

I-89 BRIDGE DECK REPLACEMENTS I-89 OVER STOWE STREET WATERBURY, VT VTRANS PROJECT NO. IM 089-2(43)

T-WALL® RETAINING WALL SYSTEM

DESIGNER



THE NEEL COMPANY

8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PRECASTER



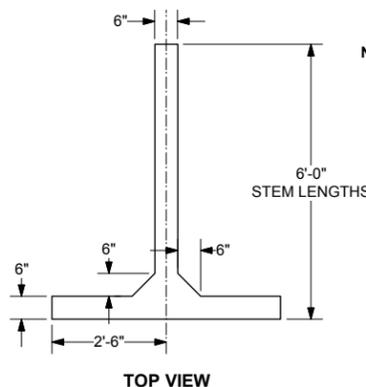
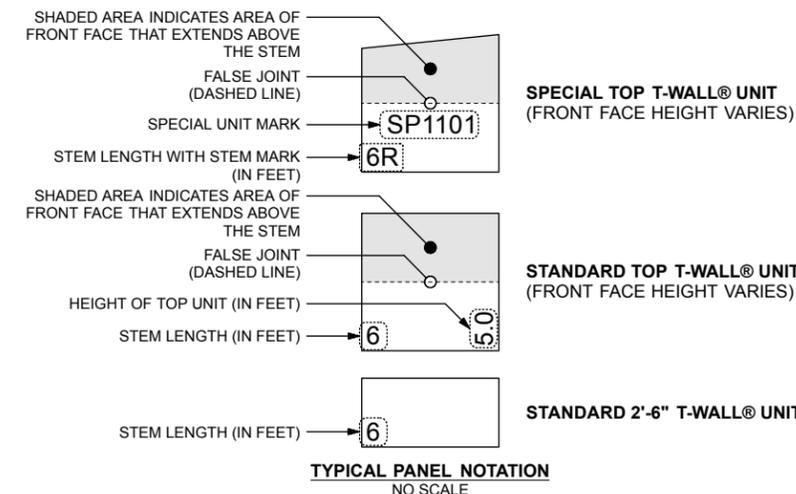
Concrete Systems Inc.

9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417
Web www.csigroup.biz

INDEX OF DRAWINGS

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INDEX OF DRAWINGS**

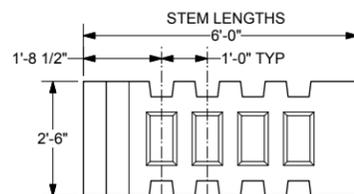
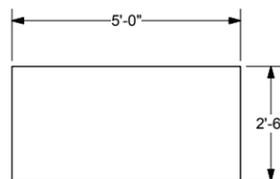
LEGEND



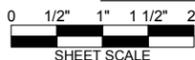
NOTES:
• UNIT STEM LENGTHS RANGE FROM 2.25' TO 12'-0", IN 2'-0" INCREMENTS

T-WALL® UNIT WEIGHTS

PANEL TYPES	WEIGHTS
2.5x5.0x06 Std	1836 lbs
2.5x5.0x08 Std	2098 lbs
2.5x5.0x10 Std	2360 lbs
2.5x5.0x12 Std	2622 lbs



TYPICAL 2'-6" x 5'-0" x 6'-0" STEM T-WALL® UNIT



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This drawing contains information proprietary to The Neel Company. T-WALL® is a registered trademark owned by The Neel Company. ©2015 The Neel Company

PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

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THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

NO.	DESCRIPTION	DATE	BY	APP.
1	ADDRESS STANTEC COMMENTS 2/19/2015	2/19/2015	CTH	3/6/2015

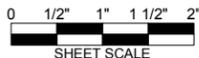
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
COVER SHEET
T-WALL® RETAINING WALL SYSTEM**

SCALE:	NO SCALE
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-1

1

INDEX OF DRAWINGS

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CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER



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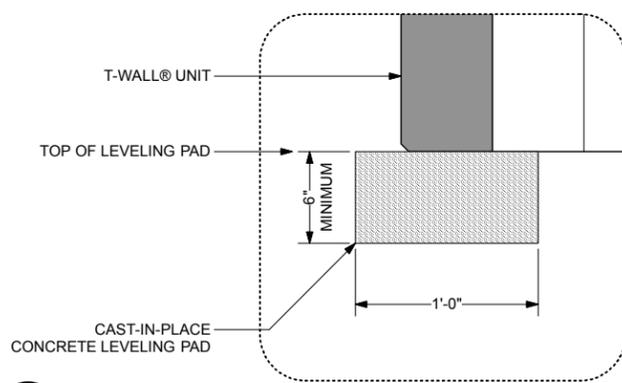


REVISIONS

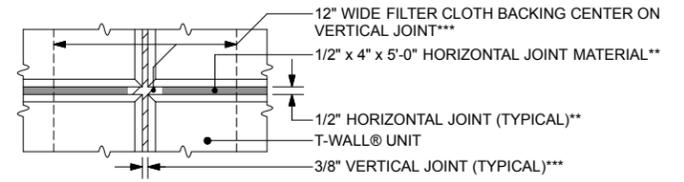
NO.	DESCRIPTION	BY	DATE
1	UPDATE INDEX OF SHEETS	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
INDEX OF DRAWINGS
T-WALL® RETAINING WALL SYSTEM

SCALE: NO SCALE
DATE: 1/23/2015
DESIGNED BY: KB
DRAWN BY: CTH
CHECKED BY: KB
SHEET: TW-2



4 LEVELING PAD DETAIL
Scale: 2" = 1'-0"



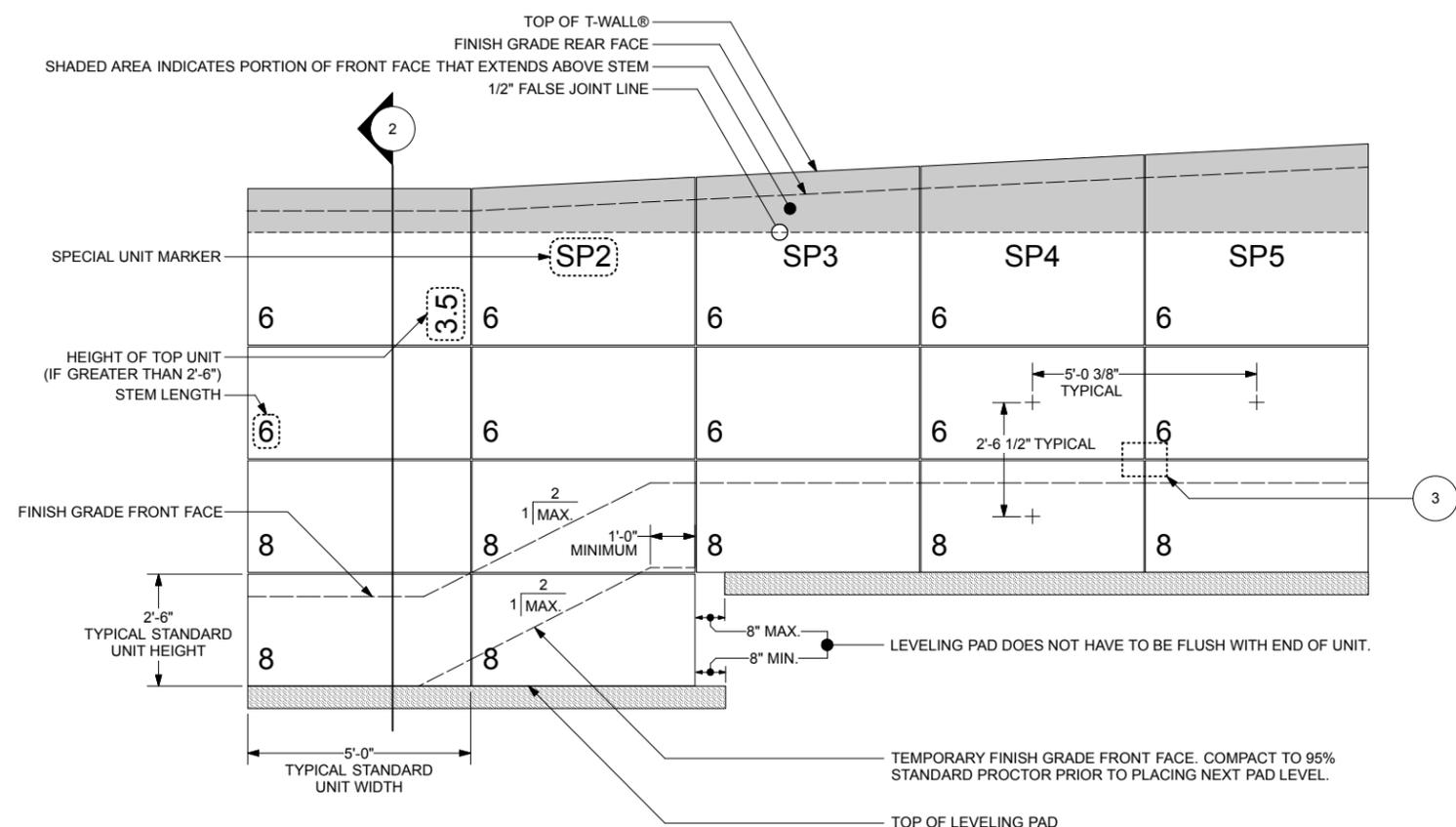
3 HORIZONTAL AND VERTICAL JOINT DETAIL
Scale: 2" = 1'-0"
** SEE GENERAL NOTE 4 ON SHEET TW-4 FOR ADDITIONAL DETAILS
*** SEE GENERAL NOTE 5 ON SHEET TW-4 FOR ADDITIONAL DETAILS

NOMENCLATURE NOTE:

THIS SHEET IS PROVIDED FOR GENERAL INFORMATION PURPOSES ONLY, REFERENCING STANDARD DETAILS APPLICABLE TO ANY T-WALL® STRUCTURE. THIS SHEET IS NOT INTENDED TO PROVIDE DETAILS SPECIFIC TO THE WALL STRUCTURES CONTAINED IN THIS DRAWING PACKAGE. FOR INFORMATION SPECIFIC TO THESE WALLS, SEE THE APPLICABLE DRAWING SHEETS.

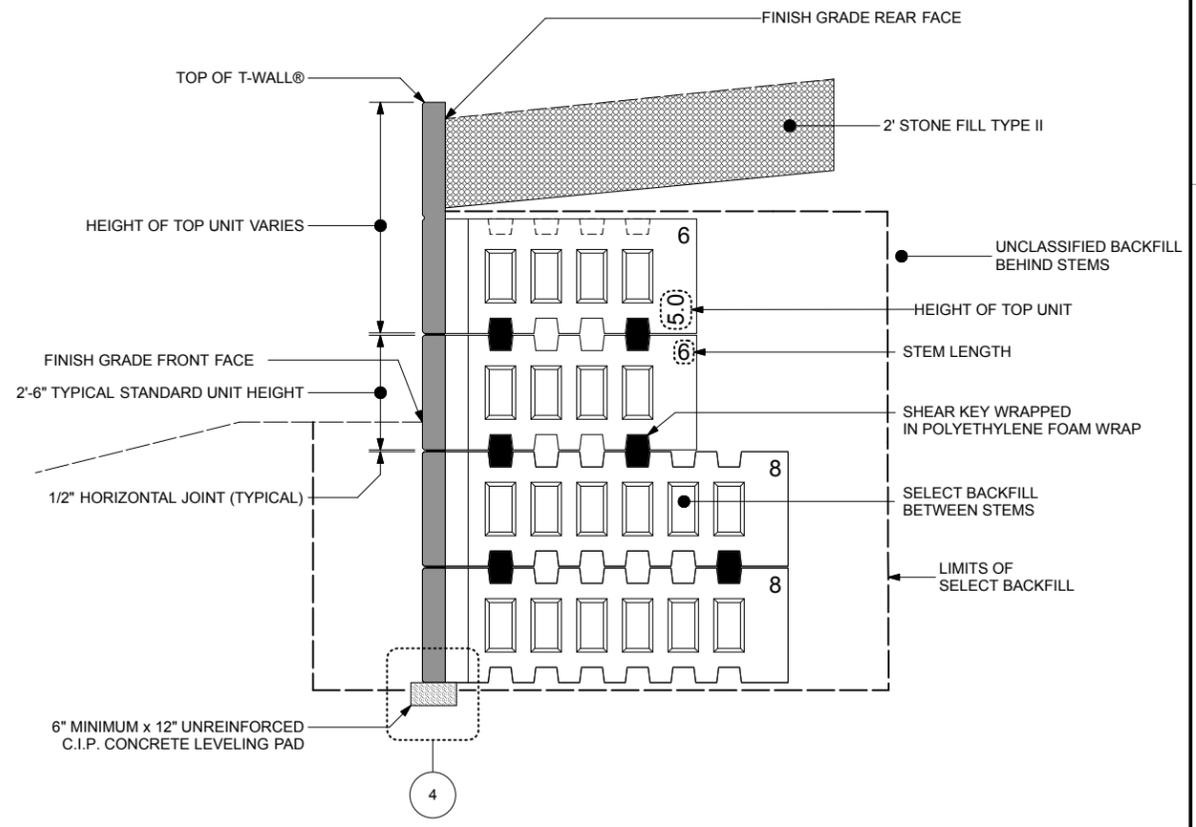
SHEAR KEY NOTES:

1. WALL IS DESIGNED FOR SPECIFIC NUMBER OF SHEAR KEYS AS NOTED IN 'GENERAL NOTES', NOTE 11 'SHEAR KEY' ON SHEET TW-4. LOCATION OF SHEAR KEYS CAN BE ADJUSTED IF NECESSARY AT A SPECIFIC LEVEL.



1 PARTIAL ELEVATION SHOWN - TYPICAL DETAILS
Scale: 1/2" = 1'-0"

NOT ALL DETAILS APPLY. SEE SPECIFIC WALL ELEVATIONS



2 PARTIAL ELEVATION SHOWN - TYPICAL DETAILS
Scale: 1/2" = 1'-0"

NOT ALL DETAILS APPLY. SEE SPECIFIC WALL ELEVATIONS



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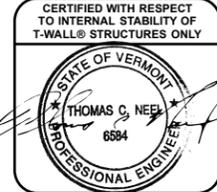
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REVISIONS	

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
T-WALL® NOMENCLATURE AND TYPICAL SYSTEM DETAILS
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-3

UTILITIES NOTES:

1. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES (HORIZONTAL AND VERTICAL) PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL NOTIFY OTHER PUBLIC UTILITIES (GAS, PHONE, ELECTRIC, CABLE TV, WATER, SEWER, ETC.) TO MAKE ALL NECESSARY ADJUSTMENTS TO RESPECTIVE FACILITIES BEFORE START OF CONSTRUCTION OF T-WALL'S LEVELING PAD.
3. ANY EXISTING UTILITIES THAT ARE LOCATED WITHIN THE STEM AREA OF THE T-WALL® UNITS MUST BE RELOCATED. ALL UTILITIES MUST STAY CLEAR OF T-WALL® STEM BY 2'-0".
4. T-WALL® UNIT AND UTILITY CONFLICTS:
 - FIELD CUTTING OF T-WALL® UNITS TO AVOID UTILITY CONFLICTS (NOT SHOWN ON CONTRACT DRAWINGS) IS PROHIBITED UNTIL IT IS BROUGHT TO THE DESIGNER'S ATTENTION. THE NEEL COMPANY SHALL PROVIDE DIRECTION AND / OR REDESIGN T-WALL® UNITS TO AVOID CONFLICTS.

SPECIAL NOTES:

1. THESE DRAWINGS WERE PREPARED BASED ON INFORMATION GIVEN IN THE FOLLOWING:
 - **CONTRACT DRAWINGS:**
 - IM 089-2(43) (RE-ADVERTISED)
 - PREPARED BY STANTEC, SOUTH BURLINGTON, VT, 6/10/2014
 - **GEOTECHNICAL REPORT:**
 - INFORMATION PROVIDED ON CONTRACT DRAWINGS BR100 THRU BR106
 - **SPECIFICATIONS:**
 - NONE PROVIDED
2. REPORT DISCREPANCIES BETWEEN CONTRACT INFORMATION AND ACTUAL CONDITIONS AS SITE WORK PROGRESSES TO THE NEEL COMPANY FOR REDESIGN. NO LIABILITY IS ACCEPTED FOR INACCURATE INFORMATION SUPPLIED BY OTHERS.
3. THE FOLLOWING ASSUMPTIONS WERE MADE:
 - FOUNDATION IS ABLE TO SUPPORT BEARING PRESSURE SHOWN IN SPECIAL NOTES 4 WITH AN ACCEPTABLE FACTOR OF SAFETY.
4. APPLIED BEARING PRESSURE AT MAXIMUM HEIGHT:

• WALL A	3,703 psf (FACTORED)	2,537 psf (UNFACTORED)
• WALL 1	3,001 psf (FACTORED)	2,022 psf (UNFACTORED)
• WALL 2	3,292 psf (FACTORED)	2,266 psf (UNFACTORED)
• WALL 3	3,703 psf (FACTORED)	2,537 psf (UNFACTORED)
• WALL 4	4,732 psf (FACTORED)	3,197 psf (UNFACTORED)
• WALL 5	3,491 psf (FACTORED)	2,398 psf (UNFACTORED)
• WALL 6	4,446 psf (FACTORED)	3,017 psf (UNFACTORED)
• WALL 7	3,514 psf (FACTORED)	2,348 psf (UNFACTORED)
• WALL 8	3,491 psf (FACTORED)	2,398 psf (UNFACTORED)

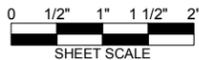
 - DESIGN IS BASED ON AASHTO LRFD
5. THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED UPON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, THE NEEL COMPANY HAS DESIGNED, AND IS RESPONSIBLE FOR, THE INTERNAL STABILITY OF THE STRUCTURE ONLY. EXTERNAL STABILITY, INCLUDING FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER.
6. THE NEEL COMPANY HAS NOT PERFORMED GLOBAL STABILITY SETTLEMENT AND BEARING CAPACITY ANALYSIS FOR THE WALL FOUNDATION. THESE ANALYSES WILL BE THE RESPONSIBILITY OF THE OWNER.
7. DRAINAGE:
 - THE NEEL COMPANY HAS NOT PERFORMED A DRAINAGE ANALYSIS FOR THIS WALL SITE. IT IS THE OWNER'S RESPONSIBILITY TO ASSURE THAT SURFACE RUN-OFF IS DIVERTED AWAY FROM THE WALL.
8. SELECT BACKFILL GRADATION AND COMPACTION:
 - BACKFILL GRADATION AND COMPACTION BETWEEN STEMS AND AROUND PIPES ARE IMPORTANT TO THE WALL STABILITY. THE OWNER'S GEOTECHNICAL ENGINEER SHOULD PROVIDE SUFFICIENT TESTING TO INSURE COMPLIANCE WITH THE SELECT BACKFILL GRADATION AND COMPACTION SPECIFICATIONS NOTED ON THIS SHEET. PLACEMENT OF LOOSE LIFT OF BACKFILL SHALL NOT EXCEED 12 INCHES.
9. T-WALL® FACE FORM FINISH:
 - PLAIN STEEL FORM FINISH
10. SCOUR PROTECTION NOTE:
 - THE NEEL COMPANY HAS NOT PERFORMED ANY SCOUR ANALYSIS FOR THIS WALL.
 - THE NEEL COMPANY ASSUMES THAT THE BOTTOM OF WALL ELEVATIONS SHOWN ON THESE PLANS ARE BELOW SCOUR DEPTH FOR THIS LOCATION. THE ENGINEER/CONTRACTOR MUST VERIFY THIS ASSUMPTION. IF THIS ASSUMPTION IS NOT CORRECT, THE NEEL COMPANY MUST BE NOTIFIED SO THAT THE WALL DESIGN MAY BE REVIEWED.

T-WALL® LEGEND MARKERS:

- 6R = 6'-0" STEM LENGTH WITH A STEM HEIGHT OF 2'-2", REDUCE BY 4"
- SP1 = SPECIAL UNIT AND MARK NUMBER.

GENERAL NOTES:

1. PRIMARY REFERENCE:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4TH EDITION, 2007 WITH INTERIM REVISIONS.
2. SELECT BACKFILL BETWEEN STEMS (GRANULAR BACKFILL FOR STRUCTURES, ITEM 204.30):
 - ANGLE OF INTERNAL FRICTION - 34° (MINIMUM)
 - DENSITY - 120 PCF (MINIMUM)
 - 15% MAXIMUM PASSING #200 SIEVE
 - 100% PASSING 3" SIEVE
 - 95% STANDARD COMPACTION (ASTM D-698)
3. UNCLASSIFIED BACKFILL BEHIND STEMS (GRANULAR BACKFILL FOR STRUCTURES, ITEM 204.30):
 - ANGLE OF INTERNAL FRICTION - 30°
 - DENSITY - 120 PCF
 - 95% STANDARD COMPACTION (ASTM D-698)
4. HORIZONTAL JOINT:
 - 1/2 INCH FIBER EXPANSION JOINT MATERIAL PER ASTM D-1751 AS SHOWN ON DEVELOPED ELEVATIONS.
5. VERTICAL JOINT:
 - 3/8 INCH SPACE
 - 12 INCHES WIDE FILTER CLOTH BACKING CENTERED AT JOINT, UNLESS OTHERWISE NOTED.
 - FILTER CLOTH BACKING: MIRAFI 160N OR EQUAL
6. OVERALL DIMENSIONAL TOLERANCES FOR FINISHED WALL:
 - VERTICAL ALIGNMENT (PLUMBNESS) - 3/4 INCH IN 10 FEET
 - HORIZONTAL ALIGNMENT (LINE) - 3/4 INCH IN 10 FEET
7. FOUNDATION:
 - PROOF-ROLL THE FOUNDATION SUBGRADE ALONG THE ENTIRE WALL LENGTH PRIOR TO CONSTRUCTION OF THE T-WALL®. A GEOTECHNICAL ENGINEER MUST INSPECT THE EXCAVATED FOUNDATION SUBGRADE AND PROOF-ROLLING ACTIVITIES. ANY SOFT OR UNSUITABLE MATERIALS IDENTIFIED BY INSPECTION SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL BACKFILL AS DIRECTED BY THE ENGINEER. CONTRACTOR TO PROVIDE SUFFICIENT DEWATERING SO THAT THE EXCAVATIONS ARE DRY ENOUGH FOR INSPECTION, TESTING AND CONSTRUCTION.
8. CAST-IN-PLACE CONCRETE LEVELING PAD:
 - 6 INCHES MINIMUM x 12 INCHES
 - CONCRETE STRENGTH: 2500 psi (MINIMUM) @ 28 DAYS
 - NO REBAR
 - GRADE TOLERANCE - 1/4 INCH IN 10 FEET
9. T-WALL® UNIT REBAR:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - **WELDING IS NOT PERMITTED**
10. T-WALL® UNIT CONCRETE STRENGTH:
 - 5000 psi (MINIMUM) @ 28 DAYS
11. SHEAR KEYS:
 - NO REBAR
 - CONCRETE STRENGTH: 5000 psi (MINIMUM) @ 28 DAYS
 - WALL IS DESIGNED FOR SPECIFIC NUMBER OF SHEAR KEYS AS SHOWN IN TYPICAL SECTIONS ON SHEETS TW-5, TW-6, TW-9, TW-12, TW-15, TW-18, TW-21, TW-24, AND TW-27. LOCATION OF SHEAR KEYS CAN BE ADJUSTED IF NECESSARY AT A SPECIFIC LEVEL.
 - SHEAR KEY WRAP:
 - 1/4 INCH POLYETHYLENE FOAM WRAP TWO TIMES AROUND THE SHEAR KEY.
 - SHEAR KEY WRAP: AF250 POLYETHYLENE FOAM
12. CONSTRUCTION:
 - TO BE IN ACCORDANCE WITH T-WALL® CONSTRUCTION MANUAL (v07.04) AND TYPICAL T-WALL® NOMENCLATURE ON SHEET TW-2.
 - T-WALL® CONSTRUCTION MANUAL (v07.04) CAN BE DOWNLOADED FROM OUR WEB SITE AT www.neelco.com, UNDER "Downloads".
 - CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL EXCAVATED SLOPES. DESIGN AND CONSTRUCTION OF ANY REQUIRED TEMPORARY SUPPORT OF EXCAVATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL SURFACE RUNOFF IS TO BE DIVERTED AWAY FROM EXCAVATIONS TO AVOID THE DETERIORATION OF THE SUBGRADE SOILS DUE TO EXPOSURE TO MOISTURE.



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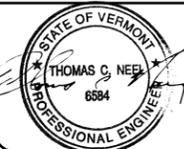
DESIGNER



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1	ADDRESS STANTEC COMMENTS 2/19/2015	CTH	3/6/2015

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I-89 OVER STOWE STREET**

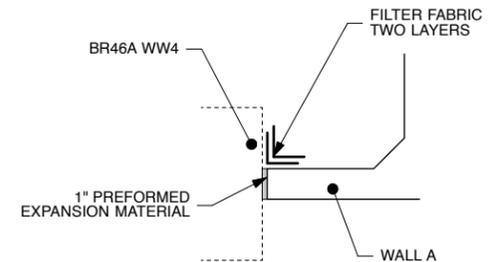
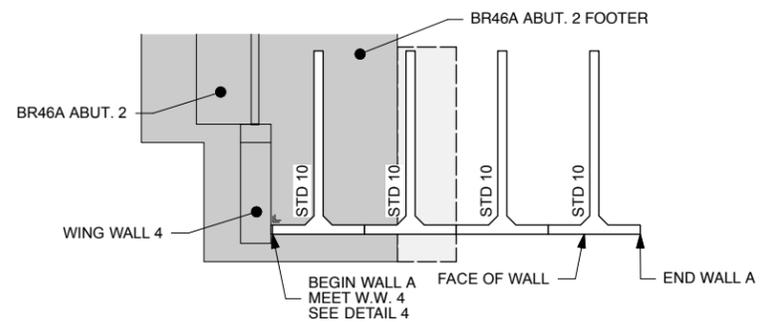
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
GENERAL T-WALL® NOTES AND QUANTITIES
T-WALL® RETAINING WALL SYSTEM

SCALE:	NO SCALE
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-4

T-WALL Unit Count for Wall A 3/9/15 10:14:35 AM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	4	50.00	13
2.5 x 5.0 x 10 Std	4	50.00	17
6.0 x 5.0 x 06 Std Top	4	120.00	10
TOTALS:	12 ea	220.00 sf	40 cy

NOTE: Select backfill quantities are between stems only.

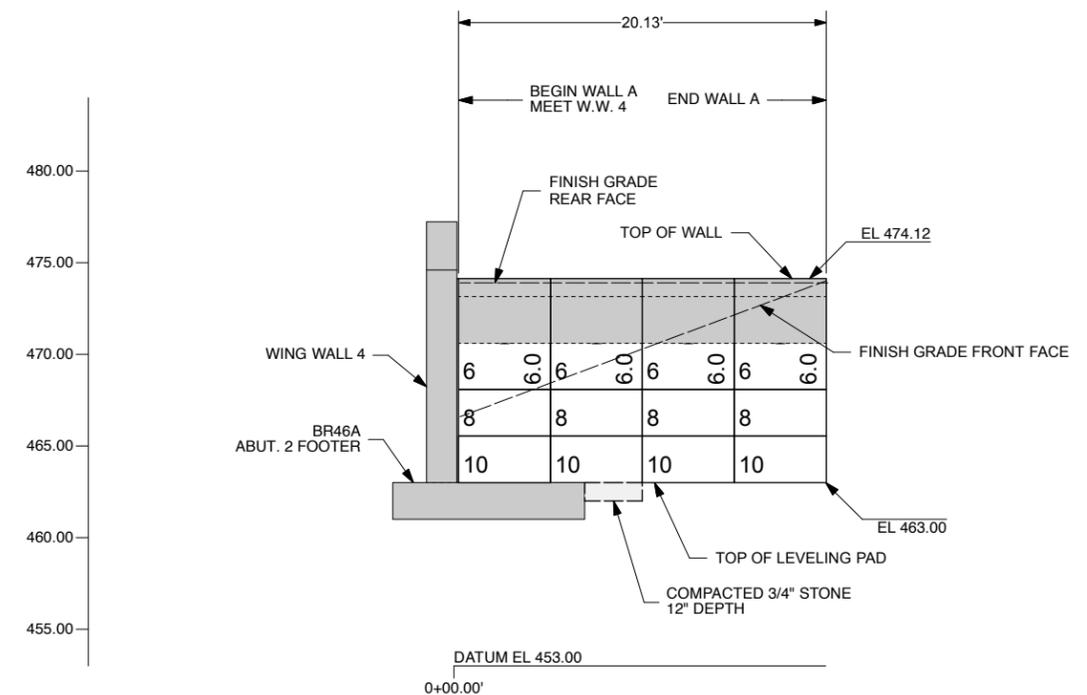


4 BEGIN WALL DETAIL
Scale: 1:18

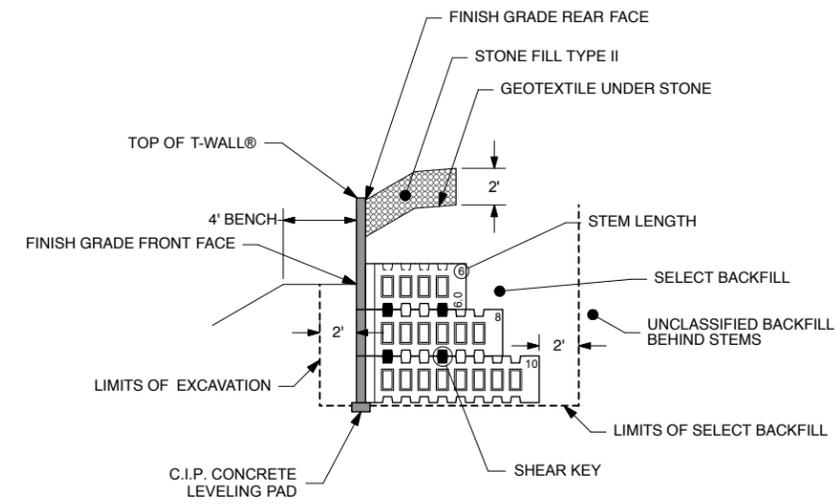
SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	16 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	56.00 LF

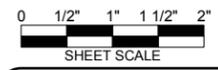
1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION
Scale: 1:60



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

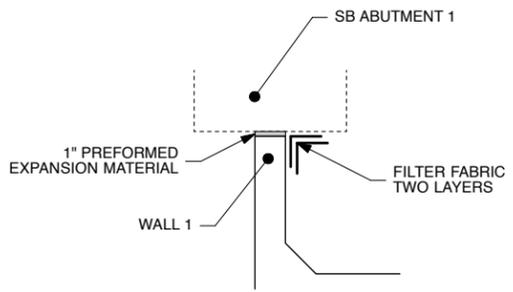
PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY

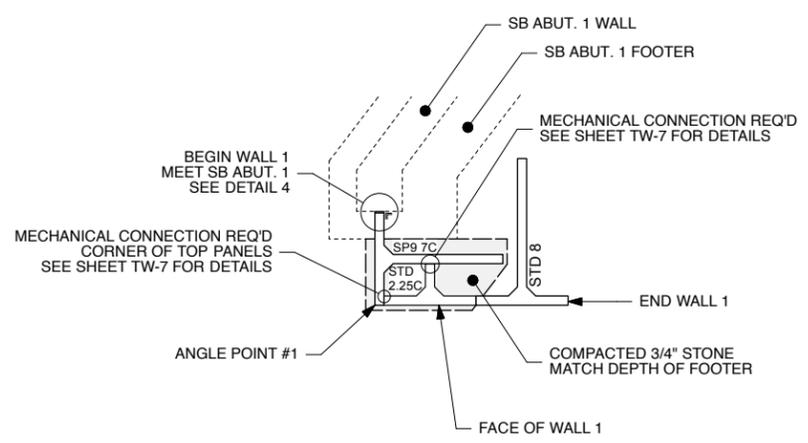
REVISIONS	

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL A ELEVATION, PLAN AND SECTION
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-5



4 BEGIN WALL DETAIL
Scale: 1:18



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60

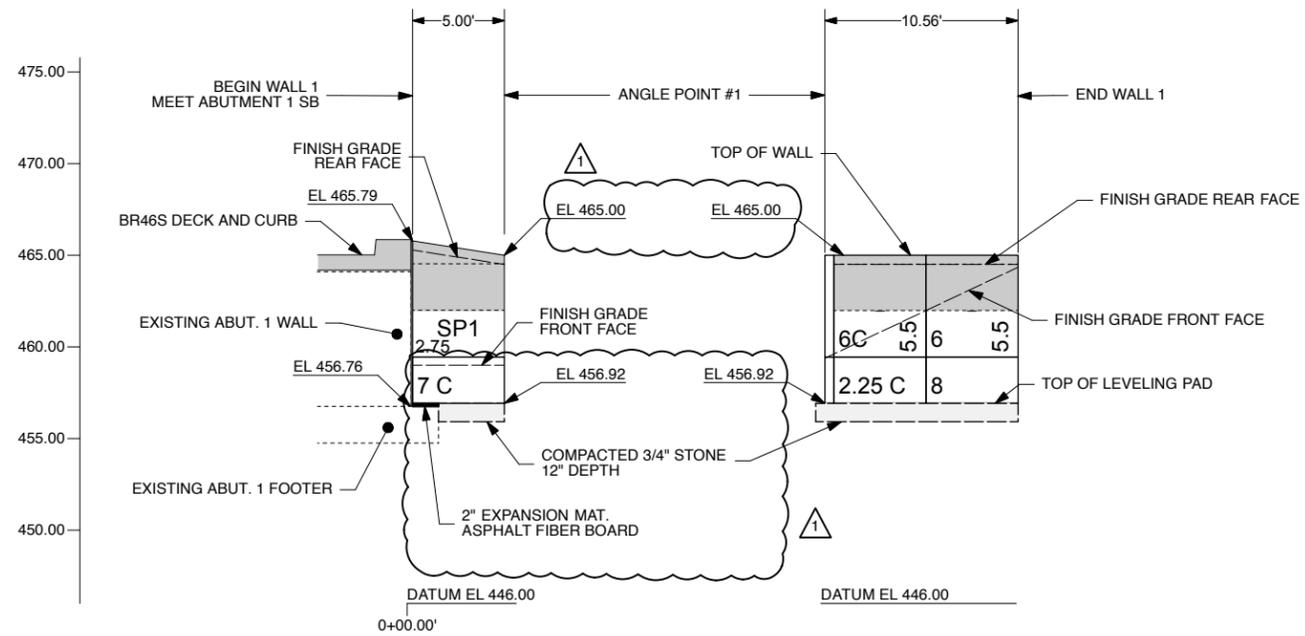
T-WALL Unit Count for Wall 1 3/9/15 11:44:49 AM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	1	12.50	3
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
5.5 x 5.0 x 06 Std Top	1	27.50	2
5.5 x 5.0 x 06 Std Top Cnr	1	27.50	2
Special Units	1	29.67	1
TOTALS:	6 ea	122.17 sf	13 cy

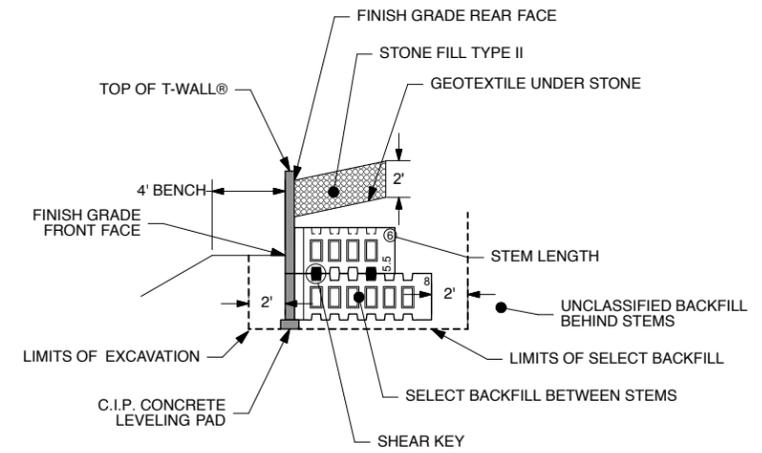
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	3 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	15.00 LF
Filter Cloth (12" wide)***	40.00 LF



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION AT SOUTH FACE
Scale: 1:60



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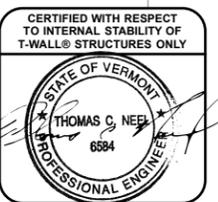
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

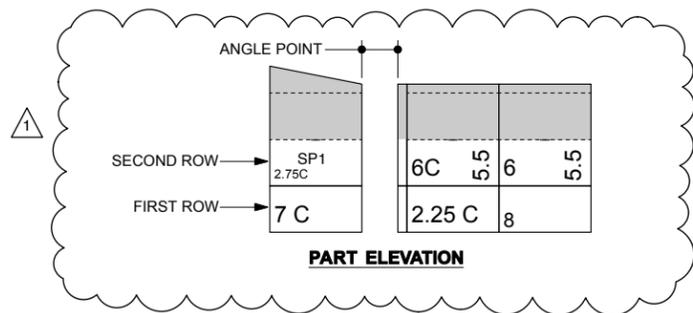


REVISIONS

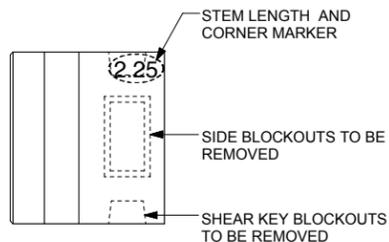
NO.	DESCRIPTION	BY	DATE
1	ELIMINATE BLOCKOUT AND RAISE WALL 2"	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 1 ELEVATION, PLAN, SECTION
T-WALL® RETAINING WALL SYSTEM

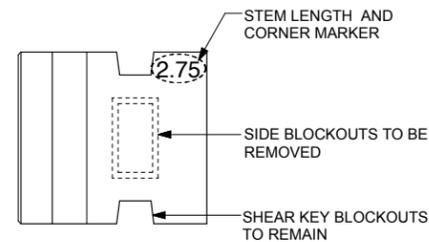
SCALE: AS NOTED
DATE: 1/23/2015
DESIGNED BY: KB
DRAWN BY: CTH
CHECKED BY: KB
SHEET: TW-6



PART ELEVATION

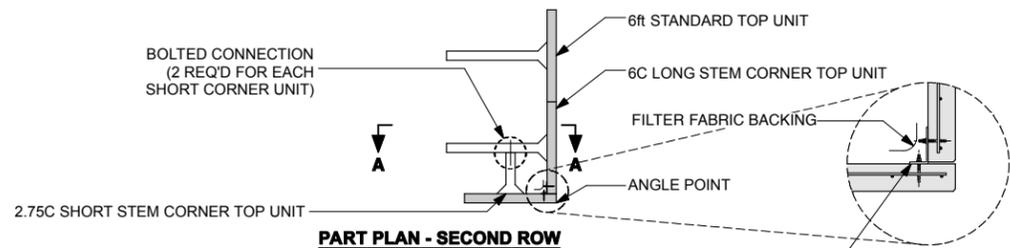


SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.

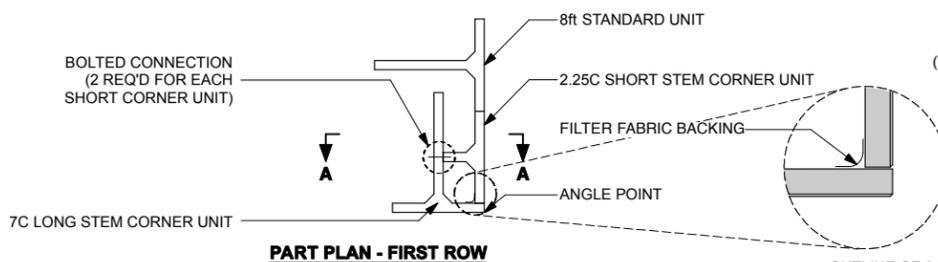


SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.

CORNER CONNECTION SHIPLOOSE LIST		
ITEM		QNTY
12" x 6" x 3/8" Hot Dipped Galv Bent Plate		1 ea
1/2" x 5 1/2" Galv Exp Anchor w/Nut & Washer		3 ea
3/4" x 12" Galv Exp Anchor w/Nut & Washer		4 ea

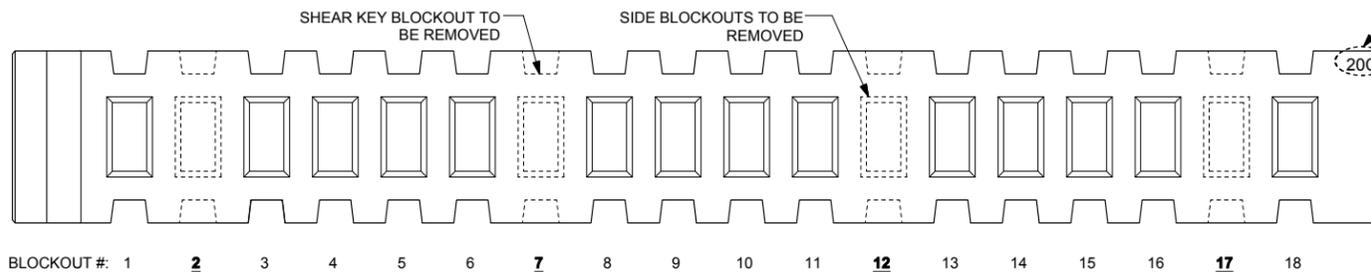


PART PLAN - SECOND ROW



PART PLAN - FIRST ROW

STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS
TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE

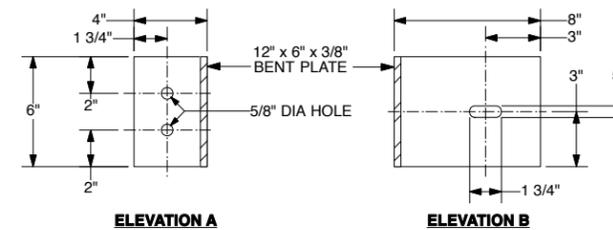


BLOCKOUT #: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

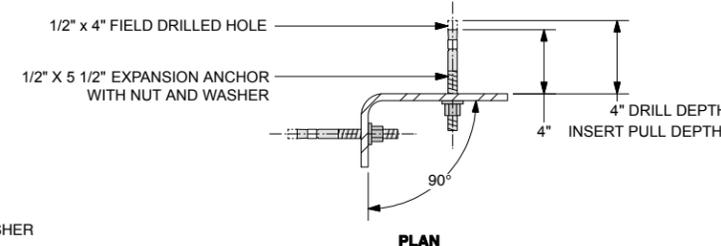
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

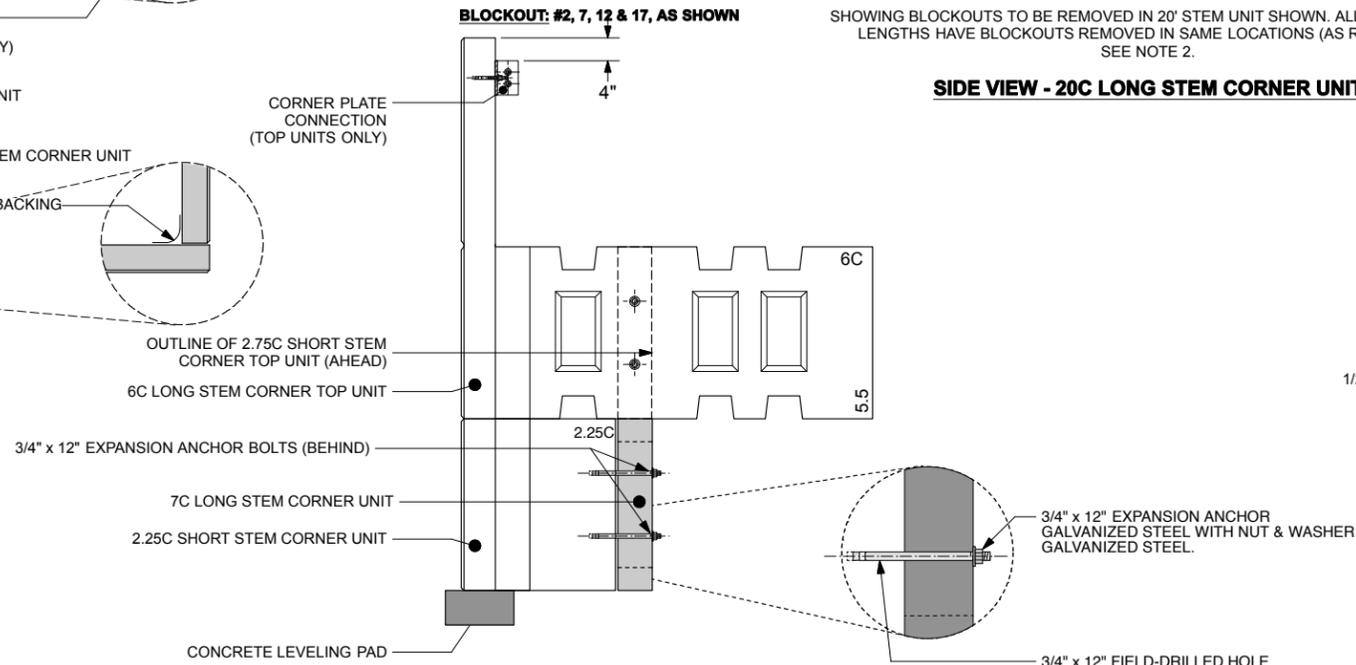
ELEVATION B



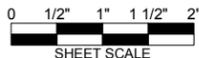
PLAN CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



SECTION A-A



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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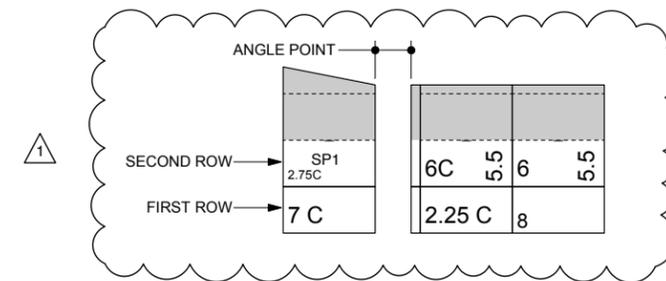
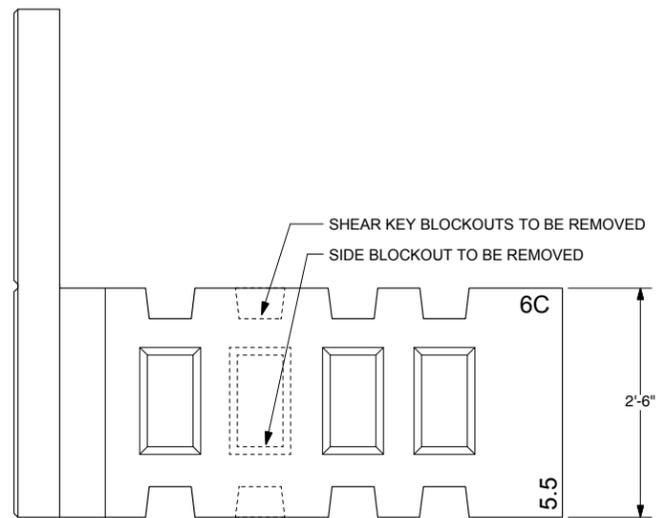
STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS		
1	CORRECTED CORNER PIECE LABELS	CTH 3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 1 90 DEG. CORNER DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-7

6' LONG STEM BY 5' HEIGHT TOP CORNER UNIT
(SEE SHEET TW-40 FOR MORE DETAIL)



PARTIAL ELEVATION AT ANGLE POINT

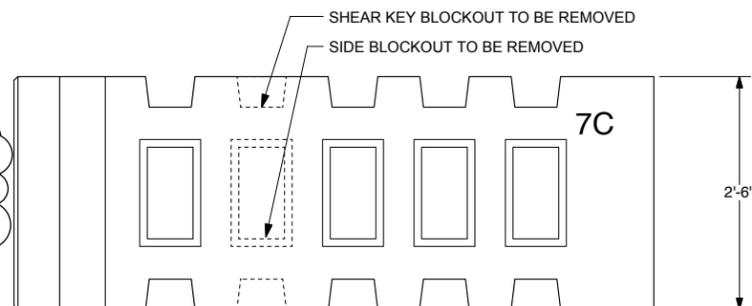
NOTES:

1. ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
2. FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

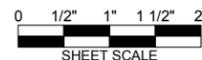
GENERAL NOTES:

1. PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
2. MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
3. CONCRETE:
 - F'c = 5000psi @ 28 DAYS
4. REBAR:
 - EPOXY
 - GRADE 60
5. T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH

7' LONG STEM CORNER UNIT
(SEE SHEET TW-30 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM



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HUDSON, NH
PROJECT #: T22259

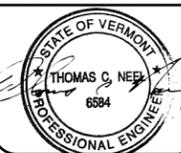
CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
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SPRINGFIELD, VIRGINIA 22152
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PROJECT #: TW4437

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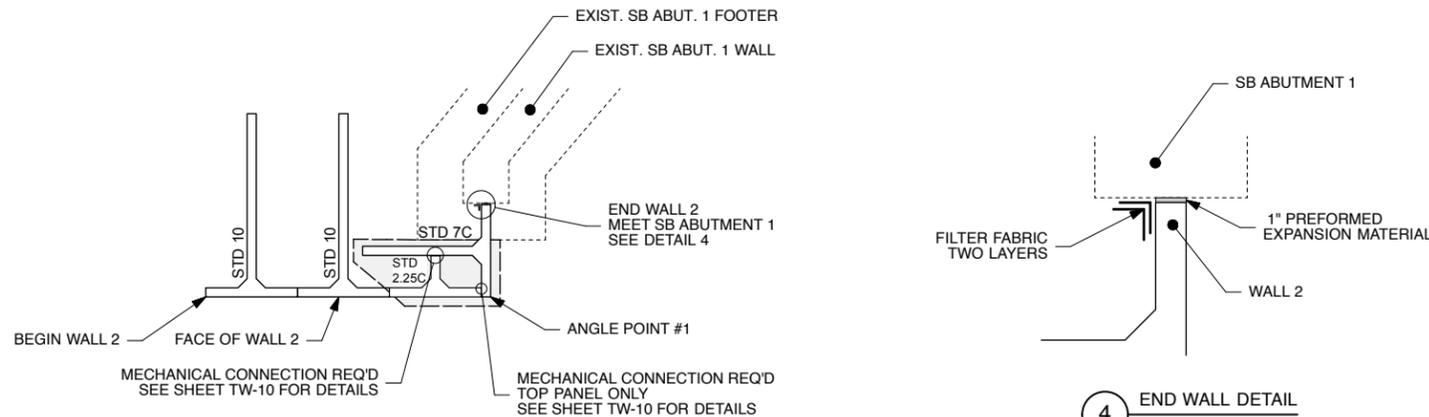


REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 1 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM**

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-8



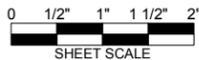
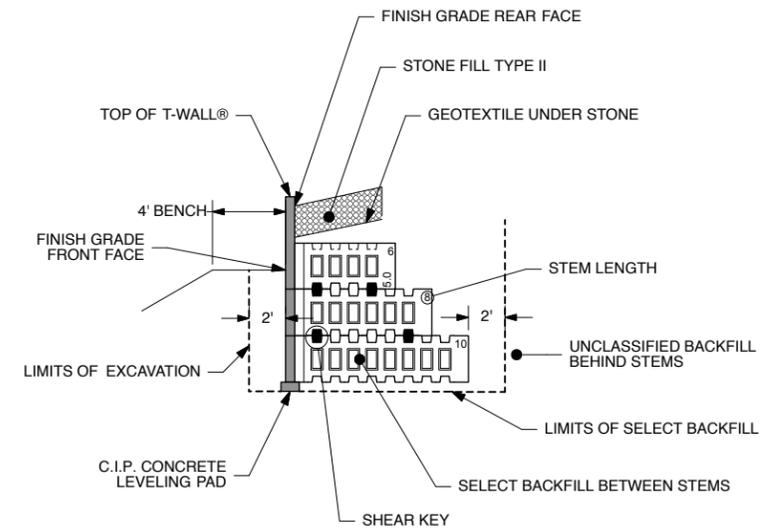
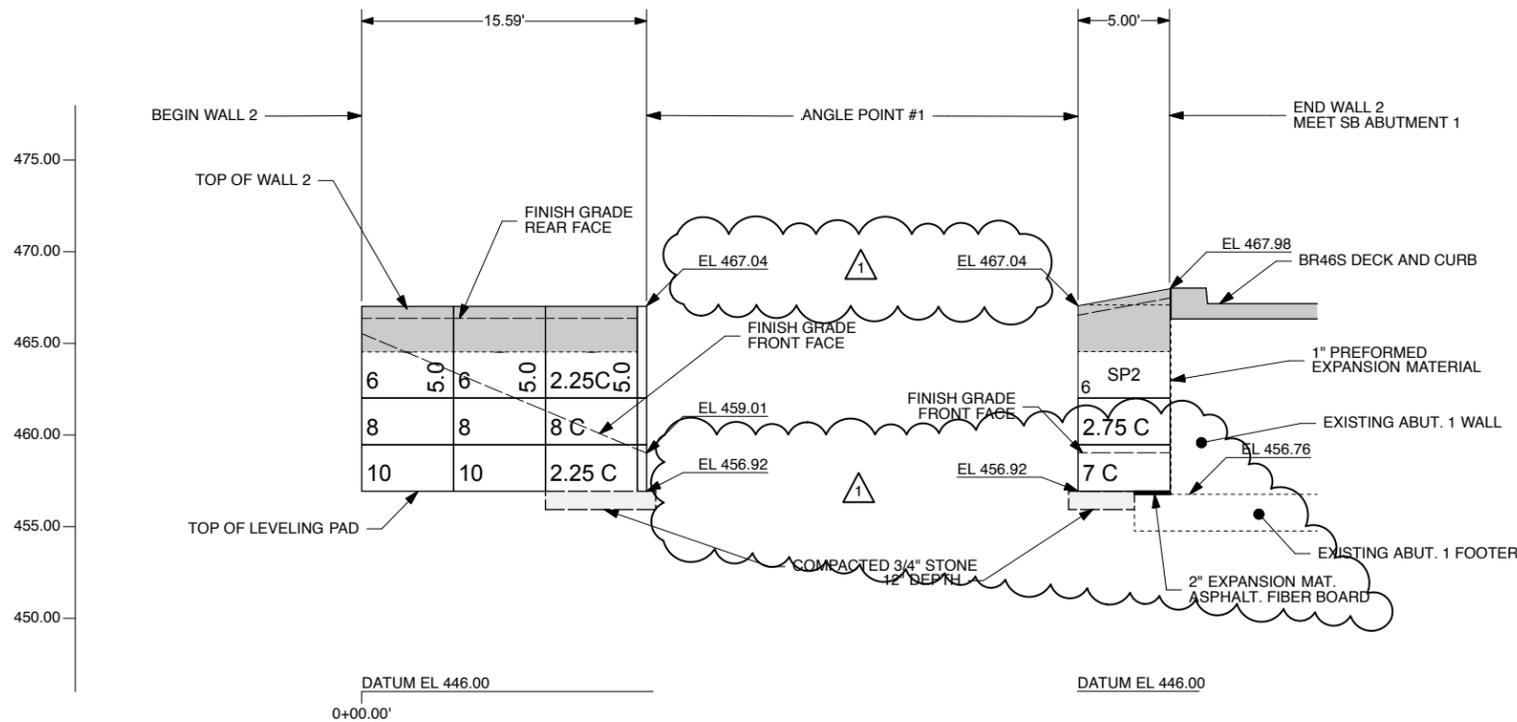
T-WALL Unit Count for Wall 2 3/9/15 11:47:29 AM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
2.5 x 5.0 x 08 Std Cnr	1	12.50	3
5.0 x 5.0 x 06 Std Top	2	50.42	5
5.0 x 5.0 x 02.25 Std Top Cnr	1	25.21	1
Special Units	1	27.55	2
TOTALS:	12 ea	203.18 sf	31 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	10 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	65.00 LF



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CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
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DESIGNER

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PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

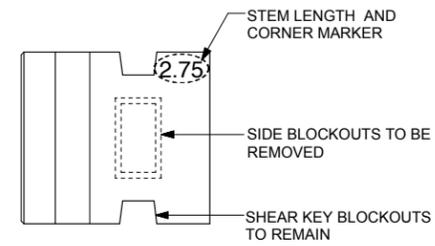
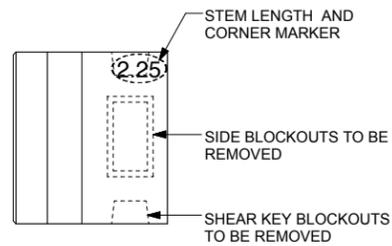
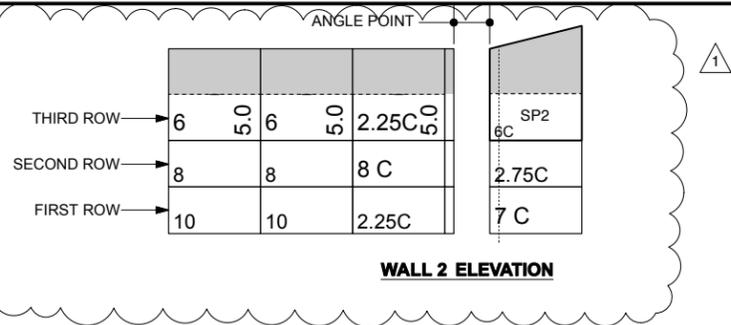


REVISIONS

NO.	DESCRIPTION	BY	DATE
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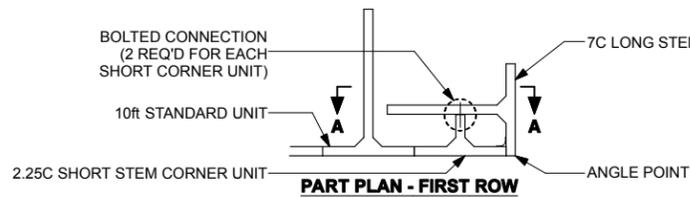
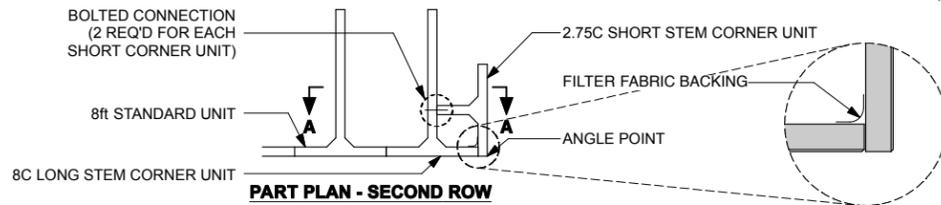
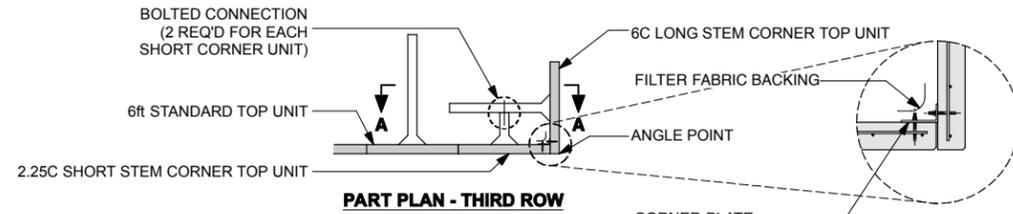
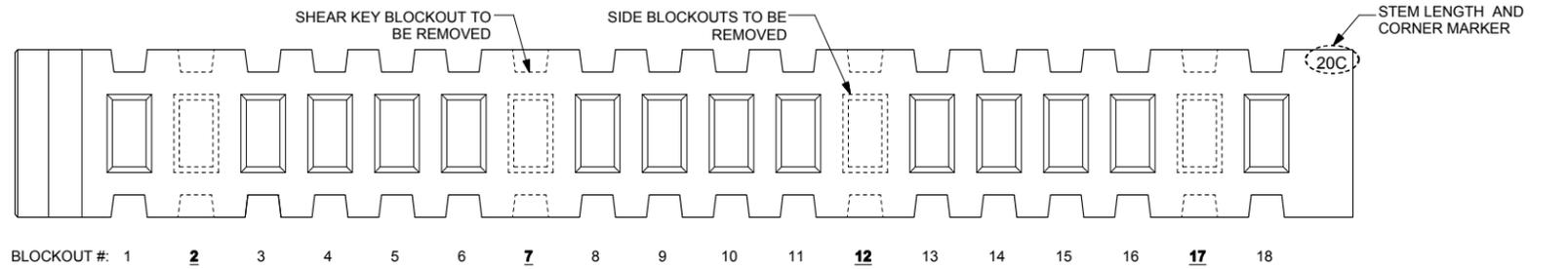
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 2 ELEVATION, PLAN, SECTION
T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED
DATE: 1/23/2015
DESIGNED BY: KB
DRAWN BY: CTH
CHECKED BY: KB
SHEET: TW-9

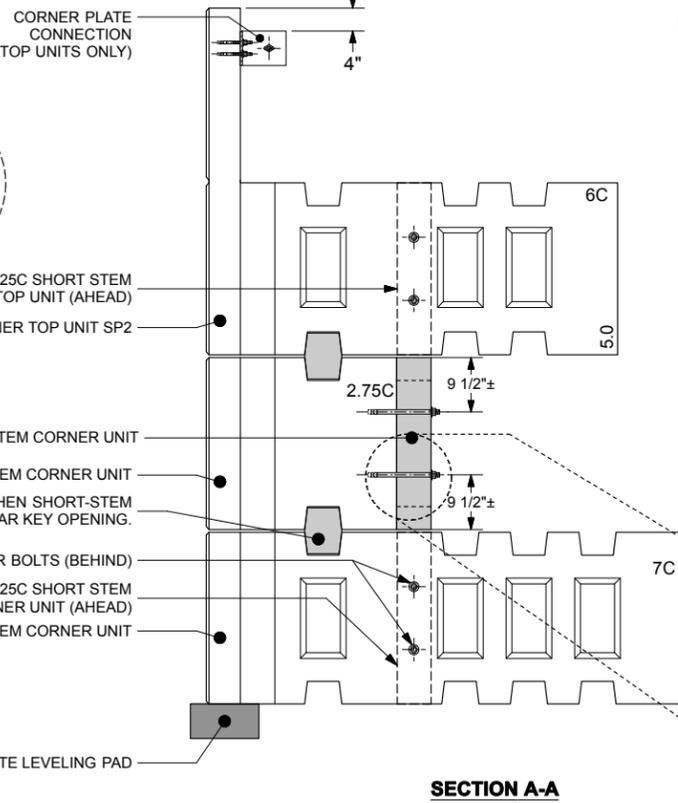


CORNER CONNECTION SHIPLOOSE LIST

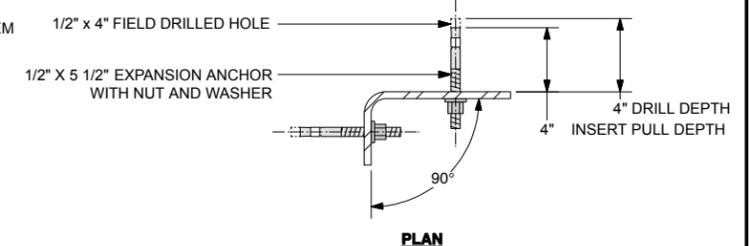
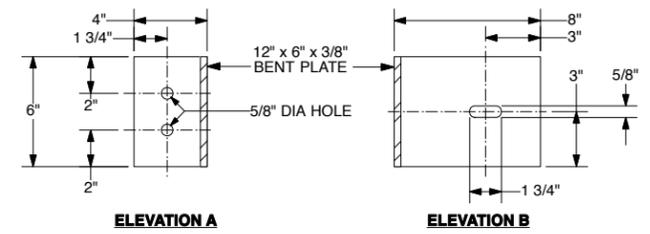
ITEM	QNTY
12" x 6" x 3/8" Hot Dipped Galv Bent Plate	1 ea
1/2" x 5 1/2" Galv Exp Anchor w/Nut & Washer	3 ea
3/4" x 12" Galv Exp Anchor w/Nut & Washer	6 ea



TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE



SIDE VIEW - 20C LONG STEM CORNER UNIT



- NOTES:**
- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
 - FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
 - FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
 - PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
 - EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
 - HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



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DESIGNER

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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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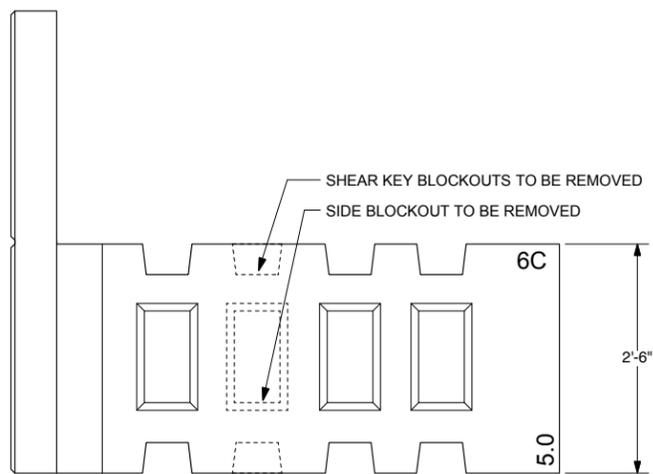
REVISIONS

NO.	DESCRIPTION	BY	DATE
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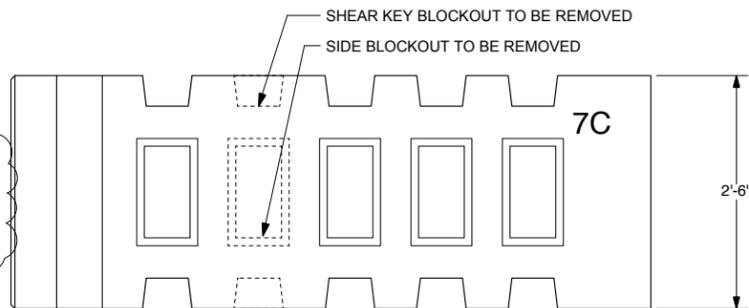
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 2 90 DEG. CORNER DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED
DATE: 1/23/2015
DESIGNED BY: KB
DRAWN BY: CTH
CHECKED BY: KB
SHEET: TW-10

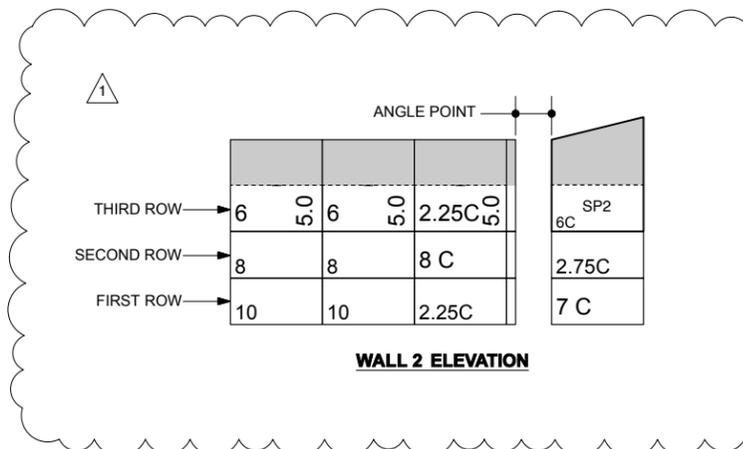
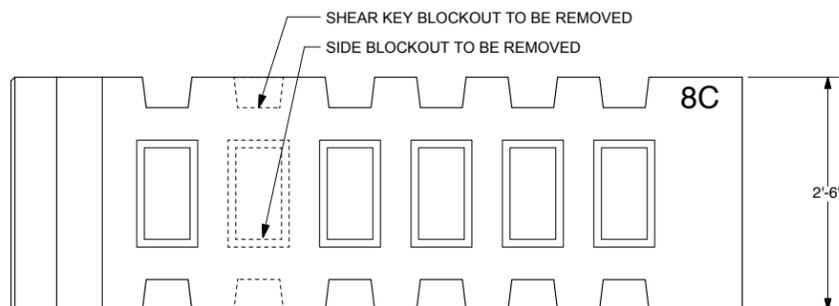
6' LONG STEM BY 5' HEIGHT CORNER UNIT SP2
(SEE SHEET TW-46 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET TW-30 FOR MORE DETAIL)



8' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)



NOTES:

1. ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
2. FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS.

GENERAL NOTES:

1. PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
2. MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
3. CONCRETE:
 - F'c = 5000psi @ 28 DAYS
4. REBAR:
 - EPOXY
 - GRADE 60
5. T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM

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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

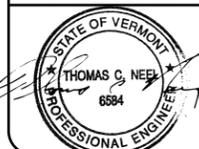
CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015

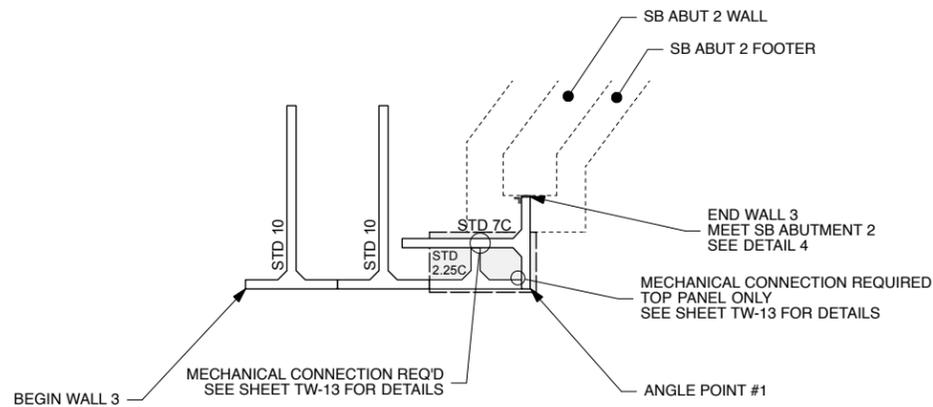
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)**

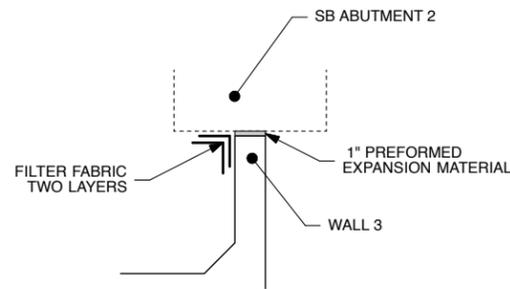
SHOP DRAWINGS
WALL 2 CORNER PAN REMOVAL DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-11



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60



4 END WALL DETAIL
Scale: 1:18

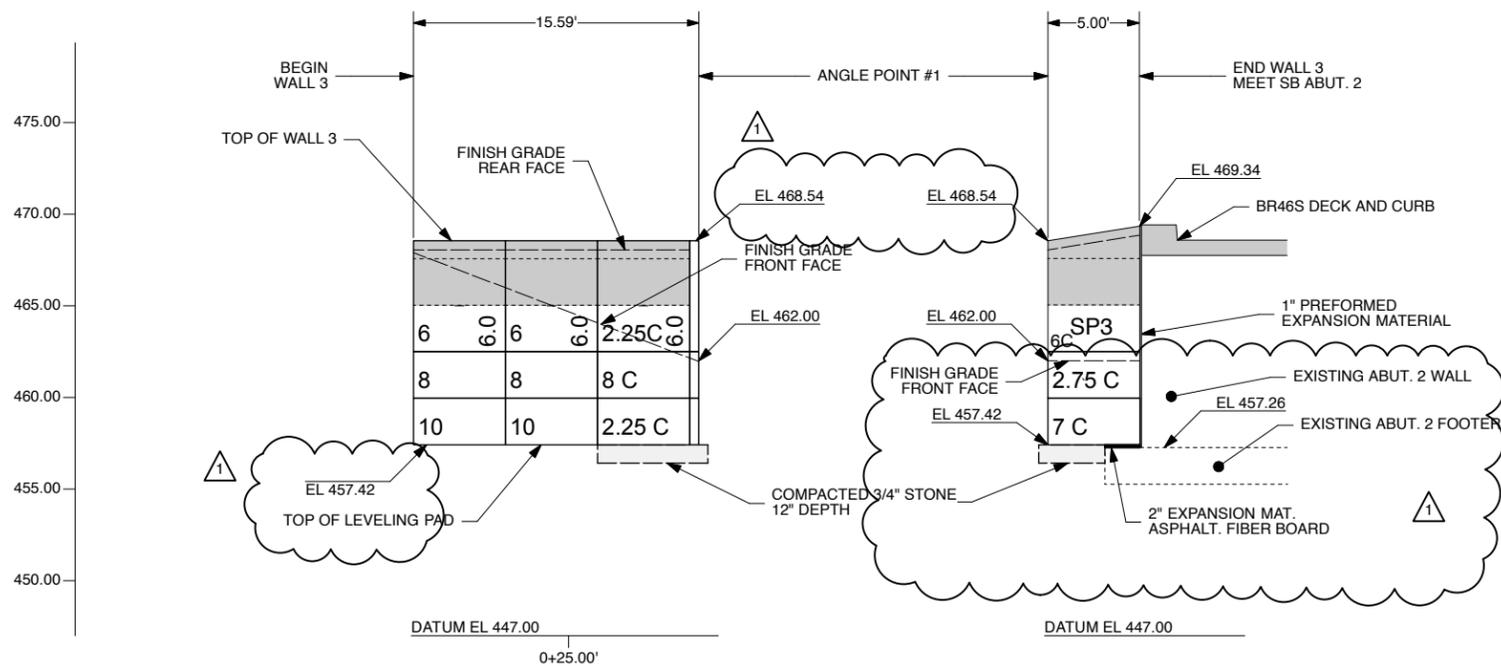
T-WALL Unit Count for Wall 3 3/9/15 11:51:53 AM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 07.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
2.5 x 5.0 x 08 Std Cnr	1	12.50	3
6.0 x 5.0 x 06 Std Top Cnr	2	60.00	5
6.0 x 5.0 x 02.25 Std Top Cnr	1	30.00	1
Special Units	1	32.20	2
TOTALS:	12 ea	222.20 sf	31 cy

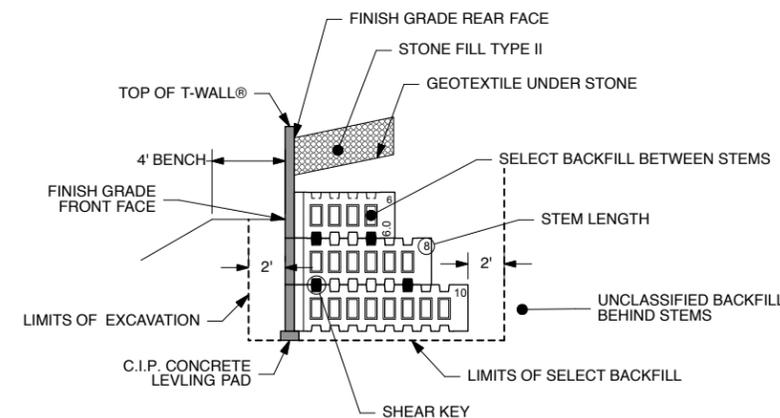
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	10 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	68.00 LF



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION AT SOUTHWEST FACE
Scale: 1:60



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ELIMINATE BLOCKOUT AND RAISE WALL 2"	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
WALL 3 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

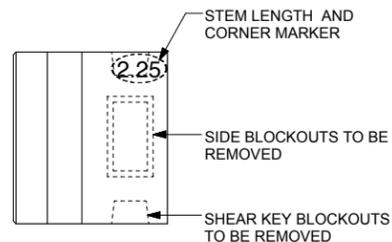
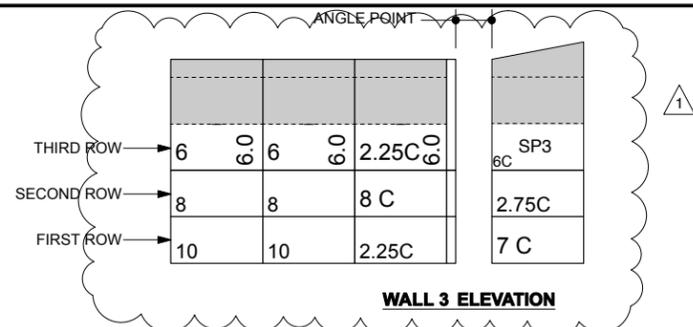
DATE: 1/23/2015

DESIGNED BY: KB

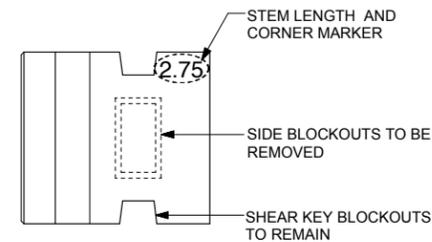
DRAWN BY: CTH

CHECKED BY: KB

SHEET: TW-12

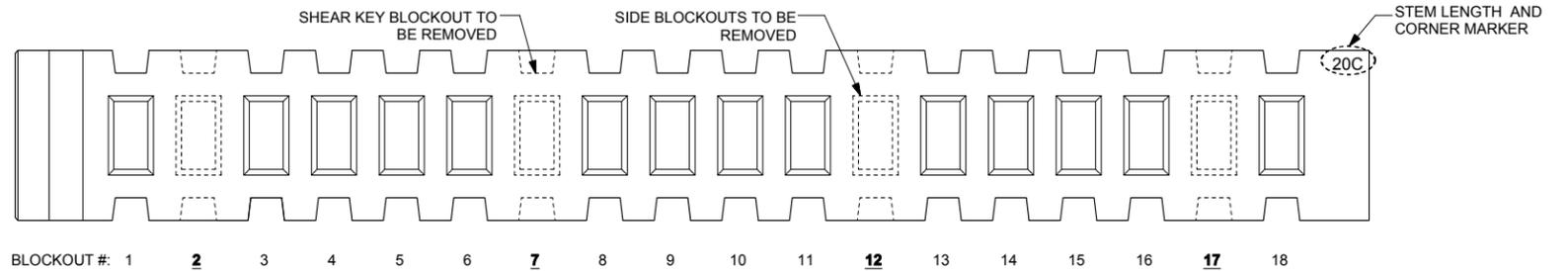


SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.

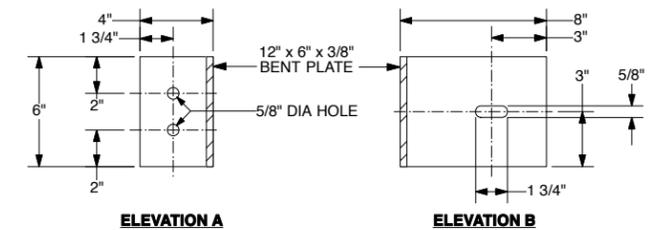
CORNER CONNECTION SHIPLOOSE LIST	
ITEM	QNTY
12" x 6" x 3/8" Hot Dipped Galv Bent Plate	1 ea
1/2" x 5 1/2" Galv Exp Anchor w/Nut & Washer	3 ea
3/4" x 12" Galv Exp Anchor w/Nut & Washer	6 ea



BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

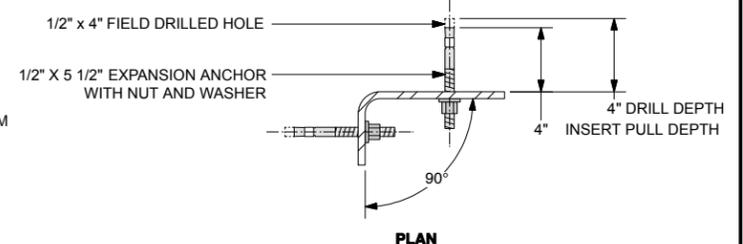
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

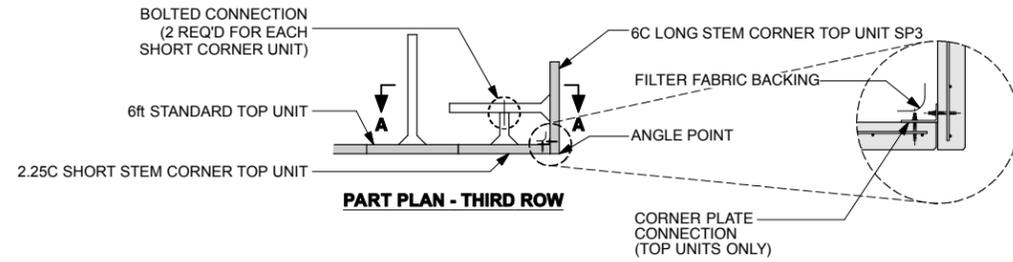
ELEVATION B



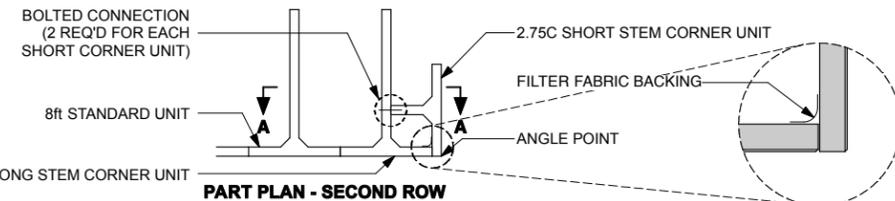
PLAN CORNER PLATE CONNECTION

NOTES:

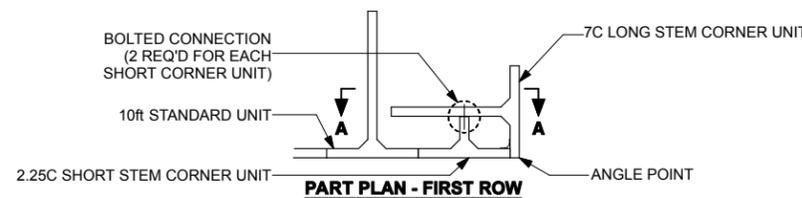
- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOVED:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



PART PLAN - THIRD ROW

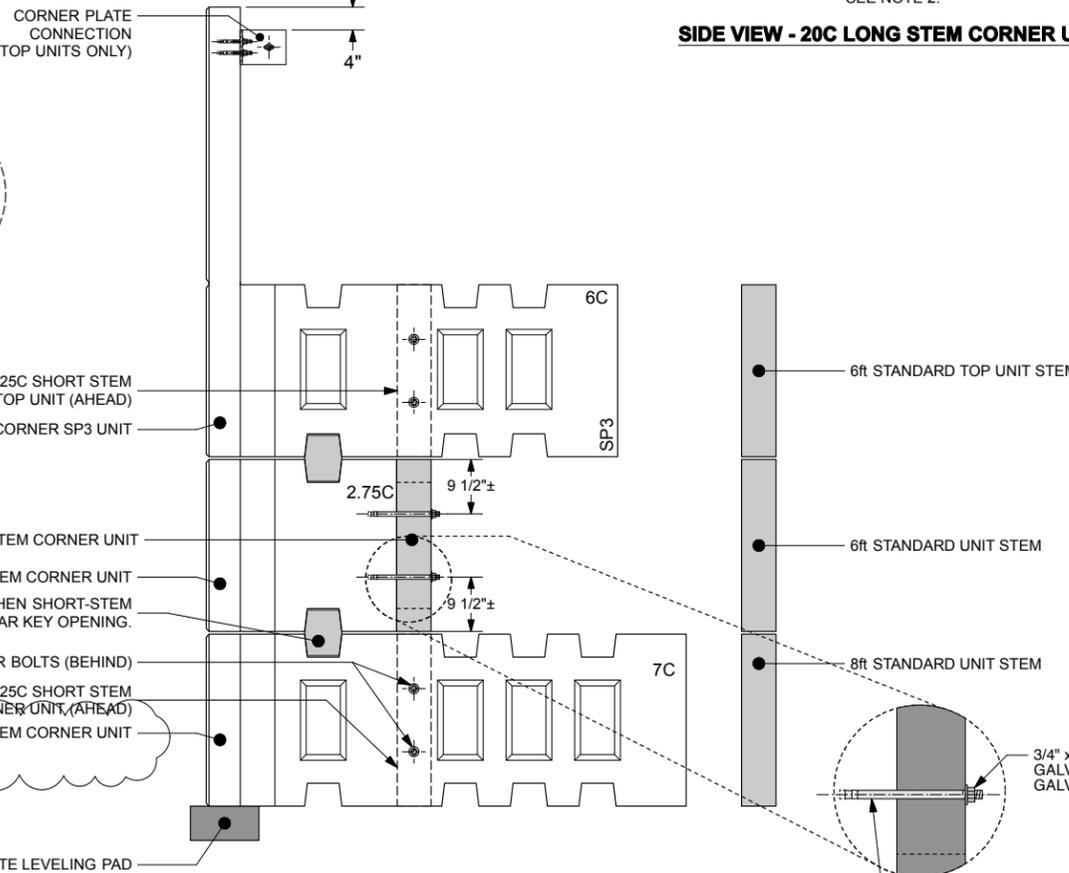


PART PLAN - SECOND ROW

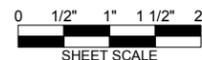


PART PLAN - FIRST ROW

TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE



SECTION A-A



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

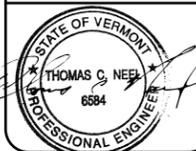
CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 3 90 DEG. CORNER DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

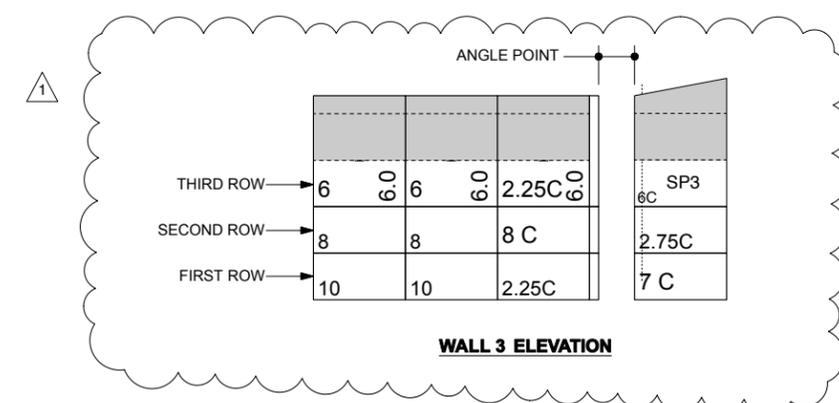
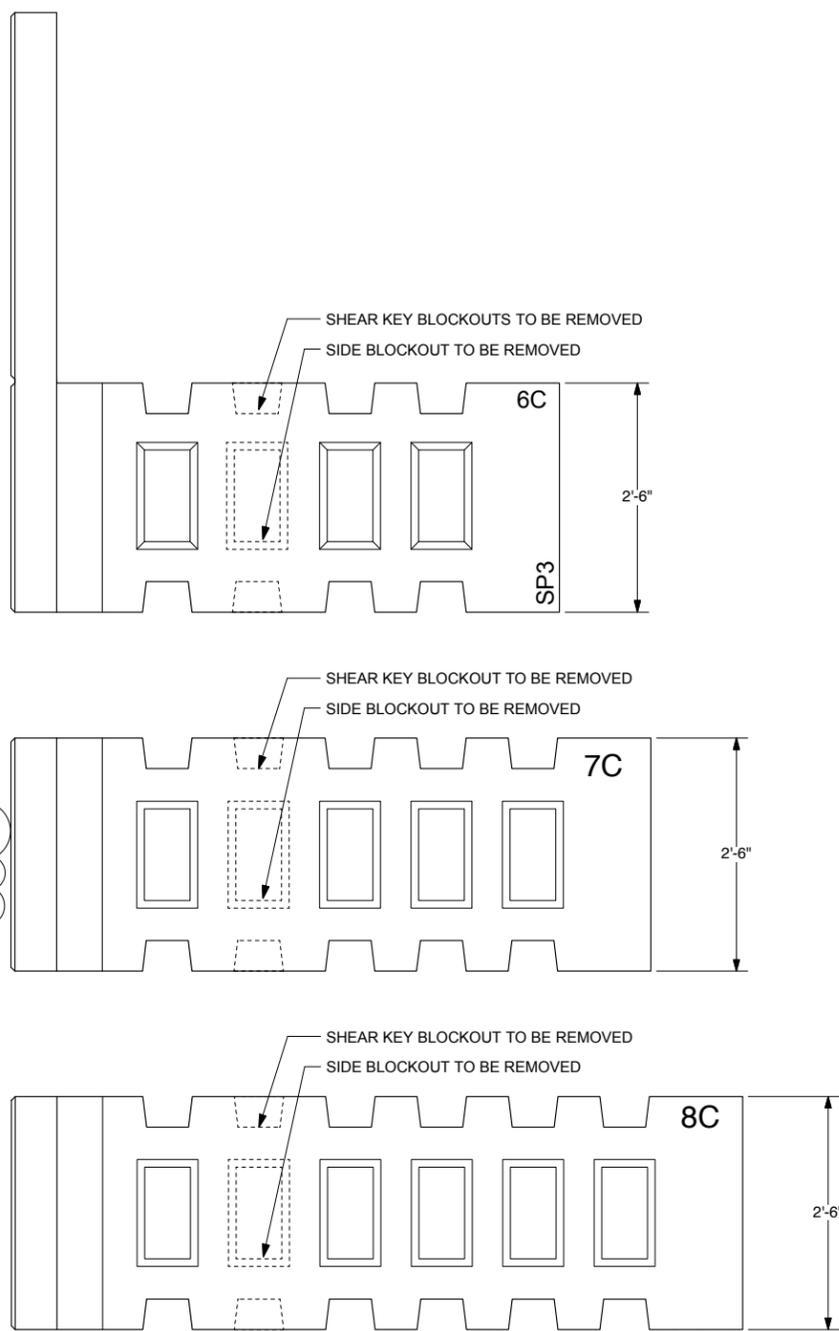
DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: CTH

CHECKED BY: KB

SHEET: TW-13



- NOTES:**
- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
 - FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS.
- GENERAL NOTES:**
- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
 - MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
 - CONCRETE:
 - F_c = 5000psi @ 28 DAYS
 - REBAR:
 - EPOXY
 - GRADE 60
 - T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH

1
7' LONG STEM CORNER UNIT
(SEE SHEET TW-30 FOR MORE DETAIL)

8' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM

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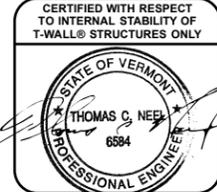
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

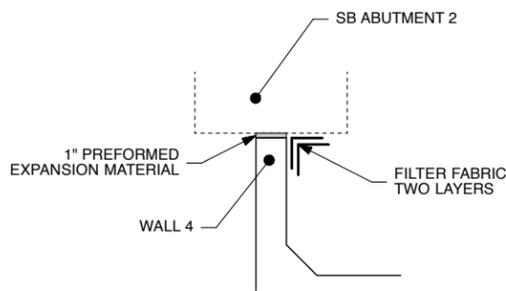
PROJECT #: TW4437



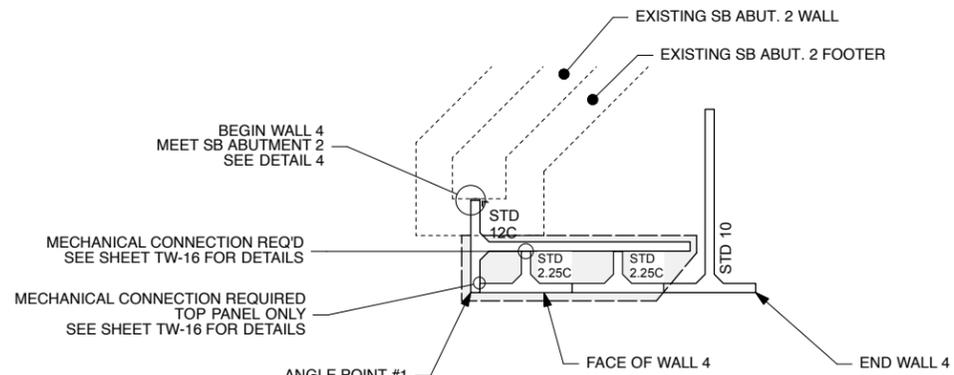
REVISIONS		
1	CORRECTED CORNER PIECE LABELS	CTH 3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 3 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-14



4 BEGIN WALL DETAIL
Scale: 1:18



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60

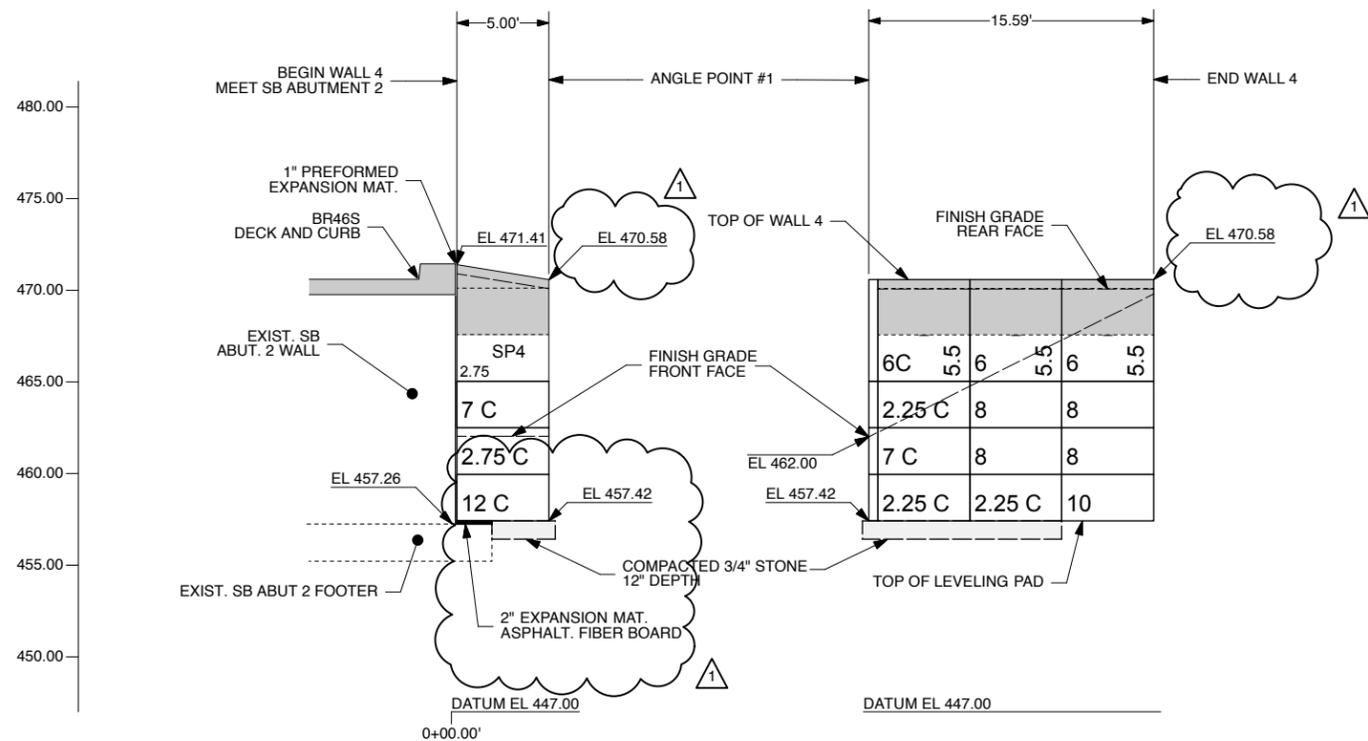
T-WALL Unit Count for Wall 4 3/9/15 12:55:20 PM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	4	50.00	13
2.5 x 5.0 x 10 Std	1	12.50	4
2.5 x 5.0 x 02.25 Std Cnr	3	37.50	2
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	2	25.00	6
2.5 x 5.0 x 12 Std Cnr	1	12.50	5
5.5 x 5.0 x 06 Std Top	2	55.00	5
5.5 x 5.0 x 06 Std Top Cnr	1	27.50	2
Special Units	1	29.78	1
TOTALS:	16 ea	262.28 sf	40 cy

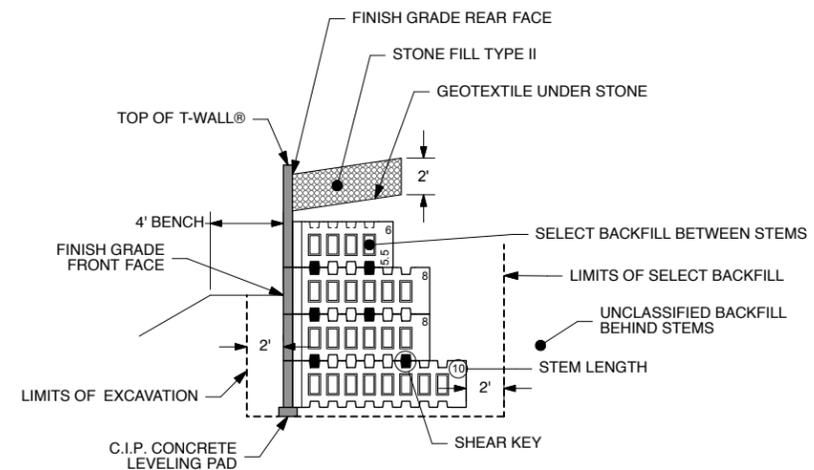
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	13 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	60.00 LF
Filter Cloth (12" wide)***	68.00 LF



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION AT NORTHEAST FACE
Scale: 1:60



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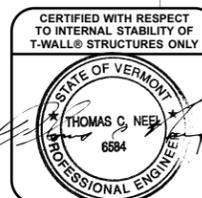
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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PROJECT #: TW4437



REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ELIMINATE BLOCKOUT AND RAISE WALL 2"	CTH	3/6/2015

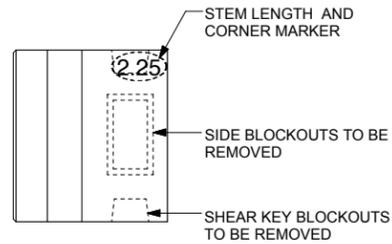
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 4 ELEVATION, PLAN, SECTION
T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED
DATE: 1/23/2015
DESIGNED BY: KB
DRAWN BY: CTH
CHECKED BY: KB
SHEET: TW-15

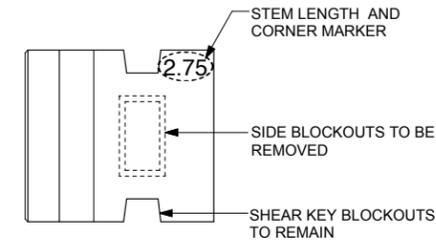
ANGLE POINT

FOURTH ROW	SP4 2.75C	6C 5.5	6	5.5	6	5.5
THIRD ROW	7 C	2.25 C	8	8		
SECOND ROW	2.75 C	7 C	8	8		
FIRST ROW	12C	2.25 C	2.25 C	10		

WALL 4 ELEVATION



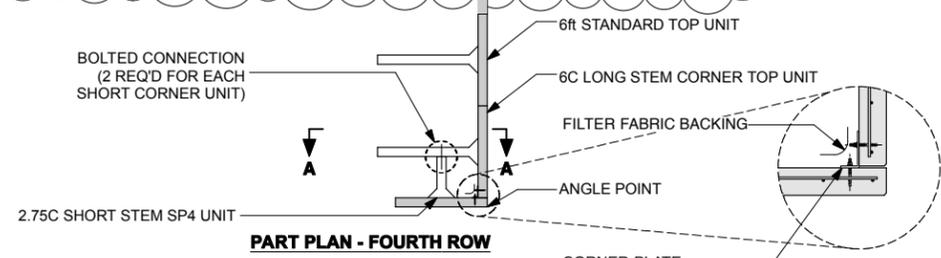
SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



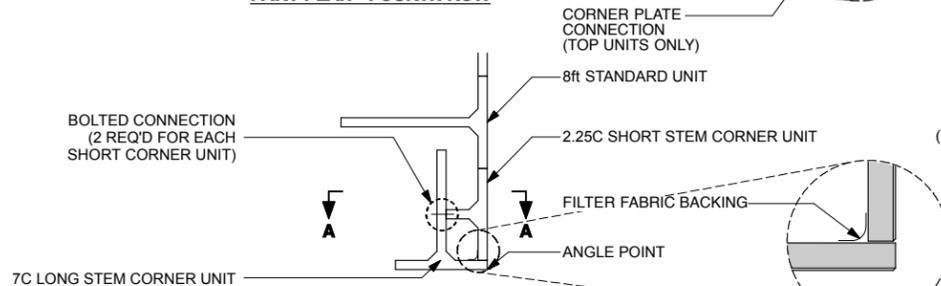
SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.

CORNER CONNECTION SHIPLOOSE LIST

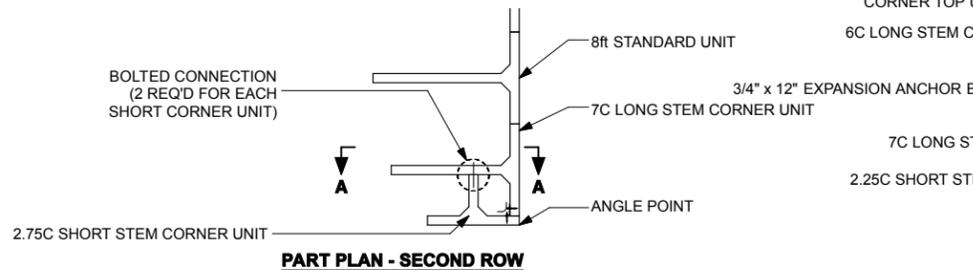
ITEM	QNTY
12" x 6" x 3/8" Hot Dipped Galv Bent Plate	1 ea
1/2" x 5 1/2" Galv Exp Anchor w/Nut & Washer	3 ea
3/4" x 12" Galv Exp Anchor w/Nut & Washer	10 ea



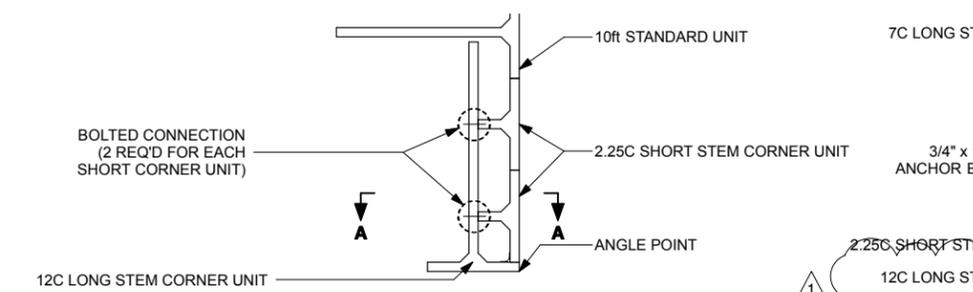
PART PLAN - FOURTH ROW



PART PLAN - THIRD ROW

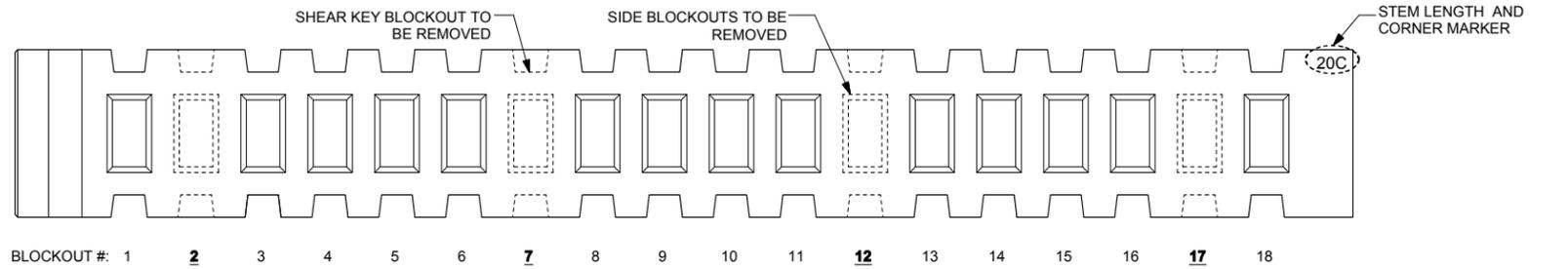


PART PLAN - SECOND ROW

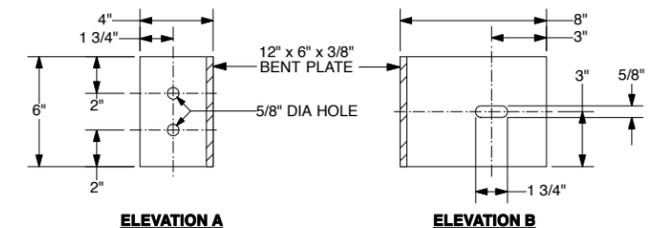


PART PLAN - FIRST ROW

STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS
TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE

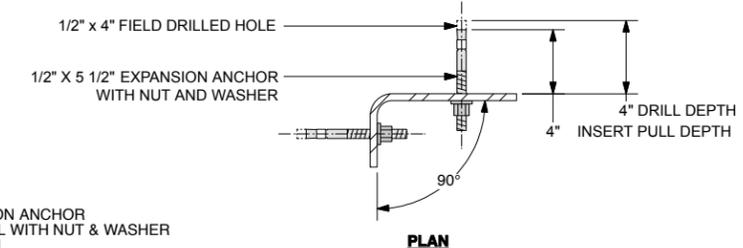


SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

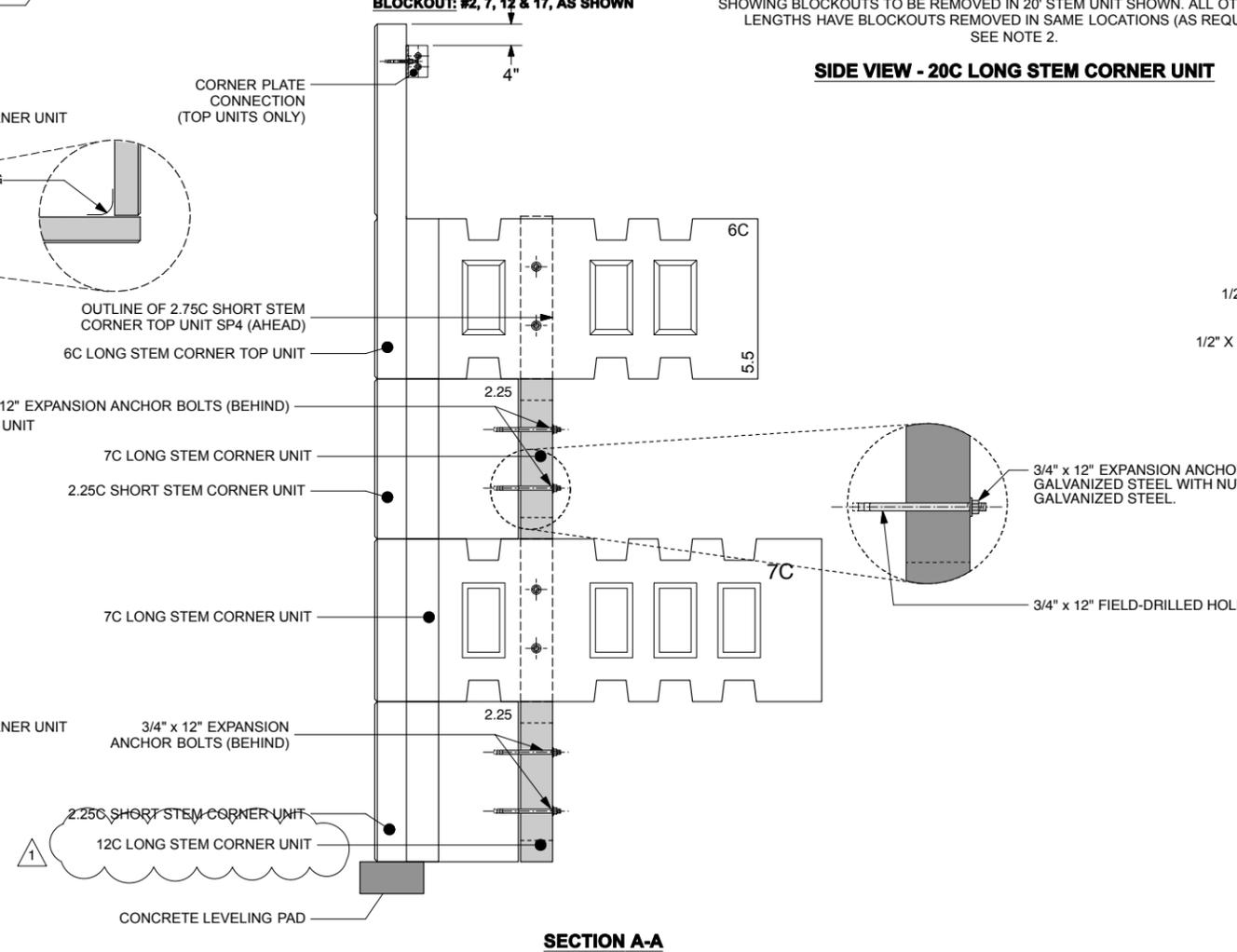
ELEVATION B



CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



SECTION A-A



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS

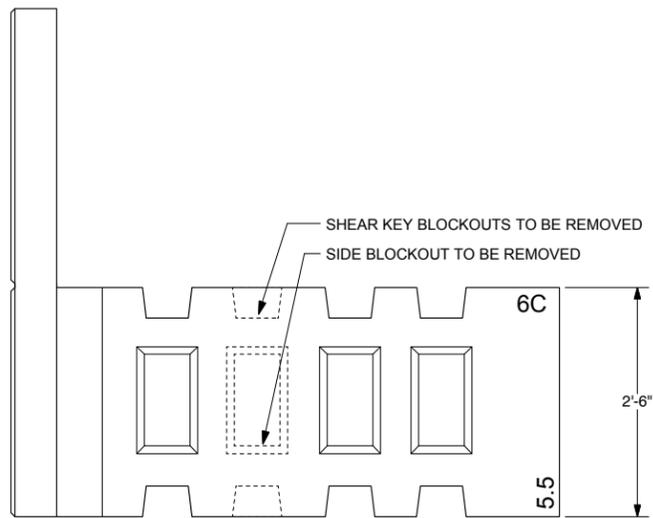
1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015
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I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 4 90 DEG. CORNER DETAIL
T-WALL® RETAINING WALL SYSTEM

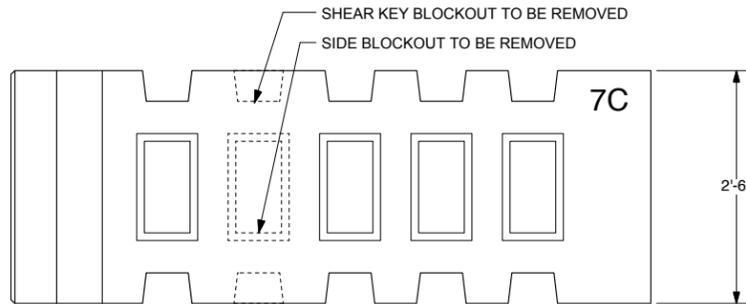
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DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
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SHEET:	TW-16

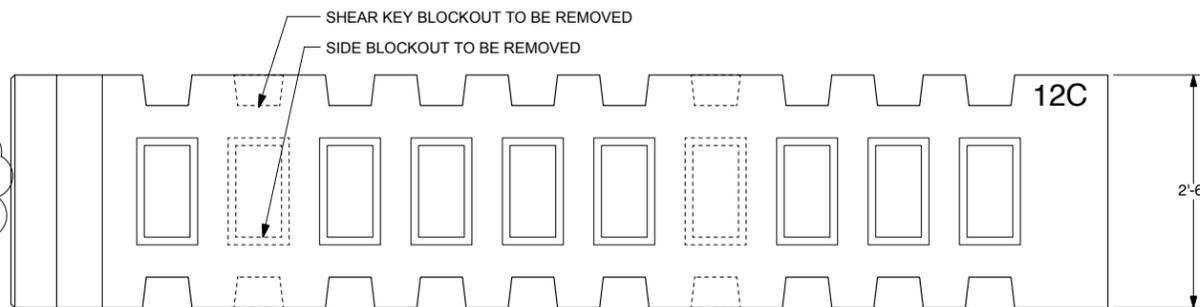
6' LONG STEM BY 5' HEIGHT TOP CORNER UNIT
(SEE SHEET TW-40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)



12' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

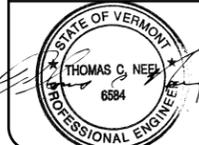
CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

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TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015
---	-------------------------------	-----	----------

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
WALL 4 CORNER PAN REMOVAL DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

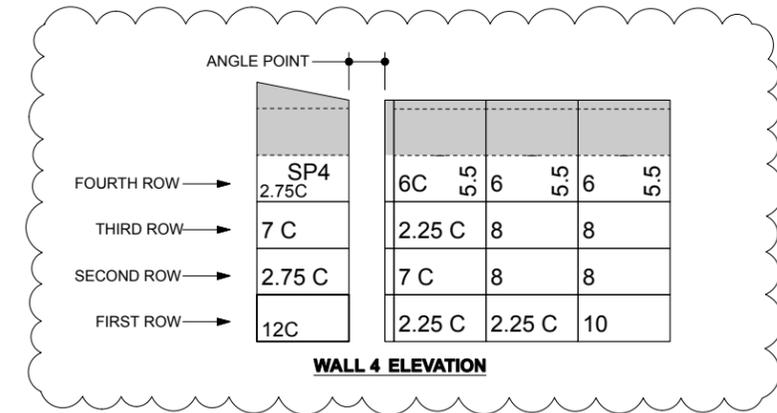
DESIGNED BY: KB

DRAWN BY: CTH

CHECKED BY: KB

SHEET: TW-17

1

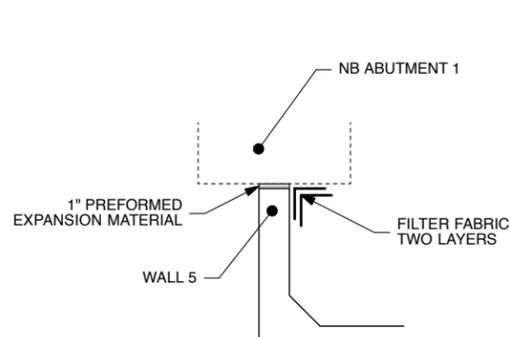


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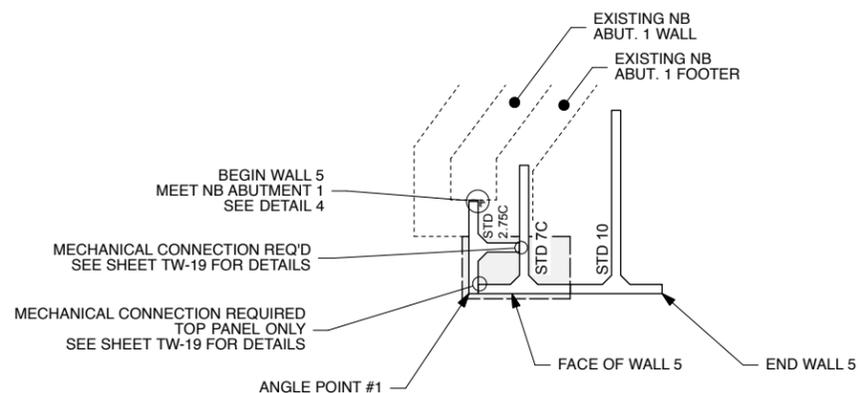
- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS.

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



4 BEGIN WALL DETAIL
Scale: 1:18



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60



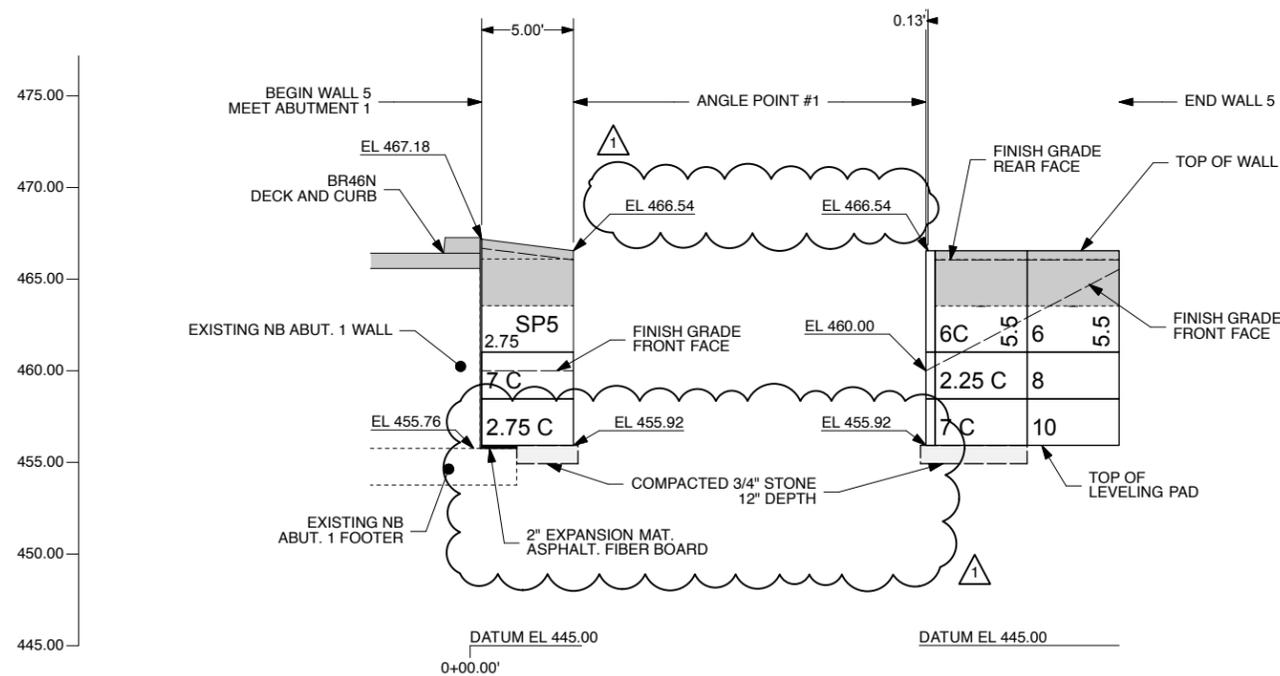
T-WALL Unit Count for Wall 5 3/9/15 12:04:37 PM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	1	12.50	3
2.5 x 5.0 x 10 Std	1	12.50	4
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	2	25.00	6
5.5 x 5.0 x 06 Std Top	1	27.50	2
5.5 x 5.0 x 06 Std Top Cnr	1	27.50	2
Special Units	1	29.30	1
TOTALS:	9 ea	159.30 sf	21 cy

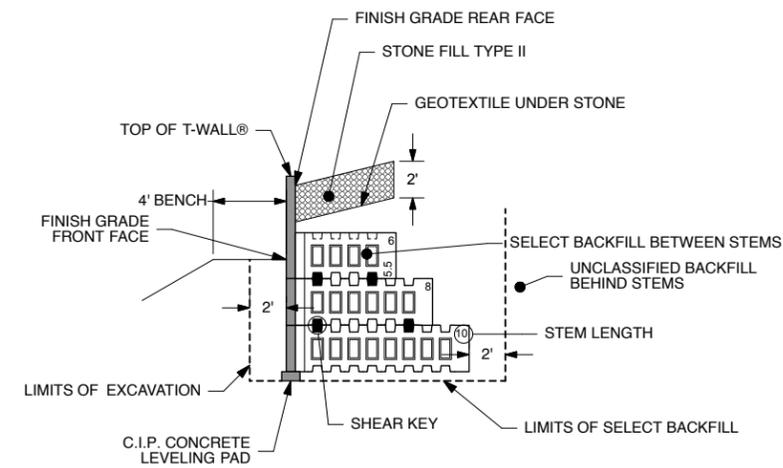
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	6 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	30.00 LF
Filter Cloth (12" wide)***	44.00 LF



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION AT SOUTHWEST FACE
Scale: 1:60



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ELIMINATE BLOCKOUT AND RAISE WALL 2"	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
WALL 5 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

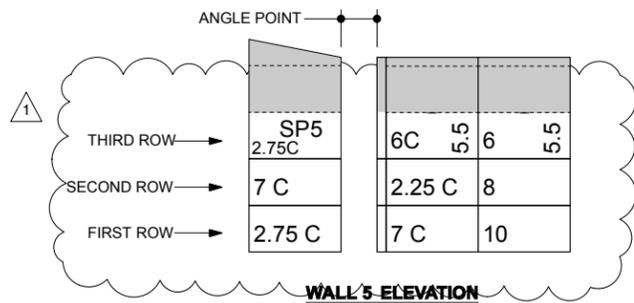
DATE: 1/23/2015

DESIGNED BY: KB

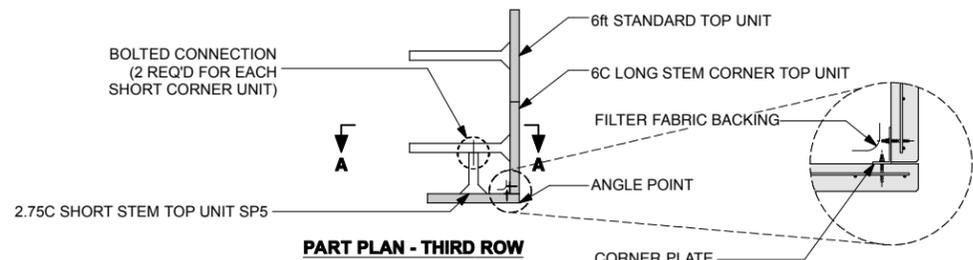
DRAWN BY: CTH

CHECKED BY: KB

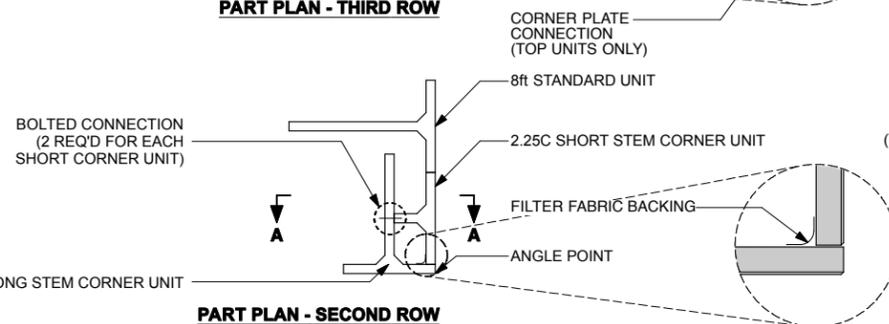
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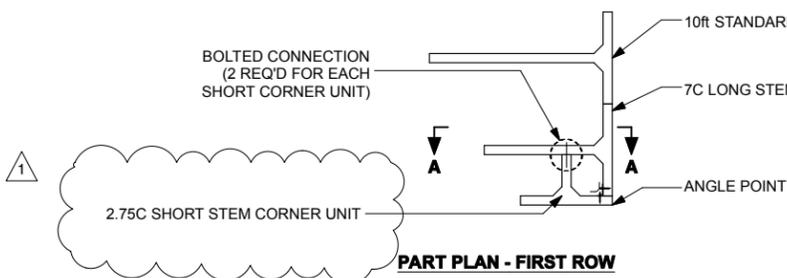
WALL 5 ELEVATION



PART PLAN - THIRD ROW

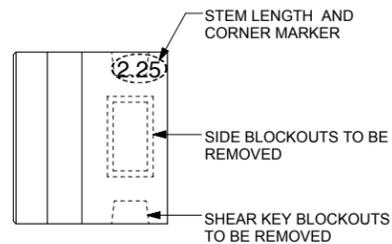


PART PLAN - SECOND ROW

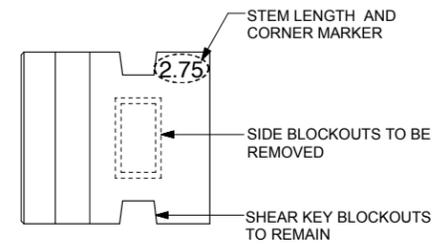


PART PLAN - FIRST ROW

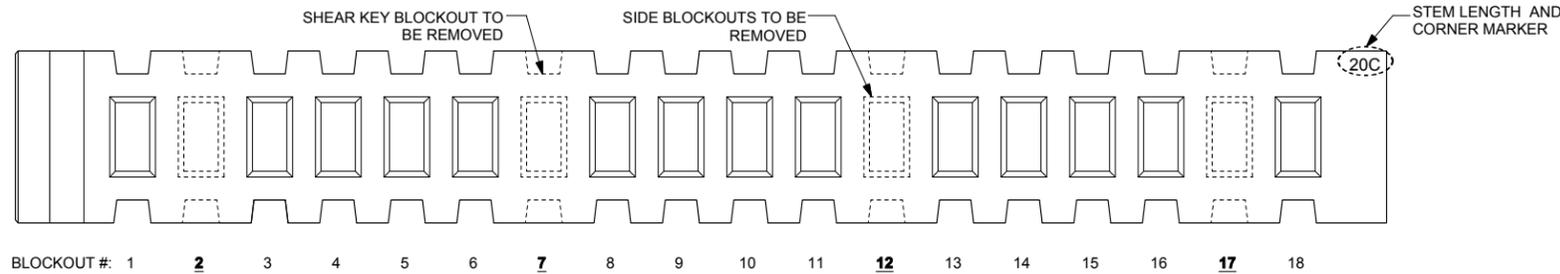
STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS
TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE



SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



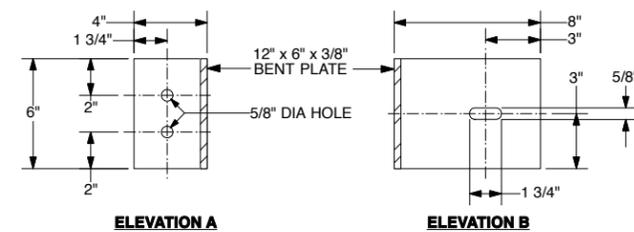
SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

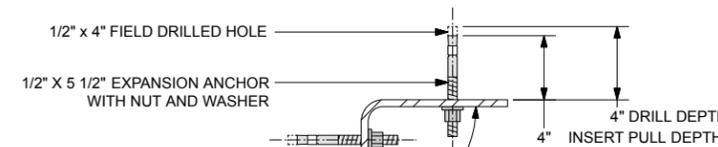
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

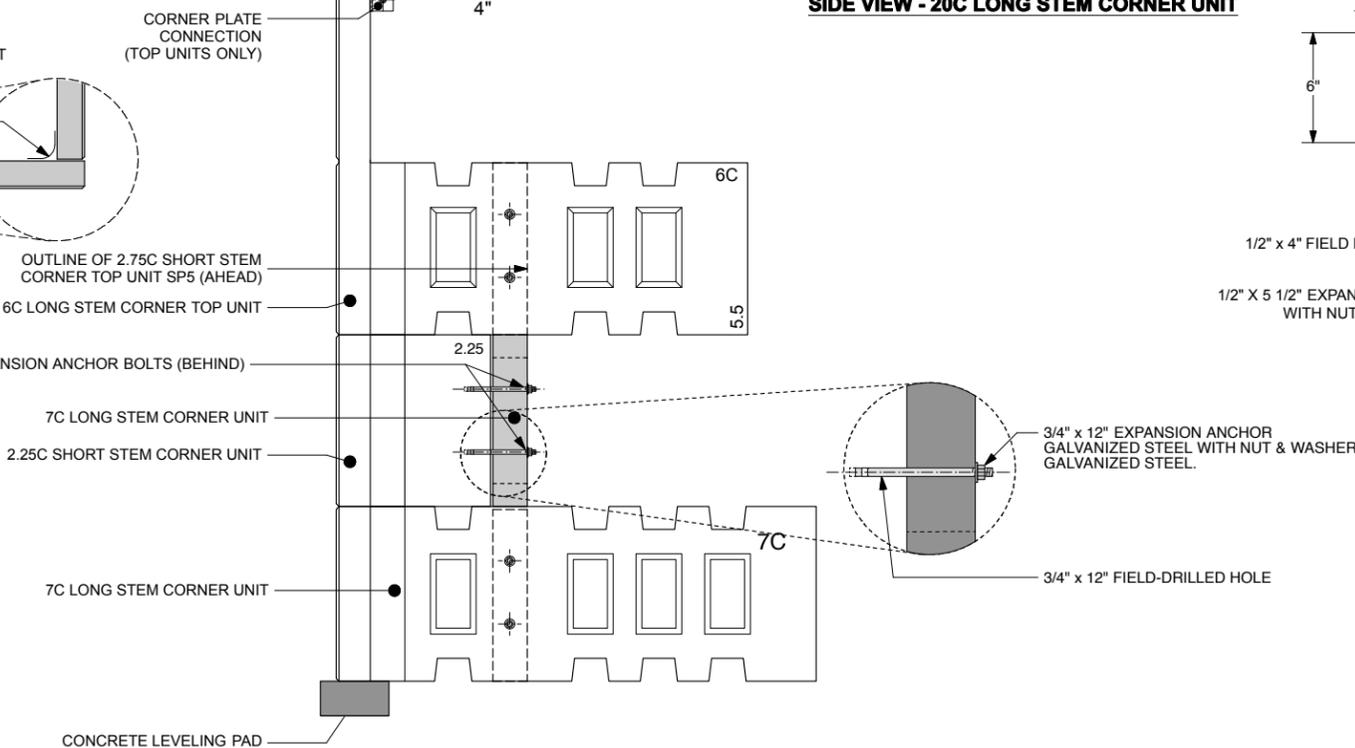
ELEVATION B



CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



SECTION A-A



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

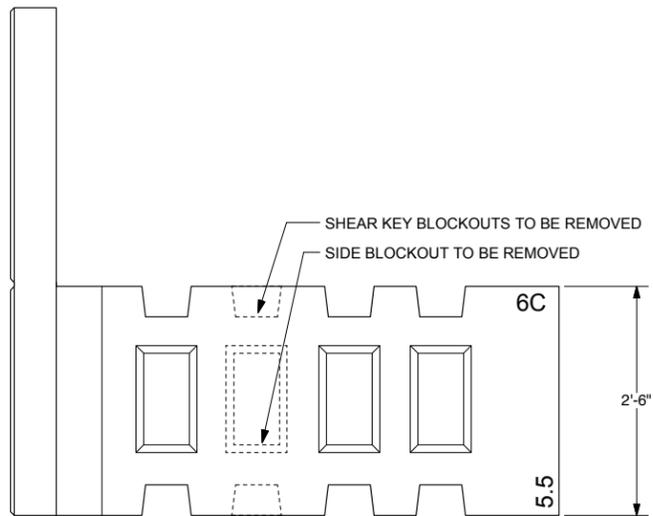
CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

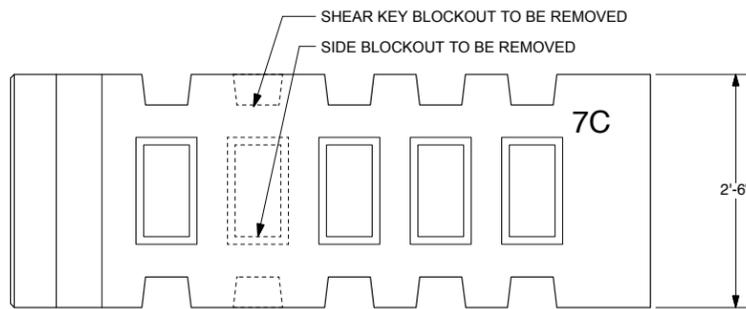
REVISIONS		
1	CORRECTED CORNER PIECE LABELS	CTH 3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 5 90 DEG. CORNER DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-19

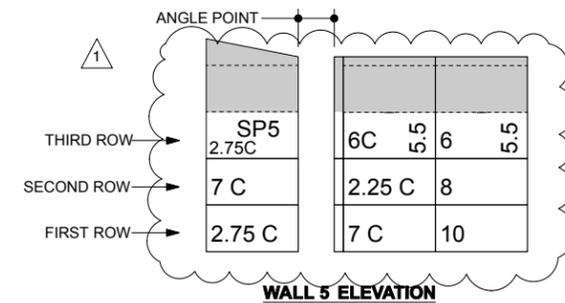


6' LONG STEM BY 5' HEIGHT TOP CORNER UNIT
(SEE SHEET TW-40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)

SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM



NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



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PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
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PROJECT #:

DESIGNER

THE NEEL COMPANY
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WEB: WWW.NEELCO.COM

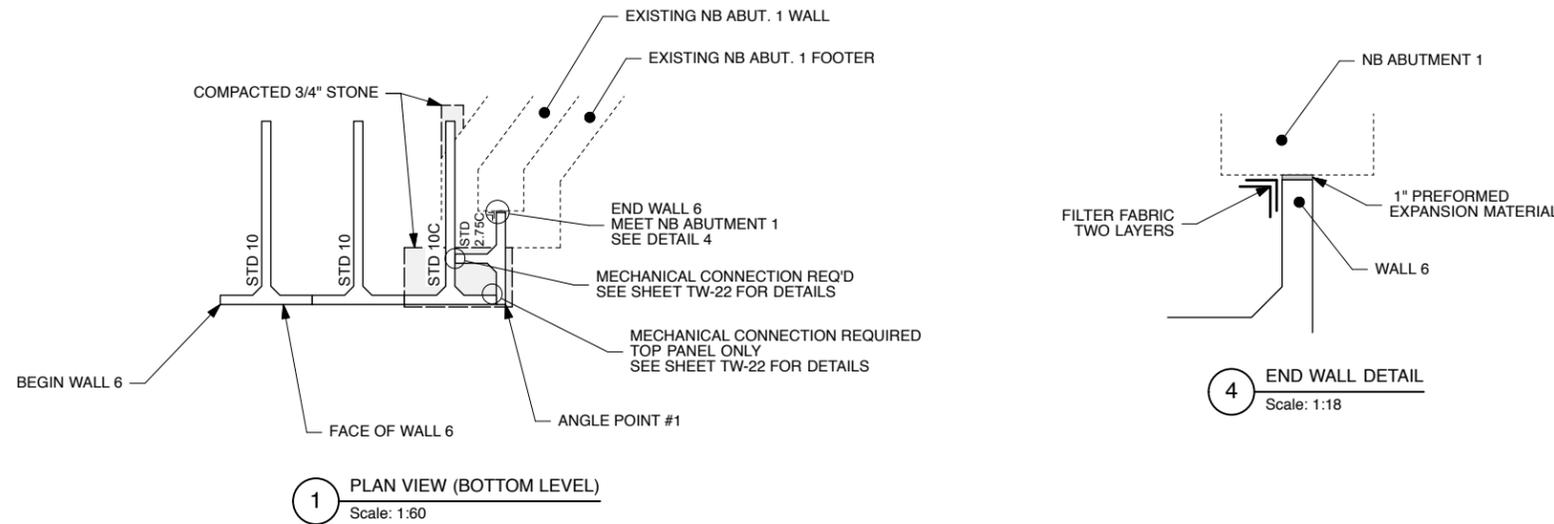
PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

REVISIONS		
1	CORRECTED CORNER PIECE LABELS	CTH 3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 5 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-20



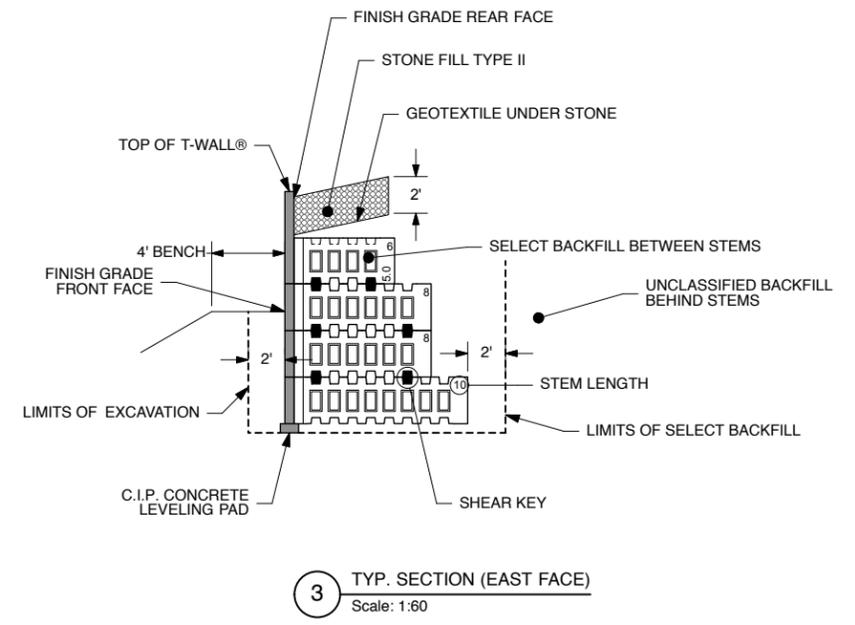
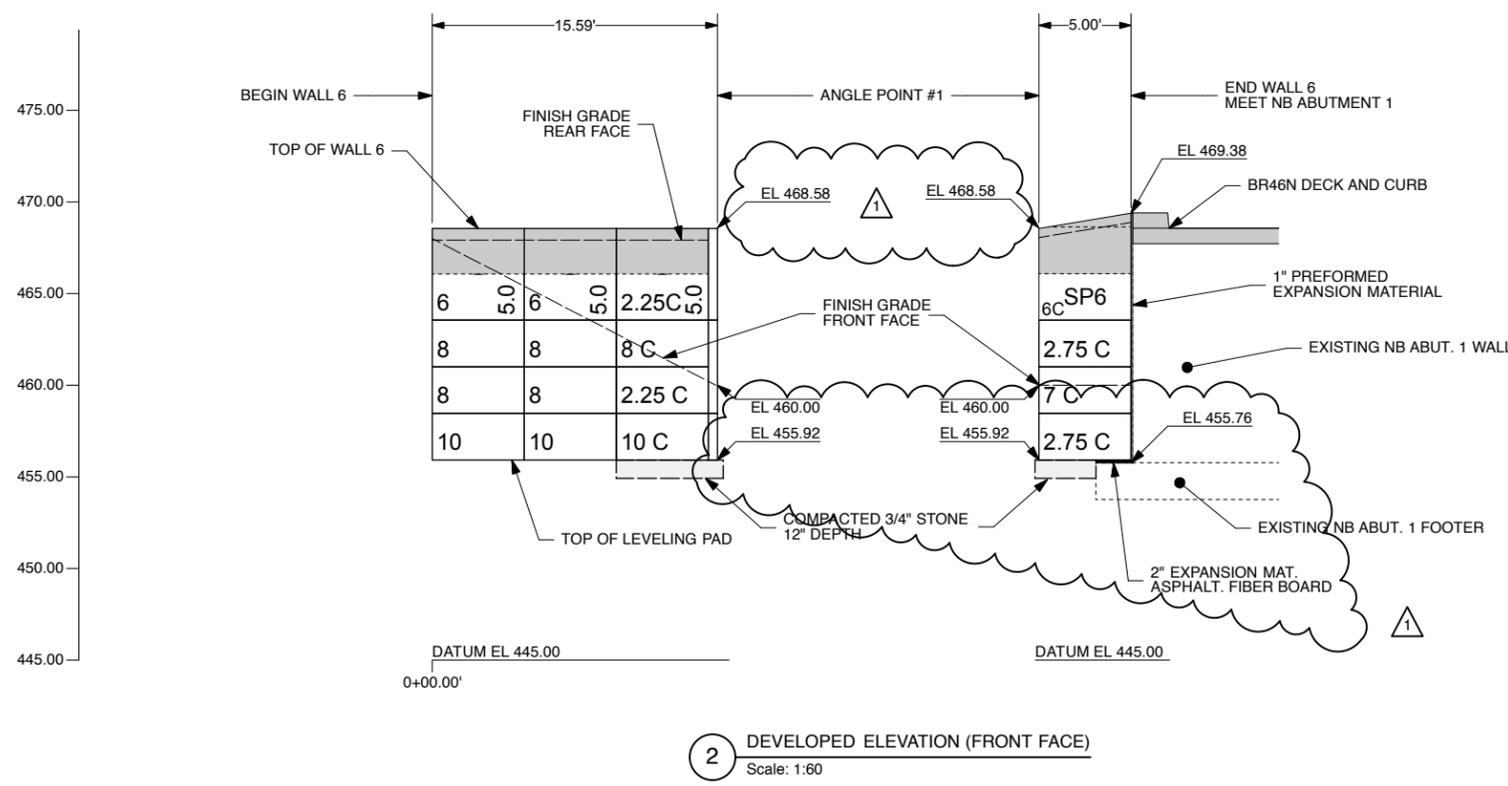
T-WALL Unit Count for Wall 6 3/9/15 12:08:27 PM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	4	50.00	13
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	2	25.00	2
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
2.5 x 5.0 x 08 Std Cnr	1	12.50	3
2.5 x 5.0 x 10 Std Cnr	1	12.50	4
5.0 x 5.0 x 06 Std Top	2	50.42	5
5.0 x 5.0 x 02.25 Std Top Cnr	1	25.21	1
Special Units	1	27.20	2
TOTALS:	16 ea	252.83 sf	43 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	15 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	60.00 LF
Filter Cloth (12" wide)***	65.00 LF



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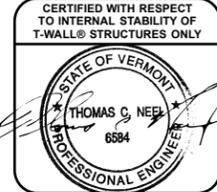
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

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PROJECT #: TW4437



REVISIONS

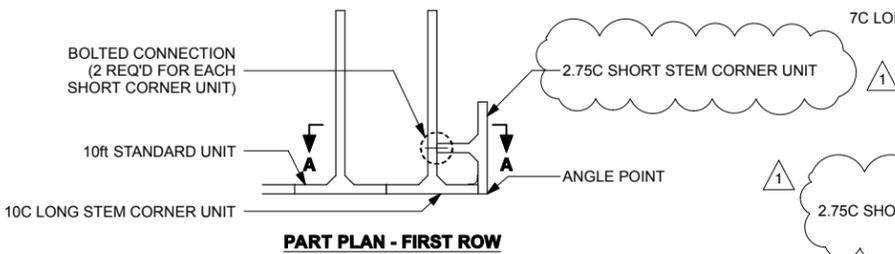
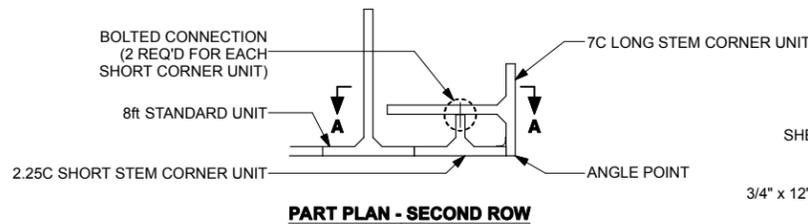
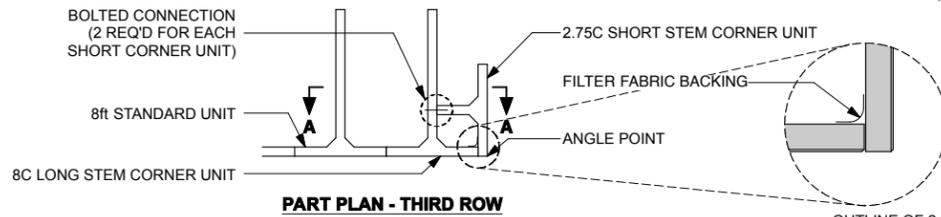
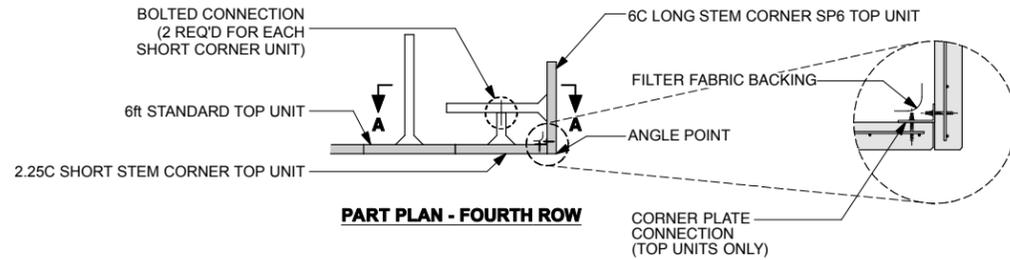
NO.	DESCRIPTION	BY	DATE
1	ELIMINATE BLOCKOUT AND RAISE WALL 2"	CTH	3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 6 ELEVATION, PLAN, SECTION
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-21

	6		5.0		2.25C		5.0		6C		SP6	
FOURTH ROW	6	5.0	6	5.0	2.25C	5.0	6C	SP6				
THIRD ROW	8		8		7 C		2.75 C					
SECOND ROW	8		8		2.25 C		7 C					
FIRST ROW	10		10		10 C		2.75 C					

WALL 6 ELEVATION



STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS

TYPICAL CORNER UNIT ARRANGEMENT



NO SCALE

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PRECASTER: CONCRETE SYSTEMS, INC. HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
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SPRINGFIELD, VIRGINIA 22152
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PROJECT #: TW4437

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REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

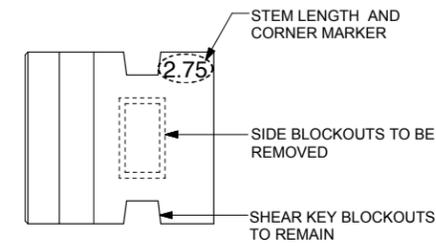
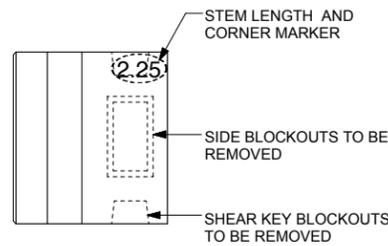
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
WALL 6 90 DEG. CORNER DETAIL

T-WALL® RETAINING WALL SYSTEM

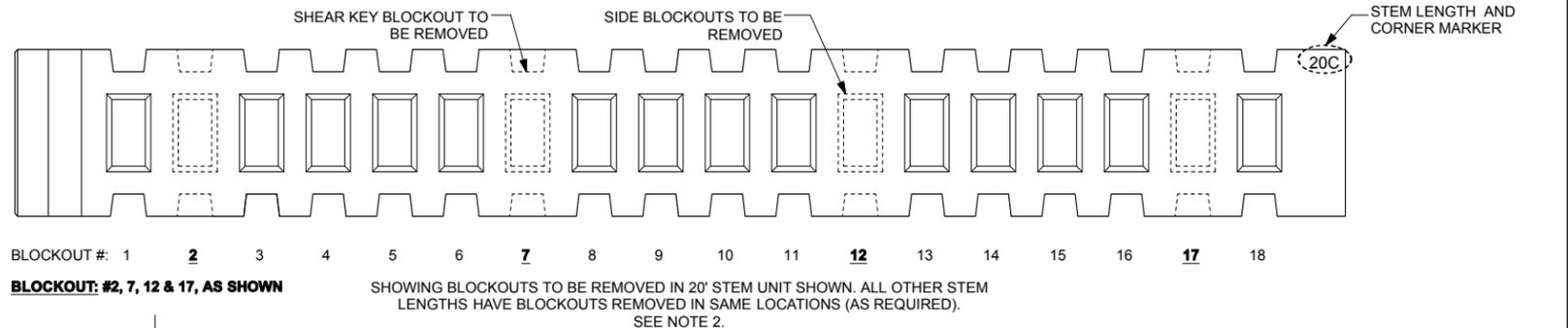
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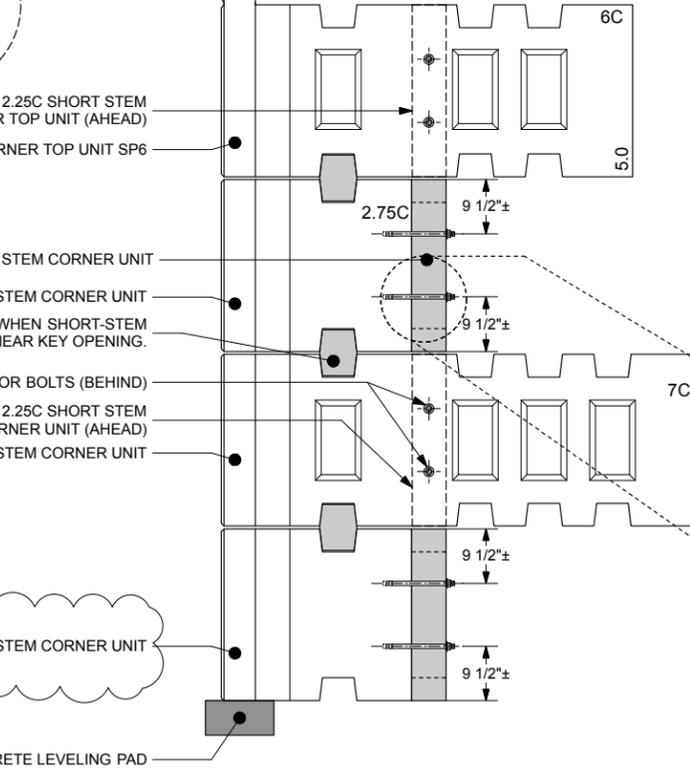


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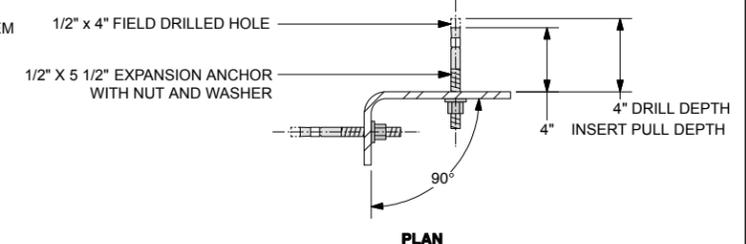
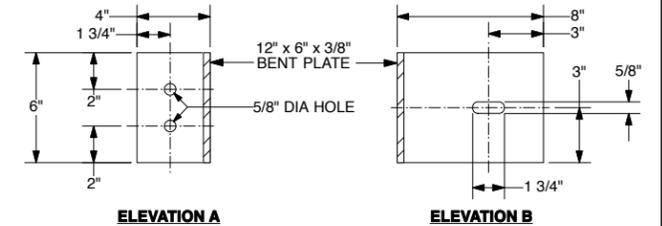
ITEM	QNTY
12" x 6" x 3/8" Hot Dipped Galv Bent Plate	1 ea
1/2" x 5 1/2" Galv Exp Anchor w/Nut & Washer	3 ea
3/4" x 12" Galv Exp Anchor w/Nut & Washer	8 ea



CORNER PLATE CONNECTION (TOP UNITS ONLY)



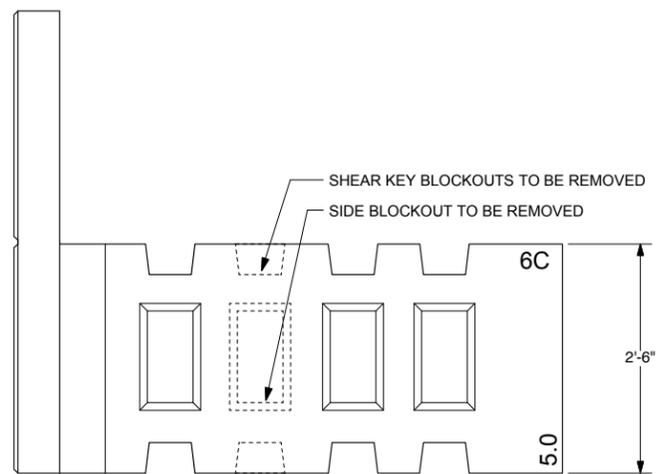
SIDE VIEW - 20C LONG STEM CORNER UNIT



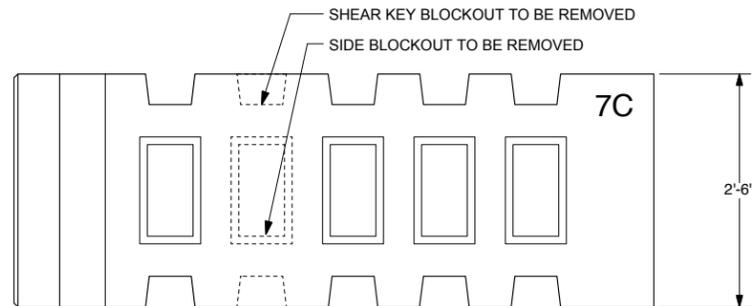
NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"

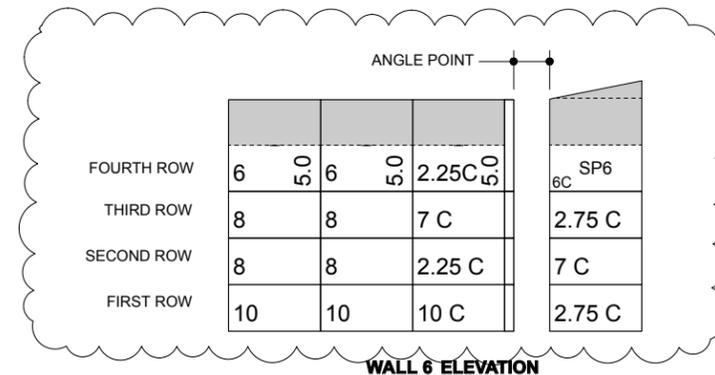
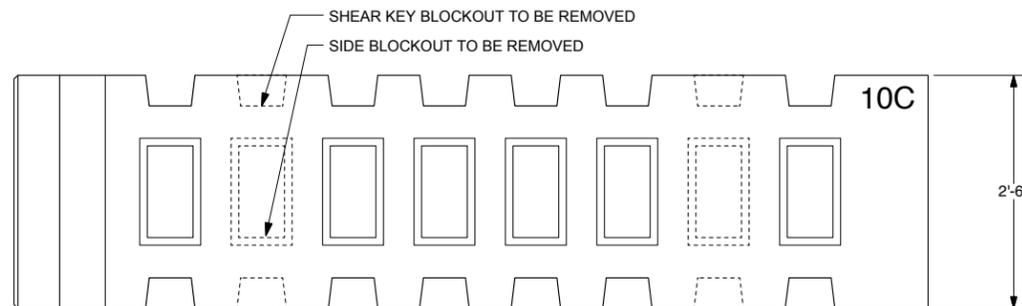
6' LONG STEM BY 5' HEIGHT CORNER UNIT
(SEE SHEET 40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



10' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



WALL 6 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS.

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM

The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel 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.

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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

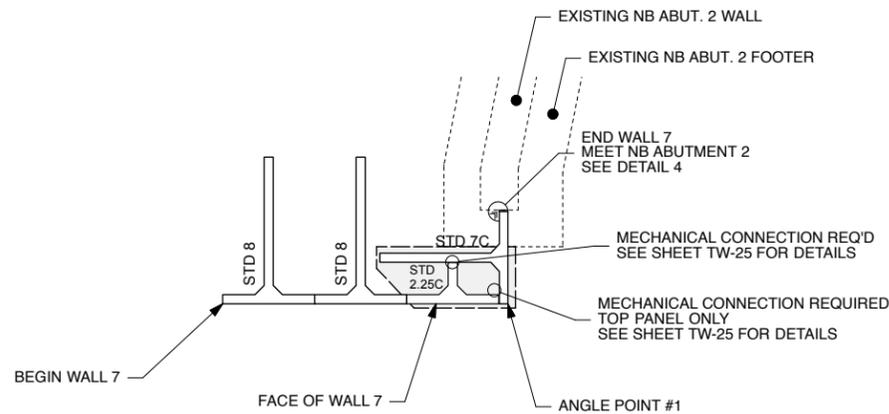
PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY

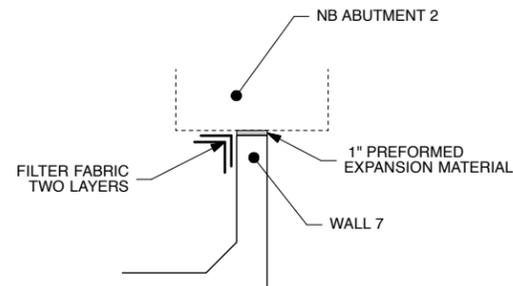
REVISIONS		
1	CORRECTED CORNER PIECE LABELS	CTH 3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 6 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-23



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60



4 END WALL DETAIL
Scale: 1:18

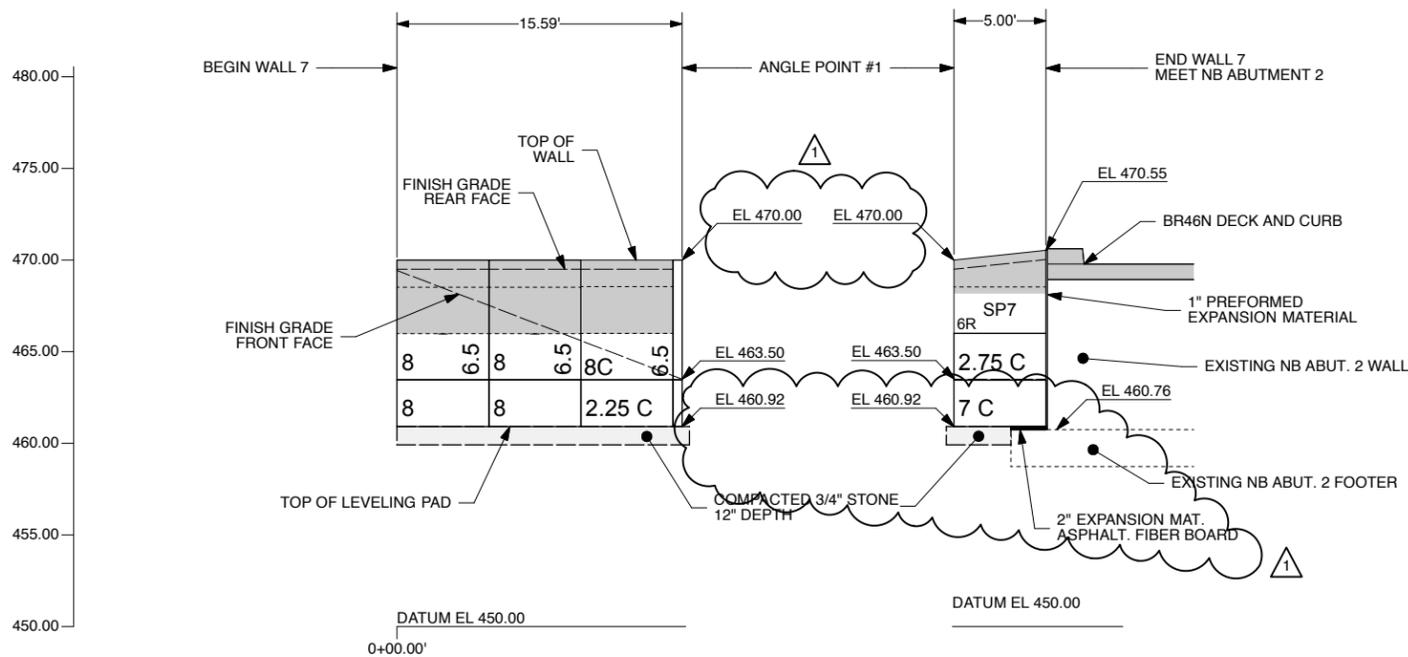
T-WALL Unit Count for Wall 7 3/9/15 12:14:08 PM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
6.5 x 5.0 x 08 Std Top	2	65.00	7
6.5 x 5.0 x 08 Std Top Cnr	1	32.50	3
Special Units	1	21.35	2
TOTALS:	9 ea	181.35 sf	23 cy

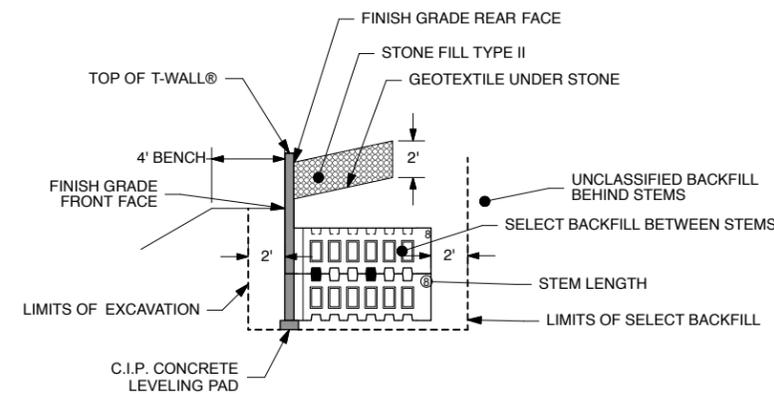
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	6 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	25.00 LF
Filter Cloth (12" wide)***	47.00 LF



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION AT SOUTHWEST FACE
Scale: 1:60



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY

8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ELIMINATE BLOCKOUT AND RAISE WALL 2"	CTH	3/6/2015

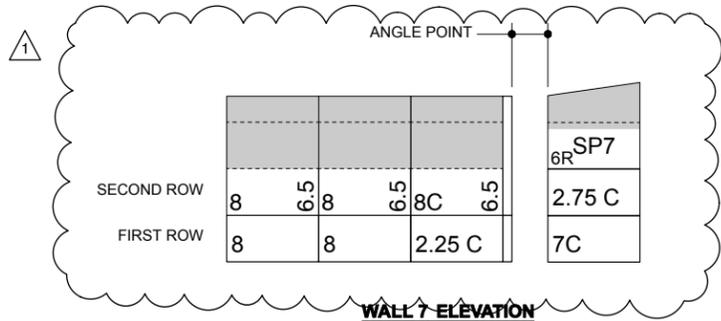
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

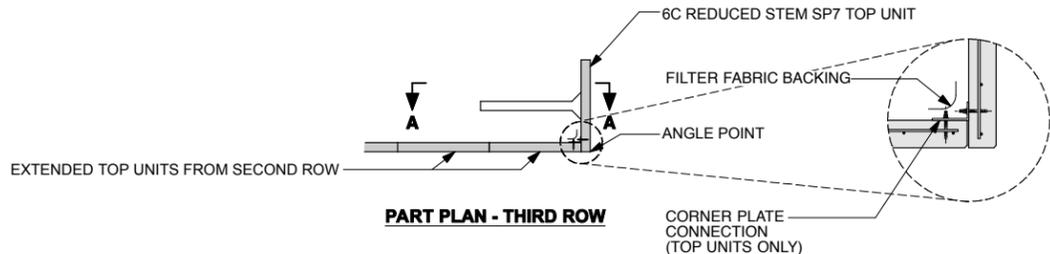
SHOP DRAWINGS
WALL 7 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

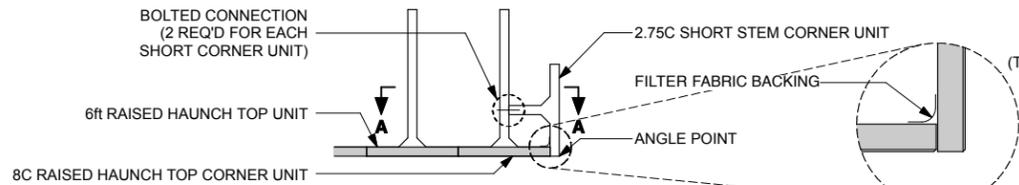
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-24



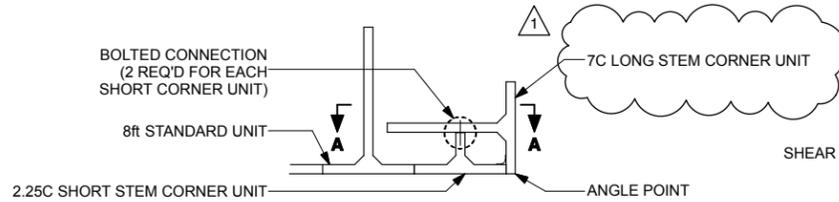
WALL 7 ELEVATION



PART PLAN - THIRD ROW

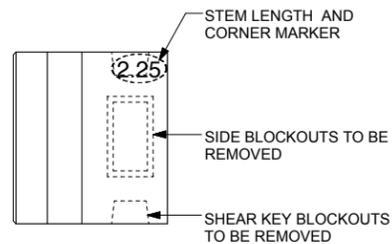


PART PLAN - SECOND ROW

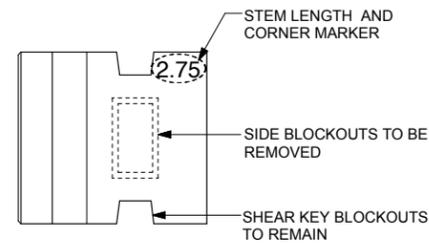


PART PLAN - FIRST ROW

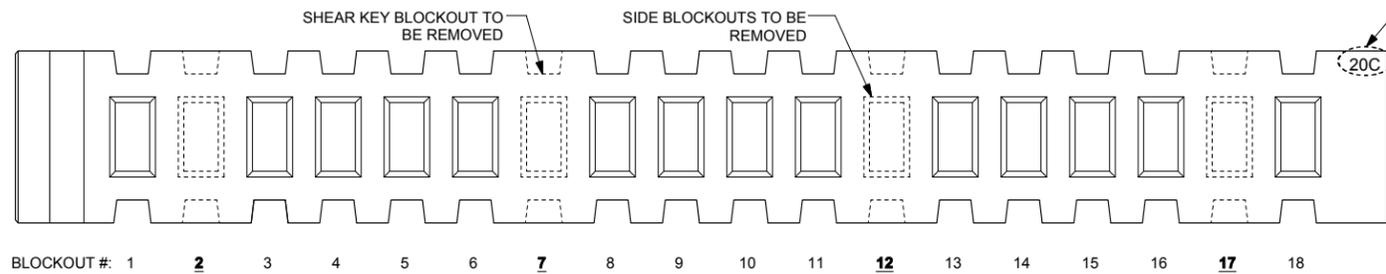
STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS
TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE



SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



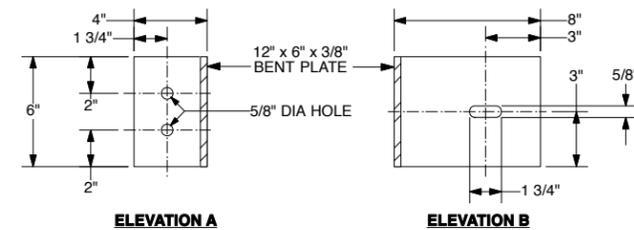
SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

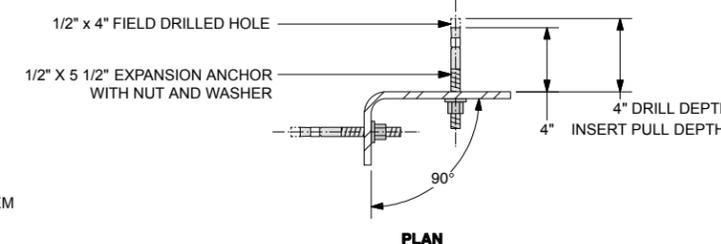
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

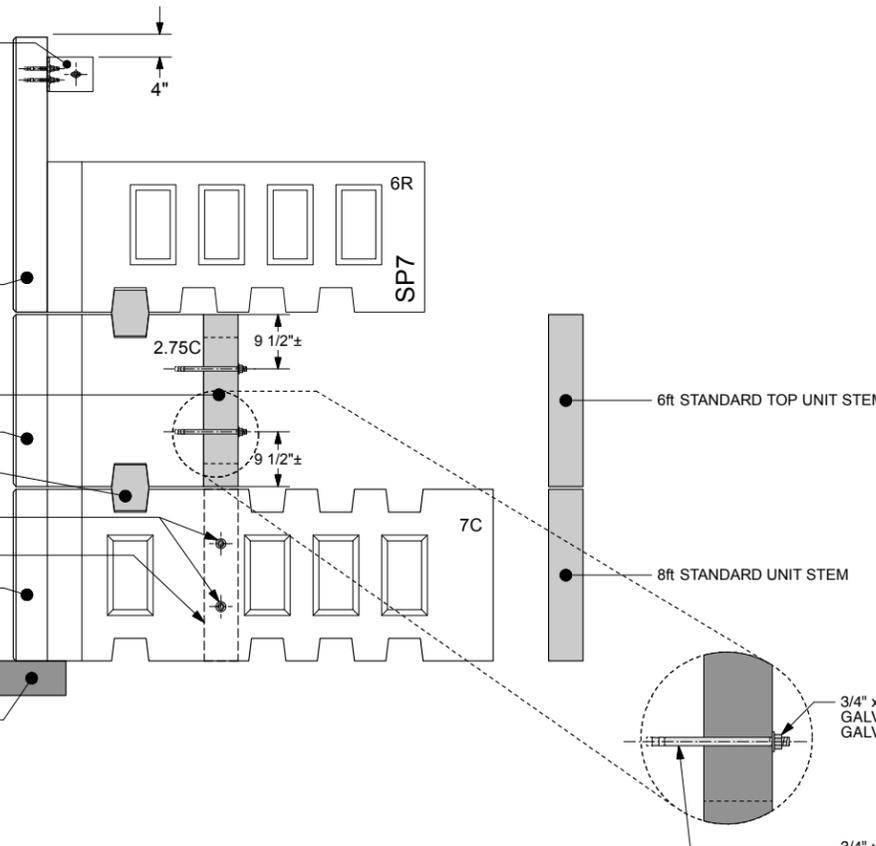
ELEVATION B



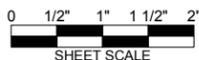
CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOVED:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



SECTION A-A



The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel 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.

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PRECASTER: CONCRETE SYSTEMS, INC. HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD LYNDON CENTER, VT
PROJECT #:

DESIGNER
THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

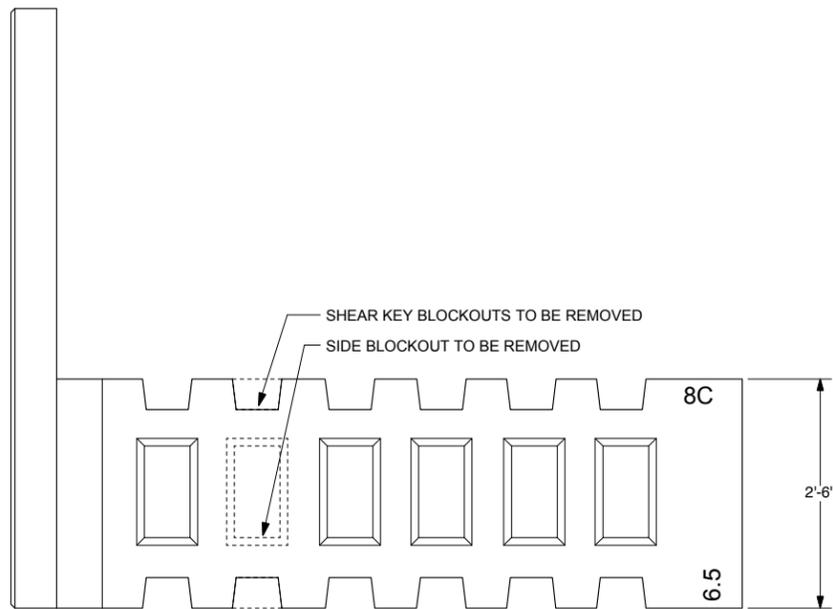


REVISIONS		
1	CORRECTED CORNER PIECE LABELS	CTH 3/6/2015

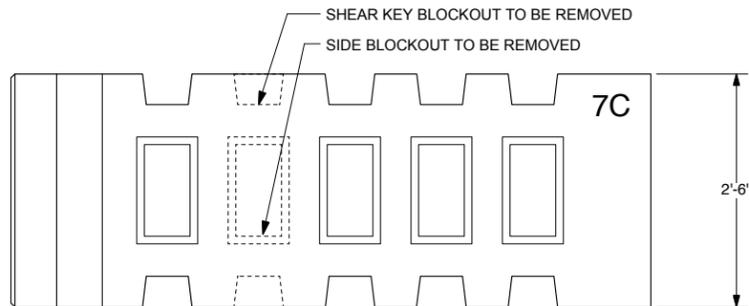
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 7 90 DEG. CORNER DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED
DATE: 1/23/2015
DESIGNED BY: KB
DRAWN BY: CTH
CHECKED BY: KB
SHEET: TW-25

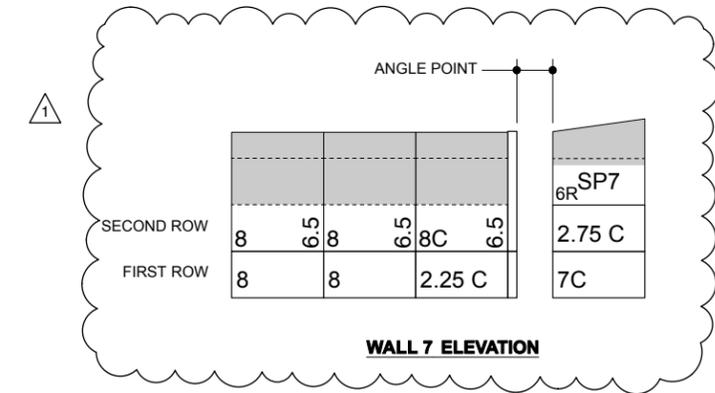
8' STEM BY 6.5' HEIGHT CORNER TOP UNIT
(SEE SHEET 40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM



NOTES:

1. ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
2. FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

1. PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
2. MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
3. CONCRETE:
 - F'c = 5000psi @ 28 DAYS
4. REBAR:
 - EPOXY
 - GRADE 60
5. T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel 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.

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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

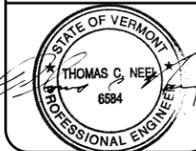
CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY

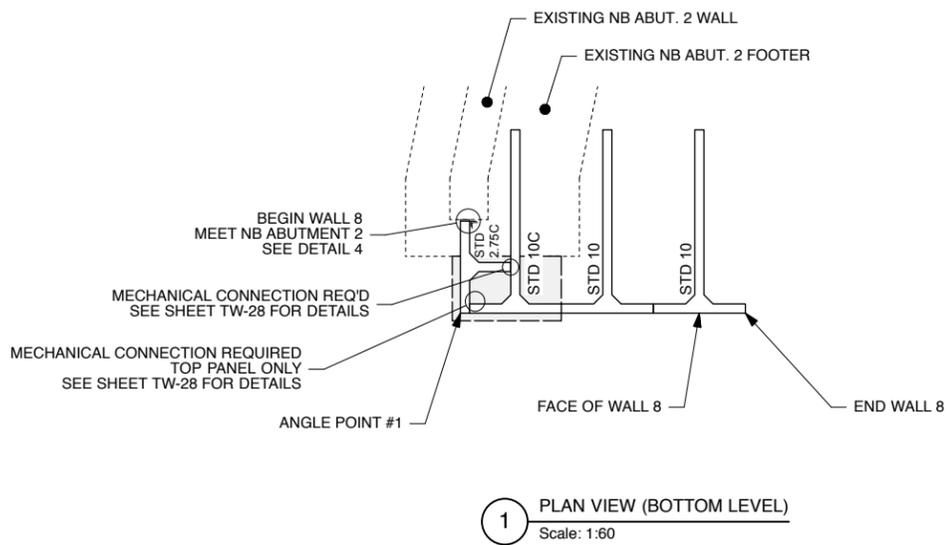
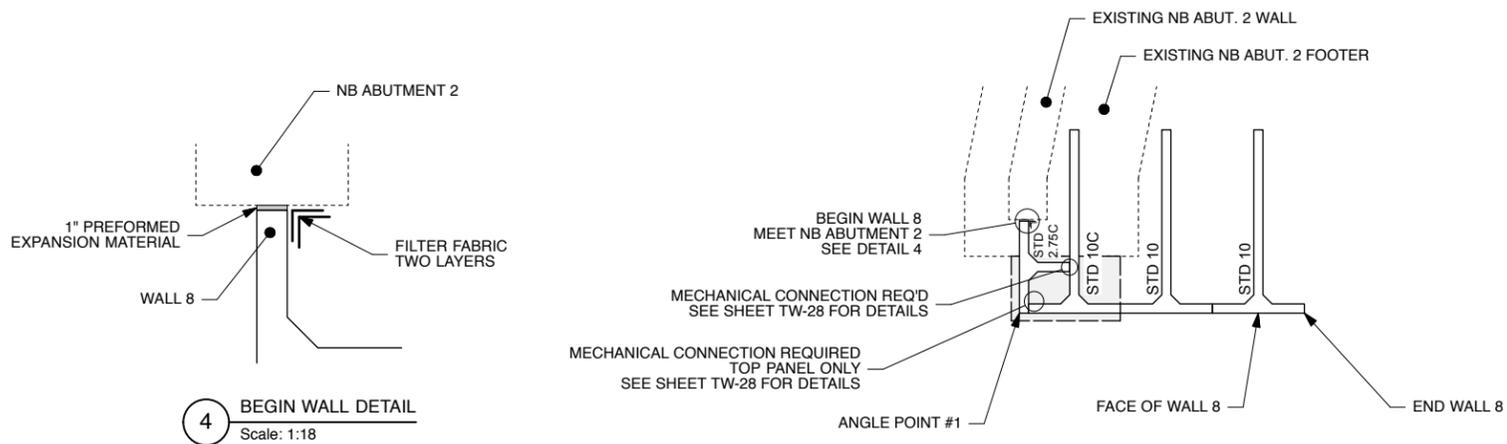


REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 7 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-26



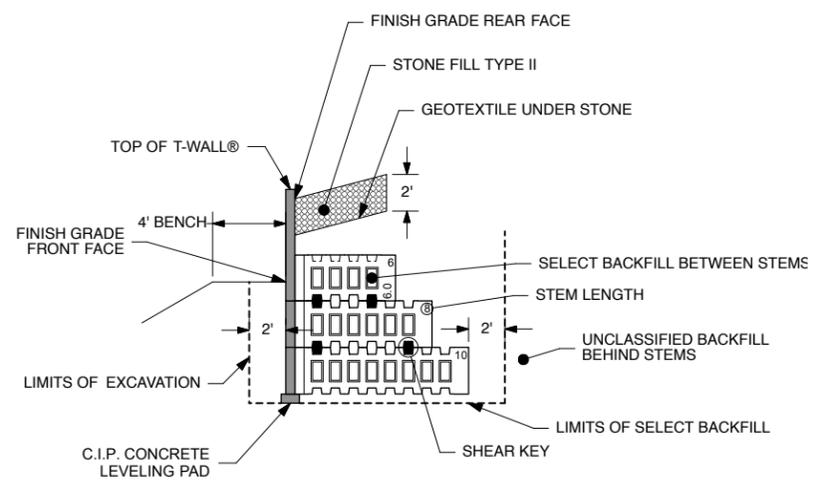
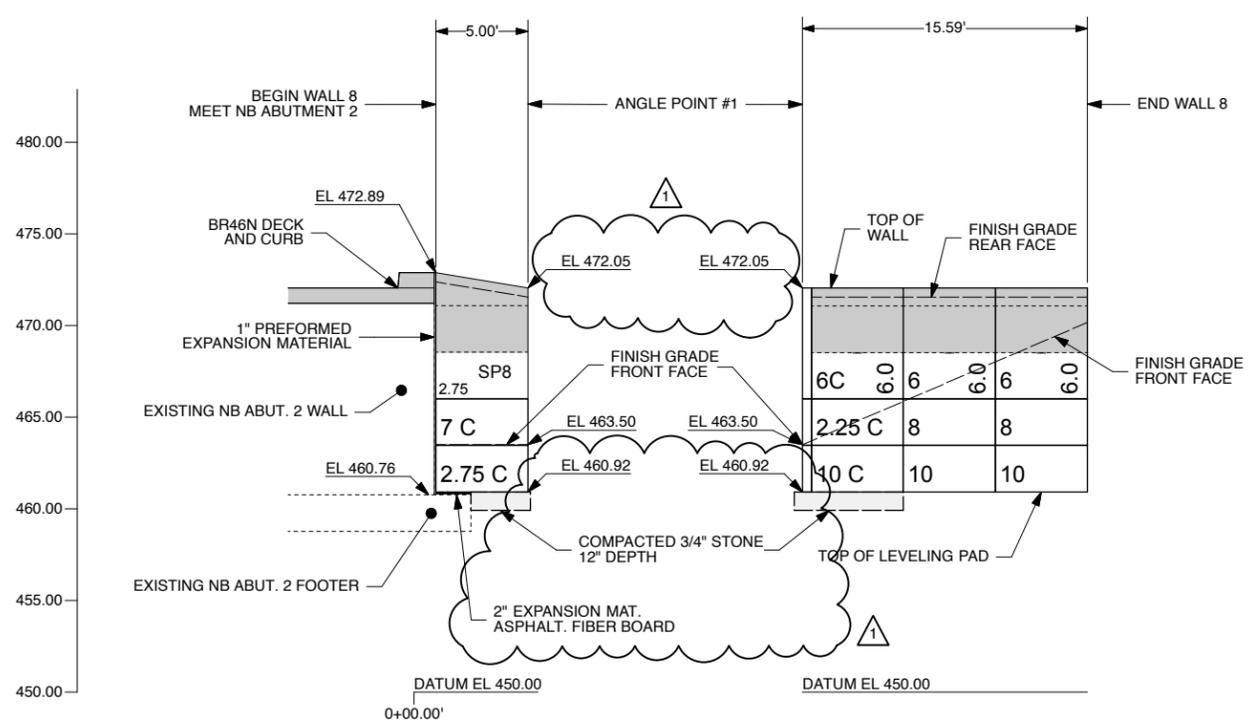
T-WALL Unit Count for Wall 8 3/9/15 12:21:15 PM

PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
2.5 x 5.0 x 10 Std Cnr	1	12.50	4
6.0 x 5.0 x 06 Std Top	2	60.00	5
6.0 x 5.0 x 06 Std Top Cnr	1	30.00	2
Special Units	1	32.32	1
TOTALS:	12 ea	222.32 sf	32 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	10 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	57.00 LF



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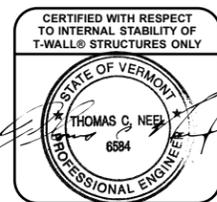
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

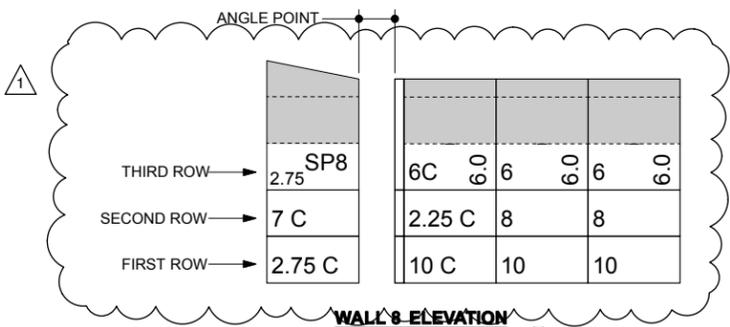


REVISIONS

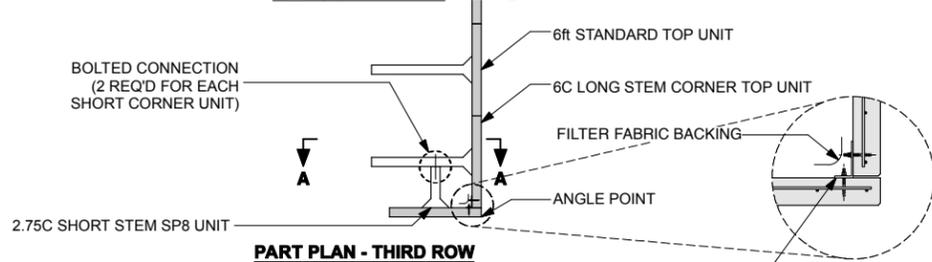
NO.	DESCRIPTION	BY	DATE
1	ELIMINATE BLOCKOUT AND RAISE WALL 2"	CTH	3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 8 ELEVATION, PLAN, SECTION
T-WALL® RETAINING WALL SYSTEM

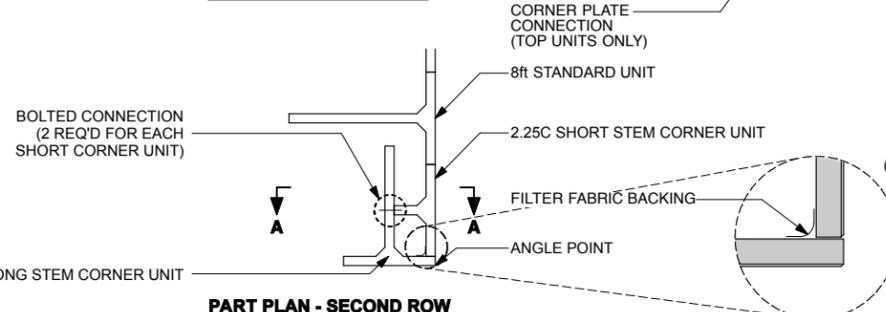
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-27



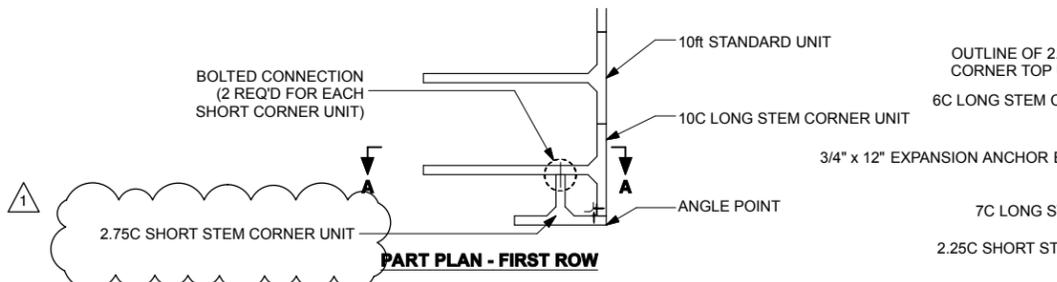
WALL 8 ELEVATION



PART PLAN - THIRD ROW

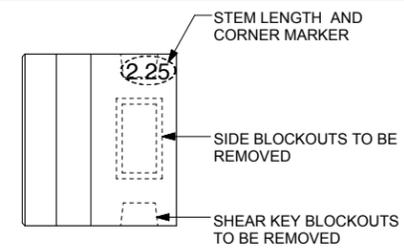


PART PLAN - SECOND ROW

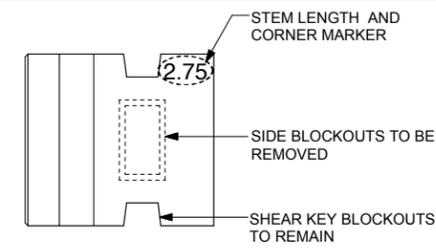


PART PLAN - FIRST ROW

STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS
TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE



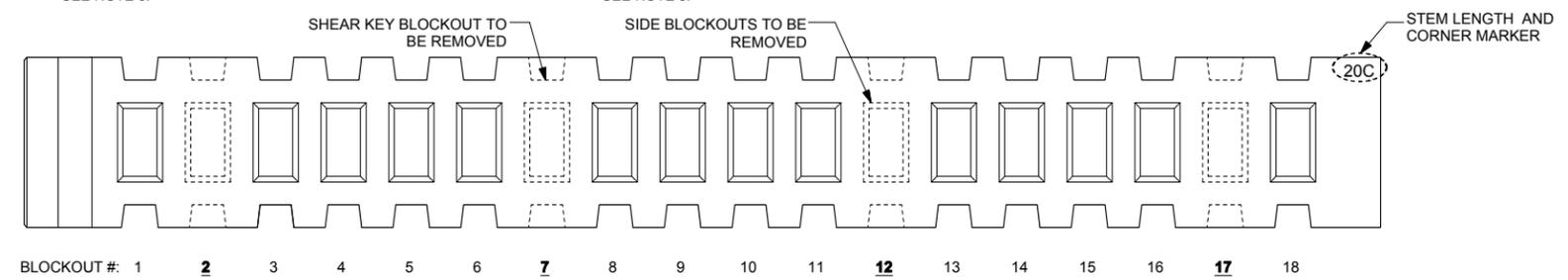
SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.

CORNER CONNECTION SHIPLOOSE LIST

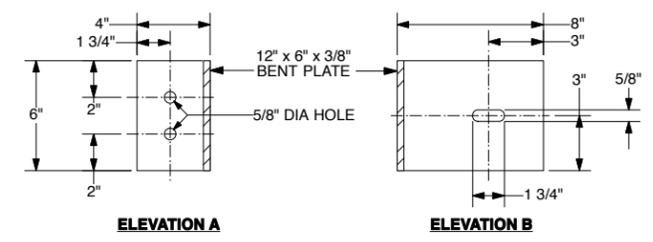
ITEM	QNTY
12" x 6" x 3/8" Hot Dipped Galv Bent Plate	1 ea
1/2" x 5 1/2" Galv Exp Anchor w/Nut & Washer	3 ea
3/4" x 12" Galv Exp Anchor w/Nut & Washer	6 ea



BLOCKOUT #: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

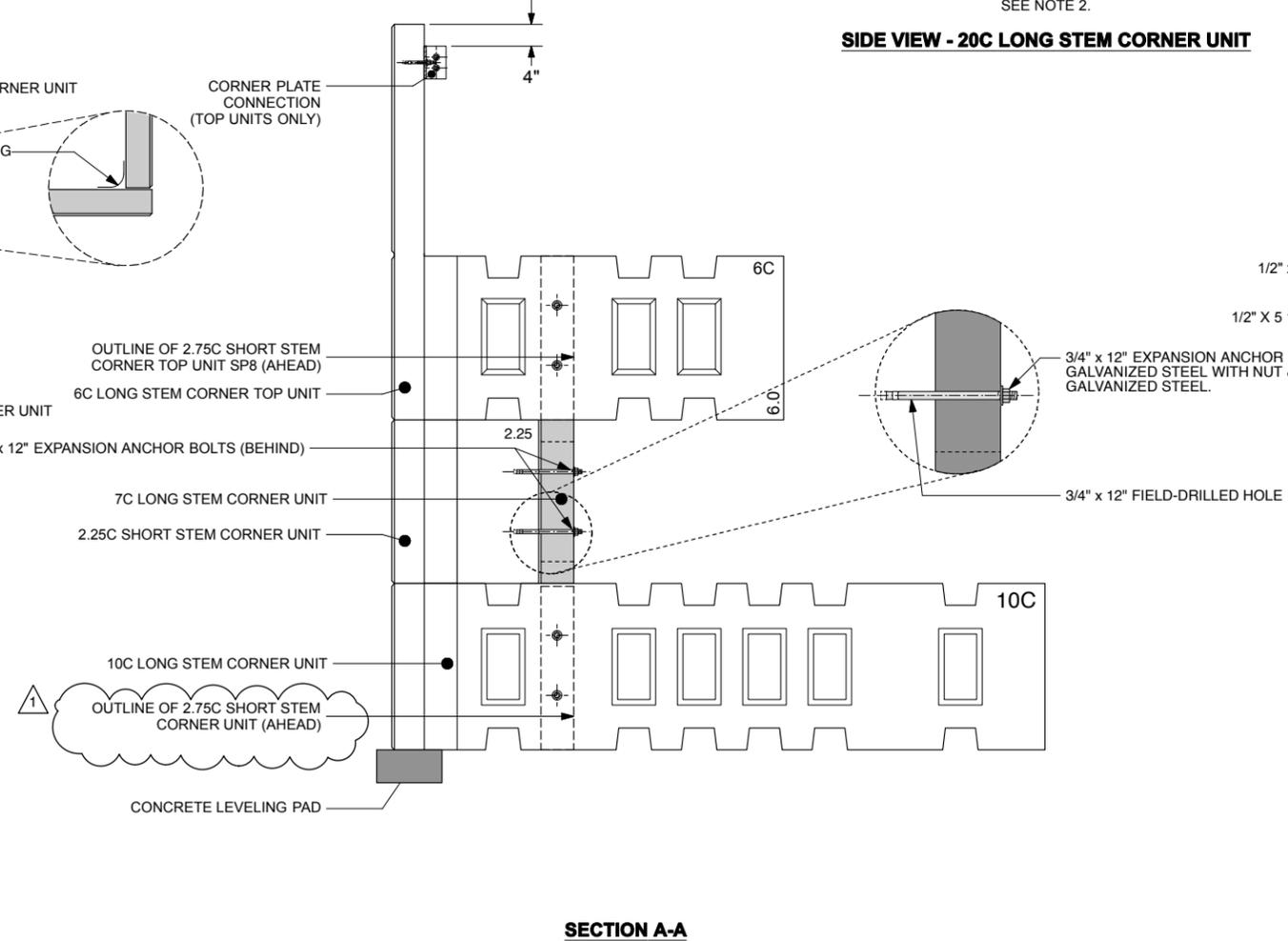
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT

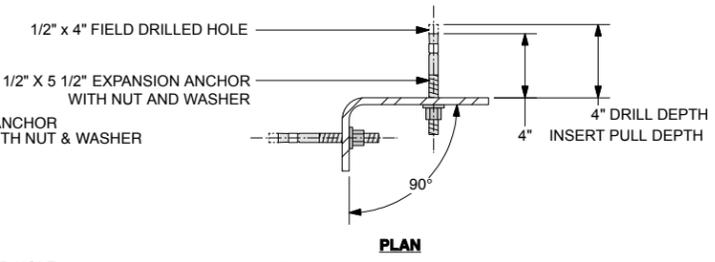


ELEVATION A

ELEVATION B



SECTION A-A



CORNER PLATE CONNECTION

- NOTES:**
- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
 - FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
 - FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
 - PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
 - EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
 - HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



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This drawing contains information proprietary to The Neel Company. T-WALL® is a registered trademark owned by The Neel Company. ©2015 The Neel Company

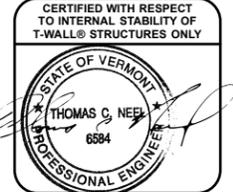
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437



REVISIONS

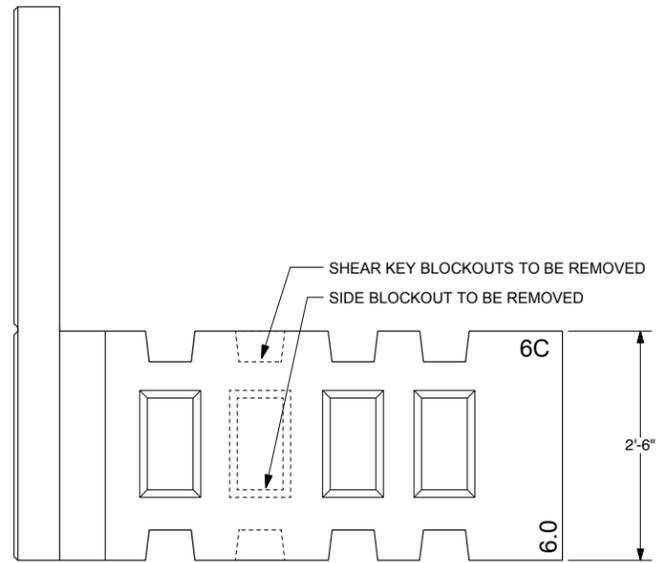
1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015
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I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
WALL 8 90 DEG. CORNER DETAIL
T-WALL® RETAINING WALL SYSTEM

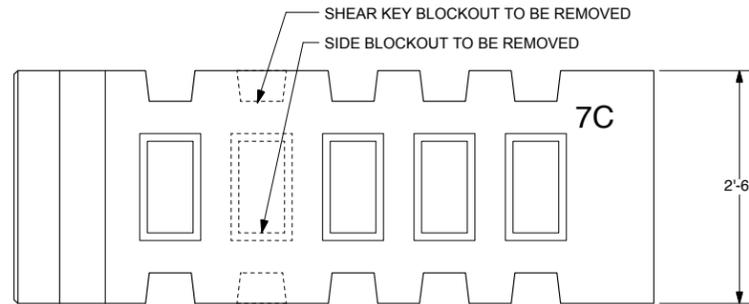
SCALE: AS NOTED

DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-28

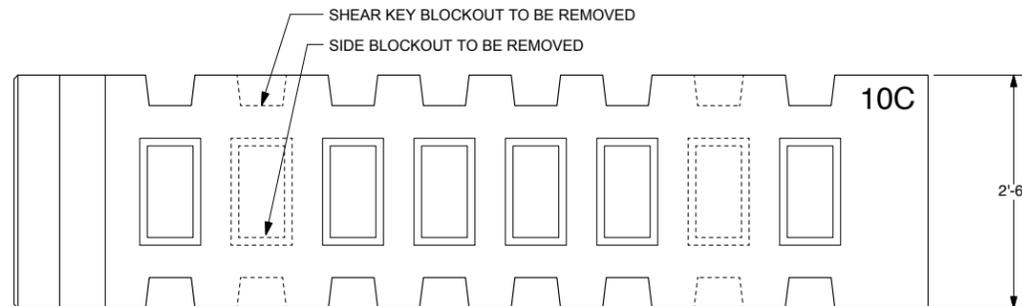
6' LONG STEM BY 6' HEIGHT CORNER UNIT
(SEE SHEET 40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



10' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

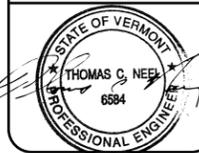
CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

1	CORRECTED CORNER PIECE LABELS	CTH	3/6/2015
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**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
WALL 8 CORNER PAN REMOVAL DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

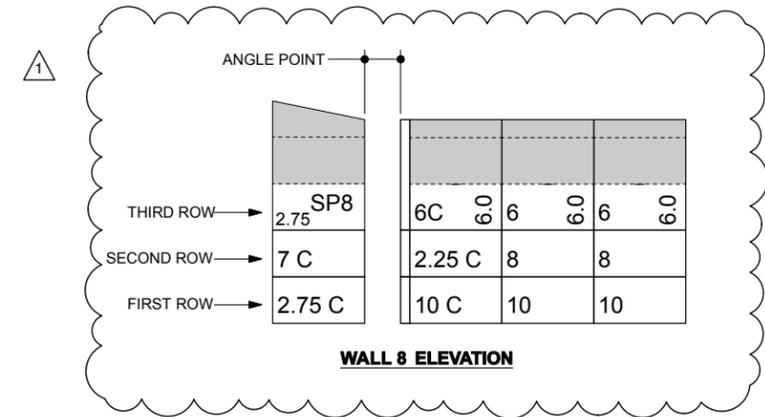
DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: CTH

CHECKED BY: KB

SHEET: TW-29



NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS.

GENERAL NOTES:

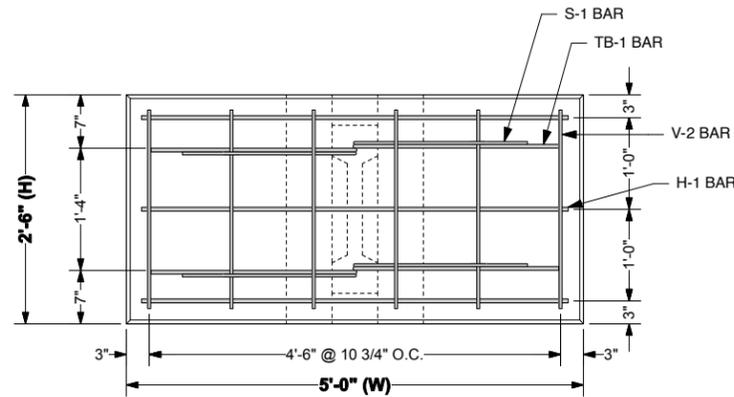
- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH

SPECIAL NOTES:

- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH

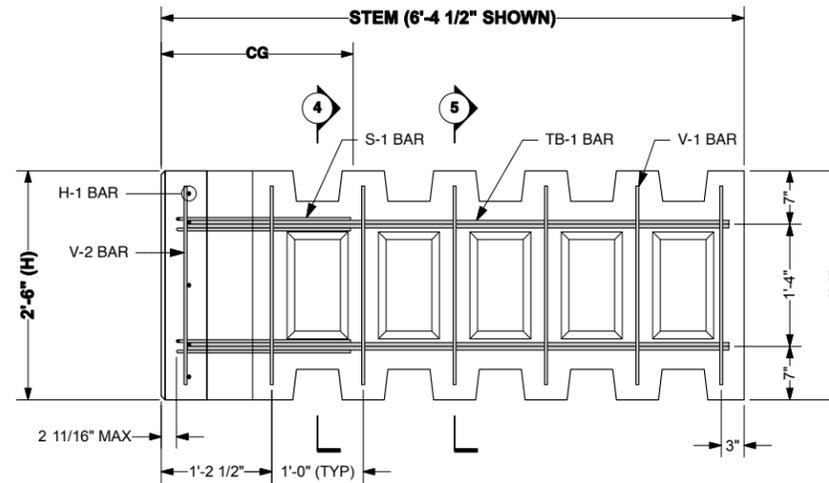
GENERAL NOTES:

- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE:
 - F'c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.

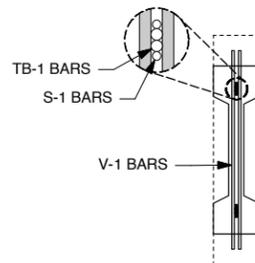


(V-1 BARS IN STEM OMITTED FOR CLARITY)

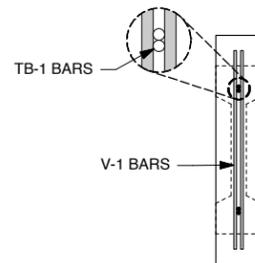
1 FRONT VIEW
Scale: 1" = 1'-0"



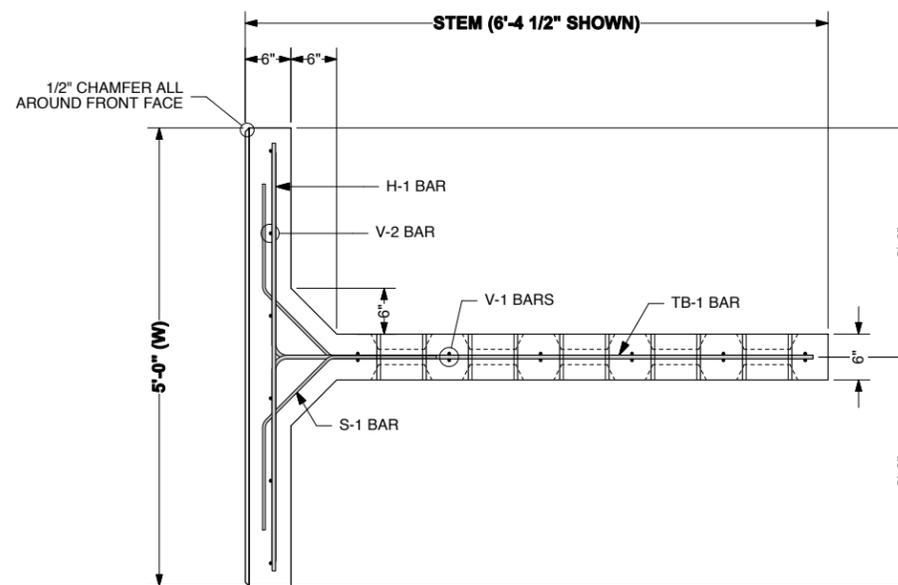
2 SIDE VIEW
Scale: 1" = 1'-0"



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"



5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

**2" MIN. COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

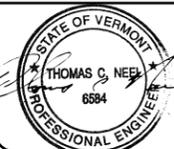
CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

NO.	DATE	DESCRIPTION

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
STANDARD UNIT REBAR (I)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

CHECKED BY: KB

SHEET: TW-30

T-WALL UNIT SCHEDULES

Unit Type	Qty	H	W	Stem	Lifting CG	Area	Vol	Weight
2.5 x 5.0 x 08 Std	22 ea	2'6"	5'0"	8'4 1/2"	2'5 1/2"	12.50 sf	0.53 cy	2,165 lbs
2.5 x 5.0 x 10 Std	14 ea	2'6"	5'0"	10'4 1/2"	3'3 1/2"	12.50 sf	0.60 cy	2,451 lbs

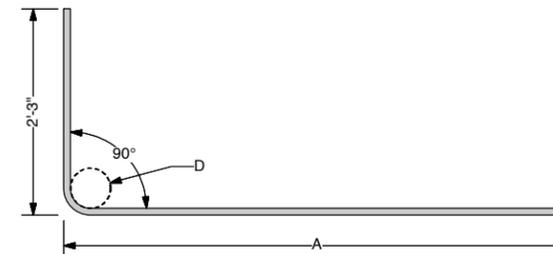
REBAR SCHEDULES

2.5 x 5.0 x 08 Std

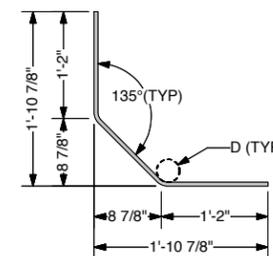
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	16 ea	#4	2'2"			23.14 lbs	
S=8'4 1/2"	V-2	6 ea	#4	2'2"			8.68 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#4	10'2"	7'11"	3"	27.16 lbs	
							77.34 lbs	

2.5 x 5.0 x 10 Std

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	20 ea	#4	2'2"			28.93 lbs	
S=10'4 1/2"	V-2	6 ea	#4	2'2"			8.68 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#4	12'2"	9'11"	3"	32.50 lbs	
							88.47 lbs	

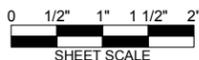


A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
STANDARD UNIT REBAR (II)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

CHECKED BY: KB

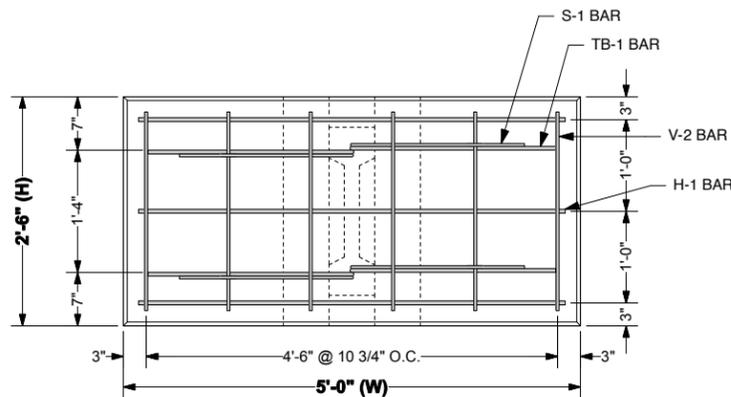
SHEET: TW-31

SPECIAL NOTES:

- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH

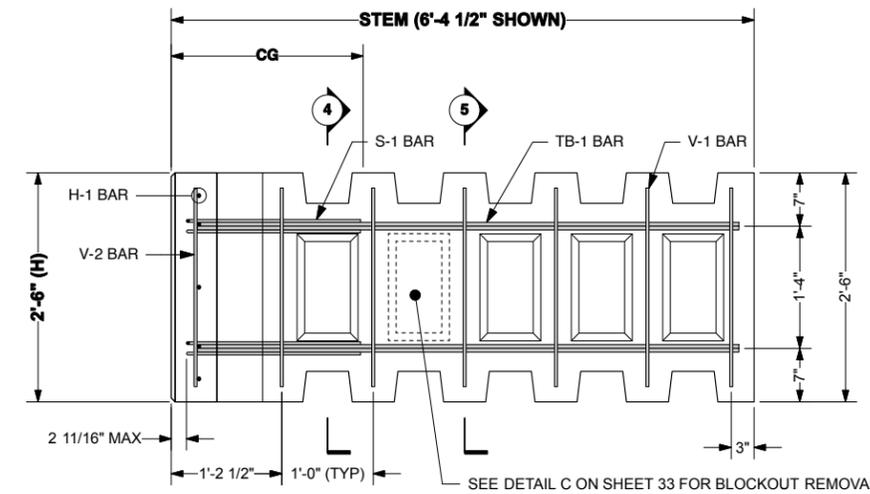
GENERAL NOTES:

- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE:
 - F'c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.

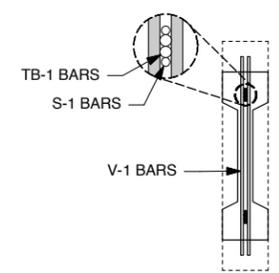


(V-1 BARS IN STEM OMITTED FOR CLARITY)

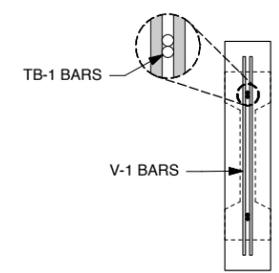
1 FRONT VIEW
Scale: 1" = 1'-0"



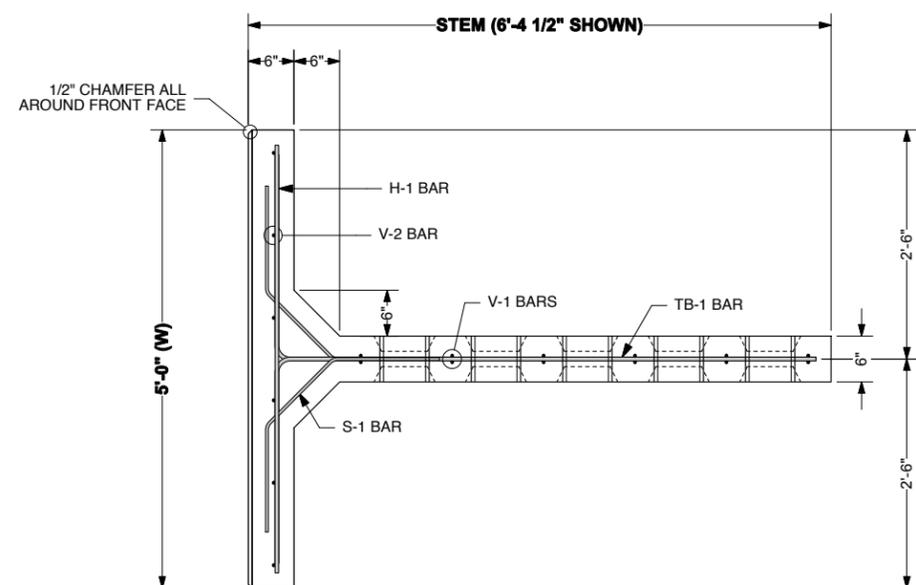
2 SIDE VIEW
Scale: 1" = 1'-0"



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"



5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

**2" MIN. COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY

STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS	

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
STANDARD CORNER UNIT REBAR (I)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-32

T-WALL UNIT SCHEDULES

Unit Type	Qty	H	W	Stem	Lifting CG	Area	Properties Vol	Weight
2.5 x 5.0 x 07 Std Cnr	10 ea	2'6"	5'0"	7'4 1/2"	2'0 3/4"	12.50 sf	0.50 cy	2,043 lbs
2.5 x 5.0 x 08 Std Cnr	3 ea	2'6"	5'0"	8'4 1/2"	2'5 1/2"	12.50 sf	0.53 cy	2,165 lbs
2.5 x 5.0 x 10 Std Cnr	2 ea	2'6"	5'0"	10'4 1/2"	3'3 1/2"	12.50 sf	0.60 cy	2,451 lbs
2.5 x 5.0 x 12 Std Cnr	1 ea	2'6"	5'0"	12'4 1/2"	4'2"	12.50 sf	0.66 cy	2,696 lbs

REBAR SCHEDULES

2.5 x 5.0 x 07 Std Cnr

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	14 ea	#4	2'2"			20.25 lbs	
S=7'4 1/2"	V-2	6 ea	#4	2'2"			8.68 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#4	9'2"	6'11"	3"	24.49 lbs	
							71.78 lbs	

2.5 x 5.0 x 08 Std Cnr

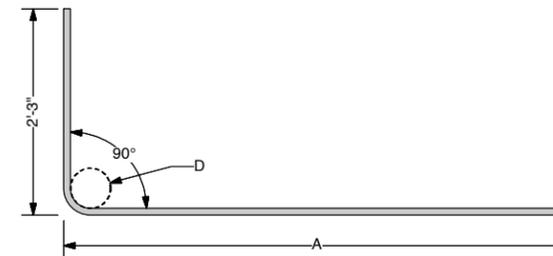
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	16 ea	#4	2'2"			23.14 lbs	
S=8'4 1/2"	V-2	6 ea	#4	2'2"			8.68 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#4	10'2"	7'11"	3"	27.16 lbs	
							77.34 lbs	

2.5 x 5.0 x 10 Std Cnr

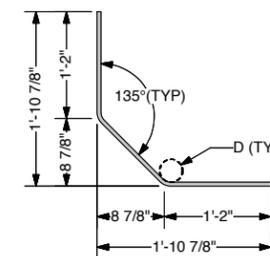
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	20 ea	#4	2'2"			28.93 lbs	
S=10'4 1/2"	V-2	6 ea	#4	2'2"			8.68 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#4	12'2"	9'11"	3"	32.50 lbs	
							88.47 lbs	

2.5 x 5.0 x 12 Std Cnr

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	24 ea	#4	2'2"			34.72 lbs	
S=12'4 1/2"	V-2	6 ea	#4	2'2"			8.68 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	14'2"	11'11"	3 3/4"	59.13 lbs	
							120.88 lbs	

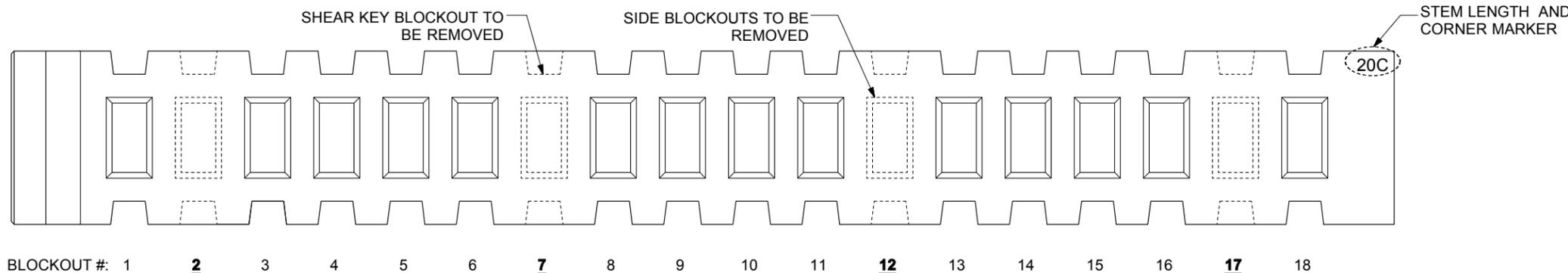


A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



BLOCKOUT #: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).

C SIDE VIEW - 20C LONG STEM CORNER UNIT
NO SCALE



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This drawing contains information proprietary to The Neel Company. T-WALL® is a registered trademark owned by The Neel Company. ©2015 The Neel Company

PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY



REVISIONS

NO	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
STANDARD CORNER UNIT REBAR (II)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

CHECKED BY: KB

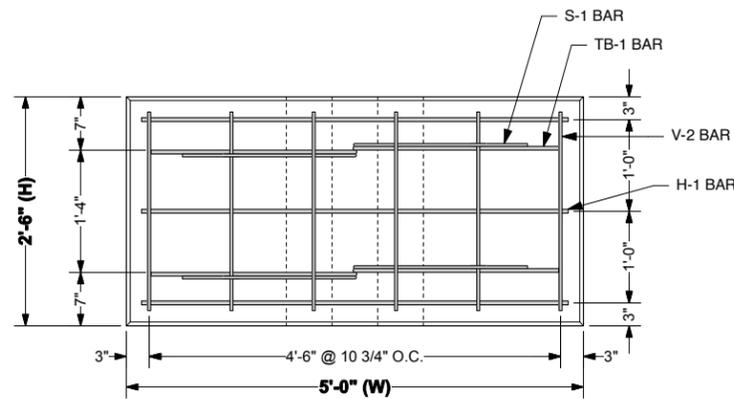
SHEET: TW-33

SPECIAL NOTES:

- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH

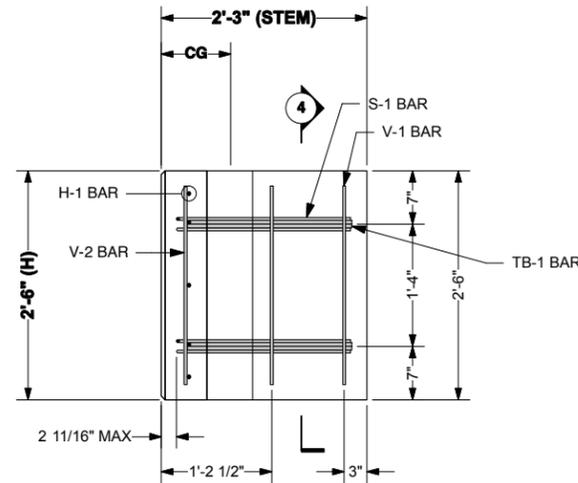
GENERAL NOTES:

- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE:
 - $f'_c = 5000$ psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - $F_y = 60$ ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE $\pm 3/8$ INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: $\pm 3/8$ INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN $\pm 3/8$ INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.

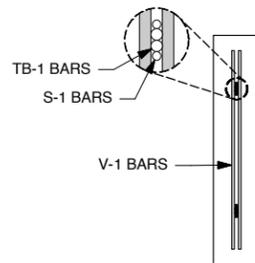


(V-1 BARS IN STEM OMITTED FOR CLARITY)

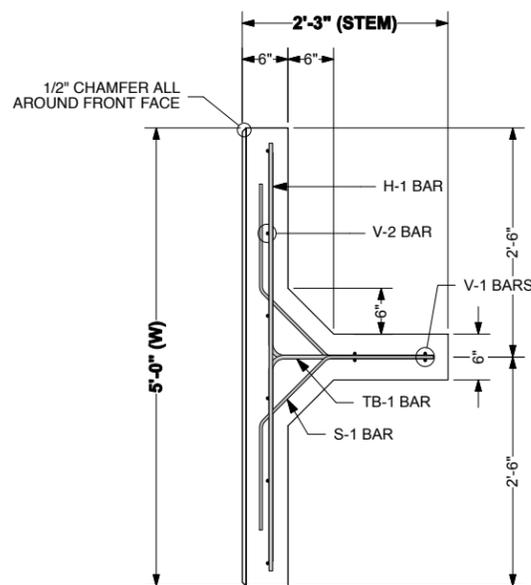
1 FRONT VIEW
Scale: 1" = 1'-0"



2 SIDE VIEW
Scale: 1" = 1'-0"

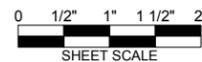


4 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

**2" MIN. COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY

8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY

STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS	

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
STANDARD CORNER 2.25' STEM REBAR (I)

T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-34

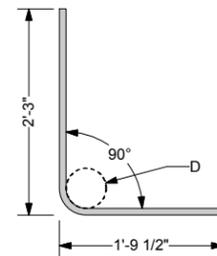
T-WALL UNIT SCHEDULES

Unit Type	Qty	H	W	Stem	Lifting CG	Area	Vol	Weight
2.5 x 5.0 x 02.25 Std Cnr	10 ea	2'6"	5'0"	2'3"	5 5/8"	12.50 sf	0.34 cy	1,388 lbs

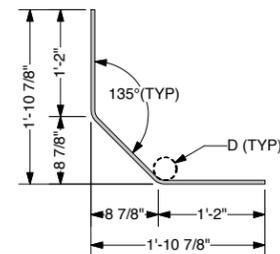
REBAR SCHEDULES

2.5 x 5.0 x 02.25 Std Cnr

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	6 ea	#4	2'2"			8.68 lbs	
S=2'3"	V-2	6 ea	#4	2'2"			8.68 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#4	4'0 1/2"	1'9 1/2"	3"	10.79 lbs	
							46.51 lbs	

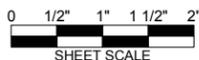


A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



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PROJECT #: T22259

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LYNDON CENTER, VT
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PROJECT #: TW4437

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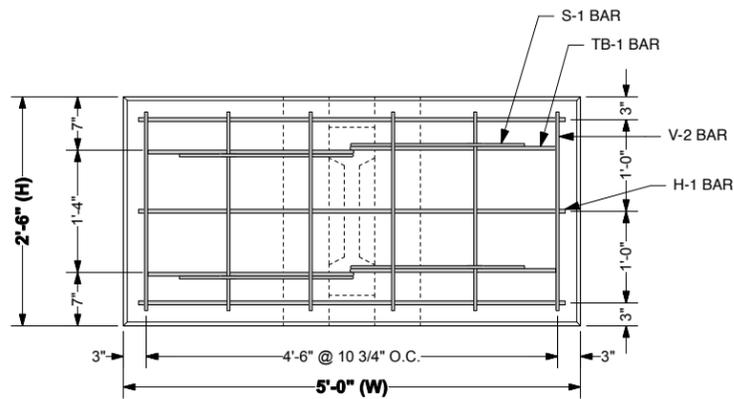
REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

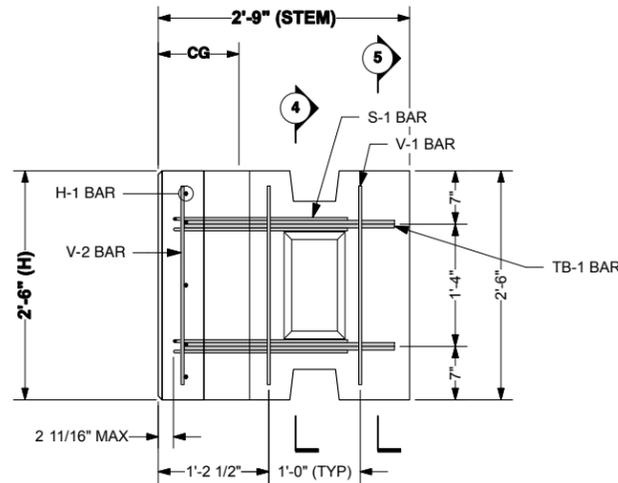
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
STANDARD CORNER 2.25' STEM REBAR (II)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-35

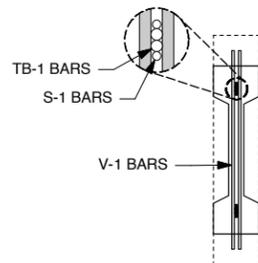


(V-1 BARS IN STEM OMITTED FOR CLARITY)

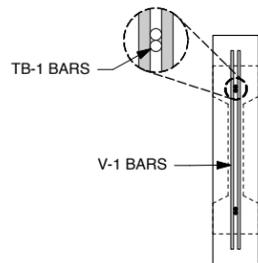
1 FRONT VIEW
Scale: 1" = 1'-0"



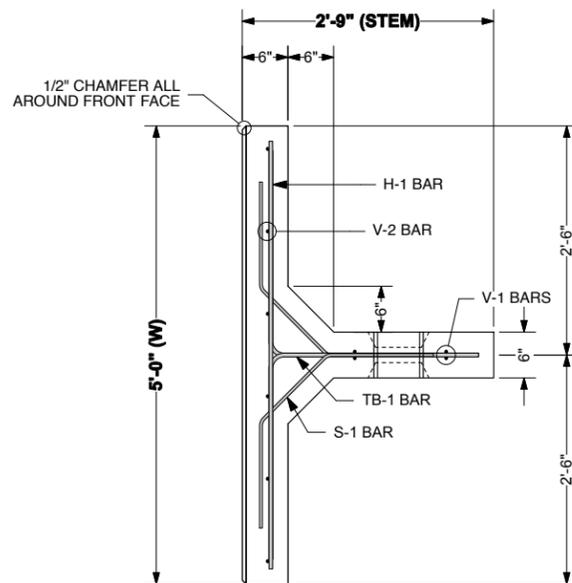
2 SIDE VIEW
Scale: 1" = 1'-0"



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"



5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

SPECIAL NOTES:

- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH

GENERAL NOTES:

- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE:
 - $f'_c = 5000$ psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - $F_y = 60$ ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
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 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: $\pm 3/8$ INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
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**2" MIN. COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
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PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

NO.	DESCRIPTION	DATE

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
STANDARD CORNER 2.75' STEM REBAR (I)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

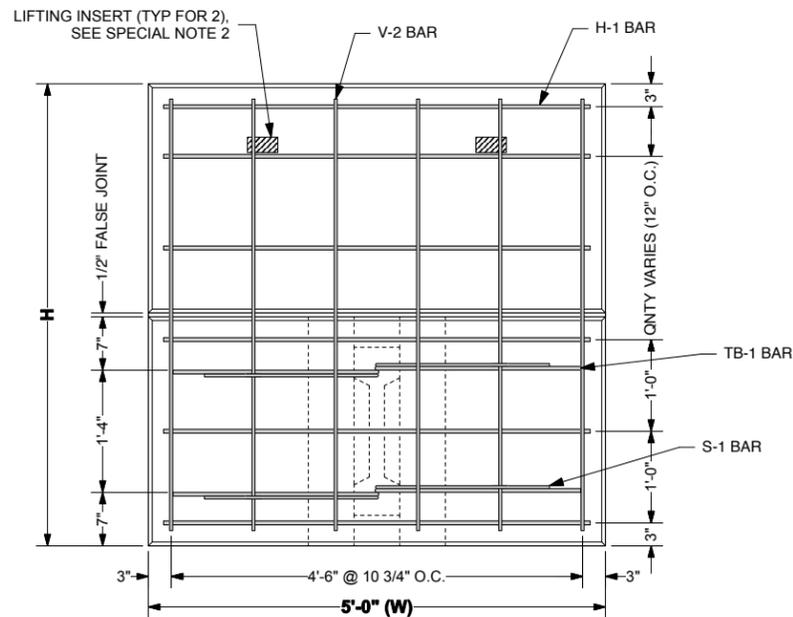
DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

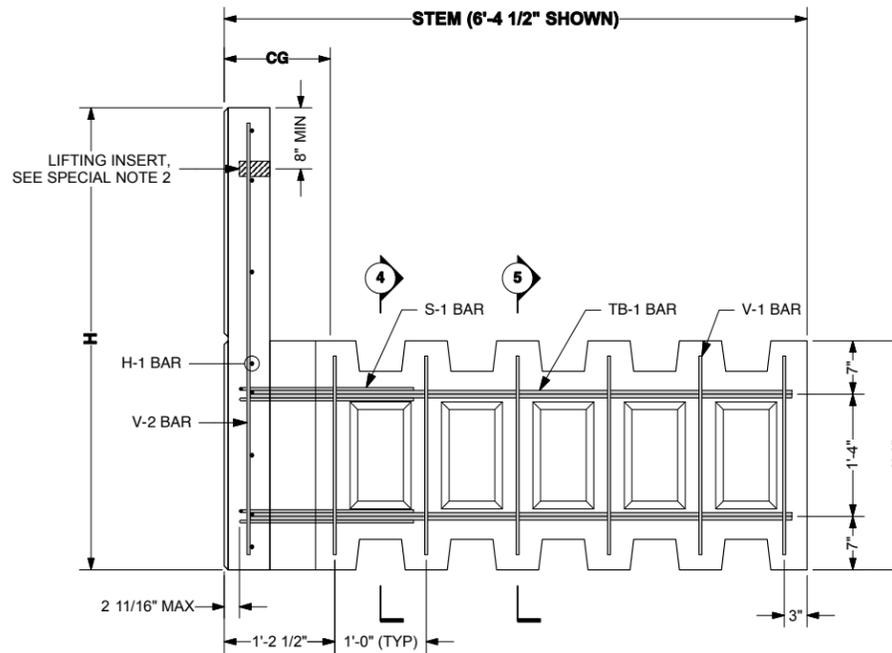
CHECKED BY: KB

SHEET: TW-36



(V-1 BARS IN STEM OMITTED FOR CLARITY)

1 FRONT VIEW
Scale: 1" = 1'-0"



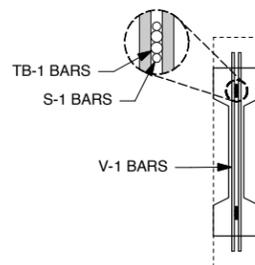
2 SIDE VIEW
Scale: 1" = 1'-0"

SPECIAL NOTES:

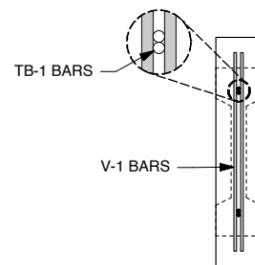
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
- LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.
 - MINIMUM CONCRETE STRENGTH SHALL BE 3,500 psi PRIOR TO STRIPPING AND LIFTING OPERATIONS.

GENERAL NOTES:

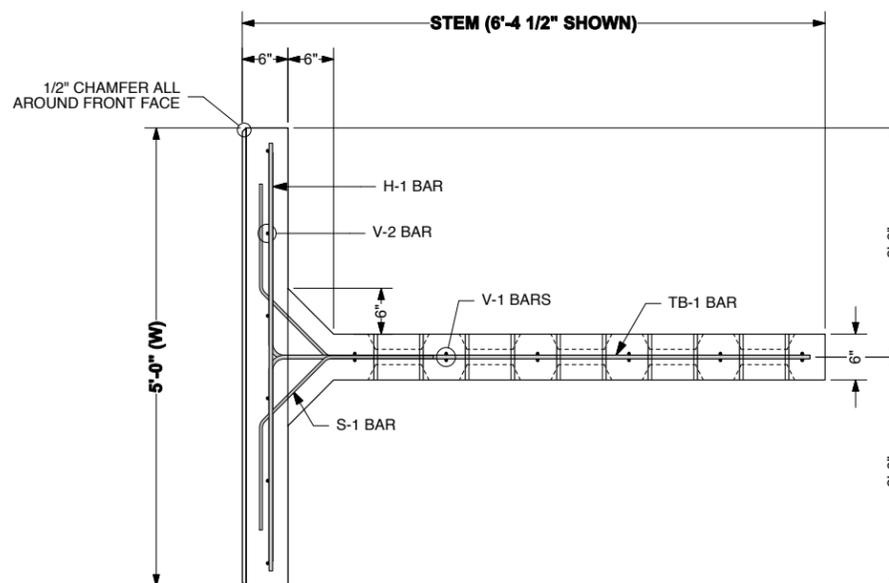
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE:
 - F_c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - F_y = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, U-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"



5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

**2" COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
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SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

REVISIONS	

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
STANDARD TOP UNIT REBAR (I)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-38

T-WALL UNIT SCHEDULES

Unit Type	Qty	H	Dimensions W Stem	Lifting CG	Area	Properties Vol	Weight
5.0 x 5.0 x 06 Std Top	4 ea	5'0 1/2"	5'0"	6'4 1/2"	8 1/2"	25.21 sf 0.72 cy	2,928 lbs
5.5 x 5.0 x 06 Std Top	4 ea	5'6"	5'0"	6'4 1/2"	8 1/2"	27.50 sf 0.76 cy	3,090 lbs
6.0 x 5.0 x 06 Std Top	8 ea	6'0"	5'0"	6'4 1/2"	8 1/2"	30.00 sf 0.81 cy	3,294 lbs
6.5 x 5.0 x 08 Std Top	2 ea	6'6"	5'0"	8'4 1/2"	8 1/2"	32.50 sf 0.85 cy	3,456 lbs

REBAR SCHEDULES

5.0 x 5.0 x 06 Std Top

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=5'0 1/2"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#4	2'2"			17.36 lbs	
S=6'4 1/2"	V-2	6 ea	#5	4'8 1/2"			29.46 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							109.07 lbs	

5.5 x 5.0 x 06 Std Top

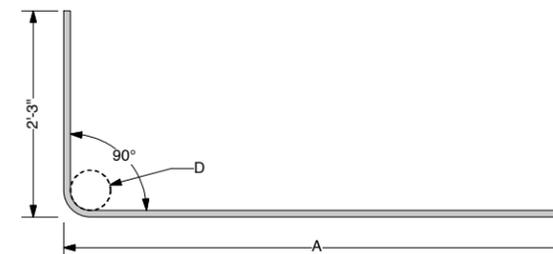
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=5'6"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#4	2'2"			17.36 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'2"			32.34 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							111.95 lbs	

6.0 x 5.0 x 06 Std Top

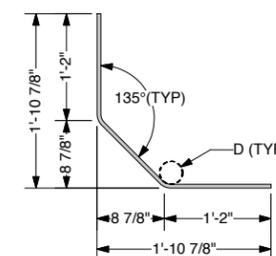
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'0"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#4	2'2"			17.36 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'8"			35.47 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							115.08 lbs	

6.5 x 5.0 x 08 Std Top

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'6"	H-1	7 ea	#4	4'8"			21.81 lbs	
W=5'0"	V-1	12 ea	#4	2'2"			17.36 lbs	
S=8'4 1/2"	V-2	6 ea	#5	6'2"			38.60 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	8'3"	5'11"	3 3/4"	34.44 lbs	
							121.22 lbs	

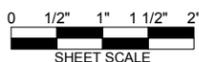


A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

**2" COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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PROJECT #: T22259

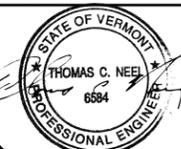
CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4	CTH	3/6/2015

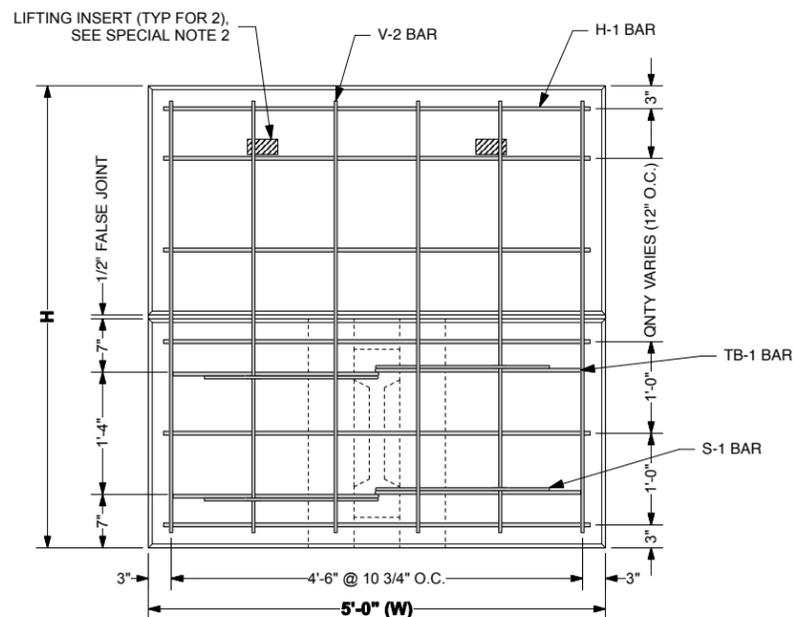
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
STANDARD TOP UNIT REBAR (II)

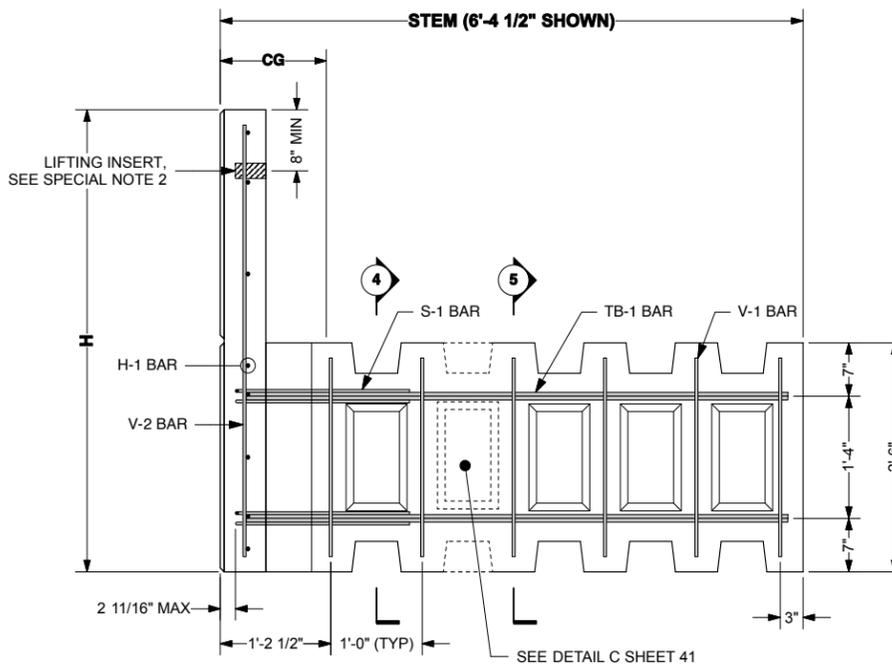
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-39



(V-1 BARS IN STEM OMITTED FOR CLARITY)

1 FRONT VIEW
Scale: 1" = 1'-0"



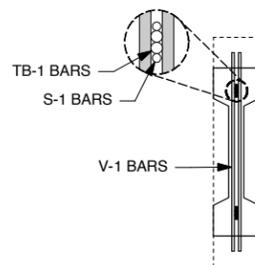
2 SIDE VIEW
Scale: 1" = 1'-0"

SPECIAL NOTES:

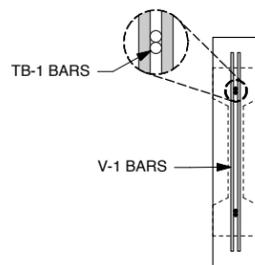
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
- LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.
 - MINIMUM CONCRETE STRENGTH SHALL BE 3,500 psi PRIOR TO STRIPPING AND LIFTING OPERATIONS.

GENERAL NOTES:

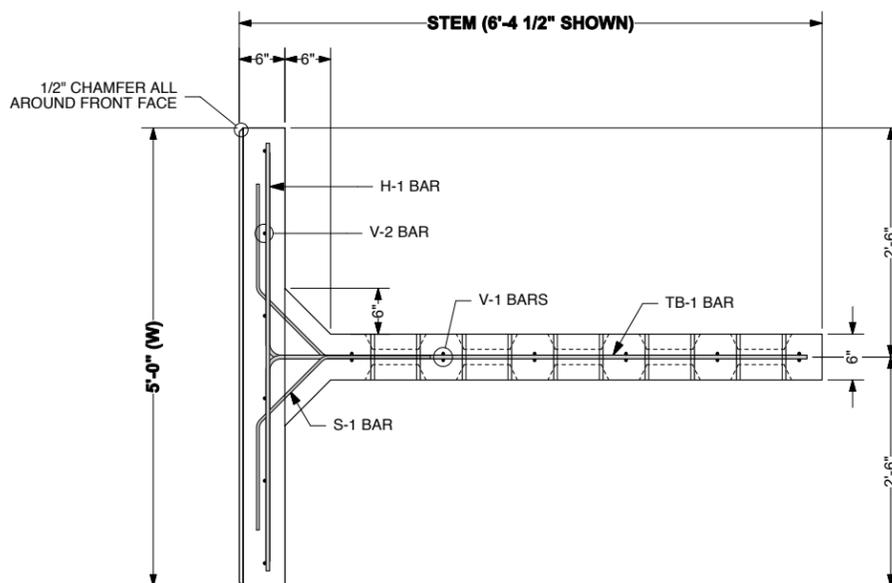
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE:
 - F_c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - F_y = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, U-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"

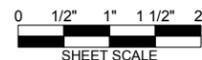


5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

**2" COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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This drawing contains information proprietary to The Neel Company. T-WALL® is a registered trademark owned by The Neel Company. ©2015 The Neel Company

PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
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T-WALL® STRUCTURES ONLY



REVISIONS

NO.	DESCRIPTION

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
STANDARD TOP CORNER UNIT REBAR (I)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

CHECKED BY: KB

SHEET: TW-40

T-WALL UNIT SCHEDULES

Unit Type	Qty	H	Dimensions W Stem	Lifting CG	Area	Properties Vol	Weight
5.5 x 5.0 x 06 Std Top Cnr	3 ea	5'6"	5'0" 6'4 1/2"	8 1/2"	27.50 sf	0.76 cy	3,089 lbs
6.0 x 5.0 x 06 Std Top Cnr	1 ea	6'0"	5'0" 6'4 1/2"	8 1/2"	30.00 sf	0.81 cy	3,293 lbs
6.5 x 5.0 x 08 Std Top Cnr	1 ea	6'6"	5'0" 8'4 1/2"	8 1/2"	32.50 sf	0.92 cy	3,740 lbs

REBAR SCHEDULES

5.5 x 5.0 x 06 Std Top Cnr

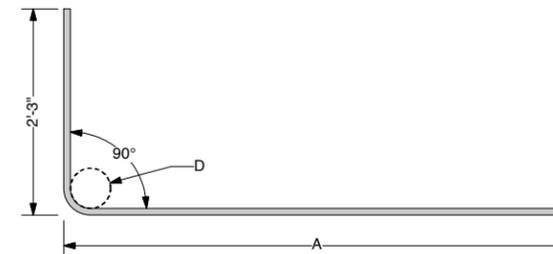
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=5'6"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#4	2'2"			17.36 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'2"			32.34 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							111.95 lbs	

6.0 x 5.0 x 06 Std Top Cnr

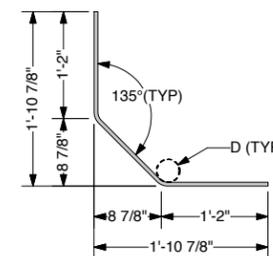
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'0"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#4	2'2"			17.36 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'8"			35.47 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							115.08 lbs	

6.5 x 5.0 x 08 Std Top Cnr

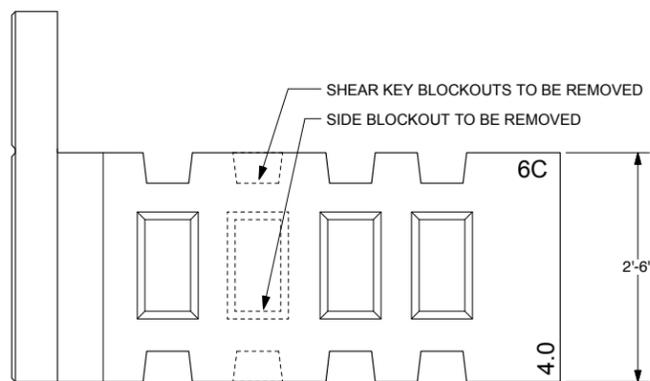
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'6"	H-1	7 ea	#4	4'8"			21.81 lbs	
W=5'0"	V-1	16 ea	#4	2'2"			23.14 lbs	
S=8'4 1/2"	V-2	6 ea	#5	6'2"			38.60 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	10'3"	7'11"	3 3/4"	42.79 lbs	
							135.35 lbs	



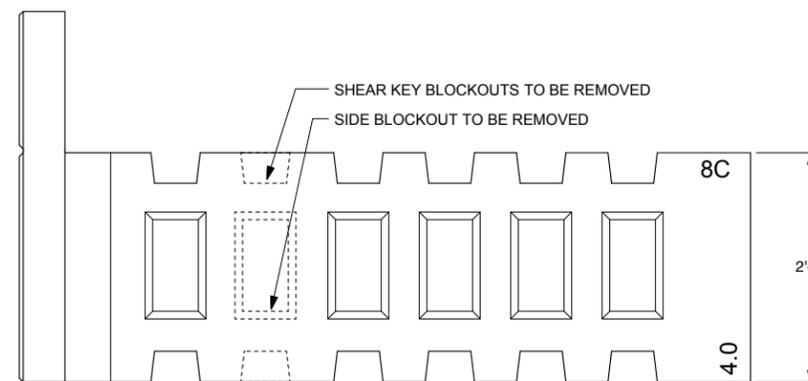
A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"



6' LONG STEM BY 5' HEIGHT CORNER UNIT
WITH REDUCE STEM HEIGHT



8' LONG STEM BY 5' HEIGHT CORNER UNIT
WITH REDUCE STEM HEIGHT

C BLOCKOUT REMOVAL DETAIL
Scale: 1" = 1'-0"

**2" COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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PROJECT #:

DESIGNER

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PROJECT #: TW4437

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REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
STANDARD TOP CORNER UNIT REBAR (II)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

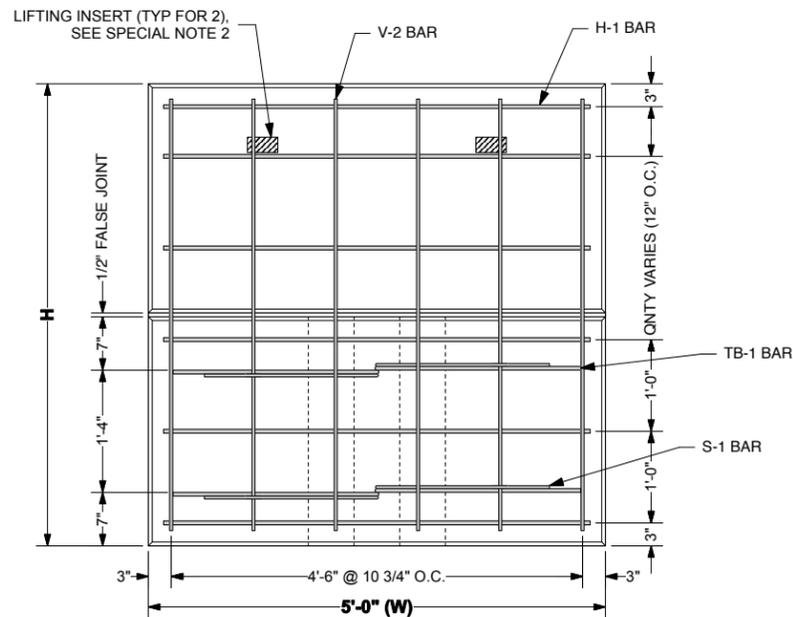
DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

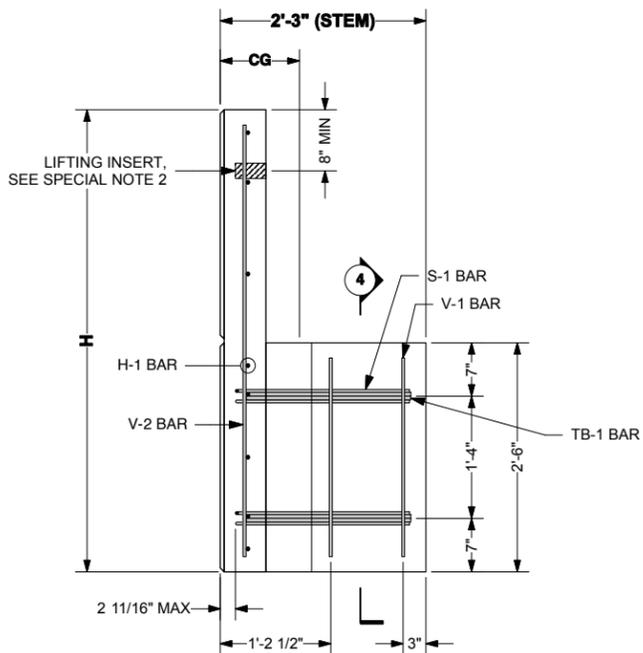
CHECKED BY: KB

SHEET: TW-41



(V-1 BARS IN STEM OMITTED FOR CLARITY)

1 FRONT VIEW
Scale: 1" = 1'-0"



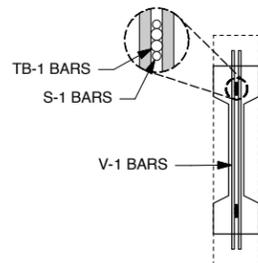
2 SIDE VIEW
Scale: 1" = 1'-0"

SPECIAL NOTES:

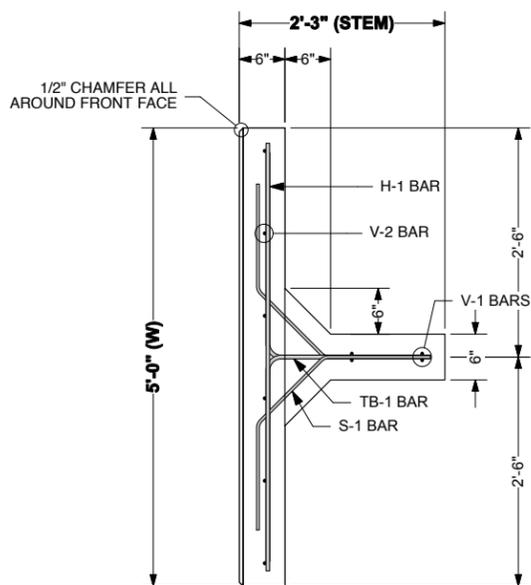
1. T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
2. LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.

GENERAL NOTES:

- 1A. PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- 1B. SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
2. T-WALL® CONCRETE COMPRESSIVE STRENGTH:
 - F'c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
3. REINFORCING STEEL:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - **WELDING IS NOT PERMITTED**
4. REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY



REVISIONS

NO.	DESCRIPTION	DATE

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
STANDARD TOP CORNER 2.25' STEM REBAR (I)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

CHECKED BY: KB

SHEET: TW-42

T-WALL UNIT SCHEDULES

Unit Type	Qty	H	Dimensions W	Stem	Lifting CG	Area	Properties Vol	Weight
5.0 x 5.0 x 02.25 Std Top Cnr	2 ea	5'0 1/2"	5'0"	2'3"	8 1/2"	25.21 sf	0.57 cy	2,316 lbs
6.0 x 5.0 x 02.25 Std Top Cnr	1 ea	6'0"	5'0"	2'3"	8 1/2"	30.00 sf	0.66 cy	2,680 lbs

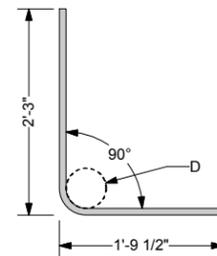
REBAR SCHEDULES

5.0 x 5.0 x 02.25 Std Top Cnr

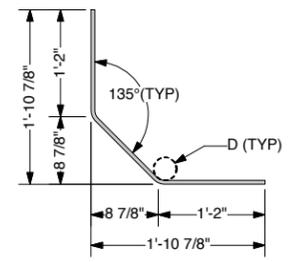
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=5'0 1/2"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	4 ea	#4	2'2"			5.79 lbs	
S=2'3"	V-2	6 ea	#5	4'8 1/2"			29.46 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	4'1 7/8"	1'9 1/2"	3 3/4"	17.32 lbs	
							80.27 lbs	

6.0 x 5.0 x 02.25 Std Top Cnr

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'0"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	4 ea	#4	2'2"			5.79 lbs	
S=2'3"	V-2	6 ea	#5	5'8"			35.47 lbs	
SH=2'6"	S-1	4 ea	#4	3'4 1/2"	1'2"	3"	9.01 lbs	
	TB-1	4 ea	#5	4'1 7/8"	1'9 1/2"	3 3/4"	17.32 lbs	
							86.26 lbs	

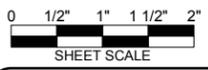


A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

**2" MIN. COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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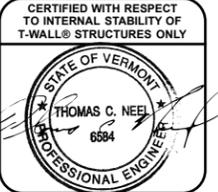
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
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DESIGNER

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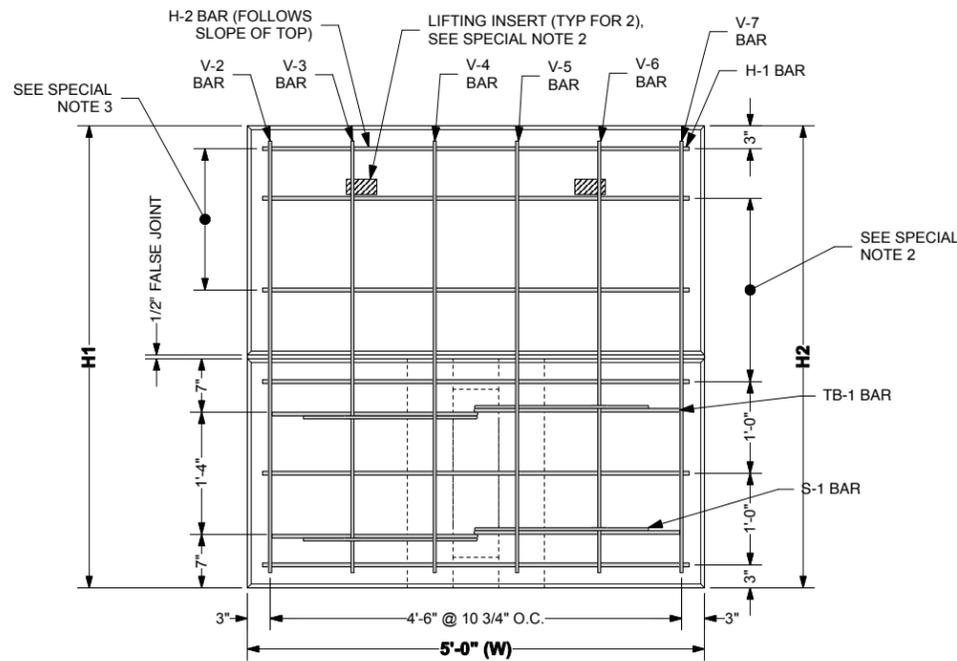


REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4 AND CHANGE H DIMS	CTH	3/6/2015

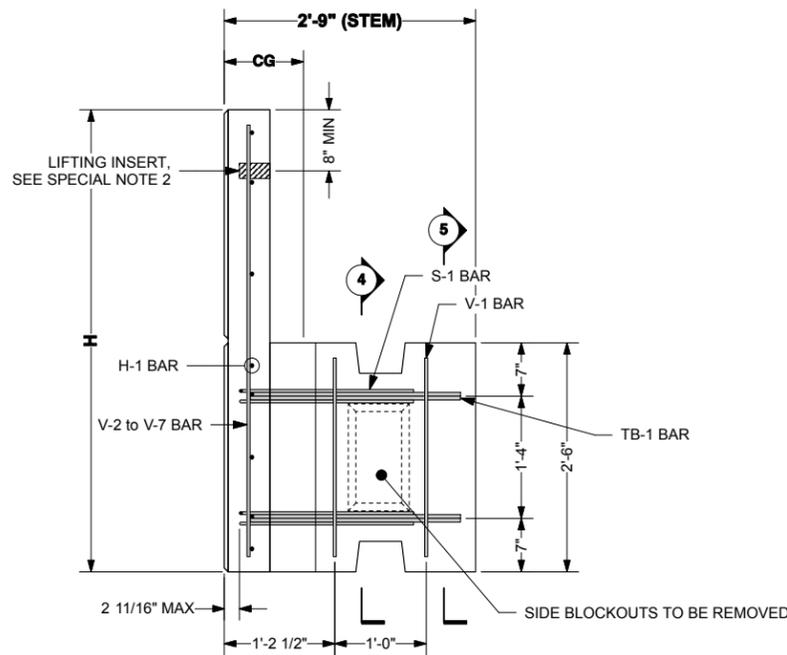
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
STANDARD TOP CORNER 2.25' STEM REBAR (II)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-43



(V-1 BARS IN STEM OMITTED FOR CLARITY)

1 FRONT VIEW
Scale: 1" = 1'-0"



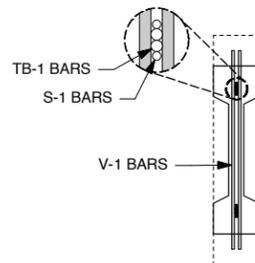
2 SIDE VIEW
Scale: 1" = 1'-0"

SPECIAL NOTES:

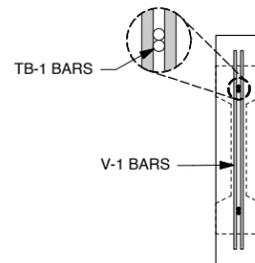
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
- ON LOW SIDE OF T-WALL UNIT, MAINTAIN H-1 BAR SPACING AT 1'-0" O.C. FOR AS MANY BARS AS POSSIBLE, THEN FAN THE REMAINING H BARS AT EQUAL SPACING.
- ON HIGH SIDE OF T-WALL UNIT, SPACE H-1 BARS AT 1'-0" O.C.
- LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.
 - MINIMUM CONCRETE STRENGTH SHALL BE 3,500 psi PRIOR TO STRIPPING AND LIFTING OPERATIONS.

GENERAL NOTES:

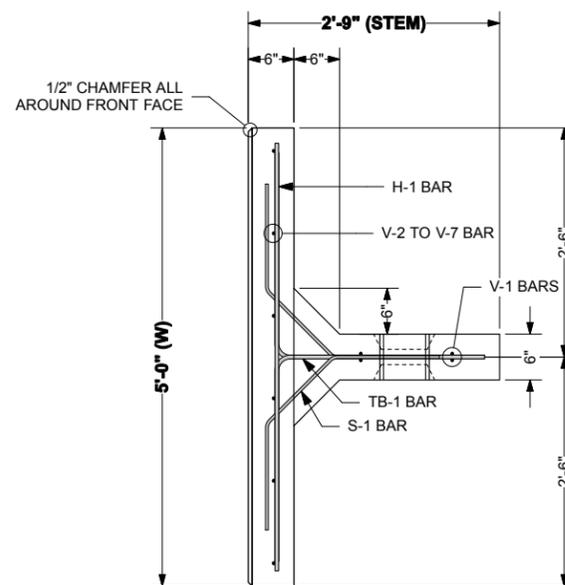
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
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- T-WALL® CONCRETE COMPRESSIVE STRENGTH:
 - F_c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - F_y = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"

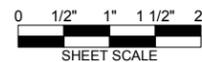


5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



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PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS	

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNITS SP1, SP4, SP5, SP8 REBAR (I)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-44

T-WALL UNIT SCHEDULES

Unit Type	Qty	Dimensions			Lifting CG	Properties			
		H1	H2	W		Area	Vol	Weight	
SP1	1 ea	6'4"	5'6 1/2"	5'0"	2'9"	5"	29.67 sf	0.68 cy	2,845 lbs
SP4	1 ea	6'4 1/2"	5'6 1/2"	5'0"	2'9"	5"	29.78 sf	0.68 cy	2,841 lbs
SP5	1 ea	6'2 1/8"	5'6 1/2"	5'0"	2'9"	5"	29.30 sf	0.67 cy	2,804 lbs
SP8	1 ea	6'10 5/8"	6'0 1/2"	5'0"	2'9"	4 7/8"	32.32 sf	0.73 cy	3,051 lbs

REBAR SCHEDULES

SP1

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'4"(max) W=5'0" S=2'9" SH=2'6"	H-1	7 ea	#4	4'8"				21.81 lbs	
	V-1	4 ea	#4	2'2"				5.79 lbs	
	V-2	1 ea	#5	5'11 1/2"				6.21 lbs	
	V-3	1 ea	#5	5'9 3/4"				6.06 lbs	
	V-4	1 ea	#5	5'8 1/8"				5.92 lbs	
	V-5	1 ea	#5	5'6 3/8"				5.77 lbs	
	V-6	1 ea	#5	5'4 5/8"				5.62 lbs	
	V-7	1 ea	#5	5'3"				5.47 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"		3"	9.01 lbs	
	TB-1	4 ea	#5	4'6 1/2"	2'3 1/2"	2'3"	3 3/4"	18.95 lbs	
								90.62 lbs	

SP4

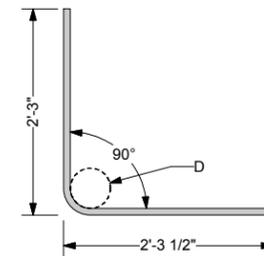
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'4 1/2"(max) W=5'0" S=2'9" SH=2'6"	H-1	7 ea	#4	4'8"				21.81 lbs	
	V-1	4 ea	#4	2'2"				5.79 lbs	
	V-2	1 ea	#5	5'11 7/8"				6.25 lbs	
	V-3	1 ea	#5	5'10 1/8"				6.10 lbs	
	V-4	1 ea	#5	5'8 3/8"				5.94 lbs	
	V-5	1 ea	#5	5'6 5/8"				5.79 lbs	
	V-6	1 ea	#5	5'4 3/4"				5.63 lbs	
	V-7	1 ea	#5	5'3"				5.48 lbs	
	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	4'6 1/2"	2'3 1/2"	2'3"	3 3/4"	18.95 lbs	
								86.80 lbs	

SP5

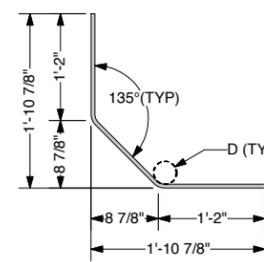
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'2 1/8"(max) W=5'0" S=2'9" SH=2'6"	H-1	7 ea	#4	4'8"				21.81 lbs	
	V-1	4 ea	#4	2'2"				5.79 lbs	
	V-2	1 ea	#5	5'9 3/4"				6.06 lbs	
	V-3	1 ea	#5	5'8 3/8"				5.94 lbs	
	V-4	1 ea	#5	5'7"				5.82 lbs	
	V-5	1 ea	#5	5'5 5/8"				5.71 lbs	
	V-6	1 ea	#5	5'4 1/4"				5.59 lbs	
	V-7	1 ea	#5	5'2 7/8"				5.47 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"		3"	9.01 lbs	
	TB-1	4 ea	#5	4'6 1/2"	2'3 1/2"	2'3"	3 3/4"	18.95 lbs	
								90.15 lbs	

SP8

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'10 5/8"(max) W=5'0" S=2'9" SH=2'6"	H-1	7 ea	#4	4'8"				21.81 lbs	
	V-1	4 ea	#4	2'2"				5.79 lbs	
	V-2	1 ea	#5	6'6 1/8"				6.79 lbs	
	V-3	1 ea	#5	6'4 3/8"				6.63 lbs	
	V-4	1 ea	#5	6'2 1/2"				6.48 lbs	
	V-5	1 ea	#5	6'0 5/8"				6.32 lbs	
	V-6	1 ea	#5	5'10 7/8"				6.16 lbs	
	V-7	1 ea	#5	5'9"				6.00 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"		3"	9.01 lbs	
	TB-1	4 ea	#5	4'6 1/2"	2'3 1/2"	2'3"	3 3/4"	18.95 lbs	
								93.93 lbs	



A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel 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.

This drawing contains information proprietary to The Neel Company. T-WALL® is a registered trademark owned by The Neel Company. ©2015 The Neel Company

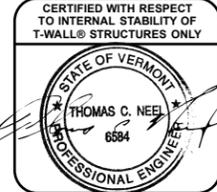
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
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PH: (703) 913-7858
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PROJECT #: TW4437

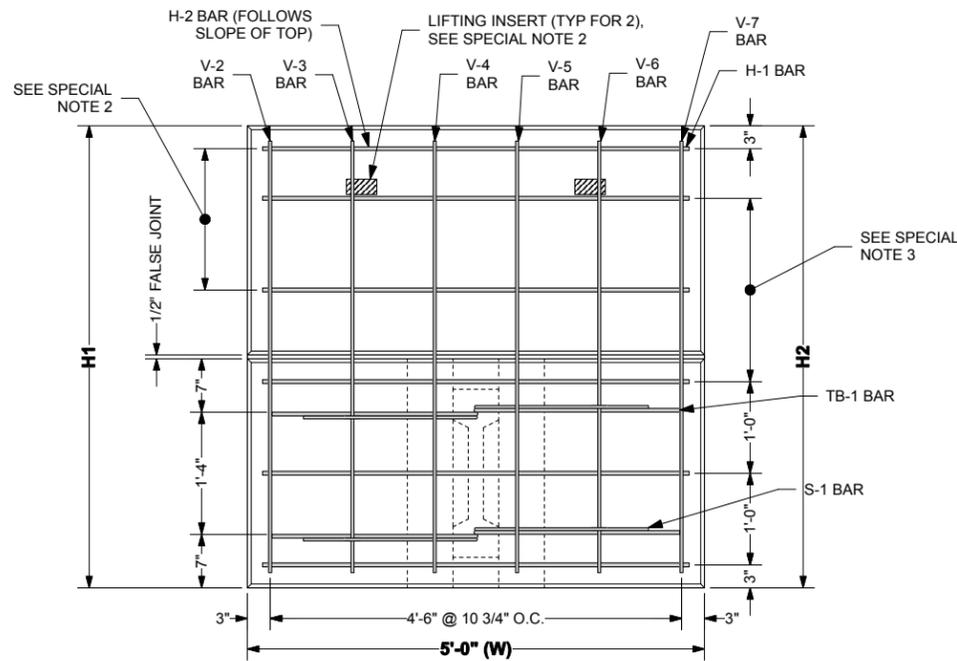


REVISIONS

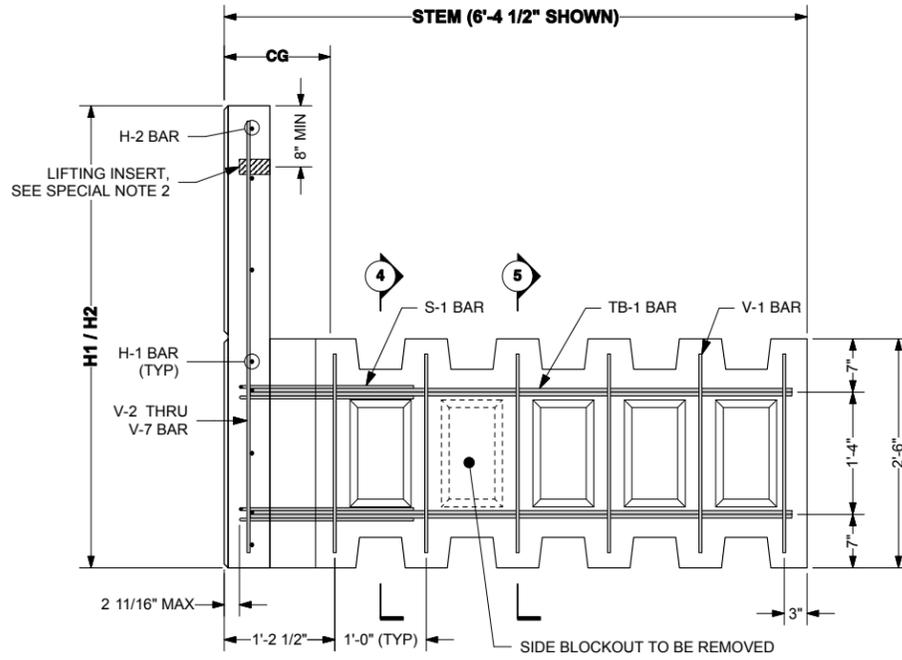
NO.	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4 AND CHANGE H DIMS	CTH	3/6/2015

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNITS SP1, SP4, SP5, SP8 REBAR (II)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-45



1 FRONT VIEW
Scale: 1" = 1'-0"

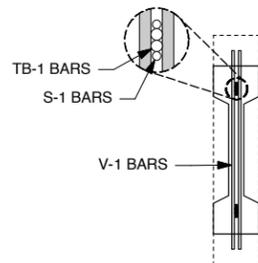


2 SIDE VIEW
Scale: 1" = 1'-0"

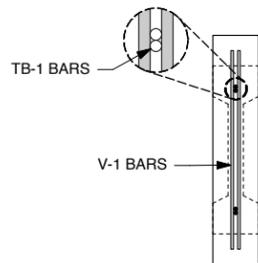
(V-1 BARS IN STEM OMITTED FOR CLARITY. LEFT-SLOPE SHOWN, RIGHT-SLOPE SIMILAR)

- SPECIAL NOTES:**
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
 - ON LOW SIDE OF T-WALL UNIT, MAINTAIN H-1 BAR SPACING AT 1'-0" O.C. FOR AS MANY BARS AS POSSIBLE, THEN FAN THE REMAINING H BARS AT EQUAL SPACING.
 - ON HIGH SIDE OF T-WALL UNIT, SPACE H-1 BARS AT 1'-0" O.C.
 - LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.
 - MINIMUM CONCRETE STRENGTH SHALL BE 3,500 psi PRIOR TO STRIPPING AND LIFTING OPERATIONS.

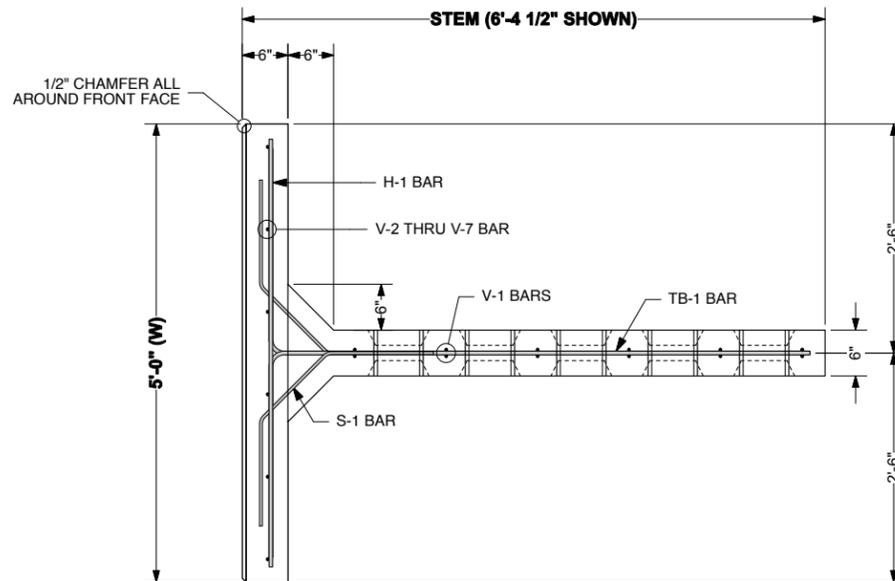
- GENERAL NOTES:**
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
 - SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
 - T-WALL® CONCRETE:
 - F'c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
 - REINFORCING STEEL:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
 - REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"

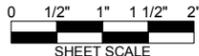


5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

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CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

STATE OF VERMONT
THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS	

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNITS SP2, SP3, SP6 REBAR (I)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-46

T-WALL UNIT SCHEDULES

Unit Type	Qty	Dimensions			Stem	Lifting CG	Properties		
		H1	H2	W			Area	Vol	Weight
SP2	1 ea	5'0 1/2"	5'11 3/4"	5'0"	6'4 1/2"	1'2 1/4"	27.55 sf	0.76 cy	3,078 lbs
SP3	1 ea	6'0 1/2"	6'10 1/8"	5'0"	6'4 1/2"	1'1 1/8"	32.20 sf	0.85 cy	3,564 lbs
SP6	1 ea	5'0 1/2"	5'10 1/8"	5'0"	6'4 1/2"	1'2 3/8"	27.20 sf	0.75 cy	3,038 lbs

REBAR SCHEDULES

SP2

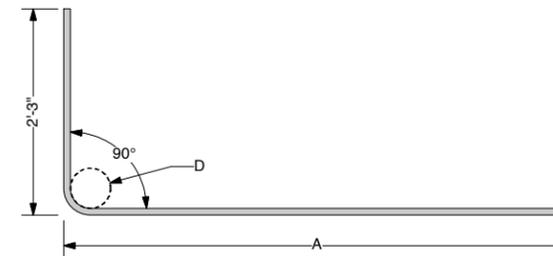
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=5'11 3/4"(max) W=5'0" S=6'4 1/2" SH=2'6"	H-1	6 ea	#4	4'8"				18.69 lbs	
	V-1	12 ea	#4	2'2"				17.36 lbs	
	V-2	1 ea	#5	4'9 1/8"				4.96 lbs	
	V-3	1 ea	#5	4'11 1/8"				5.14 lbs	
	V-4	1 ea	#5	5'1 1/8"				5.31 lbs	
	V-5	1 ea	#5	5'3 1/8"				5.49 lbs	
	V-6	1 ea	#5	5'5 1/8"				5.66 lbs	
	V-7	1 ea	#5	5'7 1/8"				5.84 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"		3"	9.01 lbs	
	TB-1	4 ea	#5	8'2"	5'11"	2'3"	3 3/4"	34.10 lbs	
								111.56 lbs	

SP3

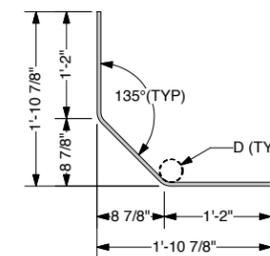
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'10 1/8"(max) W=5'0" S=6'4 1/2" SH=2'6"	H-1	7 ea	#4	4'8"				21.81 lbs	
	V-1	12 ea	#4	2'2"				17.36 lbs	
	V-2	1 ea	#5	5'9"				6.00 lbs	
	V-3	1 ea	#5	5'10 3/4"				6.15 lbs	
	V-4	1 ea	#5	6'0 3/8"				6.30 lbs	
	V-5	1 ea	#5	6'2 1/8"				6.44 lbs	
	V-6	1 ea	#5	6'3 7/8"				6.59 lbs	
	V-7	1 ea	#5	6'5 5/8"				6.74 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"		3"	9.01 lbs	
	TB-1	4 ea	#5	8'2"	5'11"	2'3"	3 3/4"	34.10 lbs	
								120.49 lbs	

SP6

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=5'10 1/8"(max) W=5'0" S=6'4 1/2" SH=2'6"	H-1	6 ea	#4	4'8"				18.69 lbs	
	V-1	12 ea	#4	2'2"				17.36 lbs	
	V-2	1 ea	#5	4'9"				4.95 lbs	
	V-3	1 ea	#5	4'10 3/4"				5.10 lbs	
	V-4	1 ea	#5	5'0 3/8"				5.25 lbs	
	V-5	1 ea	#5	5'2 1/8"				5.40 lbs	
	V-6	1 ea	#5	5'3 7/8"				5.55 lbs	
	V-7	1 ea	#5	5'5 5/8"				5.70 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"		3"	9.01 lbs	
	TB-1	4 ea	#5	8'2"	5'11"	2'3"	3 3/4"	34.10 lbs	
								111.12 lbs	



A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

**2" MIN. COVER ON ALL BARS
UNLESS OTHERWISE NOTED**



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. MCDONALD
LYNDON CENTER, VT
PROJECT #:

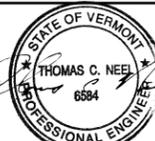
DESIGNER



THE NEEL COMPANY
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PH: (703) 913-7858
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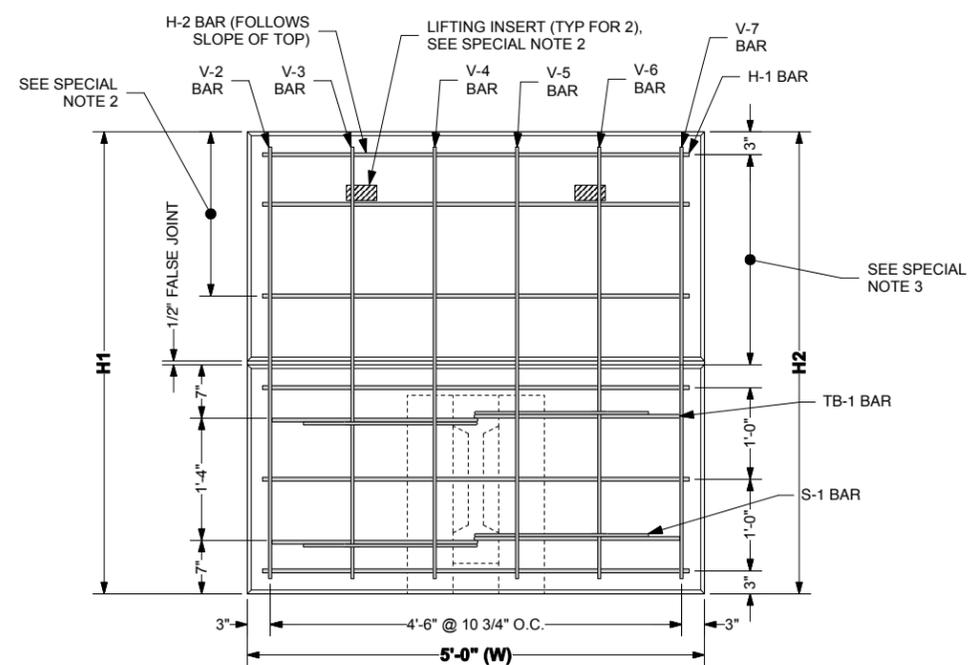
CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS			
1	CHANGE #3 REBAR TO #4 AND CHANGE H DIMS	CTH	3/6/2015

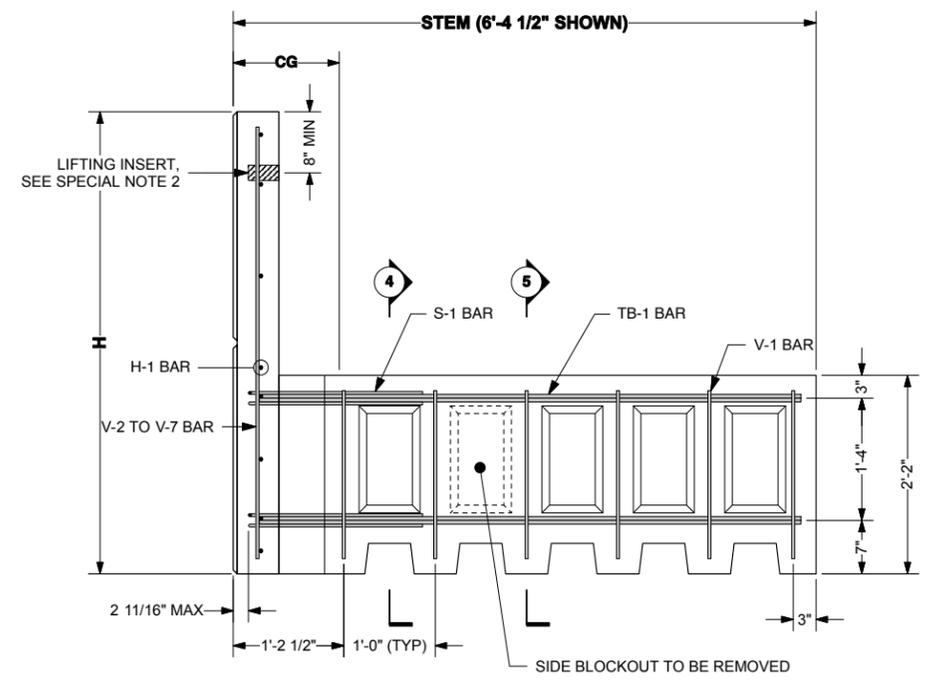
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNITS SP2, SP3, SP6 REBAR (II)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-47



(V-1 BARS IN STEM OMITTED FOR CLARITY)

1 FRONT VIEW
Scale: 1" = 1'-0"

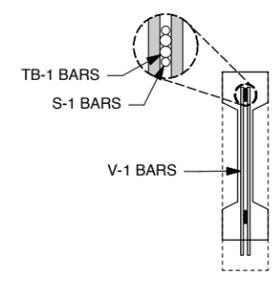


2 SIDE VIEW
Scale: 1" = 1'-0"

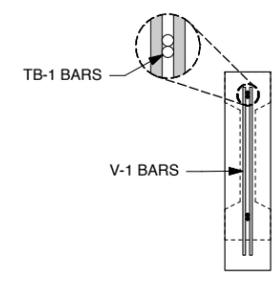
- SPECIAL NOTES:**
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
 - ON LOW SIDE OF T-WALL UNIT, MAINTAIN H-1 BAR SPACING AT 1'-0" O.C. FOR AS MANY BARS AS POSSIBLE, THEN FAN THE REMAINING H BARS AT EQUAL SPACING.
 - ON HIGH SIDE OF T-WALL UNIT, SPACE H-1 BARS AT 1'-0" O.C.
 - LIFTING INSERTS:
 - TWO QUICKLIFT® 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.
 - MINIMUM CONCRETE STRENGTH SHALL BE 3,500 psi PRIOR TO STRIPPING AND LIFTING OPERATIONS.

- GENERAL NOTES:**
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
 - SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
 - T-WALL® CONCRETE:
 - F'c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi

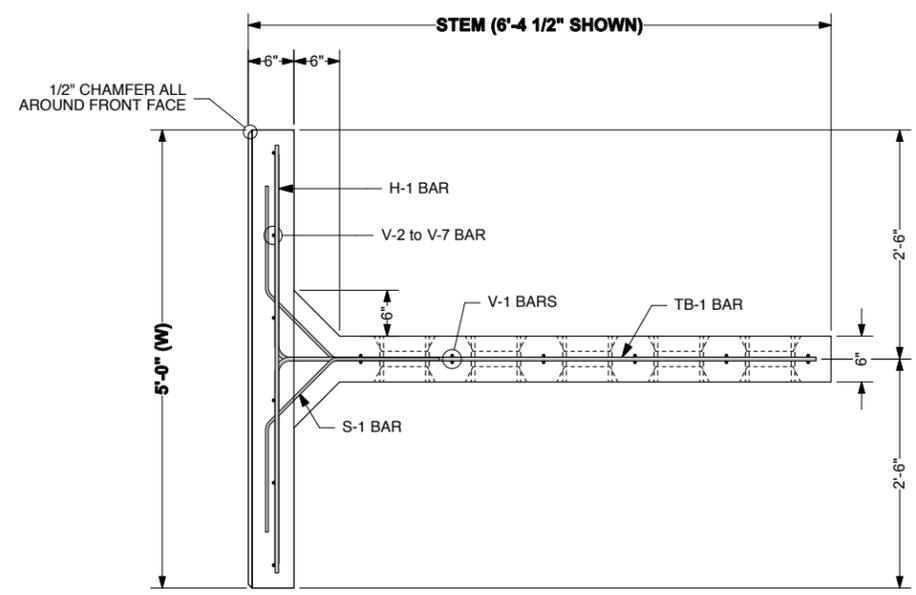
- REINFORCING STEEL:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
- REINFORCING FABRICATION AND PLACEMENT TOLERANCES:
 - THE STRUCTURAL DESIGN OF PRECAST UNITS ASSUMES 2 INCHES OF CONCRETE COVER OVER ALL REINFORCING BARS.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON CONCRETE COVER SHALL BE ± 3/8 INCHES.
 - UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR REFERENCED SPECIFICATIONS, TOLERANCES ON BAR PLACEMENT SHALL BE:
 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
 - REGARDLESS OF THE SPECIFIED PLACEMENT TOLERANCES, CONCRETE COVER SHALL BE MAINTAINED WITHIN ± 3/8 INCHES AS PREVIOUSLY NOTED.
 - ALL REINFORCING BARS SHALL BE CUT AND BENT FOLLOWING REQUIREMENTS OF THE CRSI MANUAL OF STANDARD PRACTICE.
 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.



4 SECTION THROUGH STEM
Scale: 1" = 1'-0"



5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



3 TOP VIEW
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



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DESIGNER

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8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

REVISIONS	

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNIT SP7 REBAR (I)
T-WALL® RETAINING WALL SYSTEM

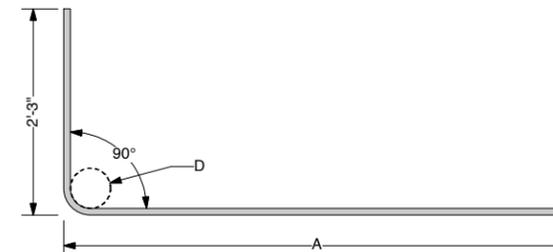
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-48

T-WALL UNIT SCHEDULES

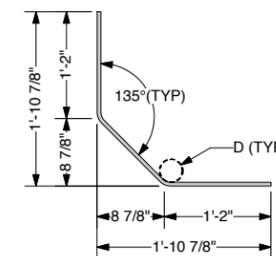
Unit Type	Qty	H1	H2	W	Stem	Lifting CG	Area	Vol	Weight
SP7	1 ea	4'0"	4'6 1/2"	5'0"	6'4 1/2"	1'3"	21.35 sf	0.61 cy	2,471 lbs

REBAR SCHEDULES

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=4'6 1/2"(max)	H-1	5 ea	#4	4'8"				15.58 lbs	
W=5'0"	V-1	12 ea	#4	1'9 7/8"				14.63 lbs	
S=6'4 1/2"	V-2	1 ea	#5	3'8 3/8"				3.85 lbs	
SH=2'1 7/8"	V-3	1 ea	#5	3'9 1/2"				3.95 lbs	
	V-4	1 ea	#5	3'10 5/8"				4.06 lbs	
	V-5	1 ea	#5	3'11 7/8"				4.16 lbs	
	V-6	1 ea	#5	4'1"				4.26 lbs	
	V-7	1 ea	#5	4'2 1/8"				4.36 lbs	
	S-1	4 ea	#4	3'4 1/2"	1'2"		3"	9.01 lbs	
	TB-1	4 ea	#4	8'2"	5'11"	2'3"	3"	21.82 lbs	
								85.68 lbs	

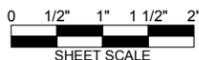


A TB-1 BAR
Scale: 1" = 1'-0"



B S-1 BAR
Scale: 1" = 1'-0"

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel 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.

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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR: J. A. McDONALD
LYNDON CENTER, VT
PROJECT #:

DESIGNER

THE NEEL COMPANY
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REVISIONS

NO.	DESCRIPTION	BY	DATE
1	CHANGE #3 REBAR TO #4 AND CHANGE H DIMS	CTH	3/6/2015

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

WATERBURY, VT
VTRANS PROJECT NO. IM 089-2(43)

SHOP DRAWINGS
SPECIAL UNIT SP7 REBAR (II)

T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-49