PLANS ARE 11X17 COLOR

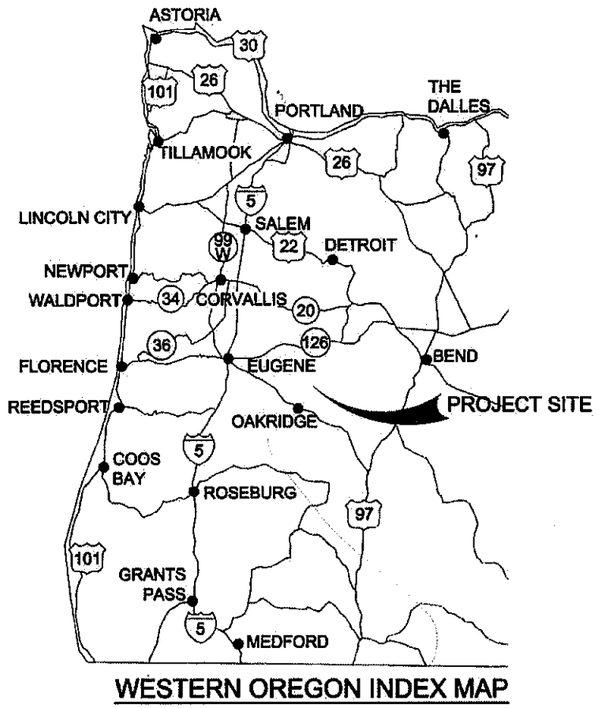
FOREST SERVICE- REGION SIX
WILLAMETTE NATIONAL FOREST
MIDDLE FORK RANGER DISTRICT
LANE COUNTY

PLANS FOR PROPOSED RECONSTRUCTION

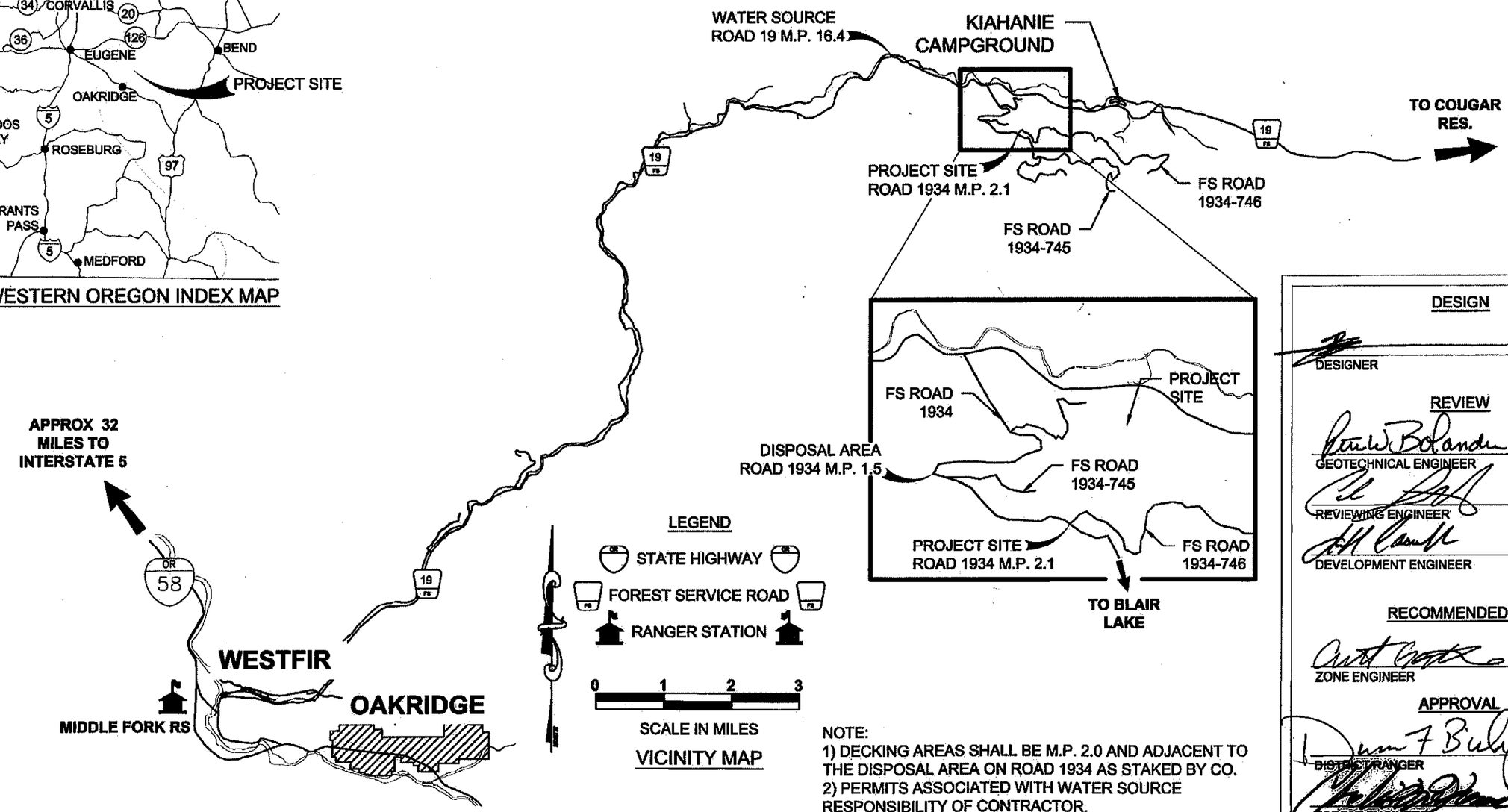
ROAD 1934 M.P. 2.1 ERFO

LEGAL DESCRIPTION T19S R4E SEC36

SHEET INDEX	
1	TITLE SHEET / VICINITY MAP
2	ESTIMATE OF QUANTITIES / GENERAL NOTES
3	EXISTING SITE PLAN
4	PROPOSED SITE PLAN
5	PROPOSED ROADWAY PROFILE / TYPICAL SECTIONS
6	LAYOUT TABLES
7	CONSTRUCTION DETAILS
8	HILFIKER DETAILS (1)
9	HILFIKER DETAILS (2)
10	GUARDRAIL DETAILS (1)
11	GUARDRAIL DETAILS (2)
12	SLOPE ANCHOR DETAILS
13	SIGN PLAN



WESTERN OREGON INDEX MAP



VICINITY MAP

NOTE:
1) DECKING AREAS SHALL BE M.P. 2.0 AND ADJACENT TO THE DISPOSAL AREA ON ROAD 1934 AS STAKED BY CO.
2) PERMITS ASSOCIATED WITH WATER SOURCE RESPONSIBILITY OF CONTRACTOR.

DESIGN

DESIGNER — DATE: 06/13/2013

REVIEW

GEOTECHNICAL ENGINEER — DATE: 6-13-13

REVIEWING ENGINEER — DATE: 6-13-13

DEVELOPMENT ENGINEER — DATE: 6.13.243

RECOMMENDED BY

ZONE ENGINEER — DATE: 6-13-13

APPROVAL

DISTRICT RANGER — DATE: 6/13/13

FOREST ENGINEER — DATE: 6/13/13

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.	REMARKS * DENOTES CONTRACT QUANTITY
15101	MOBILIZATION	LUMP SUM	ALL	TEMPORARY TRAFFIC CONTROL, FIRE PROTECTION, SOIL EROSION CONTROL IN ACCORDANCE WITH SPECIFICATION 157 AND EQUIPMENT WASHING INDIRECT TO PAY ITEM.
15201	CONSTRUCTION SURVEY AND STAKING, METHOD 1, TOLERANCE B	LUMP SUM	ALL	PRECISION CLASS B. INCLUDES RETAINING WALL.
15401	CONTRACTOR TESTING	LUMP SUM	ALL	INCLUDES TESTING FOR ALL MATERIALS.
20104	CLEARING AND GRUBBING, DISPOSAL OF TOPS AND LIMBS (F2), LOGS (I), STUMPS (J)	ACRE*	1.75	INCLUDES DISPOSAL AREA. DANGER TREES AND TREE REMOVALS FOR EQUIPMENT SETUP AND OPERATION ARE INDIRECT TO PAY ITEM.
20358	REMOVAL OF EXISTING 18" CULVERT, DISPOSAL METHOD A.	EACH	1	
20411	EMBANKMENT CONSTRUCTION, COMPACTION METHOD E, FINISHING METHOD A	CUBIC YARD*	980	TOLERANCE C. UTILIZE SUITABLE MATERIAL FROM 20457 OR 25550. INCLUDES EMABNKMENT FOR ROADWAY FROM STATION LL 2+70 TO STATION LL 4+10.
20457	ROADWAY EXCAVATION, COMPACTION METHOD E	CUBIC YARD*	900	TOLERANCE C. INCLUDES EXCAVATION FOR ROADWAY FROM STATION LL 2+70 TO STATION LL 4+10 AND FROM STATION L 1+00 TO STATION L 1+80, EXCAVATION ABOVE DITCHLINE ELEVATION FROM STATION L 1+80 TO STATION L 2+25 AND STATION L 3+20 TO STATION 4+70. DISPOSE OF EXCESS OR UNSUITABLE MATERIAL IN ACCORDANCE WITH 203.05 (J) STOCKPILE AT DISPOSAL AREA.
20499	EXCAVATION, PLACEMENT METHOD C	CUBIC YARD*	7310	TOLERANCE C. INCLUDES EXCAVATION FOR DAYLIGHT OF RETAINING WALL. DISPOSE OF MATERIAL IN ACCORDANCE WITH 203.05 (J) STOCKPILE AT DISPOSAL AREA.
20701	EARTHWORK GEOTEXTILE TYPE II-A	SQUARE YARD*	400	PLACE BETWEEN AGGREGATE AND EMBANKMENT OR RIPRAP FROM STATION LL 2+70 TO STATION LL 4+10.
25104	KEYED RIPRAP, CLASS 3	CUBIC YARD*	380	COMMERCIAL SOURCE.
25503	SELECT GRANULAR BACKFILL	CUBIC YARD*	6040	COMMERCIAL SOURCE, PLACEMENT OF MATERIAL INCLUDED IN ITEM 25550.
25550	MECHANICALLY STABILIZED EARTH WALL	SQUARE FOOT	7222.3	COMPACTION METHOD B. STRUCTURAL EXCAVATION AND PLACEMENT OF BACKFILL INDIRECT TO PAY ITEM. DISPOSE OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN ACCORDANCE WITH 203.05 (J), STOCKPILE AT DISPOSAL AREA.
32211	AGGREGATE SURFACE COURSE, GRADING F, COMPACTION METHOD B	CUBIC YARD*	480	COMMERCIAL SOURCE.
60278	24 - INCH CORRUGATED POLYETHYLENE PIPE, TYPE A, METHOD B	FOOT	75	EXCAVATION AND BACKFILL INDIRECT TO PAY ITEM. DOUBLE WALL, SMOOTH INTERIOR. BANDS
60502	STANDARD UNDERDRAIN SYSTEM	FOOT*	250	12 - INCH CORRUGATED POLYETHYLENE DOUBLE WALL SMOOTH INTERIOR PERFORATED PIPE, TYPE A. COMMERCIAL SOURCE DRAIN ROCK MEETING GRANULAR BACKFILL SPECIFICATION.
60654	24 -INCH FULL CIRCLE POLYETHYLENE OUTLET PIPE, TYPE A	EACH	1	ANCHOR ASSEMBLIES, ELBOW, AND BANDS INDIRECT TO PAY ITEM.
61701	GUARDRAIL SYSTEM G4, TYPE 1, CLASS A	FOOT	212.5	GUARDRAIL PER FHWA STANDARD DRAWING 617.11, 6' W6x9 POSTS.
61702	TERMINAL SECTION TYPE TANGENT TERMINAL	EACH	2	TERMINAL SECTION PER FHWA STANDARD DRAWING 617-20. 25' LENGTH.

