2021 WATER SYSTEM IMPROVEMENTS

FOR

ROWAN WATER, INC.

BOARD MEMBERS

LARRY JOHNSON - CHAIRMAN

ENOCH BLAIR - DANNY STEVENS

MIKE COLLINS - RANDY COX

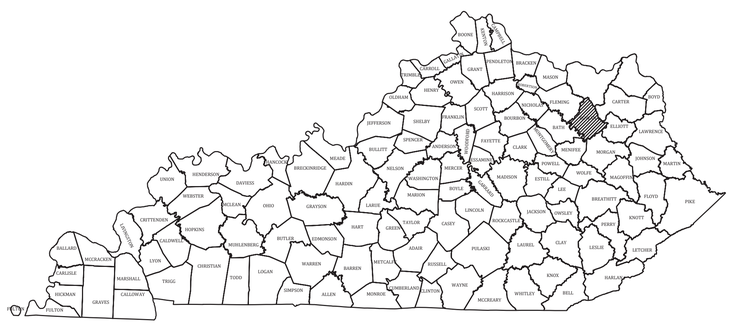
JERRY PATRICK - MANAGER

AUGUST 2022

PREPARED BY:

BLUEGRASS ENGINEERING PLLC

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



STATE OF KENTUCKY
BRYAN K. LOVAN
19340
LICENSED PROFESSIONAL ENGINEER
12-6-22

PROJECT NO. 20020

BID SET

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GENERAL NOTES

- CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND THE ENGINEER TWO WORKING DAYS (MINIMUM) BEFORE BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH CITY, COUNTY AND STATE REQUIREMENTS.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION.
- EXISTING UTILITIES, ESPECIALLY GAS LINES AND OIL LINES, MAY BE CATHODICALLY PROTECTED. THEREFORE, DUCTILE IRON PIPE, FITTINGS, GATE VALVES, AND/OR BOXES LAID WITHIN 100' OF LINES WITH CATHODIC PROTECTION SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT. MATERIALS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF AWWA'S LATEST REVISION.
- ALL CONSTRUCTION AND INSTALLATION OF MATERIALS BEING USED SHALL BE IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SUBSTITUTIONS AND DEVIATION SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
- SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- EXISTING UTILITIES HAVE BEEN SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH A REPRESENTATIVE WHEN WORKING NEAR EXISTING UTILITIES.
- THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS AND ALL OTHER UTILITIES AND OTHER IMPROVEMENTS NOT SHOWN. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS OF UTILITIES AND OTHER IMPROVEMENTS DAMAGED DURING CONSTRUCTION.
- UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR FITTINGS. THE FITTINGS INCLUDED BUT NOT LIMITED TO ARE: TEES, BENDS, PLUGS, REDUCERS, CROSSES, COUPLINGS, ETC. CONTRACTORS SHALL INCLUDE THE COST OF THESE ITEMS IN THE BID PRICE FOR THE PIPE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY REMOVAL/RELOCATION OF TRAILERS, BUILDINGS, FENCES, TREES, SHRUBS, ETC. AND REPLACEMENT OF SAID ITEMS AFTER CONSTRUCTION ACTIVITIES.
- CONTRACTOR IS TO COORDINATE WITH THE PROPERTY OWNERS AS TO WHETHER OR NOT TEMPORARY FENCING IS REQUIRED AND CONSTRUCT IF NECESSARY.
- ALL PIPING SHALL HAVE 30" MINIMUM COVER.
- WHERE UNSTABLE MATERIAL IS ENCOUNTERED OR WHERE THE DEPTH OF EXCAVATION IN EARTH EXCEEDS FIVE (5) FEET, THE SIDES OF THE TRENCH OR EXCAVATION SHALL BE SUPPORTED BY SUBSTANTIAL SHEETING, BRACING, SHORING OR THE TRENCH SIDES SLOPED. SLOPING THE SIDES OF THE DITCH WILL NOT NOT BE PERMITTED IN STREETS, ROADS, NARROW RIGHTS-OF-WAY OR OTHER CONSTRICTED AREAS UNLESS OTHER WISE SPECIFIED. THE STANDARDS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND THE KENTUCKY LABOR CABINET SHALL BE FOLLOWED.
- ALL EXCAVATION IS UNCLASSIFIED. COMPENSATION FOR ALL EXCAVATION SHALL BE INCLUDED IN LUMP SUM BID.
- REGRADE OF SITE SHALL BE SUCH THAT DRAINAGE IS AWAY FROM ALL STRUCTURES.
- BACKFILL AROUND ALL STRUCTURES SHALL BE SUFFICIENTLY COMPACTED TO PRECLUDE SETTLEMENT AND PONDING OF WATER AROUND STRUCTURES AND GRADED TO DIVERT RUNOFF AWAY FROM THE STRUCTURES.
- DIMENSIONS, DETAILS AND REINFORCEMENT MAY VARY WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL OBTAIN AND MAINTAIN ON SITE, APPROVED SHOP DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- ALL VALVES & HYDRANTS SHALL BE LOCATED AT THE BACKSIDE OF THE DITCHLINE.
- FINAL LOCATION OF SERVICES, VALVES, & HYDRANT ORIENTATION ARE TO BE FIELD LOCATED DURING CONSTRUCTION & APPROVED BY THE ENGINEER.
- AT THE CONTRACTORS OPTION, CLASS 350 DUCTILE IRON PIPE MAY BE SUSTITUTED FOR ANY PIPE PARTICULARLY SPECIFIED, BUT AT NO ADDITIONAL COST TO THE OWNER.
- NO PAY ITEM FOR EXTRA TRENCH DEPTH HAS BEEN SET UP. CONTRACTOR SHALL INCLUDE THE COST OF THE ADDITIONAL DEPTH IN HIS BID PRICE.
- ROCK SOUNDINGS WERE NOT PERFORMED BY THE ENGINEER, THE CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO DETERMINE SUBSURFACE CONDITIONS.
- CONTRACTOR TO DIG/EXPOSE EXISTING WATER MAIN FAR ENOUGH AHEAD OF NEW WATER MAIN CONSTRUCTION TO AVOID DAMAGE TO EXISTING WATER MAIN AND/OR INTERRUPTION OF EXISTING CUSTOMER SERVICES.
- ALL NEW SERVICE LINE FROM THE NEW MAIN TO THE SETTERS SHALL BE 3/4" PE CTS TUBING UNLESS SHOWN DIFFERENTLY ON THE PLANS
- THE MAXIMUM ALLOWABLE LENGTH OF SERVICE LINE FROM THE WATER MAIN TO THE CUSTOMER'S METER SERVICE SHALL BE AS FOLLOWS:

SERVICE LINE DIAMETER	MAXIMUM LENGTH
3/4 INCH	125 FEET
1 INCH	150 FEET
1-1/2 INCH	200 FEET
2 INCH	250 FEET

- CONNECTIONS TO EXISTING DISTRIBUTION SYSTEM SHALL BE MADE AS FOLLOWS:
  - A. CONNECT TO EXISTING (SIZE) W.M. (WET TAP) - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS, VALVES AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN UNDER PRESSURE.
  - B. CONNECT TO EXISTING (SIZE) W.M. - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN. VALVES ARE A SEPARATE PAY ITEM.
- NO BLASTING WILL BE PERMITTED ON THIS PROJECT
- GRIP RINGS SHALL BE INSTALLED ON ALL FITTINGS
- ALL PVC CASING SHALL BE MINIMUM OF 4" LARGER THAN CARRIER PIPE. STEEL CASING MINIMUM 6" LARGER, UNLESS OTHERWISE NOTED.
- ALL EXISTING METERS SHALL BE RECONNECTED TO NEW WATER MAINS W/NEW 3/4" PE SERVICE LINE.
- NMR - (NEW METER RECONNECT) MARKED ON PLANS WILL NOTE THOSE MATERIALS THAT WILL BE REPLACED WITH NEW METER ASSEMBLY'S (SETTER, BOX, LID, ETC) AND RECONNECTED TO EXISTING SERVICE AND NEW WATER MAIN.
- ANY MAILBOX THAT IS REMOVED FOR THE INSTALLATION OF THE WATER MAIN MUST BE RE-INSTALLED ONCE THE WATER MAIN HAS BEEN INSTALLED.
- ALL CONNECTIONS BETWEEN THE PVC AND HDPE MUST BE SEALED IN PLASTIC AND CONCRETED.

GENERAL NOTES

- NEW LINE AND EXISTING LINES MUST REMAIN IN SERVICE UNTIL ALL METERS ASSEMBLED HAVE BEEN REPLACED AND RECONNECTED TO THE NEW LINE
- NO METERS CAN BE RECONNECTED TO THE NEW WATER MAIN UNTIL TESTING, STERILIZATION AND SAMPLING HAS BEEN SUCCESSFULLY COMPLETED
- COPIES OF ALL BAC-T RESULTS MUST BE PROVIDED TO THE OWNER PRIOR TO RECONNECTS OF ANY METER.
- A NO. 12 AWG INSULATED COPPER LOCATOR WIRE SHALL BE TAPED TO THE TOP OF THE WATER MAIN PIPE. THE INSULATION SHALL BE BLUE FOR WATER. THE WIRE SHALL BE LOOPED OUTSIDE ALL VALVE BOXES W/ ENOUGH SLACK TO ALLOW ACCESS TO THE LOOPS.
- • THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PLUMBING PERMITS NECESSARY TO RELOCATE OR RECONNECT ANY CUSTOMERS METER SERVICE OR SERVICE LINE. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL FEES AND EMPLOY THE NECESSARY LICENSED PLUMBER.

FINAL CLEANUP AND RESTORATION

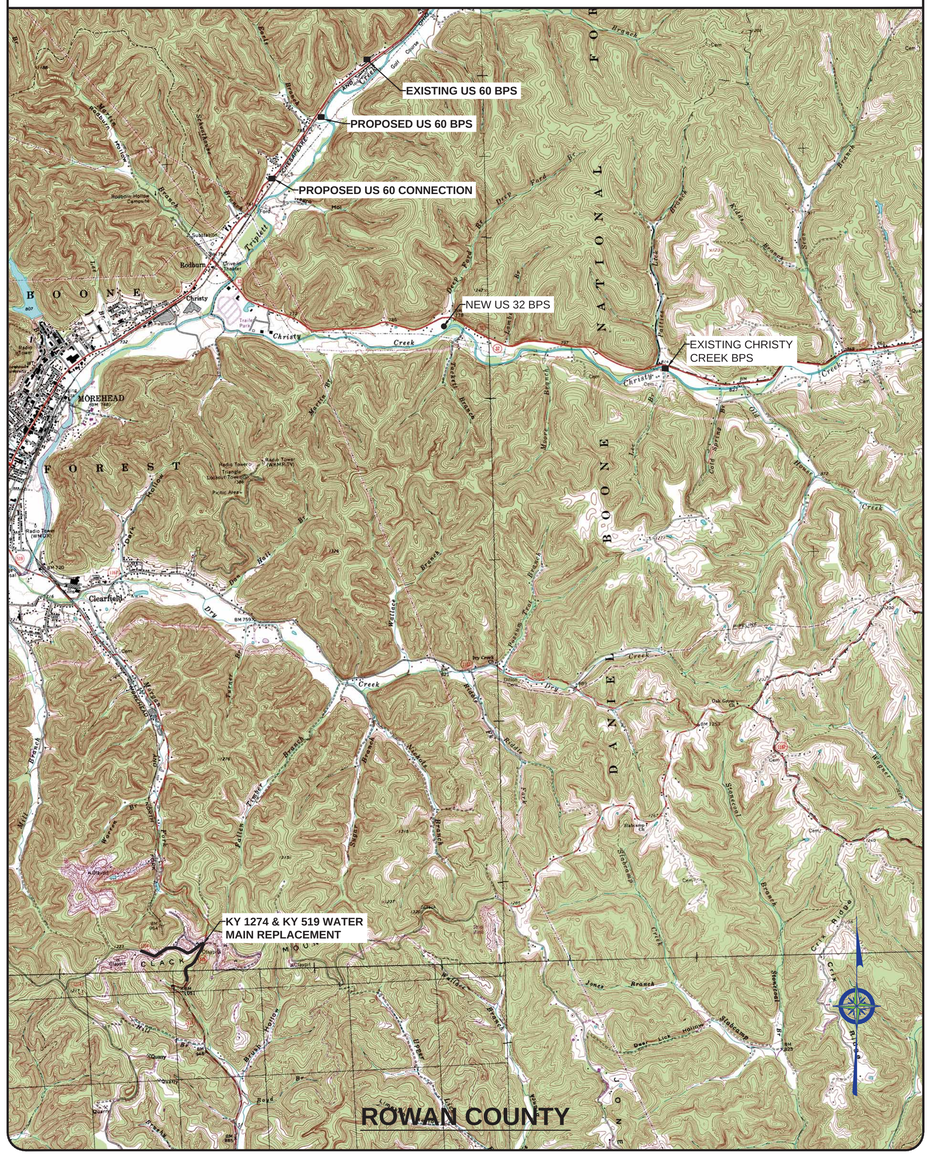
UNLESS SPECIFICALLY APPROVED BY THE OWNER AND ENGINEER, CLEANUP OF DISTURBED AREAS SHALL BE KEPT CURRENT WITH CONSTRUCTION AND RESTORATION EFFORTS BY THE CONTRACTOR INITIATED NO LONGER THAN SEVEN (7) DAYS AFTER THE TRENCH EXCAVATION WORK HAS STARTED. ALL EXCAVATED MATERIAL NOT REQUIRED FOR BACKFILLING OF THE TRENCH AND ANY LARGE ROCKS, STONES OR DEBRIS SHALL BE REMOVED FROM THE SITE, AND SHALL NOT BE A BURDEN TO THE PROPERTY OWNER(S) AND/OR ADJACENT PROPERTIES. THE CONTRACTOR MAY WINDROW OR TRACK-IN THE EXCAVATED MATERIAL OVER THE TRENCH PRIOR TO FINAL CLEANUP TO ALLOW FOR AND TO ASSIST IN THE INITIAL SETTLEMENT OF THE TRENCH. ALL DISTURBED AREAS MUST BE SEEDED AT LEAST WITH A TEMPORARY SEED MIX IF FOR SOME REASON THE AREA CANNOT BE PERMANENTLY SEEDED WITHIN TWO (2) WEEKS.

CONSTRUCTION IN KTC RIGHT-OF-WAY

- ALL EFFECTED KYTC DITCHLINES SHALL REMAIN FREE OF EXCESS SILT OR EROSION AND CONSTRUCTED TO THE NORMAL TYPICAL SECTION OF THE ROADWAY WITH A MINIMUM DEPTH OF 18 INCHES FROM THE SHOULDER BREAK POINT.
- ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT EROSION OR SILTATION OF THE PUBLIC RIGHT-OF-WAY, ADJOINING PROPERTY AND WATERWAYS.
- ALL VALVES TO BE FLUSH W/ EXISTING GRADE.
- ALL WATER LINE LOCATED WITHIN STATE HIGHWAY R.O.W. SHALL BE CONSTRUCTED OUT AND AROUND THE END OF ALL EXISTING CULVERTS AND HEADWALLS.
- UNDERGROUND UTILITIES INSTALLED INSIDE STATE RIGHT-OF-WAY SHALL BE LOCATED WITHIN 3-5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY UNLESS OTHERWISE SHOWN ON THE PLANS.
- UNDERGROUND UTILITIES SHOWN MORE THAN 5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY SHALL BE INSTALLED WITH A MINIMUM DEPTH OF COVER OF 42 INCHES WITH PRIOR APPROVAL ON A CASE BY CASE BASIS.
- UNDERGROUND UTILITIES CROSSING ANY ENTRANCE OR CROSSROAD PAVED WITH CONCRETE OR ASPHALT SURFACE INSIDE STATE RIGHT-OF-WAY SHALL BE INSTALLED BY BORING UNLESS WRITTEN PERMISSION TO OPEN CUT IS OBTAINED FROM THE PROPERTY OWNER AND APPROVED BY THE KYTC DISTRICT PERMITS ENGINEER.
- UNDERGROUND UTILITIES SHALL NOT BE INSTALLED IN EMBANKMENT FILLS OR BETWEEN EDGE OF PAVEMENT AND DITCHLINE UNLESS SPECIFICALLY NOTED ON PERMITTED PLANS.
- FIRE HYDRANTS OR UTILITY SERVICE BOXES SHALL BE LOCATED WITHIN 2 FEET FROM THE EDGE OF RIGHT-OF-WAY LINE, OR OFF RIGHT-OF-WAY.

