

# Road Maintenance Appraisal -- Sale Info

Version: 20-Jun-01 Updated 6/5/03

Prepared By: Rita Lind District: 4 Last Edited:   
 Sale Name: West Troy 8/2011 Date: 8/11/2011

Anticipated Haul Period: 6/16/2012 through 9/30/2014 Seasons: 3  
 Length of Haul Period:  
 Sale Date: 8/15/2011 to midpoint of haul period = 23.8  
 Years To Mid-point of timber sale: 1.98  
 Factor: Increased Rate to midpoint of haul period 1.084

## SALE CONTRACT VOLUME DATA

	Data	CCF	TONS
	TRUE		
Green and Recently Dead *	3318	3318.00	9945.00
	0	0.00	0.00
	0	0.00	0.00
	0	0.00	0.00
	0	0.00	0.00
Other	874	874.00	2648.00
		=====	=====
<b>TOTAL SALE CONTRACT VOLUME</b>		<b>4192.00</b>	<b>12593.00</b>
(Sawtimber and Non sawtimber)			
<b>SALE APPRAISAL VOLUME in CCF</b>		<b>3318.00</b>	
(Sawtimber)			

\*Note: Value for CCF/TONS not entered on input screen is based on KNF standard conversion.  
 Enter actual sale value in appropriate cell on this screen.

**ROAD MAINTENANCE APPRAISAL SUMMARY**  
**DEFERRED MAINTENANCE - (Roadside Brushing)**  
**C(T)5.32#**  
**T-507**

**Sale: West Troy 8/2011**

Rd #	Termini	Seasons of Use	\$/CCF/Mile	Job Code	Cost \$/CCF/MI x IRF	Miles	Total Cost \$/CCF	Rate/Ton
14390	Unit 55 to jct w/427	1	\$0.04	FSRM15	0.046	0.20		
427	Unit 72 to Unit 71	2	\$0.04	FSRM15	0.046	0.25		
427	Unit 71 to jct w/9992	2	\$0.04	FSRM15	0.046	1.00		
427	Jct w/9992 to Unit 60	2	\$0.04	FSRM15	0.046	0.50	\$0.01	\$0.0033
427	Unit 60 to Unit 60E	2	\$0.04	FSRM15	0.046	0.25	\$0.01	\$0.0033
427	Unit 60E to Jct w/4479	2	\$0.04	FSRM15	0.046	0.50	\$0.01	\$0.0033
427	Jct w/4479 to Unit 56	2	\$0.04	FSRM15	0.046	0.10		
427	Unit 56 to Jct w/14390	2	\$0.04	FSRM15	0.046	0.30	\$0.01	\$0.0033
427	Jct w/14390 to Jct w/4478	2	\$0.04	FSRM15	0.046	0.25	\$0.01	\$0.0033
4478	Unit 34 to Unit 51	1	\$0.04	FSRM15	0.046	1.60	\$0.02	\$0.0067
4478	Unit 51 to Jct w/427	1	\$0.04	FSRM15	0.046	0.37	\$0.01	\$0.0033
427	Jct w/4478 to Unit 50	3	\$0.04	FSRM15	0.046	0.40	\$0.02	\$0.0067
427	Unit 50 to HWY 2	3	\$0.04	FSRM15	0.046	3.35	\$0.15	\$0.0499
<b>Total Roadside Brushing Cost</b>							<b>\$0.25</b>	<b>\$0.0831</b>

ROAD MAINTENANCE APPRAISAL SUMMARY  
 DEFERRED MAINTENANCE  
 MAJOR DRAINAGE STRUCTURES C(T)5.32#  
 T-618

Sale: West Troy 8/2011

Road No.	Termini	Seasons of Use	Length	Dist #	Job Code	# of Concrete Bridges	# of Timber Bridges	# of Major Culverts	\$/CCF All Structures	Rate/Ton
<b>Total Major Drainage Structures Cost</b>									<b>\$0.00</b>	<b>\$0.00</b>

