

JOHNSON COUNTY OPERATIONS SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION

FRANKLIN, INDIANA

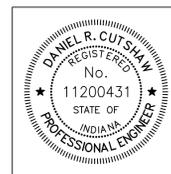


INDIANA
AMERICAN WATER



engineering | architecture | geospatial

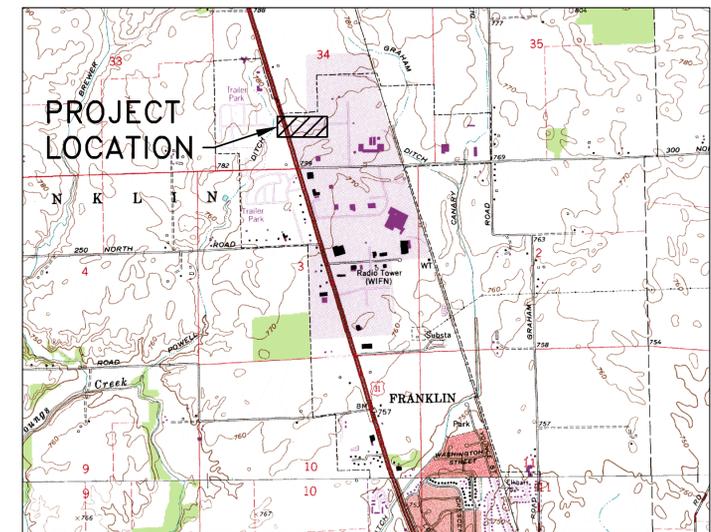
www.grwinc.com



Daniel R. Cutshaw
DANIEL R. CUTSHAW, P.E.
INDIANA REG. NO. 11200431

DATE: 9-4-2014

SEPTEMBER 2014



SCALE: 1" = 2000'

PLAN SET IS FULL SCALE ON 22"X34"
AND HALF SCALE ON 11"X17"



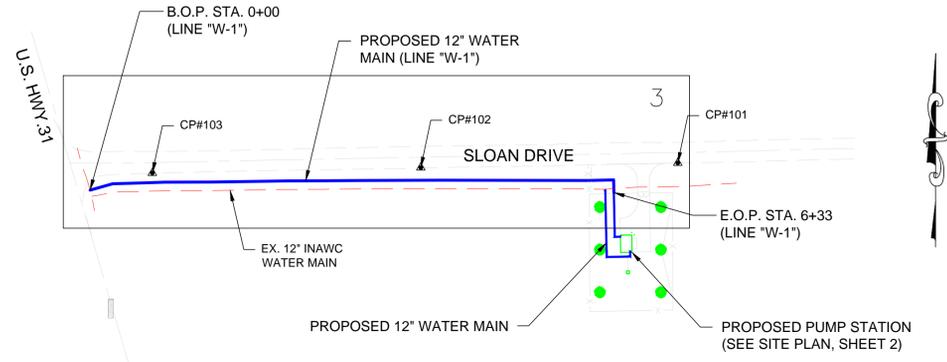
PRINTED: 9/4/2014 @ 10:22AM

FILE NAME: I:\4220-INAWC-Earlywood\Working Drawings\Civil_3D\4220-00.dwg

INAWC WBS NO. 110-550010
GRW PROJECT NO. 4220-04

GENERAL NOTES:

1. WATER MAIN SHALL BE INSTALLED WITH A MINIMUM OF 54" OF COVER, UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATION WORK TO DETERMINE IF DEFLECTION OF THE WATER MAIN WILL BE REQUIRED TO GUARANTEE AN 18" MINIMUM VERTICAL SEPARATION OR A 10' MINIMUM HORIZONTAL SEPARATION BETWEEN STORM SEWER LINES, SANITARY SEWER LINES AND THE PROPOSED WATER MAIN. PRIOR TO ANY COMPROMISE OF THESE REQUIREMENTS, WRITTEN APPROVAL SHALL BE OBTAINED FROM THE INAWC PROJECT MANAGER.
3. ALL FITTINGS NOTED "R.J.D.I." SHALL BE INSTALLED WITH RESTRAINED JOINT DUCTILE IRON BENDS WITH RESTRAINED PIPE LENGTHS IDENTIFIED ON THIS SHEET.
4. TO MINIMIZE STRESS TO TREE SPECIMENS IN THE AREA OF CONSTRUCTION, THE TRENCH SHALL BE OPEN FOR A MINIMUM AMOUNT OF TIME AND THE ROOTS ON THE TRENCH SIDE OF THE TREE SHALL BE SEVERED IN A CLEAN CUT MANNER. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID TOTAL REMOVAL OF TREES BY DEFLECTING PIPE IF POSSIBLE.
5. THE UTILITIES AND THEIR LOCATION SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UTILITIES IN THE FIELD PRIOR TO INSTALLATION.
6. CONTRACTOR SHALL NOTIFY RESPECTIVE UTILITY COMPANIES AT LEAST THREE DAYS PRIOR TO INSTALLATION OF WATER MAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED SUPPORTING POLES.
7. CONTRACTOR SHALL CLEAN STREETS OF CONSTRUCTION DEBRIS DAILY TO THE SATISFACTION OF THE COUNTY ENGINEER, CITY OF FRANKLIN, OWNER, AND ENGINEER. CONTRACTOR SHALL FURTHER ENSURE THAT AT LEAST ONE LANE OF TRAFFIC IS OPEN AT ALL TIMES DURING CONSTRUCTION ALONG ROADWAYS UNLESS THE CONTRACTOR HAS WRITTEN APPROVAL AND AN APPROVED TRAFFIC MAINTENANCE PLAN FROM THE CITY OF FRANKLIN. CONTRACTOR SHALL NOT CLOSE ANY LANE OF A STATE HIGHWAY WITHOUT INDOT APPROVAL.
8. FULL DEPTH, COMPACTED GRANULAR BACKFILL IS REQUIRED PER INDOT STANDARD SPECIFICATIONS WHEN WATER MAIN TRENCH IS WITHIN 5 FT. OF THE EDGE OF PAVEMENT FOR ROADWAYS ALONG THE WATER MAIN ROUTE.
9. THE OWNER HAS OBTAINED THE IDEM WATER MAIN CONSTRUCTION NOI, AND IDEM RULE 5 NOI. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OTHER PERMITS NECESSARY TO COMPLETE THE PROJECT, INCLUDING ALL TRAFFIC CONTROL, AND ROAD CUT PERMITS.
10. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE APPROPRIATE AGENCY HAVING AUTHORITY SUCH AS FRANKLIN SEWER DEPARTMENT, FRANKLIN STREET DEPARTMENT, CITY ENGINEER, COUNTY ENGINEER, AND ANY OTHER UNDERGROUND UTILITIES
11. THE CONTRACTOR SHALL COORDINATE ALL WATER MAIN SERVICE SWITCHOVERS WITH INAWC. ALL EQUIPMENT AND PROCEDURES SHALL BE IN ACCORDANCE WITH INAWC STANDARDS. CUSTOMERS SHALL NOT BE WITHOUT WATER FOR MORE THAN FOUR HOURS. CONTRACTOR SHALL SUBMIT HIS CONSTRUCTION SCHEDULE AND WORK PLAN FOR RECONNECTING AND MAINTAINING SERVICE TO EXISTING CUSTOMERS TO INAWC FOR APPROVAL PRIOR TO INITIATING ANY WORK.
12. EXISTING WATER MAIN MATERIALS ARE NOT KNOWN FOR ALL LOCATIONS OF CONSTRUCTION. INAWC WILL PROVIDE TO THE CONTRACTOR INFORMATION ON KNOWN WATER MAIN MATERIALS. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS, GASKETS, APPURTENANCES, ETC. WHICH ARE REQUIRED TO MAKE A COMPLETE CONNECTION ACCEPTABLE TO INAWC. ALL FITTINGS, VALVES AND MATERIAL ASSOCIATED WITH THE REMOVAL OF EXISTING FIRE HYDRANT SHALL BE TURNED IN BY THE CONTRACTOR TO INAWC FOR FUTURE USE IN THEIR WATER SYSTEM.
13. INAWC WILL BE RESPONSIBLE FOR CLOSING ALL WATER VALVES. THE CONTRACTOR SHALL COORDINATE ALL WORK EFFORTS WITH INAWC.
14. CONTRACTOR SHALL KEEP ALL EXISTING WATER MAINS IN SERVICE UNLESS NOTED ON PLANS.



DRAWING INDEX



LEGEND

- PROPOSED PUMP STATION
- EX. WATER MAIN
- PROPOSED WATER MAIN

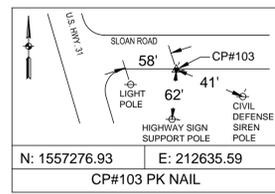
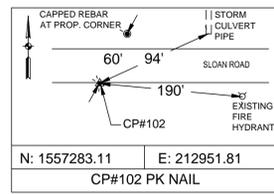
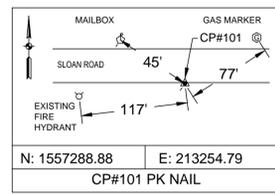
SYMBOLS LEGEND

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> EXISTING BENCHMARK EXISTING CATCH BASIN EXISTING CABLE BOX EXISTING CONTROL POINT EXISTING SECTION CORNER EXISTING DECIDUOUS TREE EXISTING ELECTRICAL BOX EXISTING ELECTRIC METER EXISTING ELECTRIC TRANSFORMER EXISTING FIRE HYDRANT EXISTING FLAG POLE EXISTING FIBER OPTIC BOX EXISTING GAS METER EXISTING GAS MARKER EXISTING GAS PRESSURE VALVE EXISTING GAS STOP EXISTING GAS VALVE EXISTING GUY WIRE EXISTING GRAVE STONE EXISTING LIGHT POLE EXISTING MAILBOX EXISTING TELEPHONE MANHOLE EXISTING PKNAIL FOUND EXISTING PINE TREE EXISTING POWER POLE EXISTING RAILROAD FLASHER EXISTING RAILROAD GATE EXISTING SHRUB EXISTING TEMP BENCHMARK EXISTING TELEPHONE BOX EXISTING TELEPHONE MARKER | <ul style="list-style-type: none"> EXISTING TRAFFIC POLE EXISTING VALVE VAULT EXISTING WATER METER EXISTING WATER VALVE EXISTING MANHOLE EXISTING FIBER OPTIC MANHOLE EXISTING ELECTRIC MANHOLE EXISTING SANITARY MANHOLE EXISTING STEAM MANHOLE EXISTING STORM MANHOLE PROPOSED SANITARY MANHOLE PROPOSED CURB INLET PROPOSED STORM MANHOLE PROPOSED 11° BEND PROPOSED 22° BEND PROPOSED 45° BEND PROPOSED 90° BEND PROPOSED CAP PROPOSED FIRE HYDRANT (2 ACCESS) PROPOSED TEE PROPOSED VERTICAL TEE / BEND PROPOSED WATER VALVE PROPOSED REDUCER D.I. DUCTILE IRON R.J.D.I. RESTRAINED JOINT DUCTILE IRON | <ul style="list-style-type: none"> EXISTING RIGHT-OF-WAY EXISTING SANITARY SEWER EXISTING STORM SEWER EXISTING CABLE TV EXISTING TELEPHONE LINE EXISTING FIBER OPTIC LINE EXISTING WATER SERVICE EXISTING WATER'S EDGE ROAD C EXISTING DITCH EXISTING POWER/ELECTRIC EXISTING FENCE EXISTING NATURAL GAS EXISTING GUARDRAIL EXISTING GRADE (PROFILE) EXISTING MINOR CONTOUR (1FT) EXISTING MAJOR CONTOUR (5FT) PROPOSED MINOR CONTOUR (1FT) PROPOSED MAJOR CONTOUR (5FT) EXISTING PROPERTY LINE EXISTING RAILROAD PROPOSED DITCH PROPOSED RIGHT-OF-WAY TEMPORARY EASEMENT PERMANENT EASEMENT CONSTRUCTION LIMITS PROPOSED SANITARY SEWER PROPOSED STORM SEWER PROPOSED WATER SERVICE PROPOSED FENCE |
|---|---|---|