DRAWING INDEX

PROJECT MAP



LEGEND

- NEW WATER MAIN
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER
- EXISTING GAS MAIN
- EXISTING FORCE MAIN
- NEW STEEL CASING
- EXISTING CULVERT
- NEW FLUSHING HYDRANT
- EXISTING FLUSHING HYDRANT
- EXISTING WATER METER
- NEW GATE VALVE & BOX
- EXISTING MANHOLE
- AIR RELEASE
- BLOW OFF ASSEMBLY

UTILITIES

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

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

NOTE:

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

WATER
ROWAN COUNTY WATER DISTRICT
1765 CHRISTY CREEK
MOREHEAD, KY
(606) 784-9818
JERRY PATRICK - MANAGER

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

PROJECT MAP, EXISTING UTILITIES & DRAWING INDEX

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	PBR

STATE OF KENTUCKY — BRYAN C. LOWAY — 25540 — LICENSED PROFESSIONAL ENGINEER — 12-6-22

01

BID SET

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02

BID SET

STATE OF KENTUCKY
BRYAN P. BLEVINS
LICENSED PROFESSIONAL ENGINEER
12-6-22

PROJECT #:	20020
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BLUEGRASS ENGINEERING PLLC
222 East Main Street. Ste. 1 • Georgetown, KY 40324

2021 WATER SYSTEM IMPROVEMENTS

KY 519 & KY 1274

NO.	DATE	REVISIONS	BY

35+00

40+00

45+00

50+00

65+00

70+00

700 L.F. OF 6" HDPE DR9
(DIRECTIONAL DRILL)

EX. 24"
CONCRETE
CULVERT

EX. 24"
CONCRETE
CULVERT

4" PVC CL. DR18

LAY W.M.
UNDER EX.
CULVERT

LAY W.M.
UNDER EX.
CULVERT

KY HIGHWAY 519

KY HIGHWAY 519

MATCH LINE SEE SHEET 2

STATION 50+00 END
DIRECTIONAL DRILL

4" BLOWOFF
ASSEMBLY

STATION 71+33
4" TAPPING SLEEVE
& VALVE

WAT

71+33

EX. 3" PVC
CL. 250

MCDANIEL CEMETERY ROAD

EX. 4" W.M.
(TO REMAIN IN
SERVICE)

4" BLOWOFF
ASSEMBLY

CUT & PLUG
AT EX. METER

EX. 4" W.M.
(TO BE
ABANDONED)

100 0 100 200

SCALE: 1" = 100'

B:\PROJECTS\Rowan\20020 - 2021 Water System Improvments\Drawings\KY 519 & KY 1274.dwg BE 12/06/22

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2021 WATER SYSTEM IMPROVEMENTS

KY 519 & KY 1274

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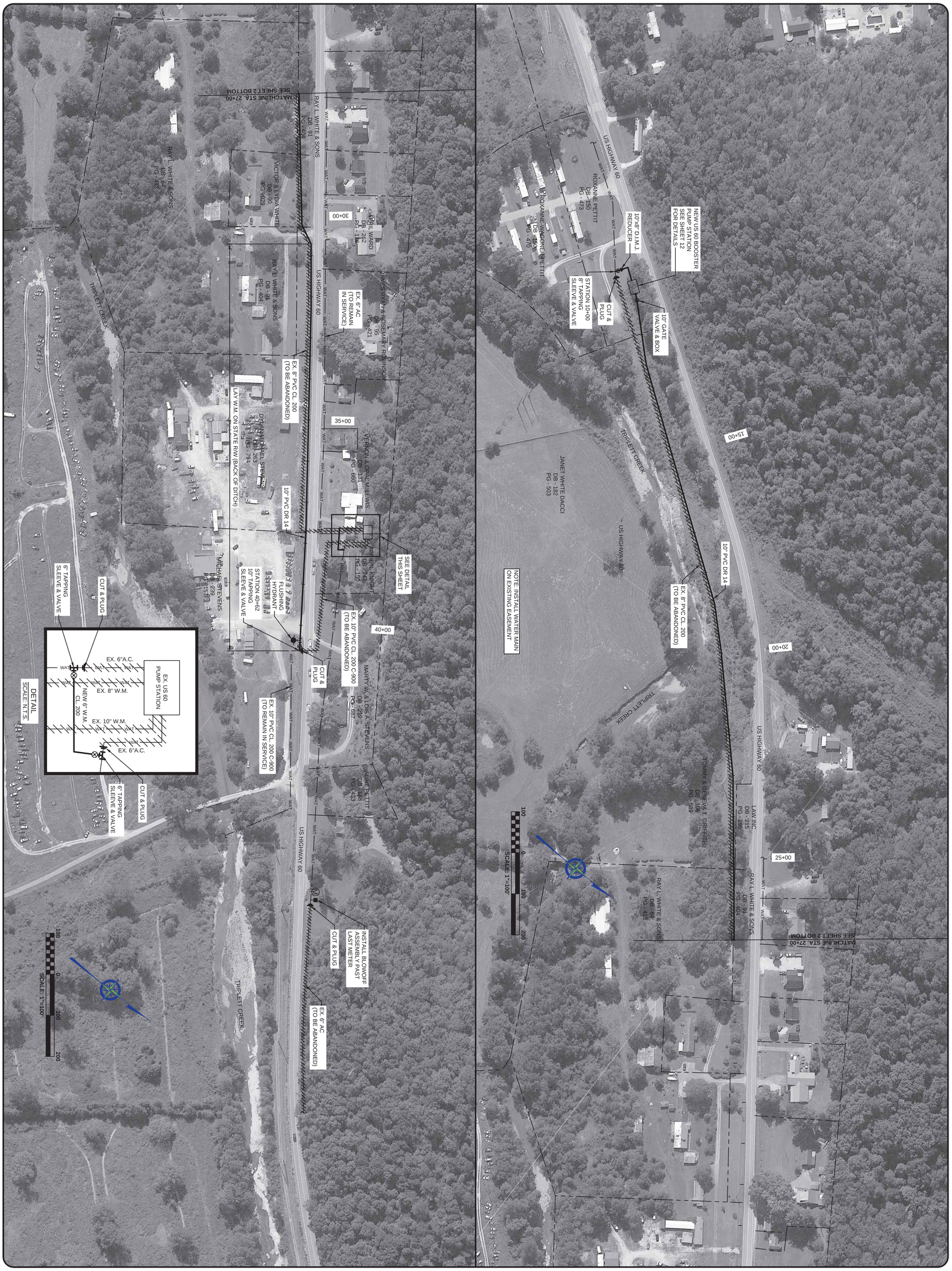
STATE OF KENTUCKY
BRYAN K. EDWARDS
19340
LICENSED PROFESSIONAL ENGINEER
12-6-22

BID SET

03

B:\PROJECTS\Rowan\20020 - 2021 Water System Improvments\Drawings\20020-US 60.dwg BE 12/06/22



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

2021 WATER SYSTEM IMPROVEMENTS

US 60 WATER MAIN REPLACEMENT

NO.	DATE	REVISIONS	BY

04

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05

BID SET

BRYAN C. BUTLER
LICENSED PROFESSIONAL ENGINEER
12-6-22

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

2021 WATER SYSTEM IMPROVEMENTS

US 60 WATER MAIN REPLACEMENT

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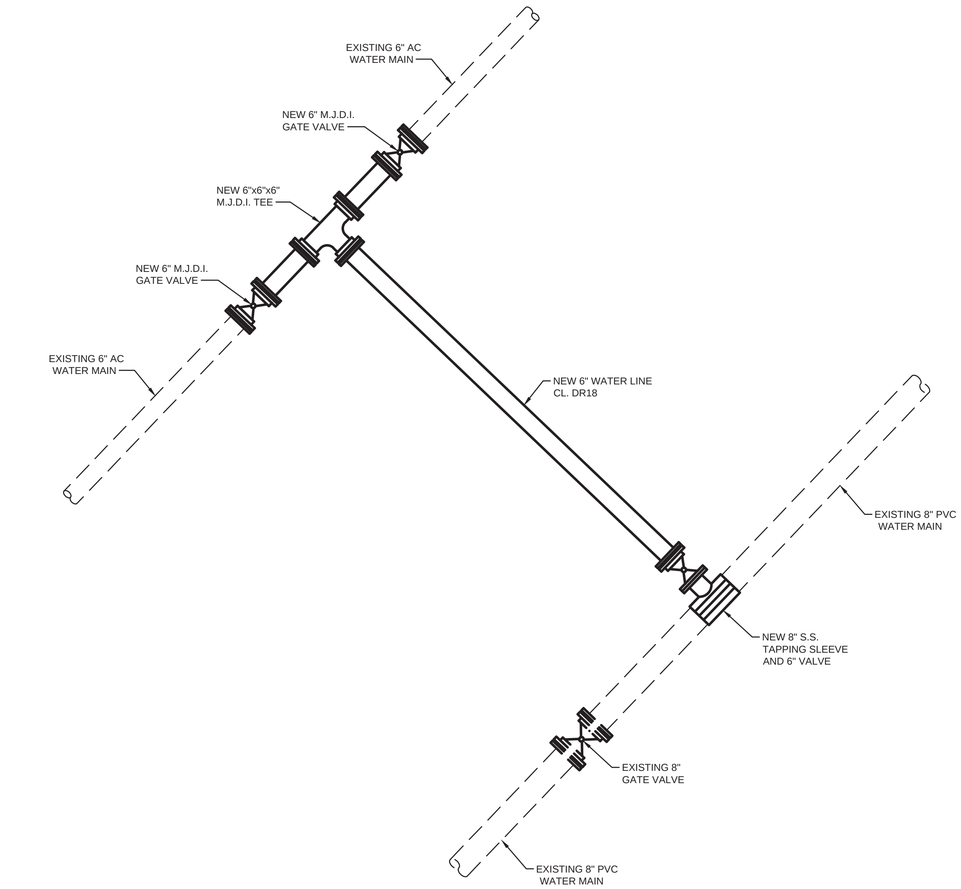
US 60 CONNECTION - AERIAL SITE PLAN

SCALE: 1" = 20'



US 60 CONNECTION - DETAIL

SCALE: NOT TO SCALE

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

US 60 CONNECTION

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

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CHECKED BY:	BKL

STATE OF KENTUCKY
BRYAN K. LOWE
19540
LICENSED PROFESSIONAL ENGINEER
12-6-22

SHEET NO.
06

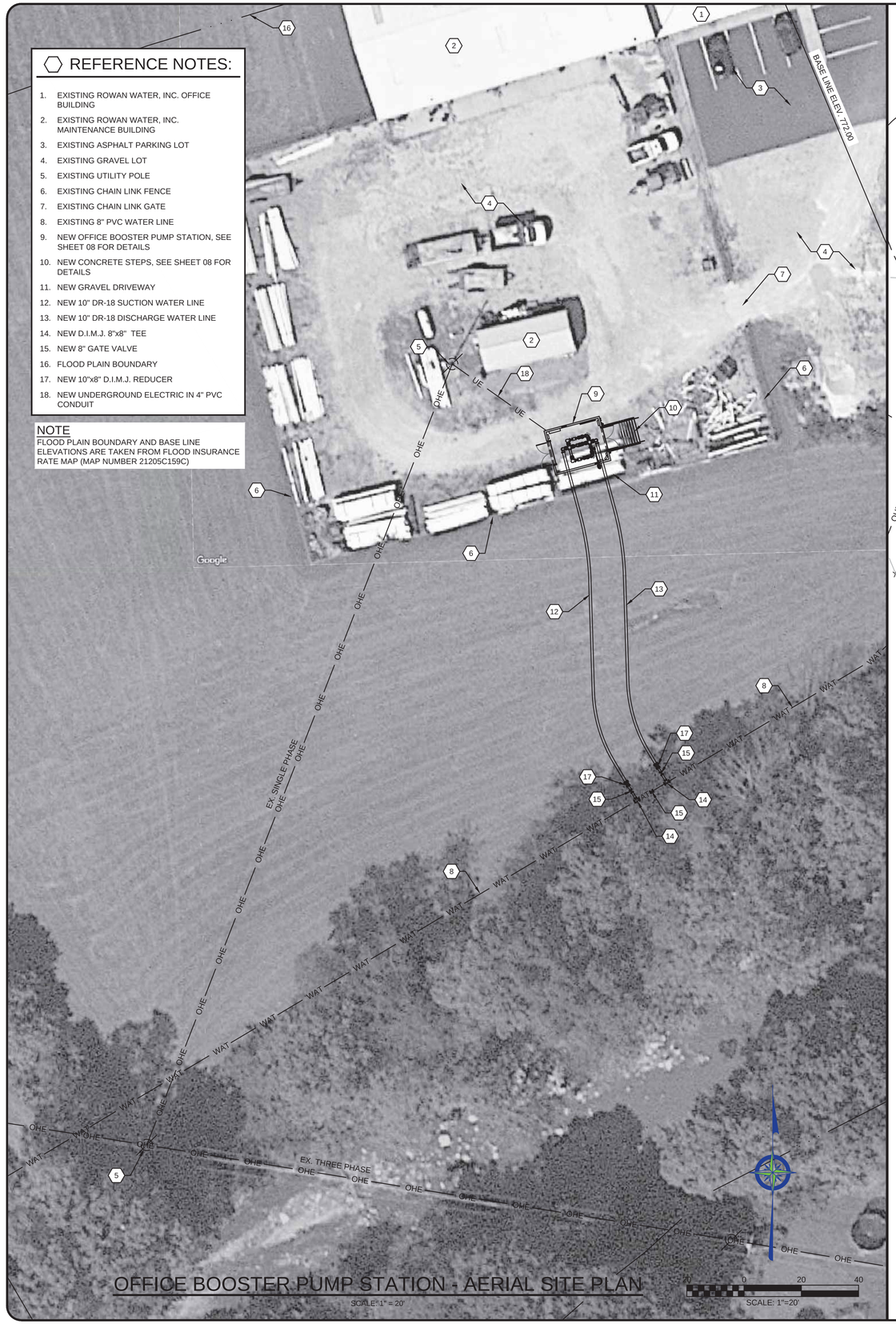
BID SET

B:\PROJECTS\Rowan\20020 - 2021 Water System Improvments\Drawings\20020-06 Pump Station.dwg BE 12/06/22

REFERENCE NOTES:

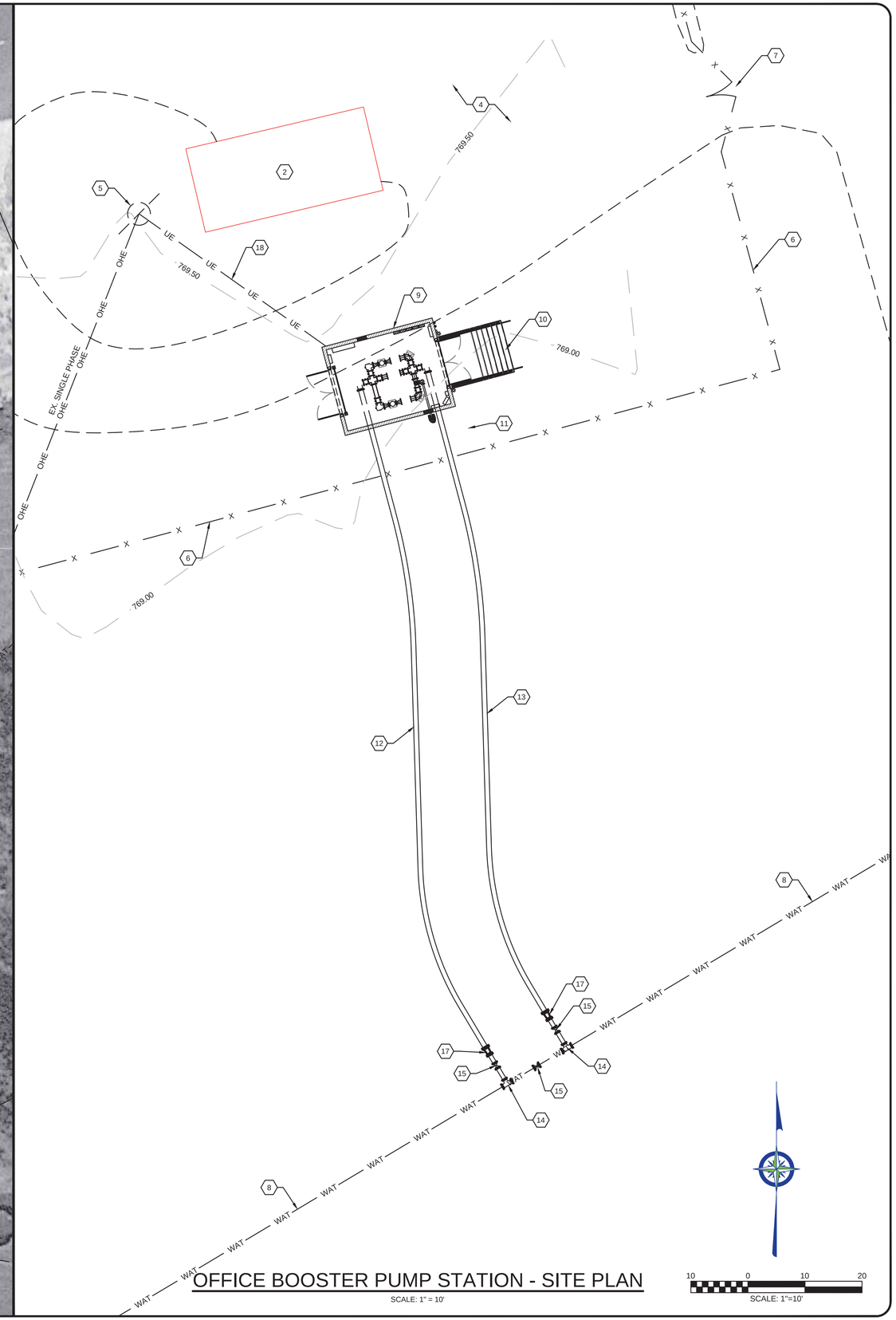
1. EXISTING ROWAN WATER, INC. OFFICE BUILDING
2. EXISTING ROWAN WATER, INC. MAINTENANCE BUILDING
3. EXISTING ASPHALT PARKING LOT
4. EXISTING GRAVEL LOT
5. EXISTING UTILITY POLE
6. EXISTING CHAIN LINK FENCE
7. EXISTING CHAIN LINK GATE
8. EXISTING 8" PVC WATER LINE
9. NEW OFFICE BOOSTER PUMP STATION, SEE SHEET 08 FOR DETAILS
10. NEW CONCRETE STEPS, SEE SHEET 08 FOR DETAILS
11. NEW GRAVEL DRIVEWAY
12. NEW 10" DR-18 SUCTION WATER LINE
13. NEW 10" DR-18 DISCHARGE WATER LINE
14. NEW D.I.M.J. 8"x8" TEE
15. NEW 8" GATE VALVE
16. FLOOD PLAIN BOUNDARY
17. NEW 10"x8" D.I.M.J. REDUCER
18. NEW UNDERGROUND ELECTRIC IN 4" PVC CONDUIT

NOTE
FLOOD PLAIN BOUNDARY AND BASE LINE ELEVATIONS ARE TAKEN FROM FLOOD INSURANCE RATE MAP (MAP NUMBER 21205C159C)



OFFICE BOOSTER PUMP STATION - AERIAL SITE PLAN
SCALE: 1" = 20'

SCALE: 1"=20'



OFFICE BOOSTER PUMP STATION - SITE PLAN
SCALE: 1" = 10'

SCALE: 1"=10'

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2021 WATER SYSTEM IMPROVEMENTS

OFFICE BOOSTER PUMP STATION

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

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STATE OF KENTUCKY
BRYAN C. ROWE
25401
LICENSED PROFESSIONAL ENGINEER
12-6-22

