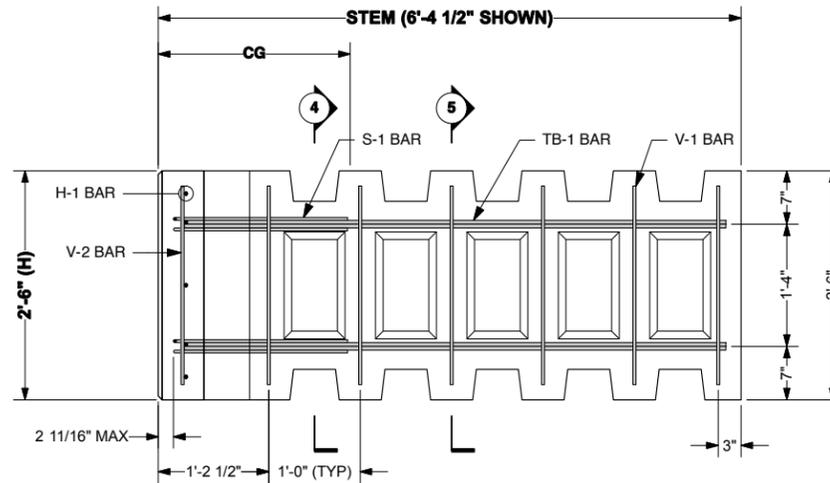
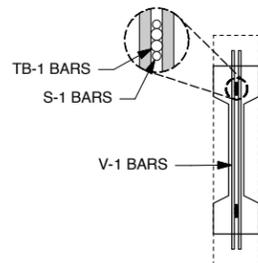


(V-1 BARS IN STEM OMITTED FOR CLARITY)

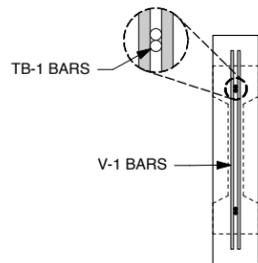
1 FRONT VIEW
Scale: 1" = 1'-0"



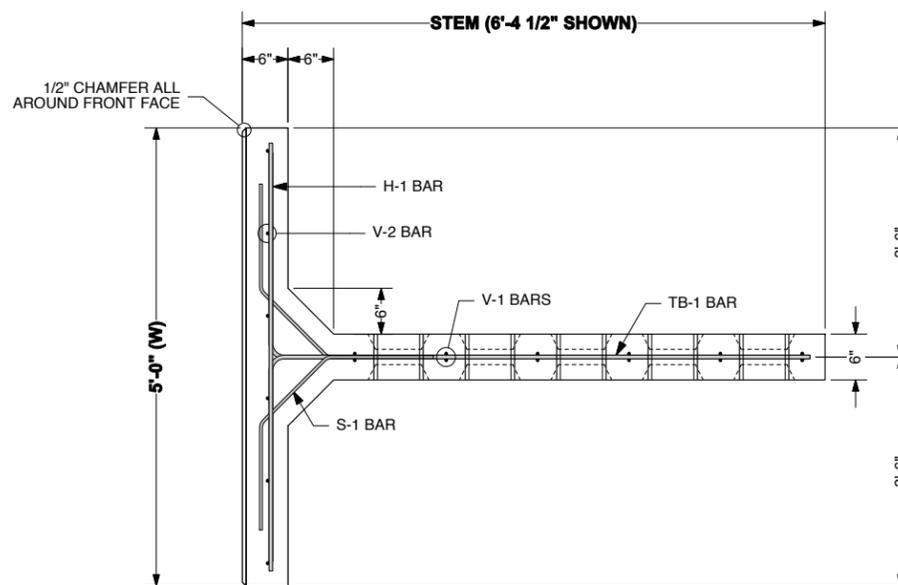
2 SIDE VIEW
Scale: 1" = 1'-0"



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
 - 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.
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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: ± 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.

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



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

CONTRACTOR:
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
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	Dimensions W Stem	Lifting CG	Area	Properties Vol	Weight	
2.5 x 5.0 x 06 Std	13 ea	2'6"	5'0"	6'4 1/2"	8 1/2"	12.50 sf	0.47 cy	1,904 lbs
2.5 x 5.0 x 08 Std	18 ea	2'6"	5'0"	8'4 1/2"	8 1/2"	12.50 sf	0.53 cy	2,147 lbs
2.5 x 5.0 x 10 Std	3 ea	2'6"	5'0"	10'4 1/2"	8 1/2"	12.50 sf	0.60 cy	2,430 lbs

REBAR SCHEDULES

2.5 x 5.0 x 06 Std

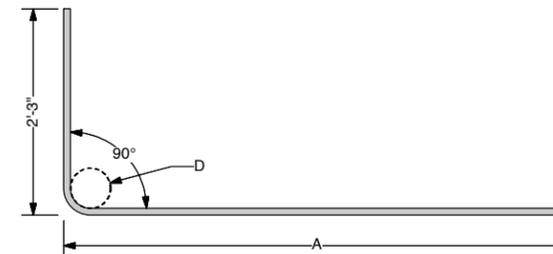
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	12 ea	#3	2'2"			9.76 lbs	
S=6'4 1/2"	V-2	6 ea	#3	2'2"			4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	8'3 1/4"	5'11"	3"	22.10 lbs	
							51.16 lbs	

2.5 x 5.0 x 08 Std

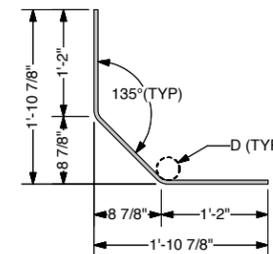
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	16 ea	#3	2'2"			13.02 lbs	
S=8'4 1/2"	V-2	6 ea	#3	2'2"			4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	10'3 1/4"	7'11"	3"	27.44 lbs	
							59.76 lbs	

2.5 x 5.0 x 10 Std

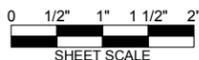
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	20 ea	#3	2'2"			16.27 lbs	
S=10'4 1/2"	V-2	6 ea	#3	2'2"			4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	12'3 1/4"	9'11"	3"	32.78 lbs	
							68.35 lbs	



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



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



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

DESIGNER

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PROJECT #: TW4437

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REVISIONS

NO.	DESCRIPTION	DATE

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

WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
STANDARD UNIT REBAR (II)

T-WALL® RETAINING WALL SYSTEM

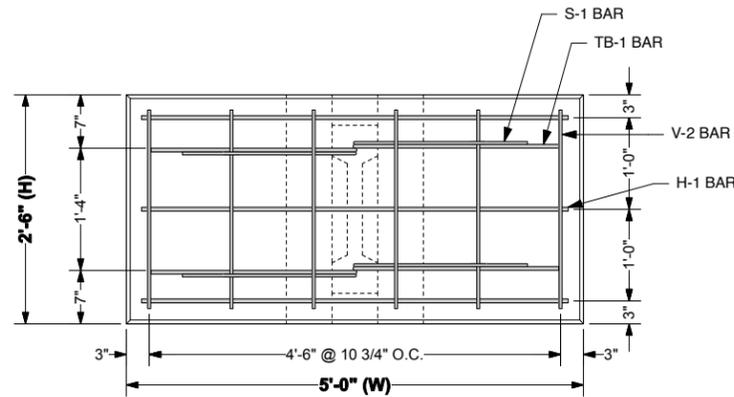
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-31

SPECIAL NOTES:

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

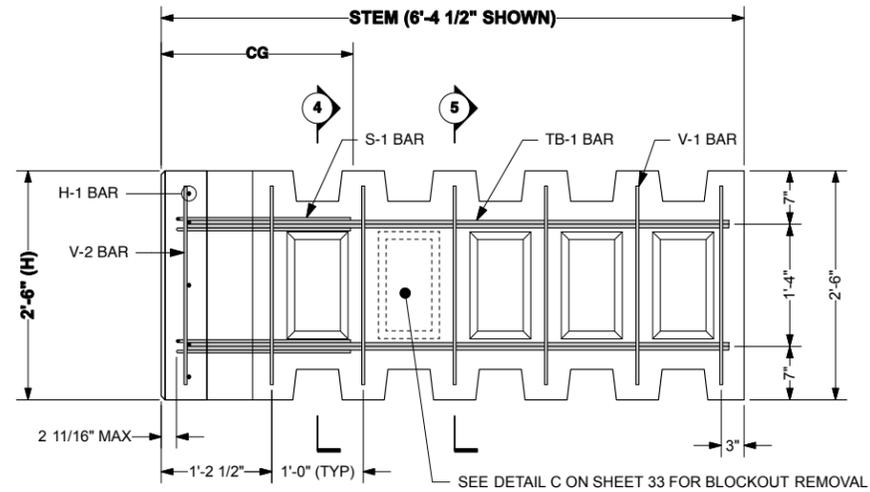
GENERAL NOTES:

- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
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- T-WALL® CONCRETE:
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 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
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 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, V-1 AND V-2 BARS: ± 1 INCH
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 - UNLESS NOTED OTHERWISE, TOLERANCES FOR BAR FABRICATION SHALL MEET REQUIREMENTS OF STANDARD ACI 318 AND THE CRSI MANUAL OF STANDARD PRACTICE.

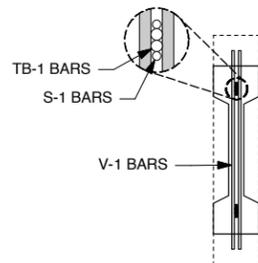


(V-1 BARS IN STEM OMITTED FOR CLARITY)

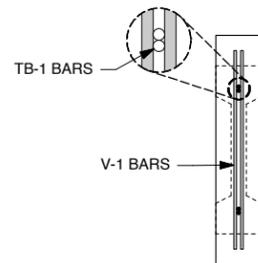
1 FRONT VIEW
Scale: 1" = 1'-0"



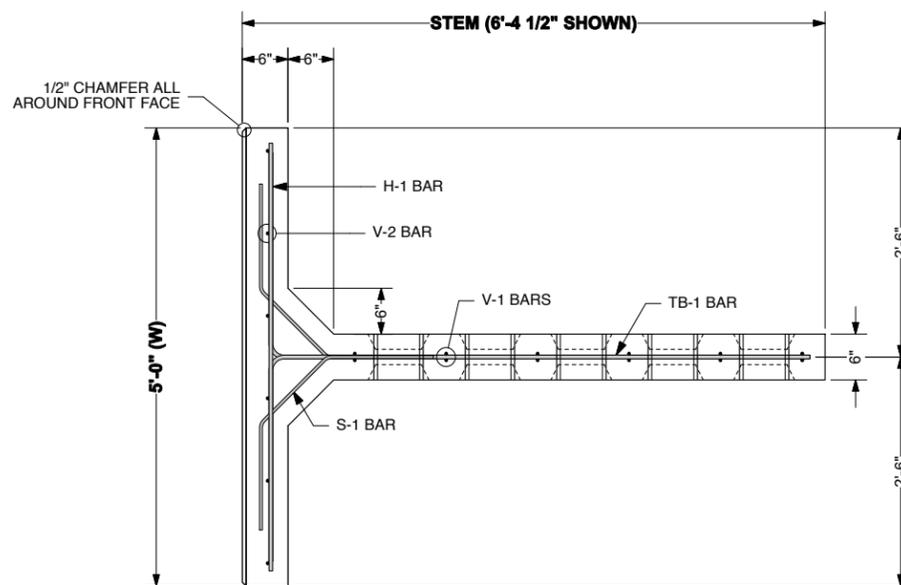
2 SIDE VIEW
Scale: 1" = 1'-0"



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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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
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
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	Dimensions W	Stem	Lifting CG	Area	Properties Vol	Weight
2.5 x 5.0 x 07 Std Cnr	7 ea	2'6"	5'0"	7'4 1/2"	8 1/2"	12.50 sf	0.50 cy	2,025 lbs
2.5 x 5.0 x 08 Std Cnr	2 ea	2'6"	5'0"	8'4 1/2"	8 1/2"	12.50 sf	0.53 cy	2,147 lbs
2.5 x 5.0 x 10 Std Cnr	2 ea	2'6"	5'0"	10'4 1/2"	8 1/2"	12.50 sf	0.60 cy	2,430 lbs

REBAR SCHEDULES

2.5 x 5.0 x 07 Std Cnr

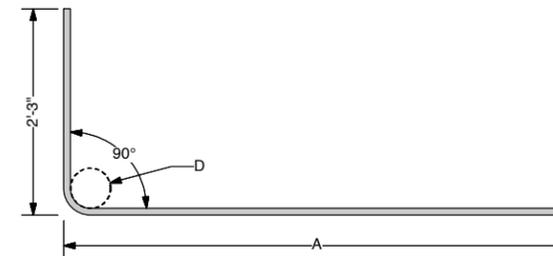
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	14 ea	#3	2'2"			11.39 lbs	
S=7'4 1/2"	V-2	6 ea	#3	2'2"			4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	9'3 1/4"	6'11"	3"	24.77 lbs	
							55.46 lbs	

2.5 x 5.0 x 08 Std Cnr

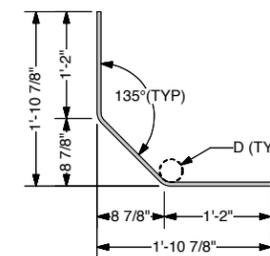
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	16 ea	#3	2'2"			13.02 lbs	
S=8'4 1/2"	V-2	6 ea	#3	2'2"			4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	10'3 1/4"	7'11"	3"	27.44 lbs	
							59.76 lbs	

