

CITY OF FARMERSVILLE, TEXAS

STANDARD CONSTRUCTION DETAILS

JULY 2016

APPROVED FOR USE: _____

BENJAMIN L. WHITE P.E.
PUBLIC WORKS DIRECTOR

DATE _____



Farmersville

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NOTE:
IF CONFLICT EXISTS BETWEEN HARD COPY AND
ELECTRONIC FILE, HARD COPY WILL GOVERN.

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



INDEX

DESIGNED: E.W.D.
DRAWN: M.K.W. - DBI

DATE: 07-05-16
REVISION: N/C

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**STANDARD CONSTRUCTION DETAILS
FOR
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COLLIN COUNTY, TEXAS**



INDEX

DESIGNED: E.W.D.
DRAWN: M.K.W. - DBI

DATE: 07-05-16
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**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



INDEX

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

GENERAL:

1. A VARIANCE TO THESE STANDARDS AND SPECIFICATIONS MAY ONLY BE ALLOWED UPON WRITTEN REQUEST BY THE INSTALLER TO THE CITY OF FARMERSVILLE AND FORMAL WRITTEN APPROVAL BY THE PUBLIC WORKS DIRECTOR AND THE CITY OF FARMERSVILLE'S ENGINEER.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF FARMERSVILLE'S, NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) AND TEXAS DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR THE PUBLIC WORKS CONSTRUCTION.
3. ALL RULES AND REGULATIONS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) SHALL BE MET.
4. IN THE EVENT OF A CONFLICT, STATE REGULATIONS AND REQUIREMENTS SHALL PRESIDE FOLLOWED BY THE CITY OF FARMERSVILLE REQUIREMENTS AND THEN FOLLOWED BY NCTCOG STANDARD SPECIFICATIONS.
5. EXISTING UTILITIES SHALL BE LOCATED, IDENTIFIED, AND PROTECTED DURING THE INSTALLATION. CONFLICTS BETWEEN EXISTING UTILITIES AND PROPOSED UTILITIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
6. MATERIALS AND INSTALLATION SHALL BE GUARANTEED BY THE INSTALLER FOR A MINIMUM PERIOD OF TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE WITH A MAINTENANCE BOND.
7. THE CITY OF FARMERSVILLE SHALL BE HELD HARMLESS FROM ANY DAMAGES OCCURRING DURING THE CONSTRUCTION OR WARRANTY PERIOD. ALL DAMAGES AS A RESULT OF THE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE INSTALLER.
8. ALL THIRD PARTY TEST FACILITIES, USED IN CONNECTION WITH THE PROJECT, SHALL BE APPROVED BY CITY OF FARMERSVILLE OR CITY OF FARMERSVILLE'S REPRESENTATIVE BEFORE THEY ARE UTILIZED.
9. ALL WATER, USED BY THE INSTALLER FOR ANY PURPOSE, SHALL BE METERED UNLESS OTHERWISE SPECIFIED. METER SHALL BE SUPPLIED BY THE CITY OF FARMERSVILLE AT COST.
10. THE INSTALLER SHALL SECURE A COPY OF AN EXECUTED PERMIT AND BE FULLY AWARE OF THE REQUIREMENTS CONTAINED HEREIN BEFORE A JOB IS STARTED. A COPY OF THE FULLY EXECUTED PERMIT SHALL BE LOCATED AT ALL TIMES ON THE JOB, UNTIL FINAL COMPLETION.
11. INSTALLER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIR OR REPLACEMENT OF ANY PAVEMENT (STREETS, ROADWAYS, OR DRIVEWAYS) AND UNDERGROUND UTILITIES DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.
12. THE CITY OF FARMERSVILLE OR THE CITY OF FARMERSVILLE'S REPRESENTATIVE SHALL HAVE THE OPTION TO WITNESS ANY TESTS DONE IN CONNECTION WITH ANY PROJECT.
13. FOR ALL APPLICABLE PROJECTS, THE INSTALLER SHALL IMPLEMENT A STORM WATER POLLUTION PREVENTION PROGRAM IN ACCORDANCE WITH THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) GENERAL PERMIT NUMBER TXR150000.

N-01

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



GENERAL NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

SPECIFICATIONS:

1. THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING CITY OF FARMERSVILLE SPECIFICATIONS. IN THE EVENT OF A CONFLICT BETWEEN THE SPECIFICATIONS BELOW AND THESE PLANS THEN THE PLANS WILL PRESIDE.
 - NUMBER 1001: EARTHWORK
 - NUMBER 1002: ROCK RIP-RAP
 - NUMBER 1003: SEEDING
 - NUMBER 1004: WATERLINE INSTALLATION
 - NUMBER 1005: STRUCTURAL EXCAVATING, BACKFILLING, AND COMPACTING
 - NUMBER 1006: CHAIN LINK FENCES AND GATES
 - NUMBER 1007: FLEXIBLE BASE
 - NUMBER 1008: SANITARY SEWER FORCE MAIN PIPES AND FITTINGS
 - NUMBER 1009: SEWER LINE CONSTRUCTION
 - NUMBER 1010: CONCRETE
 - NUMBER 1011: PRECAST CONCRETE VAULTS
 - NUMBER 1012: INSTRUMENTATION AND TELEMETRY
 - NUMBER 1013: SCADA SYSTEM
 - NUMBER 1014: STANDBY GENERATOR SET
 - NUMBER 1015: GAS CHLORINATION
 - NUMBER 1016: BUTTERFLY VALVES
 - NUMBER 1017: GATE VALVES
 - NUMBER 1018: AIR AND VACUUM RELEASE VALVES
 - NUMBER 1019: GRATING AND FLOOR PLATES
 - NUMBER 1020: MANUFACTURED CHLORINATION BUILDINGS
 - NUMBER 1021: LIQUID CHLORINATION
 - NUMBER 1022: AIR COMPRESSOR FOR HYDROPNEUMATIC
 - NUMBER 1023: RADIO READ METER SYSTEM
 - NUMBER 1024: CONFINED SPACE ENTRY PROCEDURE
 - NUMBER 1025: TRENCH EXCAVATION SAFETY SYSTEMS
 - NUMBER 1026: ASBESTOS CEMENT PIPE REMOVAL
 - NUMBER 1027: PAINTING OF WATER TANKS-HYDRO ZINC SYSTEM
 - NUMBER 1028: DISINFECTION OF WATER TANKS
2. CONSTRUCTION STANDARDS SHALL MEET THE FOLLOWING CODES:
 - INTERNATIONAL FIRE CODE, 2009
 - INTERNATIONAL BUILDING CODE, 2006
 - INTERNATIONAL PLUMBING CODE, 2006
 - NATIONAL ELECTRICAL CODE, 2008
 - INTERNATIONAL ENERGY CONSERVATION CODE, 2006
 - INTERNATIONAL FUEL GAS CODE, 2006
 - INTERNATIONAL MECHANICAL CODE, 2006
 - INTERNATIONAL EXISTING BUILDING CODE, 2006
 - INTERNATIONAL RESIDENTIAL CODE, 2006

N-02

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



SPECIFICATIONS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

PARTS AND MATERIALS:

1. ALL PARTS AND MATERIALS USED ON ANY PROJECT SHALL BE MANUFACTURED IN THE USA UNLESS OTHERWISE APPROVED BY THE CITY OF FARMERSVILLE.
2. CORPORATION STOPS, SADDLES, TAPPING SLEEVES, CURB STOPS, METER STOPS, METER COUPLINGS, & PIPE COUPLINGS SHALL BE FORD.
3. GATES VALVES SHALL BE MUELLER.
4. FIRE HYDRANTS SHALL BE MUELLER.
5. SAMPLING STATIONS SHALL BE KUPFERLE ECLIPSE 88.
6. DUCTILE IRON AND CAST IRON FITTINGS, VALVE STACK EXTENSIONS SHALL BE TYLER DOMESTIC.
7. PIPE COUPLINGS SHALL BE SMITH BLAIR.
8. ENDPOINTS SHALL BE ADVANCE METERING INFRASTRUCTURE .
9. AMI NETWORKING SHALL BE TANTALUS.

N-03

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



PART AND MATERIALS NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

WATERLINES AND FITTINGS:

1. DUCTILE IRON PIPE (DIP), MEETING AWWA C151 CLASS 50 SPECIFICATIONS, MAY BE USED WHEN ALLOWED BY THE CITY OF FARMERSVILLE OR CITY OF FARMERSVILLE'S ENGINEER. DIP SHALL BE WRAPPED WITH A POLYETHYLENE LINER.
2. WATER LINE SHALL MEET THE REQUIREMENTS SPECIFIED IN THE TABLE "CITY OF FARMERSVILLE WATER LINE SPECIFICATIONS".
3. ALL HORIZONTAL AND VERTICAL BENDS SHALL BE BLOCKED.
4. ALL VALVES AND FITTINGS SHALL BE PROPERLY RESTRAINED WITH MEGA-LUGS OR APPROVED EQUIVALENT AND RETAINER GLANDS
5. ALL WATER LINES SHALL BE SWABBED IN THE PRESENCE OF THE INSPECTOR PRIOR TO BACKFILLING.
6. WATER LINES SHALL BE INSTALLED WITH A MINIMUM OF 42 INCHES AND A MAXIMUM OF 60" OF COVER, UNLESS OTHERWISE SHOWN. USE NCTCOG B+ BURY AND EMBEDMENT DETAILS FOR STANDARD APPLICATIONS.
7. EXISTING WATER LINES SHALL REMAIN IN SERVICE DURING CONSTRUCTION OF NEW WATER LINES.
8. NO COVERING OF WATERLINES ALLOWED UNTIL INSPECTED AND APPROVED BY A CITY OF FARMERSVILLE REPRESENTATIVE.
9. NEW WATER LINES SHALL BE TESTED, DISINFECTED, AND FLUSHED IN ACCORDANCE WITH TCEQ REQUIREMENTS INCLUDING TAKING THE REQUIRED NUMBER OF BACTERIOLOGICAL SAMPLES WHICH INDICATE PROPER DISINFECTION BEFORE THE WATER LINE CAN BE PLACED INTO SERVICE.
10. WATER LINES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH NCTCOG ITEM 506.
11. ALL WATER LINE CROSSINGS OF SANITARY SEWER LINES SHALL BE AS SHOWN IN THE DETAILS AND MEET CURRENT TCEQ REQUIREMENTS.
12. DURING INSTALLATION A MINIMUM SEPARATION DISTANCE SHALL BE MAINTAINED IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTE WATER COLLECTION FACILITIES, INCLUDING MANHOLES AND SEPTIC TANK DRAIN FIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE INSTALLER SHALL IMMEDIATELY NOTIFY THE CITY OF FARMERSVILLE'S ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED SHALL MEET 290.44 OF THE TCEQ RULES.
13. WATERLINE ENCASEMENT FOR THE PURPOSES OF A GAS LINE CROSSING SHALL BE IN ACCORDANCE WITH GAS LINE SPECIFICATIONS.
14. UNLESS OTHERWISE SPECIFIED, WATER METERS SHALL NOT BE PLACED ON ROADWAY RIGHT-OF-WAY.
15. ABATEMENT AND REMEDIATION, OF ASBESTOS CONCRETE WATER LINES, SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION #1026: ASBESTOS CEMENT PIPE REMOVAL
16. THE INSTALLER SHALL SUPPLY ALL EQUIPMENT NECESSARY TO SUCCESSFULLY CONDUCT ALL WATER TESTS, INCLUDING BUT NOT LIMITED TO, TEST PORTS, SAMPLE CONTAINERS, PUMPS, EXTERNAL WATER LINE, EXTERNAL HOSES, ETC.
17. NO FLARE JOINT CONNECTIONS ARE ALLOWED.
18. ALL TAPPING SLEEVES SHALL BE STAINLESS STEEL FULL WRAP.
19. ALL TAPPING SADDLES SHALL BE DOUBLE STRAP BRONZE.
20. WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES.
21. WATER LINES AND/OR ROAD CROSSINGS INSTALLED ON PUBLIC RIGHT OF WAYS SHALL BE SUBJECT TO APPLICABLE STATE, COUNTY OR CITY REGULATIONS.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



WATERLINE AND FITTINGS NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

WATERLINES AND FITTINGS CONT.:

24. USE POLYETHYLENE WRAP FOR ALL BURIED DI PIPE AND FITTINGS.
25. ALL EXPOSED PIPING AND FITTINGS SHALL BE COVERED WITH 1-1/2" THICK MINIMUM ALUMINUM BACKED INSULATION.
26. INSTALLER SHALL FINISH GRADE TRENCH LINE TO MATCH EXISTING TERRAIN.
27. TYPICAL OFFSET FOR LONGITUDINAL LINES, OUTSIDE R.O.W., IS 7.5 FEET UNLESS OTHERWISE SHOWN.
28. TYPICAL OFFSET FOR LONGITUDINAL LINES, INSIDE R.O.W., IS 7.5 FEET UNLESS OTHERWISE SHOWN.
29. CASING SPACERS AND MOLDED RUBBER END CAPS ARE REQUIRED FOR ENCASEMENT. CASING SPACERS SHALL BE INSTALLED AT LEAST EVERY 5 FEET. CASING SPACERS ARE RACI OR APPROVED EQUIVALENT.
30. ALL PIPE DEEPER THAN 60" SHALL BE HDPE. NO FITTINGS DEEPER THAN 60" COVER.
31. INSTALLER SHALL APPLY AND PAY FOR NECESSARY BUILDING PERMITS AND COORDINATE ALL INSPECTIONS, AS NECESSARY.
32. LOCATION OF TEST STATIONS, FIRE HYDRANTS, AND METER SERVICE SHALL BE APPROVED BY CITY OF FARMERSVILLE OR CITY OF FARMERSVILLE'S REPRESENTATIVE PRIOR TO INSTALLATION.

N-505

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



WATERLINE AND FITTINGS NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

VALVES:

1. ALL VALVES ON PIPES 12" AND SMALLER SHALL BE RESILIENT SEALED WEDGE VALVES (AWWA C515).
2. ALL VALVES ON PIPES LARGER THAN 12" BUT SMALLER THAN 30" SHALL BE RESILIENT SEALED WEDGE VALVES (AWWA C515).
3. ALL VALVES ON PIPES 30" AND LARGER SHALL BE BUTTERFLY VALVES (AWWA C504).
4. ALL VALVES SHALL BE MJ RW SQUARE HEAD UNLESS OTHERWISE NOTED.

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STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



VALVE NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

FIRE HYDRANTS:

1. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH A 24"x24" SQUARE REINFORCED CONCRETE PAD.
2. FIRE HYDRANTS SHALL BE PAINTED. COLOR SELECTION AND PAINT TYPE SHALL BE IN ACCORDANCE WITH DETAILS.
3. FIRE HYDRANT STREET REFLECTORS SHALL BE INSTALLED AS APPROPRIATE WITH ASSOCIATED FIRE HYDRANT ASSEMBLIES.

N-07

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



FIRE HYDRANT NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

BORINGS:

1. ROAD CROSSINGS SHALL BE ENCASED ACCORDING TO STATE, COUNTY OR CITY REGULATIONS.
2. A ROAD BORE PERMIT MUST BE DISPLAYED AND AVAILABLE FOR INSPECTION AS REQUIRED.
3. 8" AND LARGER ROAD BORES SHALL BE DRY BORE.
4. ALL BORE PITS OR OPEN EXCAVATION SHALL BE CLOSED THE SAME DAY THEY ARE OPENED IF AT ALL POSSIBLE. ANY PIT OR EXCAVATION LEFT OPEN OVERNIGHT SHALL BE BARRICADED. TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) RULES AND REGULATIONS SHALL APPLY FOR STATE RIGHT OF WAY APPLICATIONS.
5. WATER LINES, CROSSING BENEATH THE PROPOSED ROADWAY SURFACE, SHALL MAINTAIN A MINIMUM CLEARANCE OF 18 INCHES BETWEEN THE BOTTOM OF THE PAVEMENT STRUCTURE AND THE WATER LINE/ENCASEMENT.
6. BORE PIT EDGES SHALL BE AT LEAST 1-FT HORIZONTAL PER 1-FT VERTICAL DEPTH AWAY FROM THE EXISTING ROADWAY SHOULDER'S EDGE.
7. BORINGS SHALL HAVE A MINIMUM COVER OF 2-FT VERTICALLY BELOW THE EXISTING DITCH FLOW LINE.
8. RAILROAD BORES SHALL BE DRY BORE UNLESS OTHERWISE SPECIFIED.

80-N

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS

**BORING NOTES**

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

METERS AND VAULTS:

1. NOTIFY THE CITY OF FARMERSVILLE PRIOR TO CONSTRUCTION OF METER VAULT OR BY-PASS ASSEMBLY.
2. VAULT SHALL NOT BE INSTALLED IN ANY DRIVE OR PARKING AREA & MUST BE LOCATED IN A UTILITY EASEMENT DEDICATED TO THE CITY OF FARMERSVILLE, UNLESS OTHERWISE SPECIFICIED BY THE CITY OF FARMERSVILLE.
3. ALL PIPING INSIDE THE VAULT & THE VAULT ITSELF MUST BE INSPECTED & APPROVED BY THE CITY OF FARMERSVILLE.
4. ALL PIPING INSIDE THE VAULT SHALL BE DUCTILE IRON PIPE WITH FLANGED FITTINGS.
5. THERE SHALL BE A SUPPORT UNDER EACH GATE VALVE.
6. INSTALLER SHALL PROVIDE ALL METER SETTINGS. CITY OF FARMERSVILLE SHALL PROVIDE WATER METERS ALONG WITH ANY RADIO FREQUENCY DEVICES.
7. VAULT DESIGNS SHALL BE APPROVED BY CITY OF FARMERSVILLE PRIOR TO CONSTRUCTION.

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**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



METERS AND VAULTS NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

SITE PREPARATION:

1. SITE SHALL BE GRADED TO DRAIN WITH NO PUDDLING.
2. ALL GRADED AREAS SHALL BE HYDROMULCHED SEEDED BERMUDA OR OTHER SEASONAL GRASSES IN ACCORDANCE WITH SPECIFICATION #1003: SEEDING, UPON COMPLETION OF FINAL GRADING.
3. GRASS SOD CONSISTENT WITH SURROUNDING EXISTING GRASS SHALL BE INSTALLED IN GRADED AREAS ADJACENT TO EXISTING ESTABLISHED GRASS PART OF AN EXISTING COMMERCIAL OR RESIDENTIAL STRUCTURE.
4. EXCAVATION MATERIAL MAY BE SPREAD OUT ON SITE AS DIRECTED BY THE CITY OF FARMERSVILLE OR ENGINEER.
5. PROPER EROSION CONTROL MEASURES SHALL CONSIST OF THE INSTALLATION, MAINTENANCE, AND REMOVAL OF THE SILT FENCING, STRAW BALES, INLET SEDIMENT BARRIERS, ETC., INCLUDING ANY SEEDING (CELLULOSE FIBER MULCH) OF DISTURBED GRASS; SUCH MEASURES SHALL REMAIN IN PLACE AND WATERED SUFFICIENTLY UNTIL 70% RE-VEGETATION OF AN DISTURBED AREAS HAS BEEN ESTABLISHED.
6. FOR TXDOT PROJECTS, ANY EXCAVATION IN CLOSE PROXIMITY TO THE CURB AND GUTTER SHALL NOT BE PERFORMED UNTIL THE TEXAS DEPARTMENT OF TRANSPORTATION MAINTENANCE SUPERVISOR HAS BEEN CONTACTED TO DETERMINE IF SHORING IS REQUIRED.
7. FOR TXDOT PROJECTS, WHERE EXCAVATION OR BACKFILLING OPERATIONS DISTURB SOIL OR SODDING, SUCH AREAS SHALL BE RESTORED TO THE ORIGINAL STATE, IF NOT A BETTER CONDITION. AFTER BACK FILLING, MULCH SODDING, BLOCK SODDING, OR THE ESTABLISHMENT OF VEGETATION THROUGH SEEDING SHALL OCCUR ON ALL SLOPES OF 3 TO 1 OR FLATTER. BROADCAST SEEDING SHOULD BE LIMITED TO FLAT AREAS, WHICH HAVE CLAY OR TIGHT SOIL TEXTURE ONLY. THIS APPLICATION METHOD IS NOT RECOMMENDED FOR ANY SLOPED AREA OR ANY AREA WHOSE PREDOMINANT SOIL TEXTURE IS LOOSE OR SANDY. WHERE SLOPES ARE GREATER THAN 3 TO 1, BLOCK SODDING OR USE OF A SOIL RETENTION BLANKET IS RECOMMENDED. IF A SOIL RETENTION BLANKET IS USED, THE APPLICATION OF SEED UNDER SPECIFICATION ITEM 164 OF THE TEXAS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES BY THE BROADCAST METHOD IS RECOMMENDED.
8. INSTALLER SHALL BE RESPONSIBLE FOR PROVIDING ALL ASSOCIATED FORMS, PERMITS, MATERIALS, AND REVIEWS ASSOCIATED WITH A STORM WATER POLLUTION PREVENTION PROGRAM (SW3P) THAT IS COMPLIANT WITH THE LOCAL CITY, COUNTY AND/OR STATE REQUIREMENTS.

N-10

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS

**SITE PREPARATION NOTES**

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

ELEVATED WATER TANK RECOAT:

1. RECOAT INTERIOR AND EXTERIOR TANK SURFACES IN ACCORDANCE WITH SPECIFICATION #1027: PAINTING OF WATER TANKS - HYDRO ZINC SYSTEM, FOR AN EXISTING TANK RECOAT PROJECT - WET NEAR WHITE, DRY INTERIOR AND EXTERIOR COMMERCIAL BLAST. COLOR AND LOGO DESIGN SELECTED BY CITY OF FARMERSVILLE REPRESENTATIVE. LOGO ON 2 SIDES OF THE TANK, LIKE THE CURRENT DESIGN.
2. INSTALLER SHALL DISINFECT THE TANK PRIOR TO PLACING IN SERVICE IN ACCORDANCE WITH SPECIFICATION #1028: DISINFECTION OF WATER TANKS.
3. PAINT CONTAINMENT PRACTICES FOR ENVIRONMENTAL AND PROPERTY CONCERNS SHALL BE AT THE DISCRETION OF THE PAINT INSTALLER.

N-11

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



ELEVATED WATER TANK RECOAT NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

ELECTRICAL:

1. ABOVE GROUND CONDUIT SHALL BE GALVANIZED RIGID.
2. BELOW GROUND CONDUIT SHALL BE WATER TIGHT SCHEDULE 80 PVC GLUED WITH PULL STRING.

N-12

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



ELECTRICAL NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

TRAFFIC CONTROL:

1. TRAFFIC CONTROL SIGNAGE, BARRICADES, ETC., PER THE LATEST EDITION TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL REMAIN IN PLACE DURING CONSTRUCTION.
2. PROPER TRAFFIC CONTROL MEASURES SHALL BE MAINTAINED FOR DURATION OF CONSTRUCTION AS PRESCRIBED BY THE TEXAS DEPARTMENT OF TRANSPORTATION PERSONNEL. (REF. TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES) THE INSTALLER OR CITY OF FARMERSVILLE SHALL PROVIDE BARRICADES, WARNING SIGNS, AND FLAGGERS WHEN APPLICABLE.
3. OPERATIONS ALONG HIGHWAYS SHALL BE PERFORMED IN SUCH MANNER THAT ALL EXCAVATED MATERIAL, ALL OPERATING EQUIPMENT, AS WELL AS PARKED VEHICLES, ARE KEPT OFF THE PAVEMENT AT ALL TIMES. ANY VEHICLES REQUIRED TO REMAIN ON THE ROADWAY, INCLUDING SHOULDERS, ARE TO BE PROPERLY BARRICADED ACCORDING TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. CONSTRUCTION OPERATIONS SHALL BE SUSPENDED DURING WET CONDITIONS, WHEN IN THE CITY, COUNTY, OR STATE'S OPINION, DAMAGE TO THE RIGHT-OF-WAY COULD OCCUR OR WHEN SAFETY TO THE TRAVELING PUBLIC IS AN ISSUE.

N-13

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



TRAFFIC CONTROL NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

PAVING NOTES:

1. CONCRETE FOR ALL STREETS SHALL BE IN ACCORDANCE WITH NCTCOG CLASS "C" CONCRETE (3,600 P.S.I. COMPRESSIVE @ 28 DAYS).
2. REINFORCING STEEL SHALL BE DEFORMED BARS NO. 3 ON 18 INCH CENTERS OR NO. 4 BARS ON 24 INCH CENTERS. REINFORCING SHALL BE IN BOTH DIRECTIONS ON CENTER. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM 615, 616 AND 617.
3. ALL REINFORCING STEEL SHALL BE TIED (100%). REINFORCING STEEL SHALL BE SET ON PLASTIC CHAIRS. BAR LAPS BE MINIMUM 30 DIAMETERS.
4. EXPANSION JOINTS SHALL BE SPACED EVERY 200 FEET AND AT ALL INTERSECTIONS. ALLEYS SHALL HAVE A MINIMUM OF TWO EXPANSION JOINTS.
5. SAWED TRANSVERSE DUMMY JOINTS SHALL BE SPACED EVERY 15 OR 1.25 TIMES LONGITUDINAL BUTT JOINT SPACING WHICHEVER IS LESS. SAWING SHALL OCCUR WITHIN 5 TO 12 HOURS AFTER THE POUR INCLUDING SEALING. OTHERWISE THE SECTION SHALL BE REMOVED AND LONGITUDINAL BUTT JOINT CONSTRUCTED.
6. SUBGRADE UNDER PAVEMENTS SHALL BE A MINIMUM OF 7 INCHES OF LIME TREATED SUBGRADE. ONLY HYDRATED LIME SHALL BE UTILIZED. OPTIMUM LIME SHALL BE APPLIED. OPTIMUM LIME CONTENT SHALL BE DETERMINED DURING THE EXCAVATION BY THE USE OF A LIME SERIES TEST. LIME SERIES TEST SHALL BE TAKEN ALONG THE EXCAVATION AT ALL CHANGES IN SOIL AND A MINIMUM OF 300 FEET. LIME SERIES SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY OF FARMERSVILLE.
7. LIME TREATED SUBGRADE SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D 698. MOISTURE CONTENT SHALL BE WITHIN -2 TO +4 OF OPTIMUM. DENSITY TEST RESULTS SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY OF FARMERSVILLE. ALL RESULTS SHALL BE PROVIDED TO THE CITY OF FARMERSVILLE.
8. LIME TRIMMINGS ARE NOT ACCEPTABLE FOR ANY USE.
9. ALL FILL SHALL BE COMPACTED BY MECHANICAL METHODS. MAXIMUM LOOSE LIFT FOR COMPACTION SHALL BE 8 INCHES. ALL LIFTS SHALL BE TESTED FOR DENSITY BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY OF FARMERSVILLE. DENSITY REQUIREMENT SHALL BE AS SHOWN ON THE PLANS FOR THE TYPE OF MATERIAL CALLED FOR IN THE PLANS.
10. ALL DISTURBED AREAS OF ROADWAY WORK SHALL HAVE GRASS ESTABLISHED IMMEDIATELY. GRASS SHALL MEET THE REQUIREMENTS OF ITEM 3.8, 3.9, 3.10 & 3.11 OF NCTCOG.
11. ALL AREAS TO BE EXCAVATED OR FILLED SHALL HAVE EROSION CONTROL PLACED PRIOR TO COMMENCING EARTHWORK. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE PROJECT IN ACCORDANCE WITH NCTCOG ITEM 3.12.
12. ALL SIDEWALKS SHALL INCLUDE BARRIER FREE RAMPS AT INTERSECTING STREETS, ALLEYS, DRIVEWAYS, ETC. BARRIER FREE RAMPS SHALL MEET CURRENT ADA REQUIREMENTS AND BE APPROVED BY THE TEXAS LICENSING BOARD.
13. SIDEWALKS SHALL BE DOWELED INTO PAVEMENT WHERE IT ABUTS DRIVEWAYS. EXPANSION JOINT MATERIAL SHALL BE USED AT THESE LOCATIONS.
14. NO VEHICLES SHALL BE PERMITTED ON CONCRETE PAVEMENT WITHOUT APPROVAL FROM THE CITY OF FARMERSVILLE. THE CITY OF FARMERSVILLE WILL MAKE DETERMINATION BASED ON CONCRETE BREAK REPORT.
15. CONCRETE MIX DESIGN SHALL BE SUBMITTED FOR REVIEW.
16. ALL PAVING FOR PARKING SHALL BE MIN. 5" THICK 3,600 P.S.I. CONCRETE SUBJECT TO CITY OF FARMERSVILLE ENGINEER APPROVAL.
17. ALL AREAS NOT UNDER PAVING SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 92 PERCENT OF THE MAXIMUM DENSITY.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



PAVING NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

LINED CHANNELS

1. CONSTRUCTION JOINT SHOWN IN DETAILS FOR CONVENIENCE ONLY, MONOLITHIC CONSTRUCTION MAY BE USED.
2. ALL VISIBLE SURFACES SHALL BE A TROWEL FINISH.
3. ALL REINFORCING STEEL SHALL BE 3/8" DIAMETER AND SPACED 12" CENTER TO CENTER BOTH WAYS UNLESS OTHERWISE SPECIFIED.
4. IF WOOD FORMS ARE USED WITH CONSTRUCTION JOINT, THEY SHALL BE TWO, 2"x4", AND SHALL NOT BE REMOVED UNTIL CONCRETE ON SLOPES IS READY.
5. ALL CONCRETE IN LINED CHANNEL SHALL BE NCTCOG CLASS "A" (MINIMUM 3,000 P.S.I.) CONCRETE.
6. FLAT BOTTOM TO BE CONSTRUCTED WHEN CHANNEL WIDTH IS LESS THAN 12 FOOT.
7. 3/4" CHAMFER ON ALL CONCRETE CORNERS.

N-15

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



LINED CHANNEL NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

STORM WATER

1. THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.
2. A MINIMUM OF 6 INCHES OF 1" DIAMETER (MAXIMUM) ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BEDDING TO FINAL GRADE OR IN LIEU OF THIS, AT LEAST 6 INCHES OF 2-SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE. CEMENT STABILIZED-SAND SHALL BE ALLOWED TO SET BY KEEPING HOLE PUMPED DRY.
3. AFTER PIPE HAS BEEN LAID ON PROPER BEDDING, BACKFILLING TO COMMENCE WITH 8" MAXIMUM LOOSE LIFTS MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR UNDER ROADWAY OR 12" MAXIMUM LOOSE LIFT BEHIND CURB. MAXIMUM SIZE ROCK IN BACKFILL SHALL NOT EXCEED 4 INCHES IN DIAMETER.
4. PRECAST INLETS SHALL BE APPROVED BY THE CITY OF FARMERSVILLE.
5. CONCRETE SHALL BE MINIMUM 4,200 P.S.I.
6. LOCKING DEVICE IS REQUIRED ON ALL STORM WATER LIDS.
7. CONCRETE CAST-IN-PLACE INLETS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,200 P.S.I. @ 28 DAYS.
8. STORM DRAIN TILE SHALL BE PLACED IN THE CENTER OF THE INLET, 2 INCHES FROM THE EDGE OF OPENING AS SHOWN IN THE DRAWING. USE PL-200 CONSTRUCTION ADHESIVE FOR APPLICATION. TILES CAN BE ORDERED FROM: CENTERLINE SUPPLY, INC., 425 JESSE STREET, GRAND PRAIRIE, TEXAS 75061-1141. 1-800-321-1731, METRO: 214-647-8300, FAX: 214-641-1221.
9. EXISTING STORM WATER PIPE AND/ OR LATERALS SHALL BE LOCATED PRIOR TO SETTING OF CONSTRUCTING INLET BOXES. IF ADJUSTMENT IN GRADE OF LATERAL IS REQUIRED, A REVISED DESIGN BY THE ENGINEER OF RECORD SHALL BE SUBMITTED TO THE CITY OF FARMERSVILLE FOR APPROVAL.
10. REINFORCED CONCRETE PIPE CLASS III IS APPROVED WITHIN THE CITY OF FARMERSVILLE.

N-16

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



STORM WATER NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

PROPERTY AND BUILDINGS:

1. LOCKS FOR GATES AND BUILDINGS SHALL BE INCLUDED. LOCK TYPE SHALL BE SPECIFIED BY CITY OF FARMERSVILLE. LOCKS SHALL BE KEYED IN ACCORDANCE WITH CITY OF FARMERSVILLE SPECIFICATIONS.
2. NON-VEHICULAR CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. @ 28 DAYS.
3. REINFORCEMENT - ASTM A-36.
4. MASONRY - COMPRESSIVE STRENGTH SHALL BE PRESCRIBED IN ITEM 2.3.6 SPECIAL PROVISIONS.
5. WIND LOAD FOR DESIGN - 20 P.S.F.
6. PIER BEARING STRESSES - SEE BRICK SCREENING WALL NOTES.
7. MORTAR - TYPE "S".
8. PROVIDE CONTROL JOINTS AT 50 FEET, MINIMUM.
9. PROVIDE EXPANSION JOINTS AT 200 FEET CENTER MAXIMUM.
10. PROVIDE PIER WITH MINIMUM 9 FOOT W/ 24 INCH DIAMETER BELL IN CLAY OR OTHER MATERIAL EXCEPT BLUE SHALE, 6 FOOT MINIMUM WITH 3 FOOT MINIMUM INTO BLUE SHALE.
11. ALL EXPOSED CONCRETE SHALL BE CLASS 2 RUBBED FINISHED SURFACE.
12. SIDEWALKS ADJACENT TO WALLS MUST BE 5-FOOT MINIMUM WIDTH FROM ALL PORTIONS OF THE WALL (INCLUDING PILASTERS, COLUMNS, ETC.).
13. IF WROUGHT IRON FENCING IS TO BE UTILIZED ON REQUIRED SCREENING, ALL WROUGHT IRON MUST BE SOLID STOCK, NO TUBULAR STEEL WILL BE ALLOWED.

N-17

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



PROPERTY AND BUILDING NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

WASTE WATER:

1. MANHOLES SHALL BE PRECAST. ALL MANHOLES SHALL BE WATER TIGHT. PRECAST MANHOLES SHALL HAVE JOINTS SEALED WITH NON-SHRINKABLE GROUT. ALL RING AND COVERS SHALL INCLUDE AN INTERNAL CHIMNEY SEAL.
2. ALL PIPE OPENINGS IN MANHOLES SHALL INCLUDE COUPLINGS WITH "O" RING RUBBER GASKETS.
3. STUBOUTS OUT OF MANHOLES SHALL BE FITTED WITH A STOPPER AND CAP. STUBOUTS SHALL BE A MINIMUM OF 5 FEET FROM MANHOLE AND BE SUPPORTED BY A CONCRETE CRADLE.
4. MANHOLES SHALL BE VENTED IN ACCORDANCE WITH TCEQ REQUIREMENTS.
5. ALL SANITARY SEWER PIPE SHALL BE TESTED (NCTCOG ITEM 6.7.2) AFTER CONSTRUCTION. TESTING SHALL INCLUDE PRESSURE TESTING, MANDREL TEST (TNRCC REQUIRED) AND COLOR TV INSPECTION. COLOR TV INSPECTION SHALL BE COMPLETED IN PRESENCE OF CITY OF FARMERSVILLE REPRESENTATIVE AND THE ORIGINAL DATA SHALL BE GIVEN TO THE CITY OF FARMERSVILLE AT THE COMPLETION OF THE INSPECTION.
6. MANHOLES SHALL BE VACUUM TESTED IN THE PRESENCE OF THE CITY OF FARMERSVILLE REPRESENTATIVE.
7. NO END-OF-LINE CLEANOUTS WILL BE ALLOWED. TERMINATE SEWER LINES WITH A MANHOLE.

N-18

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



WASTE WATER NOTES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

CITY OF FARMERSVILLE WATER LINE SPECIFICATIONS

APPLICATION	MATERIAL	DIAMETER	STANDARD	DIMENSION RATIO	PRESSURE RATING	NOTES
Standard Carrier Pipe	PVC	4" to 12"	AWWA Standard C900	DR 18	150 psi	
Standard Carrier Pipe	PVC	14" to 48"	AWWA Standard C905	DR 25	165 psi	
Restrained Joint Carrier Pipe	PVC	4" to 12"	AWWA Standard C900	DR 18	150 psi	Certa-Lok or Eagle Loc 900
Restrained Joint Carrier Pipe	PVC	16"	AWWA Standard C905	DR 25	165 psi	Certa-Lok
Restrained Joint Carrier Pipe, UV Protected and High Impact Strength	Yelomine	4" to 12"	AWWA Standard C900	DR 18	150 psi	Certa-Lok, permanent use joints
State Roadway Crossing Encasement, Open Cut	Steel	4" to 24"	ASTM A252 Grade 2, Wall Thickness Schedule 40 or 0.375" whichever is less	N/A	N/A	
City/County Roadway Crossing Encasement, Open Cut	PVC	14" to 48"	AWWA Standard C905	DR 25	165 psi	
City/County Roadway Crossing Encasement, Open Cut	PVC	4" to 12"	AWWA Standard C900	DR 25	150 psi	
City/County Roadway Crossing Encasement, Open Cut	PVC	2" to 3.5"	ASTM D 2241 I.P.S. - O.D.	DR 21 Schedule 40	160 psi	
State Roadway Bore Encasement	Steel	4" to 24"	ASTM A252 Grade 2, Wall Thickness Schedule 40 or 0.375" whichever is less	N/A	N/A	Dry bore >= 8", Minimum wall thickness is 0.25 inch
State Roadway Bore Encasement	Steel	2" to 3"	ASTM A 53 Grade A Schedule 40 Black Pipe with Merchant Coupling (Threaded Ends)	N/A	N/A	
City/County Roadway Bore Encasement	HDPE	4" to 63"	AWWA Standard C906 I.P.S.	DR 11	160 psi	Dry bore >= 8"
City/County Roadway Bore Encasement	PVC	2" to 3"	ASTM D 2241 I.P.S. - O.D.	DR 21 Schedule 40	160 psi	
Railroad Crossing Encasement	Steel	4" to 24"	Use railroad specifications	N/A	N/A	
Creek Crossing Encasement	HDPE	4" to 63"	AWWA Standard C906 I.P.S.	DR 11	160 psi	
Service Line	PE	1" to 3"	AWWA Standard C901	SDR 9	200 psi	

NOTE:

- CARRIER PIPE SHALL BE JOINT RESTRAINED IF ENCASED.

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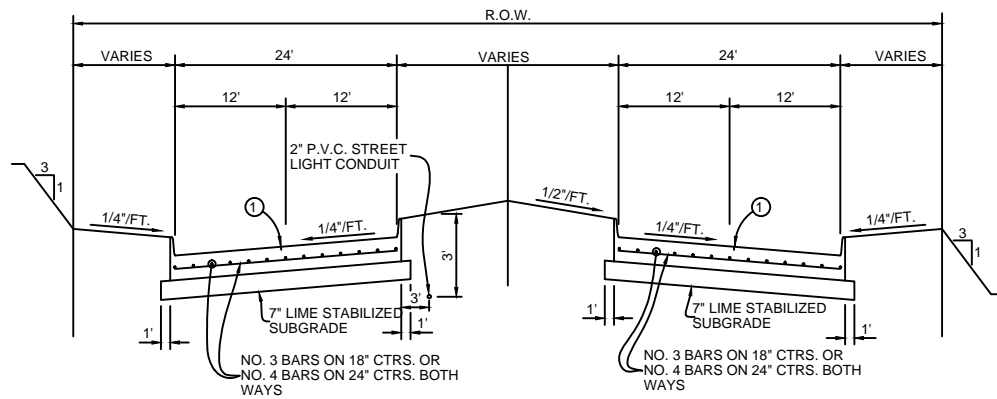
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



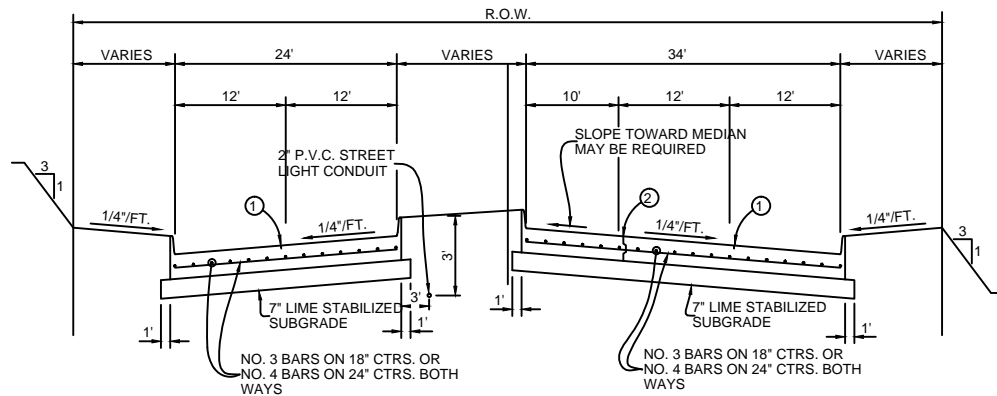
CITY WATERLINE SPECIFICATIONS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

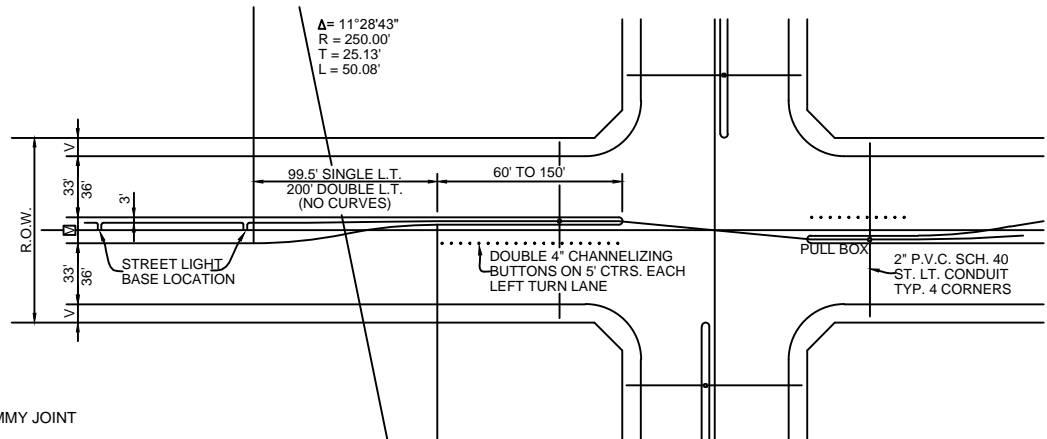


REGULAR SECTION



LEFT TURN SECTION

NOTE:
FOR RETROFIT TURN LANES AND MEDIAN OPENINGS. TWO ADDITIONAL INCHES OF CONCRETE CAN BE PLACED IN LIEU OF LIME STABILIZATION.



LEGEND

1. SAWED LONGITUDINAL -DUMMY JOINT
2. CONSTRUCTION JOINT (FULL WIDTH A. PVMT. IS ALLOWED WHERE APPROVED BY CITY).

LEFT TURN PLAN

SECTIONS SHALL HAVE MINIMUM PAVEMENT THICKNESS OF 8 INCHES.

