DESIGN NOTES

1. 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.

2. 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: 34°
     - Cohesion = 0 psf
   - Foundation Soils:
     - Unit Weight: 110 pcf
     - Friction Angle for Sliding: 32°
     - Cohesion = 0 psf

   Applied Bearing Pressure - applied at 14' Height - 2730 psf.
   Traffic Surcharge - 250 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.

3. 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.

4. 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.

   Drainage control shall be as specified in the project plans and specifications or as directed by the engineer.

5. Design Procedure:
   Mechanically Stabilized Earth walls and Reinforced Soil Slopes, FHWA report No. FHWA-NHI-00-043.

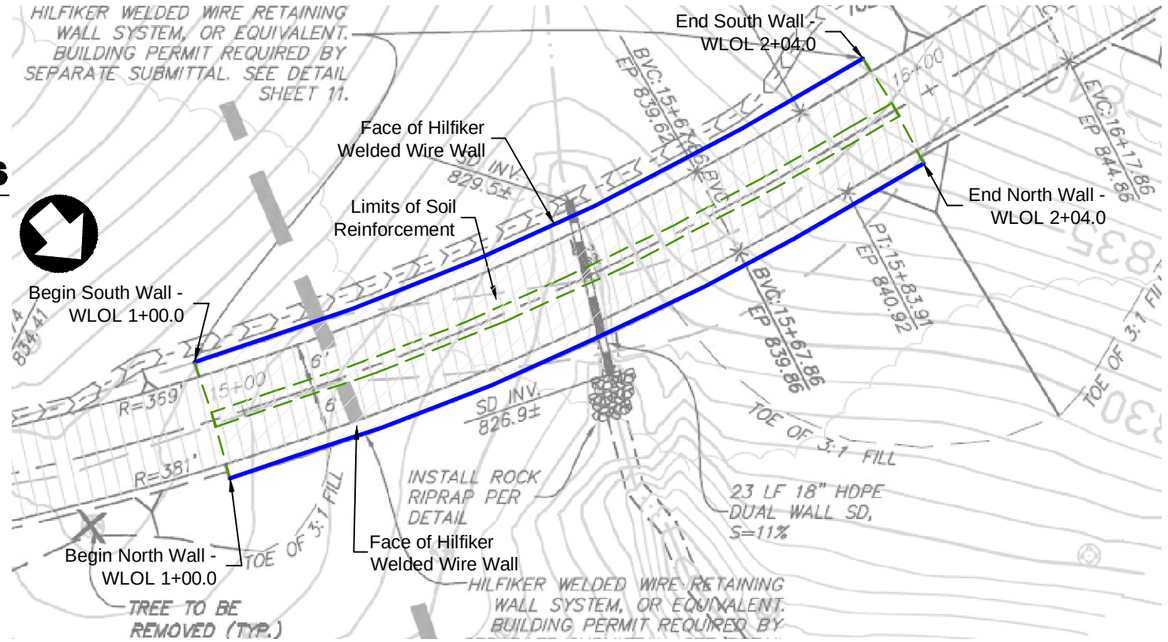
6. All information hereon is derived from the reference drawings, and is subject to geometric and geotechnical confirmation. The applicable Hilfiker construction guide and specifications are an integral part of this submittal.

   Reference Documents:
   - Geotechnical Investigation by Bauer & Associates Dated June 27, 2011.
   - Civil Plans - Driveway Plan and Profile, Hartman/OBrien Driveway by Munselle Civil Engineering Dated July 2011.

7. 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/contractor shall be responsible for all job site drainage, safety and fall protection provisions for workers in compliance with OSHA and any other applicable requirements.

