

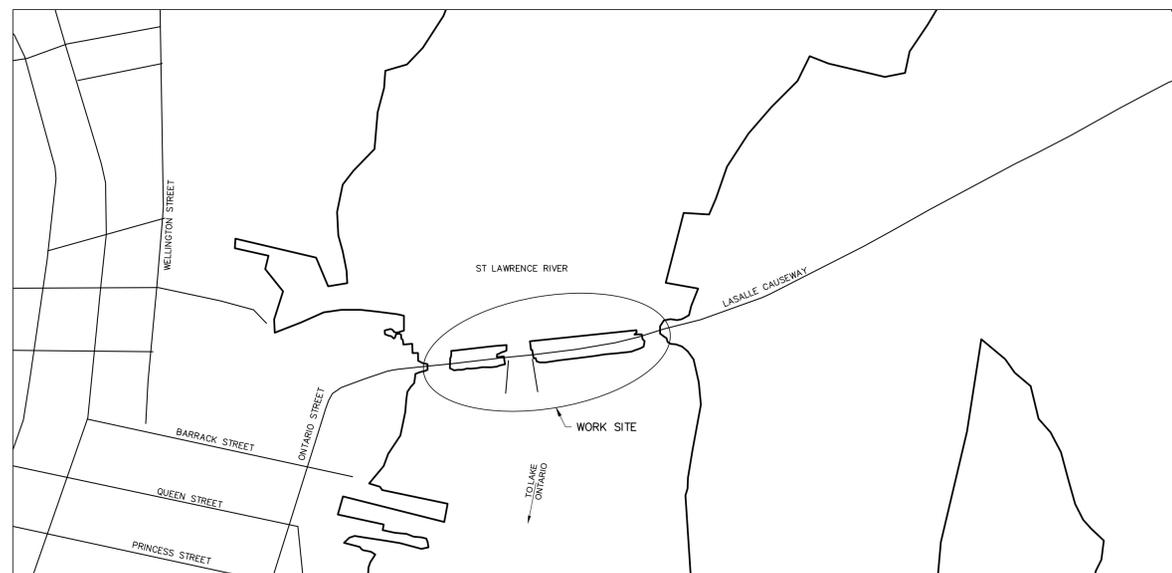


Public Works and
Government Services
Canada

Architectural and
Engineering Services

Ontario Region

LASALLE CAUSEWAY KINGSTON, ONTARIO



SITE PLAN

LSC CONCRETE REPAIRS

PWGSC Proj. No.: R.101343.040

Canada

LIST OF DRAWINGS

CIVIL

- C01 TRAFFIC CONTROL PLAN I
- C02 TRAFFIC CONTROL PLAN II
- C03 TRAFFIC CONTROL PLAN III
- C04 CONSTRUCTION STAGING AREA
- C05 ALIGNMENT DETAILS
- C06 REMOVALS
- C07 NEW CONSTRUCTION
- C08 PAVEMENT ELEVATIONS
- C09 NON-STANDARD DETAILS
- C10 UTILITY AND STORM REMEDIATION PLAN

STRUCTURAL

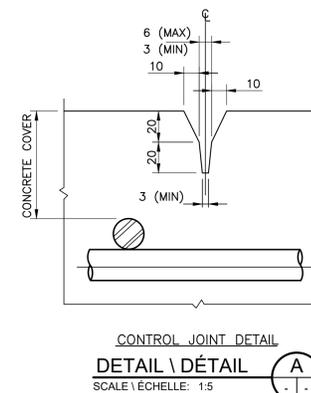
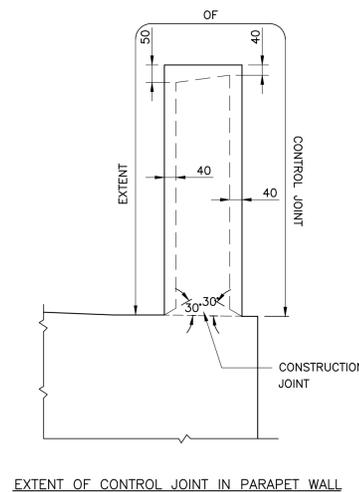
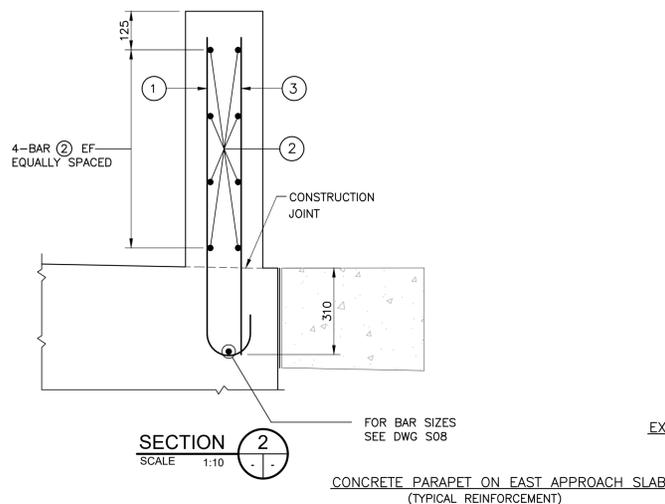
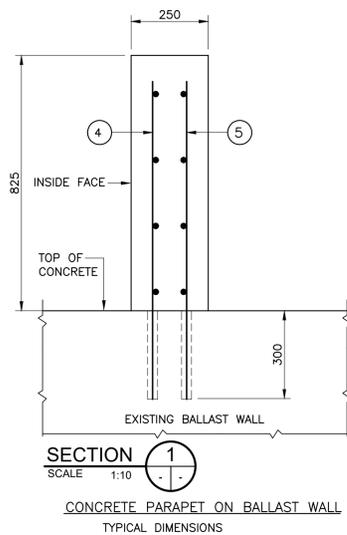
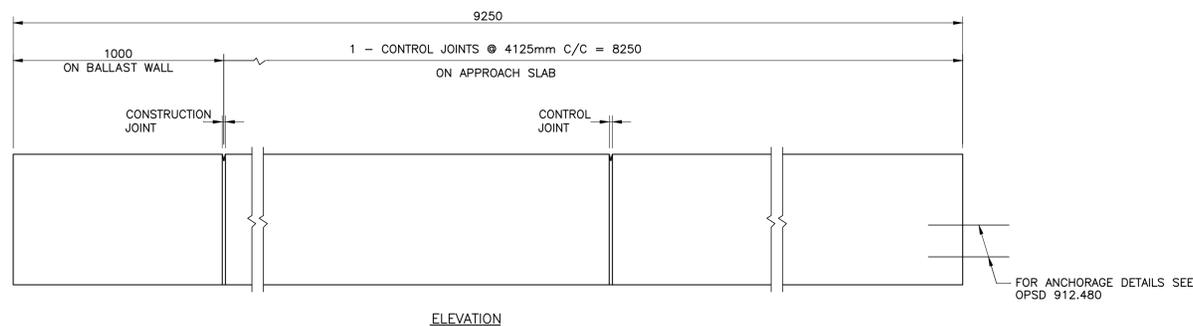
- S01 GENERAL ARRANGEMENT
- S02 GENERAL NOTES
- S03 CONCRETE REPAIR AT EAST BRIDGE, SOUTH FASCIA AND CANTILEVER
- S04 CONCRETE REPAIR AT BASCULE BRIDGE MACHINE ROOM SLAB SOFFIT
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- S14 WEST WHARF RETAINING WALL REMOVALS
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- S16 EAST BRIDGE SOUTH SIDEWALK REPAIRS
- S17 MISCELLANEOUS DETAILS
- S18 STANDARD DETAILS
- S19 WEST WHARF ASPHALT PATCH REPAIRS