INDEX OF DRAWINGS	
NO.	DRAWING TITLE
00	COVER SHEET
1	DRAWING INDEX
2	PUMP STATION SITE PLAN
3	WATER MAIN REPLACEMENT PLAN
4	PUMP STATION FOUNDATION DETAILS
5	PUMP STATION ELEVATIONS AND DETAILS
6	INAWC STANDARD DETAILS
7	INAWC STANDARD DETAILS
8	STANDARD DETAILS
9	EROSION CONTROL PLAN
10	EROSION CONTROL DETAILS
11	ELECTRICAL SITE PLAN
12	ELECTRICAL DETAILS

CONTROL POINT INFO

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
CP#101	1557288.88	213254.79	777.87	PK NAIL SET
CP#102	1557283.11	212951.81	777.01	PK NAIL SET
CP#103	1557276.93	212635.59	776.66	PK NAIL SET



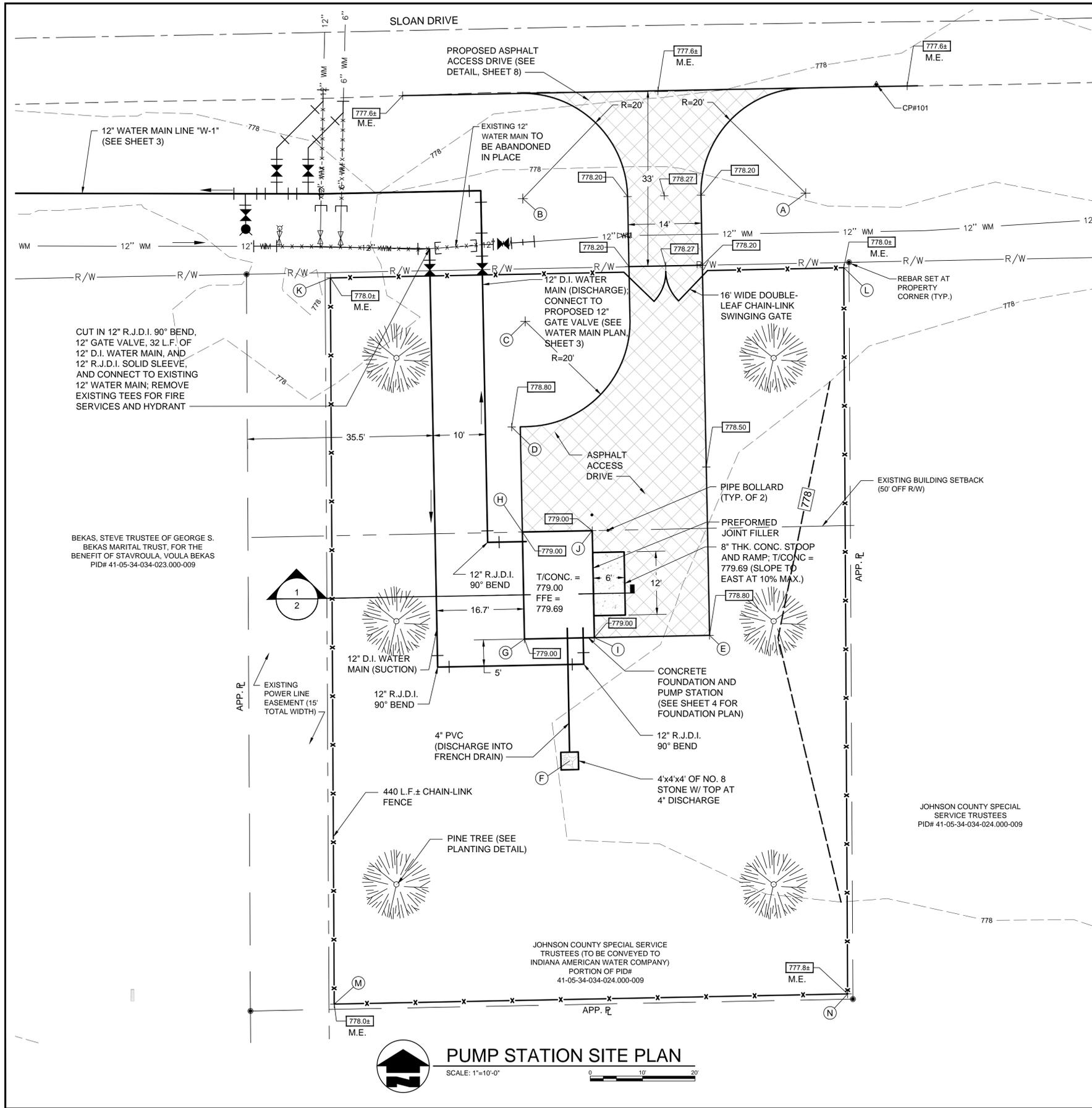
DISTRICT OFFICE: JOHNSON COUNTY OPERATIONS

PROJECT: SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION FRANKLIN, INDIANA WBS 110-550010

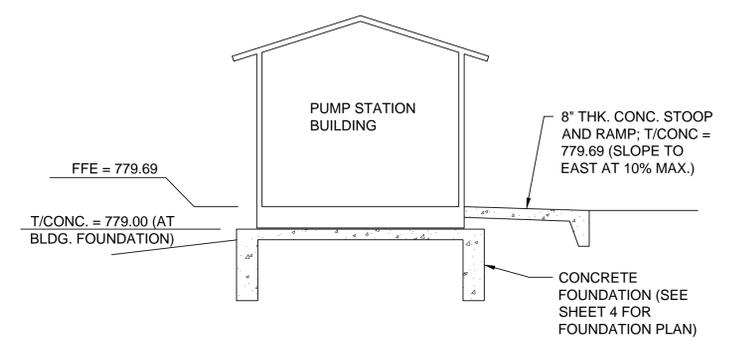


EXISTING CONDITIONS: PREPARED BY GRW ENGINEERS, INC. DATE: 6/15/2014

SHEET TITLE	INDEX SHEET
DATE:	SEPTEMBER 2014
DESIGNED BY:	RAM
DRAWN BY:	DRP
SCALE:	1" = 100'
SHEET	1 OF 12



SITE LOCATION COORDINATES			
MARK	NORTHING	EASTING	DESCRIPTION
A	1557268.27	213241.30	20' RADIUS AT NEW ACCESS DRIVE
B	1557267.24	213187.31	20' RADIUS AT NEW ACCESS DRIVE
C	1557243.91	213187.77	20' RADIUS AT NEW ACCESS DRIVE
D	1557223.88	213186.84	CORNER OF NEW ACCESS DRIVE
E	1557184.26	213222.95	CORNER OF NEW ACCESS DRIVE
F	1557160.39	213196.26	CENTER OF FRENCH DRAIN
G	1557183.57	213187.63	SW CORNER OF NEW PUMP STATION
H	1557203.89	213187.23	NW CORNER OF NEW PUMP STATION
I	1557183.83	213200.96	SE CORNER OF NEW PUMP STATION
J	1557204.15	213200.56	NE CORNER OF NEW PUMP STATION
K	1557252.18	213150.58	CORNER OF NEW FENCE
L	1557254.11	213248.57	CORNER OF NEW FENCE
M	1557114.20	213151.32	CORNER OF NEW FENCE
N	1557116.13	213249.31	CORNER OF NEW FENCE



1 STATION SECTION
NOT TO SCALE

- NOTES:
- ANY DRAINAGE TILES ENCOUNTERED DURING CONSTRUCTION WILL BE AVOIDED OR PROMPTLY REPAIRED IF DAMAGED.
 - THE CONTRACTOR IS RESPONSIBLE TO UNLOAD, SET, AND CONNECT THE OWNER SUPPLIED PUMP STATION. THE STATION DIMENSIONS ARE 18'-0"(L) X 11'-0"(W) X 9'-10"(H) AND xxxxx LBS.
 - THE OWNER SHALL OBTAIN THE SITE/ELECTRICAL BUILDING PERMIT. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ELECTRICAL, PLUMBING AND/OR BUILDING INSPECTIONS AND FOR FEES AND SUPPLEMENTAL INFORMATION WHICH MAY BE REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL PERMIT GUIDELINES AND FOR ANY DAMAGES, PENALTIES, AND FINES CAUSED BY NOT FOLLOWING PERMIT GUIDELINES.

