

DESIGN NOTES

- Design is based on the assumption that backfill within the reinforced soil mass, methods of construction and quality of materials are to be in accordance with Project Specification Paragraph 00596A.
- Assumed Soil Characteristics:
 Wall Backfill:
 Unit Weight: 125 pcf
 Internal Friction Angle: 34°
 Cohesion = 0 psf
 Retained Backfill:
 Unit Weight: 125 pcf
 Internal Friction Angle: 32°
 Cohesion = 0 psf
 Foundation Soils:
 Unit Weight: 125 pcf
 Internal Friction Angle: 34°
 Cohesion = 0 psf
 Traffic Surcharge Loading (LL) = 250 psf

Worst Case Factored Bearing Load by MSE Wall- @ 16' Height - 2780 psf.

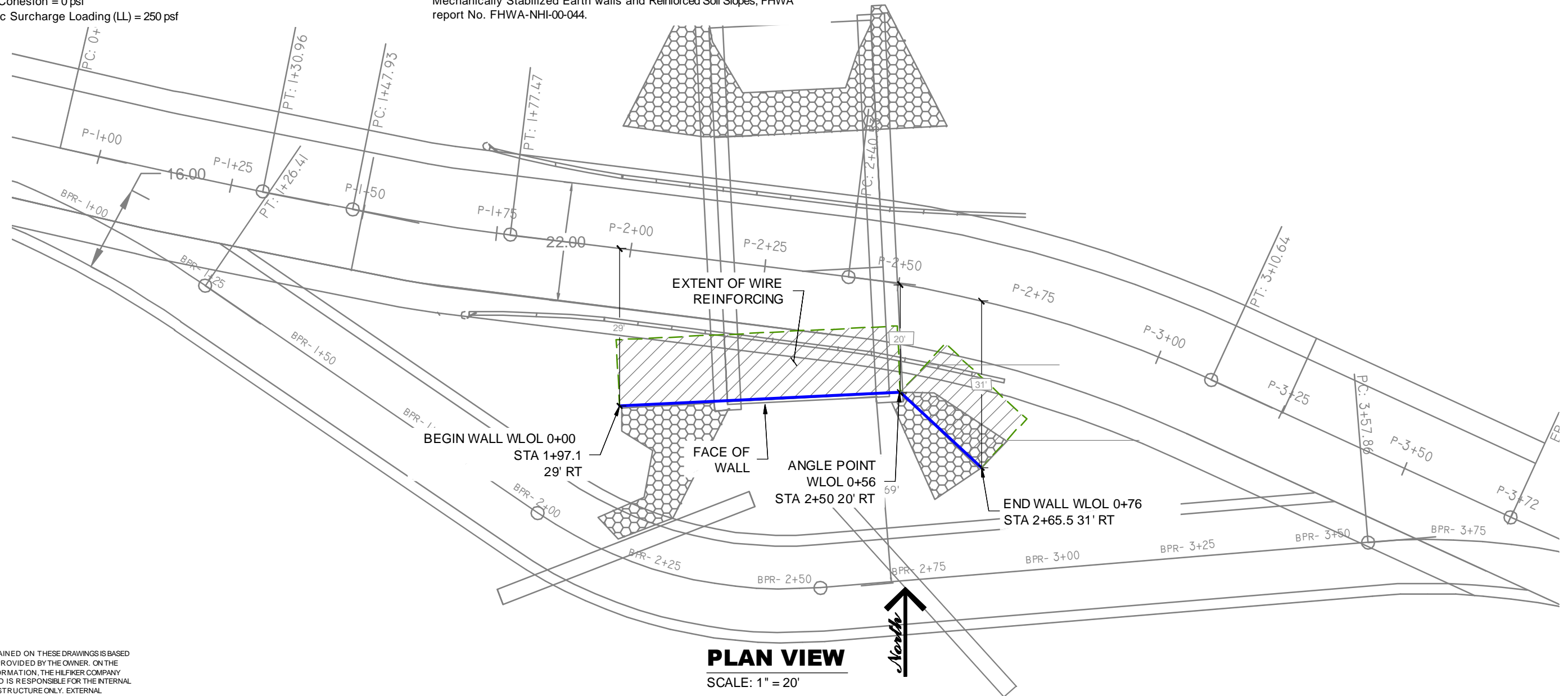
If actual characteristics, grades or dimensions of soil materials differ from those listed above or shown on the plans, Hilfiker Retaining walls shall be notified to evaluate the need to redesign.

- 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-00-044.