07

BID SET

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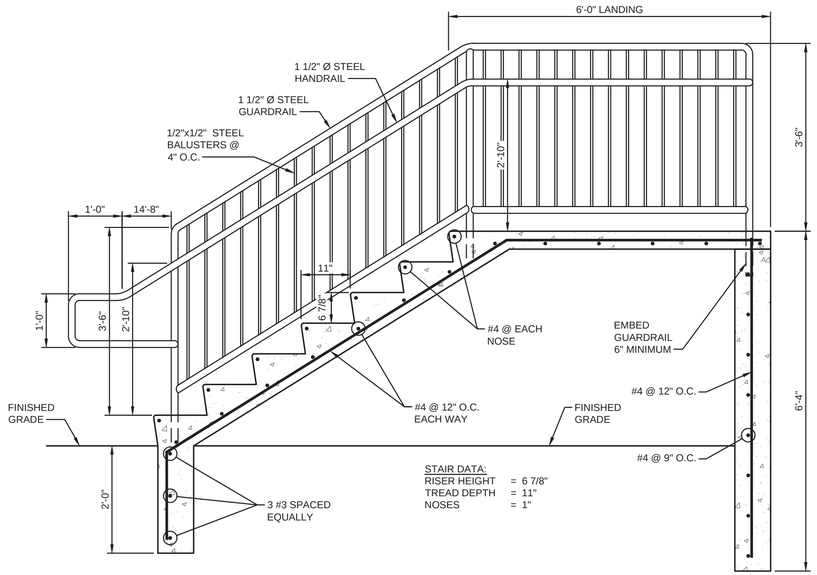
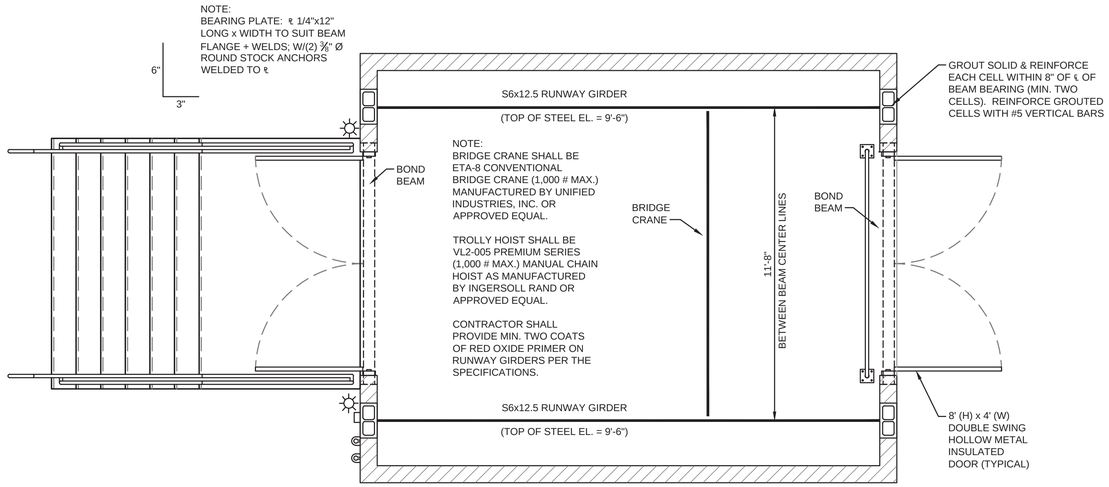


TYPICAL STAIR SECTION

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



RUNWAY GIRDER - PLAN

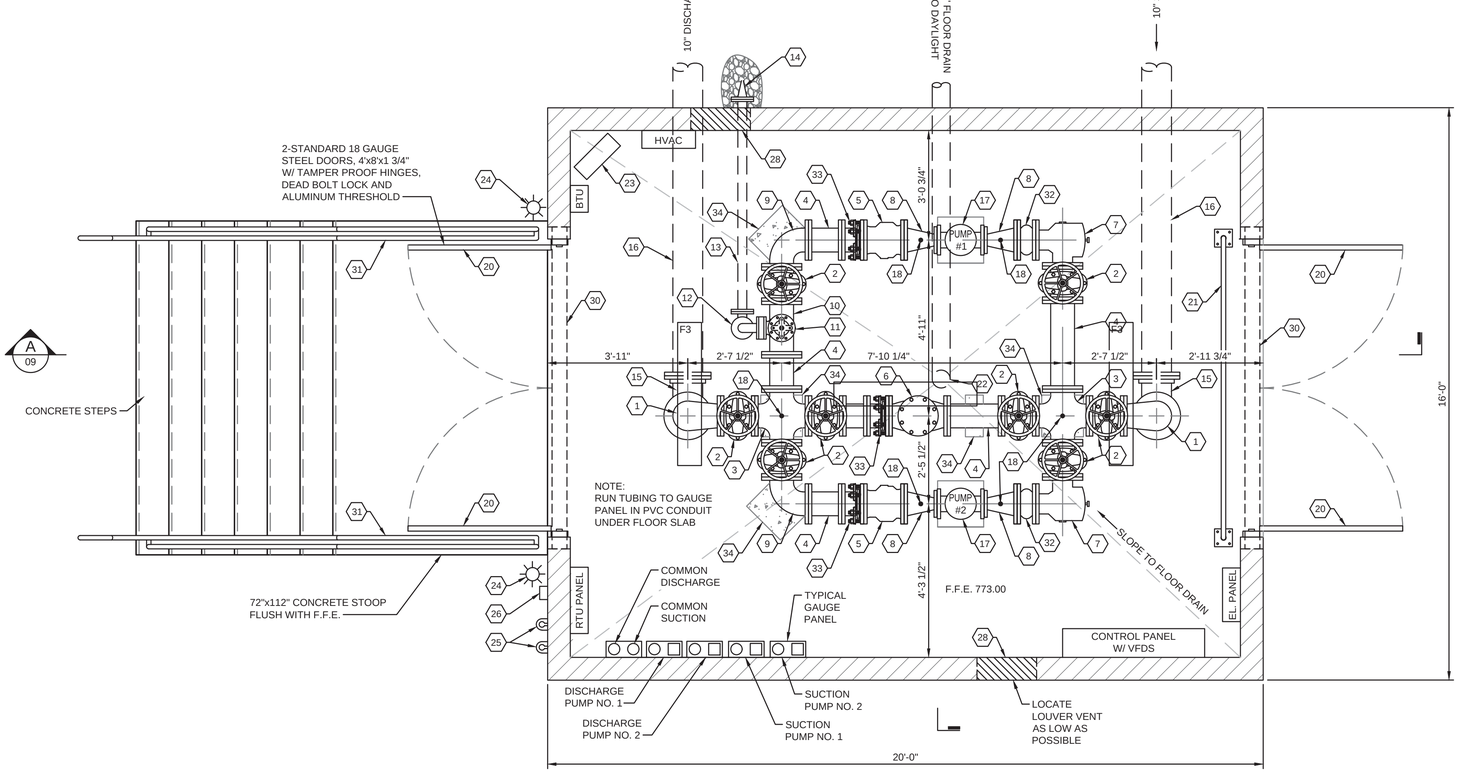
NOT TO SCALE

NOTES:

1. ALL GASKETS SHALL BE THE FULL FACE FLANGE -TYTE® OR RIGHT FLANGE-TYTE® GASKETS WITH THE THREE (3) BULB TYPE RINGS AS MANUFACTURED BY UNITED STATES PIPE AND FOUNDRY COMPANY, LLC ON ALL DUCTILE IRON FLANGED JOINT. THESE GASKETS ARE DESIGNED SPECIFICALLY FOR THE UNIQUE SURFACE OF DUCTILE IRON FLANGES AND FLAT RUBBER GASKETS OR GASKETS WITH A SINGLE RIBBED SIDE ARE NOTE CONSIDERED EQUAL IN PERFORMANCE AND WILL NOT BE ALLOWED.
2. PUMP STATION BUILDING SHALL BE SPLIT FACED BLOCK.
3. SUCTION DIFFUSERS SHALL BE INSTALLED IN 90° FITTINGS ON SUCTION SIDE OF PUMPS.
4. DIMENSIONS DO NOT INCLUDE ALLOWANCE FOR FULL FACE GASKETS BETWEEN FITTINGS.
5. CONTRACTOR TO VERIFY LOCATION AND FINAL SIZE OF ELECTRICAL CONDUITS W/ SUB-CONTRACTOR PRIOR TO CONSTRUCTION
6. CONCRETE THRUST BLOCKING AND PIPE STANDS NOT SHOWN FOR CLARITY. CONCRETE THRUST BLOCKING/SUPPORTS SHALL BE PROVIDED AT ALL TEES AND BENDS IN STATION.
7. CONCRETE THRUST BLOCKING SHALL BE ANCHORED TO FLOOR SLAB USING REINFORCING BARS AND EPOXY DOWELS PER SPECIFICATIONS.
8. PIE STANDS SHALL BE PROVIDED AT LOCATIONS REQUIRED TO PROPERLY SUPPORT THE PIPING AND FITTINGS.
9. ALL PIPING AND FITTINGS ON THE DISCHARGE SIDE OF THE PUMP SHALL HAVE CLASS #125 FLANGES. ALL PIPING AND FITTINGS ON THE SUCTION SIDE OF THE PUMPS SHALL HAVE CLASS #125 FLANGES.

⟨X⟩ REFERENCE NOTES:

1. 10"x8" REDUCING FLG. 90° BEND
2. 8" FLG. GATE VALVE W/ HANDWHEEL
3. 8"x8"x8"x8" CROSS FLG.
4. 8" FLG. SPOOL PIECE
5. 8" FLG. GLOBE CHECK VALVE
6. 8" FLG. SWING CHECK VALVE
7. 8" FLG. 90° SUCTION DIFFUSER
8. 8"x4" FLG. ECC REDUCER
9. 8" FLG. 90° BEND
10. 8"x3" FLG. TEE
11. 3" SURGE ANTICIPATOR/SURGE RELIEF VALVE MOUNTED ON TEE TURNED VERTICALLY
12. 3" FLG. 90° FITTING
13. 3" FLG. SPOOL PIECE
14. 3" DUCKBILL CHECK VALVE W/ #4 CRUSHED STONE SPLASH PAD
15. 10" D.I.M.J. 90° BEND
16. 10" D.I. WATER MAIN
17. 20 HP PUMP "GRUNFOS", CR-64-2-1
18. PRESSURE TAPS W/ PULSATION DAMPERS
19. TAP
20. 8' (H) x 4' (W) DOUBLE SWING HOLLOW METAL INSULATED DOOR
21. REMOVABLE GUARD RAIL
22. 6" FLOOR DRAIN
23. DEHUMIDIFIER
24. SECURITY LIGHT (COORD. W/ ELEC. PLANS)
25. RED & GREEN EXTERIOR LIGHTS W/ GLOBE LIGHT
26. ALARM HORN & STROBE LIGHT
27. 34,000 BTU HEATER
28. EXHAUST FAN
29. LOUVER VENT
30. BOND BEAM
31. HANDRAIL
32. 8" EPDM EXPANSION JOINT W/SINGLE FILLED ARCH
33. 8" D.E. FLG. DISMANTLING JOINT BY ROMAC D.J.-400
34. CONCRETE SUPPORT



OFFICE BOOSTER PUMP STATION - PLAN

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

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

OFFICE BOOSTER PUMP STATION

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	BKL

SHEET NO.

08

BID SET

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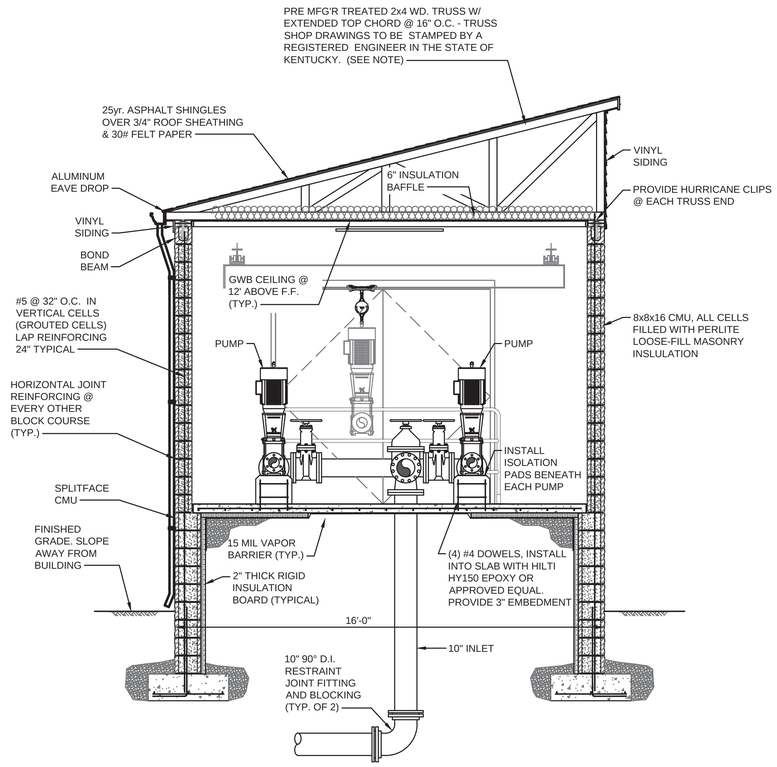
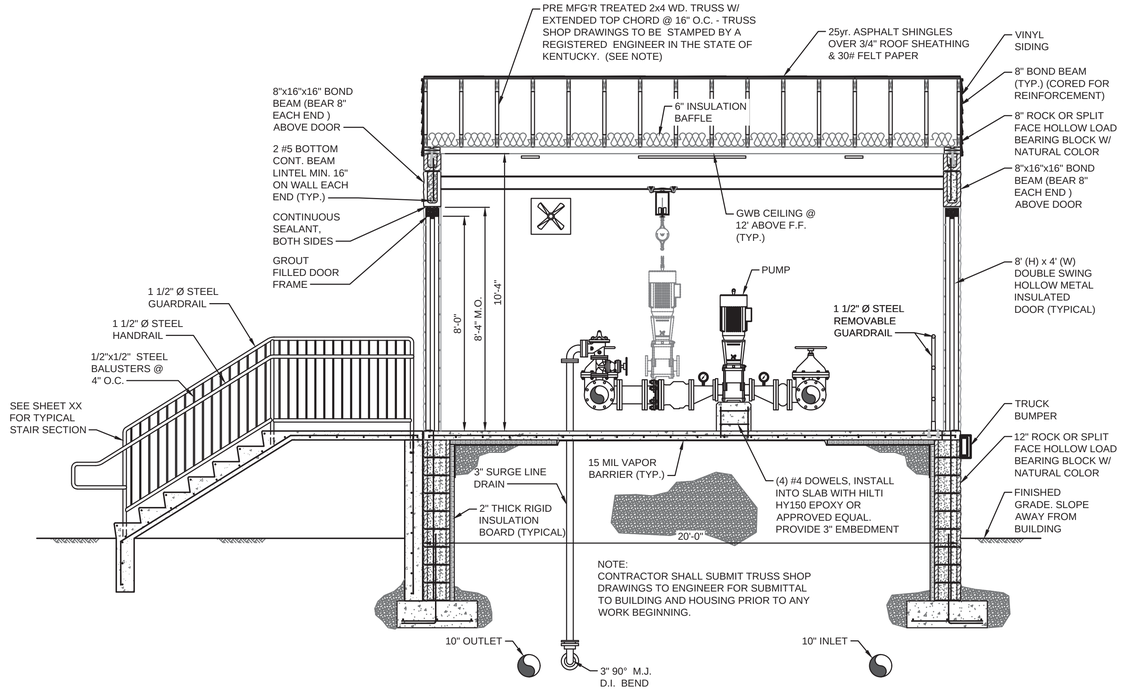
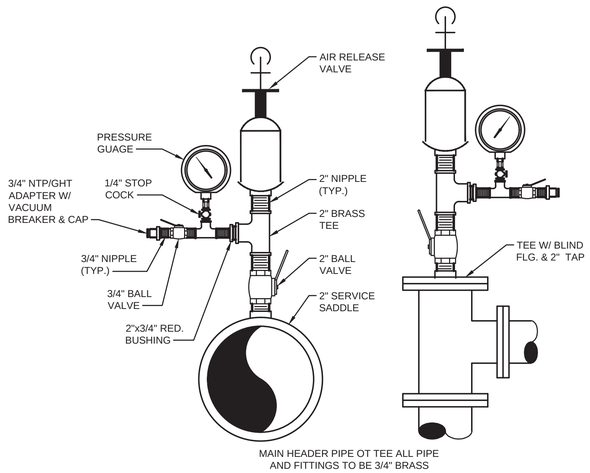


B/09 SECTION
SCALE: 3/8"=1'-0"

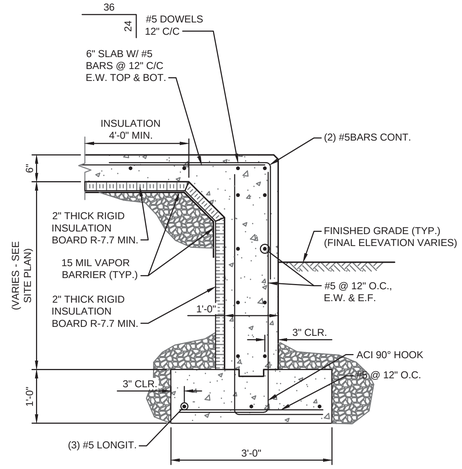


A/09 SECTION
SCALE: 3/8"=1'-0"



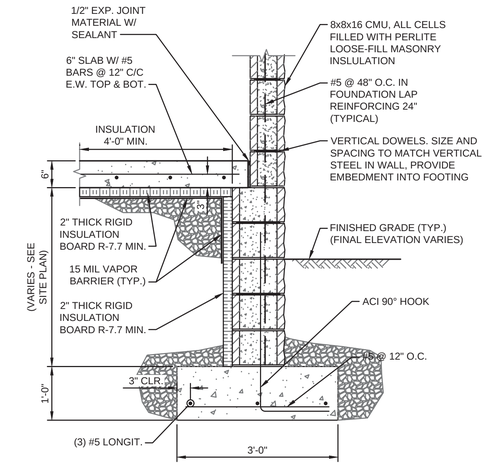
PRESSURE GAUGE / AIR RELEASE VALVE ASSEMBLY

NOT TO SCALE



TYPICAL POURED CONCRETE FOUNDATION - SECTION

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



TYPICAL CMU FOUNDATION - SECTION

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

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2021 WATER SYSTEM IMPROVEMENTS

