

# General Notes

## GENERAL NOTES:

THE REQUIREMENTS OF THE KISHWAUKEE WATER RECLAMATION DISTRICT SET FORTH IN THESE NOTES AND DETAILS ARE NOT INTENDED TO BE ALL-INCLUSIVE, BUT RATHER TO HIGHLIGHT MORE SIGNIFICANT ITEMS.

THE DISTRICT RESERVES THE RIGHT TO ESTABLISH OR MODIFY REQUIREMENTS, THAT ARE DEEMED APPROPRIATE IN THE OPINION OF THE DISTRICT, AS NEEDED, ON A CASE BY CASE BASIS.

OTHER REQUIREMENTS OF THE DISTRICT MAY BE FOUND IN VARIOUS ORDINANCES RELATING TO SEWER USE CHARGES, ANNEXATION/CONNECTION FEES, INSTALLATION AND OPERATION OF SANITARY INFRASTRUCTURE AND ENFORCEMENT OF REGULATIONS.

SANITARY SEWER CONSTRUCTION SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", LATEST EDITION AS PUBLISHED BY THE ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS, TITLE 35, ILLINOIS ADMINISTRATIVE CODES, SUBTITLE C, WATER POLLUTION, CHAPTER II, ENVIRONMENTAL PROTECTION AGENCY, PART 370; ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS (RISWS), AND THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION, ILLINOIS DEPARTMENT OF TRANSPORTATION (ISSRBC).

THE ASSEMBLY, APPLICATION OR INSTALLATION OF SANITARY SEWER COMPONENTS AND APPURTENANCES SHALL BE PERFORMED PER THE MANUFACTURER'S PROCEDURES AND INSTRUCTIONS. FAILURE TO FOLLOW PRESCRIBED INSTALLATION PROCEDURES OR INSTRUCTIONS MAY NEGATE THE PURPOSE OR LIMIT THE EFFECTIVENESS OR USEFUL LIFE OF THE PRODUCT.

IEPA PERMIT MUST BE EXECUTED BEFORE CONSTRUCTION STARTS

PROJECT COMPLETION, ACCEPTANCE AND PLACEMENT OF SEWERS INTO SERVICE:

THE DISTRICT USES A "SANITARY SEWER PROJECTS - STATUS MATRIX" TO HELP TRACK SEWER PROJECTS. THE MATRIX ADDRESSES EVERYTHING FROM PIPE AND MANHOLE TESTING TO RECORD DRAWINGS AND CONFORMANCE THAT ANY OUTSTANDING ADMINISTRATION & INSPECTION FEES HAVE BEEN PAID. THE PLACEMENT OF NEW SEWERS INTO SERVICE UNTIL ALL MATRIX REQUIREMENTS ARE SUCCESSFULLY COMPLETED AND ALL REQUIRED DOCUMENTATION IS SUBMITTED TO THE DISTRICT. A COPY OF THE MATRIX IS INCLUDED IN THE DRAWINGS. THE MATRIX CAN HELP YOU TRACK COMPLETED AS WELL AS THOSE NEEDING SUCCESSFUL COMPLETION BEFORE THE DISTRICT WILL ALLOW THE SEWER TO PROVIDE SERVICE.

## SYSTEM ISOLATION:

THE KISHWAUKEE WATER RECLAMATION DISTRICT WILL INSTALL ISOLATION PLUG(S) TO PROTECT THE "LIVE" DOWNTOWN SANITARY SEWERS FROM EXTRANEOUS WATER AND DEBRIS DURING SEWER CONSTRUCTION.

THE ISOLATION PLUG(S) WILL NOT BE REMOVED UNTIL THE NEW SEWERS HAVE PASSED THE REQUIRED TESTS, INSPECTIONS AND ALL REQUIRED DOCUMENTATION IN ACCEPTABLE FORMAT, HAS BEEN PROVIDED AND AT SUCH TIME THAT THE DISTRICT DETERMINES TO BE APPROPRIATE.

TAMPERING WITH OR REMOVAL OF THE ISOLATION PLUG(S) IS A VIOLATION OF DEKALB SANITARY DISTRICT ORDINANCE NO. 259. ANY PERSONS VIOLATING SAID ORDINANCE PROVISION IS SUBJECT TO FINES, LEGAL ACTION, AND IMMEDIATE ARREST.

QUALITY ASSURANCE (\*1-6 ON STATUS MATRIX): QUALITY ASSURANCE AND TESTS ARE REQUIRED. THE DEVELOPER'S CONTRACTOR WILL PERFORM THE QA TESTING WORK OR SUBCONTRACT IT TO A COMPANY THAT PERFORMS THESE SERVICES. TESTING WILL INCLUDE LOW PRESSURE AIR TESTING, DEFLECTION TESTING OF ALL FLEXIBLE PIPE, LAMPING, MANHOLE VACUUM TESTING AND TELEVISION. ALL GRAVITY SEWER PIPE, ALL PIPE SHALL JETTED AND THE SYSTEM CLEANED OF DEBRIS PRIOR TO TELEVISION. THE DEVELOPER SHALL FURNISH THE DISTRICT WITH ONE COPY OF THE VIDEO TAPE FOR REVIEW. IN THE EVENT THAT A DEFICIENCY IS NOTED, THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING THIS DEFICIENCY AND RETESTING THE FAILED SECTION.

THE DEVELOPER/CONTRACTOR MUST INITIATE CONTACT WITH THE DISTRICT AS TO HIS SCHEDULE AND READINESS FOR INSPECTIONS AND/OR TEST OBSERVATION. AFTER CONTACT BY THE CONTRACTOR, THE DISTRICT WILL SCHEDULE INSPECTION TO BE CONDUCTED. INSPECTIONS AND/OR OBSERVE QA TESTING. REPRESENTATIVE OF THE KISHWAUKEE WATER RECLAMATION DISTRICT MUST BE PRESENT TO OBSERVE THE TESTING PROCEDURES. THE CONTRACTOR SHALL PROVIDE THE DISTRICT WITH AT LEAST 24 HOURS LEAD TIME SO THE DISTRICT CAN EFFECTIVELY SCHEDULE INSPECTION. THE DISTRICT MUST ALSO BE INFORMED WHEN A DEFICIENCY HAS BEEN CORRECTED OR WE WONT KNOW THAT IT IS READY FOR A RE-INSPECTION.

RECORD DRAWINGS (\*7 ON STATUS MATRIX): THE DEVELOPER SHALL SUPPLY THE DISTRICT, THROUGH HIS ENGINEER, WITH TWO HARD COPY SETS OF RECORD DRAWINGS. ONE SET IS TO BE A MYLAR COPY AND ONE SET IS TO BE A BLUELINE "XEROX" COPY. ELECTRONIC FILES (.1 COPY) SHALL BE IN MICROSTATION (.dgn) FILE OR AUTOCAD 2000 (.dwg) FILE FORMATS.

THE RECORD DRAWINGS SHALL INDICATE ANY DEVIATION FROM THE APPROVED PROJECT PLANS AND/OR MATERIALS. THE RECORD DRAWINGS SHALL INCLUDE THE FOLLOWING: RIM AND INVERT ELEVATIONS (USFS/MSL DATUM), THE Z GRADE, SIZE, PIPE MATERIAL, DISTANCE FROM MANHOLE TO MANHOLE, THE DISTANCE FROM A DEFINED MANHOLE TO EACH SERVICE WYE OR TEE, THE LOCATION OF LATERALS AT PROPERTY LINES (MEASURED FROM THE LOT LINE PINS), THE SIZE AND MATERIAL SERVICE LATERAL ARE MADE OF.

RECORD DRAWINGS ARE TO BE LABELED "RECORD DRAWINGS" AND DATED AND SIGNED BY AN ENGINEER LICENSED IN THE STATE OF ILLINOIS.

COST OF SANITARY SEWERS THAT WILL BE DEDICATED AS PUBLIC (\*8 ON STATUS MATRIX): THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD REQUIRES GOVERNMENT AGENCIES TO LIST THEIR INFRASTRUCTURE ASSETS (GASB 34). IF THE SANITARY INFRASTRUCTURE IS GOING TO BE DEDICATED AND ACCEPTED BY THE KISHWAUKEE WATER RECLAMATION DISTRICT AS A PUBLIC SYSTEM, THE COSTS ASSOCIATED WITH THE INSTALLATION OF THE SANITARY SYSTEM ARE TO BE PROVIDED TO THE SANITARY DISTRICT COPIES OF CONTRACTS OR PROJECT LIEN WAIVERS THAT INCLUDE ALL SANITARY INSTALLATION COSTS WILL BE ACCEPTABLE. PLEASE NOTE THAT MANY INFRASTRUCTURE CONTRACTS ALSO INCLUDE WATER MAIN AND STORM SEWER INSTALLATIONS. THE DISTRICT IS ONLY CONCERNED WITH THE SANITARY INFRASTRUCTURE COSTS. THEREFORE, THE COSTS MAY NEED TO BE BROKEN-OUT OR THE CONTRACT FORMULATED TO REFLECT INDIVIDUAL COSTS FOR SANITARY STORM AND WATER MAIN.

PROJECT COMPLETION/ACCEPTANCE FOR SERVICE (\*1-10 ON STATUS MATRIX): THE PLACEMENT OF THE NEW SEWERS INTO SERVICE WILL NOT OCCUR UNTIL ALL REQUIREMENTS ARE SUCCESSFULLY COMPLETED AND ALL REQUIRED DOCUMENTATION IN ACCEPTABLE FORMAT TO THE DISTRICT, HAS BEEN PROVIDED AND AT SUCH TIME THAT THE DISTRICT DETERMINES TO BE APPROPRIATE. PROVIDED THAT ALL OUTSTANDING REQUIREMENTS (AS NOTED IN THE SEWER PROJECT DEFICIENCY & STATUS MEMO AND IN THE SANITARY SEWER PROJECTS' STATUS MATRIX) HAVE BEEN COMPLETED AND UPON WRITTEN REQUEST FROM THE DEVELOPER TO MAKE THE SANITARY SEWER AVAILABLE FOR USE, THE DISTRICT WILL ACCEPT AND ALLOW THE SANITARY SEWER PORTION OF THIS PROJECT TO BE ACTIVATED FOR SERVICE.

## SANITARY MANHOLE CONSTRUCTION:

CONSTRUCT MANHOLE WITH LID/CASTING SET TO FINISHED GRADE. LID MUST BE EXPOSED, IN PAVEMENT, BINDER COURSE IS TO BE RAMPED AROUND FRAMES TO PROTECT FROM EQUIPMENT STRIKES IF THE FINAL LEVELING COURSE IS NOT INSTALLED FOR A SEASON OR MORE.

SANITARY MANHOLE FRAME TO CONE SEALS (CHIMNEY SEALS) SHALL CONSIST OF AN EXTERNAL CANUSA WRAP SEAL INSTALLATION. THE MANHOLE INSTALLATION PROCEDURES ARE TO BE FOLLOWED FOR PREPARATION AND INSTALLATION OF THE CANUSA WRAP SEAL.

IF IT BECOMES NECESSARY TO RE-ADJUST ANY MANHOLE FRAME ELEVATION, REINSTALL THE NECESSARY PORTIONS OF THE CHIMNEY SEAL AND CONTACT THE DISTRICT FOR FINAL VISUAL INSPECTION OF THE CHIMNEY SEAL PRIOR TO ANY BACKFILLING.

MANHOLE SPECIFICATIONS: PROVIDE PRECAST REINFORCED CONCRETE MANHOLE SECTIONS, CONES, BOTTOMS, AND FLAT TOP SLABS COMPLYING WITH ASTM C478.

DESIGN FLAT TOP SLABS FOR HS20-44 LOADINGS.

PROVIDE ECCENTRIC CONE SECTION.

PROVIDE PRECAST REINFORCED CONCRETE MONOLITHIC BASES WITH PRECAST INVERT AND BENCHES FOR NEW SEWER LINES.

THE EXTERIOR OF MANHOLE ELEMENTS ARE TO BE "WATERPROOFED" WITH A FACTORY APPLICATION OF CONSEAL CS-55 (PER MANUFACTURER'S SPECIFICATIONS).

JOINTS FOR PRECAST SECTIONS: PROVIDE TONGUE AND GROOVE JOINTS WITH EITHER FLEXIBLE WATERTIGHT RUBBER GASKETS OR PREFORMED BITUMINOUS MASTIC GASKETS CONSISTING OF A HOMOGENEOUS BLEND OF REFINED HYDROCARBON RESINS AND PLASTICIZING COMPOUND REINFORCED WITH INERT MINERAL FILLER.

ACCEPTABLE PREFORMED GASKET PRODUCTS:

K.T. SNYDER CO., RIM-NEK, OR EQUAL

CONCRETE SEALANTS, TYPE CS-102, OR EQUAL.

ON THE EXTERIOR OF BARREL TO BARREL JOINTS, APPLY MAC WRAP WATERPROOFING STRIPS (MAR MAC COMPANY).

## STEPS:

PROVIDE STEPS WITH A MINIMUM WIDTH OF 12 INCHES AND A MINIMUM PROJECTION OF 5 INCHES. STEPS SHALL BE PROVIDED ON 16" CENTERS.

USE STEPS CONSISTING OF COPOLYMER POLYPROPYLENE PLASTIC WITH CONTINUOUS 1/2-INCH STEEL REINFORCEMENT AS MANUFACTURED BY M.A. INDUSTRIES, INC.

## FRAMES AND LIDS:

PROVIDE CAST IRON FRAMES AND LIDS WITH SOLID SELF-SEALING LIDS AND MACHINED BEARING SURFACES, STAMPED WITH THE WORD "SANITARY".

ACCEPTABLE PRODUCTS: NEENAH R-1712, EAST JORDAN 1050 SD EXTRA HEAVY DUTY OR EQUAL.

PROVIDE BOLTED AND GASKETED COVERS WHERE DIRECTED BY THE DISTRICT.

ACCEPTABLE PRODUCTS: NEENAH R-1916-C, EAST JORDAN 1058 WT OR EQUAL.

## ADJUSTMENT OF FRAMES AND COVERS:

IN PAVED AREAS: SO THAT THE TOP OF THE COVER WILL BE FLUSH WITH THE FINISHED PAVEMENT WITH PRECAST CONCRETE ADJUSTING RINGS NOT TO EXCEED 12 INCHES ACCOMPLISHED THROUGH A MAXIMUM OF 2 RINGS, FRAMES AND ADJUSTMENT RINGS SHALL BE SEALED WITH TROWELABLE MASTIC TO MINIMIZE SETTLEMENT.

## FLEXIBLE PIPE CONNECTORS:

PROVIDE FLEXIBLE RUBBER GASKET COLLAR FOR CONNECTING PIPES TO THE MANHOLE OPENINGS.

FOR PIPE 24-INCH AND SMALLER, USE PSX GASKET SYSTEM BY PRESS-SEAL GASKET CORPORATION, OR EQUAL.

FOR PIPE 27-INCH AND LARGER, USE RESILIENT GASKET BY A-LOK PRODUCTS, INC., OR EQUAL.

## MANHOLE DROP CONNECTIONS:

8-INCH TO 12-INCH DIAMETER DROP: PVC SDR 26.

DROP SHALL BE PRECAST AND CONSTRUCTED VERTICALLY AND PARALLEL TO THE OUTSIDE OF THE MANHOLE.

OVER 12-INCH DIAMETER DROP: DUCTILE IRON CLASS 50.

ENCASE ENTIRE DROP PIPE FROM BASE OF MANHOLE TO 6 INCHES ABOVE TOP OF INCOMING SEWER WITH 4000 PSI CONCRETE AT A MINIMUM THICKNESS OF 6 INCHES.

DROP SHALL BE CONSTRUCTED VERTICALLY AND PARALLEL TO THE OUTSIDE OF THE MANHOLE.

ENCASE DROP ELBOW AT BASE OF MANHOLE ONLY IN CONCRETE.

ENCASE TO 2 FEET ABOVE TOP OF ELBOW.

UTILIZE DUCTILE IRON RESTRAINED JOINT PIPE AND FITTINGS FOR DROP ELBOW, PIPE, AND DUCTILE IRON TEE AT INCOMING SEWER.

SUPPORT DROP PIPE TO MANHOLE WALL WITH STAINLESS STEEL BRACKETS AND STRAPPING WHERE DROPS ARE OVER 10 FEET LONG.

PVC DROPS OVER 12-INCH DIAMETER WITH TOTAL CONCRETE ENCASEMENT MAY BE UTILIZED IF APPROVED BY THE DISTRICT. NO INTERNAL DROPS ARE ALLOWED.

## CONNECTIONS TO EXISTING SEWERS:

AT LOCATIONS WHERE A SANITARY SEWER IS PROPOSED ON AN EXISTING LINE THE MANHOLE SHALL BE PLACED BY UTILIZING THE FOLLOWING PROCEDURE. "DOCK HOUSING" IS PROHIBITED. ALL BASE AND LOWEST SECTIONS OF THE MANHOLE SHALL BE MONOLITHIC.

THE EXISTING PIPES SHALL BE CUT SMOOTH APPROXIMATELY 5' FROM THE OUTSIDE OF THE PROPOSED MANHOLE. LENGTHS OF IDENTICAL PIPE SHALL BE FITTED WITH NON-SHEAR COUPLINGS AND THEN ATTACHED TO THE MANHOLE USING BOOTED CONNECTIONS.

DOCKHOUSING OR PLACING STRUCTURES DIRECTLY OVER THE EXISTING LINES IS NOT PERMITTED.

## SANITARY MANHOLE TESTING:

ALL SANITARY MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE TREATMENT WORKS SECTION 370.330E.2.

THE CONTRACTOR SHALL NOTIFY THE KISHWAUKEE WATER RECLAMATION DISTRICT 24 HOURS IN ADVANCE OF THE TESTING PROCEDURES.

MANHOLES SHALL BE TESTED FROM THE TOP OF THE FRAME ON DOWN.

REMOVE LID AND PLACE VACUUM TESTER HEAD ON TOP PORTION OF FRAME. DRAW VACUUM OF 10 INCHES HG (MERCURY)

TIME FOR VACUUM TO DROP TO 9 INCHES HG SHALL NOT BE LESS THAN 40, 50, OR 60 SECONDS FOR MANHOLE DIAMETERS OF 48, 60, AND 72 INCHES, RESPECTIVELY.

FOR MANHOLES DEEPER THAN 20 FEET, TEST TIMES SHALL BE INCREASED BY 2 SECONDS PER FOOT OF ADDITIONAL MANHOLE DEPTH.

