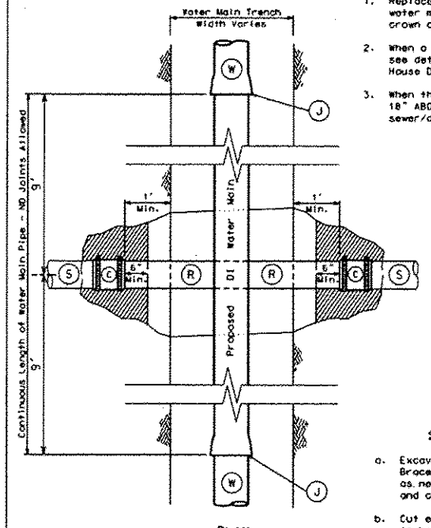
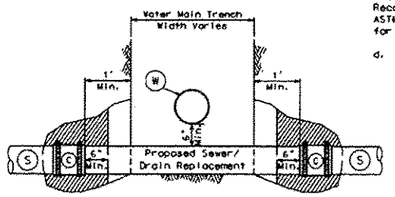


PLAN
No Scale



PROFILE THROUGH SEWER/DRAIN
No Scale

GENERAL NOTES

1. Replace the sewer/drain when the invert of the water main is LESS than 18" ABOVE the crown of the sewer/drain.
2. When a water main crosses UNDER a sewer/drain, see detail "Water Mains Crossing Under Sewers & House Drains."
3. When the invert of the water main is MORE than 18" ABOVE the crown of the sewer/drain, no sewer/drain replacement is required.

KEY TO SYMBOLS

- (W) Proposed DI Water Main
- (J) Proposed DI Water Main Joint (Continuous Pipe Between Joints)
- (S) Existing Sewer or House Drain
- (R) Proposed Sewer/Drain Replacement
- (C) Proposed ASTM C1173 Flexible Transition Coupling for Sewer Piping
- Proposed Bentonite Seal
- Undisturbed Soil

SEWER/DRAIN REPLACEMENT NOTES

a. Excavate as needed to replace sewer/drain. Brace and shore trenches and excavations as needed to provide safe working conditions and comply with applicable requirements.

b. Cut existing sewer/drain to remove section to be replaced; breaking or cracking is not allowed.

c. Replace the sewer/drain with a continuous length of ductile iron pipe, the same size as the sewer/drain, cut to fit. Reconnect the sewer/drain with ASTM C1173 Flexible Transition Couplings for Sewer Pipe.

d. Encase the couplings in medium bentonite chips (¼" – ¾") mixed with enough clean water to form a stiff clay. Pack the excavations surrounding the couplings to seal off leaks.

e. Center a length of water main pipe (18' typically) over the sewer/drain crossing.

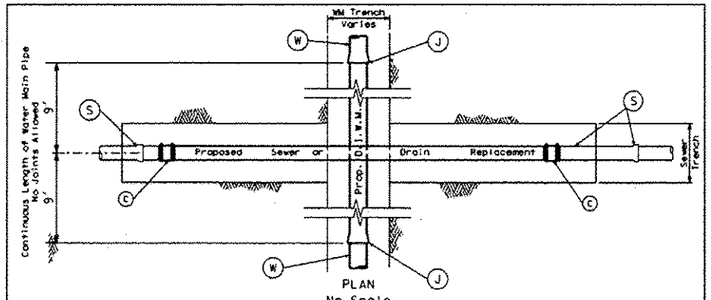
f. Except where bentonite seals are shown, backfill using typical standards.

g. Comply with IL EPA requirements (modified and approved by IL EPA November 13, 2007).