DISTRICT OFFICE: **JOHNSON COUNTY OPERATIONS**
PROJECT: **SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION FRANKLIN, INDIANA WBS 110-550010**

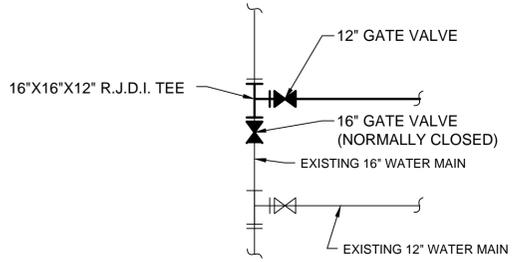


SHEET TITLE: **P.S. SITE PLAN**
DATE: **SEPTEMBER 2014**
DESIGNED BY: **DRC**
DRAWN BY: **JAJ**
SCALE: **AS NOTED**
SHEET: **2 OF 12**

PUMP STATION SITE PLAN
SCALE: 1"=10'-0"

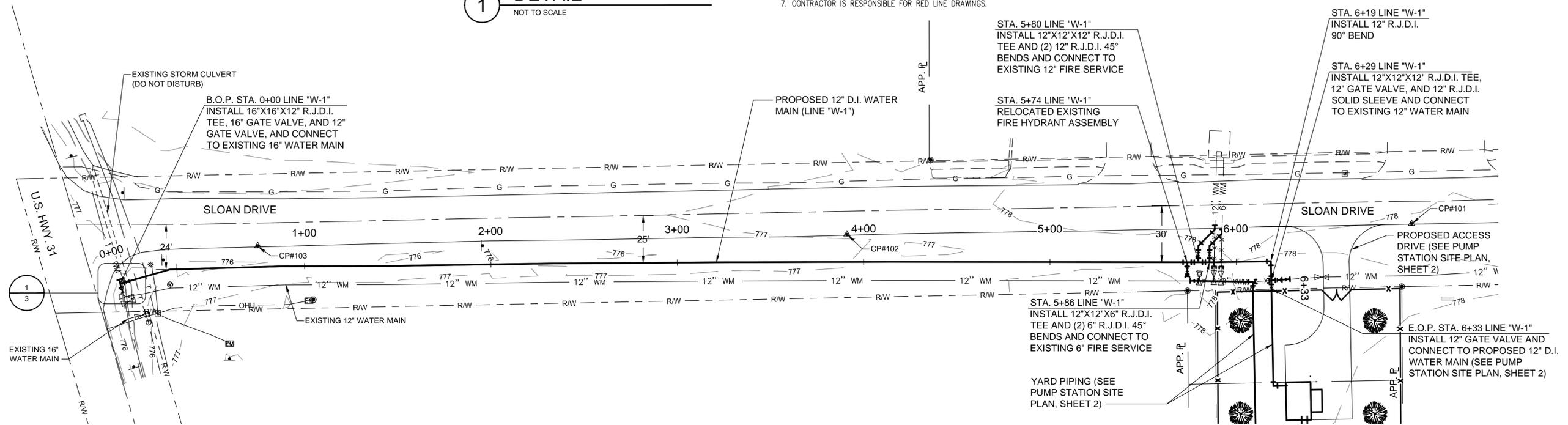
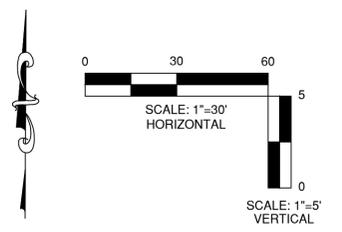
RESTORATION DATA		
ITEM	SHEET	TOTAL
A	-	-
B	633 LFT	-
D	-	-

PROPOSED LEGEND		
	DRIVEWAY RESTORATION PER INAWC STANDARDS & SPECIFICATIONS	
	PERMANENT ASPHALT ROAD REPAIR PER CITY OF FRANKLIN STANDARDS & SPECIFICATIONS	
	LAWN RESTORATION PER CITY OF FRANKLIN STANDARDS & SPECIFICATIONS	

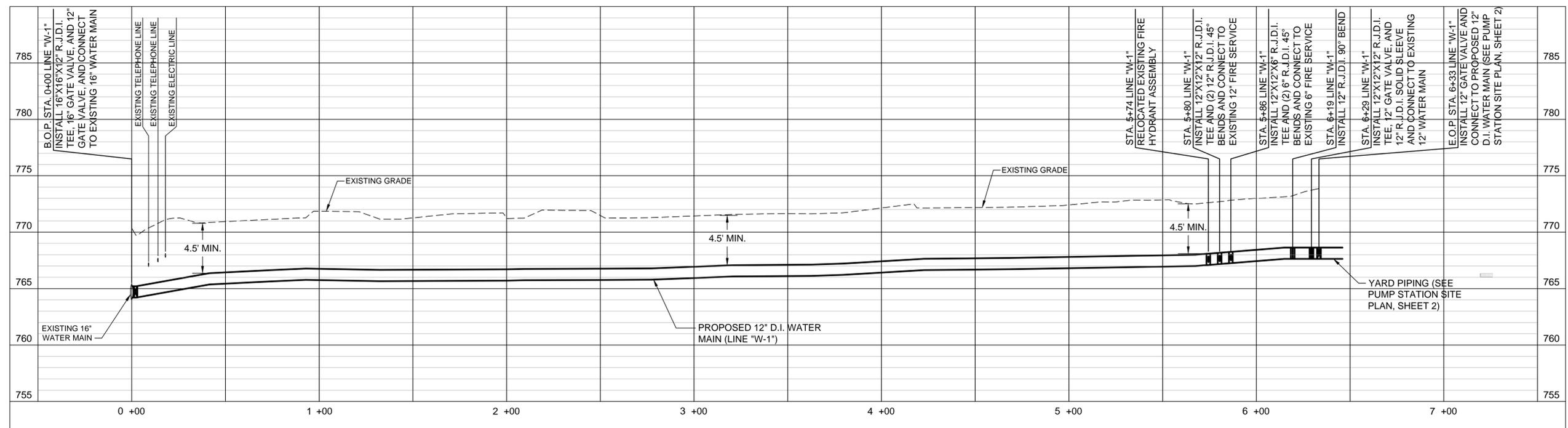


- ### CONTRACTOR NOTES
- UTILITIES SHOWN PER SURVEY (SEE GENERAL NOTES 3 & 4 AT RIGHT). CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES VIA VACUUM EXCAVATION/POTHOLING PRIOR TO ANY CONSTRUCTION.
 - CONTRACTOR TO VERIFY LOCATION OF EXISTING GAS MAIN BY POTHOLING EVERY 100 FEET.
 - CONTRACTOR TO FIELD VERIFY LOCATION OF ALL SANITARY OR STORM SEWER LATERALS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO LATERALS DURING CONSTRUCTION.
 - CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF ALL WATER SERVICES. ALL AFFECTED FACILITIES MUST BE CONNECTED TO THE PROPOSED 8" WATER MAIN.
 - CONTRACTOR TO INSTALL NEW METER PIT AND WATER METERS WITH ALL 3/4" OR 1" DOMESTIC SERVICE CONNECTIONS. INSTALL DUAL METER PITS AT PROPERTY LINES WHERE REQUIRED.
 - CONTRACTOR RESPONSIBLE FOR STAKING RIGHT-OF-WAY, PROPERTY LINES, AND EASEMENT BY REGISTERED LAND SURVEYOR.
 - CONTRACTOR IS RESPONSIBLE FOR RED LINE DRAWINGS.

- ### GENERAL NOTES
- ALL SERVICE TO BE FIELD VERIFIED FOR LOCATION BEFORE ANY CONSTRUCTION.
 - COMPARE ALL POINTS IN FIELD PRIOR TO ANY CONSTRUCTION AND REPORT ANY DISCREPANCIES TO SURVEYOR AT ONCE.
 - DO NOT SCALE DIMENSIONS FROM THIS PLAN.
 - CALL INDIANA UNDERGROUND PLANT PROTECTION AT 1-800-382-5544 FOR FIELD LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION.
 - UNDERGROUND UTILITY LINES SHOWN HEREON ARE BASED ON FIELD LOCATED EVIDENCE IN COORDINATION WITH ATLAS INFORMATION PROVIDED BY UTILITY COMPANIES THROUGH FIELD MARKINGS.
 - BOUNDARY INFORMATION SHOWN HEREON, IF ANY EXISTS, IS FOR GRAPHICAL DEPICTION ONLY.



PLAN VIEW - B.O.P. STA. 0+00 TO E.O.P. STA. 6+33 LINE "W-1"



PROFILE - B.O.P. STA. 0+00 TO E.O.P. STA. 6+33 LINE "W-1"

JOHNSON COUNTY OPERATIONS

SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION
FRANKLIN, INDIANA
WBS 110-550010

DISTRICT OFFICE: _____
PROJECT: _____

DANIEL R. CUTSHAW
REGISTERED PROFESSIONAL ENGINEER
No. 11200431
STATE OF INDIANA

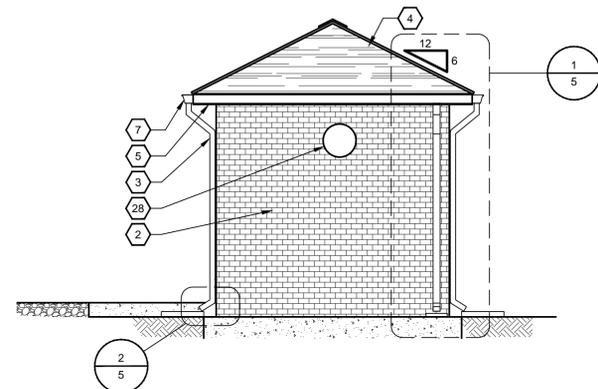
INDIANA AMERICAN WATER
ENGINEERING DEPARTMENT
555 E. COUNTY LINE ROAD
GREENWOOD, INDIANA 46143