GENERAL NOTES:

1. PRIOR TO ANY EXCAVATION CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATES, PUBLIC AND PRIVATE. DAMAGES RESULTING FROM OPERATIONS ARE RESPONSIBILITY OF THE CONTRACTOR TO FIX.
2. CO APPROVAL IS REQUIRED, BUT NOT LIMITED TO, PRIOR TO PLACEMENT OF BEDDING OR LEVELING COURSE OF ANY STRUCTURE AND AGGREGATE. MINIMUM 72 HOUR NOTICE.
3. REPAIR ANY DAMAGE TO THE EXISTING ROAD SYSTEM DUE TO CONTRACTOR'S OPERATIONS, INSIDE OR OUTSIDE THE WORK AREA, AT THE CONTRACTOR'S EXPENSE, PRIOR TO FINAL ACCEPTANCE.
4. PROVIDE POSITIVE DRAINAGE OF WATER FROM THE NEW ROADWAY.
5. STORAGE OF EQUIPMENT ON GOVERNMENT LANDS WILL BE AT THE CONTRACTOR'S RISK AND AT A LOCATION APPROVED BY THE CO.
6. DEPTHS OF MATERIALS ARE GIVEN AS FINAL COMPACTED DEPTHS.
7. ABBREVIATION MSE REPRESENTS MECHANICALLY STABILIZED EARTH.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. SUBMIT AN EROSION CONTROL PLAN, FOR APPROVAL BY THE CO PRIOR TO THE START OF OPERATIONS.
2. INITIATE STABILIZATION MEASURES AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 2 DAYS AFTER WORK HAS CEASED.
3. PLACE CERTIFIED WEED FREE MULCH ON DISTURBED AREAS PER SPECIFICATION 157.
3. INSPECT ALL SEDIMENT AND EROSION CONTROL DEVICES DAILY, OR MORE OFTEN WHEN NEEDED (SUCH AS DURING RAINFALL EVENTS). REPAIR OR REPLACE DAMAGED OR INEFFECTIVE DEVICES, OR ADD ADDITIONAL DEVICES IF NEEDED TO CONTAIN SEDIMENT AND PROTECT THE WATERS OF THE STATE.
4. REMOVE NON-BIODEGRADABLE TEMPORARY SEDIMENT CONTROL MATERIALS WITHIN 7 DAYS AFTER FINAL ACCEPTANCE.

PROJECT: ROAD 1934 M.P. 2.1 ERFO

SHEET NAME: ESTIMATE OF QUANTITIES / GENERAL NOTES

SHEETS: 13

SHEET: 2

LEGEND

EXISTING EDGE OF AGGREGATE ROAD

EXISTING EDGE OF TEMPORARY DIRT ROAD

EXISTING DITCH

EXISTING STREAM

EXISTING TOP OF SCARP

EXISTING TOP OF CUT

⊕ CONTROL POINT ⊕

⊕ DRILL HOLE ⊕

30 0 30

SCALE IN FEET
CONTOUR INTERVAL 1'

COORDINATES ARE ARBITRARY, SET AT CONTROL POINT # 2

BASIS OF BEARING CONTROL POINT #2 TO CONTROL POINT #1
280° WITH 20° EAST DECLINATION

CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCTIPTION
1	20019.99	9886.65	998.66	REBAR
2	20000.00	10000.00	1000.00	REBAR
5	20142.55	10328.62	1002.42	REBAR
6	19976.46	10545.26	1001.75	REBAR
7	20046.03	10389.59	1024.88	REBAR
8	19914.70	10516.77	1041.57	REBAR

CONTROL POINT #6
APPROX 260'
FROM CONTROL
POINT #5, SOUTH
SIDE OF ROAD

DH-1

DH-2

DH-3

REMOVE ALL CLEARING MATERIAL BELOW TOP OF SCARP PROPOSED ROADWAY STRUCTURE. INCLUDED IN ITEM 20104

DH-4

DH-5

REMOVE 18" Ø POLYETHYLENE PIPE

EXISTING 24" Ø CMP WITH DOWNSPOUT

CONTROL POINT #1 APPROX 115' FROM CONTROL POINT #2, SOUTH SIDE OF ROAD

CONTROL POINT #8
APPROX 184'
FROM CONTROL
POINT #7 SOUTH
SIDE OF ROAD

PROJECT
ROAD 1934 M.P. 2.1 ERFO

SHEET NAME
EXISTING SITE PLAN

SHEETS 13

SHEET 3

LEGEND

PROPOSED EDGE OF AGGREGATE ROAD

EXISTING EDGE OF AGGREGATE ROAD

CENTERLINE ALIGNMENT (L-LINE OR LL-LINE)

PROPOSED DITCH

PROPOSED TOE OF FILL

PROPOSED TOP OF CUT

PROPOSED MSE RETAINING WALL

PROPOSED GUARDRAIL

EXISTING TOP OF CUT

EXISTING TOP OF SCARP

◆ CONTROL POINT ◆

⊠ DESIGN POINT ⊠

30 0 30

SCALE IN FEET

CONTOUR INTERVAL 1'

NOTES:
1) SEE SHEET 3 FOR CONTROL POINT COORDINATES.
2) SEE SHEET 5 FOR DESIGN POINT COORDINATES AND CURVE DATA.
3) BLEND ALL AREAS BETWEEN CONSTRUCTION EXTENTS AND EXISTING GROUND AT CUT SLOPES THAT MATCH ADJACENT SLOPES AND 1V:1.5H FOR FILL SLOPES.
4) ROADWAY ALIGNMENT IS STRAIGHT FROM STATION L 3+50 TO STATION L 4+50, FROM STATION LL 2+70 TO STATION LL 3+20.
5) GUARDRAIL SYSTEM LIMITS FROM STATION LL 4+26 TO STATION L 4+10
6) PLACE ALTERNATIVE "A" SLOPE ANCHORS ON UNDERDRAIN OUTLET PIPES. 20' MAX SPACING, MINIMUM 2 PER PIPE. INDIRECT TO UNDERDRAIN PAY ITEM.

12" DIAMETER UNDERDRAIN OUTLET PIPE

CONTROL POINT #6 APPROX 260' FROM CONTROL POINT #5, SOUTH SIDE OF ROAD

INSTALL 40' 24" Ø POLYETHYLENE PIPE WITH CATCHBASIN, AND OUTLET DISSIPATER. SEE SHEET 7

CONTINUE DITCHLINE TO EXISTING 24" CMP

END OF PROJECT

EXISTING 24" Ø CMP WITH DOWNSPOUT

CONTROL POINT #1 APPROX 115' FROM CONTROL POINT #2, SOUTH SIDE OF ROAD

INSTALL 35' 24" Ø POLYETHYLENE PIPE WITH CATCHBASIN, 20' OUTLET PIPE, AND OUTLET DISSIPATER. SEE SHEET 7

CONTROL POINT #8 APPROX 184' FROM CONTROL POINT #7, SOUTH SIDE OF ROAD

BEGINNING OF PROJECT

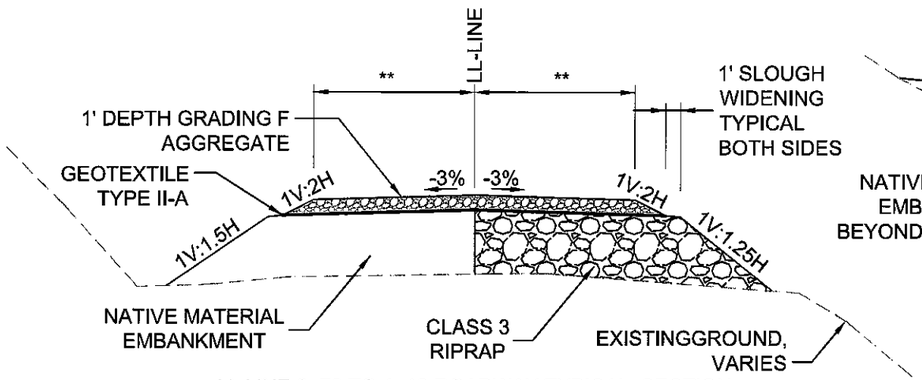
L 5+00 L 4+00 L 3+00 L 2+00 L 1+00 LL 4+00 LL 3+00