DRAWING NAME: H:\B0477928\1100\DWGS\DWGS\C00 COVER SHEET.dwg
REVISED BY: AKL
MODIFIED: Sep 10, 2021 - 9:22am

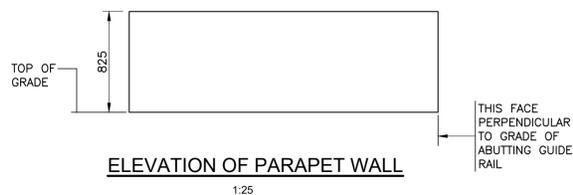
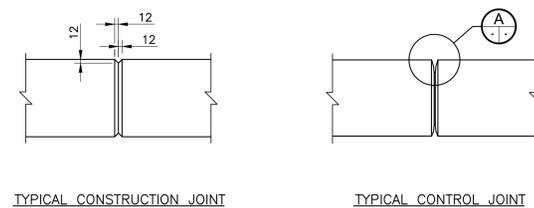
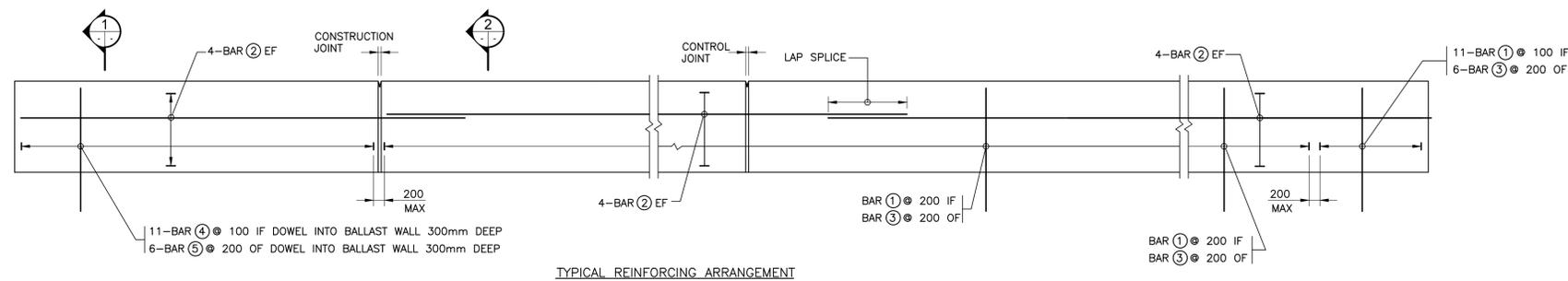




- NOTES:**
1. SYSTEM CONFIGURATION MEETS THE REQUIREMENTS OF NCHRP 350.
 2. CHASE REQUIRED ON HIGH AND LOW SIDE OF CROSSFALL.
 3. CONCRETE COVER TO REINFORCING STEEL 60 ±10mm EXCEPT AS NOTED.
 4. REINFORCING STEEL SHALL BE STAINLESS TYPE 316LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500 MPa.
 5. BAR LAP SPLICE FOR HORIZONTAL REINFORCEMENT MUST NOT LAP THROUGH CONTROL JOINT.
 6. MINIMUM BAR LAP SPLICE TO BE 550mm.
 7. LENGTH OF HORIZONTAL BAR TO SUIT CONTRACTOR'S OPERATIONS. BAR LENGTHS NEED NOT MATCH DISTANCE BETWEEN CONTROL JOINTS.
 8. CONTROL JOINT TO BE FORMED.
 9. SAWCUTS NOT PERMITTED.
 10. CONTROL JOINT FORM HARDWARE NOT TO BE LEFT IN PLACE.
 11. LEGEND
EF DENOTES EACH FACE
IF DENOTES INSIDE FACE
OF DENOTES OUTSIDE FACE



BAR MARK	SIZE	SHAPE
1	S15M	
2	S15M	STRAIGHT
3	S10M	STRAIGHT
4	S15M	STRAIGHT DOWEL
5	S10M	STRAIGHT DOWEL



revision	description	date
1	ISSUED FOR BID SUBMISSION	21/09/10

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Detail No.	drawing no. - where detail required	drawing no. - where detailed
A		
B		
C		

project title
KINGSTON Ontario
PWGSC
LaSalle Causeway

LSC CONCRETE REPAIRS

drawing title
PARAPET WALL AT BASCULE BRIDGE EAST APPROACH

drawn by
VINCE GUO

designed by
VINCE GUO

approved by
J. GOLZARI

bid project manager
ELISABETH OHI

project date
2021/09/10

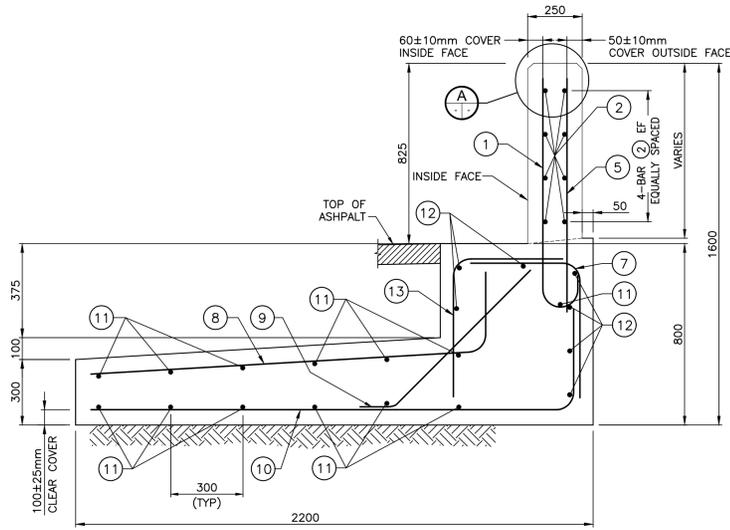
project no.
R.101343.040

drawing no.
S11

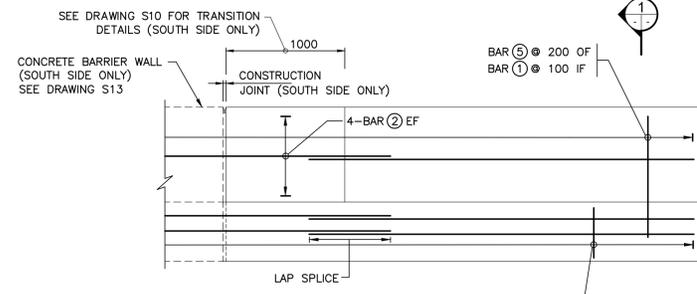


LEGEND

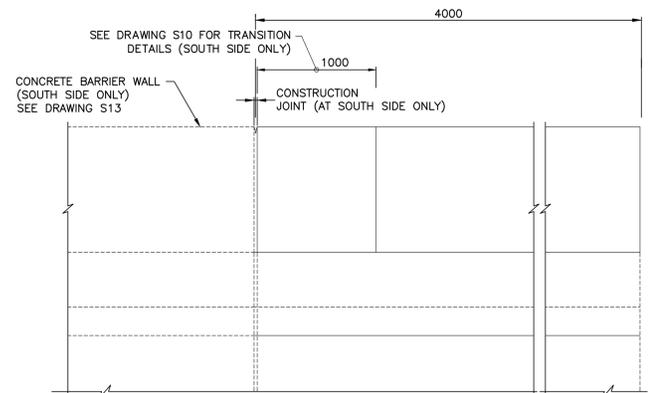
	ASPHALT
	GROUND SURFACE



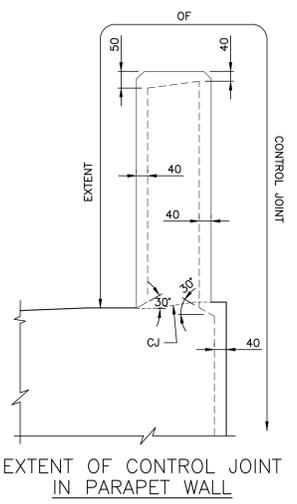
SECTION 1
SCALE: N.T.S.



