

UTILITY NOTES

- SUPPLY AND INSTALL ALL MATERIALS AND METHODS FOR WATERLINES, SANITARY SEWERS AND STORM DRAINAGE IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS OF WVA AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS", LATEST EDITION.
- OBTAIN ALL REQUIRED PERMITS AND NOTIFY APPROPRIATE OFFICIALS 48 HOURS PRIOR TO COMMENCEMENT OF WORK. OBTAIN INFORMATION FROM WVA CONCERNING PERMITS AND CONNECTIONS TO EXISTING LINES.
- ALL WORK SHALL BE SUBJECT TO INSPECTION BY ROANOKE COUNTY. NOTIFY APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF WORK.
- SITE SHALL BE TO SUB GRADE PRIOR TO INSTALLATION OF UTILITIES. ALL UTILITIES SHALL BE IN PLACE PRIOR TO PLACEMENT OF PAVEMENT BASE MATERIAL.
- USE SELECT MATERIAL FREE FROM FROST, LARGE CLODS, STONES, AND DEBRIS FOR BACK FILL FROM THE BOTTOM OF THE TRENCH TO TWELVE (12) INCHES ABOVE THE PIPE.
- MINIMIZE ANY DISTURBANCE TO EXISTING WATER SERVICE, SEWER LINES OR ANY OTHER UTILITY DURING CONSTRUCTION AND PROVIDE QUALITY WORKMANSHIP.
- MAKE ALL PIPE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE COUNTY'S SPECIFICATIONS. MAKE JOINTS BETWEEN DIFFERENT PIPE MATERIALS WITH STANDARD FITTINGS MANUFACTURED FOR THE PURPOSE.
- MAINTAIN ALL WATER LINES AT TEN (10) FEET HORIZONTAL SEPARATION FROM SEWER LINES AND MANHOLES; MEASURE THE DISTANCE EDGE-TO-EDGE. WHEN LOCAL CONDITIONS PREVENT THE DESIRED HORIZONTAL SEPARATION, THE WATERLINE MAY BE LAID CLOSER TO THE SEWER OR MANHOLE PROVIDED THAT THE BOTTOM OF THE WATERLINE SHALL BE AT LEAST EIGHTEEN (18) INCHES ABOVE THE TOP OF THE SEWER. WHERE THIS VERTICAL SEPARATION CANNOT BE OBTAINED, CONSTRUCT THE SEWER OF ANWA APPROVED WATER PIPE AND PRESSURE TREAT IN PLACE PRIOR TO BACKFILLING. THE SEWER MANHOLE SHALL BE OF WATERTIGHT CONSTRUCTION TESTED IN PLACE.
- SEWER AND WATER TAPS SHALL BE LOCATED BY THE CONTRACTOR AND MADE BY THE WESTERN VIRGINIA WATER AUTHORITY.
- LOCATE AND UNCOVER VALVE VAULTS AND MANHOLES AFTER PAVING AND ADJUST TO FINAL GRADE, IF NECESSARY.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS WHERE UTILITIES ENTER THE BUILDING.
- 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:
 - ANY LOCATION OR ELEVATION IS DIFFERENT FORM THAT SHOWN ON THE PLANS.
 - IF THERE APPEARS TO BE ANY CONFLICT.
 - UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS.
- REPAIR ALL DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF THIS WORK AT NO ADDITIONAL COST TO OWNER.