NOTE:
SIDEWALKS SHALL BE INCLUDED IN ALL STREET RIGHT-OF-WAYS. LOCATION AS DETERMINED BY THE CITY.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



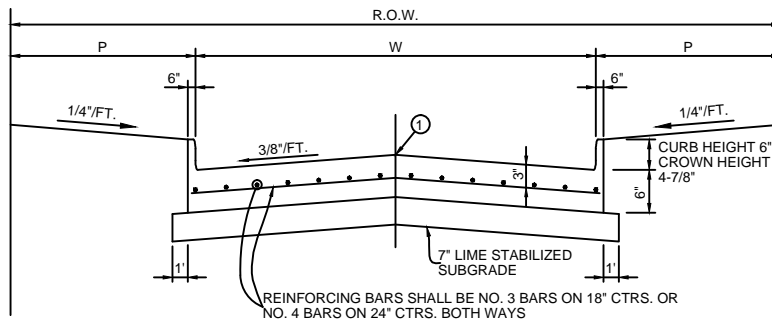
PAVING SECTIONS

DESIGNED: E.W.D.

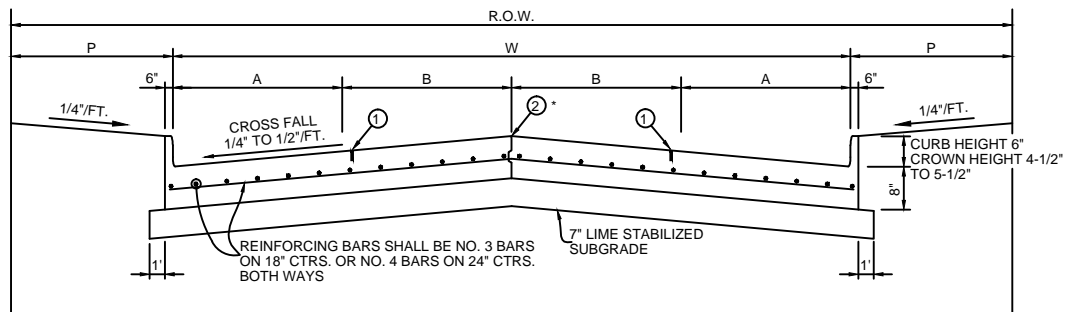
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REVISION: N/C



REGULAR SECTION



REGULAR SECTION

LEGEND

- ① SAWED LONGITUDINAL -DUMMY JOINT
 - A. CONSTRUCTION JOINT (FULL WIDTH A. PVMT. IS ALLOWED WHERE APPROVED BY CITY).
- ② B. DELETE IT WHEN PAVING IS 25 FT. WIDTH TO BE WIDENED IN FUTURE. INSTALL CURB IF PAVING IS LESS THAN FULL WIDTH OF 33'-36'.

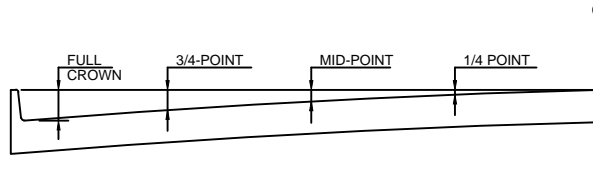
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



PAVING SECTIONS

DESIGNED: E.W.D.
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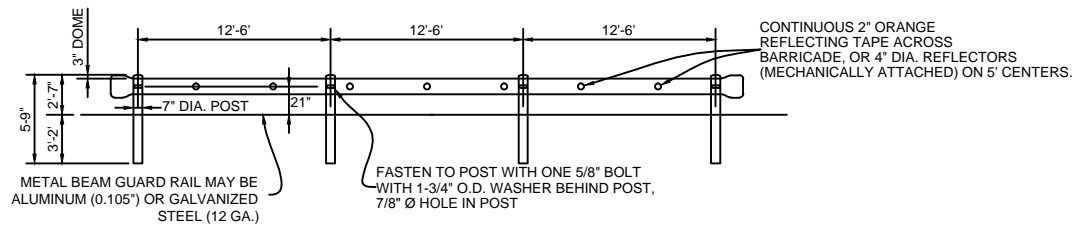
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ROADWAY WIDTH (W)	TOTAL CROWN HEIGHT	3/4 POINT	MID-POINT	1/4 POINT
26'	4"	2-1/4"	1"	1/4"
36'	6"	3-3/8"	1-1/2"	3/8"
44'	6"	3-3/8"	1-1/2"	3/8"

TABLE OF CROWN HEIGHTS AND ORDINATES
FOR VARIOUS PARABOLIC SECTIONS

SLIP-FORM PAVEMENT MUST MEET CROWN GRADES AT GUTTERS, AT MID-POINTS & CL
PARABOLIC ROADS ONLY TO BE CONSTRUCTED WITH SLIP FORM PAVERS
APPROVED ROADWAY WIDTHS: 31, 32, 38, 48, 72



NON CONSTRUCTION BARRICADES (PERMANENT BARRICADES) SHALL CONSIST OF TxDOT GF(TD)-87 METAL BEAM GUARD FENCE WITH TERMINAL CONNECTOR SECTIONS AT EACH END. PERMANENT BARRICADES SHALL BE MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH TxDOT DETAILS. BARRICADE SHALL EXTEND FROM OUTSIDE CURB TO OUTSIDE CURB.

TYPICAL PERMANENT BARRICADE DETAIL

ST-04

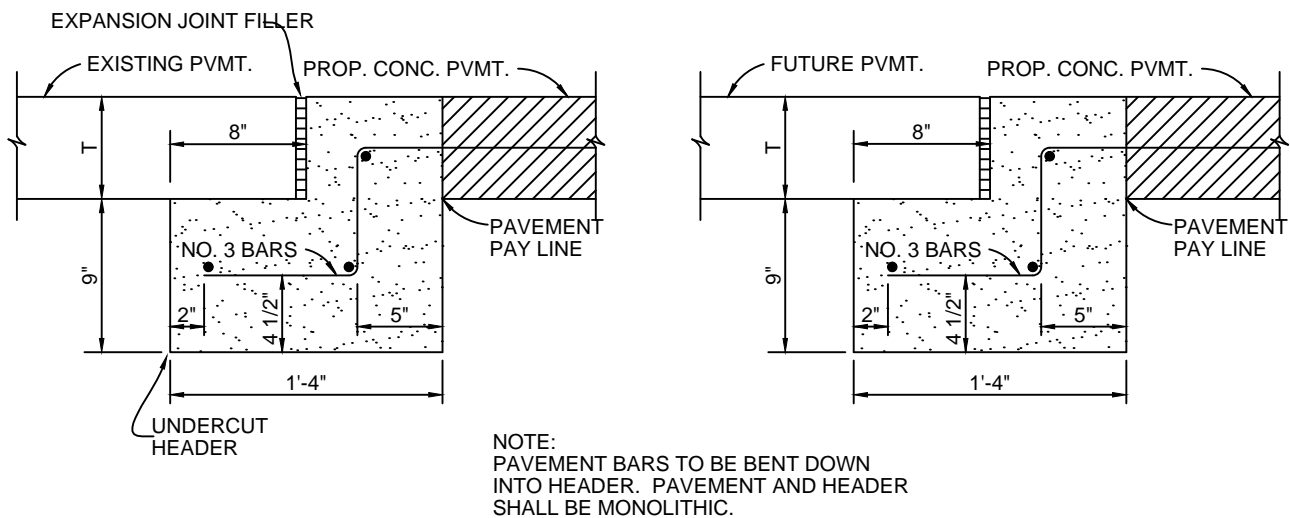
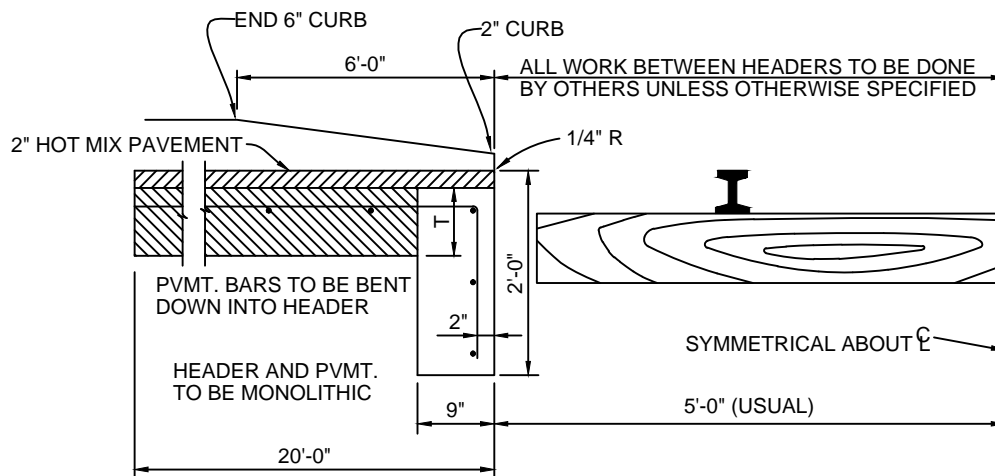
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS

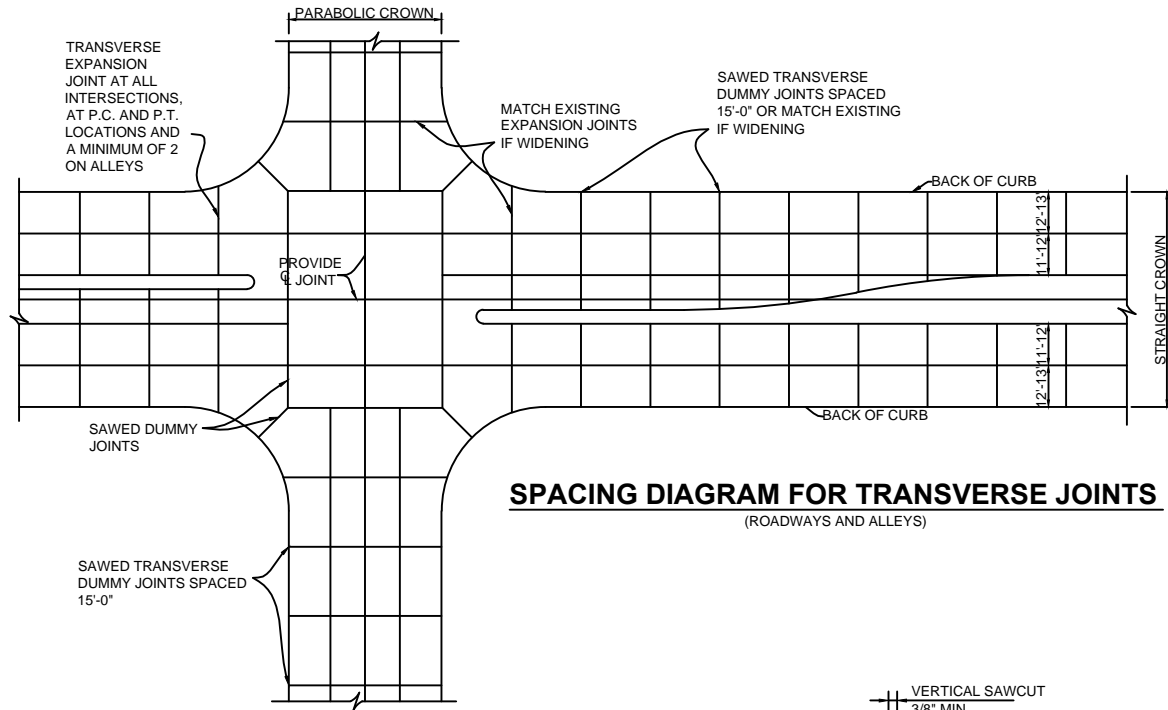


PERMANENT BARRICADE

DESIGNED: E.W.D.
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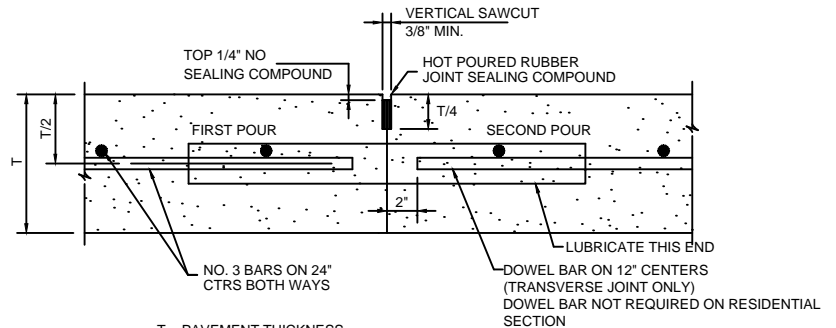
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SPACING DIAGRAM FOR TRANSVERSE JOINTS

(ROADWAYS AND ALLEYS)

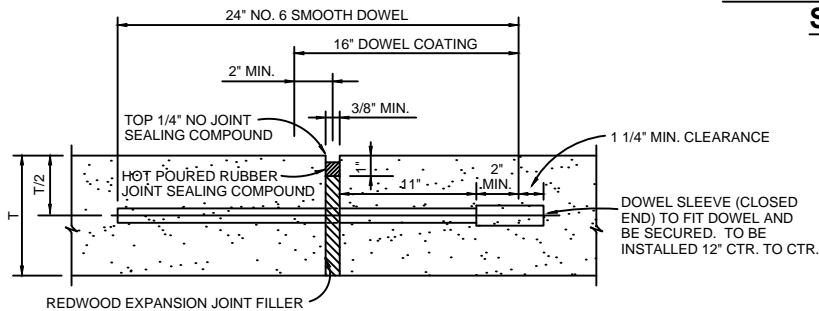


T = PAVEMENT THICKNESS

NOTE:

1. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE.

TRANSVERSE AND LONGITUDINAL SAWED DUMMY JOINT



TRANSVERSE EXPANSION JOINT NOTES:

1. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE.
2. TRANSVERSE EXPANSION JOINTS SHALL BE LOCATED AT ALL INTERSECTIONS.

TRANSVERSE EXPANSION JOINT

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



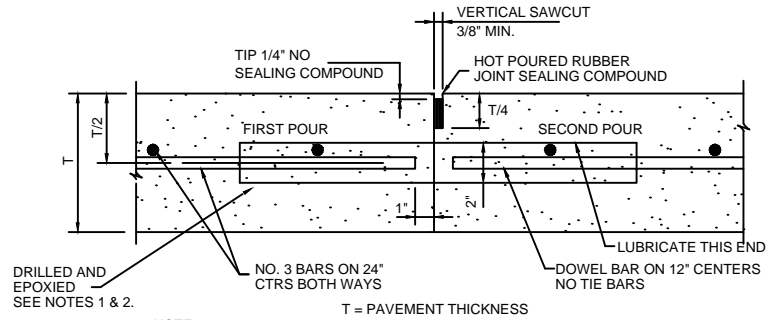
PAVING JOINTS

DESIGNED: E.W.D.

DRAWN: M.K.W. / DBI

DATE: 07-05-16

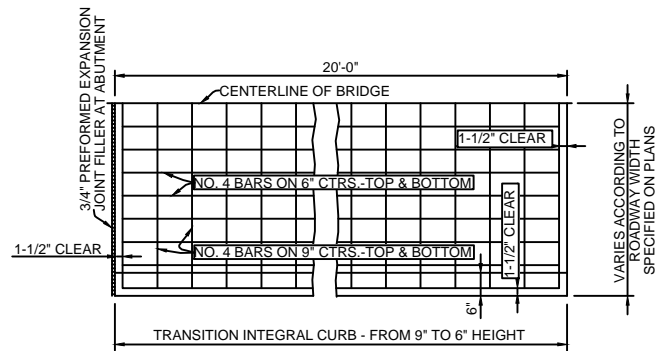
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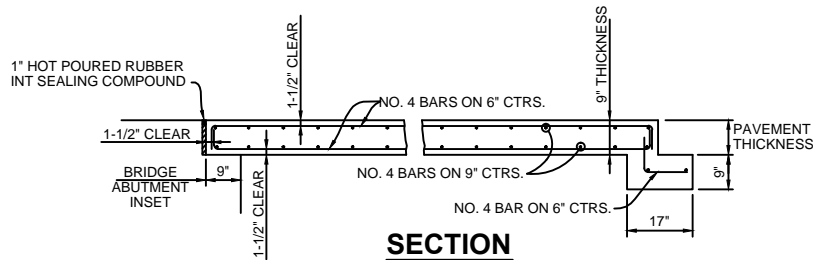
NOTE:

1. T-8" AND GREATER NO. 6 BAR, T-6" AND LESS NO. 5 BAR
2. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG. HAND DRILLING NOT ACCEPTABLE AND PUSHING DOWEL BAR INTO GREEN CONCRETE IS NOT ACCEPTABLE. DAMAGE TO EXISTING PAVEMENT SHALL BE REMOVED BY CONTRACTOR AND JOINT CONSTRUCTED AT CONTRACTORS EXPENSE.
3. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE.

**TRANSVERSE AND LONGITUDINAL
CONSTRUCTION JOINT**



PLAN



SECTION

BRIDGE APPROACH SLAB

ST-07

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



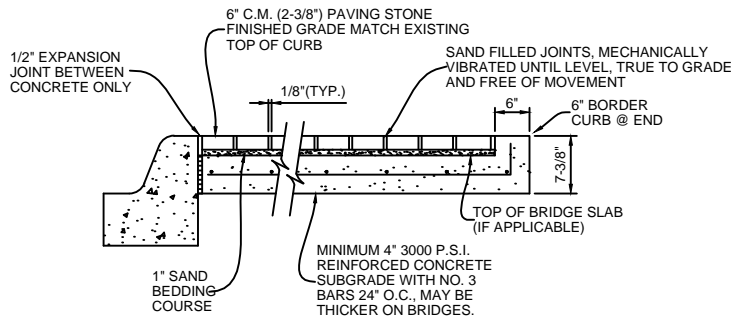
PAVING JOINTS

DESIGNED: E.W.D.

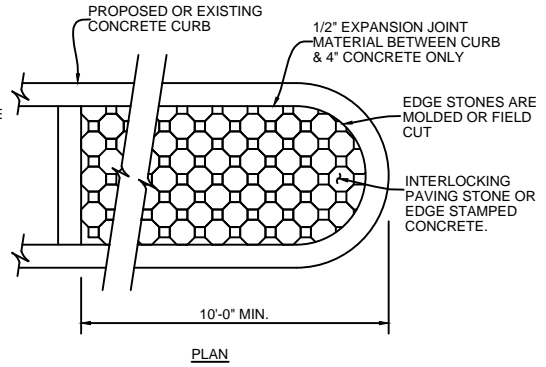
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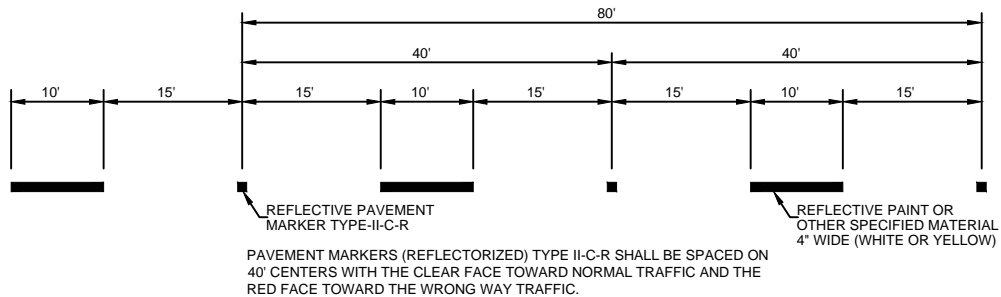
TYPICAL CROSS SECTION



MEDIAN PAVING SHALL EXTEND TO A POINT WHERE MEDIAN IS 6' WIDE. IF MEDIAN IS 6' WIDE, SHALL EXTEND 15' FROM NOSE. FOR MEDIANS WIDER THAN 6', PAVING SHALL EXTEND 10' FROM NOSE. ALL DISTANCES ARE MINIMUM.

STAMPED CONCRETE OR INTERLOCKING PAVING STONE

COLOR AND STYLE TO BE SELECTED BY CITY



LANE LINE PAVEMENT MARKING

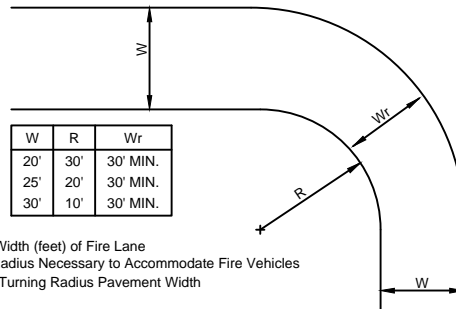
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



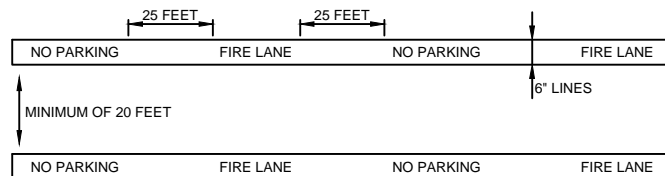
PAVING DETAILS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



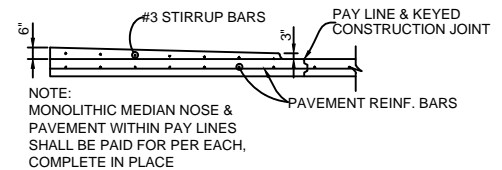
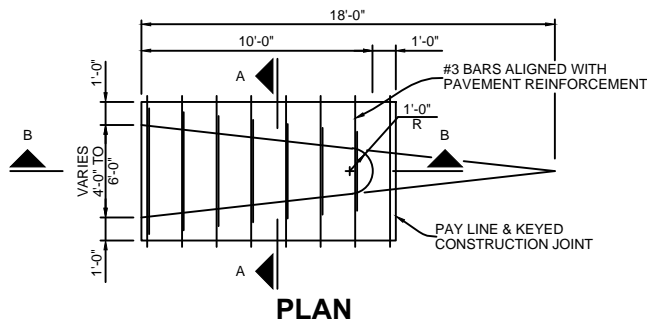
FIRE LANE DESIGN



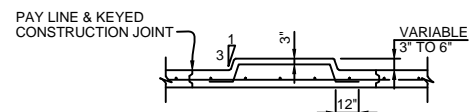
NOTE:

1. THE FIRE CHIEF IS AUTHORIZED TO DESIGNATE FIRE LANES.
2. FIRE LANES SHALL BE MARKED BY SIX INCH (6") WIDE LINES USING RED TRAFFIC PAINT, WITH THE WORDING "NO PARKING" AND "FIRE LANE" PAINTED ON THE LINES AT INTERVALS OF TWENTY-FIVE (25'). THE LETTERING WILL BE FOUR INCHES (4") HIGH WITH A ONE INCH (1") WIDE STROKE PAINTED WITH WHITE TRAFFIC PAINT.
3. FIRE LANES SHALL BE A MINIMUM OF TWENTY-FEET (20') IN WIDTH.
4. ANY DEAD-END FIRE LANE MORE THAN ONE HUNDRED FIFTY-FEET (150') LONG SHALL PROVIDE A TURN AROUND OF ONE HUNDRED FEET (100') IN DIAMETER AT THE CLOSED END.

FIRE LANE MARKING



SECTION B-B

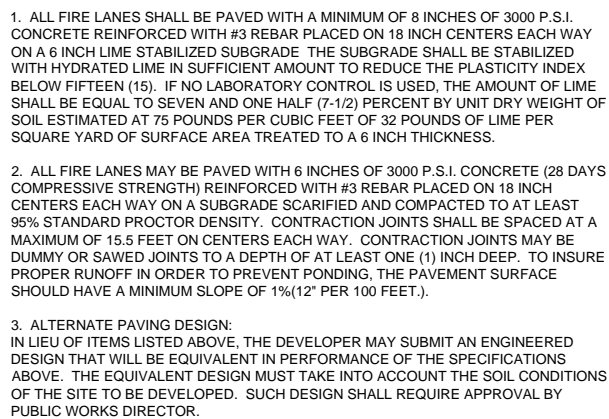


SECTION A-A

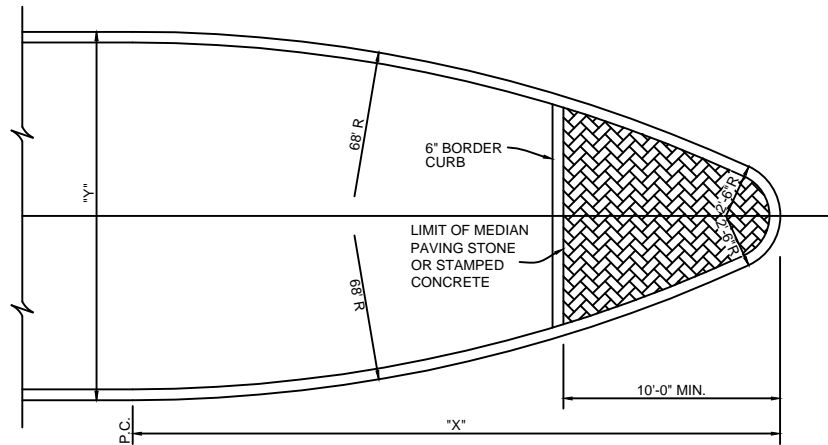
MONOLITHIC MEDIAN NOSE

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS





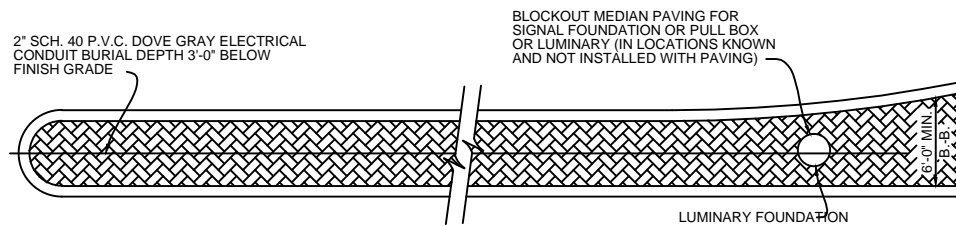
FIRE LANE PAVING & JOINT DETAIL



DETAIL OF NOSE FOR MEDIAN ISLAND

DIMENSIONS OF MEDIAN NOSE

X = 13.90'	Y = 7.0'	X = 26.36'	Y = 14.0'
X = 16.44'	Y = 8.0'	X = 29.89'	Y = 17.0'
X = 18.06'	Y = 9.0'	X = 32.93'	Y = 20.0'
X = 20.42'	Y = 10.0'	X = 36.47'	Y = 24.0'



DETAIL OF MEDIAN PAVEMENT

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS

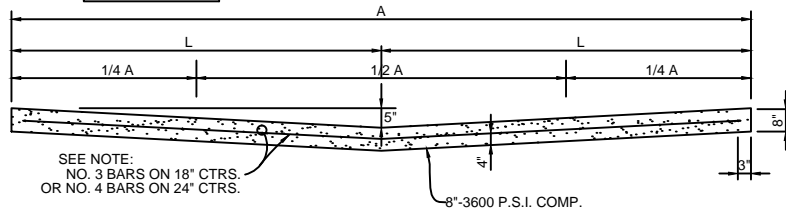


PAVING DETAILS

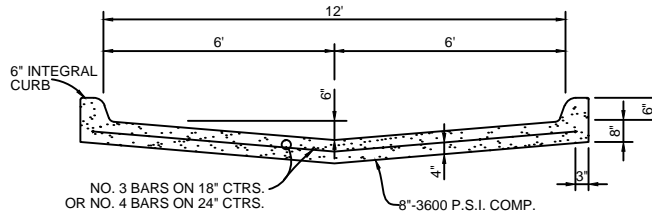
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

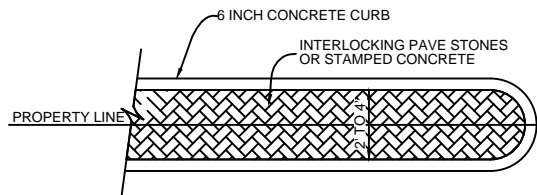
ALLEY WIDTH (A)	HALF WIDTH (L)
12'	6'
16'	8'
20'	10'



STANDARD 12, 16' & 20' ALLEY SECTION



STANDARD ALLEY SECTION WITH CURBS



MEDIAN AT DRIVEWAYS SPLIT BY PROPERTY LINE

NOTE:

1. CONTRACTOR SHALL PROVIDE No. 3 BARS ON 12" CTRS OR No. 4 BARS ON 18" CENTERS FOR OUTSIDE 1/4 ALLEY WIDTH AND PROVIDE No. 3 BARS ON 18" CTRS OR No. 4 BARS ON 24" CENTERS FOR MIDDLE 1/2 ALLEY WIDTH.
2. CONTRACTOR MAY AT HIS OPTION USE No. 3 BARS ON 12" CTRS OR No. 4 BARS ON 18" CTRS FOR ENTIRE ALLEY WIDTH AT NO ADDITIONAL COST TO THE CITY.

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**

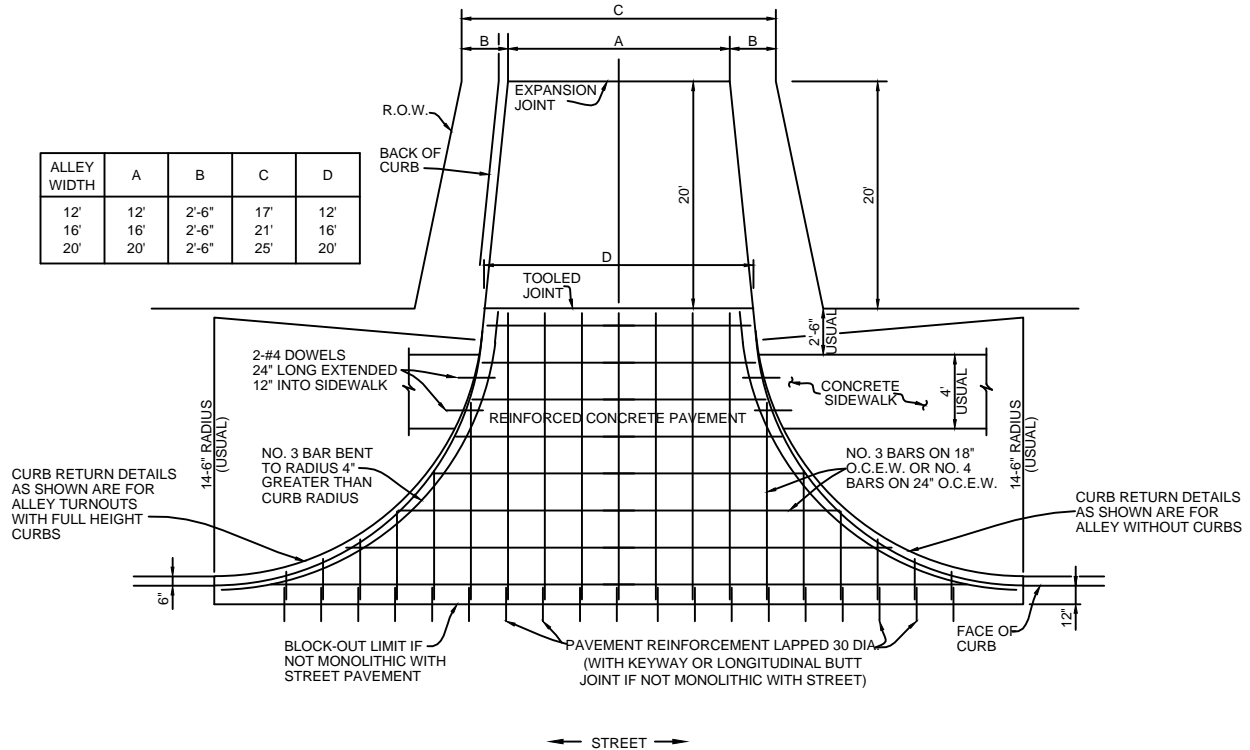


PAVING ALLEY / DETAILS

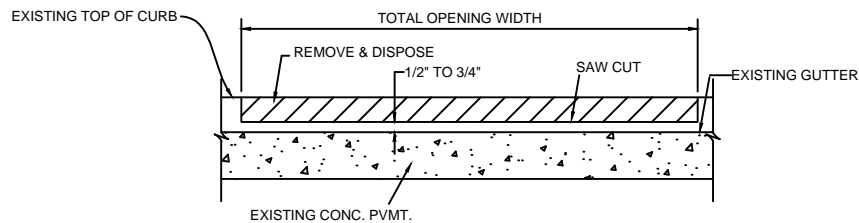
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

ALLEY WIDTH	A	B	C	D
12'	12'	2'-6"	17'	12'
16'	16'	2'-6"	21'	16'
20'	20'	2'-6"	25'	20'



ALLEY RETURN DETAILS



DRIVEWAY OR ALLEY CURB CUT

NOTE:

1. CONTRACTOR SHALL PROVIDE No. 3 BARS ON 12" CTRS OR No. 4 BARS ON 18" CENTERS FOR OUTSIDE 1/4 ALLEY WIDTH AND PROVIDE No. 3 BARS ON 18" CTRS OR No. 4 BARS ON 24" CENTERS FOR MIDDLE 1/2 ALLEY WIDTH.
2. CONTRACTOR MAY AT HIS OPTION USE No. 3 BARS ON 12" CTRS OR No. 4 BARS ON 18" CTRS FOR ENTIRE ALLEY WIDTH AT NO ADDITIONAL COST TO THE CITY.

ST-13

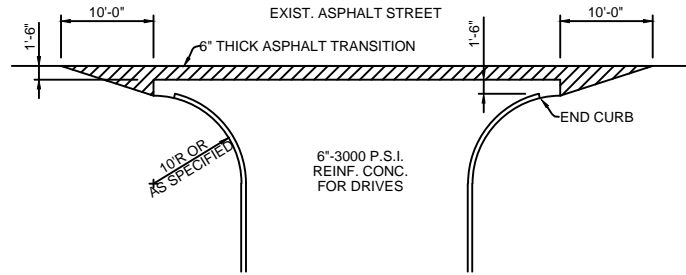
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



PAVING ALLEY / DETAILS

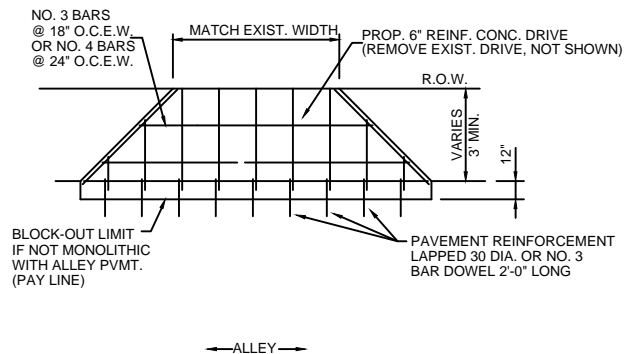
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



TYPICAL DRIVE OR STREET CONNECTION

TO EXISTING ASPHALT STREET



DRIVEWAY RETURN TO ALLEY

NOTE:

1. CONTRACTOR SHALL PROVIDE No. 3 BARS ON 12" CTRS OR No. 4 BARS ON 18" CENTERS FOR OUTSIDE 1/4 ALLEY WIDTH AND PROVIDE No. 3 BARS ON 18" CTRS OR No. 4 BARS ON 24" CENTERS FOR MIDDLE 1/2 ALLEY WIDTH.
2. CONTRACTOR MAY AT HIS OPTION USE No. 3 BARS ON 12" CTRS OR No. 4 BARS ON 18" CTRS FOR ENTIRE ALLEY WIDTH AT NO ADDITIONAL COST TO THE CITY.

ST-14

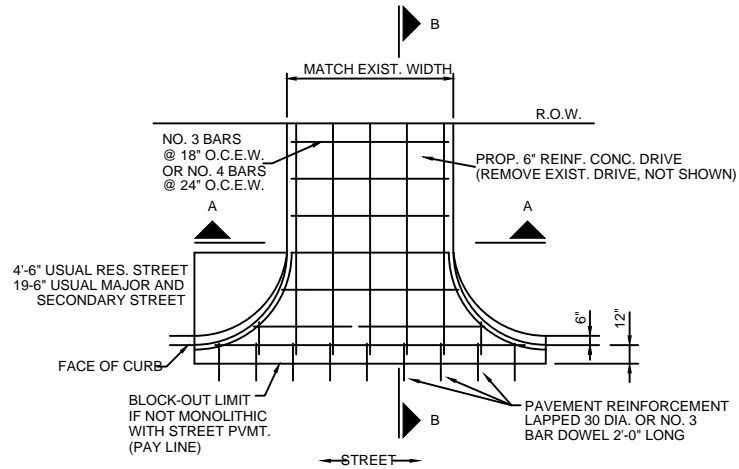
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



PAVING ALLEY / DETAILS

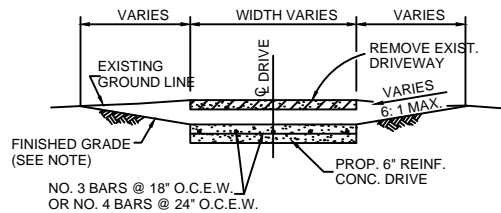
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

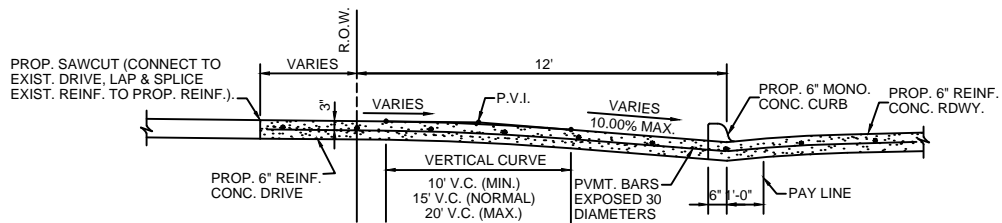


DRIVEWAY RETURN TO STREET

NOTES:
FINISHED GRADING WITHIN THE R.O.W. SHALL BE BROADCAST SEEDED. WHERE PROPOSED DRIVEWAY CONSTRUCTION GOES BEYOND THE R.O.W. AND INTO PRIVATE PROPERTY, THE FINISHED GRADING SHALL BE BLOCK SODDED TO RESTORE THE LANDSCAPING TO ITS PRE-CONSTRUCTION APPEARANCE.



SECTION A-A



SECTION B-B

DRIVEWAY RETURN SECTIONS

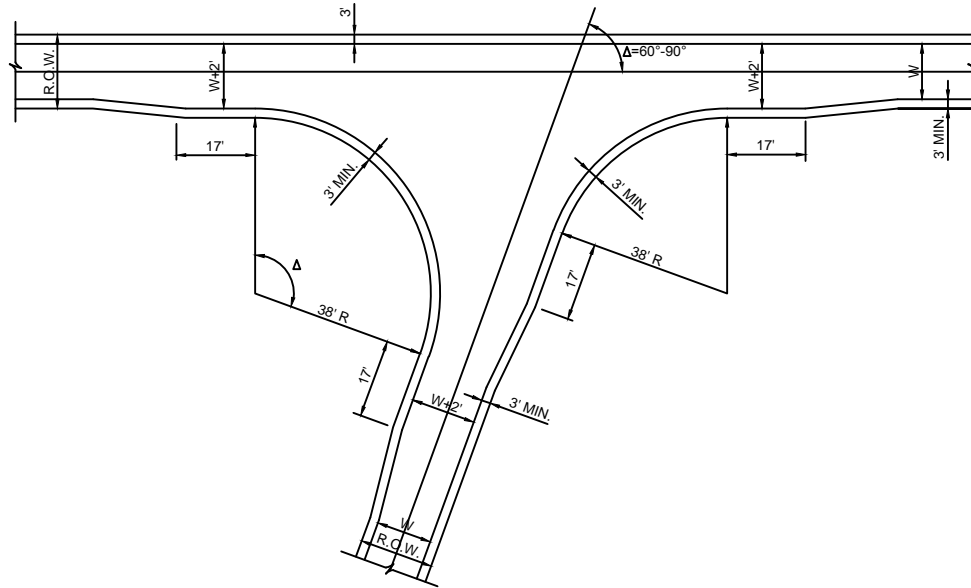
NOTE:

1. CONTRACTOR SHALL PROVIDE NO. 3 BARS ON 12" CTRS OR NO. 4 BARS ON 18" CENTERS FOR OUTSIDE 1/4 ALLEY WIDTH AND PROVIDE NO. 3 BARS ON 18" CTRS OR NO. 4 BARS ON 24" CENTERS FOR MIDDLE 1/2 ALLEY WIDTH.
2. CONTRACTOR MAY AT HIS OPTION USE NO. 3 BARS ON 12" CTRS OR NO. 4 BARS ON 18" CTRS FOR ENTIRE ALLEY WIDTH AT NO ADDITIONAL COST TO THE CITY.

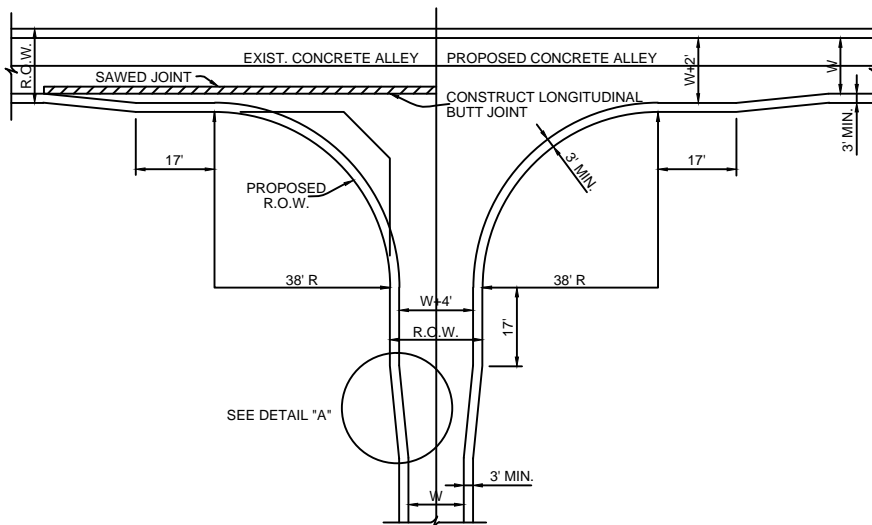
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



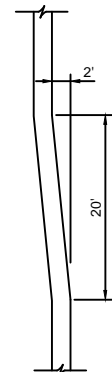




ALLEY TURN FOR $\Delta > 90^\circ$



ALLEY INTERSECTING ALLEY



DETAIL "A"

ST-17

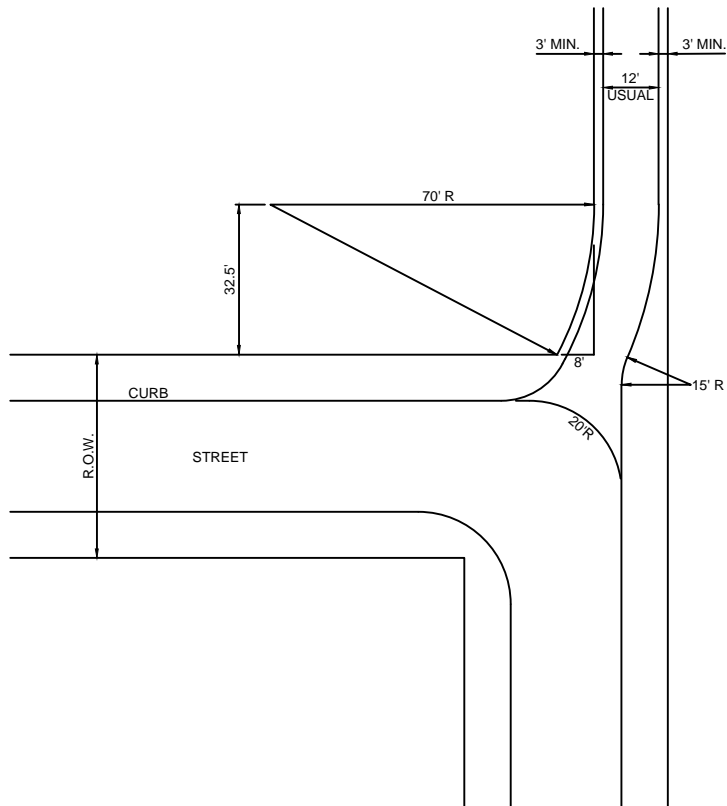
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



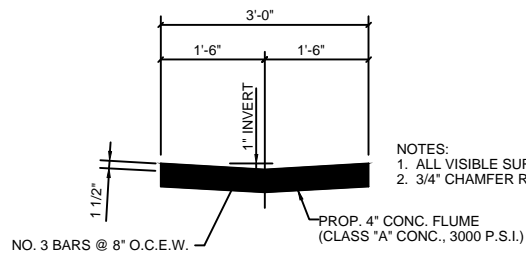
PAVING RADIUS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



ALLEY / STREET INTERSECTION



- NOTES:
1. ALL VISIBLE SURFACES SHALL BE A TROWEL FINISH.
 2. 3/4" CHAMFER REQUIRED ON ALL CORNERS.

