

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: 130 pcf
 Internal Friction Angle: 36°
 Cohesion = 0 psf
 Retained Backfill:
 Unit Weight: 130 pcf
 Internal Friction Angle: 32°
 Cohesion = 0 psf
 Foundation Soils:
 Unit Weight: 125 pcf
 Internal Friction Angle: 34°
 Cohesion = 0 psf

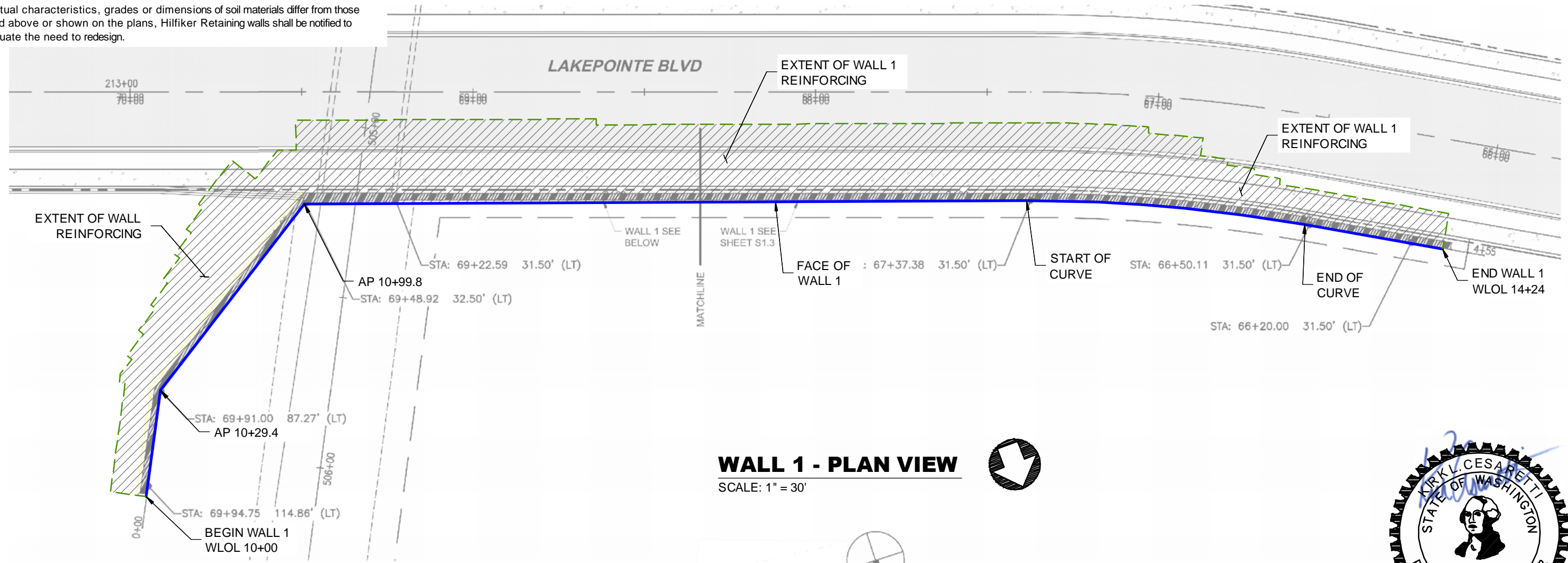
- If during construction, the wall location, structure location or loads are different than that proposed in this plan set and calculation package, HRW shall be notified to evaluate the need for a redesign.
- The design requires a non-saturated backfill. Surface and sub-surface drainage control may be 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 Contractor shall be responsible for global stability and foundation competence. The Contractor 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 1	10,704 SQ. FT.
WALL 2	1,120 SQ. FT.
TOTALS	11,824 SQ. FT.

Worst Case Factored Bearing Load by MSE Wall- @ 34' Height - 8390 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.



WALL 1 - PLAN VIEW
 SCALE: 1" = 30'

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HILFIKER RETAINING WALLS

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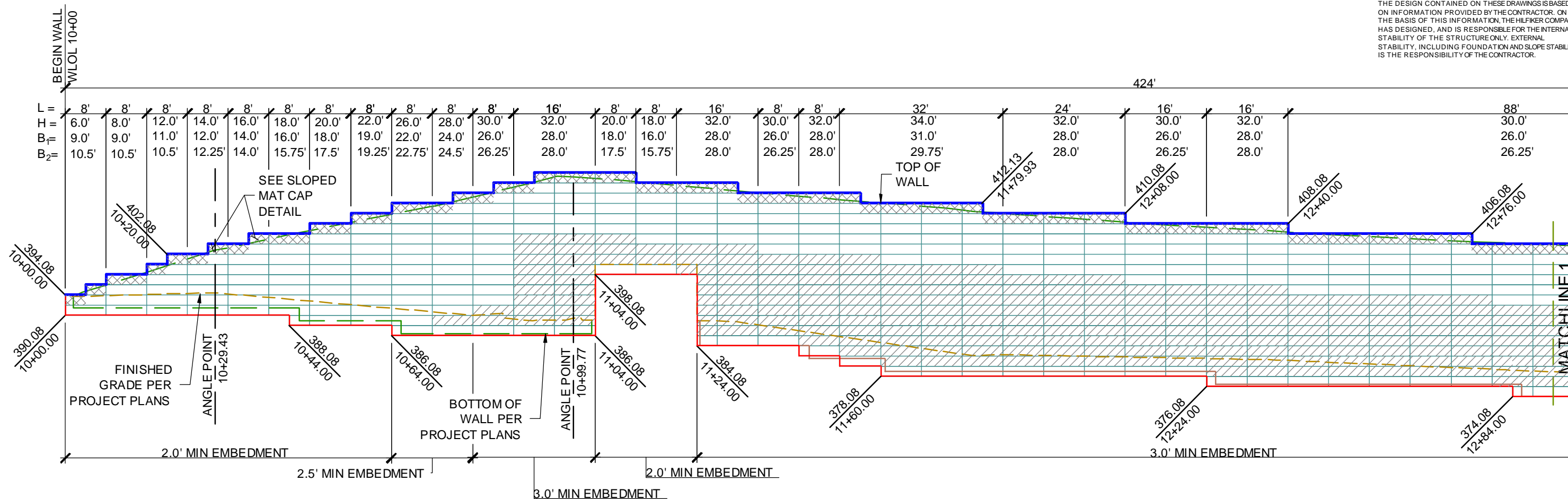
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WELDED WIRE WALLS
 PLAN VIEW & GENERAL NOTES

