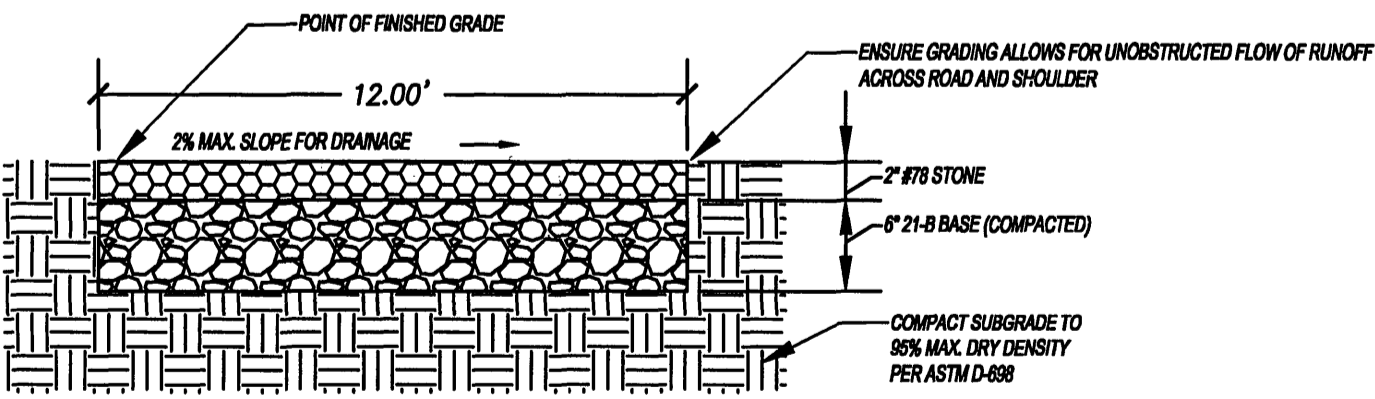


GRADING NOTES

1. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY LAND DISTURBING PERMITS.
2. PRIOR TO BEGINNING EARTHWORK OPERATIONS, THE OWNER SHALL EMPLOY A QUALIFIED, PROFESSIONAL GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF VIRGINIA. AS A RESULT OF ONSITE TESTING, THE GEOTECHNICAL ENGINEER SHALL MAKE RECOMMENDATIONS REGARDING THE OPTIMAL PLACEMENT OF FILL MATERIAL AND PROPER COMPACTION METHODS. NO WARRANTIES ARE MADE BY THE OWNER OR ENGINEER FOR ANY SUBSURFACE CONDITIONS ON THE PROPERTY.
3. FILL SHALL BE PLACED ONLY ON FIRM SUBGRADES APPROVED BY THE SOILS ENGINEER. SUBGRADES SHALL BE SCARIFIED TO A DEPTH OF 4 INCHES PRIOR TO FILL PLACEMENT TO ASSURE BONDING BETWEEN THE TWO SOILS. ALL FILL AREAS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% DRY DENSITY (ASTM698), UNLESS NOTED OTHERWISE. THE COMPACTION SHALL BE ACCOMPLISHED BY PLACING FILL IN 6 TO 8 INCH LIFTS AND MECHANICALLY COMPACTING EACH LIFT TO THE REQUIRED DENSITY. THE SOILS ENGINEER SHALL PERFORM FIELD DENSITY TEST ON EACH LIFT OR AS NECESSARY TO ASCERTAIN THAT ADEQUATE COMPACTION HAS BEEN ACHIEVED. CALIFORNIA BEARING RATIO TESTS SHALL BE PERFORMED IN MATERIAL PROPOSED FOR USE BENEATH PAVEMENT WHETHER CUT OR FILL.
4. CLEAR SITE WITHIN LIMITS OF GRADING WORK. DO NOT DISTURB AREAS OUTSIDE OF GRADING LIMITS OR PROPERTY BOUNDARY.
5. REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF IN A MANNER AND LOCATION ACCEPTABLE TO THE GOVERNING AUTHORITY. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING.
6. BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.
7. EXCAVATION FOR STRUCTURES:
A. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF PLUS OR MINUS 0.10 FOOT.
B. PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
C. REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
D. PROVIDE A MINIMUM OF 2'-0" FROM THE FINISHED GRADE TO TOP OF ALL EXTERIOR WALL FOOTINGS.
E. FOOTINGS WHICH SUPPORT CONCRETE MASONRY UNITS MAY BE STEPPED PROVIDED THE VERTICAL STEP DOES NOT EXCEED ONE HALF OF THE HORIZONTAL DISTANCE BETWEEN STEPS AND HORIZONTAL DISTANCE BETWEEN STEPS IS NOT LESS THAN TWO FEET.
F. IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM OF 12" BELOW THE BOTTOM OF THE FOOTINGS AND FILL THE RESULTING OVER-EXCAVATION WITH CONTROLLED FILL. CONFIRM EXCAVATIONS WITH GEOTECHNICAL ENGINEER.
8. CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED. GRADES SHOWN ARE FINISHED GRADES.
9. EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 FOR STORM DRAINAGE PIPING AND UB-1 FOR SANITARY SEWER AND WATER. BACK FILL TRENCHES WITH CONTROLLED FILL.
10. PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER REMOVED FROM EXCAVATIONS AND RAIN WATER TO COLLECTING OR RUNOFF AREAS. ESTABLISH AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DRAINAGE OUTSIDE EXCAVATION LIMITS FOR EACH STRUCTURE. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DITCHES.
11. PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THAN 35 F (1 C).
12. BACK FILLING:
A. COMPACT THE BACK FILL AROUND THE OUTSIDE OF BUILDING TO A MINIMUM OF 85% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 STANDARD PROCTOR. DO NOT ALLOW HEAVY EQUIPMENT SUCH AS ROLLERS, ETC., CLOSER TO ANY FOOTING THAN THE HORIZONTAL DISTANCE SUBTENDED BY A 45 ANGLE WITH THE TOP EDGE OF THE FOOTINGS AND THE SURFACE OF THE GROUND.
B. BACK FILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHEN BRACES ARE IN PLACE OR TEMPORARY BRACING FOR THE WALL IS PROPERLY INSTALLED, AND AFTER ACCEPTANCE OF CONSTRUCTION BELOW FINISH GRADE INCLUDING DAMP-PROOFING, REMOVAL OF CONCRETE FORMWORK, AND REMOVAL OF TRASH AND DEBRIS.
13. UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING INCLUDING ADJACENT TRANSITION AREAS. SMOOTH FINISHED SURFACES WITHIN SPECIFIED TOLERANCES, COMPACT WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. GRADE AREAS ADJACENT TO BUILDING LINES TO DRAIN AWAY FROM STRUCTURES TO PREVENT PONDING.
14. FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.
15. GRADE SURFACE UNDER BUILDING SLABS SMOOTH AND EVEN, FREE OF VOIDS. PROVIDE FINAL GRADES WITHIN 1/2" OF THOSE INDICATED WHEN TESTED WITH A 10' STRAIGHT EDGE.
16. PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.
17. UNDER FOUNDATIONS, SIDEWALKS, AND PAVEMENTS COMPACT EACH LAYER TO 95% MAXIMUM DRY DENSITY ASTM D698 (STANDARD PROCTOR).
18. UNDER LAWN OR UNPAVED AREAS, COMPACT SUBGRADE AND EACH LAYER TO 85% MAXIMUM DRY DENSITY ASTM D698 (STANDARD PROCTOR).
19. SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE CAPPED AND PIPED TO THE NEAREST STORM SEWER SYSTEM OR NATURAL WATERCOURSE. THE PIPE SHALL BE A MINIMUM OF 6" DIAMETER AND CONFORM TO V.D.O.T. STANDARD SB-1.
20. A PERMIT FROM THE DEPARTMENT OF ENVIRONMENTAL QUALITY IS REQUIRED FOR THIS PROJECT. CONTACT KEVIN HARLOW TO DETERMINE PROPER PERMITTING AT (540) 562-6788. THE PERMIT MUST BE APPLIED FOR TWO DAY PRIOR TO ANY LAND DISTURBANCE ON THIS SITE. A COPY OF THE APPLICATION MUST BE SUBMITTED TO ROANOKE COUNTY DEPARTMENT OF DEVELOPMENT REVIEW OFFICE WITHIN FIVE WORKING DAYS OF THE E & S PERMIT ISSUANCE DATE OR THE PERMIT WILL BE SUBJECT TO A STOP WORK ORDER BEING PLACED ON THE PROPERTY.

