

UTILITY ADJUSTMENT QUANTITIES & NOTES

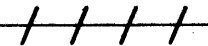
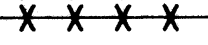
SANITARY SEWER FACILITIES COST RESPONSIBILITY

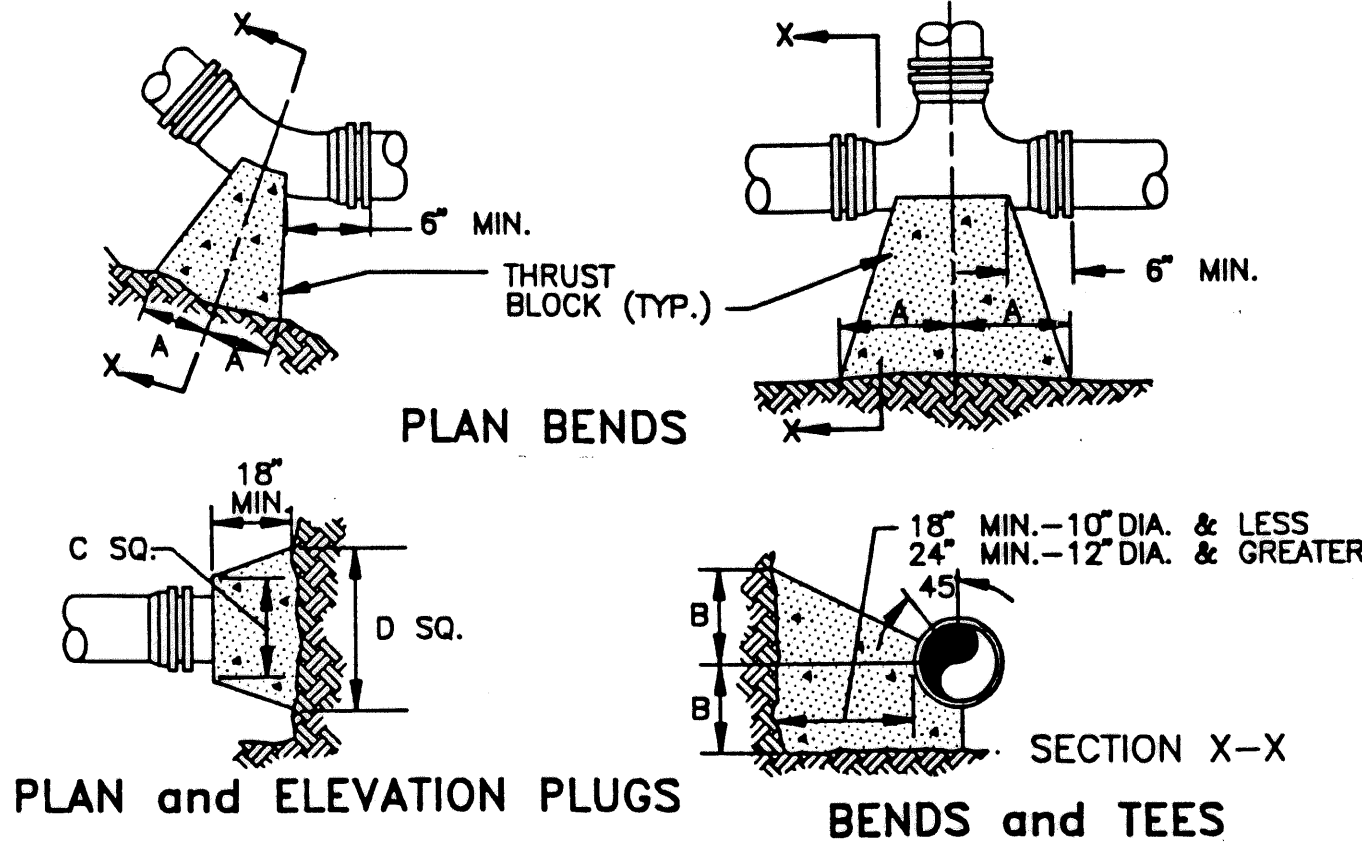
97.2%	PROJECT COST
2.8%	ROANOKE COUNTY COST

