



McElhanney

for / pour



Parks Canada
Agency
Western and
Northern Region

L'Agence Parcs
Canada
Ouest et Nord
du Canada

HIGHWAY 16 PARK EAST GATE IMPROVEMENTS

JASPER NATIONAL PARK, ALBERTA

ISSUED FOR TENDER

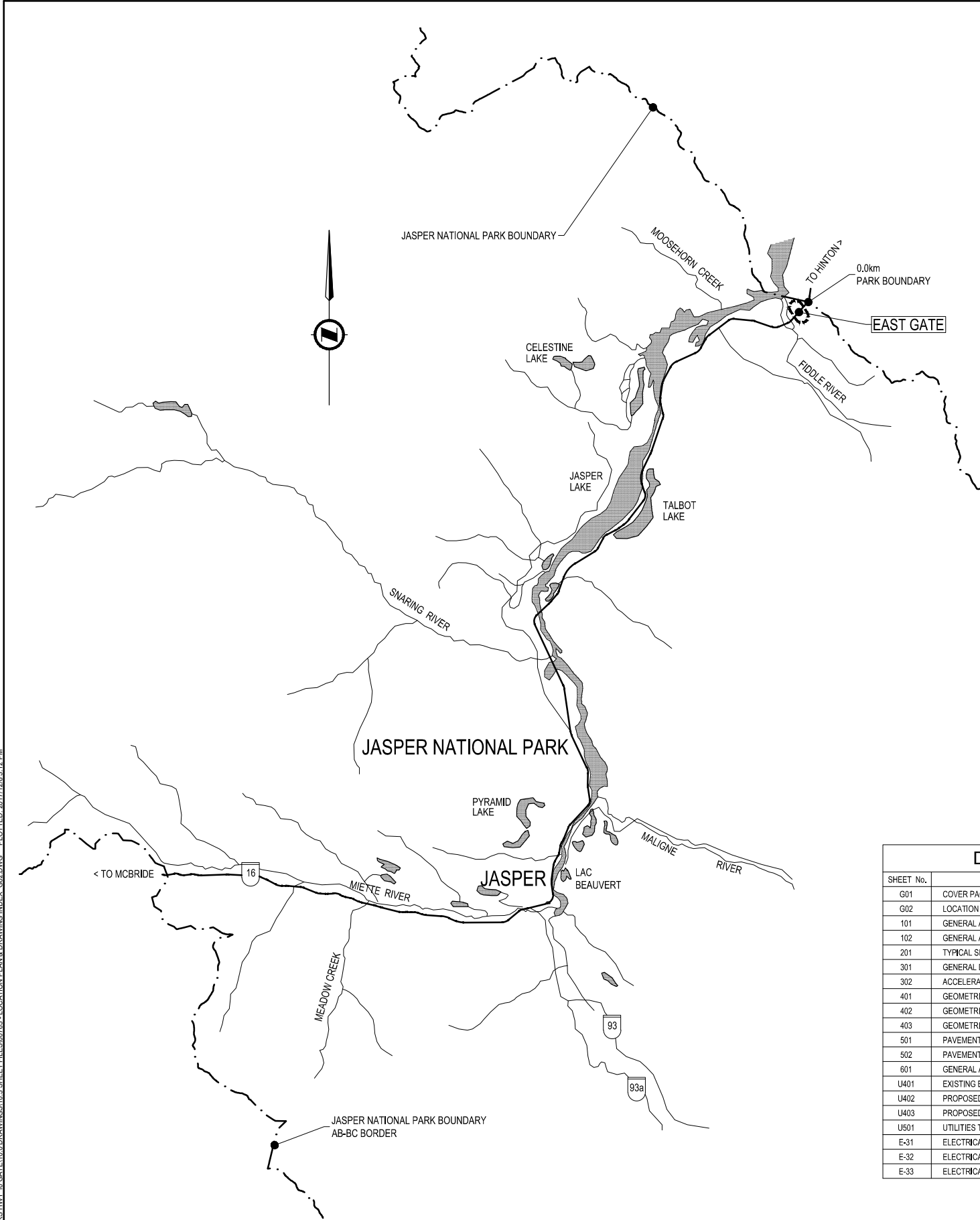
NOT FOR CONSTRUCTION

PROJECT NO. 1285

DECEMBER 2017

G01

FILE: G:\PROJECTS\2511-00763-00 PARKS HWY 16 GATEWAY DRAWINGS\03 SHEET FILES\03763 - LOCATION PLAN & DRAWING INDEX.GRD DWG. PLOTTED: 2017/12/28 3:12 PM



LOCATION PLAN
NOT TO SCALE

ABBREVIATIONS

- POC - POINT ON CURVE
PCC - POINT OF COMPOUND CURVATURE
PC - POINT OF CURVATURE
PT - POINT OF TANGENCY
TC - TANGENT TO CURVE
CC - CURVE CENTRE
CS - CURVE TO SPIRAL
SC - SPIRAL TO CURVE
CT - CURVE TO TANGENT
TS - TANGENT TO SPIRAL
ST - SPIRAL TO TANGENT
BVC - BEGINNING OF VERTICAL CURVE
EVC - END OF VERTICAL CURVE
PVI - POINT OF VERTICAL INTERSECTION
ELEV - ELEVATION
PI - POINT OF INTERSECTION
STA - STATION

MISCELLANEOUS ABBREVIATIONS

- BH - BORE HOLE
BW - BACK OF SIDEWALK
CB - CATCH BASIN
C&G - CURB AND GUTTER
C.I.P. - CAST IN PLACE CONCRETE
CI - CULVERT INLET
CO - CULVERT OUTLET
DES - DESIGN
EP - EDGE OF PAVEMENT
EX - EXISTING
LOG - LIP OF GUTTER
LS - LIGHT STANDARD
MH - MANHOLE
PROP - PROPOSED
PP - POWER POLE
S - SANITARY
ST - STORM
W - WATER
NB - NORTHBOUND
SB - SOUTHBOUND
EB - EASTBOUND
WB - WESTBOUND
N.I.C. - NOT IN CONTRACT

DRAWING INDEX	
SHEET No.	SHEET TITLE
G01	COVER PAGE
G02	LOCATION PLAN & DRAWING INDEX
101	GENERAL ARRANGEMENT STA 0+120 TO STA 0+730
102	GENERAL ARRANGEMENT STA 0+730 TO STA 1+500
201	TYPICAL SECTIONS
301	GENERAL DETAILS
302	ACCELERATION / DECELERATION CONCRETE SLAB DETAILS
401	GEOMETRICS AND LANING STA 0+120 TO STA 0+730
402	GEOMETRICS AND LANING STA 0+730 TO STA 1+060
403	GEOMETRICS AND LANING STA 1+060 TO STA 1+500
501	PAVEMENT MARKINGS & SIGNS STA 0+120 TO 0+730
502	PAVEMENT MARKINGS & SIGNS STA 0+730 TO 1+500
601	GENERAL ARRANGEMENT CULVERT STA 0+420, TWIN CULVERT STA 0+757
U401	EXISTING BURIED UTILITIES
U402	PROPOSED UTILITY REALIGNMENT CORRIDOR AND EXISTING UTILITIES DEMO
U403	PROPOSED UNDERGROUND DEEP UTILITIES
U501	UTILITIES TYPICAL DETAILS
E-31	ELECTRICAL LEVEL CONTROLS
E-32	ELECTRICAL MESSAGE CENTER
E-33	ELECTRICAL WARNING SIGN

DRAWING INDEX	
SHEET No.	SHEET TITLE
A-00-00-00	COVER PAGE
L1.00	LANDSCAPE PLAN
L2.00	DETAILS
A00-01-01	CONSTRUCTION NOTES, CONSTRUCTION ASSEMBLIES, ARCHITECTURAL ABBREVIATIONS, ROOM FINISH SCHEDULE
A-00-02-01	NATIONAL BUILDING CODE REVIEW CHECKLIST PART 9
A-00-02-02	NATIONAL ENERGY CODE REVIEW CHECKLIST SECTION 9.36.
A20-00-01	CRAWL SPACE, MAIN FLOOR AND ROOF PLAN
A30-00-01	BUILDING ELEVATIONS
A31-00-01	BUILDING SECTIONS
A51-00-01	WALL SECTION DETAILS
A51-00-02	WALL SECTION DETAILS
A70-00-01	WINDOW AND DOORS SCHEDULES
A90-00-01	INTERIOR ELEVATIONS AND MILLWORK SECTIONS
S1	GENERAL NOTES
S2	GENERAL NOTES
S3	TYPICAL DETAILS
S4	TYPICAL DETAILS
S5	FOUNDATION AND CRAWL SPACE PLAN, MAIN FLOOR PLAN, ROOF PLAN
S6	SECTIONS AND DETAILS
S7	SCHEDULES
M1	MECHANICAL LEGENDS, SCHEDULES, DETAILS & DRAWING LIST
M2	MECHANICAL SITE PLAN
M3	PLUMBING PLAN
M4	HVAC PLAN
E10-00-00	ELECTRICAL SITE PLAN
E20-00-00	POWER AND SYSTEMS PLAN
E20-00-01	LIGHTING PLAN
E30-00-00	ELECTRICAL SCHEDULE AND SINGLE LINE DIAGRAM
E40-00-00	ELECTRICAL DETAILS

LEGEND

ROAD CONSTRUCTION

EXISTING	DESCRIPTION	PROPOSED
	TEST PIT & ID	TP2010-06
	BORE HOLE & ID	BH12+500
	CONTROL LINE & STATIONING	67+500 + T.S. 55+325.101
	ALIGNMENT TIE POINTS & STATIONING	
	EDGE OF PAVEMENT GRAVEL ROAD	
	EDGE OF PAVEMENT	
	CLEAR & GRUBB	
	CONCRETE BARRIER	
	GAURD RAIL C/W POSTS	DB DB
	DRAINAGE BARRIER	
	DRAINAGE SIDE DITCH	
	TOP OF CUT	TOC
	BOTTOM OF FILL	BOF
	CANADIAN PACIFIC RAILWAY	
	FULL DEPTH PAVEMENT	
	PAVEMENT MILL & INLAY	
	SURVEY GRID (NAD 83)	
	TREE LINE	
	UNDERGROUND LINE	
	CULVERT	
	DITCH BLOCK	
	FENCING	
	CONTROL POINT	CP 03.01
	GATE	
	SIGN	

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detail sur dessin no.

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Date December 11, 2017
PERMIT NUMBER: P 6383
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PROFESSIONAL ENGINEER
HERMANDEZ
2017

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Western and Northern
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Nom de l'expert-conseil

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Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

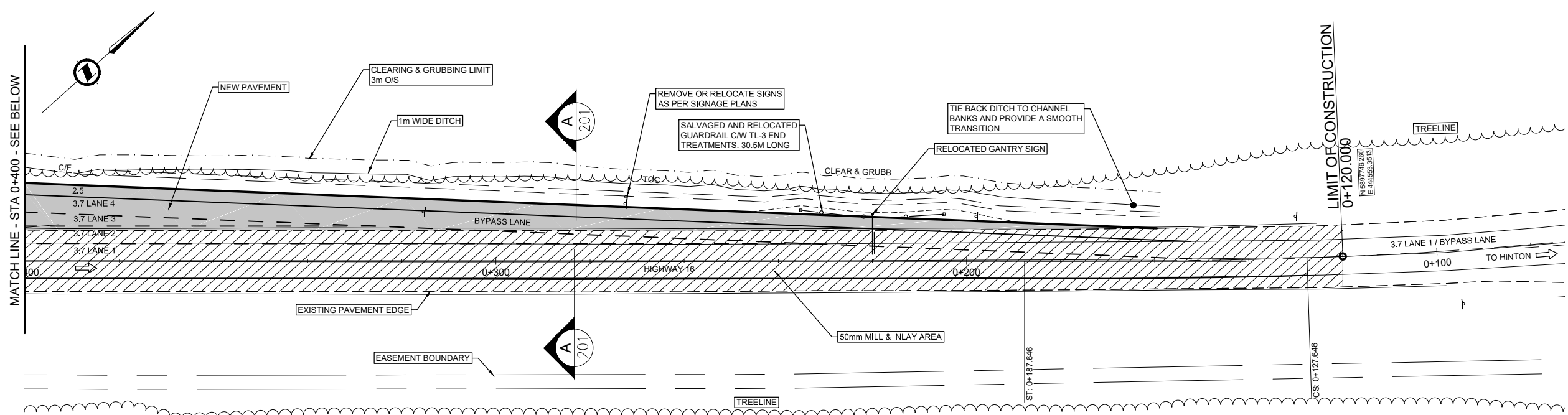
JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

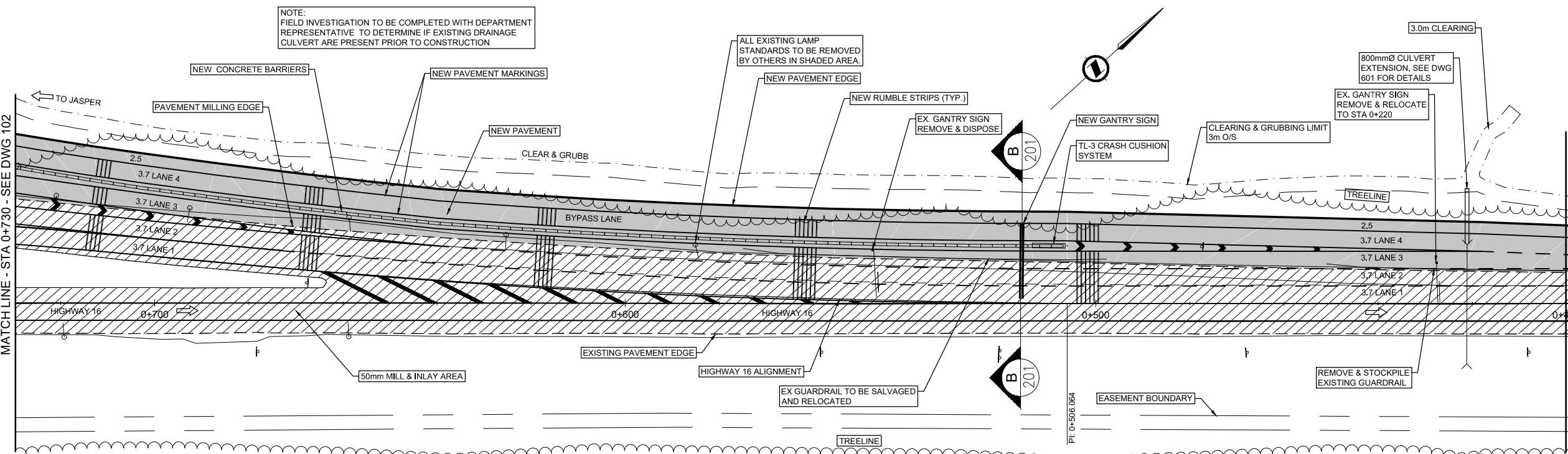
**LOCATION PLAN &
DRAWING INDEX**

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par MM	Date 2017.12.08
Designed by / Conçu par MM	Reviewed by / Révisé par SB	Scale / Echelle NTS
Parks Canada Project Manager / Administrateur de Projets Parcs Canada		
Client Acceptance / Acceptation du client		Approved by / Approuvé par
Project No. / No. du projet 1285		Asset No. / No. du-bien G02
Drawing Reference No. / No. de référence du dessin 2511-00763-00		

FILE: G:\PROJECTS\5511-00763-00 PARKS HWY 16 GATE\10 DRAWINGS\10.3 SHEET FILES\0763-PLAN EAST GATE GENERAL ARRANGEMENT - 101-102.DWG PLOTTED: 2017/12/08 3:13 PM



- NOTES**
- GROUND CONTOURS BASED FROM LIDAR & TOPOGRAPHICAL SURVEY SURFACE.
 - REVIEW OF GEOTECHNICAL REPORT REQUIRED PRIOR TO CONSTRUCTION.
 - CADASTRAL COMPOSITE DISPLAYED HAS NOT BEEN FIELD TIED AND WAS PROVIDED THROUGH ONLINE SERVICES.
 - EXISTING UTILITIES DISPLAYED BASED FROM UTILITY SURVEY AND RECORD DRAWINGS AND MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING UTILITIES AND ADVISE THE DEPARTMENTAL REPRESENTATIVE OF POTENTIAL CONFLICTS.
 - CONTRACTOR TO DETERMINE TYPE OF SEDIMENT CONTROL THAT WILL BE REQUIRED DURING CONSTRUCTION AND HAVE IT APPROVED BY DEPARTMENTAL REPRESENTATIVE.
 - SITE CONDITIONS MUST BE INVESTIGATED IN COLLABORATION WITH THE DEPARTMENTAL REPRESENTATIVE TO DETERMINE LOCATION AND SERVICE CONDITIONS OF THE EXISTING DRAINAGE AND UTILITY SYSTEMS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - THE INTENT OF THIS DESIGN IS TO EXTEND THE EXISTING PAVEMENT SURFACE TO ACCOMMODATE A NEW TOLL BOTH LANE WHILE MAINTAINING THE EXISTING PAVEMENT GEOMETRY, BOTH LONGITUDINAL GRADES AND LATERAL CROSS FALL GRADES.



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DESIGN SPEED 70km/h

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Signature: *[Signature]*

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BERNARD HERMANDEZ

Dec 20, 2017

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Ouest et Nord du Canada

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Nom de l'expert-conseil

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McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

**GENERAL ARRANGEMENT
STA 0+120 TO STA 0+730**

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par MM	Date 2017.12.08
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Client Acceptance / Acceptation du client

Approved by / Approuvé par

Project No. / No. du projet 1285	Asset No. / No. du-bien	Sheet No. / No. de la feuille 101
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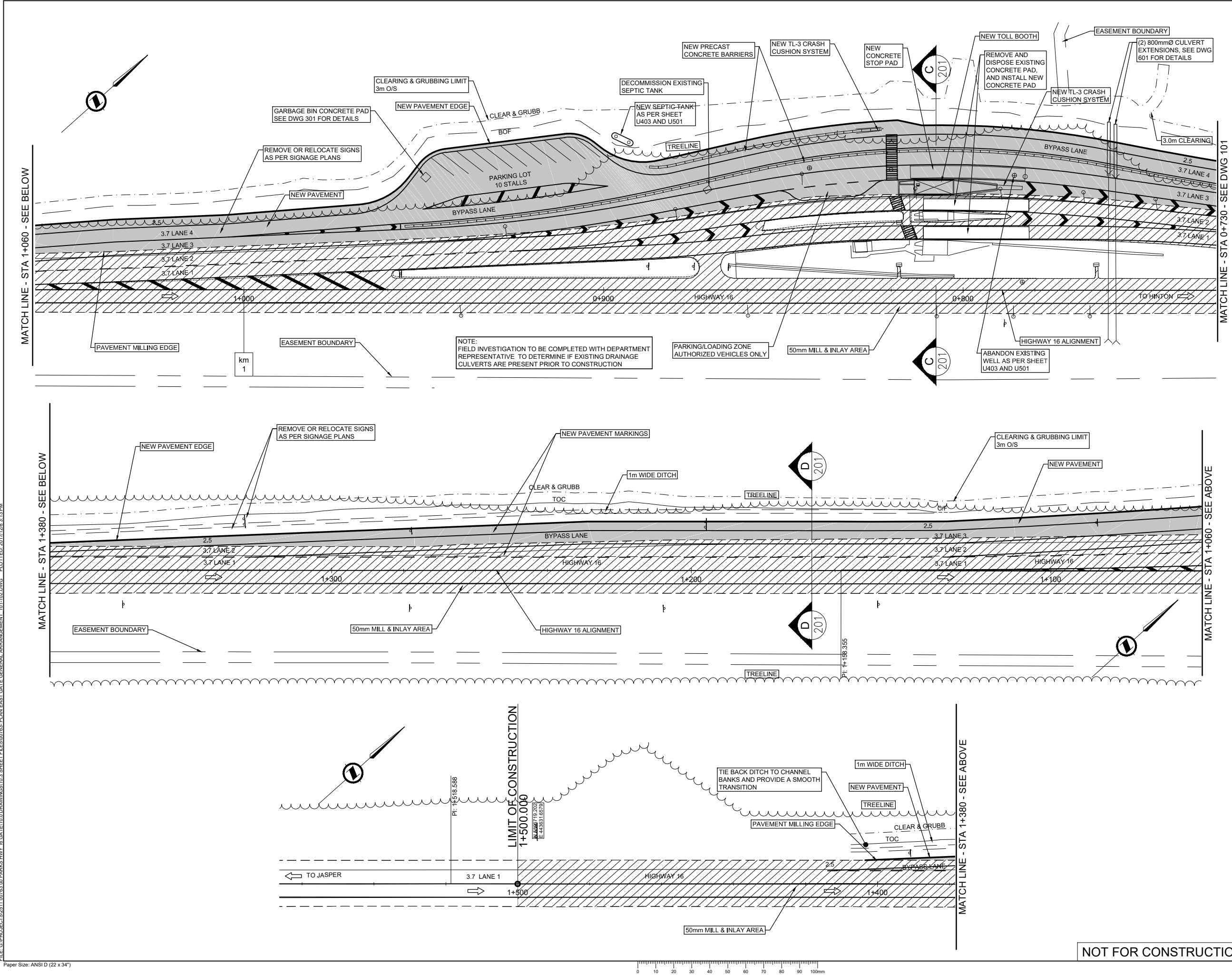
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HIGHWAY 16
PARK EAST GATE IMPROVEMENTS

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

GENERAL ARRANGEMENT
STA 0+730 TO 1+500

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MCSL

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Sheet No. / No. de la feuille