**ROAD MAINTENANCE APPRAISAL SUMMARY**  
**DEFERRED MAINTENANCE - (Surface Replacement)**  
**C(T)5.32#**

**Sale: West Troy 8/2011**

Road No.	Termini	Seasons of Use	Surface	Collect For	Job Code	Cost \$/CCF/MI (+IRF)	Miles	Trib Vol	Road Cost (\$/CCF)	Total Cost \$/CCF	Total Cost \$	Rate/Ton
427	Unit 72 to Unit 71	2	ASP		0 FSSR01	\$0.203	0.25	215	\$0.05	\$0.00	\$10.75	\$0.00
427	Unit 71 to jct w/9992	2	ASP		0 FSSR01	\$0.203	1	242	\$0.20	\$0.01	\$48.40	\$0.00
427	Jct w/9992 to Unit 60	2	ASP		0 FSSR01	\$0.203	0.5	2041	\$0.10	\$0.05	\$204.10	\$0.02
427	Unit 60 to Unit 60E	2	ASP		0 FSSR01	\$0.203	0.25	2161	\$0.05	\$0.03	\$108.05	\$0.01
427	Unit 60E to Jct w/4479	2	ASP		0 FSSR01	\$0.203	0.5	2185	\$0.10	\$0.05	\$218.50	\$0.02
427	Jct w/4479 to Unit 56	2	ASP		0 FSSR01	\$0.203	0.1	2398	\$0.02	\$0.01	\$47.96	\$0.00
427	Unit 56 to Jct w/14390	2	ASP		0 FSSR01	\$0.203	0.3	2477	\$0.06	\$0.04	\$148.62	\$0.01
427	Jct w/14390 to Jct w/4478	2	ASP		0 FSSR01	\$0.203	0.25	2542	\$0.05	\$0.03	\$127.10	\$0.01
427	Jct w/4478 to Unit 50	3	ASP		0 FSSR01	\$0.203	0.4	3950	\$0.08	\$0.08	\$316.00	\$0.03
427	Unit 50 to HWY 2	3	ASP		0 FSSR01	\$0.203	3.35	4192	\$0.68	\$0.68	\$2,850.56	\$0.23
<b>Total Surface Replacement Cost</b>										<b>\$0.98</b>		<b>\$0.3300</b>

**Maintenance Specifications (C(T)5.31#)**

**Sale: West Troy 8/2011**

**MAINTENANCE SPECIFICATION NO.**

**T-Specs**

Road Number	Termini	Miles	T 101	T 103	T 108	T 113	T 301	T 310	T 506	T 507	T 508	T 618	T 619	T 710
4479	Unit 56E to jct w/427	0.28	P		P			P	P		P		F	F
14390	Unit 55 to jct w/427	0.2	P		P			P	P	D	P		F	F
427	Unit 72 to Unit 71	0.25			D	D	D	D	D	D	D		F	F
427	Unit 71 to jct w/9992	1			D	D	D	D	D	D	D		F	F
427	Jct w/9992 to Unit 60	0.5			D	D	D	D	D	D	D		F	F
427	Unit 60 to Unit 60E	0.25			D	D	D	D	D	D	D		F	F
427	Unit 60E to Jct w/4479	0.5			D	D	D	D	D	D	D		F	F
427	Jct w/4479 to Unit 56	0.1			D	D	D	D	D	D	D		F	F
427	Unit 56 to Jct w/14390	0.3			D	D	D	D	D	D	D		F	F
427	Jct w/14390 to Jct w/4478	0.25			D	D	D	D	D	D	D		F	F
4476	Unit 24 & 25 to Unit 27	0.78	P		P			P	P		P		F	F
4476	Unit 27 to Unit 40	1	P	P	P			P	P		P		F	F
4476	Unit 40 to Jct w/14368	0.5	P	P	P			P	P		P		F	F
14368	Unit 32 to Unit 33	0.32	P	P	P			P	P		P		F	F
14368	Unit 33 to Jct w/4476	0.5	P	P	P			P	P		P		F	F
4476	JCT w/14368 to Jct w/ 4478	0.5	P	P	P			P	P		P		F	F
4478	Unit 34 to Unit 51	1.6	P	P	P			P	P	D	P		F	F
4478	Unit 51 to Jct w/427	0.37	P	P	P			P	P	D	P		F	F
427	Jct w/4478 to Unit 50	0.4			D	D	D	D	D	D	D		F	F
427	Unit 50 to HWY 2	3.35			D	D	D	D	D	D	D		F	F



