



Ministry of
Forests, Lands, Natural
Resource Operations
and Rural Development

ENGINEERING AND RESOURCE ROADS BRANCH

STANDARD ROAD CLOSURE GATES

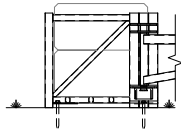
DRAWING SCHEDULE			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
STD-G-010-01	ORDERING CHOICES & GENERAL NOTES	0	MARCH 2019
STD-G-010-02	SURFACE MOUNTED GATE - LAYOUT & EXAMPLES	0	MARCH 2019
STD-G-010-03	BURIED FOOTING GATE - LAYOUT & EXAMPLES	0	MARCH 2019
STD-G-010-04	SINGLE RAIL GATE ARM TYPES	0	MARCH 2019
STD-G-010-05	DOUBLE RAIL GATE ARM TYPES	0	MARCH 2019
STD-G-010-06	GATE ARM DETAILS	0	MARCH 2019
STD-G-010-07	SURFACE MOUNTED ABUTMENT DETAILS - (1 OF 4)	0	MARCH 2019
STD-G-010-08	SURFACE MOUNTED ABUTMENT DETAILS - (2 OF 4)	0	MARCH 2019
STD-G-010-09	SURFACE MOUNTED ABUTMENT DETAILS - (3 OF 4)	0	MARCH 2019
STD-G-010-10	SURFACE MOUNTED ABUTMENT DETAILS - (4 OF 4)	0	MARCH 2019
STD-G-010-11	BURIED FOOTING ABUTMENT DETAILS - (1 OF 3)	0	MARCH 2019
STD-G-010-12	BURIED FOOTING ABUTMENT DETAILS - (2 OF 3)	0	MARCH 2019
STD-G-010-13	BURIED FOOTING ABUTMENT DETAILS - (3 OF 3)	0	MARCH 2019

MAIN ORDERING CHOICES (SEE SHEETS 02&03 FOR EXAMPLES)

MINOR ORDERING CHOICES

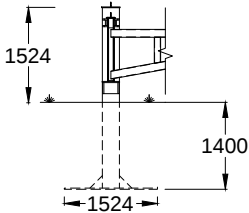
ABUTMENTS

HINGE ABUTMENT



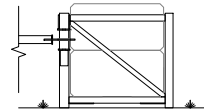
SURFACE MOUNTED

OR



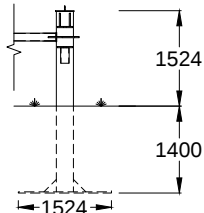
BURIED FOOTING

CLOSED LATCH ABUTMENT
(LATCHED WHEN ROADWAY IS CLOSED)



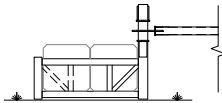
SURFACE MOUNTED

OR



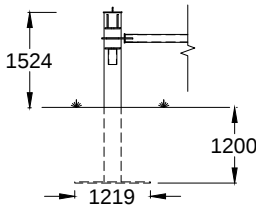
BURIED FOOTING

OPEN LATCH ABUTMENT
(LATCHED WHEN ROADWAY IS OPEN)



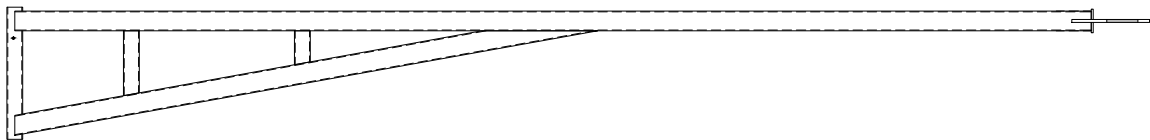
SURFACE MOUNTED

OR



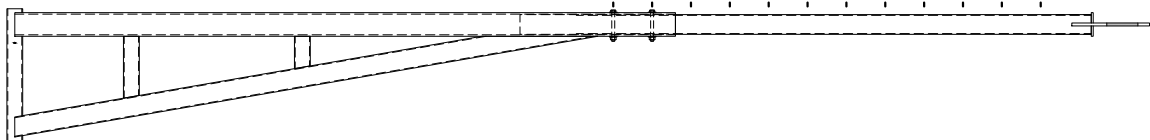
BURIED FOOTING

GATE ARM



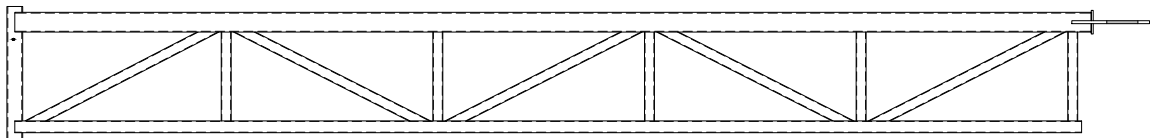
SINGLE RAIL FIXED LENGTH
(MUST SPECIFY LENGTH)

OR



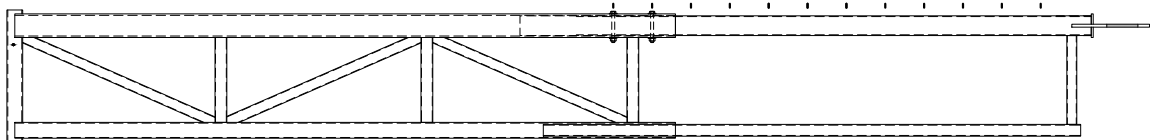
SINGLE RAIL TELESCOPING

OR



DOUBLE RAIL FIXED LENGTH
(MUST SPECIFY LENGTH)

OR



DOUBLE RAIL TELESCOPING

GENERAL NOTES

1.0 GENERAL

- THESE DRAWINGS PROVIDE STRUCTURAL DETAILS FOR FABRICATION OF ROAD CLOSURE GATES FOR INSTALLATION ON RESOURCE ROADS UNDER THE JURISDICTION OF THE BC MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
- ROAD CLOSURE GATES ARE INHERENTLY HAZARDOUS ROADWAY STRUCTURES: ROADWAY DESIGN, TURNAROUND REQUIREMENTS, GATE LOCATION, GATE INSTALLATION REQUIREMENTS, ROAD AND GATE SIGNAGE, APPROACH BARRIER REQUIREMENTS, FABRICATION QUALITY ASSURANCE, SITE SUPERVISION OF INSTALLATION, AND OVERALL SAFETY SHALL BE THE RESPONSIBILITY OF A QUALIFIED INDIVIDUAL FOR A SPECIFIC SITE.
- ANY INSTALLATION OR SIGNAGE REQUIREMENTS SHOWN ON THESE DRAWINGS MUST BE REVIEWED AND AMENDED AS NECESSARY BY THE RESPONSIBLE INDIVIDUAL.
- GATE ARM MUST BE LATCHED/SECURED AT ALL TIMES (OPEN OR CLOSED) TO ENSURE AGAINST SPEARING OF VEHICLES FROM AN UNSECURED ARM.
- ESSENTIAL GUIDANCE FOR USE OF THESE DWGS. IS AVAILABLE AT:
<http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/resource-roads/guidancefororderingroadclosuregates.pdf>
- ALL DIMENSIONS IN mm UNO.

2.0 MATERIALS

- HSS: Fy MIN. 345MPa, CSA G40.21M OR ASTM A500 GRADE C (BOTH SEAMED)
- PLATE: Fy MIN. 300W OR 350W, CSA G40.21M
- BOLTS: ASTM 307 GALV
- ROUND BAR: ASTM A36
- NUTS: ASTM A563 GALV
- STANDARD WASHERS: ASTM F844 GALV
- HINGE PIPES: ASTM A53 GR B (SEAMED) OR ASTM A106 GR B (SEAMLESS)
- POST PIPES: ASTM A53 GR B OR ASTM A252 GR 2

3.0 FABRICATION

- UNLESS NOTED OTHERWISE, ALL WELDS SHALL BE 6 mm IN SIZE.
- NO EXPOSED SHARP CORNERS PERMITTED ON STEEL COMPONENTS.
- WELDING SHALL BE IN ACCORDANCE WITH CSA W59 BY A COMPANY CERTIFIED TO CSA W47.1 FOR DIVISION 1, 2, OR 3.
- ALL STEEL GATE COMPONENTS SHALL HAVE THEIR EXTERIOR PAINTED, EXCEPT AS NOTED HEREIN, IN ACCORDANCE WITH THE MINISTRY "STEEL GUARDRAIL COMPONENT PAINT STANDARD" LOCATED AT:
<http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/resource-roads/steeldrailpaintstd.pdf>
- COMPONENTS NOT TO BE PAINTED INCLUDE: PORTION OF HINGE PIN PIPE BELOW ITS CAP, LATCH PIN CHAIN, LATCH PIN, LOCK KEEPERS, INTERIOR OF HINGE BASE COLLAR, INTERIOR OF HINGE TOP COLLAR, FOOTINGS, PORTION OF POSTS BURIED > 600 mm DEPTH, GROUND ANCHOR PINS.
- EXTERIOR OF UNPAINTED PORTION OF HINGE PIN PIPE TO BE SANDBLASTED AS PER PAINT SPECIFICATION.
- FABRICATOR SHALL ENSURE THAT ALL COMPONENTS FIT APPROPRIATELY AND MOVE OR ROTATE EASILY AND SMOOTHLY AS REQUIRED TO MEET THE REQUIRED FUNCTION. IF ACTUAL STEEL PIECES OBTAINED BY THE FABRICATOR DO NOT FUNCTION APPROPRIATELY, IT SHALL BE THE RESPONSIBILITY OF THE FABRICATOR TO REPLACE OR MODIFY THE PIECES AT NO COST TO THE MINISTRY. ANY SUCH MODIFICATIONS OR REPLACEMENTS REQUIRE PRIOR APPROVAL BY THE MINISTRY. FABRICATOR SHALL PAY PARTICULAR ATTENTION TO THIS REQUIREMENT WHEN ORDERING HINGE PIPES AND TELESCOPING GATE ARM HSS PIECES (IF TELESCOPING SPECIFIED) DUE TO THE POSSIBILITY OF EXCESSIVELY PROTRUDING INTERIOR LONGITUDINAL WELD SEAMS.
- GATE SHALL BE COMPLETELY ASSEMBLED AND APPROPRIATE FUNCTIONING SHALL BE ENSURED BY FABRICATOR PRIOR TO DISASSEMBLY AND SHIPMENT TO THE MINISTRY.

4.0 SIGNS, DELINEATORS AND REFLECTIVE TAPE

GENERAL

- REFLECTIVE TAPE, CHECKERBOARD SIGNS, AND DELINEATORS SHALL BE VISIBLE TO TRAFFIC FROM BOTH DIRECTIONS.
- REFLECTIVE TAPE SHALL BE YELLOW/BLACK OR WHITE/BLACK STRIPED, MIN. 100 mm WIDE, HIGH-STRENGTH ROADWAY DELINEATION TAPE, APPLIED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS AFTER PAINTING.
- DELINEATORS SHALL BE MINISTRY STANDARD ALUMINUM 300 mm x 900 mm YELLOW AND BLACK.
- CHECKERBOARD SIGNS SHALL BE MINISTRY STANDARD ALUMINUM YELLOW AND BLACK.
- UNLESS OTHERWISE SPECIFIED BY THE MINISTRY, ATTACHMENT DETAILS FOR SIGNS AND DELINEATORS SHALL BE DESIGNED AND BUILT BY THE FABRICATOR (WELDED TO THE GATE COMPONENTS PRIOR TO PAINTING) FOR ATTACHMENT OF SIGNS//DELINEATORS USING 13 mm DIAMETER GALVANIZED BOLTS, C/W NUTS AND WASHERS. MINIMUM 2 BOLTS PER SIGN/DELINEATOR.

SURFACE MOUNTED ABUTMENTS

- REFLECTIVE TAPE (FACING ONCOMING TRAFFIC) SHALL BE ATTACHED, FULL LENGTH, TO THE CORNER POSTS ADJACENT TO THE ROADWAY AND TO THE TOP HORIZONTAL RAILS FACING TRAFFIC.
- A DELINEATOR (FACING ONCOMING TRAFFIC) SHALL BE ATTACHED TO THE TOP OF EACH CORNER POST ADJACENT TO THE ROADWAY, EXTENDING ABOVE THE TOP OF THE POST (TOTAL OF 2 DELINEATORS PER ABUTMENT).

BURIED FOOTING ABUTMENTS

- REFLECTIVE TAPE (FACING ONCOMING TRAFFIC) SHALL BE ATTACHED TO THE POSTS, FULL LENGTH ABOVE GROUND.
- DELINEATORS (FACING ONCOMING TRAFFIC) SHALL BE ATTACHED TO THE TOP OF EACH POST, EXTENDING ABOVE THE POST (TOTAL OF 2 DELINEATORS PER POST).

GATE ARMS

- REFLECTIVE TAPE SHALL BE ATTACHED TO THE GATE ARM TOP RAIL FULL LENGTH WHERE FEASIBLE CONSIDERING TELESCOPING ACTION (IF ANY).
- STANDARD CHECKERBOARD SIGNS (MIN. 2 PER GATE ARM) SHALL BE ATTACHED, CENTRALLY, TO THE GATE ARM FOR VISIBILITY WHEN THE GATE IS CLOSED.

