

Proposed Bridge Improvement Project

Wilmington STP 013-1(14)

SEE GENERAL NOTE #20. SILANE SHALL BE SHOP APPLIED

Concrete:

Mix Designation: P60TER

1. Specified Mix Design - 5000 PSI
2. Proposed Mix Design - 6000 PSI
3. Striping Strength - 3000 PSI
4. Handling Strength - 3000 PSI
5. Shipping Strength - 5000 PSI
6. Install Strength - 5000 PSI
7. Traffic Loading - 5000 PSI

Fabrication Tolerances:

1. Width ±1/4"
2. Height ±1/4"
3. Length ±1/2"
4. Rebar Cover 2" Min. (Unless Noted Otherwise)
5. Rebar Spacing ±1"
6. Rebar Clearance ±1/4"
7. Insert Placement ±1/4"

Design Notes:

1. Design is in accordance w/ ASTM C1577, PCI MNL135, VAOT540 & AASHTO 2012 LRFD Bridge Design Specs Fifth Edition
2. Any conflict between tolerances listed above shall result in the usage of the stricter tolerance
3. Design Live Load = HL-93
4. Materials and Manufacturing shall conform to ASTM C1433

Installation:

1. Sub Base for Box Culvert / Cut Off Walls to be compacted and level
2. Precast Cut Off Walls to be installed
3. All Elevations are to be Checked and Verified they Match Those of Plan Set
4. Begin Sequence of Installing All Box Culvert Sections
5. Clean Granular Backfill for structures used for Backfill of Footers & of Box Culvert so water can reach weep holes if applicable
6. Fill all Lifting Holes, Bolt Pockets and Box Culvert grooves and seams w/ non-shrink grout. Applied by Site Contractor.
7. ASTM C1675-11 Box culvert installation guidelines shall be followed.

Reinforcing:

General Notes:

1. Reinforcing Steel -
 - a. Precast Box Sections, Headwalls, Wing Walls, & Cut Off Walls shall be Level II Dual Coated Bar ASTM A615
2. Materials and Manufacturing shall conform to ASTM C1433

Tolerances:

1. Spacing ±1"
2. Clearance ±1/4"

Lap Lengths:

1. Per AASHTO 5.11.2.1.1 & 5.11.5.3.1
Lap Length for Level II (Dual Coated):
#4 Bar = 25"
#6 Bar = 46"

Joint Treatment:

Vertical Seams:

Per VTrans Approved Product List 780.02
Overhead & Vertical Concrete Repair Mortar
Applied by Site Contractor

Horizontal Seams / Grout:

Per VTrans Approved Product List 707.03
Mortar, Type IV
Applied by Site Contractor

SEE GENERAL NOTE #17. JOINTS BETWEEN BOX SECTIONS IS NOT REQUIRED

Waterproofing:

1. By Others if Applicable

Miscellaneous:

1. All exposed hardware to be galvanized.
2. All Exposed Edges of Concrete Shall be Chamfered

Legend:

- (A) 2"Ø PVC Sleeve
- (B) 4"Ø PVC Sleeve
- (C) Mechanical Bolt Pocket (A.L. Patterson w/ 1"Ø Coil Rod)
- (D) Oxford A750-7 Lifting Device
- (E) 1"Ø x 12" CX-9 Coil Loop Insert
- (F) 3/4"Ø FI-4234P Flared Loop Ferrule Insert
- (G) 1 1/2" x 3 1/2" Continuous Keyway
- (H) Solid Lines Indicate 3/4" Chamfer
- (I) 5/8" FI 64 Ferrule Insert

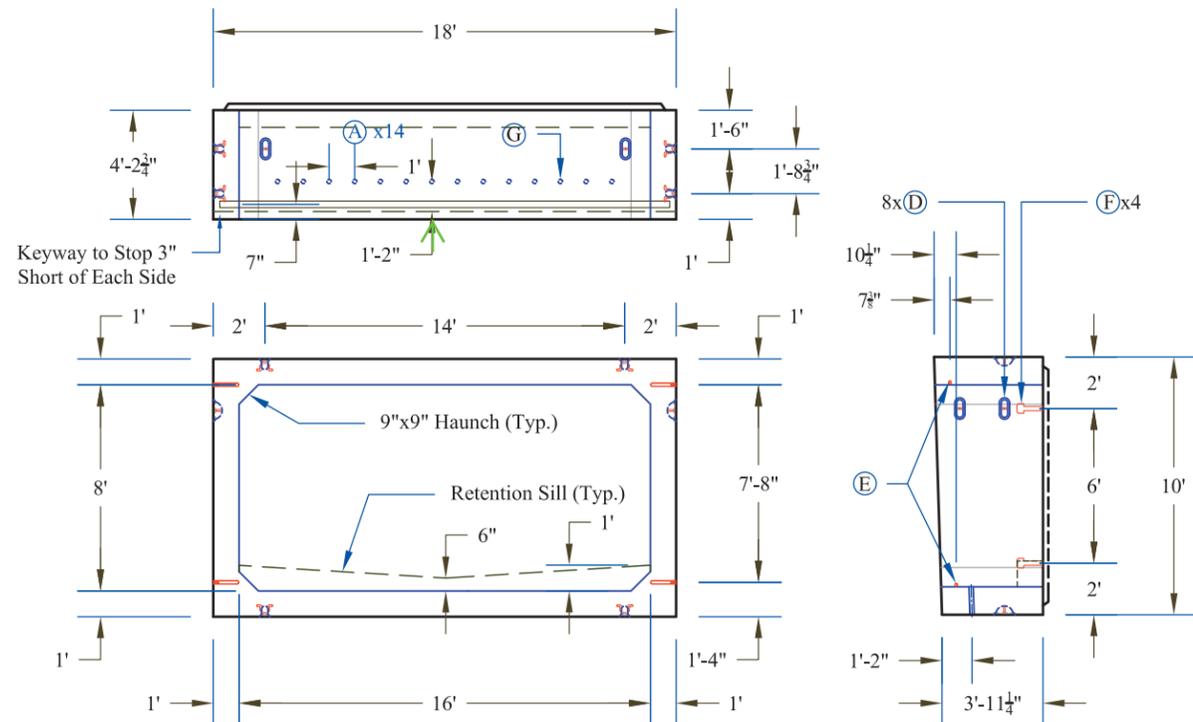
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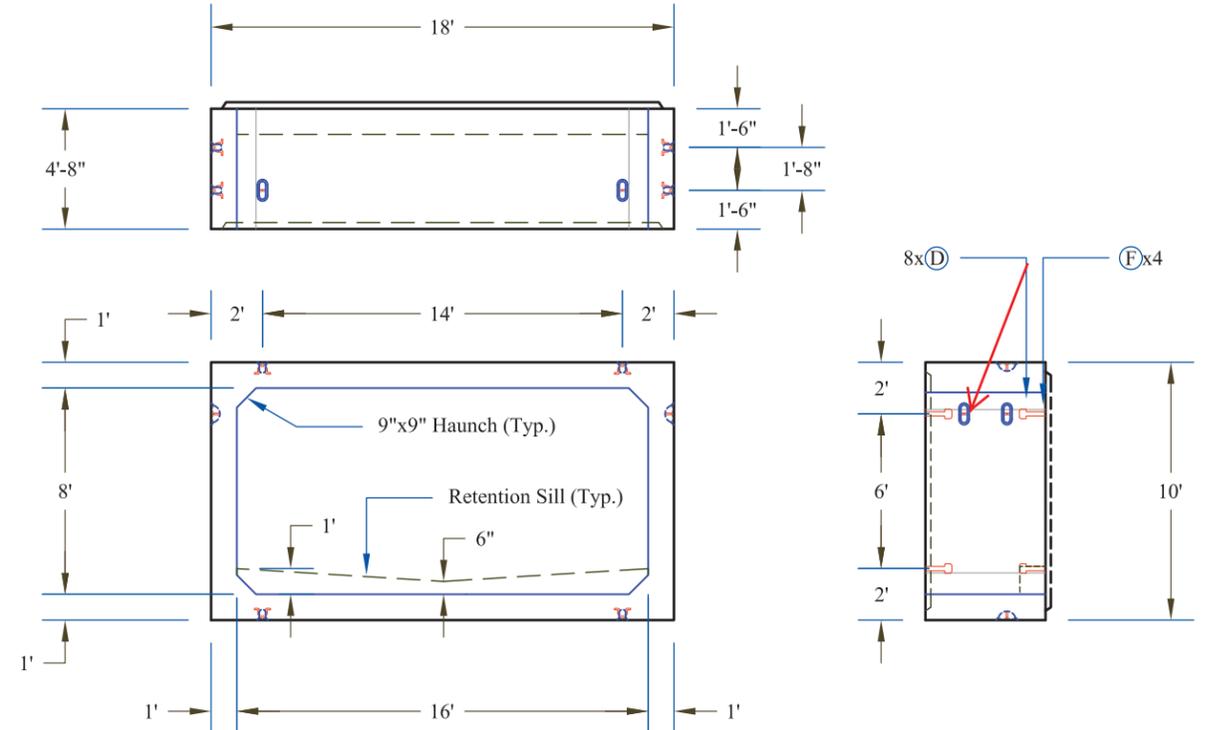
CONTRACTORS VTSPE:	PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #14213)	M&M Excavating PO Box 585 Chester, VT 05143 Ph: (802) 875-3319	FABRICATOR: 193 INDUSTRIAL AVE. WILLISTON, VT 05495 Ph: (802) 658-0201
	SUPERVISOR: M. WHEELER DETAILER: I. ADAMS CHECKER: T. Dudley ENGINEER:	PROJECT NAME: Wilmington PROJECT #: STP 013-1(14) LOCATION: Wilmington, VT	05/09/2014
		TEXT	1_OF_7



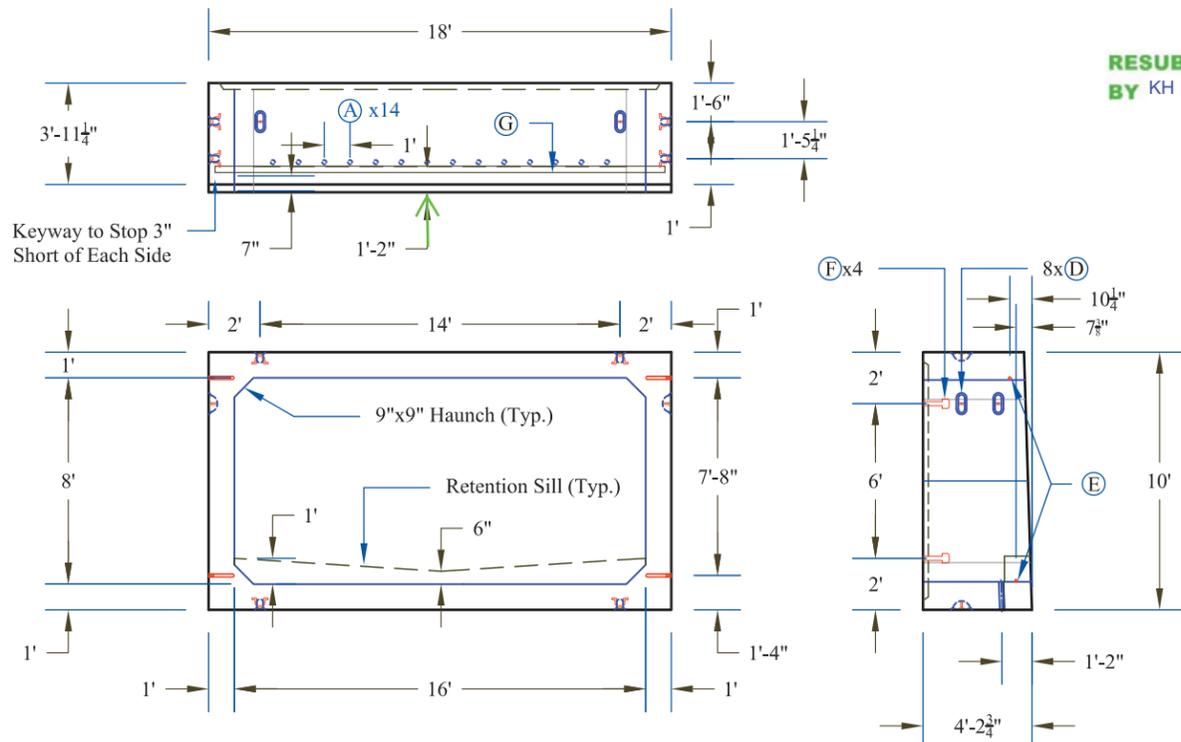
BC-1 Detail



BC-2 Detail



BC-3 Detail



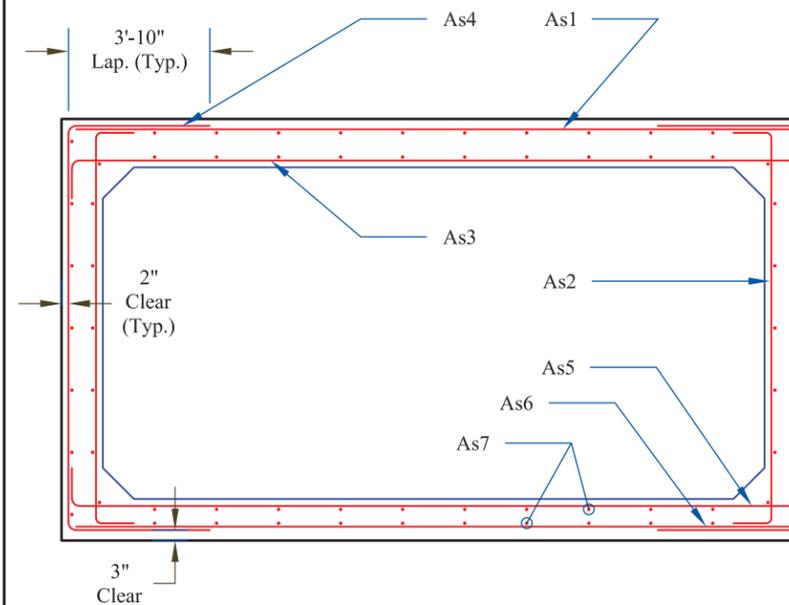
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Box Reinforcing Detail



Rebar Schedule

Mark	Size	Max Spacing	Length	Type	A	B	C
As1	#4	18"	212"	Str	212"		
As2	#4	18"	127"	Bent	6"	115"	6"
As3	#6	6"	230"	Bent	9"	212"	9"
As4	#6	6"	207"	Bent	46"	115"	46"
As5	#6	8"	228"	Bent	8"	212"	8"
As6	#4	18"	212"	Str	212"		
As7	#4	18"	Varies	Str	Varies		



CONTRACTORS VISPE:

(A) 2"Ø PVC Sleeve	(D) Oxford A750-7 Lifting Device	(G) 1 1/2" x 3 1/2" Continuous Keyway
(B) 4"Ø PVC Sleeve	(E) 1"Øx12" CX-9 Coil Loop Insert	(H) Solid Lines Indicate 3/4" Chamfer
(C) Mechanical Bolt Pocket (A.L. Patterson w/ 1"Ø Coil Rod)	(F) Patterson Bolt Pocket Former	(I) 5/8" FI 64 Ferrule Insert

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 DETAILER: I. ADAMS
 CHECKER: T. Dudley
 ENGINEER:

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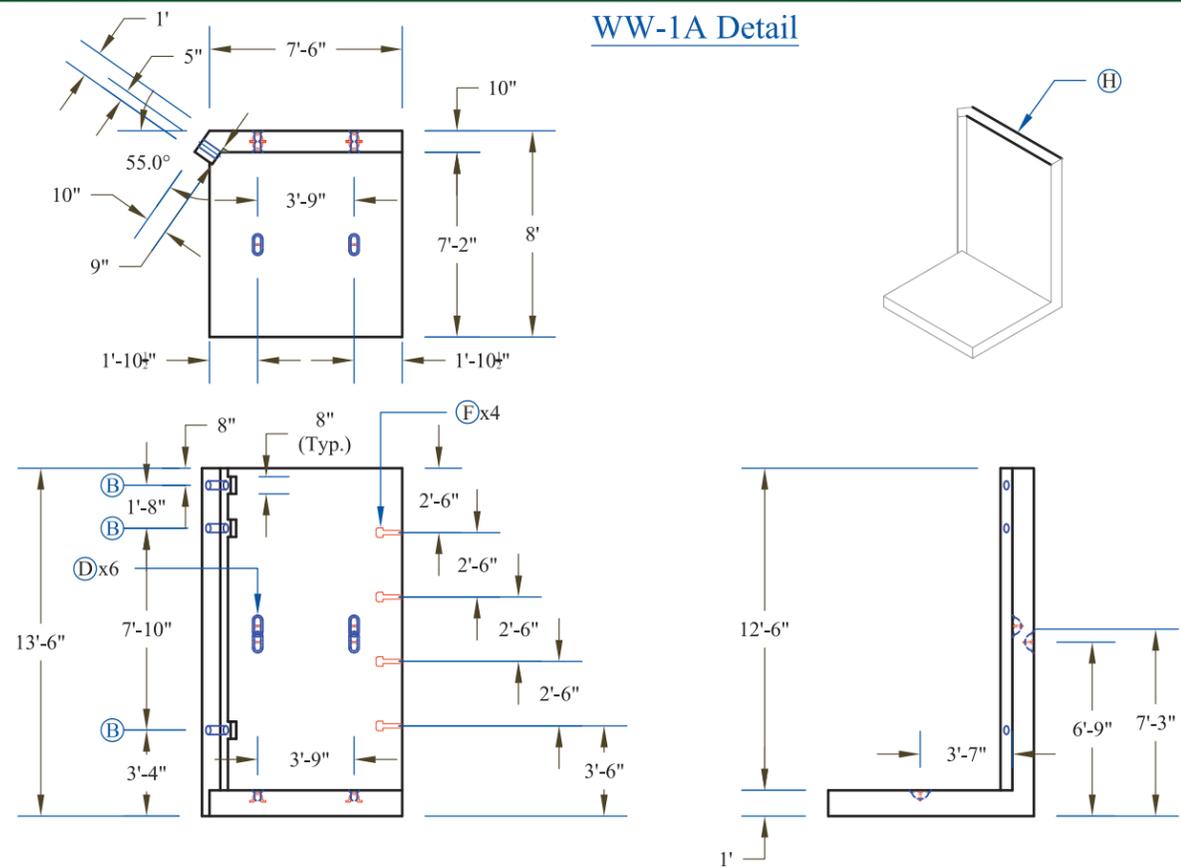


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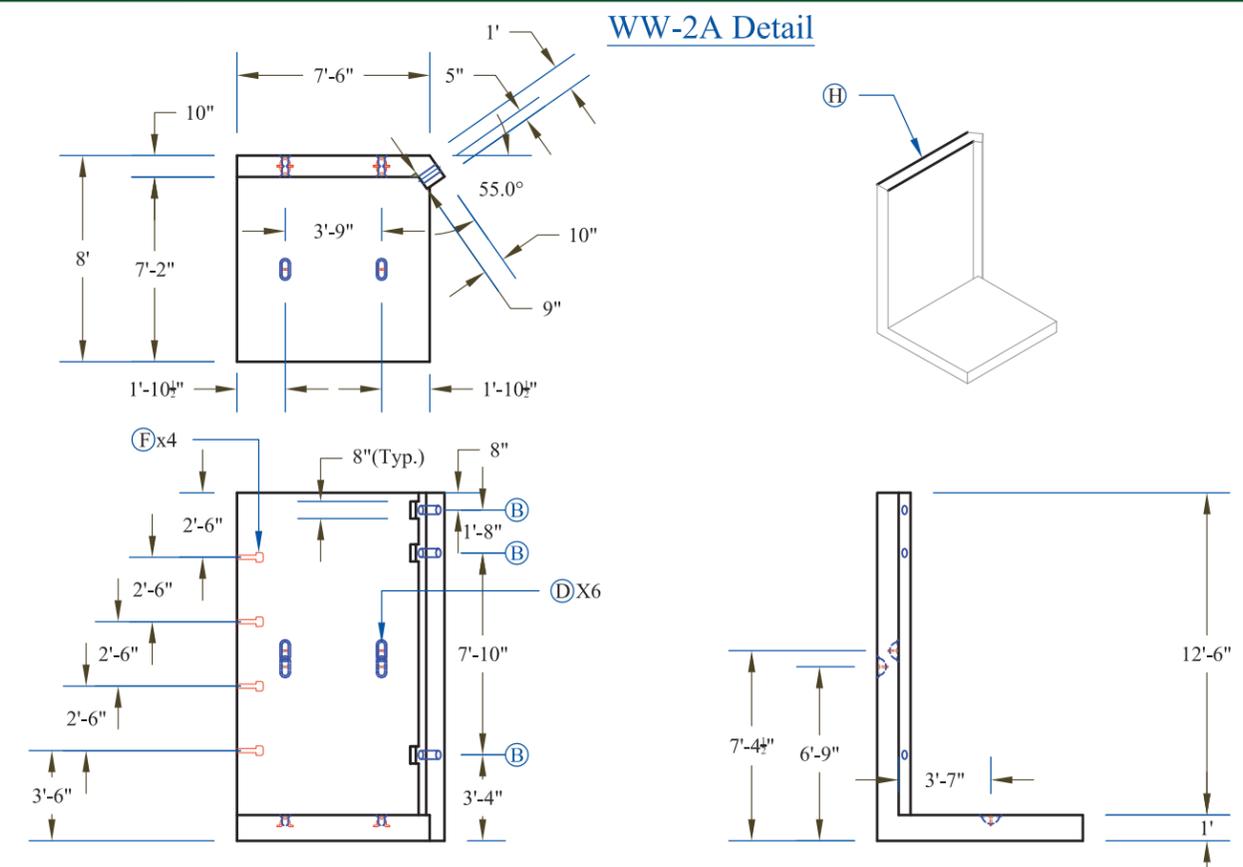
BOX_SECTIONS

3_OF_7

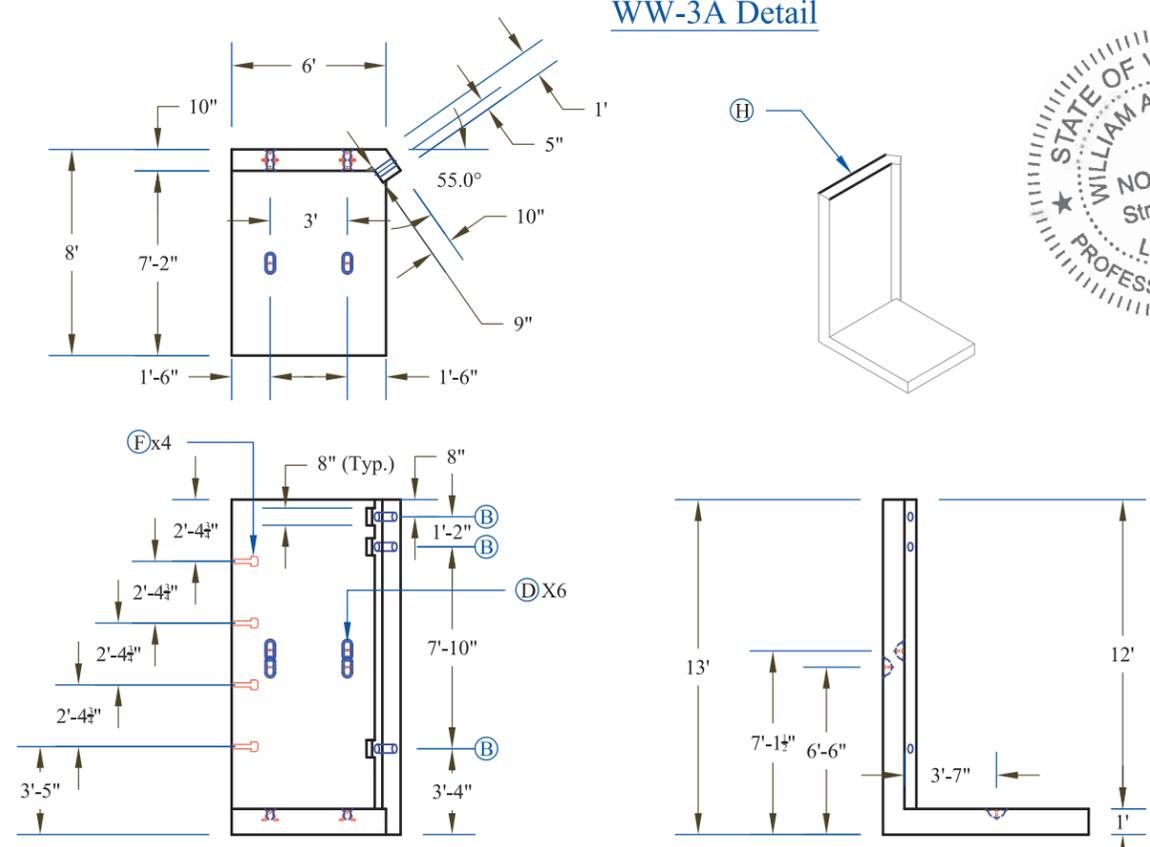
WW-1A Detail



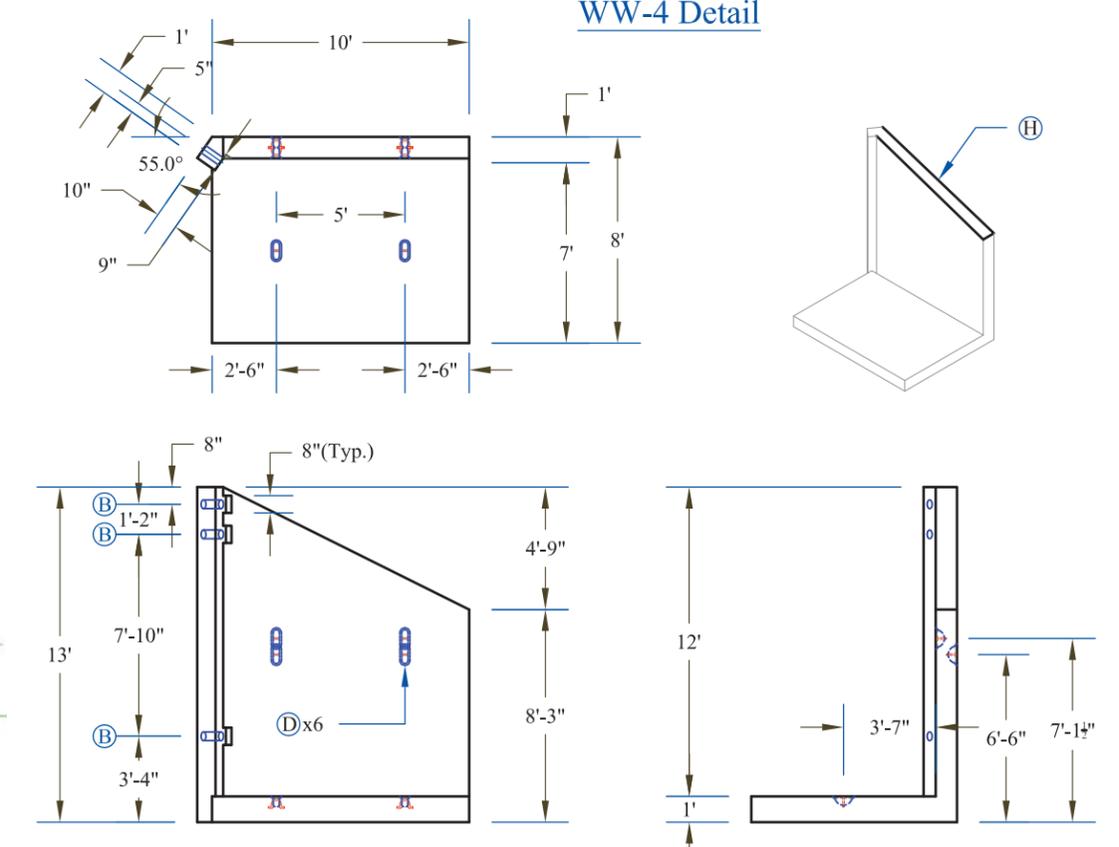
WW-2A Detail



WW-3A Detail



WW-4 Detail



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 - (C) Mechanical Bolt Pocket (A.L. Patterson w/ 1"Ø Coil Rod)
 - (D) Oxford A750-7 Lifting Device
 - (E) 1"Øx12" CX-9 Coil Loop Insert
 - (F) Patterson Bolt Pocket Former
 - (G) 1 1/2" x 3 1/2" Continuous Keyway
 - (H) Solid Lines Indicate 3/4" Chamfer
 - (I) 5/8" FI 64 Ferrule Insert

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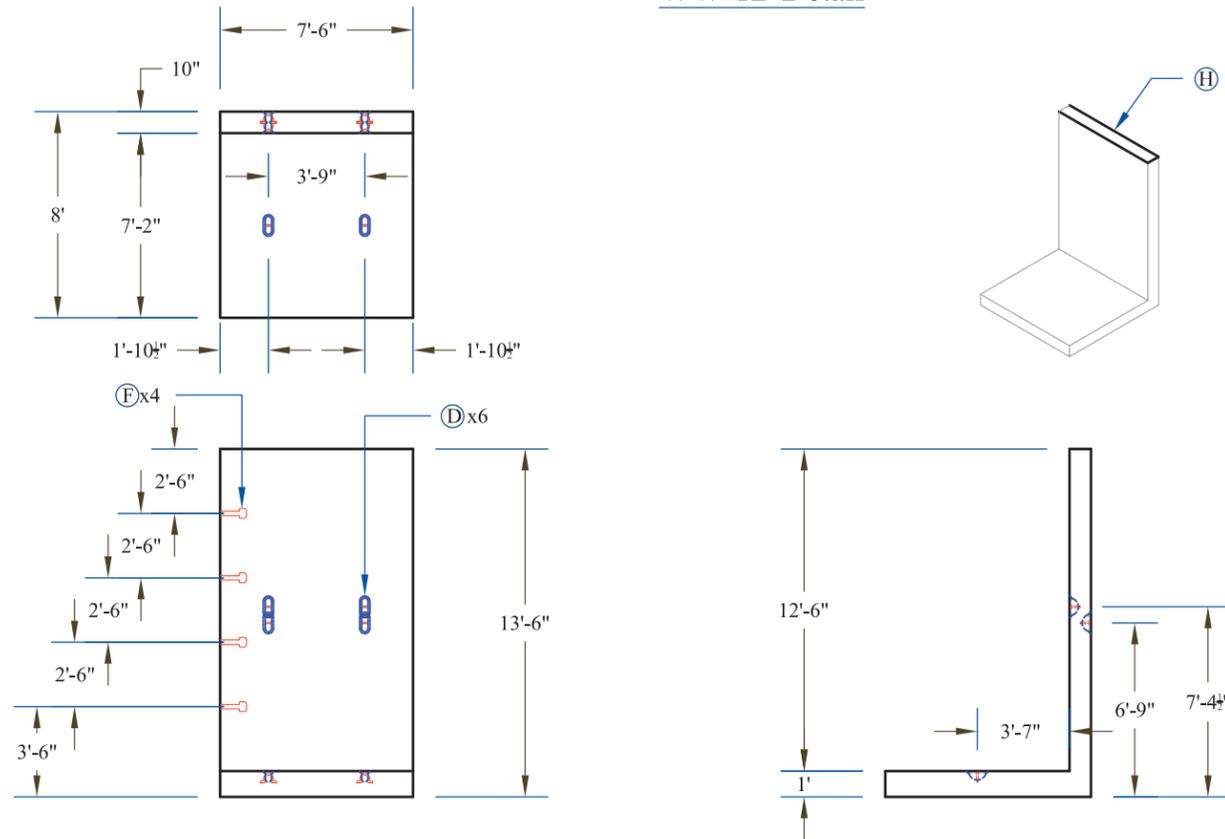
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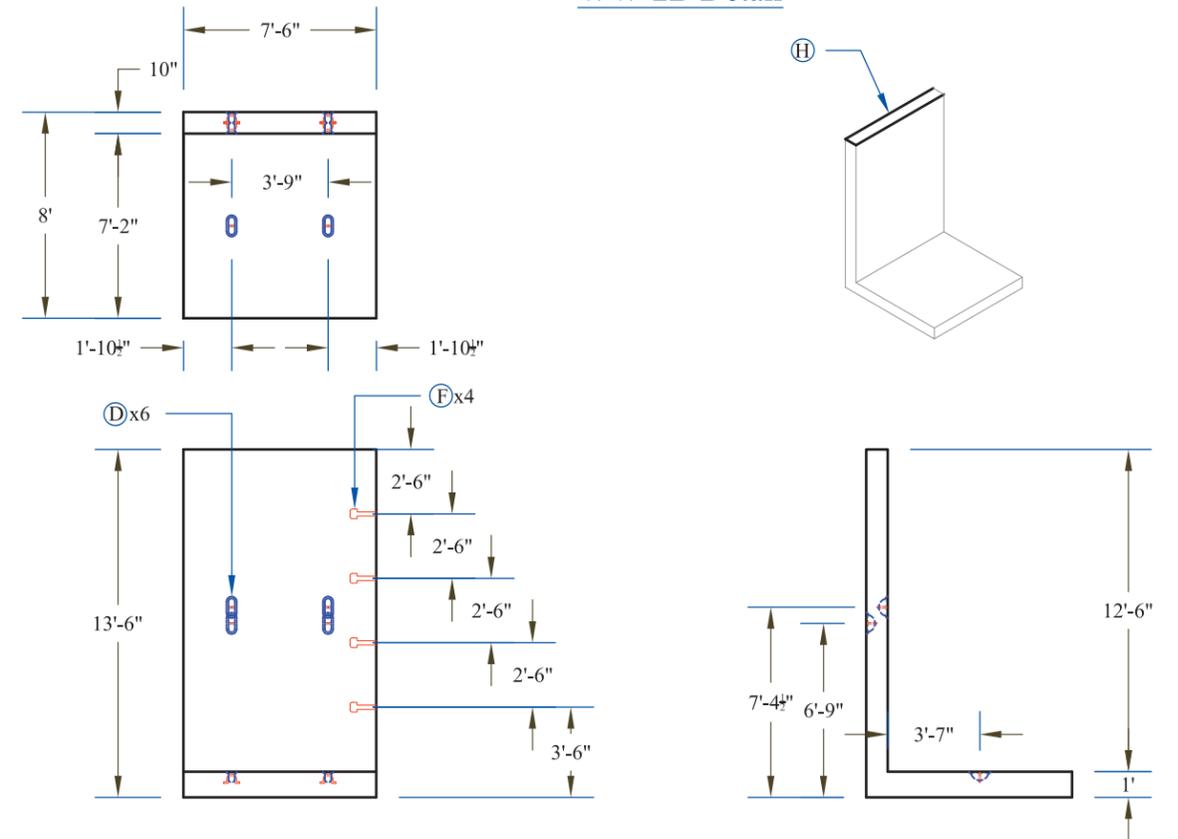


WINGWALLS

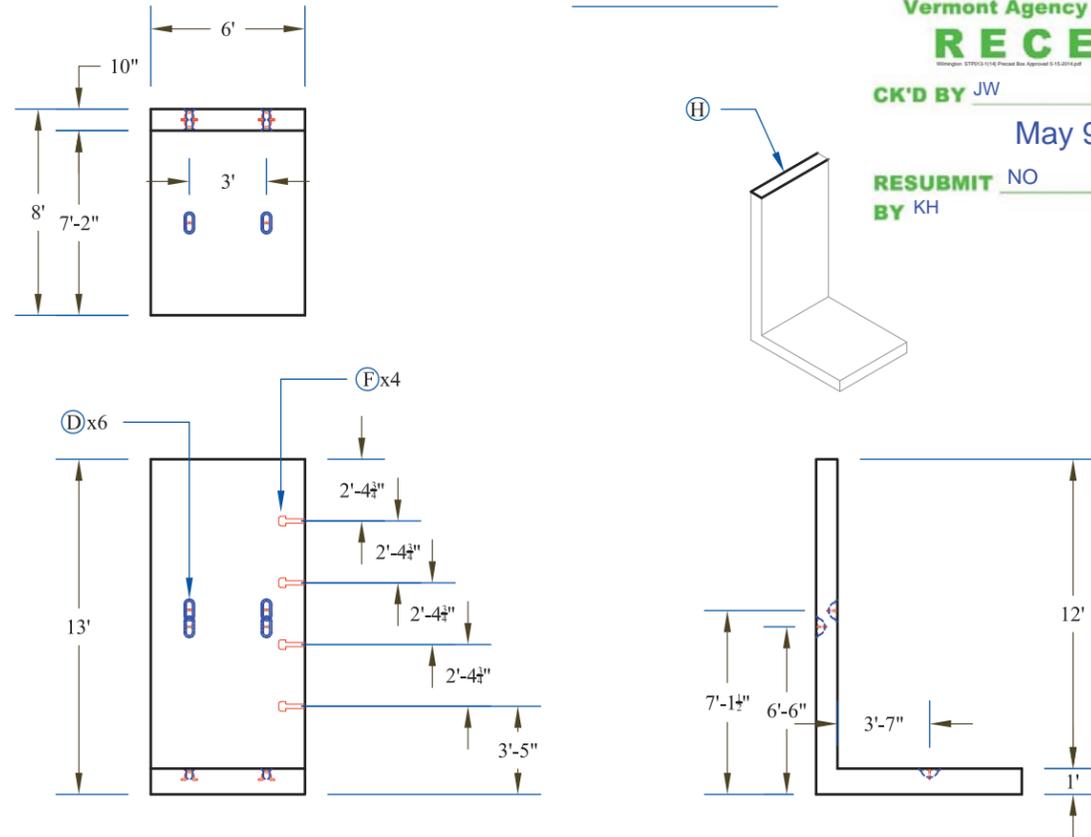
WW-1B Detail



WW-2B Detail

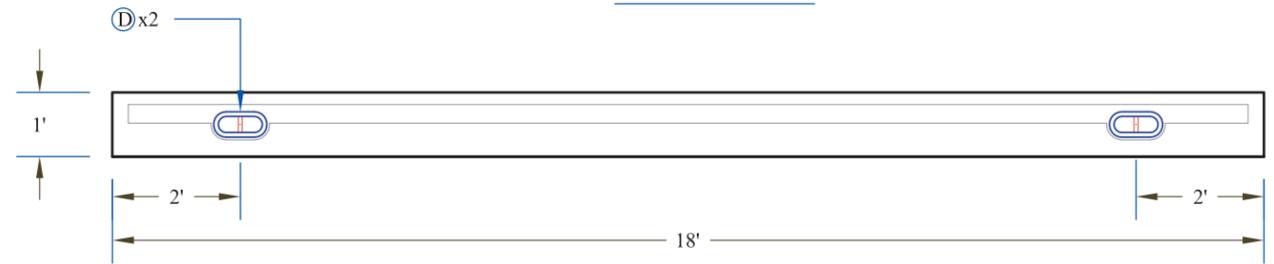


WW-3B Detail

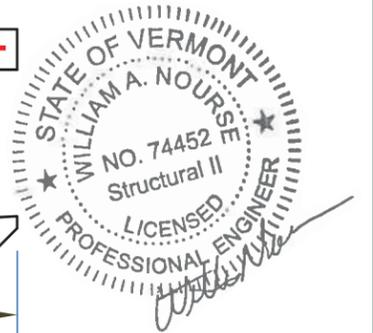
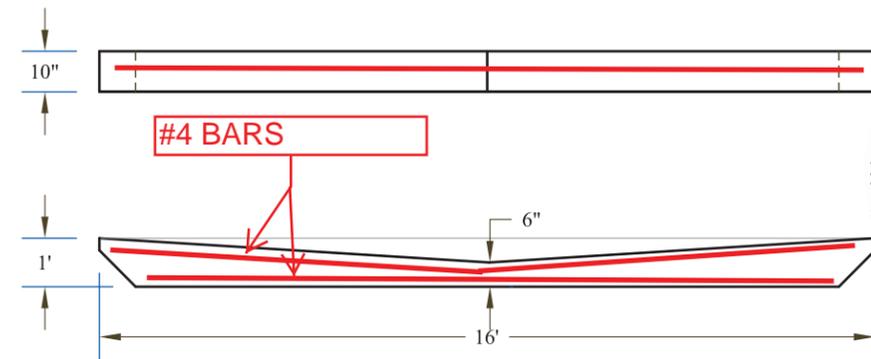


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CW-1/2 Detail



Retention Sill Detail



CONTRACTORS VISPE:	A 2"Ø PVC Sleeve	D Oxford A750-7 Lifting Device	G 1 1/2" x 3 1/2" Continuous Keyway
	B 4"Ø PVC Sleeve	E 1"Øx12" CX-9 Coil Loop Insert	H Solid Lines Indicate 3/4" Chamfer
	C Mechanical Bolt Pocket (A.L. Patterson w/ 1"Ø Coil Rod)	F Patterson Bolt Pocket Former	I 5/8" FI 64 Ferrule Insert

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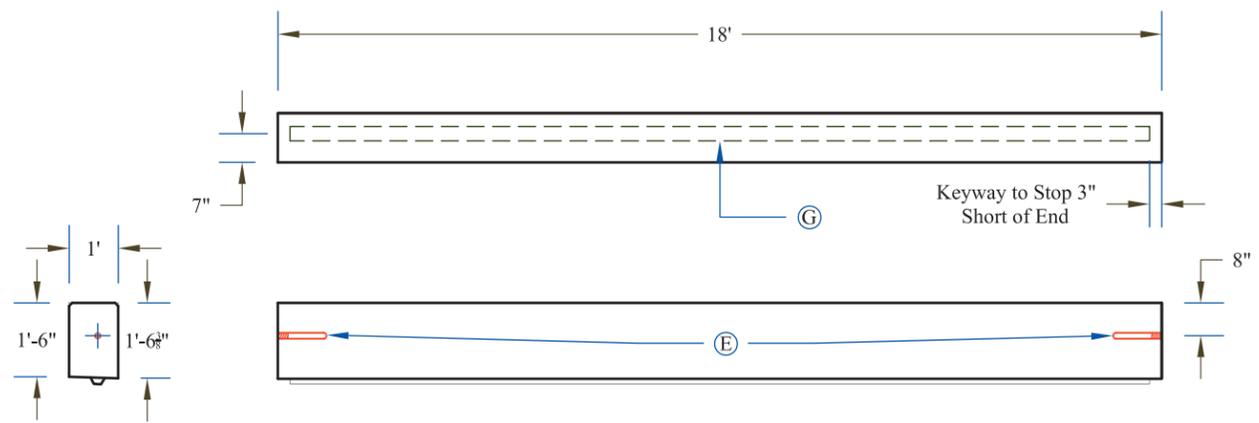


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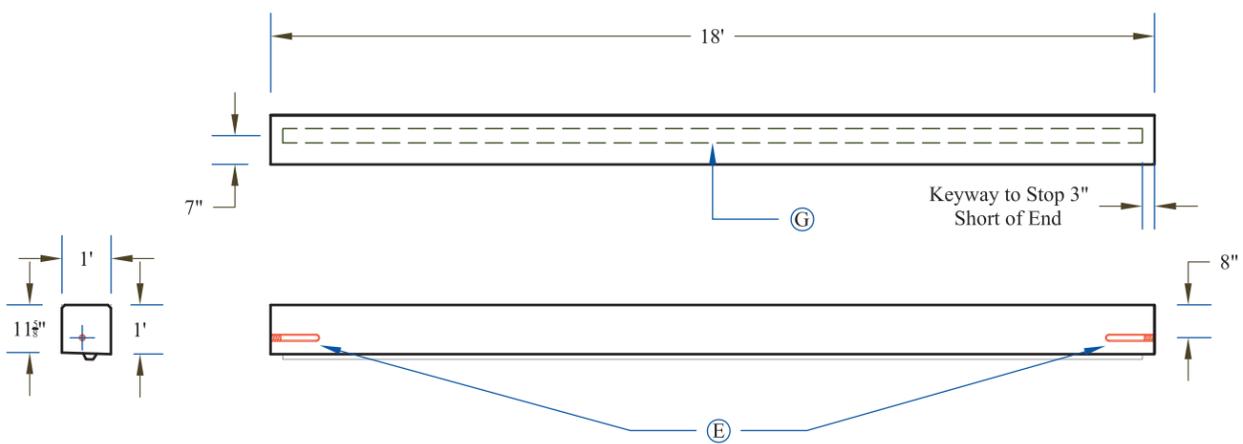
WINGWALLS

5_OF_7

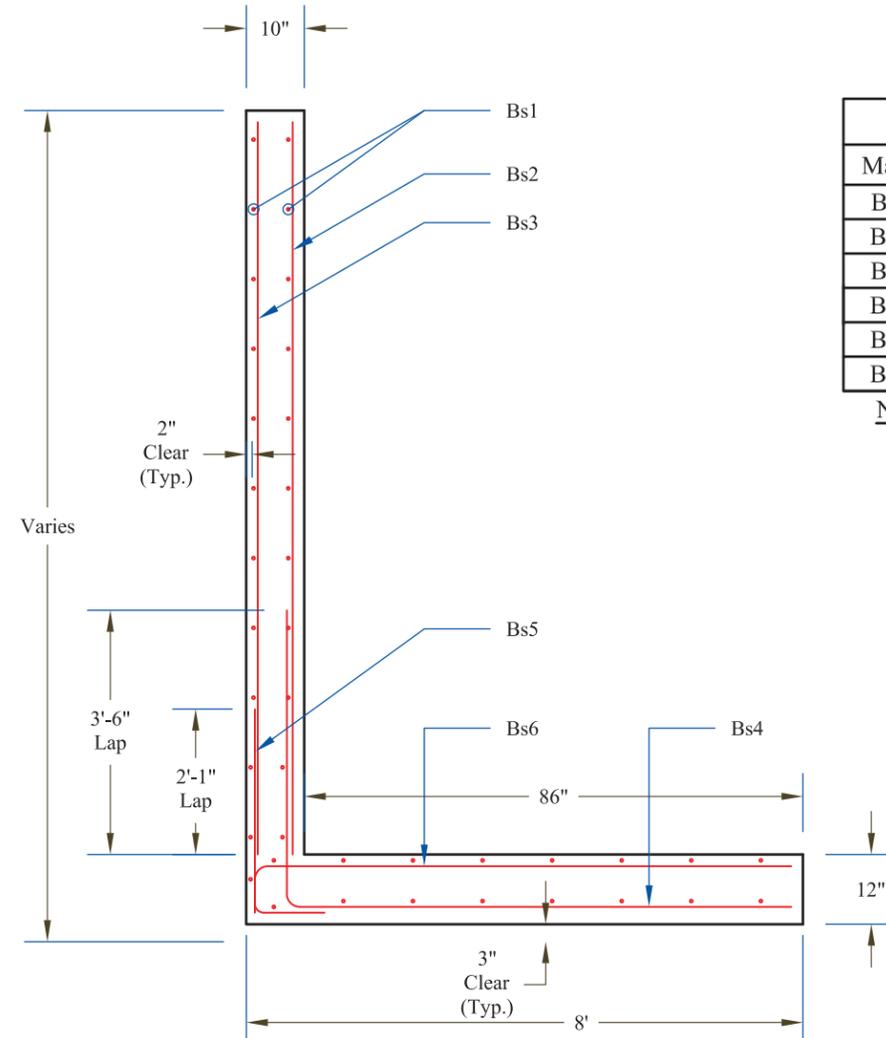
HW-1 Detail (Inlet)



HW-2 Detail (Outlet)



Wingwall Reinforcing Detail



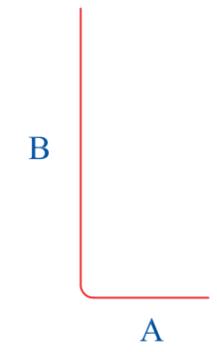
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Rebar Schedule

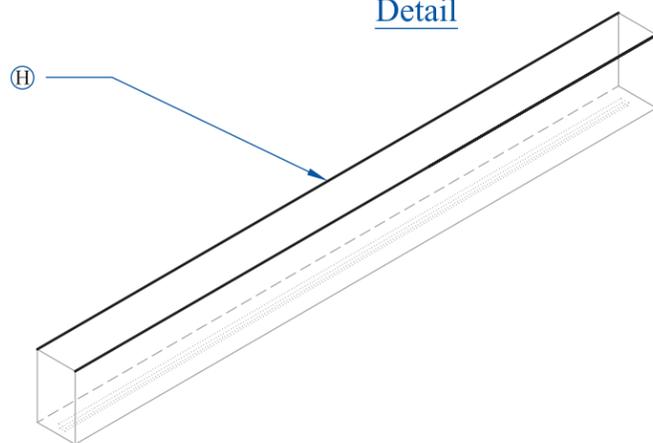
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Bs1	#4	18"	Varies	Str	Varies	
Bs2	#6	8"	Varies	Str	Varies	
Bs3	#4	12"	Varies	Str	Varies	
Bs4	#6	8"	135"	Bent	86"	49"
Bs5	#4	12"	46"	Bent	12"	34"
Bs6	#6	8"	99"	Str	92"	7"

Notes: 2" Clear Typical Unless Noted Otherwise

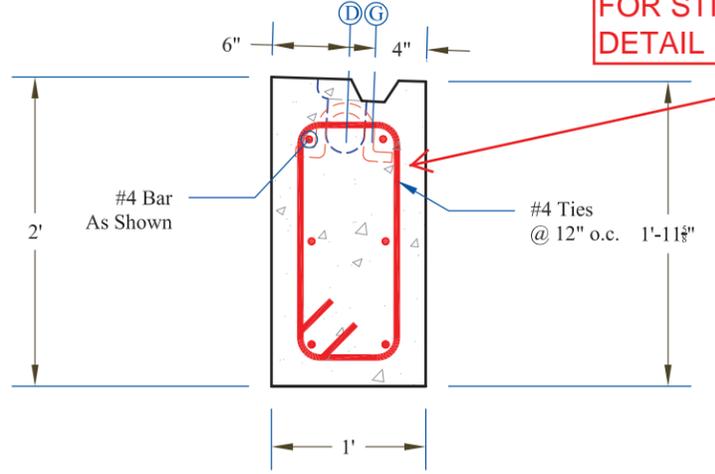
Bent Bar Dimension Guide



Headwall Isometric Detail

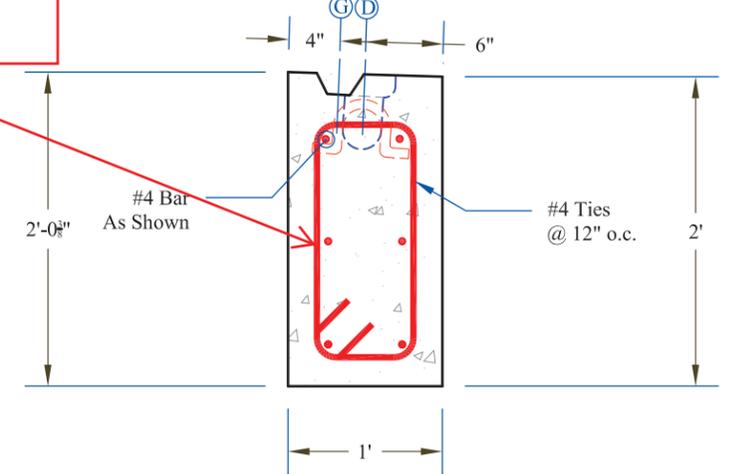


CW-1 (Inlet) Section Detail



SEE SHEET 7 FOR STIRRUP DETAIL

CW-2 (Outlet) Section Detail



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CUTOFF/HEADWALLS

6_OF_7

