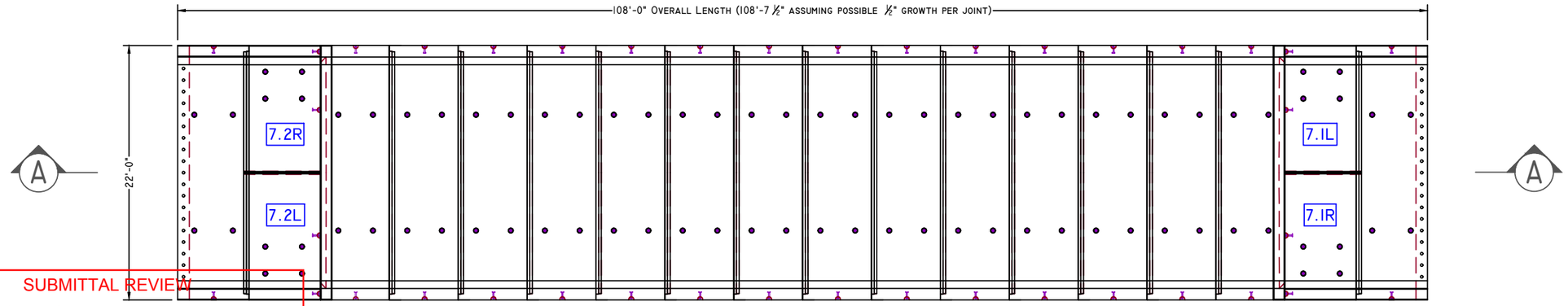
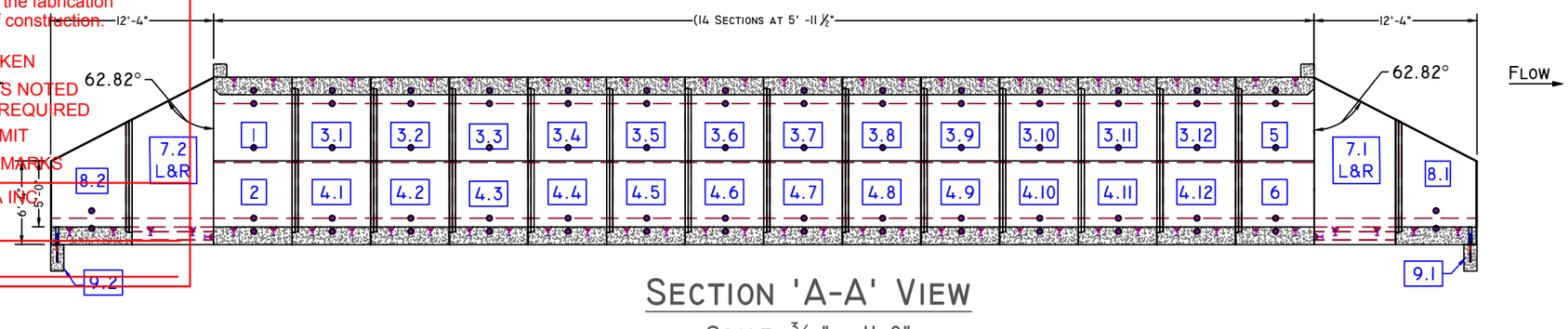


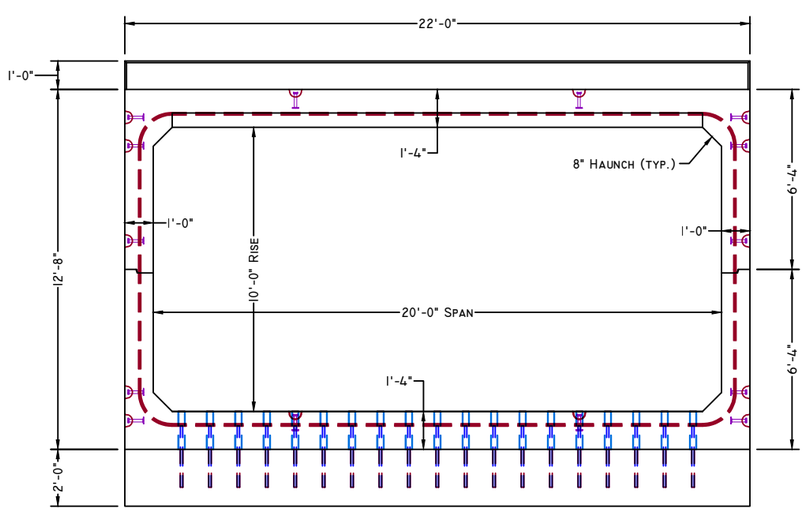
Plan View

Scale: 3/32" = 1'-0"



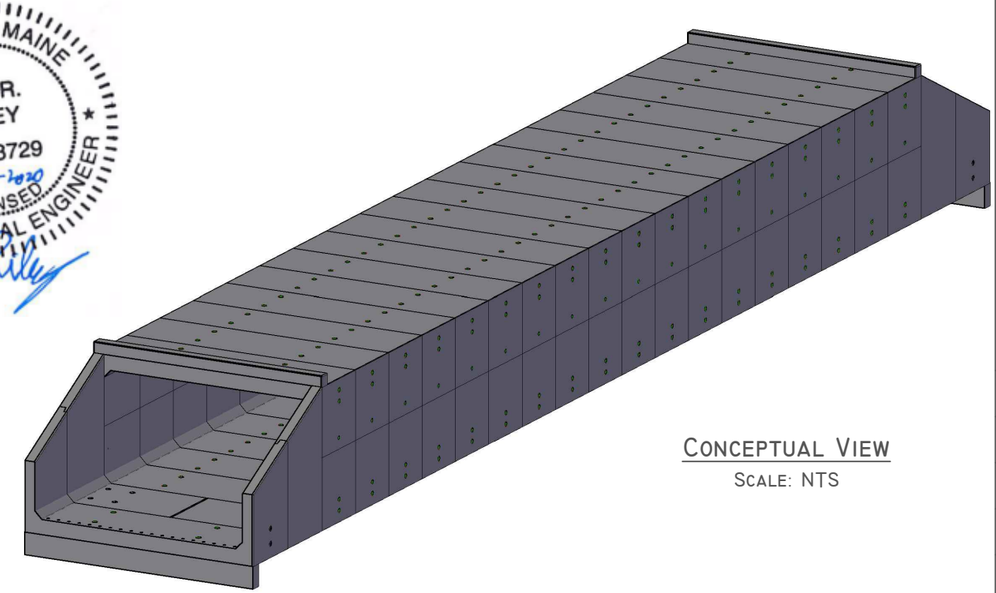
Section 'A-A' View

Scale: 3/32" = 1'-0"



End View

Scale: 3/16" = 1'-0"



Conceptual View

Scale: NTS

SUBMITTAL REVIEW

Review is only for general conformity to the contract drawings and specifications and shall not relieve the contractor of his entire responsibility under the contract, including among other things, dimensions to be confirmed and correlated at the job site, and information that pertains to the fabrication processes or techniques of construction.

- [x] NO EXCEPTIONS TAKEN
- [ ] MAKE CORRECTIONS NOTED RESUBMITTAL NOT REQUIRED
- [ ] AMEND AND RESUBMIT
- [ ] REJECTED - SEE REMARKS

WSP USA INC.

BY: E. Caron

DATE: 04/16/2020

STATE OF MAINE
IAN R. RILEY
No. 13729
4-1-2020
LICENSED
PROFESSIONAL ENGINEER

American Concrete Industries
1717 Stillwater Ave. Veazie, ME. 04401
Tel: 207-947-8334
Fax: 207-947-3580
www.americanconcrete.com

Bill Of Materials

Item	Qty	
1	(1)	5'-11 ½" Upstream end top w/ Attached Headwall Total Weight (39,530 #)
2	(1)	5'-11 ½" Upstream end bot. (36,005 #)
3	(12)	5'-11 ½" Mid section top (35,605 # ea.)
4	(12)	5'-11 ½" Mid section bot. (35,395 # ea.)
5	(1)	5'-11 Downstream end top w/ Attached Headwall Total Weight (38,235 #)
6	(1)	5'-11 ½" Downstream end bot. (34,720 #)
7	(2)	6'-2" Sloped end L&R (23,085 # ea. half)
8	(2)	6'-0" Sloped end "End" (38,800 # ea.)
9	(2)	1' x 2' x 22'-0' Toewall (6,500 # ea.)
	(38)	#8 x 26" Toewall pin (19 ea. end)

Design Notes:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 3/32" = 1'-0" Unless otherwise noted

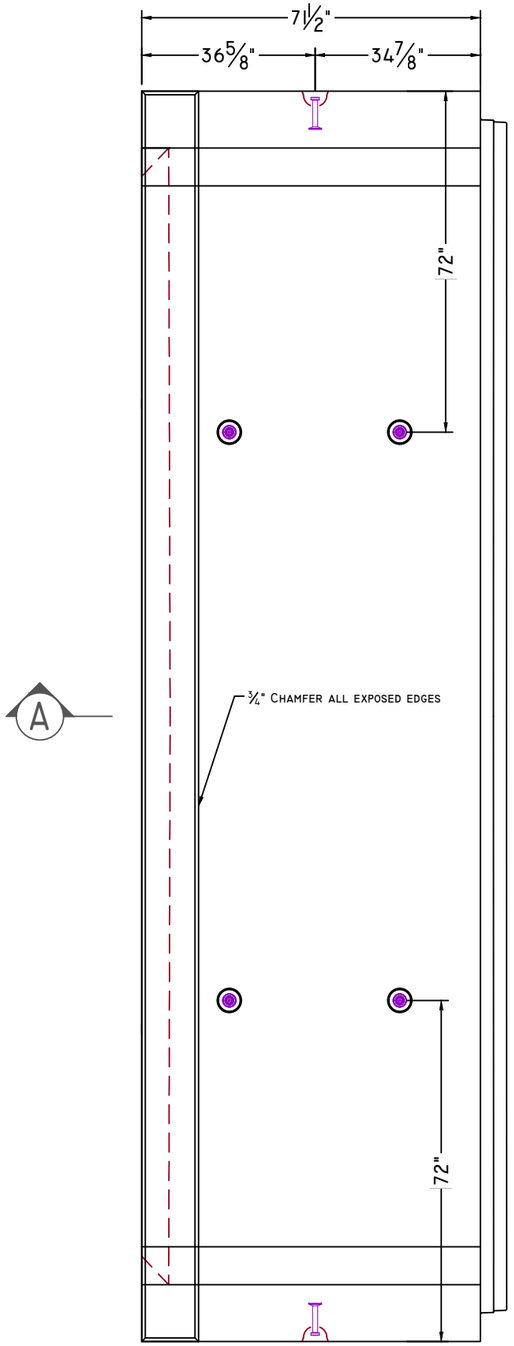
Structure name: 10' x 20' x 108' Clamshell Culvert

Job name: Half Mile Pond Brook Bridge (No. 6246)

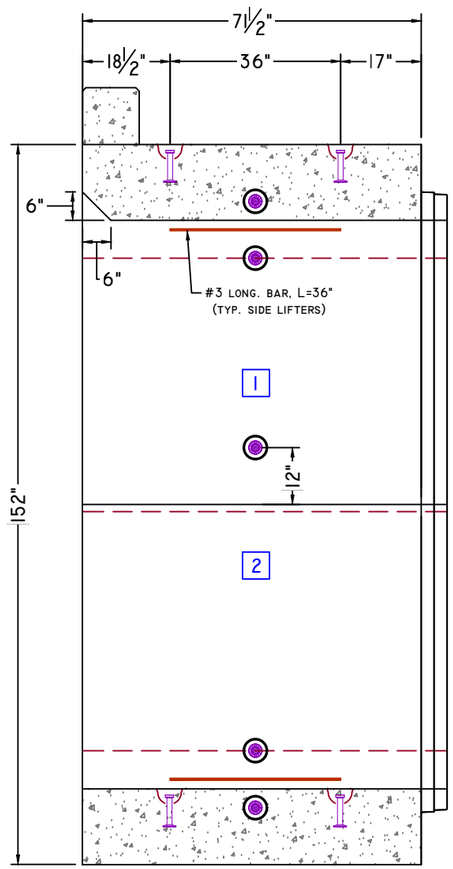
Location: Amherst, ME. (WIN: 021870.00)

Contractor: MDOT

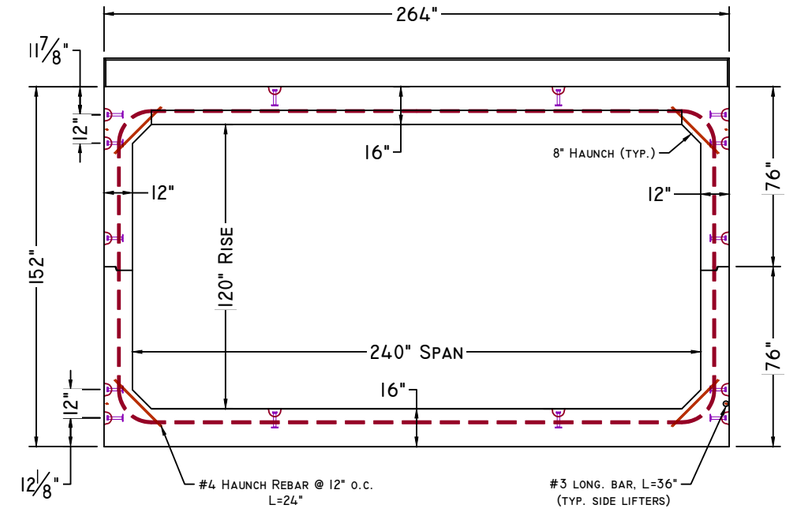
Drawn by:	Date:	
AAG	03/10/2020	C1.0
Rev.#: 0.04	Date: 04/01/2020	



PLAN VIEW

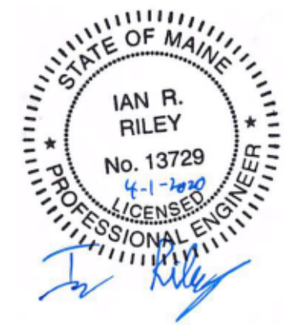


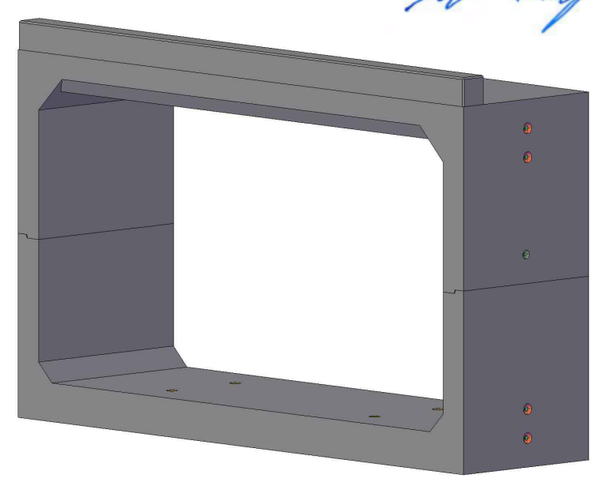
SECTION 'A' VIEW



END VIEW

3/16" = 1'-0"





