

WATERLINE REPLACEMENT AND SERVICE TUNNEL REPAIRS - CITADEL HILL, HALIFAX, NS

R3 - 2016/10/12 - ISSUED FOR TENDER

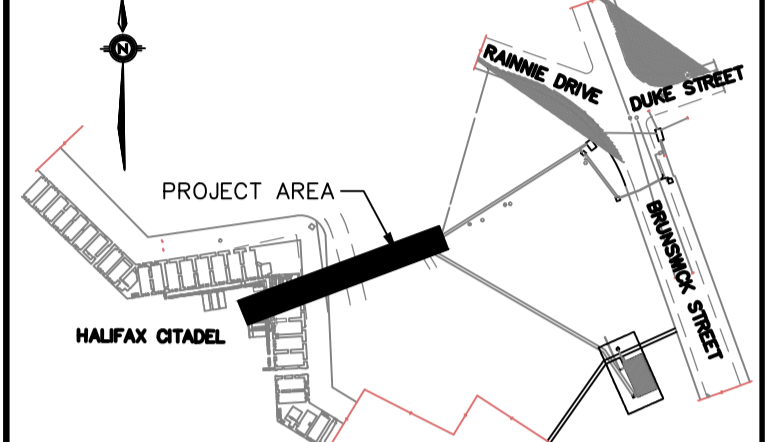


WSP Canada Inc.
1 Spectacle Lake Drive
Dartmouth, Nova Scotia, Canada B3B 1X7
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SEAL:



KEY PLAN:



LEGEND:	PROPOSED	EXISTING
EDGE OF PAVEMENT	---	---
LOTLINE	---	---
WATERMAIN & GATE VALVE	---W---G	---W---G
SANITARY PIPE & MANHOLE	---S---M	---S---M
STORM PIPE & MANHOLE	---ST---SM	---ST---SM
UTILITY LINES & POLE	---	---
STREET BOUNDARY	---	---
PROPERTY BOUNDARY	---	---
EASEMENT	---	---
CURB & DRIVEWAY CUT	---	---
CATCH BASIN	---	---
FIRE HYDRANT	---	---
STREET TREE	---	---
ROAD SIGN	---	---
	SANITARY LATERAL	SANITARY LATERAL
	WATER LATERAL	WATER LATERAL
	CATCH BASIN LEAD	CATCH BASIN LEAD
	ENDCAP	CULVERT
	LIGHT STANDARD	HEADWALK
	PHONE PEDESTAL	SIDEWALK
	URD BOX	FENCE

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NO.	DATE	DESCRIPTION
3	2016/10/12	ISSUED FOR TENDER
2	2016/09/16	ISSUED FOR 99% REVIEW
1	2016/08/11	PHASE RS-4 DESIGN DEVELOPMENT

PROJECT NO:	161-06021	DATE: (YYYY/MM/DD)	2016/08/11
ORIGINAL SCALE:	HORIZONTAL: 1:500	VERTICAL:	IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY:	N. T. FOUGERE, P.ENG		
DRAWN BY:	M. AL-MIARI, CET		
CHECKED BY:	N. T. FOUGERE, P.ENG		

SCALE: 1:200 METRIC	25mm

CLIENT:



CLIENT REF. #:
PROJECT:

SERVICE TUNNEL REPAIRS
HALIFAX, NS

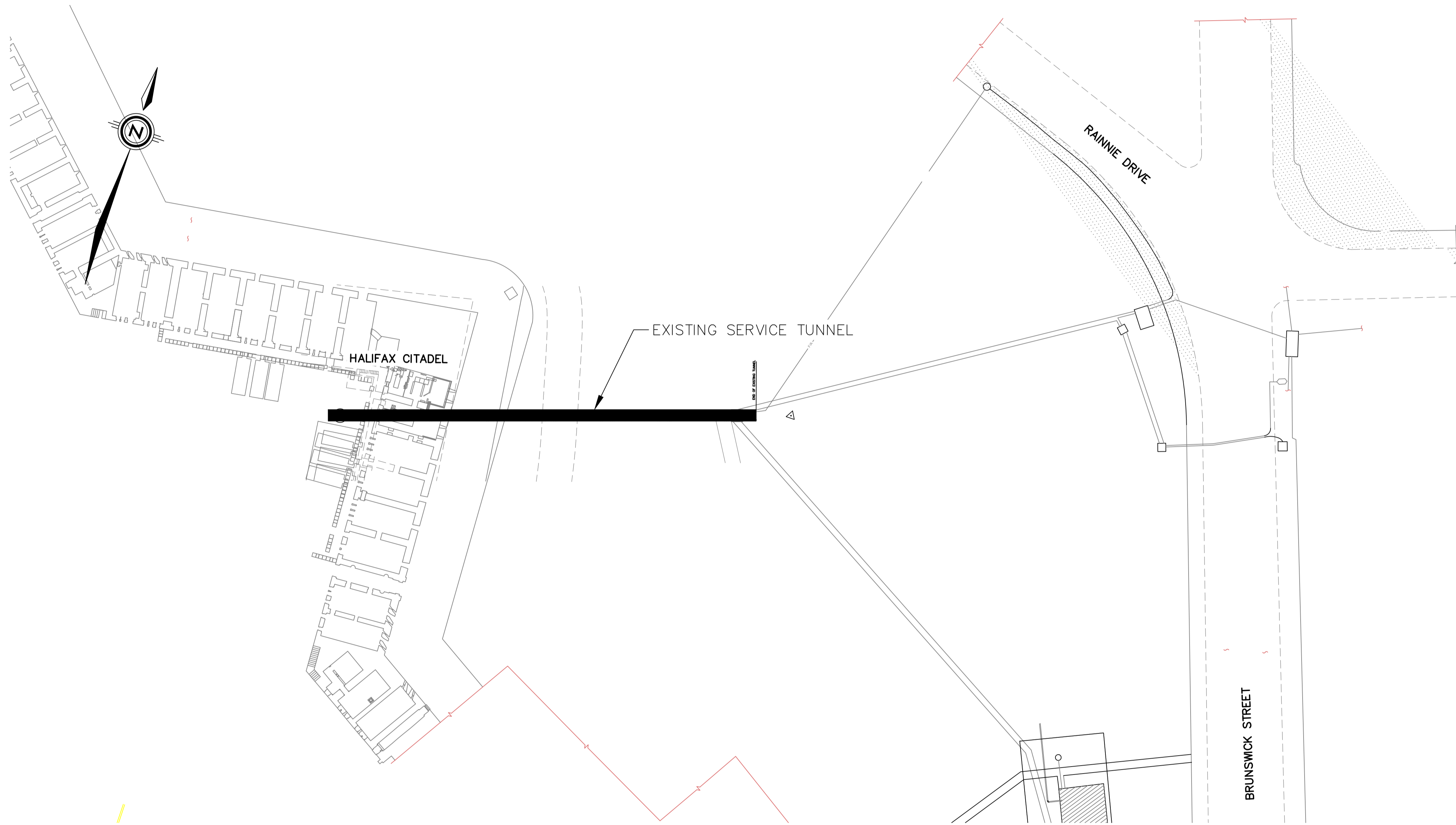
TITLE:
COVER

SHEET NUMBER:
1

SHEET #:
1 OF 5

ISSUE:
ISSUED FOR TENDER

DATE OF: 2016/10/12
REV #:
3



DRAWINGS LIST

1 - COVER

CIVIL:

2 - WATER MAIN - PLAN AND PROFILE STA. -0+010 TO 0+110

3 - ABOVE GROUND SITE LAYOUT

STRUCTURAL

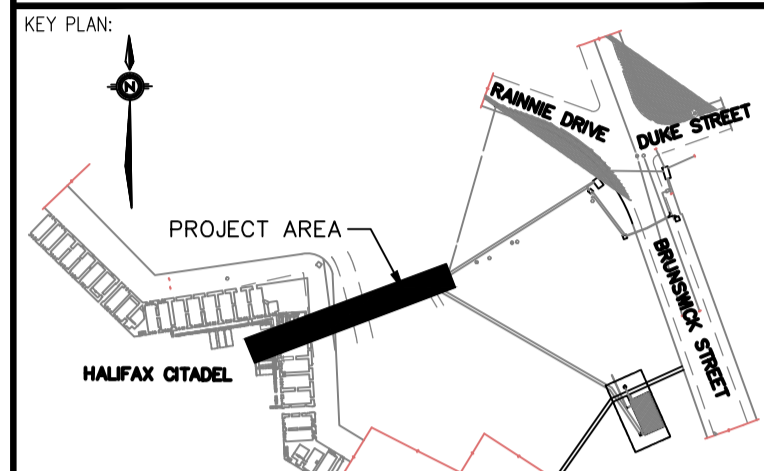
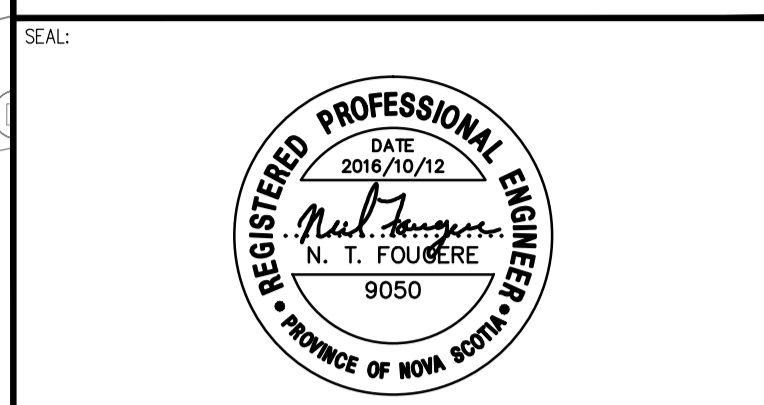
4 - REPAIR DETAILS

