

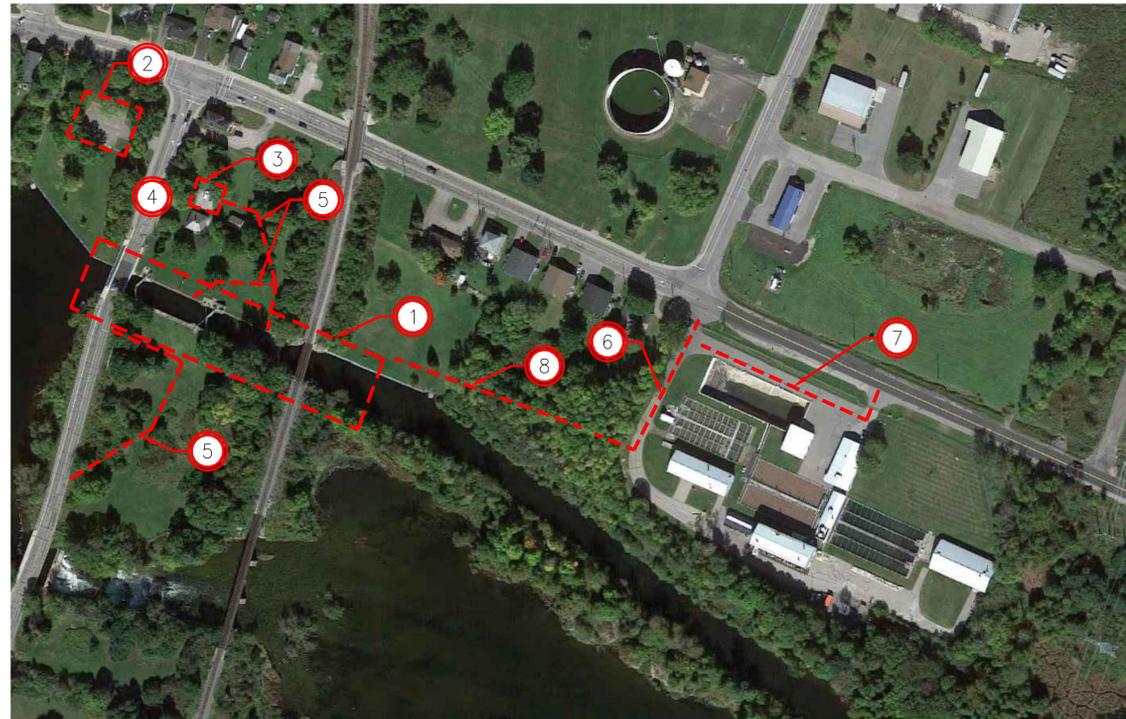
# OLD SLYS LOCK 26 & 27

## HERITAGE STONE MASONRY REPAIRS

Canadä

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200 (613) 226-8718  
 OTTAWA, ONT. K2H 9G1 FAX (613) 226-7424  
 mailbox@jgcooke.com www.jgcooke.com

17019



**NOTES**

- ① SITE. SEE 1/S01
- ② ALTERNATIVE PAVED PARKING LOT FOR CONTRACTOR CONSTRUCTION YARD OR STORAGE YARD. SEE PHOTO 04/S00.
- ③ ENCLOSED CONTRACTOR CONSTRUCTION YARD. SEE PHOTO 03/S00.
- ④ MAIN SITE ACCESS.
- ⑤ TEMPORARY ACCESS ROAD TO STAGING AREA
- ⑥ MAIN ACCESS ROUTE
- ⑦ SECONDARY ACCESS ROUTE
- ⑧ NEW ACCESS ROAD ON PCA PROPERTY SEE 11/S10 FOR SECTION OF ROAD THROUGH BUSH, BASE WILL REMAIN IN PLACE ON COMPLETION OF THE WORK. RESTORE LAWN WITH SOD.

**KEY LOCATION PLAN**  
 SCALE: N.T.S.

01  
S00

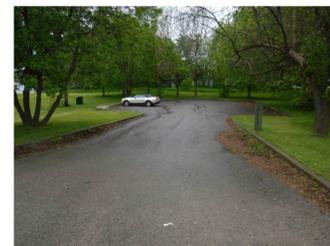
**DRAWING LIST**

- S00 SITE STAGING AND ACCESS PLAN
- S01 GENERAL SITE OVERVIEW
- S02 PLAN UPPER LOCK 27
- S03 ELEVATIONS UPPER LOCK 27
- S04 PLAN LOWER LOCK 26
- S05 ELEVATIONS LOWER LOCK 26
- S06 SECTIONS AND DETAILS
- S07 SECTIONS AND DETAILS
- S08 LOCK 26 & 27 PHOTOGRAPHIC DETAILS
- S09 LOCK 26 & 27 PHOTOGRAPHIC DETAILS
- S10 LOCK 26 & 27 PHOTOGRAPHIC DETAILS



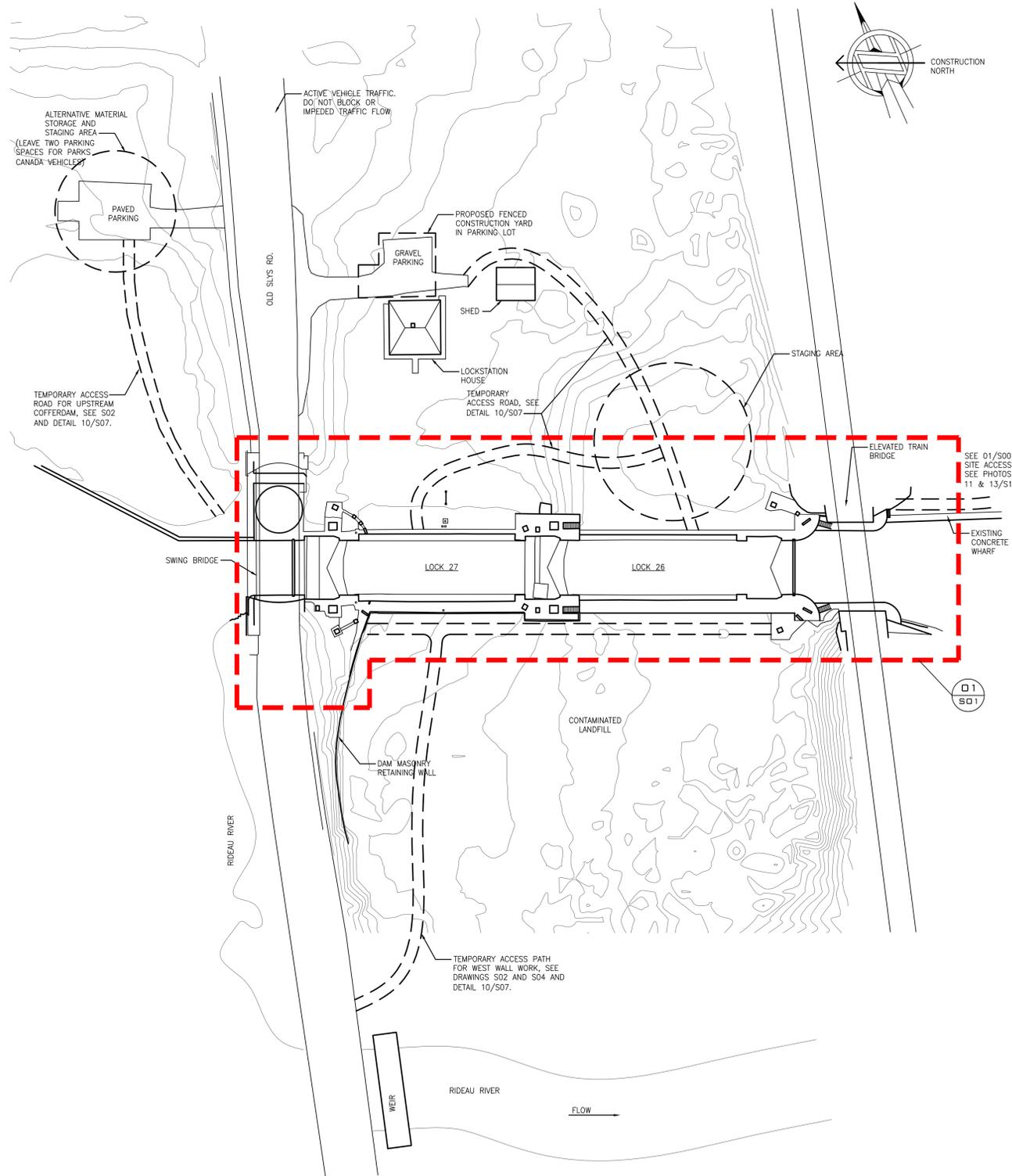
**MAIN CAR PARK**  
 SCALE: N.T.S.

03  
S00



**ALTERNATIVE CAR PARK**  
 SCALE: N.T.S.

04  
S00



**SITE STAGING AND ACCESS PLAN**  
 SCALE: 1:500

02  
S00

17019-S00		DRAWING 1 OF 11	
DRAWING NO.		DRAWING NAME	
REFERENCE DRAWINGS			
1	2017/08/01	ISSUED FOR BID	C.P.
NO.	DATE	DESCRIPTION	Drawn by / Approved Dessine par / Approuve
REVISIONS			
A	A	Detail number	A Numero de detail
B	B	Sheet number	B Sur feuille numero

Linear dimensions in millimeters / Dimensions lineaires en millimetres

LICENCED PROFESSIONAL ENGINEER  
 J.G. COOKE  
 AUG 1, 18  
 PROVINCE OF ONTARIO

LICENCED PROFESSIONAL ENGINEER  
 P. HOPPER CHRISTISON  
 100166240  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

PARCS CANADA  
 EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet  
**OLD SLYS LOCK 26 & 27  
 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin  
**SITE STAGING AND  
 ACCESS PLAN**

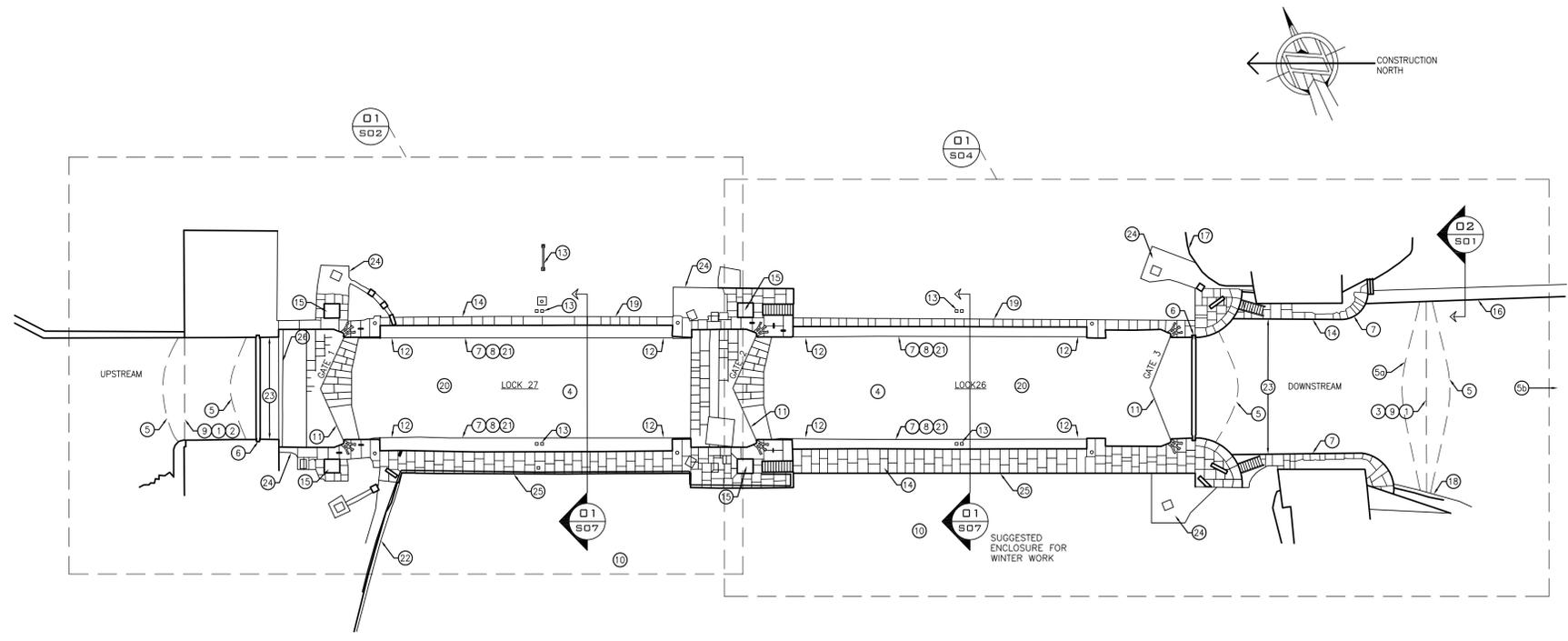
Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by / Dessine par C.P.	Date 2018/06/08
Field Recording by / Releve-Termin par P.C. & L.M. & C.P.	Date 2018/06/08
Approved by / Approuve par P.C.	Date 2018/08/01
Checked by / Verifiee par J.C.	Date 2018/08/01

Project No./ No. du projet 17019	Asset No.	Sheet No./ Feuille No. <b>S00</b>
Drawing Re No./No. du Dessin 17019-S00-R04		

**JOHN G. COOKE & ASSOCIATES LTD. CONSULTING ENGINEERS**  
 17 FITZGERALD ROAD SUITE 200 (613) 226-8718  
 OTTAWA, ONT. K2H 9G1 FAX (613) 226-7424  
 E-MAIL: mallbox@jgcooke.com www.jgcooke.com

17019



**GENERAL NOTES**

- CHECK ALL DIMENSIONS ON STRUCTURAL DRAWINGS. REPORT ANY INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THESE DRAWINGS.
- BEFORE SUBMITTING BID FOR THE WORK, THE CONTRACTOR SHALL VISIT AND EXAMINE THE SITE. AN ARRANGED SITE VISIT FOR JOB SHOWING IS PART OF THE BID PACKAGE. IF THE CONTRACTOR WISHES TO VISIT THE SITE, ARRANGEMENTS MUST BE MADE WITH PCA. MINIMUM 24 HOURS PRIOR TO VISITING THE SITE.
- ALL DIMENSIONS UNLESS OTHERWISE NOTED ARE IN MILLIMETERS.
- INDEPENDENT INSPECTION AND TESTING: THE DEPARTMENTAL REPRESENTATIVE WILL APPOINT AN INDEPENDENT INSPECTION AND TESTING AGENCY. THE COST OF INSPECTION SHALL BE PAID BY THE DEPARTMENTAL REPRESENTATIVE. WORK WILL BE INSPECTED AS REQUIRED BY THE DEPARTMENTAL REPRESENTATIVE TO DETERMINE CONFORMANCE TO THE DRAWINGS AND SPECIFICATIONS. COORDINATE AND FACILITATE SITE ACCESS FOR TESTING AGENCY.
- THESE DRAWINGS SHOW THE COMPLETED STRUCTURE. THE CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY FOR THE DESIGN, ERECTION, OPERATION, MAINTENANCE, AND REMOVAL OF TEMPORARY SUPPORTS, EXCAVATION SHORING, STRUCTURES, AND FACILITIES, AND THE DESIGN AND EXECUTION OF CONSTRUCTION METHODS REQUIRED IN THEIR USE.
- THE USE OF THESE DRAWINGS SHALL BE STRICTLY LIMITED TO THE INSTRUCTIONS IN THE REVISION BLOCK. BUILDING FROM THESE DRAWINGS SHALL PROCEED ONLY WHEN "ISSUED FOR CONSTRUCTION"
- THE SCOPE OF THE WORK DEPENDS ON THE SITE CONDITIONS. NOTIFY THE DEPARTMENTAL REPRESENTATIVE WHERE ON-SITE CONDITIONS MAY REQUIRE MODIFICATIONS TO THE CONTRACT DOCUMENTS.
- BEFORE ALL EXCAVATION, THE CONTRACTOR MUST VERIFY THE EXISTENCE OF PUBLIC UTILITY SERVICES AND THEIR ELEVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR DIVERTING OR RELOCATING OF CONDUITS, WATER, SEWER OR POWER LINES WHICH INTERFERE WITH THE EXECUTION OF THE WORKS AND OBTAINING THE AUTHORIZATION OF THE PROPER ORGANIZATION. PROVIDE MINIMUM 24 HR NOTICE TO PCA PRIOR TO EXCAVATION. PCA REPRESENTATIVE TO BE ON SITE FOR DURATION OF EXCAVATION. IF ARCHEOLOGICAL ARTIFACTS ARE FOUND, STOP WORK IMMEDIATELY AND NOTIFY PCA REPRESENTATIVE.
- DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ENVIRONMENTAL LOADING TO BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE 2015.

**LEGEND**

- EXTENT OF CONSTRUCTION
- MASONRY APPROACH WALLS
- BEDROCK
- PARCS CANADA OFFICE BUILDING
- CONCRETE SURFACE

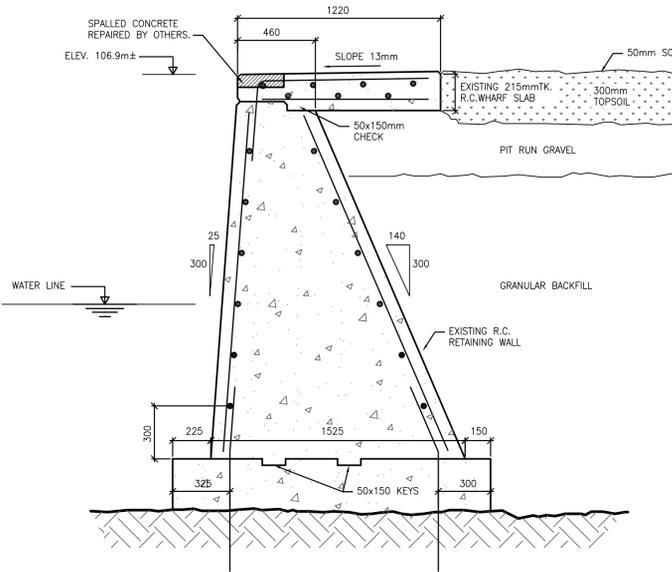
**SITE SPECIFIC NOTES**

- THE WORK ON THIS SITE IS TO BE COMPLETED OVER TWO PHASES;
  - 1.1. PHASE 1 - FALL/WINTER 2018/2019 (WORK REQUIRES COFFERDAMS AND WEST WALL EXCAVATION WORKS MUST BE COMPLETED IN PHASE 1. LOCK 26 WORK IS RECOMMENDED TO BE INCLUDED IN PHASE 1.)
  - 1.2. PHASE 2 - FALL/WINTER 2019/2020 (ALL OTHER WORK).
- FENCE ALL WORK AREAS AND STAGING ZONES, WITH 1.8m HIGH FENCE.
- ALL COFFERDAMS MUST BE OUT OF WATER AND ALL REQUIRED STOP LOGS MUST BE IN PLACE, BY MARCH 14TH 2019. NO IN-WATER WORK BEGINNING MARCH 15TH THROUGH JULY 15TH DUE TO DEPARTMENT OF FISHERIES RESTRICTIONS.
- EXISTING SITE WASHROOMS ARE NOT PERMITTED FOR CONTRACTOR USE.
- PRIOR TO DEWATERING, LOCK IS PERMITTED FOR CONTRACTOR USE WITHIN REGULAR OPERATION HOURS. PCA TO OPERATE LOCK ONLY. LOCKAGE FEES WILL BE WAIVED FOR MAX. 2 LOCKAGES PER DAY. THERE IS NO DEDICATED STAFF AVAILABLE AFTER THE END OF NAVIGATION SEASON. SOUTHERN ACCESS ROAD CONSTRUCTION MAY BEGIN OCT 1. ALL OTHER SITE WORK DOES NOT COMMENCE UNTIL AFTER OCTOBER 8TH, 2018 FOR PHASE 1, AND OCTOBER 14TH 2019 FOR PHASE 2. ALL LOCKAGES AFTER THIS DATE MUST BE COORDINATED WITH PCA. CONTRACTOR TO PROVIDE 24HR NOTICE TO PCA. PCA HOURS OF WORK 8:30AM TO 4:30PM.
- NO CAMPING ON SITE EXCEPTING RECREATIONAL BY INDIVIDUAL WORKERS AND THEIR FAMILIES UPON ARRIVAL. OVERNIGHT TRAILERS / SLEEPING QUARTERS FOR CONTRACTOR'S FORCES ARE PROHIBITED.
- NO TREE OR VEGETATION (SHRUB) CLEARING BETWEEN MAY 1ST AND AUGUST 1ST WITHOUT BIOLOGIST AND/OR PARCS CANADA DEPARTMENTAL REPRESENTATIVE FIRST CONSULTING MIGRATORY BIRD NESTING SURVEY TO CONFIRM WORK MAY PROCEED.
- CONTRACTOR NOT TO INTERFERE WITH BOATER TRAFFIC USE OF THE LOCK.
- WORK MUST BE COMPLETE AND SITE READY TO BE OPEN TO THE PUBLIC MAY 10TH 2019 FOR PHASE 1, AND MAY 8TH 2020 FOR PHASE 2.

