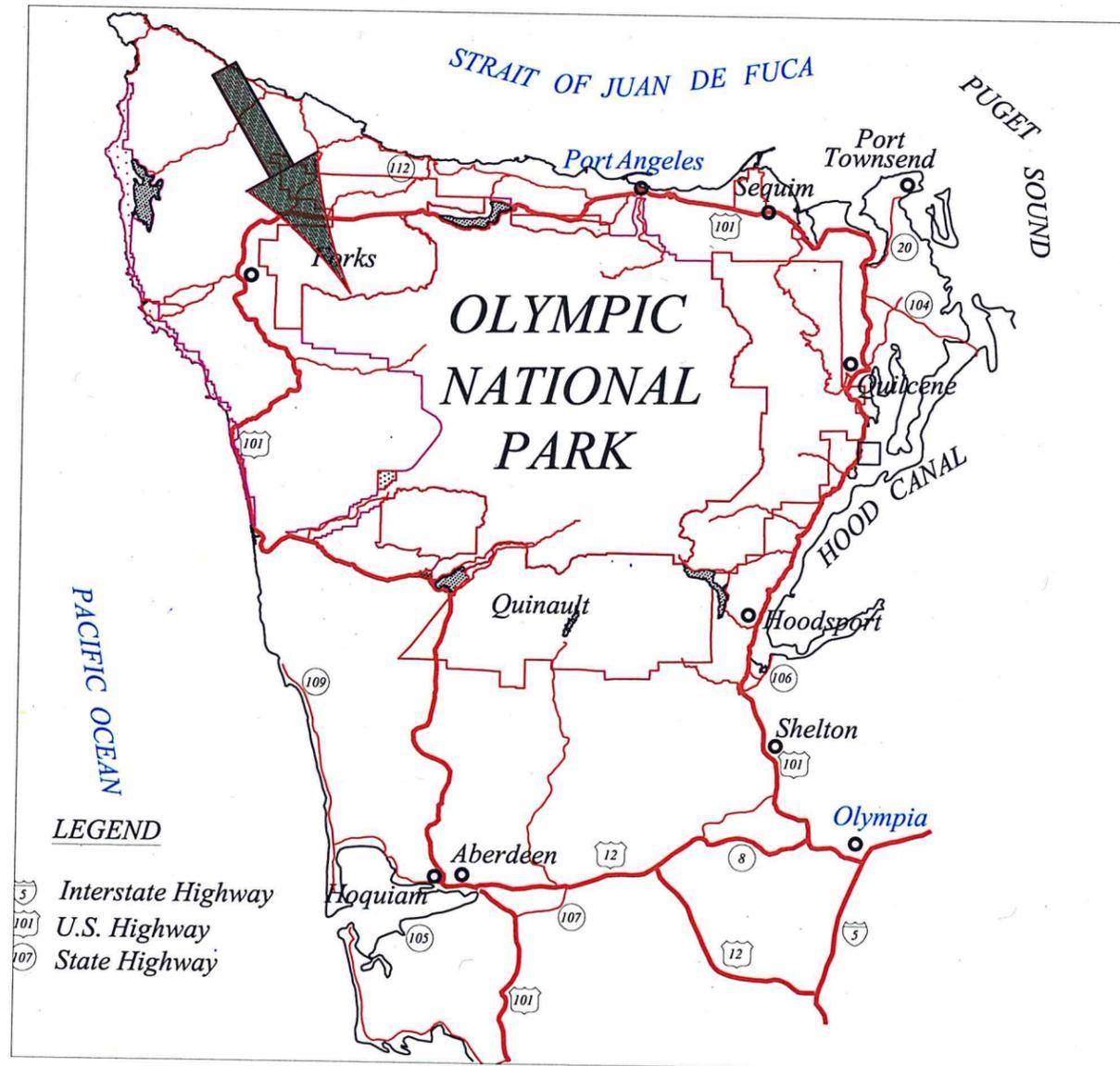


USDA-Forest Service Region 6
Olympic National Forest
RECONSTRUCTION PLANS FOR:
RAIN TIMBER SALE

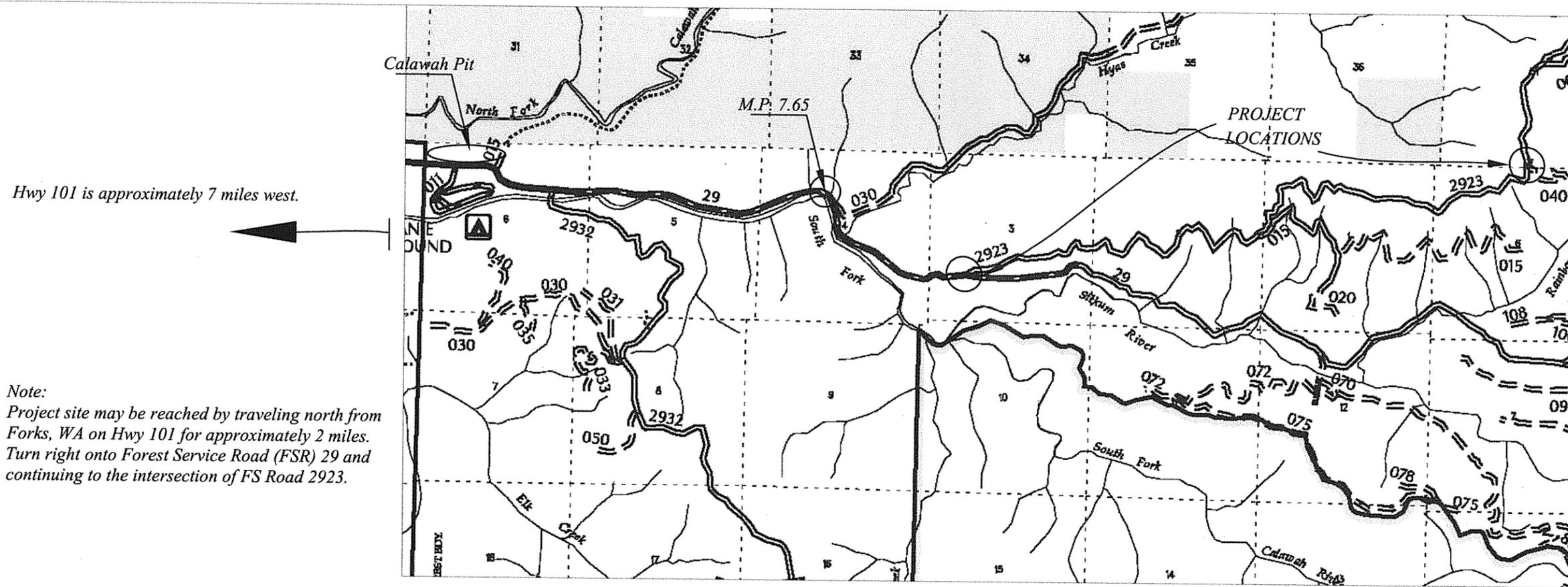
INDEX TO SHEETS

Road List			
Road No.	M.P.	Type of work	Units
2900000	7.65	Road Reconstruction	US Customary
2923000	0.00 - 5.00	Road Reconstruction	US Customary
2923040	0.00 - 0.10	Road Reconstruction	US Customary

SHEET NO.	SHEET TITLE
1 Of 13	Title Sheet
2 Of 13	Vicinity Map & Traffic Control Plan
3 Of 13	Estimate of Quantities FSR 2900000
4 Of 13	Estimate of Quantities FSR 2923000
5 Of 13	Estimate of Quantities FSR 2923040
6 Of 13	Culvert Construction Details
7 Of 13	General Notes & Temporary Erosion Control Details
8 Of 13	Typical Dewatering & Sediment Control Plan
9 Of 13	Road Reconstruction Details
10 Of 13	New Cut Slope, Curve Widening and Armored Grade Dip
11 Of 13	Work List FSR 2900000
12 Of 13	Work List FSR 2923000
13 Of 13	Work List FSR 2923040

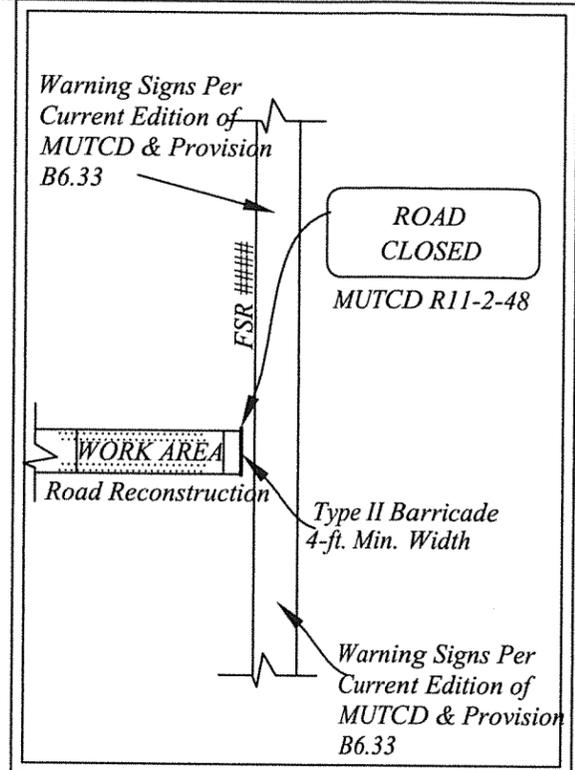


DESIGNED BY:	Art Gibson	06/12/15
REVISED BY:	<i>Shannon R. Henriquez</i>	4-11-16
	Engineering Technician	Date
REVIEWED FOR TECHNICAL ADEQUACY:	<i>Shannon R. Henriquez</i>	4/15/16
	Shannon R. Henriquez, Preconstruction Engineer	Date
RECOMMENDED BY:	<i>William Shelmerdine</i>	4/24/16
	William Shelmerdine, Forest Engineer	Date
APPROVED BY:	<i>Dean R. Millett</i>	
	Dean R. Millett, District Ranger	Date



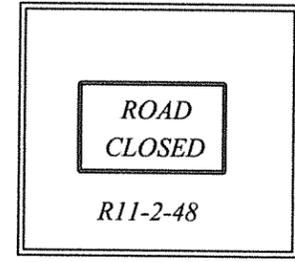
Hwy 101 is approximately 7 miles west.

Note:
Project site may be reached by traveling north from Forks, WA on Hwy 101 for approximately 2 miles. Turn right onto Forest Service Road (FSR) 29 and continuing to the intersection of FS Road 2923.