ELECTRICAL

5 - ELECTRICAL REMEDIATION - PLAN, NOTES AND SECTION



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LEGEND:	PROPOSED	EXISTING
EDGE OF PAVEMENT		
LOTLINE		
WATERMAIN & GATE VALVE		
SANITARY PIPE & MANHOLE		
STORM PIPE & MANHOLE		
UTILITY LINES & POLE		
STREET BOUNDARY		
PROPERTY BOUNDARY		
EASEMENT		
CURB & DRIVEWAY OUT		
CATCH BASIN		
FIRE HYDRANT		
STREET TREE		
ROAD SIGN		

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	3	2016/10/12	ISSUED FOR TENDER
	2	2016/09/16	ISSUED FOR 99% REVIEW
	1	2016/08/11	PHASE RS-4 DESIGN DEVELOPMENT
	0	2016/07/22	PHASE RS-3 DESIGN DEVELOPMENT

PROJECT NO:	161-06021	DATE: (YYYY/MM/DD)	2016/07/13
ORIGINAL SCALE:		HORIZONTAL: 1:200	VERTICAL: 1:50
DESIGNED BY:	N. T. FOUGERE, P.ENG		
DRAWN BY:	M. AL-MIARI, CET		
CHECKED BY:	N. T. FOUGERE, P.ENG		



CLIENT:
 Parks Canada

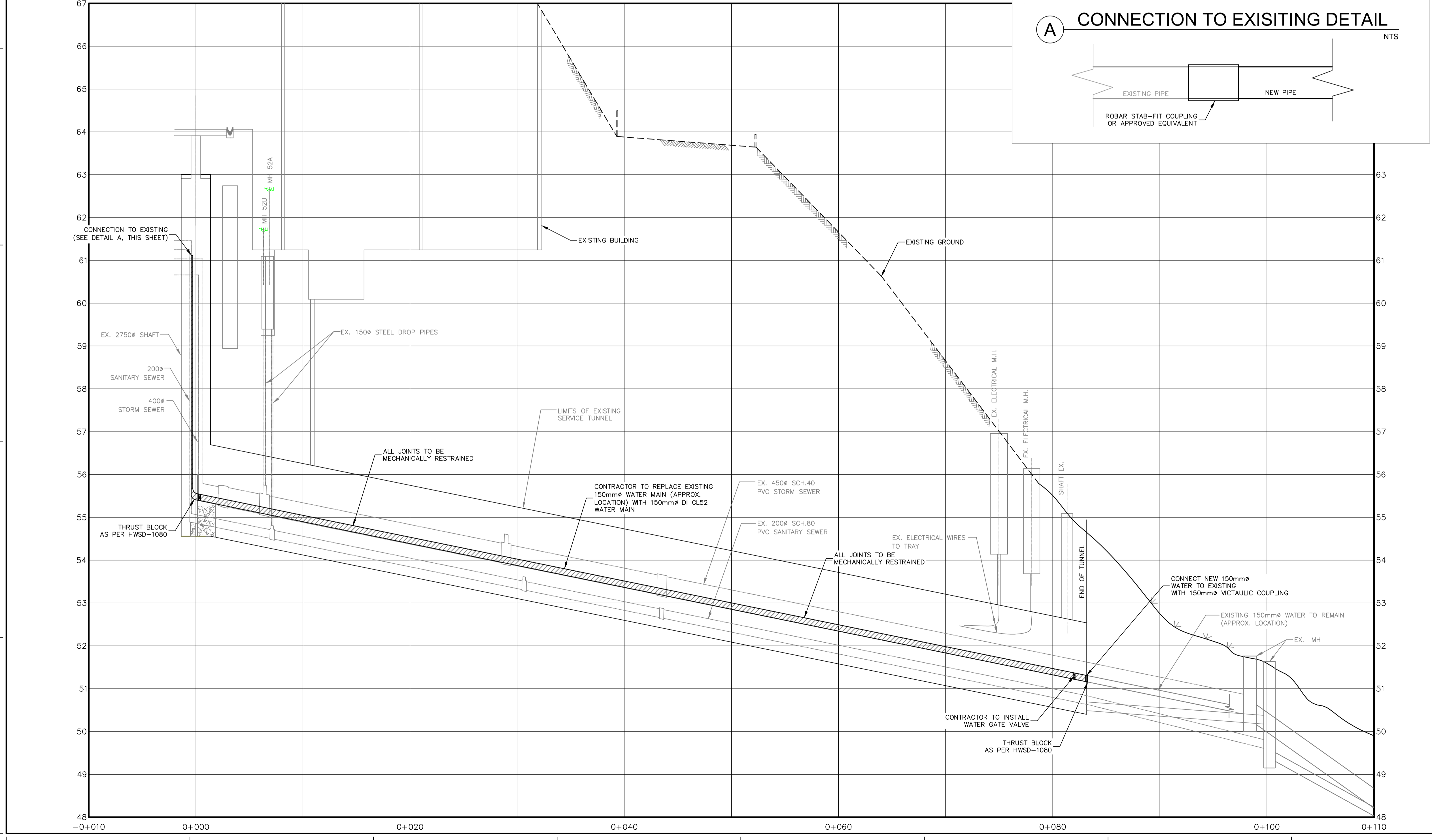
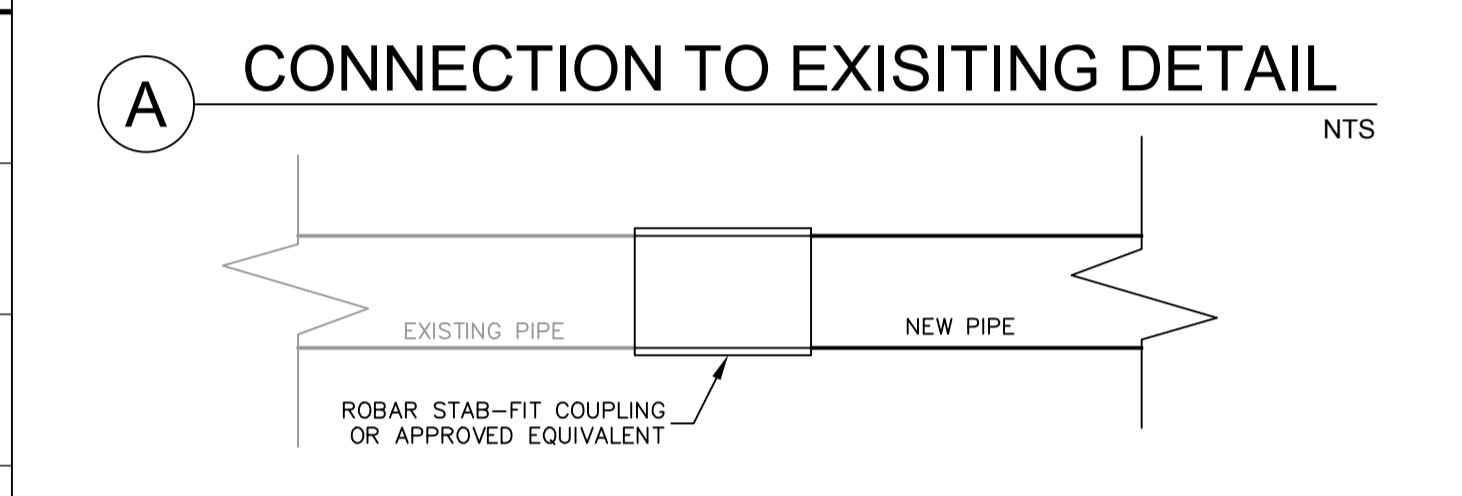
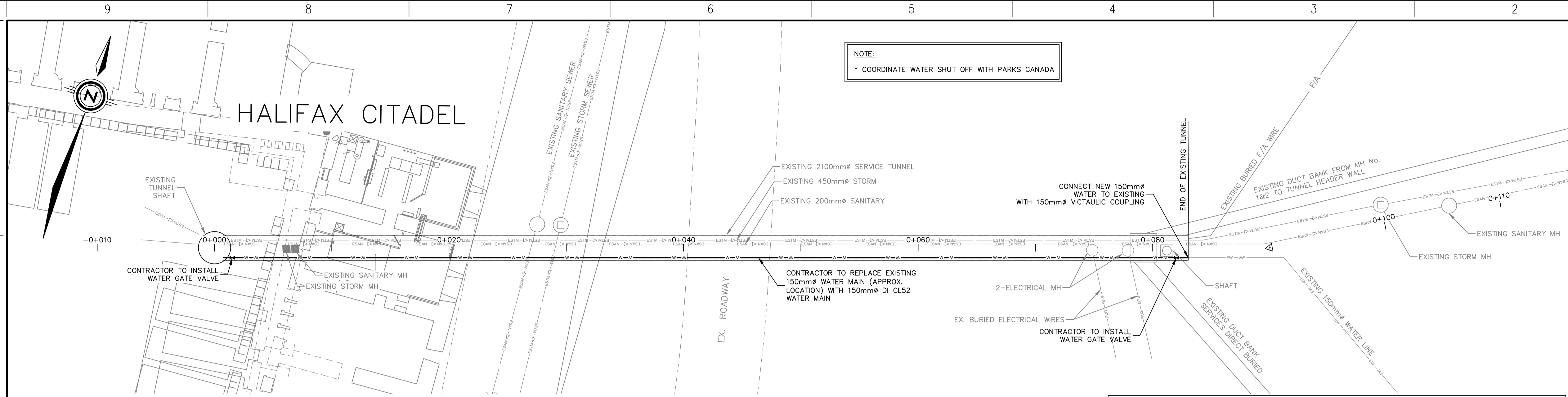
CLIENT REF. #:
PROJECT:
SERVICE TUNNEL REPAIRS
HALIFAX, NS

