BLUEGRASS
ENGINEERING
PLLC

RECEIVED
JUL 09 2019
PUBLIC SERVICE
COMMISSION

July 8, 2018

Ms. Gwen Pinson
Executive Director
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, Kentucky 40602

Re: Rowan Water, Inc.
Case No. 2017-00250

Dear Ms. Pinson;

Please be advised that Rowan Water, Inc. is now one hundred percent complete with the 2016 Water System Improvement project, contracts 1, 2, and 3.

Enclosed is a DVD of the record drawings of each contract for your review and files.

If you have any questions, please contact me at your earliest convenience.

Sincerely,

Riley Sumner
Project Manager

C: Jerry Patrick, RWI
File

- CONTRACT NO. 1 -

2016 WATER SYSTEM IMPROVEMENTS
150,000 GALLON WELDED STEEL ELEVATED WATER STORAGE TANK

FOR

ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

BOARD MEMBERS

LARRY JOHNSON - CHAIRMAN

ENOCH BLAIR - DANNY STEVENS
MIKE COLLINS - RANDY COX

JERRY PATRICK - MANAGER

RECORD DRAWINGS

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

BY: BLUEGRASS ENGINEERING, PLLC DATE: XX/XX

APRIL, 2017

P.O. Box 1034
VERSAILLES, KENTUCKY 40383

KENTUCKY ENGINEERING GROUP, PLLC

STATE OF KENTUCKY
BRYAN K LOVAN
19540
LICENSED PROFESSIONAL ENGINEER
5-19-17

PROJECT NO. 16019-01

SET NO. _____

B:\PROJECTS\Rowan\18003 -2016 Water System Improvements\Files from KEG\Drawings\CONTRACT 1\16019-01 -00.dwg

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 36" 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. CONTRACTOR SHALL PROVIDE A NEW METROTECH 810 LINE TRACER TO ROWAN WATER, INC. PRIOR TO CONSTRUCTION.
- ALL NEW SERVICE LINE FROM THE NEW MAIN TO THE SETTERS SHALL BE 1" PE CTS TUBING UNLESS SHOWN DIFFERENTLY ON THE PLANS
- NO BLASTING WILL BE PERMITTED ON THIS PROJECT
- EXCAVATION WITHIN GAS LINE RIGHT OF WAY REQUIRE EACH ENTITY'S REPRESENTITIVE TO BE PRESENT AT ALL TIMES. SEE THE PLAN SHEETS FOR DETAILS ON THE CROSSING. ALL GAS LINES SHOWN ON PLANS ARE SHOWN IN THEIR APPROXIMATE LOCATION. EXACT LOCATION SHALL BE FIELD VERIFIED BY A GAS COMPANY REPRESENTATIVE.
- UNLESS OTHERWISE NOTED, ALL DRIVEWAYS SHALL BE OPEN CUT AND REPLACED WITH A SINGLE SEAM FROM CUT TO ROADWAY.
- ALL METERS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BEFORE DIGGING.
- ALL OFF SIDE METERS SHALL REQUIRE 1 1/2" PVC CASING PIPE FOR 1" CTS TUBING.
- UNLESS OTHERWISE NOTED, ALL STATE AND COUNTY ROADS SHALL BE BORED W/STEEL CASING.

GENERAL NOTES (CONTINUED)

- ALL METERS SHALL BE REPLACED AT THE SAME LOCATION UNLESS INFORMED DIFFERENTLY BY PROPERTY OWNER AND ENGINEER
- 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 BACTIE RESULTS MUST BE PROVIDED TO THE ENGINEER PRIOR TO RECONNECTS OF ANY METER.
- A NO. 12 AWG INSULATED COPPER LOCATOR WIRE SHALL BE PLACED IN THE TRENCH SIX INCHES ABOVE ALL PLASTIC LINES. THE INSULATION SHALL BE BLUE FOR WATER. THE WIRE SHALL BE LOOPED INTO 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.
- ALL OF THE REPLACED METERS ARE PROPERTY OF ROWAN WATER, INC. ALL METER ASSEMBLY SHALL BE DELIVERED TO THE OWNER BY THE CONTRACTOR.

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.

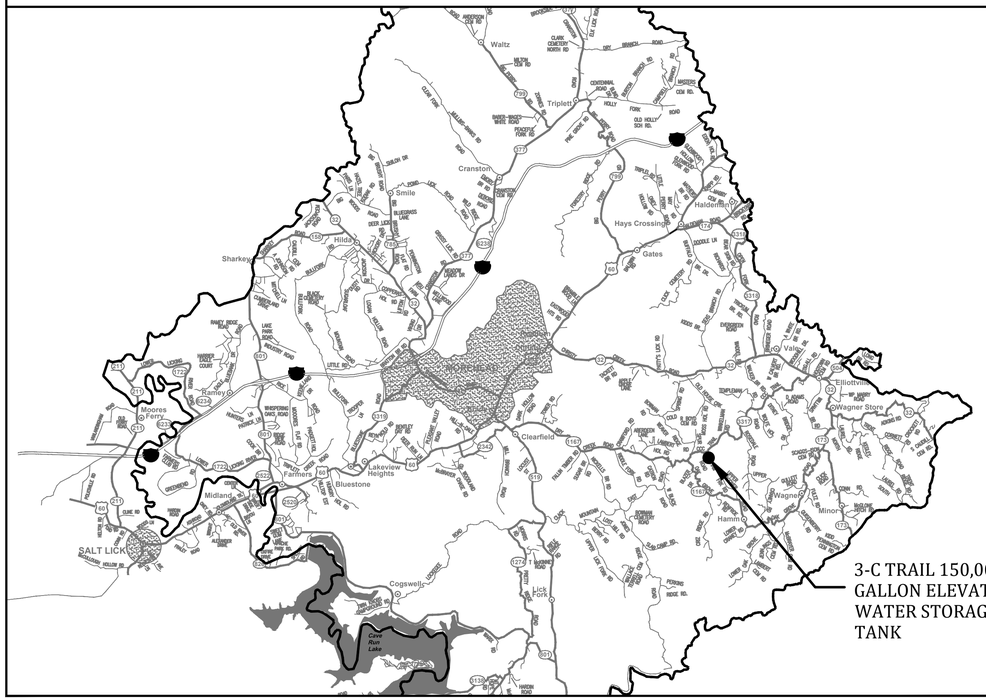
DEPARTMENT OF HIGHWAYS - GENERAL NOTES

- 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.
- ALL WATER MAIN SHALL HAVE A MINIMUM COVER OF 42" INSTALLED WITHIN SATE RIGHT-OF-WAY.
- WATER MAIN SHALL BE INSTALLED A MINIMUM OF 12 L.F. FROM END OF CULVERT.
- 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 PERMITTION 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.
- CONTACT THE DISTRICT PERMITS ENGINEER AT KYC-DOH #9, FLEMINSBURG, KY AT (606) 845-2551 OR 1-800-817-2551 PRIOR TO BEGINNING WORK.

RESTORATION WITHIN COUNTY RIGHT-OF-WAY

1. REQUIREMENTS FOR OPENING COUNTY ROADS FOR THE PURPOSE OF INSTALLING A WATERLINE:
   - A. THE UTILITY DITCHLINE SHOULD ONLY BE FILLED WITH #2 ROCK TO A LEVEL SEVEN INCHES BELOW THE TOP OF THE SURFACE.
   - B. FOUR INCHES OF DGA SHOULD BE PLACED IN THE DITCHLINE THE FULL WIDTH OF THE CUT. THESE TWO PROCEDURES SHOULD BE DONE THE SAME DAY AS THE OPENING.
   - C. THE REMAINING THREE INCHES OF THE DITCH SHOULD BE FILLED WITH SURFACE BLACKTOP. THIS SHOULD BE COMPLETED NO MORE THAN ONE WEEK FOLLOWING THE OPENING DURING BLACKTOPPING SEASON OR AT THE VERY BEGINNING OF THE FOLLOWING BLACKTOPPING SEASON.
   - D. A STRAIGHT SMOOTH CUT SLIGHTLY WIDER THAN THE DITCH IS REQUIRED TO ENSURE EFFECTIVE ROAD REPAIR.
2. REQUIREMENTS FOR THE OPENING AND CLOSING OF CUTS IN COUNTY DITCHLINES:
   - A. OPEN CUTS OF THE DITCHES ON COUNTY RIGHT-OF-WAYS SHALL BE FILLED WITH ONE FOOT OF #9 STONE TO A DEPTH OF ONE FOOT ABOVE THE PIPE. THE REMAINDER OF THE DITCH SHALL BE FILLED WITH EXCAVATED SOIL.

PROJECT MAP - NOT TO SCALE



INDEX OF DRAWINGS

DRAWING LEGEND

EXISTING	PROPOSED	DESCRIPTION
PVC	PVC	POLYVINYL CHLORIDE
DIP	DIP	DUCTILE IRON PIPE
WM	WM	WATER MAIN
		FLUSHING HYDRANT ASSEMBLY (YELLOW)
		BLOWOFF ASSEMBLY
		AIR RELEASE VALVE (ARV)
		GATE VALVE (GV)
		WATER MAIN (WM)
		SPECIAL CROSSING OR CASING PIPE
		WATER MAIN TO BE ABANDONED
R/W	R/W	RIGHT-OF-WAY LINE
		CENTERLINE
		PROPERTY LINE
OWNER	OWNER	EASEMENT ACQUIRED
		EXISTING METERS TO BE REPLACED

UTILITY OWNERS

TELEPHONE:
WINDSTREAM: 1-800-752-6007

GAS:
MOREHEAD UTILITY PLANT BOARD: 606-784-4305 or 606-784-3427
COLUMBIA GULF TRANSMISSION: 606-663-4401 or 1-800-231-2800
TENNESSEE GAS PIPELINE: 859-842-3231 or 1-800-231-2800
DELTA GAS 1-800-251-8471 or 1-800-262-2012

WATER
ROWAN WATER, INC. 606-784-9818

BUD - BEFORE YOU DIG
1-800-752-6007

GEO-TECH ENGINEER
GREENBAUM & ASSOC. 502-361-8447

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NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 1 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

GENERAL NOTES, UTILITIES, LEGEND, INDEX OF DRAWINGS and PROJECT MAP

PROJECT NO.
16019-01

SHEET NO.
1

AERIAL PLAN - EXISTING 3-C TANK

SCALE: 1" = 100'

ELEVATION VIEW - 3-C TANK

NOT TO SCALE

NOTES:

1. EXISTING 161,000 GALLON GLASS LINED STANDPIPE SHALL BE DEMOLISHED, INCLUDING VALVE VAULT, TOP 3 FEET OF FOUNDATION (BELOW SURFACE), INCLUDING CHLORINE BUILDING.
2. CONTRACTOR SHALL GIVE OWNER 72 HOURS PRIOR NOTICE TO COMMENCING DEMOLITION ACTIVITIES. TANK MUST BE DRAINED IN PROPER FASHION AS TO NOT FLOOD PROPERTIES ADJACENT TO TANK SITE PRIOR TO DEMOLITION.
3. NO DEMOLITION ACTIVITIES SHALL BE ALLOWED PRIOR TO THE NEW 3-C TANK BEING FULLY OPERATIONAL INCLUDING PROPER COMMUNICATION OF SCADA SYSTEM.
4. ALL DEMOLITION METHODS AND DISPOSAL OF MATERIALS SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS AT THE EXPENSE OF THE CONTRACTOR.
5. ANY APPURTENANCES, (INCLUDING VALVES, VALVE BOX, HYDRANT ASSEMBLY, ETC.) SHALL BE RETURNED TO THE OWNER AT NO ADDITIONAL COST.
6. RTU SHALL BE RELOCATED TO NEW 3-C TANK.
7. REGRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE AND RESEED AND MULCH WITH STRAW THE ENTIRE SITE IN ACCORDANCE WITH SPECIFICATIONS.
8. NEW ANTENNA & NEMA 4 BOX FOR TELEMETRY INSTALLED BY CONTRACTOR.

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NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 1 -

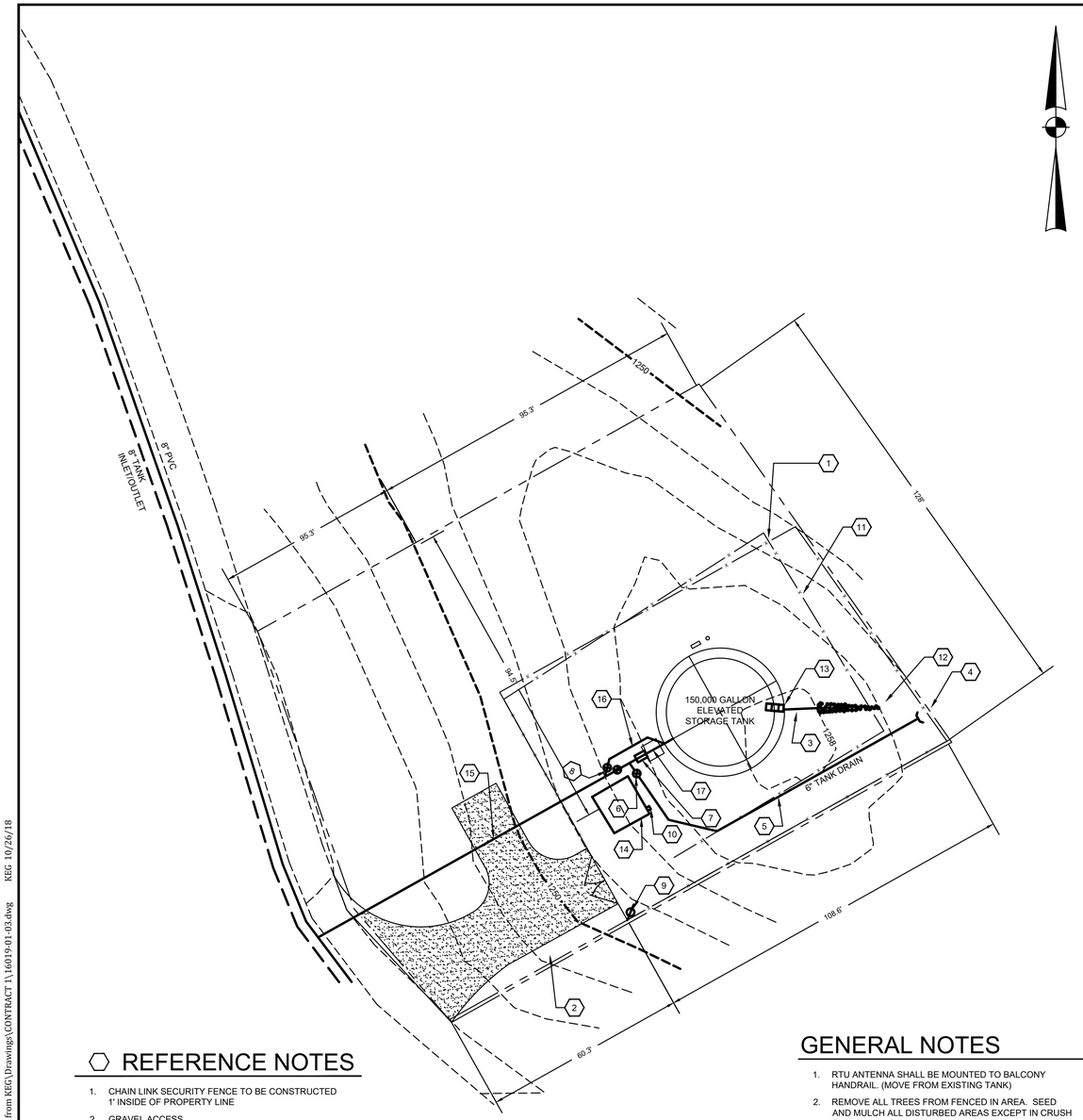
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

DEMOLITION PLAN - EXISTING 3-C TRAIL TANK

PROJECT NO.
16019-01

SHEET NO.
2



REFERENCE NOTES

1. CHAIN LINK SECURITY FENCE TO BE CONSTRUCTED 1' INSIDE OF PROPERTY LINE
2. GRAVEL ACCESS
3. TANK OVER FLOW PIPE
4. CONCRETE HEADWALL
5. 6" TANK DRAIN
6. 6" GATE VALVE
7. 5' X 5' PRECAST CONCRETE VALVE VAULT (SEE DETAIL, SHEET 4)
8. (2) 8" GATE VALVES
9. ELECTRIC SERVICE POLE
10. RTU CONTROL PANEL (MOVE FROM EXISTING TANK)
11. CRUSHED STONE SITE
12. RIP RAP SPLASH PAD
13. LADDER
14. CHLORINE BUILDING
15. 8" PVC CL. 200
16. INLET LINE
17. OUTLET LINE

GENERAL NOTES

1. RTU ANTENNA SHALL BE MOUNTED TO BALCONY HANDRAIL. (MOVE FROM EXISTING TANK)
2. REMOVE ALL TREES FROM FENCED IN AREA. SEED AND MULCH ALL DISTURBED AREAS EXCEPT IN CRUSH STONE AREAS.

GROUND ELEVATION:	1256
OVERFLOW ELEVATION	1396
HEIGHT OF TANK TO OVERFLOW	140'
BOTTOM OF BOWL	

20 0 20 40
SCALE: 1"=20'

50 0 50 100
SCALE: 1"=50'

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NO.	DATE	REVISIONS	BY
1	SEPT. 2017	CHANGE ORDER No. 1	LRS

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

KENTUCKY ENGINEERING GROUP, PLLC
P.O. Box 1034
VERSAILLES, KENTUCKY 40383

- CONTRACT NO. 1 -

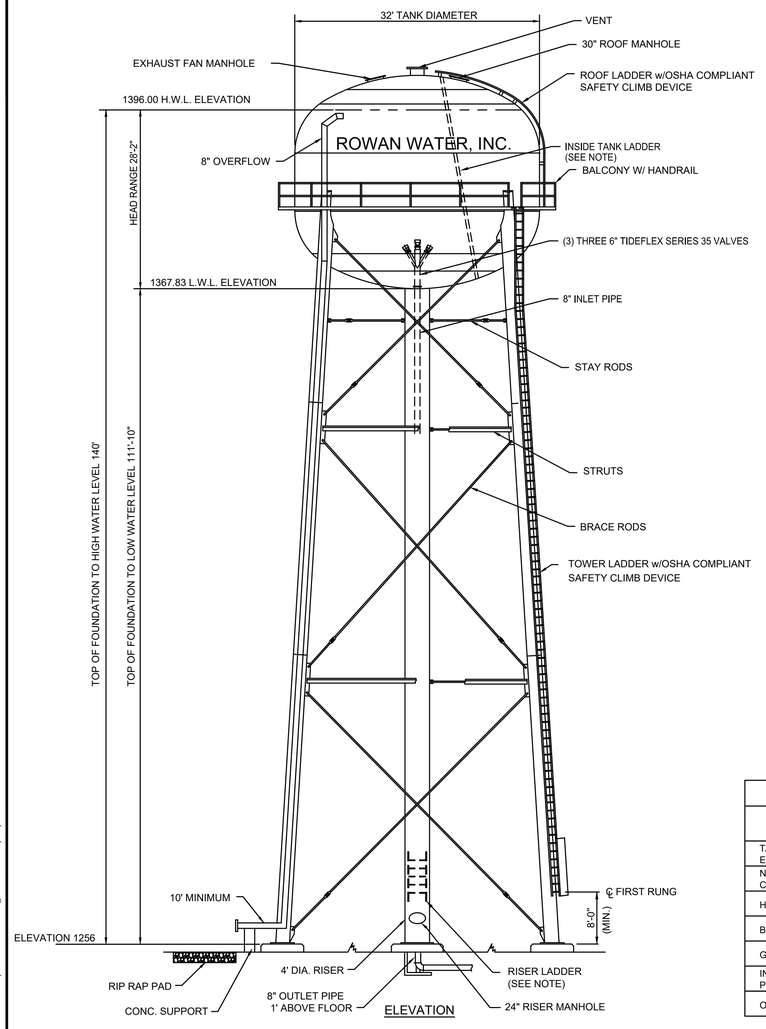
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

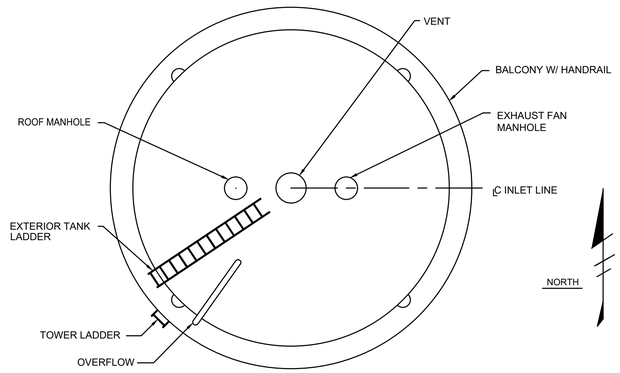
NEW 3-C TRAIL TANK
AERIAL SITE PLAN

PROJECT NO.
16019-01

SHEET NO.
3



ELEVATION



ORIENTATION

NOTE:

CONTRACTOR SHALL NOTIFY GREENBAUM & ASSOC. (GEO-TECH) FOR FIELD REVIEW OF EXCAVATED FOOTER PRIOR TO PLACEMENT OF CONCRETE.