WATER FACILITIES COST RESPONSIBILITY

10.1%	PROJECT COST
89.9%	CITY OF ROANOKE COST

GENERAL NOTES

- THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE EXISTING WATER AND SANITARY SEWER FACILITIES WITHIN THE PROJECT UNTIL THE PROPOSED WATER AND SANITARY SEWER FACILITIES ARE INSTALLED AND PLACED INTO OPERATION, AND EXISTING WATER AND SANITARY SEWER FACILITIES ARE ABANDONED. ANY VARIANCE MUST BE APPROVED BY THE ENGINEER.
- CONNECTIONS TO EXISTING WATER LINES SHALL BE MADE ONLY AFTER THE PROPOSED LINES ARE COMPLETED AND APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL COORDINATE THE CHANGEOVER OF WATER FACILITIES WITH THE CITY OF ROANOKE WATER DEPARTMENT AND SHALL NOTIFY THE CITY, (TELE. 703-981-2601) FIVE DAYS PRIOR TO ANTICIPATED DATE OF CHANGEOVER. A REPRESENTATIVE OF THE CITY OF ROANOKE WATER DEPARTMENT SHALL BE PRESENT DURING THE OPERATION OF ALL VALVES IN CONNECTION WITH CHANGEOVER OF WATER FACILITIES. SHUT DOWN TIMES FOR WATER MAINS SHALL BE LIMITED TO 4 HOURS. THE CITY OF ROANOKE WATER DEPARTMENT SHALL MAKE BOTH "TAPS" TO THE EXISTING 12" MAIN ON SHEET (4). THE CONTRACTOR SHALL PREPARE THE TRENCH AND SHALL PERFORM ALL NECESSARY WORK EXCEPT FOR THE ACTUAL "TAPPING" PROCEDURE WHICH THE CITY SHALL PERFORM.
- THE CONTRACTOR SHALL INFORM THE LOCAL FIRE DEPARTMENT PRIOR TO ANY WORK ON FIRE HYDRANTS WITHIN THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE FIRE CHIEF, (TELE. 703-981-2327), WITH THE LOCATION OF HYDRANTS BEING WORKED ON AND A DOWNTIME SCHEDULE FOR EACH HYDRANT.
- THE CONTRACTOR SHALL SCHEDULE HIS HYDRANT INSTALLATION SO THAT NO TWO HYDRANTS IN LINE WILL BE OUT OF SERVICE AT THE SAME TIME. THE CONTRACTOR SHALL ALSO SEQUENCE EACH HYDRANT SET-UP FOR A MINIMAL AMOUNT OF DOWNTIME. ALL POSSIBLE TRENCHING AND ASSEMBLY REQUIRED FOR THE NEW HYDRANT SHALL BE DONE PRIOR TO TAKING THE OLD HYDRANT OFF LINE.
- WATER LINES ARE OWNED BY THE CITY OF ROANOKE WATER DEPARTMENT. SANITARY SEWER LINES ARE OWNED BY THE ROANOKE COUNTY UTILITY DEPARTMENT.