STORM SEWER SPECIFICATIONS

1. ALL STORM SEWER PIPE AND FITTINGS SHALL CONFORM TO THE LATEST STANDARDS & SPECIFICATIONS OF THE MANUFACTURER.
2. THE STORM SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. THE PIPE SHALL BE LAID IN A TRUE, STRAIGHT LINE WITH THE BELL ENDS UPSTREAM AND WITH THE INVERT OF THE PIPE BEING THE TRUE ELEVATION AND GRADE OF THE SYSTEM. THE PIPE SHALL BE VISUALLY INSPECTED FOR DEFECTS BEFORE LOWERING THE PIPE INTO THE TRENCH. FIELD CUTTING OF THE PIPE SHALL BE DONE IN A NEAT MANNER, SO AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE.
3. TRENCHES SHALL BE EXCAVATED IN STRAIGHT LINES AND SHALL BE OF SUFFICIENT WIDTH TO PERMIT THE PROPER INSTALLATION OF BRACING, SHORING OR SHEETING. TRENCH WIDTH SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. THE BOTTOM OF THE PIPE TRENCH SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 4 INCHES BELOW THE BOTTOM OF THE PIPE, TO PROVIDE FOR THE COMPACTED BEDDING MATERIAL.
4. BACKFILL MATERIAL SHALL BE EITHER APPROVED EXCAVATED MATERIAL OR APPROVED SUITABLE MATERIAL FROM OTHER SOURCES THAT IS FREE OF ORGANIC MATTER OR OTHER OBJECTIONABLE MATERIAL. BACKFILL FROM PIPE BEDDING TO MINIMUM ONE FOOT ABOVE THE TOP OF THE PIPE SHALL BE FREE OF STONES LARGER THAN 2 INCHES AND SHALL BE PLACED IN 6 INCH LAYERS AND COMPACTED WITH HAND TAMPERS. BACKFILL FROM THIS POINT TO THE TOP OF THE TRENCH SHALL BE FREE OF STONES LARGER THAN 4 INCHES AND SHALL BE PLACED IN LAYERS NOT TO EXCEED 8 INCHES AND COMPACTED WITH MECHANICAL TAMPERS.



GRAVEL ACCESS ROAD DETAIL
NOT TO SCALE

EROSION & SEDIMENT CONTROL PHASING NOTES

1. BEGIN CLEARING OPERATIONS AT THE LIMITS OF DISTURBANCE. SET TREE PROTECTION MEASURES AT THE DRIP LINES OF TREES OUTSIDE EXCAVATION LIMITS.
2. INSTALL ALL PERIMETER CONTROLS IMMEDIATELY FOLLOWING CLEARING OPERATION.
3. ESTABLISH ALL PERIMETER SILT FENCE MEASURES AS IDENTIFIED ON THE PLANS.
4. IMMEDIATELY FOLLOWING GRADING OF CUT AND FILL SLOPES, ALL SLOPES SHALL BE DRESSED FOR SEEDING BY FILLING OF RILLS AND OTHER EROSION AREAS AND TRACK ROLLED. ALL SLOPES EXCEEDING 3:1 SHALL BE HYDROSEEDING WITH SEED AS SPECIFIED ON THE EROSION CONTROL DETAIL SHEET AND COVERED IMMEDIATELY WITH SLOPE PROTECTION BLANKET MATTING. BLANKET MATTING SHALL BE NORTH AMERICAN GREEN S150 MATTING. INSTALL PER MANUFACTURERS STANDARDS AND SPECIFICATIONS.
5. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL REMOVAL IS APPROVED BY THE INSPECTOR. REMOVE ALL DEVICES COMPLETELY, REDRESS THE AREA AND RESEED.

GENERAL UTILITY NOTES

1. VERIFY LOCATION, SIZE AND ELEVATION FOR ALL UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION, SIZE OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN, IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON PLAN.
2. PROVIDE CONSTRUCTION METHODS AND MATERIALS IN ACCORDANCE WITH THE COMMONWEALTH OF VIRGINIA SEWAGE AND WATERWORKS REGULATIONS AND ROANOKE COUNTY BUILDING REGULATIONS WHERE APPLICABLE.
3. A MINIMUM OF THREE (3) FEET OF COVER IS REQUIRED OVER PROPOSED WATER AND SEWER LINES.
4. ALL EXISTING UTILITIES MAY NOT BE SHOWN IN EXACT LOCATION. THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS, SECTION 12.05.03, WHERE LINES CROSS.
5. ALL UTILITY LINES SHALL BE STAKED PRIOR TO CONSTRUCTION.
6. REFER TO DETAIL SHEETS FOR BEDDING DETAILS. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, THE TRENCH SHALL BE BACKFILLED WITH SELECTED MATERIAL, THOROUGHLY COMPACTED TO 95% OF THE STANDARD PROCTOR (ASTM D698) UNDER PAVEMENT OR CONCRETE SLAB, USING CARE NOT TO DAMAGE THE PIPE.
7. ALL WATER MAINS SHALL BE PROPERLY RESTRAINED WITH PROPER THRUST BLOCKING OR APPROVED ALTERNATIVE.
8. ALL WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARDS. COORDINATE INSPECTIONS FOR TESTING WITH GOVERNING JURISDICTION.
9. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. UTILITIES MAY EXIST WITHIN THE CONSTRUCTION AREA OF THESE PLANS THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES BEFORE COMMENCING WORK, AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE SUCH UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THESE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE CONTINUANCE OF SERVICE. CALL MISS UTILITIES AT 1.800.552.7001 (TOLL FREE) 48 HOURS BEFORE DIGGING.
10. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL, GAS, TELEPHONE, CABLE, AND FIBER OPTIC INSTALLATIONS WITH THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL REQUIRED CONDUIT, WHERE UTILITIES DROP TO UNDERGROUND, PROVIDE CONDUIT RUNS THE ENTIRE LENGTH OF ROUTE TO BUILDING CONNECTION POINT.

