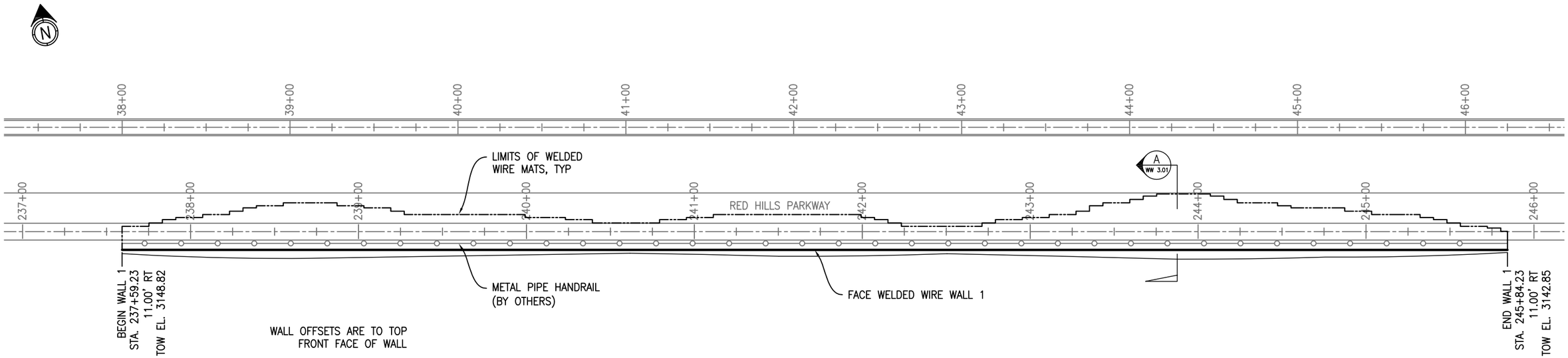
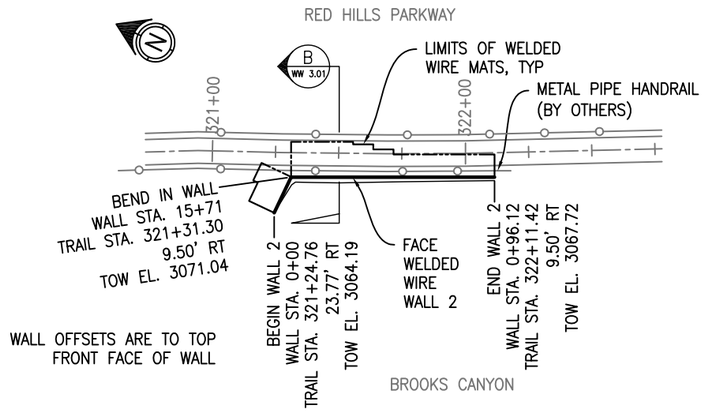


PLAN VIEW
WALL 1

0 60

SCALE: 1"=60'

SHEET INDEX	
WW 1.01	PLAN VIEW – WALLS 1 & 2
WW 2.01	ELEVATION VIEW – WALL 1
WW 2.02	ELEVATION VIEW – WALL 1 (CONT'D)
WW 2.03	ELEVATION VIEW – WALL 1 (CONT'D)
WW 2.04	ELEVATION VIEW – WALL 1 (CONT'D)
WW 2.05	ELEVATION VIEW – WALL 1 (CONT'D)
WW 2.06	ELEVATION VIEW – WALL 1 (CONT'D)
WW 2.07	ELEVATION VIEW – WALL 2
WW 3.01	CROSS-SECTIONS A & B
WW 4.01	CONSTRUCTION DETAILS
WW 4.02	CONSTRUCTION DETAILS
WW 4.03	GENERAL NOTES



PLAN VIEW
WALL 2

0 60

SCALE: 1"=60'

REFERENCES:
PLANS & ELEVATIONS: UTAH DEPARTMENT OF TRANSPORTATION, RED HILLS PARKWAY, PROJ. NO. F-3190(11)0, DRG. NO. R-683A, SHEETS 2 & 3 OF 3

PROFESSIONAL ENGINEER
No. 181389
BRET A. DeBERNARDI
11-1-11
STATE OF UTAH

HRW Job No. 110811AW

GEOTECHNICAL DESIGN SYSTEMS INC.

HILFIKER RETAINING WALLS
e: Eureka, CA Phone 707/443-5093 Fax 707/443-2891

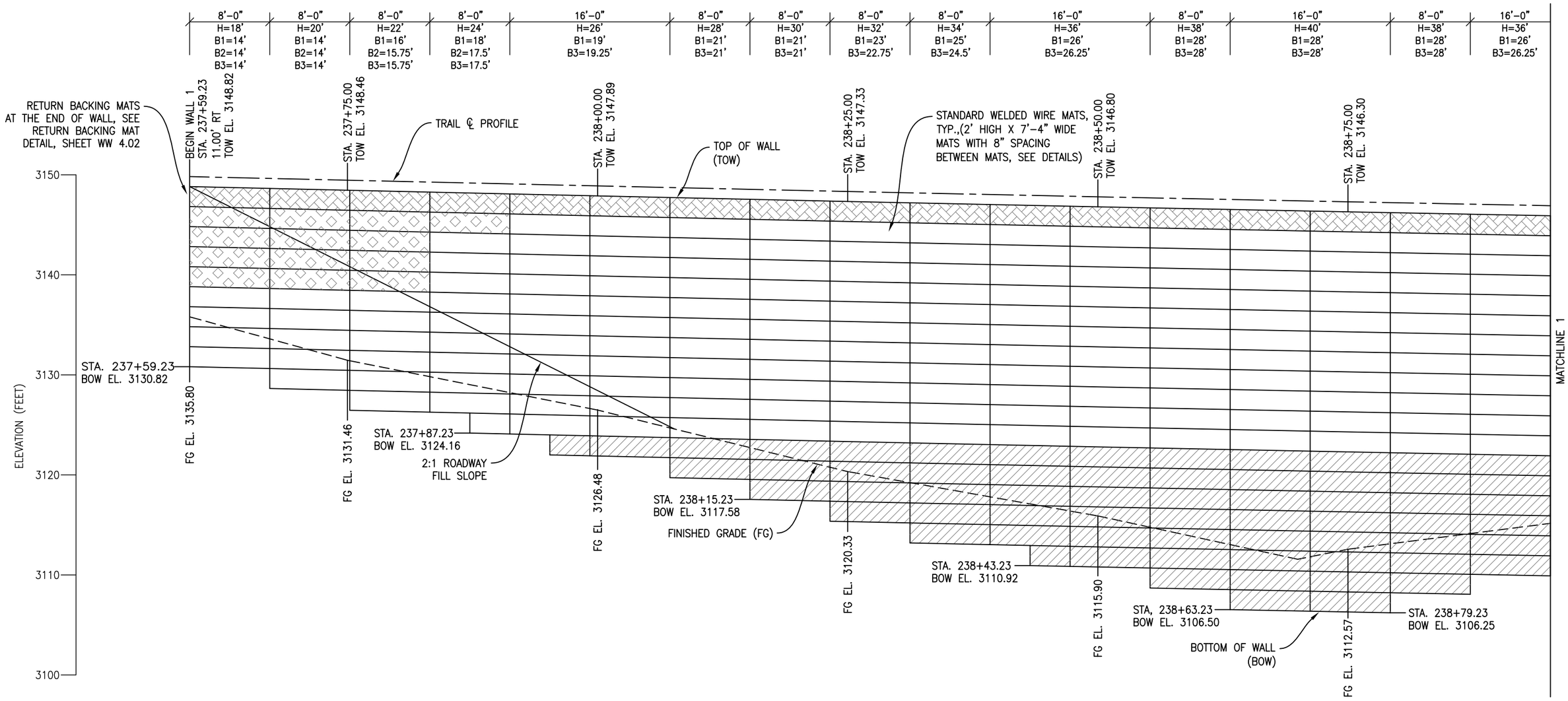
DESIGNED BY: GEOTECHNICAL DESIGN SYSTEMS INC.
865 E 4800 S, Ste. 140, Salt Lake City, Utah 84107
(801)262-1942 phone/ 262-1943 fax

DESIGN BY:	BD
DRAWN BY:	LAJ
CHKD. BY:	BD
APPR. BY:	JB
DATE:	Oct 12, 2011
CURRENT DATE:	Nov 01, 2011

REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

PLAN VIEW - WALLS 1 & 2
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42
SHEET NO: WW 1.01



H	TOTAL HEIGHT OF WALL AT EACH SEGMENT
B1	BASE LENGTH WIRE MATS, CAP AND PRONGLESS MAT & INTERMEDIATE MATS
B2 TO B3	BASE LENGTH WIRE MATS, STANDARD REINFORCING MATS
	W7.0 X 3.5 (8"X12" WIRE SPACING) CAP MAT AND PRONGLESS MATS. SEE B1 FOR MAT LENGTH
	W7.0 X 3.5 (8"X10.5" WIRE SPACING) STANDARD MATS. SEE B2 FOR MAT LENGTH
	W7.0 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W9.5 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W7.0X 4.0 (8"X21" WIRE SPACING) FLAT INTERMEDIATE MATS. SEE B3 FOR MAT LENGTH

ELEVATION VIEW
WALL 1

0 10

SCALE: 1"=10'

WALL 1: APPROXIMATELY 24,197 SQUARE FACE FEET OF WELDED WIRE WALL INSTALLED, SUPPLIED QUANTITIES MAY VARY

REFERENCES:
PLANS & ELEVATIONS: UTAH DEPARTMENT OF TRANSPORTATION, RED HILLS PARKWAY, PROJ. NO. F–3190(11)0, DRG. NO. R–683A, SHEETS 2 & 3 OF 3

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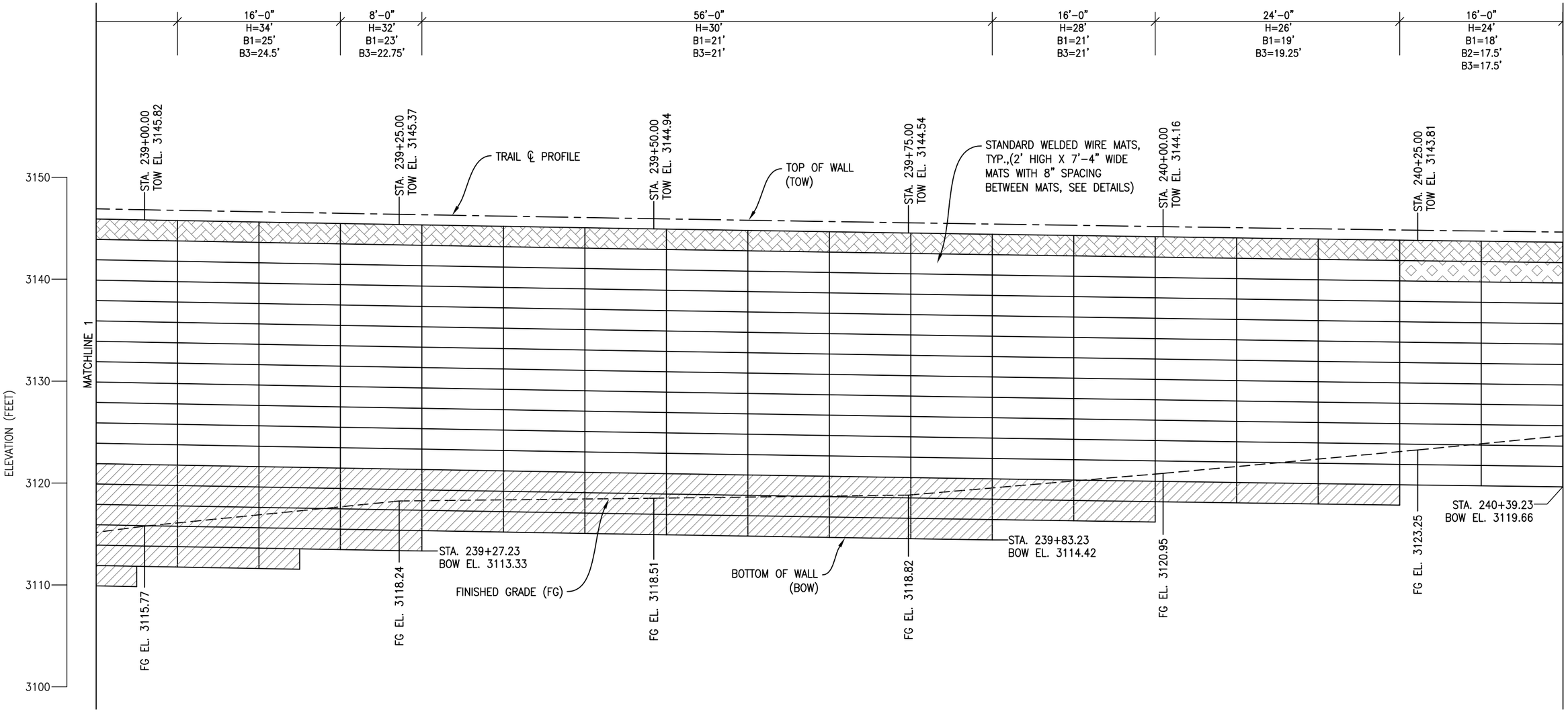
1	11.01.11	BD	Update mat sizes for available material

ELEVATION VIEW - WALL 1
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11–03–42
SHEET NO: WW 2.01



H	TOTAL HEIGHT OF WALL AT EACH SEGMENT
B1	BASE LENGTH WIRE MATS, CAP AND PRONGLESS MAT & INTERMEDIATE MATS
B2 TO B3	BASE LENGTH WIRE MATS, STANDARD REINFORCING MATS
	W7.0 X 3.5 (8"X12" WIRE SPACING) CAP MAT AND PRONGLESS MATS. SEE B1 FOR MAT LENGTH
	W7.0 X 3.5 (8"X10.5" WIRE SPACING) STANDARD MATS. SEE B2 FOR MAT LENGTH
	W7.0 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W9.5 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W7.0X 4.0 (8"X21" WIRE SPACING) FLAT INTERMEDIATE MATS. SEE B3 FOR MAT LENGTH

ELEVATION VIEW
WALL 1 (CONT'D)

0 10

SCALE: 1"=10'

WALL 1: APPROXIMATELY 24,197 SQUARE FACE FEET OF WELDED WIRE WALL INSTALLED, SUPPLIED QUANTITIES MAY VARY

REFERENCES:
PLANS & ELEVATIONS: UTAH DEPARTMENT OF TRANSPORTATION, RED HILLS PARKWAY, PROJ. NO. F-3190(11)0, DRG. NO. R-683A, SHEETS 2 & 3 OF 3

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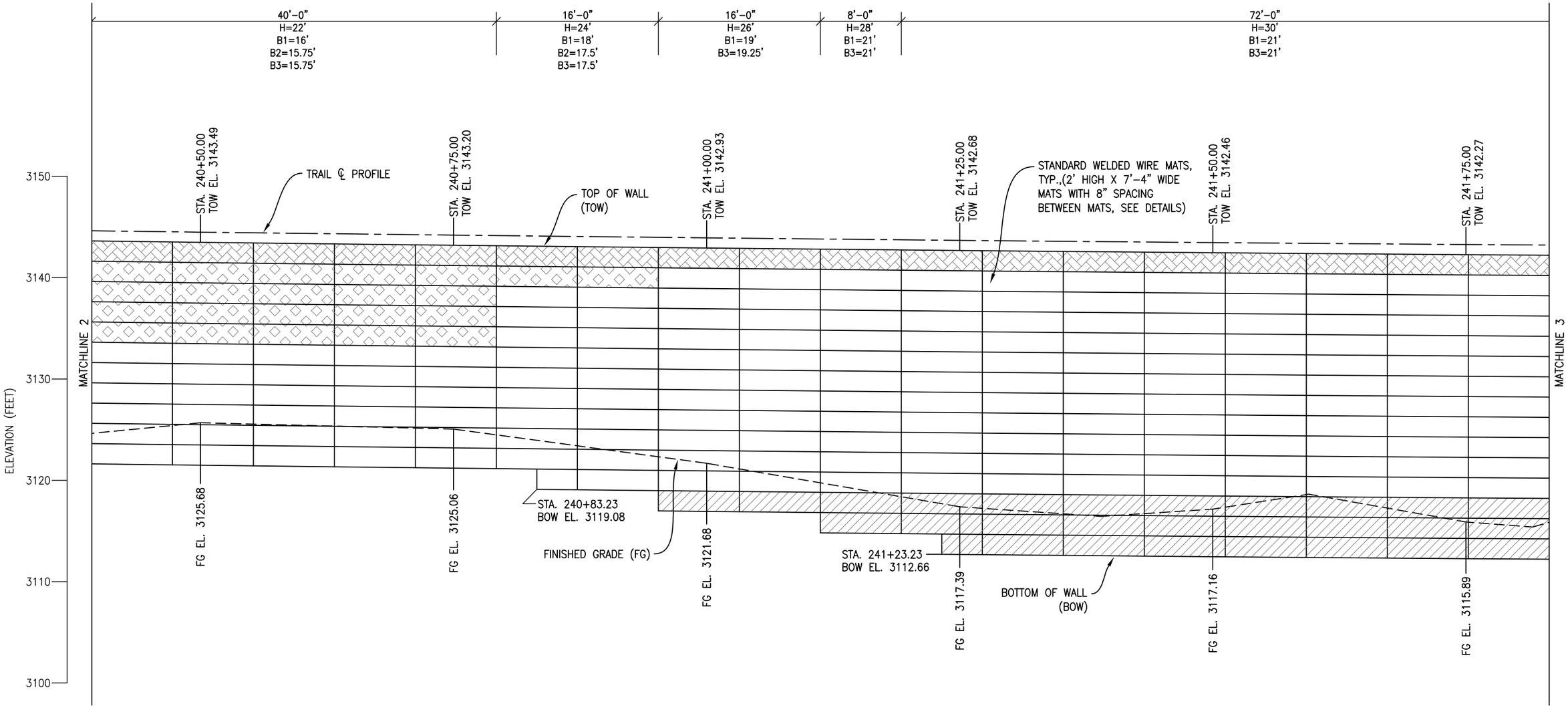
DATE:	Oct 12, 2011
CURRENT DATE:	Nov 01, 2011

REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

ELEVATION VIEW - WALL 1 (CONT'D)
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42
SHEET NO: WW 2.02



H	TOTAL HEIGHT OF WALL AT EACH SEGMENT
B1	BASE LENGTH WIRE MATS, CAP AND PRONGLESS MAT & INTERMEDIATE MATS
B2 TO B3	BASE LENGTH WIRE MATS, STANDARD REINFORCING MATS
	W7.0 X 3.5 (8"X12" WIRE SPACING) CAP MAT AND PRONGLESS MATS. SEE B1 FOR MAT LENGTH
	W7.0 X 3.5 (8"X10.5" WIRE SPACING) STANDARD MATS. SEE B2 FOR MAT LENGTH
	W7.0 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W9.5 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W7.0X 4.0 (8"X21" WIRE SPACING) FLAT INTERMEDIATE MATS. SEE B3 FOR MAT LENGTH

ELEVATION VIEW
WALL 1 (CONT'D)

0 10

SCALE: 1"=10'

WALL 1: APPROXIMATELY 24,197 SQUARE FACE FEET OF WELDED WIRE WALL INSTALLED, SUPPLIED QUANTITIES MAY VARY

REFERENCES:
PLANS & ELEVATIONS: UTAH DEPARTMENT OF TRANSPORTATION, RED HILLS PARKWAY, PROJ. NO. F-3190(11)0, DRG. NO. R-683A, SHEETS 2 & 3 OF 3

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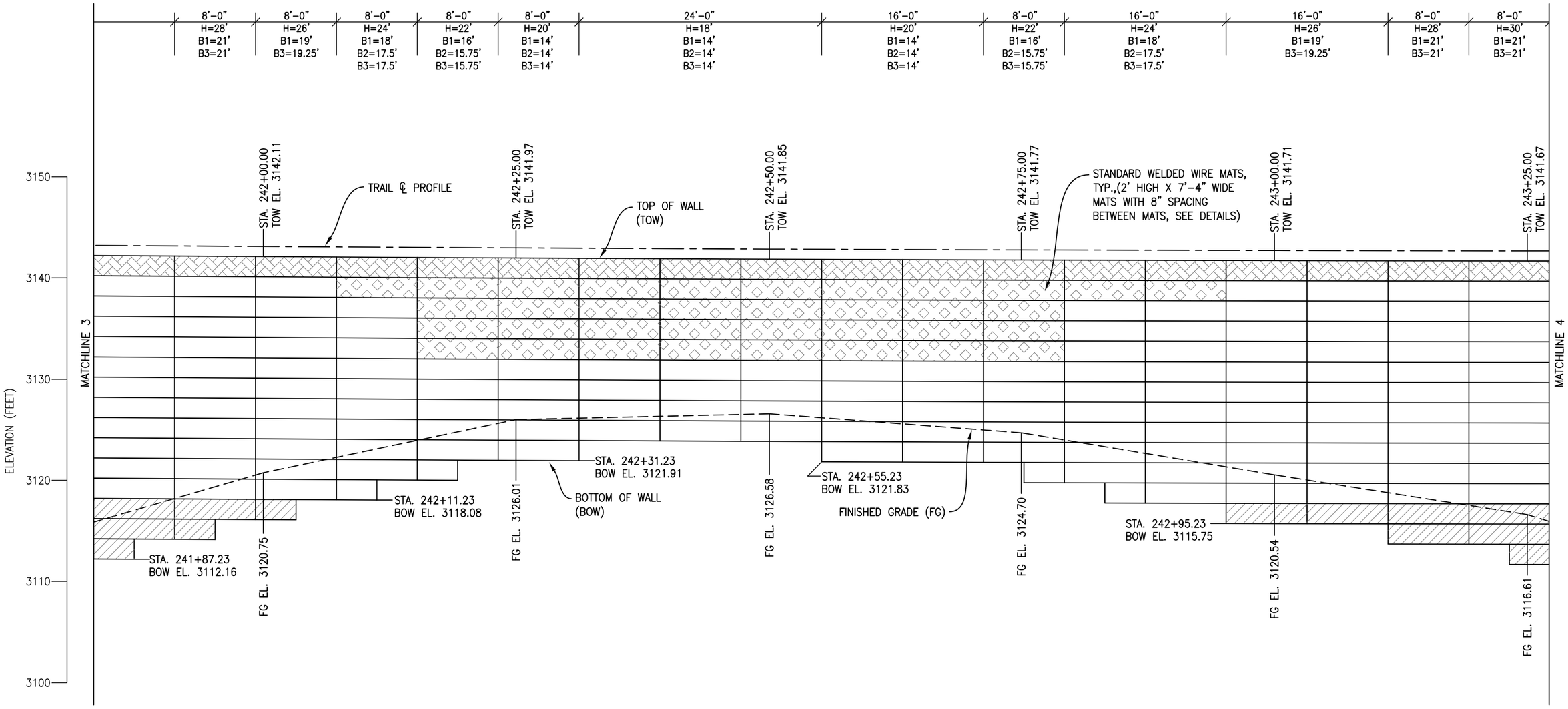
DATE:	Oct 12, 2011
CURRENT DATE:	Nov 01, 2011

REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

ELEVATION VIEW - WALL 1 (CONT'D)
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42
SHEET NO: WW 2.03



H	TOTAL HEIGHT OF WALL AT EACH SEGMENT
B1	BASE LENGTH WIRE MATS, CAP AND PRONGLESS MAT & INTERMEDIATE MATS
B2 TO B3	BASE LENGTH WIRE MATS, STANDARD REINFORCING MATS
	W7.0 X 3.5 (8"X12" WIRE SPACING) CAP MAT AND PRONGLESS MATS. SEE B1 FOR MAT LENGTH
	W7.0 X 3.5 (8"X10.5" WIRE SPACING) STANDARD MATS. SEE B2 FOR MAT LENGTH
	W7.0 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W9.5 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
——--——	W7.0X 4.0 (8"X21" WIRE SPACING) FLAT INTERMEDIATE MATS. SEE B3 FOR MAT LENGTH

ELEVATION VIEW
WALL 1 (CONT'D)

0 10
SCALE: 1"=10'

WALL 1: APPROXIMATELY 24,197 SQUARE FACE FEET OF WELDED WIRE WALL INSTALLED, SUPPLIED QUANTITIES MAY VARY

REFERENCES:
PLANS & ELEVATIONS: UTAH DEPARTMENT OF TRANSPORTATION, RED HILLS PARKWAY, PROJ. NO. F-3190(11)0, DRG. NO. R-683A, SHEETS 2 & 3 OF 3

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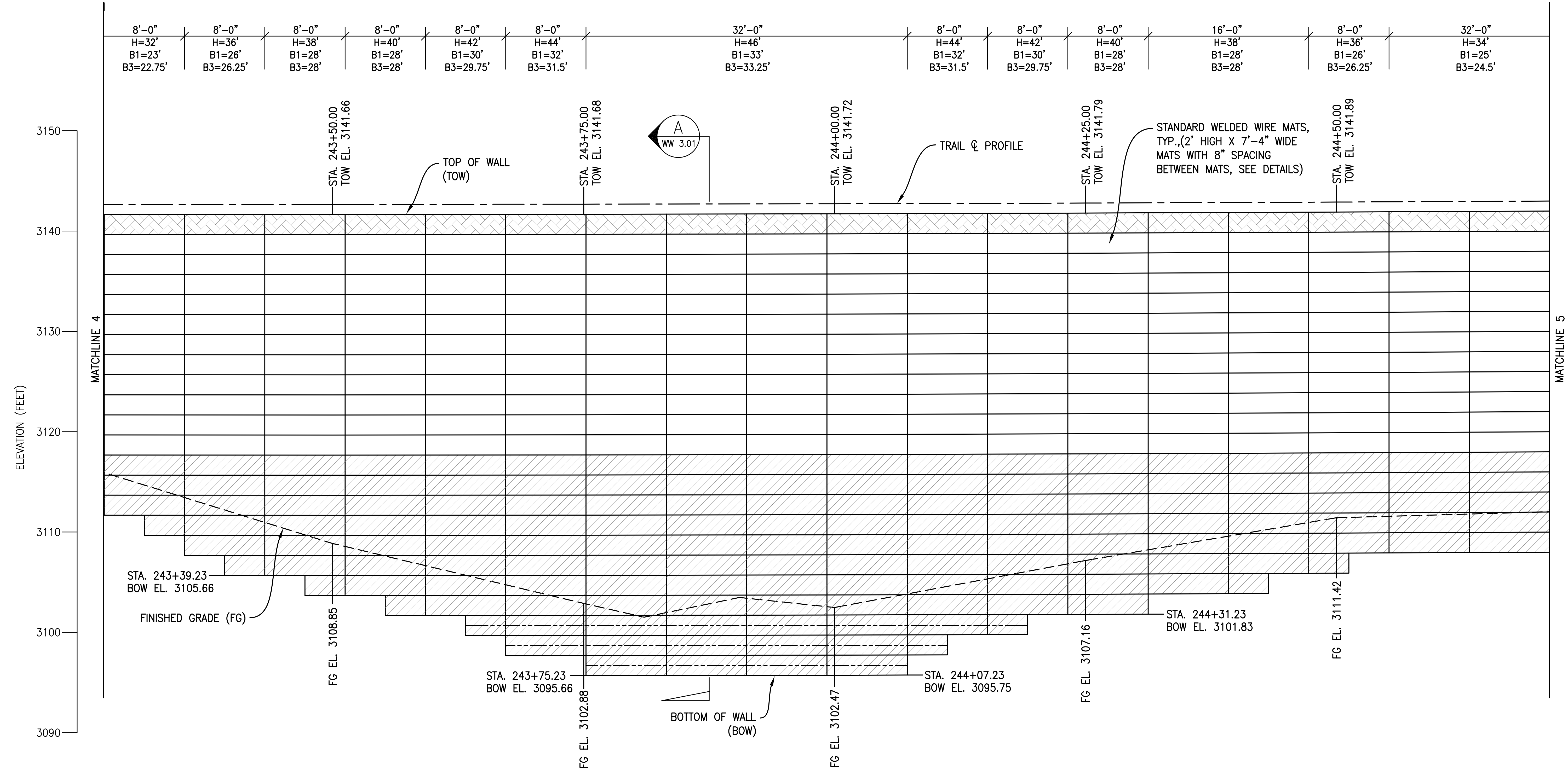
DATE:	Oct 12, 2011
CURRENT DATE:	Nov 01, 2011

REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

ELEVATION VIEW - WALL 1 (CONT'D)
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42
SHEET NO: WW 2.04

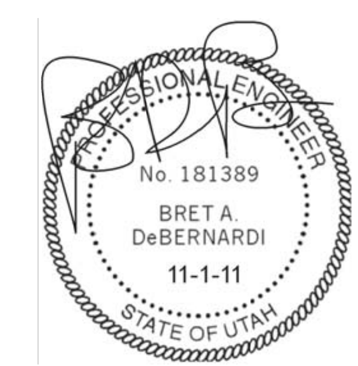


WALL 1: APPROXIMATELY 24,197 SQUARE FACE FEET OF WELDED WIRE WALL INSTALLED, SUPPLIED QUANTITIES MAY VARY

ELEVATION VIEW WALL 1 (CONT'D)

0 — 10
SCALE: 1"=10'

H	TOTAL HEIGHT OF WALL AT EACH SEGMENT
B1	BASE LENGTH WIRE MATS, CAP AND PRONGLESS MAT & INTERMEDIATE MATS
B2 TO B3	BASE LENGTH WIRE MATS, STANDARD REINFORCING MATS
(crosshatch)	W7.0 X 3.5 (8"X12" WIRE SPACING) CAP MAT AND PRONGLESS MATS. SEE B1 FOR MAT LENGTH
(diamond pattern)	W7.0 X 3.5 (8"X10.5" WIRE SPACING) STANDARD MATS. SEE B2 FOR MAT LENGTH
(blank)	W7.0 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
(hatched)	W9.5 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
(dash-dot line)	W7.0X 4.0 (8"X21" WIRE SPACING) FLAT INTERMEDIATE MATS. SEE B3 FOR MAT LENGTH



REFERENCES:
PLANS & ELEVATIONS: UTAH DEPARTMENT OF TRANSPORTATION, RED HILLS PARKWAY, PROJ. NO. F-3190(11)0, DRG. NO. R-683A, SHEETS 2 & 3 OF 3

HRW Job No. 110811AW

GEOTECHNICAL DESIGN SYSTEMS INC.

HILFIKER RETAINING WALLS, Eureka, CA Phone 707/443-5093 Fax 707/443-2891

DESIGNED BY: GEOTECHNICAL DESIGN SYSTEMS INC. 865 E 4800 S, Ste. 140, Salt Lake City, Utah 84107 (801)262-1942 phone/ 262-1943 fax

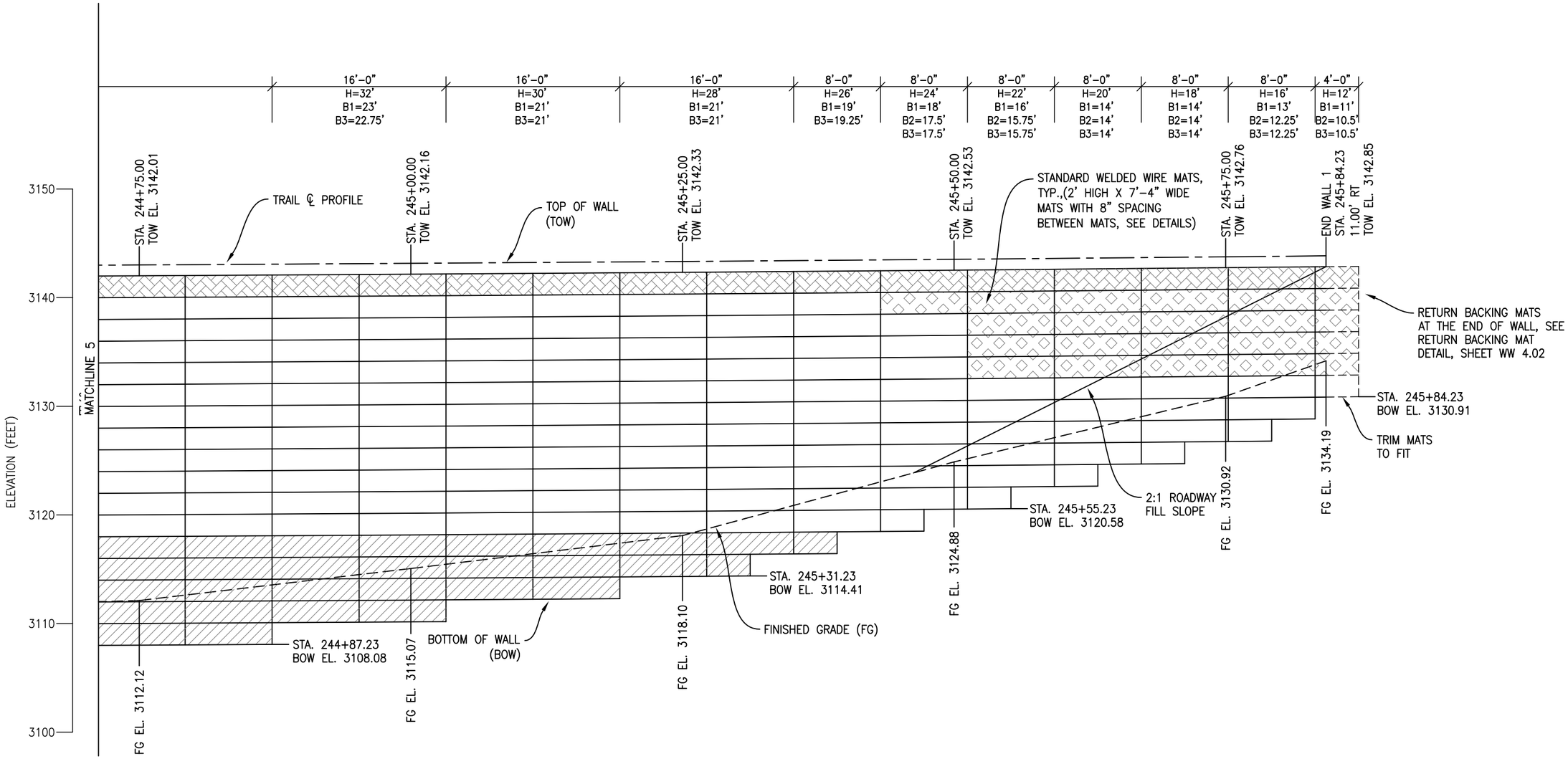
DESIGN BY:	BD	DATE:	Oct 12, 2011
DRAWN BY:	LAJ		
CHKD. BY:	BD	CURRENT DATE:	Nov 01, 2011
APPR. BY:	JB		

REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

ELEVATION VIEW - WALL 1 (CONT'D)
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42

SHEET NO: WW 2.05



H	TOTAL HEIGHT OF WALL AT EACH SEGMENT
B1	BASE LENGTH WIRE MATS, CAP AND PRONGLESS MAT & INTERMEDIATE MATS
B2 TO B3	BASE LENGTH WIRE MATS, STANDARD REINFORCING MATS
	W7.0 X 3.5 (8"X12" WIRE SPACING) CAP MAT AND PRONGLESS MATS. SEE B1 FOR MAT LENGTH
	W7.0 X 3.5 (8"X10.5" WIRE SPACING) STANDARD MATS. SEE B2 FOR MAT LENGTH
	W7.0 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W9.5 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
	W7.0X 4.0 (8"X21" WIRE SPACING) FLAT INTERMEDIATE MATS. SEE B3 FOR MAT LENGTH

ELEVATION VIEW
WALL 1 (CONT'D)

0 10
SCALE: 1"=10'

WALL 1: APPROXIMATELY 24,197 SQUARE FACE FEET OF WELDED WIRE WALL INSTALLED, SUPPLIED QUANTITIES MAY VARY

REFERENCES:
PLANS & ELEVATIONS: UTAH DEPARTMENT OF TRANSPORTATION, RED HILLS PARKWAY, PROJ. NO. F-3190(11)0, DRG. NO. R-683A, SHEETS 2 & 3 OF 3

PROFESSIONAL ENGINEER
No. 181389
BRET A. DeBERNARDI
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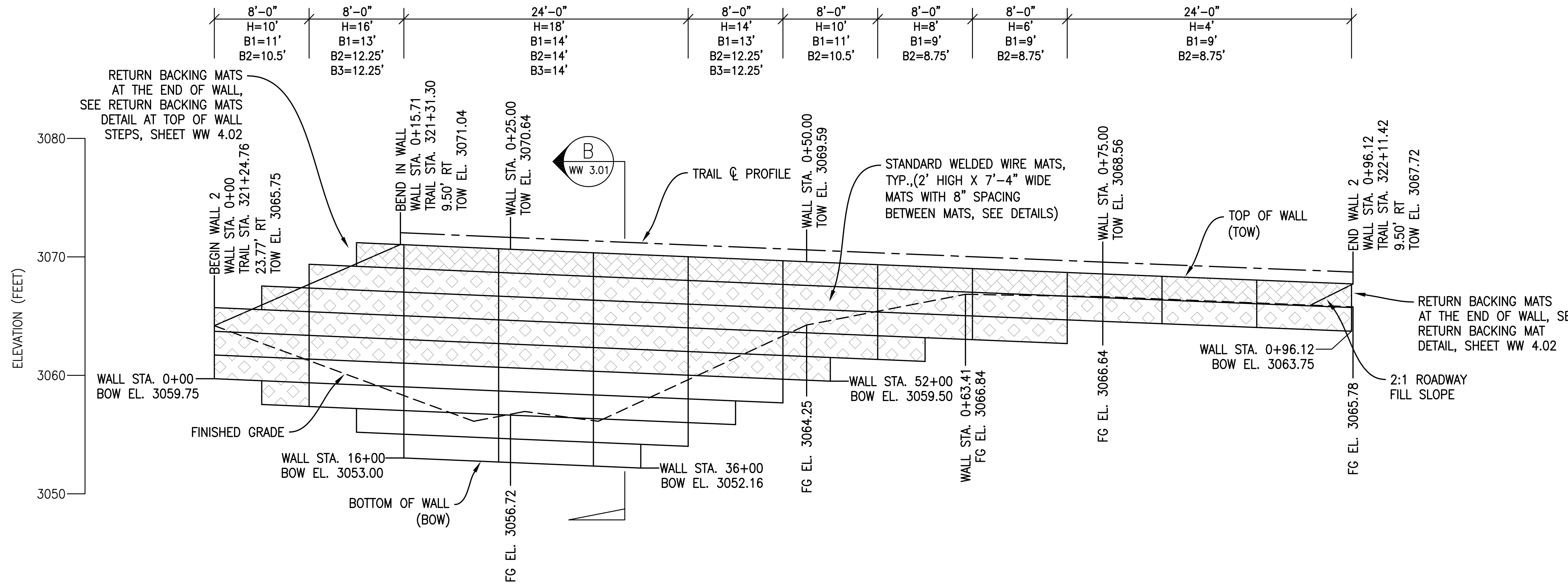
1	11.01.11	BD	Update mat sizes for available material

ELEVATION VIEW - WALL 1 (CONT'D)
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42
SHEET NO: WW 2.06



H	TOTAL HEIGHT OF WALL AT EACH SEGMENT		W7.0 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
B1	BASE LENGTH WIRE MATS, CAP AND PRONGLESS MAT & INTERMEDIATE MATS		W9.5 X 4.0 (8"X21" WIRE SPACING) STANDARD MATS. SEE B3 FOR MAT LENGTH
B2 TO B3	BASE LENGTH WIRE MATS, STANDARD REINFORCING MATS		W7.0X 4.0 (8"X21" WIRE SPACING) FLAT INTERMEDIATE MATS. SEE B3 FOR MAT LENGTH
	W7.0 X 3.5 (8"X12" WIRE SPACING) CAP MAT AND PRONGLESS MATS. SEE B1 FOR MAT LENGTH		
	W7.0 X 3.5 (8"X10.5" WIRE SPACING) STANDARD MATS. SEE B2 FOR MAT LENGTH		

ELEVATION VIEW WALL 2

0 10

SCALE: 1"=10'

WALL 2: APPROXIMATELY 976 SQUARE FACE FEET OF WELDED WIRE WALL INSTALLED, SUPPLIED QUANTITIES MAY VARY

PROFESSIONAL ENGINEER No. 181389 BRET A. DeBERNARDI 11-1-11 STATE OF UTAH

HRW Job No. 110811AW

REFERENCES:
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DESIGN BY:	BD	DATE:	Oct 12, 2011
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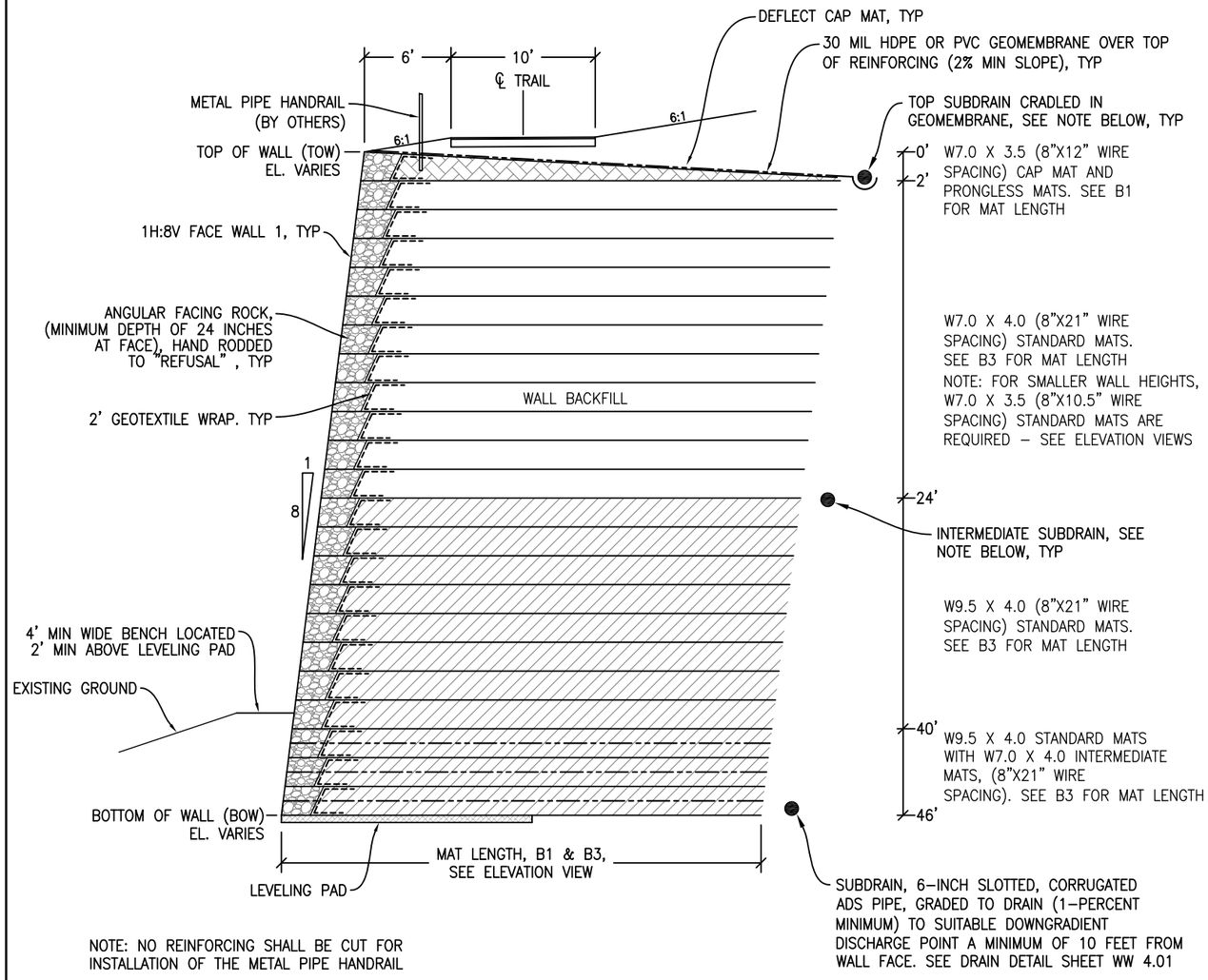
CHKD. BY:	BD	CURRENT DATE:	Nov 01, 2011
APPR. BY:	JB		

REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

ELEVATION VIEW - WALL 2
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42

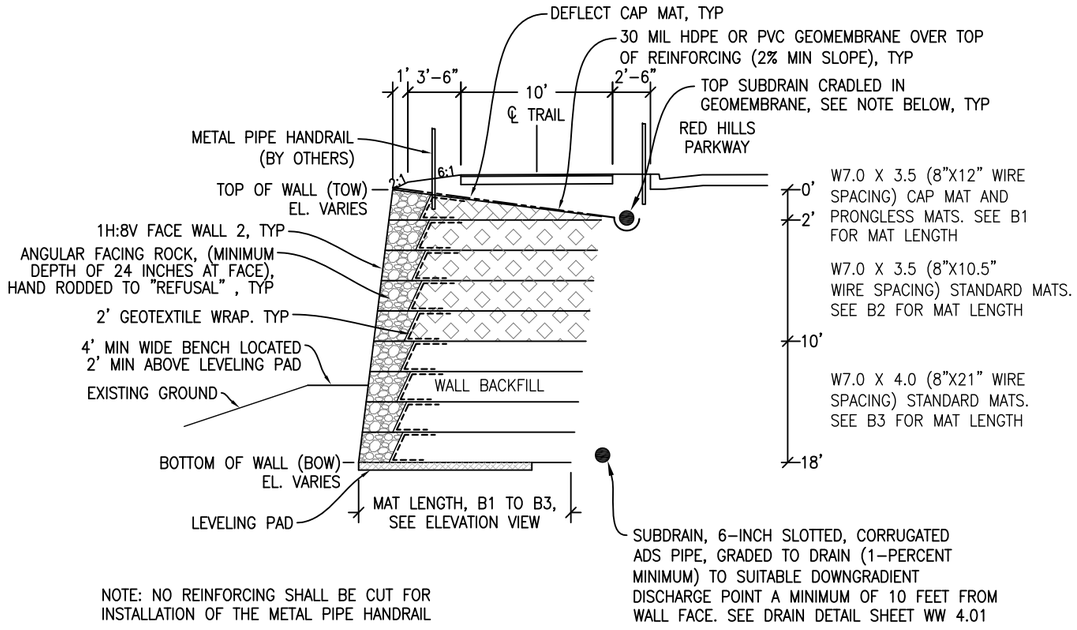
SHEET NO: WW 2.07



NOTE: NO REINFORCING SHALL BE CUT FOR INSTALLATION OF THE METAL PIPE HANDRAIL

CROSS–SECTION A
WALL 1

0 10
SCALE: 1"=10'



NOTE: NO REINFORCING SHALL BE CUT FOR INSTALLATION OF THE METAL PIPE HANDRAIL

CROSS–SECTION B
WALL 2

0 10
SCALE: 1"=10'

HRW Job No. 110811AW

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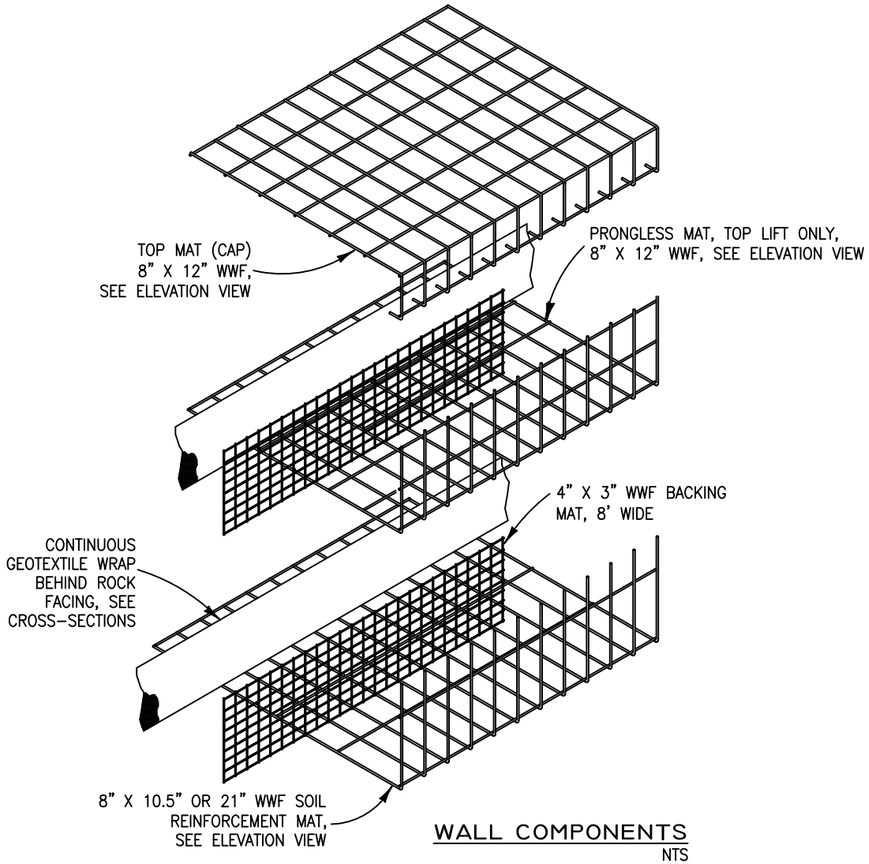
CHKD. BY:	BD	CURRENT DATE:	Nov 01, 2011
APPR. BY:	JB		

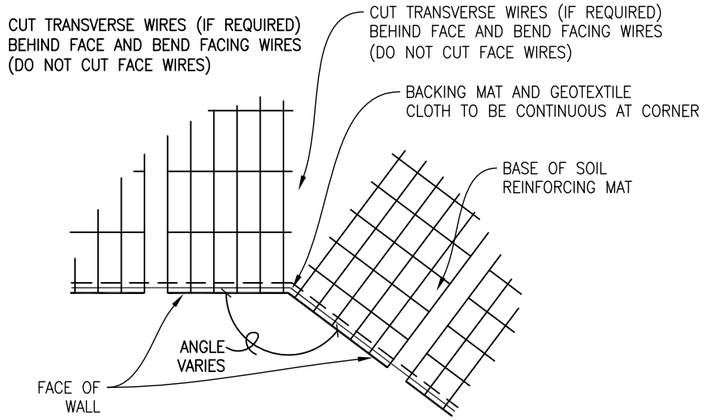
REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

CROSS-SECTIONS A & B
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

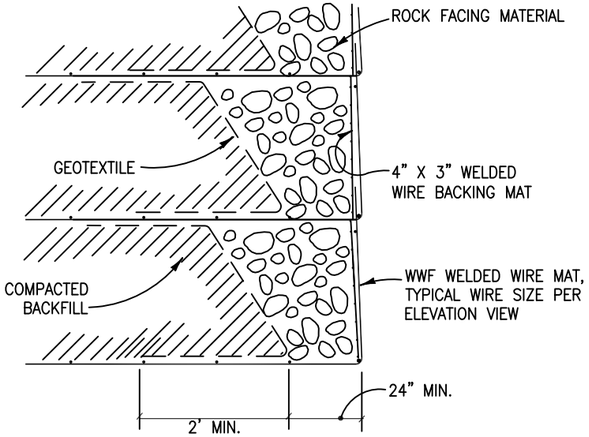
PROJECT NO: 11–03–42
SHEET NO: WW 3.01



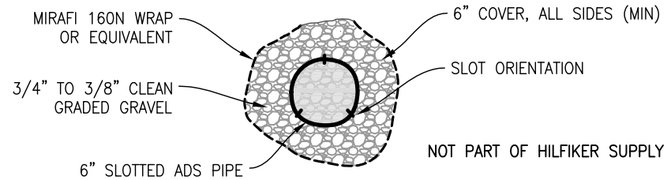
WALL COMPONENTS
NTS



CONCAVE ANGLE DETAIL
NTS

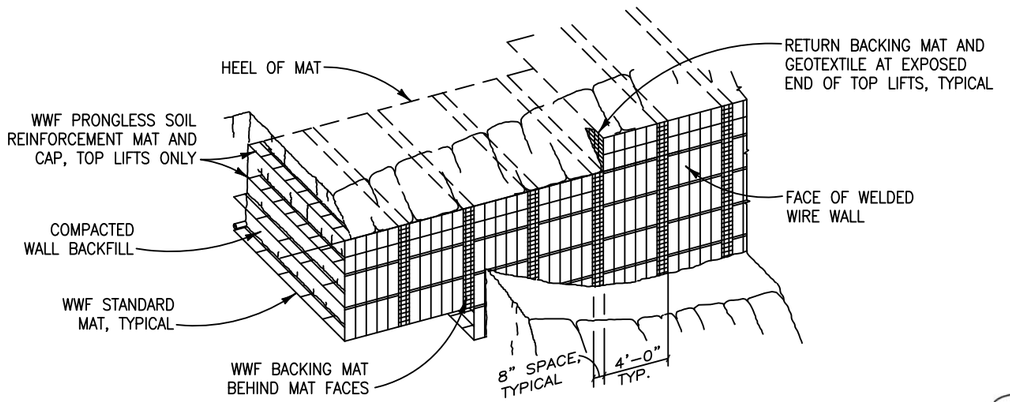


ROCK FACE DETAIL
NTS



PIPE, GRADED TO DRAIN (1-PERCENT MINIMUM). PIPE TO "T" TO SOLID PIPE AT ALL LOW POINTS AND AT 100 FEET ON CENTER MAXIMUM AND EXTEND THROUGH WALL FACE. GRADED TO DRAIN, DAYLIGHT MINIMUM OF 10'-0" FROM FACE OF WALL. RIPRAP OUTLET OF PIPE.

SUBDRAIN DETAIL
NTS



PICTORIAL ELEVATION
NTS

PROFESSIONAL ENGINEER
No. 181389
BRET A.
DeBERNARDI
11-1-11
STATE OF UTAH

HRW Job No. 110811AW

GEOTECHNICAL DESIGN SYSTEMS INC.

HILFIKER RETAINING WALLS
e: Eureka, CA Phone 707/443-5093 Fax 707/443-2891

DESIGNED BY: GEOTECHNICAL DESIGN SYSTEMS INC.
865 E 4800 S, Ste. 140, Salt Lake City, Utah 84107
(801)262-1942 phone/ 262-1943 fax

DESIGN BY:	BD
DRAWN BY:	LAJ
CHKD. BY:	BD
APPR. BY:	JB
DATE:	Oct 12, 2011
CURRENT DATE:	Nov 01, 2011

REV. NO.	DATE	BY	DESCRIPTION
1	11.01.11	BD	Update mat sizes for available material

CONSTRUCTION DETAILS
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

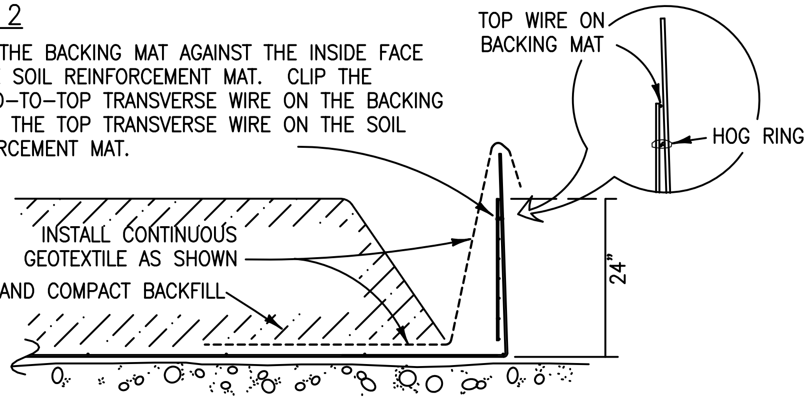
PROJECT NO: 11-03-42
SHEET NO: WW 4.01

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.

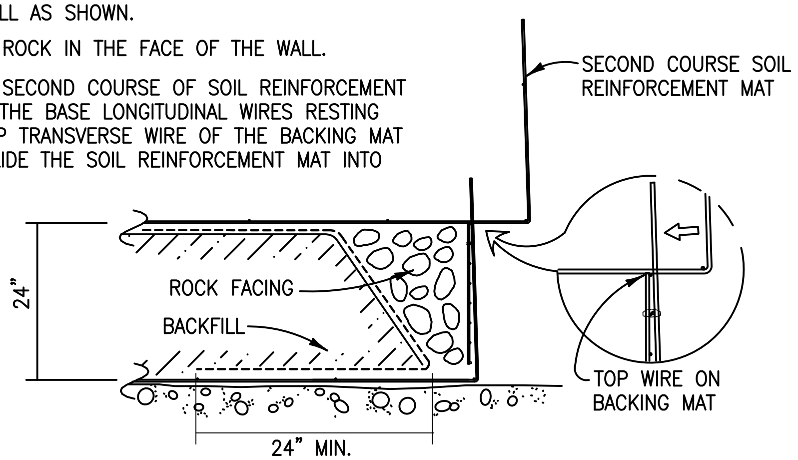


STEP 3

BRING THE GEOTEXTILE OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN.

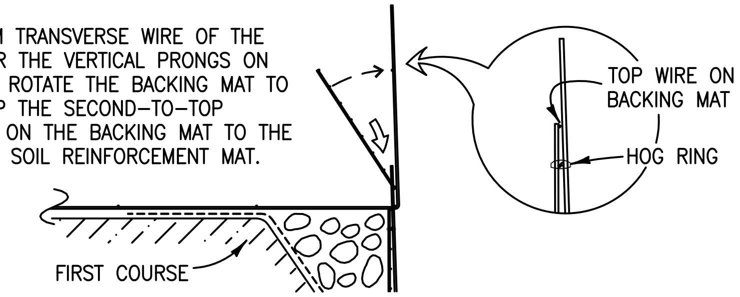
PLACE THE ROCK IN THE FACE OF THE WALL.

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

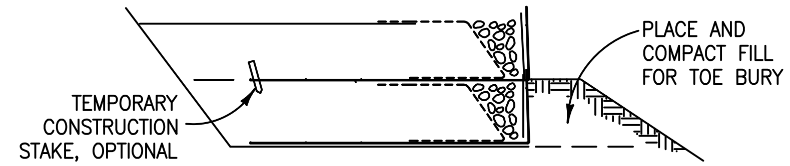
HOOK THE BOTTOM TRANSVERSE WIRE OF THE BACKING MAT OVER THE VERTICAL PRONGS ON THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND–TO–TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.

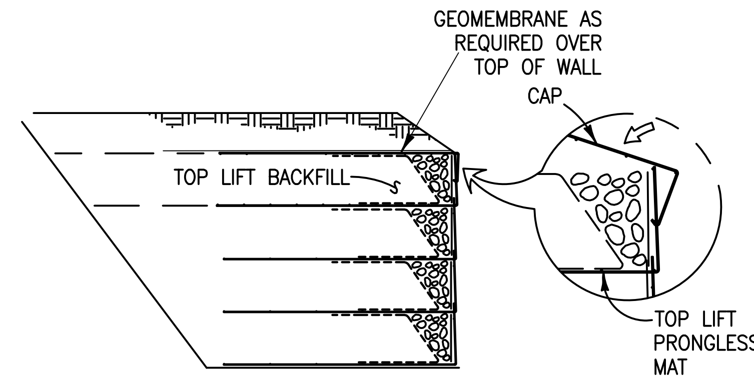


STEP 5

INSTALL THE GEOTEXTILE AS IN STEPS 2 AND 3. PLACE AND COMPACT THE BACKFILL AND ROCK TO THE BASE ELEVATION OF THE NEXT MAT.

REPEAT STEPS 2 THRU 5 TO THE TOP LIFT.





STEP 6: TOP LIFT

PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT, AND GEOTEXTILE FABRIC.

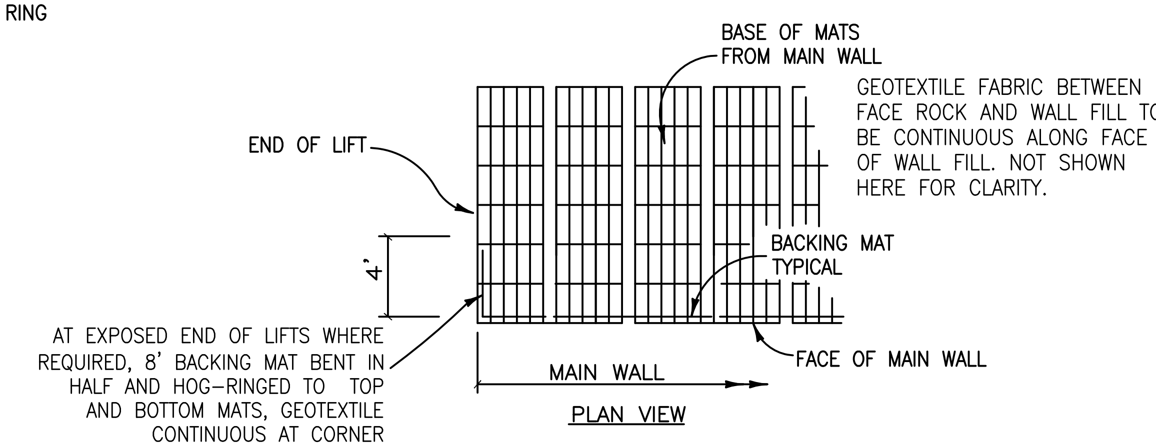
PLACE AND COMPACT BACKFILL AND ROCK IN THE TOP LIFT.

HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE.

PLACE AND COMPACT COVER, INSTALL GEOMEMBRANE AS REQUIRED, AND CONSTRUCT PAVEMENTS AS REQUIRED.

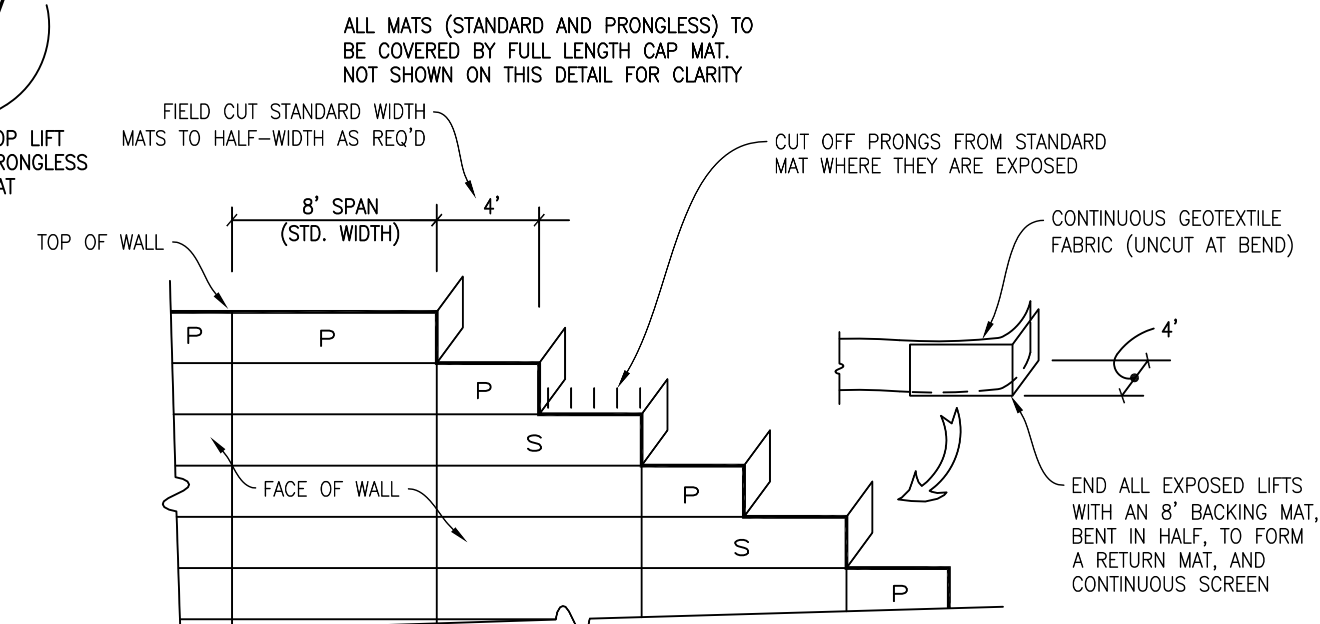
CONSTRUCTION SEQUENCE

NTS



RETURN BACKING MATS DETAIL

NTS



LEGEND

(THIS DETAIL ONLY)

P	8" X 12" WWF PRONGLESS MAT
S	8" X 21" WWF STANDARD MAT

RETURN BACKING MATS DETAIL AT TOP OF WALL STEPS

NTS

PROFESSIONAL ENGINEER
No. 181389
BRET A. DeBERNARDI
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STATE OF UTAH

HRW Job No. 110811AW

GEOTECHNICAL DESIGN SYSTEMS INC.	HILFIKER RETAINING WALLS, Eureka, CA Phone 707/443-5093 Fax 707/443-2891	DESIGN BY: BD	DATE: Oct 12, 2011	REV. NO. 1	DATE 11.01.11	BY BD	DESCRIPTION Update mat sizes for available material	THIS DRAWING IS FURNISHED SOLELY FOR THE USE OF OR IN CONNECTION WITH THIS PROJECT, AND THE PROPRIETARY INFORMATION SHOWN HEREON IS NOT TO BE TRANSMITTED TO ANY OTHER ORGANIZATION WITHOUT SPECIFIC AUTHORIZATION BY THE HILFIKER COMPANY. HILFIKER RETAINING WALLS ARE PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS: 243,613, 243,697, 288,616, 4,117,686, 4,329,089, 4,324,508, 4,391,557, 4,505,621, 4,643,618, 4,661,023, 4,856,939, 5,076,735, 5,647,695, 5,722,799, 6,357,970 AND OTHERS. OTHER PATENTS PENDING (2004)	**CONSTRUCTION DETAILS** **Welded Wire Retaining Walls** **Red Hills Parkway - Bluff Street to Industrial Road** **St. George, Utah**
	DESIGNED BY: GEOTECHNICAL DESIGN SYSTEMS INC. 865 E 4800 S, Ste. 140, Salt Lake City, Utah 84107 (801)262-1942 phone/ 262-1943 fax	DRAWN BY: LAJ	CURRENT DATE: Nov 01, 2011						PROJECT NO: 11-03-42
		CHKD. BY: BD							SHEET NO: WW 4.02
		APPR. BY: JB							

I. Introduction

1. The scope of work outlined by these General Notes and Welded Wire Wall Specifications (separate document) include design and installation specifications for the Hilfiker Welded Wire Wall as shown on these plans.

2. Grades shown herein as well as Welded Wire Wall layout and beginning and ending stations are approximate. Field conditions (both topography and geotechnical conditions exposed during construction) must be considered in determining final design configurations for construction. Conflicts between these plans and other project plans shall be resolved by Geotechnical Design Systems Inc. (GDSI), whose decision shall be final. Design and layout are in general accordance with Project Drawings and Special Provisions [Red Hills Parkway; Bluff Street to Industrial Road, Roadway Widening and Reconstruction, Washington County," by Utah Department of Transportation, dated July 19, 2011 (Advertised for Construction)]

3. Existing and proposed utilities to be verified in field by the General Contractor. Conflicts that arise shall be resolved by Geotechnical Design Systems of Salt Lake City, Utah, whose decision shall be final.

II. Welded Wire Walls

1. The work for this portion of the project shall consist of the construction of Welded Wire Walls to the lines, grades, details, and dimensions shown in these Welded Wire Wall Plans and Specifications, as well as in conformance with all UDOT Project Plans and Special Provisions. Conflicts that arise shall be resolved by Geotechnical Design Systems of Salt Lake City, Utah, whose decision shall be final.

2. The contractor shall purchase all Welded Wire Wall materials including wire mesh reinforcing mats, and backing materials from Hilfiker Retaining Walls, 1902 Hilfiker Lane, Eureka, California, 95503, 707-443-5093. Wire mesh reinforcing and backing mats shall be constructed of non-galvanized "black" wire. Geomembrane, geoxtile and subdrain are to be provided by others.

3. All Welded Wire Wall installation shall be in accordance with the installation guide as manufactured by Hilfiker Retaining Walls, and these plans. Conflicts that arise shall be resolved by Geotechnical Design Systems of Salt Lake City, Utah, whose decision shall be final. No warranty is expressed or implied, only that the design was prepared in general accordance with the design principles and practices in use at the time this work was performed. Changes to the design or layout shall only be made with express written permission of Geotechnical Design Systems Inc.

4. Contractor is responsible for determining exact location of welded wire walls in accordance with the intent of these plans and the overall project objectives.

5. Soils used as Wall Backfill shall be a well graded, non-organic, granular soil meeting all Welded Wire Wall Specifications and Project Special Provisions for "Select Backfill for MSE Walls (Section 02832S)" and having the following gradation: 100% by weight passing the 4-inch sieve, 0% to 60% by weight passing the No. 40 sieve, and 0 to 15% by weight passing the No. 200 sieve. The material shall have a Plasticity Index less than 6 and meet electrochemical properties indicated in Welded Wire Wall Specifications. Gradations and material properties of candidate backfill materials proposed for use may be submitted to Geotechnical Design Systems for review and approval. Backfill not conforming to these specifications shall not be used without express, written permission of Geotechnical Design Systems. Wall Backfill shall be compacted to 95% of the maximum dry density, as determined by AASHTO T-180 (ASTM D-1557) compaction criteria. This is a more stringent compaction requirement than found in the Project Special Provisions (Section 3.1B10) for the wall backfill. Maximum lift thickness shall be 8 inches and shall be reduced, if necessary, to obtain specified density. Refer to Welded Wire Wall Specifications and Project Special Provisions.

6. Wall Facing Rock shall meet Project Special Provisions for Wire Enclosed Riprap (Section 02372M) and shall consist of a 4-inch to 6-inch rock with no more than 2 percent less than 4 inches. The material shall consist of durable, angular rock, and shall also comply with all electrochemical requirements and other requirements outlined in Welded Wire Wall Specifications and Project Special Provisions. Friable or fractured rock shall not be used. Wall Facing Rock is to be hand rodded to "refusal" in accordance with standard construction guidelines of Hilfiker Retaining Walls.

7. Geotextile shall consist of Mirafi 160N or equivalent.

8. The Geomembrane required over the top of the wall shall consist of a 30-mil thick HDPE or PVC geomembrane.

9. The surface of all walls, during and after construction, shall be graded to drain. No ponding or uncontrolled flowing water shall be allowed on or around any walls, at any time.

10. Contractor to provide fall protection for workers and equipment during construction in compliance with OSHA and any other applicable requirements. Owner shall also provide and maintain permanent fall protection as required by applicable building codes.

11. The wall subgrade shall be properly prepared in accordance with Project Special Provisions. As a minimum, the subgrade shall be proofrolled by passing a heavy steel drum roller over the surface at least 4 times in accordance with welded wire wall specifications. All loose or disturbed soil, organic material, trash, disturbed or generally deleterious materials or unsuitable soils shall be removed. If soft or moist conditions are encountered, the Project Geotechnical Engineer shall provide appropriate recommendations with review by GDSI.

12. The walls have been designed for a 75-year life-span considering a site acceleration of 0.14 g. Deformation from the seismic event is projected to be 2 inches.

13. The following properties have been utilized in the wall design:

Wall Backfill: Moist unit weight = 130 pcf, friction angle = 34 degrees

Foundation and Retained Soils: Moist Unit Weight = 125 pcf, friction angle = 33 degrees

14. GDSI and Hilfiker Retaining Walls are responsible for internal and local external stability. Bearing capacity and global stability are the responsibility of the project geotechnical engineer. The foundation and retained soil parameters used in the wall design have been provided in the Project Special Provisions.

PROFESSIONAL ENGINEER
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GENERAL NOTES
Welded Wire Retaining Walls
Red Hills Parkway - Bluff Street to Industrial Road
St. George, Utah

PROJECT NO: 11-03-42
SHEET NO: WW 4.03