Bridge No.	2017-2318-44.8	Road Name	Meadowbank to Amaruq	Inspection Date	2017-07-14

Figure 22: SW bearing - back inside corner

Figure 24: SW bearing slotted hole

Figure 21: SW ballast wall weld to end of girder

Figure 23: SW bearing - front inside corner

Bridge No.	2017-2318-44.8	Road Name	Meadowbank to Amaruq	Inspection Date	2017-07-14

Figure 26: Temporary bridge to east of new structure

Figure 28: Typical back of bearing (SW outside)

Figure 25: Temporary access to abutment

Figure 27: Temporary bridge

Bridge No.	2017-2318-44.8	Road Name	Meadowbank to Amaruq	Inspection Date	2017-07-14

Figure 30: Typical girder web bowing effect

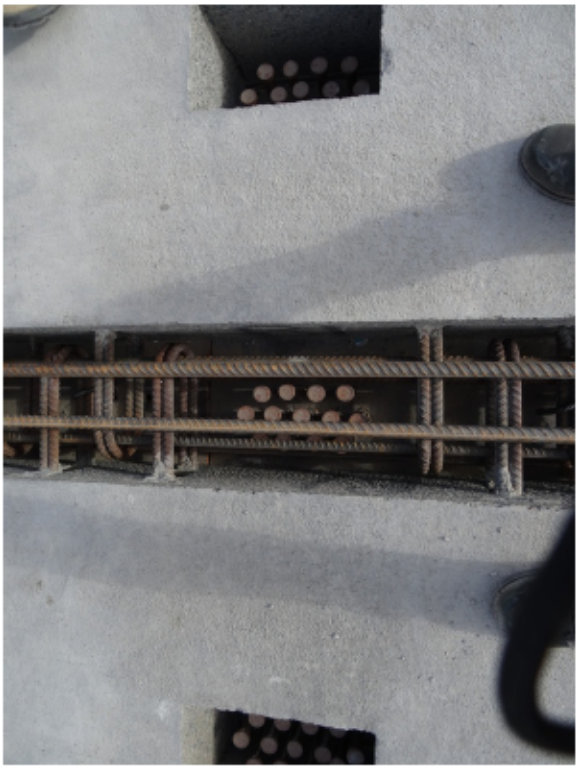

Figure 32: Ungrouted deck joints between precast panels

Figure 29: Typical front of bearing (SW outside)

Figure 31: Typical splice and deck joint formwork

Appendix B - Bolted Inspection Summaries

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APPENDIX

F BRIDGES DRAWING

APPENDIX

F-1 ABUTMENT

Z:\2016\00506A - BAB - BRIDGE ABUTMENT 3.6KM, NU\ORDER\DRAFTING\2016-00506A (R1)

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506A-000	COVER SHEET	1	06 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506A-S01	DETAILS, BILL OF MATERIALS, NOTES	1	06 JUL 16
2016-00506A-S02	PLAN VIEW, ELEVATION VIEW	1	06 JUL 16
2016-00506A-S03	SECTIONS	1	06 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 3.6 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

REV NO.	DATE	BY	DESCRIPTION
1	06 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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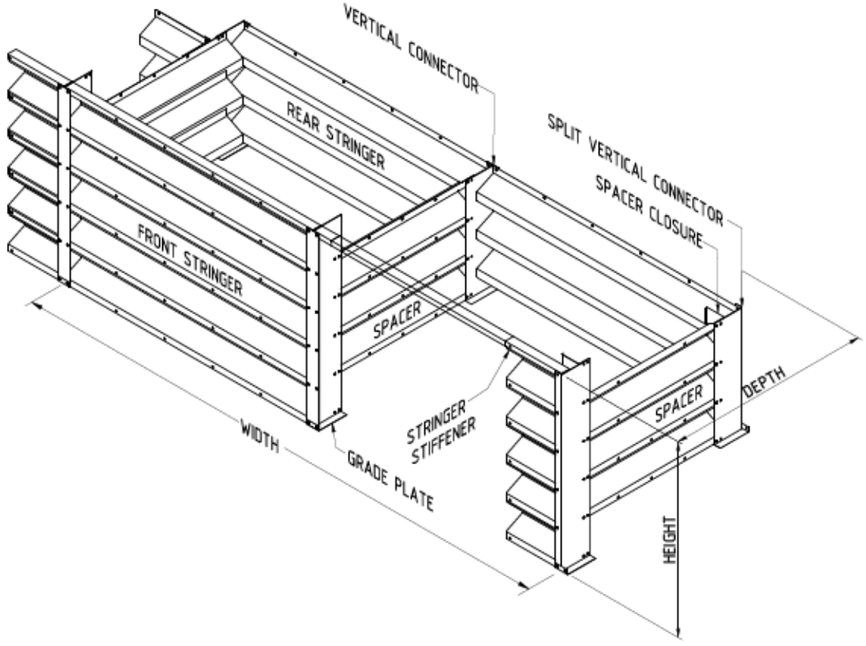
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE # 2	CUSTOMER REF. -	TOTAL DWGS 4	
DES. CHK	BY	OTHERS				
DRAWN BY	BH	17 JUN 16	PROJECT NUMBER 2016-00506A	DWG NO. 000	REV. 1	
DWG. CHK	LM	24 JUN 16				

July-06-16 2:24:35 PM BRIAN HEANEY



BOLT-A-BIN COMPONENTS

PART NAME	FUNCTION
VERTICAL CONNECTOR	Connects stringers and spacers.
SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
STANDARD STRINGER	Forms front and rear walls.
SPACER	Forms transverse and end walls.
STRINGER STIFFENER	Stiffens top stringer (front wall).
SPACER CLOSURE	Retains bin fill at end walls.
GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

THIS ISOMETRIC ILLUSTRATION IS A REPRESENTATION OF A STANDARD BOLT-A-BIN STRUCTURE.

ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
6	BBF642486VC	#6 MOD. VERTICAL CONNECTOR (STANDARD)	2486	6.4
6	BBF642893VC	#7 MOD. VERTICAL CONNECTOR (STANDARD)	2893	6.4
4	BBF642486SVCA	#6 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2486	6.4
4	BBF642893SVCA	#7 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2893	6.4
104	BBF283036STR	STANDARD STRINGER	3036	2.8
54	BBF283802SPA	# 8 SPACER	3802	2.8
8	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
4	BBF162486SC	#6 MOD. SPACER CLOSURE (STANDARD)	2486	1.6
4	BBF162893SC	#7 MOD. SPACER CLOSURE (STANDARD)	2893	1.6
20	BBF200395GP	GRADE PLATE	-	2.0
1550	UP.625X1.5	16mm (5/8") ø STEEL BOLT & NUT	38	16mm ø

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
- 1.2 ESTABLISH FRONT AND REAR LINES OF BOLT-A-BIN WALLS AND LOCATION OF EACH VERTICAL CONNECTOR.

2.0 ASSEMBLY
- 2.1 DISTRIBUTE GRADE PLATES AND VERTICAL CONNECTORS TO APPROPRIATE LOCATIONS. NOTE: ON MOST WALLS VERTICAL CONNECTORS ARE 812mm SHORTER THAN FRONT VERTICAL CONNECTORS (EXCEPT ON BRIDGE ABUTMENTS). FOR WALL HEIGHTS GREATER THAN 3.66m, VERTICAL CONNECTORS WILL CONSIST OF TWO OR MORE PIECES.
- 2.2 LOCATE AND PLACE GRADE PLATES IN EXACT LOCATIONS. SET VERTICAL CONNECTORS ONTO GRADE PLATES AND ATTACH WITH BOLTS. ATTACH TWO LOWER SPACERS TO FRONT AND REAR VERTICAL CONNECTORS.
- 2.3 ATTACH TWO STRINGERS AT THE LOWEST HEIGHT IN THE FRONT AND REAR FACE. ONCE A BIN IS FORMED, CHECK FRONT FACE ALIGNMENT. CHECK BACK BIN TO ENSURE BIN IS SQUARE DIAGONALLY. ENSURE VERTICAL CONNECTORS ARE PLUMB IF BIN IS A VERTICAL INSTALLATION. CONTINUE TO ASSEMBLE BIN TOGETHER ALTERNATING STRINGERS AND SPACERS UNTIL BIN IS COMPLETED FULL HEIGHT. ASSEMBLING OF ADJACENT BINS MAY BE STARTED AFTER SUFFICIENT STRINGERS AND SPACERS ARE ASSEMBLED IN FIRST BIN TO ENSURE STABILITY. ALL BINS IN INSTALLATION ARE COMPLETED IN AN ALTERNATING STEP FASHION. FOR END BINS, INSTALL SPACER CLOSURE AT ENDS OF SPACERS OF EXPOSED END WALL PANEL.
- 2.4 STRINGERS ON FRONT FACE OF WALL ARE TO BE INSTALLED WITH THE OVERLAP ON THE INSIDE OF PRECEDING LOWER STRINGER INSTALLED.

GENERAL NOTES:

1.0 ALL DIMENSIONS ARE IN MILLIMETRES.
2.0 VERTICAL DIMENSIONS ARE FROM THE CENTRE OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 59mm.
3.0 GRADE PLATES, SUPPLIED BY A.I.L., ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
4.0 BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (150mm MIN.)
5.0 CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A325 AND GALVANIZED TO ASTM A153/A153M
6.0 STEEL COMPONENTS MANUFACTURED IN ACCORDANCE WITH ASTM A568M AND HOT DIPPED GALVANIZED TO CSA G164 WITH A MINIMUM ZINC COATING OF Z610.
7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

REV NO.	DATE	BY	DESCRIPTION
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0	24 JUN 16	BH	ISSUED FOR APPROVAL

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BRIDGE ABUTMENT 3.6 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

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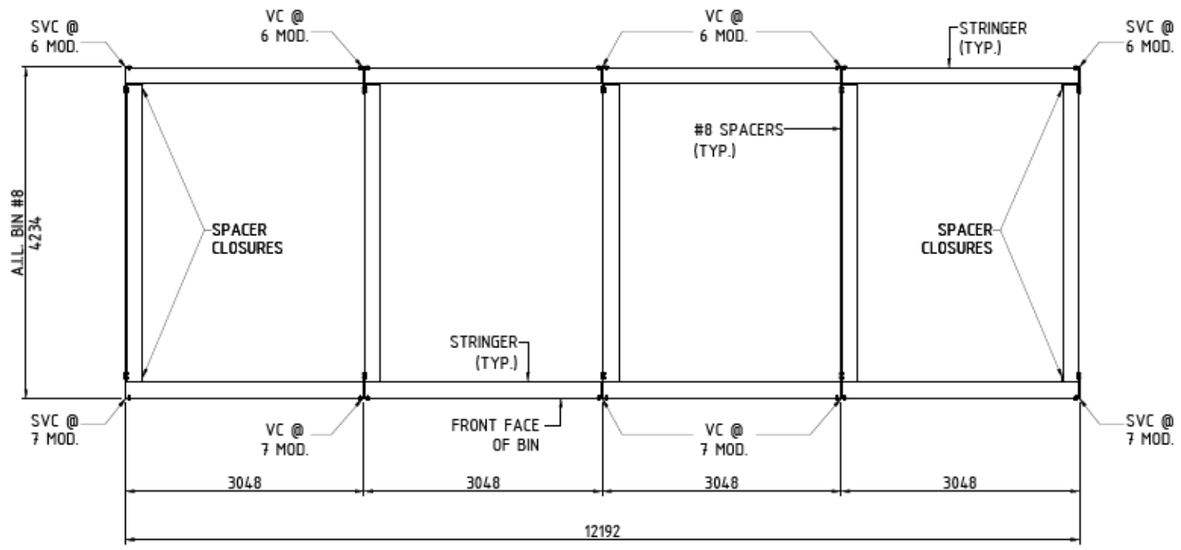
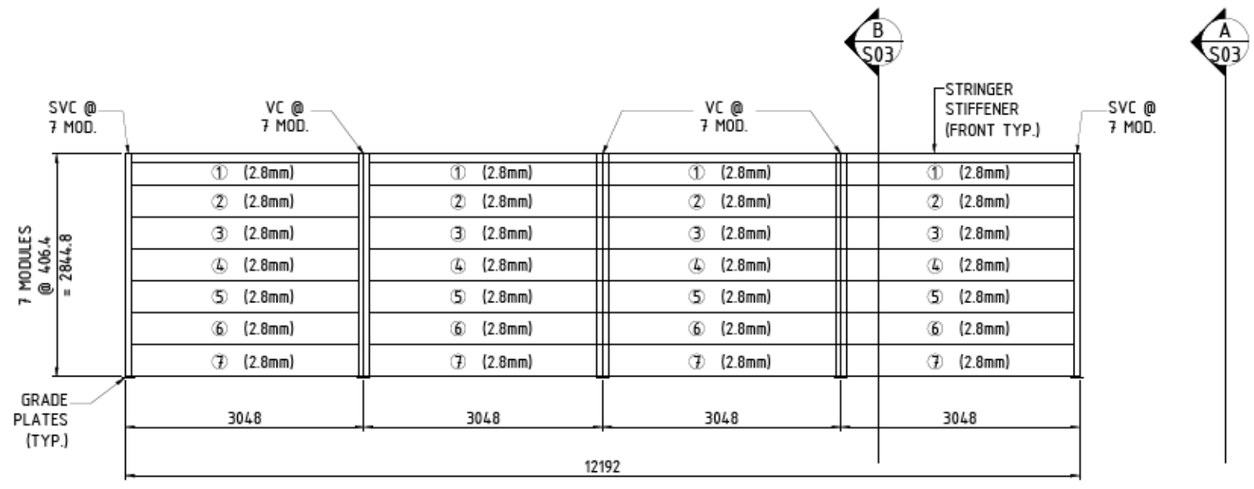
DES. CHK	BY	OTHERS	
DRAWN BY	BH	17 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506A | DWG NO. S01 | REV. 1

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
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1	06 JUL 16	BH	ISSUED FOR CONSTRUCTION
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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 3.6 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

DESIGNED	BY	OTHERS		RELEASE #	CUSTOMER REF.
DES. CHK	BY	OTHERS		2	-
DRAWN BY	BH	17 JUN 16	PROJECT NUMBER	2016-00506A	DWG NO. S02 REV. 1
DWG. CHK	LM	24 JUN 16			

** REFERENCE DRAWING
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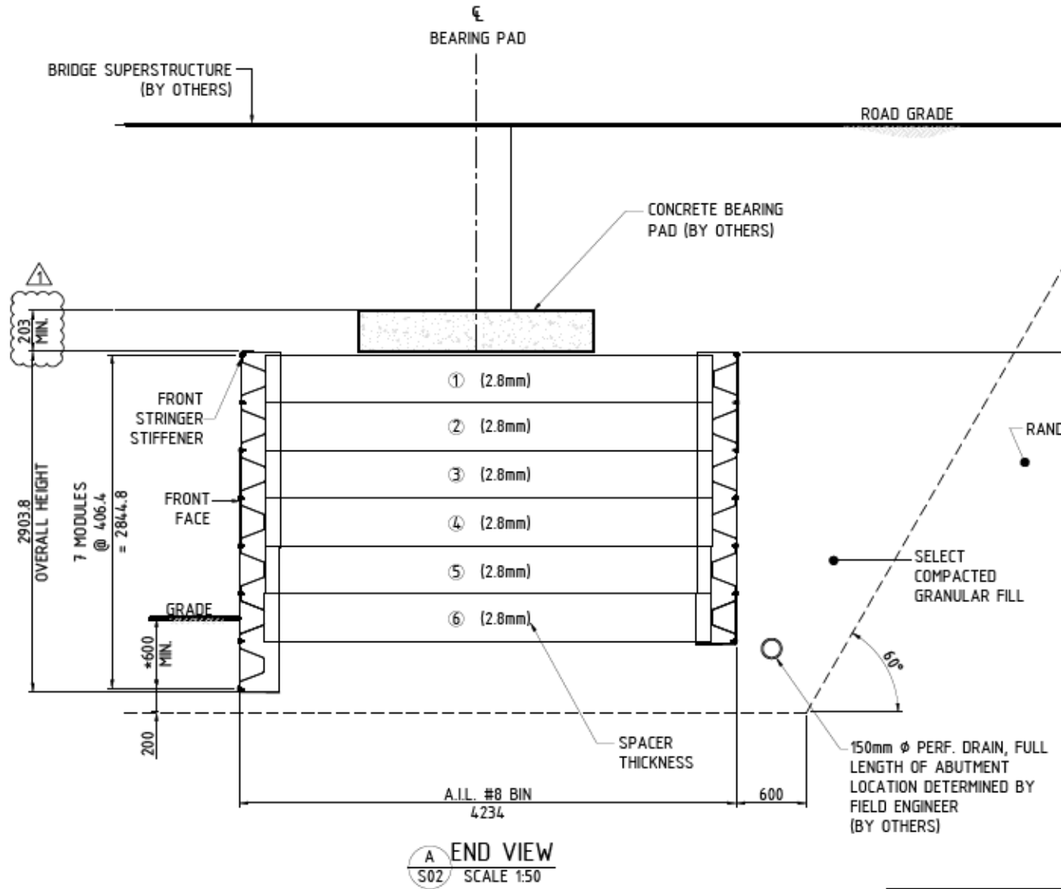
WSP DWG. 6103-117-230-277, REV C (2016/04/08)



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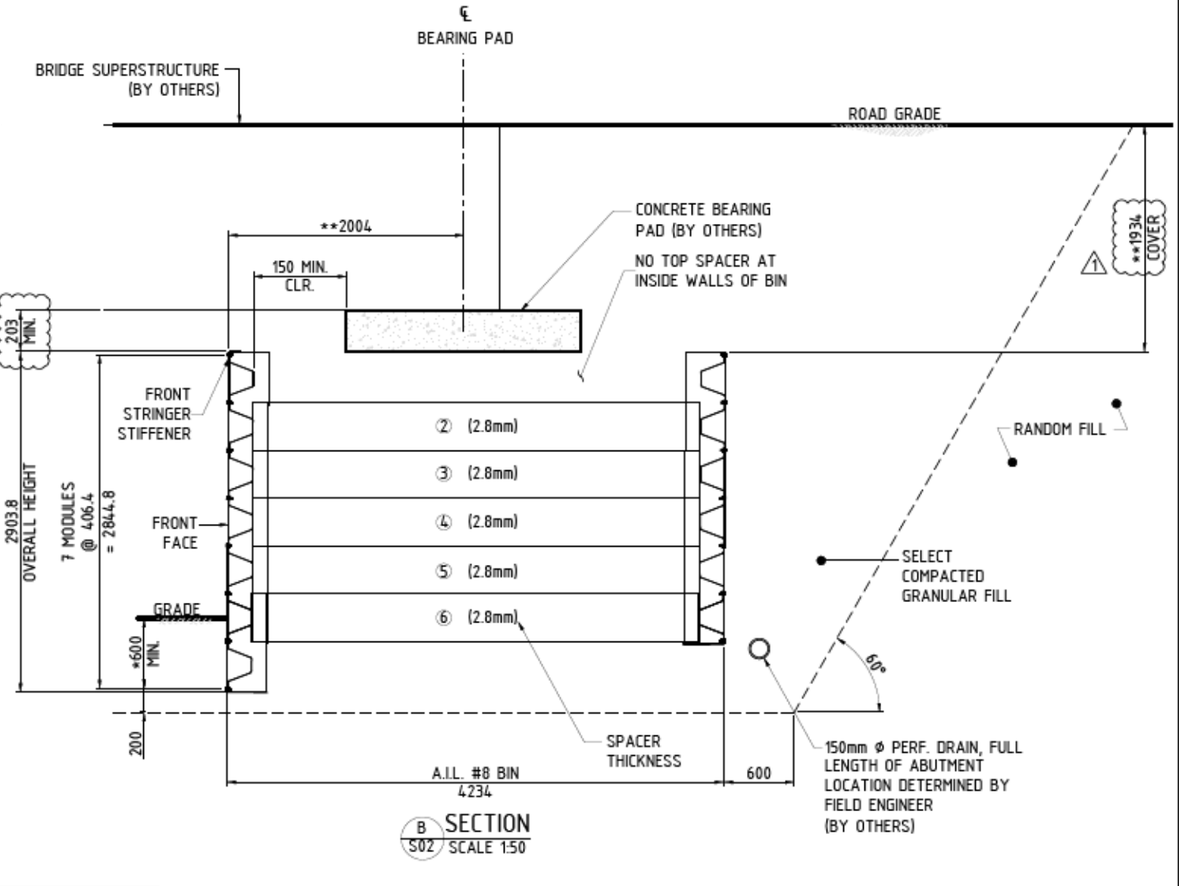

B S02 SECTION
SCALE 1:50

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

REV NO.	DATE	BY	DESCRIPTION
1	06 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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BRIDGE ABUTMENT 3.6 KM - AMARUQ, NU
SECTIONS

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DRAWN BY	BH	17 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506A | DWG NO. S03 | REV. 1

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506B-000	COVER SHEET	1	06 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506B-S01	DETAILS, BILL OF MATERIALS, NOTES	1	06 JUL 16
2016-00506B-S02	PLAN VIEW, ELEVATION VIEW	1	06 JUL 16
2016-00506B-S03	SECTIONS	1	06 JUL 16

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BRIDGE ABUTMENT 10.7 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

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0	24 JUN 16	BH	ISSUED FOR APPROVAL

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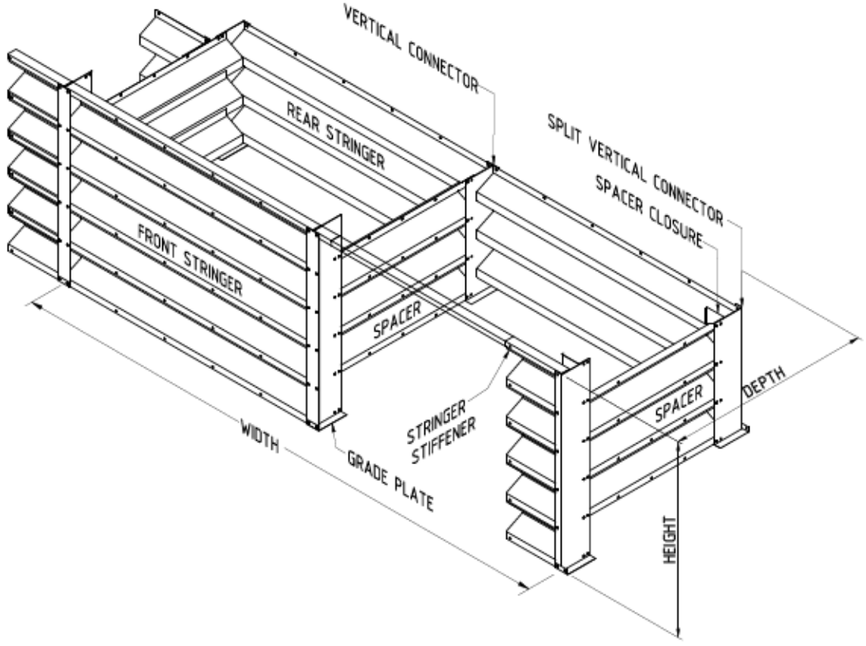
DRAWN BY	BH	17 JUN 16	PROJECT NUMBER 2016-00506B	DWG NO. 000	REV. 1	
DWG. CHK	LM	24 JUN 16				



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7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

REV NO.	DATE	BY	DESCRIPTION
1	06 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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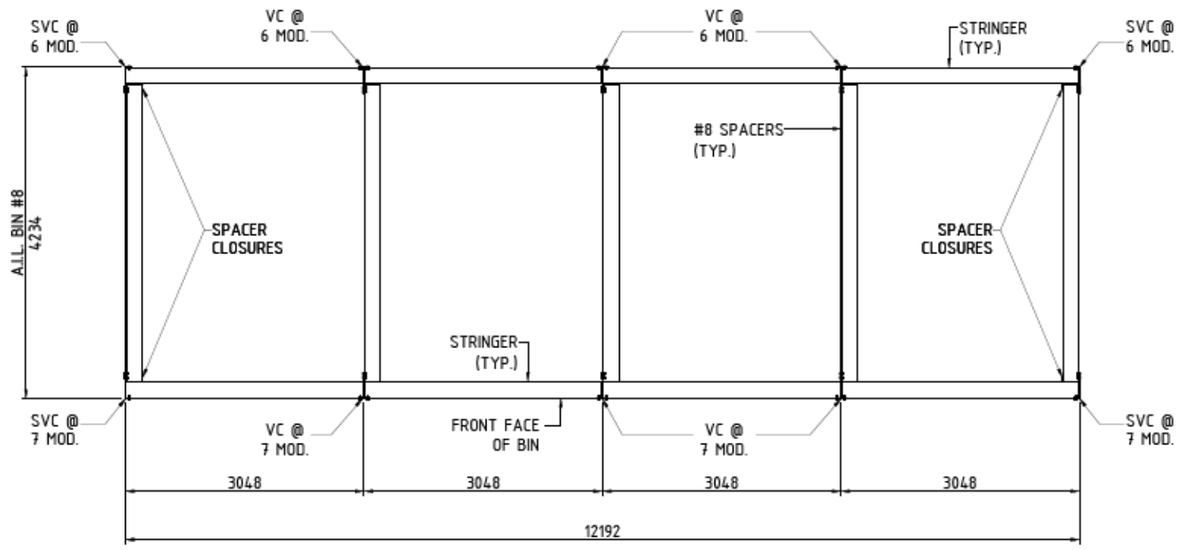
BRIDGE ABUTMENT 10.7 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