REINFORCED CONCRETE FLUME WITHOUT CURBS

ST-18

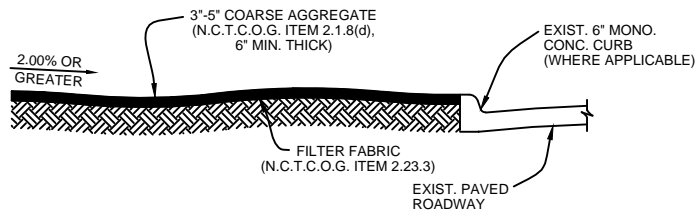
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



PAVING RADIUS

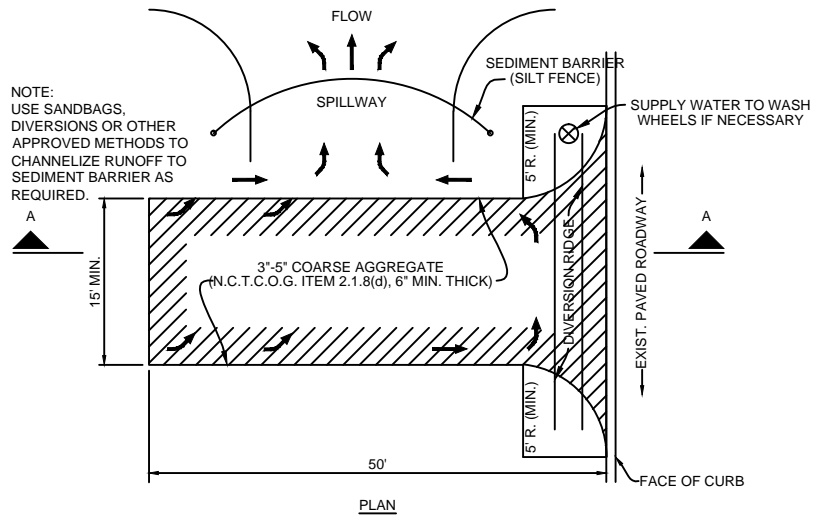
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



SECTION A-A

NOTE:
DIVERSION RIDGE REQUIRED
WHERE GRADE EXCEEDS 2.00%



FOR EROSION CONTROL

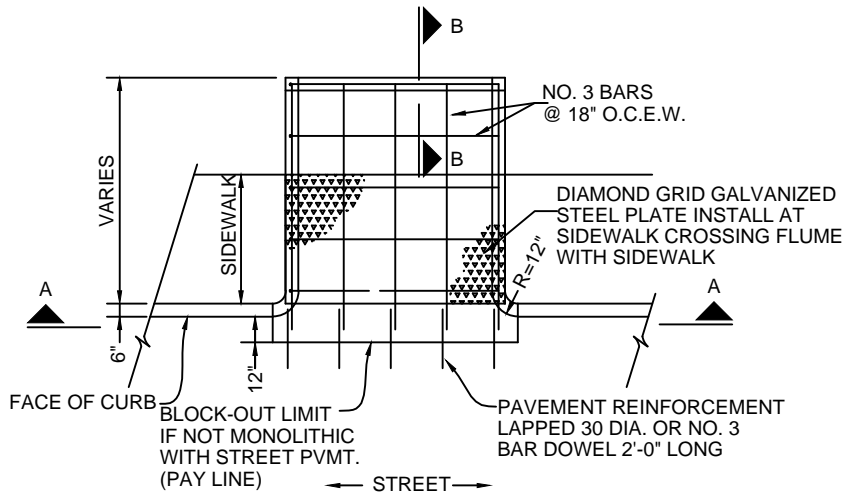
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



PAVING DETAILS / EROSION

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

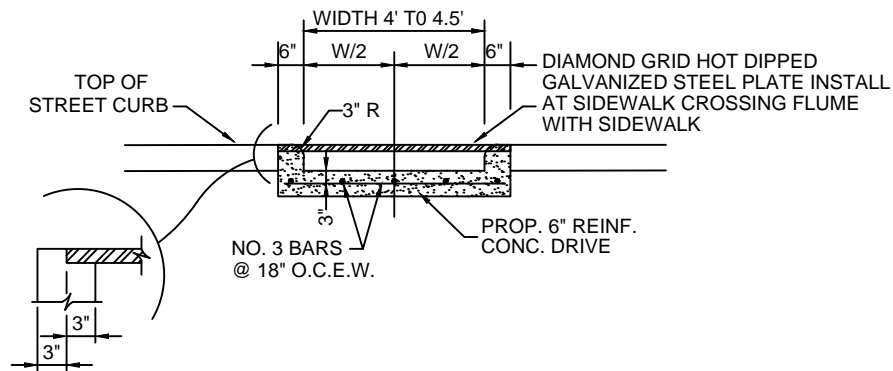


STEEL PLATE FLUME COVER

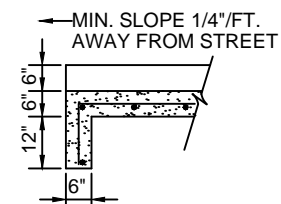
PLATE THICKNESS SHALL BE 5/8 INCHES BASE ON 100 P.S.I. LIVE LOAD AND MAX. DEAD & LIVE LOAD DEFLECTION OF L/240. BOLT PLATE DOWN WITH BRASS BOLTS. BOLTS SHALL BE 1/2" DIA. RECESSED TO FLUSH WITH TOP OF PLATE AND SPACED A MAXIMUM OF 12" ON CENTERS. 1/2" DIA. SELF-DRILLING ANCHORS SHALL BE USED AND SPACED THE SAME. SURFACE OF PLATE SHALL BE A NON-SKID MATERIAL.

PLAN

REINFORCED CONCRETE FLUME WITH CURBS



SECTION A-A



SECTION B-B

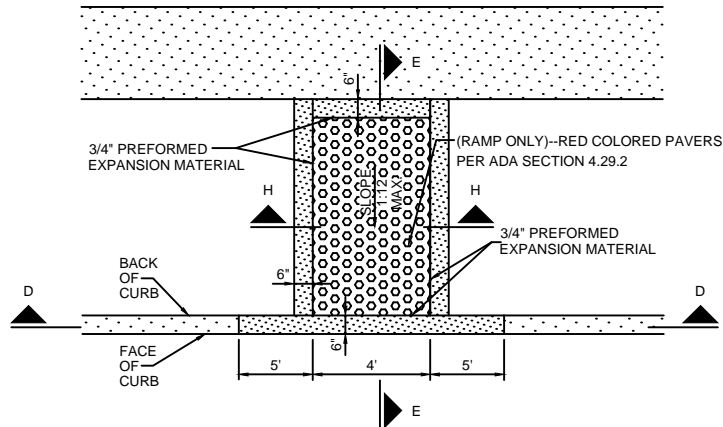
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



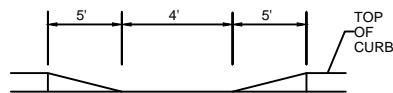
REINFORCED CONCRETE FLUME W/ CURBS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

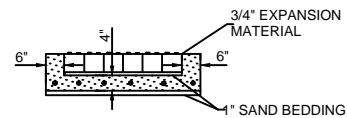
DATE: 07-05-16
REVISION: N/C



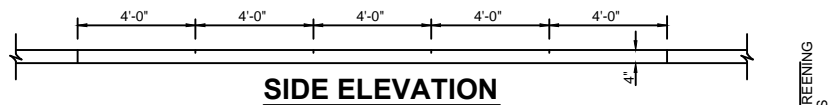
BARRIER FREE RAMP @ STRAIGHT CURB



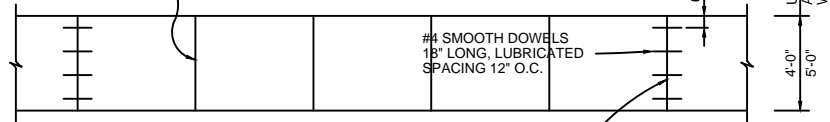
SECTION D-D



SECTION H-H

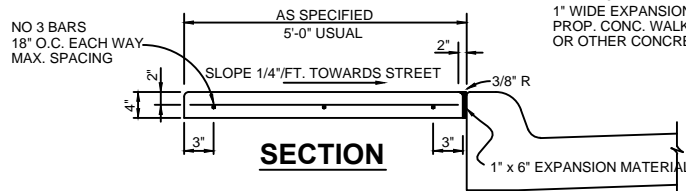


SIDEWALK MARKINGS SHALL BE GROOVED
3/8" DEEP ON 4' CENTERS



PLAN

1/2" EXPANSION JOINTS SHALL BE SPACED
AT 20' INTERVALS OR AS OTHERWISE SPECIFIED
AND JOINTS SHALL BE FILLED WITH PREMOLDED
BITUMINOUS EXPANSION JOINT FILLER AND REDWOOD.
OR
1" WIDE EXPANSION MATERIAL IS REQUIRED WHERE
PROP. CONC. WALK ABUTS WITH CONCRETE DRIVEWAY
OR OTHER CONCRETE PAVEMENT OR CURB



REINFORCED CONCRETE SIDEWALK

ST-21

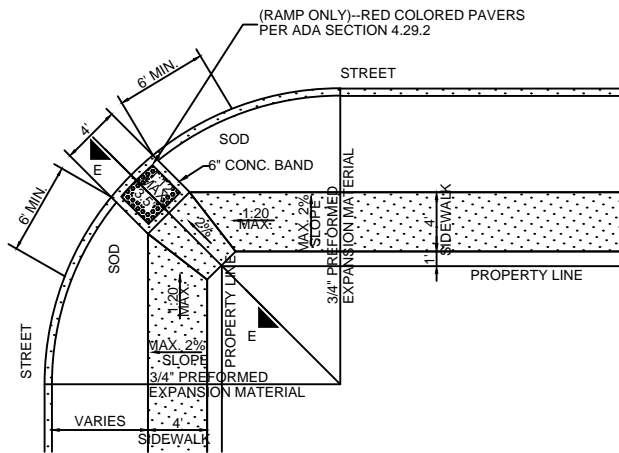
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



REINFORCED CONCRETE SIDEWALK

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

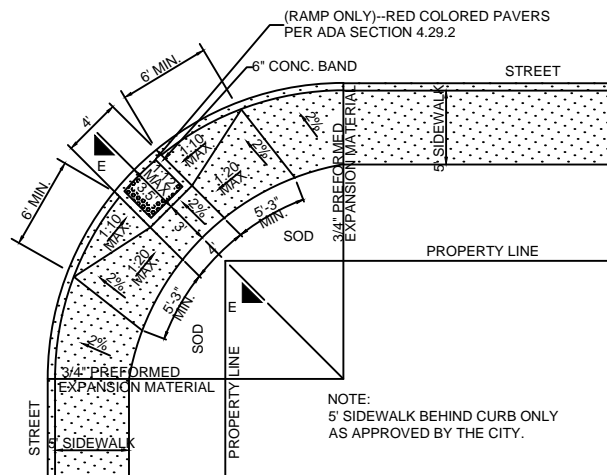
DATE: 07-05-16
REVISION: N/C



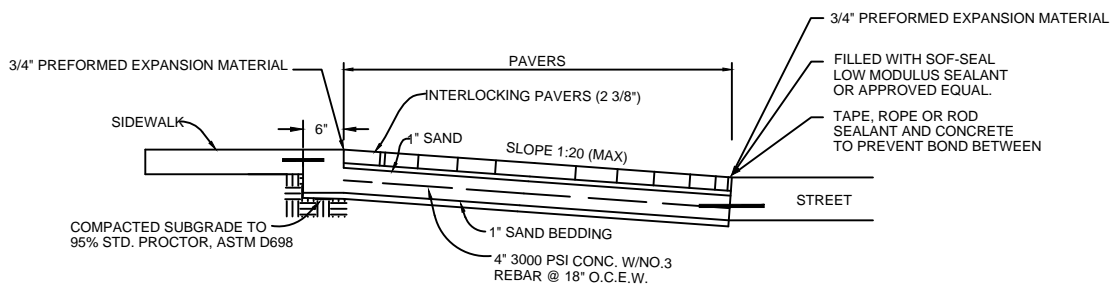
NOTE: PAVERS WILL HAVE DETECTABLE WARNING THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9 IN. (23MM), A HEIGHT OF NOMINAL 0.2 IN. (5MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN. (60MM) AND SHALL BE RED IN COLOR

RAMP FOR 4 FEET SIDEWALK AWAY FROM CURB

NOTE: PAVERS WILL HAVE DETECTABLE WARNING THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9 IN. (23MM), A HEIGHT OF NOMINAL 0.2 IN. (5MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN. (60MM) AND SHALL BE RED IN COLOR



RAMP FOR 5 FEET SIDEWALK NEXT TO CURB



SECTION E-E

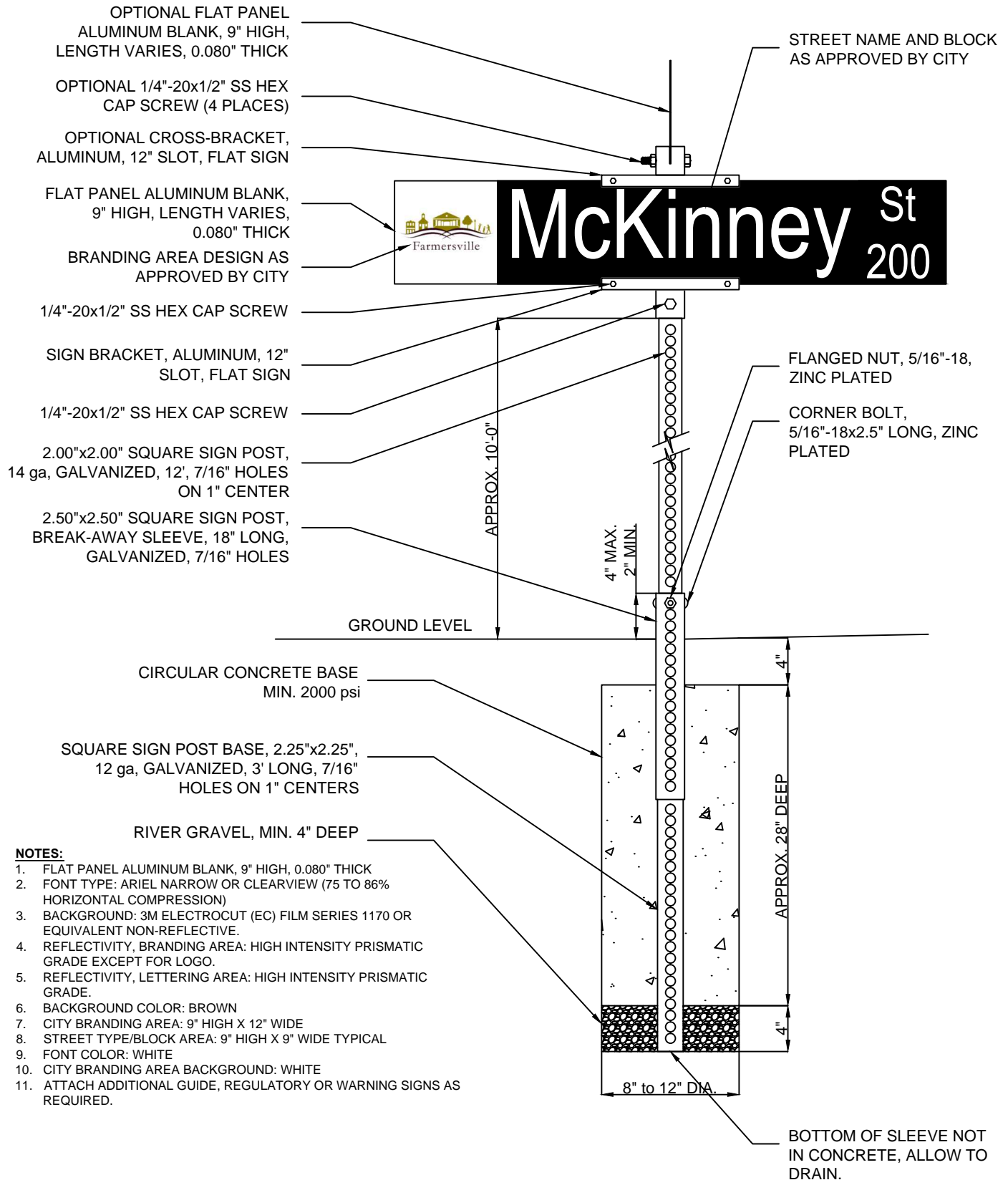
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



PAVING SIDEWALKS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



ST-23

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



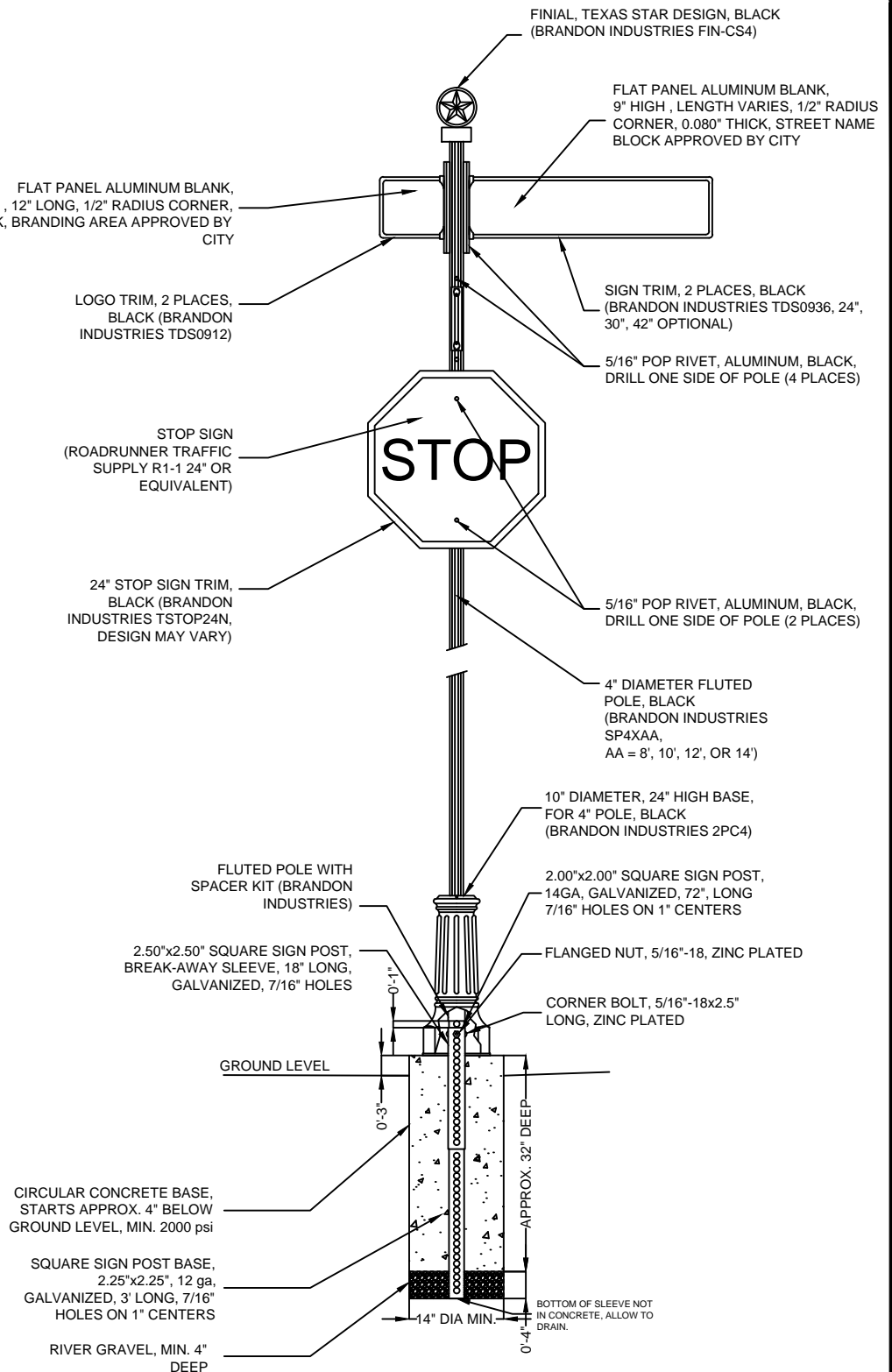
STANDARD STREET SIGN

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

NOTES:

1. SIGN DESIGN SHALL BE USED FOR DOWNTOWN BUSINESS DISTRICT.
2. FONT TYPE: ARIAL NARROW OR CLEARVIEW (75% TO 86% HORIZONTAL COMPRESSION).
3. BACKGROUND: 3M ELECTROCUT (EC) FILM SERIES 1170 OR EQUIVALENT, NON-REFLECTIVE.
4. REFLECTIVITY, BRANDING AREA: HIGH INTENSITY PRISMATIC GRADE EXCEPT FOR LOGO.
5. REFLECTIVITY, LETTERING AREA: HIGH INTENSITY PRISMATIC GRADE.
6. BACKGROUND COLOR: BROWN.
7. CITY BRANDING AREA: 9" HIGH X 12" WIDE
8. STREET TYPE / BLOCK AREA: 9" HIGH X 9" WIDE (TYP)
9. FONT COLOR: WHITE
10. CITY BRANDING AREA BACKGROUND: WHITE
11. SIGN VERTICAL DIMENSIONS FROM THE GROUND AND SIGN DISTANCE RELATIVE TO EACH OTHER FOR SIGNS SHALL MEET CITY, STATE, AND FEDERAL REQUIREMENTS.
12. CITY SHALL PROVIDE APPROVE ALL STREET SIGN DESIGNS, COLOR, MARKING, AND PLACEMENT PRIOR TO INSTALLATION.
13. HEIGHT OF POLE, STREET SIGN COUNT, AND INFORMATIONAL SIGN COUNT OPTIONAL DEPENDANT UPON APPLICATION.



**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



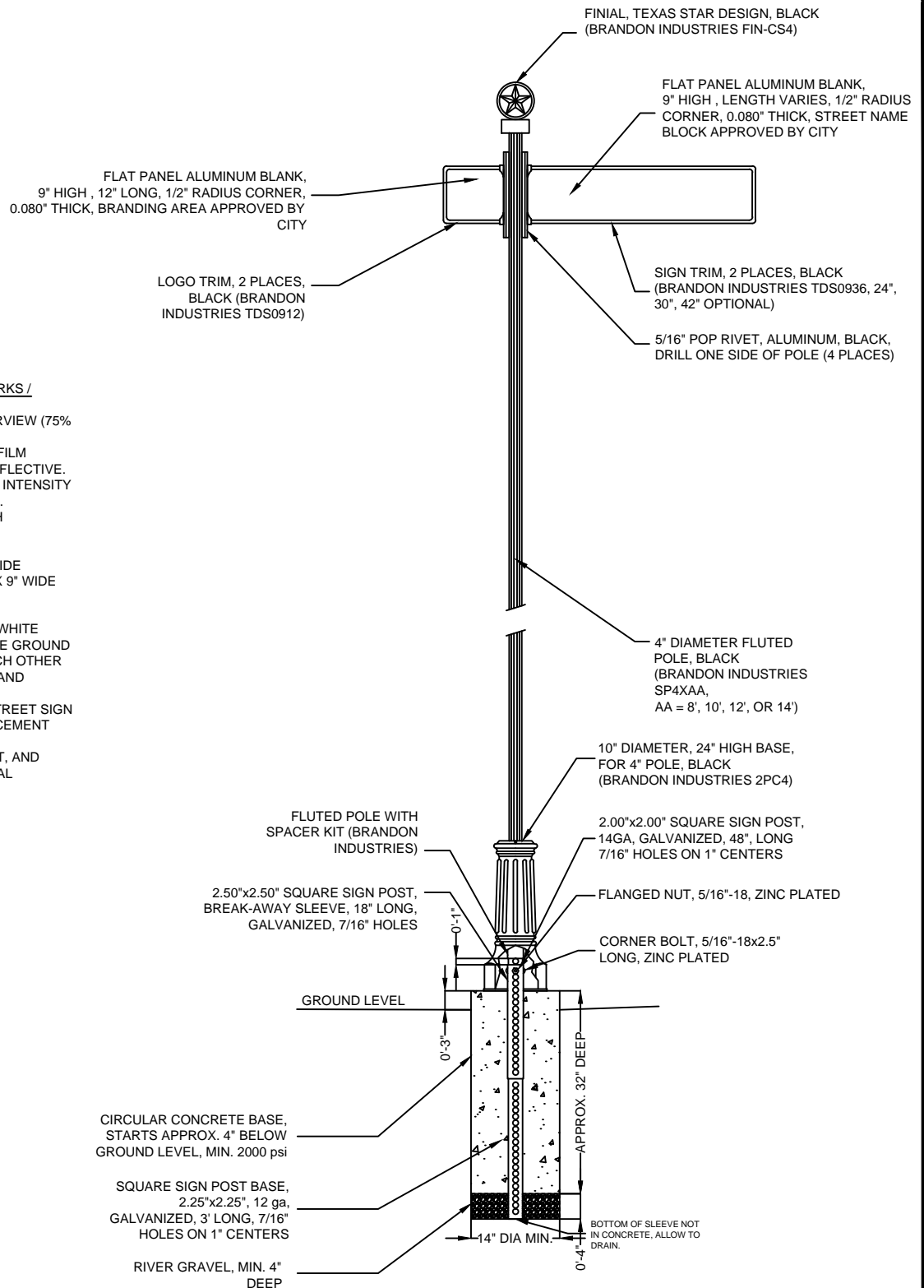
DECORATIVE STREET SIGN

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

NOTES:

1. SIGN DESIGN SHALL BE USED FOR PARKS / STREETS.
2. FONT TYPE: ARIAL NARROW OR CLEARVIEW (75% TO 86% HORIZONTAL COMPRESSION).
3. BACKGROUND: 3M ELECTROCUT (EC) FILM SERIES 1170 OR EQUIVALENT, NON-REFLECTIVE.
4. REFLECTIVITY, BRANDING AREA: HIGH INTENSITY PRISMATIC GRADE EXCEPT FOR LOGO.
5. REFLECTIVITY, LETTERING AREA: HIGH INTENSITY PRISMATIC GRADE.
6. BACKGROUND COLOR: BROWN.
7. CITY BRANDING AREA: 9" HIGH X 12" WIDE
8. STREET TYPE / BLOCK AREA: 9" HIGH X 9" WIDE (TYP)
9. FONT COLOR: WHITE
10. CITY BRANDING AREA BACKGROUND: WHITE
11. SIGN VERTICAL DIMENSIONS FROM THE GROUND AND SIGN DISTANCE RELATIVE TO EACH OTHER FOR SIGNS SHALL MEET CITY, STATE, AND FEDERAL REQUIREMENTS.
12. CITY SHALL PROVIDE APPROVE ALL STREET SIGN DESIGNS, COLOR, MARKING, AND PLACEMENT PRIOR TO INSTALLATION.
13. HEIGHT OF POLE, STREET SIGN COUNT, AND INFORMATIONAL SIGN COUNT OPTIONAL DEPENDANT UPON APPLICATION.



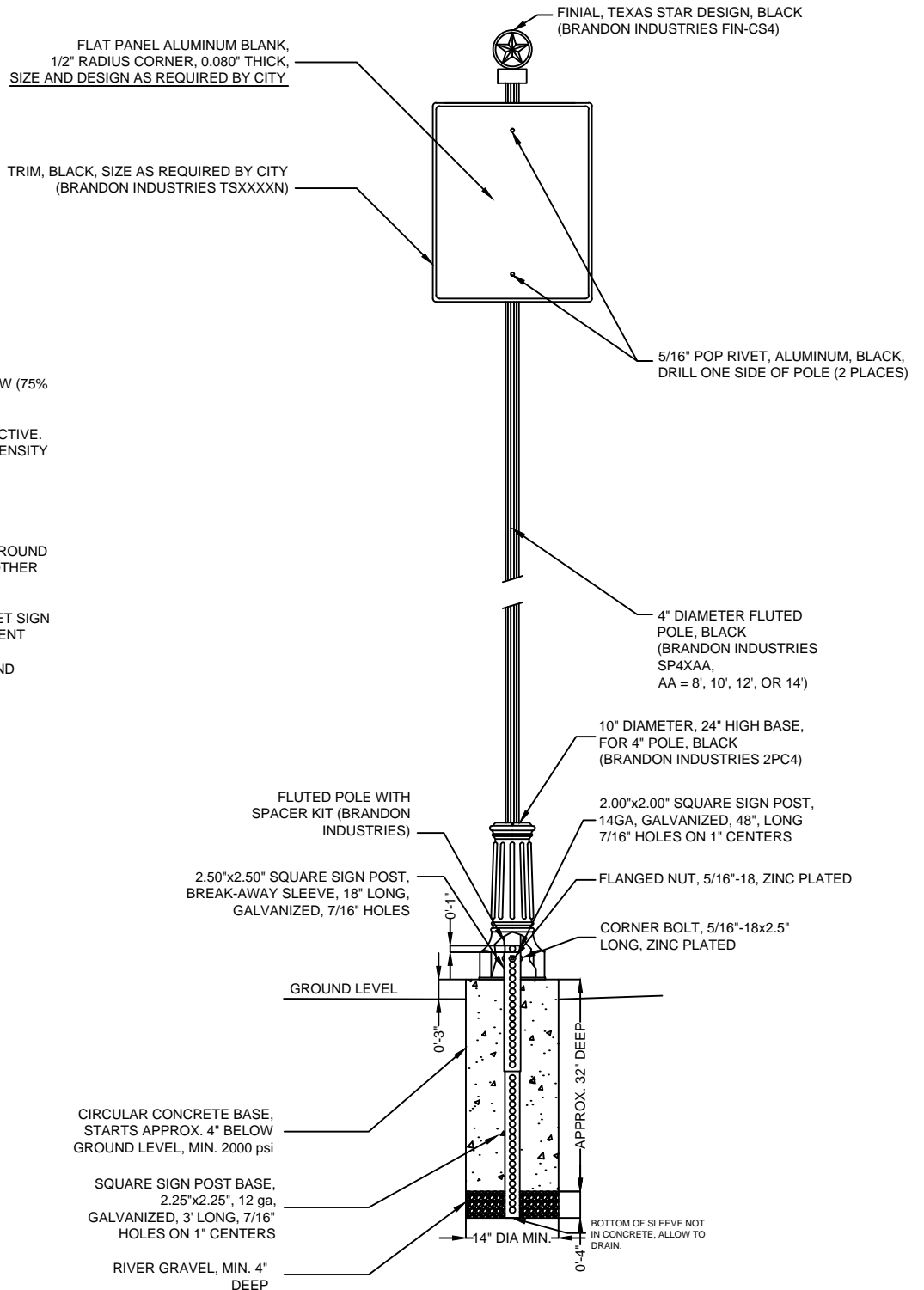
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



PARKS DECORATIVE STREET SIGN

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



NOTES:

1. SIGN DESIGN SHALL BE USED FOR SMALL FORMAT SIGNS.
2. FONT TYPE: ARIAL NARROW OR CLEARVIEW (75% TO 86% HORIZONTAL COMPRESSION).
3. BACKGROUND: 3M ELECTROCUT (EC) FILM SERIES 1170 OR EQUIVALENT, NON-REFLECTIVE.
4. REFLECTIVITY, BRANDING AREA: HIGH INTENSITY PRISMATIC GRADE EXCEPT FOR LOGO.
5. REFLECTIVITY, LETTERING AREA: HIGH INTENSITY PRISMATIC GRADE.
6. BACKGROUND COLOR: BROWN.
7. FONT COLOR: WHITE
8. SIGN VERTICAL DIMENSIONS FROM THE GROUND AND SIGN DISTANCE RELATIVE TO EACH OTHER FOR SIGNS SHALL MEET CITY, STATE, AND FEDERAL REQUIREMENTS.
9. CITY SHALL PROVIDE APPROVE ALL STREET SIGN DESIGNS, COLOR, MARKING, AND PLACEMENT PRIOR TO INSTALLATION.
10. HEIGHT OF POLE, STREET SIGN COUNT, AND INFORMATIONAL SIGN COUNT OPTIONAL DEPENDANT UPON APPLICATION.

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



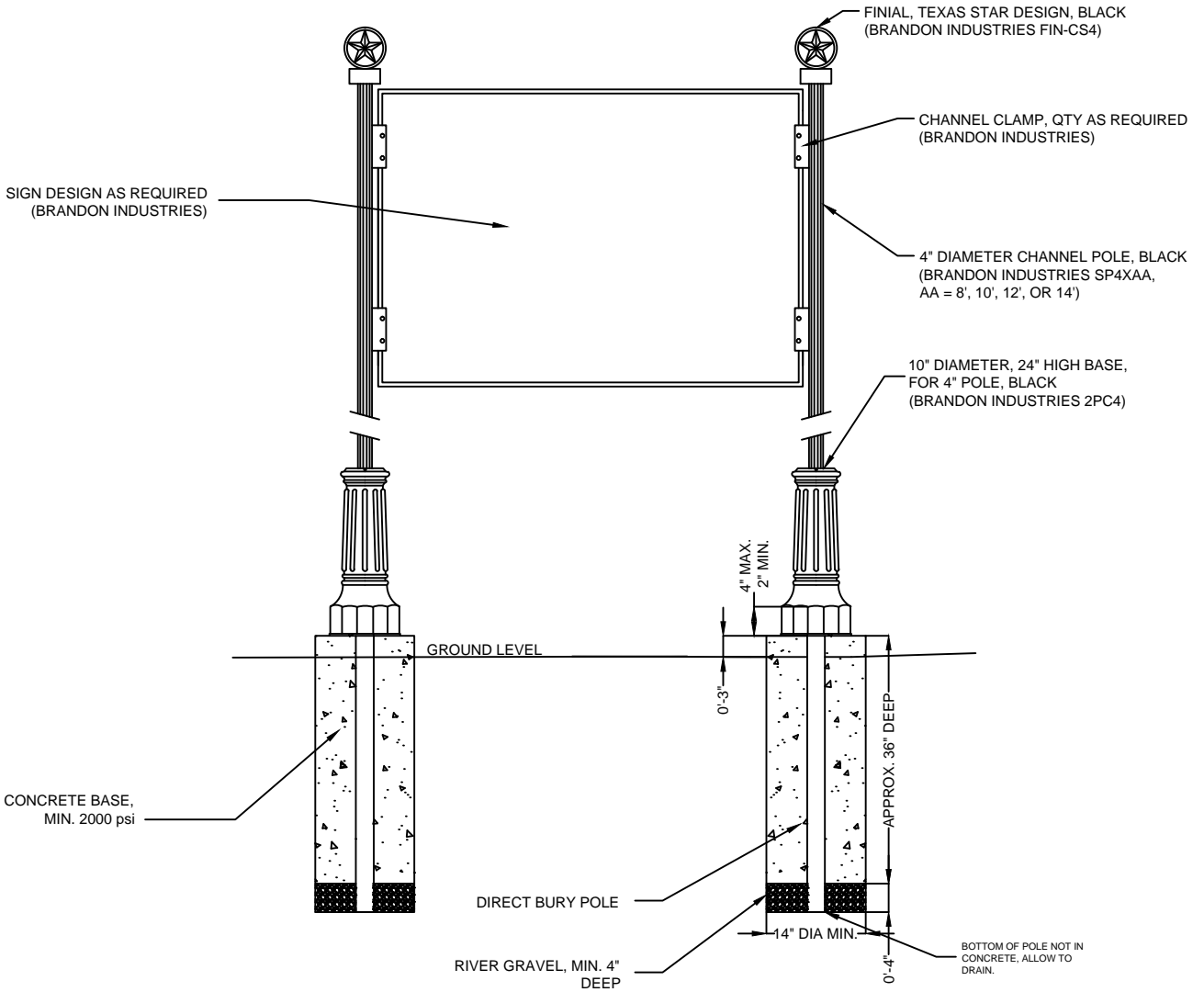
PARKS DECORATIVE SMALL FORMAT SIGN

DESIGNED: E.W.D.

DRAWN: M.K.W. / DBI

DATE: 07-05-16

REVISION: N/C



ST-27

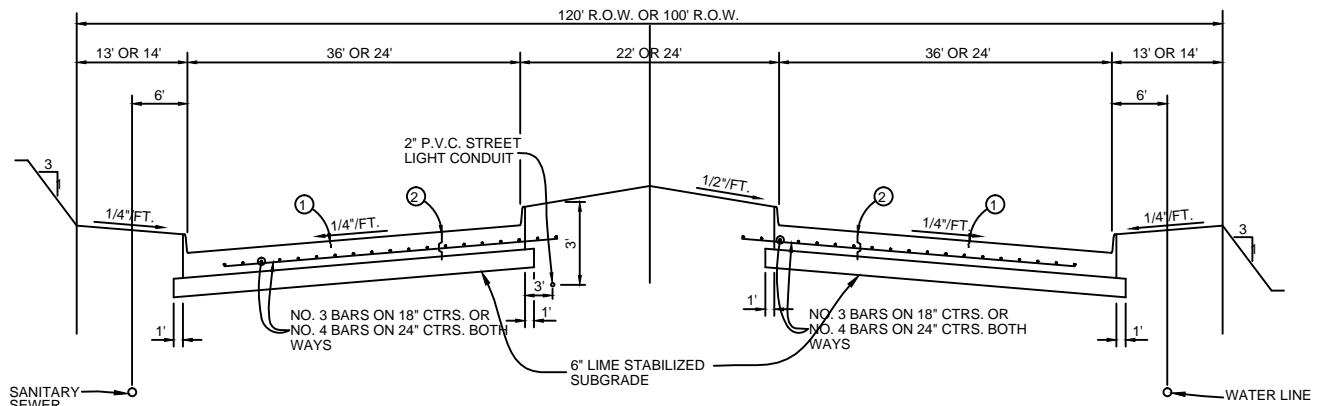
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



PARKS DECORATIVE LARGE FORMAT SIGN

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

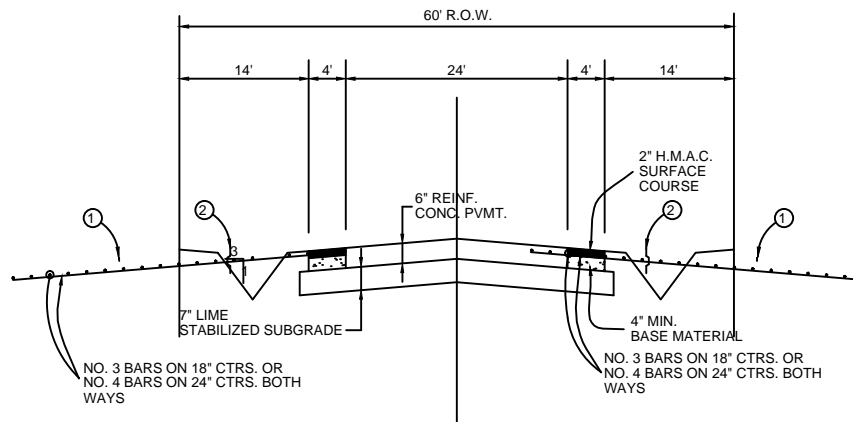
DATE: 07-05-16
REVISION: N/C



REGULAR SECTION

TYPE B & TYPE C

NOTE:
FOR RIGHT-OF-WAYS LESS THAN 17' BEHIND FACE OF CURB, GAS, ELECTRIC, CABLE TV, FIBER OPTIC, TELEPHONE AND ALL OTHER FRANCHISE UTILITIES ARE LOCATED OUTSIDE THE RIGHT-OF-WAY IN UTILITY EASEMENTS.



RESIDENTIAL ESTATE SECTION

1. RESIDENTIAL ESTATE SECTION ALLOWED WITH CITY COUNCIL APPROVAL ONLY.
2. MIN. LOT SIZE ONE ACRE.
3. DRIVE CULVERTS AND RETURNS TO BE INSTALLED AT TIME OF DEVELOPMENT.

