



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Smith & Archers
Sale TL-341-2021-W00317-01

District: Tillamook

Date: April 02, 2020

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,719,342.08	\$47,959.08	\$2,767,301.16
		Project Work:	(\$468,420.00)
		Advertised Value:	\$2,298,881.16



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Smith & Archers
Sale TL-341-2021-W00317-01

District: Tillamook

Date: April 02, 2020

Timber Description

Location: Sections 10, 11, 14, 15, 23 of T1N, R7W, Tillamook County, W.M.

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	100
Alder (Red)	17	0	100

Volume by Grade	2S	3S & 4S 6"-11"	8" - 9"	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	4,434	4,645	0	0	0	0	9,079
Alder (Red)	0	0	62	142	105	117	426
Total	4,434	4,645	62	142	105	117	9,505

Comments: Pond Values Used: April 2020
Region: Astoria, Forest Grove, and Tillamook

Western Red Cedar and Other Cedars Stumpage Price = \$1,146.00/MBF - \$355.04/MBF = \$790.96/ MBF

Western hemlock and Other Conifers Stumpage Price = \$548.00/MBF - \$355.04/MBF = \$192.96

Pulp (Conifer and Hardwood) Price = \$ 2.50/ Ton

BRAND AND PAINT ALLOWANCE = \$2.00/ MBF

FUEL COST ALLOWANCE = \$3.00/ Gallon

HAULING COST ALLOWANCE

Hauling cost equivalent to \$950 daily truck cost
($\$95.00/\text{hr} \times 10 \text{ hr.} = \950)

Other Costs with Profit and Risk to be added:

Non-Project Rd. 1: 3+15 st. @ \$125/st. = \$394.00

Non-Project Rd. 2: 2+10 st. @ \$125/st. = \$263.00

Non-Project Rd. 3: 8+85 st. @ \$200/st. = \$1,770.00

Non-Project Rd. 4: 2+30 st. @ \$125/st. = \$288.00

Non-Project Rd. 5: 5+15 st. @ \$125/st. = \$644.00

Non-Project Rd. 6: 2+55 st. @ \$125/st. = \$319.00

Non-Project Rd. 7: 4+80 st. @ \$125/st. = \$600.00

Non-Project Rd. 8: 2+70 st. @ \$150/st. = \$405.00

TOTAL Other Costs with profit and Risk to be added = \$4,683.00

Other Costs with No Profit and Risk Added:

Move-in Machine Cleaning: \$1,000/machine x 2 machines x 2 seasons = \$4,000

Slash piling and sorting (Cable Settings): \$5/ac x 219ac. = \$1,095

Heliport Construction: \$1,500 (\$500/unit x 3 units)

Non-Project Road blocking: \$50/block x 8 roads = \$400

Lift Tree Rigging: \$100/tree x 14 trees = \$1,400

Ditch Cleaning and Bank Sluff Removal:

Mobilization: three times – dump truck w/ tilt bed & small excavator: \$900 x 3 = \$2,700

Small excavator (Cat 312 or equivalent): 40 hours @ \$135/ hour = \$5,400

Dump truck: 40 hours @ \$90/ hour = \$3,600

TOTAL Other Costs no Profit and Risk added = \$20,095.00

ROAD MAINTENANCE:

Spot Rocking: 20cy/MMBF/mile x 9.5 MMBF x \$12/cy x 9.0 miles / 9,505 MBF = \$2.16/MBF

Interim Grading: \$1,200/ mile x 9.0 miles x 2 times/ 9,505 MBF = \$2.27/MBF

Final Maintenance Grading: \$1,500/mile x 9.0 / 9,505 = \$1.42

Compaction: \$1,000 x 5.0 miles/ 9,505 MBF = \$0.53/MBF

Total Road Maintenance: \$6.38/MBF



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Logging Conditions

Combination#: 1 Douglas - Fir 25.75%
 Alder (Red) 20.34%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Harvester Head Delimiting
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 8 **bd. ft / load:** 4500
cost / mbf: \$216.12
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Medium)

Combination#: 2 Douglas - Fir 23.04%
 Alder (Red) 30.03%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Harvester Head Delimiting
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 7 **bd. ft / load:** 4500
cost / mbf: \$247.00
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Medium)

Combination#: 3 Douglas - Fir 25.42%
 Alder (Red) 43.33%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Harvester Head Delimiting
yarding distance: Long (1,500 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 6.5 **bd. ft / load:** 4500
cost / mbf: \$266.00
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Medium)

Combination#: 4 Douglas - Fir 25.79%
 Alder (Red) 6.30%

Logging System: Shovel **Process:** Harvester Head Delimiting
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 12 **bd. ft / load:** 4500
cost / mbf: \$98.96
machines: Forwarder
Harvester



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Logging Costs

Operating Seasons: 2.00	Profit Risk: 10%
Project Costs: \$468,420.00	Other Costs (P/R): \$4,683.00
Slash Disposal: \$0.00	Other Costs: \$20,095.00

Miles of Road

Road Maintenance: \$6.38

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.5
Alder (Red)	\$155.00	2.0	4.0



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$205.70	\$6.38	\$0.92	\$105.56	\$0.49	\$31.90	\$0.00	\$2.00	\$2.11	\$355.06
Alder (Red)									
\$239.63	\$6.38	\$0.92	\$155.00	\$0.49	\$40.24	\$0.00	\$2.00	\$2.11	\$446.77

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$654.58	\$299.52	\$0.00
Alder (Red)	\$0.00	\$559.35	\$112.58	\$0.00



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Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	9,079	\$299.52	\$2,719,342.08
Alder (Red)	426	\$112.58	\$47,959.08

Gross Timber Sale Value

Recovery: \$2,767,301.16

Prepared By: Harold Stevens

Phone: 503-815-7044



"STEWARDSHIP IN FORESTRY"

Smith & Archers

Volume Summary

Unit 1-Modified Clearcut				
86 acres				
SPECIES	Cruised Net MBF/ Acre	Cruised Net MBF	Hidden D&B	Net Sale MBF
Douglas-fir	32.8	2822	1%	2794
			2%	0
Red alder	4.1	354	2%	347
TOTAL	36.9	3176		3141

Unit 2-Modified Clearcut				
107 acres				
SPECIES	Cruised Net MBF/ Acre	Cruised Net MBF	Hidden D&B	Net Sale MBF
Douglas-fir	27.6	2949	1%	2920
Red Alder	0.7	79	1%	78
		0	1%	0
	0.0	0	2%	0
TOTAL	28.3	3028		2998

Unit 3-Modified Clearcut				
95 acres				
SPECIES	Cruised Net MBF/ Acre	Cruised Net MBF	Hidden D&B	Net Sale MBF
Douglas-fir	35.8	3400	1%	3366
	0.0	0	2%	0
	0.0	0	1%	0
	0.0	0	1%	0
TOTAL	35.8	3400		3366

TOTAL SALE VOLUME			288	acres
SPECIES	Cruised Net (MBF)	Net Sale (MBF)		
Douglas-fir	9171	9079		
Red Alder	433	426		
Big Leaf Maple		0		
Western hemlock	0	0		
Sitka Spruce	0	0		
Western red cedar	0	0		
TOTAL	9604	9505		



PROJECT SUMMARY SHEET

Sale: Smith & Archers

CONSTRUCTION

Point	E to F	7+20	stations =	\$5,428.68
Point	G to H	7+30	stations =	\$13,023.88
Point	I to J	2+80	stations =	\$7,232.70
Point	K to L	11+40	stations =	\$26,466.15
Point	M to N	6+20	stations =	\$4,196.40
Point	S to T	29+00	stations =	\$53,866.20
Point	U to V	4+30	stations =	\$9,750.55
Point	Y to Z	19+30	stations =	\$63,307.05
Point	AA to BB	4+20	stations =	\$22,295.90
SUBTOTAL CONSTRUCTION				\$205,567.51

IMPROVEMENT

Point	A to B	255+00	stations =	\$108,225.83
Point	C to D	50+50	stations =	\$21,264.55
Point	G to H	6+20	stations =	\$8,232.57
Point	W to X	98+60	stations =	\$48,421.44
SUBTOTAL IMPROVEMENT				\$186,144.39

RECONSTRUCTION

Point	A to B	15+60	stations =	\$8,247.00
Point	E to F	10+80	stations =	\$3,808.74
Point	O to P	18+00	stations =	\$6,022.05
Point	Q to R	4+60	stations =	\$2,490.45
SUBTOTAL RECONSTRUCTION				\$20,568.24

SPECIAL PROJECTS

Project No. 2		CC to DD		\$12,717.89
		EE to FF		\$1,388.14
Project No. 4		Ben Smith ROW Scattering		\$3,020.50
Brushing	28.5	miles of road		\$28,500.00
SUBTOTAL SPECIAL PROJECTS				\$45,626.53

MOVE IN

\$10,513.33

GRAND TOTAL

\$468,420.00

SUMMARY OF CONSTRUCTION COST

Sale:	Smith & Archers	Road: A to B						
Construction -	0+00 0.00	stations miles	Improvement -	255+00 4.83	stations miles	Reconstruction -	15+60 0.30	stations miles

IMPROVEMENT: CLEARING AND GRUBBING -
 Widening 0.076 acres @ \$860.00 per acre = \$65.36
TOTAL CLEARING AND GRUBBING \$65.36

IMPROVEMENT: EXCAVATION -
 Widening 240 cy. @ \$2.00 per c.y. = \$480.00
TOTAL EXCAVATION \$480.00

IMPROVEMENT: ENDHAUL -

Widening	137+40	to	138+40	59	cy. @	\$3.16	per c.y.=	\$186.44
Widening	158+70	to	159+50	47	cy. @	\$3.30	per c.y.=	\$155.10
Widening	160+40	to	161+20	47	cy. @	\$3.42	per c.y.=	\$160.74
Widening	175+40	to	176+40	87	cy. @	\$3.07	per c.y.=	\$267.09
Spread & compact				240	cy. @	\$0.50	per c.y.=	\$120.00
TOTAL ENDHAUL								\$889.37

RECONSTRUCTION: CLEARING AND GRUBBING -
 Scattering 0.500 acres @ \$1,275.00 per acre = \$637.50
TOTAL CLEARING AND GRUBBING \$637.50

RECONSTRUCTION: EXCAVATION -
 Road Earthwork 15.60 sta. @ \$69.00 per sta. = \$1,076.40
TOTAL EXCAVATION \$1,076.40

