B. TELEPHONE

Aerial - Copper Wire

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Number of Poles	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW	400		0	50%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Aerial - Fiber Optic

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Number of Poles	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
E	Computed	RW				100%	$0	$0	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground - Copper Wire

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
I	Computed	RW				100%	$0	$0	$0
J	Computed	RW				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground - Fiber Optic

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
O	Computed	RW				100%	$0	$0	$0
P	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground - Copper Wire - In Conduit

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
Q	Computed	RW				100%	$0	$0	$0
R	Computed	RW				100%	$0	$0	$0
S	Computed	RW				100%	$0	$0	$0
T	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground - Fiber Optic - In Conduit

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
U	Computed	RW				100%	$0	$0	$0
V	Computed	RW				100%	$0	$0	$0
W	Computed	RW				100%	$0	$0	$0
X	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Manholes for UG Telephone Service

	Computed or User	RW or Const	Item	No Entry Required	Quantity	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
Y	Computed	RW	Telephone Manhole			100%	$0	$0	$0
Z	Computed	RW	Telephone Manhole			100%	$0	$0	$0

Misc. Telephone Costs

AA Misc. Telephone Costs Charged to RW Project:

BB Misc. Telephone Costs Charged to Const. Project:

TOTAL TELEPHONE	Total to RW Proj	Total to Const Proj
$0	$0	$0

C. CATV

Aerial CATV

	Computed or User	RW or Const	Type of Service	No Entry Required	Number of Pole Att'mnts	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground CATV

	Computed or User	RW or Const	Type of Service	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
E	Computed	RW				100%	$0	$0	$0
F	Computed	RW	1.00 Coax		0	100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Power Units

	Computed or User	RW or Const	Item	No Entry Required	Quantity	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
I	Computed	RW	CATV Power Supply			100%	$0	$0	$0
J	Computed	RW	CATV Power Supply			100%	$0	$0	$0

Misc. CATV Costs

Misc. CATV Costs Charged to RW Project:

Misc. CATV Costs Charged to Const. Project:

TOTAL CATV	Total to RW Proj	Total to Const Proj
$0	$0	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	Loaded $ per foot	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	User	RW				50%	$0	$0	$0
B	Computed	Const	8		0	50%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$0	$0	$0

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$0	$0	$0

E. SANITARY SEWER

Sewer Line

	Computed or User	RW or Const	Diameter of Sewer Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	Const				100%	$0	$0	$0
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const			-	100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$0	$0	$0

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$0	$0	$0

F. NATURAL GAS / PROPANE

Distribution

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Transmission

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
E	Computed	RW				100%	$0	$0	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Misc. Natural Gas / Propane Costs

			TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:		$0	$0	$0
J	Misc. Gas / Pro Costs Charged to Const. Project:				

G. PETROLEUM

Transmission

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Misc. Petroleum Costs

			TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:		$0	$0	$0
F	Misc. Petroleum Costs Charged to Const. Project:				

H. CELLULAR

Cellular Telephone Costs

			TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:		$0	$0	$0
B	Total Cellular Costs Charged to Const. Project:				

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project : $0

Comments:

Additional Utility Costs to Construction Project : $0

Comments:

Additional Utility Costs to Utility Owners/Others : $0

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$0
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$0
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$0
GRAND TOTAL UTILITY COSTS	$0

Project Cost Estimating System
COMMENTS

	General / Miscellaneous Comments from CONST, RW, & UTILITY Worksheets:	Team Member and Section:	Date Entered:
1	Spreadsheet used for I-81 NEPA Document per lane mile	VHB/Gannet Fleming	07/04/04
2	Spreadsheet Title Revised to reflect the number of lanes	Gannett Fleming	08/06/04
3	2005 Ad Date	Gannett Fleming	05/26/05
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	Bristol, Salem & Staunton
PROJECT NUMBER	I-81 Study(6ln br.over sec)
PPMS NUMBER	n/a
AD DATE	2005
PROJECT MANAGER / DESIGNER	Chris Collins/VHB
Data Source for Construction Estimate:	CES
Data Source for Right-of-Way Estimate:	CES
Data Source for Utilities Estimate:	CES
DATE	*11/17/2005*

THE FOLLOWING DATA WILL BE PROVIDED UPON COMPLETION OF THE REMAINDER OF THE WORKBOOK, WHICH IS ACCESSED BY SELECTING THE **CONST**, **RW**, & **UTIL** TABS BELOW

CONSTRUCTION ESTIMATE	*$1,498,000*
PRELIMINARY ENGINEERING ESTIMATE	*$100,000*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$0*
TOTAL PROJECT ESTIMATE	*$1,598,000*