MANHOLES THAT FAIL SHALL BE SEALED AND RETESTED BY CONTRACTOR UNTIL MANHOLE IS ABLE TO PASS TEST. ISOLATE AND REPAIR ANY LEAKING JOINTS, PIPE SEALS, ETC. OBTAIN PRE-APPROVAL OF REPAIR MATERIALS AND METHODS FROM KISHWAUKEE WATER RECLAMATION DISTRICT. LEAKS MUST BE REPAIRED EXTERNALLY (AVANTI PRODUCT OR SIMILAR), "WIPING" OF MORTAR OR SEALANTS ON INSIDE OF SURFACE OF MANHOLE WILL NOT BE ACCEPTED.

## GREASE INTERCEPTORS:

ALL NEW CONSTRUCTION OF COMMERCIAL OR INSTITUTIONAL FOOD SERVICE ESTABLISHMENTS SHALL REQUIRE A GREASE INTERCEPTOR AS PER THE KWRD STANDARD DETAIL

## SEWER PIPE & FITTINGS SPECIFICATIONS:

### DUCTILE-IRON PIPE AND FITTINGS:

DUCTILE IRON PIPE: AWWA C151; THICKNESS AWWA C150; INTERIOR CEMENT LINING AND BITUMINOUS COATINGS; EXTERIOR COAL TAR COATING, AWWA C104, PRESSURE CLASS 350. JOINTS SHALL BE AWWA C111 RUBBER RING SLIP SEAL OR PUSH-ON TYPE

PIPE: COMPLY WITH ANSI A21.51, CLASS 50.

FITTINGS: COMPLY WITH ANSI A21.10.

JOINTS: COMPLY WITH ANSI A21.11.

ALL PIPE AND FITTINGS SHALL BE CEMENT LINED IN ACCORDANCE WITH ANSI A21.4, STANDARD THICKNESS.

ALL DUCTILE IRON PIPES SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT. THIS MAY BE WAIVED IF THE APPLICANT PROVIDES THE KISHWAUKEE WATER RECLAMATION DISTRICT WITH SUFFICIENT SOIL INFORMATION TO INDICATING THAT EXISTING SOILS WILL NOT ADVERSELY AFFECT THE PIPE.

### PVC PIPE AND FITTINGS:

PVC PLASTIC SEWER PIPE AND FITTINGS (DEPTHS OF 20' OR LESS)

POLYVINYL CHLORIDE (PVC) PIPE: ASTM D3034, HEAVY WALL SEWER PIPE: SDR-26. JOINTS SHALL BE ASTM D3212 FLEXIBLE ELASTOMERIC SEALS.

PIPE AND FITTINGS: NOMINAL SIZES UP TO 15" IN DIAMETER SHALL AT A MINIMUM, BE ASTM D-3034; NOMINAL SIZES 18", 21" AND 24" SHALL MEET THE REQUIREMENTS OF ASTM F-479 AS APPLICABLE TO T-1 MATERIALS. FOR ALL SIZES, THE STANDARD DIMENSION RATIO (SDR) SHALL BE NO LESS THAN SDR-26.

JOINTS: PVC SEWER PIPE JOINTS SHALL BE FLEXIBLE ELASTOMERIC SEALS PER ASTM D-3212.

PVC HEAVY WALL GRAVITY SEWER PIPE (DEPTHS GREATER THAN 20')

PVC PIPE SHALL CONFORM TO AWWA C900/C905, DEPENDING ON DIAMETER. DIMENSION RATIO SHALL BE INDICATED ON THE PLANS AND SHALL BE NO GREATER THAN 21.

JOINTS SHALL BE ELASTOMERIC PUSH-ON TYPE JOINTS IN ACCORDANCE WITH ASTM F477 AND SHALL BE PRESSURE RATED IN ACCORDANCE WITH ASTM D3139

PVC WATER MAIN QUALITY PIPE (LARGE DIAMETER AT DEPTH GREATER THAN 20')

PIPE AND FITTINGS: NOMINAL SIZES 14", 16", 18", 20", 24" AND 30" SHALL MEET THE REQUIREMENTS OF AWWA STANDARDS ANSI/AWWA C-905.

### HIGH DENSITY POLYETHYLENE SEWER PIPE (HDPE):

HDPE SHALL BE SDR 11 OR AS APPROVED BY THE DISTRICT

CELL CLASSIFICATION OF PE345464C OR GREATER PER ASTM D3350

THE USE OF HDPE AND ALL FITTINGS WILL BE APPROVED BY THE DISTRICT ON A CASE-BY-CASE BASIS.

ALL HDPE WELDS SHALL BE CERTIFIED THROUGH THE USE OF A DATALOGGER.

TWO TRACER WIRES SHALL BE INSTALLED WITH THE HDPE PIPE.

### COUPLINGS:

PROVIDE NON-SHEAR FLEXIBLE RUBBER COUPLINGS WITH ADJUSTABLE STAINLESS STEEL BANDS FOR CONNECTING NEW PIPE TO EXISTING SEWER PIPE AND FOR REPAIRING SEWER PIPE.

ACCEPTABLE PRODUCTS: NON-SHEAR COUPLINGS BY DFW PLASTICS/HEFCO PLASTICS, INC., OR FERNOCO

## CONSTRUCTION STANDARDS:

ALL PIPE SHALL BE INSPECTED AND APPROVED BY THE DISTRICT OR DISTRICT'S AGENT PRIOR TO INSTALLATION.

PROVIDE MINIMUM COVER OF 5 FEET ABOVE TOP OF PIPE WHERE PIPE CROSSES BENEATH PAVED AREAS SUCH AS STREETS AND DRIVEWAYS AND A MINIMUM COVER OF 4 FEET IN UNPAVED AREAS.

SANITARY SEWER INSTALLATION SHALL NOT START UNTIL MASS GRADING HAS BEEN COMPLETED.

PIPE SHALL BE LAID AT A CONSTANT PITCH ON A STRAIGHT LINE FROM MANHOLE TO MANHOLE. CURVILINEAR SANITARY SEWERS OR SEWERS WITH DEFLECTED PIPES ARE PROHIBITED.

ALL CHANGES IN PIPE MATERIAL, CLASS, SIZE, SLOPE AND DIRECTION SHALL BE MADE AT A MANHOLE UNLESS APPROVED BY THE DISTRICT. ALL SANITARY SEWERS SHALL BE CONSTRUCTED WITH THE USE OF A PIPE LASER.

ALL SANITARY SEWER SERVICES SHALL BE SDR 26 WITH A MINIMUM INSIDE DIAMETER OF SIX-INCHES (6") WHEN INSTALLED CONCURRENT WITH MAIN INSTALLATIONS.

SANITARY SEWER SERVICES SHALL BE INSTALLED AT A MINIMUM SLOPE OF 1% (1/8" PER FOOT) FOR 6" DIAMETER SERVICES OR 2% (1/4" PER FOOT) FOR 4" DIAMETER SERVICES.

PLACE THE BUILDING SEWER PIPE/SERVICE ON A LAYER OF WASHED STONE CONFORMING TO IDOT GRADATION CA 7. PROVIDE A MINIMUM THICKNESS OF FOUR (4) INCHES UNDER THE PIPE BARREL AND TWO (2) INCHES UNDER BELLS. CAREFULLY PLACE AND COMPACT AROUND THE PIPE TO PROVIDE UNIFORM SUPPORT TO THE BOTTOM QUADRANT. BACKFILL PVC PLASTIC PIPE WITH BEDDING MATERIAL TO ONE (1) FOOT ABOVE TOP OF PIPE AND COMPACT IT PER THE DIRECTION OF THE DISTRICT.

## PIPE BEDDING AND COVERING:

PROVIDE GRANULAR PIPE BEDDING AND COVER MATERIAL OF WELL GRADED, WASHED, MIXTURE OF GRAVEL OR STONE AGGREGATE FREE OF CLAY, LOAM, DIRT, CALCAREOUS OR OTHER FOREIGN MATTER CONFORMING TO THE IDOT STANDARD SPECIFICATIONS' GRADATION NO. CA 7, OR THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS.

FOLLOWING PLACEMENT OF PIPE AND INSPECTION OF JOINTS, PROVIDE COMPACTED GRANULAR PIPE BEDDING AND COVER MATERIAL FOR THE FULL WIDTH OF THE TRENCH TO THE FOLLOWING LEVELS UNLESS OTHERWISE SHOWN ON THE DRAWINGS:

FOR PIPE SIZES 24-INCH AND SMALLER, EXCEPT FLEXIBLE THERMOPLASTIC PIPE: TO 4 INCHES ABOVE THE TOP OF THE PIPE.

FOR PIPE SIZES 27-INCH AND LARGER, EXCEPT FLEXIBLE THERMOPLASTIC PIPE: TO THE HORIZONTAL CENTERLINE (SPRINGLINE) OF THE PIPE.

FOR FLEXIBLE THERMOPLASTIC PIPES, INCLUDING PVC PLASTIC PIPE, AND OTHER FLEXIBLE TYPE PIPE: TO 12 INCHES ABOVE THE TOP OF THE PIPE.

## SEWER PIPE TESTING:

TESTING WILL INCLUDE LOW PRESSURE AIR TESTING, DEFLECTION TESTING OF ALL FLEXIBLE PIPE, SEGMENT LAMPING AND TELEVISION. ALL GRAVITY SEWER PIPE SHALL JETTED AND THE SYSTEM CLEANED OF DEBRIS PRIOR TO TELEVISION. THE KISHWAUKEE WATER RECLAMATION DISTRICT MUST BE NOTIFIED ON THE DATE WHEN PIPE CONSTRUCTION IS COMPLETED.

THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETION OF AIR TESTING ALL SANITARY SEWER LINES. THIS SHALL BE DONE IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN SECTION 311.10C OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

MANDREL DEFLECTION TESTING OF ALL FLEXIBLE PIPE SHALL NOT COMMENCE PRIOR TO 30 DAYS AFTER THE INSTALLATION OF THE LAST SECTION OF PIPE.

THE FULL LENGTH OF ALL SANITARY SEWERS SHALL BE TESTED AS SPECIFIED IN DIVISION 3, SECTION 31 OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

## PAVEMENT REPLACEMENT:

PAVEMENT REPLACEMENT SHALL DEPEND ON THE MAKE UP OF THE EXISTING PAVEMENT STRUCTURE AND BE IN ACCORDANCE WITH THE CITY OF DEKALB REQUIREMENTS FOR THE PAVEMENT IN QUESTION (SEE DISTRICT'S STANDARD DRAWINGS).

## CASING PIPES:

### STEEL CASING PIPE

STEEL CASING PIPE SHALL BE A MINIMUM OF 24" DIAMETER, SHALL HAVE A MINIMUM WALL THICKNESS OF 1/2" AND SHALL BE STEEL CONFORMING TO ASTM A-53, TYPE S, GRADE B. IT SHALL HAVE A 16 MIL BITUMINOUS COATING INSIDE OF AND OUT OF CASING PIPE. THICKNESS SHALL BE AS REQUIRED TO RESIST ALL LOADS INCLUDING, BUT NOT LIMITED TO SOIL STRUCTURES, VEHICLE DEAD LOADS, AS WELL AS VEHICLE LIVE LOADS AND LIVE LOAD SURCHARGES.

STAINLESS STEEL CASING SPACERS

CARRIER PIPE SHALL BE CENTERED WITHIN A CASING BY USE OF STAINLESS STEEL CASING SPACERS AS SHOWN ON THE PLANS. CENTER-TO-CENTER DIMENSIONS ARE TO BE PER THE DETAIL PROVIDED.

ACCEPTABLE MANUFACTURER: CASCADE WATERWORKS MANUFACTURING, CO - YORKVILLE, ILLINOIS - MODEL CCS, OR ACCEPTABLE ALTERNATIVE.

ALL WELDS AND METAL SURFACES SHALL BE CHEMICALLY PASSIVATED.

### CASING END SEALS

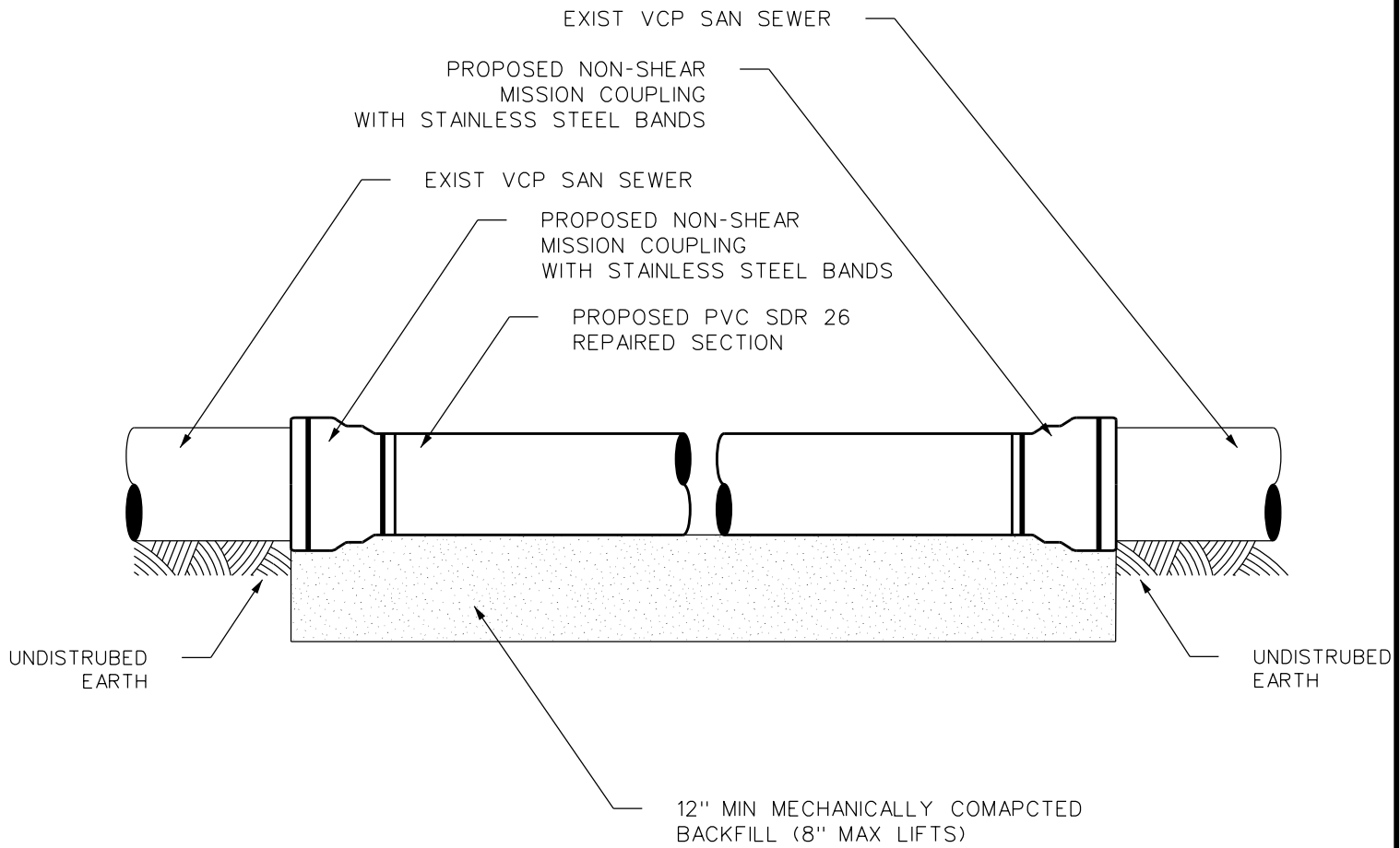
ENDS OF ALL CASING PIPES SHALL BE SEALED WITH A PREFABRICATED END SEAL CONSTRUCTED FROM VIRGIN SBR WITH T-305 STAINLESS STEEL BANDS, CASCADE MODEL CCESS WITH STAINLESS STEEL BANDS OR APPROVED EQUAL BRICK AND MORTAR ARE NOT PERMITTED

## CONSTRUCTION STANDARDS

NO MORE THAN 3 INCHES LATERAL AND 1 INCH VERTICAL DEVIATION FROM THE THEORETICAL ALIGNMENT SHALL BE PERMITTED IN THE POSITION OF THE COMPLETED SEWER PIPE AT ANY POINT ALONG THE ALIGNMENT.

