

- QUALITY CONTROL
STREETS TO BE GRADED, PAVED AND ALL STRUCTURAL COMPONENTS ERECTED IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS AND ROAD DESIGN STANDARDS AND ROANOKE COUNTY DESIGN STANDARDS AND SPECIFICATIONS. ALL MATERIALS USED SHALL BE TESTED IN ACCORDANCE WITH STANDARD PRACTICES. THE DEVELOPER MUST CONTACT THE OFFICE OF THE RESIDENT ENGINEER PRIOR TO BEGINNING ANY CONSTRUCTION AT WHICH TIME AN INSPECTION AND TESTING PROCEDURE POLICY WILL BE DRAWN. THE DEVELOPER WILL PRODUCE TEST REPORTS FROM APPROVED INDEPENDENT LABORATORIES AT THE DEVELOPER'S EXPENSE.

THE PAVEMENT DESIGNS SHOWN ARE BASED ON A SUBGRADE CBR VALUE OF 10 OR GREATER. THE SUBGRADE SOIL IS TO BE TESTED BY AN INDEPENDENT LABORATORY AND THE RESULTS SUBMITTED TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO BASE CONSTRUCTION. SHOULD THE SUBGRADE CBR VALUES BE LESS THAN 10, THEN ADDITIONAL BASE MATERIAL WILL BE REQUIRED IN ACCORDANCE WITH DEPARTMENTAL SPECIFICATIONS.

THE SUBGRADE MUST BE APPROVED BY VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO PLACEMENT OF THE BASE. BASE MUST BE APPROVED BY VIRGINIA DEPARTMENT OF TRANSPORTATION FOR DEPTH, TEMPLATE AND COMPACTION BEFORE SURFACE IS APPLIED.
- UTILITIES
ALL NECESSARY UTILITY LATERALS ALONG WITH PROVISIONS FOR CONDUITS (I.E. WATER, SEWER, STORM, GAS AND TELEPHONE) WILL BE CONSTRUCTED PRIOR TO PLACEMENT OF BASE MATERIAL.

GAS OR PETROLEUM TRANSMISSION LINES WILL NOT BE PERMITTED WITHIN THE PAVEMENT OR SHOULDER ELEMENT (BACK OF CURB TO BACK OF CURB) OF THIS DEVELOPMENT. SERVICE LATERALS CROSSING AND PIPE LINES LOCATED OUTSIDE THE PAVEMENT BUT INSIDE THE RIGHT OF WAY WILL BE CONSTRUCTED IN CONFORMITY WITH ASA B 31.8 SPECIFICATIONS AND SAFETY REGULATIONS. DISTRIBUTION LINES WITH PRESSURES LESS THAN 120 LBS ARE UNAFFECTED BY THE ABOVE.

PERMITS WILL BE REQUIRED FOR ALL UTILITIES WITHIN STREET RIGHT OF WAY PRIOR TO ACCEPTANCE INTO THE SECONDARY HIGHWAY SYSTEM. ANY EASEMENTS GRANTED TO A UTILITY COMPANY FOR PLACEMENT OF POWER, TELEPHONE, ETC MUST BE RELEASED PRIOR TO ACCEPTANCE.
- PRIVATE ENTRANCES
MODIFIED CG-90 GUTTER WILL BE PROVIDED AT ALL ENTRANCES TO PRIVATE LOTS WHERE STANDARD CG-6 CURB AND GUTTER IS APPROVED FOR USE.

DRIVEWAYS CONNECTING TO ROADS WITHOUT CURB & GUTTER SHALL CONFORM TO THE PAVEMENT, SHOULDER & SLOPE.

PERMITS WILL BE REQUIRED FOR ALL PRIVATE ENTRANCES CONSTRUCTED ON STREET RIGHTS OF WAY AFTER ACCEPTANCE INTO THE SECONDARY HIGHWAY SYSTEM.

