

#6 UPSTREAM - SUPPLIED QUANTITIES

GENERAL NOTES

- DESIGN IS BASED ON THE ASSUMPTION THAT BACKFILL WITHIN THE REINFORCED SOIL MASS, METHODS OF CONSTRUCTION AND THE QUALITY OF MATERIALS CONFORM TO THE REQUIREMENTS OF HILFIKER RETAINING WALLS.
- ASSUMED MATERIAL CHARACTERISTICS:
 WALL BACKFILL (CONTRACTOR TO VERIFY BY TEST):
 TOTAL UNIT WEIGHT: 135 PCF
 INTERNAL FRICTION ANGLE: 34° (ASTM D3080)
 COHESION: 0 PSF
 RETAINED BACKFILL:
 TOTAL UNIT WEIGHT: 130 PCF
 INTERNAL FRICTION ANGLE: 30°
 COHESION: 0 PSF
 FOUNDATION SOILS:
 TOTAL UNIT WEIGHT: 125 PCF
 INTERNAL FRICTION ANGLE: 32°
 COHESION: 0 PSF

 SEISMIC: PGA=0.5g, Fpga=1.0

 IF ACTUAL MATERIAL 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.
- 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.
- SURFACE AND INTERNAL 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.
- SOIL REINFORCEMENTS SHALL BE FABRICATED OF WELDED WIRE FABRIC CONFORMING TO AASHTO M-32 AND M-55 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 FOLLOWING FABRICATION.
- THIS DESIGN SUBMITTAL IS BASED ON ASTM A1115 - STANDARD PRACTICE FOR CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS WITH INEXTENSIBLE SOIL REINFORCEMENT (LATEST APPROVAL).
- THIS IS A PERMANENT MSE WALL DESIGNED FOR 75 YEARS OF SERVICE. THE OWNER IS THE STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.
- SHANNON & WILSON IS NOT THE OWNER'S "ENGINEER OF RECORD" OR THE OWNER'S "GEOTECHNICAL ENGINEER" OR THE OWNER'S "HYDRAULIC ENGINEER," AS DESCRIBED IN ASTM A1115. THE OWNER IS RESPONSIBLE FOR THE FOLLOWING:
 A. EVALUATING GLOBAL STABILITY
 B. ESTABLISHING FOUNDATION BEARING RESISTANCE DESIGN CRITERIA
 C. IMPLEMENTING AN ADEQUATE QUALITY CONTROL PROGRAM
- HILFIKER RETAINING WALLS, INC (800-762-8962) IS THE "WALL SUPPLIER" WHOSE SYSTEM AND COMPONENTS ARE THE SOLE BASIS OF THIS SUBMITTAL.
- SHANNON & WILSON (208-658-8700) IS THE "WALL DESIGN ENGINEER," AS DESCRIBED IN ASTM A1115. SHANNON & WILSON HAS SPECIFIED THE TYPE(S), SIZES, AND LOCATIONS OF BURIED REINFORCEMENTS FOR THIS SUBMITTAL.
- THE ENGINEER OF RECORD ADMINISTERS THE OWNER'S REQUIREMENTS FOR THE LONG-TERM STABILITY OF THE MSE WALL (MSEW), INCLUDING:
 A. FOUNDATION PREPARATION REQUIREMENTS OF THE GEOTECHNICAL ENGINEER
 B. INTERNAL DRAINAGE SYSTEMS AND COMPONENTS TO ENSURE NON-SATURATED BACKFILL.
 C. SCOUR COUNTERMEASURES ALONG THE TOE
 D. EROSION COUNTERMEASURES AT THE ENDS
 E. SURFACE WATER DRAINAGE CONTROLS ABOVE THE WALL
 F. CONSTRUCTION OF THE SUPPLIED MSEW SYSTEM WITH ALL OF ITS APPURTENANT COMPONENTS
 G. PROTECTION OF REINFORCEMENT, SUCH THAT UNAUTHORIZED CUTTING OF WIRES DOES NOT OCCUR
- HEAVY CRANES OR SIMILAR HEAVY LOADS SHALL NOT BE PLACED WITHIN TWENTY FEET OF THE MSE WALL FACE. DO NOT STOCKPILE SOIL ON THE MSE WALLS.
- IF THERE ARE BOTTOM OF WALL ELEVATION DISCREPANCIES, NOTIFY OUR OFFICE SO THAT REDESIGN CAN BE CONSIDERED.

SUPPLIED REINFORCEMENT QUANTITIES

BASE LENGTH	CAP MAT W7XW3.5 (8"X12")	PRONGLESS MAT W7XW3.5 (8"X12")	STANDARD MAT W7XW3.5 (8"X10.5")	STANDARD MAT W7XW4 (8"X21")	INVERTED CAP MATS TO CULVERT FACE W7XW3.5 (8"X12")
15'	4	4			
14'	2	1		30	
12.25'				14	
11'	1				
10.5'				6	
9'	5	4			5
8.75'			6	11	

WALL FACE SUPPLIED	1,216 SF
BACKING MATS (2'-0" HIGH)	83 EA
MIRAMESH GREEN	5 ROLLS
HOG RINGS	1,900 EA
PLIERS	2 EA

#6 DOWNSTREAM - SUPPLIED QUANTITIES

SUPPLIED REINFORCEMENT QUANTITIES

BASE LENGTH	CAP MAT W7XW3.5 (8"X12")	PRONGLESS MAT W7XW3.5 (8"X12")	STANDARD MAT W7XW3.5 (8"X10.5")	STANDARD MAT W7XW4 (8"X21")	INVERTED CAP MATS TO CULVERT FACE W7XW3.5 (8"X12")
14'	5	5			
12.25'				33	
11'	2	1			
10.5'				12	
9'	7	5			6
8.75'			6	18	

WALL FACE SUPPLIED	1,280 SF
BACKING MATS (2'-0" HIGH)	88 EA
MIRAMESH GREEN	5 ROLLS
HOG RINGS	2,000 EA
PLIERS	2 EA

#7 UPSTREAM - SUPPLIED QUANTITIES

SUPPLIED REINFORCEMENT QUANTITIES

BASE LENGTH	CAP MAT W7XW3.5 (8"X12")	PRONGLESS MAT W7XW3.5 (8"X12")	STANDARD MAT W7XW4 (8"X21")	INVERTED CAP MATS TO CULVERT FACE W7XW3.5 (8"X12")
14'	4	4		
12.25'			24	
11'	2	1		
10.5'			12	
9'	1	1		5
8.75'			1	

