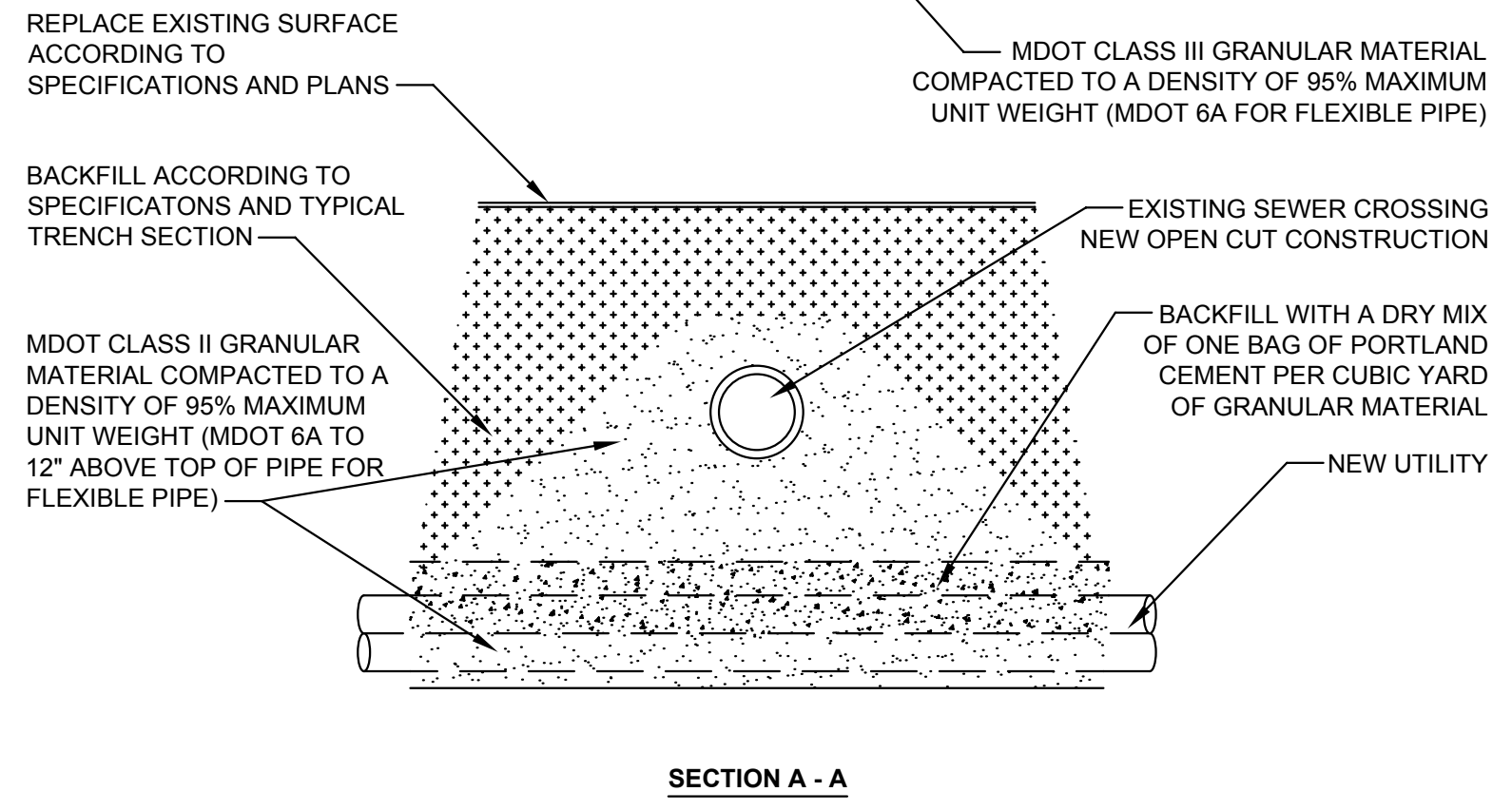