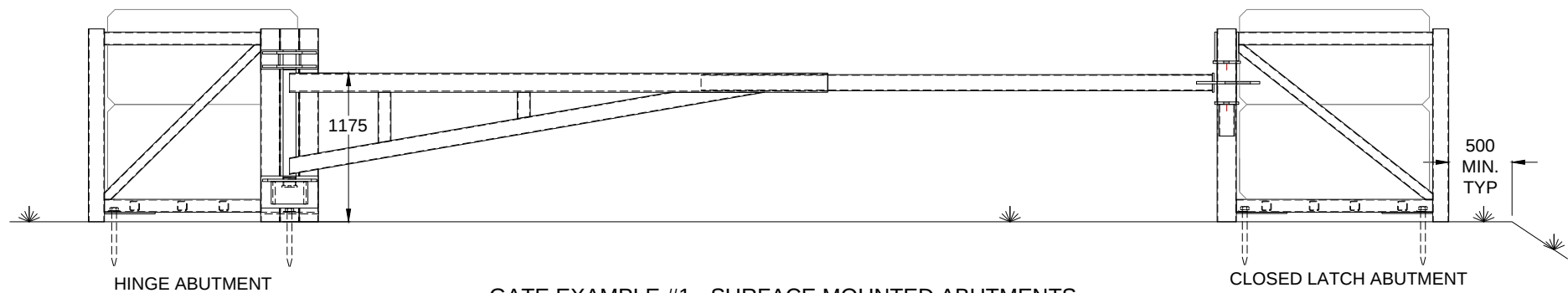
SCALE AS SHOWN		Engineered <u>M.P.</u>	Date <u>Mar. 2019</u>
		Checked <u>G.M.</u>	Date <u>Mar. 2019</u>
		Approved <u>B.C.</u>	Date <u>Mar. 2019</u>
		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



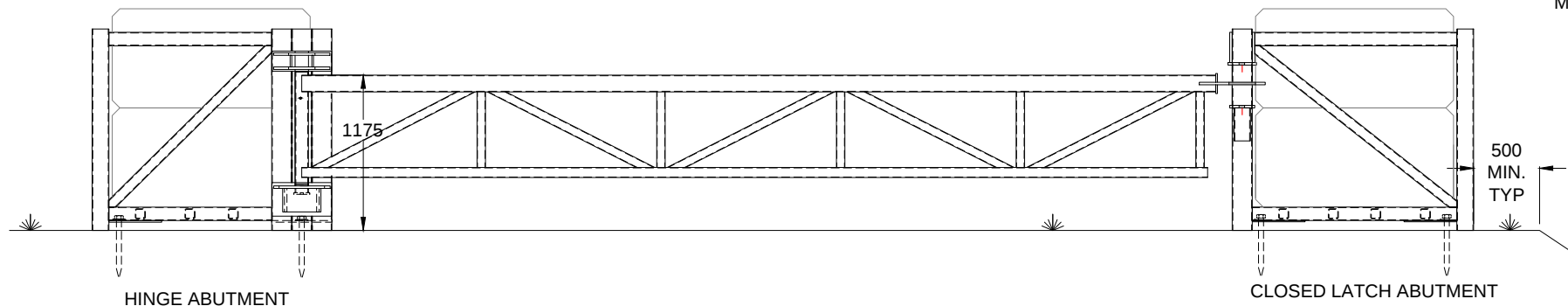
STANDARD ROAD CLOSURE GATES

ORDERING CHOICES & GENERAL NOTES

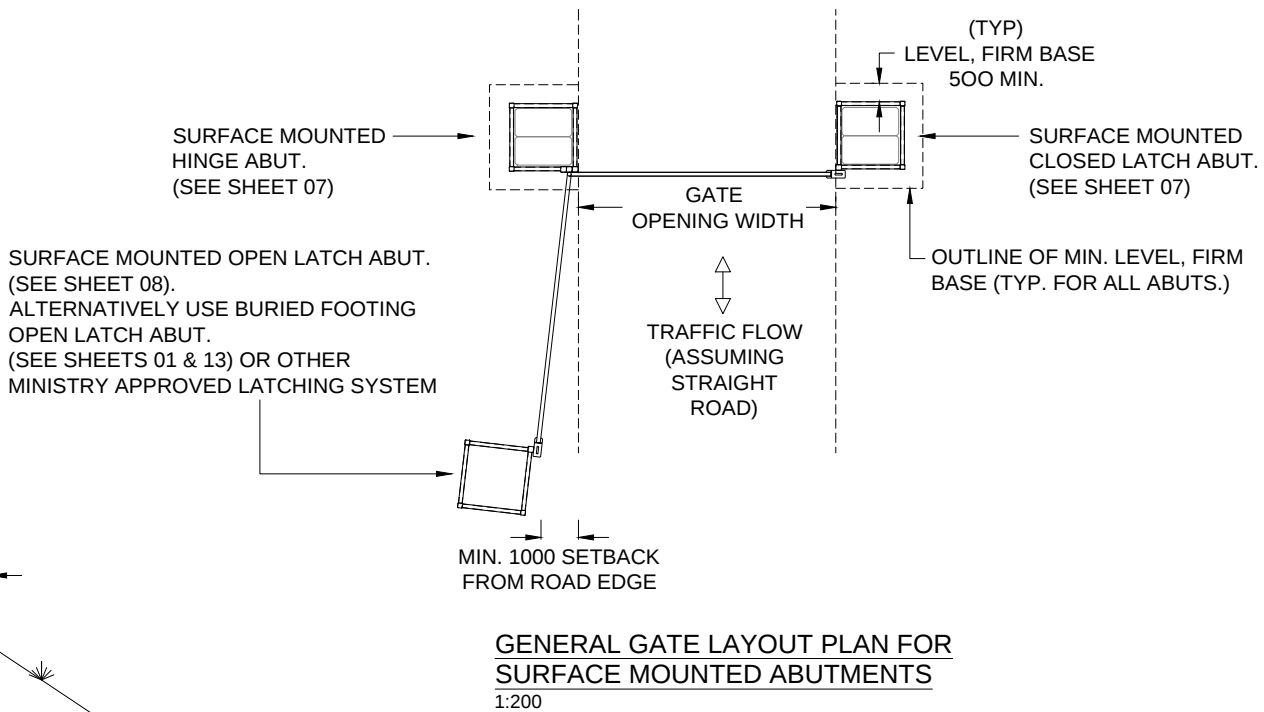
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-01



**GATE EXAMPLE #1 - SURFACE MOUNTED ABUTMENTS
WITH SINGLE RAIL TELESCOPING GATE ARM**
1:50 (HINGE PIN & LATCHING PIN NOT SHOWN FOR DWG. CLARITY)



**GATE EXAMPLE #2 - SURFACE MOUNTED ABUTMENTS
WITH DOUBLE RAIL FIXED LENGTH GATE ARM**
1:50 (HINGE PIN & LATCHING PIN NOT SHOWN FOR DWG. CLARITY)



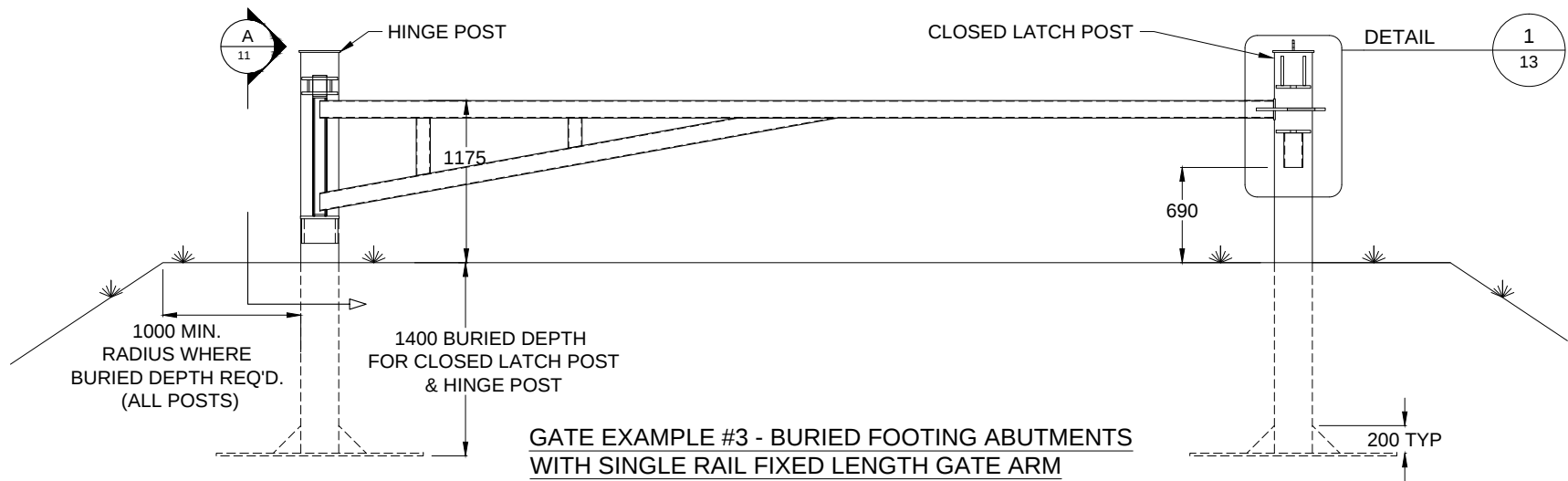
GATE ARM NOTES

- TELESCOPING GATE ARM TOTAL LENGTH CAN BE FIELD ADJUSTED TO SUIT VARIOUS ROAD WIDTHS WHEN GATE IS USED AT DIFFERENT LOCATIONS.
- FIXED LENGTH GATE ARM ACTUAL LENGTH MUST BE SPECIFIED BY THE MINISTRY AT TIME OF ORDERING.
- A SINGLE RAIL FIXED LENGTH GATE ARM OR A DOUBLE RAIL TELESCOPING GATE ARM COULD ALSO BE USED WITH SURFACE MOUNTED ABUTMENTS.

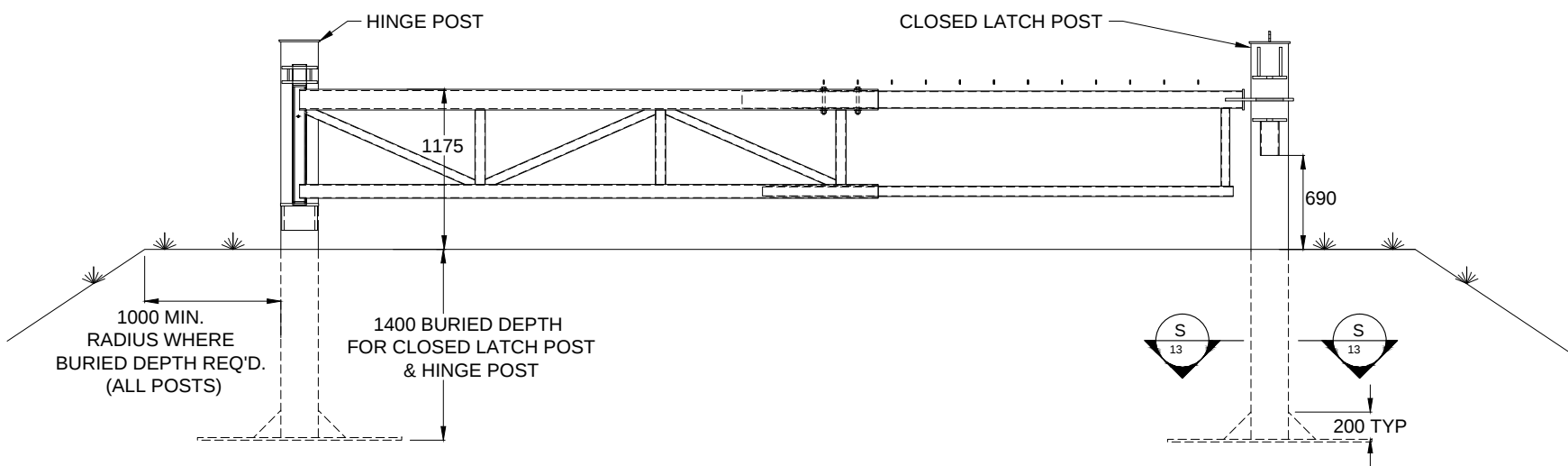
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		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
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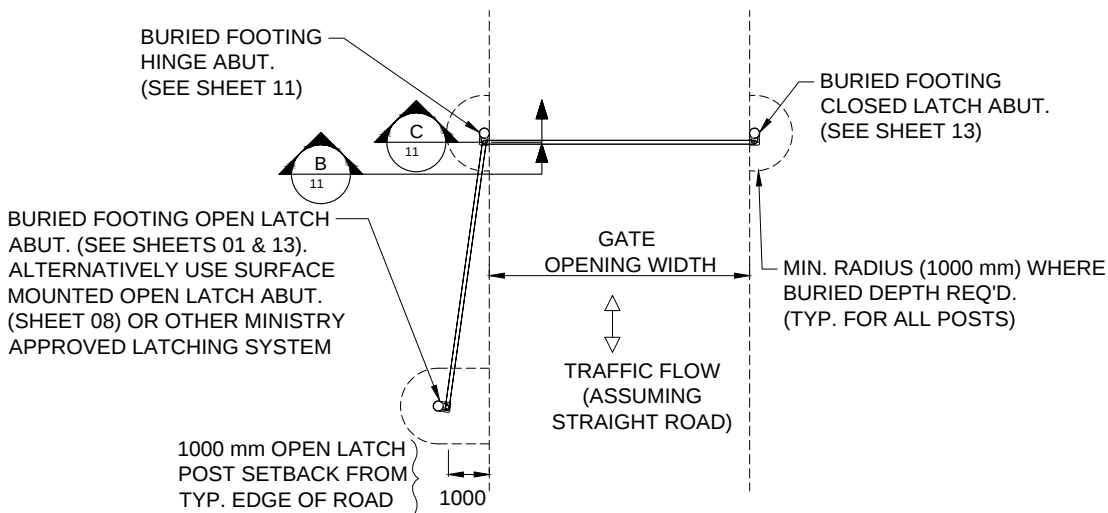
STANDARD ROAD CLOSURE GATES			
SURFACE MOUNTED GATE - LAYOUT & EXAMPLES			
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-02



**GATE EXAMPLE #3 - BURIED FOOTING ABUTMENTS
WITH SINGLE RAIL FIXED LENGTH GATE ARM**
1:50 (HINGE PIN & LATCHING PIN NOT SHOWN FOR DWG. CLARITY)



**GATE EXAMPLE #4 - BURIED FOOTING ABUTMENTS
WITH DOUBLE RAIL TELESCOPING GATE ARM**
1:50 (HINGE PIN & LATCHING PIN NOT SHOWN FOR DWG. CLARITY)



**GENERAL GATE LAYOUT PLAN FOR
BURIED FOOTING ABUTMENTS**
1:200

GATE ARM NOTES

- TELESCOPING GATE ARM TOTAL LENGTH CAN BE FIELD ADJUSTED TO SUIT VARIOUS ROAD WIDTHS WHEN GATE IS USED AT DIFFERENT LOCATIONS.
- FIXED LENGTH GATE ARM ACTUAL LENGTH MUST BE SPECIFIED BY THE MINISTRY AT TIME OF ORDERING.
- A SINGLE RAIL TELESCOPING GATE ARM OR A DOUBLE RAIL FIXED LENGTH GATE ARM COULD ALSO BE USED WITH BURIED FOOTING ABUTMENTS.