WALL FACE SUPPLIED	688 SF
BACKING MATS (2'-0" HIGH)	48 EA
MIRAMESH GREEN	3 ROLLS
HOG RINGS	1,100 EA
PLIERS	2 EA

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REV.	DATE	BY	DESCRIPTION	CADD:
0	2/22/2022	RGV	ISSUED FOR HILFIKER REVIEW	RGV
1	2/23/2022	RGV	ISSUED FOR OWNER REVIEW	DESIGNED: RGV
				CHECKED: SGC

HILFIKER RETAINING WALLS



1902 HilfiKER Lane
Eureka, CA 95603-5711
TOLL FREE 800.742.8962
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WEBSITE www.hilfiKER.com E-MAIL info@hilfiKER.com

SHANNON & WILSON

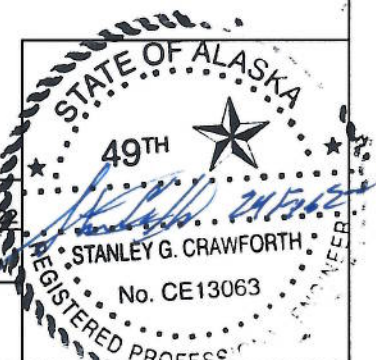
5260 Chinden Blvd.
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(208) 658-8700
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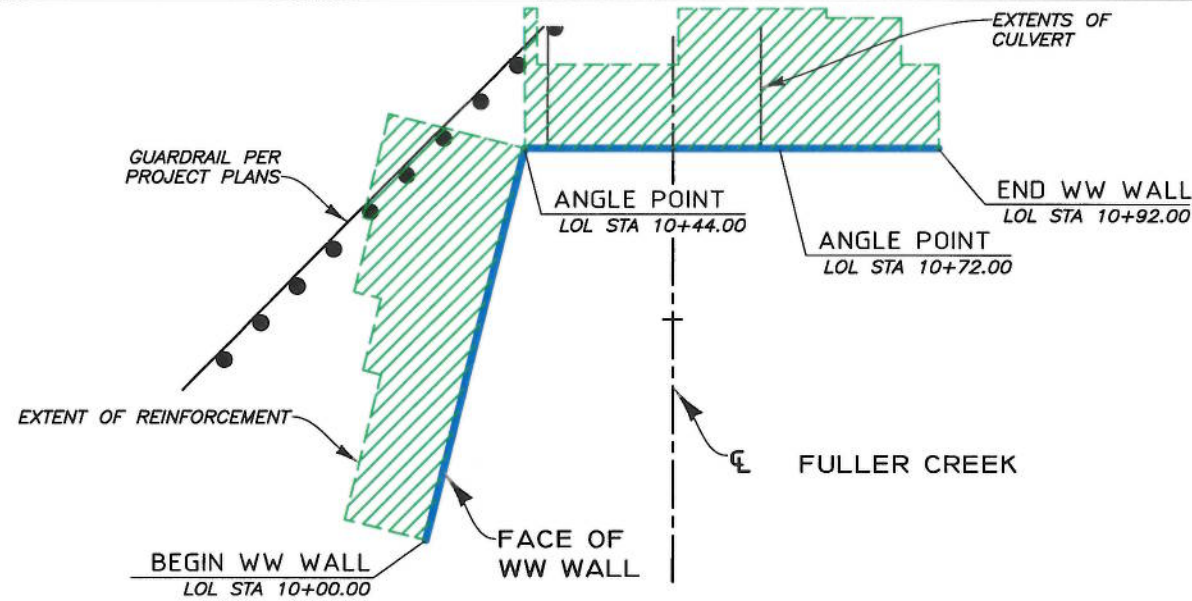
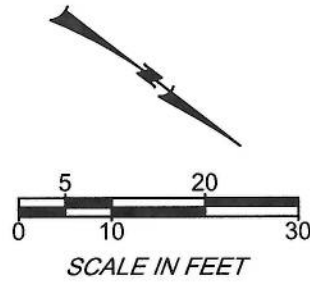
GENERAL NOTES, QUANTITIES

