

LEGEND

- GAS
- SANITARY SEWER (SAN)
- STORM SEWER (STM)
- WATER MAIN (WM)
- OVERHEAD WIRE
- COMBINED SEWER
- STEAM LINE
- OIL LINE
- UNDERGROUND ELECTRIC (ELEC)
- UNDERGROUND PHONE (PH)
- UNDERGROUND CABLE (CBL)
- MANHOLE
- CATCH BASIN
- SEWER CLEAN OUT
- GAS METER
- GAS SHUT OFF VALVE
- VALVE BOX
- GATE VALVE & WELL
- WATER SHUT OFF VALVE
- FIRE HYDRANT
- SPRINKLER VALVE BOX
- LOW SPRINKLER HEAD
- HAND HOLE
- ELECTRIC RISER OR METER
- TELEPHONE RISER
- CABLE TV RISER
- AIR CONDITION UNIT
- UTILITY POLE
- UTILITY POLE WITH TRANSFORMER
- UTILITY POLE W/ LAMP EXTENSION (ARROW INDICATES DIRECTION OF ARM)
- LIGHT POLE
- LIGHT POLE WITH LAMP EXTENSION
- TRAFFIC SIGNAL
- POLE WITH TRAFFIC SIGNAL (OVER ROAD)
- CITY WIRE
- QTY POLE
- GROUND LEVEL OR DECORATIVE LIGHTING
- FLAG POLE
- PHONE OR PHONE BOOTH
- CHAIN LINK FENCE (CL)
- WOOD FENCE
- METAL OR CONC. POST
- GUARD RAIL
- MANSION
- SIGN
- WATER FOUNTAIN
- PARKING METER
- BILLBOARD OR LARGE SIGN
- BASKETBALL HOOP
- BOLLARD
- STATUE OR SCULPTURE
- BENCH
- INV. INVERT ELEVATION
- CORRUGATED METAL PIPE
- CENTERLINE OF DITCH
- CULVERT
- DITCH BANK/TOP OF SLOPE
- PROPERTY LINES
- STUMP
- CONIFEROUS TREE
- DECAIDUOUS TREE
- DECAIDUOUS SHRUB
- CONIFEROUS SHRUB
- SECTION CORNER
- TRANSVERSE POINT
- STRUCTURE NUMBER
- SDA POINT No.
- SPOT ELEVATION
- TOP OF CURB ELEVATION
- GUTTER ELEVATION
- TOP OF PAVEMENT ELEVATION
- EDGE OF METAL ELEVATION
- TOP OF WALK ELEVATION
- TOP OF WALL ELEVATION
- GROUND ELEVATION
- U.G. UNDERGROUND
- F.I. FIBER OPTIC
- CONC. CONCRETE
- ASPHL. ASPHALT
- L.S. LANDSCAPED
- F.F. FINISH FLOOR ELEVATION
- D.L. DOOR EDGE ELEVATION
- F.I. FOUND IRON
- F.M. FOUND MONUMENT
- F.P.K. FOUND P.K. NAIL
- S.L. SET IRON W/SDA CAP
- S.P.K. SET P.K. NAIL
- S.P.K./TAG SET P.K. NAIL W/SDA TAG
- M.C. SET MAGNETIC NAIL
- M.C./TAG SET MAGNETIC NAIL W/SDA TAG
- M. MEASURED
- R. RECORD
- C. CALCULATED



BENCHMARK DESCRIPTIONS

BM#011-04-01 DISC IN HAND HOLE, LOCATED ON THE SOUTHWEST CORNER OF PAUL AND VINCE. ELEV.=600.348

BM#012-03-01 DISC IN HAND HOLE, LOCATED ON THE SOUTHEAST CORNER OF ALBER AND KENDAL. ELEV.=593.669

BM#012-04-01 DISC IN HAND HOLE, LOCATED ON THE SOUTHWEST CORNER OF KENDAL AND PAUL. ELEV.=597.049

SOURCE: CITY OF DEARBORN

STRUCTURE TABLE

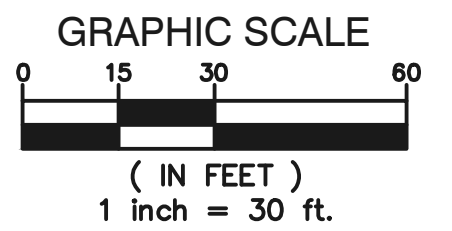
#	TYPE	INW	SIZE	INVERT	TO	STRUCTURE BEARING
1	STORM MANHOLE	594.91	8"	599.09	TO	NORTH TO #7
2	SQUARE CATCH BASIN	594.76	12"	590.05	TO	SW TO #11
3	SANITARY MANHOLE	597.14	12"	591.49	TO	SOUTH
4	SANITARY MANHOLE	597.13	12"	588.23	TO	NE TO #4
5	STORM MANHOLE	594.99	24"	584.96	TO	NORTH TO #8
6	SANITARY MANHOLE	597.14	12"	591.49	TO	SOUTH
7	STORM MANHOLE	599.90	12"	588.20	TO	NORTH
8	STORM MANHOLE	596.62	24"	584.77	TO	NORTH
9	BEEHIVE CATCH BASIN	596.20	12"	590.94	TO	NORTH
10	SQUARE CATCH BASIN	594.87	8"	590.00	TO	A2 35
11	ROUND CATCH BASIN	596.30	12"	589.00	TO	NE TO #2
12	SANITARY MANHOLE	597.53	12"	587.21	TO	WEST

SURVEY NOTES

- THIS TOPOGRAPHICAL MAP IS BASED UPON A FIELD SURVEY PERFORMED BY SPALDING DECKEYER DURING SEPTEMBER 2017.
- THE PROPERTY LINES/RIGHT-OF-WAY LINES SHOWN ON THIS TOPOGRAPHICAL SURVEY ARE INTENDED TO BE AN APPROXIMATE GRAPHICAL REPRESENTATION BASED UPON A COMBINATION OF A PROVIDED LEGAL DESCRIPTION, FOUND FIELD MONUMENTATION AND OCCUPATION. A COMPLETE PROPERTY LINE ANALYSIS HAS NOT BEEN PERFORMED AND PROPERTY CORNERS HAVE NOT BEEN SET IN THE FIELD PER THE AGREED TO SCOPE OF SERVICES.
- THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE SEARCH AND THEREFORE THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, RIGHT-OF-WAY TOWNSHIP AND RESTRICTIVE COVENANTS THAT COULD ENCOMBER THIS PARCEL OF LAND.
- THE BEARING BASE AND COORDINATES OF THIS DRAWING ARE BASED UPON THE MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83, INTERNATIONAL FEET, 2011 ADJUSTMENT. CONTROL WAS ESTABLISHED BY GPS OBSERVATION USING THE AVAILABLE MOST CONTINUOUSLY OPERATING STATIONS (CORS).
- THE VERTICAL DATUM OF THIS SURVEY IS BASED UPON NAVD 83. CONTROL WAS ESTABLISHED BY GPS OBSERVATION USING THE AVAILABLE MOST CONTINUOUSLY OPERATING STATIONS (CORS).
- THE UTILITY INFORMATION SHOWN ON THIS SURVEY IS BASED UPON EXAMINATION OF RECORD INFORMATION AND FIELD MEASUREMENTS. A MISS-DIG DESIGN TICKET NUMBER 0A07238108-00A HAS BEEN REFERENCED TO THIS PROJECT AND A UTILITY PROVIDER CHART IS SHOWN ON THIS DRAWING. THERE ARE NO ASSURANCES THAT ALL PROVIDERS HAVE RESPONDED AND THE SURVEYOR DOES NOT GUARANTEE THAT ALL UNDERGROUND UTILITIES ARE SHOWN AND/OR POSITIONED PROPERLY ON THIS DRAWING DUE TO AMBIGUOUS PLANS AND RECORDS PROVIDED TO US. THE INFORMATION SHOWN ON THIS DRAWING IS INTENDED TO BE USED AS A GUIDE FOR POSSIBLE UNDERGROUND UTILITY CONFLICTS. IT IS THE RESPONSIBILITY OF OTHERS TO RESOLVE THE ACTUAL LOCATION OF ANY UNDERGROUND UTILITY THROUGH THE MISS DIG FIELD VERIFICATION SYSTEM PRIOR TO ANY SITE EXCAVATION. CALL 811 OR 800-882-7171.
- THROUGH THE MISS-DIG DESIGN TICKET #0A07238108-00A AND DTE PROVIDED SDA WITH A MAP OF THEIR UNDERGROUND LINES WHICH RUN THROUGH THE SITE. THE MAPS THAT WERE PROVIDED ARE VERY CRUDE AND WERE NOT TO SCALE. FOR THIS REASON IT WAS DIFFICULT FOR SDA TO PLOT THESE UNDERGROUND FACILITIES. THESE UNDERGROUND UTILITIES HAVE BEEN SHOWN ON THE SURVEY IN AN APPROXIMATE LOCATION AND ARE MOST LIKELY NOT IN THE ACTUAL LOCATION AS THEY CURRENTLY EXIST UNDERGROUND.

UTILITY PROVIDERS CHART

UTILITY PROVIDER	MISS DIG RESULTS	DATE	CONTACT	CONTACT #	CONTACT EMAIL
ATT (FORMERLY SBC)	RECEIVED INFO	9/18/2017	LUCIA SINDIGER	248-459-8266	cs214@att.com
COMCAST	NOT YET RECEIVED	9/13/2017	CRAG PUDAS	248-809-2715	CRAG_PUDAS@COMCAST.COM
DETROIT Edison	RECEIVED INFO	9/13/2017	UNKNOWN	313-235-5632	Design_MisDiG@DETenergy.com
DEARBORN CITY	RECEIVED INFO	8/30/2017	JOHN SCHEUHER	313-943-2455	SCHEUHER@CITYOFDEARBORN.MI.US
DEARBORN PUBLIC SCHOOLS	NOT YET RECEIVED	9/12/2017	JOE FORESTRE	248-288-0674	JOEFORESTRE@TPS.NET
DETROIT PUBLIC LIGHTING	NOT YET RECEIVED	9/12/2017	AMY POKORSKI	586-803-3536	AMYP@DTEENERGY.COM
DETROIT WATER & SEWER	NOT YET RECEIVED	9/13/2017	DALE ECHOLS	313-267-4857	DALE.ECHOLS@DTEWATER.ORG
FORD MOTOR COMPANY, TELECOMMUNICATIONS	NOT YET RECEIVED	9/12/2017	JOE FORESTRE	248-288-0674	JOEFORESTRE@FORD.COM
INTERNATIONAL TRANSMISSION COMPANY	RECEIVED INFO	8/28/2017	BRIANNA KOTELLES	248-986-3132	BRK@INTLTRANS.COM
TECHNOLOGIES INC. DBA ACENET	NOT YET RECEIVED	9/12/2017	TRISH ENGLISH	517-999-2347	ENGLISH@TECHNET.COM
LEVEL 3 COMMUNICATIONS	NOT YET RECEIVED	9/12/2017	JUDY HENRY	720-888-2061	RELO@LEVEL3.COM
LIGHTTOWER FIBER NETWORKS	NOT YET RECEIVED	9/12/2017	LEWIS HALL	585-445-9811	LHALL@LIGHTTOWER.COM
ETE GAS DISTRIBUTION DESIGN CODE	RECEIVED INFO	8/28/2017	BARIANNA LAUNDERS	313-235-5111	LAUNDERS@ETEDISTRIBUTION.COM
MICHIGAN BUSINESS	NOT YET RECEIVED	9/12/2017	JOHN INVESTIGATIONS	972-729-4038	john@investigations.com
MIRBIT NETWORK INC.	NOT YET RECEIVED	9/12/2017	KEN LOWE	616-393-0132	KEN@WESTERNTEL.COM
ENERGY TRANSFER	RECEIVED INFO	8/24/2017	MOLLY CARBBIERE	713-989-2079	MOLLY.CARBBIERE@ETD.COM
FRANKLIN, INC.	NOT YET RECEIVED	9/12/2017	ANDREW BAKERS	219-313-2692	ANDREW_BAKERS@FRANKLIN.COM
EMERSON COMMUNICATIONS	NOT YET RECEIVED	9/12/2017	GEORGE McELWAIN	309-992-8992	THOMAS.STUBBS@EMERSON.COM
SPRINT/NEXTEL	NOT YET RECEIVED	9/12/2017	GERRY A. CRAIN/ERISSON	847-445-3869	gerry.a.crain@sprint.com
SUNOCO PIPELINE LP	RECEIVED INFO	8/24/2017	FRANK WOFFMAN	630-670-3256	hoffman@sunoco.com
WOLVERINE PIPELINE CO	RECEIVED INFO	8/24/2017	LOUIS KRASUS	269-323-2491	LOUIS.KRASUS@WPCO.COM
WIND OPEN WEST	RECEIVED INFO	9/12/2017	JOHN HALE	254-337-4159	JOHN.HALE@WOWIND.COM
DAVID BANDWORTH MIDWEST, LLC	NOT YET RECEIVED	9/12/2017	GEORGE HUSS	443-493-2823	GEORGE.HUSS@BZVO.COM



CIVIL SHEET INDEX

- C1.1 - TOPOGRAPHICAL SURVEY
- C1.2 - DEMOLITION PLAN
- C1.3 - SITE ENGINEERING PLAN
- C1.4 - SOIL EROSION AND SEDIMENTATION CONTROL PLAN
- C1.5 - STORM SEWER STANDARD DETAILS AND NOTES
- C1.6 - SANITARY SEWER STANDARD DETAILS AND NOTES 1 OF 2
- C1.7 - SANITARY SEWER STANDARD DETAILS AND NOTES 2 OF 2
- C1.8 - CASTING STANDARD DETAILS AND NOTES 1 OF 2
- C1.9 - CASTING STANDARD DETAILS AND NOTES 2 OF 2
- C1.10 - WATER MAIN STANDARD DETAILS AND NOTES 1 OF 4
- C1.11 - WATER MAIN STANDARD DETAILS AND NOTES 2 OF 4
- C1.12 - WATER MAIN STANDARD DETAILS AND NOTES 3 OF 4
- C1.13 - WATER MAIN STANDARD DETAILS AND NOTES 4 OF 4

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

City of Dearborn

DRAWING TITLE
Topographical Survey

ISSUE DATES

DATE: 10-25-17
ISSUED FOR: BIDS

DATE: 09-27-2017
ISSUED FOR: OWNER REVIEW

PROJECT NO.
TMP - 17071
SDA - NP17041

DRAWING NO.
C1.1



REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

City of Dearborn

DRAWING TITLE
Demolition Plan

ISSUE DATES

10-25-17	BIDS
09-27-2017	OWNER REVIEW
DATE:	ISSUED FOR:
DRAWN: JRE	
CHECKED: TJS	
APPROVED: TJS	

PROJECT NO.
TMP - 17071
SDA - NP17041
DRAWING NO.
C1.2



DEMOLITION NOTES

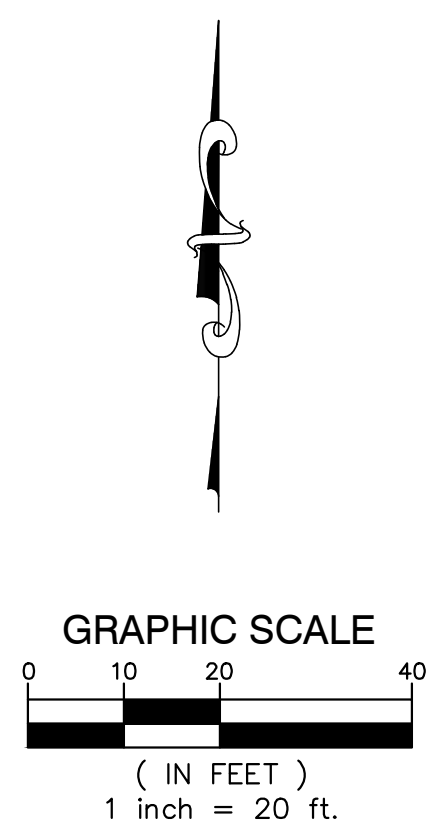
- 1 REMOVE CONCRETE CURB AND GUTTER TO FULL DEPTH. SANGUIT FILL DEPTH WHERE NEW CURB AND GUTTER WILL BE PLACED ADJACENT TO EXISTING.
- 2 CLEAR AND GRUB TO THE LIMITS SHOWN. INCLUDE REMOVAL OF ALL SIGNS, POSTS, FOOTINGS, GRAVEL, BRUSH, SHIMERS, GRASS, TOPSOIL, AND TREES NOT INDICATED FOR PROTECTION.
- 3 REMOVE EXISTING STORM SEWER PIPE. BACKFILL WITH CLASS II FILL AND COMPACT TO 95% OF MAXIMUM DENSITY.
- 4 PROTECT EXISTING CURB AND GUTTER TO REMAIN.
- 5 REMOVE EXISTING SIGN INCLUDING POST AND FOOTING.
- 6 PROTECT EXISTING UTILITIES AND UTILITY STRUCTURES TO REMAIN.
- 7 PROTECT EXISTING TREE TO REMAIN.
- 8 PROTECT EXISTING UTILITY/LIGHT POLE TO REMAIN.
- 9 REMOVE ABANDONED 3" WATER MAIN PIPE. BACKFILL WITH CLASS II FILL AND COMPACT TO 95% OF MAXIMUM DENSITY.
- X REMOVE EXISTING TREE (INCLUDING STUMPS AND ROOTS).

ALL DEPRESSIONS CREATED BY DEMOLITION PROCEDURES SHALL BE BACKFILLED WITH CLASS II FILL MATERIAL, IN 6" LIFTS, COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT, UP TO PROPOSED SUBGRADE.

CONTRACTOR IS RESPONSIBLE FOR DOING AN EARTHWORK CALCULATION FOR CUT AND FILL REQUIREMENTS, AND IS RESPONSIBLE FOR INCLUDING IMPORT AND EXPORT OF MATERIALS IN THEIR BID. ALL EXCESS MATERIAL (INCLUDING TOPSOIL, CLEAN FILL, AND WASTE MATERIAL) SHALL BE REMOVED FROM THE SITE.

CONTRACTOR TO PROVIDE UNIT PRICES (B/C/D) IN THE BID DOCUMENTS FOR UNDERCUT AND REPLACEMENT OF POOR SOILS. UNIT PRICE TO INCLUDE DISPOSAL OF POOR SOILS AND IMPORT AND PLACEMENT OF ENGINEERED FILL, UP TO PROPOSED SUBGRADE.

CONTRACTOR TO PROTECT EXISTING WALLS, PAVEMENT, CURBS, GUTTERS, WALLS, FENCES, GATES, LANDSCAPING AND TREES TO REMAIN DURING CONSTRUCTION.



REGISTRATION SEAL

CONSULTANT

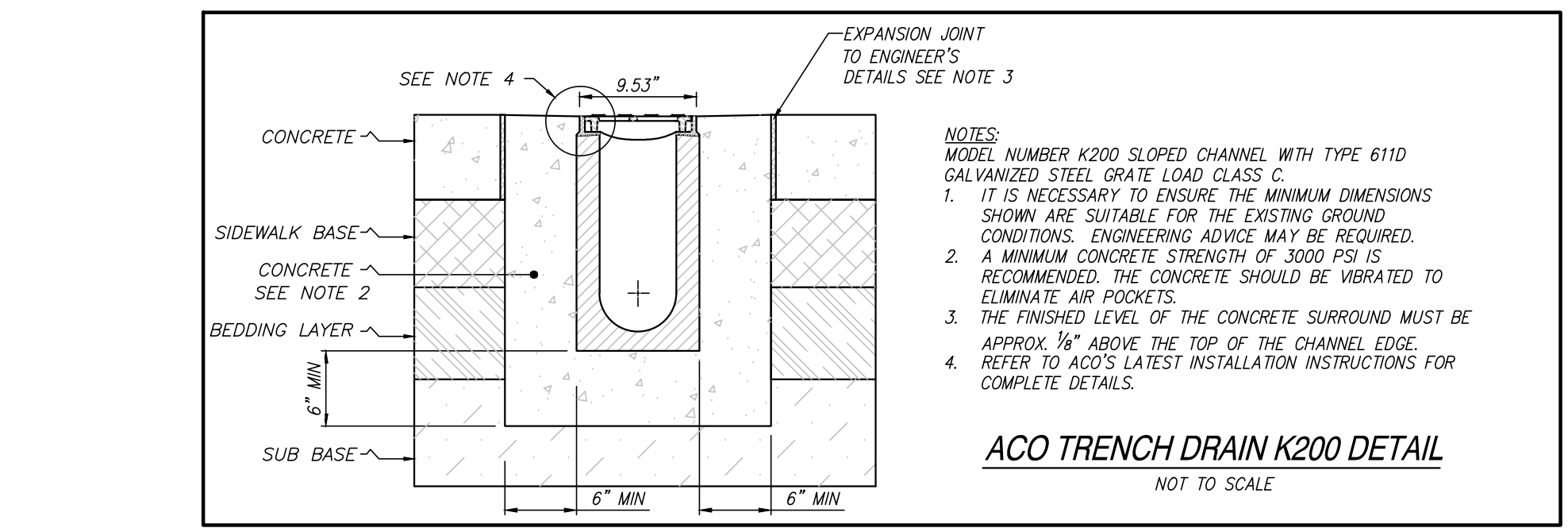
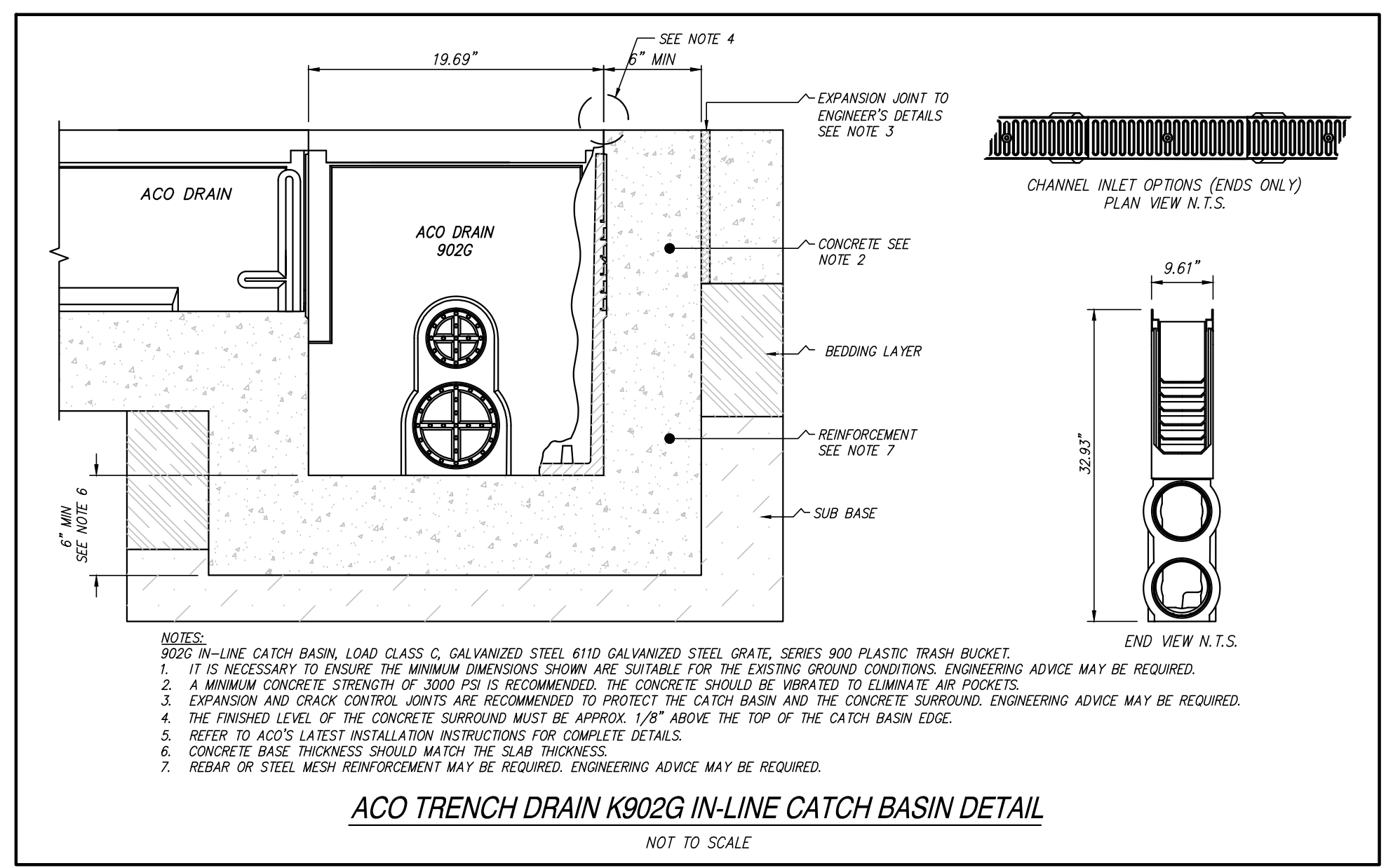
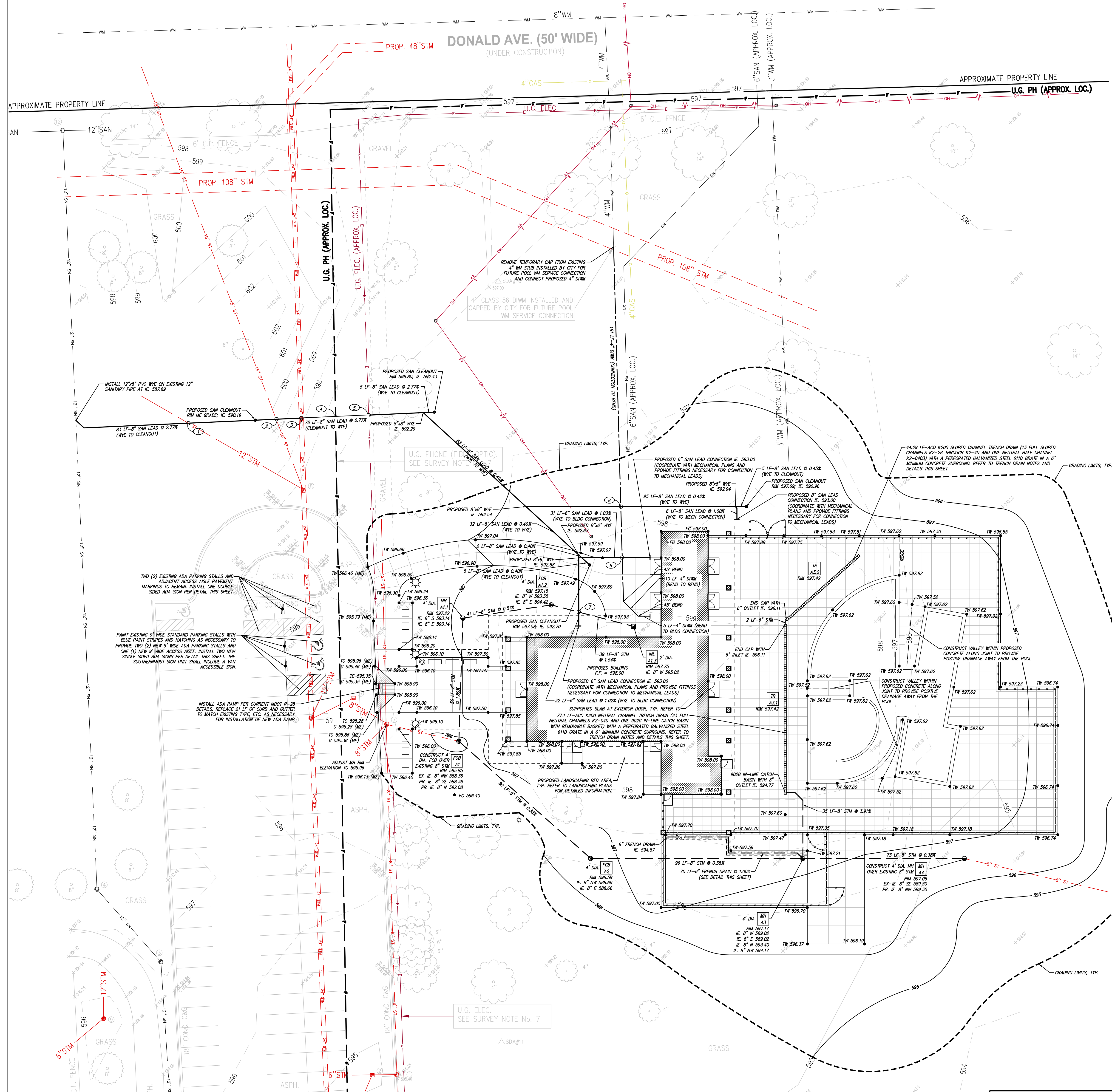
PROJECT TITLE
Ford Woods Park Pool

City of Dearborn
Site Engineering Plan

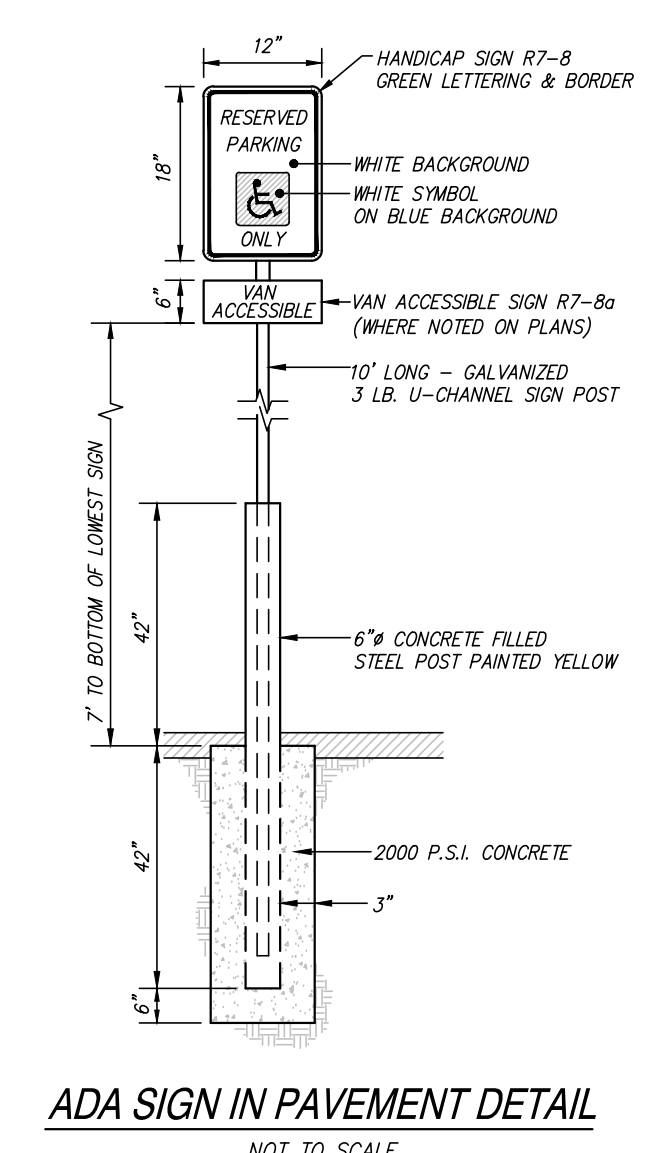
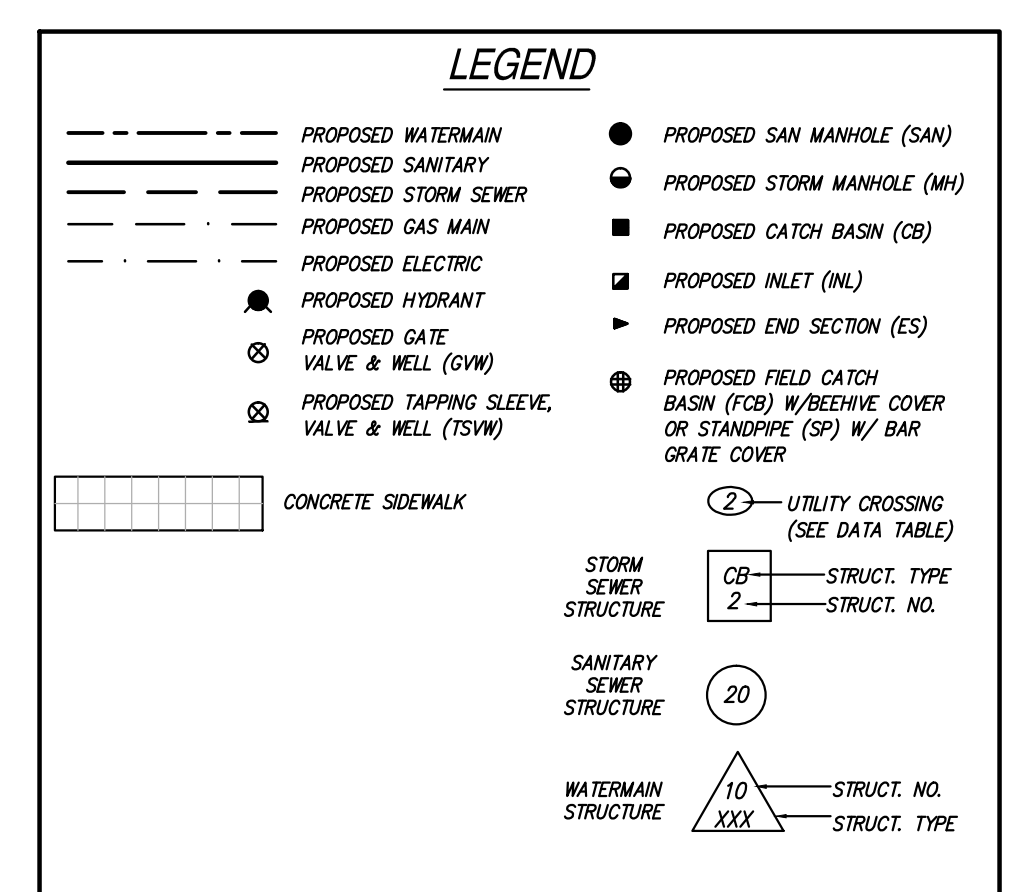
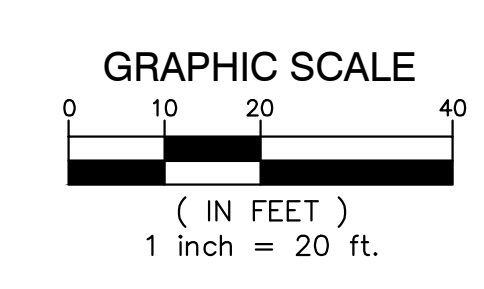
ISSUE DATES