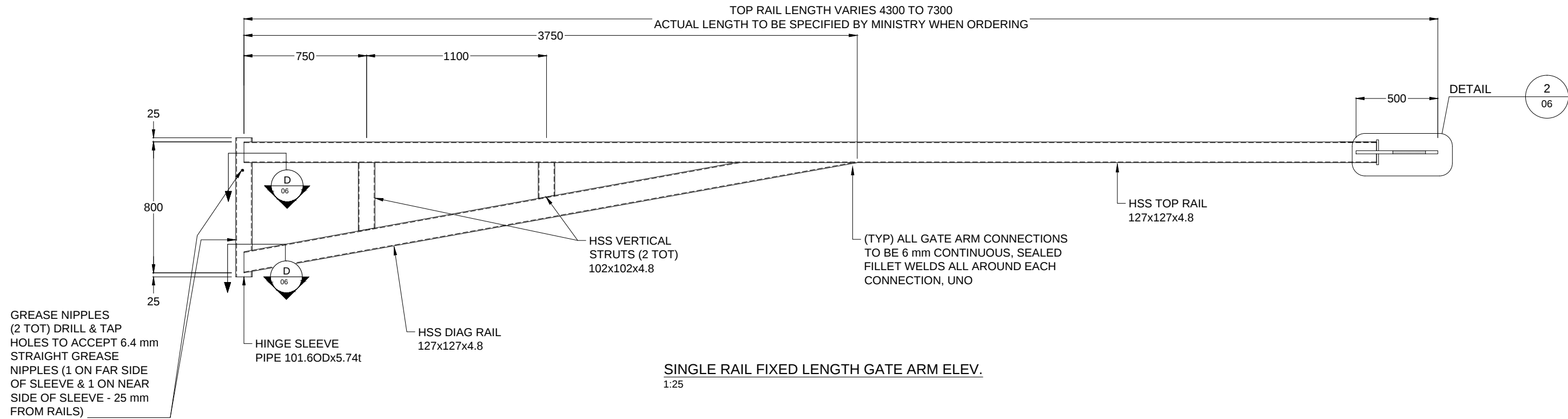
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		Approved <u>B.C.</u>	Date <u>Mar. 2019</u>
		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



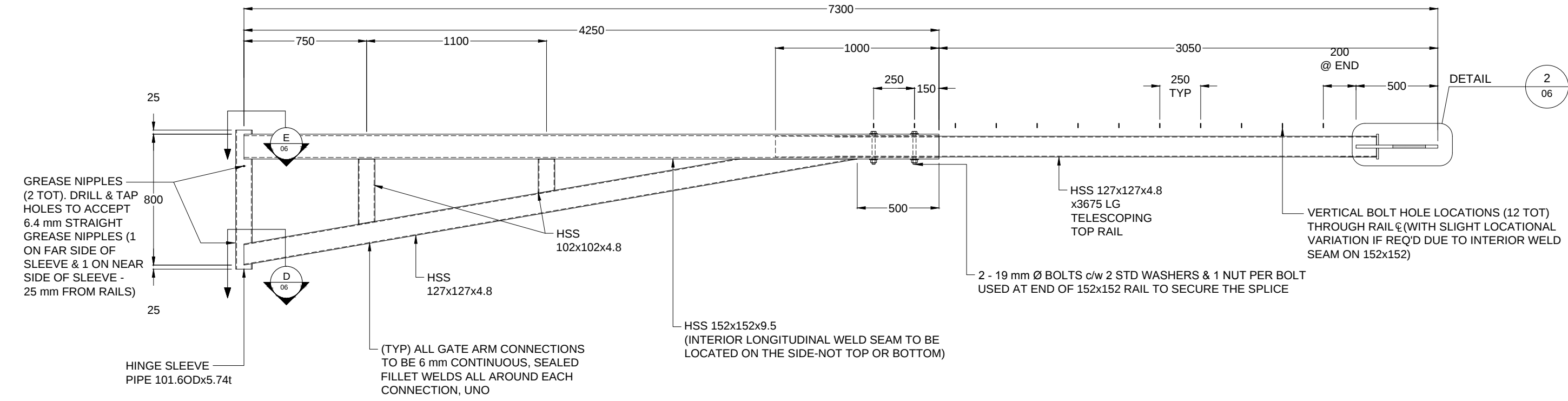
STANDARD ROAD CLOSURE GATES

BURIED FOOTING GATE - LAYOUT & EXAMPLES

DRAWN: NICOLE HARVEY	CHECKED: GLENN MOORE
ENGINEERED: MIKE PENNER	APPROVED: BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER: FOR-11300-05	DRAWING NUMBER: STD-G-010-03

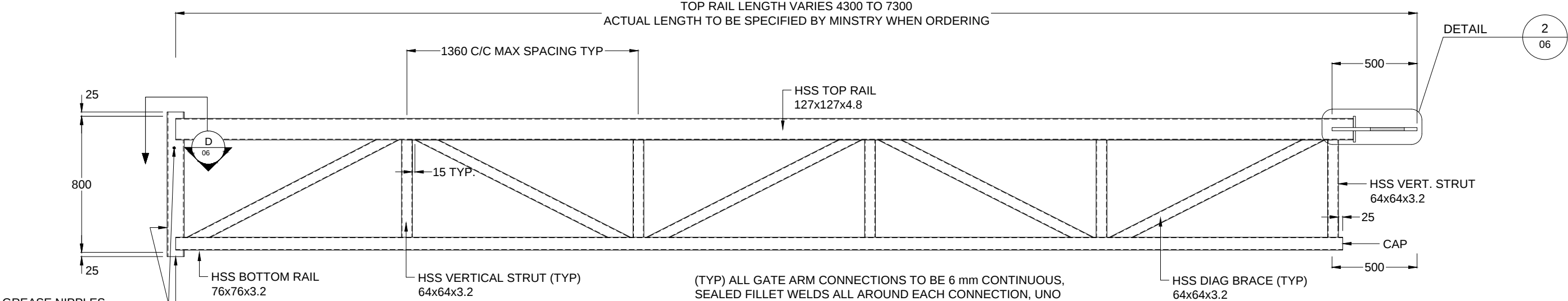


SINGLE RAIL FIXED LENGTH GATE ARM ELEV.
1:25



SINGLE RAIL TELESCOPING GATE ARM ELEV.
1:25

SCALE AS SHOWN		Engineered <u>M.P.</u> Date <u>Mar. 2019</u>			STANDARD ROAD CLOSURE GATES		
		Checked <u>G.M.</u> Date <u>Mar. 2019</u>					
		Approved <u>B.C.</u> Date <u>Mar. 2019</u>					
		Drawn <u>N.H.</u> Date <u>Mar. 2019</u>					
REV	DATE	DESCRIPTION	INITIALS			SINGLE RAIL GATE ARM TYPES	
				DRAWN: NICOLE HARVEY		CHECKED: GLENN MOORE	
				ENGINEERED: MIKE PENNER		APPROVED: BRIAN CHOW, CHIEF ENGINEER	
				FILE NUMBER: FOR-11300-05		DRAWING NUMBER: STD-G-010-04	
REVISIONS						0	



GREASE NIPPLES
(2 TOT) DRILL & TAP
HOLES TO ACCEPT 6.4 mm
STRAIGHT GREASE
NIPPLES (1 ON FAR SIDE
OF SLEEVE & 1 ON NEAR
SIDE OF SLEEVE - 25 mm
FROM RAILS)

HINGE SLEEVE
PIPE 101.6ODx5.74t

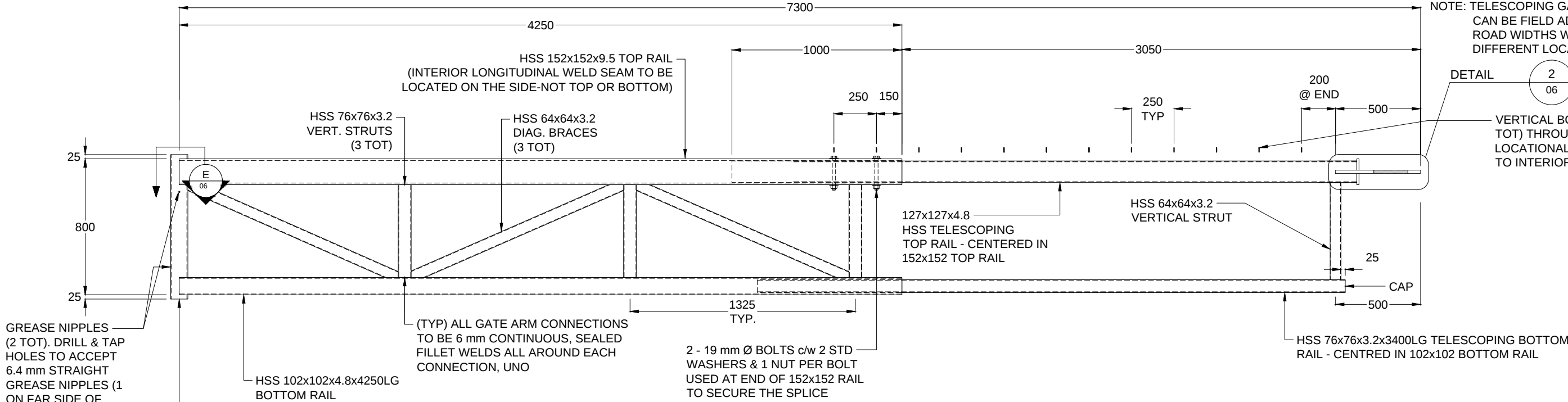
HSS BOTTOM RAIL
76x76x3.2

HSS VERTICAL STRUT (TYP)
64x64x3.2

(TYP) ALL GATE ARM CONNECTIONS TO BE 6 mm CONTINUOUS,
SEALED FILLET WELDS ALL AROUND EACH CONNECTION, UNO

HSS DIAG BRACE (TYP)
64x64x3.2

DOUBLE RAIL FIXED LENGTH GATE ARM ELEV.
1:25



GREASE NIPPLES
(2 TOT). DRILL & TAP
HOLES TO ACCEPT
6.4 mm STRAIGHT
GREASE NIPPLES (1
ON FAR SIDE OF
SLEEVE & 1 ON NEAR
SIDE OF SLEEVE -
25 mm FROM RAILS)

HINGE SLEEVE
PIPE 101.6ODx5.74t

HSS 102x102x4.8x4250LG
BOTTOM RAIL

(TYP) ALL GATE ARM CONNECTIONS
TO BE 6 mm CONTINUOUS, SEALED
FILLET WELDS ALL AROUND EACH
CONNECTION, UNO

2 - 19 mm Ø BOLTS c/w 2 STD
WASHERS & 1 NUT PER BOLT
USED AT END OF 152x152 RAIL
TO SECURE THE SPLICE

DOUBLE RAIL TELESCOPING GATE ARM ELEV.
1:25

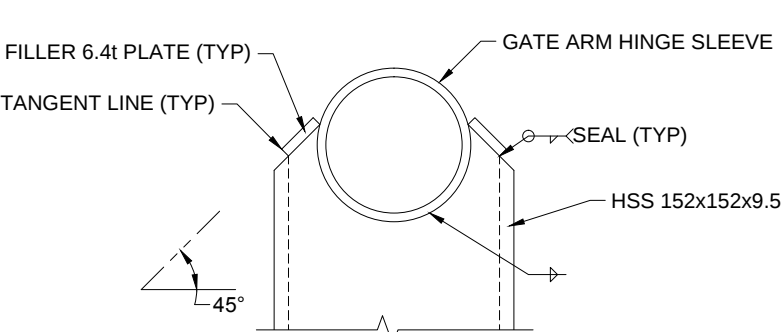
NOTE: TELESCOPING GATE ARM TOTAL LENGTH
CAN BE FIELD ADJUSTED TO SUIT VARIOUS
ROAD WIDTHS WHEN GATE IS USED AT
DIFFERENT LOCATIONS

VERTICAL BOLT HOLE LOCATIONS (12
TOT) THROUGH RAIL (WITH SLIGHT
LOCATIONAL VARIATION IF REQ'D DUE
TO INTERIOR WELD SEAM ON 152x152)

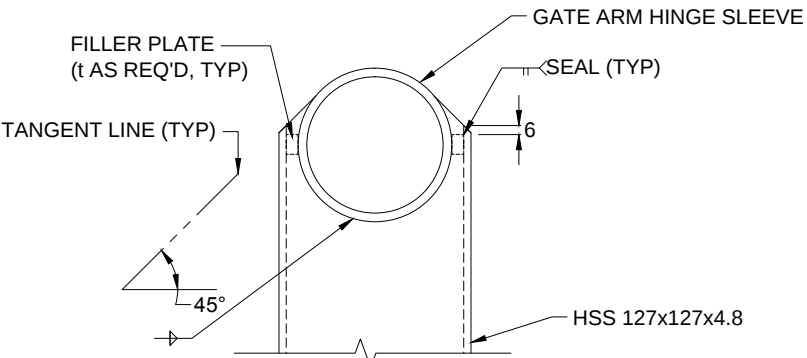
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REVISIONS			



