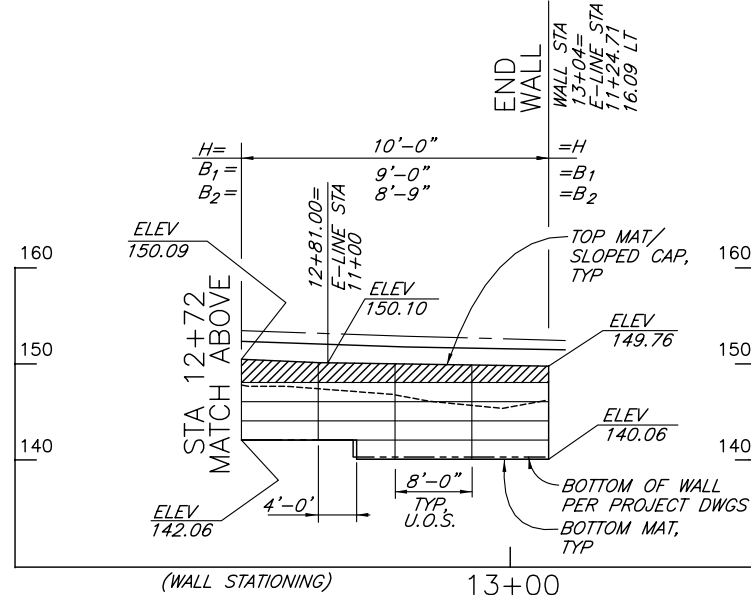
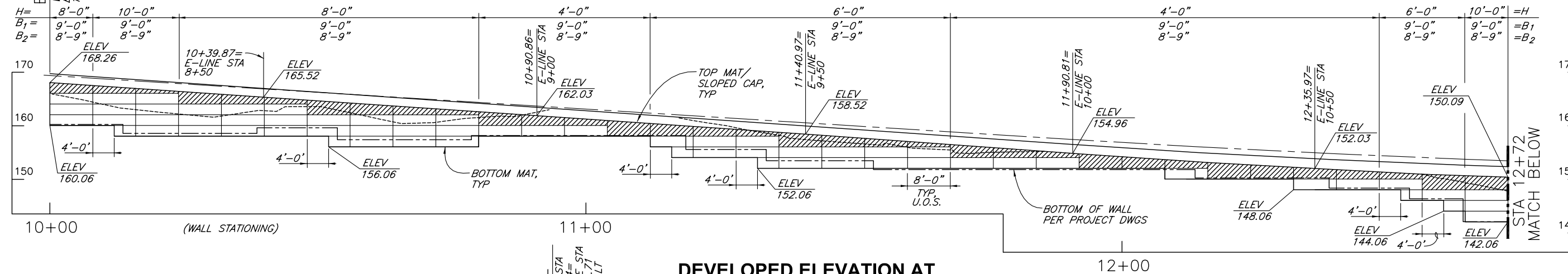
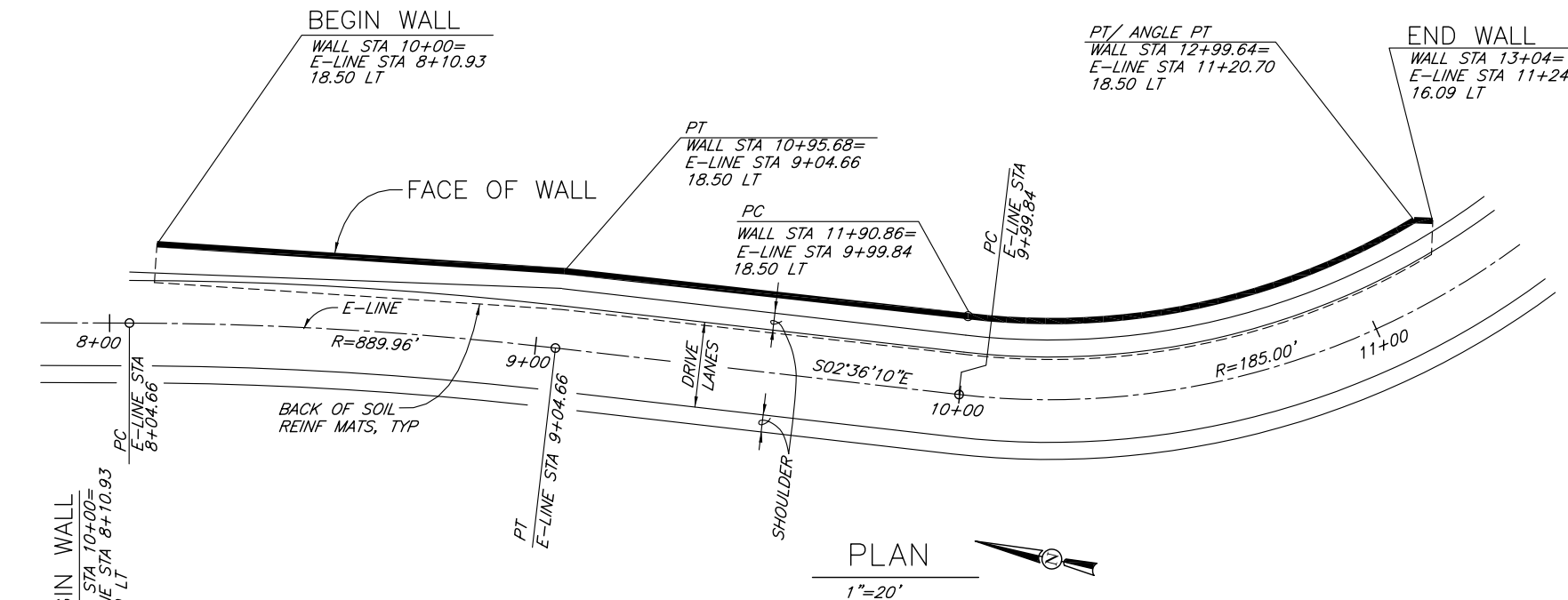


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WWR MAT LEGEND

	8x12, W4.5xW3.5 WWR SOIL REINFORCING MATS
	8x21, W7xW4 WWR SOIL REINFORCING MATS

DESIGN NOTES

- DESIGN IS BASED ON THE ASSUMPTION THAT BACKFILL WITHIN THE REINFORCED SOIL MASS, METHODS OF CONSTRUCTION AND QUALITY OF MATERIALS CONFORM TO THE REQUIREMENTS OF HILFIKER RETAINING WALLS.
 - ASSUMED SOIL CHARACTERISTICS:
WALL BACKFILL:
UNIT WEIGHT: 135 PCF
INTERNAL FRICTION ANGLE: 38°
COHESION = 0 PSF
RANDOM BACKFILL:
UNIT WEIGHT: 125 PCF
INTERNAL FRICTION ANGLE: 31°
COHESION = 0 PSF
COEFFICIENT OF ACTIVE SOIL PRESSURE: 0.320
FOUNDATION SOILS:
FRICTION ANGLE FOR SLIDING: 31°
COHESION = 0 PSF
MAXIMUM APPLIED BEARING PRESSURE: 5.04 KSF (D.L+L.L.)
 - IF MORE THAN 50% BY WEIGHT OF THE WALL BACKFILL PASSES THE NO. 4 SIEVE, GRAVEL OR OTHER METHODS AS APPROVED BY THE HILFIKER COMPANY SHALL BE USED TO CONTAIN THE BACKFILL AT THE FACE OF THE WALL.
 - THE DESIGN REQUIRES A NON-SATURATED BACKFILL. SURFACE AND SUB-SURFACE DRAINAGE CONTROL MAY BE REQUIRED TO PREVENT SATURATION OF THE BACKFILL OR RELIEVE HYDROSTATIC PRESSURES.
- DRAINAGE CONTROL SHALL BE AS SPECIFIED IN THE PROJECT PLANS AND SPECIFICATIONS OR AS DIRECTED BY THE OWNER'S ENGINEER. PAYMENT FOR DRAINAGE SHALL BE AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- IF ACTUAL CHARACTERISTICS, GRADES OR DIMENSIONS OF SOIL MATERIALS DIFFER FROM THOSE LISTED ABOVE OR SHOWN ON THE PLANS HILFIKER RETAINING WALLS SHALL BE NOTIFIED TO EVALUATE THE NEED TO REDESIGN.
- REFERENCE DOCUMENTS:
ELECTRONIC FILES IN .PDF FORMAT OF THE FOLLOWING SHEETS, PREPARED BY BERGER/ABAM FOR 'ELWHA RIVER ROAD, ELWHA BRIDGE RIVER BRIDGE REPLACEMENT, CRP NO. C1190': C-12, C-13, AND C-18 THRU C-24. IN ADDITION, UPDATE 1 OF THE FOLLOWING DRAWINGS WERE USED: C-10, C-11, C-14, C-15, C-16 AND C-17.