- THE LOCATIONS & ELEVATIONS OF EXISTING WATER MAINS, WATER SERVICE LINES, SANITARY SEWER SERVICE LATERALS, AND UNDERGROUND TELEPHONE, POWER, GAS, AND CABLE TELEVISION LINES ARE APPROXIMATE ONLY AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO EXCAVATION. THE CONTRACTOR SHALL ADJUST ALL SANITARY SEWER SERVICE LATERALS AND WATER SERVICE LINES FOUND TO BE IN CONFLICT WITH PROPOSED CONSTRUCTION. QUANTITIES OF LATERAL MATERIALS AND SERVICE LINE MATERIALS SHOWN ON THE PLANS ARE ESTIMATED. ACTUAL MATERIAL NEEDED MAY VARY DEPENDING ON FIELD CONDITIONS.
- THE SHEET REFERENCES MADE WITHIN THESE PLANS USING PARENTHESIS REFER TO THE CORRESPONDING SHEET OF THE UTILITY ADJUSTMENT PLANS. EXAMPLE:
SHEET (2) - REFERS TO SHEET 15(2)
- ALL EXISTING WATER VALVES TO BE "ABANDONED IN PLACE" SHALL BE CLOSED AND PLUGGED AND HAVE THEIR VALVE BOXES REMOVED. ALL OTHER VALVES NOT USED IN THE COMPLETED SYSTEM SHALL HAVE THEIR VALVE BOXES REMOVED COMPLETELY OR REMOVED TO A POINT ONE FOOT BELOW FINISHED GRADE OR NORMAL GROUND LINE AND FILLED WITH CLASS A3 CONCRETE.
- WATER MAINS AND SANITARY SEWER FORCE MAINS SHALL HAVE A MINIMUM COVER OF THREE FEET TO PROPOSED GRADE EXCEPT WHERE CONNECTING TO EXISTING MAINS OR OTHERWISE NOTED ON PLANS. IN SOME LOCATIONS, IT MAY BE NECESSARY FOR THE CONTRACTOR TO PLACE AND COMPACT FILL PRIOR TO WATER MAIN CONSTRUCTION.
- WHEN CONCRETE ENCASUREMENT IS CALLED FOR AROUND EXISTING SANITARY SEWER LINES, IF ANY MATERIAL IS ENCOUNTERED OTHER THAN DUCTILE IRON, THE CONTRACTOR SHALL REPLACE THE PIPE THROUGH THE CONCRETE ENCASUREMENT PLUS A DISTANCE OF 5 FEET ON EACH SIDE OF THE CONCRETE ENCASUREMENT WITH DUCTILE IRON PIPE IN ACCORDANCE WITH MATERIAL NOTE 18 ON SHEET (1), COMPLETE WITH THE NECESSARY TRANSITION COUPLINGS AND BEDDING IN ACCORDANCE WITH VDOT STANDARD UB-1, TYPE 2.
- ALL TEMPORARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS FOR PERMANENT CONSTRUCTION.
- SEE SHEET (17) FOR SUGGESTED SEQUENCE OF CONSTRUCTION.
- ITEMS DESIGNATED AS "TBA" AND/OR  ARE TO BE ABANDONED. ITEMS DESIGNATED AS "TBR" AND/OR  ARE TO BE REMOVED.
- THE CONTRACTOR SHALL CONTACT THE CITY OF ROANOKE ENGINEER'S OFFICE (TELE. 703-981-2731) TWO DAYS PRIOR TO EXCAVATION FOR THE VALVE VAULTS ON THE 36" WATER MAIN.