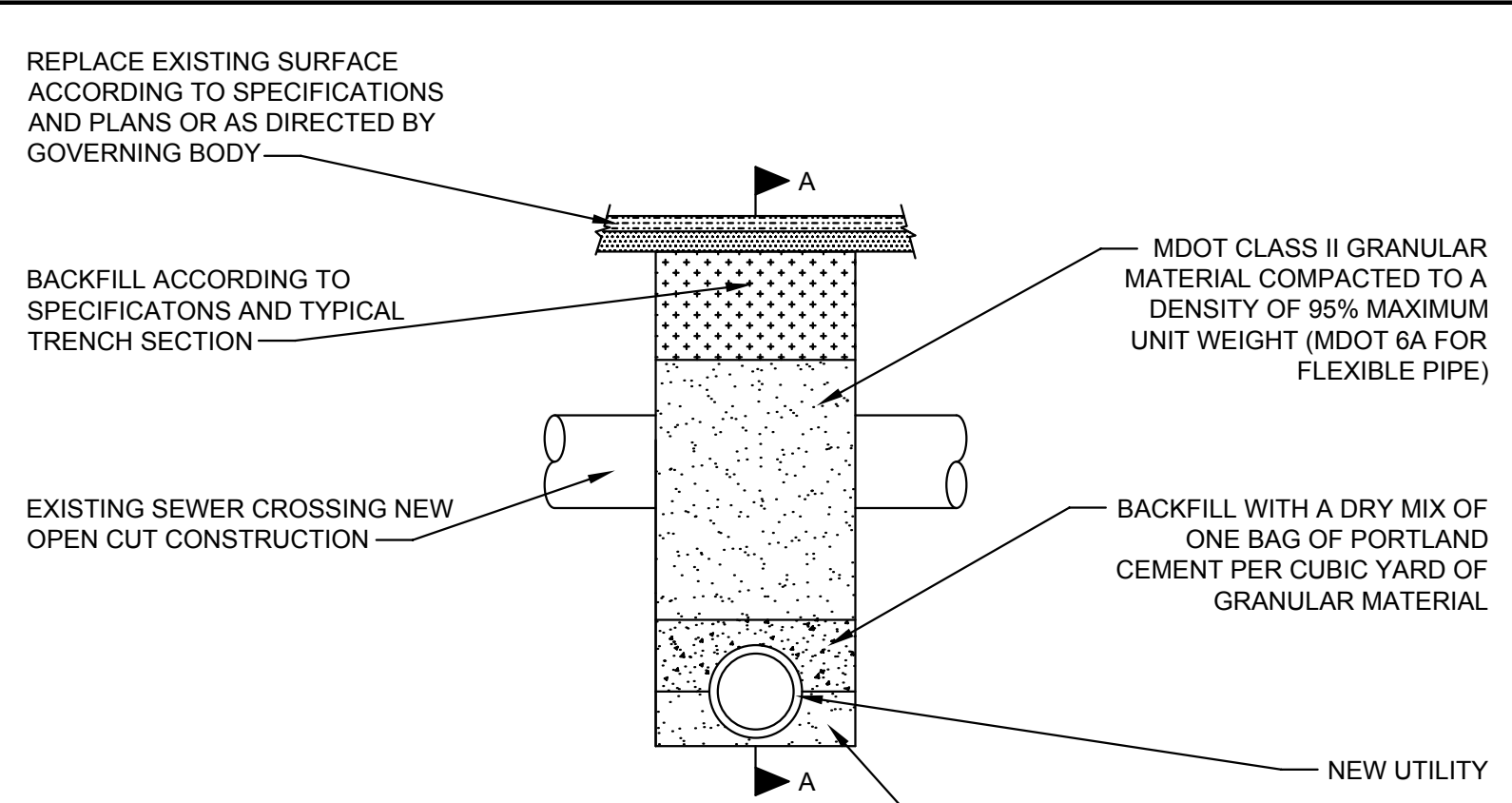