EXISTING CONDITIONS: PREPARED BY GRW ENGINEERS, INC.
DRAWN BY: KAR DATE: 6/15/2014

SHEET TITLE: **WATER MAIN PLAN**

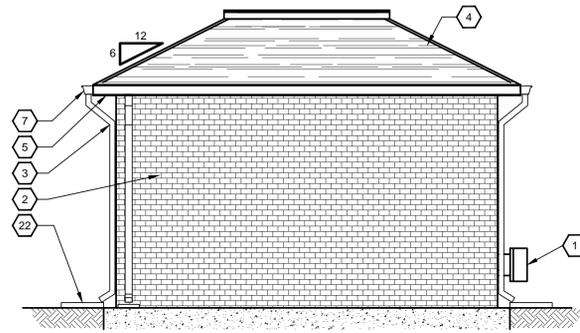
DATE: SEPTEMBER 2014
DESIGNED BY: DRG
DRAWN BY: JAJ
SCALE: AS NOTED

3 OF 12



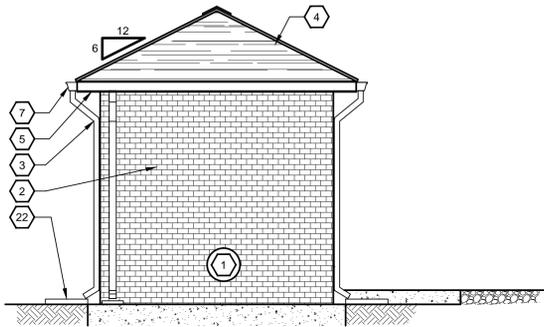
RIGHT SIDE ELEVATION

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



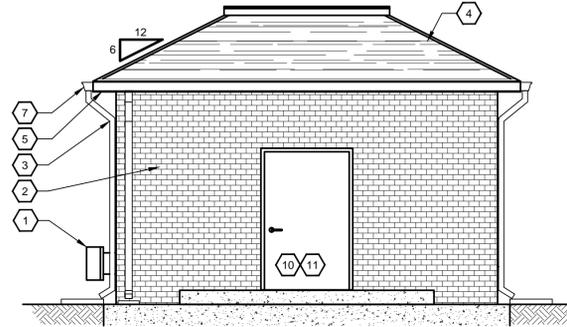
REAR ELEVATION

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



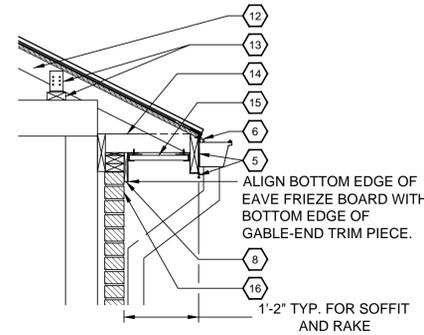
LEFT SIDE ELEVATION

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



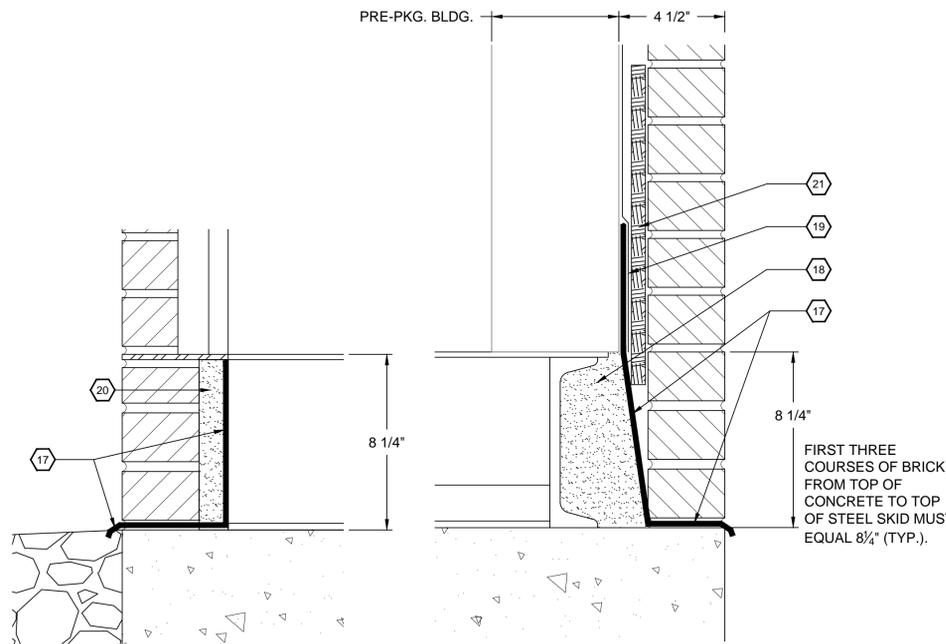
FRONT ELEVATION

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



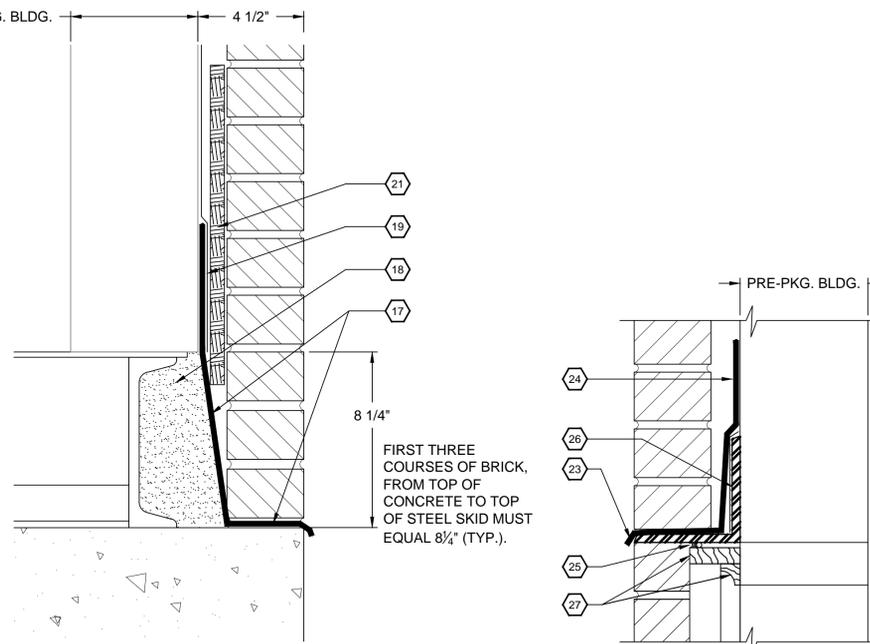
1 WALL SECTION

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



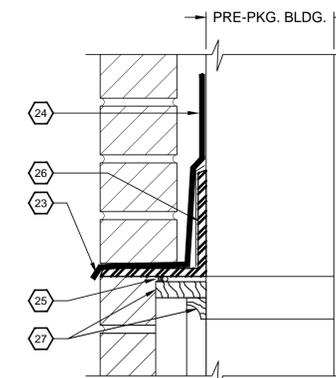
2 DETAIL

SCALE: 3"=1'-0"



3 DETAIL

SCALE: 3"=1'-0"



4 DETAIL

SCALE: 3"=1'-0"

SHEET KEYNOTES:

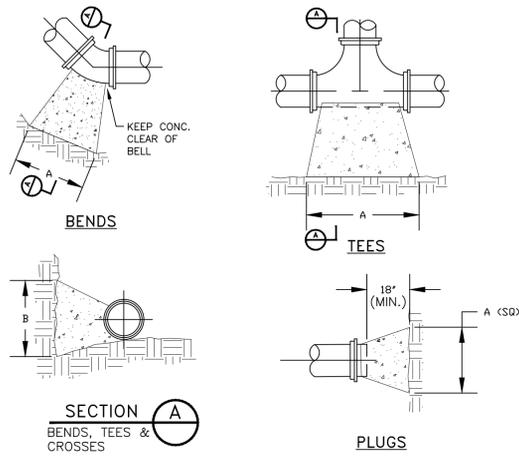
1. HVAC UNIT PROVIDED IN PRE-PACKAGED BUILDING BY STATION MANF. (PROVIDED BY OWNER).
2. BRICK VENEER
3. METAL DOWNSPOUT
4. PROVIDE ASPHALT SHINGLE ROOFING SYSTEM, RIDGE VENT, "ICE-DAM" PREVENTION UNDERLAYMENT, ETC. AS REQUIRED BY MANUFACTURER TO ACHIEVE A WEATHERTIGHT ROOFING INSTALLATION.
5. METAL-WRAP WITH DRIP, 2X FASCIA BOARD.
6. CONTINUOUS METAL DRIP EDGE AT ROOF SHEATHING EDGE.
7. METAL GUTTER.
8. METAL-WRAP 1X BOTTOM TRIM PIECE.
9. CONCRETE FOOTING AND SLAB.
10. DOOR AND DOOR FRAME PROVIDED IN PRE-PACKAGED BUILDING BY STATION MANF. (PROVIDED BY OWNER). REFER TO DETAIL 4/5 FOR ADDITIONAL INFORMATION AT DOOR HEAD.
11. DOOR HARDWARE, HINGES, THRESHOLD, ETC., PROVIDED IN PRE-PACKAGED BUILDING BY STATION MANF. (PROVIDED BY OWNER).
12. 2 X 4 ROOF FRAMING WITH 1X RIDGE BOARD, 2X CROSS-TIES. PROVIDE HURRICANE CLIPS.
13. CONTINUOUS 2 X 4 CLEAT ATTACHED AT EACH CEILING JOIST. PROVIDE HURRICANE CLIP. ATTACH TO CLEAT AND TO RAFTER. ONE CLIP PER EACH RAFTER, PER WALL SIDE.
14. 2 X 4 SOFFIT-FRAMING LOOK-OUT.
15. METAL SOFFIT PANEL; PERFORATED AT EAVES.
16. TOP-OF-WALL CELLULAR PLASTIC WEEP VENT AT 4'-0" O.C. HEAD JOINTS, IN TOP MOST COURSE THAT IS FULLY BELOW SOFFIT TRIM.
17. CONTINUOUS IN-VIEW METAL FLASHING.
18. PROVIDE SOLID GROUT-FILL SUPPORT FOR FLASHING (TYPICAL).
19. PROVIDE AT LEAST ONE EXTRA LAYER OF WEATHER-RESISTANT BARRIER PAPER TAPED TO OVER-LAP METAL FLASHING 8" MINIMUM.
20. GROUT-FILL SOLID BETWEEN MASONRY AND STEEL SKID SYSTEM. PROVIDE IN-VIEW METAL FLASHING BETWEEN SKID AND GROUT.
21. CAVITY DRAINAGE MATERIAL.
22. CONCRETE SPLASHBLOCK TYPE "1" (SEE SPECS.)
23. CONTINUOUS IN-VIEW METAL FLASHING.
24. PROVIDE AT LEAST ONE EXTRA LAYER OF WEATHER-RESISTANT BARRIER PAPER TAPED TO OVER-LAP METAL FLASHING 8" MINIMUM.
25. SEALANT (AND BACKING ROD, IF NEEDED).
26. PROVIDE STEEL LINTEL ANGLE 5 X 5 X 3/8 FOR BRICK SUPPORT AT HEAD OF DOUBLE DOORS, AND AT HEAD OF HVAC UNIT.
27. PROVIDE WOOD TRIM BRICK-MOULDING AT DOOR HEAD AND JAMBS TO SPAN GAP IN CAVITY WALL SYSTEM. PRIME AND PAINT FINISH.
28. EXHAUST FAN PROVIDED IN PRE-PACKAGED BUILDING BY STATION MANF. (PROVIDED BY OWNER).