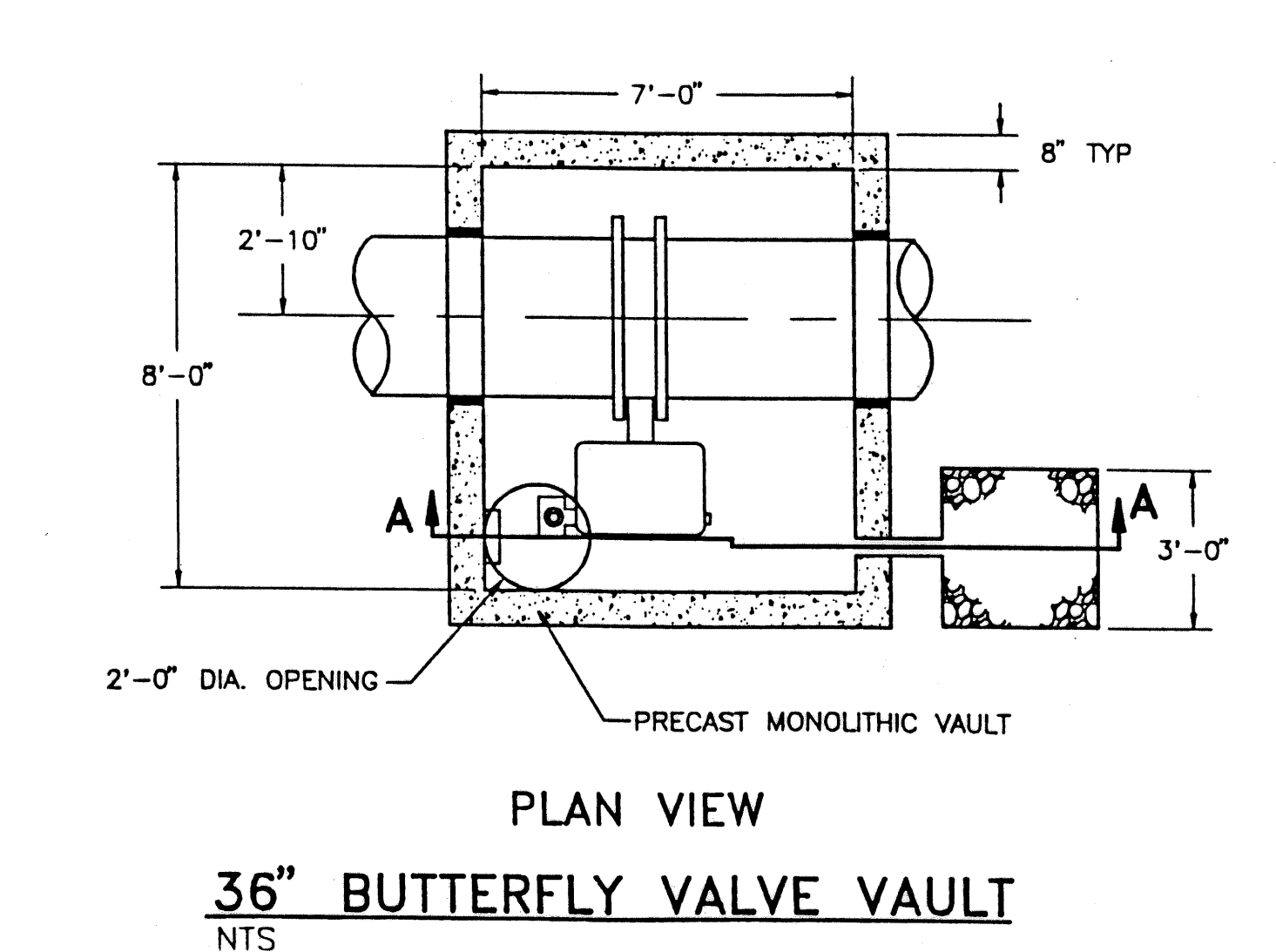