**PLAN: SCOPE OF WORK** 01 SO1  
SCALE: 1:300

**SCOPE OF WORK (BOTH PHASES U/N)**

- PHASE 1 ONLY; INSTALL APPROVED COFFERDAM STRUCTURES UPSTREAM AND DOWNSTREAM BEYOND EXTENT OF STONE MASONRY AS REQUIRED, TO ALLOW WORK ON APPROACH WALLS TO PROCEED. COFFERDAM DESIGN AND INSTALLATION TO BE REVIEWED AND CERTIFIED BY AN ENGINEER RETAINED BY THE CONTRACTOR, WHO IS REGISTERED IN THE PROVINCE OF ONTARIO AND EXPERIENCED IN COFFERDAM DESIGN AND CONSTRUCTION. COFFERDAMS MUST BE LOCATED TO NOT IMPEDE MASONRY REPAIRS NO CLOSER THAN 600mm TO WALLS REQUIRING REPAIR. CONSTRUCT UPSTREAM COFFERDAM TO CREST AT 111.76m, AND DOWNSTREAM COFFERDAM TO CREST AT 106.71m. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL SITE CONDITIONS PRIOR TO DESIGN OF COFFERDAM.
- UPSTREAM COFFERDAM. CONSTRUCT BETWEEN CONCRETE BRIDGE ABUTMENTS. REFER TO BATHYMETRY SURVEY AND BOREHOLE LOG IN APPENDIX A. ASSUME REMOVAL OF 900mm OF RIVER BOTTOM SEDIMENT TO OBTAIN SEAL OF COFFERDAM.
- DOWNSTREAM COFFERDAM: THE LOCATION OF THE DOWNSTREAM COFFERDAM CAN BE AS SHOWN ON 1/SO1. WHERE IT TIES INTO THE EXISTING CONCRETE RETAINING WALL OF THE WHARF ON THE NORTH SIDE, AND THE STONE RETAINING WALL AND THE STONE ON THE SOUTH SIDE. THE CONTRACTOR IS RESPONSIBLE FOR INVESTIGATING AND SEALING THE EDGE CONDITION FOR LEAKS. REFER TO BATHYMETRY SURVEY AND BOREHOLE LOG IN APPENDIX A. ASSUME REMOVAL OF 600mm IF RIVER BOTTOM SEDIMENT TO OBTAIN SEAL OF COFFERDAM.
- CONSTRUCT WINTER PROTECTION ENCLOSURE AS REQUIRED TO COMPLETE THE WORK WITHIN THE REQUIREMENTS OF THE PROJECT, SEE 01/SO7.
- INSTALL UPSTREAM AND DOWNSTREAM TURBIDITY CURTAINS, PRIOR TO START OF WORK. INSTALL CURTAINS AT LEAST 1m BEYOND COFFERDAM. AFTER MARCH 14, RELOCATE 1 METRE BEYOND LOG GAINS.
- PHASE 1 ONLY; INSTALL SECOND TURBIDITY CURTAIN UPSTREAM OF PROPOSED DOWNSTREAM COFFERDAM TO CONFINE SILT DURING CONSTRUCTION OF DOWNSTREAM COFFERDAM, REMOVE AFTER COFFERDAM CONSTRUCTED.
- PHASE 1 ONLY; INSTALL THIRD TURBIDITY CURTAIN 20m DOWNSTREAM APPROX. FROM COFFERDAM, SO THAT WATER CONDITION CAN BE MONITORED CONTINUALLY. REMOVE AFTER DOWNSTREAM COFFERDAM IS REMOVED.
- INSTALL STOP LOGS IN STOP LOG GAIN TO COMPLETE THE WORK INSIDE THE LOCK, BETWEEN MARCH AND MAY DEADLINES FOR PHASE 1 WORK AND FOR FULL EXTENT OF PHASE 2 WORK. STOP LOGS TO BE INSTALLED PRIOR TO DISMANTLING COFFERDAMS. STOP LOGS TO BE PROVIDED TO THE CONTRACTOR, ON LOAN FROM PCA. CONTRACTOR IS RESPONSIBLE FOR ARRANGING DELIVERY OF STOP LOGS TO SITE, INSTALLING THEM, REMOVING THEM AND RETURNING THEM TO PCA. THE STOP LOGS MUST BE SEALED ON THE OUTSIDE FACE WITH A POLYSHEET OR OTHER MEANS TO PREVENT THE LOGS FROM LEAKING IF NOT SEALED. NOTE: STOP LOGS ARE MADE UP OF STEEL I-SECTIONS, STOP WOOD BEAMS AND STEEL PLATE.
- MASONRY REPAIRS ALONG LOCK MASONRY WALLS (ALL WALLS WITHIN OUTLINE SHOWN). SEE DRAWINGS S03 AND S05.
- GROUTING OF MASONRY WALLS, SEE 08/S06. ASSUME GROUTING IS REQUIRED ON 100% OF ALL WALLS, INCLUDING SLUICE TUNNELS AND VENT SHAFTS, AND ALL APPROACH WALLS.
- PHASE 1 ONLY; DISMANTLE COFFERDAM AFTER COMPLETION OF THE REPAIRS, BUT NO LATER THAN MARCH 14TH, 2019, WHICHEVER IS EARLIER.
- CONTAMINATED SOIL ON SOUTH SIDE OF LOCKS. FOR WORKING ON THIS SIDE OF LOCKS REFER TO SPECIFICATIONS FOR ENVIRONMENTAL REQUIREMENTS. LOCATE EXISTING GROUND WATER MONITORING WELLS AND PROTECT FOR DURATION OF WORK.
- LOCK GATES. NO WORK ON GATES IS INCLUDED IN SCOPE.
- EXISTING LADDER TO BE REMOVED AND DISPOSED OFF SITE. PROVIDE NEW STEEL LADDER, GALVANIZED AND PAINTED AS SPECIFIED. INSTALL AFTER MASONRY REPAIRS ARE COMPLETE. SEE DRAWINGS S03 AND S05.
- PARCS CANADA SIGNAGE AND MISCELLANEOUS FURNITURE AT THE EDGE OF THE LOCKS TO BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
- SKYWARD FACING JOINTS IN STONE/CONCRETE CAP INCLUDED IN SCOPE. REPOINT JOINTS AS PER 02/S06.
- SLUICE TUNNEL/SHAFT MASONRY TO BE REPAIRED. REFER TO DRAWINGS S02 TO S05.
- DOWNSTREAM CONCRETE WHARF, SEE 02/SO1. N.I.C.
- STONE REPOINTING AND REPAIRS ON STONE RETAINING WALL. SEE ELEVATION 07/S05.
- STONE WALL. N.I.C.
- CAREFULLY EXCAVATE TO DEPTH OF 900mm ADJACENT TO WALL ALL ALONG EAST SIDE OF LOCKS. REPOINT AS PER 08/S06 AND 12/S06.
- REMOVE ALL DEBRIS FROM FLOOR OF LOCK CHAMBER. ASSUME 40m<sup>3</sup> TOTAL MATERIAL TO BE REMOVED, SEE SECTION 01/S07. SEE PHOTO 10/S08.
- PRIOR TO MASONRY WORK, USE LOW-PRESSURE CLEANING TO CLEAN ALL WALLS IN AREA OF WORK TO REMOVE ALL ZEBRA MUSSELS, PLANT LIFE AND DIRT.
- CONCRETE AND RAILING REPAIR ON RETAINING WALL, SEE SECTION 08/S07.
- PHASE 1 ONLY; WORK ON SECTIONS OF APPROACH WALLS OUTSIDE GAINS, UPSTREAM OF GATE 1 ON LOCK 27 AND DOWNSTREAM OF GATE 3 ON LOCK 26 MUST BE COMPLETED, PRIOR TO REMOVAL OF COFFERDAMS. THIS INCLUDES LOCK FLOORS, SEE DRAWINGS S02 AND S04.
- CONCRETE/STONE APRONS UNDER LOCK HARDWARE. SEE DRAWINGS S02 AND S04 FOR LOCATION. SEE DETAIL 10/S06 AND 05/S07 FOR CONCRETE REPAIRS.
- CAREFULLY EXCAVATE CONTAMINATED MATERIAL BEHIND WEST WALL OF BOTH LOCKS AND DISPOSE OFF SITE. CONSOLIDATE MASONRY, BACKFILL AND RE-LANDSCAPE AS PER 09/S07.
- POWERLINES AT UPSTREAM END OF GATE 1, LOCK 27. SEE NOTE ⑥ ON DRAWING S03.



**SECTION OF EXISTING DOWNSTREAM WHARF** 02 SO1  
SCALE: 1:300

17019-S00	DRAWING 2 OF 11
-----------	-----------------

DRAWING NO.	DRAWING NAME
-------------	--------------

REFERENCE DRAWINGS			
1	2018/08/01	ISSUED FOR BID	C.P. P.C.

NO.	DATE	DESCRIPTION	Drawn by	Approved
			Dessine par	Approuve

**REVISIONS**

A	A Detail number	A Numero de detail
B	B Sheet number	B Sur feuille numero

Linear dimensions in millimeters	Dimensions lineaires en millimetres
----------------------------------	-------------------------------------

PROFESSIONAL ENGINEER  
 J.G. COOKE  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

PROFESSIONAL ENGINEER  
 P. HOPPER CHRISTISON  
 100166240  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

PARCS CANADA  
 EASTERN ONTARIO FIELD UNIT

Type of Record /  
 Type d'enregistrement

Project title / Titre du projet

**OLD SLYS LOCK 26 & 27  
 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin

**GENERAL ARRANGEMENT  
 KEY PLAN**

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par	Date
C.P.	2018/06/08

Field Recording by / Releve-Temoin par	Date
P.C. & L.M. & C.P.	2018/06/08

Approved by / Approuve par	Date
P.C.	2018/08/01

Checked by/ Verifie par	Date
J.C.	2018/08/01

Project No./ No. du projet	Asset No.	Sheet No./ Feuille No.
17019		S01

Drawing Re No./No. du Dessin  
 17019-S00-R04

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200  
 (613) 226-8718 E-MAIL: mailbox@jgcooke.com  
 OTTAWA, ONT. K2H 9G1  
 FAX (613) 226-7424  
 www.jgcooke.com

17019

17019-S02 DRAWING 3 OF 11

DRAWING NO. DRAWING NAME

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	Drawn by	Approved
1	2018/08/01	ISSUED FOR BID	C.P.	P.C.

REVISIONS

A	B	A Detail number	A Numero de detail
		B Sheet number	B Sur feuille numero

Linear dimensions in millimeters / Dimensions lineaires en millimetres

**PROFESSIONAL ENGINEER**  
 J.G. COOKE  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

**PROFESSIONAL ENGINEER**  
 P. HOPPER CHRISTISON  
 100166240  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

PARCS CANADA EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet

**OLD SLYS LOCKS 26 & 27 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin

**PLAN UPPER LOCK 27**

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par  
 C.P. Date 2018/06/08

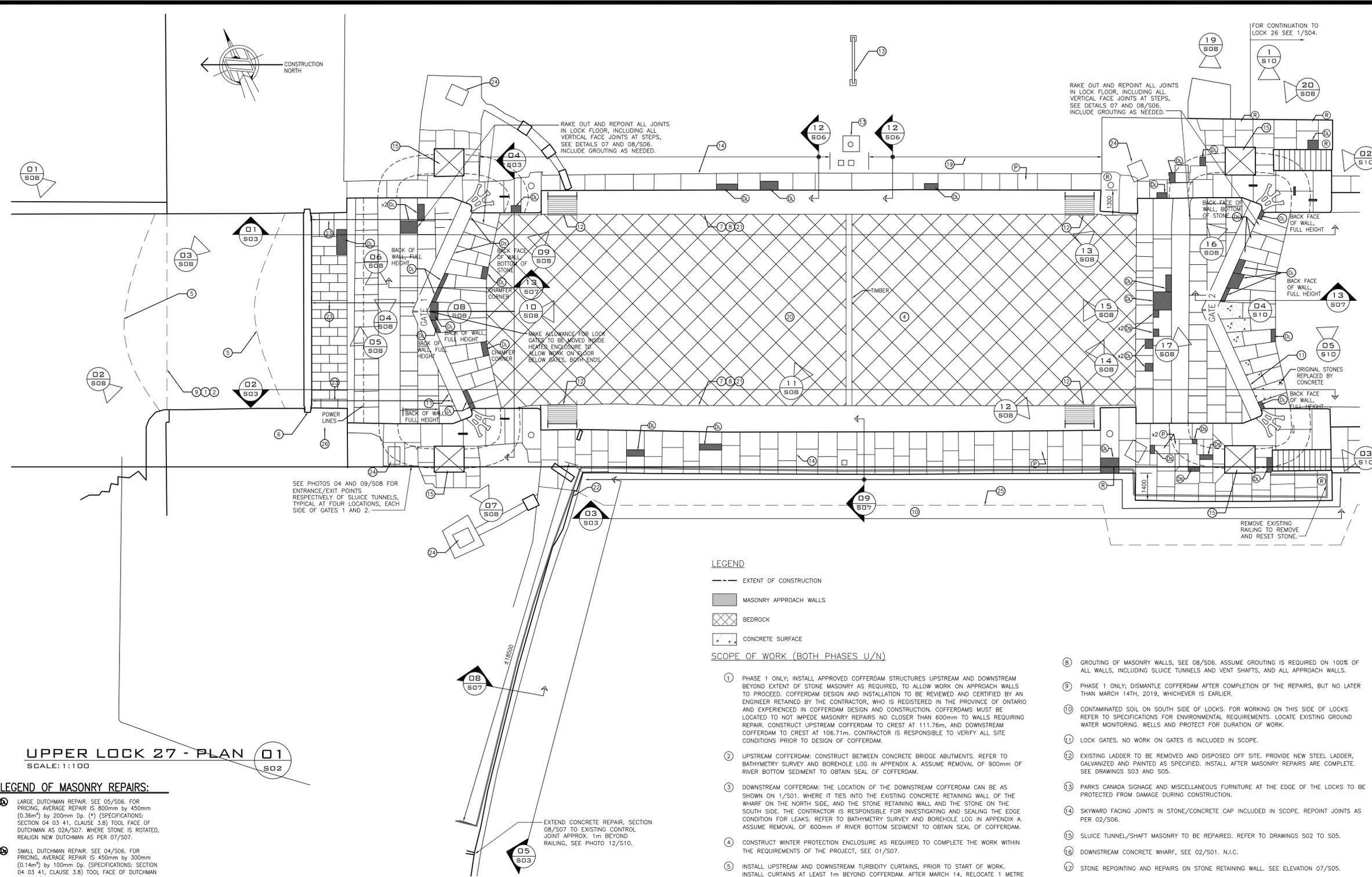
Field Recording by / Releve-Temoins par  
 P.C. & L.M. & C.P. Date 2018/06/08

Approved by / Approuve par  
 P.C. Date 2018/08/01

Checked by/ Verifie par  
 J.C. Date 2018/08/01

Project No./ No. du projet  
 17019 Asset No. Sheet No./ Feuille No.

Drawing Re No./No. du Dessin  
 17019-S02-R04 **S02**



**UPPER LOCK 27 - PLAN 01**  
 SCALE: 1:100

**LEGEND OF MASONRY REPAIRS:**

- (A) LARGE DUTCHMAN REPAIR. SEE 05/S06. FOR PRICING, AVERAGE REPAIR IS 800mm by 450mm (0.36m<sup>2</sup>) by 200mm Dp. (\*) (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02A/S07. WHERE STONE IS ROTATED, REALIGN NEW DUTCHMAN AS PER 07/S07.
- (B) SMALL DUTCHMAN REPAIR. SEE 04/S06. FOR PRICING, AVERAGE REPAIR IS 450mm by 300mm (0.14m<sup>2</sup>) by 100mm Dp. (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02B/S07.
- (C) FRACTURED STONE REPAIRED IN-SITU. SEE 01/S06 (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.7)
- (D) STEEL PIN INSERT REMOVAL. REMOVE EXISTING PIN REPAIR WITH STONE PLUGS.
- (E) REMOVE EXISTING CONCRETE PATCH AND INSTALL STONE DUTCHMAN REPAIR. APPROXIMATE SIZE 800x450mm AS FOR (B) CURVE FACE OF DUTCHMAN TO MATCH EXISTING. SEE DETAIL 11/S07.
- (F) NEW LARGE STONE. SEE 09/S06 SIMILAR. FOR RESET. SEE ALSO (B) FOR SIZE. TOOL FACE OF STONE AS 02A/S07. NEW STONE IS LIMESTONE ONLY.
- (G) REMOVE AND RESET LARGE STONE. SEE 09/S06. ASSUME AVERAGE STONE SIZE OF 450x800x500dp/UNIT (0.36m<sup>2</sup>)
- (H) EDGE DUTCHMAN REPAIRS. APPLY TO STONE ARRIS OF EXISTING STONE. TO REDUCE WIDTH OF MORTAR JOINT TO 35mm. SEE DETAIL 03/S07. AVERAGE SIZE 1500x100x125dp.
- (\*) LARGE DUTCHMAN, REPAIRS FOR FLOOR STONES 915x1020x150dp. IS ASSUMED SIZE FOR PRICING.

**ADDITIONAL REPAIRS ON TOP OF LOCK WALLS AND ON FLOOR OF LOCKS FOR PRICING:**

- FOR PRICING, ALLOW THE FOLLOWING ADDITIONAL QUANTITIES BEYOND THOSE SHOWN ON PLAN ON DRAWING S02:
- ALLOW FOR ADDITIONAL 2m<sup>2</sup> OF STONE REMOVE AND RESET LARGE
  - ALLOW FOR ADDITIONAL 4m<sup>2</sup> OF LARGE DUTCHMAN REPAIR
  - ALLOW FOR ADDITIONAL 2m<sup>2</sup> OF EDGE DUTCHMAN REPAIR
  - ALLOW FOR 4m<sup>2</sup> SURFACE CONCRETE REPAIRS AS 10/S06
  - ALLOW FOR 2m<sup>2</sup> DEEP SURFACE CONCRETE REPAIRS AS 05/S07
  - ALLOW FOR 5 STEEL PIN INSERT REMOVALS

**SCOPE OF WORK (IN 4 SHAFTS/TUNNELS)**

- REMOVE EXISTING STEEL FRAMING INSIDE SHAFTS.
- ERECT SCAFFOLD TO FACILITATE REMOVAL OF EXISTING DAMAGED STONE AND INSTALLATION OF NEW STONE AT VARIOUS ELEVATIONS.
- ALLOW FOR FOLLOWING REPAIRS IN EACH SHAFT/TUNNEL
  - (S) ~ 1.0m<sup>2</sup>
  - (D) ~ 2m<sup>2</sup>
  - (E) ~ 1m<sup>2</sup>
  - (F) ~ 1m<sup>2</sup> LARGE
- SEE CONSERVATION NOTES ON DRAWING S03

**LEGEND**

- EXTENT OF CONSTRUCTION
- █ MASONRY APPROACH WALLS
- ▨ BEDROCK
- ▭ CONCRETE SURFACE

**SCOPE OF WORK (BOTH PHASES U/N)**

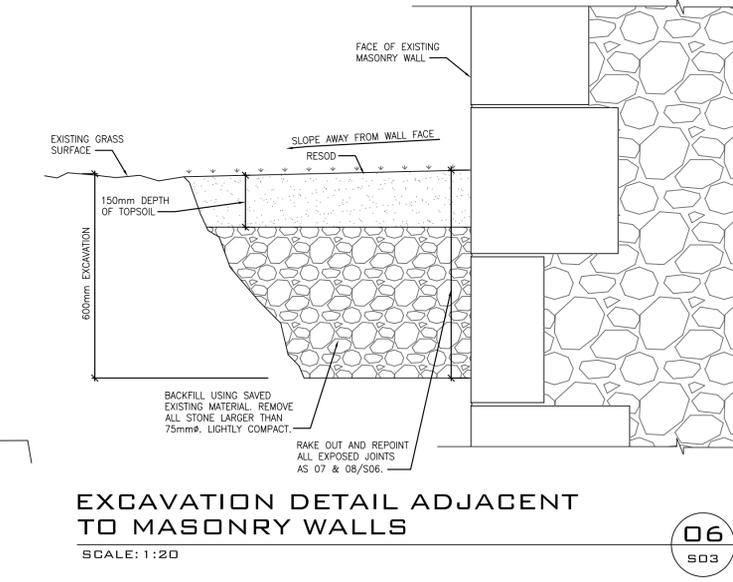
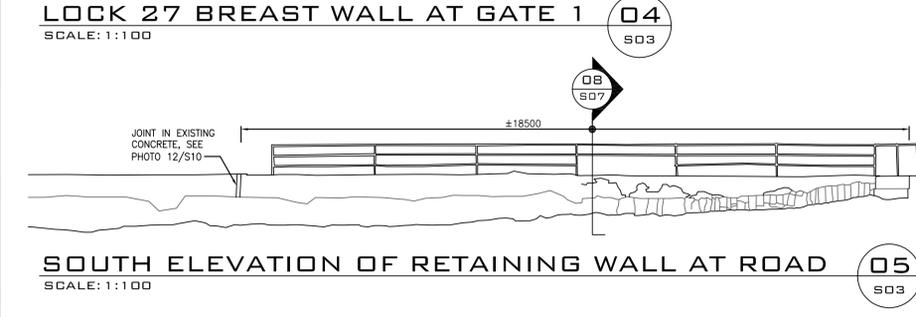
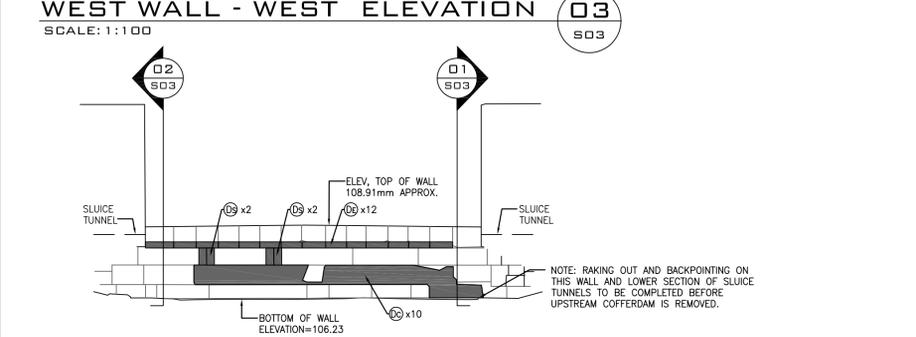
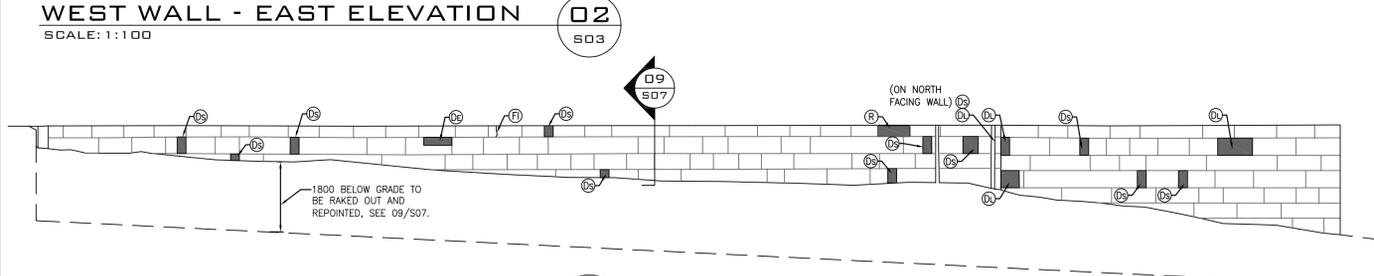
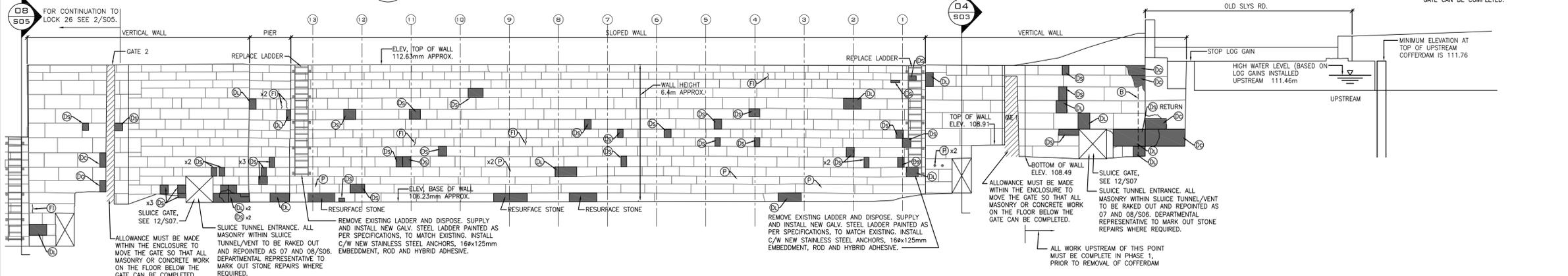
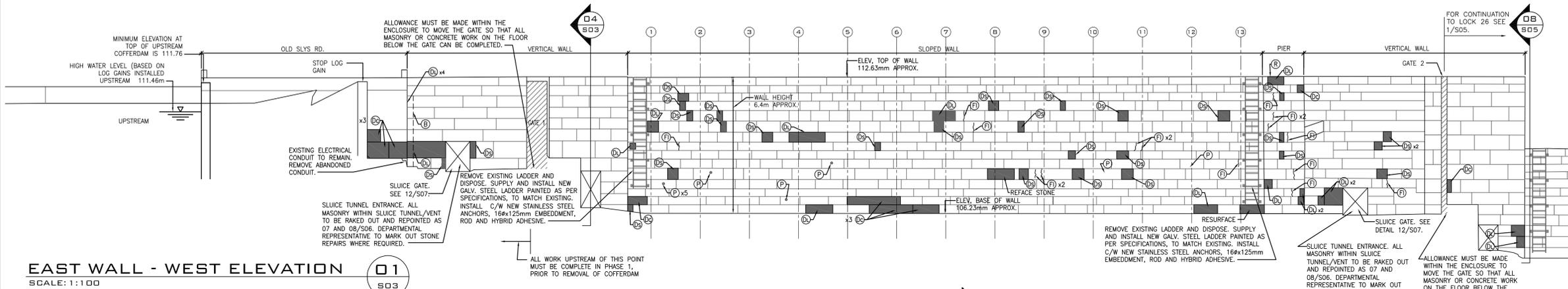
- PHASE 1 ONLY. INSTALL APPROVED COFFERDAM STRUCTURES UPSTREAM AND DOWNSTREAM BEYOND EXTENT OF STONE MASONRY AS REQUIRED, TO ALLOW WORK ON APPROACH WALLS TO PROCEED. COFFERDAM DESIGN AND INSTALLATION TO BE REVIEWED AND CERTIFIED BY AN ENGINEER RETAINED BY THE CONTRACTOR, WHO IS REGISTERED IN THE PROVINCE OF ONTARIO AND EXPERIENCED IN COFFERDAM DESIGN AND CONSTRUCTION. COFFERDAMS MUST BE LOCATED TO NOT IMPEDE MASONRY REPAIRS NO CLOSER THAN 600mm TO WALLS REQUIRING REPAIR. CONSTRUCT UPSTREAM COFFERDAM TO CREST AT 111.76m, AND DOWNSTREAM COFFERDAM TO CREST AT 106.71m. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL SITE CONDITIONS PRIOR TO DESIGN OF COFFERDAM.
- UPSTREAM COFFERDAM: CONSTRUCT BETWEEN CONCRETE BRIDGE ABUTMENTS. REFER TO BATHYMETRY SURVEY AND BOREHOLE LOG IN APPENDIX A. ASSUME REMOVAL OF 900mm OF RIVER BOTTOM SEDIMENT TO OBTAIN SEAL OF COFFERDAM.
- DOWNSTREAM COFFERDAM: THE LOCATION OF THE DOWNSTREAM COFFERDAM CAN BE AS SHOWN ON 1/S01. WHERE IT TIES INTO THE EXISTING CONCRETE RETAINING WALL OF THE WHARF ON THE NORTH SIDE, AND THE STONE RETAINING WALL AND THE STONE ON THE SOUTH SIDE, THE CONTRACTOR IS RESPONSIBLE FOR INVESTIGATING AND SEALING THE EDGE CONDITION FOR LEAKS. REFER TO BATHYMETRY SURVEY AND BOREHOLE LOG IN APPENDIX A. ASSUME REMOVAL OF 600mm IF RIVER BOTTOM SEDIMENT TO OBTAIN SEAL OF COFFERDAM.
- CONSTRUCT WINTER PROTECTION ENCLOSURE AS REQUIRED TO COMPLETE THE WORK WITHIN THE REQUIREMENTS OF THE PROJECT, SEE 01/S07.
- INSTALL UPSTREAM AND DOWNSTREAM TURBIDITY CURTAINS, PRIOR TO START OF WORK. INSTALL CURTAINS AT LEAST 1m BEYOND COFFERDAM. AFTER MARCH 14, RELOCATE 1 METRE BEYOND LOG GAINS.
- PHASE 1 ONLY. INSTALL SECOND TURBIDITY CURTAIN UPSTREAM OF PROPOSED DOWNSTREAM COFFERDAM TO CONFINE SILT DURING CONSTRUCTION OF DOWNSTREAM COFFERDAM. REMOVE AFTER COFFERDAM CONSTRUCTION.
- PHASE 1 ONLY. INSTALL THIRD TURBIDITY CURTAIN 20m DOWNSTREAM APPROX. FROM COFFERDAM, SO THAT WATER CONDITION CAN BE MONITORED CONTINUALLY. REMOVE AFTER DOWNSTREAM COFFERDAM IS REMOVED.
- INSTALL STOP LOGS IN STOP LOG GAIN TO COMPLETE THE WORK INSIDE THE LOCK, BETWEEN MARCH AND MAY DEADLINES FOR PHASE 1 WORK AND FOR FULL EXTENT OF PHASE 2 WORK. STOP LOGS TO BE INSTALLED PRIOR TO DISMANTLING COFFERDAMS. STOP LOGS TO BE PROVIDED TO THE CONTRACTOR, ON LOAN FROM PCA. CONTRACTOR IS RESPONSIBLE FOR ARRANGING DELIVERY OF STOP LOGS TO SITE, INSTALLING THEM, REMOVING THEM AND RETURNING THEM TO PCA. THE STOP LOGS MUST BE SEALED ON THE OUTSIDE FACE WITH A POLYSHEET OR OTHER MEANS TO PREVENT THE LOGS FROM LEAKING IF NOT SEALED. NOTE: STOP LOGS ARE MADE UP OF STEEL I-SECTIONS, STOP WOOD BEAMS AND STEEL PLATE.
- MASONRY REPAIRS ALONG LOCK MASONRY WALLS (ALL WALLS WITHIN OUTLINE SHOWN). SEE DRAWINGS S03 AND S05.

- GROUTING OF MASONRY WALLS. SEE 08/S06. ASSUME GROUTING IS REQUIRED ON 100% OF ALL WALLS, INCLUDING SLUICE TUNNELS AND VENT SHAFTS, AND ALL APPROACH WALLS.
- PHASE 1 ONLY; DISMANTLE COFFERDAM AFTER COMPLETION OF THE REPAIRS, BUT NO LATER THAN MARCH 14TH, 2019, WHICHEVER IS EARLIER.
- CONTAMINATED SOIL ON SOUTH SIDE OF LOCKS. FOR WORKING ON THIS SIDE OF LOCKS REFER TO SPECIFICATIONS FOR ENVIRONMENTAL REQUIREMENTS. LOCATE EXISTING GROUND WATER MONITORING WELLS AND PROTECT FOR DURATION OF WORK.
- LOCK GATES. NO WORK ON GATES IS INCLUDED IN SCOPE.
- EXISTING LADDER TO BE REMOVED AND DISPOSED OFF SITE. PROVIDE NEW STEEL LADDER, GALVANIZED AND PAINTED AS SPECIFIED. INSTALL AFTER MASONRY REPAIRS ARE COMPLETE. SEE DRAWINGS S03 AND S05.
- PARCS CANADA SIGNAGE AND MISCELLANEOUS FURNITURE AT THE EDGE OF THE LOCKS TO BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
- SKYWARD FACING JOINTS IN STONE/CONCRETE CAP INCLUDED IN SCOPE. REPOINT JOINTS AS PER 02/S06.
- SLUICE TUNNEL/SHAFT MASONRY TO BE REPAIRED. REFER TO DRAWINGS S02 TO S05.
- DOWNSTREAM CONCRETE WHARF, SEE 02/S01. N.I.C.
- STONE REPOINTING AND REPAIRS ON STONE RETAINING WALL. SEE ELEVATION 07/S05.
- STONE WALL. N.I.C.
- CAREFULLY EXCAVATE TO DEPTH OF 900mm ADJACENT TO WALL ALL ALONG EAST SIDE OF LOCKS. REPOINT AS PER 08/S06 AND 12/S06.
- REMOVE ALL DEBRIS FROM FLOOR OF LOCK CHAMBER. ASSUME 40m<sup>3</sup> TOTAL MATERIAL TO BE REMOVED. SEE SECTION 01/S07. SEE PHOTO 10/S08.
- PRIOR TO MASONRY WORK, USE LOW-PRESSURE CLEANING TO CLEAN ALL WALLS IN AREA OF WORK TO REMOVE ALL ZEBRA MUSSELS, PLANT LIFE AND DIRT.
- CONCRETE AND RAILING REPAIR ON RETAINING WALL. SEE SECTION 08/S07.
- PHASE 1 ONLY; WORK ON SECTIONS OF APPROACH WALLS UPSTREAM OF GATE 1 ON LOCK 27, AND DOWNSTREAM OF GATE 3 ON LOCK 26 MUST BE COMPLETED, PRIOR TO REMOVAL OF COFFERDAMS. THIS INCLUDES LOCK FLOORS, SEE DRAWINGS S02 AND S04.
- CONCRETE/STONE APRONS UNDER LOCK HARDWARE. SEE DRAWINGS S02 AND S04 FOR LOCATION. SEE DETAIL 10/S06 AND 05/S07 FOR CONCRETE REPAIRS.
- CAREFULLY EXCAVATE CONTAMINATED MATERIAL BEHIND WEST WALL OF BOTH LOCKS AND DISPOSE OFF SITE. CONSOLIDATE MASONRY, BACKFILL AND RE-LANDSCAPE AS PER 09/S07.
- POWERLINES AT UPSTREAM END OF GATE 1, LOCK 27. SEE NOTE (E) ON DRAWING S03.

Canada

**JOHN G. COOKE & ASSOCIATES LTD.**  
**CONSULTING ENGINEERS**  
 17 FITZGERALD ROAD SUITE 200  
 OTTAWA, ONT. K2H 901  
 (613) 226-8718 FAX (613) 226-7424  
 E-MAIL: mailbox@jgcooke.com  
 WEB SITE: www.jgcooke.com

17019



**MASONRY REPAIR PROCEDURE:**

- 1 RAKE OUT ALL JOINTS AND BACKPOINT IN AREAS OF WALL WITH NO DAMAGE
- 2 NOTIFY DEPARTMENTAL REPRESENTATIVE TO INSPECT, MARK AND RECORD ALL REPAIRS ON WALL.
- 3 IN AREAS OF DAMAGE DO FURTHER REMOVALS, CONSOLIDATION OF CORE AND BACKPOINT.
- 4 DO DUTCHMAN REPAIRS/INSTALL NEW STONE IF APPLICABLE
- 5 GROUT
- 6 DO FINISHPOINTING

**CONSERVATION NOTES**

- 1 100% RAKE OUT AND REPOINTING OF ALL MASONRY WALLS INCLUDE THE CONTRACT, UNLESS INDICATED OTHERWISE ON THE ELEVATIONS. RAKING OUT AND REPOINTING IS AS PER 07 AND 08/S06
- 2 FOR STONE REPLACEMENT, ASSUMED STONE DEPTH IS SHOWN ON 08 AND 07/S06. ALL STONE SIZE TO BE MEASURED PRIOR TO ORDERING REPLACEMENT STONES, TO MATCH EXISTING.
- 3 EXISTING STEEL LADDERS CANNOT BE USED FOR CONSTRUCTION ACCESS.
- 4 FALL ARREST OR GUARDRAILS ARE REQUIRED ALONG THE LOCK WALLS. ANY TEMPORARY GUARDRAIL ANCHORS ARE TO BE INSTALLED IN THE MORTAR JOINTS AND MUST NOT DAMAGE THE STONE.
- 5 FOR ROUNDED JOINTS, WHERE STONE ARRIS IS WEATHERED, FINISH PART JOINTS AS PER 11/S06.
- 6 DUTCHMAN REPAIRS: WHERE A SINGLE DUTCHMAN REPAIR EXCEEDS ONE THIRD OF THE STONE HEIGHT, OR ONE HALF OF THE STONE WIDTH, REPLACE WITH FULL FACE DUTCHMAN REPAIR. WHERE THERE WILL BE TWO OR MORE DUTCHMAN ON ONE STONE FACE, REVIEW WITH DEPARTMENTAL REP. PRIOR TO PROCEEDING WITH DUTCHMAN REPAIRS.
- 7 WHERE STONE CORNERS ARE ROUNDED, SEE DETAIL 06/S07 TO DETERMINE WHETHER TO REPOINT JOINT OR DO SMALL DUTCHMAN AS 04/S06.
- 8 DUTCHMAN REPAIRS (DETAILS 04&05/S06 AND 03/S07): WHERE BASE STONE IS LIMESTONE, PROVIDE LIMESTONE DUTCHMAN. WHERE BASE STONE IS SANDSTONE, PROVIDE SANDSTONE DUTCHMAN.
- 9 VERIFY ALL MOORING LINE ANCHORS ARE TIGHT. WHERE ABANDONED, REPAIR AS (P). WHERE DEFECTIVE, PROVIDE NEW STAINLESS STEEL ANCHORS SIMILAR TO EXISTING. FOR PRICING, ASSUME 12 ANCHOR REPLACEMENTS.