CONCEPTUAL VIEW - NTS

American Concrete Industries
1717 Stillwater Ave. Veazie, ME. 04401
Tel: 207-947-8334
Fax: 207-947-3580
www.americanconcrete.com

ITEM	QTY	BILL OF MATERIALS
1	(1)	5'-11½" Upstream end top w/ Attached Headwall Total Weight (39,530 #)
2	(1)	5'-11½" Upstream end bot. (36,005 #)

Design Notes:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 3/8" = 1'-0" Unless otherwise noted

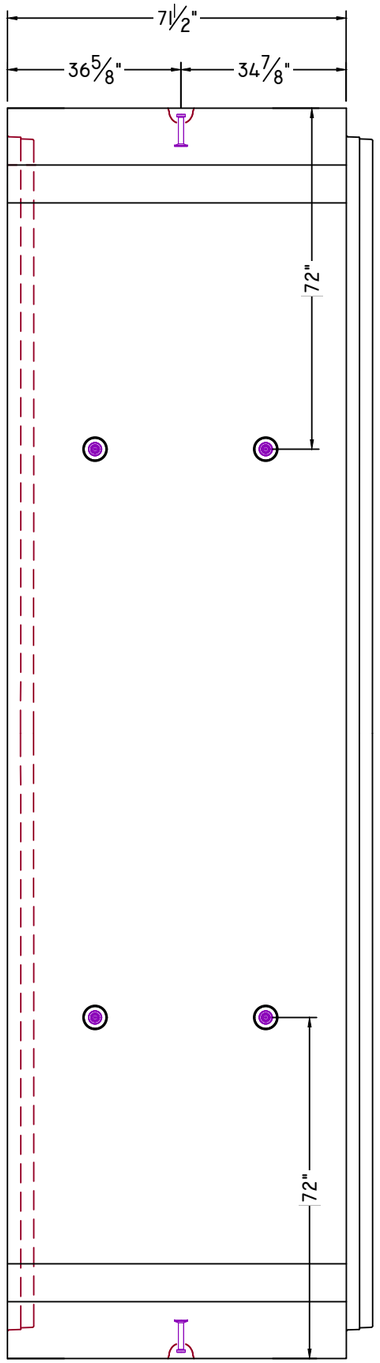
Structure name: 10' x 20' x 108' Clamshell Culvert

Job name: Half Mile Pond Brook Bridge (No. 6246)

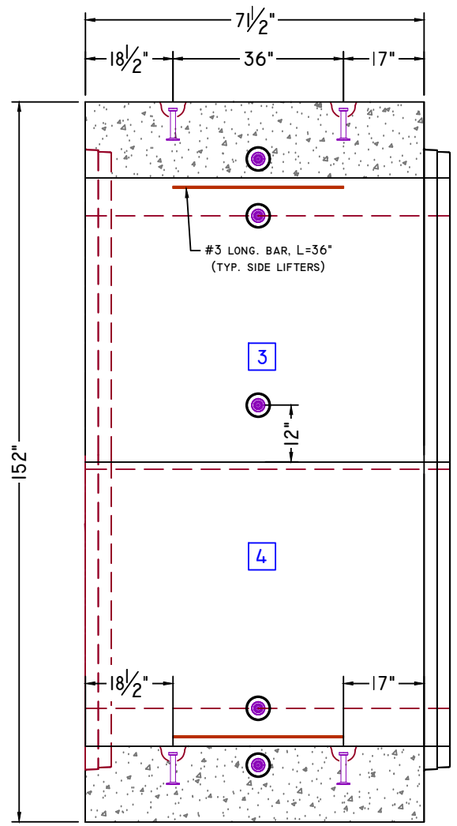
Location: Amherst, ME. (WIN: 021870.00)

Contractor: MDOT

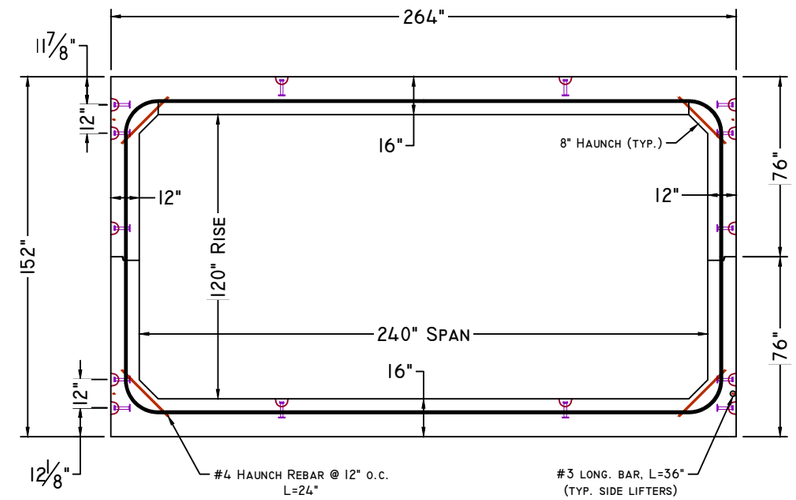
Drawn by:	Date:	
AAG	03/10/2020	C1.1
Rev.#: 0.04	Date: 04/01/2020	



PLAN VIEW

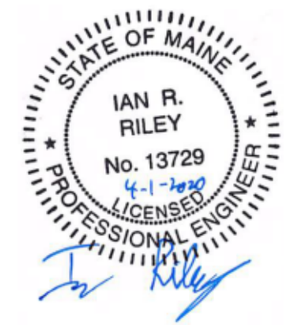


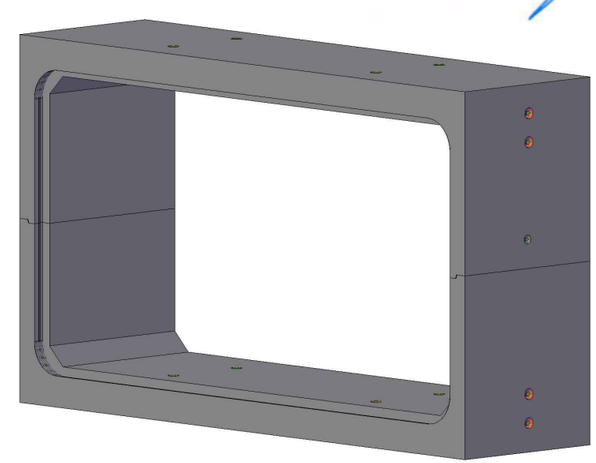
SECTION 'A' VIEW



END VIEW

3/16" = 1'-0"





CONCEPTUAL VIEW - NTS

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Fax: 207-947-3580
www.americanconcrete.com

ITEM	QTY	BILL OF MATERIALS
3	(12)	5'-11½" Mid section top (35,605 # ea.)
4	(12)	5'-11½" Mid section bot. (35,395 # ea.)

Design Notes:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 3/8" = 1'-0" Unless otherwise noted

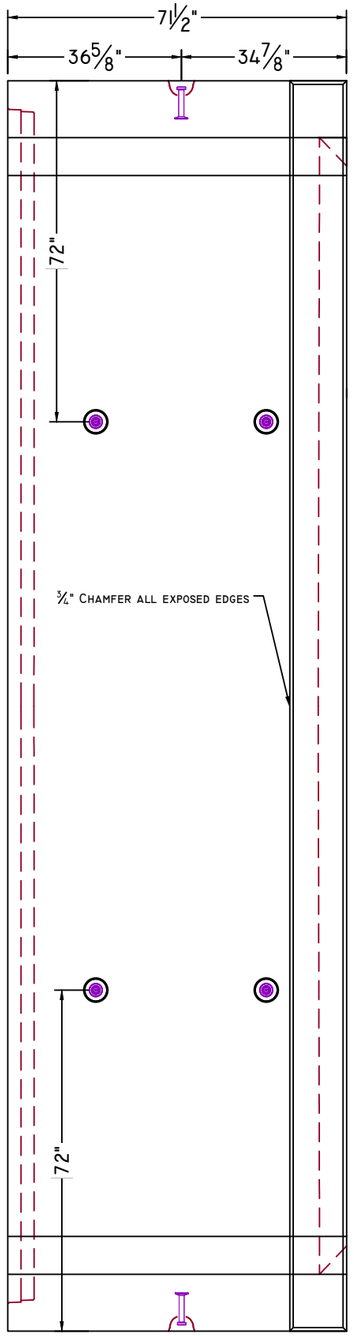
Structure name: 10' x 20' x 108' Clamshell Culvert

Job name: Half Mile Pond Brook Bridge (No. 6246)

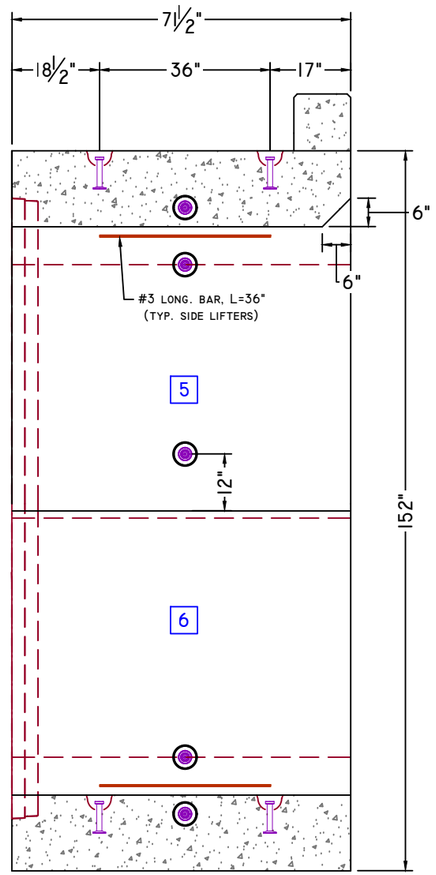
Location: Amherst, ME. (WIN: 021870.00)

Contractor: MDOT

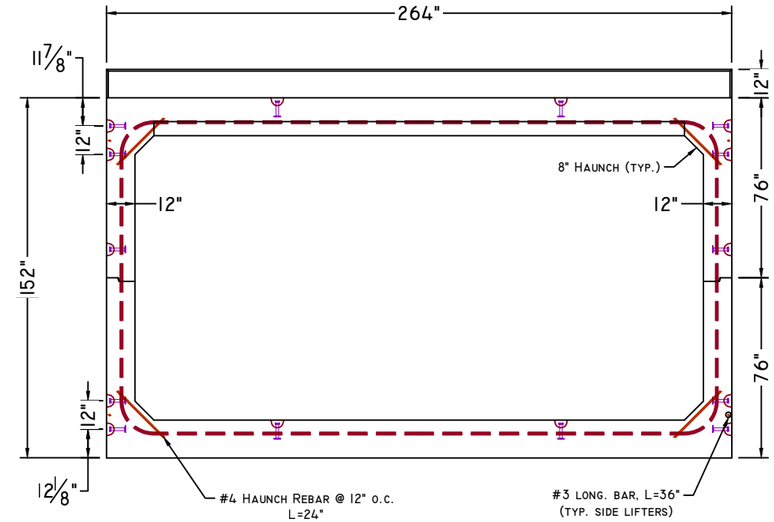
DRAWN BY:	DATE:	
AAG	03/10/2020	C1.2
REV.#: 0.04	DATE: 04/01/2020	



PLAN VIEW

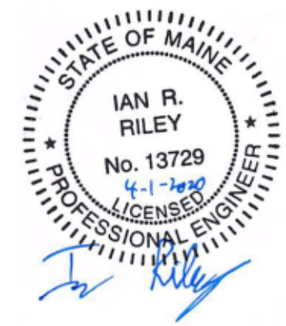


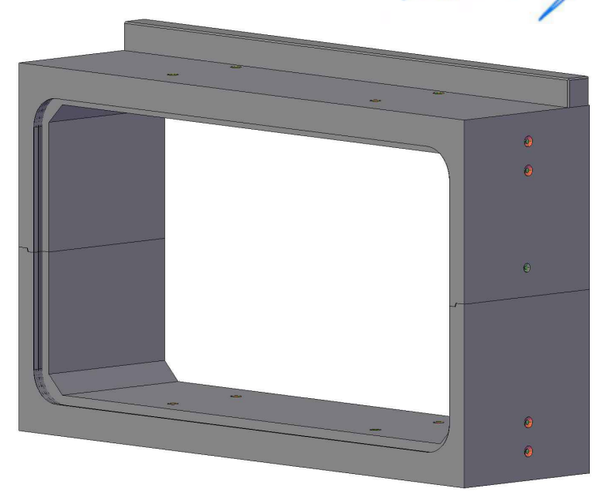
SECTION 'A' VIEW



END VIEW

3/16" = 1'-0"





CONCEPTUAL VIEW - NTS

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Fax: 207-947-3580
www.americanconcrete.com

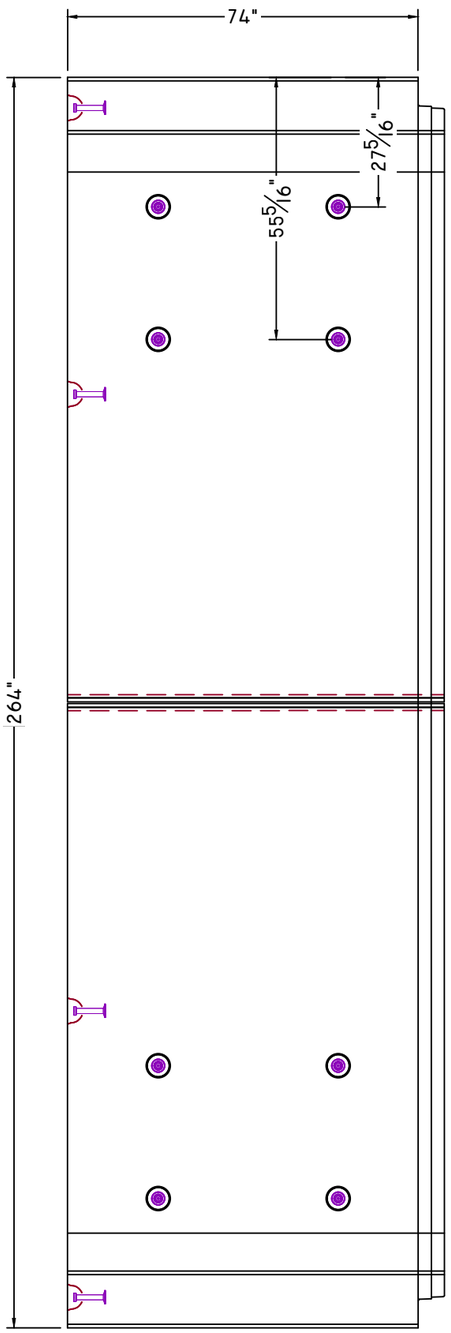
ITEM	QTY	BILL OF MATERIALS
5	(1)	5'-11 Downstream end top w/ Attached Headwall Total Weight (38,235 #)
6	(1)	5'-11½" Downstream end bot. (34,720 #)

