FILLING PROCESSES**

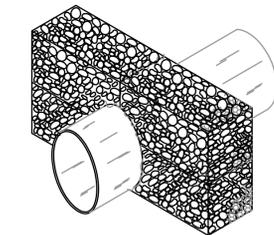


1. CUT THE FRONT AND BACK GABION PANELS AS SHOWN. JOIN GABION AT TOP AND BOTTOM.

3. TIE EDGES ALONG THE PERIMETER OF THE VERTICAL PANELS AND HAND PACK ROCK AND FILL UNDER AND AROUND PIPE AREA.



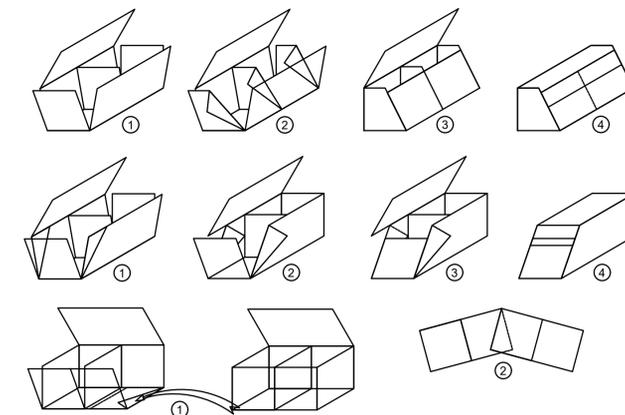
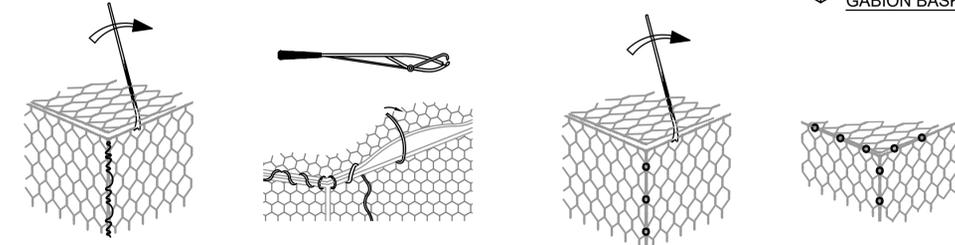
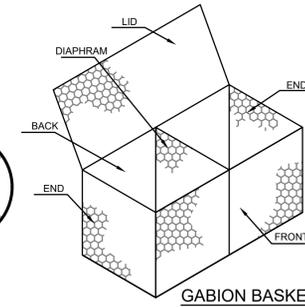
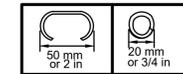
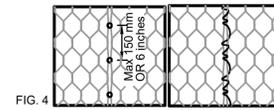
2. PLACE THE PIPE AND LIFT END PANELS AROUND PIPE AND TIE THEM TOGETHER AT TOP OF PIPE



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).



**FOLDING PROCESS**

NO.	DATE	REVISIONS	BY

2019 WATER SYSTEM IMPROVEMENTS  
CONTRACT 12 - WATER TREATMENT PLANT IMPROVEMENTS  
STANDARD DETAILS - GABION WALL

**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



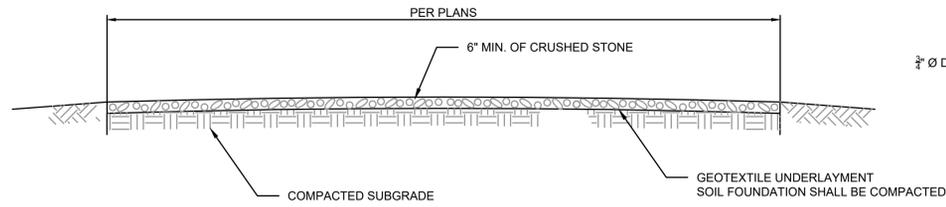
SD-0-07

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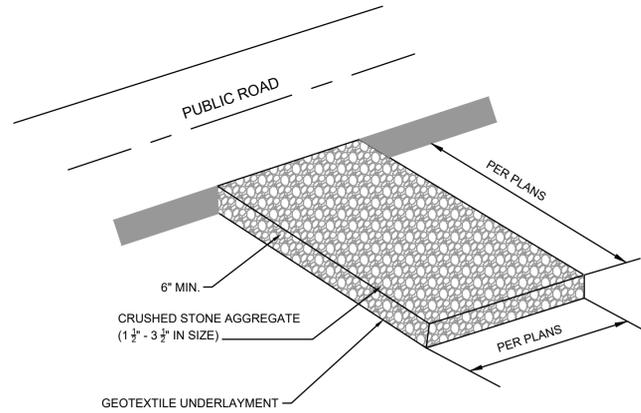
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**STABILIZED CONSTRUCTION ENTRANCE - SECTION**  
NOT TO SCALE



**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 COMPACTION WITH THE CONTROLLED MOVEMENT OF COMPACTION 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.