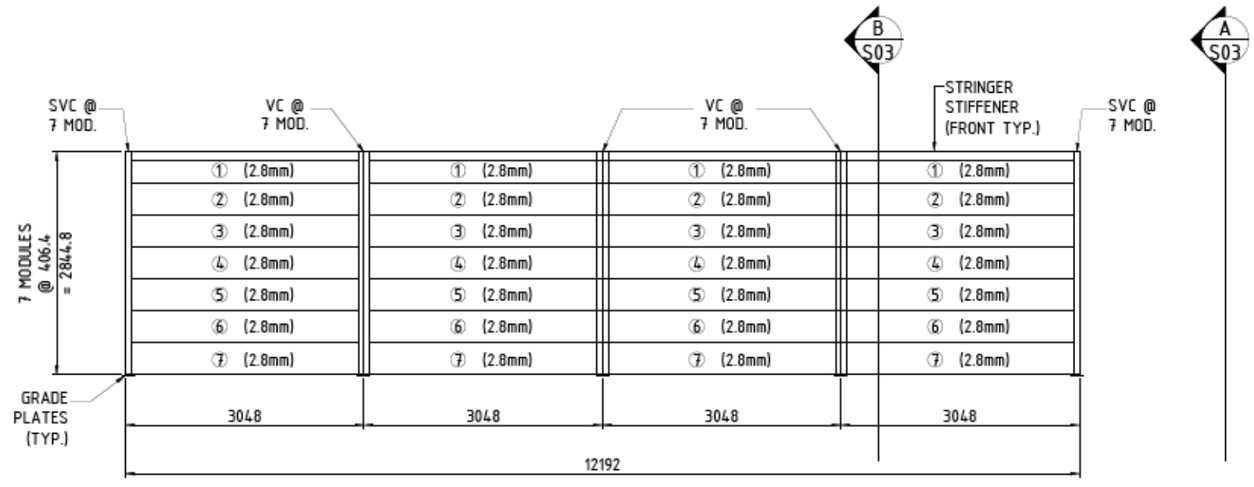
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	17 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506B | DWG NO. S01 | REV. 1

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
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REV NO.	DATE	BY	DESCRIPTION
1	06 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 10.7 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

DESIGNED	BY	OTHERS		RELEASE #	CUSTOMER REF.
DES. CHK	BY	OTHERS		2	-
DRAWN BY	BH	17 JUN 16	PROJECT NUMBER	2016-00506B	DWG NO. S02 REV. 1
DWG. CHK	LM	24 JUN 16			

** REFERENCE DRAWING
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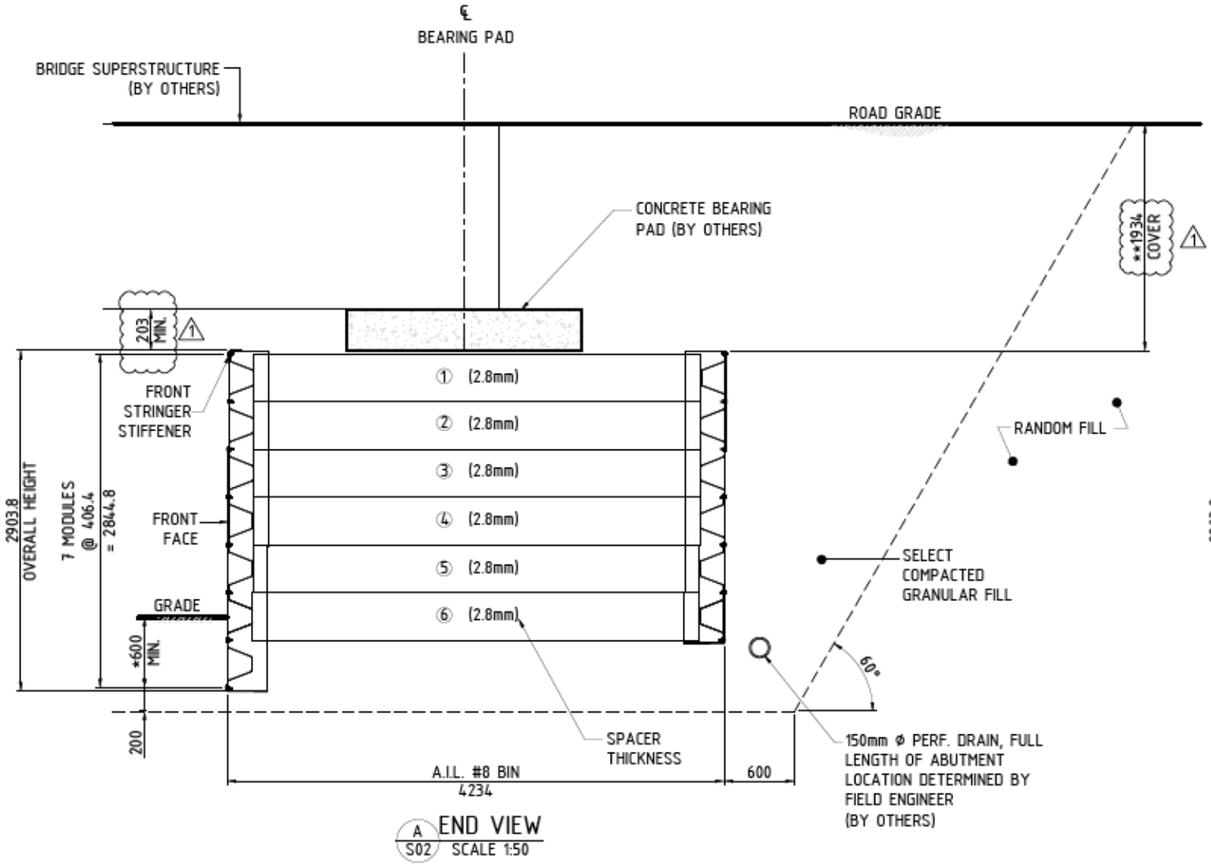
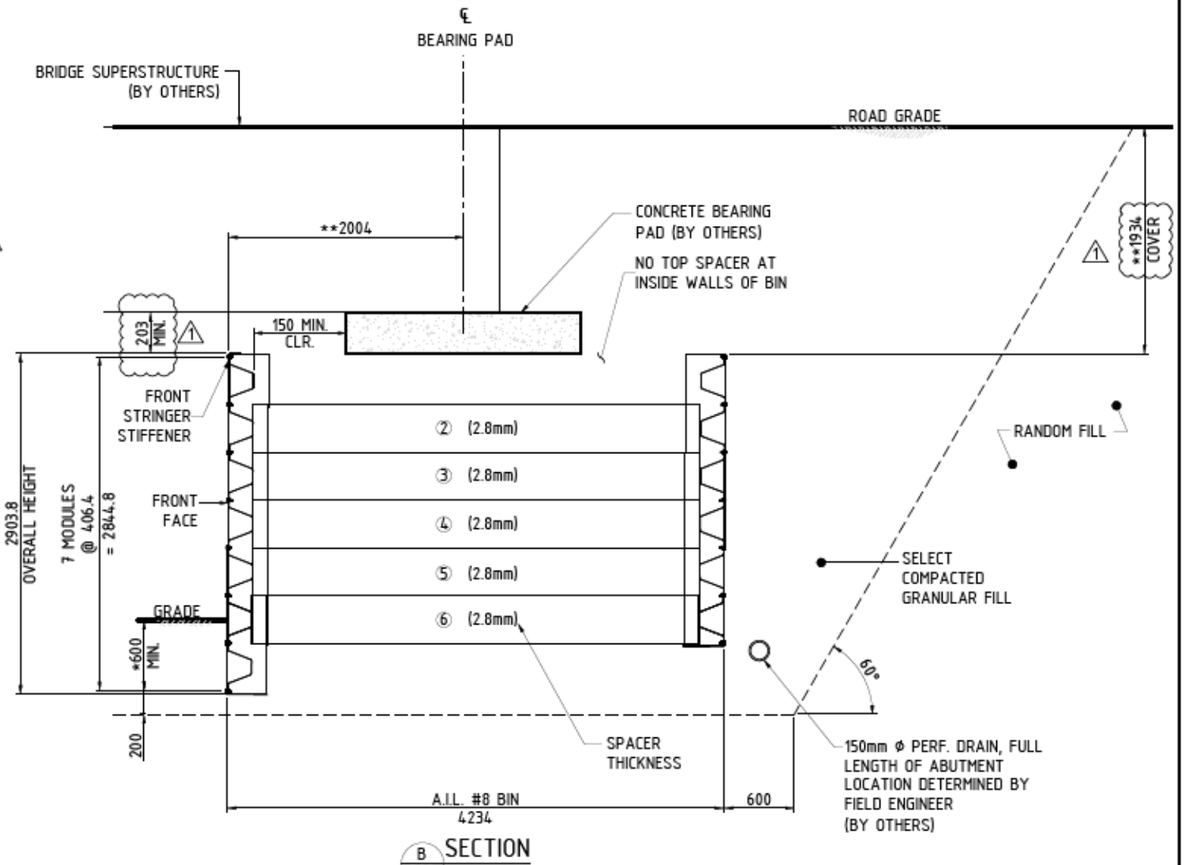
WSP DWG. 6103-117-230-279, REV C (2016/01/21)



A S02 END VIEW
SCALE 1:50



B S02 SECTION
SCALE 1:50

NOTE:
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REV NO.	DATE	BY	DESCRIPTION
1	06 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 10.7 KM - AMARUQ, NU
SECTIONS

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	17 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2
CUSTOMER REF. -
PROJECT NUMBER 2016-00506B
DWG NO. S03
REV. 1

Z:\2016\00506C - BAB - BRIDGE ABUTMENT 16KM, NU\ORDER\DRAFTING\2016-00506C (R.1)

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506C-000	COVER SHEET	1	08 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506C-S01	DETAILS, BILL OF MATERIALS, NOTES	1	08 JUL 16
2016-00506C-S02	PLAN VIEW, ELEVATION VIEW	1	08 JUL 16
2016-00506C-S03	SECTION	1	08 JUL 16
2016-00506C-S04	SECTION	1	08 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 16 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

BRIAN HEANEY

July-07-16 4:24:08 PM

REV NO.	DATE	BY	DESCRIPTION
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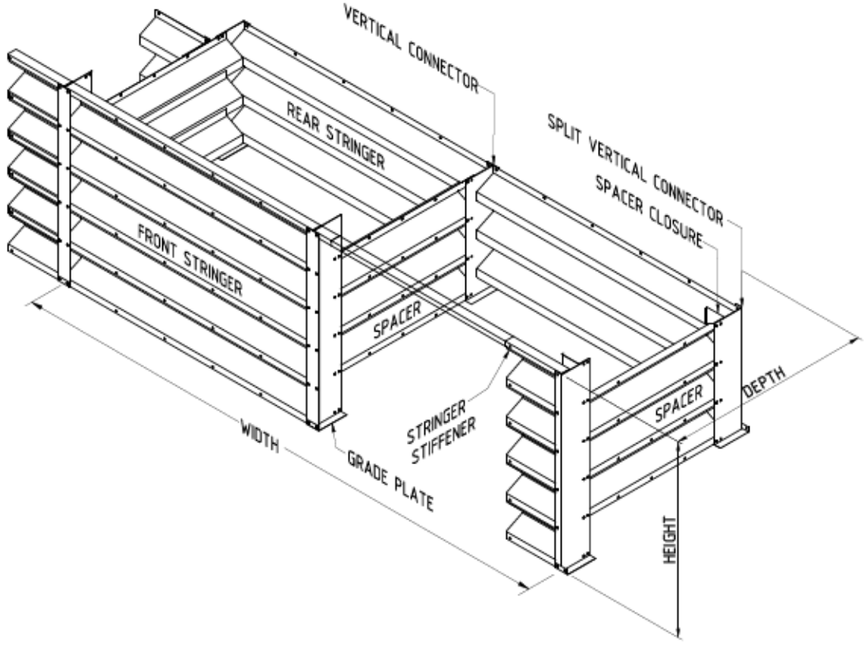
BRIDGE ABUTMENT 16 KM - AMARUQ, NU
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE #	CUSTOMER REF.	TOTAL DWGS	
DES. CHK	BY	OTHERS	2	-	5	
DRAWN BY	BH	20 JUN 16	PROJECT NUMBER	2016-00506C	DWG NO.	000 REV. 1
DWG. CHK	LM	24 JUN 16				



BOLT-A-BIN COMPONENTS

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GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

THIS ISOMETRIC ILLUSTRATION IS A REPRESENTATION OF A STANDARD BOLT-A-BIN STRUCTURE.

ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
8	BBF642893VC	#7 MOD. VERTICAL CONNECTOR (STANDARD)	2893	6.4
8	BBF643299VC	#8 MOD. VERTICAL CONNECTOR (STANDARD)	3299	6.4
16	BBF641267SVCA	#3 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	1267	6.4
4	BBF642893SVCA	#7 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2893	6.4
4	BBF643299SVCA	#8 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	3299	6.4
174	BBF283036STR	STANDARD STRINGER	3036	2.8
24	BBF281363SPA	# 2 SPACER	1363	2.8
76	BBF284614SPA	# 10 SPACER	4614	2.8
14	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
16	BBF161267SC	#3 MOD. SPACER CLOSURE (STANDARD)	1267	1.6
4	BBF162893SC	#7 MOD. SPACER CLOSURE (STANDARD)	2893	1.6
4	BBF163299SC	#8 MOD. SPACER CLOSURE (STANDARD)	3299	1.6
40	BBF200395GP	GRADE PLATE	-	2.0
2400	UP.625X1.5	16mm (5/8") ø STEEL BOLT & NUT	38	16mm ø

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
- 1.2 ESTABLISH FRONT AND REAR LINES OF BOLT-A-BIN WALLS AND LOCATION OF EACH VERTICAL CONNECTOR.

2.0 ASSEMBLY
- 2.1 DISTRIBUTE GRADE PLATES AND VERTICAL CONNECTORS TO APPROPRIATE LOCATIONS. NOTE: ON MOST WALLS VERTICAL CONNECTORS ARE 812mm SHORTER THAN FRONT VERTICAL CONNECTORS (EXCEPT ON BRIDGE ABUTMENTS). FOR WALL HEIGHTS GREATER THAN 3.66m, VERTICAL CONNECTORS WILL CONSIST OF TWO OR MORE PIECES.
- 2.2 LOCATE AND PLACE GRADE PLATES IN EXACT LOCATIONS. SET VERTICAL CONNECTORS ONTO GRADE PLATES AND ATTACH WITH BOLTS. ATTACH TWO LOWER SPACERS TO FRONT AND REAR VERTICAL CONNECTORS.
- 2.3 ATTACH TWO STRINGERS AT THE LOWEST HEIGHT IN THE FRONT AND REAR FACE. ONCE A BIN IS FORMED, CHECK FRONT FACE ALIGNMENT. CHECK BACK BIN TO ENSURE BIN IS SQUARE DIAGONALLY. ENSURE VERTICAL CONNECTORS ARE PLUMB IF BIN IS A VERTICAL INSTALLATION. CONTINUE TO ASSEMBLE BIN TOGETHER ALTERNATING STRINGERS AND SPACERS UNTIL BIN IS COMPLETED FULL HEIGHT. ASSEMBLING OF ADJACENT BINS MAY BE STARTED AFTER SUFFICIENT STRINGERS AND SPACERS ARE ASSEMBLED IN FIRST BIN TO ENSURE STABILITY. ALL BINS IN INSTALLATION ARE COMPLETED IN AN ALTERNATING STEP FASHION. FOR END BINS, INSTALL SPACER CLOSURE AT ENDS OF SPACERS OF EXPOSED END WALL PANEL.
- 2.4 STRINGERS ON FRONT FACE OF WALL ARE TO BE INSTALLED WITH THE OVERLAP ON THE INSIDE OF PRECEDING LOWER STRINGER INSTALLED.

GENERAL NOTES:

1.0 ALL DIMENSIONS ARE IN MILLIMETRES.
2.0 VERTICAL DIMENSIONS ARE FROM THE CENTRE OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 59mm.
3.0 GRADE PLATES, SUPPLIED BY A.I.L., ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
4.0 BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (150mm MIN.)
5.0 CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A325 AND GALVANIZED TO ASTM A153/A153M
6.0 STEEL COMPONENTS MANUFACTURED IN ACCORDANCE WITH ASTM A568M AND HOT DIPPED GALVANIZED TO CSA G164 WITH A MINIMUM ZINC COATING OF Z610.
7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

Atlantic Industries Limited
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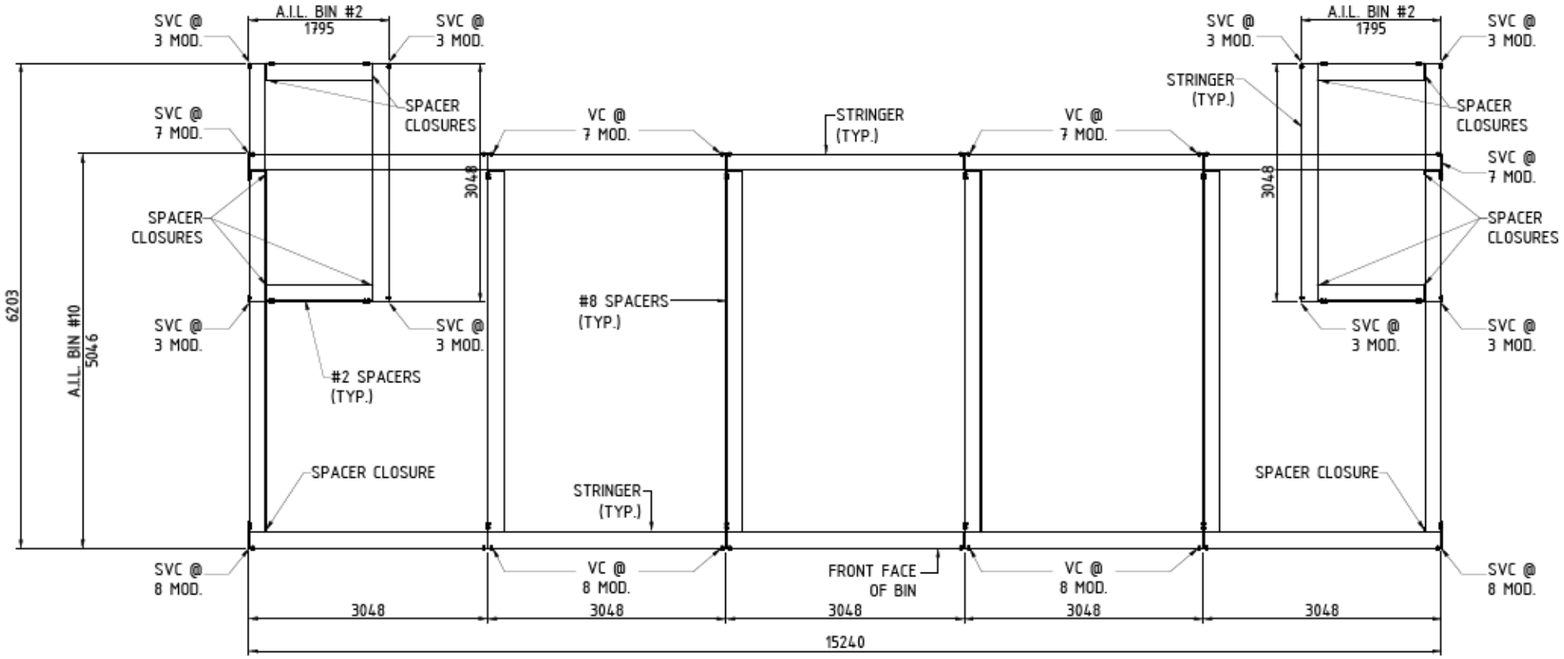
www.ail.ca www.atlanticindustries.us

AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 16 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

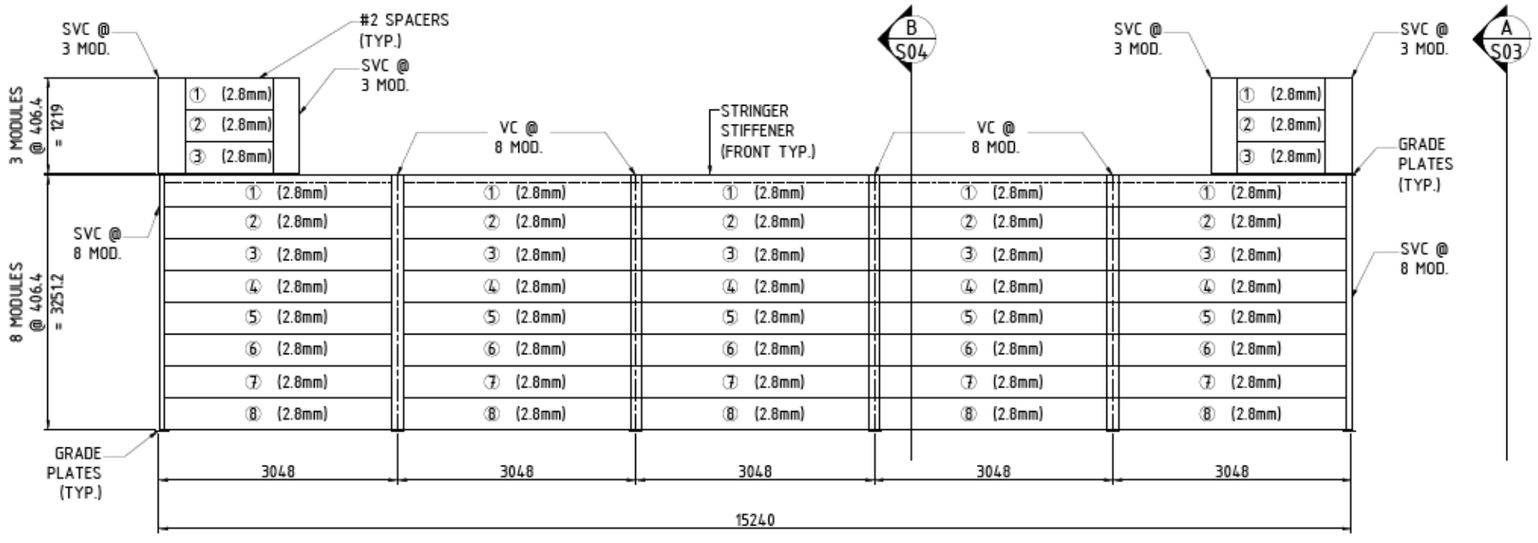
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	20 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506C | DWG NO. S01 | REV. 1



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
SCALE 1:75

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

Atlantic Industries Limited
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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 16 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

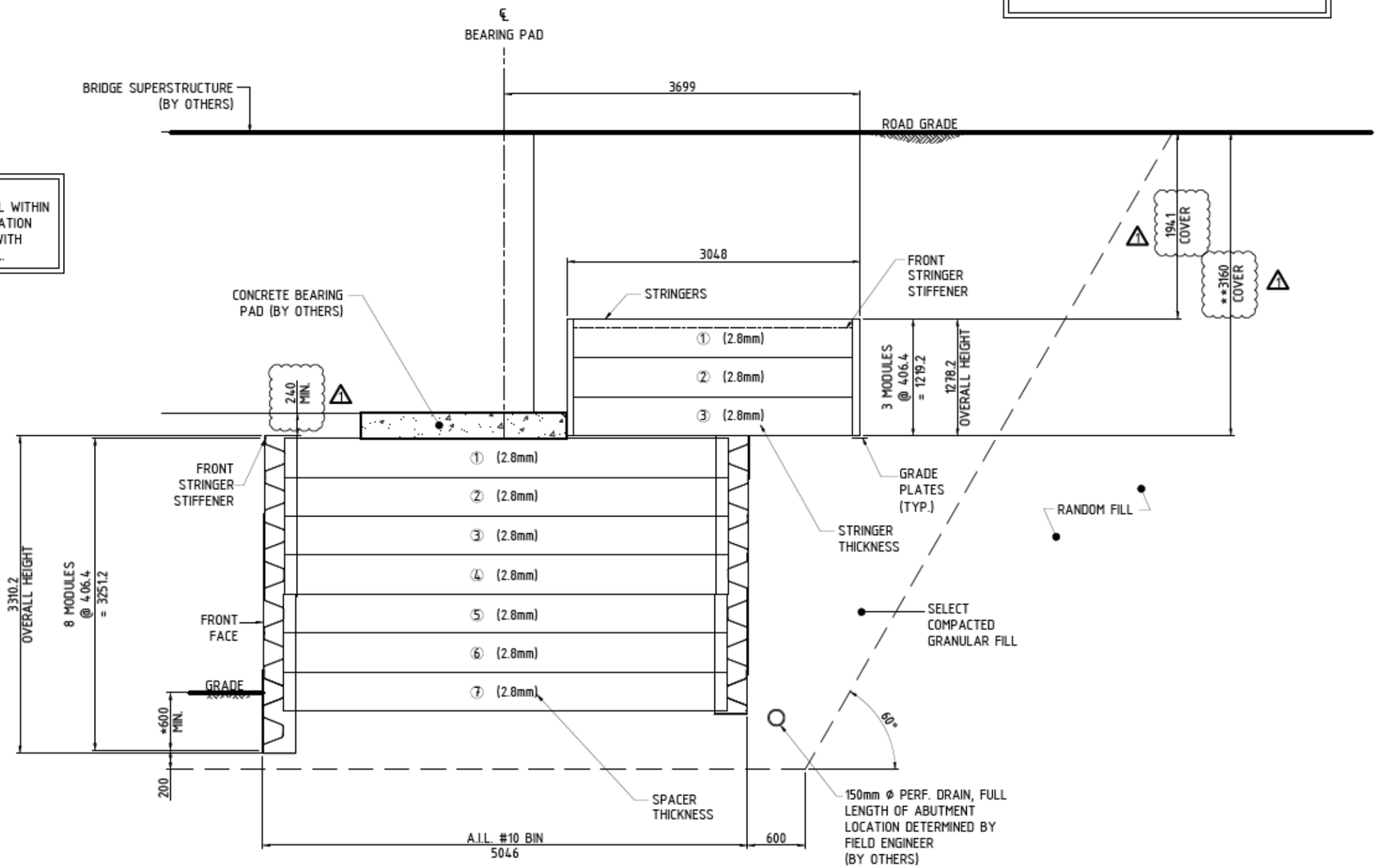
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	20 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2
CUSTOMER REF. -
PROJECT NUMBER 2016-00506C
DWG NO. S02
REV. 1