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	70	LF of 18"	\$1,400.00		30	LF of 24"	\$930.00	
	40	LF of 30"	\$1,640.00					
<u>Culvert Markers</u>	4 markers		\$32.00					
TOTAL CULVERTS								\$4,002.00

ROCK

53+50	to	100+70	1,660	cy. of	Drift Creek	@	\$15.12	per c.y.=	\$25,099.20
100+70	to	208+50	3,760	cy. of	Jordan Creek	@	\$10.76	per c.y.=	\$40,457.60
255+00	to	270+60	870	cy. of	Jaw-Run	@	\$17.41	per c.y.=	\$15,146.70
Culvert Bedding/Backfill		All New Pipes	40	cy. of	Jordan Creek	@	\$9.29	per c.y.=	\$371.60
Landing Rock		5 Locations	350	cy. of	Jaw-Run	@	\$17.47	per c.y.=	\$6,114.50
Fill Repair		33+70	30	cy. of	Riprap	@	\$20.82	per c.y.=	\$624.60
Spot Rock		0+00 - 53+50	100	cy. of	Drift Creek	@	\$14.36	per c.y.=	\$1,436.00
Spot Rock		208+50 - 255+00	150	cy. of	Jordan Creek	@	\$11.95	per c.y.=	\$1,792.50
Energy Dissipator		5 Locations	30	cy. of	Riprap	@	\$19.35	per c.y.=	\$580.50
Fill Armor		100+20	100	cy. of	Riprap	@	\$27.00	per c.y.=	\$2,700.00
Junction Rock		255+00	20	cy. of	Jaw-Run	@	\$16.36	per c.y.=	\$327.20
Rock Ditch Filters		4 Locations	20	cy. of	Drain Rock	@	\$35.00	per c.y.=	\$700.00
TOTAL ROCK									\$95,350.40

SPECIAL PROJECTS

Construct waste areas -	1.00	hours @	\$180.00	per hour	\$180.00	
Construct landings -	5.00	@	\$370.00	each	\$1,850.00	
Construct turnaround before landing at Point B -	1.00	@	\$100.00		\$100.00	
Clean ditch from 97+60 to 98+40 -	0.80	stations @	\$130.00	per station	\$104.00	
Waterbar 250' of dirt spur at 189+00 -	1.00	lump sum @	\$90.00		\$90.00	
Grade and shape road -	270.60	stations @	\$22.00	per station	\$5,953.20	
Excavate to remove existing pipe. Fill and compact -	1.00	@	\$165.00		\$165.00	
Roll subgrade w/ vibratory roller prior to rocking -	270.60	stations @	\$17.50	per station	\$4,735.50	
Remove culverts from state lands -	4.00	@	\$627.50	total	\$627.50	
Grass seed and fertilize -	0.40	acres @	\$280.00	per acre	\$112.00	
Mulching -	0.070	acres @	\$780.00	per acre	\$54.60	
TOTAL SPECIAL PROJECTS						\$13,971.80

GRAND TOTAL **\$116,472.83**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **C to D**

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>50+50</u>	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations
	0.00	miles		0.96	miles		0.00	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Side cast	0.015	acres @	\$860.00	per acre =	\$12.90	
					TOTAL CLEARING AND GRUBBING	\$12.90

IMPROVEMENT: EXCAVATION -

Pullback	22	cy. @	\$2.00	per c.y.=	\$44.00	
					TOTAL EXCAVATION	\$44.00

IMPROVEMENT: ENDHAUL -

Pullback	35+80	to	36+10	22	cy. @	\$3.15	per c.y.=	\$69.30
Spread & compact				22	cy. @	\$0.50	per c.y.=	\$11.00
					TOTAL ENDHAUL	\$80.30		

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	70	LF of 18"	\$1,400.00			
	50	LF of 30"	\$2,050.00			
<u>Culvert Markers</u>	3	markers	\$24.00			
					TOTAL CULVERTS	\$3,474.00

ROCK

0+00 to	50+50	1,140	cy. of	Jordan Creek	@	\$11.59	per c.y.=	\$13,212.60
Culvert Bedding/Backfill	All New Pipes	30	cy. of	Jordan Creek	@	\$10.39	per c.y.=	\$311.70
Junction Rock	0+00, 50+50	40	cy. of	Jordan Creek	@	\$11.59	per c.y.=	\$463.60
Energy Dissipator	5 Locations	40	cy. of	Riprap	@	\$18.36	per c.y.=	\$734.40
					TOTAL ROCK	\$14,722.30		

SPECIAL PROJECTS

Grade and shape road -	50.50	stations @	\$22.00	per station	\$1,111.00	
Excavate to remove existing pipe. Fill and compact. -	1.00	@	\$165.00		\$165.00	
Roll subgrade w/ vibratory roller prior to rocking -	50.50	stations @	\$17.50	per station	\$883.75	
Excavate bench to place riprap at 42+80 -	1.00	hours @	\$165.00	per hour	\$165.00	
Remove culverts from state lands	3.00	@	\$563.90	total	\$563.90	
Grass seed and fertilize -	0.04	acres @	\$280.00	per acre	\$11.20	
Mulching -	0.040	acres @	\$780.00	per acre	\$31.20	
					TOTAL SPECIAL PROJECTS	\$2,931.05

GRAND TOTAL **\$21,264.55**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **E to F**

Construction -	7+20	stations	Improvement -	0+00	stations	Reconstruction -	10+80	stations
	0.14	miles		0.00	miles		0.20	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=		
10+80		11+50	35%		Outslope	\$1,195	=	Switchback	\$836.50
11+50		12+00	45%		Outslope	\$1,680	=	Switchback	\$840.00
12+00		13+30	55%		Outslope	\$862	=		\$1,120.60
13+30		14+30	45%		Outslope	\$336	=		\$336.00
14+30		18+00	35%		Outslope	\$239	=		\$884.30
TOTAL									\$4,017.40

RECONSTRUCTION: CLEARING AND GRUBBING -

Widening	0.044	acres @	\$860.00	per acre =		\$37.84
Scattering	0.690	acres @	\$1,275.00	per acre =		\$879.75
TOTAL CLEARING AND GRUBBING						\$917.59

RECONSTRUCTION: EXCAVATION -

Widening	139	cy. @	\$2.00	per c.y. =	\$278.00	
TOTAL EXCAVATION						\$278.00

RECONSTRUCTION: ENDHAUL -

Widening	2+60	to	5+00	139	cy. @	\$3.07	per c.y. =	\$426.73	
Spread & compact				139	cy. @	\$0.50	per c.y. =	\$69.50	
TOTAL ENDHAUL									\$496.23

ROCK

0+00 to	1+00	60	cy. of	Jaw-Run	@	\$20.29	per c.y. =	\$1,217.40	
Junction Rock	0+00	20	cy. of	Jaw-Run	@	\$19.53	per c.y. =	\$390.60	
TOTAL ROCK									\$1,608.00

SPECIAL PROJECTS

Construct waste areas -	0.50	hours @	\$180.00	per hour	\$90.00				
Construct landings at 13+50 and Point F -	2.00	@	\$370.00	each	\$740.00				
Construct turnarounds before landings -	2.00	@	\$100.00	each	\$200.00				
Grade and shape road -	18.00	stations @	\$22.00	per station	\$396.00				
Roll subgrade w/ vibratory roller prior to rocking -	18.00	stations @	\$17.50	per station	\$315.00				
Grass seed and fertilize -	0.64	acres @	\$280.00	per acre	\$179.20				
TOTAL SPECIAL PROJECTS									\$1,920.20

GRAND TOTAL **\$9,237.42**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **G to H**

Construction -	7+30	stations	Improvement -	6+20	stations	Reconstruction -	0+00	stations
	0.14	miles		0.12	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
6+20		7+00	20%		Outslope	\$174	=	\$139.20
7+00		8+00	60%	0.1	Outslope	\$1,266	=	\$1,266.00
8+00		8+80	20%		Outslope	\$174	=	\$139.20
8+80		10+30	50%		Outslope	\$573	=	\$859.50
10+30		11+00	30%		Outslope	\$239	=	\$167.30
11+00		13+00	30%		Ditch	\$320	=	\$640.00
13+00		13+50	30%		Outslope	\$239	=	\$119.50
TOTAL								\$3,330.70

ROCK									
0+00	to	13+50	740	cy. of	Jaw-Run	@	\$19.74	per c.y.=	\$14,607.60
Landing Rock		Point H	70	cy. of	Jaw-Run	@	\$18.37	per c.y.=	\$1,285.90
Junction Rock		0+00	20	cy. of	Jaw-Run	@	\$18.85	per c.y.=	\$377.00
TOTAL ROCK								\$16,270.50	

SPECIAL PROJECTS								
Construct landing at Point H -		1.00		@	\$370.00			\$370.00
Construct turnaround before landing -		1.00		@	\$100.00			\$100.00
Grade and shape road -		13.50		stations @	\$22.00	per station		\$297.00
Roll subgrade w/ vibratory roller prior to rocking -		13.50		stations @	\$17.50	per station		\$236.25
Remove large stumps -		1.00		lump sum @	\$540.00			\$540.00
Grass seed and fertilize -		0.40		acres @	\$280.00	per acre		\$112.00
TOTAL SPECIAL PROJECTS								\$1,655.25

GRAND TOTAL **\$21,256.45**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **I to J**

Construction -	2+80	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.05	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=		
0+00		1+00	20%		Outslope	\$174	=	\$174.00	
1+00		2+00	30%		Outslope	\$239	=	\$239.00	
2+00		2+80	40%		Outslope	\$303	=	\$242.40	
								TOTAL	\$655.40

ROCK	to	Station	Qty	Unit	Material	Rate	Unit	Total	
0+00		2+80	200	cy. of	Jaw-Run	@	\$19.72 per c.y.=	\$3,944.00	
Landing Rock		Point J	70	cy. of	Jaw-Run	@	\$18.25 per c.y.=	\$1,277.50	
Junction Rock		0+00	20	cy. of	Jaw-Run	@	\$18.94 per c.y.=	\$378.80	
								TOTAL ROCK	\$5,600.30

SPECIAL PROJECTS	Qty	Unit	Rate	Unit	Total	
Construct landing at Point J -	1.00	@	\$370.00		\$370.00	
Construct turnaround before landing -	1.00	@	\$100.00		\$100.00	
Grade and shape road -	2.80	stations @	\$20.00	per station	\$56.00	
Roll subgrade w/ vibratory roller prior to rocking -	2.80	stations @	\$17.50	per station	\$49.00	
Remove large stumps -	1.00	lump sum @	\$360.00		\$360.00	
Grass seed and fertilize -	0.15	acres @	\$280.00	per acre	\$42.00	
					TOTAL SPECIAL PROJECTS	\$977.00