**ROAD MAINTENANCE APPRAISAL SUMMARY  
RECURRENT MAINTENANCE**

Sale: West Troy 8/2011

Road Number	Termini	Surface Type	Trib Volume	Miles	Maintenance Cost		Total Cost By Funding Source								
					\$/Mile	Total	C(T)5.31# Performance \$/CCF	C(T)5.31# Performance \$/Ton	C(T)5.32# Deposit \$/CCF	C(T)5.32# Deposit \$/Ton	C(T)5.312# Reconditioning Cost Total	C(T)5.312# Reconditioning Cost \$/Ton			
4479	Unit 56E to jct w/427	NAT	213	0.28	\$572.82	\$160.39	\$0.04	\$0.01							
14390	Unit 55 to jct w/427	NAT	65	0.20	\$572.82	\$114.56	\$0.03	\$0.01				\$1,589.60	\$0.13		
427	Unit 72 to Unit 71	ASP	215	0.25	\$10.25	\$2.56			\$0.00	\$0.00					
427	Unit 71 to jct w/9992	ASP	242	1.00	\$11.54	\$11.54			\$0.00	\$0.00					
427	Jct w/9992 to Unit 60	ASP	2041	0.50	\$97.35	\$48.67			\$0.01	\$0.00					
427	Unit 60 to Unit 60E	ASP	2161	0.25	\$103.07	\$25.77			\$0.01	\$0.00					
427	Unit 60E to Jct w/4479	ASP	2185	0.50	\$104.22	\$52.11			\$0.01	\$0.00					
427	Jct w/4479 to Unit 56	ASP	2398	0.10	\$114.38	\$11.44			\$0.00	\$0.00					
427	Unit 56 to Jct w/14390	ASP	2477	0.30	\$118.14	\$35.44			\$0.01	\$0.00					
427	Jct w/14390 to Jct w/4478	ASP	2542	0.25	\$121.24	\$30.31			\$0.01	\$0.00					
4476	Unit 24 & 25 to Unit 27	NAT	294	0.78	\$572.82	\$446.80	\$0.11	\$0.04							
4476	Unit 27 to Unit 40	NAT	806	1.00	\$572.82	\$572.82	\$0.14	\$0.05							
4476	Unit 40 to Jct w/14368	NAT	895	0.50	\$572.82	\$286.41	\$0.07	\$0.02							
14368	Unit 32 to Unit 33	NAT	188	0.32	\$572.82	\$183.30	\$0.04	\$0.01				\$760.46	\$0.06		
14368	Unit 33 to Jct w/4476	NAT	475	0.50	\$572.82	\$286.41	\$0.07	\$0.02				\$1,188.22	\$0.09		
4476	JCT w/14368 to Jct w/ 4478	NAT	1370	0.50	\$572.82	\$286.41	\$0.07	\$0.02							
4478	Unit 34 to Unit 51	NAT	1388	1.60	\$572.82	\$916.52	\$0.22	\$0.07							
4478	Unit 51 to Jct w/427	NAT	1408	0.37	\$572.82	\$211.94	\$0.05	\$0.02							
427	Jct w/4478 to Unit 50	ASP	3950	0.40	\$188.40	\$75.36			\$0.02	\$0.01					
427	Unit 50 to HWY 2	ASP	4192	3.35	\$199.94	\$669.80			\$0.16	\$0.05					
<b>Subtotals</b>							<b>\$</b>	<b>0.84</b>	<b>\$</b>	<b>0.27</b>	<b>\$0.23</b>	<b>\$0.06</b>	<b>\$</b>	<b>0.84</b>	<b>\$0.2800</b>
<b>Totals</b>							<b>\$</b>	<b>1.91</b>		<b>\$/CCF</b>					
							<b>\$</b>	<b>0.61</b>		<b>\$/TON</b>					