SANITARY SEWER PROJECTS - STATUS MATRIX																
NOT AVAILABLE/AT OWN RISK: MEANS THE SANITARY SEWERS FOR THIS DEVELOPMENT HAVE NOT BEEN APPROVED FOR USE AND MAY BE ISOLATED FROM THE DISTRICT'S ACTIVE (LIVE) SANITARY SEWER SYSTEM.																
1) THE DISCHARGE OF ANY WASTEWATER TO THIS SYSTEM IS ILLEGAL AND NOT PERMITTED. 2) UNTIL THIS SEWER SYSTEM IS COMPLETED (AND PROTECTED FROM DAMAGE) IT MAY ACCUMULATE STORM AND/OR GROUND WATER. IT IS THE DEVELOPER'S RESPONSIBILITY TO MONITOR WATER LEVELS AND PUMP OUT THIS SYSTEM AS THE OWNER DEEMS NECESSARY. THE DISCHARGE FROM THE ABOVE "PUMP OUT" OPERATION IS NOT TO BE DIRECTED INTO ANY SANITARY SEWER. 3) ISOLATION PLUG "IN" MEANS A PLUG IS INSTALLED. TAMPERING WITH OR REMOVAL OF AN ISOLATION DEVICE MAY RESULT IN FINES, LEGAL ACTION AND/OR IMMEDIATE ARREST.																
MANHOLE FRAMES AND LIDS - FINAL CONDITION: ON MANY OCCASIONS, MANHOLE FRAMES ARE DAMAGED OR DISLODGED BY CONSTRUCTION EQUIPMENT OR SNOW PLOWS PRIOR TO INSTALLATION OF THE FINAL ROAD SURFACE. INADEQUATE RAMPING AND/OR ACTUAL BINDER SETTLEMENT ARE THE USUAL CAUSERS. MANHOLE FRAMES AND LIDS WILL BE RE-INSPECTED FOR DAMAGE AFTER APPLICATION OF THE FINAL ROAD SURFACE. ANY DEFICIENCIES SHALL BE RECTIFIED. BECAUSE OF THE POTENTIAL FOR EXTENDED PERIODS OF TIME BETWEEN SYSTEM ACCEPTANCE FOR SERVICE (1-YEAR WARRANTY BEGINS) AND FINAL ROAD SURFACE, FRAME AND LID ISSUES MAY NOT BE SUBJECT TO THE 1-YEAR WARRANTY PERIOD.																
TESTS AND REQUIREMENTS (MANHOLES AND PIPES FREE FROM ANY BREAKAGE, LEAKAGE MISALIGNMENT AND/OR DEBRIS):																
1) PIPE LEAKAGE/INFILTRATION TEST (LOW PRESSURE AIR) 6) MANHOLES AND PIPES FREE FROM BREAKAGE, LEAKAGE MISALIGNMENT AND/OR DEBRIS. (CCTV SEWER INSPECTION IS REQUIRED IF CONDITIONS WARRANT.)																
2) LAMPING (CCTV SEWER INSPECTION WILL BE REQUIRED IF CONDITIONS WARRANT)																
3) PIPE DEFLECTION (AFTER 30 DAYS - PVC ONLY) 7) RECORD DRAWINGS (ACCEPTABLE FORMAT) RECEIVED.																
4) MANHOLE VACUUM (FROM CONE DOWN OR FROM FRAME DOWN) 8) COSTS AND APPROPRIATE WAIVERS FOR PUBLIC PORTION OF SANITARY SEWER RECEIVED BY THE DISTRICT.																
5a) BINDER APPLIED, MANHOLE FRAME AT LEAST AT BINDER ELEVATION AND WATER-TIGHT (TEMPORARY) 9) WRITTEN REQUEST FROM THE DEVELOPER TO MAKE THE SEWER AVAILABLE FOR USE (ITEMS 1-8 COMPLETE).																
5b) MANHOLE FRAME AT FINAL GRADE ELEVATION WITH EXTERIOR SEAL IN PLACE AND RAMPED 10) ALL ORD. 496 FEES HAVE BEEN PAID TO THE DEKALB SANITARY DISTRICT (PROJECT PLAN REVIEW, ADMINISTRATION AND INSPECTION).																
DEVELOPMENT / PROJECT NAME	SANITARY SEWERS IN THIS PROJECT ARE: "AVAILABLE" OR "NOT AVAILABLE" FOR USE	CAN BUILDING LATERALS BE CONNECTED TO SANITARY SEWER MAINS? "NO" or "AT OWN RISK" or "YES."	OUTSTANDING TESTS AND REQUIREMENTS TO BE 100% COMPLETE BEFORE SEWER IS AVAILABLE FOR USE. (GREEN OR "X" OUT WHEN COMPLETE)										SYSTEM ISOLATION PLUG STATUS: ISO "IN" or "NONE INSTALLED" or "OUT"	NOTES, REMINDERS AND OTHER PROJECT ERRATA	DATE SYSTEM ACCEPTED BY KWRD	
"THIS PROJECT"	NOT AVAILABLE	NO	1	2	3	4	5a	5b	6	7	8	9	10	ISO IN		

Issue	Revisions	Date	Copyrights	Standard Sanitary Sewer Construction Details										Issue Date:
			THIS DRAWING SHALL NOT BE USED, REPRODUCED, MODIFIED OR SOLD EITHER WHOLLY OR IN PART, EXCEPT WHEN AUTHORIZED IN WRITING BY THE KISHWAUKEE WATER RECLAMATION DISTRICT.	<p>Kishwaukee Water Reclamation District</p> <p>1301 Sycamore Rd DeKalb, Illinois 60115 815.758.3513</p> <p>DeKalb, Illinois</p>										Scale: Sheet Number
														1



*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No. 1

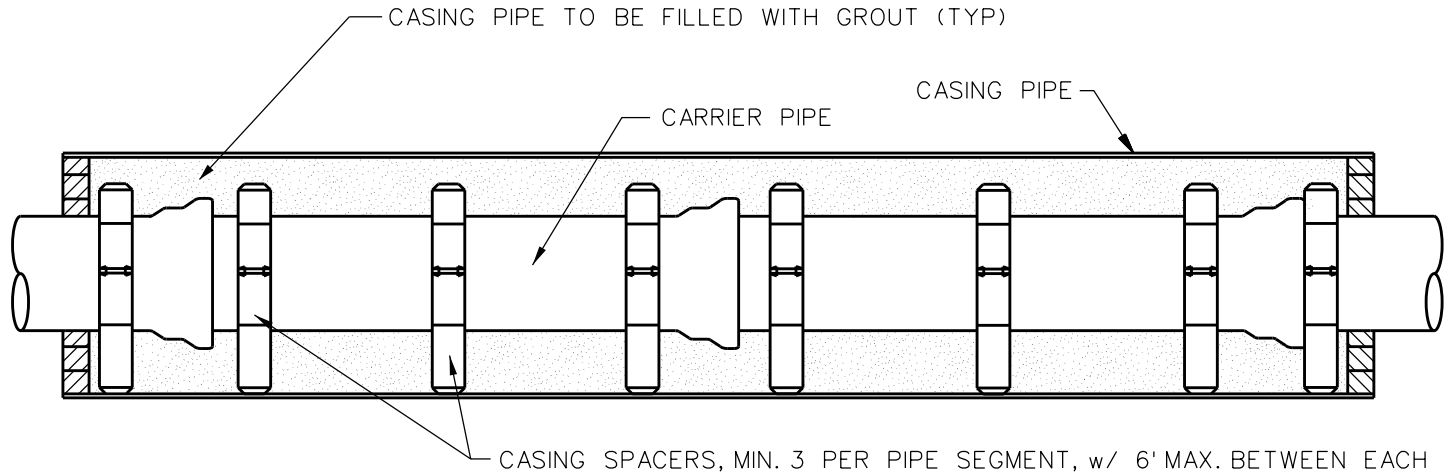
Existing Sanitary Sewer Spot  
Repair Detail

DATE: 11/04/21

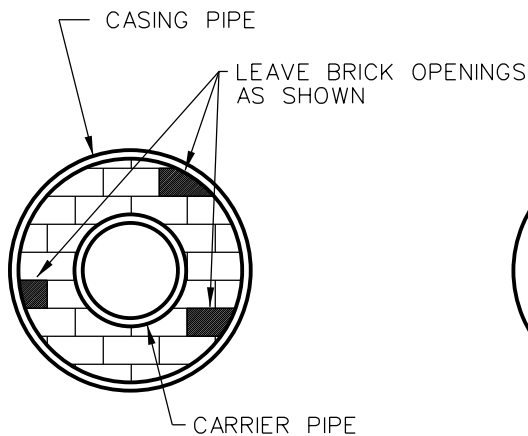
REV.:

NOTES:

1. CONTRACTOR TO INSTALL INTERLOCKING STEEL SHEETING OR CIRCULAR LINER PLATES TO SUPPORT WALLS OF PITS. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT DETAILS OF PITS TO THE ENGINEER FOR INFORMATIONAL PURPOSES. THE COST OF SHEETING/LINER PLATES SHALL BE INCLUDED IN THE COST FOR CASING PIPE. ALL SHEETING/LINERPLATES SHALL BE REMOVED FROM JACKING AND RECEIVING PIT AFTER JACKING OPERATIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PHYSICALLY VERIFYING ALL UTILITY CLEARANCES PRIOR TO BEGINNING INSTALLATION. EXPLORATORY TRENCHES SHALL BE REQUIRED AT ALL UTILITY CROSSINGS.
3. A MINIMUM OF 3 CASING SPACERS PER SEGMENT OF PIPE SHALL BE REQUIRED.
4. ALL CONTRACTOR'S OPERATIONS REGARDING CONSTRUCTION OF CASING PIPES, CARRIER PIPES AND APPURTENANCES TO BE CONDUCTED IN ACCORDANCE WITH STATE, CITY AND DISTRICT REQUIREMENTS.

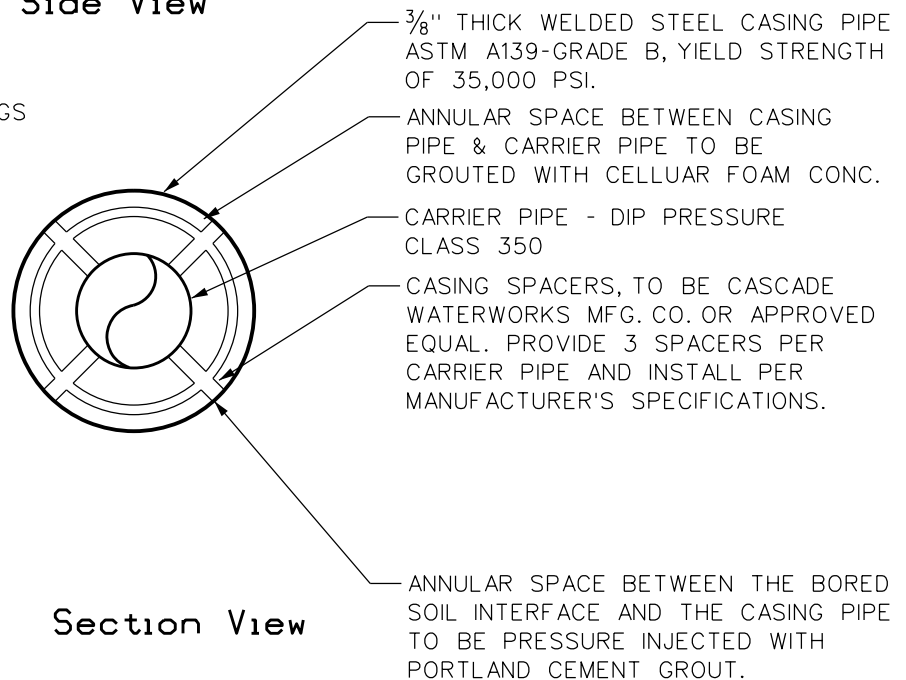


Side View



End View

EACH END OF CASING PIPE INSTALLATION TO BE BULKHEADED WITH 8" MORTARED BRICK AND CARRIER PIPE TO BE WRAPPED WITH (3) LAYERS OF FELT AT BULKHEAD.



Section View

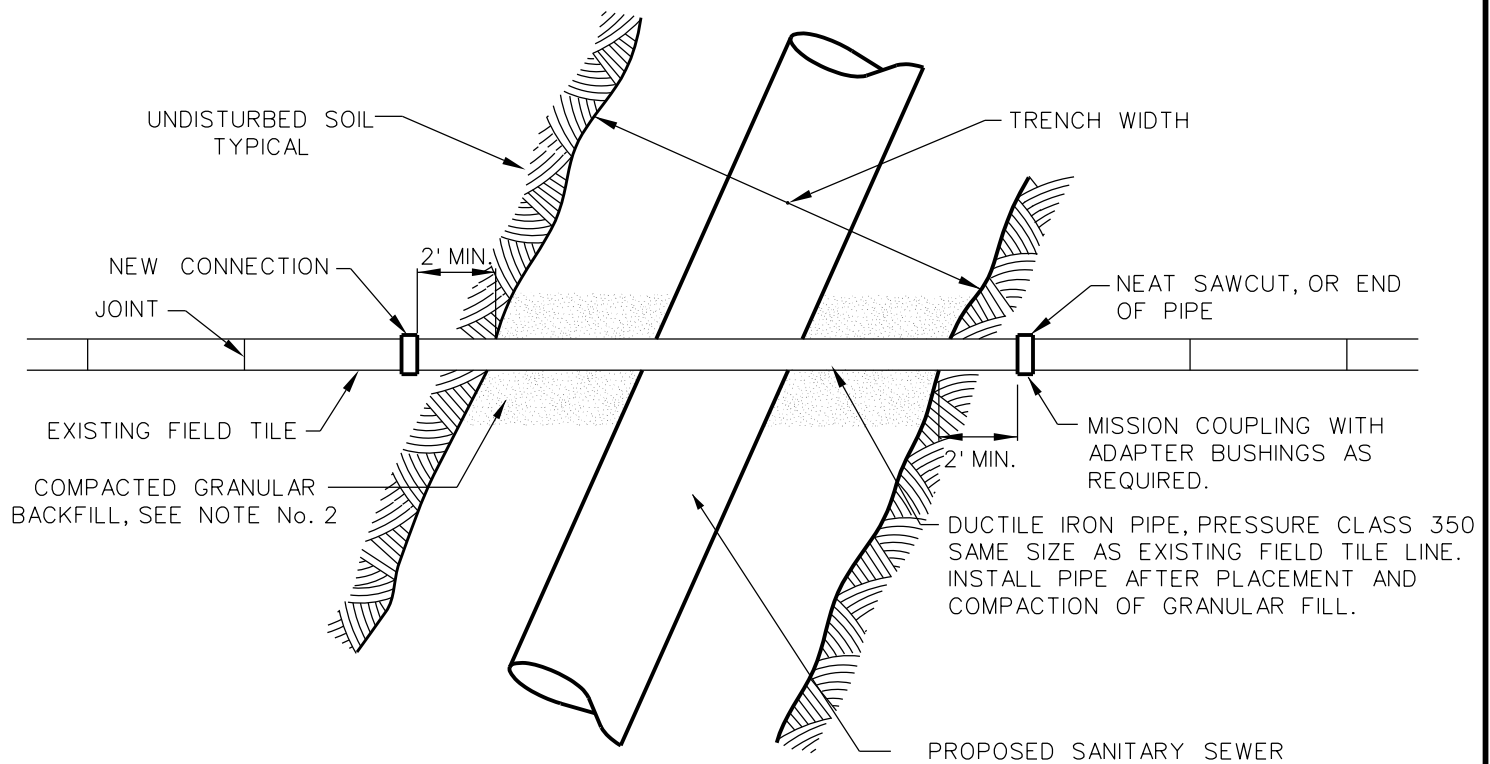
*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No.2

Casing Pipe Detail



NOTES:

1. ALL CONNECTIONS SHALL BE MADE WITH NON SHEAR MISSION COUPLING WITH STAINLESS STEEL BANDS, FERNCO OR APPROVED EQUAL.
2. COMPACT GRANULAR BACKFILL, IN 8" LIFTS, BENEATH FIELD TILE LINE TO 95% STANDARD PROCTOR DENSITY. THE COST OF GRANULAR BACKFILL AND MECHANICAL COMPACTION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF FIELD TILE REPLACEMENT.

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

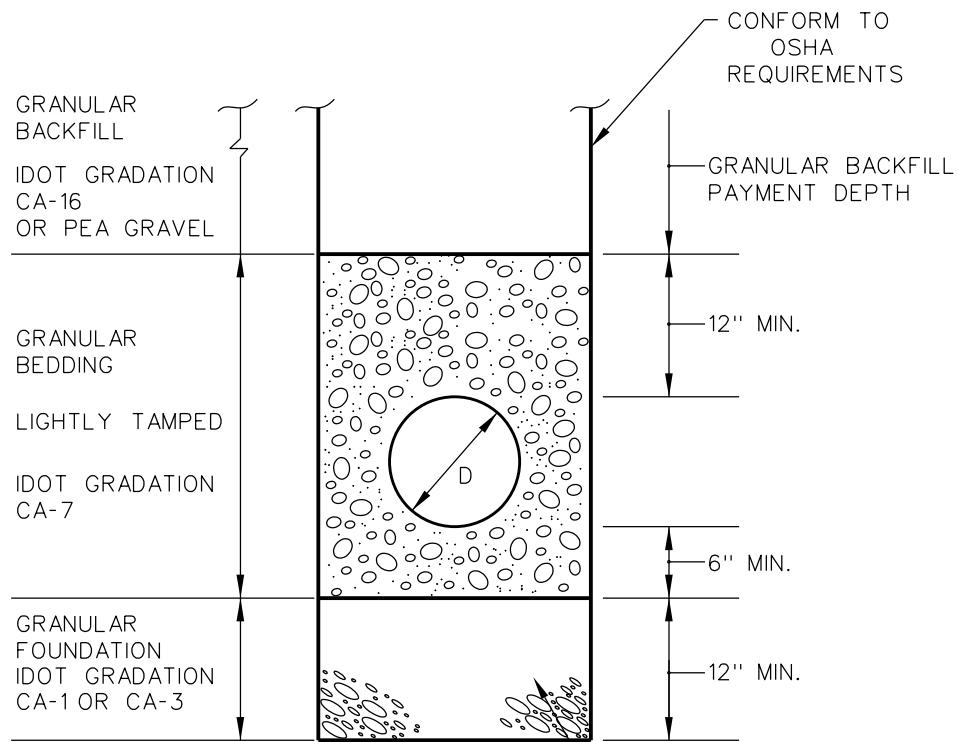
815.758.3513

DETAIL No. 3

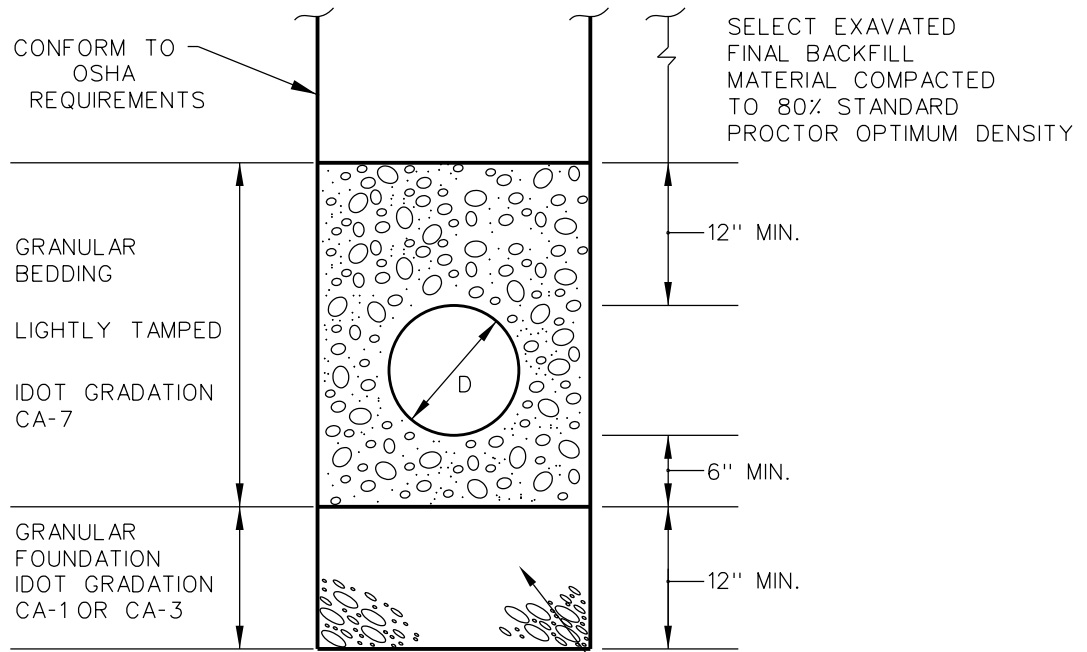
Replacement of Field Tile  
Lines Detail

DATE: 11/04/21

REV.:



SEE NOTE 1  
Structural Installation



SEE NOTE 1  
Non-Structural Installation

NOTES:

1. CONSTRUCT A GRANULAR FOUNDATION WHERE UNSUITABLE MATERIAL OR WET CONDITIONS ARE ENCOUNTERED AT THE BOTTOM OF THE TRENCH OR AS DIRECTED BY THE ENGINEER.

