

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 ONSITE 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 (ASTM D698), 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. CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED. GRADES SHOWN ARE FINISHED GRADES.
8. 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.
9. 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 DIVERSIONS OUTSIDE EXCAVATION LIMITS FOR EACH STRUCTURE. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DITCHES. DEWATERING OPERATIONS SHALL OUTFALL TO AN ACCEPTABLE SEDIMENT-TRAPPING DEVICE AT ALL TIMES.
10. PROTECT EXCAVATED BOTTOMS OF ALL TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THAN 35 F (1 C).
11. 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.
12. FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS PER GRADE LINES AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.
13. 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.
14. UNDER PAVEMENT COMPACT EACH LAYER TO 95% MAXIMUM DRY DENSITY ASTM D698 (STANDARD PROCTOR).
15. UNDER LAWN OR UNPAVED AREAS, COMPACT SUBGRADE AND EACH LAYER TO 85% MAXIMUM DRY DENSITY ASTM D698 (STANDARD PROCTOR).
16. 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.

STORM SEWER SPECIFICATIONS:

1. ALL STORM SEWER PIPE AND FITTINGS SHALL BE AS CLASSIFIED ON THE PROFILE DRAWINGS.
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. THE STORM WATER MANAGEMENT FACILITIES WILL BE MAINTAINED BY A LAND OWNERS ASSOCIATION.

Vdot Cost Estimate				
Item	Quantity	Unit	Unit Price	Extension
Clearing & Grubbing	0.770	AC	\$5,000.00	\$3,850.00
Rough Grading	717	CY	\$5.00	\$3,585.00
Seeding	0.470	AC	\$3,500.00	\$1,645.00
15" RCP	127	LF	\$37.50	\$4,762.50
DI-3B	3	EA	\$1,200.00	\$3,600.00
ES-1	1	EA	\$600.00	\$600.00
CG-6	639	LF	\$16.00	\$10,224.00
CG-12	2	EA	\$425.00	\$850.00
PG-2A	2915	SF	\$5.00	\$14,575.00
Curb Flare	363	SF	\$5.00	\$1,815.00
EC-3	1097	SY	\$5.50	\$6,033.50
Paving SM-9.5A	125	TON	\$55.00	\$6,875.00
Paving BM-25	187	TON	\$50.00	\$9,350.00
21B STONE	543	TON	\$15.00	\$8,145.00
Turn Lane Paving SM-9.5A	223	TON	\$55.00	\$12,265.00
Turn Lane Paving BM-25	445	TON	\$50.00	\$22,250.00
Turn Lane 21-B Stone	645	TON	\$15.00	\$9,675.00
Rip Rap	1	TON	\$32.00	\$32.00
Culvert Inlet Protection	2	EA	\$125.00	\$250.00
Temporary Seeding	0.22	AC	\$3,500.00	\$770.00
PROJECT SUB-TOTAL				\$121,152.00
10% MOBILIZATION				\$12,115.20
TOTAL PROJECT COST=				\$133,267.20

