

ADOT Specific Requirements for SSL MSE Plus Welded Wire Wall System

ADOT Vendor	SSL, LLC. 4740 Scotts Valley Drive, Suite E, Scotts Valley, CA 95066
General Information	ADOT Product ID No. 99112 Approval Date: 12/15/2009 Approval Renewed Date: 04/2016 Re-evaluation due: 04/2021
Design Standards	More Stringent of the following: <ol style="list-style-type: none"> 1. 2008 ADOT Standard Specifications for Road and Bridge Construction 2. Latest ADOT MSE Wall LRFD Based Special Provisions [Contact ADOT for latest version at the time of the application of the system to a given project.] 3. FHWA (2009), "Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes," Publication No. FHWA-NHI-09-083; Authors: Berg, R.R., Christopher, B.R. and Samtani, N.C. 4. AASHTO (2012 or latest Specification or Interims) LRFD Bridge Design Specifications
HITEC Evaluation	Highway Innovative Technology Evaluation Center (HITEC) evaluation is not available for this system.
Facing Evaluated	<ul style="list-style-type: none"> • See sheets SD-02, SD-04 and SD-05 of the attracted drawings.
Facing Connector	<ul style="list-style-type: none"> • See sheets SD-02 and SD-03 of attached drawings. Also see "Connection/Assembly Detail" on sheet SD-04 of the attached drawings for additional detail.
Soil Reinforcement Evaluated	<ul style="list-style-type: none"> • Steel grid reinforcement fabricated from W11, W20 or W24 steel wire. The longitudinal wires are spaced at 8 inches on center, and the transverse (cross) wires are spaced from 6 to 30 inches on center depending on the wall design conditions. Each grid may have between 4 and 8 longitudinal wires. In some cases, a 2 longitudinal wire grid may be used. See included drawings for details.
Notes/Constrains	<p>In addition to the general design requirements provided in the Design Standards listed above, the following specific requirements apply:</p> <ul style="list-style-type: none"> • For any project, use of the system evaluated herein is subject to ADOT approval based on project and site specific evaluation. • Only the system components evaluated as noted above are to be used. Tolerances shall be the more stringent of those noted in SSL's attached drawings and the Design Standards listed above. • Use of soil reinforcements not connected to the wall face is not allowed.

ADOT Specific Requirements for SSL MSE Plus Welded Wire Wall System

	<ul style="list-style-type: none"> • The transverse wires on the grid shall be uniformly distributed along the complete length of the grid. • Reinforcement pullout shall be calculated based on the default values for steel grid reinforcement provided in the latest AASHTO specification (Design Standard 4 listed above). • Vertical and horizontal spacing of soil reinforcement as well as maximum local deformation between soil reinforcement layers shall not exceed the requirements in the latest ADOT MSE Wall LRFD based Special Provisions (Design standard 2 listed above). For walls that are greater than 20-feet in height, the maximum vertical spacing of the soil reinforcements shall be 18 inches for the portion of the wall more than 20-feet below the wall top at the face. • Facing connector shall be designed to have adequate life considering corrosion loss based on the design (service) life of the structure noted on the plans or specifications with a minimum of 75 years design life for permanent structures. • For all permanent walls, the facing panel wires shall be galvanized in accordance with requirements of the latest AASHTO specification (Design standard 4 listed above). For temporary walls, if galvanization is not used, the life of the facing wires shall be designed to be adequate for the intended life. • The minimum clear opening dimensions for the hardware cloth (filter fabric, hardware cloth or backing mats) shall not exceed the maximum particle size of the backfill soil. • Connector loops embedded in the facing panels shall be lined up such that the steel grid reinforcement crossbar at the connection is uniformly loaded. • Cutting of transverse wires of the steel grid is not permitted. • All details for penetration of culvers or other objects through the wall face shall be evaluated on a project and site specific basis. • All details for penetration of vertical and horizontal obstructions through the reinforced soil zone shall be evaluated on a project and site specific basis. Examples of these obstructions include foundation elements, catch basins, slotted drains, etc. • Drainage details shall be modified as appropriate to meet project and site specific requirements.
Assumptions	<ul style="list-style-type: none"> • Vendor submittals shall be in accordance with the design standards and other requirements listed herein. • Vendor will submit a copy of this Specific Requirements with its project and site specific design to ADOT and its representatives for review and approval consideration for a specific construction project. • ADOT and its design representatives will evaluate the project and site specific application of SSL's MSE <i>Plus</i> Welded Wire system and review submittals for approval consideration in strict

ADOT Specific Requirements for SSL MSE Plus Welded Wire Wall System

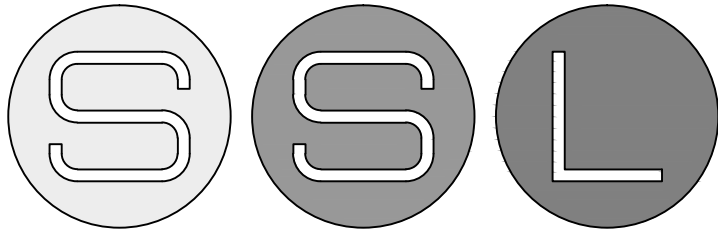
accordance with the design standards, limitations, and requirements listed herein. Typical details in this package may not be applicable to a given project and will be modified, based on the site specific considerations, as necessary by the designer in consultation with the vendor.

- During construction of the SSL's MSE *Plus* Welded Wire system, ADOT and its representatives will enforce project and site specific acceptance requirements in accordance with the plans and specifications.

TYPICAL DETAILS

(10 pages)

Typical details submitted to ADOT as part of the product approval process are attached. These represent generic details that must be evaluated by the designer based on project and site specific requirements. The designer shall also be responsible for ensuring conformance to the constraints and design standards noted in this evaluation.



INNOVATIVE CONSTRUCTION PRODUCTSTM
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340
WWW.MSEPLUS.COM

INDEX OF DRAWINGS

SHEET	DESCRIPTION
SD-01	TITLE & INDEX
SD-02	CONNECTION DETAILS: 1 OF 2
SD-03	CONNECTION DETAILS: 2 OF 2
SD-04	ERECTION DETAILS: 1 OF 2
SD-05	ERECTION DETAILS: 2 OF 2
SD-06	TOP OF WALL BARRIER
SD-07	DEICING MEMBRANE
SD-08	SUBSURFACE DRAINAGE
SD-09	END OF WALL DETAIL
SD-10	BIN WALL DETAIL

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



INNOVATIVE CONSTRUCTION PRODUCTSTM
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

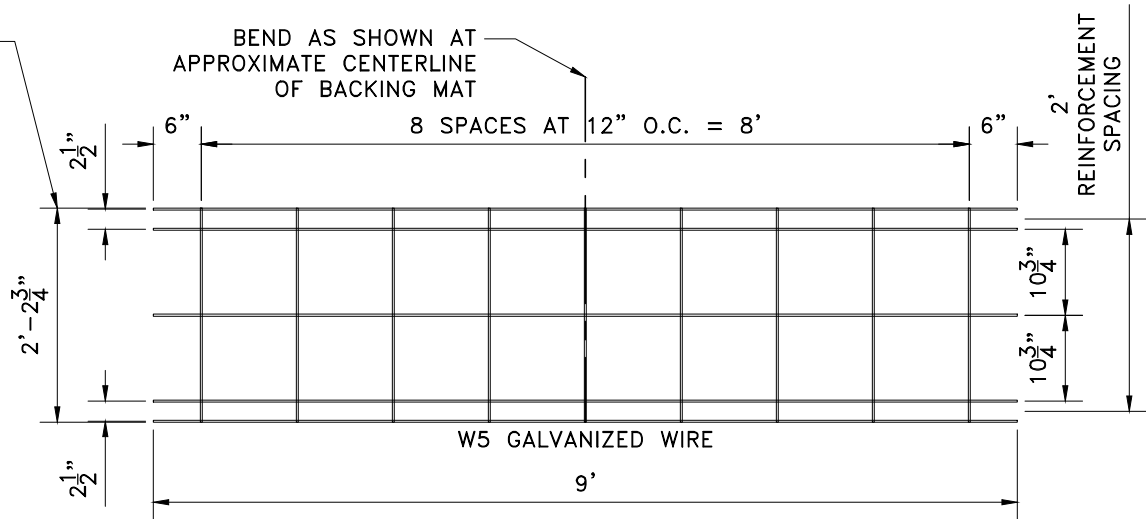
DRAWN BY:					
CHECK BY:					
DESIGN BY:					
CHECK BY:					
PROJ. ENGR:	NO.	DATE		REVISION DESCRIPTION	BY

TITLE & INDEX

ADOT CERTIFICATION PACKAGE

Scale: **NTS**
Job:
Sheet: **SD-01**
Sheet **01** of **10**

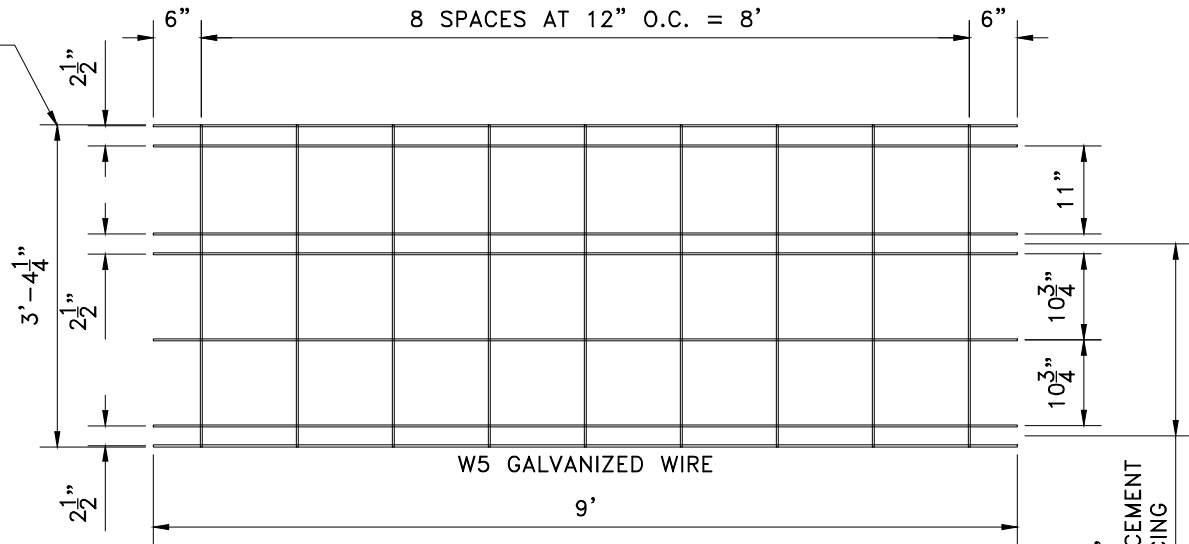
OUT-TO-OUT:
ALL OTHER DIMS
TO C OF WIRE



STANDARD "A" FACING SHEET

SCALE: 1:24

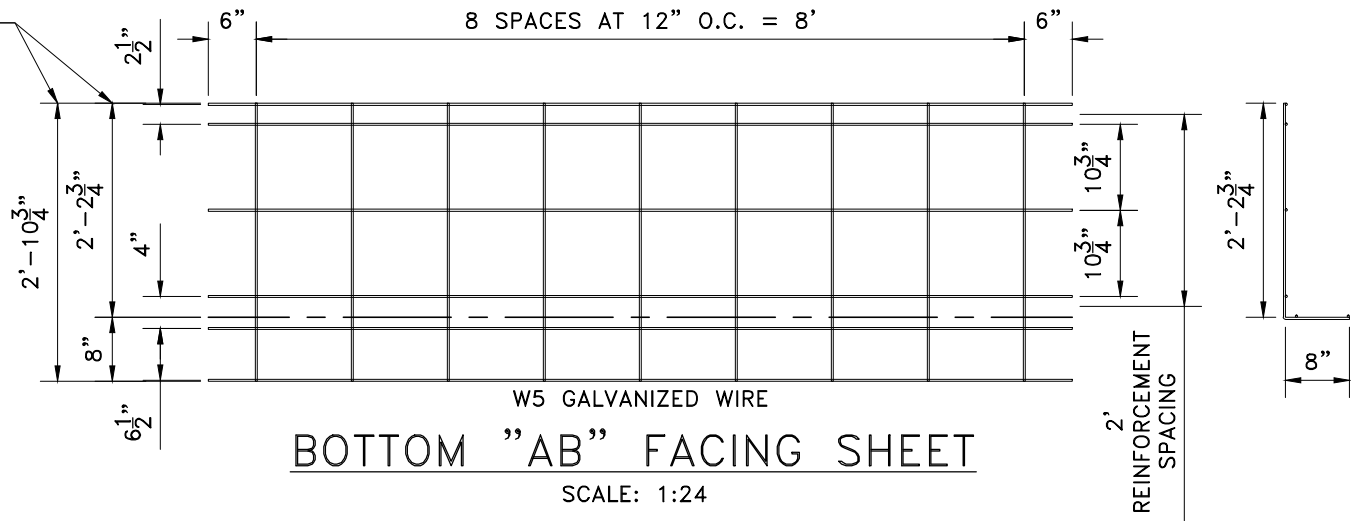
OUT-TO-OUT:
ALL OTHER DIMS
TO C OF WIRE



EXTENDED "AE" FACING SHEET

SCALE: 1:24

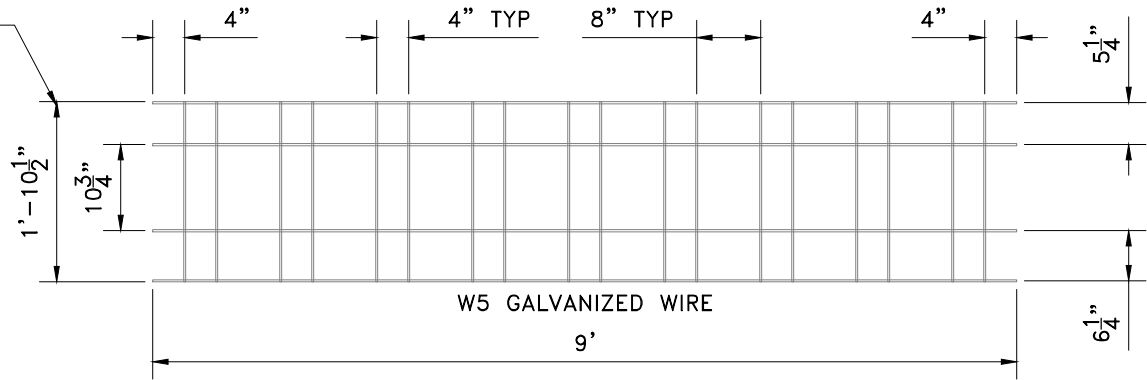
OUT-TO-OUT:
ALL OTHER DIMS
TO C OF WIRE



BOTTOM "AB" FACING SHEET

SCALE: 1:24

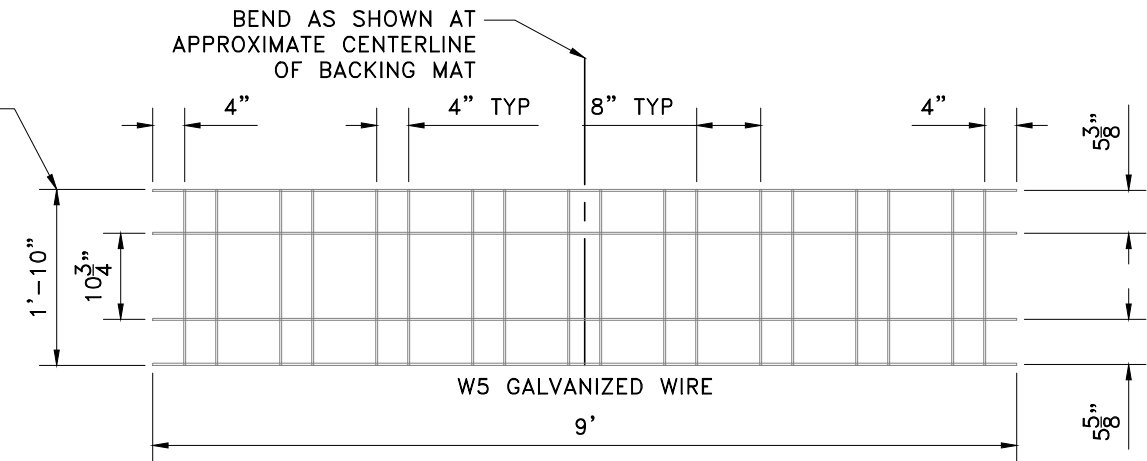
OUT-TO-OUT:
ALL OTHER DIMS
TO C OF WIRE



BACKING MAT

SCALE: 1:24

OUT-TO-OUT:
ALL OTHER DIMS
TO C OF WIRE



BENT BACKING MAT

SCALE: 1:24

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



INNOVATIVE CONSTRUCTION PRODUCTS
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

DRAWN BY:

CHECK BY:

DESIGN BY:

CHECK BY:

PROJ. ENGR:

NO.

DATE

REVISION DESCRIPTION

BY

CONNECTION DETAILS: 1 OF 2

ADOT CERTIFICATION PACKAGE

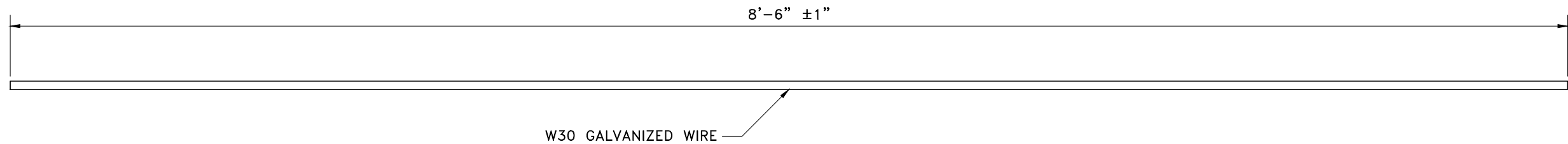
Scale: NTS

Job:

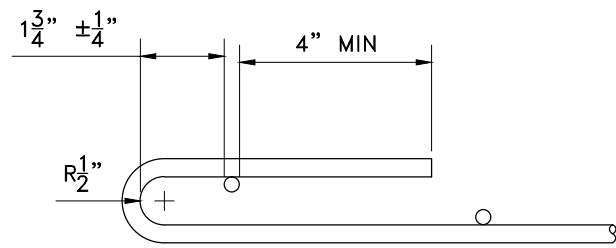
Sheet:

SD-02

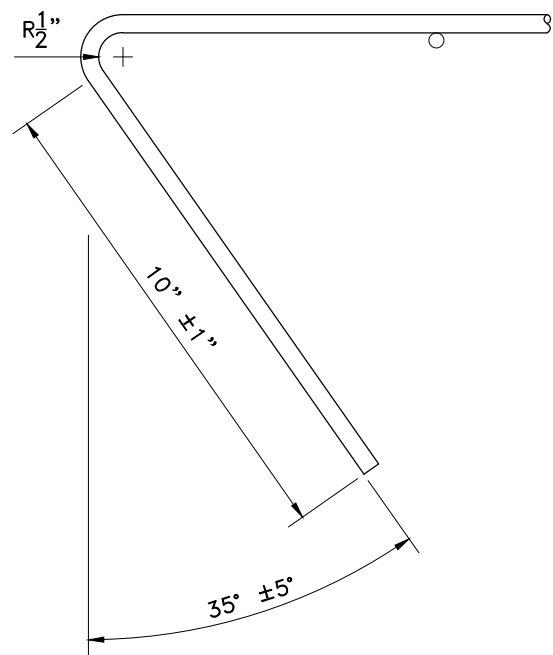
Sheet 01 of 10



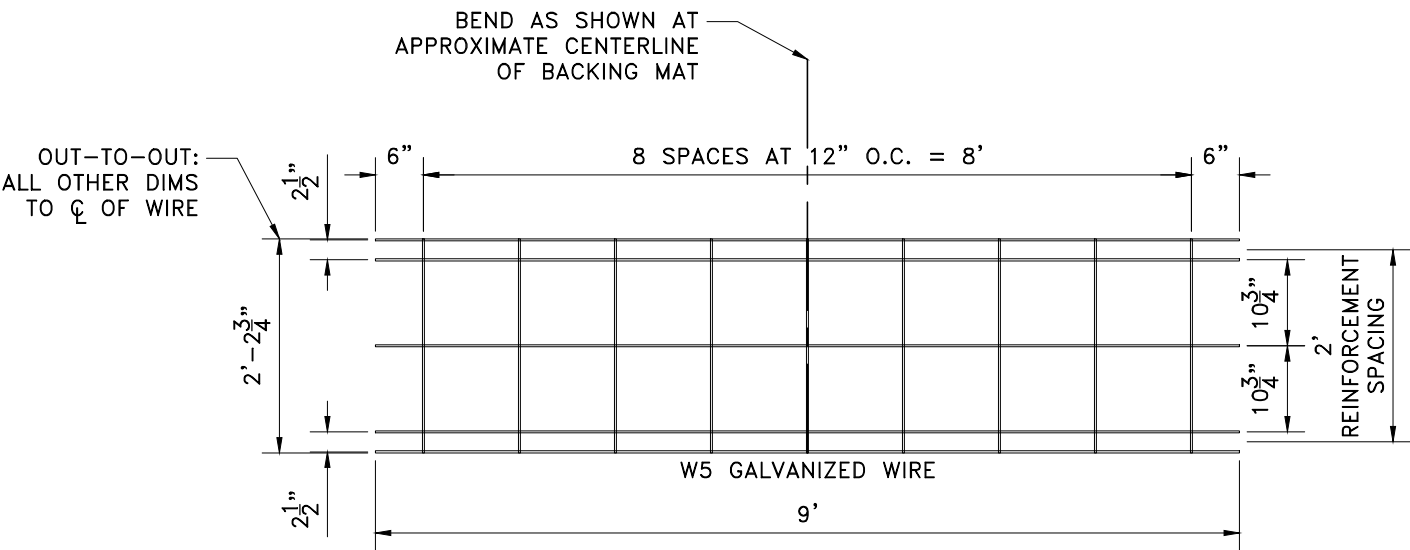
CONNECTION PIN DETAIL
SCALE: 1:8



SOIL REINFORCEMENT BENT DETAIL
SCALE: 1:4



TOP CAP BEND DETAIL
SCALE: 1:4



CORNER "C" FACING SHEET
SCALE: 1:24



THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

DRAWN BY:					
CHECK BY:					
DESIGN BY:					
CHECK BY:					
PROJ. ENGR:	NO.	DATE	REVISION DESCRIPTION	BY	

CONNECTION DETAILS: 2 OF 2

ADOT CERTIFICATION PACKAGE

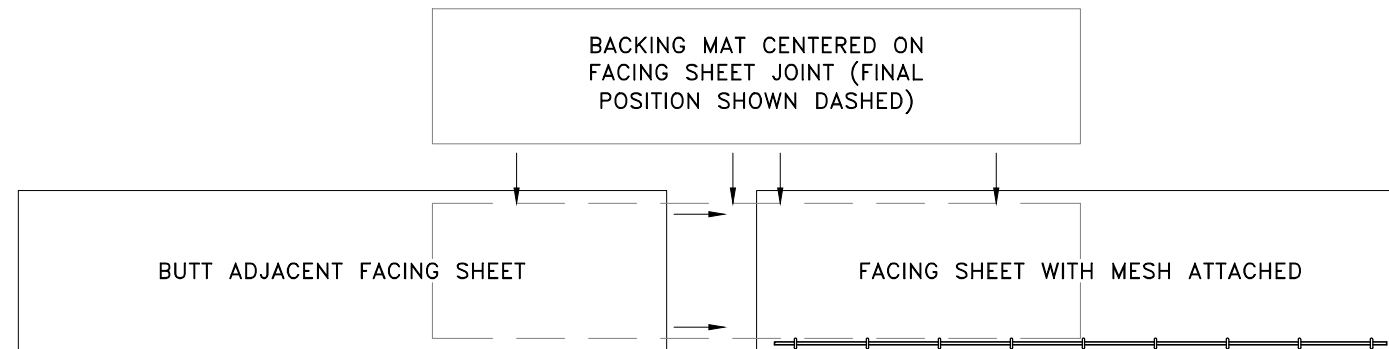
Scale: **NTS**

Job:

Sheet: **SD-03**

Sheet **03** of **10**

CERTIFIED ONLY WITH RESPECT TO INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES



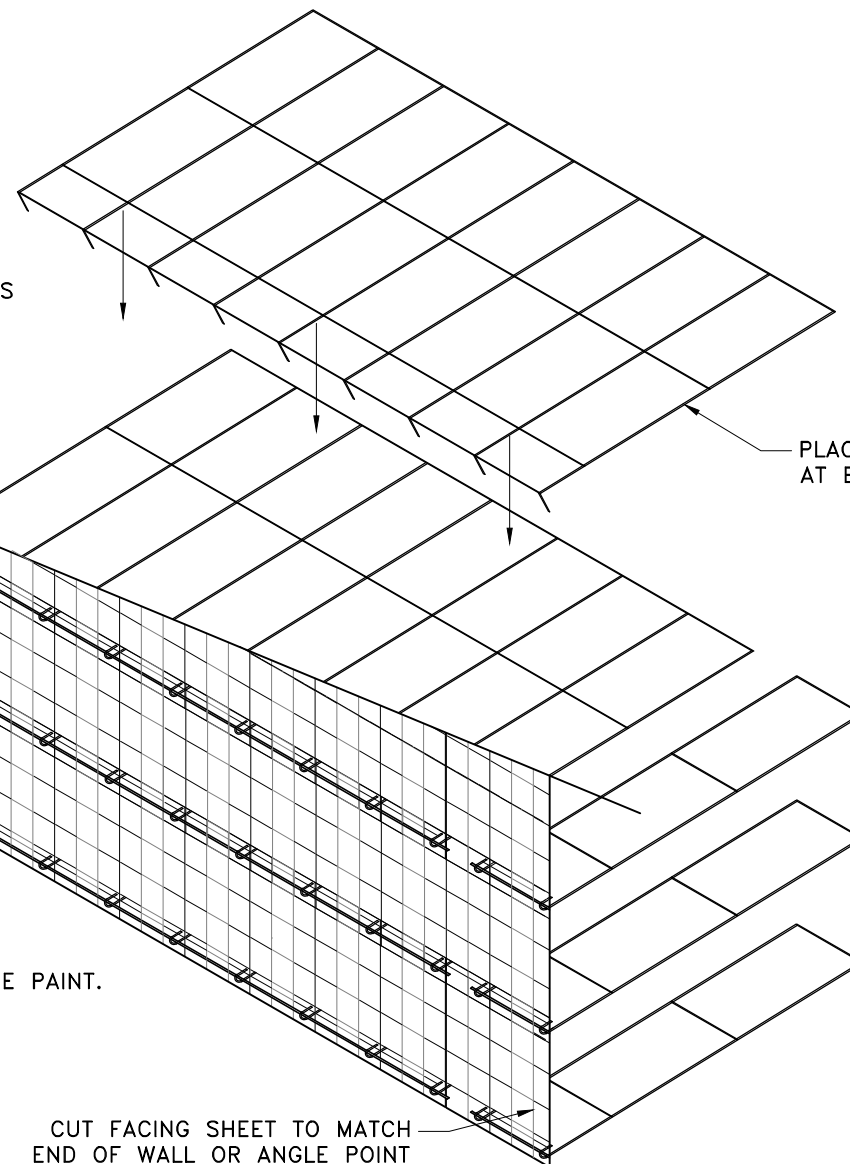
SOIL REINFORCING MESH CALLOUT

- 9 W11 X 2.50 W8
- SIZE OF CROSS WIRES
- SPACING OF CROSS WIRES
- SIZE OF LONGITUDINAL WIRES
- NUMBER OF LONGITUDINAL WIRES

CUT FACING SHEETS TO MATCH
TOP OF WALL ELEVATIONS

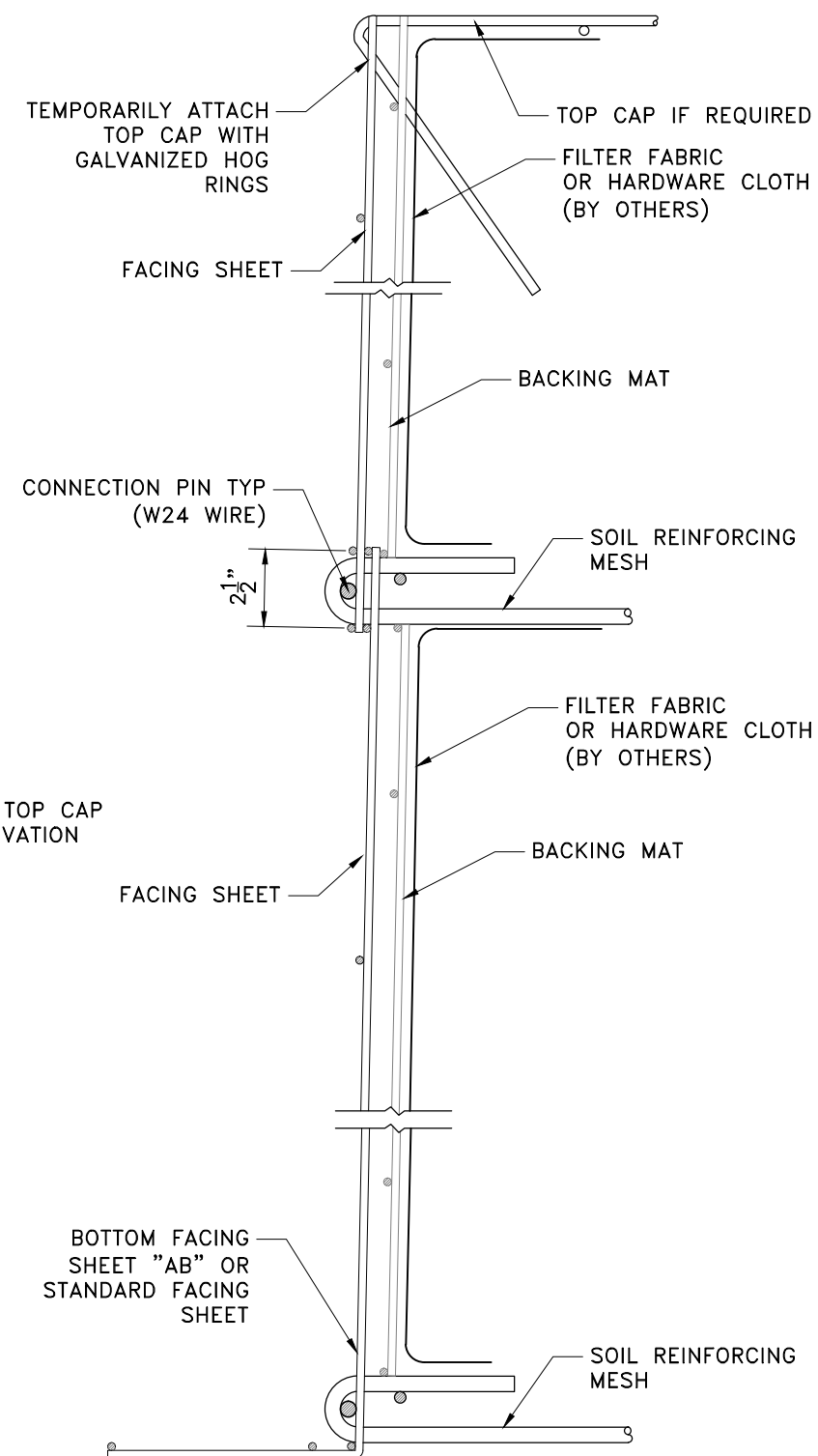
TOP OF WELDED WIRE WALL:
TOP SHEETS SHOWN AS "T"
(SEE ELEVATIONS)

BOTTOM SHEETS STANDARD "A"
OR BOTTOM SHOWN AS "AB"
(SEE ELEVATIONS)



CUT FACING SHEET TO MATCH
END OF WALL OR ANGLE POINT
PARTIAL SHEETS SHOWN AS "P"
(SEE ELEVATIONS)

PLACE TOP CAP
AT ELEVATION



CONNECTION/ASSEMBLY DETAIL
(SCALE: NTS)

TOP OF WALL PLACEMENT NOTES

- BUILD WELDED WIRE WALL TO FULL SHEET HEIGHT.
- TRIM FACING SHEET AND BACKING MAT TO DESIRED ELEVATION.
- REPAIR CUT ENDS WITH AN OWNER APPROVED ZINC RICH GALVANIZE PAINT.
- ATTACH TOP CAP AT TOP OF WELDED WIRE WALL.

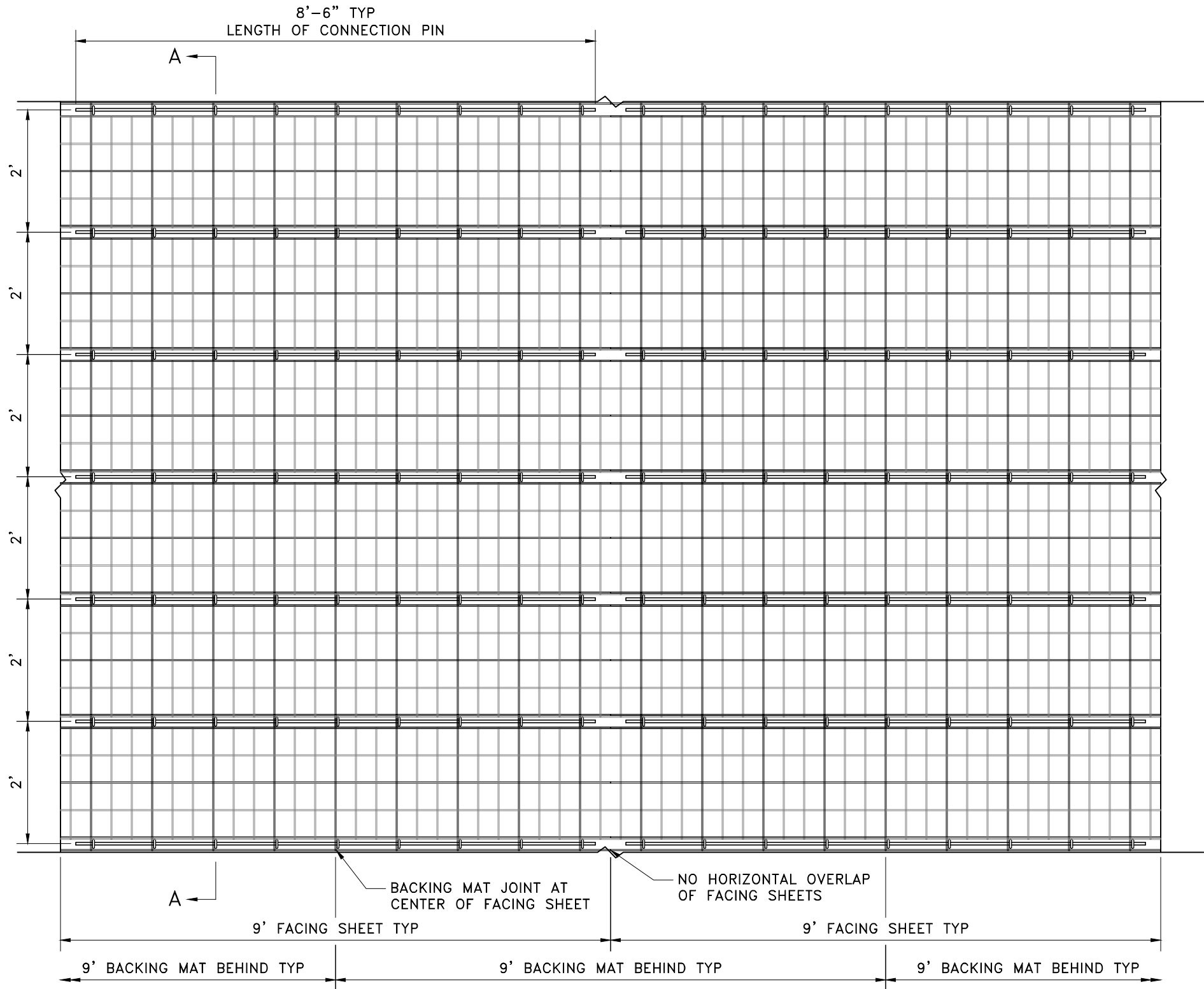
GENERAL NOTES

- PLACE BACKING MAT ON TOP OF SOIL REINFORCEMENT AFTER IT IS CONNECTED TO FACING SHEET.
- BACKING MAT SHALL SPAN TWO FACING SHEETS TO MINIMIZE DIFFERENTIAL SETTLEMENT BETWEEN COLUMNS.
- BACKING MAT AND GEOTEXTILE CAN BE TEMPORARILY HOG RINGED TOGETHER FOR EASE OF INSTALLATION.

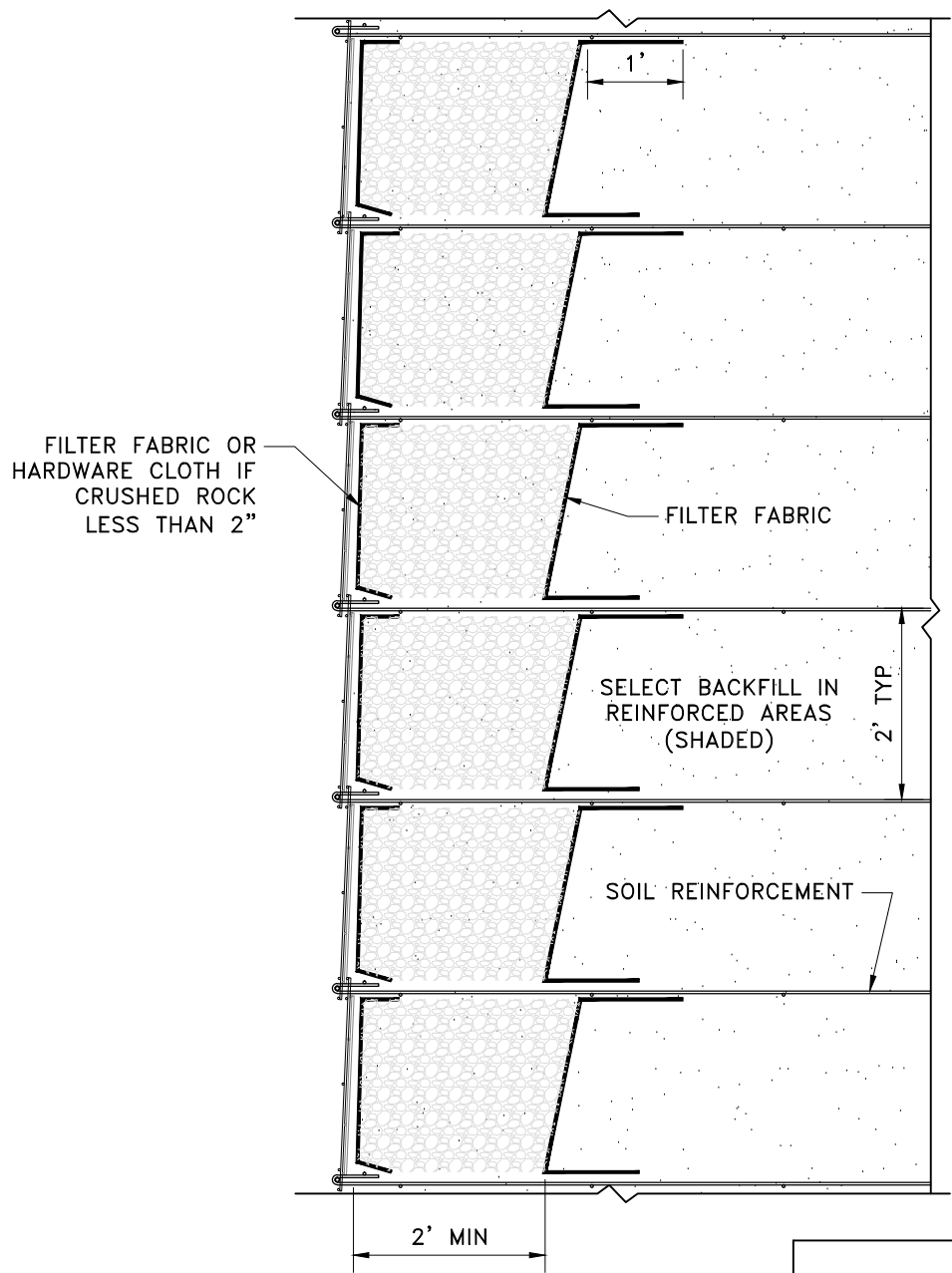
GENERAL ASSEMBLY DETAILS

(SCALE: NTS)

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES

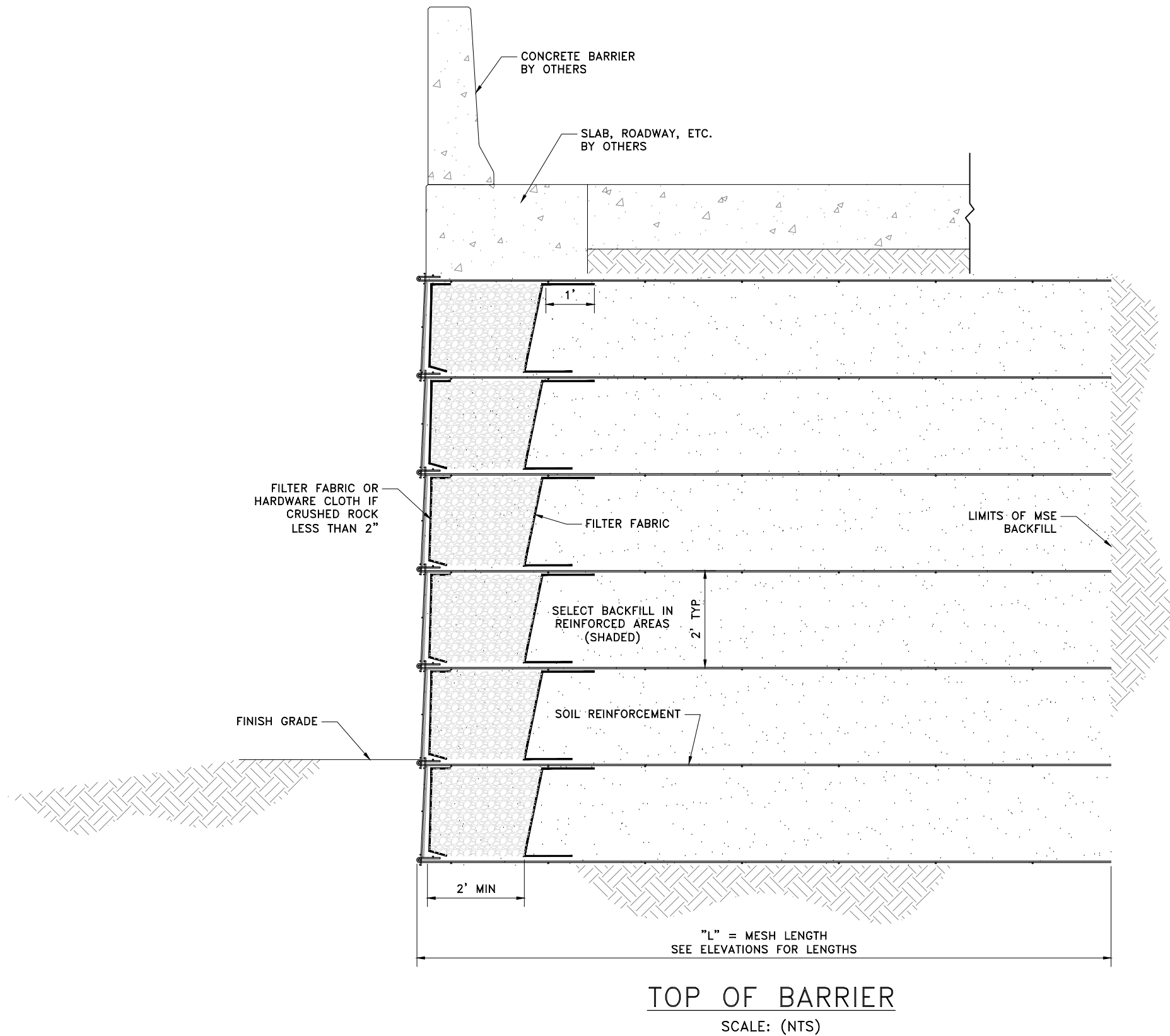


PARTIAL WIRE WALL ELEVATION
SCALE: 1:24



SECTION A-A
SCALE: 1:24

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



INNOVATIVE CONSTRUCTION PRODUCTS™
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

DRAWN BY:

CHECK BY:

DESIGN BY:

CHECK BY:

PROJ. ENGR:

NO.

DATE

REVISION DESCRIPTION

TOP OF WALL BARRIER

ADOT CERTIFICATION PACKAGE

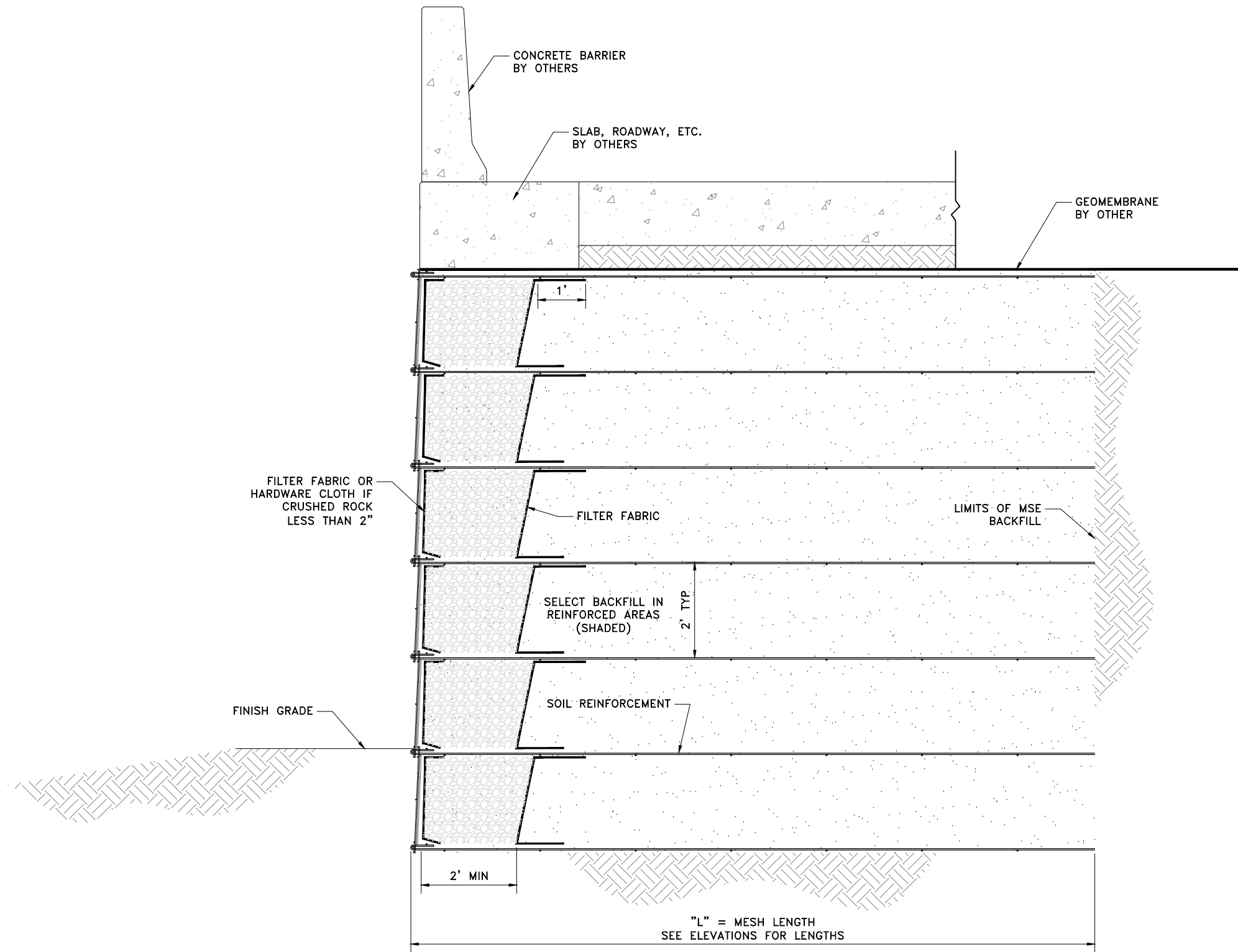
Scale: NTS

Job:

Sheet:

SD-06

Sheet 06 of 10



DEICING MEMBRANE EXAMPLE

SCALE: (NTS)

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



INNOVATIVE CONSTRUCTION PRODUCTS™
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

DRAWN BY:

CHECK BY:

DESIGN BY:

CHECK BY:

PROJ. ENGR:

NO.

DATE

REVISION DESCRIPTION

DEICING MEMBRANE

ADOT CERTIFICATION PACKAGE

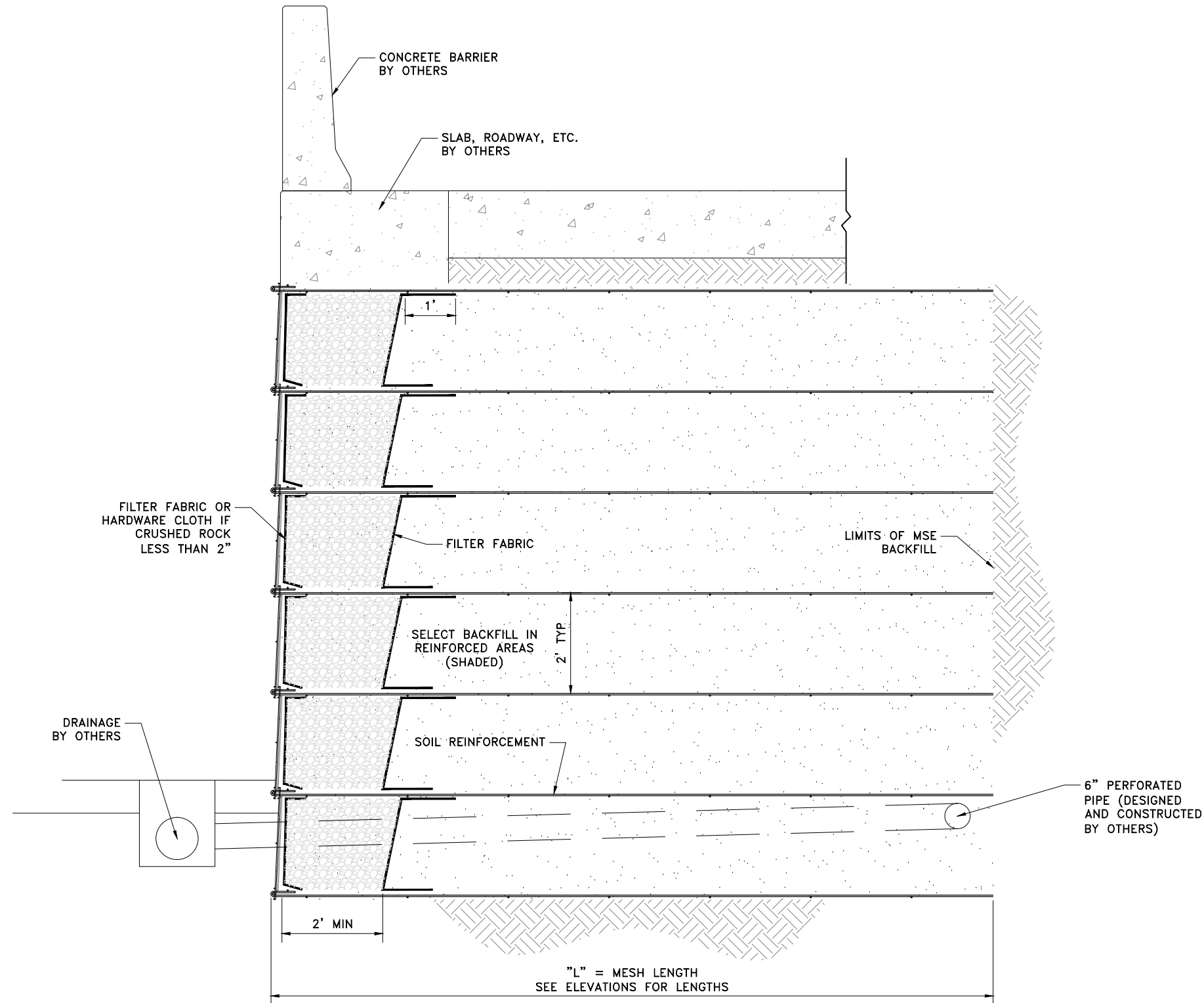
Scale: NTS

Job:

Sheet:

SD-07

Sheet 07 of 10



SURFACE DRAINAGE
SCALE: (NTS)

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



INNOVATIVE CONSTRUCTION PRODUCTS™
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

DRAWN BY:

CHECK BY:

DESIGN BY:

CHECK BY:

PROJ. ENGR:

NO.

DATE

REVISION DESCRIPTION

BY

SUBSURFACE DRAINAGE

ADOT CERTIFICATION PACKAGE

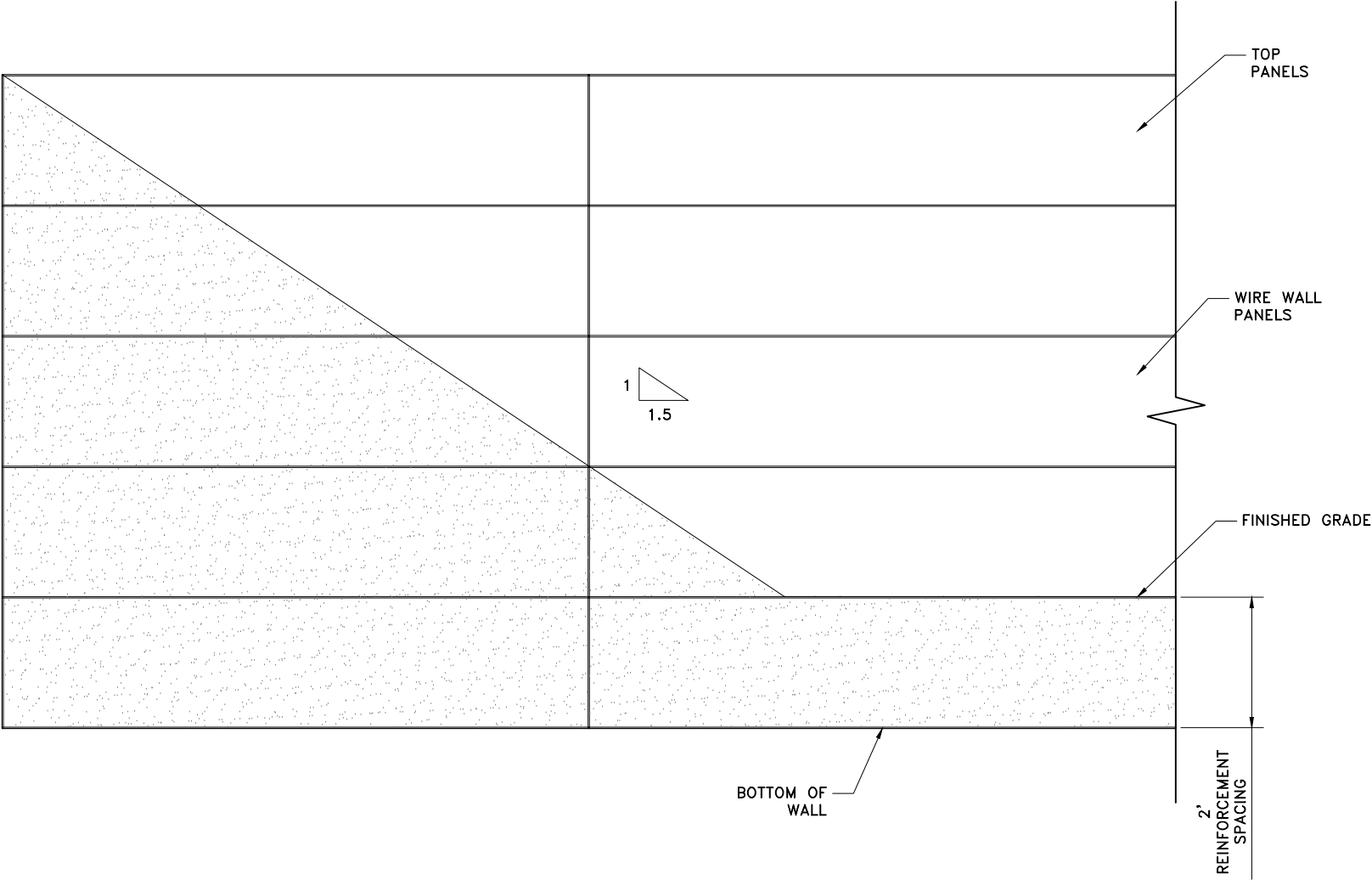
Scale: **NTS**

Job:

Sheet:

SD-08

Sheet **08** of **10**



NOTES:
MIRROR FOR OTHER END OF WALL

END OF WALL ELEVATION
SCALE: (NTS)

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



INNOVATIVE CONSTRUCTION PRODUCTS™
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

DRAWN BY:

CHECK BY:

DESIGN BY:

CHECK BY:

PROJ. ENGR:

NO.

DATE

REVISION DESCRIPTION

BY

END OF WALL DETAIL

ADOT CERTIFICATION PACKAGE

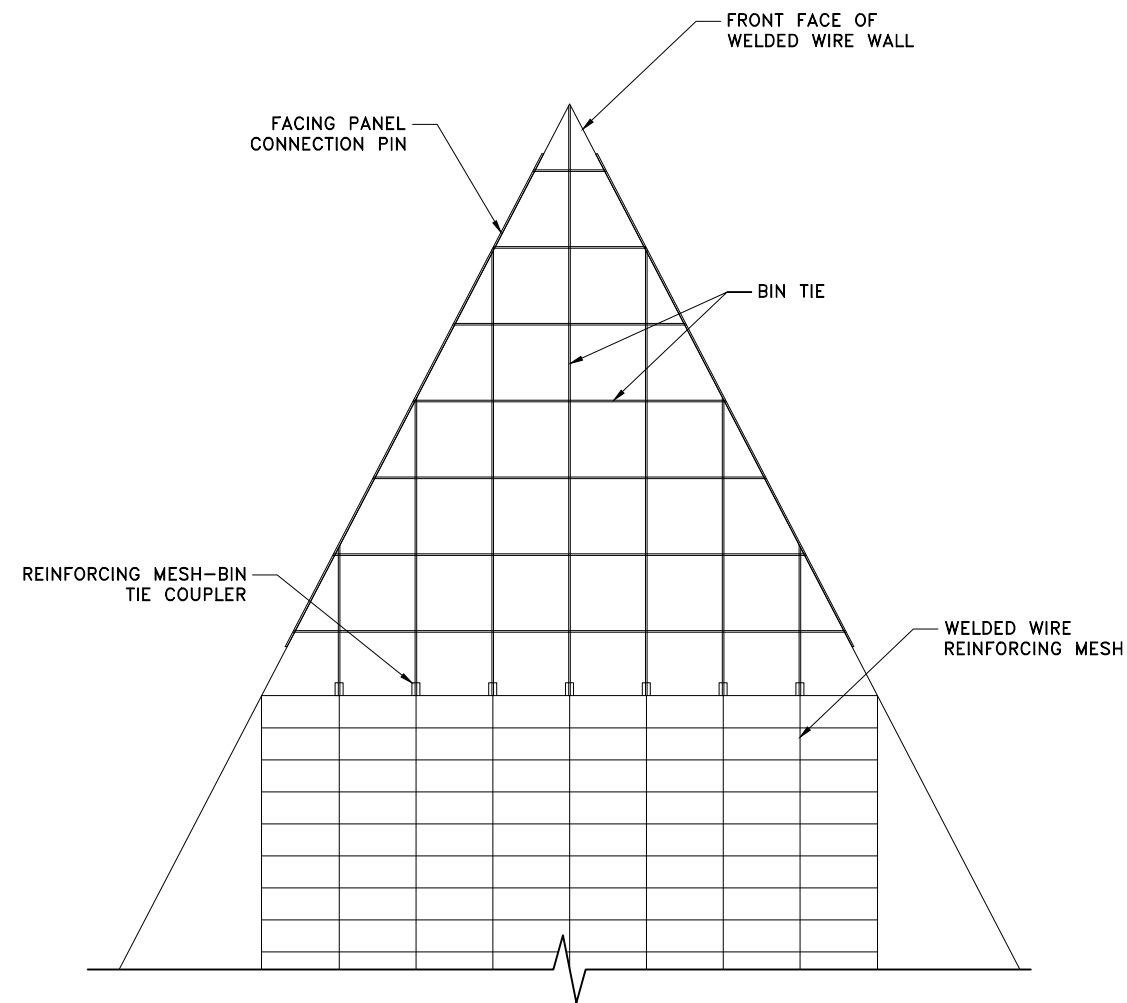
Scale: NTS

Job:

Sheet:

SD-09

Sheet 09 of 10



BIN WALL PLAN VIEW

SCALE: (NTS)

CERTIFIED ONLY WITH RESPECT
TO INTERNAL STABILITY OF
REINFORCED EARTH STRUCTURES



INNOVATIVE CONSTRUCTION PRODUCTS™
4740 SCOTTS VALLEY DRIVE, SUITE E
SCOTTS VALLEY, CA 95066
PHONE: (831) 430-9300 FAX: (831) 430-9340

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO SSL AND IS FURNISHED FOR THE PROJECT SHOWN ONLY. THIS INFORMATION SHALL NOT BE TRANSMITTED TO ANY OTHER PERSON OR AGENCY WITHOUT WRITTEN CONSENT OF SSL.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, SSL HAS DESIGNED THE STRUCTURE(S) SHOWN AND IS RESPONSIBLE FOR INTERNAL STABILITY ONLY. THE OWNER REMAINS RESPONSIBLE FOR EXTERNAL STABILITY INCLUDING FOUNDATION (BEARING CAPACITY AND SETTLEMENT) AND SLOPE STABILITY (SLIDING AND ROTATION).

DRAWN BY:					
CHECK BY:					
DESIGN BY:					
CHECK BY:					
PROJ. ENGR:	NO.	DATE	REVISION DESCRIPTION	BY	

BIN WALL DETAIL

ADOT CERTIFICATION PACKAGE

Scale: **NTS**

Job:

Sheet:

SD-10

Sheet **10** of **10**