**GENERAL NOTES**

- A WHERE STOP LOGS ARE INSTALLED IN GAINS, PRIOR TO REMOVAL OF COFFERDAMS, SEAL FACE OF LOGS USING POLY-SHEET OR SEALANT ON WATER SIDE OF LOGS. PROVIDE COUNTER WEIGHT TO HOLD SHEET IN PLACE, AND REMOVE AS LONG GAINS ARE REMOVED.
- B LIVE POWERLINE: LINE IS EMBEDDED IN STONE MASONRY AND RUNS ALONG THE FLOOR OF THE LOCK. DEVELOP LOCKOUT PROCEDURE AND COORDINATE WITH PCA. ALLOW FOR RELOCATION AND PROTECTION OF LINES WHILE MASONRY WORK IS BEING COMPLETED. REINSTALL IN EXISTING LOCATION ON COMPLETION OF WORK.

**LEGEND OF MASONRY REPAIRS:**

- A LARGE DUTCHMAN REPAIR. SEE 05/S06. FOR PRICING, AVERAGE REPAIR IS 450mm by 800mm (0.36m<sup>2</sup>) by 200mm Dp. (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02A/S07. WHERE STONE IS ROTATED, REALIGN NEW DUTCHMAN AS PER 07/S07.
- B SMALL DUTCHMAN REPAIR. SEE 04/S06. FOR PRICING, AVERAGE REPAIR IS 450mm by 300mm (0.14m<sup>2</sup>) by 100mm Dp. (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02B/S07.
- C FRACTURED STONE REPAIRED IN-SITU. SEE 01/S06 (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.7)
- D STEEL PIN INSERT REMOVAL. REMOVE EXISTING PIN. REPAIR WITH STONE PLUGS.
- E REMOVE EXISTING CONCRETE PATCH AND INSTALL STONE DUTCHMAN REPAIR. APPROXIMATE SIZE 450x800mm AS FOR (A) CARVE FACE OF DUTCHMAN TO MATCH EXISTING. SEE DETAIL 11/S07.
- F NEW STONE. SEE 09/S06 SIMILAR. FOR RESET, SEE ALSO (G) FOR SIZE. TOOL FACE OF STONE AS 02A/S07. NEW STONE IS LIMESTONE ONLY.
- G REMOVE AND RESET LARGE STONE. SEE 09/S06. ASSUME AVERAGE STONE SIZE OF 450x800x500dp./UNIT (0.36m<sup>3</sup>)
- H EDGE DUTCHMAN REPAIRS. APPLY TO STONE ARRIS OF EXISTING STONE. TO REDUCE WIDTH OF MORTAR JOINT TO 35mm, SEE DETAIL 03/S07.
- I SMALL NEW STONE. AVERAGE SIZE: 200x300x300dp. SEE 09/S06 SIMILAR.
- J RESET STONE. AVERAGE SIZE: 200x300x300dp. SEE 09/S06.

**ADDITIONAL REPAIRS FOR PRICING:**

- 1 ALLOW FOR ADDITIONAL 1m<sup>2</sup> OF LARGE STONE REMOVE AND RESET TO DETERMINE WHETHER TO REPOINT JOINT OR DO SMALL DUTCHMAN AS 04/S06.
- 2 ALLOW FOR ADDITIONAL 1.5m<sup>2</sup> OF NEW LARGE STONE
- 3 ALLOW FOR ADDITIONAL 7m<sup>2</sup> OF LARGE DUTCHMAN REPAIR
- 4 ALLOW FOR ADDITIONAL 5m<sup>2</sup> OF SMALL DUTCHMAN REPAIR
- 5 ALLOW FOR ADDITIONAL 4m<sup>2</sup> OF EDGE DUTCHMAN REPAIR
- 6 ALLOW FOR ADDITIONAL 10 IN-SITU FRACTURE REPAIR
- 7 ALLOW FOR 1.0m<sup>2</sup> SURFACE CONCRETE REPAIRS AS 10/S06
- 8 ALLOW FOR 10 STEEL PIN INSERT REMOVALS

17019-S03	DRAWING 4 OF 11
-----------	-----------------

DRAWING NO.	DRAWING NAME
-------------	--------------

**REFERENCE DRAWINGS**

1	2018/08/01	ISSUED FOR BID	C.P.	P.C.
---	------------	----------------	------	------

NO.	DATE	DESCRIPTION	Drawn by	Approved
-----	------	-------------	----------	----------

**REVISIONS**

A	A Detail number	A Numero de detail
B	B Sheet number	B Sur feuille numero

Linear dimensions in millimeters / Dimensions lineaires en millimetres

PARCS CANADA  
 EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet

**OLD SLYS LOCKS 26 & 27  
 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin

**ELEVATIONS  
 UPPER LOCK 27**

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by / Dessine par  
 C.P. Date 2018/06/08

Field Recording by / Releve-Temoin par  
 N.J. & J.M. Date 2018/06/08

Approved by / Approuve par  
 P.C. Date 2018/08/01

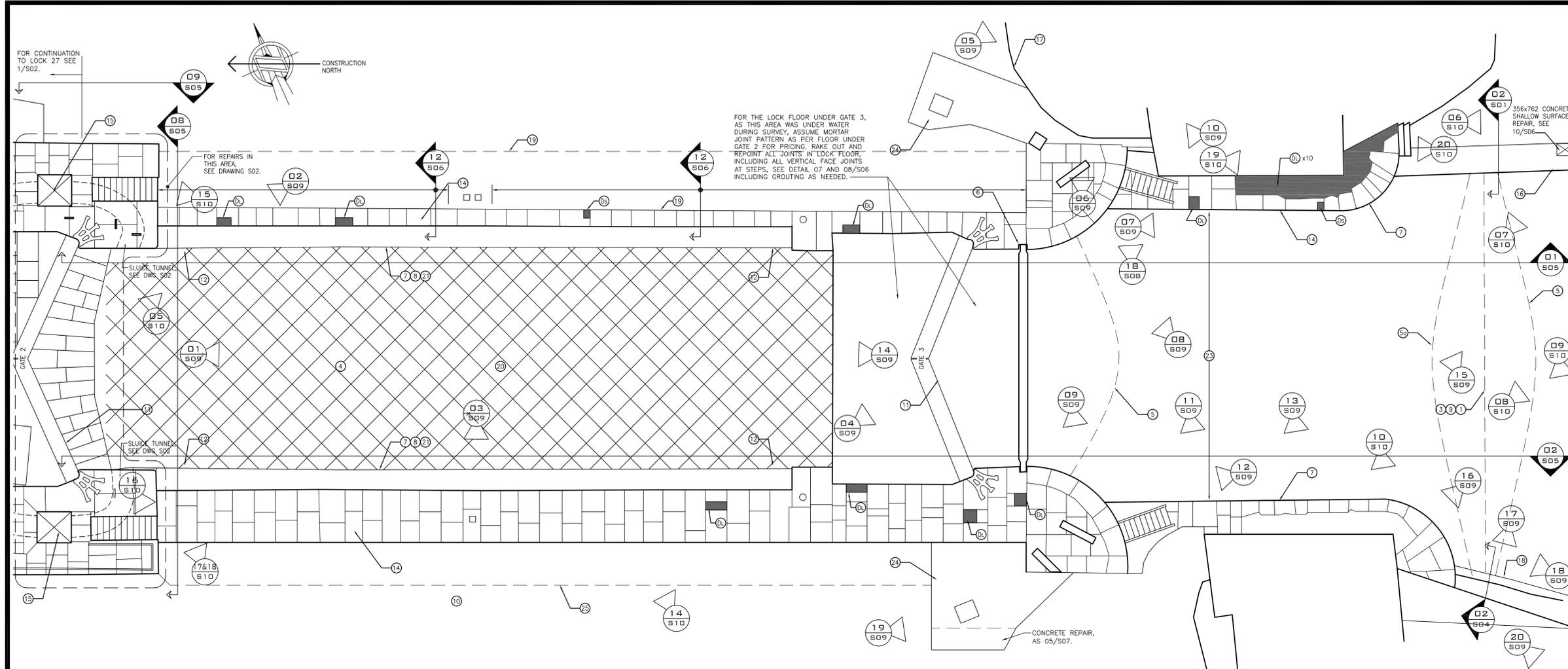
Checked by / Verifie par  
 J.C. Date 2018/08/01

Project No./ No. du projet  
 17019  
 Asset No.  
 Drawing Re No./No. du Dessin  
 17019-S03-R04

Sheet No./ Feuille No.  
**S03**

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200  
 OTTAWA, ONT. K2H 9G1  
 (613) 226-8718 FAX (613) 226-7424  
 E-MAIL: mailbox@jgcooke.com  
 WEB SITE: www.jgcooke.com

17019



**LOWER LOCK 26 - PLAN** 01 S04  
 SCALE: 1:100

**SCOPE OF WORK (BOTH PHASES U/N)**

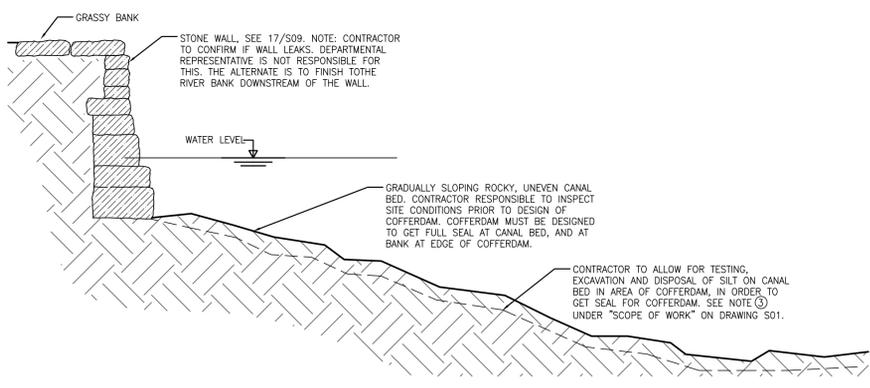
- ① PHASE 1 ONLY; INSTALL APPROVED COFFERDAM STRUCTURES UPSTREAM AND DOWNSTREAM BEYOND EXTENT OF STONE MASONRY AS REQUIRED, TO ALLOW WORK ON APPROACH WALLS TO PROCEED. COFFERDAM DESIGN AND INSTALLATION TO BE REVIEWED AND CERTIFIED BY AN ENGINEER RETAINED BY THE CONTRACTOR, WHO IS REGISTERED IN THE PROVINCE OF ONTARIO AND EXPERIENCED IN COFFERDAM DESIGN AND CONSTRUCTION. COFFERDAMS MUST BE LOCATED TO NOT IMPED MASONRY REPAIRS NO CLOSER THAN 600mm TO WALLS REQUIRING REPAIR. CONSTRUCT UPSTREAM COFFERDAM TO CREST AT 111.76m, AND DOWNSTREAM COFFERDAM TO CREST AT 106.71m. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL SITE CONDITIONS PRIOR TO DESIGN OF COFFERDAM.
- ② UPSTREAM COFFERDAM: CONSTRUCT BETWEEN CONCRETE BRIDGE ABUTMENTS. REFER TO BATHYMETRY SURVEY AND BOREHOLE LOG IN APPENDIX A. ASSUME REMOVAL OF 900mm OF RIVER BOTTOM SEDIMENT TO OBTAIN SEAL OF COFFERDAM.
- ③ DOWNSTREAM COFFERDAM: THE LOCATION OF THE DOWNSTREAM COFFERDAM CAN BE AS SHOWN ON 1/S01. WHERE IT TIES INTO THE EXISTING CONCRETE RETAINING WALL OF THE WHARF ON THE NORTH SIDE, AND THE STONE RETAINING WALL AND THE STONE ON THE SOUTH SIDE. THE CONTRACTOR IS RESPONSIBLE FOR INVESTIGATING AND SEALING THE EDGE CONDITION FOR LEAKS. REFER TO BATHYMETRY SURVEY AND BOREHOLE LOG IN APPENDIX A. ASSUME REMOVAL OF 600mm IF RIVER BOTTOM SEDIMENT TO OBTAIN SEAL OF COFFERDAM.
- ④ CONSTRUCT WINTER PROTECTION ENCLOSURE AS REQUIRED TO COMPLETE THE WORK WITHIN THE REQUIREMENTS OF THE PROJECT, SEE 01/S07.
- ⑤ INSTALL UPSTREAM AND DOWNSTREAM TURBIDITY CURTAINS, PRIOR TO START OF WORK. INSTALL CURTAINS AT LEAST 1m BEYOND COFFERDAM. AFTER MARCH 14, RELOCATE 1 METRE BEYOND LOG GAINS.
- ⑤a PHASE 1 ONLY; INSTALL SECOND TURBIDITY CURTAIN UPSTREAM OF PROPOSED DOWNSTREAM COFFERDAM TO CONFINE SILT DURING CONSTRUCTION OF DOWNSTREAM COFFERDAM, REMOVE AFTER COFFERDAM CONSTRUCTED.
- ⑤b PHASE 1 ONLY; INSTALL THIRD TURBIDITY CURTAIN 20m DOWNSTREAM APPROX. FROM COFFERDAM, SO THAT WATER CONDITION CAN BE MONITORED CONTINUALLY. REMOVE AFTER DOWNSTREAM COFFERDAM IS REMOVED.
- ⑥ INSTALL STOP LOGS IN STOP LOG GAIN TO COMPLETE THE WORK INSIDE THE LOCK, BETWEEN MARCH AND MAY DEADLINES FOR PHASE 1 WORK AND FOR FULL EXTENT OF PHASE 2 WORK. STOP LOGS TO BE INSTALLED PRIOR TO DISMANTLING COFFERDAMS. STOP LOGS TO BE PROVIDED TO THE CONTRACTOR, ON LOAN FROM PCA. CONTRACTOR IS RESPONSIBLE FOR ARRANGING DELIVERY OF STOP LOGS TO SITE, INSTALLING THEM, REMOVING THEM AND RETURNING THEM TO PCA. THE STOP LOGS MUST BE SEALED ON THE OUTSIDE FACE WITH A POLYSHEET OR OTHER MEANS TO PREVENT THE LOGS FROM LEAKING IF NOT SEALED. NOTE: STOP LOGS ARE MADE UP OF STEEL I-SECTIONS, STOP WOOD BEAMS AND STEEL PLATE.
- ⑦ MASONRY REPAIRS ALONG LOCK MASONRY WALLS (ALL WALLS WITHIN OUTLINE SHOWN). SEE DRAWINGS S03 AND S05.
- ⑧ GROUTING OF MASONRY WALLS, SEE 08/S06. ASSUME GROUTING IS REQUIRED ON 100% OF ALL WALLS, INCLUDING SLUICE TUNNELS AND VENT SHAFTS, AND ALL APPROACH WALLS.
- ⑨ PHASE 1 ONLY; DISMANTLE COFFERDAM AFTER COMPLETION OF THE REPAIRS, BUT NO LATER THAN MARCH 14TH, 2019, WHICHEVER IS EARLIER.
- ⑩ CONTAMINATED SOIL ON SOUTH SIDE OF LOCKS. FOR WORKING ON THIS SIDE OF LOCKS REFER TO SPECIFICATIONS FOR ENVIRONMENTAL REQUIREMENTS. LOCATE EXISTING GROUND WATER MONITORING WELLS AND PROTECT FOR DURATION OF WORK.
- ⑪ LOCK GATES. NO WORK ON GATES IS INCLUDED IN SCOPE.
- ⑫ EXISTING LADDER TO BE REMOVED AND DISPOSED OFF SITE. PROVIDE NEW STEEL LADDER, GALVANIZED AND PAINTED AS SPECIFIED. INSTALL AFTER MASONRY REPAIRS ARE COMPLETE. SEE DRAWINGS S03 AND S05.
- ⑬ PARKS CANADA SIGNAGE AND MISCELLANEOUS FURNITURE AT THE EDGE OF THE LOCKS TO BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
- ⑭ SKYWARD FACING JOINTS IN STONE/CONCRETE CAP INCLUDED IN SCOPE. REPOINT JOINTS AS PER 02/S06.
- ⑮ SLUICE TUNNEL/SHAFT MASONRY TO BE REPAIRED. REFER TO DRAWINGS S02 TO S05.
- ⑯ DOWNSTREAM CONCRETE WHARF, SEE 02/S01. N.I.C.
- ⑰ STONE REPOINTING AND REPAIRS ON STONE RETAINING WALL. SEE ELEVATION 07/S05.
- ⑱ STONE WALL. N.I.C.
- ⑲ CAREFULLY EXCAVATE TO DEPTH OF 900mm ADJACENT TO WALL ALL ALONG SIDE OF LOCKS. REPOINT AS PER 08/S06 AND 12/S06.
- ⑳ REMOVE ALL DEBRIS FROM FLOOR OF LOCK CHAMBER. ASSUME 40m³ TOTAL MATERIAL TO BE REMOVED, SEE SECTION 01/S07. SEE PHOTO 10/S08.
- ㉑ PRIOR TO MASONRY WORK, USE LOW-PRESSURE CLEANING TO CLEAN ALL WALLS IN AREA OF WORK TO REMOVE ALL ZEBRA MUSSELS, PLANT LIFE AND DIRT.
- ㉒ CONCRETE AND RAILING REPAIR ON RETAINING WALL, SEE SECTION 08/S07.
- ㉓ PHASE 1 ONLY; WORK ON SECTIONS OF APPROACH WALLS, UPSTREAM OF GATE 1 ON LOCK 27, AND DOWNSTREAM OF GATE 3 ON LOCK 26 MUST BE COMPLETED, PRIOR TO REMOVAL OF COFFERDAMS. THIS INCLUDES LOCK FLOORS. SEE DRAWINGS S02 AND S04.
- ㉔ CONCRETE/STONE APRONS UNDER LOCK HARDWARE. SEE DRAWINGS S02 AND S04 FOR LOCATION. SEE DETAIL 10/S06 AND 05/S07 FOR CONCRETE REPAIRS.
- ㉕ CAREFULLY EXCAVATE CONTAMINATED MATERIAL BEHIND WEST WALL OF BOTH LOCKS, AND DISPOSE OFFSITE CONSOLIDATE MASONRY, BACKFILL AND RE-LANDSCAPE AS PER 09/S07.
- ㉖ POWERLINES AT UPSTREAM END OF GATE 1, LOCK 27. SEE NOTE ⑥ ON DRAWING S03.

**LEGEND OF MASONRY REPAIRS:**

- ① LARGE DUTCHMAN REPAIR. SEE 05/S06. FOR PRICING, AVERAGE REPAIR IS 800mm by 450mm (0.36m²) by 200mm Dp. (\*) (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02A/S07. WHERE STONE IS ROTATED, REALIGN NEW DUTCHMAN AS PER 07/S07.
- ② SMALL DUTCHMAN REPAIR. SEE 04/S06. FOR PRICING, AVERAGE REPAIR IS 450mm by 300mm (0.14m²) by 100mm Dp. (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02B/S07.
- ③ FRACTURED STONE REPAIRED IN-SITU. SEE 01/S06 (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.7)
- ④ STEEL PIN INSERT REMOVAL. REMOVE EXISTING PIN REPAIR WITH STONE PLUGS.
- ⑤ REMOVE EXISTING CONCRETE PATCH AND INSTALL STONE DUTCHMAN REPAIR. APPROXIMATE SIZE 800x450mm AS FOR ① CARVE FACE OF DUTCHMAN TO MATCH EXISTING. SEE DETAIL 11/S07.
- ⑥ NEW LARGE STONE. SEE 09/S06 SIMILAR. FOR RESET, SEE ALSO ① FOR SIZE. TOOL FACE OF STONE AS 02A/S07. NEW STONE IS LIMESTONE ONLY.
- ⑦ REMOVE AND RESET LARGE STONE. SEE 09/S06. ASSUME AVERAGE STONE SIZE OF 450x800x500Dp/UNIT (0.36m²)
- ⑧ EDGE DUTCHMAN REPAIRS. APPLY TO STONE ARRIS OF EXISTING STONE. TO REDUCE WIDTH OF MORTAR JOINT TO 35mm. SEE DETAIL 03/S07. AVERAGE SIZE 1500x100x125Dp.
- (\*) LARGE DUTCHMAN, REPAIRS FOR FLOOR STONES 915x1020x150Dp. IS ASSUMED SIZE FOR PRICING.