** REFERENCE DRAWING
WSP DWG. 6103-117-230-280, REV C (2016/04/06)
WSP DWG. 6103-117-230-281, REV C (2016/04/06)

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER



A S02 END VIEW
SCALE 1:50

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 16 KM - AMARUQ, NU
SECTION

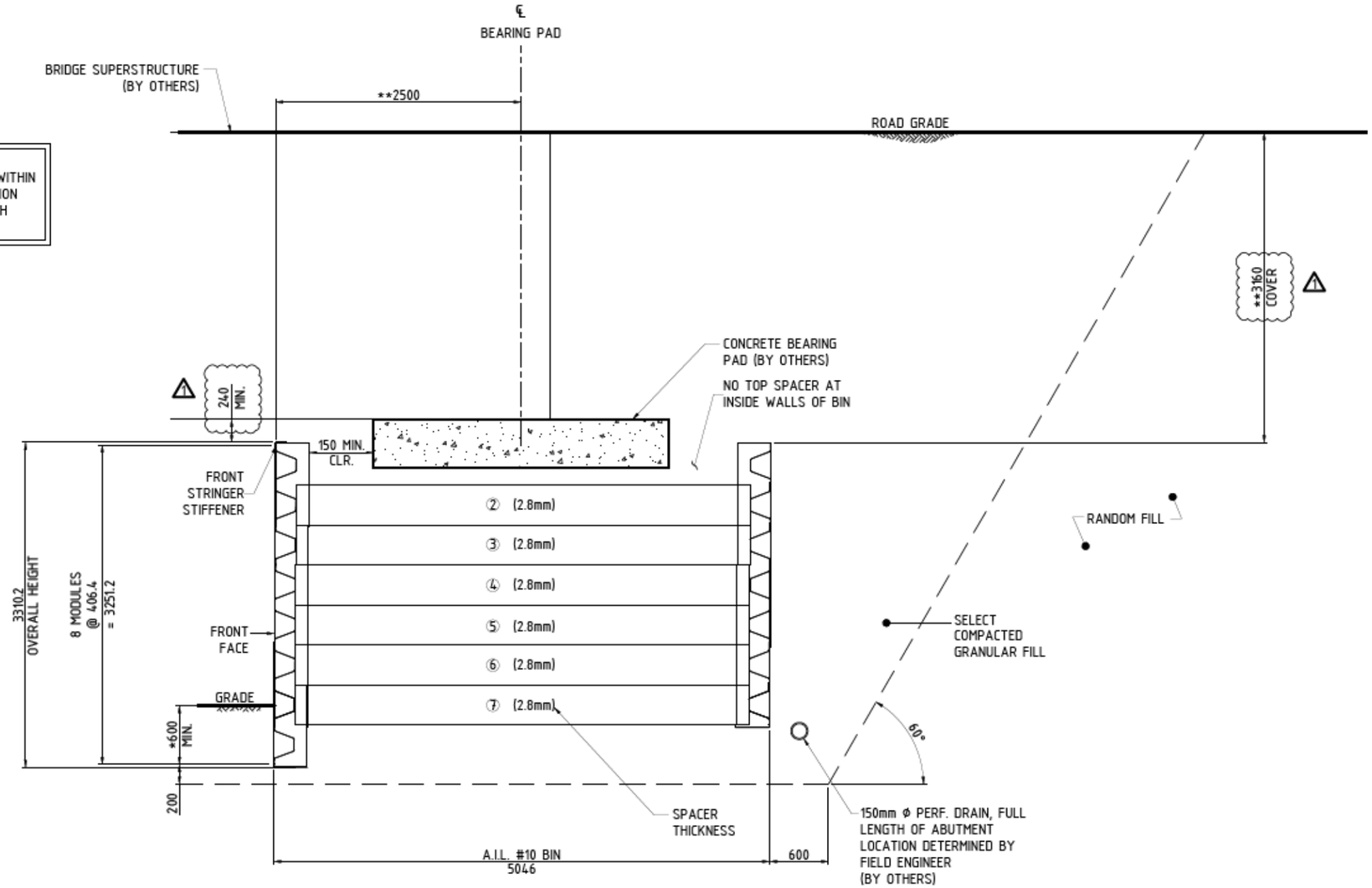
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	20 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506C | DWG NO. S03 | REV. 1

** REFERENCE DRAWING
WSP DWG. 6103-117-230-280, REV C (2016/04/06)
WSP DWG. 6103-117-230-281, REV C (2016/04/06)

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER



B S02 SECTION
SCALE 1:50

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 16 KM - AMARUQ, NU
SECTION

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	20 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506C | DWG NO. S04 | REV. 1

Z:\2016\00506D - BAB - BRIDGE ABUTMENT 20KM, NU\ORDER\DRAFTING\2016-00506D (R.1)

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506D-000	COVER SHEET	1	08 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506D-S01	DETAILS, BILL OF MATERIALS, NOTES	1	08 JUL 16
2016-00506D-S02	PLAN VIEW, ELEVATION VIEW	1	08 JUL 16
2016-00506D-S03	SECTIONS	1	08 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 20 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

BRIAN HEANEY

July-07-16 4:47:29 PM

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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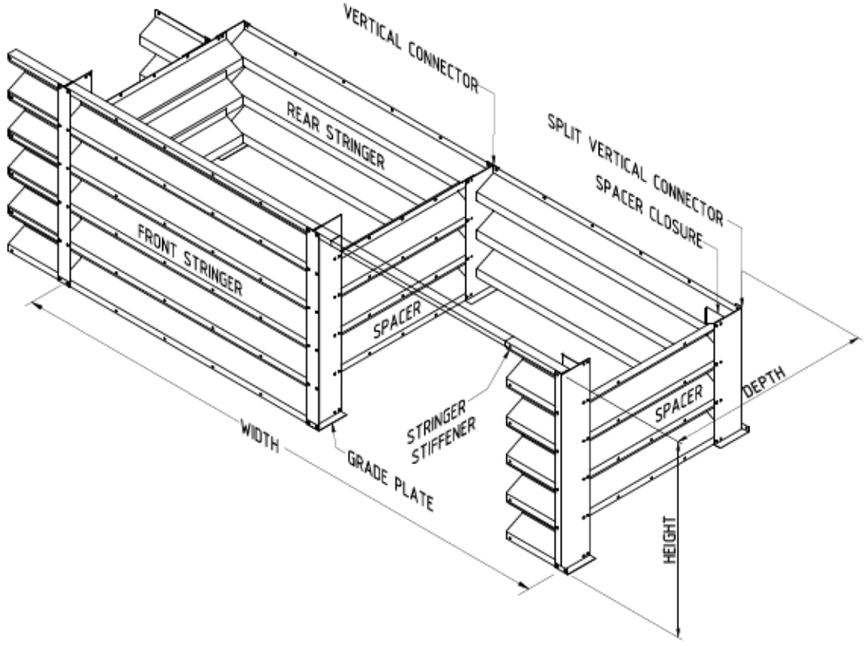
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 20 KM - AMARUQ, NU
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE #	CUSTOMER REF.	TOTAL DWGS	
DES. CHK	BY	OTHERS	2	-	4	
DRAWN BY	BH	20 JUN 16	PROJECT NUMBER	2016-00506D	DWG NO.	000 REV. 1
DWG. CHK	LM	24 JUN 16				



BOLT-A-BIN COMPONENTS

PART NAME	FUNCTION
VERTICAL CONNECTOR	Connects stringers and spacers.
SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
STANDARD STRINGER	Forms front and rear walls.
SPACER	Forms transverse and end walls.
STRINGER STIFFENER	Stiffens top stringer (front wall).
SPACER CLOSURE	Retains bin fill at end walls.
GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

THIS ISOMETRIC ILLUSTRATION IS A REPRESENTATION OF A STANDARD BOLT-A-BIN STRUCTURE.

ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
6	BBF642080VC	#5 MOD. VERTICAL CONNECTOR (STANDARD)	2080	6.4
6	BBF642486VC	#6 MOD. VERTICAL CONNECTOR (STANDARD)	2486	6.4
4	BBF642080SVCA	#5 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2080	6.4
4	BBF642486SVCA	#6 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2486	6.4
88	BBF283036STR	STANDARD STRINGER	3036	2.8
44	BBF283802SPA	# 8 SPACER	3802	2.8
8	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
4	BBF162080SC	#5 MOD. SPACER CLOSURE (STANDARD)	2080	1.6
4	BBF162486SC	#6 MOD. SPACER CLOSURE (STANDARD)	2486	1.6
20	BBF200395GP	GRADE PLATE	-	2.0
1325	UP.625X1.5	16mm (5/8") ø STEEL BOLT & NUT	38	16mm ø

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
- 1.2 ESTABLISH FRONT AND REAR LINES OF BOLT-A-BIN WALLS AND LOCATION OF EACH VERTICAL CONNECTOR.

2.0 ASSEMBLY
- 2.1 DISTRIBUTE GRADE PLATES AND VERTICAL CONNECTORS TO APPROPRIATE LOCATIONS. NOTE: ON MOST WALLS VERTICAL CONNECTORS ARE 812mm SHORTER THAN FRONT VERTICAL CONNECTORS (EXCEPT ON BRIDGE ABUTMENTS). FOR WALL HEIGHTS GREATER THAN 3.66m, VERTICAL CONNECTORS WILL CONSIST OF TWO OR MORE PIECES.
- 2.2 LOCATE AND PLACE GRADE PLATES IN EXACT LOCATIONS. SET VERTICAL CONNECTORS ONTO GRADE PLATES AND ATTACH WITH BOLTS. ATTACH TWO LOWER SPACERS TO FRONT AND REAR VERTICAL CONNECTORS.
- 2.3 ATTACH TWO STRINGERS AT THE LOWEST HEIGHT IN THE FRONT AND REAR FACE. ONCE A BIN IS FORMED, CHECK FRONT FACE ALIGNMENT. CHECK BACK BIN TO ENSURE BIN IS SQUARE DIAGONALLY. ENSURE VERTICAL CONNECTORS ARE PLUMB IF BIN IS A VERTICAL INSTALLATION. CONTINUE TO ASSEMBLE BIN TOGETHER ALTERNATING STRINGERS AND SPACERS UNTIL BIN IS COMPLETED FULL HEIGHT. ASSEMBLING OF ADJACENT BINS MAY BE STARTED AFTER SUFFICIENT STRINGERS AND SPACERS ARE ASSEMBLED IN FIRST BIN TO ENSURE STABILITY. ALL BINS IN INSTALLATION ARE COMPLETED IN AN ALTERNATING STEP FASHION. FOR END BINS, INSTALL SPACER CLOSURE AT ENDS OF SPACERS OF EXPOSED END WALL PANEL.
- 2.4 STRINGERS ON FRONT FACE OF WALL ARE TO BE INSTALLED WITH THE OVERLAP ON THE INSIDE OF PRECEDING LOWER STRINGER INSTALLED.

GENERAL NOTES:

1.0 ALL DIMENSIONS ARE IN MILLIMETRES.
2.0 VERTICAL DIMENSIONS ARE FROM THE CENTRE OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 59mm.
3.0 GRADE PLATES, SUPPLIED BY A.I.L., ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
4.0 BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (150mm MIN.)
5.0 CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A325 AND GALVANIZED TO ASTM A153/A153M
6.0 STEEL COMPONENTS MANUFACTURED IN ACCORDANCE WITH ASTM A568M AND HOT DIPPED GALVANIZED TO CSA G164 WITH A MINIMUM ZINC COATING OF Z610.
7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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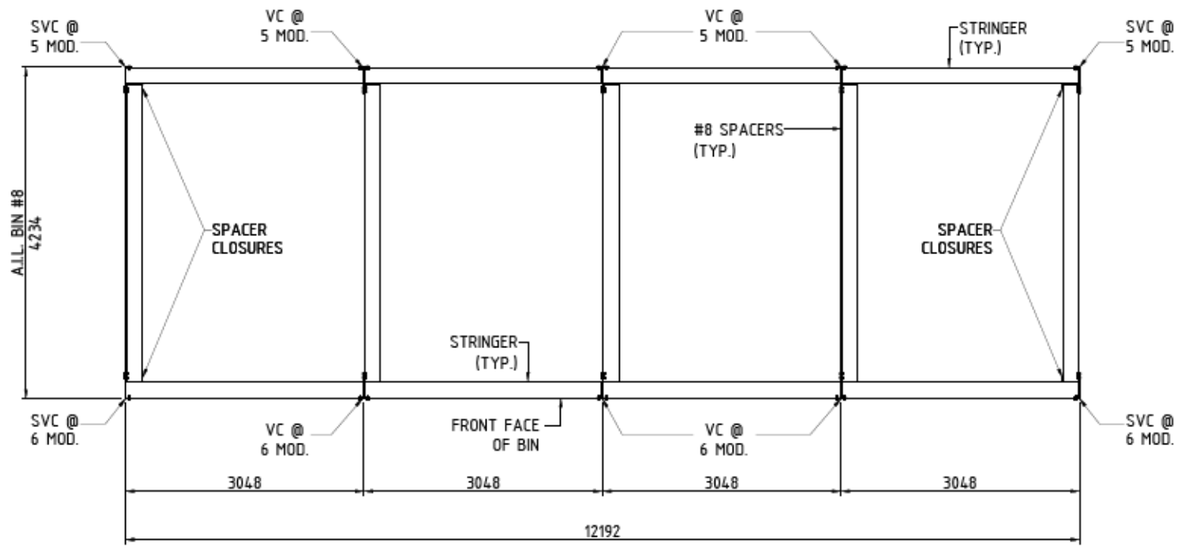
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 20 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

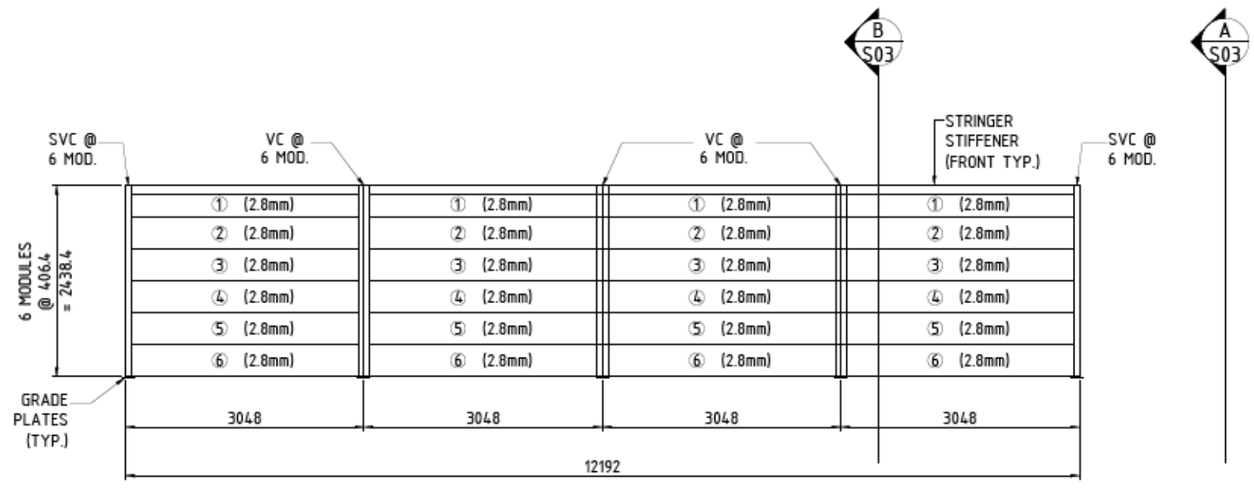
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	20 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506D | DWG NO. S01 | REV. 1

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
SCALE 1:75

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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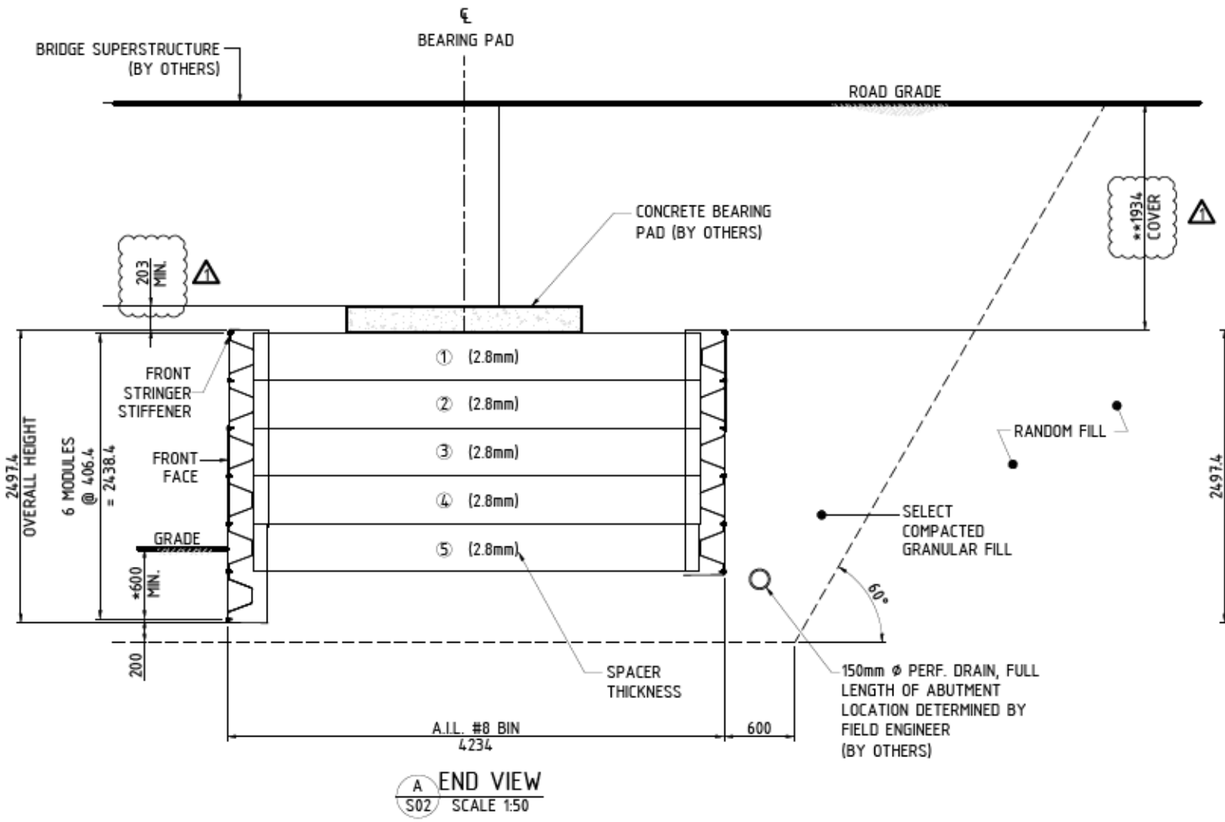
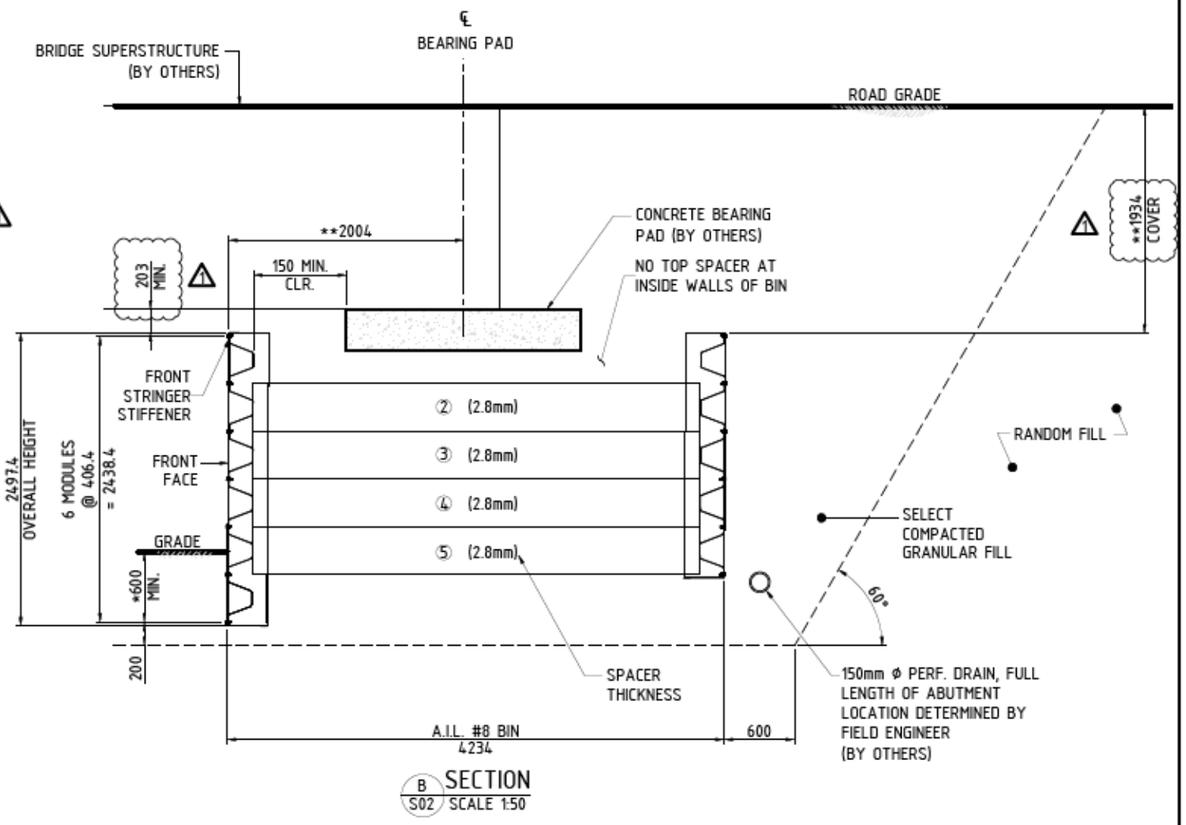
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 20 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

DESIGNED	BY	OTHERS	RELEASE # 2	CUSTOMER REF. -	
DES. CHK	BY	OTHERS			
DRAWN BY	BH	20 JUN 16	PROJECT NUMBER 2016-00506D	DWG NO. S02	REV. 1
DWG. CHK	LM	24 JUN 16			

** REFERENCE DRAWING
WSP DWG. 6103-117-230-282, REV C (2016/04/08)
WSP DWG. 6103-117-230-283, REV C (2016/04/08)



A / S02 END VIEW
SCALE 1:50



B / S02 SECTION
SCALE 1:50

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 20 KM - AMARUQ, NU
SECTIONS

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	20 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2
CUSTOMER REF. -
PROJECT NUMBER 2016-00506D
DWG NO. S03
REV. 1

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506E-000	COVER SHEET	1	08 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506E-S01	DETAILS, BILL OF MATERIALS, NOTES	1	08 JUL 16
2016-00506E-S02	PLAN VIEW, ELEVATION VIEW	1	08 JUL 16
2016-00506E-S03	SECTION	1	08 JUL 16
2016-00506E-S04	SECTION	1	08 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 23.9 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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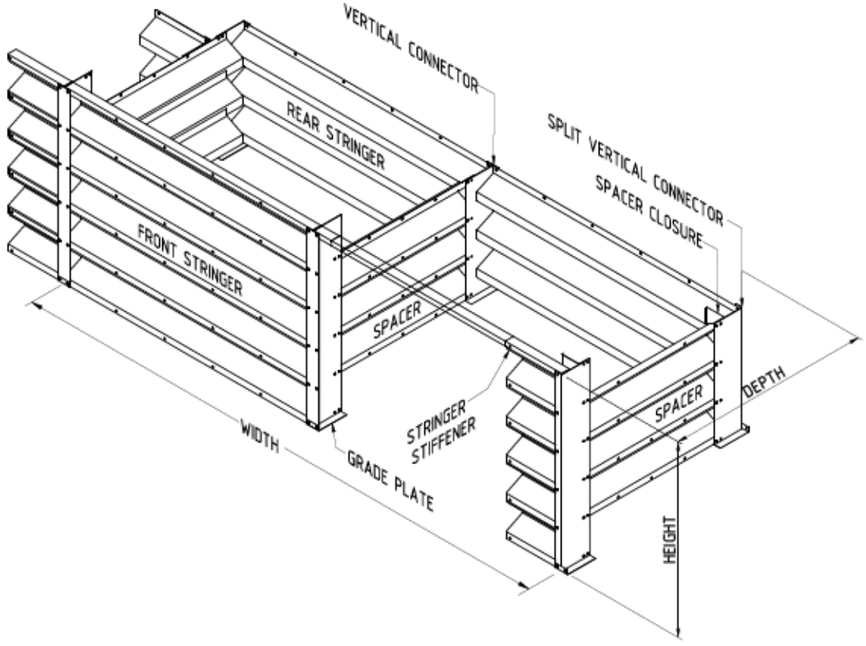
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 23.9 KM - AMARUQ, NU
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE #	CUSTOMER REF.	TOTAL DWGS
DES. CHK	BY	OTHERS	2	-	5
DRAWN BY	BH	21 JUN 16	PROJECT NUMBER 2016-00506E	DWG NO. 000	REV. 1
DWG. CHK	LM	24 JUN 16			



BOLT-A-BIN COMPONENTS

PART NAME	FUNCTION
VERTICAL CONNECTOR	Connects stringers and spacers.
SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
STANDARD STRINGER	Forms front and rear walls.
SPACER	Forms transverse and end walls.
STRINGER STIFFENER	Stiffens top stringer (front wall).
SPACER CLOSURE	Retains bin fill at end walls.
GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

THIS ISOMETRIC ILLUSTRATION IS A REPRESENTATION OF A STANDARD BOLT-A-BIN STRUCTURE.

ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
8	BBF642893VC	#7 MOD. VERTICAL CONNECTOR (STANDARD)	2893	6.4
8	BBF643299VC	#8 MOD. VERTICAL CONNECTOR (STANDARD)	3299	6.4
16	BBF642080SVCA	#5 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2080	6.4
4	BBF642893SVCA	#7 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2893	6.4
4	BBF643299SVCA	#8 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	3299	6.4
190	BBF283036STR	STANDARD STRINGER	3036	2.8
40	BBF281363SPA	# 2 SPACER	1363	2.8
76	BBF285021SPA	# 11 SPACER	5021	2.8
14	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
16	BBF162080SC	#5 MOD. SPACER CLOSURE (STANDARD)	2080	1.6
4	BBF162893SC	#7 MOD. SPACER CLOSURE (STANDARD)	2893	1.6
4	BBF163299SC	#8 MOD. SPACER CLOSURE (STANDARD)	3299	1.6
40	BBF200395GP	GRADE PLATE	-	2.0
3000	UP.625X1.5	16mm (5/8") ø STEEL BOLT & NUT	38	16mm ø

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
- 1.2 ESTABLISH FRONT AND REAR LINES OF BOLT-A-BIN WALLS AND LOCATION OF EACH VERTICAL CONNECTOR.

2.0 ASSEMBLY
- 2.1 DISTRIBUTE GRADE PLATES AND VERTICAL CONNECTORS TO APPROPRIATE LOCATIONS. NOTE: ON MOST WALLS VERTICAL CONNECTORS ARE 812mm SHORTER THAN FRONT VERTICAL CONNECTORS (EXCEPT ON BRIDGE ABUTMENTS). FOR WALL HEIGHTS GREATER THAN 3.66m, VERTICAL CONNECTORS WILL CONSIST OF TWO OR MORE PIECES.
- 2.2 LOCATE AND PLACE GRADE PLATES IN EXACT LOCATIONS. SET VERTICAL CONNECTORS ONTO GRADE PLATES AND ATTACH WITH BOLTS. ATTACH TWO LOWER SPACERS TO FRONT AND REAR VERTICAL CONNECTORS.
- 2.3 ATTACH TWO STRINGERS AT THE LOWEST HEIGHT IN THE FRONT AND REAR FACE. ONCE A BIN IS FORMED, CHECK FRONT FACE ALIGNMENT. CHECK BACK BIN TO ENSURE BIN IS SQUARE DIAGONALLY. ENSURE VERTICAL CONNECTORS ARE PLUMB IF BIN IS A VERTICAL INSTALLATION. CONTINUE TO ASSEMBLE BIN TOGETHER ALTERNATING STRINGERS AND SPACERS UNTIL BIN IS COMPLETED FULL HEIGHT. ASSEMBLING OF ADJACENT BINS MAY BE STARTED AFTER SUFFICIENT STRINGERS AND SPACERS ARE ASSEMBLED IN FIRST BIN TO ENSURE STABILITY. ALL BINS IN INSTALLATION ARE COMPLETED IN AN ALTERNATING STEP FASHION. FOR END BINS, INSTALL SPACER CLOSURE AT ENDS OF SPACERS OF EXPOSED END WALL PANEL.
- 2.4 STRINGERS ON FRONT FACE OF WALL ARE TO BE INSTALLED WITH THE OVERLAP ON THE INSIDE OF PRECEDING LOWER STRINGER INSTALLED.

GENERAL NOTES:

1.0 ALL DIMENSIONS ARE IN MILLIMETRES.
2.0 VERTICAL DIMENSIONS ARE FROM THE CENTRE OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 59mm.
3.0 GRADE PLATES, SUPPLIED BY A.I.L., ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
4.0 BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (150mm MIN.)
5.0 CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A325 AND GALVANIZED TO ASTM A153/A153M
6.0 STEEL COMPONENTS MANUFACTURED IN ACCORDANCE WITH ASTM A568M AND HOT DIPPED GALVANIZED TO CSA G164 WITH A MINIMUM ZINC COATING OF Z610.
7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

Atlantic Industries Limited
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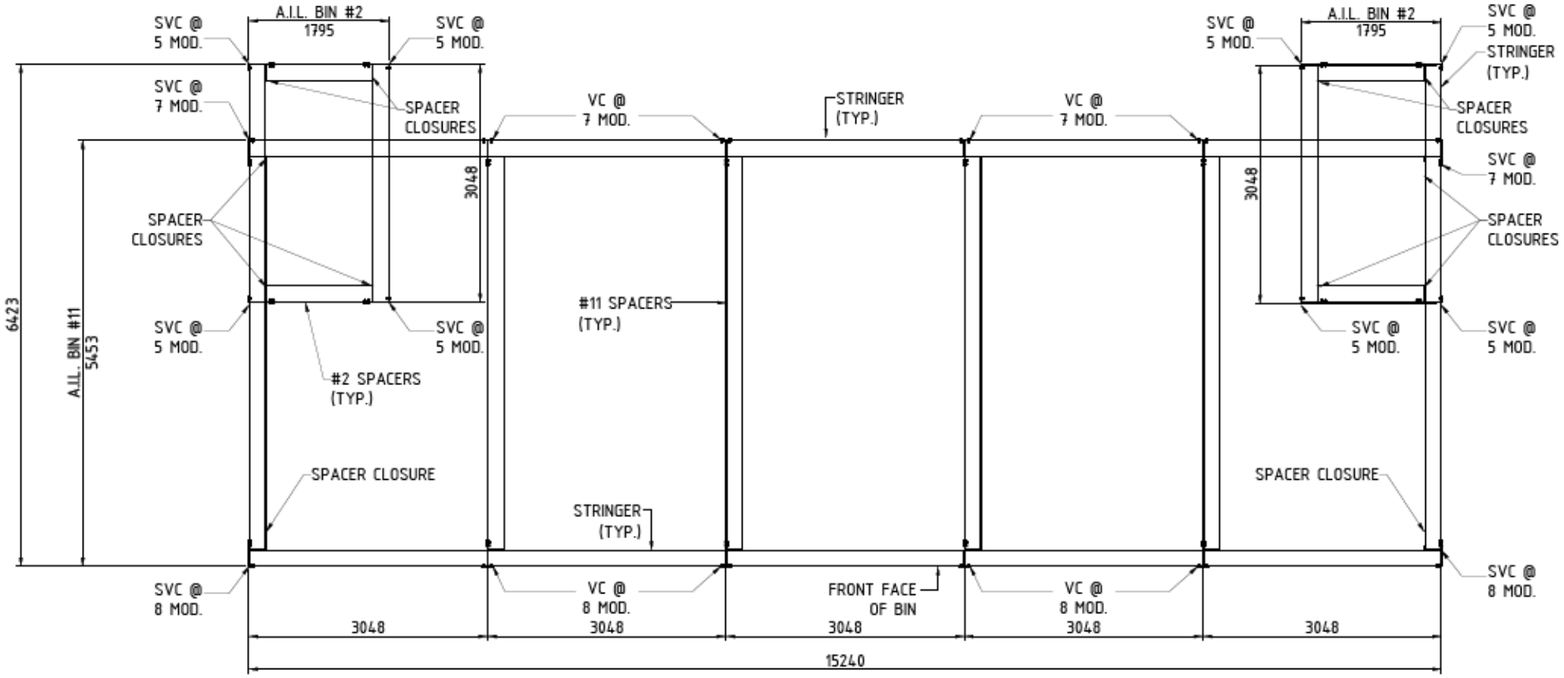
www.ail.ca www.atlanticindustries.us

AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 23.9 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

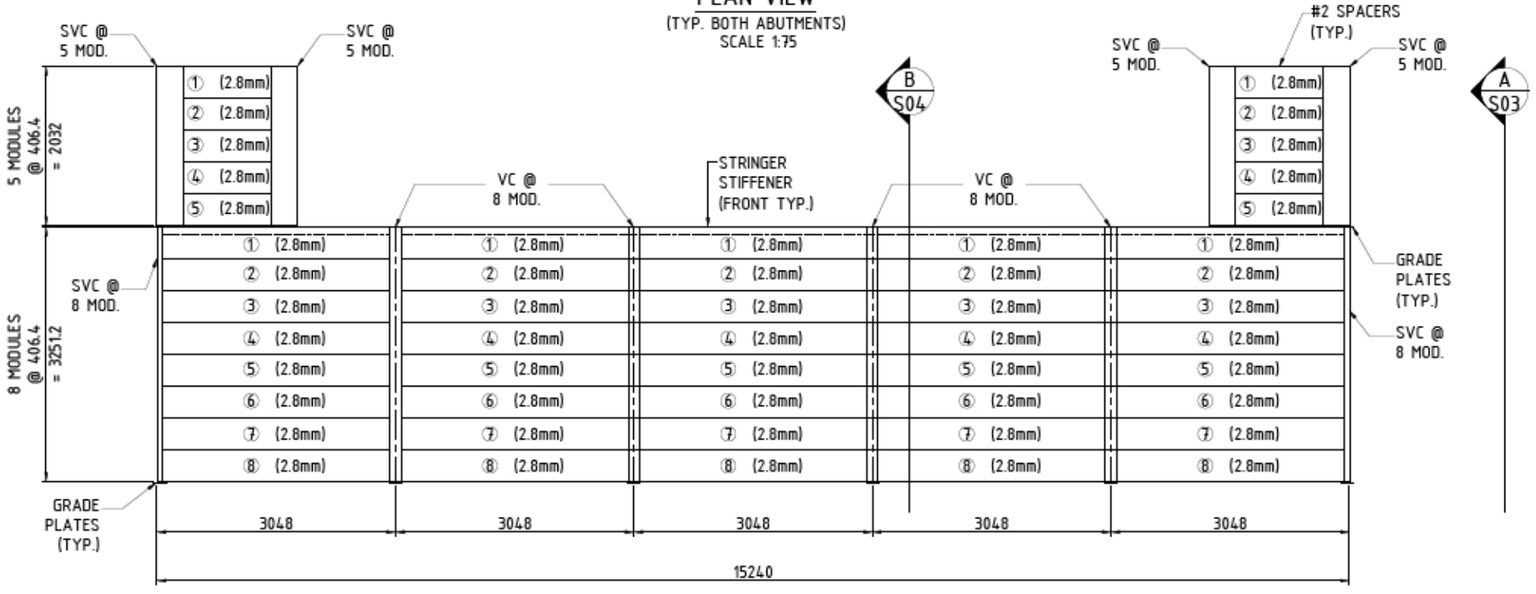
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506E | DWG NO. S01 | REV. 1



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
SCALE 1:75

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 23.9 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

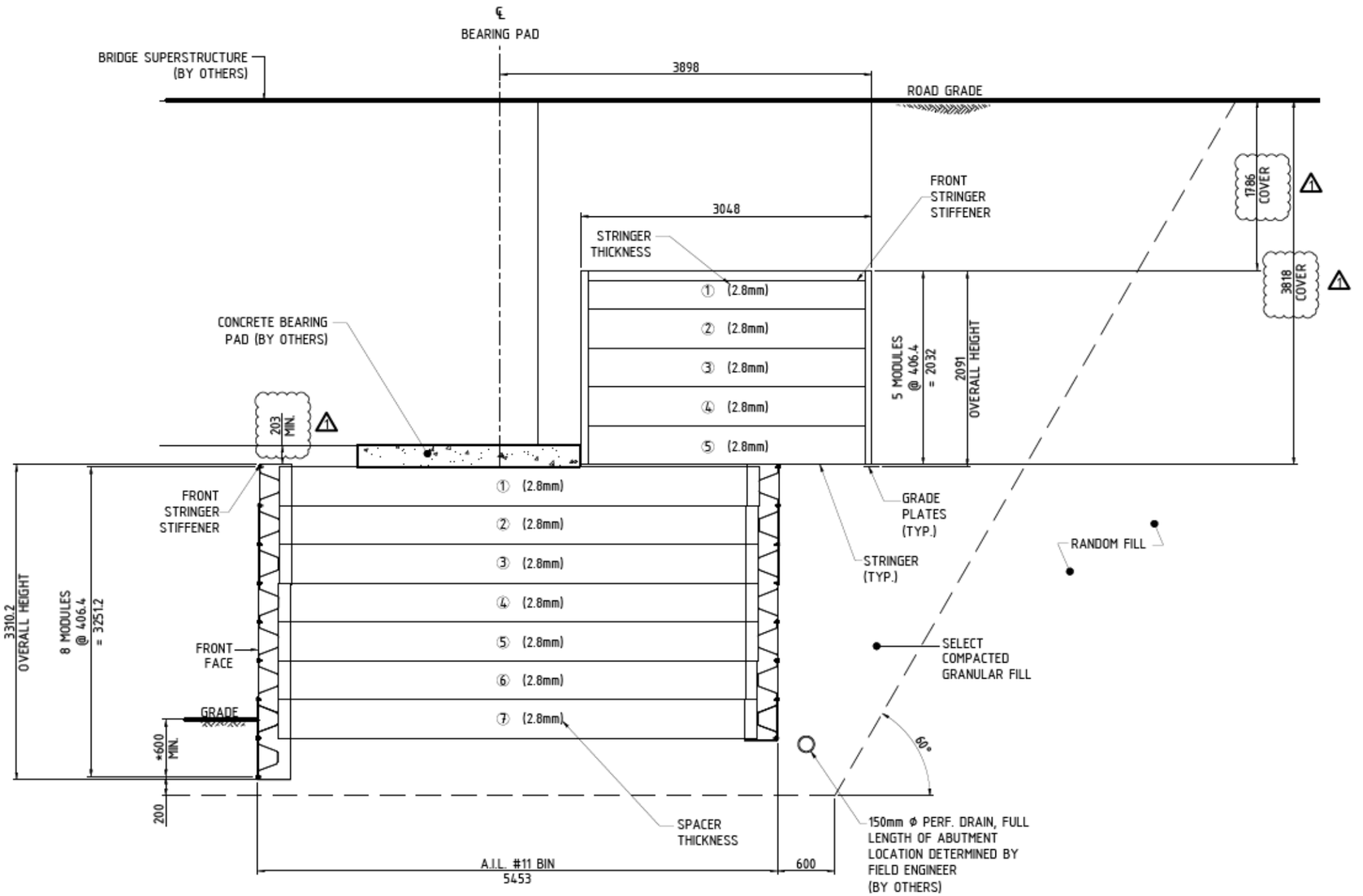
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2
CUSTOMER REF. -
PROJECT NUMBER 2016-00506E
DWG NO. S02
REV. 1

** REFERENCE DRAWING
WSP DWG. 6103-117-230-284, REV C (2016/04/08)
WSP DWG. 6103-117-230-285, REV C (2016/04/08)

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER



A S02 END VIEW
SCALE 1:50

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 23.9 KM - AMARUQ, NU
SECTION

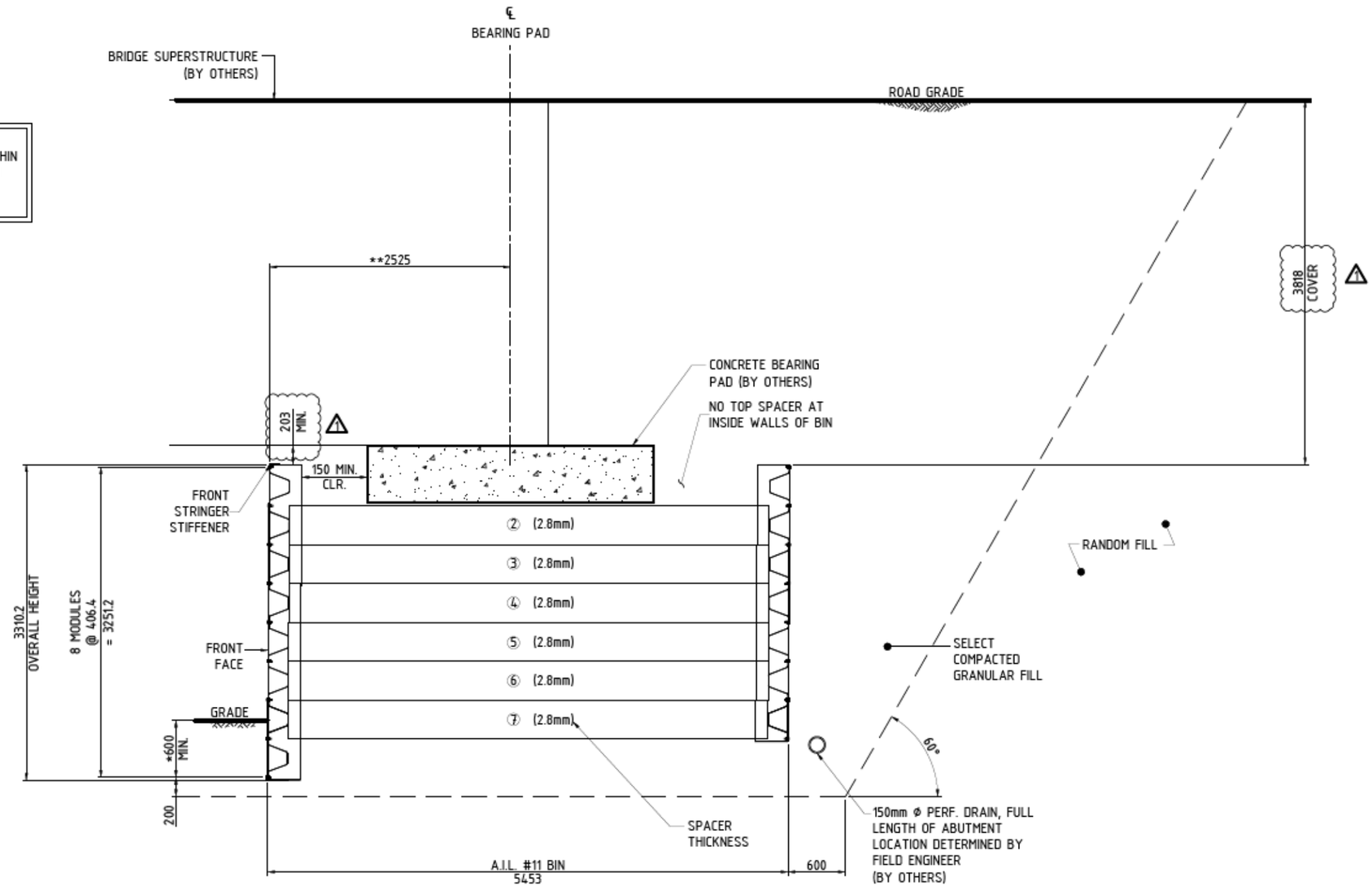
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506E | DWG NO. S03 | REV. 1

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

** REFERENCE DRAWING
WSP DWG. 6103-117-230-284, REV C (2016/04/08)
WSP DWG. 6103-117-230-285, REV C (2016/04/08)



B S02 SECTION
SCALE 1:50

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 23.9 KM - AMARUQ, NU
SECTION

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506E | DWG NO. S04 | REV. 1

Z:\2016\00506F - BAB - BRIDGE ABUTMENT 26.1KM, NU\ORDER\DRAFTING\2016-00506F (R.2)

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506F-000	COVER SHEET	2	08 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506F-S01	DETAILS, BILL OF MATERIALS, NOTES	2	08 JUL 16
2016-00506F-S02	PLAN VIEW, ELEVATION VIEW	2	08 JUL 16
2016-00506F-S03	SECTION	2	08 JUL 16
2016-00506F-S04	SECTION	2	08 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 26.1 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

BRIAN HEANEY

July-08-16 1:51:02 PM

REV NO.	DATE	BY	DESCRIPTION
2	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
1	07 JUL 16	BH	RE-ISSUED FOR APPROVAL
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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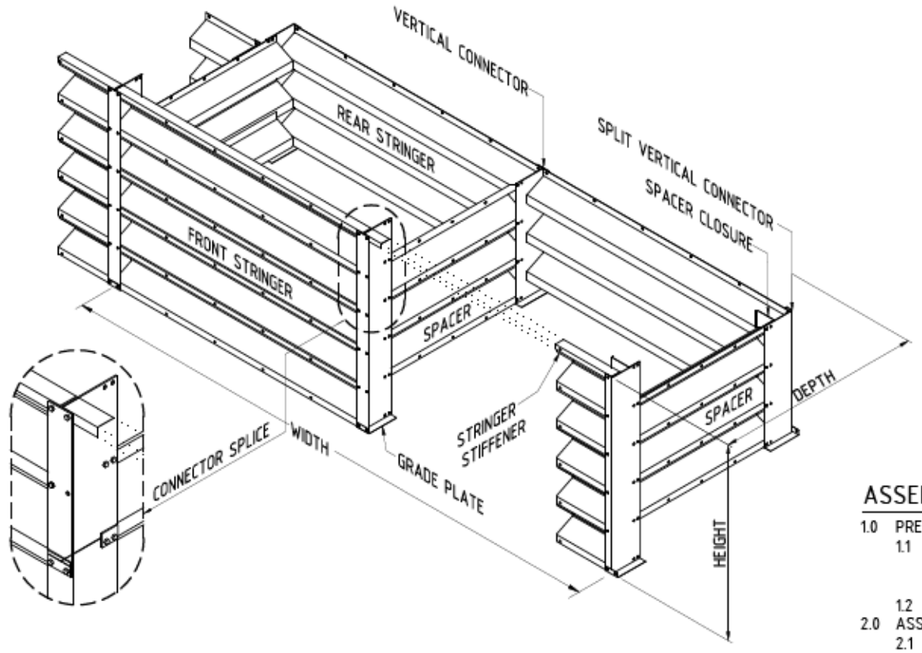
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 26.1 KM - AMARUQ, NU
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE #	CUSTOMER REF.	TOTAL DWGS
DES. CHK	BY	OTHERS	3	-	5
DRAWN BY	BH	21 JUN 16	PROJECT NUMBER 2016-00506F	DWG NO. 000	REV. 2
DWG. CHK	LM	24 JUN 16			



BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
16	BBF643655VC	#9 MOD. VERTICAL CONNECTOR (c/w SPLICE TABS)	3655	6.4
8	BBF640861VC	#2 MOD. VERTICAL CONNECTOR (STANDARD)	861	6.4
8	BBF641267VC	#3 MOD. VERTICAL CONNECTOR (STANDARD)	1267	6.4
8	BBF643655SVCA	#9 MOD. SPLIT VERTICAL CONNECTOR (c/w SPLICE TABS)	3655	6.4
4	BBF640861SVCA	#2 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	861	6.4
4	BBF641267SVCA	#3 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	1267	6.4
230	BBF283036STR	STANDARD STRINGER	3036	2.8
124	BBF285021SPA	# 11 SPACER	5021	2.8
10	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
4	BBF160861SC	#2 MOD. SPACER CLOSURE (STANDARD)	861	1.6
4	BBF161267SC	#3 MOD. SPACER CLOSURE (STANDARD)	1267	1.6
8	BBF163655SC	#9 MOD. SPACER CLOSURE (STANDARD) LOWER	3655	1.6
24	BBF200395GP	GRADE PLATE	-	2.0
3350	UP.625X1.5	16mm (⅝") ø STEEL BOLT & NUT	38	16mm ø

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
- 1.2 ESTABLISH FRONT AND REAR LINES OF BOLT-A-BIN WALLS AND LOCATION OF EACH VERTICAL CONNECTOR.

2.0 ASSEMBLY
- 2.1 DISTRIBUTE GRADE PLATES AND VERTICAL CONNECTORS TO APPROPRIATE LOCATIONS. NOTE: ON MOST WALLS VERTICAL CONNECTORS ARE 812mm SHORTER THAN FRONT VERTICAL CONNECTORS (EXCEPT ON BRIDGE ABUTMENTS). FOR WALL HEIGHTS GREATER THAN 3.66m, VERTICAL CONNECTORS WILL CONSIST OF TWO OR MORE PIECES.
- 2.2 LOCATE AND PLACE GRADE PLATES IN EXACT LOCATIONS. SET VERTICAL CONNECTORS ONTO GRADE PLATES AND ATTACH WITH BOLTS. ATTACH TWO LOWER SPACERS TO FRONT AND REAR VERTICAL CONNECTORS.
- 2.3 ATTACH TWO STRINGERS AT THE LOWEST HEIGHT IN THE FRONT AND REAR FACE. ONCE A BIN IS FORMED, CHECK FRONT FACE ALIGNMENT. CHECK BACK BIN TO ENSURE BIN IS SQUARE DIAGONALLY. ENSURE VERTICAL CONNECTORS ARE PLUMB IF BIN IS A VERTICAL INSTALLATION. CONTINUE TO ASSEMBLE BIN TOGETHER ALTERNATING STRINGERS AND SPACERS UNTIL BIN IS COMPLETED FULL HEIGHT. ASSEMBLING OF ADJACENT BINS MAY BE STARTED AFTER SUFFICIENT STRINGERS AND SPACERS ARE ASSEMBLED IN FIRST BIN TO ENSURE STABILITY. ALL BINS IN INSTALLATION ARE COMPLETED IN AN ALTERNATING STEP FASHION. FOR END BINS, INSTALL SPACER CLOSURE AT ENDS OF SPACERS OF EXPOSED END WALL PANEL.
- 2.4 STRINGERS ON FRONT FACE OF WALL ARE TO BE INSTALLED WITH THE OVERLAP ON THE INSIDE OF PRECEDING LOWER STRINGER INSTALLED.