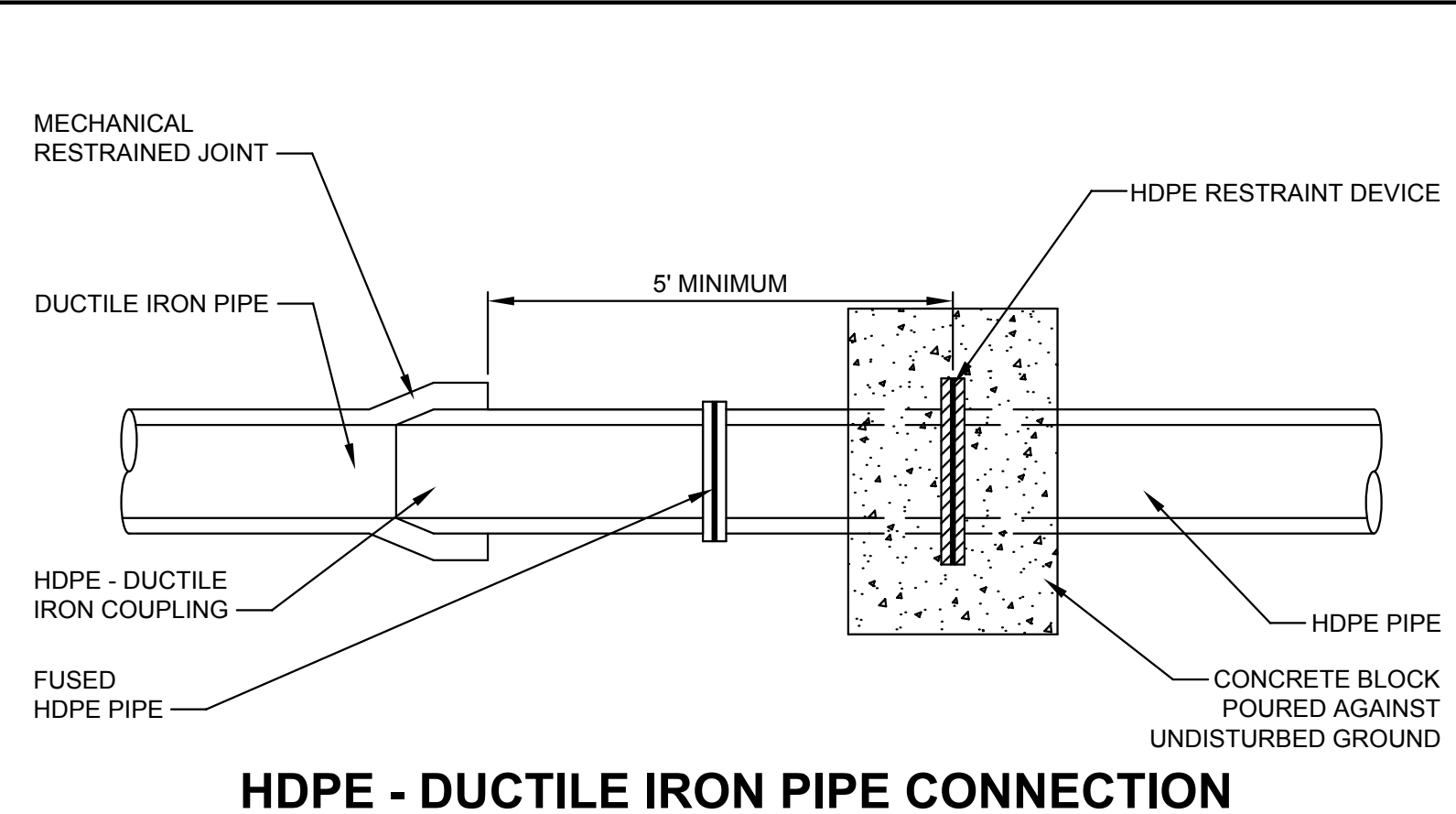