OFFICE BOOSTER PUMP STATION

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	BKL

STATE OF KENTUCKY
BRYAN K. LOVAN
19540
LICENSED PROFESSIONAL ENGINEER
12-6-22

SHEET NO.
09

BID SET

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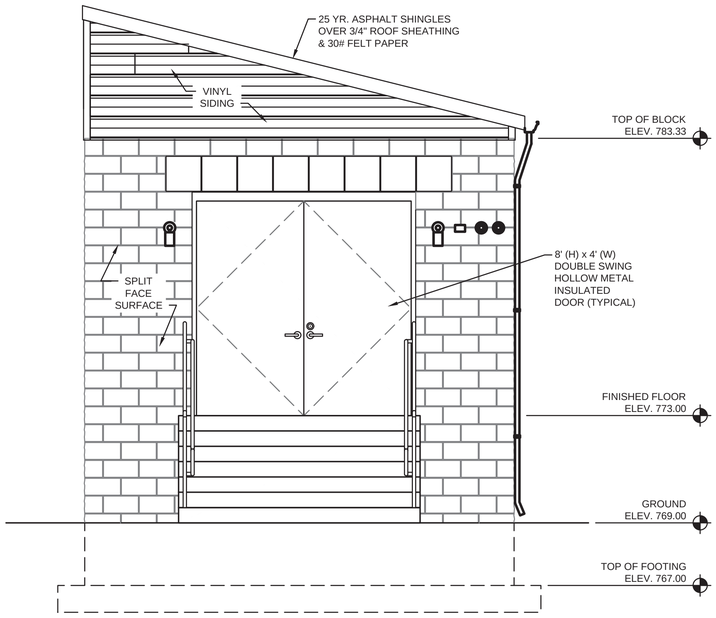
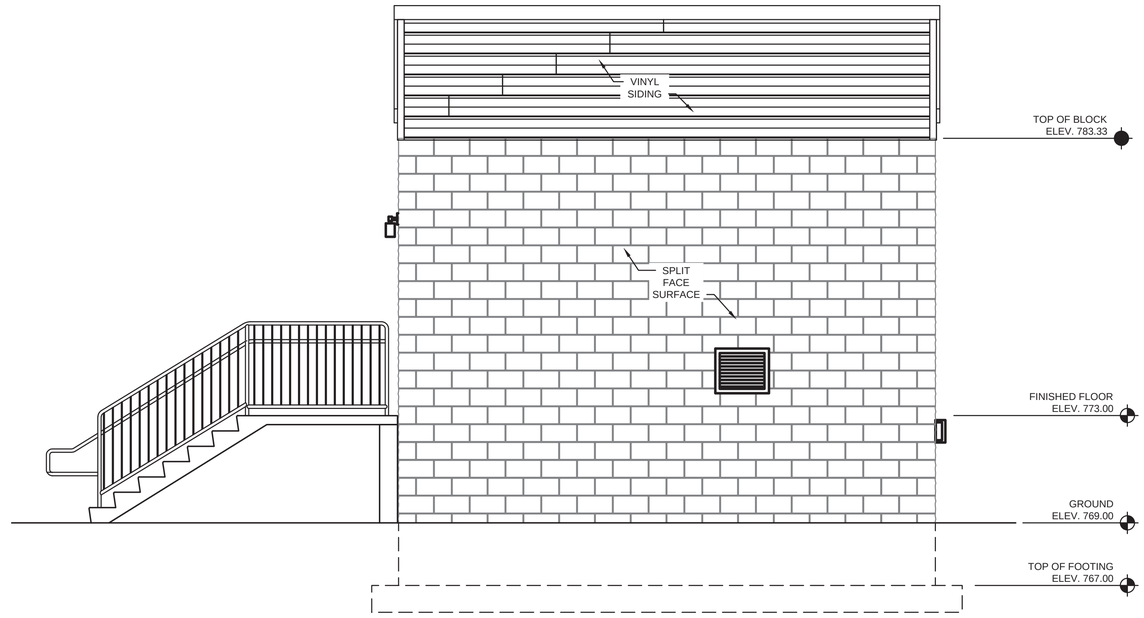


FRONT ELEVATION VIEW

SCALE: 3/8"=1'-0"

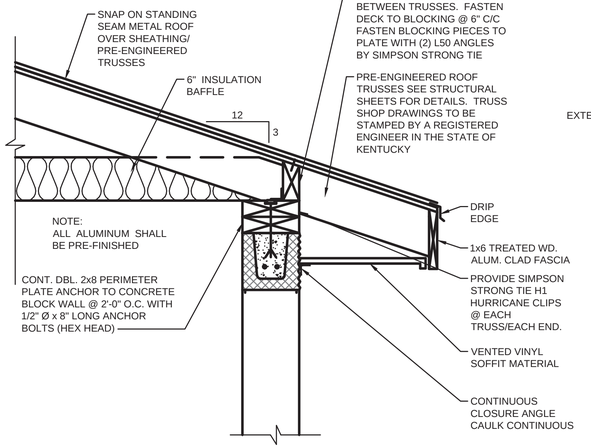


RIGHT ELEVATION VIEW

SCALE: 3/8"=1'-0"

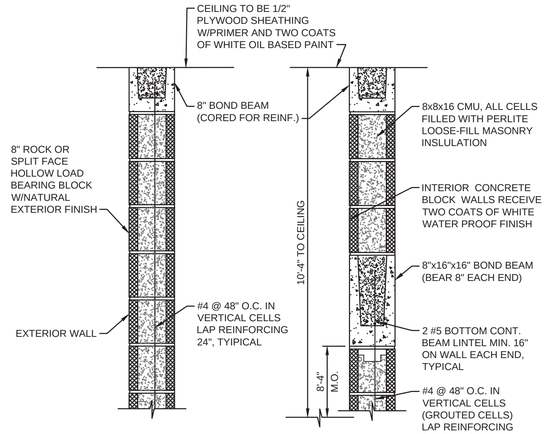
TRUSS NOTES:

1. TRUSS SPACING : 24" O.C. UNLESS NOTED OTHERWISE.
2. ROOF TRUSS LOADING: 40 P.S.F.
   a. TC LL: 20 P.S.F.
   b. TC DL: 10 P.S.F.
   c. BC DL: 10 P.S.F.
3. MAXIMUM TOTAL DEFLECTION = L/240.
4. ROOF TRUSS MATERIALS SHALL BE - TREATED SOUTHERN PINE (MIN. GRADE 2)
5. TRUSS MANUFACTURER SHALL DESIGN ALL TEMPORARY AND PERMANENT LATERAL BRIDGING AND BRACING.
6. ENGINEERING CERTIFICATION: TRUSS MANUFACTURER SHALL FURNISH THE SERVICES OF A REGISTERED STRUCTURAL ENGINEER FOR THE DESIGN AND CERTIFICATION OF PREFABRICATED COMPONENTS (TRUSSES). THE ENGINEER SHALL BE RESPONSIBLE FOR THE CORRECT MANUFACTURING OF THE TRUSSES AND FOR THE LOADING CONDITIONS TO WHICH THE TRUSSES WILL BE SUBJECTED IN THE COMPLETED PROJECT.
7. ALLOWABLE TRUSS SPANS: BASED UPON METAL PLATE CONNECTED WOOD TRUSSES, TPI-78, RECOMMENDED DESIGN PRACTICE BY THE TRUSS PLATE INSTITUTE.
8. ROOF SHEATHING: PROVIDE MINIMUM 19/32 THICK RATED PLYWOOD ROOF SHEATHING WITH UNBLOCKED EDGES. FASTEN ALL SUPPORTED EDGES AND SHEAR BLOCKING WITH 10D GALVANIZED NAILS AT 6" C/C. FASTEN IN THE FIELD AT 12" C/C.
9. GABLE END PANELS: CONNECT BOTTOMS OF GABLE END PANELS TO TOP PLATES WITH HGA10 ANGLES BY SIMPSON STRONG TIE. SPACE ANGLES AT 4'-0" C/C. PROVIDE (3) LINES OF CONTINUOUS 2X4 DIAGONAL BRACING FROM GABLE END TO GABLE END. FASTEN DIAGONALS TO TOP AND BOTTOM "RAT RUNS" WITH (4) 16D GALV. NAILS.



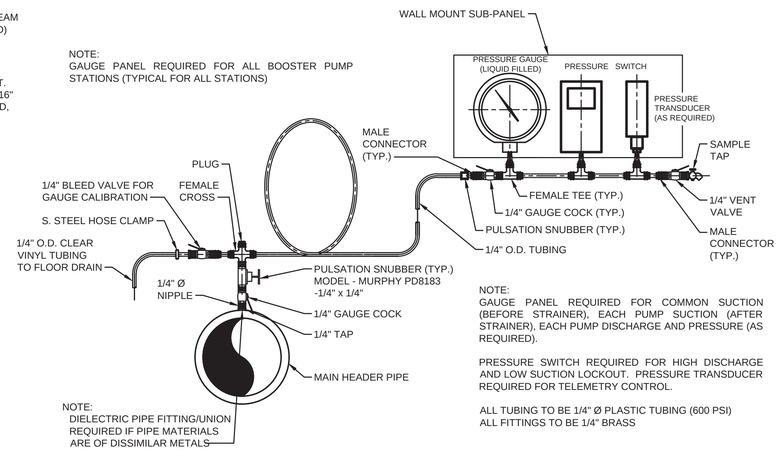
TYPICAL ROOF TRUSS PLAN

NOT TO SCALE



TYPICAL WALL SECTIONS

NOT TO SCALE



SUCTION/DISCHARGE GAUGE PANEL

NOT TO SCALE

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

OFFICE BOOSTER PUMP STATION

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	BKL

STATE OF KENTUCKY
BRYAN K. LOVAN
19540
LICENSED PROFESSIONAL ENGINEER
12-6-22

SHEET NO.
10

BID SET

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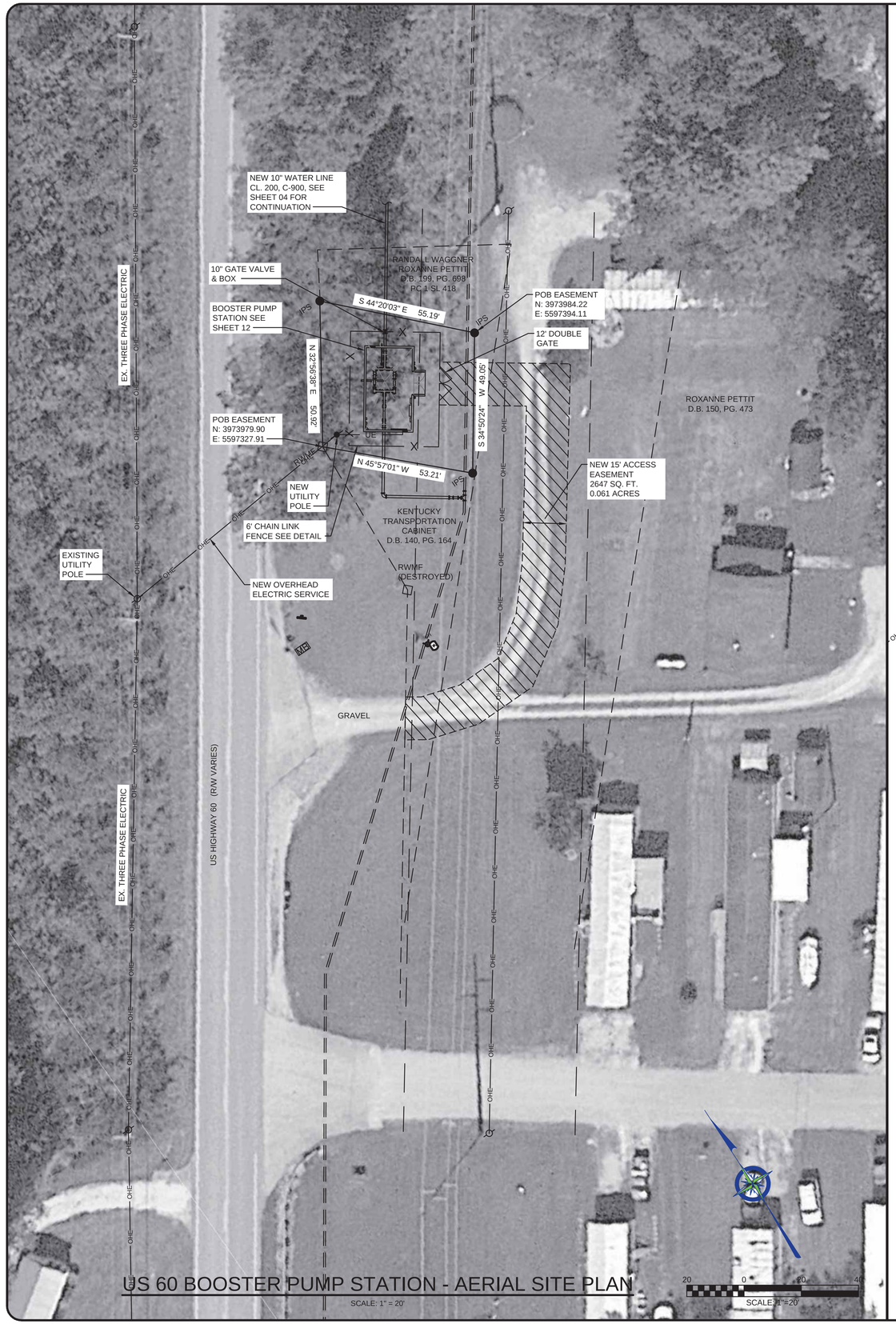
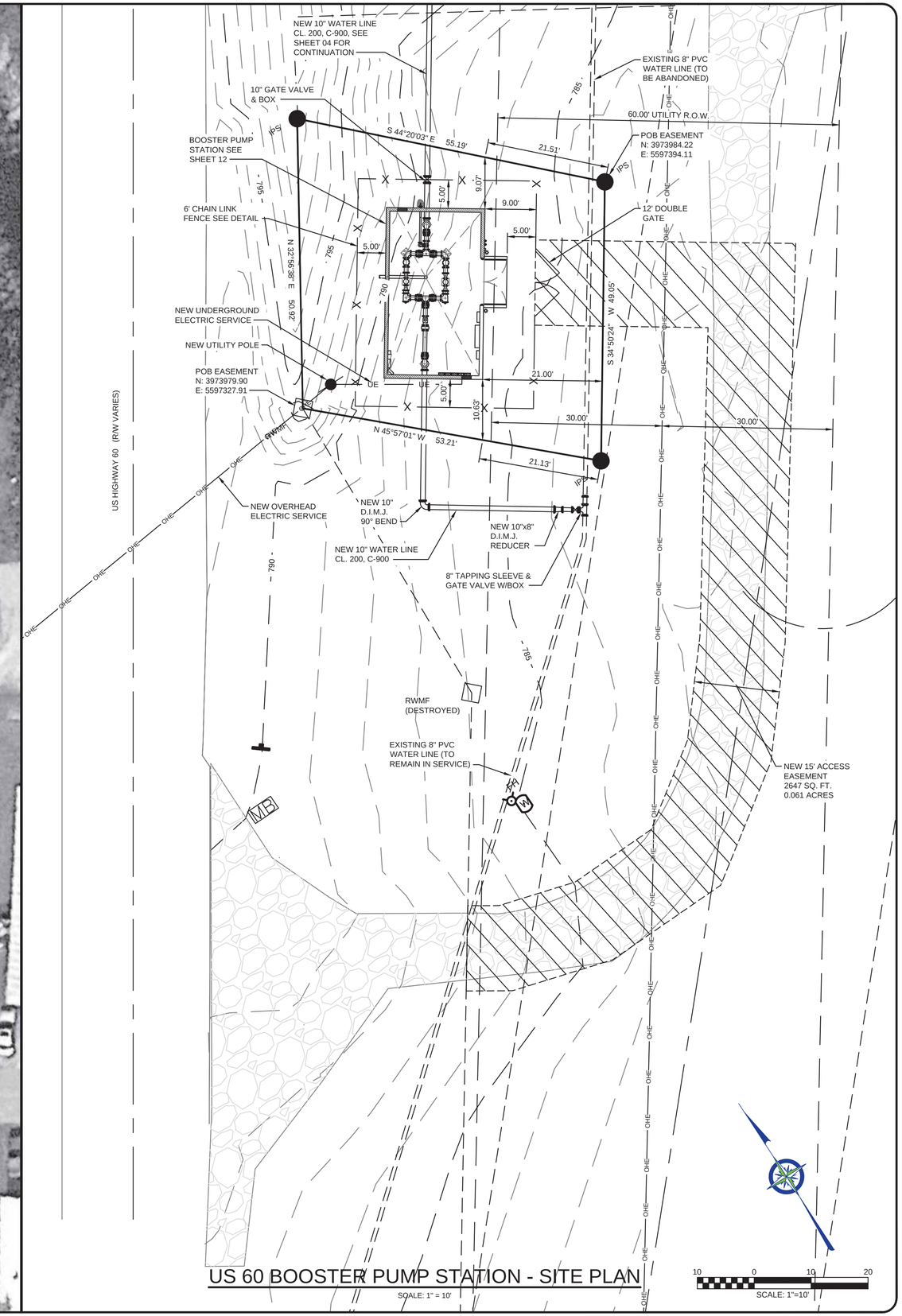


US 60 BOOSTER PUMP STATION - AERIAL SITE PLAN

SCALE: 1" = 20'



US 60 BOOSTER PUMP STATION - SITE PLAN

SCALE: 1" = 10'