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2.0 VERTICAL DIMENSIONS ARE FROM THE CENTRE OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 59mm.
3.0 GRADE PLATES, SUPPLIED BY A.I.L., ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
4.0 BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (150mm MIN.)
5.0 CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A325 AND GALVANIZED TO ASTM A153/A153M
6.0 STEEL COMPONENTS MANUFACTURED IN ACCORDANCE WITH ASTM A568M AND HOT DIPPED GALVANIZED TO CSA G164 WITH A MINIMUM ZINC COATING OF Z610.
7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

BOLT-A-BIN COMPONENTS

PART NAME	FUNCTION
VERTICAL CONNECTOR	Connects stringers and spacers.
SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
STANDARD STRINGER	Forms front and rear walls.
SPACER	Forms transverse and end walls.
STRINGER STIFFENER	Stiffens top stringer (front wall).
SPACER CLOSURE	Retains bin fill at end walls.
GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

THIS ISOMETRIC ILLUSTRATION IS A REPRESENTATION OF A STANDARD BOLT-A-BIN STRUCTURE.

ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

REV NO.	DATE	BY	DESCRIPTION
2	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
1	07 JUL 16	BH	RE-ISSUED FOR APPROVAL
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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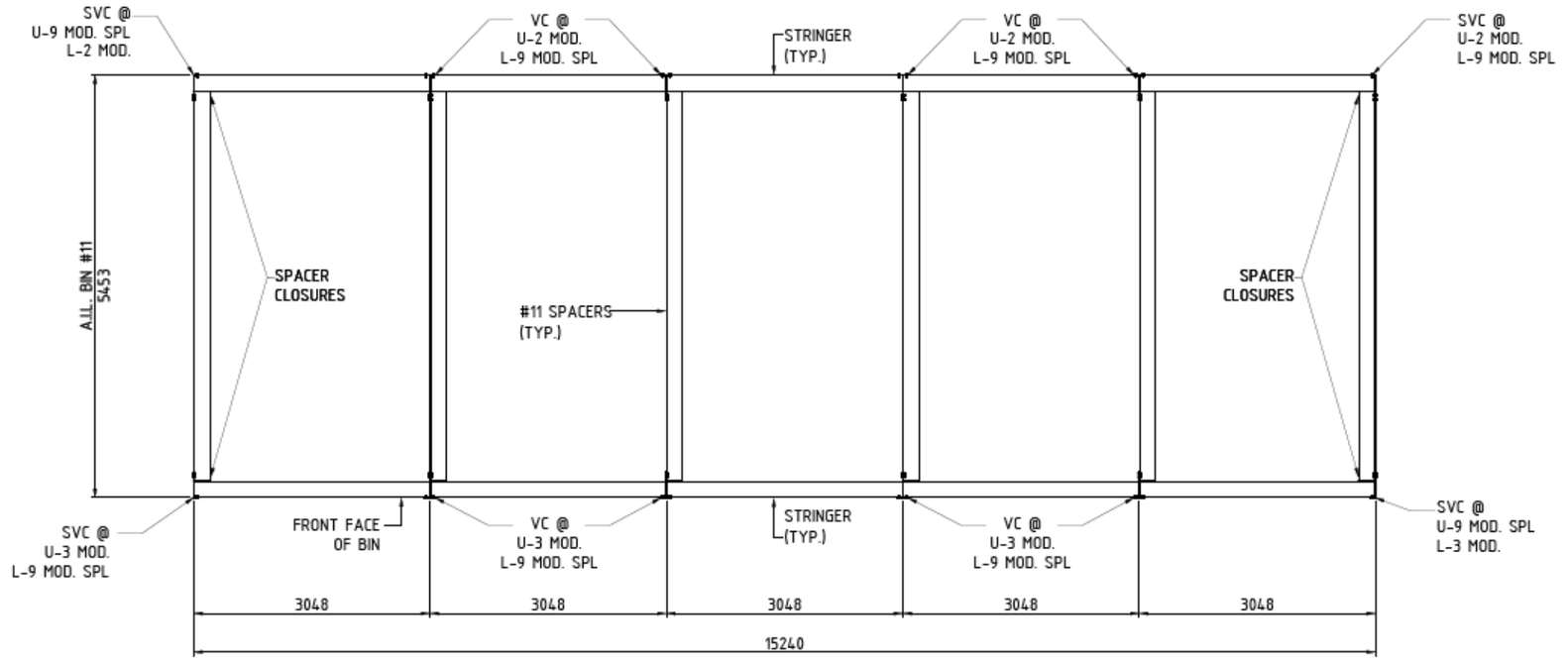
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 26.1 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

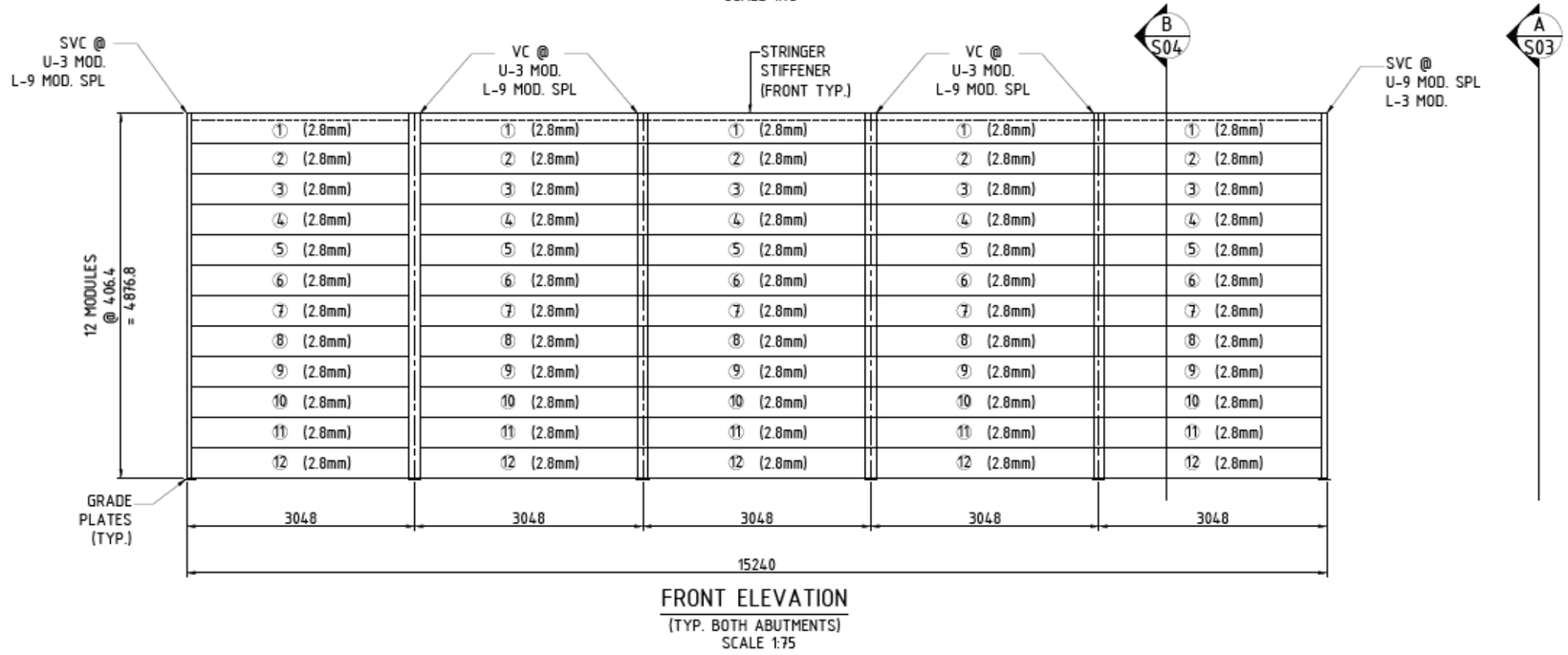
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 3 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506F | DWG NO. S01 | REV. 2



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR
SPL - VC OR SVC WITH SPLICE TAB
U - UPPER LOCATION
L - LOWER LOCATION



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
SCALE 1:75

July-08-16 1:51:11 PM
BRIAN HEANEY

REV NO.	DATE	BY	DESCRIPTION
2	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
1	07 JUL 16	BH	RE-ISSUED FOR APPROVAL
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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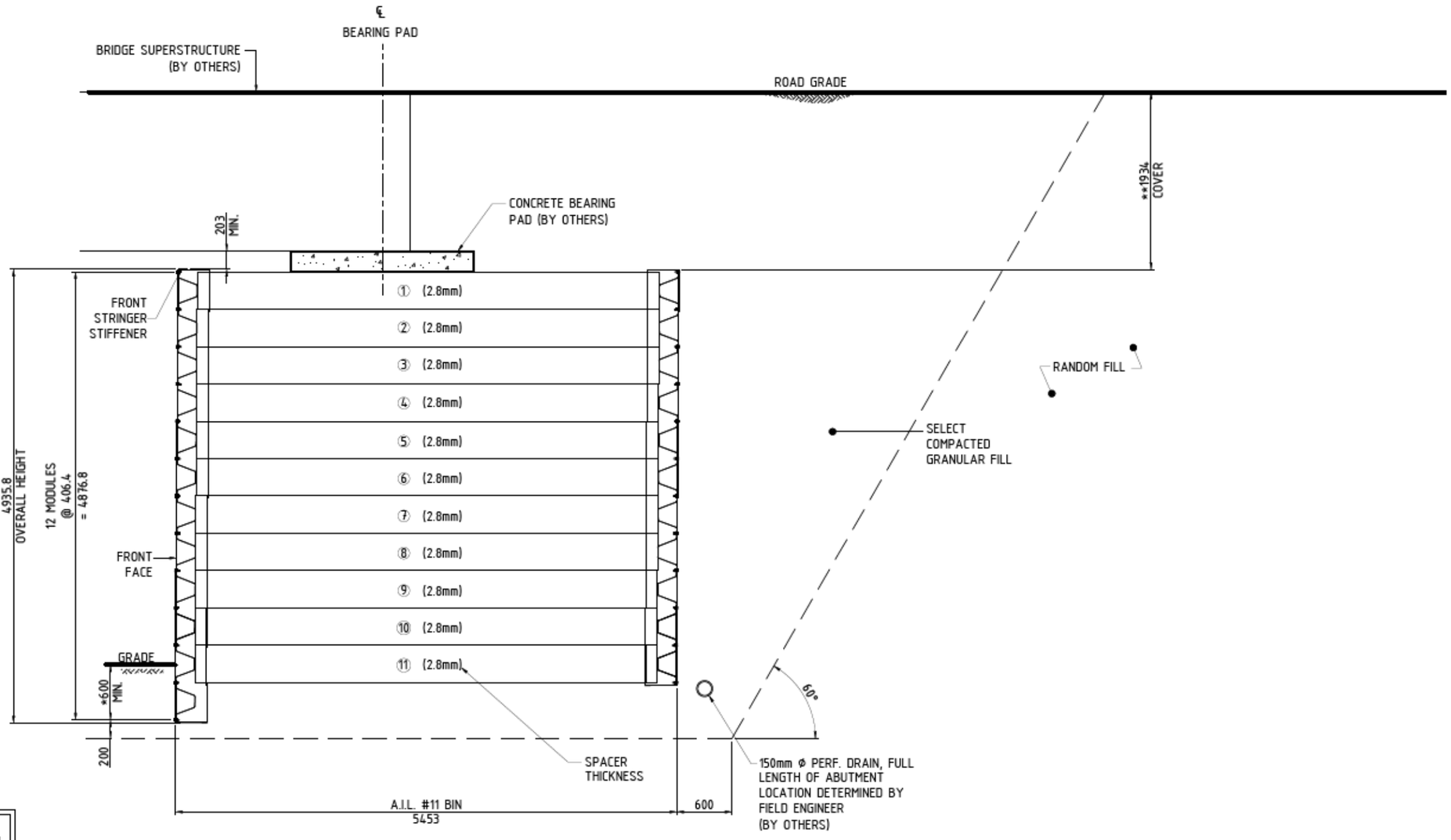
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 26.1 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 3
CUSTOMER REF. -
PROJECT NUMBER 2016-00506F
DWG NO. S02
REV. 2

** REFERENCE DRAWING
WSP DWG. 6103-117-230-286, REV C (2016/04/08)
WSP DWG. 6103-117-230-287, REV C (2016/04/08)



A S02 END VIEW
SCALE 1:50

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

REV NO.	DATE	BY	DESCRIPTION
2	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
1	07 JUL 16	BH	RE-ISSUED FOR APPROVAL
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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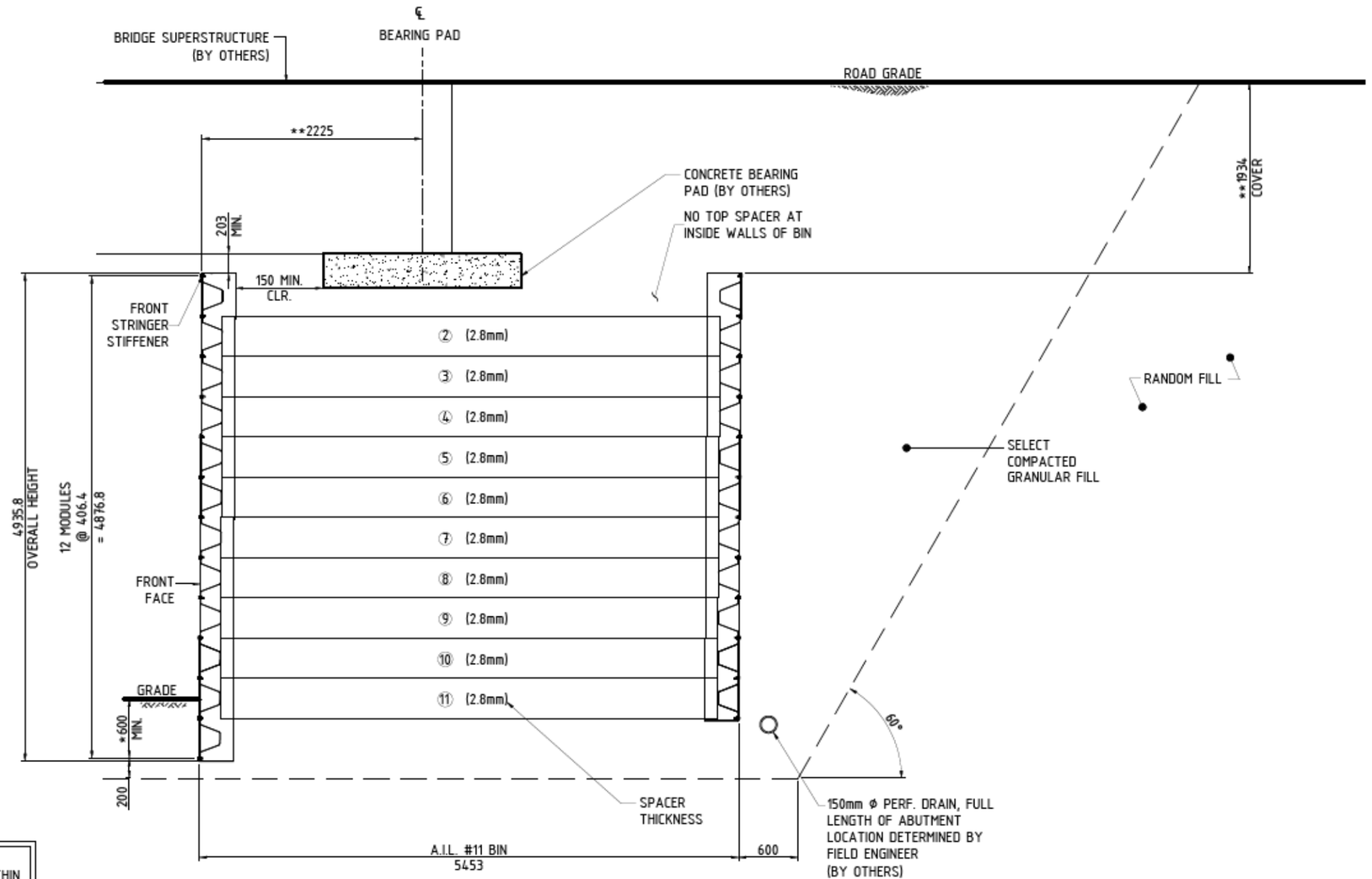
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 26.1 KM - AMARUQ, NU
SECTION

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 3
CUSTOMER REF. -
PROJECT NUMBER 2016-00506F
DWG NO. S03
REV. 2

** REFERENCE DRAWING
WSP DWG. 6103-117-230-286, REV C (2016/04/08)
WSP DWG. 6103-117-230-287, REV C (2016/04/08)



B / S02 SECTION
SCALE 1:50

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

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REV NO.	DATE	BY	DESCRIPTION
2	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
1	07 JUL 16	BH	RE-ISSUED FOR APPROVAL
0	24 JUN 16	BH	ISSUED FOR APPROVAL

Atlantic Industries Limited
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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 26.1 KM - AMARUQ, NU
SECTION

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 3 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506F | DWG NO. S04 | REV. 2

Z:\2016\00506G - BAB - BRIDGE ABUTMENT 32.3KM, NU\ORDER\DRAFTING\2016-00506G (R1)

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506G-000	COVER SHEET	1	08 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506G-S01	DETAILS, BILL OF MATERIALS, NOTES	1	08 JUL 16
2016-00506G-S02	PLAN VIEW, ELEVATION VIEW	1	08 JUL 16
2016-00506G-S03	SECTION	1	08 JUL 16
2016-00506G-S04	SECTION	1	08 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 32.3 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

BRIAN HEANEY

July-08-16 9:56:27 AM

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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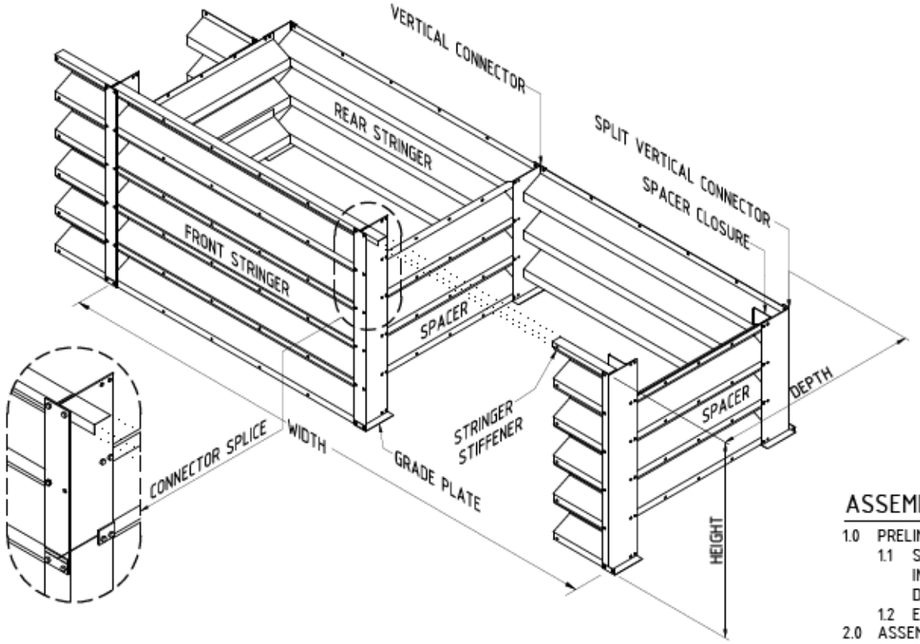
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 32.3 KM - AMARUQ, NU
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE #	CUSTOMER REF.	TOTAL DWGS
DES. CHK	BY	OTHERS	2	-	5
DRAWN BY	BH	21 JUN 16	PROJECT NUMBER 2016-00506G	DWG NO. 000	REV. 1
DWG. CHK	LM	24 JUN 16			



BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
16	BBF643655VC	#9 MOD. VERTICAL CONNECTOR (c/w SPLICE TABS)	3655	6.4
8	BBF640861VC	#2 MOD. VERTICAL CONNECTOR (STANDARD)	861	6.4
8	BBF641267VC	#3 MOD. VERTICAL CONNECTOR (STANDARD)	1267	6.4
8	BBF643655SVCA	#9 MOD. SPLIT VERTICAL CONNECTOR (c/w SPLICE TABS)	3655	6.4
4	BBF640861SVCA	#2 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	861	6.4
20	BBF641267SVCA	#3 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	1267	6.4
254	BBF283036STR	STANDARD STRINGER	3036	2.8
24	BBF281363SPA	# 2 SPACER	1363	2.8
124	BBF285021SPA	# 11 SPACER	5021	2.8
14	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
4	BBF160861SC	#2 MOD. SPACER CLOSURE (STANDARD)	861	1.6
20	BBF161267SC	#3 MOD. SPACER CLOSURE (STANDARD)	1267	1.6
8	BBF163655SC	#9 MOD. SPACER CLOSURE (STANDARD) LOWER	3655	1.6
40	BBF200395GP	GRADE PLATE	-	2.0
4050	UP.625X1.5	16mm ($\frac{5}{8}$") ø STEEL BOLT & NUT	38	16mm ø

BOLT-A-BIN COMPONENTS

PART NAME	FUNCTION
VERTICAL CONNECTOR	Connects stringers and spacers.
SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
STANDARD STRINGER	Forms front and rear walls.
SPACER	Forms transverse and end walls.
STRINGER STIFFENER	Stiffens top stringer (front wall).
SPACER CLOSURE	Retains bin fill at end walls.
GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

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ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
- 1.2 ESTABLISH FRONT AND REAR LINES OF BOLT-A-BIN WALLS AND LOCATION OF EACH VERTICAL CONNECTOR.

2.0 ASSEMBLY
- 2.1 DISTRIBUTE GRADE PLATES AND VERTICAL CONNECTORS TO APPROPRIATE LOCATIONS. NOTE: ON MOST WALLS VERTICAL CONNECTORS ARE 812mm SHORTER THAN FRONT VERTICAL CONNECTORS (EXCEPT ON BRIDGE ABUTMENTS). FOR WALL HEIGHTS GREATER THAN 3.66m, VERTICAL CONNECTORS WILL CONSIST OF TWO OR MORE PIECES.
- 2.2 LOCATE AND PLACE GRADE PLATES IN EXACT LOCATIONS. SET VERTICAL CONNECTORS ONTO GRADE PLATES AND ATTACH WITH BOLTS. ATTACH TWO LOWER SPACERS TO FRONT AND REAR VERTICAL CONNECTORS.
- 2.3 ATTACH TWO STRINGERS AT THE LOWEST HEIGHT IN THE FRONT AND REAR FACE. ONCE A BIN IS FORMED, CHECK FRONT FACE ALIGNMENT. CHECK BACK BIN TO ENSURE BIN IS SQUARE DIAGONALLY. ENSURE VERTICAL CONNECTORS ARE PLUMB IF BIN IS A VERTICAL INSTALLATION. CONTINUE TO ASSEMBLE BIN TOGETHER ALTERNATING STRINGERS AND SPACERS UNTIL BIN IS COMPLETED FULL HEIGHT. ASSEMBLING OF ADJACENT BINS MAY BE STARTED AFTER SUFFICIENT STRINGERS AND SPACERS ARE ASSEMBLED IN FIRST BIN TO ENSURE STABILITY. ALL BINS IN INSTALLATION ARE COMPLETED IN AN ALTERNATING STEP FASHION. FOR END BINS, INSTALL SPACER CLOSURE AT ENDS OF SPACERS OF EXPOSED END WALL PANEL.
- 2.4 STRINGERS ON FRONT FACE OF WALL ARE TO BE INSTALLED WITH THE OVERLAP ON THE INSIDE OF PRECEDING LOWER STRINGER INSTALLED.

