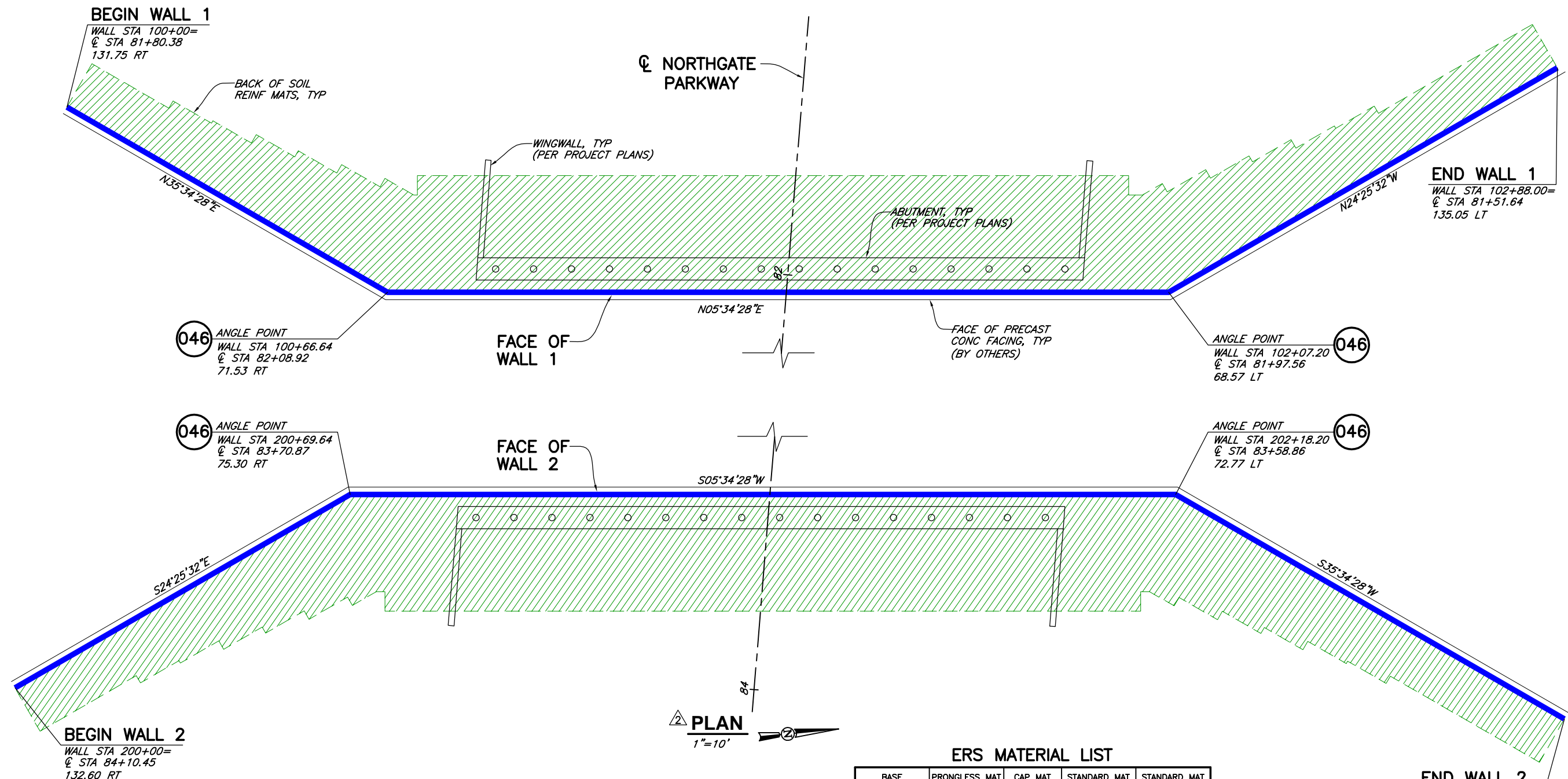


CAD: \\EUREKA\PROJECTS\2018\018213-1-15-NORTHGATE\DWGS\018213-NORTHGATE-R2.DWG  
(HRW 180522 AE)



**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.  
 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.
- ASSUMED SOIL CHARACTERISTICS:  
 WALL BACKFILL:  
 UNIT WEIGHT: 125 PCF  
 INTERNAL FRICTION ANGLE: 34°  
 COHESION: 0 PSF  
 RANDOM BACKFILL:  
 UNIT WEIGHT: 125 PCF  
 INTERNAL FRICTION ANGLE: 34°  
 COHESION: 0 PSF  
 COEFFICIENT OF ACTIVE SOIL PRESSURE: 0.283  
 FOUNDATION SOILS:  
 FRICTION ANGLE FOR SLIDING: 30°  
 COHESION: 0 PSF  
 MAXIMUM APPLIED BEARING PRESSURE: 4.72 KSF (D.L+L.L.)
- THE DESIGN REQUIRES A NON-SATURATED BACKFILL TO PREVENT HYDROSTATIC PRESSURES AND ACCELERATED CORROSION OF THE SOIL REINFORCEMENT.  
 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.
- REFERENCE DOCUMENTS:  
 PLANS AND SPECIFICATIONS PROVIDED IN PDF, PREPARED BY IDAHO TRANSPORTATION DEPARTMENT (BRIDGE PLANS), DATED JULY 2018.

**ERS MATERIAL LIST**

BASE DEPTH	PRONGLESS MAT W7xW3.5 (8x12)	CAP MAT W7xW3.5 (8x12)	STANDARD MAT W7xW4 (8x21)	STANDARD MAT W7xW3.5 (8x10.5)
21'-0"	33	33	330	-
17'-6"	-	-	72	-
17'-0"	8	8	-	-
15'-9"	-	-	32	-
15'-0"	4	4	-	-
14'-0"	4	4	28	-
12'-3"	-	-	24	-
12'-0"	4	4	-	-
11'-0"	4	4	-	-
10'-6"	-	-	32	4
10'-0"	4	4	-	-
9'-0"	13	13	-	-
8'-9"	-	-	23	-
WALL FACE SUPPLIED	11,088 SQ FT			
MSE BACKFILL (BY OTHERS)	*6,610 C.Y.			
BACKING MATS (2'-0" HIGH)	723 EA			
FILTER FABRIC (2'-6" WIDE)	5,784 LIN FT			
FACE ANCHORS	148 EA			
CLOSURE MATS	74 EA			
HOG RINGS	14,900 EA			
PLIERS	5 EA			

\* TOP MAT TO BOTTOM MAT, NEAT



10/26/18  
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**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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 WWW.SHIN-ENGR.COM  
 812 W. WABASH EUREKA, CA 95501  
 707-441-8855

**SHIN**

NO.	DATE	REVISION	BY
04/04/19		PLAN CHECK COMMENTS	K/JM

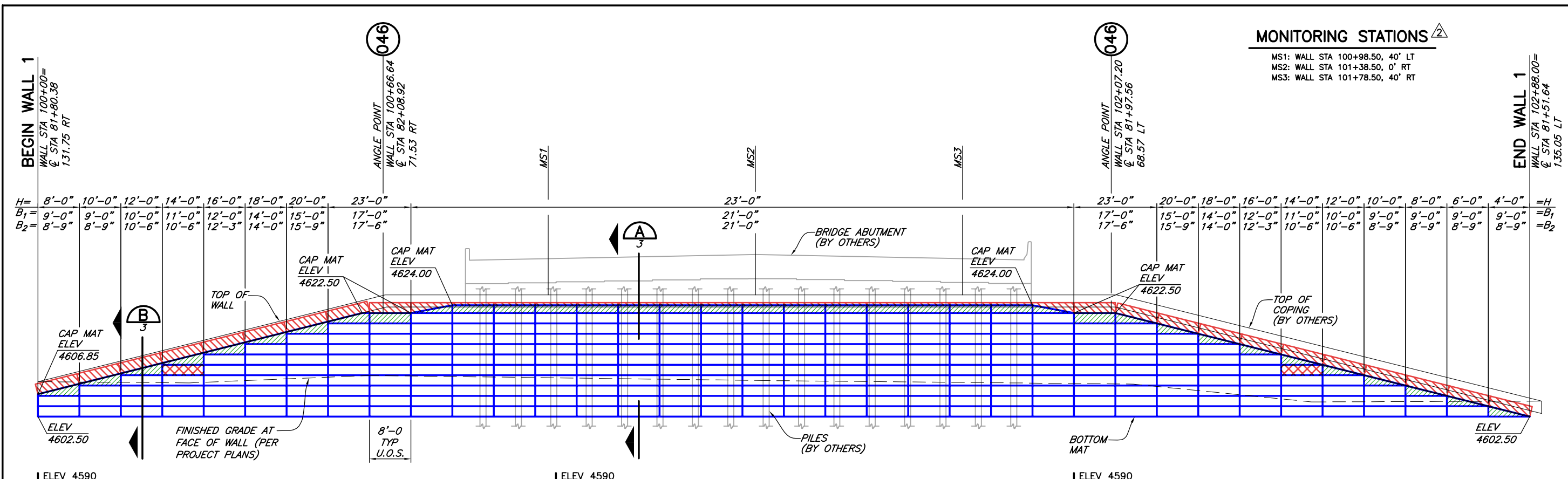
IDAHO TRANSPORTATION DEPARTMENT  
 1-15 NORTHGATE IC-PROJ NO. A020(314)  
 POCAATELLO, BANNOCK COUNTY, IDAHO

**WALL 1 & 2 PLAN, QUANTITIES & NOTES**

SHEET 1 OF 5  
 DATE 10/26/18  
 PROJ. NO. 018213

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(HRW 180522 AE)



**MONITORING STATIONS**

MS1: WALL STA 100+98.50, 40' LT  
MS2: WALL STA 101+38.50, 0' RT  
MS3: WALL STA 101+78.50, 40' RT

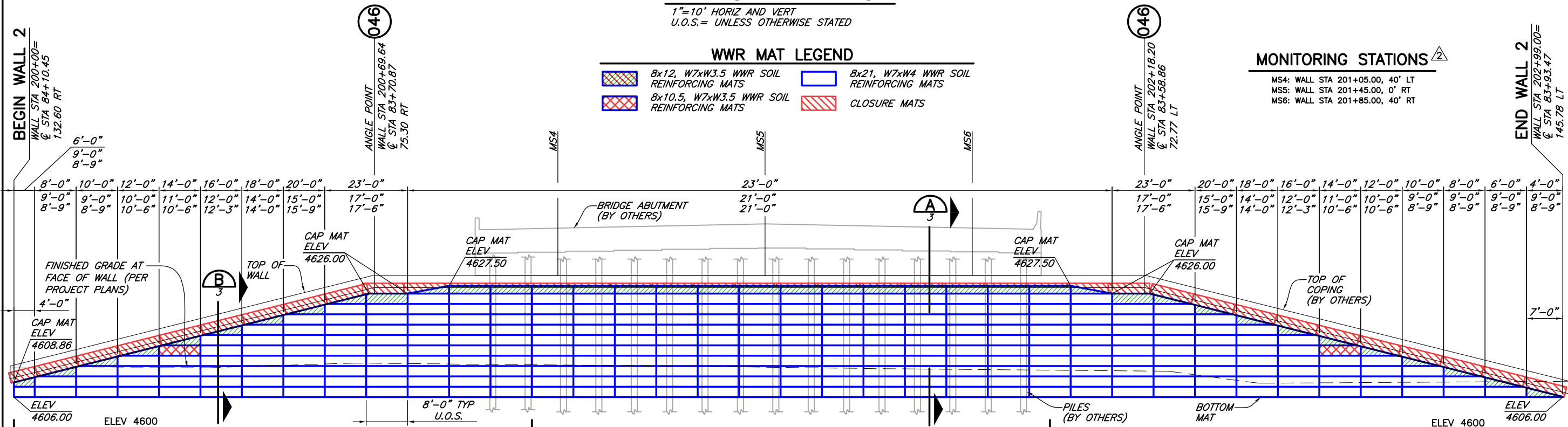
100+00 (WALL STATIONING) 101+00 102+00

**WALL 1  
DEVELOPED ELEVATION**

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

**WWR MAT LEGEND**

- 8x12, W7xW3.5 WWR SOIL REINFORCING MATS
- 8x10.5, W7xW3.5 WWR SOIL REINFORCING MATS
- 8x21, W7xW4 WWR SOIL REINFORCING MATS
- CLOSURE MATS



**MONITORING STATIONS**

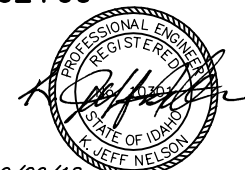
MS4: WALL STA 201+05.00, 40' LT  
MS5: WALL STA 201+45.00, 0' RT  
MS6: WALL STA 201+85.00, 40' RT

200+00 (WALL STATIONING) 201+00 202+00

**WALL 2  
DEVELOPED ELEVATION (BACKFACE)**

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

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**HILFIKER RETAINING WALLS**

1902

1902 QUALITY PRODUCTS

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EUREKA, CA 95501  
WWW.SHN-ENGR.COM  
707-441-8855

812 W. WABASH  
EUREKA, CA 95501  
WWW.HILFIKER.COM  
707-443-5093 FAX 707-443-2891  
E-MAIL info@hilfiker.com

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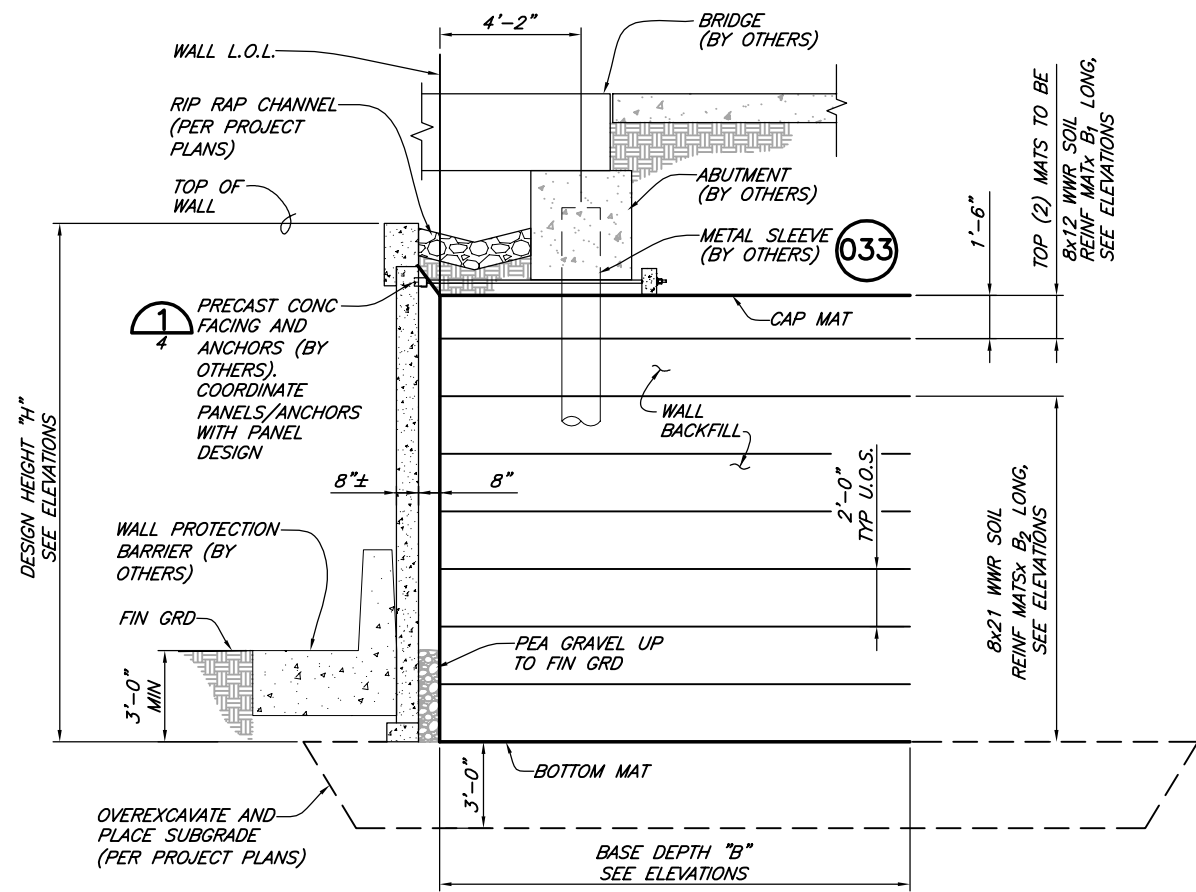
NO.	DATE	BY	REVISION
1	04/04/19	KJM	PLAN CHECK COMMENTS