DATE ISSUED FOR:

PROJECT NO.
TMP - 17071
SDA - NP17041
DRAWING NO.
C1.3



- UTILITY NOTES**
- STORM SEWER NOTED AS 6" SHALL BE PVC SCHEDULE 40. STORM SEWER GREATER THAN 6" THROUGH 10" SHALL BE PVC SDR 26. STORM SEWER NOTED AS 8" THROUGH DRAIN SHALL BE PERFORMED HOPE IN A FILTER FABRIC SOCK.
 - SANITARY SEWER 8" AND LARGER SHALL BE PVC TRUSS PIPE. 6" SANITARY LEADS SHALL BE SOLID WALL PVC, SDR 23.5.
 - WATER MAIN SHALL BE CLASS 50 DUCTILE IRON. WATER MAINS SHALL BE LEAKAGE AND PRESSURE TESTED IN ACCORDANCE WITH ANNA STANDARD C600. WATER MAINS SHALL BE INSPECTED IN ACCORDANCE WITH ANNA STANDARD C601 PRIOR TO BEING PUT INTO SERVICE.
 - ALL UTILITIES REMOVED THAT FALL WITHIN A 1'-0" INFLUENCE OF PAVEMENT AREAS SHALL BE BACKFILLED WITH CLASS 2 SAND AND COMPACTED TO SIZE OF MAXIMUM DENSITY.
 - ALL WATER MAINS SHALL BE BURIED WITH 5' OF COVER FROM PROPOSED GRADES. USE 22.5' BEDS TO LOWER WATER MAIN WHERE NOTED AT UTILITY CROSSING.
 - ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF DEARBORN.
 - ALL UTILITIES SHALL BE INSTALLED ON CLASS "B" BEDDING OR BETTER.
 - SIZE OF STORM SEWER STRUCTURES SHALL BE AS NOTED ON THE PLANS.
 - ALL PROPOSED STORM SEWER CATCH BASINS AND INLET STRUCTURES SHALL HAVE A 2" MINIMUM SUMP.
 - UNLESS OTHERWISE NOTED, PROPOSED CASTINGS SHALL BE:
 - FIELD CATCH BASINS - EAW 5008 - 10" (FRAMES WITH CURB BOXES WILL NOT BE ALLOWED)
 - FIELD CATCH BASINS - EAW 1040 - 10"
 - STORM MANHOLES - EAW 1040 - 10"
 - LOCATIONS OF LIGHT POLES, IF SHOWN ON THESE DRAWINGS, MAY BE APPROXIMATE. CONFIRM EXACT LOCATION (I.E. CURB OPERATIONS, SIDEWALK OFFSETS, ETC.) PRIOR TO STAKING AND CONSTRUCTION. REFER TO SITE ELECTRICAL PLAN FOR DETAILS AND COORDINATE WITH ELECTRICAL ENGINEER, ARCHITECT, AND CIVIL ENGINEER TO DETERMINE PROPER PLACEMENT.
 - WHERE THESE PLANS DIFFER FROM THE STANDARD DETAILS OR STANDARD SPECIFICATIONS OF THE COMMUNITY, THE COMMUNITY REQUIREMENTS SHALL GOVERN.



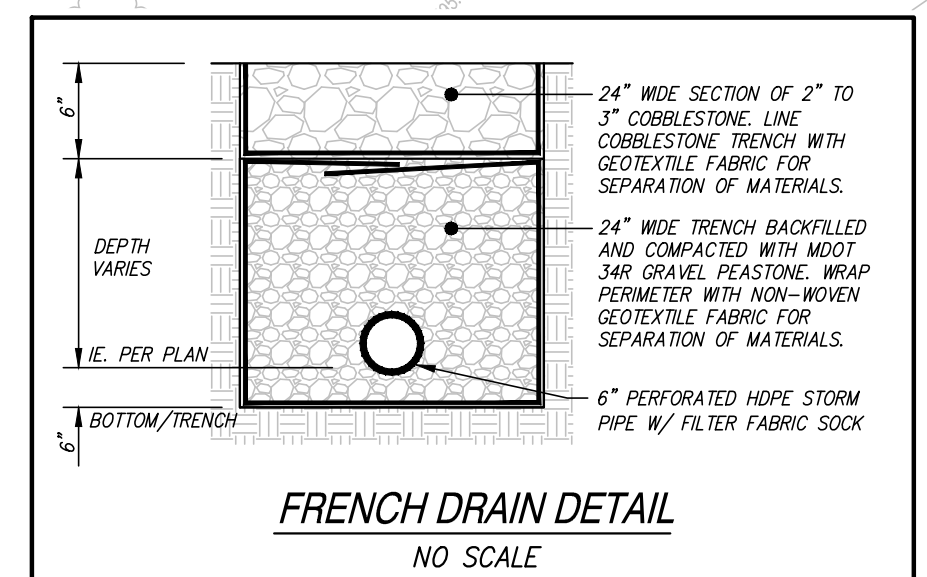
UTILITY CROSSING TABLE

NO.	UTILITY	DEPTH (FEET)	CONFLICT OCCURS
1	SAN/STW X-80	PROP. 8" SAN TIP 590.06	NOTIFY ENGINEER IF CONFLICT OCCURS
2	SAN/STW X-80	PROP. 8" SAN TIP 590.06	NOTIFY ENGINEER IF CONFLICT OCCURS
3	SAN/STW X-80	PROP. 8" SAN TIP 590.06	NOTIFY ENGINEER IF CONFLICT OCCURS
4	SAN/STW X-80	PROP. 8" SAN TIP 590.06	NOTIFY ENGINEER IF CONFLICT OCCURS
5	SAN/ELEC X-80	PROP. 8" SAN TIP 590.33	NOTIFY ENGINEER IF CONFLICT OCCURS
6	SAN/STW X-80	PROP. 8" SAN TIP 590.06	NOTIFY ENGINEER IF CONFLICT OCCURS
7	STW/SAN X-80	PROP. 8" SAN TIP 590.06	NOTIFY ENGINEER IF CONFLICT OCCURS
8	SAN/STW X-80	PROP. 8" SAN TIP 590.06	NOTIFY ENGINEER IF CONFLICT OCCURS

NOTE: EXISTING STORM SEWER INVERT ELEVATIONS ARE ASSUMED BASED ON ASSUMED PIPE SLOPES. CONTRACTOR SHALL CONFIRM EXACT DEPTHS PRIOR TO THE START OF ANY PROPOSED UNDERGROUND UTILITY INSTALLATION AND SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS EXIST.

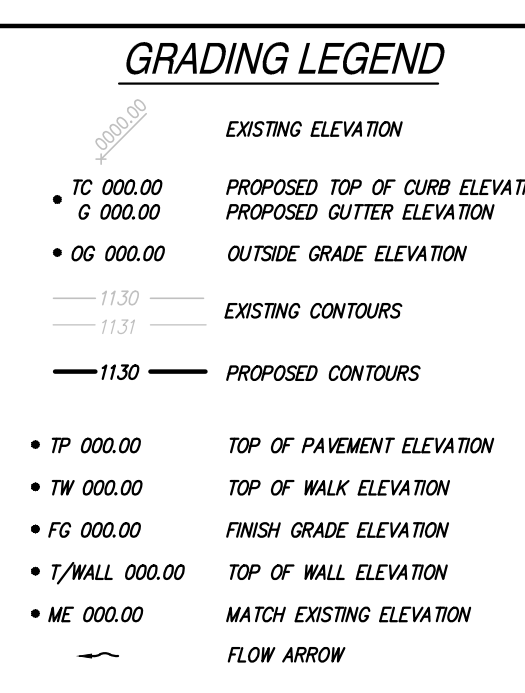
RESTORATION NOTE
RESTORE ALL DISTURBED LAWN AREAS WITH 4" OF CLEAN TOPSOIL AND SEED MIX USING KENTUCKY BLUEGRASS. SEE PROFORMA. REPAIR SIDE DRAINING RED FESSOLE PLACE MATS IN ALL SLOPED AREAS ON SLOPES IN EXCESS OF 10% HORIZONTAL TO 1 VERTICAL PLACE NORTH AMERICAN GREEN DSS30 MATCH BLANKET IMMEDIATELY AFTER SEEDING. USE METAL STAPLES PER MANUFACTURER'S RECOMMENDATIONS TO HOLD MATTING IN PLACE.

RIM ADJUSTMENT NOTE:
REMOVE EXISTING CASTING COVER AND ADJUSTMENT MATERIALS FROM DRAINAGE STRUCTURE. SALVAGE CASTING AND COVER FOR REUTILIZATION AND PROVIDE 1/4" ADJUSTMENT BRICK/BLOCK/PANES. RENEWAL ACCORDING TO STANDARD DETAILS (IF INCLUDED). PROTECT EXISTING UTILITY STRUCTURE TO REMAIN.



GRADING NOTE
1. PROPOSED GRADES ARE SOMETIMES BASED ON AN INTERPOLATION OF DATA SHOWN ON THE TOPOGRAPHIC SURVEY. THIS INTERPOLATED DATA IS APPROXIMATE AND COULD DIFFER SIGNIFICANTLY BASED ON THE ACCURACY OF THE SURVEY. CONTRACTOR SHALL CONFIRM THAT THE PROPOSED GRADES SHOWN ON THIS PLAN WILL NOT CREATE A STANDING WATER CONDITION (I.E. A LOW SPOT OR PAVED SLOPES LESS THAN 1% OR AN UNUSUAL CONDITION WITH SLOPES IN EXCESS OF 5% CONTRACTOR SHALL ADVISE ENGINEER IMMEDIATELY IF THEY BELIEVE THAT ONE OF THESE SITUATIONS WILL OCCUR BASED ON THE PROPOSED GRADES.
2. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING STORMWATER RUNOFF DURING CONSTRUCTION OPERATIONS. OF PARTICULAR CONCERN WILL BE THE TIME PERIOD AFTER THE SITE HAS BEEN STAKED AND NOT YET RESTORED. BUILT UP OR PAVED. CONTRACTOR MUST INSTALL OR CONSTRUCT APPROPRIATE TEMPORARY MEASURES TO PROTECT ADJACENT PROPERTIES.

PAVING CONSTRUCTION NOTES
REFER TO LANDSCAPING PLANS FOR DETAILED INFORMATION ON PROPOSED PAVING CROSS-SECTIONS, FENCING AND GATES, LANDSCAPING PLANTINGS, BENCHES, BICYCLE RACKS, TRASH RECYCLAGES, ETC.



REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

City of Dearborn

DRAWING TITLE
Soil Erosion and Sedimentation Control Plan

ISSUE DATES

10-25-17	BIDS
09-27-2017	OWNER REVIEW
DATE:	ISSUED FOR:
DRAWN: JRE	
CHECKED: TJS	
APPROVED: TJS	

PROJECT NO.
TMP - 17071
SDA - NP17041
DRAWING NO.
C1.4

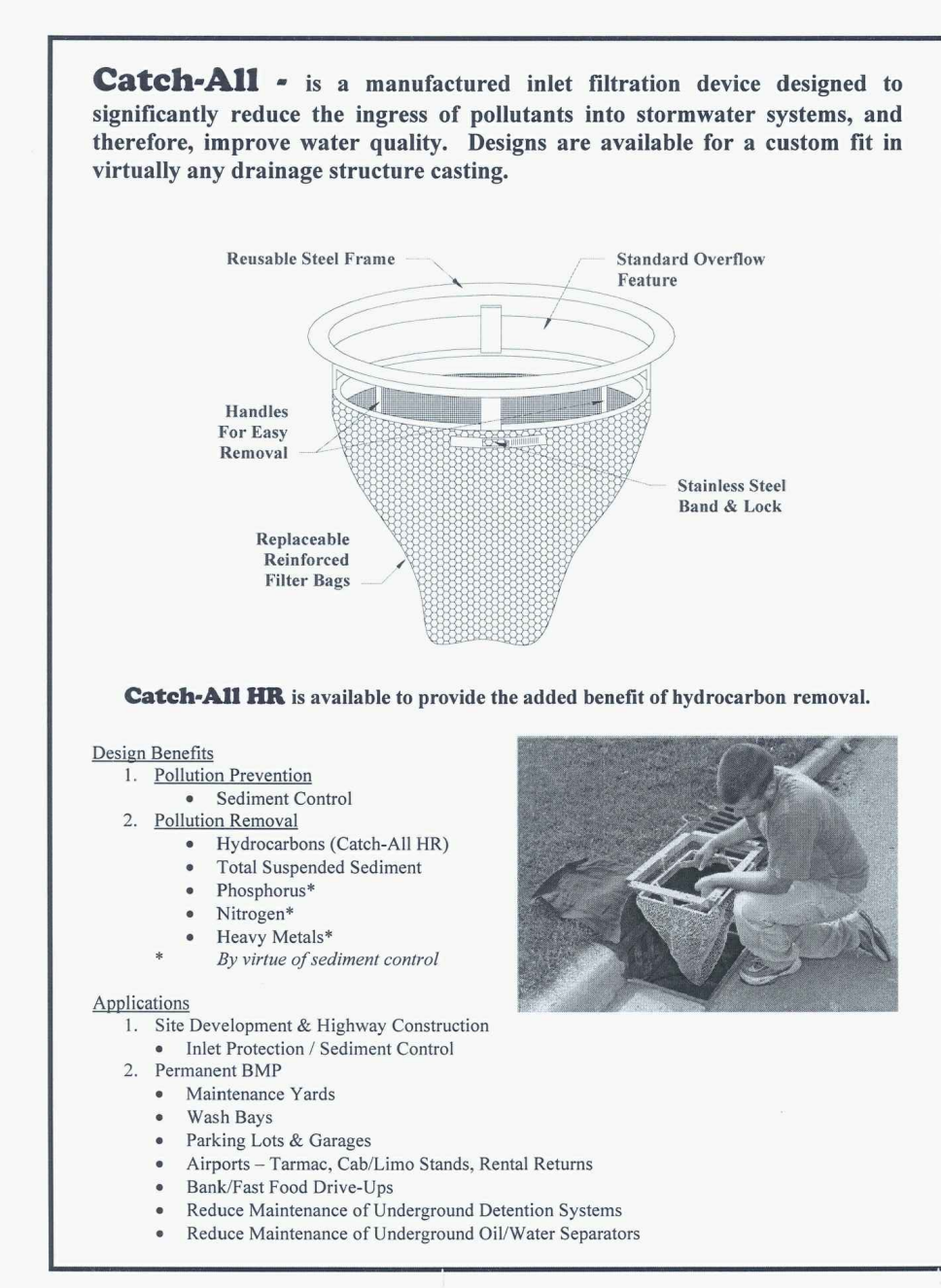
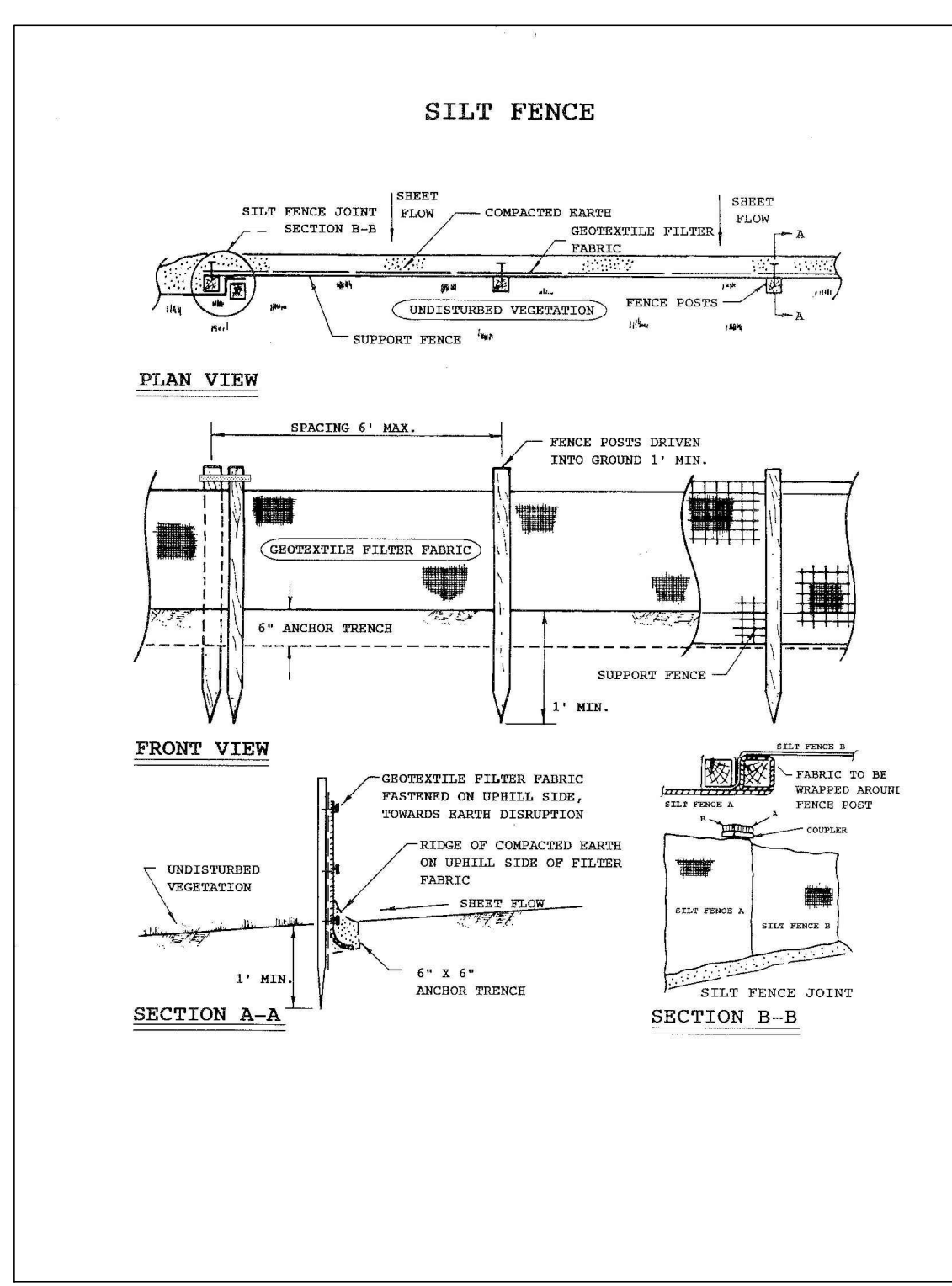
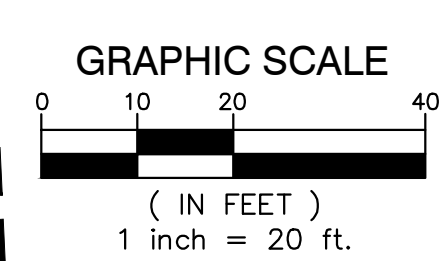
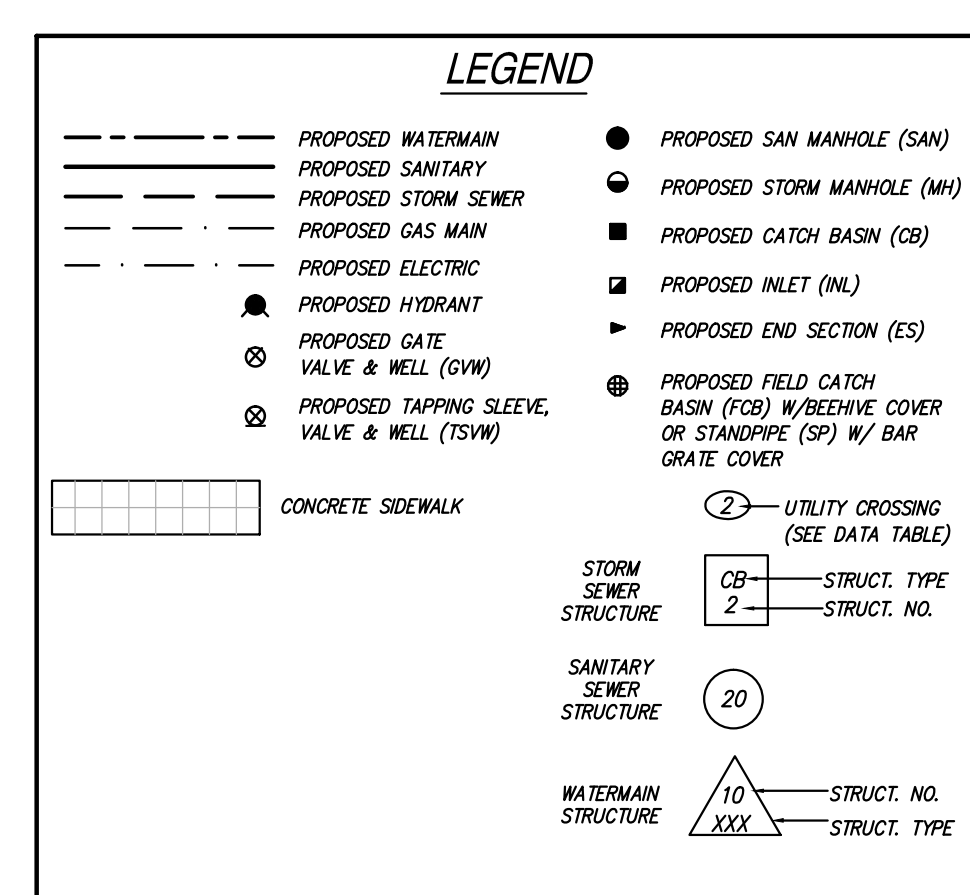
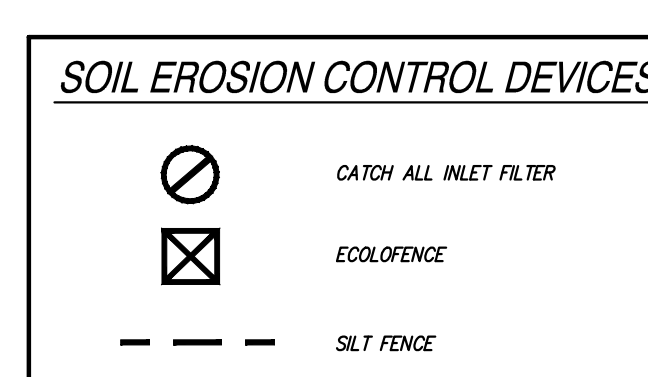
3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG.
1-800-482-7171
FOR THE SAFETY OF PUBLIC CITY



SITE NOTES:
APPROX. GROSS ACREAGE DISTURBED = 1.83± ACRES

SOIL TYPES:
EtmiscA - ANTHROPOIC UDORTMENTS, 0 TO 2 PERCENT SLOPES
RvlsuB - RIVERFRONT SANDY LOAM, 0 TO 4 PERCENT SLOPES
UrbicwB - URBAN LAND-RIVERFRONT COMPLEX, 0 TO 4 PERCENT SLOPES

THIS PROJECT SHALL BE CONSTRUCTED IN COMPLIANCE WITH PART 91 OF ACT 451 OF 1994, AS AMENDED. THE SOIL EROSION AND SEDIMENT CONTROL ACT.



SOIL EROSION/SEDIMENTATION CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF DEARBORN AND/OR WAYNE COUNTY.
2. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR TO DETERMINE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL DEVICES, AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
3. EROSION AND ANY SEDIMENT FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
4. EROSION AND SEDIMENT CONTROL DEVICES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CONSTRUCTION. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF SILT OFF THE SITE.
5. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES AS REQUIRED AND AS DIRECTED ON THESE PLANS. HE SHALL REMOVE TEMPORARY DEVICES AS SOON AS PERMANENT STABILIZATION OF SOILS, DITCHES, AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED AND APPROVED BY THE CITY AND/OR COUNTY.
6. DEBRIS FROM PROJECT WILL BE LEFT ON THE SITE BY DELIVERY OF CONSTRUCTION VEHICLES THROUGH THE USE OF CLEAN STONE DOTS. SHOULD THE STONE BECOME LESS EFFECTIVE IT WILL BE REPLACED. ALL CONSTRUCTION TRUCKS WILL USE THE CLEAN STONE DOT.
7. DUST CONTROL WILL BE EXERCISED AT ALL TIMES WITHIN THE PROJECT BY THE CONTRACTORS. SPRINKLING TANK TRUCKS WILL BE AVAILABLE AT ALL TIMES TO BE USED ON HAUL ROUTES OR OTHER PLACES WHERE DUST BECOMES A PROBLEM.
8. ALL MUD, DIRT, AND DEBRIS TRACKED ON EXISTING ROADS FROM THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR OR BULKED. ALL MUD, DIRT, AND DEBRIS TRACKED OR SPILLED ON PAVED SURFACES WITHIN THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. STREETS MUST BE SWEEPED AT LEAST ONCE PER WEEK & SCORPED AT THE END OF EACH WORKDAY.
9. IMMEDIATELY AFTER SEEDING, MUD SEEDING AREAS WITH UNWEATHERED SMALL GRASS STRAW OR HAY. SPREAD UNIFORM AT A RATE OF 1/2 TO 2 TONS PER ACRE OR 610 POUNDS PER SQUARE FEET. ANCHOR MULCH WITH DISC TYPE MULCH ANCHORING TOOL.
10. PERMANENT SOIL EROSION CONTROL DEVICES FOR ALL SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH CHANGES HAVE BEEN COMPLETED OR WHERE SIGNIFICANT EARTH CHANGE ACTIVITY CEASES. TEMPORARY SOIL EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL DEVICES ARE IMPLEMENTED AND/OR ESTABLISHED. ALL PERMANENT SOIL EROSION CONTROL DEVICES WILL BE IMPLEMENTED AND ESTABLISHED BEFORE A CERTIFICATE OF INSURANCE IS ISSUED.
11. ALL CONTRACTORS ARE TO KEEP EXCAVATED MATERIAL ON SITE. PARTICULAR CARE SHOULD BE TAKEN WHEN WORKING ALONG THE PERIMETER OF THE SITE. IN NO EVENT SHALL THE WORK AREA EXTEND BEYOND THE LIMITS INDICATED ON THE PLANS.
12. STREETS SHALL BE SCORPED ON A DAILY BASIS AND SWEEPED ON A MINIMUM WEEKLY BASIS.
13. INSPECT AND MAINTAIN SOIL EROSION CONTROL ON A WEEKLY BASIS AND AFTER EVERY STORM EVENT.
14. ONCE THE AREA IS PAVED, SWEEPING WILL BE NECESSARY TO PREVENT TRACKING.
15. ALL EXISTING SEWER STRUCTURES WITHIN THE PUBLIC ROAD RIGHT-OF-WAY MUST BE PROTECTED. PLACE GEOTEXTILE FILTER FABRIC OR SILT SACK FILTER AND MAINTAIN AT ALL TIMES DURING CONSTRUCTION.

SOIL EROSION/SEDIMENTATION CONTROL CONSTRUCTION SEQUENCE

1. INSTALL SILT FENCE AROUND DEFINED PERIMETER AS SHOWN AND INSTALL INLET FILTERS IN EXISTING STRUCTURES WHERE INDICATED.
2. COMPLETE DEMOLITION ACTIVITIES INCLUDING CLEARING, GRUBBING AND STRIPPING TOPSOIL IN AREAS OF EARTH DISRUPTION.
3. COMPLETE LAND BALANCING OPERATIONS.
4. INSTALL NEW UNDERGROUND UTILITIES AND PLACE INLET FILTERS IN NEW STRUCTURES WHERE INDICATED.
5. CONSTRUCT PROPOSED BUILDING AND POOL.
6. PERFORM FINE GRADING, PAVING OPERATIONS, LANDSCAPING.
7. EROSION CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL THE CITY AND/OR COUNTY GRANTS ITS APPROVAL. INLET FILTERS SHALL BE PERIODICALLY INSPECTED AND CLEANED/REPLACED AS NECESSARY.

ALL EROSION CONTROL MEASURES SHALL BE INSTALLED APPROXIMATELY ACCORDING TO THE FOLLOWING SEQUENCE OF CONSTRUCTION:

PROJECT COMMENCEMENT ON OR ABOUT DECEMBER 2017.

SCHEDULE

A. INSTALL SILT FENCE AND INLET FILTERS IN EXISTING STRUCTURES AS SHOWN ON PLANS.	1-2 DAYS
B. COMPLETE DEMOLITION ACTIVITIES INCLUDING STRIPPING TOPSOIL.	1 WEEK
C. LAND BALANCING AND ROUGH GRADE SITE.	2-3 WEEKS
D. INSTALL UNDERGROUND UTILITIES.	2-3 WEEKS
E. BUILDING AND POOL CONSTRUCTION.	30 WEEKS
F. FINE GRADE SITE, PAVE, INSTALL LANDSCAPING AND ESTABLISH VEGETATION.	2-3 WEEKS
G. CLEAN PAVEMENTS, WALKS, DRIVEWAYS, AND WATERCOURSES OF ALL ACCUMULATED SEDIMENT IN CONJUNCTION WITH REMOVING ALL TEMPORARY DEVICES.	1 WEEK

PROJECT COMPLETION ON OR ABOUT DECEMBER 2018.

ECOLOFENCE CB
CALL: 800/248-8230

APPLICATION
ECOLOFENCE CB is designed to arrest silt and slow concentrated flows before they reach the street structure. As with all sediment control devices, ECOLOFENCE CB will significantly reduce velocity. Creating a water pool to the exterior of the system. The trapped water enables heavy suspended soil particles to settle out prior to the water passing through the geotextile.

INSTALLATION
Dig a trench for the geotextile top-in along the fence alignment. Excavated material should be placed up slope from or exterior to the ECOLOFENCE CB. Trenches should measure approximately 15cm x 15cm (6" x 6").