**ROAD MAINTENANCE APPRAISAL SUMMARY**

**Date: 8/11/2011**  
**Sale: West Troy 8/2011**



**CONTRACT RATES**

Total Performance Maint.	(Part A)	\$/CCF	Rate / Ton
	C(T)5.31# Recurrent	\$0.84	\$0.27
	C(T)5.312# Reconditioning	\$0.84	\$0.28
	<b>TOTAL PERFORMANCE</b>	<b>\$1.68</b>	<b>\$0.55</b>

**Total Deposits for Recurrent and  
Deferred Maintenance**

**(Part B)**

C(T)5.32# Recurrent Collection	\$0.23	\$0.06
C(T)5.32# Surface Replacement	\$0.98	\$0.33
C(T)5.32# Roadside Brushing	\$0.25	\$0.08
C(T)5.32# Major Drainage Structures	\$0.00	\$0.00
C(T)5.32# Lake Kooconusa Bridge	\$0.00	\$0.00
<b>TOTAL REQUIRED DEPOSITS (Contract Rate)</b>	<b>\$1.46</b>	<b>\$0.47</b>

**Total Dust Abatement (Part C) \$1.14 \$0.38**

**Total Maintenance Cost \$4.28 \$1.40**



**APPRAISAL RATES (2400-17)**

	<b>\$/CCF</b>
<b>TOTAL REQUIRED DEPOSITS: (APPRAISAL)</b>	<b>\$1.84</b>
<b>TOTAL ROAD MAINTENANCE: (APPRAISAL)</b>	<b>\$5.41</b>

**Deferred Maintenance Cost Totals By Account**

**Sale: West Troy 8/2011**

<b>Item</b>	<b>District</b>	<b>Job Code</b>	<b>Cost Total/CCF Deferred</b>	<b>Cost Total/Tons Deferred</b>
Surface Replacement - D4 BST/SR	D4	FSSR01	\$0.98	\$0.33
Road Maintenance - D4 Road Mtce	D4	FSRM15	\$0.25	\$0.08

**Recurrent Maintenance Cost Totals By Account**

**Sale:**

**West Troy 8/2011**

<b>Item</b>	<b>District</b>	<b>Job Code</b>	<b>Cost Total/CCF Recurrent</b>	<b>Cost Total/Ton Recurrent</b>
Road Maintenance	D4	FSRM15	\$0.23	\$0.06

**Application Rate Table**

**Sale: West Troy 8/2011**

<b>Application Type</b>	<b>Road Number</b>	<b>Termini</b>	<b>Beg MP</b>	<b>End MP</b>	<b>Product</b>	<b>Application Rate</b>	<b>Width</b>	<b>Specifications References or Attached</b>
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**A. Gravel, Aggregate and Native Material Surfaced Roads  
Deposit Schedule**

**Sale: West Troy**

Road Number	Road Name	Termini	Surface Type	Actual Miles	Rate/CCF	Rate/Ton
<hr/>						
<b>Total</b>					<b>0.00</b>	<b>0.00</b>