2.5 x 5.0 x 10 Std Cnr

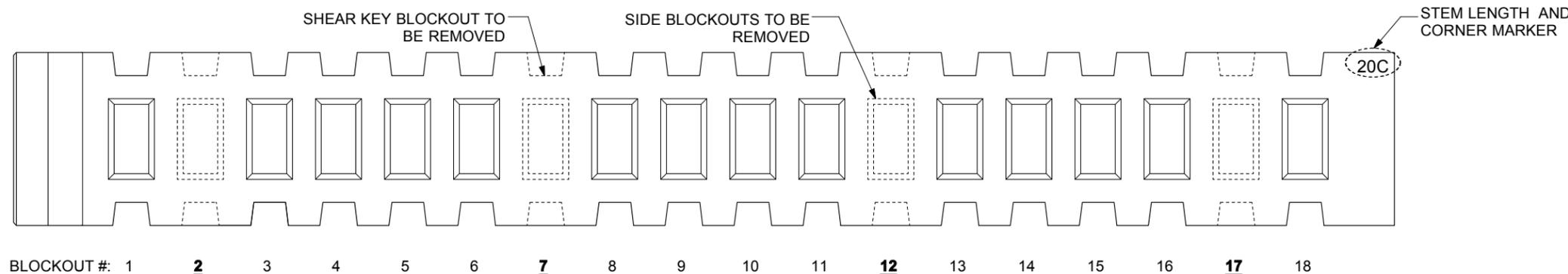
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"			9.35 lbs	
W=5'0"	V-1	20 ea	#3	2'2"			16.27 lbs	
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SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
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							68.35 lbs	



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



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



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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CONTRACTOR:
PROJECT #:

DESIGNER

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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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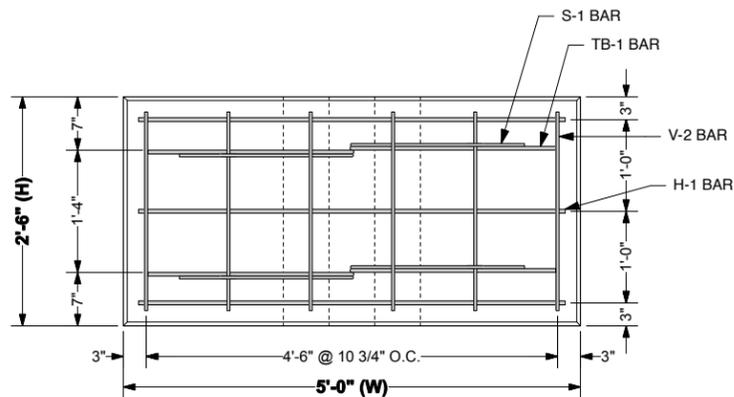


REVISIONS

NO.	DESCRIPTION	DATE

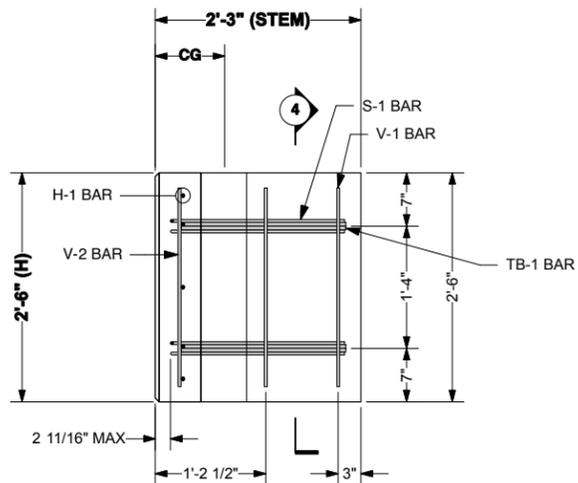
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
STANDARD CORNER UNIT REBAR (II)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-33

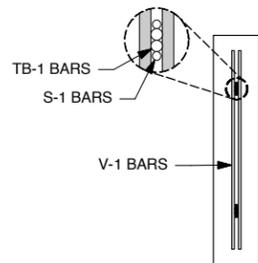


(V-1 BARS IN STEM OMITTED FOR CLARITY)

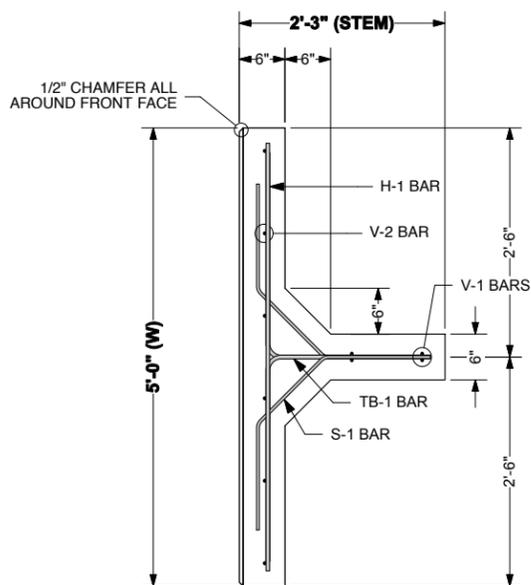
1 FRONT VIEW
Scale: 1" = 1'-0"



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



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



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

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:
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- T-WALL® CONCRETE:
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 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - $F_y = 60$ ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
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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
 - 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.

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



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REVISIONS

NO.	DESCRIPTION	DATE

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

**WATERBURY, VT
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

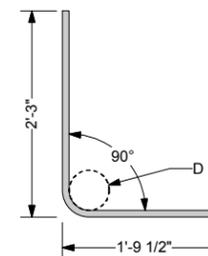
T-WALL UNIT SCHEDULES

Unit Type	Qty	H	Dimensions W	Stem	Lifting CG	Area	Properties Vol	Weight
2.5 x 5.0 x 02.25 Std Cnr	10 ea	2'6"	5'0"	2'3"	8 1/2"	12.50 sf	0.34 cy	1,377 lbs

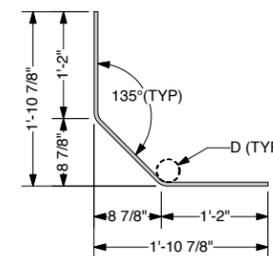
REBAR SCHEDULES

2.5 x 5.0 x 02.25 Std Cnr

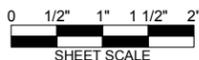
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
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W=5'0"	V-1	4 ea	#3	2'2"			3.25 lbs	
S=2'3"	V-2	6 ea	#3	2'2"			4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	4'1 3/4"	1'9 1/2"	3"	11.07 lbs	
							33.62 lbs	



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



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



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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:
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

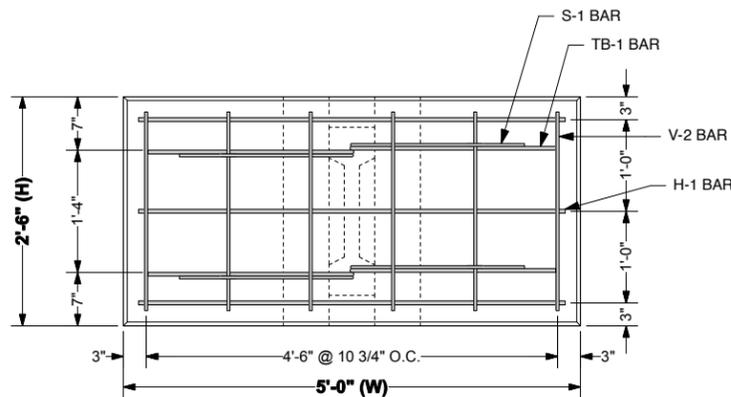
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

SHOP DRAWINGS
STANDARD CORNER 2.25' STEM REBAR (II)

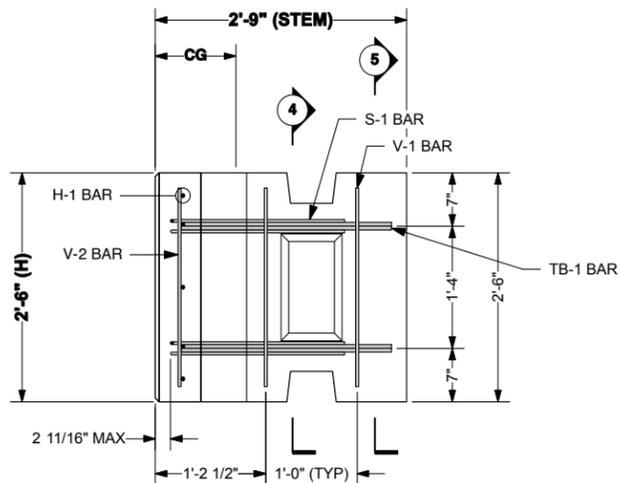
T-WALL® RETAINING WALL SYSTEM

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

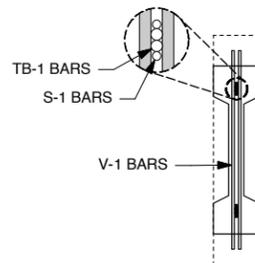


(V-1 BARS IN STEM OMITTED FOR CLARITY)

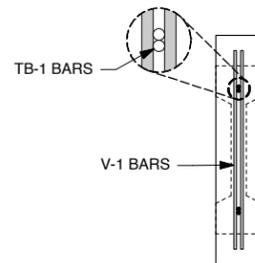
1 FRONT VIEW
Scale: 1" = 1'-0"



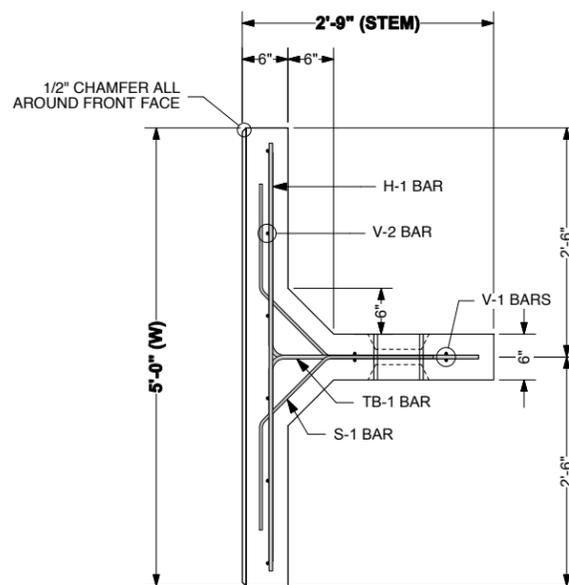
2 SIDE VIEW
Scale: 1" = 1'-0"



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:
 - 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.

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



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

CONTRACTOR:

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
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

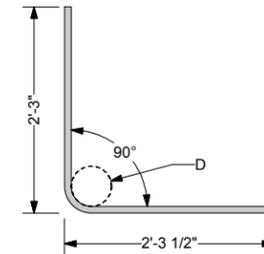
T-WALL UNIT SCHEDULES

Unit Type	Qty	H	W	Stem	Lifting CG	Area	Vol	Weight
2.5 x 5.0 x 02.75 Std Cnr	8 ea	2'6"	5'0"	2'9"	8 1/2"	12.50 sf	0.36 cy	1,458 lbs

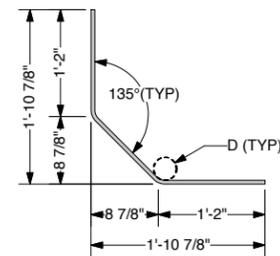
REBAR SCHEDULES

2.5 x 5.0 x 02.75 Std Cnr

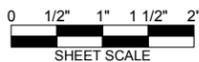
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'6"			9.35 lbs	
W=5'0"	V-1	4 ea	#3	2'2"			3.25 lbs	
S=2'9"	V-2	6 ea	#3	2'2"			4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	4'7 3/4"	2'3 1/2"	3"	12.41 lbs	
							34.96 lbs	



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



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



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

DESIGNER

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SPRINGFIELD, VIRGINIA 22152
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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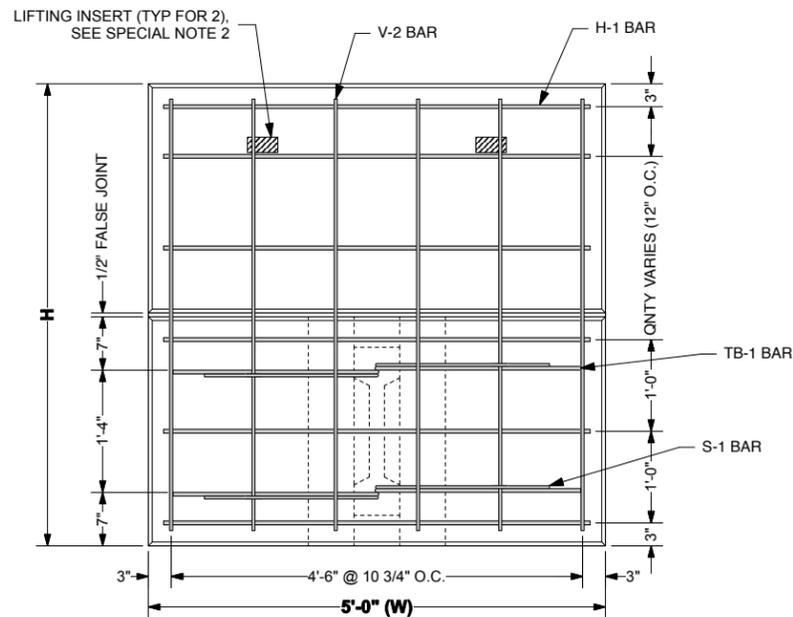
REVISIONS