MAINTENANCE
To keep ECOLOFENCE CB in proper working order after a storm, remove all collected sediments from the interior of the system. Depending on the depth of sediment collected, hand digging may be required to prevent equipment operations from damaging the geotextile, posts or top-in security. To clean the geotextile surface, gently lift the interior face of the geotextile with the back of a shovel. The intent of the maintenance operation is to have the greatest storage area for collection of sediments and the cleanest geotextile surface, enabling rapid water passage.

Place all collected sediments at a location on the project where removed from subsequent storm events is not possible.

FENCE CHARACTERISTICS	GEOTEXTILE CHARACTERISTICS
FENCE LENGTH: 15 M (57.44') 48.30'	GRAIN TEXTILE STRENGTH: 600 (124) N (9.94) A5174 01 4402
GEOTEXTILE WIDTH: 0.6 M (24")	PERFORATED TUBULAR STRENGTH: 200 (40) N (2.94) A5174 01 4402
POST LENGTH: 0.6 M (24")	MULLER BURST STRENGTH: 5000 (240) N (24) A5174 01 4402
POST SPACING: 1.5 M (57")	UV RESISTANCE (500 hrs): 80 % A5174 01 4402
POSTS PER UNIT: 4	SOIL INCREASE: 0.505 mm A5174 01 4402
POST SIZE: 35 mm x 20 mm	PERMEABILITY: 0.13 (144) A5174 01 4402
POST POINTING: 1.5" x 1.5"	
POST COMPOSITION: 100% 100% HDPE	
POST CONNECTIONS: Handmade	

Price and Company, Inc.
4500 W. Warren Ave., Wyandotte, MI 48186-2123
Tel: 810-333-8230 or Fax: 810-333-2117

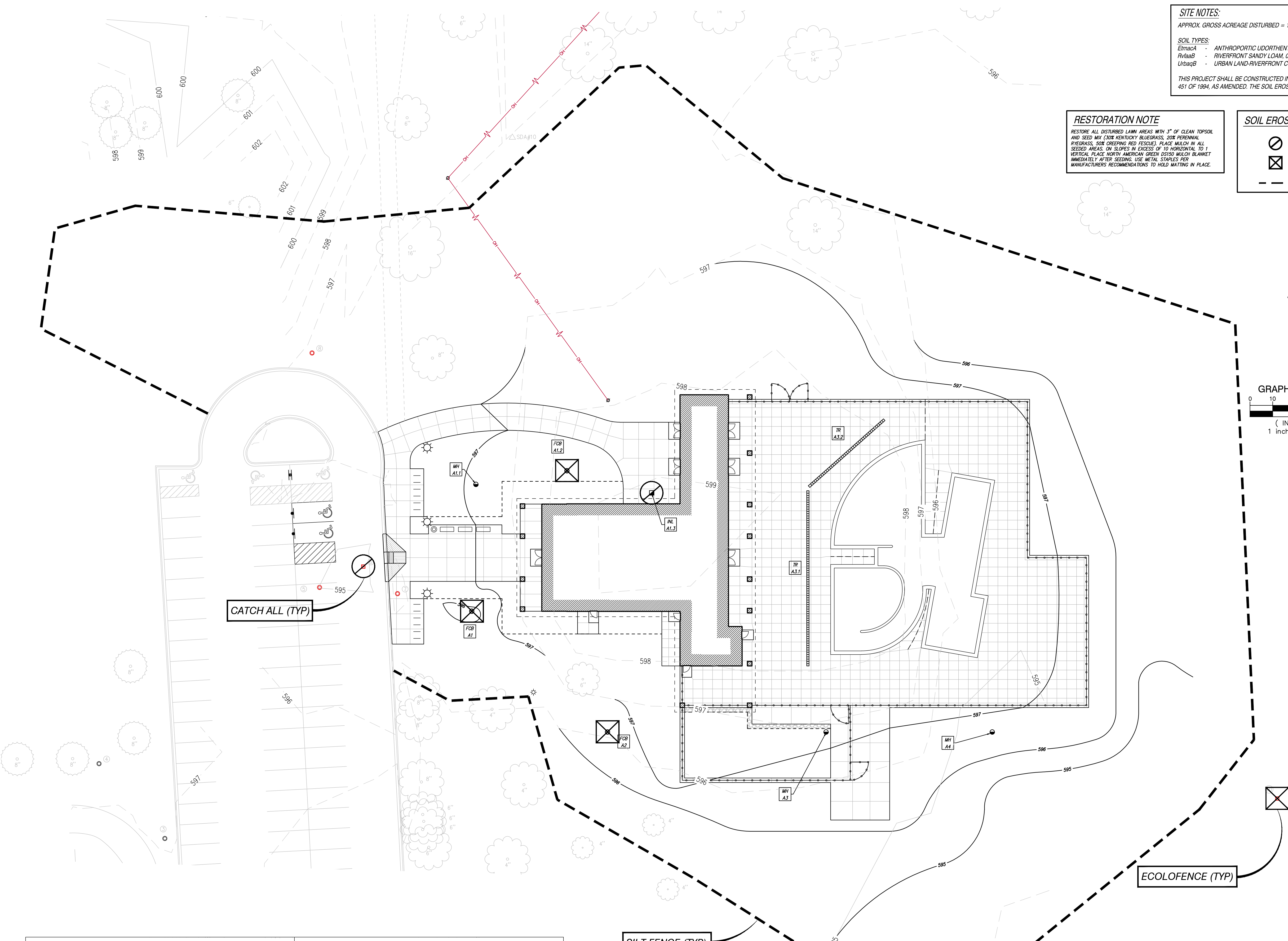
Price and Company, Inc.

ECOLOFENCE CB PROTECT INLETS DURING CONSTRUCTION

ECOLOFENCE CB is a member of the sediment control fence family made exclusively by Price and Company, Inc. From select woven stock with rotary points to the certified Ansoo Fabrics and Fibers Company geotextiles to the 4th and 5th generation details, ECOLOFENCE CB meets rigorous physical, mechanical and hydraulic performance characteristics. This attention to quality translates to better value to you: your installation of these inlet protection fences will be problem-free and each fence provides long-term protection against sediment accumulation within the basin and accompanying pipes. When safeguarding your 4th from becoming a sediment source, use ECOLOFENCE CB as your Best Management Practice!

To Order Call: **1-800-248-8230**

Price and Company, Inc. is a trademark of Price and Company, Inc.



REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
**Ford Woods
 Park Pool**

City of Dearborn

DRAWING TITLE
**Storm Sewer
 Standard Details
 and Notes**

ISSUE DATES

DATE ISSUED FOR:

DRAWN JRE

CHECKED TJS

APPROVED TJS

PROJECT NO.

**TMP - 17071
 SDA - NP17041**

DRAWING NO.

C1.5



NOTES

- Top of masonry structures shall be sufficiently low to permit proper adjustment of cover to grade with mortar or brick as directed by the Engineer.
- The top portion of 4' diameter and larger precast reinforced manholes units shall be eccentric in design. The top section of the brick or block manhole units shall be corbelled to be eccentric.
- Premium joints are required on all sanitary manholes. See A.S.T.M. designation C-923.
- The bell shall be removed for the first length of outlet pipe projecting through the wall of the manhole.
- Precast concrete sections, sumps, and flat top shall be built in accordance with A.S.T.M. C-478. The walls of the precast units may have a slight taper to allow for form removal. Precast concrete 2' diameter drainage structures shall have a minimum 3" wall thickness with a 6" minimum bearing surface on top. See precast riser ring for 2' diameter structures.
- Pipes entering or leaving precast structures shall not have an inside diameter greater than 2' less than the inside diameter of the structure, except pipes entering or leaving 2' inside diameter structures may have pipes 1' inside diameter or less.
- The number of pipe openings in a riser shall be determined by the designer. Spacing between openings shall be 6" minimum. Openings may be constructed by casting, removing the green concrete, or by drilling the openings in cured concrete. No openings shall be made in precast units which leave less than 24" of undisturbed precast pipe, or would remove more than 30% of the circumference along any horizontal plane.
- Precast concrete footings or bases shall be reinforced with #4 steel bars spaced at 1' both ways or with two layers of welded wire fabric of equivalent cross sectional area laid at right angles and wired together. Reinforcement shall be placed in top of footing and shall be marked. Steel reinforcement may be omitted in cast-in-place concrete footings.
- Precast concrete footings & precast bottoms shall be supported by a compacted 6" aggregate base, compacted in place.
- Concrete footing shall be cast-in-place or precast concrete. Precast concrete base sections are acceptable for manholes, catch basins & inlets. Concrete shall be poured against undisturbed ground. Poured concrete and mortar must be hard before being stressed with backfill or precast modules.
- The minimum wall thickness for all 2', 4', and 6' drainage structures using concrete block, brick, or cast-in-place concrete shall be as shown in typical wall sections.
- Approved adapter such as Fernco coupling to connect dissimilar pipe is acceptable.
- Mortar shall be 1 part cement and 2 parts N.S. sand. Plaster all bricks and blocks with 1/2" mortar.
- For Manholes, Catch Basins & Inlets if the base is over excavated it shall be backfilled with class 4 concrete.
- Locate corbel and steps at 45° to outlet sewer.
- Joints for clay pipe shall be internal rubber type gasket meeting the current A.S.T.M. Specification C425. Joints for concrete pipe shall be internal rubber type gasket meeting the current A.S.T.M. Specification C443.
- Infiltration/Exfiltration. Maximum allowable rates shall be 100 gallons per mile per inch diameter of sewer per 24 hour day on any one run between manholes.
- In precast sanitary manholes all holes for inlet and outlet pipe shall be formed or equipped for an approved flexible joint connection such as "Res-Seal", "Press-Wedge" or "Kor-N-Seal" or equal.
- No roof drain or down spout shall be connected to any city sewer or private sewer which is discharging to the city sewer.
- Castings shall meet the requirements of the current specification A.S.T.M. designation A-48 and shall have the same minimum strength as provided for #30 gray iron castings.
- All construction shall conform to the current Standards & Specifications.
- ABS Truss pipe and/or PVC pipe shall comply with and be installed in accordance with current ASTM designation.
- ABS or PVC Truss pipe constructed at depths greater than 12' below grade shall be tested for deflection. Deflection shall not exceed 5% of the normal pipe diameter.

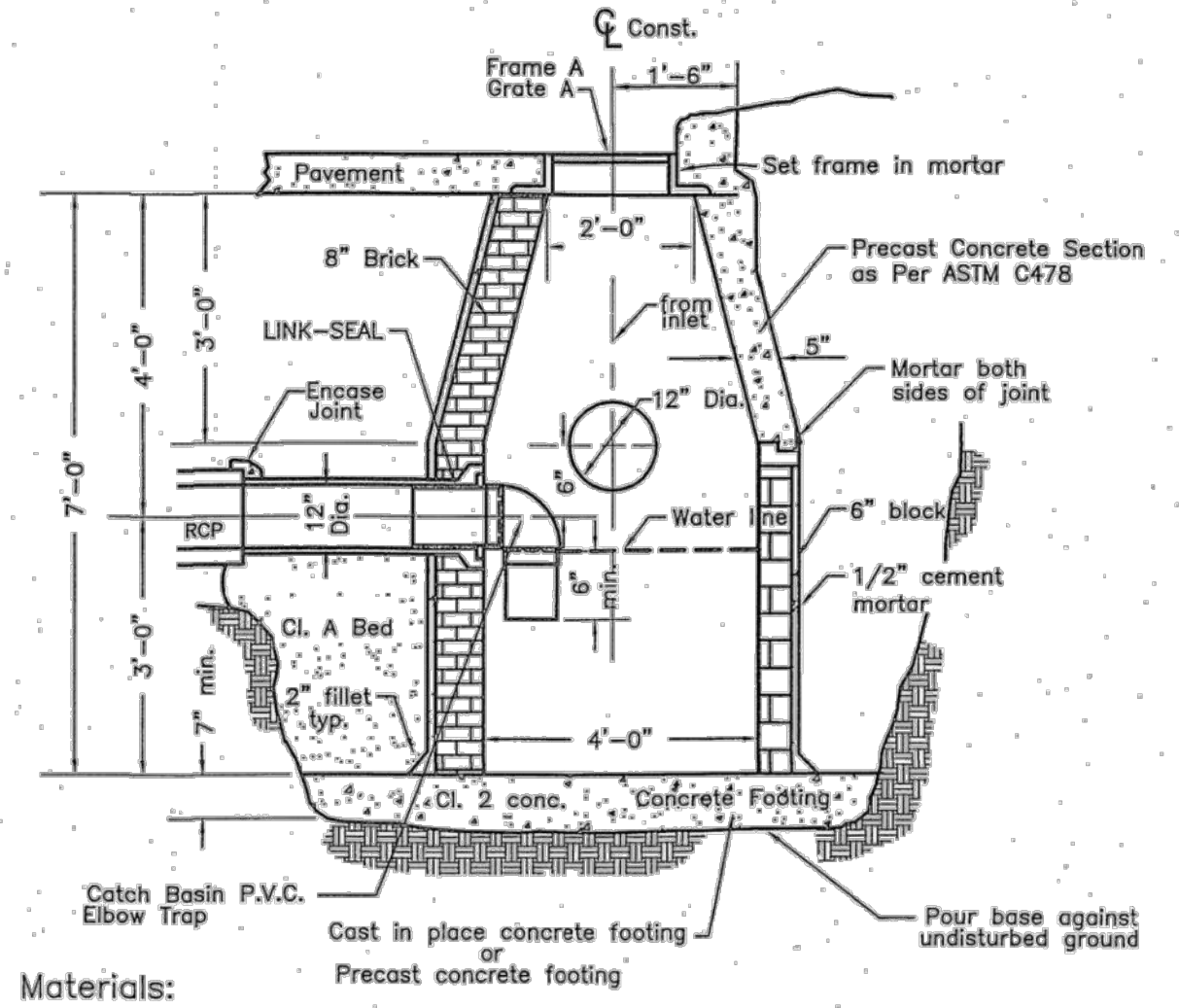
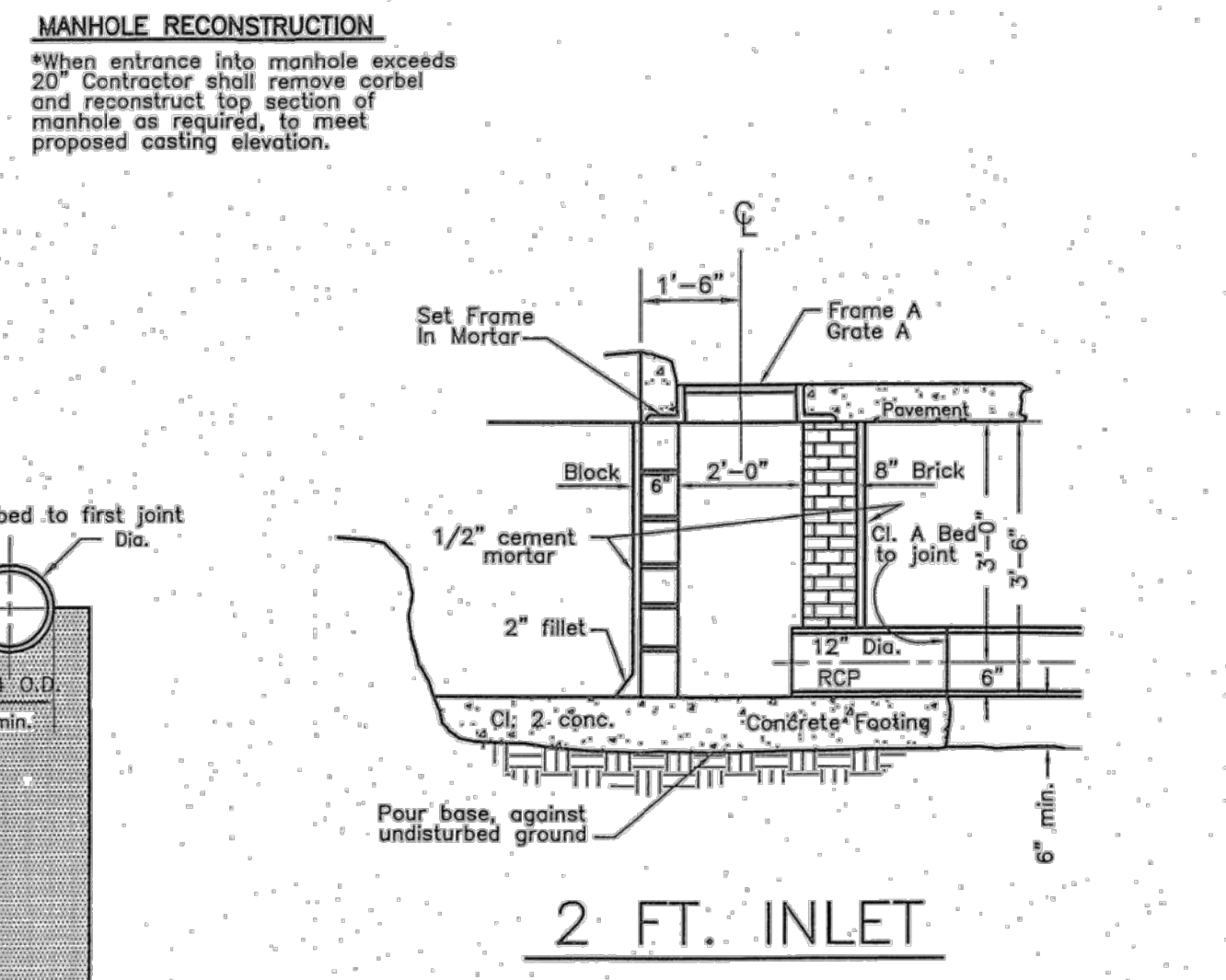
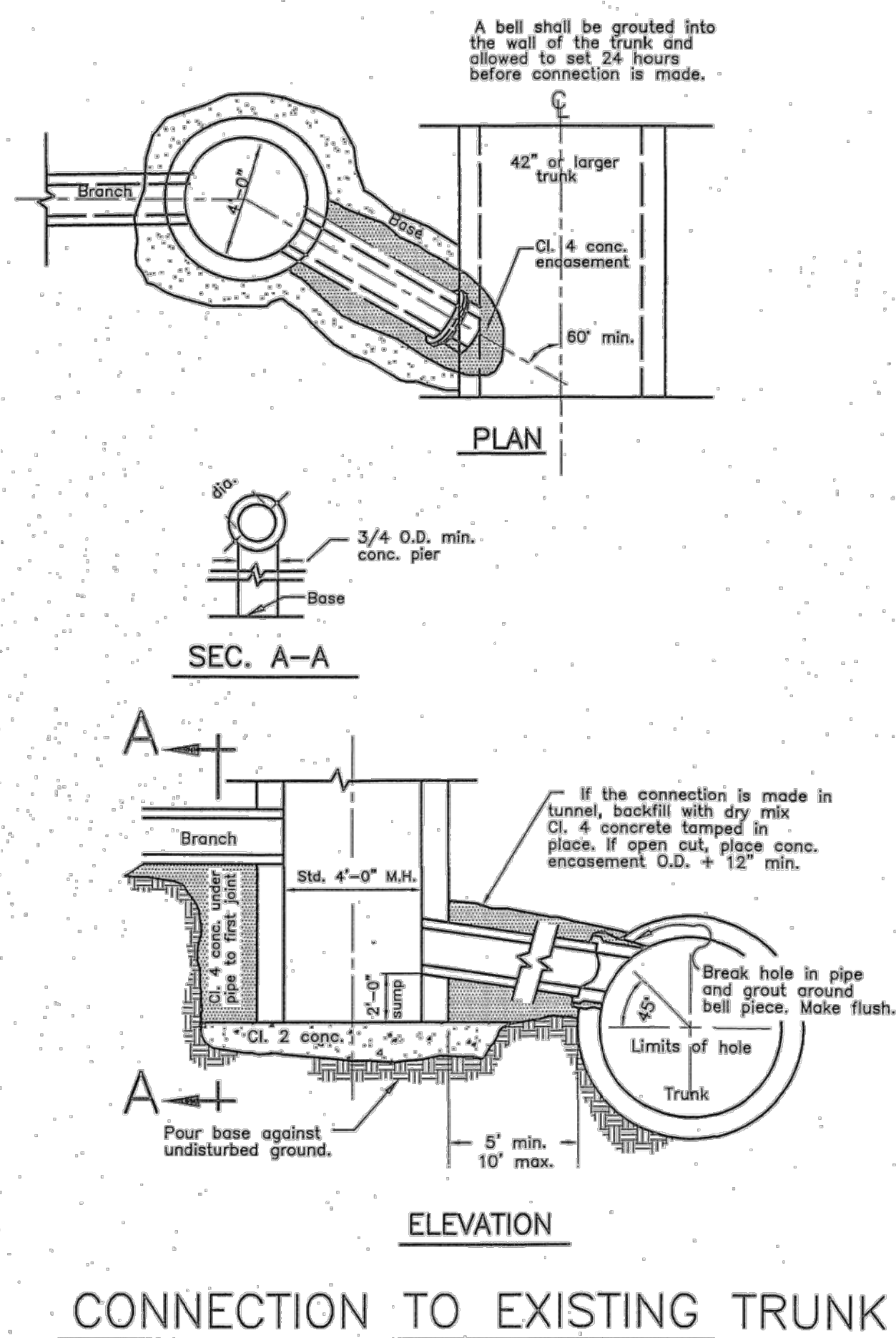
STORM SEWER STANDARDS

DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 CITY OF DEARBORN, MICHIGAN

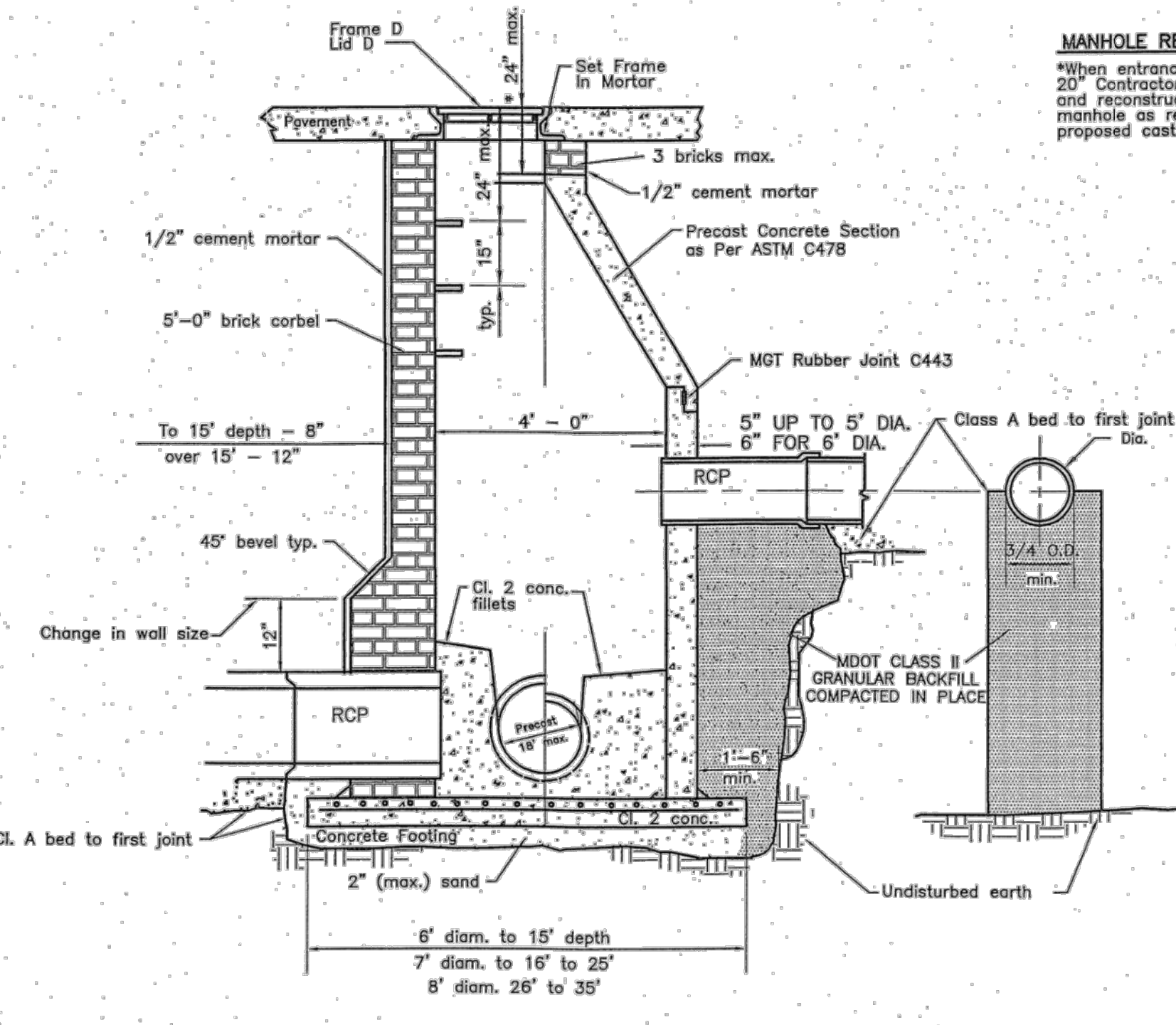
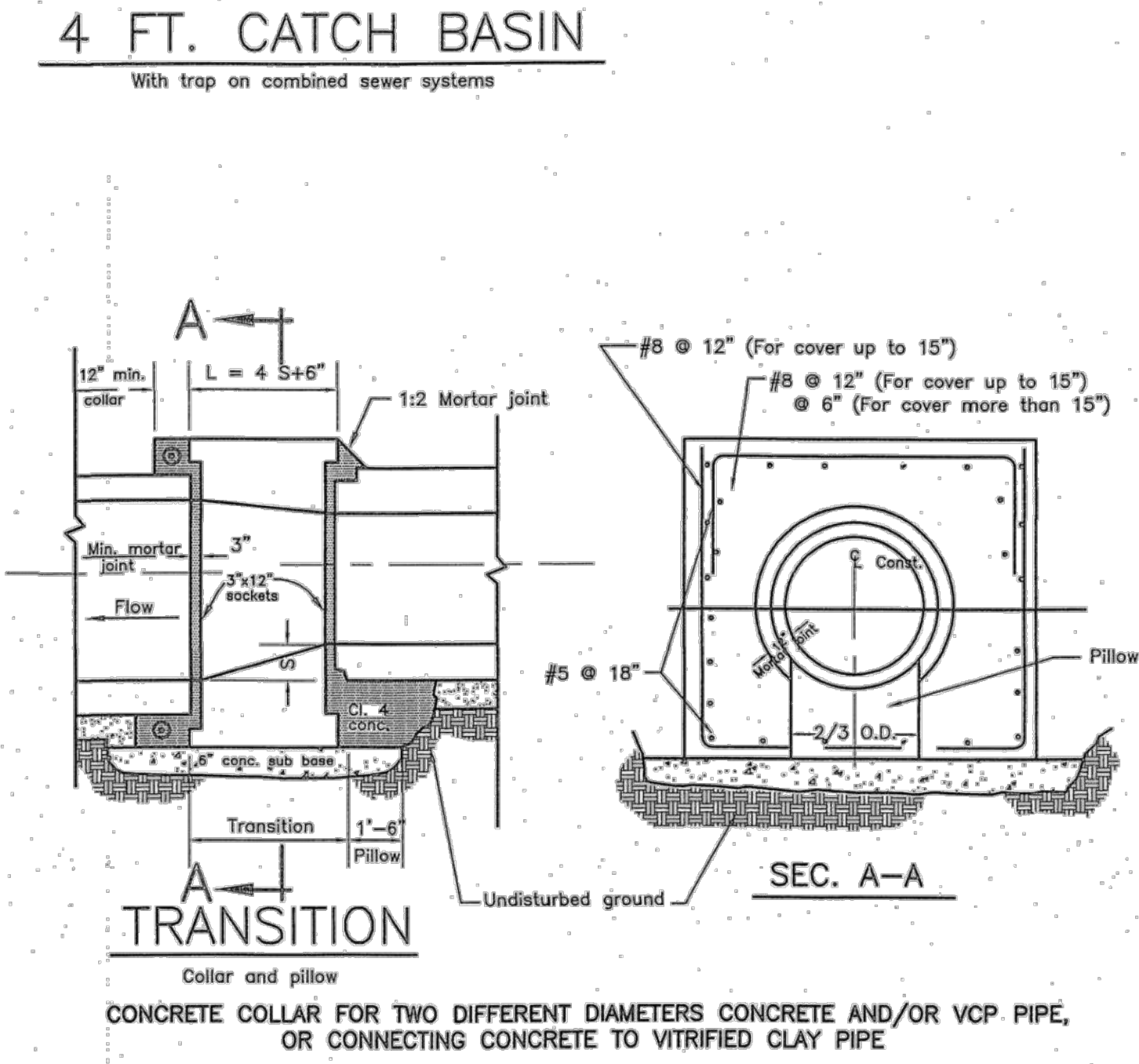
APPROVED: *[Signature]*
 DATE: 9/20/2011

NO.	BY	DATE	REVISIONS

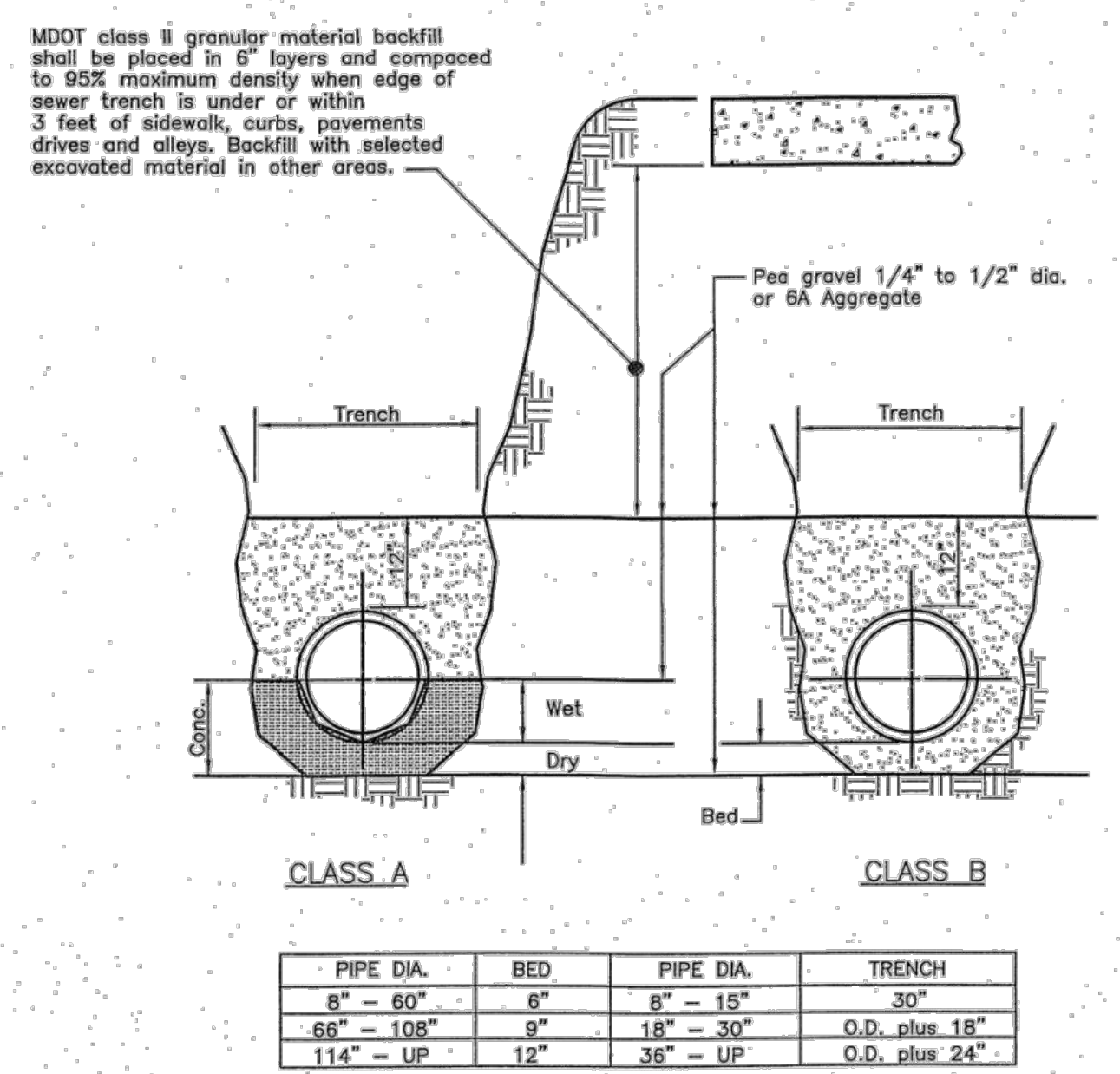
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Materials:
 a) 8" dia. P.V.C. pipe ASTM D3034-SDR35
 1-1/2" long section
 1-8" long section
 1-30" elbow
 b) 12 links of LINK-SEAL Model No. LS-475-a with stainless steel nuts and bolts as manufactured by Thunderline Corporation.