GRAND TOTAL **\$7,232.70**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **K to L**

Construction -	11+40	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.22	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	<u>Avg. Dist.</u> To W.A. (mi.)	Outslope/Ditch	Cost per Station		
0+00		3+40	20%		Outslope	\$174	=	\$591.60
3+40		5+40	60%	0.1	Ditch	\$918	=	\$1,836.00
5+40		6+50	40%		Ditch	\$413	=	\$454.30
6+50		7+60	20%		Ditch	\$228	=	\$250.80
7+60		9+20	30%		Outslope	\$239	=	\$382.40
9+20		9+60	45%		Ditch	\$459	=	\$183.60
9+60		11+00	30%		Ditch	\$320	=	\$448.00
11+00		11+40	20%		Outslope	\$174	=	\$69.60
TOTAL								\$4,216.30

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	60	LF of 18"	\$1,200.00	40	LF of 24"	\$1,240.00		
<u>Culvert Markers</u>	3	markers	\$24.00					
TOTAL CULVERTS								\$2,464.00

ROCK

0+00 to	11+40	680	cy. of	Jaw-Run	@	\$19.65 per c.y.=	\$13,362.00	
Landing Rock	3 Locations	210	cy. of	Jaw-Run	@	\$18.26 per c.y.=	\$3,834.60	
Junction Rock	0+00	20	cy. of	Jaw-Run	@	\$18.79 per c.y.=	\$375.80	
Energy Dissipator	All New Pipes	15	cy. of	Riprap	@	\$18.45 per c.y.=	\$276.75	
TOTAL ROCK								\$17,849.15

SPECIAL PROJECTS

Construct landings at 2+00, 7+60 and Point L -	3.00	@	\$370.00	each	\$1,110.00	
Construct turn arounds before landings -	2.00	@	\$100.00	each	\$200.00	
Grade and shape road -	11.40	stations @	\$22.00	per station	\$250.80	
Roll subgrade w/ vibratory roller prior to rocking -	11.40	stations @	\$17.50	per station	\$199.50	
Grass seed and fertilize -	0.63	acres @	\$280.00	per acre	\$176.40	
TOTAL SPECIAL PROJECTS						\$1,936.70

GRAND TOTAL **\$26,466.15**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **M to N**

Construction -	6+20	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.12	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		1+00	20%		Outslope	\$174	=	\$174.00
1+00		3+00	30%		Outslope	\$239	=	\$478.00
3+00		3+60	45%		Outslope	\$336	=	\$201.60
3+60		4+70	30%		Outslope	\$239	=	\$262.90
4+70		5+40	45%		Outslope	\$336	=	\$235.20
5+40		6+20	30%		Outslope	\$239	=	\$191.20
TOTAL								\$1,542.90

ROCK

0+00 to	1+00	60 cy. of	Jaw-Run	@	\$18.90 per c.y.=		\$1,134.00
Junction Rock	0+00	20 cy. of	Jaw-Run	@	\$18.09 per c.y.=		\$361.80
TOTAL ROCK							\$1,495.80

SPECIAL PROJECTS

Construct landing at Point N -	1.00	@	\$370.00		\$370.00
Construct turnaround before landing -	1.00	@	\$100.00		\$100.00
Grade and shape road -	6.20	stations @	\$20.00	per station	\$124.00
Roll subgrade w/ vibratory roller prior to rocking -	6.20	stations @	\$17.50	per station	\$108.50
Remove large stumps -	1.00	lump sum @	\$360.00		\$360.00
Grass seed and fertilize -	0.34	acres @	\$280.00	per acre	\$95.20
TOTAL SPECIAL PROJECTS					\$1,157.70

GRAND TOTAL **\$4,196.40**

SUMMARY OF CONSTRUCTION COST

Sale:

Smith & Archers

Road:

O to P

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>0+00</u>	stations	<u>Reconstruction -</u>	<u>18+00</u>	stations
	0.00	miles		0.00	miles		0.34	miles

RECONSTRUCTION: CLEARING AND GRUBBING -
Scattering

0.250	acres @	\$1,275.00	per acre =	\$318.75	
				TOTAL CLEARING AND GRUBBING	\$318.75

RECONSTRUCTION: EXCAVATION -
Road Earthwork

18.00	sta. @	\$69.00	per sta. =	\$1,242.00	
				TOTAL EXCAVATION	\$1,242.00

ROCK

0+00 to	1+00	60	cy. of	Jaw-Run	@	\$18.89	per c.y.=	\$1,133.40	
Junction Rock	0+00	20	cy. of	Jaw-Run	@	\$18.04	per c.y.=	\$360.80	
Leveling	5+40 - 12+40	70	cy. of	Jaw-Run	@	\$16.39	per c.y.=	\$1,147.30	
								TOTAL ROCK	\$2,641.50

SPECIAL PROJECTS

Reconstruct landing at Point P -	1.00	@	\$200.00		\$200.00				
Construct turnaround before landing -	1.00	@	\$100.00		\$100.00				
Construct landing at 2+50 -	1.00	@	\$370.00		\$370.00				
Grade and shape road -	18.00	stations @	\$20.00	per station	\$360.00				
Roll subgrade w/ vibratory roller prior to rocking -	18.00	stations @	\$17.50	per station	\$315.00				
Remove large stumps -	1.00	lump sum @	\$360.00		\$360.00				
Grass seed and fertilize -	0.41	acres @	\$280.00	per acre	\$114.80				
								TOTAL SPECIAL PROJECTS	\$1,819.80

GRAND TOTAL	\$6,022.05
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SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **Q to R**

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>0+00</u>	stations	<u>Reconstruction -</u>	<u>4+60</u>	stations
	0.00	miles		0.00	miles		0.09	miles

RECONSTRUCTION: CLEARING AND GRUBBING -

Scattering	0.130	acres @	\$1,275.00 per acre =	\$165.75	
			TOTAL CLEARING AND GRUBBING		\$165.75

RECONSTRUCTION: EXCAVATION -

Road Earthwork	4.60	sta. @	\$69.00 per sta. =	\$317.40	
			TOTAL EXCAVATION		\$317.40

ROCK

0+00 to	1+00		60 cy. of	Jaw-Run	@	\$18.93 per c.y. =	\$1,135.80	
Junction Rock	0+00		20 cy. of	Jaw-Run	@	\$18.13 per c.y. =	\$362.60	
						TOTAL ROCK		\$1,498.40

SPECIAL PROJECTS

Reconstruct landing at Point R -	1.00	@	\$200.00		\$200.00
Construct turnaround before landing -	1.00	@	\$100.00		\$100.00
Grade and shape road -	4.60	stations @	\$20.00	per station	\$92.00
Roll subgrade w/ vibratory roller prior to rocking -	4.60	stations @	\$17.50	per station	\$80.50
Grass seed and fertilize -	0.13	acres @	\$280.00	per acre	\$36.40
			TOTAL SPECIAL PROJECTS		\$508.90

GRAND TOTAL	\$2,490.45
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SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **S to T**

Construction -	29+00	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.55	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		1+30	20%		Ditch	\$228	=	\$296.40
1+30		2+80	55%		Ditch	\$1,245	=	\$1,867.50
2+80		3+60	20%		Ditch	\$228	=	\$182.40
3+60		6+80	30%		Ditch	\$320	=	\$1,024.00
6+80		8+30	50%		Ditch	\$813	=	\$1,219.50
8+30		13+20	30%		Ditch	\$320	=	\$1,568.00
13+20		13+70	40%		Outslope	\$303	=	\$151.50
13+70		14+70	60%	0.1	Outslope	\$1,901	=	\$1,901.00
14+70		16+70	40%		Outslope	\$303	=	\$606.00
16+70		17+50	60%	0.1	Outslope	\$1,901	=	\$1,520.80
17+50		19+80	30%		Outslope	\$239	=	\$549.70
19+80		21+20	50%		Outslope	\$573	=	\$802.20
21+20		22+70	30%		Outslope	\$239	=	\$358.50
22+70		23+70	50%		Outslope	\$573	=	\$573.00
23+70		24+50	60%	0.2	Outslope	\$1,970	=	\$1,576.00
24+50		27+30	50%		Outslope	\$573	=	\$1,604.40
27+30		29+00	30%		Outslope	\$239	=	\$406.30
TOTAL								\$16,207.20

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>			
90	LF of 18"	\$1,800.00	
50	LF of 30"	\$2,050.00	
<u>Culvert Markers</u>			
4	markers	\$32.00	

TOTAL CULVERTS \$3,882.00

ROCK

0+00 to	29+00	1,560	cy. of	Jaw-Run	@	\$18.84 per c.y.=	\$29,390.40
Landing Rock	Point T	70	cy. of	Jaw-Run	@	\$17.61 per c.y.=	\$1,232.70
Junction Rock	0+00	20	cy. of	Jaw-Run	@	\$18.04 per c.y.=	\$360.80
Energy Dissipator	All New Pipes	20	cy. of	Riprap	@	\$17.64 per c.y.=	\$352.80

TOTAL ROCK \$31,336.70

SPECIAL PROJECTS

Construct waste areas -	1.00	hour @	\$180.00	per hour	\$180.00
Construct landing at Point T -	1.00	@	\$370.00		\$370.00
Construct turnaround before landing -	1.00	@	\$100.00		\$100.00
Grade and shape road -	29.00	stations @	\$22.00	per station	\$638.00
Roll subgrade w/ vibratory roller prior to rocking -	29.00	stations @	\$17.50	per station	\$507.50
Remove large stumps -	1.00	lump sum @	\$180.00		\$180.00
Grass seed and fertilize -	1.66	acres @	\$280.00	per acre	\$464.80

TOTAL SPECIAL PROJECTS \$2,440.30

GRAND TOTAL \$53,866.20

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **U to V**

Construction -	4+30	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.08	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=		
0+00		1+00	60%	0.4	Outslope	\$2,103	=	\$2,103.00	
1+00		4+30	20%		Outslope	\$174	=	\$574.20	
								TOTAL	\$2,677.20

ROCK

0+00 to	4+30	250	cy. of	Jaw-Run	@	\$18.83 per c.y.=	\$4,707.50	
Landing Rock	Point V	70	cy. of	Jaw-Run	@	\$17.38 per c.y.=	\$1,216.60	
Junction Rock	0+00	20	cy. of	Jaw-Run	@	\$18.04 per c.y.=	\$360.80	
							TOTAL ROCK	\$6,284.90