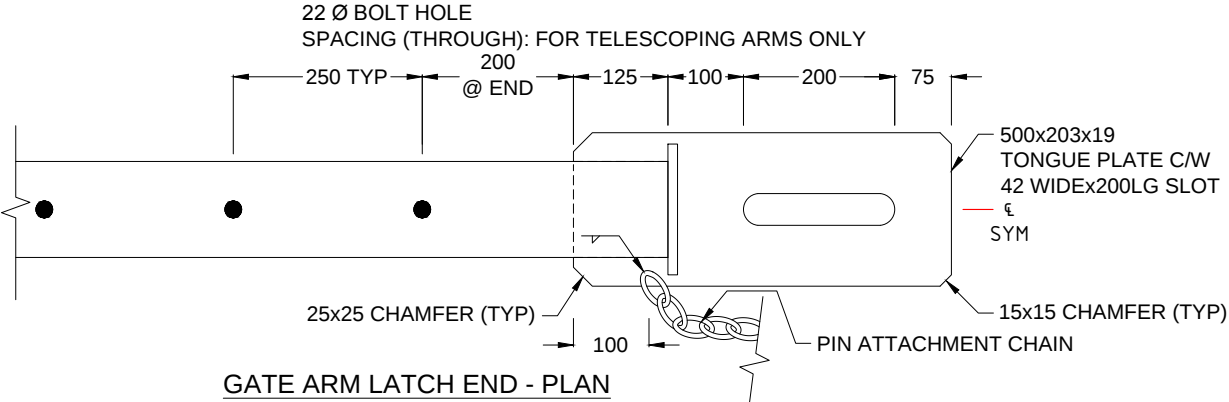
STANDARD ROAD CLOSURE GATES			
DOUBLE RAIL GATE ARM TYPES			
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ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-05



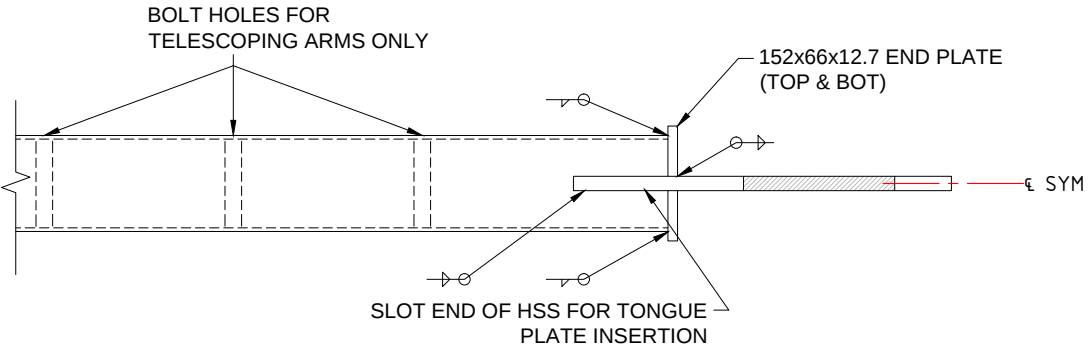
SECTION E
GATE ARM HINGE SLEEVE TO
TOP RAIL CONNECTION FOR 152x152 RAIL
1:5



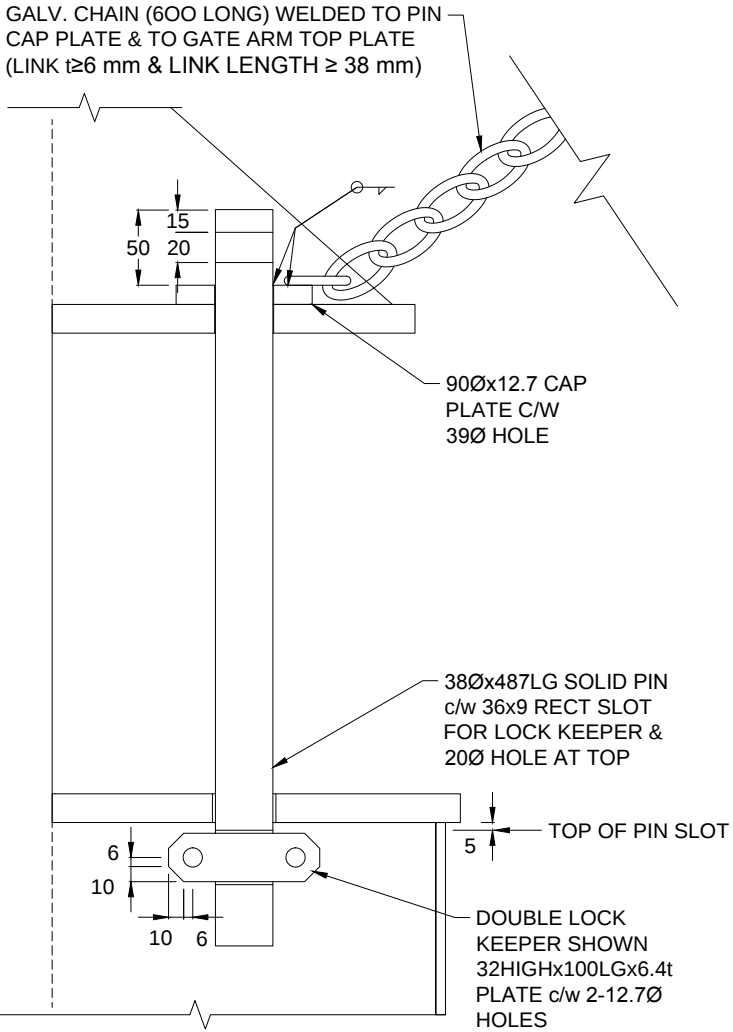
SECTION D
HINGE SLEEVE TO GATE ARM CONNECTION
FOR HSS 127x127 RAILS
1:5



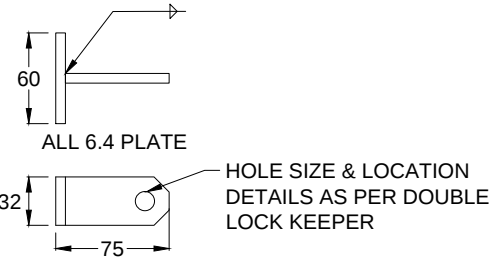
GATE ARM LATCH END - PLAN
1:10



DETAIL 2
GATE ARM LATCH END - ELEV.
1:10 (PIN CHAIN NOT SHOWN FOR CLARITY)



MISC. LATCHING PIN DETAILS
1:5



ALTERNATE SINGLE LOCK KEEPER DETAILS
1:5

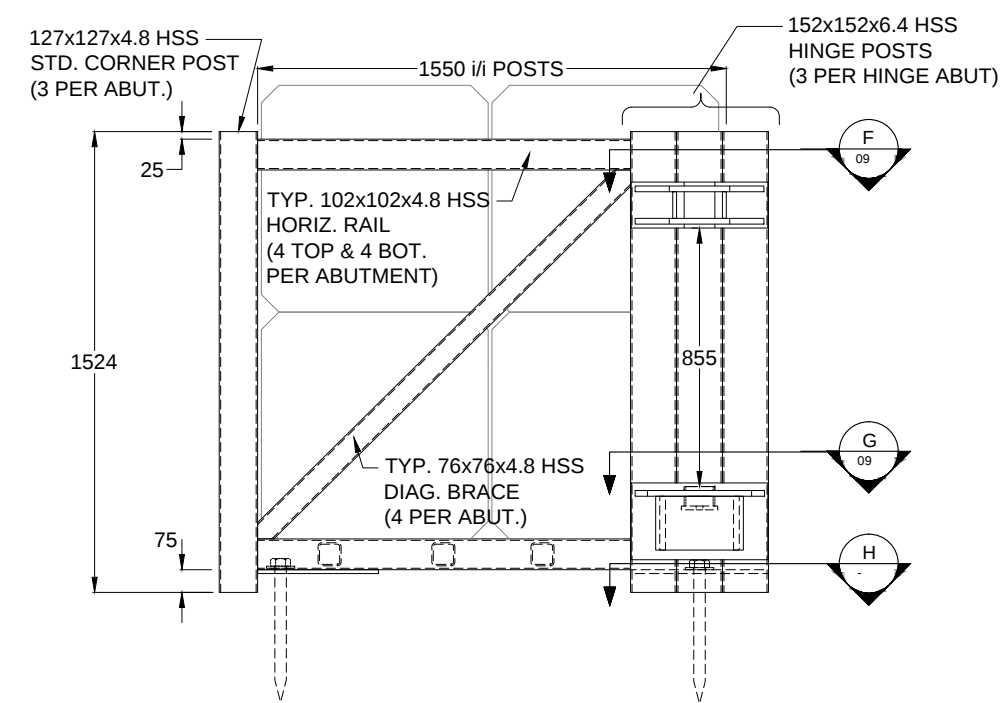
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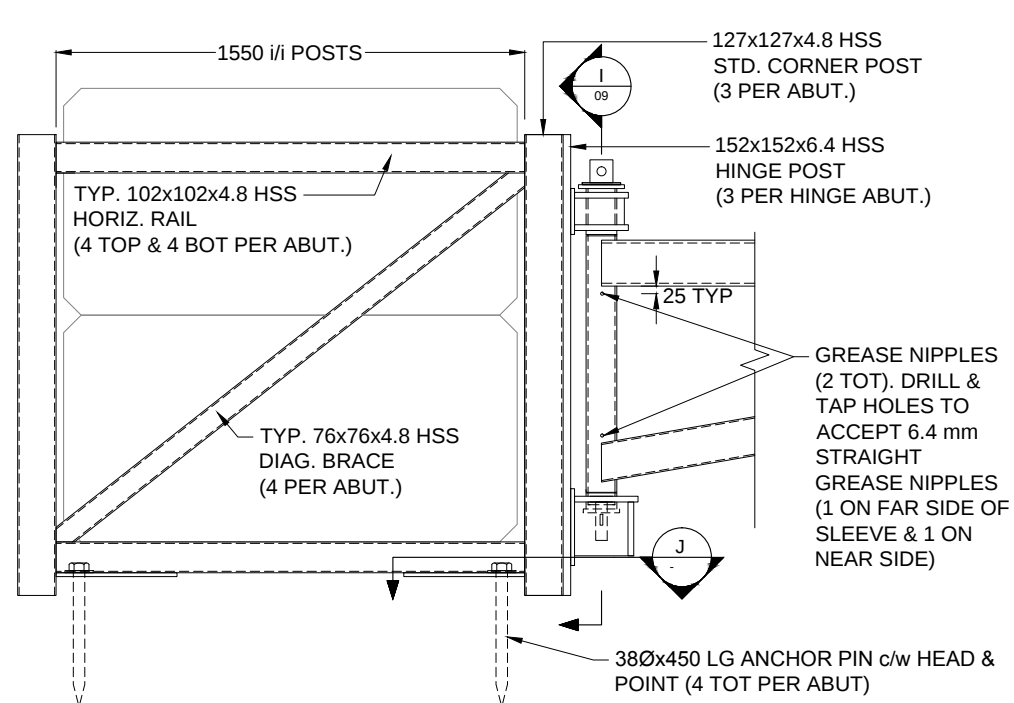
STANDARD ROAD CLOSURE GATES

GATE ARM DETAILS

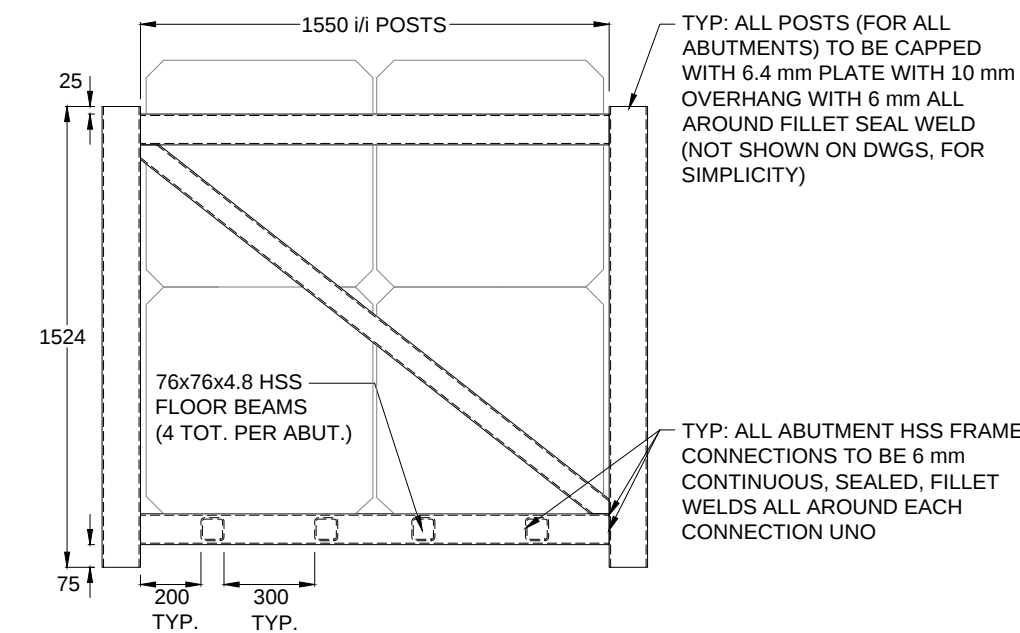
DRAWN: NICOLE HARVEY	CHECKED: GLENN MOORE
ENGINEERED: MIKE PENNER	APPROVED: BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER: FOR-11300-05	DRAWING NUMBER: STD-G-010-06