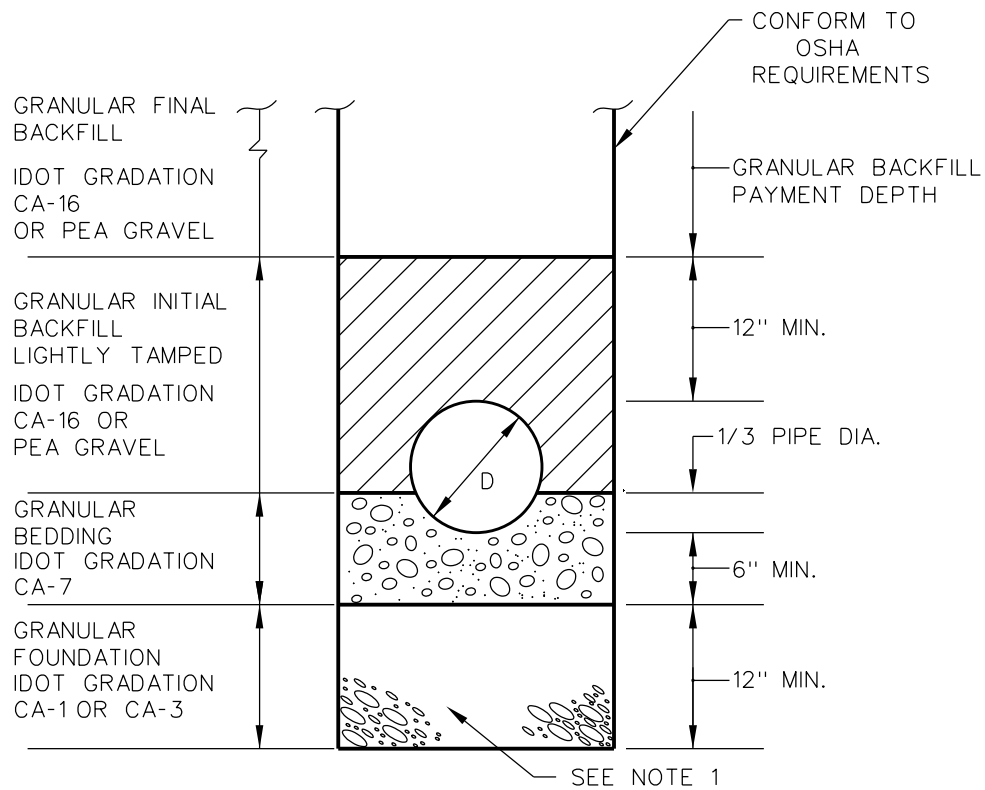
*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

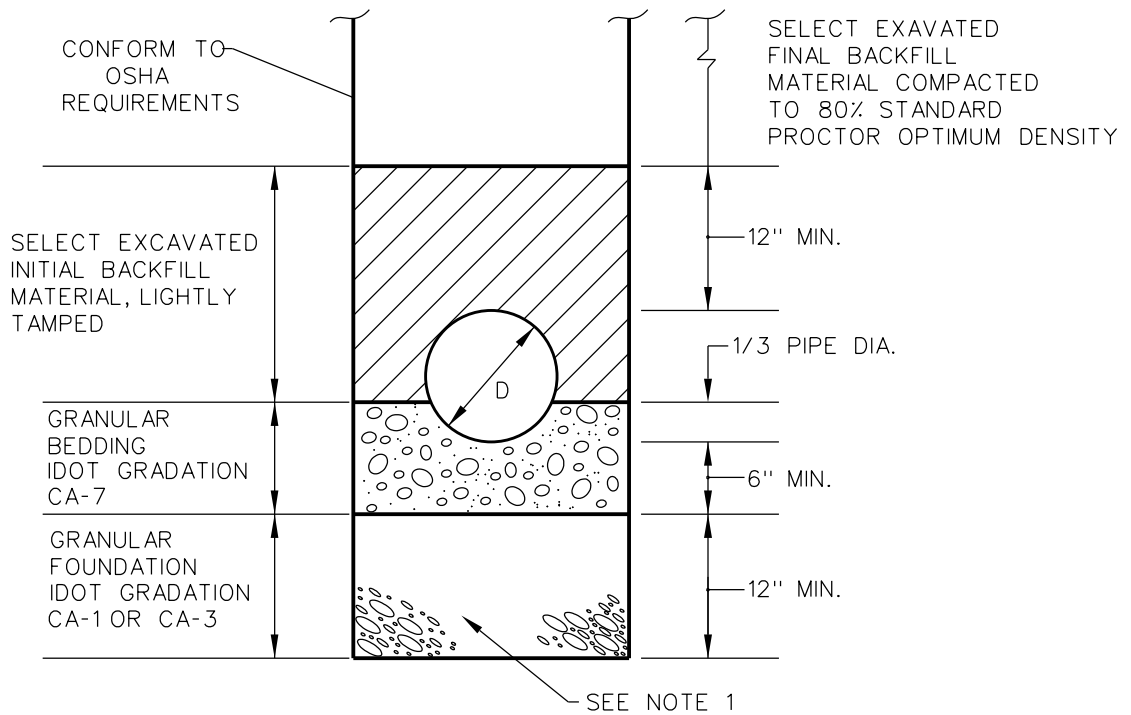
815.758.3513

DETAIL No. 4

Detail for Bedding and Backfilling  
Polyvinyl Chloride (PVC) Sewers



Structural Installation



Non-Structural Installation

NOTES:

1. CONSTRUCT A GRANULAR FOUNDATION WHERE UNSUITABLE MATERIAL OR WET CONDITIONS ARE ENCOUNTERED AT THE BOTTOM OF THE TRENCH OR AS DIRECTED BY THE ENGINEER.

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No.5

Detail for Bedding and Backfilling  
Ductile Iron Pipe Sewers

DATE: 11/04/21

REV.:

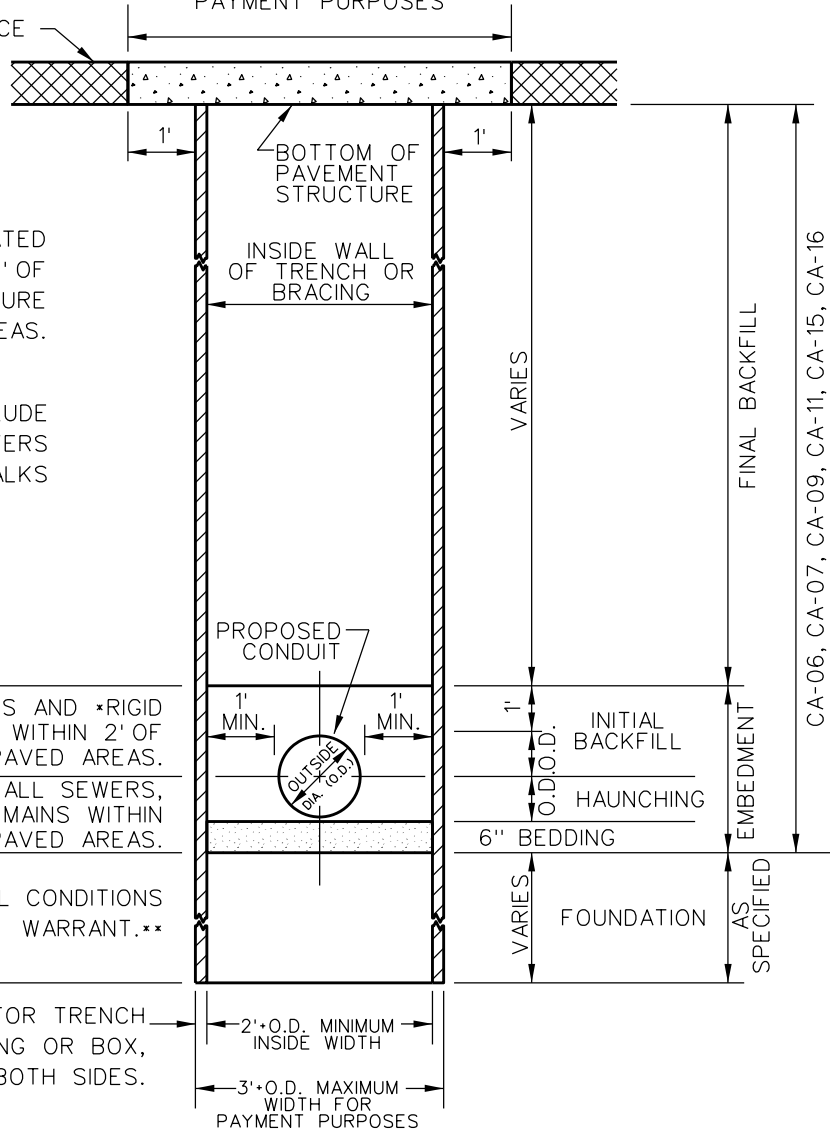
TERMINOLOGY, DIMENSIONS AND TYPE OF SELECT MATERIAL, WHEN REQUIRED.

SEE PLANS AND SPECIFICATIONS FOR SURFACE RESTORATION

IDENTIFICATION OF WHERE SELECT GRANULAR MATERIAL IF REQUIRED

WIDTH OF PERMANENT PAVEMENT REMOVAL & REPLACEMENT FOR PAYMENT PURPOSES

EXISTING SURFACE



\*ALL CONDUITS LOCATED UNDER OR WITHIN 2' OF EXISTING OR FUTURE PAVED AREAS.

PAVED AREAS INCLUDE STREETS, CURBS, GUTTERS SHOULDERS AND SIDEWALKS

ALL NON RIGID CONDUITS AND \*RIGID CONDUITS UNDER OR WITHIN 2' OF EXISTING OF PAVED AREAS.

ALL NON RIGID CONDUITS, AND ALL SEWERS, RIGID WATER MAINS AND FORCEMAINS WITHIN 2' OF EXISTING OF FUTURE PAVED AREAS.

WHERE SOIL CONDITIONS WARRANT.\*\*

6" ALLOWANCE FOR TRENCH SHORING, BRACING OR BOX, TYPICAL BOTH SIDES.

2' \*O.D. MINIMUM INSIDE WIDTH  
3' \*O.D. MAXIMUM WIDTH FOR PAYMENT PURPOSES

\*INDICATES ELIGIBLE FOR PAYMENT AS SELECT GRANULAR BACKFILL OTHERWISE INCIDENTAL TO THE PIPE.

\*\*INDICATES ELIGIBLE FOR PAYMENT AS SELECT FOUNDATION MATERIAL.

NON RIGID CONDUITS ARE DEFINED AS FLEXIBLE THERMOPLASTIC PIPE AND/OR CORRUGATED METAL PIPE.

***Kishwaukee Water Reclamation District***

1301 Sycamore Rd • DeKalb, Illinois 60115

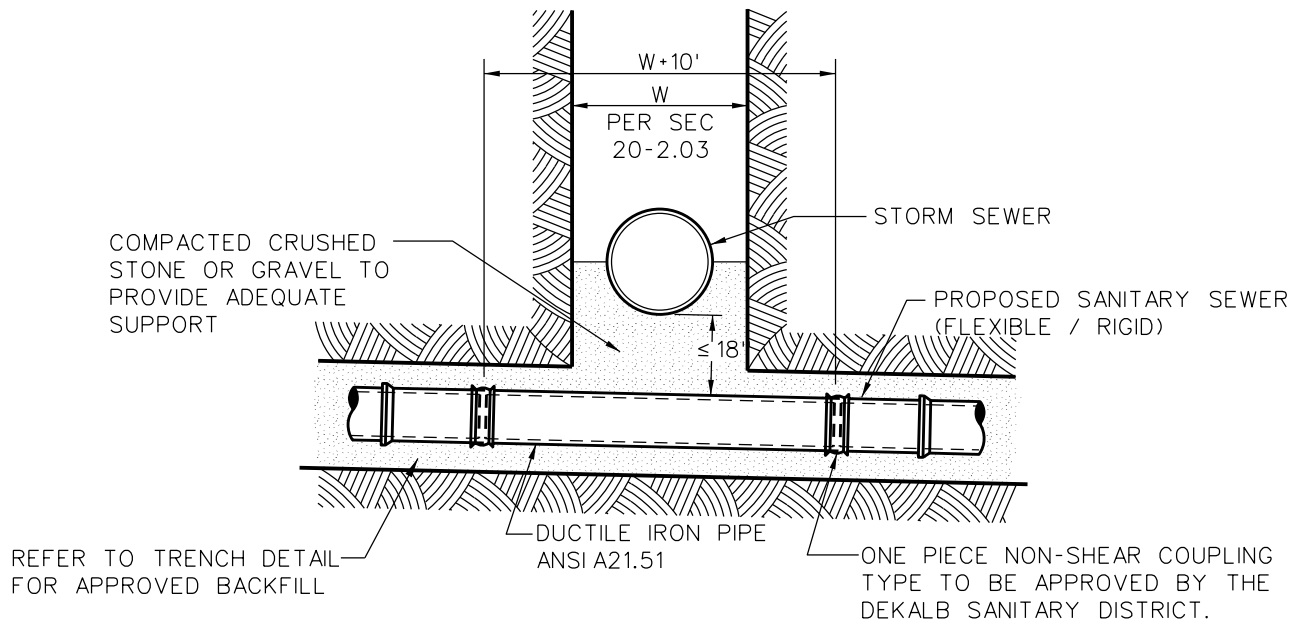
815.758.3513

DETAIL No. 6

Typical Detail of Conduit Installation

DATE: 11/04/21

REV.:



Sectional Elevation

NOTE:

DUCTILE IRON PIPE SHALL BE REQUIRED WHEN THE BOTTOM OF THE STORM SEWER IS WITHIN 18" OF THE TOP OF THE SANITARY SEWER. UNDER NO CIRCUMSTANCES SHALL THE STORM SEWER BE SUPPORTED BY THE SANITARY LINE.

Vertical Separation

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

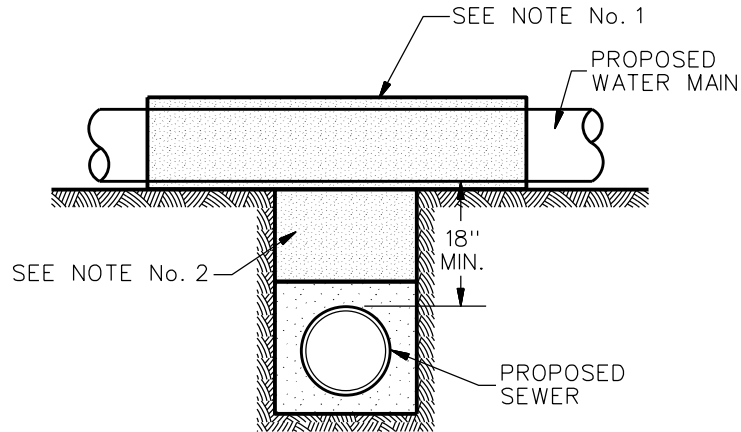
815.758.3513

DETAIL No. 7

Sanitary Sewer at Storm Sewer  
Crossing Detail

PROPOSED WATER MAIN ABOVE PROPOSED SEWER  
LINE WITH 18" MINIMUM SEPARATION.

NOTE: CLASS IV MATERIAL TO BE COMPACTED TO  
95% OF STANDARD PROCTOR MAXIMUM DENSITY.



GUIDELINES:

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF PIPE AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT FOR 10 FEET ON EITHER SIDE OF SEWER LINE.
2. IF SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.

Vertical Separation

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No.8

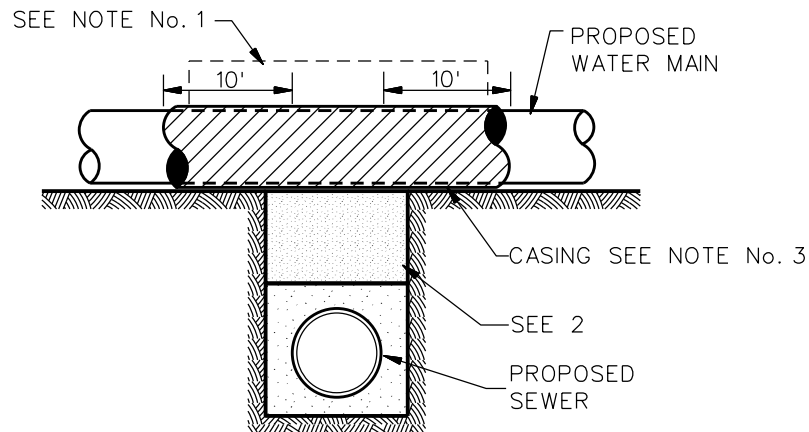
Water and Sewer Separation  
Requirement - Detail

DATE: 11/04/21

REV.:

PROPOSED WATER MAIN ABOVE PROPOSED SEWER  
LINE WITH LESS THAN 18" MINIMUM SEPARATION.

NOTE: CLASS IV MATERIAL TO BE COMPACTED TO  
95% OF STANDARD PROCTOR MAXIMUM DENSITY.



GUIDELINES:

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF PIPE AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT FOR 10 FEET ON EITHER SIDE OF SEWER LINE.
2. IF SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. USE A CASING FOR PROPOSED WATER MAIN AND SEAL ENDS OF CASING.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN OR WATER MAIN CASING AND SEWER.

Vertical Separation

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No. 9

Water and Sewer Separation  
Requirement - Detail

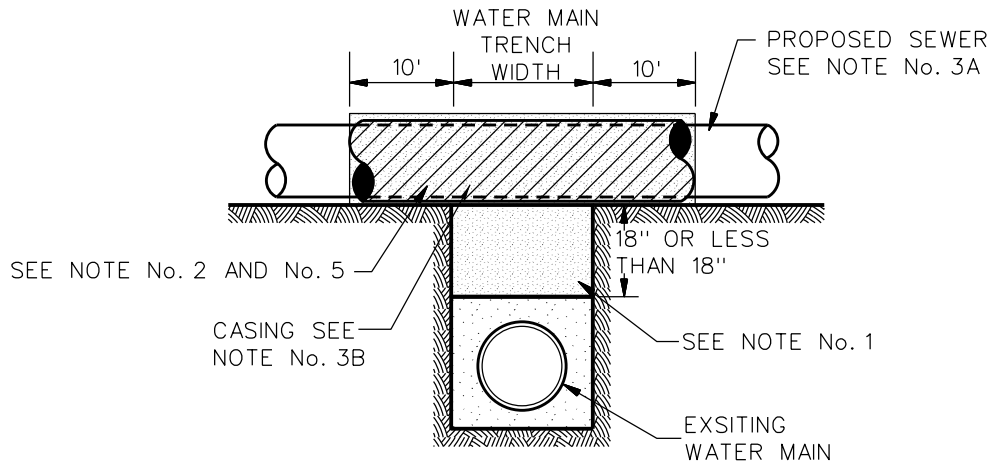
DATE: 11/04/21

REV.:

EXISTING WATER MAIN BELOW PROPOSED SEWER  
LINE WITH LESS THAN 18" MINIMUM SEPARATION.