PROJECT: ROAD 1934 M.P. 2.1 ERFO

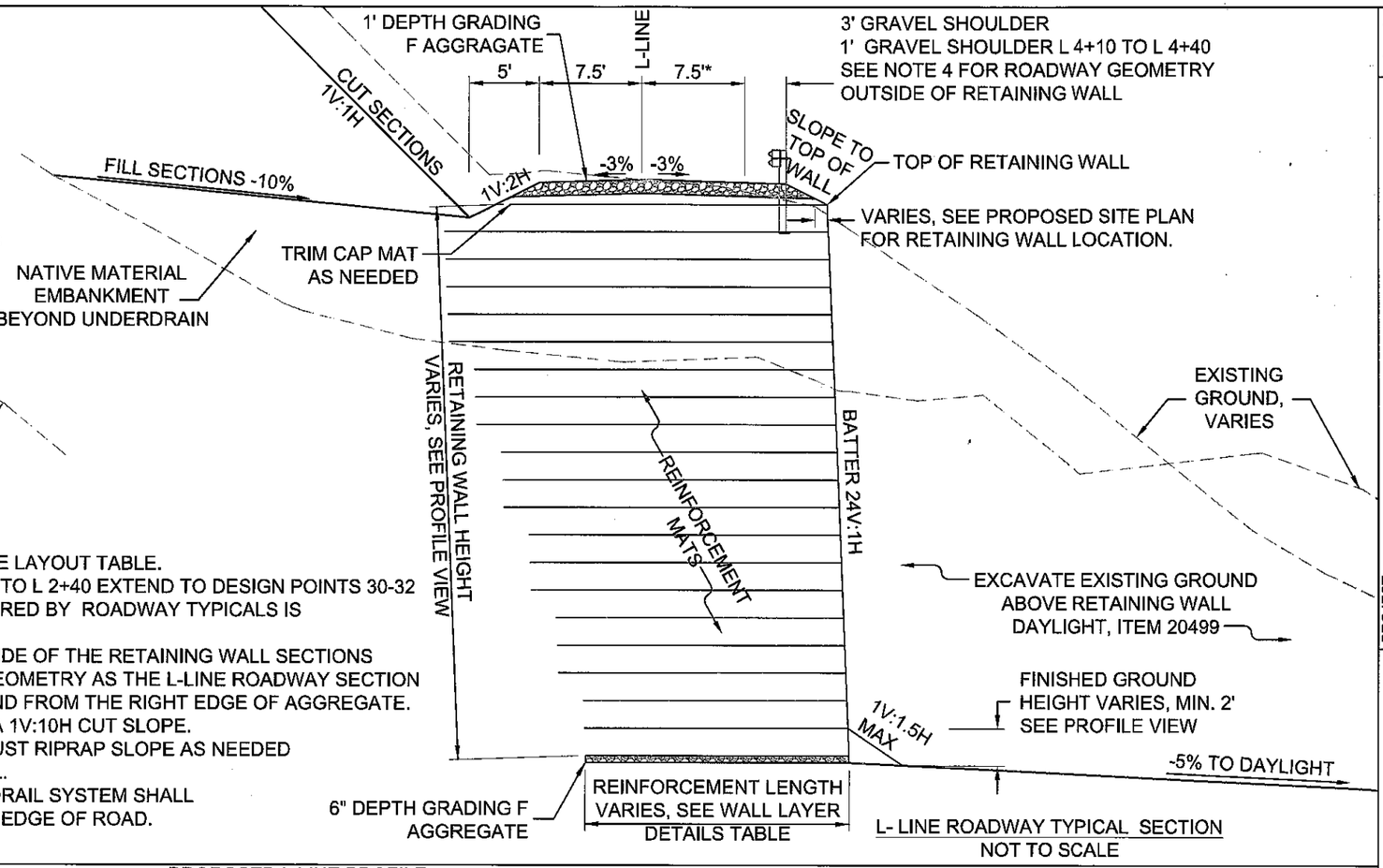
SHEET NAME: PROPOSED SITE PLAN

SHEETS: 13

SHEET: 4



LL LINE 2+70 TO 4+10 ROADWAY TYPICAL SECTION
NOT TO SCALE



L- LINE ROADWAY TYPICAL SECTION
NOT TO SCALE

LEGEND

PROPOSED CENTER LINE ELEVATION

EXISTING CENTERLINE ELEVATION

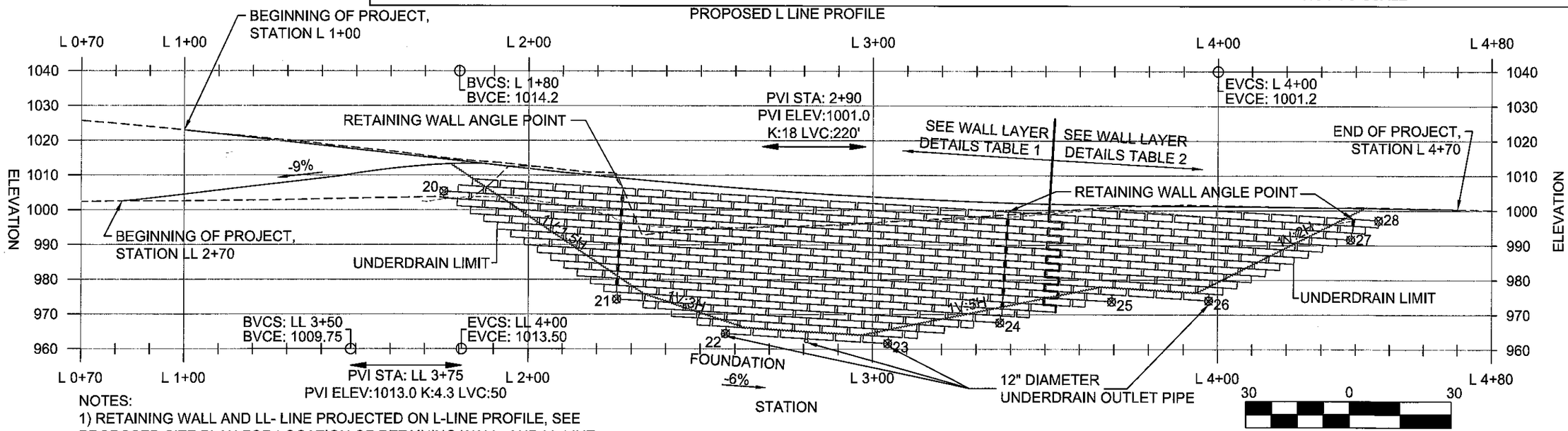
EXISTING GROUND AT TOP OF RETAINING WALL

FINISHED GROUND SURFACE

⊠ DESIGN POINT ⊠

PROPOSED MSE RETAINING WALL MAT

NOTES:
1) ** DENOTES VARIES, SEE LAYOUT TABLE.
2) * FROM STATION L 1+80 TO L 2+40 EXTEND TO DESIGN POINTS 30-32
3) ALL AGGREGATE REQUIRED BY ROADWAY TYPICALS IS INCLUDED IN ITEM 32211.
4) L-LINE ROADWAY OUTSIDE OF THE RETAINING WALL SECTIONS SHALL HAVE THE SAME GEOMETRY AS THE L-LINE ROADWAY SECTION EXCEPT NO SHOULDER AND FROM THE RIGHT EDGE OF AGGREGATE. A 1V:1.5H FILL SLOPE OR A 1V:10H CUT SLOPE.
5) LL 3+80 TO LL 4+10 ADJUST RIPRAP SLOPE AS NEEDED TO BURY RETAINING WALL.
6) FRONT FACE OF GUARDRAIL SYSTEM SHALL BE LOCATED 2' FROM THE EDGE OF ROAD.



NOTES:
1) RETAINING WALL AND LL- LINE PROJECTED ON L-LINE PROFILE, SEE PROPOSED SITE PLAN FOR LOCATION OF RETAINING WALL. AND LL-LINE.

PROJECT
ROAD 1934 M.P. 2.1 ERFO

SHEET NAME
PROPOSED ROADWAY PROFILE / TYPICAL SECTIONS

SHEETS
13

SHEET
5

DESIGN POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
20	20132.9	10294.5	1005.4	RETAINING WALL END (TOP)
21	20112.9	10248.4	974.3	RETAINING WALL FOUNDATION ANGLE
22	20108.9	10220.4	964.4	RETAINING WALL FOUNDATION
23	20100.7	10170.9	961.6	RETAINING WALL FOUNDATION
24	20095.1	10138.6	967.7	RETAINING WALL FOUNDATION ANGLE
25	20079.5	10110.8	973.7	RETAINING WALL FOUNDATION
26	20064.8	10086.7	974	RETAINING WALL FOUNDATION
27	20043.6	10051.1	991.6	RETAINING WALL FOUNDATION ANGLE
28	20037.3	10045.4	997.1	RETAINING WALL END (TOP)
30	20124.8	10294.8	1012.2	EDGE OF ROAD
31	20108.6	10266.6	1010.5	EDGE OF ROAD
32	20101.2	102345	1007.8	EDGE OF ROAD

L-LINE LAYOUT TABLE				
L-LINE STATION	NORTHING	EASTING	*L-LINE ELEVATION	NOTES
0+90	20048.2	10373.2	N/A	PC HORIZONTAL CURVE
1+00	20055.2	10366.0	1023.0	MATCH EXISTING ROADWAY
1+10	20061.3	10358.1	1021.9	TRANSITION TO 3% CROWN
1+20	20067.0	10349.9	1020.8	3% CROWN
1+30	20072.2	10341.4	1019.7	3% CROWN
1+40	20077.0	10332.6	1018.6	3% CROWN
1+50	20081.2	10323.5	1017.5	3% CROWN
1+60	20084.9	10314.2	1016.4	3% CROWN
1+70	20088.1	10304.7	1015.3	3% CROWN
1+80	20090.8	10295.1	1014.2	3% CROWN
1+90	20092.9	10285.3	1013.0	3% CROWN
2+00	20094.4	10275.5	1011.9	3% CROWN, PT AND PC HORIZONTAL CURVE
2+10	20094.6	10265.5	1010.8	3% CROWN, LL-LINE INTERSECTION
2+20	20094.6	10255.5	1009.8	3% CROWN
2+30	20094.3	10245.5	1008.9	3% CROWN
2+40	20093.7	10235.5	1008.0	3% CROWN
2+50	20092.9	10225.5	1007.1	3% CROWN
2+60	20091.9	10215.6	1006.3	3% CROWN
2+70	20090.6	10205.7	1005.6	3% CROWN
2+80	20089.0	10195.8	1004.9	3% CROWN
2+90	20087.2	10185.9	1004.3	3% CROWN
3+00	20085.2	10176.1	1003.8	3% CROWN
3+10	20082.9	10166.4	1003.3	3% CROWN
3+20	20080.4	10156.7	1002.8	3% CROWN
3+30	20077.6	10147.1	1002.4	3% CROWN
3+40	20074.6	10137.6	1002.1	3% CROWN
3+50	20071.4	10128.2	1001.8	3% CROWN, PT AND PC HORIZONTAL CURVE
3+60	20066.5	10119.4	1001.5	3% CROWN
3+70	20061.6	10110.7	1001.4	3% CROWN
3+80	20056.7	10102.0	1001.3	3% CROWN
3+90	20051.8	10093.2	1001.2	3% CROWN
4+00	20046.9	10084.5	1001.2	3% CROWN
4+10	20042.0	10075.8	1001.0	3% CROWN
4+20	20037.1	10067.1	1000.9	3% CROWN
4+30	20032.3	10058.4	1000.8	3% CROWN
4+40	20027.4	10049.6	1000.7	3% CROWN
4+50	20022.5	10040.9	1000.5	3% CROWN
4+60	20019.7	10031.3	1000.4	TRANSITION TO EXISTING ROADWAY
4+70	20017.4	10021.6	1000.3	MATCH EXISTING ROADWAY

