

QUANTITY & COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		LUMP SUM	\$ 3,500.00	\$ 3,500.00	\$ 3,500.00
EXCAVATION	5,000	CY	\$ 2.00	\$ 10,000.00	\$ 10,000.00
EMBANKMENT		CY			
CURB INLET DI-3A	1	EACH	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00
CURB INLET DI-3B, 10' LG.	2	EACH	\$ 1,750.00	\$ 3,500.00	\$ 3,500.00
CURB INLET DI-3B, 14' LG.	1	EACH	\$ 2,250.00	\$ 2,250.00	\$ 2,250.00
CURB INLET DI-3B, 18' LG.	1	EACH	\$ 2,750.00	\$ 2,750.00	\$ 2,750.00
CURB INLET DI-3C, 8' LG.	1	EACH	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00
CURB INLET DI-3C, 16' LG.	1	EACH	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
MANHOLE	1	EACH	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00
15 -IN CONCRETE PIPE	591	LIN FT	\$ 15.00	\$ 8,865.00	\$ 8,865.00
18 -IN CONCRETE PIPE	109	LIN FT	\$ 18.00	\$ 1,962.00	\$ 1,962.00
-IN C.M. CULVERT		LIN FT			
IN C.M. CULVERT		LIN FT			
GRASS LINED DITCH TYPE "A"	815	LIN FT	\$ 3.00	\$ 2,445.00	\$ 2,445.00
GRASS LINED DITCH, TYPE "B"	255	LIN FT	\$ 2.50	\$ 638.00	\$ 638.00
RIP-RAP LINED DITCH, TYPE "E"	76	LIN FT	\$ 12.00	\$ 912.00	\$ 912.00
RIPRAP EC-1, TYPE "B"	61	SF	\$ 5.00	\$ 305.00	\$ 305.00
15 -IN CONCRETE ENDWALL EW-1	4	EA	\$ 300.00	\$ 1,200.00	\$ 1,200.00
18 -IN CONCRETE ENDWALL EW-1	1	EA	\$ 400.00	\$ 400.00	\$ 400.00
-IN END SECTION ES-		EA			
DRIVEWAY, ENTRANCE TYPE		EACH			
SIDEWALK, - FT WIDE		LIN FT			
TRAIL, - FT WIDE		LIN FT			
CURB & GUTTER CG-2	500	LIN FT	\$ 7.50	\$ 3,750.00	\$ 3,750.00
CURB & GUTTER CG-6	3,250	LIN FT	\$ 8.50	\$ 27,625.00	\$ 27,625.00
VALLEY GUTTER		EA			
GRAVEL BASE		SY			
GRAVEL SHOULDER		SY			
SURFACE TREATMENT		SY			
CATEGORY V PAVEMENT	2,928	SY	\$ 14.70	\$ 43,042.00	\$ 43,042.00
CATEGORY III PAVEMENT	1,008	SY	\$ 11.00	\$ 11,088.00	\$ 11,088.00
CATEGORY I PAVEMENT	2,923	SY	\$ 7.75	\$ 22,653.00	\$ 22,653.00
STREET SIGNS		EA			
TRAFFIC BARRICADE		EA			
PIPES AS SHOWN ON PLAT		EA			
MONUMENTS AS SHOWN ON PLAT		EA			
8 -IN WATER LINE	1,230	LIN FT	\$ 15.00	\$ 18,450.00	\$ 18,450.00
6 -IN WATER LINE	420	LIN FT	\$ 13.00	\$ 5,460.00	\$ 5,460.00
-IN WATER LINE		LIN FT			
FIRE HYDRANT ASSEMBLIES	2	EA	\$ 1,200.00	\$ 2,400.00	\$ 2,400.00
BLOW OFFS W/VAULT, FRAME & COVER	4	EA	\$ 500.00	\$ 2,000.00	\$ 2,000.00
8 -IN GATE VALVES W/VAULT, FRAME & COVER	5	EA	\$ 600.00	\$ 3,000.00	\$ 3,000.00
-IN GATE VALVES W/VAULT, FRAME & COVER		EA			
-IN GATE VALVES W/VAULT, FRAME & COVER		EA			
SERVICE CONNECTIONS, DOUBLE	12	EA	\$ 300.00	\$ 3,600.00	\$ 3,600.00
SERVICE CONNECTIONS, SINGLE	3	EA	\$ 200.00	\$ 600.00	\$ 600.00
8 -IN SAN SEWER	1,907	LIN FT	\$ 15.00	\$ 28,605.00	\$ 28,605.00
- N SAN SEWER		LIN FT			
-IN SAN SEWER		LIN FT			
STD. MANHOLE W/ FRAME & COVER	12	EA	\$ 1,200.00	\$ 14,400.00	\$ 14,400.00
SERVICE CONNECTIONS W/ CLEANOUTS	33	EA	\$ 250.00	\$ 8,250.00	\$ 8,250.00
AS-BUILT PLANS		LUMP SUM		\$ 200.00	\$ 200.00
STORM WATER MANAGEMENT		LUMP SUM			
10% CONTINGENCY				\$ 23,855.00	\$ 23,855.00
ESTIMATED TOTAL				\$ 262,405.00	\$ 262,405.00

GENERAL NOTES

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County and/or The Virginia Department of Highways and 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 preconstruction conference shall be scheduled with the Roanoke County Engineering Division, to be held at least one day prior to any construction.

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

A permit must be obtained from the VDHBT Residency Office, Roanoke County, prior to construction in the highway Right of Way.

Plan approval does not guarantee issuance of any permits by VDHBT.

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 min. CBR of 10. CBR tests are to be performed by the engineer and submitted to the VDHBT and to the Roanoke County Engineering Division prior to placement. CBR values less than 10 will require raised pavement sections.

All roadside ditches or grades of more than 5% shall be paved with cement concrete to the limits 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 the VDHBT.

All springs shall be capped and piped to the nearest storm sewer or natural water course. The pipe shall be 6" min. dia and conform to VDHBT standard SB1.

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 entry on public streets. It is the contractor's 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, but not more than ten working days in advance. Area public utilities may be notified thru Miss Utility (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 VDHBT inspectors.

Field corrections shall be approved by the Roanoke County Engineering Division prior to such construction.

100 year floodway and flood plain shall be shown where applicable.

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

SURVEY INFORMATION

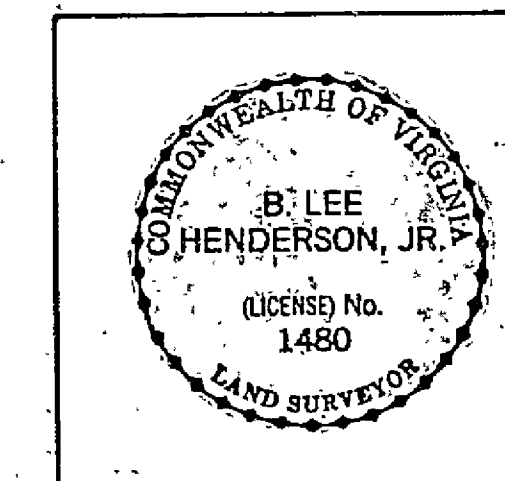
Horizontal and vertical control surveys were performed in year _____ by _____ LUMSDEN ASSOCIATES, P.C.

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

Source of topographic mapping is R.D.S. dated _____ 1989.

