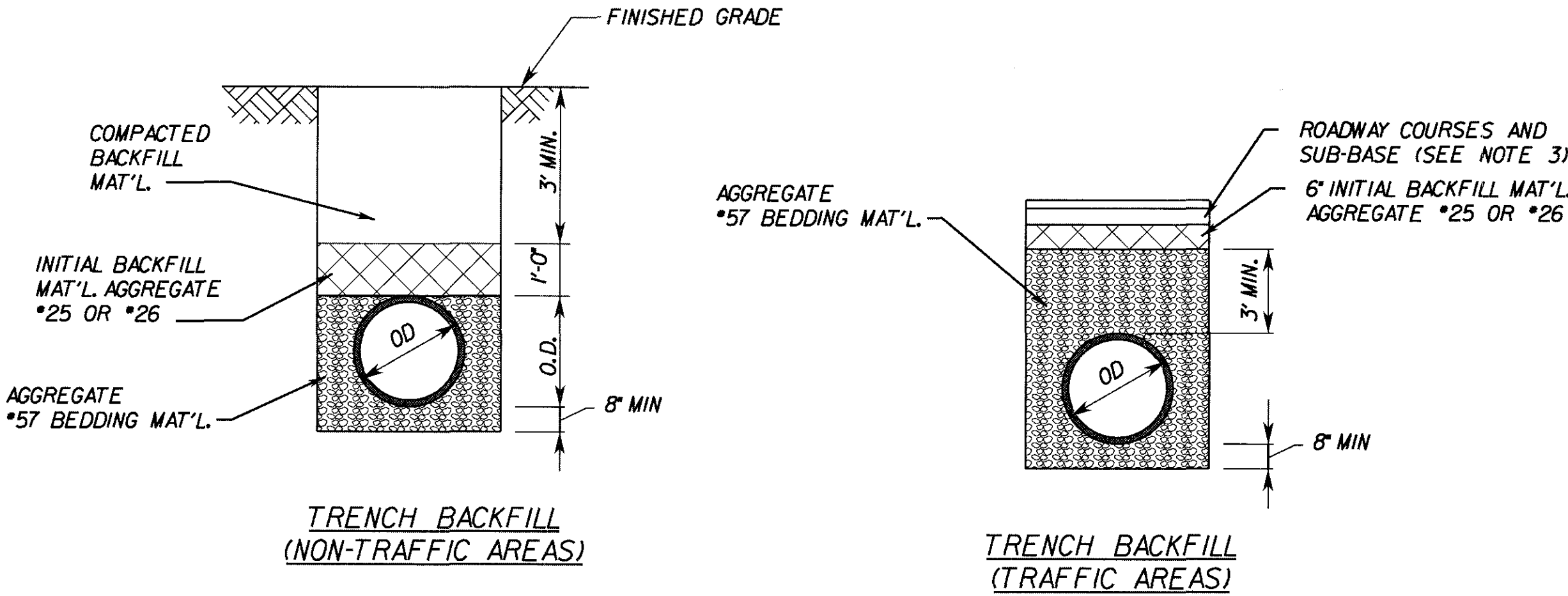


PROJECT MANAGER: Mohammad_Zaid, PE (540) 387-5374 (Salem)
SURVEYED BY: Richard_Zitans, LS (703) 631-5325 (Burgess & Niple)
DESIGN SUPERVISED BY: J.Scott_Hodge, PE (540) 857-3322 (AECOM)
DESIGNED BY: Craig_Riddle, PE (540) 857-3369 (AECOM)

UTILITY DETAILS

REVISED	STATE	ROUTE	STATE	SHEET NO.
			PROJECT	
	VA.	11	0081-011-120, PE-102 RW-202, C-502	18E
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT				
AECOM TECH. SERV., INC. ROANOKE, VIRGINIA UTILITY ENGINEER				

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION.