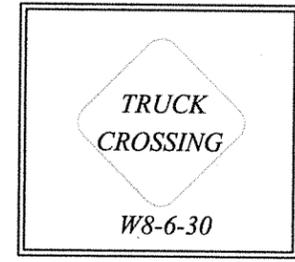
TRAFFIC CONTROL PLAN FOR ROAD CLOSURE

- 1) Notify CO 10 days before road closure under Supplemental Specification 156.05. Operations at all other times will accommodate traffic.
- 2) Traffic control devices shall be maintained for duration of closure.
- 3) All Signs shall be retroreflective or illuminated to show the same shape and similar color both day and night, unless specifically stated otherwise in the contract or MUTCD.
- 4) All signs shall conform with the current edition of MUTCD Sections 2A-11, through 2A-16, 6B-1, and 6B-2; as well as contract provision B6.33.
- 5) Post and maintain R11-2-48 signs on both sides of road 2923000 & at the beginning of the 2923040.
- 6) Post and maintain appropriate warning signs (W8-6-30) for trucks entering the roadway at 500' and 1000' on either side of the intersections of FS Road 29 & FS Road 2923 and FS Road 2923 & FS Road 2923040.



NOTE:
Signs, locations, and installation details per MUTCD (Current Edition)

② ROAD CLOSED SIGN
R11-2-48



NOTE:
Signs, locations, and installation details per MUTCD (Current Edition)

② TRUCK CROSSING SIGN
W8-6-30

ESTIMATE of QUANTITIES

*Refer to the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects / FP-03
US Customary Units*

*Project Name: Rain Timber Sale
FSR 2900000*

2900000

MP-BOP 7.65

MP-EOP 7.65

<i>Item No.</i>	<i>Description</i>	<i>Pay Unit</i>	<i>Quantities</i>	<i>Remarks</i>
15101	Mobilization	Lump Sum	1	<i>Includes all work needed to access sites. Cleaning of all equipment is required prior to entering National Forest Land.</i>
15401	Contractor Testing	Lump Sum	1	<i>Testing required on all pipe installations.</i>
15713	Soil Erosion & Pollution Control	Lump Sum	1	<i>Maintenance for erosion control devices is an indirect cost to this pay item.</i>
20105	Clearing & Grubbing, Disposal of Tops & Limbs F, Logs F, Stumps F	Lump Sum	1	<i>Clear and Grub all vegetation from the work area.</i>
20304	Remove Asphalt	Lump Sum	1	<i>Removed asphalt shall become property of the Purchaser and shall be removed from Government land. Includes Asphalt Cutting.</i>
20304A	Remove Existing Culvert	Lump Sum	1	<i>Culvert becomes the property of the Puchaser and shall be dispose of off National Forest Lands. Dispose of unsuitable material at designated site in Calawah Pit.</i>
32232	Haul and Place Stockpiled Aggregate, Compaction Method B	Cubic Yard	30	<i>Government source is Calawah Pit on FSR 2900015. Grading and shaping are indirect costs to this pay item. Roller compaction as specified in supplemental specification 322.05. 15 C.Y. are for pipe install.</i>
60201A	24 In. Pipe Culvert	Linear Foot	60	<i>Pipe material can be either galvanized CMP or smooth bore Plastic. Bands, bedding and achor are indirect to this pay item. Down pipe for plastic shall have a Full Elbow. Compaction & Testing required. Riprap for headwall shall be commercial source, weed free and is an indirect cost to this pay item. Aggregate for pipe bedding and some backfill are included in item 32232.</i>
62530	Seeding & Mulching, Dry Method	Lump Sum	1	<i>Seeds will be government furnished @ 15 lbs/Ac. Notify F.S. 7 days prior to use. Seed all disturbed areas and disposal site.</i>



Unit / Region :

USDA - Forest Service - R6

National Forest :

Olympic

District :

Pacific

Project Name :

Rain Timber Sale
Road Reconstruction

Sheet Name :

Estimate of Quantities
FSR 2900

Sheet Number :

3 Of 13

ESTIMATE of QUANTITIES

Refer to the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects / FP-03
US Customary Units

Project Name: Rain Timber Sale FSR 2923000		2923000		
	MP-BOP	0.00		
	MP-EOP	5.00		
Item No.	Description	Pay Unit	Quantities	Remarks
15101	Mobilization	Lump Sum	1	Includes all work needed to access sites. Cleaning of all equipment is required prior to entering National Forest Land.
15401	Contractor Testing	Lump Sum	1	Testing required on all pipe installations.
15713	Soil Erosion & Pollution Control	Lump Sum	1	Maintenance for erosion control devices is an indirect cost to this pay item.
20105	Clearing & Grubbing, Disposal of Tops & Limbs F, Logs F, Stumps F	Lump Sum	1	Includes brushing of roadway (5' minimum clearing width beyond existing edge of subgrade or centerline of ditch, whichever is greater) and 8 trees at mile post 1.37 (realignment).
20490	Roadway excavation, Placement Method End Haul	Lump Sum	1	Includes excavation & sod removal noted on the work list. Refer to supplemental specification 204 for excavation, compaction, and finishing requirements. Dispose of unsuitable material at designated site stated in the Work List.
25101	Placed riprap, Class 4	Cubic Yard	15	Machine Placed Riprap at MPs 3.91 and 4.90
30322	Road Reconditioning, Compaction Method B	Mile	5	Work consists of reconditioning ditches, shoulders, roadbeds and surfacing. Roller compaction as required in the FP-03 specification 303 (refers to 204.11). Sod removal on road shoulders under this item and 20190.
32232	Haul and Place Stockpiled Aggregate, Compaction Method B	Cubic Yard	301	Government source is Calawah Pit on FSR 2900015. Grading and shaping are indirect costs to this pay item. Roller compaction as specified in supplemental specification 322.05. Include material for 4" surfacing at 7 curve alignments on worklist plus surfacing and pipe bedding at new culverts
60201	18 In. Pipe Culvert	Linear Foot	188	Pipe material can be either galvanized CMP or smooth bore Plastic. Bands and bedding are indirect to this pay item. Down pipe for plastic shall have a Full Elbow. Compaction & Testing required. Riprap for headwall & apron shall be commercial source, weed free and is an indirect cost to this pay item. 10 cubic yards of pipe bedding for each site is included in item 3232..
60201A	24 In. Pipe Culvert	Linear Foot	270	Pipe material can be either galvanized CMP or smooth bore Plastic. Bands and bedding are indirect to this pay item. Down pipe for plastic shall have a Full Elbow. Compaction & Testing required. Riprap for headwall & apron shall be commercial source, weed free and is an indirect cost to this pay item. 10 cubic yards of pipe bedding for each site is included in item 32232.
60709	Cleaning Culverts in Place	Lump Sum	1	Clean pipe inlet and outlet as specified in the work list.
62530	Seeding & Mulching, Dry Method	Lump Sum	1	Seeds will be government furnished @ 15 lbs/Ac. Notify F.S. 7 days prior to use. Seed all disturbed areas and disposal site at mile post 0.05 .



Unit / Region :
USDA - Forest Service - R6

National Forest :
Olympic

District :
Pacific

Project Name :
Rain Timber Sale
Road Reconstruction

Sheet Name :
Estimate of Quantities
FSR 2923

Sheet Number :
4 Of 13

ESTIMATE of QUANTITIES

Refer to the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects / FP-03 US Customary Units

Project Name: Rain Timber Sale
FSR 2923040

2923040

MP-BOP 0.00

MP-EOP 0.10

Item No.	Description	Pay Unit	Quantities	Remarks
15101	Mobilization	Lump Sum	1	Includes all work needed to access sites. Cleaning of all equipment is required prior to entering National Forest Land.
15713	Soil Erosion & Pollution Control	Lump Sum	1	Maintenance for erosion control devices is an indirect cost to this pay item.
20105	Clearing & Grubbing, Disposal of Tops & Limbs F, Logs F, Stumps F	Lump Sum	1	Includes brushing of roadway (5' minimum clearing width beyond existing edge of subgrade or centerline of ditch, whichever is greater).
20420	Drainage Excavation, Type Cross Drain	Each	1	Construct cross drain per specifications in the Work List. Excavated material shall be placed on the near side approach to block water from entering the specified road.
20490	Roadway Excavation, Placement Method Scatter	Lump Sum	1	Opening road, removing road closures, and ditch reconditioning/reconstruction are indirect costs to this pay item. Work consists of reconditioning ditches, shoulders, roadbeds, and surfacing. Roller compaction as specified in supplemental specification 303 (refers to 204.11).
30322	Road Reconditioning, Compaction Method B	Mile	0.10	Opening road, removing road closures, and ditch reconditioning/reconstruction are indirect costs to this pay item. Work consists of reconditioning ditches, shoulders, roadbeds, and surfacing. Roller compaction as specified in supplemental specification 303 (refers to 204.11).
32232	Haul and Place Stockpiled Aggregate, Compaction Method B	Cubic Yard	78	Government Source is Calawah Pit. Grading and shaping are indirect costs to this pay item. Roller compaction as required the FP-03 specification 322.05. .
62530	Seeding & Mulching, Dry Method	Lump Sum	1	Seeds will be government furnished @ 15 lbs/Ac. Notify F.S. 7 days prior to use.