ELEVATED WATER TANK	
	3-C TRAIL TANK
TANK OVERFLOW ELEVATION	1396
NOMINAL TANK CAPACITY	150,000 GALS.
HEAD RANGE	28'-2"
BOTTOM OF BOWL	1368
GROUND ELEV.	1256
INLET/OUTLET PIPE DIA.	8"
OVERFLOW PIPE DIA.	8"

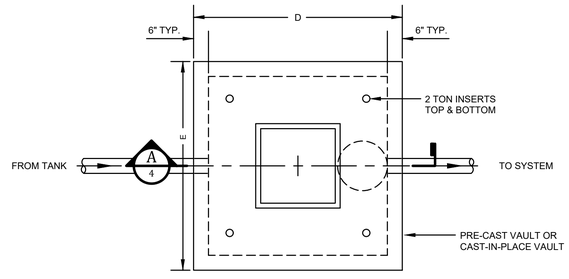
NOTES:

DESIGN:

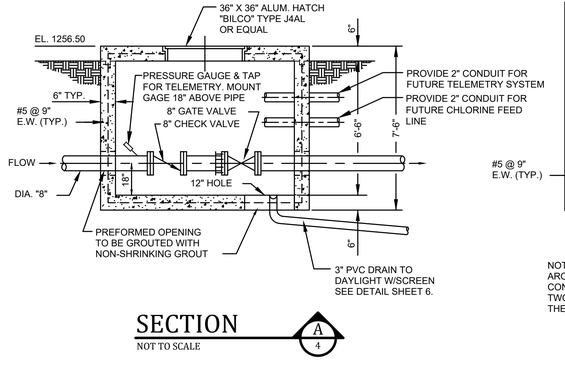
TANK AND TOWER SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH AWWA D100-96 AND PROJECT SPECIFICATIONS.

MATERIALS:
STEEL PLATE: ASTM A283 GR. C / A36
STRUCTURAL STEEL SHAPES: ASTM A36
BRACE RODS AND STAY RODS: ASTM A36
LADDER RUNGS: ASTM A706

GENERAL:
- ACCESSORIES SHOWN ON ELEVATION DRAWING ARE ROTATED FOR CLARITY.
- ALL HANDRAILS, PLATFORM LANDINGS, WALKWAYS, 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 C652-92 AND PROJECT SPECIFICATIONS.



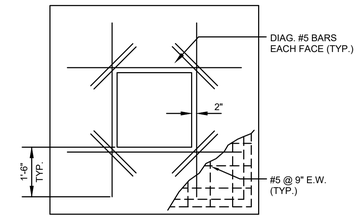
TOP VIEW

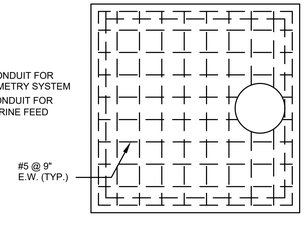


SECTION

NOT TO SCALE

NOTES:
CONCRETE: 4500 PSI AT 28 DAYS
REINFORCING: #5 REBAR AT 9" CENTERS BOTH DIRECTIONS
TOP OF VAULT EDGED AND BRUSHED
2" MINIMUM REBAR COVERAGE





SLAB PLAN

NOTE: THE EXTRA REINF. SHOWN SHALL BE PLACED AROUND ALL OPENINGS 6" OR LARGER IN POURED CONC. - WHERE VERT. OR HORIZ. STL. IS CUT BY OPENING. TWO EXTRA BARS SHALL BE PLACED ON EACH SIDE OF THE OPENING.

TANK VALVE VAULT

NOT TO SCALE

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1	SEPT. 2017	CHANGE ORDER No. 1	LRS

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VERSAILLES, KENTUCKY 40383
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- CONTRACT NO. 1 -

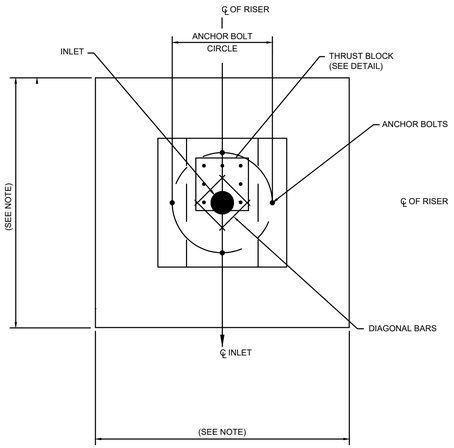
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

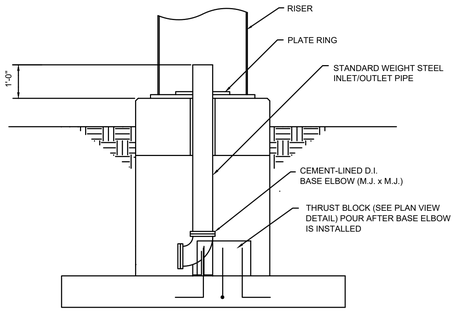
NEW 3-C TRAIL TANK

PROJECT NO. 16019-01

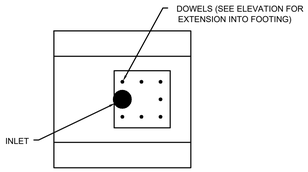
SHEET NO. 4



CENTER PIER PLAN

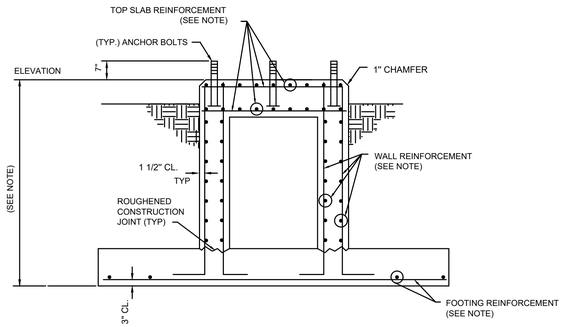


INLET/OUTLET PIPE

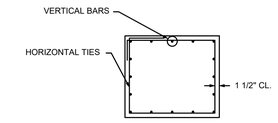


PLAN VIEW DETAIL
OF THRUST BLOCKING

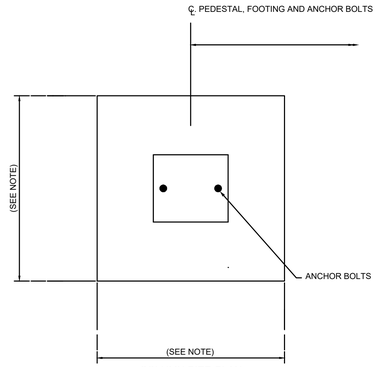
NOTE:
CENTER PIER FOUNDATION DIMENSIONS AND CONCRETE REINFORCEMENT REQUIREMENTS SHALL BE DETERMINED BY TANK CONTRACTOR.



SECTION THRU CENTER PIER
(PIPING NOT SHOWN)



PEDESTAL SECTION



COLUMN PIER PLAN

NOTES:
FOUNDATION DESIGN WILL BE THE RESPONSIBILITY OF THE TANK CONTRACTOR.

PEDESTAL AND FOOTING DIMENSIONS AND CONCRETE REINFORCEMENT SHALL BE DETERMINED BY THE TANK CONTRACTOR.

FOUNDATION CONSTRUCTION SHALL COMPLY WITH AWWA D100-96, A.C.I. 318-99, A.C.I. 301-96 AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS AND THE PROJECT SOILS REPORT.

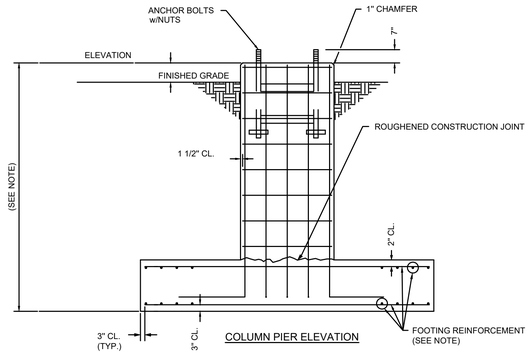
CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI @ 28 DAYS.

REINFORCEMENT SHALL CONFORM TO A.S.T.M. A615 GR. 60.

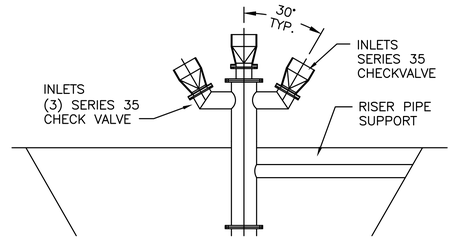
CONSTRUCTION JOINTS SHALL BE ROUGHENED ACROSS ENTIRE FACE WITH 1/4" MINIMUM DEPTH INDENTATIONS.

THE TOP OF CONCRETE FOR ALL PIERS INCLUDING THE CENTER PIER SHALL BE LEVEL AND SHALL BE THE SAME ELEVATION (UNLESS OTHERWISE NOTED BY A SPECIFIED ELEV.) WITH A MAXIMUM DIFFERENTAL OF (+-) 1/4".

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.



COLUMN PIER ELEVATION

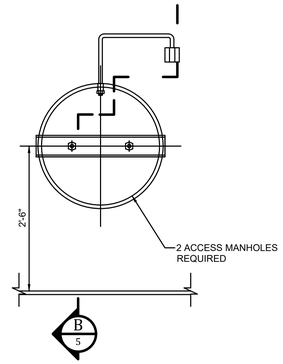


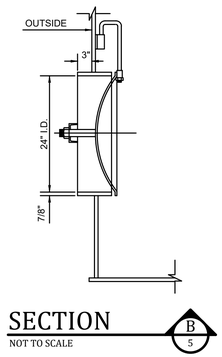
TIDE-FLEX CHECK VALVE DETAIL

NOT TO SCALE

PROVIDED FOR 3C TRAIL TANK

ONE CONDUIT (3/4" MIN.). ONE FOR TELEMETRY CABLE WIRING. LOCATE CONDUIT NEAR LADDER FOR SERVICABILITY AND REPAIR.

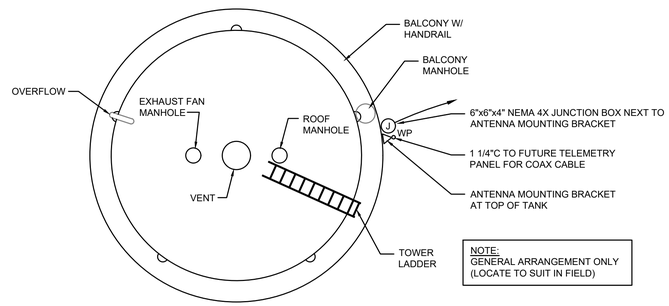




NOT TO SCALE

24" ACCESS MANWAY W/DAVIT

NOT TO SCALE

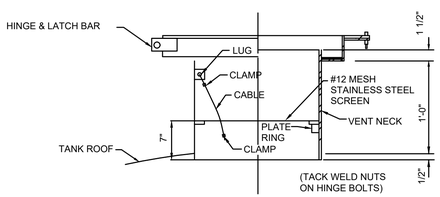


NOTE:
GENERAL ARRANGEMENT ONLY (LOCATE TO SUIT IN FIELD)

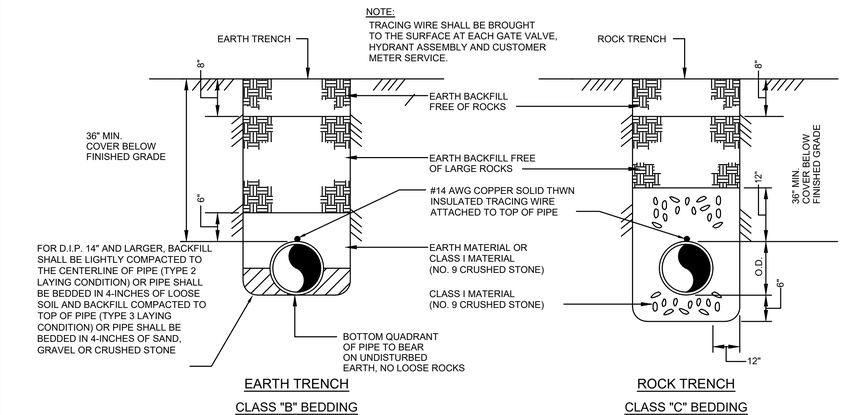
PLAN

WATER TANK TELEMETRY

NOT TO SCALE



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.



EARTH TRENCH
CLASS "B" BEDDING

ROCK TRENCH
CLASS "C" BEDDING

TYPICAL BEDDING and BACKFILL

NOT TO SCALE

B:\PROJECTS\Rowan\16003 - 2016 Water System Improvements\Files from KEG\Drawings\CONTRACT 1\16019-01-05.dwg KEG 10/19/18

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 1 -

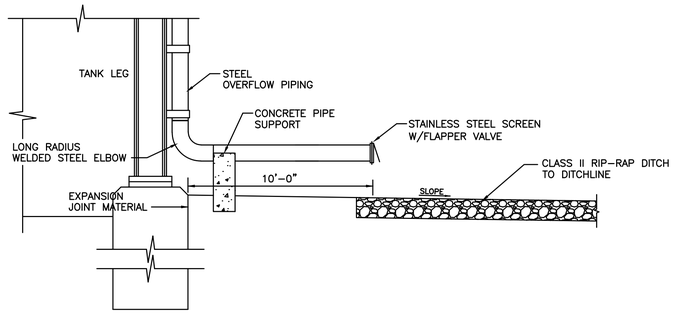
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

NEW 3-C TRAIL TANK
DETAILS

PROJECT NO.
16019-01

SHEET NO.
5

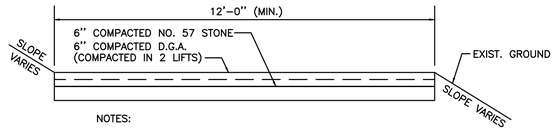


NOTES:

1. CONCRETE SHALL BE RATED @ 4,000 PSI AT 28 DAYS.
2. BOX SHALL BE REINFORCED W/#4 (GRADE 60) AT 12" CENTER/CENTER BOTH WAYS.
3. MINIMUM REBAR COVERAGE = 2-INCHES.

WATER TANK OVERFLOW

NOT TO SCALE

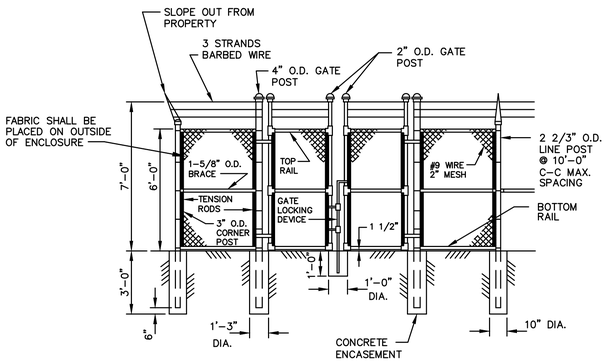


NOTES:

1. ACCESS ROAD TO BE SLOPED TO DRAIN.
2. REMOVE TOPSOIL TO A MINIMUM DEPTH OF 10".
3. COMPACT EXISTING SUBGRADE TO 95% STD. PROCTOR.
4. CROSS DRAINS SHALL BE INSTALLED AS REQUIRED.