GENERAL SITE NOTES: APPLIES TO CITY & COUNTY

1. THE FEMA MAP NUMBER IS 51161C0028 D, MAP INDEX DATED: OCTOBER 15, 1993.
2. TOPOGRAPHIC INFORMATION FROM WARNER-EVERETT LAND SURVEYORS. DATED SEPTEMBER, 2006.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS.
4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO ELIMINATE THE POSSIBILITY OF ANY DISTURBANCE OR DAMAGE TO PUBLIC OR PRIVATELY OWNED UTILITIES, STRUCTURES, OTHER FACILITIES OR OBSTRUCTION RESULTING FROM HIS ACTIVITIES. TO THIS END, CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, TAKE ALL MEASURES NECESSARY TO PROVIDE, AND SHALL BE SOLELY RESPONSIBLE FOR, TEMPORARY SUPPORT AND SHORING, ADEQUATE PROTECTION, AND MAINTENANCE OF CONTINUOUS OPERATION OF ALL UNDER AND ABOVE GROUND UTILITY SERVICES. THE CONTRACTOR SHALL CALL MISS UTILITY AT 1-800-552-7001 48 HOURS PRIOR TO DIGGING. ALL UTILITY TIE-INS ARE TO BE COORDINATED WITH THE APPROPRIATE PUBLIC OR PRIVATE UTILITY AUTHORITY BEFORE COMMENCING WORK ON EXISTING UTILITIES. THE CONTRACTOR SHALL SUPPLY ALL UTILITY COMPANIES WITH APPROVED PLAN COPIES FOR COORDINATION OF EXTENSION AND TIE-IN EFFORTS.
5. SITE CONDITIONS MAY NECESSITATE SLIGHT DEVIATIONS IN ALIGNMENT, GRADE, AND/OR LOCATION OF NEW FACILITIES FROM THE PLAN ALIGNMENT. THE CONTRACTOR SHALL CONSTRUCT THE NEW FACILITIES TO SUCH DEVIATIONS AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST OR FINE TO THE OWNER. SHOULD PLAN DEVIATIONS BE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO UNDERTAKING ANY REVISION.
6. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CURRENT BOCA AND/OR STATE AND LOCAL BUILDING CODES AS WELL AS THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION, ROANOKE CITY AND ROANOKE COUNTY.
7. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION AREA IN A SAFE AND ACCEPTABLE MANNER AND SHALL BE RESPONSIBLE FOR REMEDIATING ANY DAMAGES RESULTING FROM HIS FAILURE TO DO SO.
8. THE CONTRACTOR SHALL MAINTAIN LIMITS OF CONSTRUCTION WITHIN THE PROPERTY BOUNDARIES, LIMITS OF DISTURBANCE OR EASEMENTS AS INDICATED.
9. AN APPROVED SET OF PLANS SHALL BE KEPT ON THE SITE AT ALL TIMES.
10. ALL CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED IN CONFORMANCE WITH THE VIRGINIA LITTER CONTROL ACT AND DISPOSED OF IN A MANNER AND LOCATION ACCEPTABLE TO THE GOVERNING JURISDICTION. AT LEAST ONE TRASH RECEPTACLE SHALL BE ONSITE DURING CONSTRUCTION.
11. TEMPORARY TOILETS SHALL BE PROVIDED ONSITE AT A RATIO OF ONE TOILET PER 30 WORKERS DURING THE CONSTRUCTION PERIOD.
12. GRADE STAKES SHALL BE SET FOR ROADWAY, CURB & GUTTER, CULVERTS, AND STORM SEWER.
13. CONTRACTOR SHALL HAVE BENCHMARKS SET ONSITE BY A LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. ENGINEERING CONCEPTS, INC. WILL PERFORM ALL CONSTRUCTION STAKING. CONTACT SAM BIKKERS, L.S., AT 540-473-1253 72 HOURS ADVANCE NOTICE TO SCHEDULE.
14. SEPARATE PERMITS ARE REQUIRED FOR ANY SIGNS IN ROANOKE CITY OR ROANOKE COUNTY.
15. CONTRACTOR SHALL COORDINATE ALL SIGN RELOCATIONS WITH THE OWNER / DEVELOPER AND APPROPRIATE COMPANIES, VDOT, ROANOKE COUNTY AND ROANOKE CITY.