*FINISHED AGGREGATE SURFACE

CURVE LAYOUT TABLE				
PC STATION	PT STATION	LENGTH	RADIUS	CENTRAL ANGLE
L 0+90	2+00	110'	200'	32°
L 2+00	3+50	150'	330'	26°
LL 3+20	LL 4+00	80'	70'	66°

WALL LAYER DETAILS TABLE 1				
LAYER	LENGTH (FT)	REINFORCEMENT LENGTH (FT)	# OF MATS*	
			FULL	HALF
BOTTOM	47.33	19.25	6	
2	64.00	19.25	7	2
3	79.33	19.25	10	
4	96.00	21.00	11	2
5	111.33	21.00	14	
6	123.66	21.00	15	1
7	135.33	22.75	17	
8	135.66	22.75	17	
9	143.66	22.75	18	
10	143.66	24.50	18	
11	151.66	24.50	19	
12	151.66	24.50	19	
13	159.66	26.25	20	
14	159.66	26.25	20	
15	167.66	26.25	21	
16	167.66	28.00	21	
17	175.66	28.00	22	
18	175.66	28.00	22	
19	175.66	28.00	22	
TOP	167.66	28.00	21	
TOTAL NUMBER OF MATS			340	5
TOTAL FACE AREA (SQUARE FOOT)			5465.1	
STRUCTURE VOLUME** (CUBIC YARDS)			5040	

WALL LAYER DETAILS TABLE 2				
LAYER	LENGTH (FT)	REINFORCEMENT LENGTH (FT)	# OF MATS*	
			FULL	HALF
BOTTOM	12.00	10.50	1	1
2	15.66	10.50	2	
3	47.66	10.50	6	
4	47.66	10.50	6	
5	55.66	12.25	7	
6	55.66	12.25	7	
7	63.66	14.00	8	
8	63.66	14.00	8	
9	71.66	15.75	9	
10	71.66	15.75	9	
11	79.66	17.50	10	
12	79.66	17.50	10	
13	87.66	19.25	11	
14	79.33	19.25	10	
TOP	47.33	19.25	6	
TOTAL NUMBER OF MATS			110	1
TOTAL FACE AREA (SQUARE FOOT)			1757.2	
STRUCTURE VOLUME** (CUBIC YARDS)			1000	

*MAT SIZE 2'x7'4" WELDED WIRE SIZE W9.5xW4.0, TOP MAT W7xW3.5. AFTER FABRICATION GALVANIZE IN ACCORDANCE WITH AASHTO M111.

**STRUCTURE VOLUME IS CALCULATED BY AREA INCLUSIVE OF REINFORCEMENT MATS.

LL-LINE LAYOUT TABLE					
LL-LINE STATION	NORTHING	EASTING	*LL-LINE ELEVATION	AGGEGATE SURFACE TOP WIDTH (FT) EACH SIDE OF LL-LINE	NOTES
2+70	20076.5	10411.8	1002.6	MATCH EXISTING	MATCH EXISTING ROADWAY
2+80	20083.4	10404.6	1003.5	6.2	TRANSITION TO 3% CROWN
2+90	20090.3	10397.4	1004.4	7.4	BEGIN 3% INSLOPE
3+00	20097.3	10390.2	1005.3	8.6	3% CROWN
3+10	20104.2	10383.0	1006.2	9.8	3% CROWN
3+20	20111.1	10375.8	1007.1	11.0	3% CROWN, PC HORIZONTAL CURVE
3+30	20116.4	10367.3	1008.0	11.0	3% CROWN
3+40	20120.4	10358.1	1008.9	11.0	3% CROWN
3+50	20123.1	10348.5	1009.8	11.0	3% CROWN
3+60	20124.4	10338.6	1011.0	11.0	3% CROWN
3+70	20124.2	10328.6	1011.9	11.0	3% CROWN
3+80	20122.6	10318.7	1012.6	11.0	3% CROWN
3+90	20119.6	10309.2	1013.1	11.0	3% CROWN
4+00	20115.2	10300.2	1013.4	11.0	TRANSITION TO L-LINE CROSS SLOPE, PC HORIZONTAL CURVE
4+10	20110.1	10291.6	1013.4	11.0	CONTINUE CROSS SLOPE FROM L-LINE

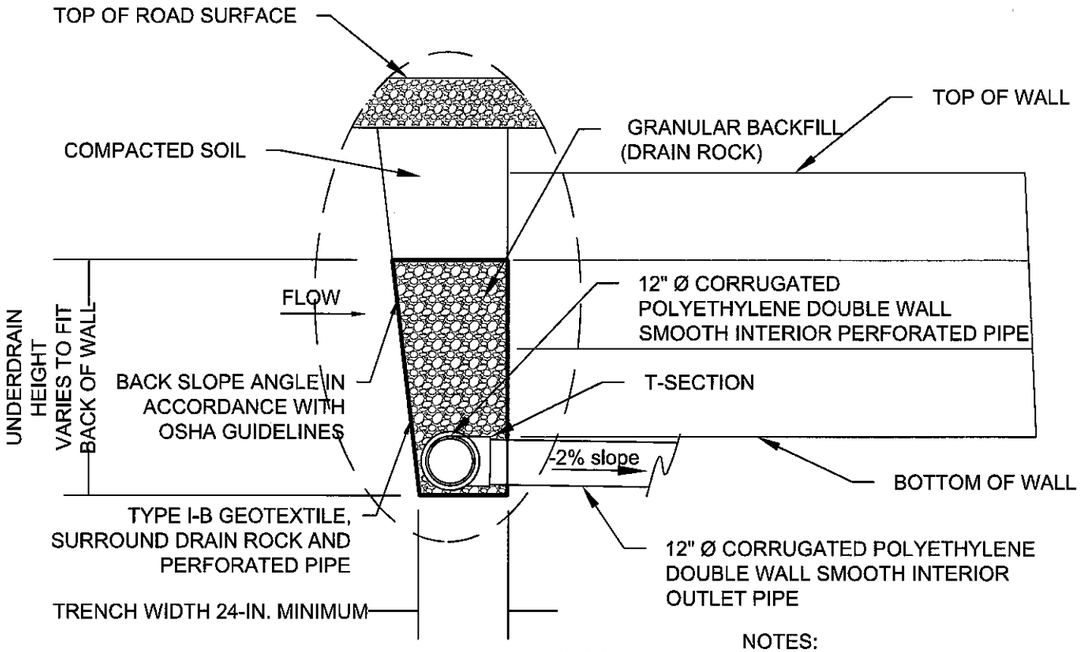
*FINISHED AGGREGATE SURFACE

PROJECT
ROAD 1934 M.P. 2.1 ERFO

SHEET NAME
LAYOUT TABLES

SHEETS
13

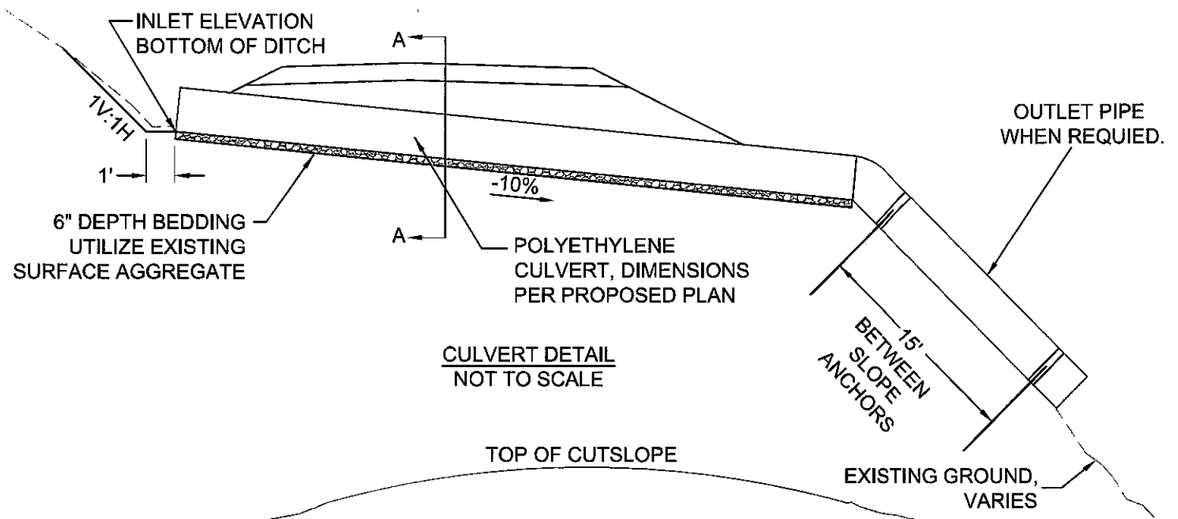
SHEET
6



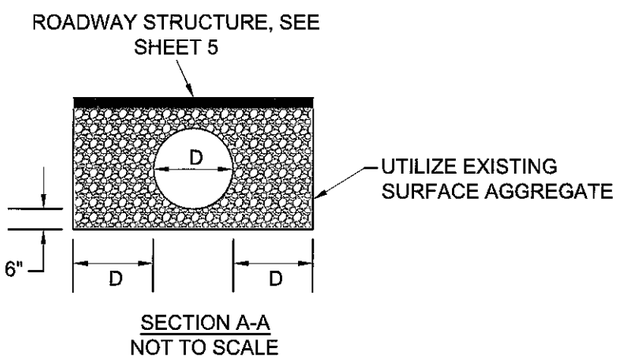
STANDARD UNDERDRAIN DETAIL
NOT TO SCALE

NOTES:
1) SEE SHEET 1 FOR UNDERDRAIN LIMITS AND RETAINING WALL HEIGHT.