- PROVIDE A CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL PIPE. REMOVE STONES AND ROCKS FOUND IN THE TRENCH FOR A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE AND TAMP SELECT FILL BEDDING PROVIDED. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, BACK FILL THE TRENCH WITH SELECT MATERIAL, THOROUGHLY COMPACT TO 90% (95% UNDER PAVEMENT OR CONCRETE SLAB) OF THE STANDARD PROCTOR (ASTM D-698) USING CARE NOT TO DAMAGE THE PIPE. USE VDOT STANDARD PB-1 TRENCH FOR STORM SEWER AND UB-1 FOR SANITARY SEWER AND WATER.
- PLACE BACK FILL FOR ALL UTILITIES IN ACCORDANCE WITH THE COUNTY'S SPECIFICATIONS, AND THE FOLLOWING CRITERIA:
 - BACK FILL NO TRENCH UNTIL AUTHORIZED BY THE COUNTY/WVA. MATERIALS USED FOR BACK FILL FROM THE BOTTOM OF THE TRENCH TO TOP OF THE PIPE SHALL BE CRUSHER RUN, OR APPROVED EQUAL MATERIAL. THOROUGHLY AND CAREFULLY COMPACT THE BACK FILL MATERIAL.
 - COMPACT BACK FILL BY MECHANICAL TAMPING THROUGHOUT THE DEPTH OF THE TRENCH TO INSURE A SUITABLE SUBBASE ACCEPTABLE TO THE ROAD ENGINEER. IF THE MATERIAL TAKEN FROM THE DITCH IS NOT SUITABLE FOR BACK FILLING, REMOVE IT AND USE AN ACCEPTABLE MATERIAL FOR BACK FILLING THE TRENCH.
- IN AREAS OF WATER LINE CONSTRUCTION, GRADES SHALL BE WITHIN SIX (6) INCHES OF FINISHED SUB GRADE PRIOR TO THE COMMENCEMENT OF THIS WORK.
- MINIMUM COVER OVER WATER AND SANITARY SEWER LINES SHALL BE THREE (3) FEET.
- THE WESTERN VIRGINIA WATER AUTHORITY COUNTY SHALL MAKE ALL CONNECTIONS TO EXISTING WATER MAINS.
- THE CONTRACTOR SHALL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.
- PIPES AND FITTINGS SHALL BE POLYVINYL.
- CONNECT PIPE TO MANHOLES THROUGH PRE CAST OPENINGS AND JOIN WITH EITHER A FLEXIBLE BOOT ADAPTER OR A PIPE SEAL GASKET.
- MAKE RESIDENTIAL SERVICE CONNECTIONS WITH A FOUR (4) INCH PIPE THROUGH A WYE OR TEE-WYE BRANCH FITTING AND SHALL BE INSTALLED ON A MINIMUM GRADE OF ONE-QUARTER (1/4") INCH PER ONE (1) FOOT FROM THE SEWER PIPE OR MANHOLE TO THE PROPERTY OR EASEMENT LINE WHERE A CLEANOUT SHALL BE PLACED AND THE SERVICE LATERAL PLUGGED / CAPPED UNTIL EXTENSION.
- FIELD MARK FUTURE SERVICE CONNECTIONS BY A TREATED, SOLID WOODED (2"x4") MARKER THREE (3) FEET LONG SET VERTICALLY PLUMB WITH THE END OF THE CAPPED EXTENSION. PAINT THE TOPS OF THE MARKERS YELLOW AND SET FLUSH WITH THE FINISHED GRADE. SHOW THE LOCATION AND INVERT DEPTH OF THE SERVICE CONNECTION ON THE AS-BUILT PLANS.