NO.	DESCRIPTION	DATE

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

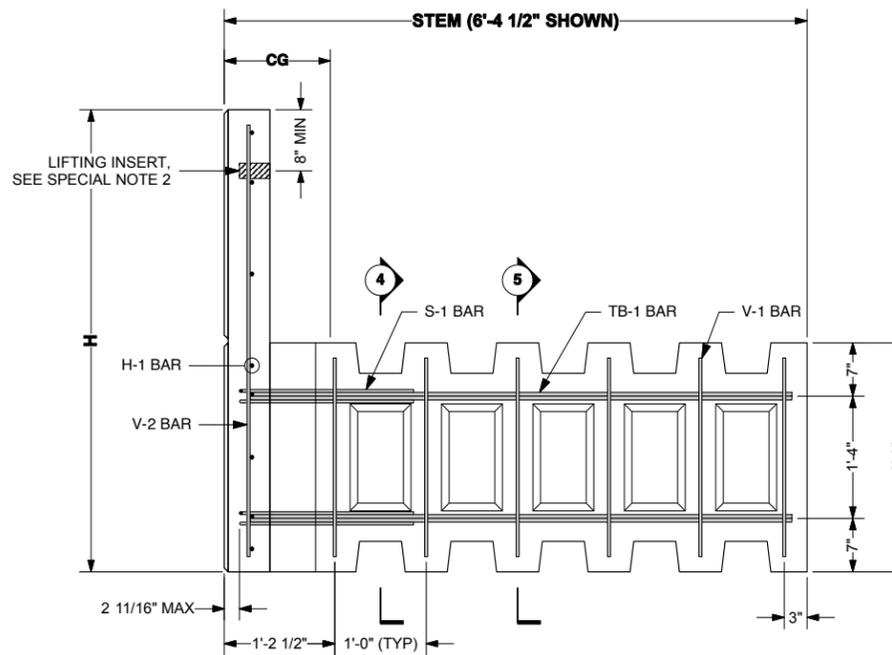
**WATERBURY, VT
IM 089-2(43)**
SHOP DRAWINGS
STANDARD CORNER 2.75' STEM REBAR (II)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-37



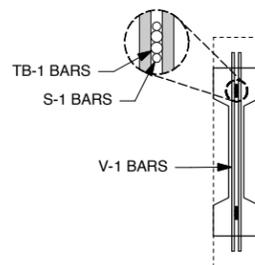
(V-1 BARS IN STEM OMITTED FOR CLARITY)

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

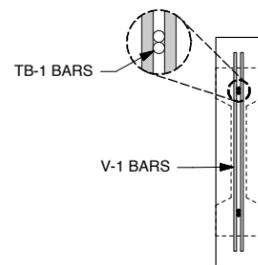


2 SIDE VIEW
Scale: 1" = 1'-0"

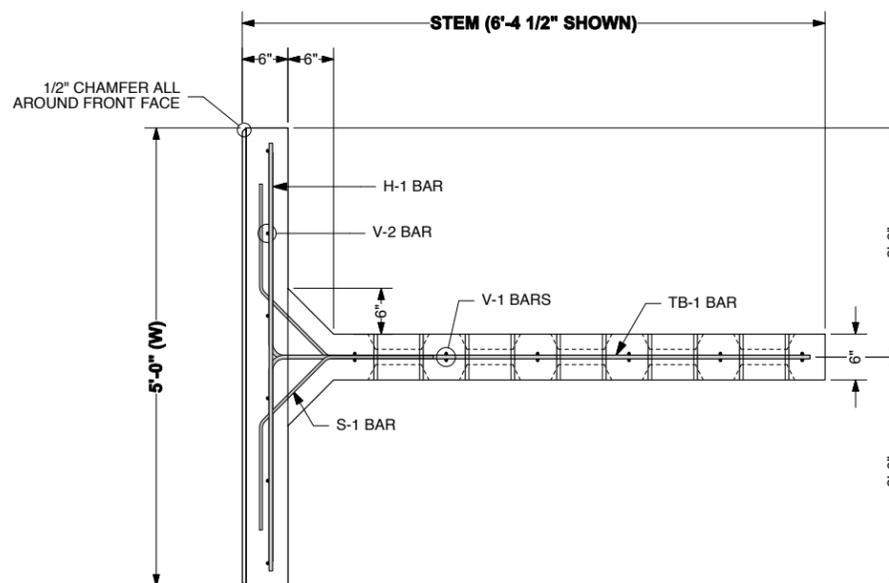
- SPECIAL NOTES:**
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
 - LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.
 - MINIMUM CONCRETE STRENGTH SHALL BE 3,500 psi PRIOR TO 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.
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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: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, U-1 AND V-2 BARS: ± 1 INCH
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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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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

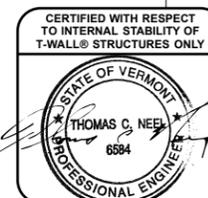
PROJECT #:

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	

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

**WATERBURY, VT
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	W	Stem	Lifting CG	Area	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	2,916 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	3,078 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	3,281 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	3,443 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	#3	2'2"			9.76 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	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							97.54 lbs	

5.5 x 5.0 x 06 Std Top

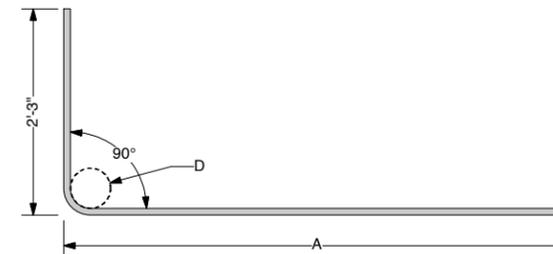
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=5'6"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#3	2'2"			9.76 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'2"			32.34 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							100.41 lbs	

6.0 x 5.0 x 06 Std Top

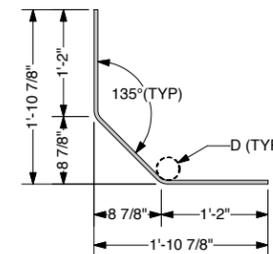
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'0"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#3	2'2"			9.76 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'8"			35.47 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							103.54 lbs	

6.5 x 5.0 x 08 Std Top

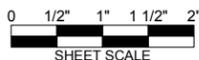
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'6"	H-1	7 ea	#4	4'8"			21.81 lbs	
W=5'0"	V-1	12 ea	#3	2'2"			9.76 lbs	
S=8'4 1/2"	V-2	6 ea	#5	6'2"			38.60 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3"	5'11"	3 3/4"	34.44 lbs	
							109.68 lbs	



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



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



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

CONTRACTOR:
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
IM 089-2(43)**

SHOP DRAWINGS
STANDARD TOP UNIT REBAR (II)

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

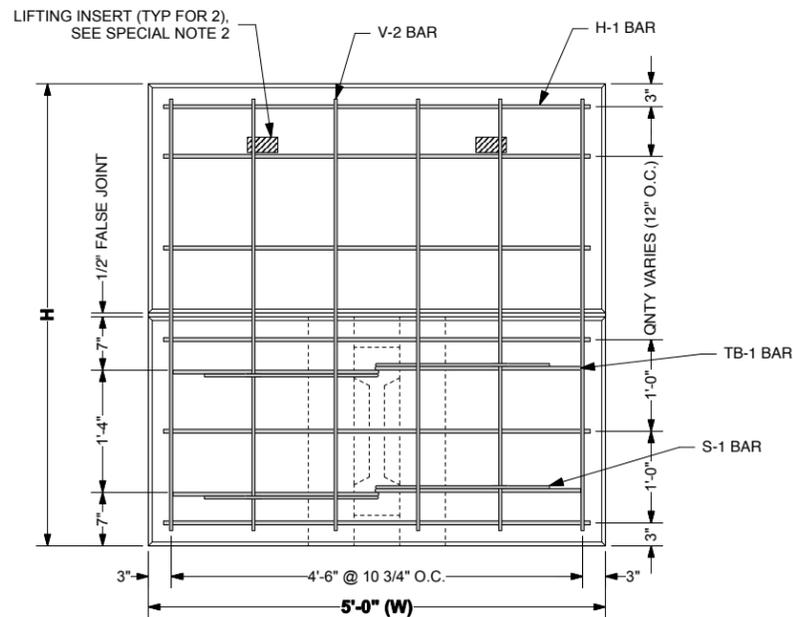
DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: GDL

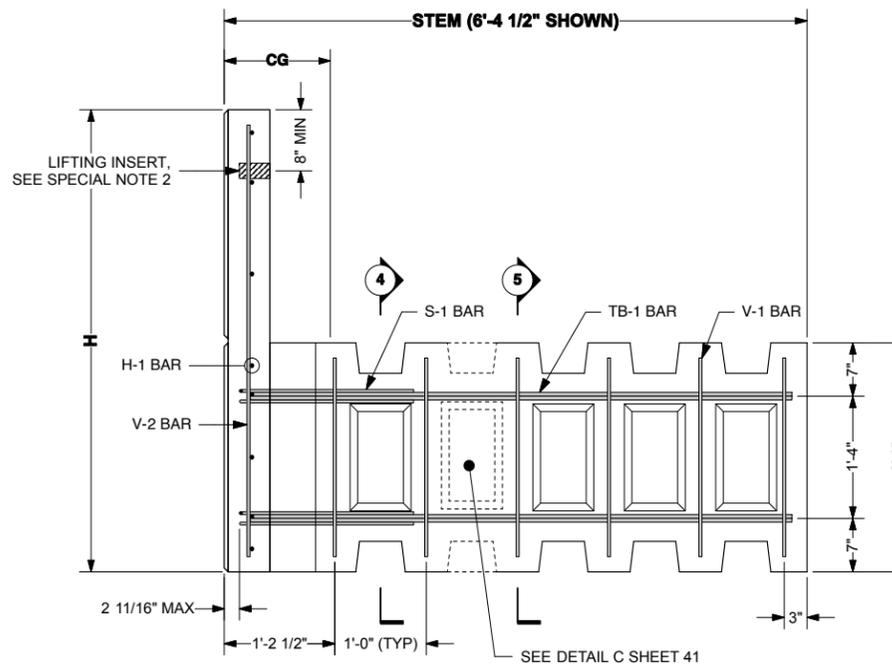
CHECKED BY: KB

SHEET: TW-39



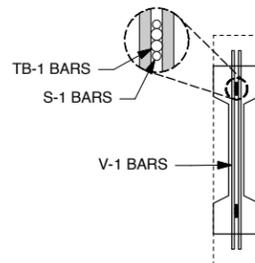
(V-1 BARS IN STEM OMITTED FOR CLARITY)

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

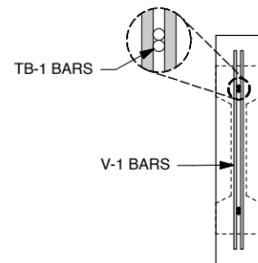


2 SIDE VIEW
Scale: 1" = 1'-0"

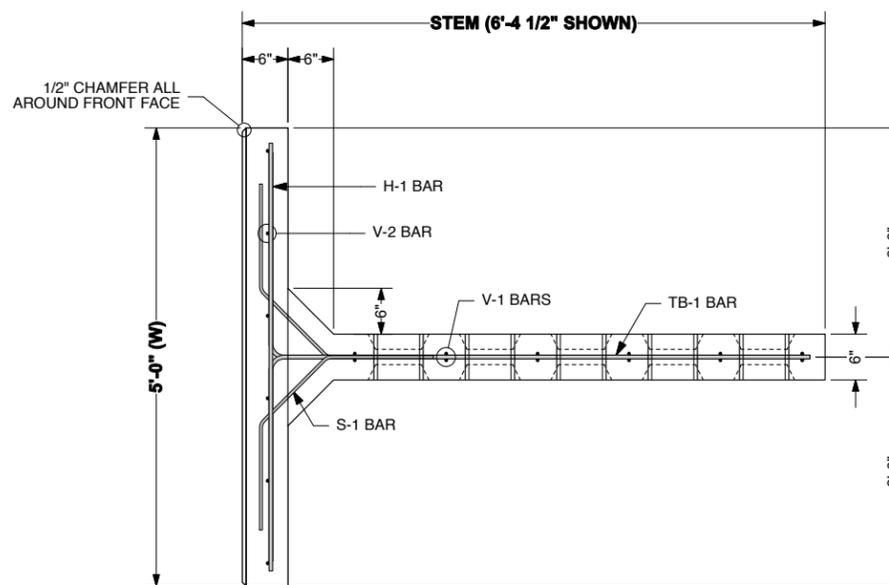
- SPECIAL NOTES:**
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
 - LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.
 - MINIMUM CONCRETE STRENGTH SHALL BE 3,500 psi PRIOR TO STRIPPING AND LIFTING OPERATIONS.
- GENERAL NOTES:**
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 - 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:
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 - F_y = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED**
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 - VERTICAL LOCATION OF TB-1 BARS: ± 3/8 INCHES
 - LOCATION / SPACING OF H-1, U-1 AND V-2 BARS: ± 1 INCH
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 - 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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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

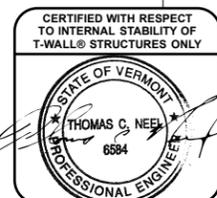
PROJECT #:

DESIGNER

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

PROJECT #: TW4437



REVISIONS	

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

**WATERBURY, VT
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	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	3,078 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	3,281 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	3,726 lbs

REBAR SCHEDULES

5.5 x 5.0 x 06 Std Top Cnr

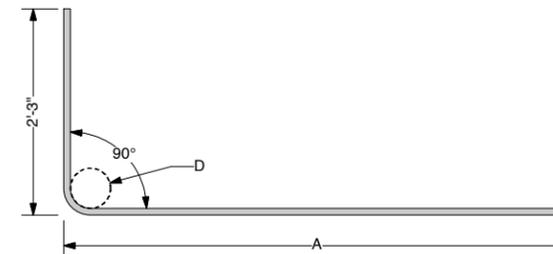
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=5'6"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#3	2'2"			9.76 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'2"			32.34 lbs	
	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							100.41 lbs	

6.0 x 5.0 x 06 Std Top Cnr

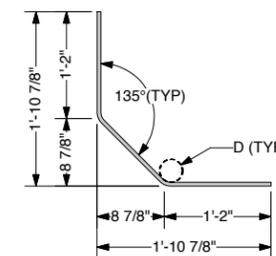
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'0"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	12 ea	#3	2'2"			9.76 lbs	
S=6'4 1/2"	V-2	6 ea	#5	5'8"			35.47 lbs	
	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	3 3/4"	34.55 lbs	
							103.54 lbs	

6.5 x 5.0 x 08 Std Top Cnr

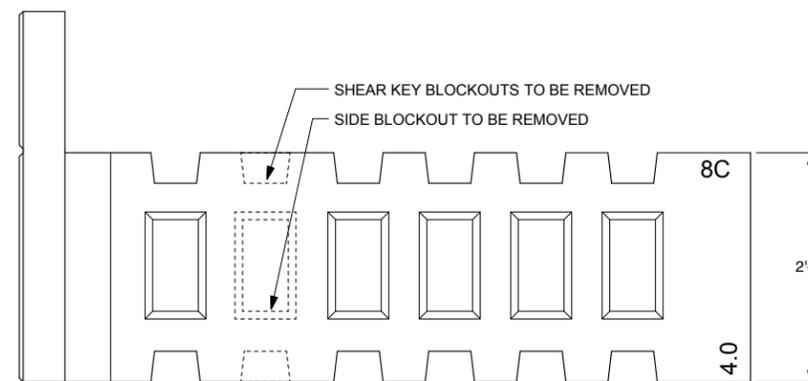
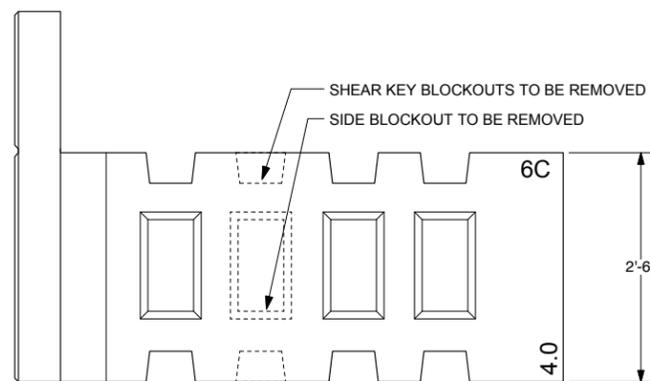
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'6"	H-1	7 ea	#4	4'8"			21.81 lbs	
W=5'0"	V-1	16 ea	#3	2'2"			13.02 lbs	
S=8'4 1/2"	V-2	6 ea	#5	6'2"			38.60 lbs	
	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	10'3"	7'11"	3 3/4"	42.79 lbs	
							121.28 lbs	



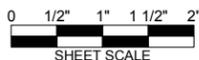
A TB-1 BAR
Scale: 1" = 1'-0"



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



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



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

CONTRACTOR:

PROJECT #:

DESIGNER

THE NEEL COMPANY

8328-D TRAFORD LANE
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

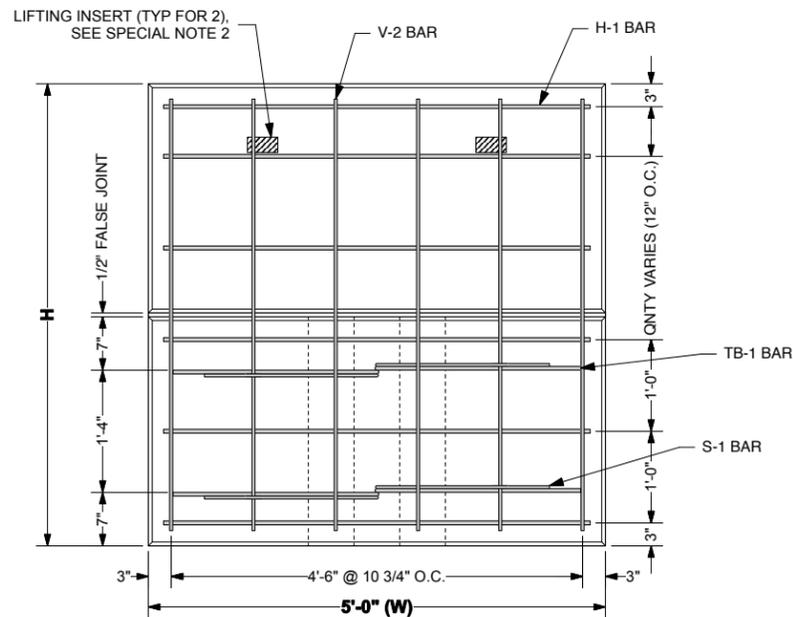
CERTIFIED WITH RESPECT TO INTERNAL STABILITY OF T-WALL® STRUCTURES ONLY

REVISIONS

No.	Description

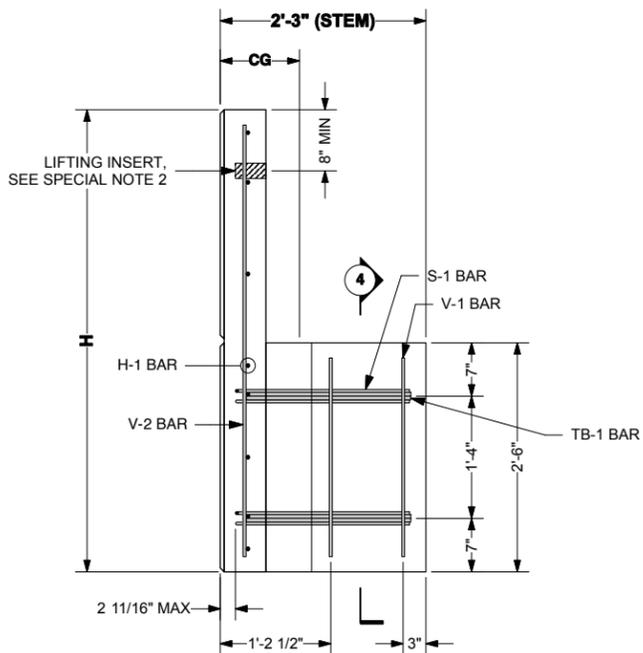
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
STANDARD TOP CORNER UNIT REBAR (II)
T-WALL® RETAINING WALL SYSTEM

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"



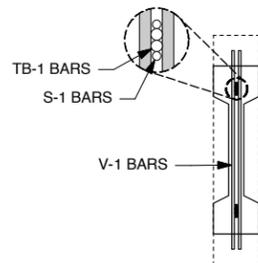
2 SIDE VIEW
Scale: 1" = 1'-0"

SPECIAL NOTES:

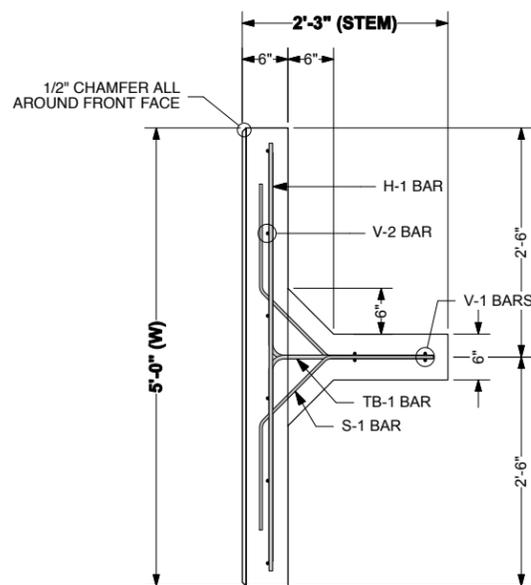
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
- LIFTING INSERTS:
 - TWO QUICKLIFT 'QL050G' LIFTING INSERTS OR EQUAL, SPACED AT LEAST 30" APART.
 - 2000 LBS (1 TON) MINIMUM RATED WORKING LOAD CAPACITY.

GENERAL NOTES:

- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE COMPRESSIVE STRENGTH:
 - 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"



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:

PROJECT #:

DESIGNER

THE NEEL COMPANY

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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
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	W	Stem	Lifting CG	Area	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	2,309 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	2,673 lbs

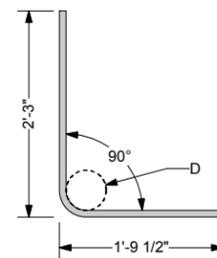
REBAR SCHEDULES

5.0 x 5.0 x 02.25 Std Top Cnr

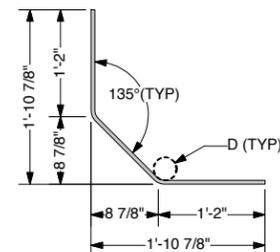
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=5'0 1/2"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	4 ea	#3	2'2"			3.25 lbs	
S=2'3"	V-2	6 ea	#5	4'8 1/2"			29.46 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	4'1 7/8"	1'9 1/2"	3 3/4"	17.32 lbs	
							73.79 lbs	

6.0 x 5.0 x 02.25 Std Top Cnr

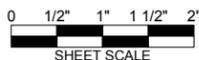
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Bend Dia.	Weight	Remarks
H=6'0"	H-1	6 ea	#4	4'8"			18.69 lbs	
W=5'0"	V-1	4 ea	#3	2'2"			3.25 lbs	
S=2'3"	V-2	6 ea	#5	5'8"			35.47 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"	2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	4'1 7/8"	1'9 1/2"	3 3/4"	17.32 lbs	
							79.80 lbs	



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



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



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

CONTRACTOR:

PROJECT #:

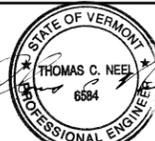
DESIGNER



THE NEEL COMPANY
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FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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

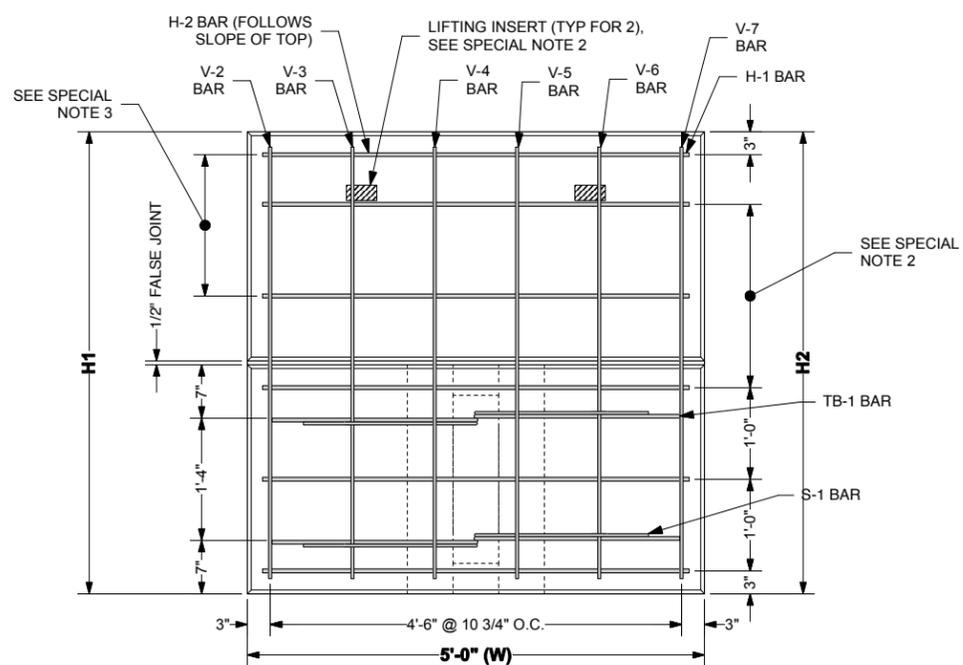


REVISIONS

No.	Description

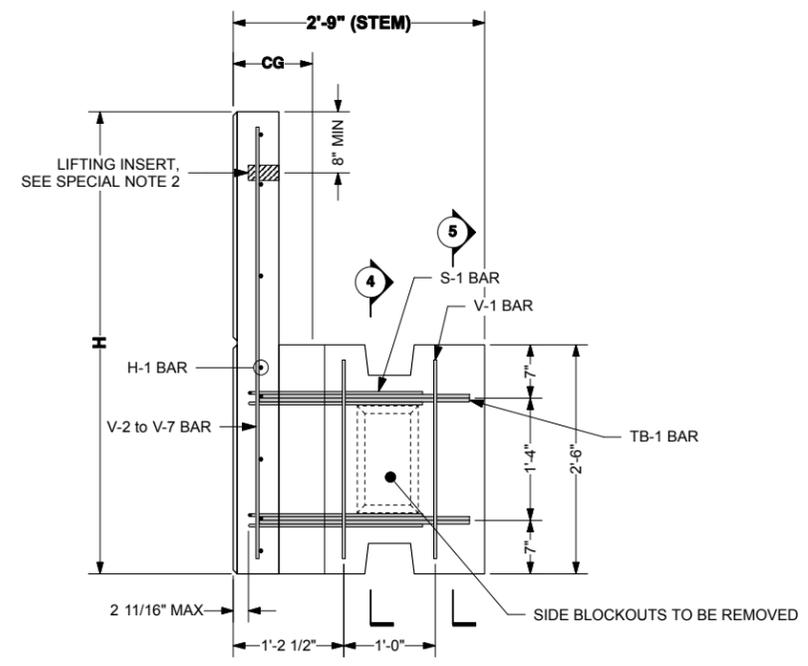
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
STANDARD TOP CORNER 2.25' STEM REBAR (II)
T-WALL® RETAINING WALL SYSTEM

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)

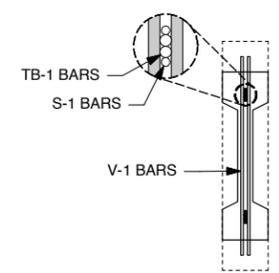
1 FRONT VIEW
Scale: 1" = 1'-0"



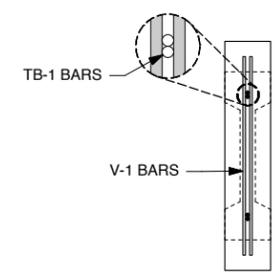
2 SIDE VIEW
Scale: 1" = 1'-0"

- 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.

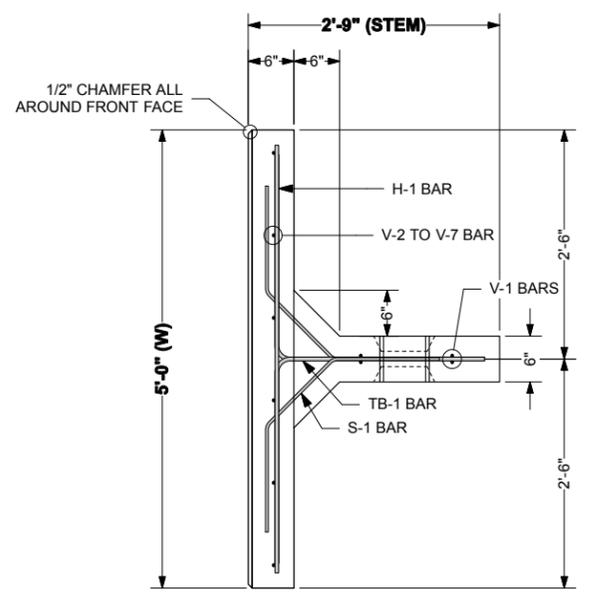
- GENERAL NOTES:**
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
 - SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
 - T-WALL® CONCRETE COMPRESSIVE STRENGTH:
 - F_c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
 - 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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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

PROJECT #:

DESIGNER

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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
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	H1	H2	W	Stem	Lifting CG	Area	Properties Vol	Weight	V-2 Bar Length	V-3 Bar Length	V-4 Bar Length	V-5 Bar Length	V-6 Bar Length	V-7 Bar Length
SP1	1 ea	6'5 7/8"	5'6 1/2"	5'0"	2'9"	8 1/2"	30.07 sf	0.68 cy	2,754 lbs	6'1 1/4"	5'11 1/4"	5'9 1/4"	5'7 1/8"	5'5 1/8"	5'3 1/8"
SP4	1 ea	6'6"	5'6"	5'0"	2'9"	8 1/2"	30.00 sf	0.68 cy	2,754 lbs	6'1 3/8"	5'11 1/4"	5'9 1/8"	5'6 7/8"	5'4 3/4"	5'2 5/8"
SP5	1 ea	6'4 1/2"	5'6"	5'0"	2'9"	8 1/2"	29.70 sf	0.68 cy	2,754 lbs	6'0"	5'10 1/8"	5'8 1/4"	5'6 3/8"	5'4 1/2"	5'2 1/2"
SP8	1 ea	7'0"	6'0"	5'0"	2'9"	8 1/2"	32.50 sf	0.73 cy	2,957 lbs	6'7 3/8"	6'5 1/4"	6'3 1/8"	6'0 7/8"	5'10 3/4"	5'8 5/8"

REBAR SCHEDULES

SP1

Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'5 7/8" (max)	H-1	7 ea	#4	4'8"				21.81 lbs	
W=5'0"	V-1	4 ea	#3	2'2"				3.25 lbs	
S=2'9"	V-2 thru V-7	1 ea	#5	VARIES				35.56 lbs	SEE T-WALL UNIT SCHEDULE
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	4'7 7/8"	2'3 1/2"	2'4 3/8"	3 3/4"	19.41 lbs	
								85.10 lbs	

SP4

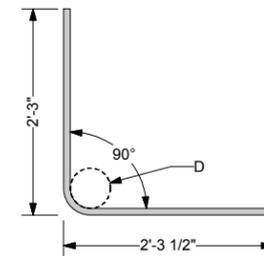
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'6" (max)	H-1	7 ea	#4	4'8"				21.81 lbs	
W=5'0"	V-1	4 ea	#3	2'2"				3.25 lbs	
S=2'9"	V-2 thru V-7	1 ea	#5	VARIES				35.47 lbs	SEE T-WALL UNIT SCHEDULE
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	4'7 7/8"	2'3 1/2"	2'4 3/8"	3 3/4"	19.41 lbs	
								85.00 lbs	

SP5

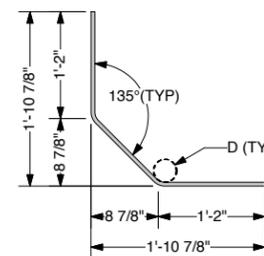
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'4 1/2" (max)	H-1	7 ea	#4	4'8"				21.81 lbs	
W=5'0"	V-1	4 ea	#3	2'2"				3.25 lbs	
S=2'9"	V-2 thru V-7	1 ea	#5	VARIES				35.09 lbs	SEE T-WALL UNIT SCHEDULE
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	4'7 7/8"	2'3 1/2"	2'4 3/8"	3 3/4"	19.41 lbs	
								84.63 lbs	

SP8

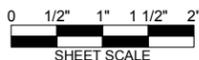
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=7'0" (max)	H-1	7 ea	#4	4'8"				21.81 lbs	
W=5'0"	V-1	4 ea	#3	2'2"				3.25 lbs	
S=2'9"	V-2 thru V-7	1 ea	#5	VARIES				38.60 lbs	SEE T-WALL UNIT SCHEDULE
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	4'7 7/8"	2'3 1/2"	2'4 3/8"	3 3/4"	19.41 lbs	
								88.13 lbs	



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



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



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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

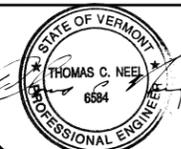
CONTRACTOR:
PROJECT #:

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

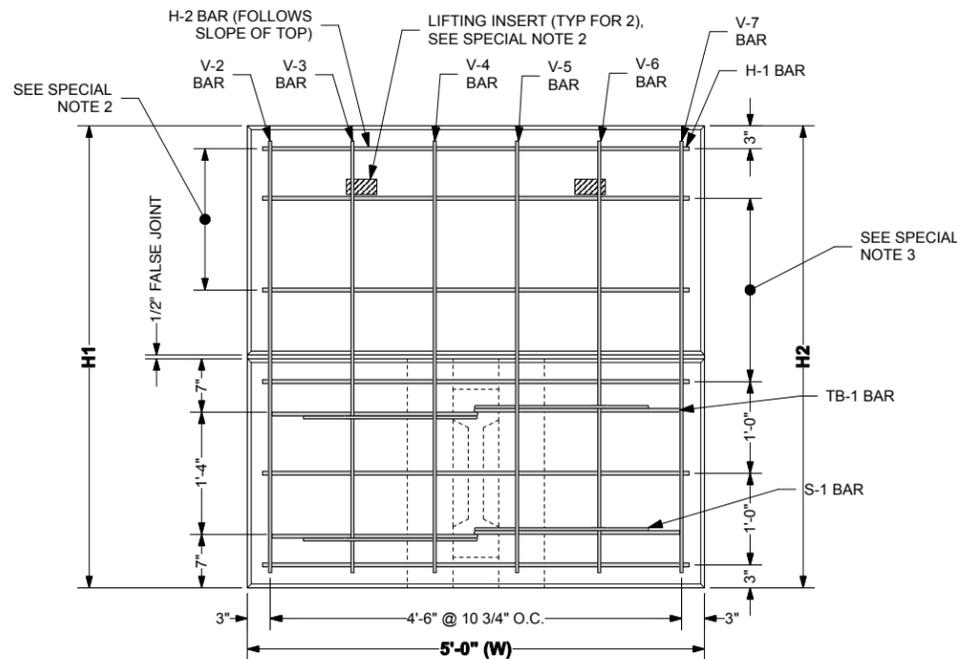
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

SHOP DRAWINGS
SPECIAL UNITS SP1, SP4, SP5, SP8 REBAR (II)

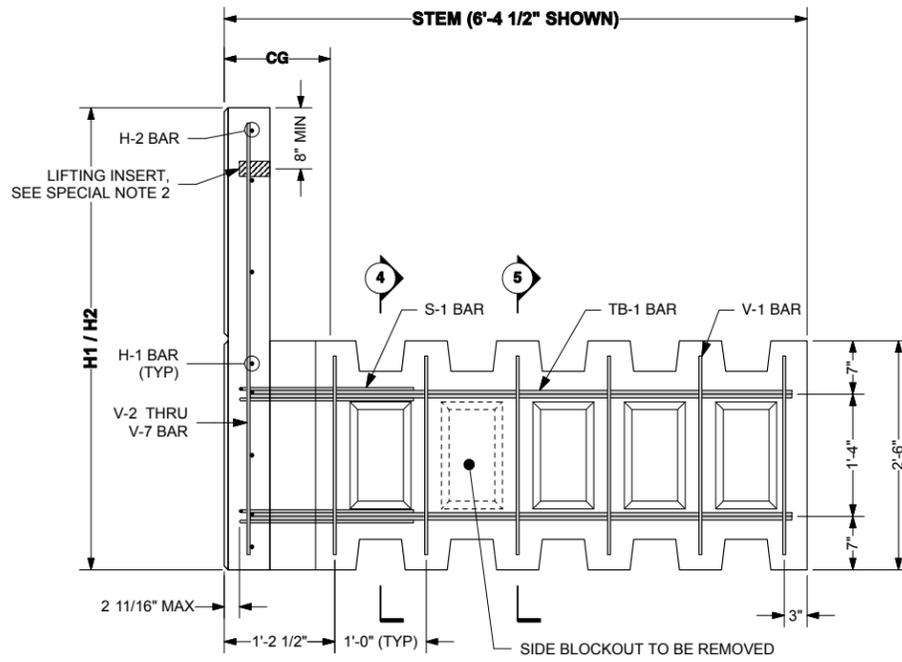
T-WALL® RETAINING WALL SYSTEM

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"

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



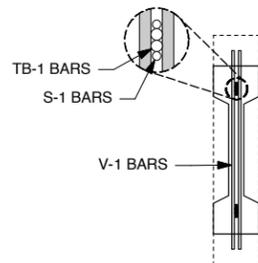
2 SIDE VIEW
Scale: 1" = 1'-0"

SPECIAL NOTES:

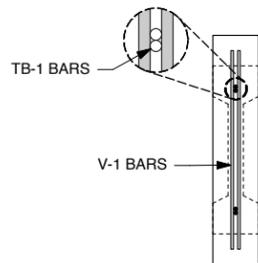
- T-WALL® UNIT FRONT FACE FINISH TREATMENT:
 - PLAIN STEEL FORM FINISH
- ON LOW SIDE OF T-WALL UNIT, MAINTAIN H-1 BAR SPACING AT 1'-0" O.C. FOR AS MANY BARS AS POSSIBLE, THEN FAN THE REMAINING H BARS AT EQUAL SPACING.
- ON HIGH SIDE OF T-WALL UNIT, SPACE H-1 BARS AT 1'-0" O.C.
- LIFTING INSERTS:
 - TWO 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:

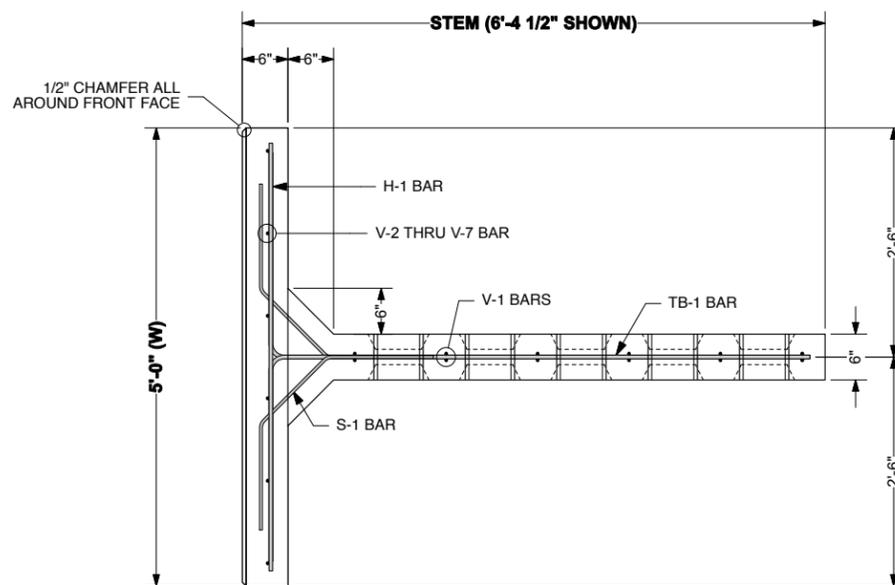
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
- SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
- T-WALL® CONCRETE:
 - F'c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
- REINFORCING STEEL:
 - ASTM A615
 - Fy = 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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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
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
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			CG	Lifting		Area	Properties		V-2 Bar Length	V-3 Bar Length	V-4 Bar Length	V-5 Bar Length	V-6 Bar Length	V-7 Bar Length	
		H1	H2	W		Stem	L1		L2	Vol							Weight
SP2	1 ea	5'0 1/2"	6'2 1/8"	5'0"	6'4 1/2"	8 1/2"	3"	1'2 1/2"	28.05 sf	0.77 cy	3,119 lbs	4'9 1/4"	4'11 5/8"	5'2 1/8"	5'4 1/2"	5'7"	5'9 1/2"
SP3	1 ea	6'0 1/2"	7'0"	5'0"	6'4 1/2"	8 1/2"	3"	1'2 1/2"	32.60 sf	0.85 cy	3,443 lbs	5'9 1/8"	5'11 1/8"	6'1 1/4"	6'3 1/4"	6'5 3/8"	6'7 3/8"
SP6	1 ea	5'0 1/2"	6'0"	5'0"	6'4 1/2"	8 1/2"	3"	1'2 1/2"	27.60 sf	0.76 cy	3,078 lbs	4'9 1/8"	4'11 1/8"	5'1 1/4"	5'3 1/4"	5'5 3/8"	5'7 3/8"

REBAR SCHEDULES

SP2

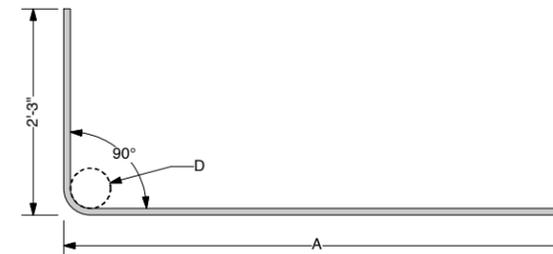
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'2 1/8"(max)	H-1	6 ea	#4	4'8"				18.69 lbs	
W=5'0"	H-2	1 ea	#4	4'9 1/2"				3.20 lbs	
S=6'4 1/2"	V-1	12 ea	#3	2'2"				9.76 lbs	
SH=2'6"	V-2 thru V-7	1 ea	#5	VARIES				33.02 lbs	SEE T-WALL UNIT SCHEDULE
	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	2'4 3/8"	3 3/4"	34.55 lbs	
								104.30 lbs	

SP3

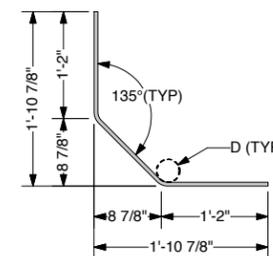
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=7'0"(max)	H-1	7 ea	#4	4'8"				21.81 lbs	
W=5'0"	V-1	12 ea	#3	2'2"				9.76 lbs	
S=6'4 1/2"	V-2 thru V-7	1 ea	#5	VARIES				38.72 lbs	SEE T-WALL UNIT SCHEDULE
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	2'4 3/8"	3 3/4"	34.55 lbs	
								109.91 lbs	

SP6

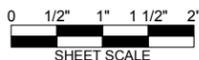
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=6'0"(max)	H-1	6 ea	#4	4'8"				18.69 lbs	
W=5'0"	V-1	12 ea	#3	2'2"				9.76 lbs	
S=6'4 1/2"	V-2 thru V-7	1 ea	#5	VARIES				32.46 lbs	SEE T-WALL UNIT SCHEDULE
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	8'3 3/8"	5'11"	2'4 3/8"	3 3/4"	34.55 lbs	



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



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



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

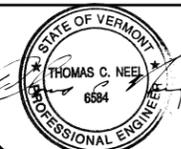
CONTRACTOR:
PROJECT #:

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

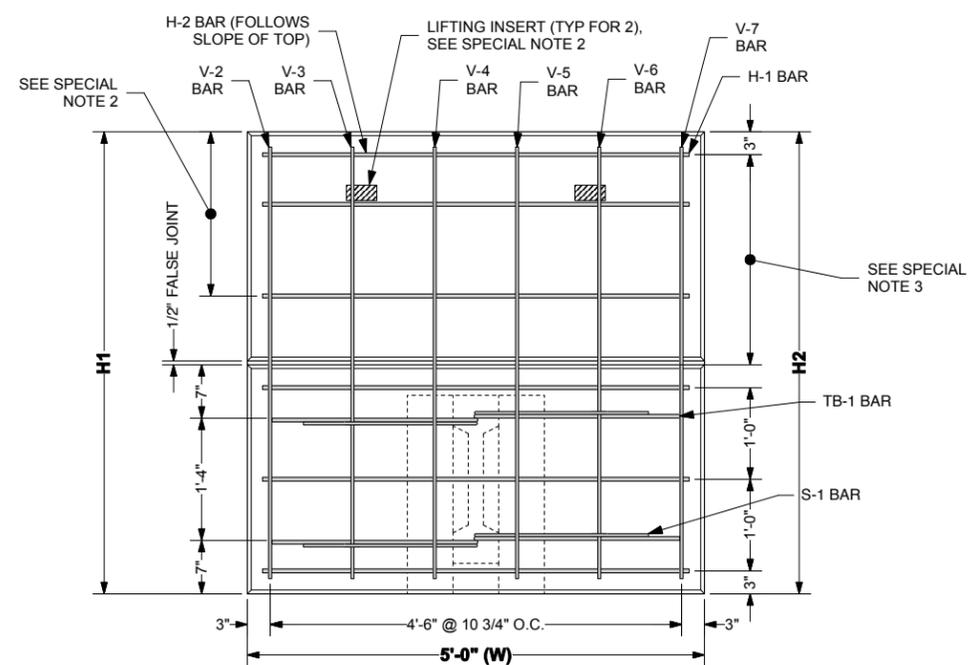
NO.	DESCRIPTION	DATE

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

WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNITS SP2, SP3, SP6 REBAR (II)

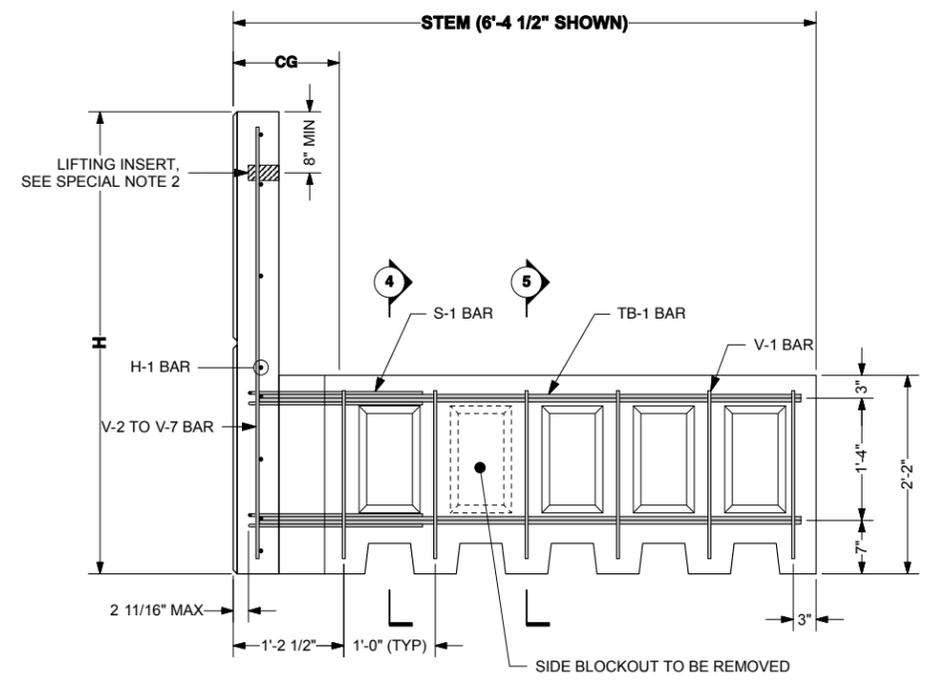
T-WALL® RETAINING WALL SYSTEM

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)

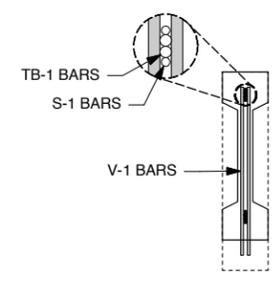
1 FRONT VIEW
Scale: 1" = 1'-0"



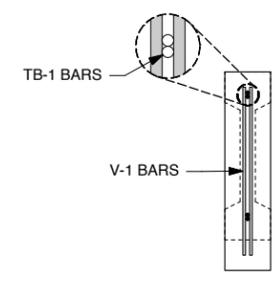
2 SIDE VIEW
Scale: 1" = 1'-0"

- 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.

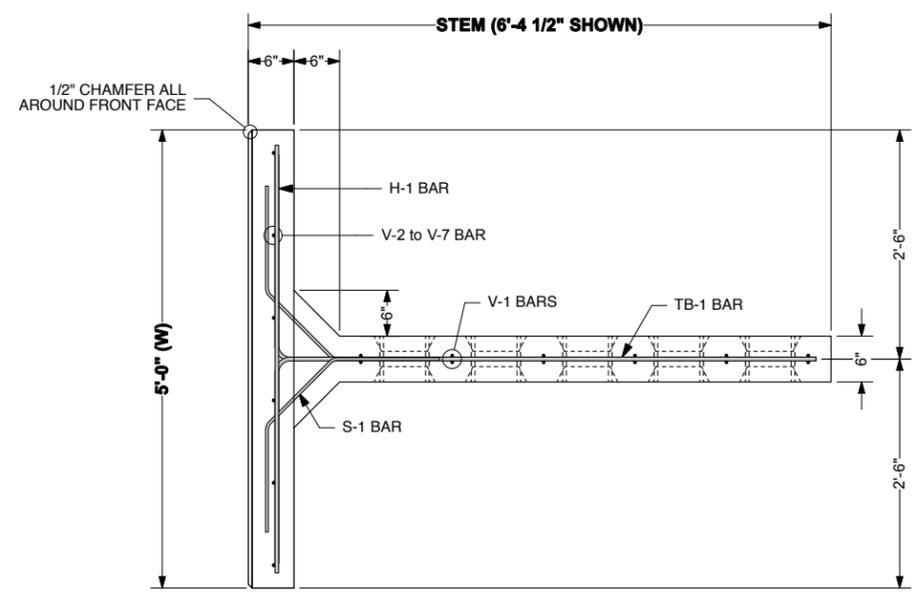
- GENERAL NOTES:**
- PRIMARY REFERENCES:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4th EDITION, 2007 WITH INTERIM REVISIONS.
 - SECONDARY REFERENCES:
 - ACI 318-05 - PRECAST CONCRETE.
 - T-WALL® CONCRETE:
 - F'c = 5000 psi (MINIMUM) AT 28 DAYS
 - MINIMUM STRIPPING STRENGTH = 2500 psi
 - REINFORCING STEEL:
 - 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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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

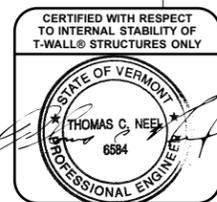
PROJECT #:

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	

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

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS
SPECIAL UNIT SP7 REBAR (I)

T-WALL® RETAINING WALL SYSTEM

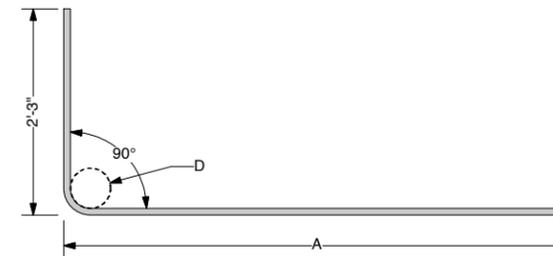
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-48

T-WALL UNIT SCHEDULES

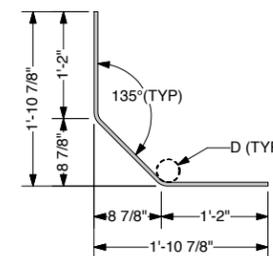
Unit Type	Qty	H1	H2	W	Stem	Lifting CG	Area	Properties Vol	Weight	V-2 Bar Length	V-3 Bar Length	V-4 Bar Length	V-5 Bar Length	V-6 Bar Length	V-7 Bar Length
SP7	1 ea	4'0"	4'8 1/2"	5'0"	6'4 1/2"	8 1/2"	21.78 sf	0.61 cy	2,471 lbs	3'8 1/2"	3'10"	3'11 1/2"	4'1"	4'2 1/2"	4'4 1/8"

REBAR SCHEDULES

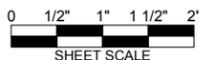
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=4'8 1/2"(max)	H-1	5 ea	#4	4'8"				15.58 lbs	
W=5'0"	V-1	12 ea	#3	1'9 7/8"				8.23 lbs	
S=6'4 1/2"	V-2 thru V-7	1 ea	#5	VARIES				25.17 lbs	SEE T-WALL UNIT SCHEDULE
SH=2'1 7/8"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	8'3 1/4"	5'11"	2'4 1/4"	3"	22.10 lbs	
								76.15 lbs	



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



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



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HUDSON, NH
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REVISIONS

NO.	DESCRIPTION	DATE

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

**WATERBURY, VT
IM 089-2(43)**

SHOP DRAWINGS
SPECIAL UNIT SP7 REBAR (II)

T-WALL® RETAINING WALL SYSTEM

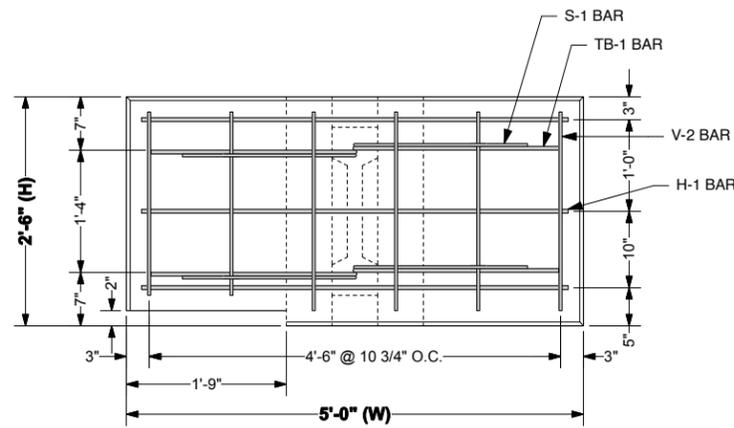
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-49

SPECIAL NOTES:

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

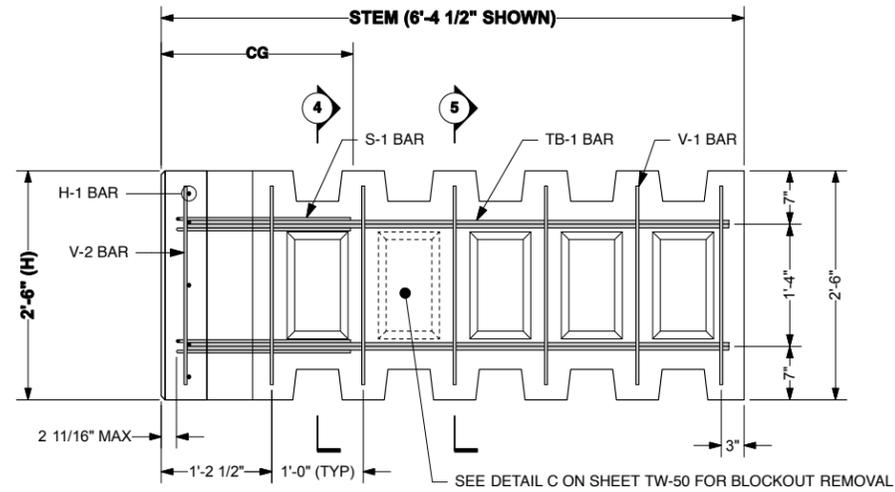
GENERAL NOTES:

- 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**
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 - 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.

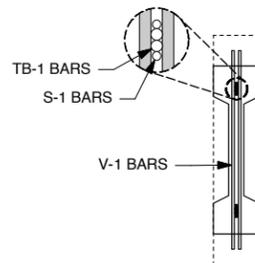


(V-1 BARS IN STEM OMITTED FOR CLARITY)

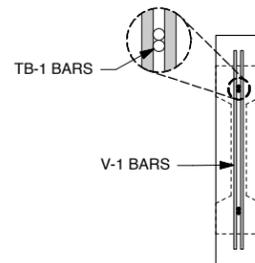
1 FRONT VIEW
Scale: 1" = 1'-0"



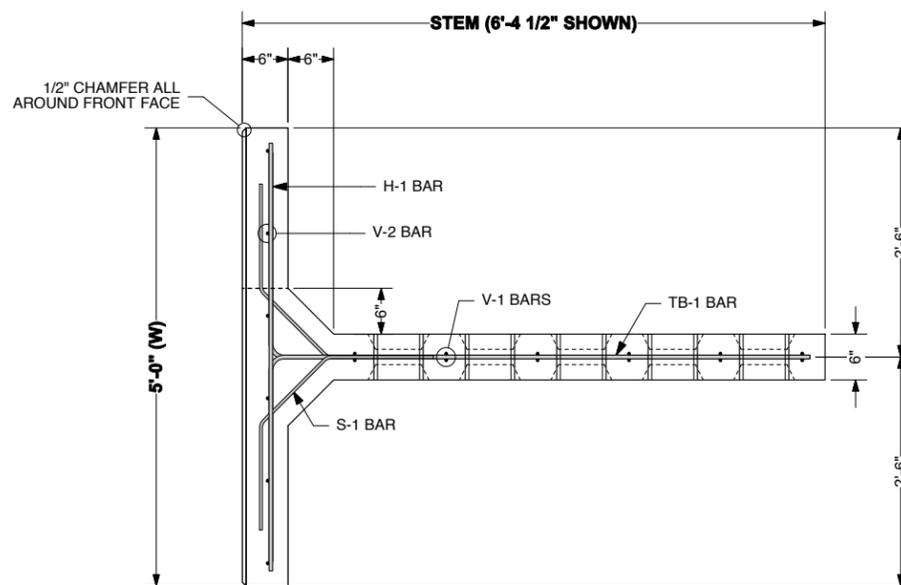
2 SIDE VIEW
Scale: 1" = 1'-0"



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

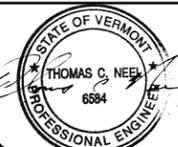
CONTRACTOR:
PROJECT #:

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
IM 089-2(43)**

SHOP DRAWINGS
SPECIAL UNITS SP9, SP12 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-50

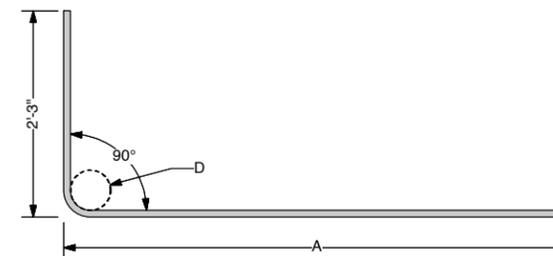
T-WALL UNIT SCHEDULES

Unit Type	Qty	H	Dimensions W	Stem	Lifting CG	Area	Properties Vol	Weight
SP9	1 ea	2'6"	5'0"	7'4 1/2"	8 1/2"	12.50 sf	0.50 cy	2,025 lbs
SP12	1 ea	2'6"	5'0"	12'4 1/2"	8 1/2"	12.50 sf	0.66 cy	2,673 lbs

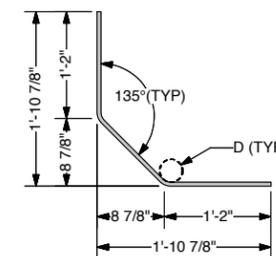
REBAR SCHEDULES

SP9									
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"				9.35 lbs	TRIM AS NEEDED FOR NOTCH
W=5'0"	V-1	14 ea	#3	2'2"				11.39 lbs	
S=7'4 1/2"	V-2	6 ea	#3	2'2"				4.88 lbs	TRIM AS NEEDED FOR NOTCH
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	9'3 1/4"	6'11"	2'4 1/4"	3"	24.77 lbs	
								55.46 lbs	

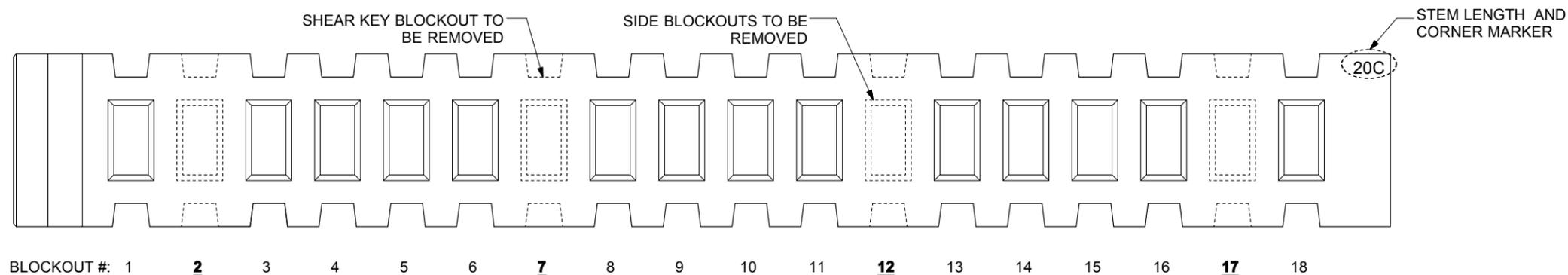
SP12									
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"				9.35 lbs	TRIM AS NEEDED FOR NOTCH
W=5'0"	V-1	24 ea	#3	2'2"				19.53 lbs	
S=12'4 1/2"	V-2	6 ea	#3	2'2"				4.88 lbs	TRIM AS NEEDED FOR NOTCH
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#5	14'3 3/8"	11'11"	2'4 3/8"	3 3/4"	59.59 lbs	
								98.41 lbs	



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



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

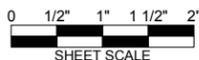


BLOCKOUT #: 1 **2** 3 4 5 6 **7** 8 9 10 11 **12** 13 14 15 16 **17** 18

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

CONTRACTOR:

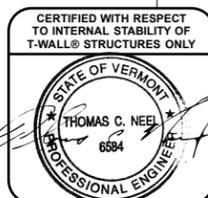
PROJECT #:

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	

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNITS SP9, SP12 REBAR (II)
T-WALL® RETAINING WALL SYSTEM

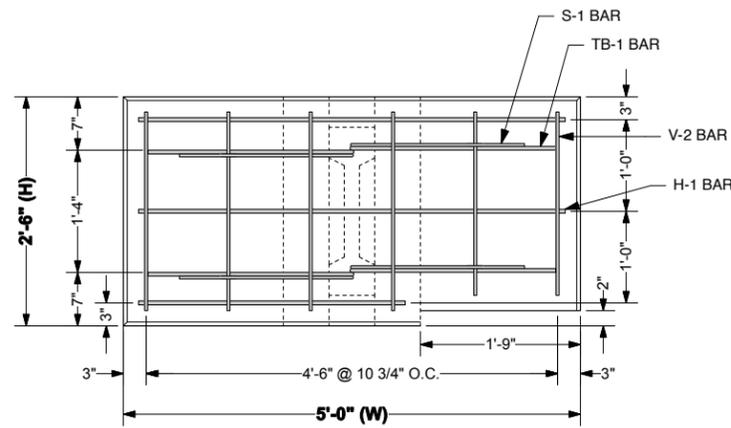
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-51

SPECIAL NOTES:

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

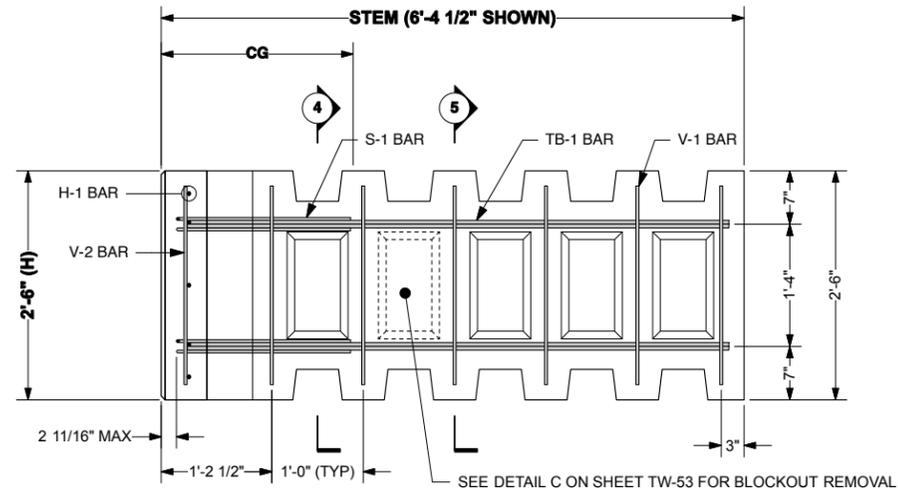
GENERAL NOTES:

- 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.

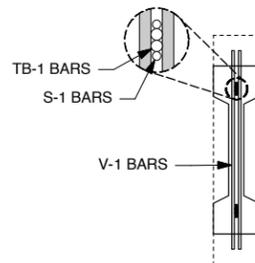


(V-1 BARS IN STEM OMITTED FOR CLARITY)

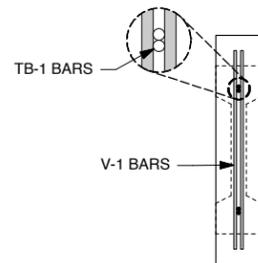
1 FRONT VIEW
Scale: 1" = 1'-0"



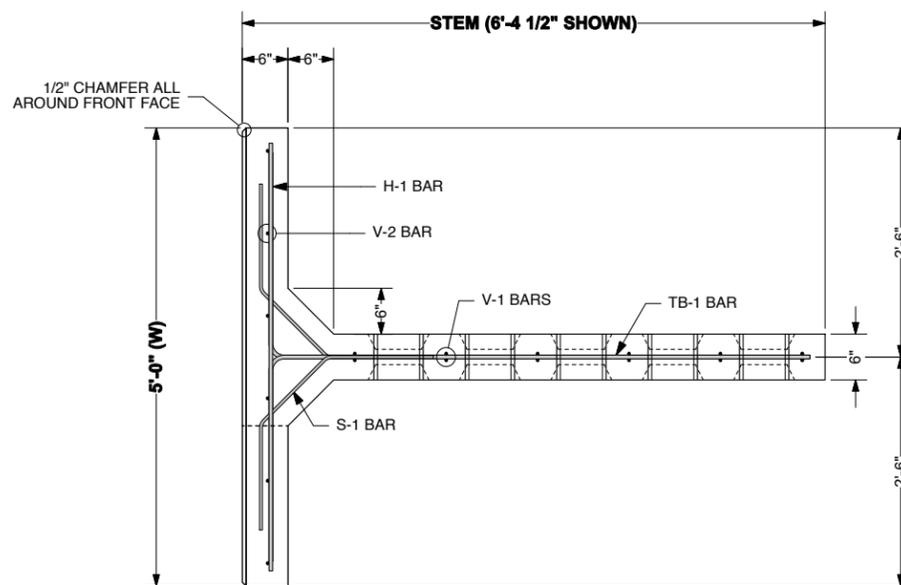
2 SIDE VIEW
Scale: 1" = 1'-0"



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

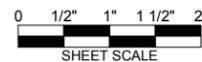


5 SECTION THROUGH STEM
Scale: 1" = 1'-0"



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:
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
IM 089-2(43)**
SHOP DRAWINGS
SPECIAL UNIT SP10 REBAR (I)

T-WALL® RETAINING WALL SYSTEM

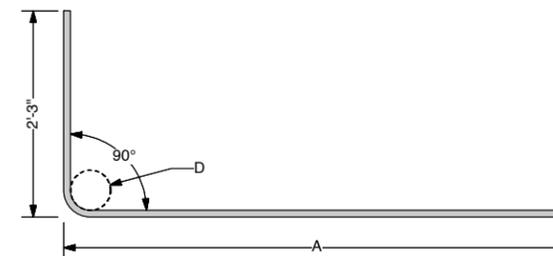
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-52

T-WALL UNIT SCHEDULES

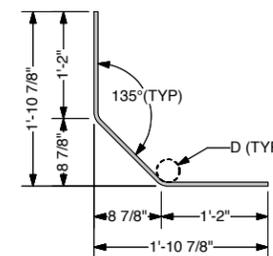
Unit Type	Qty	H	Dimensions W	Stem	Lifting CG	Area	Properties Vol	Weight
SP10	3 ea	2'6"	5'0"	7'4 1/2"	8 1/2"	12.50 sf	0.50 cy	2,025 lbs

REBAR SCHEDULES

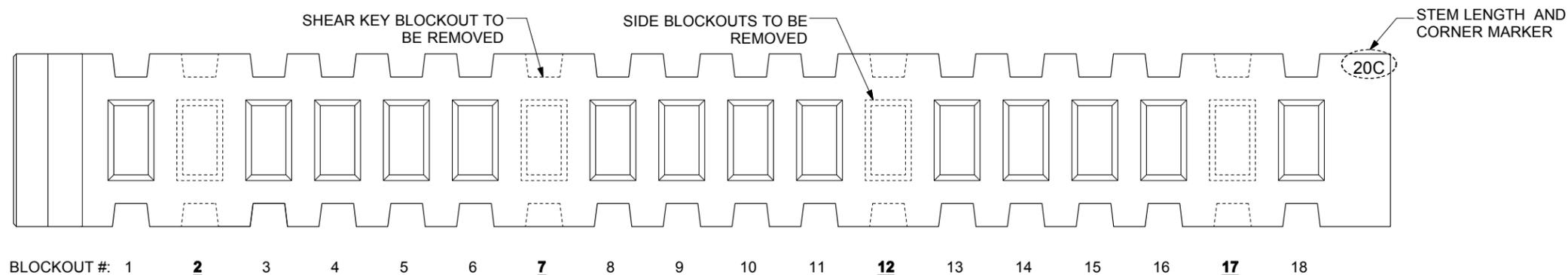
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"				9.35 lbs	
W=5'0"	V-1	14 ea	#3	2'2"				11.39 lbs	
S=7'4 1/2"	V-2	6 ea	#3	2'2"				4.88 lbs	
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	9'3 1/4"	6'11"	2'4 1/4"	3"	24.77 lbs	
								55.46 lbs	



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



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

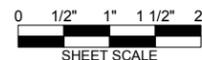


BLOCKOUT #: 1 **2** 3 4 5 6 **7** 8 9 10 11 **12** 13 14 15 16 **17** 18

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.

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



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

PROJECT #:

DESIGNER

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

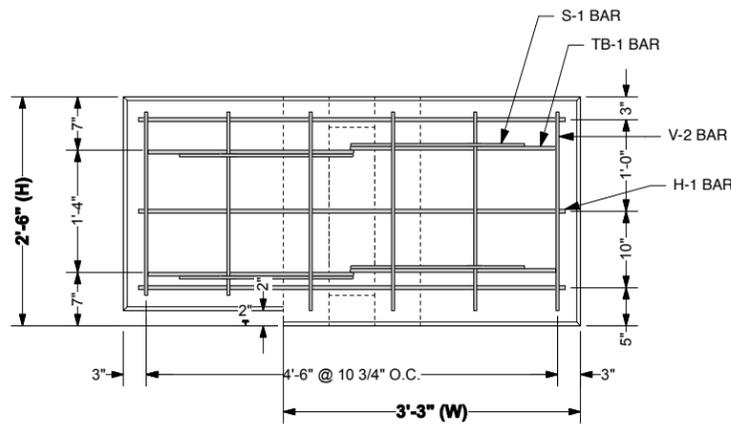
PROJECT #: TW4437

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

REVISIONS	

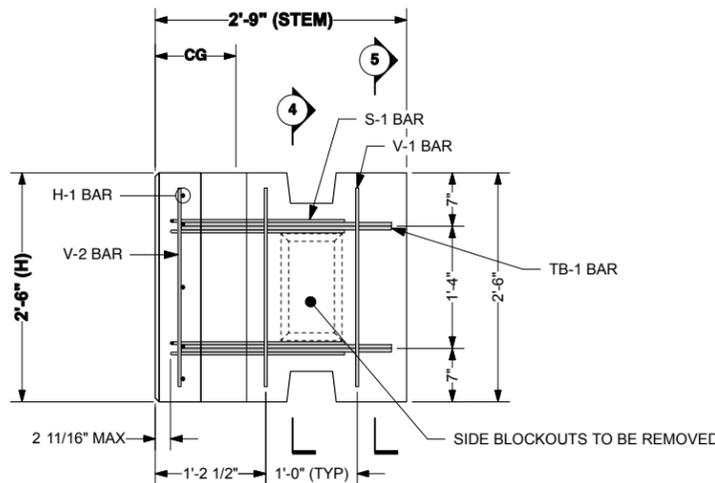
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNIT SP10 REBAR (II)
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-53

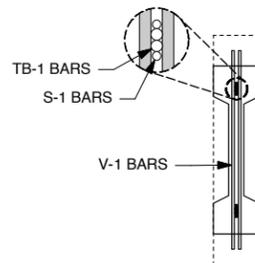


(V-1 BARS IN STEM OMITTED FOR CLARITY)

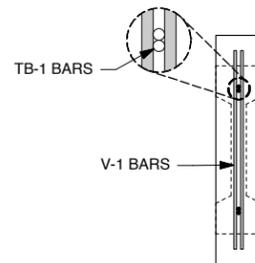
1 FRONT VIEW
Scale: 1" = 1'-0"



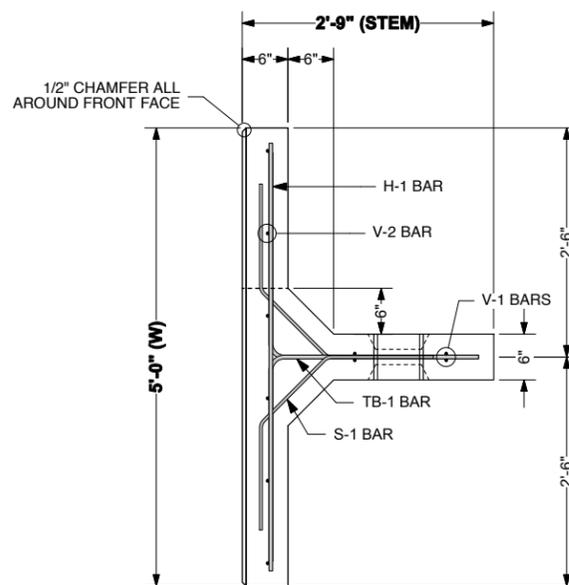
2 SIDE VIEW
Scale: 1" = 1'-0"



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



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



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

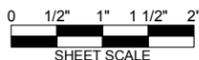
SPECIAL NOTES:

- 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:
 - 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.

2" MIN. COVER ON ALL BARS UNLESS OTHERWISE NOTED



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

CONTRACTOR:

PROJECT #:

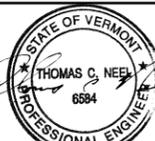
DESIGNER



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
IM 089-2(43)
SHOP DRAWINGS
SPECIAL UNIT SP13 REBAR (I)
T-WALL® RETAINING WALL SYSTEM

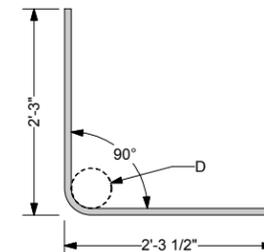
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-54

T-WALL UNIT SCHEDULES

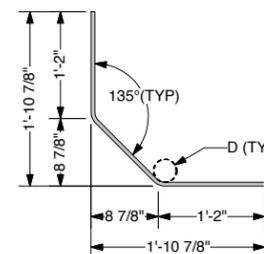
Unit Type	Qty	H	Dimensions W	Stem	Lifting CG	Area	Properties Vol	Weight
SP13	2 ea	2'6"	5'0"	2'9"	8 1/2"	12.50 sf	0.35 cy	1,418 lbs

REBAR SCHEDULES

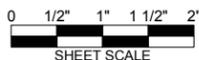
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"				9.35 lbs	
W=5'0"	V-1	4 ea	#3	2'2"				3.25 lbs	
S=2'9"	V-2	6 ea	#3	2'2"				4.88 lbs	TRIM AS NEEDED FOR NOTCH
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	4'7 3/4"	2'3 1/2"	2'4 1/4"	3"	12.41 lbs	
								34.96 lbs	



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



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



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

DESIGNER

THE NEEL COMPANY
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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

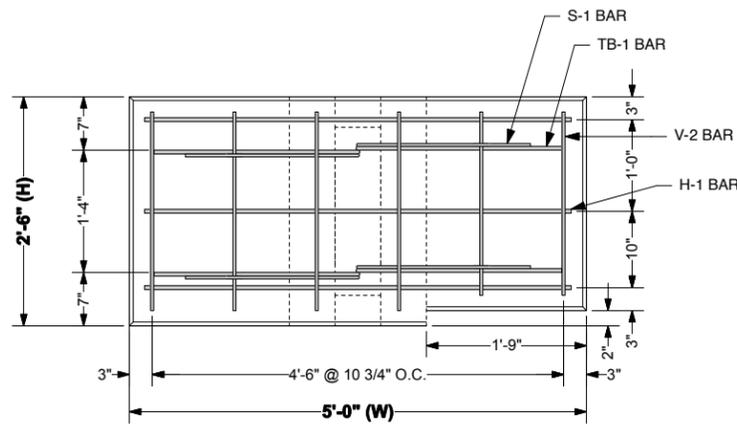
NO.	DESCRIPTION	DATE

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

**WATERBURY, VT
IM 089-2(43)**
SHOP DRAWINGS
SPECIAL UNIT SP13 REBAR (II)

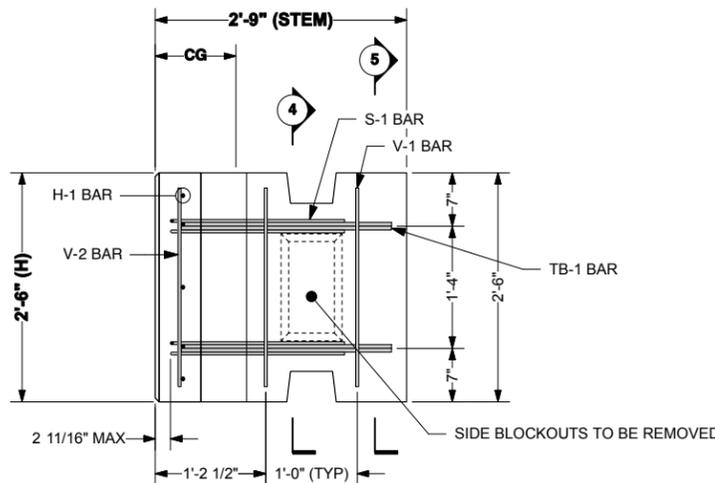
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-55

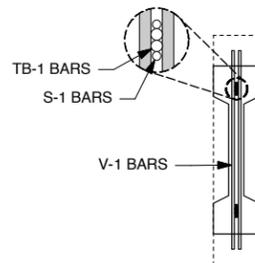


(V-1 BARS IN STEM OMITTED FOR CLARITY)

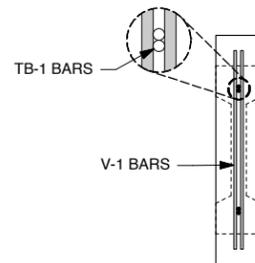
1 FRONT VIEW
Scale: 1" = 1'-0"



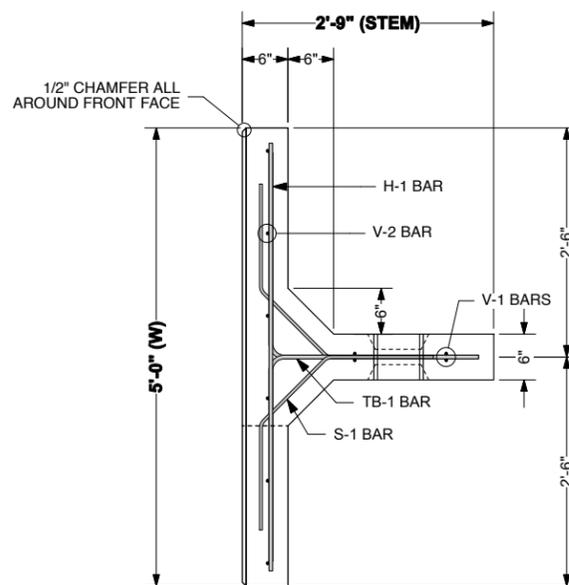
2 SIDE VIEW
Scale: 1" = 1'-0"



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



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



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

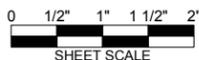
SPECIAL NOTES:

- 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:
 - 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.

**2" MIN. 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:	
PROJECT #:	
CONTRACTOR:	
PROJECT #:	

DESIGNER

THE NEEL COMPANY

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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
IM 089-2(43)

SHOP DRAWINGS
SPECIAL UNIT SP14 REBAR (I)

T-WALL® RETAINING WALL SYSTEM

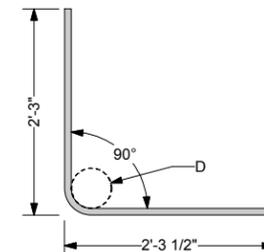
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-56

T-WALL UNIT SCHEDULES

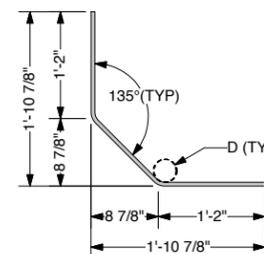
Unit Type	Qty	H	Dimensions W	Stem	Lifting CG	Area	Properties Vol	Weight
SP14	1 ea	2'6"	5'0"	2'9"	8 1/2"	12.50 sf	0.35 cy	1,418 lbs

REBAR SCHEDULES

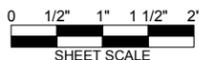
Unit Dims	Bar Mark	Qty	Size	Length	Dim A	Dim B	Bend Dia.	Weight	Remarks
H=2'6"	H-1	3 ea	#4	4'8"				9.35 lbs	
W=5'0"	V-1	4 ea	#3	2'2"				3.25 lbs	
S=2'9"	V-2	6 ea	#3	2'2"				4.88 lbs	TRIM AS NEEDED FOR NOTCH
SH=2'6"	S-1	4 ea	#3	3'4 1/2"	1'2"		2 1/4"	5.07 lbs	
	TB-1	4 ea	#4	4'7 3/4"	2'3 1/2"	2'4 1/4"	3"	12.41 lbs	
								34.96 lbs	



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



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



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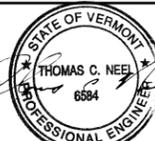
DESIGNER



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SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	GDL
CHECKED BY:	KB
SHEET:	TW-57