**ADDITIONAL REPAIRS ON TOP OF LOCK WALLS AND ON FLOOR OF LOCKS FOR PRICING:**

- FOR PRICING, ALLOW THE FOLLOWING ADDITIONAL QUANTITIES BEYOND THOSE SHOWN ON PLAN ON DRAWING S04:
- ① ALLOW FOR ADDITIONAL 2m² OF STONE REMOVE AND RESET, LARGE
  - ② ALLOW FOR ADDITIONAL 4m² OF LARGE DUTCHMAN REPAIR
  - ③ ALLOW FOR ADDITIONAL 2m² OF EDGE DUTCHMAN REPAIR
  - ④ ALLOW FOR 4m² SURFACE CONCRETE REPAIRS AS 10/S06
  - ⑤ ALLOW FOR 2m² DEEP SURFACE CONCRETE REPAIRS AS 05/S07
  - ⑥ ALLOW FOR 5 STEEL PIN INSERT REMOVALS



**NATURAL CANAL BANK AT DOWNSTREAM COFFERDAM** 02 S04  
 SCALE: 1:50

**LEGEND**

- EXTENT OF CONSTRUCTION
- ▨ MASONRY APPROACH WALLS
- ▩ BEDROCK
- ▧ PARKS CANADA OFFICE BUILDING
- ▬ CONCRETE SURFACE

17019-S04	DRAWING 5 OF 11
DRAWING NO.	DRAWING NAME
REFERENCE DRAWINGS	
1	2018/08/01 ISSUED FOR BID C.P. P.C.
NO.	DATE DESCRIPTION Drawn by Approved
REVISIONS	
A	A Detail number A Numero de detail
B	B Sheet number B Sur feuille numero
Linear dimensions in millimeters Dimensions lineaires en millimetres	

**PROFESSIONAL ENGINEER**  
 J.G. COOKE  
 AUG 1, 18  
 PROVINCE OF ONTARIO

**PROFESSIONAL ENGINEER**  
 P. HOPPER CHRISTISON  
 100166240  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

PARKS CANADA  
 EASTERN ONTARIO FIELD UNIT

Type of Record /  
 Type d'enregistrement

Project title / Titre du projet  
**OLD SLYS LOCKS 26 & 27  
 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin  
**PLAN  
 LOWER LOCK 26**

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par  
 C.P. Date  
 2018/06/08

Field Recording by /  
 Releve-Temoins par  
 P.C. & L.M. & C.P. Date  
 2018/06/08

Approved by / Approuve par  
 P.C. Date  
 2018/08/01

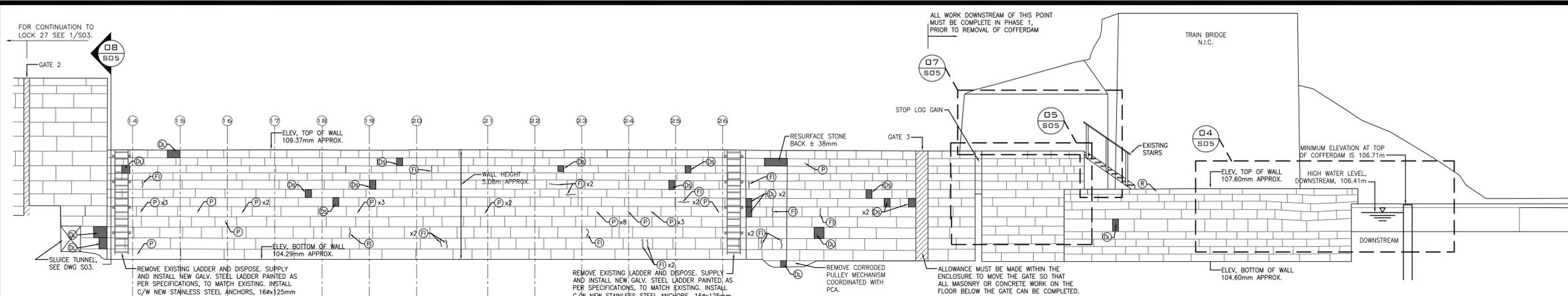
Checked by/ Verifie par  
 J.C. Date  
 2018/08/01

Project No./ No. du projet  
 17019 Asset No.  
 Sheet No./  
 Feuille No.

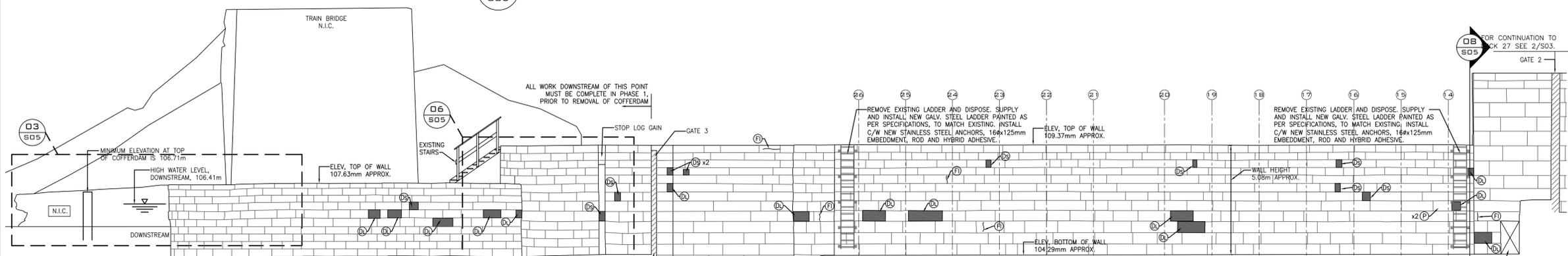
Drawing Re No./No. du Dessin  
 17019-S04-R04 **S04**

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200  
 (613) 226-8718  
 E-MAIL: mailbox@jgcooke.com  
 OTTAWA, ONT. K2H 9G1  
 FAX (613) 226-7424  
 www.jgcooke.com

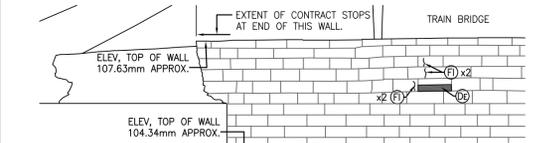
17019



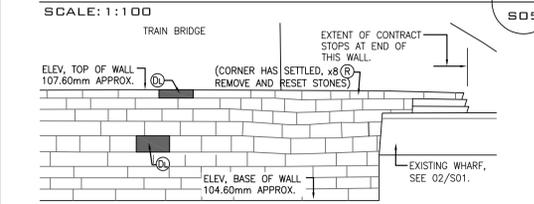
**EAST WALL - WEST ELEVATION**  
 SCALE: 1:100



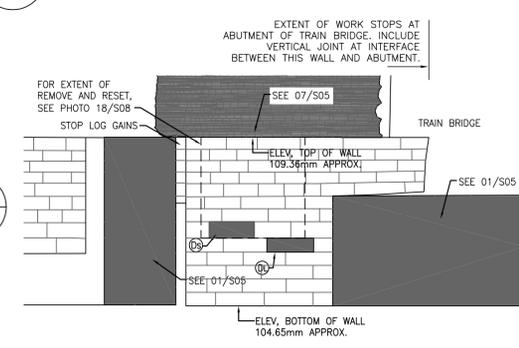
**WEST WALL - EAST ELEVATION**  
 SCALE: 1:100



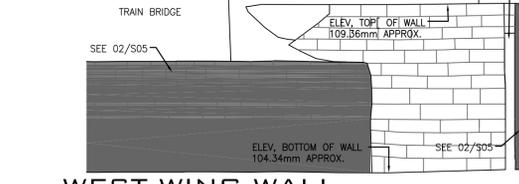
**WEST APPROACH WALL EAST ELEVATION (UNFOLDED)**  
 SCALE: 1:100



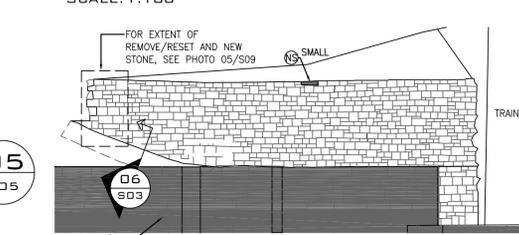
**EAST APPROACH WALL WEST ELEVATION (UNFOLDED)**  
 SCALE: 1:100



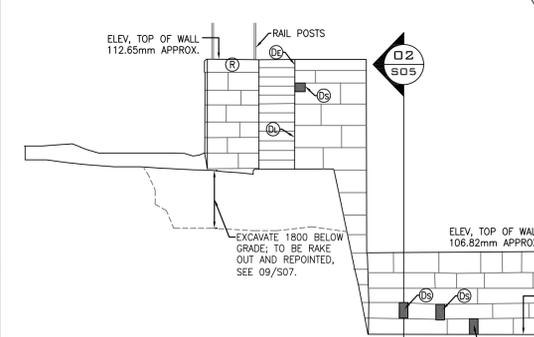
**EAST WING WALL WEST ELEVATION (UNFOLDED)**  
 SCALE: 1:100



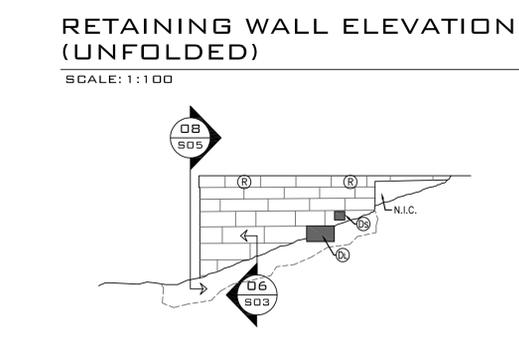
**WEST WING WALL EAST ELEVATION (UNFOLDED)**  
 SCALE: 1:100



**RETAINING WALL ELEVATION (UNFOLDED)**  
 SCALE: 1:100



**LOCK 26 BREAST WALL**  
 SCALE: 1:100



**EAST WALL - EAST ELEVATION**  
 SCALE: 1:100

**MASONRY REPAIR PROCEDURE:**

- RAKE OUT ALL JOINTS AND BACKPOINT IN AREAS OF WALL WITH NO DAMAGE
- NOTIFY DEPARTMENTAL REPRESENTATIVE TO INSPECT, MARK AND RECORD ALL REPAIRS ON WALL
- IN AREAS OF DAMAGE DO FURTHER REMOVALS, CONSOLIDATION OF CORE AND BACKPOINT.
- DO DUTCHMAN REPAIRS/INSTALL NEW STONE IF APPLICABLE
- GROUT
- DO FINISHPOINTING

**CONSERVATION NOTES**

- 100% RAKE OUT AND REPOINTING OF ALL MASONRY WALLS INCLUDED. IN THE CONTRACT, UNLESS INDICATED OTHERWISE ON THE ELEVATIONS. RAKING OUT AND REPOINTING IS AS PER 07 AND 08/S06
- FOR STONE REPLACEMENT, ASSUMED STONE DEPTH IS SHOWN ON 08 AND 07/S06. ALL STONE SIZE TO BE MEASURED PRIOR TO ORDERING REPLACEMENT STONES, TO MATCH EXISTING.
- EXISTING STEEL LADDERS CANNOT BE USED FOR CONSTRUCTION ACCESS.
- FALL ARREST OR GUARDRAILS ARE REQUIRED ALONG THE LOCK WALLS. ANY TEMPORARY GUARDRAIL ANCHORS ARE TO BE INSTALLED IN THE MORTAR JOINTS AND MUST NOT DAMAGE THE STONE.
- FOR ROUNDED JOINTS, WHERE STONE ARRIS IS WEATHERED, FINISH PART JOINTS AS PER 11/S06.
- DUTCHMAN REPAIRS: WHERE A SINGLE DUTCHMAN REPAIR EXCEEDS ONE THIRD OF THE STONE HEIGHT, OR ONE HALF OF THE STONE WIDTH, REPLACE WITH FULL FACE DUTCHMAN REPAIR. WHERE THERE WILL BE TWO OR MORE DUTCHMAN ON ONE STONE FACE, REVIEW WITH DEPARTMENTAL REP. PRIOR TO PROCEEDING WITH DUTCHMAN REPAIRS.
- WHERE STONE CORNERS ARE ROUNDED, SEE DETAIL 06/S07 TO DETERMINE WHETHER TO REPOINT JOINT OR DO SMALL DUTCHMAN AS 04/S06.
- DUTCHMAN REPAIRS (DETAILS 04&05/S06 AND 03/S07): WHERE BASE STONE IS LIMESTONE, PROVIDE LIMESTONE DUTCHMAN. WHERE BASE STONE IS SANDSTONE, PROVIDE SANDSTONE DUTCHMAN.
- VERIFY ALL MOORING LINE ANCHORS ARE TIGHT. WHERE ABANDONED, REPAIR AS (C) WHERE DEFECTIVE, PROVIDE NEW STAINLESS STEEL ANCHORS SIMILAR TO EXISTING. FOR PRICING, ASSUME 12 ANCHOR REPLACEMENTS.

**GENERAL NOTES**

- WHERE STOP LOGS ARE INSTALLED IN GAINS, PRIOR TO REMOVAL OF COFFERDAMS, SEAL FACE OF LOGS USING POLYSHEET OR SEALANT ON WATER SIDE OF LOGS. PROVIDE COUNTER WEIGHT TO HOLD SHEET IN PLACE, AND REMOVE AS LONG GAINS ARE REMOVED.
- LIVE POWERLINE: LINE IS EMBEDDED IN STONE MASONRY AND RUNS ALONG THE FLOOR OF THE LOCK. DEVELOP LOCKOUT PROCEDURE AND COORDINATE WITH PCA ALLOW FOR RELOCATION AND PROTECTION OF LINES WHILE MASONRY WORK IS BEING COMPLETED. REINSTALL IN EXISTING LOCATION ON COMPLETION OF WORK.

**LEGEND OF MASONRY REPAIRS:**

- (A) LARGE DUTCHMAN REPAIR. SEE 05/S06 FOR PRICING. AVERAGE REPAIR IS 450mm by 800mm (0.36m<sup>2</sup>) by 200mm Dp. (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02A/S07. WHERE STONE IS ROTATED, REALIGN NEW DUTCHMAN AS PER 07/S07.
- (B) SMALL DUTCHMAN REPAIR. SEE 04/S06 FOR PRICING. AVERAGE REPAIR IS 450mm by 300mm (0.14m<sup>2</sup>) by 100mm Dp. (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.8) TOOL FACE OF DUTCHMAN AS 02B/S07.
- (C) FRACTURED STONE REPAIRED IN-SITU. SEE 01/S06 (SPECIFICATIONS: SECTION 04 03 41, CLAUSE 3.7)
- (D) STEEL PIN INSERT REMOVAL. REMOVE EXISTING PIN, REPAIR WITH STONE PLUGS.
- (E) REMOVE EXISTING CONCRETE PATCH AND INSTALL STONE DUTCHMAN REPAIR. APPROXIMATE SIZE 450x800mm AS FOR (A) CARVE FACE OF DUTCHMAN TO MATCH EXISTING. SEE DETAIL 11/S07.
- (F) NEW STONE. SEE 09/S06 SIMILAR. FOR RESET, SEE ALSO (G) FOR SIZE. TOOL FACE OF STONE AS 02A/S07. NEW STONE IS LIMESTONE ONLY.
- (G) REMOVE AND RESET LARGE STONE. SEE 09/S06. ASSUME AVERAGE STONE SIZE OF 450x800x500dp./UNIT (0.36m<sup>3</sup>)
- (H) EDGE DUTCHMAN REPAIRS. APPLY TO STONE ARRIS OF EXISTING STONE, TO REDUCE WIDTH OF MORTAR JOINT TO 35mm. SEE DETAIL 03/S07.
- (I) SMALL NEW STONE. AVERAGE SIZE: 200x300x300dp. SEE 09/S06 SIMILAR.
- (J) RESET STONE. AVERAGE SIZE: 200x300x300dp. SEE 09/S06.

**ADDITIONAL REPAIRS FOR PRICING:**

- FOR PRICING, ALLOW THE FOLLOWING ADDITIONAL QUANTITIES BEYOND THOSE SHOWN ON ELEVATIONS ON DRAWING S05:
- (K) ALLOW FOR ADDITIONAL 1.0m<sup>2</sup> OF LARGE STONE REMOVE AND RESET
  - (L) ALLOW FOR ADDITIONAL 1.5m<sup>2</sup> OF NEW LARGE STONE
  - (M) ALLOW FOR ADDITIONAL 7m<sup>2</sup> OF LARGE DUTCHMAN REPAIR
  - (N) ALLOW FOR ADDITIONAL 5m<sup>2</sup> OF SMALL DUTCHMAN REPAIR
  - (O) ALLOW FOR ADDITIONAL 4m<sup>2</sup> OF EDGE DUTCHMAN REPAIR
  - (P) ALLOW FOR ADDITIONAL 10 IN-SITU FRACTURE REPAIR
  - ALLOW FOR 1.0m<sup>2</sup> VERTICAL SURFACE CONCRETE REPAIRS AS 10/S06
  - ALLOW FOR 10 STEEL PIN INSERT REMOVALS
  - (R) ALLOW FOR ADDITIONAL 3m<sup>2</sup> OF SMALL STONE REMOVE AND RESET
  - (S) ALLOW FOR ADDITIONAL 2m<sup>2</sup> OF SMALL NEW STONE.

17019-S05 DRAWING 6 OF 11

DRAWING NO. DRAWING NAME

REFERENCE DRAWINGS

1	2018/08/01	ISSUED FOR BID	C.P.	P.C.
---	------------	----------------	------	------

NO.	DATE	DESCRIPTION	Drawn by	Approved
			Dessine par	Approuve

REVISIONS

(A)	A Detail number	A Numero de detail
(B)	B Sheet number	B Sur feuille numero

Linear dimensions in millimeters Dimensions lineaires en millimetres

**PROFESSIONAL ENGINEER**  
 J.G. COOKE  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

**PROFESSIONAL ENGINEER**  
 P. HOPPER CHRISTISON  
 100166240  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

PARCS CANADA EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet

**OLD SLYS LOCKS 26 & 27 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin

**ELEVATIONS LOWER LOCK 26**

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par  
 C.P. Date  
 2018/06/11

Field Recording by / Releve-Temoins par  
 P.C. & L.M. & C.P. Date  
 2018/06/08

Approved by / Approuve par  
 N.J. & J.M. Date  
 2018/08/01

Checked by/ Verifie par  
 J.C. Date  
 2018/08/01

Project No./ No. du projet  
 17019 Asset No.  
 Sheet No./ Feuille No.