**B. Bituminous and Asphalt Surfaced Roads  
Deposit Schedule**

**Sale: West Troy**

Road Number	Road Name	Termini	Surface Type	Actual Miles	Rate/CCF	Rate/Ton
427	Callahan seg 1	Unit 72 to Unit 71	ASP	0.25	\$0.00	\$0.00
427	Callahan seg 2	Unit 71 to jct w/9992	ASP	1	\$0.01	\$0.00
427	Callahan seg 3	Jct w/9992 to Unit 60	ASP	0.5	\$0.05	\$0.02
427	Callahan seg 4	Unit 60 to Unit 60E	ASP	0.25	\$0.03	\$0.01
427	Callahan seg 5	Unit 60E to Jct w/4479	ASP	0.5	\$0.05	\$0.02
427	Callahan seg 6	Jct w/4479 to Unit 56	ASP	0.1	\$0.01	\$0.00
427	Callahan seg 7	Unit 56 to Jct w/14390	ASP	0.3	\$0.04	\$0.01
427	Callahan seg 8	Jct w/14390 to Jct w/4478	ASP	0.25	\$0.03	\$0.01
427	Callahan seg 9	Jct w/4478 to Unit 50	ASP	0.4	\$0.08	\$0.03
427	Callahan seg 10	Unit 50 to HWY 2	ASP	3.35	\$0.68	\$0.23
<b>Total</b>					<b>\$0.98</b>	<b>\$0.33</b>

**Koocanusa Bridge Calculation**

**Sale: West Troy 8/2011**

Road Number	Road Name	Length	Maint Level	Surface Type	\$/CCF	Increased Rate Factor	SORO Overhead Factor	Total \$/CCF	Rate/Ton
Koocanusa Bridge Cost								\$0.00	\$0.00

**Reconditioning of Existing Roads**

**Sale: West Troy 8/2011**

<b>Road Number</b>	<b>Termini</b>	<b>Recon Length</b>	<b>Beg MP</b>	<b>End MP</b>	<b>Disposal Option</b>
14390	Unit 55 to jct w/427	0.2	0.00	0.20	Scattering
14368	Unit 32 to Unit 33	0.32	0.00	0.32	Scattering
14368	Unit 33 to Jct w/4476	0.5	0.00	0.50	Scattering

## T-101 Surface Blading Calculations

1/28/10 B.

Based on 2010 Forestwide CWN Solicitation

<b>Hourly Rate</b>	x	<b>8 hours/day</b>	÷	<b>Production Rate</b>	=	<b>Cost/Mile Rate</b>
<b>\$100.00</b>		8		2.5 mi./day		<b>\$320.00</b>

## T-103 Dust Abatement

Initial Application

**C<sub>a</sub>Cl<sub>2</sub> Flakes 77% Minimum @ 1.95 lb/yd<sup>2</sup>**

lbs/yd <sup>2</sup>	÷	9 ft <sup>2</sup> /yd <sup>2</sup>	x	5280 ft/mi	=	lbs/1 ft width/mi	÷	2000
1.95		9		5280		1144		2000
Price/ton	x	tons/1 ft width/mi	+ Per foot/Mile	+ Surface Reconditioning	=			
?		0.57	#VALUE!	\$21.33				

**C<sub>a</sub>Cl<sub>2</sub> Pellets 94% Minimum @ 1.60 lb/yd<sup>2</sup>**

lbs/yd <sup>2</sup>	÷	9 ft <sup>2</sup> /yd <sup>2</sup>	x	5280 ft/mi	=	lbs/1 ft width/mi	÷	2000
1.6		9		5280		939		2000
Price/ton	x	tons/1 ft width/mi	+ Per foot/Mile	+ Surface Reconditioning	=			
<b>\$430.00</b>		0.47	\$202.10	\$21.33				

## T-108 Slide Removal

4x4 Backhoe and 10 yd<sup>3</sup> Dumptruck

Hourly Rate	x	hours per day	per day rate	÷	miles/day	=	rate/mile
<b>\$97.00</b>		10	\$970.00		20		<b>\$48.50</b>