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Revised 12/08/03 RDW

Estimate Class: PFI

Version 2.0

Project Cost Estimating System
CONSTRUCTION / BRIDGE / PE

Project / PPMS #				
Interstate Project ?	YES			
Route Number	81		Interstate Highway	
Geometric Standard	Interstate	*	Principal Arterial - Freeway	
Ad Date	2005		Design Year =	2027
Design Year ADT	30,000	*	Project Terrain	Rolling
Box Must Be Empty			Approx. DHV = Minimum	4,500
Enter Design Speed (MPH) (Enter 60 or 70)	70	*	Design Speed =	70 MPH
Box Must Be Empty				
Box Must Be Empty				
Project Length (mi.)	0.00	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	0.00	*	*None*	*0.00*
Total Length - Adding or Building Four Lanes (mi.)	0.00	*	*None*	
Total Length - Building Ramps and Loops (mi.)	0.00	*	*None*	
Box Must Be Empty				
Box Must Be Empty			Normal Lane Width (ft.)	12
Box Must Be Empty			Total Alignment Miles Computed (Required for LD-430 Scoping Report)	0.00
Box Must Be Empty				
Box Must Be Empty				
Box Must Be Empty				
Number of Right Turn Lanes - Left PLUS Right Side	0	*		
Box Must Be Empty				
Number of New Traffic Signals Required	0	*		
Number of Traffic Signals Requiring Adjustment	0	*	Base Estimate	$0
Cost of Large Drainage Structures ($)	$0	*	*Constr. Engr.*	$0
In-Plan Utility Costs	$0		Const. Est. (Today)	$0
Adjustment for Unusual Construction Costs ($)	$0	*		
Examples - Add $'s for: Bicycle Facilities, Landscaping, Retaining Walls, Lighting, Wetlands Mitigation Sites, etc.			Construction Estimate in Mid- 2005	$0

Continued on Next Page

Continued from Previous Page

Additional (or Unusual) P. E. Costs ($)	$0	**Preliminary Engineering Cost**	$0
Select % of PE to be performed by Consultants	0%		

Note: Do Not Include Bridge P. E. Costs Here

Roadway P. E. $ / Roadway Const. $ = 0.0%

BRIDGE TOTALS

BRIDGE COUNT: 1

Bridge Estimate (Today)	$1,412,450
Total Bridge Estimate in Mid- 2005	$1,498,000
Total Bridge P. E. Costs	$100,000

CONSTRUCTION & PE TOTALS

Total Construction Estimate (Roadway plus Bridge)	$1,498,000
Total Preliminary Engineering Estimate (Roadway plus Bridge)	$100,000

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Revised 12/08/03 RDW

Today's Date: 11/16/05

Version 2.0

BRIDGE CONSTRUCTION AND PRELIMINARY ENGINEERING COSTS

		BRIDGE CONSTRUCTION	BRIDGE P. E.
Proposed BRIDGE # 1 Length (ft.)	100		% by Consultants:
Width (ft.)	114	$1,159,950	100%
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)	M		
		Constr. Engr. Br. # 1	P.E.Bridge # 1
Removal of Existing Structure # 1:		$186,000	$100,000
Length of Existing Structure (ft.)	100	16.0%	Misc. Cost Bridge # 1
Width of Existing Structure (ft.)	50	$66,500	
Proposed BRIDGE # 2 Length (ft.)			% by Consultants:
Width (ft.)		$0	100%
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 2	P.E.Bridge # 2
Removal of Existing Structure # 2:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 2
Width of Existing Structure (ft.)		$0	
Proposed BRIDGE # 3 Length (ft.)			% by Consultants:
Width (ft.)		$0	
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 3	P.E.Bridge # 3
Removal of Existing Structure # 3:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 3
Width of Existing Structure (ft.)		$0	
Proposed BRIDGE # 4 Length (ft.)			% by Consultants:
Width (ft.)		$0	
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 4	P.E.Bridge # 4
Removal of Existing Structure # 4:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 4
Width of Existing Structure (ft.)		$0	
Proposed BRIDGE # 5 Length (ft.)			% by Consultants:
Width (ft.)		$0	
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 5	P.E.Bridge # 5
Removal of Existing Structure # 5:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 5
Width of Existing Structure (ft.)		$0	

BRIDGE CONSTRUCTION AND PE COSTS (continued)