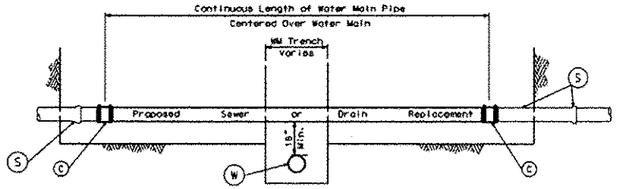
Rev:11.07

WATER MAINS CROSSING OVER
SEWERS & HOUSE DRAINS

D-19
SHT. 1 OF 2



PLAN
No Scale



PROFILE THROUGH SEWER/DRAIN
No Scale

GENERAL NOTES

1. Replace the sewer/drain in all cases when a water main crosses UNDER the sewer/drain.
2. When a water main crosses OVER a sewer/drain, see detail "Water Mains Crossing Over Sewers & House Drains."

KEY TO SYMBOLS

- (W) Proposed DI Water Main
- (J) Proposed DI Water Main Joint (Continuous Pipe Between Joints)
- (S) Existing Sewer or House Drain
- (R) Proposed Sewer/Drain Replacement
- (C) Proposed ASTM C1173 Flexible Transition Coupling for Sewer Piping
- Undisturbed Soil

SEWER/DRAIN REPLACEMENT NOTES

a. Minimum clearance between the crown of the water main and the invert of the sewer/drain is 18".

b. Excavate as needed to replace sewer/drain. Brace and shore trenches and excavations as needed to provide safe working conditions and comply with applicable requirements.

c. Cut existing sewer/drain to remove section to be replaced; breaking or cracking is not allowed.

d. Replace the sewer/drain with a continuous length of ductile iron pipe, the same size as the sewer/drain, cut to fit. Reconnect the sewer/drain with ASTM C1173 Flexible Transition Couplings for Sewer Pipe.

e. Center a length of water main pipe (18' typically) under the sewer/drain crossing.

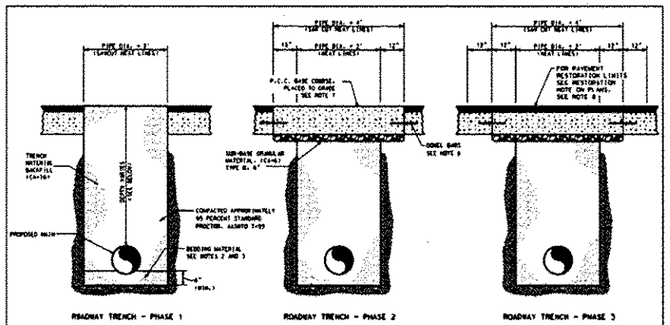
f. Backfill using typical standards.

g. Comply with IL EPA requirements.

REV:11.07

WATER MAINS CROSSING UNDER
SEWERS & HOUSE DRAINS

D-19
SHT. 2 OF 2

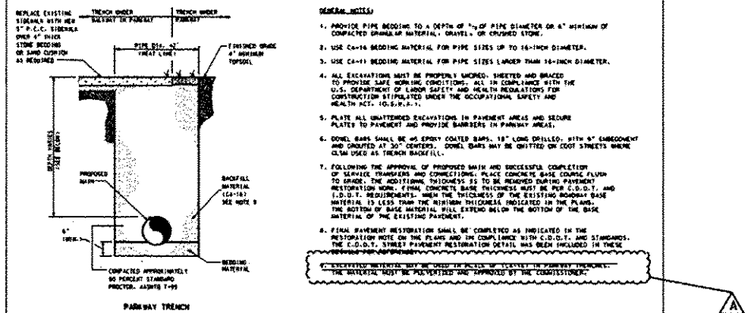


WATER DEPTH REQUIREMENTS	
MINIMUM DEPTH OF COVER FOR WATER MAINS	
SIZE OF PIPE	DEPTH OF COVER
4" TO 12"	5'-6" ± 3"
16"	5'-6" ± 3"
20"	5'-6" ± 3"
24"	5'-3" ± 3"
30"	5'-0" ± 3"
36"	4'-9" ± 3"
42"	4'-6" ± 3"
30" TO 42"	3'-6" MIN. (SEE PLAN)
48" & LARGER	3' MIN. (SEE PLAN)

PHASE 1: BACKFILL CA-16 TO GRADE FOLLOWING THE INSTALLATION OF PROPSED WATER MAIN.