DISTRICT OFFICE: **JOHNSON COUNTY OPERATIONS**

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FRANKLIN, INDIANA
WBS 110-550010**



SHEET TITLE: **P.S. ELEVATIONS**
 DATE: **SEPTEMBER 2014**
 DESIGNED BY: **DRC**
 DRAWN BY: **JAJ**
 SCALES: **AS NOTED**
 SHEET: **5 OF 12**



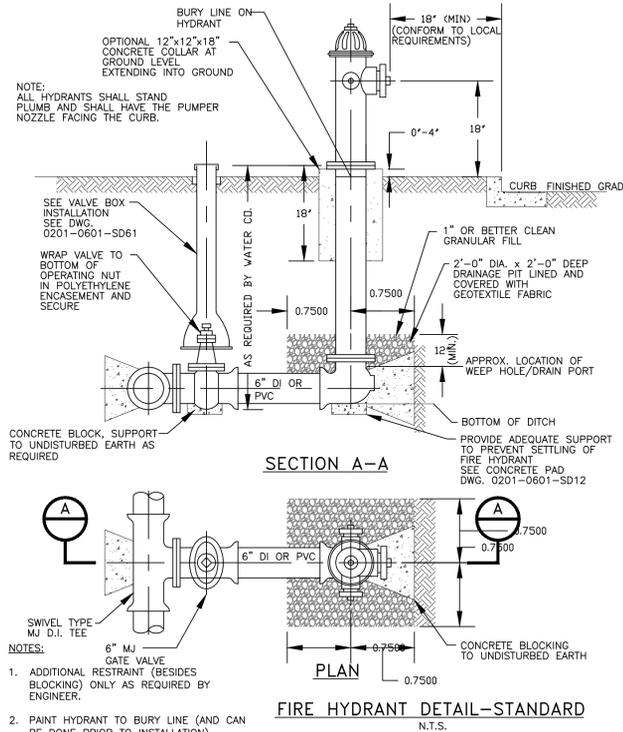
NOTES:

- COVER OVER TOP OF PIPE SHALL BE BELOW FROST LINE OR 30" MINIMUM, 72" MAXIMUM ACCORDING TO REGULATORY REQUIREMENTS. IF GRADING PLANS RECEIVED BY THE ENGINEER/OWNER WITH THE REQUEST FOR WATER MAIN LAYOUT, INDICATE ADJUSTMENTS TO EXISTING GRADE, THEN PIPE SHALL BE INSTALLED TO MEET MINIMUM AND MAXIMUM COVER FROM PROPOSED GRADES SHOWN ON SAID PLANS.
- THRUST BLOCKS SHALL BE BUILT AGAINST UNDISTURBED SOIL WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.
- NO THRUST BLOCKS TO BE PLACED IN SEWER LATERAL DITCHES.
- THRUST BLOCKING MUST FIT IN EASEMENT, IN SOME CASES ADDITIONAL RESTRAINT MAY BE REQUIRED.
- BASED ON 200 PSI (150 PSI STATIC PRESSURE PLUS 50 PSI WATER HAMMER) AND 2000 PSF SOIL BEARING.
- POLYETHYLENE ENCASUREMENT ON ALL D.I. PIPE AND FITTINGS.
- PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE.
- ALLOW SUFFICIENT CLEARANCE BETWEEN CONCRETE AND BOLTS FOR FUTURE MAINTENANCE.
- ALL ANCHOR BOLTS SHALL BE COR-BLUE, MINIMUM 1/2" DIAMETER. COAT EXPOSED ROD WITH ASPHALT CEMENT AFTER CONCRETE HAS SET.
- ALL M.J. AND FLG. FITTINGS TO RECEIVE THRUST BLOCKS SHALL HAVE THE FASTENER AREAS FELT WRAPPED AND TAPED PRIOR TO THE CONCRETE POUR TO ALLOW FUTURE ACCESS TO THE FASTENERS AT THE JOINTS.
- THRUST BLOCKING DETAILS ARE SHOWN HERE FOR TYPICAL INSTALLATIONS. IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED.
- PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE MIN 3000 PSI CONCRETE.
- FOR UNSTABLE SOIL CONDITIONS, CHECK WITH ENGINEER FOR THRUST BLOCK DIMENSIONS.
- FOR MAIN SIZES GREATER THAN 16", SEE ENGINEER FOR THRUST BLOCK DIMENSIONS.

PIPE SIZE	90 DEGREE BENDS				45 DEGREE BENDS				11.25 DEGREE BENDS				22.5 DEGREE BENDS				TEES/PLUGS			
	AREA (sq ft)	"A"	"B"	AREA (sq ft)	"A"	"B"	AREA (sq ft)	"A"	"B"	AREA (sq ft)	"A"	"B"	AREA (sq ft)	"A"	"B"	AREA (sq ft)	"A"	"B"		
6	5.3	4.3	18"	2.9	2.3	18"	0.7	6"	18"	1.5	12"	18"	3.7	30"	18"					
8	9.2	5.5	24"	5.0	3.0	24"	1.3	8"	24"	2.5	15"	24"	6.4	39"	24"					
10	13.8	6.6	30"	7.5	3.6	30"	1.9	9"	30"	3.8	18"	30"	9.7	46"	30"					
12	19.4	7.8	36"	10.6	4.2	36"	2.7	11"	36"	5.3	21"	36"	13.8	55"	36"					
14	26.0	8.9	42"	14.0	4.8	42"	3.6	12"	42"	7.2	25"	42"	18.5	63"	42"					
16	33.7	10.1	48"	18.3	5.5	48"	4.7	14"	48"	9.4	28"	48"	23.9	72"	48"					

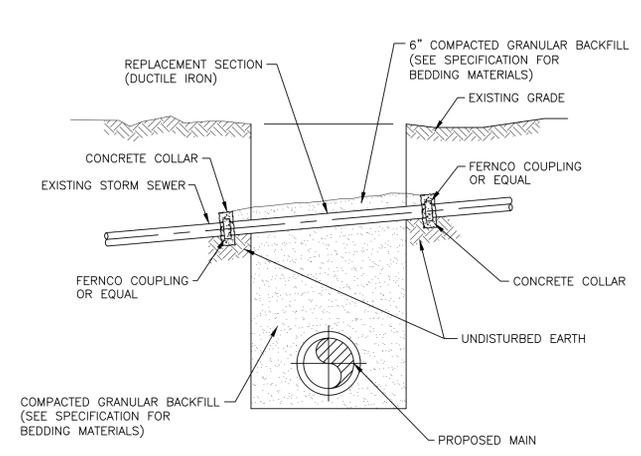
Area in square feet "A" and "B" in inches
 Bearing table area is based on 200 psi maximum with soil bearing capacity of 2000 lbs/square foot.
 For higher water pressures or lower soil pressures, consult Engineer for adjustments.
 Bearing table area does not include a safety factor.
 A safety factor and additional bearing area may be required as directed by the Engineer.

THRUST BLOCK DETAILS
NO SCALE
0201-0601-SD6



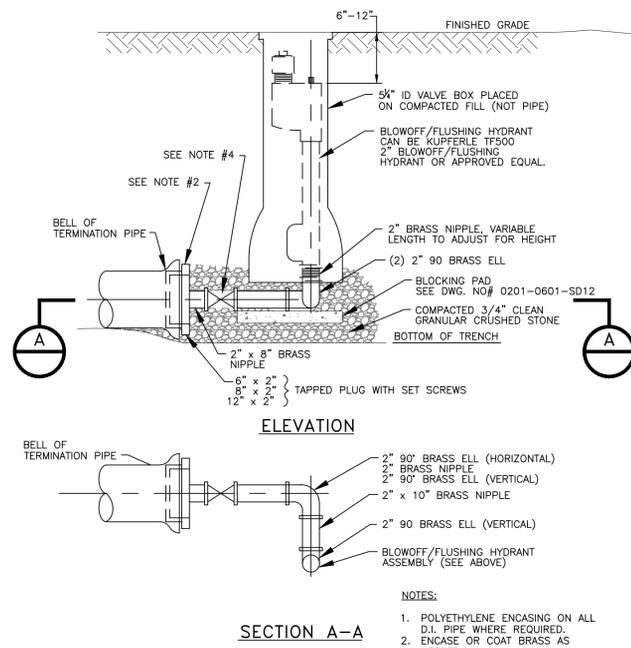
- NOTES:**
- ADDITIONAL RESTRAINT (BESIDES BLOCKING) ONLY AS REQUIRED BY ENGINEER.
 - PAINT HYDRANT TO BURY LINE (AND CAN BE DONE PRIOR TO INSTALLATION)
 - APPLY TOUCH UP PAINT AS REQUIRED AFTER INSTALLATION.
 - ALTERNATIVE IS TO USE DI TEE M.J.M.J.F.L WITH FL.M.J. VALVE.

FIRE HYDRANT WITH BLOCKING/FLANGE TEE DETAIL
NO SCALE
0201-0601-SD35



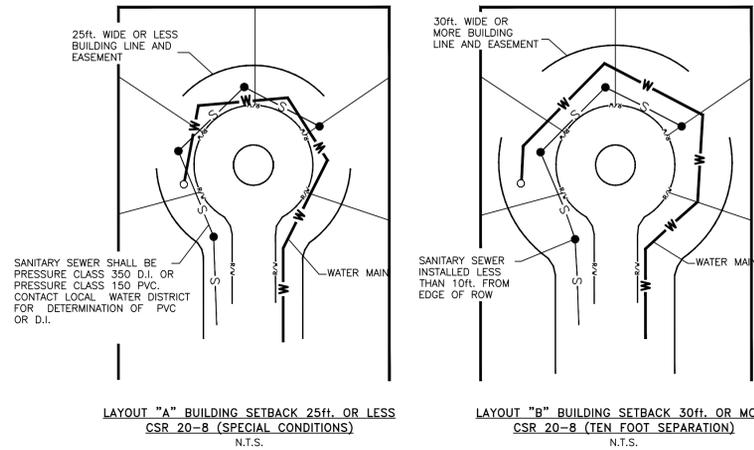
- IF THE EXISTING STORM SEWER IS DAMAGED OR REMOVED DURING CONSTRUCTION IT SHALL BE REPLACED ACROSS THE TRENCH SUCH THAT THE CONCRETE COLLARS ARE SUPPORTED ON UNDISTURBED EARTH.
- THE CONCRETE COLLAR SHALL BE FORMED AT A JOINT WITH THE EXISTING HOUSE LATERAL USING FERNCOM COUPLINGS.
- THE REPLACEMENT SECTION SHALL BE CLASS 350 DUCTILE IRON PIPE WITH AND INSIDE DIAMETER EQUAL TO THE EXISTING PIPE. ANSI/AWWA C151/A21.51 DUCTILE IRON PIPE SHALL BE USED AS A MINIMUM STANDARD.
- WHEN THE STORM SEWER OWNER HAS REQUIREMENTS WHICH ARE MORE STRINGENT, THE CONTRACTOR SHALL CONFORM TO THE MORE STRINGENT REQUIREMENTS AND MAKE NO CLAIM FOR ADDITIONAL COMPENSATION OR AN EXTENSION OF TIME BECAUSE OF SUCH REQUIREMENTS.

STORM SEWER REPLACEMENT DETAIL
NO SCALE
0201-0601-SD44



- NOTES:**
- POLYETHYLENE ENCASING ON ALL D.I. PIPE WHERE REQUIRED.
 - ENCASE OR COAT BRASS AS NEEDED.
 - SEE DWG. NO. 0201-0601-SD13 FOR RESTRAINT OF PLUG, PIPE RESTRAINT NOT SHOWN.
 - OPTIONAL CURB BOX FOR VALVE NOT SHOWN.

BLOWOFF/FLUSHING HYDRANT ASSEMBLY DETAIL
NO SCALE
0201-0601-SD1



NOTE:

CUL-DE-SACS THAT ARE DESIGNED WITH THE SANITARY SEWER INSTALLED OR PROPOSED AROUND THE PERIMETER OF A CUL-DE-SAC IN AN EASEMENT MUST MEET THE DNR CODE OF STATE REGULATIONS (CSR) AS OUTLINED BELOW. DUE TO THE WIDTH OF SEWER TRENCHES AND THE RESULTING DISTURBED SOIL OCCUPYING THE ENTIRE EASEMENT.