EXISTING WATER MAIN BELOW PROPOSED SEWER  
LINE WITH 18" MINIMUM SEPARATION.

NOTE: CLASS IV MATERIAL TO BE COMPACTED TO  
95% OF STANDARD PROCTOR MAXIMUM DENSITY.



GUIDELINES:

1. IF SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
2. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF PIPE AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT FOR 10 FEET ON EITHER SIDE OF WATER MAIN.
3. A: PROPOSED SEWER CONSTRUCTED OF WATER MAIN MATERIAL (ACROSS WATER MAIN TRENCH PLUS 10 FT. EACH SIDE) AND PRESSURE TEST, OR;  
B: PROVIDE CASING FOR PROPOSED SEWER, TO EXTEND 10 FT. EACH SIDE OF WATER MAIN TRENCH AND SEAL ENDS OF CASING.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
5. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

Vertical Separation

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

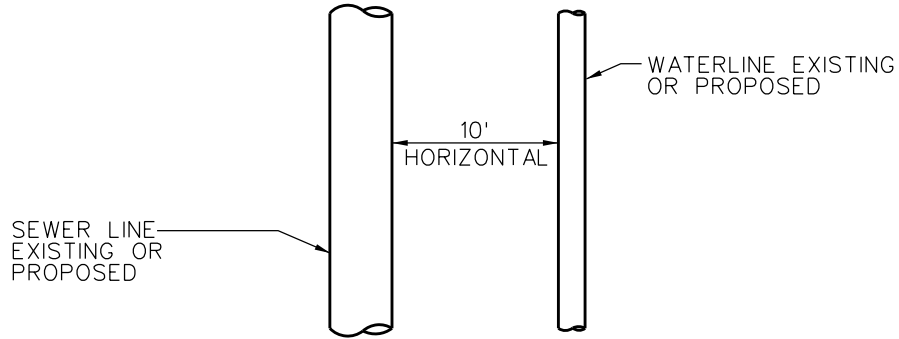
DETAIL No. 10

Water and Sewer Separation  
Requirement - Detail

DATE: 11/04/21

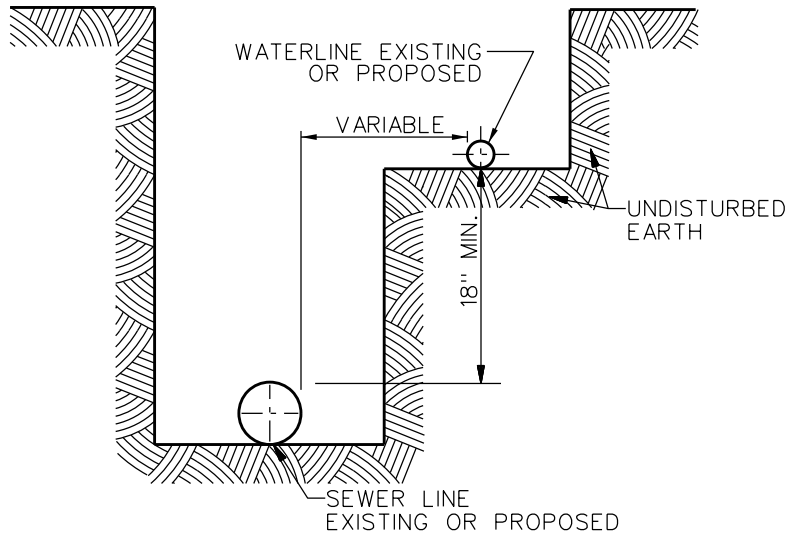
REV.:

PROPOSED SEWER (OR WATER) IS LOCATED 10 FEET OR MORE FROM EXISTING WATER (OR SEWER).



PLAN VIEW

PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10 FEET FROM EXISTING WATER (OR SEWER).



Horizontal Separation

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

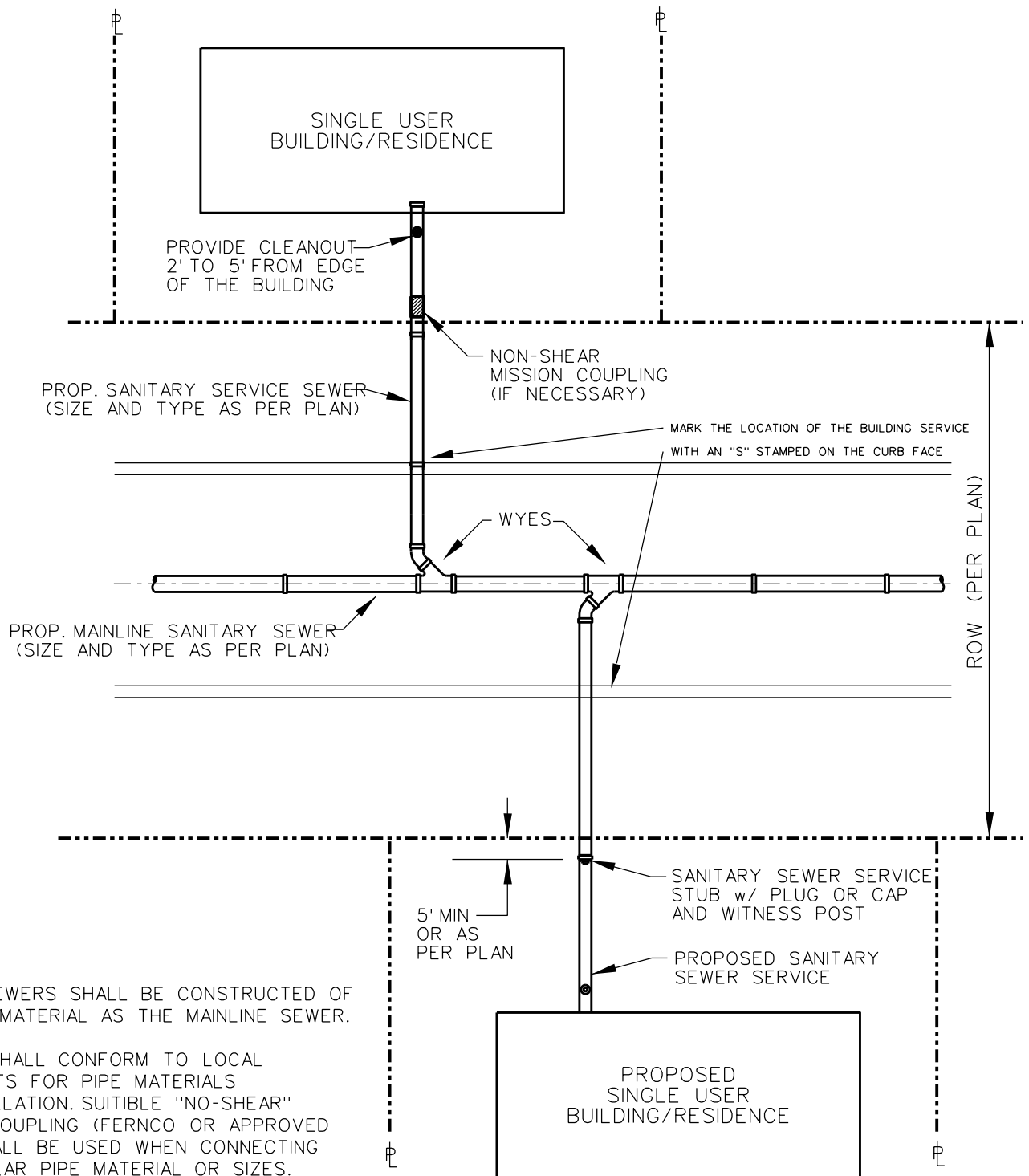
815.758.3513

DETAIL No.11

Horizontal Water and Sewer  
Separation Requirement - Detail

DATE: 11/04/21

REV.:



**NOTES:**

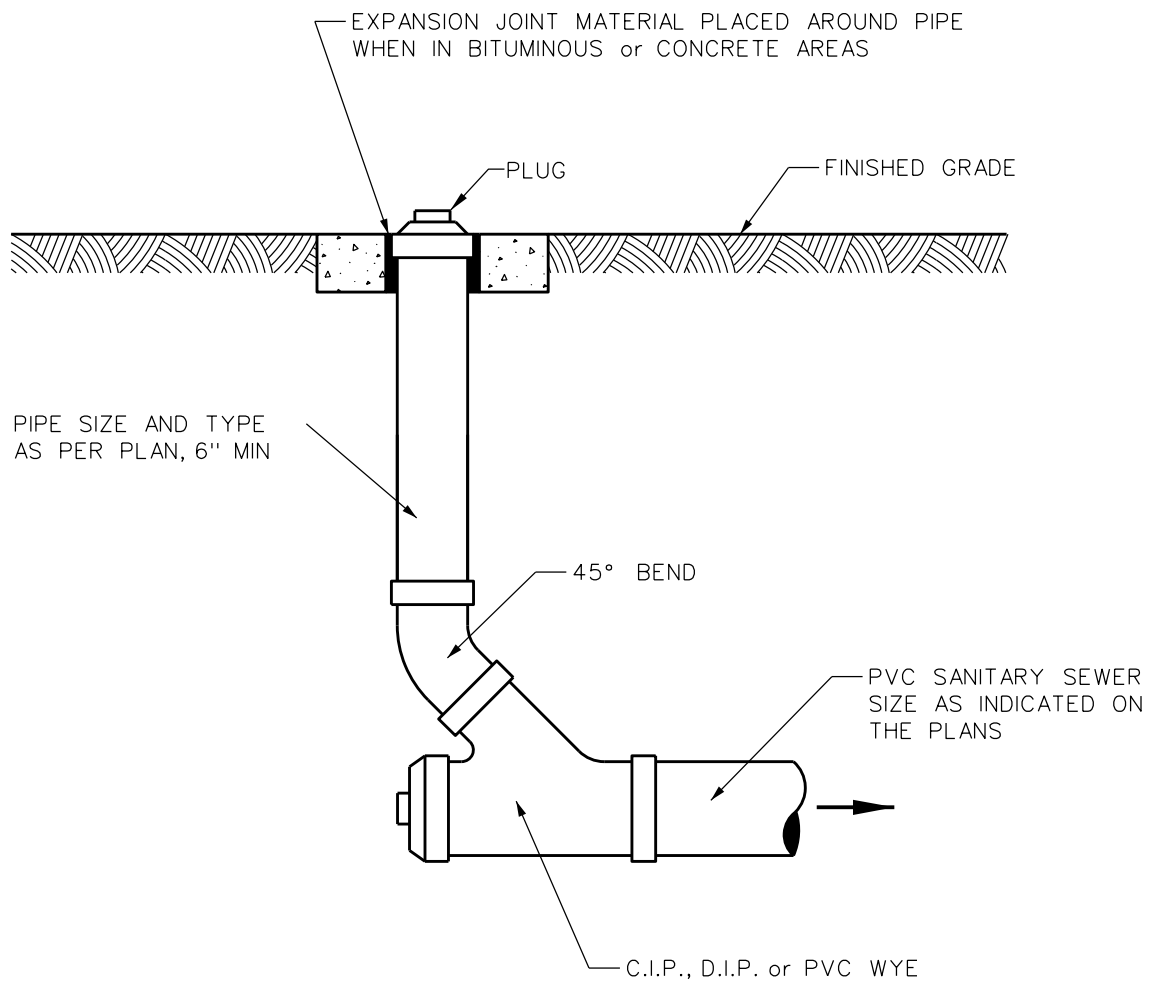
SERVICE SEWERS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE MAINLINE SEWER.

ALL PIPE SHALL CONFORM TO LOCAL EQUIREMENTS FOR PIPE MATERIALS AND INSTALLATION. SUITIBLE "NO-SHEAR" ADAPTER COUPLING (FERNCO OR APPROVED EQUAL) SHALL BE USED WHEN CONNECTING TO DISSIMILAR PIPE MATERIAL OR SIZES.

INSTALL 2~12 GA. COPPER "TRACER" WIRES DIRECTLY OVER THE CONSTRUCTED SERVICE, AT A DEPTH OF 18-24 INCHES FROM FINISH GRADE AND TERMINATING AS DIRECTED BY THE DISTRICT.

*Kishwaukee Water  
Reclamation District*  
1301 Sycamore Rd • DeKalb, Illinois 60115  
815.758.3513  
DETAIL No.12

Sanitary Sewer Service Detail  
DATE: 11/04/21  
REV.:



NOTES:

SANITARY SEWER SERVICE CLEANOUTS, AS DETAILED, SHALL BE INSTALLED

1. AT 100' INTERVALS, MEASURED FROM THE DOWNSTREAM CONNECTION
2. AT EVERY DEFLECTION OR BEND GREATER THAN 12 1/2'
3. AS DETAILED ON THESE PLANS
4. AS DIRECTED BY THE DISTRICT OR DISTRICT REPRESENTATIVE

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

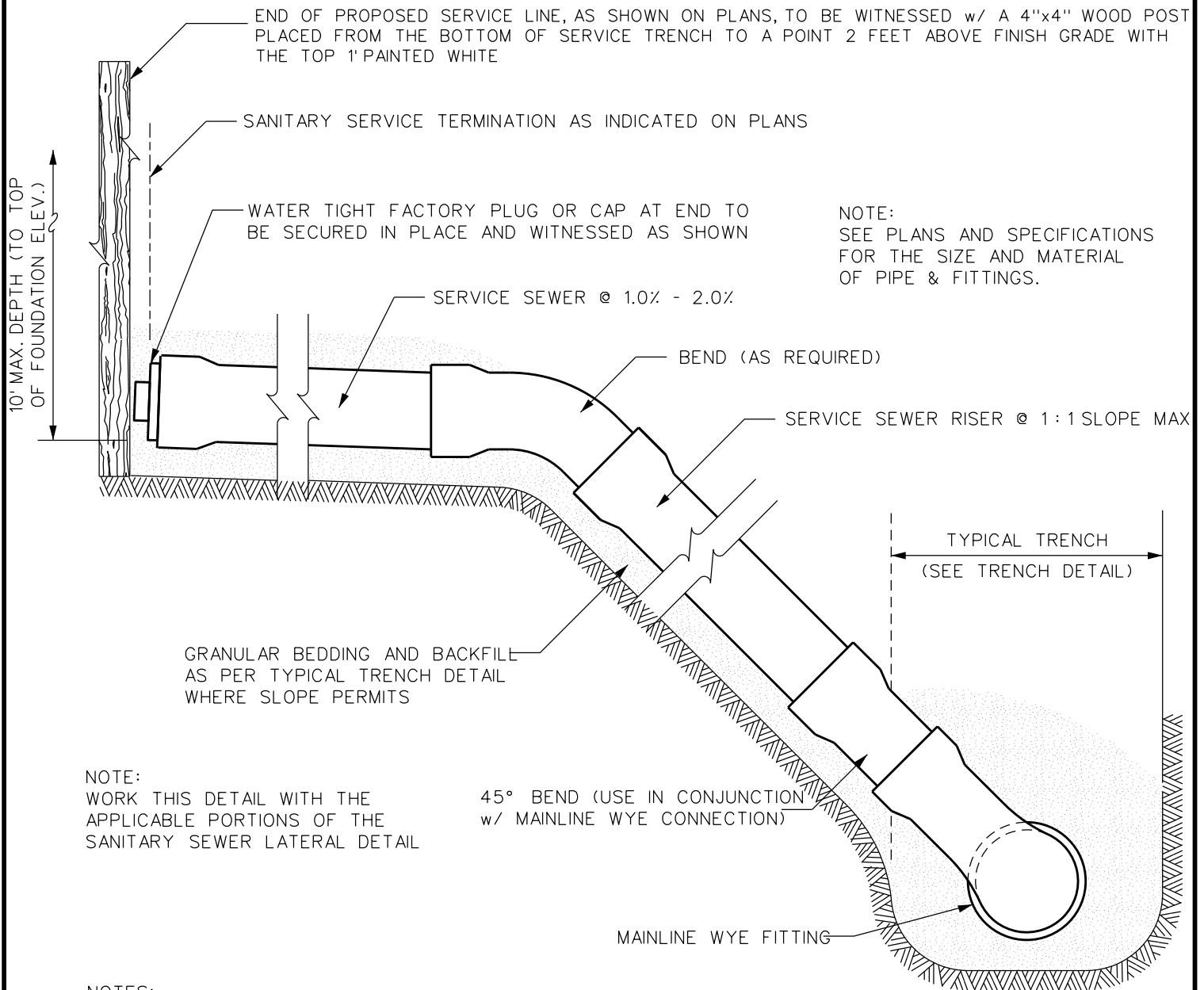
815.758.3513

DETAIL No. 13

Sanitary Service Cleanout Detail

DATE: 11/04/21

REV.:



NOTE:  
SEE PLANS AND SPECIFICATIONS  
FOR THE SIZE AND MATERIAL  
OF PIPE & FITTINGS.

NOTE:  
WORK THIS DETAIL WITH THE  
APPLICABLE PORTIONS OF THE  
SANITARY SEWER LATERAL DETAIL

45° BEND (USE IN CONJUNCTION  
w/ MAINLINE WYE CONNECTION)

NOTES:

THE DETAILED SERVICE RISER SHALL BE CONSTRUCTED IN LIEU OF THE STANDARD SERVICE SEWER, WHEN THE DEPTH OF THE PROPOSED SEWER SHALL EXCEED 12 FEET.

WHEN PLACED AT A SLOPE UNABLE TO SECURE THE REQUIRED BEDDING, THE RISER SHALL BE PLACED ON UNDISTURBED EARTH, SHAPED TO PROVIDE UNIFORM BEARING FOR 1/4 OF THE PIPE BARREL CIRCUMFERENCE.

SERVICE RISERS AND ALL ASSOCIATED FITTINGS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE MAINLINE SEWER, UNLESS OTHERWISE SPECIFIED.

ALL PIPE SHALL CONFORM TO LOCAL REQUIREMENTS FOR PIPE MATERIALS AND INSTALLATION. SUITIBLE "NO-SHEAR" ADAPTER COUPLING (FERNCO OR APPROVED EQUAL) SHALL BE USED WHEN CONNECTING TO DISSIMILAR PIPE MATERIAL OR SIZES.

