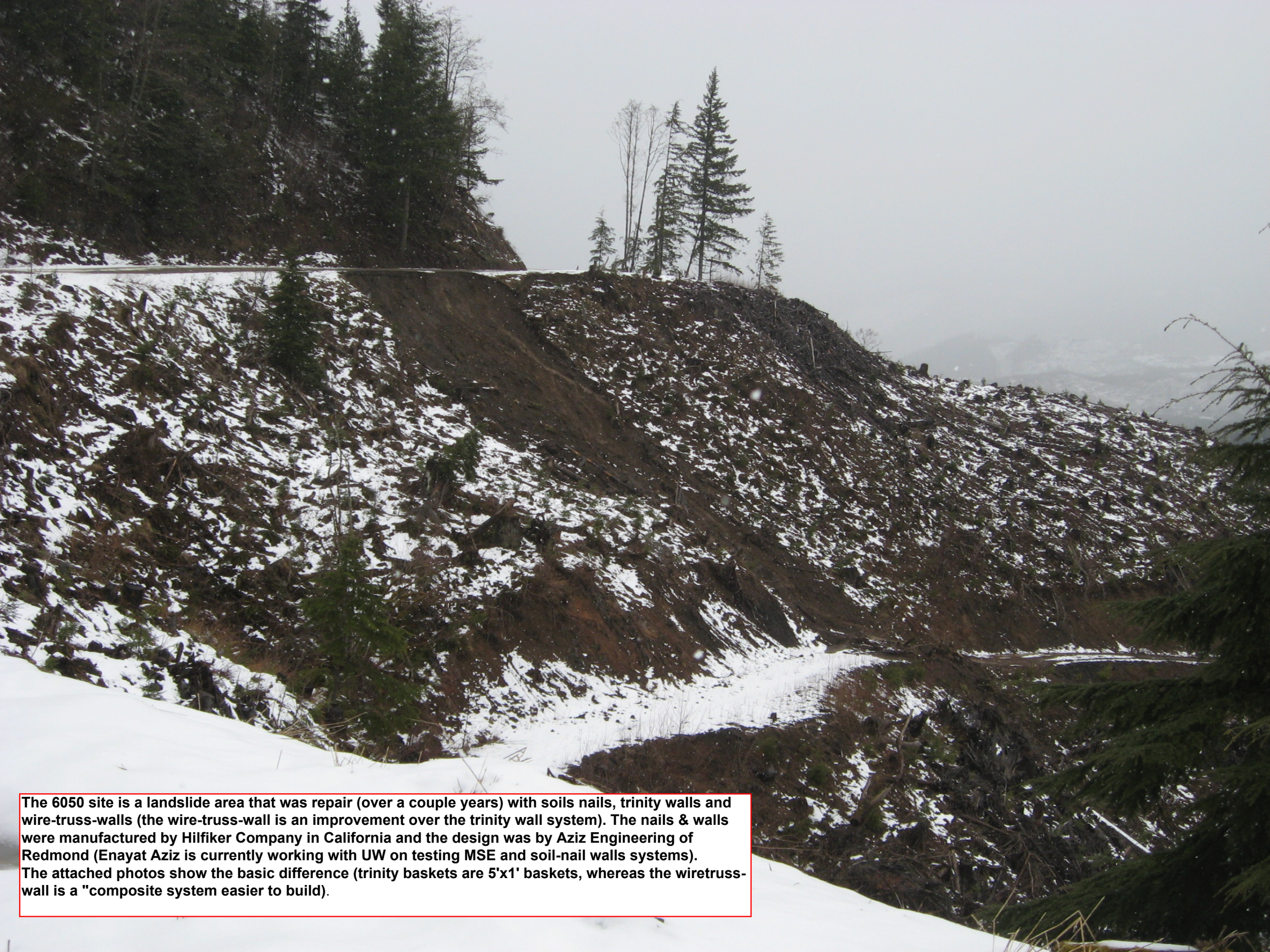
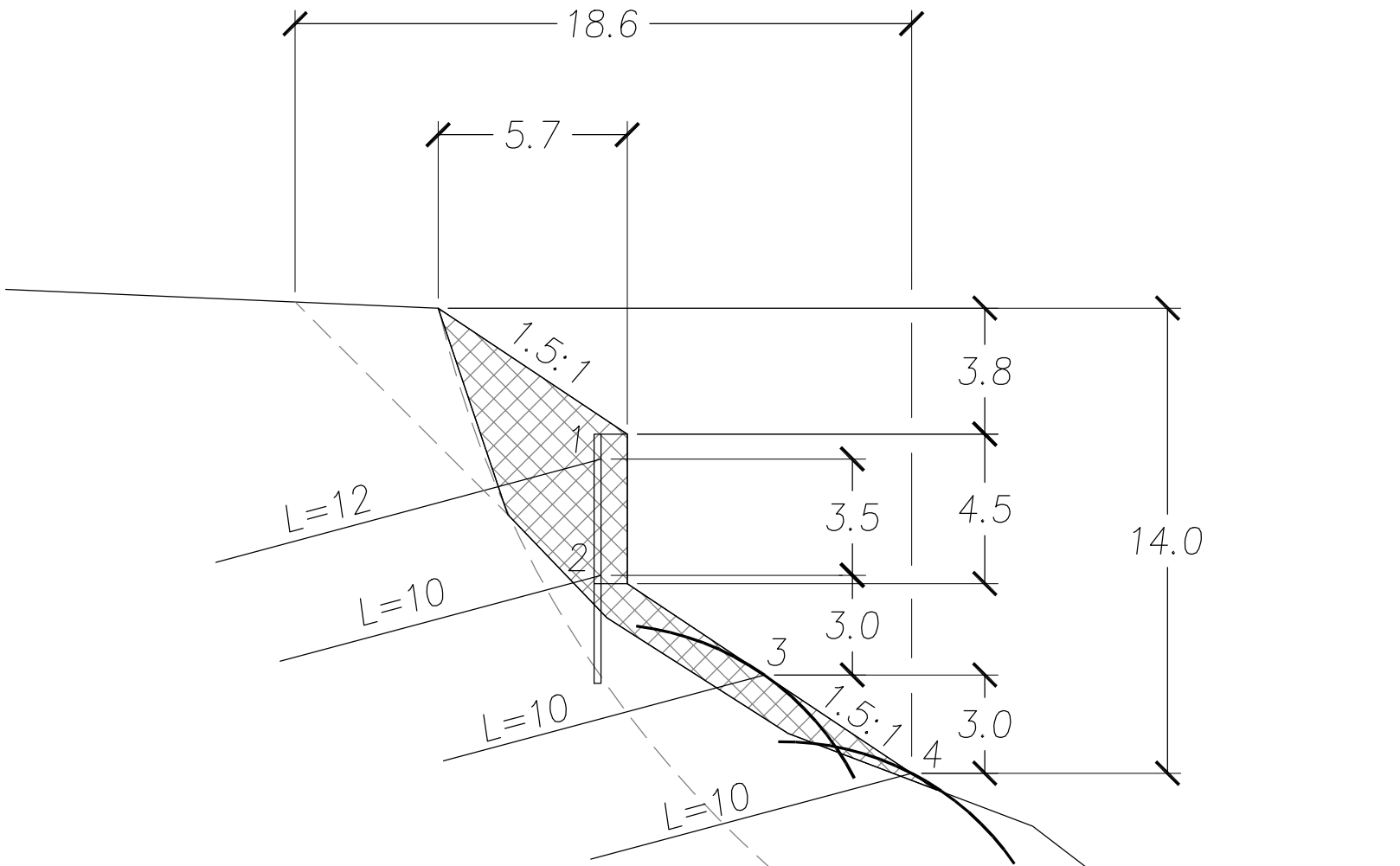


The 6050 site is a landslide area that was repair (over a couple years) with soils nails, trinity walls and wire-truss-walls (the wire-truss-wall is an improvement over the trinity wall system). The nails & walls were manufactured by Hilfiker Company in California and the design was by Aziz Engineering of Redmond (Enayat Aziz is currently working with UW on testing MSE and soil-nail walls systems).
The attached photos show the basic difference (trinity baskets are 5'x1' baskets, whereas the wiretruss-wall is a "composite system easier to build).



The 6050 site is a landslide area that was repair (over a couple years) with soils nails, trinity walls and wire-truss-walls (the wire-truss-wall is an improvement over the trinity wall system). The nails & walls were manufactured by Hilfiker Company in California and the design was by Aziz Engineering of Redmond (Enayat Aziz is currently working with UW on testing MSE and soil-nail walls systems).
The attached photos show the basic difference (trinity baskets are 5'x1' baskets, whereas the wiretruss- wall is a "composite system easier to build).

typical section
HFM 6050 mainline road mp 2.7 slide repair

scale 1"= 5ft vert & horiz

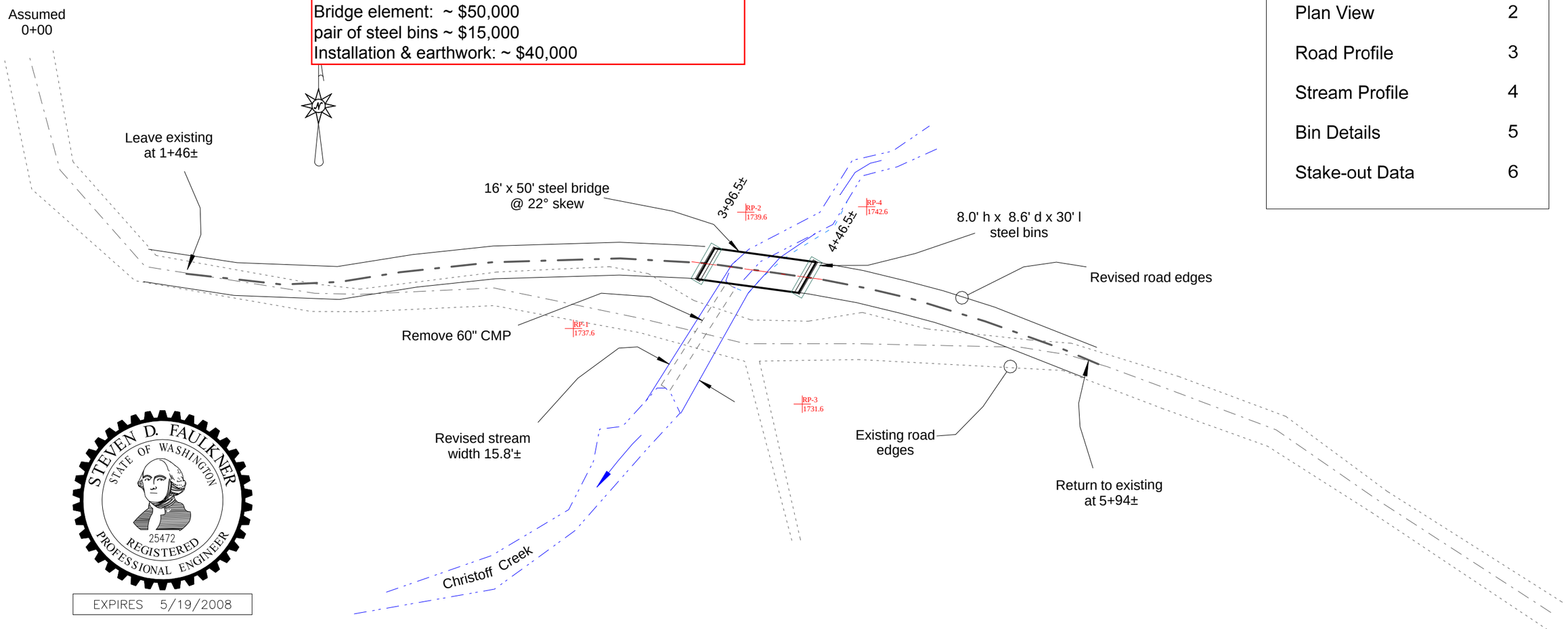
AZIZ


Christoff Cr Bridge

Christoff Cr is a completed project that utilizes steel bin abutments as a foundation for a 50 steel bridge.

Costs:
Bridge element: ~ $50,000
pair of steel bins ~ $15,000
Installation & earthwork: ~ $40,000

Index to Sheets



Lat/Long:
47° 9.555' N
122° 38.908' W

Note: Based on compass & chain survey, meridian assumed.