## T-113 Surfacing Repair

Asphalt Repair **\$0.04** \$/CCF/mile

## T-301 Ditch Cleaning

4x4 Backhoe and 10 yd<sup>3</sup> Dumptruck

Hourly Rate	x	hours per day	per day rate	÷	miles/day	=	rate/mile
\$97.00		10	\$970.00		10		\$97.00

### T-310 Minor Drainage Structures

4x4 Backhoe and 10 yd<sup>3</sup> Dumptruck

Hourly Rate	÷	Structures/hour	x	Structures/mile	=	\$/mile
\$97.00		4		5		\$121.25

### T-506 Roadway Vegetation (Log Out)

Log Out:

Eureka	\$43.00	
Canoe gulch	\$46.00	
Troy	\$43.00	
	<b>\$44.00</b>	per mile

### T-507 Roadside Vegetation (Brushing)

Assumptions: 3638 Miles of level 2,3,4, and 5 roads  
 25% Need brushing Annually  
 5.23% Roads used by purchaser

3638	x	25.00%	x	5.23%	=	47.6 Miles	x
		Annual Target		\$/MBF		Avg. miles/sale	\$/MBF
\$23,783.43	÷	48000	=	0.50	÷	6.46	= 0.076701

### T-508 Seeding

Assumptions: 1 Day with 1 person and 1 pickup per sale  
 3-80 lb bags of fertilizer  
 0.5-50 lb bag of seed mix

Labor	-	\$25.00 hr	8 hrs	=	\$200.00
Pickup	-	\$10.00 hr	8 hrs	=	\$80.00
Materials	-	3-80 lb bags @	\$8.28 ea	=	\$24.84
		0.5-50 lb bags @	\$78.00 ea	=	\$39.00
				=	\$343.84

Cost per Sale	÷	Average Miles	=	Cost per Mile
\$343.84		8.8		\$39.07

## T-618 Major Drainage Structures

			Total No. Forestwide		Annual Cost Each
<u>Number of Bridges and Costs:</u>	Treated Timber	-	109	x	<b>\$525.00</b>
	Concrete	-	42	x	<b>\$349.00</b>
	Major Culverts	-	47	x	<b>\$122.00</b>

Assumptions: Bridges, and Major Culverts on open Level 2,3,4, and 5 roads

### Treated Timber Bridges:

Usage %	x	Total Cost	÷ Target MBF	=	Cost/MBF/Bridge	x	MBF to CCF
8.0%		\$57,225.00	48,000.00		\$0.095		0.5

### Concrete Bridges:

Usage %	x	Total Cost	÷ Target MBF	=	Cost/MBF/Bridge	x	MBF to CCF
9.5%		\$14,658.00	48,000.00		\$0.029		0.5

### Major Culverts:

Usage %	x	Total Cost	÷ Target MBF	=	Cost/MBF/Bridge	x	MBF to CCF
3.0%		\$5,734.00	48,000.00		\$0.010		0.5

Thorn

$$= \frac{\text{tons/1 ft width/mi}}{0.57}$$

$$\frac{\text{Cost/ft/mi}}{\text{#####}}$$

$$= \frac{\text{tons/1 ft width/mi}}{0.47}$$

$$\frac{\text{Cost/ft/mi}}{\text{\$223.43}}$$

## Deferred Surface Replacement

Assumptions: 1" surface loss/10 MMBF  
14' Avg. road width on Native

### Aggregate-

$$\frac{\text{Avg. width} \div}{14} \quad \frac{12 \text{ LF}}{12} = \frac{\text{ft}^3/\text{LF}}{1.1666667} \quad \times$$

$$\frac{\text{yd}^3/\text{mile}}{228.1481} \quad \times \quad \frac{\text{Avg. rate/yd}^3}{\text{in place}} = \frac{\text{Cost/mile}}{\$3,962.93} \quad \div$$

