

QUANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		ACRES			
EXCAVATION		C.Y.			
EMBANKMENT		C.Y.			
CURB INLET DI-3B, L=6'	7	EACH	2,000.00	\$ 14,000.00	
INLET DI-3B, L=8'	1	EACH	2,250.00	\$ 2,250.00	
INLET DI-3B, L=10'	1	EACH	2,500.00	\$ 2,500.00	
MANHOLE MH-1	1	EACH	1,500.00	\$ 1,500.00	
MANHOLE MH-1 WITH ORIFICE PLATE	1	EACH	1,800.00	\$ 1,800.00	
15" REINFORCED CONCRETE PIPE	66	LIN. FT.	30.00	\$ 1,980.00	
12" H.D.P.E. PIPE	323	LIN. FT.	22.00	\$ 7,106.00	
15" H.D.P.E. PIPE	407	LIN. FT.	25.00	\$ 10,175.00	
15" CORRUGATED METAL PIPE	44	LIN. FT.	27.00	\$ 1,188.00	
18" CORRUGATED METAL PIPE	35	LIN. FT.	32.00	\$ 1,120.00	
24" CORRUGATED METAL PIPE	63	LIN. FT.	38.00	\$ 2,394.00	
60" CORRUGATED METAL PIPE	80	LIN. FT.	120.00	\$ 9,600.00	
72" CORRUGATED METAL PIPE	222	LIN. FT.	150.00	\$ 33,300.00	
BOX CULVERT		LUMP SUM			
		LIN. FT.			
		LIN. FT.			
RIPRAP - CLASS		S.F.			
SODDED SWALE		S.Y.			
-IN. CONCRETE ENDWALL EW-		EACH			
15" -IN. END SECTION ES-	1	EACH	500.00	\$ 500.00	
CURB CG-2	942	LIN. FT.	10.00	\$ 9,420.00	
CURB & GUTTER CG-6	1,654	LIN. FT.	12.00	\$ 19,848.00	
VALLEY GUTTER		EACH			
ASPHALT PAVEMENT	1,300	S.Y.	18.00	\$ 23,400.00	
HEAVY-DUTY ASPHALT PAVEMENT	507	S.Y.	14.00	\$ 7,098.00	
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
-IN. BIT. CONC. -IN. AGGREGATE BASE		S.Y.			
-IN. BIT. CONC. -IN. AGGREGATE BASE		S.Y.			
1 1/2" WATER LINE	190	LIN. FT.	15.00	\$ 2,850.00	
12" WATER LINE	490	LIN. FT.	25.00	\$ 12,250.00	
FIRE HYDRANT ASSEMBLIES	1	EACH	2,500.00	\$ 2,500.00	
BLOW OFFS W/VAULT, FRAME & COVER	1	EACH	800.00	\$ 800.00	
AUTOMATIC AIR RELEASE ASSEMBLY	1	EACH	800.00	\$ 800.00	
12-IN. GATE VALVES, W/VAULT, FRAME & COVER	1	EACH	1,000.00	\$ 1,000.00	
WATER SERVICE CONNECTION	2	EACH	300.00	\$ 600.00	
6" SANITARY SEWER LATERAL	1	LIN. FT.	15.00	\$ 15.00	
8" SANITARY SEWER	493	LIN. FT.	20.00	\$ 9,860.00	
STANDARD MANHOLE W/FRAME & COVER	4	EACH	800.00	\$ 3,200.00	
SAMPLING MANHOLE/PORT	2	EACH	800.00	\$ 1,600.00	
CLEANOUT	2	EACH	200.00	\$ 400.00	
AS-BUILT PLANS		LUMP SUM			
		SUBTOTAL		\$188,774.00	
STORMWATER MANAGEMENT	1	LUMP SUM	21,100.00	\$ 21,100.00	
LANDSCAPING	1	LUMP SUM	12,397.00	\$ 12,397.00	
SCREENING FENCE	120	LIN. FT.	16.00	\$ 1,920.00	
SUBTOTAL				\$224,191.00	
10% CONTINGENCY				\$ 22,309.00	
ESTIMATED TOTAL				\$246,500.00	