Unit / Region :

USDA - Forest Service - R6

National Forest :

Olympic

District :

Pacific

Project Name :

Rain Timber Sale
Road Reconstruction

Sheet Name :

Estimate of Quantities
FSR 2923040

Sheet Number :

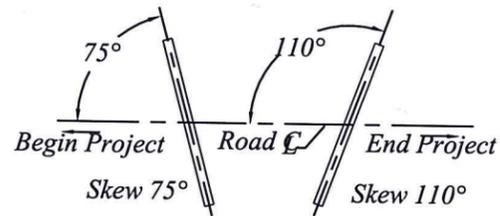
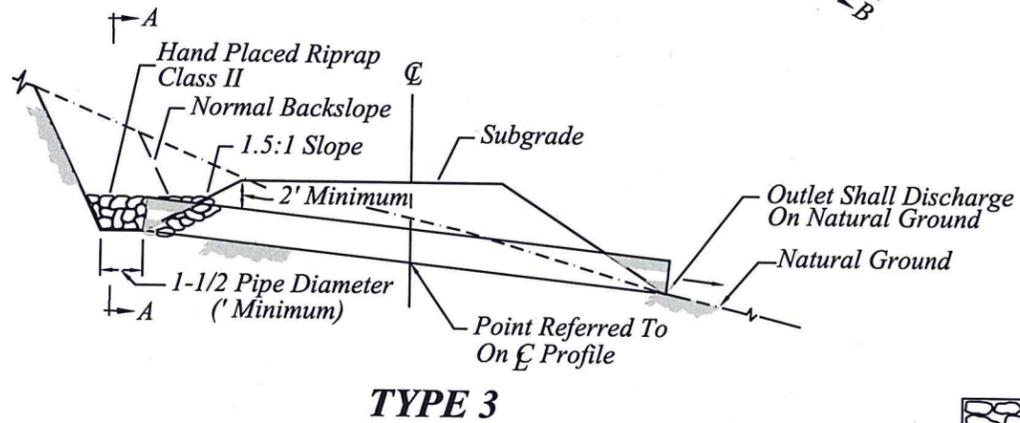
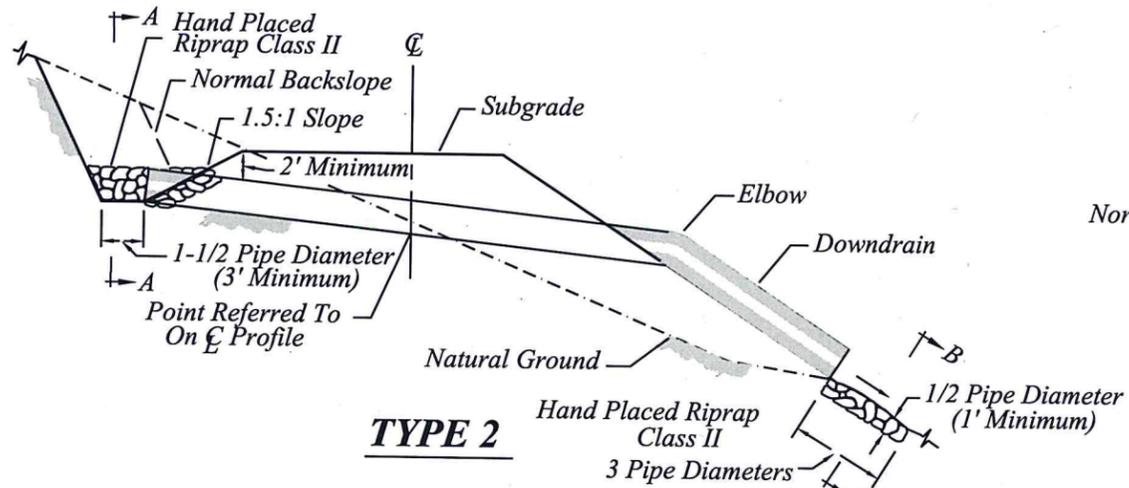
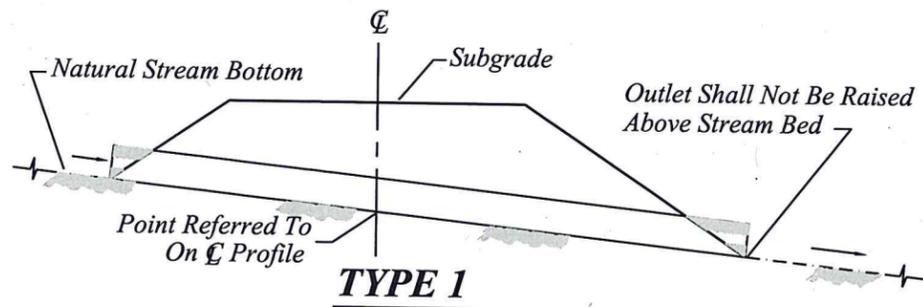
5 Of 13

CULVERT CONSTRUCTION DETAILS

NOT TO SCALE

GENERAL NOTES

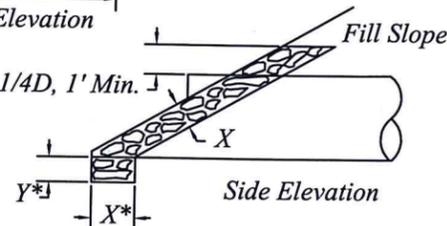
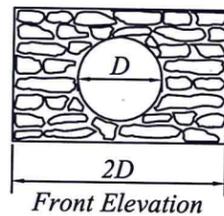
- 1) All downdrains 36" and larger shall be half buried.
- 2) All bands shall be 12" minimum width.
- 3) Dimple bands shall not be used on elbows or down drains.
- 4) All steel culverts shall be galvanized coated.
- 5) Riprap quantities shall be incidental to pipe installation unless a pay item is designated in the Schedule of Items.
- 6) Ditch dam shall be eliminated whenever drainage can enter the culvert from both sides. Adjust riprap headwall accordingly.



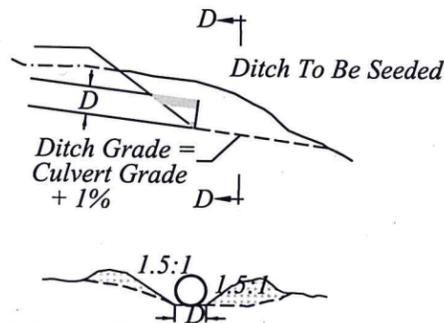
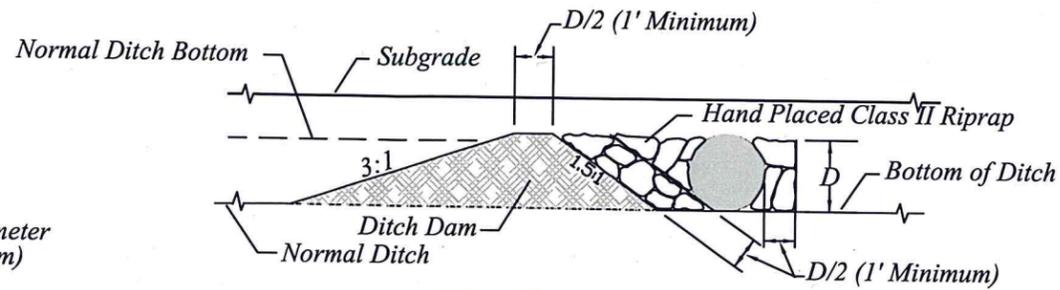
SKREW DIAGRAM

Note: In narrow channels, adjust riprap to stream

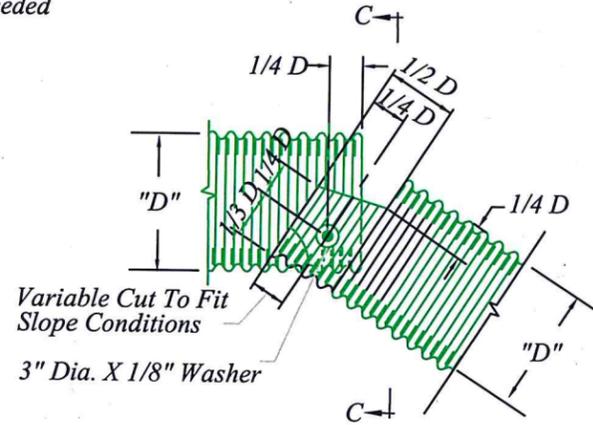
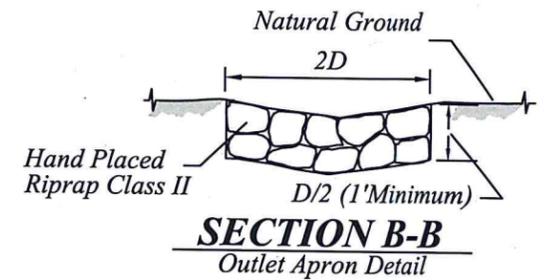
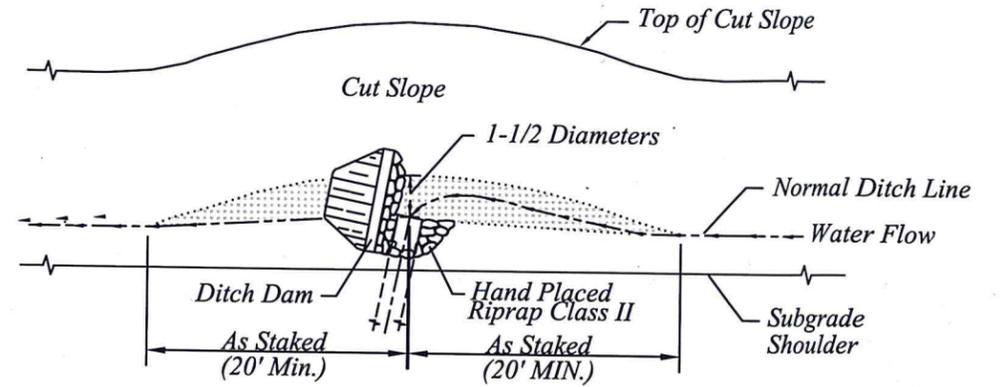
D	X	Y
18" - 24"	12"	0
30" - 60"	12"	12"
60" - 96"	18"	18"
MORE THAN 96"	24"	24"



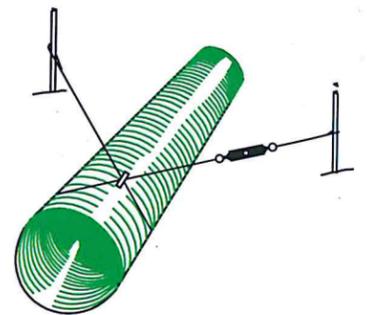
HAND-PLACED RIPRAP HEADWALLS



SECTION D-D
Outlet Ditch Details



SECTION C-C
TURNER ELBOW DETAILS



SPECIFICATIONS FOR ANCHORS

- 1) Anchors are not required for the first 20' of down drains.
- 2) One anchor shall be required for each additional 20' or less.
- 3) Anchor posts shall be 6' galvanized steel fence posts. Posts shall be set 3' or more in the ground.
- 4) Anchor cable shall be 3/8" wire rope.
- 5) Cable clamps shall be galvanized steel.
- 6) Turnbuckles shall be 12" galvanized steel.