ST-28

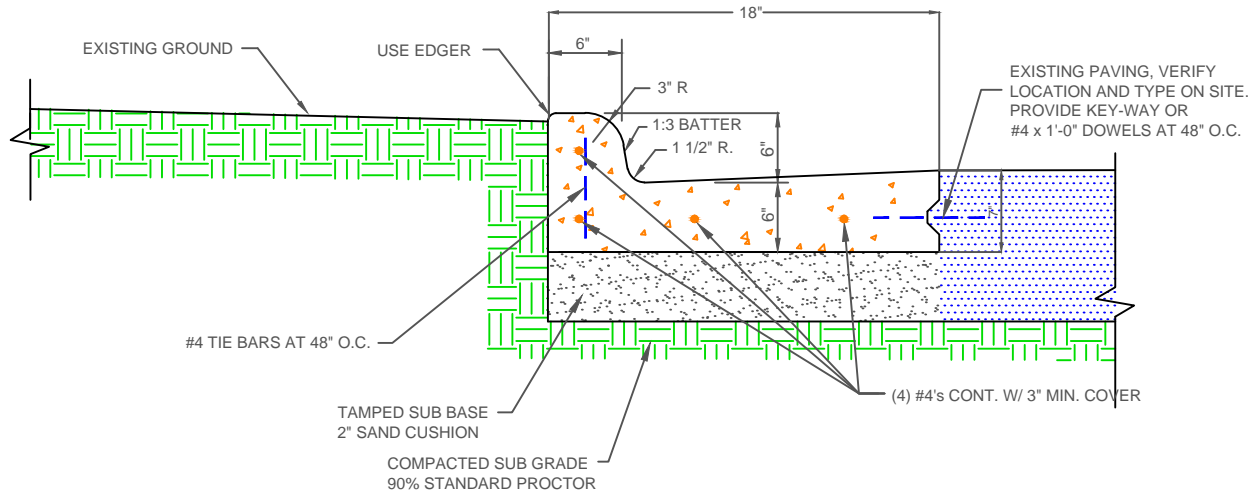
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



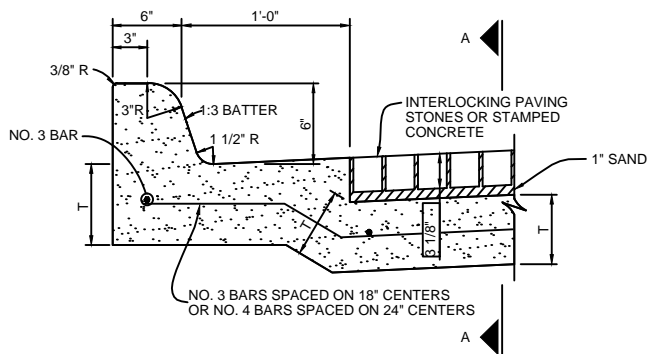
STREET DETAILS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

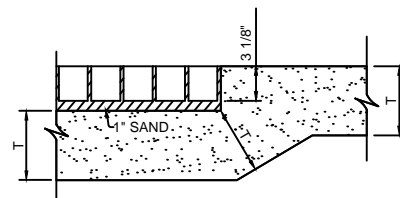
DATE: 07-05-16
REVISION: N/C



SEPARATE CURB & GUTTER



MONOLITHIC CURB & GUTTER



SECTION A-A

PAVING STONES SHALL BE PER NCTCOG ITEMS 2.3.7 AND 5.8 OF SPECIAL PROVISIONS

T = PAVEMENT THICKNESS

ST-29

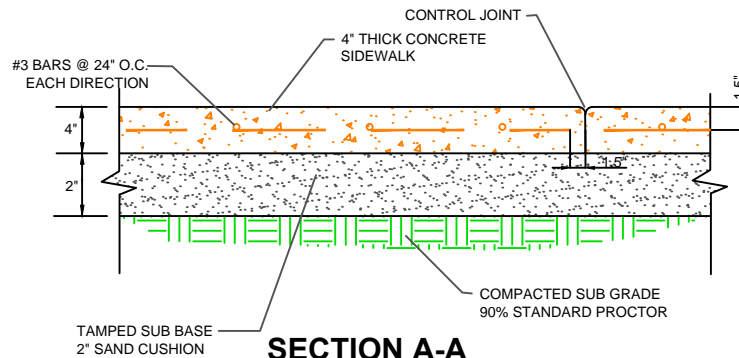
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



CURB & GUTTER DETAILS

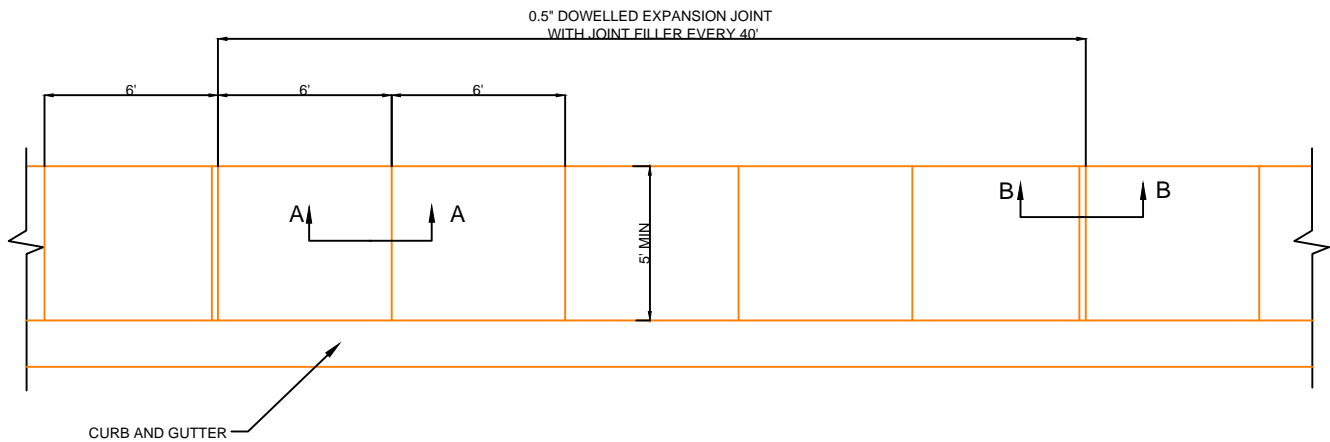
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



SECTION A-A NOT TO SCALE

NOTE: PROVIDE TOOLED CONTROL JOINTS AT 6' O.C. (25% SLAB THICKNESS) AND ISOLATION JOINTS AT 24' O.C., UNLESS OTHERWISE NOTED.



CONCRETE SIDEWALK/CURB & GUTTER PLAN NOT TO SCALE

ST-30

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



SIDEWALK, CURB & GUTTER DETAILS-1

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



ST-31

1. THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.
2. A MINIMUM OF 6 INCHES OF 1" DIAMETER (MAXIMUM) ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BEDDING TO FINAL GRADE OR LIEU OF THIS, AT LEAST 6 INCHES OF 2-SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE. CEMENT STABILIZED-SAND SHALL BE ALLOWED TO SET BY KEEPING HOLE PUMPED DRY.
3. AFTER CASING HAS BEEN INSTALLED ON THE PROPER BEDDING, THE BACKFILL MATERIAL, WHICH IS FREE FLOWING AND CLEAR OF ROCKS, IN EXCESS OF 4" DIAMETER AND OTHER LUMPS WHICH WOULD PROHIBIT PROPER COMPACTION, SHALL BE COMMENCED IN LIFTS OF NO MORE THAN 18". THE MATERIAL USED FOR BACKFILL SHOULD BE A TYPE SUITABLE TO OBTAIN THE DENSITY REQUIREMENTS FOR THE SPECIFIC JOB.



1'-6"

3'-3/4"

3'-3"

5"

1-1/2"

1-3/4"

5-BAR C
3/4" CHAMFER

10"

4"

6"

1-1/2"

12"R

6"R

W.S.

SLOPE TOP OF
INLET 1/4"/FT.

2-BAR B

1-1/2"

BARS A AT 12" O.C.

BARS C
AS SHOWN

2"

6-BAR E

BARS H AT 7-1/2" O.C.

WATER STOP SHALL
BE A PRE FORMED
PLASTIC SEALING
COMPOUND EQUAL
TO SYNCO- FLEX
PRODUCTS CO.

SECTION C-C

SECTION C-C



SECTION E-E

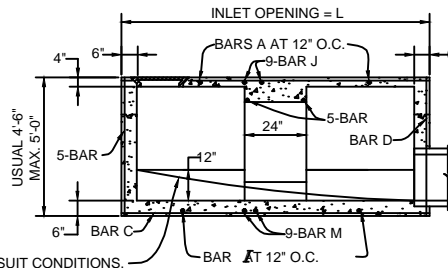


DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

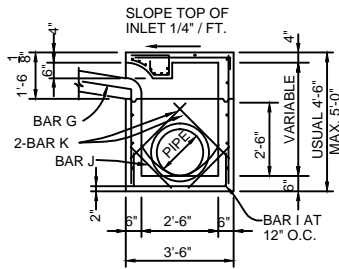
NOTES:

1. THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.
2. A MINIMUM OF 6 INCHES OF 1" DIAMETER (MAXIMUM) ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BEDDING TO FINAL GRADE OR LIEU OF THIS, AT LEAST 6 INCHES OF 2-SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE. CEMENT STABILIZED-SAND SHALL BE ALLOWED TO SET BY KEEPING HOLE PUMPED DRY.
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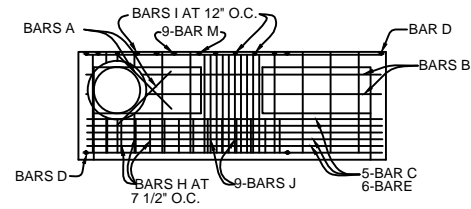


WARP TO SUIT CONDITIONS,
1/2" MORTAR FINISH,
TROWELED TO A SMOOTH
FINISH.

SECTION D-D - STANDARD AND RECESSED INLETS

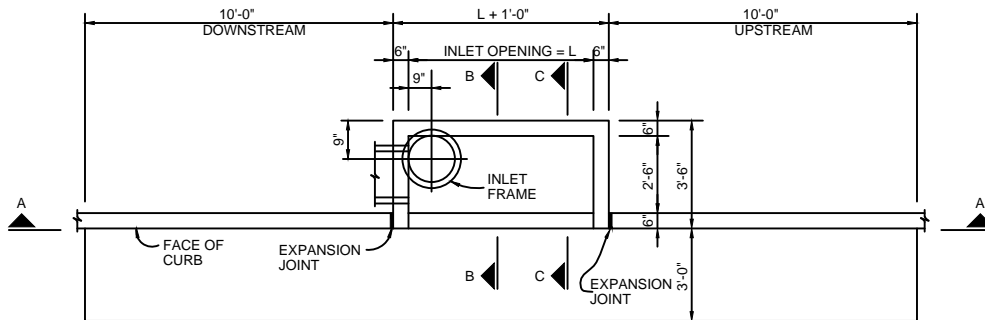


SECTION B-B



PLAN - STANDARD INLET

NOTE:
PIPES SHALL CONNECT TO
THE ENDS OR SIDES OF
INLETS CONNECTION SHALL
NOT BE MADE AT CORNER
OR BOTTOM.



PLAN - STANDARD INLET

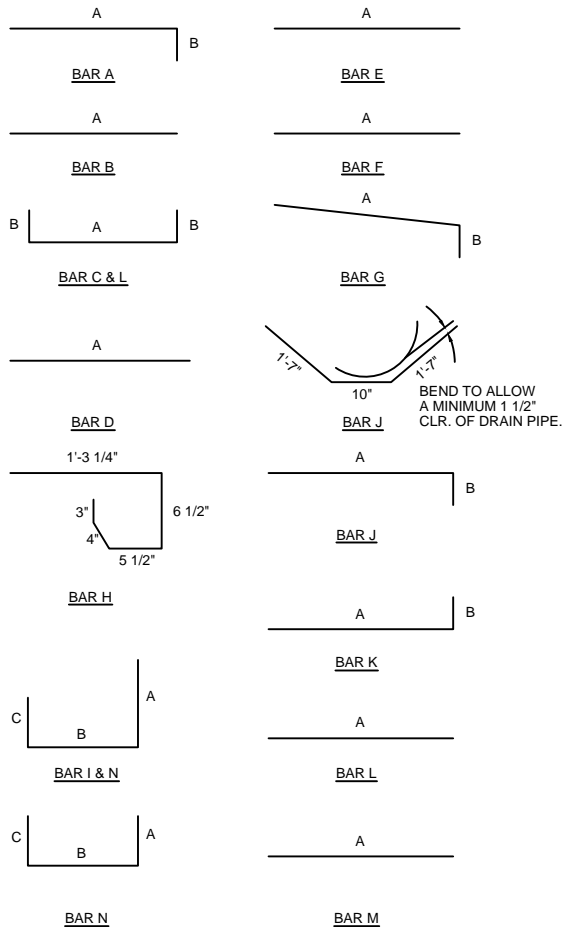
4, 6, 8 AND 10 FOOT INLETS

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



STORM WATER STANDARD INLET

DESIGNED: E.W.D. DATE: 07-05-16
DRAWN: M.K.W. / DBI REVISION: N/C



BAR DIAGRAMS

RECESSED AND STANDARD INLETS REINFORCING STEEL SCHEDULE

DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLETS

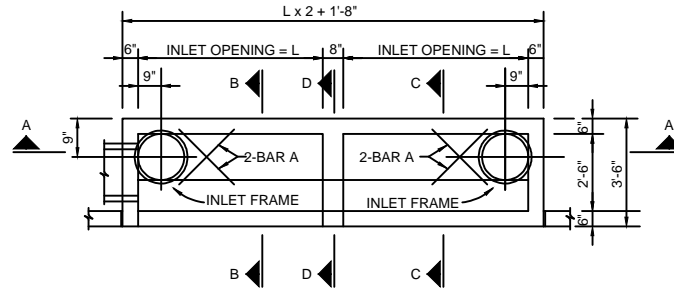
INLET LENGTH	BAR TYPE	BAR DIA. (1/8 IN.)	NO. REQ'D	BAR DIMENSIONS		
				A	B	C
4	A	3	6	3'-2"	0'-3"	-
	B	3	1	2'-10"	-	-
	C	4	15	4'-8"	0'-6"	-
	D	4	5	4'-8"	-	-
	F	4	1	3'-2"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	6	*	*	*
	N	3	3	3'-2"	3'-2"	3'-2"
6	A	3	9	3'-2"	0'-3"	-
	B	3	1	4'-10"	-	-
	C	4	15	6'-8"	0'-6"	-
	D	4	5	4'-8"	-	-
	F	4	1	3'-2"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	9	*	*	*
	N	3	3	3'-2"	3'-2"	3'-2"
8	A	3	12	3'-2"	0'-3"	-
	B	4	1	6'-10"	-	-
	C	4	15	8'-8"	0'-6"	-
	D	4	5	4'-8"	-	-
	F	4	1	3'-2"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	12	*	*	*
	N	3	3	3'-2"	3'-2"	3'-2"
10	A	3	13	3'-2"	0'-3"	-
	B	3	2	8'-10"	-	-
	C	4	16	10'-8"	0'-6"	-
	D	4	4	4'-8"	-	-
	E	5	6	10'-8"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	14	*	*	*
	I	4	8	4'-8"	3'-2"	3'-2"
	L	4	5	4'-3"	-	-

* SEE DIAGRAM FOR DIMENSIONS.
4', 6', 8' AND 10' INLETS

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS

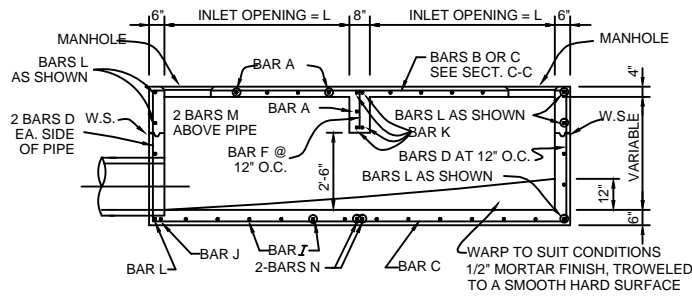


NOTE:
REINFORCING SHOWN IS
ADDITIONAL FOR SPECIAL
CONDITION, FOR REMAINDER
OF REINFORCEMENT, SEE
SECTIONS.



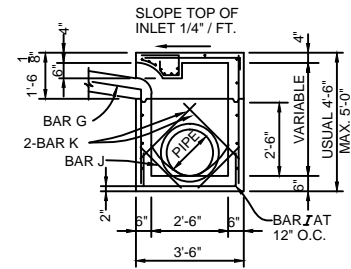
PLAN - DOUBLE INLETS

20 FOOT INLETS

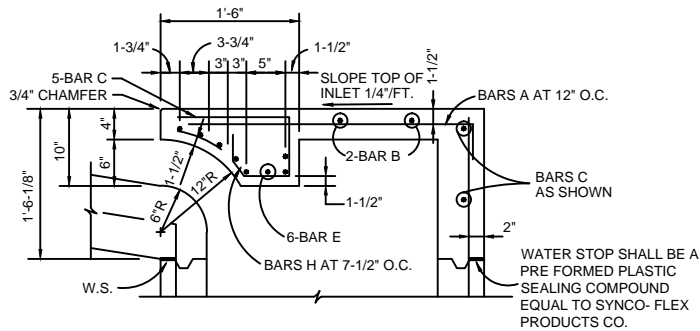


SECTION A-A

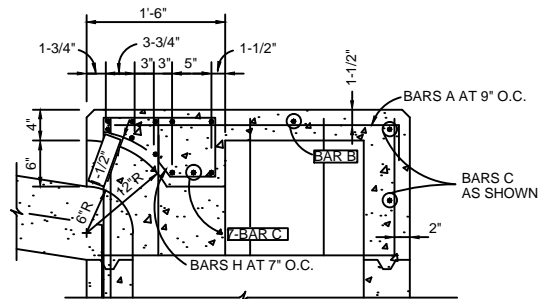
12, 14, 16 AND 20 FOOT INLETS



SECTION B-B



SECTION C-C



SECTION D-D

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



STORM WATER DOUBLE INLET

DESIGNED: E.W.D.

DRAWN: M.K.W. / DBI

DATE: 07-05-16

REVISION: N/C

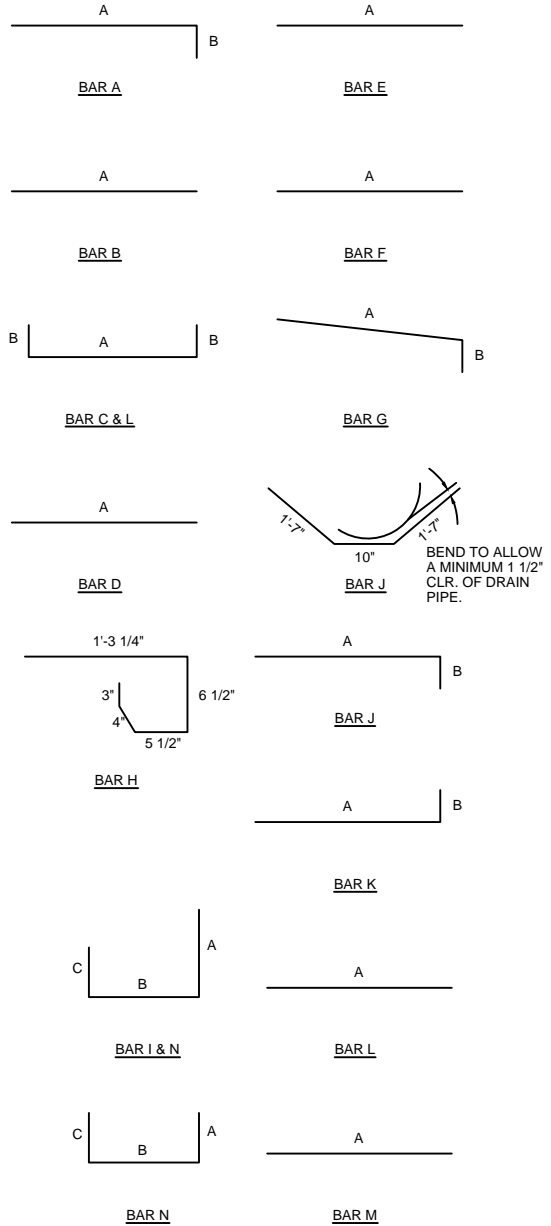
DOUBLE INLETS

DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLETS

INLET LENGTH	BAR TYPE	BAR DIA. (1/8 IN.)	NO. REQ'D	BAR DIMENSIONS		
				A	B	C
6 FT.	A	3	15	3'-2"	0'-6"	-
	B	3	2	11'-6"	-	-
	C	4	16	13'-4"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	5	6	13'-4"	-	-
	F	4	5	1'-2"	-	-
	G	3	12	2'-0"	1'-3"	-
	H	3	26	*	*	*
	I	4	12	4'-8"	3'-2"	3'-2"
	J	5	1	*	*	*
	K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0" **	-	-
	N	4	2	4'-8"	3'-2"	4'-8"
7 FT.	A	3	17	3'-2"	0'-6"	-
	B	3	2	13'-6"	-	-
	C	4	16	15'-4"	0'-3"	-
	D	4	9	4'-8"	-	-
	E	5	6	15'-4"	-	-
	F	4	5	1'-2"	-	-
	G	3	15	2'-0"	1'-3"	-
	H	3	32	*	*	*
	I	4	14	4'-8"	3'-2"	3'-2"
	J	5	1	*	*	*
	K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0" **	-	-
	N	4	2	4'-8"	3'-2"	4'-8"
8 FT.	A	3	19	3'-2"	0'-6"	-
	B	3	2	15'-6"	-	-
	C	4	16	17'-4"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	5	6	17'-4"	-	-
	F	4	5	1'-2"	-	-
	G	3	12	2'-0"	1'-3"	-
	H	3	26	*	*	*
	I	4	16	4'-8"	3'-2"	3'-2"
	J	5	1	*	*	*
	K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0" **	-	-
	N	4	2	4'-8"	3'-2"	4'-8"
10 FT.	A	3	23	3'-2"	0'-6"	-
	B	3	2	19'-6"	-	-
	C	4	16	21'-4"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	5	6	21'-4"	-	-
	F	4	5	1'-2"	-	-
	G	3	15	2'-0"	1'-3"	-
	H	3	32	*	*	*
	I	4	20	4'-8"	3'-2"	3'-2"
	J	5	1	*	*	*
	K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0" **	-	-
	N	4	2	4'-8"	3'-2"	4'-8"

* SEE DIAGRAM FOR DIMENSIONS.
 ** FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE
 16' AND 20' INLETS

REINFORCING STEEL SCHEDULE



△ BEND TO ALLOW A MINIMUM 1 1/2" CIR. OF DRAIN PIPE
 * SEE DIAGRAMS FOR DIMENSIONS
 ** FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE

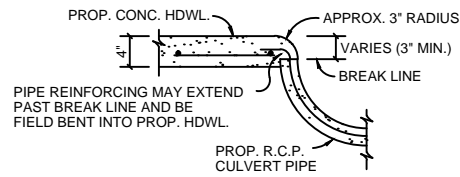
BAR BENDING DIAGRAMS

STANDARD CONSTRUCTION DETAILS
 FOR
 CITY OF FARMERSVILLE
 COLLIN COUNTY, TEXAS

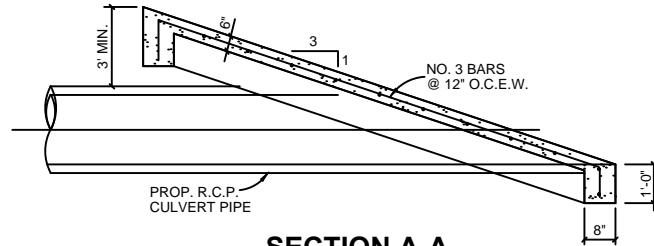


STORM WATER DOUBLE INLET

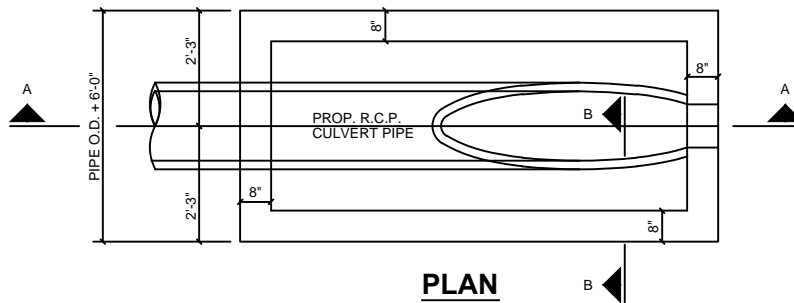
DESIGNED: E.W.D. DATE: 07-05-16
 DRAWN: M.K.W. / DBI REVISION: N/C



SECTION B-B



SECTION A-A



PLAN

SLOPED CONCRETE HEADWALL

SW-06

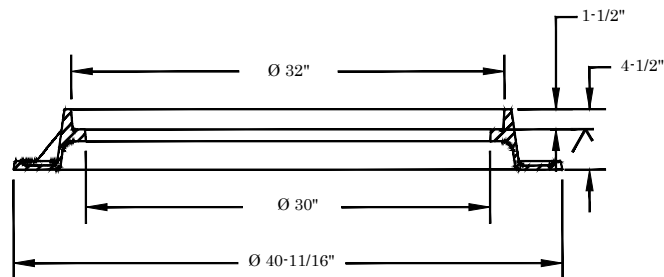
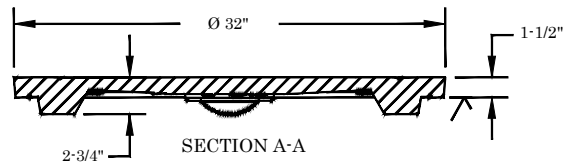
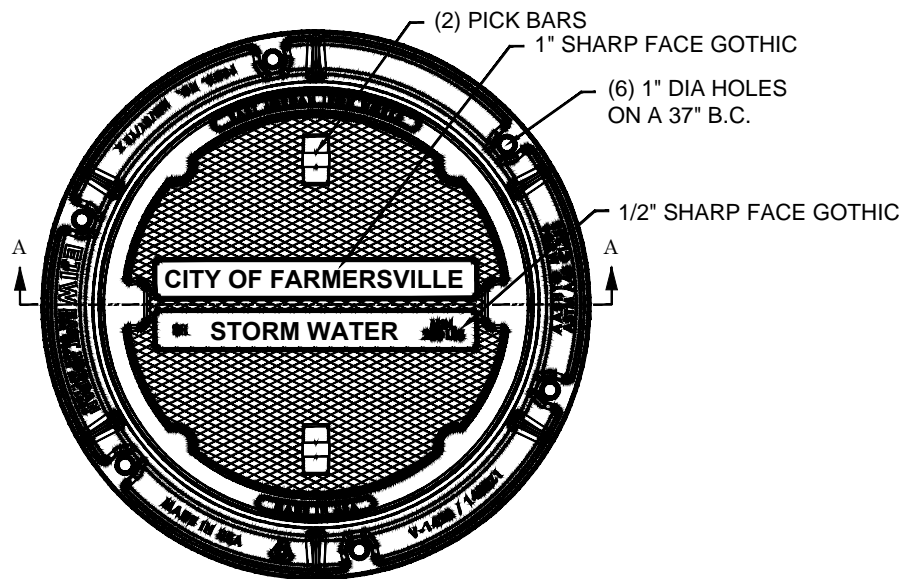
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



STORM WATER SLOPED CONCRETE HEADWALL

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



SECTION VIEW

STANDARD MANHOLE RING AND COVER

WITH PICK SLOTS

BASS AND HAYS FOUNDRY, INC.
MANHOLE: V-1420D-1480

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



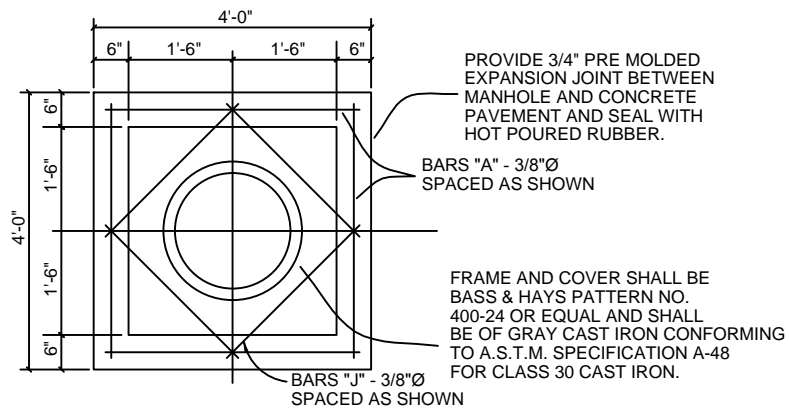
STORM WATER MANHOLE RING & COVER

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

STORM WATER MANHOLE NOTES:

1. PRECAST MANHOLE RISERS SHALL BE USED UNLESS SPECIAL PERMISSION IS GRANTED BY THE CITY FOR CAST-IN-PLACE RISERS.
2. PRECAST MANHOLE RISERS SHALL BE CLASS III R.C.P. FOR ALL MANHOLES UNDER 25 FT. DEEP AND CLASS IV R.C.P. FOR MANHOLES OVER 25 FT. DEEP.
3. MANHOLE BASE MAY BE PRECAST FOR PIPES LESS THAN 30" AND MAY BE PRECAST FOR PIPES 30" AND LARGER WITH PERMISSION GRANTED BY THE CITY.



TOP PLAN
TYPE A & TYPE B
STORM WATER MANHOLE

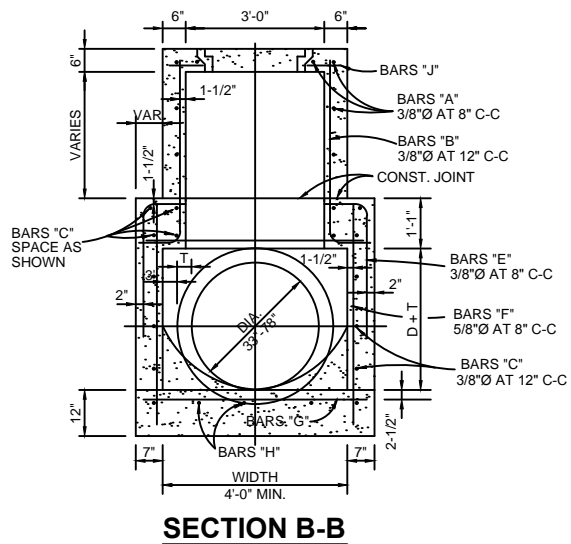
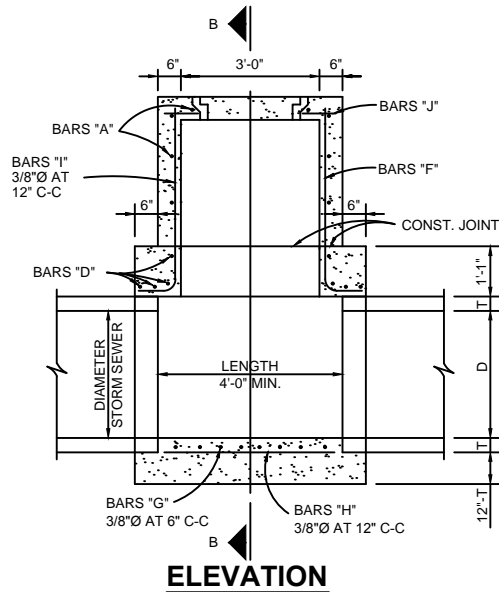
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



STORM WATER MANHOLE

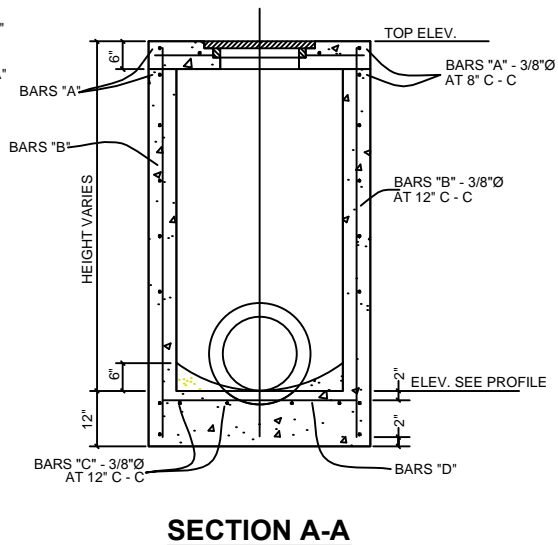
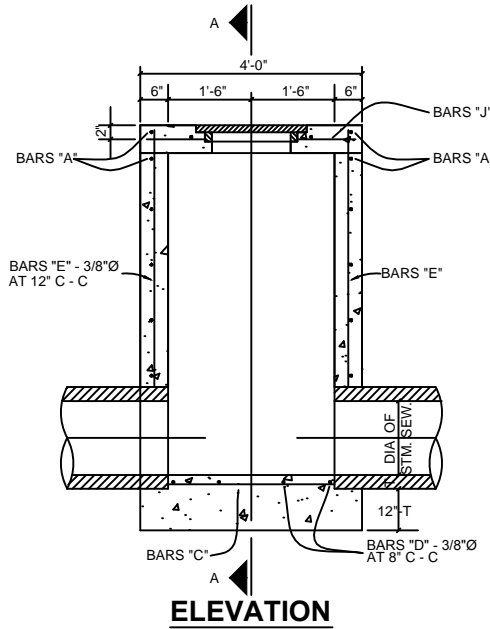
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



TYPE B STORM WATER MANHOLE

MAX. PIPE SIZE 78"



STORM WATER TYPE A MANHOLE

MAX. PIPE SIZE 30"

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



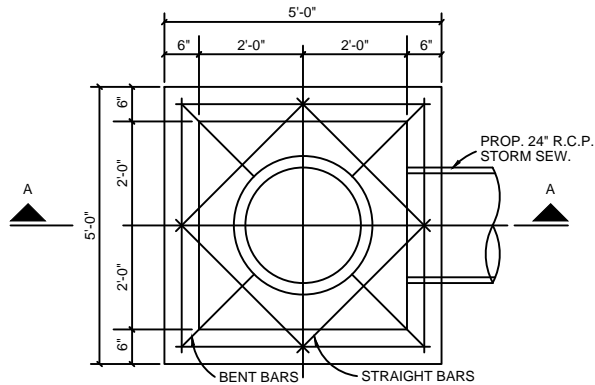
STORM WATER MANHOLE

DESIGNED: E.W.D.

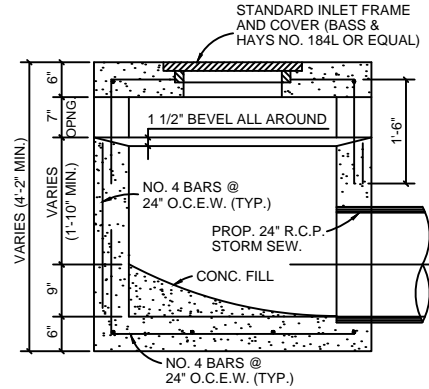
DATE: 07-05-16

DRAWN: M.K.W. / DBI

REVISION: N/C

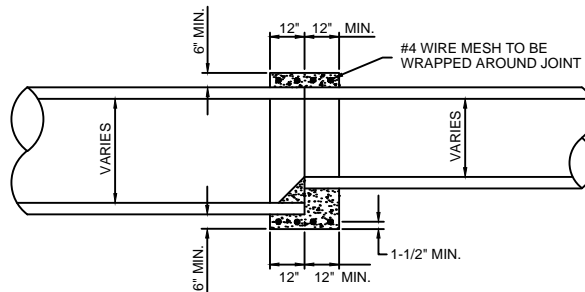


PLAN



SECTION A-A

STANDARD DROP INLET



**DETAIL OF CONCRETE COLLAR
FOR R.C.P. OR R.C.A.P. CONNECTIONS**

INSIDE JOINT SHALL BE CONCRETE MORTAR

SW-10

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



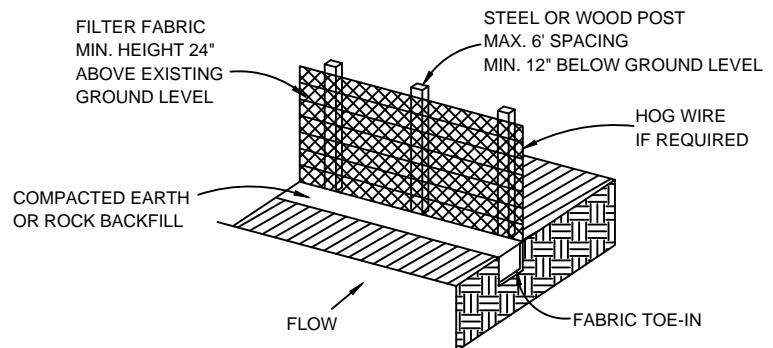
STORM WATER STANDARD DROP INLET

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

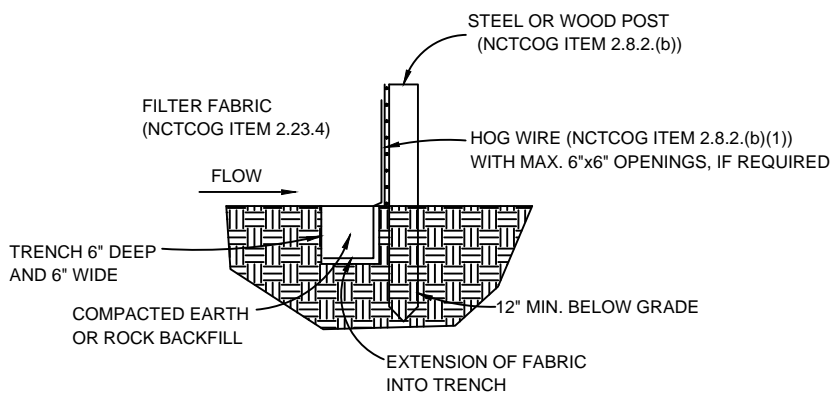
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REVISION: N/C

NOTES:

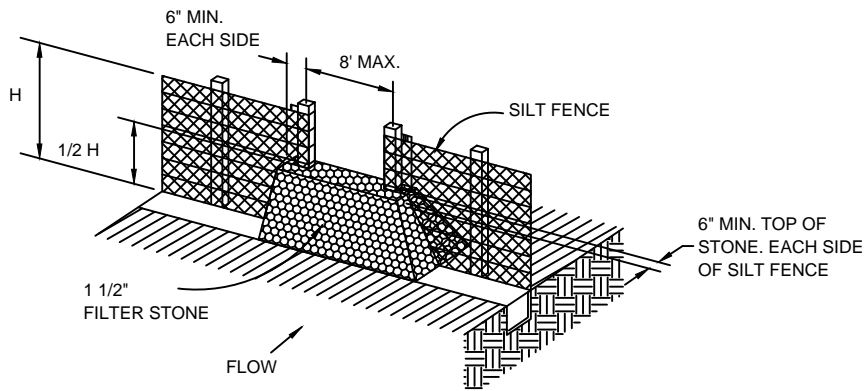
- 1) THE CONTRACTOR SHALL INSPECT SILT FENCE WEEKLY AND AFTER MAJOR RAIN EVENTS TO ENSURE THAT THE DEVICE IS FUNCTIONING PROPERLY AND MAINTAIN IN ACCORDANCE WITH NCTCOG ITEM 3.12.
- 2) THE CONTRACTOR SHALL REMOVE SEDIMENT FROM BEHIND FENCE WHEN THE DEPTH OF SEDIMENT HAS BUILT UP TO ONE-THIRD THE HEIGHT OF THE FENCE ABOVE GRADE.
- 3) THE CONTRACTOR SHALL INSPECT THE BASE OF THE FENCE TO ENSURE THAT NO GAPS HAVE DEVELOPED AND RE-TRENCH AS NECESSARY.
- 4) THE CONTRACTOR SHALL INSPECT FENCE POSTS TO ENSURE THAT THEY ARE PROPERLY SUPPORTING THE FENCE. IF NECESSARY, THE CONTRACTOR SHALL RESET AND ADD POSTS.
- 5) IF FILTER FABRIC IS RIPPED, DAMAGED OR DETERIORATED, THE CONTRACTOR SHALL REPLACE IT IN ACCORDANCE WITH THE ORIGINAL SPECIFICATIONS AND DETAILS. (MAINTENANCE OF THE SILT FENCE SHALL BE AT THE CONTRACTORS OWN EXPENSE)



ISOMETRIC VIEW



SECTION VIEW



STONE OVERFLOW STRUCTURE

LOCATION AS CALLED FOR IN PLANS

EROSION CONTROL

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



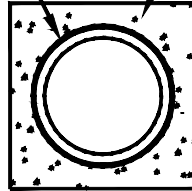
STORM WATER EROSION CONTROL

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

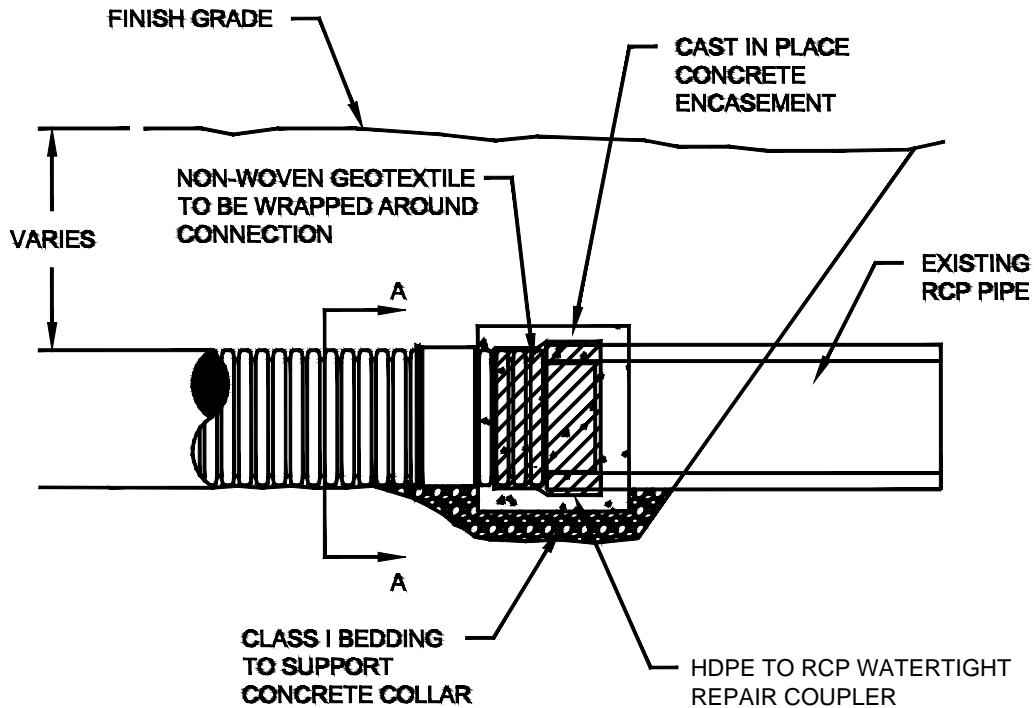
DATE: 07-05-16
REVISION: N/C

NON-WOVEN GEOTEXTILE TO
BE WRAPPED AROUND
CONNECTION

CAST IN PLACE
CONCRETE
ENCASEMENT



SECTION "A-A"



HDPE TO RCP CONNECTION

NOTE:
1. CONNECTION & PIPE TO BE BACKFILLED PER
ASTM D2321.