WELDED WIRE WALL
STERLING HIGHWAY MP 45-60
STAGE 1A

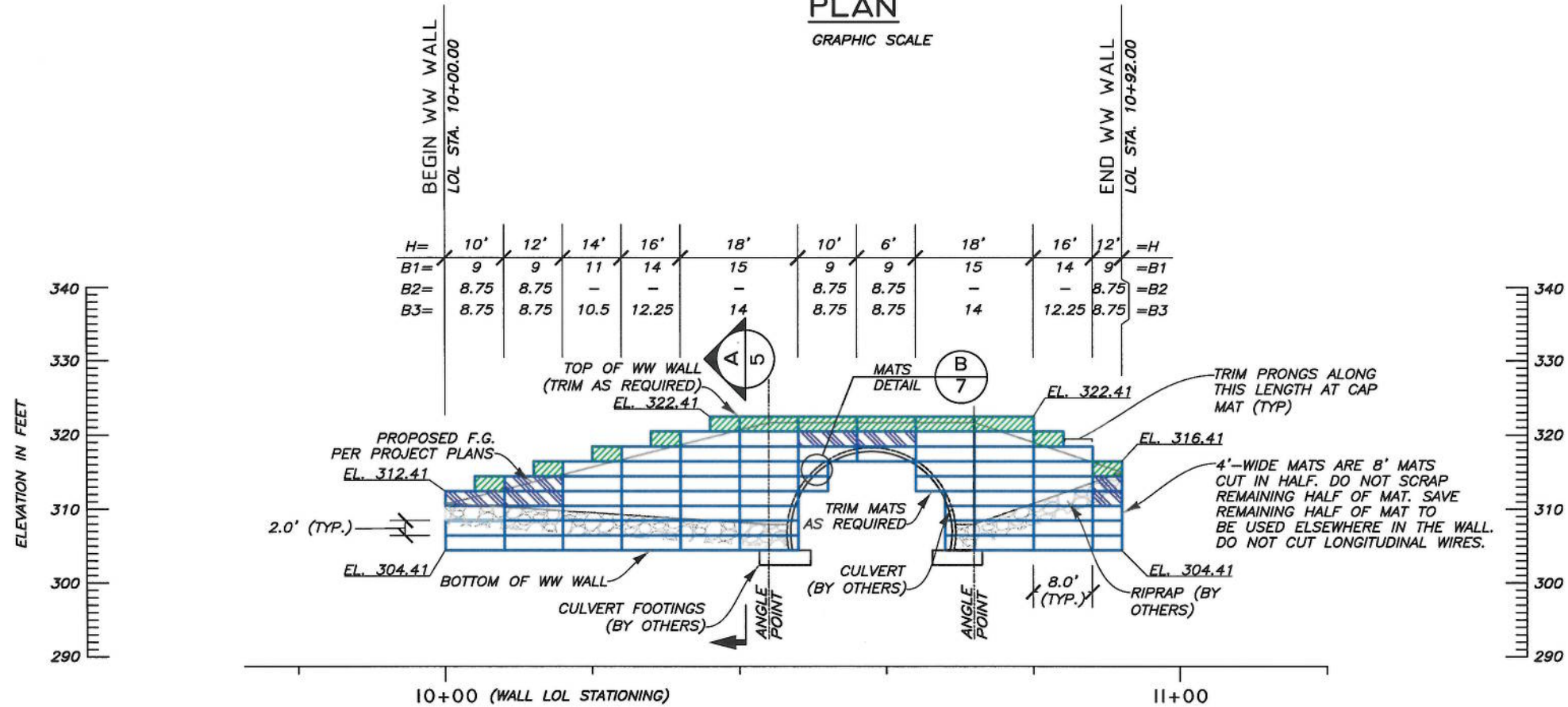
AK DOT COOPER LANDING, AK

DWG DATE:	23 FEB 2022
HRW NO.:	211119AW
SHEET	1
OF	7





PLAN
GRAPHIC SCALE



DEVELOPED ELEVATION - #6 UPSTREAM (FRONT FACE)
GRAPHIC SCALE

LEGEND

	B1	8"x12", W7xW3.5-HDG	LOL	LAYOUT LINE
	B2	8"x10.5", W7xW3.5-HDG	H	WALL HEIGHT (BOTTOM MAT TO CAP MAT)
	B3	8"x21", W7xW4-HDG	B	MAT LENGTH (FT)
	WW		WW	WELDED WIRE

I:\08456-08 Sterling Highway MP 45-60 PREPARED 2-22-2022.dwg

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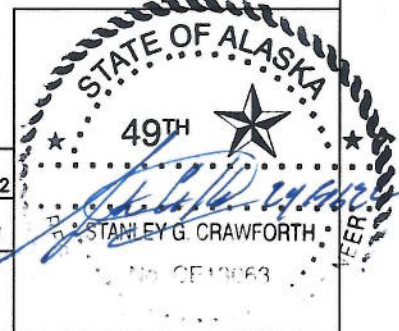
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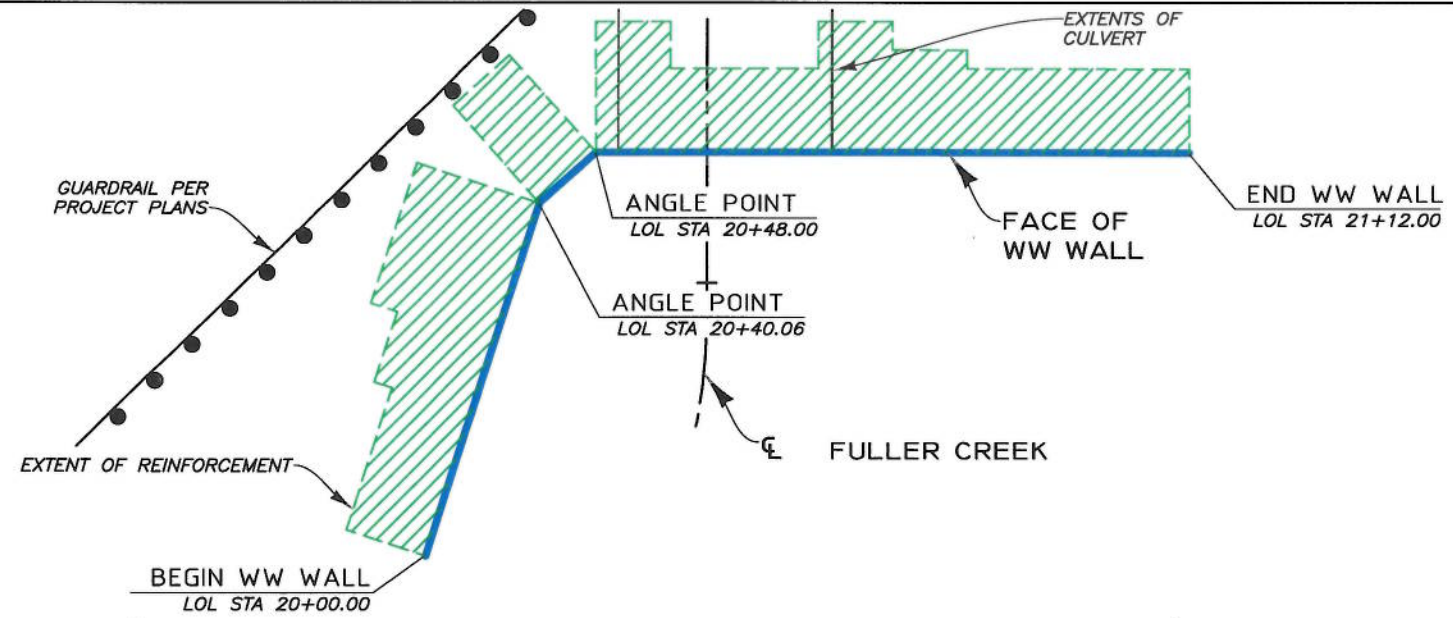
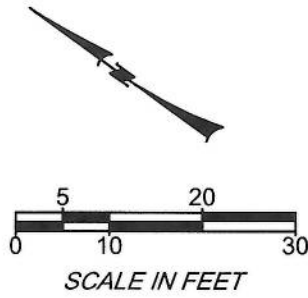
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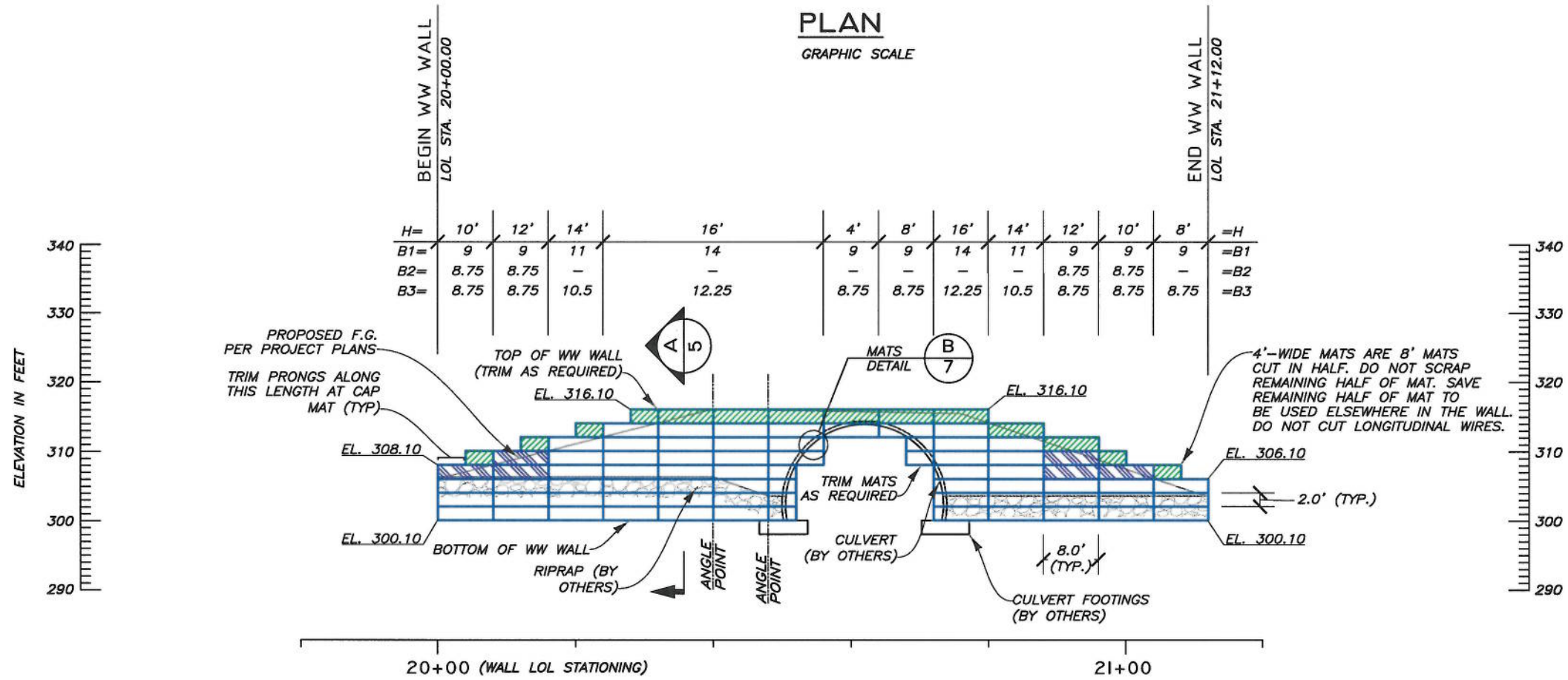
5260 Chinden Blvd.
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PLAN & ELEVATION		DWG DATE:
WELDED WIRE WALL		23 FEB 2022
STERLING HIGHWAY MP 45-60		HRW NO.:
STAGE 1A		211119AW
AK DOT	COOPER LANDING, AK	SHEET
		2
		OF 7