SITE TABULATION

ZONING CLASSIFICATION: C2	
PROPOSED USE:	ORTHODONTIST OFFICE
MINIMUM LOT AREA:	15,000 sq. ft.
W/ PUBLIC WATER AND SEWER PROVIDED:	104,393 sq. ft.
MINIMUM STREET FRONTAGE:	75 ft.
W/ PUBLIC WATER AND SEWER PROVIDED:	194.17 ft.
MAXIMUM W/D RATIO:	N/A
SETBACK REQUIREMENTS:	30 ft.
FRONT YARD:	NONE
SIDE YARD:	15 ft.
REAR YARD:	
ACCESSORY BUILDINGS PROVIDED:	NONE PROPOSED
ALLOWABLE COVERAGE AND HEIGHT:	
MAIN BUILDING:	50%
MAXIMUM LOT COVERAGE:	90%
ACCESSORY BUILDING COVERAGE:	N/A
MAX. BUILDING HEIGHT:	45 ft.

PROPOSED COVERAGE AND HEIGHT:	
MAIN BUILDING:	4.6%
LOT COVERAGE:	13.7%
BUILDING HEIGHT:	32' (SEE ARCHITECTURAL PLANS)

LANDSCAPING REQUIREMENTS:	
BUFFER YARD	
REQUIRED = 30.00' OR 40.00'	
PROVIDED = 30.00'	
LANDSCAPING:	
1 LARGE TREE FOR EVERY 30.00'	
4 SHRUBS FOR EVERY 10.00'	
6' BOARD ON BOARD FENCE	
MAINTAIN THE EXISTING TREES, EXISTING	
SLOPES ARE 2:1	
WAIVER REQUESTED FOR USE OF EXISTING VEGETATION IN BUFFER	
YARD (GRANTED)	

RIGHT-OF-WAY	
FRONTAGE: 189.04'	
REQUIRED:	
1 TREE/30 LF (LARGE DECIDUOUS) = 7 TREES	
1 TREE/20 LF (UNDERSTORY) = 10 TREES	
2 SHRUB/5 LF = 76 SHRUBS	

PROVIDED:	
FRONTAGE: 189.04'	
UNDERSTORY TREES = 7 (129.04 LF)	
LARGE TREES = 2 (60 LF)	
SHRUBS = 80	

CANOPY REQUIRED= 35,808 SF X 0.35=12,532 SF	
CANOPY PROVIDED= 12,565 SF	

PARKING	
REQUIRED: OFFICE-1/200 S.F.	
8200 S.F. OFFICE AREA = 41 SPACES	
PROVIDED: 41 SPACES INCLUDED 2 HC SPACES	

GENERAL NOTES

1. QUALITY CONTROL

ALL WORK DONE IN THE PROPOSED, OR EXISTING RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO STREET GRADING, STREET PAVING AND ALL CONSTRUCTION OF ALL STRUCTURAL COMPONENTS, SHALL BE DONE IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS. ALL MATERIALS USED SHALL BE TESTED IN ACCORDANCE WITH VDOT STANDARD POLICIES. THE DEVELOPER SHALL CONTACT THE OFFICE OF THE RESIDENT ENGINEER, PRIOR TO BEGINNING CONSTRUCTION WITHIN THE PROPOSED OR EXISTING RIGHT OF WAY. AT THAT TIME, THE RESIDENT ENGINEER SHALL PREPARE AN INSPECTION AND TESTING SCHEDULE.