1285

102

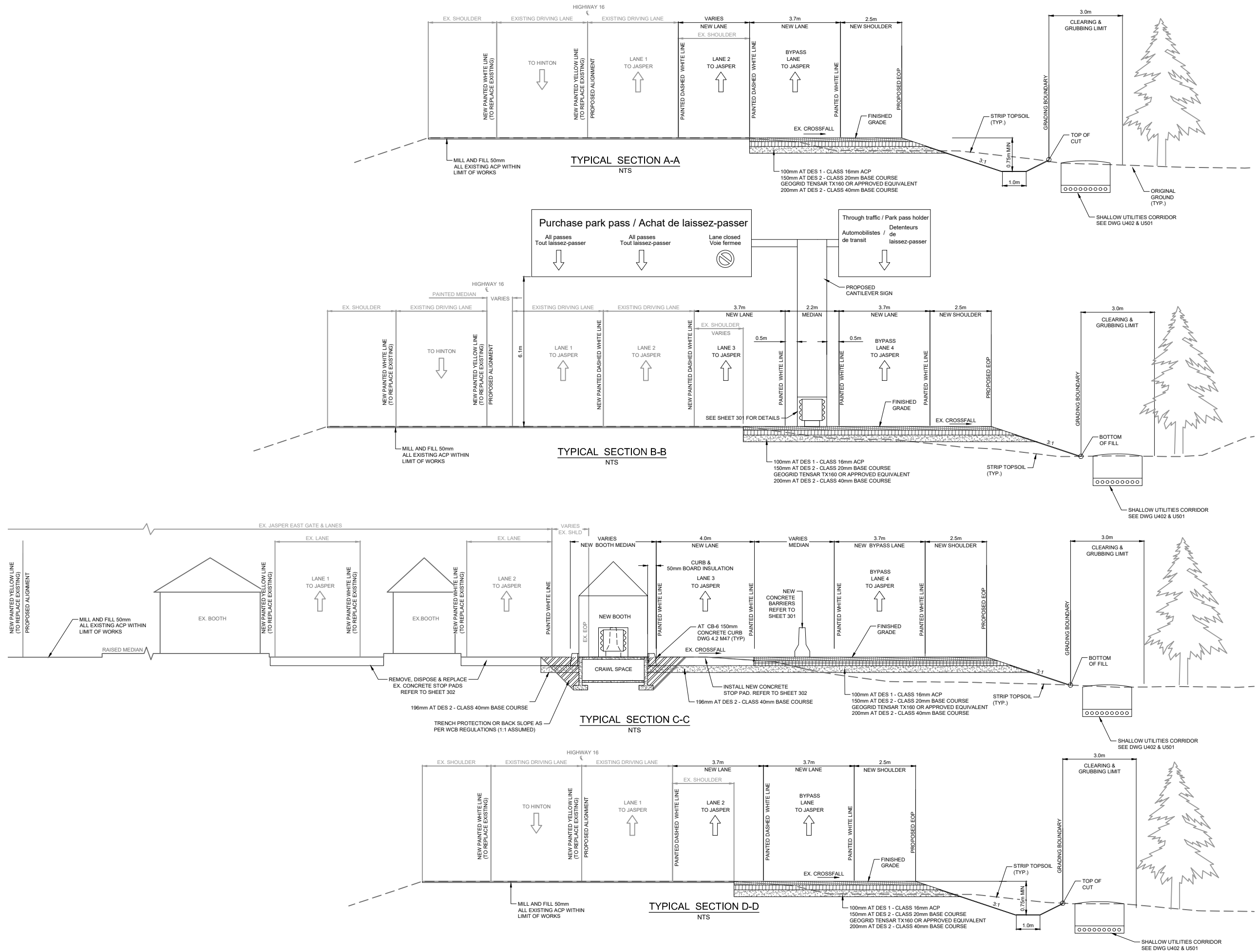
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PROFESSIONAL ENGINEER

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PE 6383

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McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

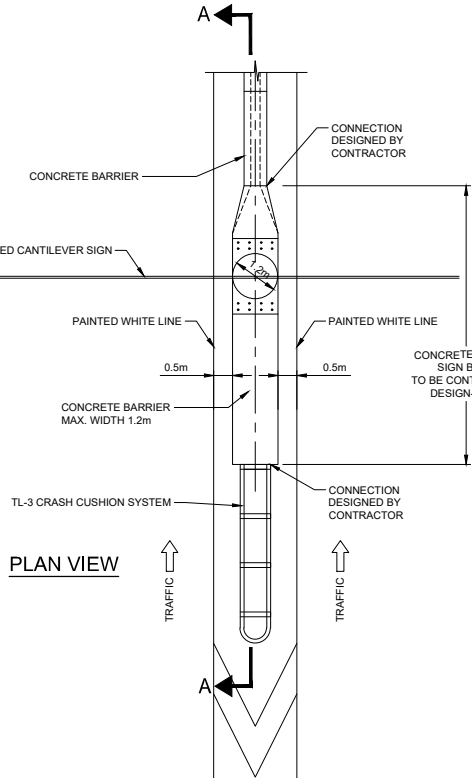
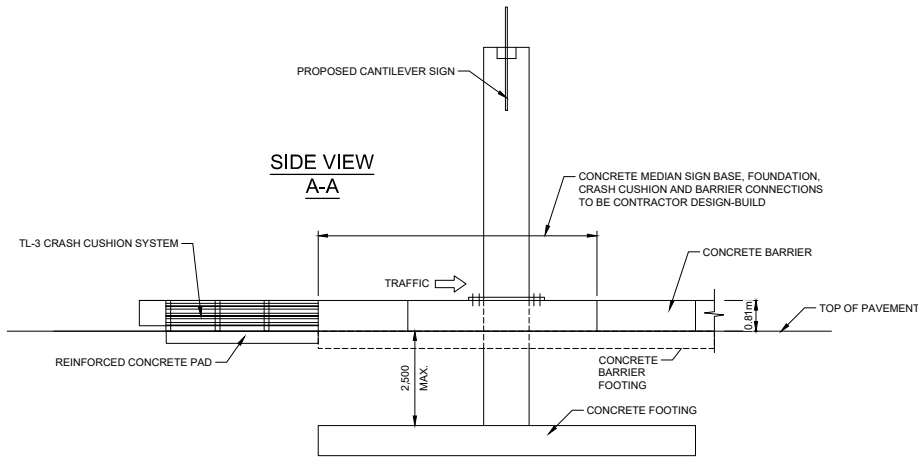
TYPICAL SECTIONS

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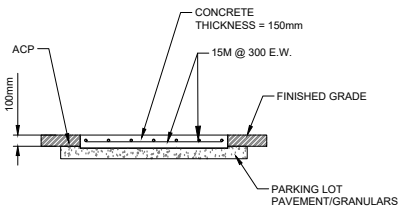
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<div>Parks Canada Responsible Officer / Agent Responsable Parcs Canada</div>	<div>Parks Canada Project Manager / Administrateur de Projets Parcs Canada</div>
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Sheet No. No. de la feuille 201	

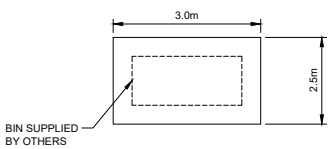
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TYPICAL CANTILEVER SIGN WITH
CRASH ATTENUATOR
NTS

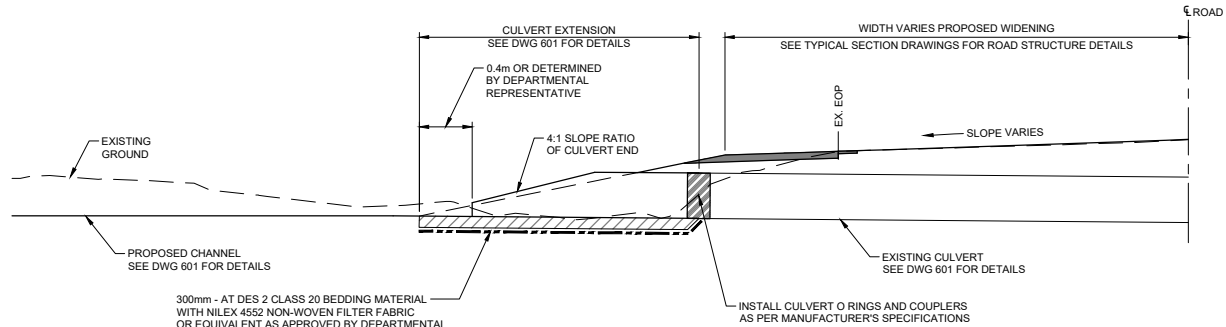


GARBAGE BIN CONCRETE PAD SECTION
1:50

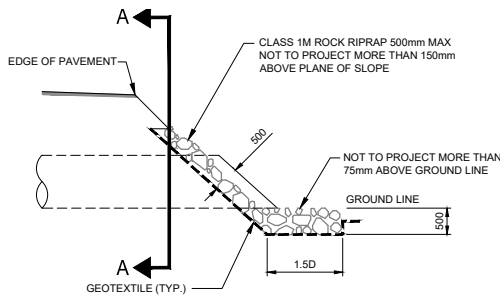


GARBAGE BIN CONCRETE PAD PLAN
1:50

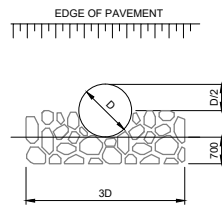
- NOTES:
1. CONCRETE SHALL BE IN ACCORDANCE WITH CSA A23.1/2, CLASS C2 AND 32MPa AT 28 DAYS.
 2. REINFORCEMENT STEEL COVER 75mm, INCLUDING AS CAST AGAINST GROUND.
 3. ALL EXPOSED CONCRETE SHALL HAVE CORNERS CHAMFERED 20mm.
 4. REINFORCEMENT STEEL BE REGULAR UNCOATED STEEL GRADE 400R AND IN ACCORDANCE WITH CSA G30.18.
 5. GRANULAR PAVEMENT AND ASPHALT SHALL BE PROVIDED AS PER ROAD WIDENING SPECIFICATIONS.
 6. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
 7. CONTRACTOR TO CONFIRM FINAL DIMENSIONS WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO COMMENCING THE WORKS



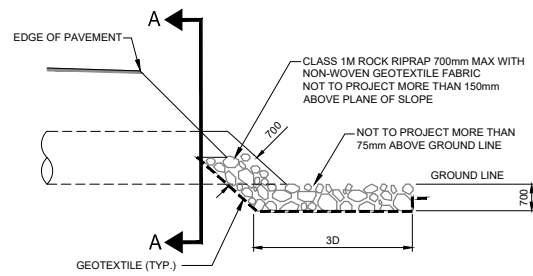
PROFILE VIEW
CULVERT EXTENSION
NTS



PROFILE VIEW
INLET

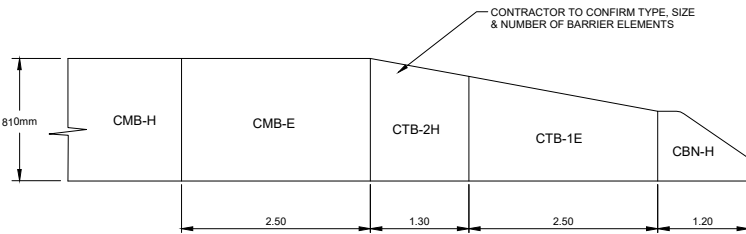


SECTION A-A
INLET



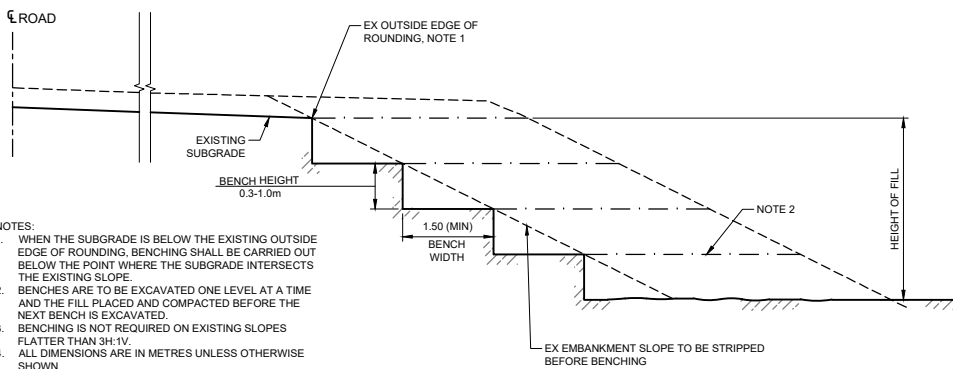
PROFILE VIEW
OUTLET

DETAIL B: HAND PLACED RIP RAP FOR CSP CULVERTS
NTS



TYPICAL BARRIER END TREATMENT
NTS

- NOTES:
1. FOR BARRIER SECTION DETAILS REFER TO BC MOTI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SECTION 941.
 2. CONTRACTOR TO CONFIRM EXACT NUMBER OF BARRIER ELEMENTS REQUIRED FOR NEW CONCRETE BARRIER & ENERGY ABSORBING TERMINAL CONNECTIONS.
 3. CONTRACTOR TO TIE NEW PAVEMENT MARKINGS TO EXISTING AS ACCEPTED BY DEPARTMENTAL REPRESENTATIVE.



- NOTES:
1. WHEN THE SUBGRADE IS BELOW THE EXISTING OUTSIDE EDGE OF ROUNDING, BENCHING SHALL BE CARRIED OUT BELOW THE POINT WHERE THE SUBGRADE INTERSECTS THE EXISTING SLOPE.
 2. BENCHES ARE TO BE EXCAVATED ONE LEVEL AT A TIME AND THE FILL PLACED AND COMPACTED BEFORE THE NEXT BENCH IS EXCAVATED.
 3. BENCHING IS NOT REQUIRED ON EXISTING SLOPES FLATTER THAN 3H:1V.
 4. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.

BENCH OF EARTH SLOPES
NTS

HALF-SIZED

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0	2017.12.08	ISSUED FOR TENDER	MM	MM	SB
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé

<div><div>A</div><div>C</div></div>	<div><div>A</div><div>B</div><div>C</div></div> <div>detail number numéro de detail source drawing no. de dessin no. detail on drawing no. detail sur dessin no.</div>	<div><div>A</div><div>B</div><div>C</div></div>
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Consultant's Stamp
Sceau de l'expert-conseil

PERMIT TO PRACTICE
McElhanney Consulting Services Ltd.
Signature: *[Signature]*
Date: December 11, 2017
PERMIT NUMBER: P 6383
The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

Eng. Stamp
Sceau de l'ingénieur

PROFESSIONAL ENGINEER
MARK FERNANDEZ
Dec. 08, 2017

Client

Parks Canada Agency
Western and Northern
Region

L'Agence Parcs
Canada
Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil

McElhanney
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

HIGHWAY 16
PARK EAST GATE IMPROVEMENTS

JASPER NATIONAL PARK AB

GENERAL DETAILS

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par MM	Date 2017.12.08
Designed by / Conçu par MM	Reviewed by / Revisé par SB	Scale / Echelle AS SHOWN

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Client Acceptance / Acceptation du client Approved by / Approuvé par

Parks Canada Responsible Officer / Agent Responsable Parcs Canada Parks Canada Project Manager / Administrateur de Projets Parcs Canada

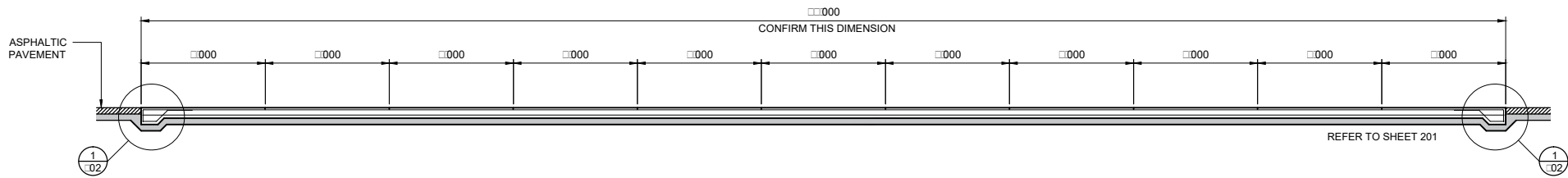
Project No. / No. du projet 1285	Asset No. / No. du bien	Sheet No. No. de la feuille 301
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Drawing Reference No. / No. de référence du dessin 2511-00763-00

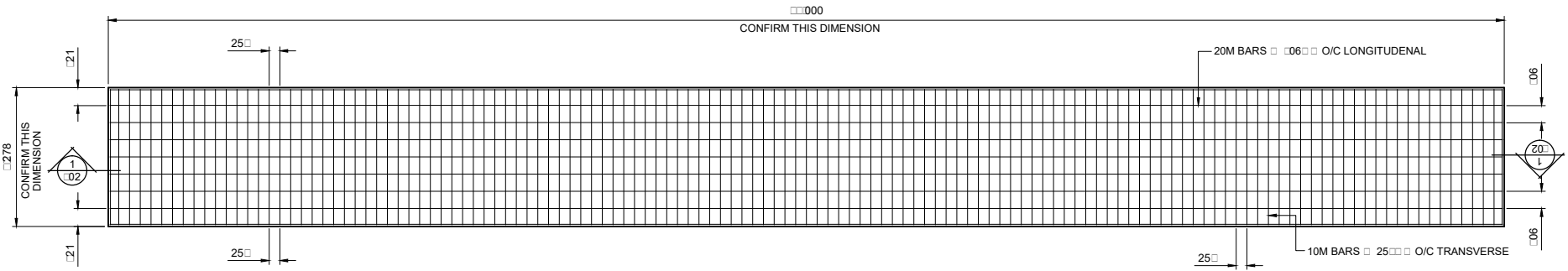
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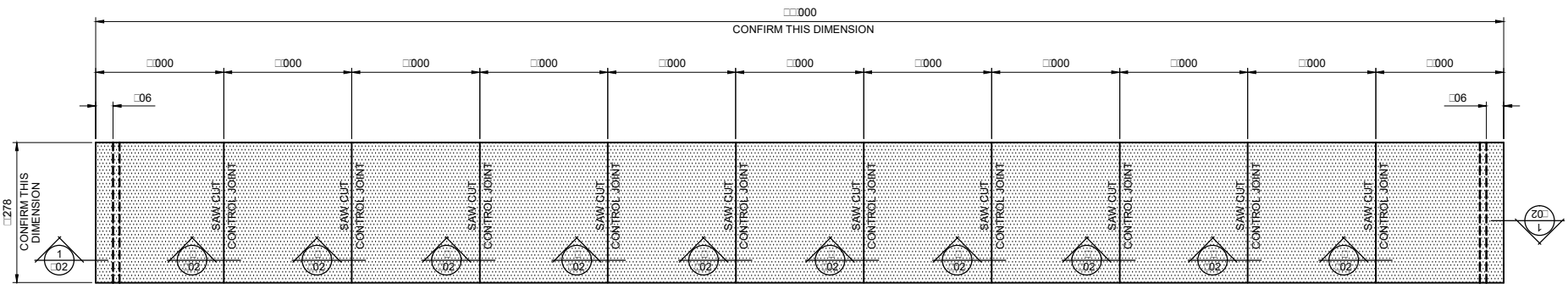
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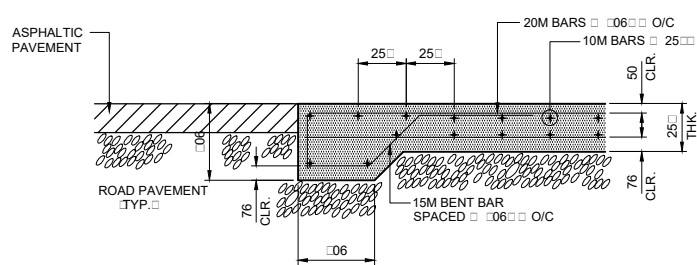
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SCALE 1:75



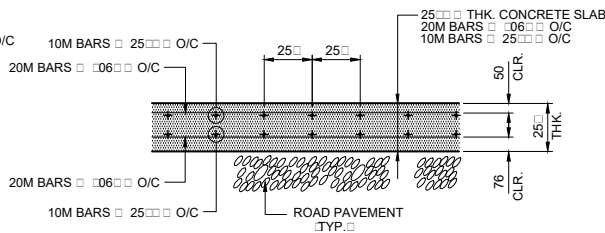
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ACCELERATION/DECELERATION CONCRETE SLAB - REINFORCING STEEL LAYOUT
SCALE 1:75



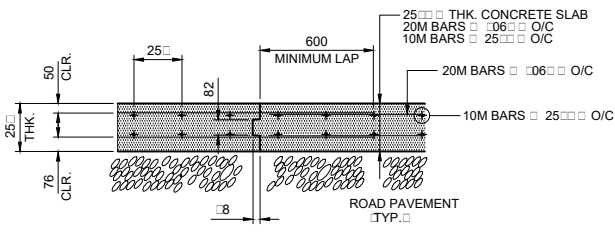
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ACCELERATION/DECELERATION CONCRETE SLAB - CONTROL JOINT LAYOUT
SCALE 1:75



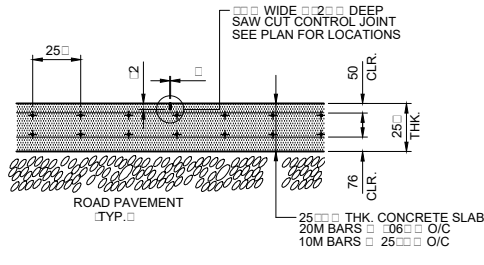
1
PARTIAL SECTION
SCALE 1:75



2
TYPICAL CONCRETE SLAB SECTION
SCALE 1:75



3
TYPICAL CONSTRUCTION JOINT
SCALE 1:75



4
SAW CUT CONTROL JOINT DETAIL
SCALE 1:75

STRUCTURAL SPECIFICATION

GENERAL

- ALL CONSTRUCTION IS TO CONFORM TO THE NATIONAL BUILDING CODE OF CANADA 2015.
- ALL REFERENCES TO STANDARDS NOTED ON THESE DRAWINGS REFER TO THE LATEST REVISED ISSUE.
- THESE DRAWING PREPARED BY McELHANNEY CONSULTING SERVICES LTD. ARE INTENDED FOR STRUCTURAL REQUIREMENTS OF THIS PROJECT ONLY. ALL OTHER ASPECTS ASSOCIATED WITH THIS PROJECT WHICH INCLUDE BUT ARE LIMITED TO ARCHITECTURAL, MECHANICAL, FIRE PROTECTION, OCCUPANT SAFETY, ACCESSIBILITY AND BUILDING ENVELOPE ARE TO BE DESIGNED, SPECIFIED AND APPROVED BY OTHERS AND ARE CONSIDERED BEYOND McELHANNEY CONSULTING SERVICES LTD. SCOPE OF WORK.
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- THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE FOR INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES OR TO TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES.
- CONCRETE AND REINFORCING STEEL IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.

FIELD REVIEWS BY McELHANNEY CONSULTING SERVICES LTD.

