

QUANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		ACRES			
EXCAVATION		C.Y.			
EMBANKMENT		C.Y.			
DROP INLET DI-1	2	EACH	2200	4,400	
CURB INLET DI-3B	5	EACH	2200	11,000	
CURB INLET DI-3C	2	EACH	2200	4,400	
MANHOLE MH-2	1	EACH	1000	1,000	
MANHOLE MH-		EACH			
15 -IN. CONCRETE PIPE, CLASS III	365	LIN. FT.	23	8,395	
18 -IN. CONCRETE PIPE, CLASS III	926	LIN. FT.	25	23,150	
24 -IN. CONCRETE PIPE, CLASS III	263	LIN. FT.	32	8,416	
-IN. C.M. CULVERT		LIN. FT.			
-IN. C.M. CULVERT		LIN. FT.			
BOX CULVERT		LUMP SUM			
PAVED DITCH		LIN. FT.			
RIPRAP - CLASS I	100	C.Y.	15	1,500	
SODDED SWALE		S.Y.			
-IN. CONCRETE ENDWALL EW-		EACH			
-IN. END SECTION ES-		EACH			
HEADER CURB & GUTTER CG-6	5200	LIN. FT.	15	78,000	
CURB & GUTTER CG-		LIN. FT.			
VALLEY GUTTER		EACH			
GRAVEL BASE		S.Y.			
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
-IN. BIT. CONC. TYPE B-		S.Y.			
2-IN. BIT. CONC. TYPE SM-2A	765	TDN	36	27,540	
8-IN. BASE MATERIAL	2700	TDN	12	32,400	
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EACH			
8" WATER LINE	1500	LIN. FT.	18	27,000	
6" WATER LINE		LIN. FT.			
FIRE HYDRANT ASSEMBLIES	2	EACH	1750	3,500	
BLDW OFFS W/Vault, FRAME & COVER	2	EACH	750	1,500	
8-IN. GATE VALVES, W/Vault, FRAME & COVER	3	EACH	750	2,250	
8-IN. HOT TAP	1	EACH	750	750	
AIR RELIEF VALVES	2	EACH	1,200	2,400	
8" SANITARY SEWER	1960	LIN. FT.	22	43,120	
STANDARD MANHOLE W/FRAME & COVER	10	EACH	1750	17,500	
SAMPLING MANHOLE/PORT		EACH			
AS-BUILT PLANS	1	LUMP SUM	2500	2,500	
STORMWATER MANAGEMENT	1	LUMP SUM	3000	3,000	
10% CONTINGENCY				30,372	
ESTIMATED TOTAL				334,093	
I HEREBY CERTIFY THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT.					
SIGNED:		DATE:			

GENERAL NOTES

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County, 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 Western Virginia Water Authority 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 pre-construction conference should be scheduled with the Roanoke County Engineering Division and 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.

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 Western Virginia Water Authority with correct As-Built plans before final acceptance.

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

Field corrections shall be approved by the Roanoke County Engineering Division and 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, culverts, sanitary sewer and storm sewer.

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 pvc 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 04-171