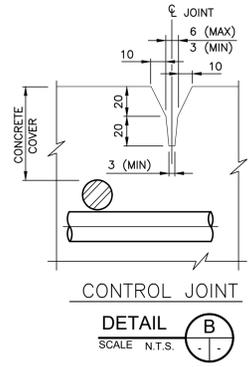
TYPICAL REINFORCING ARRANGEMENT



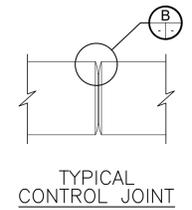
ELEVATION



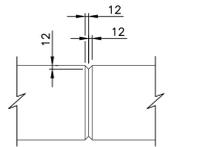
EXTENT OF CONTROL JOINT IN PARAPET WALL



CONTROL JOINT DETAIL
SCALE: N.T.S.



TYPICAL CONTROL JOINT



TYPICAL CONSTRUCTION JOINT

- NOTES:
1. SYSTEM CONFIGURATION MEETS THE REQUIREMENTS OF NCHRP 350.
 2. RETAINED SOIL SYSTEM WALL, PARAPET WALL AND FOOTING, SHALL BE IN ACCORDANCE WITH THE DESIGNATED SOURCES FOR MATERIALS LIST DSM 9.70.56.
 3. CONCRETE COVER TO REINFORCING STEEL 70±20mm, EXCEPT AS NOTED.
 4. CLASS OF CONCRETE FOR FOOTING 30 MPa.
 5. REINFORCING STEEL SHALL BE STAINLESS TYPE 316LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500MPa AND GRADE 400W REINFORCING STEEL. SEE REINFORCING TABLE BELOW.
 6. BAR MARKS WITH PREFIX 'S' DENOTE STAINLESS STEEL BARS.
 7. BAR LAP SPLICE FOR HORIZONTAL REINFORCEMENT MUST NOT LAP THROUGH CONTROL JOINT.
 8. MINIMUM BAR LAP SPLICE TO BE 700mm, UNLESS OTHERWISE SHOWN.
 9. LENGTH OF HORIZONTAL BAR TO SUIT CONTRACTOR'S OPERATIONS. BAR LENGTHS NEED NOT MATCH DISTANCE BETWEEN CONTROL JOINTS.
 10. CONTROL JOINT TO BE FORMED.
 11. SAWCUTS NOT PERMITTED.
 12. CONTROL JOINT FORM HARDWARE NOT TO BE LEFT IN PLACE.
 13. LEGEND:
 - EF - DENOTES EACH FACE
 - OF - DENOTES OUTSIDE FACE
 - IF - DENOTES INSIDE FACE
 - CJ - CONSTRUCTION JOINT

- BAR ⑦ @ 200
- BAR ⑧ @ 200
- BAR ⑨ @ 200
- BAR ⑩ @ 200
- BAR ⑬ @ 200

BAR MARK	SIZE	SHAPE
①	S15M	
②	S15M	STRAIGHT
③	S15M	
④	S15M	
⑤	S10M	STRAIGHT
⑥	S10M	STRAIGHT
⑦	S15M	
⑧	S15M	
⑨	S15M	
⑩	15M	
⑪	15M	STRAIGHT
⑫	S15M	STRAIGHT
⑬	S15M	
⑭	S15M	
⑮	S10M	STRAIGHT, LENGTH VARIES

1	ISSUED FOR BID SUBMISSION	21/09/10
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revision description date

Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the departmental representative of all discrepancies.

A Detail No.
B drawing no. - where detail required
C drawing no. - where detailed

project title
KINGSTON Ontario
PWGSC
LaSalle Causeway

LSC CONCRETE REPAIRS

drawing title
PARAPET WALL AT BASCULE BRIDGE WEST APPROACH

drawn by
VINCE GUO

designed by
VINCE GUO

approved by
J. GOLZARI

bid project manager
ELISABETH OHI

project date
2021/09/10

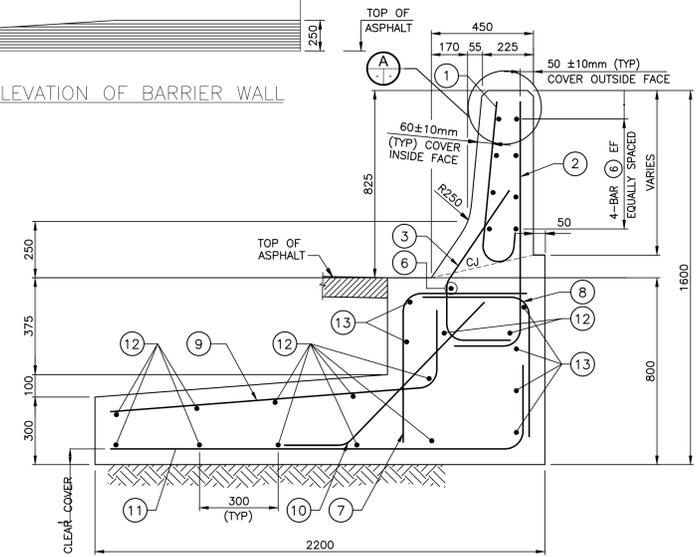
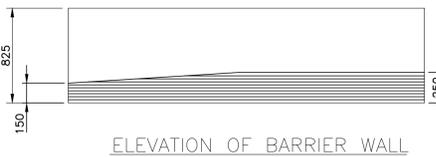
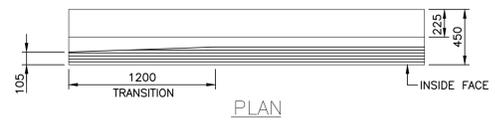
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R.101343.040

