#### CHANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BUNDABL
CLEARING, GRUBBING, AND GRADING	DEBEND	ACRES MED WITH ES	C PLAN	<b>\$</b> 0	
GRATE INLET DI-1	1	EACH ES	\$1,200.00	\$1,200.00	
CURB INLET DI-3	15	EACH	\$1,500.00	\$22,500.00	,
STORM DRAIN MANHOLE	2	EACH	\$1,200.00	\$2,400.00	
5' CONCRETE STORM DRAIN	1,168	LIN. FT.	\$22.00	\$25,696.00	
18' CONCRETE STORM DRAIN	49	LIN. FT.	\$25.00	\$1,225.00	
24' CONCRETE STORM DRAIN	469	LIN. FT.	\$28.00	\$13,132.00	
15' EW-1, CONCRETE ENDWALL 24' EW-1, CONCRETE ENDWALL	1 2	EACH	\$600.00	<b>\$600.00</b>	
GRATE INLET DI-7	3	EACH EACH	\$1,200.00 \$1,300.00	\$3,600.00 \$1,300.00	
ENERGY DISSIPATERS	3	EACH	\$300.00	\$900.00	
ROLL TOP CURB	2,010	LIN. FT.	\$11.00	\$22,110.00	
8' 21-B AGGREGATE	6,050	S.Y.	\$5.00	\$30,250.00	
BM-25	3,300	S.Y.	\$6.00	\$19,800.00	
2' SM-9.5A ASPHALT	6,050	S.Y.	\$5.00	\$30,250.00	
6' WATER LINE	790	LIN. FT.	\$14.00	\$11,060.00	
AIR RELEASE VALVES	2	EACH	\$700.00	\$1,400.00	
BLOW OFFS W/VAULT, FRAME & COVER	4	EACH	\$700.00	\$2,800.00	
SINGLE WATER METER SERVICES DOUBLE WATER METER SERVICES	8 11	EACH EACH	\$300.00	\$2,400.00	
B' SANITARY SEWER	1,530	LIN, FT.	\$400.00 \$20.00	\$4,400.00 \$30,600.00	
LATERAL, CLEANOUT, STUBOUT	28	EACH	\$300.00	\$8,400.00	
STANDARD MANHOLE W/FRAME & COVER	11	EACH	\$1,200.00	\$13,200.00	
STORMWATER MANAGEMENT		LUMP SUM	\$15,000.00	\$15,000.00	
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SUBTOTAL				\$214,173.00	
10% CONTINGENCY				\$21,432.00	
ESTIMATED TOTAL				\$235,605.00	
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				,	

### **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.C.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/or V.D.O.T. 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 sanitary sewer 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 all manholes after paving. Manhole tops shall be adjusted to grade

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.

# SEE LUMSDEN ASSOCIATES. P.C. COVER SHEET

#### VICINITY MAP

#### 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 C150 or DR-14 PVC in accordance with AWWA C-900.

Availability number <u>05-246</u>

## **LEGEND** Property Line Centerline Minimum Building Line Existing Storm Sewer Existing Sanitary Sewer Existing Water Mair Existing Contour Proposed Contour

Proposed Drainage Divide Proposed Limits of Clearing

Proposed Sanitary Sewer

Proposed Storm Sewer Proposed Water Main BLOVOFP

## SURVEY INFORMATION

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

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

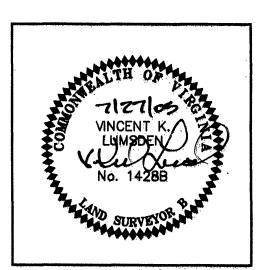
AERIAL MAPPING BY McKENZIE SNYDER, INC. Source of topographic mapping is\_\_\_\_

LUMSDEN ASSOCIATES, P.C. Boundary was performed by \_\_\_\_

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

> BENCHMARK: PK NAIL SET IN AEP UTILITY POLE #207-002 STATION 13+84.59, 102.62' RT

**ELEVATION** = 1082.93



PROFESSIONAL SEAL AND SIGNATURE

# COUNTY OF ROANOKE

#### <u>INDEX</u>

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

SECTION No. 2 NAME OF DEVELOPMENT WEDGWOOD

**HOLLINS** MAGISTERIAL DISTRICT(S)

DWNER (name, address, telephone)

TAX MAP NO(S)

STRAUSS DEVELOPMENT CORPORATION P. O. BOX 20287

ROANOKE, VIRGINIA 24018 SAME AS ABOVE DEVELOPER (name, address, telephone)

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)

LUMSDEN ASSOCIATES, P.C. P.O. BOX 20669

*(540) 989-7060* 

ROANOKE, VIRGINIA 24018 (540) 774-4411

40.13 1.03 BLOCK NO(S) PARCEL NO(S)

WVWA ID# 6QPHHM

SHEET 2 DF 13

OWNER/DEVELOPER, AM AWARE

OF THE SITE DESIGN REQUIREMENTS IMPOSED BY

THIS SITE DEVELOPMENT PLAN AND OTHER APP-LICABLE COUNTY CODES. I HEREBY CERTIFY THAT AGREE TO COMPLY WITH THESE REQUIREMENTS.

UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.