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

US 60 BOOSTER PUMP STATION

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

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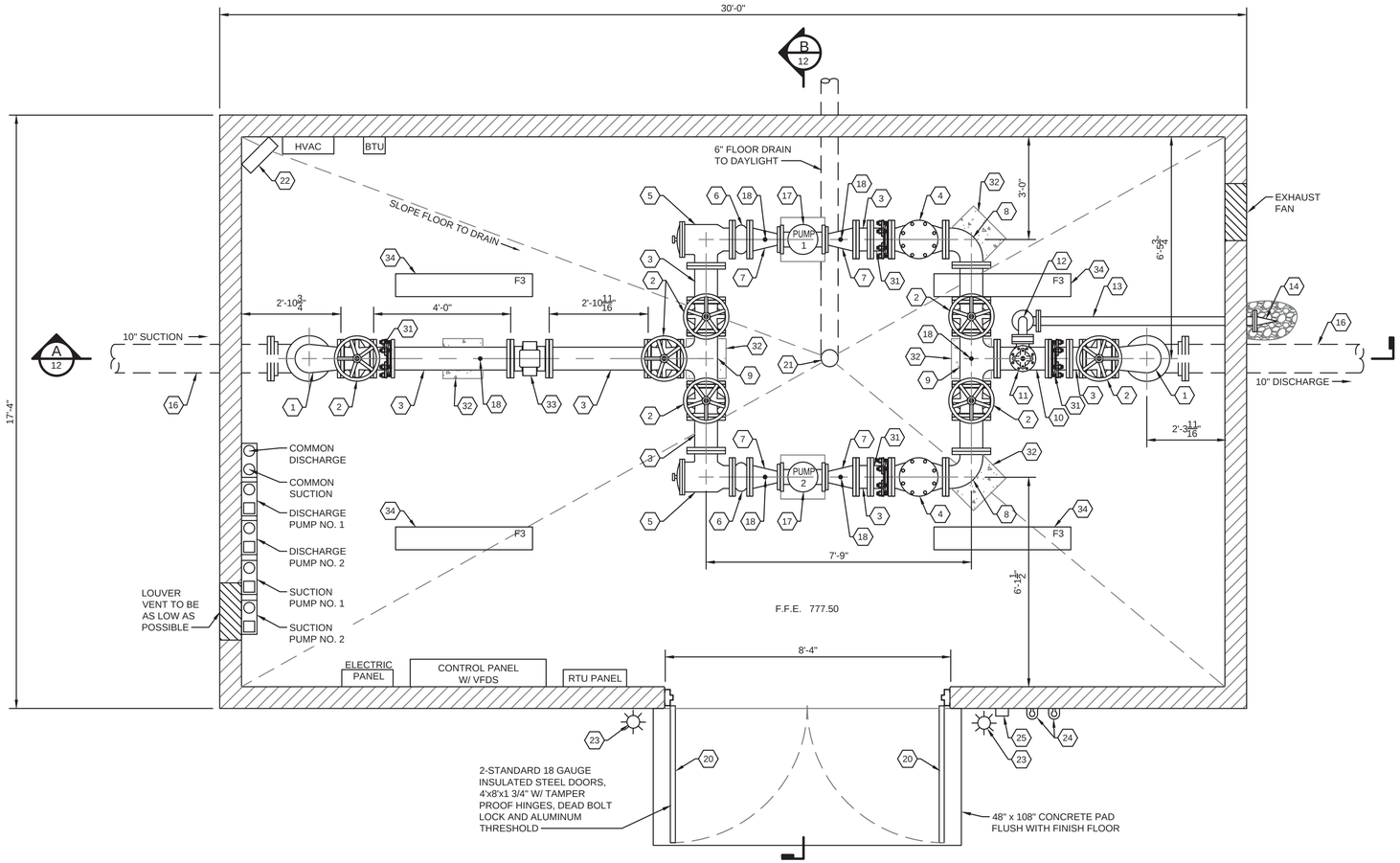
STATE OF KENTUCKY
BRYAN C. EDWARDS
19540
LICENSED PROFESSIONAL ENGINEER
12-6-22

11

BID SET



US 60 BOOSTER PUMP STATION - PLAN

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

X REFERENCE NOTES:

1. 10"x8" REDUCING FLG. 90° BEND
2. 8" FLG. GATE VALVE W/ HANDWHEEL
3. 8" FLG. SPOOL PIECE
4. 8" FLG. CUSHION CHECK VALVE
5. 8" FLG. 90° SUCTION DIFFUSER
6. 8" EPDM EXPANSION JOINT W/SINGLE FILLED ARCH
7. 8"x4" FLG. ECCENTRIC REDUCER
8. 8" FLG. 90° BEND
9. 8"x8"x8" FLG. TEE
10. 8"x3"x8" FLG. TEE
11. 3" SURGE ANTICIPATOR/SURGE RELIEF VALVE MOUNTED ON TEE TURNED VERTICALLY
12. 3" FLG. 90° FITTING
13. 3" FLG. SPOOL PIECE
14. 3" DUCKBILL CHECK VALVE W/ #4 CRUSHED STONE SPLASH PAD
15. 10" D.I.M.J. 90° BEND
16. 10" D.I. WATER MAIN
17. NEW PUMPS - SHALL BE 60 H.P. "GRUNDFOS" CR-95-4-1
18. PRESSURE TAPS W/ PULSATION DAMPERS
19. TAP
20. STANDARD STEEL DOOR
21. 6" FLOOR DRAIN
22. DEHUMIDIFIER
23. SECURITY LIGHT (COORD. W/ ELEC. PLANS)
24. RED & GREEN EXTERIOR LIGHTS W/ GLOBE LIGHT
25. ALARM HORN & STROBE LIGHT
26. 17,000 BTU HEATER
27. EXHAUST FAN
28. LOUVER VENT
29. BOND BEAM
30. NOT USED
31. 8" D.E. FLG. DISMANTLING JOINT BY ROMAC D.J.-400
32. CONCRETE SUPPORT
33. NEW METER - SHALL BE MAGFLUX ELECTROMAGNETIC FLOW METER RATED FOR 150 PSI WORKING PRESSURE OR ENGINEERED APPROVED EQUAL
34. LIGHT SEE SHEET E-01

NOTES:

1. ALL GASKETS SHALL BE THE FULL FACE FLANGE -TYTE® OR RIGHT FLANGE-TYTE® GASKETS WITH THE THREE (3) BULB TYPE RINGS AS MANUFACTURED BY UNITED STATES PIPE AND FOUNDRY COMPANY, LLC ON ALL DUCTILE IRON FLANGED JOINT. THESE GASKETS ARE DESIGNED SPECIFICALLY FOR THE UNIQUE SURFACE OF DUCTILE IRON FLANGES AND FLAT RUBBER GASKETS OR GASKETS WITH A SINGLE RIBBED SIDE ARE NOTE CONSIDERED EQUAL IN PERFORMANCE AND WILL NOT BE ALLOWED.
2. PUMP STATION BUILDING SHALL BE SPLIT FACED BLOCK.
3. SUCTION DIFFUSERS SHALL BE INSTALLED IN 90° FITTINGS ON SUCTION SIDE OF PUMPS.
4. DIMENSIONS DO NOT INCLUDE ALLOWANCE FOR FULL FACE GASKETS BETWEEN FITTINGS.
5. CONTRACTOR TO VERIFY LOCATION AND FINAL SIZE OF ELECTRICAL CONDUITS W/ SUB-CONTRACTOR PRIOR TO CONSTRUCTION
6. CONCRETE THRUST BLOCKING AND PIPE STANDS NOT SHOWN FOR CLARITY. CONCRETE THRUST BLOCKING/SUPPORTS SHALL BE PROVIDED AT ALL TEES AND BENDS IN STATION.
7. CONCRETE THRUST BLOCKING SHALL BE ANCHORED TO FLOOR SLAB USING REINFORCING BARS AND EPOXY DOWELS PER SPECIFICATIONS.
8. PIE STANDS SHALL BE PROVIDED AT LOCATIONS REQUIRED TO PROPERLY SUPPORT THE PIPING AND FITTINGS.
9. ALL PIPING AND FITTINGS ON THE DISCHARGE SIDE OF THE PUMP SHALL HAVE CLASS #125 FLANGES. ALL PIPING AND FITTINGS ON THE SUCTION SIDE OF THE PUMPS SHALL HAVE CLASS #125 FLANGES.

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

US 60 PUMP STATION - PLAN

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

PROJECT #:	20020
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STATE OF KENTUCKY
BRYAN R. EDWARDS
19540
LICENSED PROFESSIONAL ENGINEER
12-6-22

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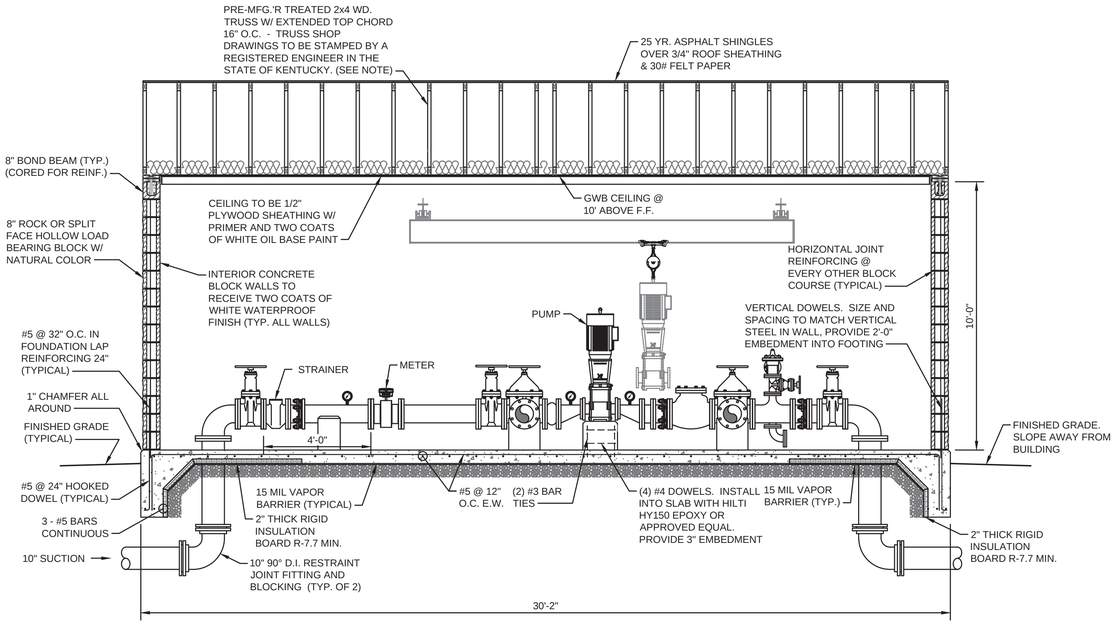
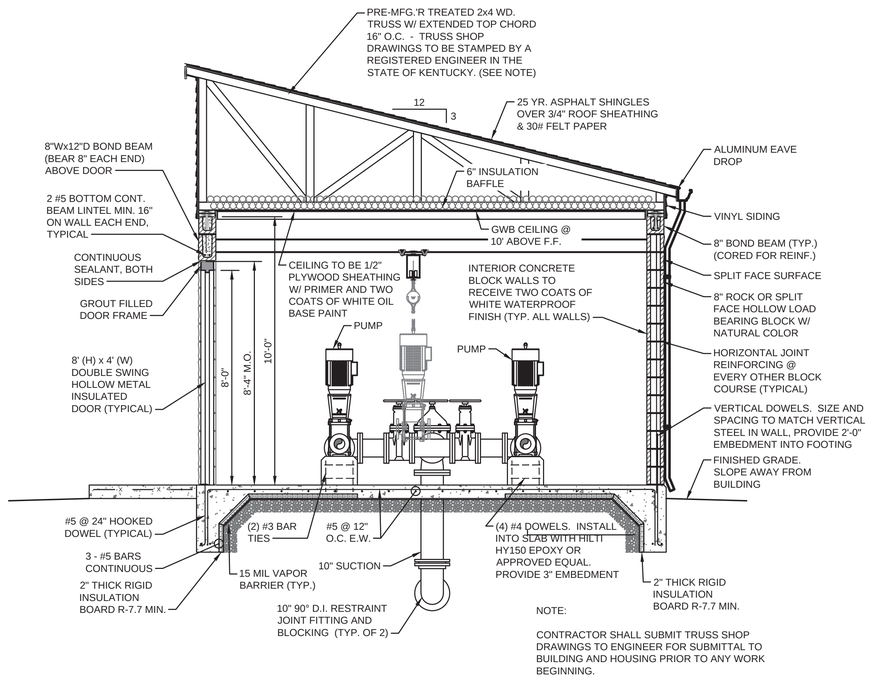


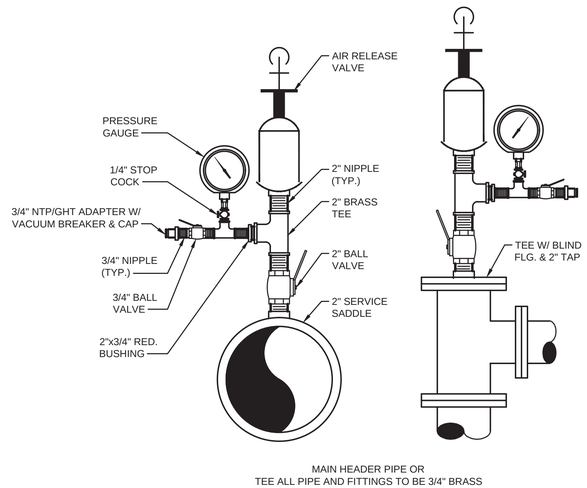
A 12 SECTION

SCALE: 3/8"=1'-0" 0 2' 4' 6'



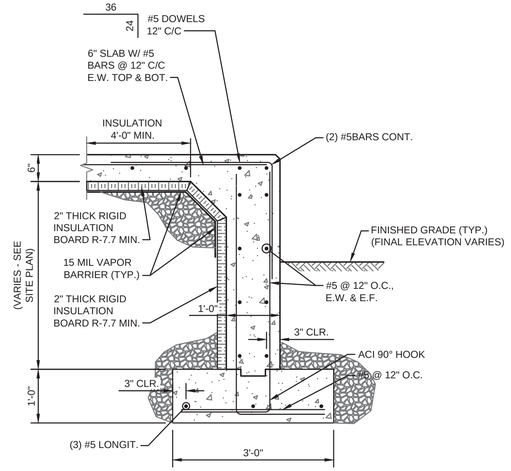
B 12 SECTION

SCALE: 3/8"=1'-0" 0 2' 4' 6'



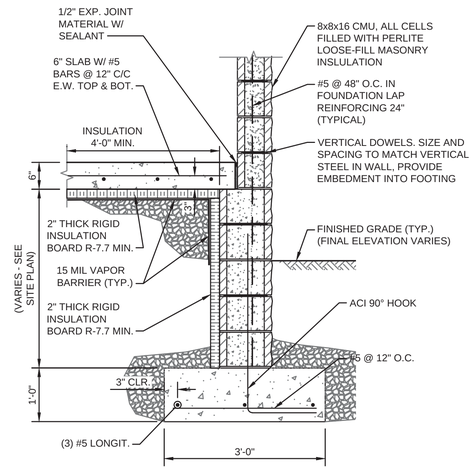
PRESSURE GAUGE / AIR RELEASE VALVE ASSEMBLY

NOT TO SCALE



TYPICAL POURED CONCRETE FOUNDATION - SECTION

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



TYPICAL CMU FOUNDATION - SECTION

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

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2021 WATER SYSTEM IMPROVEMENTS

US 60 PUMP STATION - SECTIONS

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	PBR

STATE OF KENTUCKY BRYAN C. LOWE 25340 LICENSED PROFESSIONAL ENGINEER 12-6-22

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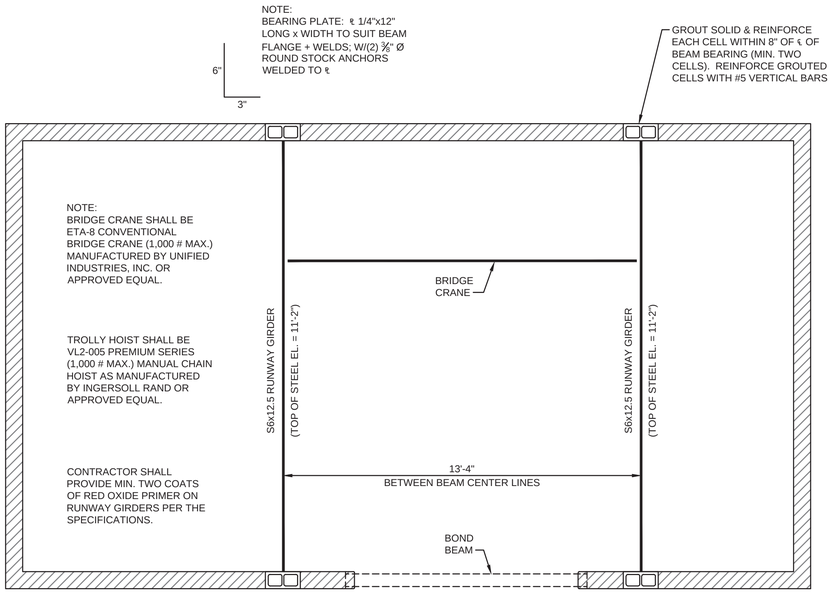
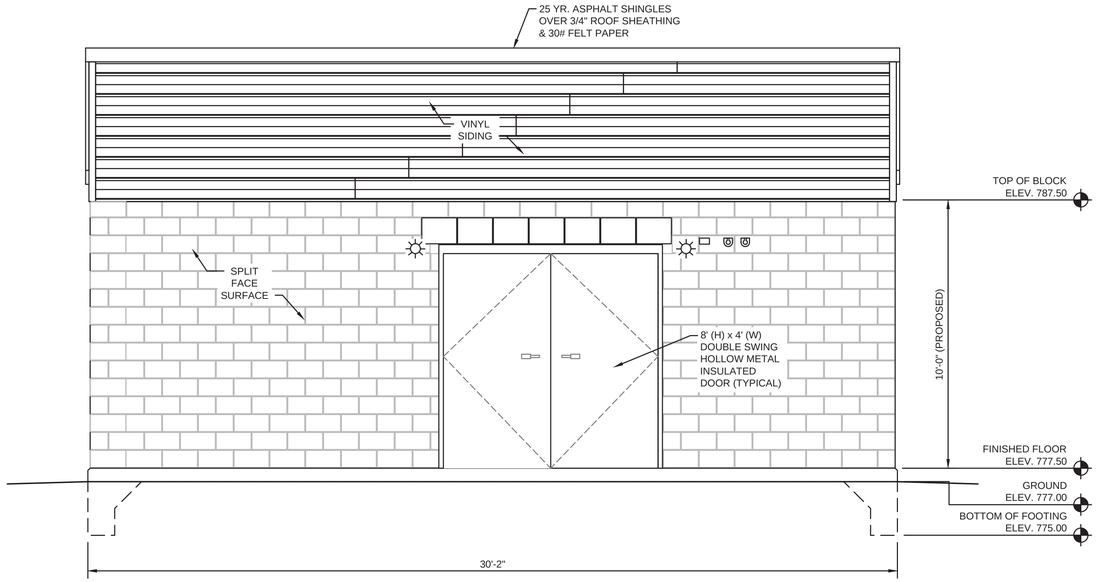