ALL PRIVATE ENTRANCES WITHIN THE RIGHT-OF-WAY AREA SHALL NOT EXCEED EIGHT PERCENT (8%) MAXIMUM GRADE.
- EROSION CONTROL AND LANDSCAPING
CARE MUST BE TAKEN DURING CONSTRUCTION TO PREVENT EROSION, DUST AND MUD FROM DAMAGING ADJACENT PROPERTY, CLOGGING DITCHES, TRACKING PUBLIC STREETS AND OTHERWISE CREATING A PUBLIC OR PRIVATE NUISANCE TO SURROUNDING AREAS.

THE ENTIRE CONSTRUCTION AREA INCLUDING DITCHES, CHANNELS, BACK OF CURBS AND OR PAVEMENT ARE TO BE BACKFILLED AND SEEDED AT THE EARLIEST POSSIBLE TIME AFTER FINAL GRADING.

DRAINAGE EASEMENTS MUST BE DEFINED BY EXCAVATED DITCHES OR CHANNELS FOR THEIR FULL LENGTH TO WELL DEFINED EXISTING NATURAL WATERCOURSES.

THE ROAD WILL BE REVEINED DURING CONSTRUCTION FOR THE NEED OF PAVED DITCHES. IF EROSION IS ENCOUNTERED IN ANY DRAINAGE EASEMENT, IT WILL BE THE RESPONSIBILITY OF THE DEVELOPER TO SOD, RIP RAP, GROUT, PAVE OR TO DO WHATEVER IS NECESSARY TO CORRECT THE PROBLEM.

ALL VEGETATION AND OVERBURDEN TO BE REMOVED FROM SHOULDER TO SHOULDER PRIOR TO THE CONDITIONING (CUTTING AND/OR PREPARATION) OF THE SUBGRADE.
- INTERSECTION PAVEMENT RADII
MINIMUM PAVEMENT RADII OF 25 FEET IS REQUIRED AT ALL STREET INTERSECTION.
- CONNECTIONS TO STATE-MAINTAINED ROADS
WHILE THESE PLANS HAVE BEEN APPROVED, SUCH APPROVAL DOES NOT EXEMPT CONNECTIONS WITH EXISTING STATE-MAINTAINED ROADS FROM FIELD REVIEW AT THE TIME PERMIT APPLICATIONS ARE MADE. THIS IS NECESSARY IN ORDER THAT THE PREVAILING CONDITIONS BE TAKEN INTO CONSIDERATION REGARDING SAFETY ACCOMPANISHMENTS SUCH AS TURNING LANE.
- STANDARD GUARDRAIL
GUARDRAIL WITH SAFETY END SECTIONS MAY BE REQUIRED ON FILLS AS DEMAND NECESSARY BY THE RESIDENT ENGINEER. AFTER COMPLETION OF ROUGH GRADING OPERATIONS, THE OFFICE OF THE RESIDENT ENGINEER, SHALL BE NOTIFIED SO THAT A FIELD REVIEW MAY BE MADE OF THE PROPOSED LOCATIONS.

WHERE GUARDRAILS ARE TO BE INSTALLED, THE SHOULDER WIDTH SHALL BE INCREASED IN ACCORDANCE WITH VDOT ROAD AND BRIDGE STANDARDS.
- STORM DRAINAGE
FIELD REVIEW WILL BE MADE DURING CONSTRUCTION TO DETERMINE THE NEED AND LIMITS OF PAVED DITCHES AND/OR DITCH STABILIZATION TREATMENTS, AND TO DETERMINE THE NEED AND LIMITS OF ADDITIONAL DRAINAGE EASEMENTS. ALL DRAINAGE EASEMENTS MUST BE CUT AND MADE TO FUNCTION TO A NATURAL WATERCOURSE. ANY EROSION PROBLEMS ENCOUNTERED IN AN EASEMENT MUST BE CORRECTED BY WHATEVER MEANS NECESSARY PRIOR TO SUBDIVISION ACCEPTANCE.