TYPICAL ACCESS ROAD

NOT TO SCALE



NOTE:
TAMPER PROOF FASTENING REQUIRED THROUGHOUT

CHAIN LINK FENCE W/SWINGING GATES

NOT TO SCALE

THRUST BLOCK SCHEDULE – CLASS 200 PVC — 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"	1.78	0.07	12"	16"	16"	1.00	0.04	12"	12"	12"	0.50	0.02	12"	12"	6"	0.25	0.01	6"	6"	6"	1.50	0.06	12"	18"	12"
6"	4.00	0.15	12"	24"	24"	2.25	0.08	12"	18"	18"	1.33	0.05	12"	16"	12"	0.56	0.01	6"	8"	8"	3.00	0.11	12"	24"	18"
8"	7.50	0.42	18"	36"	30"	4.00	0.22	18"	24"	24"	2.00	0.11	18"	18"	16"	1.00	0.04	12"	12"	12"	5.00	0.28	18"	30"	24"
10"	11.67	0.65	18"	42"	40"	6.25	0.35	18"	30"	30"	3.33	0.19	18"	24"	20"	2.00	0.07	12"	18"	16"	8.75	0.49	18"	42"	30"
12"	16.00	0.89	18"	48"	48"	9.00	0.50	18"	36"	36"	5.00	0.28	18"	30"	24"	2.22	0.08	12"	20"	16"	14.00	0.78	18"	48"	42"
14"	22.50	1.67	24"	60"	54"	12.25	0.91	24"	42"	42"	6.25	0.46	24"	30"	30"	3.33	0.19	18"	24"	20"	17.50	1.30	24"	60"	42"
16"	30.00	2.22	24"	72"	60"	16.00	1.19	24"	48"	48"	9.00	0.67	24"	36"	36"	4.00	0.22	18"	24"	24"	20.00	1.48	24"	60"	48"

THRUST BLOCK SCHEDULE – CLASS 250 PVC — SOIL TYPE – SAND & GRAVEL BEARING STRENGTH = 3000 PSF

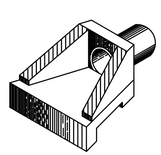
PIPE SIZE	90° BEND					45° BEND					22 ½° BEND					11 ¼° BEND					TEE & DEAD ENDS				
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L
4"	2.667	.10	12	24	16	1.500	.06	12	18	12	.750	.03	12	12	9	.500	.01	6	12	6	1.667	.06	12	24	10
6"	5.000	.19	12	36	20	3.000	.11	12	24	18	1.500	.06	12	18	12	.750	.01	6	12	9	4.000	.15	12	24	24
8"	9.000	.50	18	36	36	5.000	.28	18	36	20	3.000	.17	18	24	18	1.500	.06	12	18	12	7.000	.39	18	42	24
10"	9.255	.78	18	48	42	7.500	.42	18	36	30	4.167	.23	18	30	20	2.250	.08	12	18	18	10.500	.58	18	42	36
12"	13.327	1.11	18	60	48	12.000	.67	18	48	36	6.000	.33	18	36	24	3.000	.11	12	24	18	14.000	.78	18	48	42
14"	18.139	2.00	24	72	54	15.750	1.17	24	54	42	7.500	.56	24	36	30	4.000	.22	18	24	24	20.000	1.48	24	60	48
16"	23.692	2.65	24	78	66	20.000	1.48	24	60	48	10.500	.78	24	42	36	5.000	.28	18	30	24	27.000	2.00	24	72	54

THRUST-BLOCKING SCHEDULE

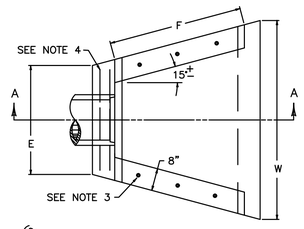
NOT TO SCALE

NOTES

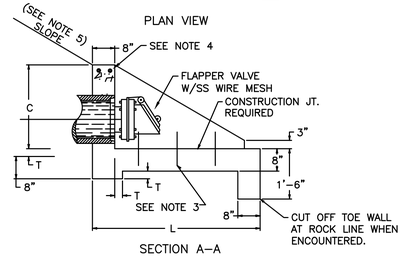
1. DIMENSIONS AND QUANTITIES ARE BASED ON CONCRETE PIPE AND WILL VARY INSIGNIFICANTLY FOR CORRUGATED METAL PIPE.
2. REINFORCING STEEL : MINIMUM GRADE 40, BARS EVENLY SPACED.
3. 6 – NO. 4 x 12 INCH DOWEL BARS.
4. 2 – NO. 4 x (E DIMENSION MINUS 4 INCHES).
5. SLOPES SHALL BE WARPED TO FIT HEADWALL WHEN PIPE IS SKEWED AND/OR NORMAL SLOPE VARIES FROM 1:2.
6. VOLUME DISPLACED BY PIPE COMPUTED USING INSIDE DIAMETER OF PIPE.
7. WING ANGLES AND/OR DIMENSIONS MAY BE ALTERED DURING CONSTRUCTION TO ACCOMMODATE FLOW OF WATER.
8. APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE. FRONT FACE OF HEADWALL SHALL REMAIN VERTICAL.
9. HEADWALLS ARE FOR CIRCULAR, ARCH, AND HORIZONTAL ELLIPTICAL 12" TO 27" EQUIVALENT PIPE SIZES. SEE CURRENT STD. DWG. RDI-001, FOR NON-CIRCULAR PIPE EQUIVALENT SIZES.
10. ALL DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE.
11. FINAL LOCATION OF HEADWALL TO BE FIELD LOCATED FOR EACH TANK SITE FOR POSITIVE DRAINING.



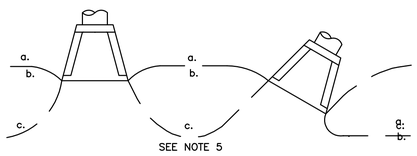
ISOMETRIC VIEW



PLAN VIEW



SECTION A–A

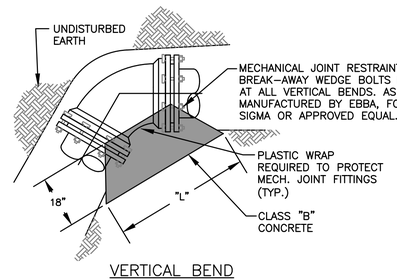


TOE OF SLOPES:
a. STEEPER THAN 1:2
b. 1:2
c. FLATTER THAN 1:2

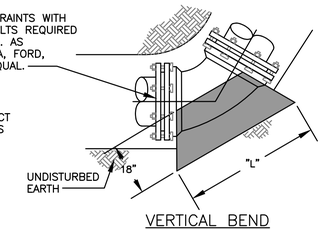
PIPE DIA. OR EQUIV. DIA.	SHAPE ⑨	DIMENSIONS C	E	F	L	W	T	CLASS A CONC CY	REINF STEEL Lbs.
PER SITE PLAN	◯	1'-9"	2'-6"	2'-3"	3'-6"	4'-0"	2"	0.58	7

TANK DRAIN and HEADWALL DETAIL

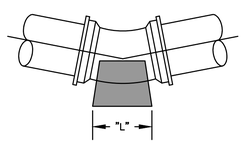
NOT TO SCALE



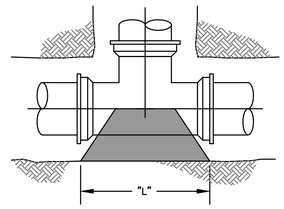
VERTICAL BEND
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



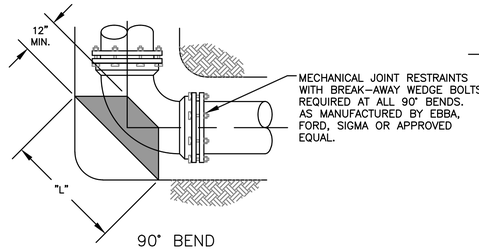
VERTICAL BEND
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



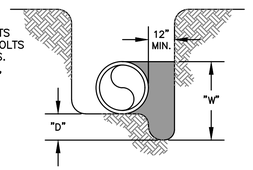
11¼°, 22½° AND 45° BEND THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



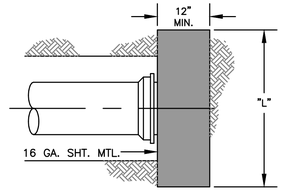
TEE THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



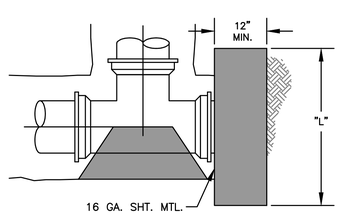
90° BEND THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



SECTION–TYP. THRUST BLOCK
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



END OF MAIN THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



PLUGGED TEE THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)

THRUST-BLOCKING DETAIL

NOT TO SCALE

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NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 1 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

WATER STORAGE TANK STANDARD DETAILS

PROJECT NO. 16019-01

SHEET NO. 6

NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER– LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. FENCE TO BE INSTALLED ACROSS PIPE TRENCHES AT 200' INTERVALS. INSTALL AT CLOSER INTERVALS IF CONDITIONS WARRANT.
6. PRIOR TO CONSTRUCTION, INSTALL SILT FENCING ON THE DOWN SLOPE SIDE OF ALL AREAS TO BE DISTURBED, INCLUDING DOWNSTREAM SIDE OF ALL WATERWAYS CROSSED AND AT ALL CULVERTS OR STORM SEWER INLETS.

POSTS:

STEEL – EITHER T OR U TYPE OR 2" HARDWOOD

FENCE:

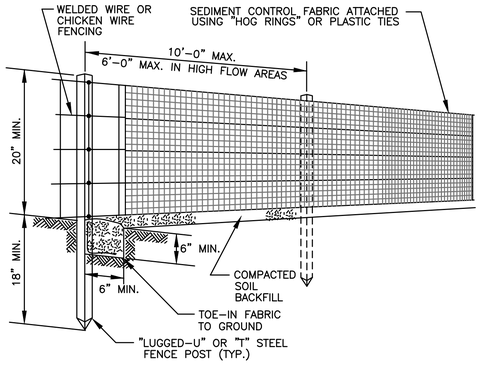
WOVEN WIRE 14.5 GAUGE 6" MAX MESH OPENING

FILTER CLOTH:

MINIMUM TENSILE STRENGTH OF 120 LBS. (ASTM D–1682)

PREFABRICATED UNIT:

MIRAFI ENVIROFENCE, OR EQUAL

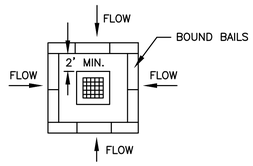


TYPICAL SILT FENCE DETAIL

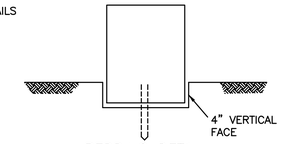
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS:

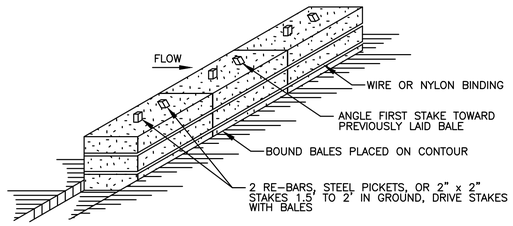
1. BALES SHALL BE PLACED AT INTERVALS (BETWEEN SILT FENCING), ACROSS ALL PIPING TRENCHES ON SLOPING GRADES. PLACE BALES IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4 INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE–BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN AT AN ANGLE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. UPON COMPLETION OF CONSTRUCTION AND STABILIZATION OF ALL DISTURBED AREAS, SILTATION CONTROL MEASURES ARE TO BE REMOVED.



TYPICAL AT C.B.



BEDDING DETAIL



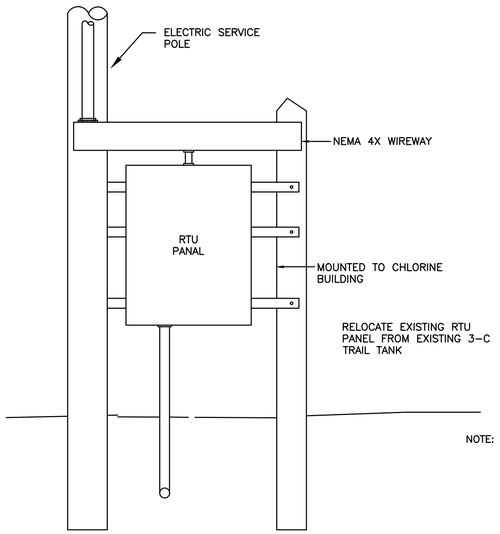
ANCHORING DETAILS

TYPICAL STRAW BALE DIKE DETAIL

NOT TO SCALE

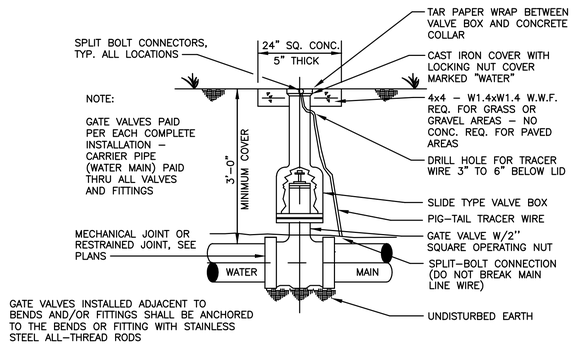
SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A KPDES STORMWATER PERMIT FROM THE KENTUCKY DIVISION OF WATER.
2. CONTRACTOR SHALL PLACE STAKED STRAW BALES OR SILT FENCE AROUND HEADWALLS AND IN EXISTING DITCHES AS SHOWN TO PREVENT CLOGGING AND DOWNSTREAM SILTATION.
3. CONTRACTOR SHALL SURROUND THE PROPERTY PERIMETER WITH STAKED STRAW BALES OR SILT FENCE.
4. CONTRACTOR MUST RETAIN EXISTING VEGETATION ON THE CONSTRUCTION SITE WHENEVER POSSIBLE.
5. NO AREA OF DISTURBED LAND IS TO BE LEFT UNPROTECTED FOR MORE THAN TWENTY DAYS AFTER GRADING ACTIVITY HAS CEASED. THESE AREAS SHALL BE RE–STABILIZED USING TEMPORARY SEEDING AND MULCHING OR OTHER SUITABLE MEANS. MULCHING MUST COVER AT LEAST 75% OF THE SOIL SURFACE.
6. CONTRACTOR SHALL INSPECT EROSION AND SEDIMENT CONTROL MEASURES IN PLACE AFTER EVERY STORM EVENT, AS WELL AS ON A WEEKLY BASIS. DAMAGED OR INEFFECTIVE MEASURES MUST BE RESTORED IMMEDIATELY TO PROPER FUNCTIONING CONDITION.
7. CONTRACTOR SHALL MINIMIZE THE TRACKING OF SEDIMENT ONTO ROADWAYS BY PLACING A 50 FOOT LONG, 5–INCH THICK GRAVEL DRIVE OFF EACH ENTRANCE FROM A PUBLIC ROADWAY. ENTRANCE MUST BE 12 FEET WIDE OR WIDER CONSTRUCTED WITH GRAVEL 2 TO 3 INCHES IN DIAMETER.
8. ANY SEDIMENT, DEBRIS, ETC. THAT IS TRACKED ONTO A PUBLIC ROADWAY WILL BE CLEARED ON A DAILY BASIS.
9. ADDITIONAL EROSION CONTROL NOT SHOWN ON THESE PLANS MAY BE REQUIRED. THIS CONTROL SHALL INCLUDE SEEDING, MULCHING, SILT FENCE, STRAW BALES, ETC. AS NECESSARY TO PREVENT SOIL EROSION.
10. CONTRACTOR SHALL INSTALL EROSION CONTROL BLANKETS ON ALL SLOPES GREATER THAN 3:1.
11. CONTRACTOR TO INSTALL STRAW BALE DROP INLET SEDIMENT FILTER FOR DRAINS RECEIVING CONCENTRATED OR HEAVY FLOWS.
12. CONTRACTOR TO INSTALL WIRE AND MESH INLET SEDIMENT FILTER FOR INLET DRAINS RECEIVING CONCENTRATED OR HEAVY FLOWS.



OUTDOOR RTU INSTALLATION DETAIL

NOT TO SCALE



GATE VALVE DETAIL

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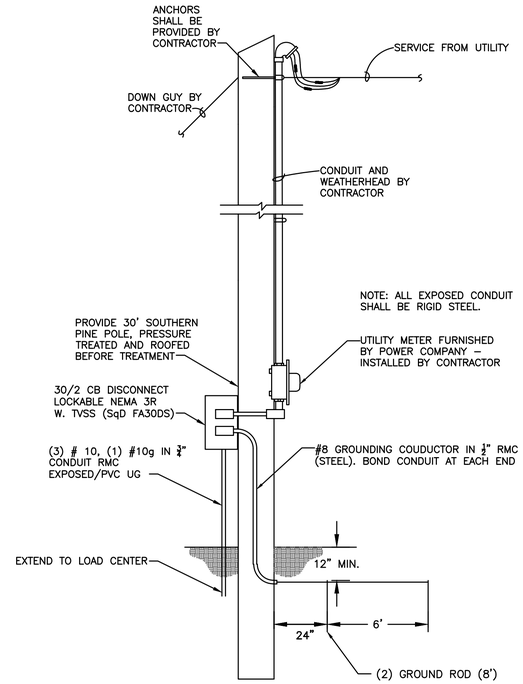

ELECTRICAL SERVICE POLE DETAIL

NOT TO SCALE

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 1 -

2016 WATER SYSTEM IMPROVEMENTS

FOR

ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

STANDARD DETAILS

PROJECT NO. 16019-01

SHEET NO. 7

- CONTRACT NO. 2 -

2016 WATER SYSTEM IMPROVEMENTS EXISTING WATER STORAGE TANKS REHABILITATION

FOR

ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

BOARD MEMBERS

LARRY JOHNSON - CHAIRMAN

ENOCH BLAIR - DANNY STEVENS
MIKE COLLINS - RANDY COX
JERRY PATRICK - MANAGER

APRIL, 2017

P.O. Box 1034
VERSAILLES, KENTUCKY 40383

KENTUCKY ENGINEERING GROUP, PLLC

STATE OF KENTUCKY
BRYAN K LOVAN
19540
LICENSED PROFESSIONAL ENGINEER
5-19-17

RECORD DRAWINGS

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

BY: BLUEGRASS ENGINEERING, PLLC DATE: XX/XX

PROJECT NO. 16019-02

SET NO. _____

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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 36" 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. CONTRACTOR SHALL PROVIDE A NEW METROTECH 810 LINE TRACER TO ROWAN WATER, INC. PRIOR TO CONSTRUCTION.
- ALL NEW SERVICE LINE FROM THE NEW MAIN TO THE SETTERS SHALL BE 1" PE CTS TUBING UNLESS SHOWN DIFFERENTLY ON THE PLANS
- NO BLASTING WILL BE PERMITTED ON THIS PROJECT
- EXCAVATION WITHIN GAS LINE RIGHT OF WAY REQUIRE EACH ENTITY'S REPRESENTITIVE TO BE PRESENT AT ALL TIMES. SEE THE PLAN SHEETS FOR DETAILS ON THE CROSSING. ALL GAS LINES SHOWN ON PLANS ARE SHOWN IN THEIR APPROXIMATE LOCATION. EXACT LOCATION SHALL BE FIELD VERIFIED BY A GAS COMPANY REPRESENTATIVE.
- UNLESS OTHERWISE NOTED, ALL DRIVEWAYS SHALL BE OPEN CUT AND REPLACED WITH A SINGLE SEAM FROM CUT TO ROADWAY.
- ALL METERS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BEFORE DIGGING.
- ALL OFF SIDE METERS SHALL REQUIRE 1 1/2" PVC CASING PIPE FOR 1" CTS TUBING.
- UNLESS OTHERWISE NOTED, ALL STATE AND COUNTY ROADS SHALL BE BORED W/STEEL CASING.

GENERAL NOTES (CONTINUED)

- ALL METERS SHALL BE REPLACED AT THE SAME LOCATION UNLESS INFORMED DIFFERENTLY BY PROPERTY OWNER AND ENGINEER
- 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 BACTIE RESULTS MUST BE PROVIDED TO THE ENGINEER PRIOR TO RECONNECTS OF ANY METER.
- A NO. 12 AWG INSULATED COPPER LOCATOR WIRE SHALL BE PLACED IN THE TRENCH SIX INCHES ABOVE ALL PLASTIC LINES. THE INSULATION SHALL BE BLUE FOR WATER. THE WIRE SHALL BE LOOPED INTO 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.
- ALL OF THE REPLACED METERS ARE PROPERTY OF ROWAN WATER, INC. ALL METER ASSEMBLY SHALL BE DELIVERED TO THE OWNER BY THE CONTRACTOR.

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.