RUNWAY GIRDER - PLAN

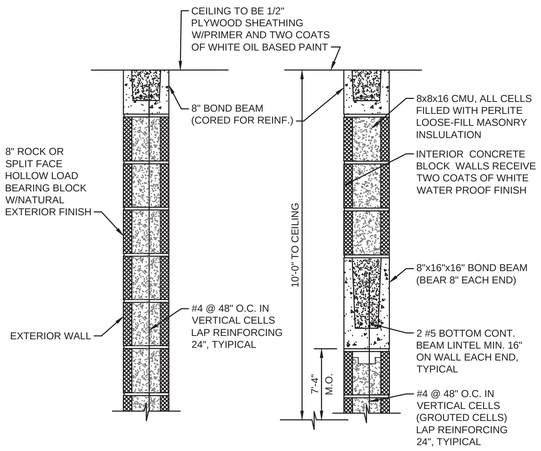
NOT TO SCALE



FRONT ELEVATION VIEW

SCALE: 3/8"=1'-0"

0 2' 4' 6'



TYPICAL WALL SECTIONS

NOT TO SCALE

TRUSS NOTES:

1. TRUSS SPACING : 24" O.C. UNLESS NOTED OTHERWISE.
2. ROOF TRUSS LOADING: 40 P.S.F.
   a. TC LL: 20 P.S.F.
   b. TC DL: 10 P.S.F.
   c. BC DL: 10 P.S.F.
3. MAXIMUM TOTAL DEFLECTION = L/240.
4. ROOF TRUSS MATERIALS SHALL BE - TREATED SOUTHERN PINE (MIN. GRADE 2)
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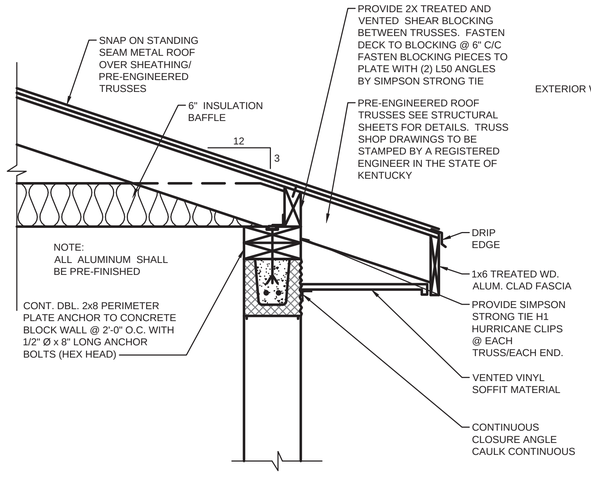
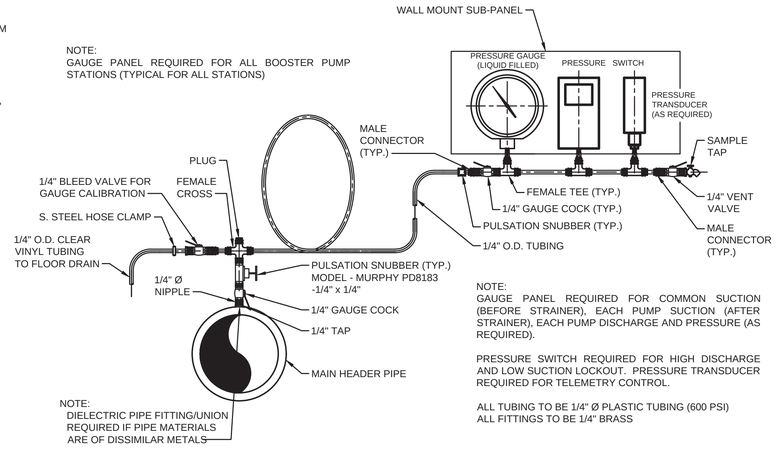
7. ALLOWABLE TRUSS SPANS: BASED UPON METAL PLATE CONNECTED WOOD TRUSSES, TPI-78, RECOMMENDED DESIGN PRACTICE BY THE TRUSS PLATE INSTITUTE.
8. ROOF SHEATHING: PROVIDE MINIMUM 19/32 THICK RATED PLYWOOD ROOF SHEATHING WITH UNBLOCKED EDGES. FASTEN ALL SUPPORTED EDGES AND SHEAR BLOCKING WITH 10D GALVANIZED NAILS AT 6" C/C. FASTEN IN THE FIELD AT 12" C/C.
9. GABLE END PANELS: CONNECT BOTTOMS OF GABLE END PANELS TO TOP PLATES WITH HGA10 ANGLES BY SIMPSON STRONG TIE. SPACE ANGLES AT 4'-0" C/C. PROVIDE (3) LINES OF CONTINUOUS 2X4 DIAGONAL BRACING FROM GABLE END TO GABLE END. FASTEN DIAGONALS TO TOP AND BOTTOM "RAT RUNS" WITH (4) 16D GALV. NAILS.



TYPICAL ROOF TRUSS PLAN

NOT TO SCALE



SUCTION/DISCHARGE GAUGE PANEL

NOT TO SCALE

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2021 WATER SYSTEM IMPROVEMENTS

US 60 PUMP STATION - DETAILS

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
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STATE OF KENTUCKY
BRYAN C. LOVAN
19340
LICENSED PROFESSIONAL ENGINEER
12-6-22

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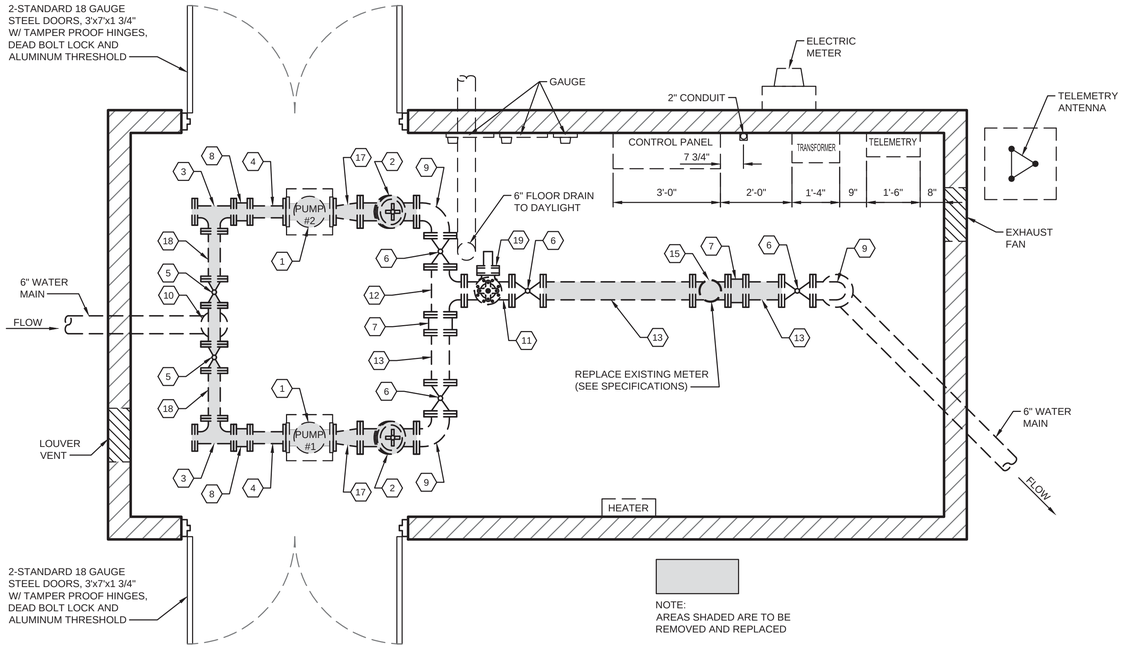
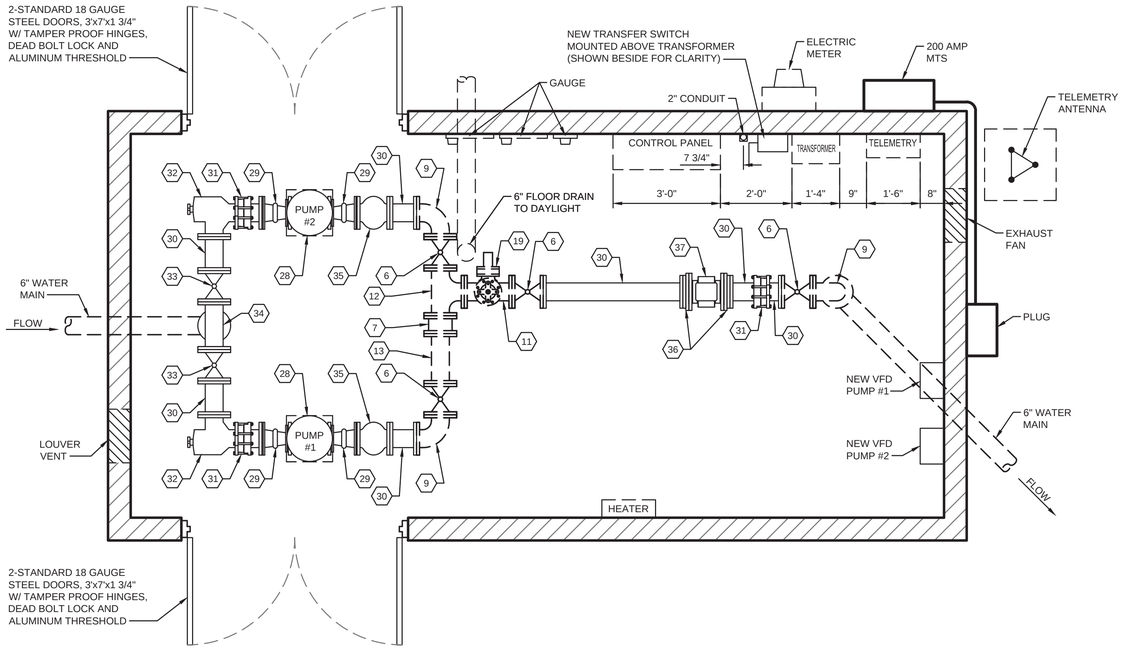


NOTE:
AREAS SHADED ARE TO BE REMOVED AND REPLACED

CHRISTY CREEK BOOSTER PUMP STATION
EXISTING LAYOUT - PLAN

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



CHRISTY CREEK BOOSTER PUMP STATION
NEW LAYOUT - PLAN

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

REFERENCE NOTES:

1. EXISTING PUMP & 40 H.P. MOTOR, "GRUNFOS" MULTI-STAGE CENTRIFUGAL PUMP
2. 6" FLG'D CHECK VALVE
3. 4" FLG'D STRAINER / DIFFUSER "MUELLER" OR APPROVED EQUAL
4. 6" FLG'D EPDM EXPANSION JOINT (METRASPHERE OR APPROVED EQUAL)
5. 6" FLG'D RESILIENT WEDGE GATE VALVE W/ HANDWHEEL
6. 6" FLG'D RESILIENT WEDGE GATE VALVE W/ HANDWHEEL
7. 6" FLG'D RESTRAINED JOINT COUPLING ADAPTER
8. 6" FLG'D RESTRAINED JOINT COUPLING ADAPTER
9. 6" FLG'D SHORT-RADIUS 90° BEND
10. 6"x6"x6" FLG'D TEE
11. 6"x6"x3" FLG'D TEE
12. 6"x6"x6" FLG'D TEE
13. 6" FLG'D SPOOL PIECE
14. 4" BUTTERFLY VALVE
15. 6" FLG'D "BADGER" TURBO METER RATED FOR 300 PSI WORKING PRESSURE
16. 6"x8" RESTRAINED JOINT INCREASER
17. 6"x4" ECCENTRIC REDUCER
18. 4" FLG'D SPOOL PIECE
19. 3" "BERMAD" SURGE RELIEF VALVE WITH 3" GALVANIZED DISCHARGE PIPE TO FLOOR AND EXIT THROUGH NORTH WALL WITH FLAP CHECK VALVE
20. 6" MECHANICAL JOINT RESILIENT WEDGE GATE VALVE
21. 6" DUCTILE IRON MECHANICAL JOINT TEE
22. 6" DUCTILE IRON RESTRAINED JOINT 90° BEND
23. 6" MECHANICAL JOINT 90° BEND
24. 3/4" TAP W/ 3/4" BALL VALVE, 250 PSI WORKING PRESSURE
25. 1/2" TAP W/ 1/2" BALL VALVE, 250 PSI WORKING PRESSURE
26. 1/2" TAP W/ 1/2" BALL VALVE
27. 3/4" TAP W/ 3/4" BALL VALVE
28. NEW PUMP - SHALL BE 40 HP MOTOR, "GRUNDFOS" MODEL NO. CR 64-4-2
29. NEW PROCO 6"x4" ECCENTRIC REDUCER OR APPROVED EQUAL
30. NEW 6" FLG'D SPOOL PIECE
31. NEW 6" RESTRAINED FLANGE ADAPTER
32. NEW 6" SUCTION DIFFUSER
33. NEW 6" GATE VALVE
34. NEW 6"x6"x6" FLG'D TEE
35. NEW 6" CUSHION CHECK VALVE
36. NEW 6" CLASS 150 CLASS 300 FLANGE CONVERTER
37. NEW METER - SHALL BE MAGFLUX ELECTROMAGNETIC FLOW METER REATED FOR 300 PSI WORKING PRESSURE OR ENGINEER APPROVED EQUAL

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

CHRISTY CREEK PUMP STATION - PLAN

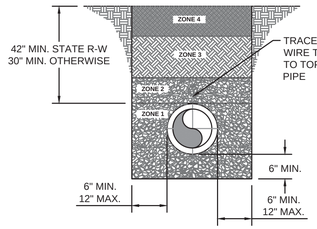
BLUEGRASS ENGINEERING PLLC
222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	PBR

STATE OF KENTUCKY
BRYAN E. CLARK
25340
LICENSED PROFESSIONAL ENGINEER
12-6-22

BID SET

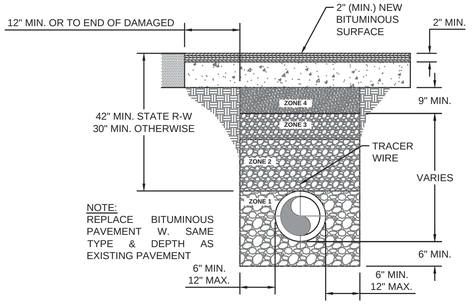
B:\PROJECTS\Rowan\20020 - 2021 Water System Improvements\Drawings\SD 1.dwg BE 12/06/22



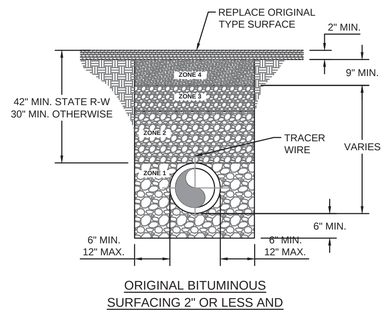
PIPE LAID IN ROCK OR EARTH TRENCH

DETAIL NOTES:

1. COVER UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
2. ZONE 4 - 6" MIN. CONSOLIDATION EARTH BACKFILL INCLUDING TOPSOIL, NO ROCK ALLOWED.
3. ZONE 3 - CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER) NO. 9, 57 OR 78 STONE
4. 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.
5. 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

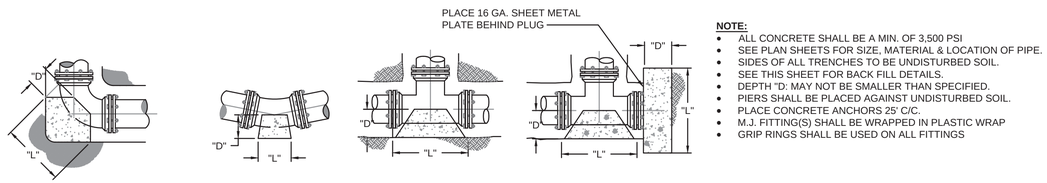
PIPE BACKFILL - DETAIL

NOT TO SCALE

THRUST BLOCK SCHEDULE

SOIL TYPE - SAND & GRAVEL
BEARING STRENGTH = 3000 PSF

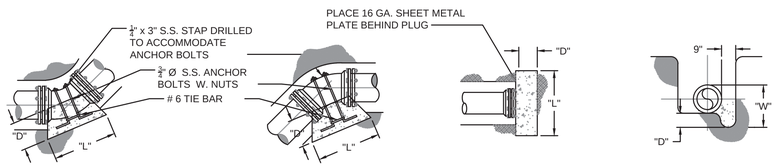
PIPE SIZE	90° BEND					45° BEND					22 ½° BEND					11 ¼° BEND					TEE & DEAD ENDS				
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L
4"	3.750	.21	18	30	18	1.750	.10	18	18	14	1.000	.06	18	12	12	.500	.02	12	12	6	2.250	.13	18	18	18
6"	7.000	.39	18	42	24	3.750	.21	18	30	18	2.000	.11	18	24	12	1.000	.04	12	12	12	5.000	.28	18	30	24
8"	12.250	.91	24	42	42	7.500	.56	24	36	30	4.000	.30	24	24	24	2.000	.11	18	24	12	9.000	.67	24	36	36
10"	20.000	1.48	24	60	48	10.500	.78	24	42	36	6.000	.44	24	36	24	3.000	.17	18	24	18	14.000	1.04	24	48	42
12"	30.000	2.78	30	72	60	15.750	1.46	30	54	42	7.500	.69	30	36	30	4.000	.30	24	24	24	20.000	1.85	30	60	48
14"	39.000	4.33	36	78	72	20.000	2.22	36	60	48	10.500	1.17	36	42	36	6.000	.56	30	36	24	27.500	3.06	36	66	60
16"	49.000	6.35	42	84	84	27.500	3.56	42	66	60	14.000	1.81	42	48	42	7.500	.83	36	36	30	37.750	4.63	42	78	66



90° & 45° BENDS | 22.5° & 11.25° BENDS | TEES

NOTE:

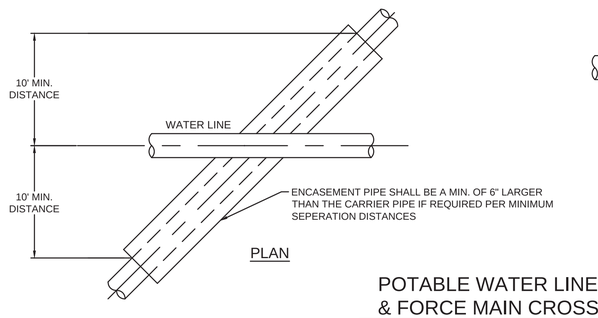
- ALL CONCRETE SHALL BE A MIN. OF 3,500 PSI
- SEE PLAN SHEETS FOR SIZE, MATERIAL & LOCATION OF PIPE.
- SIDES OF ALL TRENCHES TO BE UNDISTURBED SOIL.
- SEE THIS SHEET FOR BACK FILL DETAILS.
- DEPTH "D: MAY NOT BE SMALLER THAN SPECIFIED.
- PIERS SHALL BE PLACED AGAINST UNDISTURBED SOIL.
- PLACE CONCRETE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