- McELHANNEY CONSULTING SERVICES LTD. PROVIDE FIELD REVIEWS ONLY FOR THE WORK SHOWN ON THESE DRAWINGS. FIELD REVIEWS BY McELHANNEY CONSULTING SERVICES LTD. ARE PERIODIC AND AT THE SOLE DISCRETION OF McELHANNEY CONSULTING SERVICES LTD. IN ORDER TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE DESIGN DRAWINGS AND SUPPORTING DOCUMENTS.
- FIELD REVIEWS BY McELHANNEY CONSULTING SERVICES LTD. ARE NOT FOR THE CONTRACTOR'S BENEFIT NOR DOES IT MAKE McELHANNEY CONSULTING SERVICES LTD. GUARANTORS OF THE CONTRACTOR'S WORK. IT REMAINS THE CONTRACTOR'S RESPONSIBILITY TO BUILD THE WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
- McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- McELHANNEY CONSULTING SERVICES LTD. ASSUMES NO RESPONSIBILITY FOR FIELD REVIEWS OF THE CONSTRUCTION OR VERIFICATION OF THE CONSTRUCTION UNLESS EXPRESSLY RETAINED TO DO SO.
- IF McELHANNEY CONSULTING SERVICES LTD. IS RETAINED FOR FIELD REVIEWS THEN THE CONTRACTOR IS TO PROVIDE 24 HOUR NOTICE PRIOR TO CONCRETE POURS AND BEFORE ENCLOSING FRAMING ELEMENTS. FIELD REVIEWS ARE TO BE SCHEDULED AND TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH McELHANNEY CONSULTING SERVICES LTD.

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0	2017.12.08	ISSUED FOR TENDER	BN	BN	BN
Revisé	Date	Description	Dessiné	Conçu	Approuvé

A	A	détail numéro	A
C	B	numéro de détail	C
	C	source de dessin	
		de dessin no.	
		détail de dessin no.	

Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
PERMIT TO PRACTICE McElhanney Consulting Services Ltd. Signature: <i>[Signature]</i> Date: <i>December 11, 2017</i> PERMIT NUMBER: P 6383 The Association of Professional Engineers, Geologists and Geophysicists of Alberta	PROFESSIONAL ENGINEER P.R. NELSON December 11, 2017

Client	Parks Canada Agency Western and Northern Region	L'Agence Parcs Canada Ouest et Nord du Canada
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Consultant's Name Nom de l'expert-conseil	McElhanney McElhanney Consulting Services Ltd.
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Project Title Titre du projet	HIGHWAY 16 PARK EAST GATE IMPROVEMENTS
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Drawing Title Titre du dessin	JASPER NATIONAL PARK AB
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ACCELERATION / DECELERATION CONCRETE SLAB DETAILS
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Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par BN	Date 2017.12.08
Designed by / Conçu par BN	Reviewed by / Révisé par BN	Scale / Echelle AS SHOWN

Parks Canada Project Manager / Ad.: instructeur de Projets Parcs Canada

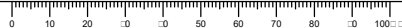
Client Acceptance / Acceptation du client	Approved by / Approuvé par
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Parks Canada Response / Réponse: à Parcs Canada

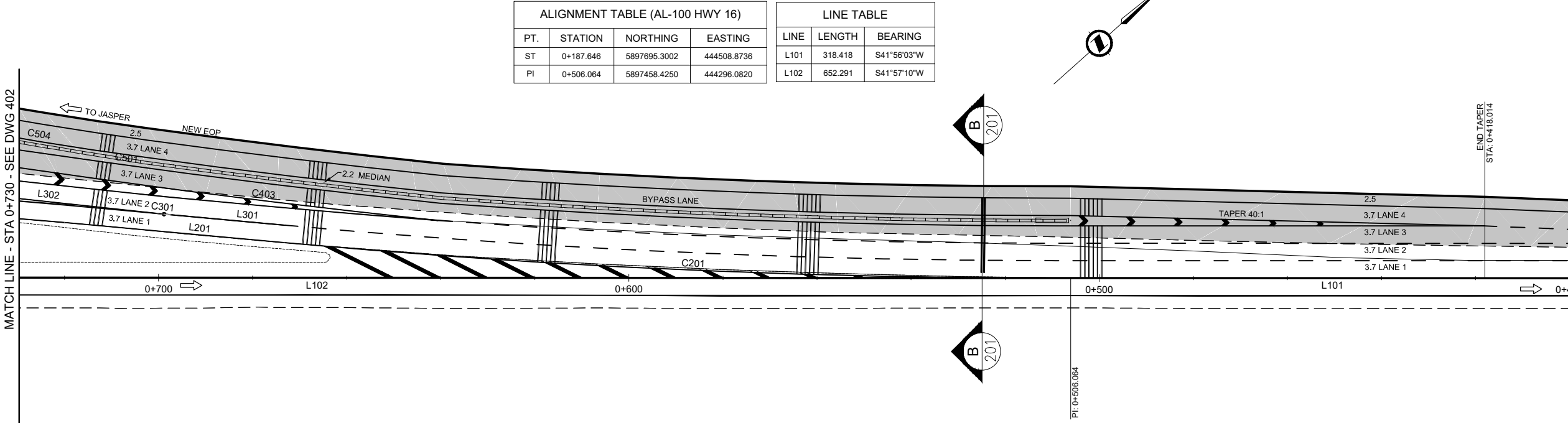
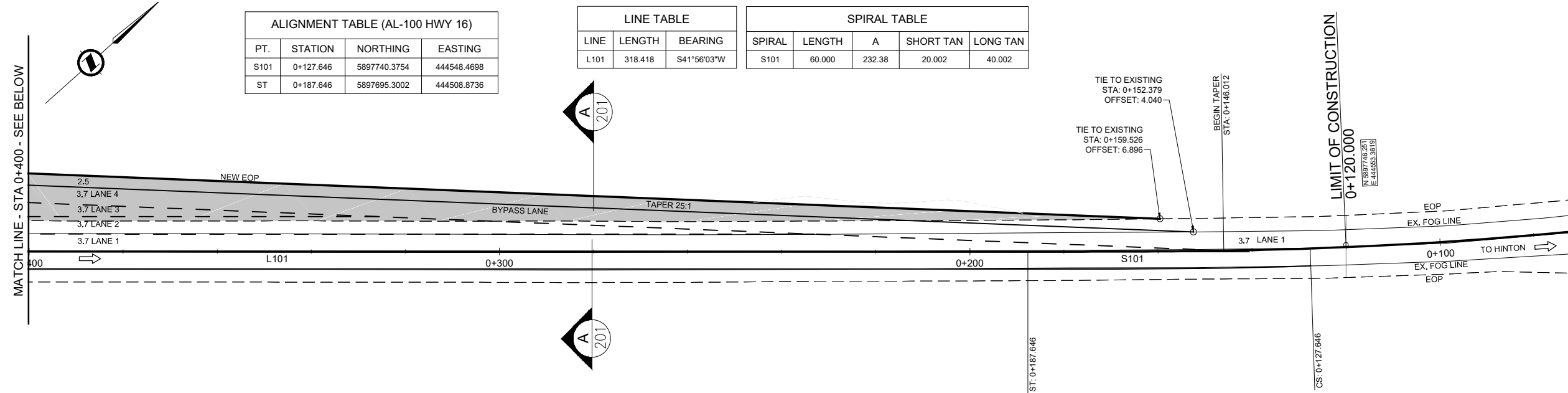
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Drawing Reference No. / No. de référence du dessin
2511/0076/00

NOT FOR CONSTRUCTION



FILE: G:\PROJECTS\5511-00763-00 PARKS HWY 16 GATE\00 DRAWINGS\03 SHEET FILES\03763- LANING & GEOMETRY EAST GATE 401-403.DWG PLOTTED: 2017/12/8 3:15 PM



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DESIGN SPEED 70km/h
POSTED SPEED 50km/h
HALF-SIZED

Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	MM	MM	SB

Consultant's Stamp
Sceau de l'expert-conseil

Eng. Stamp
Sceau de l'ingénieur

Client

Consultant's Name
Nom de l'expert-conseil

Project Title
Titre du projet

Drawing Title
Titre du dessin

Surveyed by / Arpenté par
MCSL

Designed by / Conçu par
MM

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Client Acceptance / Acceptation du client

Approved by / Approuvé par

Project No. / No. du projet
1285

Asset No. / No. du bien

Sheet No.
No. de la feuille
401

Drawing Reference No. / No. de référence du dessin
2511-00763-00

NOT FOR CONSTRUCTION

FILE: G:\PROJECTS\5511_00763_00 PARKS HWY 16 GATE\00 DRAWINGS\03 SHEET FILES\0763- LANING & GEOMETRY EAST GATE 401-403.DWG PLOTTED: 2017/12/28 3:15 PM

CURVE TABLE					
CURVE	RADIUS	LENGTH	Δ	TANGENT	CHORD
C701	20.000	17.670	50°37'11"	9.458	17.101
C702	10.000	7.856	45°00'45"	4.143	7.656
C703	10.000	7.852	44°59'15"	4.141	7.652
C704	20.000	16.641	47°40'27"	8.836	16.165

ALIGNMENT TABLE (AL-700 Parking Lot)			
PT.	STATION	NORTHING	EASTING
C701	0+000.000	5897201.0541	444021.0719
L701	0+017.670	5897191.1264	444007.1482
C702	0+024.422	5897189.9330	444000.5017
L702	0+032.279	5897185.7987	443994.0584
C703	0+065.655	5897158.3942	443975.0058
L703	0+073.507	5897150.9186	443973.3739
C704	0+080.690	5897143.8485	443974.6434

LINE TABLE		
LINE	LENGTH	BEARING
L701	6.753	S79°49'15"W
L702	33.377	S34°48'30"W
L703	7.183	S10°10'45"E

ALIGNMENT TABLE (RT_LANE 2)			
PT.	STATION	NORTHING	EASTING
C402	0+000.000	5897210.7250	444043.1893
L402	0+050.806	5897250.8751	444074.2485
C401	0+052.054	5897251.8045	444075.0819
L401	0+100.579	5897286.1168	444109.3612

ALIGNMENT TABLE (LT_LANE 3)			
PT.	STATION	NORTHING	EASTING
C406	0+000.000	5897135.2052	443987.7408
L405	0+063.840	5897187.2380	444024.6363
C405	0+091.630	5897210.9895	444039.0636
L404	0+147.171	5897255.5274	444072.1155
C404	0+149.273	5897257.0920	444073.5184
L403	0+191.619	5897286.5227	444103.9173
C403	0+242.866	5897319.4836	444143.1580

CURVE TABLE					
CURVE	RADIUS	LENGTH	Δ	TANGENT	CHORD
C401	450.000	48.525	6°10'42"	24.286	48.502
C402	350.000	50.806	8°19'01"	25.448	50.761
C403	1900.000	71.603	2°09'33"	35.806	71.599
C404	300.000	42.347	8°05'15"	21.209	42.311
C405	300.000	55.541	10°36'27"	27.850	55.462
C406	450.000	63.840	8°07'42"	31.974	63.786

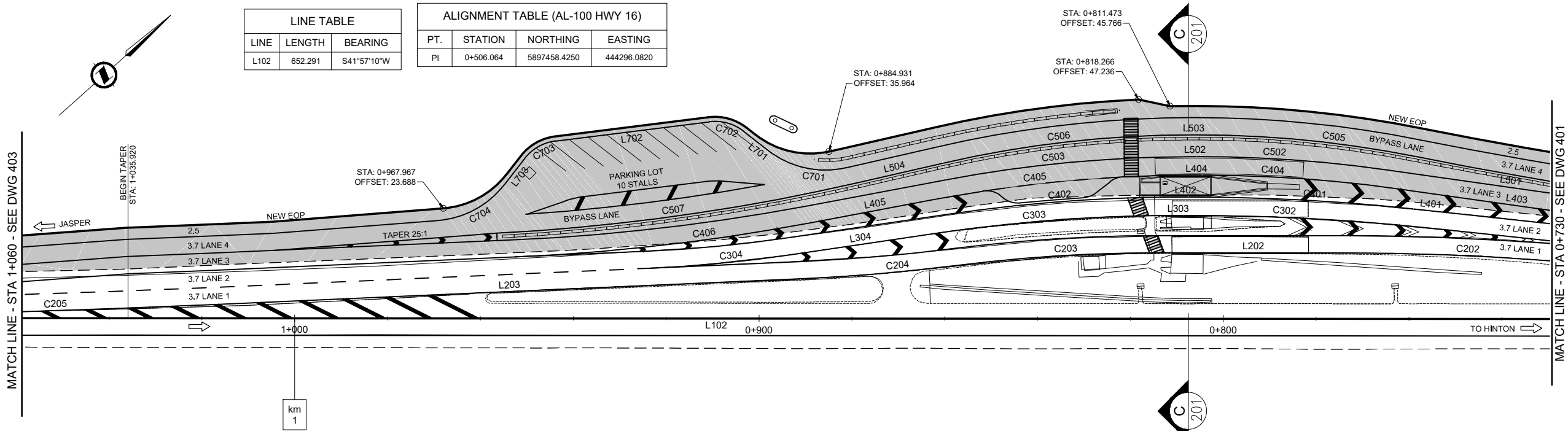
LINE TABLE		
LINE	LENGTH	BEARING
L401	5.475	N48°03'42"E
L402	1.248	N41°53'00"E
L403	51.247	N49°58'15"E
L404	2.101	N41°53'00"E
L405	27.790	N31°16'32"E

ALIGNMENT TABLE (RT_LANE 3)			
PT.	STATION	NORTHING	EASTING
C503	0+002.902	5897215.3903	444037.4076
L502	0+056.592	5897258.4436	444069.3578
C502	0+057.220	5897258.9117	444069.7775
L501	0+098.155	5897287.3614	444099.1631
C501	0+152.503	5897322.3168	444140.7782

ALIGNMENT TABLE (RT_LANE 4)			
PT.	STATION	NORTHING	EASTING
C507	-0+000.000	5897135.7273	443981.3105
L504	0+078.492	5897200.7315	444025.1266
C506	0+097.475	5897217.3366	444034.3253
L503	0+151.503	5897261.2648	444065.5828
C505	0+152.464	5897261.9804	444066.2245
C504	0+200.305	5897294.1901	444101.4910

LINE TABLE		
LINE	LENGTH	BEARING
L501	54.348	N49°58'15"E
L502	0.629	N41°53'00"E
L503	0.961	N41°53'00"E
L504	18.983	N28°59'06"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	Δ	TANGENT	CHORD
C501	1896.300	7.938	0°14'23"	3.969	7.938
C502	290.000	40.935	8°05'15"	20.502	40.901
C503	290.000	53.690	10°36'27"	26.922	53.613
C504	900.000	56.132	3°34'24"	28.075	56.122
C505	240.000	47.841	11°25'16"	24.000	47.762
C506	240.000	54.028	12°53'54"	27.129	53.914
C507	450.000	78.492	9°59'38"	39.346	78.393



LINE TABLE		
LINE	LENGTH	BEARING
L201	46.851	N47°10'00"E
L202	39.231	N41°57'15"E
L203	126.132	N39°24'14"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	Δ	TANGENT	CHORD
C201	1803.700	164.134	5°12'50"	82.124	164.077
C202	600.000	54.586	5°12'45"	27.312	54.567
C203	350.000	44.390	7°16'00"	22.225	44.360
C204	400.000	32.928	4°43'00"	16.473	32.919
C205	3000.000	133.453	2°32'56"	66.738	133.442

ALIGNMENT TABLE (LT_LANE 1)			
PT.	STATION	NORTHING	EASTING
C205	-0+000.000	5896979.3949	443865.4747
L203	0+133.453	5897080.5947	443952.4539
C204	0+259.585	5897178.0557	444032.5204
C203	0+292.513	5897204.3302	444052.3525
L202	0+336.904	5897239.1333	444079.8587
C202	0+376.134	5897268.3083	444106.0857
L201	0+430.720	5897307.1882	444144.3735
C201	0+477.571	5897339.0404	444178.7306

ALIGNMENT TABLE (LT_LANE 2)			
PT.	STATION	NORTHING	EASTING
C304	-0+000.000	5897154.9699	444008.7664
L304	0+030.566	5897179.5350	444026.9337
C303	0+063.330	5897206.8355	444045.0489
L303	0+113.586	5897246.5759	444075.7413
C302	0+115.917	5897248.3135	444077.2945
L302	0+170.619	5897287.0236	444115.9066
C301	0+224.521	5897323.0475	444156.0019
L301	0+227.645	5897325.1534	444158.3093

CURVE TABLE					
CURVE	RADIUS	LENGTH	Δ	TANGENT	CHORD
C301	200.000	3.124	0°53'42"	1.562	3.124
C302	500.000	54.702	6°16'06"	27.378	54.675
C303	350.000	50.256	8°13'37"	25.171	50.213
C304	300.000	30.566	5°50'16"	15.296	30.553

LINE TABLE		
LINE	LENGTH	BEARING
L301	24.417	N47°10'00"E
L302	53.901	N48°03'42"E
L303	2.331	N41°47'36"E
L304	32.764	N33°33'58"E

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DESIGN SPEED 70km/h

POSTED SPEED 50km/h

HALF-SIZED

0	2017.12.08	ISSUED FOR TENDER	MM	MM	SB
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé

<div><div>A</div><div>B</div><div>C</div></div> <div><div>A</div><div>B</div><div>C</div></div>	<div>detail number</div> <div>numéro de detail</div> <div>source drawing no.</div> <div>de dessin no.</div> <div>detail on drawing no.</div> <div>détail sur dessin no.</div>
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Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
<div><div>PERMIT TO PRACTICE</div><div>McElhanney Consulting Services Ltd.</div><div>Signature</div><div>Date December 11, 2017</div><div>PERMIT NUMBER: P 6383</div><div>The Association of Professional Engineers, Geologists and Geophysicists of Alberta</div></div>	<div><div>PROFESSIONAL ENGINEER</div><div>BERNARD HERMANDEZ</div><div>Dec 11, 2017</div></div>

Client	<div><div></div><div>Parks Canada Agency Western and Northern Region</div></div>	<div><div></div><div>L'Agence Parcs Canada Ouest et Nord du Canada</div></div>
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Consultant's Name Nom de l'expert-conseil	<div><div></div><div>McElhanney McElhanney Consulting Services Ltd.</div></div>
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Project Title Titre du projet	HIGHWAY 16 PARK EAST GATE IMPROVEMENTS
----------------------------------	---

JASPER NATIONAL PARK AB

Drawing Title Titre du dessin	GEOMETRICS & LANING STA 0+730 TO 1+060
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Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par MM	Date 2017.12.08
Designed by / Conçu par MM	Reviewed by / Révisé par SB	Scale / Echelle 1:500

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Client Acceptance / Acceptation du client	Approved by / Approuvé par
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Parks Canada Responsable Officiel / Agent Responsable Parcs Canada

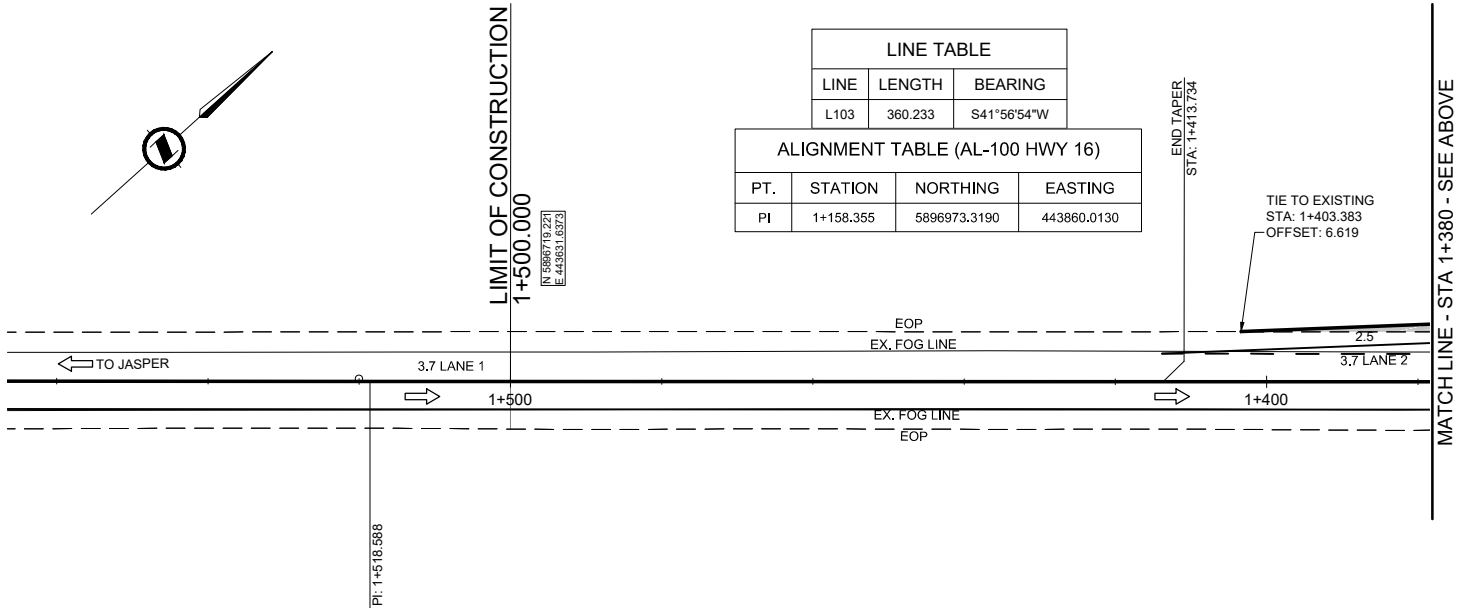
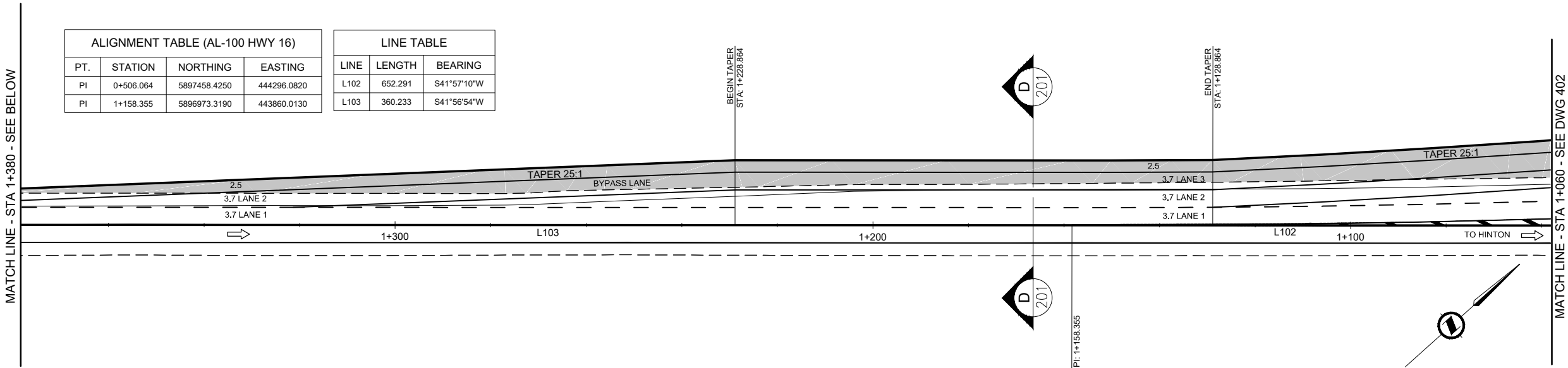
Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Project No. / No. du projet 1285	Asset No. / No. du-bien	Sheet No. / No. de la feuille 402
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Drawing Reference No. / No. de référence du dessin	2511-00763-00
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NOT FOR CONSTRUCTION