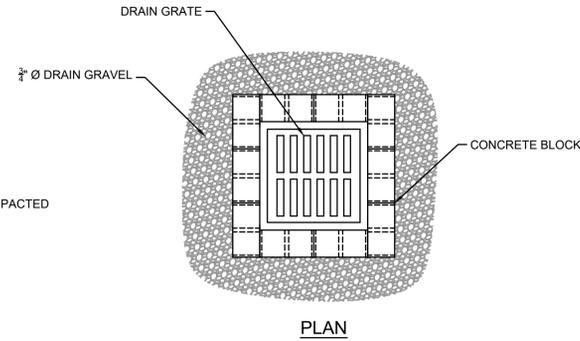
**STABILIZED CONSTRUCTION ENTRANCE - DETAIL**  
NOT TO SCALE

**EROSION CONTROL NOTES:**

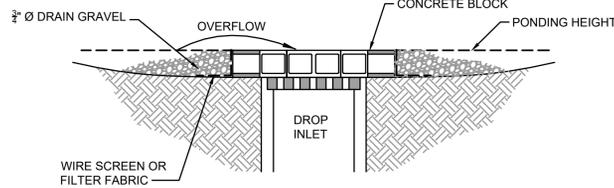
1. A KPDES STORMWATER PERMIT IS REQUIRED. COVERAGE STARTS WHEN THE KY DIVISION OF WATER ACKNOWLEDGES RECEIPT OF A NOTICE OF INTENT FOR COVERAGE.
2. FINAL STABILIZATION SHALL BEGIN WITHIN 14 DAYS ON AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED OR HAVE BEEN SUSPENDED FOR MORE 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.
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**

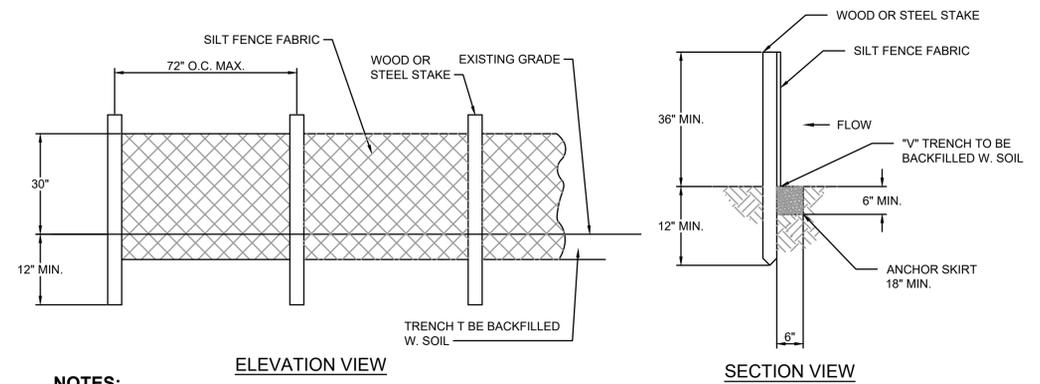


**SECTION**

**NOTES:**

1. DROP INLET PROTECTION 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



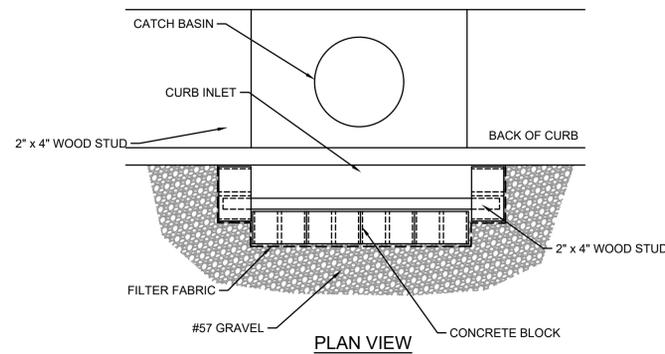
**ELEVATION VIEW**

**SECTION VIEW**

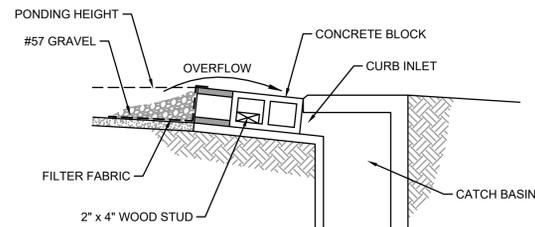
**NOTES:**

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



**PLAN VIEW**

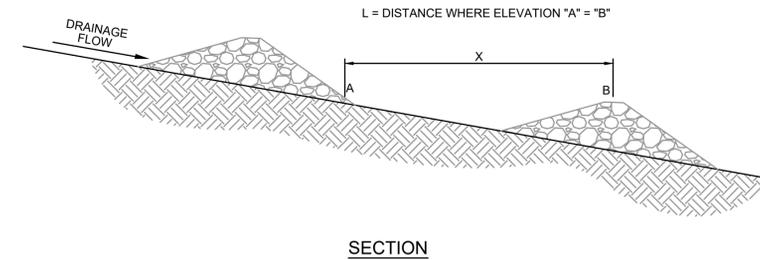


**SECTION VIEW**

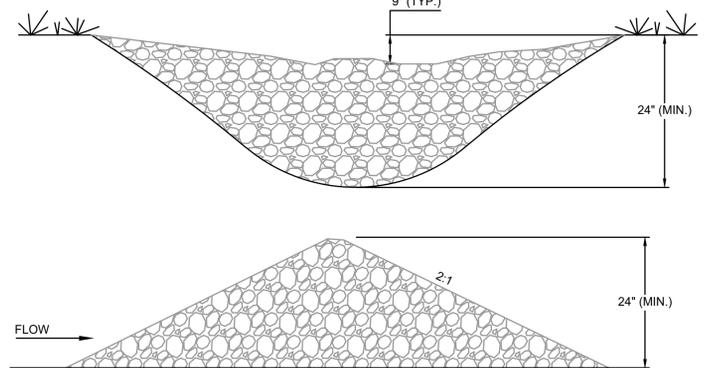
**NOTES:**

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	BY	REVISIONS

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

**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-0-08

BID SET