CULVERT ANCHOR DETAILS



Unit / Region :

USDA - Forest Service - R6

National Forest :

Olympic

District :

Pacific

Project Name :

Rain Timber Sale
Road Reconstruction

Sheet Name :

Culvert Construction Details

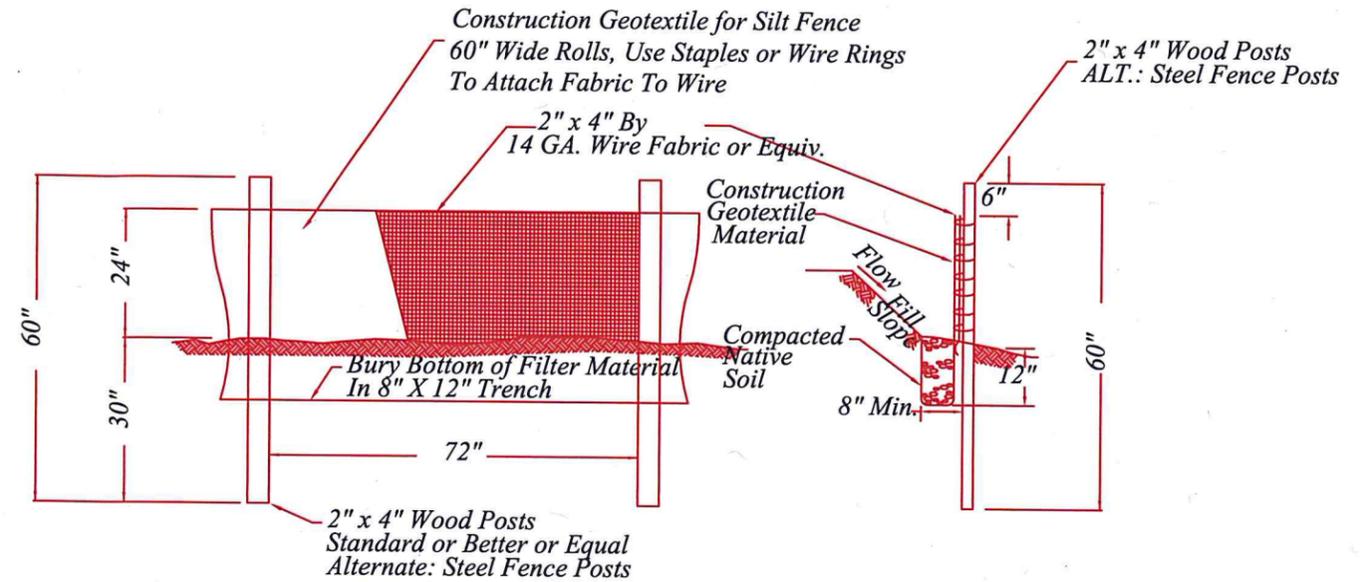
Sheet Number :

6 Of 13

TEMPORARY EROSION CONTROL
DETAILS

GENERAL NOTES:

- 1) Should weather conditions during project operations generate and transport substantial sediment to the stream channel, cease operations until the weather conditions improve.
- 2) An erosion control plan shall be submitted by the Purchaser per Specification 15713. The erosion control plan shall include all necessary drawings and documentation to describe the Purchaser's ability to prevent sediment from reaching a live stream.
- 3) Item 62530, seed shall be applied prior to straw mulch. Seed will be furnished by the government and applied at a rate of 15 lbs/Acre. Mulching must also be certified weed free straw or mulch. Mulch at the rate of 4000 lbs per acre. Seed and mulch in accordance with Specification 625 all areas disturbed by construction activities.
- 4) Utilize rock found on site during excavation if it meets specification.
- 5) Excavated areas and disposal sites shall be sloped to drain, seeded and mulched.
- 6) Have a hazardous spill clean-up kit on site available during equipment operation.
- 7) Merchantable timber removed during roadway cleaning operations shall be decked adjacent to roadway, decking areas shall be located by the CO. Utilizations standards are: all Douglas Fir, Hemlock, other coniferous species and Red Alder that are 8 feet long and a minimum 6 inch diameter inside the bark at the small end.
- 8) Clearing and Brushing - Trim tree branches that extent over the road surface and shoulders to attain a clear height of 20 feet from top of cut to toe of fill.



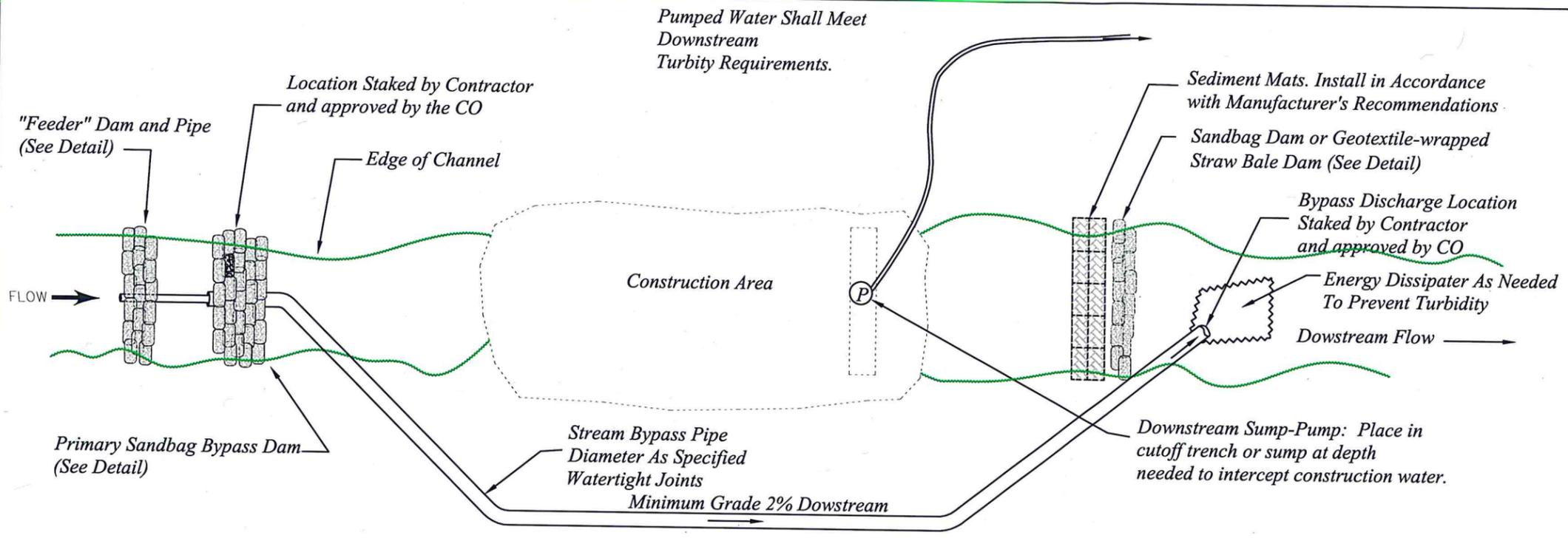
SILT FENCE STAKING DETAIL
NOT TO SCALE

NOTE:

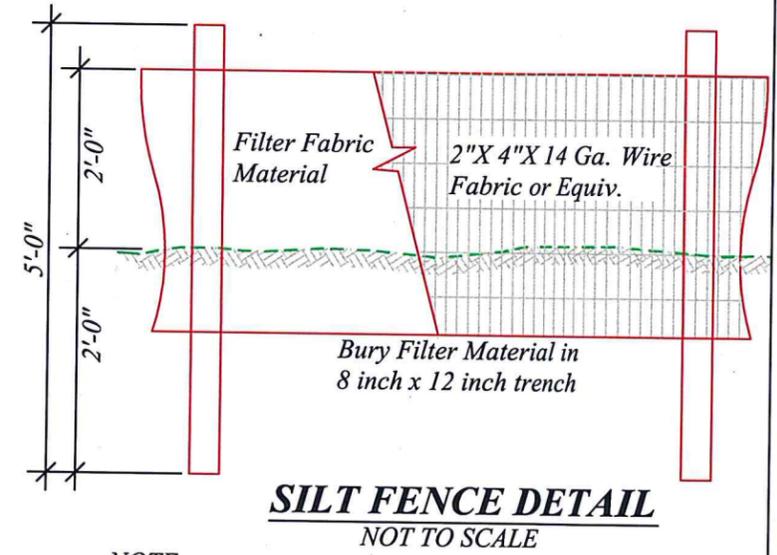
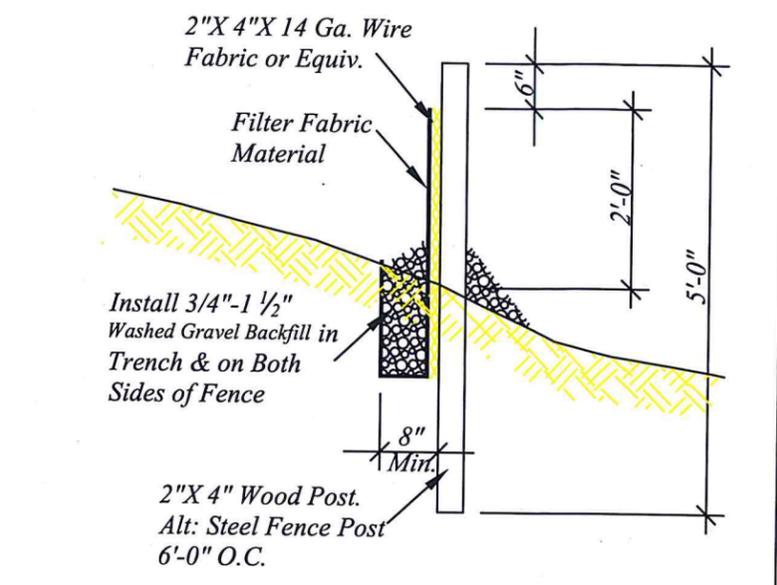
- 1) Silt fence shall be installed at the locations where necessary to prevent silt runoff.
- 2) Minor grading may be utilized in lieu of silt fences at some locations to prevent silt runoff from leaving the project site. Work shall be an indirect cost to other items.
- 3) Silt fence joints shall be minimized. When necessary, silt fence shall be spliced together only at a support post, with a minimum of 24" overlap.
- 4) Repair of damaged silt fence and removal of silts against fence shall be an indirect cost to soil erosion and pollution control.
- 5) Silt fence shall be installed concurrently with clearing and grubbing.
- 6) Work shall be done under dry conditions. A contingency plan will be submitted prior to beginning construction activities, along with an erosion control plan.
- 7) Contractor shall protect existing vegetation and shall confine excavation to within the clearing limits.