STANDARD MANHOLE



SEWER BEDDING - TRENCH DETAIL

Excavating, Smeer/Bedding & Trench Backfill Shall be Incidental to Sewer Construction Class A Bedding is Required for the Full Depth of Over Excavation.

PIPE DIA.	BED	PIPE DIA.	TRENCH
8" - 60"	6"	8" - 15"	30"
66" - 108"	9"	18" - 30"	O.D. plus 18"
114" - UP	12"	36" - UP	O.D. plus 24"

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

City of Dearborn

DRAWING TITLE
Sanitary Sewer Standard Details and Notes
 1 of 2

ISSUE DATES

10-25-17 BIDS
 09-27-2017 OWNER REVIEW
 DATE ISSUED FOR:
 DRAWN JRE
 CHECKED TJS
 APPROVED TJS

PROJECT NO.
TMP - 17071
SDA - NP17041
 DRAWING NO.
C1.6



NOTES

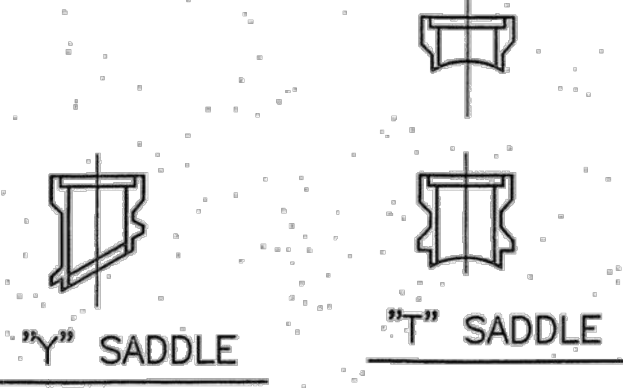
- Top of masonry structures shall be sufficiently low to permit proper adjustment of cover to grade with mortar or brick as directed by the Engineer.
- The top portion of 4' diameter and larger precast reinforced manhole units shall be eccentric in design. The top section of the brick or block manhole units shall be corbelled to be eccentric.
- Premium joints are required on all sanitary manholes. See A.S.T.M. designation C-925.
- The bell shall be removed for the first length of outlet pipe projecting through the wall of the manhole.
- Precast concrete sections, sumps, and flat top shall be built in accordance with A.S.T.M. C-478. The walls of the precast units may have a slight taper to allow for form removal. Precast concrete 2' diameter drainage structures shall have a minimum 3" wall thickness with a 6" minimum bearing surface on top. See precast riser ring for 2' diameter structure.
- Pipes entering or leaving precast structures shall not have an inside diameter greater than 2" less than the inside diameter of the structure, except pipes entering or leaving 2' inside diameter structures may have pipes 1" inside diameter or less.
- The number of pipe openings in a riser shall be determined by the designer. Spacing between openings shall be 6" minimum. Openings may be constructed by casting, removing the green concrete, or by drilling the openings in cured concrete. No openings shall be made in precast units which leave less than 24" of undisturbed precast pipe, or would remove more than 30% of the circumference along any horizontal plane.
- Precast concrete footings or bases shall be reinforced with #4 steel bars spaced at 1' both ways or with two layers of welded wire fabric of equivalent cross sectional area laid at right angles and wired together. Reinforcement shall be placed in top of footing and shall be marked. Steel reinforcement may be omitted in cast-in-place concrete footings.
- Precast concrete footings & precast bottoms shall be supported by a compacted 6" aggregate base, compacted in place.
- Concrete footing shall be cast-in-place or precast concrete. Precast concrete base sections are acceptable for manholes, catch basins & inlets. Concrete shall be poured against undisturbed ground. Poured concrete and mortar must be hard before being stressed with backfill or precast modules.
- The minimum wall thickness for all 2', 4', and 5' drainage structures using concrete block, brick, or cast-in-place concrete shall be as shown in typical wall sections.
- Approved adapter such as Fernco coupling to connect dissimilar pipe is acceptable.
- Mortar shall be 1 part cement and 2 parts N.S. sand. Plaster all bricks and blocks with 1/2" mortar.
- For Manholes, Catch Basins & Inlets if the base is over excavated it shall be backfilled with class 4 concrete.
- Locate corbel and steps at 45° to outlet sewer.
- Joints for clay pipe shall be internal rubber type gasket meeting the current A.S.T.M. Specification C425. Joints for concrete pipe shall be internal rubber type gasket meeting the current A.S.T.M. Specification C443.
- Infiltration/Exfiltration. Maximum allowable rates shall be 100 gallons per mile per inch diameter of sewer per 24 hour day on any one run between manholes.
- In precast sanitary manholes all holes for inlet and outlet pipe shall be formed or equipped for an approved flexible joint connection such as "Res-Seal", "Press-Wedge" or "Kor-N-Seal" or equal.
- No roof drain or down spout shall be connected to any city sewer or private sewer which is discharging to the city sewer.
- Castings shall meet the requirements of the current specification A.S.T.M. designation A-48 and shall have the same minimum strength as provided for #30 gray iron castings.
- All construction shall conform to the current Standards & Specifications.
- ABS Truss pipe and/or PVC pipe shall comply with and be installed in accordance with current ASTM designation.
- ABS or PVC Truss pipe constructed at depths greater than 12' below grade shall be tested for deflection. Deflection shall not exceed 5% of the normal pipe diameter.
- No ground water, storm water, construction water, downspout drainage shall be allowed to enter any sanitary sewer installation.
- All manholes, manhole access diameters and appurtenances shall meet the requirements of Section 34 of the 2004 Edition of the Ten States Standards.
- There shall be no discharge of untreated sanitary sewerage to the surface waters of the State due to construction activity associated with this project.

SANITARY SEWER STANDARDS

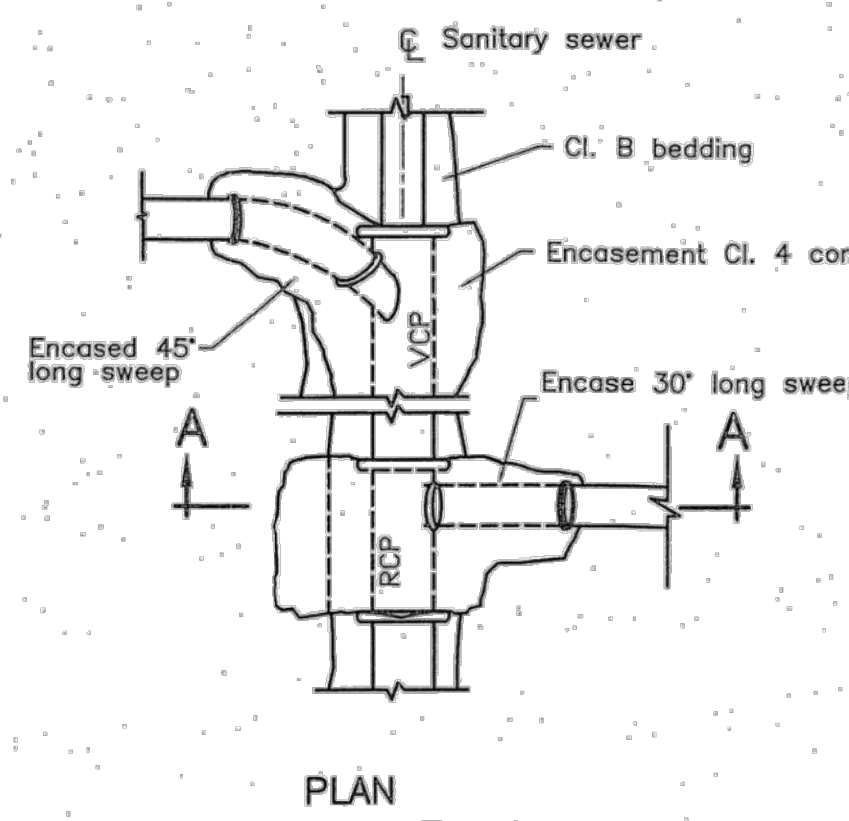
DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 CITY OF DEARBORN, MICHIGAN

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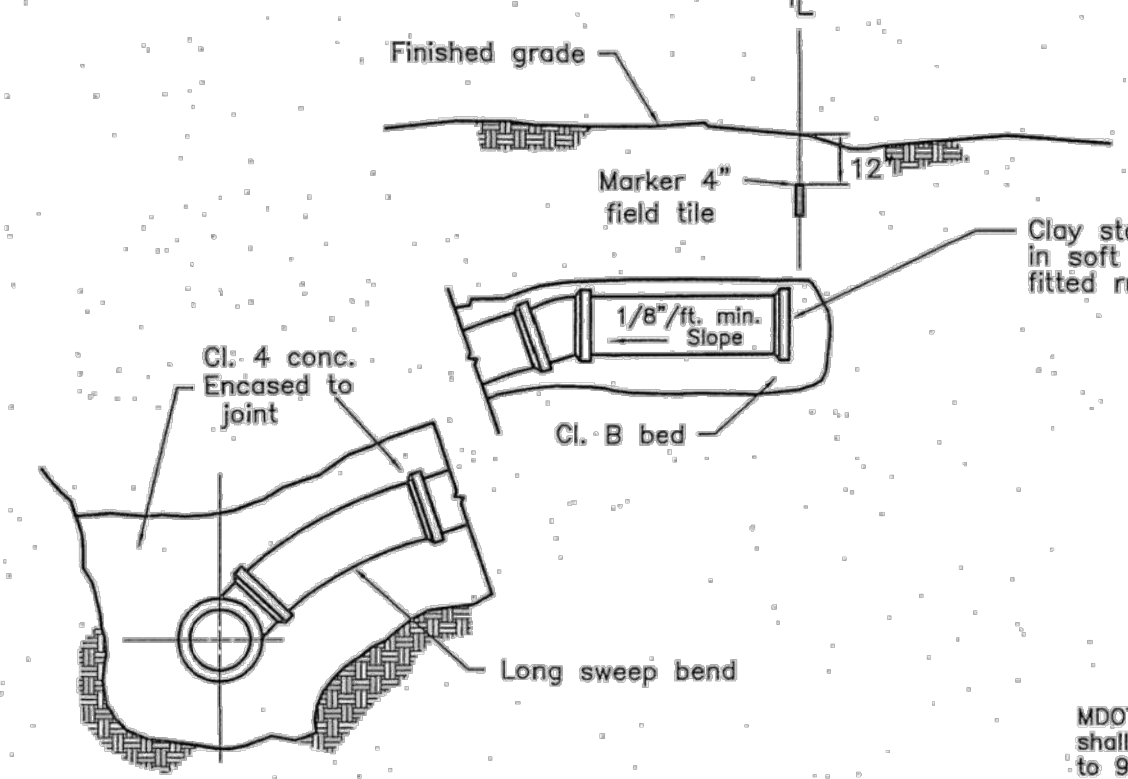
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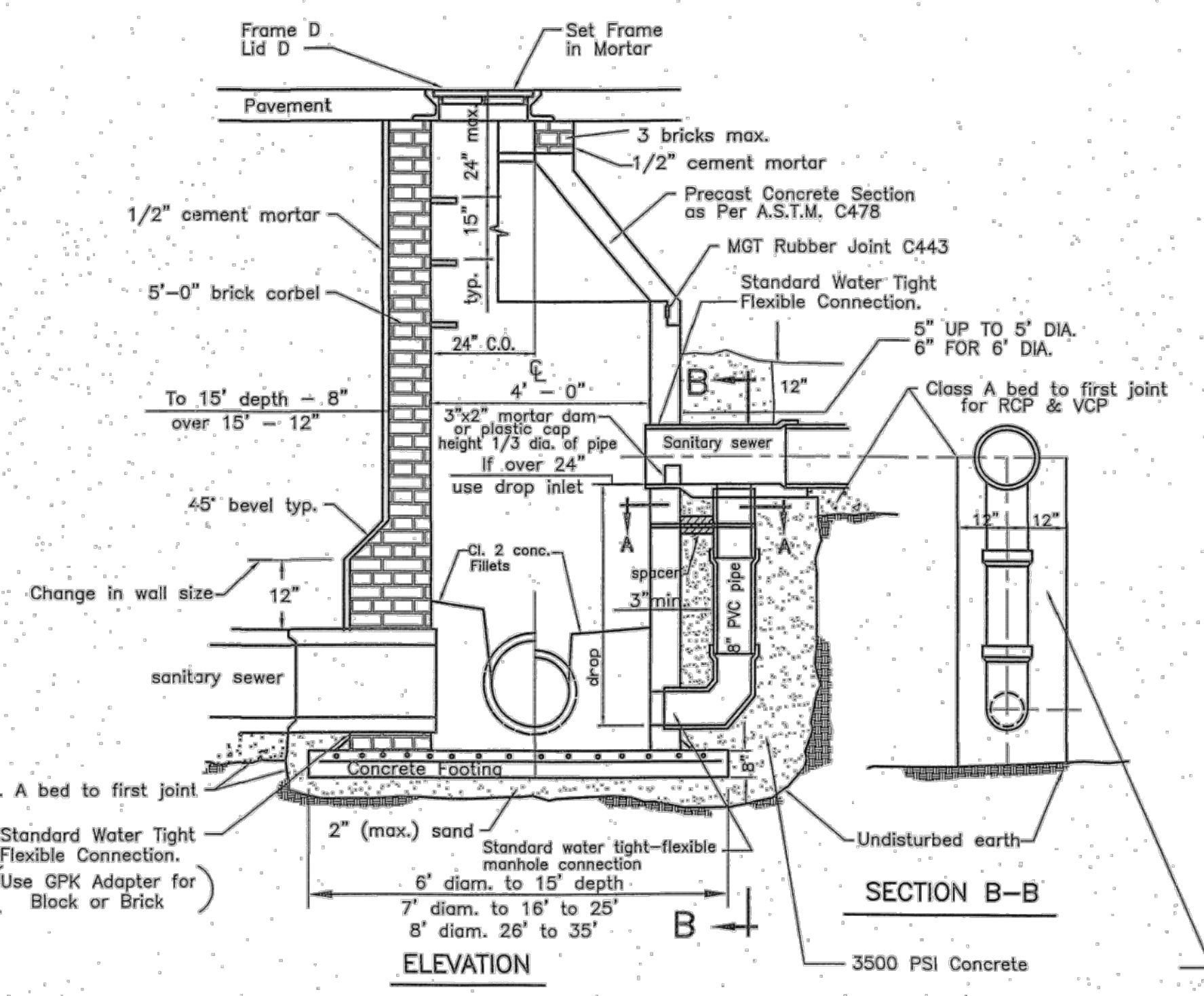
Standard saddles shall be used when spurs are cut into sewers.



PLAN

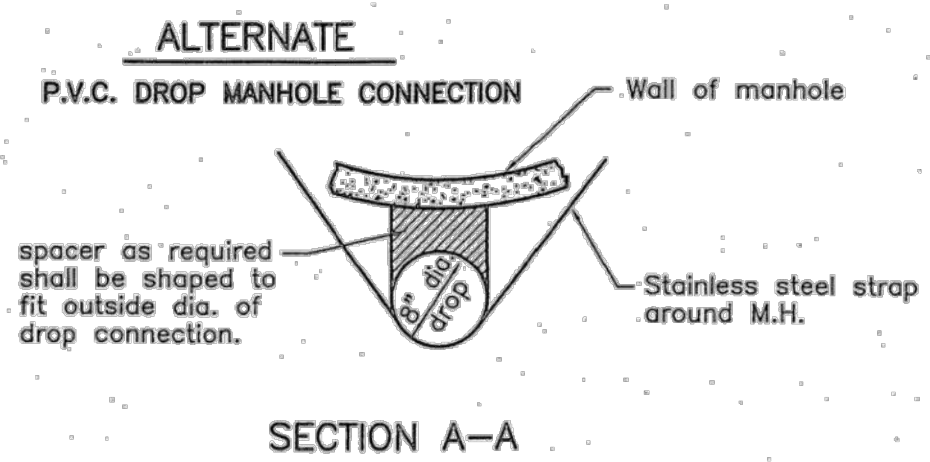


SECTION A-A BUILDING CONNECTIONS

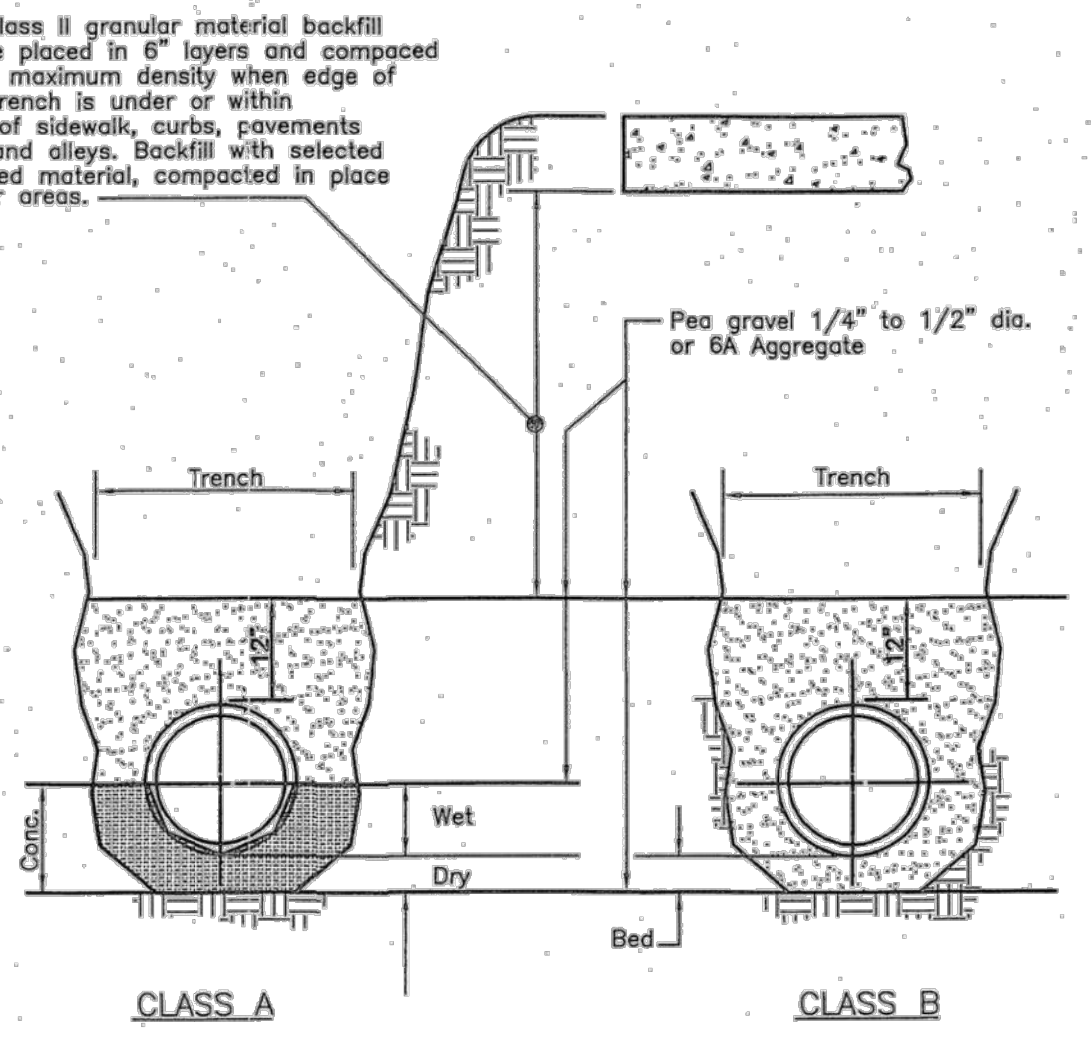


4 FT. MANHOLE with drop inlet.

** Internal drop inlet may be allowed with Engineer's approval.



SECTION A-A

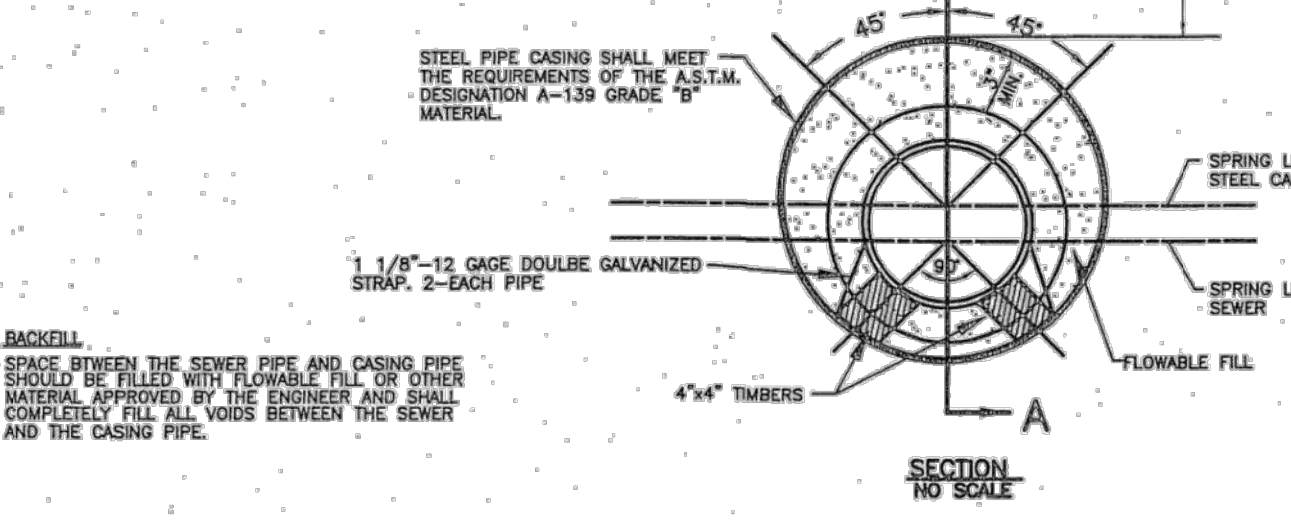


PIPE DIA.	BED	PIPE DIA.	TRENCH
8" - 60"	6"	6" - 15"	30"
66" - 108"	9"	18" - 30"	O.D. plus 18"
114" - UP	12"	36" - UP	O.D. plus 24"

SEWER BEDDING - TRENCH DETAIL

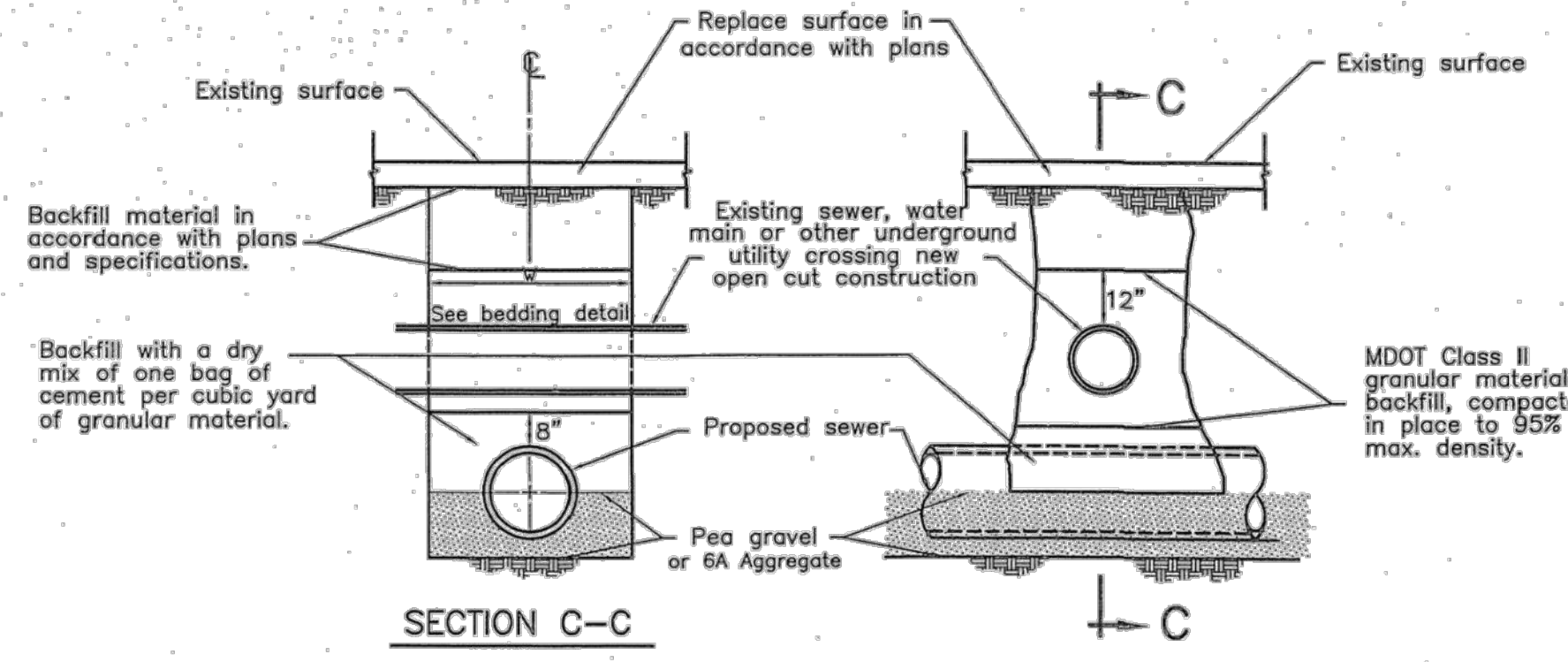
Excavating, Sewer/Bedding & Trench Backfill Shall be Incidental to Sewer Construction Class A Bedding is Required for the Full Depth of Over Excavation.

NOMINAL THICKNESS OF CASING PIPE REQUIRED FOR E.S. SIZES IN INCHES	THICKNESS IN INCHES
10 AND UNDER	0.188
12 & 14	0.250
16	0.312
20 & 22	0.375
24	0.438
28	0.500
32	0.562
36 & 38	0.625
40	0.688
42	0.750
44 & 46	0.812
48	0.875
52	0.938
56 & 58	1.000
60	1.062
62	1.125
64	1.188
66 & 68	1.250
70	1.312
72	1.375



TYPICAL TUNNEL CASING DETAIL FOR SEWER BORED-IN-PLACE

WALL THICKNESS (IN.)	ALLOWABLE HEIGHT OF COVER (ft.) IN FT. FOR STEEL CASING														
FRONT	REAR														
1/4"	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
3/8"	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
1/2"	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44
5/8"	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46
3/4"	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
7/8"	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
1"	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
1 1/8"	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
1 1/4"	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
1 1/2"	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
1 3/4"	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
1 7/8"	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62
2"	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64
2 1/8"	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66
2 1/4"	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68
2 1/2"	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
2 3/4"	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72
2 7/8"	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74
3"	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76
3 1/8"	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78
3 1/4"	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
3 1/2"	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82
3 3/4"	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84
3 7/8"	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86
4"	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88
4 1/8"	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90
4 1/4"	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92
4 1/2"	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94
4 3/4"	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96
4 7/8"	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98
5"	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100



SECTION C-C UTILITY CROSSING

This item is incidental to construction

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

City of Dearborn

DRAWING TITLE
Sanitary Sewer Standard Details and Notes
2 of 2

ISSUE DATES

DATE ISSUED FOR:
DRAWN JRE
CHECKED TJS
APPROVED TJS

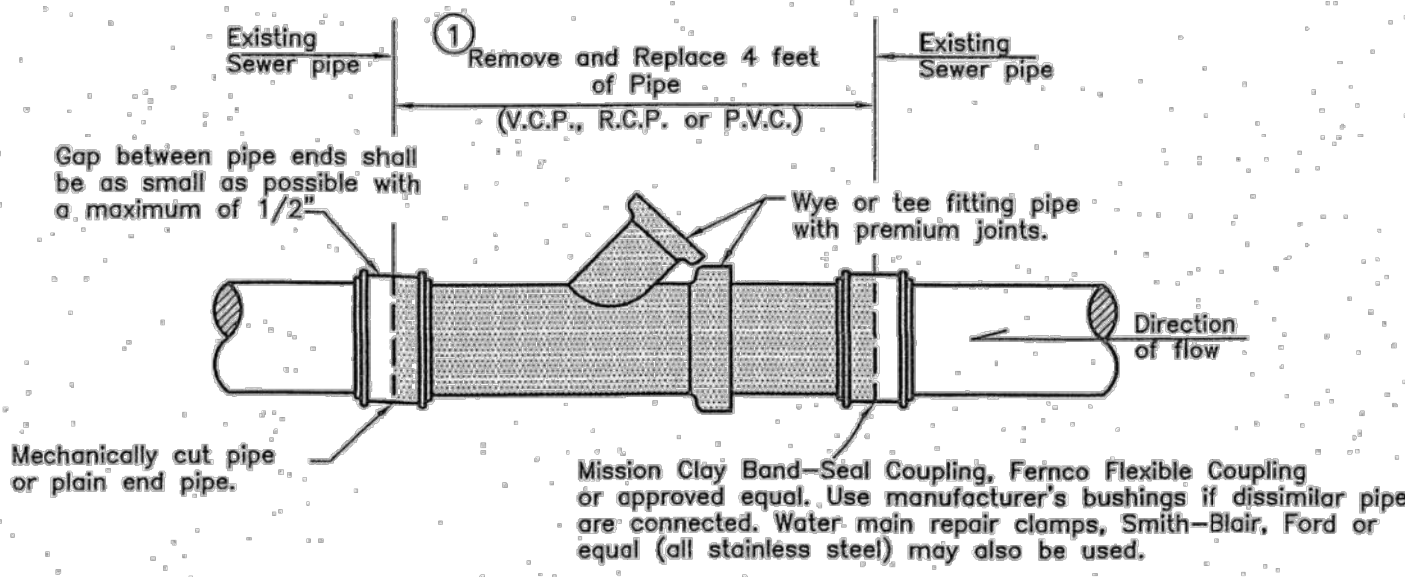
PROJECT NO.
TMP - 17071
SDA - NP17041
DRAWING NO.
C17