drawing no.
S12

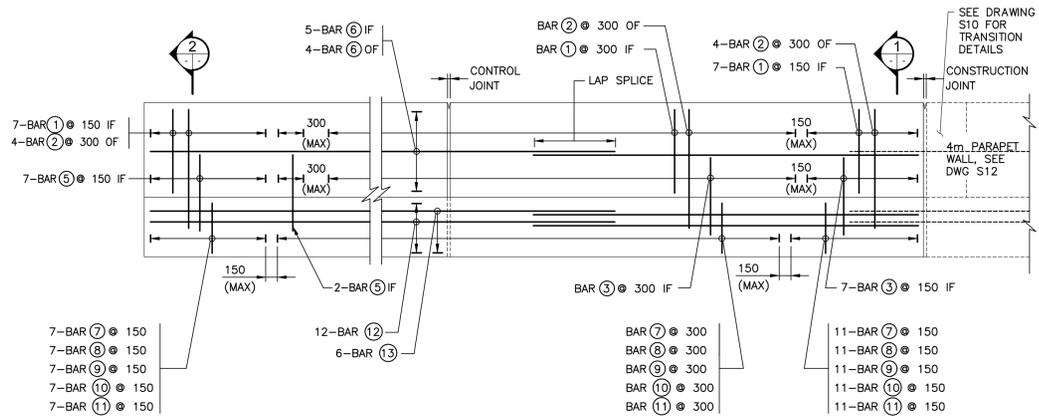


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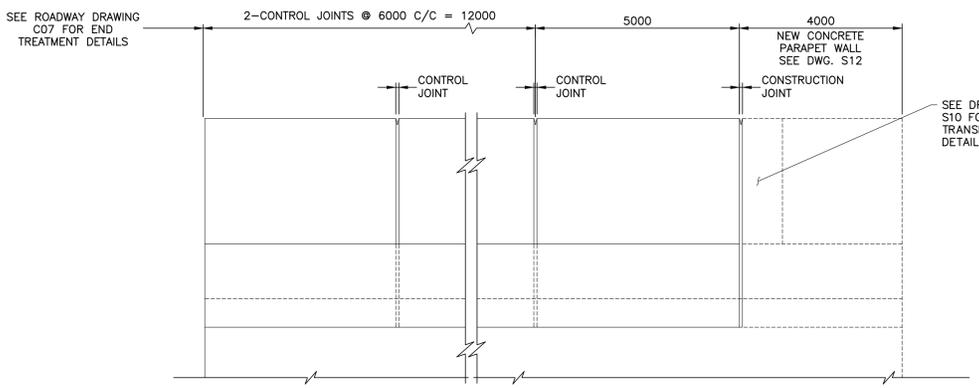
1. SYSTEM CONFIGURATION MEETS THE REQUIREMENTS OF NCHRP 350.
2. RETAINED SOIL SYSTEM WALL, BARRIER WALL AND FOOTING, SHALL BE IN ACCORDANCE WITH THE DESIGNATED SOURCES FOR MATERIALS LIST DSM 9.70.56.
3. CONCRETE COVER TO REINFORCING STEEL 70±20mm, EXCEPT AS NOTED.
4. CLASS OF CONCRETE FOR FOOTING 30MPa.
5. REINFORCING STEEL SHALL BE STAINLESS TYPE 316LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500MPa AND GRADE 400W REINFORCING STEEL. SEE REINFORCING TABLE BELOW.
6. BAR MARKS WITH PREFIX 'S' DENOTE STAINLESS STEEL BARS.
7. BAR LAP SPLICE FOR HORIZONTAL REINFORCEMENT MUST NOT LAP THROUGH CONTROL JOINT.
8. MINIMUM BAR LAP SPLICE TO BE 700mm, UNLESS OTHERWISE SHOWN.
9. LENGTH OF HORIZONTAL BAR TO SUIT CONTRACTOR'S OPERATIONS. BAR LENGTHS NEED NOT MATCH DISTANCE BETWEEN CONTROL JOINTS.
10. CONTROL JOINT TO BE FORMED.
11. SAWCUTS NOT PERMITTED.
12. CONTROL JOINT FORM HARDWARE NOT TO BE LEFT IN PLACE.
13. FOOTINGS SHALL HAVE CONSTRUCTION JOINTS AT MAX SPACING OF 12.0M.
14. LEGEND:
 - CJ - CONSTRUCTION JOINT
 - EF - DENOTES EACH FACE
 - LS - LAP SPLICE
 - IF - DENOTES INSIDE FACE
 - OF - DENOTES OUTSIDE FACE



SECTION 1
SCALE N.T.S.

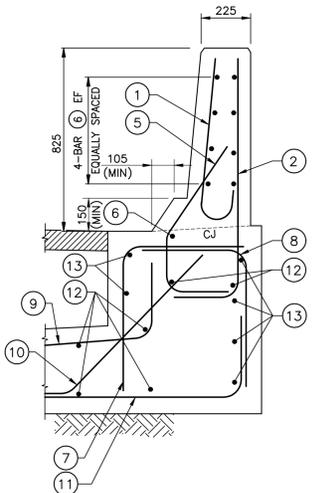


TYPICAL REINFORCING ARRANGEMENT



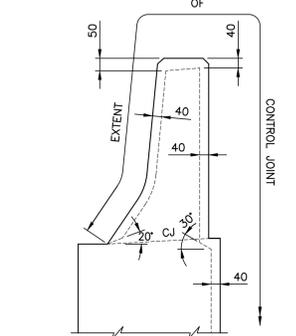
ELEVATION

BAR MARK	SIZE	SHAPE
①	S15M	
②	S10M	
③	S15M	
④	S15M	
⑤	S15M	
⑥	S15M	STRAIGHT
⑦	S15M	
⑧	S15M	
⑨	S15M	
⑩	S15M	
⑪	15M	
⑫	15M	STRAIGHT
⑬	S15M	STRAIGHT
⑭	S10M	
⑮	S15M	
⑯	S10M	
⑰	S15M	

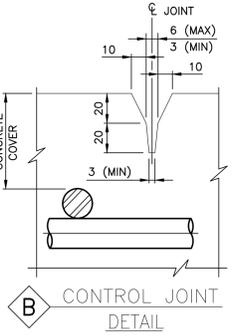


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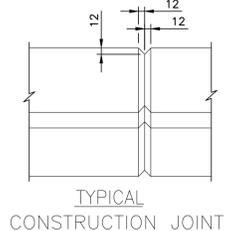
BARRIER WALL AT EXTERIOR END PANEL



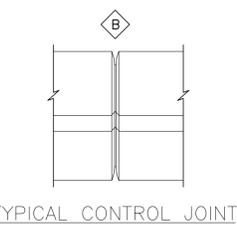
EXTENT OF CONTROL JOINT IN BARRIER WALL



CONTROL JOINT DETAIL



TYPICAL CONSTRUCTION JOINT



TYPICAL CONTROL JOINT



LEGEND

	ASPHALT
	GROUND SURFACE

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Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the departmental representative of all discrepancies.

A	Detail No.
B	drawing no. - where detail required
C	drawing no. - where detailed