Design Notes:

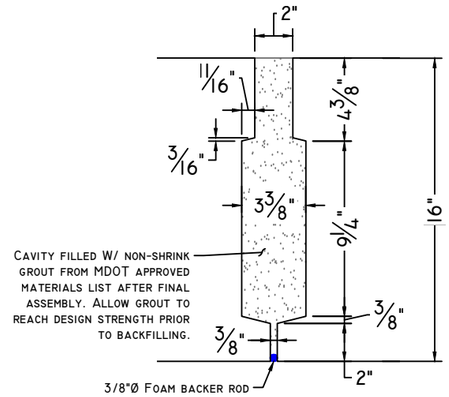
1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 3/8" = 1'-0" Unless otherwise noted

Structure name: 10' x 20' x 108' Clamshell Culvert		
Job name: Half Mile Pond Brook Bridge (No. 6246)		
Location: Amherst, ME. (WIN: 021870.00)		
Contractor: MDOT		
Drawn by: AAG	Date: 03/10/2020	C1.3
Rev.#: 0.04	Date: 04/01/2020	

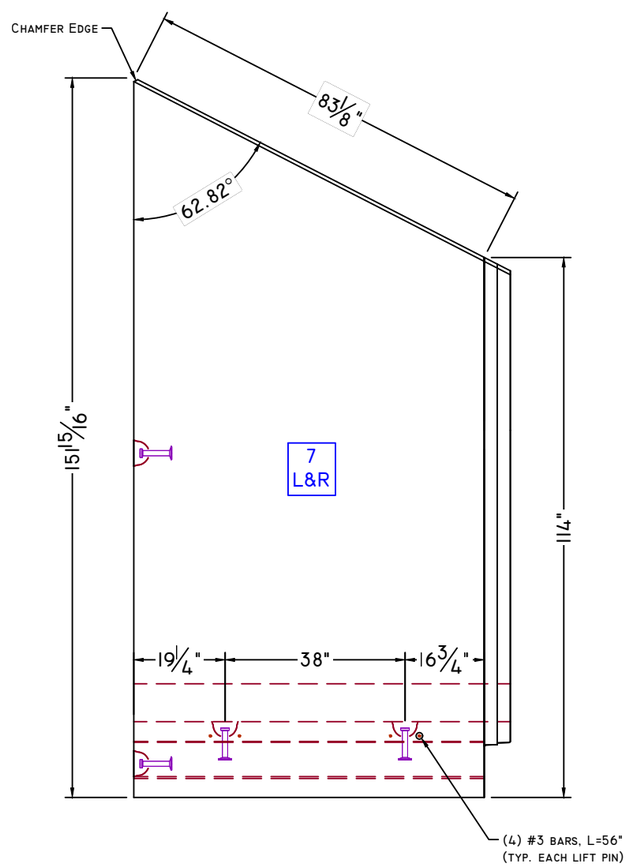


Plan View

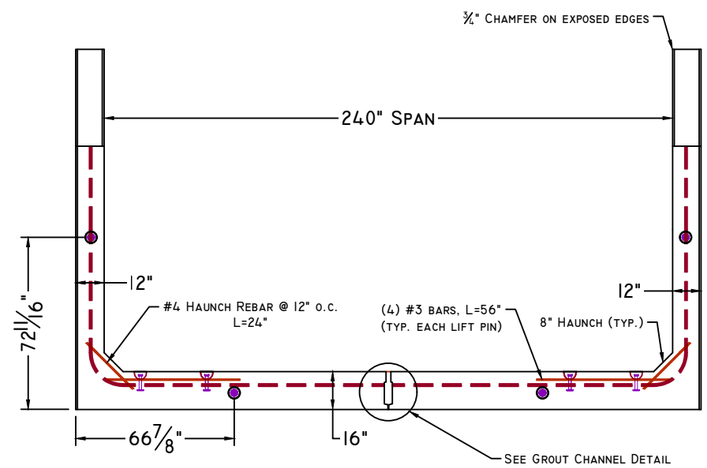


Grout Channel Detail

Scale: 1 1/2" = 1'-0"

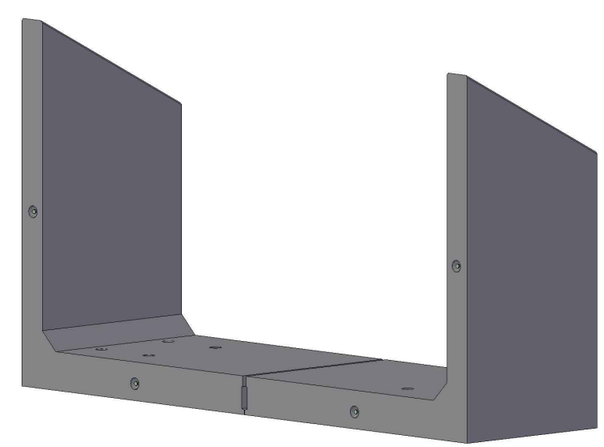


Section View



End View

3/16" = 1'-0"



Conceptual View - NTS

STATE OF MAINE
IAN R. RILEY
No. 13729
4-1-2020
LICENSED
PROFESSIONAL ENGINEER

American Concrete Industries
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Tel: 207-947-8334
Fax: 207-947-3580
www.americanconcrete.com

ITEM	QTY	Bill Of Materials
7	(2)	6'-2" Sloped end L&R (23,085 # ea. half)

Design Notes:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 3/8" = 1'-0" Unless otherwise noted

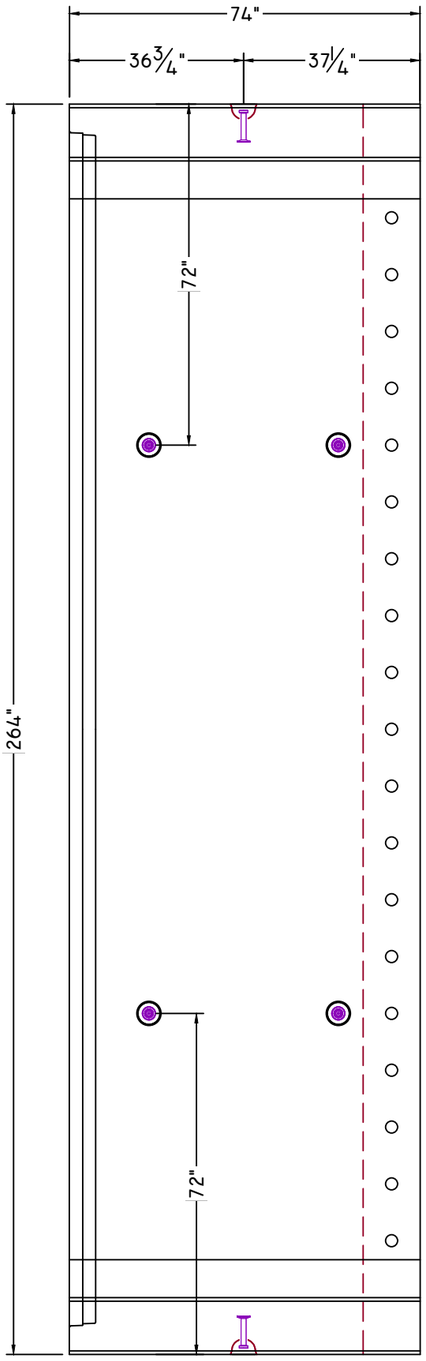
Structure name: 10' x 20' x 108' Clamshell Culvert

Job name: Half Mile Pond Brook Bridge (No. 6246)

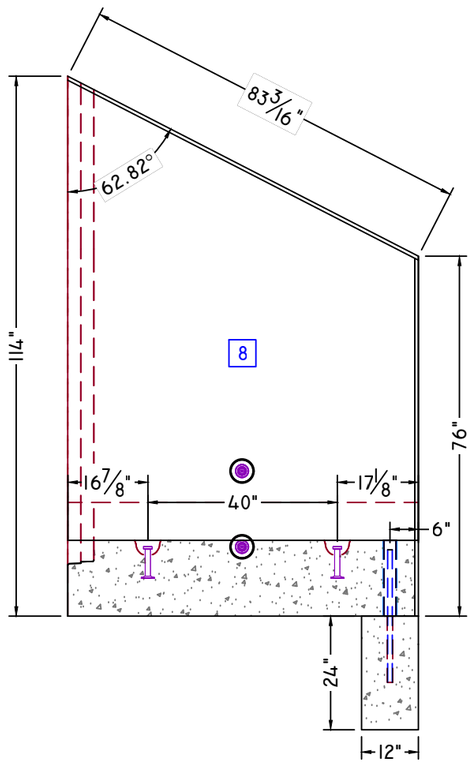
Location: Amherst, ME. (WIN: 021870.00)

Contractor: MDOT

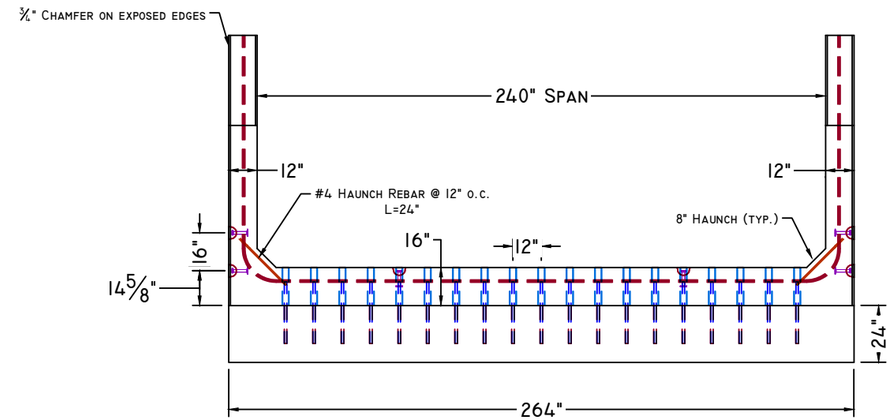
Drawn by:	Date:	
AAG	03/10/2020	C1.4
Rev.#: 0.04	Date: 04/01/2020	



PLAN VIEW

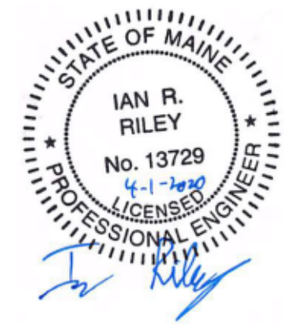


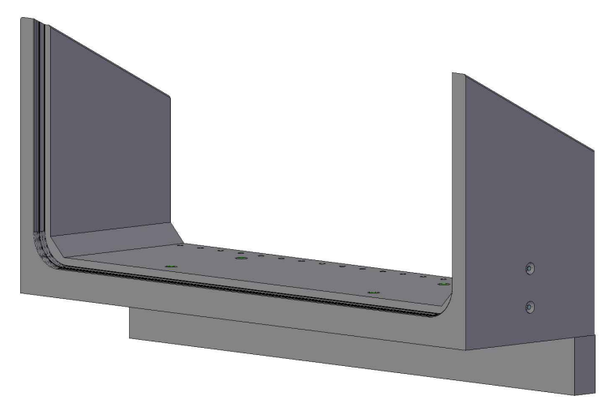
SECTION VIEW



END VIEW

3/16" = 1'-0"





CONCEPTUAL VIEW - NTS

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ITEM	QTY	BILL OF MATERIALS
8	(2)	6'-0" Sloped end "End" (38,800 # ea.)
9	(2)	1' x 2' x 22'-0' Toewall (6,500 # ea.)
	(38)	#8 x 26" Toewall pin (19 ea. end)

Design Notes:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
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   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 3/8" = 1'-0" Unless otherwise noted

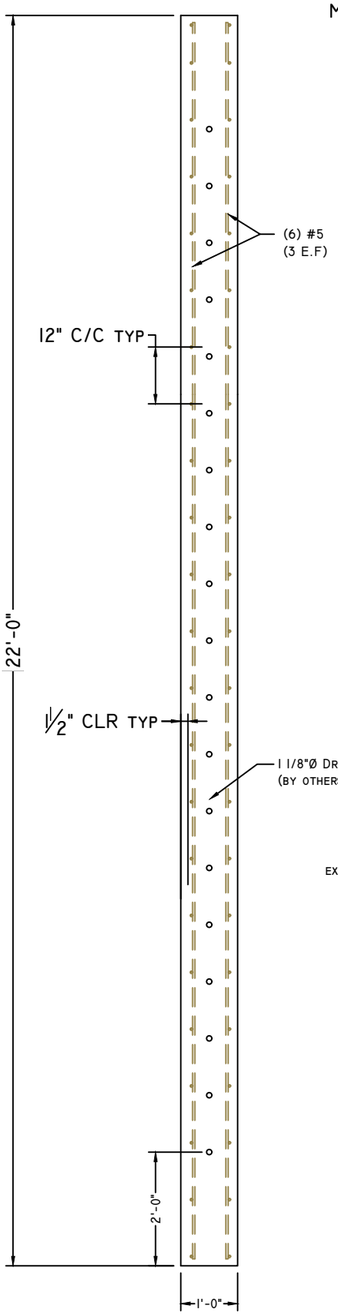
Structure name: 10' x 20' x 108' Clamshell Culvert

Job name: Half Mile Pond Brook Bridge (No. 6246)

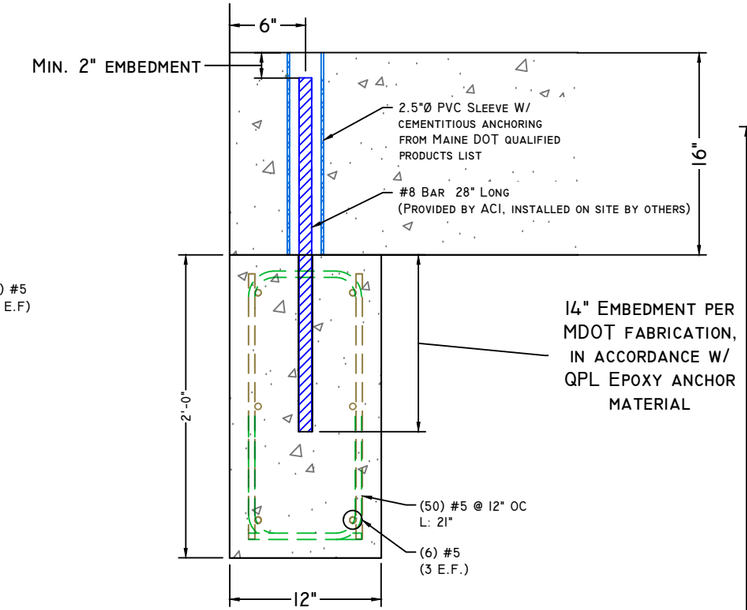
Location: Amherst, ME. (WIN: 021870.00)

Contractor: MDOT

Drawn by:	Date:	
AAG	03/10/2020	C1.5
Rev.#: 0.04	Date: 04/01/2020	

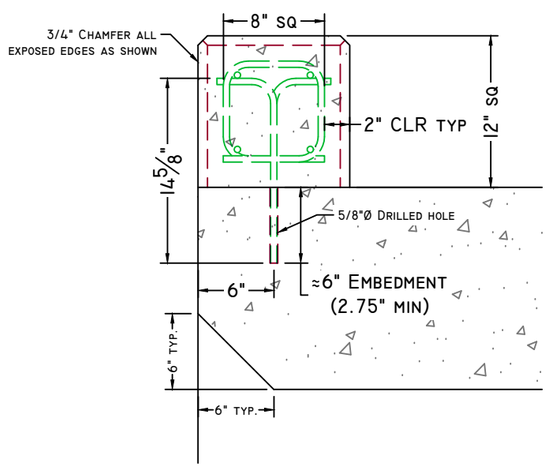


TOEWALL PLAN VIEW



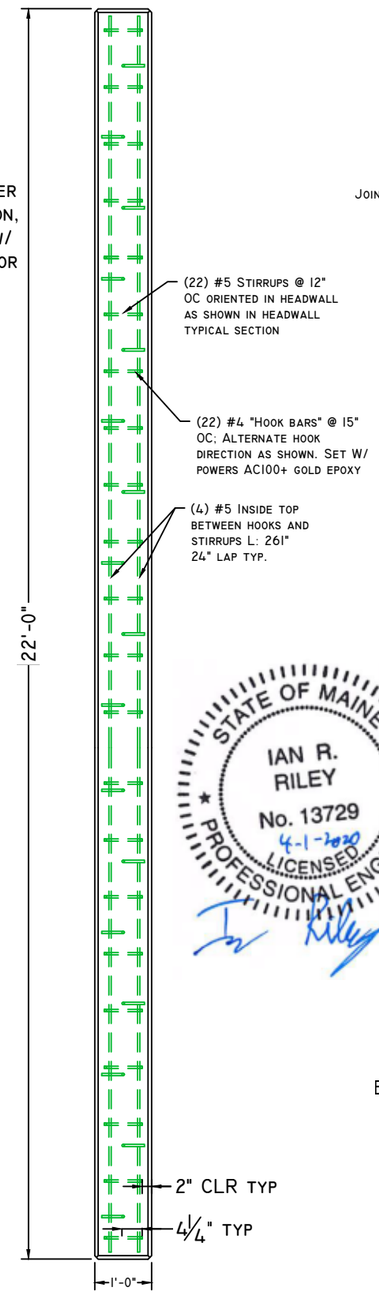
TOEWALL TYPICAL SECTION

SCALE: 1" = 1'-0"

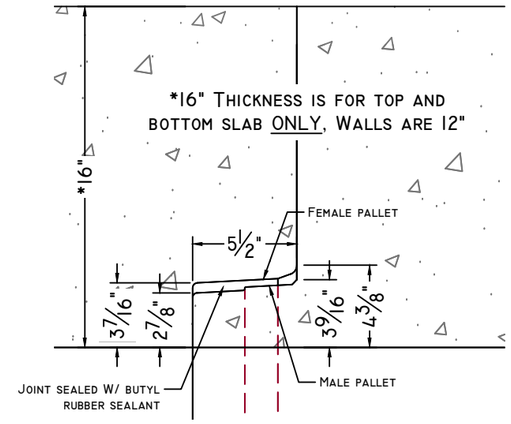


HEADWALL TYPICAL SECTION

SCALE: 1" = 1'-0"

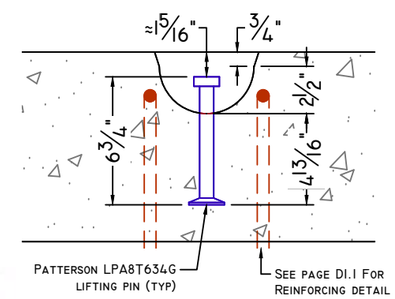


HEADWALL PLAN VIEW



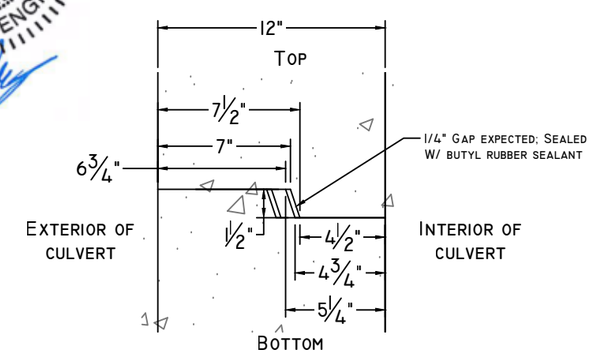
CULVERT JOINT DETAIL

SCALE: 1 1/2" = 1'-0"



6 3/4" LIFTING PIN DETAIL

SCALE: 1 1/2" = 1'-0"



CLAMSHELL JOINT DETAIL

SCALE: 1 1/2" = 1'-0"

STATE OF MAINE
IAN R. RILEY
No. 13729
4-1-2020
LICENSED
PROFESSIONAL ENGINEER

American Concrete Industries
1717 Stillwater Ave. Veazie, ME. 04401
Tel: 207-947-8334
Fax: 207-947-3580
www.americanconcrete.com

ITEM	QTY	BILL OF MATERIALS

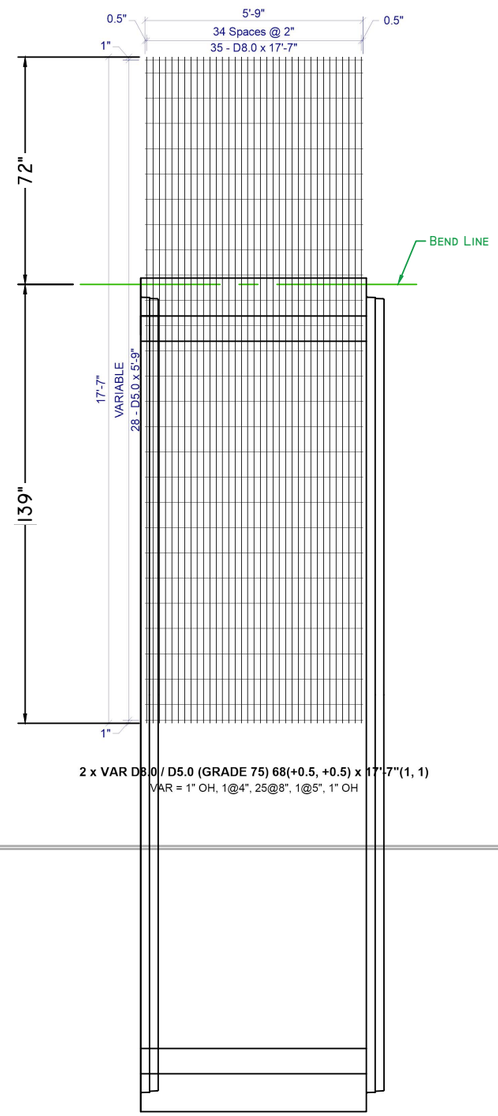
DESIGN NOTES:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 1/2" = 1'-0" Unless otherwise noted

STRUCTURE NAME:	10' x 20' x 108' Clamshell Culvert
JOB NAME:	Half Mile Pond Brook Bridge (No. 6246)
LOCATION:	Amherst, ME. (WIN: 021870.00)
CONTRACTOR:	MDOT

DRAWN BY:	DATE:	
AAG	03/10/2020	D1.0
REV.#: 0.04	DATE: 04/01/2020	



2 x VAR D8.0 / D5.0 (GRADE 75) 68(+0.5, +0.5) x 17'-7"(1, 1)
VAR = 1" OH, 1@4", 25@8", 1@5", 1" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER American Concrete
PROJECT F20-4012 - Drawings - 20x10 Amherst - American Concrete - 3-27-2020
LOCATION Veazie, ME
DATE 03-27-2020 MARK NUMBER A1/A2 (-01)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D8.0
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-9"
LENGTH	17'-7"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	1"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	35	N/A	28
SIZE	D8.0	N/A	D5.0
LENGTH	17'-7"	-	5'-9"
W.T./SHEET			
SHEET W.T.	194.80#		
QUANTITY	56		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
BEND DIMS: WALL=72", SLAB=139"

APPROVED

Page 2 of 5

TYPICAL WWR (SECTIONS 1-6)

American Concrete Industries
1717 Stillwater Ave. Veazie, ME. 04401
Tel: 207-947-8334
Fax: 207-947-3580
www.americanconcrete.com

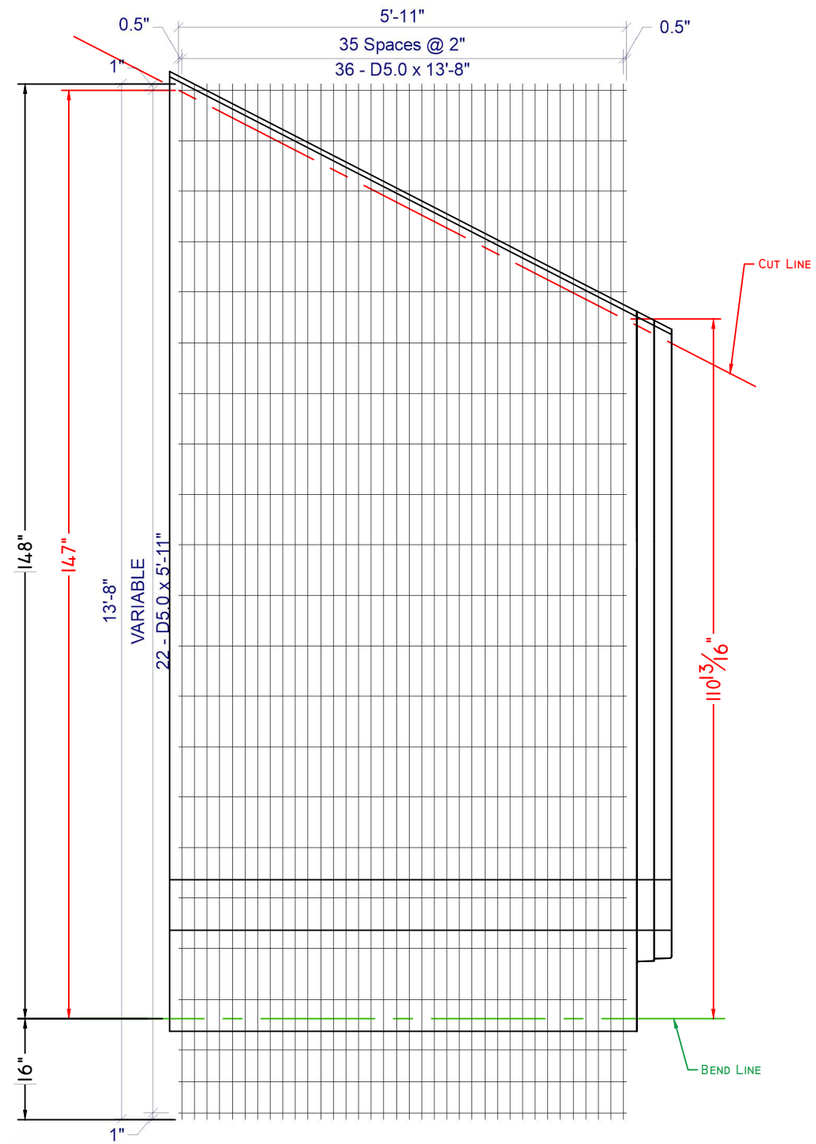
ITEM	QTY	BILL OF MATERIALS

DESIGN NOTES:
1. **Concrete**
   1.1. Comp. strength min. 5,000psi @ 28 days
   1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   2.1. Bar per ASTM A615, Grade 60
   2.2. WWR per ATSM A1064, Grade 75
   2.3. Integrate rebar with lifting insert(s)
   2.4. Interrupted bar areas will be replaced each side with half the affected area
   2.5. Designed for HL-93 wheel load rating (+25% LL)
   2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   3.1. Joints sealed with butyl rubber sealant
   3.2. Conforms strictly to AASHTO & MDOT
   3.3. Minimum soil cover = 8'
   3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 1/4" = 1'-0" Unless otherwise noted

STATE OF MAINE
IAN R. RILEY
No. 13729
4-1-2020
LICENSED
PROFESSIONAL ENGINEER

STRUCTURE NAME: 10' x 20' x 108' Clamshell Culvert		
JOB NAME: Half Mile Pond Brook Bridge (No. 6246)		
LOCATION: Amherst, ME. (WIN: 021870.00)		
CONTRACTOR: MDOT		
DRAWN BY: AAG	DATE: 03/10/2020	D1.1
REV.#: 0.04	DATE: 04/01/2020	



2 x VAR D5.0 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 13'-8"(1, 1)

VAR = 1" OH, 19@8", 2@5", 1" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER American Concrete

PROJECT F20-4012 - Drawings - Headwall Mid Amherst - American Concrete - 3-27-2020

LOCATION Veazie, ME

DATE 03-27-2020 MARK NUMBER B2 (-01)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D5.0
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	13'-8"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	1"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	22
SIZE	D5.0	N/A	D5.0
LENGTH	13'-8"	-	5'-11"
W.T./SHEET			
SHEET W.T.	105.77#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
BEND DIMS: WALL=148", SLAB=16"

APPROVED

STATE OF MAINE
IAN R. RILEY
No. 13729
4-1-2020
LICENSED
PROFESSIONAL ENGINEER

SLOPED WWR (SECTION 7 L&R)

American Concrete Industries
1717 Stillwater Ave. Veazie, ME. 04401
Tel: 207-947-8334
Fax: 207-947-3580
www.americanconcrete.com

ITEM	QTY	BILL OF MATERIALS

DESIGN NOTES:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 1/2" = 1'-0" Unless otherwise noted

