QUANTITY AND COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING	34	ACRES	1,000.00	34,000.00	
GRADING	3,000	LIN. FT.	50.00	150,000.00	
CURB INLET DI-3	20	EACH	2,000.00	40,000.00	
GRATE INLET DI-7	7	EACH	1,500.00	10,500.00	
STORM DRAIN MANHOLE	25	EACH	1,200.00	30,000.00	
15" CONCRETE STORM DRAIN	2,779	LIN. FT.	22.00	61,138.00	
18" CONCRETE STORM DRAIN	388	LIN. FT.	25.00	9,700.00	
24" CONCRETE STORM DRAIN	1,067	LIN. FT.	30.00	32,010.00	
30" RCP STORM DRAIN	593	LIN. FT.	35.00	20,755.00	
36" RCP STORM DRAIN	304	LIN. FT.	45.00	13,680.00	
48" RCP STORM DRAIN	431	LIN. FT.	60.00	25,860.00	
15" EW-1	3	EACH	700.00	2,100.00	
24" EW-1	1	EACH	1,000.00	1,000.00	
36" EW-1	1	EACH	1,200.00	1,200.00	
48" EW-2	2	EACH	2,500.00	5,000.00	
15" ES-1		EACH			
24" ES-1	1	EACH	800.00	800.00	
RIP RAP DITCH	80	LIN. FT.	30.00	2,400.00	
EC-3 DITCH	1,755	LIN. FT.	8.00	14,040.00	
CURB & GUTTER CG-6	5,960	LIN. FT.	12.00	71,520.00	
6" 21-B	10,230	S.Y.	4.00	40,920.00	
8" 21-B	410	S.Y.	5.00	2,050.00	
10" 21-B	260	S.Y.	6.00	1,560.00	
3" BM-25.0	10,230	S.Y.	5.00	51,150.00	
2" SM-9.5A	10,900	S.Y.	5.00	54,500.00	
8" WATER LINE	3,450	LIN. FT.	16.00	55,200.00	
8" GATE VALVE	6	EACH	1,000.00	6,000.00	
AUTOMATIC AIR RELEASE ASSEMBLY	1	EACH	700.00	700.00	
TEMPORARY BLOWOFF ASSEMBLY	2	EACH	700.00	1,400.00	
FIRE HYDRANT ASSEMBLY	3	EACH	1,500.00	4,500.00	
DOUBLE WATER SERVICE	15	EACH	400.00	6,000.00	
SINGLE WATER SERVICE	1	EACH	300.00	300.00	
8" SANITARY SEWER LINE	4,927	LIN. FT.	20.00	98,540.00	
STANDARD MANHOLE FRAME AND COVERS	35	EACH	1,500.00	52,500.00	
LATERAL, CLEANOUT, STUBOUT	43	EACH	300.00	12,900.00	
WATER AND SANITARY SEWER ASBUILT PLANS	1	LUMP SUM	1,000.00	1,000.00	
STORMWATER MANAGEMENT	1	LUMP SUM	40,000.00	40,000.00	
SUBTOTAL				$ 954,923.00	
10% CONTINGENCY				$ 95,477.00	
ESTIMATED TOTAL				$ 1,050,400.00	

GENERAL NOTES

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County, the Western Virginia Water Authority 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 final acceptance.

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

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.

No construction or field changes shall be made without the approval of the Consulting Engineer, Roanoke County, VDOT, and/or the Western Virginia Water Authority prior to such construction.

Any new alignments, changes in grades, alternative pipe sizes or manholes, or ESC revisions shall require a new set of plans stamped by the Consulting Engineer. These plan sheets may be letter size if information is legible.

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SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

SEWER NOTES

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

All sanitary sewer facilities are to be installed according to the City of Salem and the 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 shall be coordinated with and performed by the Western Virginia Water Authority.

All water facilities are to be installed according to the 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 350 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Availability number 06-44

LEGEND

Property Line
Right-of-way (R/W)
Centerline
Minimum Building Line (M.B.L.)
Existing Storm Sewer (18" S.D.)
Existing Sanitary Sewer (8" SAN.)
Existing Water Main (4" W)
Existing Contour (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)

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

VICINITY MAP

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) *2006* 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 BY MSI, INC. IN 2006*

Boundary was performed by *LUMSDEN ASSOCIATES, P.C.* dated *2006*

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

COMMONWEALTH OF VIRGINIA
B. LEE HENDERSON, JR.
No. 1480
LAND SURVEYOR

PROFESSIONAL SEAL AND SIGNATURE

COUNTY OF ROANOKE

NAME OF DEVELOPMENT ***SECTION No. 1 THE RIDGE AT FAIRWAY FOREST***

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.

MAGISTERIAL DISTRICT(S) ***WINDSOR HILLS***

OWNER (name, address, telephone) ***BOONE HOMES, INC. OF ROANOKE ATTN: MR. LEN BOONE P. O. BOX 8156 ROANOKE, VIRGINIA 24014 (540) 772-3887***

DEVELOPER (name, address, telephone) ***SAME AS OWNER***

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone) ***LUMSDEN ASSOCIATES, P.C. P.O. BOX 20669 ROANOKE, VIRGINIA 24018 (540) 774-4411***

TAX MAP NO(S) ***66.02 PORTIONS OF 66.04*** BLOCK NO(S) ***1 2*** PARCEL NO(S) ***3 15.1 AND 17***

COMM No.: 2005-006 SHEET ***2*** OF ***19***

LUMSDEN ASSOCIATES, P.C.
ENGINEERS-SURVEYORS-PLANNERS
ROANOKE, VIRGINIA
PHONE: (540) 774-4411
FAX: (540) 772-9445
E-MAIL: MAIL@LUMSDENPC.COM
4664 BRAMBLETON AVENUE
P.O. BOX 20669
ROANOKE, VIRGINIA 24018

COMMONWEALTH OF VIRGINIA
THOMAS C. DALE
No. 033002
10/07
PROFESSIONAL ENGINEER

ROANKE COUNTY
STANDARD COVER SHEET

SECTION No. 1
"THE RIDGE AT FAIRWAY FOREST"
PREPARED FOR
BOONE HOMES, INC.
WINDSOR HILLS MAGISTERIAL DISTRICT
ROANOKE COUNTY, VIRGINIA

REVISIONS		
NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		

DATE: January 6, 2007
SCALE: NONE
COMMISSION NO: 2005-006
SHEET 2 OF 20

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