SW-12

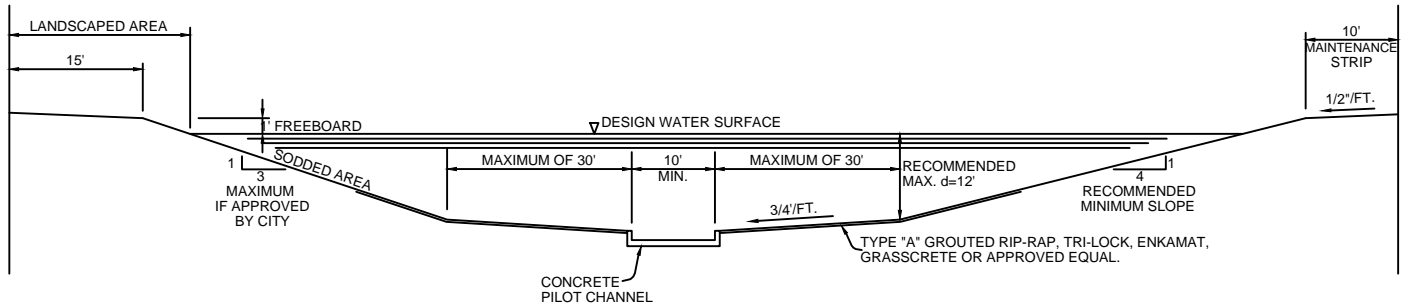
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



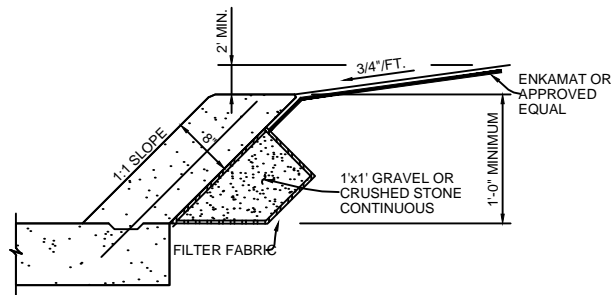
HDPE TO RCP CONNECTION

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

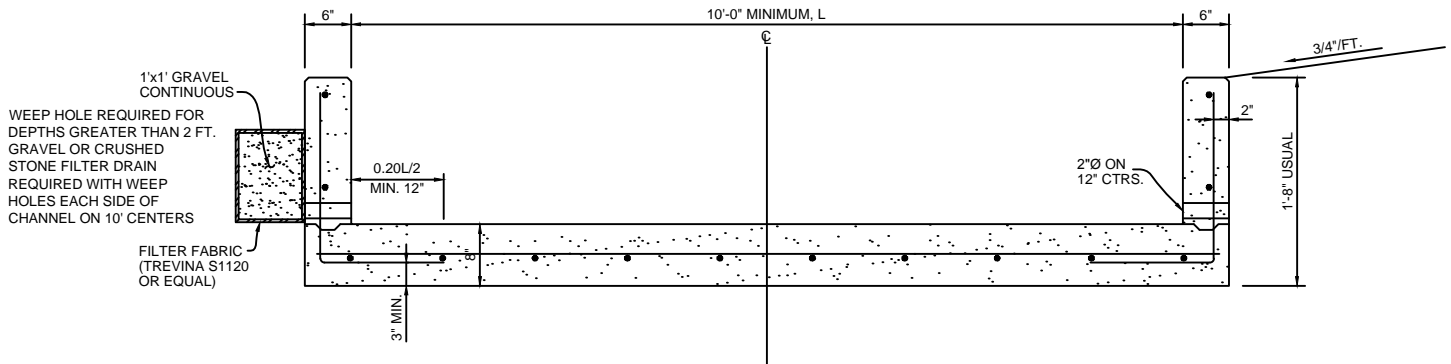
DATE: 07-05-16
REVISION: N/C



TYPICAL CHANNEL WITH REINFORCED CONCRETE LINED PILOT CHANNEL



OPTIONAL (SLOPED WALL)



REINFORCED CONCRETE PILOT CHANNEL (VERTICAL WALL)

GENERAL NOTES FOR LINED CHANNELS

1. CONSTRUCTION JOINT SHOWN FOR CONVENIENCE ONLY, MONOLITHIC CONSTRUCTION MAY BE USED.
2. ALL VISIBLE SURFACES SHALL BE A TROWEL FINISH.
3. ALL REINFORCING STEEL SHALL BE 3/8" DIA. AND SPACED 12" CENTER TO CENTER BOTH WAYS UNLESS OTHERWISE SPECIFIED.
4. IF WOOD FORMS ARE USED WITH CONSTRUCTION JOINT, THEY SHALL BE TWO, 2"x4". AND SHALL NOT BE REMOVED UNTIL CONCRETE ON SLOPES IS READY TO BE PLACED.
5. ALL CONCRETE IN LINED CHANNEL SHALL BE NCTCOG CLASS 'A' (MIN. 3000 P.S.I.) CONCRETE.
6. LAT BOTTOM TO BE CONSTRUCTED WHEN CHANNEL WIDTH IS LESS THAN 12 FOOT.
7. 3/4" CHAMFER ON ALL CONCRETE CORNERS.

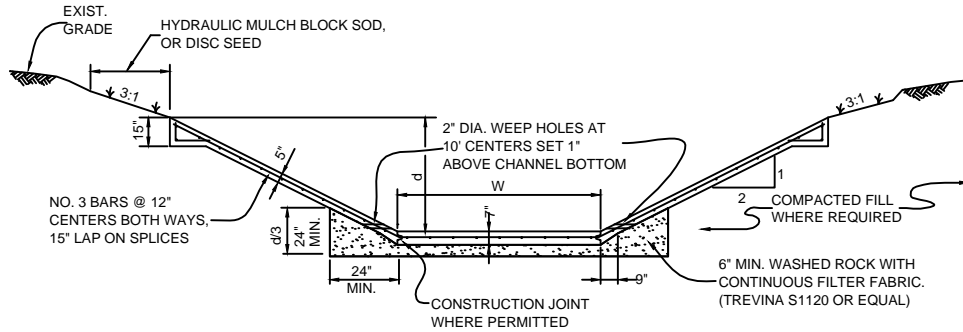
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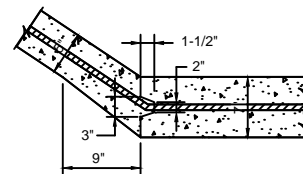
CHANNELS / CONCRETE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

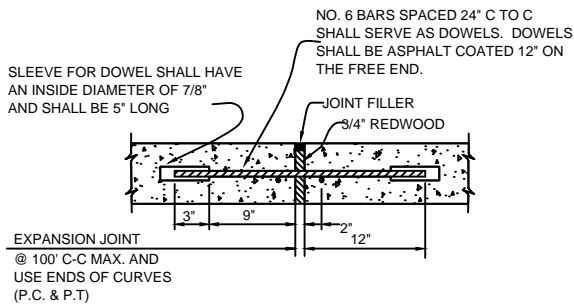


TYPICAL REINFORCED CONCRETE CHANNEL

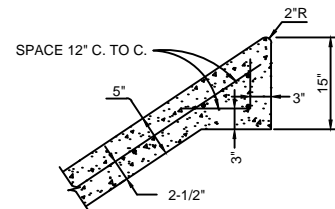


CONSTRUCTION JOINT
OPTIONAL

CONCRETE CHANNEL



TRANSVERSE EXPANSION JOINT



SLAB EDGE - DETAIL "A"

GENERAL NOTES FOR LINED CHANNELS

1. CONSTRUCTION JOINT SHOWN FOR CONVENIENCE ONLY, MONOLITHIC CONSTRUCTION MAY BE USED.
2. ALL VISIBLE SURFACES SHALL BE A TROWEL FINISH.
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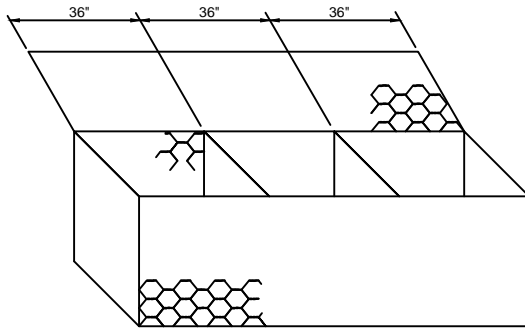
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FOR
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COLLIN COUNTY, TEXAS



CHANNELS / CONCRETE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

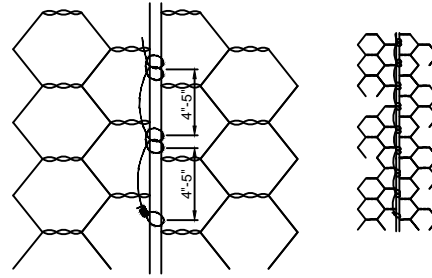
DATE: 07-05-16
REVISION: N/C



GABION CONTAINER

N.T.S.

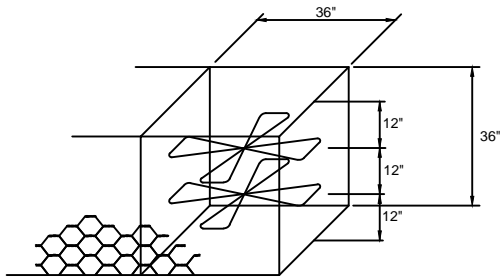
NOTE:
GABION MAY BE CUT BUT SHALL BE RETIED
IN A MANNER TO PRODUCE A CLOSED CELL
AND ALL TIES SHALL BE IN CONFORMANCE
WITH DETAILS



GABION TIE

N.T.S.

NOTE:
ALL TYING OF GABIONS SHALL BE AS SHOWN

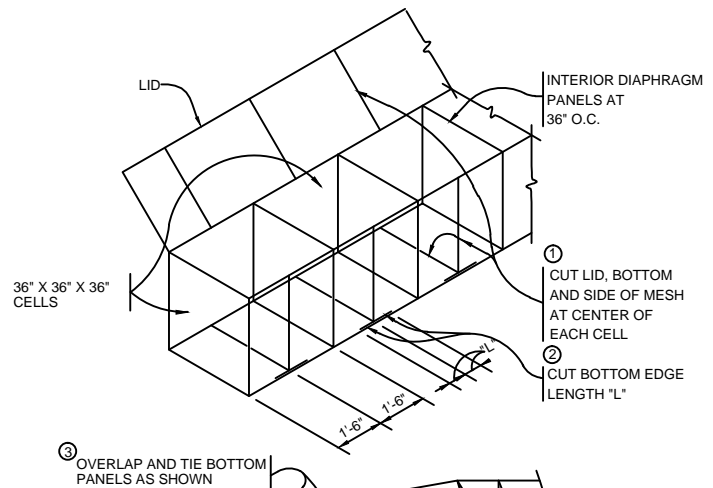


INNER TIE WIRE

N.T.S.

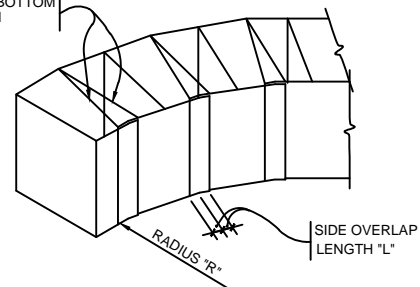
TOPSOIL PLACEMENT PROCEDURE

1. PRIOR TO CLOSING BASKET, PLACE A LAYER OF 3/4\" GRAVEL ON TOP OF THE GABION WALL AND THE HORIZONTAL STEPS FILLING THE VOIDS BETWEEN THE GABION ROCKS. SWEEP EXCESSIVE GRAVEL OFF THE GABIONS WITH A BROOM UNTIL FLUSH WITH, OR BELOW, THE TOP OF THE GABION..
2. PLACE A LAYER OF SOIL ON TOP OF THE GABION WALL AND STEPS.
3. WASH OR \"JET\" THE SOIL INTO THE GABIONS.
4. PLACE FINAL LAYER OF TOPSOIL ON THE GABIONS TO A DEPTH OF SIX INCHES.



- ③ OVERLAP AND TIE BOTTOM PANELS AS SHOWN

NOTE-ALL RETYING OF THE CUT GABION SHALL BE BY TYING WITH A DOUBLE LOOP- MADE AT THE SAME POINT AT A 4 INCH SPACING



GABION RADIUS PROCEDURE

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS

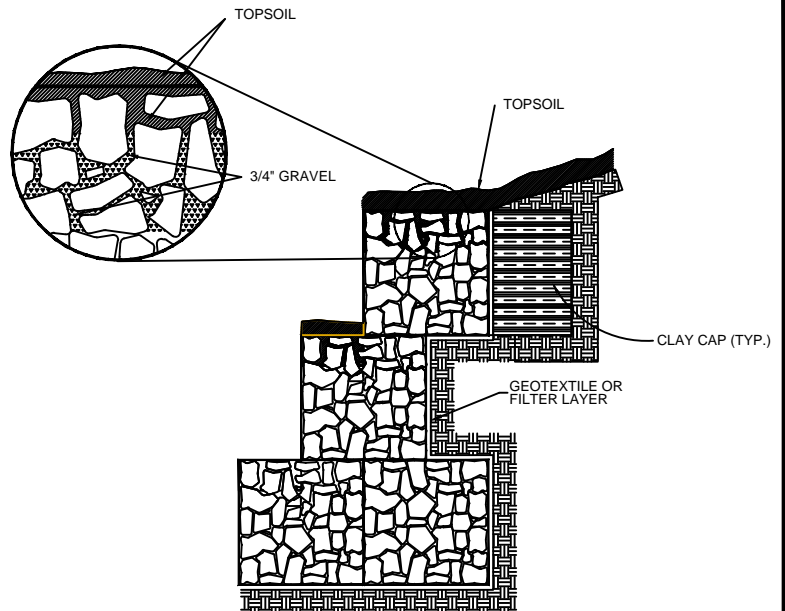


CHANNELS / GABIONS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

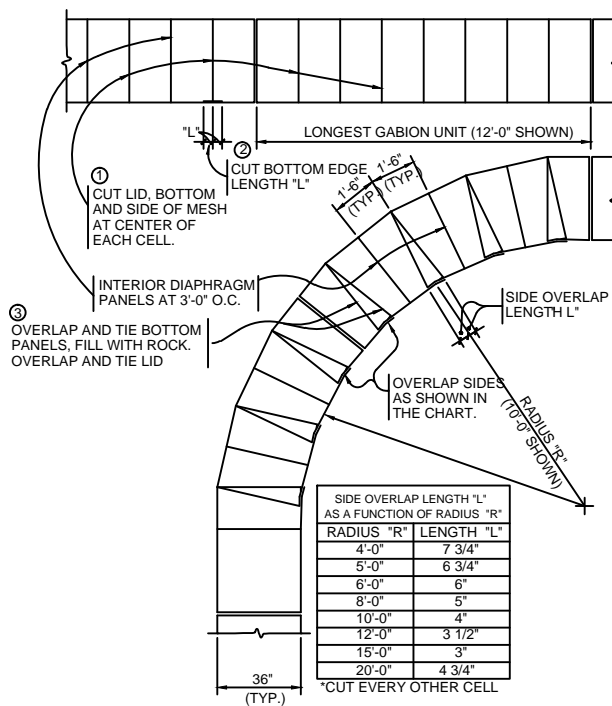
1. TOPSOIL PLACEMENT
PROCEDURE PRIOR TO CLOSING
BASKET, PLACE A LAYER OF 3/4"
GRAVEL ON TOP OF THE GABION
WALL AND THE HORIZONTAL STEPS
FILLING THE Voids BETWEEN THE
GABION ROCKS. SWEEP EXCESSIVE
GRAVEL OFF THE
2. GABIONS WITH A BROOM UNTIL
FLUSH WITH, OR BELOW, THE TOP
OF THE GABION. PLACE A LAYER OF
SOIL ON TOP
3. OF THE GABION WALL AND STEPS.
4. WASH OR "JET" THE SOIL INTO THE
GABIONS. PLACE FINAL LAYER OF
TOPSOIL
5. ON THE GABIONS TO A DEPTH OF SIX
INCHES.



SECTION

NOTE:
DO NOT USE SHARP TOOLS WHEN SPREADING TOPSOIL ON GABIONS

VEGETATED GABION WALL TOPSOIL PLACEMENT



GABION RADIUS PROCEDURE

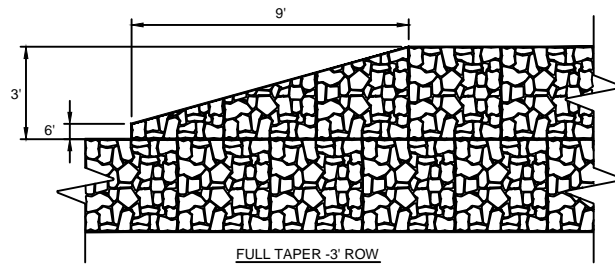
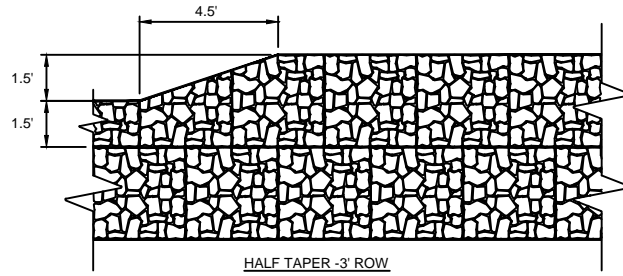
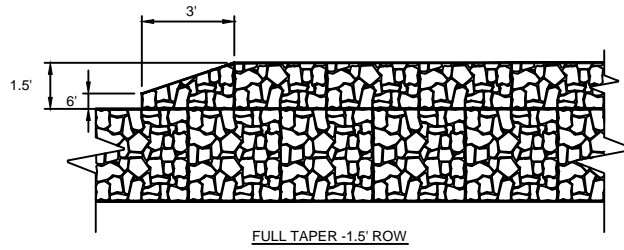
STANDARD CONSTRUCTION DETAILS
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COLLIN COUNTY, TEXAS



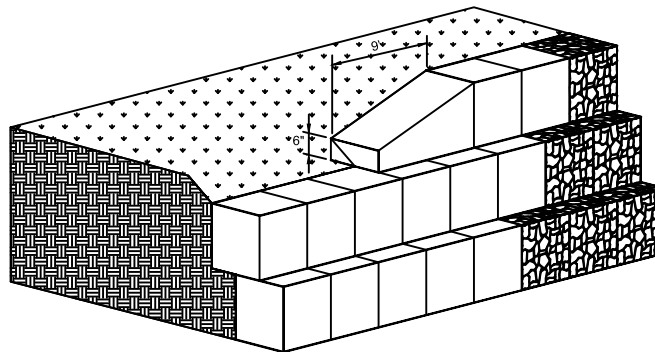
CHANNELS / GABIONS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



TAPERED WALL HEIGHT TRANSITION



STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



CHANNELS / GABIONS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

FIRE HYDRANT NOTES:

1. ALL FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARDS SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE.

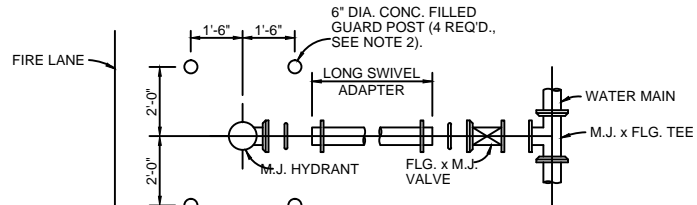
FIRE HYDRANTS SHALL HAVE A 5-1/4" MINIMUM VALVE OPENING AND A BARREL APPROXIMATELY 7" INSIDE DIAMETER.

ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. NOZZLE SECTION, UPPER AND LOWER STAND PIPES AND HYDRANT BASE SHALL BE DUCTILE IRON. THE UPPER BARREL ABOVE GROUND SHALL BE IN TWO SECTIONS TO ALLOW FOR EASY DISASSEMBLY. ALL HYDRANTS SHALL BE APPROVED BY THE CITY.

2. GUARD POSTS MAY BE REQUIRED AS DETERMINED BY THE CITY OF FARMERSVILLE FIRE DEPARTMENT. GUARD POSTS SHALL BE 6 L.F. OF 6" DIA. STEEL PIPE (3' ABOVE & BELOW GROUND LEVEL). POST SHALL BE ENCASED IN 16" DIA. CONC. PIER TO A DEPTH OF 12" BELOW POST BOTTOM. REINF. CONC. PIER WITH 2 NO. 6 BARS (12" LONG) THRU POST INTO PIER. POST ABOVE GROUND LEVEL SHALL BE PAINTED ALUMINUM WITH 2-2 INCH BANDS OF RED AND WHITE REFLECTIVE TAPE.
3. FIRE HYDRANTS SHALL BE CLASSIFIED IN ACCORDANCE WITH THE TABLE BELOW. FIRE HYDRANT BARRELS SHALL BE PAINTED SILVER. FIRE HYDRANT BONNETS AND CAPS SHALL BE PAINTED AND COLOR CODED IN ACCORDANCE WITH THE TABLE BELOW. PAINT TYPE AND MANUFACTURER SHALL BE APPROVED BY CITY BEFORE INSTALLATION.

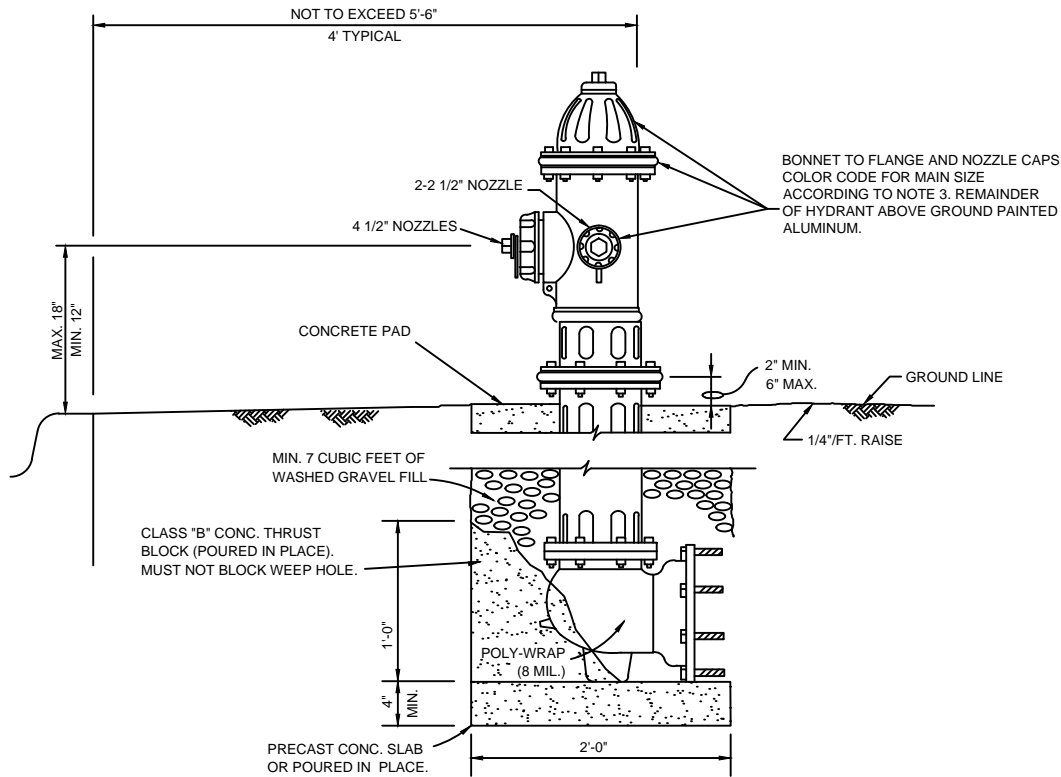
Fire Hydrant Class & Color Scheme		
Class	Flow at 20 PSIG	Color of Bonnet & Caps
AA	FLOW ≥ 1,500 gpm	BLUE
A	1,000 gpm ≤ FLOW < 1,500 gpm	GREEN
B	500 gpm ≤ FLOW < 1,000 gpm	ORANGE
C	250 gpm ≤ FLOW < 500 gpm	RED
NOP	FLOW < 250 gpm (non-operational)	BLACK

4. ALL HYDRANTS SHALL BE INSTALLED WITH A 24" X 24" SQUARE REINFORCED CONCRETE PAD.
5. IF A TEMPORARY CONDITION EXISTS FOR 30 DAYS OR LESS, WHERE A FIRE HYDRANT CANNOT DELIVER AT LEAST 250 gpm AT 20 psig, THEN A BLACK BAG MAY BE PLACED OVER THE FIRE HYDRANT TO IDENTIFY IT AS NON-OPERATIONAL IN LIEU OF PAINTING.
6. INDIVIDUAL FIRE HYDRANT CAPABILITIES MAY BE DETERMINED BY ENGINEERING HYDRAULIC ANALYSIS OR TESTS.
7. FIRE HYDRANTS SHALL BE MUELLER.
8. SPECIFIC FIRE HYDRANT PLACEMENT SHALL BE APPROVED BY THE CITY.
9. PAINT SHALL BE ALUMINUM TNEC OMNITHANE SERIES 530, SAFETY RED 06SF, TNEC HI-BUILD GLOSS SERIES, SAFETY BLUE 11SF, SAFETY GREEN 09SF, SAFETY ORANGE 04SF, BLACK 356R.



STANDARD FIRE HYDRANT ASSEMBLY INSTALLATION

NOTE: APPROVAL REQUIRED FOR ALTERNATE INSTALLATIONS



STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



FIRE HYDRANT

DESIGNED: E.W.D.

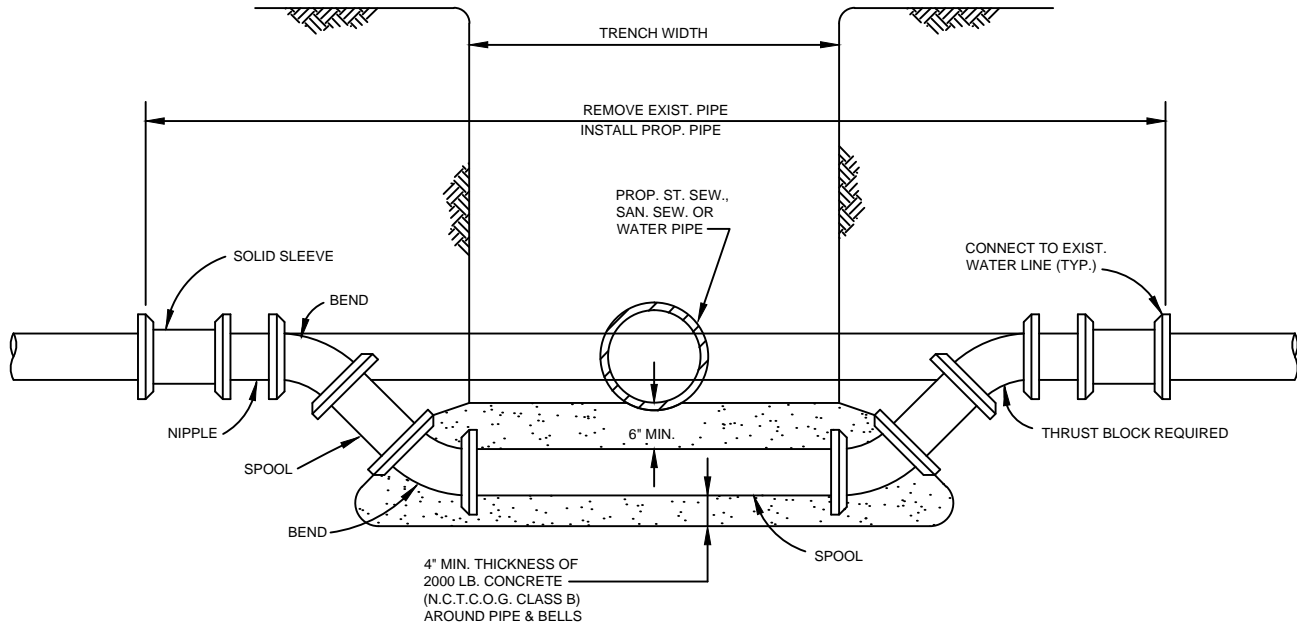
DATE: 07-05-16

DRAWN: M.K.W. / DBI

REVISION: N/C

NOTES:

1. PROPOSED WATER PIPE SHALL BE DUCTILE IRON UNLESS OTHERWISE SPECIFIED IN PLANS. ALL FITTINGS SHALL BE DUCTILE IRON (M.J.-P.E.) MEGALUG.
2. PROPOSED PIPING & FITTINGS ARE SYMMETRIC ABOUT CENTER OF PROP. SAN. SEW. OR ST. SEW. PIPE AND SHALL RETAIN TEST PRESSURES.
3. ALL THRUST BLOCKING SHALL BE SUBSIDIARY TO UNIT PRICE.
4. CROSSING OF SANITARY SEWER SHALL BE IN ACCORDANCE WITH T.N.R.C.C. REQUIREMENTS.



WATER MAIN LOWERING

TRENCH WIDTH

NOTE:
W=MINIMUM 16" GREATER THAN PIPE O.D.
MAXIMUM 36" GREATER THAN PIPE O.C.

STANDARD CONSTRUCTION DETAILS
FOR
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COLLIN COUNTY, TEXAS



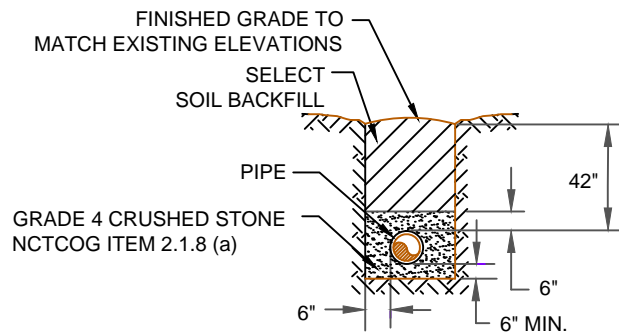
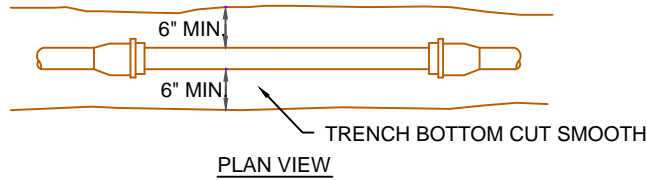
WATER MAIN LOWERING

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

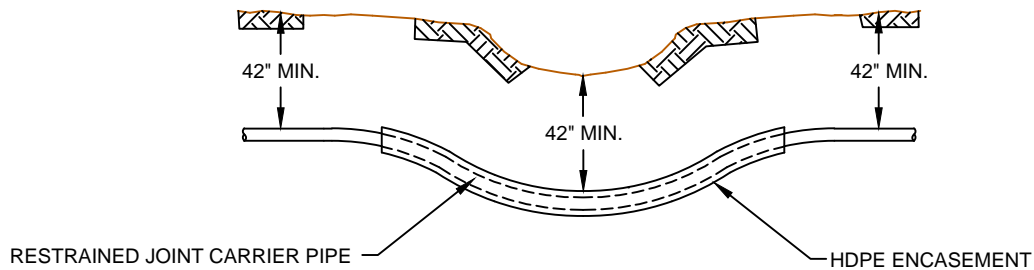
DATE: 07-05-16
REVISION: N/C

NOTES:

1. SELECT BACKFILL SHALL BE SOIL MATERIAL.
ROCK IN SELECT BACKFILL SHALL BE LIMITED TO
2" MAX. DIMENSION.
2. BELOW DETAILS SHALL APPLY TO ALL PVC WATER
PIPE 12" IN DIAMETER AND SMALLER.



LAYING DETAILS FOR PVC WATER PIPE

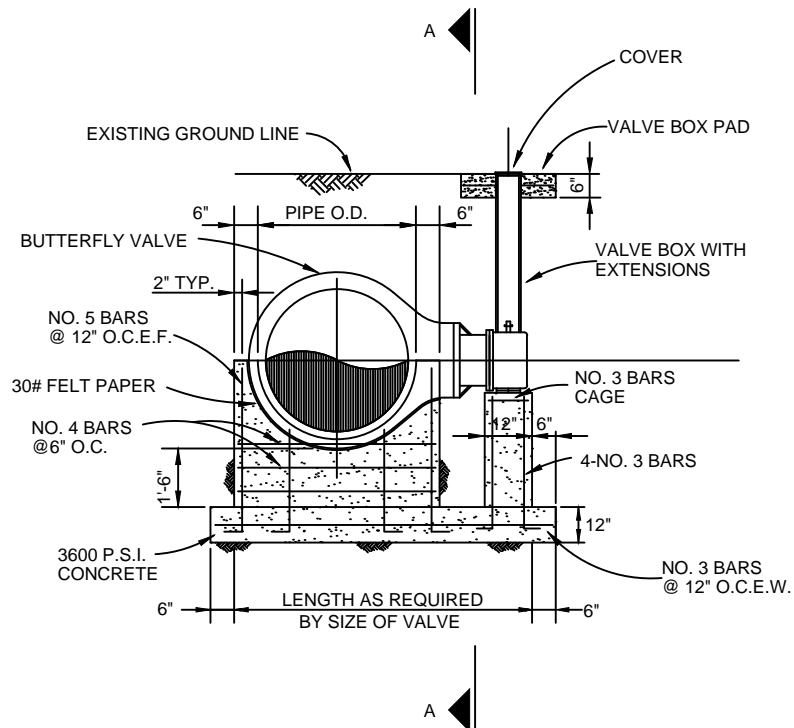


WATERLINE CREEK CROSSING

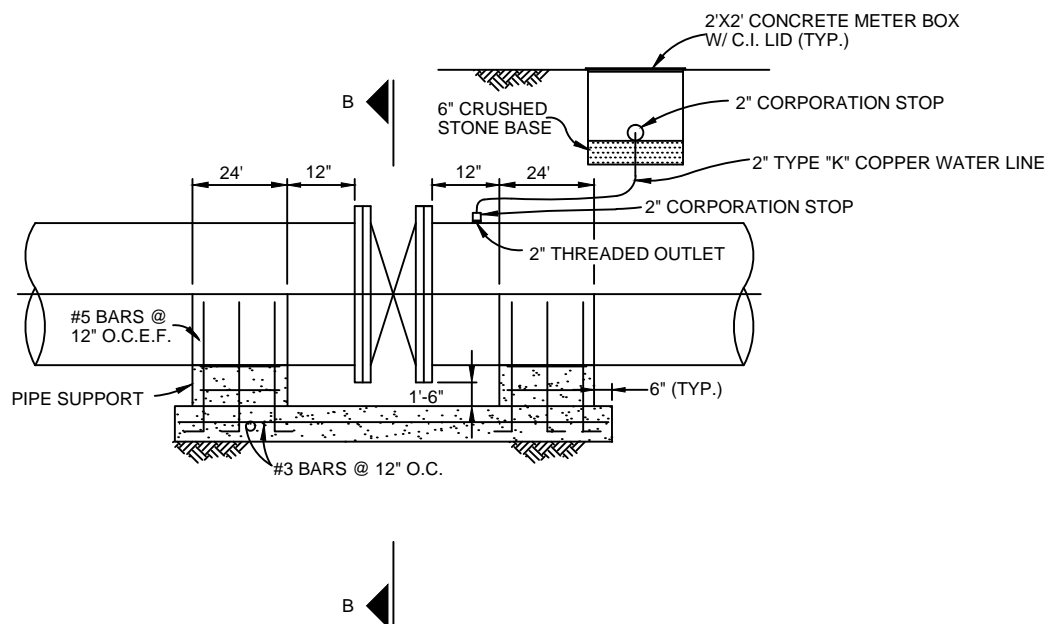
NOTE: MANUFACTURERS MINIMUM PIPE DEFLECTION
DISTANCE RECOMMENDATIONS SHALL BE FOLLOWED.

STANDARD CONSTRUCTION DETAILS
FOR
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COLLIN COUNTY, TEXAS





SECTION B-B



SECTION A-A

BUTTERFLY VALVE INSTALLATION

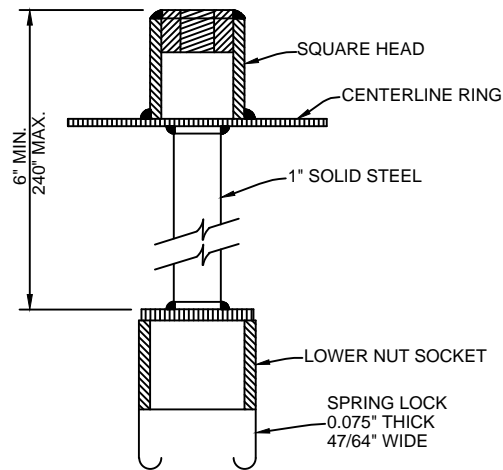
STANDARD CONSTRUCTION DETAILS
FOR
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COLLIN COUNTY, TEXAS



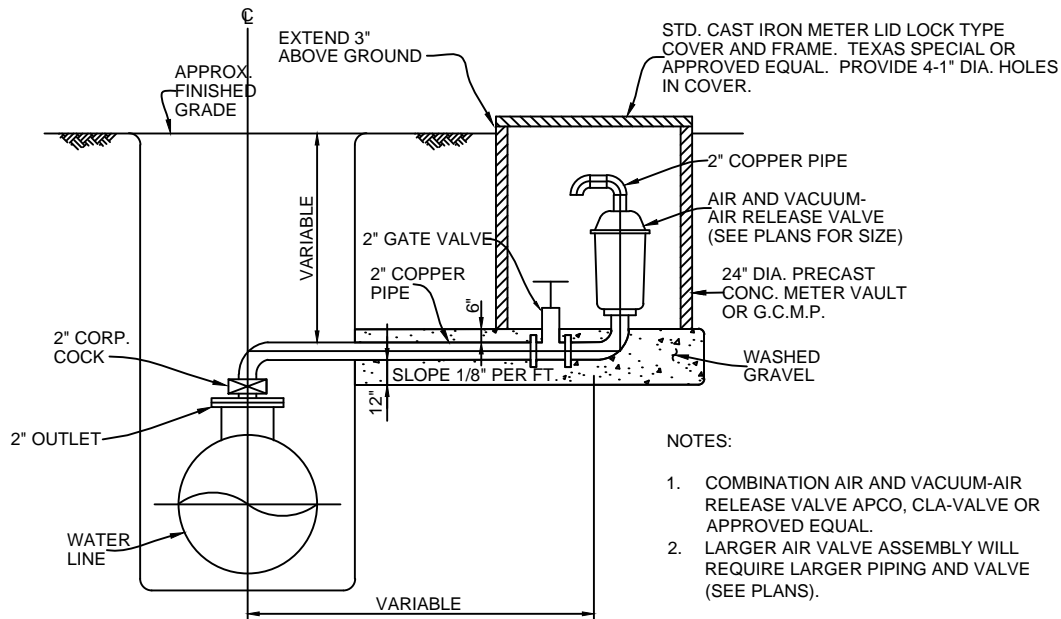
BUTTERFLY VALVE INSTALLATION

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



SPRING LOCK VALVE EXTENSION



AIR AND VACUUM - AIR RELEASE VALVE INSTALLATION

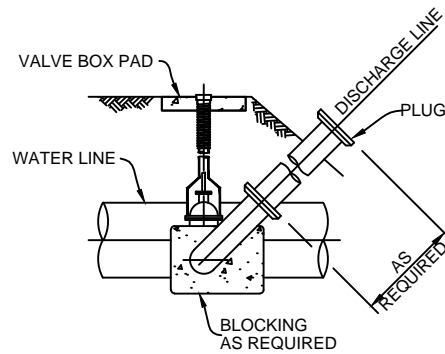
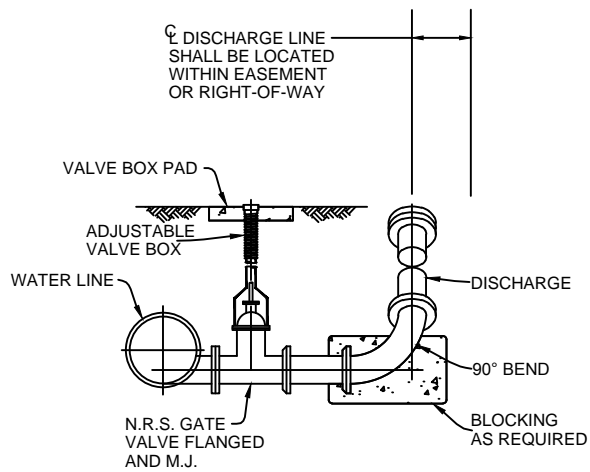
STANDARD CONSTRUCTION DETAILS
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COLLIN COUNTY, TEXAS



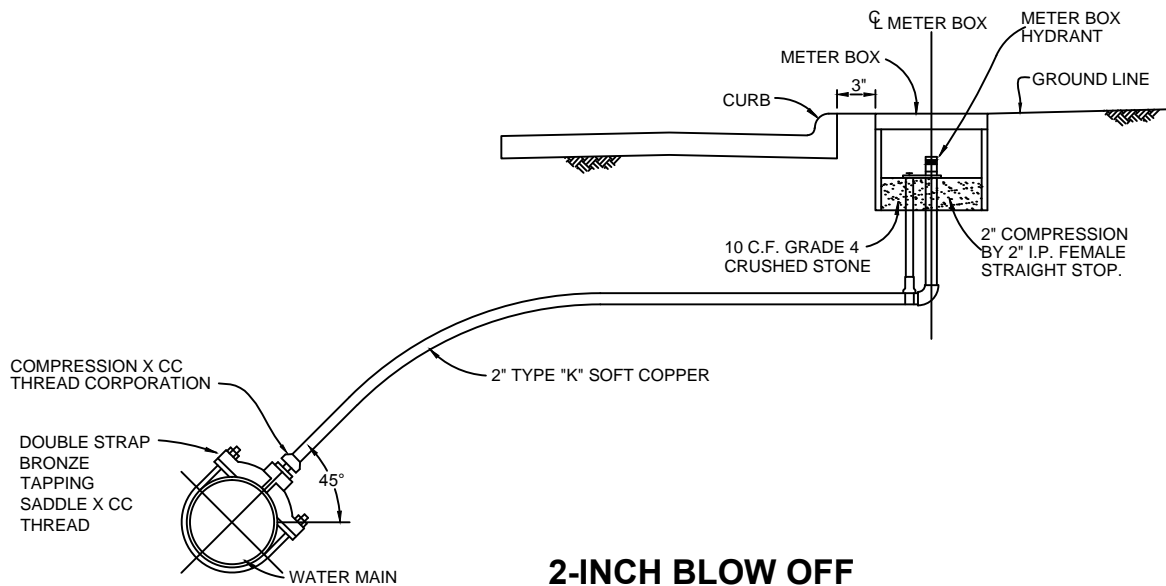
AIR RELEASE VALVE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



BLOW OFF VALVE



2-INCH BLOW OFF

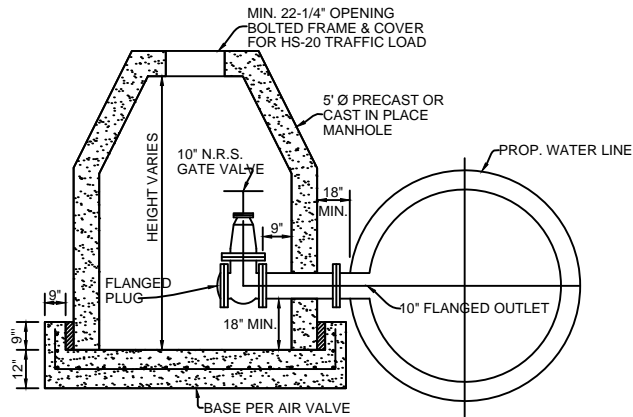
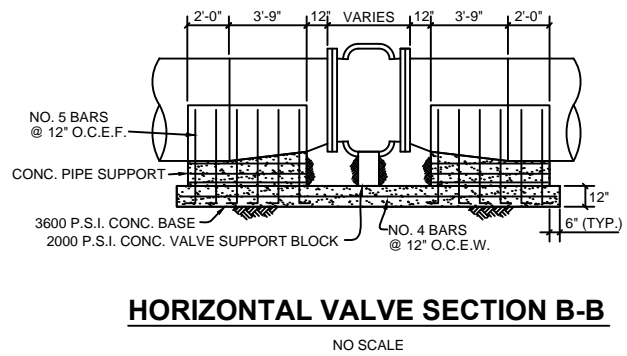
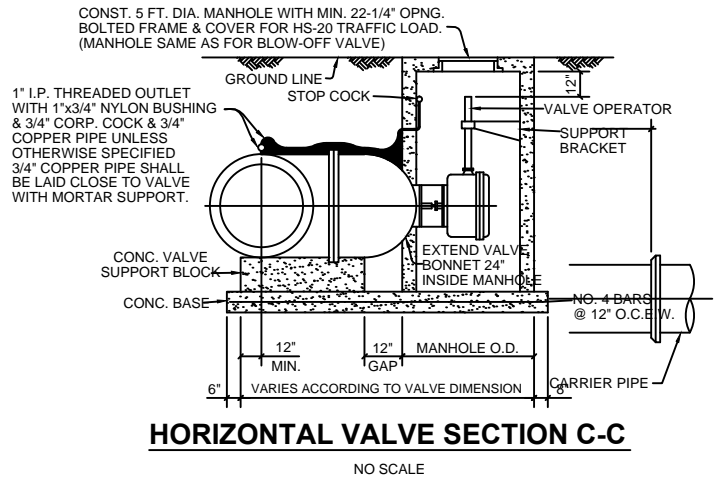
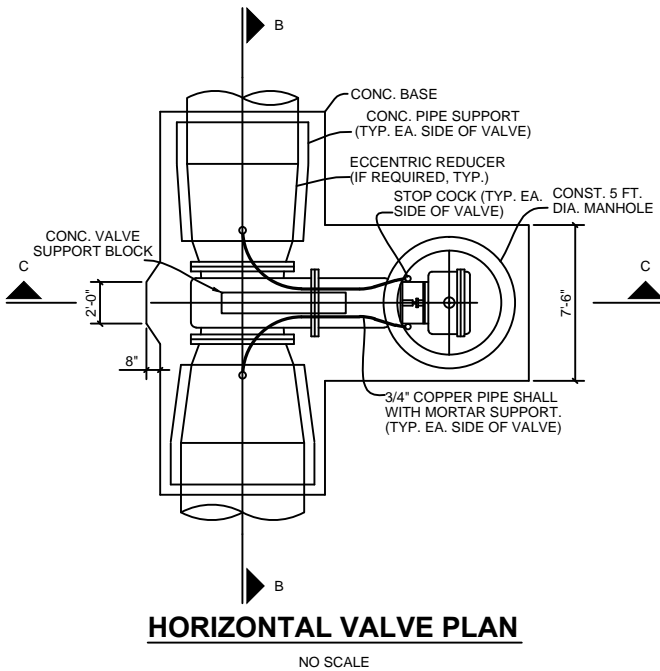
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



BLOW OFF VALVE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



GENERAL NOTES FOR BORING, JACKING OR TUNNELING

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY INSTALLATION ACTIVITIES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIR OR REPLACEMENT OF ANY PAVEMENT AND UNDERGROUND UTILITIES DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.
3. DRY BORE SHALL BE UTILIZED UNLESS OTHER METHODS SPECIFICALLY ARE APPROVED IN WRITING BY THE CITY.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



BLOW OFF VALVE WITH MANHOLE

DESIGNED: E.W.D.