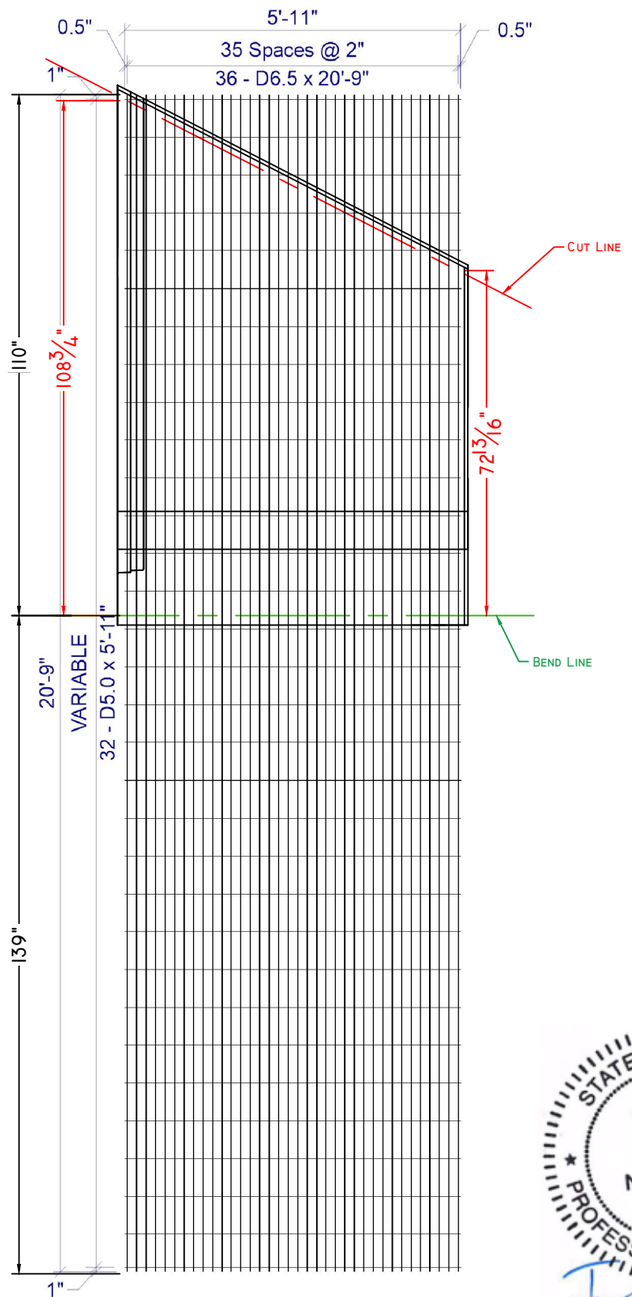
STRUCTURE NAME: 10' x 20' x 108' Clamshell Culvert

JOB NAME: Half Mile Pond Brook Bridge (No. 6246)

LOCATION: Amherst, ME. (WIN: 021870.00)

CONTRACTOR: MDOT

DRAWN BY:	DATE:	
AAG	03/10/2020	D1.2
REV.#: 0.04	DATE: 04/01/2020	



SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER American Concrete

PROJECT F20-4012C - Drawings - Headwall End Amherst - American Concrete - 3-27-2020

LOCATION Veazie, ME

DATE 03-27-2020 MARK NUMBER B2 (-01)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D6.5
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	20'-9"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	1"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	32
SIZE	D6.5	N/A	D5.0
LENGTH	20'-9"	-	5'-11"
W.T./SHEET			
SHEET W.T.	197.30#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
BEND DIMS: WALL=110", SLAB=139"

STATE OF MAINE
IAN R. RILEY
No. 13729
4-1-2020
LICENSED
PROFESSIONAL ENGINEER

SLOPED WWR (SECTION 8)

American Concrete Industries
1717 Stillwater Ave. Veazie, ME. 04401
Tel: 207-947-8334
Fax: 207-947-3580
WWW.AMERICANCONCRETE.COM

ITEM	QTY	BILL OF MATERIALS

DESIGN NOTES:

1. **Concrete**
   - 1.1. Comp. strength min. 5,000psi @ 28 days
   - 1.2. Air-Entrainment: 5.5% min - 7.5% max
2. **Structural Reinforcement:**
   - 2.1. Bar per ASTM A615, Grade 60
   - 2.2. WWR per ATSM A1064, Grade 75
   - 2.3. Integrate rebar with lifting insert(s)
   - 2.4. Interrupted bar areas will be replaced each side with half the affected area
   - 2.5. Designed for HL-93 wheel load rating (+25% LL)
   - 2.6. 2" CLR Exterior, 1.5" CLR Interior
3. **Manufacturing / Installation:**
   - 3.1. Joints sealed with butyl rubber sealant
   - 3.2. Conforms strictly to AASHTO & MDOT
   - 3.3. Minimum soil cover = 8'
   - 3.4. Maximum soil cover = 9.5'

Note: Some details not shown for clarity
SCALE: 3/8" = 1'-0" Unless otherwise noted

STRUCTURE NAME: 10' x 20' x 108' Clamshell Culvert

JOB NAME: Half Mile Pond Brook Bridge (No. 6246)

LOCATION: Amherst, ME. (WIN: 021870.00)

CONTRACTOR: MDOT

DRAWN BY:	DATE:	
AAG	03/10/2020	D1.2
REV.#: 0.04	DATE: 04/01/2020	

SHOP DRAWING/SUBMITTAL REVIEW

[X] APPROVED [ ] APPROVED WITH CHANGES NOTES

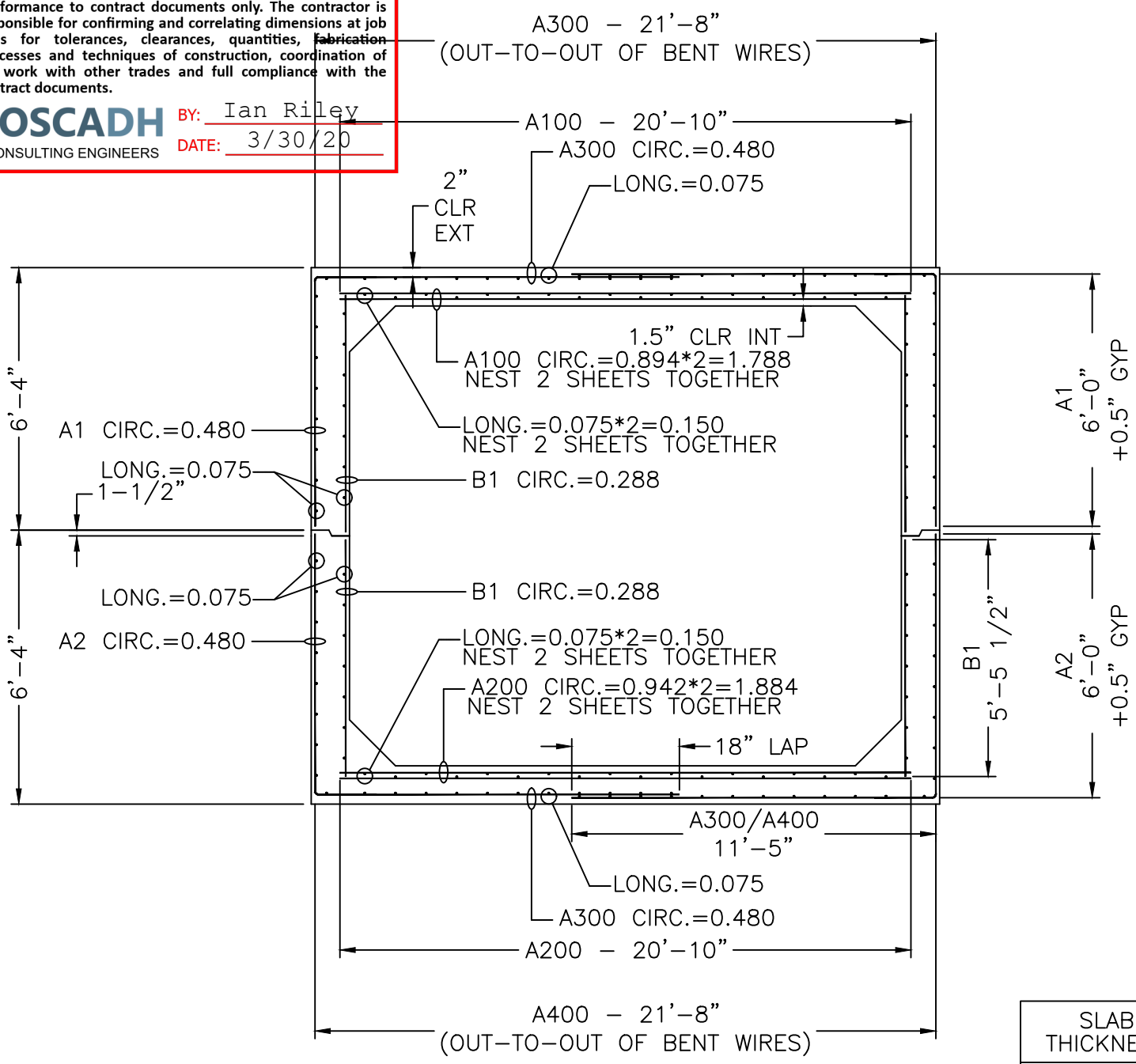
[ ] REVISE AND RESUBMIT [ ] REJECTED: _____

Submittal was reviewed for design conformity and general conformance to contract documents only. The contractor is responsible for confirming and correlating dimensions at job sites for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of his work with other trades and full compliance with the contract documents.

FOSCADH CONSULTING ENGINEERS

BY: Ian Riley

DATE: 3/30/20



20' x 10' x 5'–11 1/2"

CROSS SECTION WITH AREAS OF STEEL

SLAB THICKNESS	
TOP	16"
BOTTOM	16"
WALLS	12"

CAGE WEIGHT PER 5'–11 1/2" JOINT = 2592 lbs

MECHANICAL DIMENSIONS	
DIM. 'L' =	N/A
DIM. 'M' =	N/A
DIM. 'R' =	N/A
DIM. 'S' =	N/A

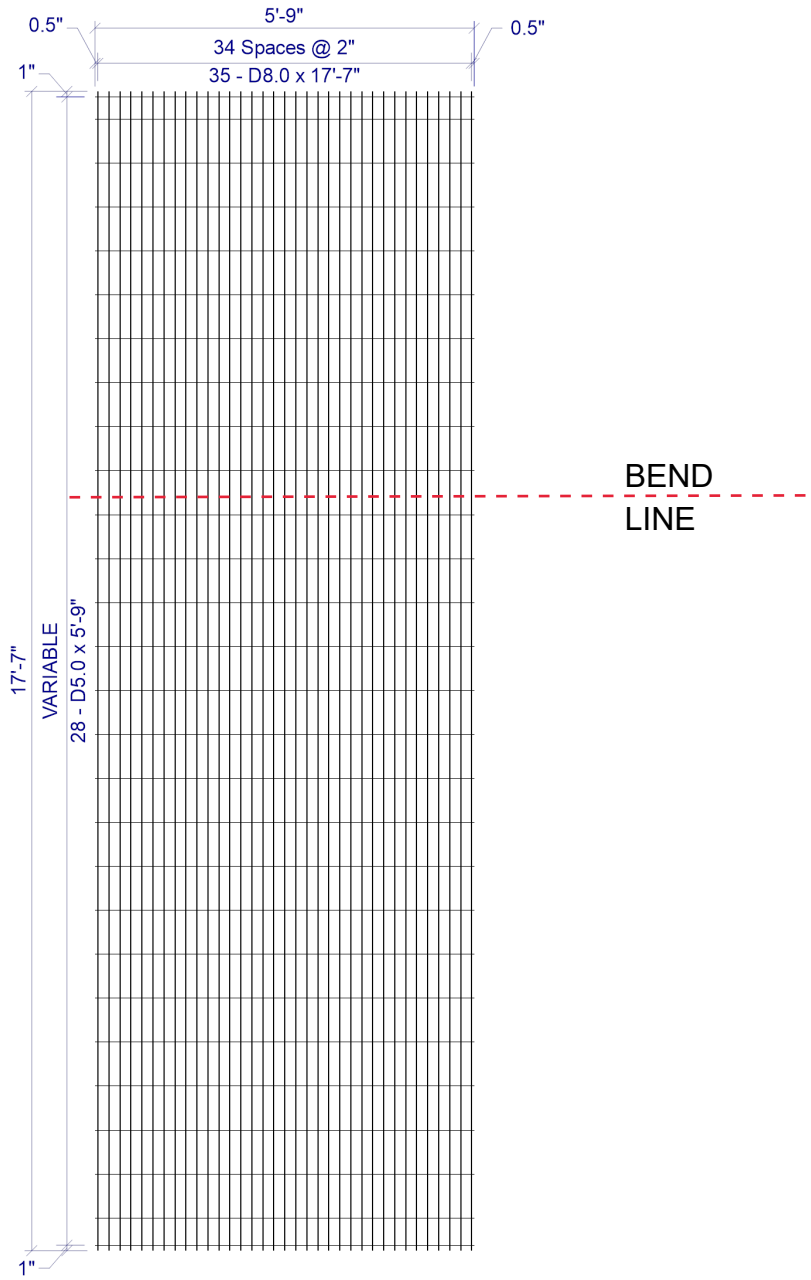
BOX SIZE:	ASTM:	TABLE:	FILL:
20' X 10' X 5'–11 1/2"	HL–93	125%	8'–9.5'

Concrete Reinforcements, Inc.
3830 Presidents Way
Jacksonville, FL 32220
PH. 904-520-7100 FAX. 904-520-7101

CUSTOMER:	DRAWN BY:	REVISION:	SHEET DESCRIPTION:	
AMERICAN CONCRETE	BWA	-	COVER	
PROJECT:	DATE:	REVISION DATE:	FILE NAME:	
20' X 10' X 5'-11 1/2" AMHERST	3/27/2020	-	F20-4012	
	CHECKED BY:	SCALE:	PROJECT #:	SHEET #:
	BWA	NTS	F20-4012	1 OF 5

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101



2 x VAR D8.0 / D5.0 (GRADE 75) 68(+0.5, +0.5) x 17'-7"(1, 1)

VAR = 1" OH, 1@4", 25@8", 1@5", 1" OH

CUSTOMER	American Concrete
PROJECT	F20-4012 - Drawings - 20x10 Amherst - American Concrete - 3-27-2020
LOCATION	Veazie, ME
DATE	03-27-2020
MARK NUMBER	A1/A2 (-01)
L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D8.0
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-9"
LENGTH	17'-7"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	1"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

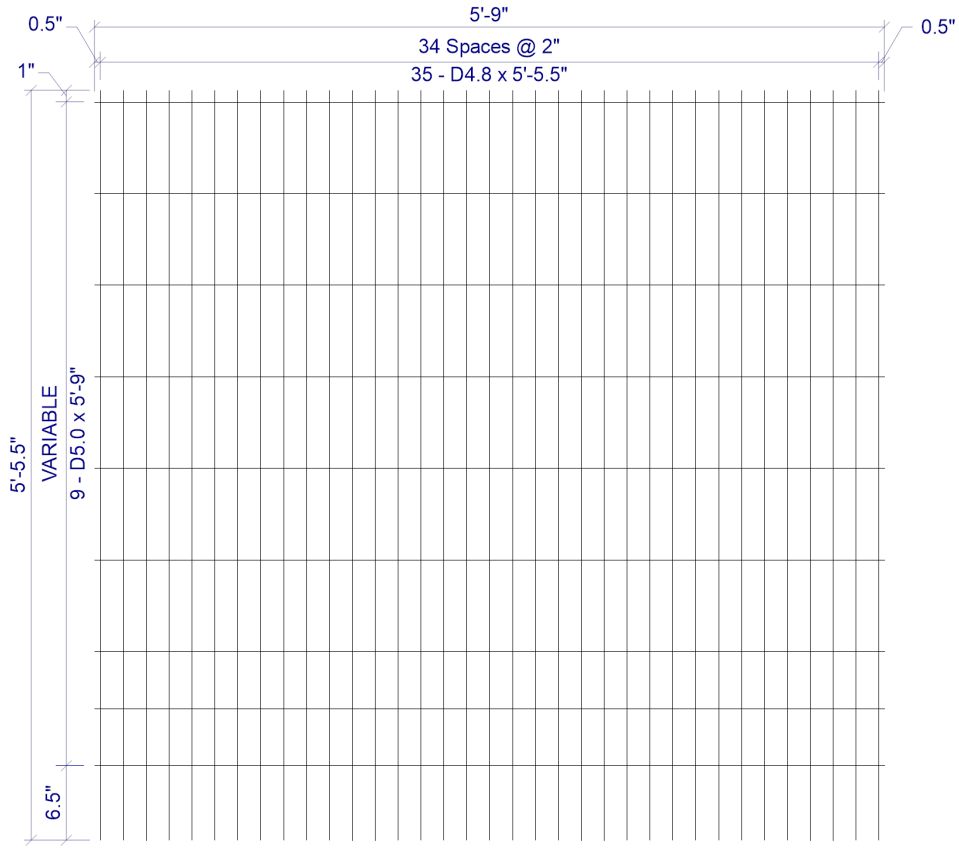
WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	35	N/A	28
SIZE	D8.0	N/A	D5.0
LENGTH	17'-7"	-	5'-9"
W.T./SHEET			
SHEET W.T.	194.80#		
QUANTITY	56		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
BEND DIMS: WALL=72", SLAB=139"

APPROVED

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101



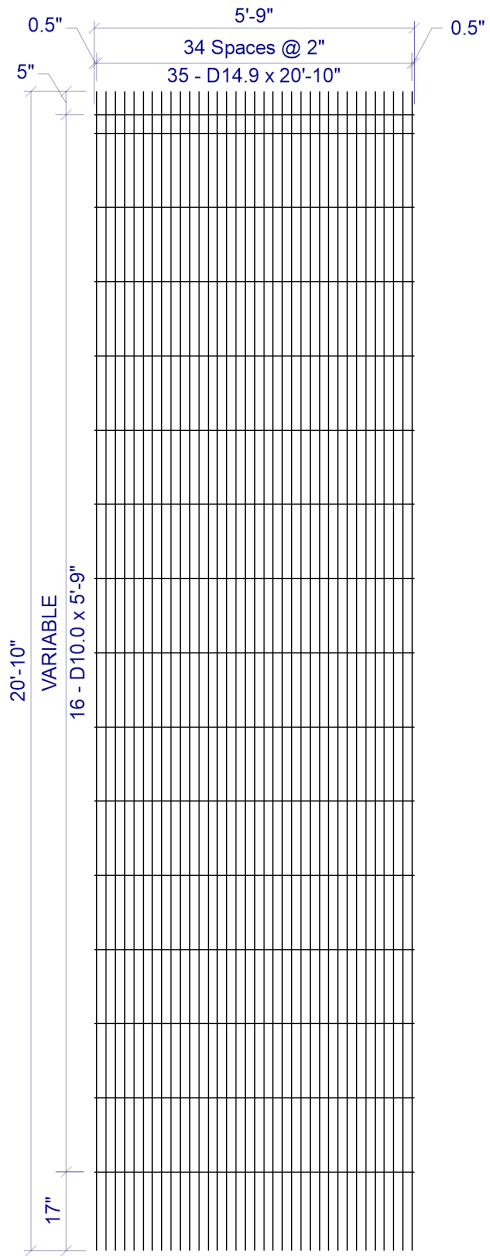
2 x VAR D4.8 / D5.0 (GRADE 75) 68(+0.5, +0.5) x 5'-5.5"(1, 6.5)
VAR = 1" OH, 6@8", 2@5", 6.5" OH

CUSTOMER	American Concrete
PROJECT	F20-4012 - Drawings - 20x10 Amherst - American Concrete - 3-27-2020
LOCATION	Veazie, ME
DATE	03-27-2020
MARK NUMBER	B1 (-02)
L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D4.8
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-9"
LENGTH	5'-5.5"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	6.5"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	35	N/A	9
SIZE	D4.8	N/A	D5.0
LENGTH	5'-5.5"	-	5'-9"
W.T./SHEET			
SHEET W.T.	41.30#		
QUANTITY	56		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:

APPROVED



2 x VAR D14.9 / D10.0 (GRADE 75) 68(+0.5, +0.5) x 20'-10"(5, 17)

VAR = 5" OH, 1@4", 14@16", 17" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER: American Concrete

PROJECT: F20-4012 - Drawings - 20x10 Amherst - American Concrete - 3-27-2020

LOCATION: Veazie, ME

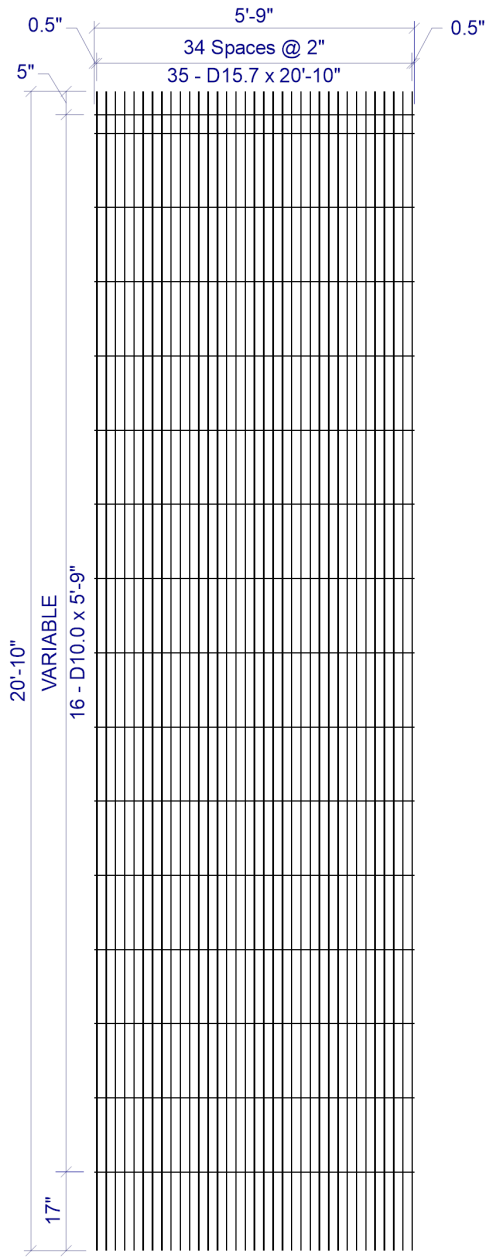
DATE: 03-27-2020 MARK NUMBER: A100 (-03)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D14.9
L.W.2 SIZE	N/A
C.W.SIZE	D10.0
WIDTH	5'-9"
LENGTH	20'-10"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	5"
OH.BOTTOM	17"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	35	N/A	16
SIZE	D14.9	N/A	D10.0
LENGTH	20'-10"	-	5'-9"
W.T./SHEET			
SHEET W.T.	403.20#		
QUANTITY	28		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
NEST (2X) SHEETS TOGETHER FOR AREA FLIP ONE SHEET AND NEST WITH SECOND SHEET TO MAKE LONGITUDINAL SPACING 8"

APPROVED _____



2 x VAR D15.7 / D10.0 (GRADE 75) 68(+0.5, +0.5) x 20'-10"(5, 17)

VAR = 5" OH, 1@4", 14@16", 17" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER: American Concrete

PROJECT: F20-4012 - Drawings - 20x10 Amherst - American Concrete - 3-27-2020

LOCATION: Veazie, ME

DATE: 03-27-2020 MARK NUMBER: A200 (-04)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D15.7
L.W.2 SIZE	N/A
C.W.SIZE	D10.0
WIDTH	5'-9"
LENGTH	20'-10"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	5"
OH.BOTTOM	17"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	35	N/A	16
SIZE	D15.7	N/A	D10.0
LENGTH	20'-10"	-	5'-9"
W.T./SHEET			
SHEET W.T.	420.60#		
QUANTITY	28		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
NEST (2X) SHEETS TOGETHER FOR AREA FLIP ONE SHEET AND NEST WITH SECOND SHEET TO MAKE LONGITUDINAL SPACING 8"

APPROVED _____

SHOP DRAWING/SUBMITTAL REVIEW

☒ APPROVED ☐ APPROVED WITH CHANGES NOTES

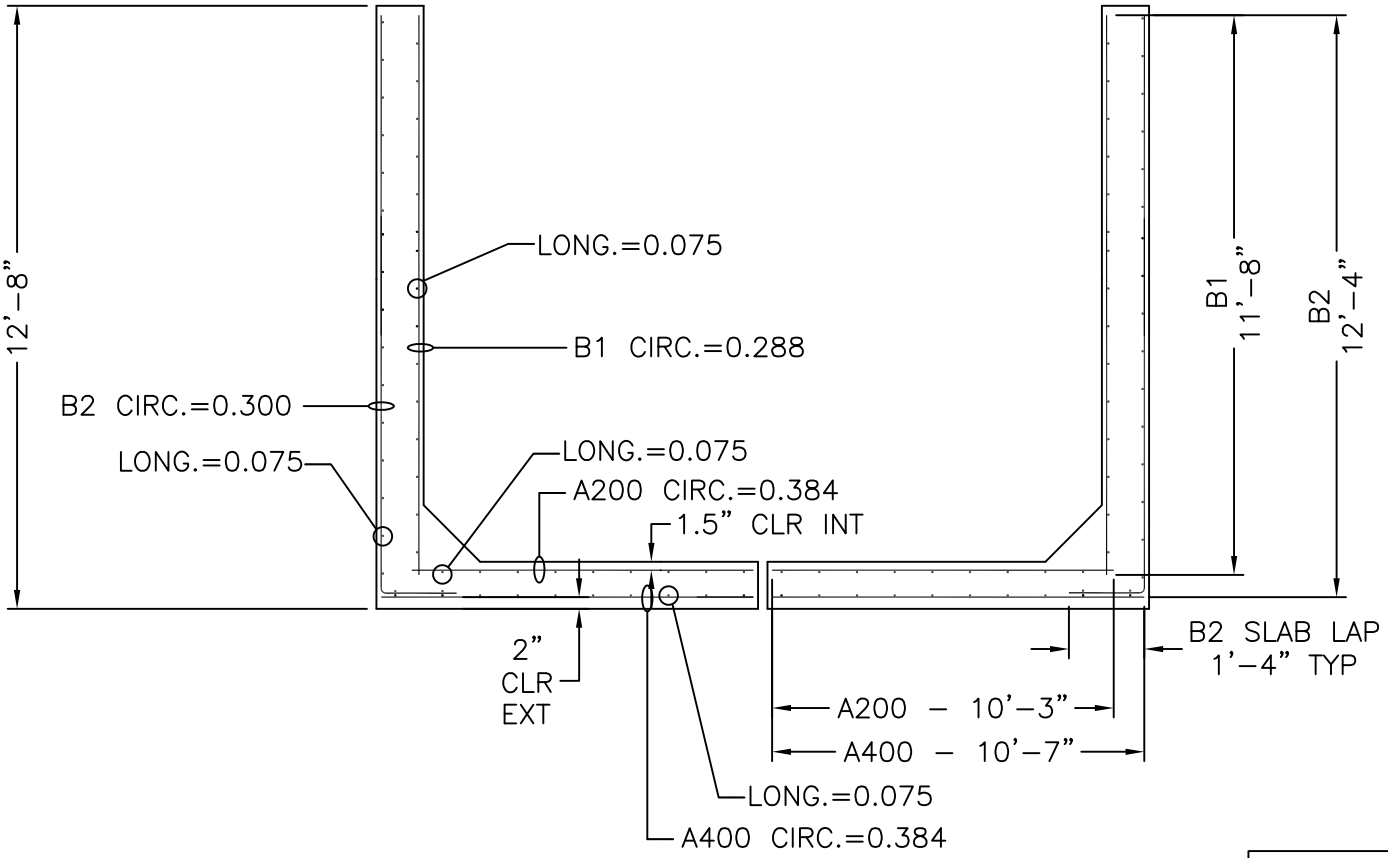
☐ REVISE AND RESUBMIT ☐ REJECTED: _____

Submittal was reviewed for design conformity and general conformance to contract documents only. The contractor is responsible for confirming and correlating dimensions at job sites for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of his work with other trades and full compliance with the contract documents.

FOSCADH CONSULTING ENGINEERS

BY: Ian Riley

DATE: 3/30/20



SLAB THICKNESS	
TOP	
BOTTOM	16"
WALLS	12"

20' x 11'-4"

CROSS SECTION WITH AREAS OF STEEL

CAGE WEIGHT PER 6'-2" JOINT = 789.0 lbs

MECHANICAL DIMENSIONS	
DIM. 'L' =	N/A
DIM. 'M' =	N/A
DIM. 'R' =	N/A
DIM. 'S' =	N/A

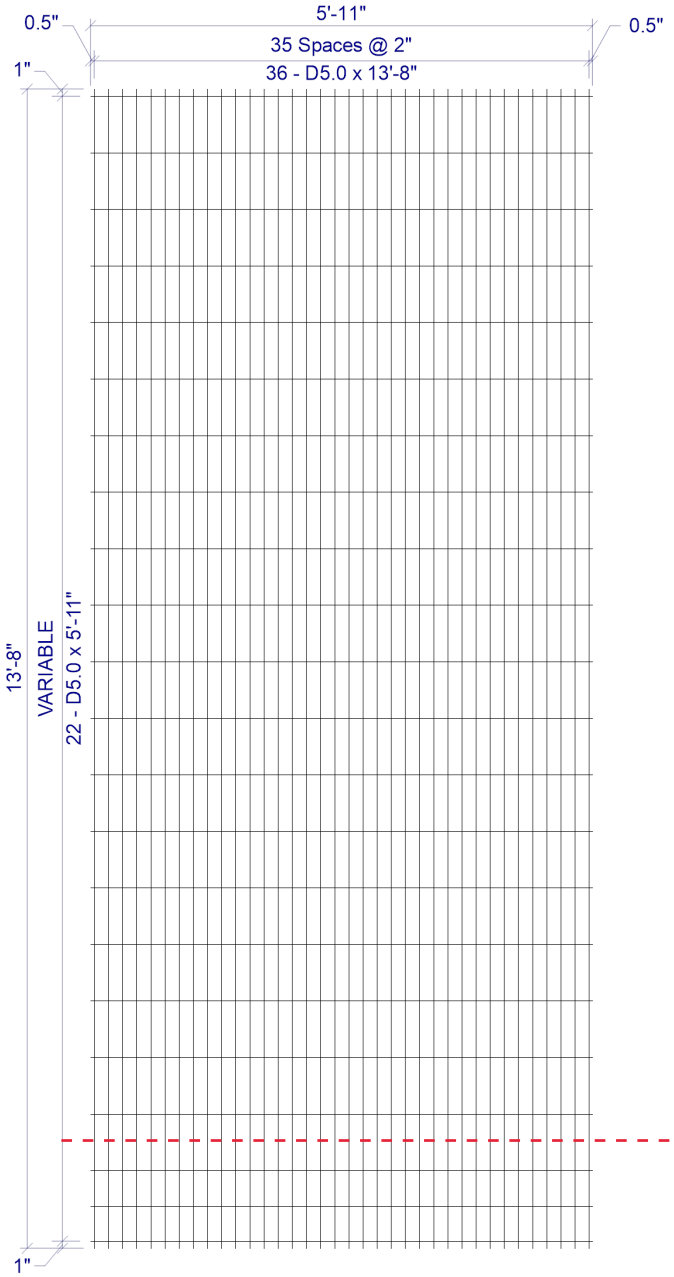
BOX SIZE:	ASTM:	TABLE:	FILL:
20' X 11'-4"	HL-93	125%	