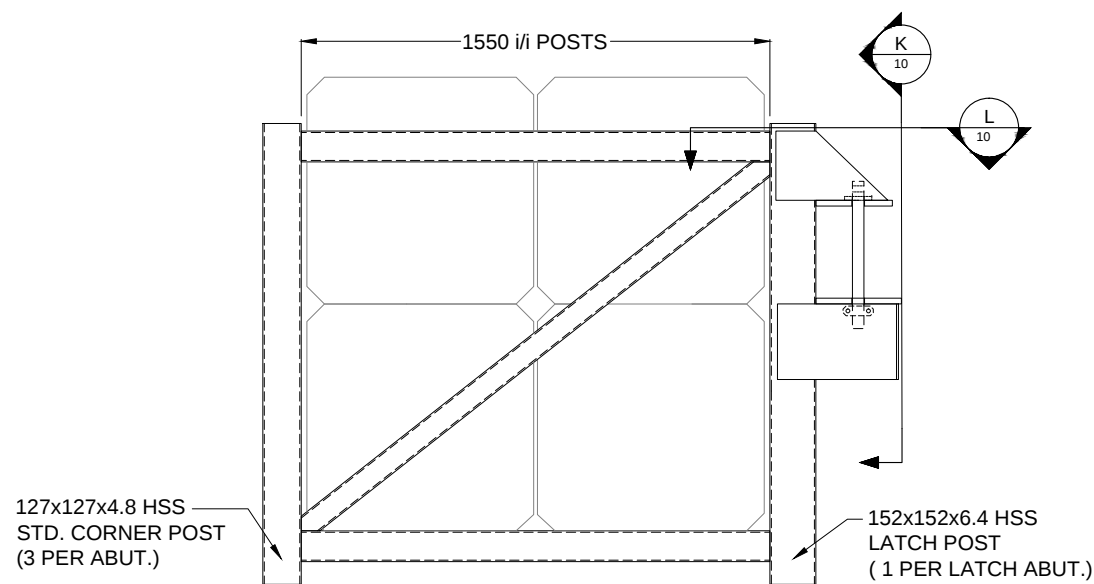
HINGE ABUT FRONT ELEV.
1:25 (HINGE PIN & GATE ARM NOT SHOW FOR CLARITY)



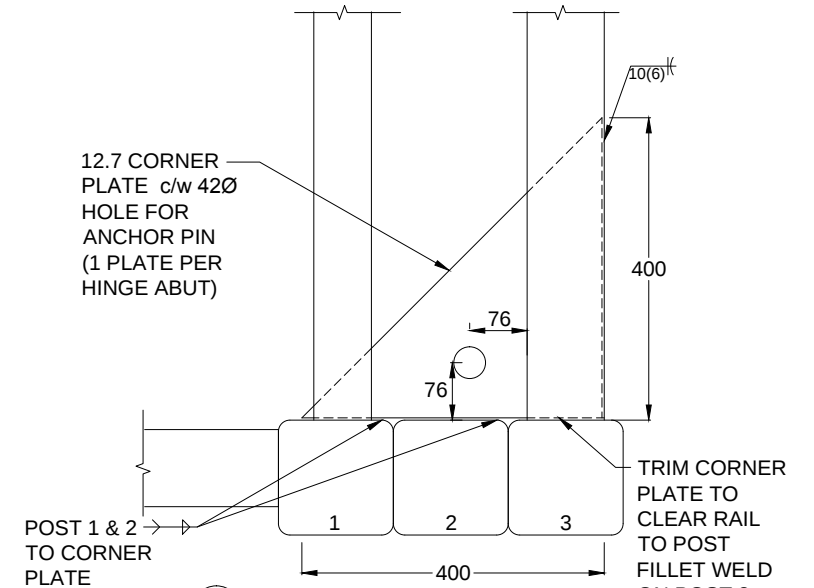
HINGE ABUTMENT SIDE ELEV (W/ GATE ARM OPEN)
1:25



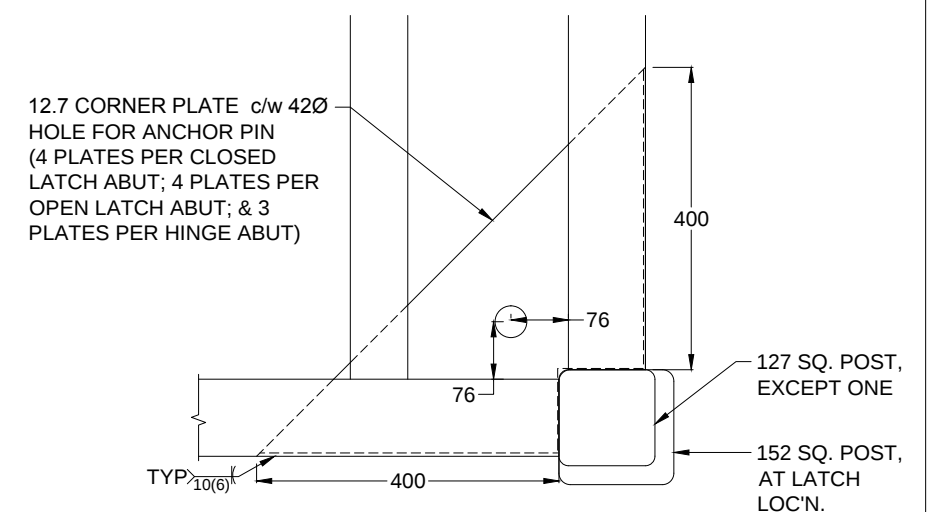
TYP. HINGE & CLOSED LATCH ABUTMENT REAR ELEV.
1:25 (CORNER PLATES & ANCHOR PINS NOT SHOWN FOR CLARITY)



CLOSED LATCH ABUT SIDE ELEV.
1:25 (CORNER PLATES & ANCHOR PINS NOT SHOWN FOR CLARITY)



SECTION H: ANCHOR PIN CORNER PLATE, AT HINGE
1:10 (1 ONLY)



SECTION J: ANCHOR PIN CORNER PLATES
1:10 (EXCEPT AT HINGE)

SURFACE MOUNTED ABUTMENT NOTES

- FOUR INTERLOCKING CONCRETE BLOCKS REQUIRED FOR HINGE ABUTMENT. TWO BLOCKS REQUIRED FOR OPEN LATCH ABUTMENT. CLOSED LATCH ABUTMENT REQUIRES MIN. TWO BLOCKS, OR FOUR BLOCKS FOR INCREASED RESISTANCE TO MOVEMENT OF THE ABUTMENT BY VANDALS.
- ABUTMENTS SHALL NOT BE LIFTED WITH CONCRETE BLOCKS INSIDE.
- CONCRETE BLOCKS: IN ACCORDANCE WITH THE MINISTRY "BRIDGE COMPONENT CONCRETE STANDARD" LOCATED AT:
<http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/resource-roads/bridge-design-construction/brcompconstd.pdf>

SCALE AS SHOWN		Engineered <u>M.P.</u>	Date <u>Mar. 2019</u>
		Checked <u>G.M.</u>	Date <u>Mar. 2019</u>
		Approved <u>B.C.</u>	Date <u>Mar. 2019</u>
		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



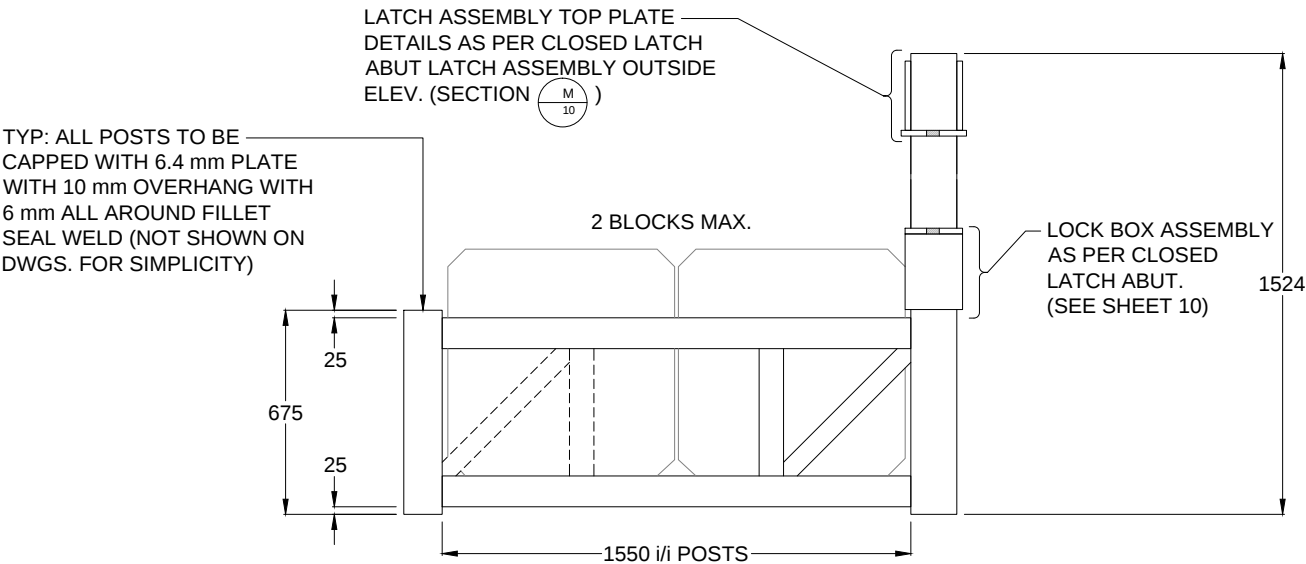
STANDARD ROAD CLOSURE GATES

SURFACE MOUNTED ABUTMENT DETAILS - (1 OF 4)

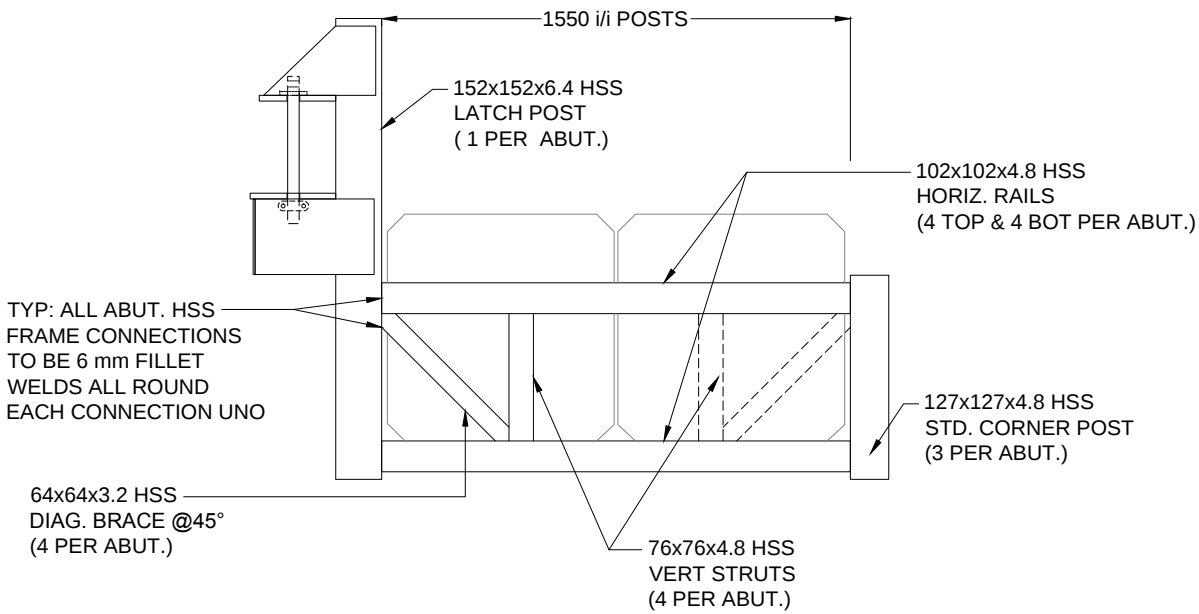
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-07

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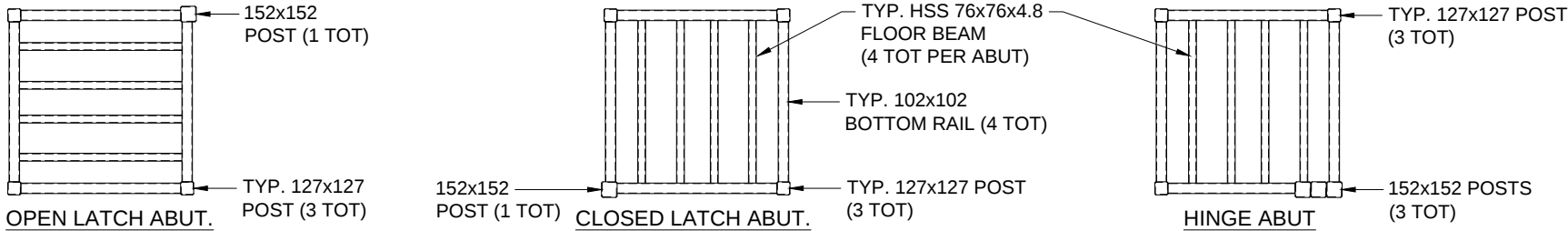
CANCEL PRINTS BEARING PREVIOUS REVISION NUMBER



OPEN LATCH ABUT. FRONT ELEV.
1:25 (CORNER PLATES, ANCHOR PINS & FLOOR BEAMS
NOT SHOWN FOR CLARITY - SEE SHEET 07 FOR DETAILS)



OPEN LATCH ABUT. SIDE ELEV.
1:25 (CORNER PLATES, ANCHOR PINS & FLOOR BEAMS
NOT SHOWN FOR CLARITY - SEE SHEET 07 FOR DETAILS)