project title
KINGSTON Ontario
PWGSC
LaSalle Causeway

LSC CONCRETE REPAIRS

drawing title
BARRIER WALL AT BASCULE BRIDGE WEST APPROACH

drawn by
VINCE GUO

designed by
VINCE GUO

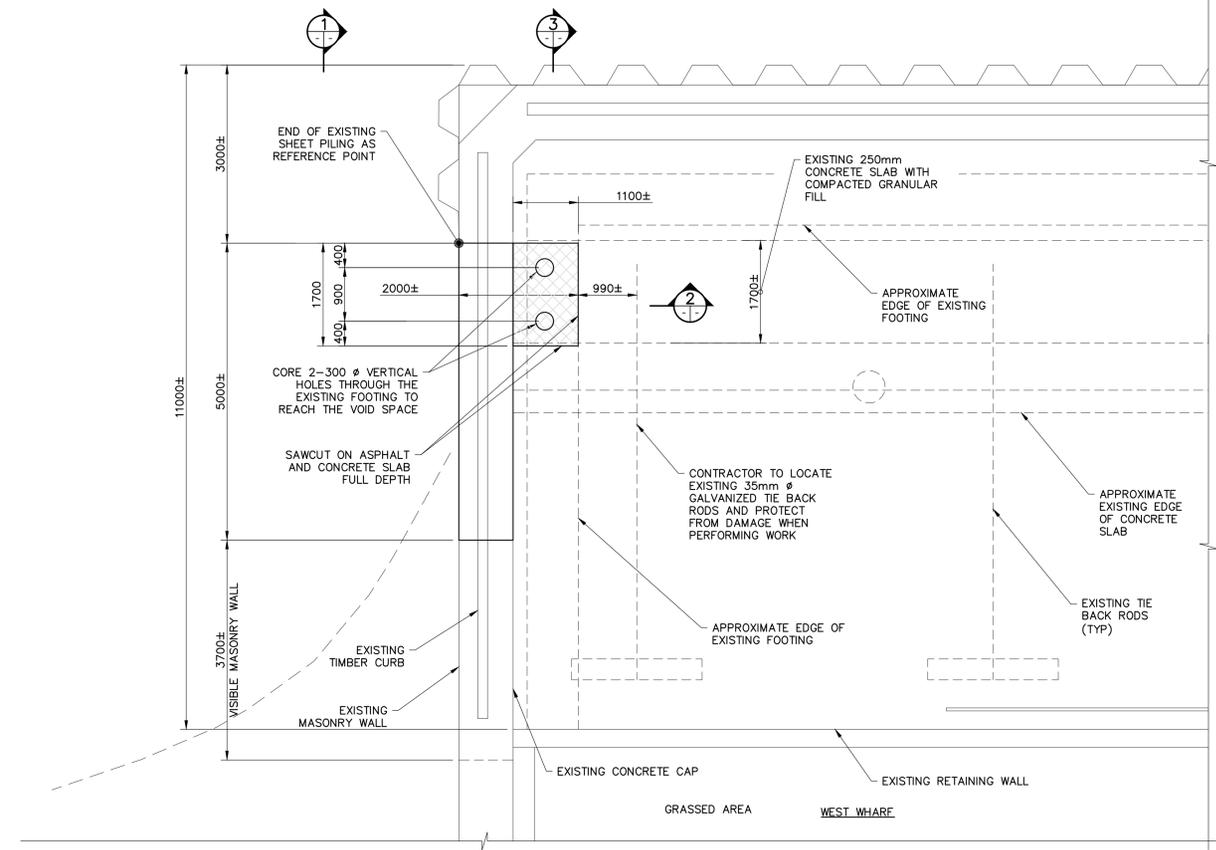
approved by
J. GOLZARI

bid
ELISABETH OHI project manager

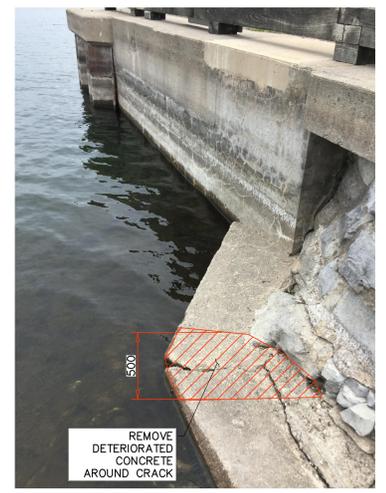
project date
2021/09/10

project no.
R.101343.040

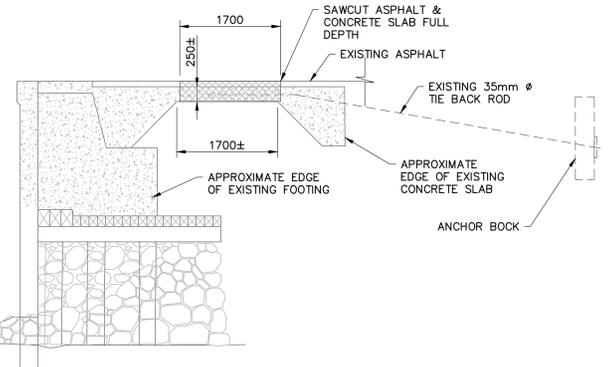
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S13



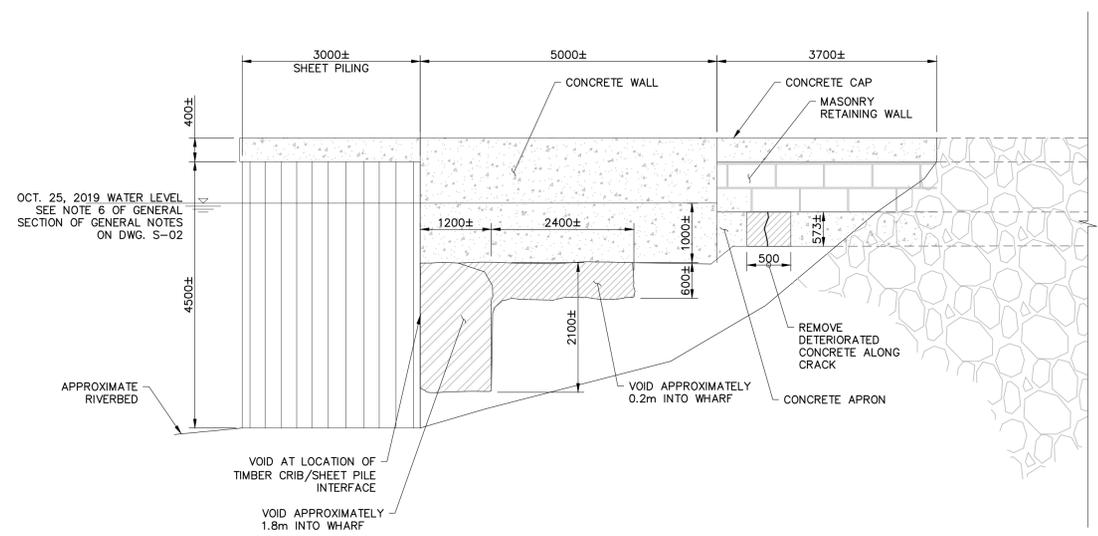
PLAN
SCALE 1:50



CONCRETE APRON REMOVALS
N.T.S.

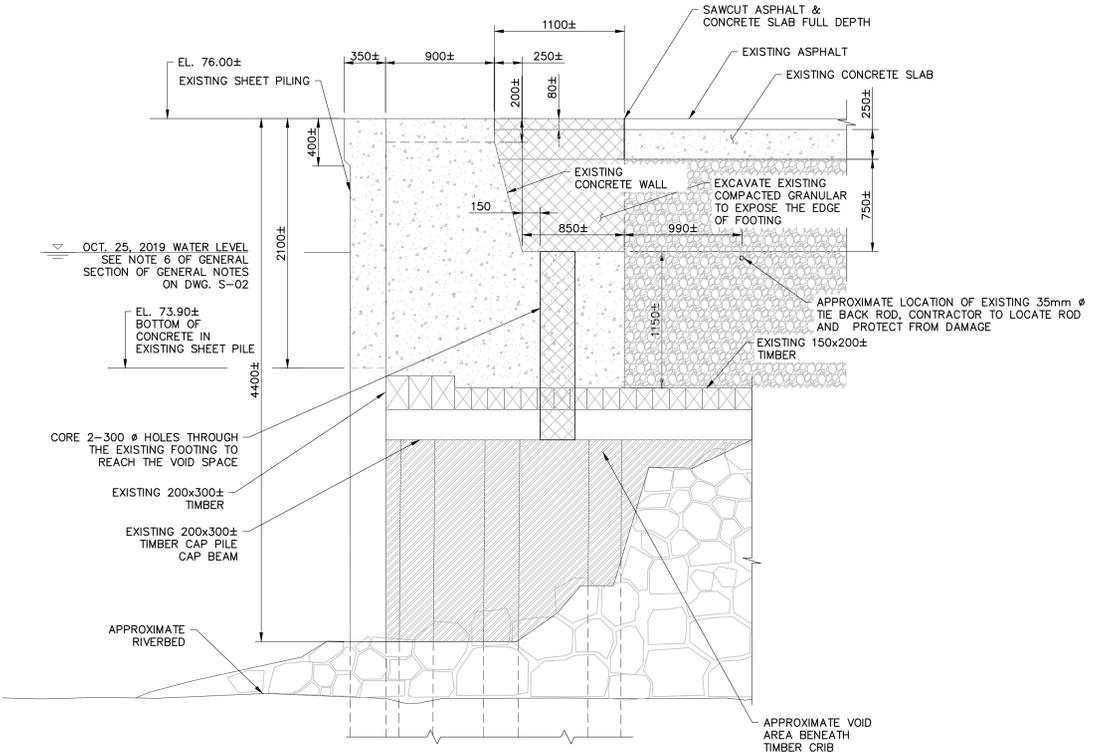


SECTION 3
SCALE 1:50



ELEVATION 1
SCALE 1:50

NOTE: TIMBER CRIB NOT SHOWN FOR CLARITY.



SECTION 2
SCALE 1:25

- NOTES:
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG S01 AND S02.
 2. AREA OF CONCRETE REMOVAL SHOWN ON THE CONCRETE APRON IS APPROXIMATE ONLY. LOCATION AND EXTENT OF CONCRETE REQUIRING REMOVAL SHALL BE DETERMINED IN THE FIELD BY THE DEPARTMENTAL REPRESENTATIVE. THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOR THIS OPERATION IN HIS WORK SCHEDULE AND SHALL PROVIDE ALL NECESSARY SAFE ACCESS MEASURES IN A TIMELY MANNER TO ALLOW FOR INSPECTION.