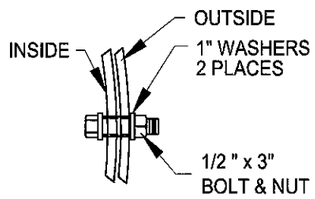
NOTES:
1) ANCHOR OUTLET PIPE WITH 2 SLOPE ANCHORS IN ACCORDANCE WITH ODOT ALTERNATE "A" SLOPE ANCHORS, SEE SHEET 12.
2) CONNECT OUTLET PIPE TO CULVERT WITH 45° ELBOW, 4 BOLTS PER CONNECTION,SEE DETAIL. ROTATE ELBOW TO SKEW OUTLET PIPE ALIGNMENT TO BE PERPENDICULAR WITH SLOPE.



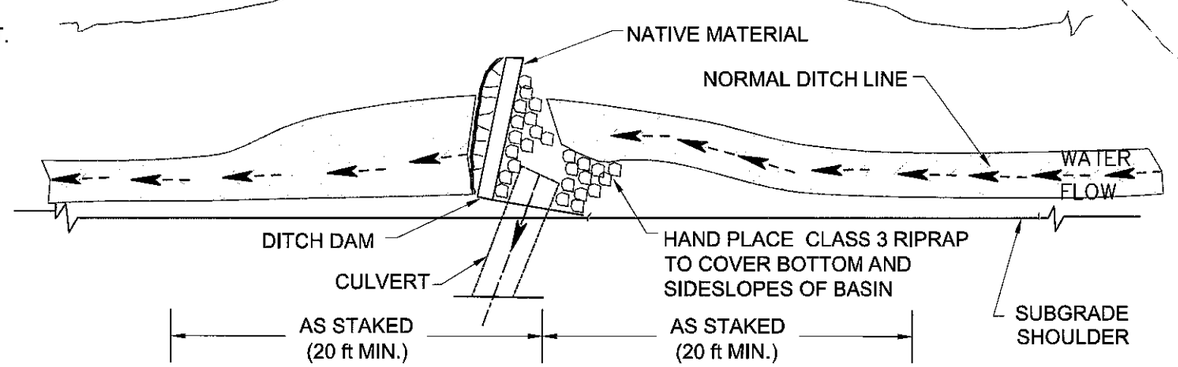
CULVERT DETAIL
NOT TO SCALE



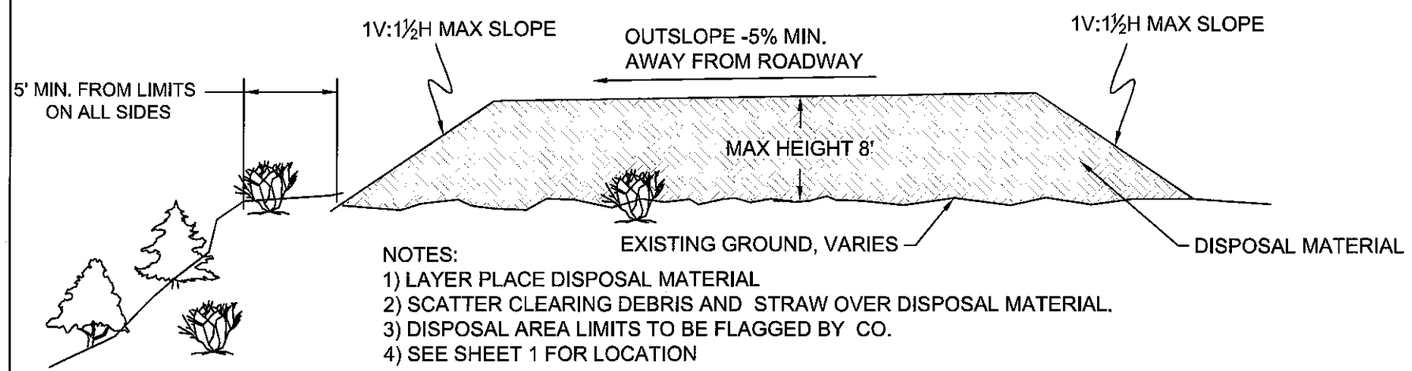
SECTION A-A
NOT TO SCALE



BOLT DETAIL
NOT TO SCALE

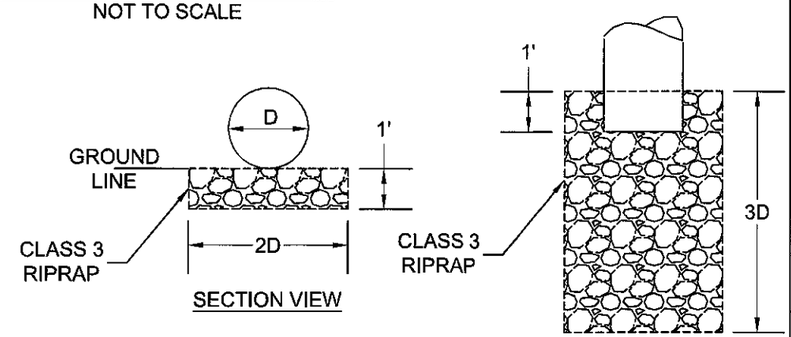


CATCH BASIN DETAIL-PLAN VIEW
NOT TO SCALE



NOTES:
1) LAYER PLACE DISPOSAL MATERIAL
2) SCATTER CLEARING DEBRIS AND STRAW OVER DISPOSAL MATERIAL.
3) DISPOSAL AREA LIMITS TO BE FLAGGED BY CO.
4) SEE SHEET 1 FOR LOCATION

DISPOSAL AREA DETAILS
NOT TO SCALE



NOTES:
1) DISSIPATER SURFACE MUST CONFORM TO THE SHAPE OF THE EXISTING GROUND AND BE LEFT ROUGH TO REDUCE WATER VELOCITY.

OUTLET DISSIPATER DETAIL
NOT TO SCALE

PROJECT
ROAD 1934 M.P. 2.1 ERFO

CONSTRUCTION DETAILS

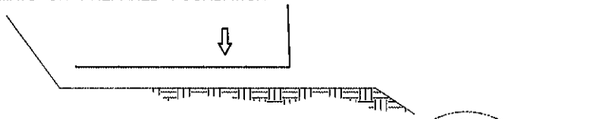
SHEET NAME

SHEETS 13

SHEET 7

STEP 1

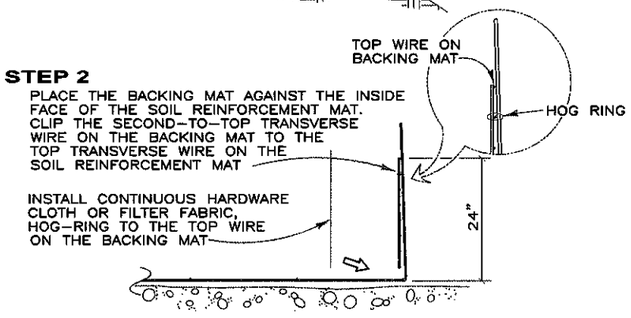
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



STEP 2

PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND–TO–TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT

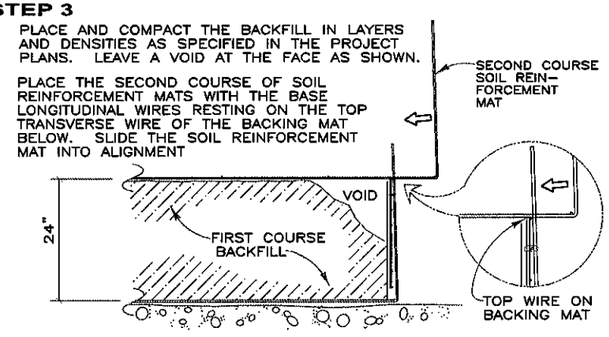
INSTALL CONTINUOUS HARDWARE CLOTH OR FILTER FABRIC, HOG–RING TO THE TOP WIRE ON THE BACKING MAT



STEP 3

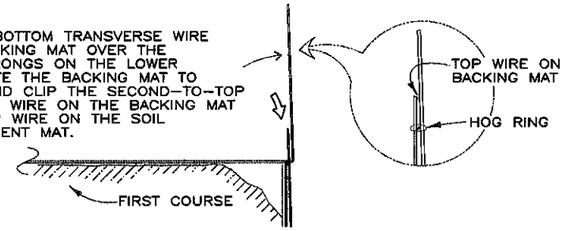
PLACE AND COMPACT THE BACKFILL IN LAYERS AND DENSITIES AS SPECIFIED IN THE PROJECT PLANS. LEAVE A VOID AT THE FACE AS SHOWN.

PLACE THE SECOND COURSE OF SOIL REINFORCEMENT MATS WITH THE BASE LONGITUDINAL WIRES RESTING ON THE TOP TRANSVERSE WIRE OF THE BACKING MAT BELOW. SLIDE THE SOIL REINFORCEMENT MAT INTO ALIGNMENT



STEP 4

HOOK THE BOTTOM TRANSVERSE WIRE OF THE BACKING MAT OVER THE VERTICAL PRONGS ON THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND–TO–TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.

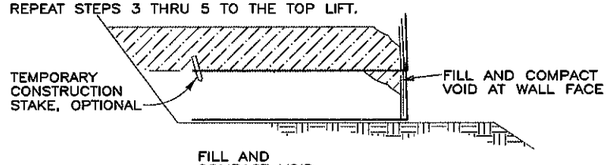


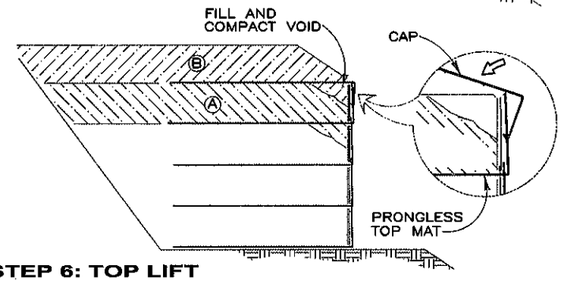
STEP 5

INSTALL THE HARDWARE CLOTH OR FILTER FABRIC.

PLACE AND COMPACT THE BACKFILL TO THE BASE ELEVATION OF THE NEXT MAT.

REPEAT STEPS 3 THRU 5 TO THE TOP LIFT.





STEP 6: TOP LIFT

PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND HARDWARE CLOTH OR FILTER FABRIC.