ENGINEERS NOTES

BALZER AND ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ADEQUACY OF PLANS OR FOR INFORMATION ON PLANS UNTIL SUCH PLANS HAVE BEEN APPROVED BY THE REQUIRED PUBLIC AGENCIES.

ANY WORK COMMENCED ON A PROJECT PRIOR TO PLAN APPROVAL IS AT SOLE RISK OF THE DEVELOPER.

BALZER AND ASSOCIATES, INC. WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE PLANS AND WILL NOT BE RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.

CONSTRUCTION SITE PLAN GENERAL NOTES
CONSTRUCTION METHODS

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, AND LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS, WHERE APPLICABLE. ANY WORK WITHIN PETERS CREEK ROAD SHALL ADHERE TO THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION WORK AND NOTIFY ENGINEER IMMEDIATELY IF LOCATIONS DIFFER FROM PLANS.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-552-7001 OR 811 PRIOR TO ANY CONSTRUCTION WORK IN THIS AREA.
 - HANDICAPPED ACCESSIBILITY / ADA COMPLIANCE
 - THE MAXIMUM ALLOWABLE CROSS SLOPE ACROSS ACCESSIBLE PARKING SPACES AND ACCESSIBLE AISLES IS 2%. NO SLOPE IN ANY DIRECTION SHALL EXCEED 2% WITHIN ADA PARKING SPACES OR AISLES.
 - THE MAXIMUM ALLOWABLE LONGITUDINAL SLOPE ALONG ACCESSIBLE AISLES IS 5%.
 - THE CONTRACTOR SHALL VERIFY SLOPES AND GRADES FOR ALL ACCESSIBLE PARKING SPACES AND ACCESS AISLES AFTER STAKING IS COMPLETE AND BOTH BEFORE AND AFTER INSTALLATION.
 - ANY SLOPE DISCREPANCIES DETECTED BY THE SURVEYOR AND/OR CONTRACTOR SHALL BE REPORTED TO THE ENGINEER PRIOR TO INSTALLATION.
 - UNLESS SPECIFICALLY NOTED ON THE SITE PLAN, DETECTABLE WARNING STRIPS ARE REQUIRED AT ALL CURB RAMPS AND FLUSH CURB TRANSITIONS TO PARKING LOTS.
 - HAND RAILS ARE REQUIRED FOR ANY ACCESSIBLE SITE PEDESTRIAN RAMPS WITH LONGITUDINAL SLOPES THAT EXCEED 5% AND / OR 6-INCHES IN RISE.
 - SITE HAND RAILS SHALL BE PER VDOT / ADA / ANSI STANDARDS AND SPECIFICATIONS, UNLESS NOTED OTHERWISE.
 - SITE HAND RAILS SHALL BE INSTALLED ON BOTH SIDES OF THE SITE SIDEWALKS WHERE HAND RAILS ARE REQUIRED.
 - PER VDOT STANDARDS, THE MAXIMUM PERMISSIBLE CURB RAMP SLOPE IS 12:1.
 - WHEEL STOPS FOR ACCESSIBLE PARKING SPACES SHALL BE INSTALLED 3'-0" OFF THE FACE OF CURB.
 - GUTTER PAN INSTALLED IN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% SLOPE.
 - NO VERTICAL TRANSITIONS IN ADA ACCESSIBLE ROUTES SHALL EXCEED 1/4".
- CURB AND GUTTER
 - THE CONTRACTOR SHALL USE A MINIMUM OF THREE (3) RUNNING CONSTRUCTION STAKES TO AVOID HARD BREAK LINES IN THE CURB - UNLESS SPECIFICALLY CALLED FOR ON THE PLANS.
 - THE MINIMUM LONGITUDINAL SLOPE FOR GUTTER PAN IS 0.5%, UNLESS OTHERWISE NOTED ON PLANS.
 - A MINIMUM 20-FOOT TRANSITION FROM CG-6 TO CG-7 IS REQUIRED, UNLESS OTHERWISE NOTED ON THE PLANS.
 - ALL CURB AND GUTTER SHOWN ON THE PLANS SHALL BE VDOT CG-6, CG-2, OR CG-7, UNLESS SPECIFICALLY NOTED OTHERWISE.
- UNDERGROUND UTILITIES
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LINE AND GRADE FOR ALL DRY UTILITIES PRIOR TO THE START OF CONSTRUCTION.
 - THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING DRY UTILITY LINES AND GRADES AGAINST ALL PROPOSED UTILITIES SHOWN ON THE PLANS. POTENTIAL CONFLICTS SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING TELEPHONE, CABLE, FIBER OPTIC, AND ELECTRICAL SERVICES TO THE PROJECT. CONTACT UTILITY PROVIDERS AS SOON AS POSSIBLE TO BEGIN COORDINATION.
 - THE CONTRACTOR SHALL REVIEW SITE AND BUILDING DRAWINGS TO VERIFY COORDINATION OF UTILITY INVERTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
- SIDEWALKS AND SITE STAIRS
 - ALL SITE STAIRS SHALL BE FURNISHED WITH VDOT HR-1 ON BOTH SIDES OF THE STAIRS.
 - ALL SITE STAIRS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT / ADA / ANSI STANDARDS AND SPECIFICATIONS, UNLESS SPECIFICALLY NOTED OTHERWISE.
 - SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM 2% CROSS-SLOPE
 - SIDEWALKS SHALL BE BROOM FINISHED, UNLESS NOTED OTHERWISE ON THE PLANS.
 - SIDEWALKS SHALL BE 5-FEET IN WIDTH, UNLESS NOTED OTHERWISE ON THE PLANS.
- ROOF DRAINS AND DOWN SPOUTS
 - ALL DOWNSPOUTS NOT CONNECTED TO STORM SEWER SHALL BE FURNISHED WITH SPLASH BLOCKS.
 - ALL DOWN SPOUTS SHALL BE FURNISHED WITH A DOWNSPOUT/ROOFDRAIN TRANSITION BOOT. STUBBING OF DOWNSPOUT INTO ROOF DRAIN LATERAL WITHOUT A SUITABLE BOOT TRANSITION IS NOT PERMITTED.
 - ALL ROOF DRAIN LATERALS SHALL BE INSTALLED IN ACCORDANCE WITH THE PREVAILING LOCAL JURISDICTIONAL PLUMBING CODE OR THE INTERNATIONAL PLUMBING CODE, WHICHEVER IS MORE STRINGENT.
 - MINIMUM ALLOWABLE SLOPE FOR 4-INCH ROOF DRAIN LATERAL IS 2.08%.
 - MINIMUM ALLOWABLE SLOPE FOR 6-INCH ROOF DRAIN LATERAL IS 1.04%.
 - ROOF DRAIN LATERALS SHALL BE 6-INCH DIAMETER (SMOOTH-WALLED), UNLESS NOTED OTHERWISE ON THE PLANS.
- TELEPHONE, FIBER OPTIC, CABLE, AND GAS LINE SERVICES
 - CONTRACTOR SHALL HAVE "MISS UTILITY" MARK EXISTING UTILITY LINES PRIOR TO START OF CONSTRUCTION AND AS NECESSARY THROUGHOUT CONSTRUCTION.
 - CONTRACTOR SHALL REVIEW PLANS TO VERIFY EXISTING LOCATIONS MARKED IN THE FIELD MATCH THOSE SHOWN ON THE PLANS.
 - CONTRACTOR SHALL NOTIFY ENGINEER OF ANY POTENTIAL DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
 - CONTRACTOR SHALL POT-HOLE EXISTING UTILITIES AT CRITICAL CROSSING LOCATIONS PRIOR TO THE START OF CONSTRUCTION AND PROVIDE ENGINEER WITH LINE AND GRADE INFORMATION.
- BUILDING DOORS AND GRADES
 - A MINIMUM 5'x6' PAD SHALL BE INSTALLED AT ALL BUILDING DOOR LOCATIONS (MAXIMUM 2% SLOPE IN ANY DIRECTION). COMPLY WITH ADA DOOR CLEARANCE REQUIREMENTS FOR PAD POSITIONING OUTSIDE OF THE DOOR.
 - FINISHED GRADE SHALL BE 6-INCHES BELOW FINISHED FLOOR ELEVATION ALONG ALL BUILDING WALLS, IN AREAS WHERE PREVIOUS SURFACES ARE PROVIDED, UNLESS OTHERWISE NOTED. FINISHED GRADE FOR AREAS TO BE MULCHED SHALL BE AT TOP OF MULCH. FINISHED GRADE FOR AREAS TO RECEIVE SOD SHALL BE TO TOP OF SOD.
 - ALL PREVIOUS SURFACES SHALL BE INSTALLED WITH A MINIMUM OF 2% SLOPE AWAY FROM THE BUILDING (FOR A MINIMUM OF 10-FEET), TO PROVIDE FOR POSITIVE DRAINAGE.
 - CONTRACTOR SHALL COORDINATE LOCATION OF WEEP HOLES ALONG ALL BUILDING WALLS AND VERIFY REQUIRED SEPARATION BETWEEN WEEP HOLES AND FINISHED GRADES.
 - CONTRACTOR SHALL REVIEW GRADING ALONG BUILDINGS WITH STOREFRONTS TO VERIFY REQUIRED SEPARATION IS PROVIDED.