- LEGEND
- PARTIAL DEPTH REMOVALS
 - EXISTING CONCRETE
 - FULL DEPTH REMOVALS
 - GRANULAR FILL

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revision description date

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- A Detail No.
 - B drawing no. - where detail required
 - C drawing no. - where detailed

project title
KINGSTON Ontario
PWGSC
LaSalle Causeway

LSC CONCRETE REPAIRS

drawing title
WEST WHARF RETAINING WALL REMOVALS

drawn by
VINCE GUO

designed by
VINCE GUO

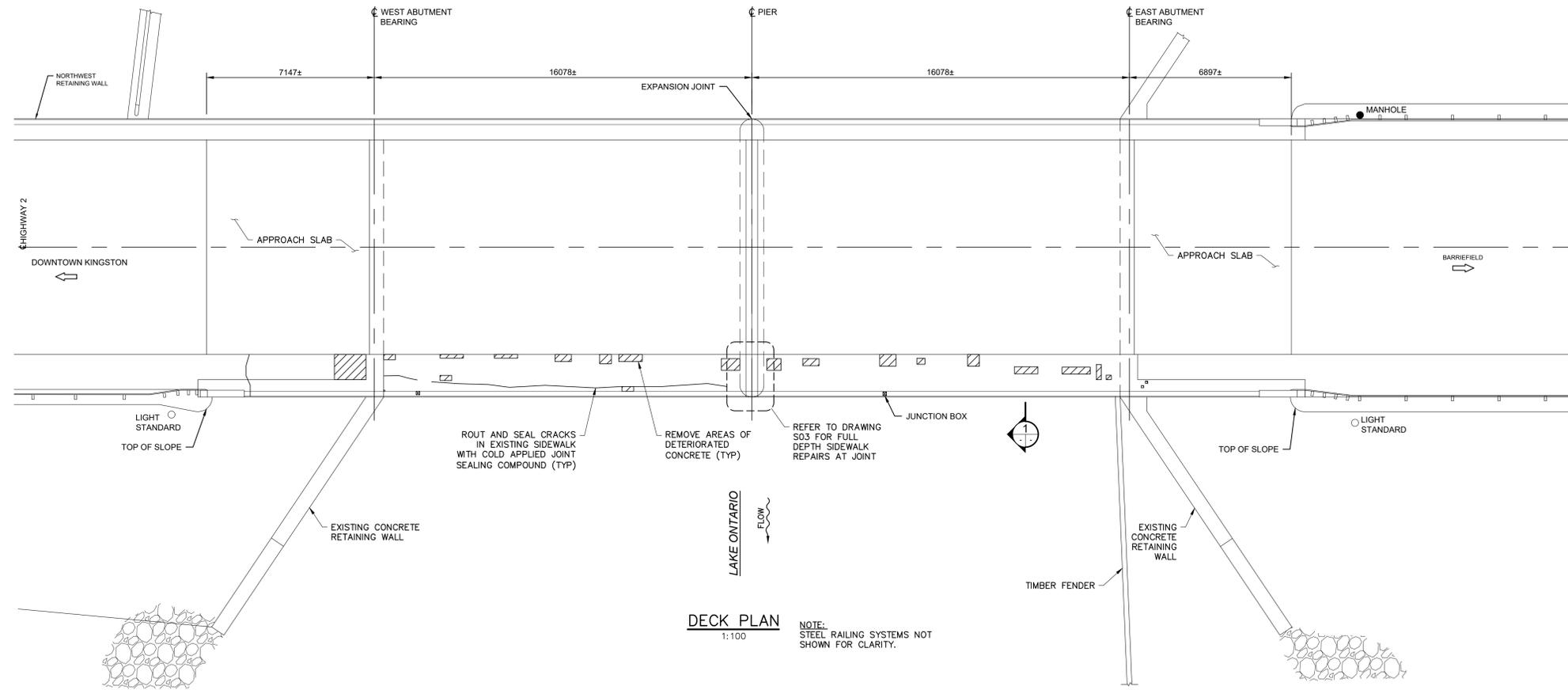
approved by
P. HARVEY
project manager

bid
ELISABETH OHI

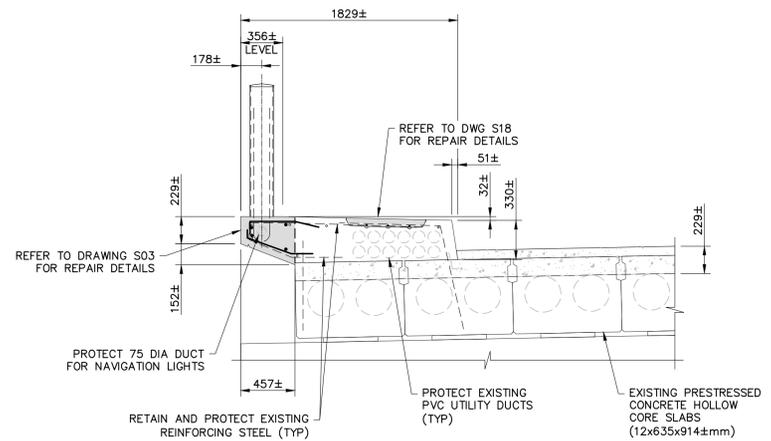
project date
2021/09/10

project no.
R.101343.040

drawing no.
S14



DECK PLAN
1:100
NOTE:
STEEL RAILING SYSTEMS NOT
SHOWN FOR CLARITY.



REPAIRS - SECTION 1
SCALE 1:25

- NOTES:**
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. S01, S02 AND S18.
 2. EXISTING STRUCTURE DETAILS, ELEVATIONS AND DIMENSIONS SHOWN ARE APPROXIMATE ONLY AND BASED ON AVAILABLE REFERENCE DRAWINGS AND MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONCRETE REMOVAL.
 3. EXISTING EMBEDDED UTILITY DUCTS IN SIDEWALK MAY CONTAIN ASBESTOS. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS DURING CONCRETE REMOVALS. SIGNIFICANT CARE SHALL BE TAKEN BY THE CONTRACTOR DURING REMOVAL OF CONCRETE ABOVE UTILITY DUCTS. CONCRETE REMOVAL EQUIPMENT SHALL LIMITED TO CHIPPING HAMMERS (i.e. NO JACK HAMMERS) AND HAND TOOLS.
 4. AREAS OF PARTIAL DEPTH CONCRETE REMOVAL IN THE SIDEWALK WILL BE DETERMINED IN THE FIELD BY THE DEPARTMENTAL REPRESENTATIVE.
 5. LIMITS OF ALL REMOVALS SHALL BE SAWCUT.
 6. EXISTING STRUCTURE AND REINFORCING STEEL DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE.
 7. REMOVAL DEPTHS SHALL BE AS DIRECTED ON SITE BY THE DEPARTMENTAL REPRESENTATIVE.
 8. FOR DETAILS OF CONCRETE PATCH REPAIRS, SEE TYPICAL DETAILS ELSEWHERE ON THE CONTRACT DRAWINGS.



LEGEND

	PARTIAL DEPTH REMOVALS
	NEW CONCRETE

1	ISSUED FOR BID SUBMISSION	21/09/10
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revision description date

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A	Detail No.
B	drawing no. - where detail required
C	drawing no. - where detailed