REGULATIONS NORMALLY REQUIRES 10 FEET SEPARATION BETWEEN THE WATER MAIN AND THE BUILDING LINE WHERE A WATER MAIN IS INSTALLED OR PROPOSED AROUND THE PERIMETER OF A CUL-DE-SAC.

CUL-DE-SACS WITH 30 FOOT WIDE EASEMENT AND BUILDING LINE SHOULD NOT BE AN ISSUE AS LONG AS THE SEWER IS INSTALLED LESS THAN 10 FEET FROM THE EDGE OF RIGHT OF WAY.

HORIZONTAL SEPARATION - SEWER MAINS SHALL BE AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCES SHALL BE MEASURED EDGE-TO-EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN TEN FOOT (10') - SEPARATION, DEVIATION ON A CASE BY CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER, THIS DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO THE WATER MAIN, PROVIDED THAT THE WATER MAIN IS IN A SEPARATE TRENCH OR AN UNDISTURBED EARTH SHELF LOCATED ON ONE (1) SIDE OF THE SEWER AT AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST EIGHTEEN INCHES (18") ABOVE THE TOP OF THE SEWER. CONSTRUCTOR SHALL NOT PROCEED WITH DEVIATION WITHOUT AW APPROVAL.

CROSSING - SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN INCHES (18") BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THE SEWER JOINT WILL BE EQUIVALENT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHEN A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

SPECIAL CONDITIONS. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED PREVIOUSLY, THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND SHALL BE PRESSURE TESTED TO ASSURE WATER-TIGHTNESS PRIOR TO BACKFILLING.

AN AWC DESIGNATED INSPECTOR SHALL VERIFY AND DOCUMENT THE TYPE AND PRESSURE OF SEWER MATERIAL INSTALLED, SHALL VERIFY PRESSURE TESTING FOR WATER-TIGHTNESS, AND SHALL PROVIDE AS-BUILT DRAWINGS OF THE SEWER MAIN SHOWING THE LOCATION OF THE SEWER JOINTS AND MANHOLES. SEWER DOCUMENTATION AND AS-BUILT DRAWINGS FOR LAYOUT "A" SHALL BE SENT TO AWC NEW BUSINESS DEPARTMENT PRIOR TO WATER MAIN CONSTRUCTION.

DETAILS PROVIDED BY:

INDIANA AMERICAN WATER
ENGINEERING DEPARTMENT
GREENWOOD, INDIANA 46143 555 E. COUNTY LINE ROAD

DISTRICT OFFICE: **JOHNSON COUNTY OPERATIONS**

PROJECT: **SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION FRANKLIN, INDIANA**
WBS 110-550010



INDIANA AMERICAN WATER
ENGINEERING DEPARTMENT
555 E. COUNTY LINE ROAD
GREENWOOD, INDIANA 46143

SHEET TITLE: **STD. DETAILS**

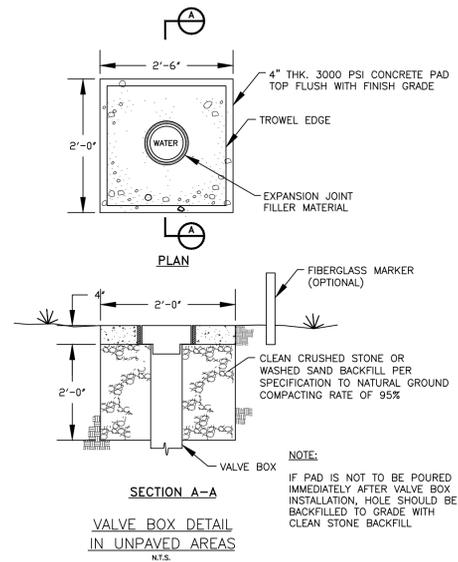
DATE: **SEPTEMBER 2014**

DESIGNED BY: **DRC**

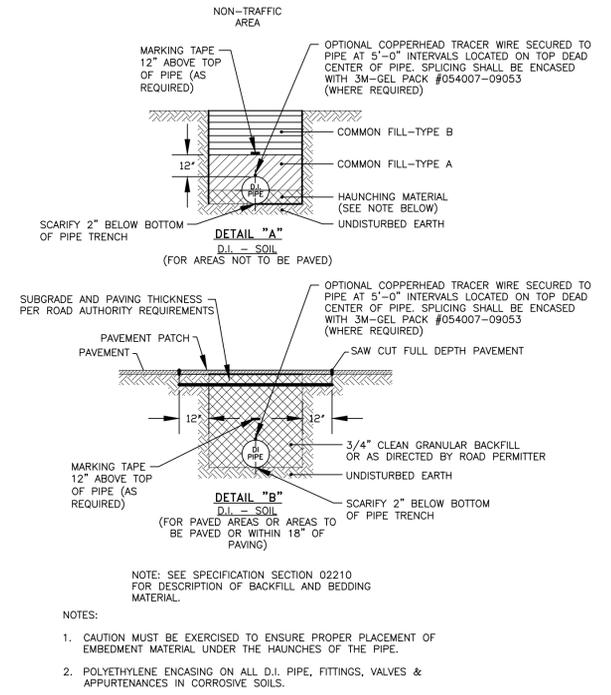
DRAWN BY: **JAU**

SCALE: **AS NOTED**

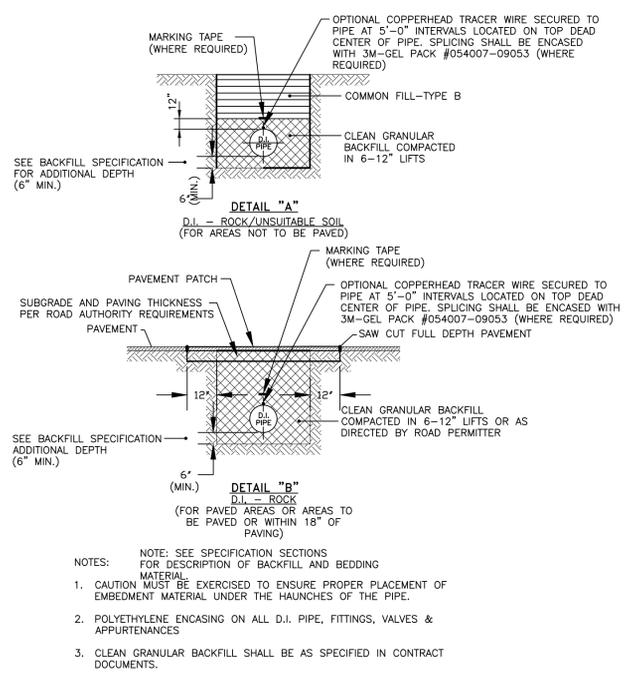
SHEET: **6 OF 12**



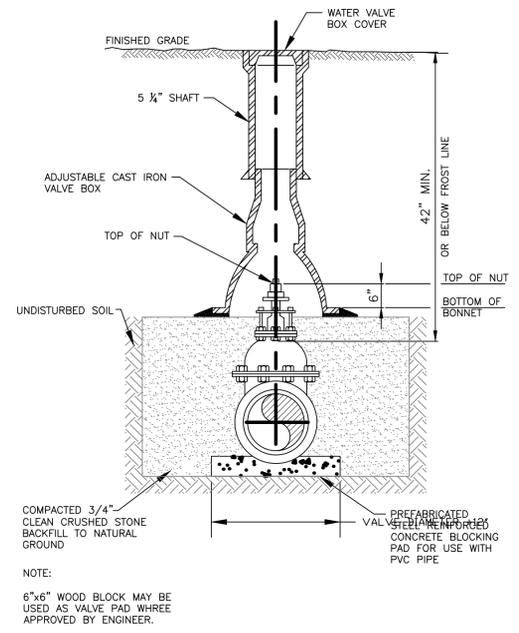
CONCRETE VALVE BOX PAD DETAIL
 NO SCALE
0201-0601-SD60



TRENCH - D.I. PIPE IN SOIL DETAIL
 NO SCALE
0201-0601-SD55



TRENCH - D.I. PIPE IN ROCK DETAIL
 NO SCALE
0201-0601-SD56



VALVE BOX INSTALLATION DETAIL
 NO SCALE
0201-0601-SD59

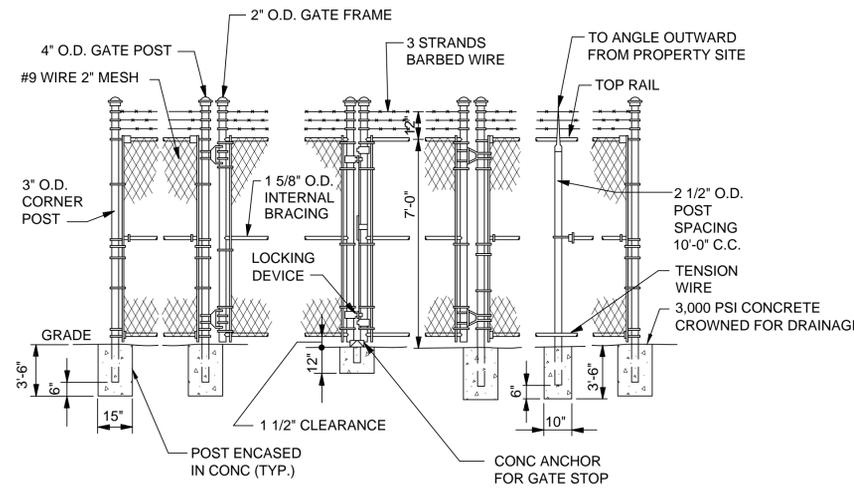


DISTRICT OFFICE: **JOHNSON COUNTY OPERATIONS**
 PROJECT: **SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION FRANKLIN, INDIANA**
 WBS 110-550010



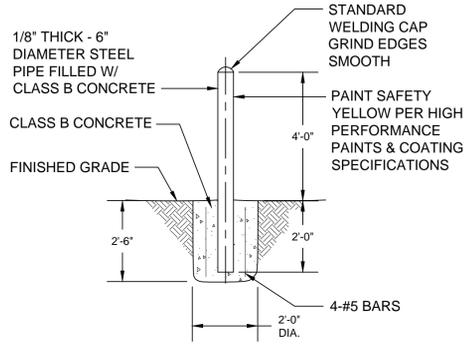
INDIANA AMERICAN WATER
 ENGINEERING DEPARTMENT
 555 E. COUNTY LINE ROAD
 GREENWOOD, INDIANA 46143

