Mudlick Creek Interceptor Cost Estimate BASE BID PRICE SCHEDULE ITEM **ESTIMATED** UNIT UNIT BONDABLE NO. DESCRIPTION QUANTITIES PRICE **AMOUNT** Mobilization \$50,000 \$50,000 Lump Sum 2 36-Inch DI Pipe Open Trench (5-10' deep) \$525 \$950,250 Lin. Ft. 3 | 36-Inch DI Pipe Open Trench (10-15' deep) 6.750 Lin. Ft. **\$**575 \$3,881,250 \$650 \$744,250 4 36-Inch DI Pipe Open Trench (15-21' deep) 1.145 Lin. Ft. \$210 \$2,100 5 12-Inch PVC Pipe Open Trench Lin. Ft. \$23,750 6 10-Inch PVC Pipe Open Trench 125 Lin. Ft. \$190 7 8-Inch PVC Pipe Open Trench 20 \$170 \$3,400 Lin. Ft. **\$**13,000 8 48-Inch Manhole Base each \$2,600 \$335,500 9 60-inch Manhole Base 61 \$5,500 each 10 72-Inch Manhole Base \$72,000 \$9,000 each 11 96-Inch Manhole Base \$64,000 \$16,000 each 600 **\$**175 \$105,000 12 48-Inch Manhole Section (VLF) \$500 13 Manhole Frame and Cover \$39,000 78 each 14 Replacement of MH F&C \$13,600 \$800 each \$10,000 15 Manhole Vent 10 \$1,000 each 16 Add for Concrete Encasement 285 \$400 \$114,000 Lin. Ft. \$5,800 17 Add for Road Crossing (Open Cut) 40 \$145 Lin. Ft. 260 \$520,000 18 Add for Road Crossing (Tunnel) \$2,000 Lin. Ft. 19 Interceptor Interconnection \$5,000 \$25,000 each \$22,500 20 Add for Removing Existing Manhole 30 each \$750 \$22,500 21 Add for Removing Existing Sanitary Sewer 4,500 each **\$**5 \$54.000 22 Abandon Existing Manhole \$3,000 each 23 Subgrade Stabilization (CY) \$17,500 700 \$25 cubic yard 25 Add for Sidewalk, Curb, or Planter Restoration \$75 \$1.875 25 Lin. Ft. \$35,000 24 Add for Pavement Restoration 700 \$50 Lin. Ft. 26 Connection at Proposed SSMH1 each \$1,000 \$1,000 27 Connection at Proposed SSMH 73 \$2,000 \$2,000 each \$60,000 400 28 Lateral Replacement Lin. Ft. \$150 29 Clean out Replacement 20 \$100 \$2,000 each Add for Drop Connections \$1,000 \$18,000 each 31 Fire Hydrants 2 \$10,000 \$5,000 \$4.000 Water Meters 2 \$2,000 each 240 \$48,000 **Water Main Relocation** Lin. Ft. **\$**200 \$40 \$8.000 34 3/4 Waterline Service Relocation 200 Lin. Ft. \$4,000 35 Gate Valves \$2,000 each \$10 \$160,000 Streambank Stabilization (Sq ft) 16,000 square ft 37 Landscaping Allowance \$200,000 \$200,000 Lump Sum 1&1 Coorective Action Allowance \$200,000 Lump Sum \$200,000 Construction Stakeout Allowance \$10,450 Lump Sum \$10,450 SUBTOTAL \$7,852,725 10% CONTINGENCY \$785,273 TOTAL CONSTRUCTION COST \$8,638,000 \$273,300 \$30 00 40 Deduct to Items 2,3, and 4 for PVC Pipes Lump Sum 10% CONTINGENCY ESTIMATED TOTAL I HEREBY CERTIFY THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT. SIGNED:

QUANTITY + COST ESTIMATE

GENERAL NOTES

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

- A. 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
- G. Placing other concrete
- H. Placing gravel base

siltation control policies.

- 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, 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

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

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 V.D.O.T. inspectors.

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

INDEX

SEE OLVER INCORPORATED SHEET GOO2

SEWER NOTES

All sanitary sewer facilities shall be installed according to the Western Virginia Water Authority Design and Construction Standards. (Latest Edition).