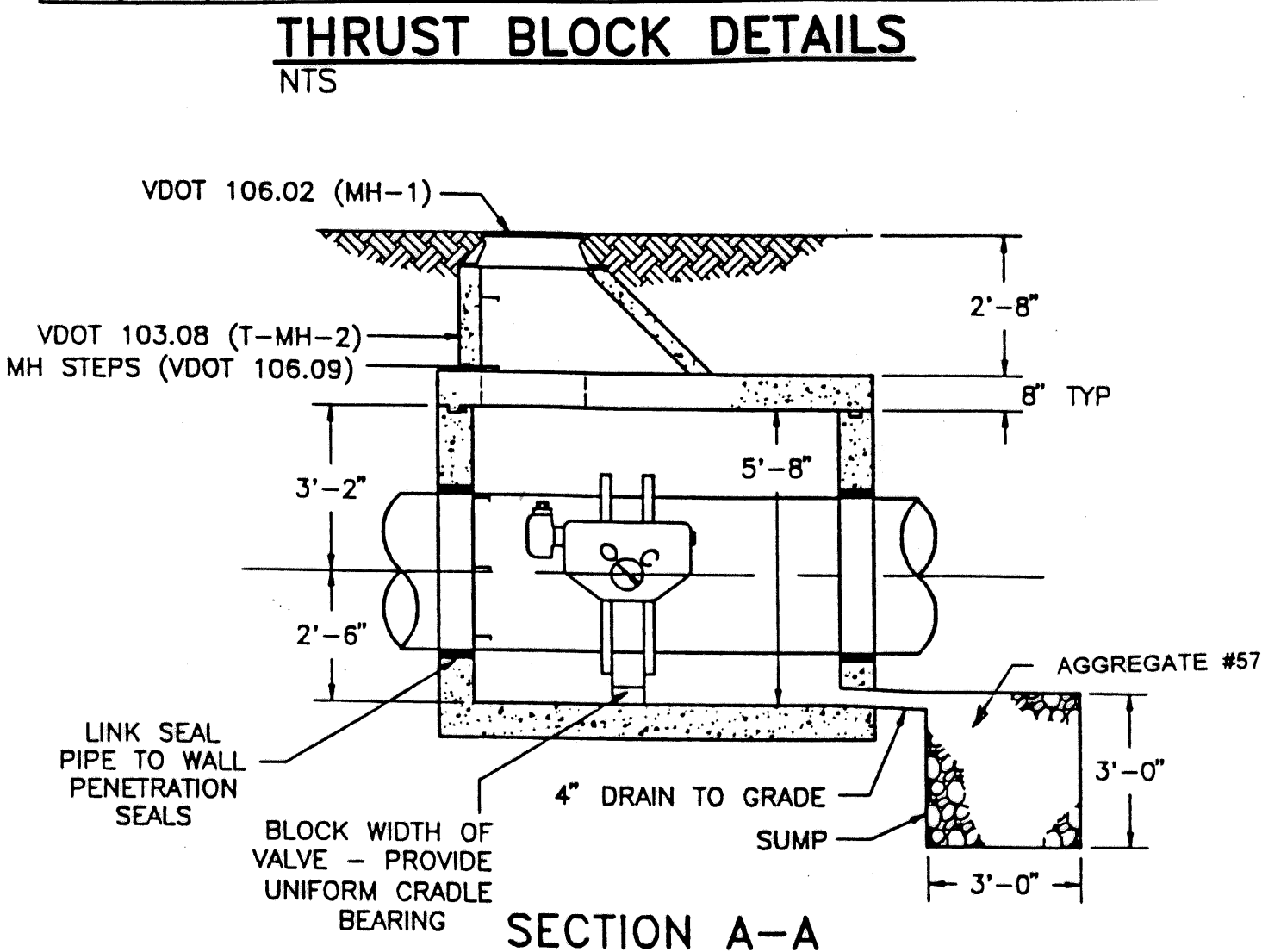