SEWER CONNECTION STANDARDS AND BUILDING LEAD REQUIREMENTS

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CITY OF DEARBORN, MICHIGAN

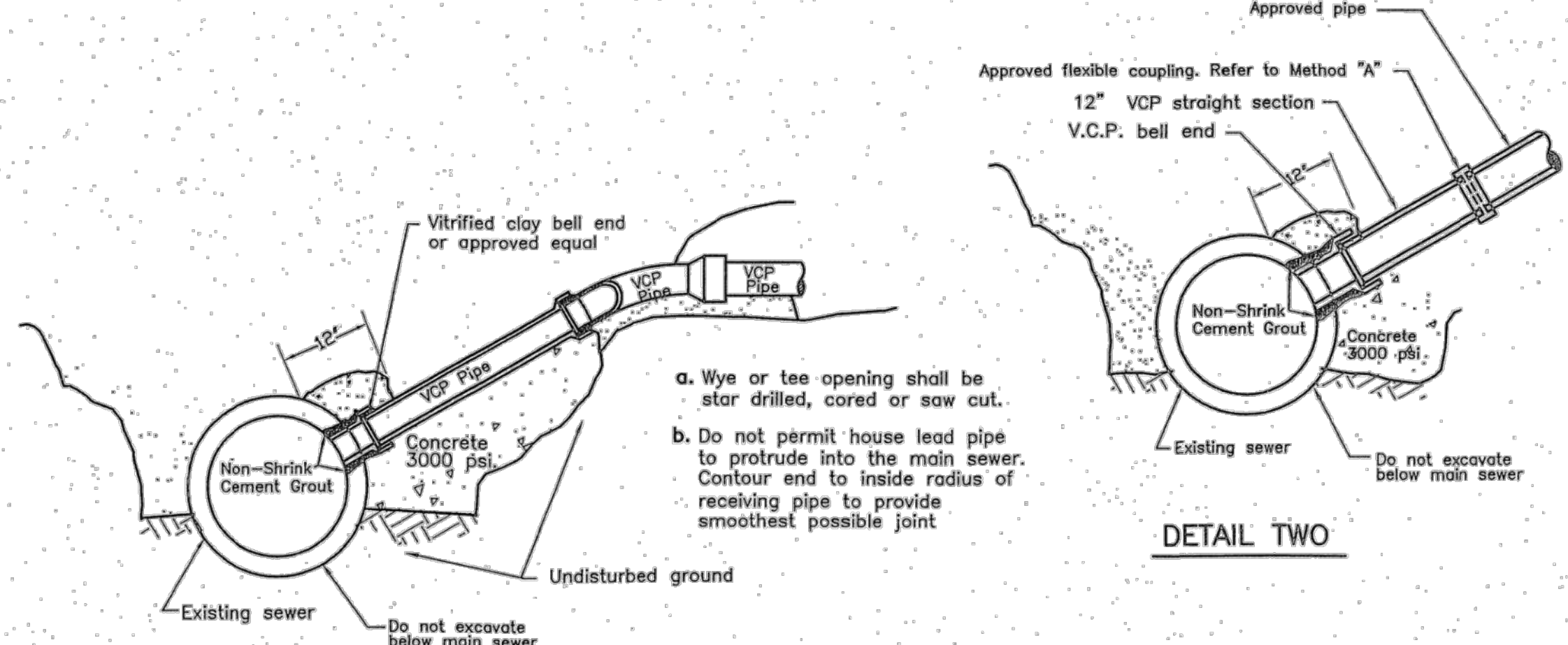
NO.	BY	DATE	REVISIONS
1	JRE	4/14/11	

SHEET NO. **S-3** OF

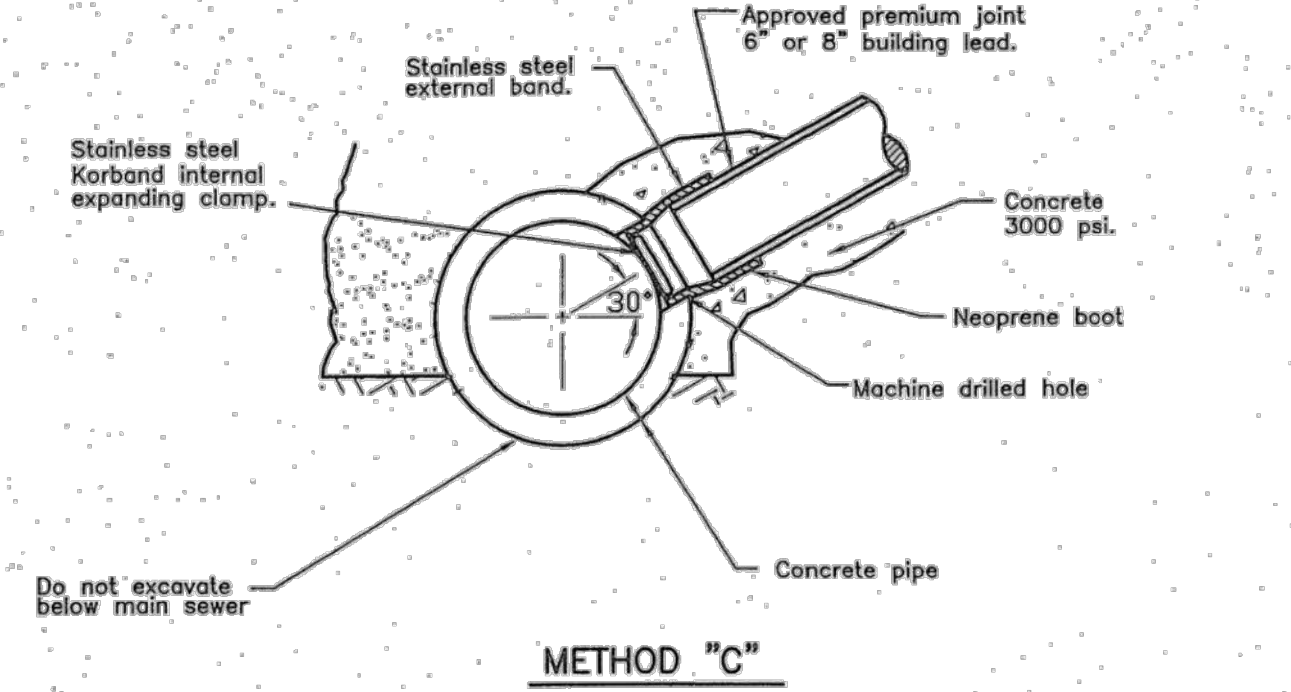


Note: Pipe shall be bedded in Class "B" granular bedding, or if directed, concrete shall be used below springline and granular material 12" above pipe.

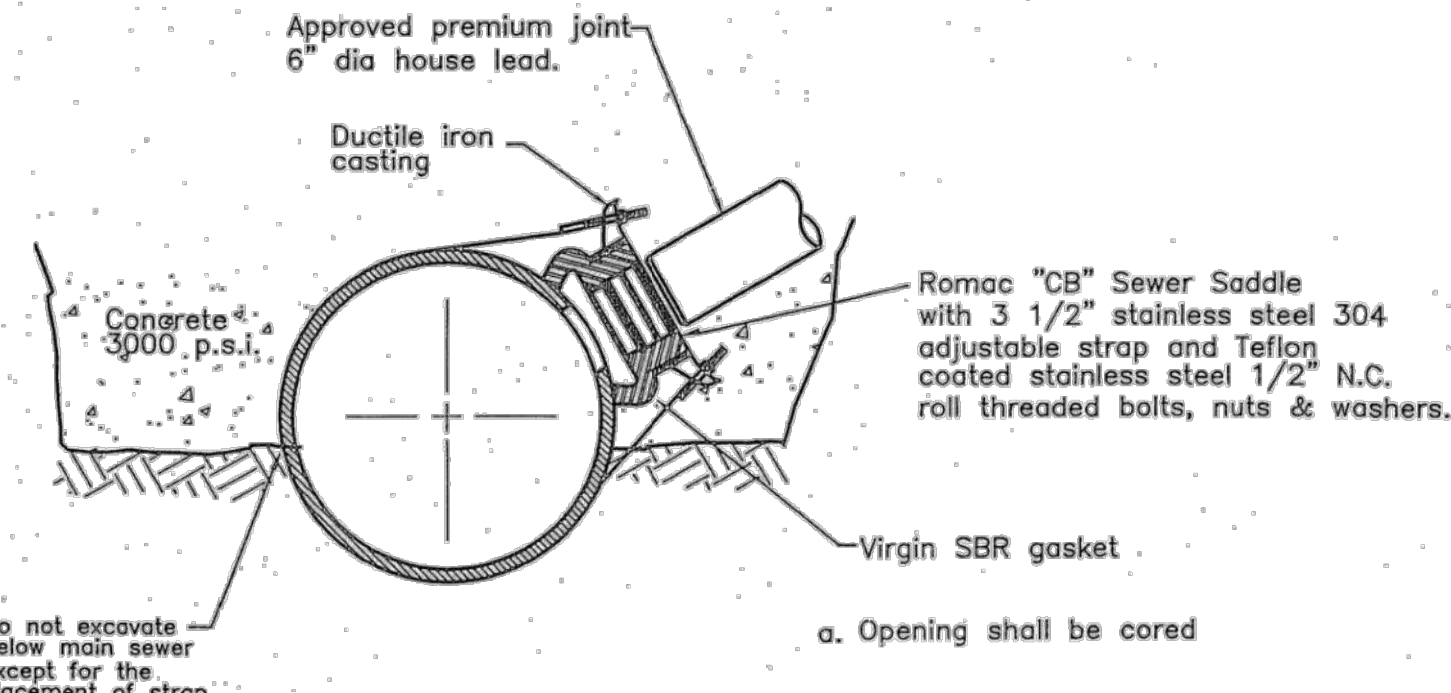
METHOD "A"
WYE PIPE INSERTION WITH FLEXIBLE COUPLING
(FOR SEWER TAP WHERE MAIN SEWER PIPE IS LESS THAN 10" DIAMETER)
no scale



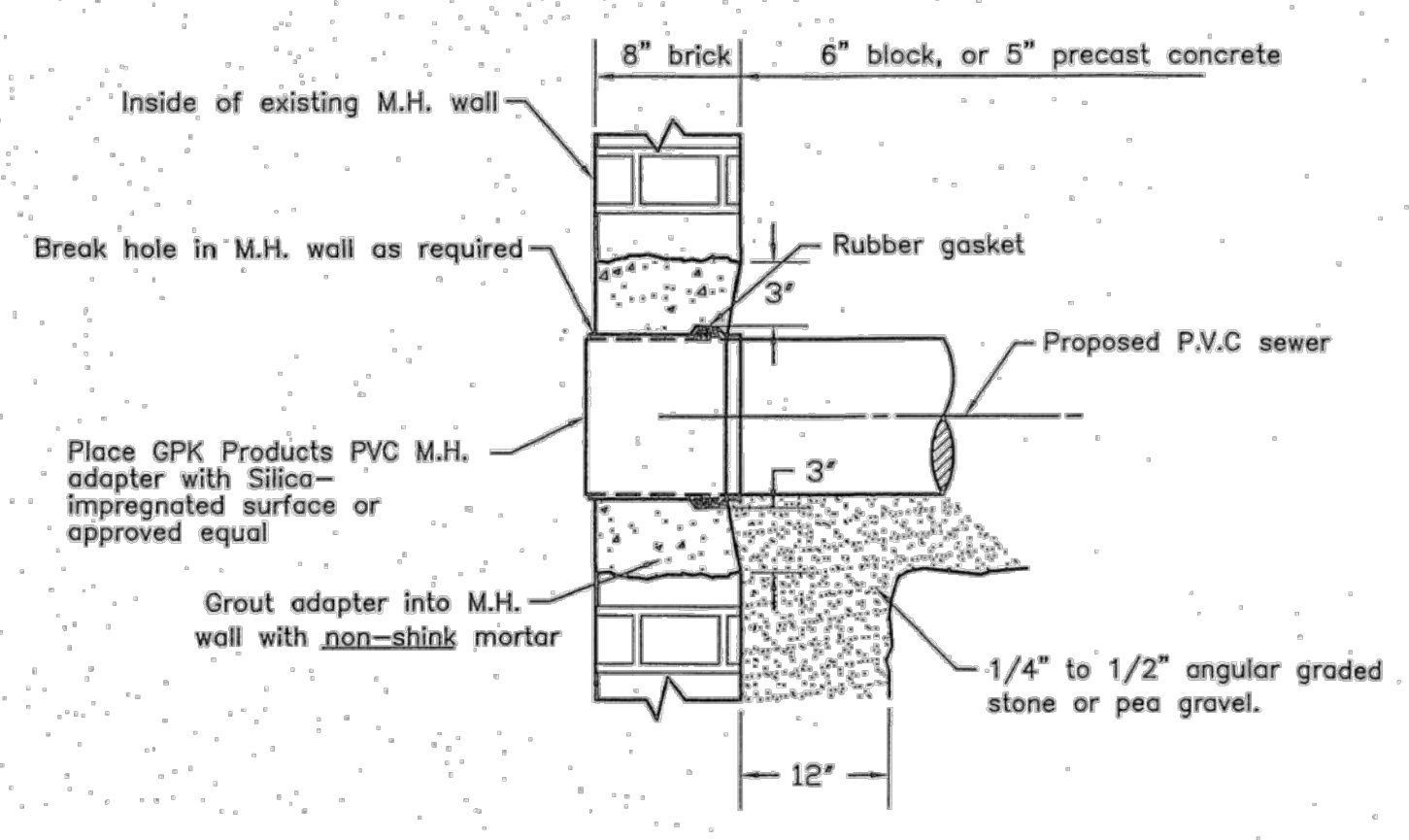
METHOD "B"
DIRECT TAP ON 10" AND LARGER MAIN LINES ONLY
V.C.P. OR R.C.P. ONLY
no scale



METHOD "C"
KOR-N-TEE TAP FOR CONCRETE PIPE
no scale



METHOD "D"
SADDLE TAP ON ALL PVC MAIN LINES
no scale



MANHOLE CONNECTION DETAIL FOR
CONNECTING PVC PIPE TO BRICK, BLOCK OR
PRECAST CONCRETE MANHOLES
no scale

NON SHRINK GROUT	
NON SHRINK GROUT SHALL BE PREMIXED NON METALLIC, NON STAINING DIMENSIONALLY STABLE, INORGANIC GROUT AS MANUFACTURED BY:	
MANUFACTURER OR EQUAL	PRODUCTS OR EQUAL
MASTER BUILDERS	"MASTER FLOW 813 GROUT"
W.R. MEADOWS, INC.	"SEALTIGHT V-1 GROUT"
SET PRODUCTS	"NON SHRINK GROUT"
SONNEBORN - CONTECH	"SONOGROUT"
THE EUCLID CHEMICAL CO.	"EUCCO N-S"
THE UPRCO CO.	"UPRCON HIGH FLOW"
PRECO INDUSTRIES, LTD.	"DURA-FLOW GROUT"
U.S. GROUT CORP.	"FIVE STAR GROUT"

BUILDING LEAD REQUIREMENTS

- A. All building lead work will be constructed in accordance with the current standards and specifications of the City of Dearborn.
- B. The sewer Contractor shall obtain a permit for all building lead work from the City of Dearborn Department of Building and Safety and pay all required plan review and inspection fees.
- C. All building lead work will be performed under City of Dearborn Department of Building and Safety inspection and/or Engineering Division.
- D. No sanitary sewer shall be used as dewatering outlet.
- E. Use City of Dearborn approved adapter to connect two dissimilar sewer pipes. The approved adapters are as follows:

1. Mission Clay Band-Seal Coupling;
 2. Fernco Flexible Coupling;
 3. Stainless steel water repair clamps such as Smith-Blair, Baker, Ford or equal.
 4. Fernco reducer and adapter donuts.
- F. Approved building lead materials - 6" minimum diameter pipe:
1. Vitrified clay pipe - N.C.P.I. ERA-67 Extra strength A.S.T.M. C700 with the following A.S.T.M. C425 joints:

a) O-Ring	e) A-Ring	i) Fiburloc
b) Uniloc	f) Wedgelock	j) Tytox
c) Armit	g) Defloc/Tite	k) Stre-Tite
d) Nobel	h) Loxon	l) Slip-Seal

2. Polyvinyl Chloride (PVC) Pipe - A.S.T.M. D2685 or D1785 Schedule 40.
 - a) Elastomeric gasket push-on joint A.S.T.M. D3212.
 - b) Solvent cemented joint - A.S.T.M. D2564 & D2855. Purple Primer to be used on all joints.
3. Acrylonitrile Butadiene Styrene (ABS) Pipe A.S.T.M. D2751 SDR 23.5.
 - a) Solvent welded joint with primer.

- G. Building connections shall be made to existing wye or tee fittings where possible. Refer to details shown on Sanitary Sewer Standards sheet.
- New connections to old building services will not be permitted, unless approved by the Engineer. A new sewer service shall be placed from the City sewer to the proposed building. The existing wye connection shall be replaced if found to be broken.
- If necessary, direct taps to main sewers where wye or tee openings are not provided, shall be done in accordance with the details shown on this sheet.
- All direct taps shall be approved, in advance, by the Engineering Division. A particular sewer connection method will be specified by the City Engineer.

- H. At connections to manholes, where the difference in invert elevations between the building connection and the outlet sewer exceeds 18", an exterior drop connection will be required. Interior drop connections may be allowed with Engineer's approval.
- I. At connections to existing manholes, holes shall be drilled at 4" center to center around periphery of opening to create a plane of weakness before breaking out section or cored using a drilling machine.
- For concrete or vitrified clay pipe connections, non-shrink grout shall be used to seal the opening and a concrete collar shall be poured 12" thick around the pipe and extended 12" beyond the opening.
- For PVC and ABS pipe, all openings shall be fitted with an approved adapter. Refer to details on this sheet.
- J. MDOT Class II granular backfill shall be placed and compacted to 95% maximum density when edge of sewer trench is under or within 3' of sidewalk, curbs, pavements, drives, building slabs and in alleys.
- K. The Contractor will be responsible for temporary pavement patching and maintenance. Temporary surface shall consist of 2" asphaltic concrete surface with 6" aggregate base, compacted in place.

by the Engineering Division.

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

City of Dearborn

DRAWING TITLE
Casting Standard Details and Notes
1 of 2

ISSUE DATES

10-25-17 BIDS
09-27-2017 OWNER REVIEW

DATE ISSUED FOR:

DRAWN JRE

CHECKED TJS

APPROVED TJS

PROJECT NO.

TMP - 17071
SDA - NP17041

DRAWING NO.

C18

CASTING STANDARDS

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CITY OF DEARBORN, MICHIGAN

APPROVED: *[Signature]*
APPROVED: *[Signature]*

DATE: 1-29-08

DATE	
REVISIONS	
BY	
CHK'D	
DESIGN	

SHEET NO. C-1 OF

GENERAL NOTES

MANHOLE

FRAME D: No. 1040, E.J.L.W., Base Flange Typ., Weight 230 lbs.

LID D : Type C Solid Cover with two-1" Dia. Holes with City of Dearborn "Logo", Weight 145 lbs.

CATCH BASIN & INLETS

FRAME A: No. 5080, E.J.L.W., Round Base, Weight 220 lbs.
GRATE A: Type 500DM1, E.J.L.W., parallel bar grate = 28 holes or 160 sq. in. of opening, with City of Dearborn "Logo", Weight 114 lbs.

GRATE B: Type M2, E.J.L.W., sinusoidal grate = 160 sq. in. of opening, Weight 110 lbs.

GRATE B shall be used only in Rights of Way under the jurisdiction of the Wayne County Department of Public Services.

GRATE C: Type M3, E.J.L.W., Restricted Grate, 2, 4 or 6 Openings, approx. 5 sq. in. per opening, Weight 124 lbs.

FRAME B: No. 1040, E.J.L.W., Round Base, Weight 230 lbs.
GRATE D: Type 02, E.J.L.W., Beehive Grate, Height Above Frame - 6", Weight 105 lbs.

CASTINGS

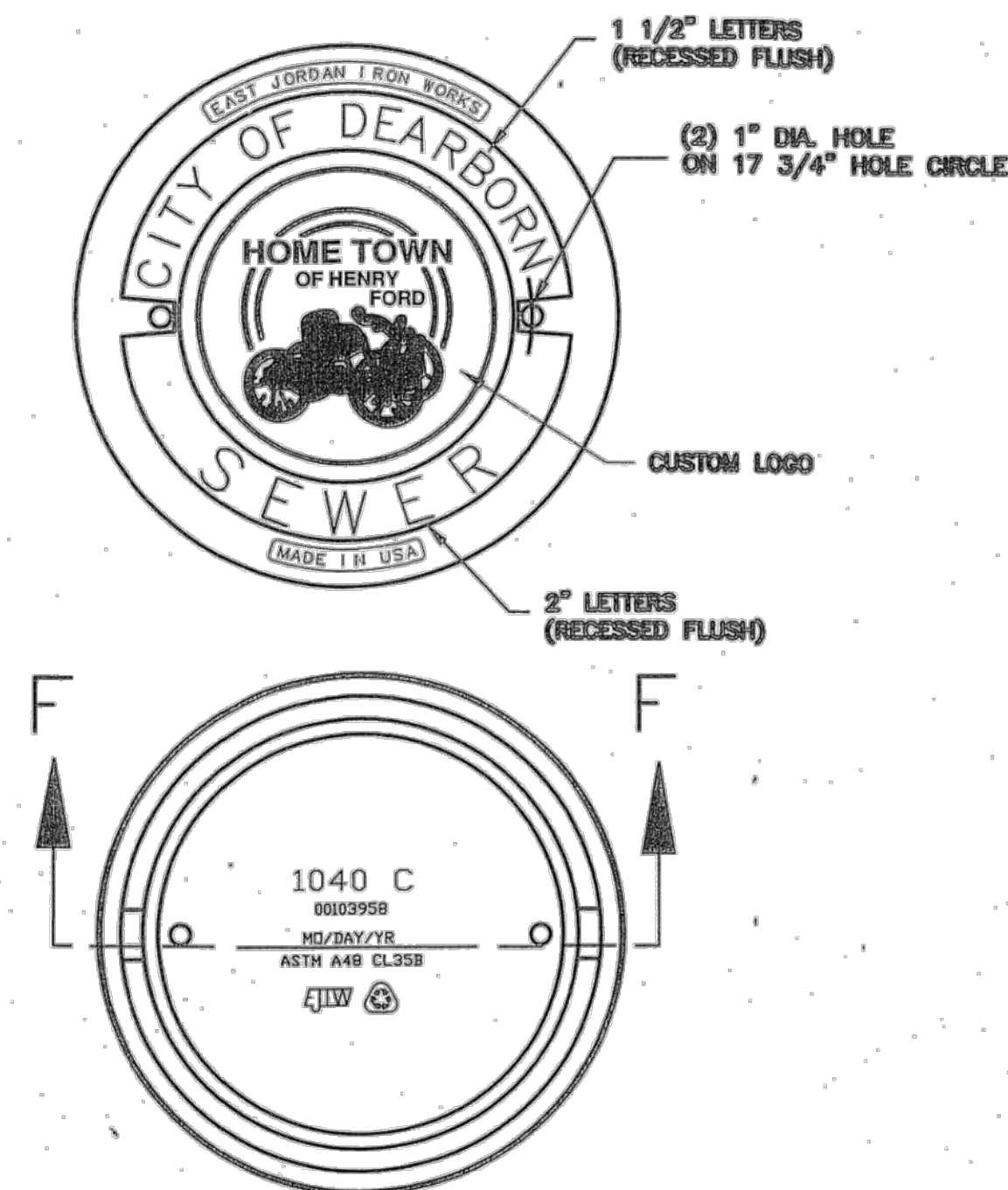
Equivalent castings of other manufacturers may be substituted if approved by the engineer.

All casting shall meet the requirements of the current specifications ASTM Designation A-48 and shall have the same minimum strength as provided for No. 30 Gray Iron Castings.

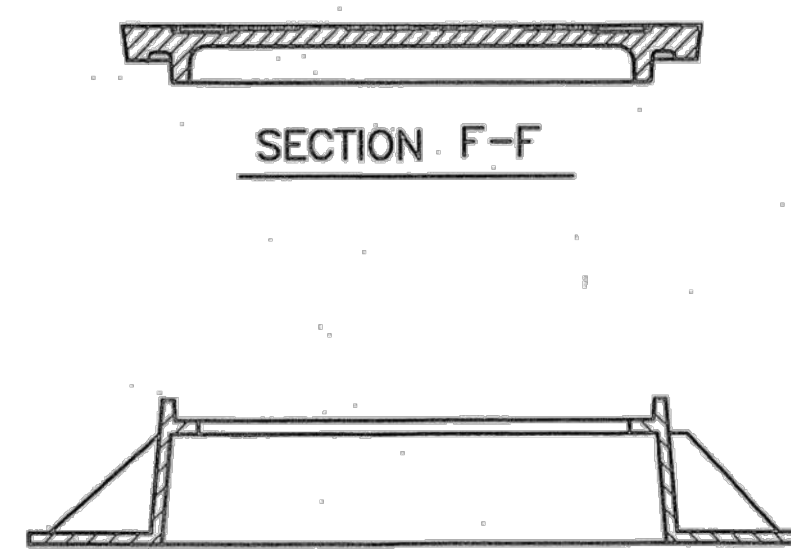
The seating face of manhole lids and of catch basin inlet grates and the seats on the frames shall be machine finished to provide uniform bearing.

PLASTIC STEP

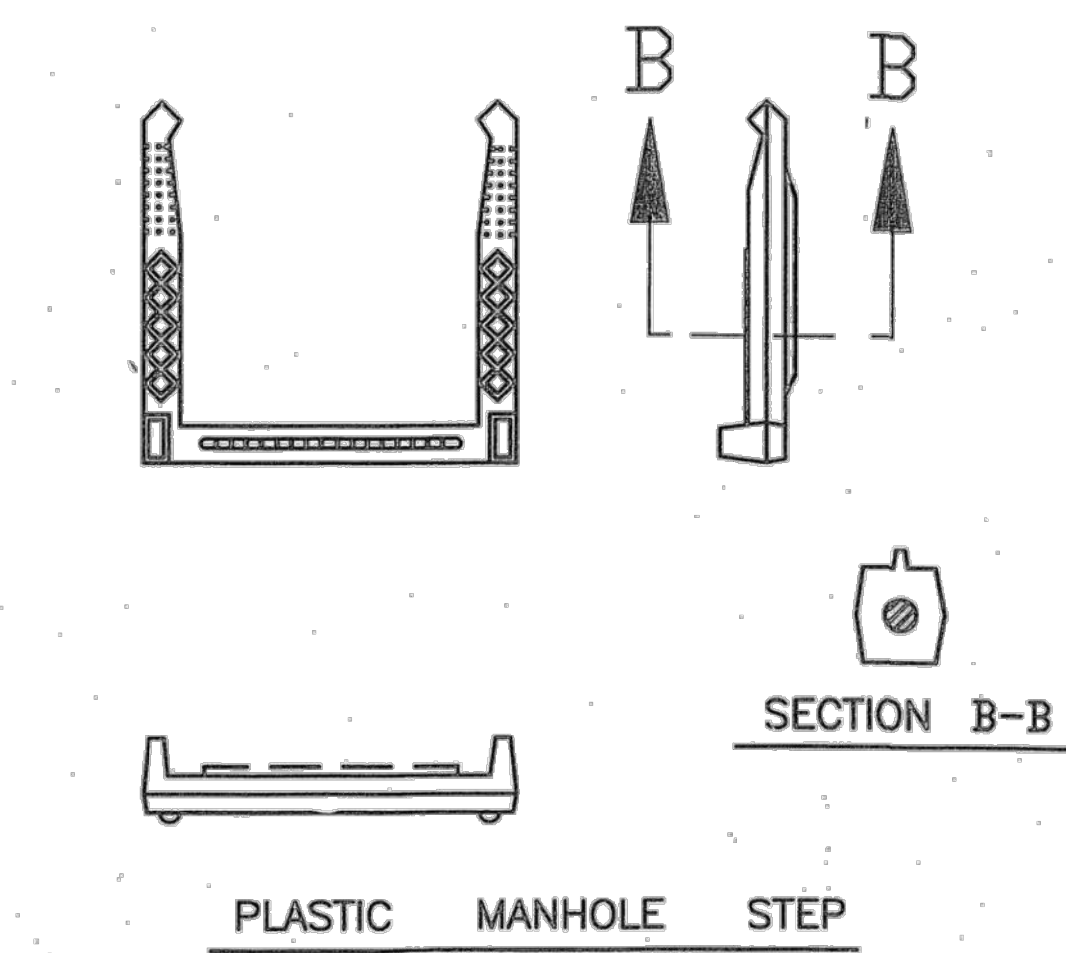
M. A. Industries, Inc., steel reinforced polypropylene plastic step (PS3) meeting requirements outlined in ASTM 2146-88 under Type II, Grade 16906.



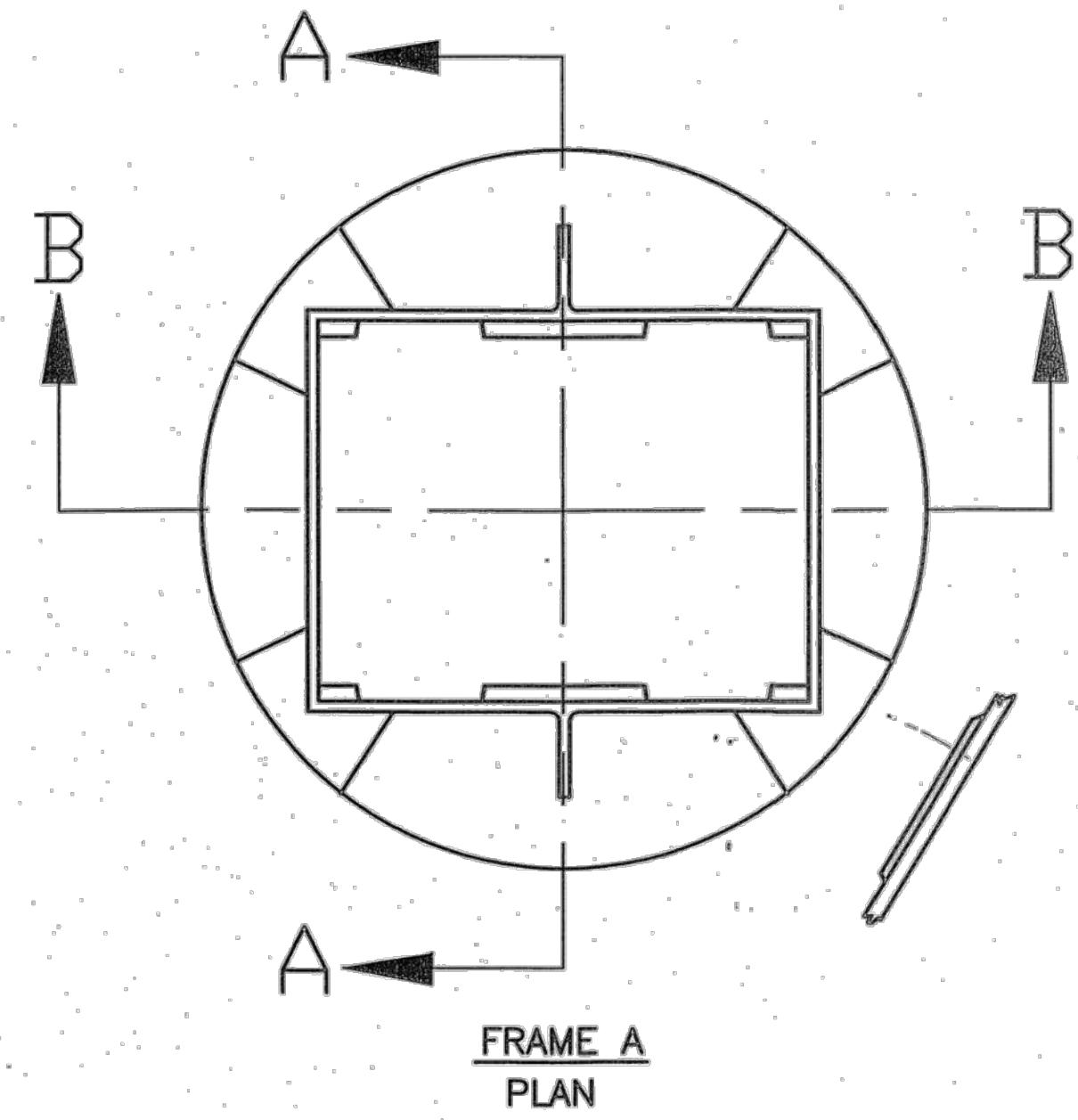
**BOTTOM VIEW
MANHOLE LID D AND FRAME D
PLAN**