**STORM AND SANITARY SEWER TRENCH CROSS-SECTIONS**  
SEE "UTILITY CONSTRUCTION" NOTE #6



**EXISTING UTILITY CROSSING**  
SEE "UTILITY CONSTRUCTION" NOTE #6



**HDPE - DUCTILE IRON PIPE CONNECTION**

**MISCELLANEOUS DETAIL NOTES:**

- PRECONSTRUCTION & NOTIFICATION**
1. THE CONTRACTOR MUST ATTEND A PRECONSTRUCTION MEETING, AS ARRANGED BY CANTON TOWNSHIP BEFORE ANY WORK SHALL COMMENCE.
  2. THE CONTRACTOR MUST HAVE IN HIS POSSESSION A COPY OF ALL PERMITS AND APPROVALS NECESSARY TO CONSTRUCT PROPOSED IMPROVEMENTS.
  3. THE CONTRACTOR MUST NOTIFY ALL UTILITY COMPANIES AND THE CANTON TOWNSHIP ENGINEER A MINIMUM OF 48 HOURS PRIOR TO UNCOVERING ANY EXISTING UTILITIES.
  4. THE CONTRACTOR MUST NOTIFY MISS DIG (800-482-7171) A MINIMUM OF THREE (3) WORKING DAYS (NOT INCLUDING HOLIDAYS OR WEEKENDS) BEFORE STARTING CONSTRUCTION.
  5. ANY WORK WITHIN THE WAYNE COUNTY RIGHT-OF-WAY REQUIRES THAT THE CONTRACTOR NOTIFY THE CANTON TOWNSHIP ENGINEER AND WAYNE COUNTY ROAD DEPARTMENT OF PUBLIC SERVICES (WC DPS) 72 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
  6. THE CONTRACTOR SHALL BE AWARE OF THE NEAREST EMERGENCY MEDICAL FACILITY.
- ROADS & TRAFFIC**
1. THE CONTRACTOR MUST MAINTAIN ALL TRAFFIC AT ALL TIMES AS REQUIRED BY THE CURRENT MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTC), WAYNE COUNTY, AND/OR MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT).
  2. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE EMERGENCY ACCESS TO PROPERTY FOR THE POLICE, FIRE DEPARTMENT, AMBULANCES OR OTHER EMERGENCY VEHICLES TO PROTECT LIFE, HEALTH AND PROPERTY.
  3. THE CONTRACTOR MUST MAINTAIN PUBLIC ROADS AFFECTED BY THE CONSTRUCTION OPERATIONS IN A PASSABLE CONDITION AT ALL TIMES.
  4. IF THE PUBLIC SAFETY IS IN DANGER OR THE NECESSITY EXISTS FOR MAINTAINING TRAFFIC, BACKFILLING MUST BE COMPLETED IMMEDIATELY FOLLOWING CONSTRUCTION. IN THE EVENT THAT THE NECESSARY BACKFILL MATERIAL AND EQUIPMENT ARE NOT AVAILABLE WHEN DIRECTION IS GIVEN FOR IMMEDIATE BACKFILL, THE TRENCH SHALL BE BACKFILLED WITH NATIVE MATERIAL TO PROVIDE FOR THE NECESSARY MAINTENANCE OF TRAFFIC AND SAFETY.
  5. NO ROADS SHALL BE CLOSED TO THROUGH TRAFFIC UNLESS AUTHORIZED BY THE AGENCY WITH JURISDICTION OVER THAT ROAD. PRIOR TO CLOSING ANY ROAD THE CONTRACTOR SHALL PROVIDE THE CANTON TOWNSHIP ENGINEER WITH A COPY OF A DETOUR PLAN APPROVED BY THE AGENCY HAVING JURISDICTION OVER THOSE ROADS.
  6. IN THE EVENT ROADS ARE TO BE CLOSED, THE CONTRACTOR SHALL NOTIFY THE LOCAL FIRE DEPARTMENT, POLICE DEPARTMENT AND LOCAL ROAD AUTHORITY, AMBULANCE AND EMERGENCY SERVICES, DEPARTMENT OF PUBLIC WORKS, PUBLIC SCHOOL SYSTEM, LOCAL TRASH PICK-UP AUTHORITY, AND PUBLIC AND PRIVATE UTILITIES AS TO WHAT STREETS WILL BE BLOCKED OR CLOSED AND WHEN THE STREETS WILL BE REOPENED TO TRAFFIC.