TITLE:
CIVIL - PLAN AND PROFILE
WATER MAIN
STA. -0+010 TO 0+110

SHEET NUMBER:
2
SHEET # 2 OF 5
ISSUED FOR TENDER
DATE OF: 2016/10/12

REV #
3

NOTE:
• COORDINATE WATER SHUT OFF WITH PARKS CANADA



XREFS: K:\DARTMOUTH\2016\161-06021 PARKS CANADA HALIFAX CITADEL\1.1 - EXTERNAL REFERENCES\161-06021 BASE.DWG

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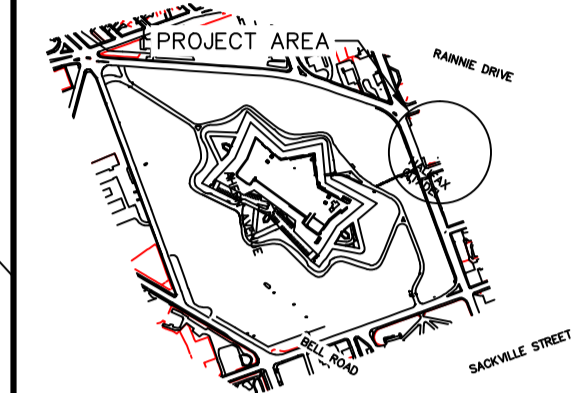


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SEAL:



KEY PLAN:



LEGEND:	PROPOSED	EXISTING
EDGE OF PAVEMENT	---	---
LOTLINE	---	---
WATERMAIN & GATE VALVE	---W---G	EW---G
SANITARY PIPE & MANHOLE	---S---M	ES---M
STORM PIPE & MANHOLE	---ST---M	ES---M
UTILITY LINES & POLE	---U---P	ES---P
STREET BOUNDARY	---	---
PROPERTY BOUNDARY	---	---
EASEMENT	---	---
CURB & DRIVEWAY CUT	---	---
CATCH BASIN	CB	CB
FIRE HYDRANT	---FH---	---
STREET TREE	---	---
ROAD SIGN	---	---
	SANITARY LATERAL	SANITARY LATERAL
	STORM LATERAL	STORM LATERAL
	WATER LATERAL	WATER LATERAL
	CATCH BASIN LEAD	CATCH BASIN LEAD
	CULVERT	CULVERT
	HEADWALL	HEADWALL
	SIDEWALK	SIDEWALK
	FENCE	FENCE

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2	2016/09/16	ISSUED FOR 99% REVIEW

PROJECT NO: 161-06021	DATE: (YYYY/MM/DD) 2016/09/09
ORIGINAL SCALE: HORIZONTAL: 1:200 VERTICAL: N/A	IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: N. T. FOUGERE, P.ENG	
DRAWN BY: J. HOCKLEY, EIT	
CHECKED BY: N. T. FOUGERE, P.ENG	



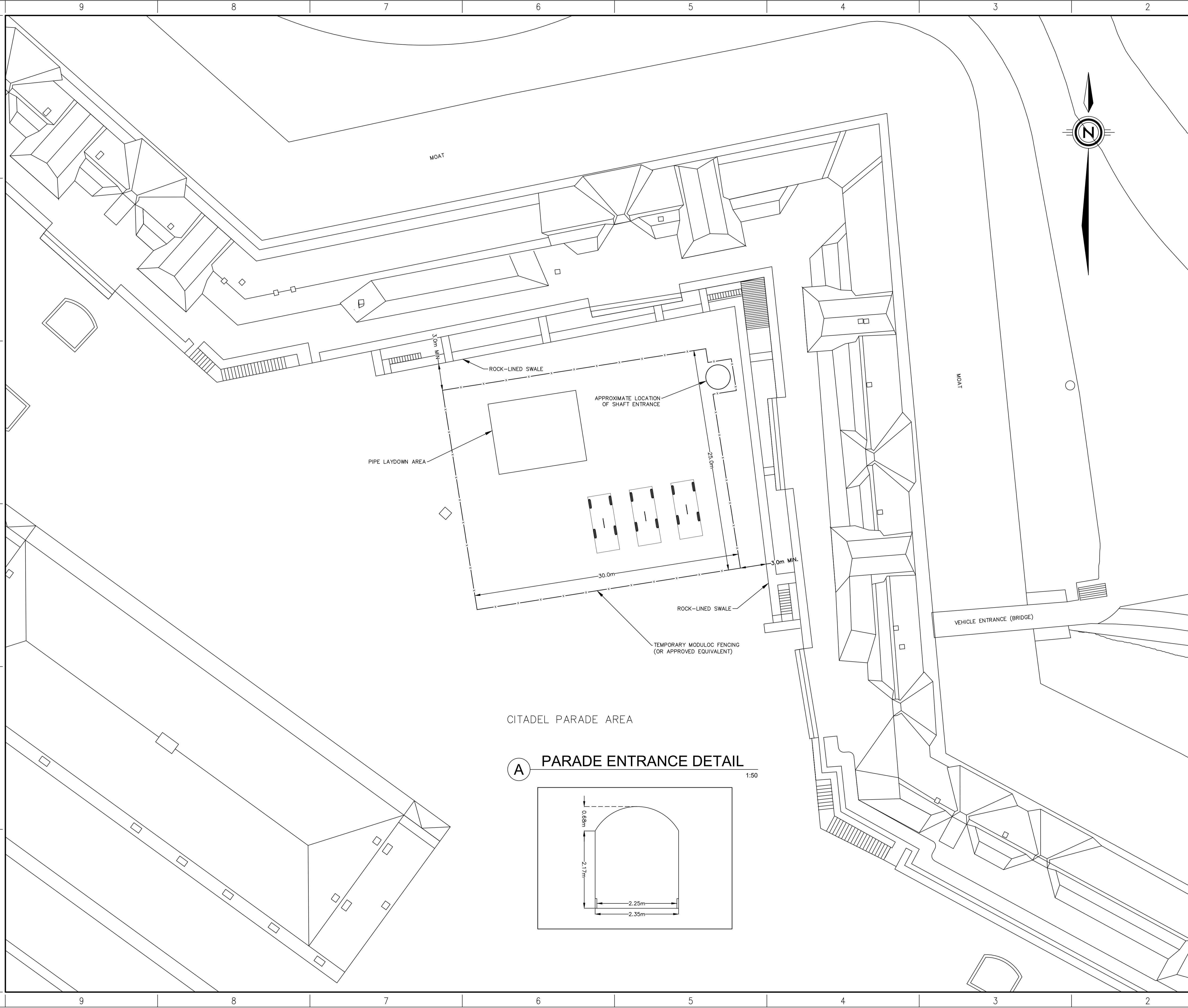
CLIENT:

CLIENT REF. #
PROJECT:

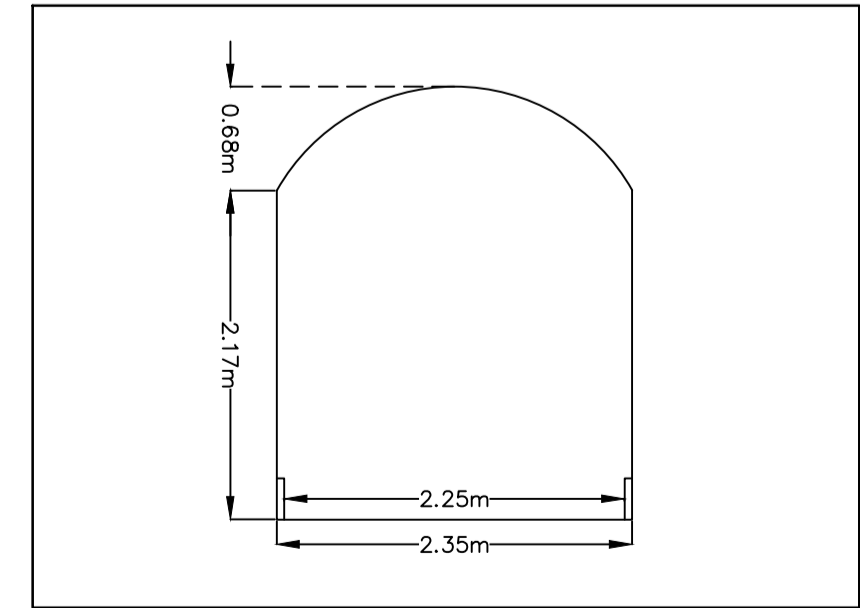
SERVICE TUNNEL REPAIRS
HALIFAX, NS

TITLE:
ABOVE GROUND SITE LAYOUT

SHEET NUMBER: 3	3 OF 5	REV #
ISSUE: ISSUED FOR TENDER		3
DATE OF: 2016/10/12		

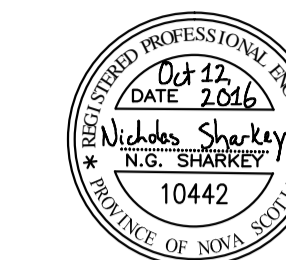


CITADEL PARADE AREA
A PARADE ENTRANCE DETAIL
1:50

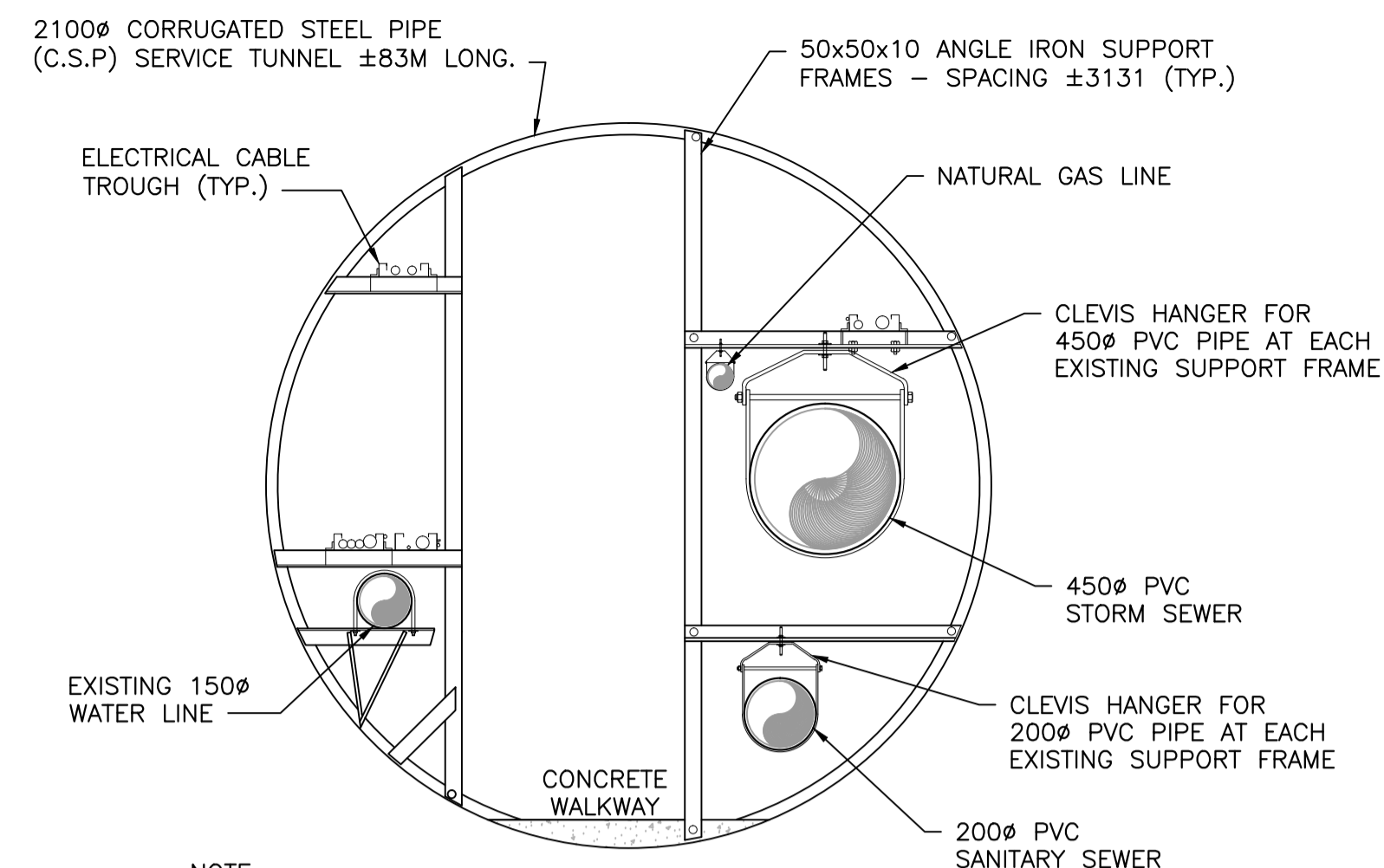
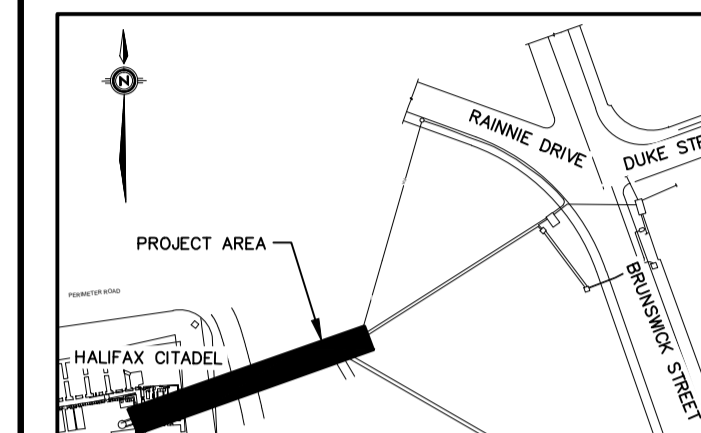


XREFS: K:\DARTMOUTH\2016\161-06021 PARKS CANADA - HALIFAX CITADEL.V11 - DWG.V11.9 FROM OTHERS\SEPTEMBER 09 2016\CITADEL BASE PLAN.WSP SETTINGS

BY: JULIAN MOSE
PRINTED: 4:23 PM 2016/10/12
ABOVE GROUND SITE LAYOUT
ABOVE GROUND SITE LAYOUT
K:\DARTMOUTH\2016\161-06021 PARKS CANADA - HALIFAX CITADEL.V11 - DWG.V11.4 - 2. PRODUCTION DRAWINGS\161-06021 ABOVE GROUND SITE LAYOUT.DWG



KEY PLAN:

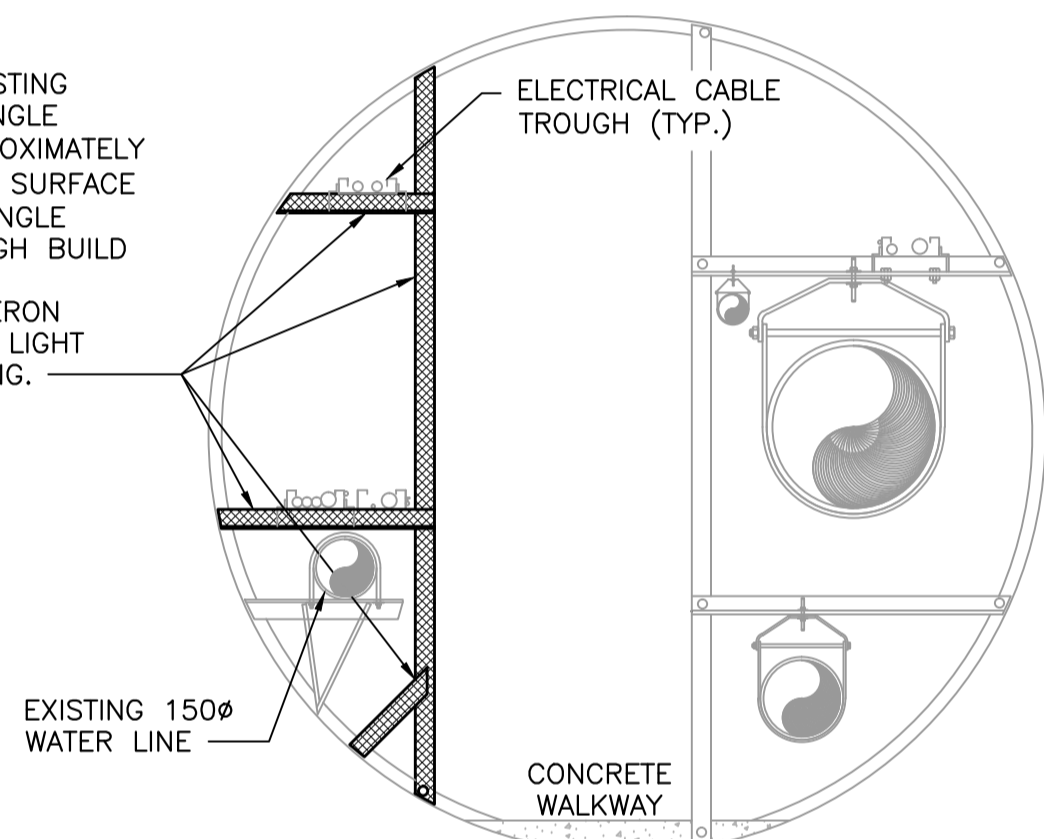


NOTE:
CONTRACTOR TO ENSURE ALL ITEMS AND ELEMENTS NOT BEING REPAIRED AS PART OF THIS PROJECT BE PROTECTED FROM DAMAGE.

APPROXIMATE EXISTING CONDITIONS A
3

SCALE : N.T.S.

MECHANICALLY REMOVE EXISTING SURFACE CORROSION AT ANGLE SUPPORT LOCATIONS (APPROXIMATELY 27 TOTAL). ONCE FREE OF SURFACE CORROSION COAT ENTIRE ANGLE SUPPORT STEEL WITH A HIGH BUILD ALUMINUM MASTIC PAINT, ACCEPTABLE PRODUCT: AMERON AMERLOCK 400 AL, COLOR LIGHT GREY TO MATCH GALVANIZING.



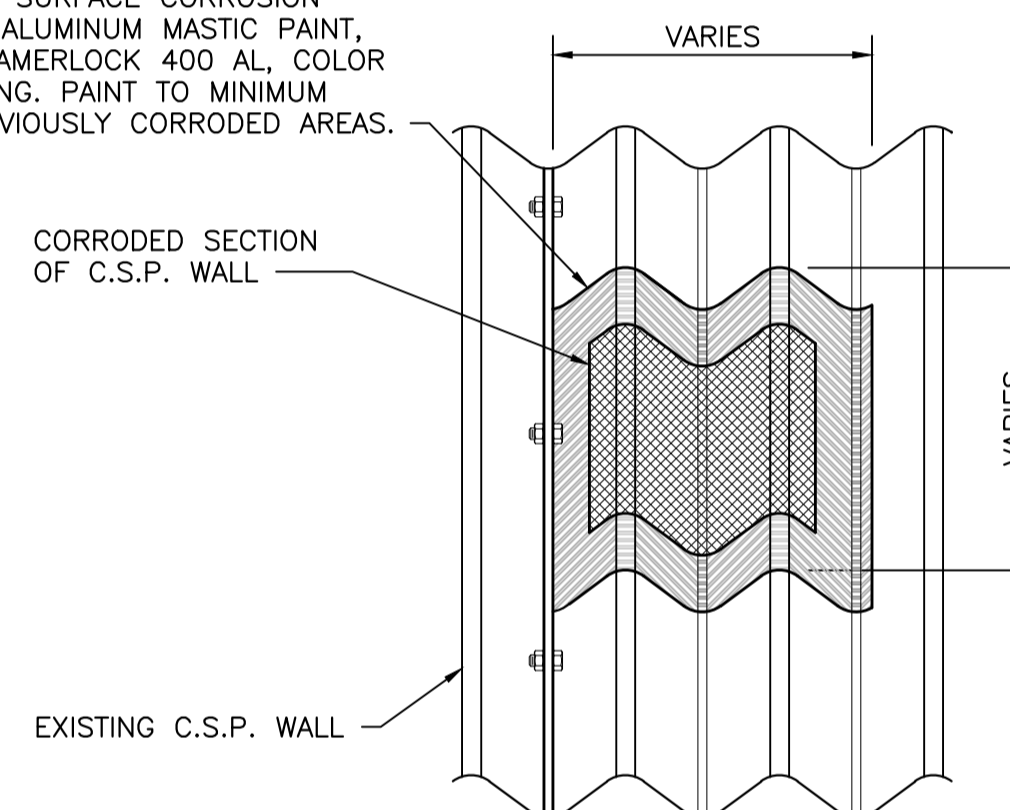
ANGLE SUPPORT REPAIR C
3

SCALE : N.T.S.



TYPICAL EXISTING ANGLE SUPPORT BRACKET

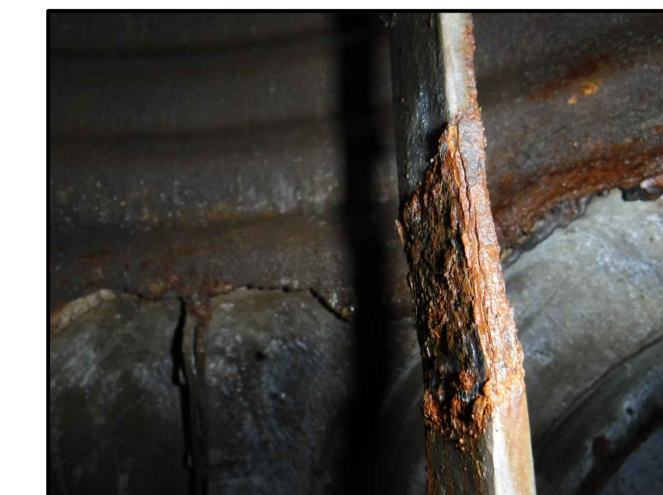
MECHANICALLY REMOVE EXISTING SURFACE CORROSION AT PATCH LOCATION. ONCE FREE OF SURFACE CORROSION COAT STEEL WITH A HIGH BUILD ALUMINUM MASTIC PAINT, ACCEPTABLE PRODUCT: AMERON AMERLOCK 400 AL, COLOR LIGHT GREY TO MATCH GALVANIZING. PAINT TO MINIMUM 75mm BEYOND EXTENTS OF PREVIOUSLY CORRODED AREAS.



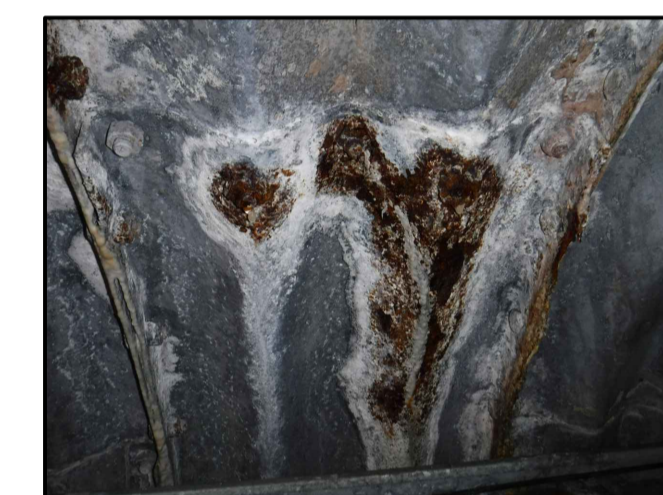
NOTE:
LOCATIONS AND EXTENTS OF REPAIR AREA TO BE DETERMINED ON SITE. COORDINATE WITH DEPARTMENTAL REPRESENTATIVE.

SERVICE TUNNEL WALL COATING D
3

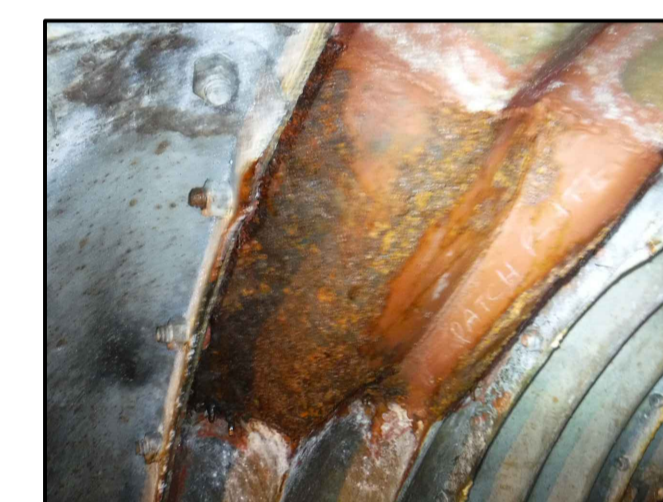
SCALE : N.T.S.