GENERAL NOTES:

1.0 ALL DIMENSIONS ARE IN MILLIMETRES.
2.0 VERTICAL DIMENSIONS ARE FROM THE CENTRE OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 59mm.
3.0 GRADE PLATES, SUPPLIED BY A.I.L., ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
4.0 BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (150mm MIN.)
5.0 CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A325 AND GALVANIZED TO ASTM A153/A153M
6.0 STEEL COMPONENTS MANUFACTURED IN ACCORDANCE WITH ASTM A568M AND HOT DIPPED GALVANIZED TO CSA G164 WITH A MINIMUM ZINC COATING OF Z610.
7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

Atlantic Industries Limited
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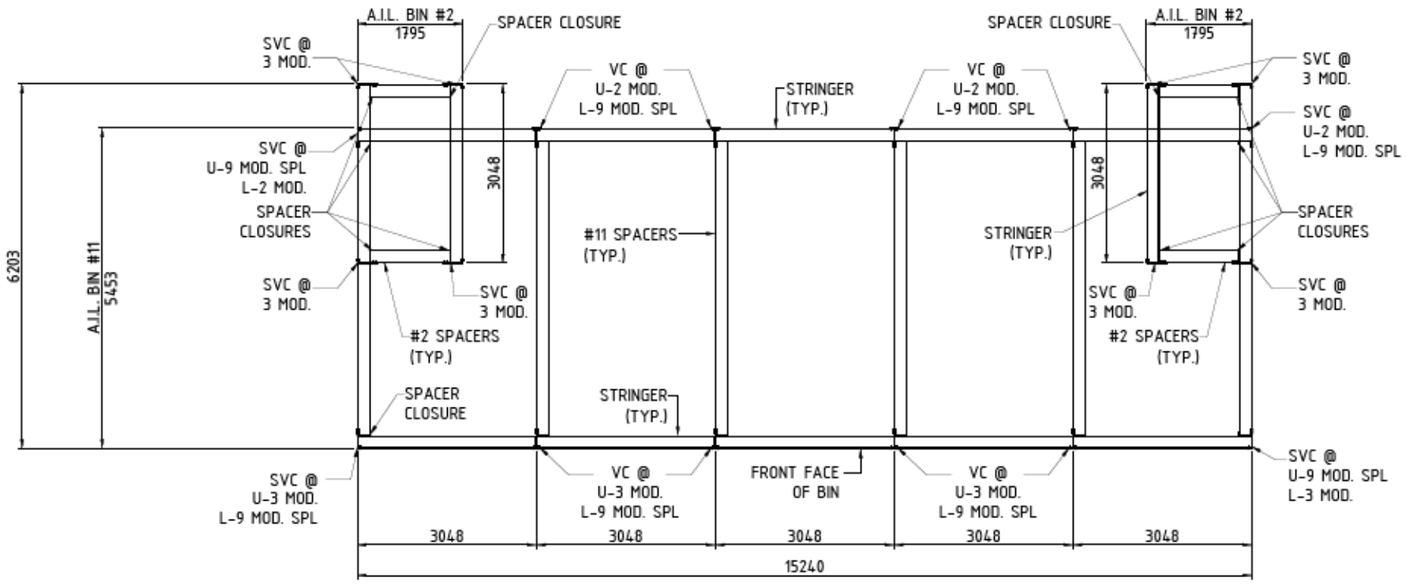
www.ail.ca www.atlanticindustries.us

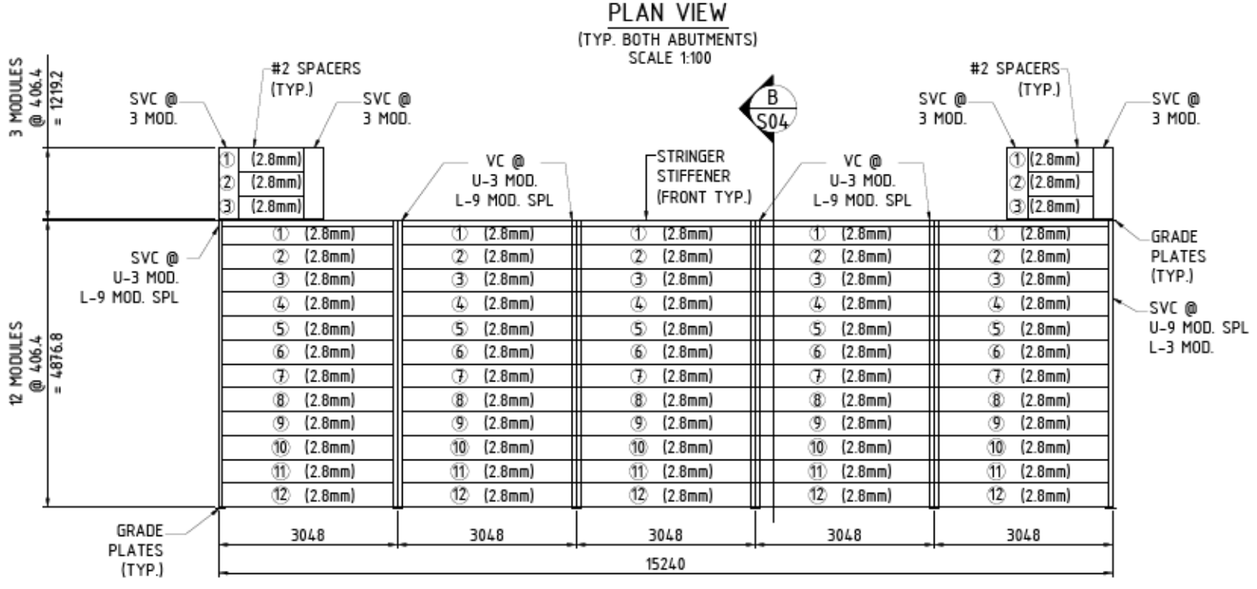
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 32.3 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506G | DWG NO. S01 | REV. 1



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:100



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
SCALE 1:100

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR
SPL - VC OR SVC WITH SPLICE TAB
U - UPPER LOCATION
L - LOWER LOCATION

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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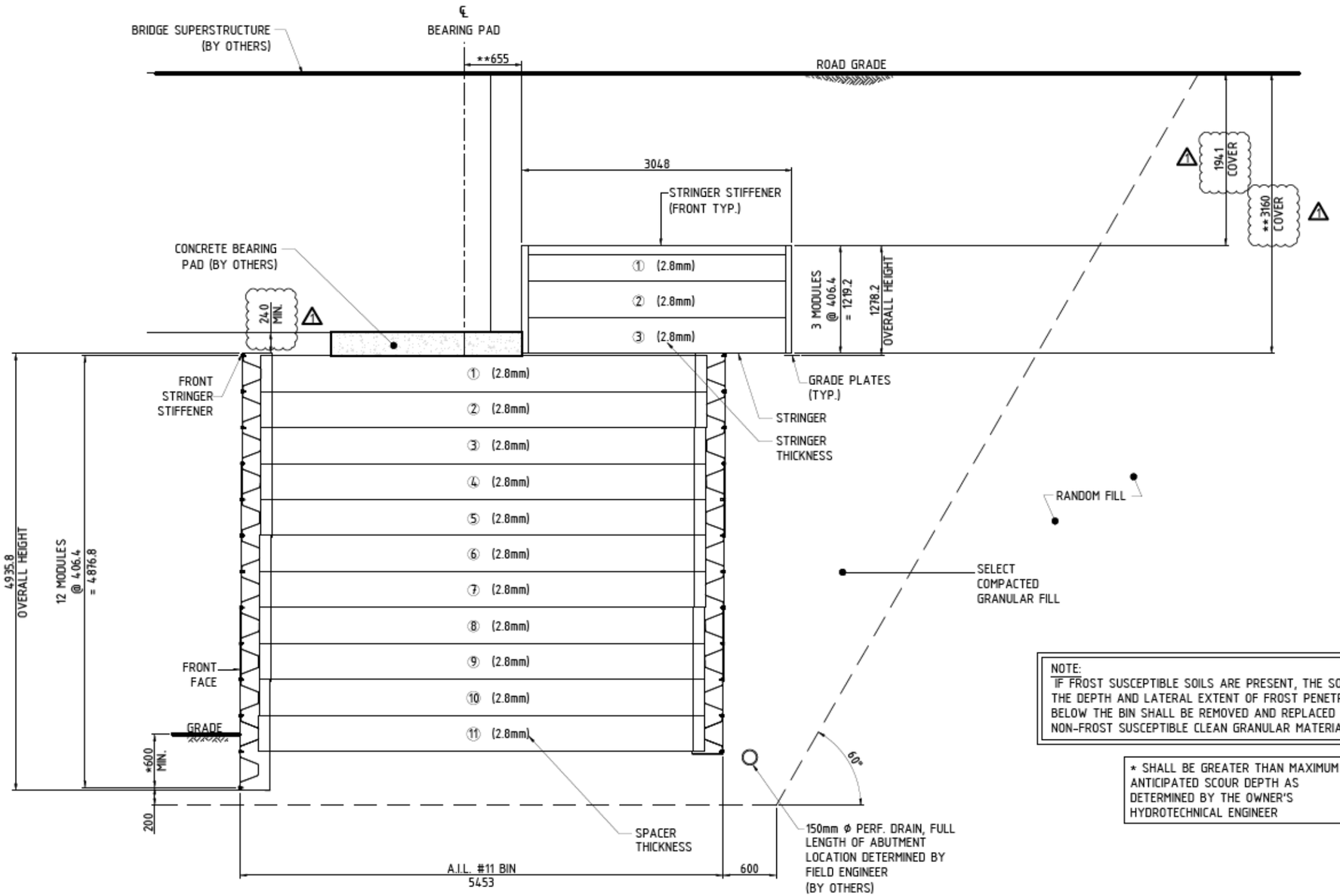
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 32.3 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE #	CUSTOMER REF.
2	-

PROJECT NUMBER 2016-00506G | DWG NO. S02 | REV. 1

** REFERENCE DRAWING
WSP DWG. 6103-117-230-288, REV C (2016/04/08)
WSP DWG. 6103-117-230-289, REV C (2016/04/08)



NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

A S02 END VIEW
SCALE 1:50

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 32.3 KM - AMARUQ, NU
SECTION

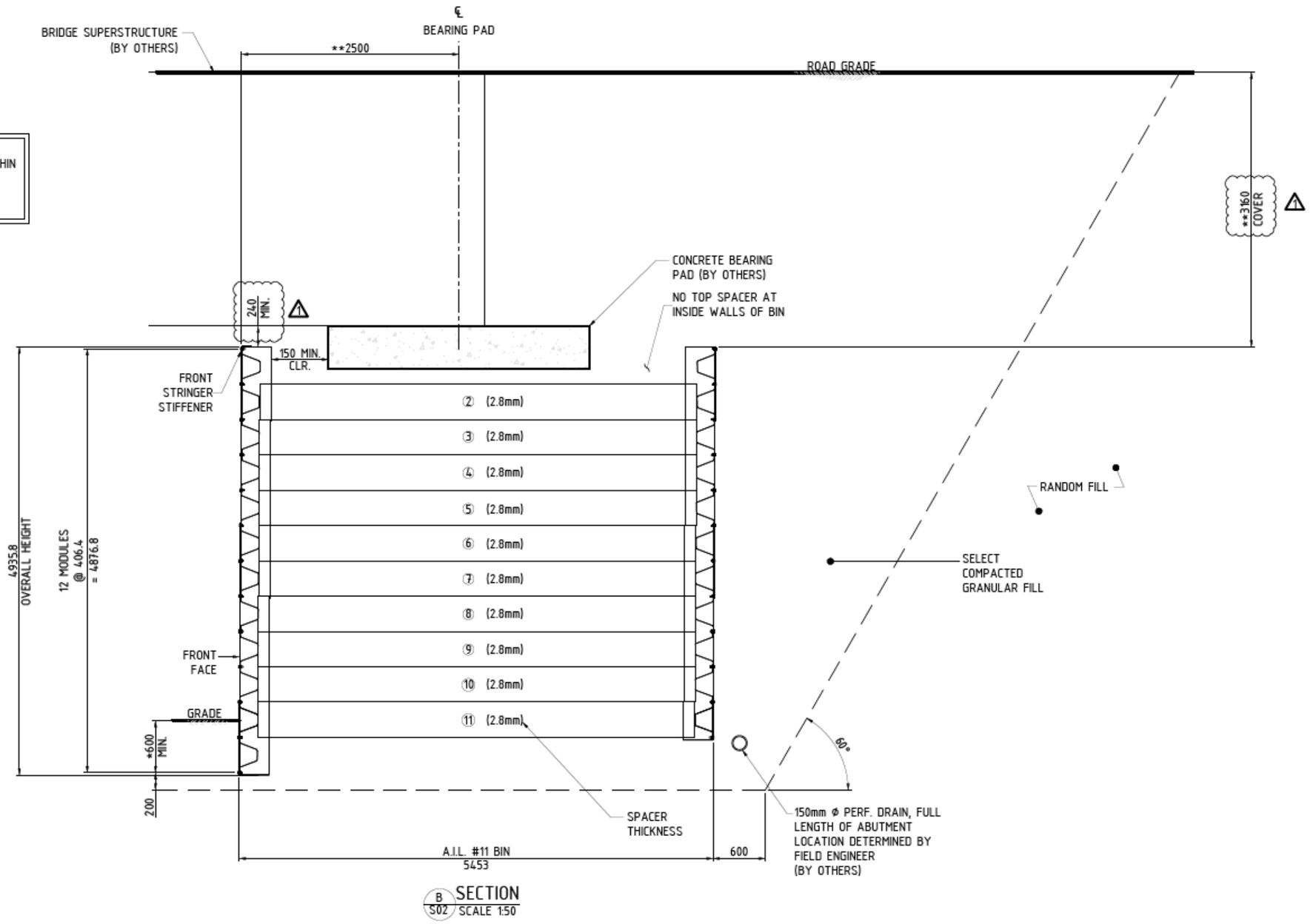
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506G | DWG NO. S03 | REV. 1

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

** REFERENCE DRAWING
WSP DWG. 6103-117-230-288, REV C (2016/04/08)
WSP DWG. 6103-117-230-289, REV C (2016/04/08)



B S02 SECTION
SCALE 1:50

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 32.3 KM - AMARUQ, NU
SECTION

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2
CUSTOMER REF. -
PROJECT NUMBER 2016-00506G
DWG NO. S04
REV. 1

Z:\2016\00506H - BAB - BRIDGE ABUTMENT 43.5KM, NU\ORDER\DRAFTING\2016-00506H (R.1)

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-00506H-000	COVER SHEET	1	08 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-00506H-S01	DETAILS, BILL OF MATERIALS, NOTES	1	08 JUL 16
2016-00506H-S02	PLAN VIEW, ELEVATION VIEW	1	08 JUL 16
2016-00506H-S03	SECTIONS	1	08 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 43.5 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

BRIAN HEANEY

July-08-16 9:36:35 AM

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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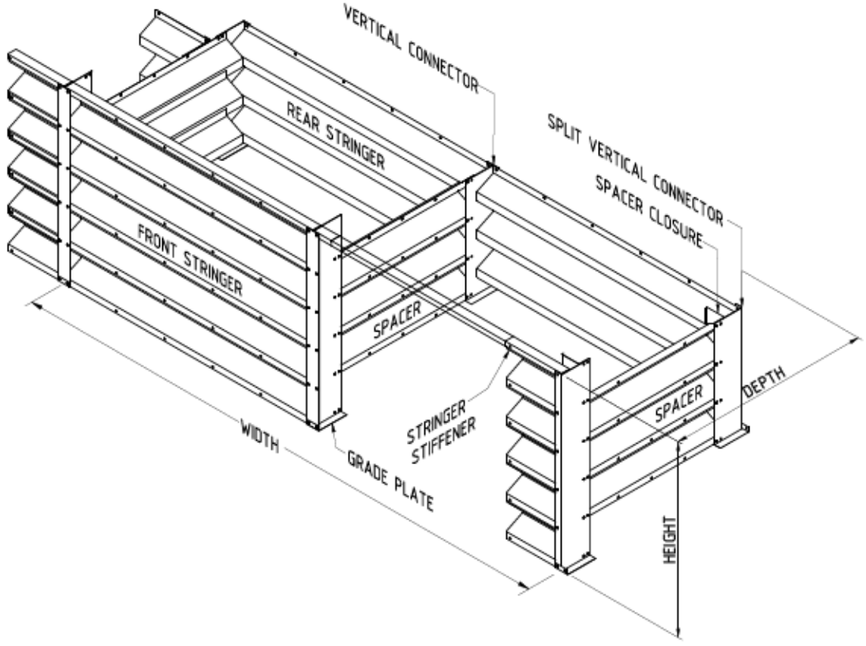
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 43.5 KM - AMARUQ, NU
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE # 2	CUSTOMER REF. -	TOTAL DWGS 4
DES. CHK	BY	OTHERS			
DRAWN BY	BH	21 JUN 16	PROJECT NUMBER 2016-00506H	DWG NO. 000	REV. 1
DWG. CHK	LM	24 JUN 16			



BOLT-A-BIN COMPONENTS

PART NAME	FUNCTION
VERTICAL CONNECTOR	Connects stringers and spacers.
SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
STANDARD STRINGER	Forms front and rear walls.
SPACER	Forms transverse and end walls.
STRINGER STIFFENER	Stiffens top stringer (front wall).
SPACER CLOSURE	Retains bin fill at end walls.
GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

THIS ISOMETRIC ILLUSTRATION IS A REPRESENTATION OF A STANDARD BOLT-A-BIN STRUCTURE.

ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
6	BBF642486VC	#6 MOD. VERTICAL CONNECTOR (STANDARD)	2486	6.4
6	BBF642893VC	#7 MOD. VERTICAL CONNECTOR (STANDARD)	2893	6.4
4	BBF642486SVCA	#6 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2486	6.4
4	BBF642893SVCA	#7 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2893	6.4
104	BBF283036STR	STANDARD STRINGER	3036	2.8
54	BBF283802SPA	# 8 SPACER	3802	2.8
8	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
4	BBF162486SC	#6 MOD. SPACER CLOSURE (STANDARD)	2486	1.6
4	BBF162893SC	#7 MOD. SPACER CLOSURE (STANDARD)	2893	1.6
20	BBF200395GP	GRADE PLATE	-	2.0
1550	UP.625X1.5	16mm (5/8") ø STEEL BOLT & NUT	38	16mm ø

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
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7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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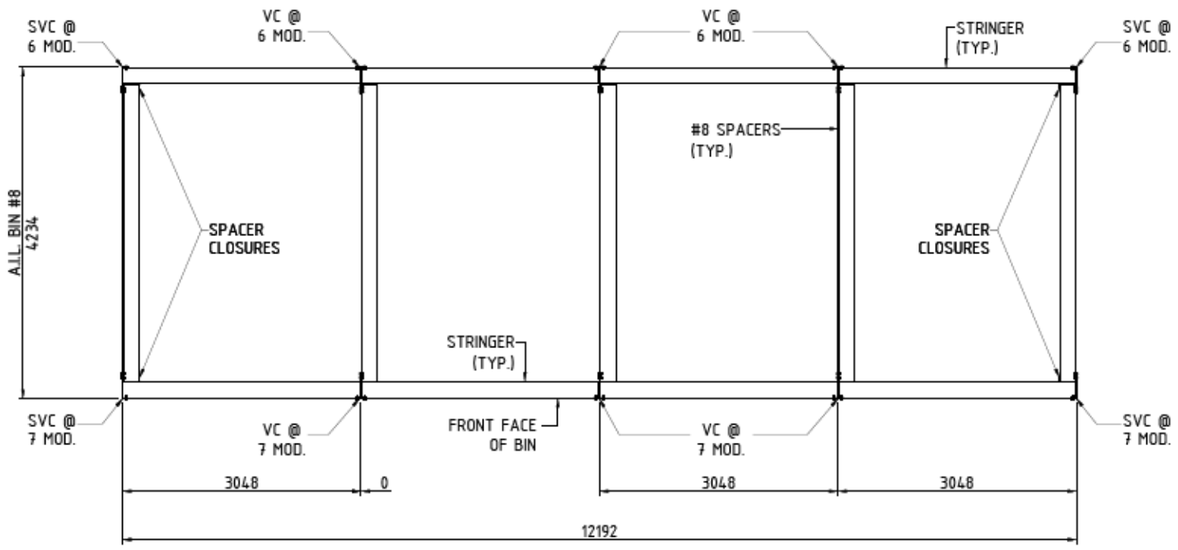
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 43.5 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

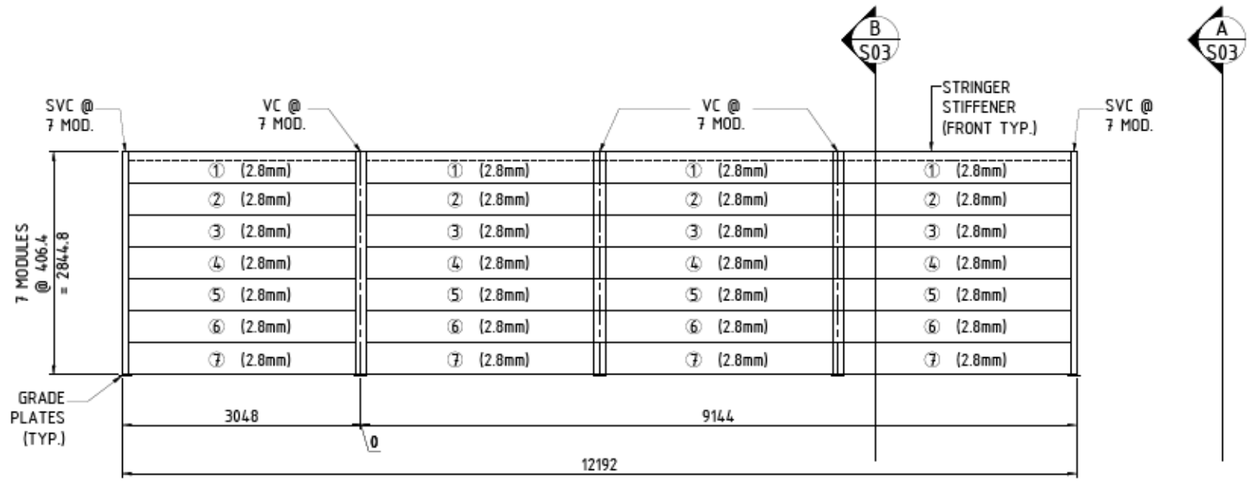
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506H | DWG NO. S01 | REV. 1

NOTE:
VC - VERTICAL CONNECTOR
SVC - SPLIT VERTICAL CONNECTOR



PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
SCALE 1:75

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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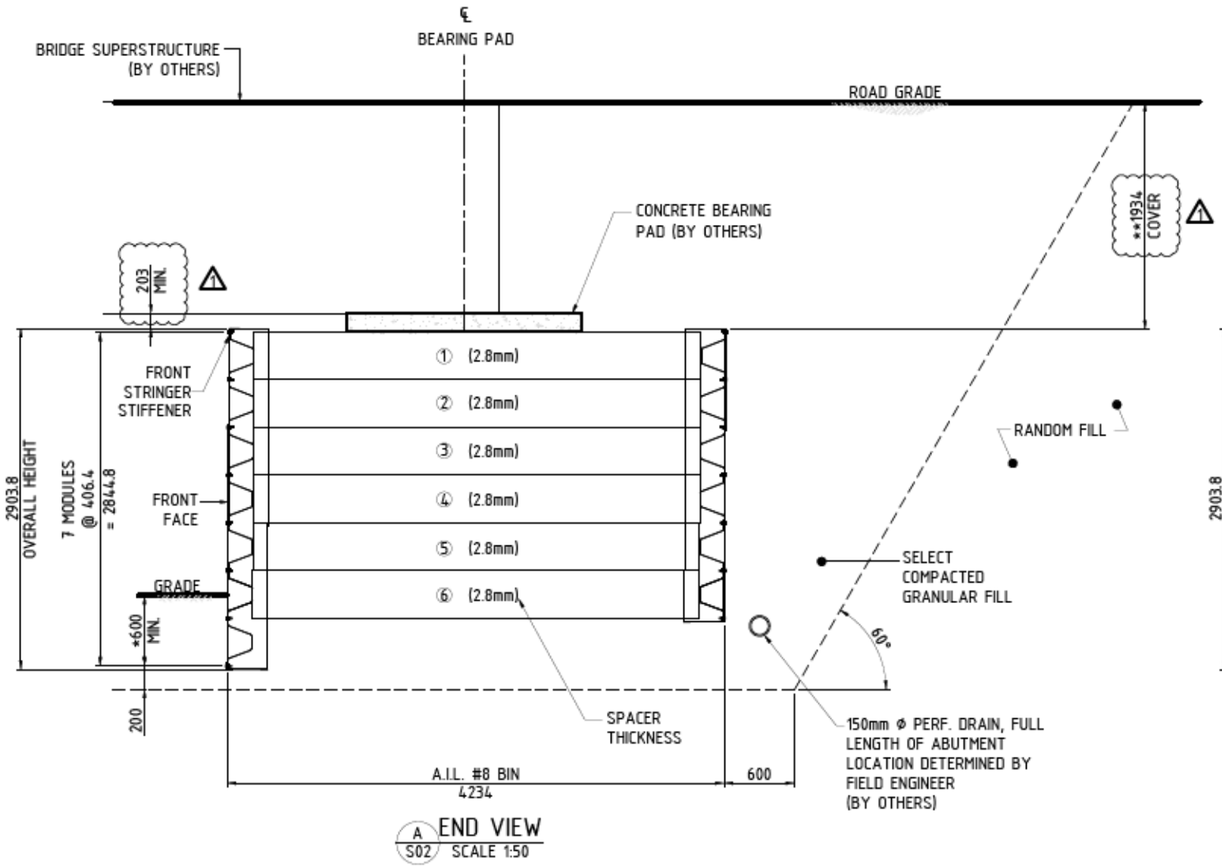
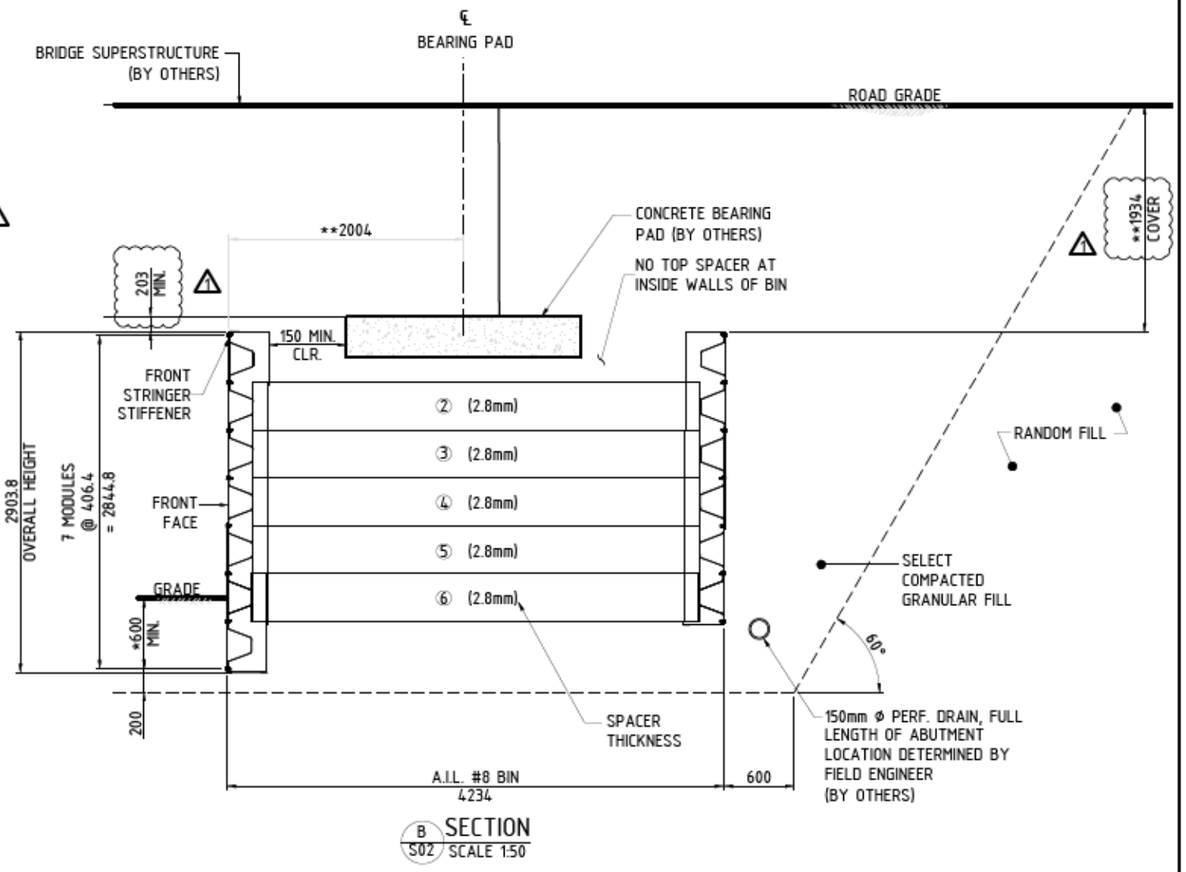
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 43.5 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

DESIGNED	BY	OTHERS		RELEASE # 2	CUSTOMER REF. -
DES. CHK	BY	OTHERS			
DRAWN BY	BH	21 JUN 16	PROJECT NUMBER	2016-00506H	DWG NO. S02 REV. 1
DWG. CHK	LM	24 JUN 16			

** REFERENCE DRAWING
WSP DWG. 6103-117-230-290, REV C (2016/04/08)
WSP DWG. 6103-117-230-291, REV C (2016/04/08)



A / S02 END VIEW
SCALE 1:50



B / S02 SECTION
SCALE 1:50

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 43.5 KM - AMARUQ, NU
SECTIONS

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-00506H | DWG NO. S03 | REV. 1

Z:\2016\005061 - BAB - BRIDGE ABUTMENT 44.8KM, NU\ORDER\DRAFTING\2016-005061 (R.1)

DRAWING INDEX			
DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2016-005061-000	COVER SHEET	1	08 JUL 16
A.I.L. BOLT-A-BIN ABUTMENTS DRAWINGS			
2016-005061-S01	DETAILS, BILL OF MATERIALS, NOTES	1	08 JUL 16
2016-005061-S02	PLAN VIEW, ELEVATION VIEW	1	08 JUL 16
2016-005061-S03	SECTION	1	08 JUL 16
2016-005061-S04	SECTION	1	08 JUL 16

AGNICO-EAGLE LTD.