FILE: G:\PROJECTS\5511_00763_00 PARKS HWY 16 GATE\00 DRAWINGS\03 SHEET FILES\0763- LANING & GEOMETRY EAST GATE 401-403.DWG PLOTTED: 2017/12/8 3:45 PM



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Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	MM	MM	SB

Consultant's Stamp
Sceau de l'expert-conseil

Eng. Stamp
Sceau de l'ingénieur

Client

Consultant's Name
Nom de l'expert-conseil

Project Title
Titre du projet

Drawing Title
Titre du dessin

Surveyed by / Arpenté par
MCSL

Drawn by / Dessiné par
MM

Date
2017.12.08

Designed by / Conçu par
MM

Reviewed by / Révisé par
SB

Scale / Echelle
1:500

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Client Acceptance / Acceptation du client

Approved by / Approuvé par

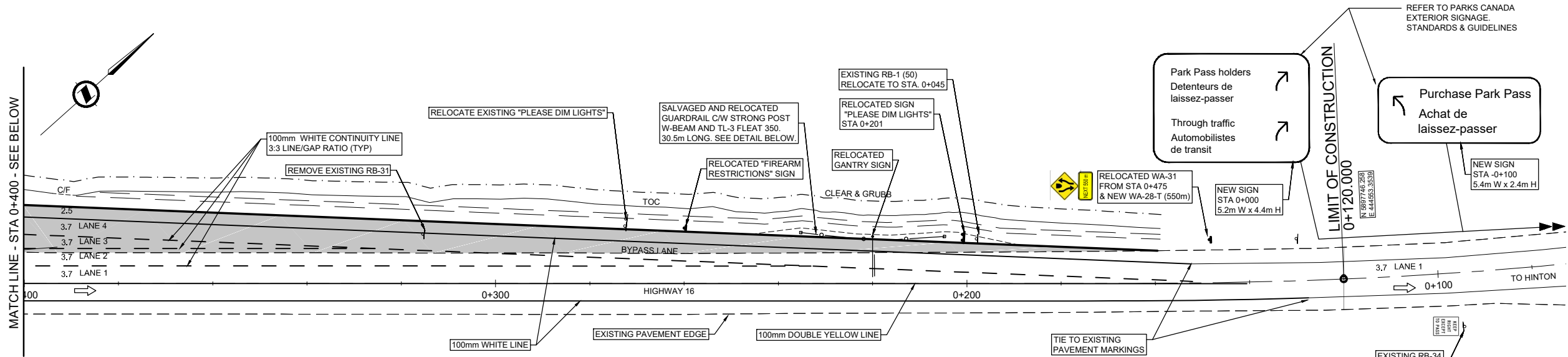
Project No. / No. du projet
1285

Asset No. / No. du-bien

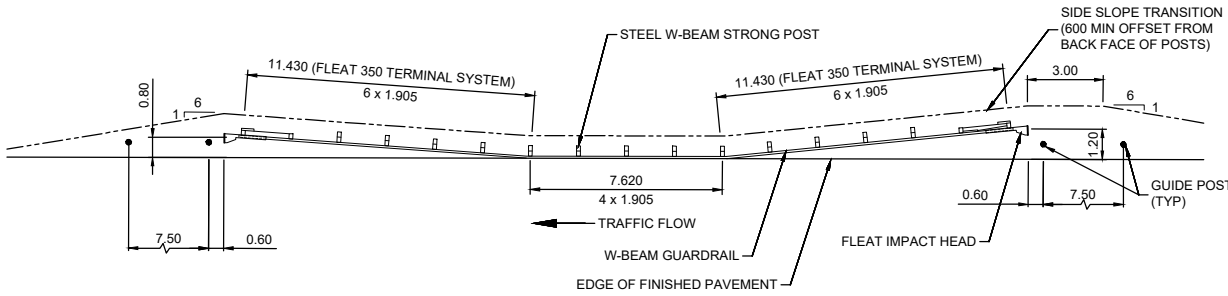
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Drawing Reference No. / No. de référence du dessin
2511-00763-00

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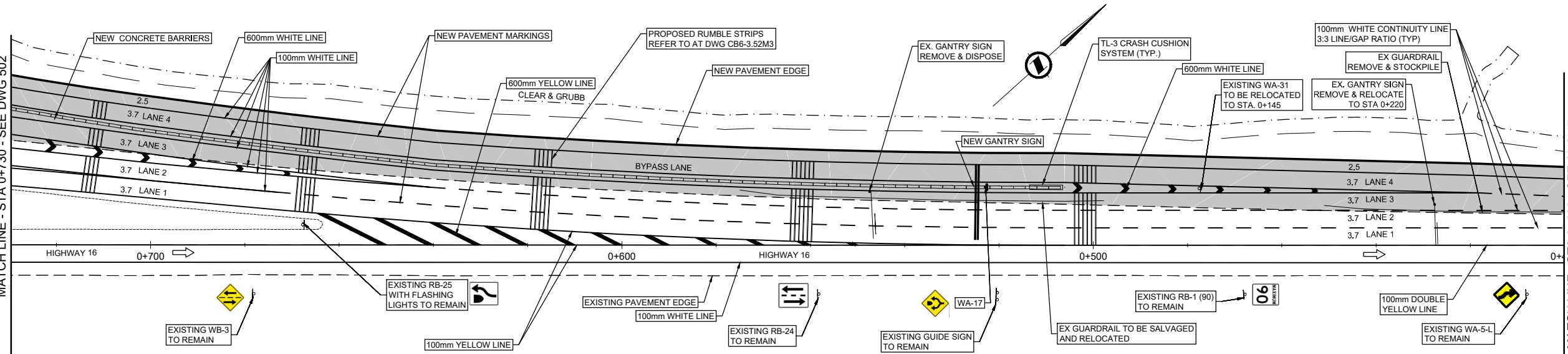


SIGNS ASSOCIATED WITH DRAWINGS						
SIGN TYPE	EX./NEW	RELOC./DISP./REMAIN	DESCRIPTION	QUANTITY	NEW POSTS	RELOC. POSTS
RB-1 (50)	EX.	RELOCATE	MAXIMUM SPEED	1	0	1
RB-5 (50)	EX.	RELOCATE (FROM STA 0+030 TO -0+155)	MAXIMUM SPEED AHEAD	1	0	1
RB-1 (90)	EX.	REMAIN	MAXIMUM SPEED	1	0	0
RB-24	EX.	REMAIN	TWO-WAY TRAFFIC	1	0	0
RB-25	EX.	REMAIN	KEEP RIGHT	1	0	0
RB-31	EX.	DISPOSE	NO PASSING	1	0	0
RB-34	EX.	REMAIN	KEEP RIGHT EXCEPT TO PASS	1	0	0
WA-5-L	EX.	REMAIN	REVERSE CURVE	1	0	0
WA-28-T	NEW	N/A	DISTANCE TO WARNING	1	0	0
WA-31	EX.	RELOCATE	DIVIDED HIGHWAY BEGINS	1	0	1
WA-17	NEW	N/A	DOUBLE ARROW	1	1	0
WB-3	EX.	REMAIN	TWO-WAY TRAFFIC AHEAD	1	0	0
GUIDE SIGN	EX.	REMAIN	HINTON 24km / EDSON 112km / EDMONTON 305km	1	0	0
CUSTOM	EX.	RELOCATE	PLEASE DIM LIGHT	1	0	2
CUSTOM	NEW	N/A	PURCHASE PARK PASS	1	2	0
CUSTOM	NEW	N/A	PARK PASS HOLDERS/ THROUGH TRAFFIC	1	2	0



STRONG POST W-BEAM GUARDRAIL DETAIL
NTS

- NOTES:
- FOR STRONG POST W-BEAM GUARDRAIL REFER TO AT STANDARD DETAILS DRAWING TEB 3.09.
 - FOR TL-3 FLEAT 350 REFER TO AT STANDARD DETAILS DRAWING RDG-81.5.
 - FOR GUARDRAIL GUIDE POST REFER TO AT STANDARD DETAILS DRAWING TEB 3.51.



- NOTES
- SIGNS & PAVEMENT MARKINGS - ALBERTA TRANSPORTATION PAVEMENT MARKINGS GUIDE.
 - SIGN CODING - ALBERTA TRANSPORTATION.

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DESIGN SPEED 70km/h
POSTED SPEED 50km/h
HALF-SIZED

Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	MM	MM	SB

A

B

C

detail number
numéro de detail

source drawing no.
de dessin no.

detail on drawing no.
detail sur dessin no.

A

B

C

Consultant's Stamp
Sceau de l'expert-conseil

PERMIT TO PRACTICE
McElhanney Consulting Services Ltd.
Signature
Date December 11, 2017
PERMIT NUMBER: P 6383
The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

A

B

C

Eng. Stamp
Sceau de l'ingénieur

PROFESSIONAL ENGINEER
MARK HERMANDEZ
Dec 28, 2017

Parks Canada Agency
Western and Northern
Region

L'Agence Parcs
Canada
Ouest et Nord du Canada

McElhanney
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

**PAVEMENT MARKINGS & SIGNS
0+120 TO 0+730**

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par MM	Date 2017.12.08
Designed by / Conçu par MM	Reviewed by / Révisé par SB	Scale / Echelle 1:500

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Client Acceptance / Acceptation du client

Approved by / Approuvé par

Project No. / No. du projet

Asset No. / No. du bien

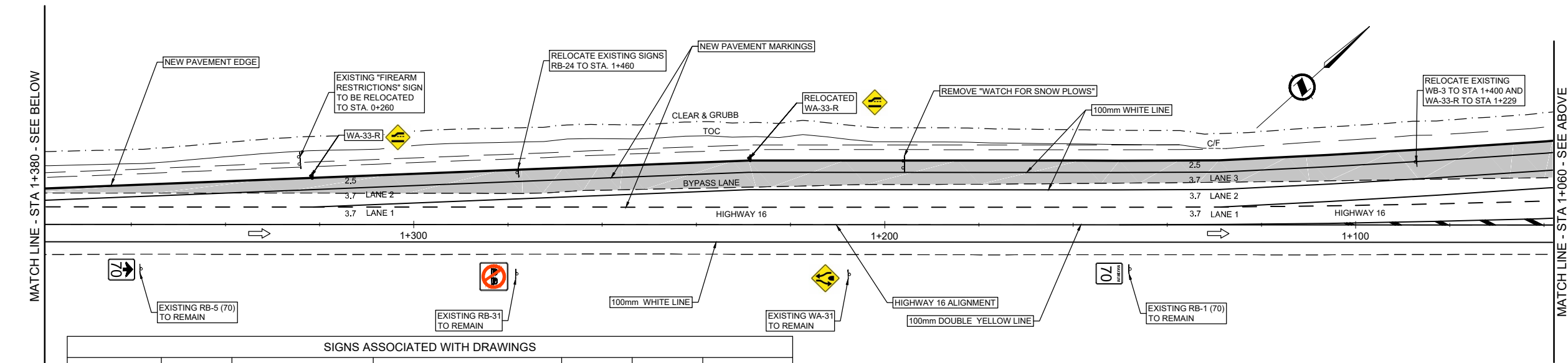
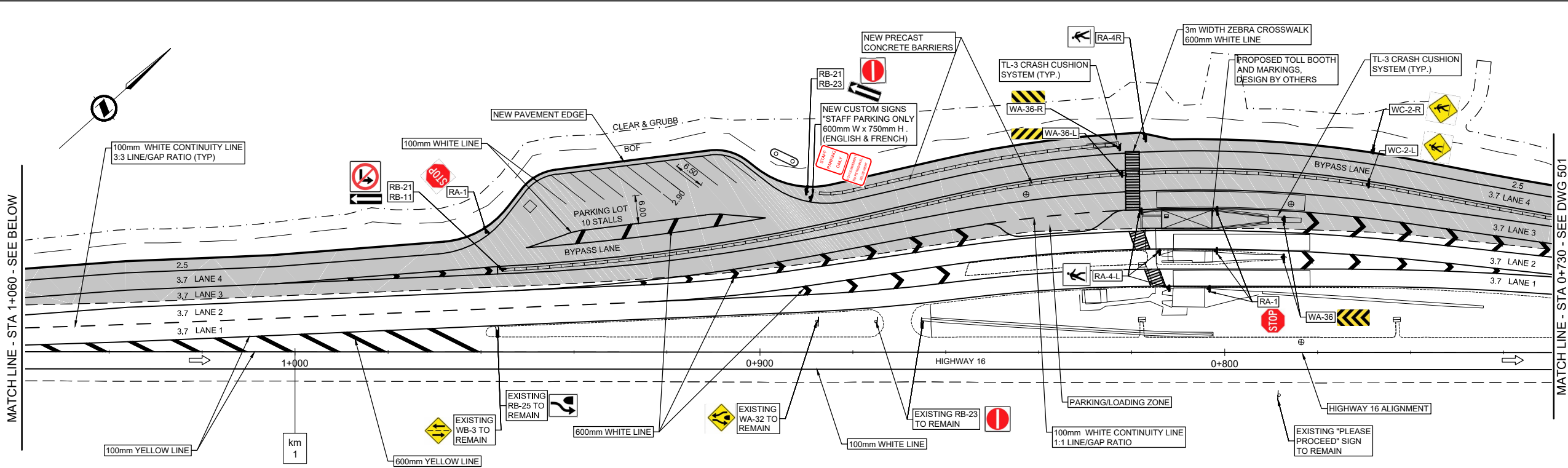
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1285

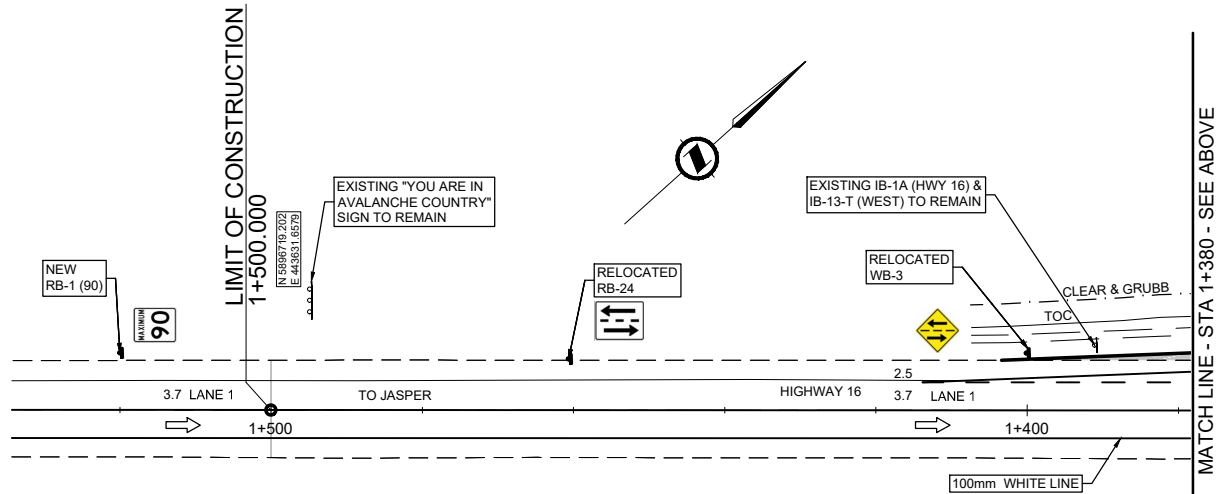
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501

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SIGNS ASSOCIATED WITH DRAWINGS						
SIGN TYPE	EX./NEW	RELOC./DISP./REMAIN	DESCRIPTION	QUANTITY	NEW POSTS	RELOC. POSTS
RA-1	NEW	N/A	STOP SIGN	4	4	0
RA-4-L	NEW	N/A	PEDESTRIAN CROSSWALK SIGN (LEFT)	3	3	0
RA-4-R	NEW	N/A	PEDESTRIAN CROSSWALK SIGN (RIGHT)	1	1	0
RB-1 (90)	NEW	INSTALL STA 1+520	MAXIMUM SPEED	1	1	0
RB-1 (70)	EX.	REMAIN	MAXIMUM SPEED	1	0	0
RB-5 (70)	EX.	REMAIN	MAXIMUM SPEED AHEAD	1	0	0
RB-11	NEW	N/A	LEFT TURNS PROHIBITED	1	1	0
RB-21	NEW	N/A	ONE WAY	2	0	0
RB-23	2 / 1	REMAIN	DO NOT ENTER	3	1	0
RB-24	EX.	RELOCATE	TWO WAY TRAFFIC	1	0	1
RB-25	EX.	REMAIN	KEEP RIGHT	1	0	0
RB-31	EX.	REMAIN	DO NOT PASS	1	0	0
WA-31	EX.	REMAIN	DIVIDED HIGHWAY BEGINS	1	0	0
WA-32	EX.	REMAIN	DIVIDED HIGHWAY ENDS	1	0	0
WA-33-R	1 / 1	RELOCATE	ROAD NARROWS - LOSS OF LANE	2	1	1
WA-36	NEW	N/A	HAZARD MARKER - CENTRE	2	2	0
WA-36-R	NEW	N/A	HAZARD MARKER - OBJECT ON RIGHT	1	1	0
WA-36-L	NEW	N/A	HAZARD MARKER - OBJECT LEFT	1	1	0
WB-3	EX.	RELOCATE / REMAIN	TWO WAY TRAFFIC AHEAD	2	0	1
WC-2-R	NEW	N/A	PEDESTRIAN CROSSING AHEAD RIGHT	1	1	0
WC-2-L	NEW	N/A	PEDESTRIAN CROSSING AHEAD LEFT	1	1	0
IB-1A / IB-13-T	EX.	REMAIN	HIGHWAY 16 / WEST	1	0	0
CUSTOM	EX.	REMAIN	PLEASE PROCEED	1	0	0
CUSTOM	EX.	RELOCATE	FIREARM RESTRICTIONS	1	0	2
CUSTOM	EX.	REMAIN	YOU ARE IN AVALANCHE COUNTRY	1	0	0
CUSTOM	NEW	N/A	STAFF PARKING ONLY	1	1	0
CUSTOM	NEW	N/A	STATIONNEMENT DU PERSONNEL SEULEMENT	1	0	0
CUSTOM	EX.	DISPOSE	WATCH FOR SNOW PLOWS	1	0	0



- NOTES
- SIGNS & PAVEMENT MARKINGS - ALBERTA TRANSPORTATION PAVEMENT MARKINGS GUIDE.
 - SIGN CODING - ALBERTA TRANSPORTATION.

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DESIGN SPEED 70km/h

POSTED SPEED 50km/h

HALF-SIZED

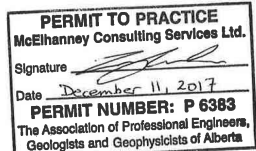
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	MM	MM	SB



A detail number
B source drawing no.
C detail on drawing no.



Consultant's Stamp
Sceau de l'expert-conseil



Eng. Stamp
Sceau de l'ingénieur



Client



Parks Canada Agency
Western and Northern
Region

L'Agence Parcs
Canada
Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil



McElhanney

McElhanney Consulting Services Ltd.

Project Title
Titre du projet

HIGHWAY 16
PARK EAST GATE IMPROVEMENTS

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

PAVEMENT MARKINGS & SIGNS
STA 0+730 TO 1+500

Surveyed by / Arpenté par

MCSL

Drawn by / Dessiné par

MM

Date

2017.12.08

Designed by / Conçu par

MM

Reviewed by / Révisé par

SB

Scale / Echelle

1:500

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Client Acceptance / Acceptation du client

Approved by / Approuvé par

Project No. / No. du projet

1285

Asset No. / No. du bien

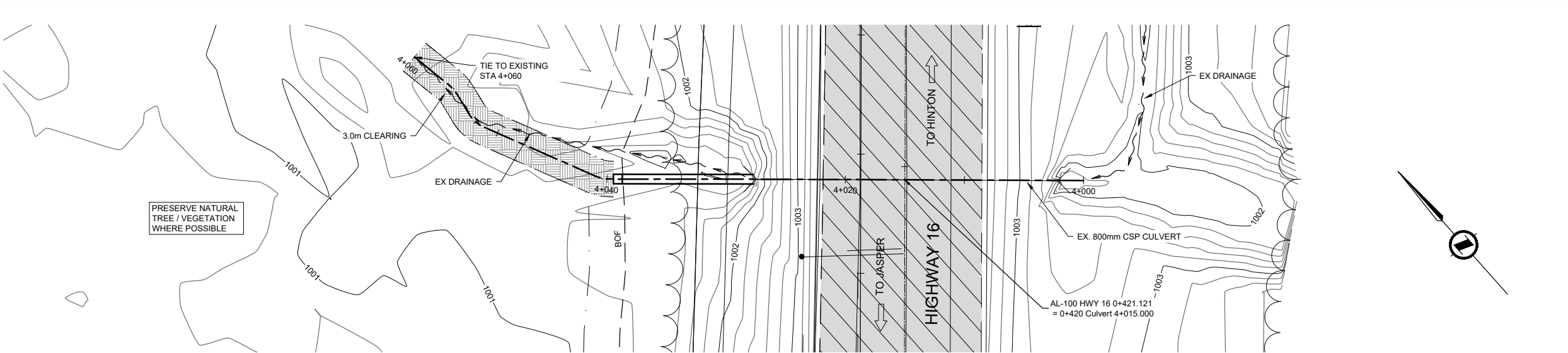
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502