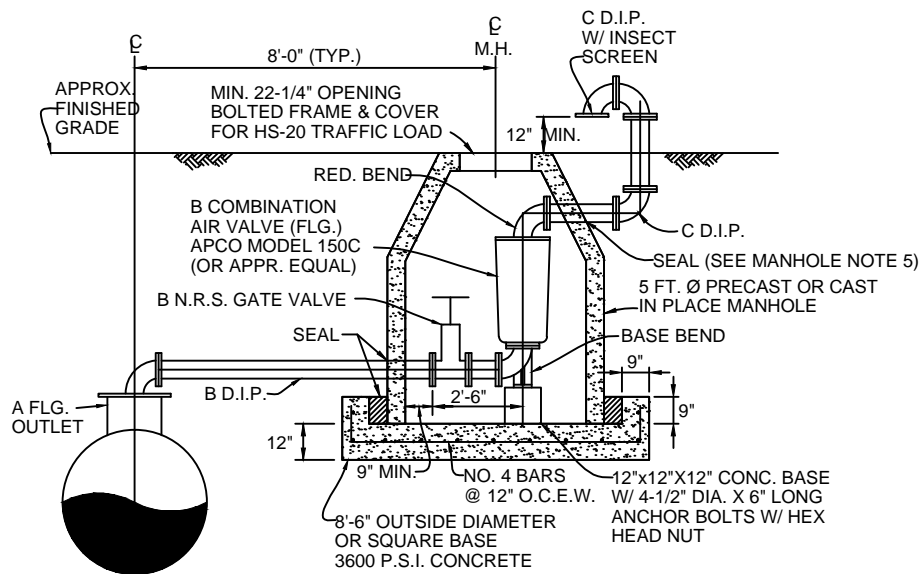
DRAWN: M.K.W. / DBI

DATE: 07-05-16

REVISION: N/C

NOTE: FOR DIMENSIONS A, B & C SEE TABLE BELOW

MAIN DIA.	A	B	C
24	9	4	4
30	12	4	4
36	12	6	4
42	15	6	6
48	18	6	6
54	18	8	6



AIR RELEASE VALVE W/MANHOLE

NO SCALE

GENERAL NOTES FOR BORING, JACKING OR TUNNELING

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STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



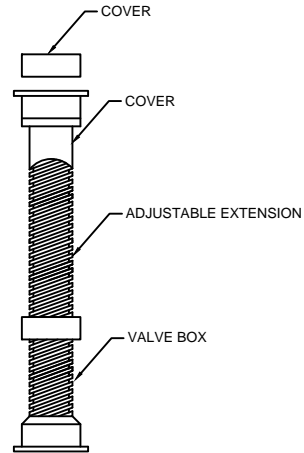
AIR RELEASE VALVE W/ MANHOLE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

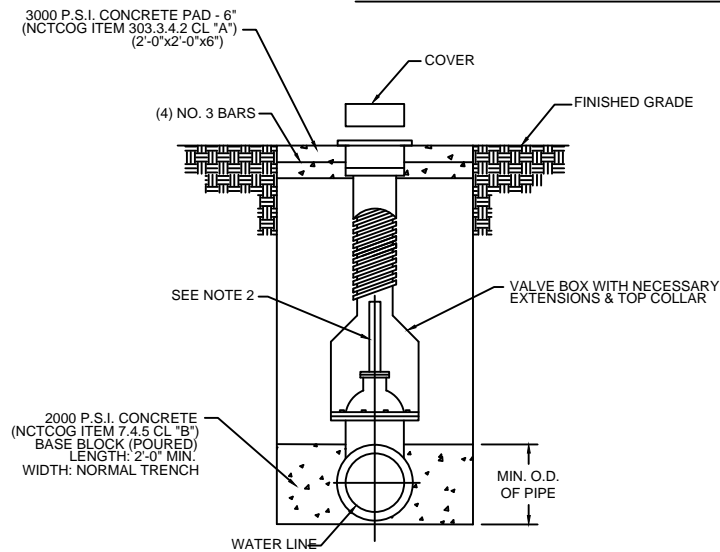
DATE: 07-05-16
REVISION: N/C

NOTES:

1. 4" TO 12" GATE VALVE SHALL BE RESILIENT SEATED WEDGE IN ACCORDANCE WITH AWWA STANDARD C-509.
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHOSE OPERATING NUT IS LOCATED IN EXCESS OF 4 FT BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4" OF THE VALVE BOX COVER.
3. PAINT VALVE STACK COVERS IN ACCORDANCE WITH THE FOLLOWING:
STANDARD WATERLINE - BLUE
FIRE HYDRANT - RED
FLUSH VALVE - BLACK
DEAD END - WHITE



VALVE BOX W/ EXTENSION



GATE VALVE INSTALLATION

NOT TO SCALE

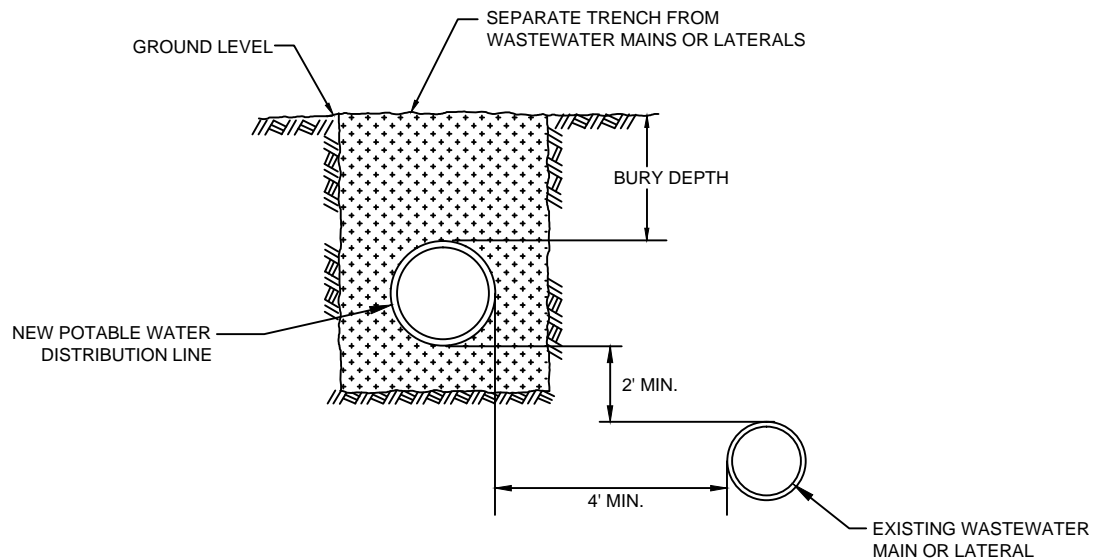
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



GATE VALVE INSTALLATION

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



WATER LINE INSTALLATION - PARALLEL LINES

9' SEPARATION DISTANCE CANNOT BE ACHIEVED.
EXISTING LEAKING/NON-LEAKING WASTEWATER MAIN OR LATERAL.

NOTES:

1. ENGINEER TO DETERMINE IF EXISTING WASTEWATER MAIN OR LATERAL IS LEAKING.
2. EXISTING LEAKING WASTEWATER MAIN OR LATERAL SHALL BE REPLACED WITH 150 psi PRESSURE RATED PIPE, FOR AT LEAST 9' IN BOTH DIRECTIONS.
3. MAKE EVERY EFFORT NOT TO DISTURB THE BEDDING AND BACKFILL OF THE EXISTING WASTEWATER MAIN OR LATERAL.

W-10

**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



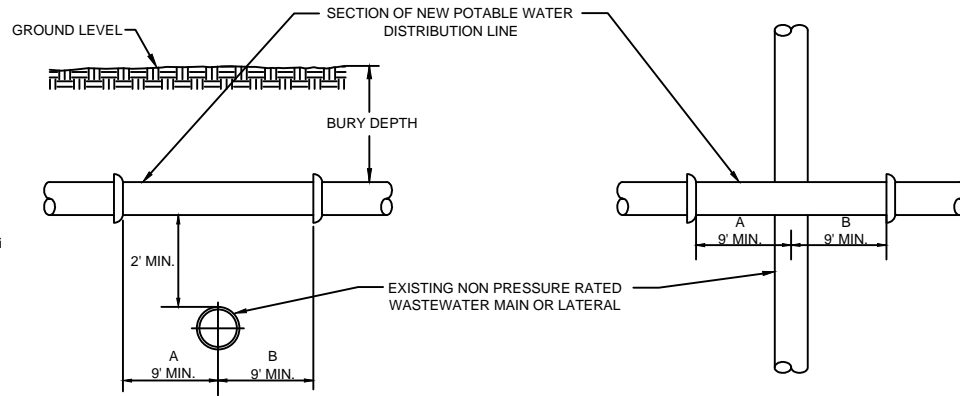
WATERLINE INSTALLATION - PARALLEL LINES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

NOTES:

1. A AND B ARE EQUIDISTANT
2. IF EXISTING WASTEWATER MAIN OR LATERAL SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED AT LEAST 9' IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150psi PRESSURE RATED PIPE.

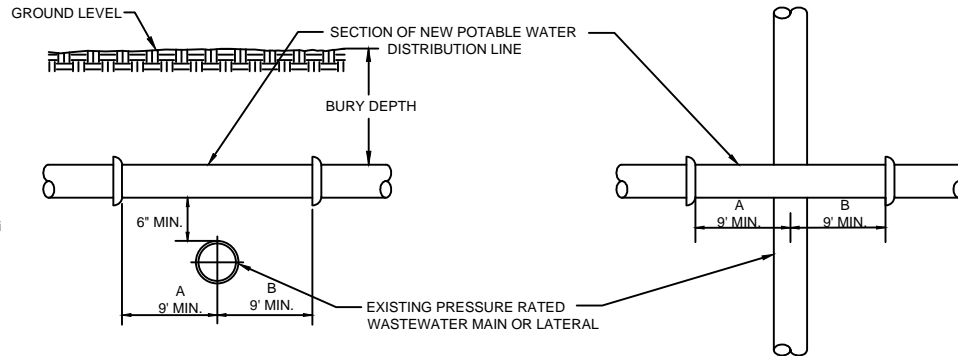


WATER LINE INSTALLATION - CROSSING LINES

9' SEPARATION DISTANCE CANNOT BE ACHIEVED.
EXISTING NON-PRESSURE RATED MAIN OR LATERAL.

NOTES:

1. A AND B ARE EQUIDISTANT
2. IF EXISTING WASTEWATER MAIN OR LATERAL SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED AT LEAST 9' IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150psi PRESSURE RATED PIPE.



SIDE VIEW

TOP VIEW

WATER LINE INSTALLATION - CROSSING LINES

9' SEPARATION DISTANCE CANNOT BE ACHIEVED.
EXISTING PRESSURE RATED MAIN OR LATERAL.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



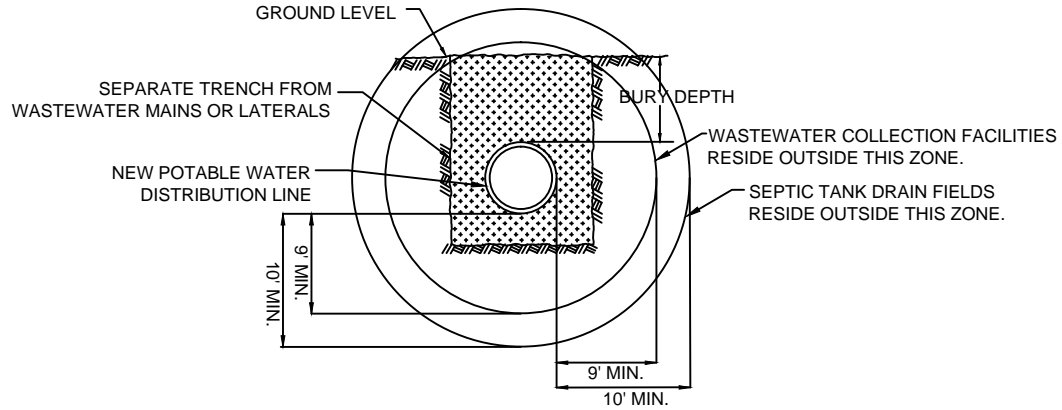
WATERLINE INSTALLATION - CROSSING LINES

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

NOTES:

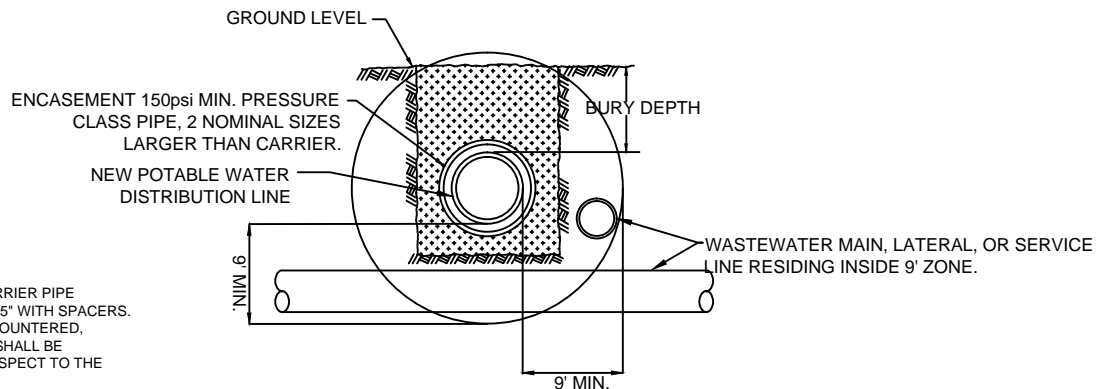
1. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN 9' VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER MAIN, LATERAL, OR SERVICE LINE.
2. SUCTION MAINS SHALL NOT CROSS WASTEWATER MAINS, LATERALS, OR SERVICE LINES.
3. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN 5' OF ANY TILE OR CONCRETE WASTEWATER MAINS, LATERALS, OR SERVICE LINES.



END VIEW
NOT TO SCALE

TYPICAL WATER LINE INSTALLATION

9' SEPARATION DISTANCE CAN BE ACHIEVED



END VIEW
NOT TO SCALE

TYPICAL WATER LINE INSTALLATION PARALLEL OR CROSSING

ALTERNATE INSTALLATION

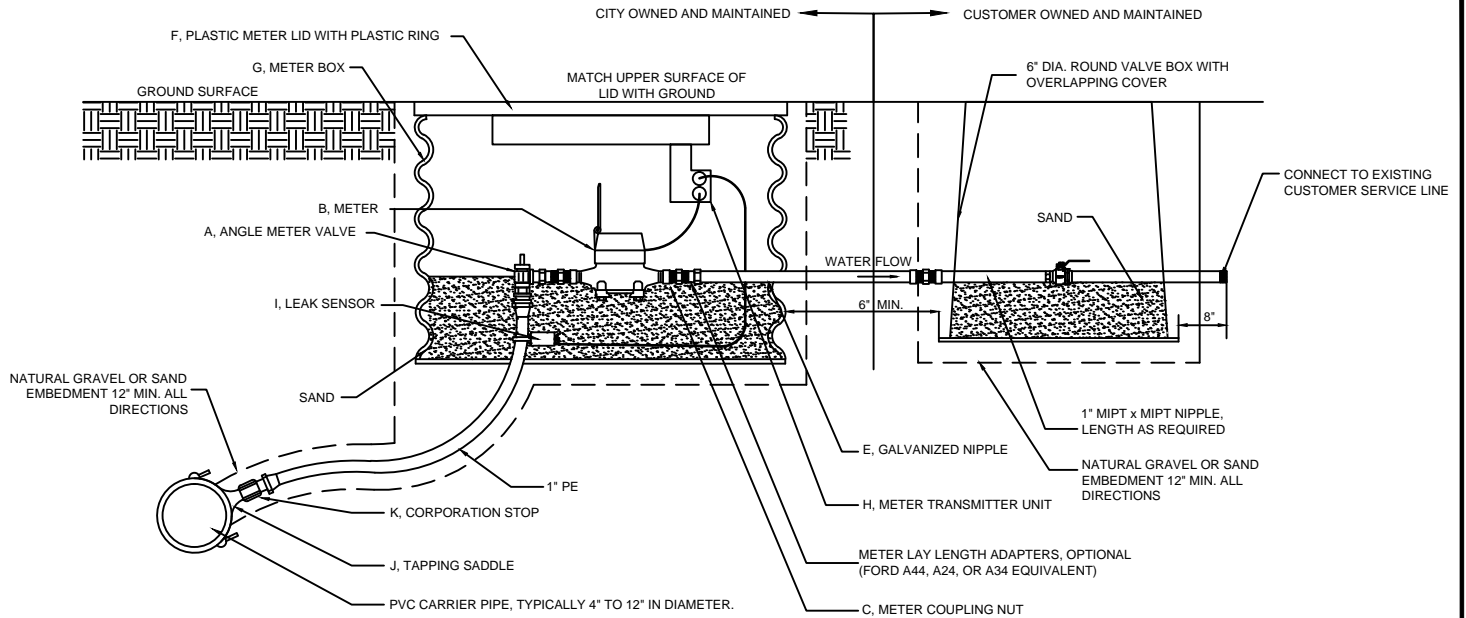
9' SEPARATION DISTANCE CAN BE ACHIEVED

NOTES:

1. SPACE AROUND CARRIER PIPE SUPPORTED EVERY 5' WITH SPACERS.
2. IF CROSSING IS ENCOUNTERED, ENCASEMENT PIPE SHALL BE CENTERED WITH RESPECT TO THE CROSSING.
3. ENCASEMENT EXTENDS FOR 9' MINIMUM BEYOND THE POINTS WHERE THE 9' KEEP-OUT ZONE IS ENCOUNTERED.
4. ENCASEMENT SHALL BE SEALED AT THE ENDS WITH CEMENT GROUT OR MANUFACTURED SEALANT.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS





Item	Description	Water Line Size/Meter Size/Part Manufacturer/Part Number			
		Inlet 1" PE Meter 5/8" X 3/4" Outlet 1" PE	Inlet 1" PE Meter 1" Outlet 1" PE	Inlet 1.5" PE Meter 1.5" Outlet 1.5" PE	Inlet 2" PE Meter 2" Outlet 2" PE
A	Angle Meter Valve	Ford, BA43-342W-G, Pack Joint X Meter Swivel Nut, Padlock Wings, Grip Joint	Ford, BA43-444W-G, Pack Joint X Meter Swivel Nut, Padlock Wings, Grip Joint	Ford, FV43-666W-G, Pack Joint X Meter Swivel Nut, Padlock Wings, Grip Joint	Ford, FV43-777W-G, Pack Joint X Meter Swivel Nut, Padlock Wings, Grip Joint
B	Meter	Badger, E-Series Ultrasonic 316SS, 5/8" X 3/4", 1 Gallon Resolution, 7.5" Lay Length, UM1-0007-6873	Badger, E-Series Ultrasonic 316SS, 1", 1 Gallon Resolution, 10.75" Lay Length, UM1-0007-8421	E-Series Ultrasonic 316SS, 1.5", 1 Gallon Resolution, UM1-0007-9007	E-Series Ultrasonic 316SS, 2", 1 Gallon Resolution, UM1-0007-7974
C	Meter Coupling Nut	Ford, 5/8" X 3/4" Meter X 1" FIPT, C31-24	Ford, 1" Meter X 1" FIPT, C31-44		
D	Meter Flange			Ford, 1.5" Meter Flange X 1.5" FIPT, CF31-66	Ford, 2" Meter Flange X 2" FIPT, CF31-77
E	Galvanized Nipple	1" MIPT X 1" MIPT, 18" Long	1" MIPT X 1" MIPT, 18" Long	1.5" MIPT X 1.5" MIPT, 18" Long	2" MIPT X 2" MIPT, 18" Long
F	Plastic Meter Lid with Plastic Ring	Nicor, 12.5SLFARI Type C Lid and 17.75X12.75Ring	Nicor, 12.5SLFARI Type C Lid and 17.75X12.75Ring	Field Determined as Approved by City	Field Determined as Approved by City
G	Meter Box	Contech, A-2000 Drainage Pipe, PVC, 18" Diameter, 18" Long or Field Adjusted to Length	Contech, A-2000 Drainage Pipe, PVC, 18" Diameter, 18" Long or Field Adjusted to Length	Field Determined as Approved by City	Field Determined as Approved by City
H	Meter Transmitter Unit	Itron, With Leak Sensor Capability, ERW-1300-203	Itron, With Leak Sensor Capability, ERW-1300-203	Itron, With Leak Sensor Capability, ERW-1300-203	Itron, With Leak Sensor Capability, ERW-1300-203
I	Leak Sensor	Optional by City Direction, Itron, LDS-0001-001	Optional by City Direction, Itron, LDS-0001-002	Optional by City Direction, Itron, LDS-0001-003	Optional by City Direction, Itron, LDS-0001-004
J	Tapping Saddle	Ford, Hinged Design, Style SXX, AWWA Threads	Ford, Hinged Design, Style SXX, AWWA Threads	Ford, Hinged Design, Style SXX, AWWA Threads	Ford, Hinged Design, Style SXX, AWWA Threads
K	Corporation Stop	Ford, AWWA/CC Taper Thread X Pack Joint, Grip Joint	Ford, AWWA/CC Taper Thread X Pack Joint, Grip Joint	Ford, AWWA/CC Taper Thread X Pack Joint, Grip Joint	Ford, AWWA/CC Taper Thread X Pack Joint, Grip Joint

SERVICE CONNECTION

ALL METERS WITH VAULTS LARGER THAN 2" DIA. SHALL BE APPROVED BY THE CITY OF FARMERSVILLE.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



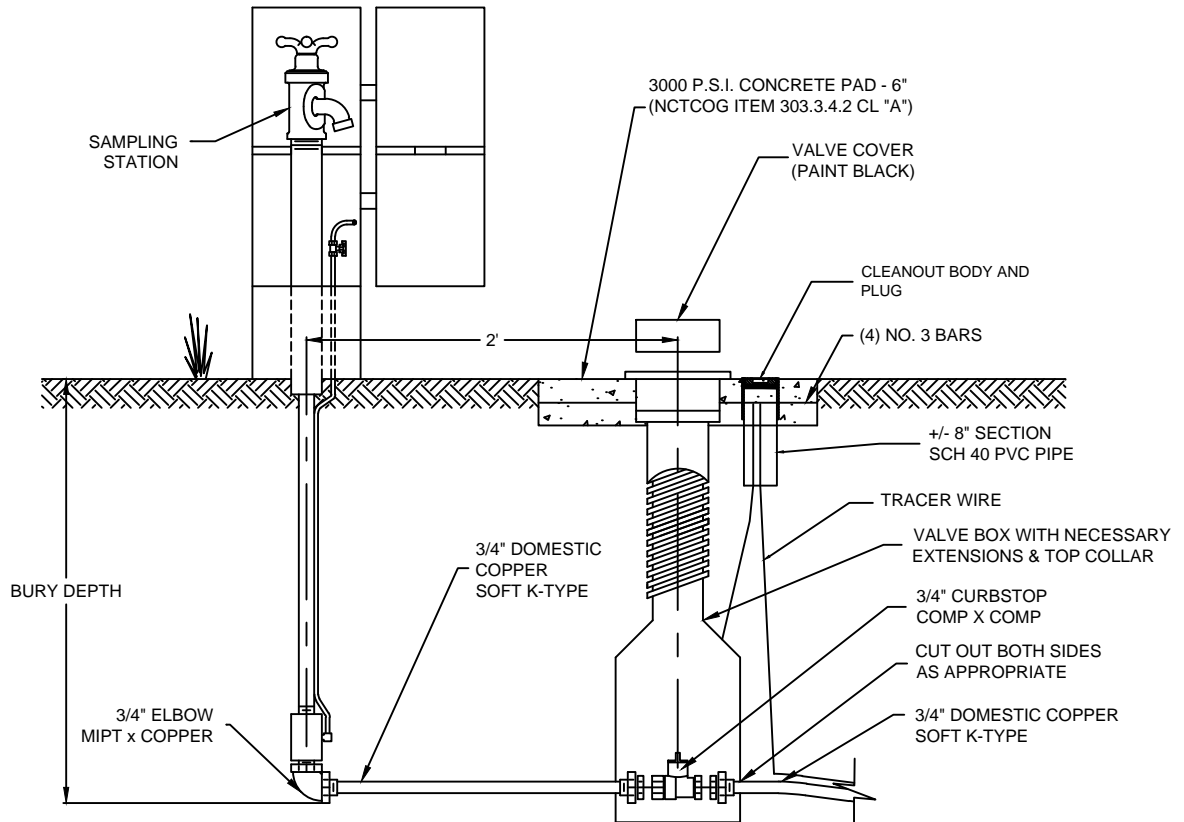
SERVICE CONNECTION

DESIGNED: E.W.D.

DRAWN: M.K.W. / DBI

DATE: 07-05-16

REVISION: N/C



GENERAL NOTES:

1. SAMPLING STATIONS SHALL BE 3'-0" BURY, WITH A 3/4" FIP INLET, AND A (3/4" HOSE OR UNTHREADED) NOZZLE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM-CAST HOUSING.
3. WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY.
4. ALL WORKING PARTS WILL ALSO BE OF BRASS AND BE REMOVABLE FROM ABOVE GROUND WITH NO DIGGING. EXTERIOR PIPING SHALL BE GALVANIZED STEEL (BRASS PIPE ALSO AVAILABLE).
5. A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND TO MINIMIZE BACTERIA GROWTH.
6. ECLIPSE NO. 88-SS SAMPLING STATION SHALL BE MANUFACTURED BY KUPFERLE FOUNDRY, ST. LOUIS, MO 63102.

SAMPLING STATION

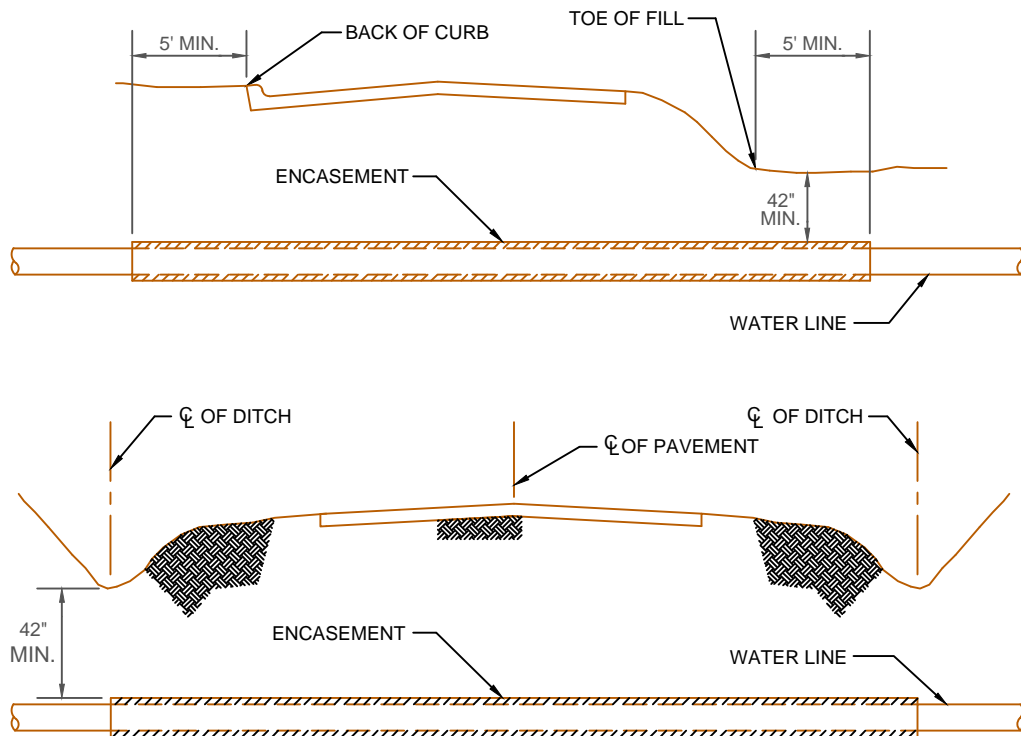
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



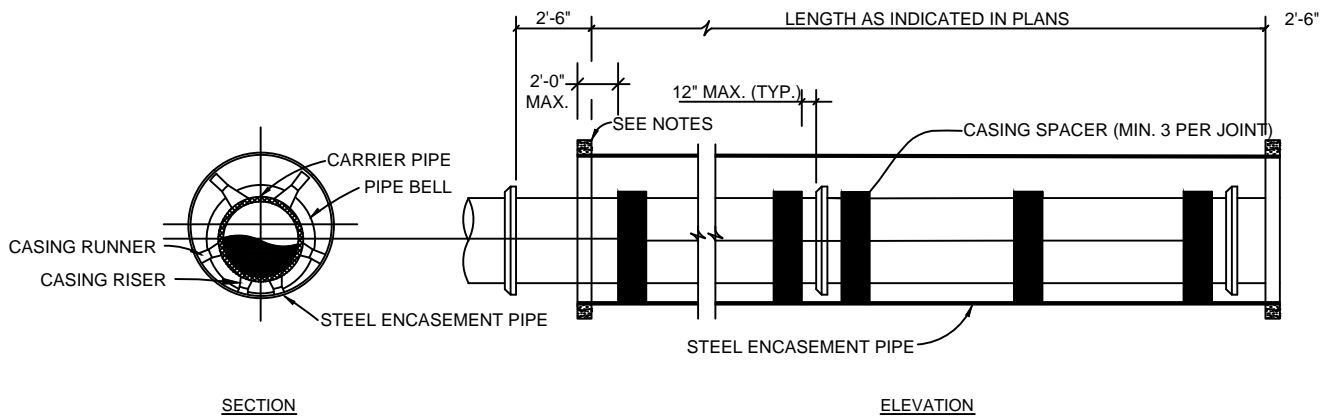
SAMPLING STATION

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



ROAD BORE & ENCASEMENT



WATERLINE ENCASEMENT

NOTES:

1. 3 MORTAR BANDS MAY BE USED IN LIEU OF CASING SPACERS FOR R.C.C.P.
2. CONTRACTOR SHALL PROVIDE SUPPORT UNDER CARRIER PIPE TO HAVE MIN. 1.5" CLEARANCE BETWEEN PIPE BELL AND ENCASEMENT PIPE.
3. ENDS OF ENCASEMENT PIPE SHALL BE PLUGGED WITH BRICK AND MORTAR FOR ROADWAY CROSSINGS AND CLAY FOR ROADWAY CROSSINGS.
4. CONTRACTOR SHALL FURNISH & INSTALL A MINIMUM OF 3 CASING SPACERS PER JOINT OF PIPE. CASING SPACERS SHALL BE INSTALLED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS. CASING SPACERS SHALL BE AS MANUFACTURED BY P.S.I. OR APPROVED EQUAL.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



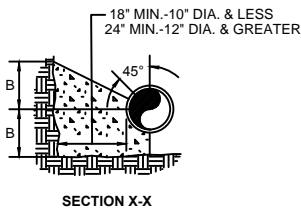
WATERLINE ROAD BORE ENCASEMENT

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

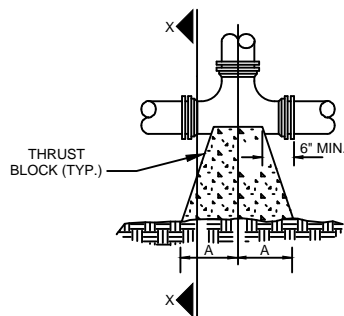
DATE: 07-05-16
REVISION: N/C

NOTES:

1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4° BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. BY PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONC. SHALL BE 3000 PSI READY MIX CONC.
5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4" OF COVER.
6. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINT JOINTS MUST BE USED. IF EQUAL OR GREATER THAN 100 PSI WORKING PRESSURE, BOTH BLOCK AND RESTRAINT JOINTS ARE REQUIRED.

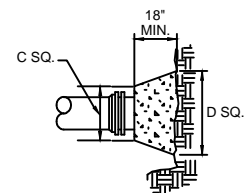


BENDS AND TEES

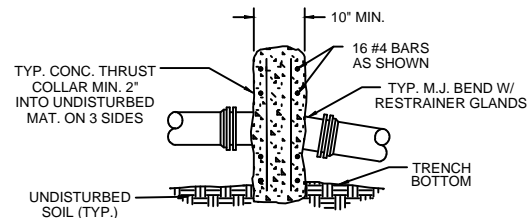


PLAN BENDS

THRUST BLOCK



PLAN AND ELEVATION PLUGS



SECTION OF VERTICAL BEND

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	11"	9"	10"	6"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"
30"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

PRESSURE = 200 psi
BEARING = 2000 psf
FACTOR OF SAFETY = 1.5

FACTOR OF SAFETY = 1.5

PIPE SIZE	PIPE MAT'L	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	VALVE /PLUG	TEE BRANCH	RED. (NOTE 2)	VERT. 45°	VERT. 22 1/2°	VERT. 11 1/4°
6"	D.I.	28'	12'	6'	3'	38'	34'	20'	23'	11'	5'
8"	D.I.	37'	15'	7'	4'	51'	47'	21'	30'	15'	7'
10"	D.I.	45'	19'	9'	4'	61'	57'	20'	37'	18'	9'
12"	D.I.	53'	22'	11'	5'	73'	69'	38'	43'	21'	10'
6"	PVC	30'	12'	6'	3'	56'	38'	29'	35'	17'	8'
8"	PVC	40'	16'	8'	4'	74'	56'	31'	46'	22'	11'
10"	PVC	47'	20'	9'	5'	89'	82'	30'	56'	27'	13'
12"	PVC	56'	23'	11'	6'	106'	88'	56'	66'	32'	16'

NOTES:

1. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING FOR THE LENGTH SHOWN UNLESS OTHERWISE INDICATED.
2. REDUCER IS ONE SIZE SMALLER THAN PIPE LISTED. RESTRAINED LENGTH IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.
3. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINT JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 100 PSI WORKING PRESSURE, BOTH THRUST BLOCK AND RESTRAINT JOINTS SHALL BE USED.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



THRUST BLOCK

DESIGNED: E.W.D.

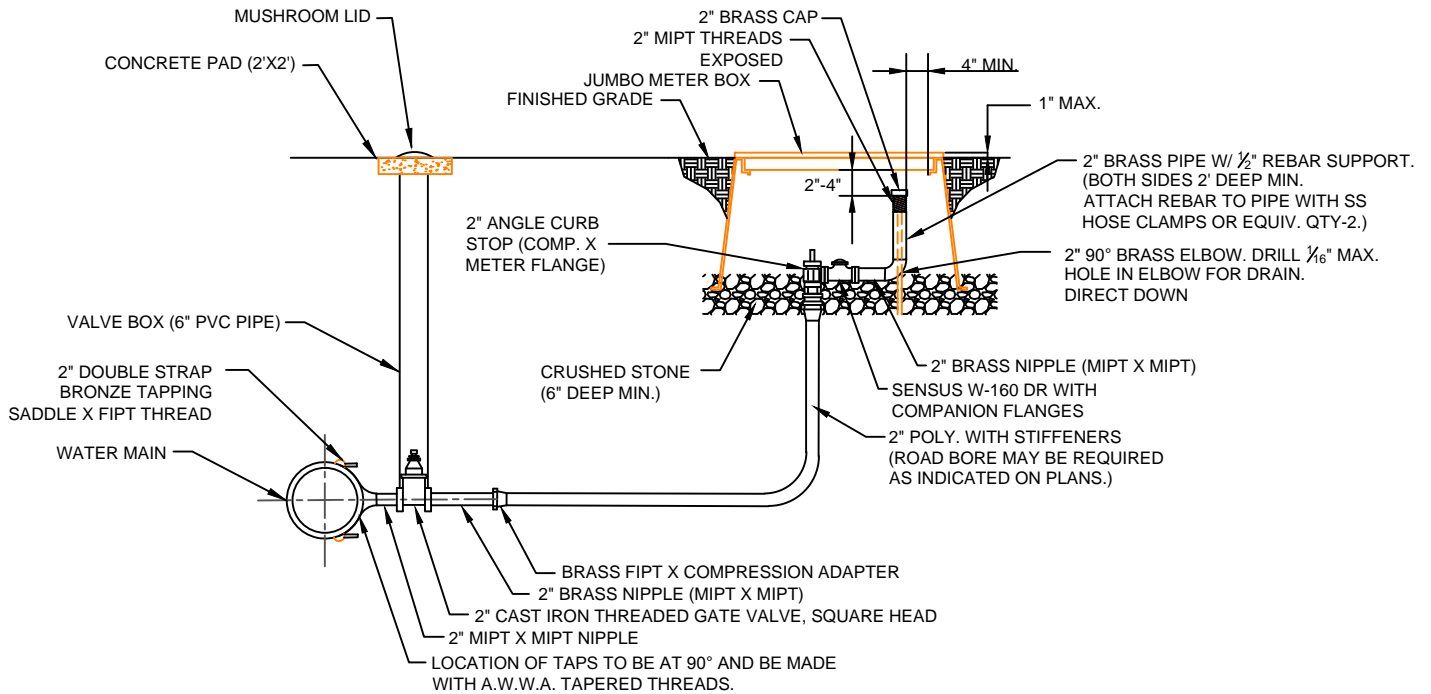
DRAWN: M.K.W. / DBI

DATE: 07-05-16

REVISION: N/C

NOTES:

1. PAINT VALVE STACK COVERS IN ACCORDANCE WITH THE FOLLOWING:
STANDARD WATERLINE - BLUE
FIRE HYDRANT - SILVER
FLUSH VALVE - BLACK
DEAD END - WHITE
2. METER BOX HOLES MAY NEED TO BE ENLARGED TO ACCOMMODATE PIPE.