SPECIAL PROJECTS

Construct waste areas -	0.50	hours @	\$180.00	per hour	\$90.00	
Construct landing at Point V -	1.00	@	\$370.00		\$370.00	
Construct turnaround before landing -	1.00	@	\$100.00		\$100.00	
Grade and shape road -	4.30	stations @	\$20.00	per station	\$86.00	
Roll subgrade w/ vibratory roller prior to rocking -	4.30	stations @	\$17.50	per station	\$75.25	
Grass seed and fertilize -	0.24	acres @	\$280.00	per acre	\$67.20	
					TOTAL SPECIAL PROJECTS	\$788.45

GRAND TOTAL **\$9,750.55**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **W to X**

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>98+60</u>	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations
	0.00	miles		1.87	miles		0.00	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Side cast	0.055	acres @	\$860.00	per acre =	\$47.30	
Widening	0.045	acres @	\$860.00	per acre =	\$38.70	
TOTAL CLEARING AND GRUBBING						\$86.00

IMPROVEMENT: EXCAVATION -

Pullback	296	cy. @	\$2.00	per c.y. =	\$592.00	
Widening	191	cy. @	\$2.00	per c.y. =	\$382.00	
TOTAL EXCAVATION						\$974.00

IMPROVEMENT: ENDHAUL -

Pullback	85+90	to	86+80	195	cy. @	\$3.07	per c.y. =	\$598.65
Pullback	90+80	to	91+50	101	cy. @	\$3.55	per c.y. =	\$358.55
Widening	88+30	to	90+50	191	cy. @	\$3.39	per c.y. =	\$647.49
Spread & compact				487	cy. @	\$0.50	per c.y. =	\$243.50
TOTAL ENDHAUL								\$1,848.19

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$600.00			
<u>Culvert Markers</u>		1 markers	\$8.00			
TOTAL CULVERTS						\$608.00

ROCK

55+20 to	98+60	2,480	cy. of	Pit-Run	@	\$16.01	per c.y. =	\$39,704.80
Energy Dissipator	58+00	5	cy. of	Riprap	@	\$16.09	per c.y. =	\$80.45
Bedding/Backfill	58+00	10	cy. of	Jordan Creek	@	\$11.29	per c.y. =	\$112.90
TOTAL ROCK								\$39,898.15

SPECIAL PROJECTS

Construct waste areas -	2.00	hours @	\$180.00	per hour	\$360.00	
Construct extended ditchout at new culvert outlet -	1.00	@	\$60.00		\$60.00	
Construct double ditch 58+00-59+20 -	1.20	stations @	\$200.00	per station	\$240.00	
Construct ditch left 59+20-62+80 -	3.60	stations @	\$100.00	per station	\$360.00	
Grade and shape road -	98.60	stations @	\$22.00	per station	\$2,169.20	
Roll subgrade w/ vibratory roller prior to rocking -	98.60	stations @	\$17.50	per station	\$1,725.50	
Grass seed and fertilize -	0.33	acres @	\$280.00	per acre	\$92.40	
TOTAL SPECIAL PROJECTS						\$5,007.10

GRAND TOTAL **\$48,421.44**

SUMMARY OF CONSTRUCTION COST

Sale:

Smith & Archers

Road:

Y to Z

<u>Construction -</u>	19+30	stations	<u>Improvement -</u>	0+00	stations	<u>Reconstruction -</u>	0+00	stations
	0.37	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	<u>Avg. Dist.</u> To W.A. (mi.)	Outslope/Ditch	Cost per Station	=		
0+00		1+50	50%		Ditch	\$813	=	\$1,219.50	
1+50		2+20	70%	0.6	Ditch	\$5,090	=	\$3,563.00	
2+20		5+00	55%		Ditch	\$1,245	=	\$3,486.00	
5+00		11+50	50%		Ditch	\$813	=	\$5,284.50	
11+50		13+70	30%		Outslope	\$239	=	\$525.80	
13+70		14+60	65%	0.7	Ditch	\$4,315	=	\$3,883.50	
14+60		15+80	50%		Ditch	\$813	=	\$975.60	
15+80		16+50	70%	0.7	Ditch	\$5,229	=	\$3,660.30	
16+50		17+40	50%		Ditch	\$813	=	\$731.70	
17+40		18+20	70%	0.8	Ditch	\$5,381	=	\$4,304.80	
18+20		18+80	50%		Ditch	\$813	=	\$487.80	
18+80		19+30	30%		Ditch	\$320	=	\$160.00	
								TOTAL	\$28,282.50

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	90	LF of 18"	\$1,800.00
<u>Culvert Markers</u>	3	markers	\$24.00

TOTAL CULVERTS \$1,824.00

ROCK

0+00 to	19+30	1,450	cy. of	Pit-Run	@	\$16.58 per c.y.=	\$24,041.00	
Landing Rock	4 Locations	320	cy. of	Pit-Run	@	\$16.68 per c.y.=	\$5,337.60	
Junction Rock	0+00	20	cy. of	Pit-Run	@	\$16.48 per c.y.=	\$329.60	
Energy Dissipator	3 Locations	15	cy. of	Riprap	@	\$16.88 per c.y.=	\$253.20	
							TOTAL ROCK	\$29,961.40

SPECIAL PROJECTS

Construct landings -	4.00	@	\$370.00	each	\$1,480.00	
Construct ditchout at 11+50 -	1.00	@	\$60.00		\$60.00	
Construct turnaround before landing at Point Z -	1.00	@	\$100.00		\$100.00	
Grade and shape road -	19.30	stations @	\$22.00	per station	\$424.60	
Roll subgrade w/ vibratory roller prior to rocking -	19.30	stations @	\$17.50	per station	\$337.75	
Remove large stumps -	1.00	lump sum @	\$540.00		\$540.00	
Grass seed and fertilize -	1.06	acres @	\$280.00	per acre	\$296.80	
					TOTAL SPECIAL PROJECTS	\$3,239.15

GRAND TOTAL \$63,307.05

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers**

Road: **AA to BB**

Construction -	4+20	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.08	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	<u>Avg. Dist.</u> To W.A. (mi.)	Outslope/Ditch	Cost per Station	=			
0+00		0+70	40%		Outslope	\$1,212	=	Through Cut	\$848.40	
0+70		1+70	50%		Outslope	\$573	=		\$573.00	
1+70		4+20	70%	0.2	Outslope	\$3,042	=		\$7,605.00	
									TOTAL	\$9,026.40

ROCK										
0+00	to	4+20	370	cy. of	Pit-Run	@	\$16.12	per c.y.=	\$5,964.40	
Landing Rock		Point BB	80	cy. of	Pit-Run	@	\$16.14	per c.y.=	\$1,291.20	
Junction Rock		0+00	20	cy. of	Pit-Run	@	\$16.10	per c.y.=	\$322.00	
									TOTAL ROCK	\$7,577.60

SPECIAL PROJECTS										
Construct landing at Point BB -			1.00		@	\$370.00			\$370.00	
Construct turnaround before landing -			1.00		@	\$100.00			\$100.00	
Grade and shape road -			4.20		stations @	\$20.00	per station		\$84.00	
Roll subgrade w/ vibratory roller prior to rocking -			4.20		stations @	\$17.50	per station		\$73.50	
Rock Excavation/Drill & Shoot -			1.00		lump sum @	\$5,000.00			\$5,000.00	
Grass seed and fertilize -			0.23		acres @	\$280.00	per acre		\$64.40	
									TOTAL SPECIAL PROJECTS	\$5,691.90

GRAND TOTAL **\$22,295.90**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers** Road: **CC to DD**

Construction - <u>0+00</u> stations 0.00 miles	Improvement - <u>1+60</u> stations 0.03 miles	Reconstruction - <u>0+00</u> stations 0.00 miles
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IMPROVEMENT: CLEARING AND GRUBBING -

Scattering	0.090	acres @	\$1,275.00 per acre =	\$114.75	
TOTAL CLEARING AND GRUBBING					\$114.75

IMPROVEMENT: EXCAVATION -

Remove Existing Fill -	500	cy. @	\$2.00 per c.y.=	\$1,000.00	
TOTAL EXCAVATION					\$1,000.00

IMPROVEMENT: ENDHAUL -

Unusable Existing Fill	0+00	to	0+60	400	cy. @	\$3.07 per c.y.=	\$1,228.00
Spread & compact				400	cy. @	\$0.50 per c.y.=	\$200.00
TOTAL ENDHAUL							\$1,428.00

CULVERTS - MATERIALS & INSTALLATION

Culverts

		50	LF of 36"	\$2,330.00	
			Installation	\$800.00	
TOTAL CULVERTS					\$3,130.00

ROCK

0+50 to 1+10	30	cy. of	Crushed	@	\$9.00 per c.y.=	\$270.00
Culvert Bedding	10	cy. of	Crushed	@	\$9.00 per c.y.=	\$90.00
Replacement Fill	400	cy. of	Pit-Run	@	\$12.00 per c.y.=	\$4,800.00
Fill Armor	40	cy. of	Riprap	@	\$20.00 per c.y.=	\$800.00
TOTAL ROCK						\$5,960.00

SPECIAL PROJECTS

Compact with hand-help vibratory compactor -	1.00	lump sum @	\$435.00		\$435.00	
Grade and shape road -	1.60	stations @	\$22.00 per station		\$35.20	
Roll subgrade w/ vibratory roller prior to rocking -	1.60	stations @	\$17.50 per station		\$28.00	
Remove culvert from state lands	1.00	@	\$432.40 total		\$432.40	
Grass seed and fertilize -	0.07	acres @	\$280.00 per acre		\$19.60	
Mulching -	0.173	acres @	\$780.00 per acre		\$134.94	
TOTAL SPECIAL PROJECTS						\$1,085.14

GRAND TOTAL **\$12,717.89**

SUMMARY OF CONSTRUCTION COST

Sale: **Smith & Archers** Road: **EE to FF**

Construction - 0+00 stations 0.00 miles	Improvement - 1+60 stations 0.03 miles	Reconstruction - 0+00 stations 0.00 miles
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IMPROVEMENT: CLEARING AND GRUBBING -

Scattering	0.040	acres @	\$1,275.00 per acre =	\$51.00	
TOTAL CLEARING AND GRUBBING					\$51.00

IMPROVEMENT: EXCAVATION -

Excavate to improve pump chance -	100	cy. @	\$2.00 per c.y.=	\$200.00	
TOTAL EXCAVATION					\$200.00