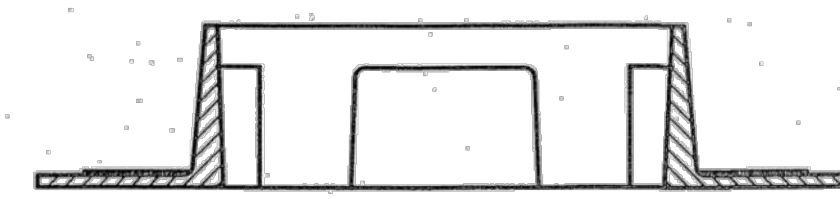
SECTION F-F



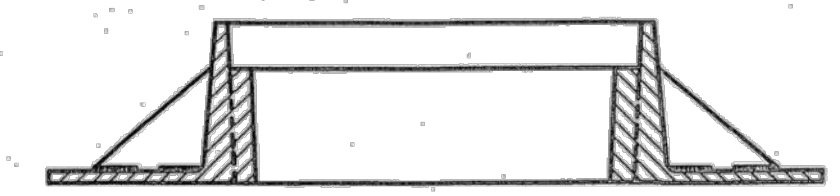
PLASTIC MANHOLE STEP



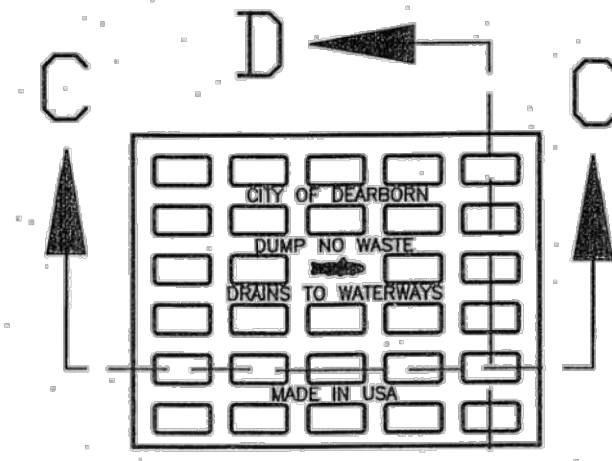
**FRAME A
PLAN**



**SECTION A-A
FRAME SECTION**



**SECTION B-B
FRAME SECTION**



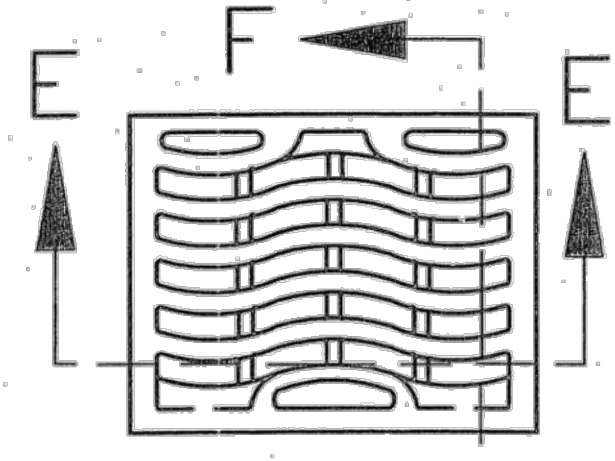
**GRATE A
PLAN**



**SECTION C-C
Type M1 Grate (Parallel bar)**



**SECTION D-D
Type M1 Grate (Parallel Bar)**



**GRATE B
PLAN**

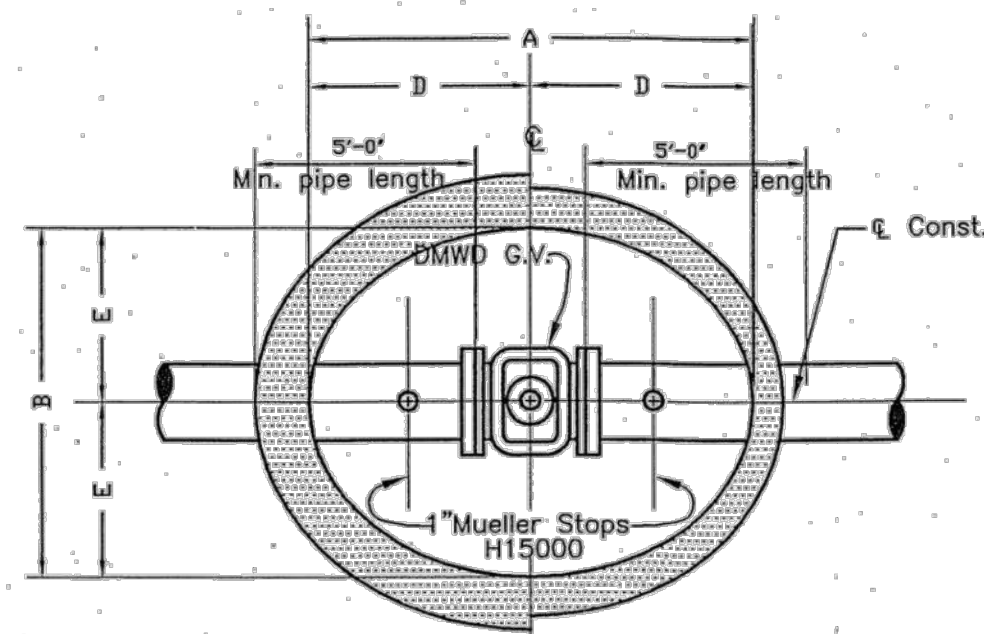


**SECTION E-E
Type M2 Grate (Sinusoidal)**

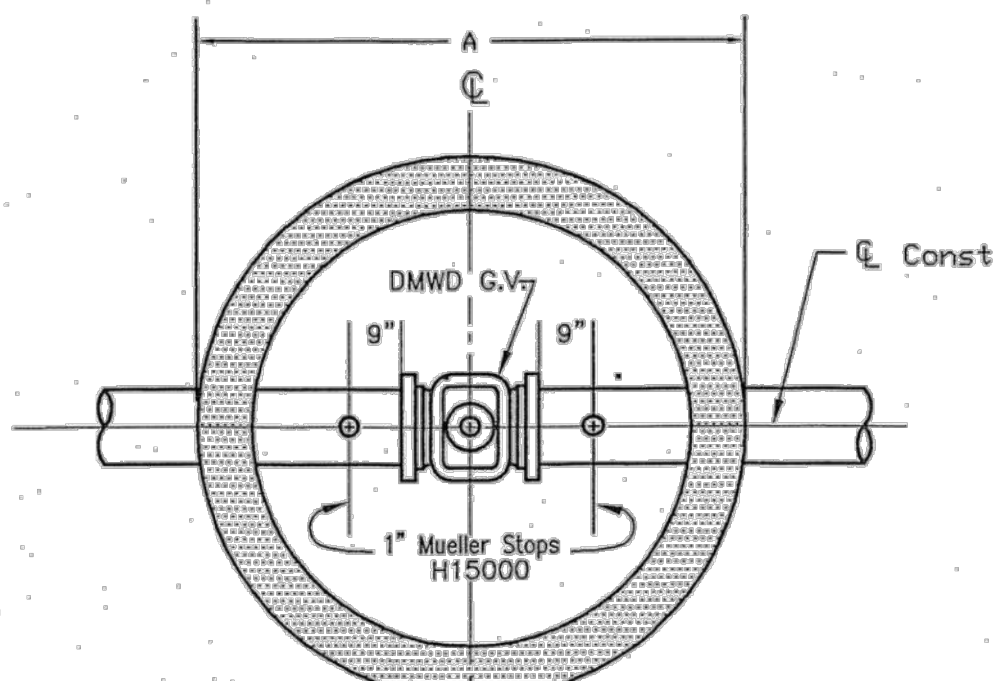


**SECTION F-F
Type M2 Grate (Sinusoidal)**

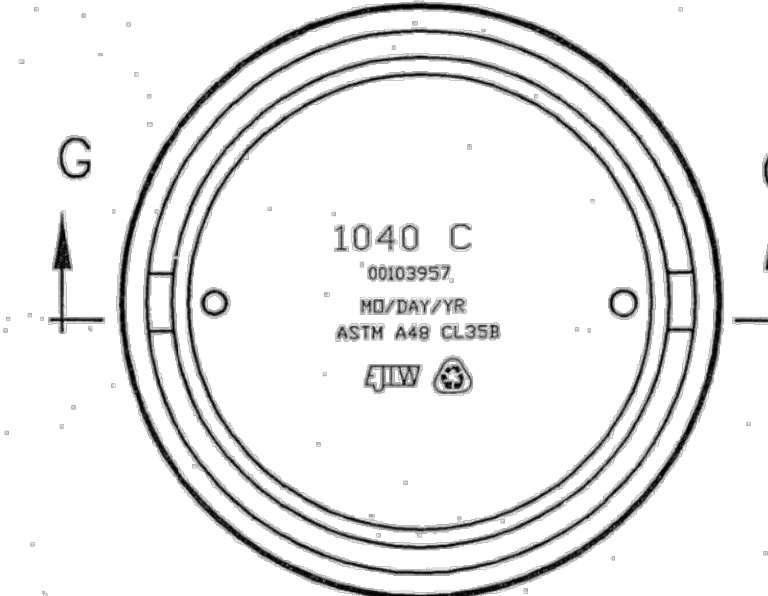
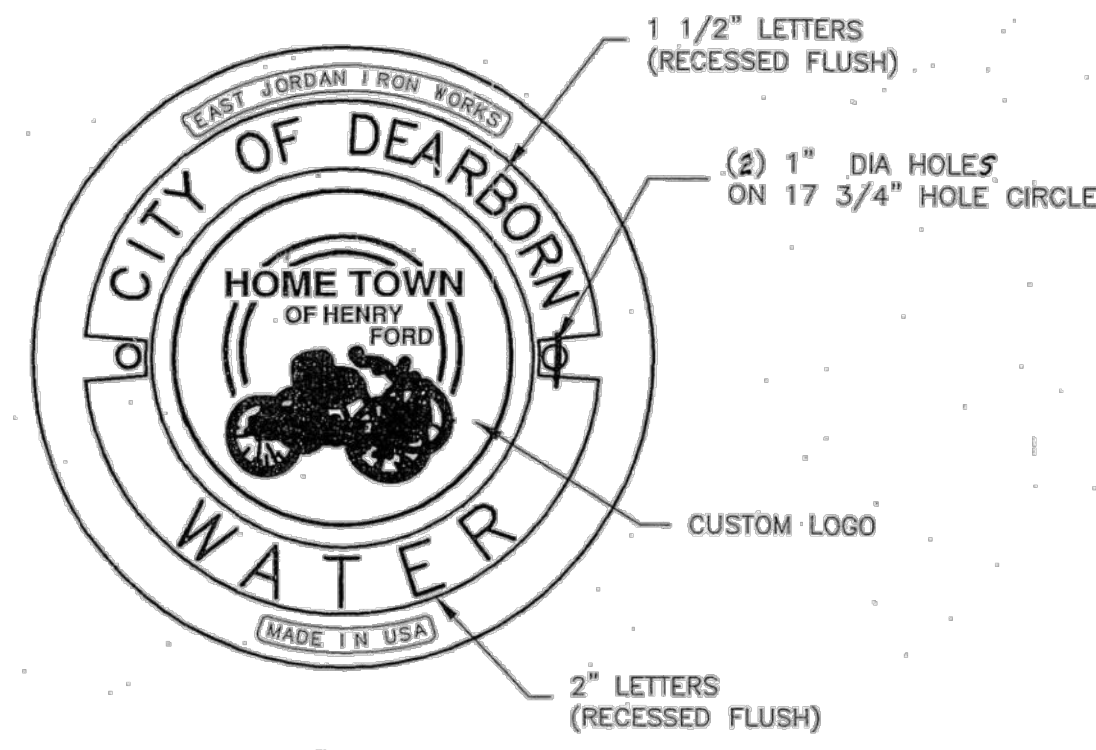
NOTE:
Grate B shall be used only in Rights of Way under the jurisdiction of the Wayne County Department of Public Services.



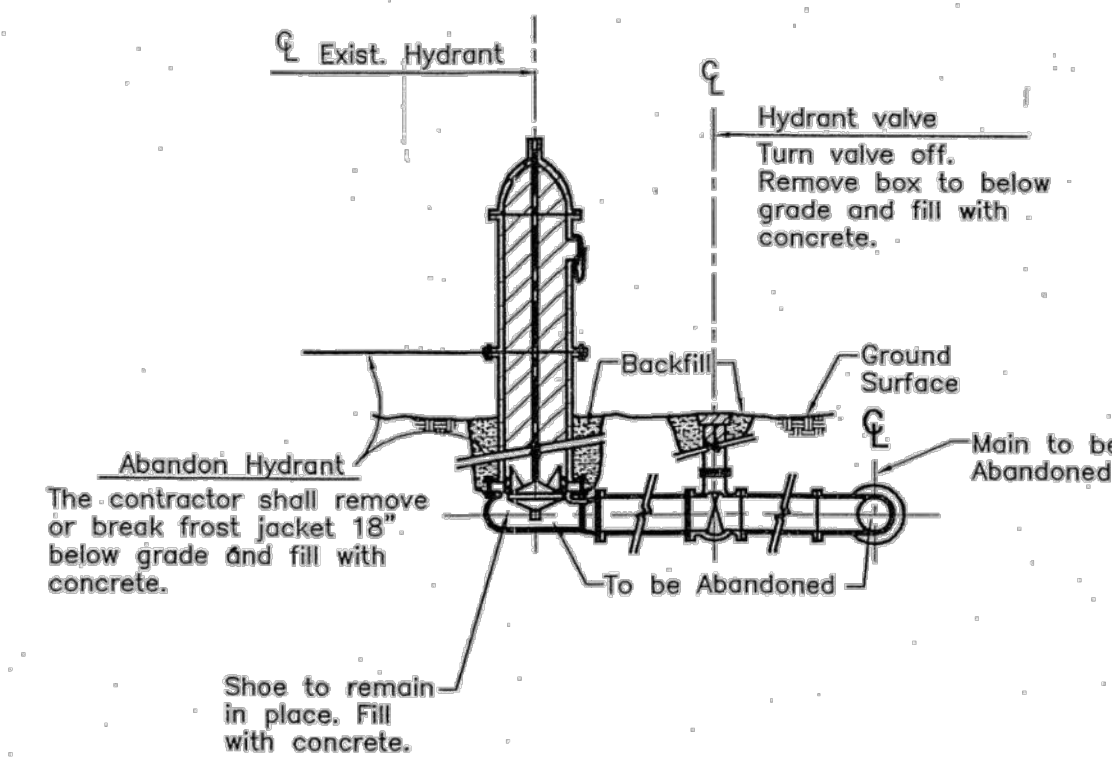
SECTION
Flanged valve shown



SECTION



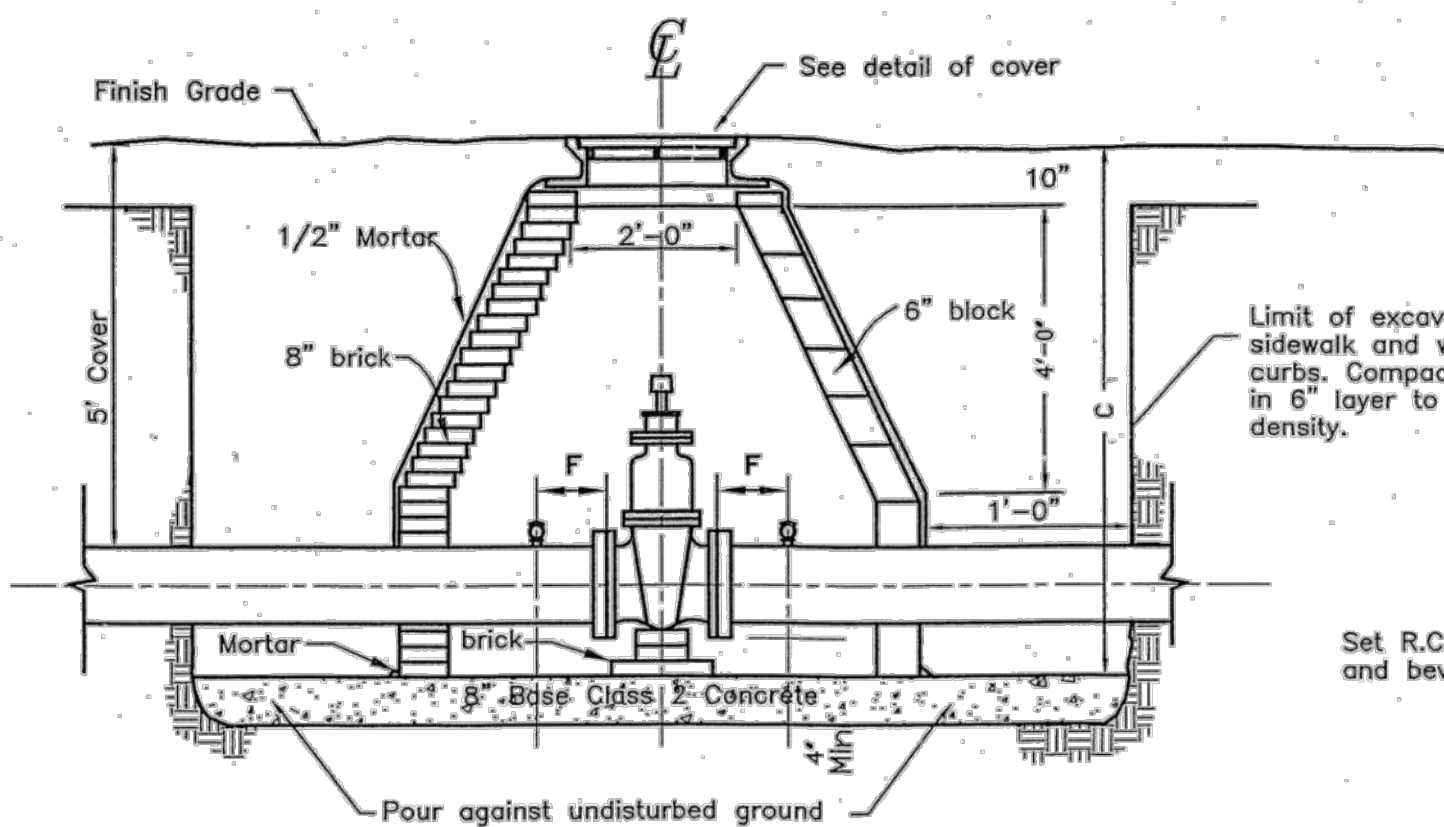
BOTTOM VIEW



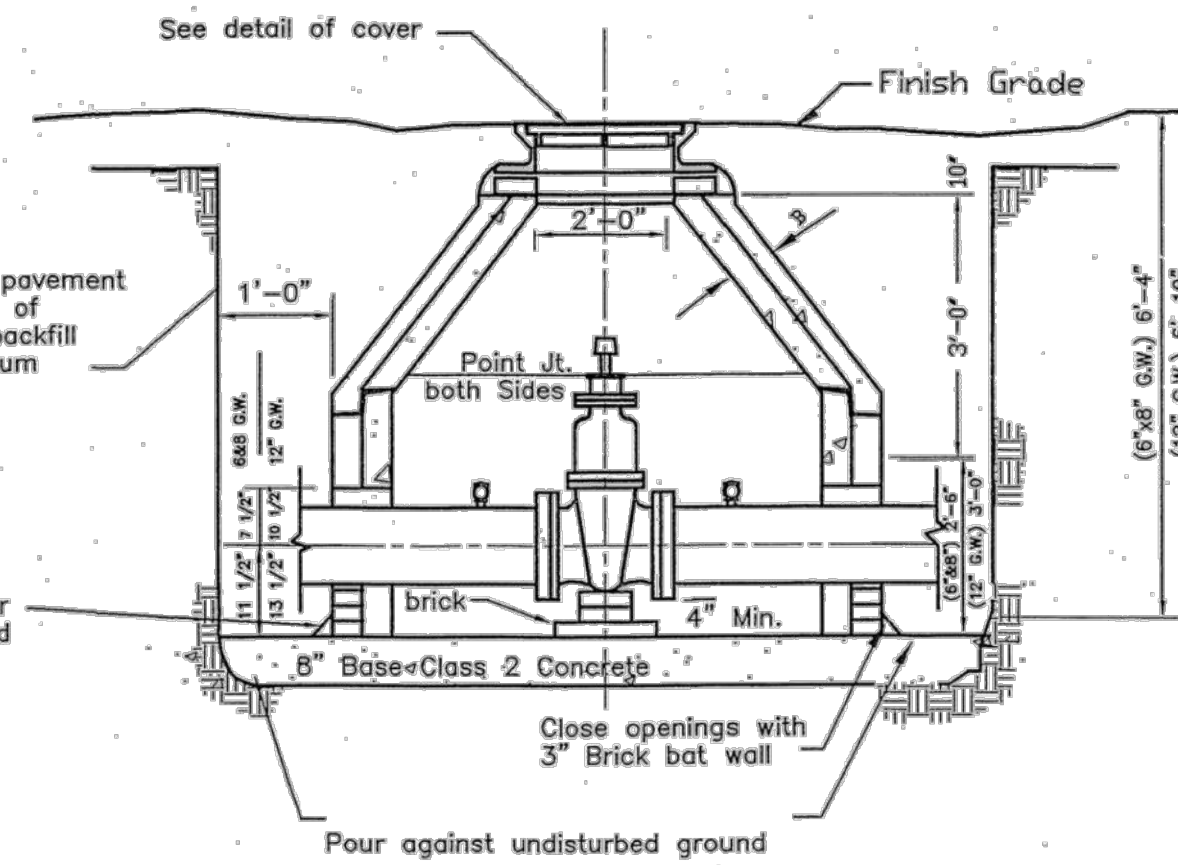
REMOVE AND SALVAGE HYDRANT

REMOVE AND REPLACE HYDRANT

Shall include the Removal/Replacement of Hydrant, 6" Valve, Road Box, Restraining glands & Thrust Blocks.



ELEVATION



ELEVATION

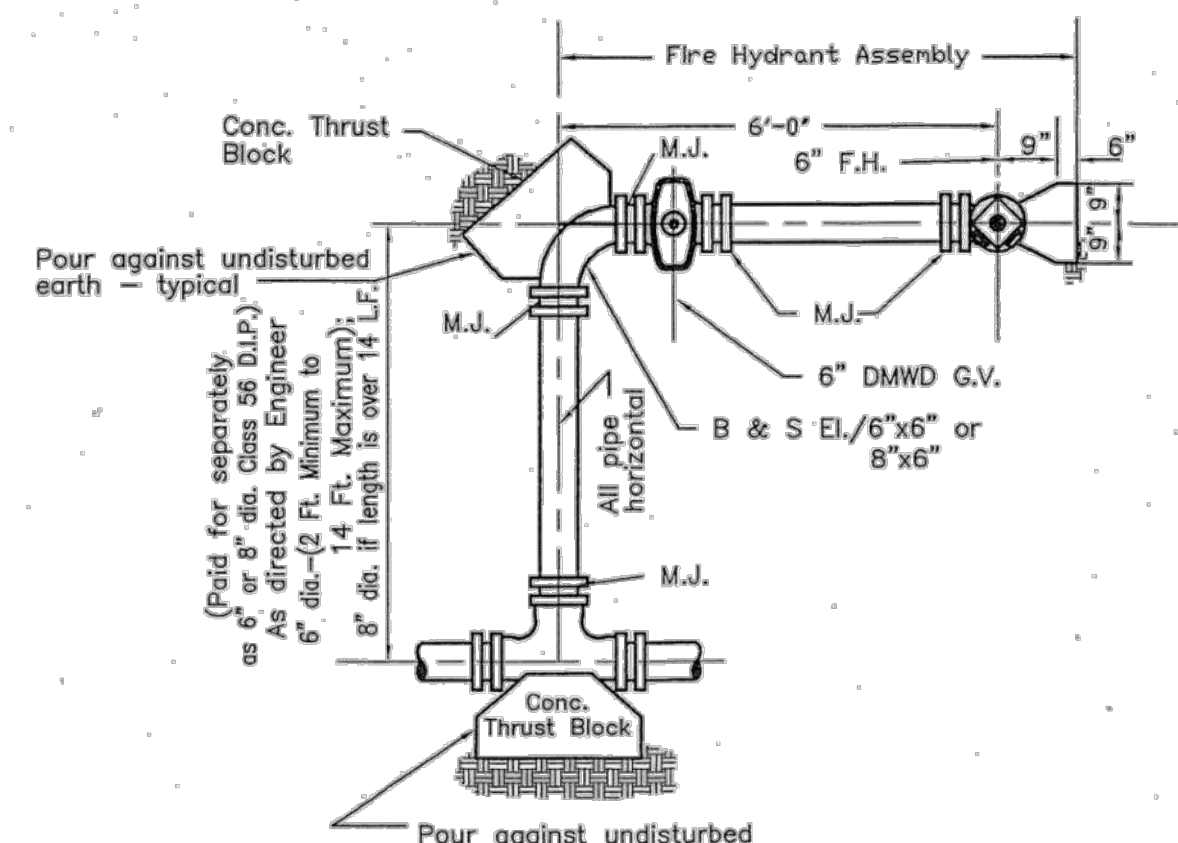
1 In precast gate well holes for inlet and outlet pipe shall be formed or equipped for an approved flexible joint connection such as "Res-Seal", "Press-Wedge" or "Kor-N-Seal" or equal.

Gate Valve	A	B	C	D	E	F
6"-12"	5'-0"	4'-0"	6'-3"	2'-6"	2'-0"	9"
12"	5'-6"	4'-6"	6'-8"	2'-9"	2'-3"	9"
16"	6'-0"	5'-6"	7'-2"	3'-0"	2'-9"	12"

BRICK OR BLOCK GATE WELL

Gate Valve	A	B
6"	5'-0"	6"
8"	5'-0"	5"
12"	6'-0"	7"

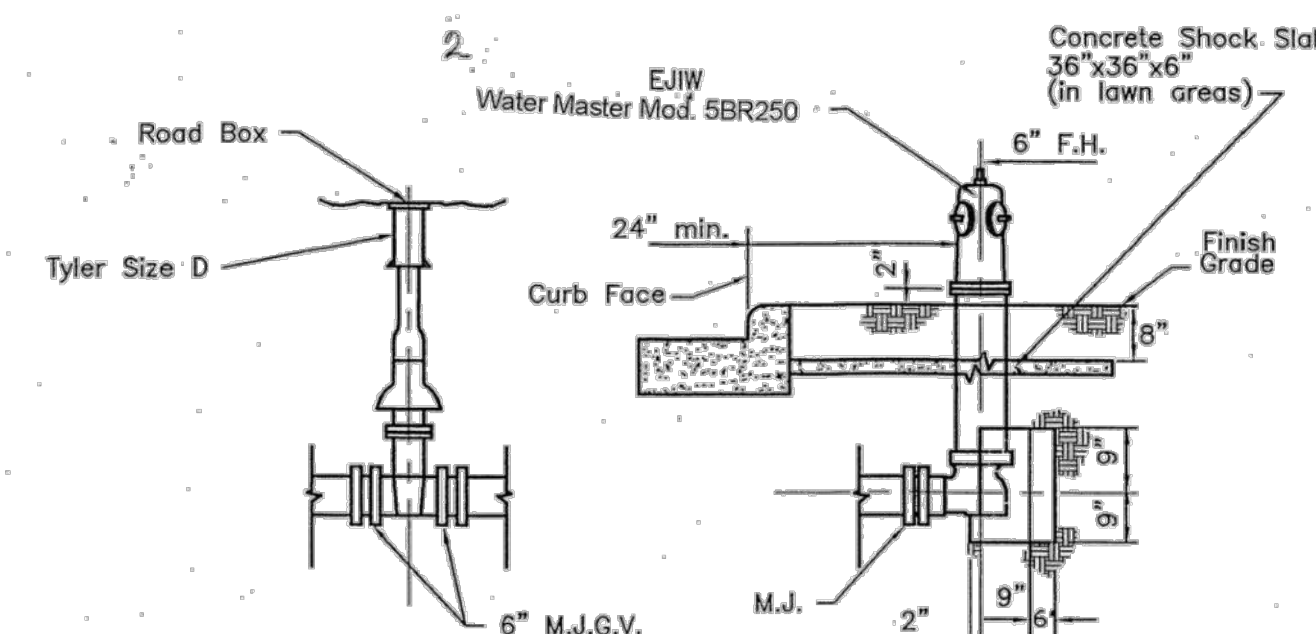
PRECAST GATE WELL



PLAN

FIRE HYDRANT ASSEMBLY

All 6" or 8" mechanical joints in the F.H. assembly shall be restrained with retainer glands.
Pipe and fittings shall be 6" or 8" D.I.P., Class 56
T bolts and set screws shall be Corten steel.
All new hydrants installed by the Contractor shall be repainted using Rustoleum "Safety Yellow"



ELEVATION

STANDARD ABBREVIATIONS
AS USED ON CONSTRUCTION PLANS

G.V.	Gate Valve
G.W.	Gate Well
EL	Elbow or Bend
T	Te
B.O.	Blow Off
T.B.	Thrust Block
12"C.I.P.	12" Cast Iron Water Pipe
16"D.I.P.	16" Ductile Iron water Pipe
24"PCP	24" Prestressed concrete cylinder Pipe
R.C.E.	Reinforced Concrete Encasement
S.P.E.	Steel Pipe Encasement
M.J.	Mechanical Joint
F.J.	Flanged Joint
F.H.	Fire Hydrant Assembly

ALLOWABLE DEFLECTION
Inches per 10 feet of pipe

Diameter	6"	8"	12"	16"
Rubber Slip-joint	7 3/8"	7 3/8"	7 3/8"	4 1/2"
Mechanical Joint	10 1/2"			

* F.H. Assembly and all G.V. fittings.

NOTES RELATED TO GATE VALVE, GATE WELL & FIRE HYDRANTS ARE LISTED ON SHEET "W-2"

WATER STANDARDS
GATE WELL AND FIRE HYDRANT

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CITY OF DEARBORN, MICHIGAN

DATE: 4-08-04

APPROVED: [Signature]

NO.	BY	DATE	REVISIONS
1	CAR. HINDASIT	3/22/04	
2	C.P.R. MODEL CHANGE	5-5-08	
3	C.A.R. CONNECTION DETAIL ADDED	5-19-07	

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

City of Dearborn

DRAWING TITLE
Water Main Standard Details and Notes
1 of 4

ISSUE DATES

DATE ISSUED FOR:

DRAWN: JRE

CHECKED: TJS

APPROVED: TJS

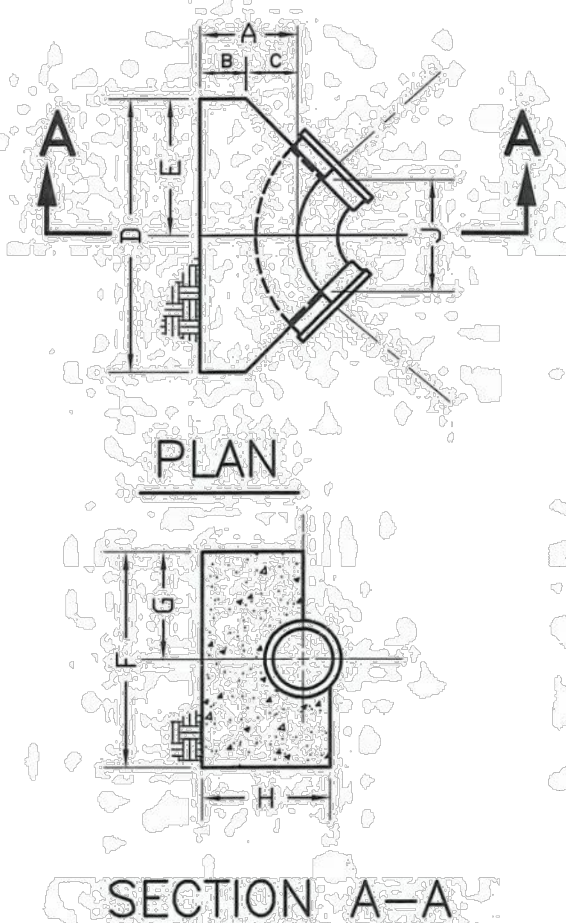
PROJECT NO.

TMP - 17071

SDA - NP17041

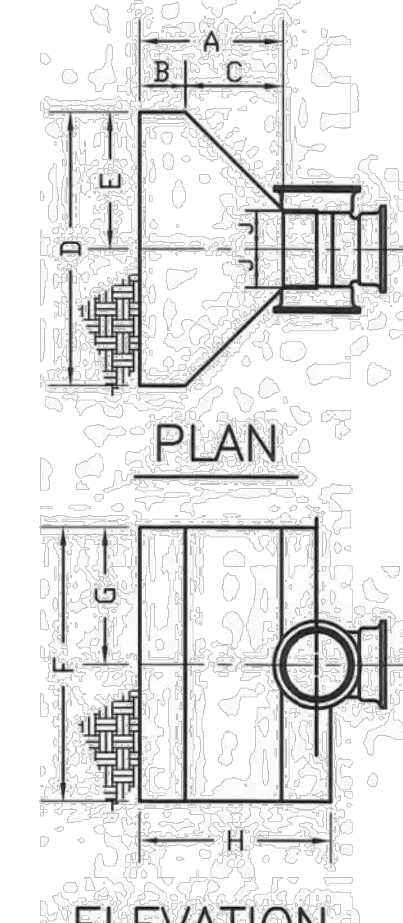
DRAWING NO.