GENERAL NOTES

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County and/or the Virginia 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:

- A. Installation of approved erosion control devices
- B. Clearing and grubbing
- C. Subgrade excavation
- D. Installing storm sewers or culverts
- E. Setting curb and gutter forms
- F. Placing curb and gutter
- G. Placing other concrete
- H. Placing gravel base
- I. Placing any roadway surface
- J. Installing water lines
- K. 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 with correct As-Built plans before final acceptance.

All work shall be subject to inspection by Roanoke County and/or V.D.O.T. inspectors.

Field corrections shall be approved by the Roanoke County Engineering Division 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.

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SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

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SEWER NOTES

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 the exact location. The contractor shall comply with State Water Works Regulations, Section 12.05.03, where lines cross.

House connections are to be made with 4" pipe installed at a minimum grade of 1/4 inch to 1 foot in R/W.

Laterals from manholes shall be PVC or Ductile Iron of sufficient length to provide two (2) feet of bearing on natural ground. The transition from ductile iron to asbestos cement or concrete pipe shall be made with an adapter coupling in R/W.

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

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 or 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 52 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Availability number _____

LEGEND

Property Line	_____E_____
Right-of-way	_____R/W_____
Centerline	_____C_____
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-----
Proposed Contour	-----1045-----
Proposed Drainage Divide	<----->
Proposed Limits of Clearing	-----24" S.D.-----
Proposed Storm Sewer	=====8" M.H.=====
Proposed Sanitary Sewer	=====8" M.H.=====
Proposed Water Main	=====8" M.H.=====
	HYDRANT VALVE BLOWOFF

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

VICINITY MAP

SURVEY INFORMATION

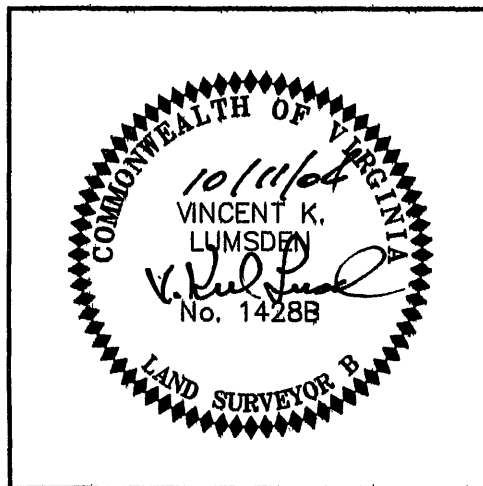
Horizontal and vertical control surveys were performed in (year) 2003
by LUMSDEN ASSOCIATES, P.C.

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

Source of topographic mapping is LUMSDEN ASSOCIATES, P.C.
dated 2003

Boundary was performed by LUMSDEN ASSOCIATES, P.C.
dated 2003

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



PROFESSIONAL
SEAL AND SIGNATURE

COUNTY OF ROANOKE

NAME OF DEVELOPMENT **WEST VILLAGE**

MAGISTERIAL DISTRICT(S) **CAVE SPRING**

OWNER (name, address, telephone) **WEST VILLAGE, L.L.C.
PO BOX 721
ROANOKE, VIRGINIA 24018 15401 774-3519**

DEVELOPER (name, address, telephone) **WEST VILLAGE, L.L.C. IATTN: MR. DAVID VAUGHN
PO BOX 721
ROANOKE, VIRGINIA 24018 15401 774-3519**

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone) **LUMSDEN ASSOCIATES, P.C.
P.O. BOX 20669
ROANOKE, VIRGINIA 24018 15401 774-4411**

TAX MAP NO(S) **77.18** BLOCK NO(S) **05** PARCEL NO(S) **02.0**

I, _____ 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.

WWW.ID# 6PFNNM