IMPROVEMENT: ENDHAUL -

Excavated material	100	cy. @	\$3.07 per c.y.=	\$307.00	
Spread & compact	100	cy. @	\$0.50 per c.y.=	\$50.00	
TOTAL ENDHAUL					\$357.00

ROCK

0+00 to 1+60	50	cy. of	Crushed @	\$9.00 per c.y.=	\$450.00
Junction Rock	10	cy. of	Crushed @	\$9.00 per c.y.=	\$90.00
Turnaround	10	cy. of	Crushed @	\$9.00 per c.y.=	\$90.00
TOTAL ROCK					\$630.00

SPECIAL PROJECTS

Improve turnaround before pump chance -	1.00	@	\$50.00	\$50.00	
Grade and shape road -	1.60	stations @	\$22.00 per station	\$35.20	
Roll subgrade w/ vibratory roller prior to rocking -	1.60	stations @	\$17.50 per station	\$28.00	
Grass seed and fertilize -	0.04	acres @	\$280.00 per acre	\$11.20	
Mulching -	0.033	acres @	\$780.00 per acre	\$25.74	
TOTAL SPECIAL PROJECTS					\$150.14

GRAND TOTAL **\$1,388.14**

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

		Drift Crk: NE 1/4, SE 1/4, Sec. 21, T2N, R6W, W.M.
Stockpile:	Existing Crushed Stockpiles	Jordan Crk: SW 1/4, SW 1/4, Sec. 29, T1N, R7W, W.M.
Sale:	Smith & Archers	Road: 6930 c.y.
Swell:	1.40	Stockpile: c.y.
Shrinkage:	1.16	Total Truck Loads: 6930 c.y.
Drill Pct.:	0%	In Place Total: 4950 c.y.

Load Dump Truck: \$1.00 /cu.yd. x 6930 cu.yds. = \$6,930.00

Subtotal \$6,930.00

Move in Roller and Compactor	1	@	\$660.50	=	\$660.50
Move in Grader	1	@	\$991.67	=	\$991.67
Move in Loader	2	@	\$1,050.71	=	\$2,101.42
Move in Trucks	4	@	\$246.10	=	\$984.40

Subtotal \$4,737.99

Base Cost= \$1.68 Per Cu.Yd.

TOTAL PRODUCTION COSTS \$11,667.99

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B 5350 10070 (Drift Creek)	10.24	3.20	1.68	15.12	1660	\$25,099.20
A to B 10070 20850 (Jordan Creek)	5.88	3.20	1.68	10.76	3760	\$40,457.60
A to B Culvert Bedding/Backfill (Jordan Creek)	5.61	2.00	1.68	9.29	40	\$371.60
A to B Spot Rock (Drift Creek)	9.48	3.20	1.68	14.36	100	\$1,436.00
A to B Spot Rock (Jordan Creek)	7.07	3.20	1.68	11.95	150	\$1,792.50
C to D 0 5050 (Jordan Creek)	6.71	3.20	1.68	11.59	1140	\$13,212.60
C to D Culvert Bedding/Backfill (Jordan Creek)	6.71	2.00	1.68	10.39	30	\$311.70
C to D Junction Rock (Jordan Creek)	6.71	3.20	1.68	11.59	40	\$463.60
W to X Bedding/Backfill (Jordan Creek)	7.61	2.00	1.68	11.29	10	\$112.90
Total C.Y.					6930	Sub Total \$83,257.70

TOTAL ROCKING COSTS \$83,257.70

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Jaw_run	Location:	SE 1/4, NE 1/4, Sec. 21, TN, R7W, W.M.
Sale:	Smith & Archers	Road:	5785 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage:	1.16	Total Truck Loads:	5785 c.y.
Drill Pct.:	100%	In Place Total:	4132 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area near pit, place overburden in Waste Area, spread and compact.	\$5,024.57
Drill & Shoot:	\$3.25 /cu.yd. x 4132 cu.yds. = \$13,429.00
Screen Rock:	\$1.50 /cu.yd. x 5785 cu.yds. = \$8,677.50
Load Crusher:	\$1.00 /cu.yd. x 5785 cu.yds. = \$5,785.00
Crush Rock:	\$3.50 /cu.yd. x 5785 cu.yds. = \$20,247.50
Load Dump Truck:	\$1.00 /cu.yd. x 5785 cu.yds. = \$5,785.00
Haul Screening Waste:	\$3.00 /cu.yd. x 1157 cu.yds. = \$3,471.00

Subtotal \$62,419.57

Move In/Set-up Crusher	1	@	\$3,282.00	=	\$3,282.00
Move In and set up Drill and Compressor	1	@	\$1,020.21	=	\$1,020.21
Move in Roller and Compactor	1	@	\$660.50	=	\$660.50
Move in Grader	1	@	\$991.67	=	\$991.67
Move in D-8	1	@	\$1,253.71	=	\$1,253.71
Move in Loader	1	@	\$1,050.71	=	\$1,050.71
Move in Excavator	1	@	\$1,165.71	=	\$1,165.71
Move in Trucks	4	@	\$246.10	=	\$984.40

Subtotal \$10,408.91

TOTAL PRODUCTION COSTS \$72,828.48

Base Cost= \$12.59 Per Cu.Yd.

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B 25500 27060 (Jaw-Run)	3.12	1.70	12.59	17.41	870	\$15,146.70
A to B Landing Rock (Jaw-Run)	3.18	1.70	12.59	17.47	350	\$6,114.50
A to B Fill Repair (Riprap)	6.23	2.00	12.59	20.82	30	\$624.60
A to B Energy Dissipator (Riprap)	4.76	2.00	12.59	19.35	30	\$580.50
A to B Junction Rock (Jaw-Run)	3.07	0.70	12.59	16.36	20	\$327.20
C to D Energy Dissipator (Riprap)	3.77	2.00	12.59	18.36	40	\$734.40
E to F 0 100 (Jaw-Run)	4.50	3.20	12.59	20.29	60	\$1,217.40
E to F Junction Rock (Jaw-Run)	4.49	2.45	12.59	19.53	20	\$390.60
G to H 0 1350 (Jaw-Run)	3.95	3.20	12.59	19.74	740	\$14,607.60
G to H Landing Rock (Jaw-Run)	4.08	1.70	12.59	18.37	70	\$1,285.90
G to H Junction Rock (Jaw-Run)	3.81	2.45	12.59	18.85	20	\$377.00
I to J 0 280 (Jaw-Run)	3.93	3.20	12.59	19.72	200	\$3,944.00
I to J Landing Rock (Jaw-Run)	3.96	1.70	12.59	18.25	70	\$1,277.50
I to J Junction Rock (Jaw-Run)	3.90	2.45	12.59	18.94	20	\$378.80
K to L 0 1140 (Jaw-Run)	3.86	3.20	12.59	19.65	680	\$13,362.00
K to L Landing Rock (Jaw-Run)	3.97	1.70	12.59	18.26	210	\$3,834.60
K to L Junction Rock (Jaw-Run)	3.75	2.45	12.59	18.79	20	\$375.80
K to L Energy Dissipator (Riprap)	3.86	2.00	12.59	18.45	15	\$276.75
M to N 0 100 (Jaw-Run)	3.11	3.20	12.59	18.90	60	\$1,134.00
M to N Junction Rock (Jaw-Run)	3.05	2.45	12.59	18.09	20	\$361.80
O to P 0 100 (Jaw-Run)	3.10	3.20	12.59	18.89	60	\$1,133.40
O to P Junction Rock (Jaw-Run)	3.00	2.45	12.59	18.04	20	\$360.80
O to P Leveling (Jaw-Run)	3.10	0.70	12.59	16.39	70	\$1,147.30
Q to R 0 100 (Jaw-Run)	3.14	3.20	12.59	18.93	60	\$1,135.80
Q to R Junction Rock (Jaw-Run)	3.09	2.45	12.59	18.13	20	\$362.60
S to T 0 2900 (Jaw-Run)	3.05	3.20	12.59	18.84	1560	\$29,390.40
S to T Landing Rock (Jaw-Run)	3.32	1.70	12.59	17.61	70	\$1,232.70
S to T Junction Rock (Jaw-Run)	3.00	2.45	12.59	18.04	20	\$360.80
S to T Energy Dissipator (Riprap)	3.05	2.00	12.59	17.64	20	\$352.80
U to V 0 430 (Jaw-Run)	3.04	3.20	12.59	18.83	250	\$4,707.50
U to V Landing Rock (Jaw-Run)	3.09	1.70	12.59	17.38	70	\$1,216.60
U to V Junction Rock (Jaw-Run)	3.00	2.45	12.59	18.04	20	\$360.80

Total C.Y. 5785 Sub Total \$108,113.15

TOTAL ROCKING COSTS \$108,113.15

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Pit_run	Location:	NE 1/4, NE 1/4, Sec. 32, T1N, R7W, W.M.
Sale:	Smith & Archers	Road:	4760 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	4760 c.y.
Drill Pct.:	0%	In Place Total:	3400 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area near pit, place overburden in Waste Area, spread and compact.	\$4,159.53
Rip Rock:	\$3.00 /cu.yd. x 3400 cu.yds. = \$10,200.00
Screen Rock:	\$1.50 /cu.yd. x 4760 cu.yds. = \$7,140.00
Haul Screening Waste	\$3.00 /cu.yd. x 1428 cu.yds. = \$4,284.00
Load Dump Truck:	\$1.00 /cu.yd. x 4760 cu.yds. = \$4,760.00
Subtotal	\$30,543.53

Move in Roller and Compactor	1	@	\$660.50	=	\$660.50
Move in Grader	1	@	\$991.67	=	\$991.67
Move in D-8	1	@	\$1,253.71	=	\$1,253.71
Move in Loader	1	@	\$1,050.71	=	\$1,050.71
Move in Excavator	1	@	\$1,165.71	=	\$1,165.71
Move in Trucks	4	@	\$246.10	=	\$984.40
Subtotal					\$6,106.70

Base Cost=	\$7.70	Per Cu.Yd.	TOTAL PRODUCTION COSTS	\$36,650.23
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Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
W to X 5520 9860 (Pit-Run)	6.61	1.70	7.70	16.01	2480	\$39,704.80
W to X Energy Dissipator (Riprap)	6.39	2.00	7.70	16.09	5	\$80.45
Y to Z 0 1930 (Pit-Run)	7.18	1.70	7.70	16.58	1450	\$24,041.00
Y to Z Landing Rock (Pit-Run)	7.28	1.70	7.70	16.68	320	\$5,337.60
Y to Z Junction Rock (Pit-Run)	7.08	1.70	7.70	16.48	20	\$329.60
Y to Z Energy Dissipator (Riprap)	7.18	2.00	7.70	16.88	15	\$253.20
AA to BB 0 420 (Pit-Run)	6.72	1.70	7.70	16.12	370	\$5,964.40
AA to BB Landing Rock (Pit-Run)	6.74	1.70	7.70	16.14	80	\$1,291.20
AA to BB Junction Rock (Pit-Run)	6.70	1.70	7.70	16.10	20	\$322.00
Total C.Y.					4760	Sub Total
						\$77,324.25