project title
KINGSTON Ontario
PWGSC
LaSalle Causeway

LSC CONCRETE REPAIRS

EAST BRIDGE SOUTH SIDEWALK REPAIRS

drawn by
RICHARD DYNKA

designed by
J. GOLZARI

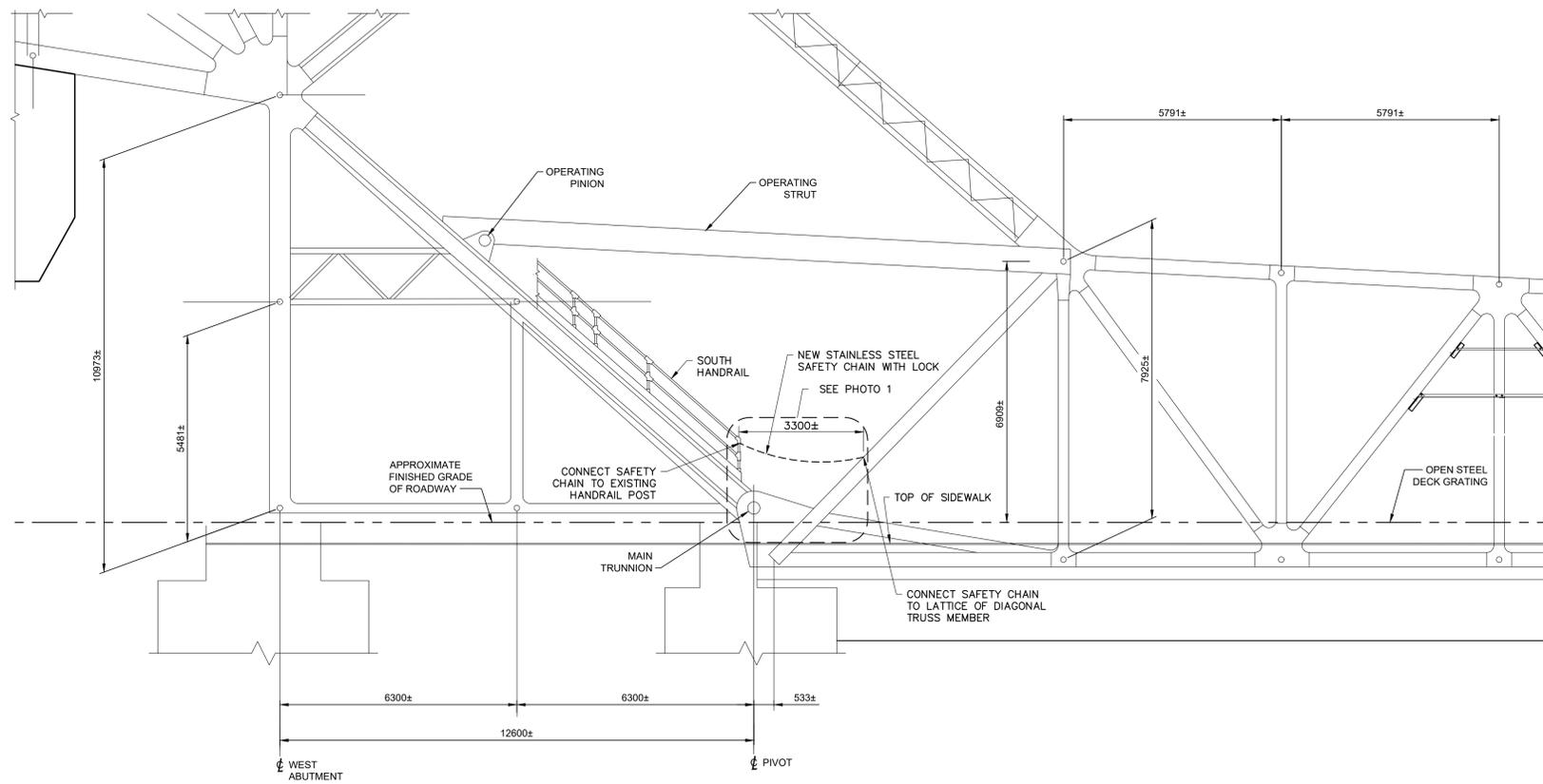
approved by
VINCE GUO

bid project manager
ELISABETH OHI

project date
2021/09/10

project no.
R.101343.040

drawing no.
S16



SOUTH ELEVATION
1:150

NOTES:

1. SAFETY CHAIN SHALL BE REMOVABLE TO ALLOW PASSAGE TO STAIRWAY.
2. SAFETY CHAIN AND HARDWARE SHALL BE GRADE 316 SS.



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C	drawing no. - where detailed

project title
KINGSTON Ontario
PWGSC
LaSalle Causeway

LSC CONCRETE REPAIRS

MISCELLANEOUS DETAILS

drawn by
RICHARD DYNKA

designed by
J. GOLZARI

approved by
VINCE GUO

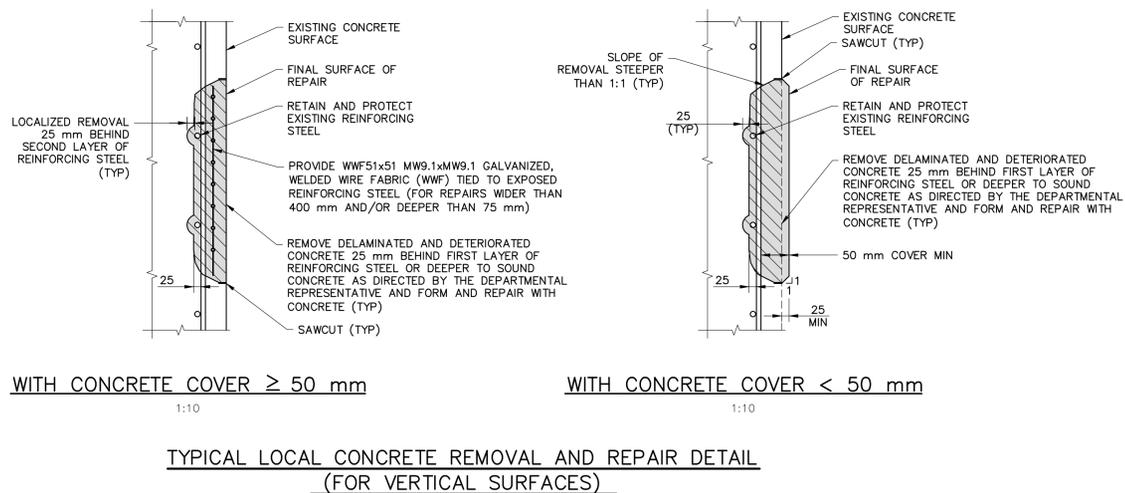
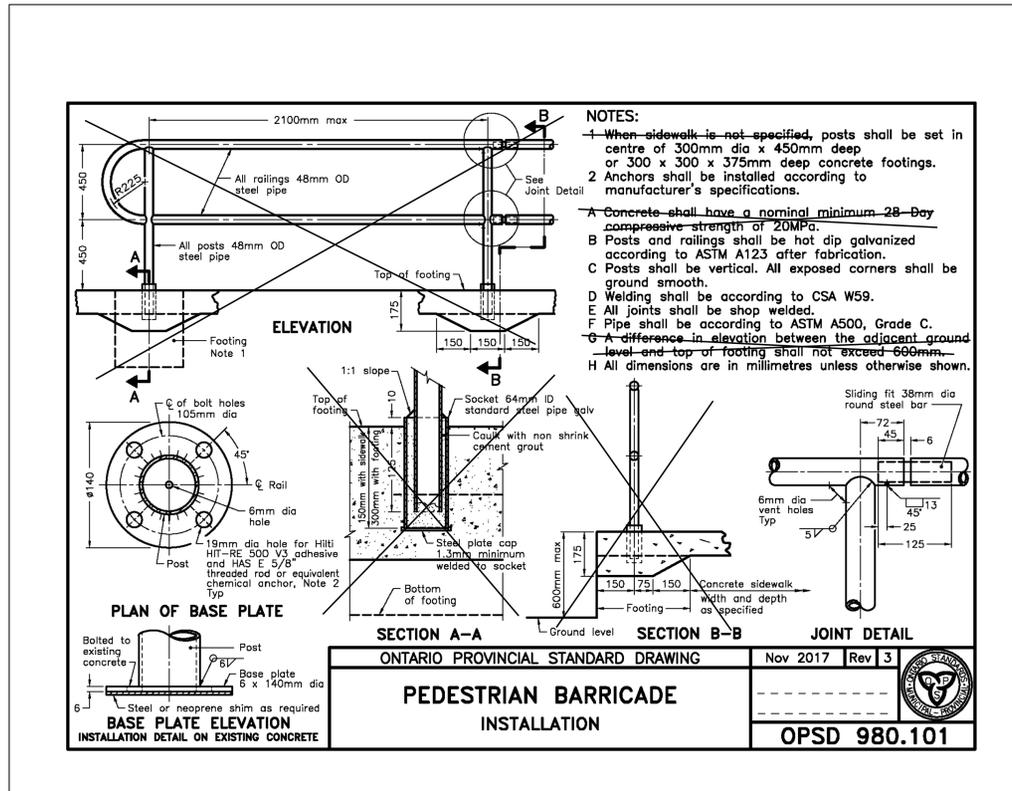
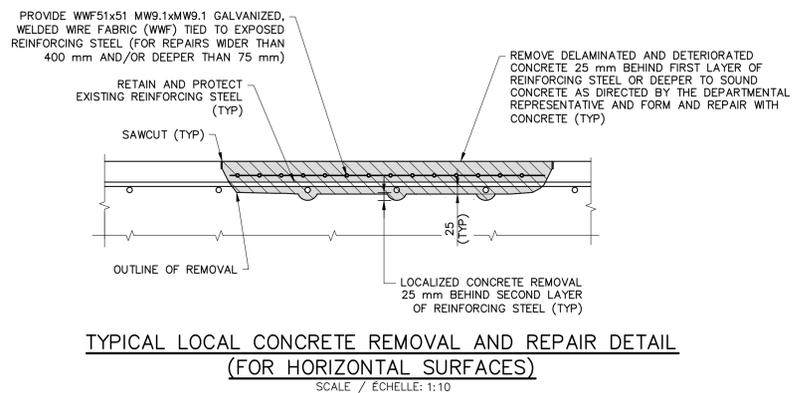
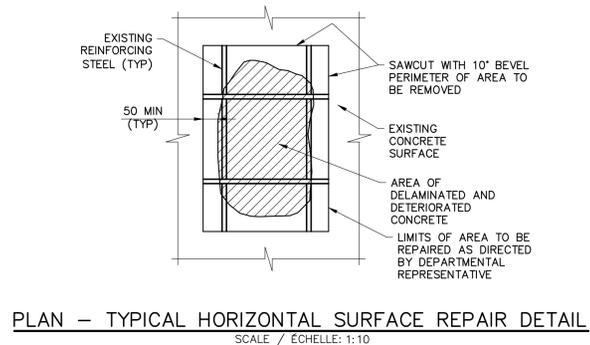
bid project manager
ELISABETH OHI