- 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:

WELDED WIRE WALL : 616 FT²



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REV. NO.	DATE	BY	DESCRIPTION
	04-16-21	KLC	Initial .pdf Release
	05-10-21	KLC	Added Proposed AS-BUILT Footings

HILFIKER RETAINING WALLS

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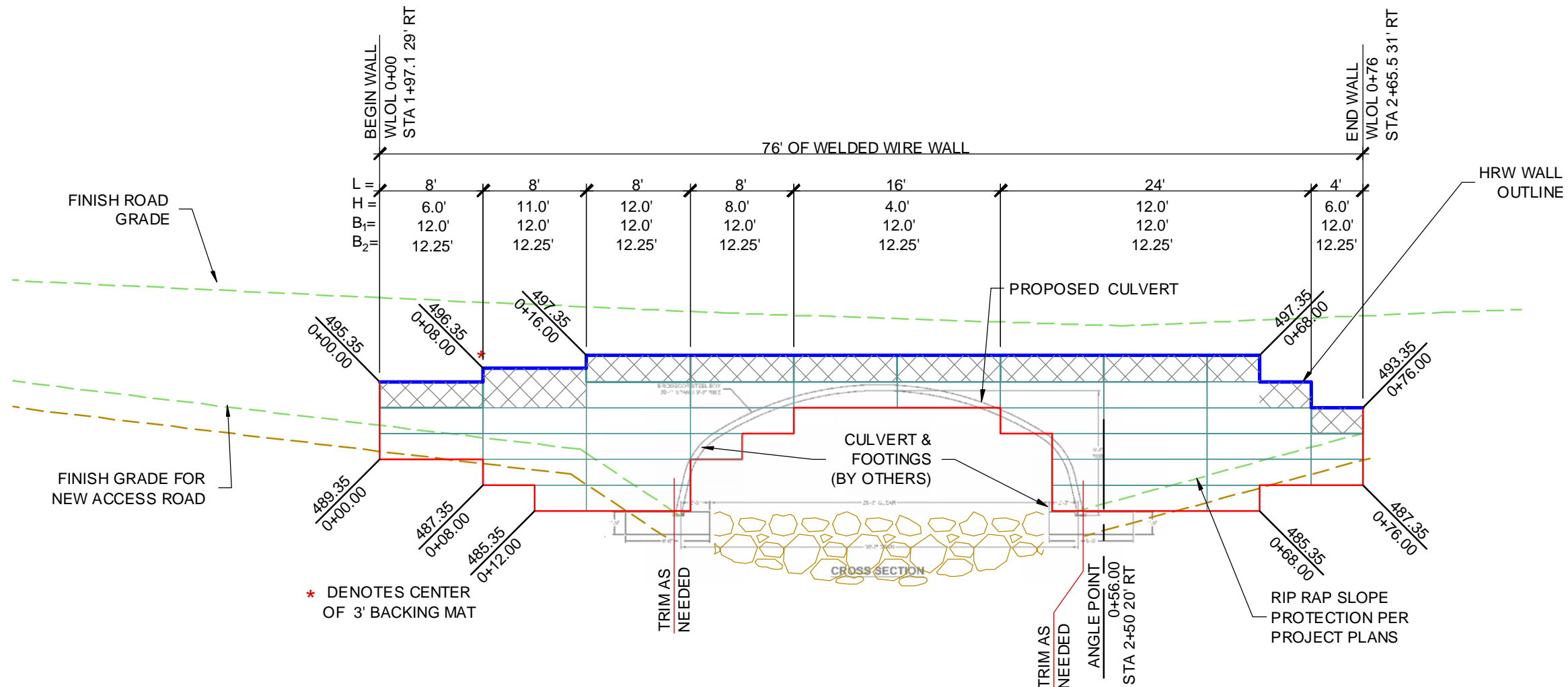
West Fork Cow Creek Culvert Replacement

MSE WELDED WIRE WALL
 PLAN VIEW & GENERAL NOTES

HW 200327AW

PROJECT	21-023
DATE	4-16-21
DESIGN	KLC
DRAWN	KLC

SHT 1 OF 5



ELEVATION VIEW

SCALE: 1" = 10'

WALL WIRE TYPE LEGEND

FINISH: HOT DIP GALVANIZED
SERVICE LIFE: 75 YEARS

- TYPE 1 - 8X12 W4.5x3.5 MATS
- TYPE 2 - 8x21 W7.0x4.0 MATS

WELDED WIRE WALL PARAMETERS

Height of Wall (H) ft	Length of Cap & Prongless Mats (B ₁) ft	Base Length of Mats (B ₂) ft
≤16'	12.0'	12.25'

Cap & Top Mats (B₁) are: 8x12 W4.5x3.5 WWR (Type 1)
Standard Mats (B₂) are: 8x21 W7.0x4.0 WWR (Type 2)

Finish: Hot Dip Galvanized - 75 Year Service Life

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	04-16-21	KLC	Initial .pdf Release
	05-7-21	KLC	Added Proposed AS-BUILT Culvert
	05-10-21	KLC	Added Proposed AS-BUILT Footings