		BRIDGE CONSTRUCTION	BRIDGE P. E.
Proposed BRIDGE # 6 Length (ft.)			% by Consultants:
Width (ft.)		$0	
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 6	P.E.Bridge # 6
Removal of Existing Structure # 6:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 6
Width of Existing Structure (ft.)		$0	
Proposed BRIDGE # 7 Length (ft.)			% by Consultants:
Width (ft.)		$0	
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 7	P.E.Bridge # 7
Removal of Existing Structure # 7:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 7
Width of Existing Structure (ft.)		$0	
Proposed BRIDGE # 8 Length (ft.)			% by Consultants:
Width (ft.)		$0	
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 8	P.E.Bridge # 8
Removal of Existing Structure # 8:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 8
Width of Existing Structure (ft.)		$0	
Proposed BRIDGE # 9 Length (ft.)			% by Consultants:
Width (ft.)		$0	
Complexity / Type of New Bridge (C, M, S, WEB, or SRO)			
		Constr. Engr. Br. # 9	P.E.Bridge # 9
Removal of Existing Structure # 9:		$0	$0
Length of Existing Structure (ft.)		0.0%	Misc. Cost Bridge # 9
Width of Existing Structure (ft.)		$0	

NOTE: Structure Complexity is based upon Height, Difficulty of Construction, and other Factors

NOTE: Projected Estimate Requires Route Number, Ad Date (Year), and other applicable data to be Entered / Selected previously on This Worksheet

Bridge Estimate (Today)	$1,412,450
Total Bridge Estimate in Mid- 2005	$1,498,000
Total Bridge P. E. Costs	$100,000

Project Cost Estimating System
RIGHT-OF-WAY ESTIMATE

Project & PPMS Numbers :

VDOT Construction District :

Select Project Area Real Estate Costs : Average

Define Project Land Use Characteristics :

Agricultural :	50%
Residential :	40%
Industrial :	0%
Commercial :	10%
	100%

Instructions: Please fill-in all applicable White Boxes or make a choice from the Drop-down Lists

Enter the Approximate Number of Parcels on the Project : << Select *Computed* or User Defined Costs : ***Computed Costs***

1. LAND VALUE

Prop. Right-of-Way

Total Right-of-Way Project Length (ML + Connections)	5,280	ft	*Computed RW Cost per sq ft =*	*$0.57*
Average width of Existing RW	160	ft	Enter Right-of-Way Estimator's Right-of-Way Cost per sq ft :	
Average width of Proposed RW	160	ft		
Total area of all additional Prop. Right-of-Way	0	sf	0 sq ft = 0.000 Ac.	
Approx. % of Prop. CL within	0	ft	of Exist. CL	100%
Approx. % of Prop. CL between	0	ft	& 160 ft of Exist. CL	0%
Approx. % of Prop. CL greater than	160	ft	from Exist. CL	0%

Temp. Ease.

Average Width of parallel Temporary Easements Left		ft	*Comp. Temp. Ease. Cost / sq ft =*	*$0.14*
Total Length of parallel Temporary Easements Left		ft	Enter Right-of-Way Estimator's Temp. Ease. Cost per sq ft :	
Average Width of parallel Temporary Easements Right		ft		
Total Length of parallel Temporary Easements Right		ft	0 sq ft = 0.000 Ac.	

Perm. Util. Ease.

This Box Must Be Empty >		sf	*Comp. Utility Ease. Cost / sq ft =*	*$0.00*
This Box Must Be Empty >			RW Est's. Utility Ease. Cost per sq ft :	$0.22
OR			0 sq ft = 0.000 Ac.	
Total Number of Replacement Easements Required	0	ea	*Comp. Perm. Ease. Cost / sq ft =*	*$0.46*
			RW Est's. Perm. Ease. Cost per sq ft :	
Total area of All Permanent Easements		sf	0 sq ft = 0.000 Ac.	

COST OF LAND (Item # 1) ***$0*** ***(Computed Costs)***

2. BUILDING VALUE

Based upon comparison to similar, occupied **Residential Dwellings in the Project Area**, enter the Number of:

		Computed:
A. Low Cost Residential Dwellings :		$0
B. Moderately Low Cost Dwellings :		$0
C. Average Cost Residential Dwellings :		$0
D. Moderately High Cost Dwellings :		$0
E. High Cost Residential Dwellings :		$0
Computed Total Residential Dwelling Costs :		*$0*
Estimator's Total Residential Dwelling Costs :		

Enter the total estimated cost of ALL **COMMERCIAL & INDUSTRIAL BUILDINGS** to be taken:

Note: No Computed Costs Available. Use User Defined Costs Below:

Estimator's Total Commercial / Industrial Buildings Costs : <<

3. OTHER IMPROVEMENTS

Enter the estimated cost of ALL **OTHER IMPROVEMENTS** on the Project:

Computed Total Other Improvements Costs :	*$0*
Estimator's Total Other Improvements Costs :	

4. DAMAGES

Anticipated % of Parcels Affected by Damages to Remainder :	0%
Anticipated Relative Cost Impact of Damages to Remainder :	Moderate
Approximate Number of Parcels Affected :	0
Computed Cost of Damages to Remainder :	*$0*
Estimator's Total Cost of Damages to Remainder :	

TOTAL ACQUISITIONS (Items # 1 - 4) ***$0*** ***(Computed Costs)***