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, ADDITIONAL BASE MATERIAL WILL BE REQUIRED IN ACCORDANCE WITH DEPARTMENTAL SPECIFICATIONS.

THE SUBGRADE SHALL BE APPROVED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO PLACEMENT OF THE BASE MATERIAL. BASE SHALL BE APPROVED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION FOR DEPTH, TEMPLATE, AND COMPACTION BEFORE SURFACE IS APPLIED.

2. UTILITIES

ALL NECESSARY LATERALS ALONG WITH PROVISIONS FOR CONDUITS (I.E. WATER, SEWER, STORM, GAS AND TELEPHONE) WILL BE CONSTRUCTED PRIOR TO PAVEMENT BASE MATERIAL.

GAS OR PETROLEUM TRANSMISSION LINES WILL NOT BE PERMITTED WITHIN THE PAVEMENT OR SHOULDER ELEMENT (BACK CURB TO BACK OF CURB) OF THIS DEVELOPMENT. SERVICE LATERALS CROSSING AND PIPE LINES LOCATED OUTSIDE THE PAVEMENT BY INSIDE THE RIGHT OF WAY WILL BE CONSTRUCTED IN CONFORMITY WITH ASAB.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 THE STREET RIGHT-OF-WAY PRIOR TO ACCEPTANCE INTO THE SECONDARY HIGHWAY SYSTEM. ANY EASEMENT GRANTED TO A UTILITY COMPANY FOR PLACEMENT OF POWER, TELEPHONE, WATER, SEWER, ETC..., SHALL BE RELEASED PRIOR TO ACCEPTANCE.

3. PRIVATE ENTRANCES

MODIFIED CG-8D 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 AND GUTTER SHALL CONFORM TO THE PAVEMENT, SHOULDER AND SLOPE.

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

4. EROSION CONTROL AND LANDSCAPING

CARE SHALL 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 SHALL BE BACKFILLED AND SEEDDED 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.

ALL VEGETATION AND OVERBURDEN TO BE REMOVED FROM SHOULDER TO SHOULDER PRIOR TO CONDITIONING (CUTTING AND/OR PREPARATION) OF THE SUBGRADE.

5. INTERSECTION PAVEMENT RADIUS

MINIMUM PAVEMENT RADIUS OF 25 FEET REQUIRED AT ALL STREET INTERSECTIONS.

6. PAVEMENT RADI

ALL RADII ON PAVEMENT AND FACE OF CURB ARE 5.00' UNLESS NOTED OTHERWISE.

7. CONNECTIONS TO STATE-MAINTAINED ROADS

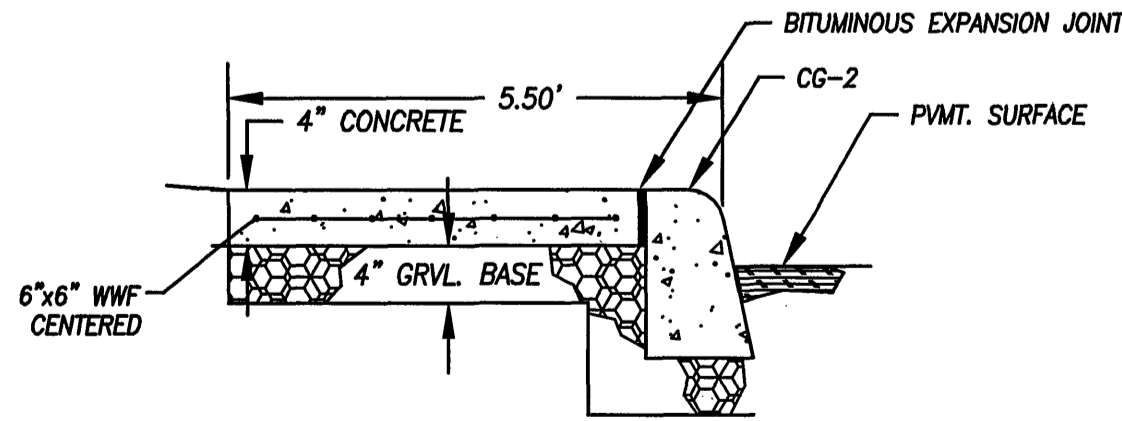
WHILE THESE PLANS HAVE BEEN APPROVED, SUCH APPROVAL DOES NOT EXEMPT CONNECTIONS WITH EXISTING STATE MAINTAINED ROADS FROM CRITICAL REVIEW AT THE TIME PERMIT APPLICATIONS ARE MADE. THIS IS NECESSARY IN ORDER THAT THE PREVAILING CONDITIONS BE TAKEN INTO CONSIDERATION REGARDING SAFETY ACCOMPANIMENTS SUCH AS TURNING LANES.