SHEET TITLE	STD. DETAILS
DATE	SEPTEMBER 2014
DESIGNED BY	DRC
DRAWN BY	JAJ
SCALES	AS NOTED
SHEET	7 OF 12

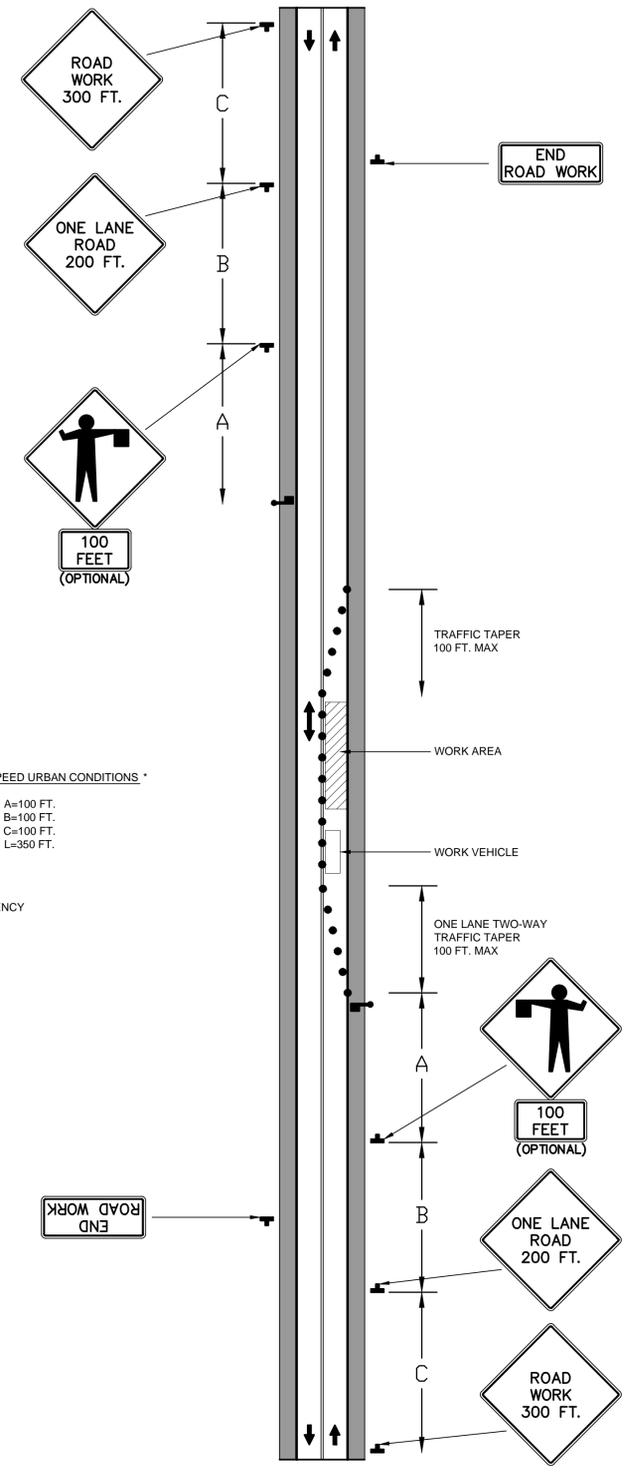


- NOTES:
1. FOR GATE OPENING SIZES, SEE SITE PLAN.
 2. FENCE & GATES SHALL BE PVC-COATED PER SPECS.

CHAIN LINK SECURITY FENCE AND SWING GATE DETAIL
NOT TO SCALE



BOLLARD - DETAIL
NOT TO SCALE

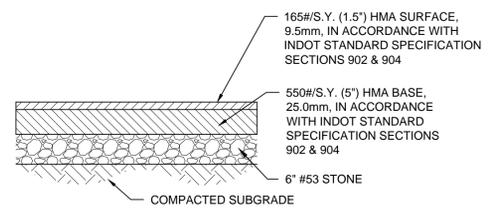


- | | |
|--|---|
| FOR HIGH SPEED URBAN CONDITIONS * | FOR LOW SPEED URBAN CONDITIONS * |
| A=350 FT. | A=100 FT. |
| B=350 FT. | B=100 FT. |
| C=350 FT. | C=100 FT. |
| L=350 FT. | L=350 FT. |

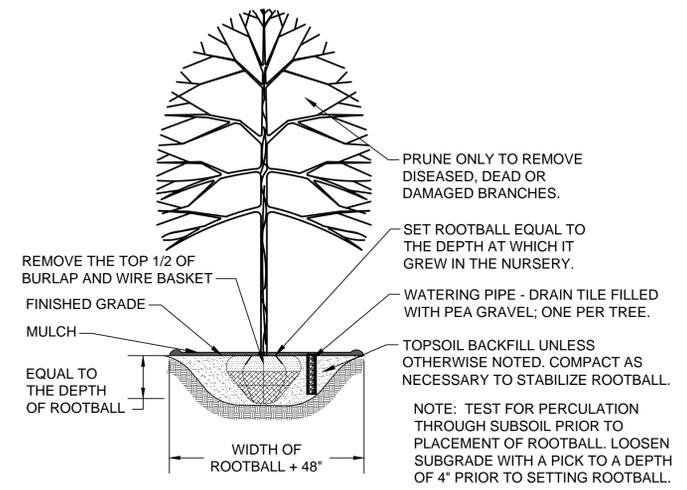
* SPEED CATEGORY SHALL BE DETERMINED BY HIGHWAY AGENCY

NOTE: TRAFFIC CONTROL PLANS ARE GUIDELINES ONLY. ALL TRAFFIC CONTROL PLANS AND LANE CLOSURES MUST BE APPROVED BY THE APPROPRIATE AGENCY.
HOWARD COUNTY HIGHWAY: (765) 456-2802
CITY OF KOKOMO: (765) 456-7400

- NOTES:
1. FOR LOW-VOLUME SITUATIONS WITH SHORT WORK ZONES ON STRAIGHT ROADWAYS WHERE THE FLAGGER IS VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, A SINGLE FLAGGER, POSITIONED TO BE VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, MAY BE USED.
 2. THE "ROAD WORK AHEAD" AND THE "END ROAD WORK" SIGNS MAY BE OMITTED FOR SHORT-DURATION OPERATIONS.
 3. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS. A "BE PREPARED TO STOP" SIGN MAY BE ADDED TO THE SIGN SERIES.
 4. THE BUFFER SPACE SHOULD BE EXTENDED SO THAT THE TWO-WAY TRAFFIC TAPER IS PLACED BEFORE A HORIZONTAL (OR CREST VERTICAL) CURVE TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGER AND A QUEUE OF STOPPED VEHICLES.
 5. AT NIGHT, FLAGGER STATIONS SHALL BE ILLUMINATED, EXCEPT IN EMERGENCIES.
 6. WHEN USED, THE "BE PREPARED TO STOP" SIGN SHOULD BE LOCATED BETWEEN THE "FLAGGER" SIGN AND THE "ONE LANE ROAD" SIGN.



TYPICAL ASPHALT DRIVE
NOT TO SCALE



TREE PLANTING DETAIL
NOT TO SCALE

DETAIL - TRAFFIC CONTROL PLAN (AT TWO LANE ROAD)
NOT TO SCALE

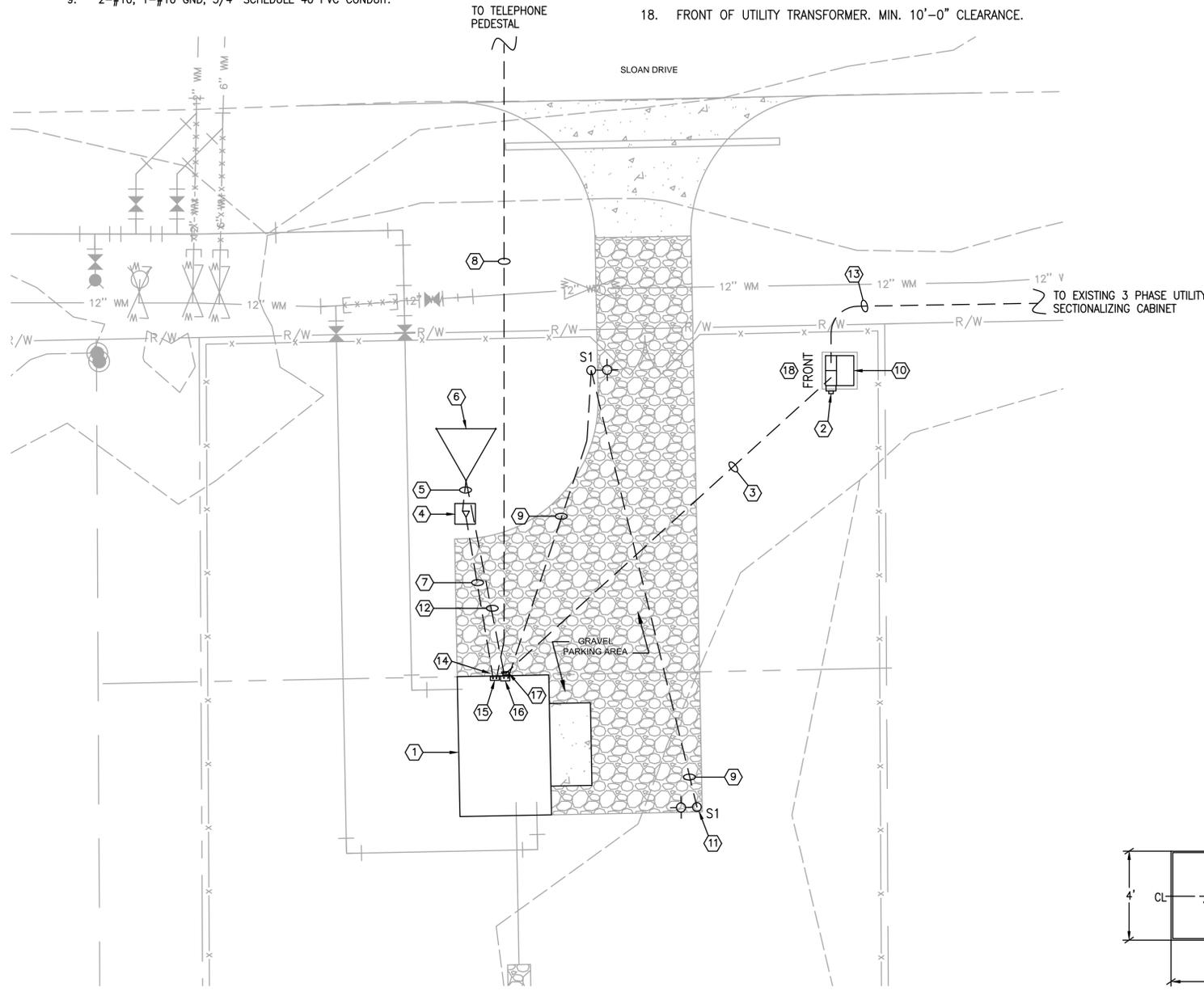
DISTRICT OFFICE: **JOHNSON COUNTY OPERATIONS**
PROJECT: **SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION FRANKLIN, INDIANA**
WBS 110-550010



SHEET TITLE: **STD. DETAILS**
DATE: **SEPTEMBER 2014**
DESIGNED BY: **DRC**
DRAWN BY: **JAJ**
SCALE: **AS NOTED**
SHEET: **8 OF 12**