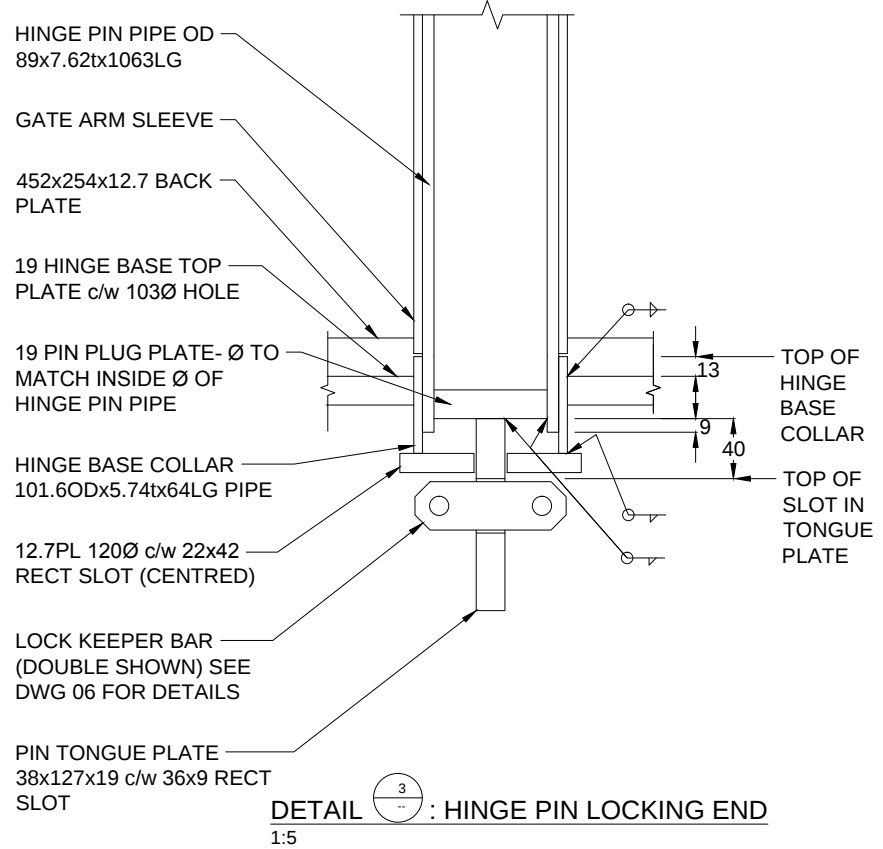
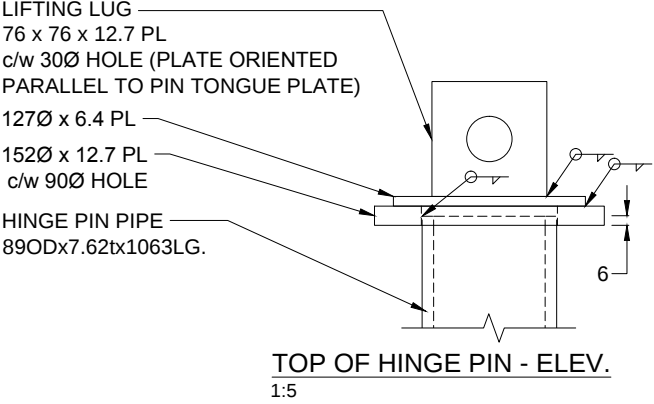
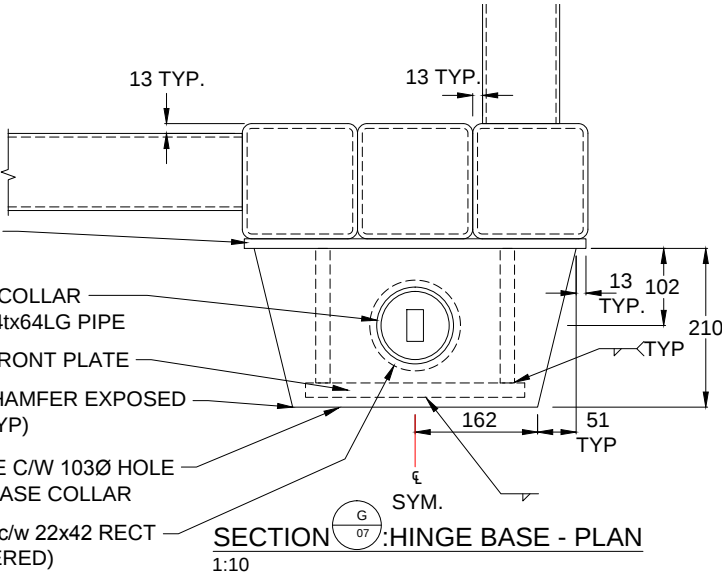
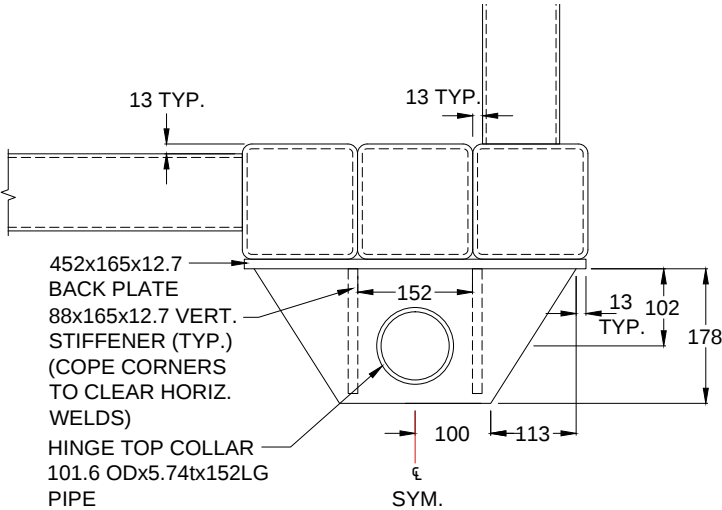
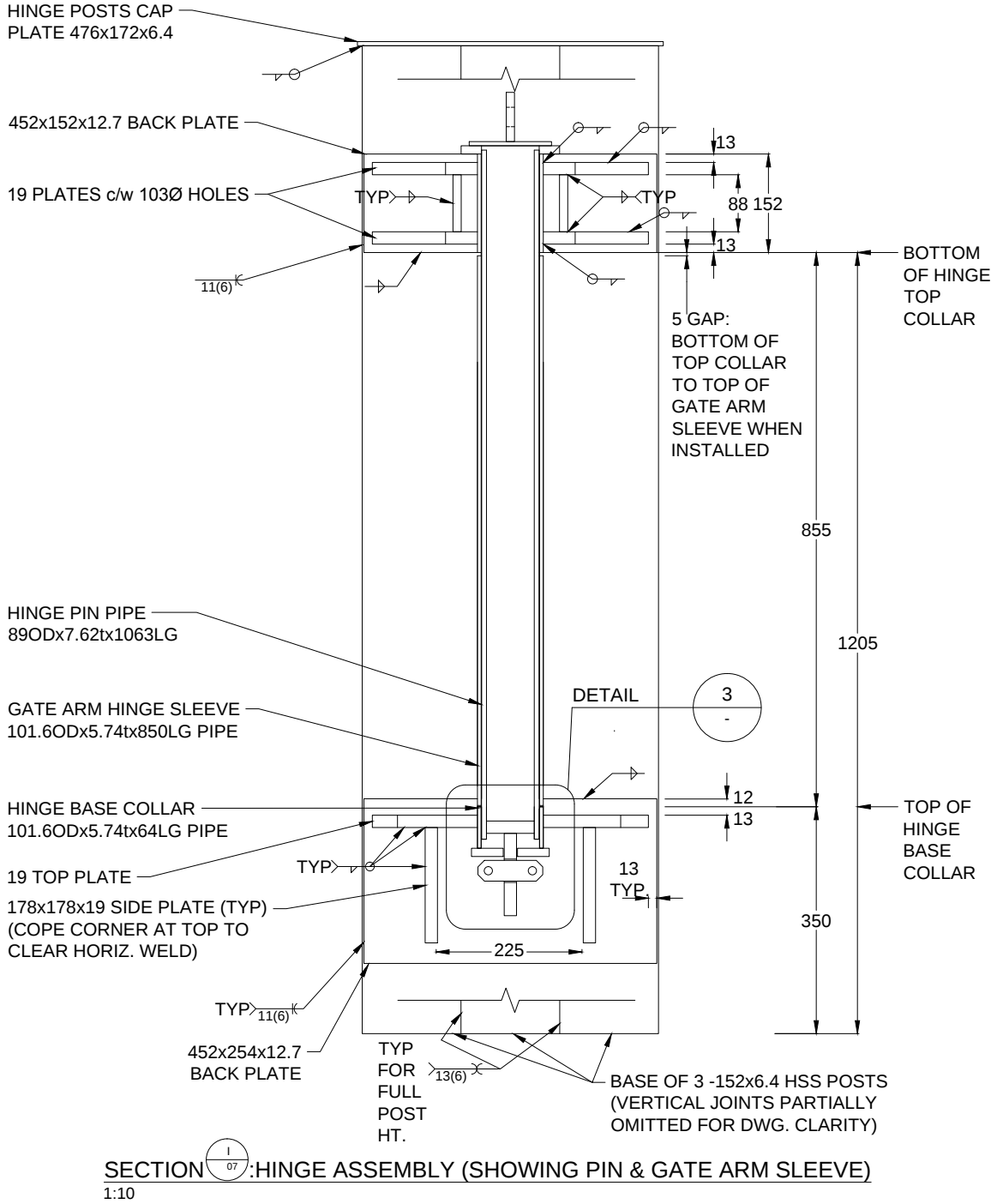


APPROX. PLAN VIEW OF ABUTMENT BASES SHOWING FLOOR BEAM LAYOUT
NTS (CONCRETE BLOCKS & HINGE/LATCH DETAILS NOT SHOWN)

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		Approved <u>B.C.</u>	Date <u>Mar. 2019</u>
		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



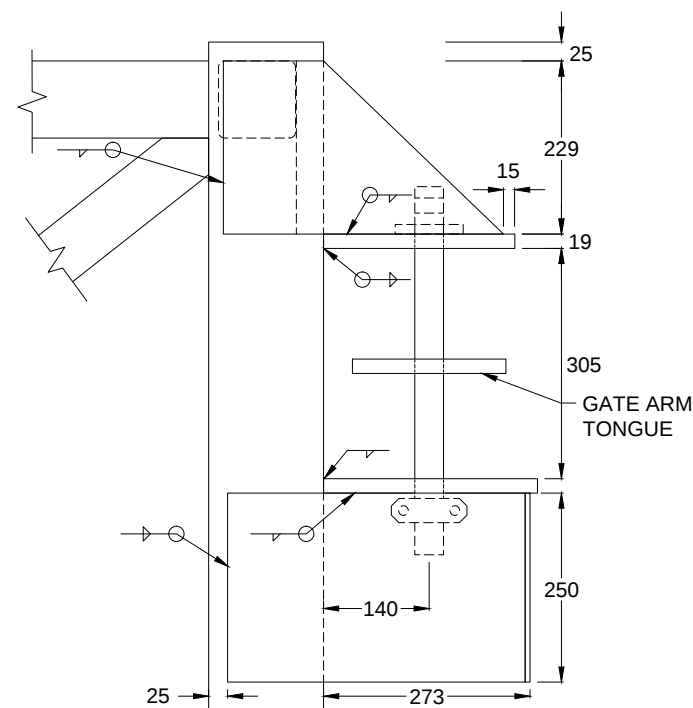
STANDARD ROAD CLOSURE GATES			
SURFACE MOUNTED ABUTMENT DETAILS - (2 OF 4)			
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-08



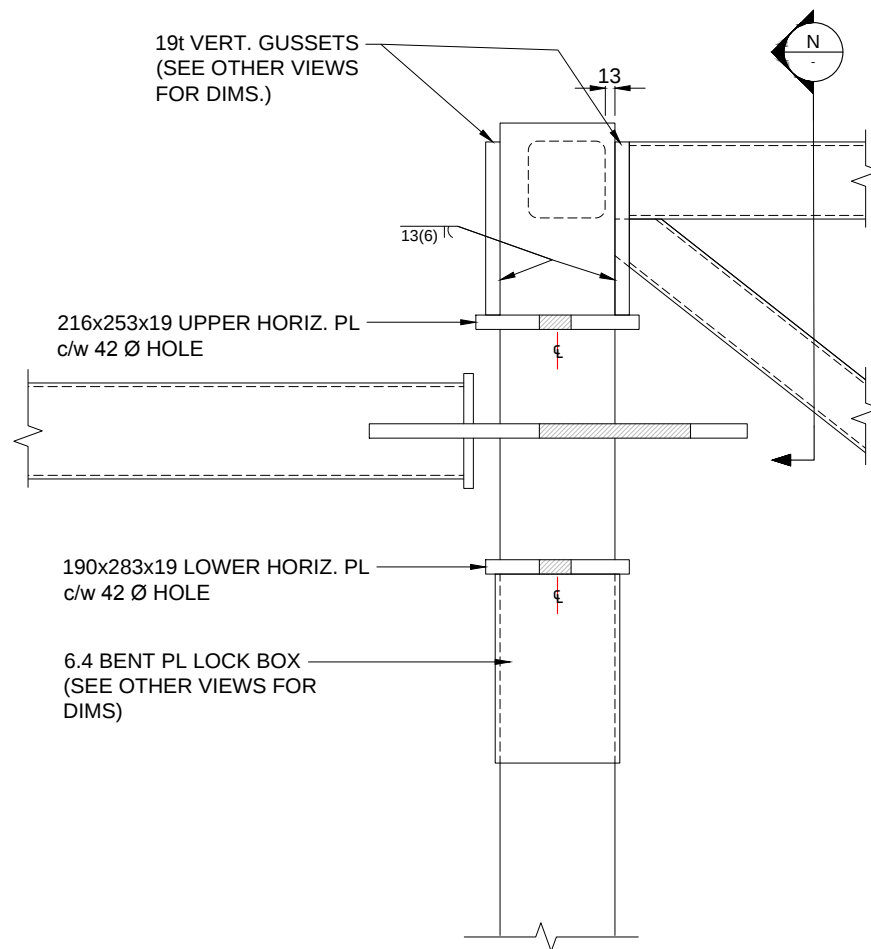
SCALE AS SHOWN		Engineered <u>M.P.</u> Date <u>Mar. 2019</u>	
		Checked <u>G.M.</u> Date <u>Mar. 2019</u>	
		Approved <u>B.C.</u> Date <u>Mar. 2019</u>	
		Drawn <u>N.H.</u> Date <u>Mar. 2019</u>	
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