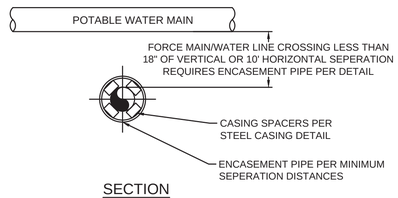
VERTICAL BENDS | END OF MAIN | TYP. SECTION

CONCRETE THRUST BLOCK - DETAIL

NOT TO SCALE



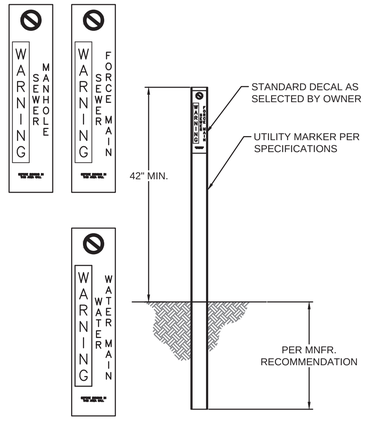
PLAN



SECTION

POTABLE WATER LINE & FORCE MAIN CROSSING - DETAIL

NOT TO SCALE

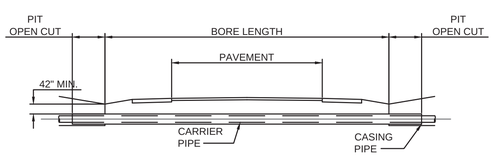


UTILITY MARKER - DETAIL

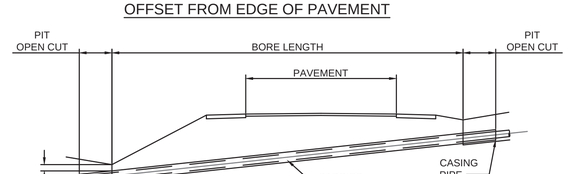
NOT TO SCALE

NOTE:

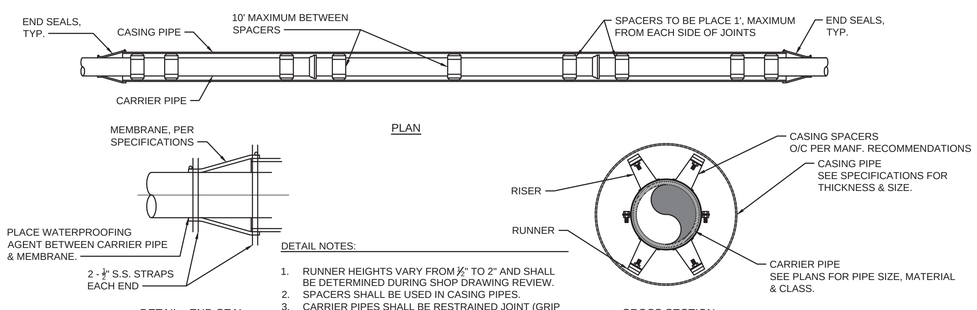
1. ALL JOINTS OF STEEL CASING SHALL BE SOLIDLY WELDED. END OF CASING SHALL BE SEALED AFTER LINE HAS BEEN INSTALLED AND TESTED.
2. MINIMUM DEPTHS MAY INCREASE IN AREAS WHICH REQUIRE MINIMUM SEPARATION WITH OTHER FACILITIES.
3. OPEN TRENCH NO CLOSER THAN THE DITCHLINE OR TOE OF FILL FROM THE EGDE OF THE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



OFFSET FROM EDGE OF PAVEMENT

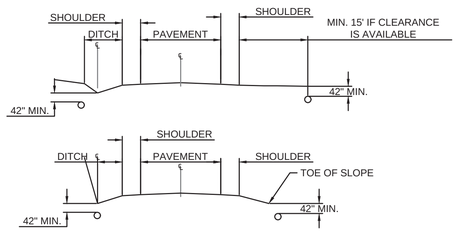


FROM TOE OF SLOPE



CASING - DETAIL

NOT TO SCALE



UTILITY PIPELINE WITHIN KTC ROW - DETAIL

NOT TO SCALE

KTC CROSSING - DETAIL

NOT TO SCALE

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

STANDARD DETAILS - PIPE LINES

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	PBR

STATE OF KENTUCKY BRYAN C. RAY 25401 LICENSED PROFESSIONAL ENGINEER
12-6-22

BID SET

BE 12/06/22

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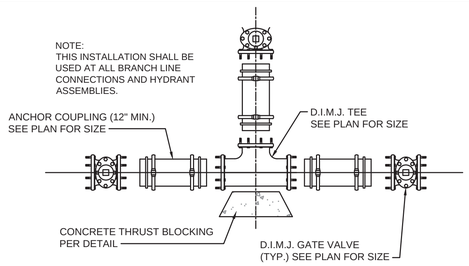
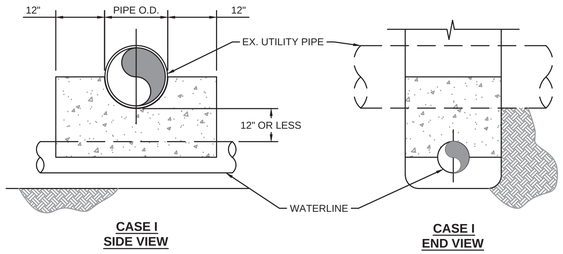
NOTE:
THIS INSTALLATION SHALL BE USED AT ALL BRANCH LINE CONNECTIONS AND HYDRANT ASSEMBLIES.



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

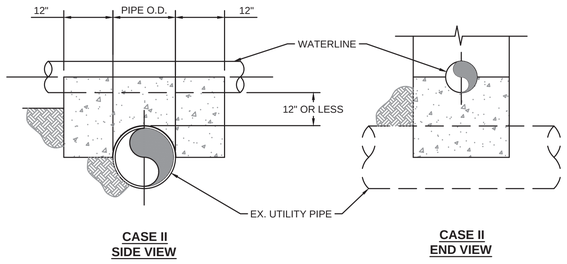
NOT TO SCALE

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

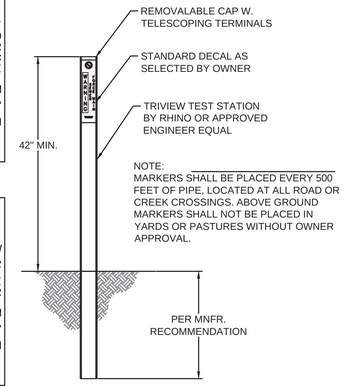


CASE II SIDE VIEW

CASE II END VIEW

UTILITY CROSSING CONCRETE ASSEMBLY - DETAIL

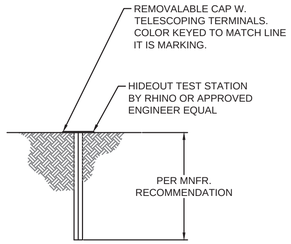
NOT TO SCALE



ABOVE GROUND TEST STATION - DETAIL

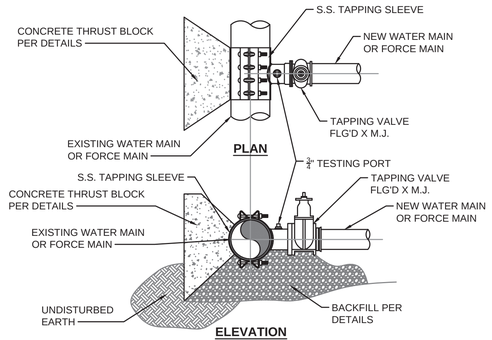
NOT TO SCALE

NOTES:
MARRKERS SHALL BE PLACED EVERY 500 FEET OF PIPE, LOCATED AT ALL ROAD OR CREEK CROSSINGS. BELOW GROUND MARKERS SHALL NOT BE PLACED IN TRAFFIC LANES OR DRIVEWAYS.



BELOW GROUND TEST STATION - DETAIL

NOT TO SCALE

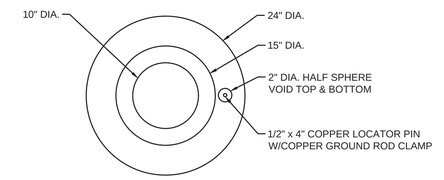


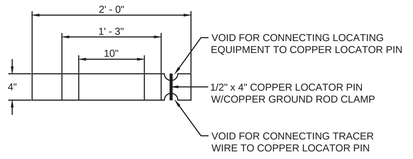
ELEVATION

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

STAINLESS STEEL TAPPING SLEEVE & VALVE ASSEMBLY - DETAIL

NOT TO SCALE



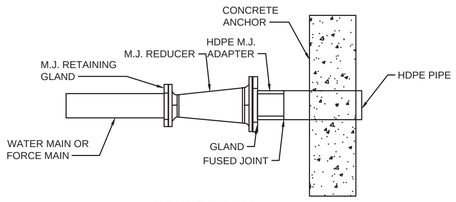


24" DIAMETER CONCRETE VALVE BOX PROTECTOR RING W/COPPER LOCATOR PIN

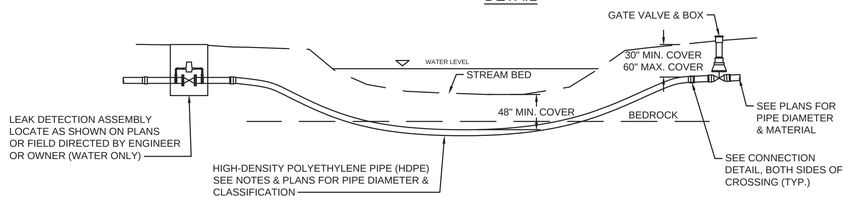
NOT TO SCALE

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 NESASSARY TO MAKE CONNECTION BETWEEN PIPES.

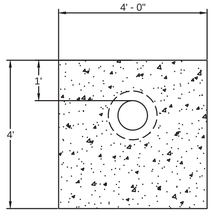


CONNECTION DETAIL

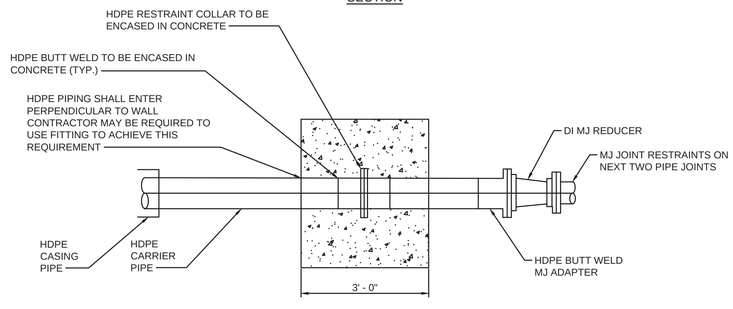


DIRECTIONAL DRILLED CREEK CROSSING - DETAIL

NOT TO SCALE

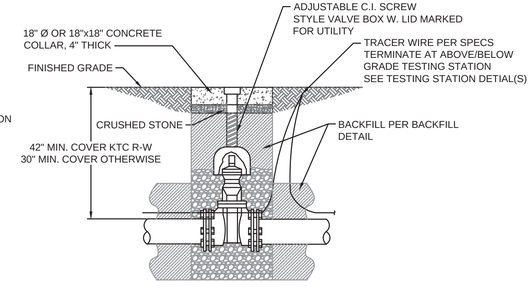


SECTION



HDPE RESTRAINT WALL

NOT TO SCALE



GATE VALVE ASSEMBLY - DETAIL

NOT TO SCALE

NO.	DATE	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

STANDARD DETAILS - PIPE LINES

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

PROJECT #:	20020
DATE:	AUGUST 2022
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DRAWN BY:	WCM
CHECKED BY:	PBR

STATE OF KENTUCKY
BRYAN C. LOVAN
19540
LICENSED PROFESSIONAL ENGINEER
12-6-22

BID SET

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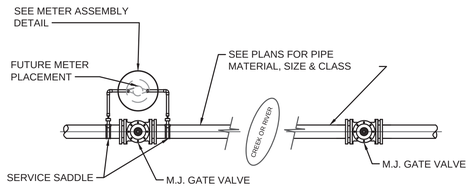


LEAK DETECTION ASSEMBLY - DETAIL

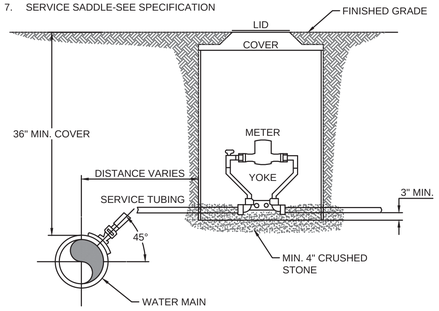
NOT TO SCALE

<u>METER MATERIAL SCHEDULE</u>

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

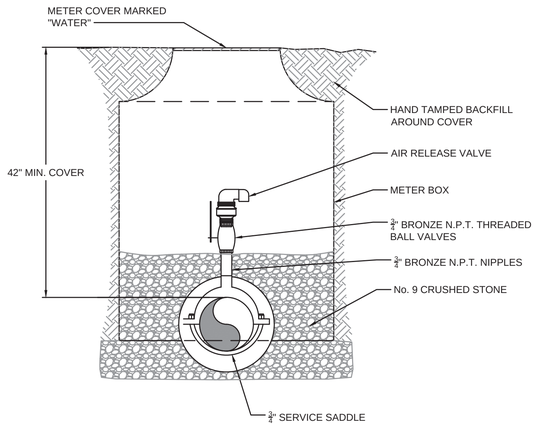
NOTE:

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.



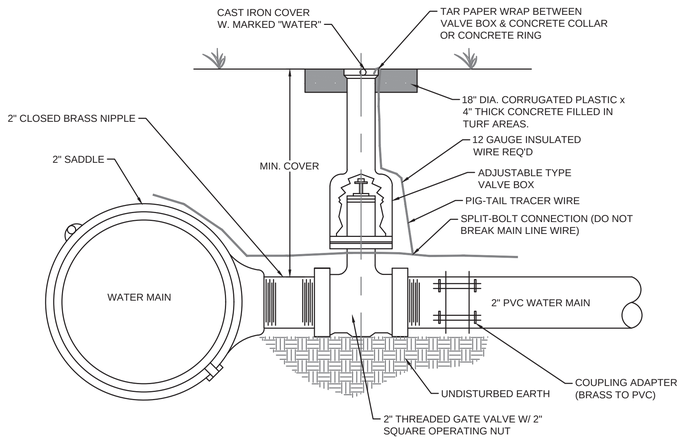
METER ASSEMBLY - DETAIL

NOT TO SCALE



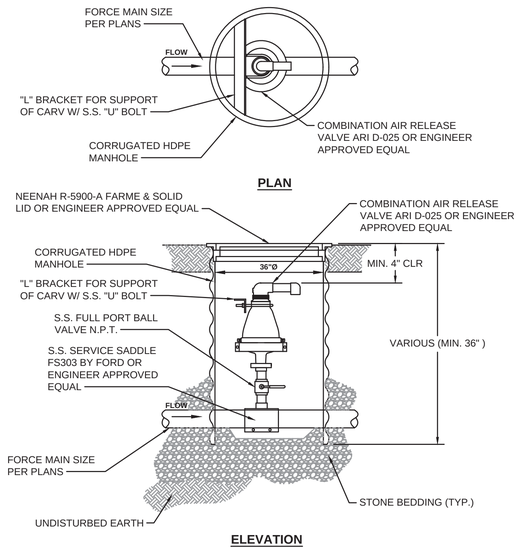
AIR RELEASE VALVE ASSEMBLY WATERLINE ONLY - DETAIL

NOT TO SCALE



CONNECTION FOR 2" WATER MAINS

NOT TO SCALE



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.