16. 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.
17. CONTRACTOR SHALL COORDINATE ALL UTILITY RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANY.
18. CONTRACTOR SHALL COORDINATE ALL SIGN RELOCATIONS WITH THE APPROPRIATE COMPANIES AND VDOT.
19. CONTRACTOR SHALL COORDINATE UTILITY POLE RELOCATIONS AND REMOVALS WITH APPROPRIATE COMPANIES.
20. THE EXISTING UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE RECORD 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/HER 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 UTILITY AT 1-800-552-7001 (TOLL FREE) 48 HOURS BEFORE DIGGING.
21. PAVEMENT RADI ARE AS INDICATED ON THE PLANS. DIMENSIONS ARE FROM FACE TO FACE OF CURB OR EDGE OF PAVEMENT.
22. A CERTIFIED RESPONSIBLE LAND DISTURBER MUST BE NAMED BY THE CONTRACTOR PRIOR TO THE PRE-CONSTRUCTION MEETING AND ISSUANCE OF A LAND DISTURBING PERMIT. ROANOKE COUNTY AND ROANOKE CITY WILL REQUIRE THAT THIS PERSON ATTEND THE PRE-CONSTRUCTION MEETING WITH A COPY OF THE RLD CERTIFICATE. THE LAND DISTURBANCE PERMIT AND A COPY OF THE STAMPED/SIGNED APPROVED PLANS WILL BE ISSUED AT THE PRE CONSTRUCTION MEETING. BOTH OF THESE DOCUMENTS ARE REQUIRED BEFORE CONSTRUCTION CAN BEGIN AND ARE TO BE ON SITE AT ALL TIMES. CONTACT ADRIAN GILBERT AT 853-2733, TO SCHEDULE THE MEETING WITH ROANOKE CITY, AND DENISE SOWDER AT 772-2180 TO SCHEDULE THE MEETING WITH ROANOKE COUNTY. THE RLD AND GENERAL CONTRACTOR WILL NEED TO ATTEND THE PRE-CONSTRUCTION MEETINGS.
23. NO CONSTRUCTION / FIELD CHANGES WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER, ROANOKE COUNTY, ROANOKE CITY OR VDOT WILL BE 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 FOR REVIEW CAN BE ON 8 1/2"x11" SHEET SIZE IF INFORMATION IS LEGIBLE.
24. THE DEPARTMENT OF CONSERVATION AND RECREATION (DCR) REQUIRES THAT ANY LAND DISTURBANCE OF 1 ACRE OR GREATER TO SECURE 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, CHECK AND THE STORMWATER POLLUTION PREVENTION PLAN MUST BE SUBMITTED TO THE ROANOKE COUNTY OFFICE OF COMMUNITY DEVELOPMENT-OFFICE OF DEVELOPMENT REVIEW.
25. RETAINING WALLS MAY BE CONSTRUCTED WITHIN THE NON-FUNCTIONAL AREAS OF THE PRIVATE STORMWATER MANAGEMENT FACILITIES TO ACCOMMODATE DEVELOPMENT OF THE LOTS.
26. ALL ACCESS TO THE PROPOSED DEVELOPMENT SHALL BE FROM THE PROPOSED BLUE HILLS VILLAGE ROADWAY.
27. THE DEVELOPER/OWNER IS RESPONSIBLE FOR ACQUIRING ALL REQUIRED LOCAL, STATE AND FEDERAL PERMITS INCLUDING, BUT NOT LIMITED TO, VDOT, DCR AND DEQ AND SUBMITTING COPIES OF THEM TO COMMUNITY DEVELOPMENT - OFFICE OF DEVELOPMENT REVIEW (ROANOKE COUNTY).
28. A PERMIT MUST BE OBTAINED FOR ANY RETAINING WALL OVER 2 FEET IN HEIGHT FROM THE ROANOKE COUNTY BUILDING DEPARTMENT.
29. LIGHTS ON BUILDINGS AND FREE STANDING FIXTURES TO BE FILLED WITH DIFFUSERS TO LIMIT INTENSITY AT THE PROPERTY LINES TO A MAXIMUM OF 0.5 FOOT CANDLES PER ROANOKE COUNTY SECTION 30-94-1.
30. DEVELOPMENT OF LOT 1 WILL REQUIRED A CROWN PERCENTAGE FOR THE SITE PER THE ROANOKE COUNTY ZONING ORDINANCE.

31. WHEN LOT 1 IS DEVELOPED ALL DUMPSTERS WILL NEED TO BE SCREENED PER SECTION 30-92-6(E) OF THE ROANOKE COUNTY CODE.
32. WHEN LOT 1 IS DEVELOPED ALL GROUND LEVEL EQUIPMENT WILL NEED TO BE SCREENED AND LANDSCAPED PER SECTION 30-92-6(E) OF THE ROANOKE COUNTY CODE.
33. IF THERE ARE SEPARATE OWNERS FOR THE CITY PARCELS AND THE COUNTY PARCELS, PARKING AND ACCESS EASEMENTS MUST BE OBTAINED.

GENERAL SITE NOTES CONTINUED: APPLIES TO CITY & COUNTY

34. WHEN LOT 1 IS DEVELOPED A 10 FOOT LANDSCAPE BUFFER WILL BE REQUIRED IN ALL AREAS ADJACENT TO A PUBLIC STREET RIGHT OF WAY AND THE NEW PARKING AREAS PER SECTION 30-92-6(B) OF THE COUNTY ZONING ORDINANCE.
35. AN EXISTING CULVERT IN U.S. ROUTE 460 APPROXIMATELY 50 FEET EAST OF THE PROPOSED ENTRANCE IS CLOGGED. REMOVE DEBRIS FROM THE EXISTING CULVERT.
- WATER NOTES**
1. A MINIMUM COVER OF THREE (3) FEET IS REQUIRED OVER PROPOSED LINES. A MINIMUM VERTICAL SEPARATION OF 18" BETWEEN ALL UTILITIES.
2. 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.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING VALVE VAULTS AFTER PAVING AND GRADING AND ADJUSTMENT FOR FINISH GRADE ELEVATION IF NECESSARY.
4. ALL EXISTING UTILITIES MAY NOT BE SHOWN IN THE EXACT LOCATION. THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS, SECTION 12.05.03, WHERE LINES CROSS
5. ALL TRENCHES IN EXISTING OR FUTURE HIGHWAY RIGHTS-OF-WAY SHALL BE COMPACTED ACCORDING TO THE WESTERN VIRGINIA WATER AUTHORITY STANDARDS.
6. LINES SHALL BE STAKED PRIOR TO CONSTRUCTION.
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 THE WESTERN VIRGINIA WATER AUTHORITY.
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. A CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN THE TRENCH FOR ALL PIPE. STONES AND ROCKS FOUND IN THE TRENCH SHALL BE REMOVED FOR A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE AND TAMPED SELECTED FILL BEDDING PROVIDED. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, THE TRENCH SHALL BE BACK FILLED WITH SELECTED MATERIAL, THOROUGHLY COMPACTED TO 95% UNDER PAVEMENT OR CONCRETE SLAB, OF THE STANDARD PROCTOR (ASTM D-698) USING CARE NOT TO DAMAGE THE PIPE.
11. ALL WATER FACILITIES ARE TO BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA WATER AUTHORITY DESIGN AND CONSTRUCTION STANDARDS.
12. TAPS TO THE EXISTING MAIN SHALL BE PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY
13. FIRE-EMS CONTACT DANIEL RAKES (540) 853-1593.
14. INDIVIDUAL LOTS WILL BE RESPONSIBLE FOR THERE OWN WATER SERVICE CONNECTIONS AND FIRE SURPRESSION SYSTEMS.
15. DEPENDING ON FUTURE BUILDING SIZES AND USE ADDITIONAL FIRE HYDRANTS MAY BE REQUIRED. STURCUTRES WITH FIRE SURPRESSION SYSTEMS WILL NEED TO SHOW THE LOCATION OF THE FIRE DEPARTMENT CONNECTION. KNOXBOXES ARE REQUIRED FOR ALL STRUCTURES WITH FIRE ALARMS. FIRE LANES WILL ALSO BE REQUIRED.

City Construction Notes to be Included on Plans

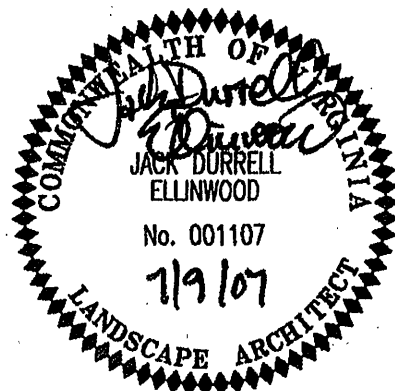
Notice:All Landowners, Developers and Contractors

FAILURE TO COMPLY WITH THE CONSTRUCTION PROCEDURE REQUIREMENTS LISTED BELOW MAY RESULT IN THE COSTLY REMOVAL OF STRUCTURES, TIME DELAYS OR THE ISSUANCE OF A STOP WORK ORDER.

Construction Procedure Requirements

- Right-of-Way Excavation Permit** - Prior to the commencement of any digging, alteration or construction within the public right-of-way (streets, alleys, public easements), a right-of-way excavation permit shall be applied for and obtained by the contractor from the City of Roanoke.
- Land Disturbance Permit** - An approved erosion and sediment control plan for any borrow/fill sites associated with the project must be submitted prior to the issuance of a land disturbance permit.
- Plans and Permits** - A copy of the plans as approved by the City (signed by the proper City officials) and all permits issued by the City shall be available at the construction site at all times of ongoing construction.
- Location of Utilities** - The contractor shall verify the location of all existing utilities prior to the commencement of any construction.
- Construction Entrance** - The contractor shall install an adequate construction entrance for all construction related access from the site. Size and composition of construction entrance shall be as shown on the plans.
- Streets to Remain Clean** - It shall be the responsibility of the contractor to insure that the public street adjacent to the construction entrance remains free of mud, dirt, dust, and/or any type of construction materials or litter at all times.
- Barricades/Ditches** - The contractor shall maintain the integrity of all excavated ditches and shall furnish and ensure that all barricades proper and necessary for the safety of the public are in place.
- Sewer and Pavement Replacement** - Construction of sanitary sewers and the replacement of pavement shall be in accordance with approved standards and specifications of the City of Roanoke and the Western Virginia Water Authority
- Approved Plans/Construction Changes** - Any change or variation from construction design as shown on the officially approved plans shall be approved by the erosion and sediment control agent prior to said changes or variation in construction being made.
- Final Acceptance/City** - The owner or developer shall furnish the City of Roanoke's Planning Building and Development Department with a final correct set of as-built plans prior to final acceptance by the City.

Note: The above City construction notes should be shown on the front or cover sheet of the development or construction plan.



07/06

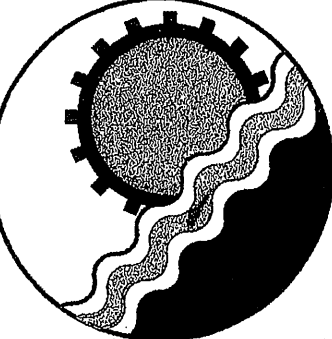
No.	Revision	By	Appd	Date	Drawn	DRB
1	CITY, COUNTY & VDOT NOV. COMMENTS	DRB	JDE	03/22/07	Designed	JDE/DRB
2	CITY, COUNTY & VDOT APRIL COMMENTS	DRB	JDE	05/24/07	Checked	JDE
3	CITY COMMENTS, 6/18/07	DRB	JDE	06/18/07	Approved	JDE
4	CITY COMMENTS, 7/9/07	DRB	JDE	07/12/07		JDE

SANITARY SEWER NOTES

1. ALL SANITARY SEWER PIPE AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35, AND SHALL CONFORM TO WESTERN VIRGINIA WATER AUTHORITY STANDARDS AND SPECIFICATIONS.
2. THE SANITARY SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. THE PIPE SHALL BE LAID IN TRUE STRAIGHT LINES WITH THE BALL 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 IN THE TRENCH. FIELD CUTTING OF THE PIPE SHALL BE DONE SO IN A NEAT AND WORKMANLIKE 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 FOUR (4) INCHES BELOW THE BOTTOM OF THE PIPE, TO PROVIDE FOR THE COMPACTED BEDDING MATERIAL.
4. BEDDING MATERIAL SHALL BE COARSE AGGREGATE SIZE NUMBER 57 AND SHALL CONFORM WITH VDOT SECTION 203 AND/OR ASTM C33. BEDDING MATERIAL SHALL BE PLACED AND COMPACTED IN FOUR (4) INCHES BELOW THE PIPE AND AS A MINIMUM UP TO THE SPRING LINE OF THE PIPE. CARE SHALL BE TAKEN TO ENSURE THE BEDDING MATERIAL FULLY SUPPORTS THE SIDE AND BOTTOM OF THE PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. BACK FILL MATERIAL SHALL BE EITHER APPROVED EXCAVATED MATERIAL OR APPROVED SUITABLE MATERIAL FROM OTHER SOURCES THAT IS FREE OF ORGANIC MATERIAL, LOAM, DEBRIS, OR MINIMUM ONE (1) FOOT ABOVE THE TOP OF PIPE SHALL BE FREE OF STONES LARGER THAN TWO (2) INCHES AND SHALL BE PLACED IN SIX (6) INCH LAYERS AND COMPACTED WITH HAND TAMPERS. BACK FILL FROM THIS POINT TO TOP OF TRENCH SHALL BE FREE OF STONES LARGER THAN FOUR (4) INCHES AND SHALL BE PLACED IN LAYERS NOT TO EXCEED EIGHT (8) INCHES AND COMPACTED WITH MECHANICAL TAMPERS.
- BACK FILL BELOW UNPAVED AREAS SHALL BE COMPACTED TO 90%. BACK FILL BELOW PAVED AREAS SHALL BE COMPACTED TO 95%. BACK FILL COMPACTION TESTING SHALL BE IN ACCORDANCE WITH ASTM D-698.
6. TESTING FOR WATER TIGHTNESS SHALL BE MADE UTILIZING A LOW PRESSURE AIR TEST. THE TESTING EQUIPMENT, PROCEDURE AND RESULTS WILL ALL BE SUBJECT TO THE APPROVAL OF THE WVWA UTILITY ENGINEER. THE AIR TEST SHALL BE IN ACCORDANCE WITH ASTM C-828, CURRENT REVISION. THE CONTRACTOR SHALL DEFLECTION TEST THE ENTIRE LENGTH OF PIPE BY MEANS OF A GO-NO-GO MANDREL TO ASSURE THAT A 5.0% DEFLECTION HAS NOT BEEN EXCEEDED. MANDREL SHALL BE SIZED AT 5% LESS THAN ASTM DIMENSION FOR THE SEWER.
7. A MINIMUM COVER OF THREE (3) FEET IS REQUIRED OVER PROPOSED LINES. A MINIMUM VERTICAL SEPARATION OF 18" IS REQUIRED BETWEEN ALL UTILITIES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING ALL MANHOLES AFTER GRADING AND PAVING. MANHOLE TOPS SHALL BE ADJUSTED TO FINISH GRADE ELEVATION IF NECESSARY.
9. 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. ALL EXISTING UTILITIES MAY NOT BE SHOWN OR MAY NOT BE SHOWN IN THE EXACT LOCATION. THE CONTRACTOR SHALL COMPLY WITH STATE WATER WORKS REGULATIONS, SECTION 12.05.03, WHERE LINES CROSS.
10. LINES SHALL BE STAKED PRIOR TO CONSTRUCTION.
11. THE WVWA UTILITY INSPECTOR MUST OBSERVE AND APPROVE ALL TAPS INTO THE MANHOLE BY CONTRACTORS.
12. ALL SEWER FACILITIES ARE TO BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA WATER AUTHORITY DESIGN AND CONSTRUCTION STANDARDS.
13. 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.
14. SAMPLING MANHOLES WILL BE REQUIRED FOR EACH LOT. IT WILL BE THE RESPONSIBILITY OF THE INDIVIDUAL LOT DEVELOPERS TO PROVIDE SAMPLING MANHOLE WHEN EACH LOT IS DEVELOPED.

DEMOLITION NOTES

- PRIOR TO COMMENCING DEMOLITION AND THROUGHOUT THE ENTIRE CONSTRUCTION TERM PROVIDE SAFETY FENCING AT THE CONSTRUCTION LIMITS TO DETER PEDESTRIAN TRAFFIC FROM ENTERING THE CONSTRUCTION AREA. ENSURE THAT FENCING REMOVED FOR THE ON-SITE DELIVERY OF MATERIALS AND EQUIPMENT IS PROMPTLY REPLACED AT THE EARLIEST POSSIBLE TIME.
- INSTALL ALL PERIMETER EROSION CONTROL DEVICES PRIOR TO DEMOLITION. REFER TO THE EROSION CONTROL PLAN AND DETAILS AND COORDINATE AND MATCH.
- DO NOT LEAVE STRUCTURES IN THE PROCESS OF DEMOLITION IN AN UNSTABLE CONDITION SUCH THAT FAILURE WOULD RISK IMPACTING ANY OFF-SITE AREAS, EXISTING STRUCTURES, VEHICLES OR PERSONS. SECURE ALL DEMOLITION AREAS AT THE END OF THE WORK DAY IN A MANNER ADHERING T O.S.H.A. AND STATE REGULATIONS.
- NOTIFY ALL UTILITY COMPANIES 48 HOURS PRIOR TO UTILITIES WORK IN ORDER TO MINIMIZE DISRUPTION OF SERVICES TO EXISTING FACILITIES.
- PROVIDE BY-PASS CONNECTIONS AS NECESSARY TO MAINTAIN CONTINUITY OF UTILITIES SERVICE THROUGH DEMOLITION AND CONSTRUCTION. COORDINATE WITH THE APPROPRIATE UTILITY COMPANY. CAP AND PLUG EXISTING UTILITIES WHERE REQUIRED.
- SAW CUT PAVED AND CONCRETE AREAS TO BE PARTIALLY DEMOLISHED AT THE APPROPRIATE LIMITS TO PRECLUDE A ROUGH REJOINING OF MATERIALS.
- COORDINATE ALL ELECTRIC, TELEPHONE, DATA AND GAS LINE RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANIES.
- REMOVE DEMOLISHED MATERIALS FROM THE CONSTRUCTION AREA IMMEDIATELY AND DISPOSE OF OFF-SITE IN A LOCATION AND MANNER ACCEPTABLE TO ALL GOVERNING AGENCIES DICTATING DISPOSAL LAW. IF HAZARDOUS MATERIALS ARE ENCOUNTERED ADHERE TO GOVERNING AGENCIES ORDINANCES CONCERNING REMOVAL, HANDLING AND PROTECTION AGAINST EXPOSURE OF ENVIRONMENTAL POLLUTION.
- BURNING OF DEMOLISHED MATERIAL IS NOT PERMITTED.
- AFTER COMPLETION OF DEMOLITION WORK SECURE THE AREA FOR THE COMMENCEMENT OF FINAL CONSTRUCTION AND EXCAVATIONS.
- DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, WALKWAYS, ACCESS DRIVES OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF NECESSARY TO PROVIDE ACCESS TO EXISTING PARCELS.
- UNIFORMLY ROUGH GRADE AREA OF DEMOLISHED CONSTRUCTION TO A SMOOTH SURFACE FREE FROM IRREGULAR SURFACE CHANGES. PROVIDE A SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRADES AND NEW GRADES.
- REPAIR DAMAGE TO ADJACENT CONSTRUCTION CAUSED BY DEMOLITION OPERATIONS. PATCH TO PRODUCE SURFACES SUITABLE FOR NEW MATERIALS. RESURFACE ADJOINING PARKING LOTS IN CONFORMANCE WITH THE PLAN DETAILS AND TO THE LIMITS SHOWN.
- CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT AND DEBRIS CAUSED BY BUILDING DEMOLITION OPERATIONS.



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BLUE HILLS VILLAGE  
NOTES

BLUE HILLS DRIVE & U.S. ROUTE 460  
ROANOKE, VIRGINIA

SCALE: AS SHOWN

OCT. 20, 2006

PROJECT: 06067

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