8. STORM DRAINAGE

FIELD REVIEW WILL BE MADE DURING CONSTRUCTION TO DETERMINE THE NEED AND LIMITS OF PAVED DITCHES AND/OR DITCH STABILIZATION TREATMENTS, TO DETERMINE THE NEED AND LIMITS OF ADDITIONAL DRAINAGE EASEMENTS. ALL DRAINAGE EASEMENTS SHALL BE CUT AND MADE TO FUNCTION TO A NATURAL WATERCOURSE. ANY EROSION PROBLEMS ENCOUNTERED IN AN EASEMENT SHALL 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.

- SIDEWALK CONCRETE TO BE 3500psi (A.E.) AS A MINIMUM.
- SCORE JOINTS SHALL BE PROVIDED @ 5.0' INTERVALS ALONG THE LENGTH OF THE SIDEWALK; BITUMINOUS EXPANSION SHALL BE USED @ 25' INTERVALS ALONG THE LENGTH OF THE WALKWAY.
- SIDEWALK TO BE SLOPED AT 2% MAX. TO PRECLUDE PONDING OF WATER.



SIDEWALK DETAILS
NOT TO SCALE

GENERAL NOTES CONTINUED:

9. ENTRANCE PERMIT

CONTRACTOR SHALL OBTAIN A STREET OPENING PERMIT FROM THE CITY OF ROANOKE PRIOR TO PALCEMENT OF THE CONSTRUCTION ENTRANCE OR SITE CONSTRUCTION.

10. INSPECTION

AN INSPECTOR WILL NOT BE FURNISHED EXCEPT FOR PERIODIC PROGRESS INSPECTIONS, THE ABOVE MENTIONED FIELD REVIEWS, AND CHECKING FOR REQUIRED STONE DEPTHS.

11. UNDERGROUND UTILITIES

CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF THE 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, CONTACT "MISS UTILITY" OF CENTRAL VIRGINIA AT 1-800-552-7001.

12. SIGNAGE

A SEPARATE SIGN PERMIT IS REQUIRED AND WILL ADHERE TO THE SIGN PERMIT REGULATIONS OF THE ROANOKE COUNTY ZONING ORDINANCE. REFER TO SECTION 30-93-13(E(3)) OF THE ZONING ORDINANCE. NO ON-PREMISES FREESTANDING SIGN SHALL BE ALLOWED ON ANY LOT HAVING LESS THAN THE MINIMUM REQUIRED LOT FRONTAGE FOR THE ZONING DISTRICT OF THE PROPERTY. THE REQUIRED MINIMUM SEPARATION FOR FREESTANDING SIGNS ON A LOT OR LOTS UNDER SINGLE OWNERSHIP OR CONTROL SHALL BE TWO HUNDRED FIFTY FEET. NO FREESTANDING SIGN SHALL BE LOCATED WITHIN FIFTEEN FEET OF ANY OTHER FREESTANDING SIGN ON AN ADJACENT OR ADJOINING LOT.

13. CERTIFIED RESPONSIBLE LAND DISTURBER

A CERTIFIED RESPONSIBLE LAND DISTURBER MUST BE NAMED BY THE CONTRACTOR PRIOR TO THE PRE-CONSTRUCTION MEETING. ROANOKE COUNTY WILL REQUIRE THAT THIS PERSON ATTEND THE PRE-CONSTRUCTION MEETING WITH A COPY OF THE RLD CERTIFICATE AT LEAST (2) TWO DAYS PRIOR TO SCHEDULED MEETING.

14. LANDSCAPING

ROOFTOP AND GROUND MECHANICAL EQUIPMENT SHALL BE SCREENED.

15. RIGHT-OF-WAYS

FOR WORK WITHIN ROAD RIGHT-OF-WAY, CONTRACTOR SHALL SECURE A STREET OPENING PERMIT FOR ROANOKE CITY. THE PERMIT IS REQUIRED PRIOR TO CONSTURTION OR PLACEMENT OF THE CONSTRUCTION ENTRANCE.