BRIDGE ABUTMENT 44.8 KM - AMARUQ, NU

A.I.L. BOLT-A-BIN ABUTMENTS

BRIAN HEANEY
July-08-16 8:41:53 AM

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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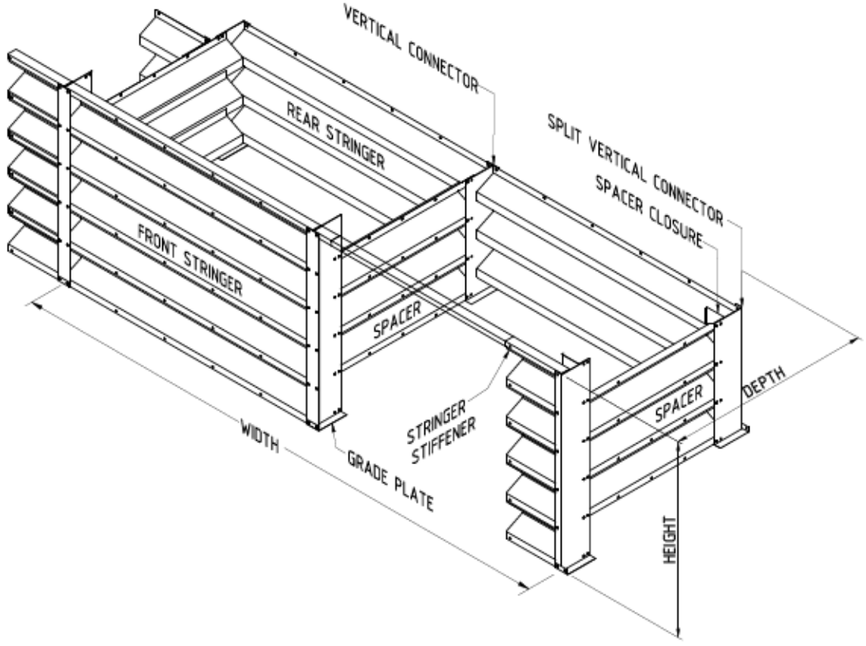
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 44.8 KM - AMARUQ, NU
COVER SHEET

DESIGNED	BY	OTHERS	RELEASE # 2	CUSTOMER REF. -	TOTAL DWGS 5		
DES. CHK	BY	OTHERS					
DRAWN BY	BH	21 JUN 16	PROJECT NUMBER 2016-005061	DWG NO. 000	REV. 1		
DWG. CHK	LM	24 JUN 16					



BOLT-A-BIN COMPONENTS

PART NAME	FUNCTION
VERTICAL CONNECTOR	Connects stringers and spacers.
SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
STANDARD STRINGER	Forms front and rear walls.
SPACER	Forms transverse and end walls.
STRINGER STIFFENER	Stiffens top stringer (front wall).
SPACER CLOSURE	Retains bin fill at end walls.
GRADE PLATE	Assists in bin construction layout.
16mm ø (5/8" ø) BOLT	Fastens all components.

TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

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ACTUAL BOLT-A-BIN STRUCTURE MAY DIFFER FROM WHAT IS SHOWN IN THIS ILLUSTRATION.

BILL OF MATERIALS

QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	THICKNESS (mm)
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8	BBF642893VC	#7 MOD. VERTICAL CONNECTOR (STANDARD)	2893	6.4
4	BBF642486SVCA	#6 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2486	6.4
4	BBF642893SVCA	#7 MOD. SPLIT VERTICAL CONNECTOR (STANDARD)	2893	6.4
130	BBF283036STR	STANDARD STRINGER	3036	2.8
64	BBF284208SPA	# 9 SPACER	4208	2.8
10	BBF283036SS	STRINGER STIFFENER (LONG)	3036	2.8
4	BBF162486SC	#6 MOD. SPACER CLOSURE (STANDARD)	2486	1.6
4	BBF162893SC	#7 MOD. SPACER CLOSURE (STANDARD)	2893	1.6
24	BBF200395GP	GRADE PLATE	-	2.0
1950	UP.625X1.5	16mm (5/8") ø STEEL BOLT & NUT	38	16mm ø

ASSEMBLY NOTES:

1.0 PRELIMINARY STEPS
- 1.1 SEPARATE ALL COMPONENTS AND STACK LIKE PARTS TOGETHER FOR EASY ACCESS AND IDENTIFICATION. DO INVENTORY COUNT AGAINST BILL OF MATERIALS. BIN COMPONENTS TO BE POSITIONED SO THAT WATER WILL DRAIN OFF.
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2.0 VERTICAL DIMENSIONS ARE FROM THE CENTRE OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 59mm.
3.0 GRADE PLATES, SUPPLIED BY A.I.L., ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
4.0 BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (150mm MIN.)
5.0 CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A325 AND GALVANIZED TO ASTM A153/A153M
6.0 STEEL COMPONENTS MANUFACTURED IN ACCORDANCE WITH ASTM A568M AND HOT DIPPED GALVANIZED TO CSA G164 WITH A MINIMUM ZINC COATING OF Z610.
7.0 ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM ATLANTIC INDUSTRIES LTD.

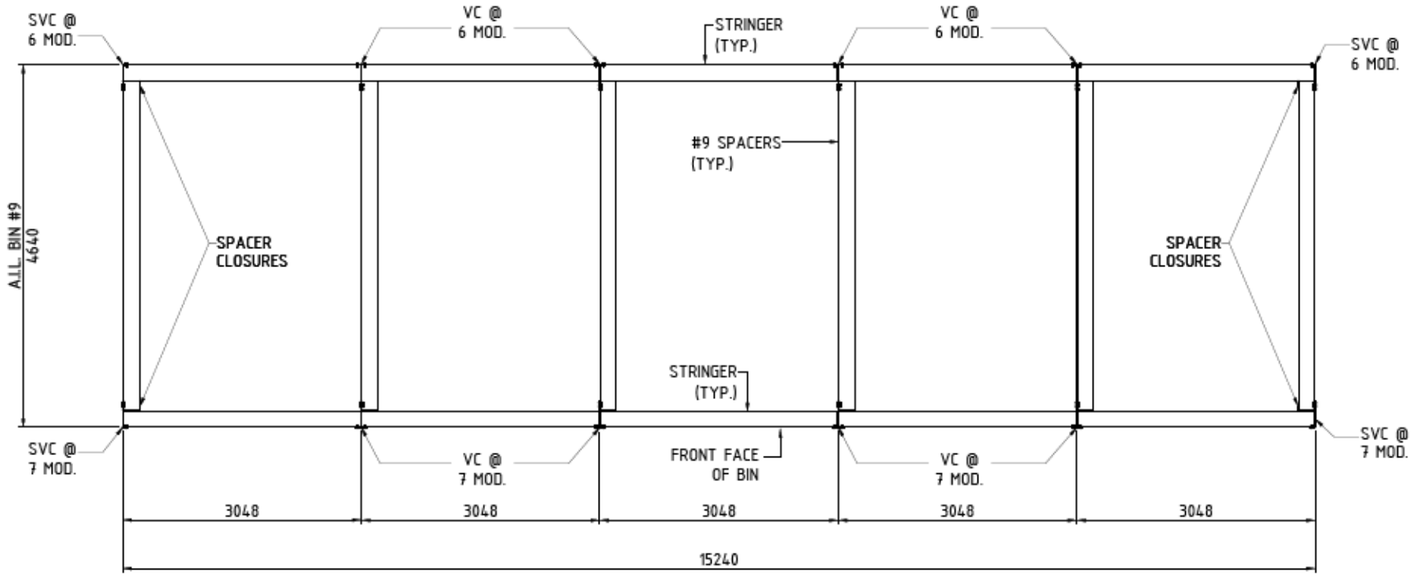
REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

Atlantic Industries Limited
CALL TOLL FREE IN NORTH AMERICA 1-877-AIL-PIPE
www.ail.ca www.atlanticindustries.us

AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 44.8 KM - AMARUQ, NU
DETAILS, BILL OF MATERIALS, NOTES

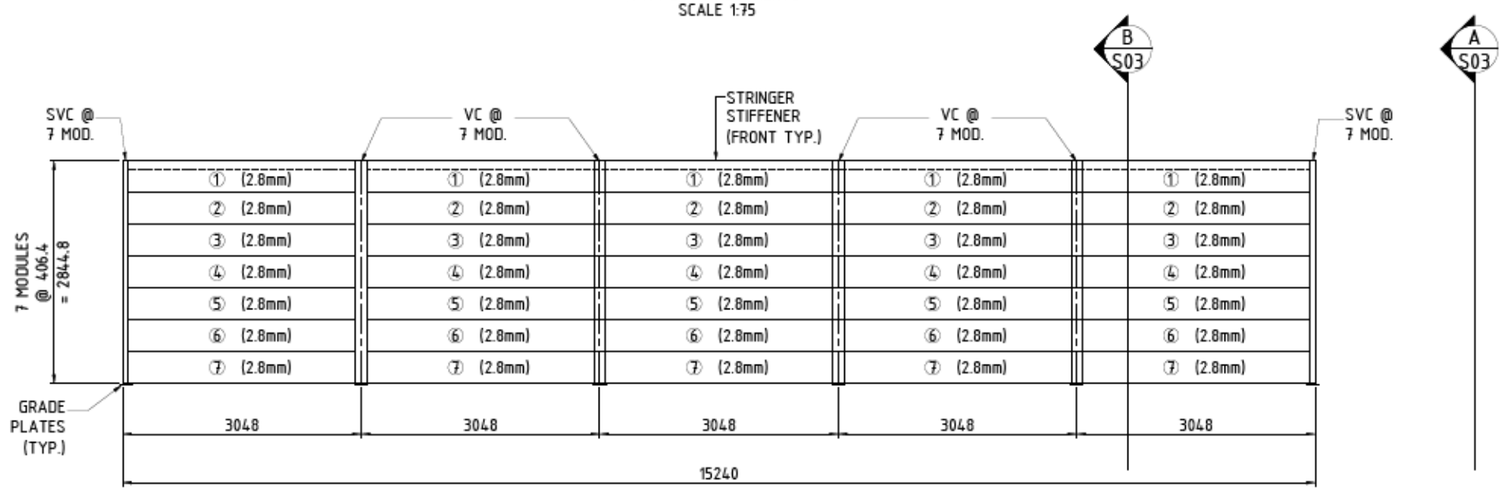
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-005061 | DWG NO. S01 | REV. 1



NOTE:
VC – VERTICAL CONNECTOR
SVC – SPLIT VERTICAL CONNECTOR

PLAN VIEW
(TYP. BOTH ABUTMENTS)
SCALE 1:75



FRONT ELEVATION
(TYP. BOTH ABUTMENTS)
SCALE 1:75

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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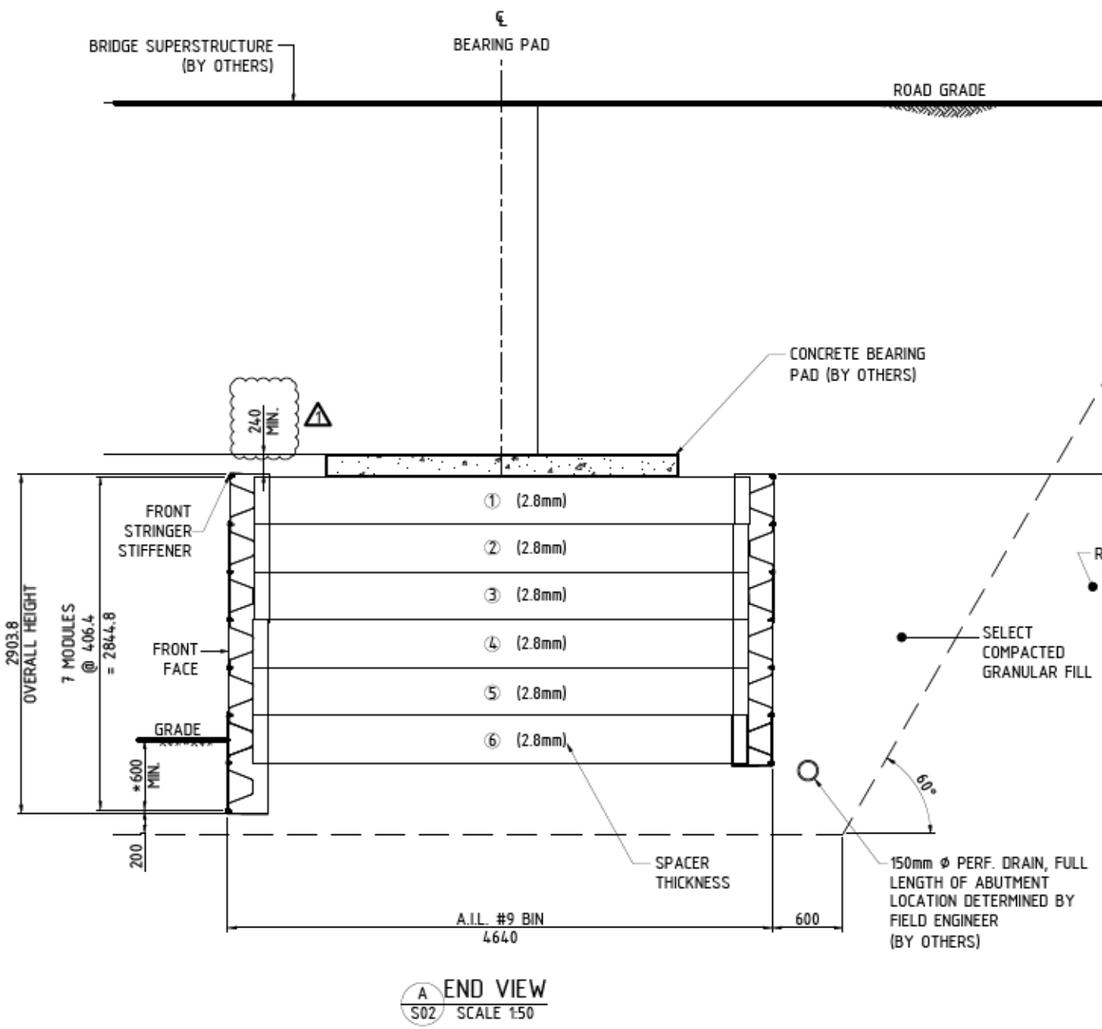
AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 44.8 KM - AMARUQ, NU
PLAN VIEW, ELEVATION VIEW

DESIGNED	BY	OTHERS	RELEASE # 2	CUSTOMER REF. -	
DES. CHK	BY	OTHERS			
DRAWN BY	BH	21 JUN 16	PROJECT NUMBER 2016-005061	DWG NO. S02	REV. 1
DWG. CHK	LM	24 JUN 16			

** REFERENCE DRAWING
WSP DWG. 6103-117-230-292, REV C (2016/04/08)
WSP DWG. 6103-117-230-293, REV C (2016/04/08)



A / S02 END VIEW
SCALE 1:50

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 44.8 KM - AMARUQ, NU
SECTION

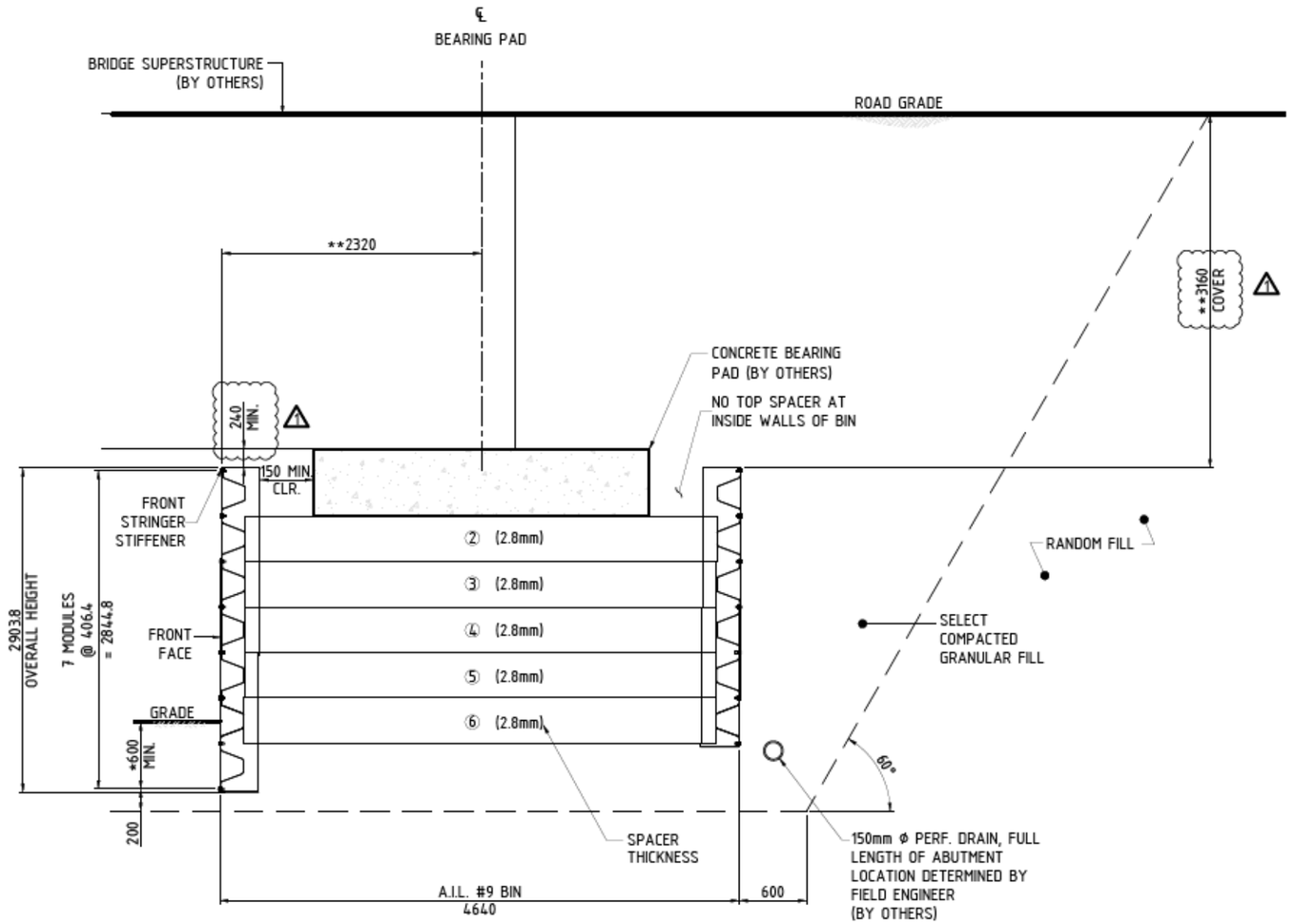
DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-005061 | DWG NO. S03 | REV. 1

** REFERENCE DRAWING
WSP DWG. 6103-117-230-292, REV C (2016/04/08)
WSP DWG. 6103-117-230-293, REV C (2016/04/08)

NOTE:
IF FROST SUSCEPTIBLE SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE BIN SHALL BE REMOVED AND REPLACED WITH NON-FROST SUSCEPTIBLE CLEAN GRANULAR MATERIAL.

* SHALL BE GREATER THAN MAXIMUM ANTICIPATED SCOUR DEPTH AS DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER



B / S02 SECTION
SCALE 1:50

REV NO.	DATE	BY	DESCRIPTION
1	08 JUL 16	BH	ISSUED FOR CONSTRUCTION
0	24 JUN 16	BH	ISSUED FOR APPROVAL

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AGNICO-EAGLE LTD.
BRIDGE ABUTMENT 44.8 KM - AMARUQ, NU
SECTION

DESIGNED	BY	OTHERS	
DES. CHK	BY	OTHERS	
DRAWN BY	BH	21 JUN 16	
DWG. CHK	LM	24 JUN 16	

RELEASE # 2 | CUSTOMER REF. -
PROJECT NUMBER 2016-005061 | DWG NO. S04 | REV. 1

Atlantic Industries Limited

Installation Guide

Bolt-A-Bin®

Retaining Walls

Table of Contents

1.0 Introduction

1.1. PURPOSE

The purpose of this manual is to provide the Owner, Engineer, Contractor & Inspection Staff with the necessary information to properly assemble and install Bolt-A-Bin retaining walls. This manual shall be used in conjunction with the plans, specifications and contract documents. The procedures explained in this manual are based on past experience, and are not intended to limit the contractor to only these practices.

1.2. PLANS & SPECIFICATIONS

The Contractor must ensure that on-site personnel have the most recent "approved for construction" plans and specifications relevant to the installation. These are typically packaged with the bolts, but may also be obtained from an AIL representative.

1.3. RESPONSIBILITY

It is the responsibility of the Contractor to erect the structure according to the plans, specifications and contract documents. The Contractor shall be responsible for all quality control.

It is the responsibility of the Contractor to inspect all materials against the packing slip upon arrival at the site to ensure complete delivery in good order. Any damaged materials must be set aside and AIL shall be notified immediately.

An Atlantic Industries Limited representative may be available to provide on-site assistance. The representative will **not** be responsible for inspection or quality control.

2.0 Materials, Tools & Equipment

2.1. COMPONENTS, MATERIAL & TOOLS SUPPLIED BY AIL:

1) Engineering & Shop drawings
2) Structural components (vertical connectors, split vertical connectors, stringers, spacers, grade plates, stringer stiffeners, spacer closures)
3) Bolts
4) Nuts
5) Zinc rich paint (if required)
6) On-Site assistance (if required)

2.2. EQUIPMENT SUPPLIED BY CONTRACTOR:

Forklift or properly equipped front-end loader to unload bundles of structural components.

Lifting equipment such as a small crane, excavator or boom truck.

Backfill equipment including dump trucks, dozers, loaders and water trucks to haul, spread and place fill. Water may be needed to obtain optimum moisture content.

Small plate tampers or walk behind rollers are needed to compact the material inside and within 1m of the structure. Single drum vibratory rollers are needed to compact the remaining portion of the fill.