DITCH SLOPES ARE TO BE FOUR TO ONE (4:1) FOR SHOULDER WIDTHS OF SIX FEET (6') OR GREATER AND THREE TO ONE (3:1) FOR SHOULDER WIDTHS OF FOUR FEET (4') OR FIVE FEET (5'), UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- ENTRANCE PERMIT
CONTRACTOR SHALL OBTAIN ENTRANCE PERMIT TO THE EXISTING VIRGINIA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY FROM RESIDENT ENGINEER PRIOR TO ROAD CONSTRUCTION.
- INSPECTION
AN INSPECTOR WILL NOT BE FURNISHED EXCEPT FOR PERIODIC PROGRESS INSPECTION. THE ABOVE MENTIONED FIELD REVIEWS AND CHECKING FOR REQUIRED STONE DEPTH. THE DEVELOPER WILL BE REQUIRED TO POST A SURETY TO GUARANTEE THE ROAD FREE OF DEFECTS FOR ONE YEAR AFTER ACCEPTANCE BY THE DEPARTMENT OF TRANSPORTATION.
- STREET MAINTENANCE
THE STREETS MUST BE PROPERLY MAINTAINED UNTIL ACCEPTANCE. AT SUCH TIME AS ALL REQUIREMENTS HAVE BEEN MET FOR ACCEPTANCE, ANOTHER INSPECTION WILL BE MADE TO DETERMINE THAT THE STREET HAS BEEN PROPERLY MAINTAINED.
- UNDERGROUND UTILITIES
CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK BY CONTACTING MISS UTILITY. CONTACT SITE ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS. IF THERE APPEARS TO BE A CONFLICT, AND UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THIS PLAN, CALL "MISS UTILITY" OF CENTRAL VIRGINIA AT 1-800-552-1200.
- REVISIONS OF SPECIFICATIONS AND STANDARDS
APPROVAL OF THESE PLANS WILL BE BASED ON SPECIFICATIONS AND STANDARDS IN EFFECT AT THE TIME OF APPROVAL AND WILL BE SUBJECT

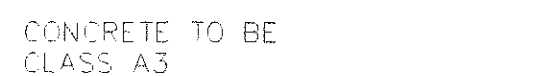
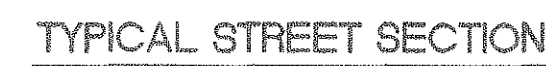


Figure 1 is a cross-sectional diagram of a concrete curb and gutter. The curb is 12 inches high and 2 inches wide at the top. The gutter is 4 inches wide and 2 inches deep. The road surface is 12 inches wide. The curb is made of 12-inch aggregate base and 6-inch asphaltic concrete. The gutter is made of 12-inch aggregate base and 6-inch asphaltic concrete. The road surface is made of 1 1/2-inch asphaltic concrete. The subgrade is 2 1/2 inches deep. The existing pavement section is shown on the left. The 100T Standard G-6 is indicated on the right.

RIGHT TURN LANE AND TAPER



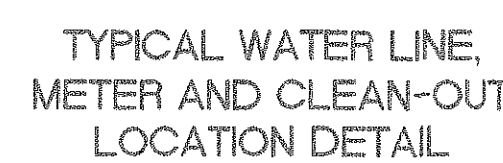
NO SCALE

NOTE: THE SIZE 21B AGGREGATE SHALL BE PRIMED WITH APPROXIMATELY 0.35 GAL/S.Y. OF RC-250 ASPHALT AND COVERED WITH 16 TO 18 LBS/S.Y. OF SIZE 8-P AGGREGATE BEFORE PLACING OF THE SM-9.5A.