MARK THE LOCATION OF THE BUILDNG SERVICE WITH AN "S" STAMPED ON THE FACE OF THE CURB

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

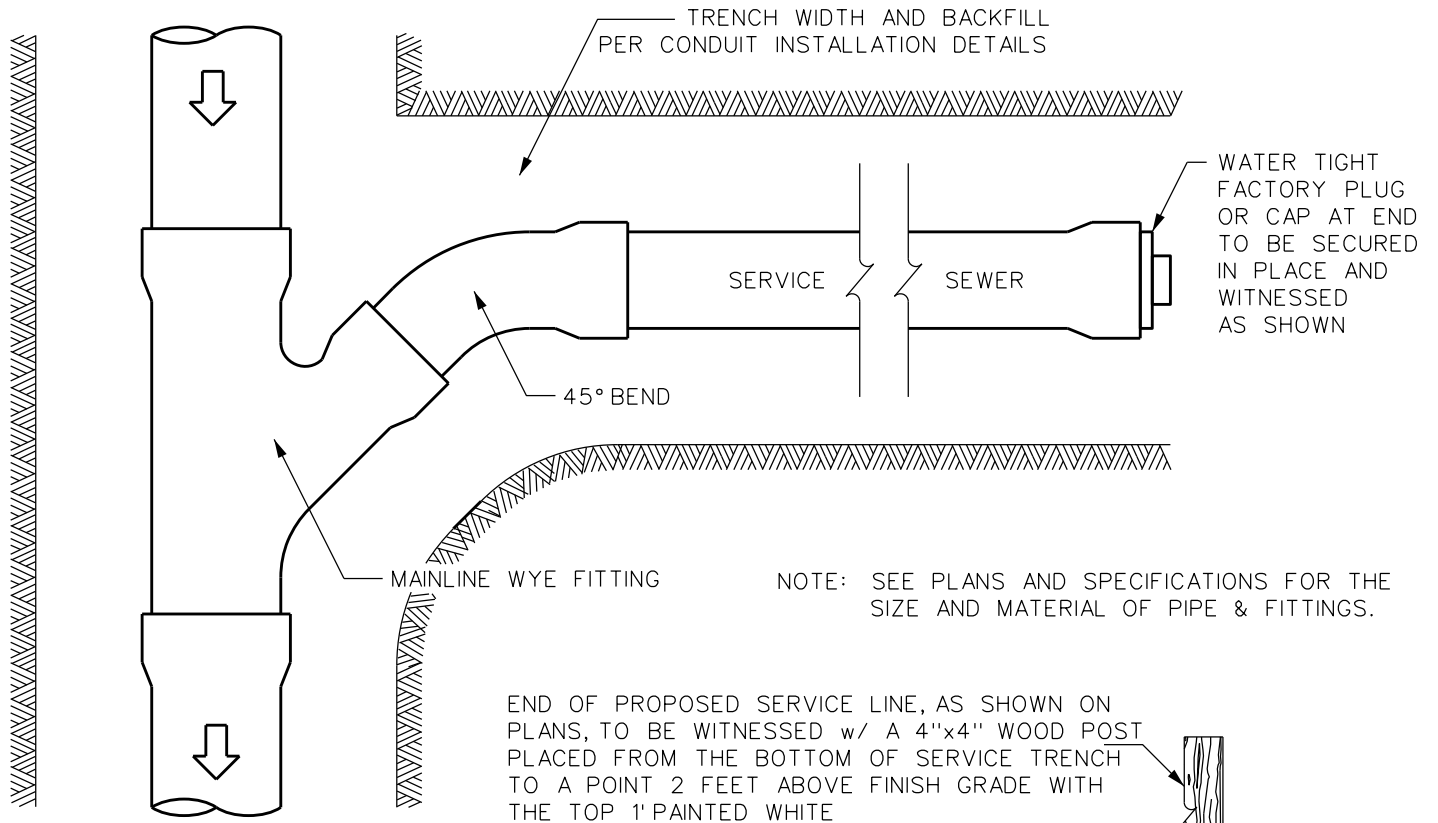
815.758.3513

DETAIL No. 14

Sanitary Sewer Service  
Riser Detail

DATE: 11/04/21

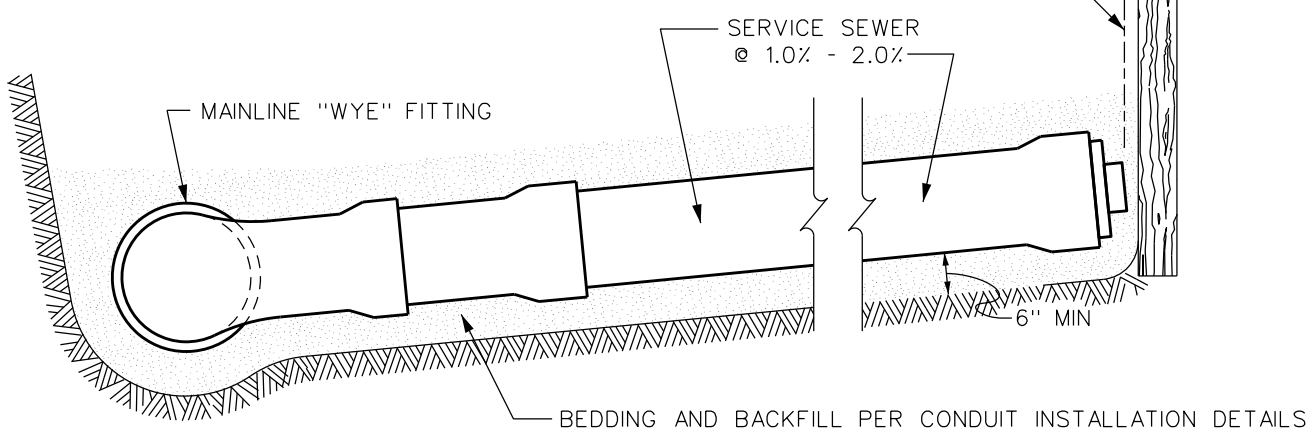
REV.:



NOTE: SEE PLANS AND SPECIFICATIONS FOR THE SIZE AND MATERIAL OF PIPE & FITTINGS.

END OF PROPOSED SERVICE LINE, AS SHOWN ON PLANS, TO BE WITNESSED w/ A 4"x4" WOOD POST PLACED FROM THE BOTTOM OF SERVICE TRENCH TO A POINT 2 FEET ABOVE FINISH GRADE WITH THE TOP 1' PAINTED WHITE

SANITARY SERVICE TERMINATION AS INDICATED ON PLANS



NOTES:

- SERVICE SEWERS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE MAINLINE SEWER.
- ALL PIPE SHALL CONFORM TO LOCAL REQUIREMENTS FOR PIPE MATERIALS AND INSTALLATION. SUITABLE "NO-SHEAR" ADAPTER COUPLING (FERNCO OR APPROVED EQUAL) SHALL BE USED WHEN CONNECTING TO DISSIMILAR PIPE MATERIAL OR SIZES.
- MARK THE LOCATION OF THE BUILDING SERVICE WITH AN "S" STAMPED ON THE FACE OF THE CURB

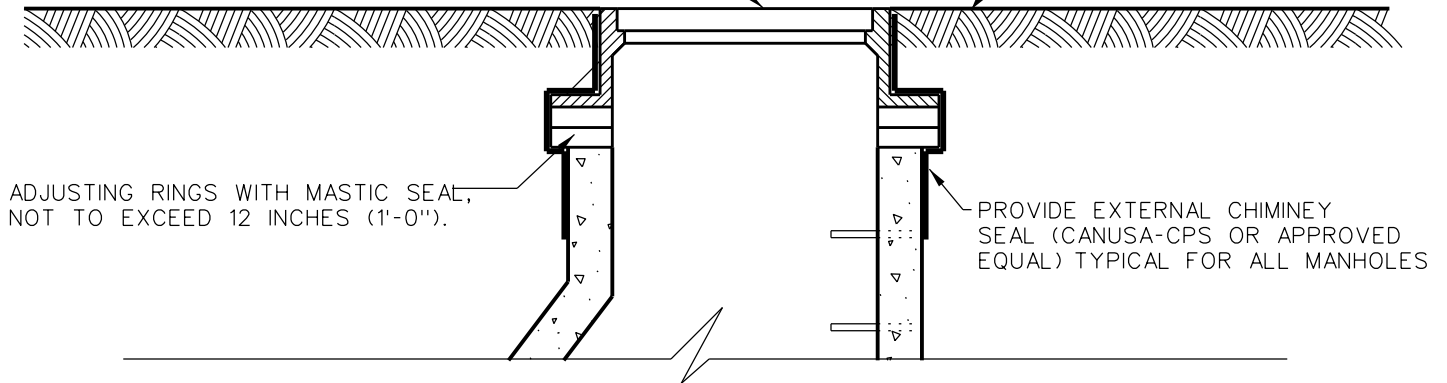
*Kishwaukee Water Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115  
 815.758.3513  
 DETAIL No. 15

Sanitary Sewer Service Lateral Detail

CAST IRON FRAME & LID, TYPE 1  
WITH CONSEALED PICK HOLES AND  
WATER TIGHT GASKET. EXTRA  
HEAVY DUTY LOAD RATING.  
(SEE TYPE 1 FRAME AND LID DETAIL)

FINISHED GRADE



NOTE: THE FRAME SHALL BE SLOPED WHEN REQUIRED  
TO MATCH THE FINISH GRADE, THROUGH THE  
USE OF ADJUSTMENT RING(S) AND MORTAR.

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

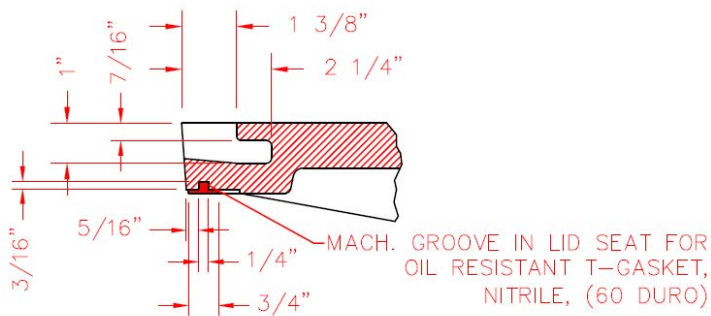
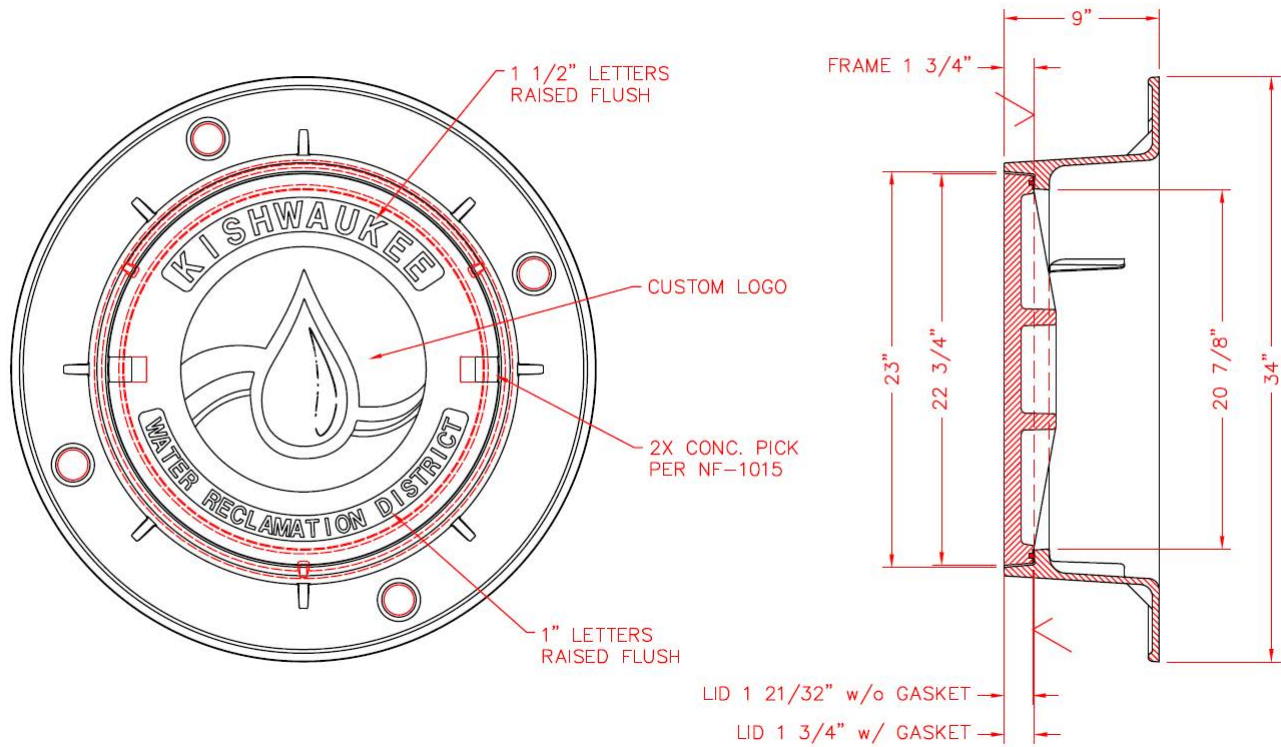
815.758.3513

DETAIL No. 16

Flexible Watertight Frame  
Chimney Seal Detail

DATE: 11/04/21

REV.:



CONC. PICK & T-SEAL GASKET DETAIL  
 QUARTER SCALE

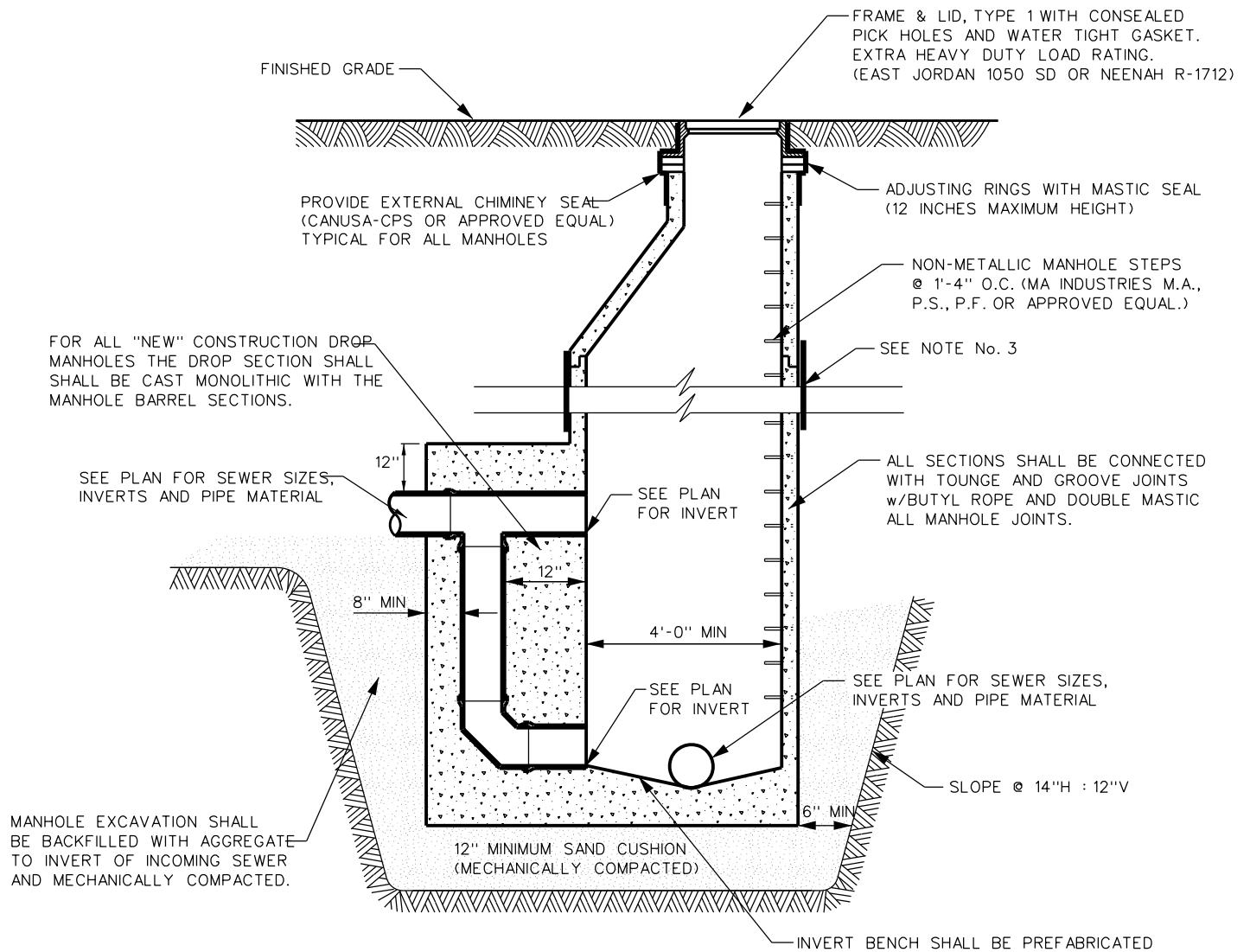
NOTES:

- ALL DIMENSIONS SHOWN ARE IN ENGLISH.
- LOAD RATING: H-25 / HS-25
- COMPONENT NOS.: FRAME 1713-2300, LID 1772-XXXX
- EQUIPMENT NOS.: FRAME D99992720, K17132300  
 LID D99991861, K99991860 (3 NEW DRAG INSERTS)
- MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
- FINISH: NO PAINT
- WEIGHT: FRAME ≈140#, LID ≈149#

*Kishwaukee Water  
 Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115  
 815.758.3513  
 DETAIL No. 17

Frame and Lid Detail



NOTES:

1. DROP MANHOLES SHALL BE USED WHERE INCOMING INVERT IS 2'-0" OR MORE ABOVE THE LOWEST INVERT. FOR INCOMING SEWERS SMALLER THAN 12" USE VERTICAL PIPE OF SAME DIAMETER. FOR INCOMING SEWERS OF 12" OR GREATER, USE 12" VERTICAL PIPE.
2. EXTERIOR DROP CONNECTIONS ARE REQUIRED FOR 48" DIA. MANHOLES AND INTERIOR DROPS MAY BE USED FOR MANHOLES 60" DIA AND LARGER, WITH APPROVAL OF THE ENGINEER AND DEKALB SANITARY DISTRICT.
3. PROVIDE MANHOLE ENCAPSULATION SYSTEM (WATERPROOF MEMBRANE) ON ALL MANHOLE JOINTS. SEE SPECIFICATION SECTION 02955 - TYPICAL ALL MANHOLES (MAC WRAP OR APPROVED EQUAL)
4. ALL SECTIONS SHALL BE CONNECTED WITH TOUNGE AND GROOVE JOINTS w/BUTYL ROPE. DOUBLE MASTIC ALL MANHOLE JOINTS.
5. ALL MANHOLE SECTIONS SHALL BE SEALED WITH BUTYL ROPE JOINT MATERIAL. CASTINGS AND ADJUSTMENT SHALL BE SEALED WITH TROWELABLE MASTIC
6. ENTIRE EXTERIOR OF MANHOLE TO BE FACTORY COATED WITH 2 COATS BITUMASTIC COATING, CONSEAL CS55 OR APPROVED EQUAL.
7. STEPS SHALL BE EMBEDDED INTO WALL A MINIMUM OF 3 INCHES. STEPS SHALL NOT BE EXTENDED ON THE OUTSIDE OF THE STRUCTURE. ALL STEPS SHALL BE PLOYPROPYLENE COATED STEEL REINFORCED RODS.
8. MANHOLE FRAME AND LID SHALL BE NEENAH R-1015-2000 OR EAST JORDAN IRON WORKS 1050 SD WITH SELF SEALING LID AND CONSEALED PICKHOLES. ALL LIDS SHALL HAVE THE WORD "SANITARY" CAST INTO IT.
9. THE CONTRACT UNIT PRICE FOR MANHOLES, TYPE A SHALL INCLUDE THE COMPACTED GRAVEL OR CRUSHED STONE WHEN REQUIRED, FURNISHING AND INSTALLING STEPS WHEN REQUIRED, AND FURNISHING AND COMPACTING THE SPECIFIED BACKFILL MATERIAL. ALL MANHOLE CONSTRUCTION SHALL CONFORM TO ASTM C478 LATEST REVISION AND CONCENTRIC CONES WILL NOT BE ALLOWED
10. FOR NEW CONNECTIONS TO EXISTING MANHOLES, CORE DRILL OPENING & INSTALL WATERTIGHT PIPE TO MANHOLE. SEAL WITH LINK SEAL OR APPROVED EQUAL.
11. ADJUSTING RINGS MAY NOT EXCEED 12 INCHES (1.0 FT)