  7. PAVED STREETS AND DRIVEWAYS MUST BE MAINTAINED IN A REASONABLE STATE OF CLEANLINESS AND THE CONTRACTOR SHALL REMOVE ACCUMULATIONS OF DEBRIS CAUSED BY CONSTRUCTION OPERATIONS.
  8. THE CONTRACTOR SHALL HAVE AN OPERATING SWEEPER BROOM AND CLEAN THE PAVEMENT AT THE CLOSE OF EACH DAY'S OPERATION AND AS OFTEN AS NECESSARY. FAILURE TO COMPLY SHALL BE CAUSE TO STOP CONSTRUCTION. CONTRACTOR SHALL COMPLY WITH THE STATE AIR POLLUTION CONTROL REGULATIONS AND WAYNE COUNTY SOIL EROSION AND SEDIMENTATION CONTROL (SESC).
  9. ALL GRAVEL ROADS, STREETS, OR DRIVEWAYS USED SHALL BE MAINTAINED BY GRADING, PLACING DUST PALLIATIVES AND/OR MAINTAINING GRAVEL IN SUFFICIENT QUANTITIES TO ELIMINATE DUST AND MAINTAIN TRAFFIC AS DIRECTED BY MDOT, WAYNE COUNTY OR CANTON TOWNSHIP.
- UTILITY CONSTRUCTION**
1. CONTRACTOR MUST PROVIDE ALL NECESSARY SHEETING, SHORING, DEWATERING, BRACING, TRENCH BOXES, ETC. TO PERFORM WORK SAFELY AND PROTECT EXISTING UTILITIES AND IMPROVEMENTS IN ACCORDANCE TO MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (MIOSHA).
  2. THE FLOW IN THE EXISTING SEWERS MUST BE MAINTAINED AT ALL TIMES.
  3. CULVERTS, DITCHES, DRAIN TILES, TILE FIELD, DRAINAGE STRUCTURES, ETC. DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY RESTORED.
  4. AFTER ALL PIPES AND STRUCTURES HAVE BEEN LAID, CONSTRUCTED, AND BACKFILLED, THE SYSTEM MUST BE TESTED AND THE FIRST FINAL UTILITIES INSPECTION PERFORMED.
  5. WHEN USING FLEXIBLE PIPE, FILL MUST BE MDOT 6A TO 12 INCHES ABOVE THE UTILITY, FOLLOWED BY ACCEPTABLE FILL.
  6. TRENCH CROSS-SECTIONS SHOWN ON MD-1 APPLY TO THOSE UTILITIES OUTSIDE MDOT AND WAYNE COUNTY RIGHTS-OF-WAY. THOSE UTILITIES THAT FALL WITHIN MDOT AND WAYNE COUNTY RIGHTS-OF-WAY MUST MEET THEIR BEDDING AND BACKFILL REQUIREMENTS.
  7. HDPE PIPE SHALL MEET AWWA C906 WITH AN SDR OF 11. THE PIPE WILL BE BLUE SHELLLED ON THE EXTERIOR AND BLACK ON THE INSIDE.
- SITE INFORMATION**
1. ALL PROPERTY IRONS AND MONUMENTS, IF DISTURBED OR DESTROYED BY THE CONTRACTOR'S OPERATION, SHALL BE REPLACED BY A LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
  2. NO EXCESS SOILS OR CONSTRUCTION MATERIALS SHALL BE PLACED ON PRIVATE PROPERTY WITHOUT AN APPROVED PERMIT FROM CANTON TOWNSHIP, REGARDLESS IF THE PROPERTY OWNER GIVES PERMISSION.
  3. THE CONTRACTOR OR DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES THAT ARE A RESULT OF CONSTRUCTION ACTIVITY WITHIN 7 CALENDAR DAYS OF THE COMPLAINT.