EXISTING SURFACE CORROSION ON LADDER



EXISTING SURFACE CORROSION ON C.S.P. WALL



EXISTING PATCH ON C.S.P. WALL

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REVISION:

NO.	DATE	DESCRIPTION
0	2016/10/12	ISSUED FOR TENDER

PROJECT NO: 161-06021

DATE: 2016/07/13

ORIGINAL SCALE: HORIZONTAL: N.T.S. VERTICAL: N.T.S.

DESIGNED BY: N. SHARKEY

DRAWN BY: K. PITRE

CHECKED BY: W. ENMAN

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

CLIENT:



CLIENT REF. #

PROJECT:

SERVICE TUNNEL REPAIRS
HALIFAX, NS

TITLE:
STRUCTURAL REPAIR DETAILS

SHEET NUMBER: 4

SHEET # 4 of 5

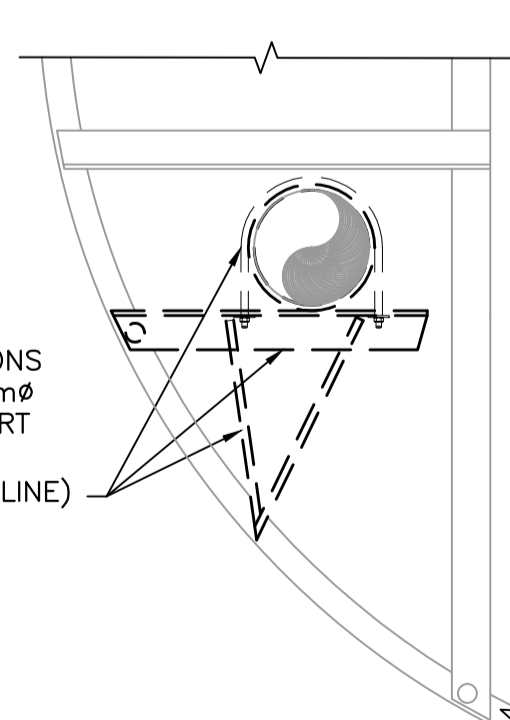
ISSUE: REV #

ISSUED FOR TENDER

DATE OF: 2016/10/12

0

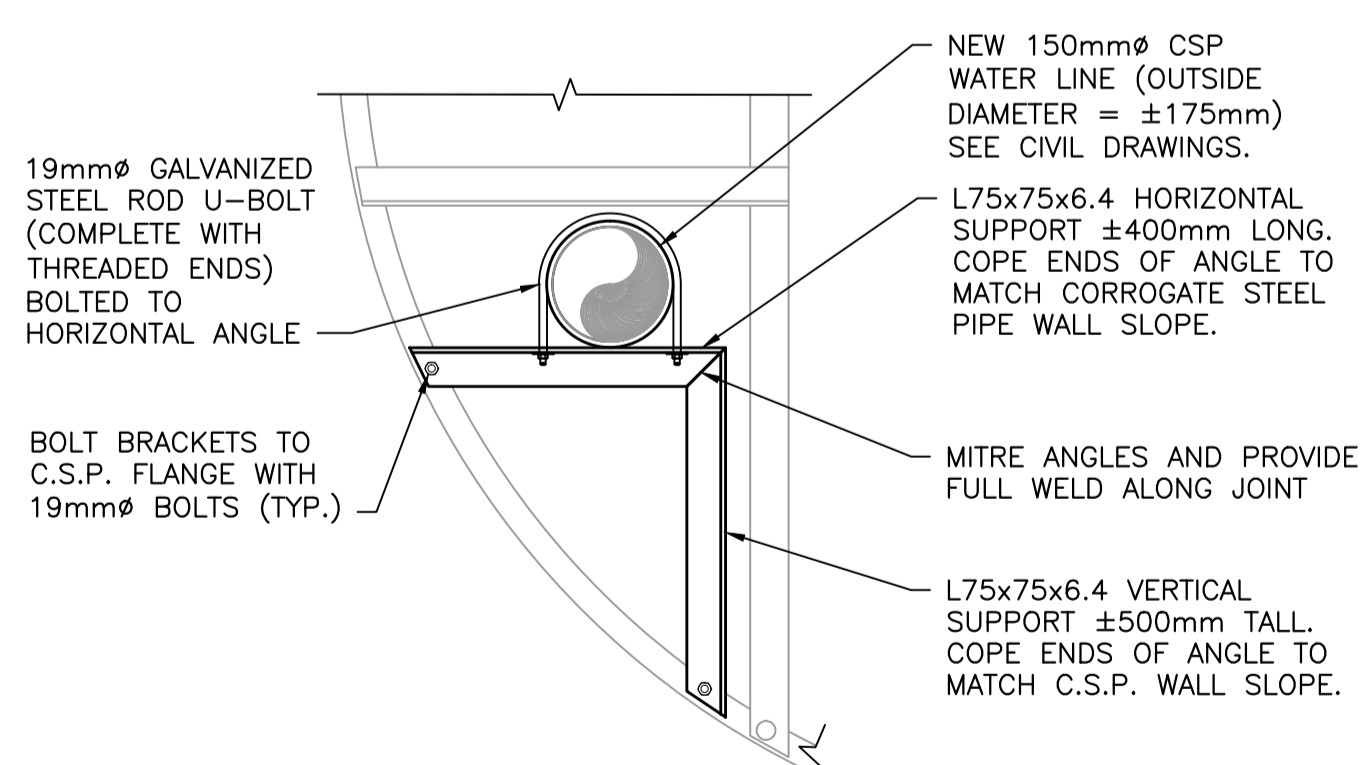
REMOVE ALL SECTIONS OF EXISTING 150mm ϕ WATER LINE SUPPORT BRACKETS (FULL LENGTH OF WATER LINE)



NOTE:
COORDINATE REMOVAL OF BRACKET SUPPORTS WITH REMOVAL OF WATER LINE (SEE CIVIL DRAWINGS)

WATER LINE SUPPORT BRACKET DEMOTION E
3

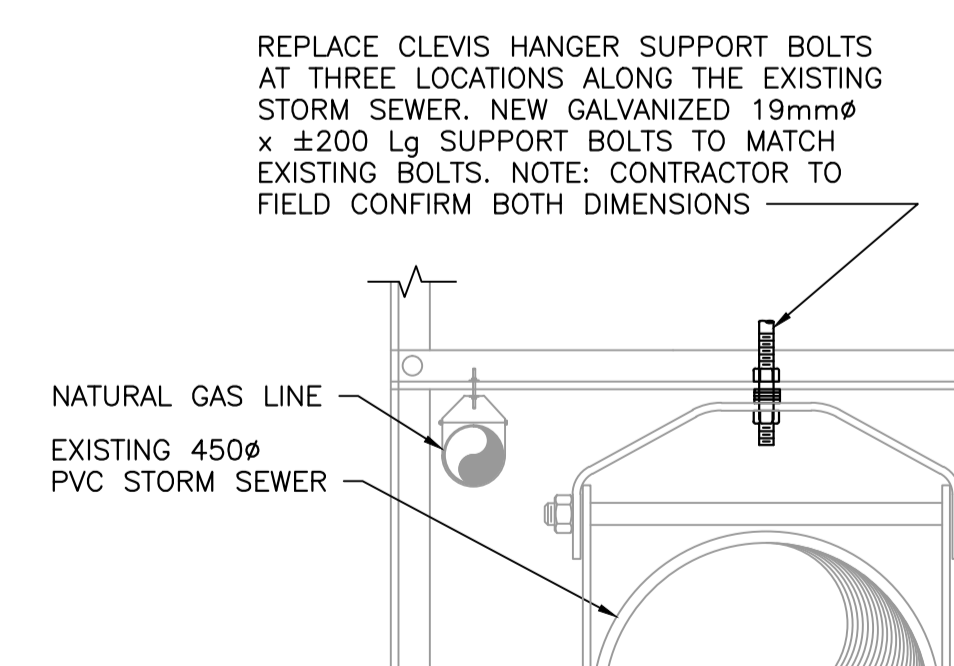
SCALE : N.T.S.



NOTE:
1. SUPPORTS TO BE SPACED MAX \pm 2.4m APART. LOCATED AT C.S.P. FLANGE LOCATIONS (32 BRACKETS TOTAL)
2. ALL EXISTING DIMENSIONS ARE TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO FABRICATION OF BRACKETS.
3. ALL NEW STEEL FOR WATER LINE BRACKETS TO BE HOT DIP GALVANIZED AFTER FABRICATION
4. COORDINATE ELEVATION OF WATER LINE WITH CIVIL DRAWINGS

NEW WATER LINE SUPPORT BRACKET DETAIL F
3

SCALE : N.T.S.