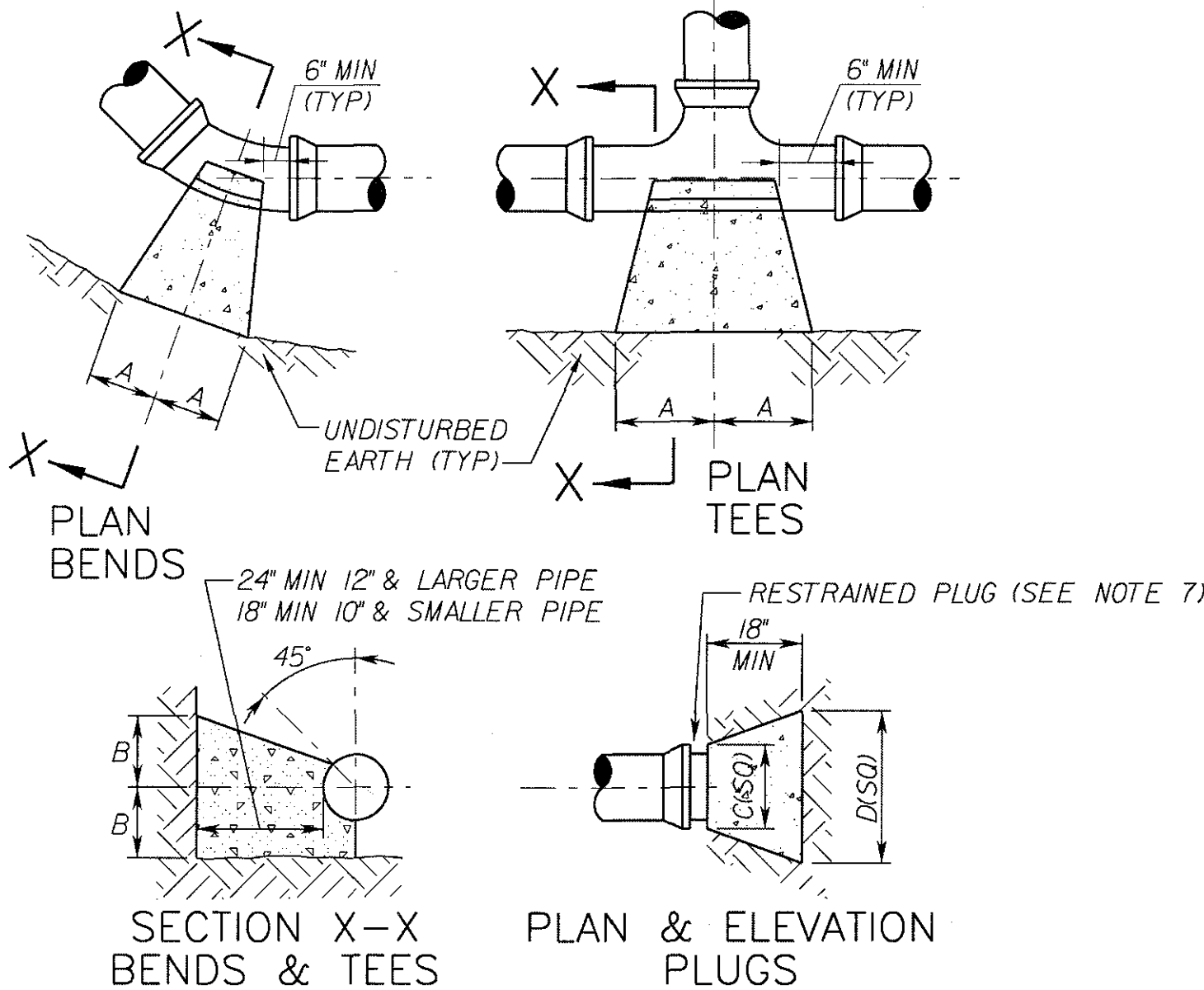
NOMINAL PIPE DIA	TRENCH WIDTH (1)
6"	2'-0"
8" THRU 12"	2'-8"

(1) WIDTH SHOWN IS TRENCH WIDTH FROM 12" ABOVE TOP OF PIPE TO BOTTOM OF TRENCH.