2.3. TOOLS SUPPLIED BY CONTRACTOR:

1) Pry bars
2) Acceptable chains, cables or straps for lifting components
3) Impact gun (air driven, ¾" drive recommended, 85 CFM @ 100 psi)
4) Ladders, Scaffolding, Safety harnesses
5) Spud wrench
6) 5-8 lbs. sledgehammer
7) Torque wrench (250 ft-lbs minimum capacity)
8) Flat screwdriver.
9) 5/8 inch wrench for clamps
10) Snips
11) Tape measure
12) Wooden blocks

2.4. STRUCTURAL COMPONENTS

Structural components should be handled carefully to prevent damage to the zinc coating. They are typically shipped in bundles.

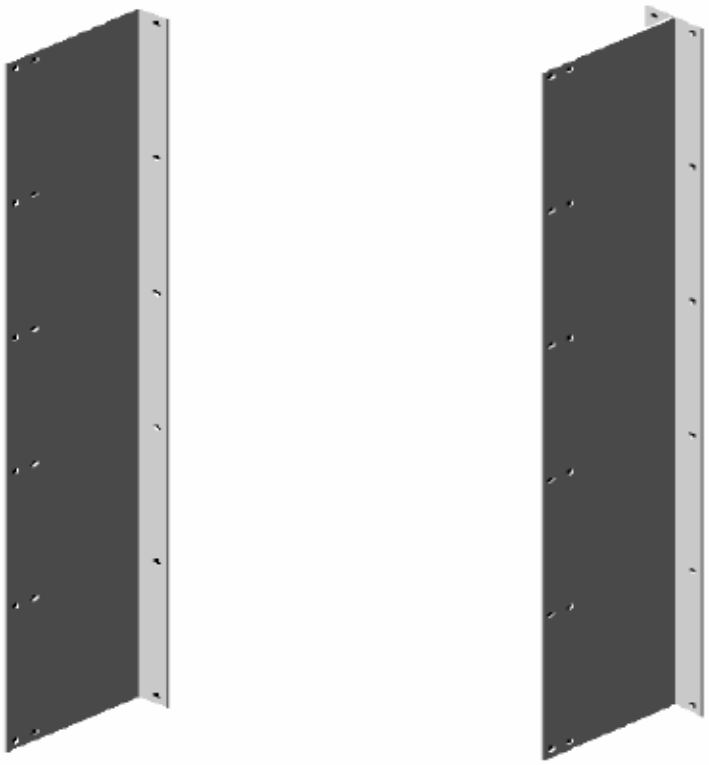


Figure 1 - Split vertical connector (left) used for corners and vertical connector (right) used for joining adjacent bins

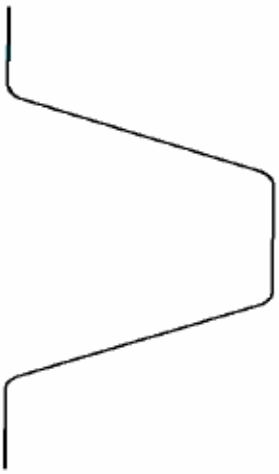


Figure 2 - Profile of stringer/spacer (Stringers have a single hole at the ends, spacers have 2)

Avoid abrasions from forks or chains when unloading and moving components, and avoid impacting panels being lifted against part of the structure that has already been erected.

When lifting and placing components NEVER put yourself or any part of your body between the structure and a section being lifted. Never stick a finger through an empty bolt hole, as the structure may shift and cause injury.

2.5. BOLTS

Bolts supplied are 15.9mm (5/8") ∅ and 37mm (1.25") long with a 27mm (1-1/16") hex head. Bolts are used to connect all components.

Nuts should be placed with the flat side towards the plate.

Required torque on bolts is 203-338 N-m (150-250 ft-lb). The minimum torque must be met to maintain structural strength.

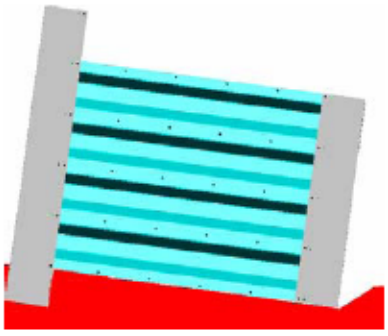
3.0 Construction Procedures

3.1. FOUNDATION/BEDDING PREPARATION

The foundation preparation is the responsibility of the Contractor. Excavate the site to the proper depth and length of structure to be constructed as per the contract drawings.

Any unsuitable foundation material below the structure or engineered backfill, as determined by the Owner's Geotechnical Engineer, should be excavated to a depth as directed by the Engineer. Unsuitable material must be excavated and replaced with acceptable granular material compacted as directed by the Owner's Geotechnical Engineer.

The foundation should be graded to match the grade of the wall, and to match the toe and heel elevations to accommodate the required batter (if any). The foundation should be fully compacted before installing the wall.



3.2. DRAINAGE

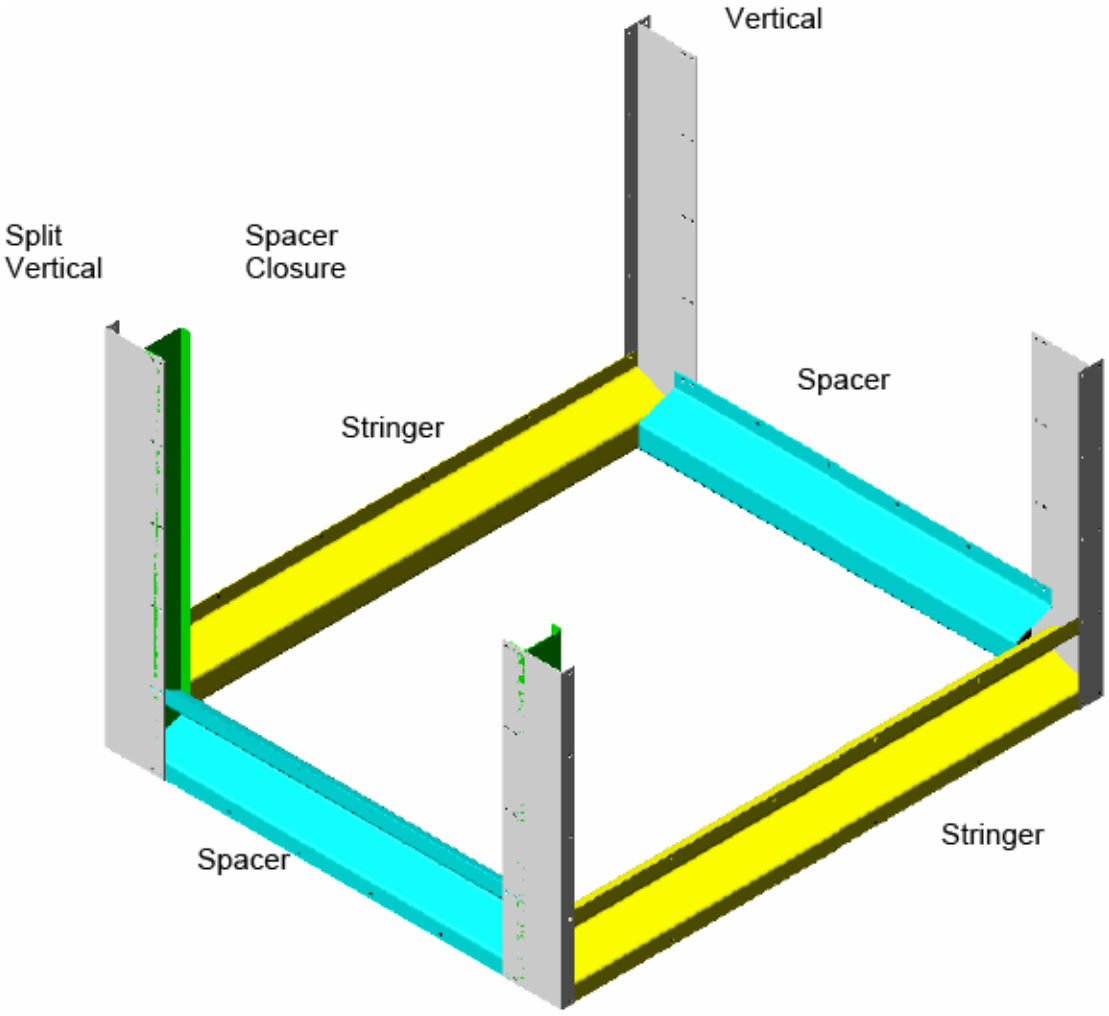
Drainage (when required) shall be installed as per the Contractor's Engineer. Typically, drainage is located at the rear toe of the wall, as indicated on the drawings.

3.3. ASSEMBLY

3.3.1. Methods of Assembly

Method 1

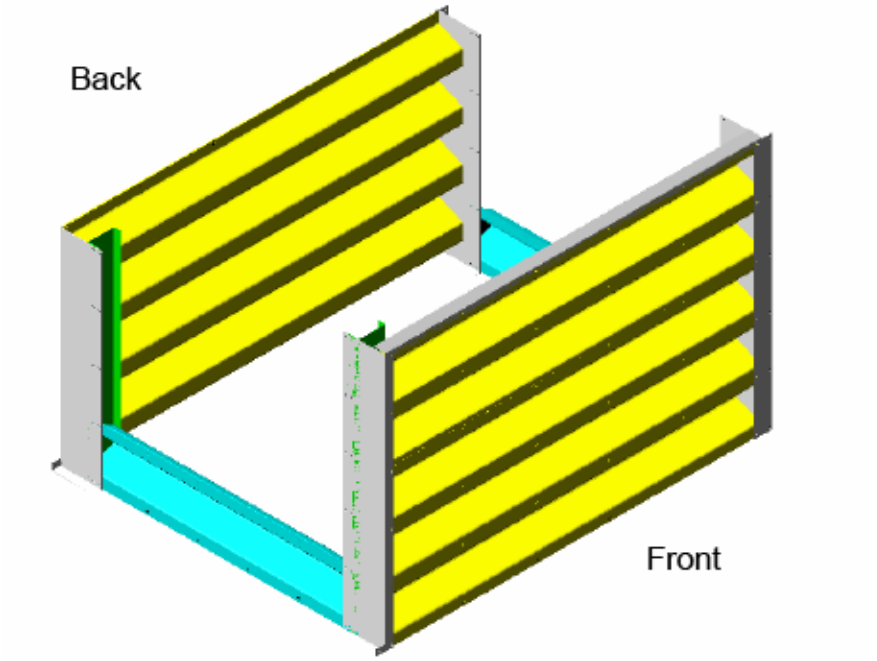
Lay out required grade plates and vertical components at each corner, and required face panels (stringers and spacers) at each side. Spacer closures are required at the outside corners to prevent fill from migrating through the open end of the spacers. Bolt components into a square assembly (check by measuring diagonals). Temporary bracing may be required to hold verticals in place until more stringers and spacers are attached and the assembly is stable.



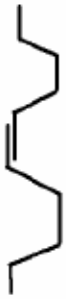
Add stringers and spacers row by row to complete the bin, keeping the bottom edge of each stringer or spacer inside of the top edge of the preceding piece.

Method 2

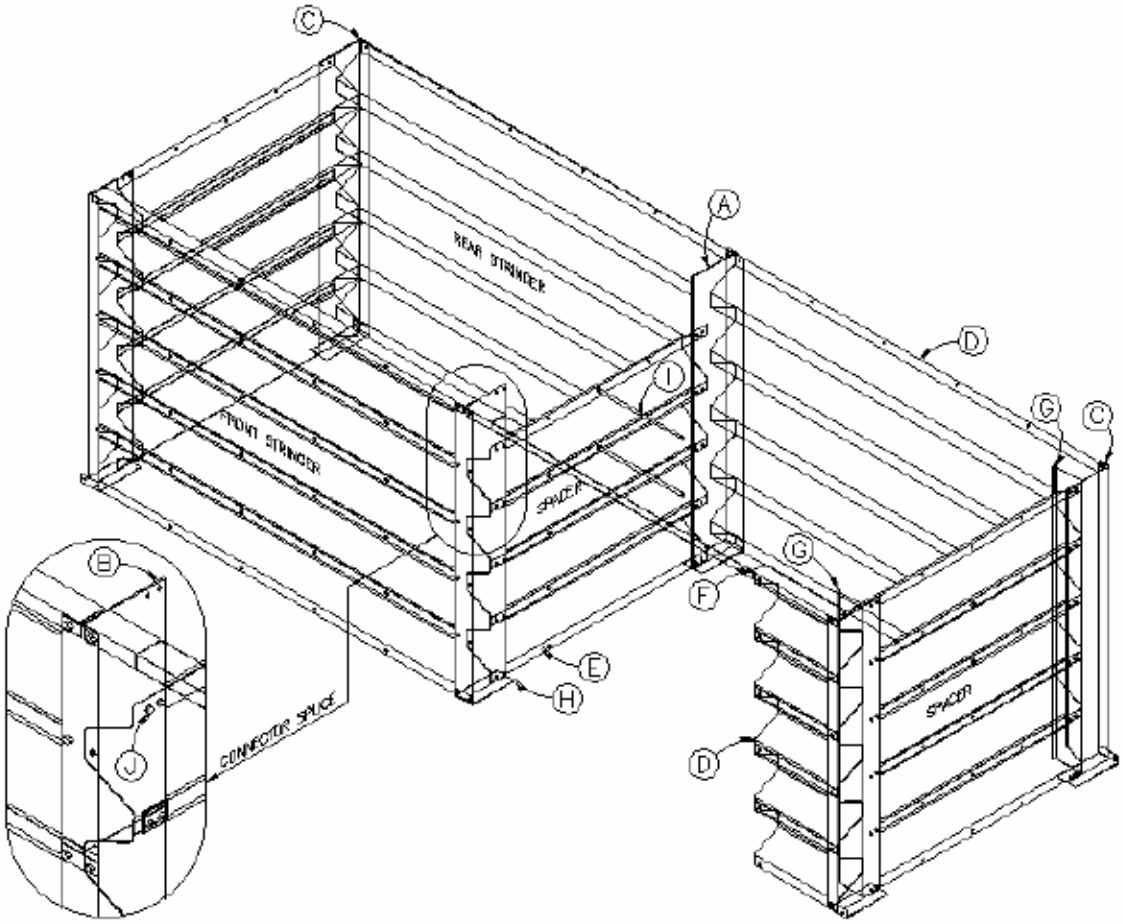
Assemble panel-like sections of the front and back **or** sides. Attach grade plates to the base of the vertical components. Stand these sections up then attach remaining sides or front/back piece by piece. This method will require bracing for the first section of the bin, which will then support adjacent sections.



With either method, stringers should be lapped with the bottom edge inside the previous stringer to prevent water from staining the face of the bin.



The following page shows a cut away of a typical bin and labels all the components.



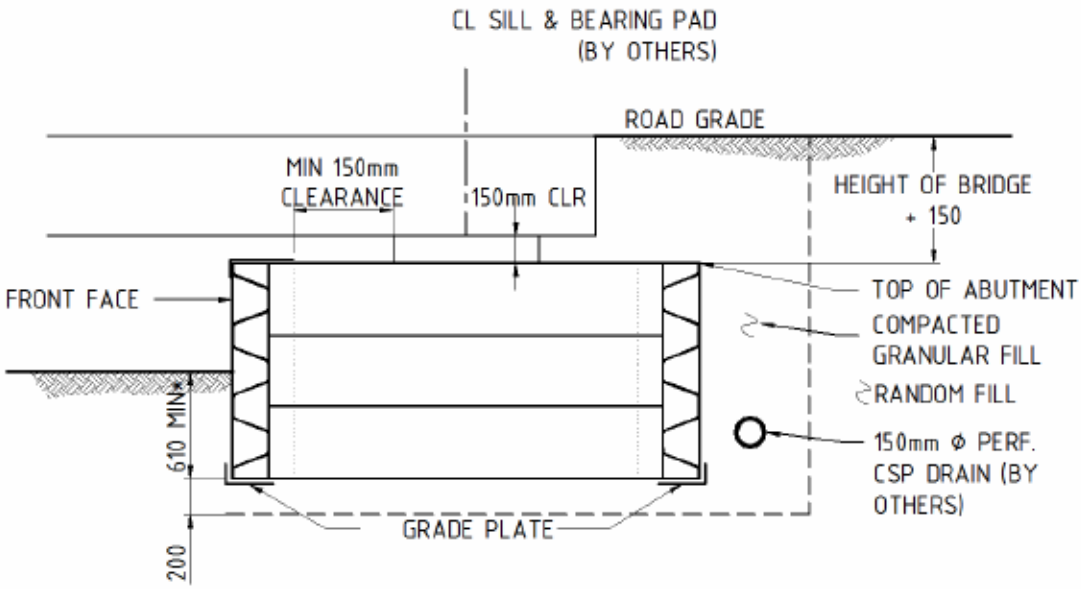
TYPICAL BOLT-A-BIN DETAILS - ISOMETRIC

BOLT-A-BIN WALL COMPONENTS

A	VERTICAL CONNECTOR	Connects stringers and spacers.
B	UPPER VERTICAL CONNECTOR	Connects stringers and spacers above vertical connector splice.
C	SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
D	STANDARD STRINGER	Forms front and rear walls.
E	SPACER	Forms transverse and end walls.
F	STRINGER STIFFENER	Stiffens top stringer (front wall).
G	SPACER CLOSURE	Retains bin fill at end walls.
H	GRADE PLATE	Assists in bin construction layout.
I	TIE ROD	Reinforces spacers at end.
J	15.9mm Φ (5/8" Φ) BOLT	Fastens all components.

3.3.2. Bridge Abutments

Bridge abutments must be constructed such that the bearing pad does not come in contact with any part of the Bolt-A-Bin structure. 150mm (6") clearance must be observed.



3.3.3. Threaded Tie Rods

For bins with depths greater than 3000mm (32'-4"), threaded tie rods are installed on the end bins to prevent the bin from bulging. Tie rods must be placed before placing fill in the bin.

3.4. BACKFILL

Before placing backfill ensure that all bolts have been tightened to the minimum torque of 203 N-m (150 ft-lbs).

3.4.1. Backfill requirements

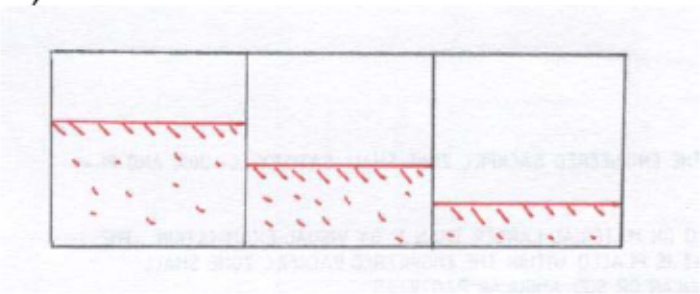
The backfill material structural characteristics are an integral part of soil-steel structure design. It is the responsibility of the Contractor to ensure that the backfill material meets the required parameters set out in the contract documents.

3.4.2. Backfill Placement

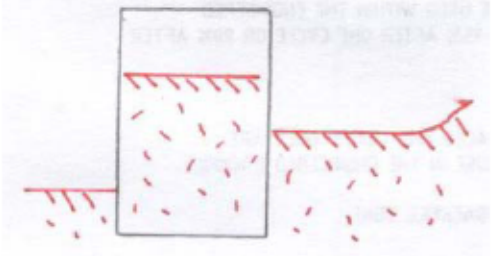
Before placing fill inside the bin, fill the area at the toe of the wall to a depth of 600mm (2') to prevent outward movement of the bin. After placing this fill, the fill in the bin should be brought above 600mm and maintained higher than the fill outside the bin. Material is not to be dumped or pushed perpendicular to bin but shall be placed in layers starting no closer than 1000mm (3'-4") from the side. Heavy construction vehicles should not approach within 1000mm (3'4") of the structure.

The depth of each un-compacted lift must not exceed 200mm (8 inches) unless otherwise specified in the contract documents. If there is difficulty reaching required compaction, this depth may be further reduced.

Fill depth shall be maintained approximately equal in adjacent bins at all times. The maximum difference in elevation adjacent bins shall not exceed 1000mm (3'-4").



The level of fill inside the bin must be higher than the fill outside the bin to maintain stability, but not by more than 1000mm (3'-4").



3.4.3. Compaction

When compacting the backfill material it is important not to allow any large vibratory equipment within 1 m (3.3 ft) of the structure. A small plate tamper is usually used within this area to ensure proper compaction without damaging the structure. Jumping jack compactors are typically used inside the bin. Heavy equipment should also veer away from the structure.

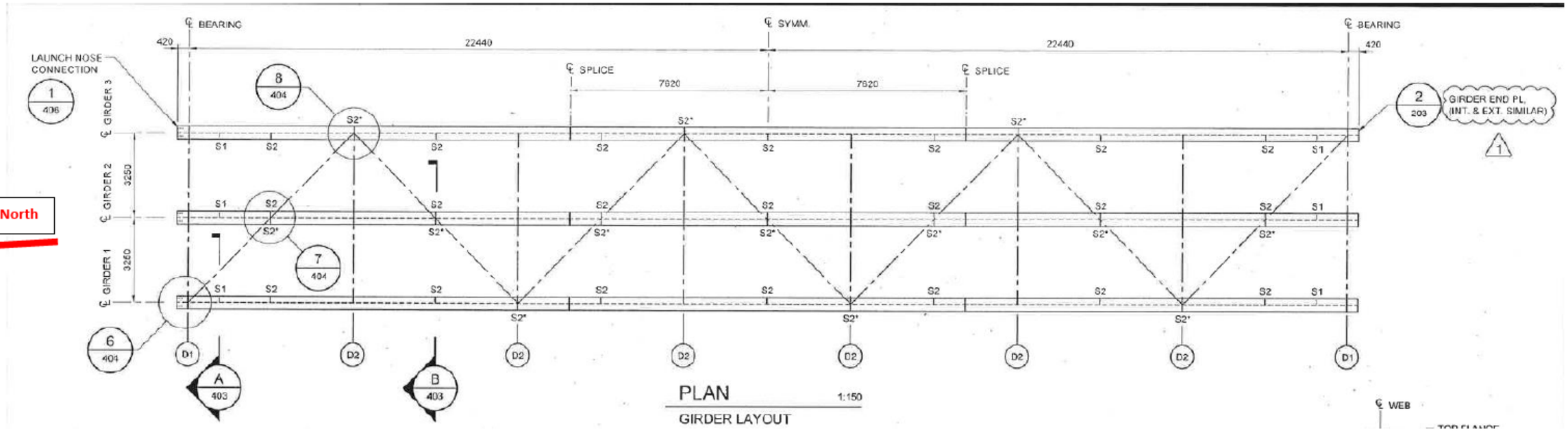
Select granular backfill material shall be compacted to a minimum of 95% Standard Proctor Maximum Dry Density unless otherwise specified in the contract documents.

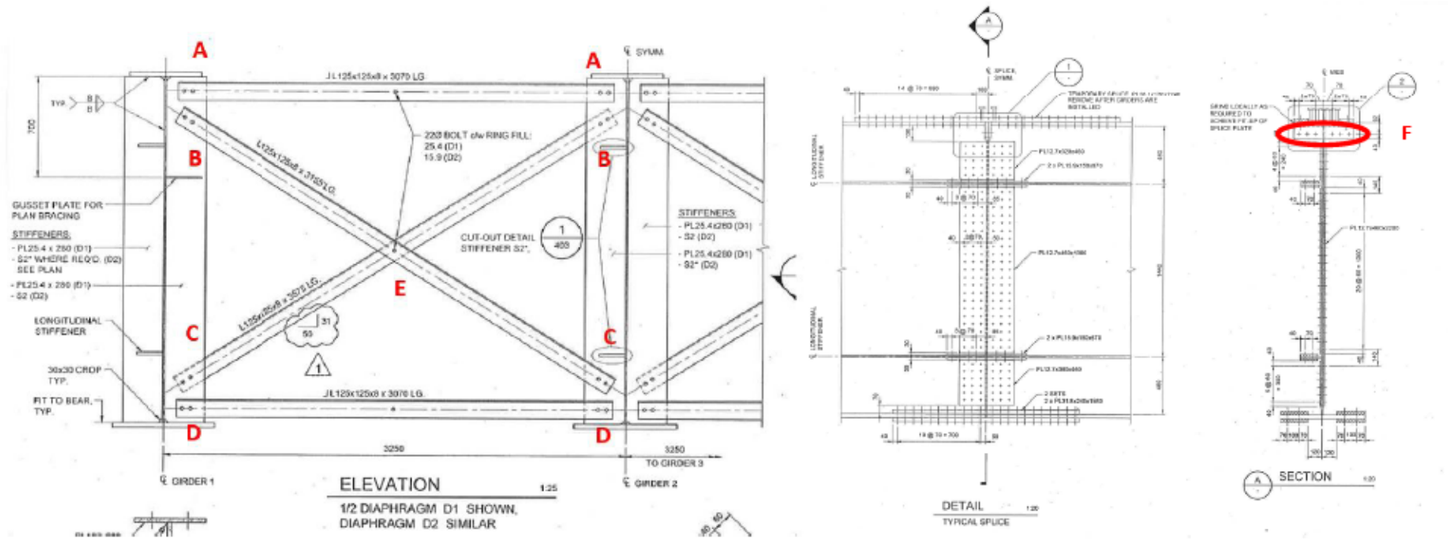
3.4.4. Shape Monitoring

The base and final elevation should be verified against the plans. Periodically check the horizontal and vertical alignment. Vertical tolerance is 12mm per 3000mm of wall height (1/2" per 32'-4"). Horizontal tolerance is 18mm per 3000mm length (3/4" per 32'-4").

APPENDIX

F-2 SUPERSTRUCTURE





Bridge at km 32.3 – Loose Bolts Found During Spot Checks

Observations of loose bolts: All 3 bolts in top compression splice (F), 6 locations, 2 sides – **36 bolts total**