0 100'

Christoff Cr Culvert Replacement
Site Overview

Hancock Forest Management
White River Tree Farm

DATE June 11, 2007	DRAWN Pacific Forest Resources Enumclaw, WA	REV
SCALE 1" = 50'	SE¼SW¼ Section 3, T19N, R9E, W.M., Pierce County, Washington	SHEET 1 of 6

16' x 50' steel bridge
@ 22° skew

RP-2
1739.6

RP-4
1742.6

Heavy, machine-placed rip-rap at
front of bins to extend 2' below channel

Leave existing
at 1+46±

Precast sills

3+96.5±

8.0' h x 8.6' d x 30' l
steel bins

Revised road edges

6" Perforated
drain pipe

4+46.5±

Remove 60" CMP

RP-1
1737.6

Revised stream
width 15.8'±

Existing road
edges

Return to existing
at 5+94±

RP-3
1731.6

Christoff Creek

Christoff Trail

0 50'

STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2008

General Notes

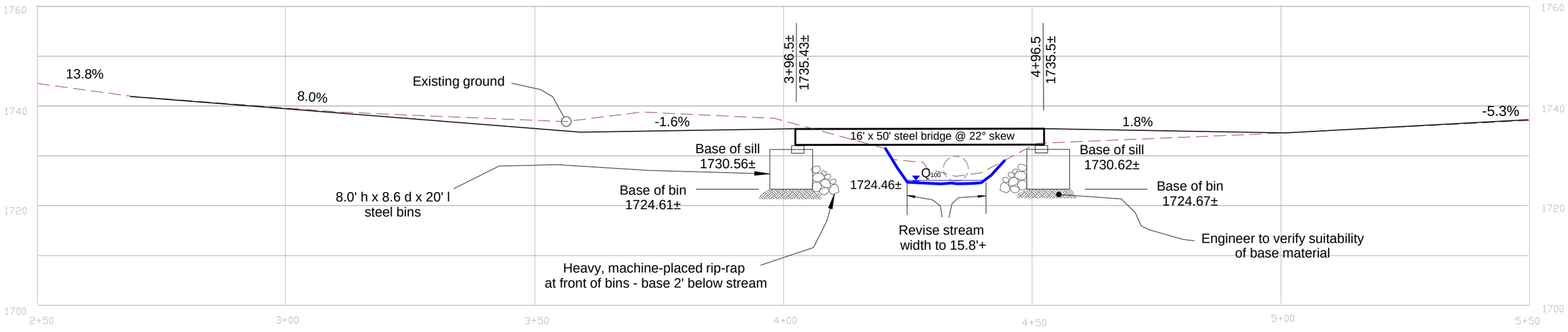
1) Streamflow will be isolated from active work are through relocation into 24" bypass culvert similarly to as shown.

2) Road surfaced will be crowned at 3%.

Christoff Cr Culvert Replacement
Plan View

Hancock Forest Management
White River Tree Farm

DATE June 11, 2007	DRAWN Pacific Forest Resources Enumclaw, WA	REV
SCALE 1" = 20'	SE¼SW¼ Section 3, T19N, R9E, W.M., Pierce County, Washington	SHEET 2 of 6



STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2008

General Notes

1) Bin footing shall be sub-excavated, backfilled and compacted with suitable material as directed by Design Engineer.

2) Bin backfill material to be well-graded, 3-inch minus crushed material. Backfill material to be approved by engineer prior to placement.

3) Streambed material as approved by WDFW biologist will be placed within revised channel.

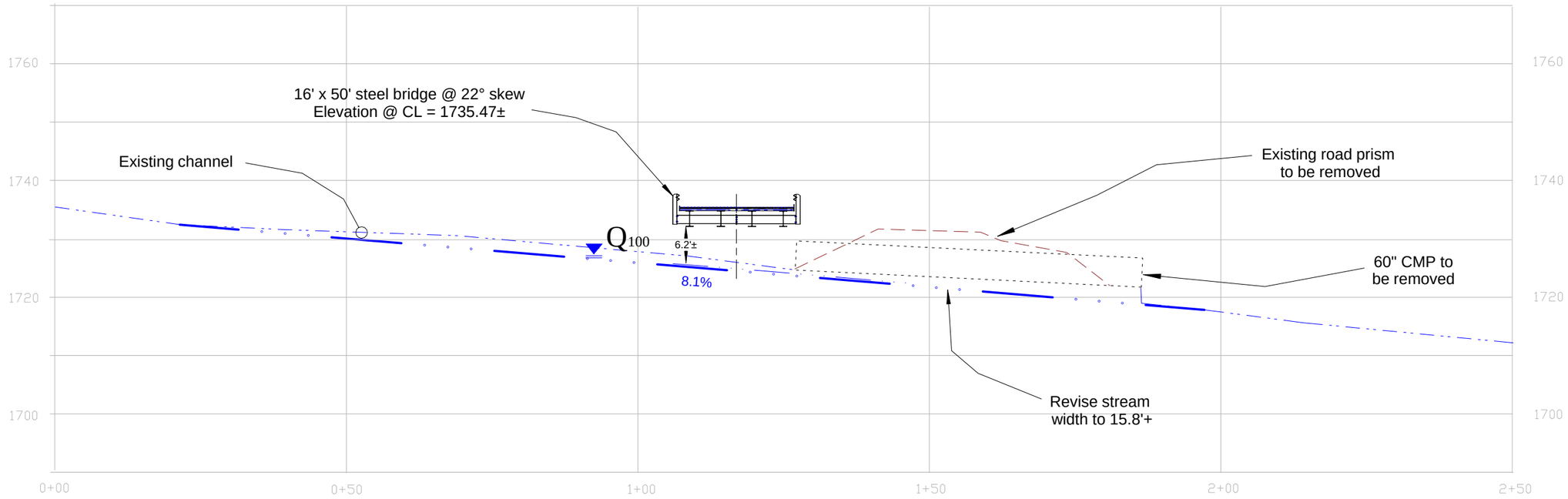
4) Elevation interpolated from GPS. Vertical and horizontal data developed from compass and chain survey.

0 50'

Christoff Cr Culvert Replacement
Road Profile

Hancock Forest Management
White River Tree Farm

DATE	DRAWN	REV
June 11, 2007	Pacific Forest Resources Enumclaw, WA	
SCALE 1" = 20'	SE¼SW¼ Section 3, T19N, R9E, W.M., Pierce County, Washington	SHEET 3 of 6



0 50'

General Notes

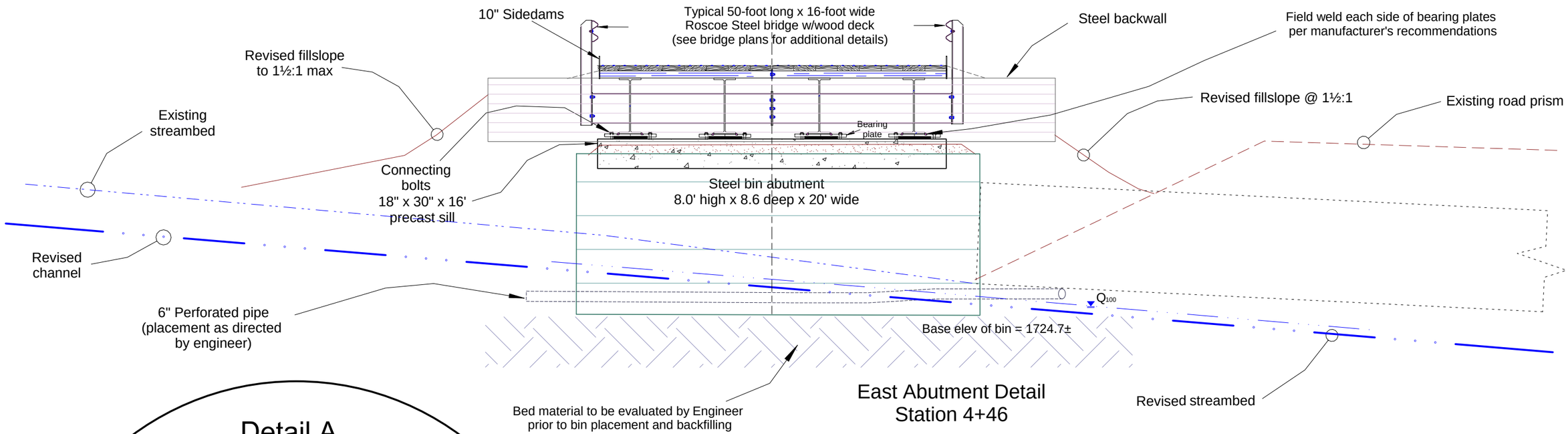
1) Streambed material as approved by WDFW biologist will be placed within revised channel.

2) Any rip-rap placed adjacent to streambanks must be able to withstand 100-year flows (2-man+ rocks).

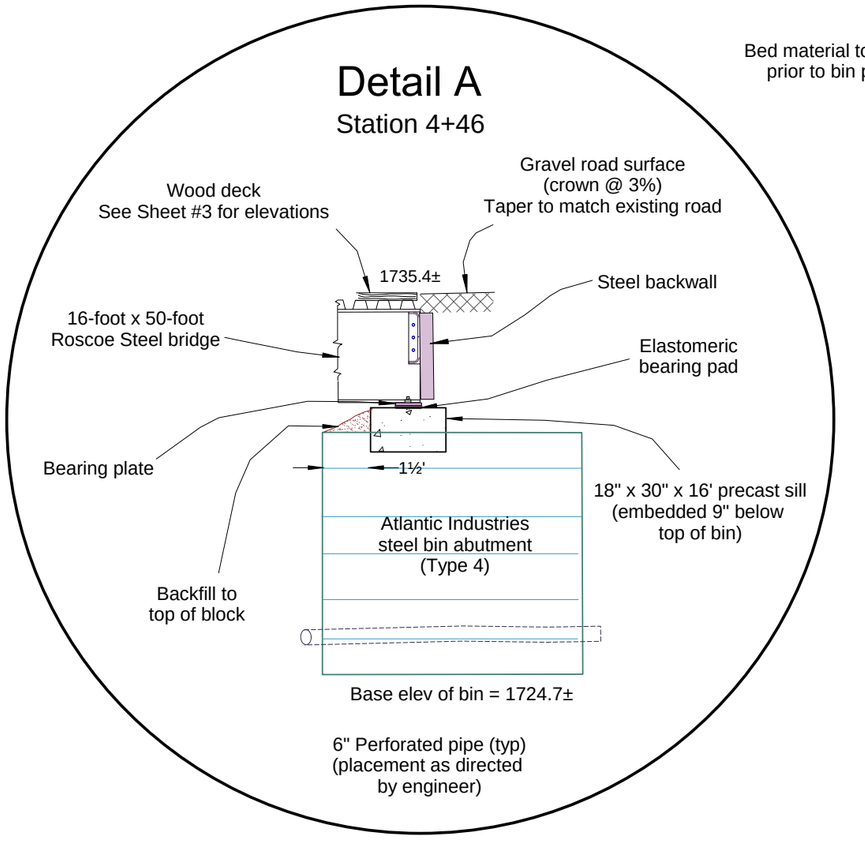
Christoff Cr Culvert Replacement Stream Profile

Hancock Forest Management
White River Tree Farm

DATE	DRAWN	REV
June 11, 2007	Pacific Forest Resources Enumclaw, WA	
SCALE 1" = 20'	SE¼SW¼ Section 3, T19N, R9E, W.M., Pierce County, Washington	SHEET 4 of 6



East Abutment Detail
Station 4+46



Bin Installation Notes:

West abutment (Station 3+96) is typical to east abutment as shown.

Stream channel to be revised as shown on Plan View and Stream Profile.

Engineer shall review ground conditions prior to placement and backfilling of steel bin abutments. Reinforcement may be required based on field review.

Backfill material for bin to be maximum size 3". Material shall be approved by engineer. Compaction with "jumping-jack" type compactor to 95% standard density (per engineers' approval).

See bin shop drawings for assembly details.

Precast sill to be embedded 9"± deep into bin.

See Roscoe shop drawings for bridge connection and assembly details.