MATERIAL LIST- WEST APPROACH WALL

BASE DEPTH	CAP MAT W4.5xW3.5	PRONGLESS MAT W4.5xW3.5	STANDARD MAT W7xW4	STANDARD MAT W9.5xW4
WALL FACE SUPPLIED		22,992 SQ. FT.		
WALL BACKFILL*		13,524 CU. YD.		
BACKING MATS (2'-0" HIGH)		1,450 EA		
CONSTRUCTION GEOTEXTILE (7'-6" WIDE)		11,600 LIN FT		
HOG RINGS		34,500 EA		
PLIERS		9 EA		

*NEAT, TOP MAT TO BOTTOM MAT

WELDED WIRE WALL
HILFIKER RETAINING WALLS

1902 HilfiKER Lane
Eureka, CA 95503-5711
TOLL-FREE 800.762.8962
PH 707.443.5093 FAX 707.443.2891
WEBSITE www.hilfiKER.com E-MAIL info@hilfiKER.com

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SHN

NO.	DATE	REVISION	BY

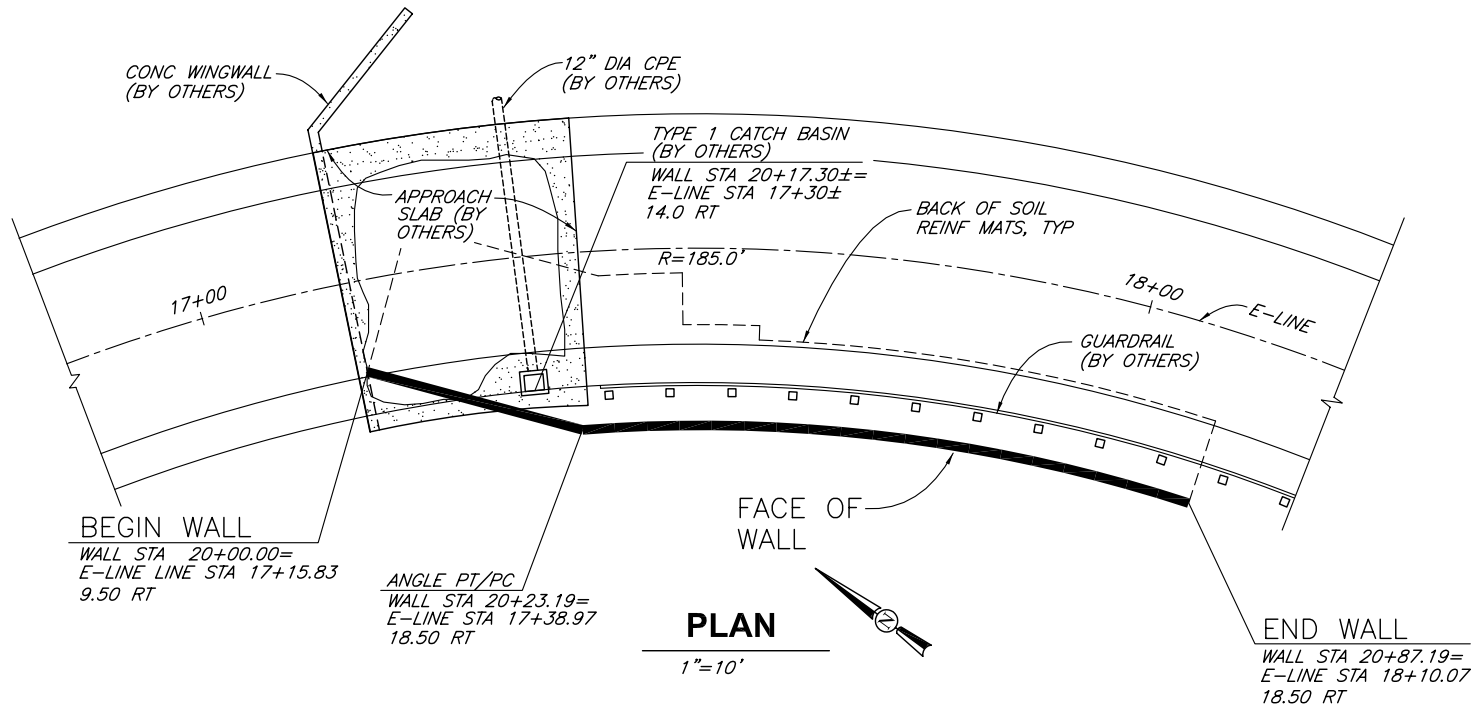
ELWHA RIVER ROAD
ELWHA RIVER BRIDGE REPLACEMENT
CRP NO. C1190
CALLAM COUNTY, WASHINGTON

PLAN, ELEVATION AND NOTES

SHEET 1 OF 6
DATE 3/27/08
PROJ. NO. 008002.030

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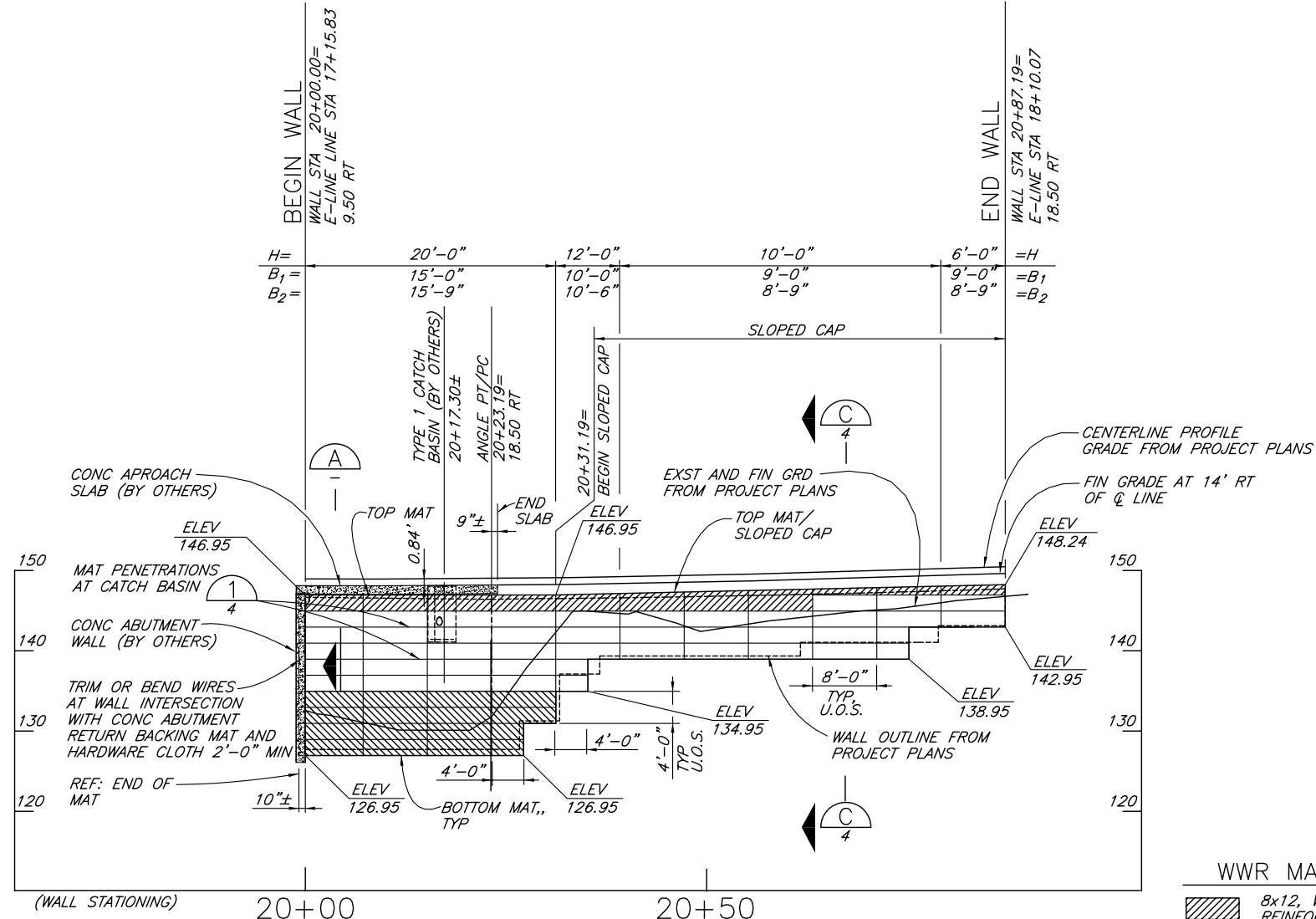
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MATERIAL LIST- EAST APPROACH WALL