Drawing Reference No. / No. de référence du dessin

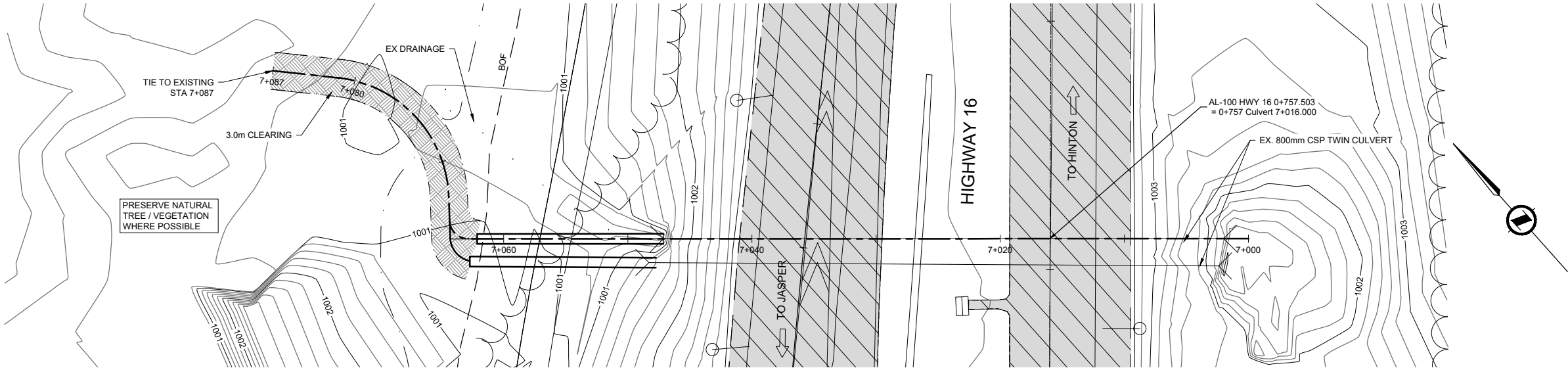
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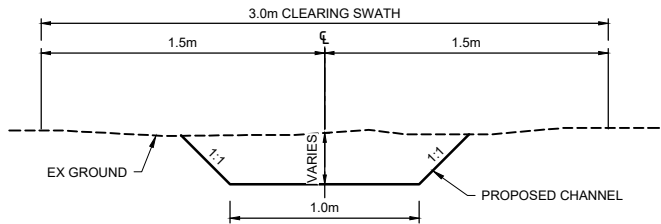
PLAN CULVERT STA 0+420

SCALE 1:200



PLAN CULVERT STA 0+757

SCALE 1:200

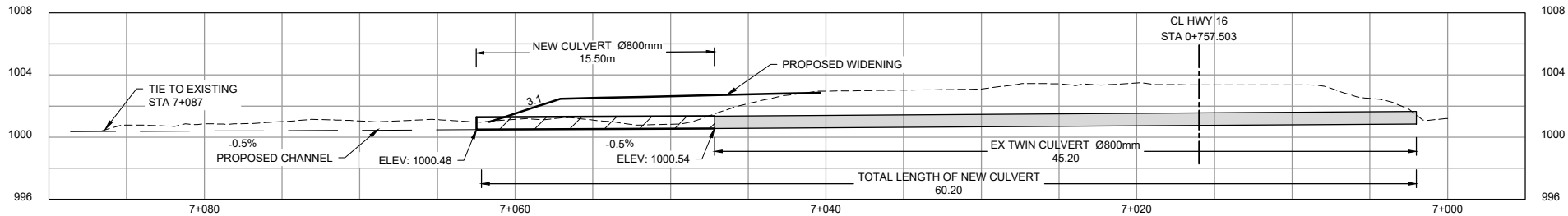


TYPICAL CHANNEL CROSS-SECTION

SCALE NTS

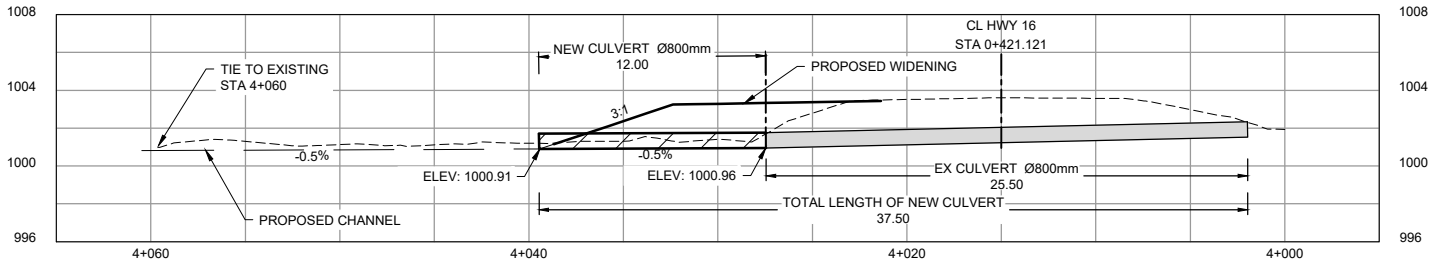
NOTE:

- CULVERT & CHANNEL DESIGN BASED ON LIDAR.
- CONTRACTOR TO REVIEW & CONFIRM INVERT ELEVATIONS & CULVERT LENGTHS WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION.
- EXTENT OF WORKS TO BE CONFIRMED IN THE FIELD BY DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION.
- CHANNELS TO BE EQUAL WIDTH TO EXISTING CONDITIONS.
- BACK FILL PRACTICES TO CONFORM TO THOSE SPECIFIED BY THE CULVERT MANUFACTURER AND AS DETAIL ON DRAWINGS.
- CONTRACTOR TO PROVIDE EROSION AND SEDIMENT CONTROLS AS PER BEST MANAGEMENT PRACTICES.



PROFILE CULVERT STA 0+757

SCALE 1:200



PROFILE CULVERT STA 0+420

SCALE 1:200

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HALF-SIZED

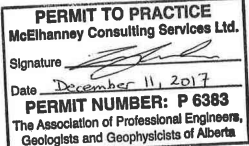
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	MM	MM	SB



A detail number
B numéro de detail
C source drawing no.
de dessin no.
detail on drawing no.
detail sur dessin no.



Consultant's Stamp
Sceau de l'expert-conseil



Eng. Stamp
Sceau de l'ingénieur



Client



Parks Canada Agency
Western and Northern
Region

L'Agence Parcs
Canada
Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil



McElhanney
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

**GENERAL ARRANGEMENTS
CULVERT STA 0+420
TWIN CULVERT STA 0+757**

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par MM	Date 2017.12.08
Designed by / Conçu par MM	Reviewed by / Révisé par SB	Scale / Echelle 1:200

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

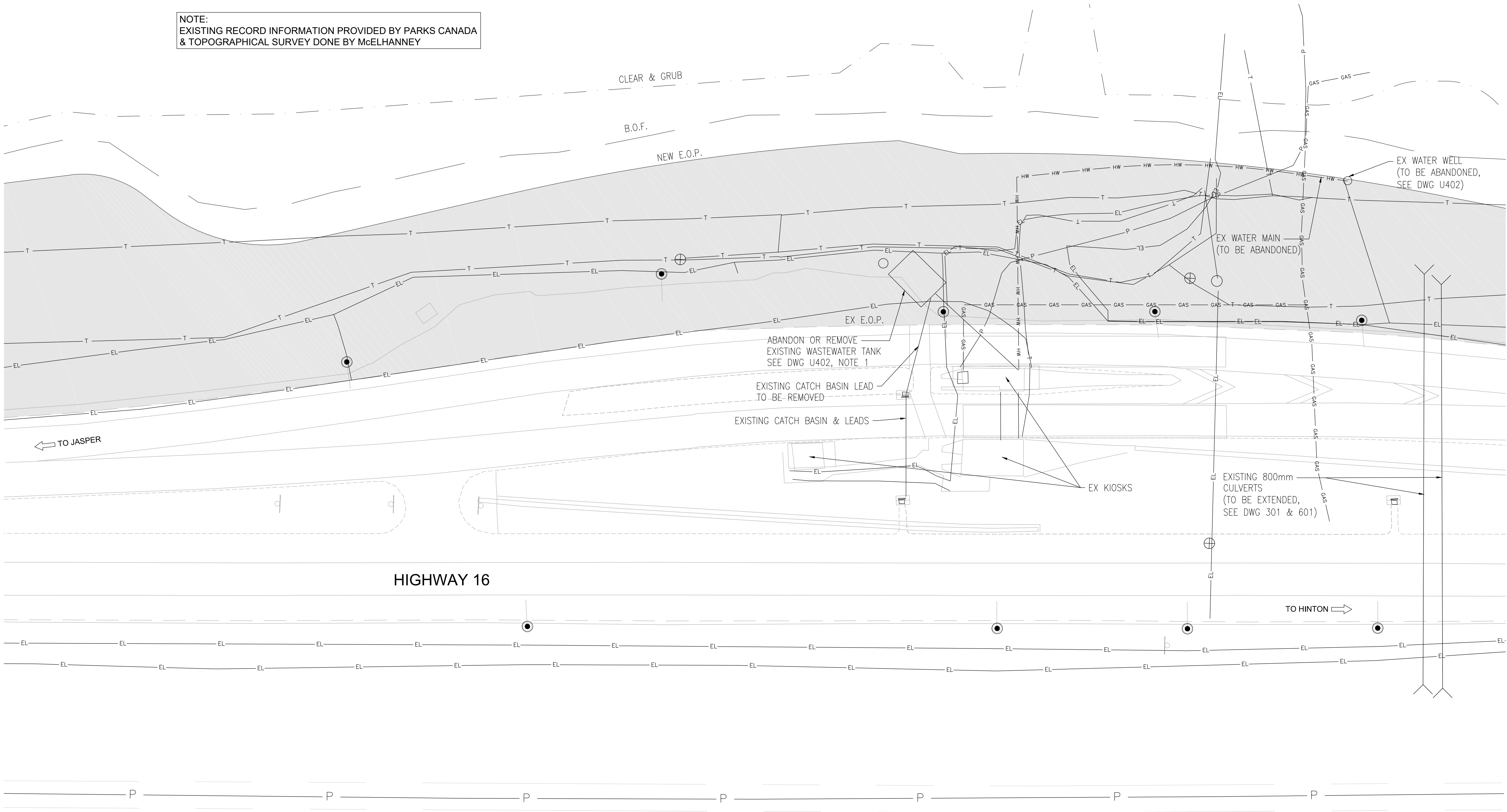
Client Acceptance / Acceptation du client	Approved by / Approuvé par
<small>Parks Canada Responsable Officiel / Agent Responsables Parcs Canada</small>	<small>Parks Canada Project Manager / Administrateur de Projets Parcs Canada</small>

Project No. / No. du projet 1285	Asset No. / No. du-bien	Sheet No. No. de la feuille 601
Drawing Reference No. / No. de référence du dessin 2511-00763-00		

LEGEND:

EXISTING ELECTRICAL LINE	— EL —
EXISTING TELEPHONE LINE	— T —
EXISTING GAS LINE	— GAS — GAS — GAS —
EXISTING WATER LINE	— HW — HW — HW —
EXISTING POWER LINE	— P —
EXISTING LIGHT POLE	●
EXISTING UTILITY BOX	⊕

NOTE:
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Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	AI	ADT	SB

A	detail number numéro de détail	A
B	source drawing no. de dessin no.	B
C	detail on drawing no. détail sur dessin no.	C

Consultant's Stamp
Sceau de l'expert-conseil

McElhanney Consulting Services Ltd.

Signature: *[Signature]*

Date: December 11, 2017

PERMIT NUMBER: P 6383

The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

Eng. Stamp
Sceau de l'ingénieur

McElhanney Consulting Services Ltd.

Dec 11, 2017

Client

Parks Canada Agency
Western and Northern
Region

L'Agence Parcs
Canada
Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil

McElhanney
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

**EXISTING
BURIED UTILITIES**

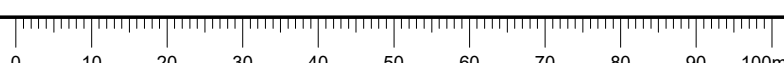
Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par AI	Date 2017.12.08
Designed by / Conçu par ADT	Reviewed by / Révisé par SB	Scale / Echelle 1:250

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

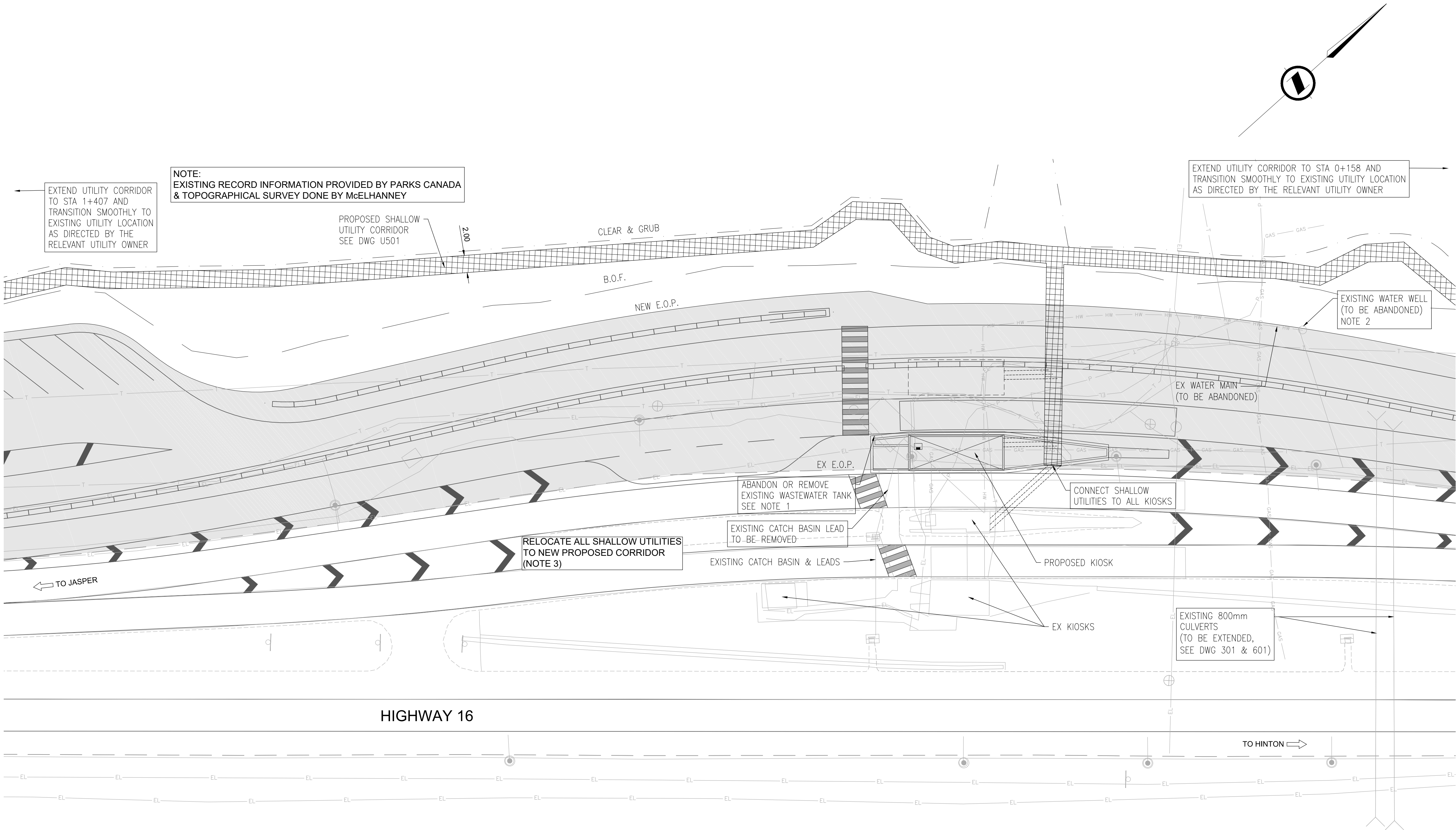
Client Acceptance / Acceptation du client	Approved by / Approuvé par
<small>Parks Canada Responsible Officer / Agent Responsable Parcs Canada</small>	<small>Parks Canada Project Manager / Administrateur de Projets Parcs Canada</small>

Project No. / No. du projet 201605	Asset No. / No. du-bien	Sheet No. No. de la feuille U401
Drawing Reference No. / No. de référence du dessin 2511-00763-00		

FILE: G:\PROJECTS\2511-00763-00 PARKS HWY 16 GATE\00 DRAWINGS\00.3 SHEET FILES\00763 SAN LINE.DWG PLOTTED: 2017/12/11 3:17 PM



FILE: G:\PROJECTS\5611_00763-00_PARKS HWY 16 GATE\03 DRAWINGS\03.3 SHEET FILES\00763 SAN LINE.DWG PLOTTED: 2017/12/11 3:17 PM



NOTES

- THE EXISTING WASTEWATER TANK IS TO BE REMOVED AND WASTED OFF SITE OR ABANDONED IN PLACE:
A. IF WASTED OFF SITE, VOID TO BE FILLED WITH NATIVE MATERIAL, APPROVED BY THE DEPARTMENT REPRESENTATIVE AND FREE OF FROZEN MATERIAL OR ANY ORGANICS. FILL TO BE COMPACTED TO 98%, COMPLETED IN 300MM(MAX) LIFTS.
B. IF TANK TO BE ABANDONED IN-PLACE, THIS IS TO BE IN ACCORDANCE WITH REQUIREMENTS OUTLINED IN THE ALBERTA MUNICIPAL AFFAIRS AND THE ALBERTA PRIVATE SEWAGE SYSTEM STANDARDS HANDBOOK (KEY POINTS SUMMARIZED BELOW, NOT A COMPLETE LIST OF REQUIREMENTS)
 - REMOVAL OF ALL MATERIAL AND LIQUIDS WITHIN THE TANK, DISINFECT INTERIOR.
 - REMOVE ANY INSTRUMENTATION OR ITEMS CONTAIN MERCURY (SUCH AS FLOATS), DISPOSING OF HAZARDOUS MATERIAL APPROPRIATELY
 - CRUSH AND PIERCE THE TOP AND BOTTOM OF THE TANK, ENSURING FREE DRAINAGE
 - FILL ENTIRE TANK WITH 20MM DIAMETER, SELF COMPACTING GRANULAR MATERIAL (PEA GRAVEL) ENSURING ALL VOIDS ARE FILLED, PLACE FILTER FABRIC OVER ENTIRE TOP OF THE TANK TO ENSURE NO FINES WILL MIGRATE INTO THE GRANULAR MATERIAL.
 - ENSURE ALL FILL MATERIAL AND AREA ABOVE THE ABANDONED TANK IS COMPACTED AS PER THE NEEDS OF THE PROJECT.
- EXISTING WATER WELL TO BE ABANDONED BY A CERTIFIED WATER WELL DRILLER, REGISTERED IN THE PROVINCE OF ALBERTA OR BRITISH COLUMBIA. WATER WELL TO BE ABANDONED IN ACCORDANCE WITH APPROVED METHOD, OUTLINED BY ALBERTA AGRICULTURE AND FORESTRY ("PLUGGING ABANDONED WELLS")
[HTTP://WWW1.AGRIC.GOV.AB.CA/\\$DEPARTMENT/DEPTDOCS.NSF/ALL/WWG414](http://www1.agric.gov.ab.ca/$DEPARTMENT/DEPTDOCS.NSF/ALL/WWG414)
- CONTRACTOR TO PROVIDE SHOP DRAWINGS TO REVIEW AND APPROVAL BY THE DEPARTMENT REPRESENTATIVE PRIOR TO UNDERTAKING THIS WORK.

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0	2017.12.08	ISSUED FOR TENDER	AI	ADT	SB
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé

<div>A</div> <div>C</div>	<div>A detail number numéro de détail</div> <div>B source drawing no. de dessin no.</div> <div>C detail on drawing no. détail sur dessin no.</div>	<div>A</div> <div>B</div> <div>C</div>
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McElhanney Consulting Services Ltd.
Signature *[Signature]*
Date December 11, 2017
PERMIT NUMBER: P 6383
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Geologists and Geophysicists of Alberta

Eng. Stamp
Sceau de l'ingénieur

Client

Parks Canada Agency
Western and Northern
Region

L'Agence Parcs
Canada
Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil

McElhanney
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

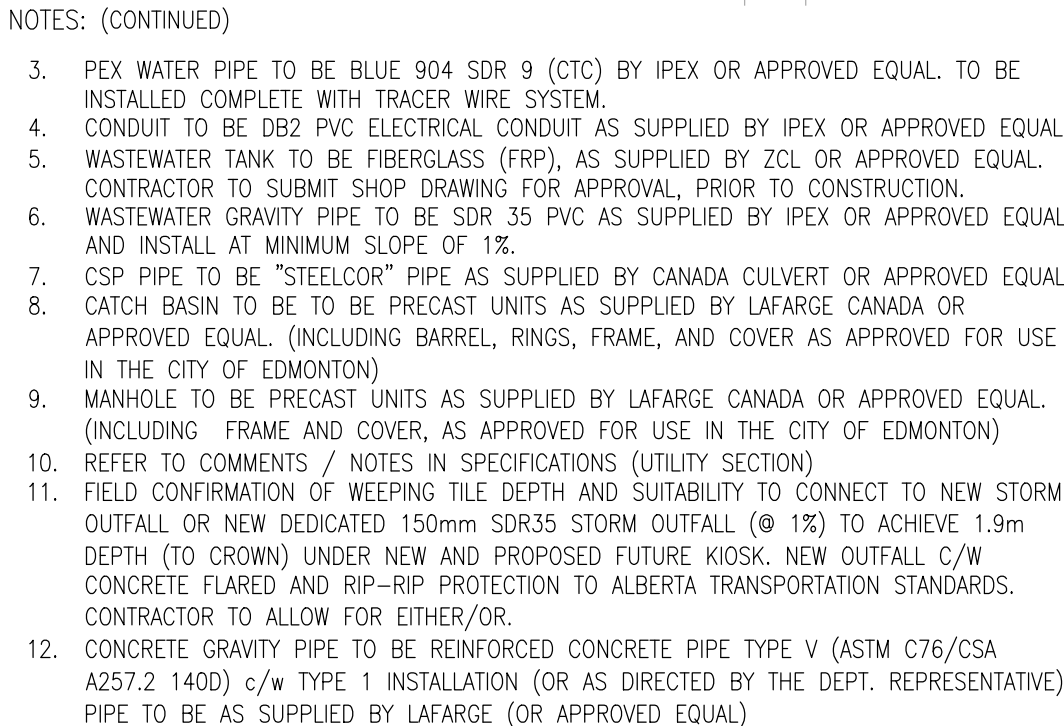
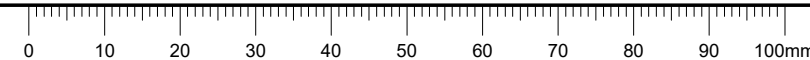
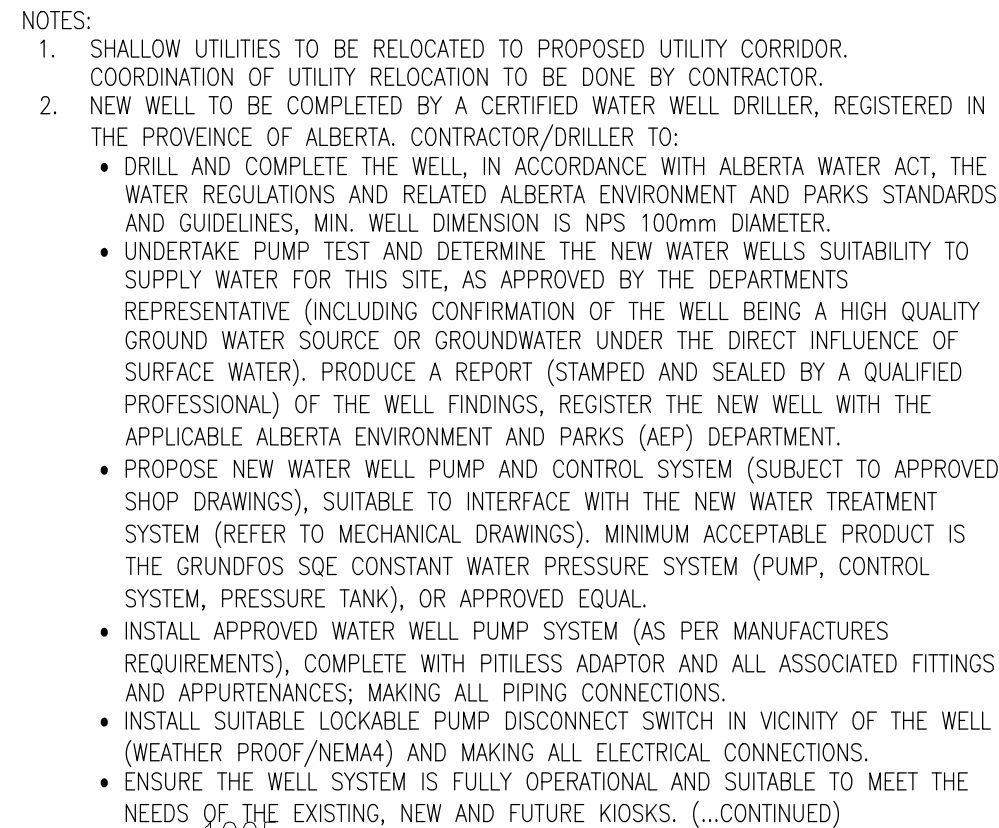
Drawing Title
Titre du dessin

