

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.581.5938
NC COA No. F-0929

SHEET NO.
UC-3D

ILITY CONSTRUCT
PLANE ONLY

ELEVATION

SPIDERS SUPPORT CARRIER PIPE IN CASING
 CENTER LINE CARRIER PIPE
 3'-0"
 2" BEVEL
 ENCLOSE ENDS WITH PIPE SEAL
 STEEL CASING PIPE
 SLOPE TO DRAIN
 2" WEEP HOLE
 GRAVEL

SECTION "A"

BOLTS TO PIPE
 HEAVY DUTY STEEL SKIDS (4)
 12" RESTRAINED JOINT CARRIER PIPE (SPIDER SIZE DETERMINED BY SIZE OF STEEL CASING AND INNER PIPE.)

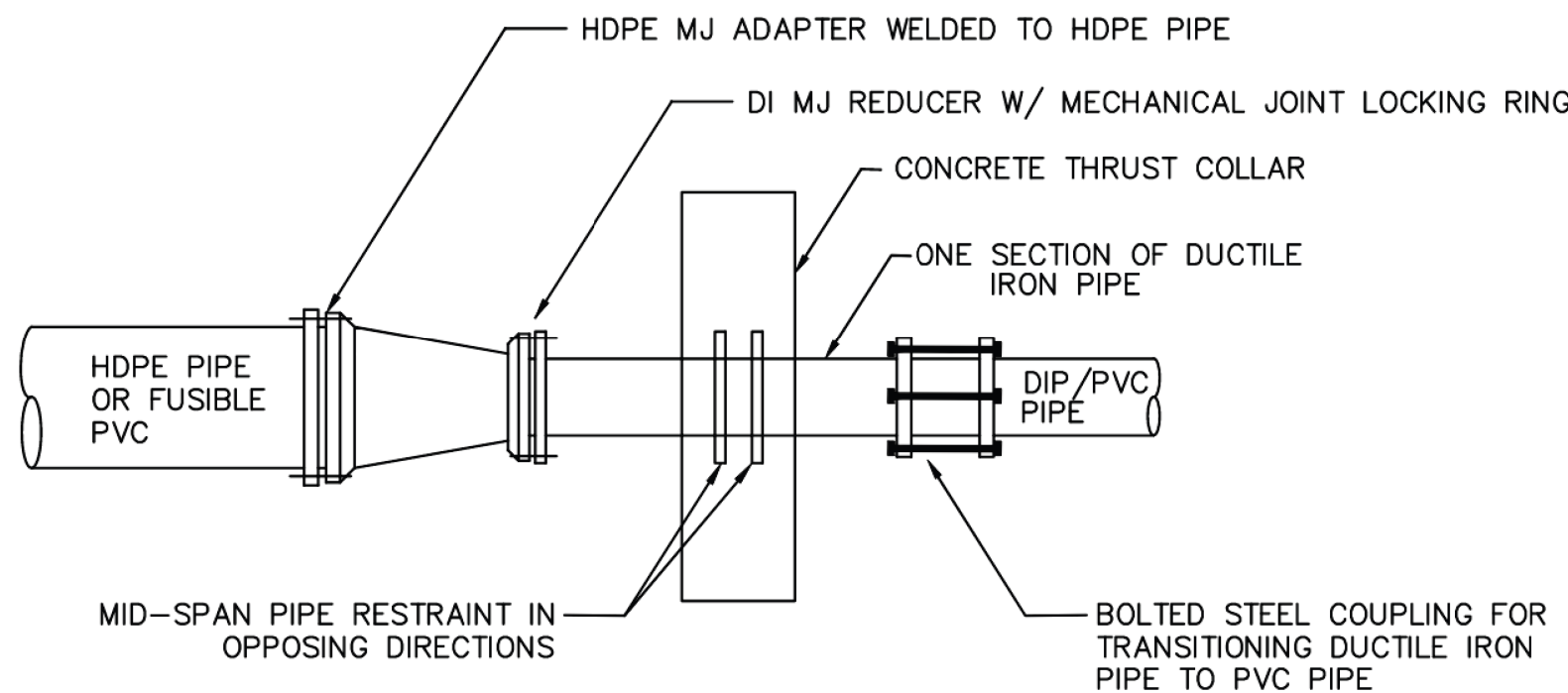
PROFILE

PAVEMENT (ONE OR TWO LANES)
 3'-0" MIN. COVER OR AS SHOWN ON THE PLANS
 TRANSITION FITTING AS REQUIRED
 BRICK CLOSURE
 ST'L. CASING PIPE
 EXISTING GROUND
 RESTRAINED JOINT CARRIER PIPE

STANDARD BORE AND JACK DETAIL
 NOT TO SCALE

(2)