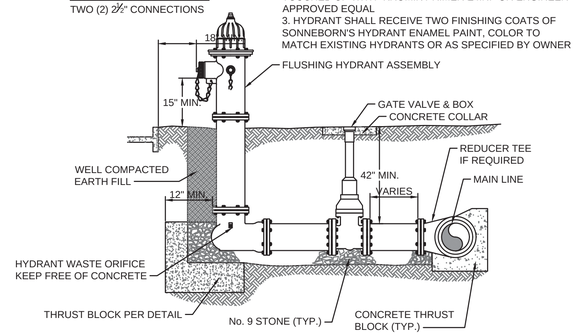
COMBINATION AIR RELEASE VALVE ASSEMBLY FORCE MAIN ONLY - DETAIL

NOT TO SCALE

NOTE:
<u>TYPE 1 FLUSHING HYDRANT</u>
TWO (2) 2½" CONNECTIONS AND ONE (1) 4½" CONNECTION

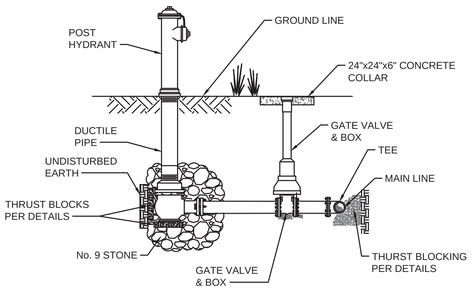
<u>TYPE 2 FLUSHING HYDRANT</u>
TWO (2) 2½" CONNECTIONS

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



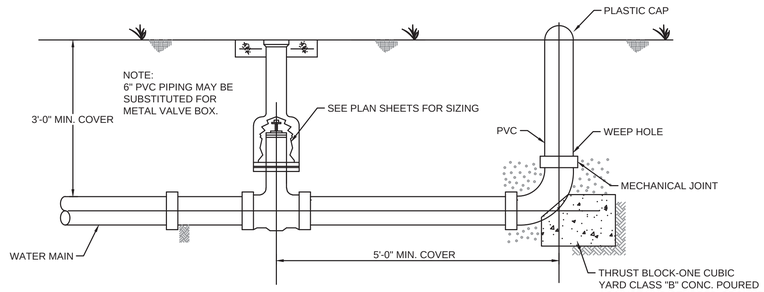
FLUSHING HYDRANT ASSEMBLY TYPE 1 & 2 - DETAIL

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	REVISIONS	BY

2021 WATER SYSTEM IMPROVEMENTS

STANDARD DETAILS - WATER LINES

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

PROJECT #:	20020
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	PBR

STATE OF KENTUCKY · BRYAN R. RAY · 25401 · LICENSED PROFESSIONAL ENGINEER · 12-6-22

BID SET

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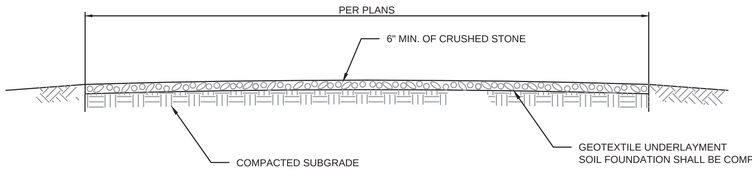

STABILIZED CONSTRUCTION ENTRANCE - SECTION

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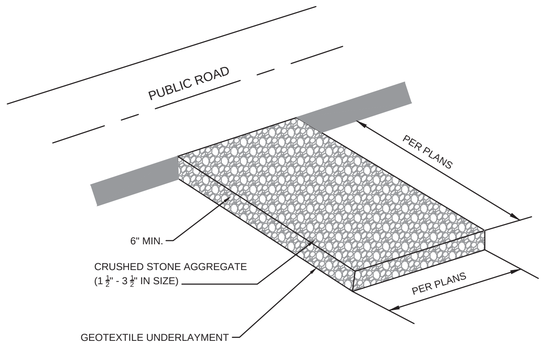


NOTES:

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

STABILIZED CONSTRUCTION ENTRANCE - DETAIL

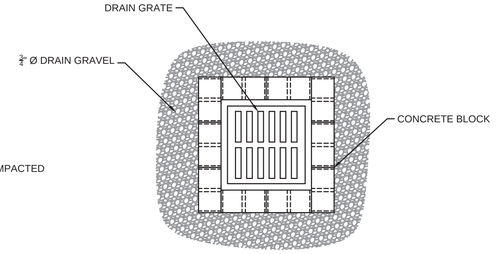
NOT TO SCALE

EROSION CONTROL NOTES:

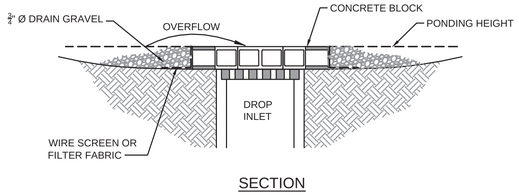
1. A KPDES STORMWATER PERMIT IS REQUIRED. COVERAGE STARTS WHEN THE KY DIVISION OF WATER ACKNOWLEDGES RECEIPT OF A NOTICE OF INTENT FOR COVERAGE.
2. FINAL STABILIZATION SHALL BEGIN WITHIN 14 DAYS ON AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED OR HAVE BEEN SUSPENDED FOR MORE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



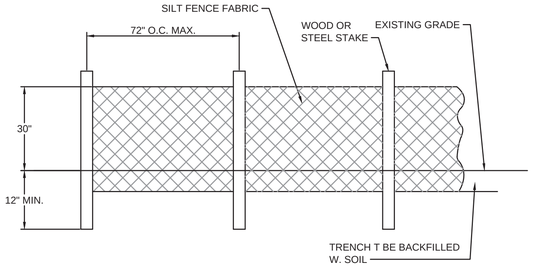
SECTION

NOTES:

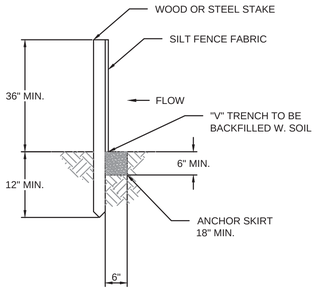
1. DROP INLET PROECTION ARE TO BE USED FOR NEARLY LEVEL DRAINAGE AREAS.
2. EXCAVATE A BASIN OF SUFFICIENT SIZE ADJACENT TO THE DROP INLET.
3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY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

DROP INLET PROTECTION - DETAIL

NOT TO SCALE



ELEVATION VIEW



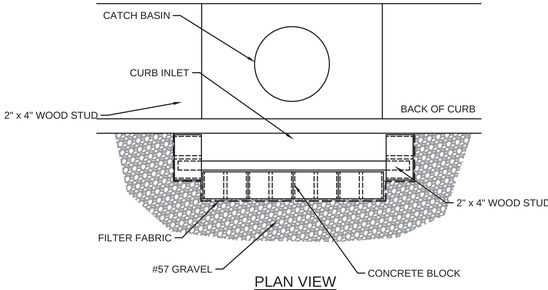
SECTION VIEW

NOTES:

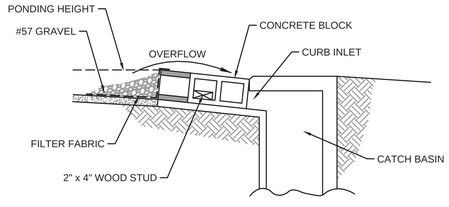
1. SILT FENCE FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE OF THE BARRIER. WHEN JOINTS CANNOT BE AVOID, SILT FENCE FABRIC SHALL BE SPLICED TOGETHER ONLY AT A POST WITH 3 FOOT MIN. OVERLAP, AND SECURELY SEALED.
2. POSTED SHALL BE AT LEAST 5 FEET IN LENGTH.
3. STEEL POSTS 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



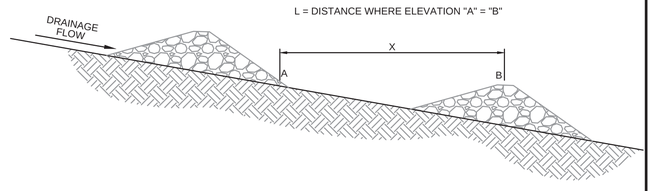
SECTION VIEW

NOTES:

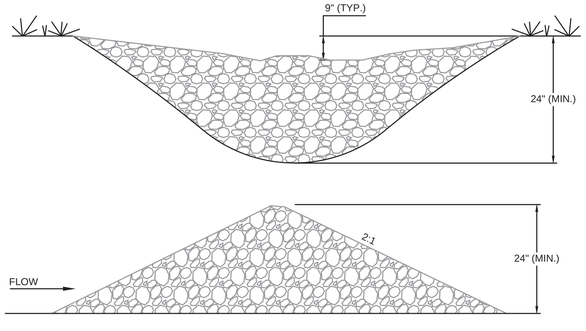
1. USE BLOCK AND GRAVEL TYPE SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET SEGMENT WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT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

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2021 WATER SYSTEM IMPROVEMENTS

STANDARD DETAILS - EROSION CONTROLS

BLUEGRASS ENGINEERING PLLC
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STATE OF KENTUCKY
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19340
LICENSED PROFESSIONAL ENGINEER
12-6-22

BID SET

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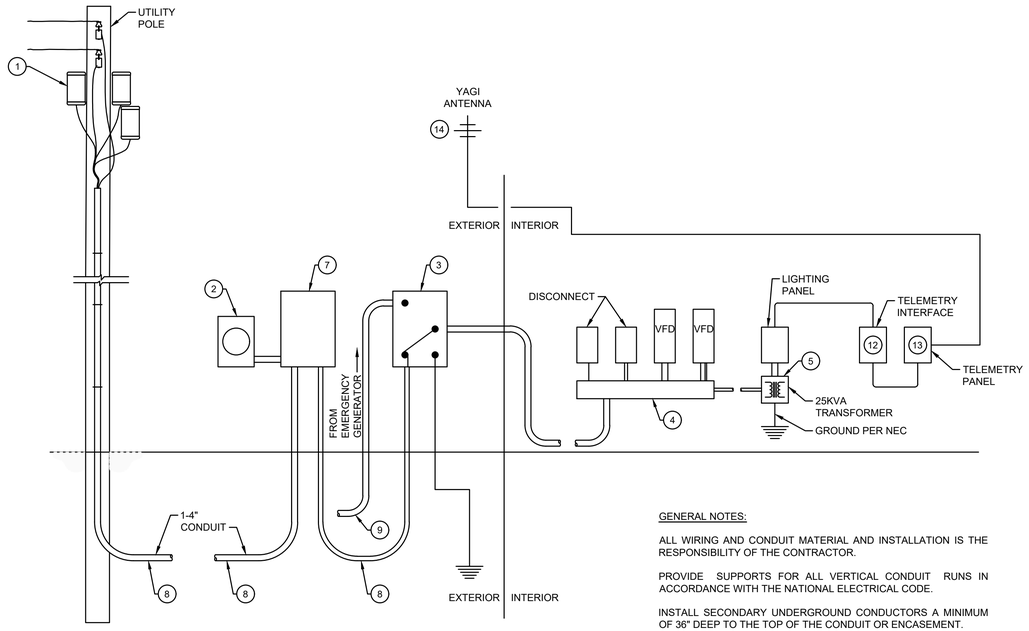


SECONDARY CONDUIT DUCT BANK INSTALLATION DETAIL

NOT TO SCALE

GENERAL NOTES:

ALL WIRING AND CONDUIT MATERIAL AND INSTALLATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

PROVIDE SUPPORTS FOR ALL VERTICAL CONDUIT RUNS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

INSTALL SECONDARY UNDERGROUND CONDUCTORS A MINIMUM OF 36" DEEP TO THE TOP OF THE CONDUIT OR ENCASEMENT.

ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

CODED NOTES:

1. UTILITY TRANSFORMERS. PROVIDED AND INSTALLED BY UTILITY COMPANY AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY COMPANY FOR CONNECTION CONSTRUCTION REQUIREMENTS.
2. UTILITY METER. COORDINATE WITH THE UTILITY COMPANY FOR METERING REQUIREMENTS.
3. TRANSFER SWITCH. SERVICE ENTRANCE RATED. AUTOMATIC OR MANUAL. PROVIDED AS PART OF THE BUILDING.
4. MAIN DISTRIBUTION TRAY. PROVIDED AS PART OF THE BUILDING. PANEL WILL INCLUDE BREAKERS AND SURGE PROTECTION.
5. STEP-DOWN TRANSFORMER.
6. LIGHTING PANEL. 120/240V SINGLE PHASE, PROVIDED AS PART OF THE BUILDING. PANEL WILL INCLUDE BREAKERS
7. CT CABINET, COORDINATE WITH UTILITY COMPANY.
8. 4 #250 MCM, 1/0 IN 4" CONDUIT.
9. 4 #250 MCM, 1/0 IN 4" CONDUIT.
10. NOT USED
11. NOT USED
12. TELEMETRY INTERFACE PANEL.
13. TELEMETRY PANEL 36"Hx36"Wx12"D
14. YAGI ANTENNA WILL BE AIMED AT THE ROWAN UTILITIES WATER PLANT WITH IS AROUND XXX° FROM NORTH. THE ANTENNA MOUNT ON VERTICAL 1 1/4" CONDUIT SECTIONS, SO AT THE BOOSTER, YOU CAN MOUNT A VERTICAL SECTION OF CONDUIT ON THE EXTERIOR WALL STRAP THE ANTENNA, MAKING SURE THAT SIDE OF THE WALL IS ON THE SIDE OF THE WATER PLANT.

ELECTRICAL REQUIREMENTS							
LOCATION	PUMPS	MAIN SERVICE	TRANSFER SWITCH	PRIMARY FEED	TRANSFORMER	DISCONNECT	TELEMETRY
OFFICE	20 HP	200 AMP 480V 3 PHASE 4 - WIRE	ATS - 200 AMP / 480V 3 PHASE 3 POLE	4" CONDUIT QUAD PLEX #250 MCM WIRE	DRY 25KVA - 200 AMP SINGLE PHASE	3-FUSED DISCONNECT 2-100 AMP PER DRIVE 1-60 TRANSFORMER	NONE
US 60	60 HP	300 AMP / 480V 3 PHASE 4-WIRE	MTS - 300 AMP / 480V 3 PHASE 3 POLE	4" CONDUIT QUAD PLEX #250 MCM WIRE	DRY 25KVA - 200 AMP SINGLE PHASE	3-FUSED DISCONNECT 2-200 AMP PER DRIVE 1-60 TRANSFORMER	MICROCOMM

ELECTRIC UNIT HEATER (EUH) SCHEDULE						
NO.	LOCATION	EQUIPMENT TYPE	MIN. HEATING CAPACITY (KW)	VOLTS/PHASE	MOUNTING HEIGHT	REMARKS
EUH-1	US 60 BOOSTER STATION	STANDARD	5.0	480 / 3	8'-0"	1,2,3
EUH-2	RW1 OFFICE BOOSTER STATION	STANDARD	5.0	480 / 3	8'-0"	1,2,3

REMARKS:
1. MINIMUM BASIS FOR DESIGN - MODEL UHIR SERIES AS MANUFACTURED BY INDEECO, MODEL 2YU63 AS MANUFACTURED BY DAYTON, OR APPROVED EQUAL.
2. INCLUDE BUILT-IN THERMOSTAT AND CONTROLS.
3. CEILING/WALL MOUNTING BRACKET KIT, AND ALL HARDWARE.

LOUVER (LV) SCHEDULE							
NO.	LOCATION	EQUIPMENT TYPE	MINIMUM LOUVER DIMENSIONS (W" x H")	MINIMUM OPERATOR DATA			
				OPERATOR TYPE	VOLTS/PHASE	INTERLOCK W/	REMARKS
LV-1	US 60 BOOSTER STATION	COMBINATION FIXED/OPERABLE	16 x 16	POWER OPEN/SPRING RETURN	120 / 1	EF-1	1,2
LV-2	RW1 OFFICE BOOSTER STATION	COMBINATION FIXED/OPERABLE	16 x 16	POWER OPEN/SPRING RETURN	120 / 1	EF-2	1,2

REMARKS:
1. PROVIDE STAINLESS STEEL BIRD SCREEN.
2. PROVIDE LOW LEAKAGE ADJUSTABLE BACKDRAFT DAMPENER.
3. ALL ALUMINUM CONSTRUCTION, MILL FINISH.
4. PROTECTIVE CLEAR COATINGS FOR HIGH MOISTURE ATMOSPHERE.
5. WALL MOUNTING COLLAR, SLEEVE, EXTENDED SILL, SIDE CLOSURES, AND ALL MOUNTING HARDWARE.

** LOVER SIZE SHALL BE SUBJECT TO CHANGE BASED ON THE APPROVED ENGINE/PUMP MANUFACTURE'S REQUIREMENTS.

EXHAUST FAN (EF) SCHEDULE									
NO.	LOCATION	EQUIPMENT TYPE	MINIMUM FAN DATA			MINIMUM MOTOR DATA			
			DRIVE	S.P. (" WC)	CFM	HP	RPM	VOLS/PHASE	REMARKS
LV-1	US 60 BOOSTER STATION	COMBINATION FIXED/OPERABLE	DIRECT	0.25	1390	1/4	1800	120 / 1	1
LV-2	RW1 OFFICE BOOSTER STATION	COMBINATION FIXED/OPERABLE	DIRECT	0.25	1390	1/4	1800	120 / 1	1

REMARKS:
1. MINIMUM BASIS FOR DESIGN - MODEL SQ AS MANUFACTURED GREENHECK
2. WALL MOUNTED PROPELLER FAN WITH WALL SLEEVE, PERFORMANCE BAFFLE, AND FAN GUARD.
3. CONTROL WITH WALL THERMOSTAT TO START AT 85° F. (ADJUSTABLE).
4. LOW LEAKAGE POWER OPERATED DAMPER AND ALUMINUM DAMPER GUARD.
5. PROVIDE SILL, HEAD, SIDE CLOSURES, AND ALL MOUNTING HARDWARE.
6. PROTECTIVE CLEAR COATINGS FOR HIGH MOISTURE ATMOSPHERE.

ALL WALL OPENING SIZES SHALL BE SUBJECT TO CHANGE BASE ON THE APPROVED FAN * MANUFACTURER'S REQUIREMENTS.

AC UNIT SCHEDULE						
NO.	LOCATION	EQUIPMENT TYPE	HEAT KW	COOLING BTUH	ELEMENTS VOLTS/PH/HZ	REMARKS
AC-1	US 60 BOOSTER STATION	STANDARD	3.5	12,000	230 / 208-1-60	1,2,3
AC-2	RW1 OFFICE BOOSTER STATION	STANDARD	3.5	12,000	230 / 208-1-60	1,2,3

REMARKS:
1. AC UNIT SHALL BE ELECTRIC THRU WALL AC & HEAT PUMP AS MANUFACTURED BY "AMANA" (MODEL NO. PBE-12-3-E-35-AX) OR APPROVED EQUAL.
2. UNIT SHALL INCLUDE BUILT-IN THERMOSTAT AND CONTROLS.
3. EXTERIOR WALL MOUNTING BRACKET KIT, AND ALL HARDWARE.

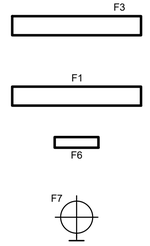
LIGHT FIXTURE SCHEDULE:

F3 - 4' INTEGRATED LED WRAPAROUND LIGHT, STEEL HOUSING, BAKED WHITE ENAMEL FINISH, 4000 LUMENS, 120 VOLT, CEILING MOUNTING, 48 WATT.
LITHONIA WR4840K40LWL

F6 - LED EXIT SIGN WITH IMPACT-RESISTANT FIBERGLASS-REINFORCED POLYESTER HOUSING, CLEAR POLYCARBONATE COVER AND NI-CAD BATTERY WITH CAPACITY FOR REMOTE LAME HEADS, NEMA 4X RATING.
LITHONIA LV S W R 120 / 277 4X

F7 - WALL MOUNT EXTERIOR WALL PAK, WITH CAST ALUMINUM HOUSING, IMPACT RESISTANT POLYCARBONATE COVER, INTEGRAL PHOTOCELL, 120 VOLT, 14 WATT LED LAMP.
LITHONIA OVWP LED 40K 120 PE BZ

F8 - DUAL HEAD EMERGENCY LIGHT CONSTRUCTED OF HEAVY DUTY DIE-CAST HOUSING, MR 16 LAMPS, MENA 4X RATING, 12 VOLT, 35 WATT.
ISOLITE MAX-E 12 90 BB W MR16



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2021 WATER SYSTEM IMPROVEMENTS

ELECTRICAL DETAILS

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SHEET NO.
E-01

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