STANDARD VIRGINIA DEPARTMENT
OF TRANSPORTATION NOTES

QUALITY CONTROL
STREETS SHALL BE GRADED AND PAVED IN ACCORDANCE WITH THE MOST CURRENT VERSIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE SPECIFICATIONS AND ROAD AND BRIDGE STANDARDS. ALL STRUCTURAL COMPONENTS ERECTED WITHIN A PROPOSED VDOT RIGHT OF WAY SHALL BE INSTALLED IN ACCORDANCE WITH THE MOST CURRENT VERSIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE SPECIFICATIONS AND ROAD AND BRIDGE STANDARDS. ALL MATERIALS USED WITHIN A PROPOSED VDOT RIGHT OF WAY SHALL BE TESTED IN ACCORDANCE WITH STANDARD POLICIES. THE DEVELOPER MUST CONTACT THE OFFICE OF THE RESIDENT ENGINEER, PRIOR TO BEGINNING ANY CONSTRUCTION TO OBTAIN THE INSPECTION AND TESTING PROCEDURES. THE DEVELOPER SHALL PROVIDE TEST REPORTS, AT THE DEVELOPER'S EXPENSE, FROM INDEPENDENT LABORATORIES. THE RESIDENT ENGINEER MUST APPROVE ALL INDEPENDENT LABORATORIES.

UTILITIES
ALL NECESSARY UTILITY LATERALS ALONG WITH PROVISIONS FOR CONDUIT (i.e. WATER, SEWER, STORM, GAS AND TELEPHONE) SHALL BE CONSTRUCTED PRIOR TO PLACEMENT OF THE BASE MATERIAL.

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

PERMITS ARE REQUIRED FOR ANY UTILITIES WITHIN THE PROPOSED STREET RIGHT OF WAY PRIOR TO ACCEPTANCE OF THE STREET INTO THE SECONDARY HIGHWAY SYSTEM. HOWEVER, ANY RIGHT, TITLE OR INTEREST GRANTED TO A UTILITY COMPANY FOR PLACEMENT OF UTILITIES (e.g. POWER, TELEPHONE, ETC) IN PROPOSED STREETS MUST BE RELEASED PRIOR TO ACCEPTANCE OF THE STREET INTO THE SECONDARY SYSTEM.

DRIVEWAYS
PERMITS SHALL BE REQUIRED FOR ALL PRIVATE ENTRANCES CONSTRUCTED ON THESE STREET RIGHT-OF-WAY AFTER ACCEPTANCE OF THESE STREETS INTO THE SECONDARY HIGHWAY SYSTEM.

ALL PRIVATE ENTRANCES WITHIN THE RIGHT-OF-WAY SHALL NOT EXCEED EIGHT PERCENT (8%) MAXIMUM GRADE.

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 NUISANCE TO SURROUNDING AREAS.

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

THE ROAD WILL BE REVIEWED 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 AS DIRECTED BY THE RESIDENT ENGINEER TO CORRECT THE PROBLEM.

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

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 DURING THE LIFETIME OF THE PERMIT. FIELD REVISIONS TO THE PERMIT SHALL BE MADE AS NEEDED IN ORDER TO ACCOMMODATE THE PREVAILING CONDITIONS AND TO ACCOMMODATE SAFETY ACCOMPANIMENTS SUCH AS TURNING LANES.

INSPECTION
AN INSPECTOR WILL NOT BE FURNISHED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION EXCEPT FOR PERIODIC PROGRESS INSPECTIONS, THE ABOVE MENTIONED FIELD REVIEWS AND CHECKING FOR REQUIRED STONE DEPTHS. 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. WHEN ALL REQUIREMENTS HAVE BEEN MET FOR ACCEPTANCE, A FINAL INSPECTION WILL BE MADE TO DETERMINE THAT THE STREET HAS BEEN PROPERLY MAINTAINED.