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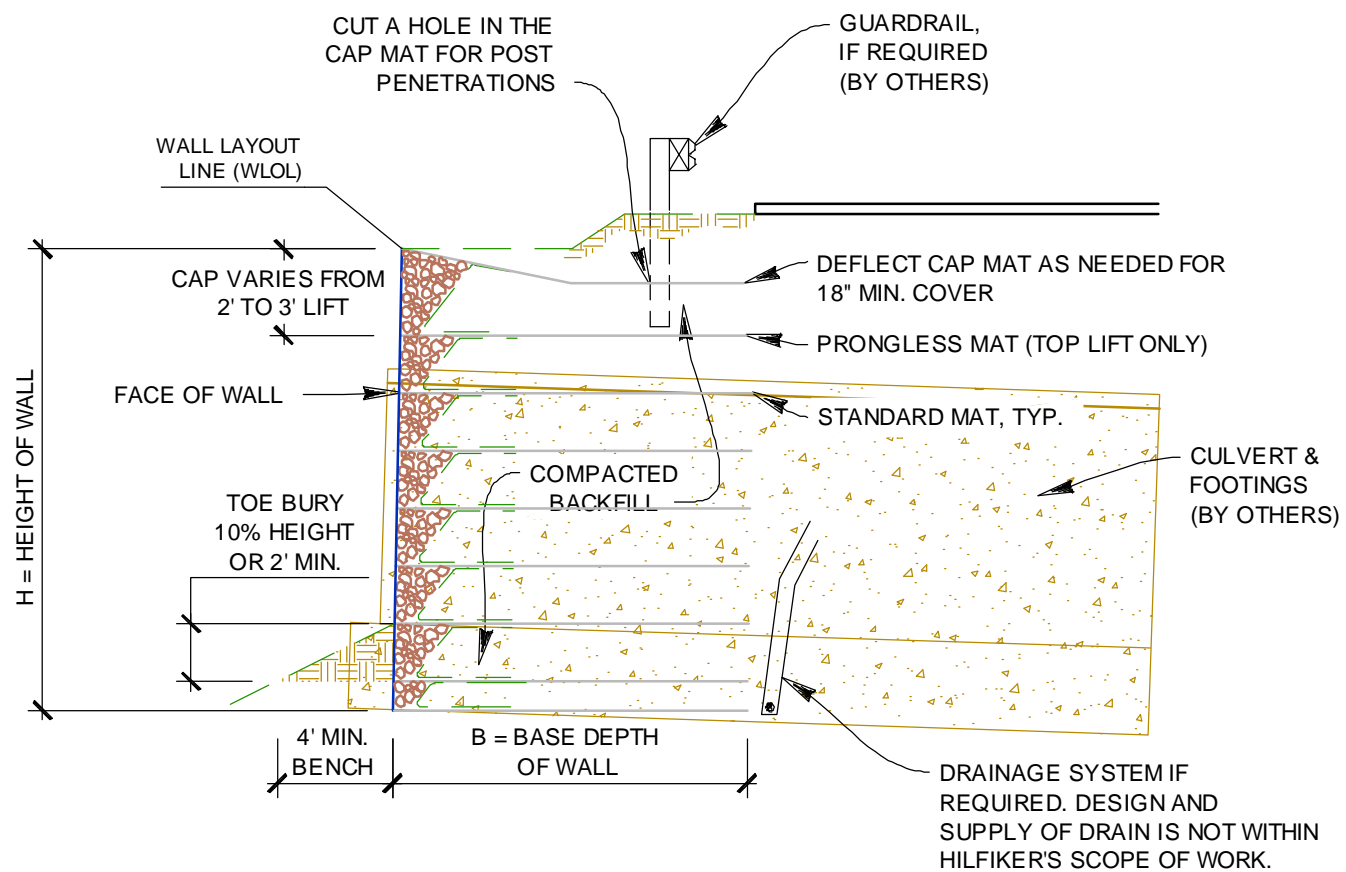
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West Fork Cow Creek Culvert Replacement