NOT TO SCALE



The diagram illustrates a typical directional drill crossing detail. It shows a cross-section of the ground with a horizontal line representing the ground surface. Below the surface, a directional drill pipe is shown crossing an existing stream (EX. STREAM). The pipe is labeled "HDPE PIPE OR FUSIBLE PVC". The assembly detail is shown at the top, labeled "DIRECTIONAL DRILL PIPING CONNECTION ASSEMBLY DETAIL (TYP.)". The pipe is shown with a "ONE 20' SECTION OF DIP" on either side of the crossing. The distance between the two 20' sections is labeled "VARIES". The minimum depth of the pipe below the stream bed is indicated as "10' MIN". The minimum distance from the pipe to the edge of the stream is indicated as "3' MIN". A note at the bottom left states "NOT TO SCALE".

1. DIRECTIONAL DRILLING METHODS HAVE NOT BEEN GIVEN STATEWIDE APPROVAL FOR USE ON NCDOT RIGHT OF WAY. UNDER NO CONDITION SHALL JETTING ALONE OR WET BORING WITH WATER OF UTILITY PIPELINES BE ALLOWED. DIRECTIONAL BORING USING JETTING WITH A BENTONITE (OR EQUIVALENT MATERIAL) SLURRY IS APPROVED AT A MINIMUM DEPTH OF THREE (3') FEET BELOW THE INVERT AT THE CROSSING LOCATION OR TEN (10') FEET BELOW THE SURFACE OF PARTIAL AND/OR FULL CONTROL OF ACCESS ROADS. DIRECTIONAL BORING IS NOT ALLOWED IN EMBANKMENT MATERIAL. DIRECTIONAL BORING IS ALLOWED BENEATH EMBANKMENT MATERIAL IN NATURALLY OCCURRING SOIL. ANY PARALLEL INSTALLATION UTILIZING THE DIRECTIONAL BORING METHOD SHALL BE MADE AT A MINIMUM DEPTH OF FIVE (5') FEET (COVER) BELOW THE GROUND SURFACE AND OUTSIDE THE THEORETICAL 1:1 SLOPE, AT A MINIMUM OF 5' FROM THE EXISTING EDGE OF PAVEMENT EXCEPT WHERE THE PARALLEL INSTALLATION CROSSES A PAVED ROADWAY. ALL DIRECTIONAL BORES SHALL MAINTAIN TEN (10') FEET MINIMUM (CLEAR) HORIZONTAL DISTANCE FROM THE NEAREST PART OF ANY STRUCTURE, INCLUDING BUT NOT LIMITED TO BRIDGES, FOOTINGS, PIPE CULVERTS OR BOX CULVERTS. DIRECTIONAL BORES ARE NOT ALLOWED BENEATH BRIDGE FOOTINGS, CULVERT WINGWALL FOOTINGS OR RETAINING WALLS. THE TIP OF THE DRILL STRING SHALL HAVE A CUTTER HEAD. DETECTION WIRE SHALL BE INSTALLED WITH NON-FERROUS MATERIAL. ANY CHANGES SHALL BE SUBMITTED TO THE DISTRICT ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. FOR MULTIPLE CONDUIT INSTALLATIONS (INCLUDING PERPENDICULAR AND PARALLEL INSTALLATIONS), INSTALL CONDUITS WITH FIVE (5') FEET MINIMUM (CLEAR) HORIZONTAL SEPARATION BETWEEN EACH CONDUIT OR INSTALL MULTIPLE CONDUITS WITHIN A SINGLE DUCT.
2. ALL DIRECTIONAL DRILLED PIPING FOR SEWER FORCE MAINS AND WATERLINES SHALL BE A MINIMUM OF SDR-11.
3. AN OVBORSE SHALL NOT BE MORE THAN TWO (2") INCHES GREATER THAN THE DIAMETER OF THE PIPE OR ENCASEMENT. AN OVBORSE EXCEEDING TWO (2") INCHES GREATER THAN THE DIAMETER OF THE PIPE OR ENCASEMENT WILL BE CONSIDERED IF THE ENCROACHMENT AGREEMENT INCLUDES A STATEMENT SIGNED AND SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER INDICATING THAT AN OVBORSE IN EXCESS OF TWO (2") INCHES OF THE DIAMETER OF THE PIPE OR ENCASEMENT WILL ARCH AND NO DAMAGE WILL BE DONE TO THE PAVEMENT OR SUB-GRADE. HDPE PIPE INSTALLED BY DIRECTIONAL BORING SHALL NOT BE CONNECTED TO EXISTING PIPE OR FITTINGS FOR ONE (1) WEEK FROM THE TIME OF INSTALLATION TO ALLOW TENSIONAL STRESSES TO RELAX.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED