

QUANTITY & COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		ACRES			
EXCAVATION		C.Y.			
EMBANKMENT		C.Y.			
CURB INLET DI-		EACH			
CURB INLET DI-		EACH			
MANHOLE MH-		EACH			
MANHOLE MH-		EACH			
-IN. CONCRETE PIPE, CLASS III		LIN. FT.			
-IN. CONCRETE PIPE, CLASS IV		LIN. FT.			
-IN. C.M. CULVERT		LIN. FT.			
-IN. C.M. CULVERT		LIN. FT.			
HARDWOOD TREES	23		250	\$5750	\$5750
SHRUBS	31		150	\$4650	\$4650
BOX CULVERT		LUMP SUM			
PAVED DITCH		LIN. FT.			
RIPRAP - CLASS		S.F.			
SODDED SWALE		S.Y.			
-IN. CONCRETE ENDWALL EW-		EACH			
-IN. END SECTION ES-		EACH			
HEADER CURB CG-1	1700	LIN. FT.	\$11.00	\$18700	
CURB & GUTTER CG-6	520	LIN. FT.	\$15.00	\$7800	
VALLEY GUTTER		EACH			
GRAVEL BASE	9800	S.Y.	\$16.50	\$162550	
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
3-IN. BIT. CONC. TYPE BM-2	1940	S.Y.	\$3.00	\$5820	
2-IN. BIT. CONC. TYPE SM-2A	9600	S.Y.	\$2.50	\$24000	
-IN. BASE MATERIAL		C.Y.			
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EACH			
8" WATER LINE	1190	LIN. FT.	\$22.50	\$26775	
6" WATER LINE		LIN. FT.			
FIRE HYDRANT ASSEMBLIES	3	EACH	\$1500	\$4500	
BLOW OFFS W/VAULT, FRAME & COVER	2	EACH	\$500	\$1000	
8-IN. GATE VALVES, W/VAULT, FRAME & COVER	6	EACH	\$450	\$2700	
2-IN. GATE VALVES, W/VAULT, FRAME & COVER	1	EACH	\$250	\$250	
METER VAULT W/ DETECTOR CK	1	EA.	\$5000	\$5000	
8" SANITARY SEWER		LIN. FT.			
STANDARD MANHOLE W/FRAME & COVER		EACH			
SAMPLING MANHOLE/PORT		EACH			
AS-BUILT PLANS		LUMP SUM			
STORMWATER MANAGEMENT		LUMP SUM			
SUBTOTAL				\$254300	\$10460
10% CONTINGENCY				\$25430	\$1040
ESTIMATED TOTAL				\$279730	\$11440
I HEREBY CERTIFY THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT.					
SIGNED: _____ DATE: _____					

GENERAL NOTES

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County and/or the Western Virginia Water Authority and Department of Transportation.

The contractor or developer is required to notify the Roanoke County Engineering Division in writing at least three (3) days prior to any construction, including, but not limited to the following:

- Installation of approved erosion control devices
- Clearing and grubbing
- Subgrade excavation
- Installing storm sewers or culverts
- Setting curb and gutter forms
- Placing curb and gutter
- Placing other concrete
- Placing gravel base
- Placing any roadway surface
- Installing water lines
- Installing sanitary sewer lines

A pre-construction conference should be scheduled with the Roanoke County Engineering Division, to be held at least one (1) day prior to any construction.

Measures to control erosion and siltation must be provided prior to plan approval. Plan approval in no way relieves the developer or contractor of the responsibilities contained within the erosion and siltation control policies.

A permit must be obtained from the V.D.O.T. Residency Office, Roanoke County, prior to construction in the highway right-of-way.

Plan approval does not guarantee issuance of any permits by V.D.O.T.

An approved set of plans and all permits must be available at the construction site.

Field construction shall honor proposed drainage divides as shown on plans.

All unsuitable material shall be removed from the construction limits of the roadway before placing embankment.

Pavement sections on approved plans are based on a minimum CBR of 10. CBR tests are to be performed by the engineer and submitted to V.D.O.T. and to the Roanoke County Engineering Division prior to placement. CBR values < 10 will require revised pavement sections.

All roadside ditches or grades of more than 5 percent shall be paved with cement concrete to the limits as indicated on the plans and as required at the field inspection.

Location of guard rails shall be determined at a joint field inspection by the County and V.D.O.T.

All springs shall be capped and piped to the nearest storm sewer or natural watercourse. The pipe shall be 6 inch minimum diameter and conform to V.D.O.T. Standard SB-1.

Standard street and traffic control signs shall be erected at each intersection by the developer prior to final street acceptance.

Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.

The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.

The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.

Contractors shall notify utilities of proposed construction at least two (2), but not more than ten (10) working days in advance. Area public utilities may be notified thru "Miss Utility": 1-800-552-7001.

The developer or contractor shall supply the County and the Western Virginia Water Authority with correct As-Built plans before final acceptance.

All work shall be subject to inspection by Roanoke County, the Western Virginia Water Authority and V.D.O.T. inspectors.

Field corrections shall be approved by the Roanoke County Engineering Division and/or the Western Virginia Water Authority prior to such construction.

100 year floodway and floodplain information shall be shown where applicable.

Grade stakes shall be set for all curb and gutter, culvert, sanitary sewer and storm sewer.

INDEX

- COUNTY STANDARD COVER SHEET
- COUNTY STANDARD WATER SHEET
- COUNTY STANDARD ESC SHEET
- GRADING AND UTILITY PLAN
- LANDSCAPING AND EROSION CONTROL PLAN
- DETAILS & SCHEDULES

SEWER NOTES

All sanitary sewer facilities shall be installed according to the Western Virginia Water Authority Design and Construction Standards. (Latest Edition).

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering all manholes after paving. Manhole tops shall be adjusted to grade if necessary.

All existing utilities may not be shown or may not be shown in their exact location. The contractor shall comply with (State Water Works Regulations, Section 12.05.03, where lines cross.)

All trenches in existing or future rights-of-way shall be compacted according to V.D.O.T. standards.

Lines shall be staked prior to construction.

WATER NOTES

All water facilities shall be installed according to the Western Virginia Water Authority Design and Construction Standards/ (Latest Edition).

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering valve vaults after paving and adjustment to final grade if necessary.

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.

All trenches in existing or future highway right-of-ways shall be compacted according to V.D.O.T. standards.

Lines shall be staked prior to construction.

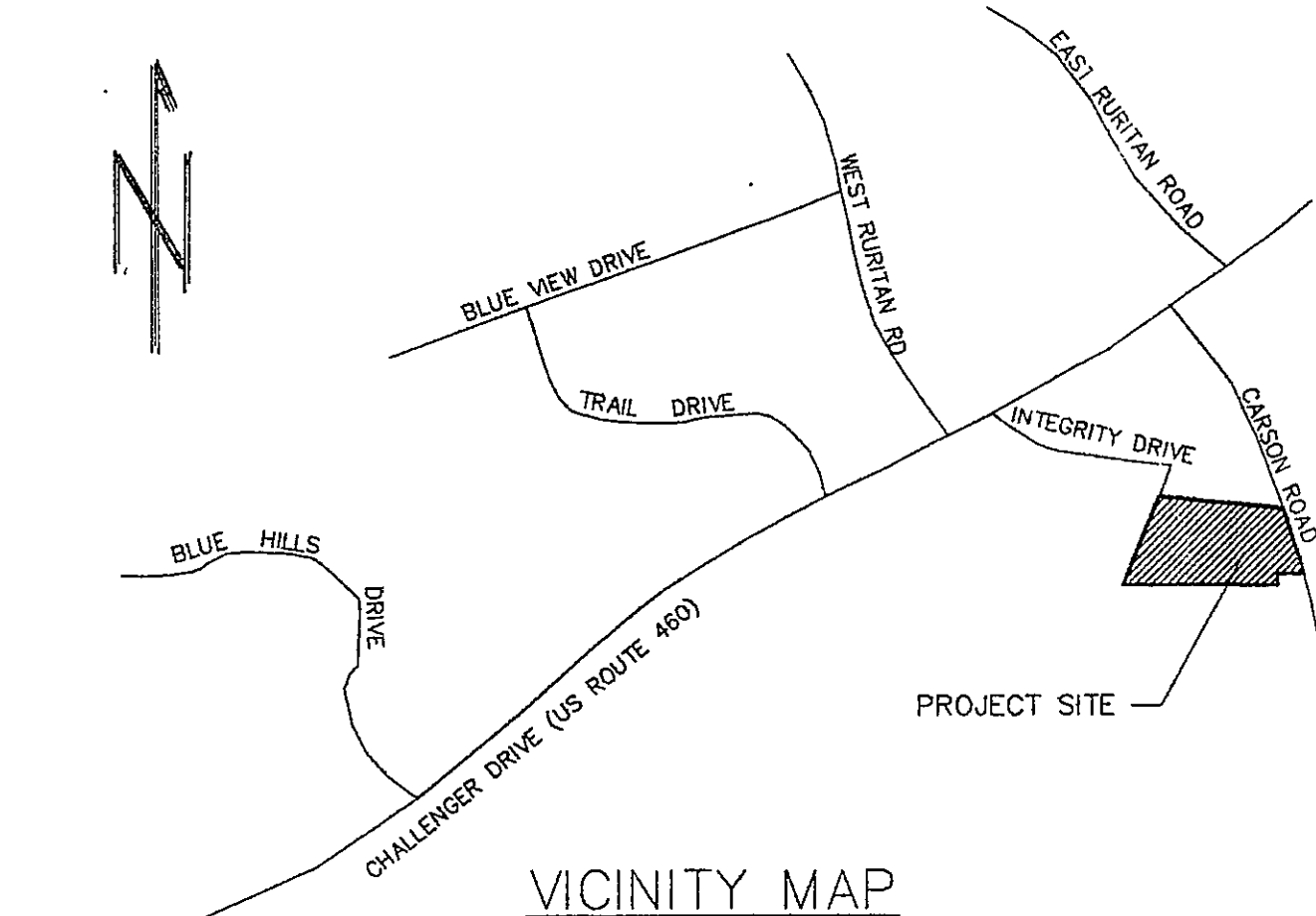
Water main shall be minimum Class 350 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Ductile Iron Pipe in accordance with the Western Virginia Water Authority Design and Construction Standards shall be required for all pipe with a working pressure equal to or greater than 100 p.s.i.