C1.10



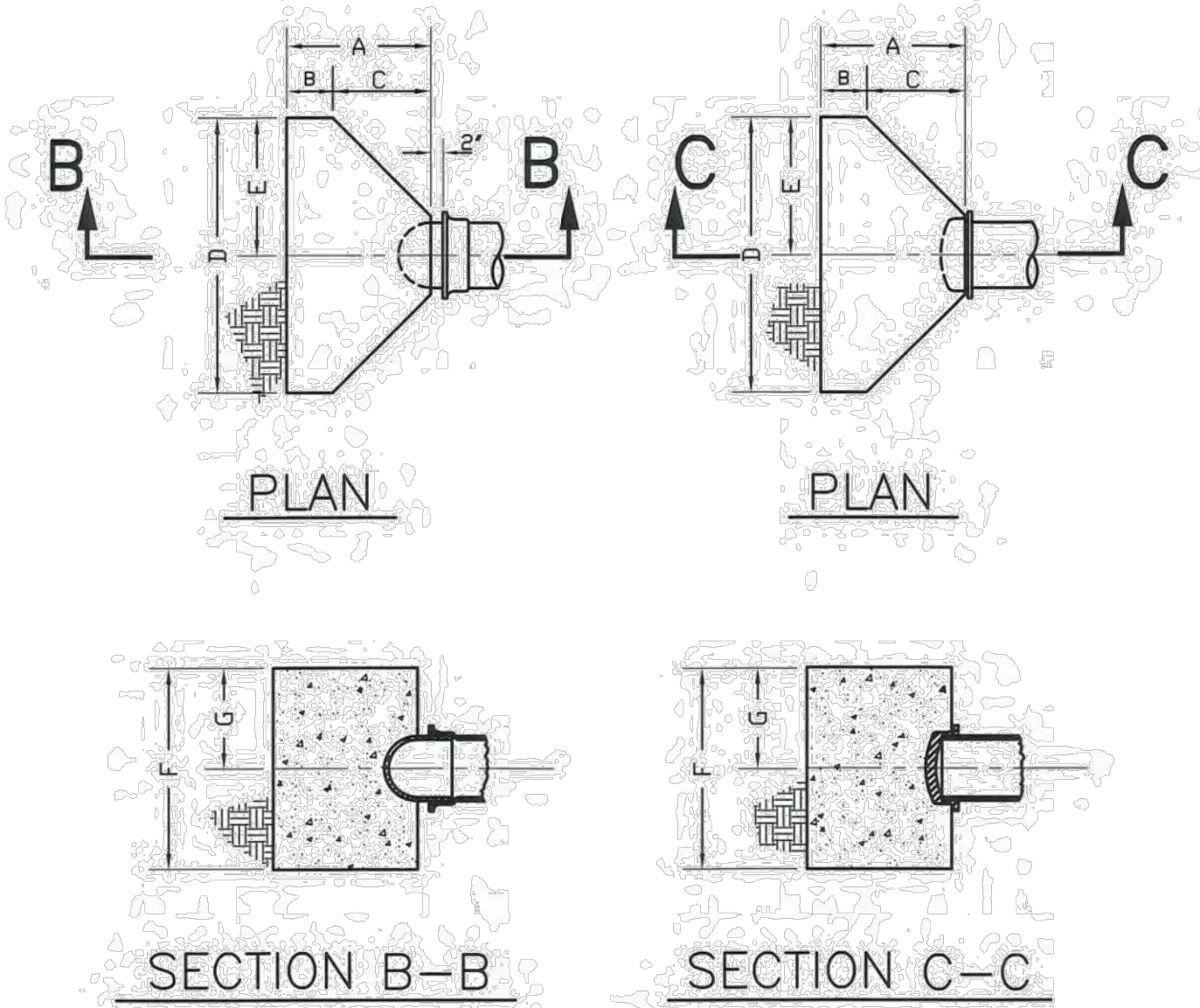
BEND SIZE	SCHEDULE OF THRUST BLOCK DIMENSIONS								
	A	B MIN.	C	D	E	F	G	H MIN.	J
6"-45°	1'-9"	0'-9"	1'-0"	2'-0"	1'-0"	1'-6"	0'-9"	1'-11"	1'-4"
6"-90°	1'-9"	0'-9"	1'-0"	2'-6"	1'-3"	1'-6"	0'-9"	1'-11"	1'-2"
8"-45°	1'-9"	0'-9"	1'-0"	2'-4"	1'-2"	2'-0"	1'-0"	1'-11"	1'-4"
8"-90°	1'-9"	0'-9"	1'-0"	3'-4"	1'-8"	2'-4"	1'-3"	1'-11"	1'-2"
12"-22 1/2°	1'-9"	0'-9"	1'-0"	2'-6"	1'-3"	2'-0"	1'-0"	2'-0"	1'-4"
12"-45°	2'-1"	0'-9"	1'-4"	3'-6"	1'-9"	2'-6"	1'-3"	2'-4"	1'-4"
12"-90°	2'-1"	0'-9"	1'-4"	5'-8"	2'-9"	3'-0"	1'-6"	2'-3"	1'-8"
16"-22 1/2°	2'-8"	1'-0"	1'-8"	3'-4"	1'-8"	2'-6"	1'-3"	3'-0"	1'-2"
16"-45°	2'-8"	1'-0"	1'-8"	5'-4"	2'-8"	3'-0"	1'-6"	3'-0"	2'-6"
16"-90°	2'-8"	1'-0"	1'-8"	6'-0"	3'-0"	5'-0"	2'-6"	3'-0"	2'-8"

DETAIL OF STANDARD THRUST BLOCKS FOR BENDS



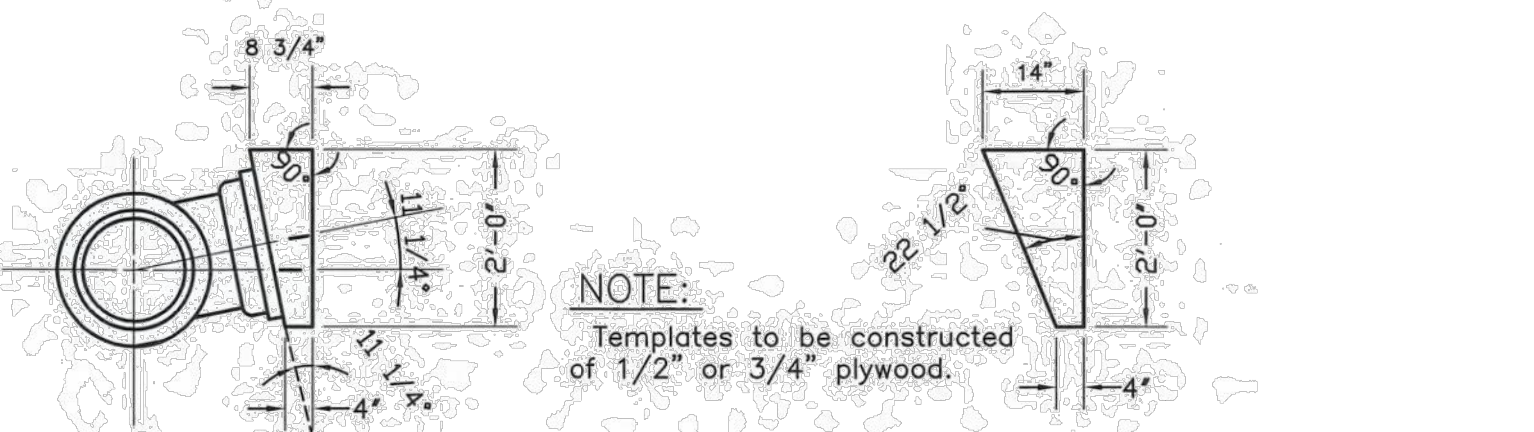
TEE SIZE	SCHEDULE OF THRUST BLOCK DIMENSIONS								
	A	B MIN.	C	D	E	F	G	H MIN.	J
6" x 6"	1'-9"	0'-9"	1'-0"	2'-6"	1'-3"	1'-6"	0'-9"	2'-3"	0'-6"
8" x 8"	1'-9"	0'-9"	1'-0"	3'-0"	1'-6"	2'-0"	1'-0"	2'-3"	0'-6"
12" x 8"	1'-9"	0'-9"	1'-0"	3'-0"	1'-6"	2'-0"	1'-0"	2'-5"	0'-6"
12" x 12"	2'-1"	0'-9"	1'-4"	4'-0"	2'-0"	3'-0"	1'-6"	2'-9"	0'-8"
16" x 8"	1'-9"	0'-9"	1'-0"	3'-0"	1'-6"	2'-0"	1'-0"	2'-9"	0'-8"
16" x 12"	2'-1"	0'-9"	1'-4"	4'-0"	2'-0"	3'-0"	1'-6"	3'-11"	0'-8"
16" x 16"	2'-8"	1'-0"	1'-8"	5'-0"	2'-6"	4'-0"	2'-0"	3'-8"	0'-11"

DETAIL OF STANDARD THRUST BLOCKS FOR TEES

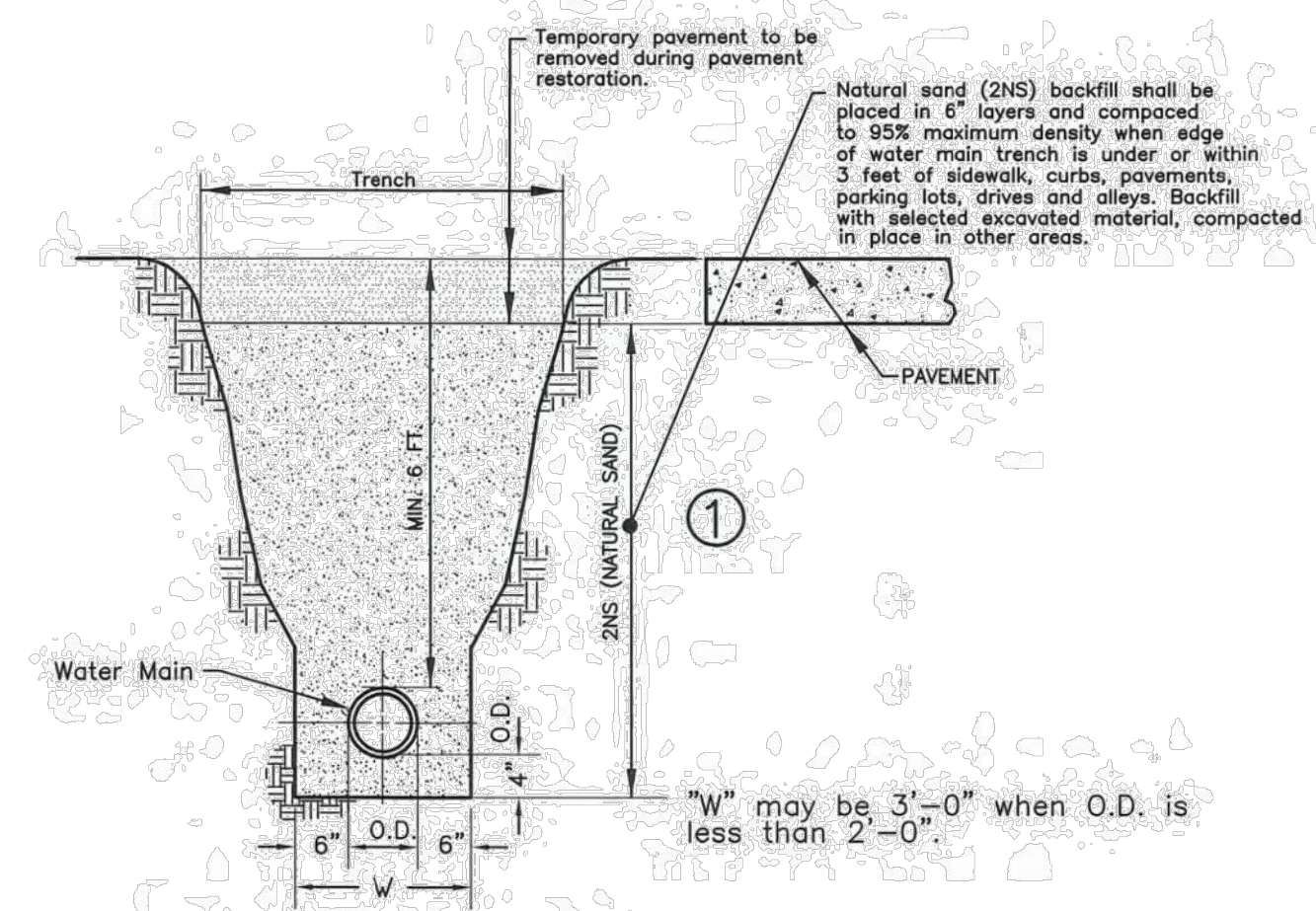


PLUG & CAP SIZE	SCHEDULE OF THRUST BLOCK DIMENSIONS						
	A MIN.	B MIN.	C	D	E	F	G
6"	1'-11"	0'-9"	1'-2"	2'-6"	1'-3"	1'-6"	0'-9"
8"	1'-11"	0'-9"	1'-2"	3'-0"	1'-6"	2'-0"	1'-0"
12"	2'-1"	0'-9"	1'-4"	4'-0"	2'-0"	3'-0"	1'-6"
16"	2'-8"	1'-0"	1'-8"	5'-0"	2'-6"	4'-0"	2'-0"

DETAIL OF STANDARD THRUST BLOCKS FOR PLUGS & CAPS



TEMPLATES FOR SETTING TEES AT 11 1/4 & 22 1/2 ANGLES



TRENCH DETAIL
Excavation, Pipe bedding & Trench backfill shall be incidental to watermain construction

NOTES

- All 6", 8" and 12" gate valves shall have mech. joint fittings.
- All nut, bolts and washers on gate valves and fittings shall be Core Blue or Corten Blue steel.
- Concrete footing for Gate Well: The footing shall be cast-in-place or precast concrete. Precast concrete base sections are acceptable for gate wells. Concrete shall be poured against undisturbed ground. Poured concrete and mortar must be hard before being stressed with backfill or precast modules.
- Precast concrete footings & precast bottoms for gate wells shall be supported by a compacted 6" aggregate base, compacted in place.
- Precast concrete footings or bases shall be reinforced with #4 steel bars spaced at 1' both ways or with two layers of welded wire fabric of equivalent cross sectional area laid at right angles and wired together. Reinforcement shall be placed in top of footing and shall be marked. Steel reinforcement may be omitted in cast-in-place concrete footings.
- The top portion of precast reinforced gate well units shall be concentric. The top portion of the brick or block gate well units shall be concentric.
- Precast concrete sections for gate wells shall be built in accordance with A.S.T.M. C-478. The walls of the precast units may have a slight taper to allow for form removal.
- Mortar shall be 1 part cement and 2 parts N.S. sand. Plaster all brick & block with 1/2" mortar.
- Place C.I. steps (EJW 8500) in gate wells only if called for in specifications.
- If flange valves are specified, long hub pipe flanges must be power tightened and refaced at the factory.
- Stem nuts on all gate valves including 6" hydrant gate valves shall turn right to open.
- Operating nut on fire hydrant shall turn left to open.
- Gate well frame shall be No. 1040, E.J.I.W., base flange type., weight 230 lbs.
- Gate well cover shall be Type C solid cover with two-1" dia. holes with City of Dearborn "Logo", weight 145 lbs.
- Ductile iron pipe shall be Class 56 double cement lined and conform to standard City specification 800, American National Standards Institute specification A21.51 & Detroit Metro water & sewerage department spec. S-658-2.
- Joints on pipes shall be of rubber push-on type. Joints for all fittings shall be mechanical joint.
- Fire hydrants are to be the new City of Dearborn type as manufactured by East Jordan Iron Works, model 5BR250.
- Castings shall meet the requirements of the current specifications A.S.T.M. designation A-48 and shall have the same minimum strength as provided for #30 gray iron castings.
- Copper water service pipe and fittings The water service lines that are to be transferred from the old to the new water main shall be type K copper pipe (2" dia. or less) and those fittings necessary for this work shall be manufactured by Mueller company, Decatur, Illinois, or an equal approved by the City of Dearborn Water department. Identification numbers listed below are from Mueller Catalog W105
Corporations shall be H-15000
Flare couplings shall be H-15400 (3/4" and 1") copper to copper
Compression couplings shall be H-15403 (1-1/2" & 2") copper to copper
Curb stop & valve shall be Mueller H-15204 for copper to copper
Curb stop & valve shall be Mueller H-10051 and H015174 for copper to lead
Stop box shall be Tyler 100-E
Road box Tyler size D
- Concrete thrust blocks shall be required at all horizontal bends & tees with a dimension as indicated. Concrete in thrust blocks and concrete encasements may be Class 4 concrete. Concrete anchoring as shown on the drawings shall be required for all vertical bends.
- Megalugs may be acceptable in place of concrete thrust block if approved by the engineer.
- Ductile iron water main shall be wrapped with polyethylene encasement with specified overlaps.

WATER STANDARDS
THRUST BLOCK AND
TRENCH DETAILS

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CITY OF DEARBORN, MICHIGAN

DATE: 03/04/14

DATE: 3/4/14
9/9/13

NO.	BY	REV.	TRENCH DETAIL	REVISIONS	DATE
1	JRS	REV.	TRENCH DETAIL		3/4/14
2	CAV	REV.	NOTE #18 & ADD NOTE #20		9/9/13

SHEET NO. W-2 OF

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
**Ford Woods
Park Pool**

City of Dearborn

DRAWING TITLE
**Water Main Standard
Details and Notes
2 of 4**

ISSUE DATES

DATE: ISSUED FOR:

DRAWN: JRE
CHECKED: TJS
APPROVED: TJS

PROJECT NO.
**TMP - 17071
SDA - NP17041**
DRAWING NO.
C1.11

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
**Ford Woods
Park Pool**

City of Dearborn

DRAWING TITLE
**Water Main Standard
Details and Notes
3 of 4**

ISSUE DATES

10-25-17 BIDS

09-27-2017 OWNER REVIEW

DATE ISSUED FOR:

DRAWN JRE

CHECKED TJS

APPROVED TJS

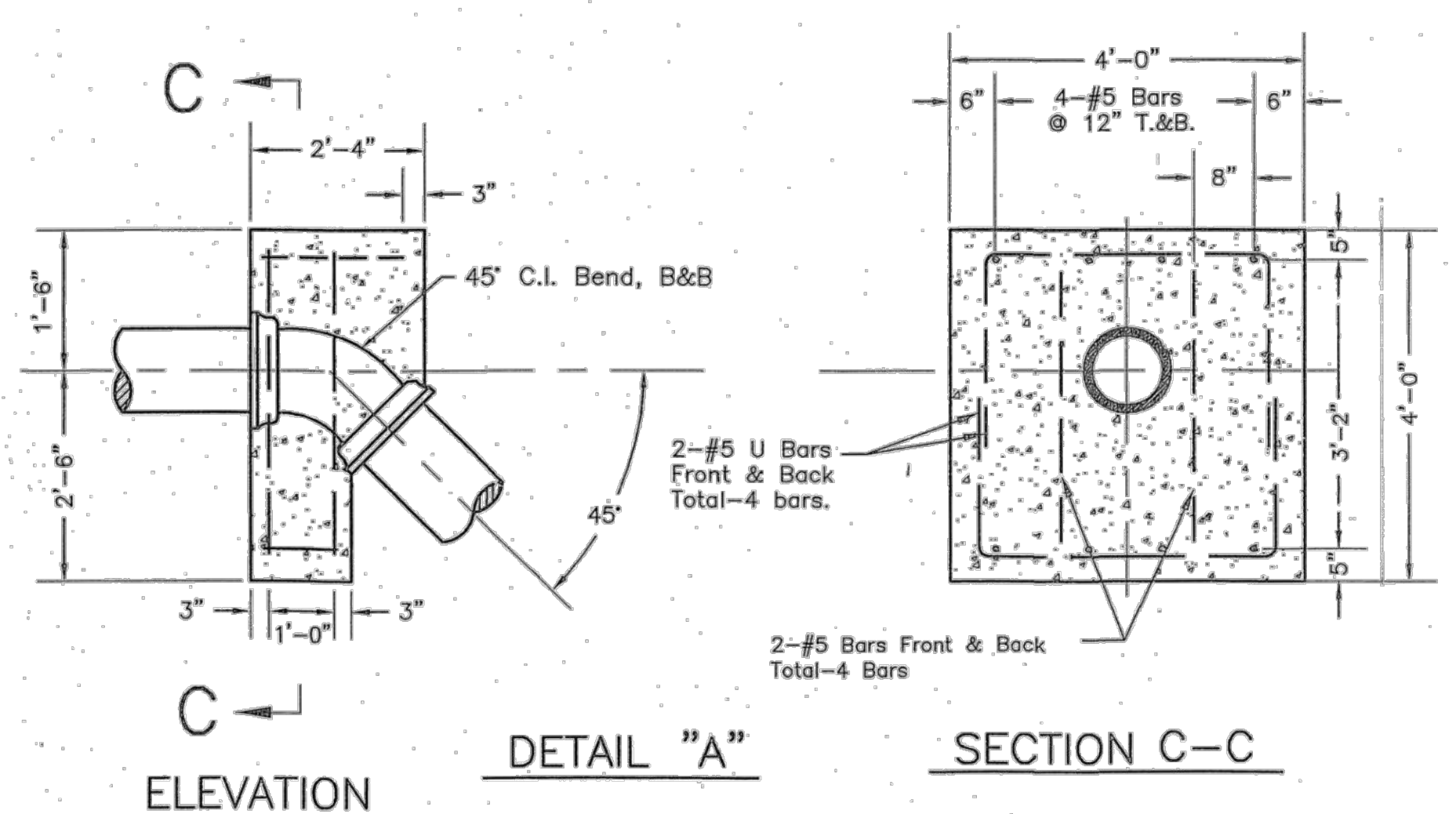
PROJECT NO.

**TMP - 17071
SDA - NP17041**

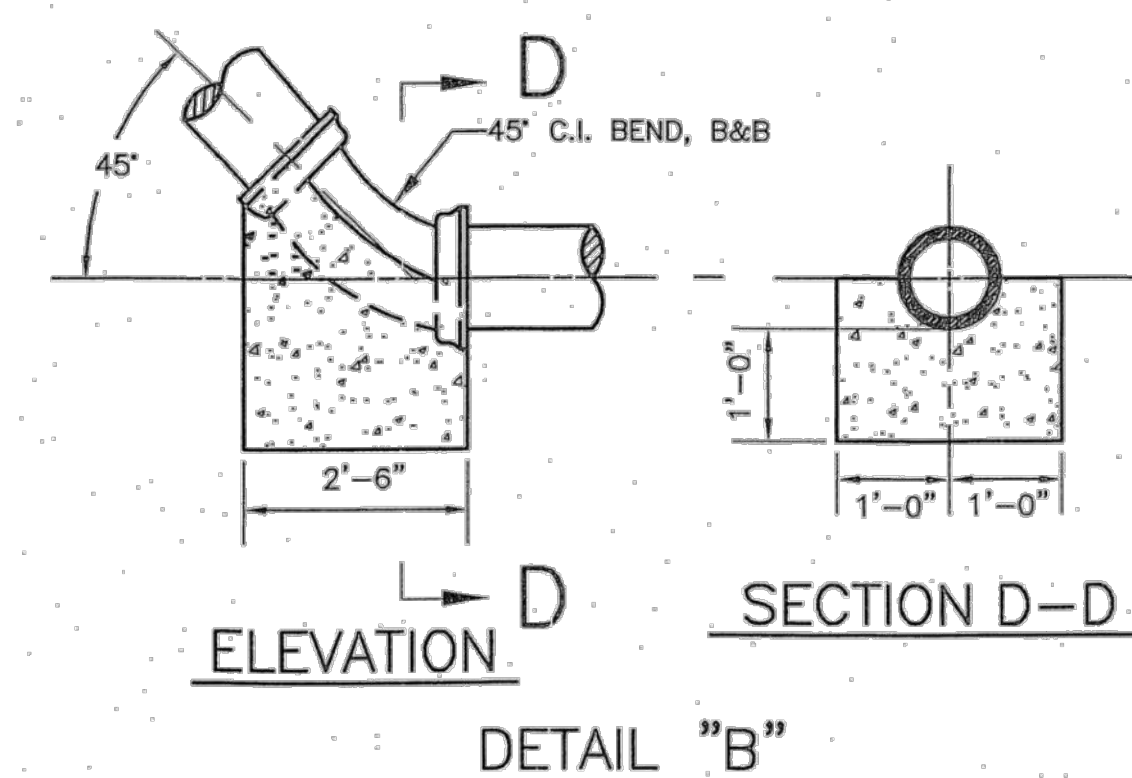
DRAWING NO.

C1.12

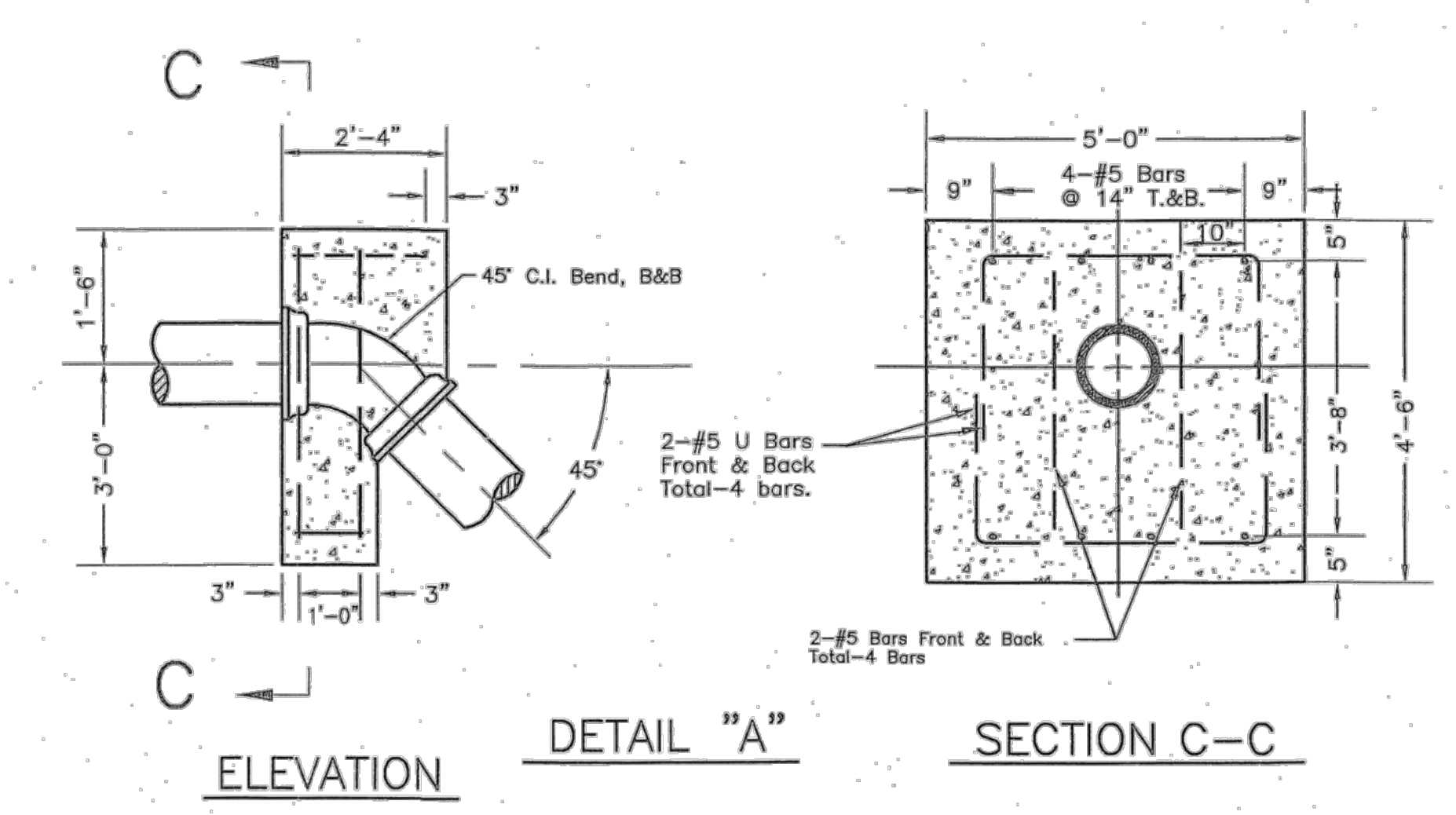
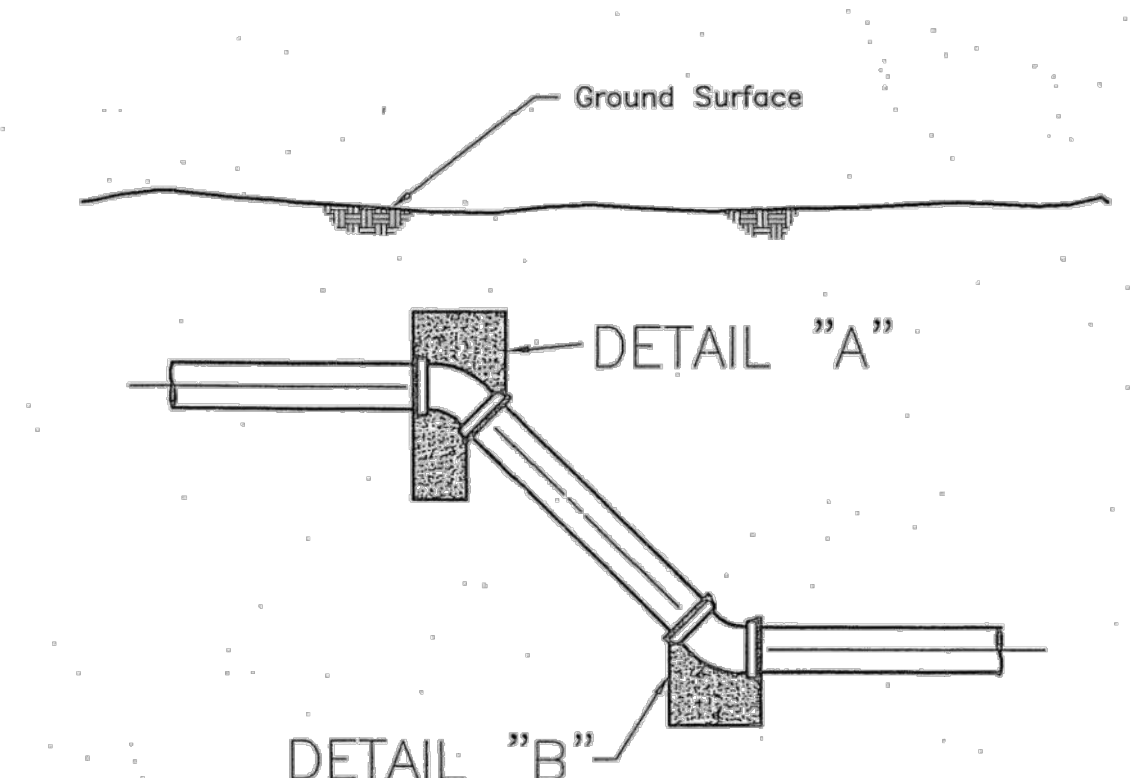
**WATER STANDARDS
THRUST BLOCK FOR VERTICAL
BENDS 22-1/2" AND 45"**
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 CITY OF DEARBORN, MICHIGAN
 APPROVED: *[Signature]*
 APPROVED: *[Signature]*
 DATE: 4-08-14
 SCALE: _____
 SHEET NO. **W-3** OF _____