0 10'

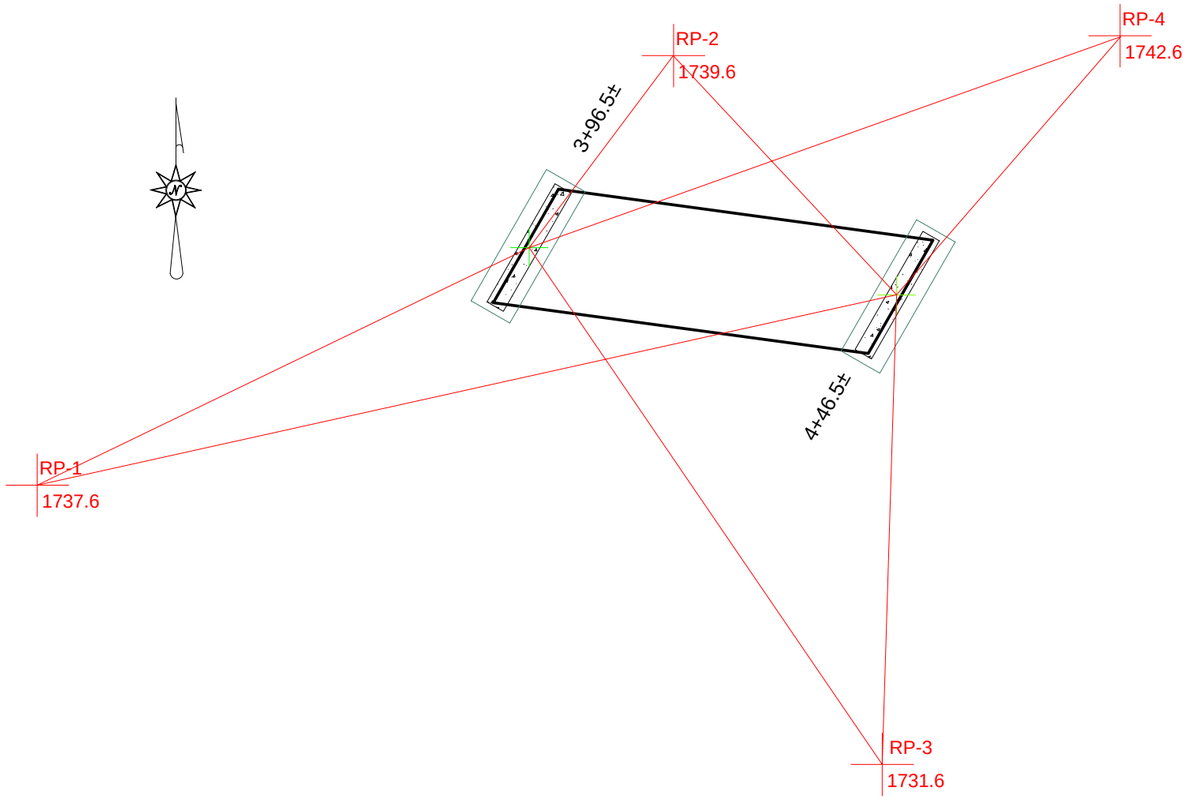
STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2008

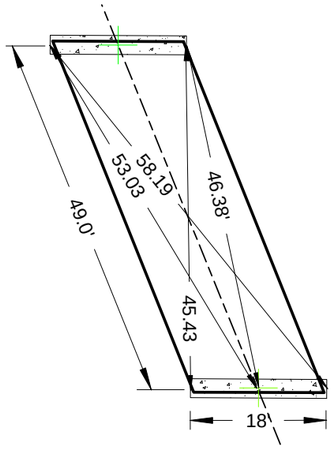
Christoff Cr Culvert Replacement
Bin Details

Hancock Forest Management
White River Tree Farm

DATE June 11, 2007	DRAWN Pacific Forest Resources Enumclaw, WA	REV 6/12/07
SCALE 1" = 5'	SE¼SW¼ Section 3, T19N, R9E, W.M., Pierce County, Washington	SHEET 5 of 6



Stake-Out Table to CL of Sill		
Point	3+96	4+46
RP-1	72.36'	116.95'
RP-2	31.53'	43.77'
RP-3	82.76'	62.01'
RP-4	82.79'	44.82'



Diagonal Measurements	
CL Sill	
Long:	53.03'
Short:	46.38'
Outer Diagonals	
Long:	58.19'
Short:	45.43'

EXPIRES 5/19/2008

0 50'

Christoff Cr Culvert Replacement Stake-Out Detail

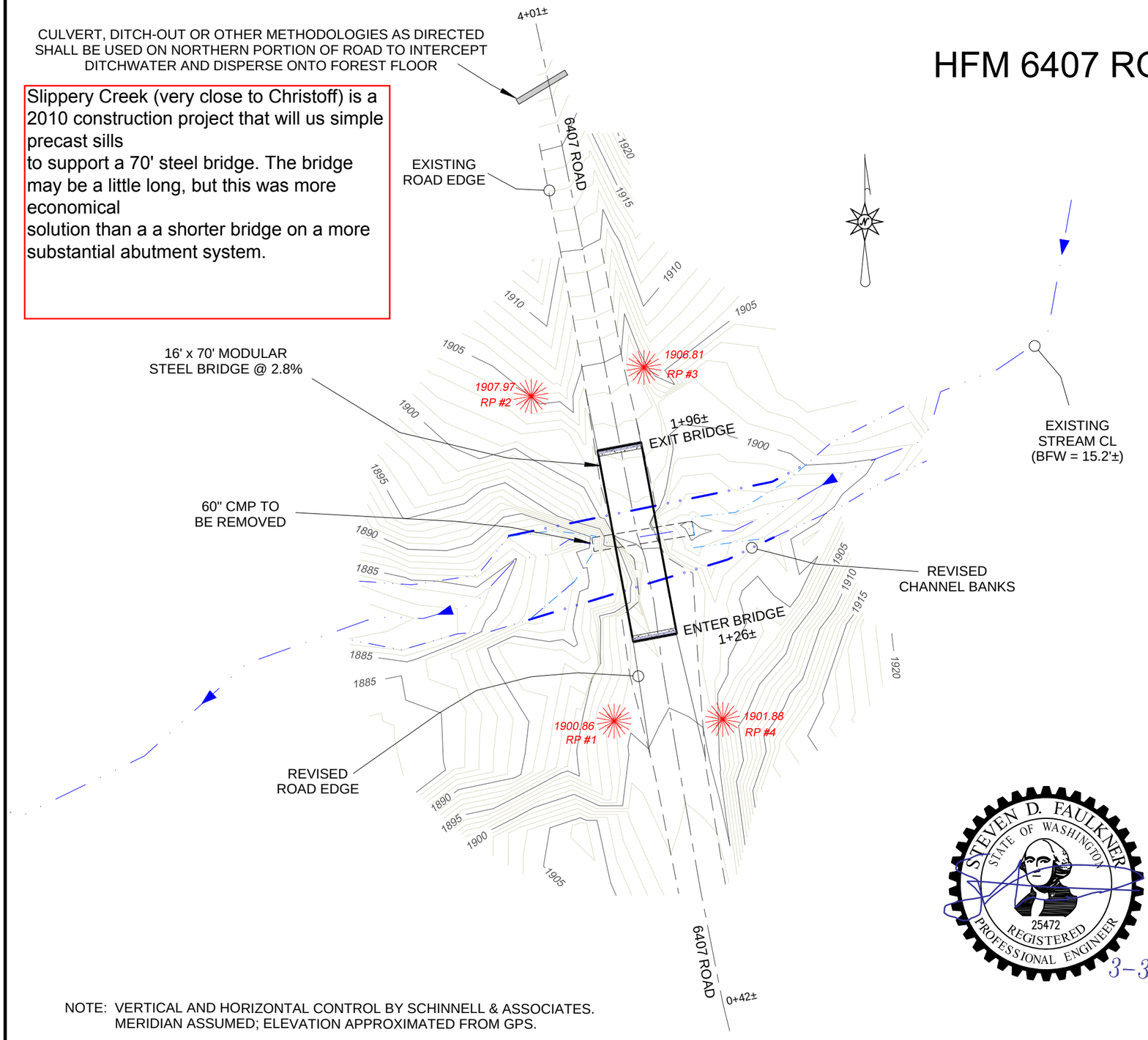
Hancock Forest Management White River Tree Farm

DATE	DRAWN	REV
June 11, 2007	Pacific Forest Resources Enumclaw, WA	
SCALE 1" = 20'	SE¼SW¼ Section 3, T19N, R9E, W.M., Pierce County, Washington	SHEET 6 of 6

HFM 6407 ROAD CULVERT REPLACEMENT
SITE OVERVIEW

CULVERT, DITCH-OUT OR OTHER METHODOLOGIES AS DIRECTED SHALL BE USED ON NORTHERN PORTION OF ROAD TO INTERCEPT DITCHWATER AND DISPERSE ONTO FOREST FLOOR

Slippery Creek (very close to Christoff) is a 2010 construction project that will us simple precast sills
to support a 70' steel bridge. The bridge may be a little long, but this was more economical
solution than a a shorter bridge on a more substantial abutment system.



NOTE: VERTICAL AND HORIZONTAL CONTROL BY SCHINNELL & ASSOCIATES. MERIDIAN ASSUMED; ELEVATION APPROXIMATED FROM GPS.

STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

3-3-10

INDEX TO SHEETS

PROJECT LOCATION:

LATITUDE: N 47.16972°
LONGITUDE: W 121.66222°

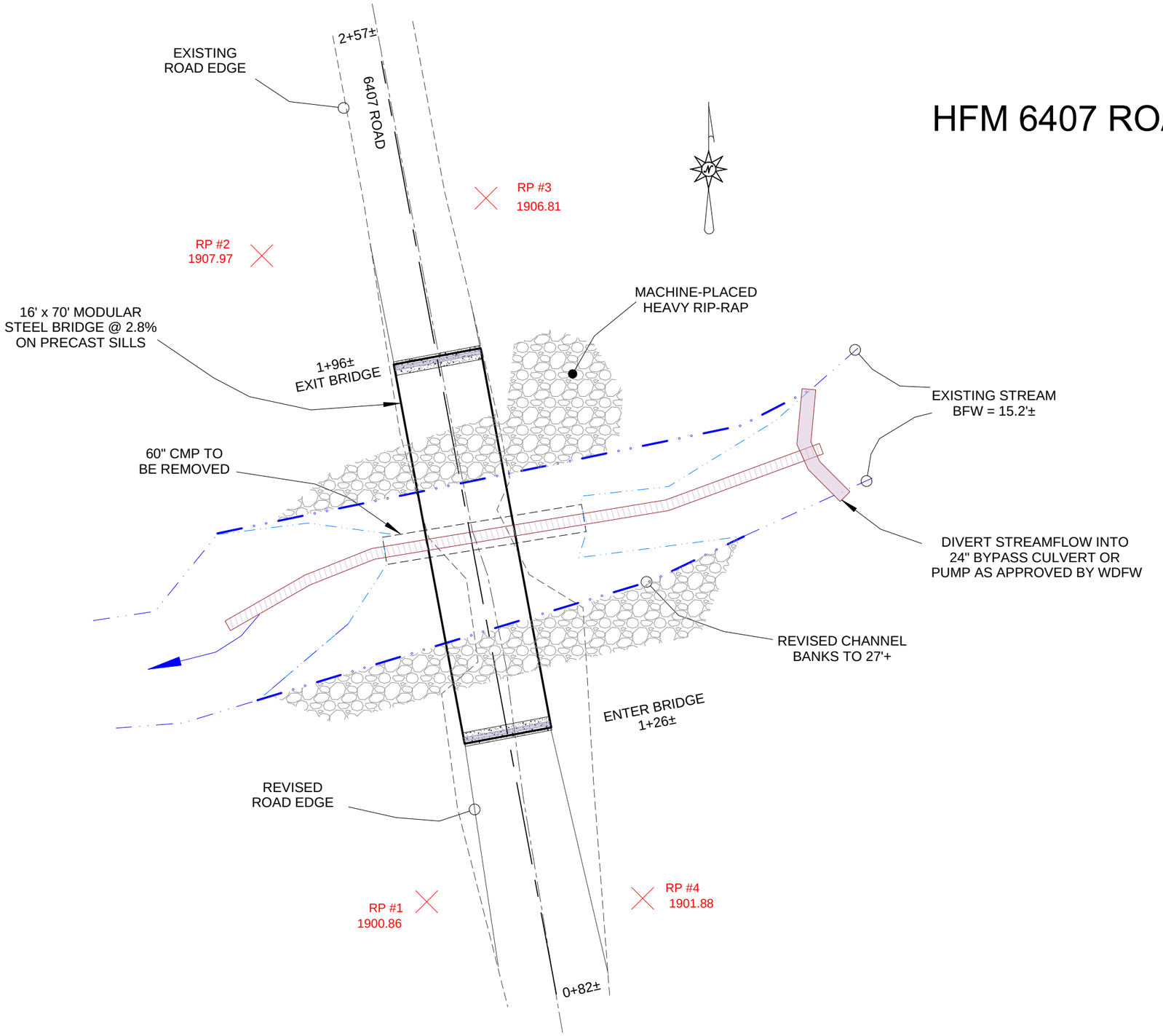
0 50 100

SLIPPERY CREEK TRIBUTARY CULVERT REPLACEMENT

HANCOCK FOREST MANAGEMENT WHITE RIVER FORESTS

DATE 12 - 1 - 2009	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 3/3/2010
SCALE 1" = 40'	GOVT. LOT 1, SEC 4, T19N, R9E, W.M., KING COUNTY, WASHINGTON	SHEET 1 of 6