project date
2021/09/10

project no.
R.101343.040

drawing no.
S17





STANDARD 90° HOOK

STANDARD 180° HOOK

BAR SIZE	STEEL GRADE	
	400R ⁽²⁾	400W
10M	70	60
15M	100	90
20M	120	100
25M	150	150
30M	250	200
35M	300	250
45M	450 ⁽¹⁾	400
55M	600 ⁽¹⁾	550

(1) Special fabrication is required for bends exceeding 90° for bars of these sizes and grade.
(2) For stainless steel, with Fy = 500, use the same D as for 400R.

STANDARD HOOK DIMENSIONS

BAR SIZE	90° HOOKS		180° HOOKS	
	A OR G (mm)	A OR G (mm)	A OR G (mm)	J (mm)
10M	180	180	140	130
15M	260	250	180	170
20M	310	300	220	200
25M	400	400	280	280
30M	510	490	400	350
35M	610	590	480	430
45M	790	770	680	630
55M	1030	1010	900	850

NOTE: All Hook Dimensions are according to the CHBDC-2019.

MINIMUM STIRRUP AND TIE HOOK DIMENSIONS

BAR SIZE	BAR DIAM. d _b (mm)	PIN DIAM. D(mm)	90°		135°	
			A OR G (mm)	A OR G (mm)	H (approx.) (mm)	H (approx.) (mm)
10M	11.3	45	100	100	70	70
15M	16.0	65	140	140	100	100
20M	19.5	80	180	175	115	115
25M	25.2	100	230	230	140	140

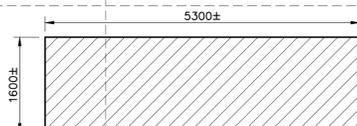
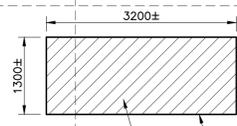
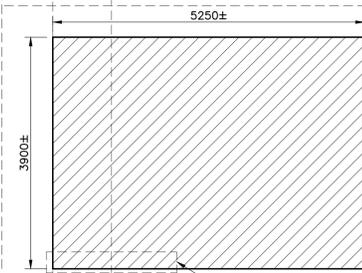
HOOK DIMENSIONS FOR REINFORCING STEEL BARS
Date: Sept. 2016 Rev: MODIFIED SS12-1

1	ISSUED FOR BID SUBMISSION	21/09/10
revision	description	date
Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the departmental representative of all discrepancies.		
A	Detail No.	
B	drawing no. - where detail required	
C	drawing no. - where detailed	
project title		
KINGSTON PWGSC LaSalle Causeway		Ontario
LSC CONCRETE REPAIRS		
drawing title		
STANDARD DETAILS		
drawn by		
VINCE GUO		
designed by		
VINCE GUO		
approved by		
J. GOLZARI		
bid		
ELISABETH OHI		
project date		
2021/09/10		
project no.		
R.101343.040		
drawing no.		
S18		



REFER TO DWG S14 AND S15 FOR DETAILS OF ASPHALT REMOVALS AND REINSTATEMENT AT THIS LOCATION

CONTRACTOR TO LOCATE EXISTING 35mm Ø GALVANIZED TIE BACK RODS, PROTECT FROM DAMAGE WHEN PERFORMING WORK (TYP)



REMOVE EXISTING ASPHALT FULL DEPTH AND 150mm OF GRANULAR BASE, REPLACE WITH 150mm COMPACTED GRANULAR 'A' BASE AND 140mm ASPHALT (TYP)

EXISTING 35mm Ø GALVANIZED TIE BACK RODS, PROTECT FROM DAMAGE WHEN PERFORMING WORK (TYP)

APPROXIMATE EXISTING EDGE OF CONCRETE SLAB

EXISTING TIMBER CURB

EXISTING MASONRY WALL

EXISTING ANCHOR BLOCK, PROTECT FROM DAMAGE WHEN PERFORMING WORK (TYP)

APPROXIMATE EDGE OF EXISTING FOOTING

EXISTING RETAINING WALL

EXISTING CONCRETE CAP

GRASSED AREA

WEST WHARF

PLAN
1:50

NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG S01, S02, S14 AND S15.
- AREAS OF ASPHALT REMOVAL AND REINSTATEMENT SHOWN ARE APPROXIMATE ONLY. LOCATIONS AND EXTENTS TO BE DETERMINED IN FIELD BY DEPARTMENTAL REPRESENTATIVE.
- ASPHALT PAVEMENT REINSTATEMENT:
150mm GRANULAR 'A' BASE
50mm SUPERPAVE 12.5mm FC1 LEVEL D (PG 64-34)
45mm SUPERPAVE 19.0mm LEVEL D (PG 64-34)
45mm SUPERPAVE 19.0mm LEVEL D (PG 64-34)
- REFER TO DETAIL D-1 ON DWG C09 FOR DETAILS OF NEW TO EXISTING PAVEMENT TRANSITION.



LEGEND
PARTIAL DEPTH REMOVALS AND REINSTATEMENT

revision	description	date
1	ISSUED FOR BID SUBMISSION	21/09/10

Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the departmental representative of all discrepancies.

A	Detail No.
B	drawing no. - where detail required
C	drawing no. - where detailed

project title
KINGSTON Ontario
PWGSC
LaSalle Causeway

LSC CONCRETE REPAIRS

drawing title
WEST WHARF ASPHALT PATCH REPAIRS

drawn by
R. DYNKA

designed by
J. GOLZARI

approved by
P. HARVEY

bid
ELISABETH OHI project manager

project date
2021/09/10

project no.
R.101343.040

drawing no.
S19