16. LIGHTING

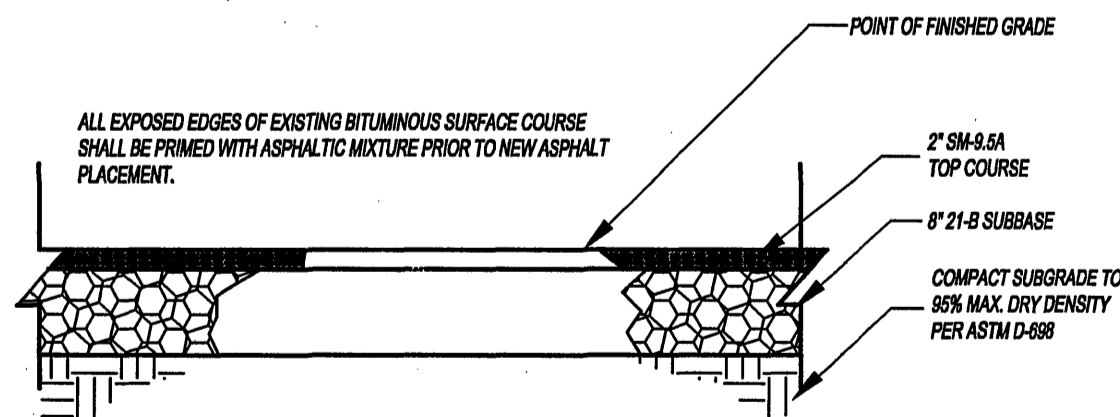
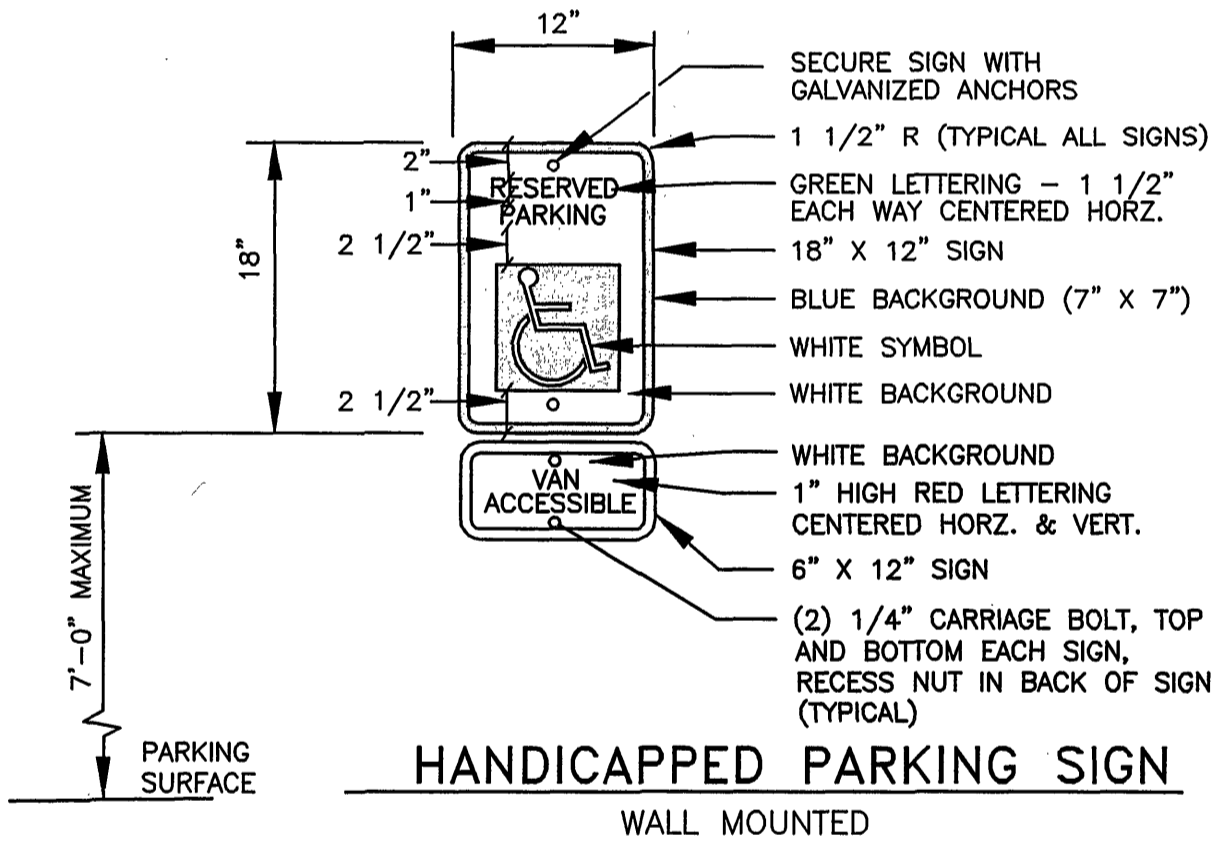
LIGHTS ON BUILDINGS AND FREE STANDING FIXTURES TO BE FILLED WITH DIFFUSERS TO LIMIT INTENSITY AT PROPERTY LINES TO A MAXIMUM OF 0.5 FOOTCANDLES.