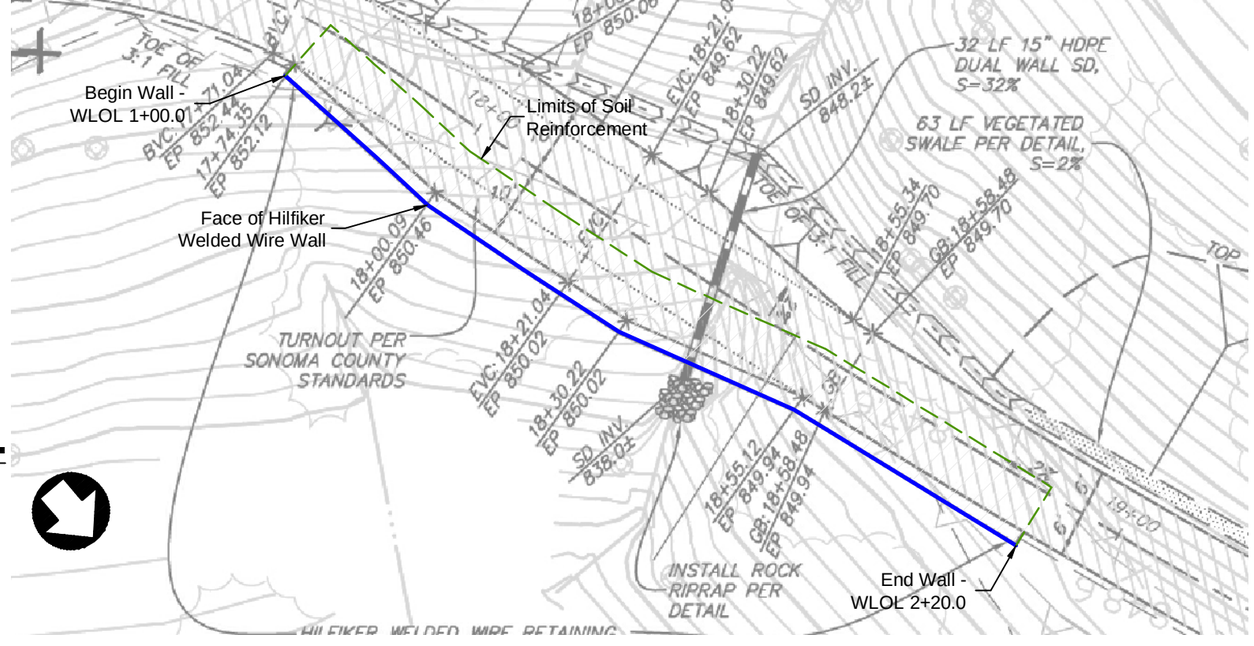
BRIDGING WALLS PLAN VIEW

SCALE: 1" = 20'



TURNOUT WALL PLAN VIEW

SCALE: 1" = 20'



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1902 Hilfiker Lane
Eureka, CA 95503-5711
TOLL-FREE 800.762.8962
PH 707.443.5093 FAX 707.443.2891
WEB SITE www.hilfiker.com E-MAIL info@hilfiker.com

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WELDED WIRE RETAINING WALL
CHALK HILL ROAD
HARTMAN/ O'BRIEN RESIDENCE
Healdsburg, CA

PLAN VIEW

PROJECT	11-063
DATE	9-12-11
DESIGN	KLC
DRAWN	KLC

SHT 1 OF 6

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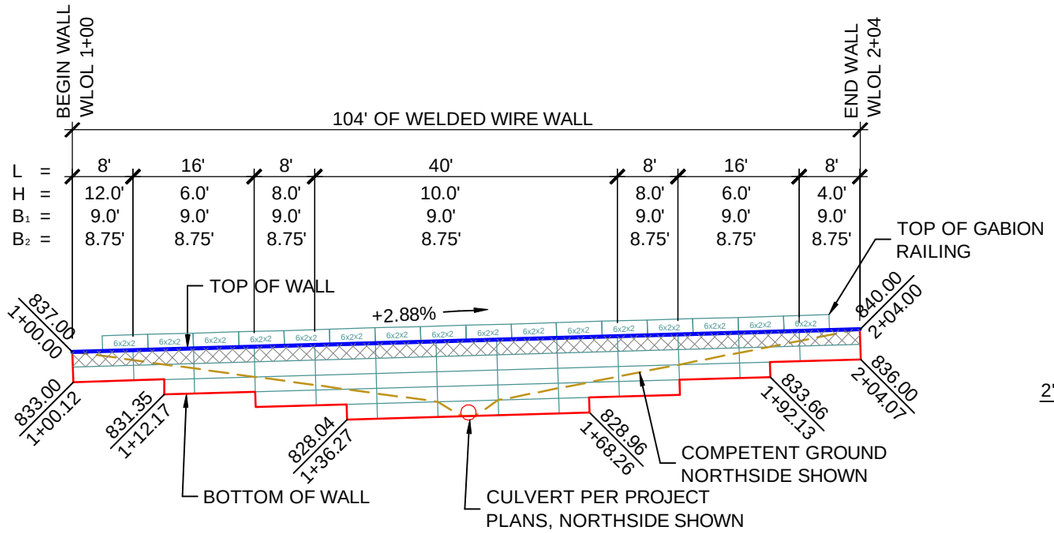
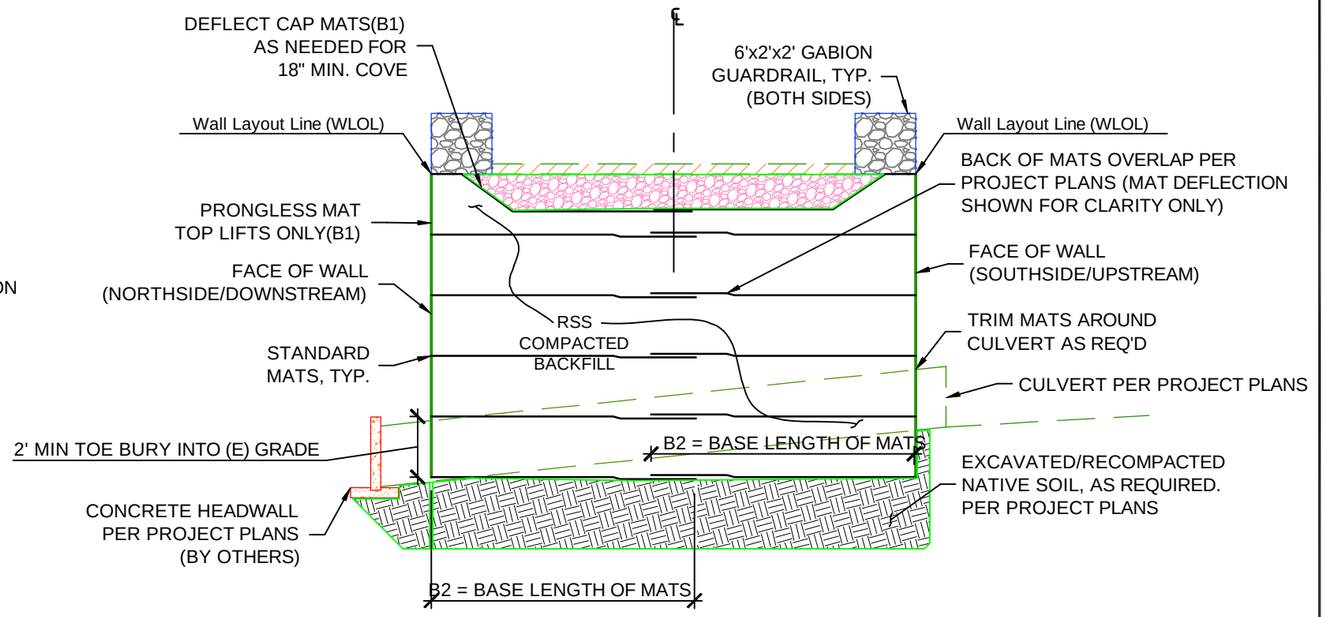


DEVELOPED ELEVATION - BRIDGING WALLS
NORTH WALL (FACE OF WALL) / SOUTH WALL (REAR OF WALL)

SCALE: 1" = 20'



TYPICAL SECTION - BRIDGING WALLS

SCALE: 1" = 5'

WALL WIRE TYPE LEGEND

FINISH: COMMERCIAL GALVANIZED
SERVICE LIFE: 75 YEARS

TYPE 1 - 8x12 W7.0x3.5 MATS
TYPE 2 - 8x21 W7.0x4.0 MATS

SUPPLIED QUANTITIES:

BRIDGING WALL (S):	752 SQ. FT
BRIDGING WALL (N):	752 SQ. FT
TURNOUT WALL:	944 SQ. FT.
TOTAL WALL AREA:	2448 SQ. FT.

WELDED WIRE WALL PARAMETERS

Height of Wall (H) ft	Length of Cap & Prongless Mats (B_1) ft	Base Length of Mats (B_2) ft
≤12	9	8.75
14	11	10.5

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

Finish: Commercial Galvanized - 75 Year Service Life

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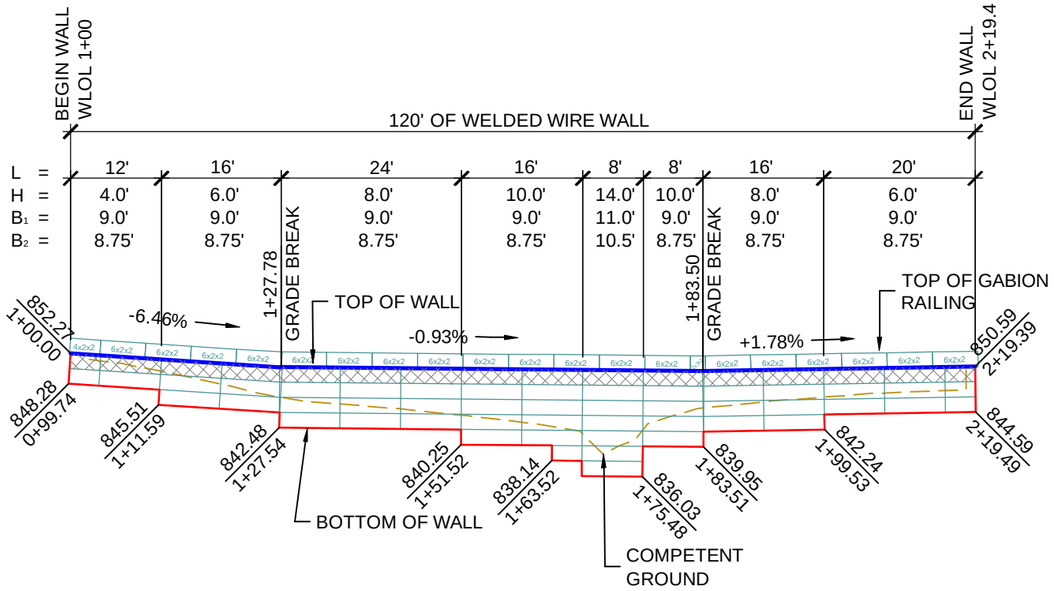
Healdsburg, CA

ELEVATION VIEW

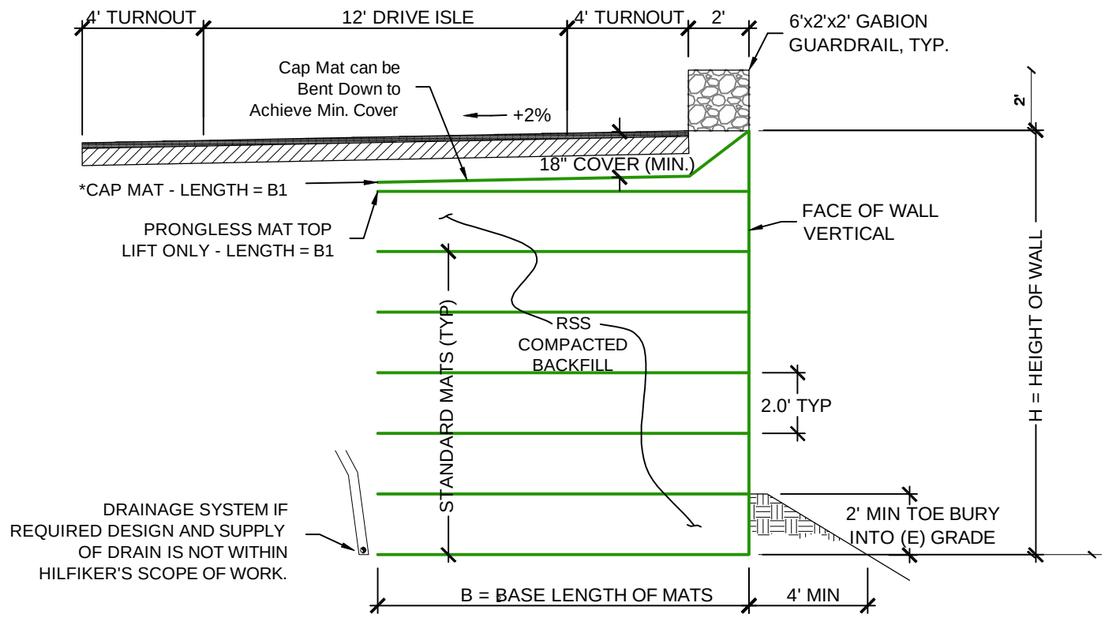
PROJECT 11-063
DATE 9-12-11
DESIGN KLC
DRAWN KLC

SHT 2 OF 6



DEVELOPED ELEVATION - FACE OF TURNOUT WALL

SCALE: 1" = 20'



TYPICAL SECTION - TURNOUT WALL

SCALE: 1" = 5'

WELDED WIRE WALL PARAMETERS

Height of Wall (H) ft	Length of Cap & Prongless Mats (B_1) ft	Base Length of Mats (B_2) ft
≤12	9	8.75
14	11	10.5

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

Finish: Commercial Galvanized - 75 Year Service Life

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ELEVATION VIEW

PROJECT 11-063
DATE 9-12-11
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DRAWN KLC

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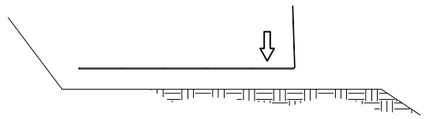
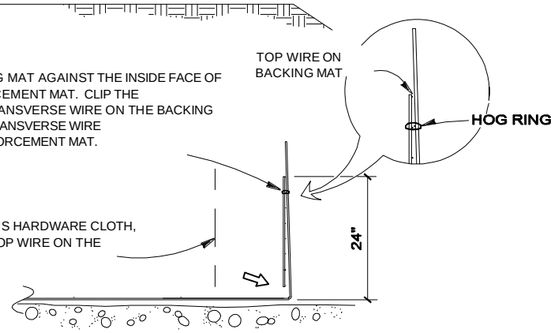
STEP 1

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



STEP 2

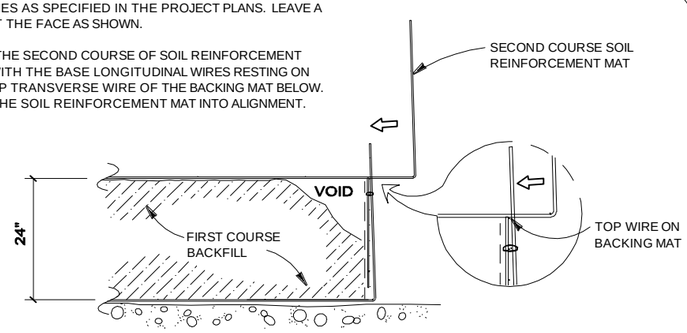
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 3

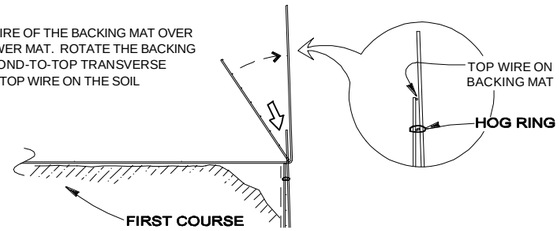
PLACE AND COMPACT THE BACKFILL IN LAYERS AND DENSITIES AS SPECIFIED IN THE PROJECT PLANS. LEAVE A VOID AT THE FACE AS SHOWN.

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.



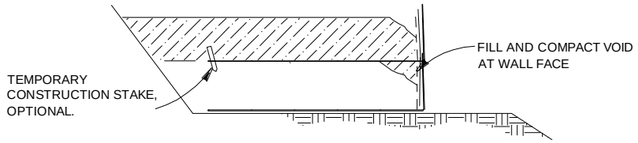
STEP 4

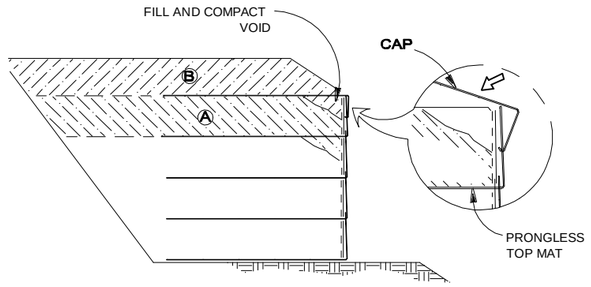
HOOK THE BOTTOM TRANSVERSE WIRE OF THE BACKING MAT OVER THE VERTICAL PRONGS ON THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 5

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



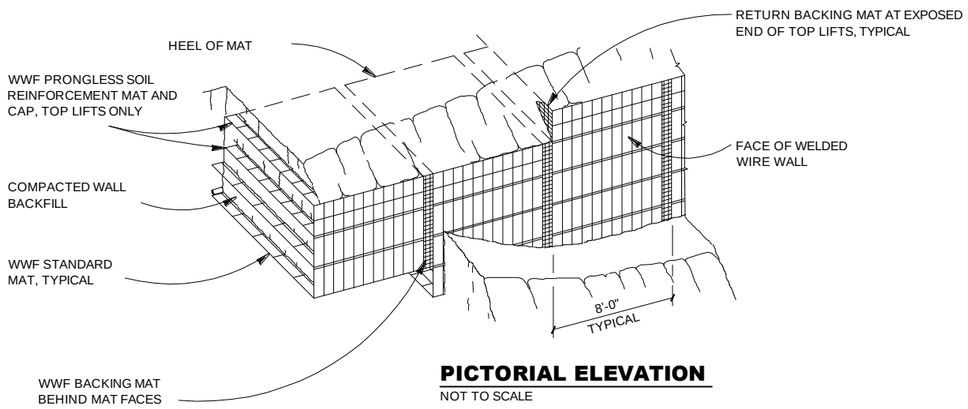


STEP 6: TOP LIFT

PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND CONTINUOUS HARDWARE CLOTH. 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.

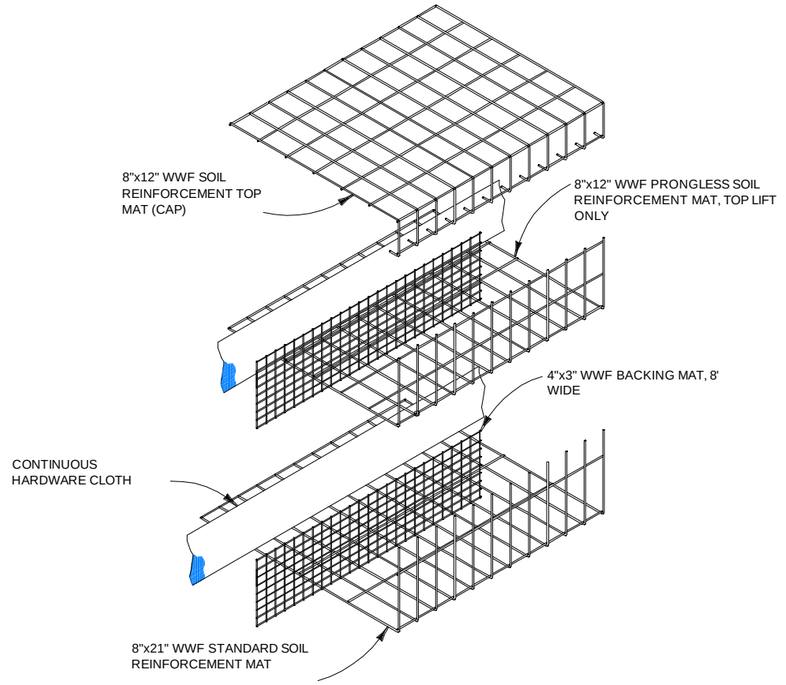
CONSTRUCTION SEQUENCE

NOT TO SCALE



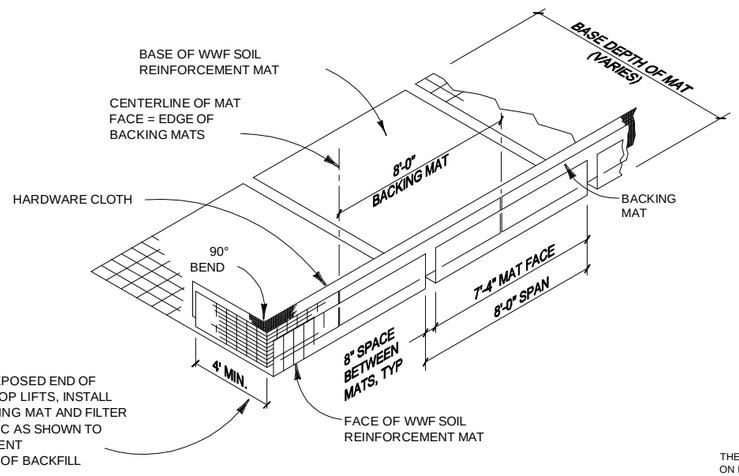
PICTORIAL ELEVATION

NOT TO SCALE



WALL COMPONENTS

NOT TO SCALE



ISOMETRIC VIEW

WELDED WIRE WALL COMPONENTS WITH RETURN MAT

NOT TO SCALE

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CHALK HILL ROAD
HARTMAN/ O'BRIEN RESIDENCE
Healdsburg, CA

WALL DETAILS

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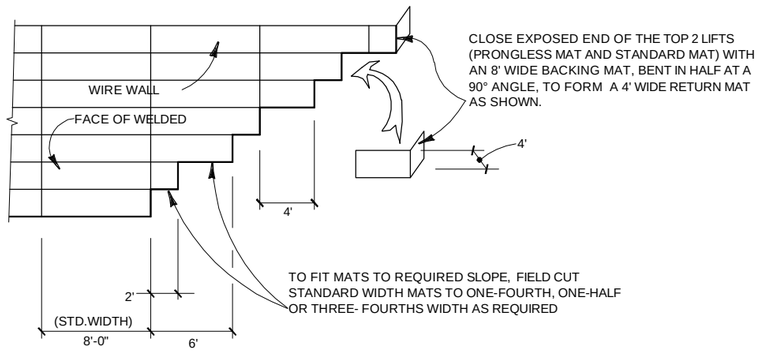
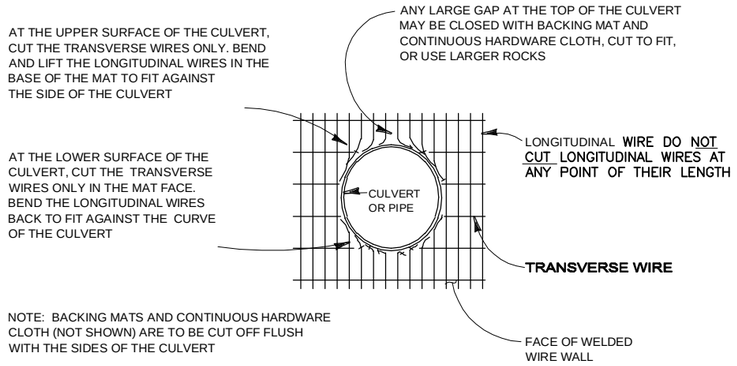


PICTORIAL ELEVATION

PARTIAL MAT DETAILS

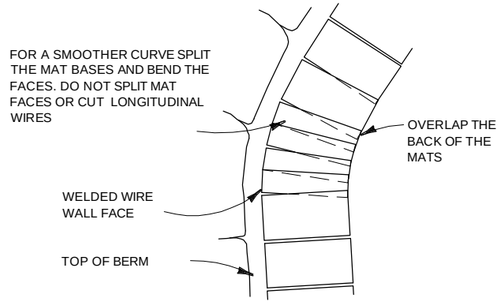
NOT TO SCALE



ELEVATION

CULVERT THRU WALL FACE

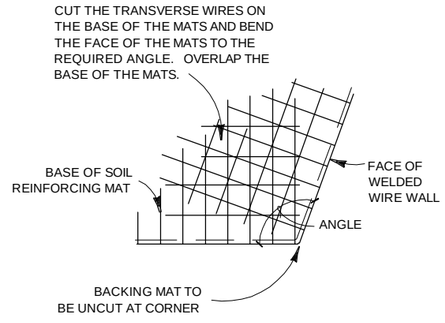
NOT TO SCALE



PLAN VIEW

CONVEX CURVE

NOT TO SCALE



PLAN VIEW

OBTUSE CONVEX ANGLE

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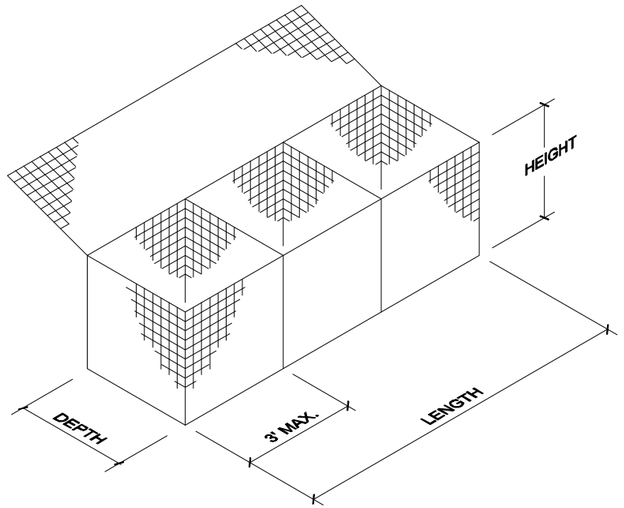
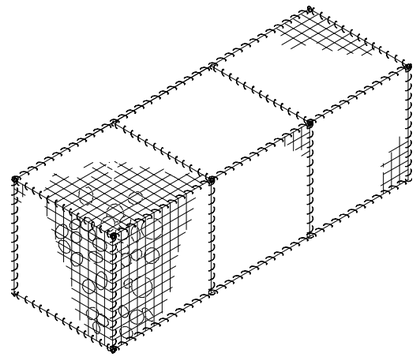


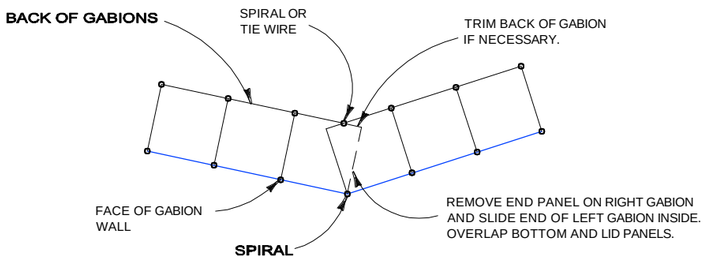
TYPICAL GABION

NOT TO SCALE



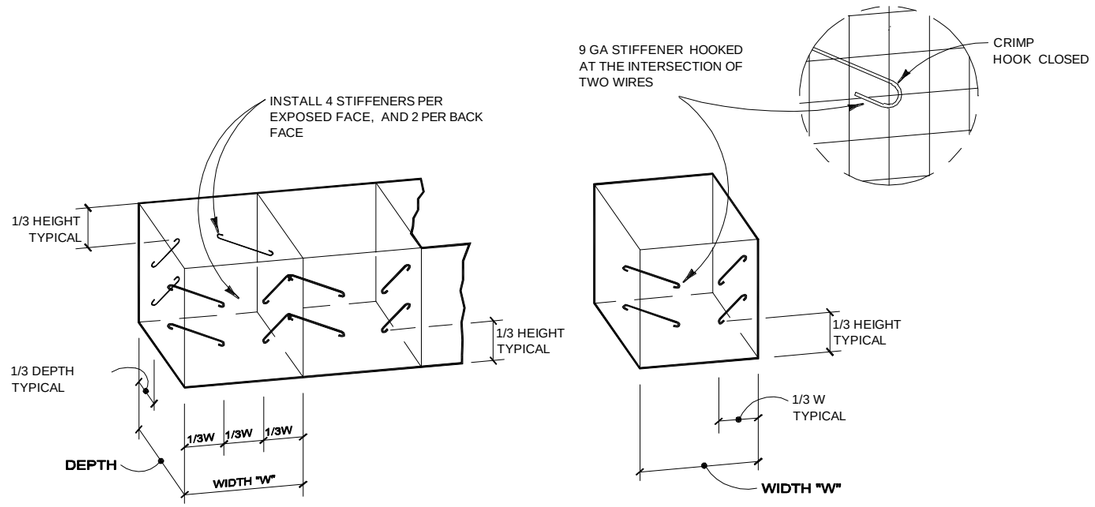
TYPICAL ASSEMBLED GABION

NOT TO SCALE



PLAN VIEW

CONCAVE ANGLE



END CELLS *EXPOSED FACES*

WHERE HEIGHT OF GABION IS 18" OR LESS, INSTALL 2 STIFFENERS PER FACE WHERE HEIGHT IS 12", NO STIFFENERS REQUIRED

STIFFENER DETAILS

NOT TO SCALE

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