TOTAL ROCKING COSTS	\$77,324.25
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Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Smith & Archers**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
44.0	Pavement	30
4.0	Main Lines	7
6.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Drill & Compressor	\$1,020.21		\$46.00	0.00	0.00	0	\$0.00	\$1,020.21
1	Brush Cutter	\$833.00		\$4.00	0.00	0.00	0	\$0.00	\$833.00
1	Excavators (Med.)	\$1,048.96		\$35.50	0.00	0.00	0	\$0.00	\$1,048.96
2	Excavators (Large)	\$2,331.43	1	\$44.80	0.00	0.00	0	\$0.00	\$2,331.43
2	Tractor (D8)	\$2,507.43	2	\$15.10	0.00	0.00	0	\$0.00	\$2,507.43
2	Dump Truck (10 cy +)	\$498.37		\$2.85	0.00	0.00	0	\$0.00	\$498.37
2	Dump Truck (Off Hiway)	\$2,273.93	1	\$4.75	0.00	0.00	0	\$0.00	\$2,273.93
TOTAL MOVE-IN COSTS:									\$10,513.33



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Smith & Archers*

1. Type of Sale

Regeneration harvest, Recovery

2. Legal Description

Sections 10, 11, 14, 15, and 23 of T1N R7W, W.M., Tillamook County, Oregon.

3. Sale Acreage

Sale acreage was determined by GPS and orthophotographs along with GIS.

	<u>ACRES</u>	
	<u>Gross</u>	<u>Net</u>
Unit 1 (Modified Clearcut)	121	86
Unit 2 (Modified Clearcut)	149	107
Unit 3 (Modified Clearcut)	111	95
Total Acres	381	288

Gross Acres

Area within the Timber Sale Boundary signs

Net acres

Used for calculating the advertised volume.

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. Cruising Procedures

A. Cruise Method

All units were cruised using a 175' x 700' grid. All timber sale units were cruised with a variable plot sampling method. All conifers 8" DBH and greater and all hardwoods 10" DBH and greater were recorded on all plots. Every plot recorded species, diameter, height, form factor and grade. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods, respectively.

B. Plot size

Point of observation was 4.0'. Form factor was measured at 16.0'.

Unit	BAF
1	40.00
2	40.00
3	40.00

C. Grading System

All trees were graded according to Columbia River Log Scaling and Grading Rules. Log lengths favored 40' lengths.

5. Computation Procedure

Cruise data was entered into SuperAce for computation of basal area, advertised volume, volume summary, log stock table, and stand table for each species and type. Cruise volumes were grown forward to the approximate auction date for Smith and Archers. Plots landing in riparian management areas or areas excluded from the timber sale harvest areas were removed from computation procedures.

Net sale acreage was used for volume calculation.

Cruise Statistics (Board Foot Volumes)			
Unit	Number of Plots	SE (%)	CV (%)
1	25	7.8	38.4
2	20	4.6	22.2
3	32	5.3	27.3
Total	104	9.1 (avg.)	45.2 (avg.)

6. Hidden Defect and Breakage

A 1% reduction was applied to conifers and a 2% reduction to hardwood volumes for hidden defect and breakage.

7. Timber Description

Unit 1 is approximately a 62 year old stand of Douglas-fir with red alder and minor amounts of Bigleaf maple and western hemlock. Approximately 35 acres received spray treatment for red alder in a 1970's spray project, the red alder observed appeared healthy and without split tops. Seven acres of Unit 1 were thinned with the Runyon Ex timber sale in 2012.

Unit 2 is approximately a 65 year stand of Douglas-fir with red alder and minor amounts of western hemlock. Approximately 50 acres received spray treatment for red alder in a 1970's spray project, the red alder observed appeared healthy and without split tops.

Unit 3 is approximately a 60 year old stand of Douglas-fir and minor amounts of western hemlock.

All three timber sale units were burned in the 1933 Tillamook Fire, 1939 Wolf Creek Fire, and 1945 Wilson River/Salmonberry Fire.

The stand is comprised of multiple merchantable species, please see the table below:

Unit #	Species	DBH	Merchantable Bole Height (feet)	Merchantable top (inches inside bark)
1	Douglas-fir	17.8	89	5
1	Red alder	15.8	54	6
2	Douglas-fir	19.8	82	5
2	Red alder	19.2	57	6
3	Douglas-fir	19.5	89	5

Above data derived from Statistics (type) report using SuperAce 2008, developed by Atterbury consultants, Inc.

8. Cruiser /Dates

The timber sale was contract cruised in 2018.

9. Revenue Distribution

FDF 100%

Tax Code: 902 – 100%

Deed Numbers: 157, 159, 591 (15%, Washington Co.)

10. Attachments

Volume Summary

Stand Tables (3)

Log Stock Tables (3)

Species, Sort, Grade Tables (3)

Logging Plan (3)

11. Stand and Log Stock Tables Species Key

DF – Douglas-fir take

RA – Red alder take

BM – Big leaf maple take

WH – Western hemlock take

OC – Other conifer

Prepared by: Harold Stevens, Forester

Date: 4/2/2020

T01N R07W S15 T0100										T01N R07W S15 T0100				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
01N	07W	15	A1GROW	0100	86.00	21	64							

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
								Net BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/Lf	
													4-5	6-11	12-16	17+	12-20	21-30	31-35						36-99
DF	CO	2	50	.4	16,704	16,642	1,431			63	37					100	40	15	349	1.88	47.6				
DF	CO	3	39	.9	12,781	12,665	1,089			79	19	2		1	1	99	39	9	134	0.78	94.7				
DF	CO	4	11	1.8	3,588	3,523	303	62	38					20	62	11	7	23	6	31	0.34	114.6			
DF	Totals		89	.7	33,073	32,830	2,823	7	34	39	20			2	7	1	90	32	9	128	0.89	256.9			
RA	H	4	100	2.3	4,218	4,120	354			80	20			10	31	13	46	29	8	81	0.78	50.9			
RA	Totals		11	2.3	4,218	4,120	354			80	20			10	31	13	46	29	8	81	0.78	50.9			
Type Totals				.9	37,291	36,950	3,178	6	39	37	17			3	9	3	85	32	9	120	0.87	307.8			

FI		TSTNDSUM		Stand Table Summary												
Project														SMITARCH		
T01N R07W S15 T0100										T01N R07W S15 T0100						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1					
01N	07W	15	A1GROW	0100	86.00	21	64			Date:	04/02/2020					
										Time:	3:51:04PM					
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF
DF		10		84	80	20.088	11.26	34.21	7.8	33.5	7.56	265	1,145	650	228	98
DF		11		91	105	5.534	3.75	11.31	10.8	47.1	3.52	122	532	303	105	46
DF		15		85	114	5.952	7.51	15.21	18.9	77.4	8.20	287	1,177	705	247	101
DF		16		88	122	15.694	22.52	42.76	21.6	96.7	26.28	922	4,136	2,260	793	356
DF		17		90	133	4.634	7.51	14.21	24.5	106.3	9.91	348	1,510	852	299	130
DF		18		85	128	10.333	18.76	31.68	26.0	108.0	23.49	824	3,423	2,020	709	294
DF		19		89	132	9.274	18.76	26.54	28.4	124.0	21.44	752	3,290	1,844	647	283
DF		20		85	140	5.022	11.26	11.97	38.6	164.3	13.16	462	1,968	1,132	397	169
DF		21		84	122	4.555	11.26	15.52	31.0	122.3	13.71	481	1,898	1,179	414	163
DF		22		87	150	6.917	18.76	24.03	40.4	193.1	27.64	970	4,642	2,377	834	399
DF		24		88	128	1.162	3.75	3.56	49.0	216.1	4.97	175	770	428	150	66
DF		25		91	148	1.071	3.75	3.28	60.9	306.7	5.70	200	1,007	490	172	87
DF		26		81	147	2.972	11.26	10.12	53.8	234.2	15.52	545	2,371	1,335	469	204
DF		27		81	150	.919	3.75	1.88	89.5	402.6	4.79	168	756	412	145	65
DF		29		85	125	.796	3.75	2.44	66.9	289.3	4.65	163	706	400	140	61
DF		30		81	141	.744	3.75	2.28	77.1	327.6	5.01	176	747	431	151	64
DF		32		83	144	1.308	7.51	4.01	91.9	440.9	10.49	368	1,768	902	317	152
DF		33		86	144	.615	3.75	1.88	102.2	522.8	5.49	193	985	472	166	85
DF		Totals		86	119	97.590	172.63	256.89	28.9	127.8	211.53	7,422	32,830	18,192	6,383	2,823
RA		13		95	48	2.781	2.66	2.81	17.8	53.3	1.37	50	150	118	43	13
RA		14		87	66	4.796	5.32	7.27	19.0	78.1	3.79	138	568	326	119	49
RA		15		88	73	12.533	15.97	23.22	19.2	73.6	12.27	446	1,710	1,055	383	147
RA		17		81	95	1.626	2.66	3.29	29.3	95.9	2.65	96	315	228	83	27
RA		18		99	76	1.451	2.66	2.93	29.5	106.6	2.38	86	312	205	74	27
RA		19		77	99	2.604	5.32	6.58	29.1	100.2	5.26	191	659	452	165	57
RA		20		72	70	2.350	5.32	4.75	29.6	85.2	3.87	141	405	333	121	35
RA		Totals		86	73	28.140	39.92	50.86	22.6	81.0	31.59	1,149	4,120	2,716	988	354
Totals				86	109	125.730	212.54	307.75	27.8	120.1	243.12	8571	36,950	20,908	7,371	3,178

Log Stock Table - MBF
Project: SMITARCH

T01N R07W S15 T0100

T01N R07W S15 T0100

Twp Rge **Sec** **Tract** **Type** **Acres** **Plots** **Sample Trees** **Page** **1**
01N **07W** **15** **A1GROW** **0100** **86.00** **21** **64** **Date** **4/2/2020**
Time **3:51:26PM**