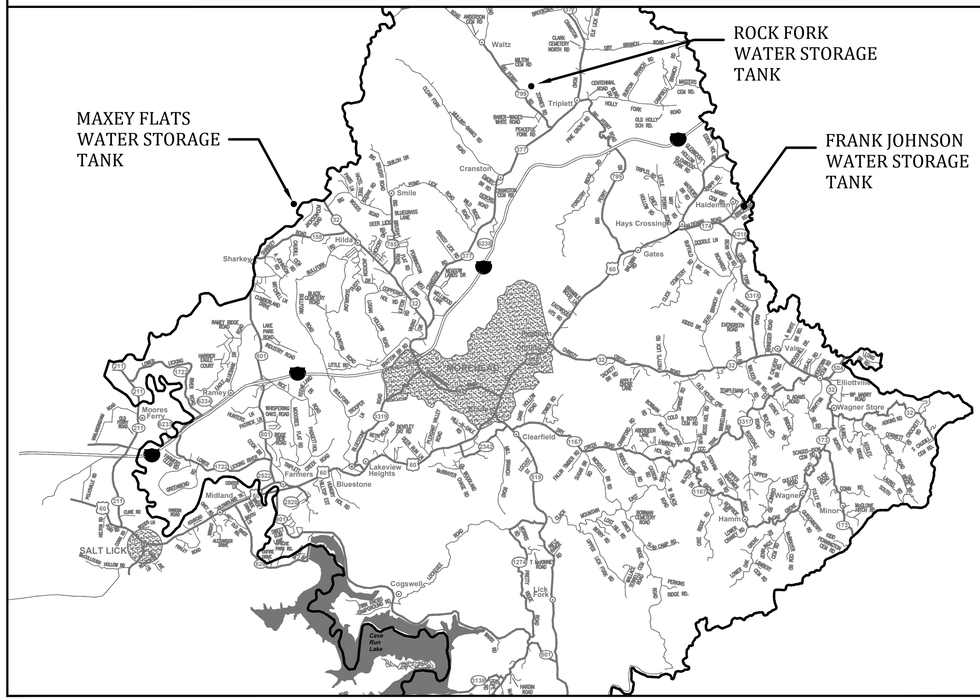
DEPARTMENT OF HIGHWAYS - GENERAL NOTES

- 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.
- ALL WATER MAIN SHALL HAVE A MINIMUM COVER OF 42" INSTALLED WITHIN SATE RIGHT-OF-WAY.
- WATER MAIN SHALL BE INSTALLED A MINIMUM OF 12 L.F. FROM END OF CULVERT.
- 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 PERMITTION 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.
- CONTACT THE DISTRICT PERMITS ENGINEER AT KYC-DOH #9, FLEMINSBURG, KY AT (606) 845-2551 OR 1-800-817-2551 PRIOR TO BEGINNING WORK.

RESTORATION WITHIN COUNTY RIGHT-OF-WAY

1. REQUIREMENTS FOR OPENING COUNTY ROADS FOR THE PURPOSE OF INSTALLING A WATERLINE:
   - A. THE UTILITY DITCHLINE SHOULD ONLY BE FILLED WITH #2 ROCK TO A LEVEL SEVEN INCHES BELOW THE TOP OF THE SURFACE.
   - B. FOUR INCHES OF DGA SHOULD BE PLACED IN THE DITCHLINE THE FULL WIDTH OF THE CUT. THESE TWO PROCEDURES SHOULD BE DONE THE SAME DAY AS THE OPENING.
   - C. THE REMAINING THREE INCHES OF THE DITCH SHOULD BE FILLED WITH SURFACE BLACKTOP. THIS SHOULD BE COMPLETED NO MORE THAN ONE WEEK FOLLOWING THE OPENING DURING BLACKTOPPING SEASON OR AT THE VERY BEGINNING OF THE FOLLOWING BLACKTOPPING SEASON.
   - D. A STRAIGHT SMOOTH CUT SLIGHTLY WIDER THAN THE DITCH IS REQUIRED TO ENSURE EFFECTIVE ROAD REPAIR.
2. REQUIREMENTS FOR THE OPENING AND CLOSING OF CUTS IN COUNTY DITCHLINES:
   - A. OPEN CUTS OF THE DITCHES ON COUNTY RIGHT-OF-WAYS SHALL BE FILLED WITH ONE FOOT OF #9 STONE TO A DEPTH OF ONE FOOT ABOVE THE PIPE. THE REMAINDER OF THE DITCH SHALL BE FILLED WITH EXCAVATED SOIL.

PROJECT MAP - NOT TO SCALE



INDEX OF DRAWINGS

UTILITY OWNERS

TELEPHONE:

WINDSTREAM:	1-800-752-6007

GAS:

MOREHEAD UTILITY PLANT BOARD:	606-784-4305 or 606-784-3427
COLUMBIA GULF TRANSMISSION:	606-663-4401 or 1-800-231-2800
TENNESSEE GAS PIPELINE:	859-842-3231 or 1-800-231-2800
DELTA GAS	1-800-251-8471 or 1-800-262-2012

WATER

ROWAN WATER, INC.	606-784-9818

BUD - BEFORE YOU DIG

1-800-752-6007

DRAWING LEGEND

EXISTING	PROPOSED	DESCRIPTION
PVC	PVC	POLYVINYL CHLORIDE
DIP	DIP	DUCTILE IRON PIPE
WM	WM	WATER MAIN
		FLUSHING HYDRANT ASSEMBLY (YELLOW)
		BLOWOFF ASSEMBLY
		AIR RELEASE VALVE (ARV)
		GATE VALVE (GV)
		WATER MAIN (WM)
		SPECIAL CROSSING OR CASING PIPE
		WATER MAIN TO BE ABANDONED
R/W	R/W	RIGHT-OF-WAY LINE
		CENTERLINE
		PROPERTY LINE
OWNER	OWNER	EASEMENT ACQUIRED
		EXISTING METERS TO BE REPLACED

KEG 10/24/18

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NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 2 -

2016 WATER SYSTEM IMPROVEMENTS

FOR

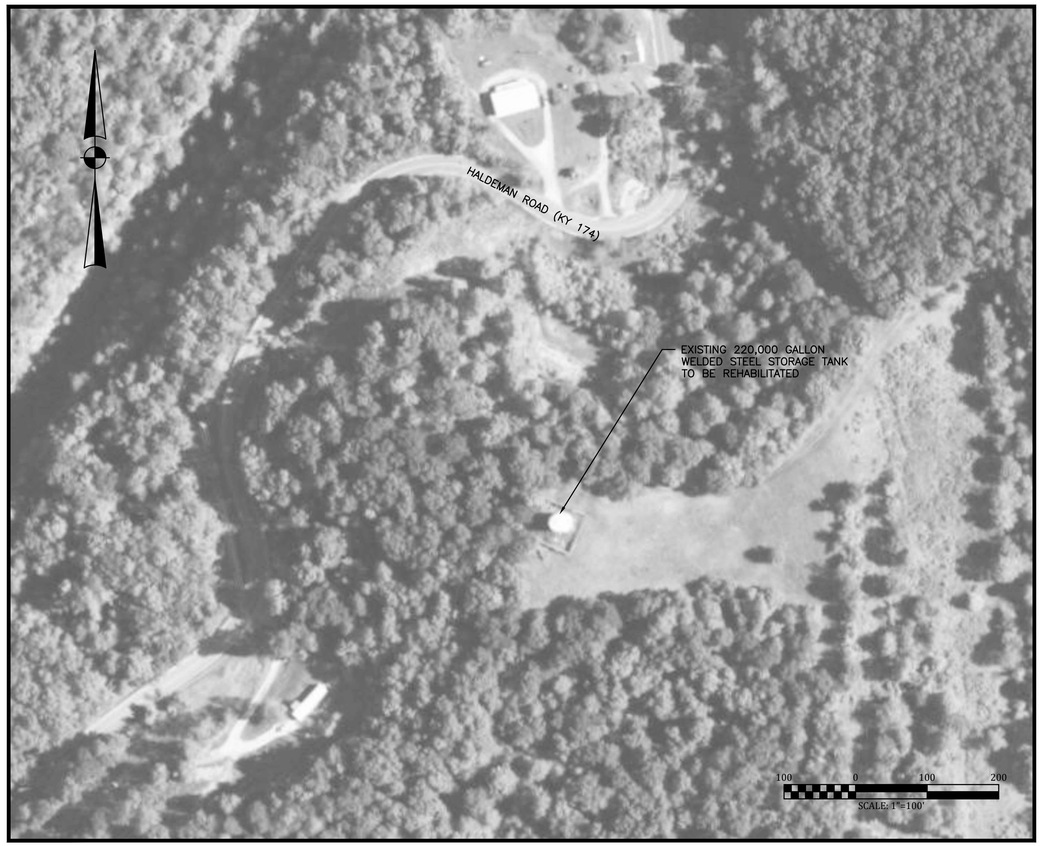
ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

GENERAL NOTES, UTILITIES, LEGEND, INDEX OF DRAWINGS and PROJECT MAP

PROJECT NO. 16019-02

SHEET NO. 1

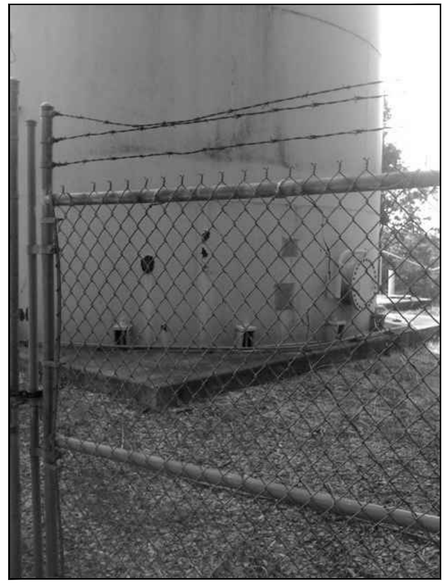


AERIAL PLAN - FRANK JOHNSON TANK

SCALE: 1" = 100'

ELEVATION VIEW - FRANK JOHNSON TANK

NOT TO SCALE



GROUND VIEW - FRANK JOHNSON TANK

NOT TO SCALE

FRANK JOHNSON TANK (WELDED STEEL)

GENERAL INFORMATION: APPROXIMATELY 220,000 GALLONS; 60' HEIGHT; 25' DIAMETER; AGE 24 YEARS

INTERIOR:

- POWER WASH
- REMOVE SEDIMENTATION FROM FLOOR OF TANK
- REPAIR CORROSION AREAS SSPC SP2 & 3 HAND POWER TOOL CLEANING (SEE CD)
- CAULK SEAMS ABOVE HIGH WATER LEVEL
- PLATE ANY HOLES OR PITTED AREAS WHERE METAL LOSS IS MORE THAN HALF OF STEEL THICKNESS
- APPLY PIT FILLER TO ALL OTHER PITTED AREAS
- APPLY NEW COATING SYSTEM TO PREPARED AREAS
- REMOVE LEVEL INDICATOR EQUIPMENT
- PAINT – ONE COAT TNEMEC SERIES 22 EPOXY OR APPROVED EQUAL MIN. 14 MILS.

EXTERIOR:

- GROUT BASE PLATE OF TANK
- POWER WASH AND CLEAN TANK TO REMOVE MILDEW
- SPOT CLEAN ALL CORROSION – SSPC SP3 POWER TOOL
- APPLY COATINGS TO PREPARED AREAS
- CLEAN TANK SITE OF VEGETATION WITHIN 10' OF FOUNDATION
- PAINT – RUSTOLEUM 9800 SYSTEM DTM URETHANE MASTIC OR APPROVED EQUAL MIN 4 MILS.
- INSTALL NEW MANWAY SEALS, BOLTS & NUTS

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- CONTRACT NO. 2 -

2016 WATER SYSTEM IMPROVEMENTS

FOR

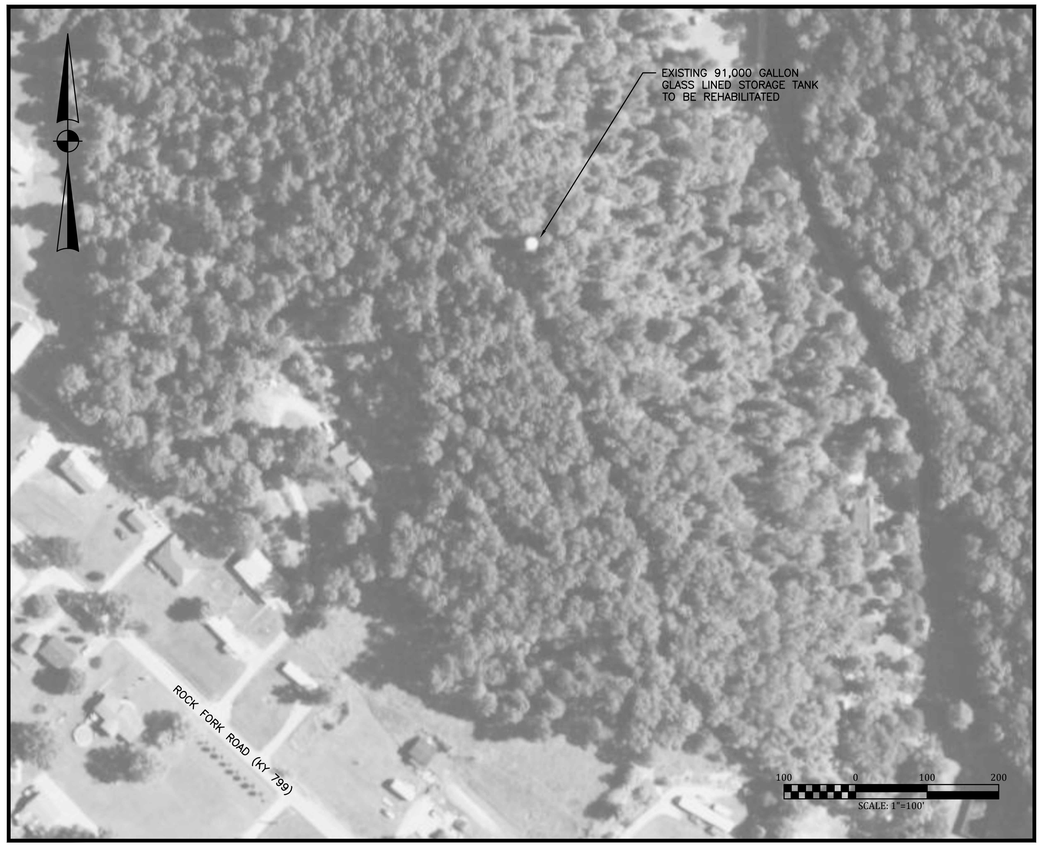
ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

REHABILITATION PLAN
FRANK JOHNSON TANK

PROJECT NO.
16019-02

SHEET NO.
2



AERIAL PLAN - ROCK FORK TANK

SCALE: 1" = 100'

ELEVATION VIEW -ROCK FORK TANK

NOT TO SCALE

ROCK FORK TANK (GLASS LINED)

GENERAL INFORMATION: APPROXIMATELY 91,000 GALLONS; 78' HEIGHT; 14' DIAMETER; AGE 29 YEARS

INTERIOR:

- POWER WASH TO REMOVE SEDIMENT AND STAINING AND POWER TOOL ALL CORROSION SPOTS (SP3)
- SSPC SP3 – SURFACE PREPARATION FOR ALL CORROSION SPOTS
- APPLY NSF APPROVED MASTIC (CIM 1061) TO ALL CLEANED SPOTS
- INSTALL NEW SACRIFICIAL ANODES
- NEW MANWAY GASKET, BOLTS, AND NUTS

EXTERIOR:

- POWER WASH EXTERIOR
- INSTALL NEW SCREEN ON OVERFLOW
- SECURE TELEMETRY CABLES TO LADDER
- REMOVE NON–OPERATIONAL CABLES FROM LEVEL INDICATOR
- ALL FAILING SPOTS SHALL BE POWER TOOL CLEANED BARE (SSPC SP 3) AND COATED WITH MASTIC COATING (CIM 1061)

*NOTE: NUMBER OF ANODES SHALL BE DETERMINED BY AQUASTORE REPRESENTATIVE UPON SAMPLING OF WATER.

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NO.	DATE	REVISIONS	BY

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PROJECT MGR:	LRS
DRAWN BY:	JAB
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- CONTRACT NO. 2 -

2016 WATER SYSTEM IMPROVEMENTS

FOR

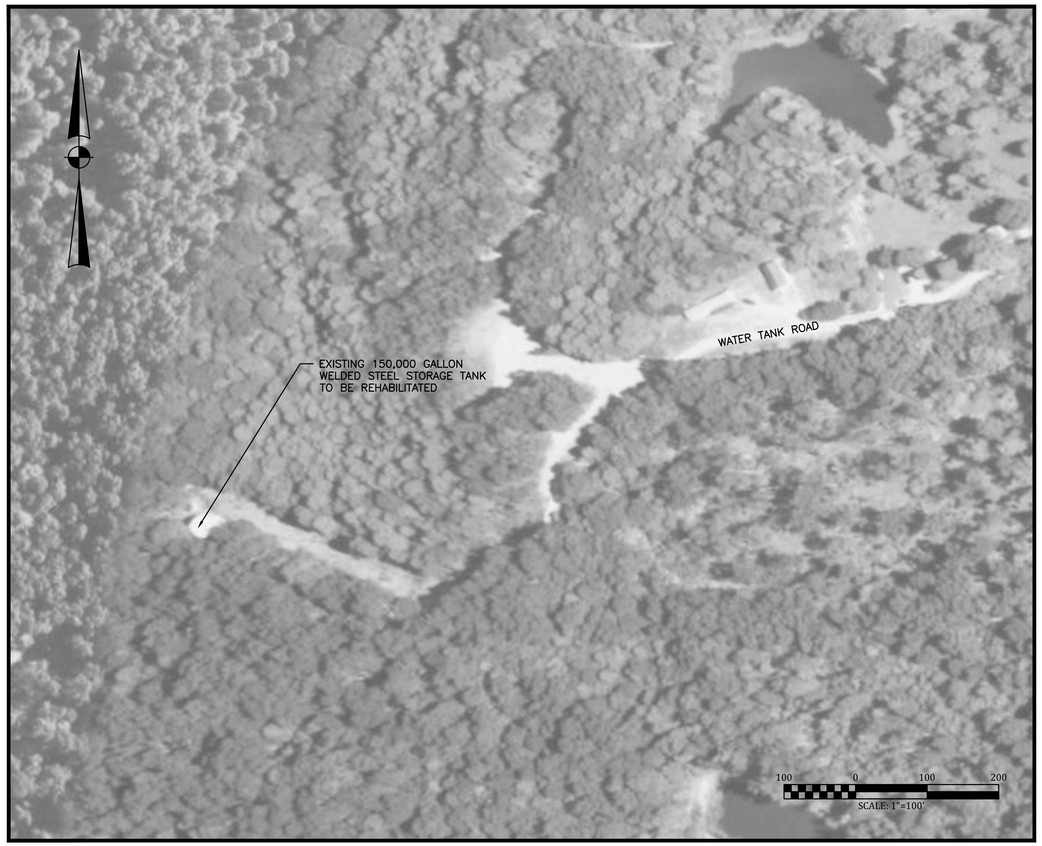
ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