2" BURIED FLUSH VALVE ASSEMBLY

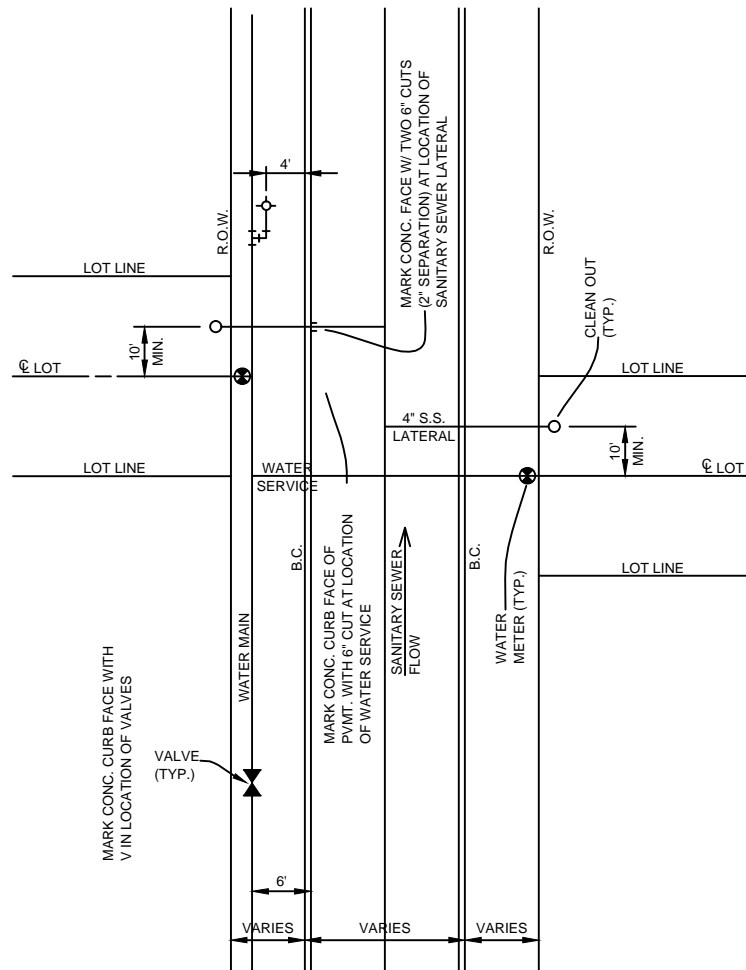
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



2" BURIED FLUSH VALVE ASSEMBLY

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



TYPICAL WATER/SANITARY SEWER
SERVICE LOCATION

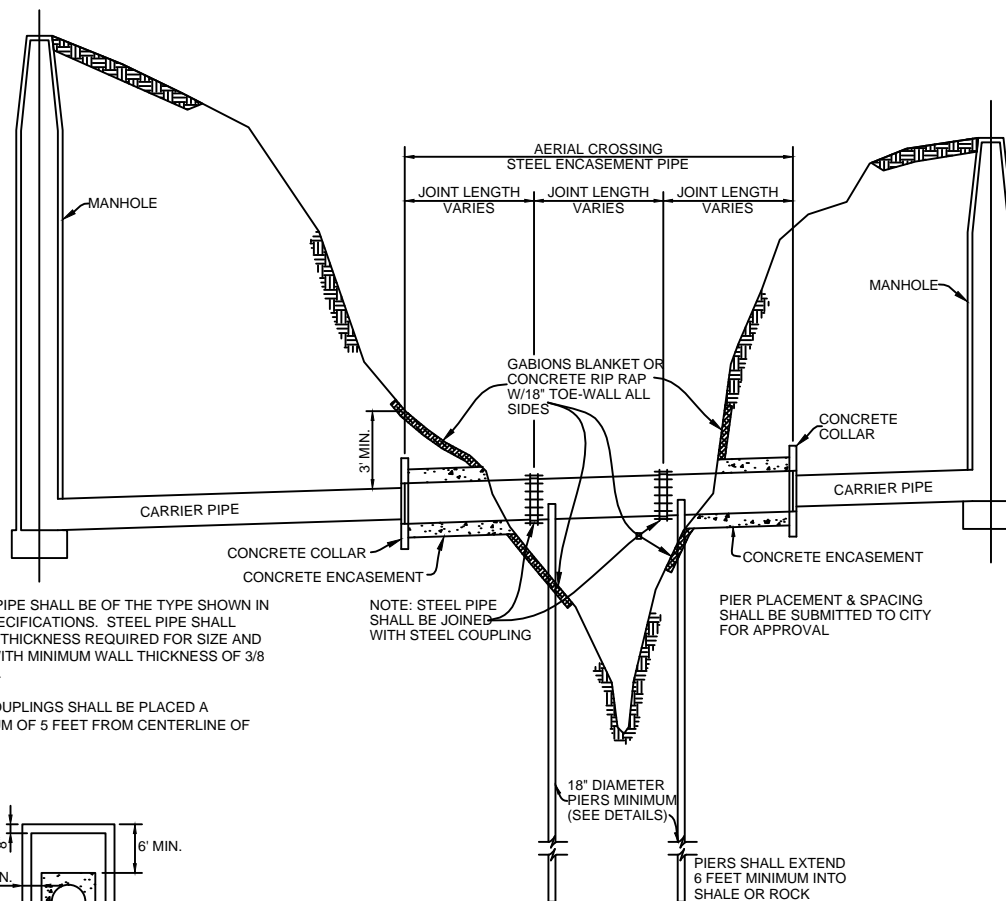
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



SERVICE LOCATIONS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

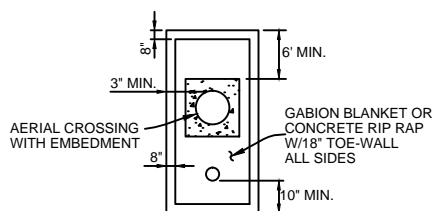


STEEL PIPE SHALL BE OF THE TYPE SHOWN IN THE SPECIFICATIONS. STEEL PIPE SHALL HAVE A THICKNESS REQUIRED FOR SIZE AND SPAN WITH MINIMUM WALL THICKNESS OF 3/8 INCHES.

PIPE COUPLINGS SHALL BE PLACED A MAXIMUM OF 5 FEET FROM CENTERLINE OF PIERS.

NOTE: STEEL PIPE SHALL BE JOINED WITH STEEL COUPLING

PIER PLACEMENT & SPACING SHALL BE SUBMITTED TO CITY FOR APPROVAL



BANK PROTECTION (TYP.)

AERIAL CROSSING

NOTE:
ENGINEERING DESIGN SHALL BE SUBMITTED TO CITY FOR APPROVAL FOR USE FOR EACH CROSSING. PIERS SHALL BE PLACED AT MAXIMUM SPAN DISTANCE AS DICTATED BY ENGINEER'S DESIGN.

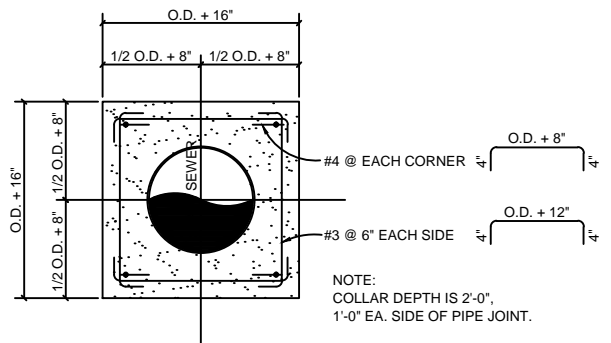
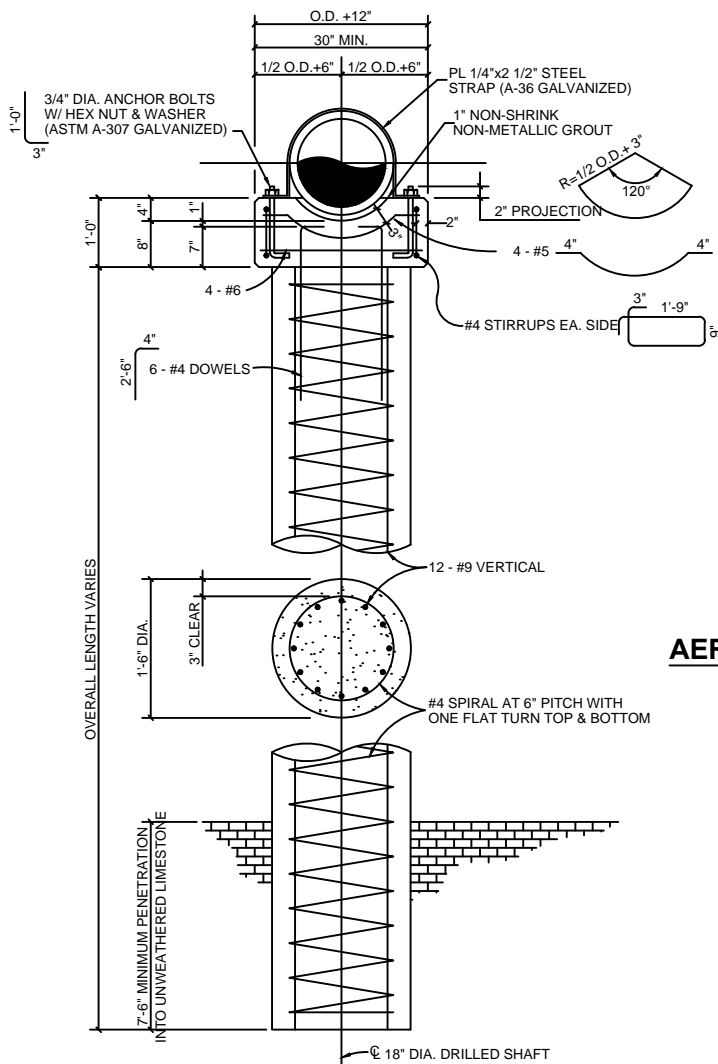
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



WASTEWATER AERIAL CROSSING

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



AERIAL CROSSING CONCRETE COLLAR

AERIAL CROSSING PIER & PIER CAP

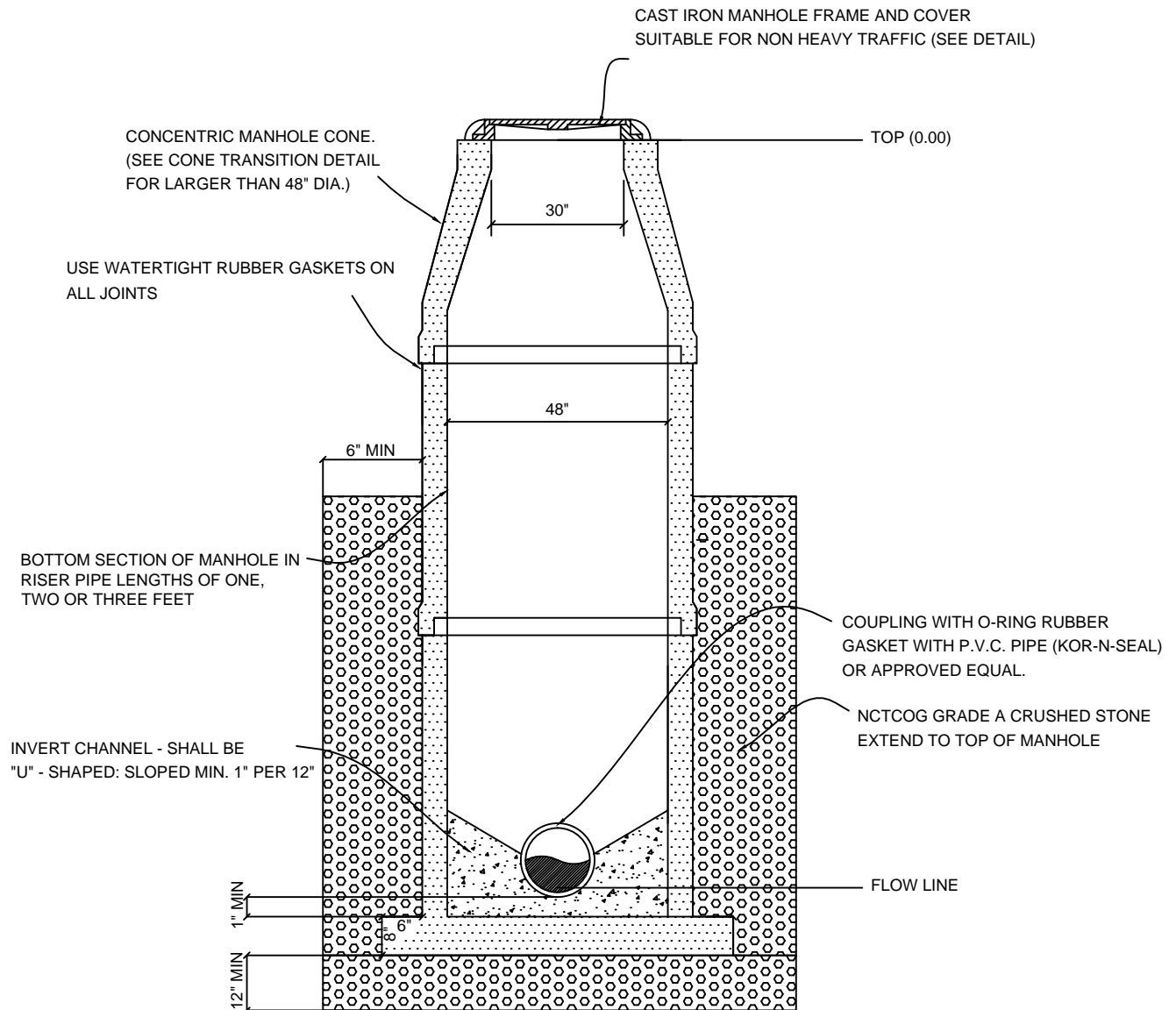
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



WASTEWATER AERIAL CROSSING

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



PRECAST CONCRETE MANHOLE

NOTES:

1. FOR WETLAND, FLOODPLAIN, BELOW WATER TABLE, AND HIGH WATER APPLICATIONS, ALL JOINTS ON OUTSIDE OF MANHOLE SHALL BE SEALED WITH AQUAGUARD SHRINK SEAL.
2. ALL JOINTS SHALL MEET ASTM C443.
3. ALL PRECAST COMPONENTS SHALL MEET ASTM C478.
4. LIFTING INSERTS SHALL BE PROVIDED.
5. PRECAST COMPONENTS SHALL BE FORTERRA BUILDING PRODUCTS OR APPROVED EQUAL.

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



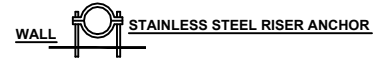
PRECAST CONCRETE MANHOLE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

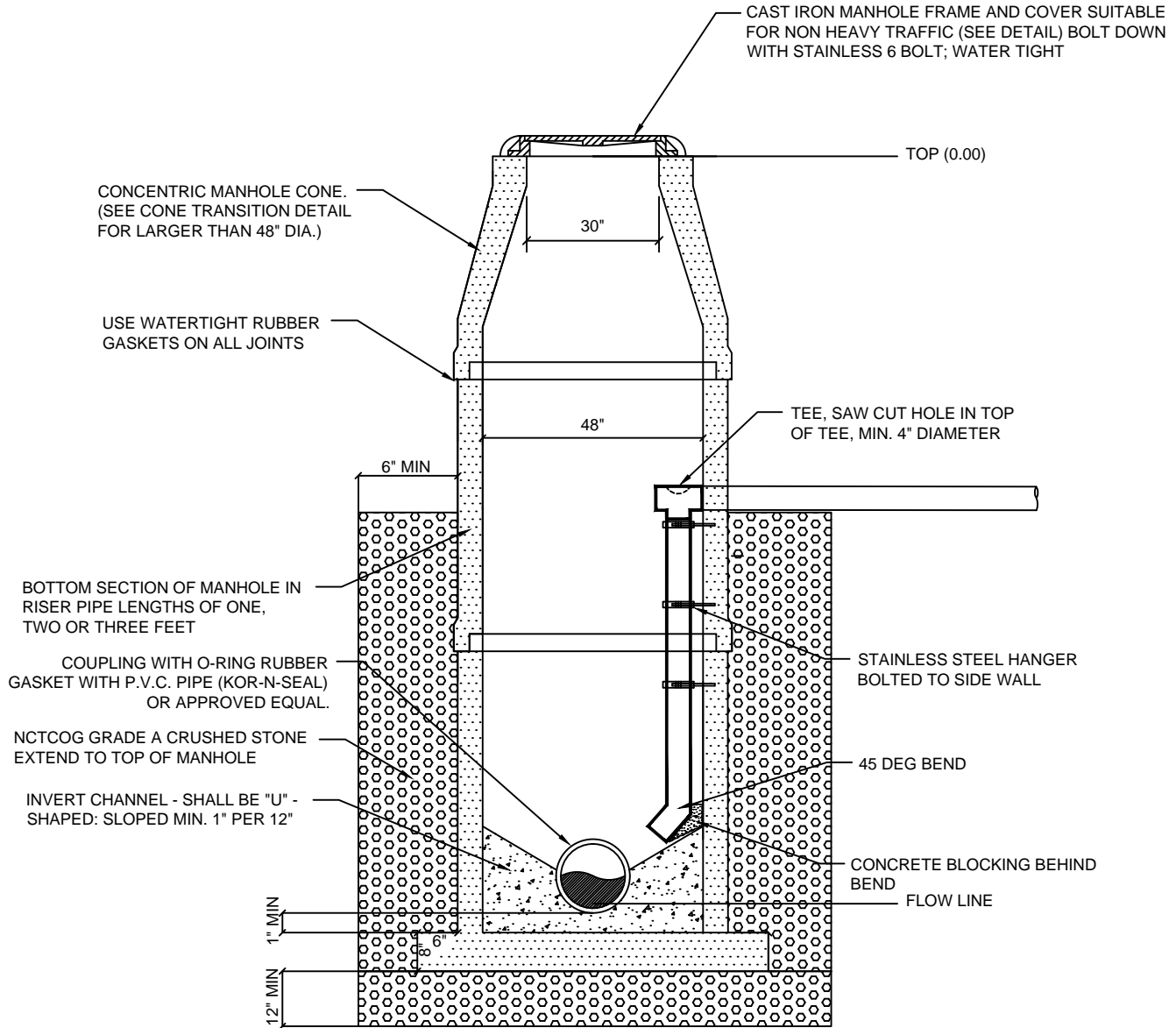
NOTES:

1. FOR WETLAND, FLOODPLAIN, BELOW WATER TABLE, AND HIGH WATER APPLICATIONS, ALL JOINTS ON OUTSIDE OF MANHOLE SHALL BE SEALED WITH AQUAGUARD SHRINK SEAL.
2. ALL JOINTS SHALL MEET ASTM C443.
3. ALL PRECAST COMPONENTS SHALL MEET ASTM C478.
4. LIFTING INSERTS SHALL BE PROVIDED.
5. PRECAST COMPONENTS SHALL BE FORTERRA BUILDING PRODUCTS OR APPROVED EQUAL.
6. PIPE DIAMETER TO BE THE SAME AS LINE CONSTRUCTION.
7. APPROVED PREFABRICATED RUNNER GASKET OR O-RING SHALL BE USED AT ALL JOINTS
8. FOR MANHOLES IN PAVEMENT, A 6"x6" MIN. SIZE BLOCKOUT IS REQUIRED.
9. PIPE TO MANHOLE CONNECTORS SHALL BE KOR-N-SEAL OR APPROVED EQUAL.



NOTES:

1. BOLT SIZE: 3/8" DIA. LENGTH: NOT TO EXCEED 1" PAST ANCHOR WHEN INSTALLED
2. TYPE: 304 OR 316 STAINLESS
3. BOLT ANCHOR DEPTH: 2" MIN., EPOXY SEALER NOT TO PROTRUDE THROUGH MANHOLE WALL.
4. ANCHOR SPACING: 4' MAX. (MIN. NUMBER OF ANCHORS - 2 PER DROP: 1 - 6" BELOW TEE, 1 - 6" ABOVE 45 DEG BEND AT TOP OF M.H.)
5. DROP PIPE TYPE: SDR-35 (BELL & SPIGOT)
6. BOTTOM BEND NOT TO BE GREATER THAN 45 DEG., BEND NOT TO BE MORE THAN 4' FROM BENCH OF MANHOLE



INTERNAL DROP MANHOLE

NO SCALE

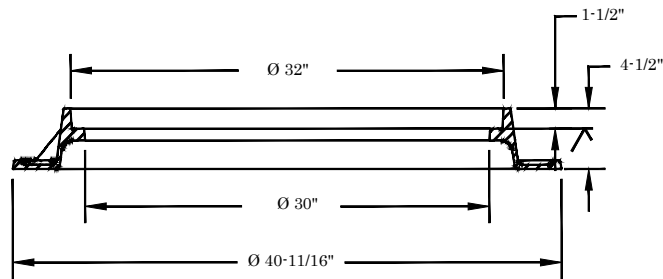
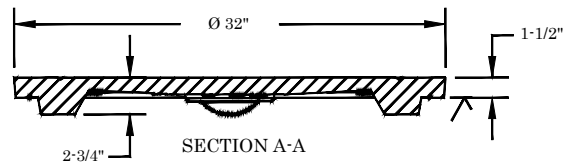
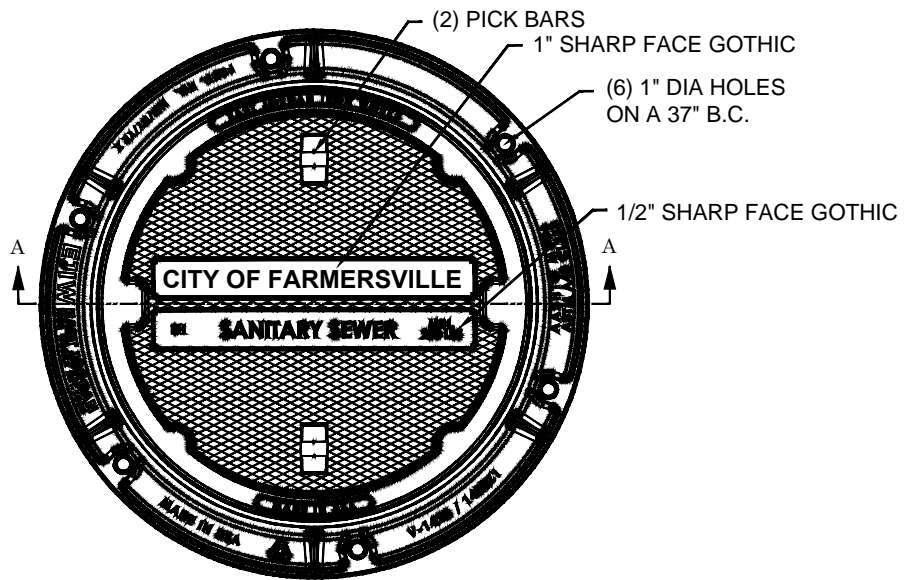
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



INTERNAL DROP MANHOLE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



SECTION VIEW

STANDARD MANHOLE RING AND COVER

WITH PICK SLOTS

BASS AND HAYS FOUNDRY, INC.
MANHOLE: V-1420D-1480

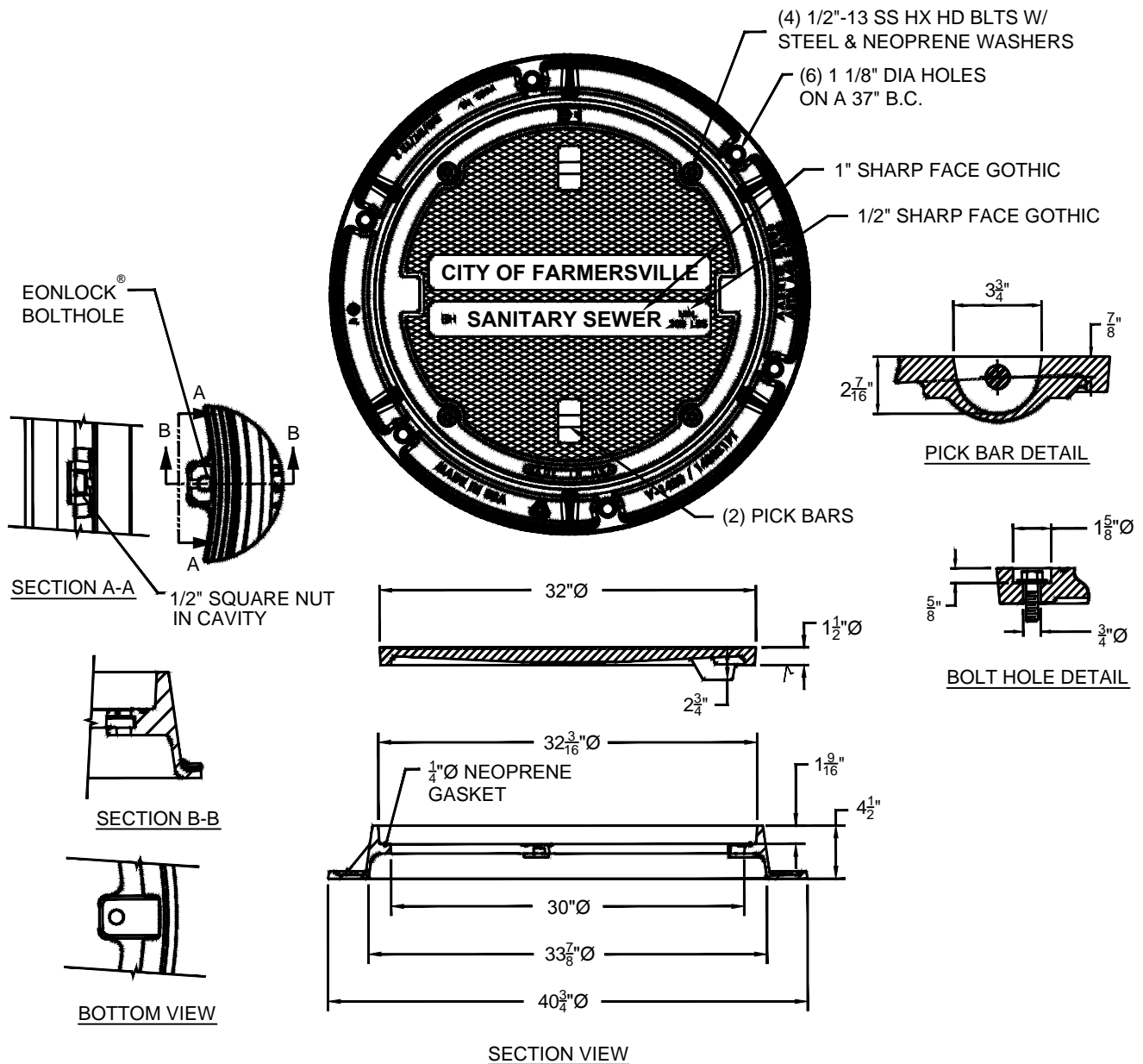
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



STANDARD MANHOLE RING & COVER

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



WATERTIGHT BOLTED MANHOLE RING AND COVER

WITH LOCKING DEVICE & PICK SLOTS

BASS AND HAYS FOUNDRY, INC.
MANHOLE: V-1420D WT

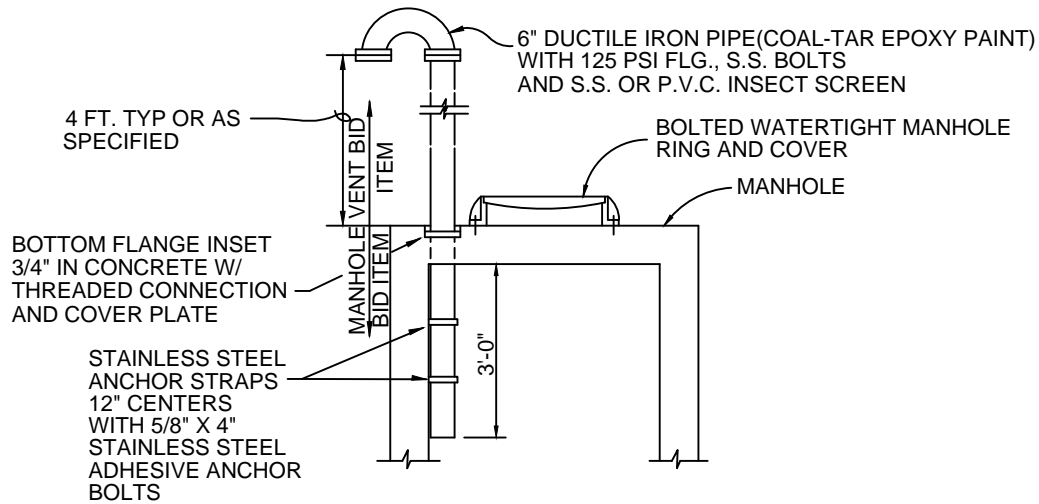
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



WATERTIGHT BOLTED MANHOLE RING & COVER

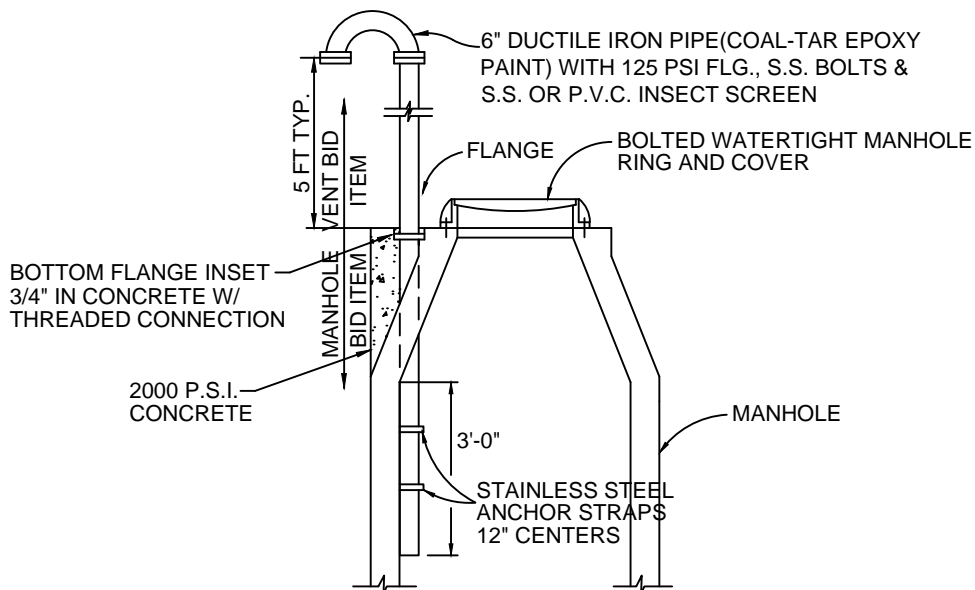
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



FLAT TOP MANHOLE VENT

NO SCALE



CONE TOP MANHOLE VENT

NO SCALE

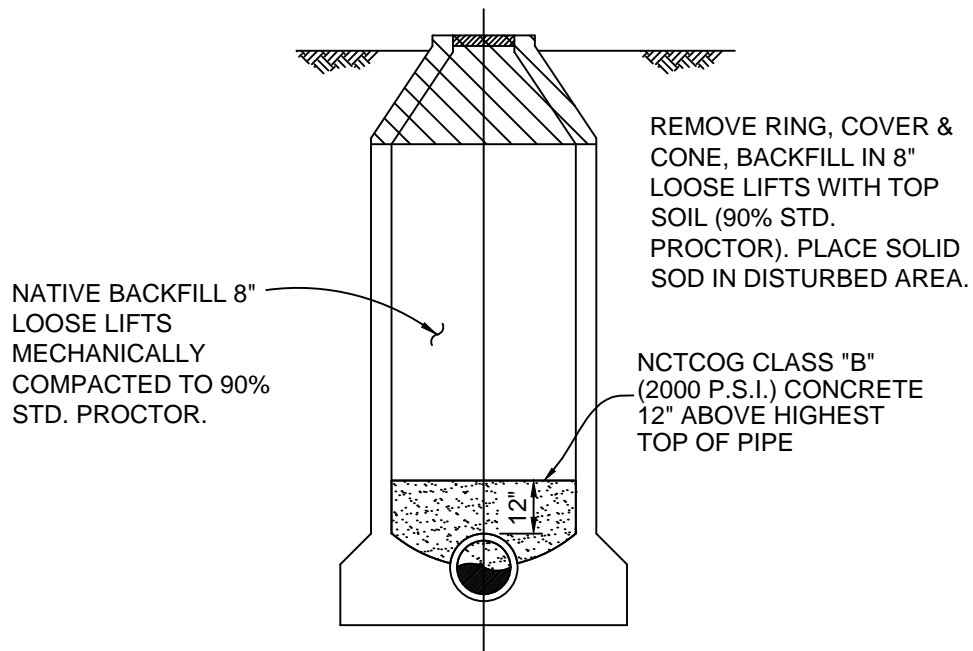
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



MANHOLE VENTS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



MANHOLE ABANDONMENT

OUTSIDE PAVEMENT AREA

MONOLITHIC CONCRETE PAVEMENT AROUND MANHOLE SAME THICKNESS
AS STREET . BLOCKOUTS SHALL BE MINIMUM 12" THICK (SEE DETAIL THIS SHEET).

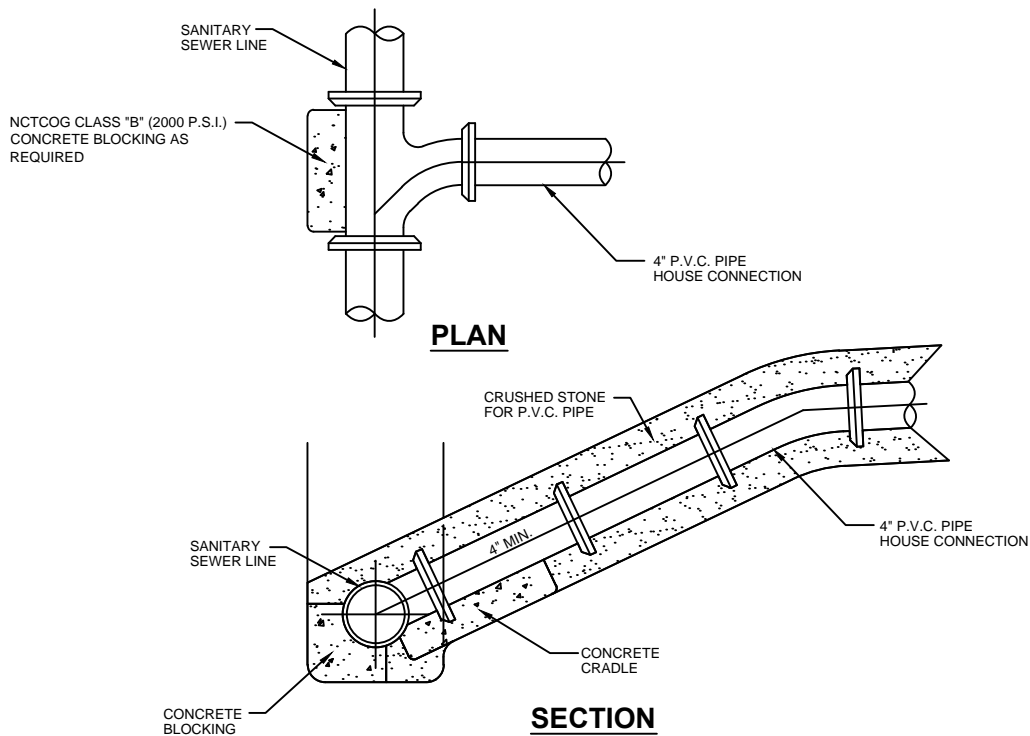
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



MANHOLE ABANDONMENT

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

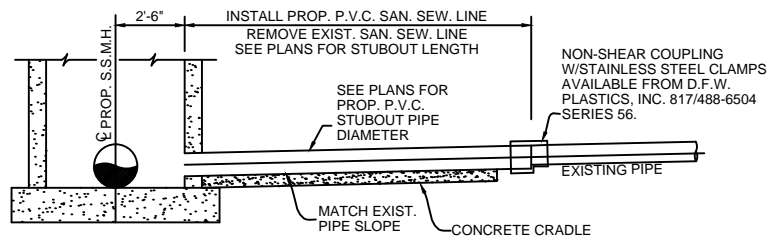
DATE: 07-05-16
REVISION: N/C



TYPICAL SEWER

HOUSE SERVICE CONNECTION

SANITARY SEWER CLEANOUT BOOTS SHALL BE BASS & HAYS # 339 OR APPROVED EQUAL. 4\" SERVICE LINE SHALL BE SDR26.



TYPICAL STUBOUT CONNECTION

NO SCALE

NOTE: MATCH SOFFITS UPSTREAM OF MANHOLE
MATCH FLOW LINES DOWNSTREAM OF MANHOLE

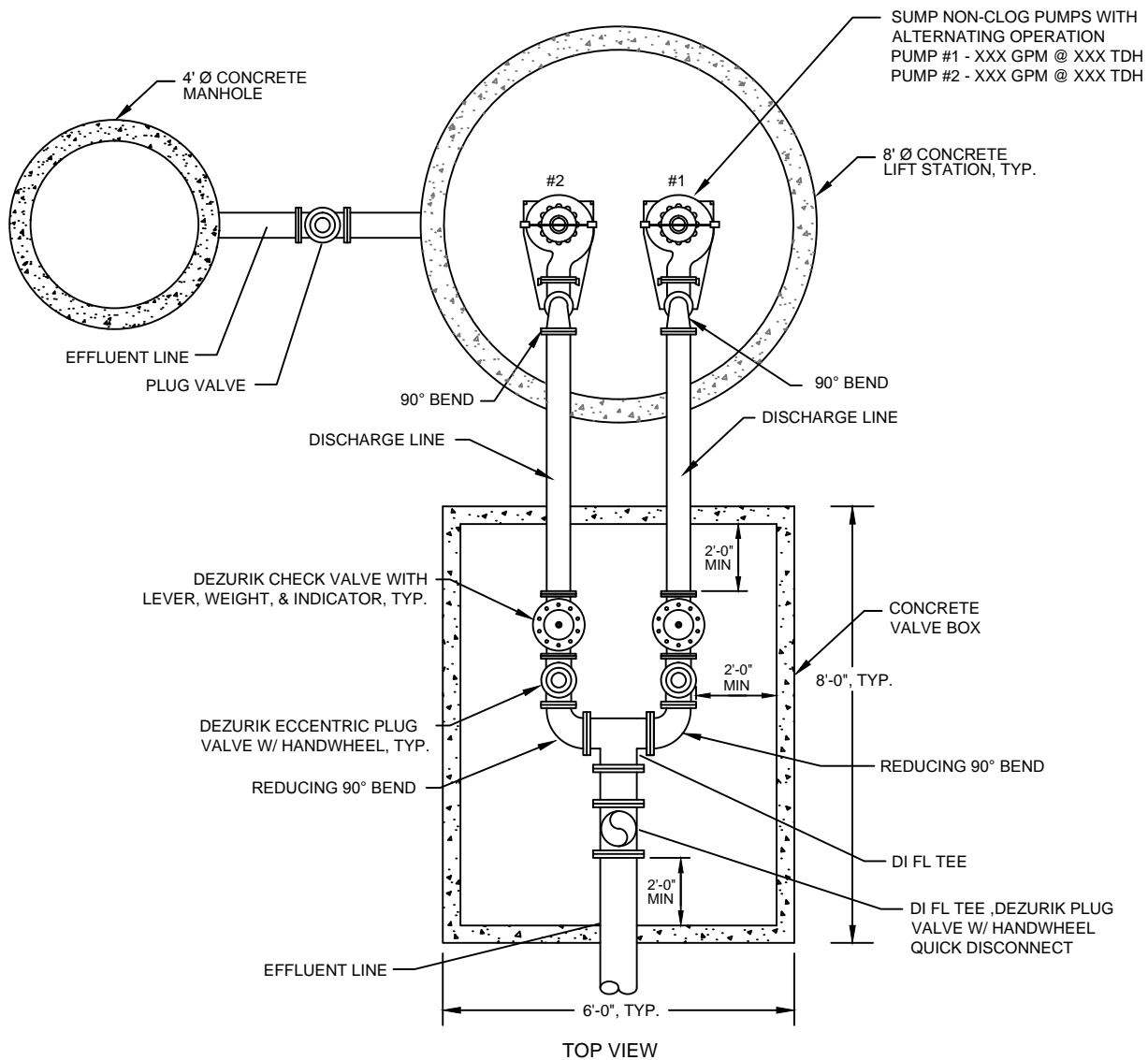
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



SANITARY SEWER CONNECTIONS

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



UNDERGROUND LIFT STATION DETAIL

NOT TO SCALE

GENERAL NOTES:

1. BACK-UP POWER IS REQUIRED FOR ALL LIFT STATIONS.
2. ALL LIFT STATIONS MUST HAVE CONCRETE ACCESS DRIVE.
3. PUMPS SHALL BE THREE PHASE, 230 VOLT.
4. ALL ELEVATIONS WILL BE VERIFIED BY OWNER.
5. COMPACT BACKFILL ON ALL SIDES AT ONE TIME IN LIFTS NOT MORE THAN 12".
6. SCADA TELEMETRY IS REQUIRED FOR ALL LIFT STATIONS.
7. ALL FITTINGS SHALL BE COATED WITH PROTECTO 401.
8. PUMPS SHALL BE HCP, CONTACT ART JOHNSON
@ NORTH TEXAS PUMP CO., INC. 972-562-3880

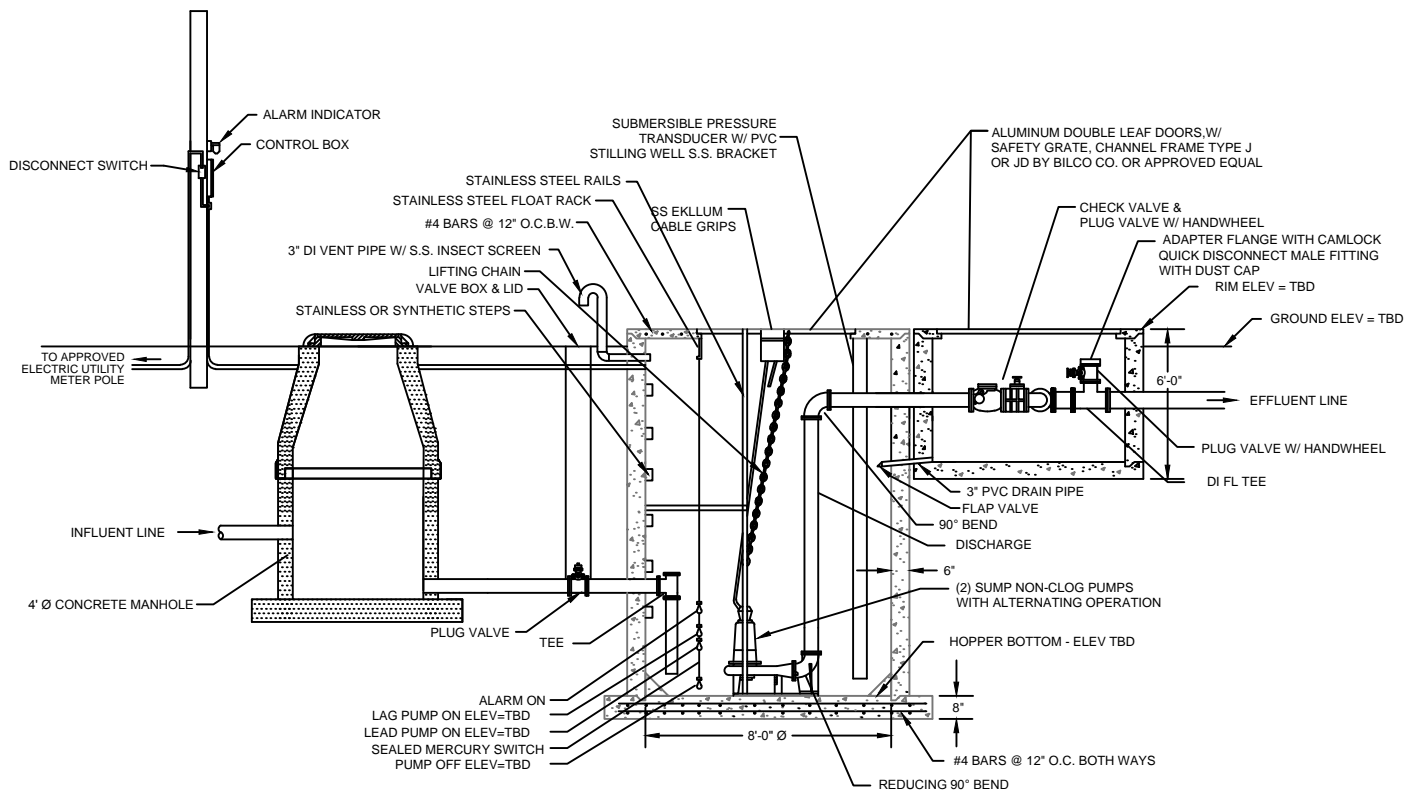
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