ELECTRICAL KEYED NOTES:

1. NEW PACKAGE BOOSTER STATION FURNISHED BY OWNER.
2. METERING PROVIDED BY LOCAL UTILITY.
3. 3-#500MCM CU, 1-#1/0 CU NEUTRAL, 3-1/2" C., FURNISHED AND INSTALLED BY CONTRACTOR. (REDUCED NEUTRAL, NO NEUTRAL LOAD)
4. ANTENNA EQUIPMENT AND TOWER FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR; CONTRACTOR TO FURNISH AND INSTALL PAD. SEE DETAIL THIS SHEET. TOWER TO BE APPROXIMATELY 50' TALL.
5. #3/0 CU GND FROM ANTENNA TO GROUND GRID, 1" C.
6. GROUND GRID. (3)-3/4" X 10' GROUND RODS MINIMUM 10' APART WITH #3/0 BARE CU CONDUCTOR BONDED WITH CADWELD CONNECTIONS.
7. 1/2" SUPERFLEX HELIAX ANTENNA CABLE, AND 2" SCH. 40 PVC C. BY CONTRACTOR.
8. 1-1/2" C. SCH 40 PVC FOR TELEPHONE, BY UTILITY.
9. 2-#10, 1-#10 GND, 3/4" SCHEDULE 40 PVC CONDUIT.
10. NEW PAD MOUNTED TRANSFORMER, FURNISHED AND INSTALLED BY LOCAL UTILITY, 277/480 V, 3 PHASE, 4 WIRE.
11. POLE MOUNTED LIGHT FIXTURE TYPE S1, TYPICAL. SEE DETAIL THIS SHEET.
12. 1-#3/0 CU GND, 1" C. TO GROUND GRID.
13. 3PH UNDERGROUND PRIMARY FURNISHED AND INSTALLED BY UTILITY COMPANY.
14. CONDUIT ENTRY LOCATION; COORDINATE WITH BOOSTER PUMP STATION MANUFACTURER AND SHOP DRAWINGS.
15. TELEMETRY PANEL BY OWNER.
16. DISTRIBUTION PANEL BY OWNER.
17. 400A, 600V RATED, 3-POLE DISC. SW., FUSED AT 300A. SERVICE ENTRANCE RATED, NEMA 4X S.S. ENCLOSURE, FURNISHED AND INSTALLED BY CONTRACTOR.
18. FRONT OF UTILITY TRANSFORMER. MIN. 10'-0" CLEARANCE.

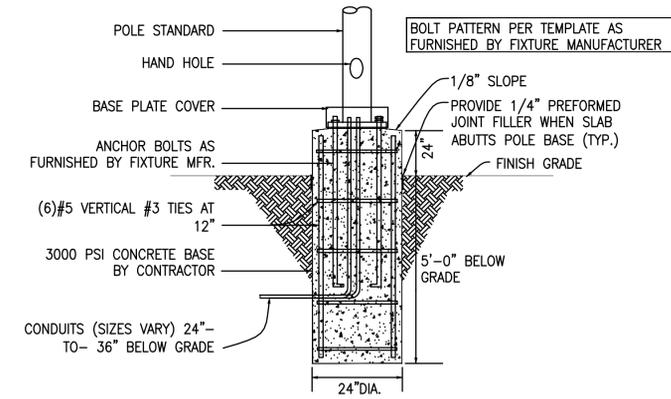


SLOAN DRIVE PUMP STATION ELECTRICAL SITE PLAN

SCALE: 1"=10'-0"

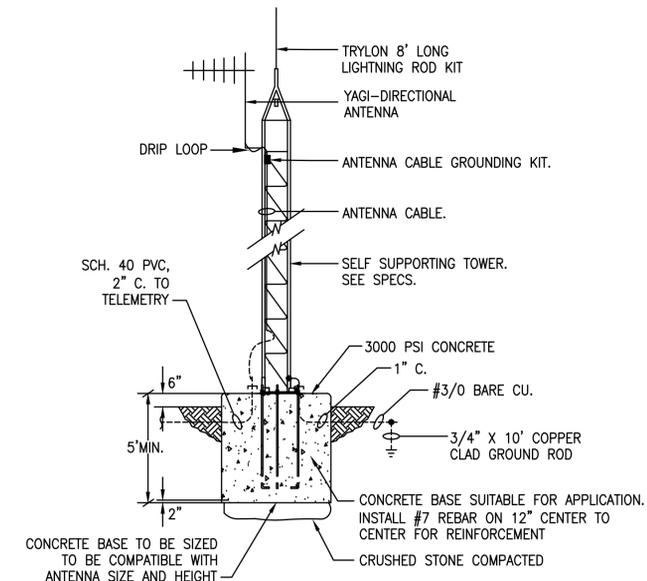


LIGHTING FIXTURE SCHEDULE	
TYPE	DESCRIPTION
S1	250W METAL HALIDE ARM-MOUNTED CUTOFF DIE-CAST ALUMINUM FIXTURE, TYPE III ASYMMETRIC DISTRIBUTION, ENHANCED CORROSION RESISTANCE, DOUBLE FUSED FIXTURE, MOUNTED ON A 4" SQUARE STEEL POLE WITH ENHANCE CORROSION RESISTANT COATING. LITHONIA # AS2SR3 TB, SPA DF CR QRS WITH SSS 20 4C DM19AS DDB.



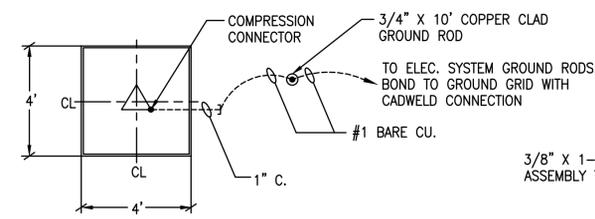
LIGHTING POLE BASE DETAIL

NOT TO SCALE



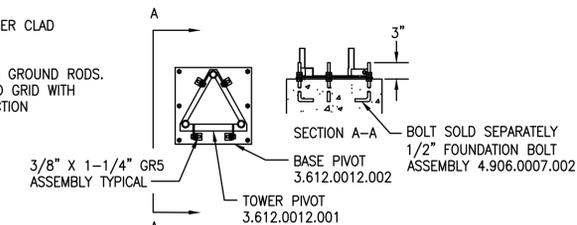
ANTENNA DETAIL

NOT TO SCALE



ANTENNA BASE DETAIL

NOT TO SCALE



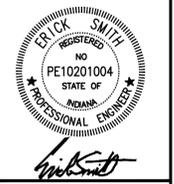
HINGE BASE PLATE DETAIL

NOT TO SCALE

DISTRICT OFFICE: **JOHNSON COUNTY OPERATIONS**
PROJECT: **SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION**
FRANKLIN, INDIANA
WBS 110-550010

DISTRICT OFFICE:

PROJECT:



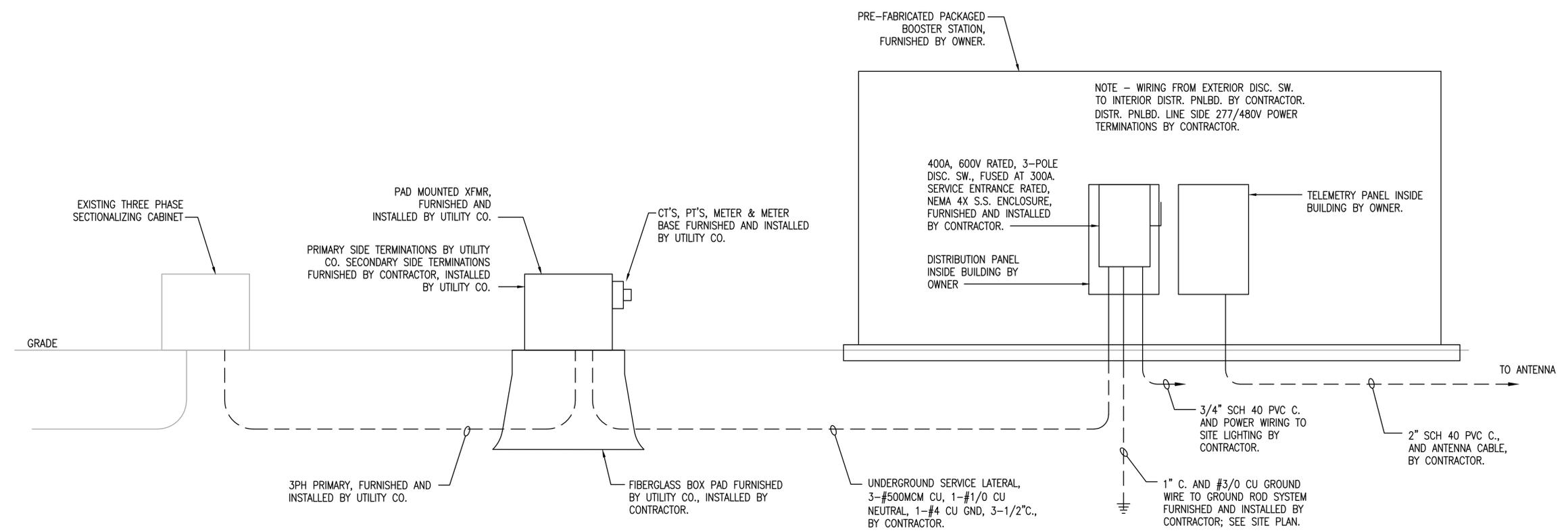
SHEET TITLE: **ELECTRICAL SITE PLAN AND DETAILS**
DATE: **SEPTEMBER 2014**
DESIGNED BY: **ES**
DRAWN BY: **JW/JMS**
SCALE: **AS NOTED**
SHEET: **11 OF 12**

DISTRICT OFFICE: JOHNSON COUNTY OPERATIONS

PROJECT: SLOAN DRIVE PUMP STATION AND WATER MAIN TRANSMISSION
FRANKLIN, INDIANA
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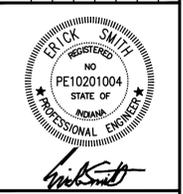
NOTE: NOT ALL EQUIPMENT AND WIRING BEING PROVIDED BY PACKAGED BOOSTER STATION MANUFACTURER IS SHOWN ON THIS DRAWING. ONLY EQUIPMENT REQUIRING CONNECTIONS BY CONTRACTOR OR UTILITY IS SHOWN.

BOOSTER STATION INCLUDES:
- (2) 50 HP PUMPS.
- APPROXIMATELY 40KVA OF ADDITIONAL LOAD.



ELECTRICAL EQUIPMENT ELEVATION

NOT TO SCALE



SHEET TITLE	ELECTRICAL EQUIPMENT ELEVATION
DATE:	SEPTEMBER 2014
DESIGNED BY:	ES
DRAWN BY:	JWV/JMS
SCALES:	AS NOTED
SHEET	12 OF 12