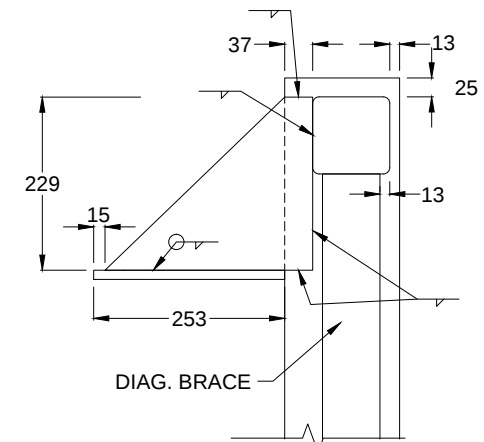
STANDARD ROAD CLOSURE GATES			
SURFACE MOUNTED ABUTMENT DETAILS - (3 OF 4)			
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-09



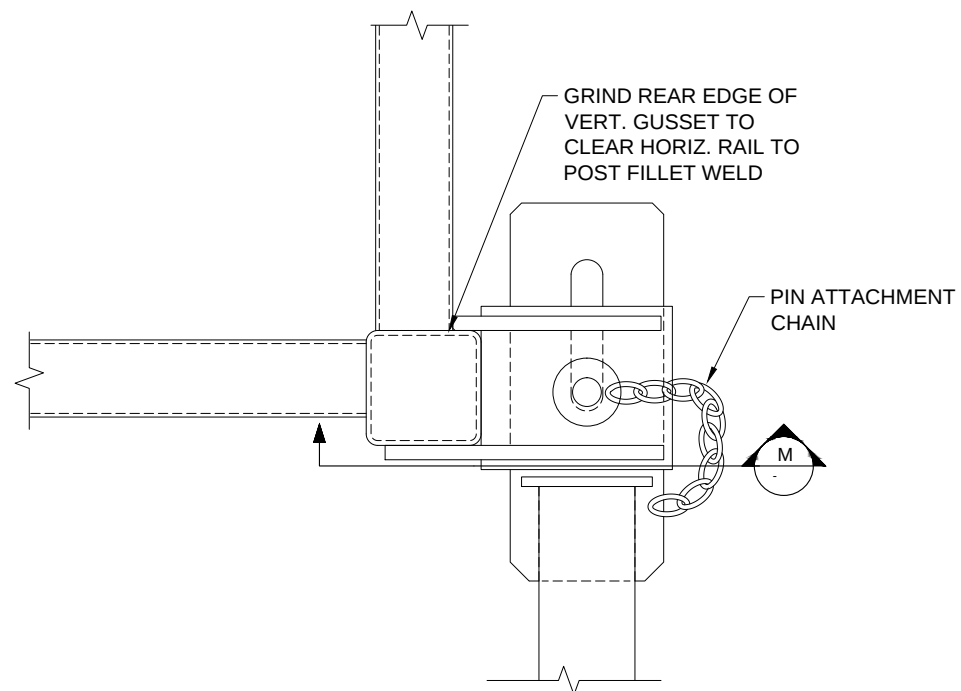
SECTION M
-809 : CLOSED LATCH ASSEMBLY OUTSIDE ELEV.
1:10 (SHOWING PIN & GATE ARM TONGUE)



SECTION K
07 : CLOSED LATCH ASSEMBLY - ELEV.
1:10 (PIN NOT SHOWN FOR CLARITY)



SECTION N
- : CLOSED LATCH ASSEMBLY TOP PLATES
1:10 - INSIDE ELEV.



SECTION L
07 : CLOSED LATCH ASSEMBLY - PLAN VIEW
1:10 (LOCK BOX COMPONENTS NOT SHOWN FOR CLARITY)

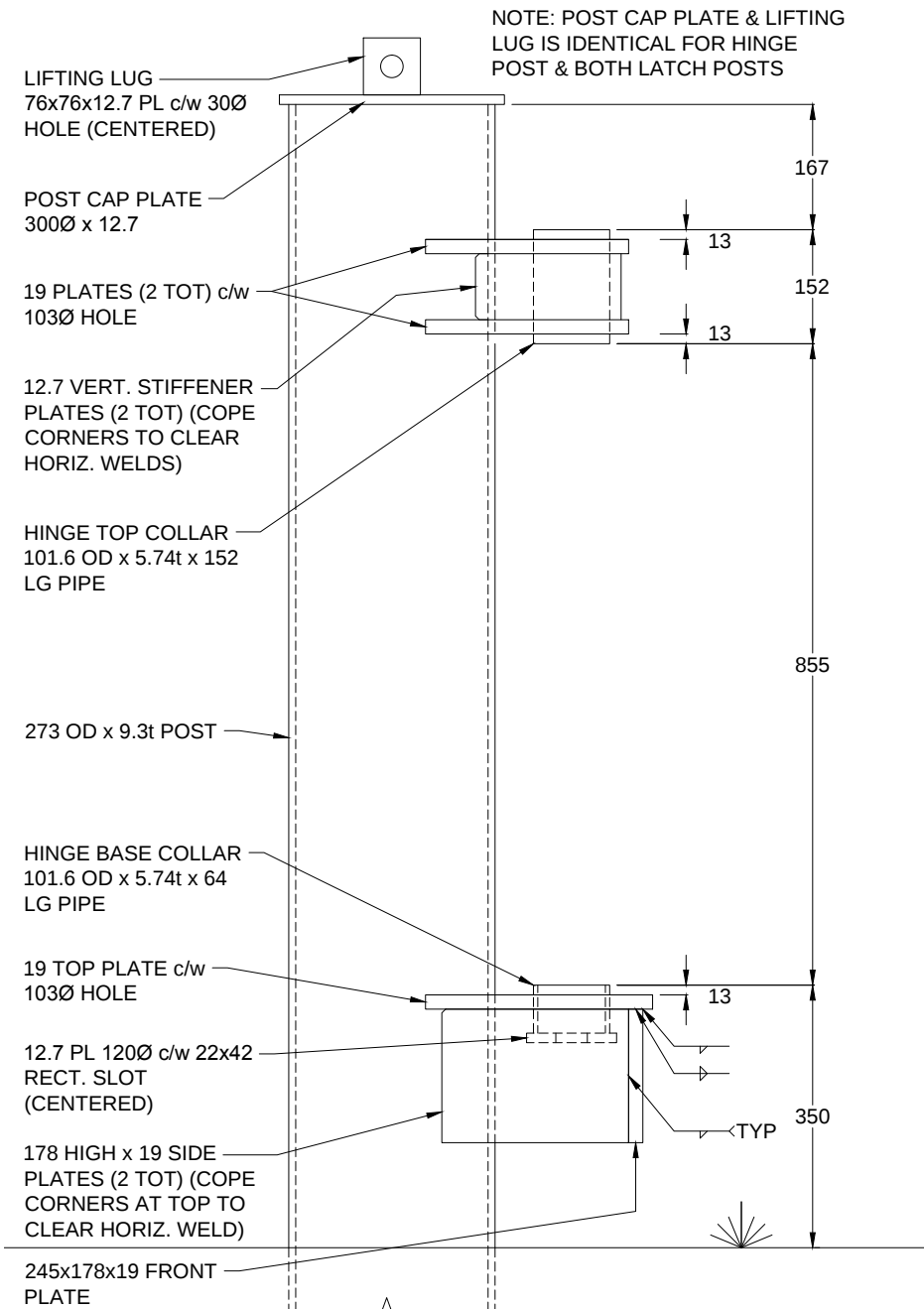
SCALE AS SHOWN		Engineered <u>M.P.</u>	Date <u>Mar. 2019</u>
		Checked <u>G.M.</u>	Date <u>Mar. 2019</u>
		Approved <u>B.C.</u>	Date <u>Mar. 2019</u>
		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



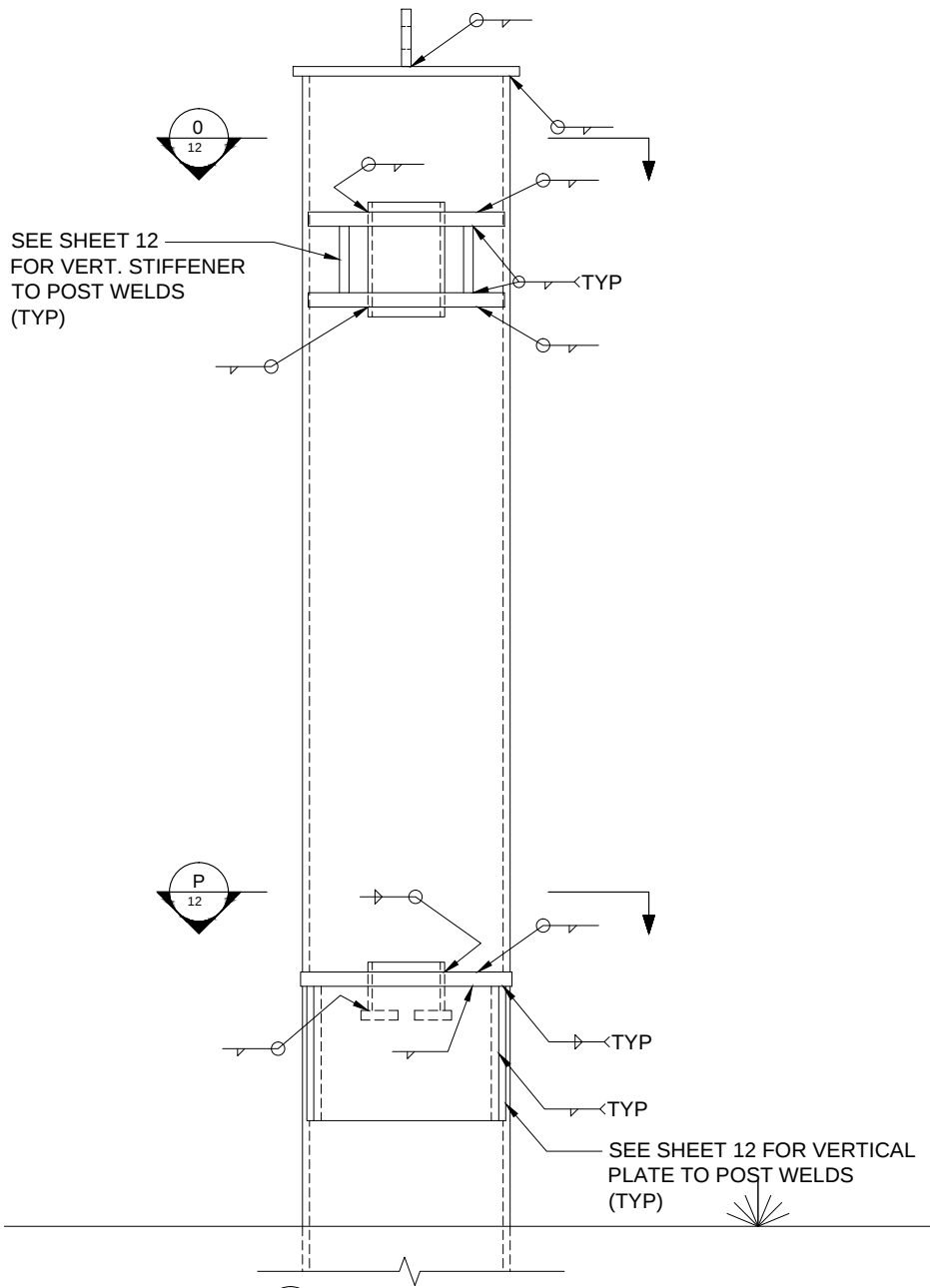
STANDARD ROAD CLOSURE GATES

SURFACE MOUNTED ABUTMENT DETAILS - (4 OF 4)

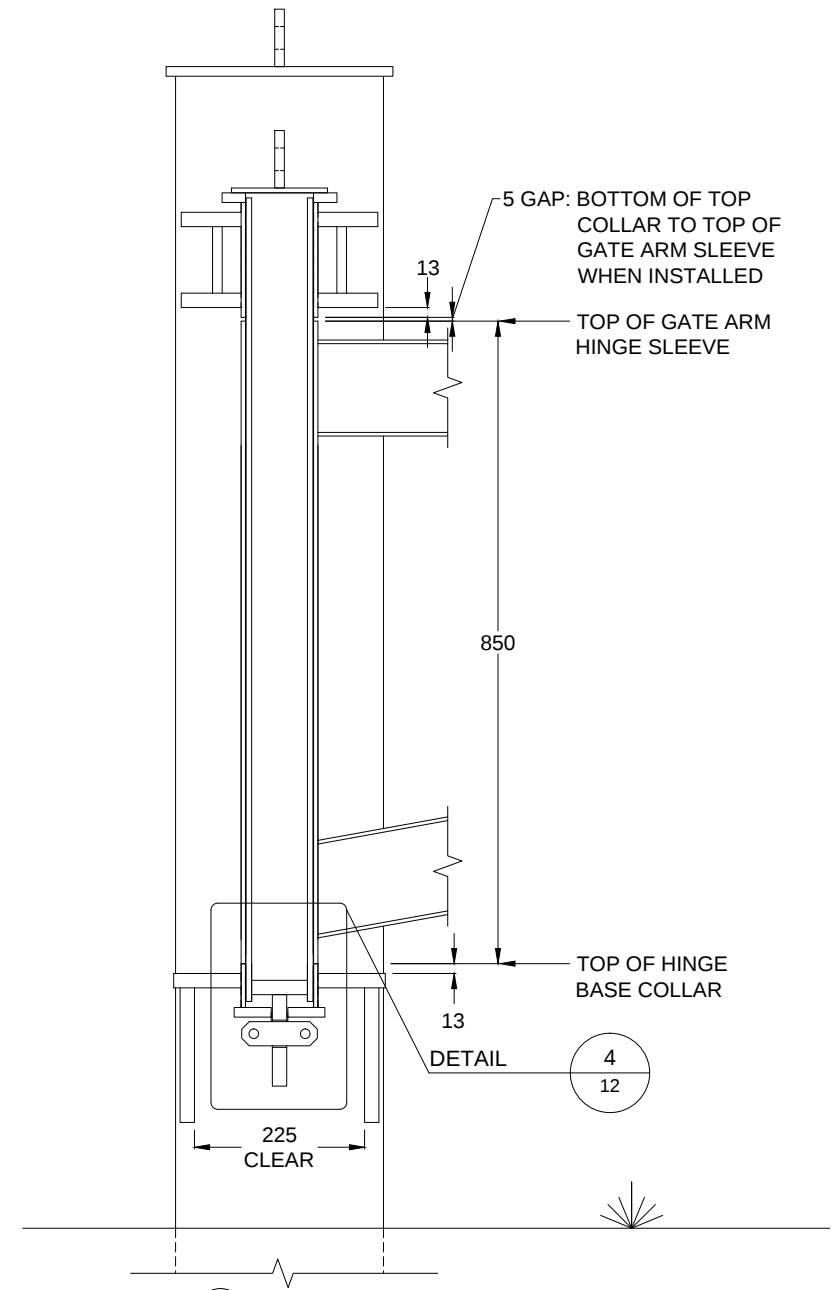
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-10