17. CHANGES

NO CONSTRUCTION / FIELD CHANGES WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER AND ROANOKE COUNTY. ARE ALLOWED. ANY NEW ALIGNMENTS, CHANGES IN GRADES, ALTERNATIVE PIPE SIZES OR MANHOLES AND CHANGES IN EROSION AND SEDIMENT CONTROL MEASURES WILL REQUIRE A NEW SET OF PLANS STAMPED BY THE CONSULTING ENGINEER. PLANS SUBMITTED TO ROANOKE COUNTY FOR REVIEW CAN BE 8 1/2" x 11" SHEET SIZE IF INFORMATION IS LEGIBLE.

18. DCR NOTE

THE DEPARTMENT OF CONSERVATION AND RECREATION (DCR) REQUIRES ANY LAND DISTURBANCE OF 1 ACRE OR GREATER TO OBTAIN PERMITS THROUGH THEIR OFFICE. CONTACT LEE HILL AT DCR TO DETERMINE PROPER PERMITTING AT (804)786-3998. THIS PERMIT MUST BE APPLIED FOR TWO (2) DAYS PRIOR TO ANY LAND DISTURBANCE ON THE PROPERTY. A COPY OF THE APPLICATION MUST BE SUBMITTED TO THE ROANOKE COUNTY OFFICE OF COMMUNITY DEVELOPMENT WITHIN TWO (2) WORKING DAYS PRIOR TO A PRECONSTRUCTION MEETING.

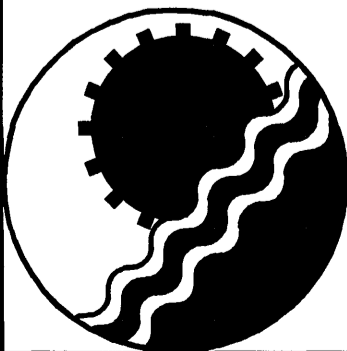


PAVEMENT SECTION
NOT TO SCALE

NOTE:
1. THE PAVEMENT DESIGNS SHOWN ARE BASED ON A SUBGRADE RATING OF CBR 10 OR GREATER. THE SUBGRADE SOIL IS TO BE TESTED BY A GEOTECHNICAL ENGINEER AND THE RESULTS SUBMITTED TO THE ENGINEER PRIOR TO PAVEMENT CONSTRUCTION. SHOULD THE CBR VALUES BE LESS THAN CBR 10, THEN ADDITIONAL BASE MATERIAL AND/OR ASPHALT WILL BE REQUIRED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

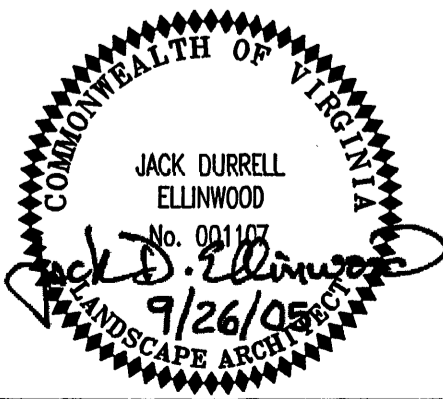
2. THE SUBGRADE MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF BASE MATERIAL. BASE MUST BE APPROVED BY THE ENGINEER FOR DEPTH, TEMPLATE, AND COMPACTION BEFORE SURFACE IS APPLIED.

WWW.ID# 8PH40



ENGINEERING CONCEPTS, INC.

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ROANOKE, VIRGINIA 24018
540.776.5715 FAX: 540.776.8543



No.	Revision	By	Appd.	Date	Drawn	DRB	AS SHOWN
1	REV. PER CO. COMMENTS 7/25/05	DRB	JOE	8-23-05	Designed	DRB	JULY 7, 2005
2	CO. 9-7-05, CITY 9-1-05 COM.	DRB	JDE	9-26-05	Checked	JDE	PROJECT: 05050
					Approved	JDE	2

ORTHODONTIST OFFICE FOR
PAUL C. KAISER LTD.

NOTES AND DETAILS
ROANOKE COUNTY, VIRGINIA