

GENERAL NOTES

1. DESIGN IS BASED ON THE ASSUMPTION THAT BACKFILL WITHIN THE REINFORCED SOIL MASS, METHODS OF CONSTRUCTION AND THE QUALITY OF MATERIALS CONFORM TO THE THE REQUIREMENTS OF HILFIKER RETAINING WALLS.

2. ASSUMED MATERIAL CHARACTERISTICS:

WALL BACKFILL (CONTRACTOR TO VERIFY BY TEST):

TOTAL UNIT WEIGHT: 130 PCFINTERNAL FRICTION ANGLE: 34° (ASTM D3080)COHESION: 0 PSF

RETAINED BACKFILL:

TOTAL UNIT WEIGHT: 125 PCFINTERNAL FRICTION ANGLE: 32°COHESION: 0 PSF

FOUNDATION SOILS:

TOTAL UNIT WEIGHT: 115 PCFINTERNAL FRICTION ANGLE: 28°COHESION: 0 PSF

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.

3. 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.

4. SURFACE 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.

5. 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.

6. THIS DESIGN SUBMITTAL IS BASED ON ASTM A1115 – STANDARD PRACTICE FOR CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS WITH INEXTENSIBLE SOIL REINFORCEMENT (LATEST APPROVAL).

7. THIS SUBMITTAL INCLUDES PERMANENT MSE WALLS . PERMANENT MSE WALLS ARE DESIGNED FOR 75 YEARS OF SERVICE. THE OWNER IS BENEWAH COUNTY.

8. 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

8. HILFIKER RETAINING WALLS (800–762–8962) IS THE "WALL SUPPLIER" WHOSE SYSTEM AND COMPONENTS ARE THE SOLE BASIS OF THIS SUBMITTAL.

9. 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.

10. 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. SCOUR COUNTERMEASURES ALONG THE TOE

C. EROSION COUNTERMEASURES AT THE ENDS

D. SURFACE WATER DRAINAGE CONTROLS ABOVE THE WALL

E. CONSTRUCTION OF THE SUPPLIED MSEW SYSTEM WITH ALL OF ITS APPURTENANT COMPONENTS

F. PROTECTION OF REINFORCEMENT, SUCH THAT UNAUTHORIZED CUTTING OF WIRES DOES NOT OCCUR

11. HEAVY CRANES OR SIMILAR HEAVY LOADS SHALL BE SET BACK A MINIMUM DISTANCE EQUAL TO THE WALL HEIGHT FROM THE WALL FACE (EXAMPLE: 14–FOOT SET BACK FROM A 14–FOOT–HIGH WALL). DO NOT STOCKPILE SOIL ON THE MSE WALLS.

12. IF THERE ARE BOTTOM OF WALL ELEVATION DISCREPANCIES, NOTIFY THE ENGINEER SO THAT REDESIGN CAN BE CONSIDERED.
-
- VICINITY MAP
- NOT TO SCALE
- | SUPPLIED REINFORCEMENT QUANTITIES | | | | |
|-----------------------------------|--------------------------|--------------------------------|---------------------------------|---|
| BASE LENGTH | CAP MAT W7XW3.5 (8"X12") | PRONGLESS MAT W7XW3.5 (8"X12") | STANDARD MAT W7XW3.5 (8"X10.5") | STARTER INVERTED CAP MATS TO CULVERT FACE W7XW3.5 (8X12") |
| 15' | 8 | 8 | | |
| 14' | | | 44 | |
| 13' | 1 | 1 | | |
| 12.25' | | | 5 | |
| 11' | 5 | 5 | | |
| 10.5' | | | 18 | |
| 9' | 7 | 7 | | |
| 8.75' | | | 8 | |
| 5' | | | | 12 |
- | | |
|----------------------------|----------|
| WALL FACE SUPPLIED | 1,536 SF |
| BACKING MATS (2'–0" HIGH) | 113 EA |
| FILTER FABRIC (7'–6" WIDE) | 904 LF |
| HOG RINGS | 2,400 EA |
| PLIERS | 2 EA |
- 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.

REV.	DATE	BY	DESCRIPTION
0	11/4/2022	RGV	ISSUED FOR HILFIKER REVIEW
1	11/12/2022	RGV	ISSUED FOR REVIEW

CADD: RGV

DESIGNED: RGV

CHECKED: SGC

HILFIKER RETAINING WALLS



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NOTES, VICINITY, QUANTITIES

WW WALLS

SLAUGHTER HOUSE BRIDGE

BENEWAH COUNTY, ID

DWG DATE: 12 NOV 2022

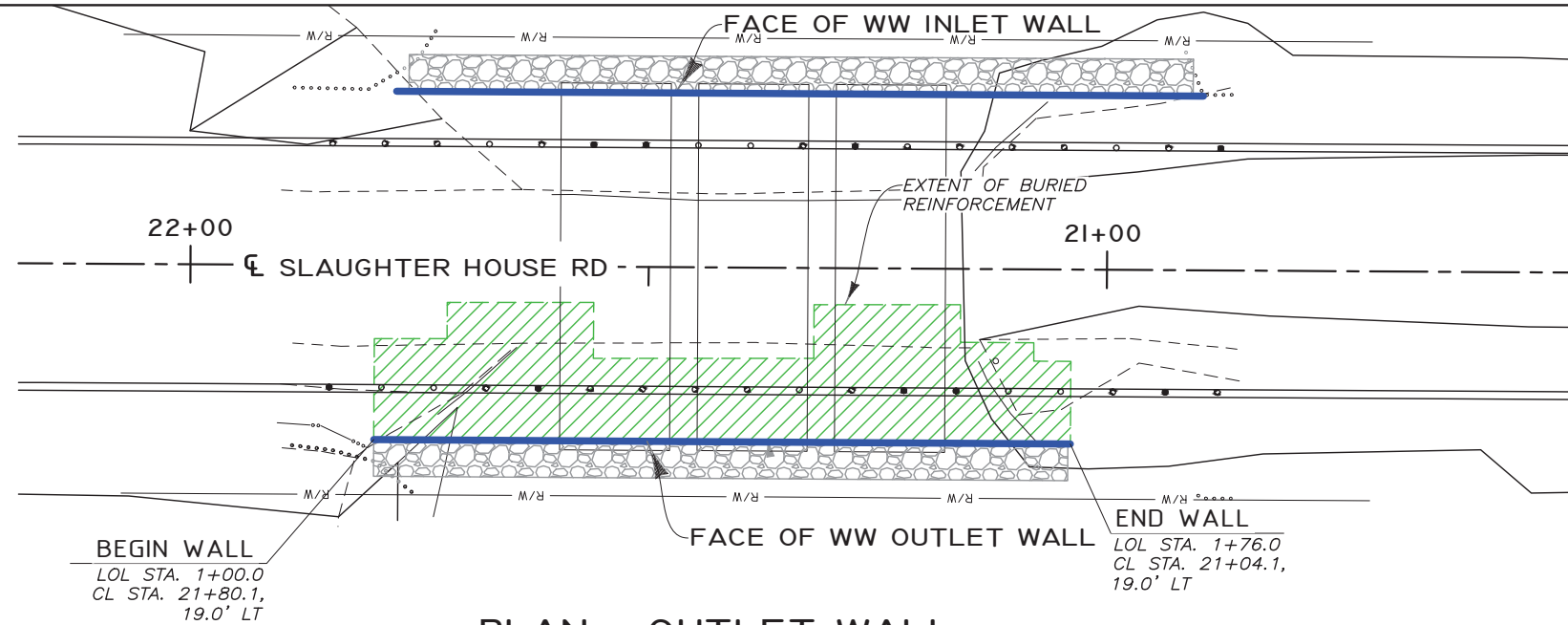
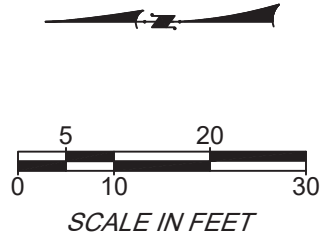
HRW NO.: 220627AW

SHEET 1 OF 6

110434 Slaughter House Bridge MSE Wall PREPARED 11-04-2022.dwg

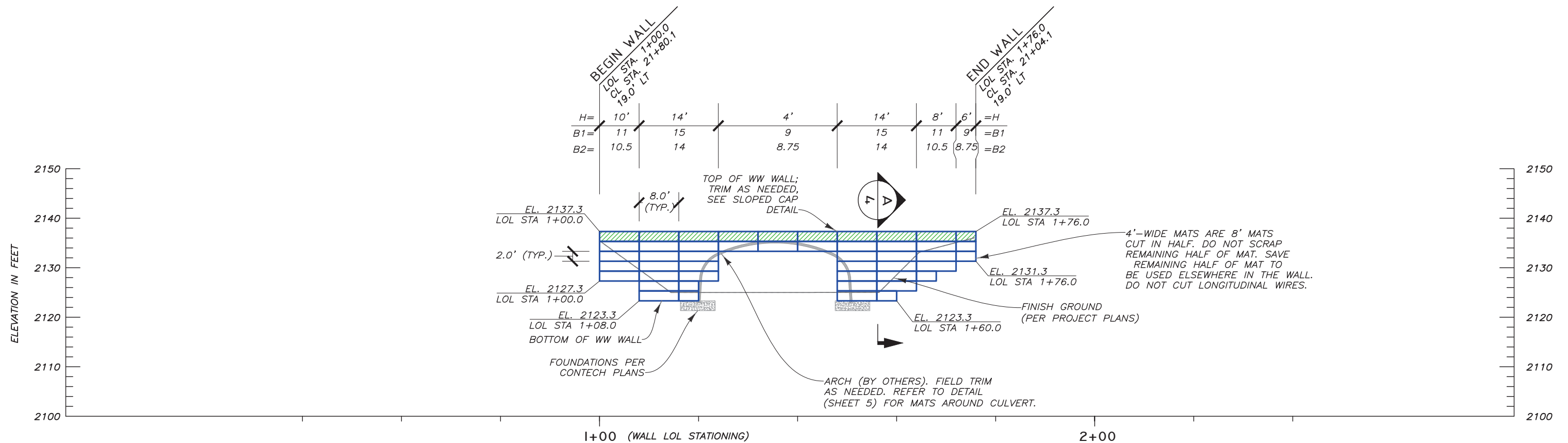
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RGV



PLAN - OUTLET WALL

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)
			B	MAT LENGTH (FT)
			WW	WELDED WIRE

DEVELOPED ELEVATION - OUTLET WALL (FRONT FACE)

GRAPHIC SCALE

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PLAN & ELEVATION
WW WALLS
SLAUGHTER HOUSE BRIDGE
BENEWAH COUNTY, ID

DWG DATE: 12 NOV 2022
HRW NO.: 220627AW
SHEET 2 OF 6

PROFESSIONAL ENGINEER

11/12/2022

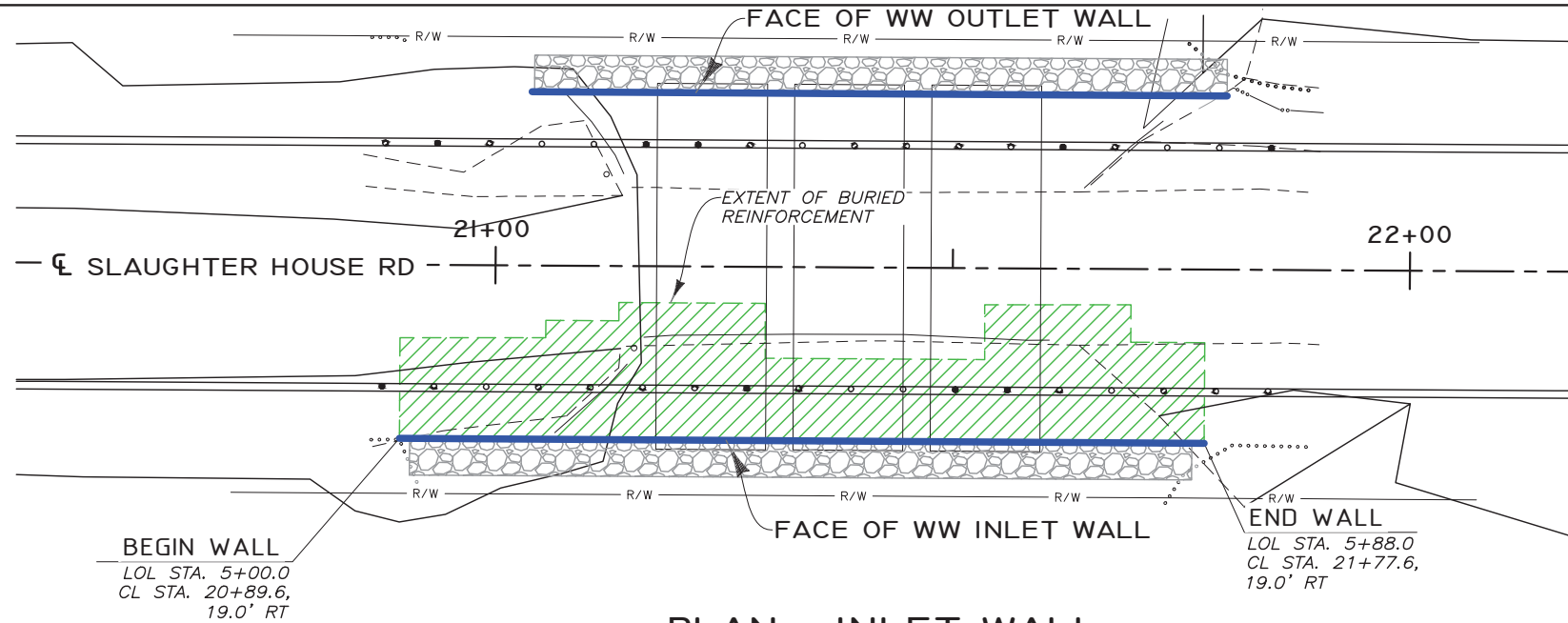
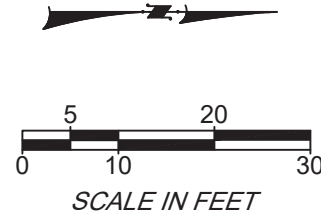
15993

AN G. VAN LEUVEN

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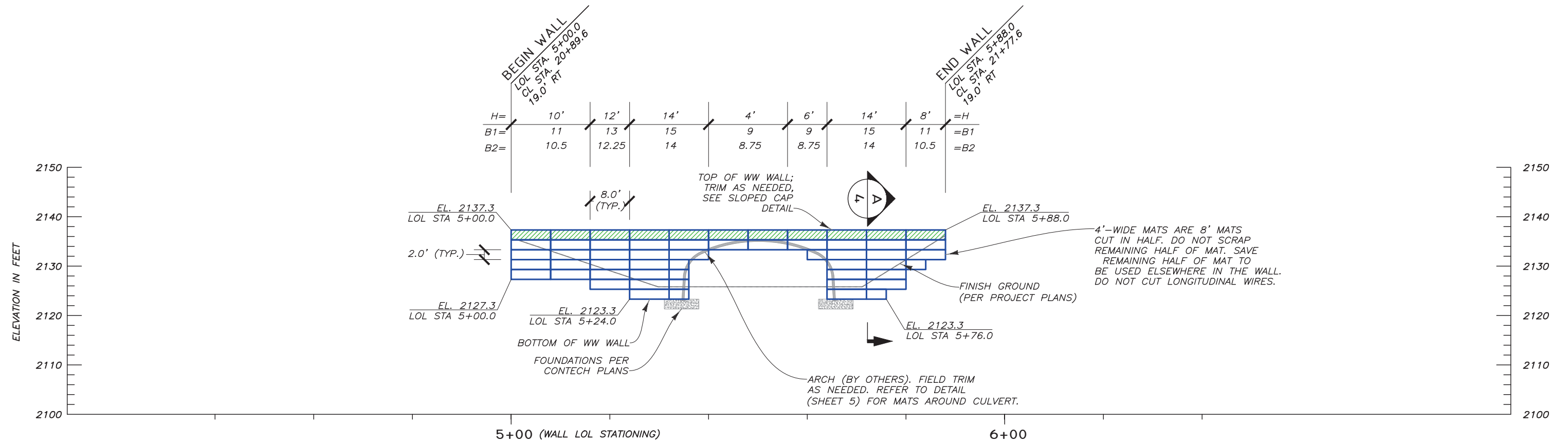
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RGV



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GRAPHIC SCALE



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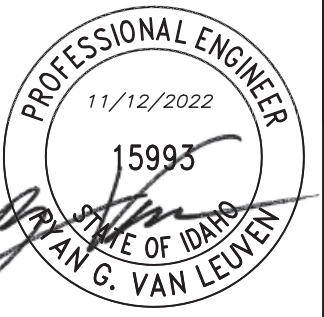
PLAN & ELEVATION

WW WALLS

SLAUGHTER HOUSE BRIDGE

BENEWAH COUNTY, ID

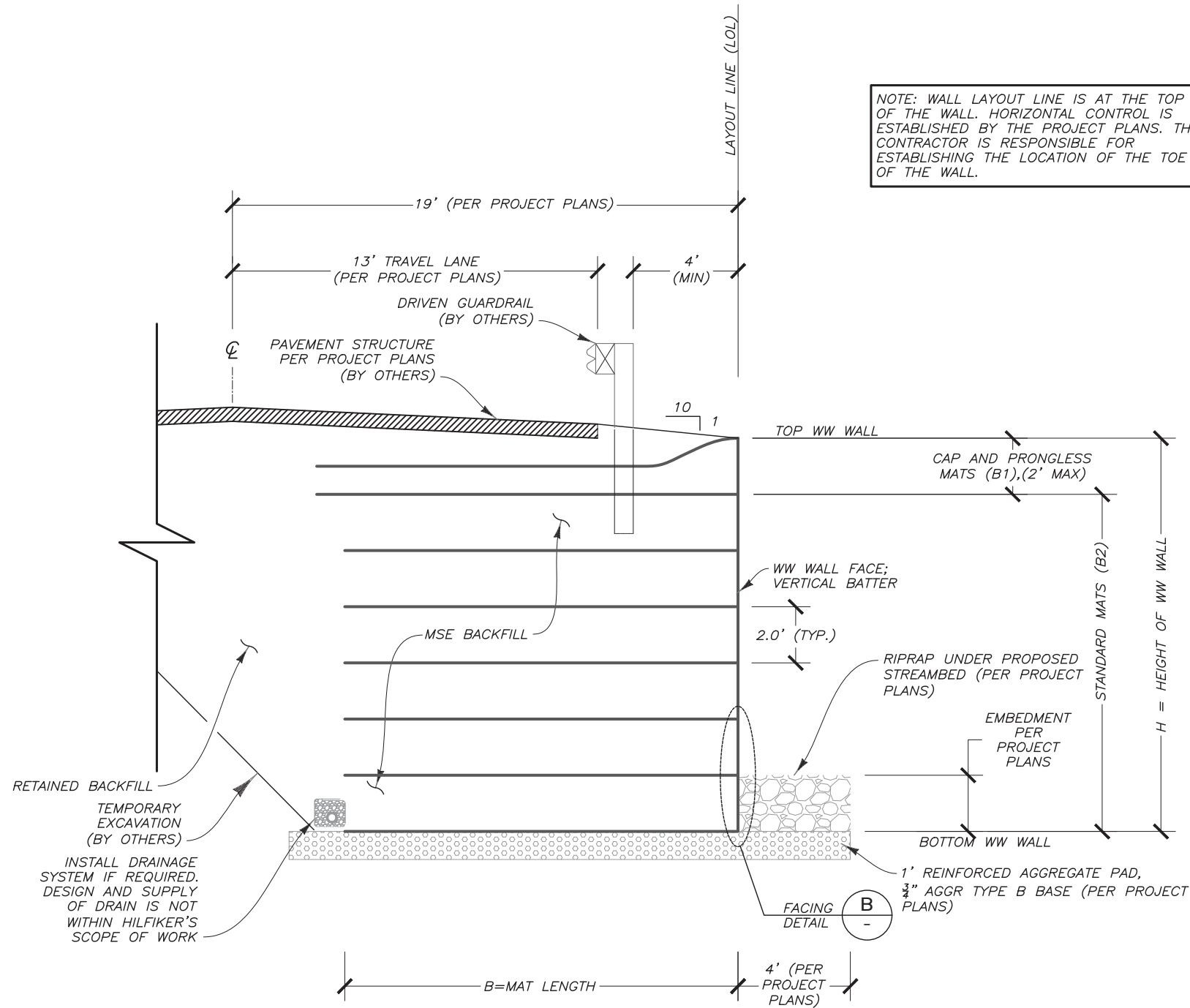
DWG DATE:	12 NOV 2022
HRW NO.:	220627AW
SHEET	3
OF	6



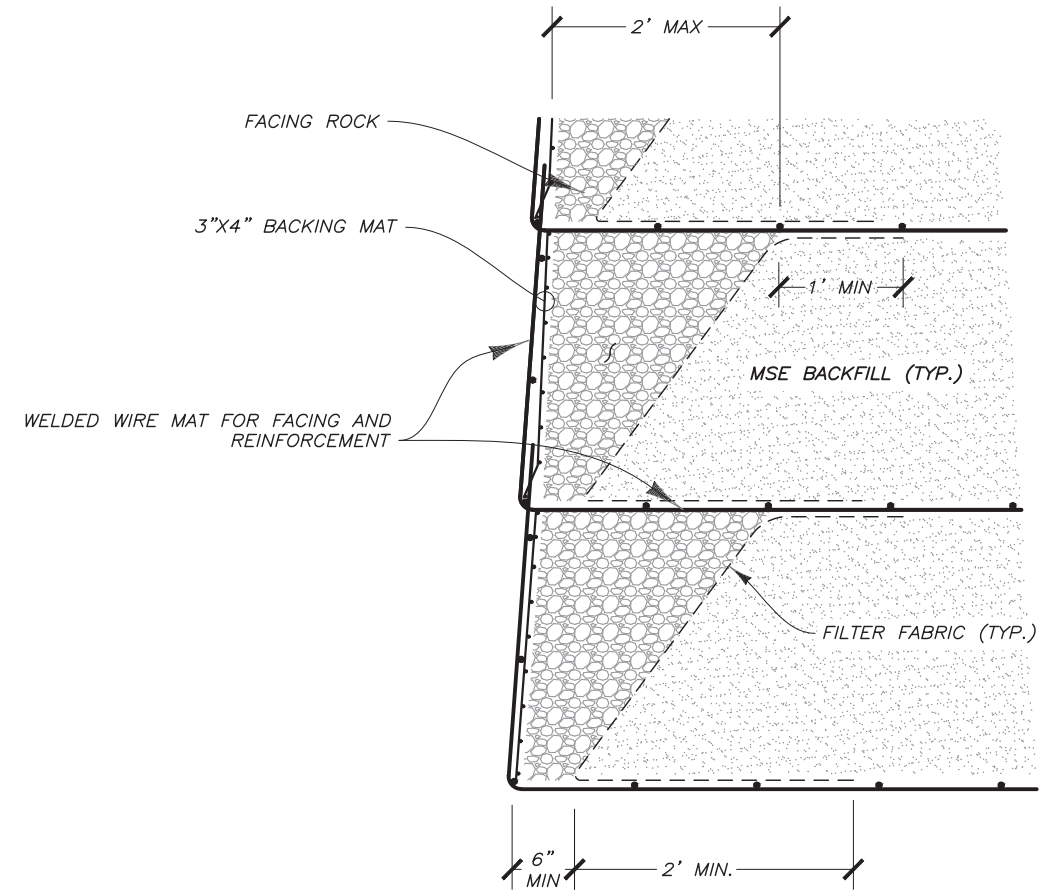
110434 Slaughter House Bridge MSE Walls PREPARED 11-04-2022.dwg

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RGV



TYPICAL SECTION A
NOT TO SCALE



FACING DETAIL B
NOT TO SCALE

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HILFIKER RETAINING WALLS

HW

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1902

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SECTION & DETAIL
WW WALLS
SLAUGHTER HOUSE BRIDGE
BENEWAH COUNTY, ID

DWG DATE: 12 NOV 2022
HRW NO.: 220627AW
SHEET 4 OF 6

PROFESSIONAL ENGINEER
11/12/2022
15993
STATE OF IDAHO
G. VAN LEUVEN

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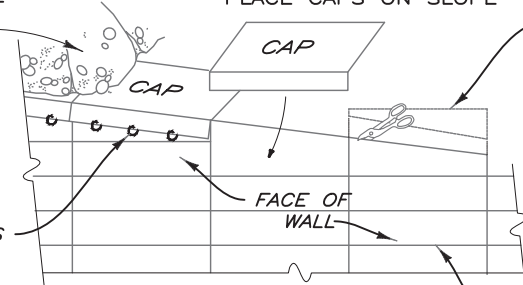
RGV

STEP 4
PLACE AND COMPACT
BACKFILL OVER THE
SLOPED CAPS TO
FINAL GRADE

STEP 2
PLACE CAPS ON SLOPE

STEP 1
CUT OFF TOP OF THE
MAT FACES, BACKING
MATS AND FILTER
FABRIC PARALLEL TO
FINAL GRADE

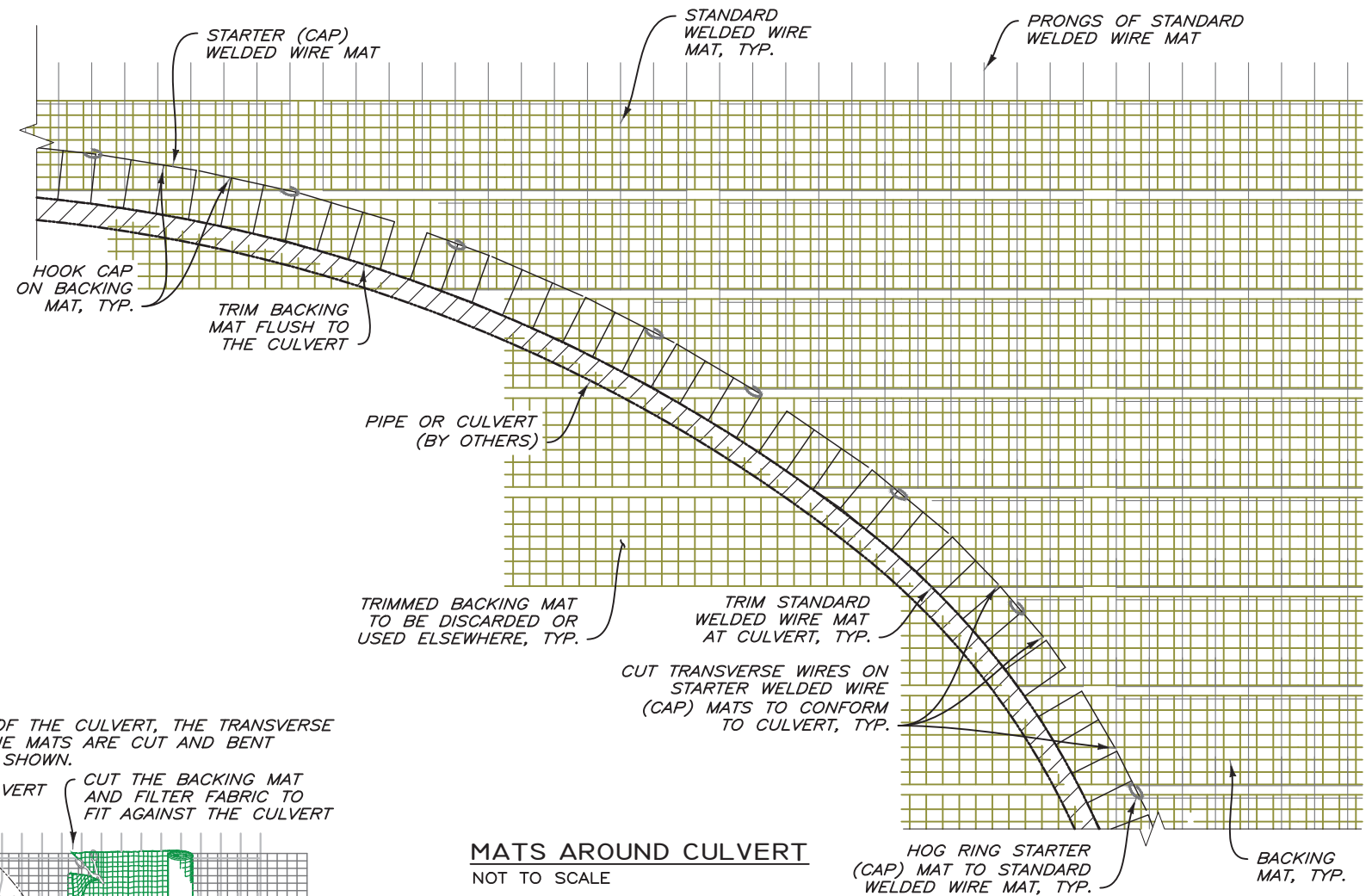
NOTE: USE 3' BACKING
MATS WHEN NECESSARY
TO AVOID TRIMMING
PRONGLESS MAT IN
EXCESS OF 12" VERTICAL



PICTORIAL ELEVATION

SLOPED CAP MAT DETAIL
NOT TO SCALE

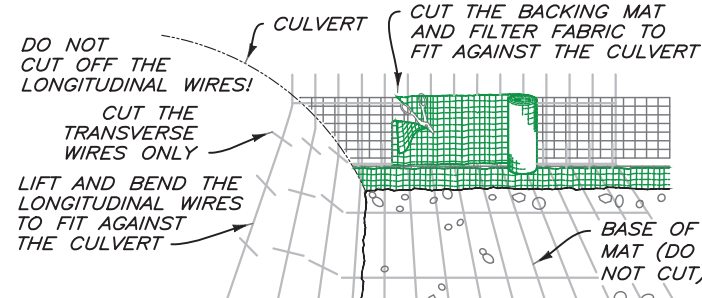
HORIZONTAL MATS



MATS AROUND CULVERT
NOT TO SCALE

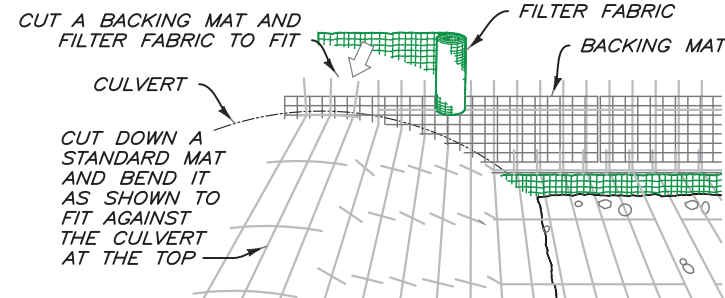
STEP 1

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.

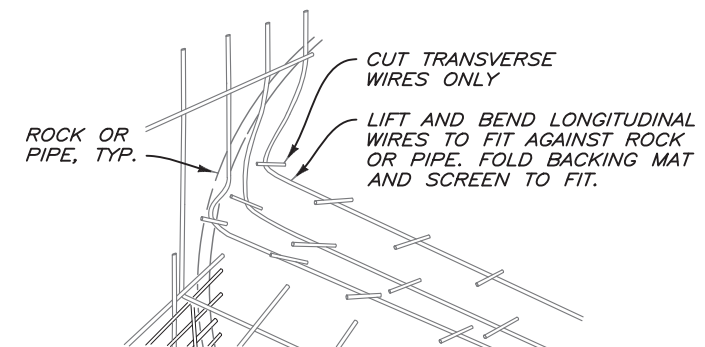


STEP 2

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



CULVERT THROUGH WALL DETAILS
NOT TO SCALE



FITTING MATS TO OBSTRUCTION
NOT TO SCALE

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HW

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SINCE 1902
QUALITY

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DETAILS
WW WALLS
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OF	6

PROFESSIONAL ENGINEER

11/12/2022

15993

STATE OF IDAHO

RYAN G. VAN LEUVEN

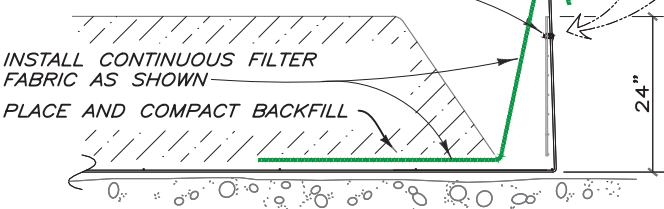
STEP 1

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



STEP 2

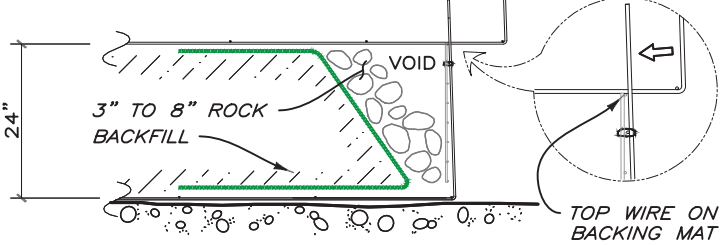
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 3

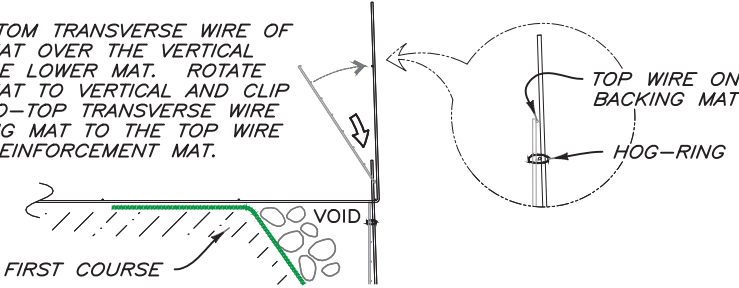
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE THE ROCK IN THE FACE OF THE WALL. LEAVE A VOID AS SHOWN.

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.



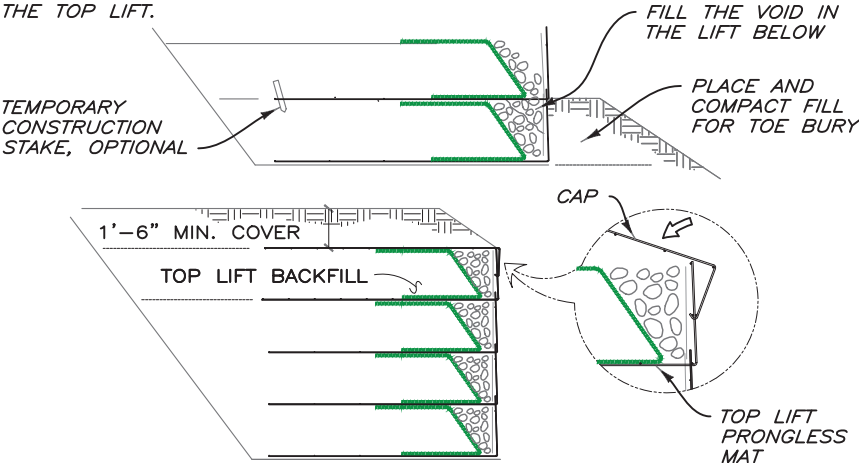
STEP 4

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

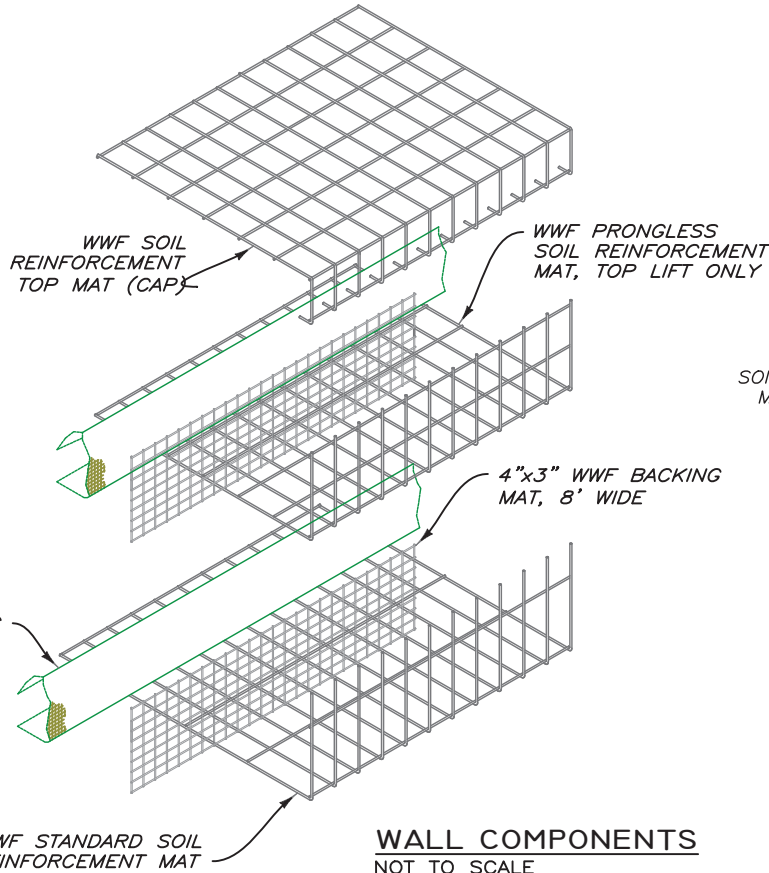
INSTALL THE FILTER FABRIC AS IN STEPS 2 AND 3. PLACE AND COMPACT THE BACKFILL AND ROCK TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 2 THROUGH 5 TO THE TOP LIFT.



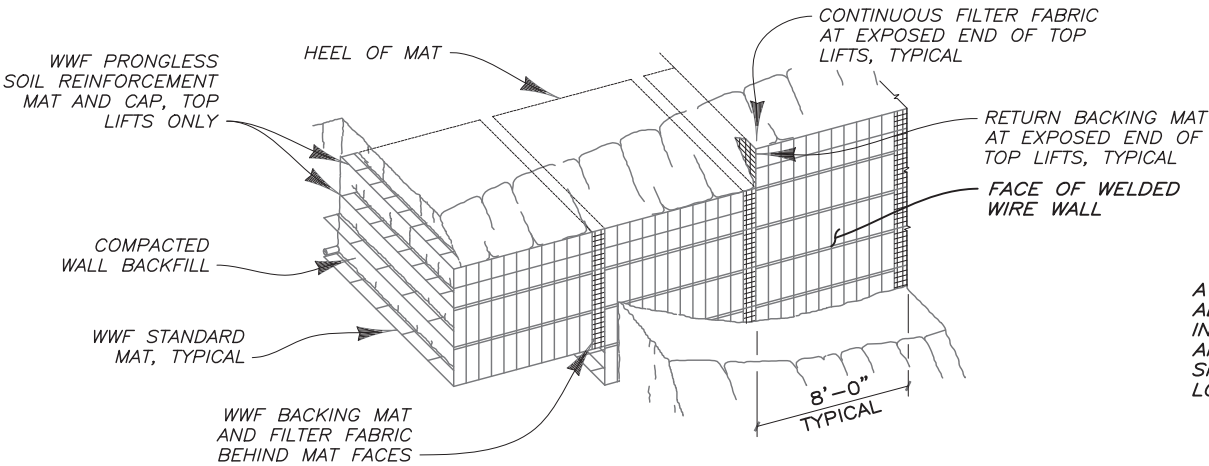
STEP 6: TOP LIFT

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.

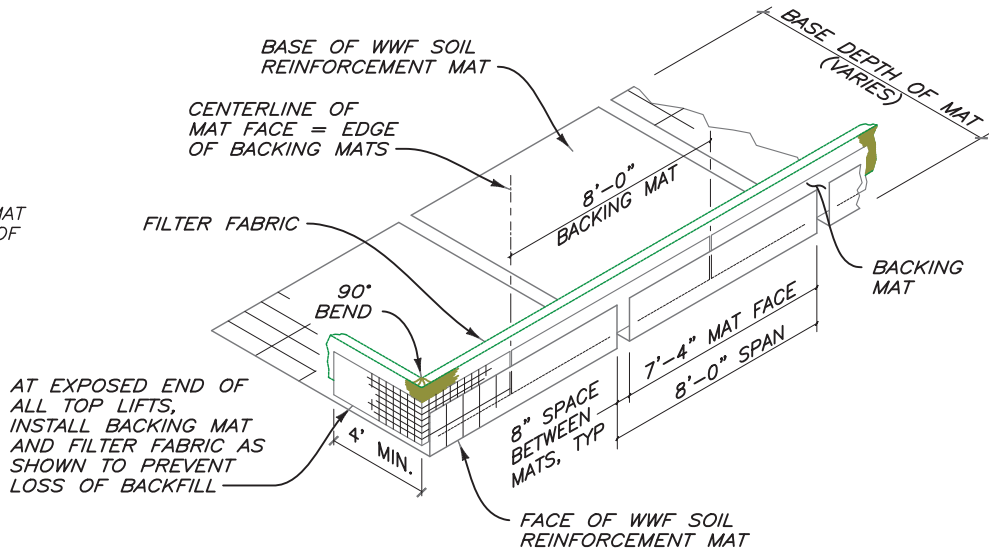
CONSTRUCTION SEQUENCE
NOT TO SCALE



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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