Spp	T	So	Gr	Log	Len	Gross MBF	% Def	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches									
										2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29
DF		CO	2	40		1,437	.4	1,431	50.7				430	370	482	149			
DF		CO	3	20		6		6	.2				6						
DF		CO	3	21		3		3	.1			3							
DF		CO	3	27		4		4	.1				4						
DF		CO	3	40		1,086	.9	1,076	38.1			131	256	456	182	50			
DF		CO	4	11		3	50.0	1	.0		1								
DF		CO	4	14		2		2	.1		2								
DF		CO	4	16		8		8	.3		8								
DF		CO	4	17		11		11	.4		9		2						
DF		CO	4	18		9		9	.3		9								
DF		CO	4	19		3		3	.1		3								
DF		CO	4	20		28		28	1.0		5	18	5						
DF		CO	4	21		27		27	1.0		27								
DF		CO	4	22		38	11.0	34	1.2		16	3	15						
DF		CO	4	23		5		5	.2		5								
DF		CO	4	24		33		33	1.2		7		25						
DF		CO	4	25		31		31	1.1		27	4							
DF		CO	4	26		9		9	.3		9								
DF		CO	4	27		13		13	.4		9	4							
DF		CO	4	28		8		8	.3		8								
DF		CO	4	29		9		9	.3		5		3						
DF		CO	4	30		18		18	.7		18								
DF		CO	4	32		5		5	.2		5								
DF		CO	4	33		12		12	.4				12						
DF		CO	4	34		11		11	.4		11								
DF		CO	4	35		6		6	.2			6							
DF		CO	4	40		22		22	.8		5		17						
DF		Totals				2,844		2,823	88.9		189	169	340	463	611	370	532	149	
RA		H	4	15		4		4	1.1		4								
RA		H	4	18		4		4	1.1		4								
RA		H	4	20		28		28	7.9		3	6		19					
RA		H	4	21		13		13	3.7		13								
RA		H	4	24		20		20	5.6				20						
RA		H	4	25		6		6	1.6		6								
RA		H	4	26		41		41	11.7		13			28					
RA		H	4	28		5		5	1.3		5								
RA		H	4	30		25	7.7	23	6.6				23						
RA		H	4	32		27	7.1	25	7.1		10	15							
RA		H	4	35		23		23	6.4		23								
RA		H	4	40		145	3.2	141	39.7			21	95	24					
RA		H	4	41		22		22	6.3		22								
RA		Totals				363	2.3	354	11.1		101	43	138	72					
Total All Species						3,207		3,178	100.0		189	270	383	601	683	370	532	149	

T01N R07W S14 T0100										T01N R07W S14 T0100				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
01N	07W	14	A2GROW	0100	107.00	24	57							

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre						
								Net	BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/Lf	
														4-5	6-11	12-16	17+	12-20	21-30		31-35					36-99
DF	CO	2	51	6.8	15,322	14,284	1,528			47	53					100	40	16	376	2.27	37.9					
DF	CO	3	42	4.8	11,938	11,369	1,216			66	34			1	9	90	38	9	125	0.93	90.6					
DF	CO	4	7	6.2	2,029	1,904	204	77	23					32	35	8	25	23	5	26	0.37	72.7				
DF	Totals		97	5.9	29,289	27,557	2,949	5	29	38	27	2	3	4	91		33	9	137	1.09	201.2					
RA	H	3	53	20.8	503	398	43		16	84					100	40	14	239	2.63	1.7						
RA	H	4	47	20.8	434	344	37		100					18	9	73	29	7	51	0.68	6.8					
RA	Totals		3	20.8	936	742	79		55	45		8	4		87		31	9	88	1.18	8.4					
Type Totals				6.4	30,225	28,299	3,028	5	30	39	27	2	3	4	90		33	9	135	1.10	209.7					

FI		TSTNDSUM		Stand Table Summary												
Project														SMITARCH		
T01N R07W S14 T0100										T01N R07W S14 T0100						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1					
01N	07W	14	A2GROW	0100	107.00	24	57			Date:	03/31/2020					
										Time:	2:15:40PM					
Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	Totals			
		DBH	Trees	16'				Ht Tot	Net Cu.Ft.		Net Bd.Ft.	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF
DF		12		67	65	8.913	7.15	13.50	12.0	34.3	4.62	162	463	495	174	50
DF		13		90	94	3.797	3.57	7.67	14.8	61.8	3.23	113	474	346	121	51
DF		14		84	69	3.274	3.57	6.61	12.5	36.0	2.35	83	238	252	88	26
DF		15		89	84	8.556	10.72	17.29	18.7	68.6	9.24	324	1,186	988	347	127
DF		16		82	110	2.507	3.57	5.06	26.8	82.4	3.86	136	417	413	145	45
DF		17		89	104	4.441	7.15	11.22	24.2	98.8	7.74	272	1,108	828	291	119
DF		18		77	102	11.884	21.45	24.01	31.7	96.9	21.67	760	2,327	2,319	814	249
DF		19		87	115	7.111	14.30	17.96	31.9	123.5	16.34	573	2,218	1,749	614	237
DF		20		84	120	8.022	17.87	22.69	33.2	121.3	21.45	753	2,753	2,295	805	295
DF		21		85	125	4.365	10.72	13.23	34.5	124.7	13.00	456	1,649	1,391	488	176
DF		22		80	106	3.978	10.72	10.71	37.4	123.5	11.43	401	1,324	1,223	429	142
DF		23		84	115	2.426	7.15	6.13	47.0	183.2	8.21	288	1,123	878	308	120
DF		24		88	123	2.228	7.15	6.75	46.5	200.7	8.95	314	1,355	958	336	145
DF		25		84	132	4.107	14.30	11.41	57.2	248.0	18.58	652	2,829	1,988	698	303
DF		26		86	132	1.928	7.15	5.84	56.3	258.8	9.38	329	1,512	1,003	352	162
DF		27		85	113	1.761	7.15	4.45	63.5	259.4	8.05	282	1,153	861	302	123
DF		29		84	131	1.526	7.15	4.62	69.1	271.1	9.10	319	1,254	974	342	134
DF		30		72	140	.713	3.57	2.16	71.8	240.2	4.42	155	519	473	166	56
DF		31		86	128	1.336	7.15	4.05	81.1	346.6	9.35	328	1,403	1,001	351	150
DF		32		80	139	.627	3.57	1.90	88.8	380.9	4.81	169	723	515	181	77
DF		33		78	135	.589	3.57	1.79	91.6	278.0	4.66	164	496	499	175	53
DF		34		82	105	.555	3.57	1.12	119.0	432.4	3.80	133	485	407	143	52
DF		35		83	105	.524	3.57	1.06	128.8	514.7	3.88	136	545	416	146	58
DF		Totals		82	104	85.167	185.86	201.23	36.3	136.9	208.14	7,303	27,557	22,271	7,814	2,949
RA		14		91	80	1.833	2.01	3.69	16.6	62.4	1.68	61	230	180	65	25
RA		16		84	57	1.404	2.01	1.41	33.9	41.6	1.32	48	59	141	51	6
RA		22		87	88	.742	2.01	1.49	48.3	156.0	1.98	72	233	212	77	25
RA		28		73	70	.917	4.02	1.84	70.2	119.6	3.55	129	220	380	138	24
RA		Totals		85	73	4.896	10.06	8.43	36.8	88.0	8.53	310	742	913	332	79
Totals				82	102	90.063	195.92	209.66	36.3	135.0	216.67	7613	28,299	23,184	8,146	3,028

Log Stock Table - MBF
Project: SMITARCH

T01N R07W S14 T0100

T01N R07W S14 T0100

Twp Rge Sec Tract Type Acres Plots Sample Trees Page
01N 07W 14 A2GROW 0100 107.00 24 57 Date 3/31/2020
Time 2:14:25PM

Spp	T	S	So	Gr	Log	Gross MBF	% Def	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches									
										2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29
DF		CO	2		40	1,639	6.8	1,528	51.8				199	397	659	274			
DF		CO	3		24	4		4	.1										
DF		CO	3		26	4		4	.1										
DF		CO	3		28	4		4	.1										
DF		CO	3		30	5		5	.2										
DF		CO	3		32	118	6.2	110	3.7			30	65		16				
DF		CO	3		40	1,143	4.7	1,089	36.9			69	252	370	398				
DF		CO	4		12	13	6.3	13	.4		4	8	1						
DF		CO	4		15	4	50.0	2	.1		2								
DF		CO	4		16	9		9	.3		7		2						
DF		CO	4		17	17		17	.6		17								
DF		CO	4		18	16	20.1	13	.4		13								
DF		CO	4		19	8		8	.3		5	3							
DF		CO	4		20	3		3	.1		3								
DF		CO	4		22	12		12	.4		7	4							
DF		CO	4		24	17		17	.6		10	4	3						
DF		CO	4		25	15	33.3	10	.3		10								
DF		CO	4		26	26		26	.9		17	9							
DF		CO	4		28	7		7	.3		7								
DF		CO	4		32	10		10	.3		10								
DF		CO	4		34	9	25.0	7	.2		7								
DF		CO	4		36	9		9	.3		9								
DF		CO	4		40	43		43	1.4		29	14							
DF		Totals				3,134	5.9	2,949	97.4		156	140	340	370	613	397	659	274	
RA		H	3		40	54	20.8	43	53.7				7	22	14				
RA		H	4		12	1		1	1.3		1								
RA		H	4		16	4		4	5.2		4								
RA		H	4		20	2		2	1.9		2								
RA		H	4		30	4	20.0	3	4.2		3								
RA		H	4		40	36	24.8	27	33.7		6	20							
RA		Totals				100	20.8	79	2.6		16	20	7	22	14				
Total All Species						3,234	6.4	3,028	100.0		156	157	360	377	613	418	673	274	

T01N R07W S14 T0100										T01N R07W S14 T0100			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt				
01N	07W	14	A3GROW	0100	95.00	27	81						

S Spp	So T	Gr rt ad	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	CO	2	46	.4	16,764	16,695	1,586		68	32				100	40	15	384	2.20	43.5	
DF	CO	3	38	1.1	13,870	13,716	1,303		75	25			2	98	40	10	150	0.95	91.6	
DF	CO	4	16	1.1	5,432	5,375	511	44	47	9		13	63	7	17	25	6	42	0.44	128.7
DF	Totals		100	.8	36,066	35,786	3,400	7	36	43	15	2	10	2	87	33	9	136	1.01	263.7
Type	Totals			.8	36,066	35,786	3,400	7	36	43	15	2	10	2	87	33	9	136	1.01	263.7