Availability letter number \_\_\_\_\_

LEGEND

Property Line	---
Right-of-way	--- R/W ---
Centerline	---
Minimum Building Line	--- M.B.L. ---
Existing Storm Sewer	--- 18" S.D. --- 18" S.D. ---
Existing Sanitary Sewer	--- 8" SAN. --- 8" SAN. ---
Existing Water Main	--- 4" W --- 4" W ---
Existing Contour	--- 1045 --- 1045 ---
Proposed Contour	--- 1045 ---
Proposed Drainage Divide	--- < --- < ---
Proposed Limits of Clearing	--- < --- < ---
Proposed Storm Sewer	--- 24" S.D. ---
Proposed Sanitary Sewer	--- 8" M.H. ---
Proposed Water Main	--- HYDRANT --- VALVE --- BLOWOFF ---



SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) 1997 by \_\_\_\_\_

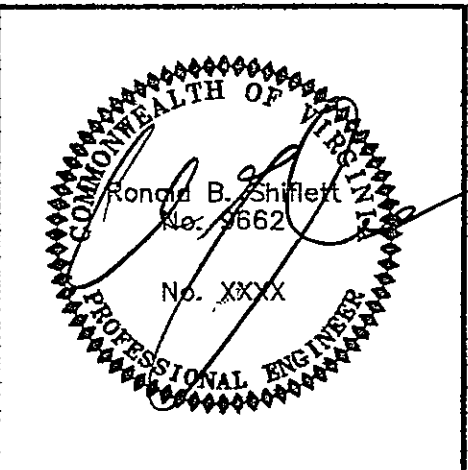
All elevations must be referenced to the National Geodetic Vertical Datum of 1929.

Source of topographic mapping is LANG ENGINEERING dated 4-16-97

Boundary was performed by Caldwell White Associates dated September 9, 2003

The professional seal and signature below certifies the boundary survey and topographic mapping to be accurate and correct.

DEVELOPMENT PLAN APPROVED FOR CONSTRUCTION BY ROANOKE COUNTY	
Department	Date
Development Review	9/28/06
Engineering	9/28/06
Water & Sewer	10/03/06
Planning & Zoning	9/28/06



PROFESSIONAL ENGINEER  
SEAL AND SIGNATURE

COUNTY OF ROANOKE

NAME OF DEVELOPMENT INDUSTRIAL SHELL BUILDING

MAGISTERIAL DISTRICT(S) VINTON

OWNER (name, address, telephone) ROANOKE GATEWAY LLC  
3381 Southwood Village Ct  
Roanoke, VA 24014 540 344 4544

DEVELOPER (name, address, telephone) ROANOKE GATEWAY LLC  
3381 Southwood Village Ct  
Roanoke, VA 24014 540 344 4544

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone) Covenant Engineering  
P.O. Box 12062  
Roanoke, VA 24022 540 345 5555

TAX MAP NO(S) 50.01-1-5.7 BLOCK NO(S) \_\_\_\_\_ PARCEL NO(S) TRACT B

I, Ronald B. Shifflet OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APPLICABLE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS, UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.