UNDERGROUND UTILITIES
THE CONTRACTOR SHALL VERIFY BY CONTACTING "MISS UTILITY" AND THE TOWN OF VINTON PUBLIC WORKS, THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE SITE ENGINEER IMMEDIATELY IF LOCATIONS OR ELEVATIONS IS DIFFERENT FROM THAT SHOWN ON THE PLANS. IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLAN, CALL "MISS UTILITY" AND/OR THE TOWN OF VINTON PUBLIC WORKS.

REVISIONS OF SPECIFICATIONS AND STANDARDS
APPROVAL OF THESE PLANS IS BASED ON THE ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS IN EFFECT AT THE TIME OF APPROVAL. HOWEVER, UNTIL COMPLETION OF THE ROADWAY AND ACCEPTANCE BY THE DEPARTMENT, THIS DEVELOPMENT IS SUBJECT TO ALL FUTURE REVISIONS OF THE ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS.

TRAFFIC CONTROL DEVICES
THE DEVELOPER SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL TRAFFIC CONTROL DEVICES, STOP SIGNS, YIELD SIGNS, SPEED LIMIT SIGNS, PAVEMENT STRIPING, ETC., REQUIRED BY THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE DEVELOPER SHALL BE RESPONSIBLE OF REINSTALLING AND MAINTAINING ALL TRAFFIC CONTROL DEVICES REQUIRED AS PART OF THIS DEVELOPMENT UNTIL THE STREETS ARE TAKEN INTO THE SECONDARY SYSTEM. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED ACCORDING TO THE "MUTCD".

GUARDRAIL
STANDARD GUARDRAIL WITH SAFETY END SECTIONS MAY BE REQUIRED ON FILLS AS DEEMED NECESSARY BY THE STAFF ENGINEER. AFTER COMPLETION OF ROUGH GRADING OPERATIONS, THE OFFICE OF THE STAFF ENGINEER SHALL BE NOTIFIED SO THAT A FIELD REVIEW CAN 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 AND THE VDOT ROAD AND BRIDGE SPECIFICATIONS.

STORM DRAINAGE
INSTALLATION OF ALL STORM PIPES/CULVERTS LOCATED WITHIN VDOT RIGHT-OF-WAY AND EASEMENTS SHALL CONFORM TO THE VDOT ROAD AND BRIDGE STANDARDS, LATEST EDITION. ALL STORM PIPE SHALL BE CLASS III REINFORCED CONCRETE (RCP) UNLESS OTHERWISE NOTED.

STEPS ARE REQUIRED IN STRUCTURES EXCEEDING 4.0' IN DEPTH (VDOT STD. 106.09) AND SAFETY SLABS ARE REQUIRED IN STRUCTURES EXCEEDING 12.0' IN DEPTH (VDOT STD. 106.14).

INLET SHAPING FOR THOSE STRUCTURES IDENTIFIED ON THE STORM DRAINAGE PROFILES MUST CONFORM TO VDOT STANDARD 106.08 IS-1, INLET SHAPING.

FIELD CHANGES
ALL CHANGES, FIELD OR OTHERWISE, TO THE APPROVED PLANS MUST BE APPROVED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION.

ANY DEVIATIONS BETWEEN THE APPROVED PROPOSED CONTOURS AND THE AS-BUILT CONDITIONS OR ANY TOPOGRAPHIC CHANGES FROM THE APPROVED PLANS MAY REQUIRE ADDITIONAL DRAINAGE STRUCTURES AND EASEMENTS.

GRADING NOTES

REFER TO BUILDING PLANS FOR SUBGRADE AND UTILITY TRENCHES WITHIN 5' OF THE BUILDING ENVELOPE.