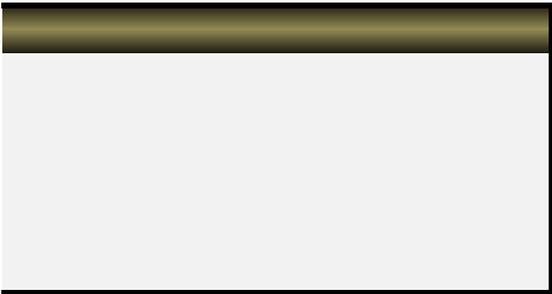
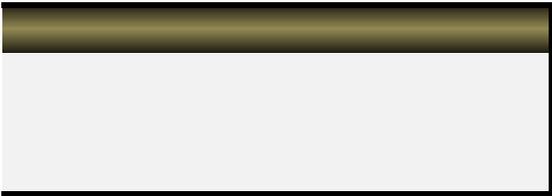
### Native-

$$\frac{\text{yd}^3/\text{mile}}{228.1481} \quad \times \quad \frac{\text{Avg. rate/yd}^3}{\text{in place}} = \frac{\text{Cost/mile}}{\$2,708.12} \quad \div$$

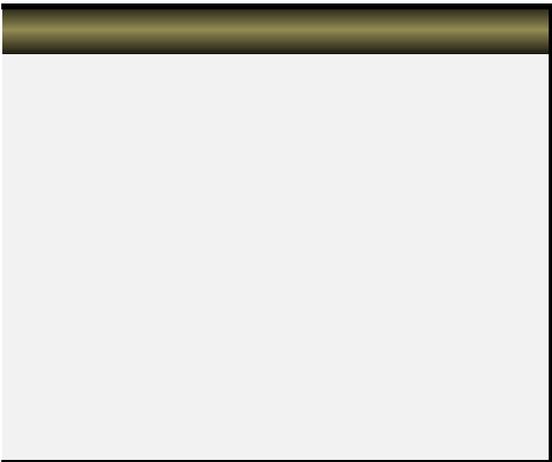
### Chip Seal-

Assumptions: 100 MMBF per cycle  
20' Avg. road width on Pavec

$$\frac{\text{yd}^2/\text{mile}}{11733} \quad \times \quad \frac{\text{Avg. rate/yd}^2}{\text{in place}} = \frac{\text{Cost/mile}}{\$20,884.74} \quad \div$$



$\frac{\$500.00 \text{ /mile}}{0.5} = \$23,783.43$			
	MBF to CCF		\$/CCF
x	0.5	=	0.03835



Total Cost  
Forestwide

= \$57,225.00  
= \$14,658.00  
= \$5,734.00

= \$/CCF/Bridge  
**\$0.048**

= \$/CCF/Bridge  
**\$0.015**

= \$/CCF/Bridge  
**\$0.005**

# Costs

and Gravel

$$\frac{5280 \text{ ft/mi}}{5280} = \frac{\text{ft}^3/\text{mile}}{6160} \div \frac{27 \text{ ft}^3/\text{yd}^3}{27} = \frac{\text{yd}^3/\text{mile}}{228.1481481}$$

$$\frac{10,000 \text{ MBF}}{10,000} = \frac{\text{Cost/MBF}}{\$0.40} \times \frac{\text{MBF to CCF}}{0.5} = \frac{\text{Cost/CCF/MI}}{\$0.20}$$

$$\frac{10,000 \text{ MBF}}{10,000} = \frac{\text{Cost/MBF}}{\$0.27} \times \frac{\text{MBF to CCF}}{0.5} = \frac{\text{Cost/CCF/MI}}{\$0.14}$$

d System

$$\frac{100,000 \text{ MBF}}{100,000} = \frac{\text{Cost/MBF}}{\$0.21} \times \frac{\text{MBF to CCF}}{0.5} = \frac{\text{Cost/CCF/MI}}{\$0.10}$$