Drawing Re No./No. du Dessin  
 17019-S04-R04 **S05**

**Canada**

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200  
 (613) 226-8718  
 E-MAIL: mailbox@jgcooke.com  
 WEB SITE: www.jgcooke.com

OTTAWA, ONT. K2H 9G1  
 FAX (613) 226-7424

17019

17019-S06 DRAWING 7 OF 11

DRAWING NO. DRAWING NAME

REFERENCE DRAWINGS


1	2018/08/01	ISSUED FOR BID	C.P.	P.C.
---	------------	----------------	------	------

REVISIONS

A	A Detail number	A Numero de detail
B	B Sheet number	B Sur feuille numero

Linear dimensions in millimetres / Dimensions lineaires en millimetres

PARKS CANADA  
 EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet  
**OLD SLYS LOCKS 26 & 27 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin

**SECTIONS AND DETAILS**

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by / Dessine par  
 C.P. Date 2018/06/08

Field Recording by / Releve-Temoins par  
 P.C. & L.M. & C.P. Date 2018/06/08

Approved by / Approuve par  
 P.C. Date 2018/08/01

Checked by / Verifie par  
 J.C. Date 2018/08/01

Project No./ No. du projet 17019 Asset No.  
 Drawing Re No./No. du Dessin 17019-S06-R03 Sheet No./ Feuille No. S06

**IN-SITU FRACTURED STONE REPAIR**  
 SCALE: NTS

CLEAN AND SHAPE FRACTURED JOINT FOR TIGHT FIT AND INSTALL ADHESIVE MIX AS PER CRACK REPAIR.

10mm DIA. STAINLESS STEEL DOWELS, UNLESS NOTED, DRILLED AND EPOXYED INTO STONE FACE, ONE STARTING ON ONE SIDE OF THE FRACTURE AND THE SECOND ON THE OTHER SIDE. FOR STRUCTURAL CRACKS TO BE IDENTIFIED BY CONSULTANT, USE 12mm $\phi$  STAINLESS STEEL DOWELS. AT CRACK LOCATION, ENSURE DOWEL IS AT LEAST 50mm CLEAR FROM STONE FACE.

IN-SITU FRACTURED STONE REPAIR PROCEDURE:

- DRILL 11 OR 13mm  $\phi$  HOLES, SPACED AT 300 O.C. MAXIMUM, MINIMUM 2 ANCHORS PER STONE, EXTEND 60mm BEYOND FRACTURE. MINIMUM LENGTH OF HOLE TO BE 140mm.
- DRILL PORT HOLES  $\phi$  100mm O.C. INTO CRACK TO INJECT ADHESIVE MIX INTO CRACK. NOTIFY DEP. REP. TO INSPECT BEFORE PROCEEDING TO NEXT STEP.
- INSERT 10 OR 12mm  $\phi$  STAINLESS STEEL DOWELS, 100mm LONG AND APPLY EPOXY ADHESIVE. LET SET FOR 24 HOURS MINIMUM.
- REPAIR SURFACE OF FRACTURE AND DOWEL HOLES WITH RESTORATION MORTAR TO MATCH THE SURROUNDING STONE, AND TOOL FOR TEXTURE.

**TYPICAL PIN DETAIL**  
 SCALE: NTS

50 TO 75mm  $\phi$  OF ANCHOR

FACE OF STONE

EXISTING STONE IN-SITU

12mm DIAMETER HOLE

10mm DIA. X 100mm LG (STAINLESS STEEL THREADED ROD) SET 50mm IN EACH STONE.

15mm DIAMETER HOLE

STONE TO BE REMOVED AND RESET

12mm DIAMETER HOLE

10mm DIA. X 100mm LG (STAINLESS STEEL THREADED ROD) SET 50mm IN EACH STONE.

MORTAR JOINT (TYP.)

EXISTING STONE IN-SITU

15mm DIAMETER HOLE

50mm TO 75mm MAX. FROM FACE OF STONE

NOTE: INSTALL PIN IN UPPER STONE, AND SLIDE INTO LOWER STONE AFTER STONE IS RESET. SET PIN IN SPECIFIED GROUT. (PREFILL HOLE WITH GROUT TO  $\frac{1}{2}$  IT'S HEIGHT JUST PRIOR TO RESETTING STONE)

**DUTCHMAN REPAIR DETAIL (SMALL)**  
 SCALE: NTS

REMOVE DECAYED STONE TO SOUND SURFACE. CUT STONE SQUARE, AS MUCH AS POSSIBLE.

NEW STONE (DUTCHMAN) TO MATCH EXISTING

EXTERIOR STONE FACE TO MATCH EXISTING, INCLUDING PROFILE AND FINISH, SEE 02/S07, TYP.

REPAIR JOINT SURFACE SO THAT JOINT IS INVISIBLE. USE REPAIR MORTAR IF REQUIRED. MORTAR MIX: 1 PART STONE DUST/ 1 PART LIME PUTTY OR JAHN M30 GROUT OR APPROVED EQUAL.

NOTE: A= 60% OF X, TO 50mm MAX. B= 60% OF Y, TO 50mm MAX.

DRILL HOLES 11mm $\phi$  x "A" or "B" DEEP. IN NEW/EXISTING STONE. INSTALL 10mm $\phi$  x (A+B) LG. STAINLESS STEEL DOWELS, SET IN EPOXY GROUT. PROVIDE MIN. ONE DOWEL EVERY 0.04m<sup>2</sup>

PREPARE INTERFACE OF NEW AND EXISTING STONE AS SPECIFIED. SET STONE IN POSITION USING SPECIFIED ADHESIVE MIX.

EXISTING STONE

**REPAIR OF FRACTURED STONE (WHERE STONE REMOVED)**  
 SCALE: NTS

CLEAN AND SHAPE FRACTURED JOINT FOR TIGHT FIT AND EPOXY

12mm DIA. STAINLESS STEEL DOWELS DRILLED AND APPLY ADHESIVE MIX INTO STONE

300 O.C. MAX. 100 MAX.

SECTION A

FRACTURED STONE REPAIR PROCEDURE:

- TAKE CARE WHEN REMOVING FRACTURED STONE TO NOT LOSE OR WORSEN DAMAGE OR DAMAGING ADJACENT UNITS
- DRILL 13mm  $\phi$  HOLES, 80mm LONG IN EACH SECTION, SPACED AT 300 O.C. MAXIMUM. HOLES MUST BE CENTRED IN STONE THICKNESS.
- INSERT 12mm  $\phi$  STAINLESS STEEL DOWELS, 100mm LONG AND APPLY EPOXY ADHESIVE. GLUE STONE FACES TOGETHER USING ADHESIVE MIX OR OTHER APPROVED GROUT. LET SET FOR 24 HOURS MINIMUM.
- REINSTATE REPAIRED STONE INTO WORK AND REPOINT WITH SPECIFIED MORTAR TO WITHIN 50mm OF POINTING SURFACE. ALLOW MORTAR TO SET 24 HOURS. POINT TO SURFACE IN TWO LAYERS.
- GROUT SOLID ALL VOIDS BEHIND STONE USING SPECIFIED GROUT.
- REPAIR SURFACE OF FRACTURE WITH RESTORATION MORTAR TO MATCH THE SURROUNDING STONE, AND TOOL FOR TEXTURE.

**IN-SITU FRACTURED STONE REPAIR**  
 SCALE: NTS

WHERE JOINT EXCEEDS 25mm, INSTALL EDGE DUTCHMAN, SEE 3/S07 SIM.

20

REPOINT AS PER 08/S06

CAPSTONES

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (SMALL)**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

REMOVE WHOLE STONE FACE TO SOUND SURFACE. CUT STONE SQUARE, AS MUCH AS POSSIBLE.

NEW STONE (DUTCHMAN) TO MATCH EXISTING

EXTERIOR STONE FACE TO MATCH EXISTING, INCLUDING PROFILE AND FINISH, SEE 02/S07, TYP.

REPAIR JOINT SURFACE SO THAT JOINT IS INVISIBLE. USE REPAIR MORTAR IF REQUIRED. MORTAR MIX: 1 PART STONE DUST/ 1 PART LIME PUTTY OR JAHN M30 GROUT OR APPROVED EQUAL.

NOTE: A= 60% OF X, TO 50mm MAX. B= 60% OF Y, TO 50mm MAX.

DRILL HOLES 11mm $\phi$  x "A" or "B" DEEP. IN NEW/EXISTING STONE. INSTALL 10mm $\phi$  x (A+B) LG. STAINLESS STEEL DOWELS, SET IN EPOXY GROUT. PROVIDE MIN. ONE DOWEL EVERY 0.04m<sup>2</sup>

PREPARE INTERFACE OF NEW AND EXISTING STONE AS SPECIFIED. SET STONE IN POSITION USING SPECIFIED ADHESIVE MIX.

EXISTING STONE

**CAPSTONE VERTICAL AND HORIZONTAL JOINTS FOR LOCK WALLS**  
 SCALE: NTS

WHERE JOINT EXCEEDS 25mm, INSTALL EDGE DUTCHMAN, SEE 3/S07 SIM.

20

REPOINT AS PER 08/S06

CAPSTONES

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**TYPICAL RAKING OUT DETAIL**  
 SCALE: NTS

RAKE OUT ALL JOINTS UNTIL GOOD MORTAR IS REACHED, OR TO FULL DEPTH OF STONE, WHICHEVER COMES FIRST. REMOVE ALL LOOSE AND DEBONDED MATERIAL.

ESTIMATE STONE DEPTH IS 600 TO 900mm DEEP

FRONT FACE OF WALL. REMOVE ALL MUD AND ZEBRA MUSSELS DOWN TO CLEAN STONE PRIOR TO COMMENCING SAWCUTTING OF MORTAR IN JOINTS.

BACK FACE OF WALL

RAKING OUT PROCEDURE:

1. CLEAN STONE FACE
2. RAKE OUT EXISTING MORTAR SQUARE TO STONE.
3. REMOVE ALL RESIDUE FROM STONE FACE TO ALLOW NEW MORTAR TO BOND TO STONE
4. DO NOT CHIP OR OTHERWISE DAMAGE EDGE OF STONE DURING REMOVALS
5. GRINDERS OR SAW BLADES MUST NOT TOUCH STONE FACE. CUT CENTER OF JOINT CAREFULLY, WITHOUT MARKING STONE. REMOVE REMAINDER OF MORTAR USING HAND TOOLS.
6. ALL CRACKED MORTAR, MORTAR DEBONDED FROM STONE, OR DETERIORATED MORTAR, MUST BE REMOVED FROM JOINT PRIOR TO REPOINTING.
7. REMOVE ALL PORTLAND CEMENT BASED MORTAR FROM JOINTS. SOME OF THIS MORTAR IS DEBONDED, WHERE BONDED, REMOVE 75mm DEPTHS OF PORTLAND CEMENT MORTAR MIN. ASSUME AVERAGE DEPTH OF HARD MORTAR IS 150mm THICK.
8. 20% OF REMOVALS FOR VERTICAL JOINTS ARE IN THE ORDER OF 30 TO 50mm DEEP AND THE REMAINDER ARE FULL DEPTH REMOVALS.
9. 55% OF HORIZONTAL JOINTS ARE IN THE ORDER OF 30 TO 40mm DEEP AND THE REMAINDER ARE FULL DEPTH REMOVALS.
10. WHERE FULL DEPTH REMOVALS IN HORIZONTAL JOINTS ARE NECESSARY, THE CONTRACTOR MUST EXERCISE CAUTION SO AS NOT TO DESTABILIZE THE WALL. IN THIS CASE, REMOVE MORTAR IN ONLY SMALL PORTIONS OF THE WALL AND FULL DEPTH EXCEPT FOR FINAL LAYER BEFORE PROCEEDING WITH REMOVALS. NOTE WHERE STONE BECOMES LOOSE, REMOVE STONE.
11. REMOVE ALL CAULKING, WHERE PRESENT IN JOINTS.
12. CLEAN OUT JOINT USING COMPRESSED AIR, OR WASH OUT JOINTS USING PRESSURIZED WATER, PRIOR TO REPOINTING.

FOR PRICING, ASSUME THE FOLLOWING:

1. AVERAGE DEPTH OF STONE AS NOTED ABOVE, FOR FULL EXTENT OF MASONRY WALLS.
2. ASSUME AVERAGE JOINT WIDTH IS 25mm.
3. ASSUME AVERAGE FULL DEPTH OF JOINT IS 750 mm DEEP, FOR PRICING PURPOSES.

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**TYPICAL RAKING OUT DETAIL**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

NOTES:

1. SAWCUT PERIMETER OF THE REPAIR AREA. (DO NOT CUT EXISTING BARS)
2. REMOVE ALL LOOSE & UNSOUND CONCRETE IN THE DELAMINATED AREA
3. IF THE BOND BETWEEN THE REINFORCING STEEL AND CONCRETE IS BROKEN OR WHERE MORE THAN ONE HALF OF THE PERIMETER OF ANY REINFORCING BAR IS EXPOSED, THE CONCRETE SURROUNDING THESE LOCALIZED BARS SHALL BE REMOVED AS INDICATED IN DEEP SURFACE DELAMINATION REPAIR. NOTIFY DEPARTMENTAL REPRESENTATIVE FOR REVIEW.
4. CLEAN CONCRETE AND EXPOSED REINFORCING STEEL BY GRIT-BLASTING.
5. INSTALL 45mm lg. x 6mm  $\phi$  STEEL SCREWS AT 300mm c/c IN EACH DIRECTION
6. APPLY BONDING AGENT TO CONCRETE SURFACE.
7. PLACE REPAIR MORTAR AS PER MANUFACTURER'S SPECIFICATIONS WITHIN 12 HOURS OF APPLICATION OF BONDING AGENT UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER.
8. FINISH AND CURE REPAIR MORTAR AS PER MANUFACTURERS RECOMMENDATIONS.

EXISTING REINFORCING STEEL

STAINLESS STEEL MASONRY SCREWS 45mm lg. x 6mm  $\phi$  @ 300mm c/c IN EACH DIRECTION

12mm SAWCUT

POLYMER MODIFIED MORTAR

12mm MIN. 30mm MAX.

ROUGHEN SURFACE TO MECHANICALLY STRENGTHEN LIFT BONDING, TYPICAL

8mm MAX.

NOTE: UNLESS NOTED SEE DETAILS 07 AND 08/S06.

FINAL JOINT WIDTH FOR ROUNDED EDGE STONES, NOT TO EXCEED 35mm.

ROUNDED EDGE OF STONE.

FINISHPOINTING MORTAR, 30mm TO 40mm DEPTH.

EXTENT OF SOLID BONDED EXISTING MORTAR.

EXTENT OF LOOSE SAND, VOIDS OR DEBONDED EXISTING MORTAR. RAKE OUT, AND BACKPOINT IN LAYERS. DEPTH VARIES FROM 0mm TO FULL DEPTH OF STONE.

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**DUTCHMAN REPAIR DETAIL (LARGE)**  
 SCALE: NTS

**SHALLOW SURFACE CONCRETE REPAIRS (SKYWARD FACES)**  
 SCALE: NTS

**TYPICAL PIN DETAIL**  
 SCALE: NTS

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200  
 (613) 226-8718  
 E-MAIL: mailbox@jgcooke.com  
 WWW: www.jgcooke.com

OTTAWA, ONT. K2H 9G1  
 FAX (613) 226-7424

17019

17019-S07 DRAWING 8 OF 11

DRAWING NO. DRAWING NAME

REFERENCE DRAWINGS			

NO.	DATE	DESCRIPTION	Drawn by	Approved
1	2018/08/01	ISSUED FOR BID	C.P.	P.C.

