

DESIGN NOTES

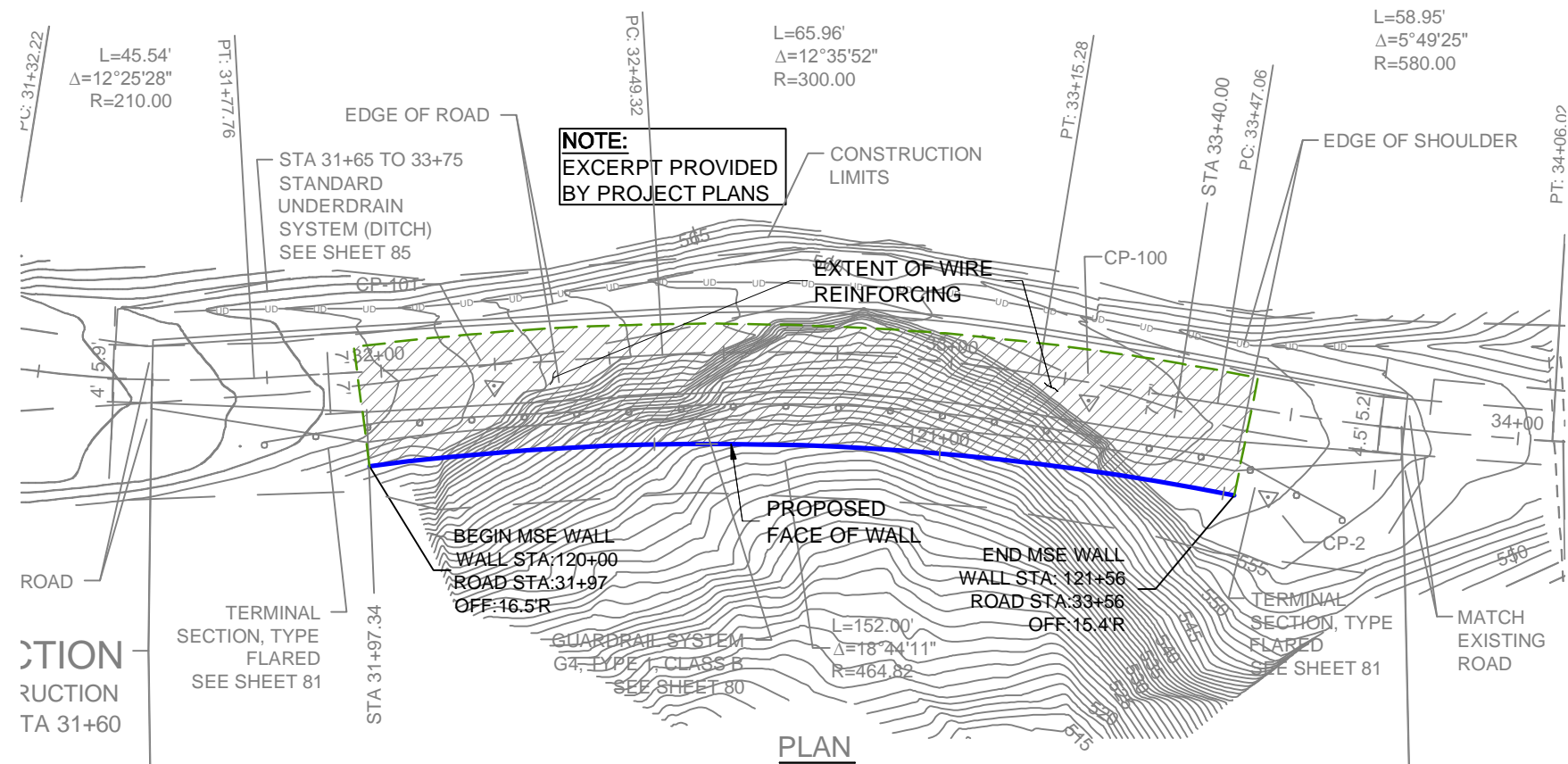
- Design is based on the assumption that backfill within the reinforced soil mass, methods of construction and quality of materials conform to the requirements of Hilfiker Retaining Walls.
- Soil Characteristics per Project Specifications:
 Wall Backfill:
 Unit Weight: 130 pcf
 Internal Friction Angle: 34°
 Cohesion = 0 psf
 Retained Backfill:
 Unit Weight: 115 pcf
 Internal Friction Angle: 32°
 Cohesion = 0 psf
 Foundation Soils:
 Unit Weight: 115 pcf
 Internal Friction Angle: 32°

Worst Case Applied Bearing Pressure by MSE Wall - @ 28' Height - 4770 psf.

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.

- If during construction, the wall location, structure location or loads are different than that proposed in this plan set and calculation package, HRW shall be notified to evaluate the need for a 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.
- Design Procedure:
 Mechanically Stabilized Earth walls and Reinforced Soil Slopes, FHWA report No. FHWA-NHI-00-043.
- All information hereon is derived from the reference drawings, and is subject to geometric and geotechnical confirmation. The applicable Hilfiker construction guide and specifications are an integral part of this submittal.
- Hilfiker Retaining Walls shall be responsible only for the internal stability of the retaining wall, and not for global stability or foundation bearing capacity. The Owner shall be responsible for global stability and foundation competence. The Owner is responsible for all job site drainage, safety and fall protection provisions for workers in compliance with OSHA and any other applicable requirements.

SUPPLIED QUANTITIES	
WALL NO.	FACE AREA
WALL 1205	3,040 SQ. FT.
RSS WALL 1107	1,128 SQ. FT.
RSS WALL 3358	2,136 SQ. FT.
TOTALS	6,304 SQ. FT.

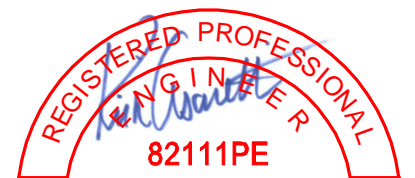


MSE WALL 1205 MP 7.4 - PLAN VIEW

SCALE: 1" = 30'



THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, THE HILFIKER COMPANY HAS DESIGNED, AND IS RESPONSIBLE FOR THE INTERNAL STABILITY OF THE STRUCTURE ONLY. EXTERNAL STABILITY, INCLUDING FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER.



EXPIRATION DATE: 12/31/23

HW 220804DN

REV. NO.	DATE	BY	DESCRIPTION
	11-29-22	KLC	Initial .pdf Release
	1-24-23	KLC	Revised per 1.10.23 Plan Check

HILFIKER RETAINING WALLS

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 WEB SITE www.hilfiker.com E-MAIL info@hilfiker.com

