

QUANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
GRADING, CLEARING, AND GRUBBING	PERFORMED WITH ESC PLAN				
CURB INLET DI-3	11	EACH	\$1,200.00	\$13,200.00	
STORM DRAIN MANHOLE	1	EACH	\$1,200.00	\$1,200.00	
15" CONCRETE STORM DRAIN	305	LIN. FT.	\$23.00	\$7,015.00	
18" CONCRETE STORM DRAIN	359	LIN. FT.	\$27.00	\$9,693.00	
24" CONCRETE STORM DRAIN	278	LIN. FT.	\$36.00	\$10,008.00	
24-IN. CONCRETE ENDWALL, EW-1	1	EACH	\$1,200.00	\$1,200.00	
ENERGY DISSIPATER	1	EACH	\$300.00	\$300.00	
VDOT STD. CG-2	132	LIN. FT.	\$8.00	\$1,056.00	
VDOT STD. CG-6	3,820	LIN. FT.	\$11.00	\$42,020.00	
1.5" SM-9.5A ASPHALTIC CC PAVEMENT	400	S.Y.	\$5.00	\$2,000.00	
5" BM-25 ASPHALTIC CC PAVEMENT	400	S.Y.	\$14.00	\$5,600.00	
8" AGGREGATE BASE, #21B STONE, TYPE I	420	S.Y.	\$7.00	\$2,940.00	
2" SM-9.5A ASPHALTIC CC PAVEMENT	6,780	S.Y.	\$6.00	\$40,680.00	
5" AGGREGATE BASE, #21B STONE, TYPE I	6,780	S.Y.	\$4.00	\$27,120.00	
5" AGGREGATE BASE, #21B STONE, TYPE I	7,830	S.Y.	\$4.00	\$31,320.00	
8" WATER LINE	2,444	LIN. FT.	\$17.00	\$41,548.00	
FIRE HYDRANT ASSEMBLIES W/ GATE VALVE	4	EACH	\$1,500.00	\$6,000.00	
AIR RELEASE VALVES	2	EACH	\$700.00	\$1,400.00	
BLOWOFF ASSEMBLY	1	EACH	\$700.00	\$700.00	
SINGLE WATER METER SERVICE	6	EACH	\$300.00	\$1,800.00	
DOUBLE WATER METER SERVICE	19	EACH	\$400.00	\$7,600.00	
8" SANITARY SEWER LINE	2,400	LIN. FT.	\$20.00	\$48,000.00	
LATERAL, CLEANOUT, STUBOUT	45	EACH	\$300.00	\$13,500.00	
STANDARD MANHOLE W/FRAME & COVER	17	EACH	\$1,200.00	\$20,400.00	
AS-BUILT PLANS	1	LUMP SUM	\$1,500.00	\$1,500.00	
SWM POND FENCING AND GATE	1	LUMP SUM	\$5,000.00	\$5,000.00	
GRADING REQ'D FOR BASIN TO POND CONVERSION	110	C.Y.	\$3.00	\$330.00	
STORMWATER MANAGEMENT	PERFORMED WITH ESC PLAN				
SUBTOTAL				\$343,130.00	
10% CONTINGENCY				\$34,313.00	
ESTIMATED TOTAL				\$377,443.00	

GENERAL NOTES

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

The contractor or developer is required to notify the Roanoke County Engineering Division and the Western Virginia Water Authority in writing at least three (3) days prior to 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, and the Western Virginia Water Authority 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.

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 tentative acceptance.

All work shall be subject to inspection by the Western Virginia Water Authority, Roanoke County, and/or Virginia Department Of Transportation inspectors.

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

SEWER NOTES

All sanitary sewer connections to existing lines shall be coordinated with and performed by the Western Virginia Water Authority.

All water and sanitary sewer facilities are to be installed according to Western Virginia Water Authority Design and Construction Standards.

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

All water connections to existing lines will be coordinated with and performed by the Western Virginia Water Authority.

All water and sanitary sewer facilities are to be installed according to Western Virginia Water Authority Design and Construction Standards. 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	-----P-----
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	-----HYDRANT VALVE-----BLOWOFF-----

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

VICINITY MAP

SURVEY INFORMATION

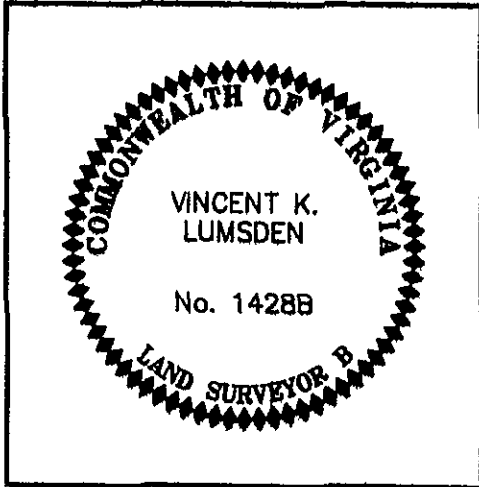
Horizontal and vertical control surveys were performed in (year) 2002 by LUMSDEN ASSOCIATES, P.C.

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

Source of topographic mapping is AERIAL MAPPING dated SEPTEMBER 2002

Boundary was performed by LUMSDEN ASSOCIATES, P.C. dated 1999

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

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

NAME OF DEVELOPMENT **HAMPSHIRE**

MAGISTERIAL DISTRICT(S) **CAVE SPRING**

OWNER (name, address, telephone) **COTTON HILL LAND COMPANY, LC
P.O. BOX 8158
ROANOKE, VIRGINIA 24014 15401 989-7080**

DEVELOPER (name, address, telephone) **SEE OWNER**

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) **96.02** BLOCK NO(S) **01** PARCEL NO(S) **33**

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.