REHABILITATION PLAN
ROCK FORK TANK

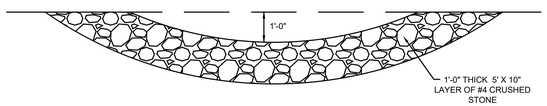
PROJECT NO.
16019-02

SHEET NO.
3



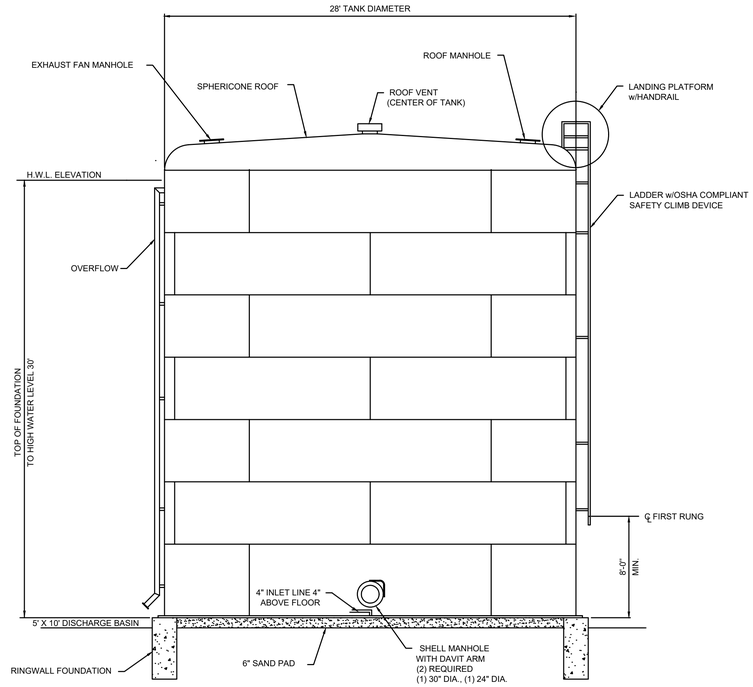
AERIAL PLAN - MAXEY FLATS TANK

SCALE: 1" = 100'



OVERFLOW DISCHARGE BASIN DETAIL

NOT TO SCALE



ELEVATION

ELEVATION VIEW - MAXEY FLATS TANK

NOT TO SCALE

MAXEY FLATS TANK (WELDED STEEL)

GENERAL INFORMATION: APPROXIMATELY 150,000 GALLONS; 30' HEIGHT; 28' DIAMETER; AGE 37 YEARS

INTERIOR:
- POWER WASH
- REMOVE SEDIMENTATION FROM FLOOR OF TANK
- CAULK SEAMS ABOVE HIGH WATER LEVEL
- GRIND OFF WELD SPATTER NEAR WELD SEAMS
- PLATE ANY HOLES OR PITTED AREAS WHERE METAL LOSS IS MORE THAN HALF OF STEEL THICKNESS
- APPLY PIT FILLER TO ALL OTHER PITTED AREAS
- APPLY NEW COATING SYSTEM TO ALL CLEANED AREAS
- REMOVE LEVEL INDICATOR EQUIPMENT
- ALL CORROSION SPOTS SHALL BE POWER TOOL CLEANED BARE (SSPC SP 3, SEE CD)
- SINCE INLET IS IN FRONT OF EXISTING MANWAY, CONTRACTOR SHALL INSTALL 90° BEND @ FLOOR TO CLEAR MANWAY THEN INSTALL 90° BEND HORIZONTAL TO MIXING SYSTEM
- INSTALL NEW 4" WF-3 CHECK VALVES ON NEW INLET LINE
- PASSIVE TIDE FLEX MIXING SYSTEM WITH 3 – 4" SERIES 35 VALVES ON NEW INLET LINE AND WATERFLEX OUTLET PER DETAIL
- PAINT – ONE COAT TNEMEC SERIES 22 EPOXY OR APPROVED EQUAL MIN 14 MILS

EXTERIOR:
- GROUT BASE PLATE OF TANK
- POWER WASH CLEAN TANK TO REMOVE MILDEW
- SPOT CLEAN ALL CORROSION – SSPC SP3 POWER TOOL
- APPLY COATINGS TO PREPARED AREAS
- ADD DISCHARGE BASIN FOR OVERFLOW PIPE
- PAINT – ONE COAT RUSTOLEUM 9800 DTM URETHANE MASTIC OR APPROVED EQUAL MIN. 4 MILS
- INSTALL NEW MANWAY SEALS, BOLTS, & NUTS

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NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 2 -

2016 WATER SYSTEM IMPROVEMENTS

FOR

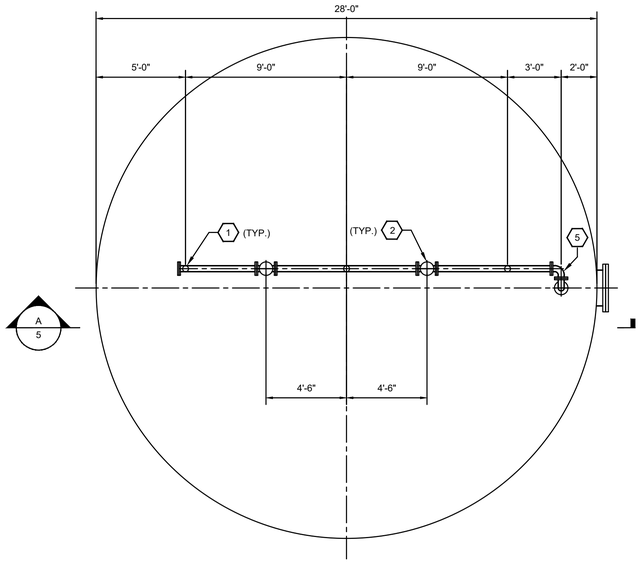
ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

REHABILITATION PLAN
MAXEY FLATS TANK

PROJECT NO. 16019-02

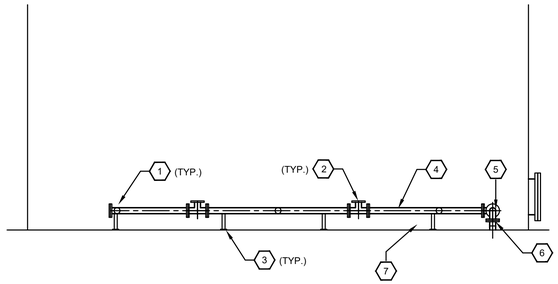
SHEET NO. 4



TIDE FLEX MIXING SYSTEM PLAN

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

0 2' 4' 8'



TIDE FLEX MIXING SYSTEM SECTION

A
5

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

0 2' 4' 8'

REFERENCE NOTES:

1. TIDEFLEX NOZZLE
2. WATERFLEX WF-3 6"
3. STEEL PIPE SUPPORTS EQUALLY SPACED
4. 6" WELD STEEL PIPE
5. 6" 90°ELBOWS
6. LFG X PE FITTING WELDED TO EX. INLET/OUTLET STUB OUT
7. PVC PIPING

GENERAL NOTES:

1. ALL PIPING & FITTINGS SHALL RECEIVE FBE COATING WITH S.S. BOLTS, NUTS, AND WASHERS FOR ALL FLANGE CONNECTIONS WITH DIAELECTRIC GASKETS. INTERIOR OF PIPING & FITTINGS SHALL RECEIVE FBE COATING.
2. EX. INLET/OUTLET STUB SHALL BE PAINTED WITH THE SAME COATING SYSTEM AS TANK.
3. BASE PLATES FOR PIPE SUPPORTS SHALL BE WELDED TO THE TANK BOTTOM. COAT STEEL SUPPORTS & BASE PLATES WITH SAME COATING SYSTEM AS TANK.

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- CONTRACT NO. 2 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

REHABILITATION PLAN MAXEY FLATS TANK DETAILS

PROJECT NO.
16019-02

SHEET NO.
5

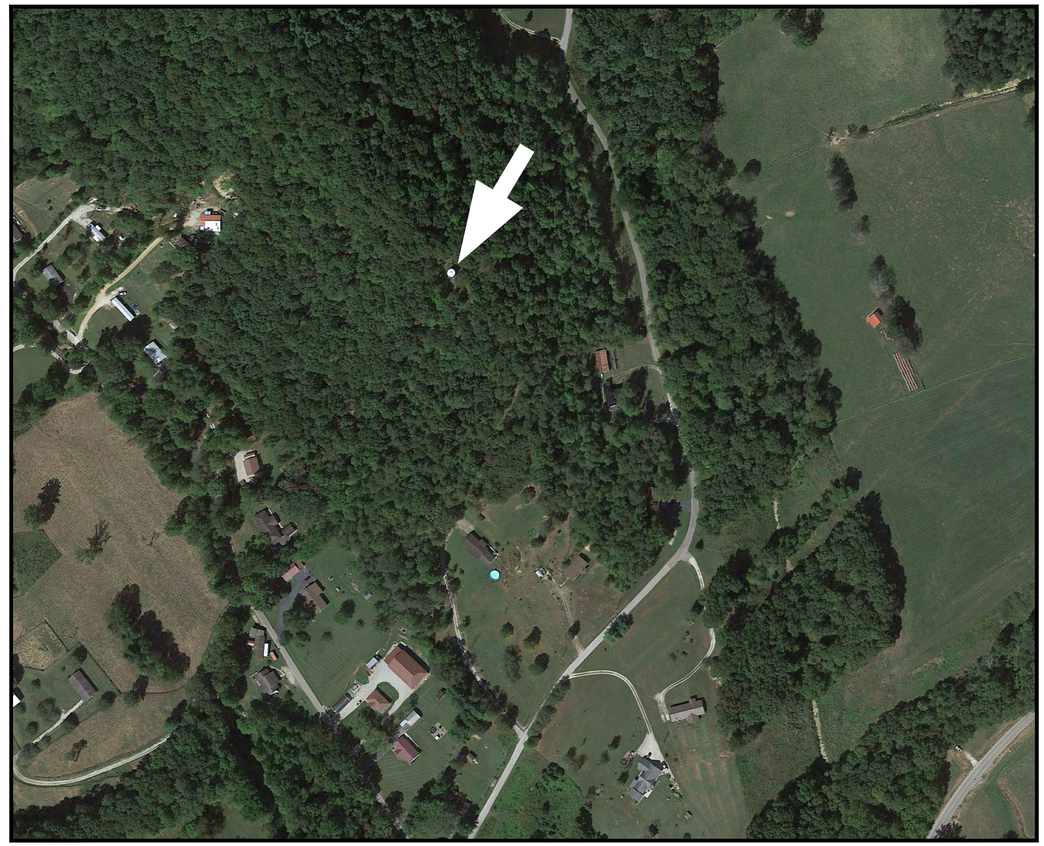
POND LICK TANK

INTERIOR:

- HIGH PRESSURE POWER WASH
- SSPC - SP3 POWER TOOL SPOTS & RECOAT
- REPLACE EXISTING PIPE SUPPORTS
- INSTALL NEW SACRIFICIAL ANNODES

EXTERIOR:

- CLEAN BRUSH FROM SITE
- HIGH PRESSURE POWER WASH
- SSPC - SP3 POWER TOOL SPOTS & RECOAT



SAWMILL TANK

INTERIOR:

- HIGH PRESSURE POWER WASH
- SSPC - SP3 POWER TOOL RUST SPOTS
- APPLY EPOXY PRIMER & URETHANE TOPCOAT
- INSTALL ANTENNA CORRAL ON ROOF
- POSITION ANTENNA CABLES - OSHA COMPLIANT
- WELD ROOF LADDER IN PALCE

EXTERIOR:

- SSPC - SP10 ABRASIVE SANDBLASTING
- CAULK SEAMS & CEILING ACCESSORIES
- CORRECT PITTED AREAS W/ PIT FILLER
- APPLY NEW 3-COAT EPOXY SYSTEM

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PROJECT MGR:	LRS
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SCALE:	AS NOTED

P.O. Box 1034
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KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 2 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

POND LICK & SAWMILL TANKS

PROJECT NO.
16019-02

SHEET NO.
6

- CONTRACT NO. 3 -

2016 WATER SYSTEM IMPROVEMENTS
3-C TRAIL BOOSTER PUMP STATION
US 60 MASTER METER

FOR

ROWAN WATER, INC.

ROWAN COUNTY, KENTUCKY

BOARD MEMBERS

LARRY JOHNSON - CHAIRMAN

ENOCH BLAIR - DANNY STEVENS
MIKE COLLINS - RANDY COX
JERRY PATRICK - MANAGER

RECORD DRAWINGS

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

BY: BLUEGRASS ENGINEERING, PLLC DATE: XX/XX

APRIL, 2017

P.O. Box 1034
VERSAILLES, KENTUCKY 40383

KENTUCKY ENGINEERING GROUP, PLLC

STATE OF KENTUCKY
BRYAN K. LOVAN
19540
LICENSED PROFESSIONAL ENGINEER
5-19-17

PROJECT NO. 16019-03

SET NO. _____

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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 36" 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. CONTRACTOR SHALL PROVIDE A NEW METROTECH 810 LINE TRACER TO ROWAN WATER, INC. PRIOR TO CONSTRUCTION.
- ALL NEW SERVICE LINE FROM THE NEW MAIN TO THE SETTERS SHALL BE 1" PE CTS TUBING UNLESS SHOWN DIFFERENTLY ON THE PLANS
- NO BLASTING WILL BE PERMITTED ON THIS PROJECT
- EXCAVATION WITHIN GAS LINE RIGHT OF WAY REQUIRE EACH ENTITY'S REPRESENTITIVE TO BE PRESENT AT ALL TIMES. SEE THE PLAN SHEETS FOR DETAILS ON THE CROSSING. ALL GAS LINES SHOWN ON PLANS ARE SHOWN IN THEIR APPROXIMATE LOCATION. EXACT LOCATION SHALL BE FIELD VERIFIED BY A GAS COMPANY REPRESENTATIVE.
- UNLESS OTHERWISE NOTED, ALL DRIVEWAYS SHALL BE OPEN CUT AND REPLACED WITH A SINGLE SEAM FROM CUT TO ROADWAY.
- ALL METERS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BEFORE DIGGING.
- ALL OFF SIDE METERS SHALL REQUIRE 1 1/2" PVC CASING PIPE FOR 1" CTS TUBING.
- UNLESS OTHERWISE NOTED, ALL STATE AND COUNTY ROADS SHALL BE BORED W/STEEL CASING.

GENERAL NOTES (CONTINUED)

- ALL METERS SHALL BE REPLACED AT THE SAME LOCATION UNLESS INFORMED DIFFERENTLY BY PROPERTY OWNER AND ENGINEER
- 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 BACTIE RESULTS MUST BE PROVIDED TO THE ENGINEER PRIOR TO RECONNECTS OF ANY METER.
- A NO. 12 AWG INSULATED COPPER LOCATOR WIRE SHALL BE PLACED IN THE TRENCH SIX INCHES ABOVE ALL PLASTIC LINES. THE INSULATION SHALL BE BLUE FOR WATER. THE WIRE SHALL BE LOOPED INTO 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.
- ALL OF THE REPLACED METERS ARE PROPERTY OF ROWAN WATER, INC. ALL METER ASSEMBLY SHALL BE DELIVERED TO THE OWNER BY THE CONTRACTOR.

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.

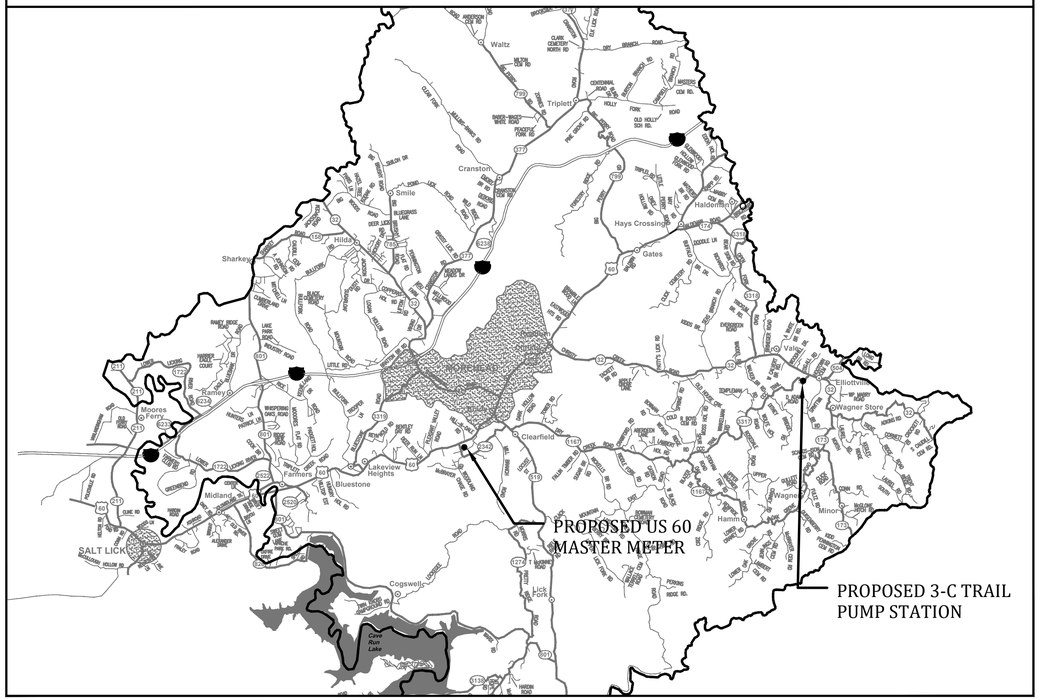
DEPARTMENT OF HIGHWAYS - GENERAL NOTES

- 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.
- ALL WATER MAIN SHALL HAVE A MINIMUM COVER OF 42" INSTALLED WITHIN SATE RIGHT-OF-WAY.
- WATER MAIN SHALL BE INSTALLED A MINIMUM OF 12 L.F. FROM END OF CULVERT.
- 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 PERMITTION 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.
- CONTACT THE DISTRICT PERMITS ENGINEER AT KYC-DOH #9, FLEMINSBURG, KY AT (606) 845-2551 OR 1-800-817-2551 PRIOR TO BEGINNING WORK.

RESTORATION WITHIN COUNTY RIGHT-OF-WAY

1. REQUIREMENTS FOR OPENING COUNTY ROADS FOR THE PURPOSE OF INSTALLING A WATERLINE:
   - A. THE UTILITY DITCHLINE SHOULD ONLY BE FILLED WITH #2 ROCK TO A LEVEL SEVEN INCHES BELOW THE TOP OF THE SURFACE.
   - B. FOUR INCHES OF DGA SHOULD BE PLACED IN THE DITCHLINE THE FULL WIDTH OF THE CUT. THESE TWO PROCEDURES SHOULD BE DONE THE SAME DAY AS THE OPENING.
   - C. THE REMAINING THREE INCHES OF THE DITCH SHOULD BE FILLED WITH SURFACE BLACKTOP. THIS SHOULD BE COMPLETED NO MORE THAN ONE WEEK FOLLOWING THE OPENING DURING BLACKTOPPING SEASON OR AT THE VERY BEGINNING OF THE FOLLOWING BLACKTOPPING SEASON.
   - D. A STRAIGHT SMOOTH CUT SLIGHTLY WIDER THAN THE DITCH IS REQUIRED TO ENSURE EFFECTIVE ROAD REPAIR.
2. REQUIREMENTS FOR THE OPENING AND CLOSING OF CUTS IN COUNTY DITCHLINES:
   - A. OPEN CUTS OF THE DITCHES ON COUNTY RIGHT-OF-WAYS SHALL BE FILLED WITH ONE FOOT OF #9 STONE TO A DEPTH OF ONE FOOT ABOVE THE PIPE. THE REMAINDER OF THE DITCH SHALL BE FILLED WITH EXCAVATED SOIL.