SECTION A-03 : HINGE POST SIDE ELEV.
1:10 (HINGE PIN & GATE ARM NOT SHOW FOR CLARITY)



SECTION B-03 : HINGE POST FRONT ELEV.
1:10 (HINGE PIN & GATE ARM NOT SHOW FOR CLARITY)



SECTION C-03 (THROUGH HINGE PIN & GATE ARM SLEEVE): HINGE ASSEMBLY
1:10 (SHOWING PIN & GATE ARM SLEEVE)

BURIED FOOTING ABUTMENT NOTES

- BURIED FOOTINGS SHALL BE PLACED ON A COMPETENT, FIRM SOIL OR GRAVEL BASE, AND SHALL BE BACKFILLED WITH 300 mm LIFTS OF COMPETENT GRANULAR SOIL FREE OF ORGANICS (COMPACTED TO 95% STANDARD PROCTER).
- FOUNDATION CONDITIONS & COMPACTION TO BE VERIFIED BY THE INDIVIDUAL TAKING RESPONSIBILITY FOR THE GATE INSTALLATION.

SCALE AS SHOWN		Engineered <u>M.P.</u>	Date <u>Mar. 2019</u>
		Checked <u>G.M.</u>	Date <u>Mar. 2019</u>
		Approved <u>B.C.</u>	Date <u>Mar. 2019</u>
		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



STANDARD ROAD CLOSURE GATES			
BURIED FOOTING ABUTMENT DETAILS - (1 OF 3)			
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-11

DETAIL  : UPPER HINGE
PIN HOLDER VERT. STIFFENER
TO POST CONNECTION
1:1

DETAIL  : HINGE BASE
TO POST CONNECTION (MISC. DETAILS)

SECTION : UPPER HINGE PIN HOLDER - PLAN
1:10

SECTION  :HINGE BASE - PLAN
1:10

TOP OF HINGE PIN - ELEV.
1:5

CT

DETAIL  : HINGE PIN LOCKING END

1:5

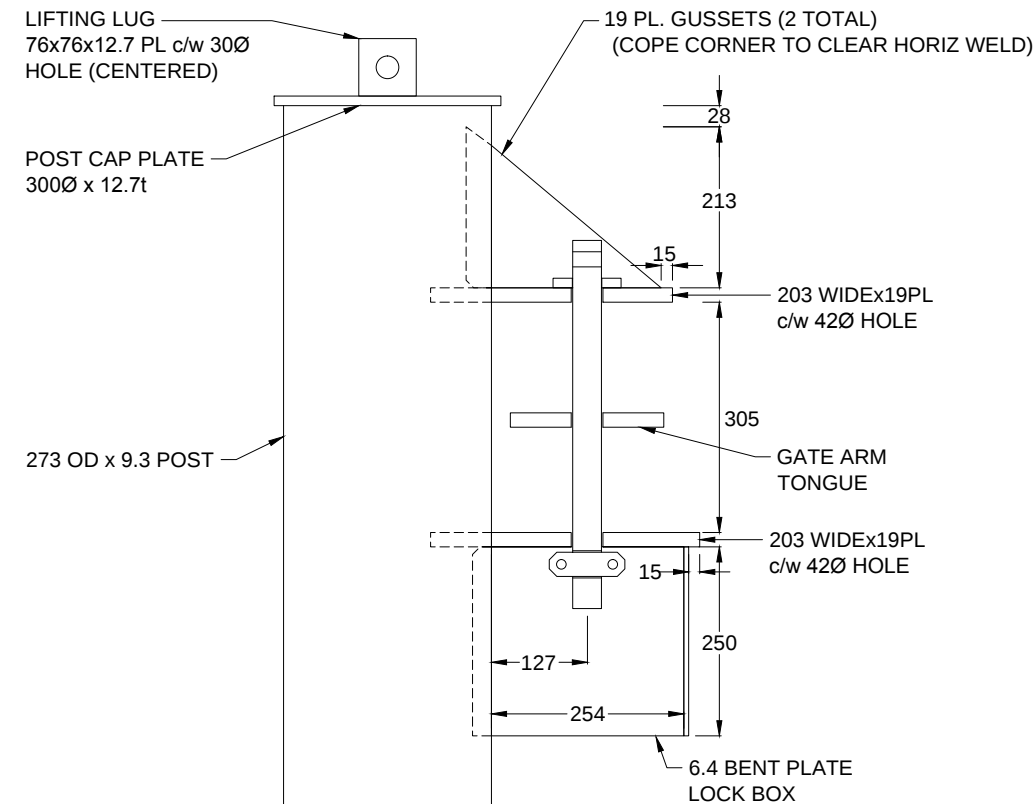
SCALE		AS SHOWN		Engineered <u>M.P.</u>	Date <u>Mar. 2019</u>
				Checked <u>G.M.</u>	Date <u>Mar. 2019</u>
				Approved <u>B.C.</u>	Date <u>Mar. 2019</u>
				Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION			INITIAL
REVISIONS					



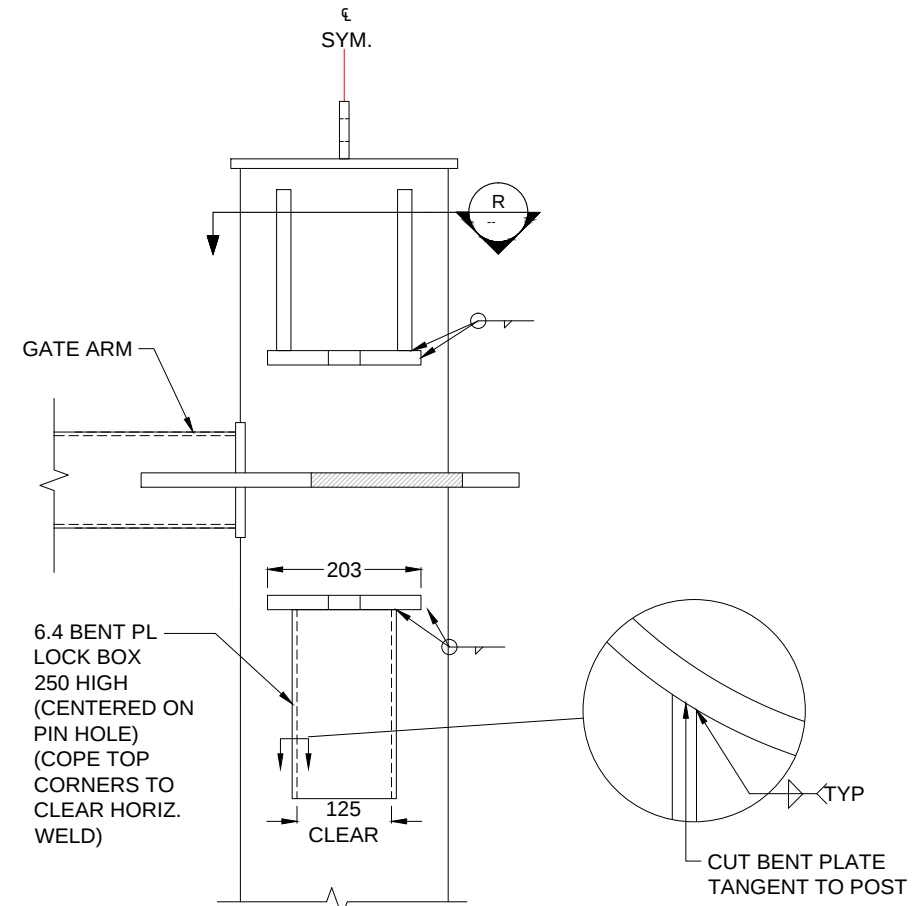
STANDARD ROAD CLOSURE GATES

BURIED FOOTING ABUTMENT DETAILS - (2 OF 3)

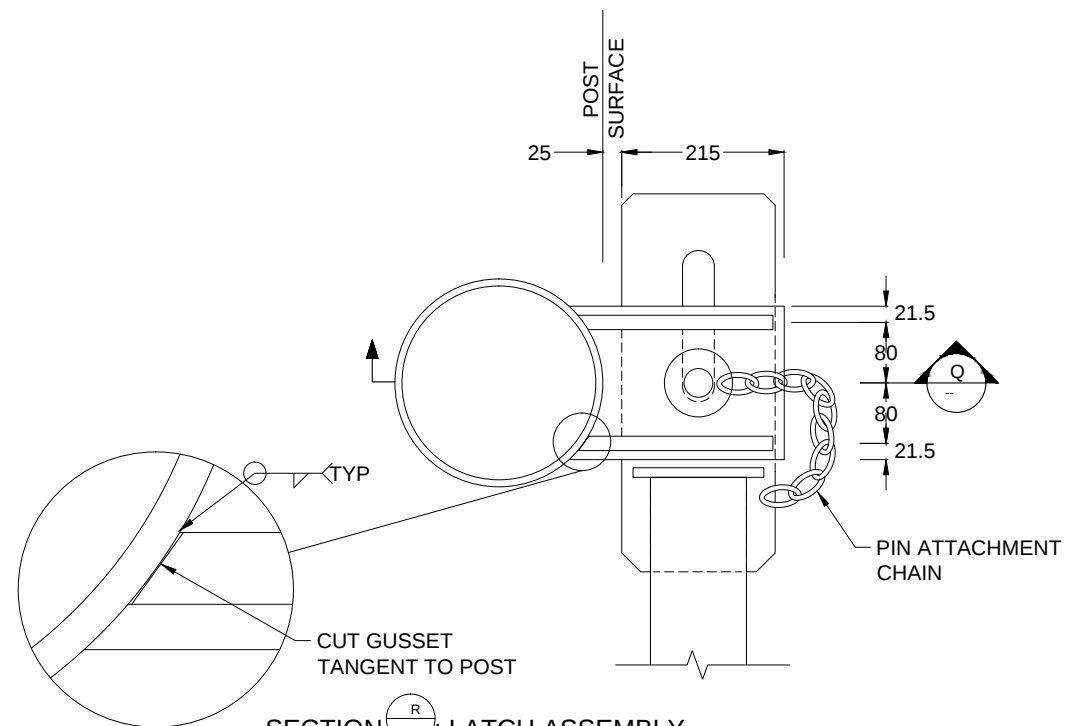
DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-12



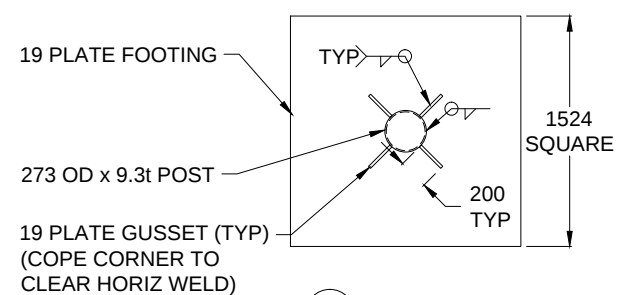
SECTION Q: LATCH ASSEMBLY - (SHOWING PIN & GATE ARM)
1:10



DETAIL 1/03: LATCH POST - SIDE ELEV.
(PIN NOT SHOWN FOR CLARITY)
1:10



SECTION R: LATCH ASSEMBLY
(LOCK BOX COMPONENTS NOT SHOWN FOR CLARITY)
1:10



SECTION S: FOOTING PLAN FOR CLOSED LATCH ABUT. & HINGE ABUT.
1:50

NOTE: OPEN LATCH ABUT. VARIES AS FOLLOWS:
1. BURIED DEPTH = 1200 mm
2. PLATE FOOTING SIZE - 1219 mm SQUARE
3. NO GUSSETS
IN ALL OTHER REGARDS, THE CLOSED LATCH ABUT. & OPEN LATCH ABUT. (INCLUDING LATCHING DETAILS) ARE IDENTICAL

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		Drawn <u>N.H.</u>	Date <u>Mar. 2019</u>
REV	DATE	DESCRIPTION	INITIALS
REVISIONS			



STANDARD ROAD CLOSURE GATES

BURIED FOOTING ABUTMENT DETAILS - (3 OF 3)

DRAWN:	NICOLE HARVEY	CHECKED:	GLENN MOORE
ENGINEERED:	MIKE PENNER	APPROVED:	BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER:	FOR-11300-05	DRAWING NUMBER:	STD-G-010-13