UNDERGROUND LIFT STATION-1

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



UNDERGROUND LIFT STATION DETAIL
NOT TO SCALE

STANDARD CONSTRUCTION DETAILS
 FOR
CITY OF FARMERSVILLE
 COLLIN COUNTY, TEXAS



UNDERGROUND LIFT STATION-2

DESIGNED: E.W.D.
 DRAWN: M.K.W. / DBI

DATE: 07-05-16
 REVISION: N/C



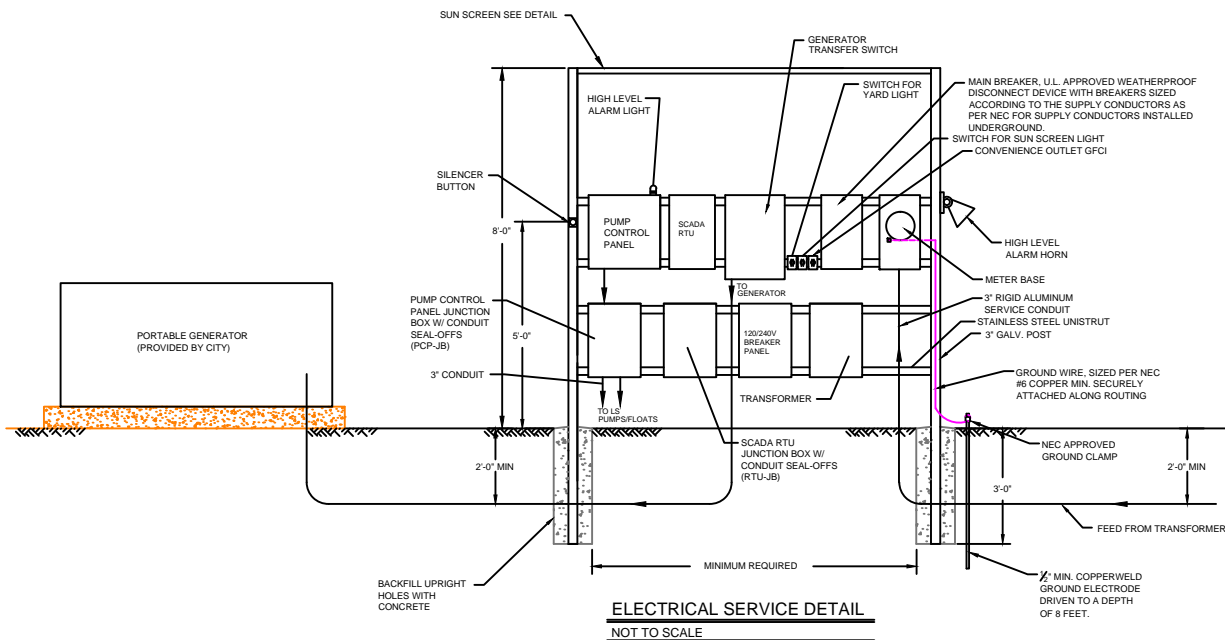
Farmersville

DESIGNED: E.W.D.
DATE: 07-05-18
DRAWN: M.K.W. / DBI
REVISION: NC

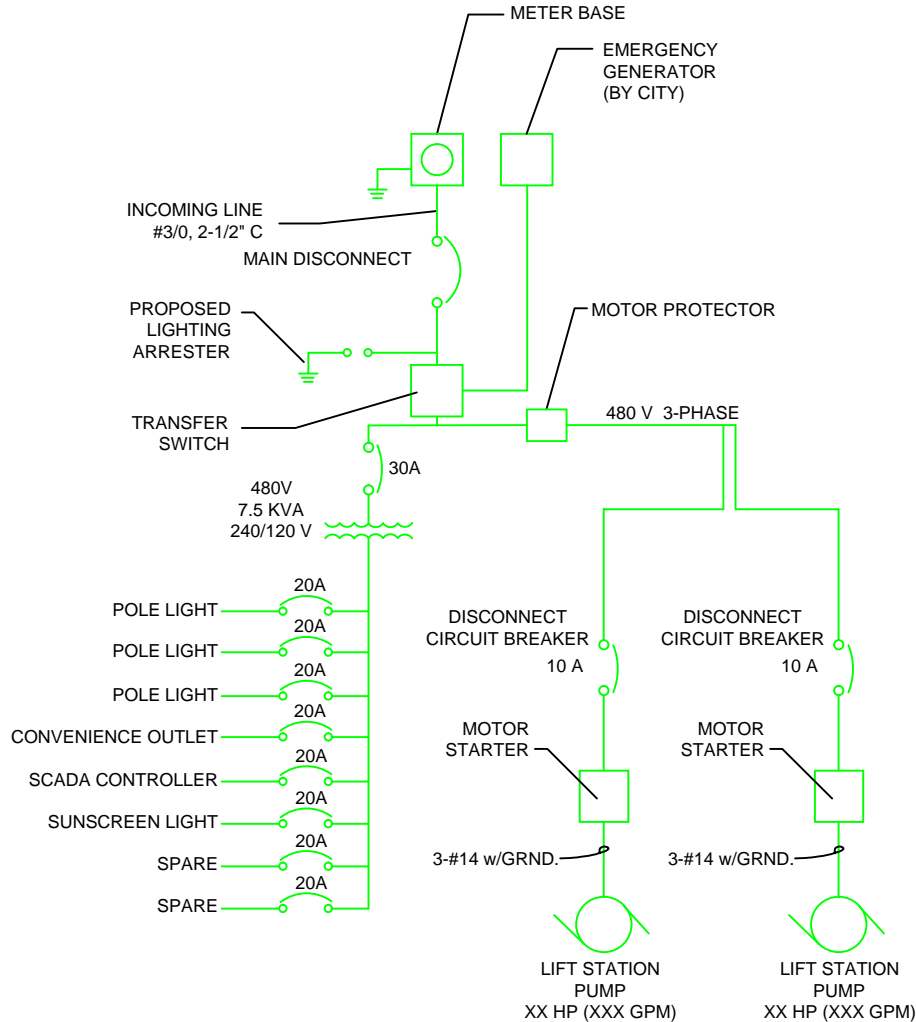
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS

LIFT STATION ELECTRICAL SERVICE-1

WW-14



- NOTES:
1. INSTALLATION SHALL MEET ALL REQUIREMENTS OF THE NATIONAL ELECTRIC CODE AND ANY STATE AND MUNICIPAL ORDINANCES.
 2. INSTALLATION SHALL PASS THE REQUIRED INSPECTION BY THE GOVERNING AUTHORITY.
 3. ELECTRIC SERVICE AND METER WILL BE INSTALLED TO MEET ALL REQUIREMENTS OF ELECTRIC UTILITY (ONCOR).
 4. SCADA ANTENNA REQUIRED FOR RADIO COMMUNICATION FOR RTU.
 5. CONDUIT SEAL OFFS SHALL BE CROUSE-HINDS EYS SEALING FITTINGS OR APPROVED EQUAL.



LIFT STATION ELECTRICAL SERVICE DETAIL

NOT TO SCALE

NOTES:

1. ELECTRICAL PANEL AND MOTOR CONTROLS SHALL BE MOUNTED ON STAINLESS STEEL UNISTRUT.
2. SHIELDED SIGNAL WIRING AND POWER WIRING MUST BE RUN IN SEPARATE CONDUITS.
3. CONTRACTOR WILL COORDINATE UTILITY SERVICE CONNECTIONS WITH ELECTRICAL UTILITY PROVIDER. APPLICATION FOR ELECTRICAL WILL BE MADE BY THE DISTRICT.
4. CONTRACTOR SHALL MEET ALL NATIONAL AND LOCAL ELECTRICAL CODES.

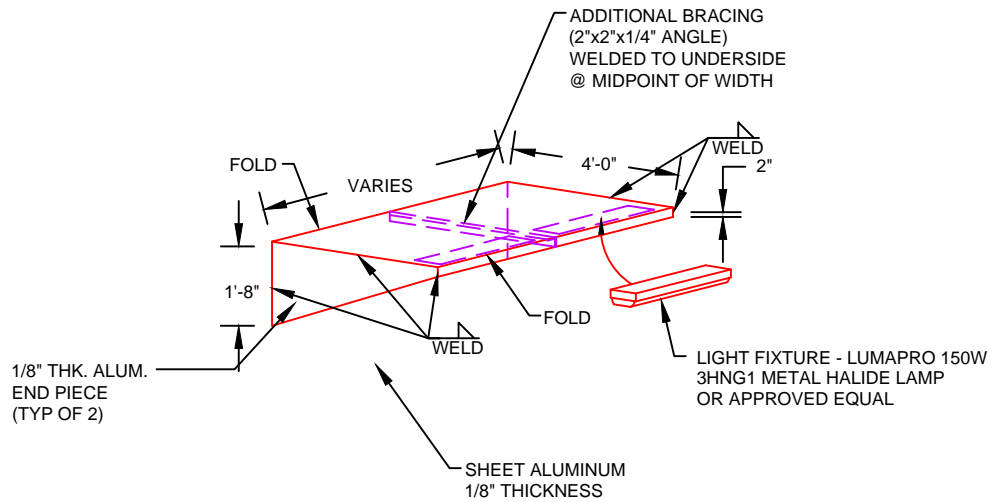
**STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS**



LIFT STATION ELECTRICAL SERVICE-2

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



SUN SCREEN DETAIL

NOT TO SCALE

NOTE: SUN SCREEN AND VERTICAL SUPPORTS ARE DESIGNED
TO WITHSTAND 90 MPH WIND (3-SECOND GUST) AND 75 MPH
SUSTAINED WIND SPEED

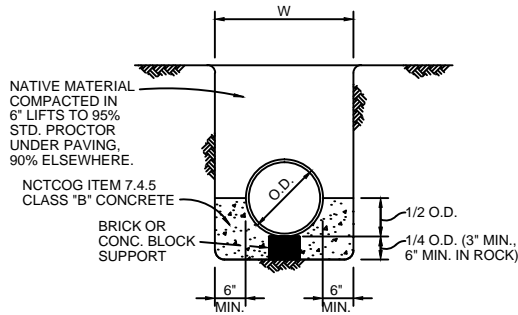
STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



LIFT STATION SUN SCREEN

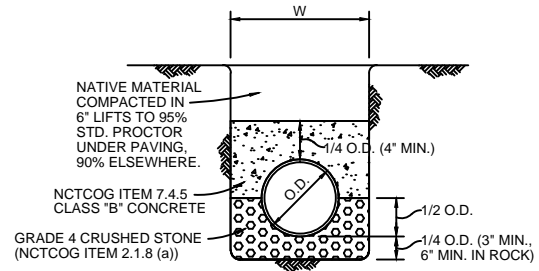
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



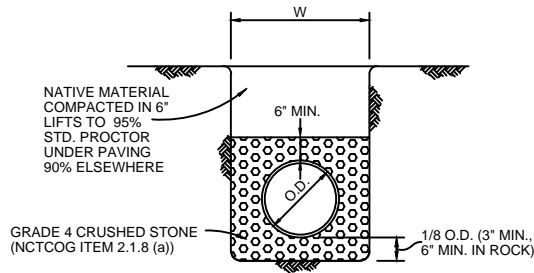
CLASS A EMBEDMENT

CONCRETE CRADLE



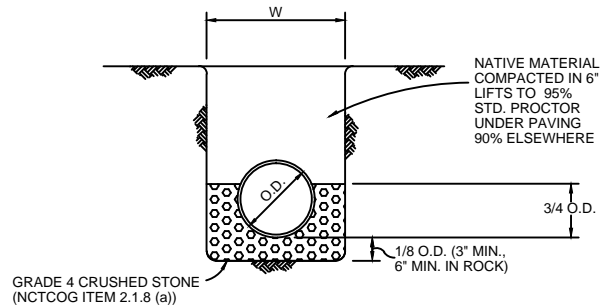
CLASS A-1 EMBEDMENT

CONCRETE CAP



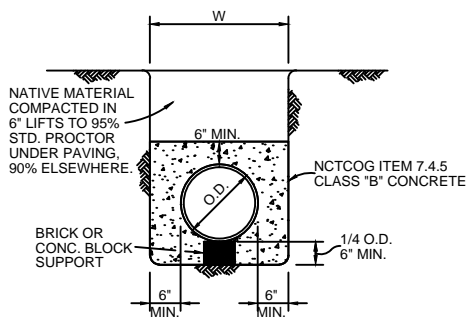
CLASS B+ EMBEDMENT

STD PVC WATER



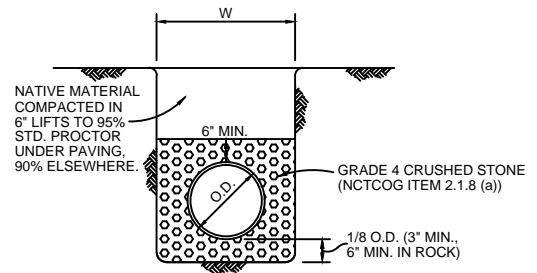
CLASS C EMBEDMENT

STD. DUCTILE IRON WATER OR SEWER
STD. R.C.C.P. WATER
STD. STORM SEWER



CLASS G EMBEDMENT

CONCRETE ENCASEMENT



CLASS H EMBEDMENT

P.V.C. PIPE ONLY
STD. P.V.C. SEWER

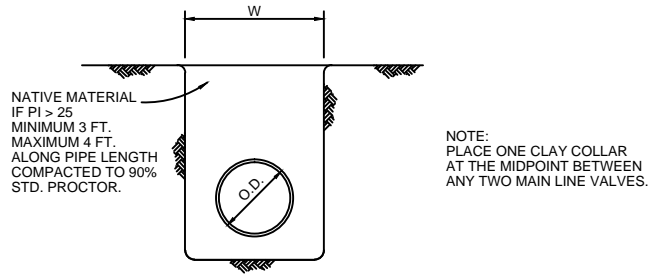
STANDARD CONSTRUCTION DETAILS
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COLLIN COUNTY, TEXAS



EMBEDMENT

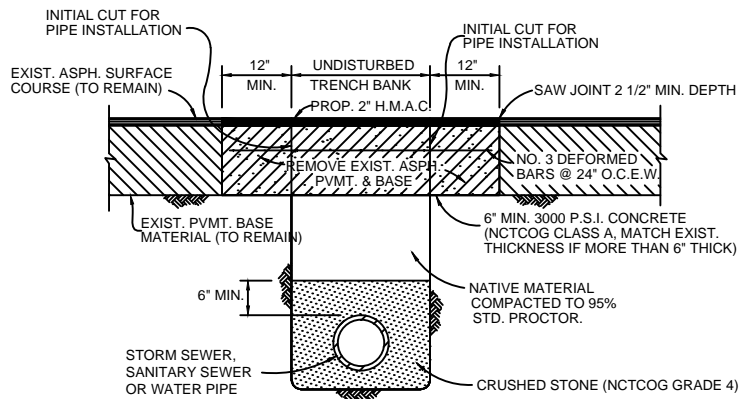
DESIGNED: E.W.D.
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DATE: 07-05-16
REVISION: N/C



SEEPAGE BARRIER/CLAY COLLAR

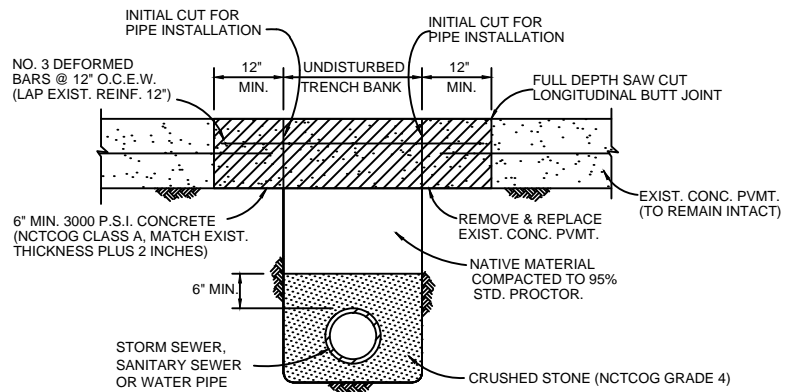
WATER MAINS



ASPHALT STREET OR DRIVEWAY REPAIR

GRADE 4 CRUSHED STONE GRADATION

SIEVE SIZE	% RETAINED
1-1/2 INCH	0
1 INCH	0-5
1/2 INCH	40-75
NO. 4	90-100
NO. 8	95-100



CONCRETE STREET OR DRIVEWAY REPAIR

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



EMBEDMENT

DESIGNED: E.W.D.

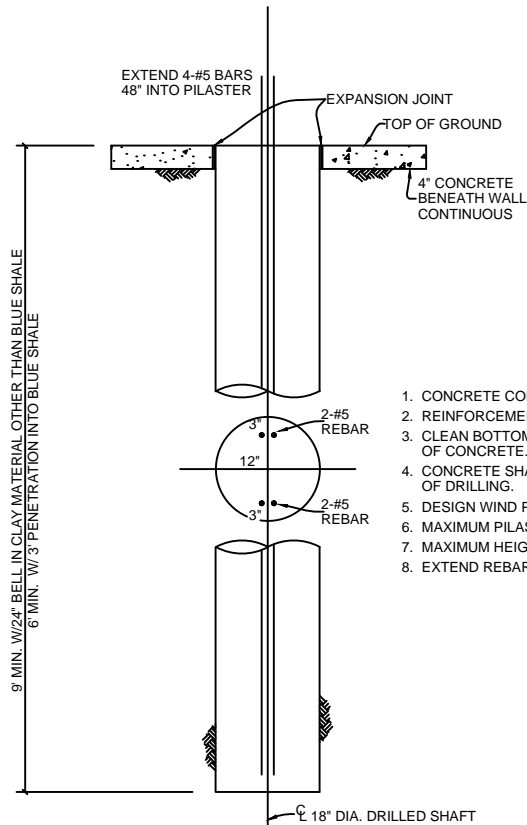
DATE: 07-05-16

DRAWN: M.K.W. / DBI

REVISION: N/C



1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. AT 28 DAYS.
2. REINFORCING STEEL SHALL BE NEW BILLET STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615-GR.60.
3. CONCRETE FOR DRILLED PIERS SHALL BE PLACED WITHIN 8 HOURS OF DRILLING PIER HOLES.
4. BRICK MASONRY SHALL BE AS SPECIFIED IN ITEM 2.3.6 OF THE SPECIAL PREVISIONS.
5. MORTAR SHALL BE TYPE "S".
6. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE "RECOMMENDED PRACTICE FOR ENGINEERED BRICK MASONRY"-- BRICK INSTITUTE OF AMERICA.
7. USE #9 GAUGE 1-3/4" WIDE GALVANIZED LADDER WIRE TO EXTEND HORIZONTAL IN WALL PANEL DURAWALL CORP. EVERY COURSE.
8. #9 GAUGE WIRE FABRICATED AS SHOWN BETWEEN EACH COURSE OF COLUMN BRICK.
9. THE WALL SHALL BE A MINIMUM OF SIX FEET IN HEIGHT AS MEASURED FROM THE NEAREST ALLEY EDGE OR SIDEWALK GRADE, WHICHEVER IS HIGHER. THE COLOR OF THE WALL SHALL BE SELECTED BY THE CITY.



1. CONCRETE COMP. STRENGTH-4000 P.S.I.
2. REINFORCEMENT STEEL - ASTM A615 - GR 60.
3. CLEAN BOTTOM OF HOLE PRIOR TO PLACEMENT OF CONCRETE.
4. CONCRETE SHALL BE PLACED WITHIN 8 HOURS OF DRILLING.
5. DESIGN WIND PRESSURE - 20 PSF.
6. MAXIMUM PILASTER SPACING - 10'-0"
7. MAXIMUM HEIGHT OF WALL - 6'-0"
8. EXTEND REBAR 48" INTO PILASTER AND COLUMN.

PIER DETAIL

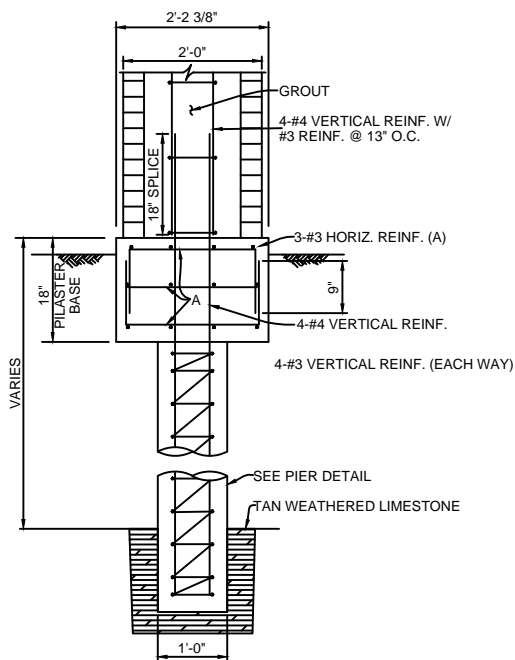
STANDARD CONSTRUCTION DETAILS
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COLLIN COUNTY, TEXAS



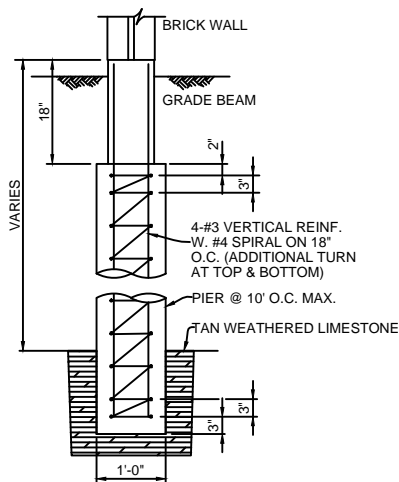
PIER DETAIL

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C



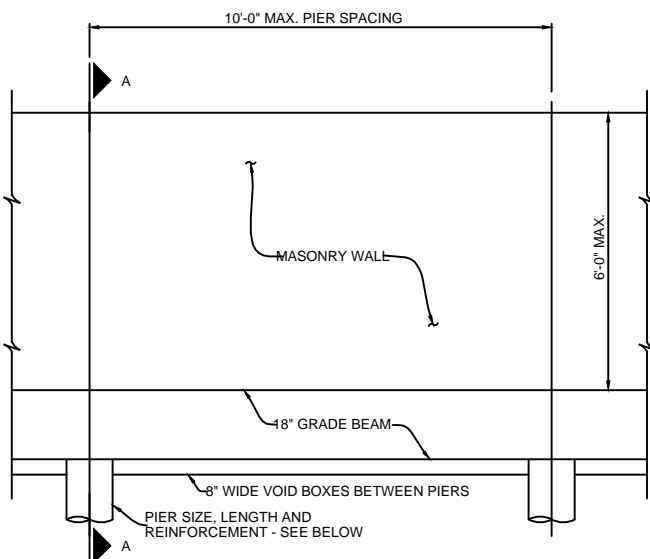
COLUMN SECTION



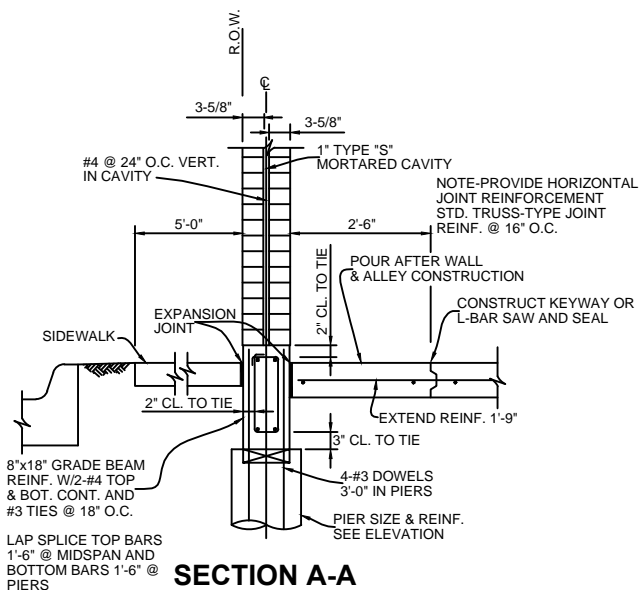
PIER DETAIL

GENERAL NOTES:

1. CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.
2. REINFORCEMENT - ASTM A 36
3. MASONRY - COMPRESSIVE STRENGTH SHALL BE AS PRESCRIBED IN ITEM 2.3.6 SPECIAL PROVISIONS.
4. WIND LOAD - 20 P.S.F.
5. PIER BEARING STRESSES - SEE BRICK SCREENING WALL NOTES.
6. MORTAR - TYPE "S"
7. PROVIDE CONTROL JOINTS AT 50 FT.
8. PROVIDE EXPANSION JOINTS AT 200 FT. CENTER MAXIMUM.
9. PROVIDE MIN. 9' FT. W/ 24" DIA. BELL IN CLAY OR OTHER MATERIAL EXCEPT BLUE SHALE, 6' MIN. WITH 3' MIN. INTO BLUE SHALE.
10. ALL EXPOSED CONCRETE SHALL BE RUBBED FINISHED SURFACE.
11. SIDEWALKS ADJACENT TO WALLS MUST BE 5'-0" MIN. WIDTH FROM ALL PORTIONS OF THE WALL (INCLUDING PILASTERS, COLUMNS, ETC.).
12. MAX. PILASTER SPACING 40 FT.
13. WALLS SHALL NOT BE PLACED IN THE VISIBILITY EASEMENT OR STREET R.O.W.
14. THE WALL SHALL BE A MINIMUM OF SIX FEET IN HEIGHT AS MEASURED FROM THE NEAREST ALLEY EDGE OR SIDEWALK GRADE, WHICHEVER IS THE HIGHER. THE COLOR OF THE WALL SHALL BE LIMITED TO EARTH-TONE COLORS, EXCLUDING GRAY, GREEN AND WHITE. THE COLOR OF THE WALL SHALL BE UNIFORM ON EACH SIDE OF A THOROUGHFARE FOR THE ENTIRE LENGTH BETWEEN INTERSECTING THOROUGHFARES, UNLESS OTHERWISE APPROVED BY THE ENGINEERING DEPARTMENT. THE FINISH OF THE WALL SHALL BE CONSISTENT ON ALL SURFACES.
15. IF WROUGHT IRON FENCING IS TO BE UTILIZED ON REQUIRED SCREENING, ALL WROUGHT IRON MUST BE SOLID STOCK, NO TUBULAR STEEL WILL BE ALLOWED.



ELEVATION



SECTION A-A

BRICK SCREENING WALL

DRILLED PIERS 12" DIA. REINF. W/ 4-#5 VERT. & #4 REINF. @ 18" O.C. MINIMUM LENGTH OF PIER IS 6'-0". *PIER BOTTOM MAY BE EITHER OF THE TWO ALTERNATES:

1. 12" DIA. SHAFT EMBEDDED MINIMUM 3'-0" INTO BLUE SHALE RESULTING BEARING STRESS IS 8.0 KIPS PER SQUARE FOOT.
2. 12" DIA. SHAFT W/ 24" DIA. BELL IN CLAY. RESULTING BEARING STRESS IN 2.0 KIPS PER SQUARE FOOT. * SEE GENERAL NO. 9

**STANDARD CONSTRUCTION DETAILS
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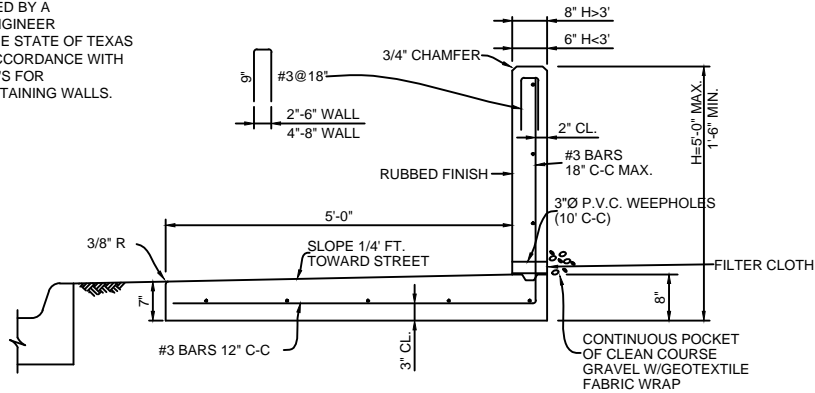


PIER DETAILS

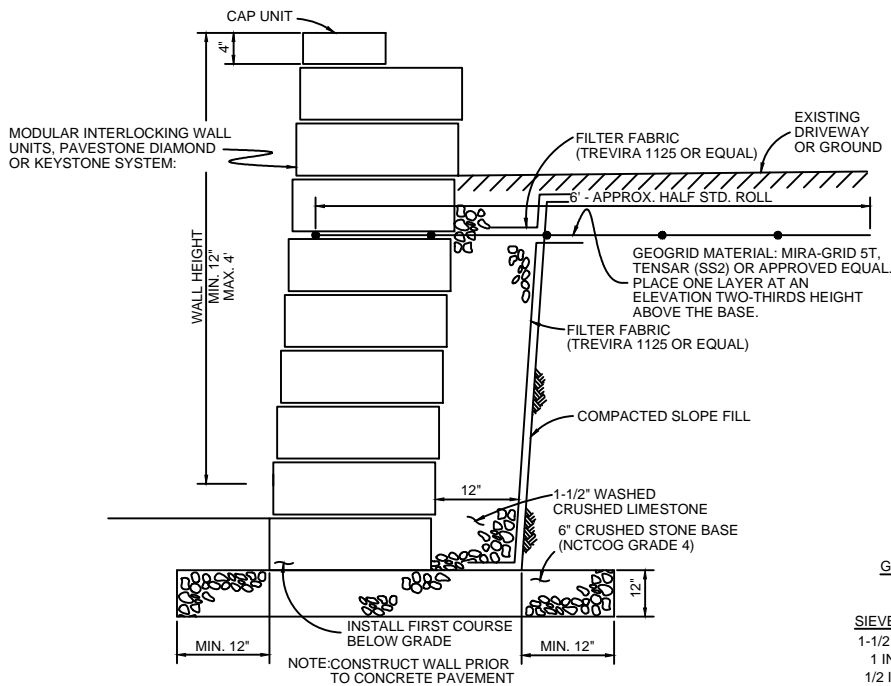
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

NOTE:
ALL RETAINING WALLS OVER 5FT. HIGH
SHALL BE DESIGNED BY A
PROFESSIONAL ENGINEER
REGISTERED IN THE STATE OF TEXAS
OR SHALL BE IN ACCORDANCE WITH
TXDOT STANDARD'S FOR
CAST-IN-PLACE RETAINING WALLS.



TYPE 6 RETAINING WALL



STONE RETAINING WALL

NO SCALE

**GRADE 4 CRUSHED STONE
GRADATION**

SIEVE SIZE	% RETAINED
1-1/2 INCH	0
1 INCH	0-5
1/2 INCH	40-75
NO. 4	90-100
NO. 8	95-100

**STANDARD CONSTRUCTION DETAILS
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COLLIN COUNTY, TEXAS**

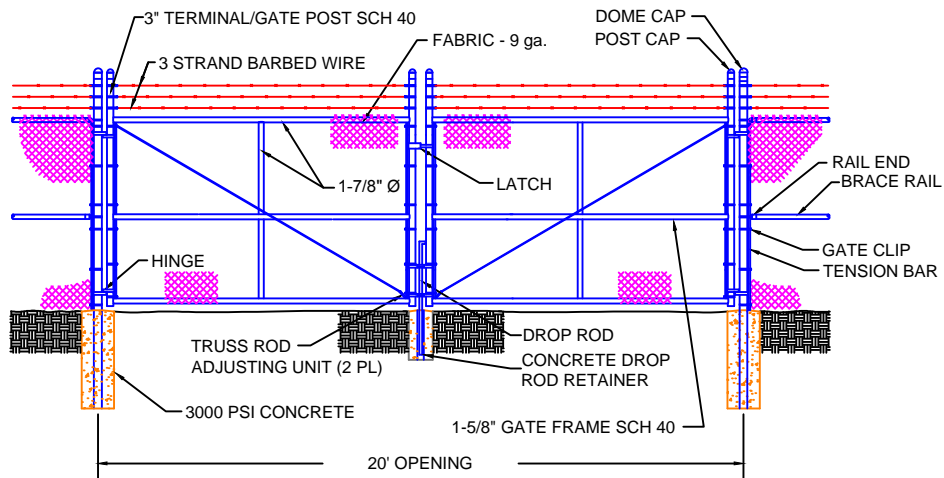


RETAINING WALL

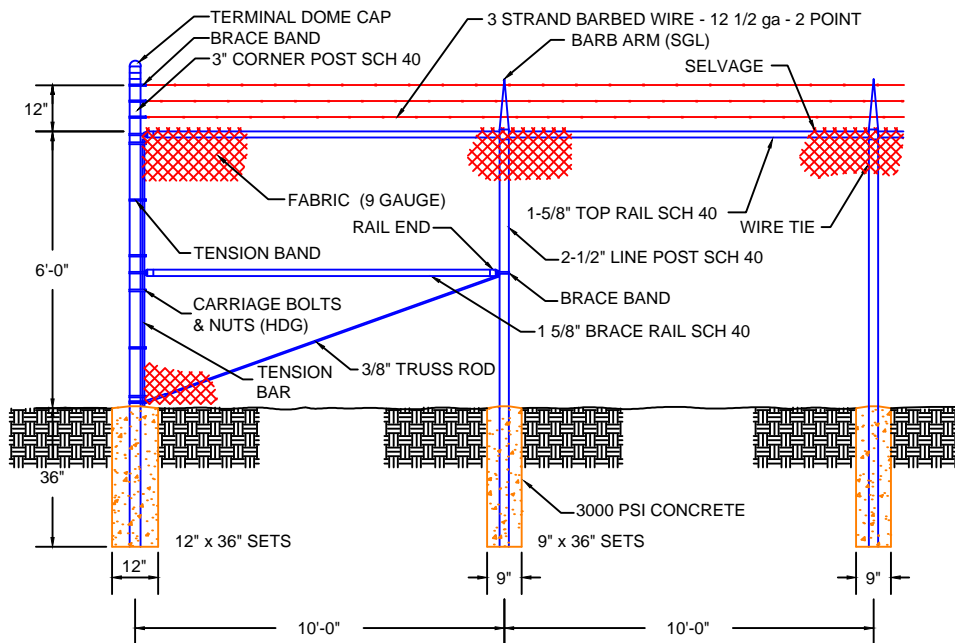
DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

WALL-04



20'-0" WIDE DOUBLE GATE DETAIL
NOT TO SCALE



CHAIN LINK FENCE DETAIL
NOT TO SCALE

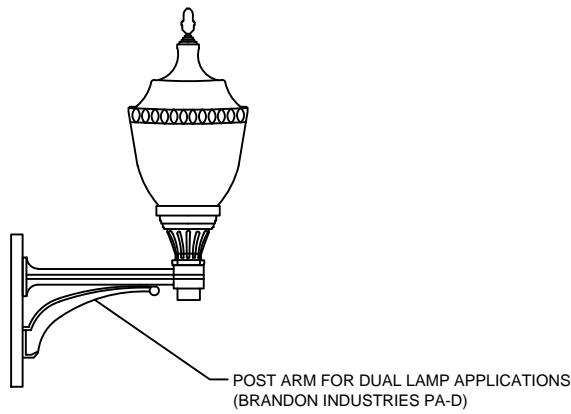
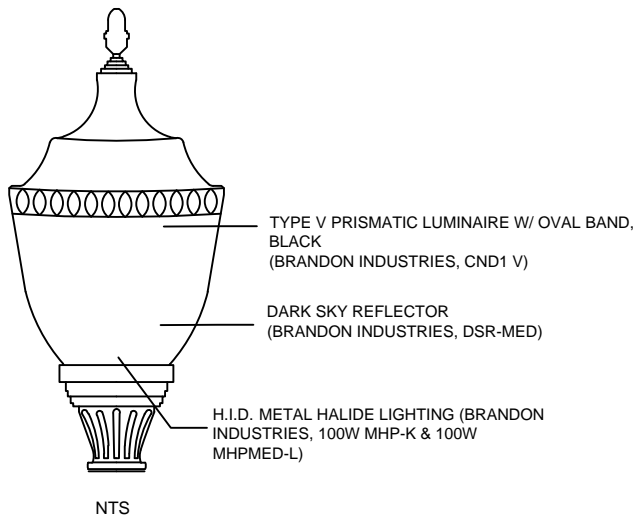
STANDARD CONSTRUCTION DETAILS
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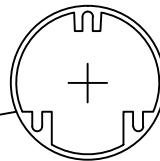
CHAIN LINK FENCE & DOUBLE GATE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C

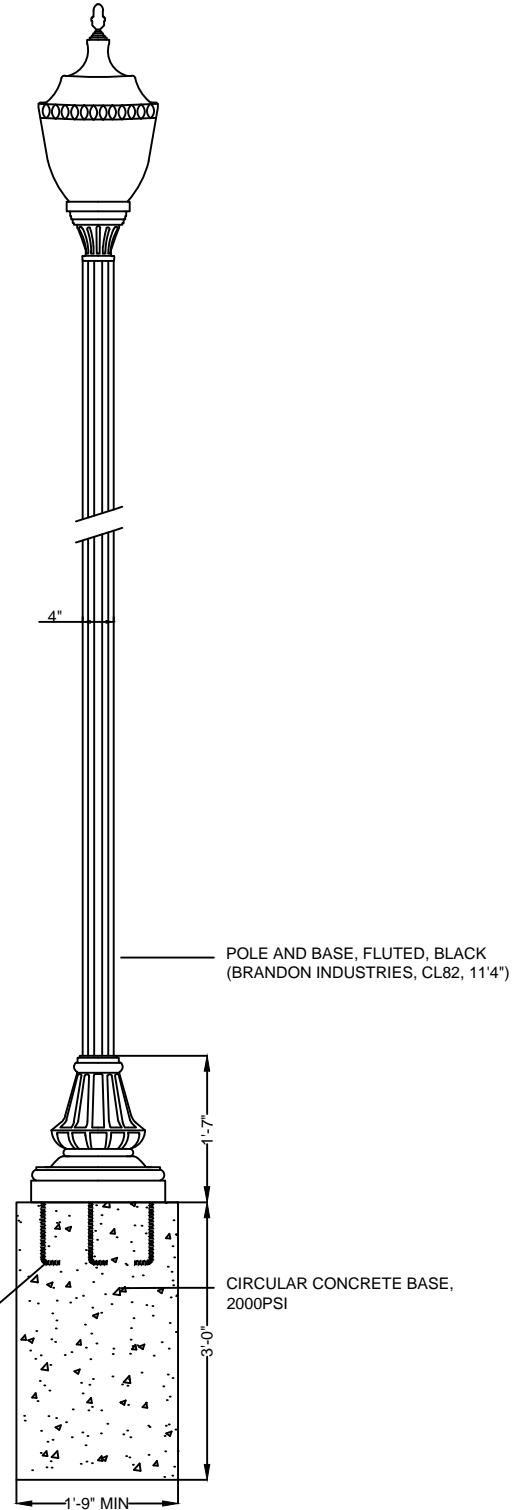


17" CIRCULAR PATTERN REQUIRING
(3) 3/4"-10 UNC, SS BOLT, NUT, WASHER,
LOCKWASHER



NTS

INSTALL J-BOLT (3) 3/4-10 UNC
DRILLED EXPANSION BOLTS ACCEPTABLE
AS APPROVED BY CITY



STANDARD CONSTRUCTION DETAILS
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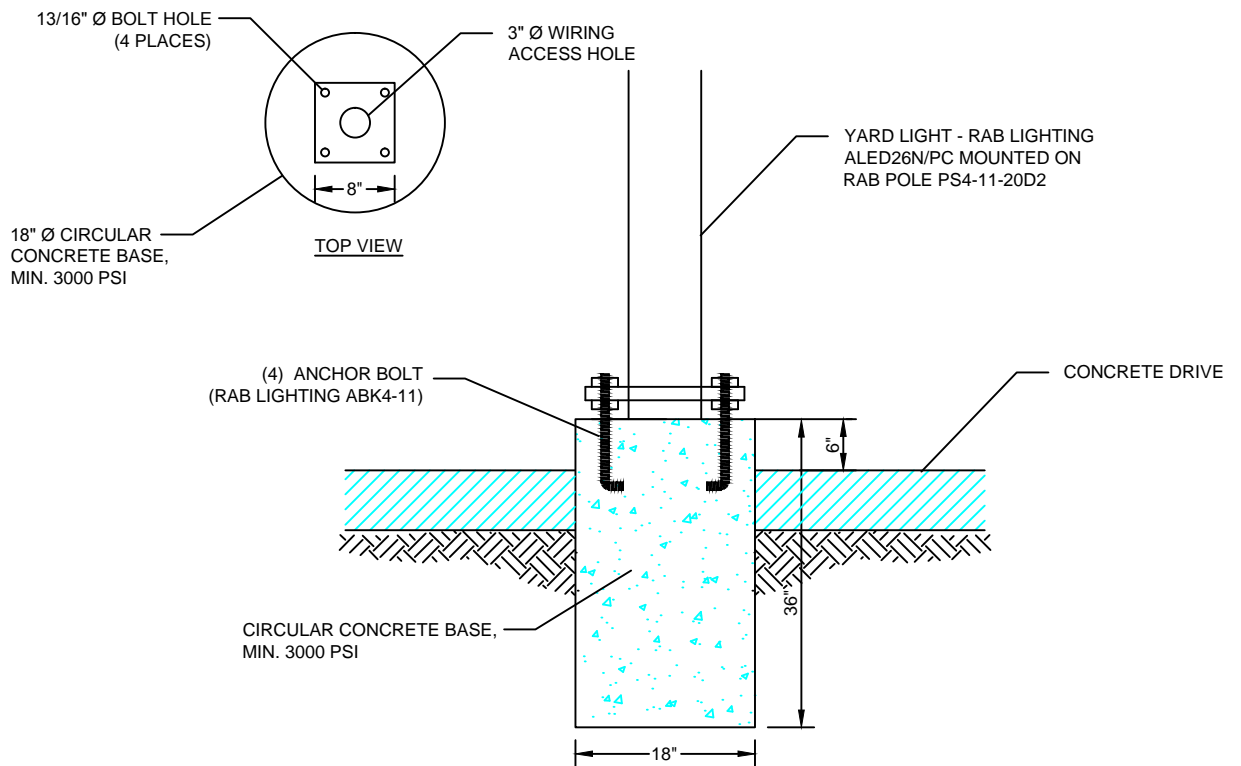
DECORATIVE LAMP

DESIGNED: E.W.D.

DRAWN: M.K.W. / DBI

DATE: 07-05-16

REVISION: N/C



YARD LIGHT POLE CONCRETE BASE

STANDARD CONSTRUCTION DETAILS
FOR
CITY OF FARMERSVILLE
COLLIN COUNTY, TEXAS



LIFT STATION YARD LIGHT POLE CONCRETE BASE

DESIGNED: E.W.D.
DRAWN: M.K.W. / DBI

DATE: 07-05-16
REVISION: N/C