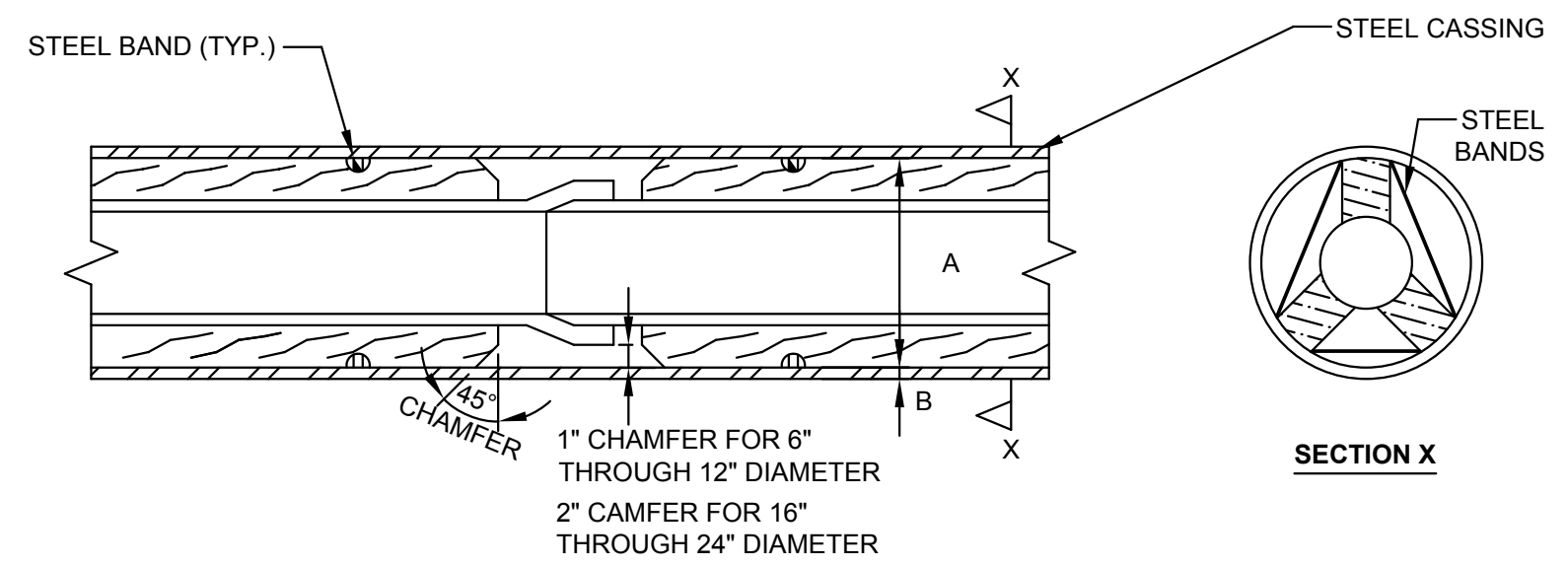
I.D. PIPE SIZE (IN)	<18	21	24	30	36
"W" TRENCH WIDTH (FT)	3.0	3.5	4.0	5.0	6.0