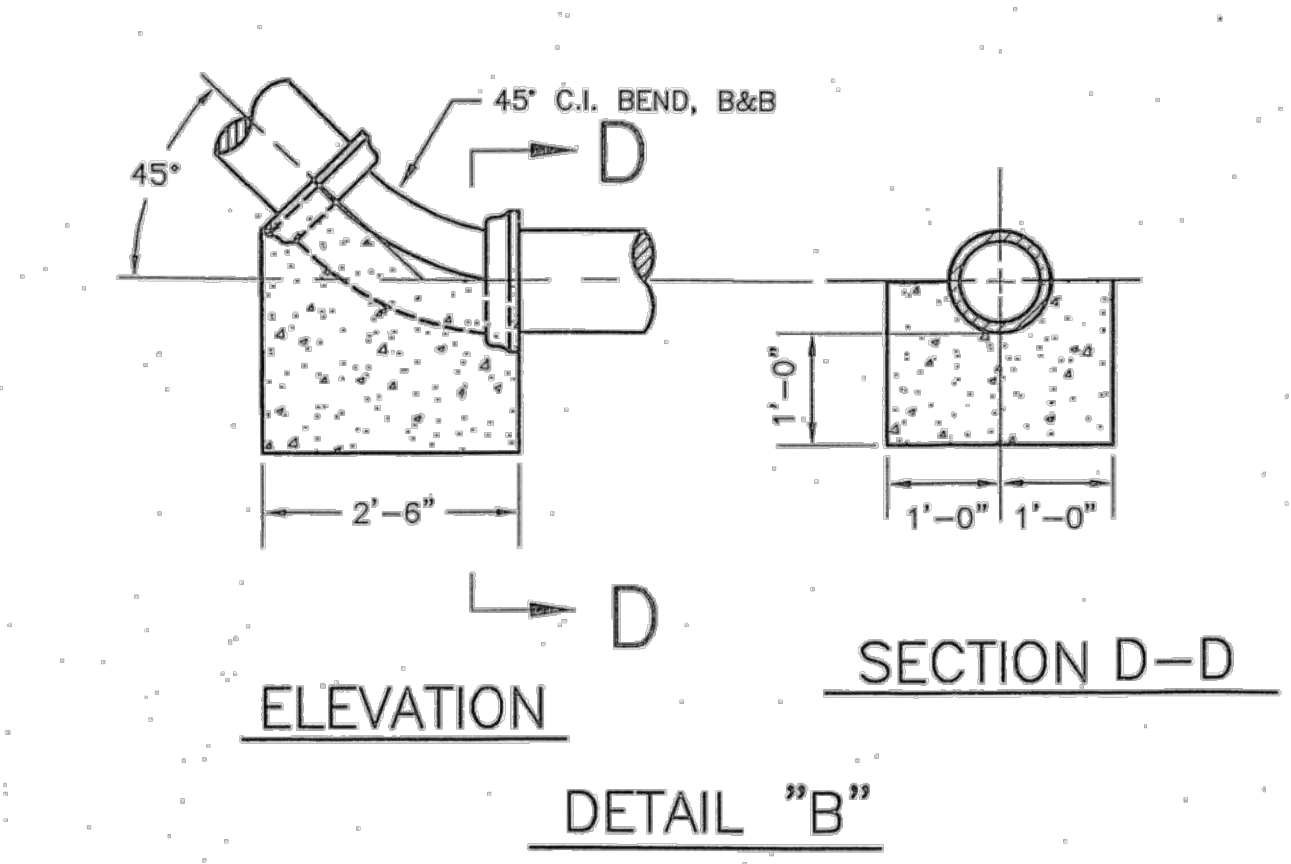
ANCHORAGE DETAILS FOR 8" VERTICAL BEND



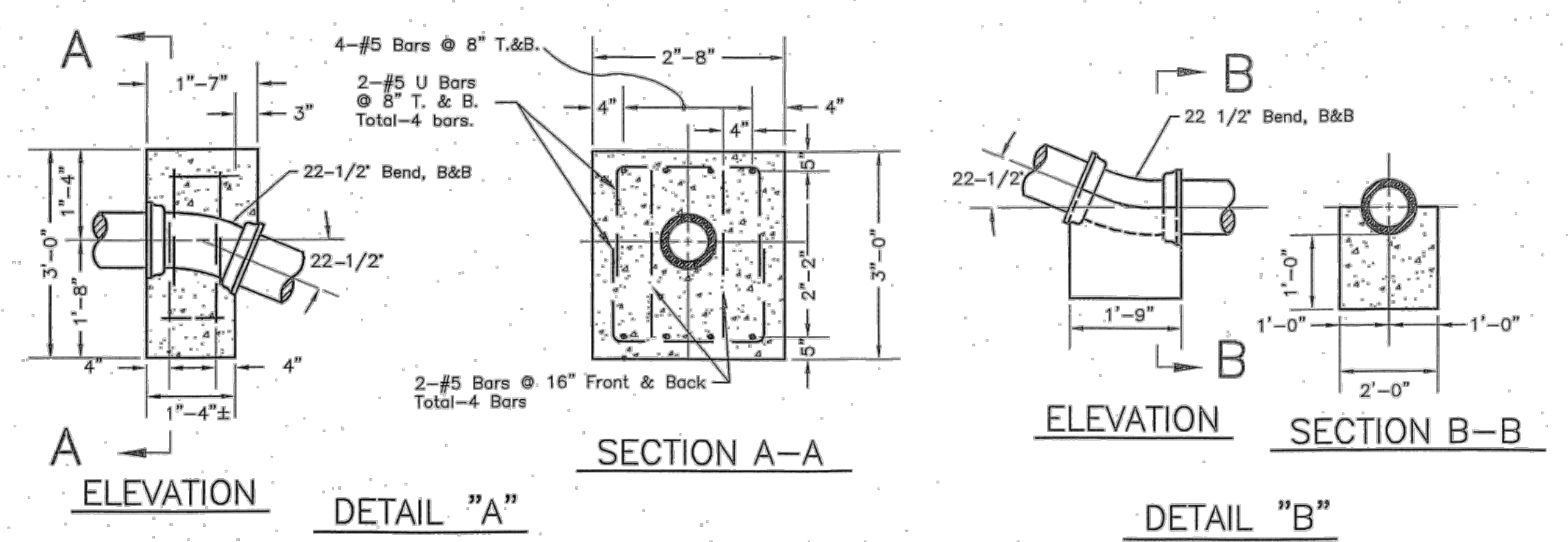
ANCHORAGE DETAILS FOR 8" VERTICAL BEND



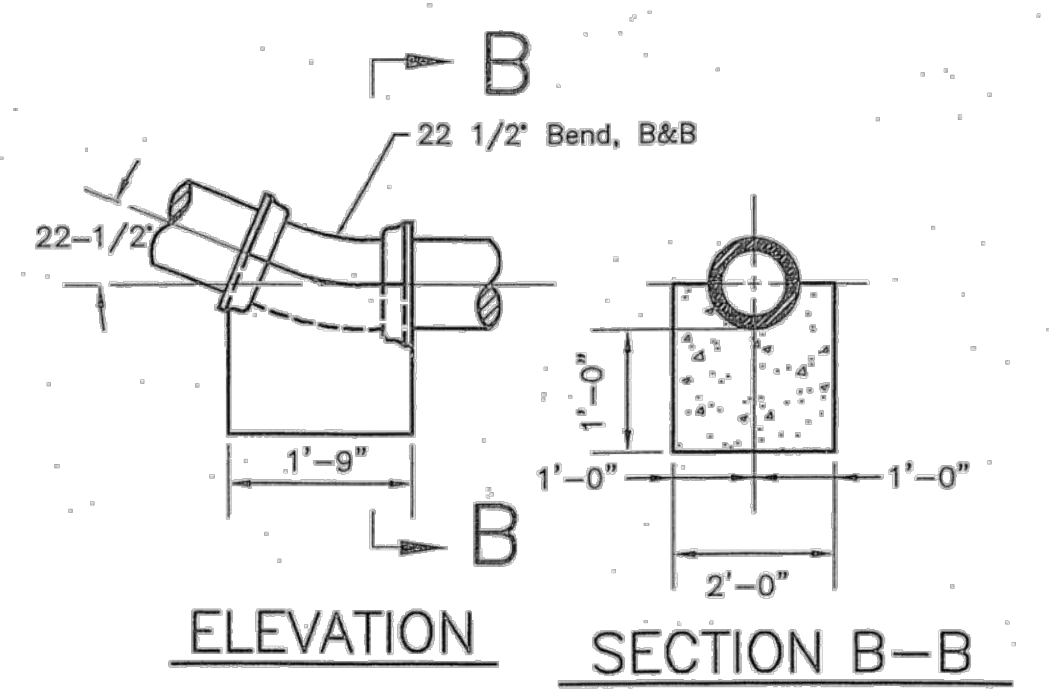
ANCHORAGE DETAILS FOR 12" VERTICAL BEND



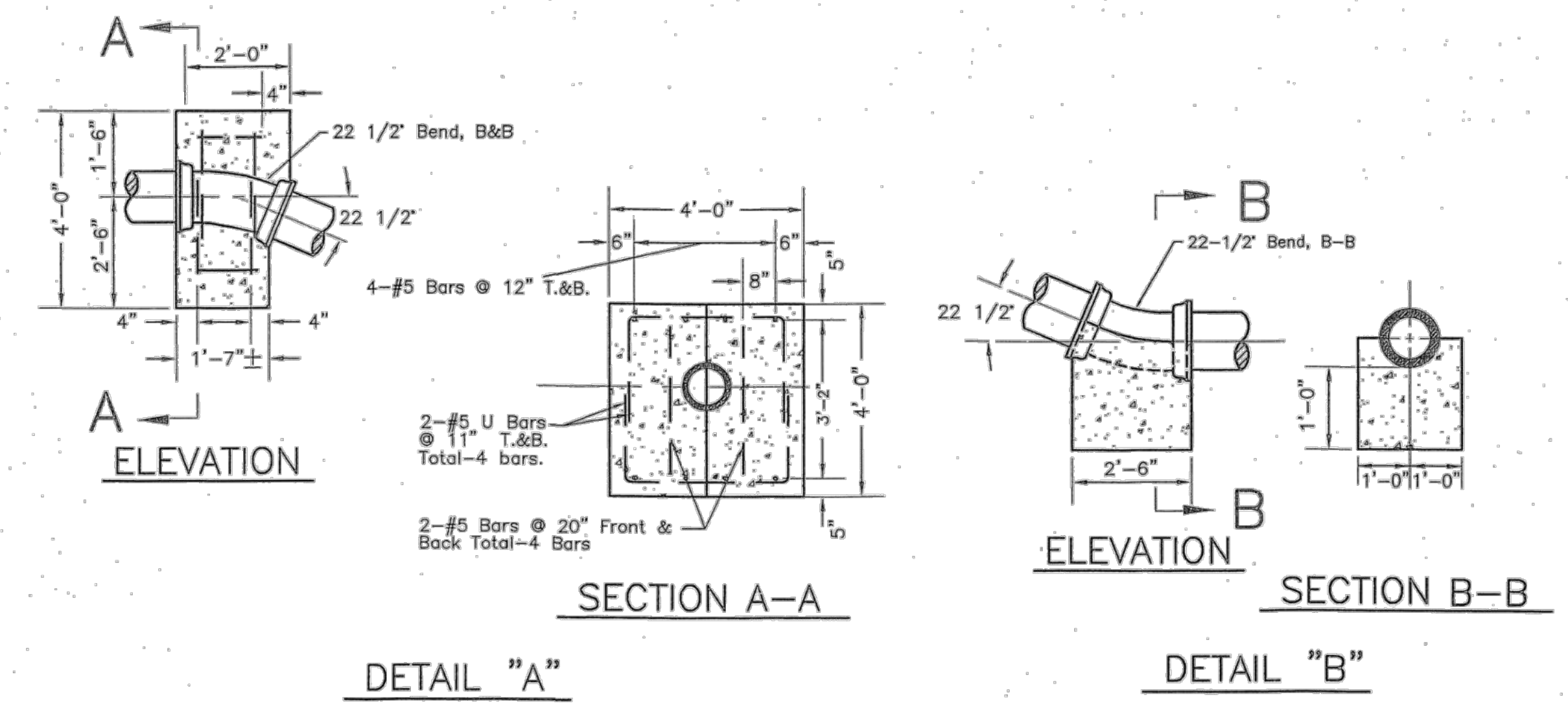
ANCHORAGE DETAILS FOR 12" VERTICAL BEND



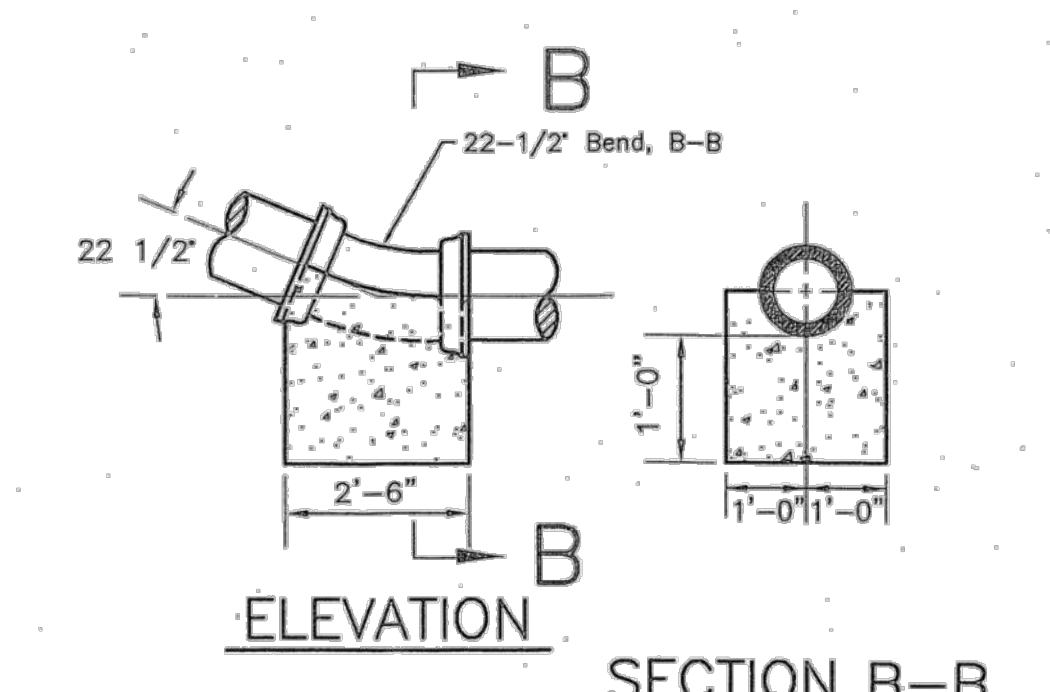
ANCHORAGE DETAILS FOR 8" 22-1/2" VERTICAL BEND



ANCHORAGE DETAILS FOR 8" 22-1/2" VERTICAL BEND



ANCHORAGE DETAILS FOR 12" 22-1/2" VERTICAL BEND



ANCHORAGE DETAILS FOR 12" 22-1/2" VERTICAL BEND

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Ford Woods Park Pool

DRAWING TITLE
Water Main Standard Details and Notes
4 of 4

ISSUE DATES

10-25-17	BDS
09-27-2017	OWNER REVIEW
DATE:	ISSUED FOR:
DRAWN: JRE	
CHECKED: TJS	
APPROVED: TJS	

PROJECT NO.
TMP - 17071
SDA - NP17041
DRAWING NO.
C1.13

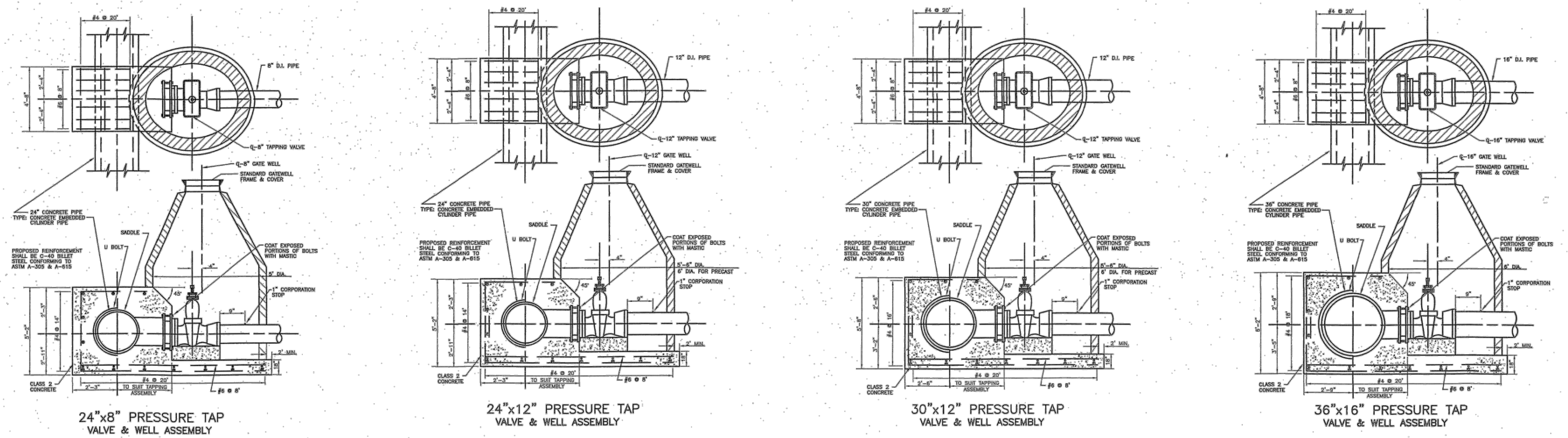


WATER STANDARDS
 PRESSURE TAPS: 24"x8", 24"x12", 30"x12", 36"x16"
 TYPICAL TUNNEL CASTING FOR WATERMAIN
 STANDARD TAPPING SLEEVES
 VALVE & WELL ASSEMBLY

DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 CITY OF DEARBORN, MICHIGAN

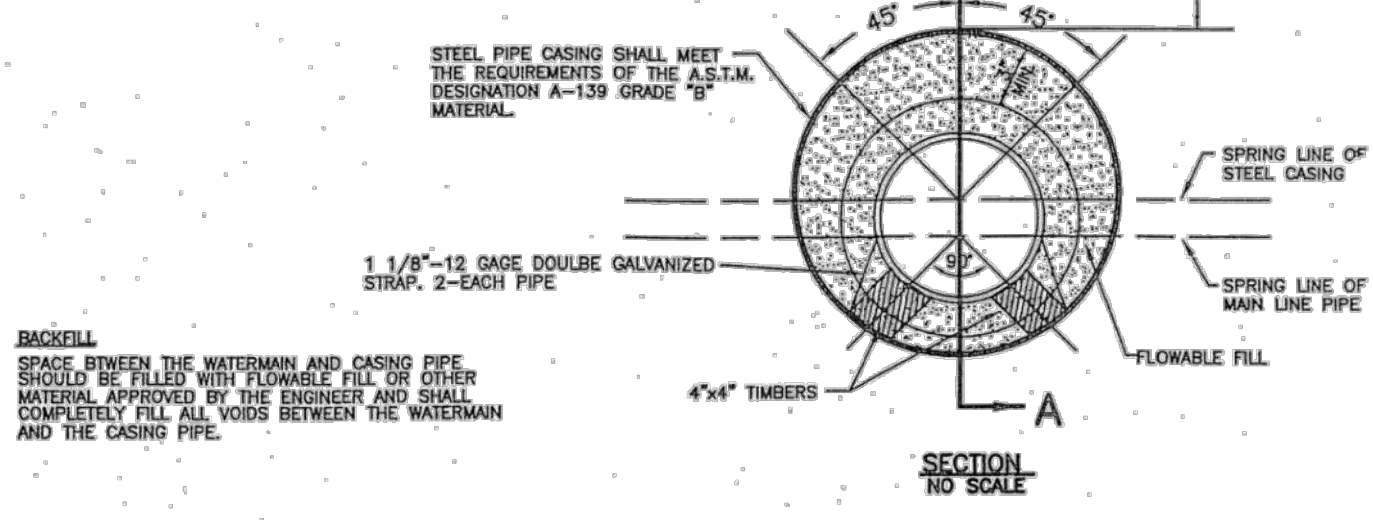
DATE: 9/20/2017
 APPROVED: [Signature]
 APPROVED: [Signature]

SCALE: AS SHOWN
 SHEET NO. W4 OF



NOMINAL THICKNESS OF CASING PIPE REQUIRED FOR SIZES

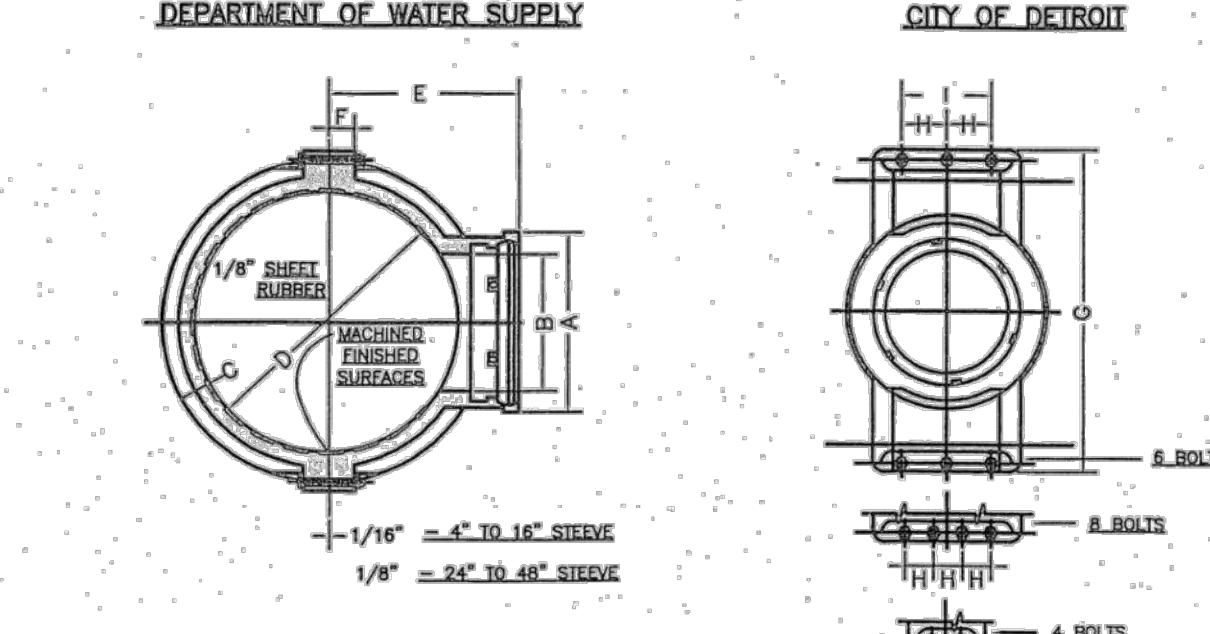
NOMINAL DIA. IN INCHES	THICKNESS IN INCHES
10 AND UNDER	0.188
12 & 14	0.250
16	0.312
18	0.375
20 & 22	0.438
24	0.500
26	0.562
28	0.625
30 & 32	0.688
34 & 36	0.750
38	0.812
40	0.875
42	0.938
44 & 46	1.000
48	1.062
50	1.125
52	1.188
54 & 56	1.250
58	1.312
60 & 62	1.375
64	1.438
66 & 68	1.500
70	1.562
72	1.625



ALLOWABLE HEIGHT OF COVER (HC) IN FT. FOR STEEL CASING

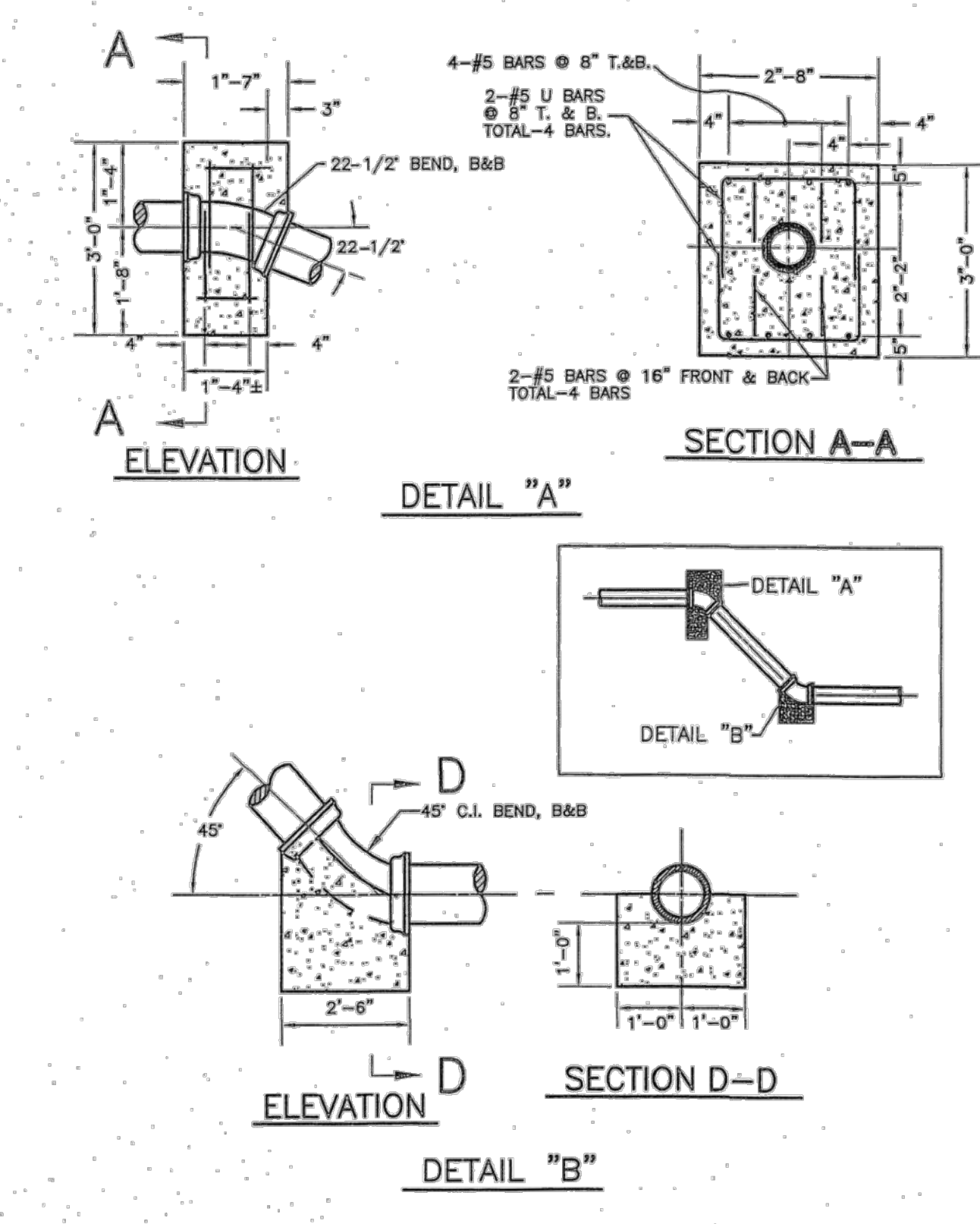
WALL THICKNESS (IN)	STEEL CASING OUTSIDE DIAMETER (IN)
3/16	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
1/4	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
5/16	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
3/8	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
1/2	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
5/8	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
3/4	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
7/8	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2
1	12 1/4 14 1/8 16 1/4 18 1/4 20 1/2 22 1/2 24 3/4 26 3/4 28 1/2 30 1/2 32 1/2 34 1/2 36 1/2 38 1/2 40 1/2 42 1/2 44 1/2 46 1/2 48 1/2 50 1/2 52 1/2 54 1/2 56 1/2 58 1/2 60 1/2 62 1/2 64 1/2 66 1/2 68 1/2 70 1/2 72 1/2

TYPICAL HORIZONTAL AUGER BORING (BORE AND JACK)



STANDARD TAPPING SLEEVE

SIZE OF SLEEVE	A	B	C	D	E	F	G	H	I	NO. OF BOLTS	SIZE OF BOLTS	WEL. IN LAB.
4 x 2	6 1/4	5 3/8	3/8	5 3/8	5 3/4	15/16	1 1/4	3 1/4	2 1/4	4	3/4 x 3	65
4 x 2	7 5/8	3 3/8	3/8	5 3/8	3 3/4	15/16	1 1/4	3 1/2	2 1/2	4	3/4 x 2	67
4 x 4	6 3/4	5 3/8	3/8	5 3/8	5 3/4	15/16	1 1/4	3 1/2	2 1/2	4	3/4 x 3	76
6 x 2	6 1/4	5 3/8	1 1/16	7 3/8	6 3/8	15/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3	65
6 x 2	7 5/8	3 3/8	1 1/16	7 3/8	6 3/8	15/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3	76
6 x 4	6 3/4	5 3/8	1 1/16	7 3/8	7 3/8	15/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3	77
6 x 6	11 1/4	6 1/2	1 1/16	7 3/8	7 3/8	15/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3	108
6 x 8	6 1/4	5 3/8	3/4	9 1/2	7 3/8	1 1/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3 1/4	80
6 x 8	7 5/8	3 3/8	3/4	9 1/2	7 3/8	1 1/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3 1/4	80
8 x 4	8 3/4	4 3/8	3/4	9 1/2	8 3/8	1 1/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3 1/4	109
8 x 8	11 1/4	4 1/2	3/4	9 1/2	8 3/8	1 1/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3 1/4	109
8 x 8	12 5/8	4 3/8	3/4	9 1/2	8 3/8	1 1/16	1 3/8	3 1/2	2 1/2	4	3/4 x 3 1/4	109
10 x 2	6 1/4	5 3/8	3/4	11 3/4	6	1 1/8	1 7/8	3 1/2	2 1/2	4	3/4 x 3 1/2	109
10 x 2	7 5/8	3 3/8	3/4	11 3/4	6	1 1/8	1 7/8	3 1/2	2 1/2	4	3/4 x 3 1/2	119
10 x 4	6 3/4	4 3/8	3/4	11 3/4	8 1/2	1 1/8	1 7/8	3 1/2	2 1/2	4	3/4 x 3 1/2	126
10 x 4	11 1/4	6 1/2	3/4	11 3/4	8 1/2	1 1/8	1 7/8	3 1/2	2 1/2	4	3/4 x 3 1/2	143
10 x 8	12 5/8	6 3/8	3/4	11 3/4	10	1 1/8	1 7/8	3 1/2	2 1/2	4	3/4 x 3 1/2	209
10 x 12	12 5/8	12 5/8	3/4	11 3/4	10	1 1/8	1 7/8	3 1/2	2 1/2	4	3/4 x 3 1/2	295
12 x 2	6 1/4	5 3/8	1 1/8	12 1/2	10 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 3 1/2	149
12 x 2	7 5/8	4 3/8	1 1/8	12 1/2	10 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 3 1/2	149
12 x 4	6 3/4	4 3/8	1 1/8	12 1/2	10 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 3 1/2	156
12 x 4	11 1/4	6 1/2	1 1/8	12 1/2	10 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 3 1/2	192
12 x 8	12 5/8	6 3/8	1 1/8	12 1/2	10 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 3 1/2	259
12 x 12	12 5/8	12 5/8	1 1/8	12 1/2	10 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 3 1/2	304
14 x 2	6 3/4	4 3/8	1 1/8	14 1/2	12 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	168
14 x 2	7 5/8	5 3/8	1 1/8	14 1/2	12 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	168
14 x 4	6 3/4	4 3/8	1 1/8	14 1/2	12 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	237
14 x 4	11 1/4	6 1/2	1 1/8	14 1/2	12 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	286
14 x 8	12 5/8	6 3/8	1 1/8	14 1/2	12 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	353
14 x 12	12 5/8	12 5/8	1 1/8	14 1/2	12 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	408
16 x 2	6 3/4	5 3/8	1 1/8	16 1/2	14 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	209
16 x 2	7 5/8	6 3/8	1 1/8	16 1/2	14 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	209
16 x 4	6 3/4	5 3/8	1 1/8	16 1/2	14 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	278
16 x 4	11 1/4	6 1/2	1 1/8	16 1/2	14 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	327
16 x 8	12 5/8	6 3/8	1 1/8	16 1/2	14 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	394
16 x 12	12 5/8	12 5/8	1 1/8	16 1/2	14 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	449
16 x 16	12 5/8	12 5/8	1 1/8	16 1/2	14 1/8	1 1/8	1 7/8	3 1/2	2 1/2	4	7/8 x 4 1/2	504



ANCHORAGE DETAILS FOR 16"-22 1/2" C.I. VERTICAL BENDS