BASE DEPTH	CAP MAT W4.5xW3.5	PRONGLESS MAT W4.5xW3.5	STANDARD MAT W7xW4	STANDARD MAT W9.5xW4
WALL FACE SUPPLIED		22,992 SQ. FT.		
WALL BACKFILL*		13,524 CU. YD.		
BACKING MATS (2'-0" HIGH)		1,450 EA		
CONSTRUCTION GEOTEXTILE (7'-6" WIDE)		11,600 LIN FT		
HOG RINGS		34,500 EA		
PLIERS		9 EA		

*NEAT, TOP MAT TO BOTTOM MAT

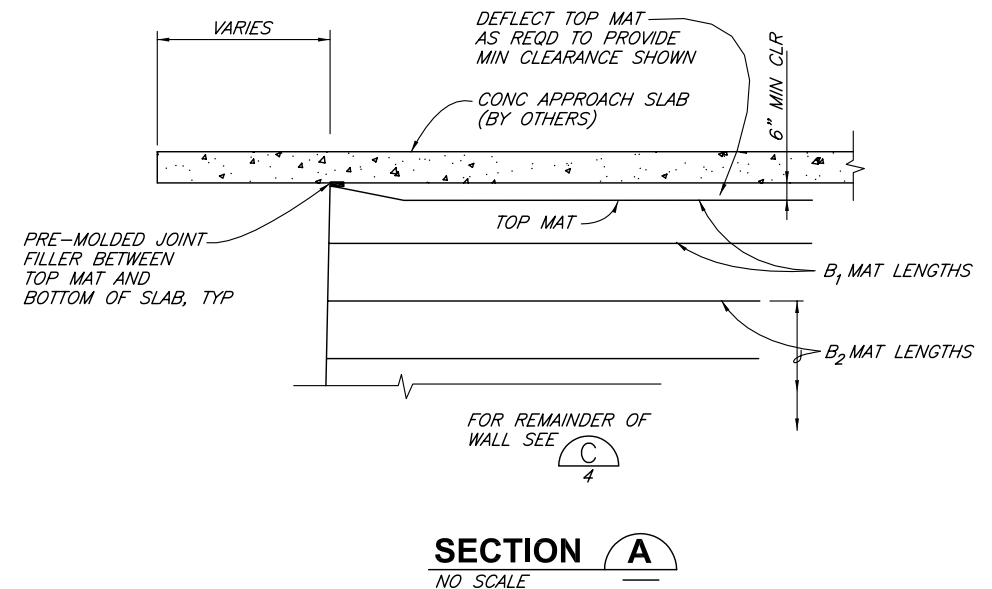


DEVELOPED ELEVATION AT EAST APPROACH WALL

1"=20' HORIZ AND VERT
U.O.S.= UNLESS OTHERWISE STATED

WWR MAT LEGEND

- 8x12, W4.5xW3.5 WWR SOIL REINFORCING MATS
- 8x21, W7xW4 WWR SOIL REINFORCING MATS
- 8x21, W9.5xW4 WWR SOIL REINFORCING MATS



WELDED WIRE WALL HILFIKER RETAINING WALLS



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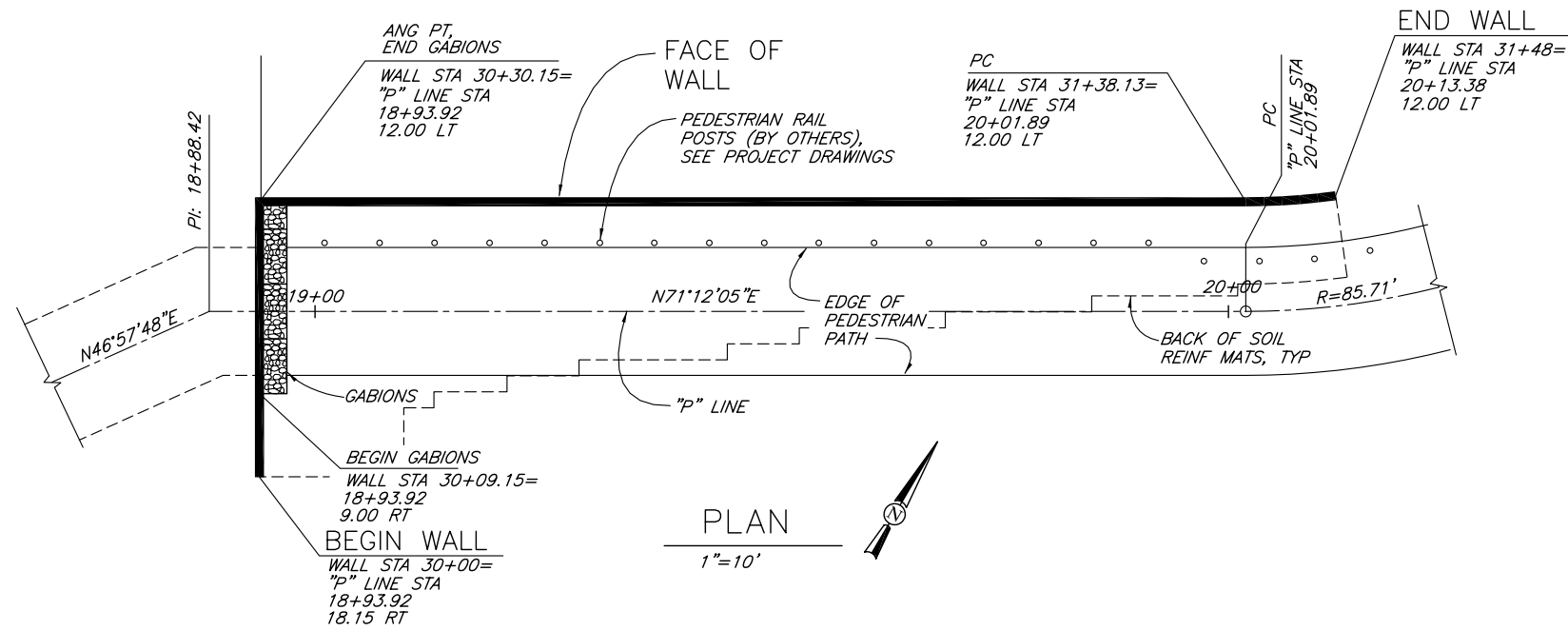
DSGN K/JN
 DR RDW
 CHK K/JN
 APVD

ELIWA RIVER ROAD
 ELIWA RIVER BRIDGE REPLACEMENT
 CCP NO. C1190
 CALLAM COUNTY, WASHINGTON
 PLAN, ELEVATION
 AND SECTION

SHEET
 2 OF 6
 DATE 3/27/08
 PROJ. NO.
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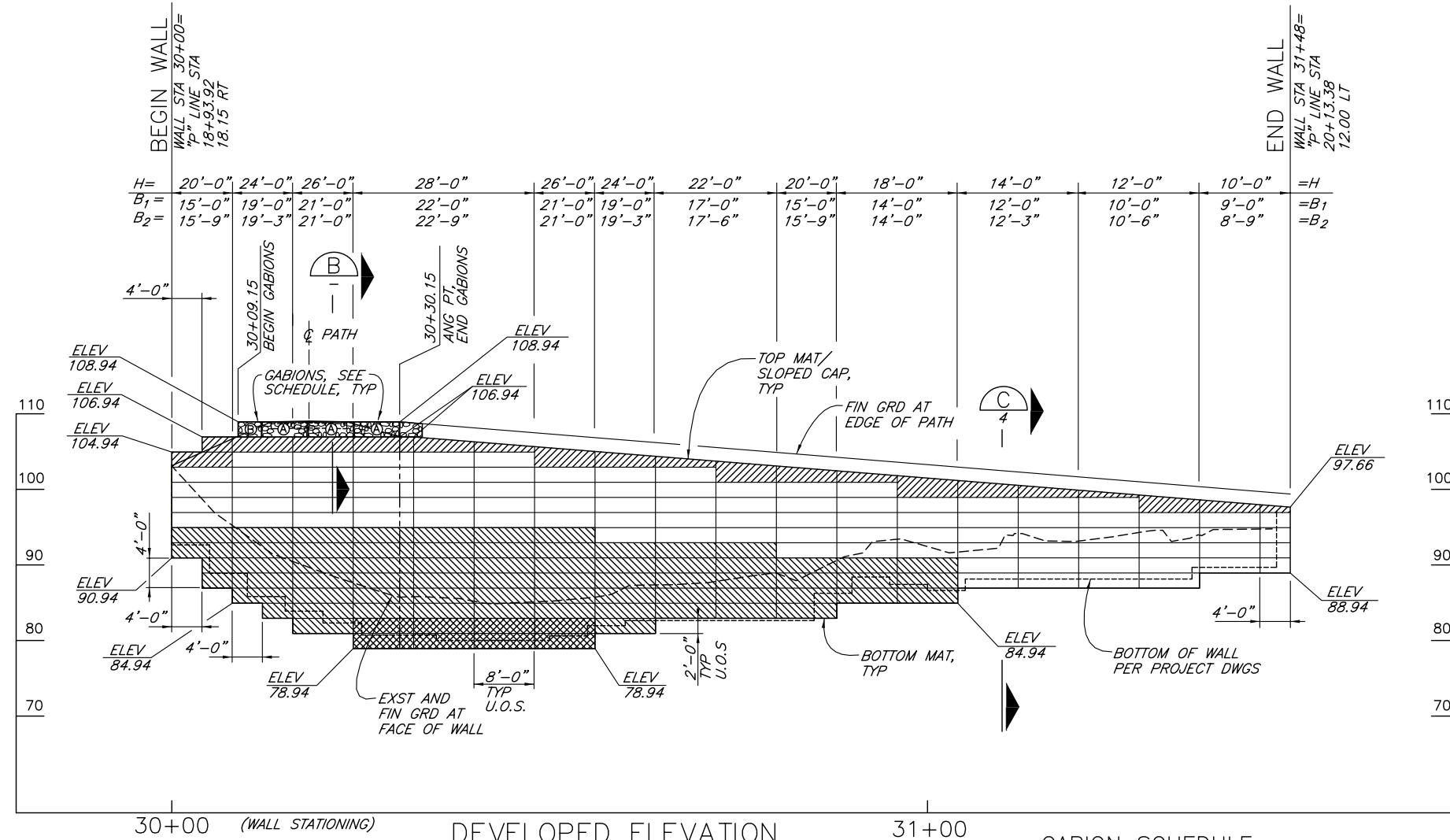
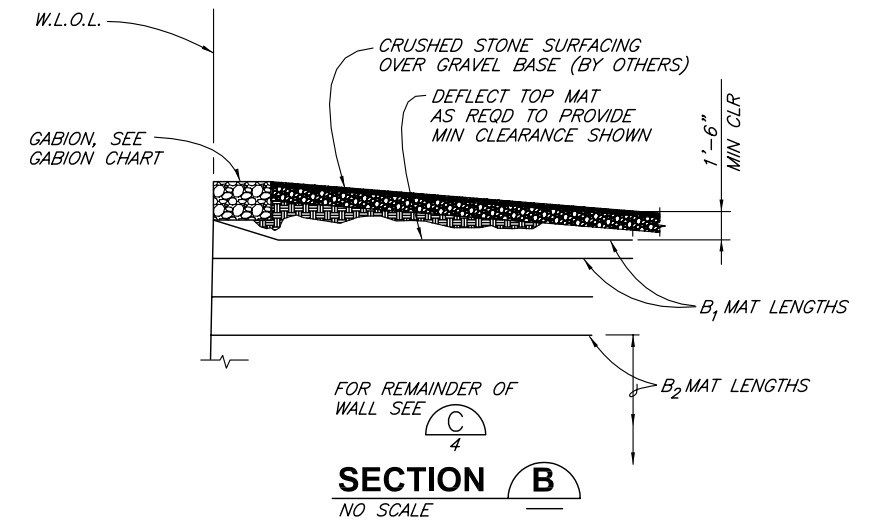
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MATERIAL LIST- PEDESTRIAN PATH

BASE DEPTH	CAP MAT W4.5xW3.5	PRONGLESS MAT W4.5xW3.5	STANDARD MAT W7xW4	STANDARD MAT W9.5xW4
WALL FACE SUPPLIED		22,992 SQ. FT.		
WALL BACKFILL*		13,524 CU. YD.		
BACKING MATS (2'-0" HIGH)		1,450 EA		
CONSTRUCTION GEOTEXTILE (7'-6" WIDE)		11,600 LIN FT		
HOG RINGS		34,500 EA		
PLIERS		9 EA		

*NEAT, TOP MAT TO BOTTOM MAT



WWR MAT LEGEND

- 8x12, W4.5xW3.5 WWR SOIL REINFORCING MATS
- 8x21, W7xW4 WWR SOIL REINFORCING MATS
- 8x21, W9.5xW4 WWR SOIL REINFORCING MATS
- 8x21, W7xW4 WWR SOIL REINFORCING MATS WITH INTERMEDIATE MATS

DEVELOPED ELEVATION AT PEDESTRIAN PATH WALL (BACKFACE)

1"=10' HORIZ AND VERT
U.O.S.= UNLESS OTHERWISE STATED

GABION SCHEDULE

(A) 3'Dx2'Hx6'L
(B) 3'Dx2'Hx3'L

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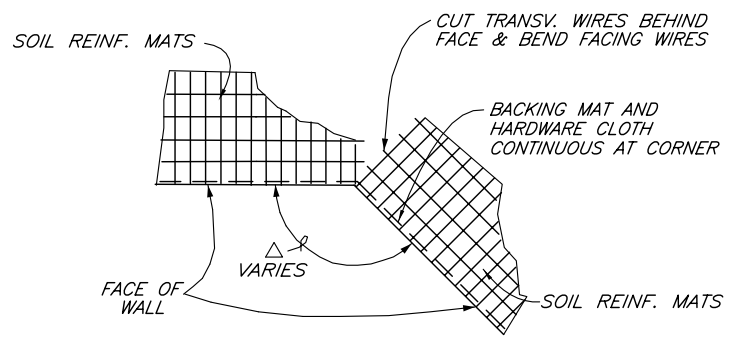
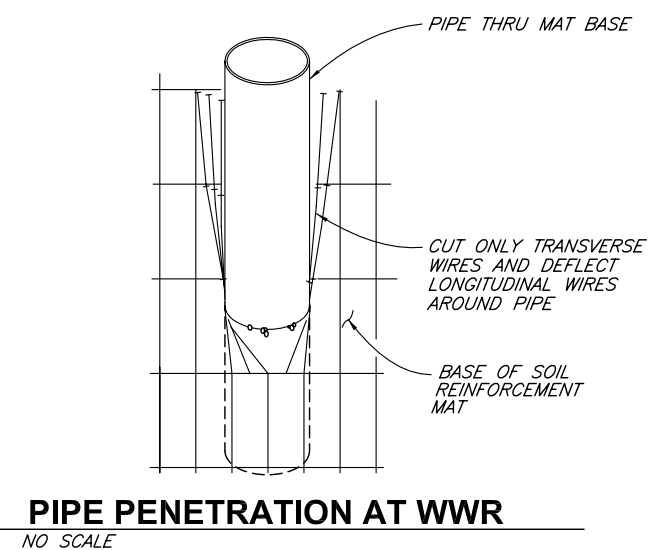
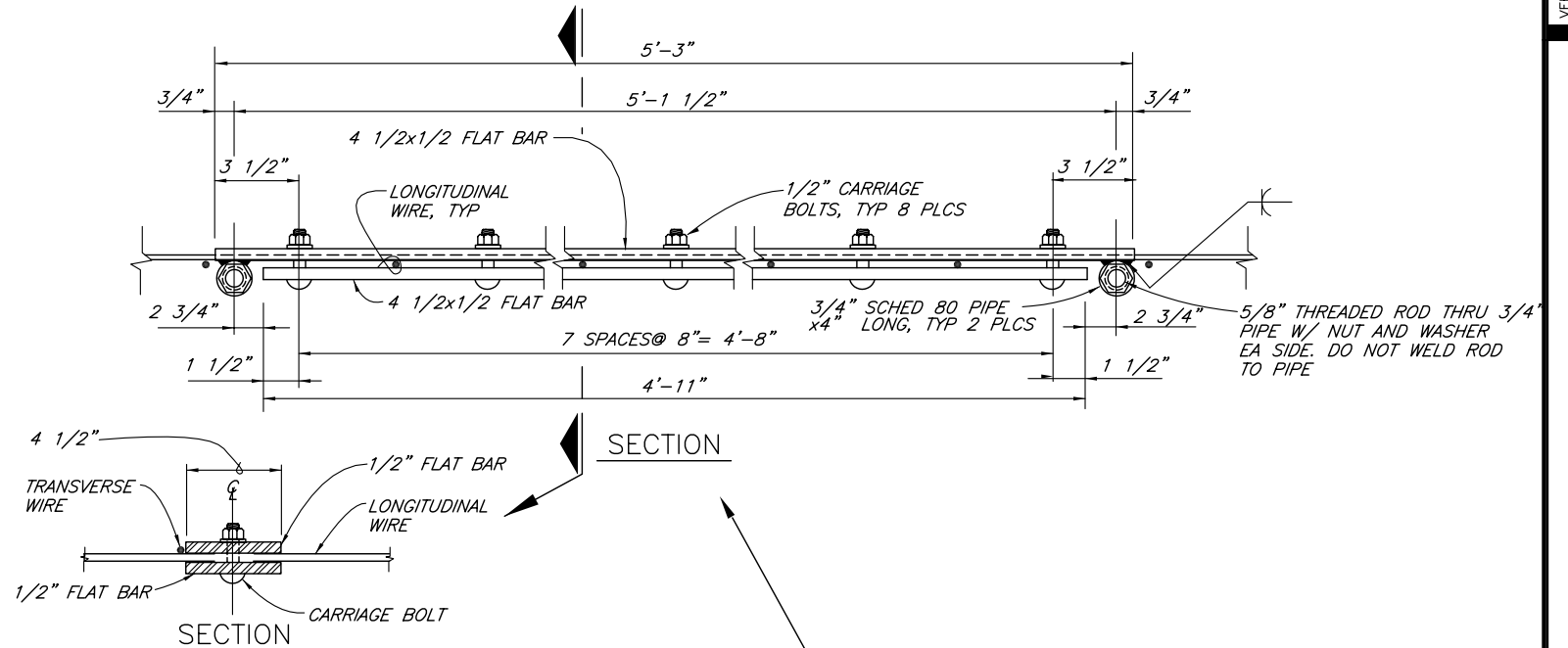
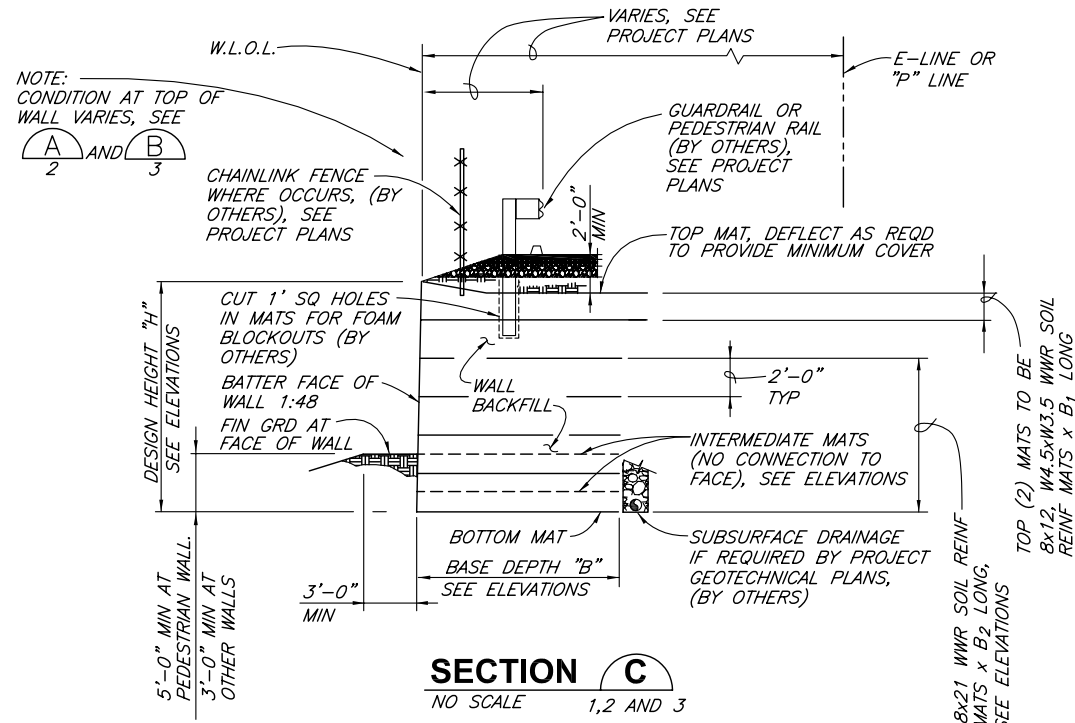
NO.	DATE	REVISION	BY

ELIWA RIVER ROAD
ELIWA RIVER BRIDGE REPLACEMENT
CPD NO. C1190
CALLAM COUNTY, WASHINGTON
PLAN, ELEVATION
AND SECTION

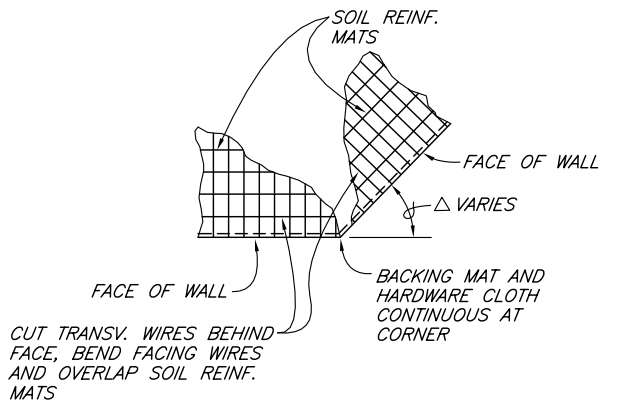
DSGN K/JN
DR RDW
CHK K/JN
APVD

SHEET 3 OF 6
DATE 3/27/08
PROJ. NO. 008002.030

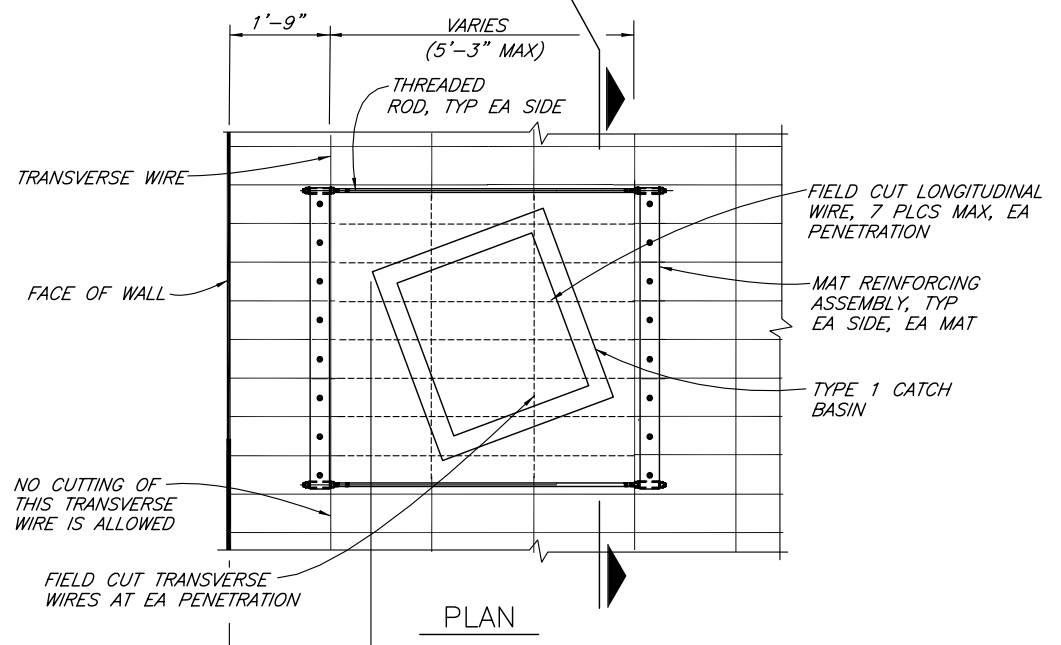
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CONCAVE ANGLE POINT
NO SCALE 045



CONVEX ANGLE POINT
NO SCALE 046



NOTES
1. ALL STEEL PLATE, ROD, PIPE, BOLTS, NUTS AND WASHERS SHALL BE ASTM A-36.

DETAIL 1
NO SCALE 2

WELDED WIRE WALL
HILFIKER RETAINING WALLS

HW

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Eureka, CA 95501 FAX (707)441-8877

SH

NO.	DATE	REVISION	BY

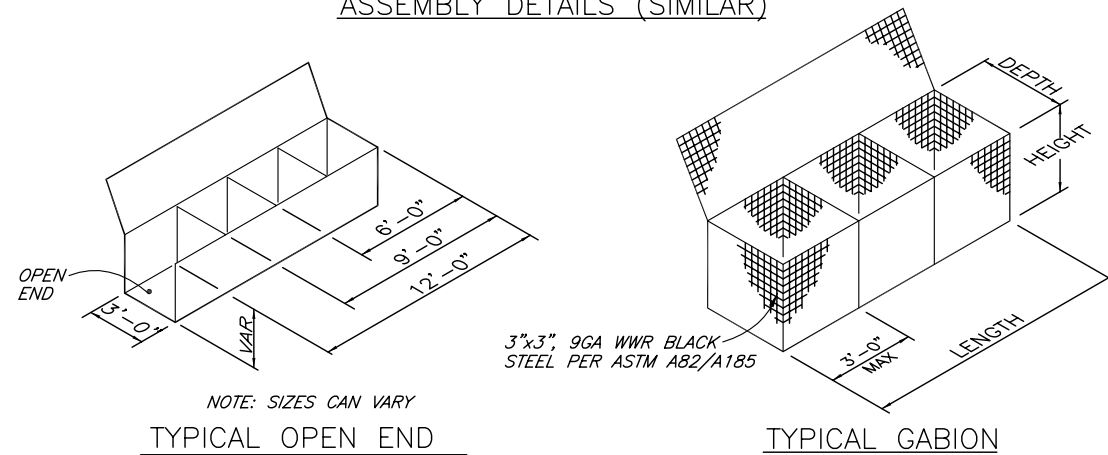
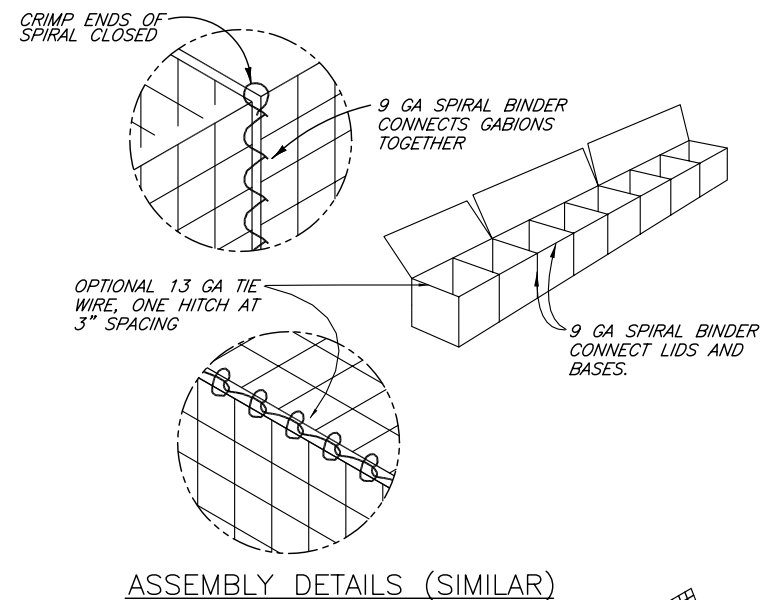
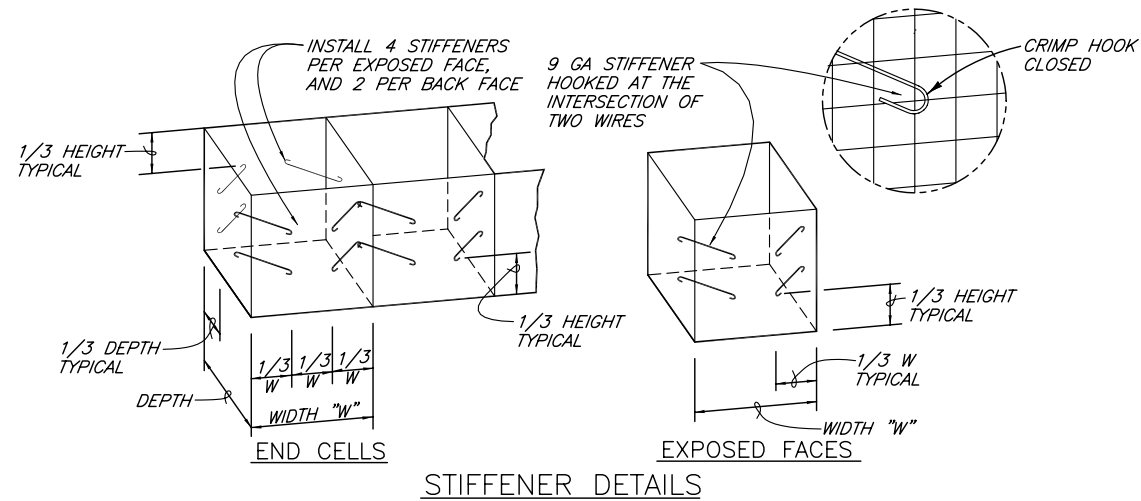
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ELIWA RIVER BRIDGE REPLACEMENT
CEP NO. C1190
CALLAM COUNTY, WASHINGTON