REMOVE TREES, SHRUBS, GRASS, AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING. CUT OFF TREES AND STUMPS IN AREAS TO RECEIVE FILL MORE THAN THREE FEET IN DEPTH TO WITHIN EIGHT INCHES OF THE ORIGINAL GROUND SURFACE.

BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.

EXCAVATION FOR STRUCTURES:

- CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF 0.1"
- PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM AND LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
- REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
- 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.
- IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM EXCAVATION WITH CONTROLLED FILL.

CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED.

EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 FOR STORM DRAINAGE PIPING.

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 WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°C).

PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°).

BACKFILLING:

- COMPACT THE BACKFILL AROUND THE OUTSIDE OF EACH BUILDING TO A MINIMUM OF 85% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 STANDARD PROCTOR. DO NOT ALLOW HEAVY COMPACTION 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.
- BACKFILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHICH BRACES THE WALL IS IN PLACE OR TEMPORARY BRACING OF 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.

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.

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.

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.

PLACE ALL FILL AND BACKFILL AS CONTROLLED FILL AS FOLLOWS:

- ESTABLISH SUITABLE SUBGRADE CONDITIONS PRIOR TO PLACING FILL BY PROOFROLLING, UNDERCUTTING AND COMPACTING AS NECESSARY.
- PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR HEAVY COMPACTION EQUIPMENT AND NOT MORE THAN 4" FOR HAND TAMPERS.
- PRIOR TO COMPACTION, PROVIDE MOISTURE CONTENT TO WITHIN 3% OF OPTIMUM BY MOISTENING OR AERATING EACH LAYER. DO NOT PLACE FILL MATERIAL ON SURFACES WHICH ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.
- COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR):
 - 95% UNDER PAVEMENT
 - 85% UNDER LAWN OR UNPAVED AREAS

SPREAD TOPSOIL TO A DEPTH OF 4" OVER ALL DISTURBED AREAS NOT RECEIVING WALKS, PAVEMENT, WALLS OR BUILDING, INCLUDING TRENCHES. IMMEDIATELY FOLLOWING PLACEMENT OF TOPSOIL, DISK THE ENTIRE TOPSOIL AREA AND RAKE FREE OF STONES AND DEBRIS OVER 1/2" IN ANY DIMENSION. PROVIDE A FINISHED SURFACE FREE OF DEPRESSIONS OR HIGH SPOTS. SEED IMMEDIATELY.

OWNER (CONTRACTOR) SHALL EMPLOY QUALIFIED SOILS TESTING LABORATORY TO INSPECT EARTHWORK OPERATIONS. NOTIFY LABORATORY PRIOR TO PERFORMING EARTHWORK OPERATIONS.

GENERAL NOTES

PROVIDE NEW MATERIALS AND WORKMANSHIP IN CONFORMANCE WITH ALL APPLICABLE CODES, STATE AND FEDERAL LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND OTHER CRITERIA WHICH WOULD NORMALLY APPLY TO WORK OF THIS NATURE. NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING A CONFLICT IN CODES, ORDINANCES, STANDARDS, OR OTHER CRITERIA. APPLICABLE CODES AND STANDARDS INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, THE FOLLOWING:

- BOCA - BASIC CODES
- ROANOKE COUNTY
- VDOT - VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS
- VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS AND HANDBOOK
- OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
- ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS
- WVWA - WESTERN VIRGINIA WATER AUTHORITY

MAINTAIN A SET OF APPROVED PLANS ON SITE AT ALL TIMES DURING CONSTRUCTION.

OBTAIN EACH REQUIRED PERMIT PRIOR TO COMMENCING THAT PART OF THE WORK. PAY REQUIRED FEES.

NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF CONDITIONS WHICH DIFFER FROM THOSE SHOWN ON THE PLANS.

COMPLY WITH LOCAL ORDINANCES FOR BURNING OF WASTE. TRANSPORT WASTE MATERIALS AND UNSUITABLE MATERIALS FROM OWNER'S PROPERTY.

COORDINATE BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.