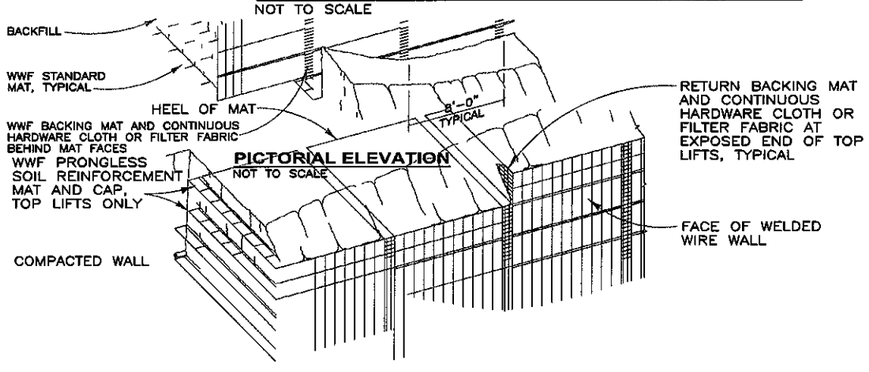
PLACE AND COMPACT BACKFILL IN AREA "A"

HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE

BACKFILL "B" TO 1'–6" MINIMUM COVER OVER THE CAP.

CONSTRUCTION SEQUENCE

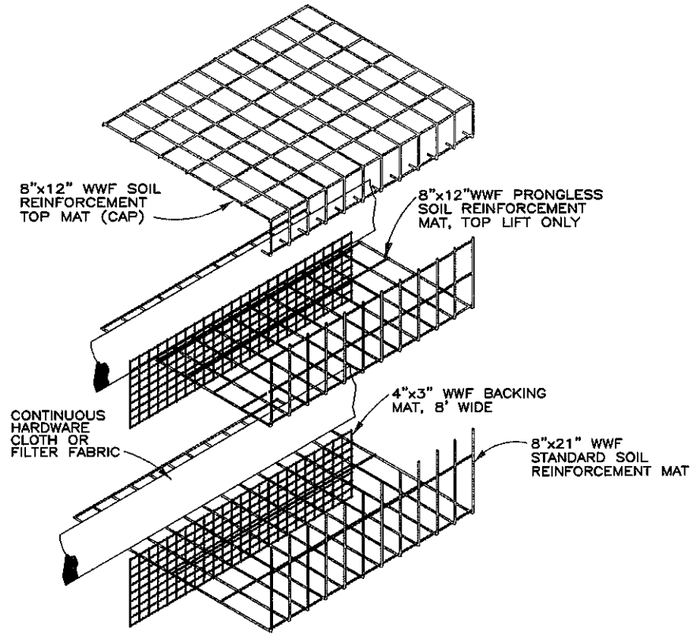
NOT TO SCALE



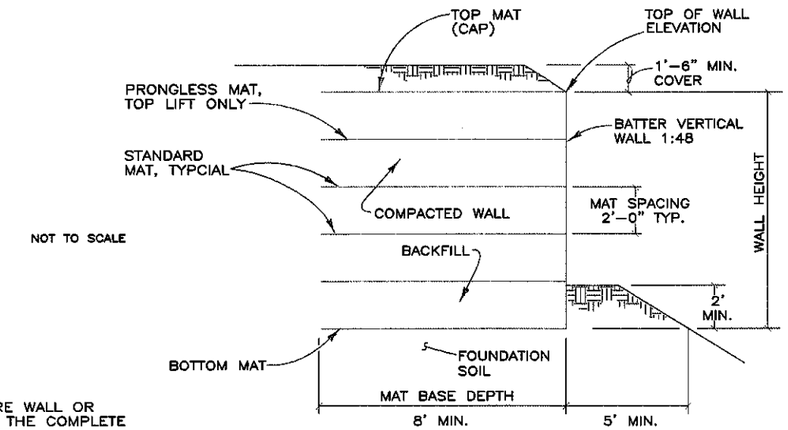
PICTORIAL ELEVATION
NOT TO SCALE

NOTES:

1. WALL SYSTEM IS HILFIKER WELDED WIRE WALL OR EQUAL. PAYMENT FOR ITEM 25555 IS FOR THE COMPLETE MECHANICALLY STABILIZED EARTH WALL SYSTEM INCLUDING EXCAVATION, AND BACKFILL.
2. WWF= WELDED WIRE FABRIC



WALL COMPONENTS
NOT TO SCALE



NOT TO SCALE

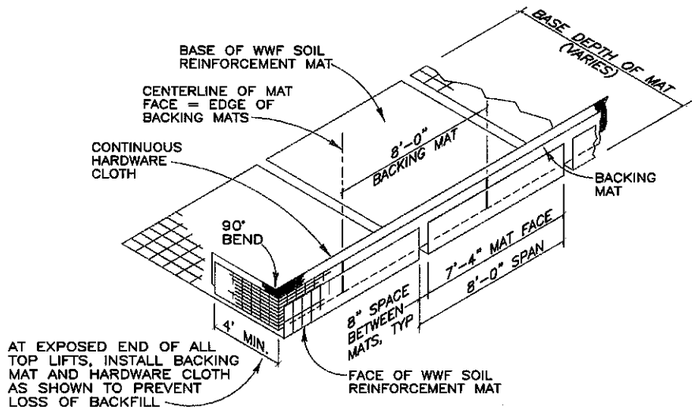
TYPICAL SECTION

PROJECT: ROAD 1934 M.P. 2.1 ERFO

SHEET NAME: HILFIKER DETAILS (1)

SHEETS: 13

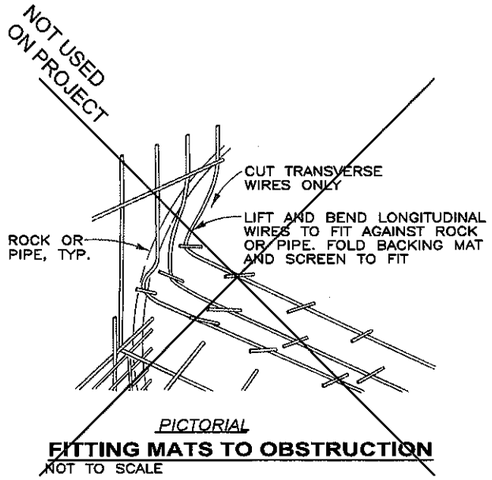
SHEET: 8



ISOMETRIC VIEW

WELDED WIRE WALL COMPONENTS WITH RETURN MAT

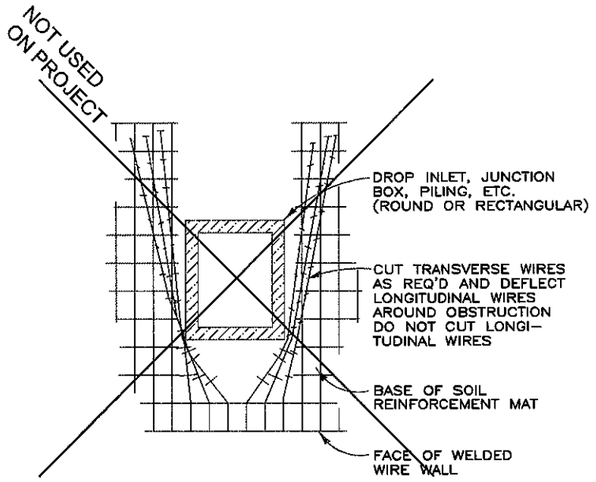
NOT TO SCALE



PICTORIAL

FITTING MATS TO OBSTRUCTION

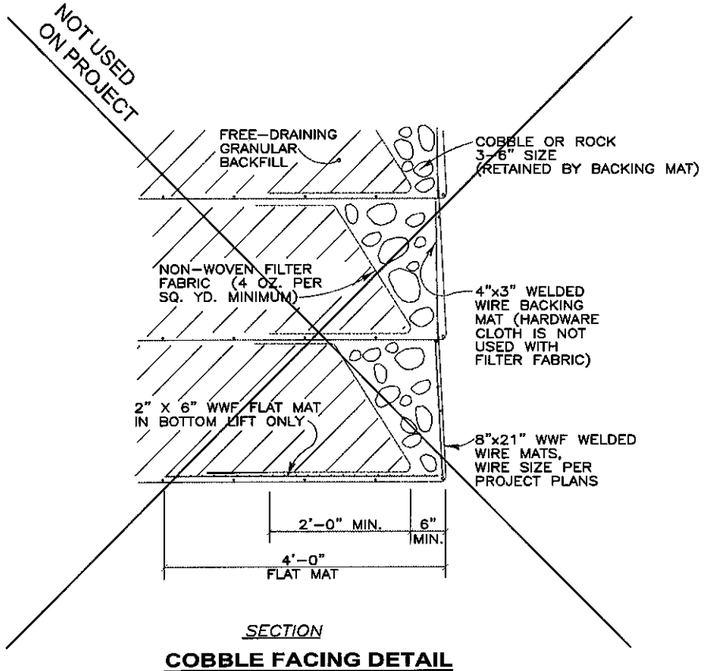
NOT TO SCALE



PLAN VIEW

MAT PENETRATION DETAIL

NOT TO SCALE

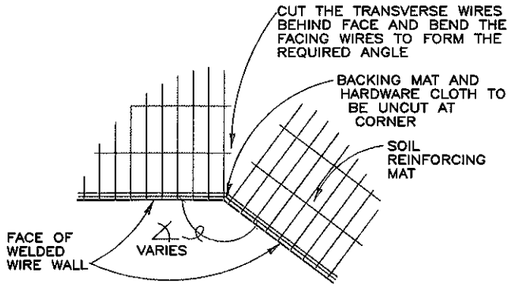


SECTION

COBBLE FACING DETAIL

NOT TO SCALE

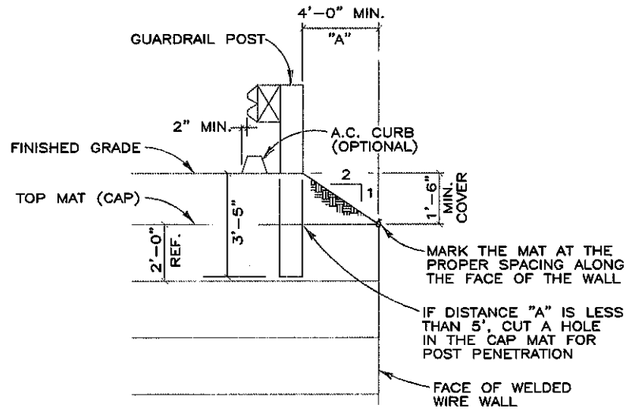
NOTE: THIS DETAIL IS TO BE USED ONLY AT STREAMBED INSTALLATION.