NOTE:
CONTRACTOR TO TEMPORARILY SUPPORT EXISTING 450 ϕ STORM SEWER UNTIL NEW CLEVIS HANGER SUPPORTS BOLTS ARE INSTALLED

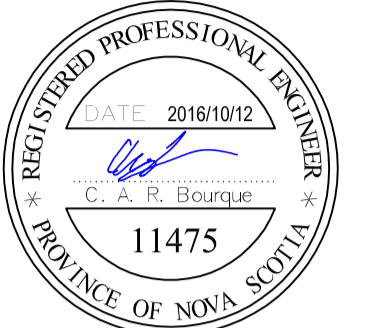
STORM SEWER CLEVIS HANGER SUPPORT BOLT REPLACEMENT G
3

SCALE : N.T.S.

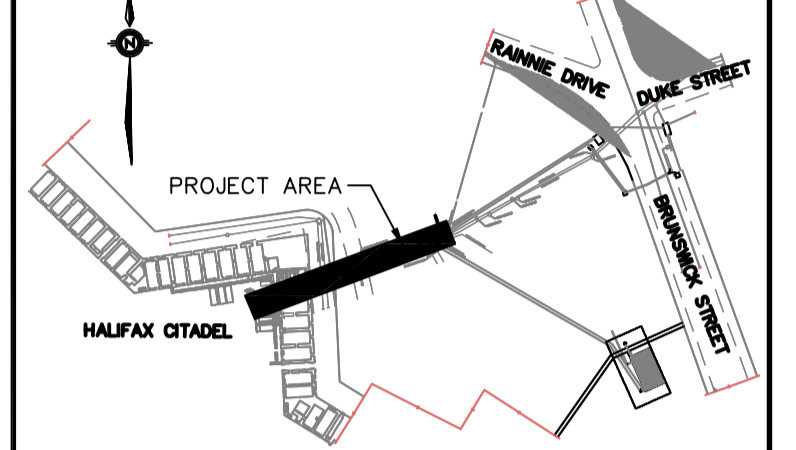


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SEAL:



KEY PLAN:



LEGEND:

	PROPOSED	EXISTING
EDGE OF PAVEMENT		
LOTLINE		
WATERMAIN & GATE VALVE		
SANITARY PIPE & MANHOLE		
STORM PIPE & MANHOLE		
UTILITY LINES & POLE		
STREET BOUNDARY		
PROPERTY BOUNDARY		
EASEMENT		
CURB & DRIVEWAY CUT		
CATCH BASIN		
FIRE HYDRANT		
STREET TREE		
ROAD SIGN		

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2	2016/09/16	ISSUED FOR 99% REVIEW
1	2016/08/11	PHASE RS-4 DESIGN DEVELOPMENT
0	2016/07/22	PHASE RS-3 DESIGN DEVELOPMENT

PROJECT NO:	161-06021	DATE: (YYYY/MM/DD)	2016/07/13
ORIGINAL SCALE:	HORIZONTAL: AS SHOWN VERTICAL: N/A		
DESIGNED BY:	C. BOURQUE, P. ENG		
DRAWN BY:	M. AL-MIARI/C. BOURQUE		
CHECKED BY:	C. BOURQUE, P. ENG		

SCALE: 1:100 METRIC

CLIENT:	
CLIENT REF. #:	
PROJECT:	

SERVICE TUNNEL REPAIRS
 HALIFAX, NS

TITLE:
PLAN, NOTES AND SECTION
ELECTRICAL REMEDIATION

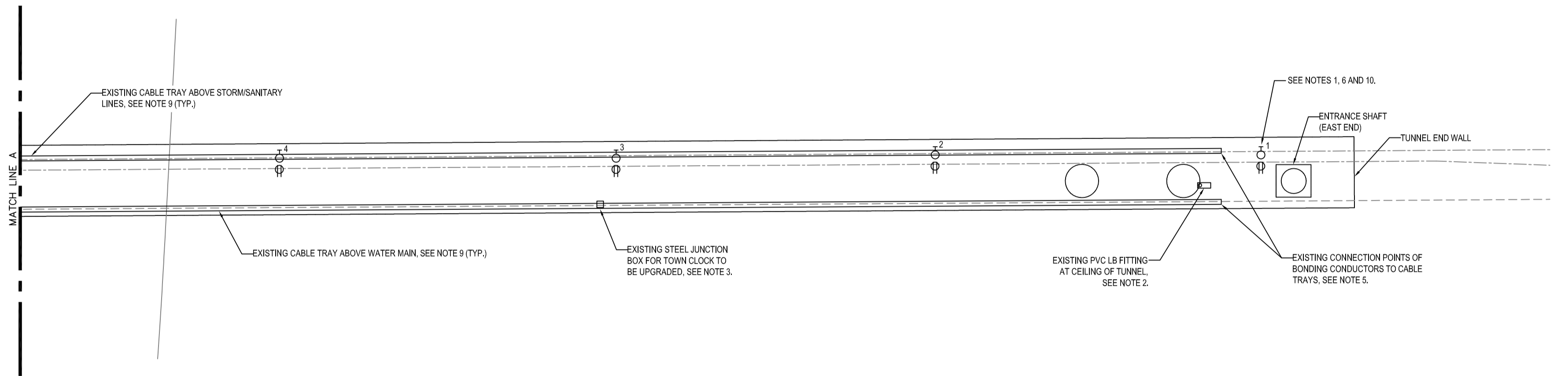
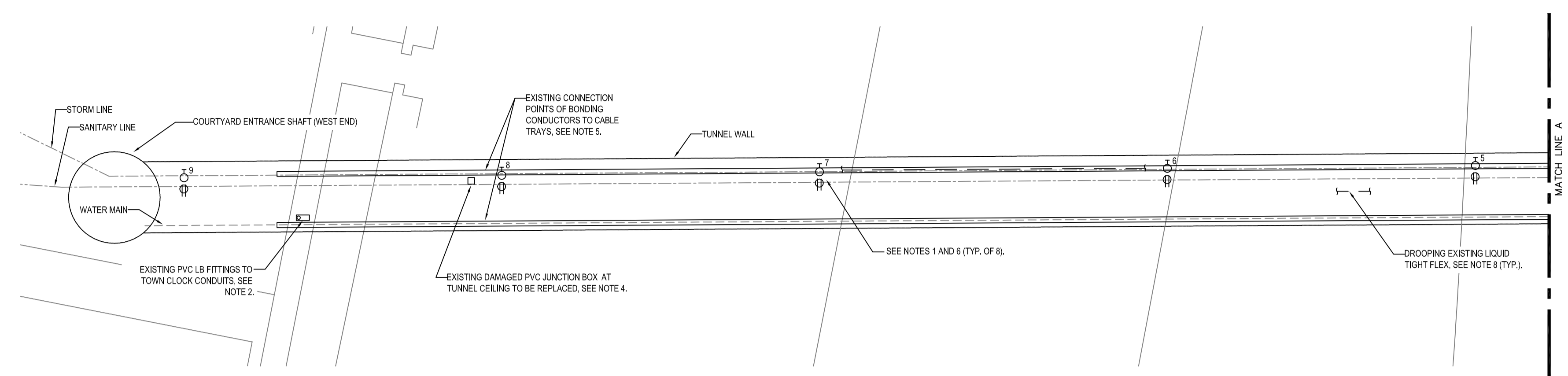
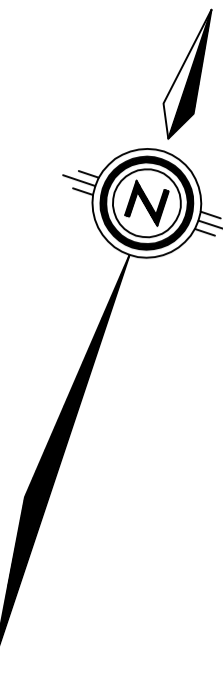
SHEET NUMBER:
5