PLAN
GRAPHIC SCALE



DEVELOPED ELEVATION - #6 DOWNSTREAM (FRONT FACE)

GRAPHIC SCALE

LEGEND

	B1	8"x12", W7xW3.5-HDG	LOL	LAYOUT LINE
	B2	8"x10.5", W7xW3.5-HDG	H	WALL HEIGHT (BOTTOM MAT TO CAP MAT)
	B3	8"x21", W7xW4-HDG	B	MAT LENGTH (FT)
			WW	WELDED WIRE

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CADD:	RGV
DESIGNED:	RGV
CHECKED:	SGC

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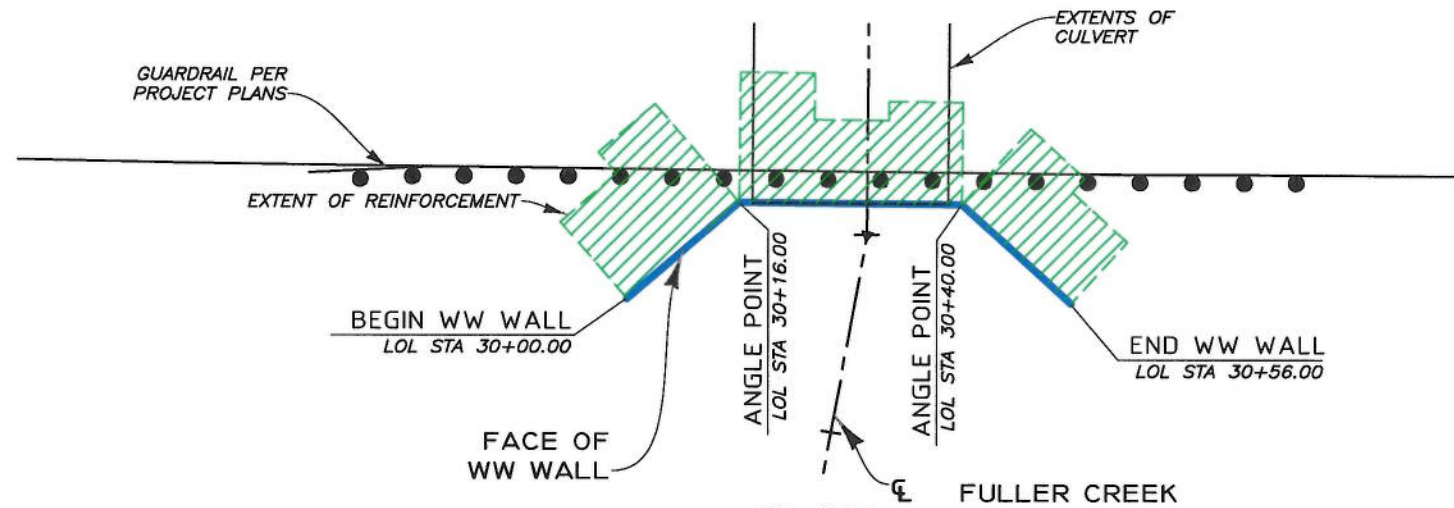
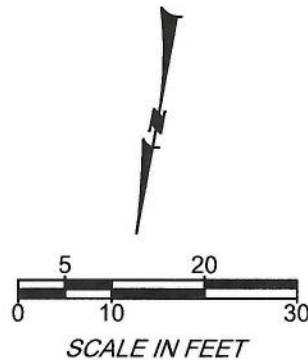
PLAN & ELEVATION	
WELDED WIRE WALL	
STERLING HIGHWAY MP 45-60	
STAGE 1A	
AK DOT	COOPER LANDING, AK

DWG DATE:	23 FEB 2022
HRW NO.:	211119AW
SHEET	3
OF	7



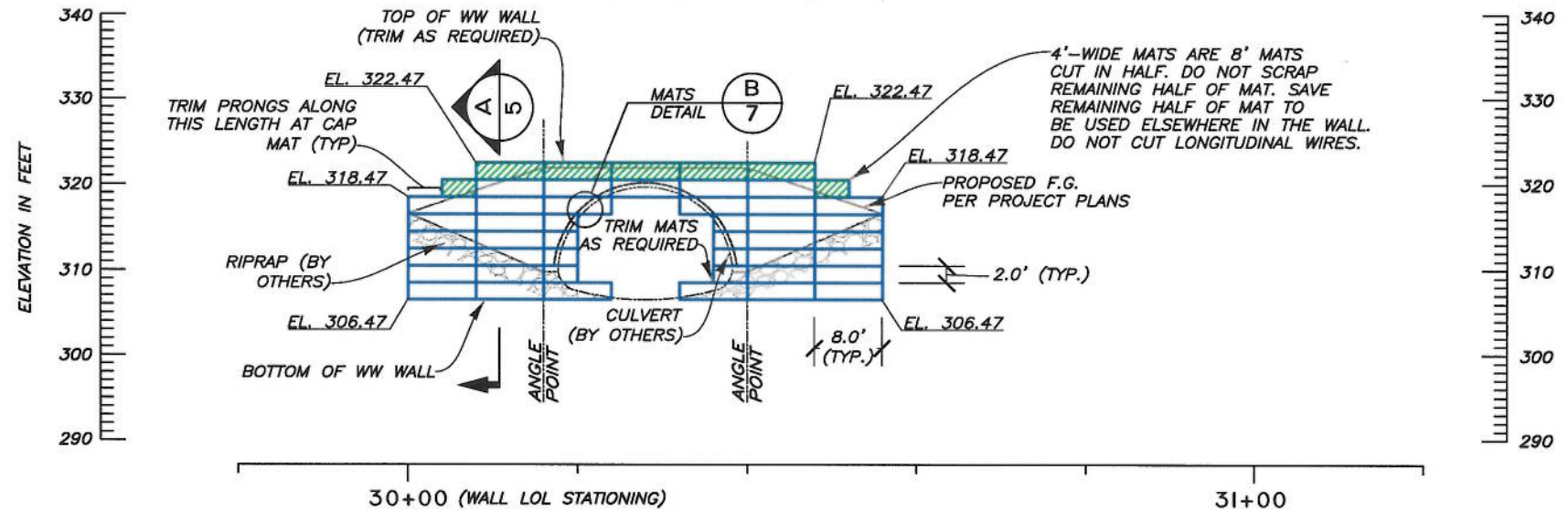
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PLAN
GRAPHIC SCALE

H=	14'	16'	4'	16'	14'	=H
B1=	11	14	9	14	11	=B1
B2=	-	-	-	-	-	=B2
B3=	10.5	12.25	8.75	12.25	10.5	=B3



LEGEND

	B1	8"x12", W7xW3.5-HDG	LOL	LAYOUT LINE
	B2	8"x10.5", W7xW3.5-HDG	H	WALL HEIGHT (BOTTOM MAT TO CAP MAT)
	B3	8"x21", W7xW4-HDG	B	MAT LENGTH (FT)
			WW	WELDED WIRE

DEVELOPED ELEVATION - #7 UPSTREAM (FRONT FACE)

GRAPHIC SCALE

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PLAN & ELEVATION	
WELDED WIRE WALL	
STERLING HIGHWAY MP 45-60	
STAGE 1A	
AK DOT	COOPER LANDING, AK

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OF	7



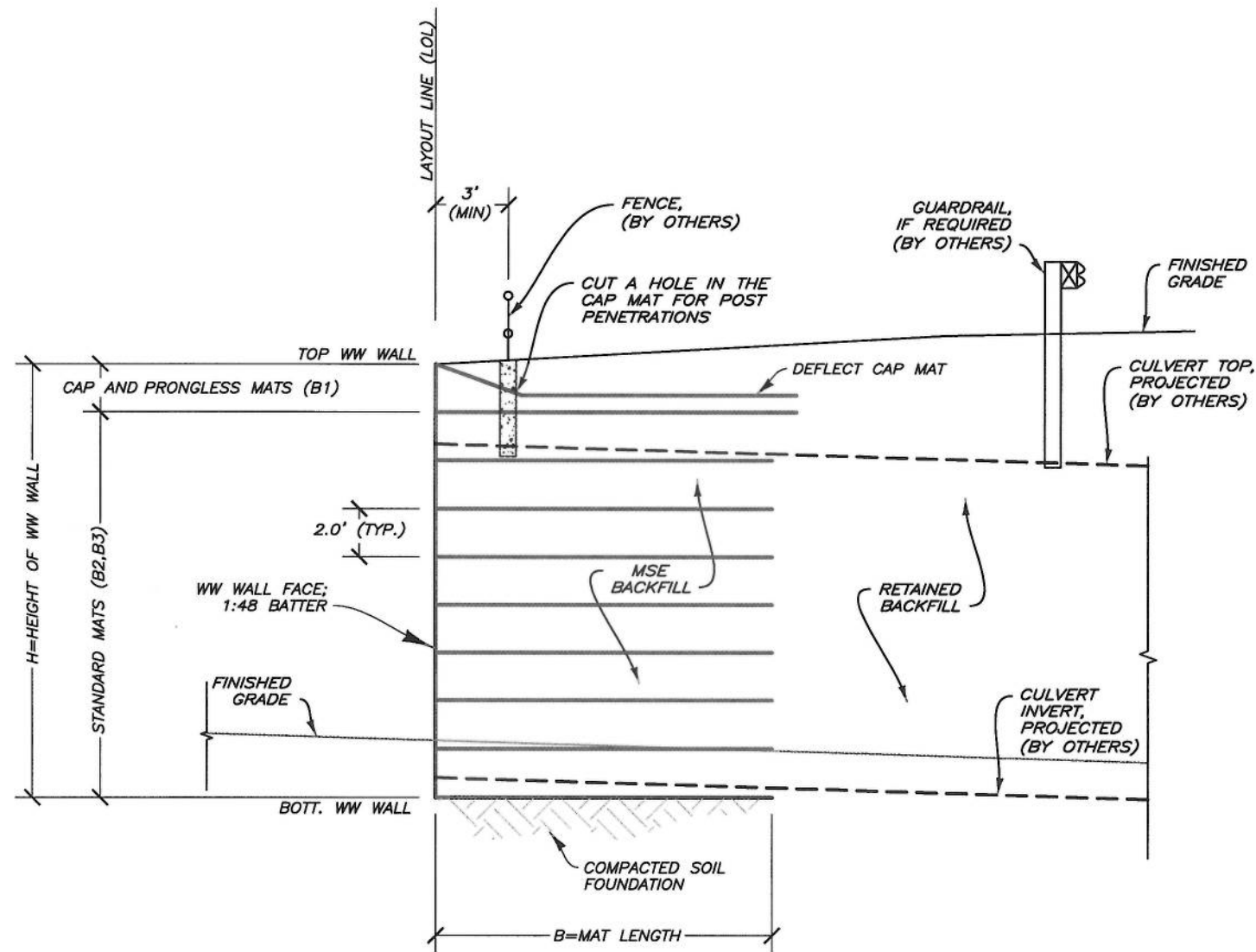
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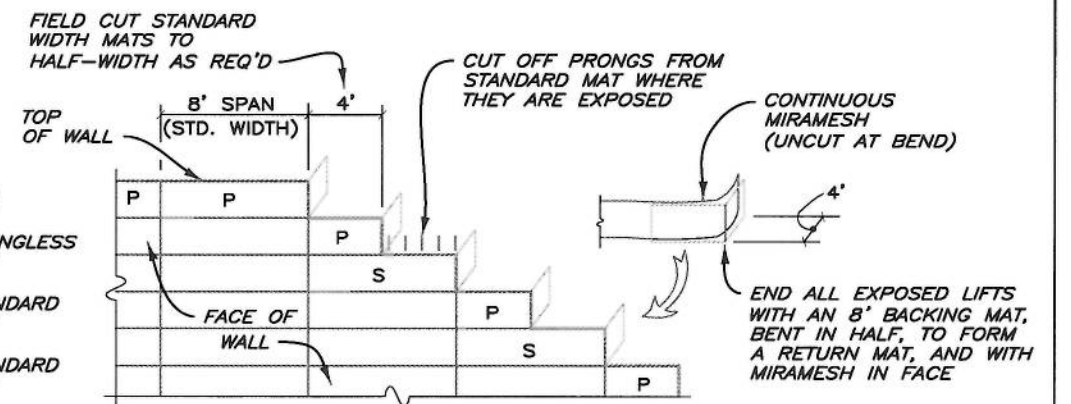
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TYPICAL SECTION A
NOT TO SCALE

LEGEND
(THIS DETAIL ONLY)

- P PRONGLESS MAT
- S STANDARD MAT
- STANDARD MAT



RETURN MATS AND TOP OF WALL DETAIL
NOT TO SCALE

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SECTION & DETAIL	
AK DOT	COOPER LANDING, AK

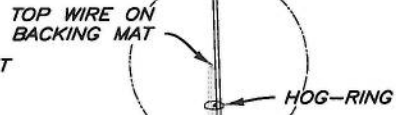
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STEP 1
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



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.



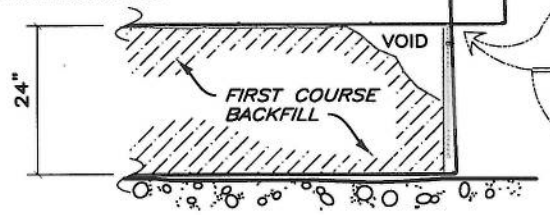
INSTALL CONTINUOUS MIRAMESH, HOG-RING TO THE TOP WIRE ON THE BACKING MAT.



STEP 3

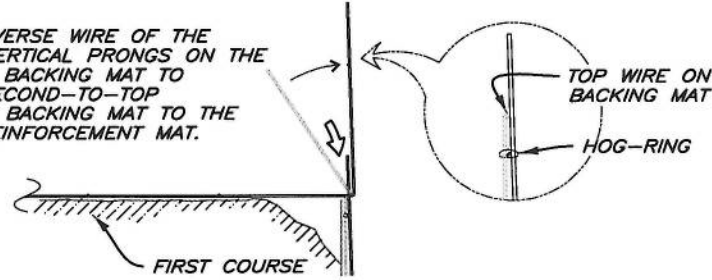
PLACE AND COMPACT THE BACKFILL IN LAYERS AND DENSITIES AS SPECIFIED IN THE PROJECT PLANS. LEAVE A VOID AT THE FACE AS SHOWN.

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.

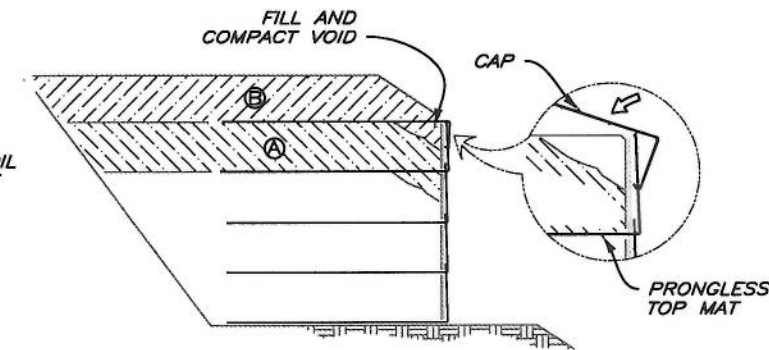
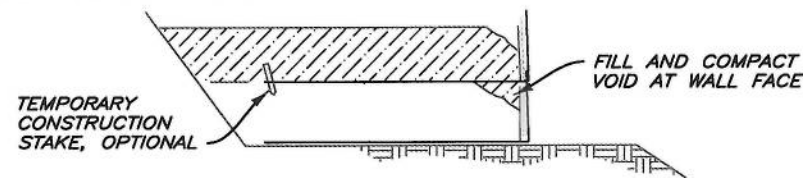


CONSTRUCTION SEQUENCE
NOT TO SCALE

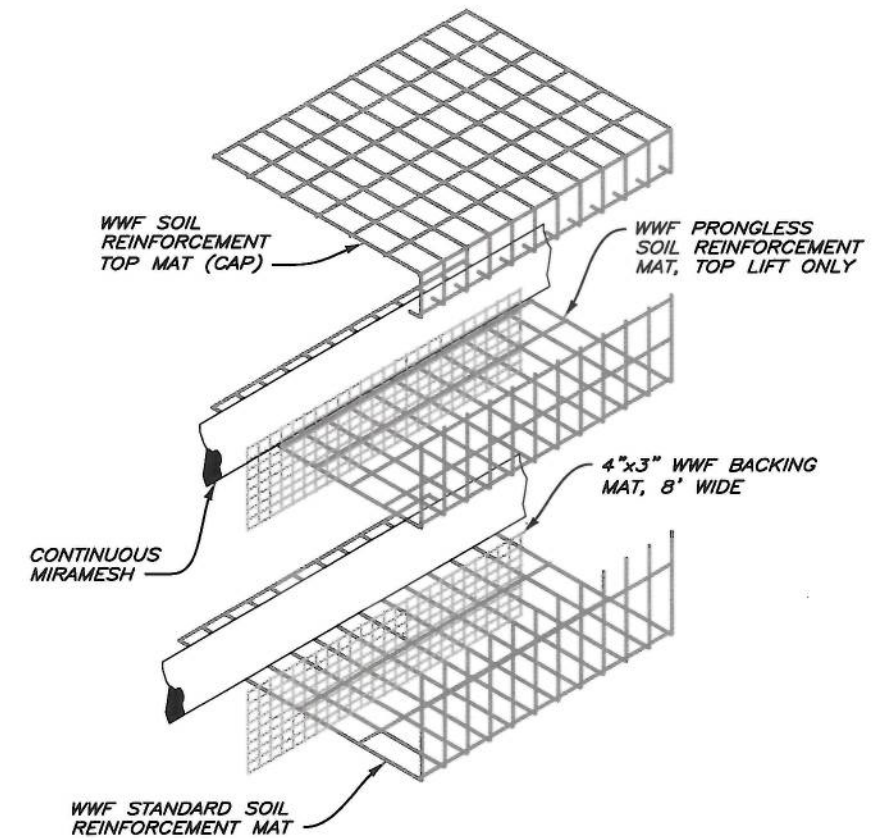
STEP 4
HOOK THE BOTTOM TRANSVERSE WIRE OF THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.



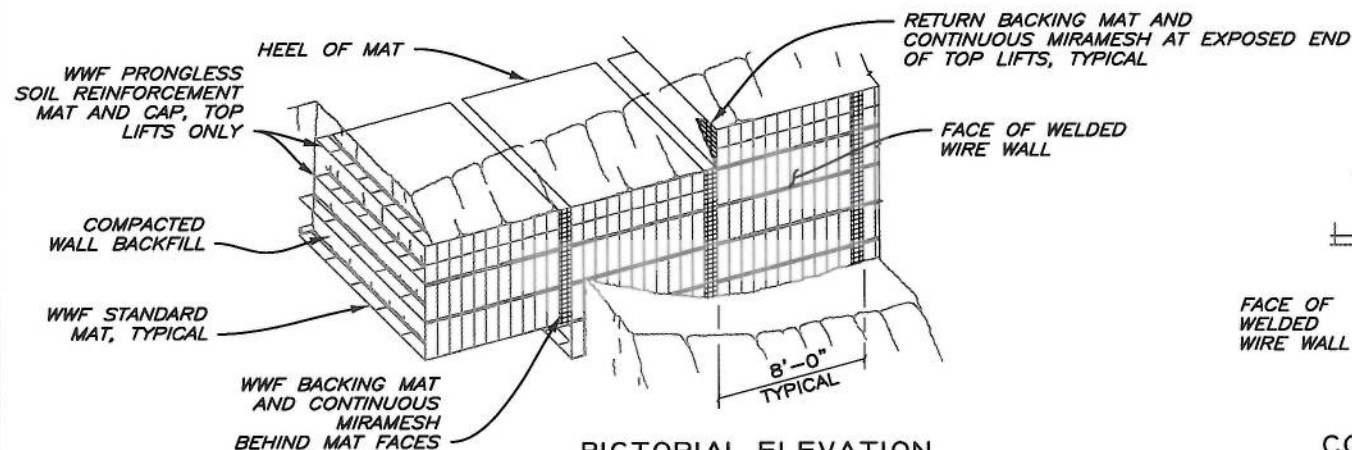
STEP 5
INSTALL THE CONTINUOUS MIRAMESH. PLACE AND COMPACT THE BACKFILL TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 3 THROUGH 5 TO THE TOP LIFT.



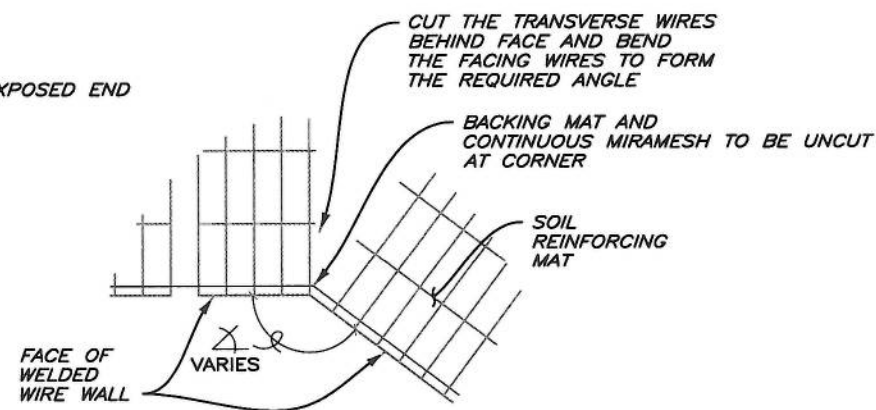
STEP 6: TOP LIFT
PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND CONTINUOUS MIRAMESH. PLACE AND COMPACT BACKFILL IN AREA "A". HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE. BACKFILL "B" TO 1'-6" MIN. COVER OVER THE CAP.



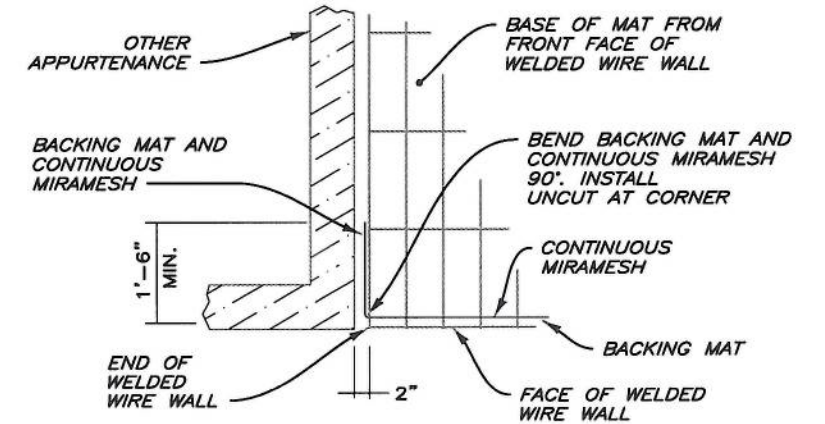
WALL COMPONENTS
NOT TO SCALE



PICTORIAL ELEVATION
NOT TO SCALE



PLAN VIEW CONCAVE ANGLE DETAIL
NOT TO SCALE



PLAN VIEW WELDED WIRE WALL END AT OTHER APPURTENANCE
NOT TO SCALE

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CADD:	RGV
DESIGNED:	RGV
CHECKED:	SGC

HILFIKER RETAINING WALLS

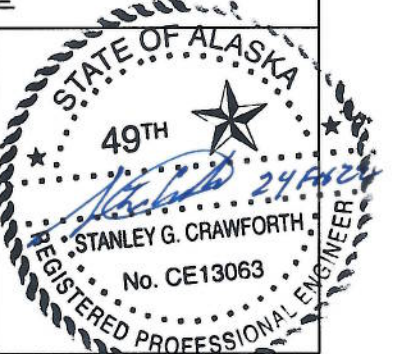
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SEQUENCE & DETAILS	
WELDED WIRE WALL STERLING HIGHWAY MP 45-60 STAGE 1A	
AK DOT	COOPER LANDING, AK

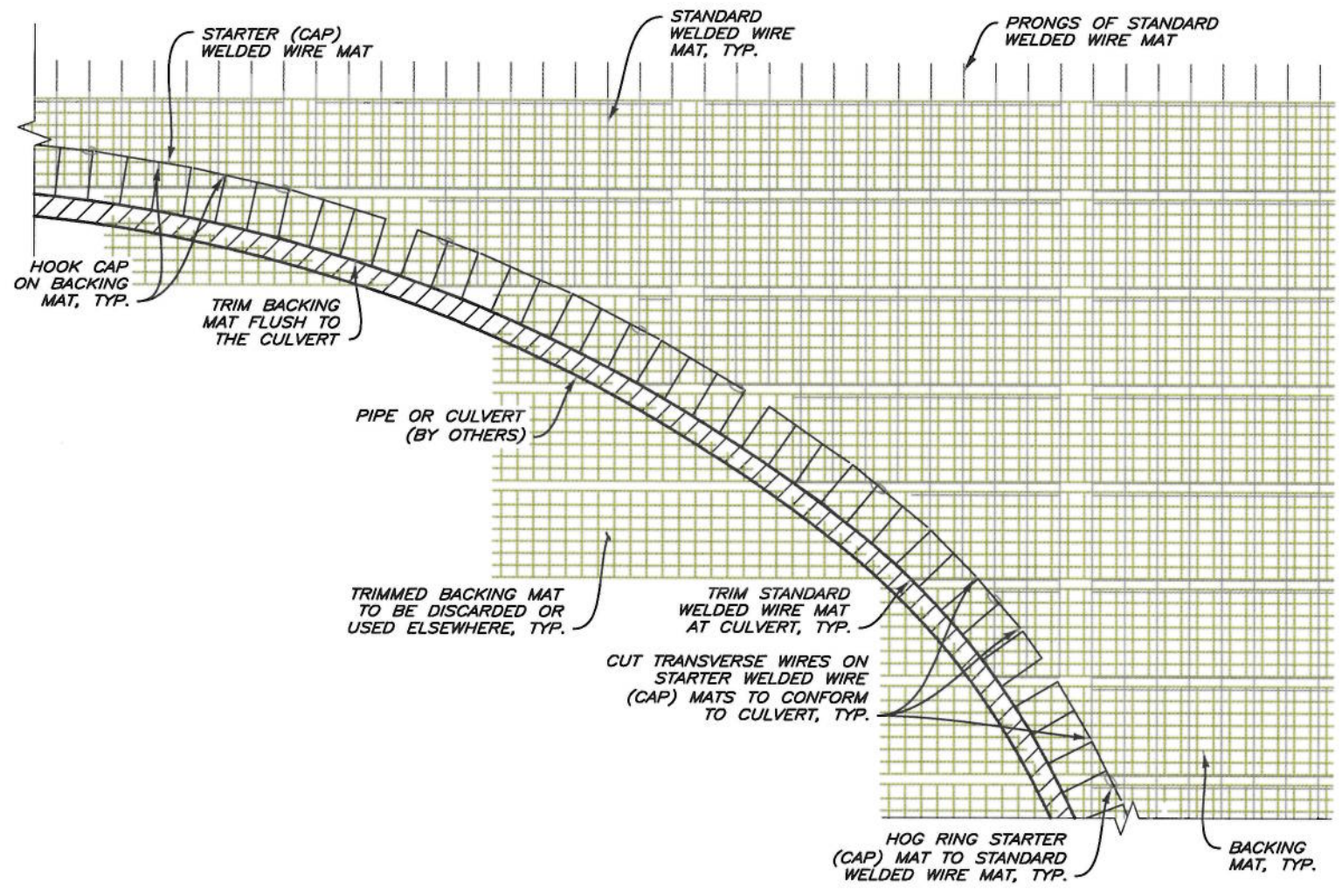
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MATS AROUND CULVERT (B)
NOT TO SCALE
2-4

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CADD:
RGV
DESIGNED:
RGV
CHECKED:
SGC

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SEQUENCE & DETAILS	
AK DOT	COOPER LANDING, AK

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SHEET	7
OF	7