MATERIALS:

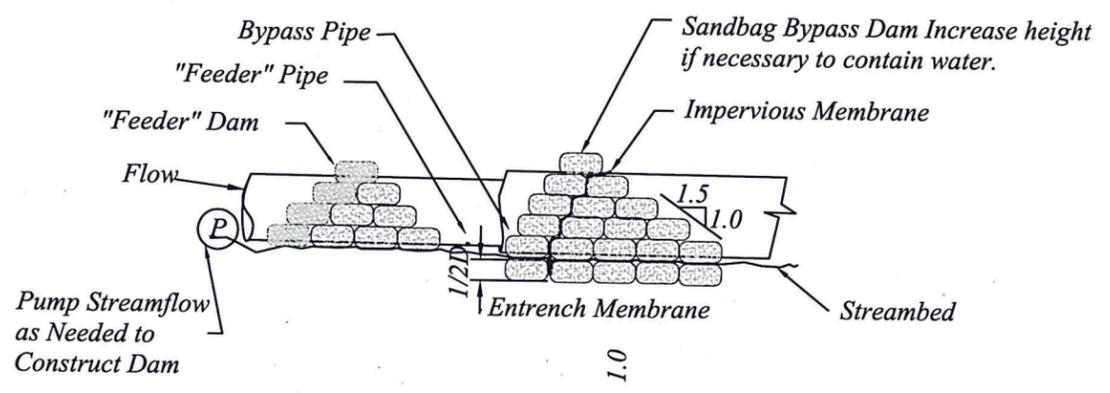
- 1) Construction geotextile for silt fence shall be Type V - C



PLAN VIEW
TYPICAL DEWATERING & SEDIMENT CONTROL PLAN
 NOT TO SCALE

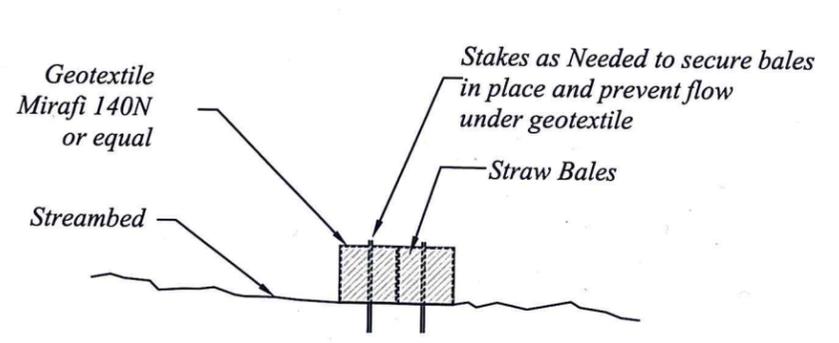


- NOTE:**
1. Silt fences will be installed wherever necessary to prevent silt from leaving the construction site.
 2. Minor grading may be utilized in lieu of silt fences at some locations if approved by the COR.
 3. Silt fence joints shall be minimized. When necessary splices shall be made at posts only with a minimum 20" overlap.
 4. Maintenance of silt fences shall be done as necessary to maintain the integrity of the system.



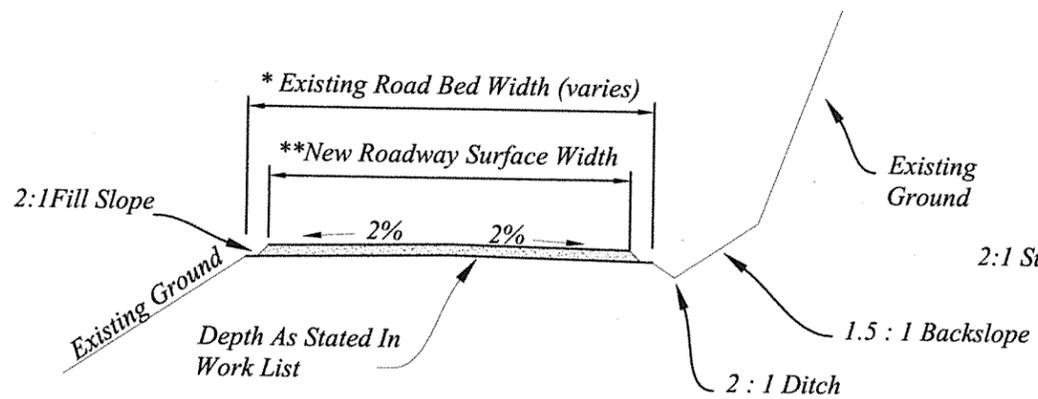
ELEVATION VIEW AT STREAMBED INVERT
SANDBAG BYPASS DAM
 NOT TO SCALE

The volume of water expected at the dam is unknown. Size pipe or use a combination of siphoning and pumping to divert water around excavation to a suitable treatment area or directly back into stream if approved by the COR.

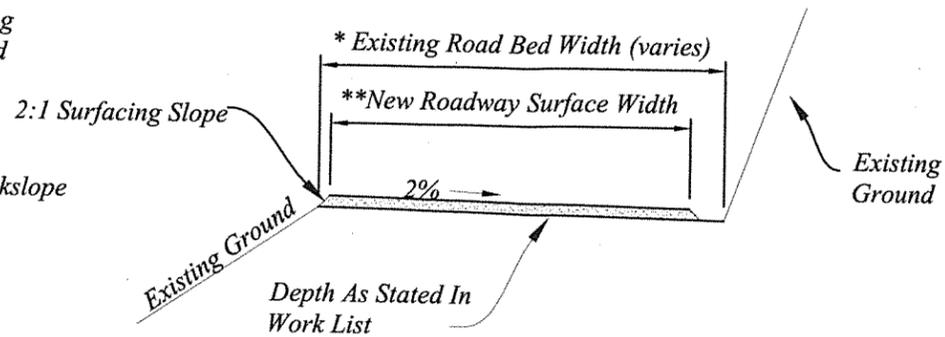


ELEVATION VIEW
GEOTEXTILE-WRAPPED STRAW BALE DAM
 NOT TO SCALE

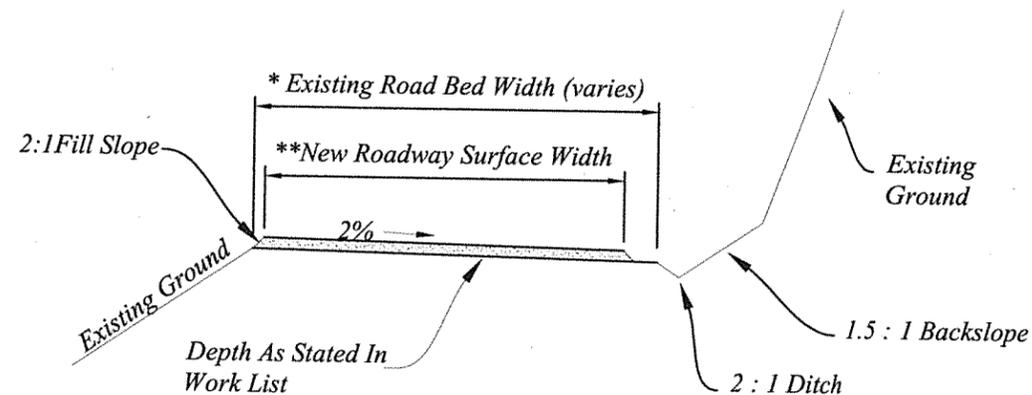
** THIS TYPICAL IS PROVIDED TO THE PURCHASER AS A REFERENCE. PURCHASER SHALL DESIGN A SITE SPECIFIC DEWATERING PLAN IF REQUIRED AND SUBMITTED TO THE C.O. FOR APPROVAL WITHIN THE TIME REQUIREMENT STATED IN THE CONTRACT.



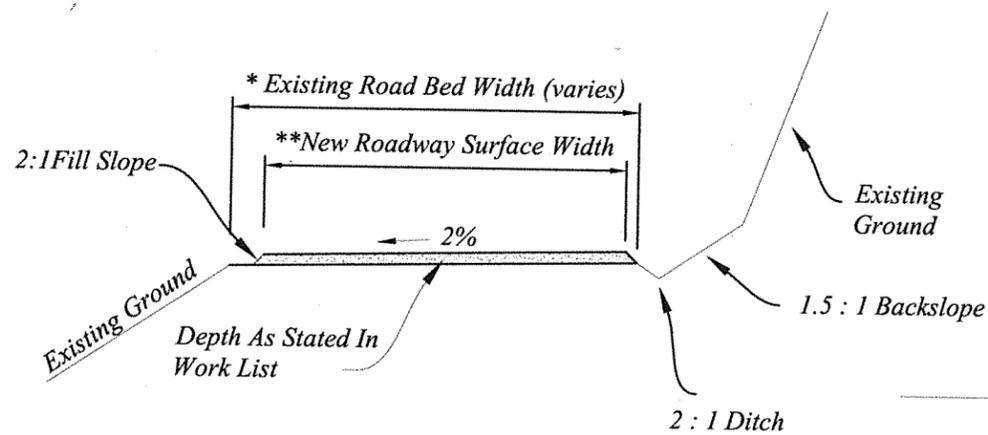
TYPICAL GRADING DETAIL - CROWNED
NOT TO SCALE



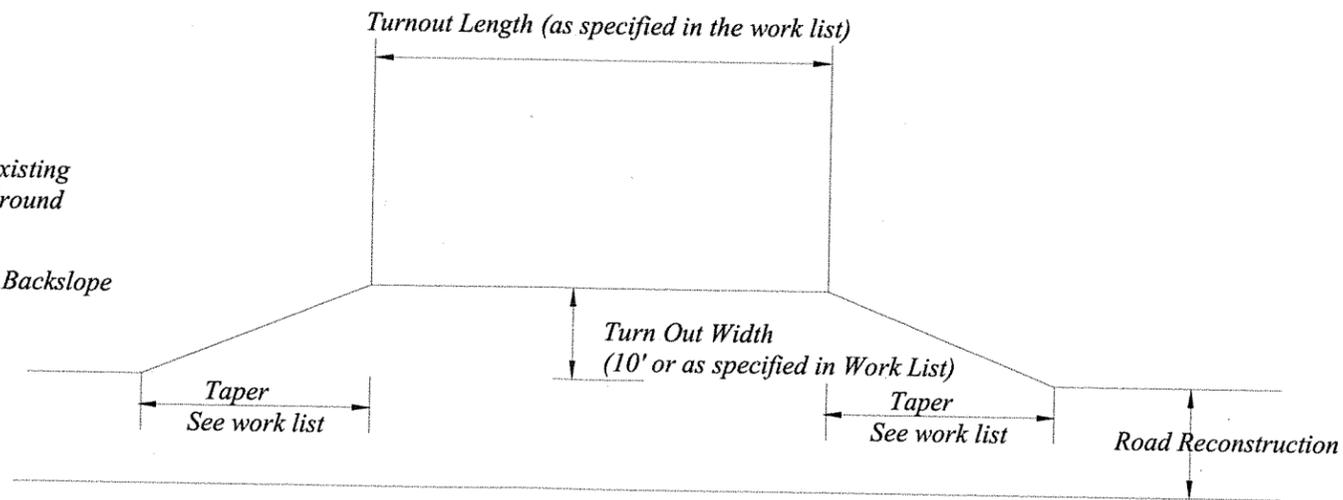
TYPICAL GRADING DETAIL - INSLOPE
NOT TO SCALE



TYPICAL GRADING DETAIL - INSLOPE W/DITCH
NOT TO SCALE



TYPICAL GRADING DETAIL - OUTSLOPE
NOT TO SCALE



ROAD TURN OUT DETAIL
NOT TO SCALE

- NOTES:**
- 1) Road typicals shall be used unless otherwise specified in the plans or work list.
 - 2) For insloped road sections, extra width of subgrade not used for surfacing construction shall be left on the cut slope side of the road to be used as a ditch when applicable.
 - 3) Inslope or Outslope with no ditch is only permitted if stated in the Work List.
 - 4) See work list for site specific widening and roadway surface widths.
 - 5) *Recondition/Shape the full Existing Road Bed, shoulders and ditches (width varies, 14' minimum for single lane unless specified). Remove berms obstructing positive road drainage.
 - 6.) ** New Roadway Surface Width shown on worklist.