REVISIONS

A	B	A	B
A Detail number	B Sheet number	A Numero de detail	B Sur feuille numero

Linear dimensions in millimeters Dimensions lineaires en millimetres

**PROFESSIONAL ENGINEER**  
 J.G. COOKE  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

**PROFESSIONAL ENGINEER**  
 P. HOPPER CHRISTISON  
 100166240  
 AUG 1, 2018  
 PROVINCE OF ONTARIO

PARCS CANADA EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet

OLD SLYS LOCK 26 & 27 HERITAGE STONE MASONRY REPAIRS

Drawing title / Titre du dessin

SECTIONS AND DETAILS

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par Date  
 C.P. 2018/06/08

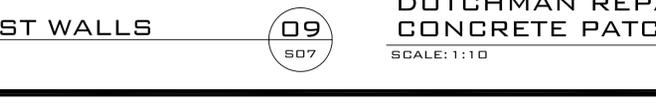
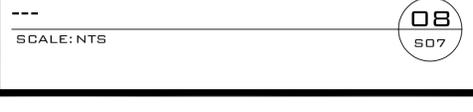
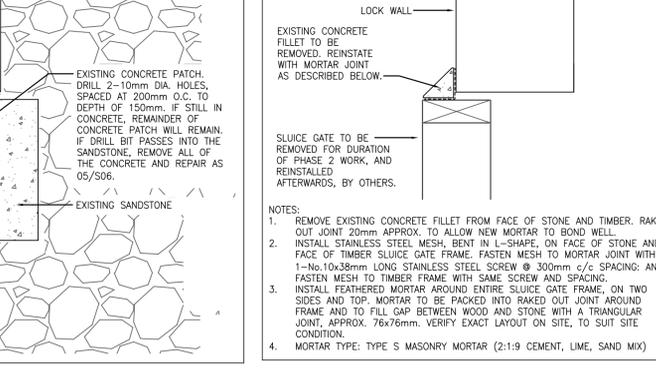
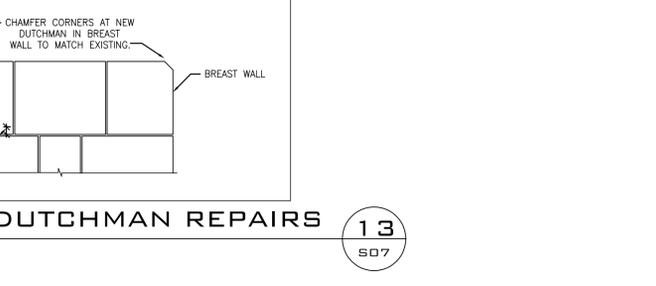
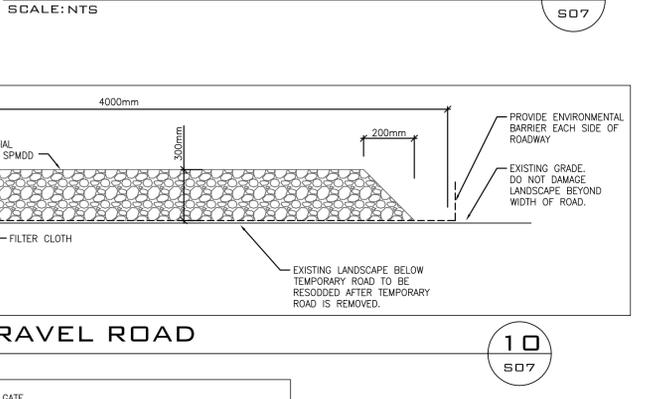
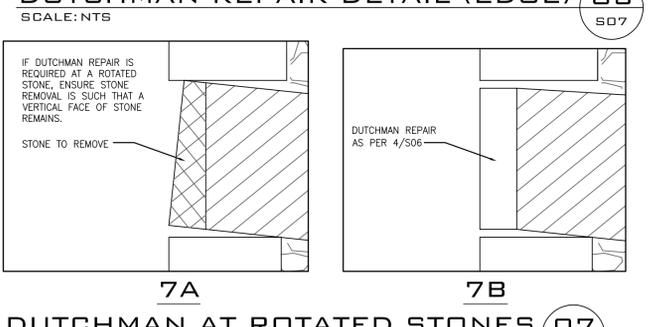
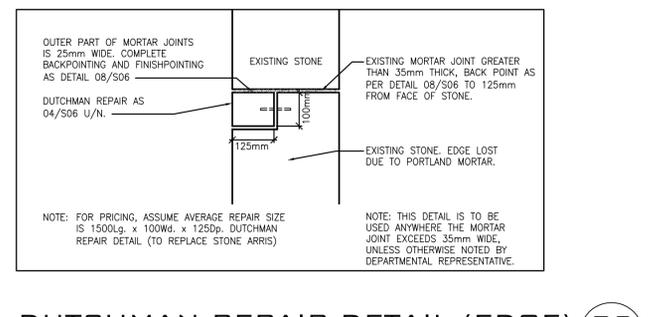
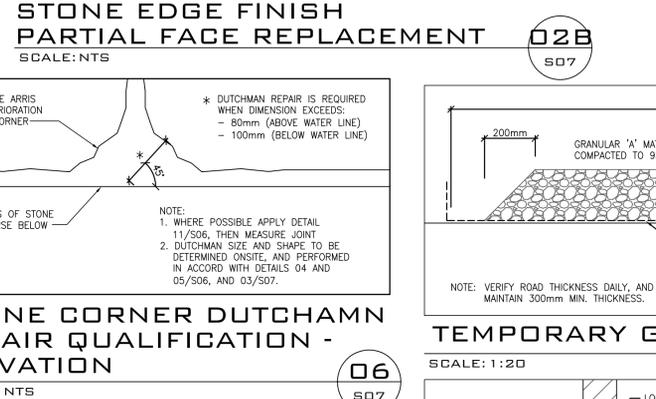
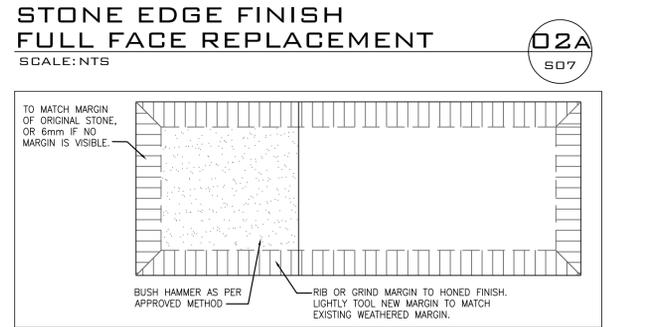
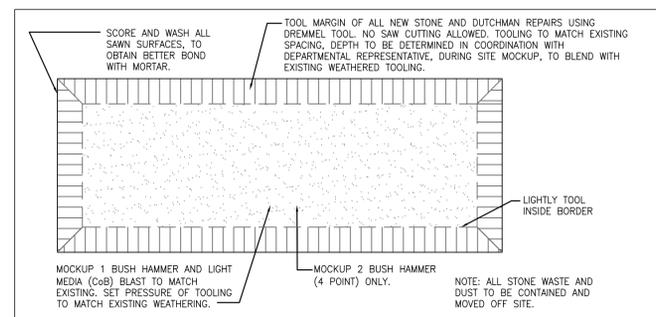
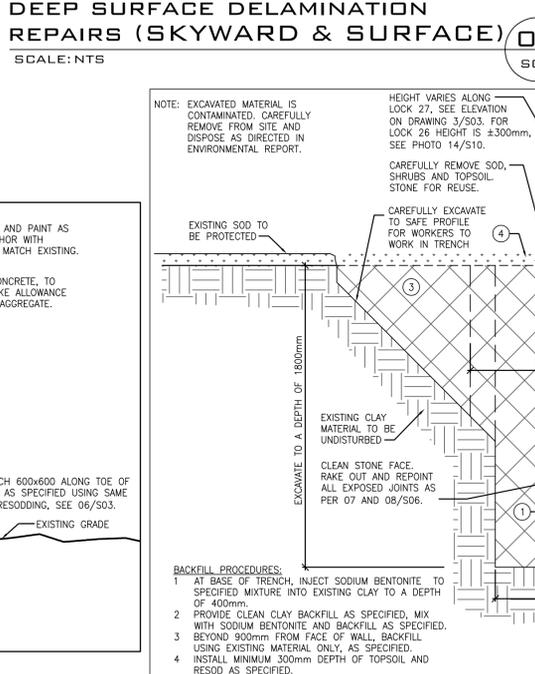
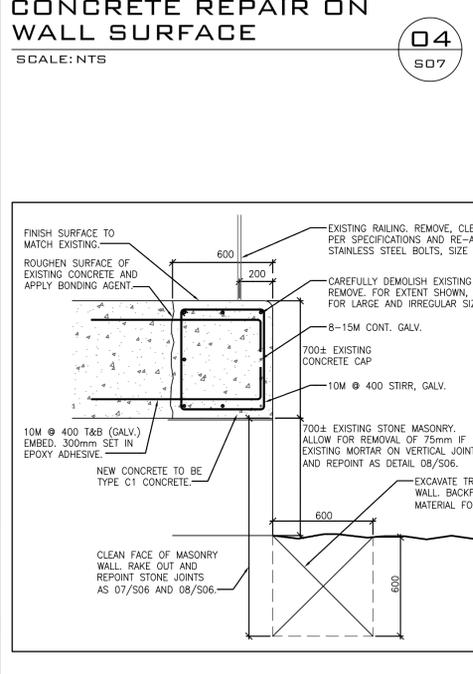
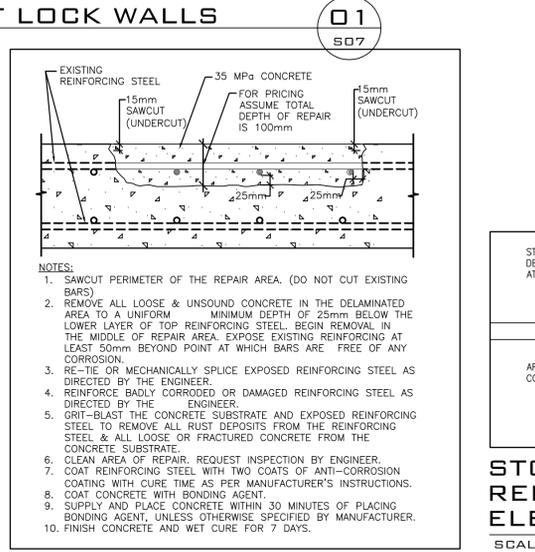
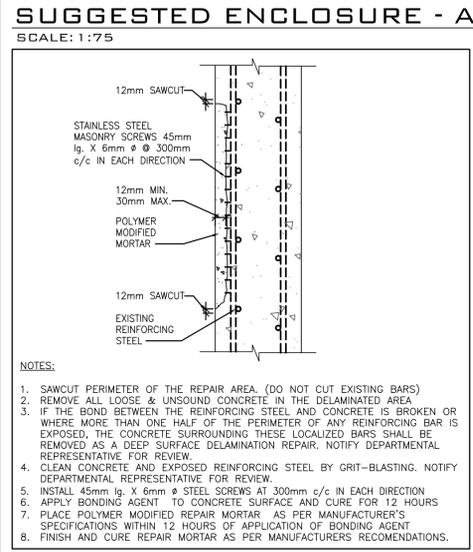
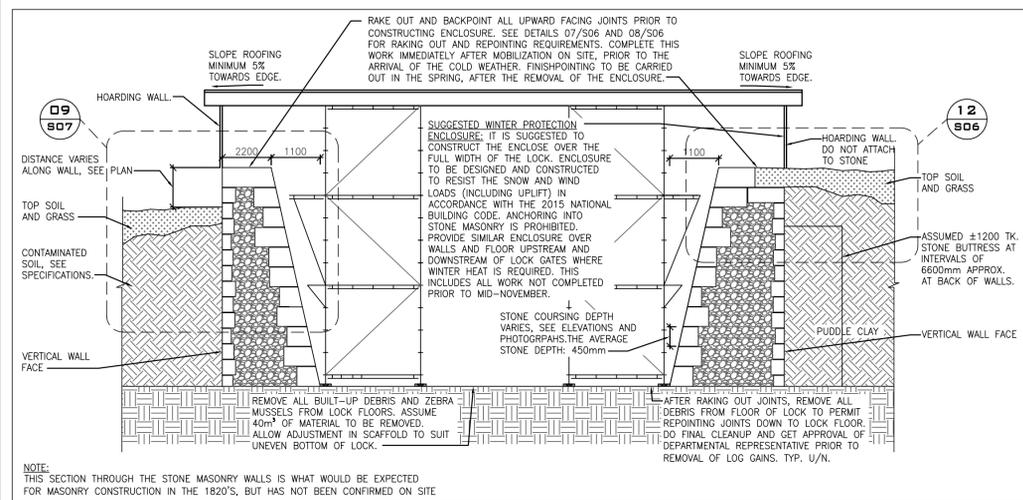
Field Recording by / Releve-Temoin par Date  
 P.C. & L.M. & C.P. 2018/06/08

Approved by / Approuve par Date  
 P.C. 2018/08/01

Checked by/ Verifie par Date  
 J.C. 2018/08/01

Project No./ No. du projet Asset No. Sheet No./ Feuille No.  
 17019 17019 S07

Drawing Re No./No. du Dessin  
 17019-S07-R03



**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200  
 (613) 226-8718  
 E-MAIL: mailbox@jgcooke.com  
 WEB SITE: www.jgcooke.com  
 OTTAWA, ONT. K2H 9G1  
 FAX (613) 226-7424

17019

17019-S08 DRAWING 9 OF 10

DRAWING NO. DRAWING NAME

REFERENCE DRAWINGS

1	2018/08/01	ISSUED FOR BID	C.P.	P.C.
---	------------	----------------	------	------

NO.	DATE	DESCRIPTION	Drawn by Dessine par	Approved Approuve
REVISIONS				

A	A Detail number	A Numero de detail
B	B Sheet number	B Sur feuille numero

Linear dimensions in millimeters / Dimensions lineaires en millimetres

--	--

PARCS CANADA EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet

OLD SLYS LOCK 26 & 27 HERITAGE STONE MASONRY REPAIRS

Drawing title / Titre du dessin

LOCK 26 & 27 PHOTOGRAPHIC DETAILS

Plot Scale / Echelle  
1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par: J.C. Date: 2017/06/26

Field Recording by / Relevé-Temoin par: P.C. & L.M. & C.P. Date: 2017/04/27

Approved by / Approuve par: P.C. Date: 2018/08/01

Checked by/ Verifie par: J.C. Date: 2018/08/01

Project No./ No. du projet: 17019 Asset No.:

Drawing Re No./No. du Dessin: 17019-S08-R01 Sheet No./ Feuille No.: S08



PHOTO 1 SCALE:NTS UPSTREAM APPROACH UNDER BRIDGE



PHOTO 2 SCALE:NTS UPSTREAM WEST APPROACH WALL



PHOTO 3 SCALE:NTS UPSTREAM EAST APPROACH WALL / STOP LOG GAINS UNDER BRIDGE

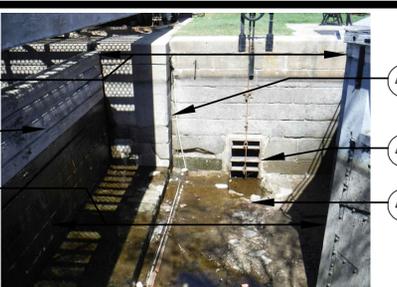


PHOTO 4 SCALE:NTS SLUICE TUNNEL GATE AND TRENCH, UPSTREAM LOCK 27 EAST WALL



PHOTO 5 SCALE:NTS UPSTREAM STOP LOG GAINS UNDER BRIDGE



PHOTO 6 SCALE:NTS SLUICE TUNNEL GATE AND TRENCH, UPSTREAM LOCK 27 WEST WALL



PHOTO 7 SCALE:NTS SLUICE TUNNEL SHAFT, UPSTREAM LOCK 27 WEST WALL



PHOTO 8 SCALE:NTS SKYWARD FACING JOINTS OF LOCK 27 BREAST WALL AT GATE 1



PHOTO 9 SCALE:NTS SLUICE TUNNEL ON SOUTH SIDE OF LOCK 27 BREAST WALL



PHOTO 10 SCALE:NTS LOCK 27, LOOKING DOWNSTREAM



PHOTO 11 SCALE:NTS TIMBER IN LOCK 27 FLOOR



PHOTO 12 SCALE:NTS NORTH ELEVATION OF WEST WALL MONOLITH NORTH OF GATE 2



PHOTO 13 SCALE:NTS LADDER ON EAST WALL DOWNSTREAM LOCK 27, SEE NOTE ON 01/S03



PHOTO 14 SCALE:NTS EAST LOCK WALL, REMOVE AND REINSTALL ANCHOR CABLES FOR BOATS, RECORD LOCATION PRIOR TO REMOVAL.



PHOTO 15 SCALE:NTS LOCK 27, LOOKING UPSTREAM



PHOTO 16 SCALE:NTS LOCK FLOOR NORTH OF GATE 2



PHOTO 17 SCALE:NTS LOOKING SOUTH TOWARDS GATE 2

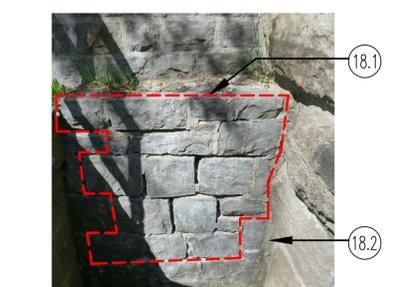


PHOTO 18 SCALE:NTS 18.1 MARK STONE, REMOVE, ANCHOR AND REINSTALL STONE TO MATCH EXISTING. 18.2 RAKE OUT AND REPOINT ALL REMAINING JOINTS AS PER ELEVATION 5/S05.



PHOTO 19 SCALE:NTS 19.1 N.I.C. 19.2 SEE WALL ELEVATION 9/S05.



PHOTO 20 SCALE:NTS 20.1 EXCAVATE ADJACENT TO WALL TO EXTEND MASONRY REPOINTING 600MM BELOW GRADE, SEE 6/S03.

**PHOTOGRAPH NOTES:**  
 PHOTO 1  
 1.1 RECOMMENDED LOCATION OF UPSTREAM COFFERDAM, SEE NOTE (1) ON DRAWING S02.  
 PHOTO 2  
 2.1 UPSTREAM LOG GAINS, SEE NOTE (6) ON DRAWING S02.  
 2.2 MISC. CONCRETE/STONE REPAIRS BELOW WATERLINE, UPSTREAM OF LOG GAINS, SEE 04/S07.  
 PHOTO 3  
 PHOTO 4  
 4.1 THIS SECTION OF WALL DOWNSTREAM OF LOG GAINS, EACH SIDE OF LOCK MUST BE COMPLETED AS PART OF PHASE 1.  
 4.2 SLUICE GATE: REMOVE AND RESET BY OTHERS AS PART OF PHASE 2. FOR CONCRETE FILLET AROUND GATE FRAME SEE 12/S07.  
 4.3 LOCK FLOOR: RAKE OUT AND REPOINT STONE JOINTS, AND STONE REPAIRS, SEE DRAWING S02.  
 4.4 POWER LINE: SEE NOTE (B) ON S03.

PHOTO 5  
 6.1 LOCK GATES TO BE PROTECTED FOR DURATION OF WORK. TO COMPLETE WORK AT UPSTREAM EDGE OF BREAST WALL, GATES MUST BE OPEN.  
 PHOTO 7  
 7.1 FOR CONCRETE REPAIRS AROUND LOCK WINCHES / TOP OF SHAFTS, SEE DRAWING S02.  
 7.2 SHAFT GRATINGS, REMOVE TO COMPLETE SHAFT MASONRY WORK. CLEAN AND PAINT, REINSTALL ON COMPLETION OF WORK.  
 7.3 LOCK GATE FURNITURE TO BE PROTECTED FOR DURATION OF PROJECT.  
 PHOTO 8  
 8.1 BREAST WALL SKYWARD FACING SLAB. FOR MASONRY SCOPE SEE DRAWING S02, AND SECTION 13/S07.  
 8.2 LOCK FLOOR: REMOVE ALL DEBRIS, SEE DRAWING S02.  
 PHOTO 9  
 9.1 SLUICE TUNNEL EXIT INTO LOCK. SEE DRAWING S03.  
 9.2 BREAST WALL, SEE ELEVATION 4/S03.

PHOTO 10  
 10.1 GATE 2: SEE PHOTO 6, NOTE 6.1.  
 10.2 MOORING LINE ANCHORS, SEE DRAWING S03.  
 10.3 MASONRY WALL ELEVATION, SEE DRAWING S03.  
 PHOTO 11  
 11.1 WOOD AT BASE OF LOCK TO BE PROTECTED, KEEP LOG WET.  
 PHOTO 12  
 PHOTO 13  
 13.1 EXISTING STEEL LADDER. SEE DRAWING S03 FOR SCOPE, TYP.  
 PHOTO 14  
 14.1 LOCK SIGNAGE / FURNITURE, SEE NOTE 13 ON DRAWING S01.  
 14.2 LOCKSTATION HOUSE, SEE 2/S00.  
 PHOTO 15  
 PHOTO 16  
 PHOTO 17

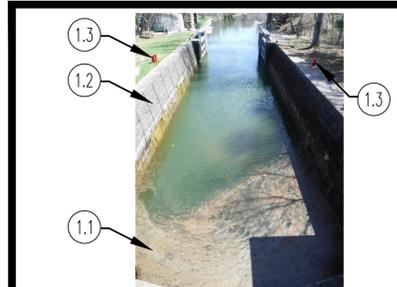
PHOTO 18  
 18.1 MARK STONE, REMOVE, ANCHOR AND REINSTALL STONE TO MATCH EXISTING.  
 18.2 RAKE OUT AND REPOINT ALL REMAINING JOINTS AS PER ELEVATION 5/S05.  
 PHOTO 19  
 19.1 N.I.C.  
 19.2 SEE WALL ELEVATION 9/S05.  
 PHOTO 20  
 20.1 EXCAVATE ADJACENT TO WALL TO EXTEND MASONRY REPOINTING 600MM BELOW GRADE, SEE 6/S03.