**PROPOSED
UTILITY REALIGNMENT CORRIDOR
AND EXISTING UTILITIES DEMO**

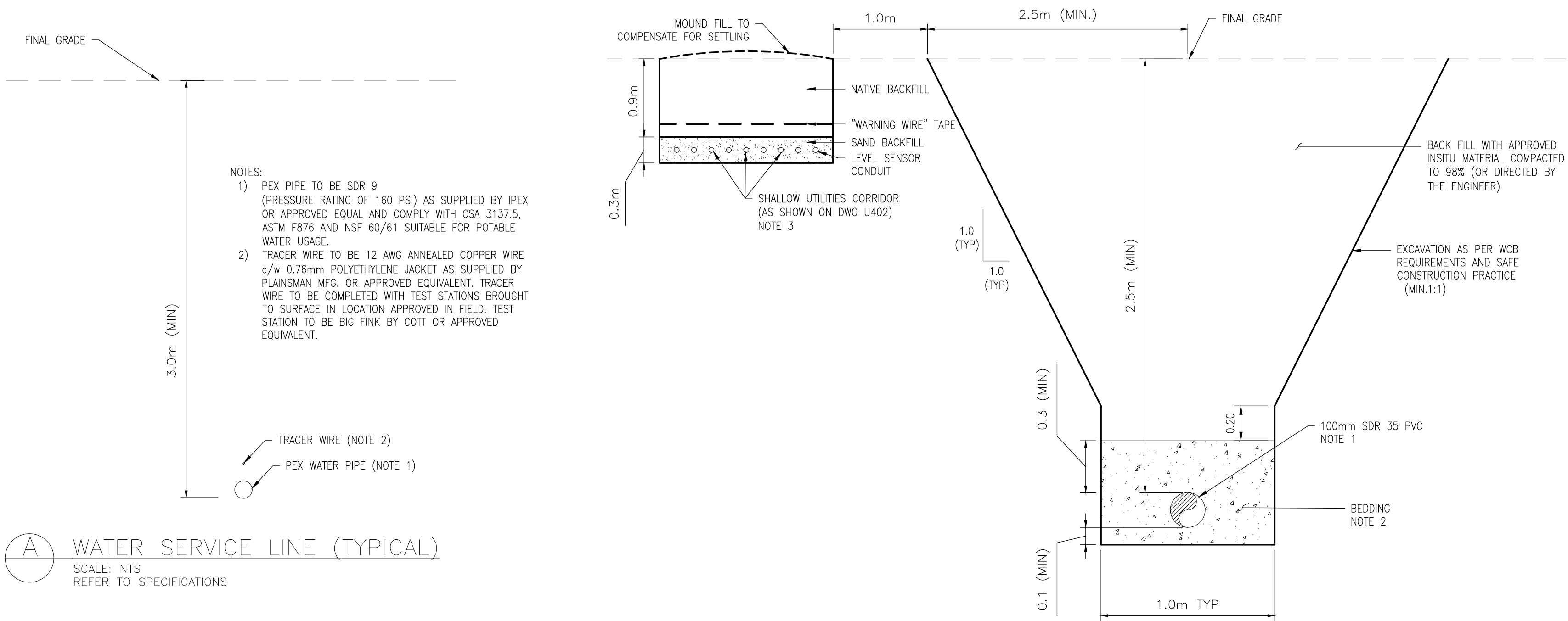
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Designed by / Conçu par ADT	Reviewed by / Révisé par SB	Scale / Echelle 1:250

Parks Canada Project Manager / Administrateur de Projets Parcs Canada		
Client Acceptance / Acceptation du client		Approved by / Approuvé par
Project No. / No. du projet 201605		Asset No. / No. du-bien U402
Drawing Reference No. / No. de référence du dessin 2511-00763-00		





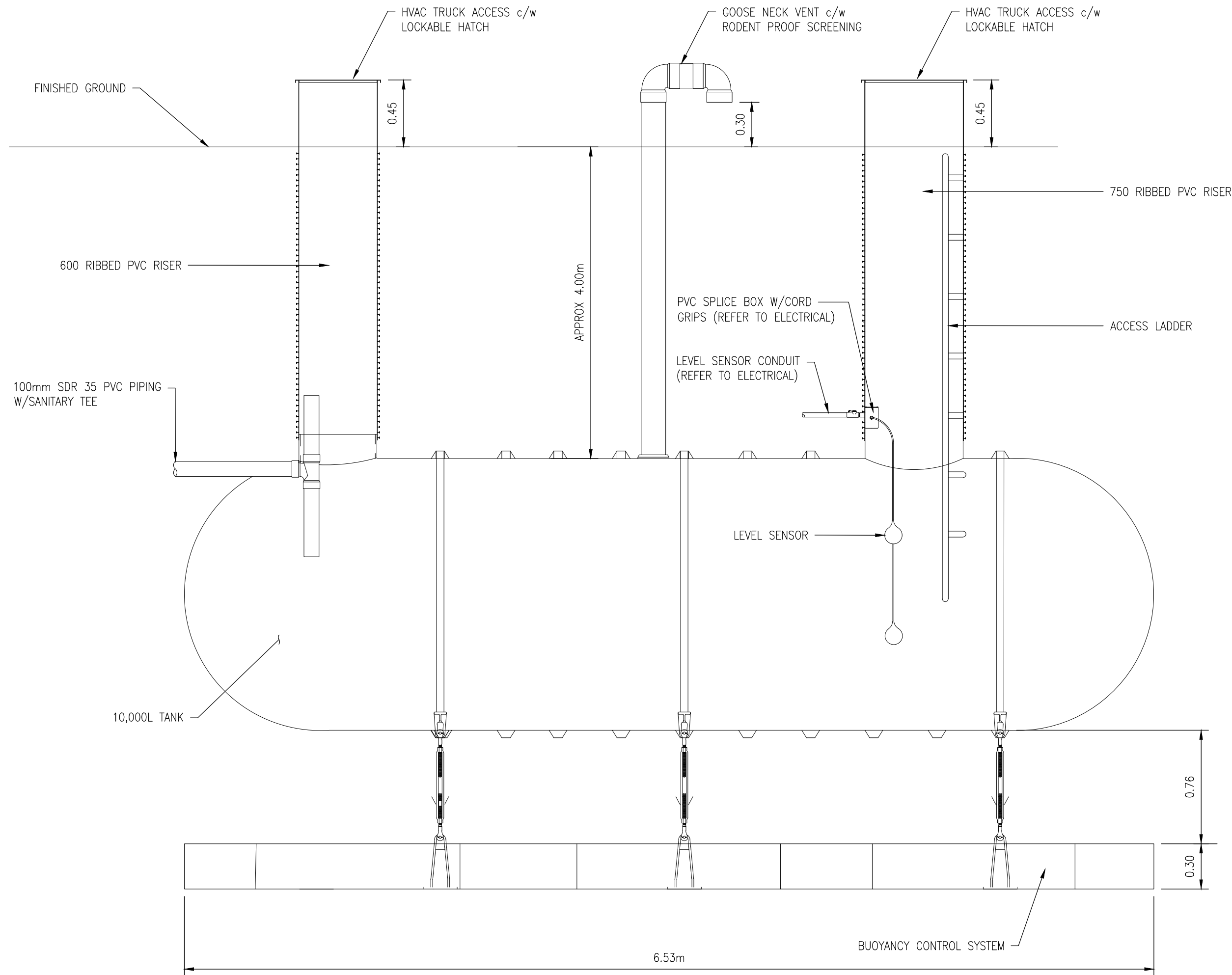
Drawing Reference No. / No. de référence du dessin	U403
2511-00763-00	



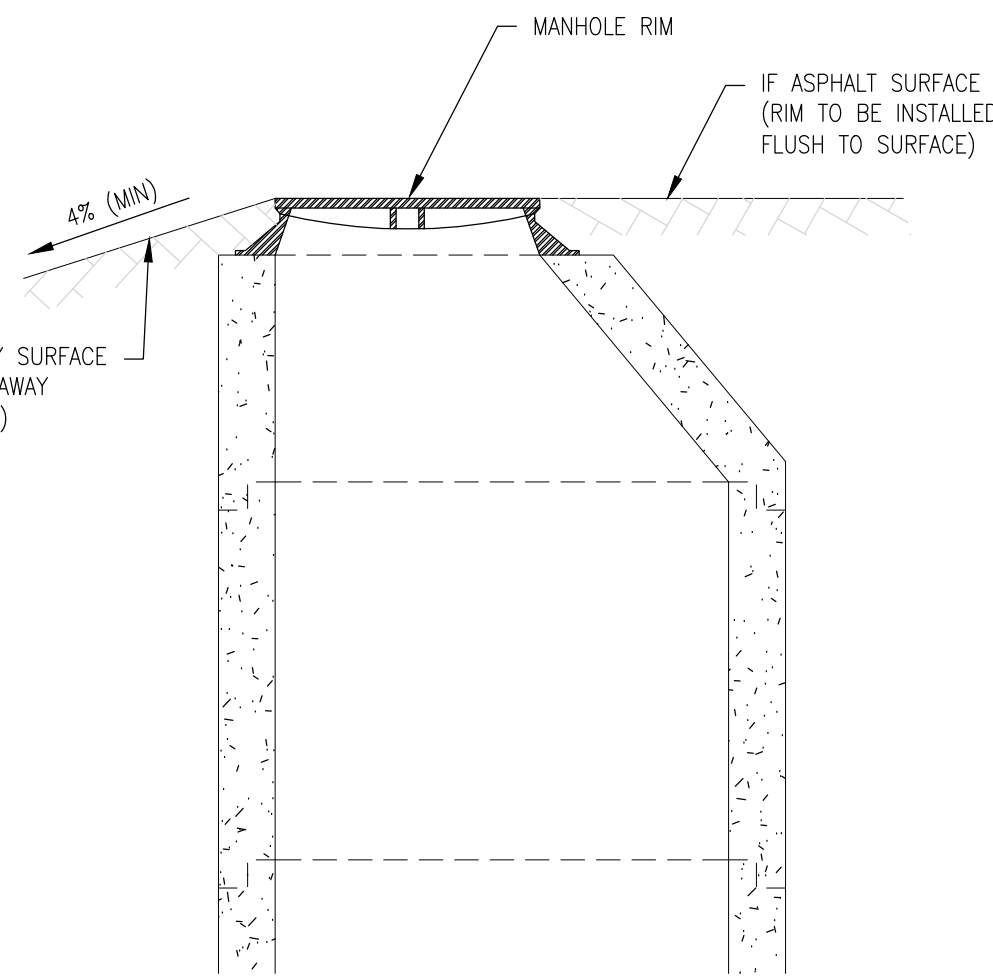
A WATER SERVICE LINE (TYPICAL)
SCALE: NTS
REFER TO SPECIFICATIONS

- NOTES:
- 1) PVC GRAVITY PIPING TO BE SDR 35 AS SUPPLIED BY IPEX OR APPROVED EQUAL.
 - 2) BEDDING TO BE CLASS II MATERIAL (20mm CLEAN TO COURSE GRAIN SOILS, FREE OF ORGANICS AND FROZEN MATERIAL) CLASS II MATERIAL COMPACTED TO 95% SPD. IF INSTALLED UNDER A ROAD WAY, COMPACTED TO 98% SPD.
 - 3) SHALLOW UTILITIES TO BE COMMON TRENCH, HOWEVER FOLLOWING SEPARATION REQUIREMENTS AS PER APPLICABLE CODES AND AS APPROVED BY THE DEPARTMENT REPRESENTATIVES. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO UNDERTAKING WORK.

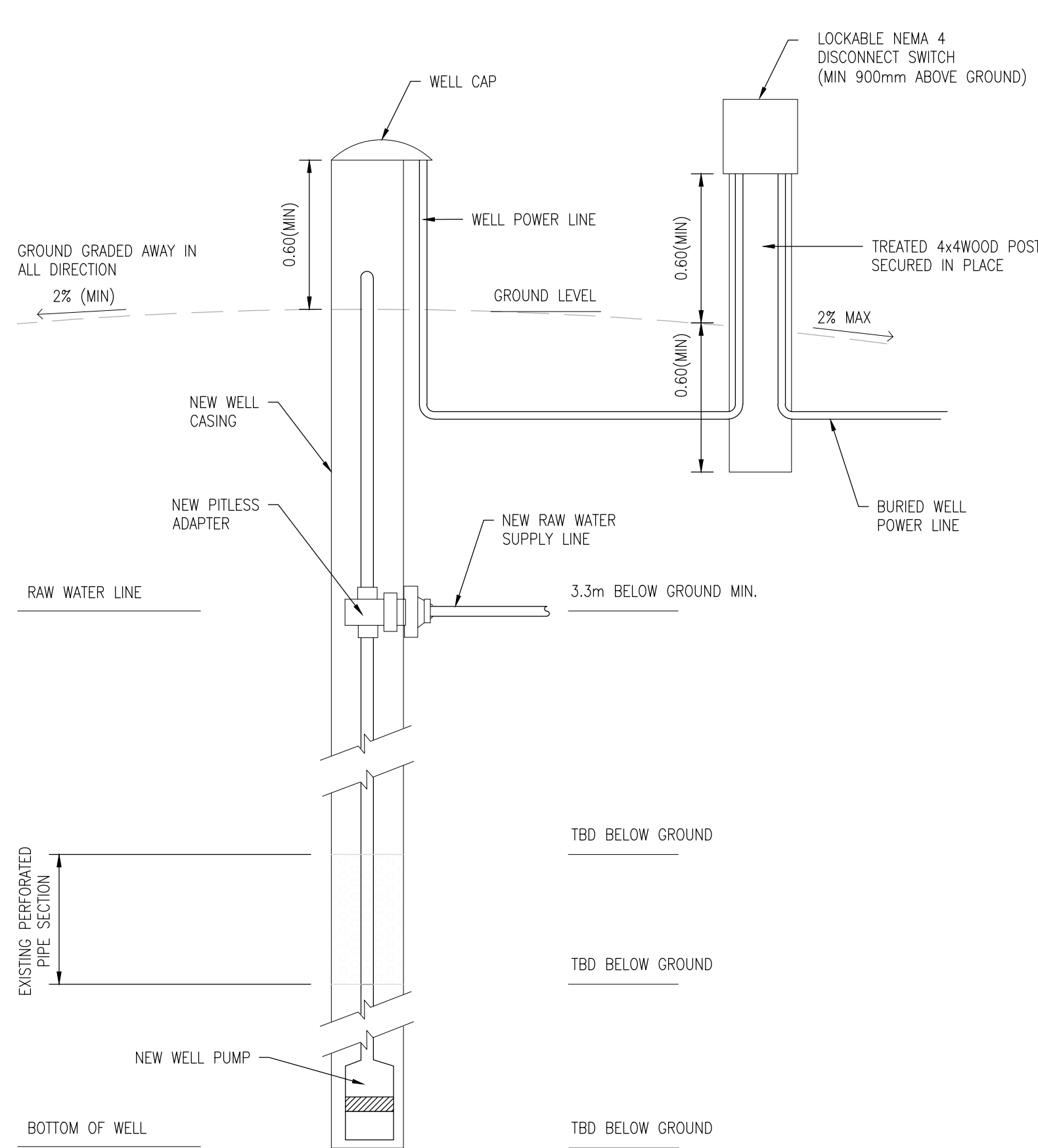
B WASTE WATER (TYPICAL)
SCALE: NTS
REFER TO SPECIFICATIONS



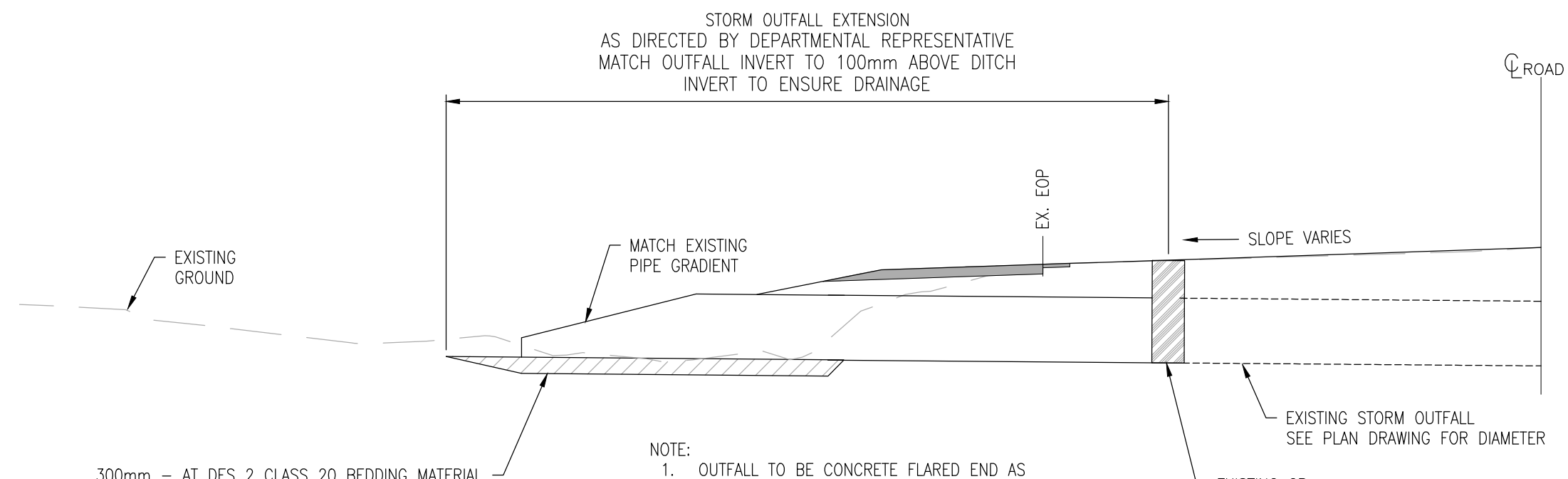
D WASTEWATER TANK (TYPICAL)
SCALE: NTS
REFER TO SPECIFICATIONS



E MANHOLE GRADING (TYPICAL)
SCALE: NTS
REFER TO SPECIFICATIONS



C WATER WELL (TYPICAL)
SCALE: NTS
REFER TO DWG U403, NOTE 2 & SPECIFICATIONS



F OUTFALL DETAIL (TYPICAL)
SCALE: NTS
REFER TO SPECIFICATIONS

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B	source drawing no. de dessin no.	B
C	détail on drawing no. détail sur dessin no.	C

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Dec 11, 2017

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Ouest et Nord du Canada

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Nom de l'expert-conseil

McElhanney
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

**UTILITIES
TYPICAL DETAILS**

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par AI	Date 2017.12.08
Designed by / Conçu par ADT	Reviewed by / Révisé par SB	Scale / Echelle AS SHOWN

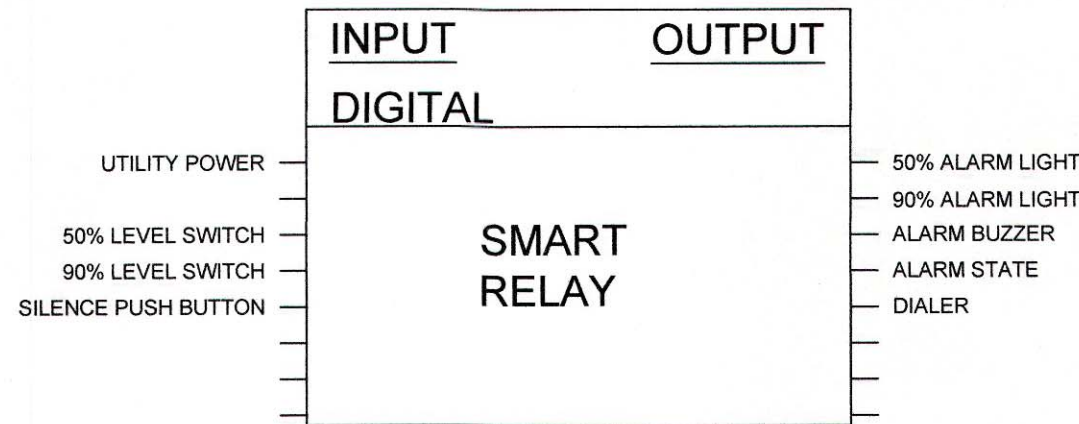
Client Acceptance / Acceptation du client		Approved by / Approuvé par	
<div>Parks Canada Responsable Office / Agent Responsable Parcs Canada</div>		<div>Parks Canada Project Manager / Administrateur de Projets Parcs Canada</div>	
Project No. / No. du projet <div>201605</div>		Asset No. / No. du-bien	
Drawing Reference No. / No. de référence du dessin <div>2511-00763-00</div>		Sheet No. No. de la feuille <div>U501</div>	

PROPOSED SEQUENCE OF CONTROL

A SUMMARY OF THE SEQUENCE OF OPERATION IS INCLUDED BELOW FOR REFERENCE.