NOTES:

- FOR VERT. BEND DOWN IN EXCESS OF 11.25 DEGREES, ANCHORAGE SHALL BE RECOMMENDED BY ENGINEER.
- FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND
- GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. WHEN POURING THRUST BLOCKS
- ALL THRUST BLOCK & SUPPORT CONC. SHALL BE CLASS B.
- THRUST BLOCKS WITH 'B' DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.

SECTION of VERTICAL BEND

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
36"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

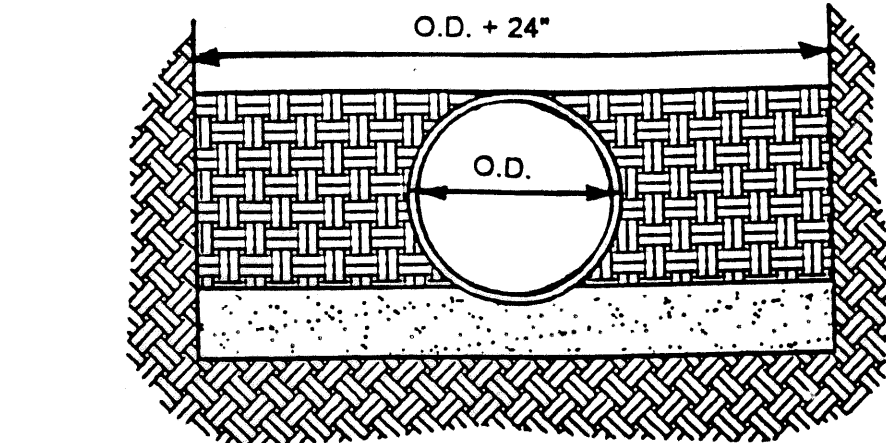
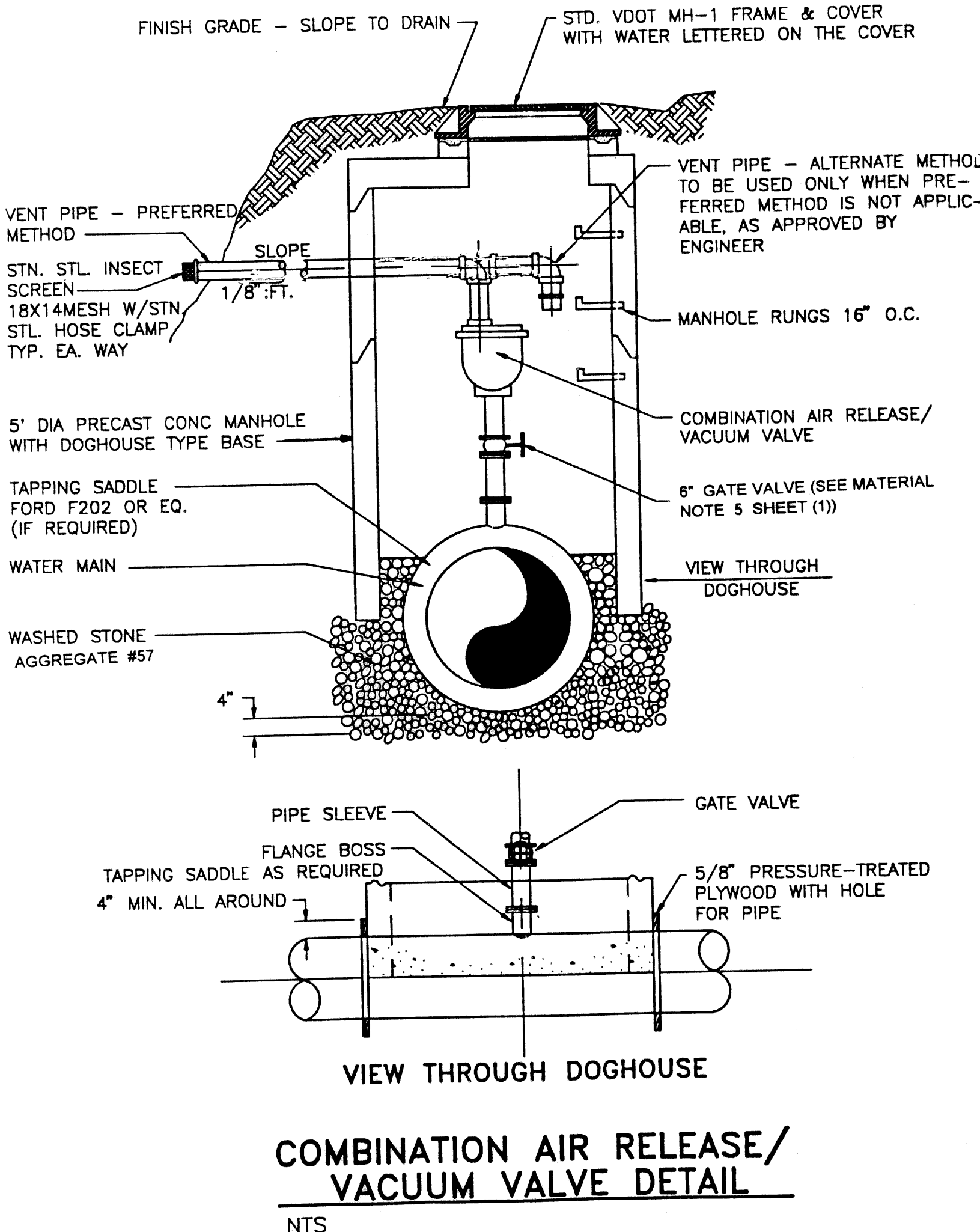


DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	FHWA REGION	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
11/27/94	3	VA.		11	0011-080-105, PE-102 RW-202 0011-080-F05, C-502	15(2)

AIR VACUUM VALVE CHART

PIPE SIZE	VALVE SIZE	CONNECTOR	VALVE
30" - 36"	6"	6" FLANGE	6" BALL VALVE



PIPE BEDDED IN 4 in. MINIMUM OF LOOSE SOIL. BACKFILL LIGHTLY CONSOLIDATED TO TOP OF PIPE.