PROJECT	21-029
DATE	6-4-21
DESIGN	KLC
DRAWN	CMM
SHT	1 OF 7

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WALL 1 - ELEVATION VIEW

SCALE: 1" = 20'

WELDED WIRE WALL 1 PARAMETERS

Height of Wall (H) ft	Length of Cap & Prongless Mats (B ₁) ft	Base Length of Mats (B ₂) ft
≤10'	9.0'	10.5'
12'	11.0'	10.5'
14'	12.0'	12.25'
16'	14.0'	14.0'
18'	16.0'	15.75'
20'	18.0'	17.5'
22'	19.0'	19.25'

WELDED WIRE WALL 1 PARAMETERS

Height of Wall (H) ft	Length of Cap & Prongless Mats (B ₁) ft	Base Length of Mats (B ₂) ft
24'	20.0'	21.0'
26'	22.0'	22.75'
28'	24.0'	24.5'
30'	26.0'	26.25'
32'	28.0'	28.0'
34'	31.0'	29.75'

WALL WIRE TYPE LEGEND

FINISH: HOT DIP GALVANIZED
SERVICE LIFE: 75 YEARS

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



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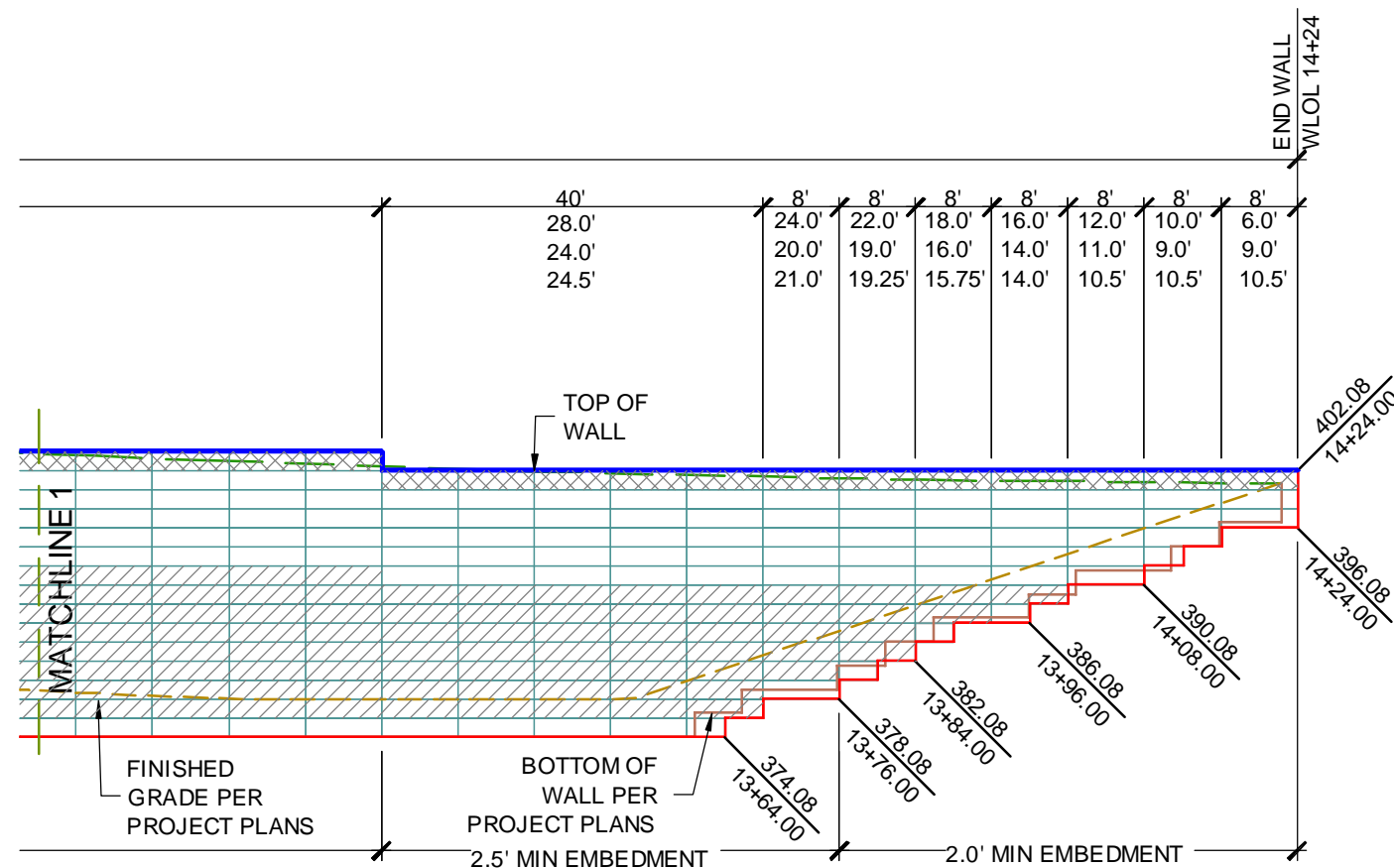
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**WELDED WIRE WALL 1
ELEVATION VIEW**