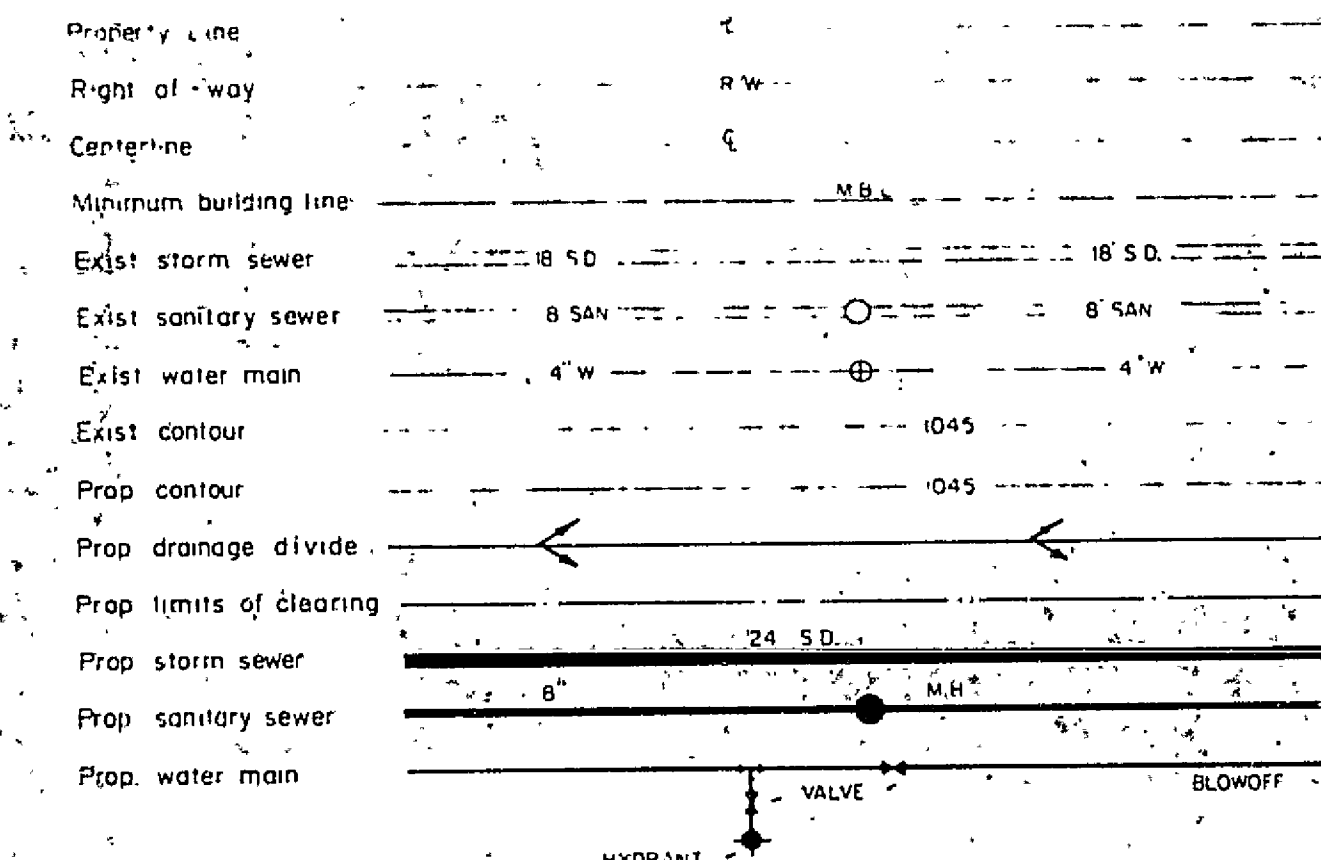
Boundary survey was performed by _____ LUMSDEN ASSOCIATES, P.C. dated _____.

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



PROFESSIONAL SEAL AND SIGNATURE

LEGEND



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 the exact location. The contractor shall comply with 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 VDHBT standards.

Lines shall be staked prior to construction.

Water cost construction as per water construction standards.

Minimum shall be minimum Class 52 ductile iron in accordance with AWWA C-900 or 11 or DR-14 PVC in accordance to AWWA C-900.

Minimum for utilities to serve development reference 89-184.

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 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 on a minimum grade of 1/4 inch to 1 foot in R/W.

Materials 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 highway right of ways shall be compacted according to VDHBT standards.

Lines shall be staked prior to construction.



COUNTY OF ROANOKE

SECTION No. 1

"THE GARDENS OF COTTON HILL"

I, Bruce A. Strauss 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.

MAGISTERIAL DISTRICT(S) CAVE SPRING

OWNER (name, address, telephone) STRAUSS CONSTRUCTION
P.O. BOX 20287
ROANOKE, VIRGINIA 24018

(703) 989-7060

DEVELOPER (name, address, telephone) SAME AS ABOVE

ENGINEER, ARCHITECT OR SURVEYOR (name, address, phone) LUMSDEN ASSOCIATES, P.C.
P.O. BOX 20669
ROANOKE, VIRGINIA 24018

(703) 774-4411

TAX MAP NO(S) 96.02

BLOCK NO(S) 1

PARCEL NO(S) 44 & 45

PC 5472