SECTIONS AND DETAILS

SHEET
4 OF 6
DATE 3/27/08
PROJ. NO.
008002.030

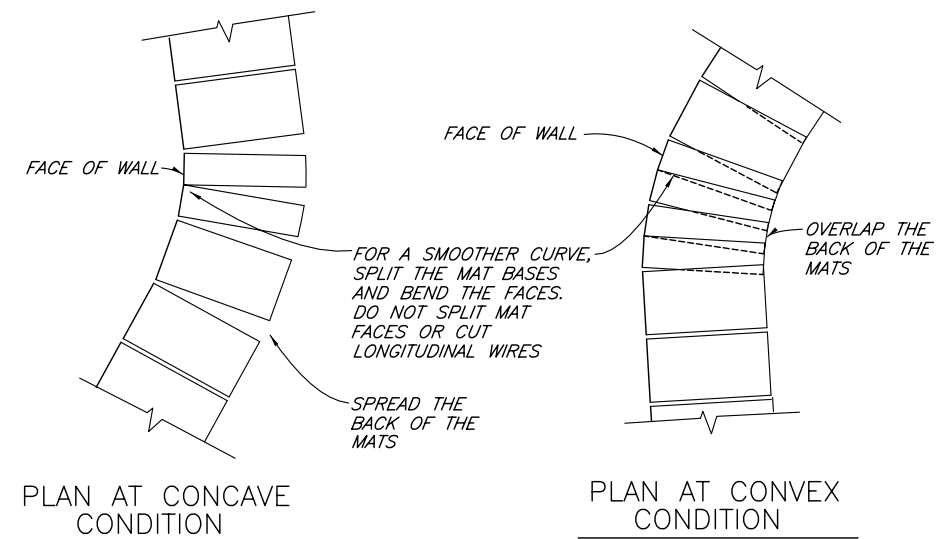
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(HRW 070503CW)



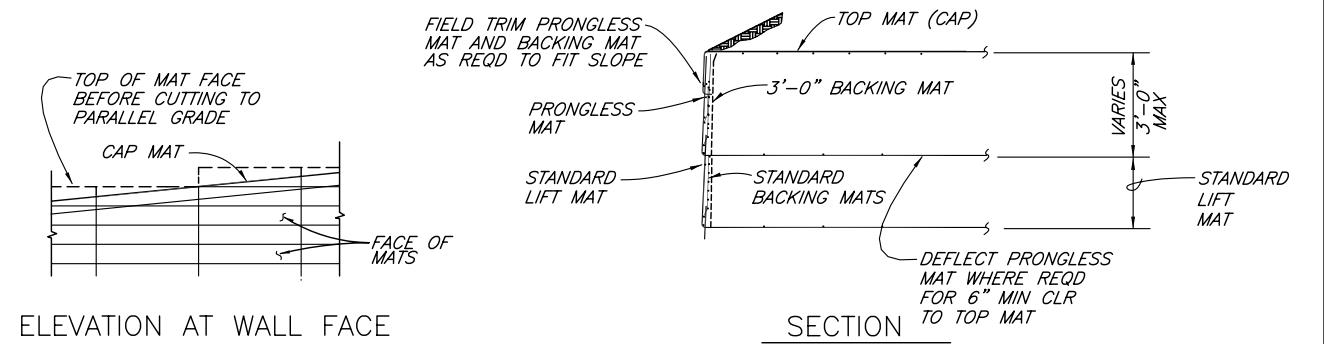
ARTWELD GABION DETAILS

NO SCALE



MAT INSTALLATION ON CURVES

NO SCALE



INSTALLATION SEQUENCE

1. PLACE THE PRONGLESS MATS AND BACKING MATS FOR THE TOP LIFTS.
2. CUT THE PRONGLESS AND BACKING MAT FACES OFF PARALLEL TO THE SLOPE OF THE FINAL GRADE.
3. PLACE AND COMPACT THE BACKFILL IN THE TOP LIFTS TO PARALLEL THE FINAL GRADE SLOPE.
4. PLACE THE CAPS ON THE BACKFILL AND CLIP THEM TO THE PRONGLESS MAT FACES WITH HOG RINGS.
5. PLACE AND COMPACT THE FINAL COVER OVER THE CAP MATS.

SLOPED CAP DETAILS

NO SCALE

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ELIWA RIVER ROAD
ELIWA RIVER BRIDGE REPLACEMENT
CALLAM COUNTY, WASHINGTON
GABION AND
MISCELLANEOUS DETAILS

SHEET
5 OF 6
DATE 3/27/08
PROJ. NO.
008002.030

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STEP 1

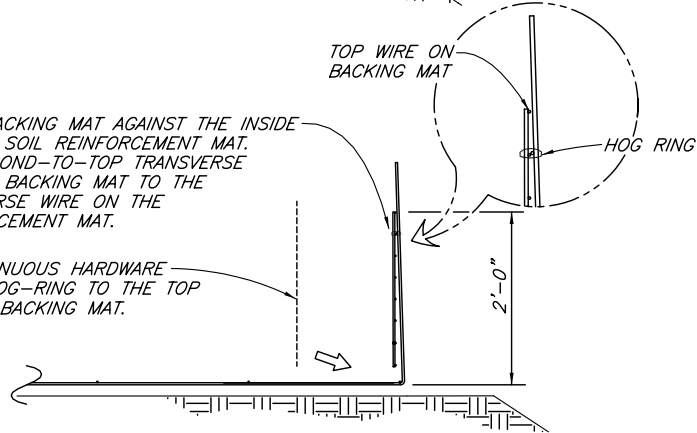
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION.



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.

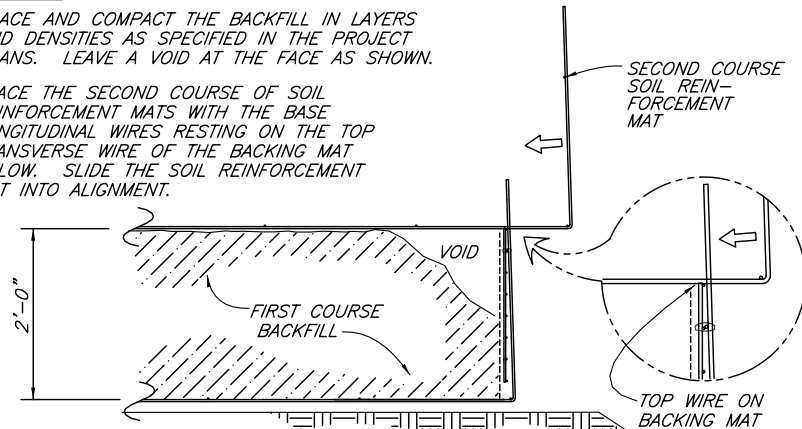
INSTALL CONTINUOUS HARDWARE CLOTH AND HOG-RING TO THE TOP WIRE ON THE BACKING MAT.



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.

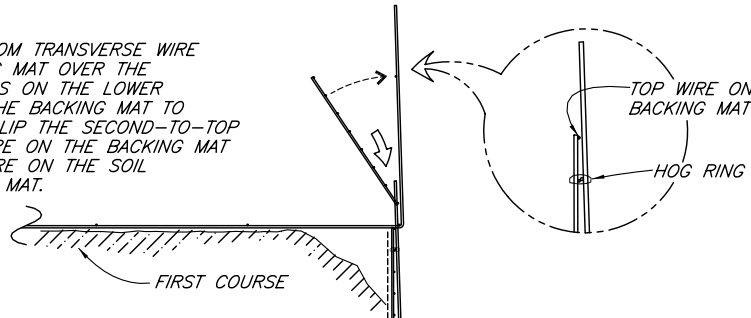


CONSTRUCTION SEQUENCE

NO SCALE

STEP 4

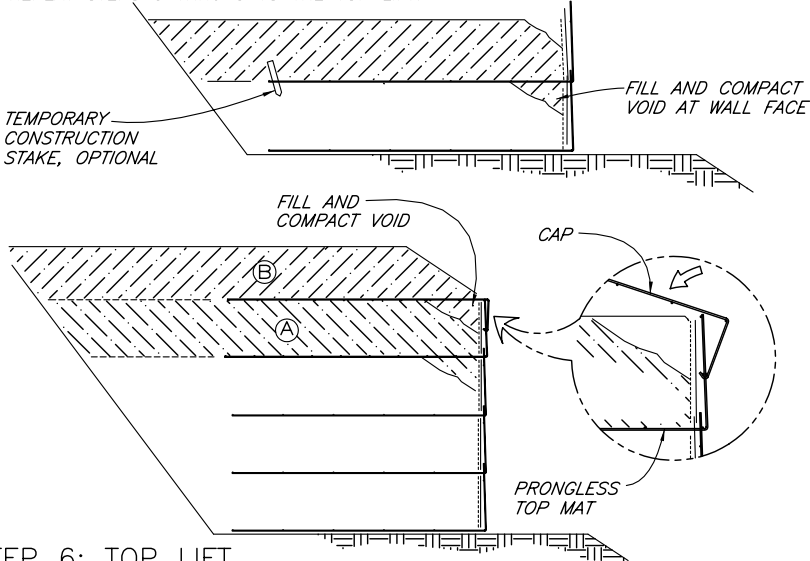
HOOK THE BOTTOM TRANSVERSE WIRE OF THE BACKING MAT OVER THE VERTICAL PRONGS ON THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 5

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

REPEAT STEPS 3 THRU 5 TO THE TOP LIFT.



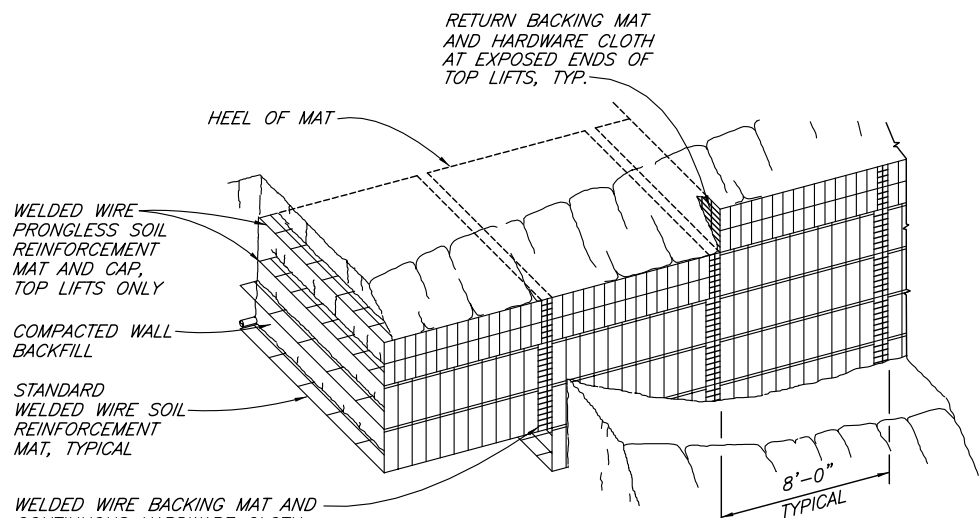
STEP 6: TOP LIFT

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

PLACE AND COMPACT BACKFILL IN AREA "A"

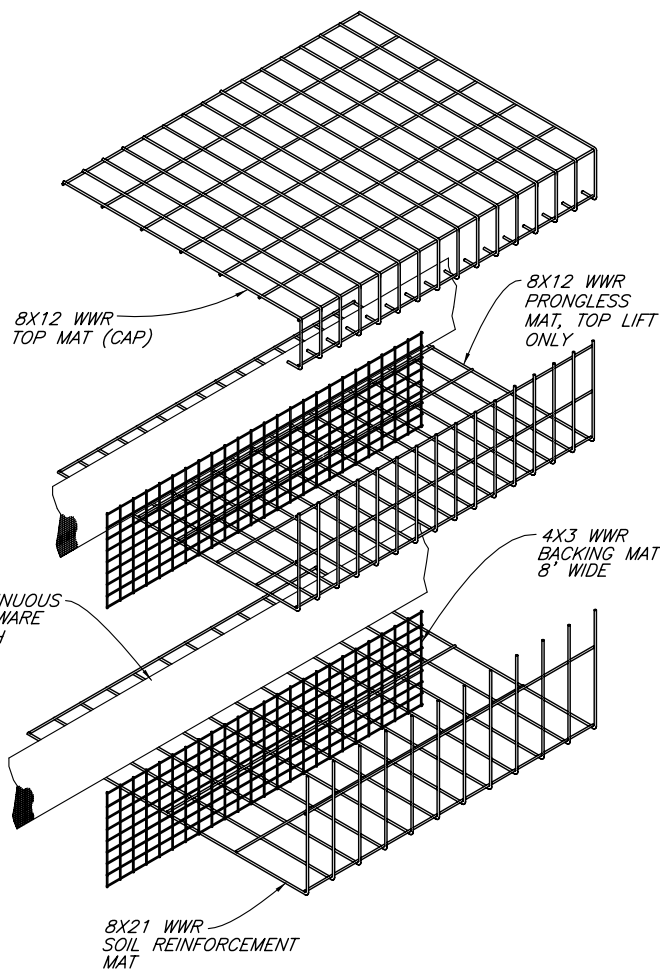
HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE.

BACKFILL "B" TO 2'-0" MINIMUM COVER OVER THE CAP.



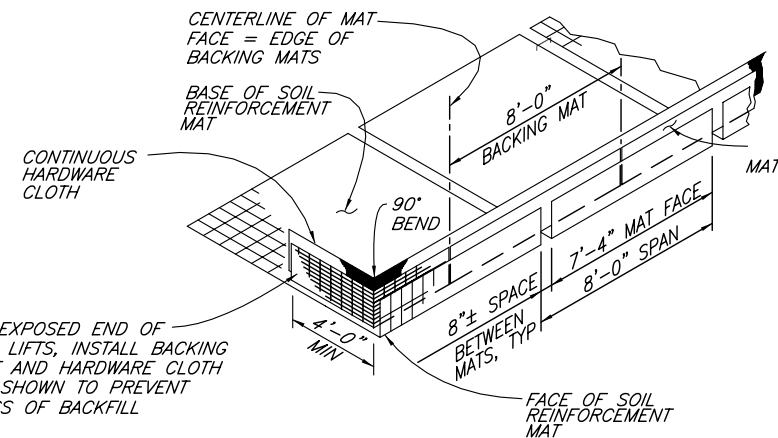
PICTORIAL ELEVATION

NO SCALE



WALL COMPONENTS

NO SCALE



ASSEMBLED WALL COMPONENTS

NO SCALE

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				NO.	REVISION
DSGN	K/JW	DR	RDW	CHK	K/JW
ELIWA RIVER ROAD	ELIWA RIVER BRIDGE REPLACEMENT	CP	NO. C1190	CALLAM COUNTY, WASHINGTON	CONSTRUCTION SEQUENCE
SHEET					
6 OF 6					
DATE 3/27/08					
PROJ. NO. 008002.030					