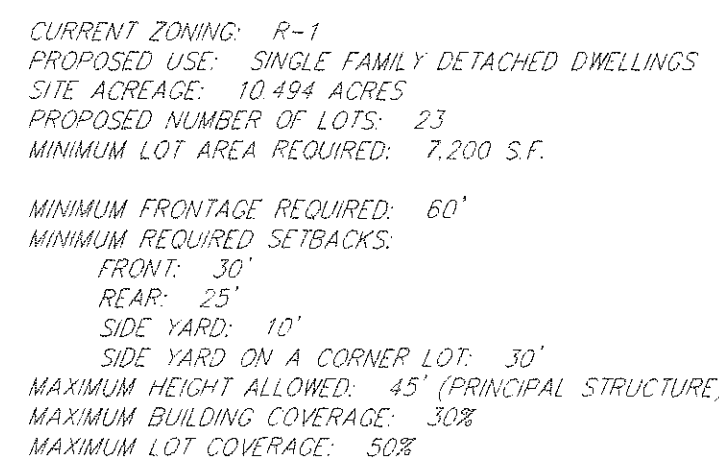


LOCATION DETAIL FOR DI-3A AND DI-3C (PRECAST)

NO SCALE



NO SCALE



1. THE PROPERTY SHOWN ON THESE PLANS IS LOCATED AT ROANOKE COUNTY TAX ASSESSMENT MAP 86.01-03-01.
2. BOONE, BOONE & LOEB, INC.
3022 ELECTRIC ROAD
ROANOKE, VA 24014
3. THE BOUNDARY IS THE DIRECT RESULT OF A FIELD SURVEY AND IS CERTIFIED CORRECT
4. TOPOGRAPHY DATA BASED ON AN SURVEY PREPARED BY MCKENZIE SNYDER.
5. NO TITLE REPORT WAS FURNISHED FOR THIS PROPERTY.
6. THE PROPERTY SHOWN ON THESE PLANS SHALL BE SERVED BY COUNTY WATER AND SEWER.
7. THE DEVELOPMENT ON THESE PLANS SHALL BE ACCESSED BY PUBLIC ROADS.

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT COUNTY OF ROANOKE STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
3. NO SUBSOL INVESTIGATIONS HAVE BEEN MADE BY THE DESIGNING ENGINEER.
4. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
6. ALL WATER AND SEWER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY ROANOKE COUNTY UTILITY DEPARTMENT.
7. SEE 2009 WVDOT ROAD AND BRIDGE STANDARDS FOR CONCRETE CURB AND STORM SEWER DETENTION.
8. THE CONTRACTOR AND OR OWNER SHALL PROVIDE A STORAGE CONTAINER FOR TEMPORARY STORAGE AND DISPOSAL OF LAND CLEARANCE DEBRIS AND BUILDING MATERIALS. ON-SITE BURIAL OF MATERIAL SHALL NOT BE PERMITTED.
9. NO DEVIATION TO THE DEVELOPMENT PLANS SHALL BE MADE WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER.
10. ANY ALTERATIONS TO THE UTILITY INFRASTRUCTURE, GRADE CHANGES, OR ANY ADJUSTMENT OF THE PLANS SHALL REQUIRE A NEW SET OF PLANS SEALED BY THE CONSULTING ENGINEER. COUNTY ENGINEERS SHALL REVIEW THE PLANS WITHIN ONE DAY OF SUBMITTAL.

1. AREAS TO BE GRADED SHALL BE CLEARED OF ALL VEGETATION, STRUCTURES, AND OTHER PHYSICAL FEATURES IN PREPARATION OF GRADING.
2. TOPSOIL SHALL BE REMOVED FROM THE CLEARED AREA AND STOCKPILED FOR FUTURE USE.
3. FILL MATERIAL SHALL BE FREE FROM ORGANIC MATTER AND ROCKS LARGER THAN 6 INCHES IN DIAMETER. FILL MATERIAL SHALL BE PLACED AND COMPACTED IN 8 INCH LIFTS TO 95% MINIMUM DENSITY, STANDARD PROCTOR.



LOCATION DETAIL FOR DI-3B (PRECAST)

NO SCALE

PIPE I.D.	H	L
12"	2.00'	4.00'
15"	2.25'	5.00'
18"	2.50'	6.00'
24"	3.17'	8.00'
30"	3.83'	10.00'
36"	4.50'	12.00'

1. CONCRETE 4,000 P.S.I.
2. REINFORCING #4 @ 6" C.C. E.W.
DOUBLE ROW THROUGHOUT.