A PRECONSTRUCTION MEETING MUST TAKE PLACE PRIOR TO COMMENCING WORK. AS A MINIMUM, THE CONTRACTOR, OWNER'S AGENT AND COUNTY'S AGENT MUST ATTEND.

VERIFY THE LOCATION AND ELEVATION OF EACH EXISTING UNDERGROUND UTILITY IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF WORK. CONTACT ENGINEER IMMEDIATELY IF THERE APPEARS TO BE A CONFLICT, UPON DISCOVERY OF A UTILITY WHICH IS NOT SHOWN, AND UPON DISCOVERY OF A LOCATION OR ELEVATION WHICH DIFFERS FROM THAT SHOWN. TO LOCATE UTILITIES, CALL "MISS UTILITY", 1-800-552-7001. UTILITY LOCATIONS SHOWN ARE THE RESULT OF A COMBINATION OF FIELD LOCATION AND EXISTING INFORMATION. LOCATIONS ARE APPROXIMATE.

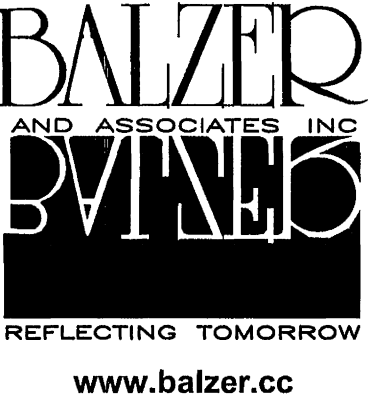
REPAIR ALL DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, CAUSED AS A RESULT OF CONSTRUCTION ACTIVITIES, AT NO ADDITIONAL COST TO OWNER.

NOTIFY OWNERS OF UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF EXCAVATION.

SIGNAGE SHALL COMPLY WITH THE APPLICABLE REGULATIONS OF THE COUNTY OF ROANOKE ZONING ORDINANCE, SECTION 30-93. A SEPARATE PERMIT IS REQUIRED.

ANY SITE DEVELOPMENT OUTSIDE OF THE SCOPE OF THIS PLAN WILL REQUIRE SITE PLAN REVIEW.

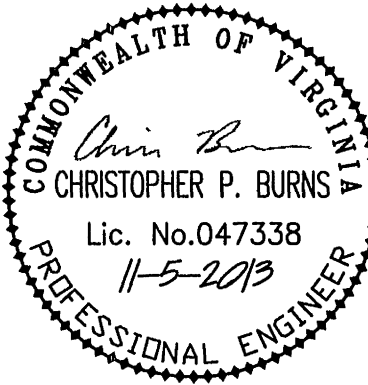
ADDITIONAL DRAINAGE STRUCTURES AND EASEMENTS MAY BE REQUIRED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION DUE TO AND DEVIATION BETWEEN THE APPROVED PROPOSED CONTOURS AND THE AS-BUILT CONDITIONS OR ANY OTHER TOPOGRAPHIC CHANGES.



New River Valley
Richmond
Roanoke
Shenandoah Valley

RESIDENTIAL LAND DEVELOPMENT ENGINEERING
SITE DEVELOPMENT ENGINEERING
LAND USE PLANNING & ZONING
LANDSCAPE ARCHITECTURE
LAND SURVEYING
ARCHITECTURE
STRUCTURAL ENGINEERING
TRANSPORTATION ENGINEERING
ENVIRONMENTAL & SOIL SCIENCE
WETLAND DELINEATIONS & STREAM EVALUATIONS

Balzer and Associates, Inc.
1208 Corporate Circle
Roanoke, VA 24018
540-772-9580
FAX 540-772-8050



WAFFLE HOUSE - 627 RELOCATION

GENERAL NOTES

CATAWBA DISTRICT
ROANOKE COUNTY, VIRGINIA

DRAWN BY BTC

DESIGNED BY BTC

CHECKED BY CPB

DATE 9-19-2013

SCALE N/A

REVISIONS:
10-18-2013
11-5-2013

SHEET NO. **C02**

JOB NO. R1300107.00