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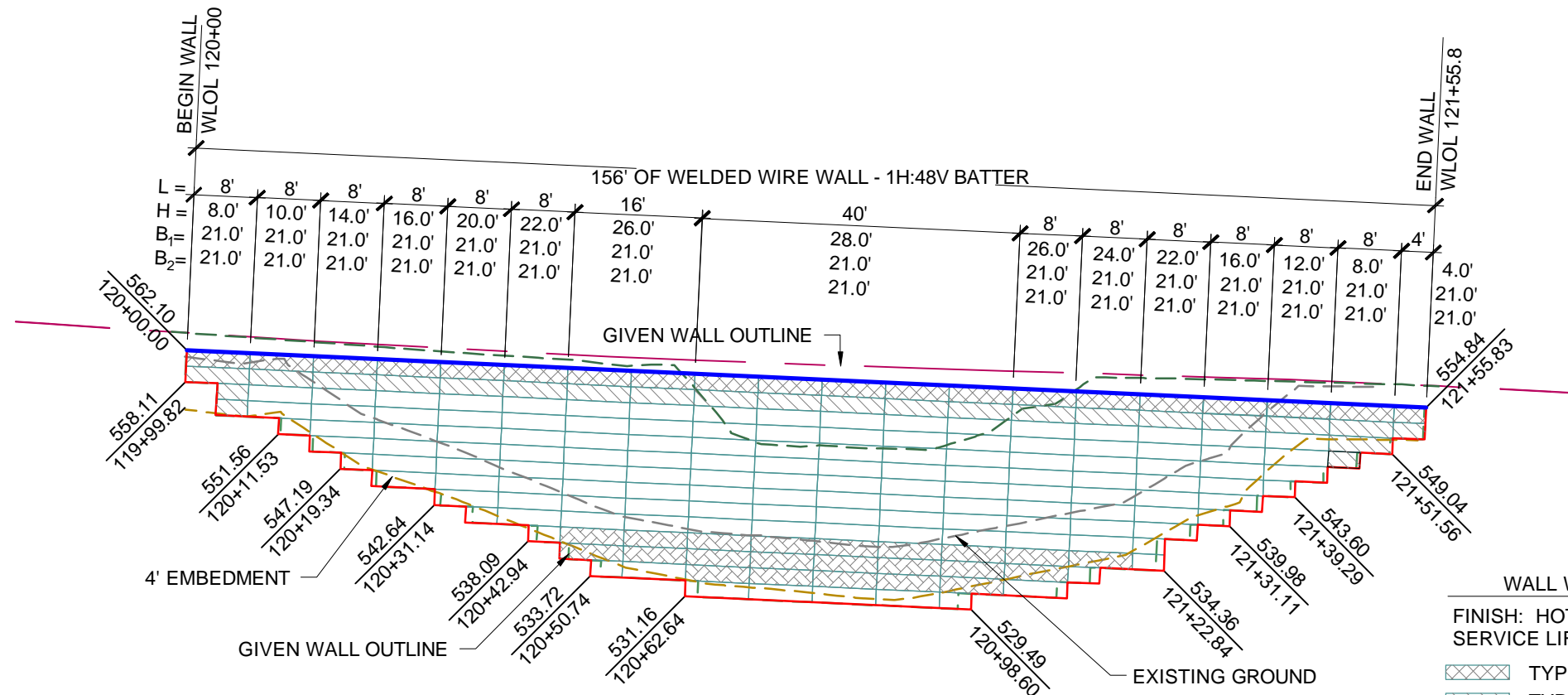
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 Fortuna, CA 95540
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 (707) 498-7193
 CesarettiEngineered.com
 KCesaretti@att.net

USFS 2019 RRS ERFO Road Repairs Design

**MSE WELDED WIRE WALL 1205
 MP 7.4 PLAN VIEW & GENERAL
 NOTES**

PROJECT	22-066
DATE	11-29-22
DESIGN	KLC
DRAWN	KLC
SHT	1 OF 9



MSE WALL 1205 MP 7.4 - ELEVATION VIEW
SCALE: 1" = 20'

- WALL WIRE TYPE LEGEND**
- FINISH: HOT DIP GALVANIZED
SERVICE LIFE: 75 YEARS
- TYPE 1 - 8X12 W4.5x3.5 MATS
 - TYPE 2 - 8X21 W4.5x4.0 MATS
 - TYPE 3 - 8x12 W7.0x3.5 MATS
 - TYPE 4 - 8x21 W7.0x4.0 MATS
 - TYPE 5 - 8x21 W9.5x4.0 MATS



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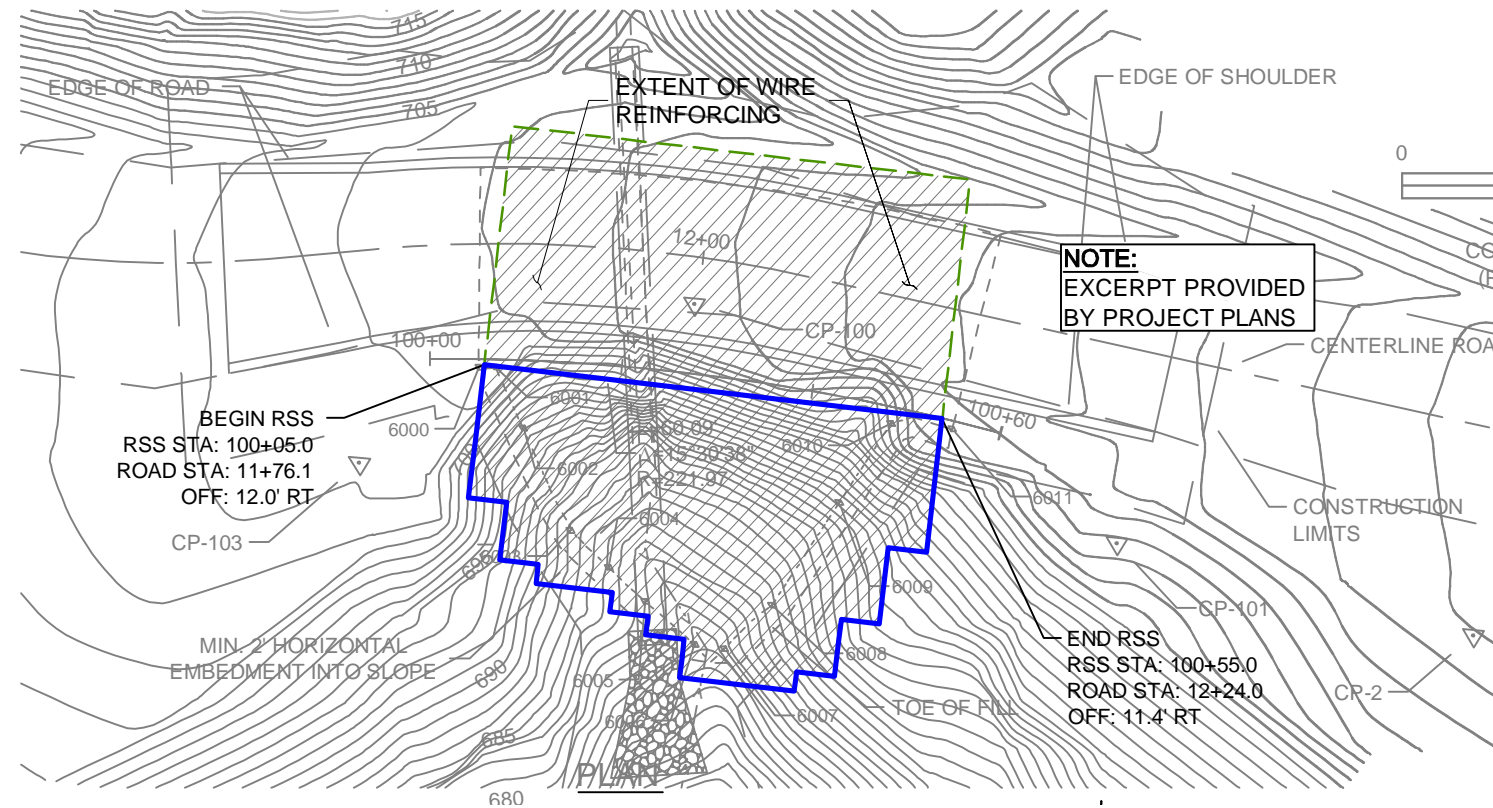
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**MSE WELDED WIRE WALL 1205
MP 7.4 ELEVATION VIEW**

HW 220804DN

PROJECT	22-066
DATE	11-29-22
DESIGN	KLC
DRAWN	KLC
SHT	2 OF 9



RSS WALL 1107 MP 3.25 - PLAN VIEW

SCALE: 1" = 20'



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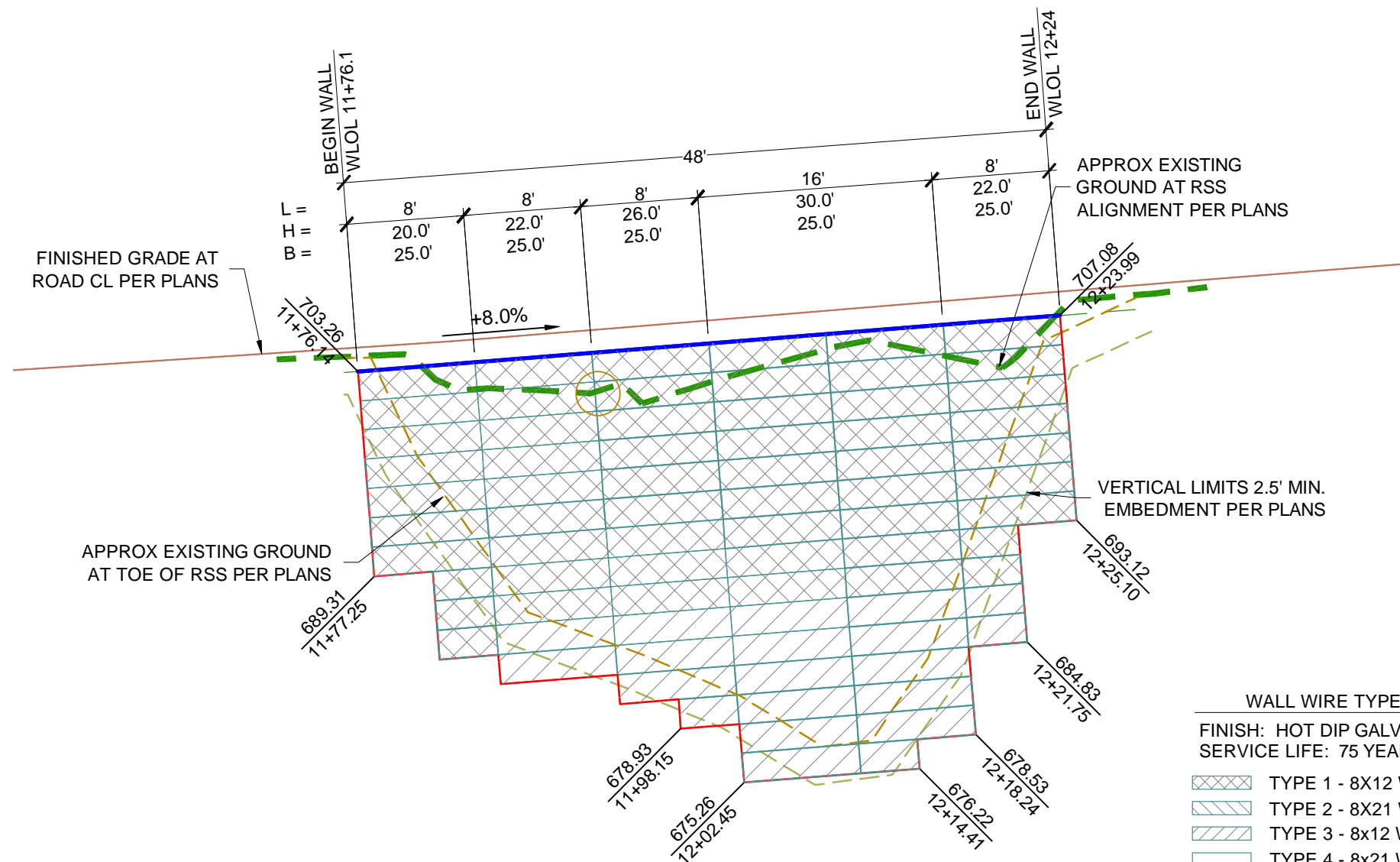
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**WELDED WIRE RSS WALL 1107
MP 3.25 PLAN VIEW**

PROJECT	22-066
DATE	11-29-22
DESIGN	KLC
DRAWN	KLC
SHT	3 OF 9



RSS WALL 1107 MP 3.25 - ELEVATION VIEW

SCALE: 1" = 20'

- WALL WIRE TYPE LEGEND**
- FINISH: HOT DIP GALVANIZED
SERVICE LIFE: 75 YEARS
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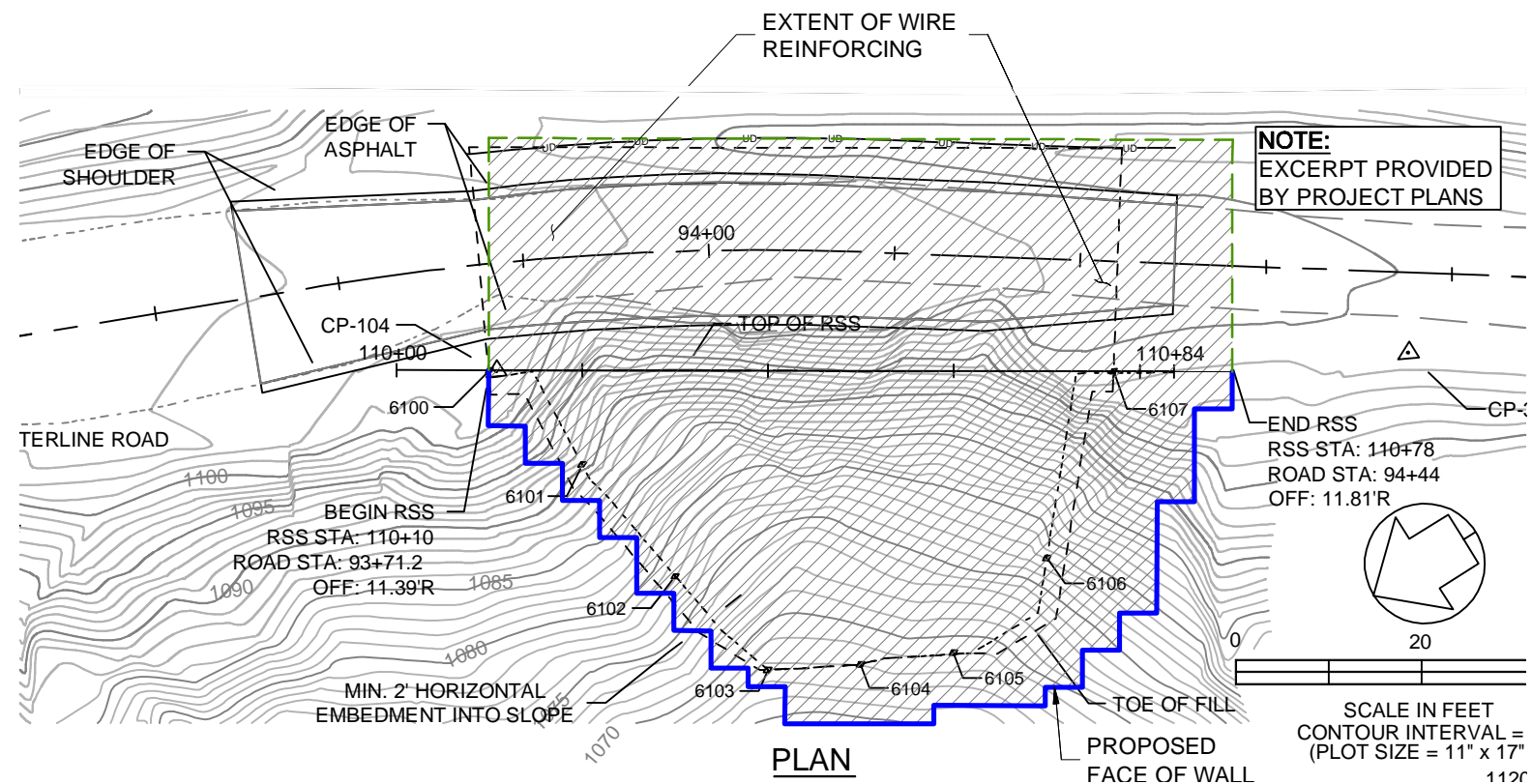
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RSS WALL 1107 MP 3.25 ELEVATION VIEW

HW 220804DN

PROJECT	22-066
DATE	11-29-22
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DRAWN	KLC
SHT	4 OF 9



RSS WALL 3358 MP 2.6 - PLAN VIEW

SCALE: 1" = 20'

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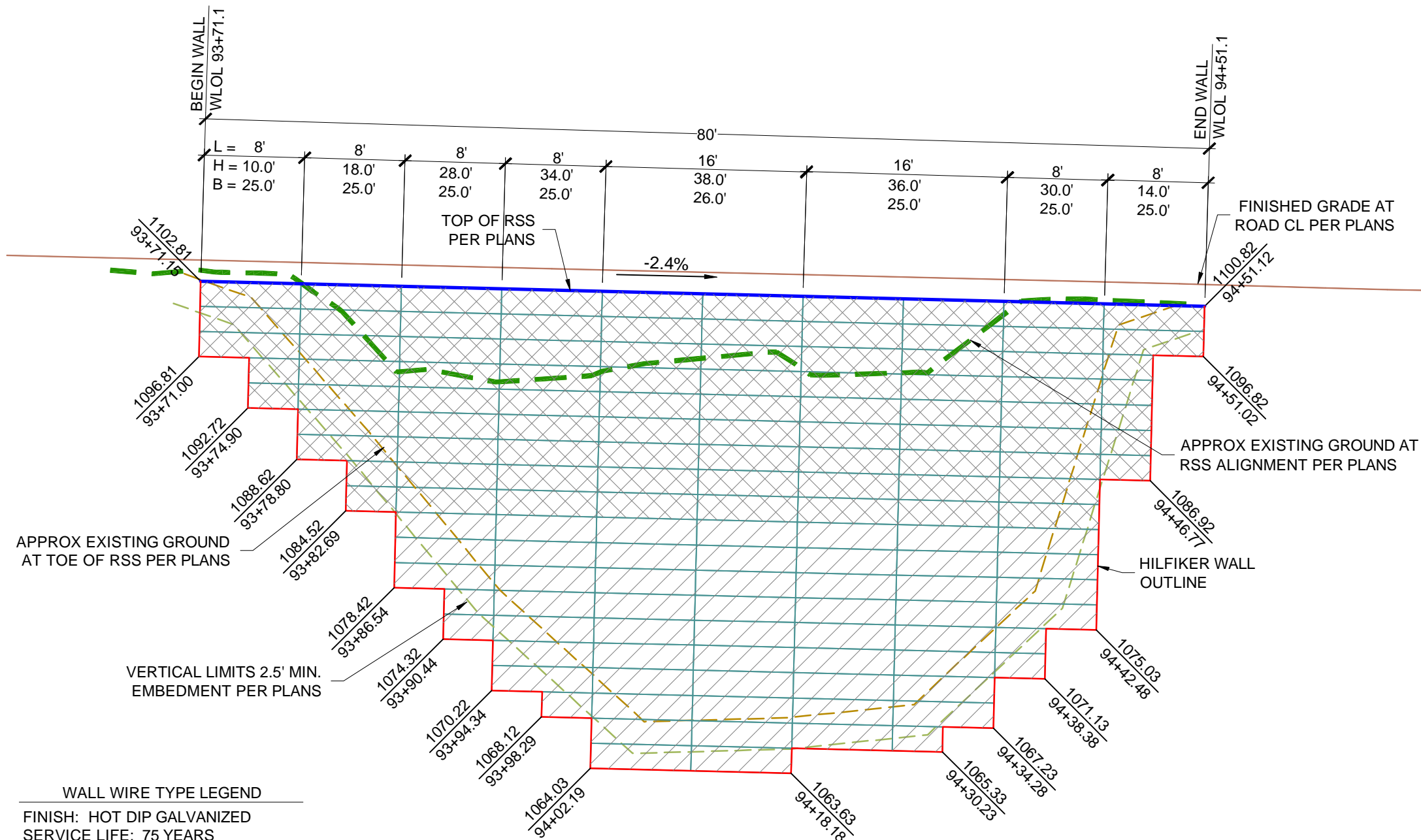
USFS 2019 RRS ERFO Road Repairs Design
**WELDED WIRE RSS WALL 3358 MP
2.6 PLAN VIEW**

HW 220804DN

PROJECT	22-066
DATE	11-29-22
DESIGN	KLC
DRAWN	KLC

SHT **5** OF 9

REGISTERED PROFESSIONAL
ENGINEER
82111PE
OREGON
NOVEMBER 12, 2008
KIRK CESARETTI
EXPIRATION DATE: 12/31/23



WALL WIRE TYPE LEGEND

FINISH: HOT DIP GALVANIZED
SERVICE LIFE: 75 YEARS

	TYPE 1 - 8X12 W4.5x3.5 MATS
	TYPE 2 - 8X21 W4.5x4.0 MATS
	TYPE 3 - 8X12 W7.0x3.5 MATS
	TYPE 4 - 8X21 W7.0x4.0 MATS
	TYPE 5 - 8X21 W9.5x4.0 MATS

RSS WALL 3358 MP 2.6 - ELEVATION VIEW
SCALE: 1" = 20'



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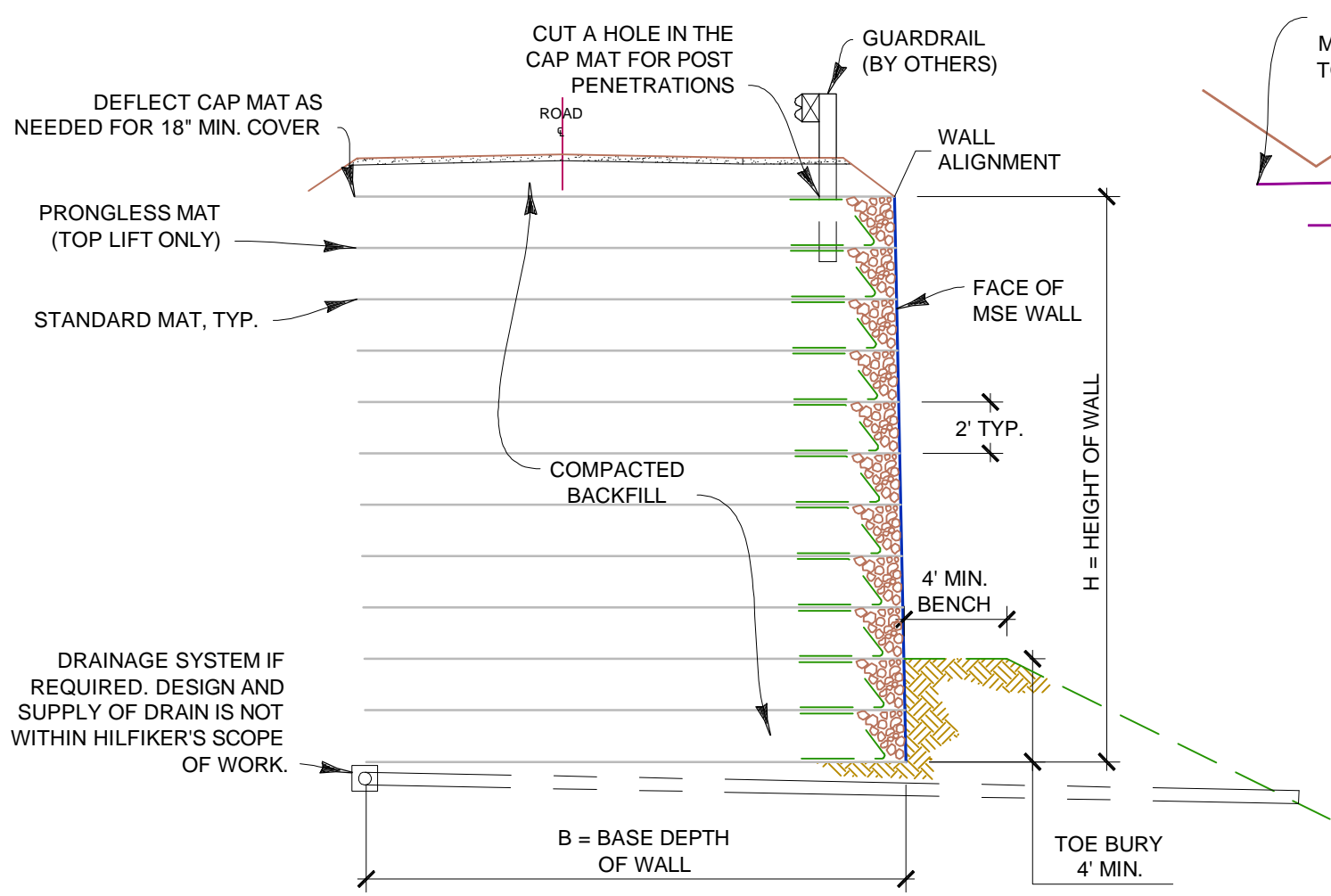
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WELDED WIRE RSS WALL 3358 MP 2.6 ELEVATION VIEW

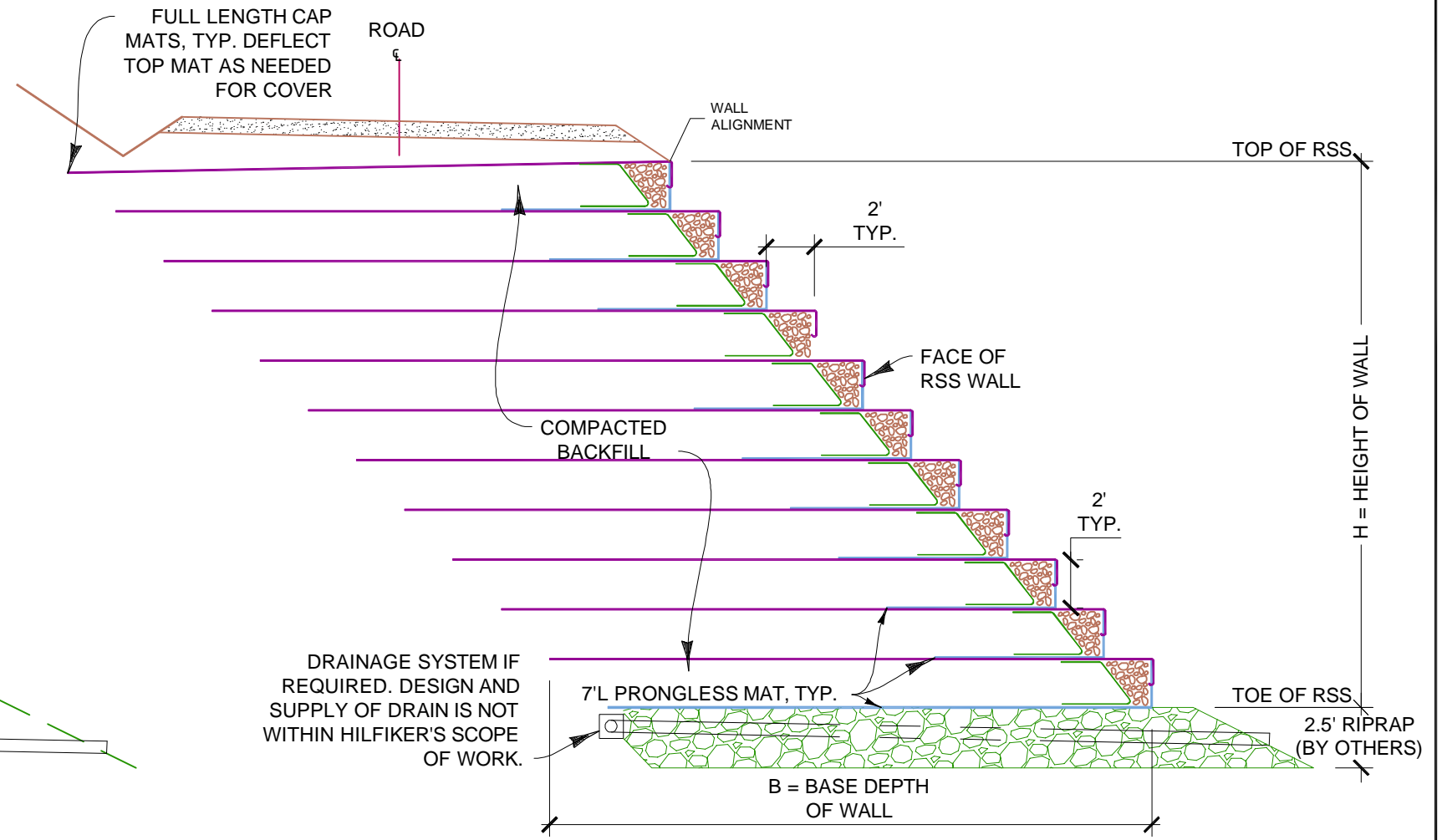
HW 220804DN

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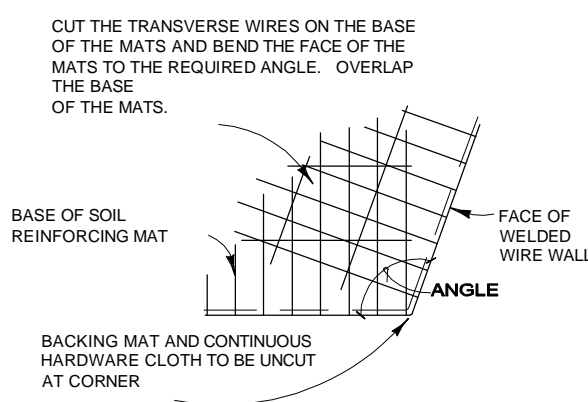
SHT **6** OF 9



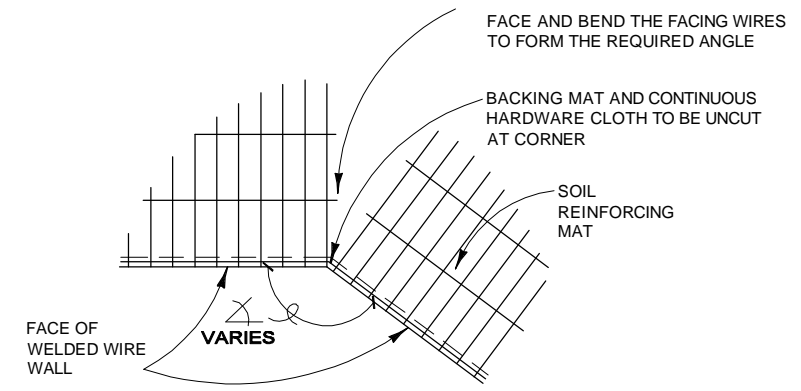
TYPICAL MSE WALL SECTION
SCALE: 3" = 20'



TYPICAL RSS WALL SECTION
SCALE: 3" = 20'



**PLAN VIEW
OBTUSE CONVEX ANGLE**
NOT TO SCALE



**PLAN VIEW
CONCAVE ANGLE DETAIL**
NOT TO SCALE

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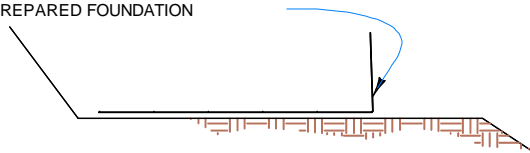
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MSE WELDED WIRE WALL & RSS WALLS - TYP CROSS SECTIONS & DETAILS

PROJECT	22-066
DATE	11-29-22
DESIGN	KLC
DRAWN	KLC
SHT	7 OF 9

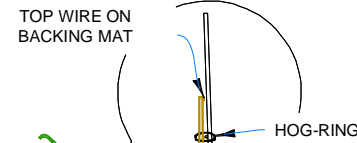
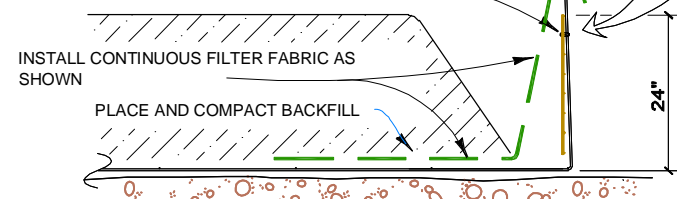
STEP 1

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



STEP 2

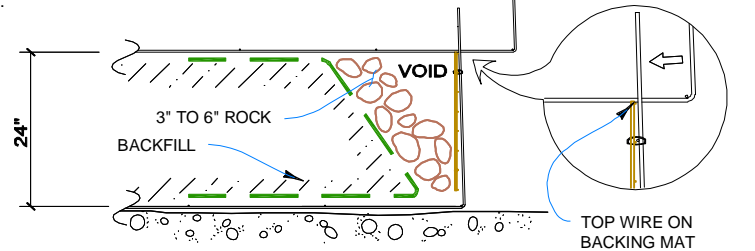
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 3

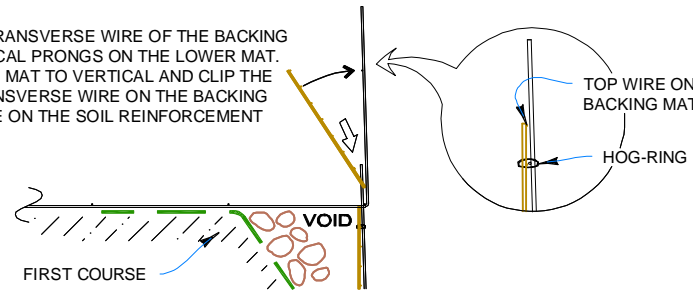
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE THE ROCK IN THE FACE OF THE WALL. LEAVE A VOID AS SHOWN.

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.



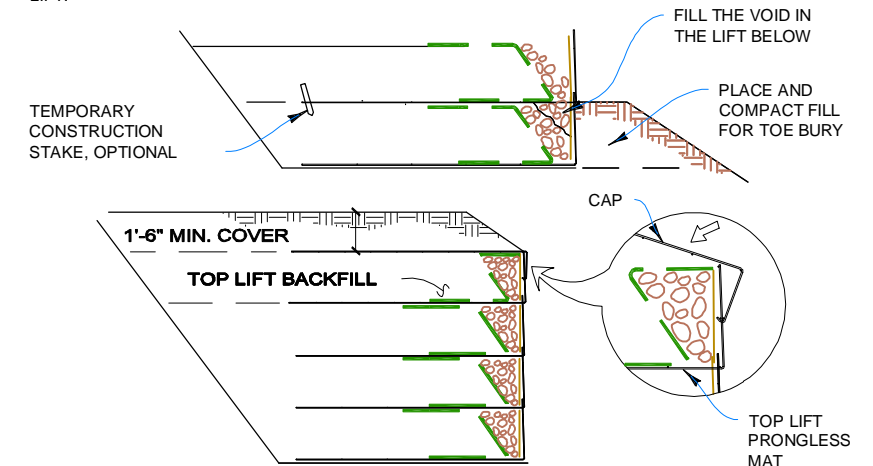
STEP 4

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.



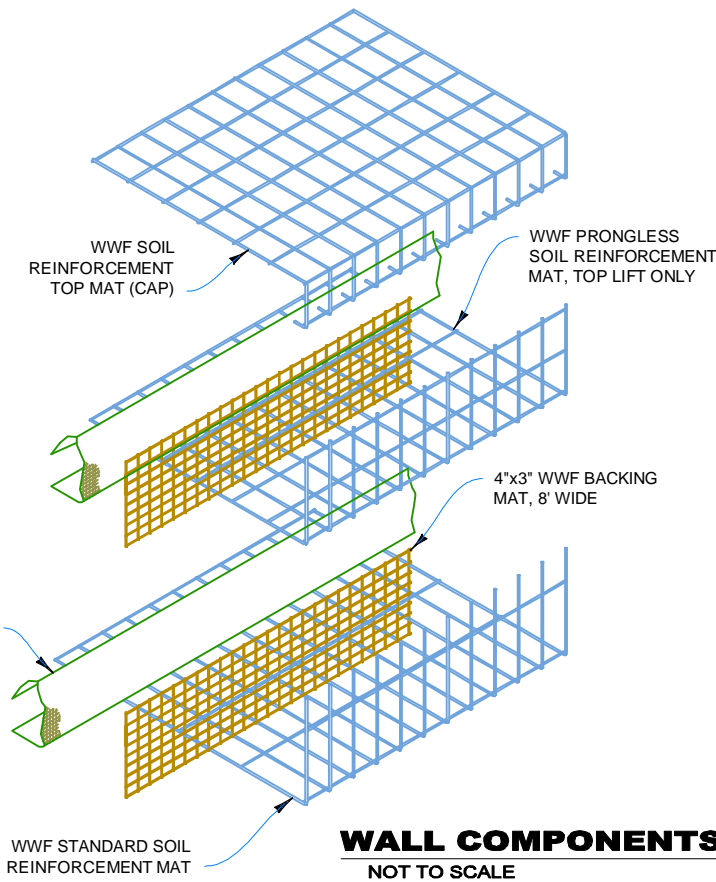
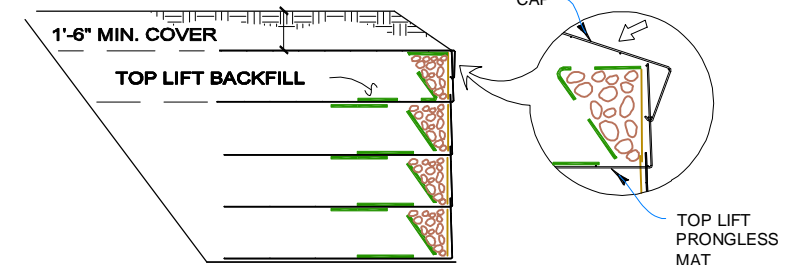
STEP 5

INSTALL THE FILTER FABRIC AS IN STEPS 2 AND 3. PLACE AND COMPACT THE BACKFILL AND ROCK TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 2 THROUGH 5 TO THE TOP LIFT.



STEP 6: TOP LIFT

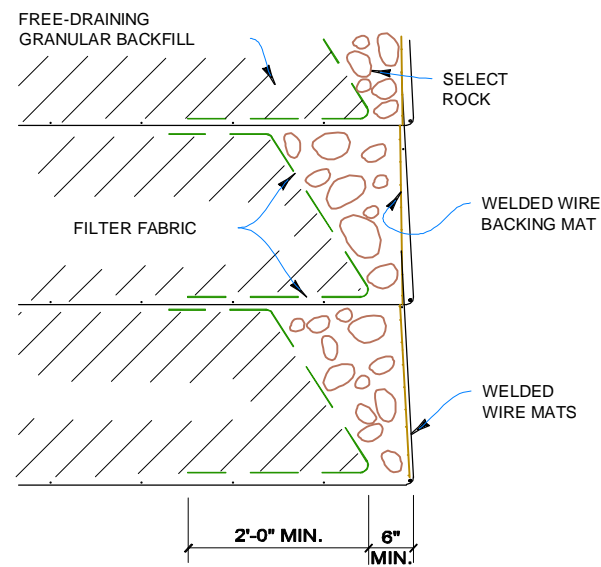
PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND FILTER FABRIC. PLACE AND COMPACT BACKFILL AND ROCK IN THE TOP LIFT. FOLD THE TOP TAIL OF THE FILTER FABRIC OVER THE ROCK IN THE FACE TO PREVENT FINES FROM MIGRATING. HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE. PLACE AND COMPACT COVER OVER TOP MAT TO 1'-6" MINIMUM DEPTH.



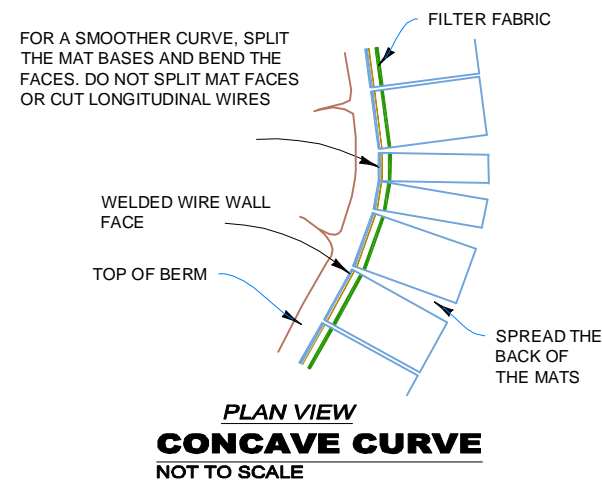
WALL COMPONENTS
NOT TO SCALE

CONSTRUCTION SEQUENCE

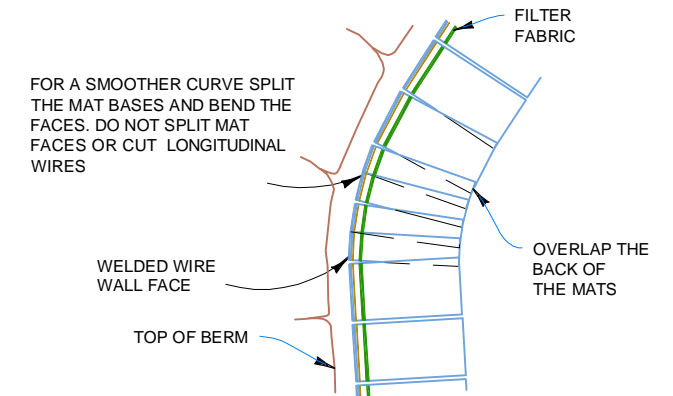
NOT TO SCALE



SECTION ROCK FACING DETAIL
NOT TO SCALE



PLAN VIEW CONCAVE CURVE
NOT TO SCALE



PLAN VIEW CONVEX CURVE
NOT TO SCALE

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MSE WELDED WIRE WALL CONSTRUCTION SEQUENCE & DETAILS

HW 220804DN

PROJECT	22-066
DATE	11-29-22
DESIGN	KLC
DRAWN	KLC

SHT **8** OF 9

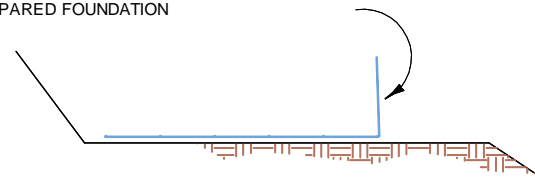
REGISTERED PROFESSIONAL ENGINEER
82111PE

OREGON
NOVEMBER 12, 2008
KIRK CESARETTI

EXPIRATION DATE: 12/31/23

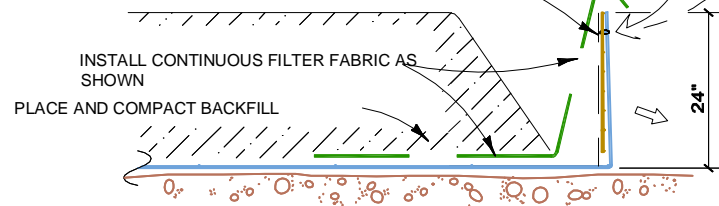
STEP 1

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



STEP 2

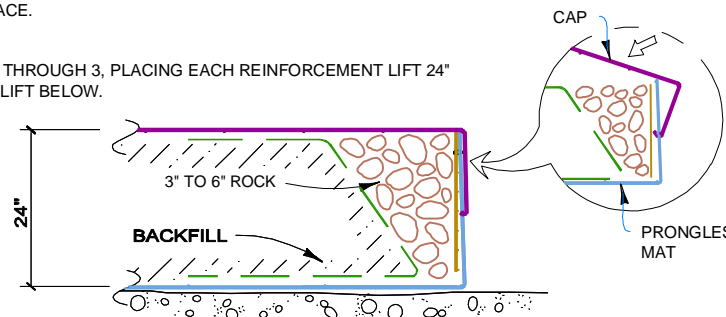
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 3

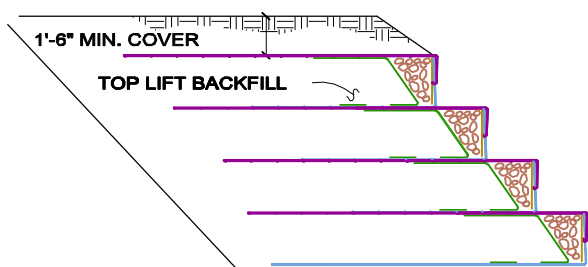
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE AND COMPACT BACKFILL AND ROCK. HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE.

REPEAT STEPS 1 THROUGH 3, PLACING EACH REINFORCEMENT LIFT 24" BACK FROM THE LIFT BELOW.



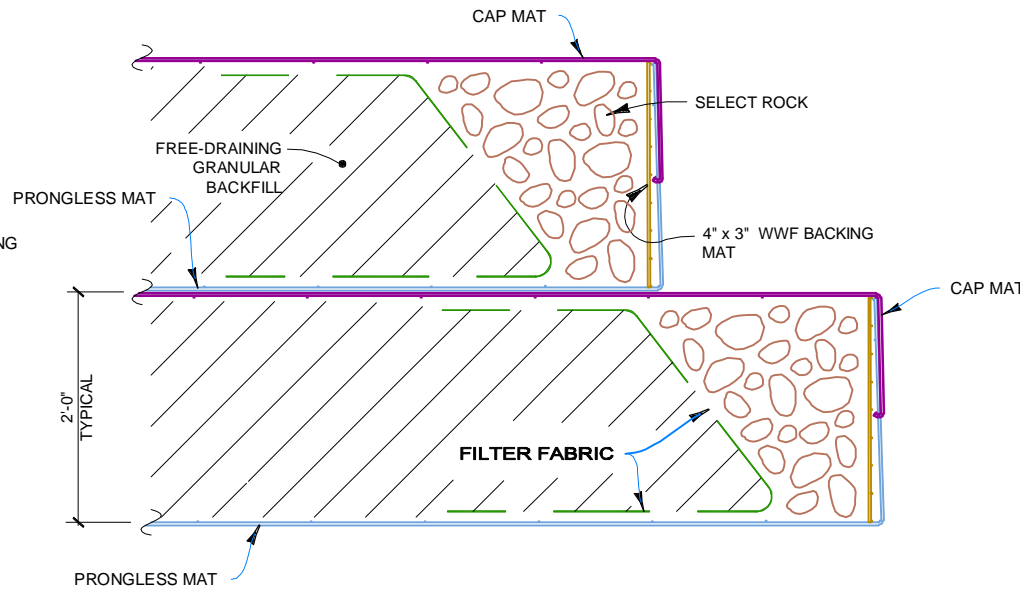
STEP 4: TOP LIFT

ONCE WALL IS TO DESIGNED HEIGHT, PLACE AND COMPACT COVER OVER TOP MAT TO 1'-6" MINIMUM DEPTH.



CONSTRUCTION SEQUENCE

NOT TO SCALE

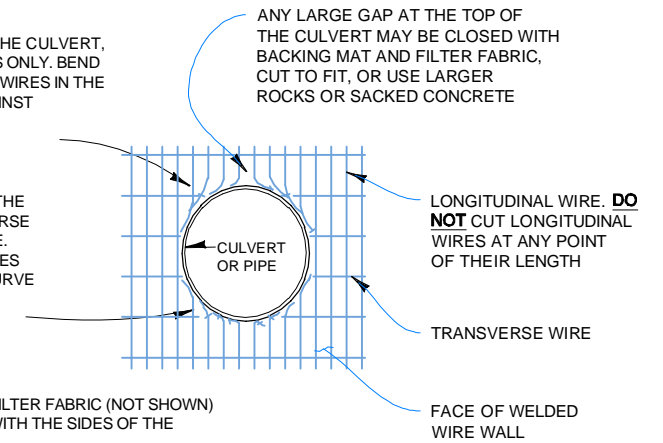


SECTION WALL FACE DETAIL
NOT TO SCALE

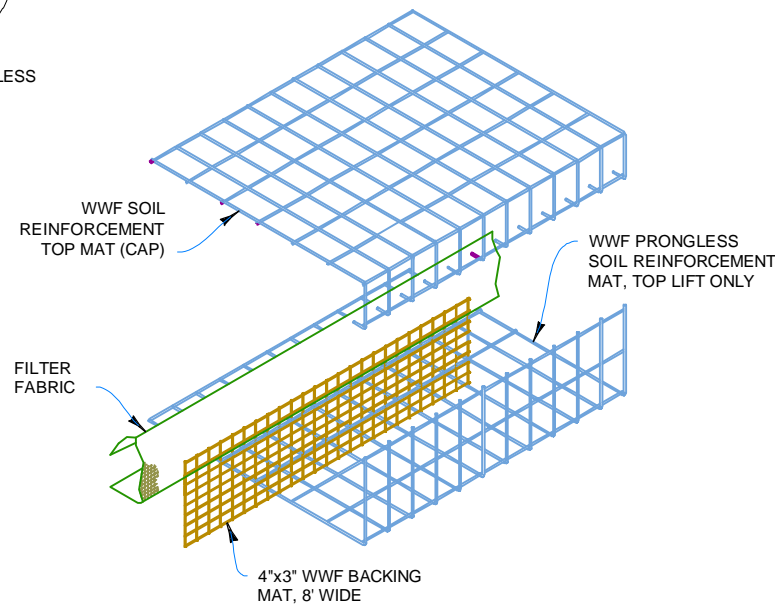
AT THE UPPER SURFACE OF THE CULVERT, CUT THE TRANSVERSE WIRES ONLY. BEND AND LIFT THE LONGITUDINAL WIRES IN THE BASE OF THE MAT TO FIT AGAINST THE SIDE OF THE CULVERT

AT THE LOWER SURFACE OF THE CULVERT, CUT THE TRANSVERSE WIRES ONLY IN THE MAT FACE. BEND THE LONGITUDINAL WIRES BACK TO FIT AGAINST THE CURVE OF THE CULVERT

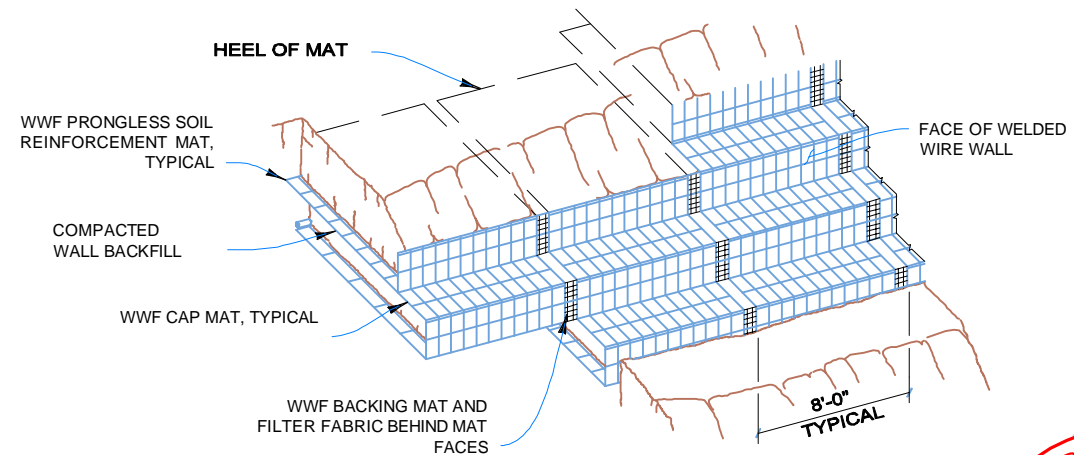
NOTE: BACKING MATS AND FILTER FABRIC (NOT SHOWN) ARE TO BE CUT OFF FLUSH WITH THE SIDES OF THE CULVERT



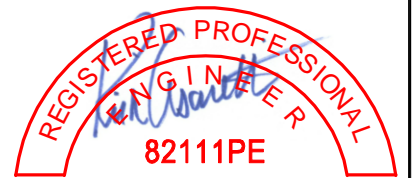
ELEVATION CULVERT THRU WALL FACE
NOT TO SCALE



WALL COMPONENTS
NOT TO SCALE



PICTORIAL ELEVATION
NOT TO SCALE



EXPIRATION DATE: 12/31/23

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USFS 2019 RRS ERFO Road Repairs Design
RSS WELDED WIRE WALLS
CONSTRUCTION SEQUENCE &
DETAILS

HW 220804DN

PROJECT	22-066
DATE	11-29-22
DESIGN	KLC
DRAWN	KLC
SHT	9 OF 9