Unit / Region :
USDA - Forest Service - R6

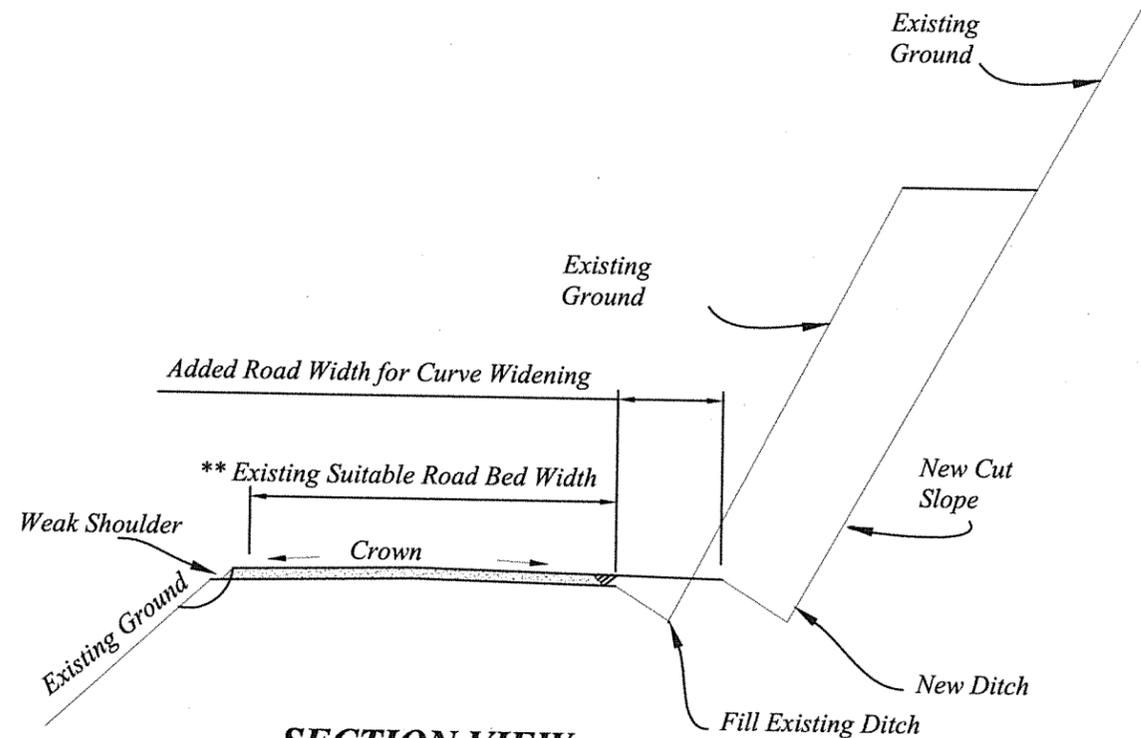
National Forest :
Olympic

District :
Pacific

Project Name :
**Rain Timber Sale
Road Reconstruction**

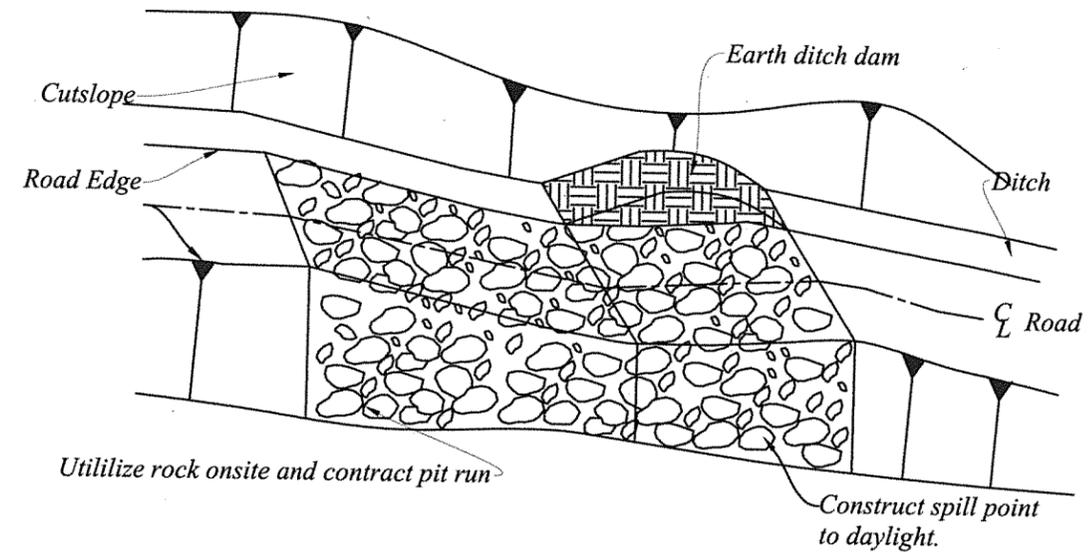
Sheet Name :
Road Reconstruction Details

Sheet Number :
9 Of 13

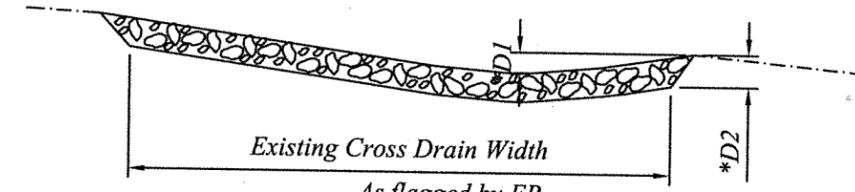


**SECTION VIEW
CURVE WIDENING UPHILL, NEW CUT SLOPE OPTION**

The new edge of road is staked at mile post 1.2.
Slope stakes are in place between mile post 1.37 and 1.40 to define excavation boundary to achieve new road width. Match existing cut slopes and re-establish new ditch.



**PLAN VIEW
ARMORED GRADE DIP**

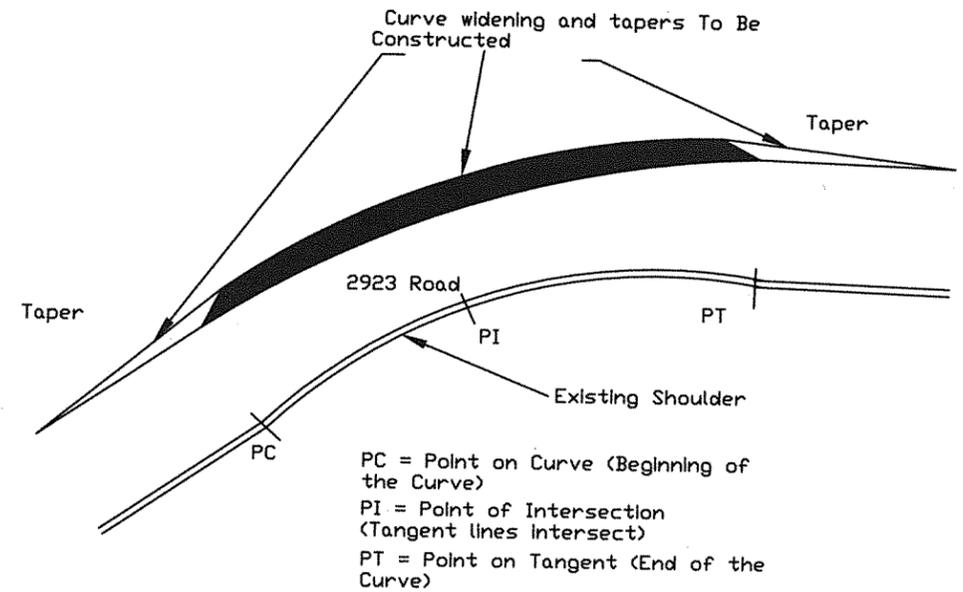


The cross drain will be lined with item 32222

*D1 - 6", maybe adjusted to provide adequate vertical clearance for traffic if specified in the contract.
*D2 - varies, depends on the depth of existing cross drains

**SECTION VIEW
ARMORED GRADE DIP**

TYPICAL CURVE WIDENING



PC = Point on Curve (Beginning of the Curve)
PI = Point of Intersection (Tangent lines intersect)
PT = Point on Tangent (End of the Curve)

Sta./M.P.	Proposed Width (FT)			Notes	Taper Length (FT)
	PC	PI	PT		
0.35	22.3	22.3	22.3	Remove turf & Resurface	Both Ends
0.6	22.9	22.9	22.9	Remove turf & Resurface	25', As staked
0.7	25.4	25.4	25.4	Remove turf & Resurface	25', As staked
1.2	15	15	15	Move ditch and widen	N/A, As staked
1.3	22.2	22.2	22.2	As staked	As staked
1.37-1.40	As staked			Establish new C-line (Cut)	As staked
2.4	23.7	23.7	23.7	Remove turf & Resurface	As staked



Unit / Region :
USDA - Forest Service - R6

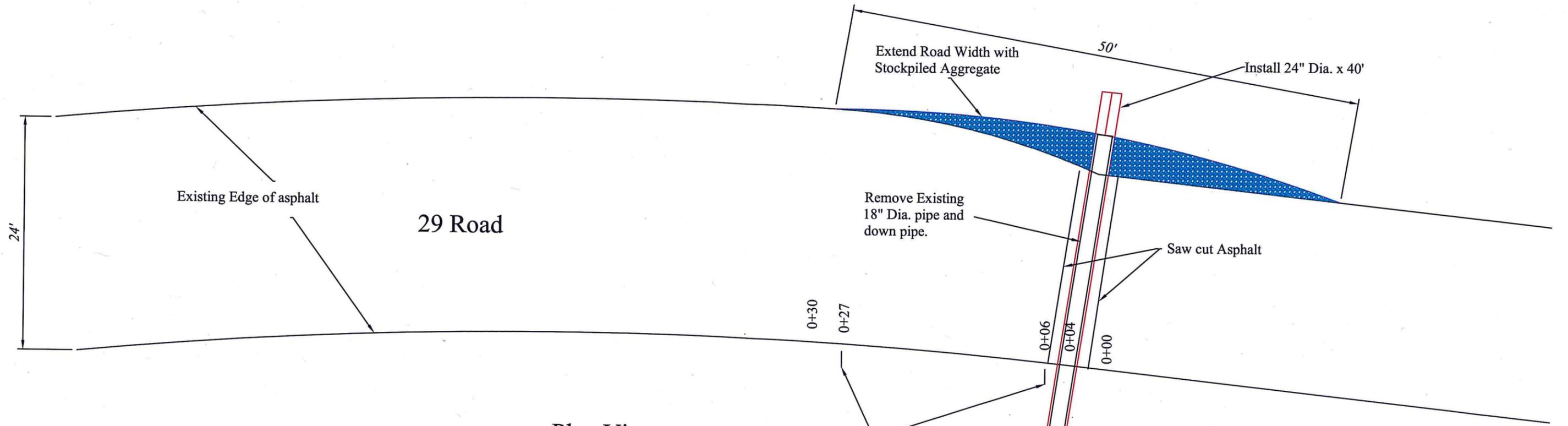
National Forest :
Olympic

District :
Pacific

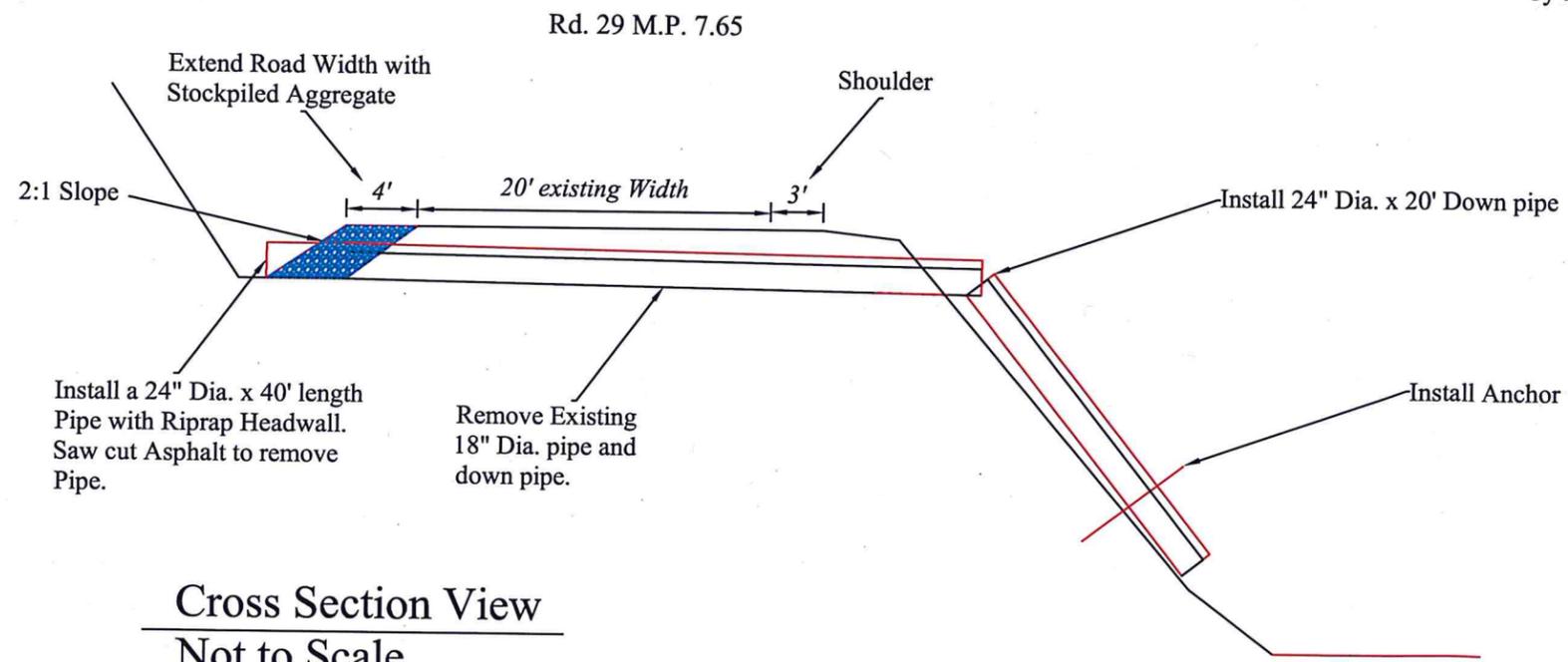
Project Name :
**Rain Timber Sale
Road Reconstruction**

Sheet Name :
**New Cut Slope, Curve Widening and
Armored Grade Dip**

Sheet Number :
10 Of 13



Plan View
Not to Scale



Cross Section View
Not to Scale



Unit / Region :
USDA - Forest Service - R6

National Forest :
Olympic

District :
Pacific

Project Name :
**Rain Timber Sale
Road Reconstruction**

Sheet Name :
**Work List
FSR 29 - 1 of 1**

Sheet Number :
11 Of 13

MILE POST	REQUIREMENT	Excavation (C.Y.)	Rock Quan. Calawah Pit (C.Y.)	Pit Run (C.Y.)	MP Staked on the Ground	New Culvert	CULVERT INSTALLATION/IMPROVEMENTS	Riprap In/Out (C.Y.)
0.00	Project Begins at FSR 29 M.P. 8.71		Agg. Surf. (C.Y.)				Culvert Size	
	BOP, Begin reconstruction of FSR 2923 Begin brushing, clearing, and grubbing. Clearing limit 5' horizontal distance from edge of existing subgrade. Subgrade width will vary for different road prism, curve widening, or turnouts. Clean all existing culverts. Purchaser will be responsible for replacing any government construction stakes destroyed by their operations. Disposal of removed culverts will be the responsibility of the Purchaser and will be disposed of off Forest Service land.							
	Begin road reconditioning, including ditch, shoulder and roadbed. Unless otherwise specified, road subgrade and surface shall be shaped and graded with the appropriate prism to provide adequate surface drainage. (5.0 Miles)							
	Roadway excavation. The work applies to the entire reconstruction portion (5.0 miles) and shall be used for any excavation need that can not be adequately covered by Pay Item 30322, Road Reconditioning. Lump Sum							
0.35	Existing curve is 82 feet long. Required width for lowboy access is 22.3 feet. PC - PI - PT are staked for left and right shoulders. The stakes identify ER/EXC LIMIT (Edge of Road/Excavation Limit). The begin and end taper points are staked. Remove sod and haul to disposal site at M.P. 0.05. Place embankment in a 2'X2'X1' hole in left wheeltrack. Place a 4 inch lift of Stockpiled Aggregate surfacing on the entire length of curve plus tapers.	16	30		Yes			
0.60	Existing curve is 102 feet long. Required width for lowboy access is 22.9 feet. PC - PI - PT are staked for left and right shoulders. The stakes identify ER/EXC LIMIT (Edge of Road/Excavation Limit). The begin and end taper points are staked. Remove sod and haul to disposal site at M.P. 0.05. Place a 4 inch lift of Stockpiled Aggregate surfacing on the entire length of curve plus tapers.	15	37		Yes			
0.70	Existing curve is 104 feet long. Required width for lowboy access is 25.4 feet. PC - PI - PT are staked for left and right shoulders. The stakes identify ER/EXC LIMIT (Edge of Road/Excavation Limit). The begin and end taper points are staked. Remove sod and haul to disposal site at M.P. 0.05. Reconstruct head wall and ditch dam and armor ditchline to widen roadway from inlet uphill LEFT (40' x 3' x 0.5') with Class 3 riprap. Place a 4 inch lift of Stockpiled Aggregate surfacing on the entire length of curve plus tapers.	20	42		Yes			5*
0.90	Existing 24"X40' Culvert - Inlet needs jacked open.				Yes			
1.20	Existing welded wire wall on right shoulder. Fill in ditchline as staked for 100 feet for lowboy access. Construct new 2:1 ditchline and widen roadway to 15' minimum between stakes (see typical section). Haul 30 CY excavation to new culvert installation at M.P. 4.278.	30	22		Yes			
1.30	Existing curve is 66 feet long. Required width for lowboy access is 22.2 feet. PC - PI - PT are staked for left and right shoulders. The stakes identify ER/EXC LIMIT (Edge of Road/Excavation Limit). The begin and end taper points are staked. Remove sod and haul to disposal site at M.P. 0.05. Place a 4 inch lift of Stockpiled Aggregate surfacing on the entire length of curve plus tapers.	8	26		Yes			
1.36	Install 18"X40' culvert -Includes 10 CYs of Item 32232 for bedding and surfacing.		10		Yes	X	18"X40'	0.5*/1.0*
1.37	Remove existing 18"X40' culvert.				Yes			
1.37-1.40	Establish new centerline of road. Cut into hill slope as staked (3/4: 1). Existing curves are 56 feet and 78 feet long. Required width for lowboy access is 22.5 feet. PC - PI - PT are staked for left and right shoulders. The stakes identify ER/EXC LIMIT (Edge of Road/Excavation Limit). The begin and end taper points are staked. Remove sod and earthwork excavation and haul to disposal site at M.P. 0.05 (see typical detail). Place a 4 inch lift of Stockpiled Aggregate surfacing on the entire length of both curves plus tapers. Clearing includes 8 trees (18"-24" diameter) to be decked on site.	208	38		Yes			
2.27	Existing 18"X60' culvert - Torn Inlet - Remove and replace 8' at the inlet.				Yes	X	18"X8'	
2.37	Existing 18"X60 culvert - Remove and replace with a 24"X50' - Reconstruct a new catch basin and taper upgrade into existing ditchline (100 feet) Includes 10CYs Item 32232 for bedding and surfacing.		10		Yes	X	24"X50'	0.5*/1.0*
2.40	Existing curve is 62 feet long. Required width for lowboy access is 23.7 feet. PC - PI - PT are staked for left and right shoulders. The stakes identify ER/EXC LIMIT (Edge of Road/Excavation Limit). The begin and end taper points are staked. Remove sod and haul to disposal site at M.P. 0.05. Place a 4 inch lift of Stockpiled Aggregate surfacing on the entire length of curve plus tapers.	11	26		Yes			
2.66	Existing 18"X60' culvert - Remove and replace with a 24"X60' Includes 10CYs Item 32232 for bedding and surfacing.		10		Yes	X	24"X60'	0.5*/1.0*
3.00	Existing 18"X50' culvert - Remove and replace with a 18"X50' with 50' of 18" down drain. Culvert elbows and anchors are an indirect cost of the culvert. Includes 10CYs Item 32232 for bedding and surfacing.		10		Yes	X	18"X100'	0.5*/1.0*
3.60	Lowboy turn around							
3.91	Existing 18"X40' culvert - Remove and replace with a 24"X40' culvert. Place 10 cubic yards riprap (Class 4) at outlet. Includes 10 CYs Item 32232 for bedding and surfacing.		10		Yes	X	24"X40'	0.5*/10.0
4.18	Existing 18"X40 culvert - Remove and replace with 18"X40' culvert. Includes 10 CYs Item 32232 for bedding and surfacing.		10		Yes	X	18"X40'	0.5*/1.0*
4.28	Existing 24"X40' culvert - Remove and replace with a 24"X40' with 20' of outlet culvert. Culvert elbow is an indirect cost of the culvert. Includes 10CYs Item 32232 for bedding and surfacing.		10		Yes	X	24"X60'	0.5*/1.0*
4.90	Existing 24"X60' culvert - Remove and replace with a 24"X60' culvert. Place 5 cubic yards riprap (Class 4) at outlet. Includes 10 CYs Item 32232 for bedding and surfacing.		10		Yes	X	24"X60'	0.5*/5.0
5.00	End reconstruction, EOP							