PROJECT MAP - NOT TO SCALE



INDEX OF DRAWINGS

UTILITY OWNERS

TELEPHONE:

WINDSTREAM:	1-800-752-6007

GAS:

MOREHEAD UTILITY PLANT BOARD:	606-784-4305 or 606-784-3427
COLUMBIA GULF TRANSMISSION:	606-663-4401 or 1-800-231-2800
TENNESSEE GAS PIPELINE:	859-842-3231 or 1-800-231-2800
DELTA GAS	1-800-251-8471 or 1-800-262-2012

WATER

ROWAN WATER, INC.	606-784-9818

BUD - BEFORE YOU DIG

1-800-752-6007

DRAWING LEGEND

EXISTING	PROPOSED	DESCRIPTION
PVC	PVC	POLYVINYL CHLORIDE
DIP	DIP	DUCTILE IRON PIPE
WM	WM	WATER MAIN
		FLUSHING HYDRANT ASSEMBLY (YELLOW)
		BLOWOFF ASSEMBLY
		AIR RELEASE VALVE (ARV)
		GATE VALVE (GV)
		WATER MAIN (WM)
		SPECIAL CROSSING OR CASING PIPE
		WATER MAIN TO BE ABANDONED
R/W	R/W	RIGHT-OF-WAY LINE
		CENTERLINE
		PROPERTY LINE
OWNER	OWNER	EASEMENT ACQUIRED
		EXISTING METERS TO BE REPLACED

KEG 10/24/18

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P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 3 -

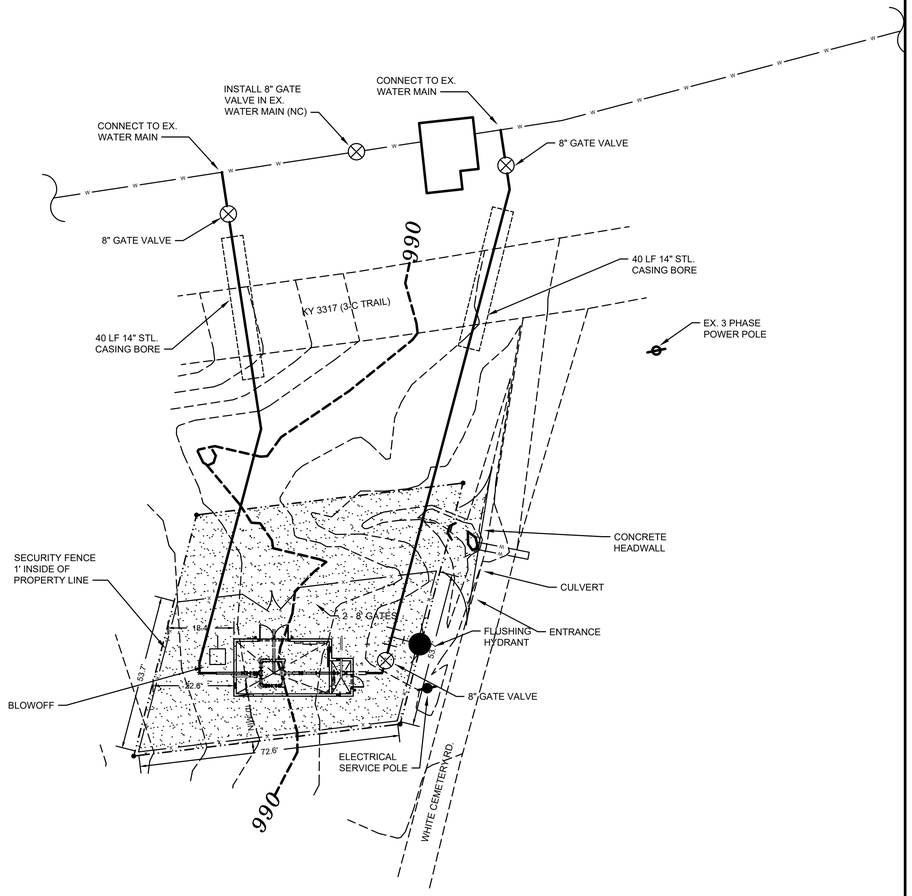
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

GENERAL NOTES, UTILITIES, LEGEND, INDEX OF DRAWINGS and PROJECT MAP

PROJECT NO. 16019-03

SHEET NO. 1



GENERAL NOTES:

1. REMOVE ALL TREE AND VEGETATION FROM PUMP STATION PROPERTY.
2. LEVEL SITE AND INSTALL 4" NO. 2 COVERED W/ 4" DGA OVER ENTIRE PROPERTY.
3. PVC CLASS 250 PIPE - THIS SHEET

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KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 3 -

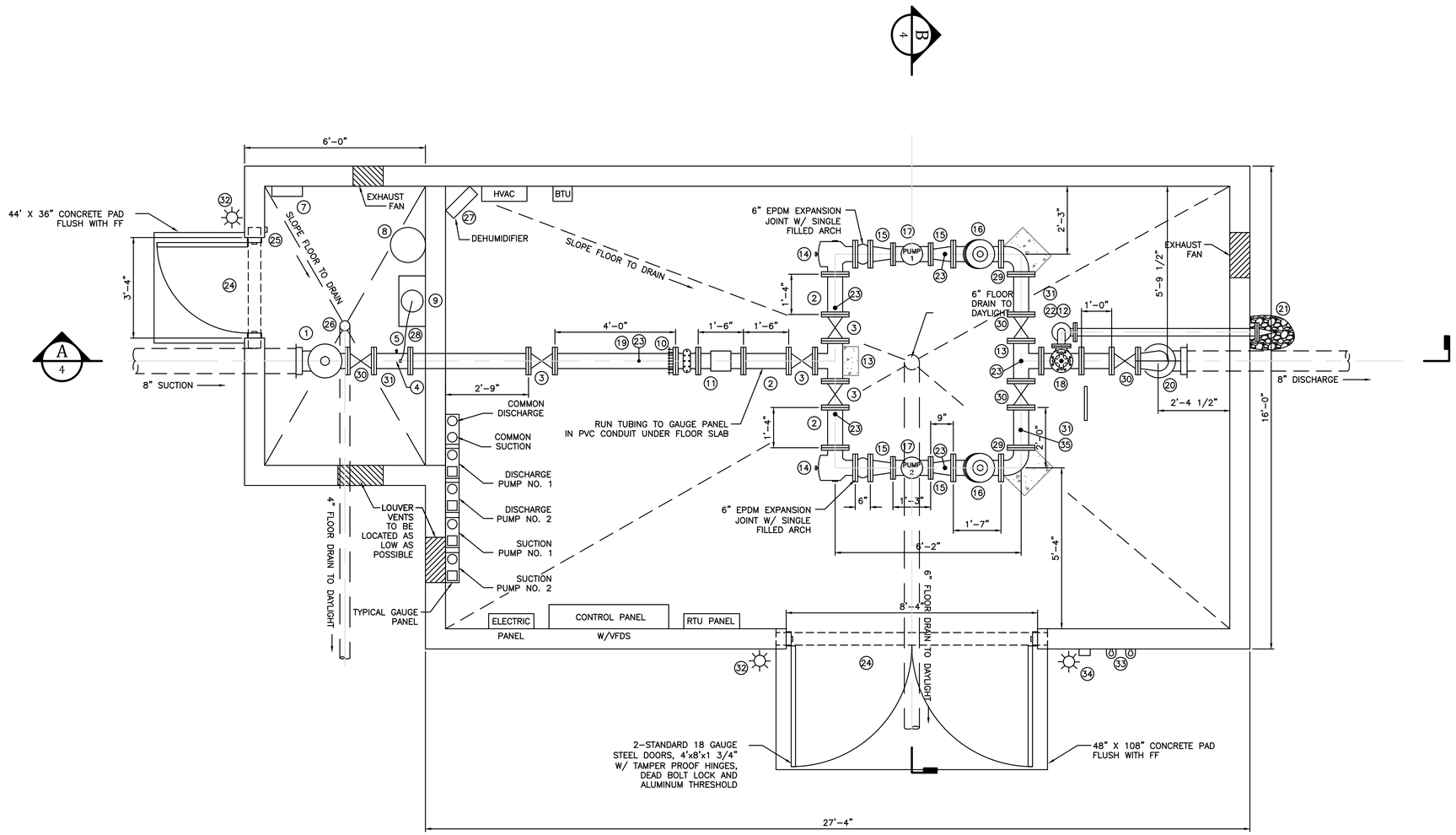
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

AERIAL PLAN- 3-C TRAIL BOOSTER PUMP STATION

PROJECT NO.
16019-03

SHEET NO.
2



3-C TRAIL BOOSTER PUMP STATION - PLAN

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

(X) REFERENCE NOTES:

1. 8"X6" TEE
2. 6" FLG. SPOOL
3. 6" FLG. GATE VALVE W/ WHEEL OPERATOR
4. 3/4" TAP W/ CORP STOP FOR CHLORINE AND 3/4" BALL VALVE
5. 3/4" BALL VALVE & HOSE BIBB
6. ---
7. 500 WATT HEATER (WALL MOUNTED)
8. 50 GALLON HYPOCHLORITE SOLUTION TANK
9. LMI SERIES P CHEMICAL FEED PUMP
10. 6" RESTRAINT JOINT FLG. COUPLING ADAPTER
11. 6" TURBO METER W/ STRAINER
12. 3" SURGE ANTICIPATOR/SURGE RELIEF VALVE MOUNTED ON TEE TURNED VERTICALLY
13. 6"x6" FLG. TEE
14. 6" 90° FLG. SUCTION DIFFUSER
15. 4"x6" ECC. FLG. REDUCER
16. 6" CUSHION CHECK VALVE
17. PUMPS
18. 8"x3" FLG. TEE
19. 6" FLG. SPOOL
20. 8" X 6" REDUCING FLG. 90° FITTING
21. 3" DUCKBILL CHECK VALVE W/#4 CRUSHED STONE SPLASH PAD
22. 3" FLG. 90° FITTING
23. PRESSURE TAPS W/ PULSATION DAMPERS
24. STANDARD STEEL DOOR
25. LIGHT SWITCH W/ 150W DOME LIGHT
26. 6" FLOOR DRAIN
27. DEMUMIDIFIER
28. 1/4" LINE FROM CHLORINE PUMP TO TAP
29. 6" FLG. 90° BEND
30. 6" GATE VAVLE W/ HANDWHEEL
31. 6" SPOOL PIECE
32. SECURITY LIGHT (COORD. W/ ELEC. PLANS)
33. RED & GREEN EXTERIOR LIGHTS W/ GLOBE LIGHT
34. ALARM HORN & STROBE LIGHT
35. TAP
36. 34,000 BTU HEATER

NOTES:

1. ALL GASKETS SHALL BE THE FULL FACE FLANGE-TYTE® OR RING 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 NOT CONSIDERED EQUAL IN PERFORMANCE AND WILL NOT BE ALLOWED.
2. CUT & PLUG EXISTING W.M. ON DISCHARGE SIDE OF EXISTING PUMP STATION AFTER NEW PUMP STATION IS IN SERVICE.
3. PUMP STATION & CHLORINE BUILDING SHALL BE SPLIT FACED BLOCK.
4. SUCTION DIFFUSERS SHALL BE INSTALLED IN 90° FITTINGS ON SUCTION SIDE OF PUMPS.
5. DIMENSIONS DO NOT INCLUDE ALLOWANCE FOR FULL FACE GASKETS BETWEEN FITTINGS.
6. CONTRACTOR TO VERIFY LOCATION AND FINAL SIZE OF ELECTRICAL CONDUITS W/SUB-CONTRACTOR PRIOR TO CONSTRUCTION.
7. CONCRETE THRUST BLOCKING AND PIPE STANDS NOT SHOWN FOR CLARITY. CONCRETE THRUST BLOCKING/SUPPORTS SHALL BE PROVIDED AT ALL TEES AND BENDS IN STATION.
8. CONCRETE THRUST BLOCKING SHALL BE ANCHORED TO FLOOR SLAB USING REINFORCING BARS AND EPOXY DOWELS PER SPECIFICATIONS.
9. PIPE STANDS SHALL BE PROVIDED AT LOCATIONS REQUIRED TO PROPERLY SUPPORT THE PIPING AND FITTINGS.
10. 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.

B:\PROJECTS\Rowan\18003 - 2016 Water System Improvements\Files from KEG\Drawings\CONTRACT 3\16019-03-03.dwg KEG 10/26/18

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 3 -

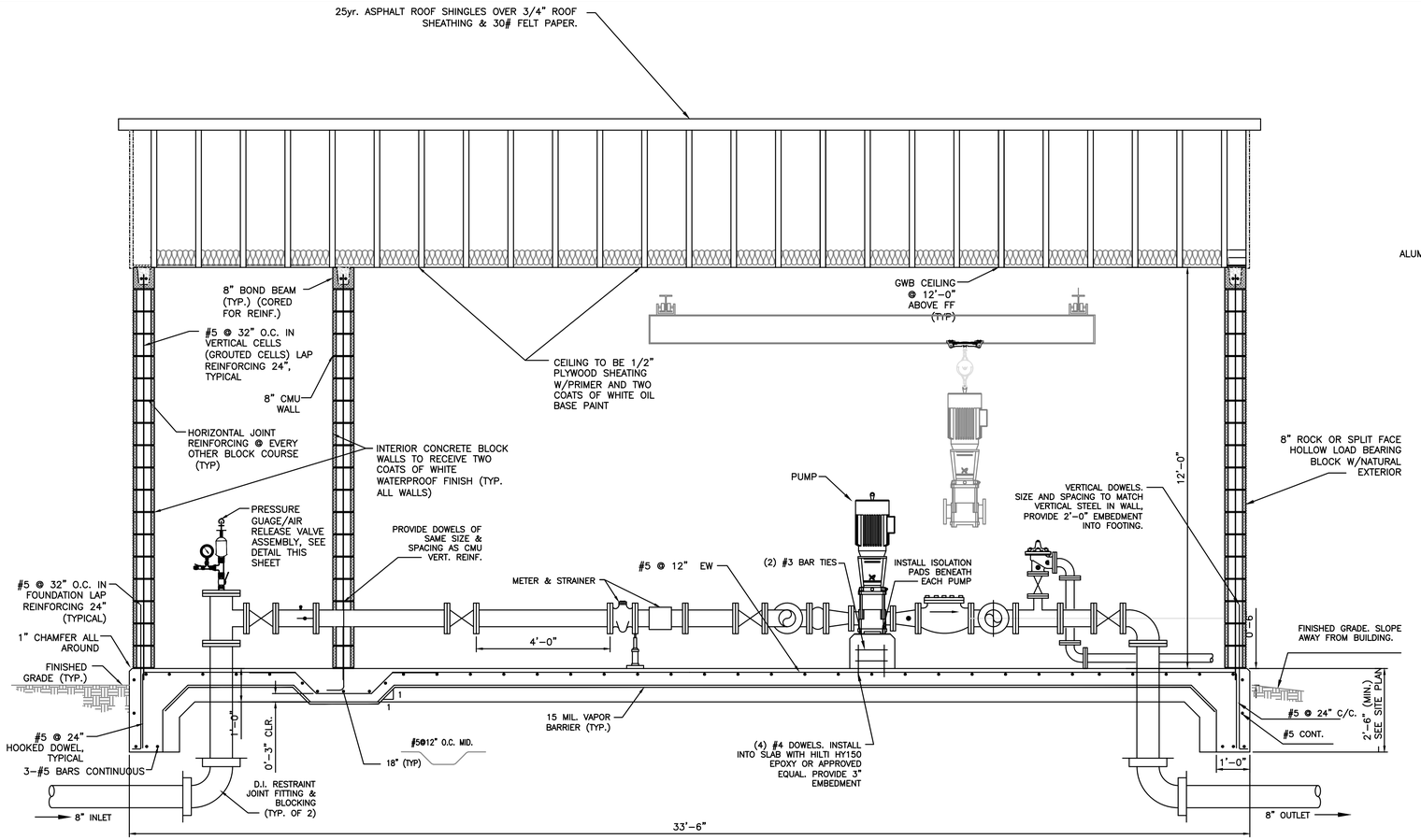
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

3-C TRAIL BOOSTER PUMP STATION - SECTIONS

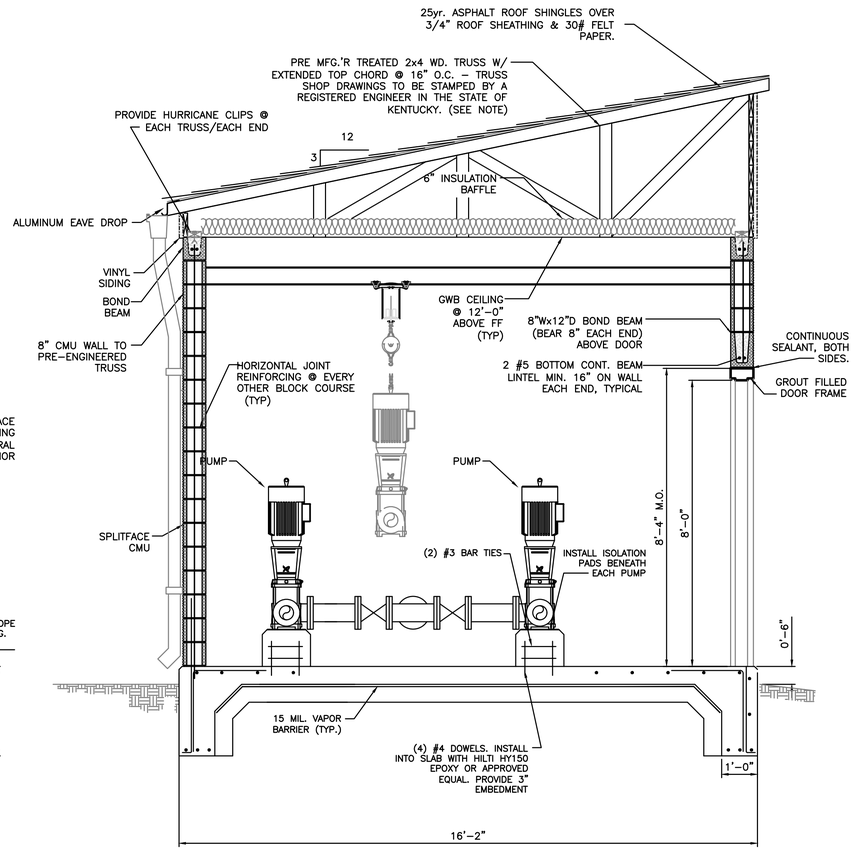
PROJECT NO. 16019-03

SHEET NO. 3



SECTION A/3

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

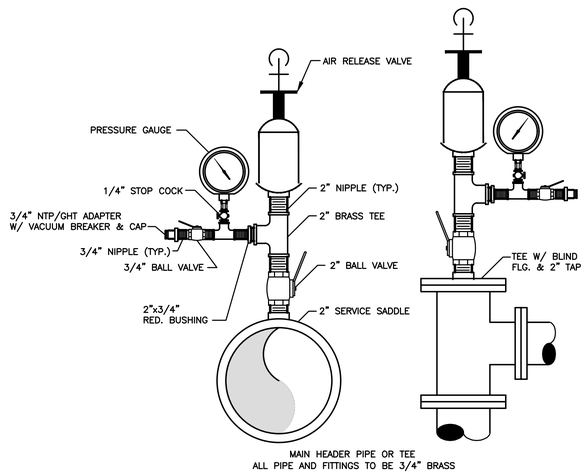


SECTION B/3

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

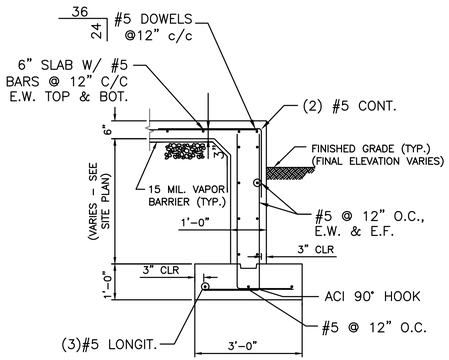
NOTE:

CONTRACTOR SHALL SUBMIT TRUSS SHOP DRAWINGS TO ENGINEER FOR SUBMITTAL TO BUILDING AND HOUSING PRIOR TO ANY WORK BEGINNING.