LEGEND

-----	SURVEYED PROPERTY LINE	---T---	PROP. TELEPHONE LINE		CONCRETE		EX. POWER POLE
-----	PROPOSED PROPERTY LINE	---G---	PROP. GAS LINE		ASPHALT PAVING		EX. TELEPHONE
-----	DEED PROPERTY LINE	---SAN---	PROP. SANITARY SEWER LINE		PAVEMENT REPLACEMENT		EX. TELEPHONE PEDESTAL
---OHE---	EXIST. OVERHEAD POWER	---SAN---	PROP. STORM SEWER LINE		GRAVEL		EX. LIGHT POLE
---W---	EXIST. WATER LINE	---C---	PROP. CONTOURS		PAVERS		BENCHMARK
---C---	EXIST. OVERHEAD CABLE	---2'---	EXIST. 2' CONTOURS		WETLAND AREA		
------	EXIST. CENTERLINE OF ROAD	---34.5---	EXIST. 10' CONTOURS				YARD LIGHT (S.M.H.)
=====	EXIST. STORM SEWER	+ 348.55	PROP. SPOT ELEVATION				TYPICAL YARD HYDRANT
---SAN---	EXIST. SANITARY SEWER	---X---	SILT FENCE				PROP. FIRE HYDRANT
---UE---	PROP. UNDERGROUND ELEC. LINE	---RMA---	PROP. TREELINE				PROP. AIR RELEASE VALVE
---UG---	PROP. UNDERGROUND ELEC. SERVICE	---RPA---	RESOURCE MANAGEMENT AREA BOUNDARY		PROP. GATE VALVE		PROP. BLOW OFF VALVE
---W---	PROP. WATERLINE	---RPA---	RESOURCE PROTECTION AREA BOUNDARY				
---A---	PROP. AUDIO CABLE	------	EXIST. TREELINE				
------	EXIST. TREELINE	--->---	DITCH LINE				

SEE SHEET C12 FOR EROSION AND SEDIMENT CONTROL LEGEND.

COUNTY OF ROANOKE

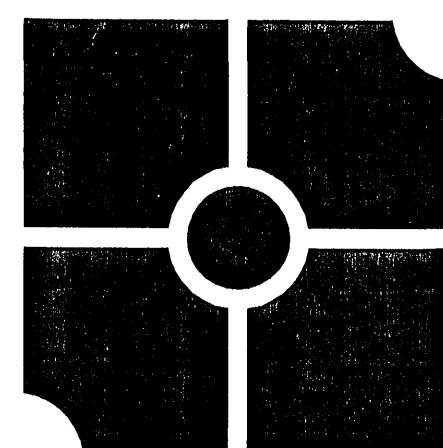
NAME OF DEVELOPMENT	RIVERLAND VINEYARDS	I, _____ OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APPLICABLE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS, UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.
MAGISTERIAL DISTRICT(S)	CATAWBA MAGISTERIAL DISTRICT	
OWNER (name, address, telephone)	GCT Development, LLC 4430 Old Cave Spring Rd. Contact: Dick Goodwin (540) 389-5070	
DEVELOPER (name, address, telephone)	GCT Development, LLC 4430 Old Cave Spring Rd. Contact: Dick Goodwin (540) 389-5070	
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)	BARNES GROGAN BOWER & TAYLOR DESIGN GROUP, PC, 201 EAST MAIN STREET, SUITE 100, SALEM, VIRGINIA 24153	
TAX MAP NO(S)	55.04	BLOCK NO(S) 01
		PARCEL NO(S) 04 & 56

SHEET 1 OF 12

INSPECTOR'S AS - BUILTS

09/28/2006

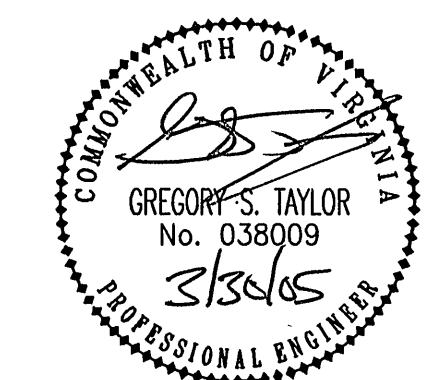
WWW.ID# 6GWEXM



Barnes Grogan Bower & Taylor
DESIGN GROUP, PC
LANDSCAPE ARCHITECTS - ENGINEERS - PLANNERS

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Riverland Vineyards

Catawba Magisterial District
Roanoke County, Virginia

REVISIONS:

County Comments	December 14, 2004
County & VDOT Comments	February 9, 2005
WWVA Authority	March 17, 2005
County & VDOT Comments	March 30, 2005

DESIGNED BY: JCG

DRAWN BY: GST

CHECKED BY: GST

SCALE: N/A

DATE: September 28, 2004

SHEET TITLE:

Cover Sheet

C01
01 OF 12
PROJECT NUMBER:
S03046-02