**WALL ELEVATIONS**

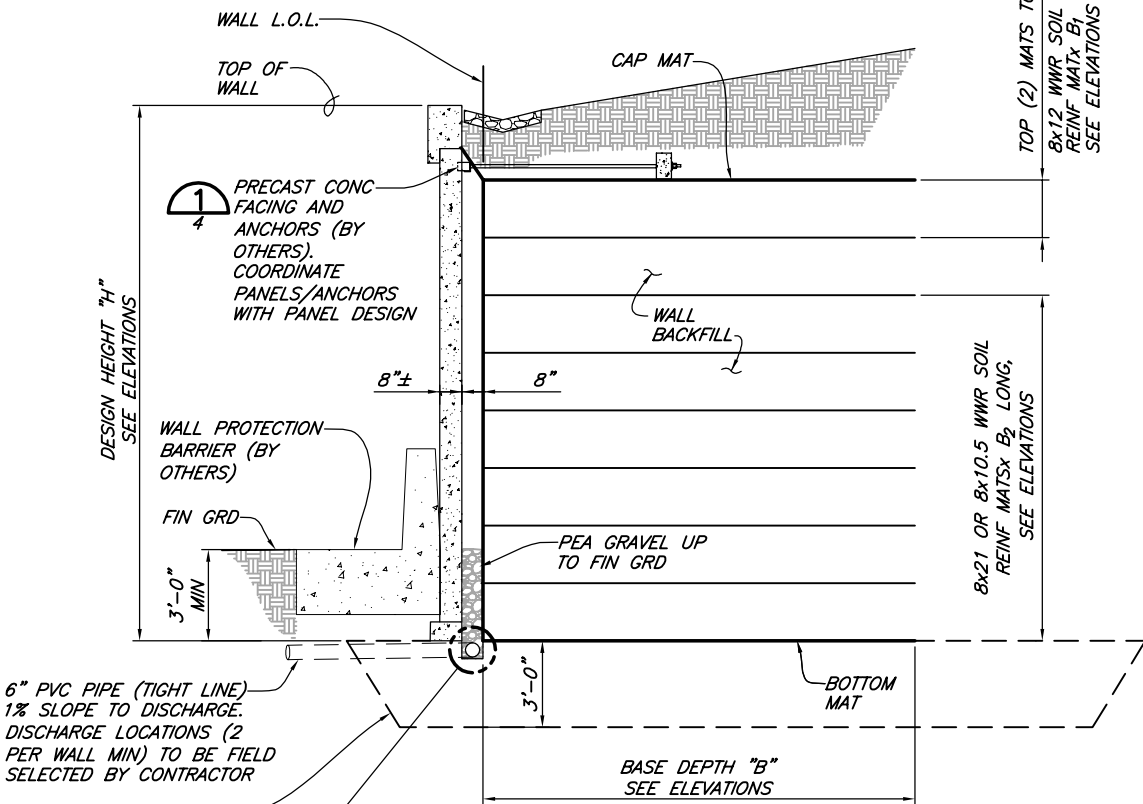
IDAHO TRANSPORTATION DEPARTMENT  
1-15 NORTHGATE IC-PROJ NO. A020(314)  
POCATELLO, BANNOCK COUNTY, IDAHO

SHEET 2 OF 5  
DATE 10/26/18  
PROJ. NO. 018213

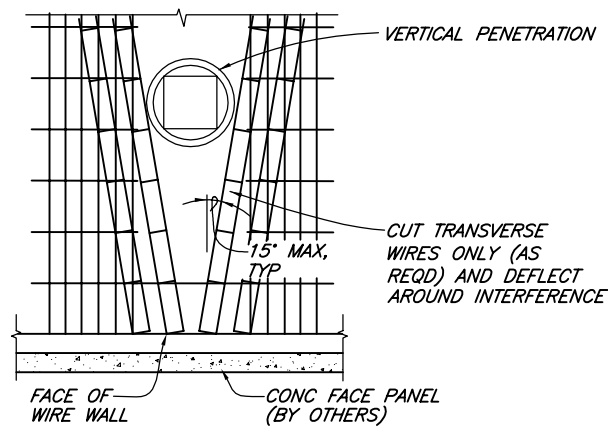
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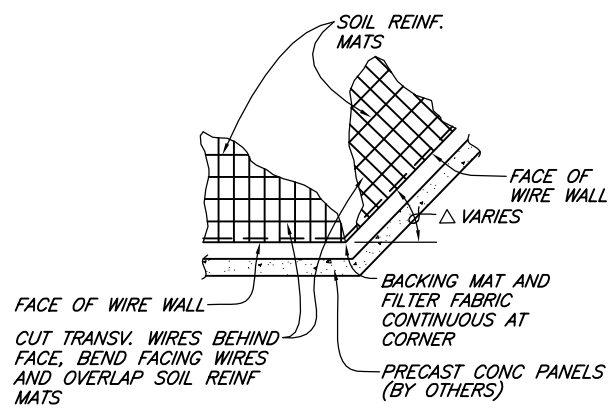
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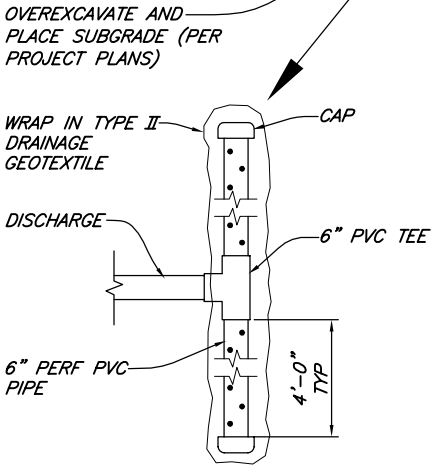
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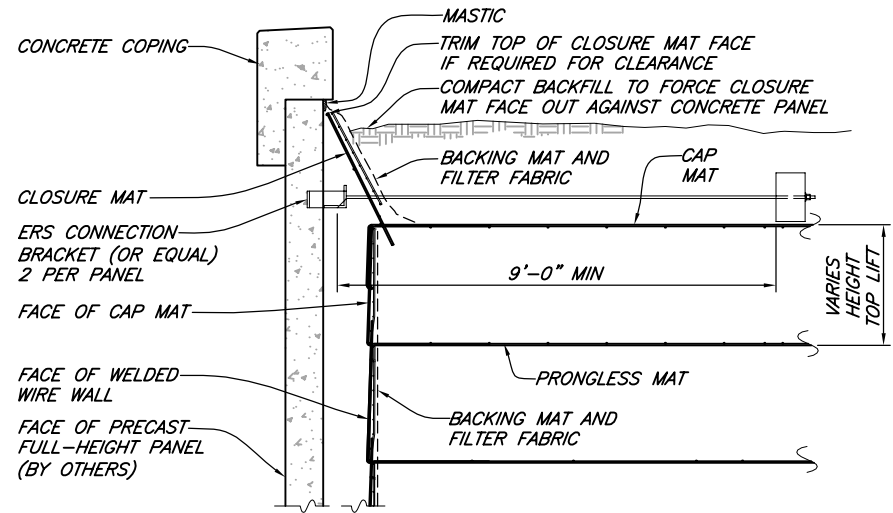
**SOIL REINF. PENETRATION**  
NOT TO SCALE



**CONVEX ANGLE POINT**  
NOT TO SCALE



**PLAN VIEW**



**TOP OF WALL AND PANEL CONNECTION DETAILS**  
NOT TO SCALE

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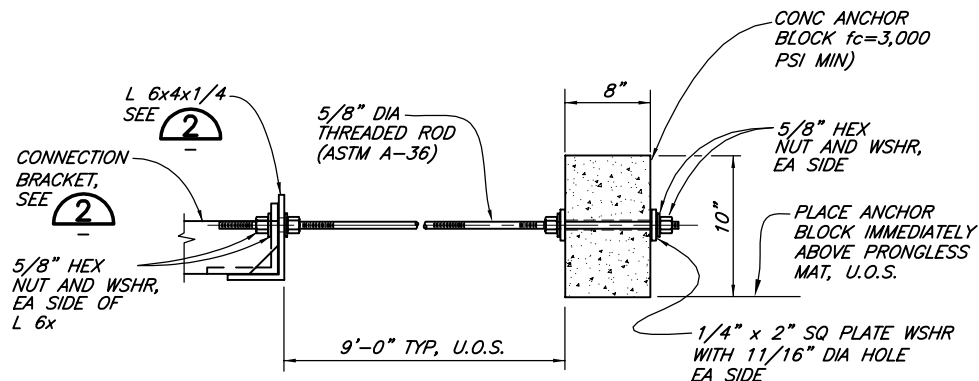
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**HILFIKER RETAINING WALLS**

E.R.S.

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<b>SHIN</b>	
DESIGN	BY
DR	CHK
APPROV	APPROV
REMOVE UNDERDRAIN	PLAY CHECK COMMENTS
REVISION	REVISION
DATE	DATE
NO.	NO.
IDaho TRANSPORTATION DEPARTMENT 1-15 NORTHGATE IC-PROJ NO. A020(314) POCATELLO, BANNOCK COUNTY, IDAHO	
<b>SECTIONS &amp; DETAILS</b>	
SHEET 3 OF 5	
DATE 10/26/18	
PROJ. NO. 018213	

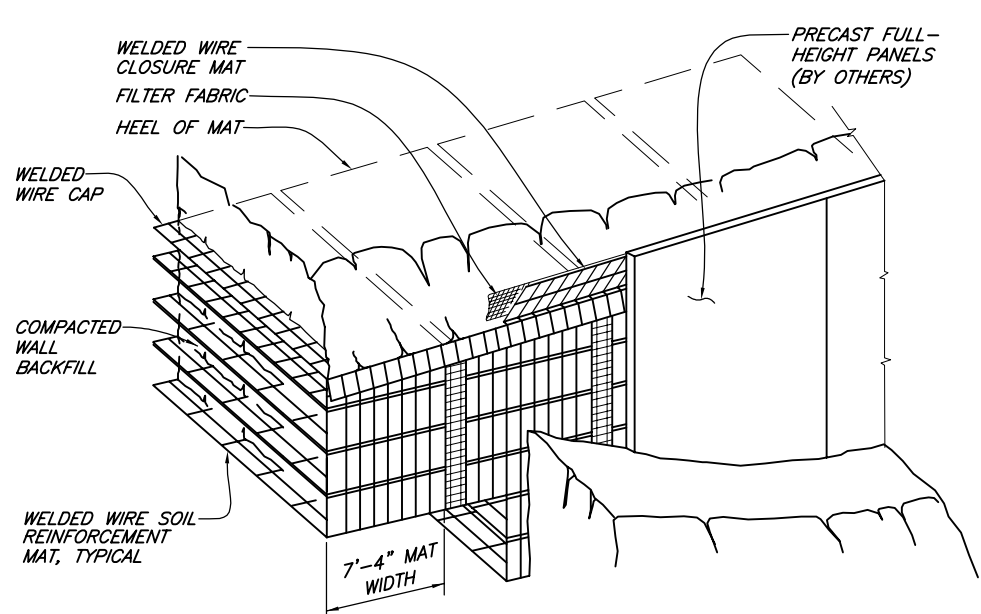
CAD: \\EUREKA\PROJECTS\2018\018213-1-15-NORTHGATE\DWGS\018213-NORTHGATE-R2.DWG (HRW 180522 AE)



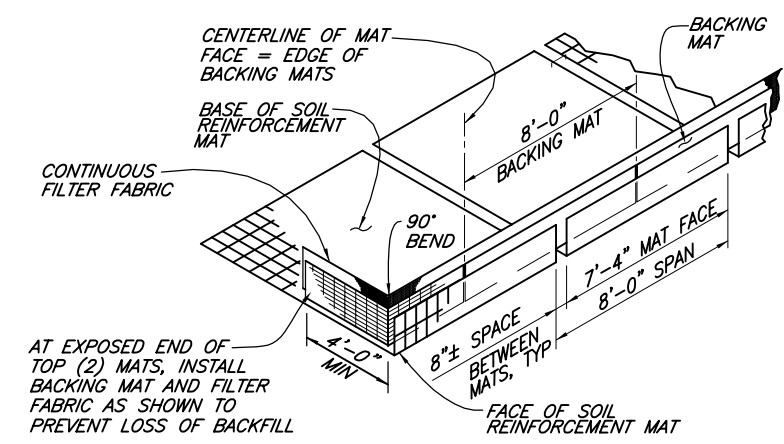
THREADED RODS, PLATES, NUTS AND WASHERS SHALL BE A36 STEEL AND HOT-DIP GALVANIZED AFTER FABRICATION (2 OZ/SQ FT MIN PER AASHTO M-111)

**DETAIL 2**  
NOT TO SCALE

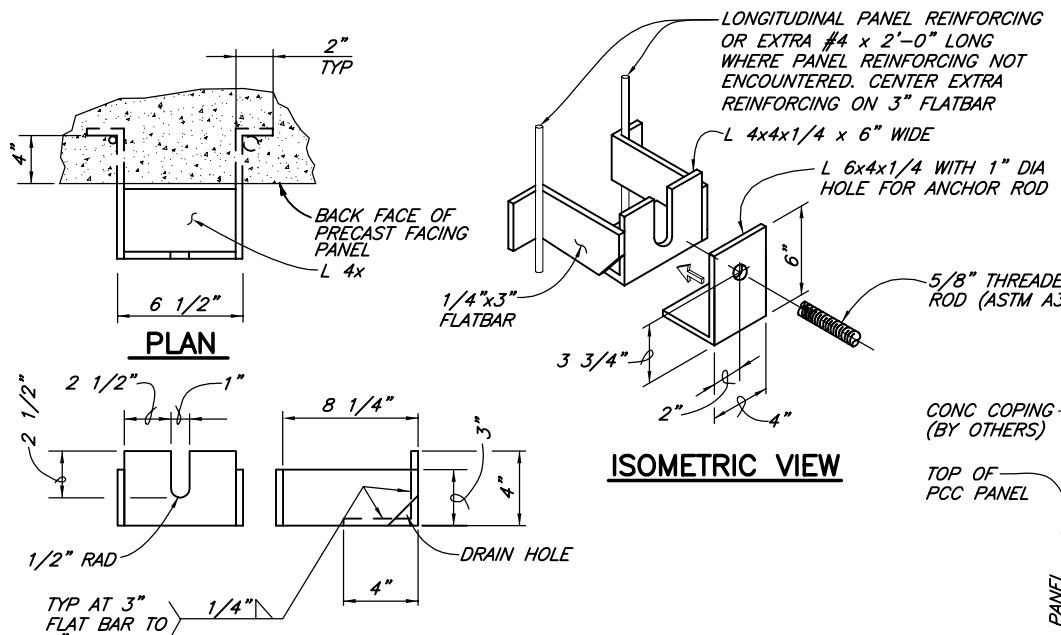
U.O.S.= UNLESS OTHERWISE STATED



**PICTORIAL ELEVATION**  
NOT TO SCALE



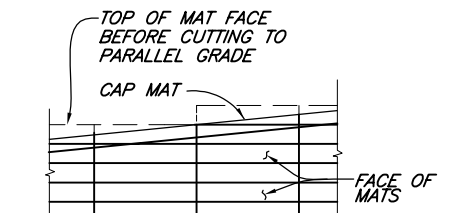
**ASSEMBLED WALL COMPONENTS DETAIL**  
NOT TO SCALE



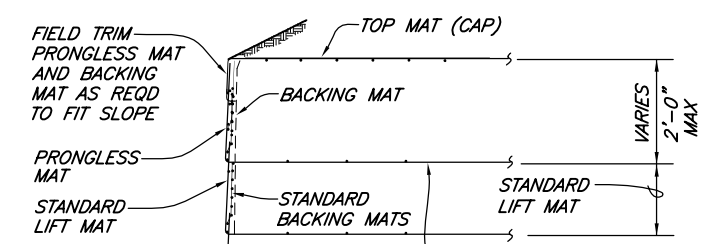
**FRONT SIDE**

CONNECTION BRACKET ASSEMBLIES SHALL BE FABRICATION OF A36 STEEL AND HOT-DIP GALVANIZED AFTER FABRICATION (2 OZ/SQ FT MIN PER AASHTO M-111)

**DETAIL 2**  
NOT TO SCALE



**ELEVATION AT WALL FACE**

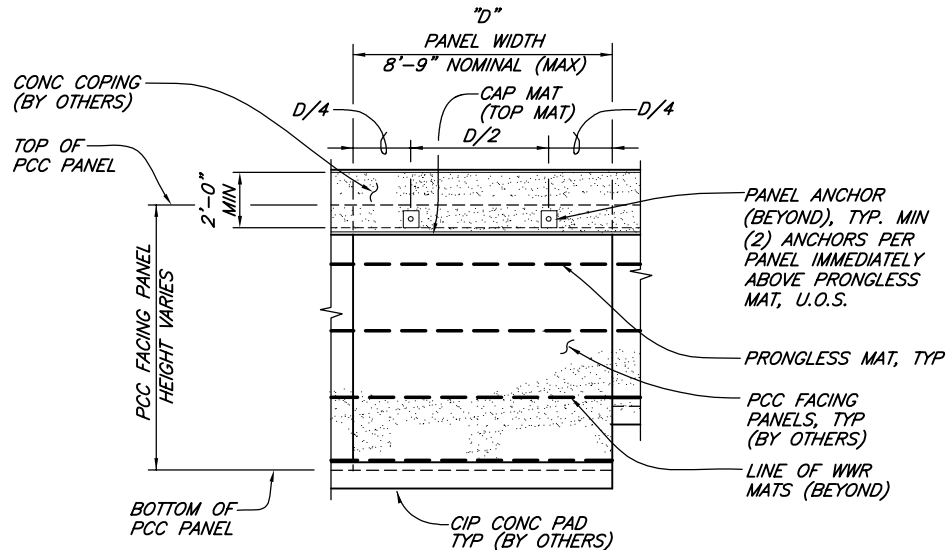


**SECTION**

**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**  
NOT TO SCALE



**PCC PANEL CONNECTION DETAIL**  
NOT TO SCALE

U.O.S.= UNLESS OTHERWISE STATED



10/26/18

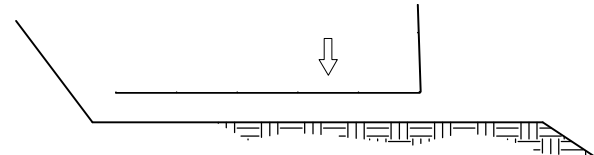
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<b>SHIN</b>	
BY	K/JN
REVISION	REVISED ANCHOR BLOCK
DATE	01/22/19
NO.	1
DESIGN	K/JN
DR	MMD
CHECK	K/JN
APPROVED	
IDAHO TRANSPORTATION DEPARTMENT 1-15 NORTHGATE IC-PROJ NO. A020(314) POCATELLO, BANNOCK COUNTY, IDAHO	
<b>DETAILS</b>	
SHEET 4 OF 5	
DATE 10/26/18	
PROJ. NO. 018213	

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**STEP 1**

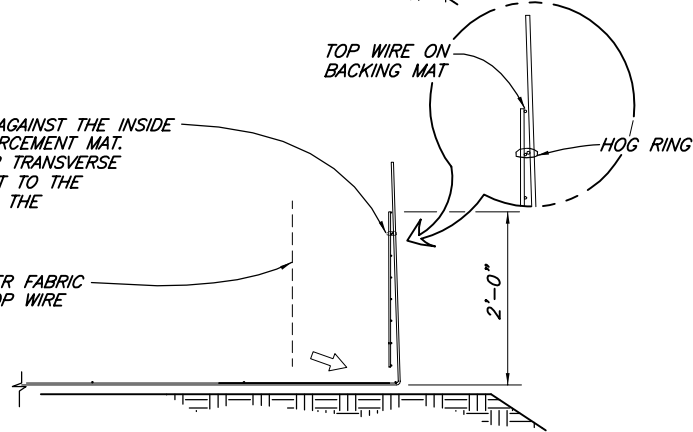
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION.



**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.

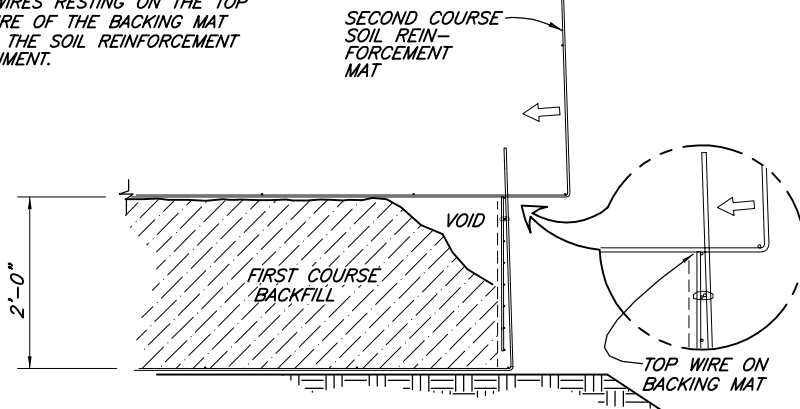
INSTALL CONTINUOUS FILTER FABRIC AND HOG-RING TO THE TOP WIRE ON THE BACKING MAT.



**STEP 3**

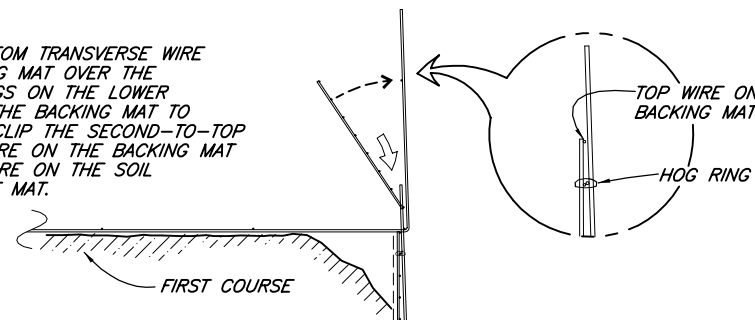
PLACE AND COMPACT THE BACKFILL IN LAYERS AND DENSITIES AS SPECIFIED IN THE PROJECT PLANS. LEAVE A VOID AT THE FACE AS SHOWN.

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.



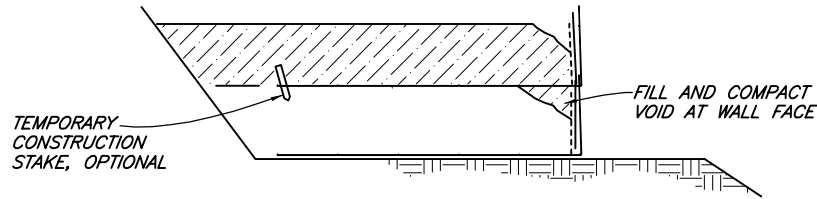
**STEP 4**

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.



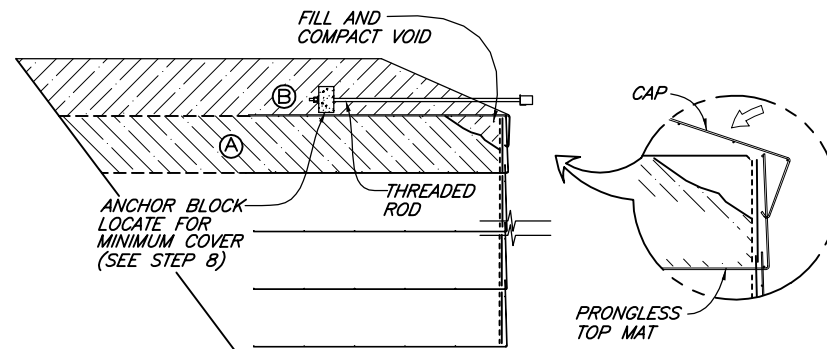
**STEP 5**

INSTALL THE FILTER FABRIC. PLACE AND COMPACT THE BACKFILL TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 3 THRU 5 TO THE TOP LIFT.



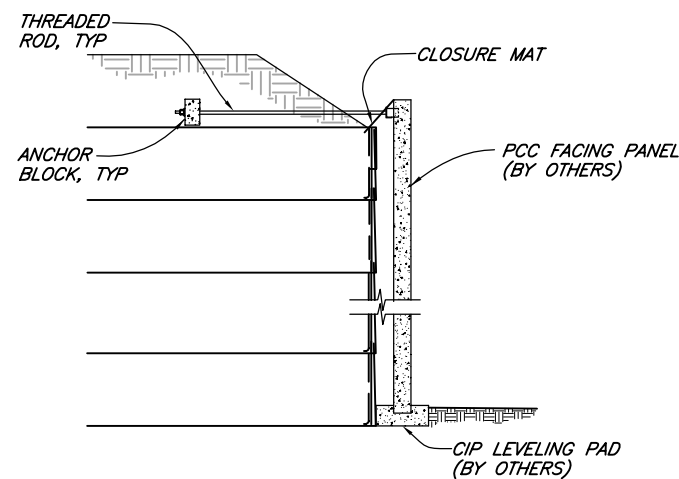
**STEP 6: TOP LIFT**

PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND FILTER FABRIC. INSTALL ANCHOR BLOCKS AND THREADED RODS. 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.



**STEP 7**

WAIT FOR SETTLEMENT PERIOD (PER CONTRACT SPECIFICATIONS) AND THEN POUR CIP LEVELING PAD TO ELEVATION SHOWN. INSTALL PCC FACING PANELS TO CIP PAD AND THREADED RODS FROM ANCHOR BLOCKS. PLACE CLOSURE MAT WITH BACKING MAT AND FILTER FABRIC.

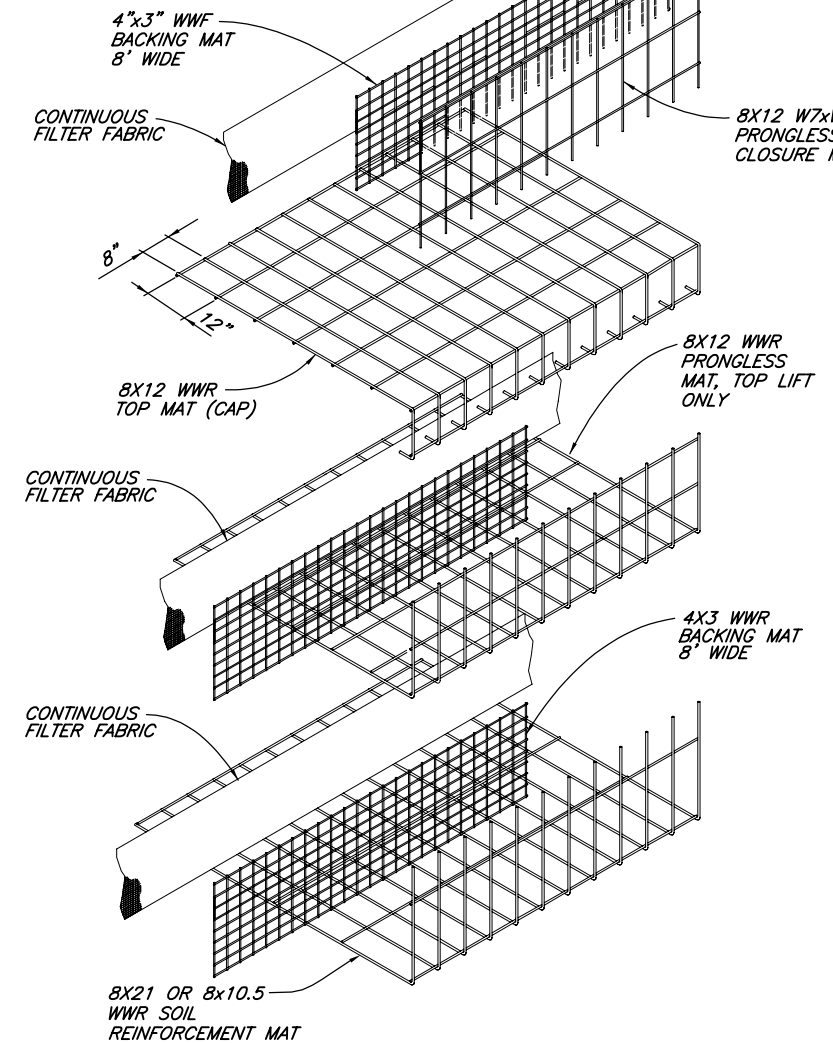
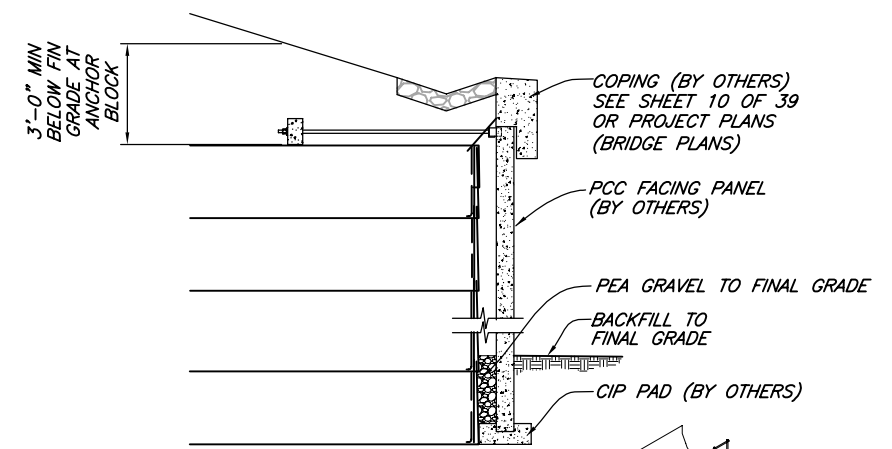


**CONSTRUCTION SEQUENCE**

NO SCALE

**STEP 8**

BACKFILL AT TOE TO FINAL GRADE. PLACE AND COMPACT BACKFILL AT CLOSURE MAT. FINISH TOP OF WALL PER PROJECT PLANS.

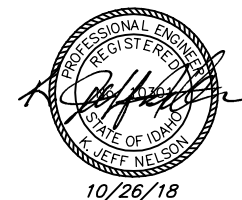


**WALL COMPONENTS**

NO SCALE

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10/26/18



1902  
EUREKA  
EST. 1902

E.R.S.

**HILFIKER RETAINING WALLS**

1902  
EUREKA  
EST. 1902

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812 W. WABASH EUREKA, CA 95501  
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DESIGN	K/JN	BY	
DR	MMD	REVISION	
CHK	K/JN	DATE	01/22/19
APVD		NO.	1

IDAHO TRANSPORTATION DEPARTMENT  
1-15 NORTHGATE IC-PROJ NO. A020(314)  
POCATELLO, BANNOCK COUNTY, IDAHO

**WALL COMPONENTS AND CONSTRUCTION SEQUENCE**

SHEET 5 OF 5  
DATE 10/26/18  
PROJ. NO. 018213