HFM 6407 ROAD CULVERT REPLACEMENT
PLAN VIEW



STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER
3-3-10

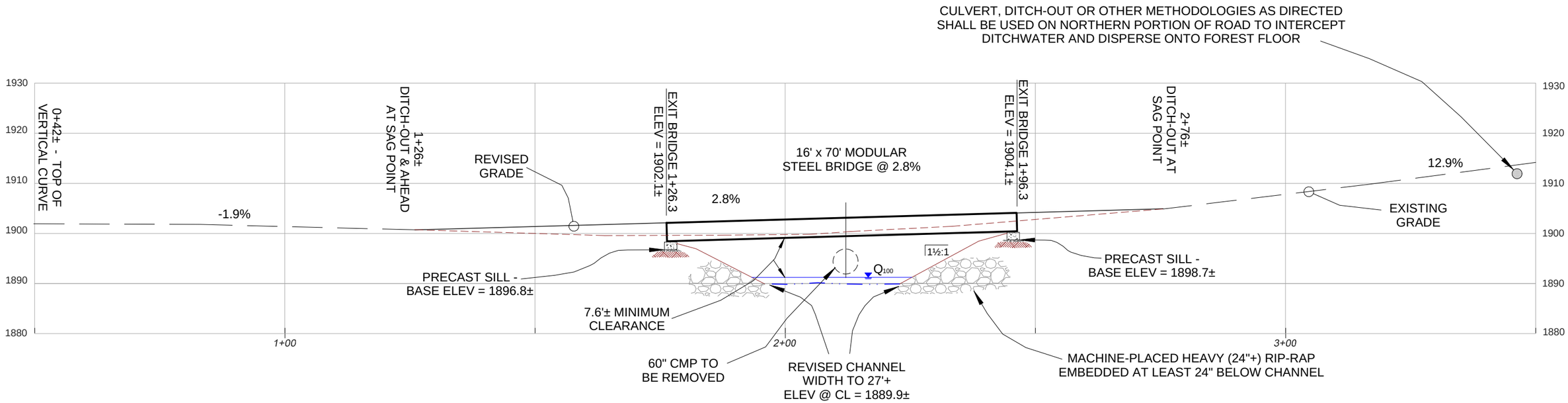
0 25 50

SLIPPERY CREEK TRIBUTARY CULVERT REPLACEMENT

HANCOCK FOREST MANAGEMENT WHITE RIVER FORESTS

DATE 12 - 1 - 2009	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 3/3/2010
SCALE 1" = 20'	GOVT. LOT 1, SEC 4, T19N, R9E, W.M., KING COUNTY, WASHINGTON	SHEET 2 of 6

HFM 6407 ROAD CULVERT REPLACEMENT
ROAD PROFILE



GENERAL CONSTRUCTION NOTES

EXISTING BFW = 15.2'±

1) 16' x 70' STRUCTURE IS A MODULAR STEEL BRIDGE WITH A WOOD OR CONCRETE DECK; LOAD RATING IS U-80.

2) PRECAST SILLS SHALL BE SET ON AT LEAST 6" OF CRUSHED MATERIAL (2" MINUS OR SMALLER); MAXIMUM SLOPE FROM TOE OF SILL TO CHANNEL SHALL BE 2:1 MAXIMUM. SOIL CONDITIONS AT BASE OF SILLS TO BE EVALUATED BY ENGINEER PRIOR TO PLACEMENT OF SILLS; BASE REINFORCEMENT MAY BE REQUIRED PER ENGINEER'S EVALUATION.

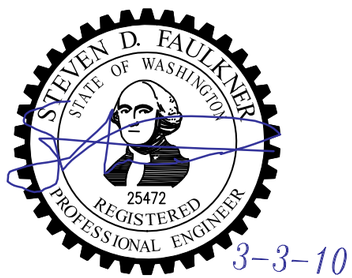
3) RIP-RAP TO BE MINIMUM 24" MATERIAL AND SHALL BE FOUNDED AT LEAST 24-INCHES BELOW CHANNEL BED.

4) STREAMFLOW TO BE DIVERTED FROM WORK AREA APPROXIMATELY AS SHOWN ON PLAN VIEW OR AS OTHERWISE APPROVED BY HPA.

5) A CULVERT, DITCH-OUT OR OTHER METHODOLOGIES AS DIRECTED SHALL BE USED ON NORTHERN PORTION OF ROAD TO INTERCEPT DITCHWATER AND DISPERSE ONTO FOREST FLOOR. EXACT PLACEMENT SHALL BE FIELD LOCATED DURING BRIDGE CONSTRUCTION OPERATIONS

6) ALL EXPOSED SOILS TO BE STRAW MULCHED AND SEEDED.

7) ROAD SURFACED WILL BE CROWNED AT 3%.



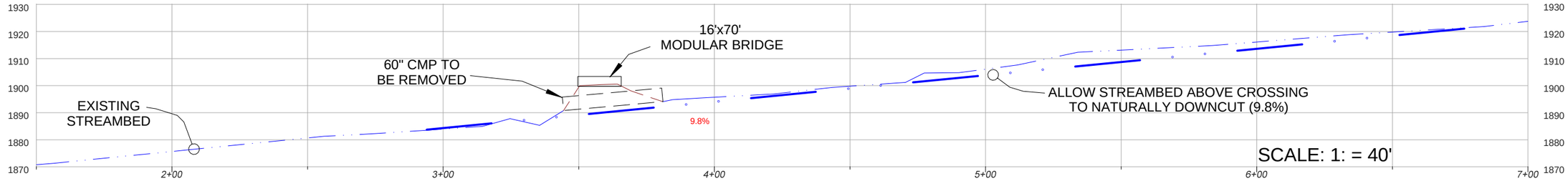
0 25 50

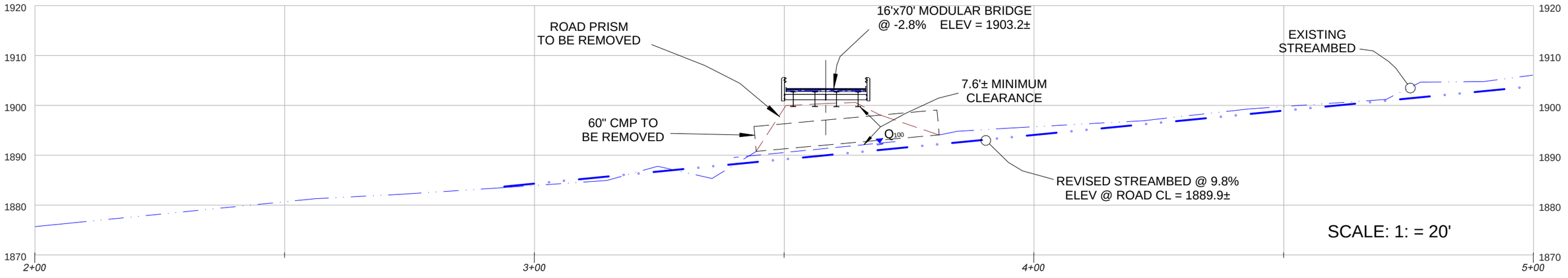
SLIPPERY CREEK TRIBUTARY CULVERT REPLACEMENT

HANCOCK FOREST MANAGEMENT WHITE RIVER FORESTS

DATE 12 - 1 - 2009	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 3/3/2010
SCALE 1" = 20'	GOVT. LOT 1, SEC 4, T19N, R9E, W.M., KING COUNTY, WASHINGTON	SHEET 3 of 5

HFM 6407 ROAD CULVERT REPLACEMENT
STREAM PROFILE





NOTE: EXISTING BFW = 15.2'±

STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER
3-3-10

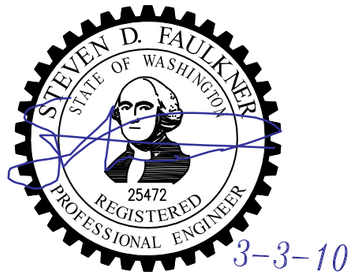
SCALE: 1: = 40'
0 50 100
0 25 50
SCALE: 1: = 20'

SLIPPERY CREEK TRIBUTARY CULVERT REPLACEMENT

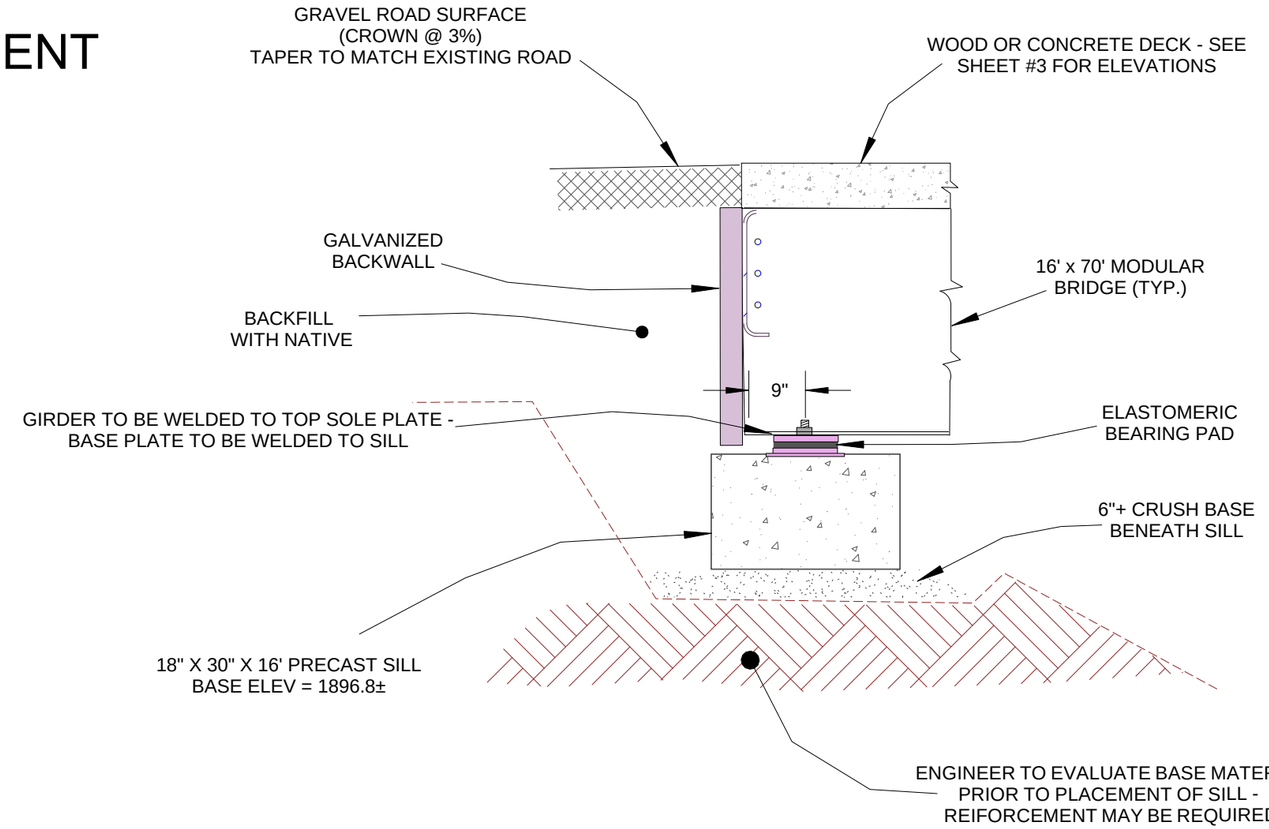
HANCOCK FOREST MANAGEMENT WHITE RIVER FORESTS

DATE 12 - 1 - 2009	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 3/3/2010
SCALE AS SHOWN	GOVT. LOT 1, SEC 4, T19N, R9E, W.M., KING COUNTY, WASHINGTON	SHEET 4 of 6

HFM 6407 ROAD CULVERT REPLACEMENT
ABUTMENT DETAILS



3-3-10



SOUTH ABUTMENT DETAIL
STATION 1+26

GENERAL NOTES:

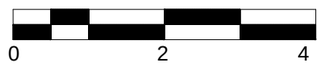
1) NORTH ABUTMENT (STATION 1+96) IS TYPICAL TO SOUTH ABUTMENT AS SHOWN (ELEV @ BASE OF 1+96 SILL = 1898.7±)

2) STREAM CHANNEL TO BE REVISED TO AT LEAST 27-FEET WIDE AS SHOWN ON PLAN AND PROFILE VIEWS.

3) AT LEAST 6-INCHES OF CRUSHED BASE MATERIAL SHALL BE PLACE BENEATH SILL AS LEVELING COURSE.

4) ENGINEER SHALL REVIEW GROUND CONDITIONS PRIOR TO PLACEMENT PRECAST SILL ABUTMENTS; REINFORCEMENT MAY BE REQUIRED BASED ON FIELD REVIEW.

5) REFER TO MANFACTURER'S SHOP DRAWINGS FOR BRIDGE ASSEMBLY AND CONNECTION DETAILS.

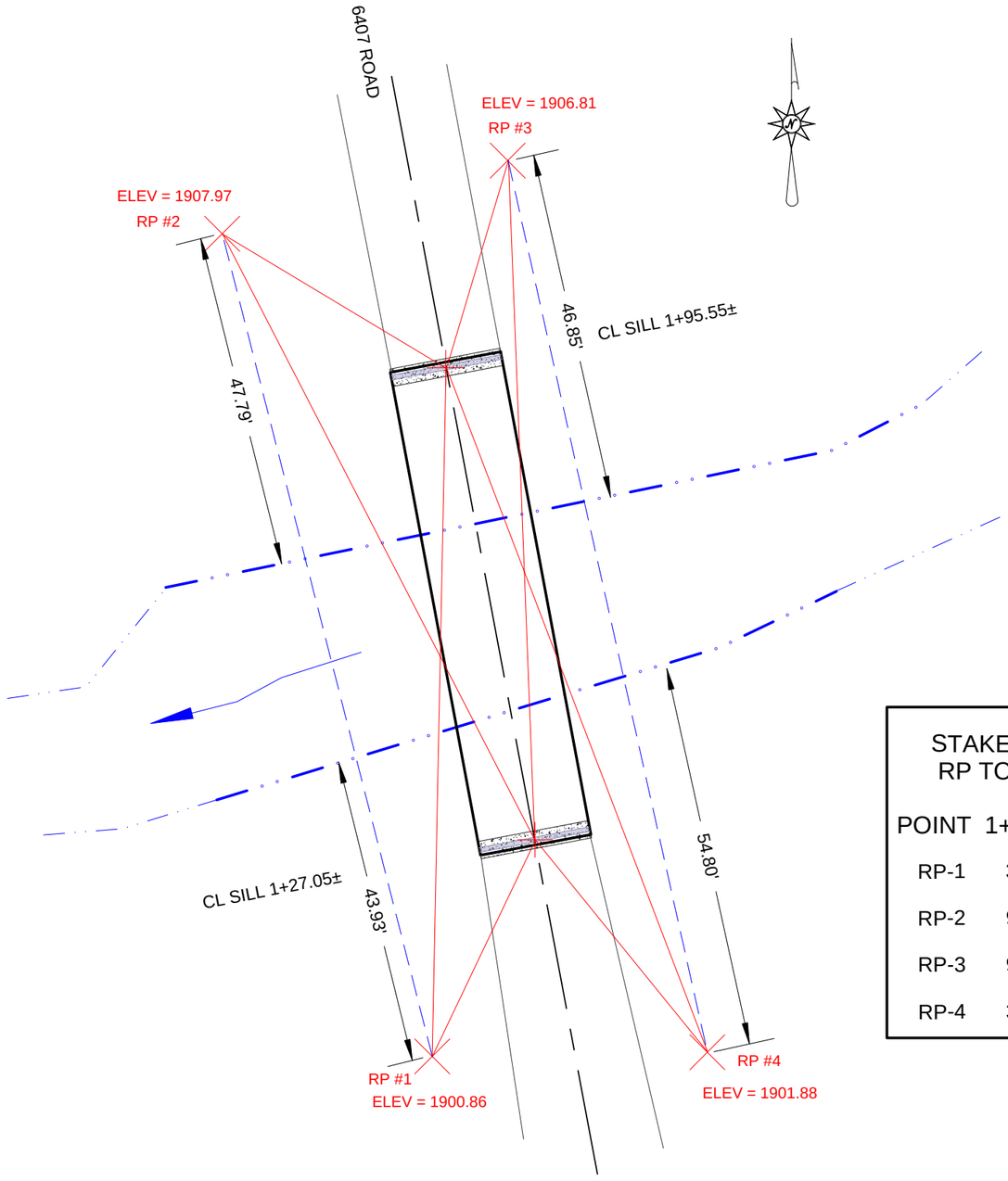


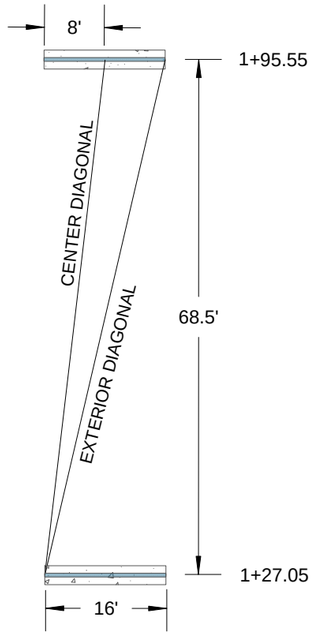
SLIPPERY CREEK TRIBUTARY
CULVERT REPLACEMENT

HANCOCK FOREST MANAGEMENT
WHITE RIVER FORESTS

DATE	DRAWN	REV
12 - 1 - 2009	PACIFIC FOREST RESOURCES ENUMCLAW, WA	3/3/2010
SCALE		SHEET
1" = 2'	GOVT. LOT 1, SEC 4, T19N, R9E, W.M., KING COUNTY, WASHINGTON	5 of 6

HFM 6407 ROAD CULVERT REPLACEMENT
STAKE-OUT DETAILS





SILL DIAGONAL MEASUREMENTS	
EXTERIOR:	70.34'
CENTER:	68.97'

STAKE-OUT TABLE RP TO CL OF SILL		
POINT	1+27.1±	1+95.6±
RP-1	34.15'	98.25'
RP-2	97.17'	37.22'
RP-3	96.86'	30.69'
RP-4	39.00'	104.43'

3-3-10

NOTE - ALL DIMENSIONS AS SHOWN ARE HORIZONTAL.

0 25 50

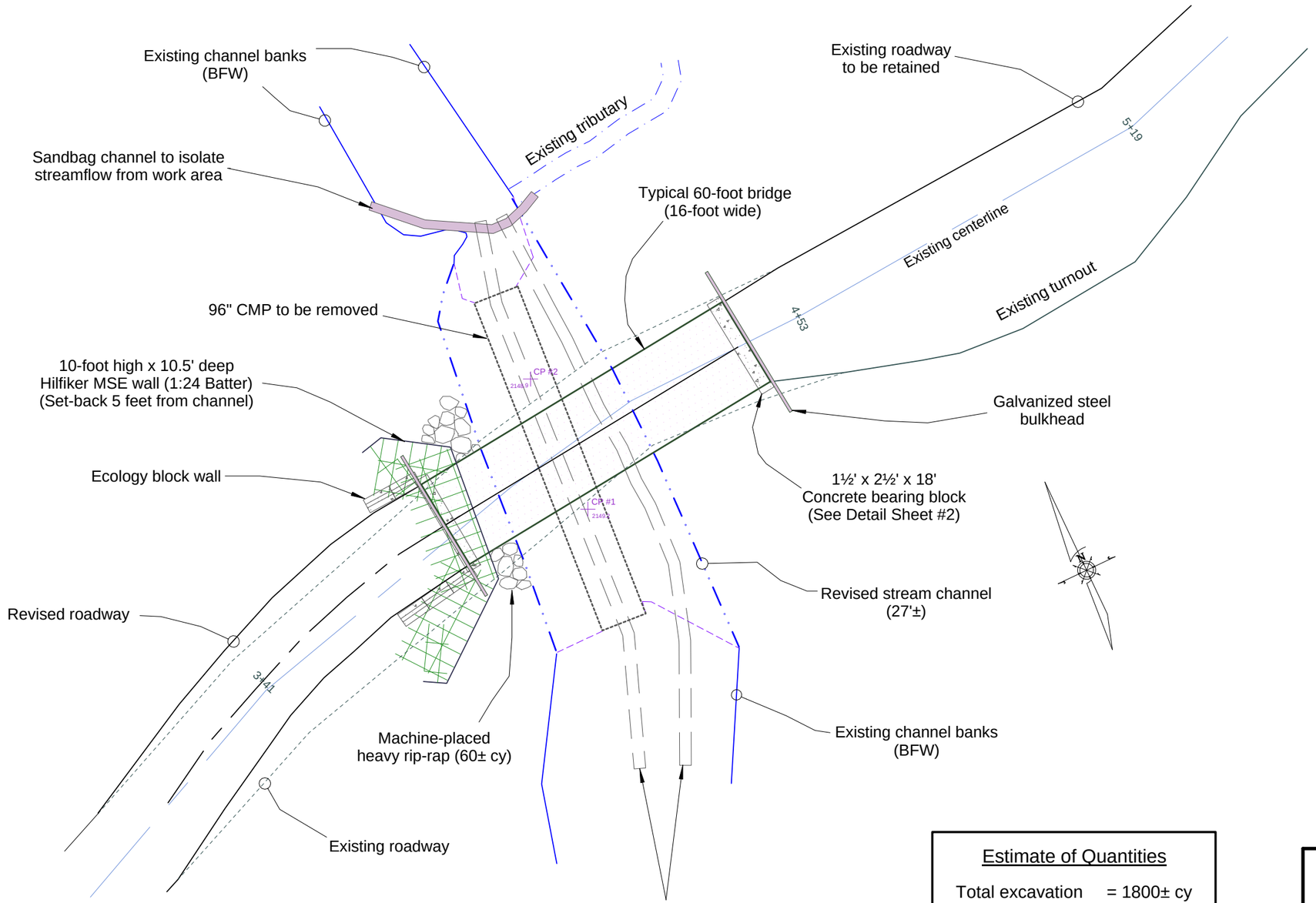
SLIPPERY CREEK TRIBUTARY CULVERT REPLACEMENT

HANCOCK FOREST MANAGEMENT WHITE RIVER FORESTS

DATE 12 - 1 - 2009	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 3/3/2010
SCALE 1" = 20'	GOVT. LOT 1, SEC 4, T19N, R9E, W.M., KING COUNTY, WASHINGTON	SHEET 6 of 6

Scatter Creek Bridge

Scatter Cr (or 5200 Bridge) is a completed project utilizing a 60' steel bridge supported on one side by a simple precast sill and rip-rap and on the other by a complex MSE wall system.



Use 24" PVC pipe as temporary bypass
in existing culvert and then as bypass route
when removing 96" CMP

Index to Sheets

STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2006

Estimate of Quantities

Total excavation = 1800± cy

Backfill in MSE wall = 250± cy

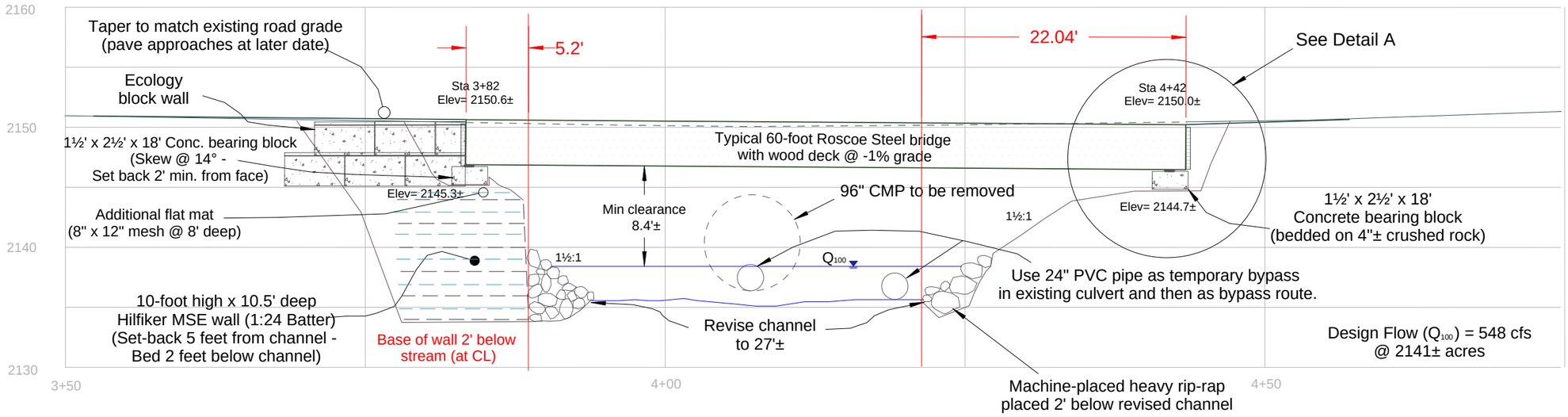
Hilfiker MSE wall = 560 ft²

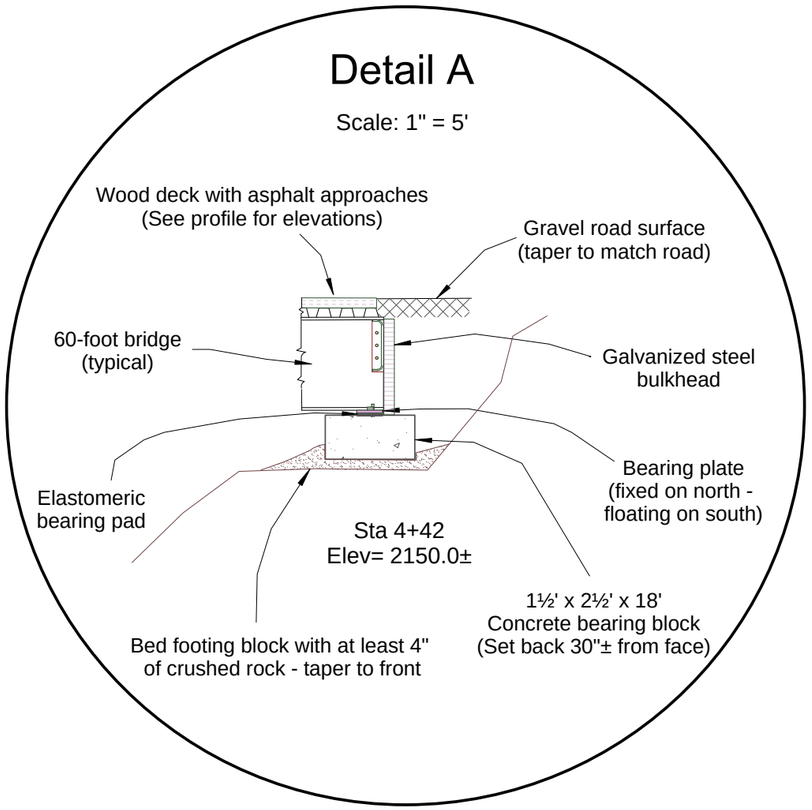
Design 100 yr flow = 548 cfs

Scatter Creek Bridge Site
M.P. 3.7 - 5200 Road

Hancock Forest Management
White River Tree Farm

DATE ~~January 13, 2005~~	DRAWN Pacific Forest Resources Enumclaw, WA	REV 3/3/2005
SCALE 1" = 20'	NE¼NE¼ Section 25, T20N, R7E, W.M., King County, Washington	SHEET 1 of 4





5200 Road Bridge - Outlet View

Scale: 1" = 10'

(Elevations at roadway centerline)

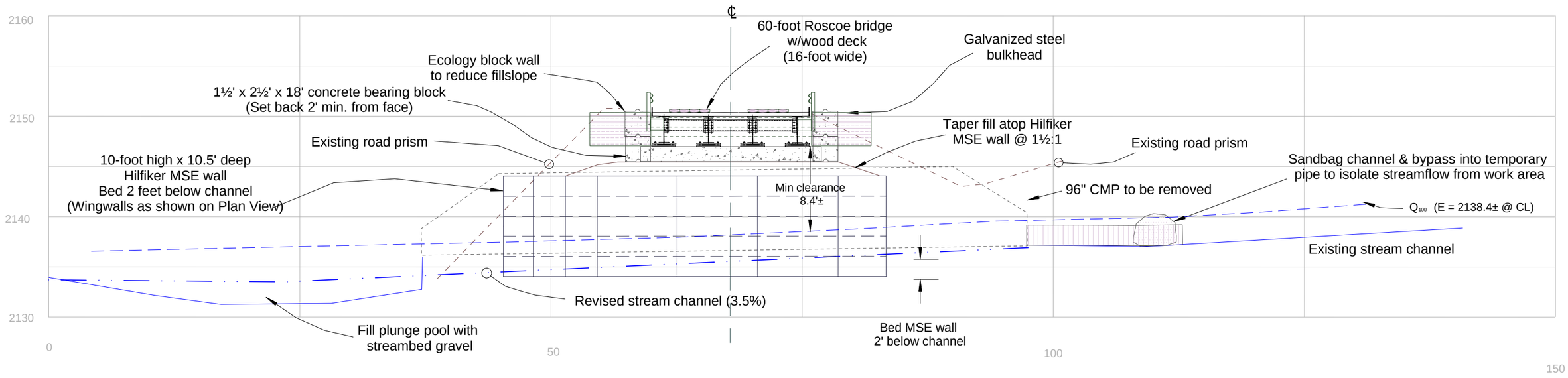
STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2006

Scatter Creek Bridge Site
M.P. 3.7 - 5200 Road

Hancock Forest Management
White River Tree Farm

DATE ~~January 13, 2005~~	DRAWN Pacific Forest Resources Enumclaw, WA	REV 3/3/2005
SCALE As Shown	NE¼NE¼ Section 25, T20N, R7E, W.M., King County, Washington	SHEET 2 of 4



Notes:

Proposed bridge is 60-foot Roscoe Steel structure with U-80 load rating.

Hilfiker MSE wall is 1:24 batter; 10' high x 10.5' deep. W-7.0 wire to be used with intermediate mats placed at 1' spacing. Additional flat mat (8" x 12" mesh) to be placed 8" above standard top mat, with precast sill place above flat mat as shown. Design life is 75 years.

Precast sills to be 18" high x 30" wide x 18' long; concrete to be 5000 psi. Sill to be bedded on at least 4" of crushed rock. Assumed soil bearing capacity 4000+ psf.

Stream channel to be reshaped as shown; retain existing CMP until bypass is complete. Streamflow is to be isolated from work area via bypass culverts or pumping as shown.

Bridge deck to be wood, taper approaches to match existing road grade.

See bridge shop drawings for bridge fabrication and connection details.

"Fixed" bearing plate to be installed on northern abutment, "floating" bearing plate on southern abutment.

5200 Road Bridge - South Abutment View
Station 3+82

(Elevations at stream centerline)

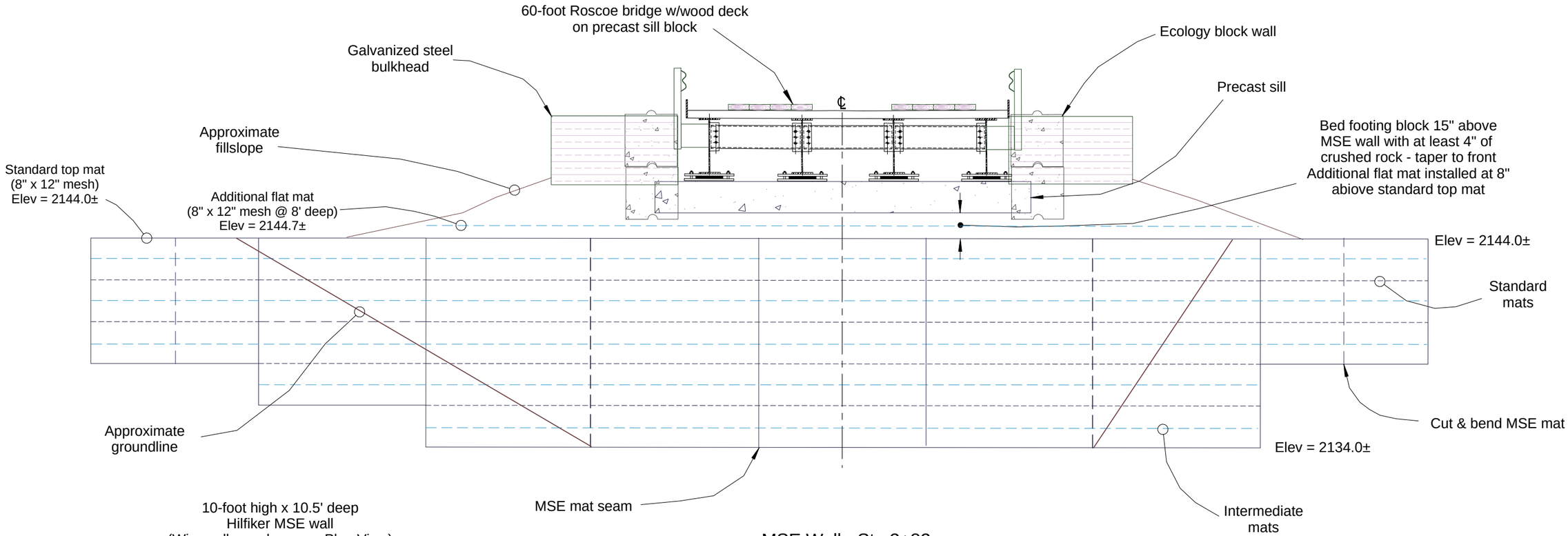
STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2006

Scatter Creek Bridge Site
M.P. 3.7 - 5200 Road

Hancock Forest Management
White River Tree Farm

DATE ~~January 13, 2005~~	DRAWN Pacific Forest Resources Enumclaw, WA	REV 3/3/2005
SCALE 1" = 10'	NE¼NE¼ Section 25, T20N, R7E, W.M., King County, Washington	SHEET 3 of 4



MSE Wall - Sta 3+82
560 ft²

5200 Road Bridge
MSE Wall Layout

See Profile Views for elevations

STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2006

Scatter Creek Bridge Site
M.P. 3.7 - 5200 Road

Hancock Forest Management
White River Tree Farm

DATE ~~January 13, 2005~~	DRAWN Pacific Forest Resources Enumclaw, WA	REV 3/3/2005
SCALE 1" = 5'	NE¼NE¼ Section 25, T20N, R7E, W.M., King County, Washington	SHEET 4 of 4

Hilfiker MSE Wall Design Notes

1. Wall design is based on construction methods and materials conforming with the requirements of the Hilfiker Retaining Walls. The Hilfiker welded wire wall 24"-lift construction guide, together with the specifications for this project are an integral part of these drawings. Selected material for this project is welded w7.0 galvanized wire with 8” wide by 21” long transverse spacing. Mid-layer flat mats are required as shown on the attached plans.

2. Except for the facing zone (see details), wall fill or backfill shall be in conformance with the Hilfiker Retaining Walls specifications. Fill for the MSE wall up to minimum elevations as shown (i.e., below Q_{100} elevation), shall be 4” to 6” angular quarry spalls (sound hard rock, minimum 2 fractured sides 90% of particle composition). Above that elevation, the MSE wall may be backfilled with native material per engineer’s acceptance. The minimum fill and backfill compaction shall be 95% of the maximum density. Compaction shall be determined in accordance with compaction test results and design engineer’s review and approval. Drainage control shall be as directed by the engineer in the field.

3. Compaction within 3 feet of the face of wall shall be accomplished by at least 3 passes of a light-weight mechanical tamper, roller or vibratory system per engineer’s direction. The facing zone may be filled with 2” minus crushed aggregate (minimum 2 fractured sides 90% of particle composition) densified by rodding using a heavy steel rod. Compaction tests will not be necessary within 3 feet of the face of wall.

4. Wall design parameters are estimated based on site observations. Existing ground shown is based on field survey. Minor revisions to this plan may be required by the design engineer following inspection of site during construction operations. Hilfiker Retaining Walls' responsibility is for the material only, based on the assumption of design parameters outlined below.

5. Unsuitable foundation soils below the wall base level, as determined by the engineer, shall be overexcavated and replaced with granular material compacted to 95% of maximum density as directed by the engineer.

6. Geostructural design parameters - wall backfill: compacted unit weight 125 pcf; internal friction angle 34°; cohesion 0 psf. Retained earth fill/backfill: unit weight 125 pcf; internal friction angle 34°; cohesion 0 psf. Foundation soils: friction angle for sliding at base 30°, cohesion 0 psf for sliding at base. Wall foundation is anticipated over moderate bedrock or dense sandy gravel to be verified by the engineer upon the foundation excavation.

7. If actual soil, backfill or retained materials characteristics, grades or dimensions differ from those shown or depicted on these drawings, the design engineer shall be notified to re-evaluate the design of the walls.

STEVEN D. FAULKNER
STATE OF WASHINGTON
25472
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 5/19/2006

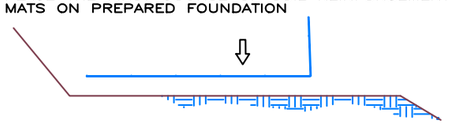
Scatter Creek Bridge Site
M.P. 3.7 - 5200 Road

Hancock Forest Management
White River Tree Farm

DATE	DRAWN	REV
March 3, 2005	Pacific Forest Resources Enumclaw, WA	
SCALE	NE¼NE¼ Section 25, T20N, R7E, W.M., King County, Washington	SHEET
N/A		5 of 8

STEP 1

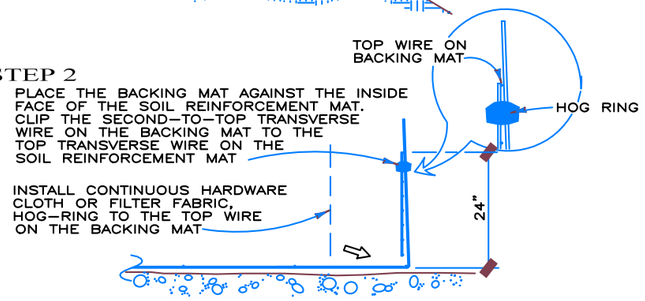
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



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

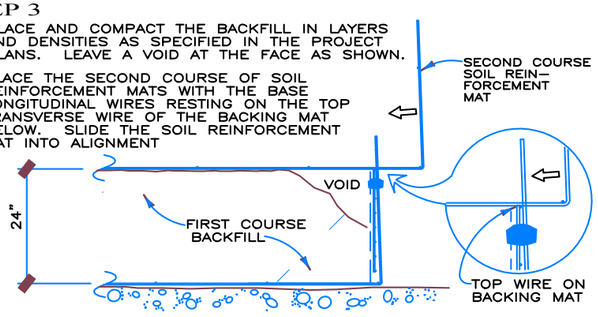
INSTALL CONTINUOUS HARDWARE CLOTH OR FILTER FABRIC, HOG–RING TO THE TOP WIRE ON THE BACKING MAT



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

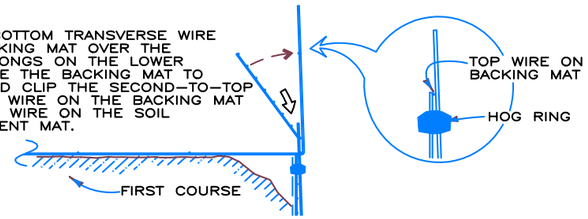


CONSTRUCTION SEQUENCE

NOT TO SCALE

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.

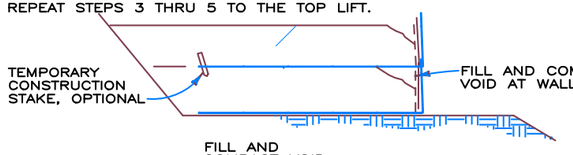


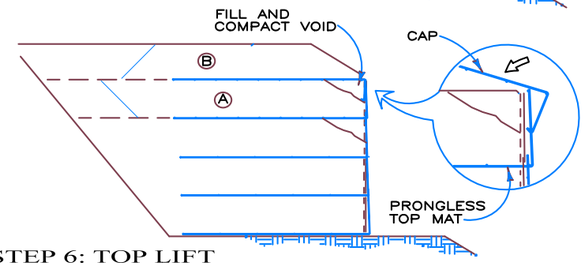
STEP 5

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.





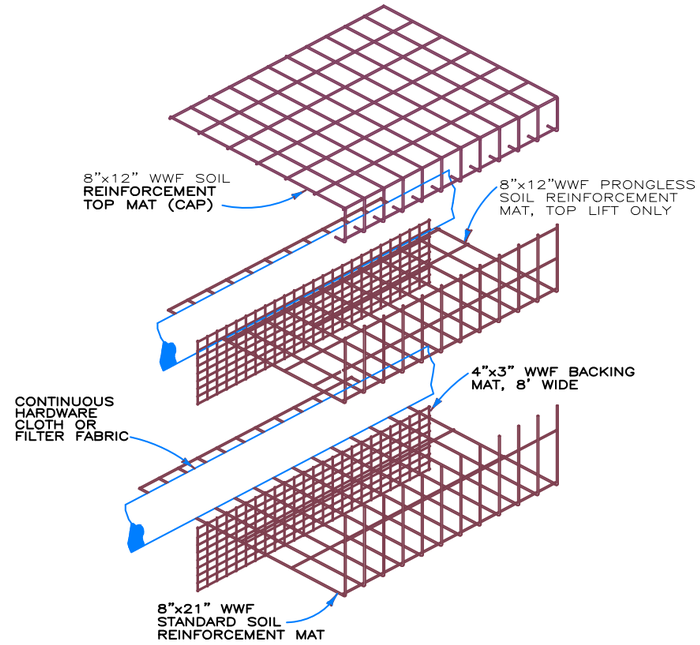
STEP 6: TOP LIFT

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

PLACE AND COMPACT BACKFILL IN AREA "A"

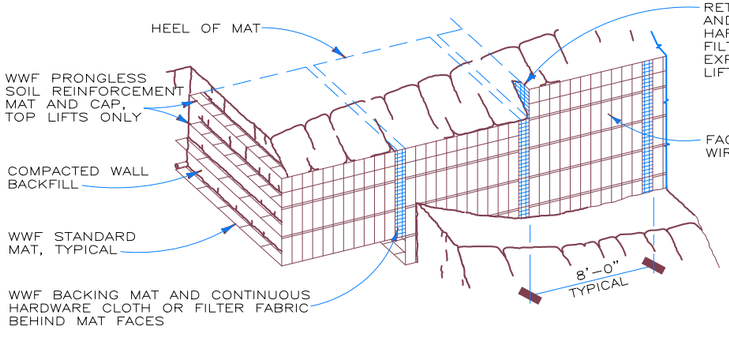
HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE

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



WALL COMPONENTS

NOT TO SCALE

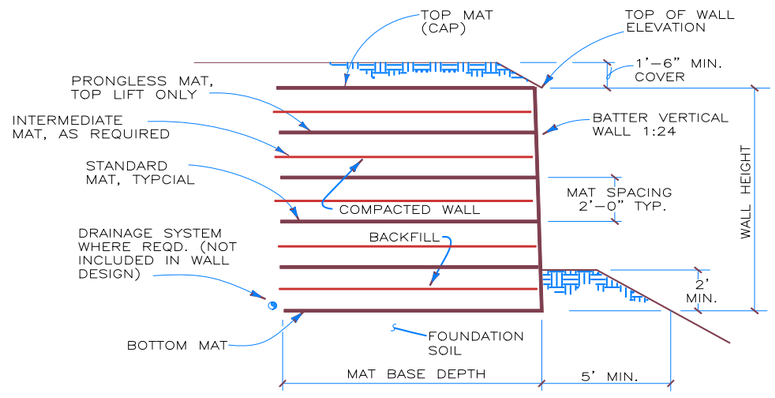


PICTORIAL ELEVATION

NOT TO SCALE

NOTES:

1. THESE DETAILS ARE INTENDED FOR INFORMATION ONLY. THEY MAY OR MAY NOT APPLY TO SPECIFIC PROJECTS.
2. THESE DETAILS SHOW HARDWARE CLOTH USED BEHIND THE BACKING MATS. IN SOME APPLICATIONS, FILTER FABRIC WILL BE REQUIRED INSTEAD OF HARDWARE CLOTH. IN THAT CASE, THESE DETAILS SHOULD BE REVISED ACCORDINGLY.
3. WWF = WELDED WIRE FABRIC



TYPICAL SECTION

NOT TO SCALE

WWCFSTD & DETAILS

REV.NO.	DATE	BY	DESCRIPTION
1	6 JAN 03	DR	MINOR REVISIONS

GRAPHIC SCALE

LINE IS 20 UNITS LONG ON ORIGINAL DRAWING

0 10 20

PROJ.MGR.

ENGINEER

CADD BY DR

HILFIKER RETAINING WALLS
3900 Broadway Eureka, CA 95503
P.O. Box 2012 Eureka, CA 95501
707-443-5093 Fax 707-443-2891
Toll-Free 800-762-8962
Web: http://hilfiker.com email: info@hilfiker.com

1902–2002 100 YEARS HILFIKER COMPANY

DWG DATE 11/98

REVISION DATE 6 JAN 03

SCALE NOTED

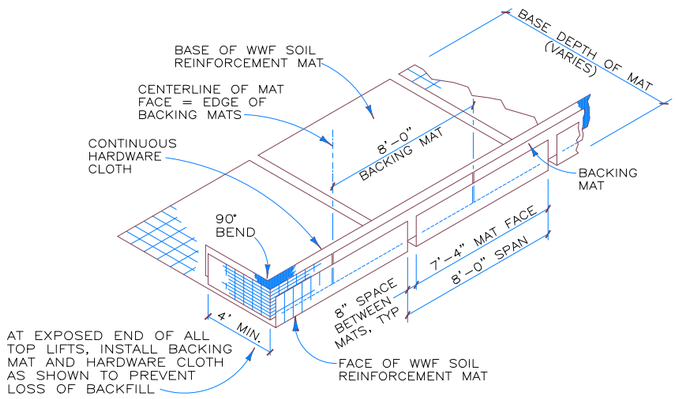
STANDARD DRAWING

WELDED WIRE RETAINING WALL
24" LIFTS

STANDARD DETAILS

PROJECT NO.

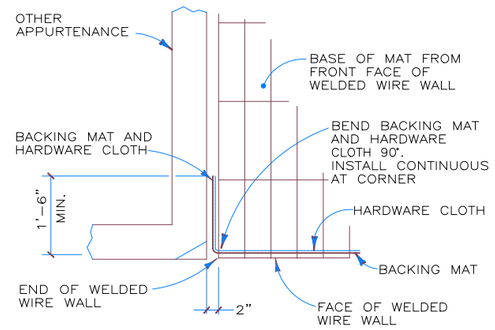
SHEET 6 OF 8



ISOMETRIC VIEW

WELDED WIRE WALL COMPONENTS WITH RETURN MAT

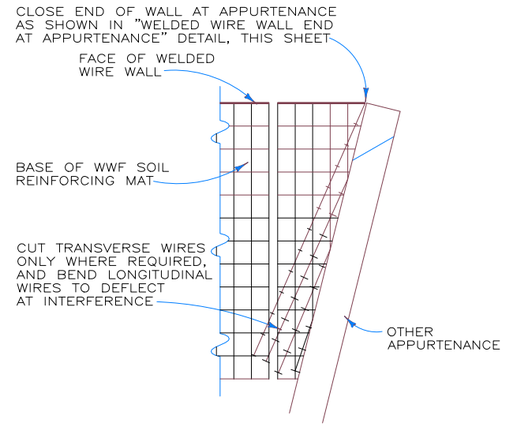
NOT TO SCALE



PLAN VIEW

WELDED WIRE WALL END AT OTHER APPURTENANCE

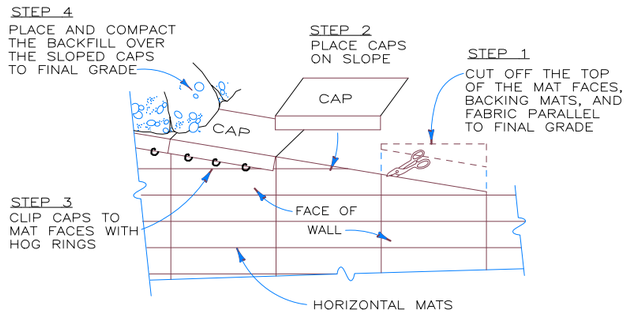
NOT TO SCALE



PLAN VIEW

DEFLECTED LONGITUDINAL WIRES

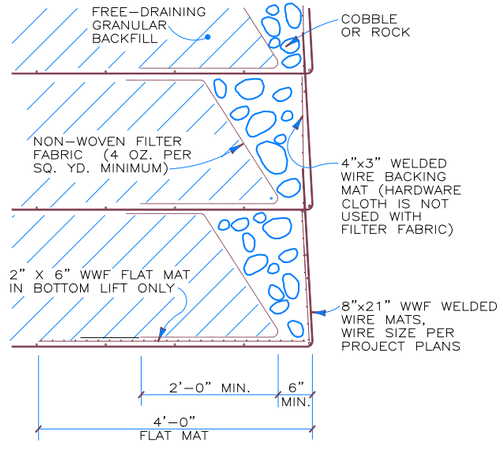
NOT TO SCALE



PICTORIAL ELEVATION

SLOPED CAP MAT DETAIL

NOT TO SCALE

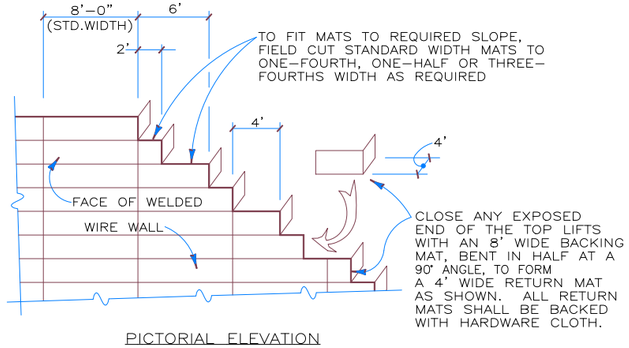


SECTION

COBBLE FACING DETAIL

NOT TO SCALE

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

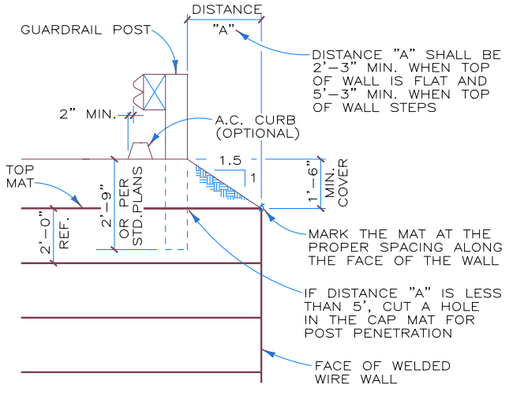


PICTORIAL ELEVATION

PARTIAL TOP MAT DETAILS

NOT TO SCALE

CAP MATS ARE NOT SHOWN FOR CLARITY



SECTION

GUARDRAIL DETAIL

NOT TO SCALE

(FENCE DETAIL SIMILAR)

WWGFSTD & DETAILS

REV.NO.	DATE	BY	DESCRIPTION
1	6 JAN 03	DR	MINOR REVISIONS

GRAPHIC SCALE

LINE IS 20 UNITS LONG ON ORIGINAL DRAWING

0 10 20

PROJ.MGR.

ENGINEER

CADD BY DR

HILFIKER RETAINING WALLS
3900 Broadway Eureka, CA 95503
P.O. Box 2012 Eureka, CA 95501
707-443-5093 Fax 707-443-2891
Toll-Free 800-762-8962
Web: http://hilfiker.com email: info@hilfiker.com

1902-2002 100 YEARS HILFIKER COMPANY

DWG DATE 11/98

REVISION DATE 6 JAN 03

SCALE NOTED

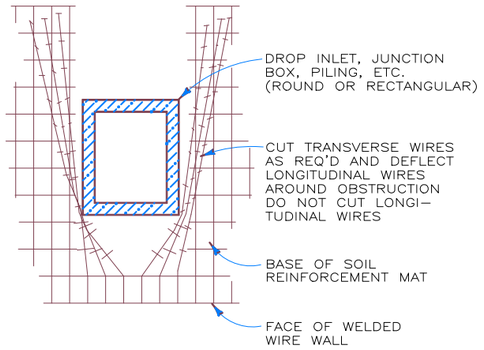
STANDARD DRAWING

WELDED WIRE RETAINING WALL
24" LIFTS

MISCELLANEOUS DETAILS

PROJECT NO.

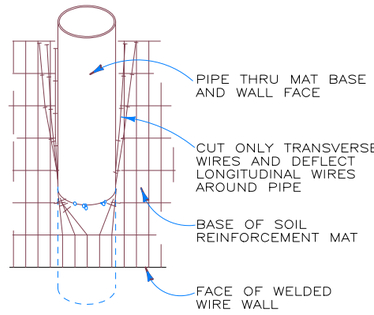
SHEET 7 OF 8



PLAN VIEW

MAT PENETRATION DETAIL

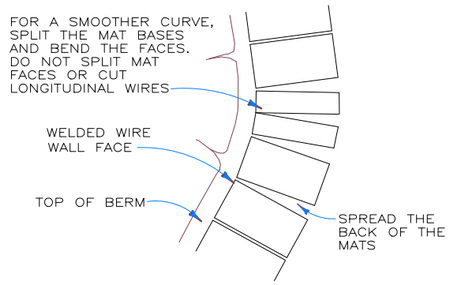
NOT TO SCALE



PLAN VIEW

ANGLED PIPE PENETRATION

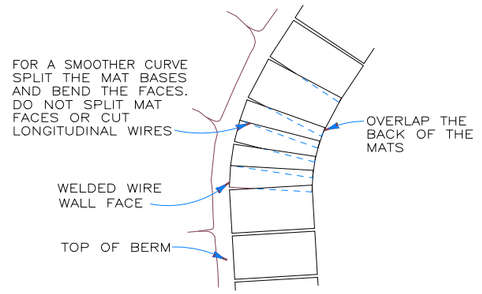
NOT TO SCALE



PLAN VIEW

CONCAVE CURVE

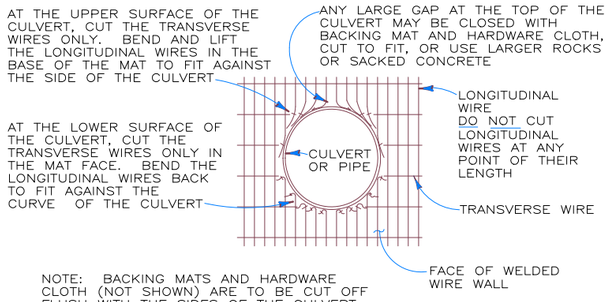
NOT TO SCALE



PLAN VIEW

CONVEX CURVE

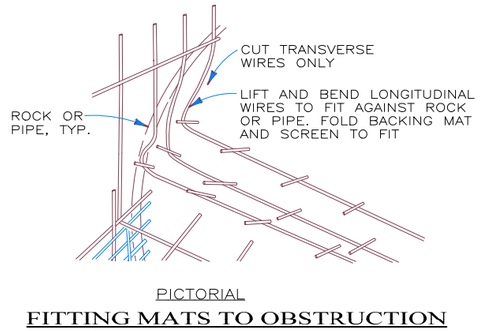
NOT TO SCALE



ELEVATION

CULVERT THRU WALL FACE

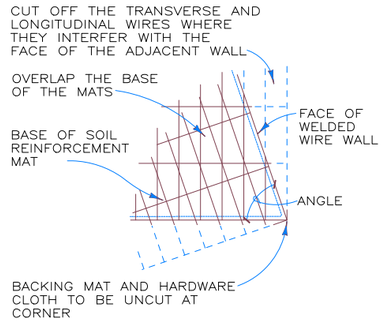
NOT TO SCALE



PICTORIAL

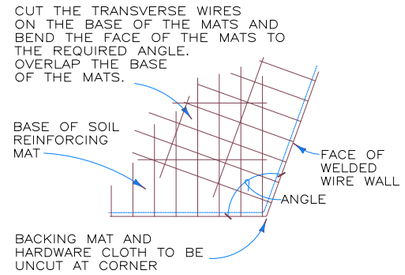
FITTING MATS TO OBSTRUCTION

NOT TO SCALE



ACUTE CONVEX ANGLE

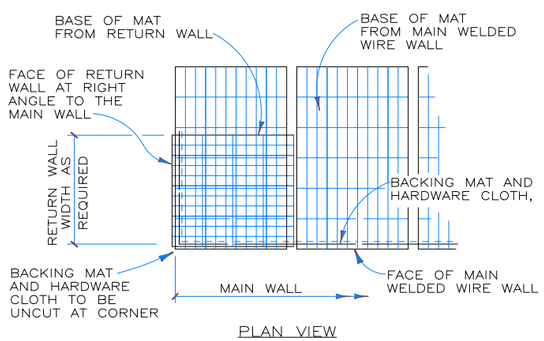
NOT TO SCALE



PLAN VIEW

OBTUSE CONVEX ANGLE

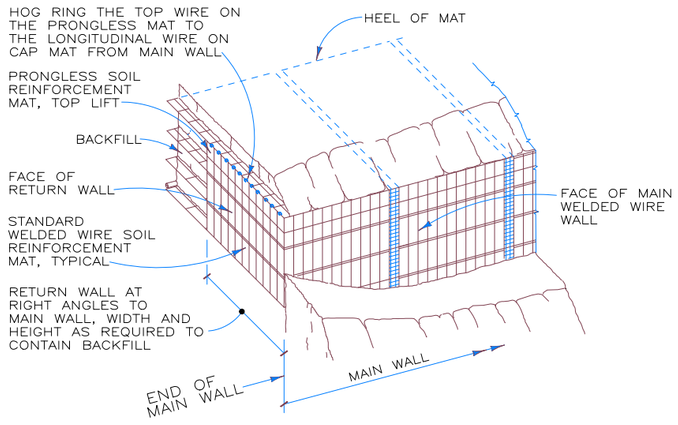
NOT TO SCALE



PLAN VIEW

RETURN WALL DETAIL

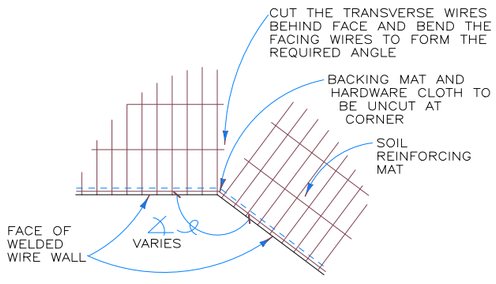
NOT TO SCALE



PICTORIAL

RETURN WALL DETAIL

NOT TO SCALE



PLAN VIEW

CONCAVE ANGLE DETAIL

NOT TO SCALE

WWCFSTD & DETAILS

REV.NO.	DATE	BY	DESCRIPTION
1	6 JAN 03	DR	MINOR REVISIONS

GRAPHIC SCALE

LINE IS 20 UNITS LONG ON ORIGINAL DRAWING

0 10 20

PROJ.MGR.

ENGINEER

CADD BY DR

HILFIKER RETAINING WALLS
3900 Broadway Eureka, CA 95503
P.O. Box 2012 Eureka, CA 95501
707-443-5093 Fax 707-443-2891
Toll-Free 800-762-8962
Web: http://hilfiker.com email: info@hilfiker.com

1902-2002 100 YEARS HILFIKER COMPANY

DWG DATE 11/98

REVISION DATE 6 JAN 03

SCALE NOTED

STANDARD DRAWING

WELDED WIRE RETAINING WALL
24" LIFTS

MISCELLANEOUS DETAILS

PROJECT NO.

SHEET 8 OF 8