*Kishwaukee Water  
Reclamation District*

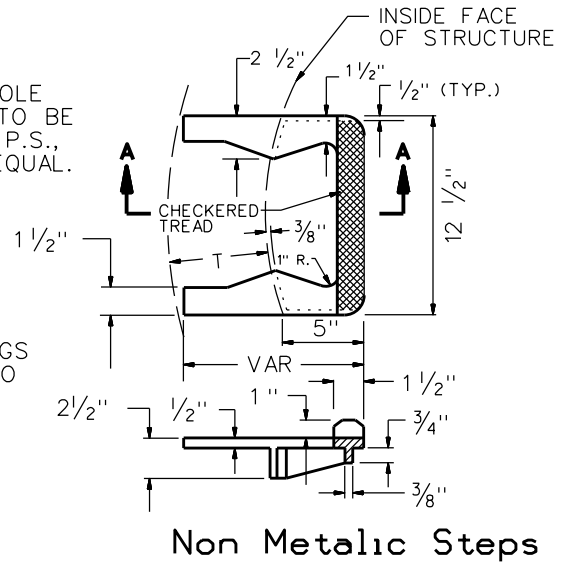
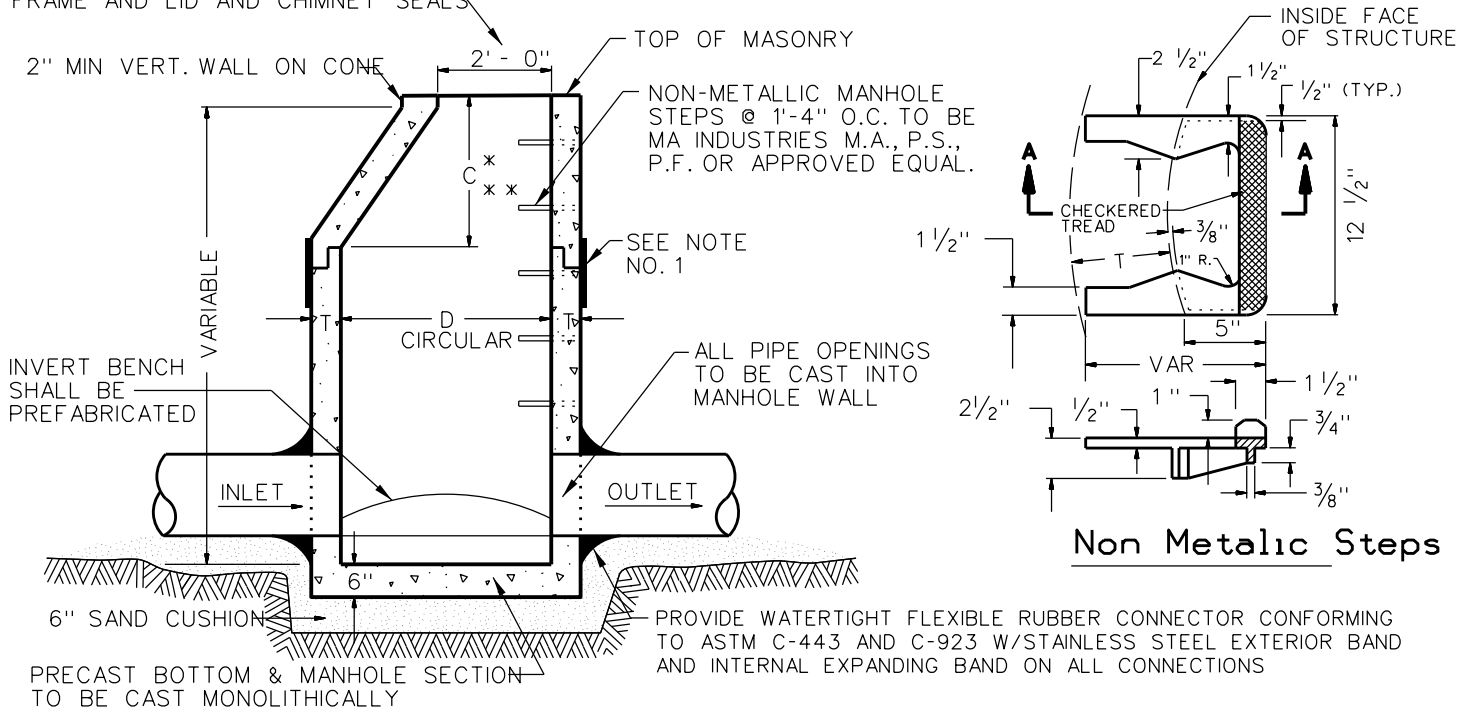
1301 Sycamore Rd • DeKalb, Illinois 60115  
815.758.3513  
DETAIL No. 18

Drop Manhole Detail

DATE: 11/04/21

REV.:

SEE DETAILS FOR TYPE 4  
FRAME AND LID AND CHIMNEY SEALS



**Non Metallic Steps**

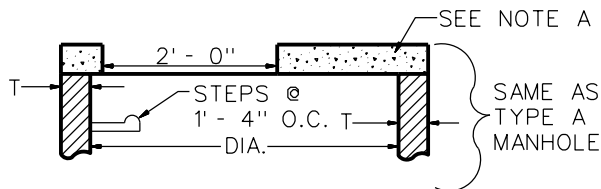
PROVIDE WATERTIGHT FLEXIBLE RUBBER CONNECTOR CONFORMING TO ASTM C-443 AND C-923 W/STAINLESS STEEL EXTERIOR BAND AND INTERNAL EXPANDING BAND ON ALL CONNECTIONS

PRECAST BOTTOM & MANHOLE SECTION TO BE CAST MONOLITHICALLY

MATERIALS FOR WALLS	D	C	T MIN.
PRECAST REINFORCED CONCRETE SECTIONS	4' - 0"	2' - 6"	4"
	5' - 0"	3' - 9"	5"
CAST-IN-PLACE	4' - 0"	2' - 6"	6"
	5' - 0"	3' - 9"	6"

**NOTES:**

1. PROVIDE MANHOLE ENCAPSULATION SYSTEM (WATERPROOF MEMBRANE) ON ALL MANHOLE JOINTS. TYPICAL ALL MANHOLES (MAC WRAP OR APPROVED EQUAL)
2. ALL SECTIONS SHALL BE CONNECTED WITH TONGUE AND GROOVE JOINTS W/BUTYL ROPE. DOUBLE MASTIC ALL MANHOLE JOINTS.
3. ALL MANHOLE SECTIONS SHALL BE SEALED WITH BUTYL ROPE JOINT MATERIAL. CASTINGS AND ADJUSTMENT RINGS SHALL BE SEALED USING TROWELABLE MASTIC TO MINIMIZE SETTLING. ENTIRE EXTERIOR OF MANHOLE TO BE FACTORY COATED WITH 2 COATS BITUMASTIC COATING, CONSEAL CS55 OR APPROVED EQUAL.
4. STEPS SHALL BE EMBEDDED INTO WALL A MINIMUM OF 3 INCHES. STEPS SHALL NOT BE EXTENDED ON THE OUTSIDE OF THE STRUCTURE. ALL STEPS SHALL BE PLOYPROPYLENE COATED STEEL REINFORCED RODS.
5. MANHOLE FRAME AND LID SHALL BE NEENAH R-1015-2000 OR EAST JORDAN IRON WORKS 1050 SD WITH SELF SEALING LID AND CONCEALED PICKHOLES. ALL LIDS SHALL HAVE THE WORD "SANITARY" CAST INTO IT.
6. IN ADDITION TO THE REQUIREMENTS OF ART. 612.13 OF THE STANDARD SPECIFICATIONS, THE CONTRACT UNIT PRICE FOR MANHOLES, TYPE A SHALL INCLUDE THE COMPACTED GRAVEL OR CRUSHED STONE WHEN REQUIRED, FURNISHING AND INSTALLING STEPS WHEN REQUIRED, AND FURNISHING AND COMPACTING THE SPECIFIED BACKFILL MATERIAL. ALL MANHOLE CONST. SHALL CONFORM TO ASTM C478 LATEST REVISION & CONCENTRIC CONES WILL NOT BE ALLOWED.
7. FOR NEW CONNECTIONS TO EXISTING MANHOLES, CORE DRILL OPENING & INSTALL WATERTIGHT PIPE TO MANHOLE SEAL WITH LINK SEAL OR APPROVED EQUAL.
8. ADJUSTING RINGS MAY NOT EXCEED 12 INCHES (1.0 FT)



NOTE A: REINFORCED CONCRETE TOP DESIGNED FOR ANTICIPATED LOADINGS (SEE PLANS FOR SPECIAL PROVISIONS).

1. 6" THICKNESS 3' & 4' DIA.
2. 8" THICKNESS 5' DIA.

DETAIL OF MANHOLE TOP TO BE USED WHERE RESTRICTED HEAD ROOM WILL NOT PERMIT CONE SECTION

**Manhole Type C**

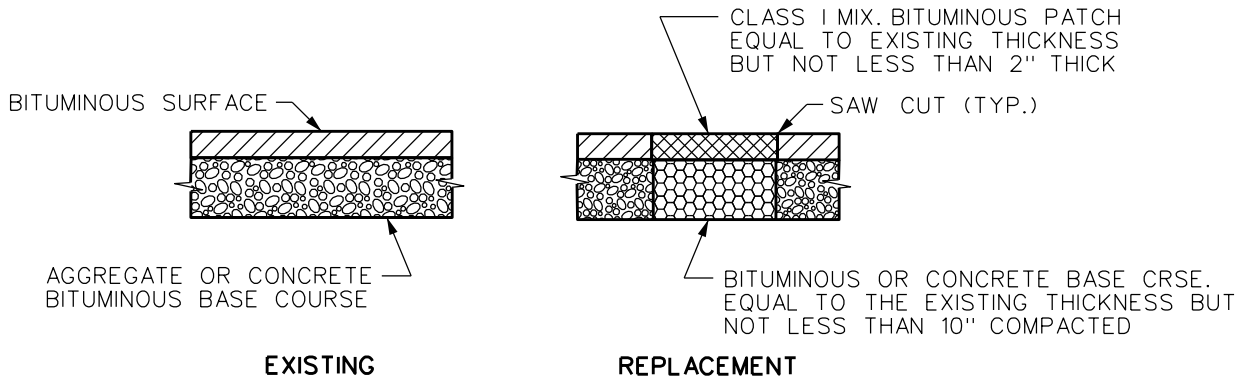
\* DIMENSION " C " FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6 INCHES.

\* \* FOR AN OPTIONAL PRECAST CONCRETE FLAT SALB TOP - SEE I.D.O.T. STD. 602601.

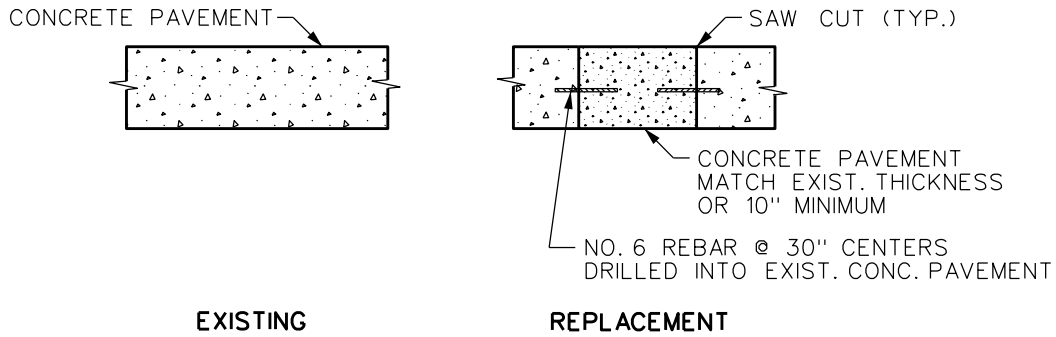
**Kishwaukee Water Reclamation District**

1301 Sycamore Rd • DeKalb, Illinois 60115  
815.758.3513  
DETAIL No.19

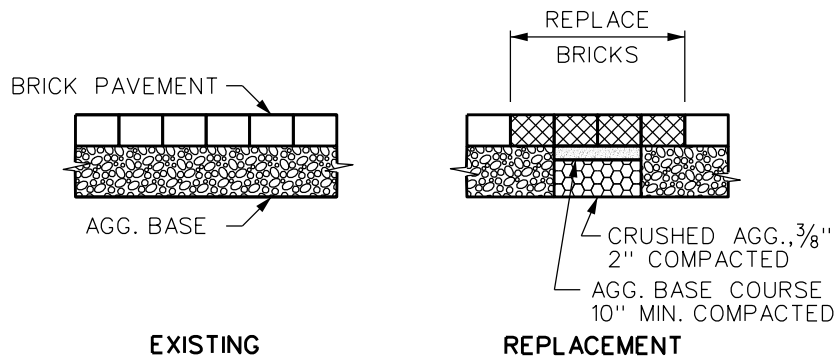
**Sanitary Manhole Type A**



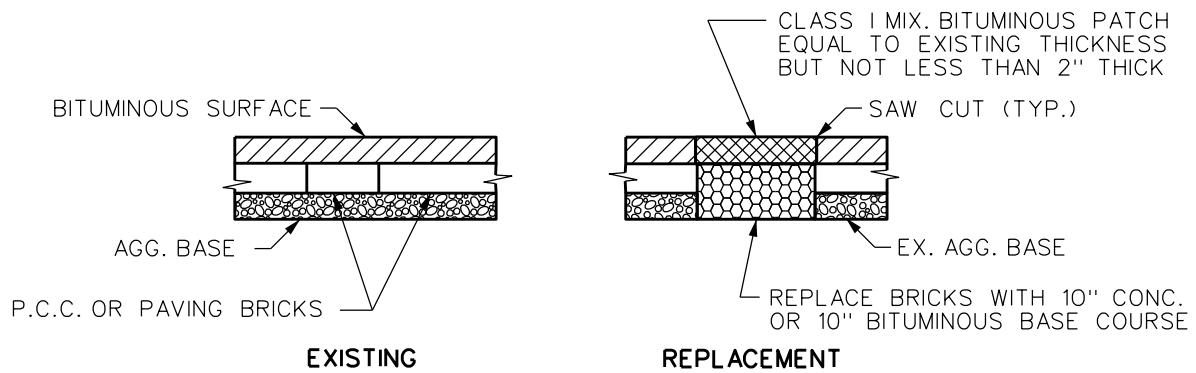
Bituminous Pavement



Concrete Pavement



Brick Pavement



Overlaid Brick Pavement

DETAIL 1 OF 2

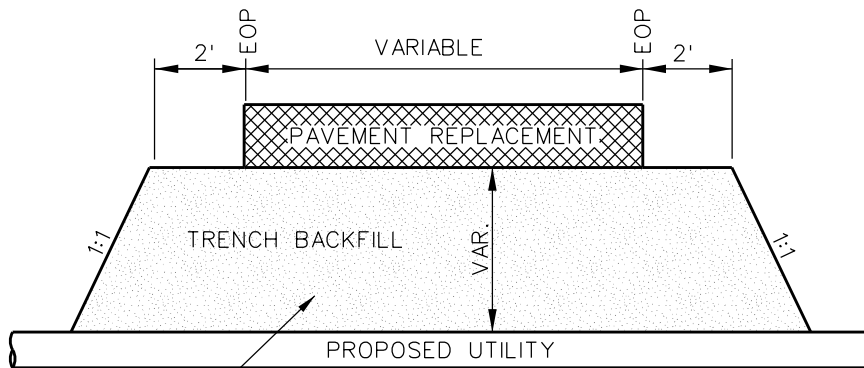
*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115  
815.758.3513  
DETAIL No. 20

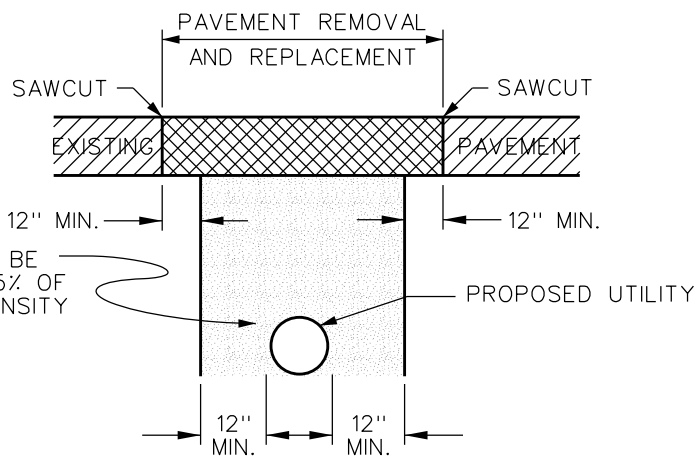
Pavement Replacement Detail  
(City of DeKalb Detail / Specifications)

DATE: 11/04/21

REV.:



TRENCH BACKFILL SHALL BE COMPACTED TO MINIMUM 95% OF STANDARD LABORATORY DENSITY



TRENCH BACKFILL SHALL BE COMPACTED TO MINIMUM 95% OF STANDARD LABORATORY DENSITY

NOTES:

1. PAVEMENT REPLACEMENT SHALL DEPEND ON THE MAKE UP OF THE EXISTING PAVEMENT STRUCTURE AND BE IN ACCORDANCE WITH THE ABOVE DETAILS.
2. AGGREGATE BASE COURSE REPLACEMENT SHALL BE GRADATION CA-7, CRUSHED STONE.