**MSE WELDED WIRE WALL
ELEVATION VIEW**

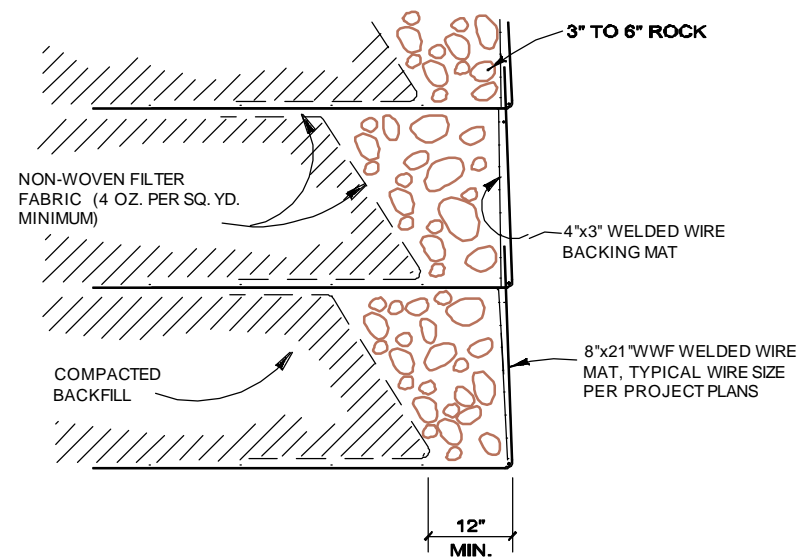
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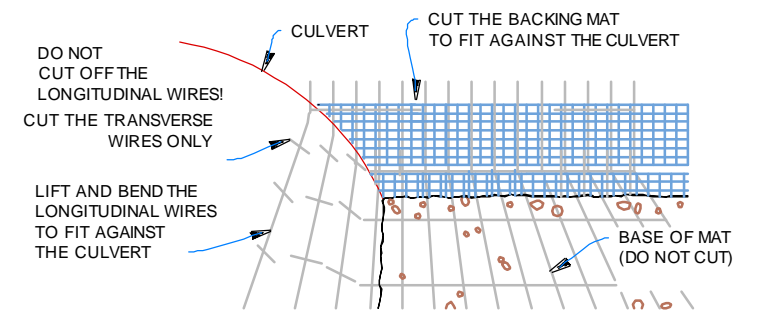
CROSS SECTION, TYP

SCALE: 1" = 5'

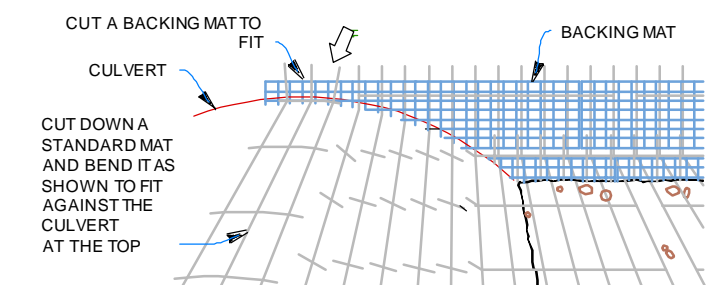


ROCK-FACE DETAIL
NOT TO SCALE

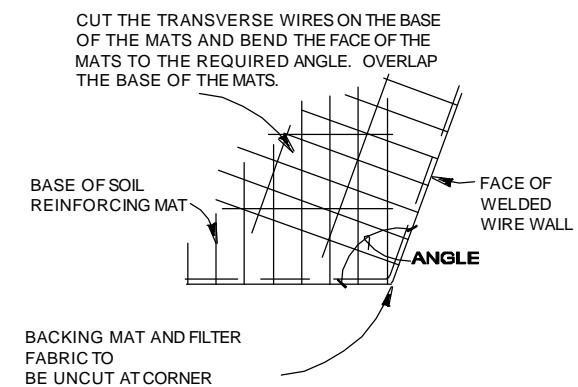
STEP 1
AT THE UPPER SURFACE OF THE CULVERT, THE TRANSVERSE WIRES IN THE BASE OF THE MATS ARE CUT AND BENT AGAINST THE CULVERT AS SHOWN.



STEP 2
TO CLOSE A GAP IN THE FACE OF THE WALL AT THE TOP OF THE CULVERT



CULVERT THROUGH WALL DETAILS



PLAN VIEW
OBTUSE CONVEX ANGLE
NOT TO SCALE

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MSE WELDED WIRE WALL
CROSS SECTION & DETAILS

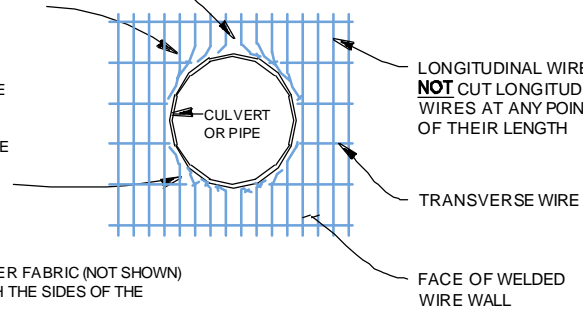
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DRAWN	KLC
SHT	3 OF 5

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

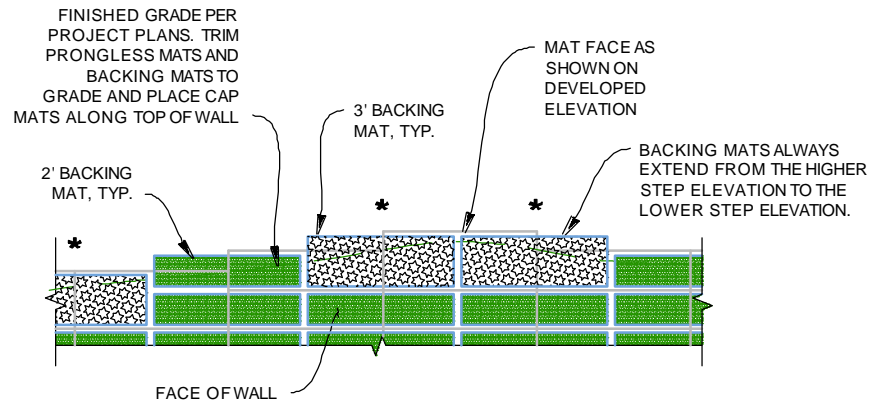
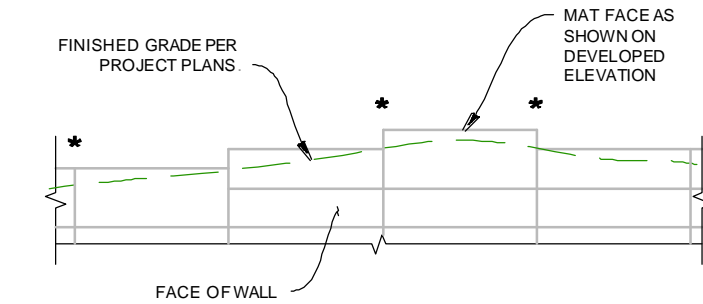
ANY LARGE GAP AT THE TOP OF THE CULVERT MAY BE CLOSED WITH BACKING MAT AND FILTER FABRIC, CUT TO FIT, OR USE LARGER ROCKS OR SACKED CONCRETE

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

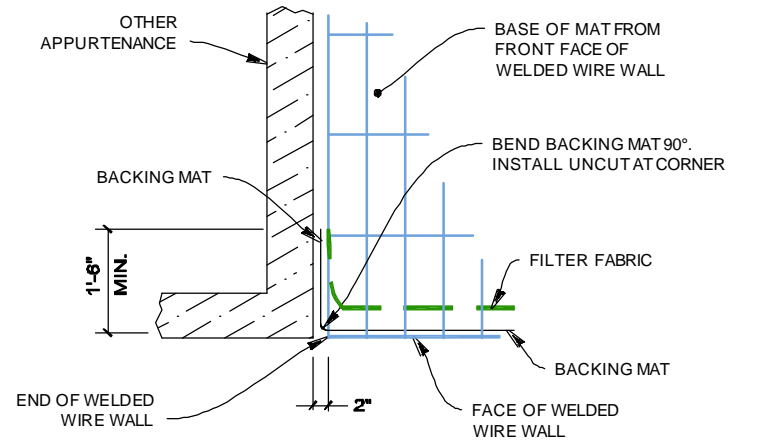


NOTE: BACKING MATS AND FILTER FABRIC (NOT SHOWN) ARE TO BE CUT OFF FLUSH WITH THE SIDES OF THE CULVERT

**ELEVATION
CULVERT THRU WALL FACE
NOT TO SCALE**



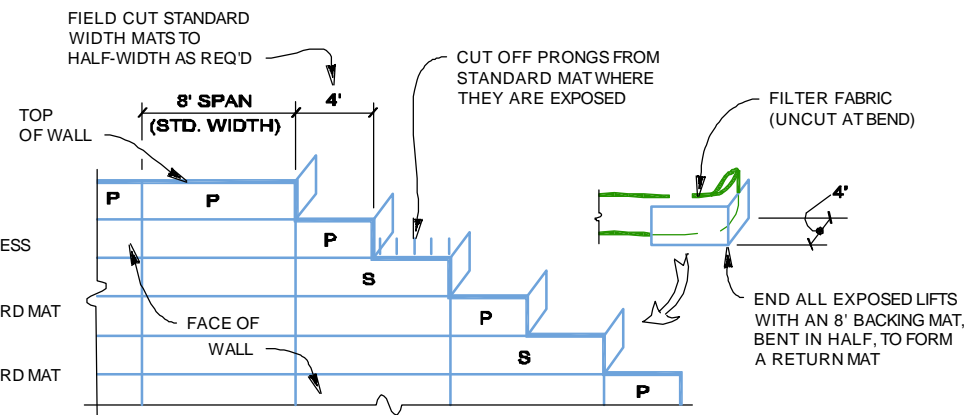
**TRIMMING BACKING MATS ALONG TOP OF WALL
NOT TO SCALE**



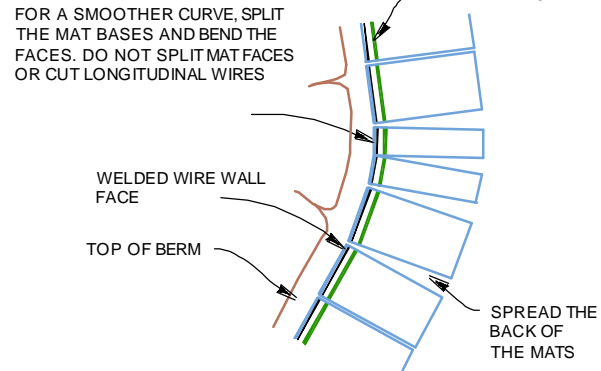
**PLAN VIEW
WELDED WIRE WALL END
AT OTHER APPURTENANCE
NOT TO SCALE**

**LEGEND
(THIS DETAIL ONLY)**

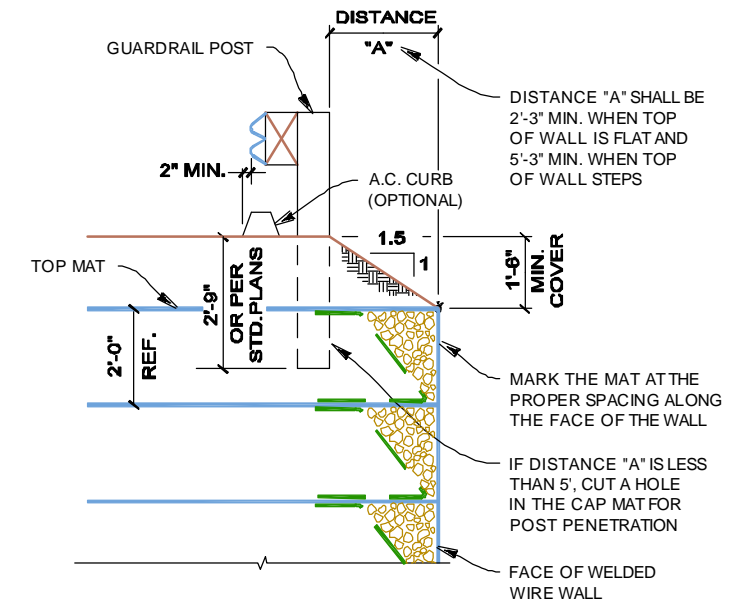
- P** PRONGLESS MAT
- S** STANDARD MAT
- STANDARD MAT



**RETURN MATS AND TOP OF WALL DETAIL
NOT TO SCALE**



**PLAN VIEW
CONCAVE CURVE
NOT TO SCALE**



**SECTION
GUARDRAIL DETAIL
NOT TO SCALE
(FENCE DETAIL SIMILAR)**

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West Fork Cow Creek Culvert Replacement

**MSE WELDED WIRE WALL
CROSS SECTION & DETAILS**

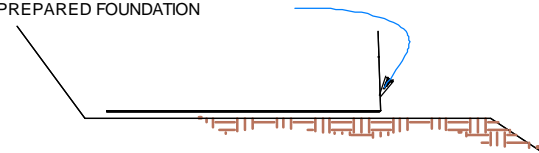
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SHT **4** OF 5

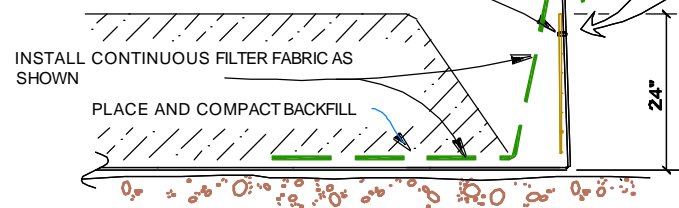
STEP 1

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



STEP 2

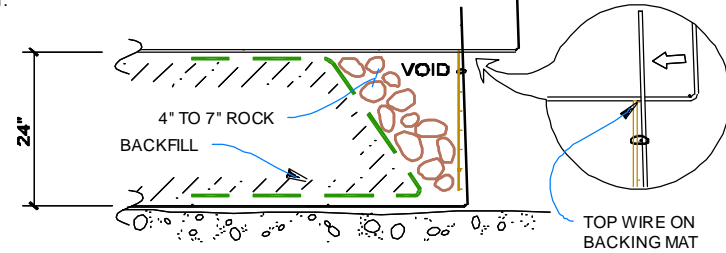
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



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.



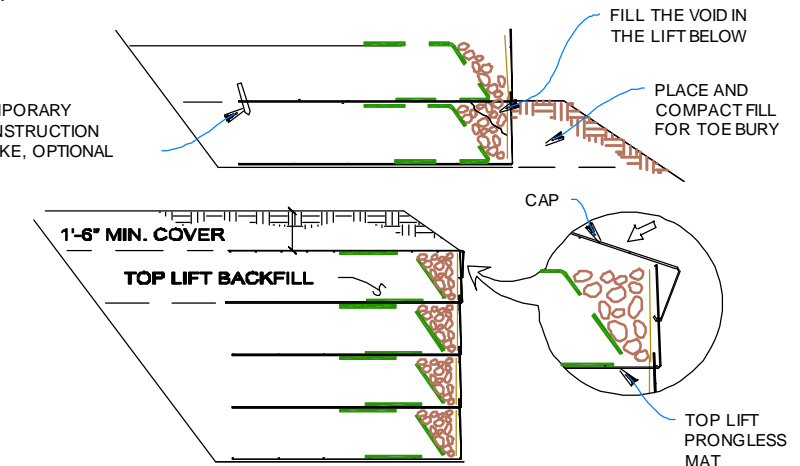
SECOND COURSE SOIL REINFORCEMENT MAT

NOTE:
PLACE FACE ROCK. HAND ROD COMPACT ROCK FACING TO REFUSAL

STEP 5

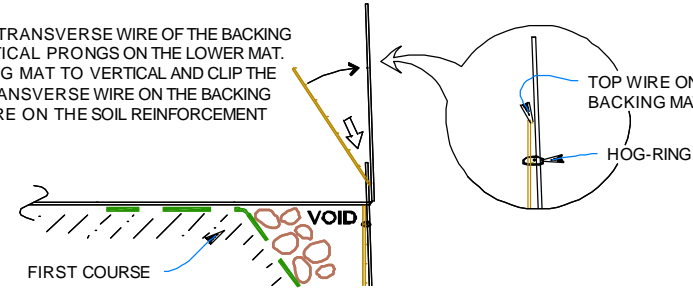
INSTALL THE FILTER FABRIC AS IN STEPS 2 AND 3. PLACE AND COMPACT THE BACKFILL AND ROCK TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 2 THROUGH 5 TO THE TOP LIFT.

TEMPORARY CONSTRUCTION STAKE, OPTIONAL



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.

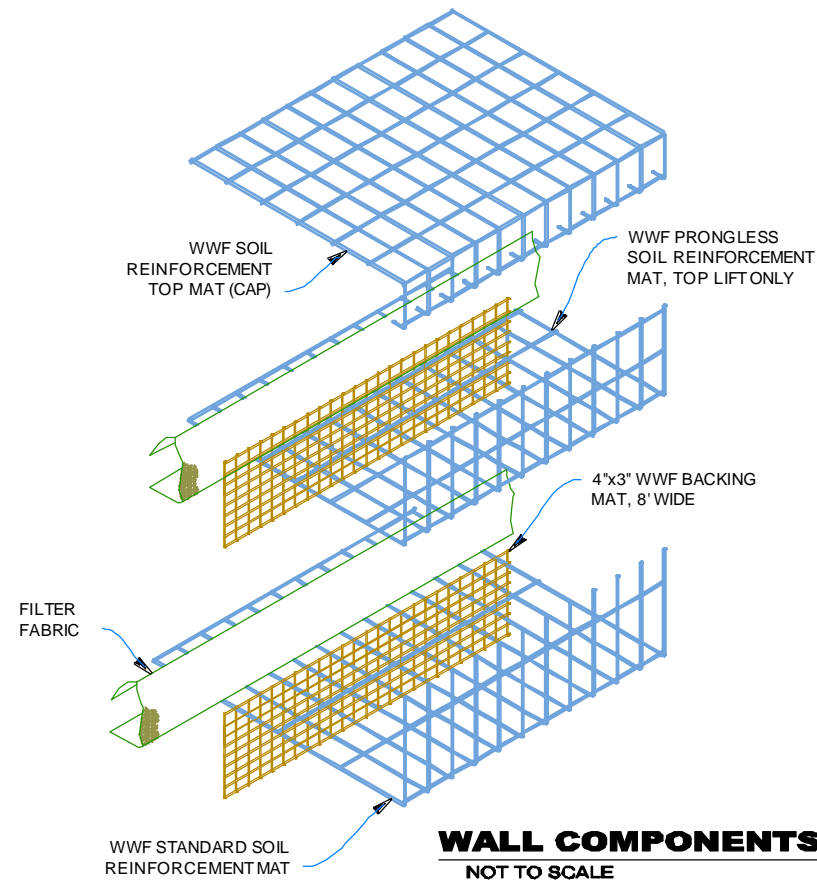


STEP 6: TOP LIFT

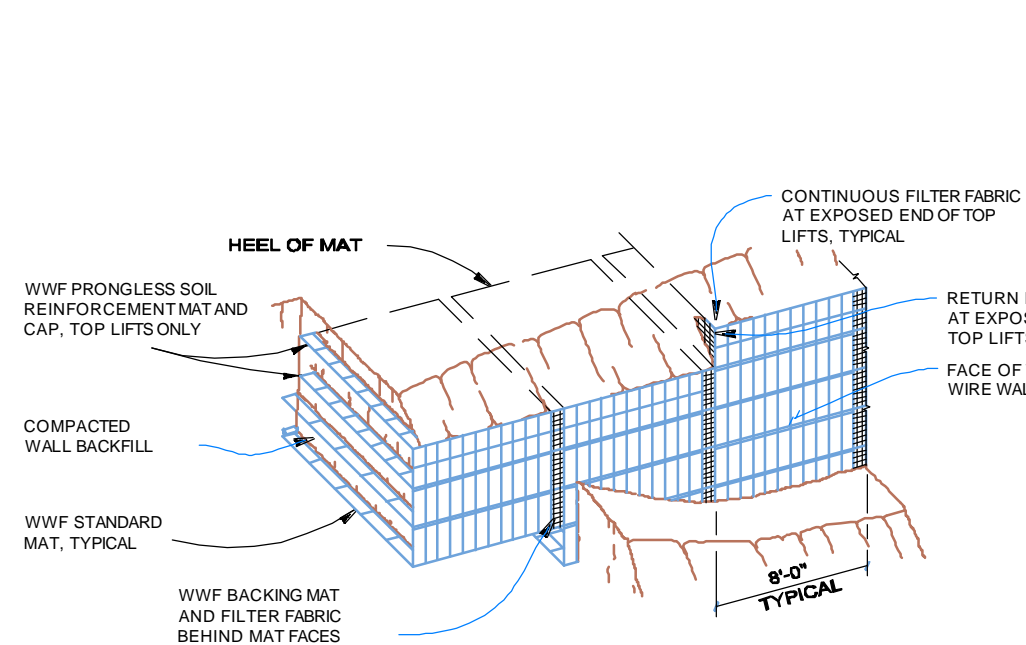
PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND FILTER FABRIC. PLACE AND COMPACT BACKFILL AND ROCK IN THE TOP LIFT. HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE. PLACE AND COMPACT COVER OVER TOP MAT TO 1'-6" MINIMUM DEPTH.

CONSTRUCTION SEQUENCE

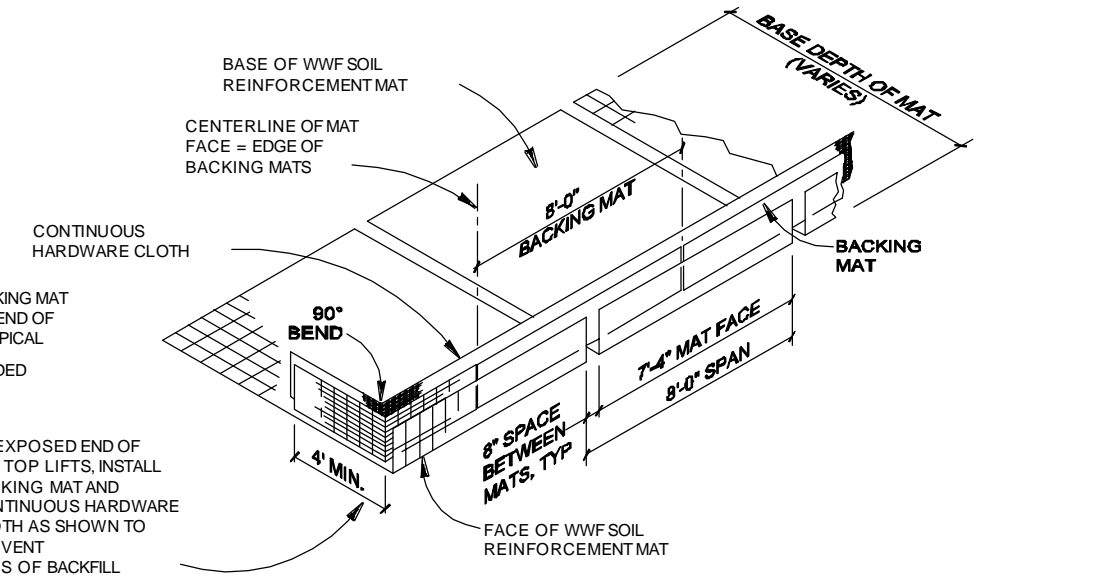
NOT TO SCALE



WALL COMPONENTS
NOT TO SCALE



PICTORIAL ELEVATION
NOT TO SCALE



ISOMETRIC VIEW
WELDED WIRE WALL COMPONENTS WITH RETURN MAT
NOT TO SCALE

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