ISSUE:
ISSUED FOR TENDER

DATE OF: 2016/10/12

PRINTED: 11:18 AM 2016/10/12 BY: CHRISTOPHE BOURQUE

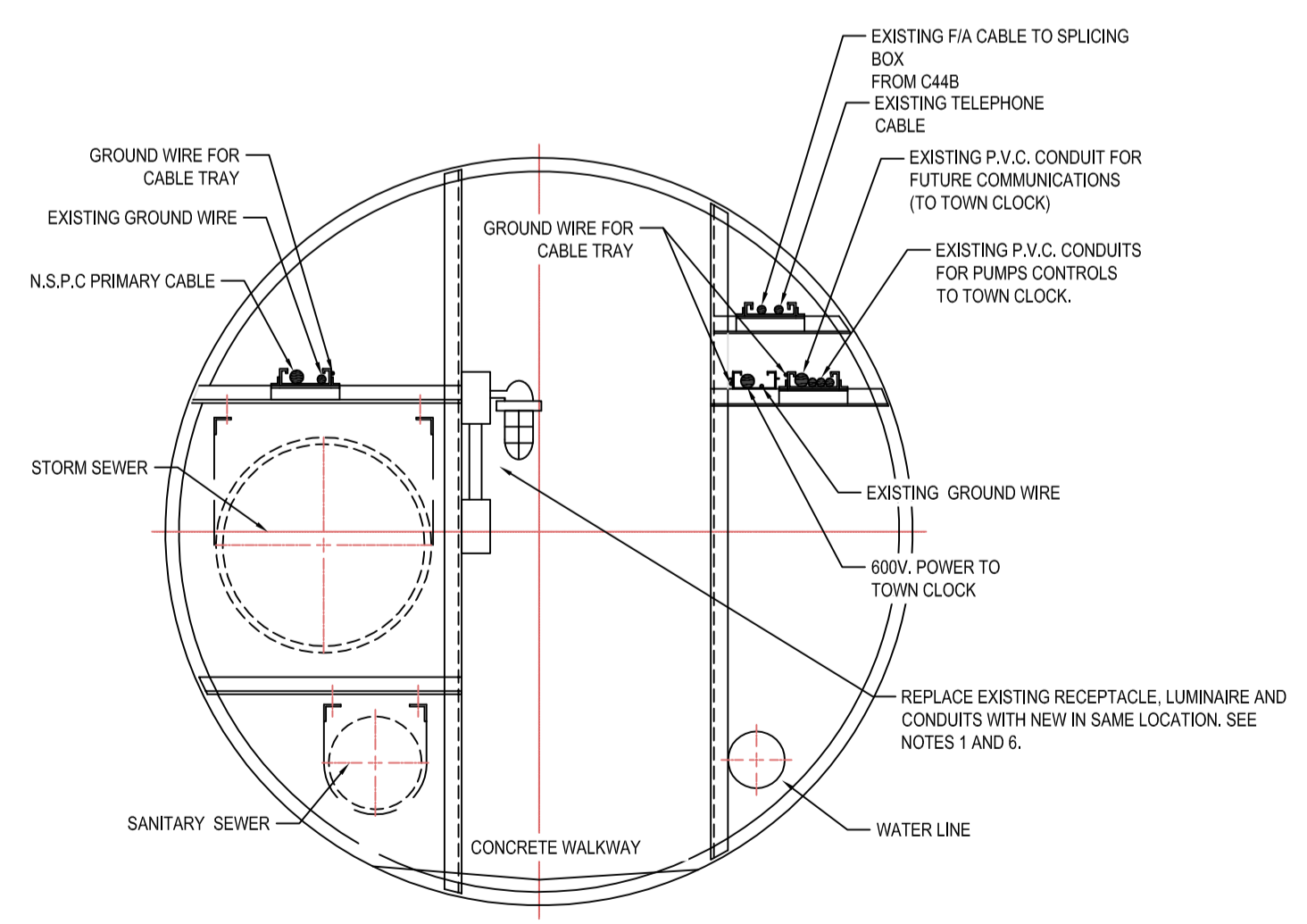
9 8 7 6 5 4 3 2 1



A TUNNEL PLAN
 1:100

ELECTRICAL REMEDIATION NOTES:

- REPLACE EACH EXISTING LUMINAIRE AND ITS BACKBOX WITH NEW, HEAVY DUTY LED LUMINAIRE, HUBBELL-KILLARK MBL1730A2GLG. INSTALL NEW UNIT IN SAME LOCATION AND AT SAME MOUNTING HEIGHT AS EXISTING.
- REPLACE RIGID PVC 'LB' FITTING. NEW FITTING TO MATCH EXISTING CONDUIT SIZE. CONTRACTOR TO TRACE ALL WIRE FEEDS AFFECTED BY THE REPLACEMENT AND COORDINATE ANY REQUIRED POWER INTERRUPTIONS WITH PARKS CANADA REPRESENTATIVE PRIOR TO DISCONNECTION OF ANY CIRCUITS OR FEEDERS.
- REPLACE EXISTING STEEL 12" X 12" PULL BOX WITH NEW RIGID PVC UNIT OF THE SAME DIMENSIONS. CONTRACTOR TO PROVIDE ALL FITTINGS AND BUSHINGS REQUIRED. CONTRACTOR TO TRACE ALL WIRE FEEDS AFFECTED BY THE REPLACEMENT AND COORDINATE ANY REQUIRED POWER INTERRUPTIONS WITH PARKS CANADA REPRESENTATIVE PRIOR TO DISCONNECTION OF ANY CIRCUITS OR FEEDERS. ALL INTERRUPTIONS SHALL TAKE PLACE OUTSIDE OF REGULAR WORKING HOURS.
- REPLACE EXISTING DAMAGED RIGID PVC JUNCTION BOX WITH TWO NEW 6" X 6" RIGID PVC JUNCTION BOXES. ONE FOR COMMUNICATIONS CABLING AND ONE FOR POWER. COORDINATE WITH PARKS CANADA REPRESENTATIVE FOR REROUTING OF PLASTIC WATER LINES CURRENTLY PASSING THROUGH EXISTING JUNCTION BOX. THESE ARE NOT TO BE REROUTED INTO NEW JUNCTION BOXES.
- PROVIDE SOLID BONDING CONNECTION AT ALL ENTRY POINTS OF BONDING CONDUCTORS INTO ALL CABLE TRAYS. THESE CONNECTIONS SHALL CONSIST OF A PROPERLY SIZED BOLTED LUG. ENSURE MATING SURFACE WITH CABLE TRAY IS CLEAN AND FREE OF CORROSION, DIRT, GREASE, ETC.
- REPLACE EACH EXISTING RECEPTACLE AND THEIR BACKBOXES WITH A NEW 5-15R, GFCI-EQUIPPED RECEPTACLE COMPLETE WITH EXTRA-DUTY, WHILE-IN-USE COVERPLATE AND NEW CAST ALUMINUM BACKBOX. IN EACH LOCATION, REPLACE EXISTING CONDUIT FROM LUMINAIRE TO RECEPTACLE WITH NEW LIQUID-TIGHT FLEXIBLE CONDUIT.
- REPLACE ALL REMAINING COPPER-CLAD CABLING IN TUNNEL WITH NEW LIQUID-TIGHT FLEX CONDUIT COMPLETE WITH WIRING IN QUANTITIES AND GAUGE TO MATCH EXISTING. LIQUID-TIGHT ARMOUR CABLE (TECK) IS ALSO ACCEPTABLE. PROVIDE ALL NECESSARY LIQUID TIGHT FITTINGS. REMOVE ALL ABANDONED CONDUIT AND CABLING BACK TO THEIR SOURCE OF SUPPLY. ALL CIRCUITING TO REMAIN AS EXISTING.
- REATTACH DROOPING RUN OF LIQUID-TIGHT FLEX CONDUIT INSTALLED BY A PREVIOUS CONTRACTOR TO CEILING OF TUNNEL WITH PROPER GALVANIZED STEEL CONDUIT STRAPS DESIGNED FOR LIQUID TIGHT FLEXIBLE CONDUIT. ENSURE ALL NEW CONDUIT AND CABLING IS FASTENED PROPERLY.
- REPLACE ALL HEAVILY OR MODERATELY CORRODED SECTIONS OF CABLETRAY THROUGHOUT TUNNEL. CONTRACTOR TO PROVIDE FOR REPLACEMENT OF 10m EACH OF THE FOLLOWING IN TENDER PRICE.
 - 9.1. 150mm W x 30mm H CHANNEL TYPE CABLE TRAY;
 - 9.2. 105mm W x 45mm H LADDER TYPE CABLE TRAY;
 - 9.3. 160mm W x 50mm H LADDER TYPE CABLE TRAY.
- CONTRACTOR TO CONFIRM EXACT DIMENSIONS ON SITE PRIOR TO ORDERING. ENSURE CONTINUITY OF BONDING DURING AND AFTER CONSTRUCTION. ALL CABLE TRAY TO BE HOT DIPPED GALVANIZED.
- REPLACE LIGHT SWITCH BACKBOX WITH NEW, CAST ALUMINUM BACKBOX. REPLACE EXISTING CONDUITS FROM RECEPTACLE AND LUMINAIRE WITH NEW LIQUID-TIGHT FLEXIBLE CONDUIT. REINSTATE AND REUSE EXISTING SWITCH AND WIRING.



B TYPICAL SECTION THROUGH TUNNEL
 1:20

9 8 7 6 5 4 3 2 1

XREFS: K:\DARTMOUTH\2016\161-06021-PARKS CANADA-HALIFAX CITADEL\1-DWG\11.4.1-EXTERNAL_REFERENCES\161-06021-BASE.DWG

R:\VENWAR\2016\161-06021-00-CITADEL_TUNNEL\3.0-DRAWINGS\3.3-ELECTRICAL\3.3.1-WORKING\3.3.1-ELECTRICAL\3.3.1-TUNNEL PLAN, NOTES AND SECTION ELECTRICAL REMEDIATION.dwg