DETAIL 2 OF 2

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

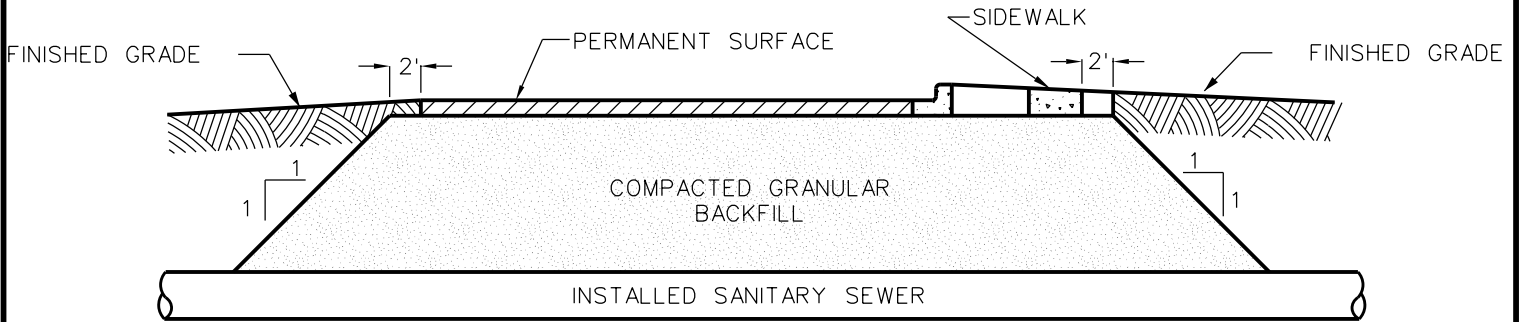
DETAIL No. 21

Pavement Replacement Detail  
(City of DeKalb Detail / Specifications)

DATE: 11/04/21

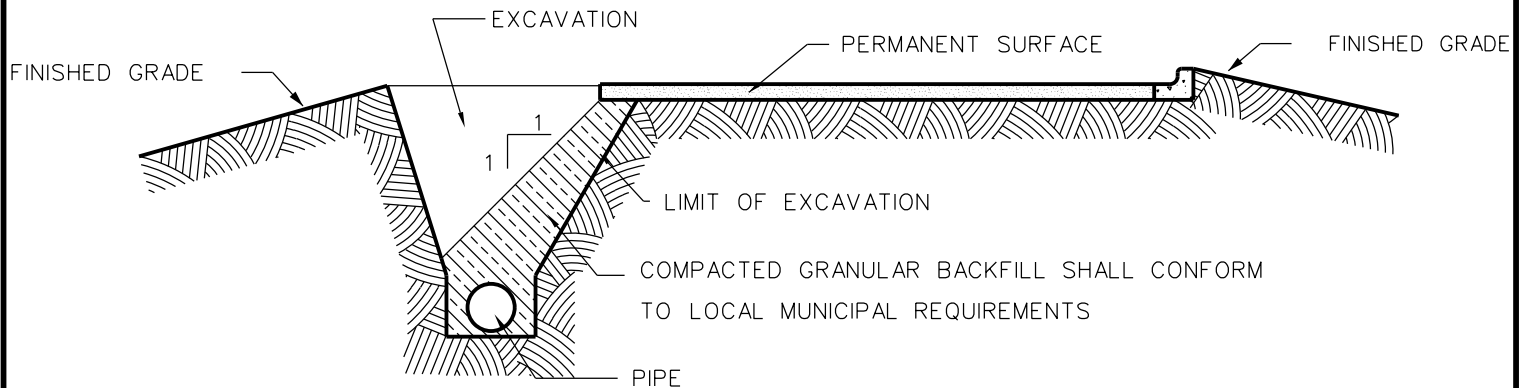
REV.:

NOTE: EXTEND COMPACTED GRANULAR BACKFILL 2.0' BEYOND EDGE OF PAVEMENT, BACK OF CURB, DRIVEWAY, SIDEWALK OR PERMANENT PAVEMENT SURFACE.



Crossing Under Permanent Surface

NOTE: THESE SECTIONS APPLY WHEREVER PIPE IS ADJACENT TO, OR CROSSES UNDER A ROADWAY, PARKING LOT, SIDEWALK, DRIVEWAY, STRUCTURE OR PERMANENT PAVEMENT SURFACE.



Parallel to Permanent Surface

***Kishwaukee Water  
Reclamation District***

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No. 22

Detail for Installation of Pipe  
Parallel to and Crossing  
Under Permanent Surface

DATE: 11/04/21

REV.:

NOTES:

THE BASE CASTING SHALL BE ASTM A-46,  
CLASS 30 CAST IRON (VARIOUS CONTOURS  
AVAILABLE TO FIT 6.275" - 30.0" O.D. MAINS)

THE PVC ADAPTER SHALL BE A GASKETED  
BELL TO ACCEPT SCHEDULE 40 DWV

THE ADAPTER SHALL BE CEMENTED PERMANENTLY  
IN PLACE WITH A 2-PART URETHANE ADHESIVE.

THE BASE OF THE SADDLE SHALL BE DIP-COATED  
IN A WATERBASED BITUMINOUS COATING.

THE STRAP TO BE 24 GAUGE x 2.5" WIDE,  
TYPE 304 STAINLESS STEEL

THE STRAP PINS TO BE .75" DIA.,  
TYPE 303 STAINLESS STEEL

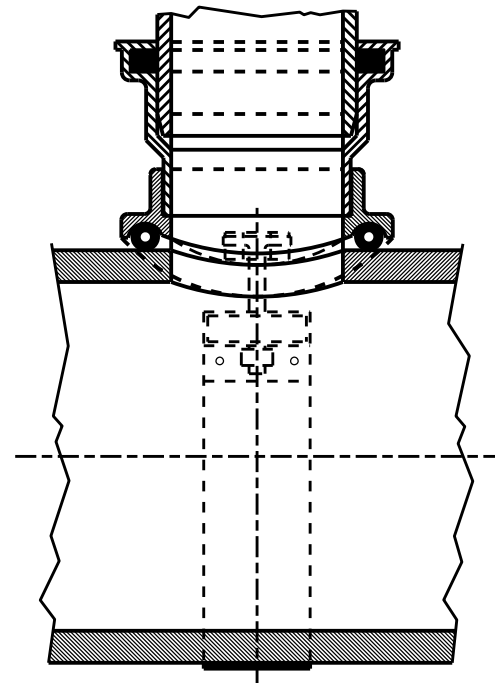
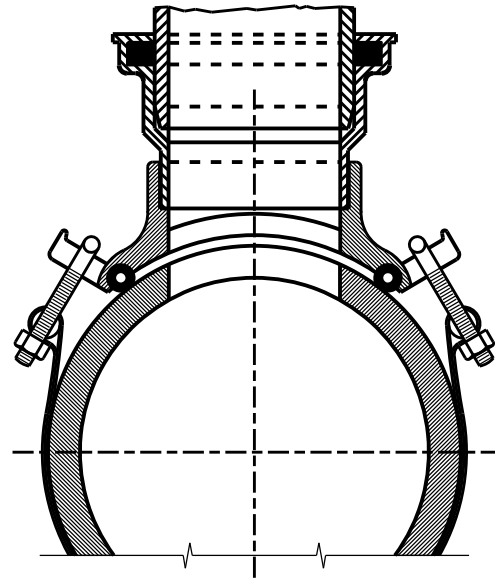
THE "T" BOLTS TO BE .375" - 16,  
TYPE 304 STAINLESS STEEL

NUTS AND WASHERS TO BE  
TYPE 18-8 STAINLESS STEEL

"O" RINGS TO BE ASTM C-361-77  
TUBULAR POLYISOPRENE

A 4" INLET SHALL REQUIRE A 4" DIA. TAP  
IN THE SEWER MAIN

A 6" INLET SHALL REQUIRE A 6" DIA TAP  
IN THE SEWER MAIN  
(THE SEWER MAIN SHALL BE A MIN. 8" DIA.)



*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No. 23

Sealtite Sewer Saddle Tee Detail

DATE: 11/04/21

REV.:

NOTES:

THE BASE CASTING SHALL BE ASTM A-46, CLASS 30 CAST IRON (VARIOUS CONTOURS AVAILABLE TO FIT 6.275" - 30.0" O.D. MAINS)

THE PVC ADAPTER SHALL BE A GASKETED BELL TO ACCEPT SCHEDULE 40 DWV

THE ADAPTER SHALL BE CEMENTED PERMANENTLY IN PLACE WITH A 2-PART URETHANE ADHESIVE.

THE BASE OF THE SADDLE SHALL BE DIP-COATED IN A WATERBASED BITUMINOUS COATING.

THE STRAP TO BE 24 GAUGE x 2.5" WIDE, TYPE 304 STAINLESS STEEL

THE STRAP PINS TO BE .75" DIA., TYPE 303 STAINLESS STEEL

THE "T" BOLTS TO BE .375" - 16, TYPE 304 STAINLESS STEEL

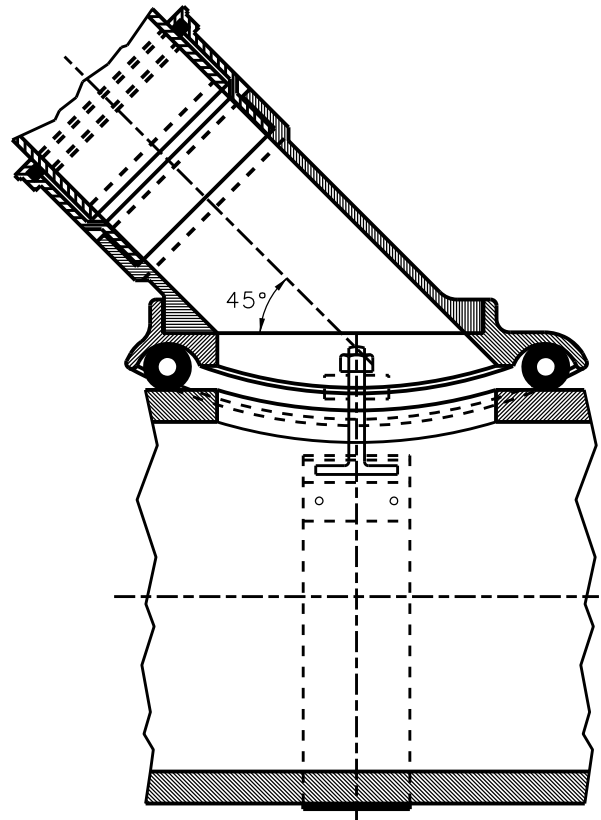
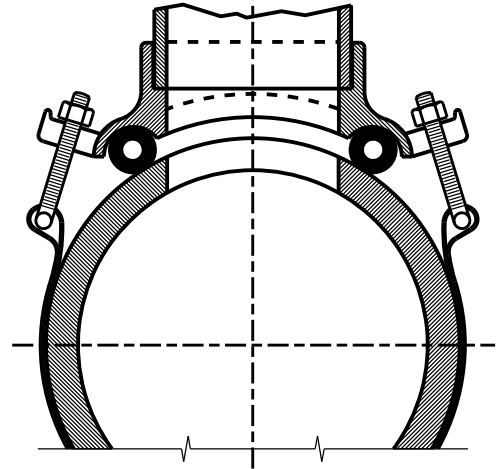
NUTS AND WASHERS TO BE TYPE 18-8 STAINLESS STEEL

"O" RINGS TO BE ASTM C-361-77 TUBULAR POLYISOPRENE

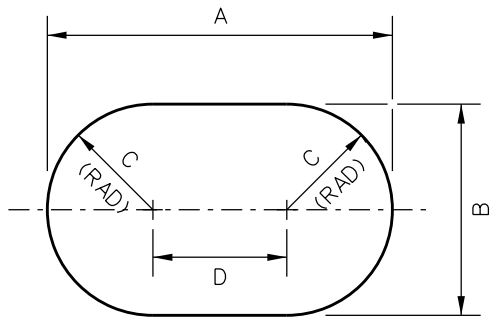
A 4" INLET SHALL REQUIRE A 4"x6.5" OVAL TAP IN THE SEWER MAIN

A 6" INLET SHALL REQUIRE A 6"x9.25" OVAL TAP IN THE SEWER MAIN (THE SEWER MAIN SHALL BE A MIN. 8" DIA.)

A SADDLE TAP TEMPLATE SHALL BE SUPPLIED WITH EACH SADDLE.



**SADDLE TAP TEMPLATE**



SADDLE TAP DIMENSIONS

SIZE	A	B	C	D
4" INLET	6.5"	4"	2"	2.5"
6" INLET	9.25"	6"	3"	3.25"

*Kishwaukee Water Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

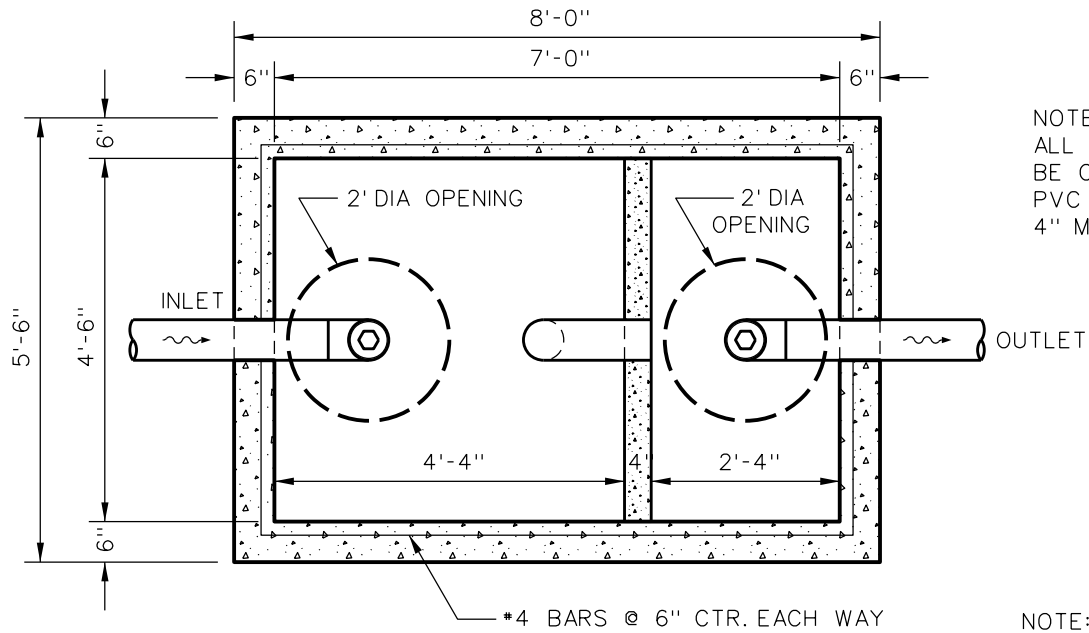
815.758.3513

DETAIL No. 24

Sealtite Sewer Saddle Wye Detail

DATE: 11/04/21

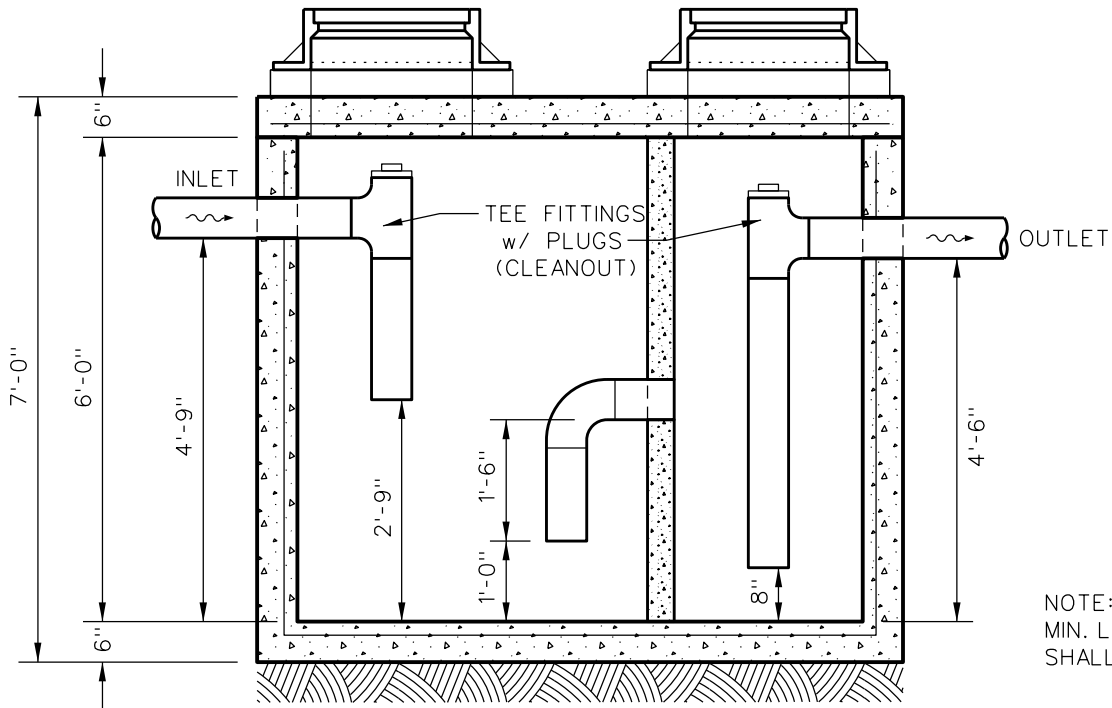
REV.:



NOTE:  
ALL PIPING SHALL  
BE CAST IRON OR  
PVC SCHEDULE 40  
4" MIN. DIA.

FRAMES & LIDS, AS PER DEKALB SANITARY DISTRICT DETAIL AND  
ADJUSTING RINGS AS NEEDED (4" MAX HEIGHT) w/ MASTIC SEAL.

NOTE:  
4000 P.S.I. CONCRETE  
@ 28 DAYS SHALL BE  
USED THROUGHOUT



NOTE:  
MIN. LIQUID CAPACITY  
SHALL BE 1000 GALS.

NOTES:

1. INSTALLATION OF GREASE INTERCEPTOR STRUCTURE SHALL BE IN ACCORDANCE WITH ALL OTHER APPLICABLE STANDARDS FOLLOWED BY THE DEKALB SANITARY DISTRICT.
2. SHOP DRAWINGS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL WHEN PREMANUFACTURED STRUCTURES ARE TO BE USED.

*Kishwaukee Water  
Reclamation District*

1301 Sycamore Rd • DeKalb, Illinois 60115

815.758.3513

DETAIL No. 25

Precast Reinforced Concrete  
Grease Interceptor Detail

DATE: 11/04/21

REV.: