

B1 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE)	0.36	GA	
EM-0005A	1" X 6" PRESET WING INSERTS	4.00	EA	
EM-00010	DBSAE #4 X 18" BLACK	60	EA	DOWEL BAR SPLICER
EM-00014	DBSAE #6 X 18" PLAIN	38	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	18.67	FT	
EM-00125	BOLT POCKET PLATES (GALVANIZED)	4	EA	
RM-00013	REBAR #4 BLACK- GR 60	636	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	1048	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	872	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	14.37	CY	
B1 BAFFLE WALL - BILL OF MATERIALS / EMBEDS				
EM-00022	DI #6 X 18" BLACK	38	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	26	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	0.51	CY	
B1 HEADWALL - BILL OF MATERIALS / EMBEDS				
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE)	0.46	GA	
EM-00018	DI #4 X 18" PLAIN	60	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	186	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	1.9	CY	

B1 Rebar Schedule			
MK	QTY	LENGTH	
401 #4	18	11' - 6"	
402 #4	142	5' - 3"	
501 #5	27	26' - 1"	
502 #5	14	21' - 6"	
601 #6	27	21' - 6"	

B1 BW Rebar Schedule			
MK	QTY	LENGTH	
403 #4	2	19' - 8"	

B1 HW Rebar Schedule			
MK	QTY	LENGTH	
404 #4	30	4' - 11"	
405 #4	6	21' - 10"	

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			
		REVISIONS	


Concrete Systems Inc.
 9 Commercial St., Hudson, NH, 03051
 Phone 603-889-4163
 Fax 603-889-2417

STATE AGENCY


VTrans
Working to Get You There
 Vermont Agency of Transportation

Drawn By: R. YEAGER
 Concrete Cu. Yd.: 16.78
 Approved By:

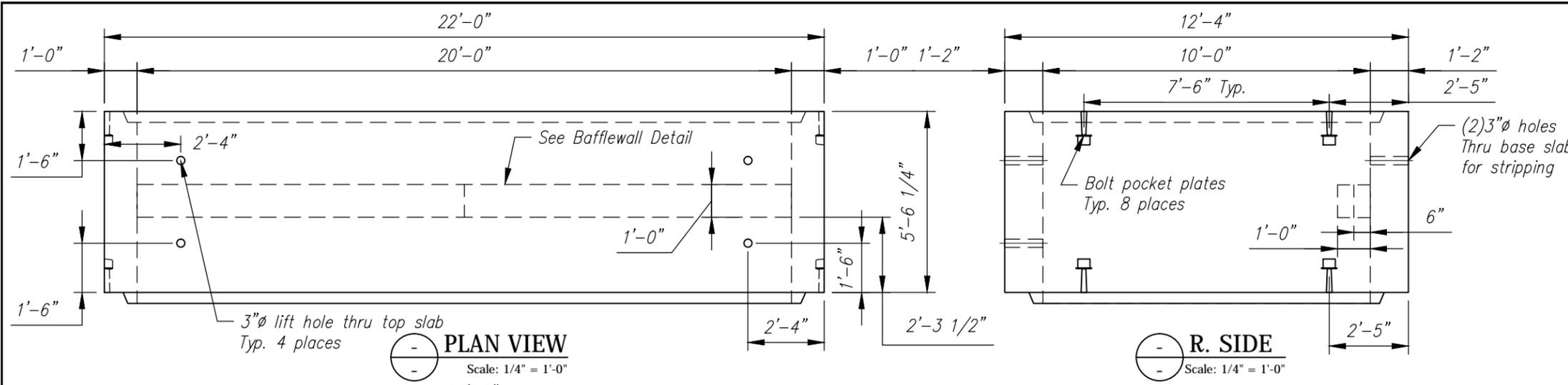
Date: 16MAR2015
 Weight in Tons: 33.99
 Date:

J A MCDONALD, INC.
 VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT
 BRIDGE #7, VT ROUTE 58, IRASBURG, VT

SHOP DRAWING - B1
 Drawing No. C22283-L02-B1

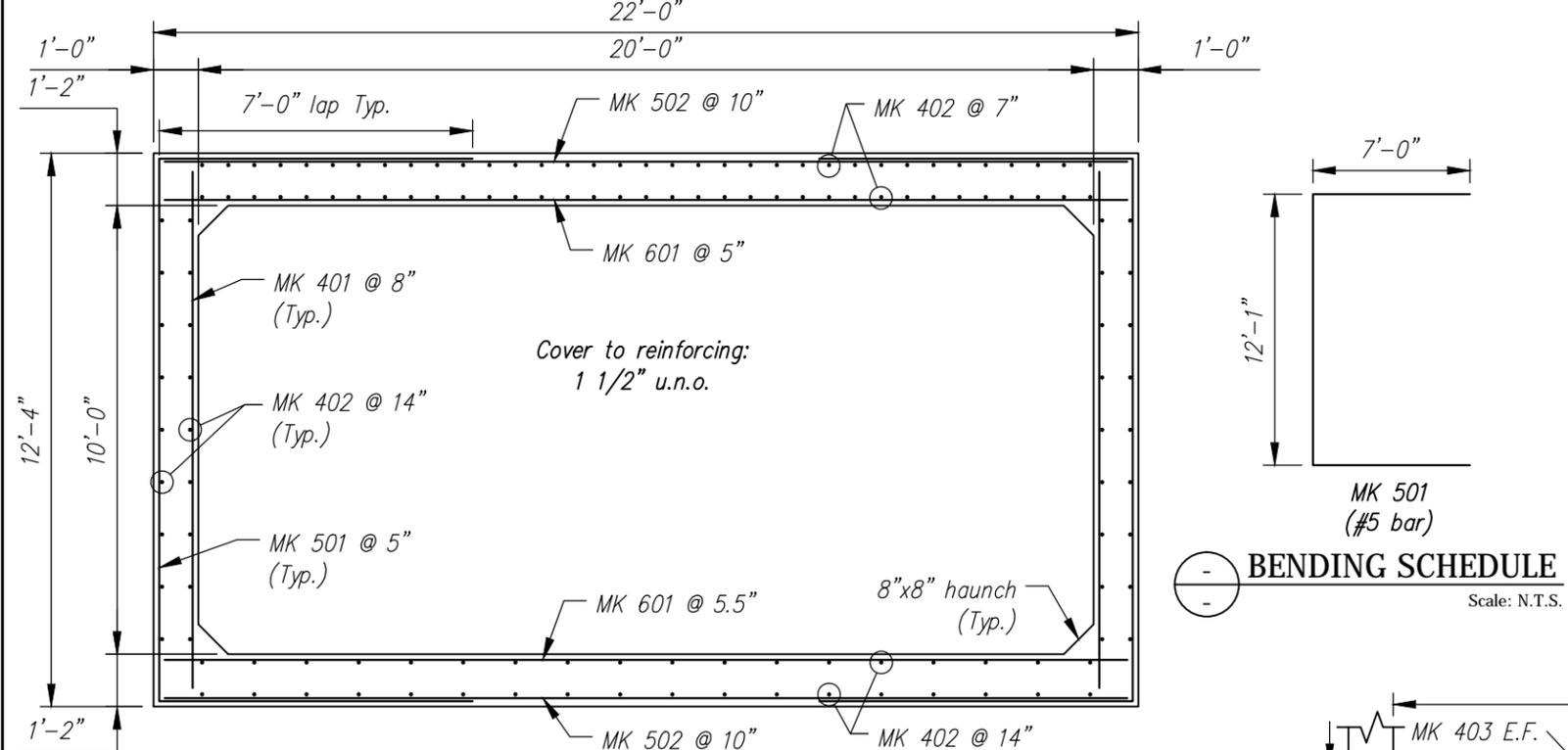
REV 0

Quantity: 1 Project No: STPCULV30 SHEET 1 OF 9



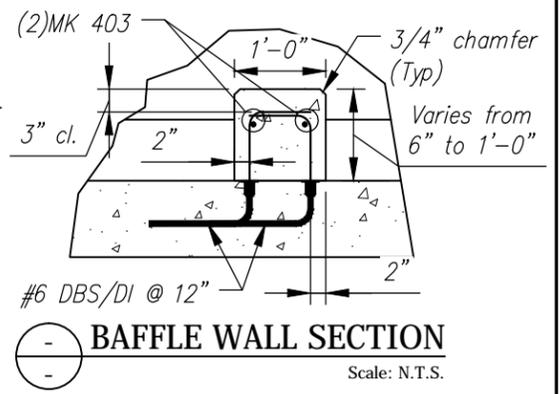
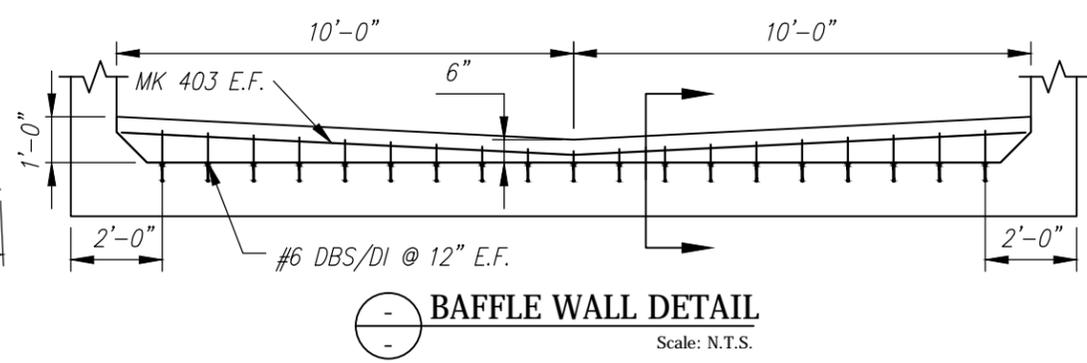
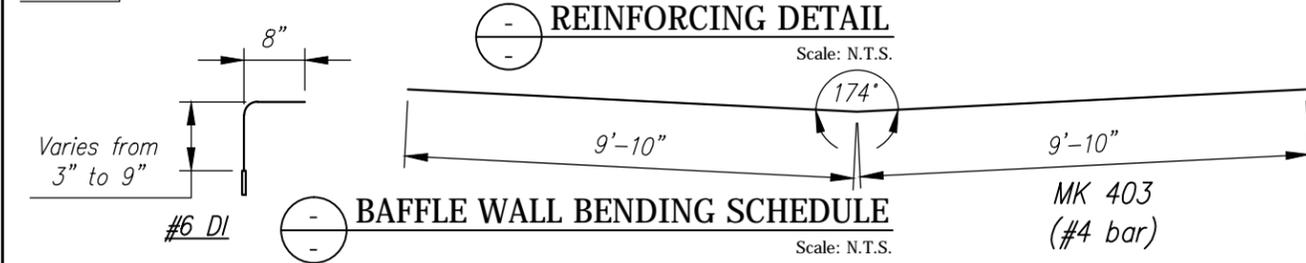
B2 Rebar Schedule			
MK	QTY	LENGTH	
401 #4	18	11' - 6"	
402 #4	142	5' - 3"	
501 #5	27	26' - 1"	
502 #5	14	21' - 6"	
601 #6	27	21' - 6"	

B2 BW Rebar Schedule			
MK	QTY	LENGTH	
403 #4	2	19' - 8"	



B2 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00014	DBSAE #6 X 18" PLAIN	38	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	7	FT	
EM-00125	BOLT POCKET PLATES (GALVANIZED)	8	EA	
JS-00002	1"X1"CLOSED NEOP GASKET	65	FT	AROUND BELL
RM-00013	REBAR #4 BLACK- GR 60	636	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	1048	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	872	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	14.87	CY	

B2 BAFFLE WALL - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00022	DI #6 X 18" BLACK	38	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	26	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	0.51	CY	



Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			
REVISIONS			


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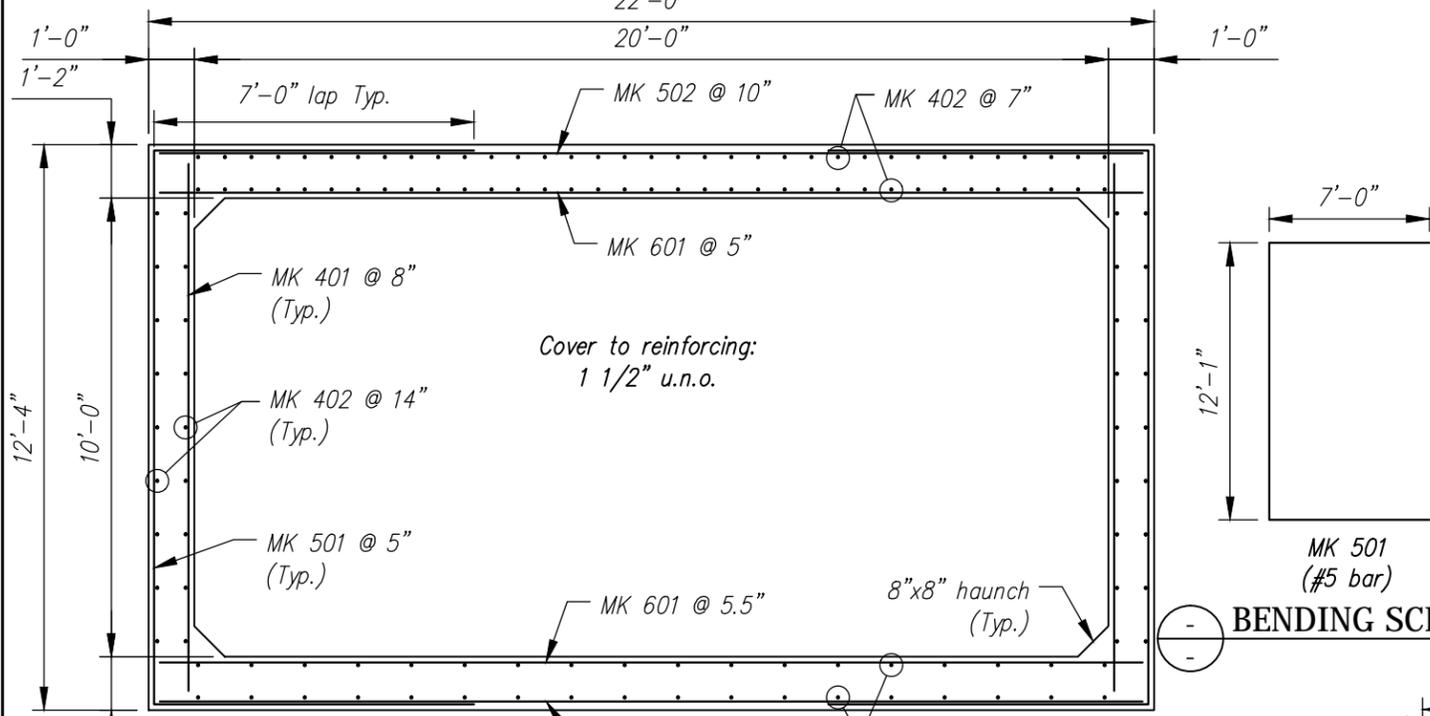
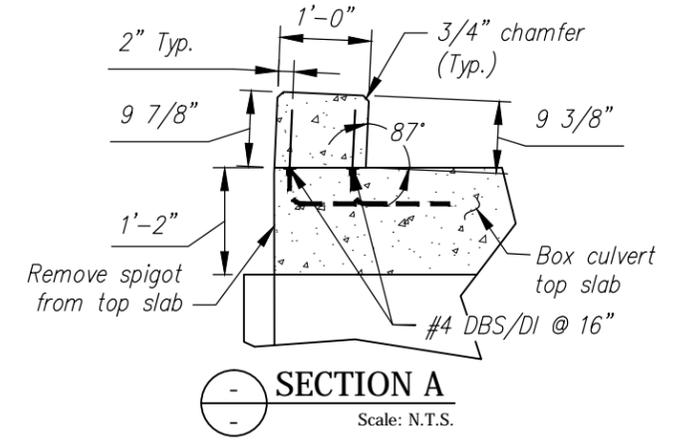
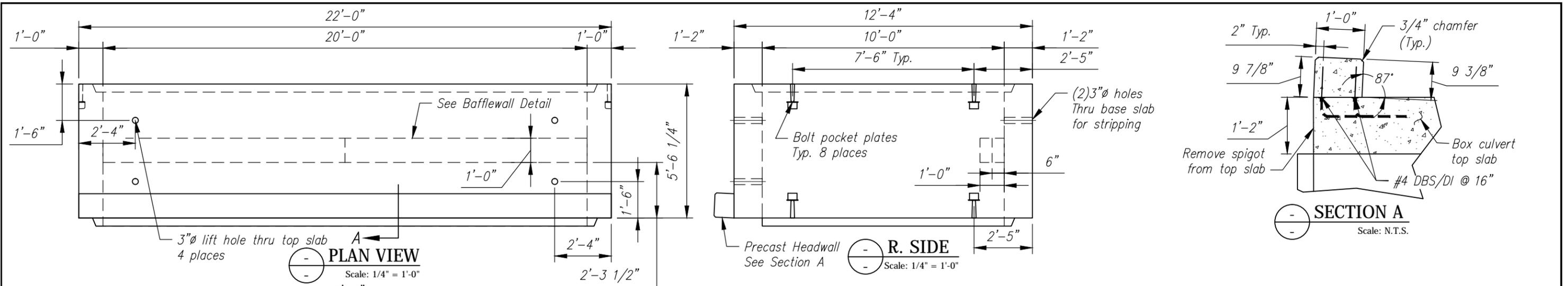
STATE AGENCY

 Working to Get You There
 Vermont Agency of Transportation

Drawn By R. YEAGER	Date 16MAR2015
Concrete Cu. Yd. 15.39	Weight in Tons 31.16
Approved By	Date

J A MCDONALD, INC.
 VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT
 BRIDGE #7, VT ROUTE 58, IRASBURG, VT

B	SHOP DRAWING - B2		REV 0
	Drawing No. C22283-L02-B2		
Quantity: 7	Project No: STPCULV30	SHEET 2 OF 9	



B3 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
CT-00005	CONSOLIDIDECK SALTGUARD (SILANE SILOXANE)	0.36	GA	
EM-0005A	1" X 6" PRESET WING INSERTS	4.00	EA	
EM-00010	DBSAE #4 X 18" BLACK	34	EA	DOWEL BAR SPLICER
EM-00014	DBSAE #6 X 18" PLAIN	38	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	7	FT	
EM-00125	BOLT POCKET PLATES (GALVANIZED)	4	EA	
JS-00002	1"X1" CLOSED NEOP GASKET	65	FT	AROUND BELL
RM-00013	REBAR #4 BLACK- GR 60	636	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	1017	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	807	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	14.87	CY	

B3 Rebar Schedule

MK	QTY	LENGTH
401 #4	18	11' - 6"
402 #4	142	5' - 3"
501 #5	27	26' - 1"
502 #5	14	21' - 6"
601 #6	27	21' - 6"

B3 BAFFLE WALL - BILL OF MATERIALS / EMBEDS

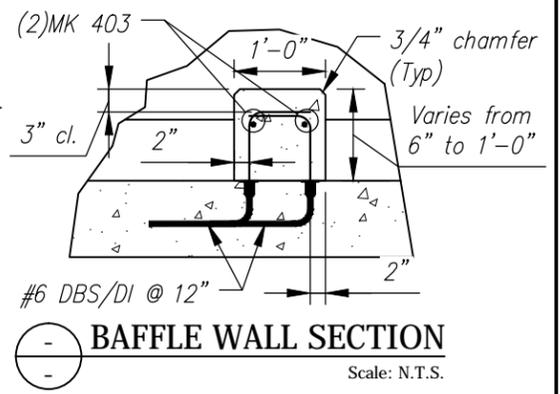
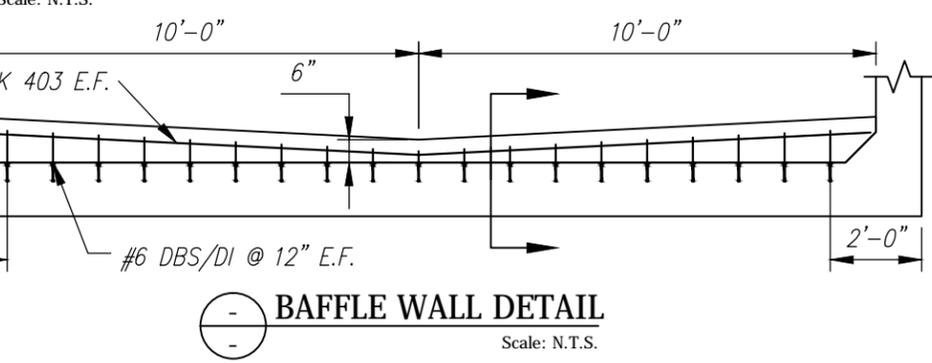
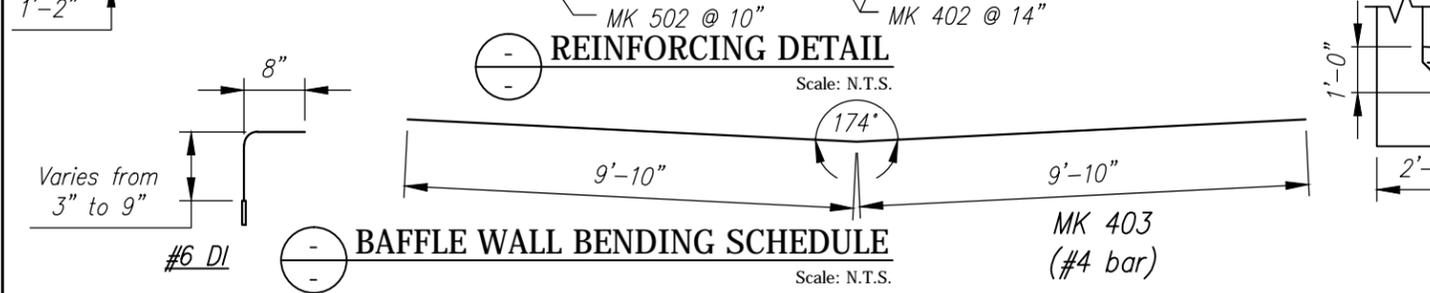
EM-00022	DI #6 X 18" BLACK	38	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	26	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	0.51	CY	

B3 HEADWALL - BILL OF MATERIALS / EMBEDS

CT-00005	CONSOLIDIDECK SALTGUARD (SILANE SILOXANE)	0.28	GA	
EM-00018	DI #4 X 18" PLAIN	34	EA	DOWEL IN
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	0.67	CY	

B3 BW Rebar Schedule

MK	QTY	LENGTH
403 #4	2	19' - 8"



Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			
REVISIONS			

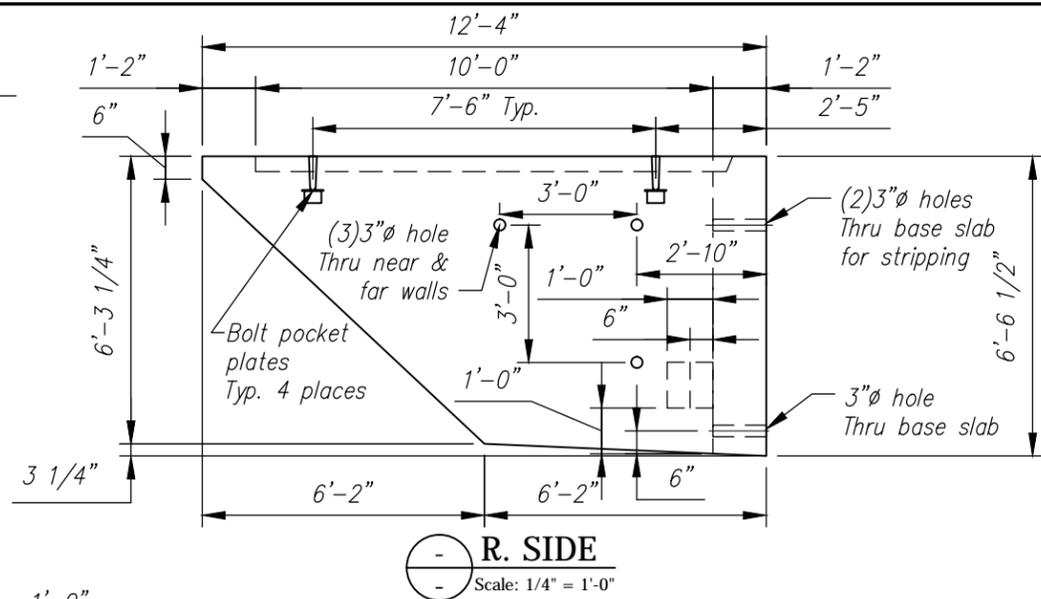
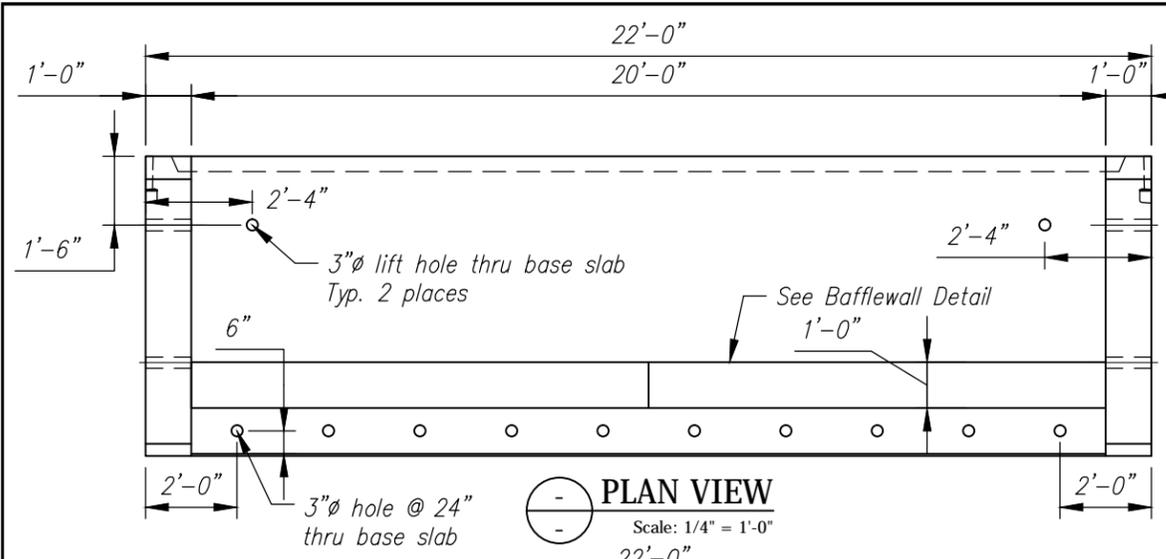
Concrete Systems Inc.
9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

Working to Get You There
Without Sacrificing on Transportation

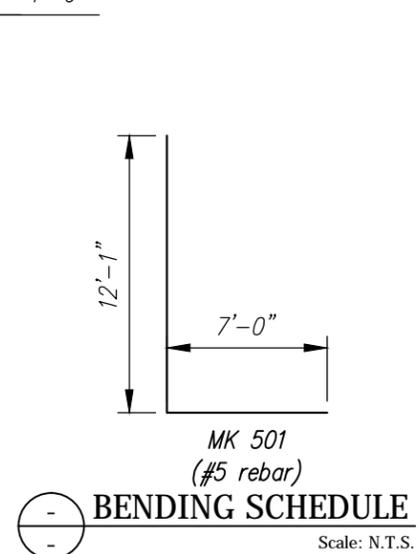
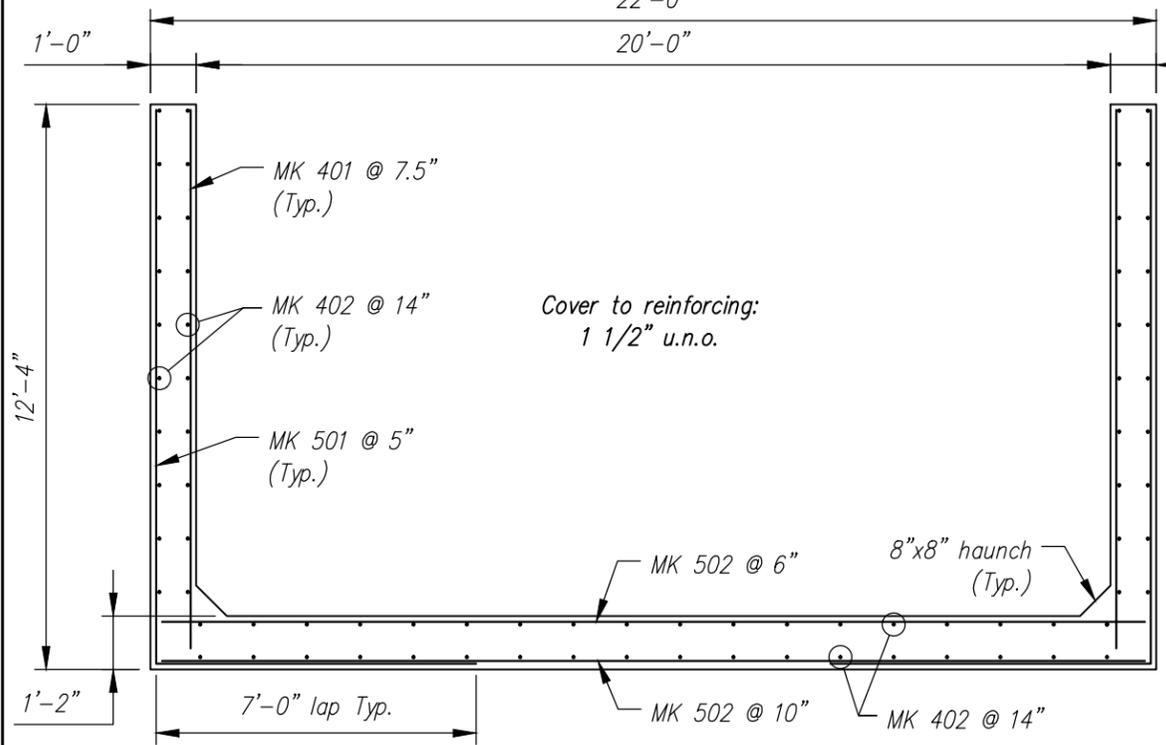
J A MCDONALD, INC.
VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT
BRIDGE #7, VT ROUTE 58, IRASBURG, VT

Drawn By R. YEAGER	Date 16MAR2015	B	Drawing No. C22283-L02-B3	REV 0
Concrete Cu. Yd. 16.06	Weight in Tons 32.52		Quantity: 1	Project No: STPCULV30
Approved By	Date			

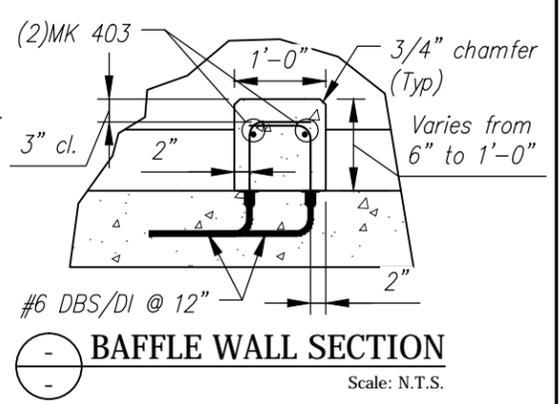
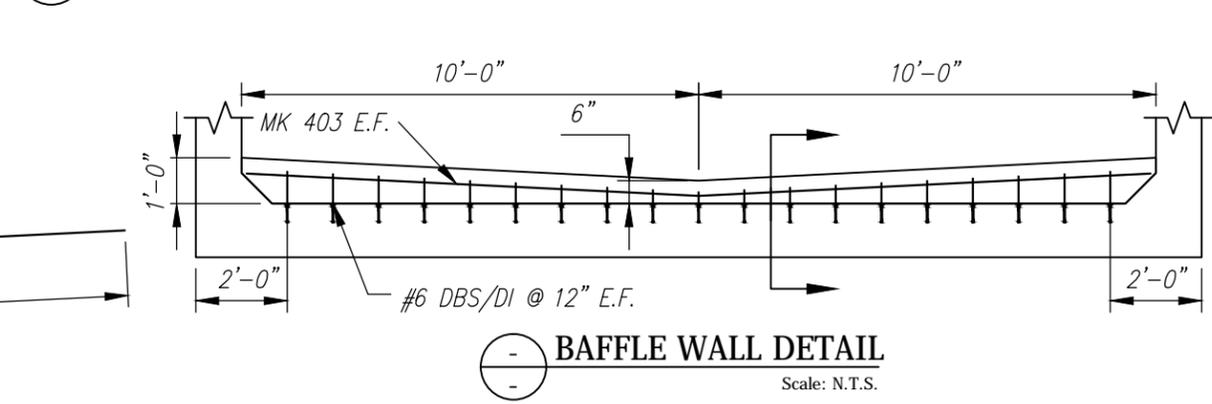
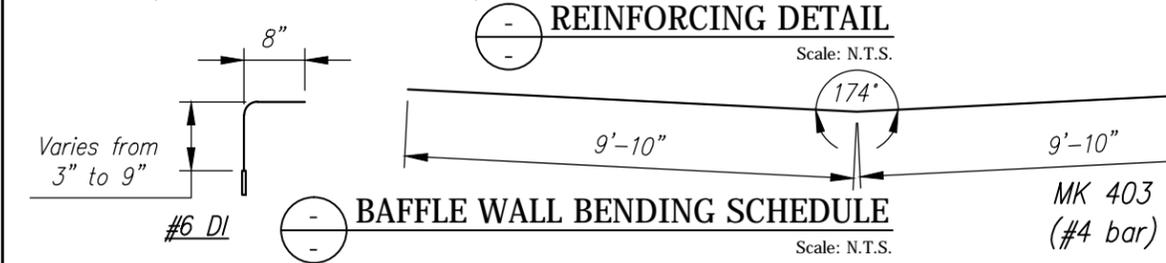


B4 Rebar Schedule			
MK	QTY	LENGTH	
401 #4	20	11' - 7"	
402 #4	76	6' - 3"	
501 #5	30	19' - 1"	
502 #5	21	21' - 6"	

B4 BW Rebar Schedule			
MK	QTY	LENGTH	
403 #4	2	19' - 8"	

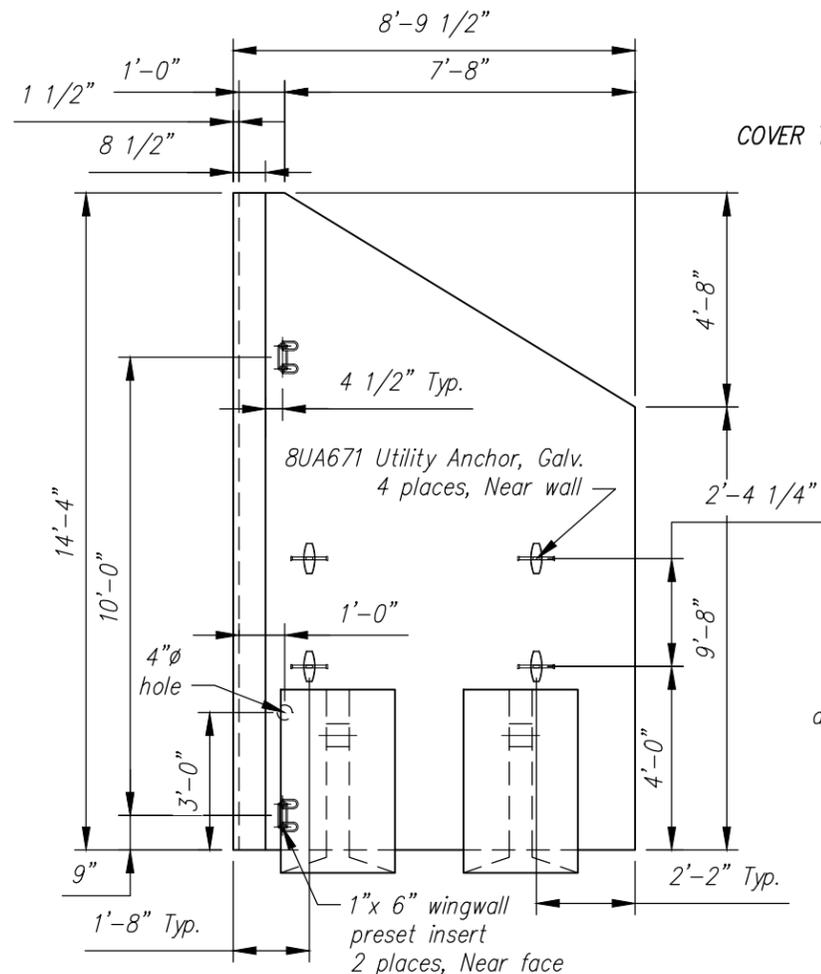


B4 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE)	1.53	GA	
EM-00014	DBSAE #6 X 18" PLAIN	38	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	20	FT	
EM-00125	BOLT POCKET PLATES (GALVANIZED)	4	EA	
JS-00002	1"X1" CLOSED NEOP GASKET	44	FT	AROUND BELL
RM-00013	REBAR #4 BLACK- GR 60	472	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	1068	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	14.87	CY	
B4 BAFFLE WALL - BILL OF MATERIALS / EMBEDS				
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE)	0.20	GA	
EM-00022	DI #6 X 18" BLACK	38	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	26	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	0.51	CY	



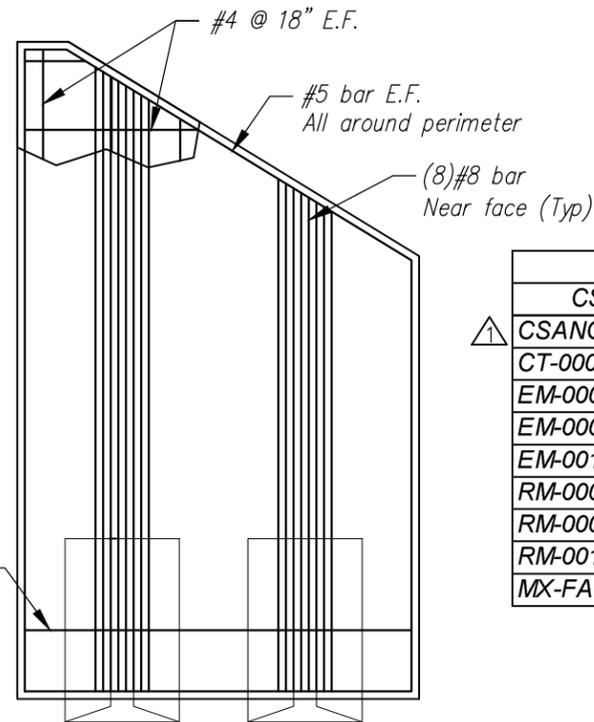
Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			
REVISIONS			

<p>Concrete Systems Inc. 9 Commercial St., Hudson, NH, 03051 Phone 603-889-4163 Fax 603-889-2417</p>	<p>STATE AGENCY</p>	<p>J A MCDONALD, INC. VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT BRIDGE #7, VT ROUTE 58, IRASBURG, VT</p>	
	<p>Drawn By R. YEAGER</p> <p>Concrete Cu. Yd. 11.91</p> <p>Approved By</p>	<p>Date 16MAR2015</p> <p>Weight in Tons 24.12</p> <p>Date</p>	<p>Quantity: 1</p>
		<p>SHOP DRAWING - B4</p> <p>Drawing No. C22283-L02-B4</p>	<p>REV 0</p>
		<p>SHEET 4 OF 9</p>	



PLAN VIEW
Scale: N.T.S.

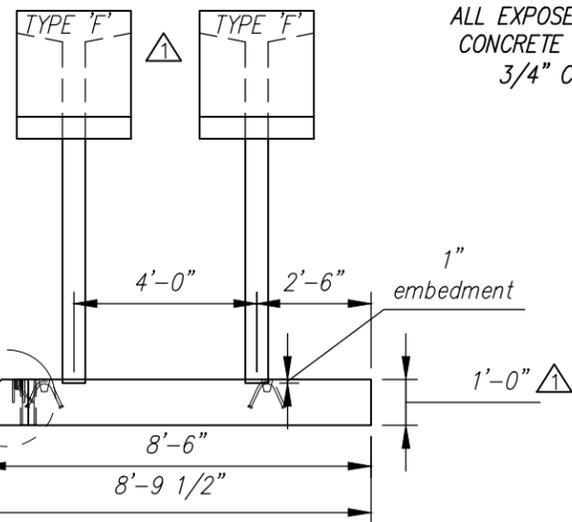
COVER TO REINFORCING:
2" EVERYWHERE



Additional #4
at midheight of
anchor, Near face

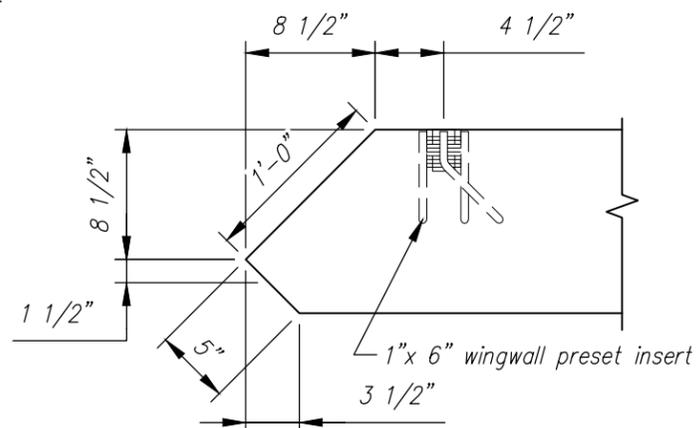
REINFORCING DETAIL
Scale: N.T.S.

WW1B - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
CSANC-F	CON/SPAN WINGWALL ANCHOR (F)	2	EA	
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE)	0.64	GA	
EM-0005A	1" X 6" PRESET WING INSERTS	2	EA	
EM-00034	4" FOAM CORE PVC	1	FT	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	4	EA	
RM-00013	REBAR #4 BLACK- GR 60	219	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	87	LB	
RM-00104	REBAR #8 BLACK-GR 60	598	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	3.86	CY	



ELEVATION
Scale: N.T.S.

ALL EXPOSED EDGES OF
CONCRETE TO RECEIVE
3/4" CHAMFER



DETAIL 1
Scale: N.T.S.

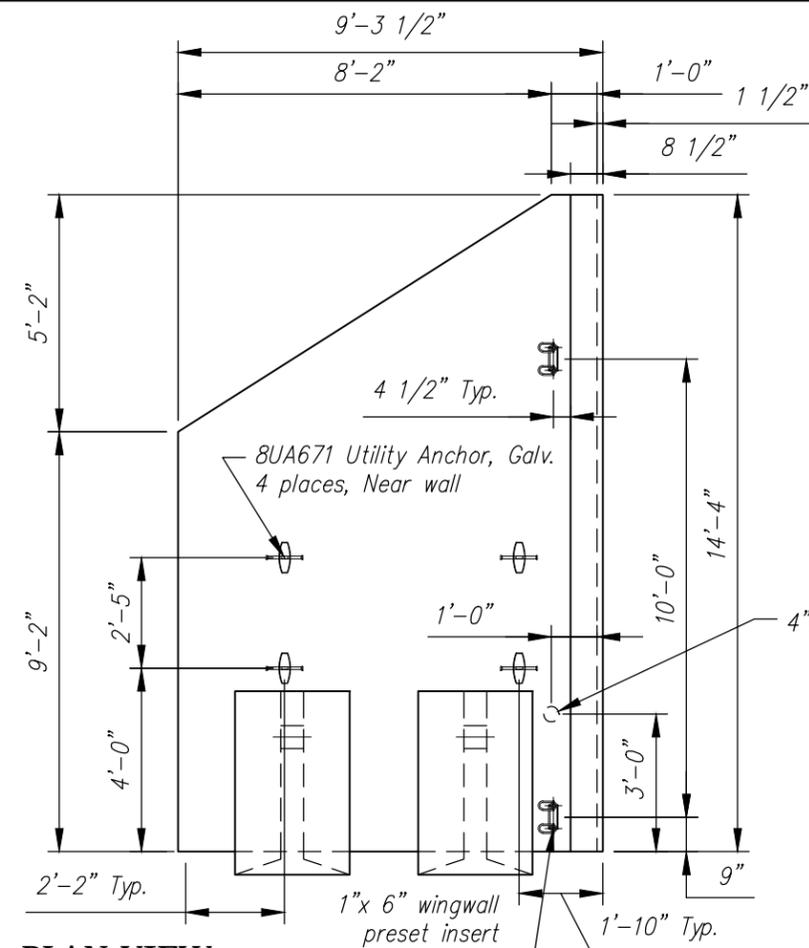
Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1	01APR2015	ANCHORS WERE TYPE 'D', WALL WAS 10" THK	RY
REVISIONS			

CSI
Concrete Systems Inc.
9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417

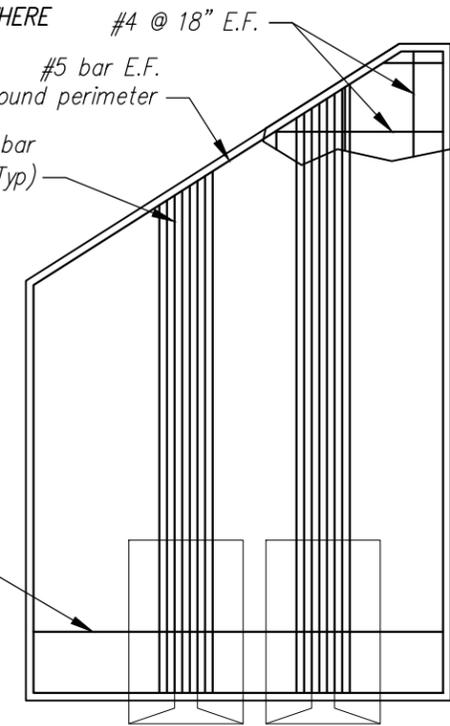
STATE AGENCY	
Drawn By R. YEAGER	Date 16MAR2015
Concrete Cu. Yd. 5.24	Weight in Tons 10.61
Approved By	Date

J A MCDONALD, INC.	
VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT BRIDGE #7, VT ROUTE 58, IRASBURG, VT	
B	SHOP DRAWING - WW1B
	Drawing No. C22283-LO2-WW1B
Quantity: 1	Project No: STPCULV30
SHEET 5 OF 9	

REV
1



COVER TO REINFORCING:
2" EVERYWHERE

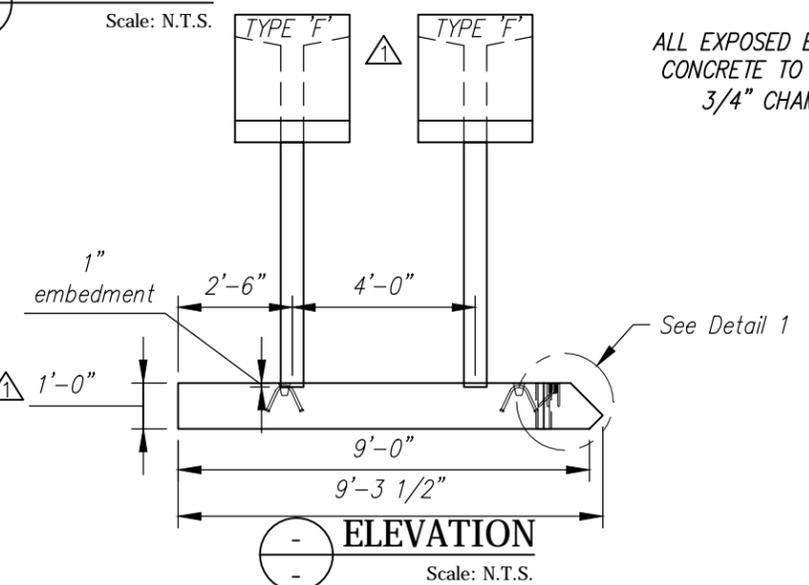


PLAN VIEW

Scale: N.T.S.

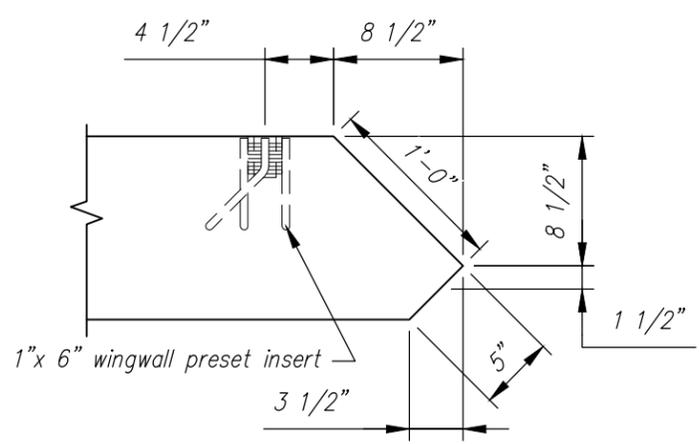
REINFORCING DETAIL

Scale: N.T.S.



ELEVATION

Scale: N.T.S.



DETAIL 1

Scale: N.T.S.

WW2B - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
CSANC-F	CON/SPAN WINGWALL ANCHOR (F)	2	EA	
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE)	0.64	GA	
EM-0005A	1" X 6" PRESET WING INSERTS	2	EA	
EM-00034	4" FOAM CORE PVC	1	FT	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	4	EA	
RM-00013	REBAR #4 BLACK- GR 60	226	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	88	LB	
RM-00104	REBAR #8 BLACK-GR 60	598	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	4.01	CY	

ALL EXPOSED EDGES OF
CONCRETE TO RECEIVE
3/4" CHAMFER

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1	01APR2015	ANCHORS WERE TYPE 'D', WALL WAS 10" THK	RY
REVISIONS			

CSI
Concrete Systems Inc.
9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There
Vermont Agency of Transportation

Drawn By: R. YEAGER
Concrete Cu. Yd.: 5.39
Approved By:

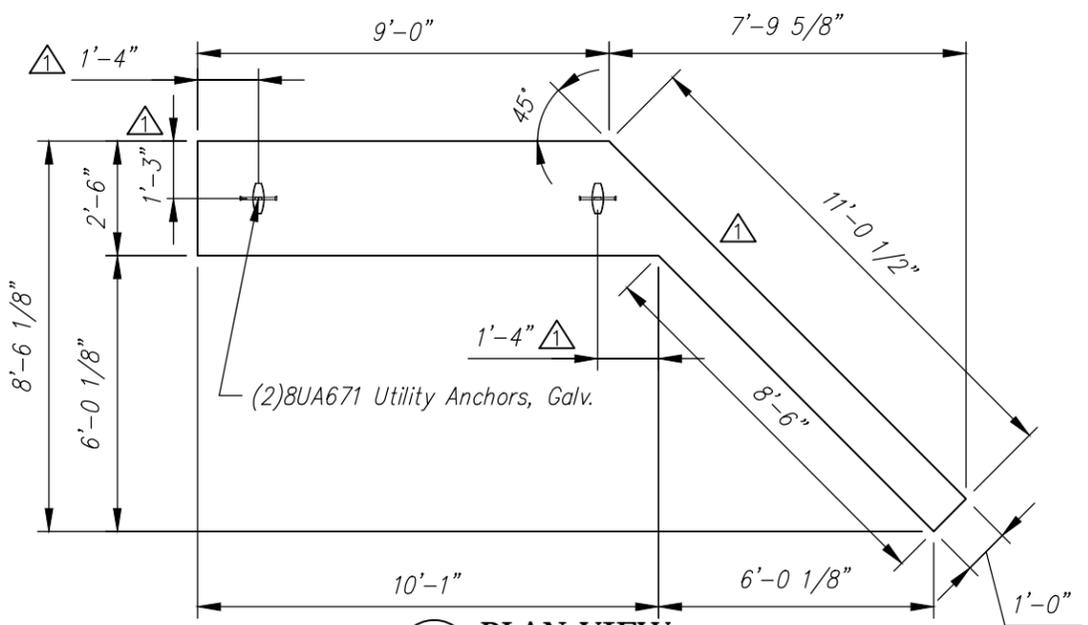
Date: 16MAR2015
Weight in Tons: 10.91
Date:

J A MCDONALD, INC.
VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT
BRIDGE #7, VT ROUTE 58, IRASBURG, VT

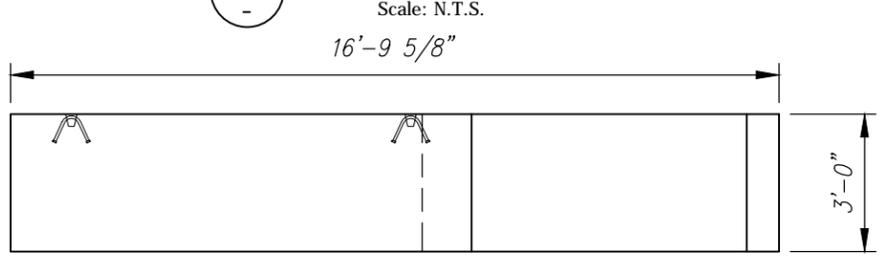
B SHOP DRAWING - WW2B
Drawing No. C22283-L02-WW2B

Quantity: 1 Project No: STPCULV30 SHEET 6 OF 9

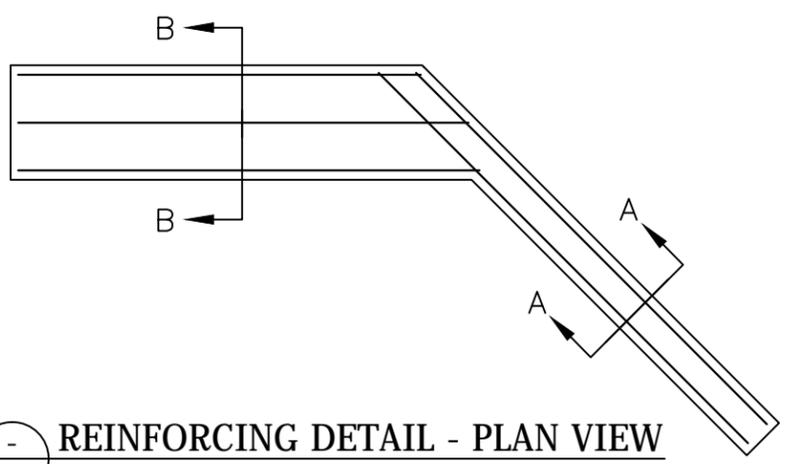
REV 1



PLAN VIEW
Scale: N.T.S.



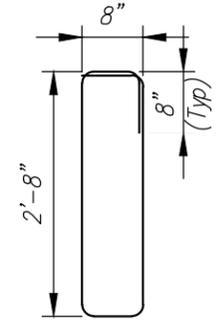
ELEVATION
Scale: N.T.S.



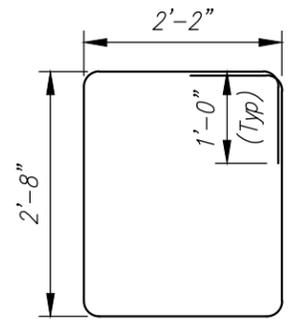
REINFORCING DETAIL - PLAN VIEW
Scale: N.T.S.

F1B - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	2	EA	
RM-00013	REBAR #4 BLACK- GR 60	50	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	160	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	3.74	CY	

F1B Rebar Schedule			
MK	#	QTY	LENGTH
401	#4	5	8' - 0"
402	#4	3	11' - 8"
601	#6	4	11' - 6"
602	#6	6	10' - 1" MAX



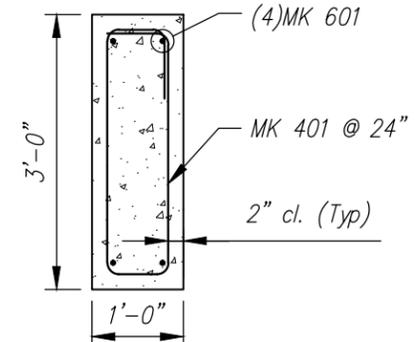
MK 401
#4 bar



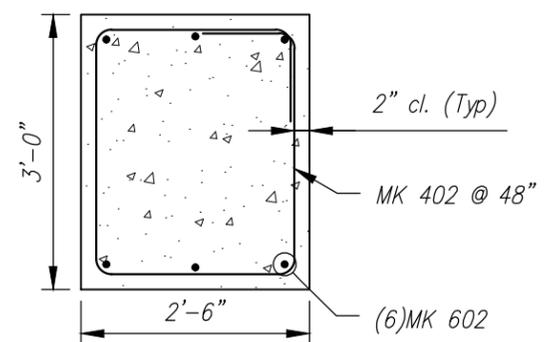
MK 402
#4 bar

BENDING SCHEDULE
Scale: N.T.S.

Cover to reinforcing: 2" u.n.o.



SECTION A-A



SECTION B-B

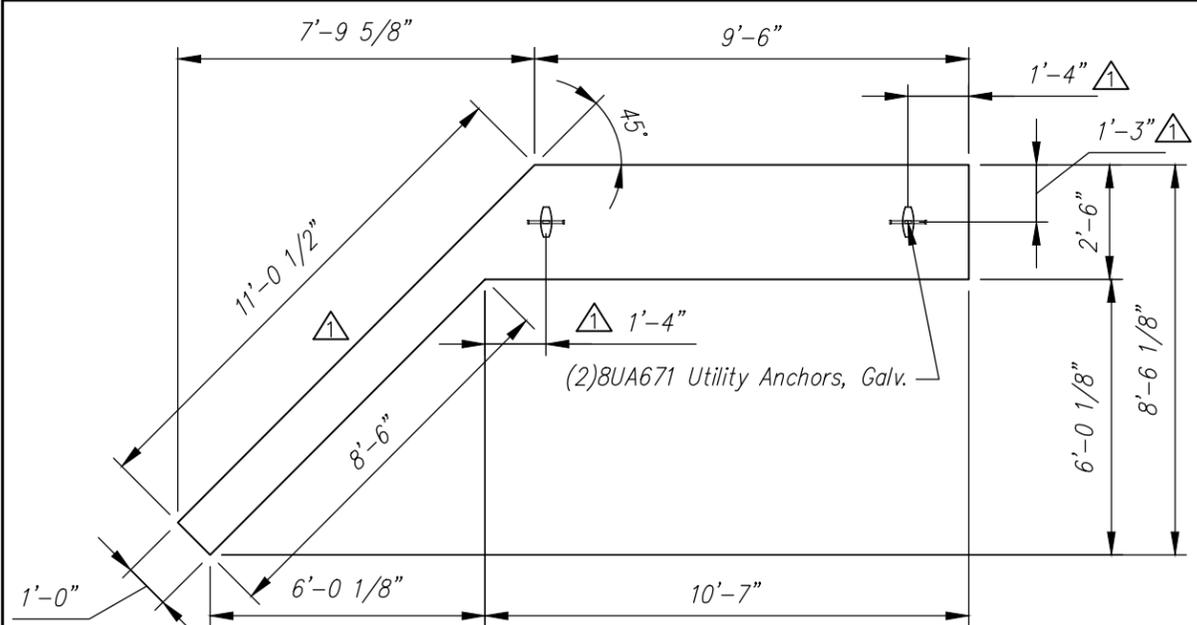
REINFORCING DETAIL
Scale: N.T.S.

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2	28APR2015	REVISED UTILITY ANCHOR LOCATIONS	RY
1	01APR2015	DIMENSIONAL CHANGES DUE TO 12" THK WW	RY
		REVISIONS	

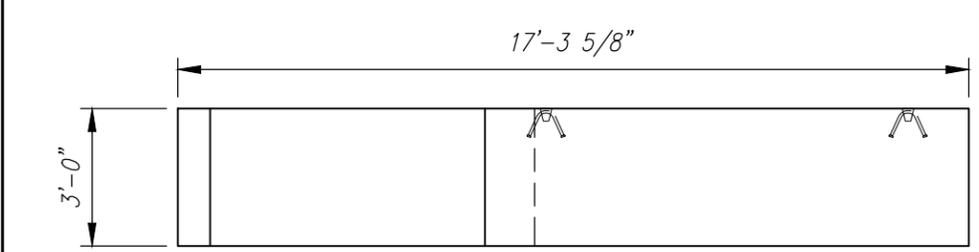
CSI
Concrete Systems Inc.
9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY	
 Drawn By R. YEAGER Concrete Cu. Yd. 3.74 Approved By	Date 16MAR2015 Weight in Tons 7.57 Date

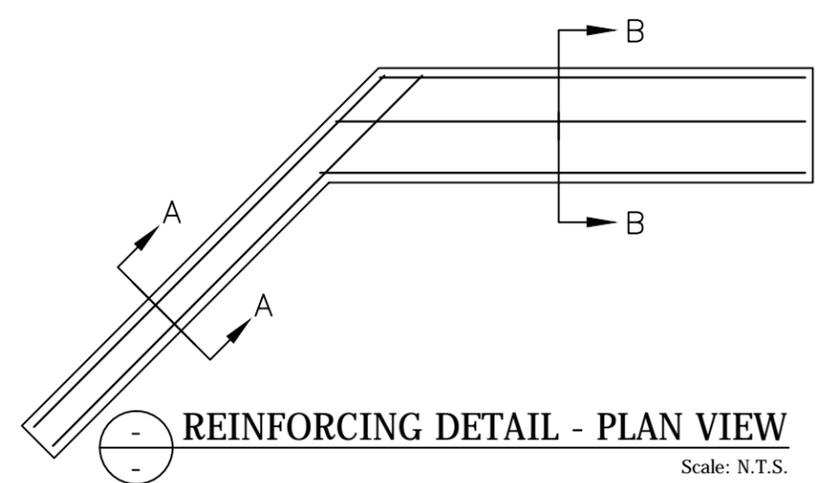
J A MCDONALD, INC. VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT BRIDGE #7, VT ROUTE 58, IRASBURG, VT	
SHOP DRAWING - F1B Drawing No. C22283-L02-F1B	REV 2
Quantity: 1	Project No: STPCULV30
SHEET 7 OF 9	



PLAN VIEW
Scale: N.T.S.



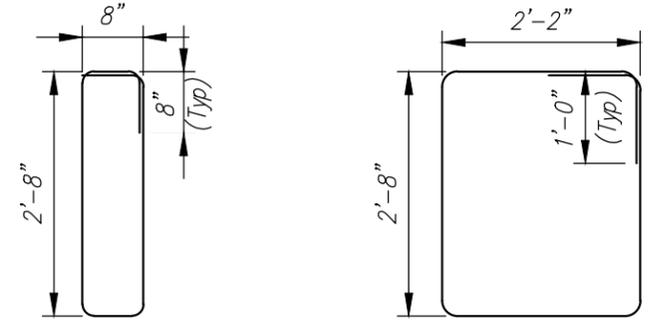
ELEVATION
Scale: N.T.S.



REINFORCING DETAIL - PLAN VIEW
Scale: N.T.S.

F2B - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	2	EA	
RM-00013	REBAR #4 BLACK- GR 60	50	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	164	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	3.88	CY	

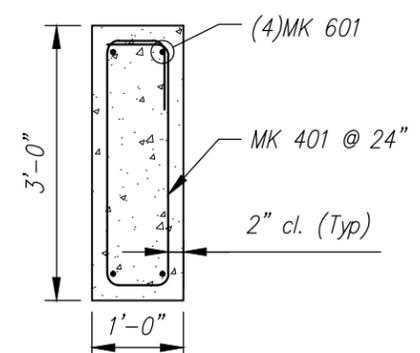
F2B Rebar Schedule			
MK	#	QTY	LENGTH
401	#4	5	8' - 0"
402	#4	3	11' - 8"
601	#6	4	11' - 6"
602	#6	6	10' - 7" MAX



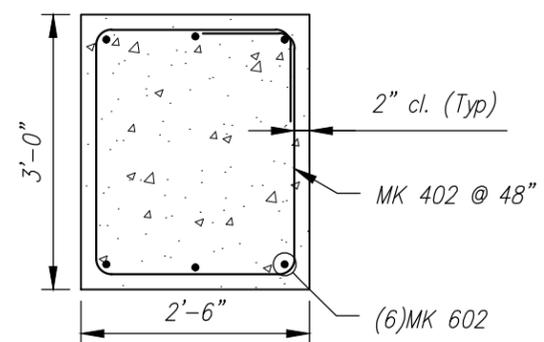
MK 401 #4 bar
MK 402 #4 bar

BENDING SCHEDULE
Scale: N.T.S.

Cover to reinforcing: 2" u.n.o.



SECTION A-A



SECTION B-B

REINFORCING DETAIL
Scale: N.T.S.

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2	28APR2015	REVISED UTILITY ANCHOR LOCATIONS	RY
1	01APR2015	DIMENSIONAL CHANGES DUE TO 12" THK WW	RY
		REVISIONS	

CSI
Concrete Systems Inc.
9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans
Working to Get You There
Vermont Agency of Transportation

Drawn By: R. YEAGER
Concrete Cu. Yd.: 3.88
Approved By:

Date: 16MAR2015
Weight in Tons: 7.86
Date:

J A MCDONALD, INC.
VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT
BRIDGE #7, VT ROUTE 58, IRASBURG, VT

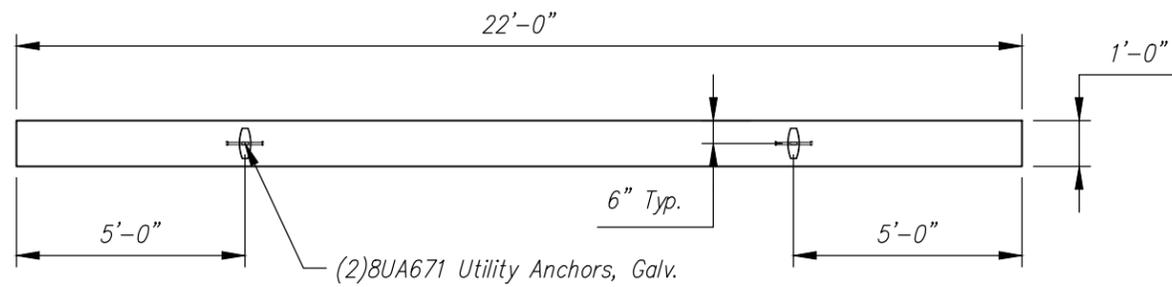
SHOP DRAWING - F2B
Drawing No.: C22283-L02-F2B

Quantity: 1
Project No: STPCULV30
SHEET 8 OF 9

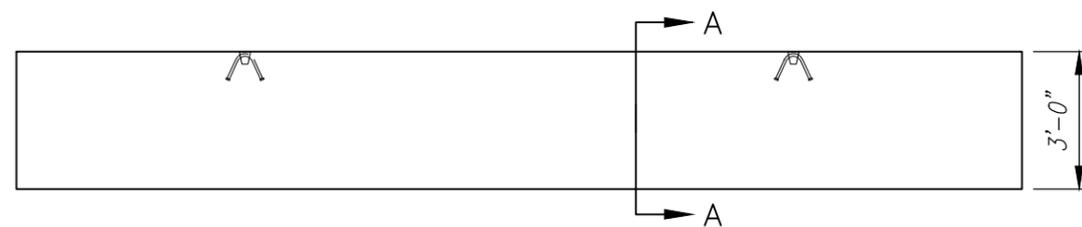
REV 2

F3B - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	2	EA	
RM-00013	REBAR #4 BLACK- GR 60	64	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	130	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF CONSOLIDATING	2.44	CY	

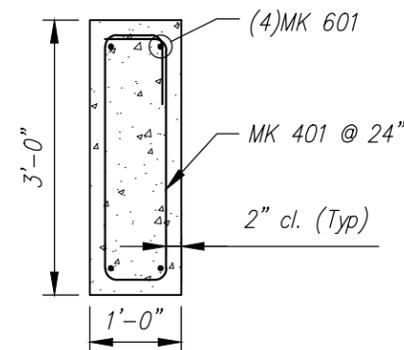
F3B Rebar Schedule			
MK	#	QTY	LENGTH
401	#4	12	8' - 0"
601	#6	4	21' - 8"



PLAN VIEW
Scale: N.T.S.

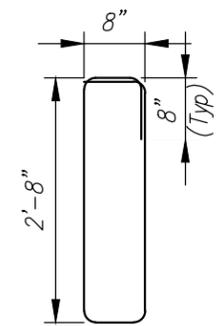


ELEVATION
Scale: N.T.S.



SECTION A-A

REINFORCING DETAIL
Scale: N.T.S.



MK 401
#4 bar

BENDING SCHEDULE
Scale: N.T.S.

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			
REVISIONS			

CSI
Concrete Systems Inc.
9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417

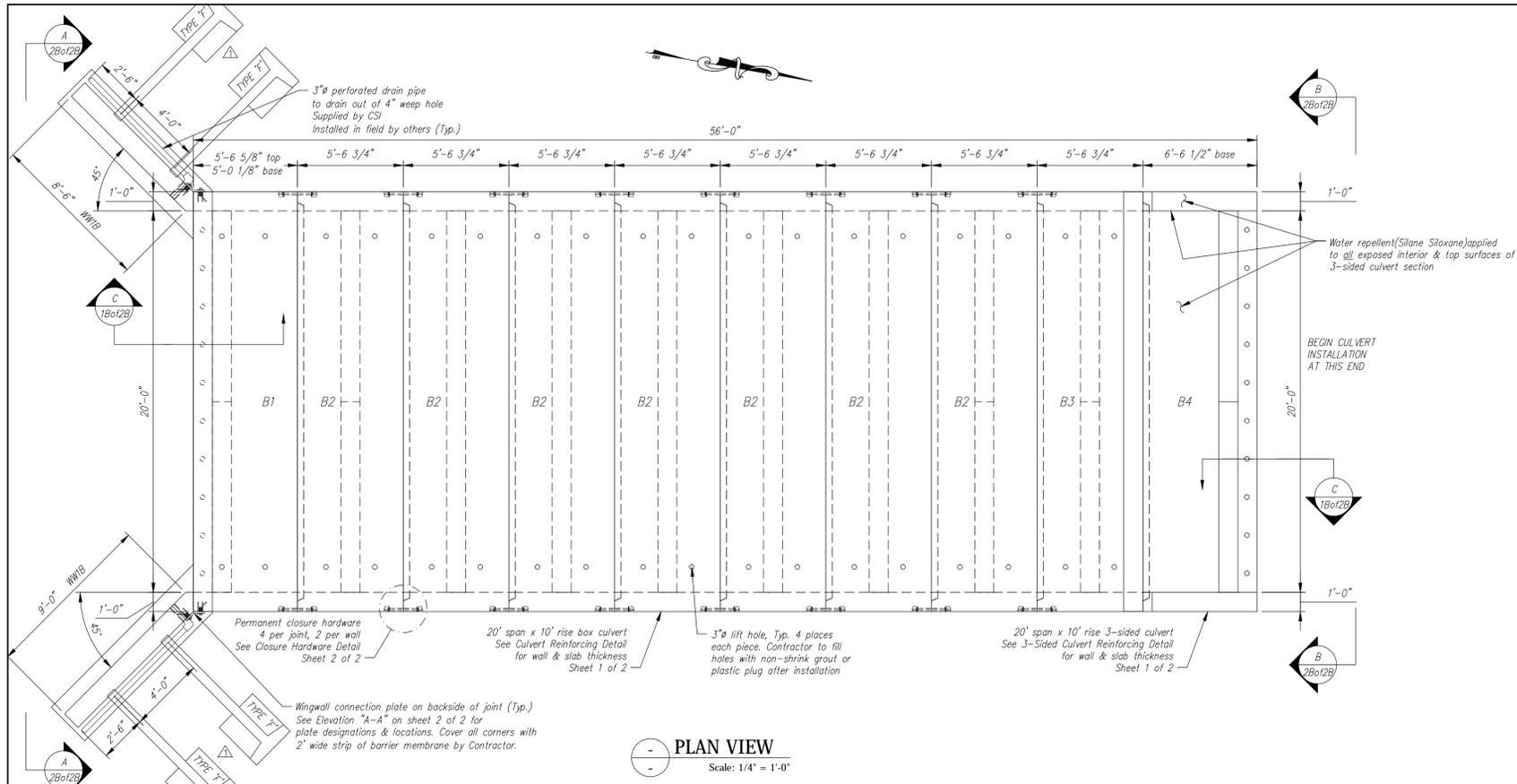
STATE AGENCY	
Drawn By R. YEAGER	Date 16MAR2015
Concrete Cu. Yd. 2.44	Weight in Tons 4.94
Approved By	Date

J A MCDONALD, INC.
VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT
BRIDGE #7, VT ROUTE 58, IRASBURG, VT

SHOP DRAWING - F3B
Drawing No. C22283-L02-F3B

Quantity: 1 Project No: STPCULV30 SHEET 9 OF 9

REV
0



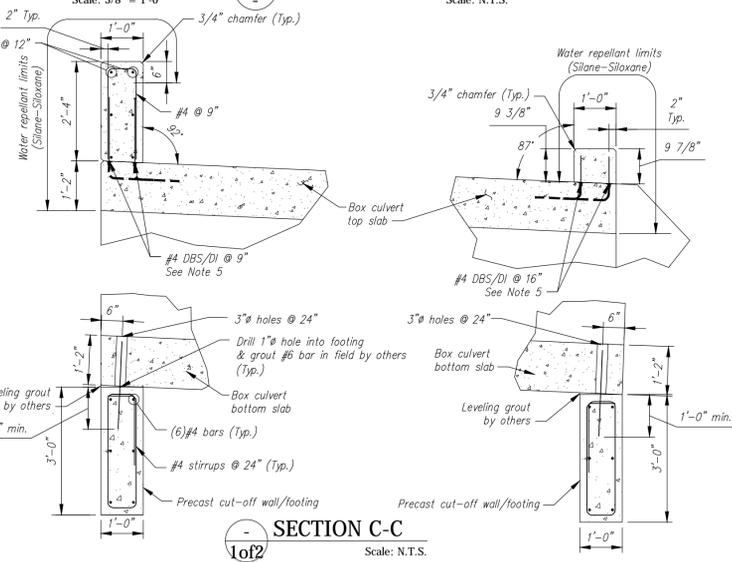
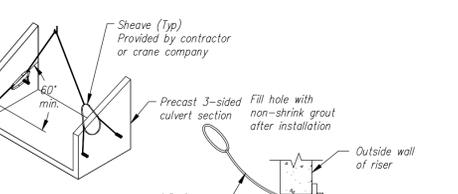
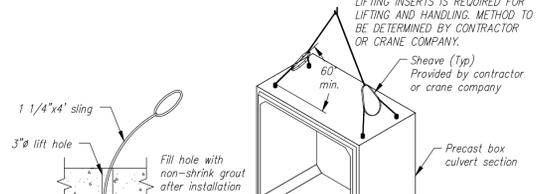
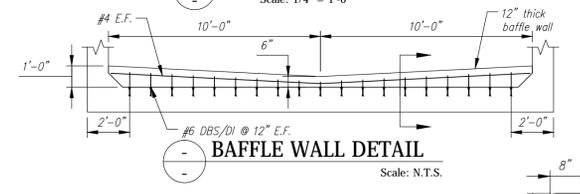
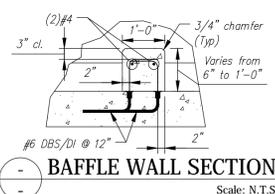
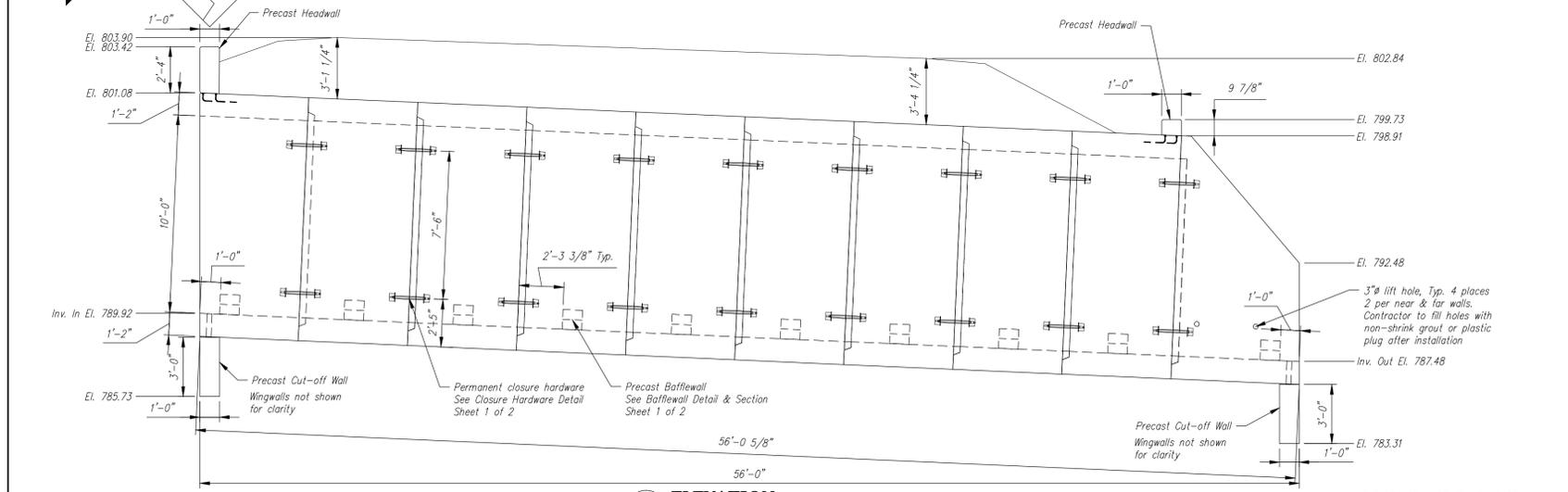
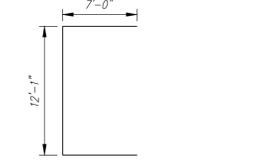
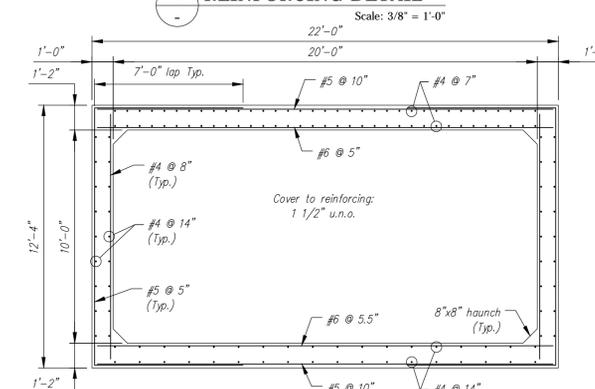
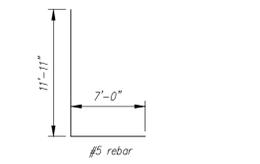
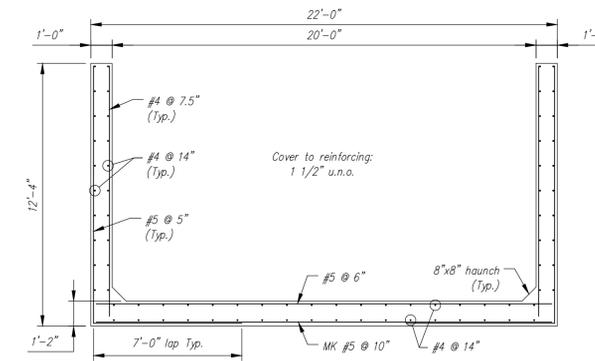
PIECE SCHEDULE (MK-FA5000SC30)					
MARK	QTY	LENGTH	YDS	WEIGHT	
B1	1	5.28	16.78	33.99	TONS
B2	7	5.56	15.39	31.16	TONS
B3	1	5.56	16.06	32.52	TONS
B4	1	6.27	11.91	24.12	TONS
WW1B	1	8.50	5.24	10.61	TONS
WW2B	1	9.00	5.39	10.91	TONS
F1B	1	19.18	3.74	7.57	TONS
F2B	1	19.86	3.88	7.86	TONS
F3B	1	22.00	2.44	4.94	TONS

WINGWALL GENERAL NOTES:

- Reference standard: AASHTO LRFD Specifications
- Design Parameters:
 - Soil Bearing: 3300 psf
 - Earth Cover: 1.00 ft max.
 - Design strength $f'c = 5000$ psi
 - Unit weight = 150 pcf
 - Concrete: Design strength $f'c = 5000$ psi
 - Unit weight = 150 pcf
 - Reinforcing: ASTM A615 (rebar), grade 60, Black
 - Unit weight = 140 pcf
 - Soil: Minimum lateral pressure coefficient .25
 - Maximum lateral pressure coefficient .50
 - Cover to reinforcing: 2" u.n.o.
- The wingwalls have been designed for general site conditions. The project engineer shall be responsible for the structure's suitability to the existing site conditions and for the hydraulic evaluation, including scour and confirmation of soil conditions.
- Prior to construction, contractor must verify all elevations shown through the engineer.

GENERAL NOTES:

- Reference Standards:
 - AASHTO "LRFD Bridge Design Specifications"
 - ASTM C1577
- Design Parameters:
 - Live load: HL-93
 - Earth Cover: 3' to 4'
 - Concrete: Design strength $f'c = 5000$ psi
 - Unit weight = 150 pcf
 - Reinforcing: ASTM A615 (rebar) GR 60, Black
 - Unit weight = 140 pcf
 - Soil: Minimum lateral pressure coefficient .25
 - Maximum lateral pressure coefficient .50
 - Cover to reinforcing: 2" headwalls
 - 1 1/2" culvert walls
 - 1 1/2" elsewhere u.n.o.
- Dimensions include a joint gap. Actual culvert piece length is 1/8" shorter (i.e. B2 = 5'-6 1/4").
- No dampproofing or waterproofing supplied by CSI.
- DBS are Dowel Bar Splicers and DI are Dowel Ins. Both are supplied by CSI. DI's are to be installed and cut/bent in the field by others as required.
- Headwalls are not designed for impact load.
- Water repellent (Silane Siloxane) by CSI on all exposed faces of culvert, headwalls, and wingwalls.
- Provide engineer a minimum fourteen (14) days notice prior to the start of fabrication and a detailed casting schedule.



Contractor is to verify that all information shown on drawings has been thoroughly checked, complies with the contract documents and is adequate to meet the field conditions. Some dimensions and details may differ slightly from contract drawings to accommodate the manufacturing or design process. Approval of this drawing indicates that any deviation from the contract documents has been reviewed and found to be acceptable. Production will not commence until receipt of signed, approved shop drawings.

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Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1	01apr2015	WINGWALL ANCHORS WERE TYPE 'D', WINGWALLS WERE 10" THK	RY

This drawing is based upon information provided from the following documents and/or sources:

Engineer: STATE OF VT AOT PROGRAM DEVELOPMENT
 Project No: STPCULV30
 Drawings: VT/AOT PROPOSED IMPROVEMENT BRIDGE PROJECT SHEETS 1 THRU 24 & 32 OF 55
 Specifications: ----
 Other Sources: ----

CSI
Concrete Systems Inc.
9 Commercial St., Hudson, NH 03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans
VT AOT BRIDGE - STEEL CULVERT REPLACEMENT
BRIDGE #7, VT ROUTE 58, IRASBURG, VT

Drawn by: R. YEAGER
Reviewed by: []
Approved by: []

Date: 09MAR2015

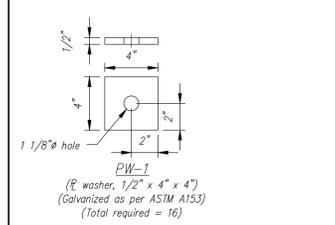
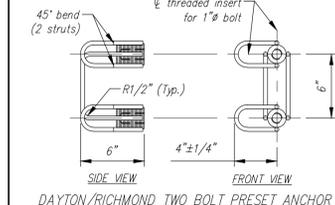
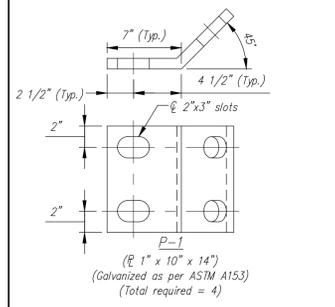
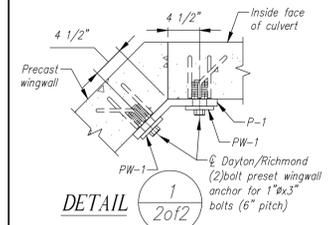
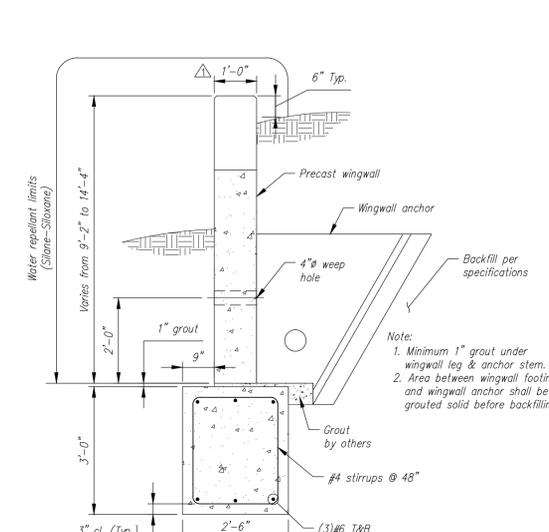
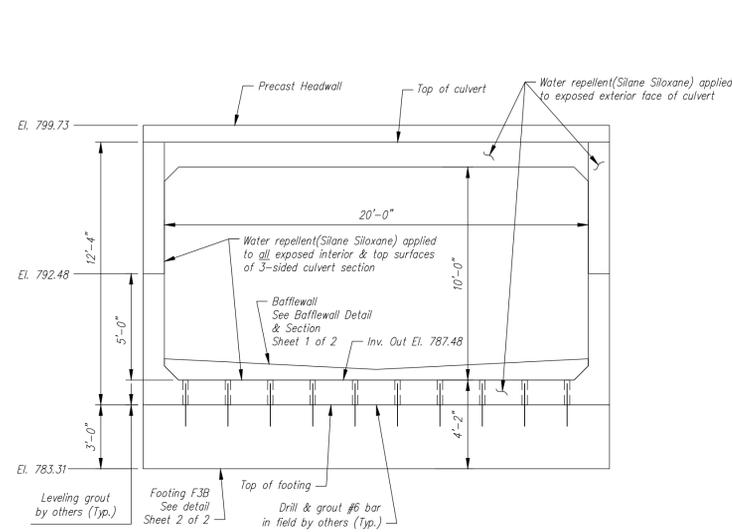
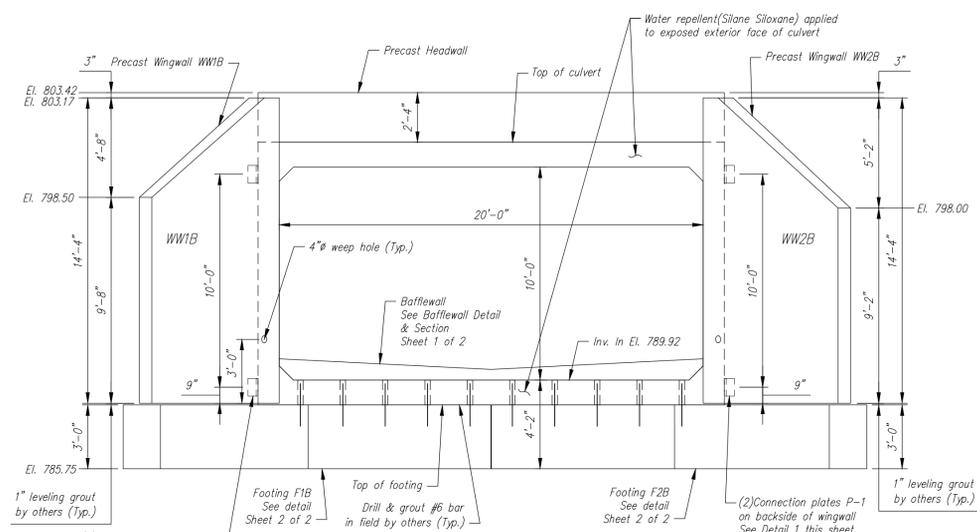
J A MCDONALD, INC.
VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT
BRIDGE #7, VT ROUTE 58, IRASBURG, VT

Quantity: 1
Project No: STPCULV30

20' SPAN x 10' RISE BOX CULVERT LAYOUT
C22283-L02A

REV 1
SHEET 1B OF 2B

Stamp for structural design only



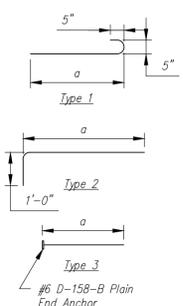
ELEVATION A-A
Scale: 1/4" = 1'-0"

ELEVATION B-B
Scale: 1/4" = 1'-0"

TYPICAL WINGWALL SECTION
Scale: N.T.S.

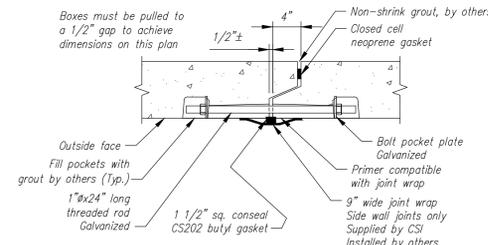
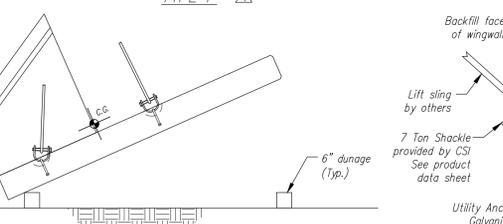
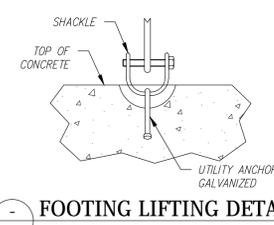
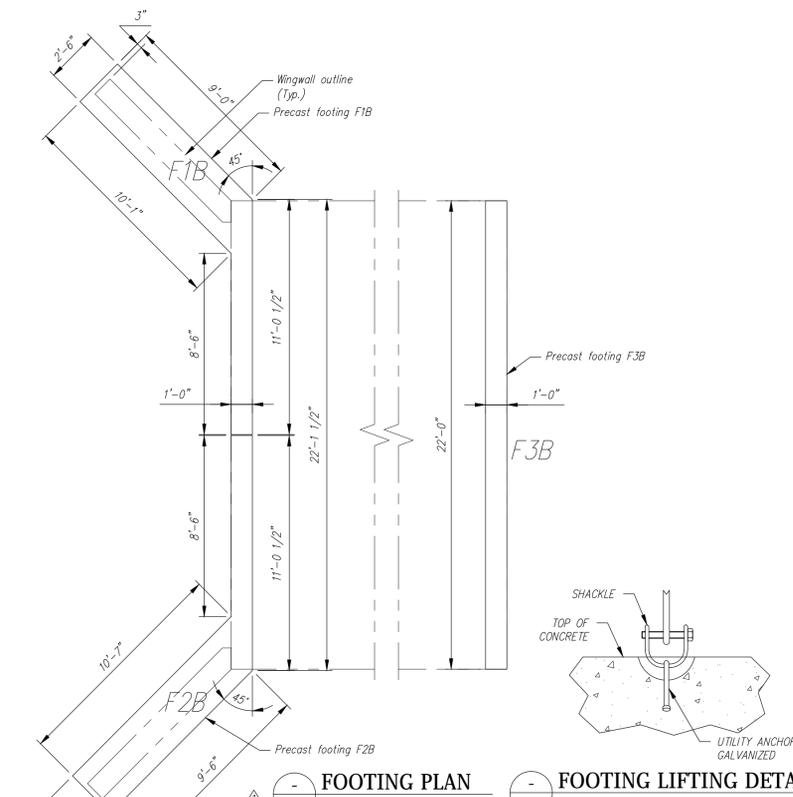
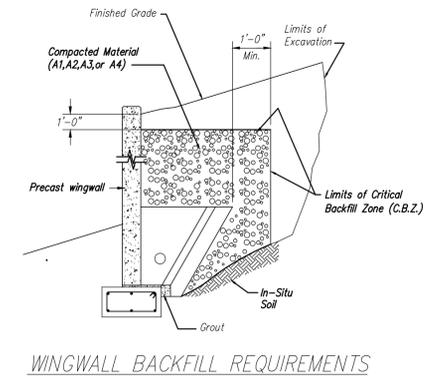
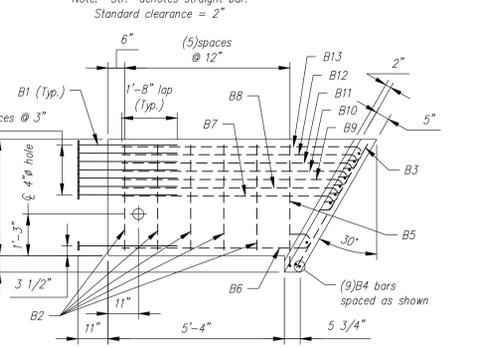
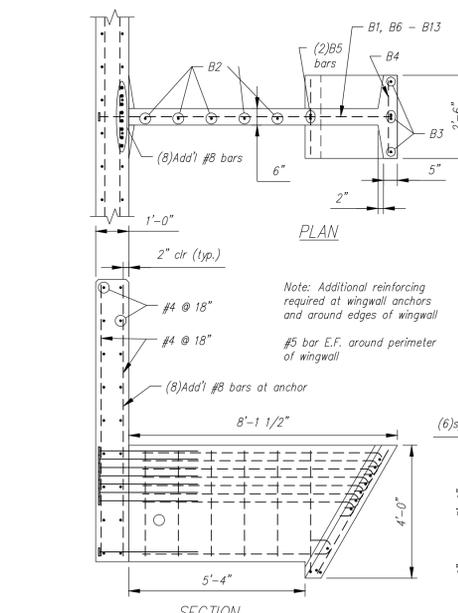
BAR LIST					
MARK	QTY.	SIZE	a	TYPE	LENGTH
B1	8	#6	3'-0"	3	---
B2	4	#5	---	Str.	3'-2"
B3	4	#5	---	Str.	4'-3"
B4	11	#5	---	Str.	2'-2"
B5	2	#5	3'-8"	2	---
B6	1	#5	6'-2"	1	---
B7	1	#5	6'-9"	1	---
B8	1	#5	6'-11"	1	---
B9	1	#5	7'-1"	1	---
B10	1	#5	7'-3"	1	---
B11	1	#5	7'-5"	1	---
B12	1	#5	7'-6"	1	---
B13	1	#5	7'-8"	1	---

Note: "Str." denotes straight bar. Standard clearance = 2"



Group Classification	BACKFILL DESCRIPTION						
	A-1	A-3	A-2		A-2		A-2
	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7	
Sieve Analysis, Percent Passing							
No. 10	50 max.						
No. 40	30 max.	50 max.	51 min.				
No. 200	15 max.	25 max.	10 max.	35 max.	35 max.	35 max.	35 max.
Characteristics of Fraction Passing							
No. 40			40 max.	41 min.	40 max.	41 min.	
Liquid Limit			6 max.	N.P.	10 max.	10 max.	11 min.
Plasticity Index			6 max.	N.P.	10 max.	10 max.	11 min.
Usual Types of Significant Constituent Materials	Stone Fragments, Gravel & Sand		Fine Sand		Silty or Clayey Gravel and Sand		
General Rating as Subgrade	Excellent to Good						

- NOTES**
- BACKFILLING OPERATIONS WITHIN THE C.B.Z. SHALL BE PERFORMED IN LIFTS OF 8" OR LESS (LOOSE DEPTH).
 - MAXIMUM DRY DENSITY SHALL BE DETERMINED BY AASHTO T-99 OR OTHER APPROVED METHODS.
 - BACKFILL SHALL BE COMPACTED IN LAYERS UNTIL THE DENSITY IS NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY.



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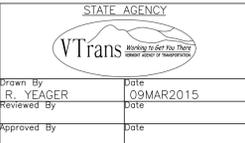
Stamp for structural design only

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1	01APR2015	WINGWALL ANCHORS WERE TYPE 'D', WINGWALLS WERE 10" THK	RY

This drawing is based upon information provided from the following documents and/or sources:

Engineer: STATE OF VT AOT PROGRAM DEVELOPMENT
 Project No: STPCULV30
 Drawings: VT/AOT PROPOSED IMPROVEMENT BRIDGE PROJECT
 SHEETS 1 THRU 24 & 32 OF 55

Specifications: ----
 Other Sources: ----



J A MCDONALD, INC. VT/AOT BRIDGE - STEEL CULVERT REPLACEMENT BRIDGE #7, VT ROUTE 58, IRASBURG, VT		REV 1
20' SPAN x 10' RISE BOX CULVERT LAYOUT C22283-L02B		
Quantity: 1	Project No: STPCULV30	SHEET 2B OF 2B