PLAN VIEW

CONCAVE ANGLE DETAIL

NOT TO SCALE



SECTION

GUARDRAIL DETAIL

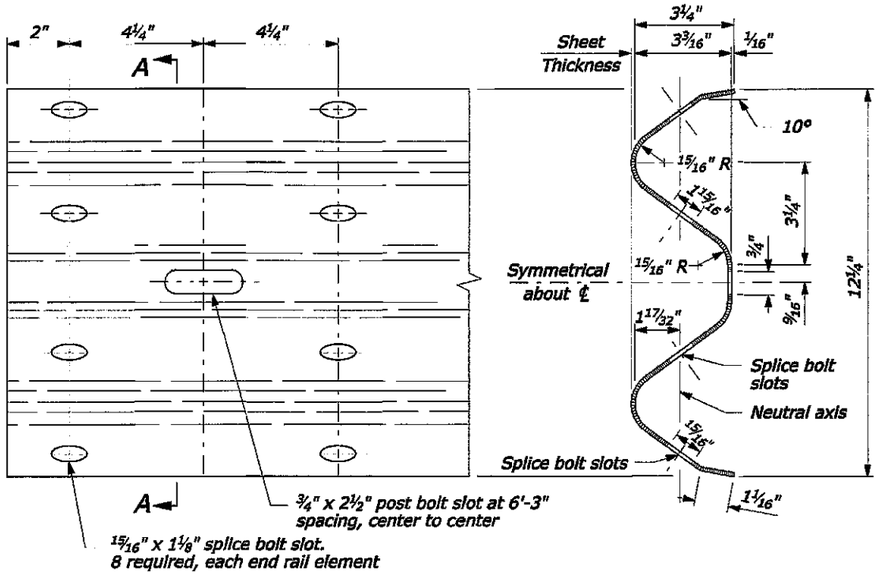
NOT TO SCALE

PROJECT: ROAD 1934 M.P. 2.1 ERFO

SHEET NAME: HILFIKER DETAILS (2)

SHEETS: 13

SHEET: 9



RAIL ELEMENT ELEVATION

SECTION A-A

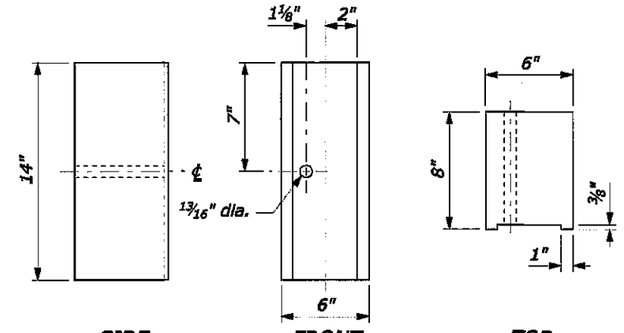
W BEAM RAIL MEMBERS

⅝" GUARDRAIL BOLT

L	Thread Length
1⅜"	1⅛" minimum
2"	1¾" minimum
10"	4" minimum
18"	4" minimum
25"	4" minimum

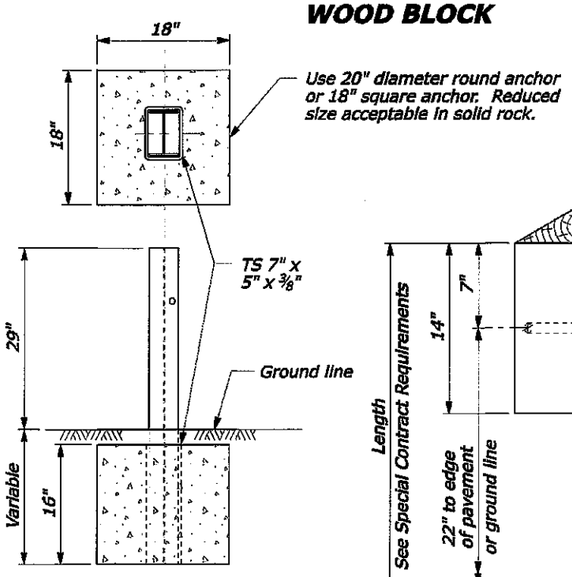
⅝" RECESS NUT

GUARDRAIL BOLT AND RECESS NUT



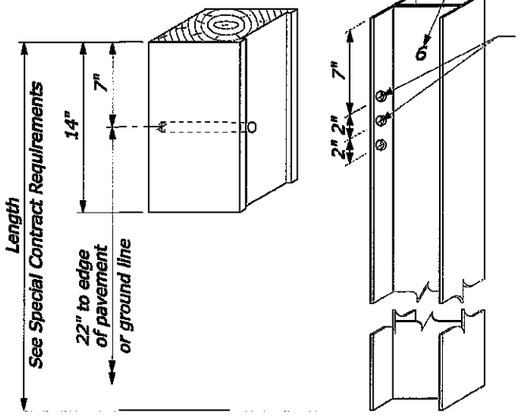
SIDE FRONT TOP

WOOD BLOCK

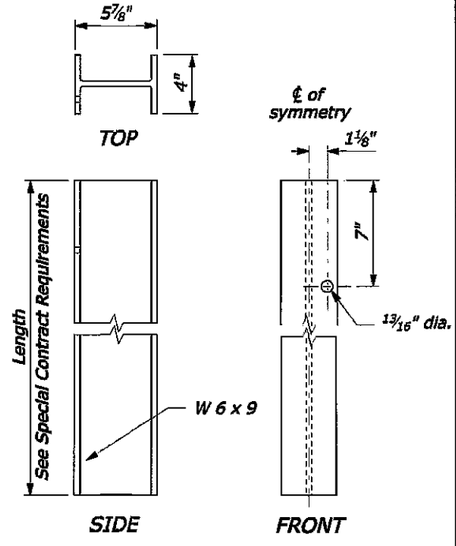


CONCRETE ANCHOR FOR SHORT GUARDRAIL POST

(See Note 1 and 2)



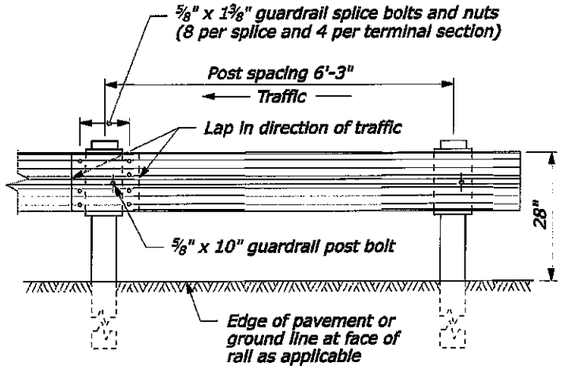
ALTERNATE HOLE ARRANGEMENT POST AND BLOCK DETAIL



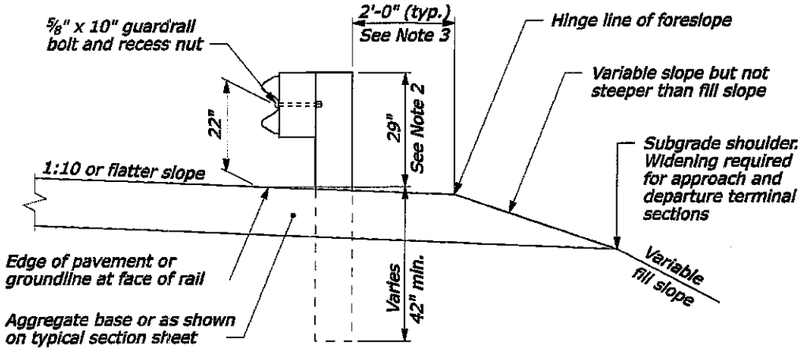
STRUCTURAL SHAPE POST

NOTE:

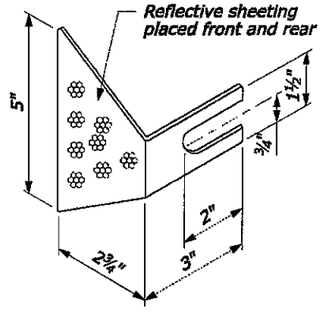
1. Use no more than 3 short guardrail posts in a row.
2. If directed to use alternate hole arrangement, post above ground shall be 33 inches tall.
3. See Special Contract Requirements when 7'-0" or longer posts are specified.
4. Install reflector tab between post bolt and rail, every fourth post. Alternate reflector tab shapes are acceptable.
5. Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance, and accepted manufacturing practices.



POST SPACING STANDARD POST SECTION



TYPICAL GUARDRAIL CROSS SECTION



REFLECTOR TAB

(See Note 4)

NO SCALE

PROJECT: ROAD 1934 M.P. 2.1 ERFO

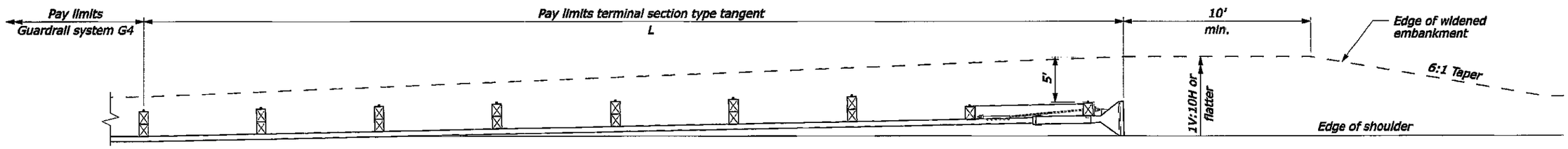
SHEET NAME: GUARDRAIL DETAILS (1)

SHEETS: 13

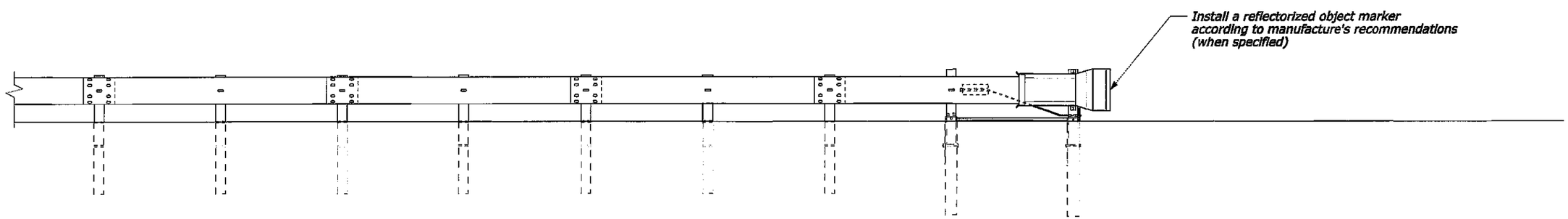
SHEET: 10

NOTE:

1. *Install a tangent G4 W-beam guardrail terminal that meets NCHRP-350 requirements per manufacturer's recommendations. Ensure that terminal meets appropriate test level for the project.*
2. *Install terminal at a 1:50 taper, ensuring that end piece is entirely off shoulder.*
3. *See manufacturer's drawings for other details.*



PLAN



ELEVATION

TEST LEVEL	L (ft)
2 (≤ 45 mph)	25
3 (> 45 mph)	37.5 or 50

NOTES;
1) L=25'
2) WIDENED EMBANKMENT NOT REQUIRED ON PROJECT.
3) SEE SHEETS 4 AND 6 FOR PROJECT ROADWAY DIMENSIONS.
4) INSTALL REFLECTORIZED OBJECT MARKERS TO ALL ENDS.