Concrete Reinforcements, Inc.
3830 Presidents Way
Jacksonville, FL 32220
PH. 904-520-7100 FAX. 904-520-7101

CUSTOMER:	DRAWN BY:	REVISION:	SHEET DESCRIPTION:	
AMERICAN CONCRETE	BWA	-	COVER	
PROJECT:	DATE:	REVISION DATE:	FILE NAME:	
HEADWALL MID AMHERST	3/27/2020	-	F20-4012B	
	CHECKED BY:	SCALE:	PROJECT #:	SHEET #:
	BWA	NTS	F20-4012B	1 OF 5

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101



BEND LINE

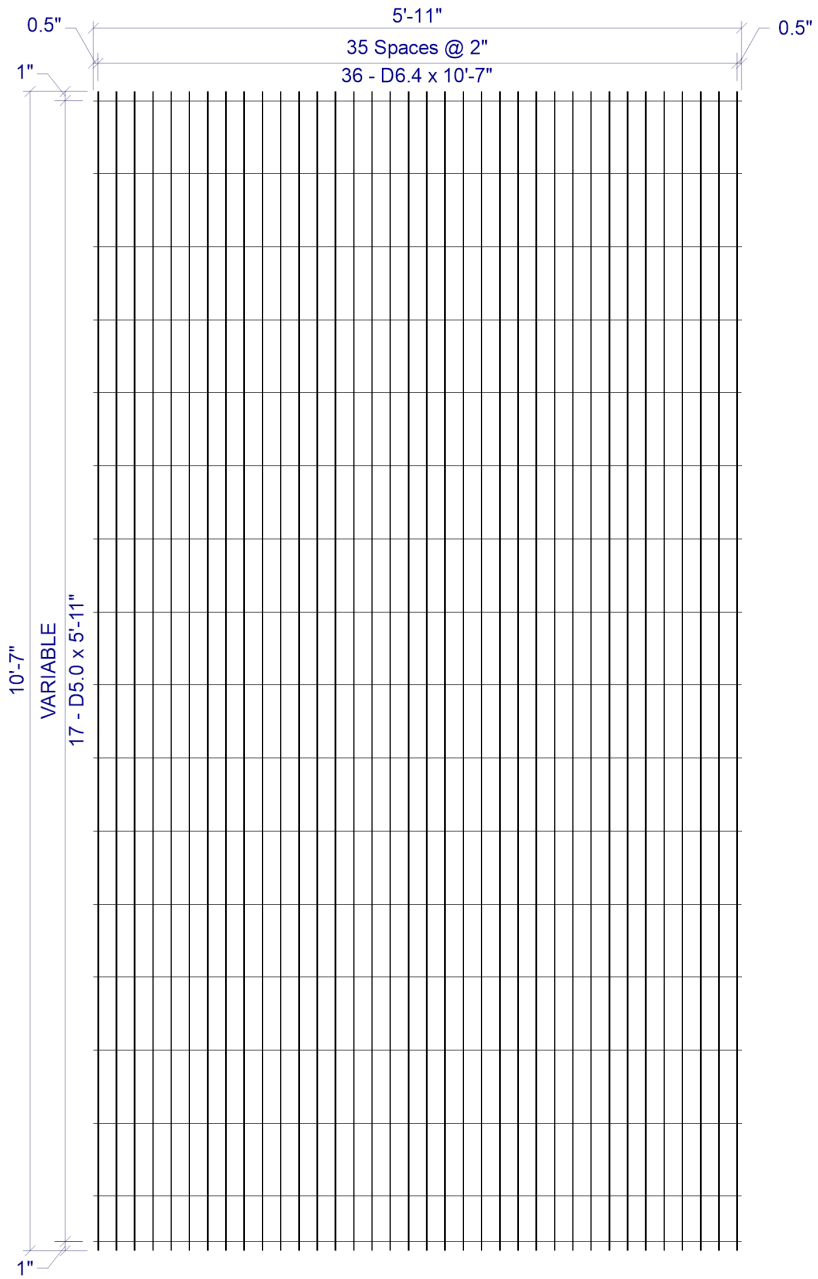
2 x VAR D5.0 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 13'-8"(1, 1)
VAR = 1" OH, 19@8", 2@5", 1" OH

CUSTOMER	American Concrete
PROJECT	F20-4012 - Drawings - Headwall Mid Amherst - American Concrete - 3-27-2020
LOCATION	Veazie, ME
DATE	03-27-2020
MARK NUMBER	B2 (-01)
L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D5.0
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	13'-8"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	1"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	22
SIZE	D5.0	N/A	D5.0
LENGTH	13'-8"	-	5'-11"
W.T./SHEET			
SHEET W.T.	105.77#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
BEND DIMS: WALL=148", SLAB=16"

APPROVED _____



2 x VAR D6.4 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 10'-7"(1, 1)

VAR = 1" OH, 15@8", 1@5", 1" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER: American Concrete

PROJECT: F20-4012 - Drawings - Headwall Mid Amherst - American Concrete - 3-27-2020

LOCATION: Veazie, ME

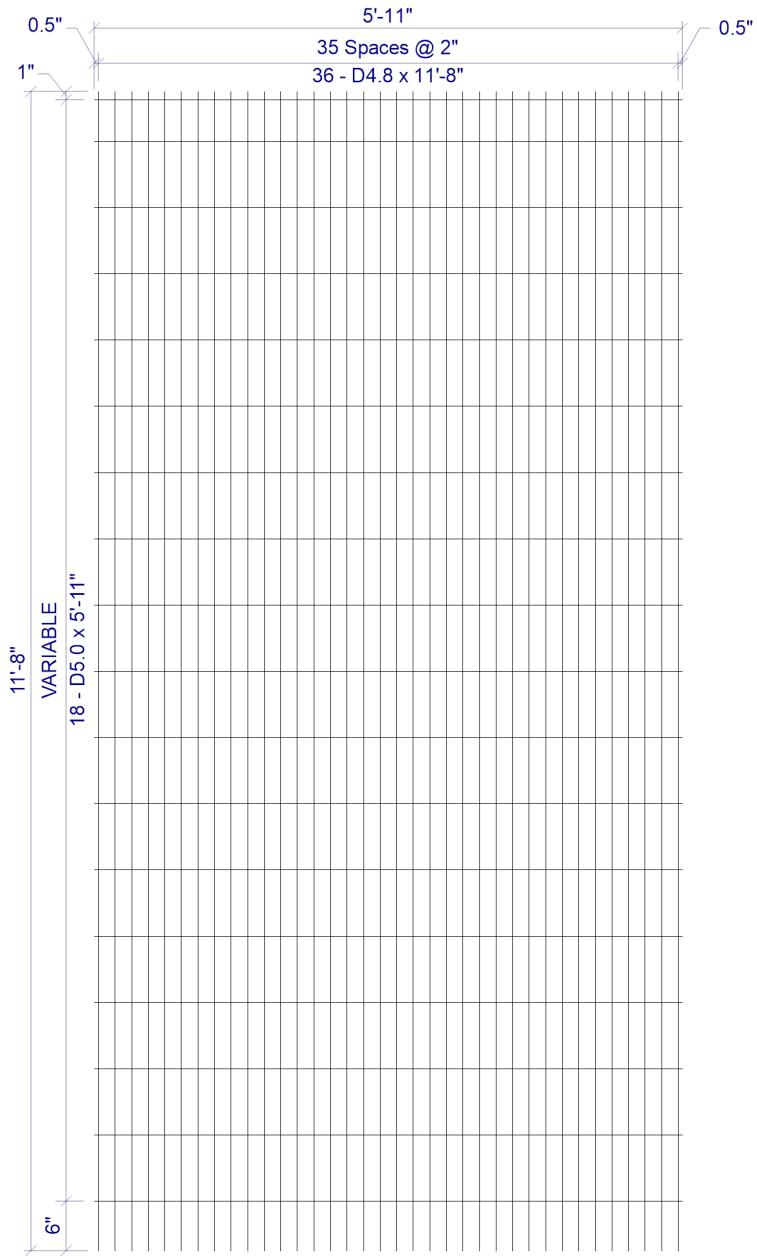
DATE: 03-27-2020 MARK NUMBER: AE400 (-02)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D6.4
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	10'-7"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	1"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	17
SIZE	D6.4	N/A	D5.0
LENGTH	10'-7"	-	5'-11"
W.T./SHEET			
SHEET W.T.	101.40#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:

APPROVED



2 x VAR D4.8 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 11'-8"(1, 6)

VAR = 1" OH, 1@5", 16@8", 6" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
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Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER: American Concrete

PROJECT: F20-4012 - Drawings - Headwall Mid Amherst - American Concrete - 3-27-2020

LOCATION: Veazie, ME

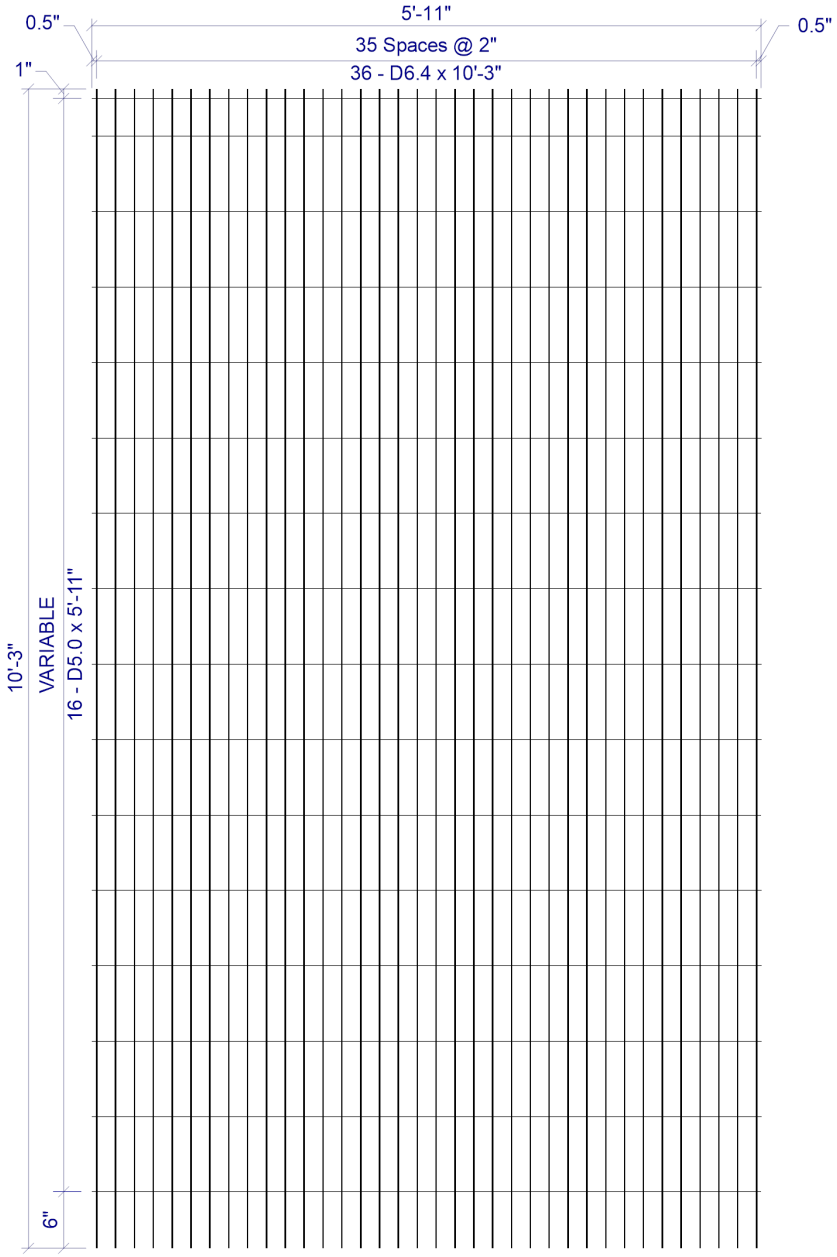
DATE: 03-27-2020 MARK NUMBER: B1 (-03)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D4.8
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	11'-8"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	6"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	18
SIZE	D4.8	N/A	D5.0
LENGTH	11'-8"	-	5'-11"
W.T./SHEET			
SHEET W.T.	89.60#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:

APPROVED



2 x VAR D6.4 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 10'-3"(1, 6)

VAR = 1" OH, 1@4", 14@8", 6" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
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Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER: American Concrete

PROJECT: F20-4012 - Drawings - Headwall Mid Amherst - American Concrete - 3-27-2020

LOCATION: Veazie, ME

DATE: 03-27-2020 MARK NUMBER: A200 (-04)

L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D6.4
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	10'-3"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	6"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	16
SIZE	D6.4	N/A	D5.0
LENGTH	10'-3"	-	5'-11"
W.T./SHEET			
SHEET W.T.	97.70#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:

APPROVED

SHOP DRAWING/SUBMITTAL REVIEW

[X] APPROVED [ ] APPROVED WITH CHANGES NOTES

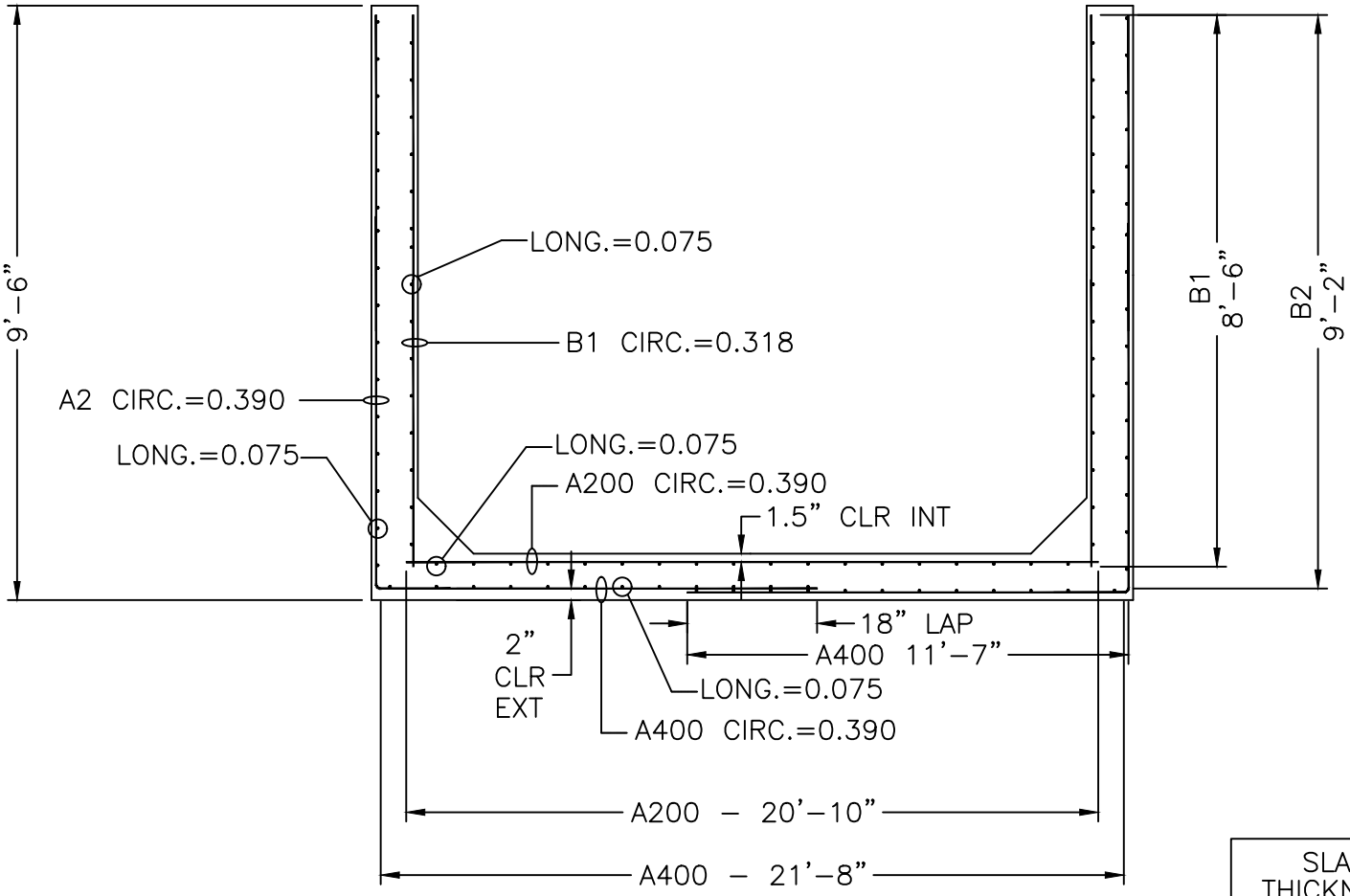
[ ] REVISE AND RESUBMIT [ ] REJECTED: _____

Submittal was reviewed for design conformity and general conformance to contract documents only. The contractor is responsible for confirming and correlating dimensions at job sites for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of his work with other trades and full compliance with the contract documents.

FOSCADH CONSULTING ENGINEERS

BY: Ian Riley

DATE: 3/30/20



20' x 8'-2"

CROSS SECTION WITH AREAS OF STEEL

SLAB THICKNESS	
TOP	
BOTTOM	16"
WALLS	12"

CAGE WEIGHT PER 6'-2" JOINT = 732.2 lbs

MECHANICAL DIMENSIONS	
DIM. 'L' =	N/A
DIM. 'M' =	N/A
DIM. 'R' =	N/A
DIM. 'S' =	N/A

BOX SIZE:	ASTM:	TABLE:	FILL:
20' X 8'-2"	HL-93	125%	

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CUSTOMER:	DRAWN BY:	REVISION:	SHEET DESCRIPTION:	
AMERICAN CONCRETE	BWA	-	COVER	
PROJECT:	DATE:	REVISION DATE:	FILE NAME:	
HEADWALL END AMHERST	3/27/2020	-	F20-4012C	
	CHECKED BY:	SCALE:	PROJECT #:	SHEET #:
	BWA	NTS	F20-4012C	1 OF 4

SHEET DESIGN

Concrete Reinforcements, Inc.
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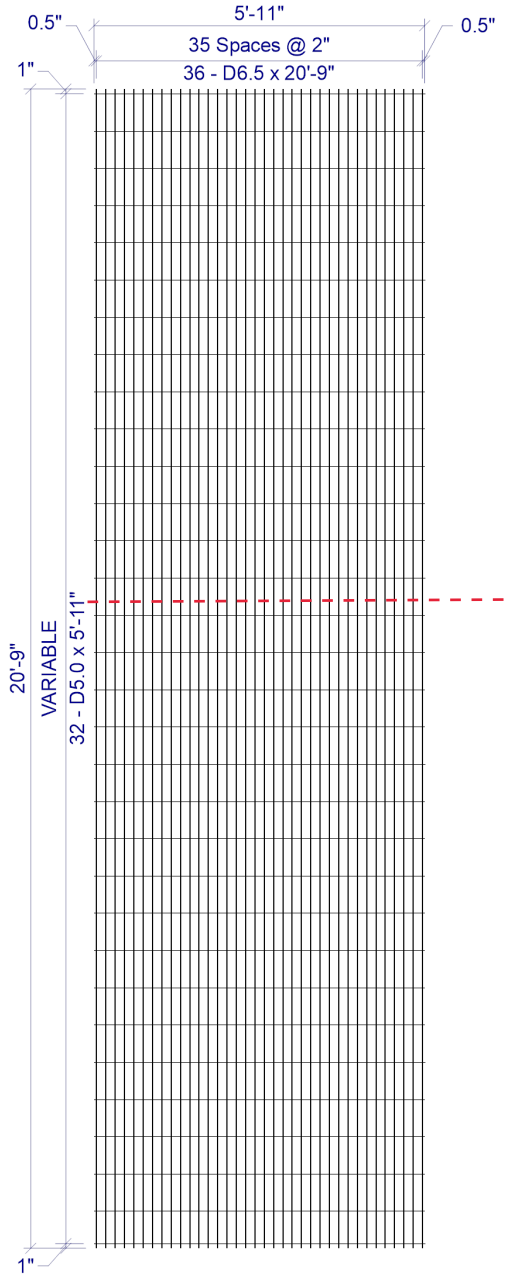
Phone: 904-520-7100 • Fax: 904-520-7101



BEND LINE

2 x VAR D6.5 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 20'-9"(1, 1)

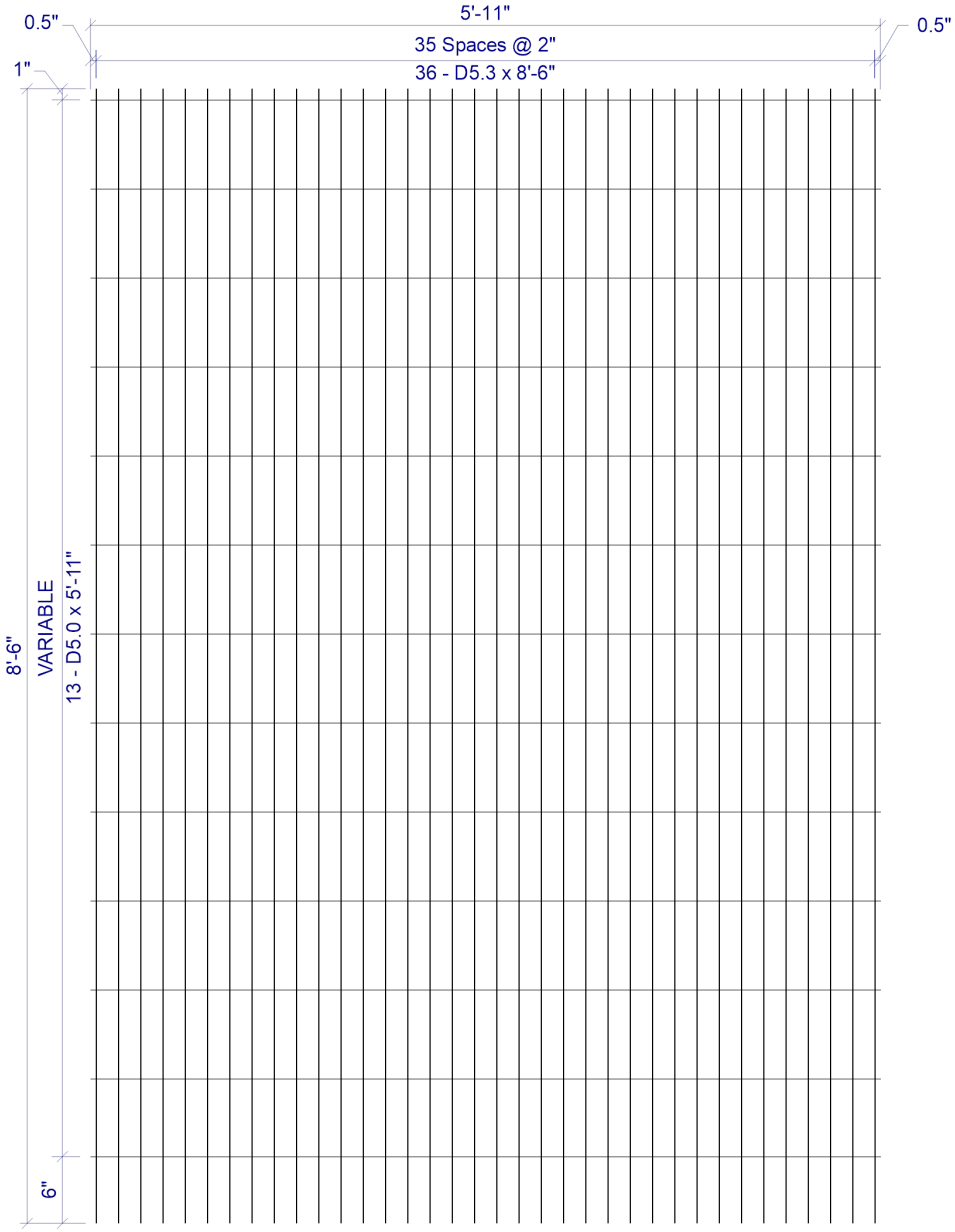
VAR = 1" OH, 30@8", 1@7", 1" OH

CUSTOMER	American Concrete
PROJECT	F20-4012C - Drawings - Headwall End Amherst - American Concrete - 3-27-2020
LOCATION	Veazie, ME
DATE	03-27-2020
MARK NUMBER	B2 (-01)
L.W.SPACE	2
C.W.SPACE	VAR
L.W.1 SIZE	D6.5
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	20'-9"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	1"
OH.BOTTOM	1"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	32
SIZE	D6.5	N/A	D5.0
LENGTH	20'-9"	-	5'-11"
W.T./SHEET			
SHEET W.T.	197.30#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:
BEND DIMS: WALL=110", SLAB=139"

APPROVED



2 x VAR D5.3 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 8'-6"(1, 6)

VAR = 1" OH, 11@8", 1@7", 6" OH

SHEET DESIGN

Concrete Reinforcements, Inc.
3830 Presidents Way • Jacksonville, FL 32220
Phone: 904-520-7100 • Fax: 904-520-7101

CUSTOMER: American Concrete

PROJECT: F20-4012C - Drawings - Headwall End Amherst - American Concrete - 3-27-2020

LOCATION: Veazie, ME

DATE: 03-27-2020 MARK NUMBER: B1 (-02)

L.W.SPACE: 2

C.W.SPACE: VAR

L.W.1 SIZE: D5.3

L.W.2 SIZE: N/A

C.W.SIZE: D5.0

WIDTH: 5'-11"

LENGTH: 8'-6"

OH.LEFT: 0.5"

OH.RIGHT: 0.5"

OH.TOP: 1"

OH.BOTTOM: 6"

YIELD: 75,000psi

BENT: -

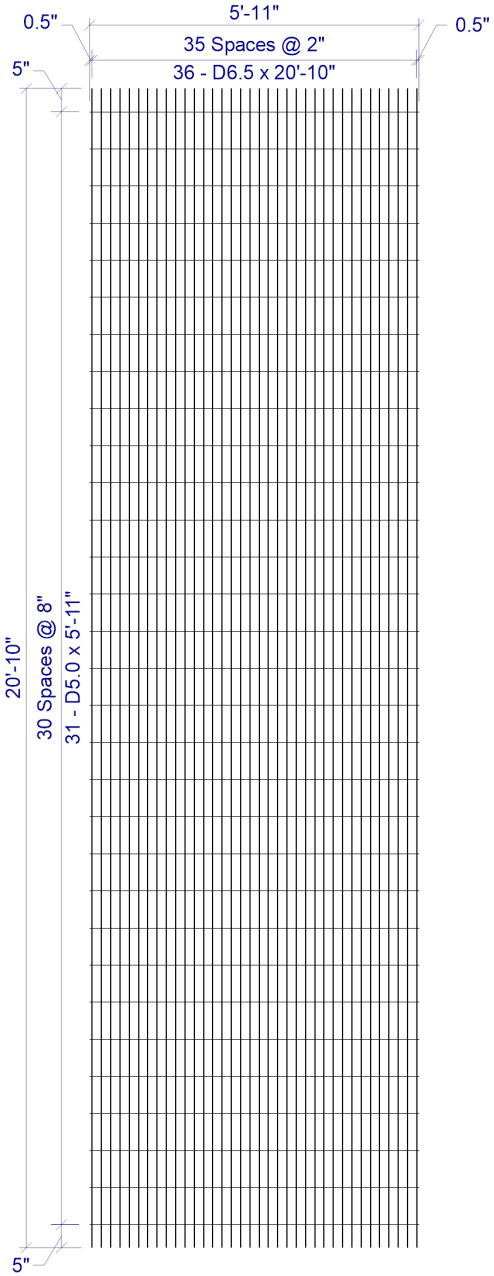
CUT: -

ROLL: -

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	13
SIZE	D5.3	N/A	D5.0
LENGTH	8'-6"	-	5'-11"
W.T./SHEET			
SHEET W.T.	70.30#		
QUANTITY	4		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:

APPROVED



2 x 8 D6.5 / D5.0 (GRADE 75) 70(+0.5, +0.5) x 20'-10"(5, 5)

SHEET DESIGN

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CUSTOMER: American Concrete

PROJECT: F20-4012C - Drawings - Headwall End Amherst - American Concrete - 3-27-2020

LOCATION: Veazie, ME

DATE: 03-27-2020 MARK NUMBER: A200 (-03)

L.W.SPACE	2
C.W.SPACE	8
L.W.1 SIZE	D6.5
L.W.2 SIZE	N/A
C.W.SIZE	D5.0
WIDTH	5'-11"
LENGTH	20'-10"
OH.LEFT	0.5"
OH.RIGHT	0.5"
OH.TOP	5"
OH.BOTTOM	5"
YIELD	75,000psi
BENT	-
CUT	-
ROLL	-

WIRES	LINE WIRE 1	LINE WIRE 2	CROSS WIRE
NO. PER SHEET	36	N/A	31
SIZE	D6.5	N/A	D5.0
LENGTH	20'-10"	-	5'-11"
W.T./SHEET			
SHEET W.T.	197.00#		
QUANTITY	2		
SUB TOTAL WEIGHT			
TOTAL WEIGHT			
S.F./SHEET			
LBS./CSF			
Ast/LF			
ST.DENSITY			

SPECIAL REMARKS:

APPROVED