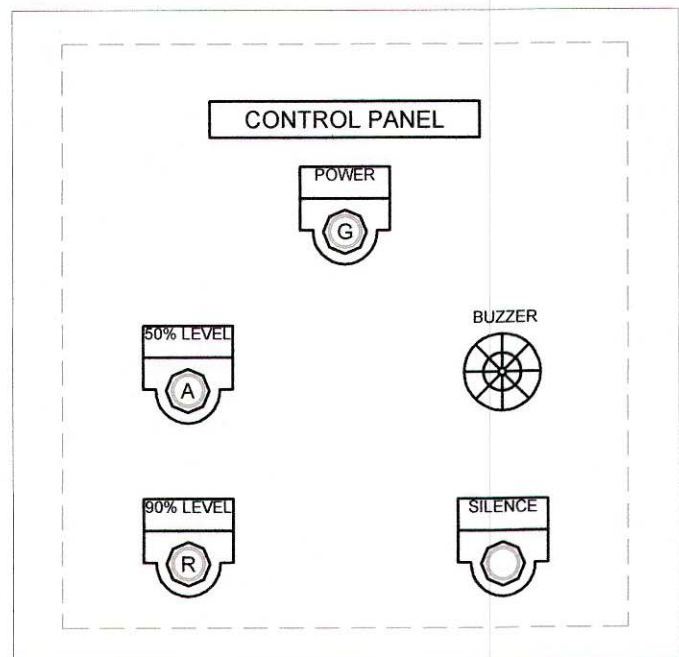
LEVEL MONITORING:

- 50% LEVEL:
 - WHEN 50% LEVEL FLOAT IS ACTIVATED - AMBER LIGHT IS TO BE TURNED ON
 - WHEN 50% LEVEL FLOAT IS ACTIVATED - ALARM SIGNAL IS SENT TO CELLULAR DIALER ON SECURITY SYSTEM
- 90% LEVEL:
 - WHEN 90% LEVEL FLOAT IS ACTIVATED - RED LIGHT IS TO BE TURNED ON AND EXTERIOR STROBE LIGHT TURNED ON
 - WHEN 90% LEVEL FLOAT IS ACTIVATED - ALARM SIGNAL IS SENT TO CELLULAR DIALER ON SECURITY SYSTEM
 - WHEN 90% LEVEL FLOAT IS ACTIVATED - OUTDOOR ALARM BUZZER, INDOOR PANEL BUZZER AND EXTERIOR STROBE ARE TO BE TURNED ON.
- SILENCE PUSH BUTTON:
 - WHEN SILENCE PUSHBUTTON IS DEPRESSED - ALARM BUZZER IS TO BE DEACTIVATED ON PANEL AND EXTERIOR STROBE
 - ALARM LIGHTS ARE TO REMAIN ON
- SYSTEM RESET:
 - WHEN 50% AND 90% LEVEL FLOATS ARE DEACTIVATED - SYSTEM IS TO RESET AND ALARM BUZZER IS TO BE ABLE TO RE-SOUND



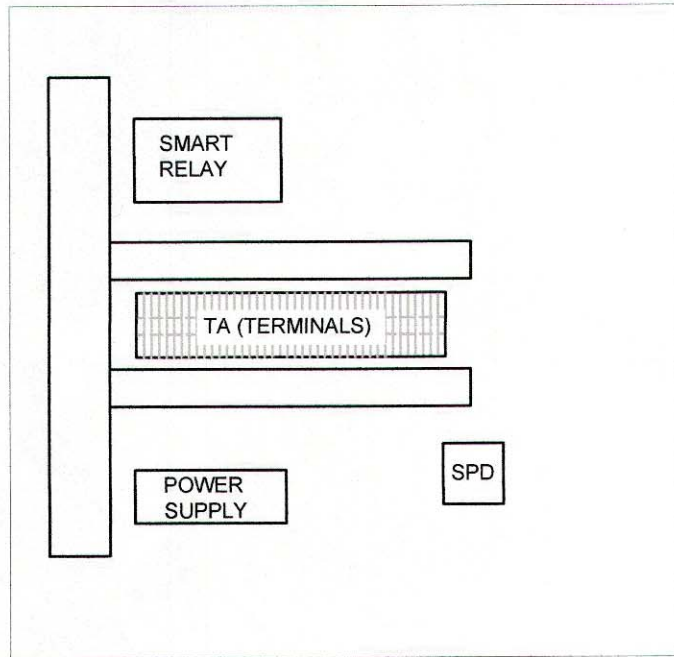
CONTROL PANEL I/O DIAGRAM

SCALE: NOT TO SCALE



CONTROL PANEL COVER LAYOUT

SCALE: NOT TO SCALE

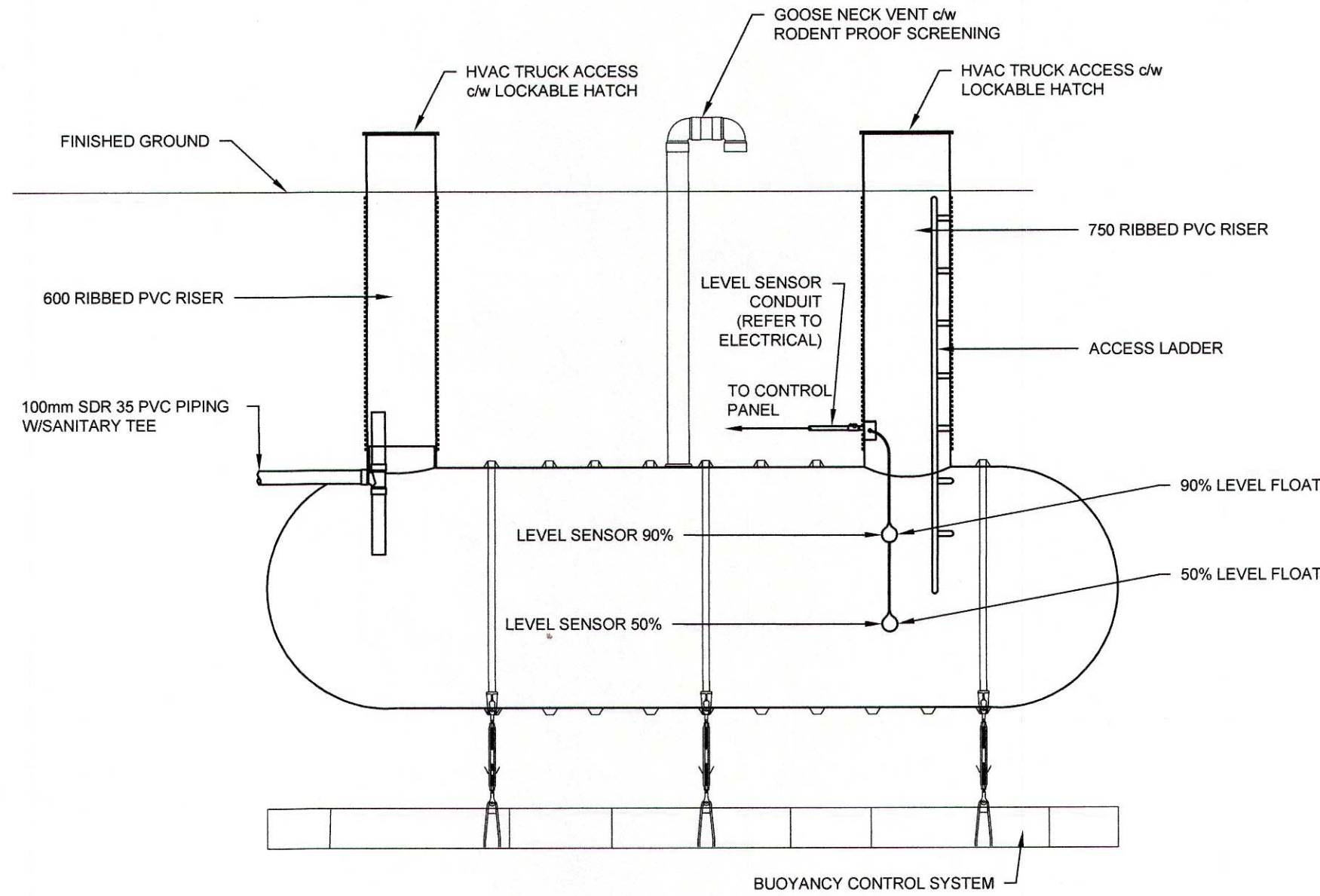


CONTROL PANEL INTERNAL LAYOUT

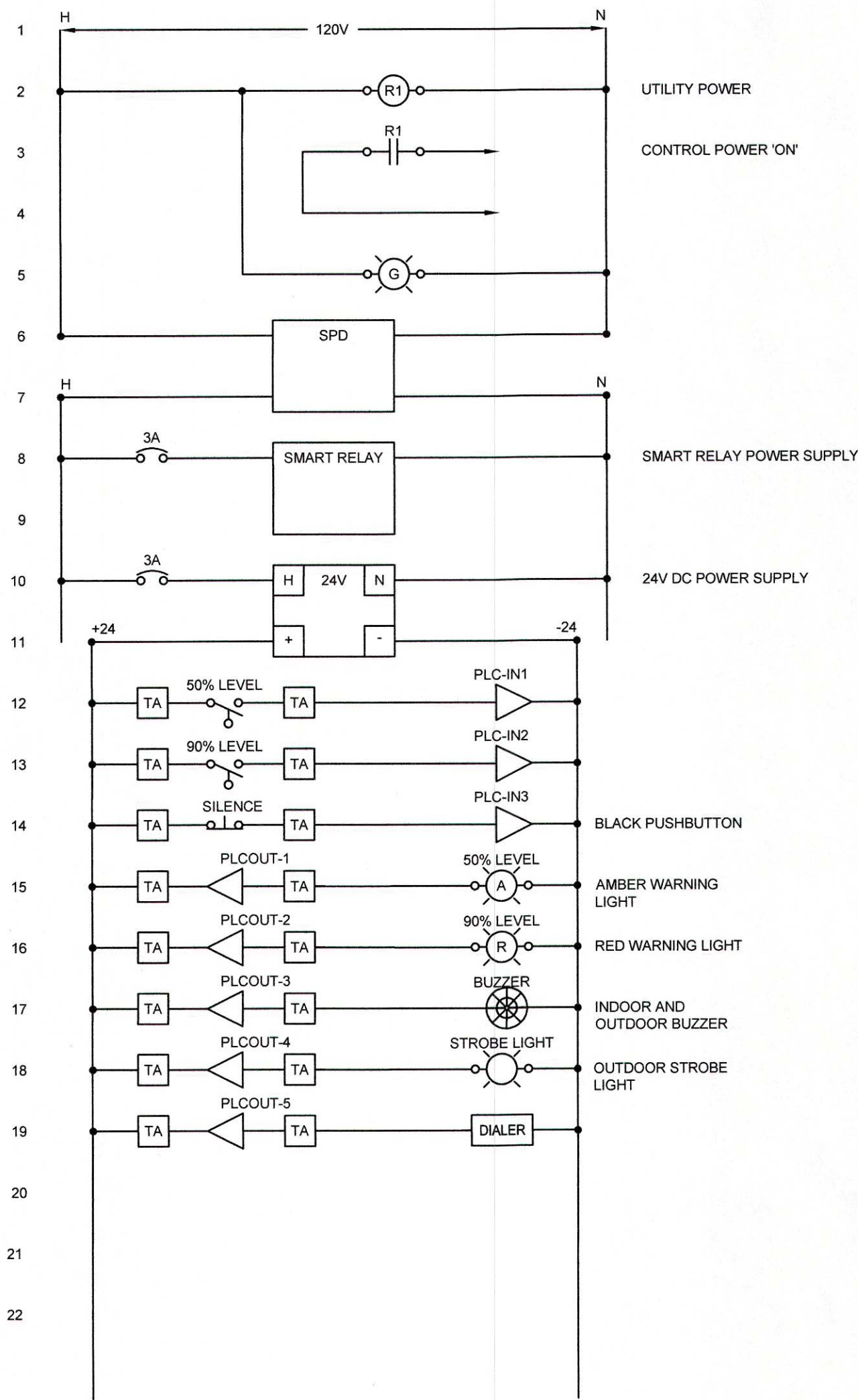
SCALE: NOT TO SCALE

CONTROL PANEL NOTES:

- EXACT SIZE AND LAYOUT OF CONTROL PANEL TO SUIT SITE CONDITIONS AND OWNER REQUIREMENTS. LAYOUT SHOWN IS SCHEMATIC ONLY.
- PROVIDE PROGRAMMING & COMMISSIONING OF SYSTEM TO SUIT OWNER & FACILITY REQUIREMENTS.
- CONTROL PANEL IS TO HAVE 25% (MINIMUM) SPARE INPUTS & OUTPUTS ON PLC.



WASTEWATER TANK (TYPICAL)



CONTROL PANEL WIRING DIAGRAM

SCALE: NOT TO SCALE

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Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	RG	TI	LL

<div><div>A</div><div>B</div><div>C</div></div>	<div>A detail number numéro de detail B source drawing no. de dessin no. C detail on drawing no. detail sur dessin no.</div>	<div><div>A</div><div>B</div><div>C</div></div>
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2017

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Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil

McElhanney

McElhanney Consulting Services Ltd.

Project Title
Titre du projet

HIGHWAY 16
PARK EAST GATE IMPROVEMENTS

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

ELECTRICAL
LEVEL CONTROLS

--

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par RG	Date 2017.12.08
Designed by / Conçu par TI	Reviewed by / Révisé par LL	Scale / Echelle NTS

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Drawing Reference No. / No. de référence du dessin 2511-00763-00	

FILE: C:\USERS\RG\SLER\DOCUMENTS\EAST GATE-3X - EAST GATE MESSAGE CENTER 2511.DWG PLOTTED: 2017/12/28 1:24 PM

Paper Size: ANSI D (22 x 34")

0 10 20 30 40 50 60 70 80 90 100mm



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Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé

A	detail number	A
B	numéro de détail	B
C	source drawing no.	C
	de dessin no.	
	detail on drawing no.	
	détail sur dessin no.	

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Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil

McElhanney
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

**ELECTRICAL
MESSAGE CENTER**

Surveyed by / Arpenté par MCSL	Drawn by / Dessiné par RG	Date 2017.12.08
Designed by / Conçu par TI	Reviewed by / Révisé par LL	Scale / Echelle AS NOTED

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

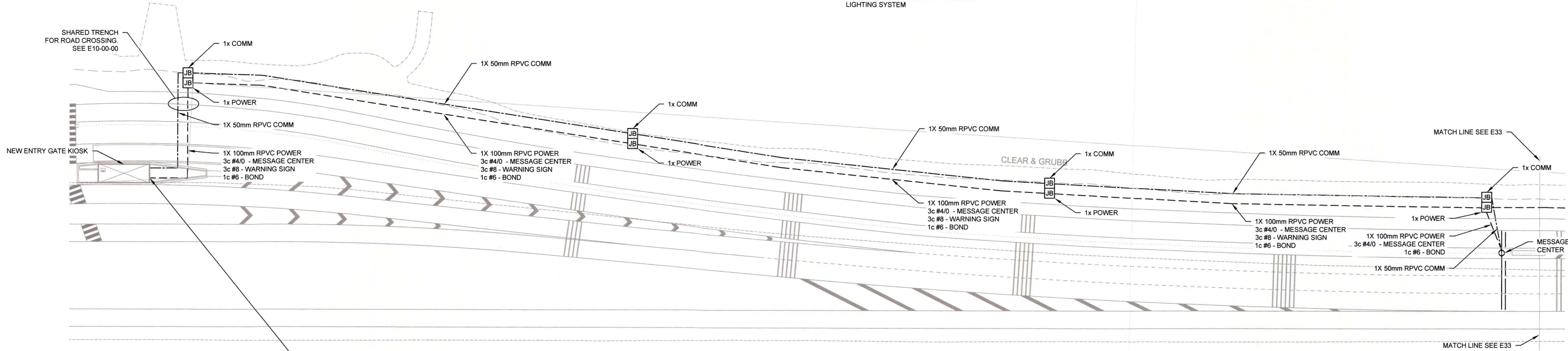
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Project No. / No. du projet 1285	Asset No. / No. du bien	Sheet No. No. de la feuille E-32
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Drawing Reference No. / No. de référence du dessin

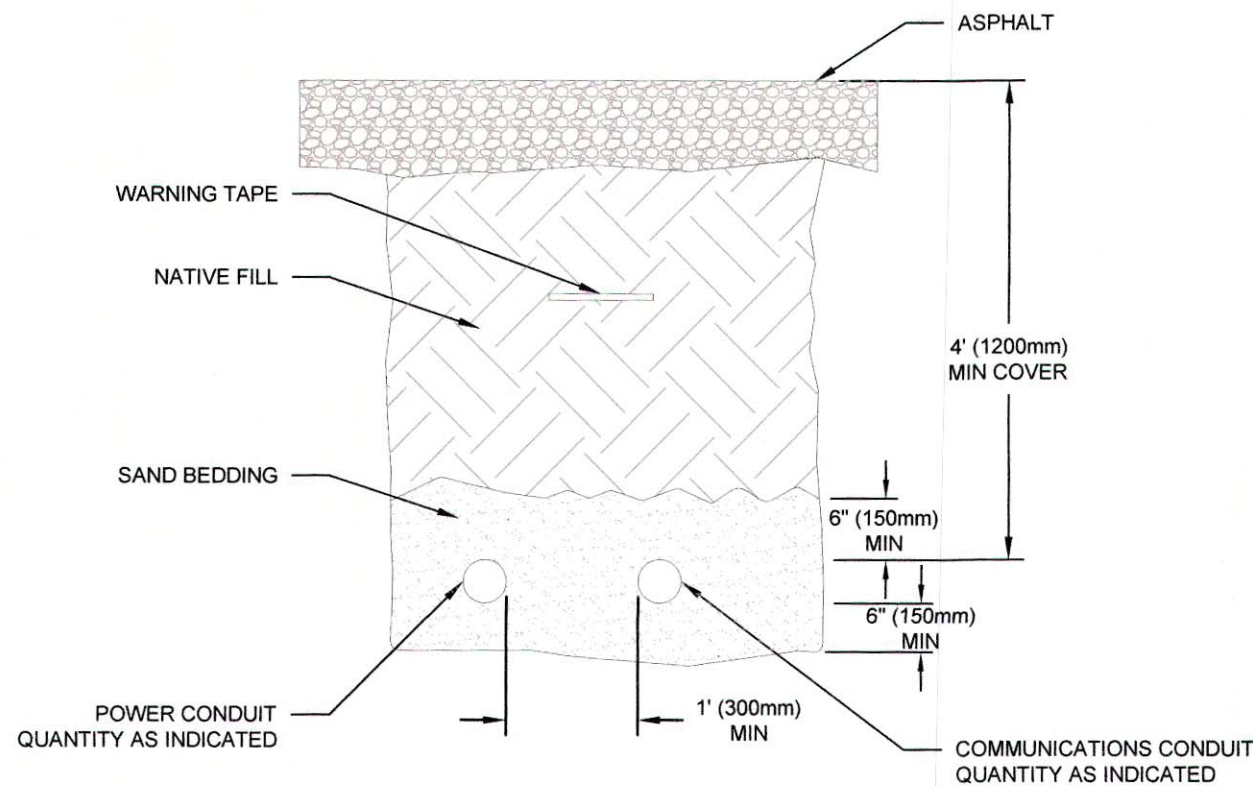
2511-00763-00

NOTES:
EXACT ROUTING OF CONDUIT AND LOCATIONS
OF JUNCTION BOXES TO BE COORDINATED
WITH PROPOSED ROADWAY WORKS AND
LIGHTING SYSTEM