PROJECT	21-029
DATE	6-4-21
DESIGN	KLC
DRAWN	CMM

SHT 2 OF 7

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WALL 1 (CONT'D) - ELEVATION VIEW

SCALE: 1" = 20'

WALL WIRE TYPE LEGEND

FINISH: HOT DIP GALVANIZED
SERVICE LIFE: 75 YEARS

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

WELDED WIRE WALL 1 PARAMETERS		
Height of Wall (H) ft	Length of Cap & Prongless Mats (B ₁) ft	Base Length of Mats (B ₂) ft
≤10'	9.0'	10.5'
12'	11.0'	10.5'
14'	12.0'	12.25'
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18'	16.0'	15.75'
20'	18.0'	17.5'
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30'	26.0'	26.25'
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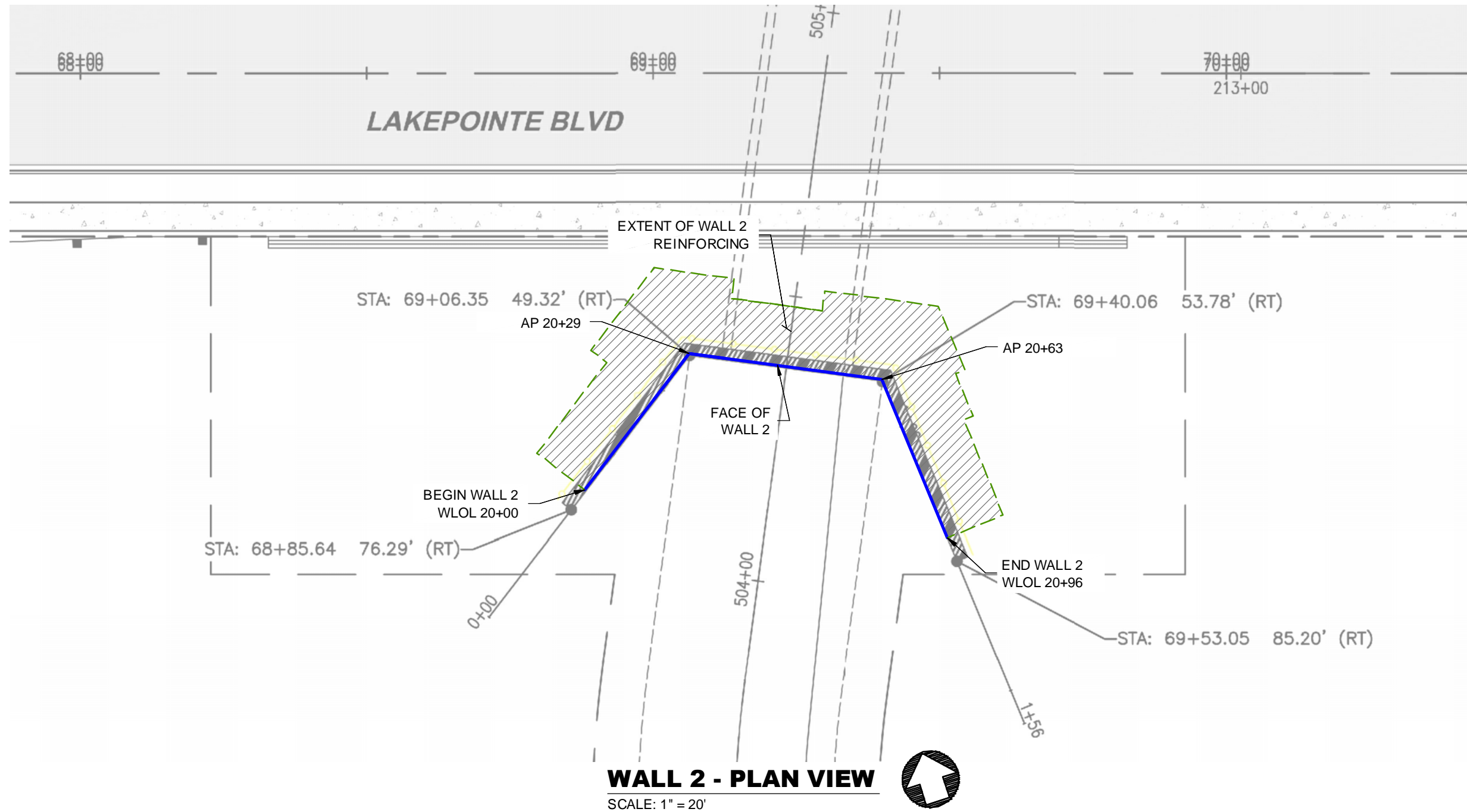


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**WELDED WIRE WALL 1
ELEVATION VIEW (CONT'D)**

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DESIGN	KLC
DRAWN	CMM

SHT **3** OF 7



WALL 2 - PLAN VIEW

SCALE: 1" = 20'

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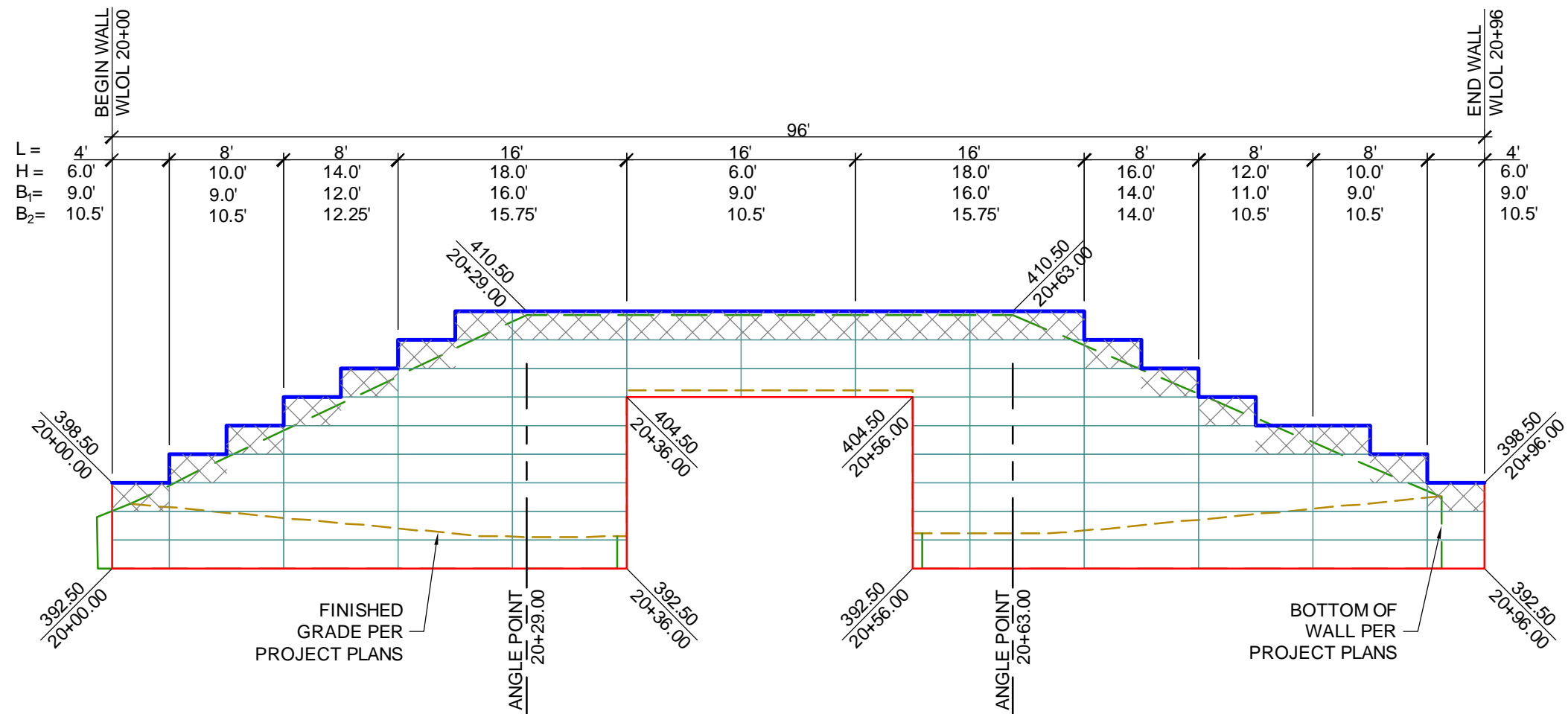
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WELDED WIRE WALL 2
PLAN VIEW

PROJECT	21-029
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DRAWN	CMM
SHT	4 OF 7

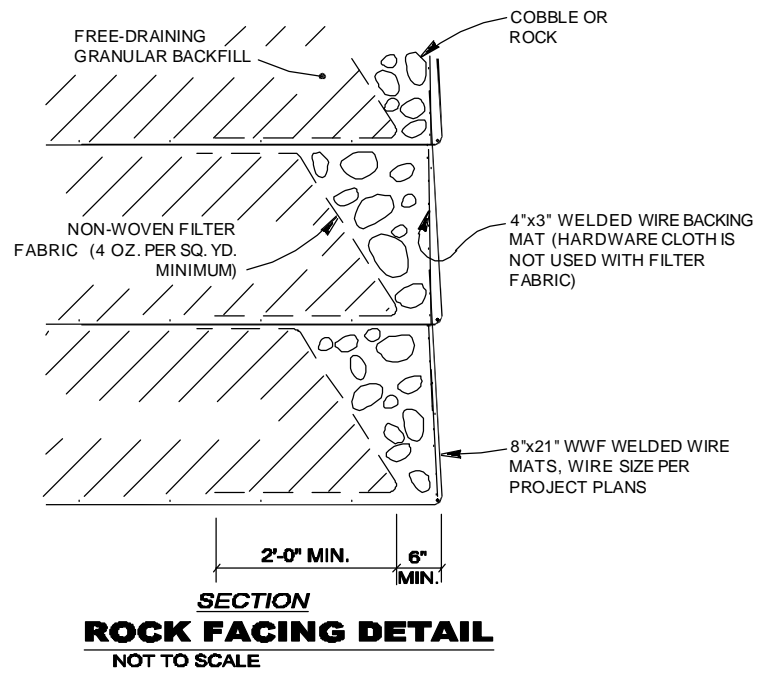


WALL WIRE TYPE LEGEND
 FINISH: HOT DIP GALVANIZED
 SERVICE LIFE: 75 YEARS

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

WALL 2 - ELEVATION VIEW
 SCALE: 1" = 10'

WELDED WIRE WALL 2 PARAMETERS		
Height of Wall (H) ft	Length of Cap & Prongless Mats (B ₁) ft	Base Length of Mats (B ₂) ft
≤10'	9.0'	10.5'
12'	11.0'	10.5'
14'	12.0'	12.25'
16'	14.0'	14.0'
18'	16.0'	15.75'



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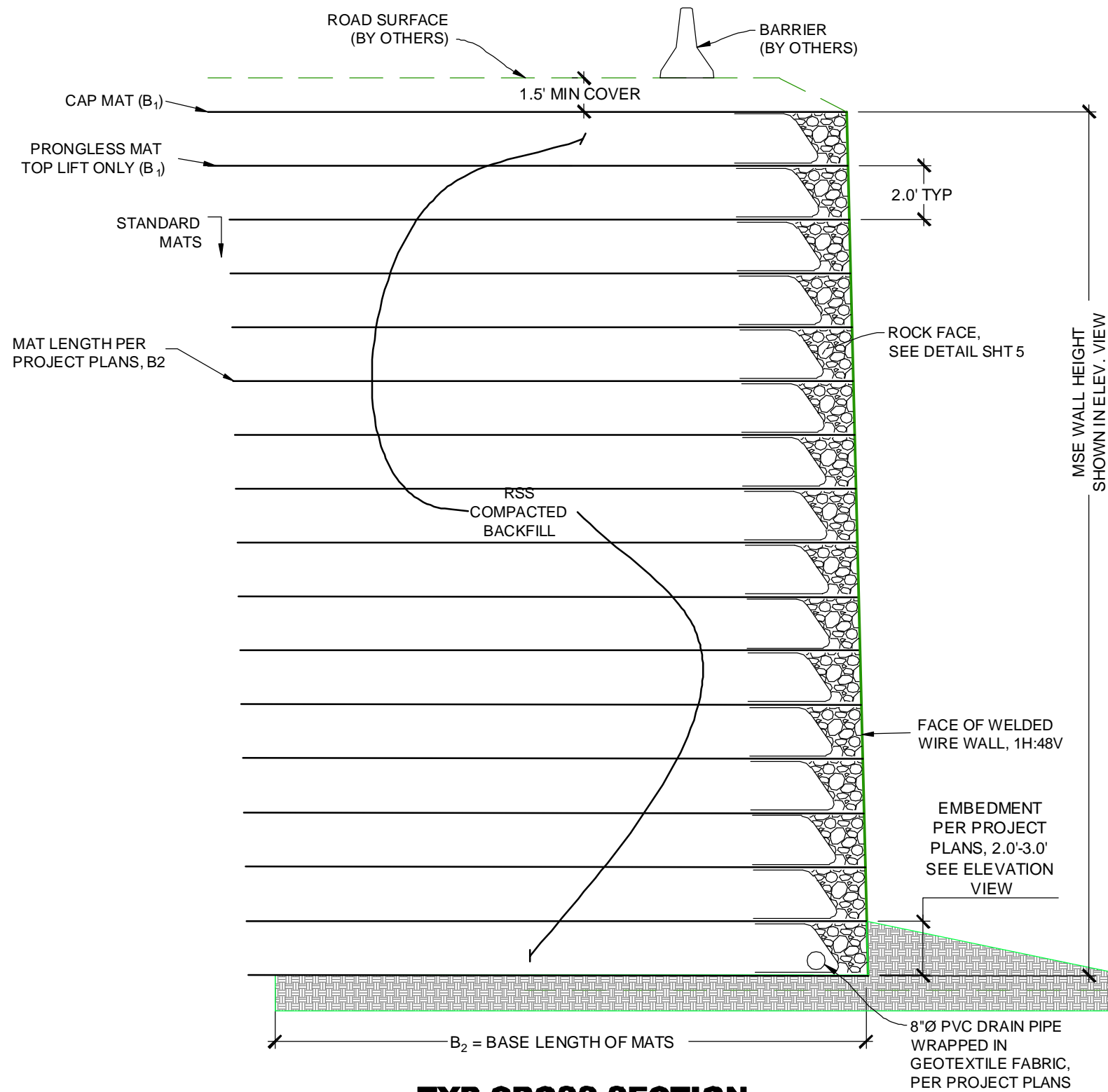
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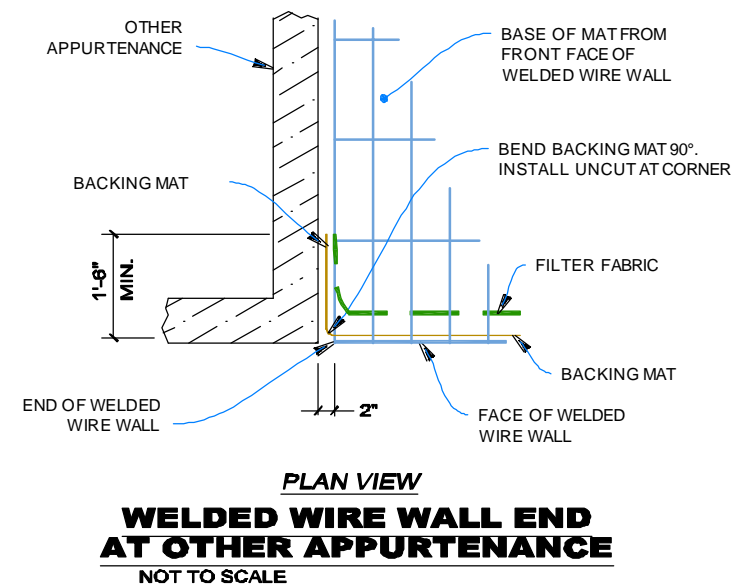
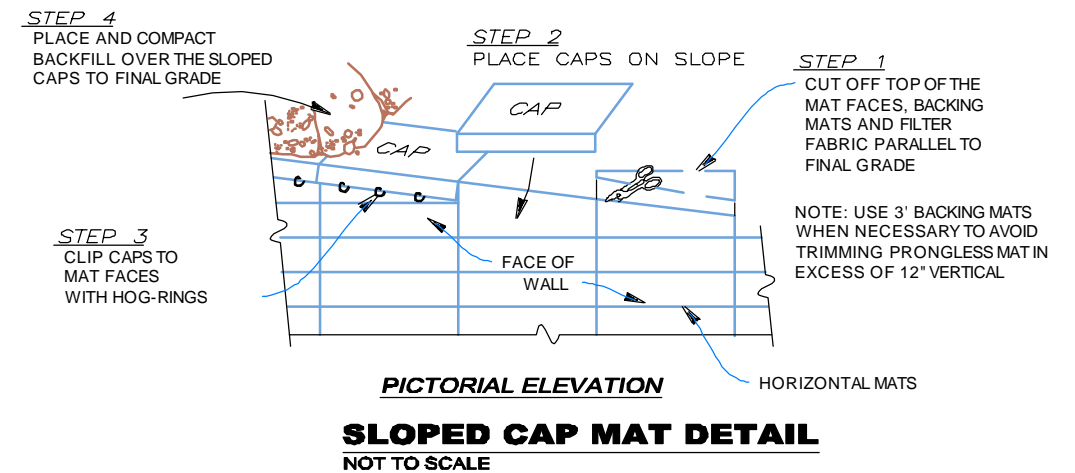
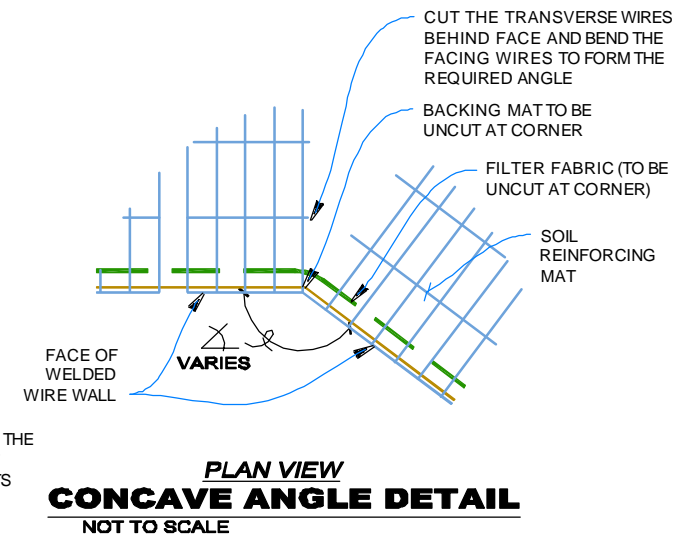
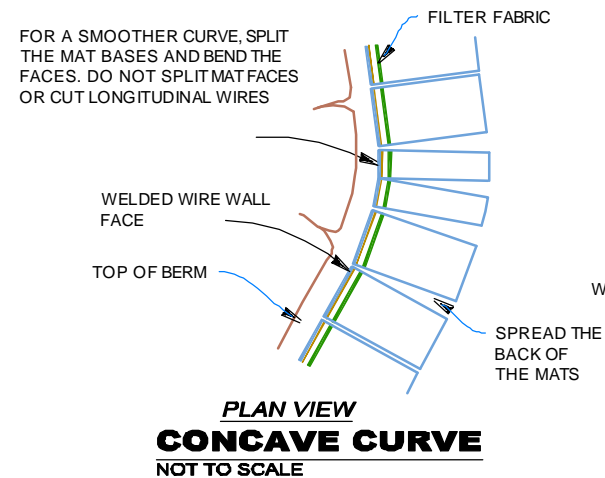
**WELDED WIRE WALL 2
 ELEVATION VIEW & DETAIL**

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TYP CROSS SECTION
1"=5'

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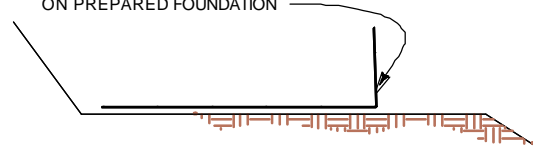
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WELDED WIRE WALLS
CROSS SECTION & DETAILS

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SHT	6 OF 7

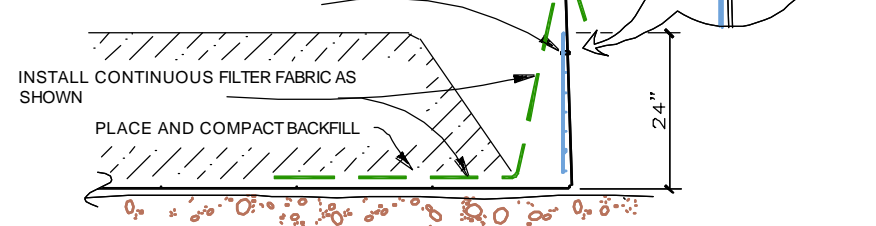
STEP 1

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



STEP 2

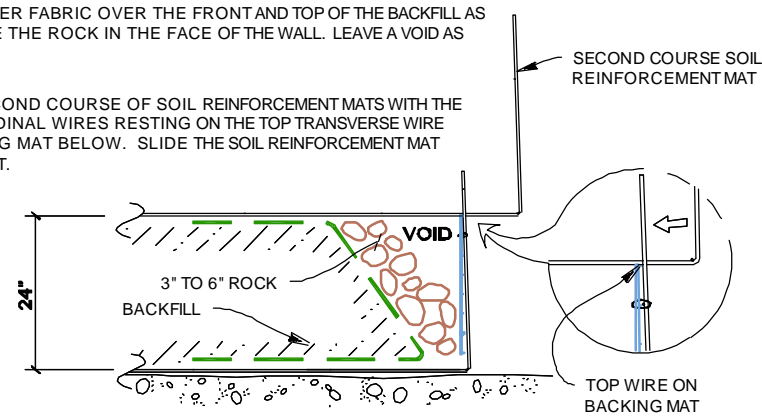
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 3

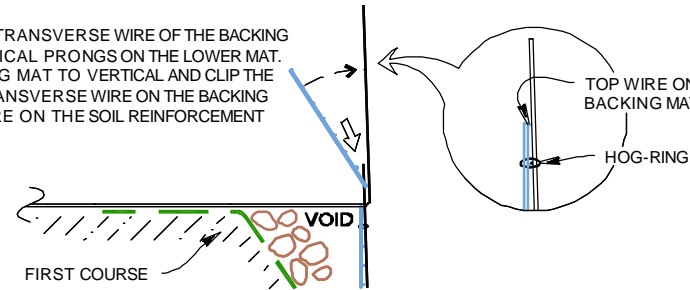
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE THE ROCK IN THE FACE OF THE WALL. LEAVE A VOID AS SHOWN.

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.



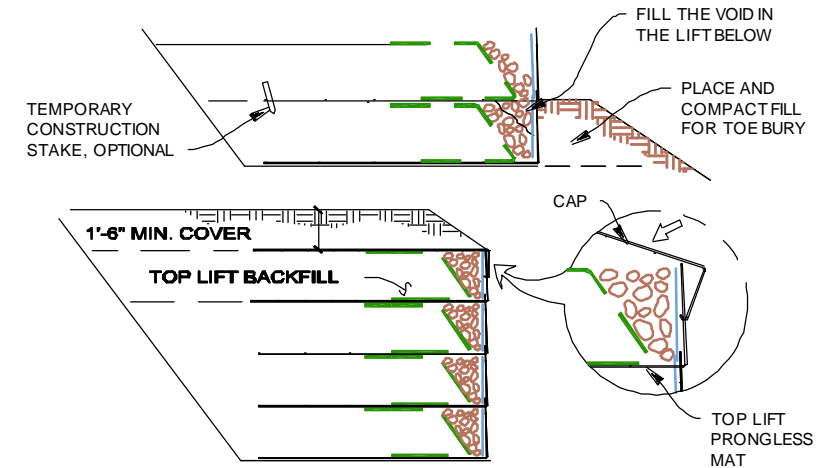
STEP 4

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.



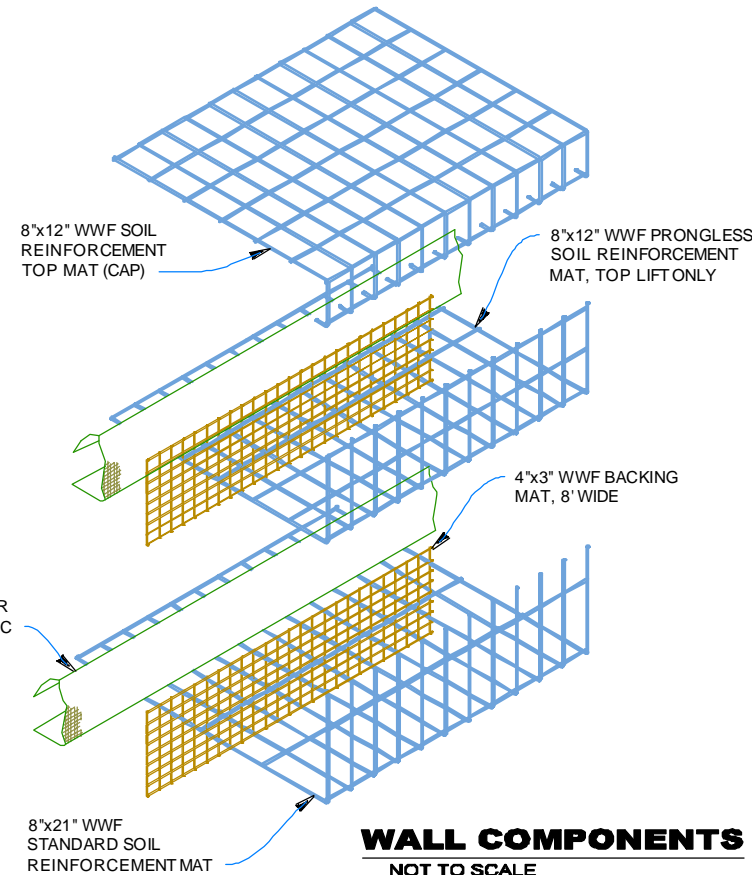
STEP 5

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.



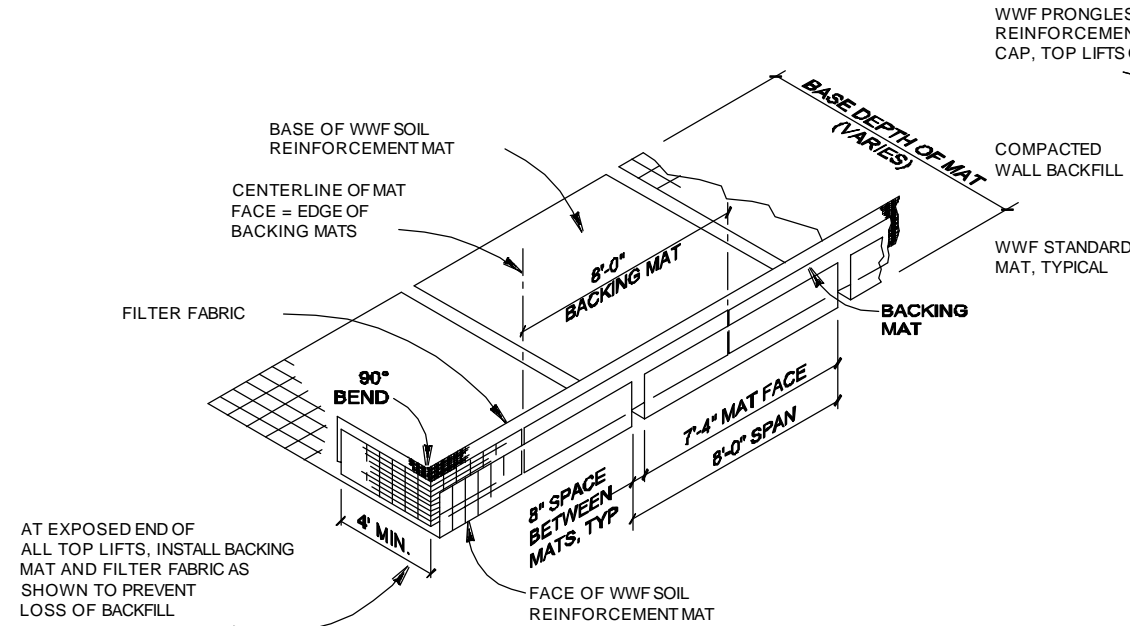
STEP 6: TOP LIFT

PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND FILTER FABRIC. PLACE AND COMPACT BACKFILL AND ROCK IN THE TOP LIFT. 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.

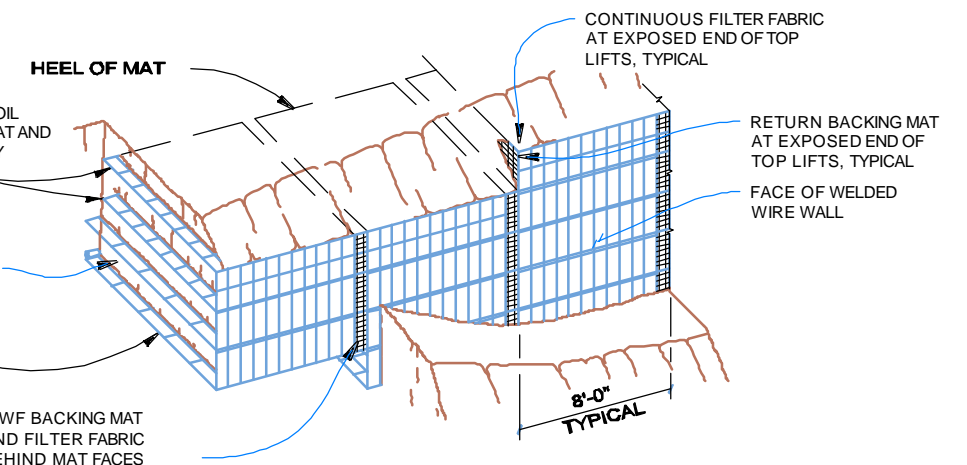


WALL COMPONENTS
NOT TO SCALE

CONSTRUCTION SEQUENCE
NOT TO SCALE



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



PICTORIAL ELEVATION
NOT TO SCALE

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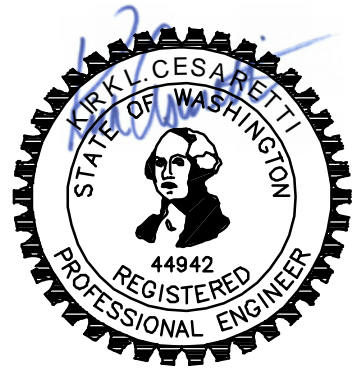
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SHT 7 OF 7