Unit / Region :
USDA - Forest Service - R6

National Forest :
Olympic

District :
Pacific

Project Name :
**Rain Timber Sale
 Road Reconstruction**

Sheet Name :
**Work List
 FSR 2923040 - 1 of 1**

Sheet Number :
13 Of 13

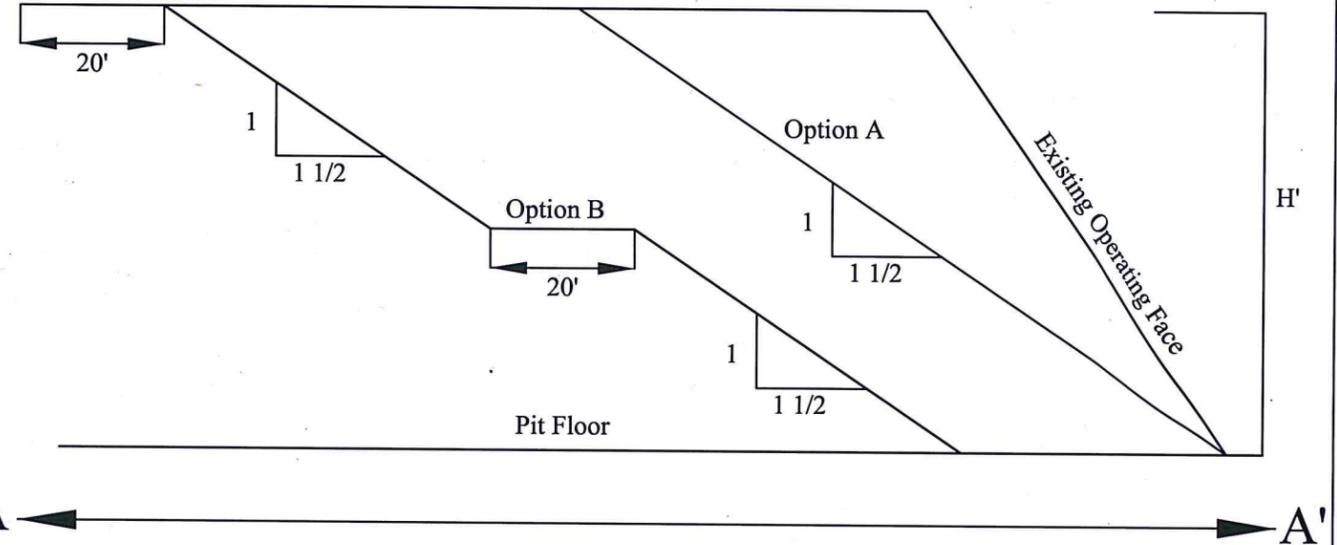
2923040

List 1 of 1

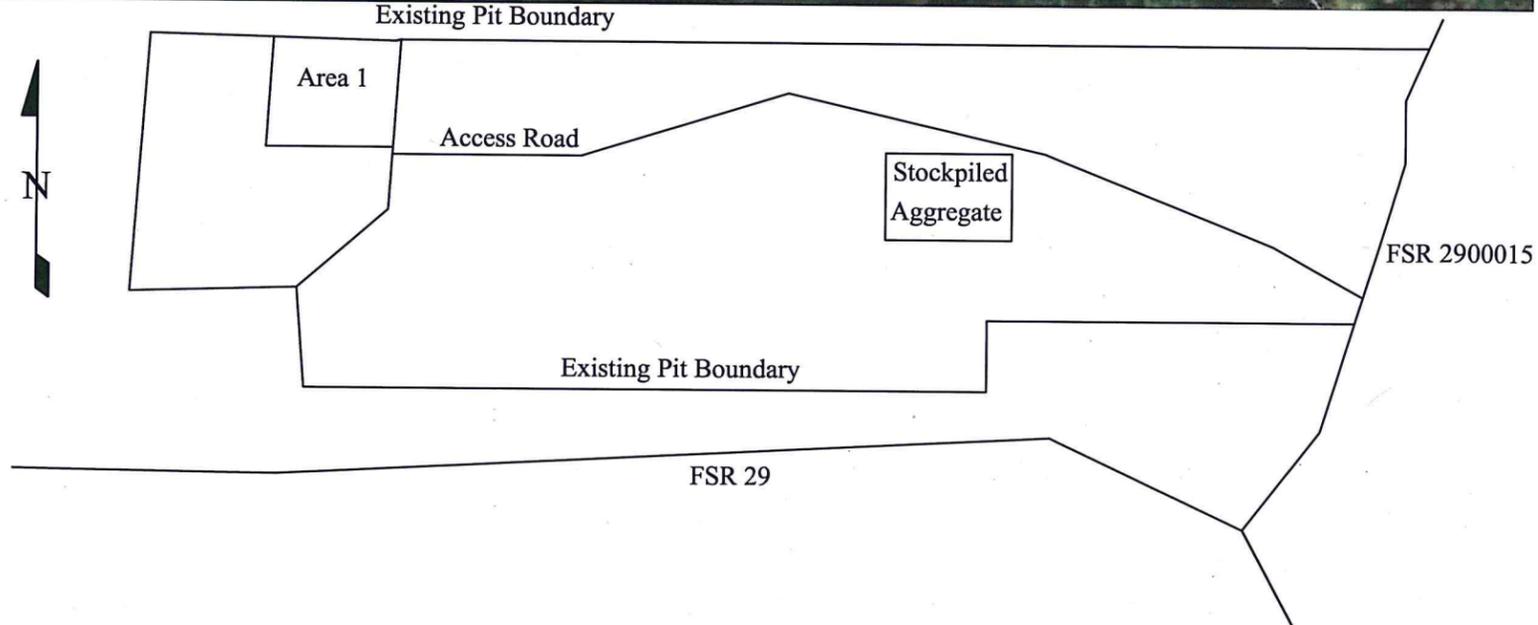
STATION	REQUIREMENT	Excavation (C.Y.)	Rock Quan. Calawah Pit (C.Y.)	Pit Run - Cys	M.P. As Staked on the Ground	New Culvert	CULVERT INSTALLATION / IMPROVEMENTS	Riprap In/Out (C.Y.)
0+00	Project Begins at FSR 2923 M.P. 4.465							
	BOP, Begin reconstruction of FSR 2923040 Begin brushing, clearing, and grubbing. Clearing limit 5' horizontal distance from edge of existing subgrade. Subgrade width will vary for different road prism, curve widening, or turnouts.		78					
	Begin road reconditioning, including ditch, shoulder and roadbed. Unless otherwise specified, road subgrade and surface shall be shaped and graded with the appropriate prism to provide adequate surface drainage (purchaser's choice). (0.10 Miles)							
	Roadway excavation. The work applies to the entire reconstruction portion (0.10 mi.) and shall be used for any excavation need that can not be adequately covered by Pay Item 30322, Road Reconditioning. Lump Sum							
	Begin placing 4" lift of Stockpiled Aggregate, compaction method B.							
4+00	Construct Cross Drain (Item 20420)							
5+00	End of Road							
	EOP, End reconstruction of FSR 2923040 End brushing, clearing, and grubbing. Clearing limit 5' horizontal distance from edge of existing subgrade. Subgrade width will vary for different road prism, curve widening, or turnouts.							
	End road reconditioning, including ditch, shoulder and roadbed. Unless otherwise specified, road subgrade and surface shall be shaped and graded with the appropriate prism to provide adequate surface drainage (0.10 Miles).							
	Roadway excavation. The work applies to the entire reconstruction portion (0.10 mi.) and shall be used for any excavation need that can not be adequately covered by Pay Item 30322, Road Reconditioning. Lump Sum							
	End placing 4" lift of Stockpiled Aggregate, compaction method B.							



Existing Forest Boundary
Existing Conifer Clearing
Varies



Material Use	Quantity
Rain Temp. Road Rock	1300 CY
Spec. Rd. Stockpiled Aggregate	380 CY



Notes:

- 1) All operation shall be contained within Existing Boundaries. No operations along the north edge of the pit within 50 ft. distance of the property boundary (distance will be identified by the FS) Purchaser shall be responsible to coordinate use with others in the pit.
- 2) Area 1 is approved for use for Temp. Road building only.
- 3) Maximum Height of the operating face shall be 15', (Option A). If Height exceed 15', an intermediate bench shall be established to allow for safe operations, (Option B). The operating face shall be sloped back at 1 1/2 H: 1 V. All intermediate benches constructed shall be 20' minimum.
- 4) The operating face shall never encroach within 20' of the current clearing limits. (Conifers clearing limits were completed in 2014)
- 5) Finished Access road surface will be shaped consistent with the adjacent pit floor and maintain continued free drainage.
- 6) Waste, Overburden and Oversize shall be placed as directed by the C.O.