FI		TSTNDSUM		Stand Table Summary												
Project														SMITARCH		
T01N R07W S14 T0100										T01N R07W S14 T0100						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1					
01N	07W	14	A3GROW	0100	95.00	27	81			Date:	03/31/2020					
										Time:	2:25:37PM					
Spc	T	Sample		Av		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF 16'	Ht Tot				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DF		11		85	86	3.931	2.72	4.02	15.5	63.9	1.78	62	257	169	59	24
DF		13		79	112	8.443	8.15	17.27	16.7	60.4	8.21	288	1,042	780	274	99
DF		14		91	119	4.853	5.43	12.41	18.1	85.2	6.39	224	1,057	607	213	100
DF		15		86	120	8.455	10.86	23.78	18.7	79.4	12.65	444	1,888	1,202	422	179
DF		16		80	120	7.432	10.86	22.80	17.9	69.2	11.66	409	1,579	1,107	388	150
DF		17		85	107	8.229	13.58	21.88	23.2	93.4	14.44	507	2,044	1,372	481	194
DF		18		86	116	10.276	19.01	28.52	27.6	116.0	22.46	788	3,310	2,134	749	314
DF		19		82	109	6.587	13.58	17.52	29.2	106.5	14.56	511	1,866	1,384	486	177
DF		20		82	111	8.323	19.01	21.89	33.6	126.0	20.98	736	2,759	1,993	699	262
DF		21		84	128	3.235	8.15	9.93	36.2	150.3	10.23	359	1,492	972	341	142
DF		23		83	127	5.896	16.30	18.09	39.2	162.7	20.19	708	2,944	1,918	673	280
DF		24		83	132	2.697	8.15	9.20	40.2	177.9	10.53	370	1,636	1,000	351	155
DF		25		82	115	3.303	10.86	9.29	46.7	184.9	12.37	434	1,718	1,176	412	163
DF		26		82	125	6.849	24.44	20.24	52.0	220.4	29.99	1,052	4,460	2,849	1,000	424
DF		27		82	132	4.925	19.01	14.39	60.3	259.9	24.72	867	3,740	2,348	824	355
DF		28		79	121	1.305	5.43	3.34	65.1	249.2	6.19	217	831	588	206	79
DF		29		83	123	1.213	5.43	3.72	62.5	269.8	6.63	233	1,004	630	221	95
DF		30		93	134	.566	2.72	1.74	76.9	415.4	3.80	133	721	361	127	68
DF		32		81	143	.495	2.72	1.52	84.4	362.1	3.65	128	550	347	122	52
DF		33		81	109	.464	2.72	.95	114.4	474.0	3.10	109	450	294	103	43
DF		35		80	116	.411	2.72	1.26	88.4	347.9	3.18	112	439	302	106	42
DF		Totals		83	117	97.889	211.85	263.74	33.0	135.7	247.72	8,692	35,786	23,534	8,257	3,400
Totals				83	117	97.889	211.85	263.74	33.0	135.7	247.72	8692	35,786	23,534	8,257	3,400

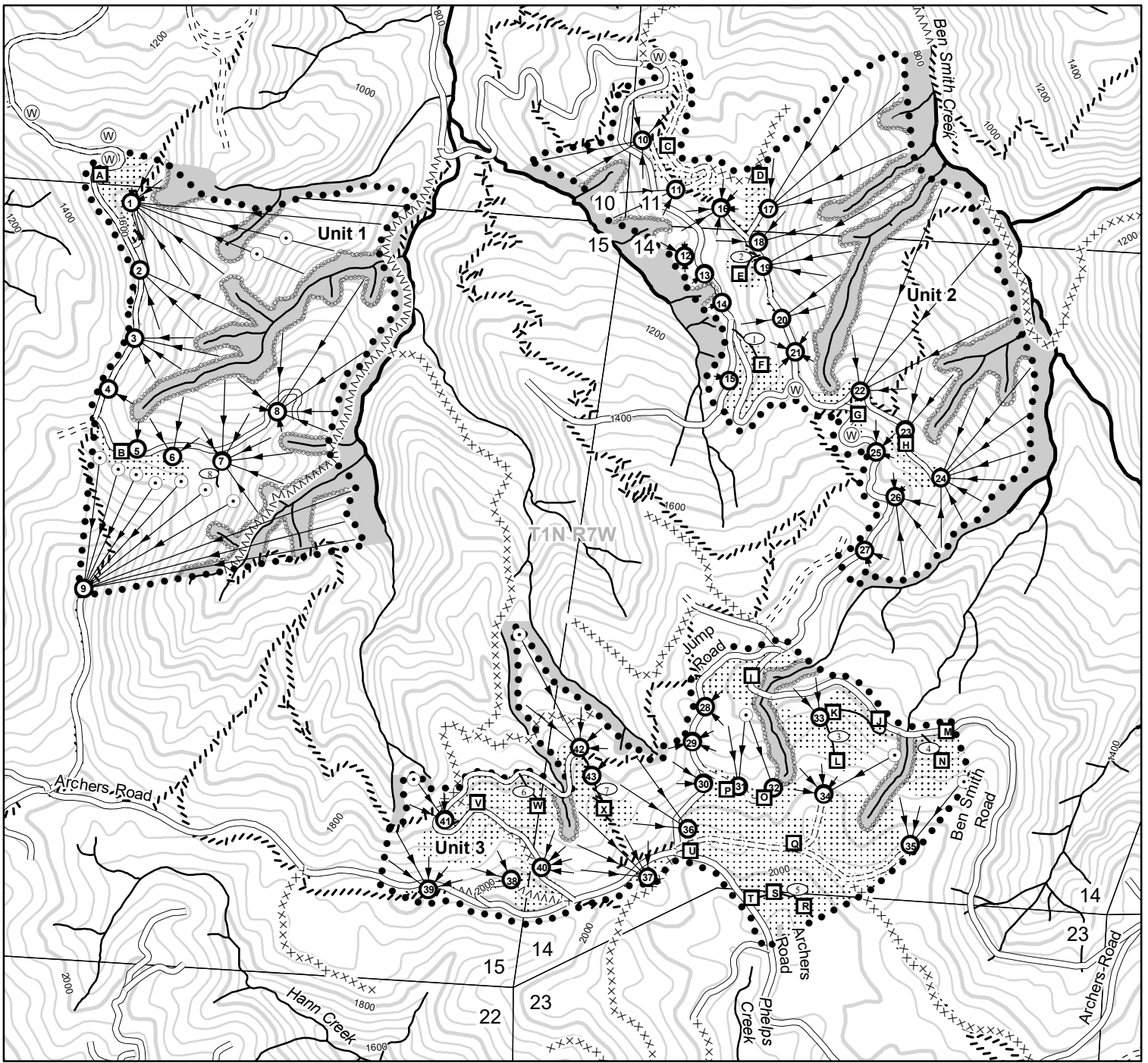
Log Stock Table - MBF
Project: SMITARCH

T01N R07W S14 T0100

T01N R07W S14 T0100

Twp Rge Sec Tract Type Acres Plots Sample Trees Page
01N 07W 14 A3GROW 0100 95.00 27 81 Date 3/31/2020
Time 2:26:19PM

Spp	T	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches										
										MBF	MBF	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23
DF		CO	2		40	1,593	.4	1,586	46.7					282	511	648	145			
DF		CO	3		32	20		20	.6					20						
DF		CO	3		40	1,298	1.1	1,283	37.7			51	330	593	273	36				
DF		CO	4		14	3		3	.1											
DF		CO	4		15	6		6	.2			6								
DF		CO	4		16	5		5	.2			5								
DF		CO	4		17	4		4	.1			3	1							
DF		CO	4		18	11		11	.3			8	2							
DF		CO	4		19	2		2	.1			2								
DF		CO	4		20	36		36	1.1											
DF		CO	4		21	18		18	.5			16	2							
DF		CO	4		22	68		68	2.0			15	20	25						
DF		CO	4		23	52	5.2	49	1.5			8	10	14						
DF		CO	4		24	105	2.6	102	3.0			35	11	7	28	21				
DF		CO	4		25	37		37	1.1			16	11	11						
DF		CO	4		26	23		23	.7			11	9	3						
DF		CO	4		27	18		18	.5			3	3		12					
DF		CO	4		28	4		4	.1			4								
DF		CO	4		30	4		4	.1			4								
DF		CO	4		31	6		6	.2			3		3						
DF		CO	4		32	3		3	.1			3								
DF		CO	4		33	17		17	.5			17								
DF		CO	4		34	4		4	.1				4							
DF		CO	4		35	5		5	.1				5							
DF		CO	4		36	12		12	.3			12								
DF		CO	4		37	5		5	.1				5							
DF		CO	4		38	14		14	.4			9	6							
DF		CO	4		39	7		7	.2				7							
DF		CO	4		40	5		5	.1			5								
DF		CO	4		41	33		33	1.0			24	9							
DF		CO	4		55	9		9	.3			9								
DF		Totals				3,426		3,400	100.0			224	151	429	633	622	547	648	145	
Total All Species					3,426		3,400	100.0			224	151	429	633	622	547	648	145		



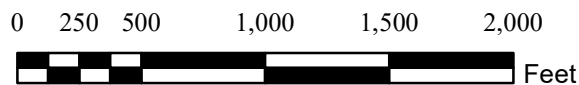
- Timber Sale Boundary
- Surfaced Road
- - - - Unsurfaced Road
- v v v v Abandoned road
- x x x x Blocked road
- //// OHV Trail
- ⊖ Non-project road
- Type-F Stream
- Type-N Stream
- ↑ Cable Corridor
- Lift Tree
- Cable Landing
- Tractor Landing
- ▨ Ground Yarding
- ▨ Stream Buffer
- Sections
- ⊙ Waste Area
- 200' Contour
- 40' Contour

LOGGING PLAN
 FOR TIMBER SALE CONTRACT
 TL-341-2021-W00317-01
 SMITH & ARCHERS
 PORTIONS OF SECTIONS
 10, 11, 14, 15, 23, T1N R7W, W.M.
 TILLAMOOK COUNTY, OREGON

Tillamook District GIS
 May, 2020

This product is for informational use and may not be
 suitable for legal, engineering, or surveying purposes.

1:12,000
 1 inch = 1,000 feet



APPROXIMATE NET ACRES

UNIT 1	86 ACRES (MC)
UNIT 2	107 ACRES (MC)
UNIT 3	95 ACRES (MC)
TOTAL	288 ACRES