NOTES:

- INITIAL AND COMPACTED BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 520.03 OF THE VDOT SPECIFICATIONS. CRUSHED GLASS CONFORMING TO THE SIZE REQUIREMENTS FOR CRUSHER RUN AGGREGATE SIZE 25 OR 26 AND MEETING THE REQUIREMENTS OF SECTION 520.03 OF THE VDOT SPECIFICATIONS MAY BE USED AS BACKFILL MATERIAL.
- CONTRACTOR SHALL PROVIDE VDOT TYPE 3 (AS MODIFIED) BEDDING MATERIAL AS INDICATED FOR ALL BURIED UTILITIES. PROVIDE MINIMUM 90% STANDARD PROCTOR, AASHTO T-99 COMPACTION FROM TRENCH BOTTOM TO 12 INCHES ABOVE PIPE. COMPACT AS REQUIRED BY VDOT FROM 12 INCHES ABOVE PIPE TO GRADE ELEVATION.
- DEPTHS OF ROADWAY SUB-BASE AND COURSES AS INDICATED ON SHEETS 2A THRU 2A3.
- WHERE THE TRENCH BOTTOM IS IN ROCK, IT SHALL BE EXCAVATED TO A MINIMUM OF 8" BELOW THE BOTTOM OF THE PIPE AND BACKFILLED WITH BEDDING MATERIAL AS INDICATED.

UTILITY BEDDING AND PROTECTION WATER FACILITIES (VDOT UB-1 AND AS MODIFIED)
NO SCALE



NOTES:

- JOINTS, GLANDS AND BOLTS SHALL BE PROTECTED FROM CONC. BY PLASTIC SHEETING WHEN POURING REACTION BLOCKS.
- ALL REACTION BLOCK AND SUPPORT CONC. SHALL BE CLASS A3.
- REACTION BLOCKS WITH 'B' DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4" OF COVER.
- CONTRACTOR SHALL PERFORM SOIL BEARING CAPACITY TESTING IN THE VICINITY OF LOCATIONS WHERE REACTION BLOCKING IS TO BE INSTALLED. IF SOIL TESTING FOR LOCATIONS WHERE REACTION BLOCKING IS TO BE INSTALLED INDICATES SOIL BEARING CAPACITY LESS THAN 2000 PSF, CONTRACTOR SHALL SUBMIT REQUEST FOR REVISED REACTION BLOCKING DIMENSIONS TO THE ENGINEER. CONTRACTOR SHALL SUBMIT SOIL TESTING DATA TO THE ENGINEER AS PART OF THE REQUEST.
- REACTION BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH. IF THAT IS NOT PRACTICAL THEN BACKFILL BETWEEN THRUST BLOCK BEARING SURFACES AND UNDISTURBED SOIL BEARING SURFACES WITH VDOT NO. 10 STONE, COMPACTED IN 6" LAYERS, TO A 90% STANDARD PROCTOR, AASHTO T-99.
- PROVIDE TWO (2) FOOT MINIMUM COVER ABOVE TOP EDGE OF REACTION BLOCKING.
- RESTRAINED PLUG SHALL BE PRESSURE RATED TO 350 PSI. PLUG SHALL BE SUITABLE FOR SIZE AND PIPE MATERIAL FOR EXISTING AND PROPOSED PIPES TO BE PLUGGED. PLUG SHALL BE FULLY WATERTIGHT.
- PROVIDE THIS REACTION BLOCKING AT TAPPING SLEEVE VALVE LOCATIONS, TEES, BENDS, AND AS INDICATED AND DETAILED.

DIMENSION TABULATION

PIPE SIZE	22.5° BEND		45° BEND		90° BEND		TEES	
	A	B	A	B	A	B	A	B
12"	18"	18"	24"	24"	36"	30"	32"	24"

PIPE SIZE	PLUGS	
	C	B
8"	20"	38"

DESIGN CONDITIONS FOR TABULATED REACTION BLOCKING DIMENSIONS:
PRESSURE = 200 PSI
SOIL BEARING CAPACITY = 2000 PSF
FACTOR OF SAFETY = 1.5

REACTION BLOCKING
NO SCALE