PHASE 2: P.C.C. BASE COURSE TO GRADE FOLLOWING THE APPROVAL OF PROPOSED MAIN AND SUCCESSFUL COMPLETION OF SERVICE TRANSFERS AND CONNECTIONS.

PHASE 3: FINAL PAVEMENT RESTORATION. LIMITS AS INDICATED ON PLANS.



GENERAL NOTES:

1. PROVIDE PIPE BEDDING TO A DEPTH OF ¼ OF PIPE DIAMETER OR 6" MINIMUM OF COMPACTED GRANULAR MATERIAL, GRAVEL, OR CRUSHED STONE.
2. USE CA-16 BEDDING MATERIAL FOR PIPE SIZES UP TO 16-INCH DIAMETER.
3. USE CA-11 BEDDING MATERIAL FOR PIPE SIZES LARGER THAN 16-INCH DIAMETER.
4. ALL EXCAVATIONS MUST BE PROPERLY SHORED, SHEETED AND BRACED TO PROVIDE SAFE WORKING CONDITIONS. ALL IN COMPLIANCE WITH THE U.S. DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION STIPULATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT. (O.S.H.A.).
5. PLATE ALL UNATTENDED EXCAVATIONS IN PAVEMENT AREAS AND SECURE PLATES TO PAVEMENT AND PROVIDE BARRIERS IN PARKWAY AREAS.
6. DOWEL BARS SHALL BE #6 EPOXY COATED BARS, 18" LONG DRILLED, WITH 9" EMBEDDMENT AND GROUTED AT 30" CENTERS. DOWEL BARS MAY BE OMITTED ON COOT STREETS WHERE CLSM USED AS TRENCH BACKFILL.
7. FOLLOWING THE APPROVAL OF PROPOSED MAIN AND SUCCESSFUL COMPLETION OF SERVICE TRANSFERS AND CONNECTIONS, PLACE CONCRETE BASE COURSE FLUSH TO GRADE. THE ADDITIONAL THICKNESS IS TO BE REMOVED DURING PAVEMENT RESTORATION WORK. FINAL CONCRETE BASE THICKNESS MUST BE PER C.D.O.T. AND I.D.O.T. REQUIREMENTS. WHEN THE THICKNESS OF THE EXISTING ROADWAY BASE MATERIAL IS LESS THAN THE MINIMUM THICKNESS INDICATED IN THE PLANS, THE BOTTOM OF BASE MATERIAL WILL EXTEND BELOW THE BOTTOM OF THE BASE MATERIAL OF THE EXISTING PAVEMENT.
8. FINAL PAVEMENT RESTORATION SHALL BE COMPLETED AS INDICATED IN THE RESTORATION NOTE ON THE PLANS AND IN COMPLIANCE WITH THE C.D.O.T. AND STANDARDS. THE C.D.O.T. STREET PAVEMENT RESTORATION DETAIL HAS BEEN INCLUDED IN THESE
9. EXCAVATED MATERIALS MAY BE USED AS BACKFILL IF APPROVED BY THE ENGINEER. THE MATERIAL MUST BE PULVERIZED AND APPROVED BY THE ENGINEER.

REV:05.09

WATER MAIN TRENCH PHASE DETAILS

D-8

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5376
PHONE: (312) 373-7700 FAX: (312) 373-6600

D168W26-sht-WM-05.dgn	DESIGNED - HHC	REVISED A 10/15/2013	
USER NAME = CooperM2	DRAWN - HHC	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - RBB	REVISED -	
PLOT DATE = 10/15/2013	DATE - 9/15/13	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WATER MAIN DETAILS

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-008R	COOK	559	144
		CONTRACT NO. 60W26		
	ILLINOIS	FED. AID PROJECT		

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