Canada

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200 OTTAWA, ONT. K2H 9G1  
 (613) 226-8718 FAX (613) 226-7424  
 E-MAIL: mailbox@jgcooke.com  
 WEB SITE: www.jgcooke.com

17019



**PHOTO 1**  
SCALE: NTS LOCK 26 LOOKING DOWNSTREAM

01  
S09



**PHOTO 2**  
SCALE: NTS GATE 2 AND LOCK 26 BREAST WALL

02  
S09



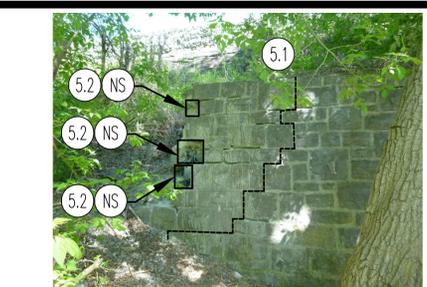
**PHOTO 3**  
SCALE: NTS LOCK 26 WEST WALL, EAST ELEVATION

03  
S09



**PHOTO 4**  
SCALE: NTS GATE 3 AND LOCK 26 EAST WING WALL, WEST ELEVATION

04  
S09



**PHOTO 5**  
SCALE: NTS RETAINING WALL

05  
S09



**PHOTO 6**  
SCALE: NTS RETAINING WALL

06  
S09



**PHOTO 7**  
SCALE: NTS EAST TRAIN BRIDGE WALL AND DOCK

07  
S09



**PHOTO 8**  
SCALE: NTS LOCK 26 EAST WING WALL, WEST ELEVATION

08  
S09



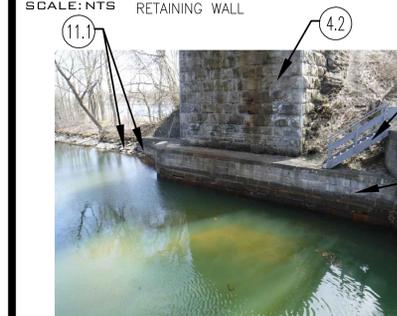
**PHOTO 9**  
SCALE: NTS LOCK 26 WEST WING WALL, EAST ELEVATION

09  
S09



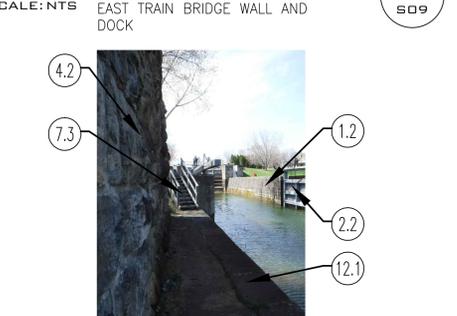
**PHOTO 10**  
SCALE: NTS STAIRS AT LOCK 26 EAST WING WALL

10  
S09



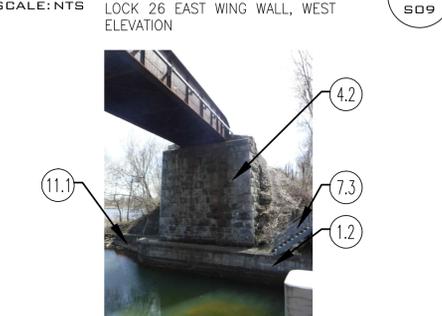
**PHOTO 11**  
SCALE: NTS LOCK 26 WEST APPROACH WALL AND TRAIN BRIDGE

11  
S09



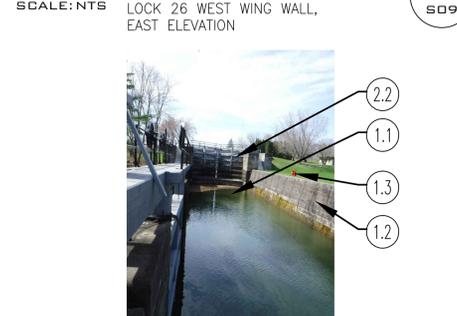
**PHOTO 12**  
SCALE: NTS STAIRS AT LOCK 26 WEST WING WALL

12  
S09



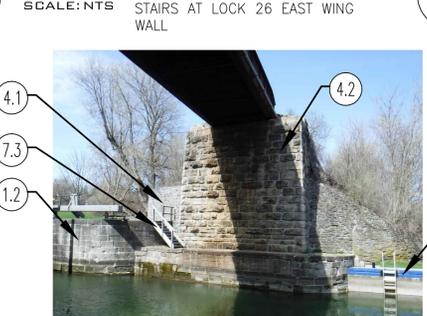
**PHOTO 13**  
SCALE: NTS WEST TRAIN BRIDGE WALL, EAST ELEVATION

13  
S09



**PHOTO 14**  
SCALE: NTS LOCK 26 LOOKING UPSTREAM

14  
S09



**PHOTO 15**  
SCALE: NTS LOCK 26 EAST APPROACH WALL AND TRAIN BRIDGE, WEST ELEVATION

15  
S09



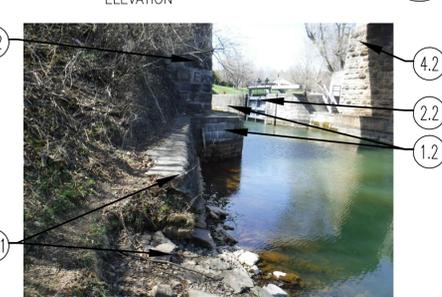
**PHOTO 16**  
SCALE: NTS LOCK 26 WEST APPROACH WALL

16  
S09



**PHOTO 17**  
SCALE: NTS WEST RETAINING WALL DOWNSTREAM OF LOCK 26, EAST ELEVATION

17  
S09



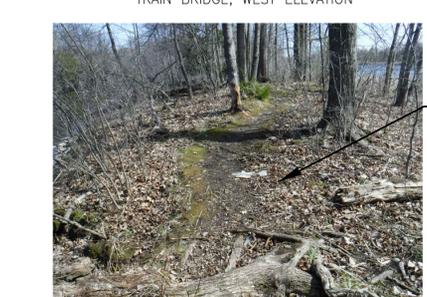
**PHOTO 18**  
SCALE: NTS WEST RETAINING WALL DOWNSTREAM OF LOCK 26

18  
S09



**PHOTO 19**  
SCALE: NTS

19  
S09



**PHOTO 20**  
SCALE: NTS ---

20  
S09

**PHOTOGRAPH NOTES:**

- PHOTO 1**  
1.1 LOCK FLOOR. REMOVE ALL DEBRIS. SEE DRAWING S04.  
1.2 MASONRY WALL ELEVATION, SEE DRAWING S05.  
1.3 LOCK FURNITURE, SEE NOTE 13 ON DRAWING S01.
- PHOTO 2**  
2.1 SEE WALL ELEVATION ON 8/S05.  
2.2 LOCK GATE MUST BE PROTECTED FOR DURATION OF WORK. TO COMPLETE WORK AT UPSTREAM EDGE OF BREAST WALL, GATES MUST BE OPEN.  
2.3 BREAST WALL SKYWARD FACING SLAB. FOR MASONRY SCOPE SEE DRAWING S02 AND SECTION 13/S07.
- PHOTO 3**  
3.1 MOORING LINE ANCHORS, SEE DRAWING S05.
- PHOTO 4**  
4.1 SEE WALL ELEVATION 07/S05.  
4.2 RAILWAY BRIDGE ABUTMENT N.I.C.

- PHOTO 5**  
5.1 MARK STONE, REMOVE, ANCHOR AND REINSTALL STONE TO MATCH EXISTING.  
5.2 INSTALL NEW STONES, ANCHORED TO BACKUP. ASSUME STONES 400mmDp.  
5.3 RAKE OUT AND REPOINT ALL REMAINING JOINTS AS PER ELEVATION 07/S05.
- PHOTO 6**  
6.1 EXISTING RAILINGS. CLEAN AND PAINT AS SPECIFIED.  
6.2 STONE SLAB AROUND GATE WINCHES. ALL VERTICAL JOINTS TO BE RAKED OUT AND REPOINTED, SEE 02/S06.
- PHOTO 7**  
7.1 CONCRETE WHARF DOWNSTREAM, SEE 02/S01.  
7.2 UPWARD FACING STONES AROUND RAILWAY BRIDGE ABUTMENT. FOR REPAIRS, SEE DRAWINGS S04 AND PHOTOS 19&20/S10.  
7.3 WOOD STAIRS TO BE PROTECTED FOR DURATION OF THE PROJECT.
- PHOTO 11**  
11.1 STONE MASONRY WALL N.I.C. COFFERDAM DOWNSTREAM TO BUTT INTO THIS WALL, OR IN THE NATURAL BANK DOWNSTREAM, SEE 02/S04.

- PHOTO 12**  
12.1 SKYWARD FACING JOINTS TO BE RAKED OUT AND REPOINTED, SEE DRAWING S04 AND DETAIL 02/S06.
- PHOTO 19**  
19.1 CONCRETE REPAIR AT WEST END OF CONCRETE PANEL UNDER GATE 3 WINCH ON WEST SIDE IF LOCK 26, SEE 05/S07.
- PHOTO 20**  
20.1 ISLAND DOWNSTREAM OF RAILWAY ABUTMENT ON WEST SIDE OF CANAL, INLAND OF NATURAL EMBANKMENT, SEE DRAWING S04.

17019-S09	DRAWING 10 OF 11
-----------	------------------

DRAWING NO.	DRAWING NAME
-------------	--------------

REFERENCE DRAWINGS			

NO.	DATE	DESCRIPTION	Drawn by	Approved
1	2018/08/01	ISSUED FOR BID	C.P.	P.C.

REVISIONS			
A	A Detail number	A	Numero de detail
B	B Sheet number	B	Sur feuille numero

Linear dimensions in millimeters / Dimensions lineaires en millimetres

--	--

PARCS CANADA / EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet  
**OLD SLYS LOCK 26 & 27 HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin  
**LOCK 26 & 27 PHOTOGRAPHIC DETAILS**

Plot Scale / Echelle  
 1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par	Date
C.P.	2017/06/26

Field Recording by / Releve-Temoin par	Date
P.C. & L.M. & C.P.	2017/04/27

Approved by / Approuve par	Date
P.C.	2018/08/01

Checked by/ Verifie par	Date
J.C.	2018/08/01

Project No./ No. du projet	Asset No.	Sheet No./ Feuille No.
17019		S09

Drawing Re No./No. du Dessin	
17019-S09-R01	

**JOHN G. COOKE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS  
 17 FITZGERALD ROAD SUITE 200  
 (613) 226-8718 FAX (613) 226-7424  
 E-MAIL: mailbox@jgcooke.com  
 WEB SITE: www.jgcooke.com

17019

17019-S10 DRAWING 11 OF 11

DRAWING NO. DRAWING NAME

REFERENCE DRAWINGS

1	2018/08/01	ISSUED FOR BID	C.P.	P.C.
---	------------	----------------	------	------

NO.	DATE	DESCRIPTION	Drawn by Dessine par	Approved Approuve
-----	------	-------------	-------------------------	----------------------

REVISIONS

A	A Detail number	A Numero de detail
B	B Sheet number	B Sur feuille numero

Linear dimensions in millimeters / Dimensions lineaires en millimetres

--	--

PARCS CANADA / EASTERN ONTARIO FIELD UNIT

Type of Record / Type d'enregistrement

Project title / Titre du projet

**OLD SLYS LOCK 26 & 27  
HERITAGE STONE MASONRY REPAIRS**

Drawing title / Titre du dessin

**LOCK 26 & 27  
PHOTOGRAPHIC DETAILS**

Plot Scale / Echelle  
1:1 (Arch D 24x36 Plot Size)

Drawn by/ Dessine par: C.P. Date: 2017/06/26

Field Recording by / Releve-Temoin par: P.C. & L.M. & C.P. Date: 2017/04/27

Approved by / Approuve par: P.C. Date: 2018/08/01

Checked by/ Verifie par: J.C. Date: 2018/08/01

Project No./ No. du projet: 17019 Asset No.:

Drawing Re No./No. du Dessin: 17019-S10-R00 Sheet No./ Feuille No.: S10



**PHOTO 1**  
SCALE:NTS EAST WALL, EAST ELEVATION



**PHOTO 2**  
SCALE:NTS EAST STAIRS



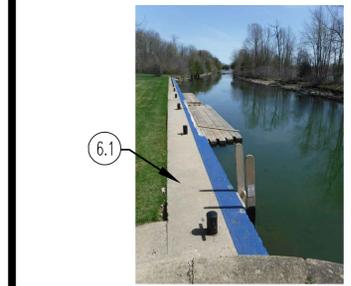
**PHOTO 3**  
SCALE:NTS WEST STAIRS



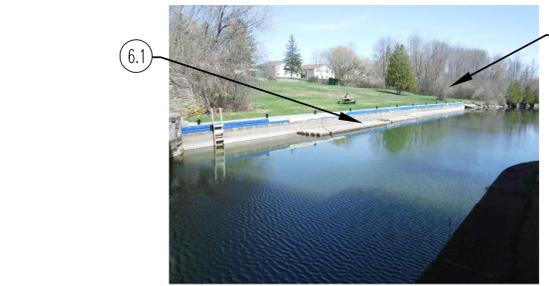
**PHOTO 4**  
SCALE:NTS TOP OF BREAST WALL AT LOCK 26



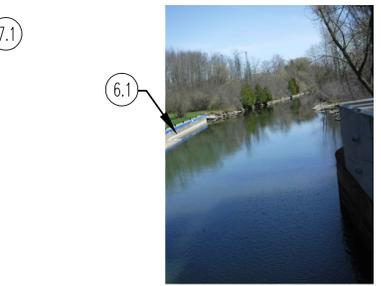
**PHOTO 5**  
SCALE:NTS WEST ELEVATION OF EAST STAIRS AT GATE 2



**PHOTO 6**  
SCALE:NTS DOWNSTREAM DOCK



**PHOTO 7**  
SCALE:NTS DOWNSTREAM DOCK



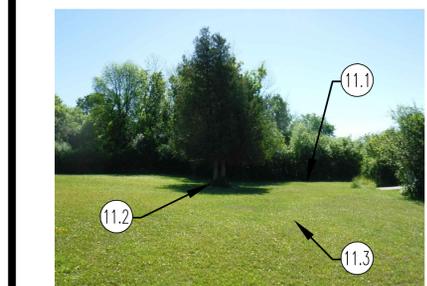
**PHOTO 8**  
SCALE:NTS LOOKING DOWNSTREAM OF LOCK 26



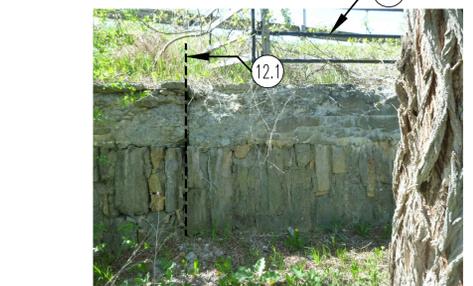
**PHOTO 9**  
SCALE:NTS



**PHOTO 10**  
SCALE:NTS LOCK 26 WEST APPROACH WALL, EAST ELEVATION



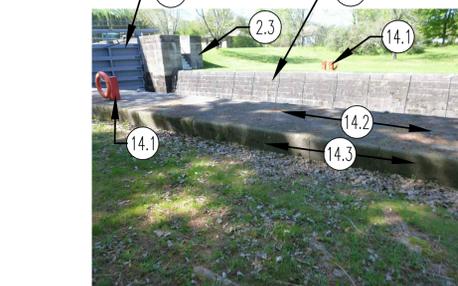
**PHOTO 11**  
SCALE:NTS



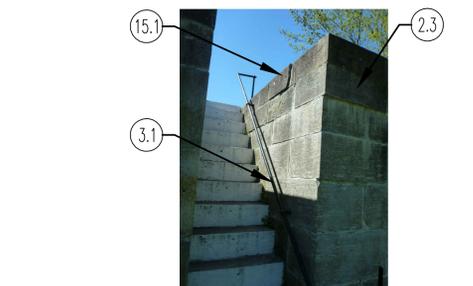
**PHOTO 12**  
SCALE:NTS



**PHOTO 13**  
SCALE:NTS



**PHOTO 14**  
SCALE:NTS



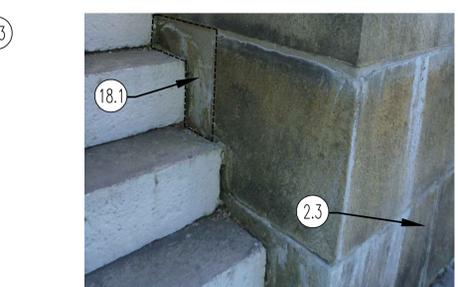
**PHOTO 15**  
SCALE:NTS



**PHOTO 16**  
SCALE:NTS



**PHOTO 17**  
SCALE:NTS



**PHOTO 18**  
SCALE:NTS



**PHOTO 19**  
SCALE:NTS



**PHOTO 20**  
SCALE:NTS

**PHOTOGRAPH NOTES:**

- PHOTO 1**  
1.1 N.I.C.  
1.2 SEE WALL ELEVATION 09/S05..  
1.3 EXCAVATE ADJACENT TO WALL TO EXTEND MASONRY REPOINTING 600mm BELOW GRADE, SEE 06/S03.
- PHOTO 2**  
2.1 LOCK GATE MUST BE PROTECTED FOR DURATION OF WORK. TO COMPLETE WORK AT UPSTREAM EDGE OF BREAST WALL, GATES MUST BE OPEN.  
2.2 BREAST WALL SKYWARD FACING SLAB. FOR MASONRY SCOPE SEE DRAWING S02 AND SECTION 13/S07.  
2.3 SEE WALL ELEVATION 08/S05.
- PHOTO 3**  
3.1 EXISTING STEEL RAILINGS. CLEAN AND PAINT AS SPECIFIED.  
3.2 EXCAVATE AND BACKFILL, SEE NOTE 29 ON DRAWING S01.
- PHOTO 4**  
4.1 LOCK FLOOR. REMOVE ALL DEBRIS, SEE DRAWINGS S04.

- PHOTO 5**  
5.1 MASONRY WALL ELEVATION, SEE DRAWING S05.  
5.2 EXISTING STEEL LADDER, SEE DRAWING S05 FOR SCOPE, TYPICAL.  
5.3 MOORING LINE ANCHORS, SEE DRAWING S05..
- PHOTO 6**  
6.1 CONCRETE WHARF DOWNSTREAM, SEE 02/S01.
- PHOTO 7**  
7.1 NEW ACCESS ROAD TO BE CONSTRUCTED, SEE NOTE 8 ON 01/S01. CLEAR THE MINIMUM QUANTITY OF TREES AND SHRUBS, INCLUDING ROOT REMOVAL SO THAT THE ROAD CAN BE CONSTRUCTED AS DETAIL 10/S07.
- PHOTO 8**  
8.1 NATURAL WEST BANK AND ISLAND, SEPARATING THE CANAL FROM THE RIVER, DOWNSTREAM OF LOCK 26.
- PHOTO 10**  
10.1 RAILWAY BRIDGE ABUTMENT N.I.C.  
10.2 STONE MASONRY WALL N.I.C. COFFERDAM DOWNSTREAM TO BUTT INTO THIS WALL, OR IN THE NATURAL BANK DOWNSTREAM, SEE 02/S04.

- PHOTO 11**  
11.1 LOCATION OF NEW ACCESS ROAD. LOCATE ROAD AWAY FROM WATERWAY AND EXISTING TRAIL. REMOVE BUSH AND SMALL TREES. ACCESS ROAD AND BASE THROUGH BUSH TO REMAIN IN PLACE ON COMPLETION OF THE WORK.  
11.2 PROTECT EXISTING TREE. TREE TO REMAIN.  
11.3 REMOVE TEMPORARY ROAD IN GRASSED AREAS ON COMPLETION OF WORK. REINSTATE LAWN WITH SOD.
- PHOTO 12**  
12.1 EXTENT OF WORK ON NORTH RETRAINING WALL, WEST OF LOCK 27, SEE 08/S07.  
12.2 EXISTING RAILING, SEE 08/S07.
- PHOTO 13**  
13.1 LOCATION WHERE ACCESS ROAD ENTERS CITY WATER PLATE SITE. SEE NOTE 29 ON 01/S01. PROVIDE NEW HEAVY DUTY LOCKABLE GATE, WITH POSTS AND HINGES IN FENCE ON PERIMETER OF CITY WATER PLANT SITE. GATE MESH TO MATCH EXISTING FENCE.
- PHOTO 14**  
14.1 LOCK FURNITURE, SEE NOTE 13 ON DRAWING S01.

- 14.2 SKYWARD FACING JOINTS TO BE RAKED OUT AND REPOINTED, SEE DRAWINGS S04 AND DETAIL 02/S06.  
14.3 EXCAVATE AND BACKFILL AT BACKSIDE OF WEST WALL AS 09/S07 FOR FULL EXTENT OF LOCK 26. RAKE OUT AND REPOINT ALL EXPOSED VERTICAL JOINTS, AS NOTED.
- PHOTO 15**  
15.1 LARGE DUTCHMAN REPAIR ON EAST SIDE OF GATE 2, SEE 01/S02.
- PHOTO 16**  
16.1 STONE TO BE REMOVED AND RESET ON WEST SIDE OF GATE 2, SEE 01/S02. REMOVE AND RESET RAILING, SO WORK CAN BE COMPLETED.
- PHOTO 17**  
17.1 EDGE DUTCHMAN REPAIR ON STAIR ON WEST SIDE OF GATE 2, SEE 01/S04 AND 08/S05.
- PHOTO 18**  
18.1 LARGE DUTCHMAN REPAIR AT STEP, ON STAIRS ON WEST SIDE OF GATE 2, SEE 01/S04 AND 08/S05.

- PHOTO 19**  
19.1 REMOVE DEBONDED CONCRETE PATCH AND REPLACE WITH LARGE DUTCHMAN REPAIRS, ON EAST SIDE OF CANAL DOWNSTREAM OF LOCK 26, ADJACENT TO THE RAILWAY ABUTMENT. SEE 01/S04.