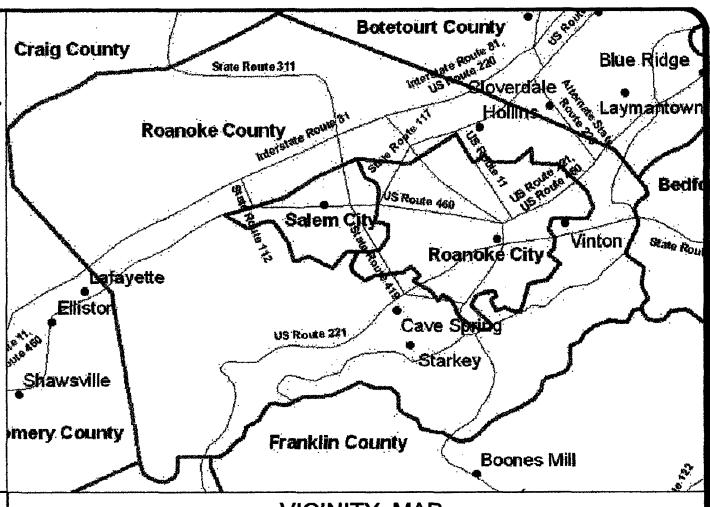
A minimum cover of three (3) feet is required over proposed lines.

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 their exact location. The contractor shall comply with (State Water Works Regulations, Section 12.05.03, where lines cross.)

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 facilities shall be installed according to the Western Virginia Water Authority Design and Construction Standards/ (Latest Edition).

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 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.

Ductile Iron Pipe in accordance with the Western Virginia Water Authority Design and Construction Standards shall be required for all pipe with a working pressure equal to or greater than 100 p.s.i.

Availability letter number_

TAX MAP NO(S)

	LEGEND			
Property Line	- Control of the Cont			
Right-of-way				
Centerline				
Minimum Building Line				
Existing Storm Sewer	===18" S.D.======18" S.D.====			
Existing Sanitary Sewer	= =8" SAN.= =0= =8" SAN.= =			
Existing Water Main	4" W4" W			
Existing Contour	and the state and the state of the same size of the state of the state of the same state of the same state.			
Proposed Contour	2080			
Proposed Drainage Divide				
Proposed Limits of Clearing				
Proposed Storm Sewer	24" S.D.			
Proposed Sanitary Sewer	8" M.H.			
Proposed Water Main	HYDRANT BLOWOFF			

VICINITY MAP Scale: 1"=1 mile

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (vear) 2006 by CALDWELL WHITE ASSOCIATES

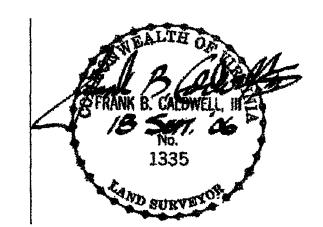
All elevations must be referenced to the National Geodetic Vertical Datum of 1929. COUNTY OF ROANOKE & CITY OF

Source of topographic mapping is ROANOKE AERIAL MAPPING dated 2000-2002

Boundary was performed by CALDWELL WHITE ASSOCIATES

dated 6/06

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



PROFESSIONAL ENGINEER SEAL AND SIGNATURE

COUNTY OF ROANOKE

OWNER (name, address, telephone) WESTERN VIRGINIA WATER AUTI	HORITY 601 S. Jefferson Street, Roanoke, VA 24011. Telephone: 540-853-5700 Fax: 540-853-1600
MAGISTERIAL DISTRICT(S)	LICABLE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS, UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW
NAME OF DEVELOPMENT MUDLICK CREEK INTERCEPTOR	I,OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APP—

OWNER (name, address, telephone)	STERN VIF	RGINIA WA	TER		601 S. Jefferson Street, Roanoke, VA 24011. Telephone: 540-853-5700 Fax: 540-853-1600
DEVELOPER (name, address, telephone)					
ENGINEER, ARCHITECT OR SURVEYOR (nar	me, address, telepho	one) OLVE	RIN	CORPORATED	1116 SOUTH MAIN STREET BLACKSBURG VIRCINIA 24060 (540) 552-5548

BLOCK NO(S)

PARCEL NO(S)

THIS SHEET WAS PREPARED BY ROANOKE COUNTY. OLVER INCORPORATED TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE STANDARD NOTES AND INFORMATION PRESENTED HEREIN.

G001A SHEET 2 OF____