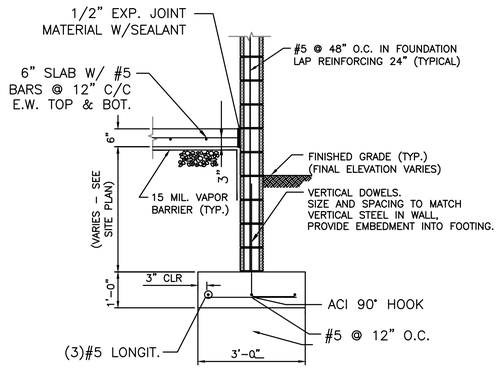
PRESSURE GAUGE / AIR RELEASE VALVE ASSEMBLY

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



TYPICAL POURED CONCRETE FOUDATION - SECTION

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



TYPICAL CMU FOUDATION - SECTION

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

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
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SCALE:	AS NOTED

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KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 3 -

2016 WATER SYSTEM IMPROVEMENTS

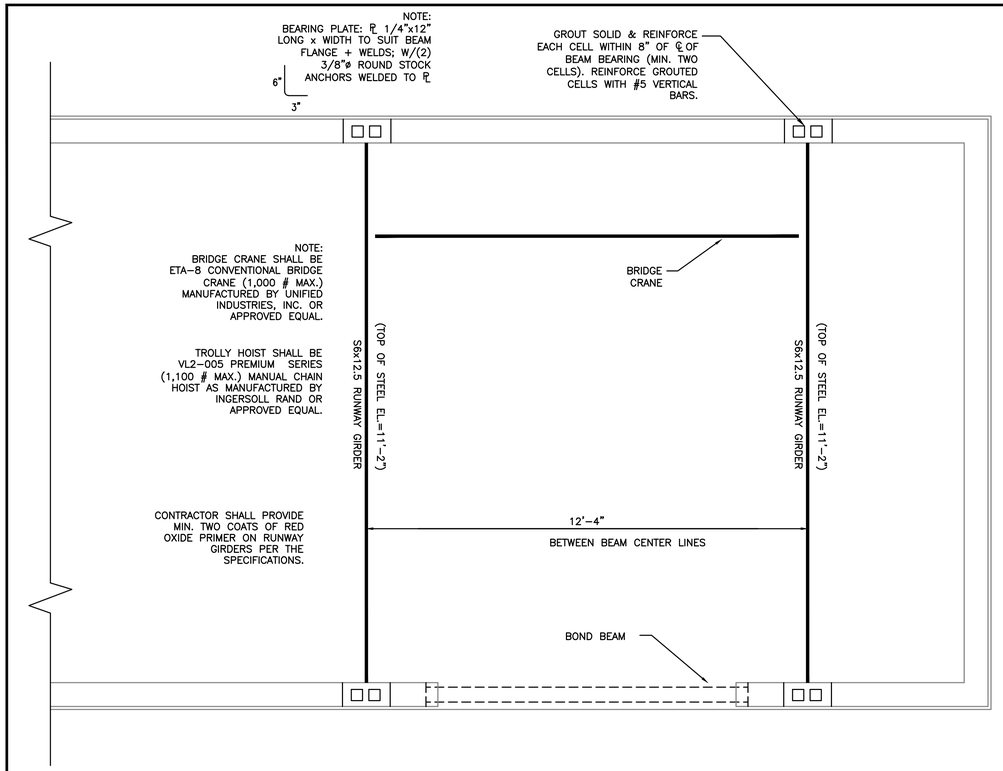
FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

3-C TRAIL BOOSTER PUMP STATION - SECTIONS

PROJECT NO.
16019-03

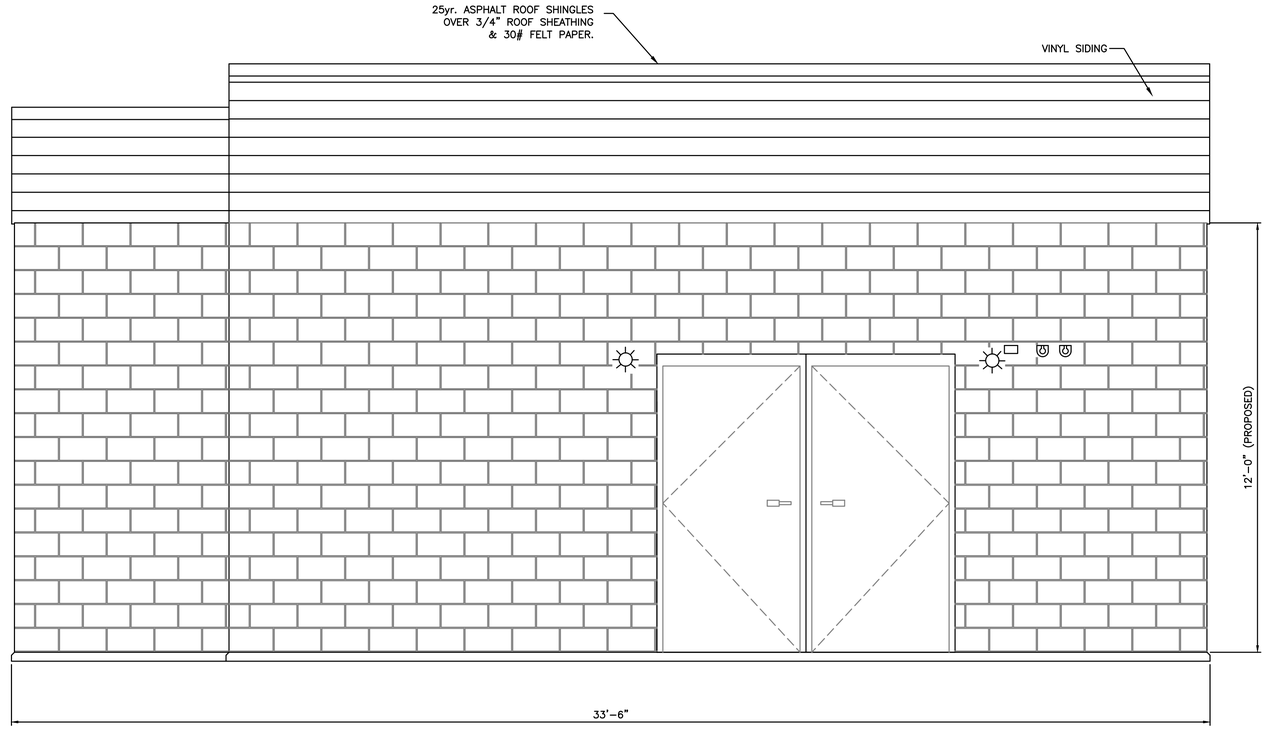
SHEET NO.
4

B:\PROJECTS\Rowan\16003 - 2016 Water System Improvements\Files from KEG\Drawings\CONTRACT 3\16019-03-04.dwg KEG 10/24/18



RUNWAY GIRDER - PLAN

NOT TO SCALE

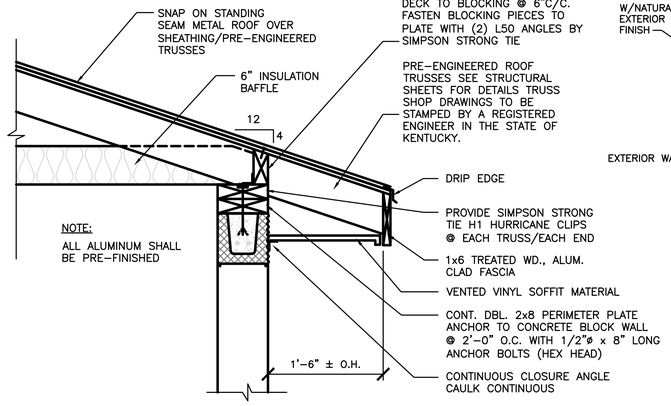


FRONT ELEVATION VIEW

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

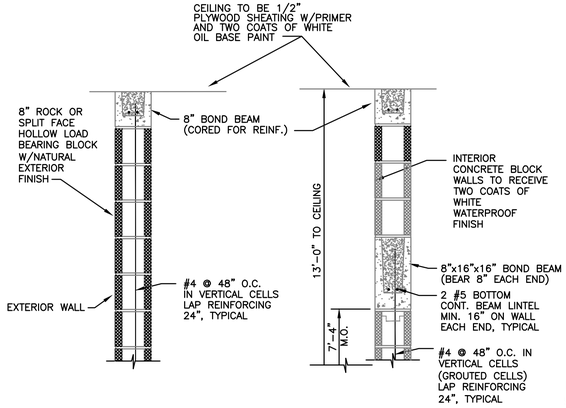
TRUSS NOTES:

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.



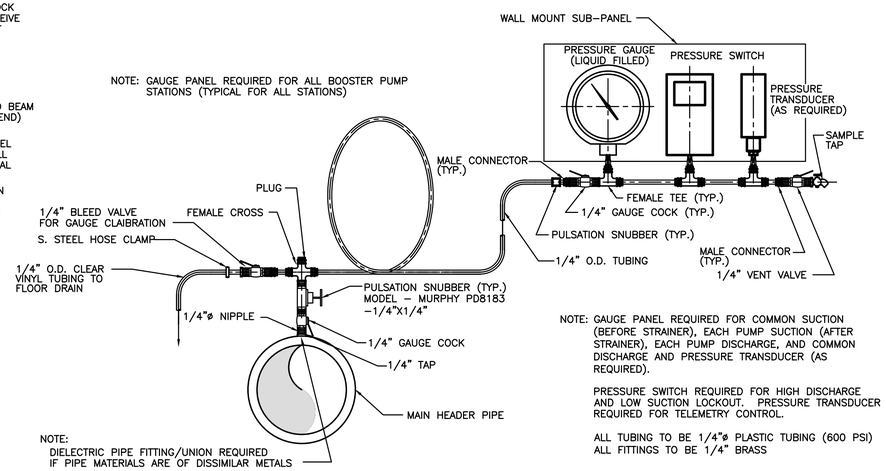
TYPICAL ROOF TRUSS PLAN

NOT TO SCALE



TYPICAL WALL SECTIONS

NOT TO SCALE



SUCTON/DISCHARGE GAUGE PANEL

NOT TO SCALE

B:\PROJECTS\Rowan\16003 - 2016 Water System Improvements\Files from KEG\Drawings\CONTRACT 3\16019-03-05.dwg KEG 10/22/18

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 3 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

PUMP STATION - DETAILS

PROJECT NO. 16019-03

SHEET NO. 5

GENERAL NOTES:

1. EXISTING METER VAULT SHALL BE DEMOLISHED IN PLACE.
2. NEW WATER MAIN SHALL BE INSTALLED ON EXISTING WATER MAIN EASEMENT.
3. CLOSE EXISTING VALVE, CUT , CAP, AND BURY.

B:\PROJECTS\Rowan\16003 -2016 Water System Improvements\Files from KEG\Drawings\CONTRACT 3\16019-03-06.dwg KEG 10/19/18

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
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- CONTRACT NO. 3 -

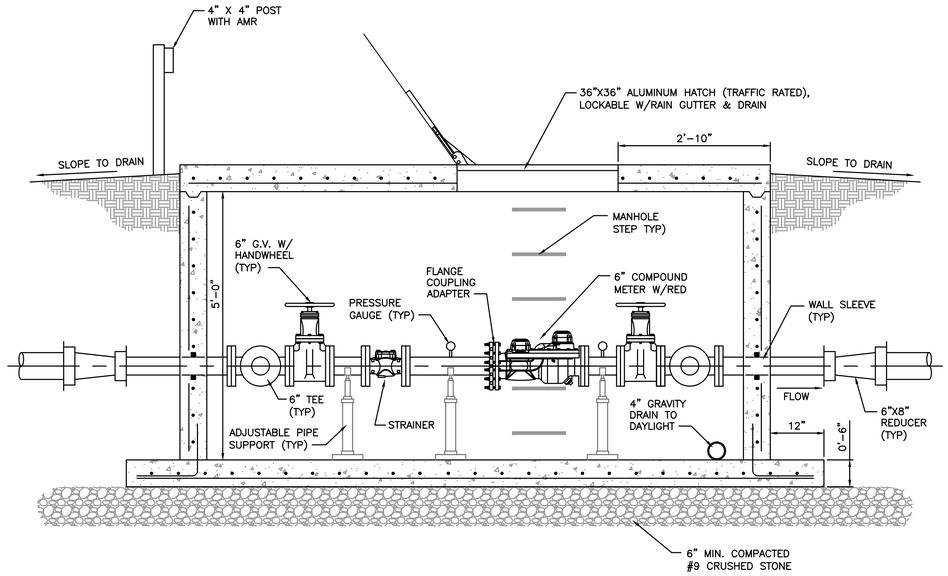
2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

AERIAL PLAN - US 60 MASTER METER

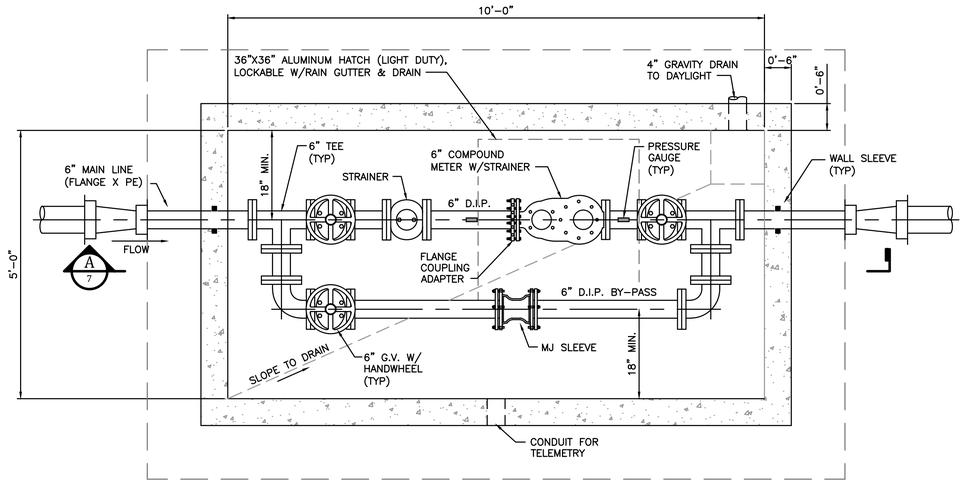
PROJECT NO. 16019-03

SHEET NO. 6



SECTION

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



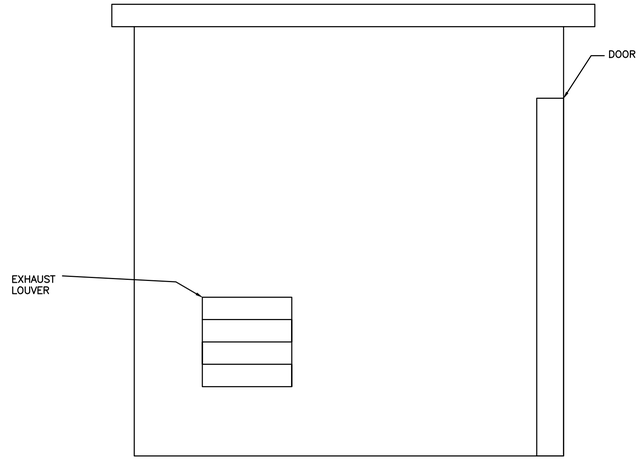
PLAN - MASTER METER VALVE VAULT

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

GENERAL NOTES:

1. CONTRACTOR SHALL SET VAULT IN PLACE AND CONNECT TO NEW WATER MAIN.
2. ACCESS HATCHES SHALL BE LIGHT DUTY ALUMINUM HINGED LID WITH LOCK.
3. VALVE VAULT SHALL BE A PRECAST CONCRETE VAULT. CONCRETE: 4500 PSI @ 28 DAYS REINFORCED W/#5 BAR @ 6" E.W. TOP OF VAULT TO BE EDGED, BRUSHED AND SEALED WITH CONCEAL. ALL HATCHES 1" ABOVE CONCRETE.
4. ADJUSTABLE PIPE SUPPORT STANCHIONS SHALL BE INSTALLED AT EACH FLANGE AND VALVE. SUPPORTS WILL ALSO BE INSTALLED IN OTHER LOCATIONS AS NECESSARY.
5. METER MUST BE SET IN A HORIZONTAL POSITION AND HAVE AT LEAST 10 DIAMETERS OF STRAIGHT PIPE AT INLET END.
6. STEPS SHALL BE VINYL COATED AND COMPLY WITH O.S.H.A. STD. NO. 1910.27 AND SHALL BE LOCATED TO PERMIT EASY ACCESS FROM VAULT HATCH.
7. 4" DRAIN PIPE TO DITCH LINE IF POSSIBLE. BED DRAIN IN +/- 1 C.Y. OF #57 STONE IF NO STORM DRAIN AVAILABLE. OMIT DRAIN IF WATER TABLE IS ABOVE FLOOR LEVEL.
8. METER MUST BE A "COMPOUND METER" OR APPROVED EQUAL BY THE ENGINEER.
9. COMPOUND METER SHALL HAVE AUTOMATED METER READING CAPABILITIES.
10. COMPOUND METER SHALL BE A BADGER MODEL.
11. PROVIDE LAPTOP FOR RADIO READ METERS

CHLORINE BUILDING AT 3-C TRAIL TANK



NOTE:

1. 8x8x8 CONCRETE BLOCK BUILDING – SEALED INTERIOR/EXTERIOR
2. EXHAUST LOUVER/INTAKE FAN
3. 36"x80" STEEL DOOR
4. VAPOR PROOF LAMP
5. ELECTRICAL PANEL FOR 110V
6. TWO SWITCHES – ONE FOR LIGHT AND ONE FOR FAN
7. TWO DUPLEX OUTLETS
8. LMI PD SERIES CHEMICAL FEED PUMP WITH 50 – GALLON BARREL
9. ELECTRIC CONDUIT FROM EXISTING SERVICE POLE ON SITE
10. NEW TELEMETRY TRANSDUCER (MICRO COMM) TO OPERATE THROUGH TELEMETRY

EXISTING OLD HILDA PUMP STATION

1. NEW VARIABLE FREQUENCY DRIVES FOR EXISTING PUMPS
2. NEW CONTROL PANEL
3. NEW WIRING
4. NEW CHECK VALVE

EXISTING SAWMILL PUMP STATION

1. NEW VARIABLE FREQUENCY DRIVES FOR EXISTING PUMPS
2. NEW CONTROL PANEL

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NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 3 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

MASTER METER VAULT PLAN, SECTION and DETAILS

PROJECT NO. 16019-03

SHEET NO. 7

RECORD DRAWINGS

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

BY: BLUEGRASS ENGINEERING, PLLC DATE: 05/18

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NO.	DATE	REVISIONS	BY

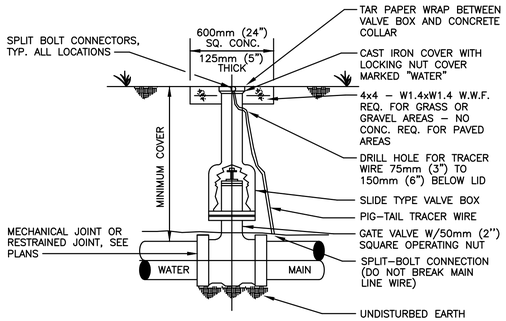
2016 WATER SYSTEM IMPROVEMENTS

COOKS BRANCH WATER MAIN REPLACMENT

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

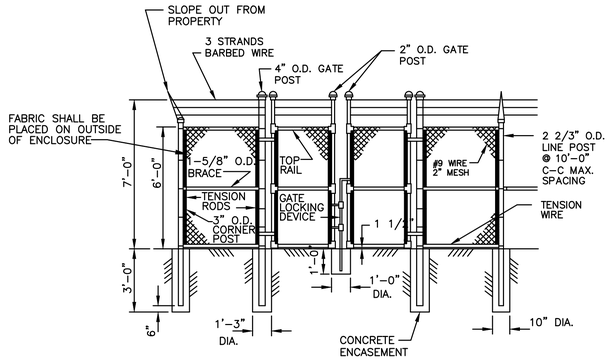
PROJECT #:	18003
DATE:	MARCH 2018
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	PBR

STATE OF KENTUCKY
MATTHEW R. CURTIS
25716
LICENSED
PROFESSIONAL ENGINEER



GATE VALVE INSTALLATION

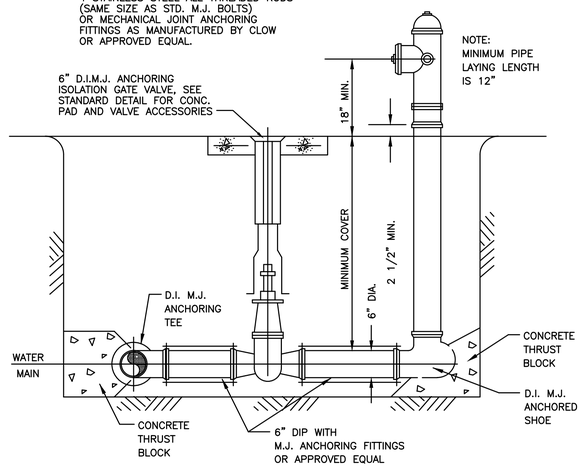
NOT TO SCALE



NOTE:
TAMPER PROOF FASTENING REQUIRED THROUGHOUT

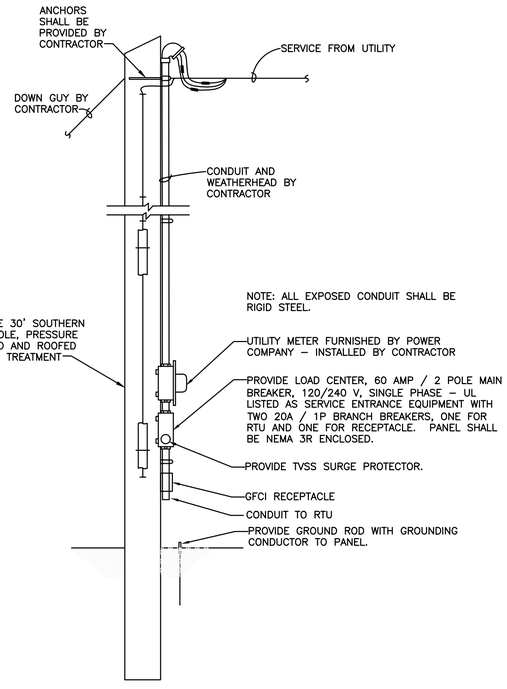
CHAIN LINK FENCE WITH SWINGING GATES

NOT TO SCALE



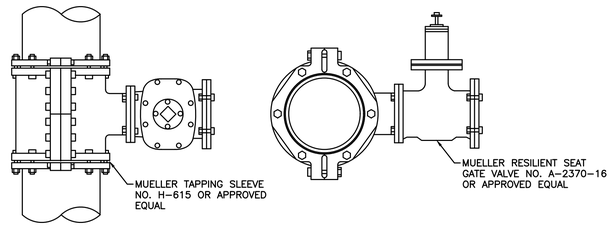
FLUSHING HYDRANT ASSEMBLY

NOT TO SCALE



ELECTRIC SERVICE POLE

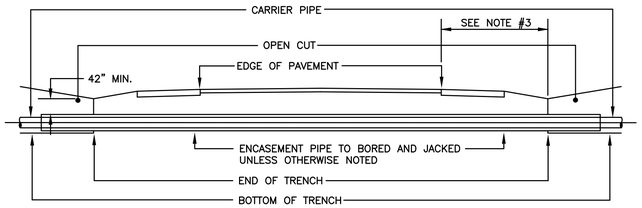
NOT TO SCALE



TOP VIEW SIDE VIEW

TAPPING SLEEVE AND VALVE

NOT TO SCALE



NOTE: SEE DETAIL A FOR PLACEMENT OF CARRIER PIPE IN CASING PIPE.

NOTES:

1. ALL JOINTS 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 4" AND LESS SHALL BE NEW SCHEDULE 40. STEEL CASING PIPES LARGER THAN 4" SHALL HAVE MINIMUM WALL THICKNESS OF 0.25". ALL BORED AND JACKED ENCASEMENT PIPE SHALL BE INSTALLED IN BORE HOLES NO LARGER THEN THE OUTSIDE DIA-METER OF THE ENCASEMENT PIPE.

CASING BORE DETAIL

NOT TO SCALE

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
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DRAWN BY:	JAB
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SCALE:	AS NOTED

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- CONTRACT NO. 3 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

STANDARD DETAILS

PROJECT NO. 16019-03

SHEET NO. 8

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SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A KPDES STORMWATER PERMIT FROM THE KENTUCKY DIVISION OF WATER.
2. CONTRACTOR SHALL PLACE STAKED STRAW BALES OR SILT FENCE AROUND HEADWALLS AND IN EXISTING DITCHES AS SHOWN TO PREVENT CLOGGING AND DOWNSTREAM SILTATION.
3. CONTRACTOR SHALL SURROUND THE PROPERTY PERIMETER WITH STAKED STRAW BALES OR SILT FENCE.
4. CONTRACTOR MUST RETAIN EXISTING VEGETATION ON THE CONSTRUCTION SITE WHENEVER POSSIBLE.
5. NO AREA OF DISTURBED LAND IS TO BE LEFT UNPROTECTED FOR MORE THAN TWENTY DAYS AFTER GRADING ACTIVITY HAS CEASED. THESE AREAS SHALL BE RE–STABILIZED USING TEMPORARY SEEDING AND MULCHING OR OTHER SUITABLE MEANS. MULCHING MUST COVER AT LEAST 75% OF THE SOIL SURFACE.
6. CONTRACTOR SHALL INSPECT EROSION AND SEDIMENT CONTROL MEASURES IN PLACE AFTER EVERY STORM EVENT, AS WELL AS ON A WEEKLY BASIS. DAMAGED OR INEFFECTIVE MEASURES MUST BE RESTORED IMMEDIATELY TO PROPER FUNCTIONING CONDITION.
7. CONTRACTOR SHALL MINIMIZE THE TRACKING OF SEDIMENT ONTO ROADWAYS BY PLACING A 50 FOOT LONG, 5–INCH THICK GRAVEL DRIVE OFF EACH ENTRANCE FROM A PUBLIC ROADWAY. ENTRANCE MUST BE 12 FEET WIDE OR WIDER CONSTRUCTED WITH GRAVEL 2 TO 3 INCHES IN DIAMETER.
8. ANY SEDIMENT, DEBRIS, ETC. THAT IS TRACKED ONTO A PUBLIC ROADWAY WILL BE CLEARED ON A DAILY BASIS.
9. ADDITIONAL EROSION CONTROL NOT SHOWN ON THESE PLANS MAY BE REQUIRED. THIS CONTROL SHALL INCLUDE SEEDING, MULCHING, SILT FENCE, STRAW BALES, ETC. AS NECESSARY TO PREVENT SOIL EROSION.
10. CONTRACTOR SHALL INSTALL EROSION CONTROL BLANKETS ON ALL SLOPES GREATER THAN 3:1.
11. CONTRACTOR TO INSTALL STRAW BALE DROP INLET SEDIMENT FILTER FOR DRAINS RECEIVING CONCENTRATED OR HEAVY FLOWS.
12. CONTRACTOR TO INSTALL WIRE AND MESH INLET SEDIMENT FILTER FOR INLET DRAINS RECEIVING CONCENTRATED OR HEAVY FLOWS.

THRUST BLOCK SCHEDULE – CLASS 200 PVC

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"	1.78	0.07	12"	16"	16"	1.00	0.04	12"	12"	12"	0.50	0.02	12"	12"	6"	0.25	0.01	6"	6"	6"	1.50	0.06	12"	18"	12"
6"	4.00	0.15	12"	24"	24"	2.25	0.08	12"	18"	18"	1.33	0.05	12"	16"	12"	0.56	0.01	6"	8"	8"	3.00	0.11	12"	24"	18"
8"	7.50	0.42	18"	36"	30"	4.00	0.22	18"	24"	24"	2.00	0.11	18"	18"	16"	1.00	0.04	12"	12"	12"	5.00	0.28	18"	30"	24"
10"	11.67	0.65	18"	42"	40"	6.25	0.35	18"	30"	30"	3.33	0.19	18"	24"	20"	2.00	0.07	12"	18"	16"	8.75	0.49	18"	42"	30"
12"	16.00	0.89	18"	48"	48"	9.00	0.50	18"	36"	36"	5.00	0.28	18"	30"	24"	2.22	0.08	12"	20"	16"	14.00	0.78	18"	48"	42"
14"	22.50	1.67	24"	60"	54"	12.25	0.91	24"	42"	42"	6.25	0.46	24"	30"	30"	3.33	0.19	18"	24"	20"	17.50	1.30	24"	60"	42"
16"	30.00	2.22	24"	72"	60"	16.00	1.19	24"	48"	48"	9.00	0.67	24"	36"	36"	4.00	0.22	18"	24"	24"	20.00	1.48	24"	60"	48"

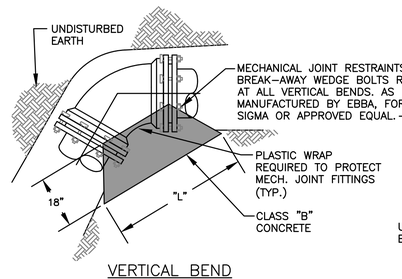
THRUST BLOCK SCHEDULE – CLASS 250 PVC

SOIL TYPE – SAND & GRAVEL
BEARING STRENGTH = 3000 PSF

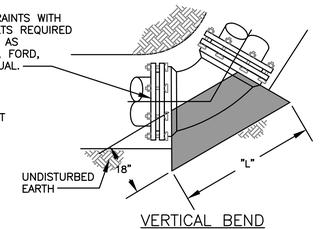
PIPE SIZE	90° BEND					45° BEND					22 ½° BEND					11 ¼° BEND					TEE & DEAD ENDS				
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L
4"	2.667	.10	12	24	16	1.500	.06	12	18	12	.750	.03	12	12	9	.500	.01	6	12	6	1.667	.06	12	24	10
6"	5.000	.19	12	36	20	3.000	.11	12	24	18	1.500	.06	12	18	12	.750	.01	6	12	9	4.000	.15	12	24	24
8"	9.000	.50	18	36	36	5.000	.28	18	36	20	3.000	.17	18	24	18	1.500	.06	12	18	12	7.000	.39	18	42	24
10"	9.255	.78	18	48	42	7.500	.42	18	36	30	4.167	.23	18	30	20	2.250	.08	12	18	18	10.500	.58	18	42	36
12"	13.327	1.11	18	60	48	12.000	.67	18	48	36	6.000	.33	18	36	24	3.000	.11	12	24	18	14.000	.78	18	48	42
14"	18.139	2.00	24	72	54	15.750	1.17	24	54	42	7.500	.56	24	36	30	4.000	.22	18	24	24	20.000	1.48	24	60	48
16"	23.692	2.65	24	78	66	20.000	1.48	24	60	48	10.500	.78	24	42	36	5.000	.28	18	30	24	27.000	2.00	24	72	54

THRUST-BLOCKING SCHEDULE

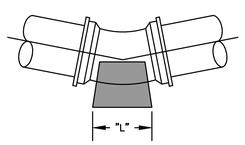
NOT TO SCALE



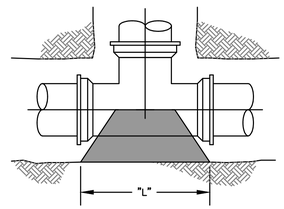
VERTICAL BEND
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



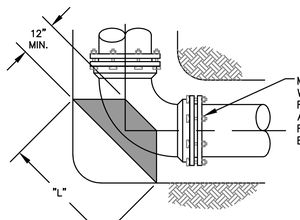
VERTICAL BEND
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



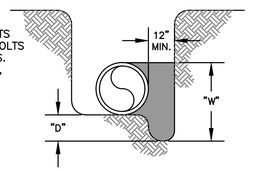
1¼°, 22½° AND 45° BEND THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



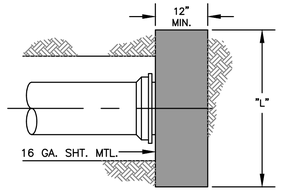
TEE THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



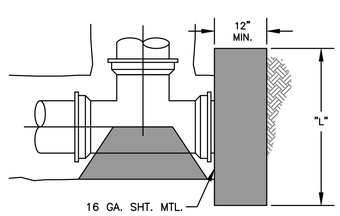
90° BEND THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



SECTION–TYP. THRUST BLOCK
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



END OF MAIN THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)



PLUGGED TEE THRUST BLOCKS
(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)

THRUST-BLOCKING DETAIL

NOT TO SCALE

NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER– LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. FENCE TO BE INSTALLED ACROSS PIPE TRENCHES AT 200' INTERVALS. INSTALL AT CLOSER INTERVALS IF CONDITIONS WARRANT.
6. PRIOR TO CONSTRUCTION, INSTALL SILT FENCING ON THE DOWN SLOPE SIDE OF ALL AREAS TO BE DISTURBED, INCLUDING DOWNSTREAM SIDE OF ALL WATERWAYS CROSSED AND AT ALL CULVERTS OR STORM SEWER INLETS.

POSTS:

STEEL – EITHER T OR U TYPE OR 2" HARDWOOD

FENCE:

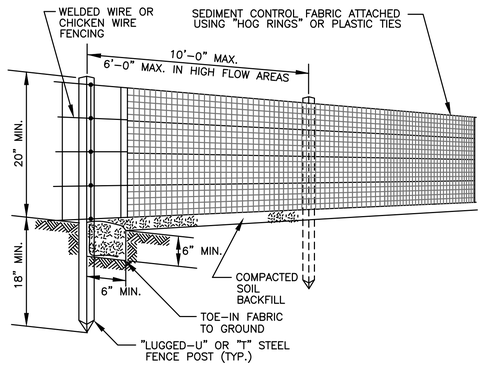
WOVEN WIRE 14.5 GAUGE 6" MAX MESH OPENING

FILTER CLOTH:

MINIMUM TENSILE STRENGTH OF 120 LBS. (ASTM D–1682)

PREFABRICATED UNIT:

MIRAFI ENVIROFENCE, OR EQUAL

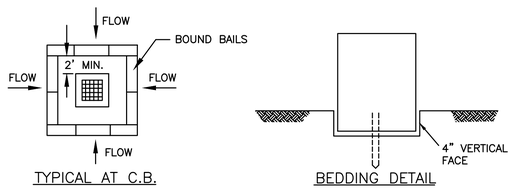


TYPICAL SILT FENCE DETAIL

NOT TO SCALE

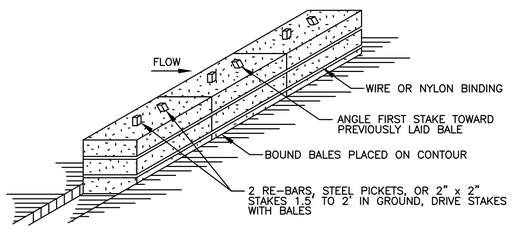
CONSTRUCTION SPECIFICATIONS:

1. BALES SHALL BE PLACED AT INTERVALS (BETWEEN SILT FENCING), ACROSS ALL PIPING TRENCHES ON SLOPING GRADES. PLACE BALES IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4 INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE–BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN AT AN ANGLE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. UPON COMPLETION OF CONSTRUCTION AND STABILIZATION OF ALL DISTURBED AREAS, SILTATION CONTROL MEASURES ARE TO BE REMOVED.



TYPICAL AT C.B.

BEDDING DETAIL



ANCHORING DETAILS

TYPICAL STRAW BALE DIKE DETAIL

NOT TO SCALE

NO.	DATE	REVISIONS	BY

DATE:	APRIL, 2017
PROJECT MGR:	LRS
DRAWN BY:	JAB
CHECKED BY:	LRS
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

- CONTRACT NO. 3 -

2016 WATER SYSTEM IMPROVEMENTS

FOR
ROWAN WATER, INC.
ROWAN COUNTY, KENTUCKY

STANDARD DETAILS

PROJECT NO. 16019-03

SHEET NO. 9

B:\PROJECTS\Rowan\16003 - 2016 Water System Improvements\Files from KEG\Drawings\CONTRACT 3\16019-03-09.dwg KEG 10/22/18