I.D. PIPE SIZE (IN)	42	48	54	60	-	-
"W" TRENCH WIDTH (FT)	7.0	8.0	9.5	10.0	-	-

• ESTIMATED PAVEMENT REMOVAL WIDTH IS TO BE TRENCH WIDTH "W" PLUS 12" EACH SIDE OF THE TRENCH

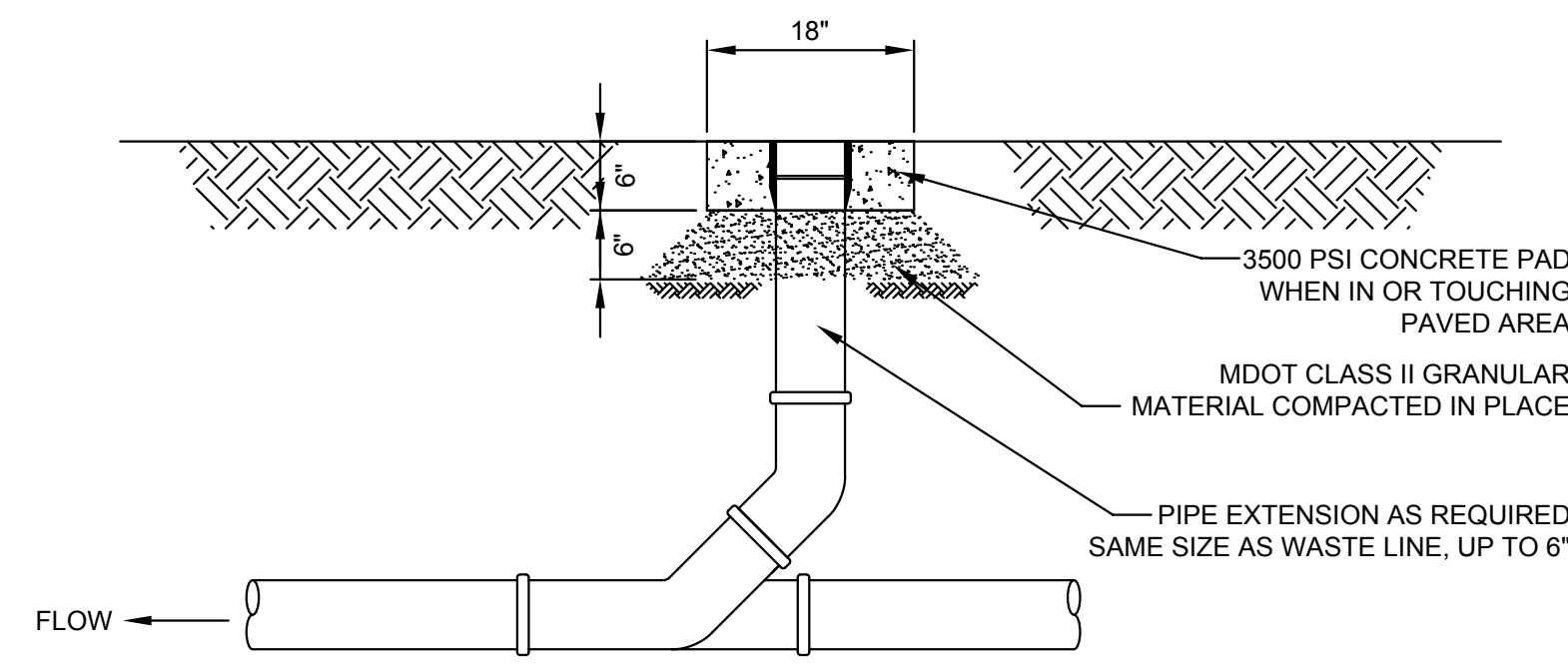
**MINIMUM UTILITY TRENCH WIDTHS**



DIA OF SANITARY SEWER (IN)	DIA OF WATER MAIN (IN)	MIN "A" (IN)	ROAD CROSSING MIN "B" (IN)	RAILROAD CROSSING MIN "B" (IN)
	8	16	0.375	0.375
	12	20	0.375	0.438
10	16	24	0.375	0.500
12 - 15	20	30	0.375	0.500
18	24	36	0.375	0.500

- NOTES:**
1. WHITE OAK SKIDS BANDED TO MAIN SKIDS WILL BE NOTCHED TO PREVENT WIRE FROM RIDING AGAINST CASING PIPE.
  2. NO WATER SHALL BE USED IN BORING UNDER RAILROADS.
  3. MAINTAIN A MINIMUM OF 5'-6" OF COVER BETWEEN BASE OF RAIL AND TOP OF CASING.
  4. THE ENDS OF THE CASING SHALL BE SUITABLY PROTECTED AGAINST THE ENTRANCE OF FOREIGN MATERIAL AND SEALED WITH NON-SHRINKING GROUT.
  5. BORING SHALL EXTEND A MINIMUM OF 10 FEET OUTSIDE THE EDGES OF THE PAVEMENT.
  6. SKIDS ARE REQUIRED TO EXTEND THE FULL LENGTH OF THE CASING.
  7. CASING PIPE SHALL BE WELDED STEEL PIPE A.S.T.M. A-252 GR 2 UNLESS OTHERWISE SPECIFIED.

**CASING SECTION**



**CLEAN-OUT**



**CHARTER TOWNSHIP OF CANTON**  
1150 CANTON CENTER S.  
CANTON, MI 48188-1699  
PH: 734-394-5150 / FAX: 734-394-5183

DATE:	REVISIONS:	BY:
5/17/2007	SUBMITTED FOR DEQ REVIEW	CJL
5/31/2007	PUBLIC RELEASE	CJL

**MISCELLANEOUS STANDARD DETAILS**

DATE:	SHEET:
9/5/2007	MD-1
SCALE:	
NONE	