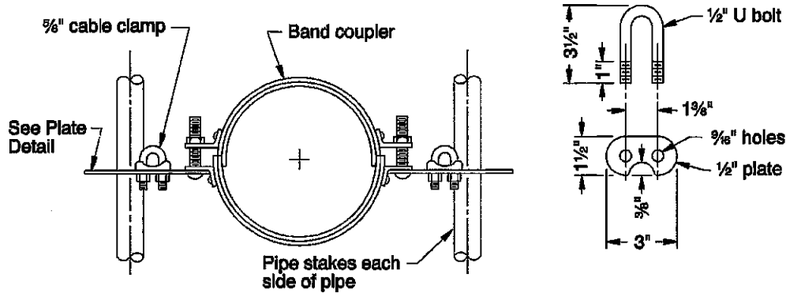
NO SCALE

PROJECT: ROAD 1934 M.P. 2.1 ERFO

SHEET NAME: GUARDRAIL DETAILS (2)

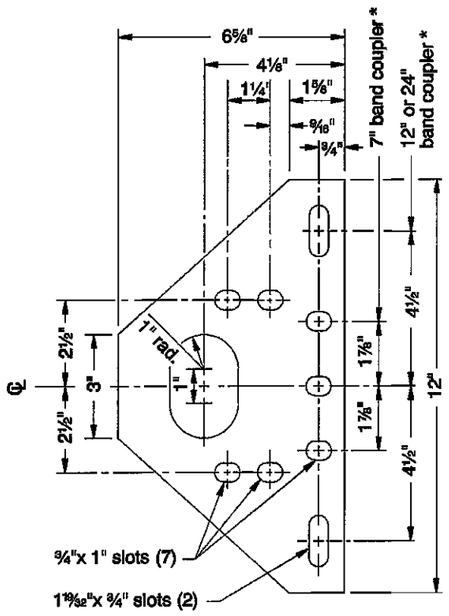
SHEETS: 13

SHEET: 11



ANCHOR ASSEMBLY ALTERNATE "A"

Cables and cable clamps to be used when specified.

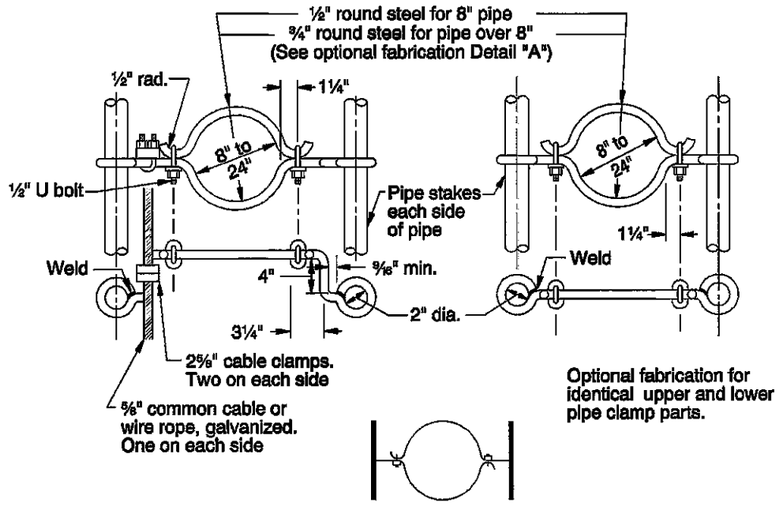


* Length of band coupler measured parallel to the centerline of the pipe.

PLATE DETAIL 1A

GENERAL NOTES FOR ALL DETAILS:

1. All pipe stakes and hardware to be hot-dip galvanized after fabrication.
2. Either Alternate "A" or Alternate "B" anchor assembly may be used at contractor's option for annularly corrugated pipe. Alternate "A" to be used with helically corrugated pipe.
3. Either Type 1 or Type 2 pipe stakes may be used with either anchor assembly alternate at the contractor's option.
4. Place slope anchor assemblies on 20' max. centers on slopes 20% or greater.
5. Plate material to be ASTM A36 ¼". Hot-dip galvanize after fabrication.



ANCHOR ASSEMBLY ALTERNATE "B"

Cables and cable clamps to be used when specified.

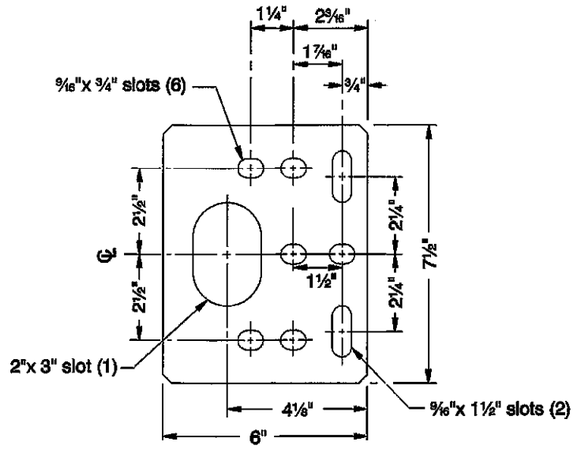
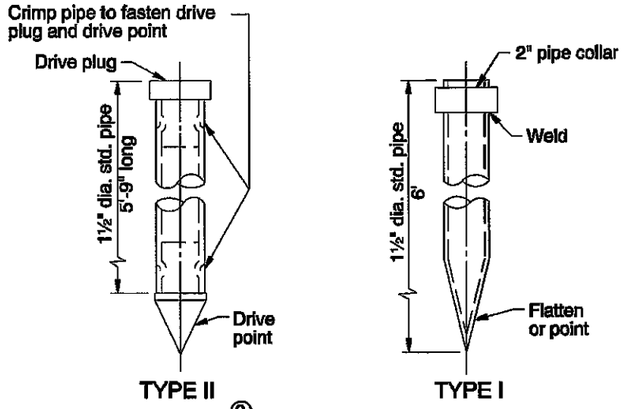
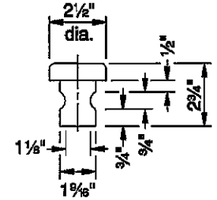


PLATE DETAIL 1B

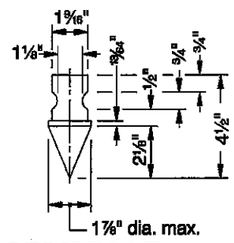


③

PIPE STAKES



DRIVE PLUG
(CAST IRON)



DRIVE POINT
(CAST IRON)

CALC. BOOK NO. _____ BASELINE REPORT DATE _____

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

METAL PIPE SLOPE ANCHORS

2008

DATE	REVISION DESCRIPTION

PROJECT: ROAD 1934 M.P. 2.1 ERFO

SHEET NAME: SLOPE ANCHOR DETAILS

SHEETS: 13

SHEET: 12

1) SUBMIT A TRAFFIC CONTROL PLAN PRIOR TO MOBILIZATION FOR APPROVAL BY THE CO. THE INFORMATION IN THIS SHEET SHALL BE PUT IN PLACE IN CONJUNCTION WITH THE APPROVED TRAFFIC CONTROL PLAN.

2) TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

3) CONTRACTOR SHALL NOTIFY THE CO IN WRITING OF THE PROPOSED ROAD CLOSURE DATE AT LEAST 14 DAYS IN ADVANCE.

4) ONE WEEK PRIOR TO CLOSING, POST TRAFFIC WARNING SIGNS A & A1.

5) ONE DAY PRIOR TO CLOSING, POST TRAFFIC WARNING SIGNS C, D, AND TYPE III BARRICADES. TWO TYPE III BARRICADES REQUIRED ON BOTH SIDES OF THE PROJECT FOR THE DURATION OF PROJECT.

6) MOUNT SIGNS ON 4"x4" PRESSURE TREATED POSTS, SIGNS MINIMUM 36"x36".

7) CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ALL TRAFFIC CONTROL, ANY SIGNS MISSING OR DEFACED SHALL BE REPLACED IMMEDIATELY.

8) SIGNS A AND A1 SHALL BE REFLECTIVE TEMPORARY TRAFFIC CONTROL SIGNS WITH ORANGE BACKGROUND AND BLACK 4" LETTERING.

A

FS ROAD 1934 CLOSURE

(INSERT DATES HERE)

M.P. 1.0 TO MP 3.0

A1

FOR ADDITIONAL INFORMATION
CALL MIDDLE FORK
RANGER DISTRICT
541-782-2283

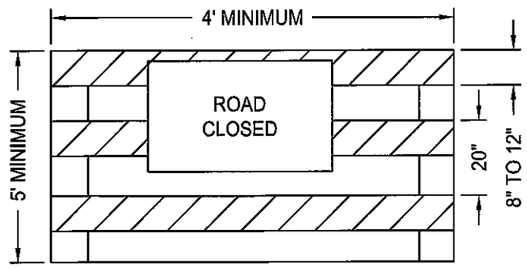
C

W20-3
36"x36"

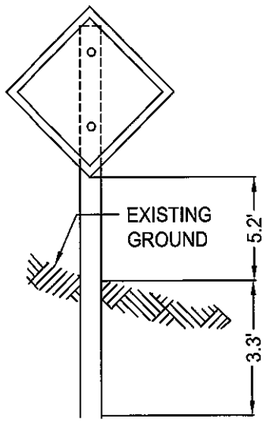
D

W16-3
36"x36"

SIGN	LOCATION
A	ROAD 1934, MP 0.02
A1	ROAD 1934, MP 0.03
C	ROAD 1934, 500' PRIOR TO BOTH SIDES OF CLOSURE
D	ROAD 19, 1000' EACH SIDE OF ROAD 1934



TYPE III BARRICADE
FURNISHED WITH A R11 - 2



PROJECT
ROAD 1934 M.P. 2.1 ERFO

SHEET NAME
SIGN PLAN

SHEETS
13

SHEET
13