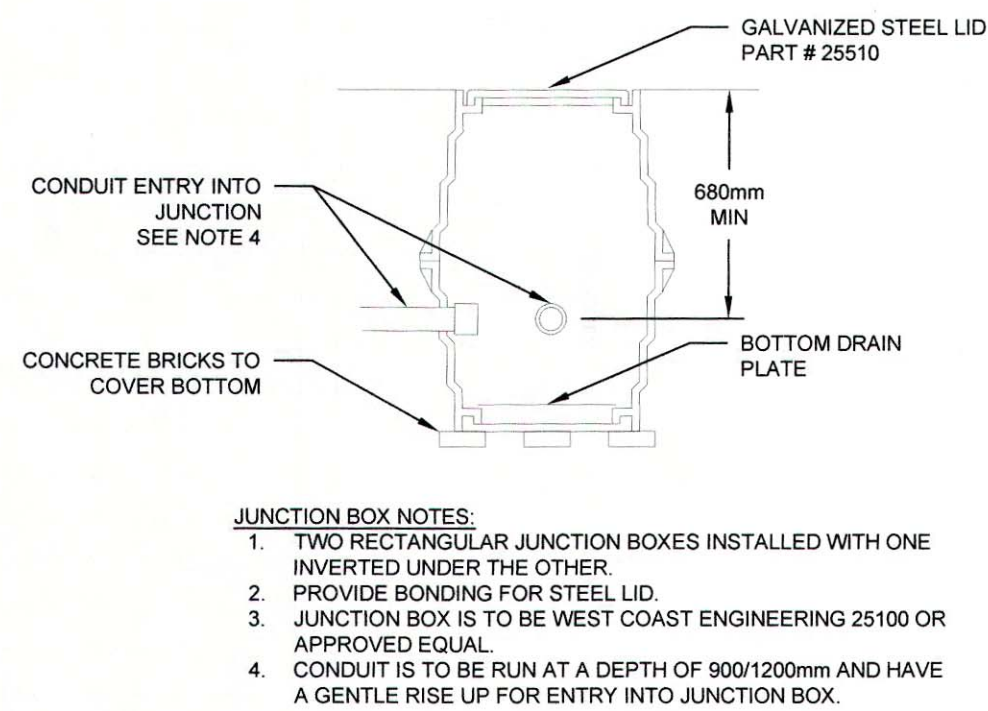


PROVIDE MESSAGE CENTER CONTROL INTERFACE
IN NEW KIOSK AND AT PARKS CANADA JASPER
COMPOUND.
SEE E20-00-00

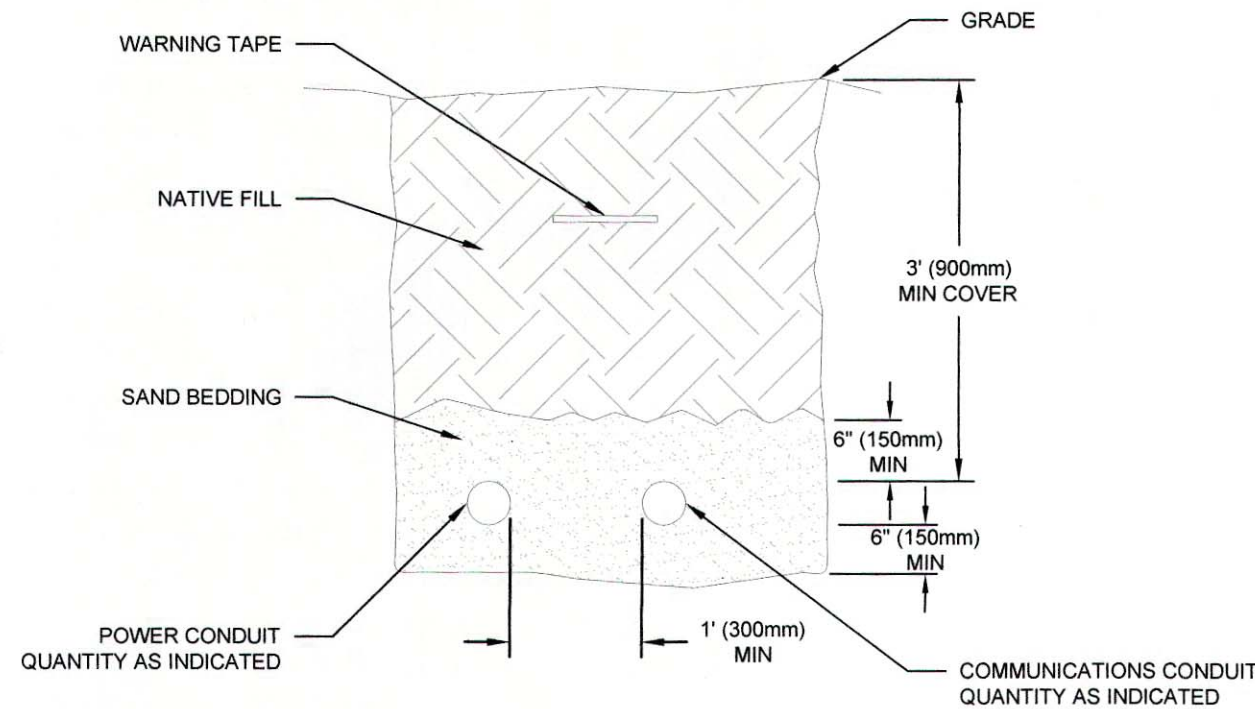
HIGHWAY 16 EAST GATE
SCALE: 1 : 500



ROAD CROSSING TRENCH DETAIL
SCALE: NTS



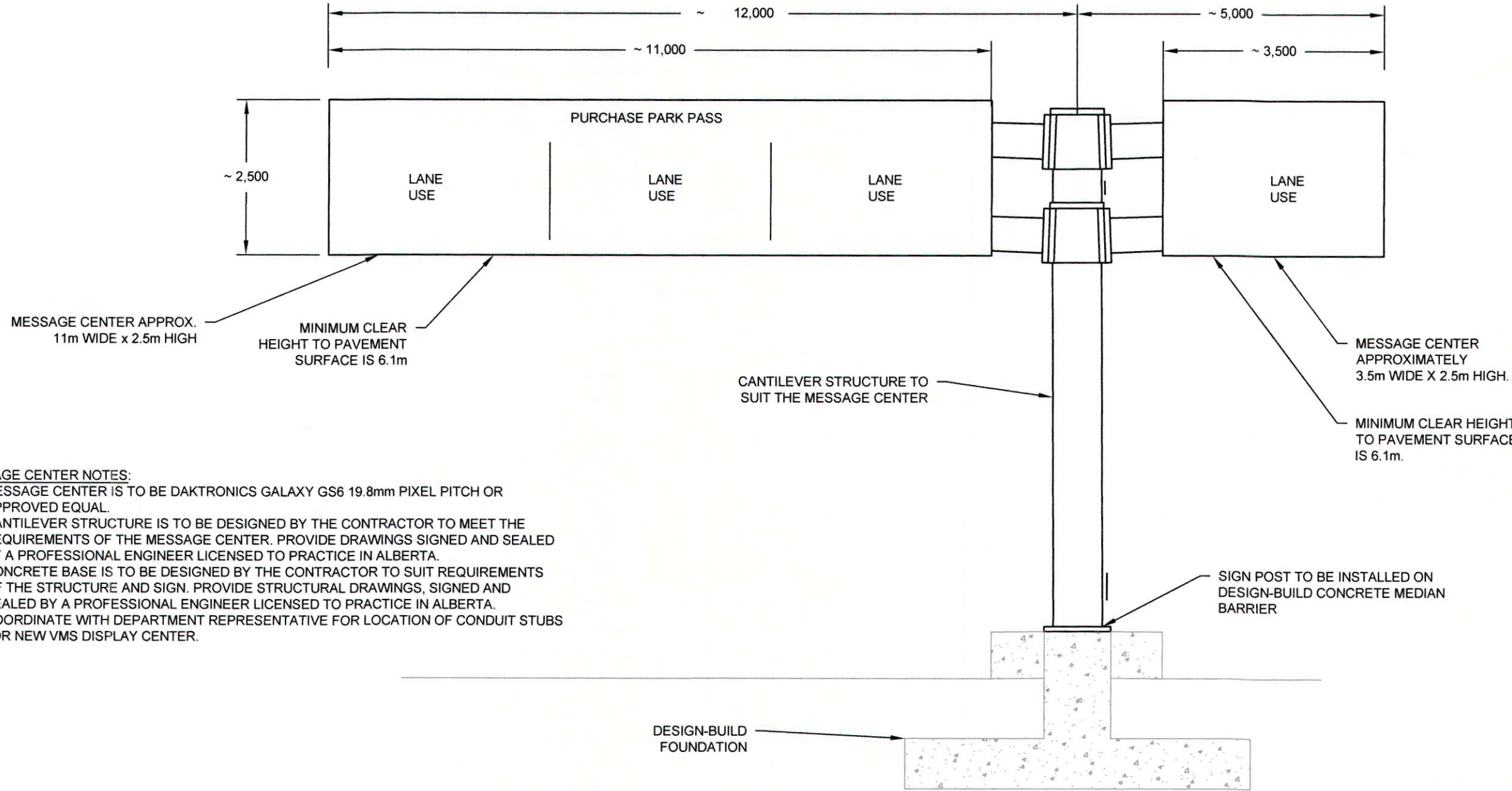
JUNCTION BOX DETAIL
SCALE: NTS



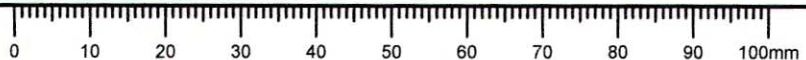
TYPICAL TRENCH DETAIL
SCALE: NTS

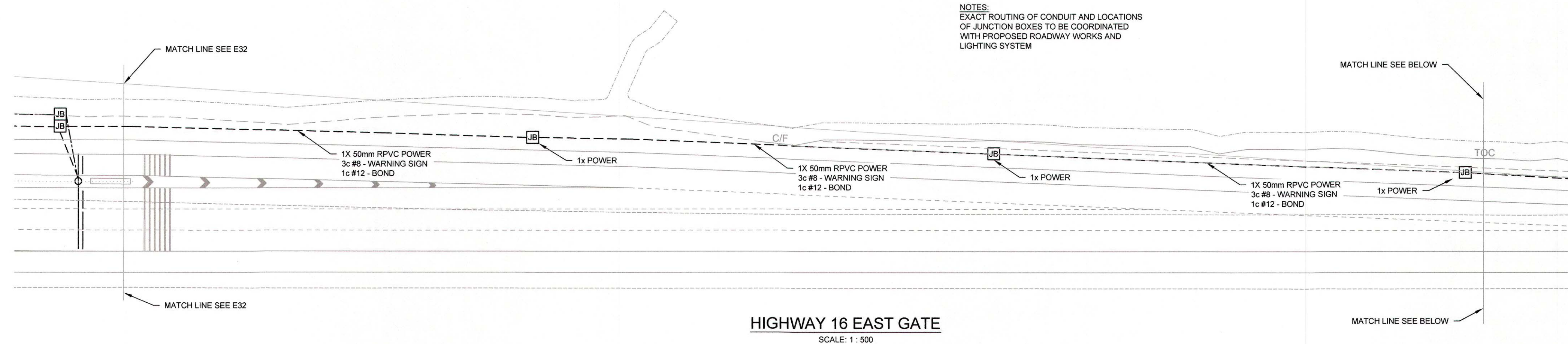
TRENCH DETAIL NOTES:
1. MAINTAIN 300mm CLEARANCE BETWEEN ELECTRICAL
CONDUITS AND ALL OTHER BURIED UTILITIES.

MESSAGE CENTER NOTES:
1. MESSAGE CENTER IS TO BE DAKTRONICS GALAXY GS6 19.8mm PIXEL PITCH OR
APPROVED EQUAL.
2. CANTILEVER STRUCTURE IS TO BE DESIGNED BY THE CONTRACTOR TO MEET THE
REQUIREMENTS OF THE MESSAGE CENTER. PROVIDE DRAWINGS SIGNED AND SEALED
BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN ALBERTA.
3. CONCRETE BASE IS TO BE DESIGNED BY THE CONTRACTOR TO SUIT REQUIREMENTS
OF THE STRUCTURE AND SIGN. PROVIDE STRUCTURAL DRAWINGS, SIGNED AND
SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN ALBERTA.
4. COORDINATE WITH DEPARTMENT REPRESENTATIVE FOR LOCATION OF CONDUIT STUBS
FOR NEW VMS DISPLAY CENTER.

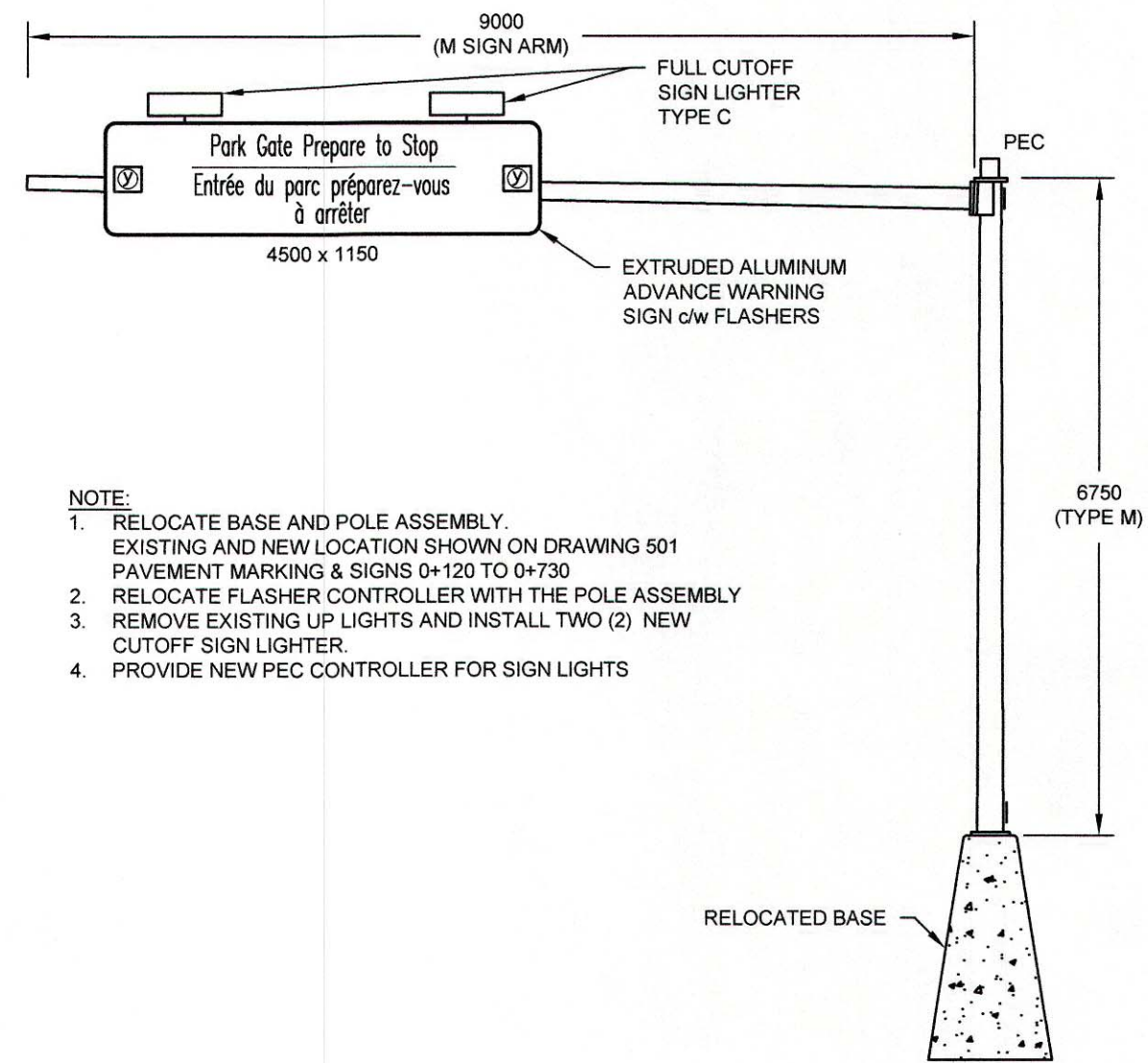


LANE CONTROL SIGN
SCALE: 1:75



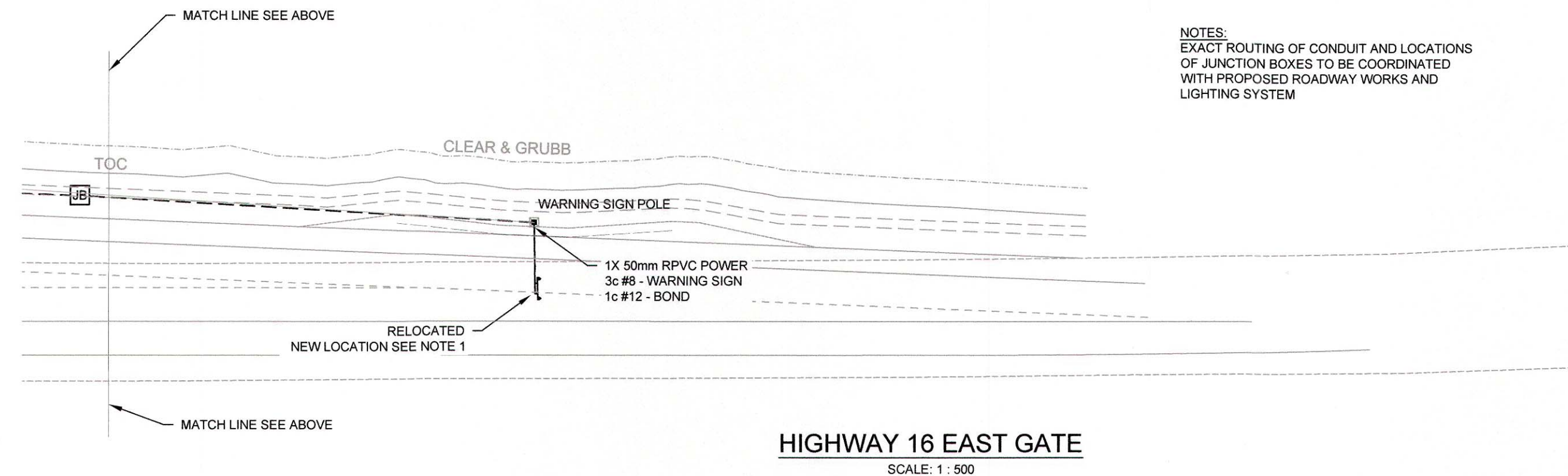


LUMINAIRE SCHEDULE				
TYPE	DESCRIPTION	LAMPING	MOUNTING	REMARKS
C	SIGN LIGHTER - FULL CUTOFF	LED 6000 lm 3000 K	ARM	HOLOPHANE SVLED2-PNL-PK1-MVOLT-30K-AMT-GYSDP



WARNING SIGN POLE ELEVATION

SCALE: 1 : 75



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Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
0	2017.12.08	ISSUED FOR TENDER	RG	TI	LL

<div>A</div> <div>C</div>	A detail number numéro de détail B source drawing no. de dessin no. C detail on drawing no. détail sur dessin no.	<div>A</div> <div>B</div> <div>C</div>
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Consultant's Stamp
Sceau de l'expert-conseil

PERMIT TO PRACTICE
McElhanney Consulting Services Ltd.
Signature _____
Date December 11, 2017
PERMIT NUMBER: P 6383
The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

Eng. Stamp
Sceau de l'ingénieur

ENGINEER
L. McElhanney
P. 6383

Client



Parks Canada Agency
Western and Northern
Region

L'Agence Parcs
Canada
Ouest et Nord du Canada

Consultant's Name
Nom de l'expert-conseil

 **McElhanney**
McElhanney Consulting Services Ltd.

Project Title
Titre du projet

**HIGHWAY 16
PARK EAST GATE IMPROVEMENTS**

JASPER NATIONAL PARK AB

Drawing Title
Titre du dessin

**ELECTRICAL
WARNING SIGN**

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Surveyed by / Aigpenté par MCSL	Drawn by / Dessiné par RG	Date 2017.12.08
Designed by / Conçu par TI	Reviewed by / Révisé par LL	Scale / Echelle AS NOTED

Parks Canada Project Manager / Administrateur de Projets Parcs Canada		
Client Acceptance / Acceptation du client		Approved by / Approuvé par
<div>Parks Canada Responsible Officer / Agent Responsable Parcs Canada</div> <div>Parks Canada Project Manager / Administrateur de Projets Parcs Canada</div>		
Project No. / No. du projet 1285	Asset No. / No. du bien	Sheet No. No. de la feuille E-33
Drawing Reference No. / No. de référence du dessin 2511-00763-00		

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ARCHITECTS ENGINEERS PLANNERS

An Ingenium Group Company

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Adrian Todeila, P.Eng., APEGA
Chris Pal, P.Eng., APEGA

HIGHWAY 16 PARK EAST
GATE IMPROVEMENTS
EAST GATE KIOSK
PARKS CANADA

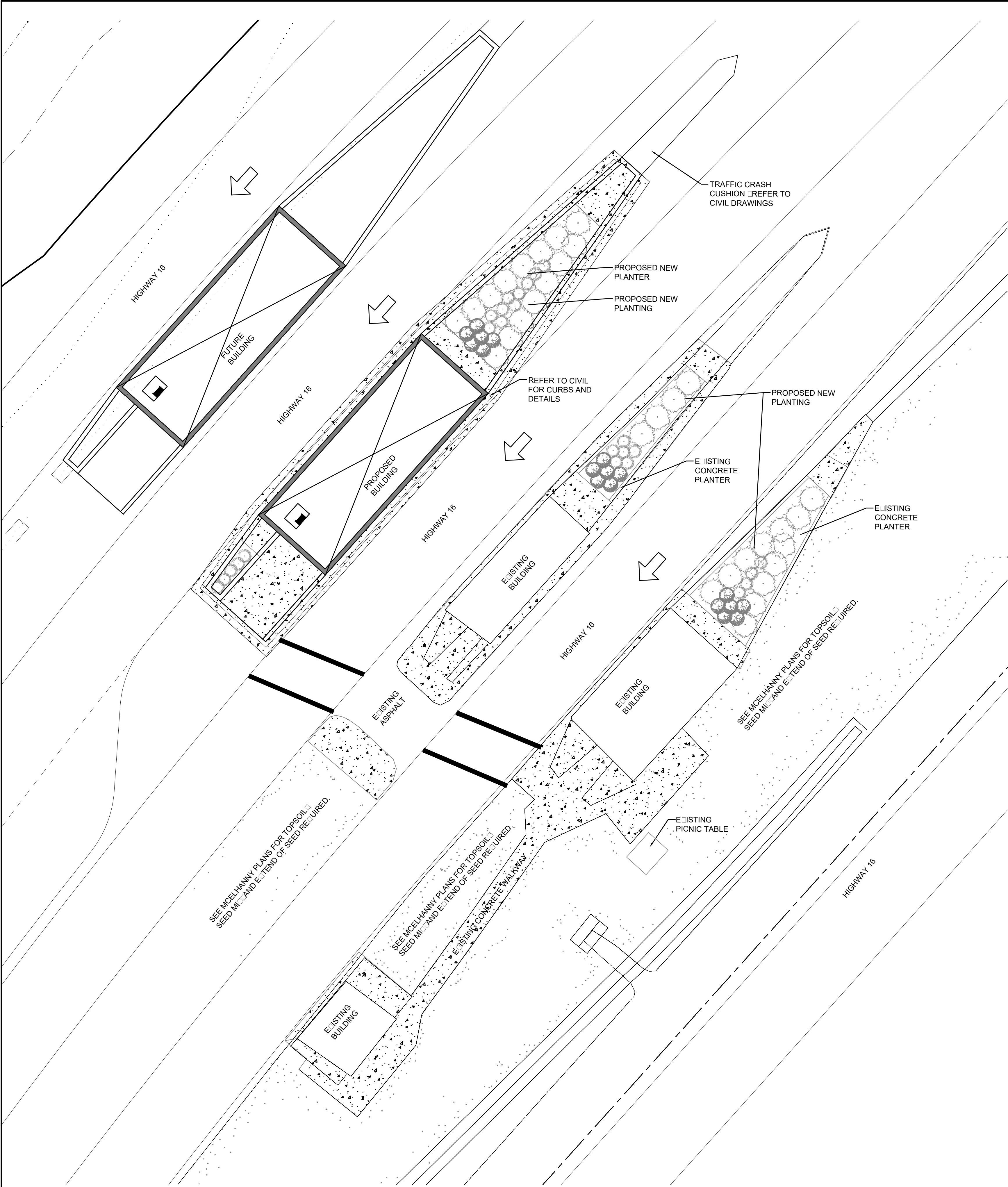
HIGHWAY 16, JASPER NATIONAL PARK

NORR JOB NO: NCCA-16-01888
PARKS CANADA JOB NUMBER: PRO1285

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(AUGUST 11, 2017)

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PHONE: 403.262.3895	PHONE: 403.264.4000 FAX: 403.269.7215	PHONE: 403.264.4000 FAX: 403.269.7215
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LEGEND

FEATURES

- See McEhanny Plans For Topsoil Seed Mix and Extend of Seed Required
- Concrete Planters Walkways

PLANT LEGEND

- Creeping Juniper
- Blue Grass
- Tufted Hairgrass

PLANT LIST:

CONIFEROUS SHRUBS

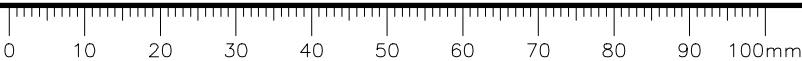
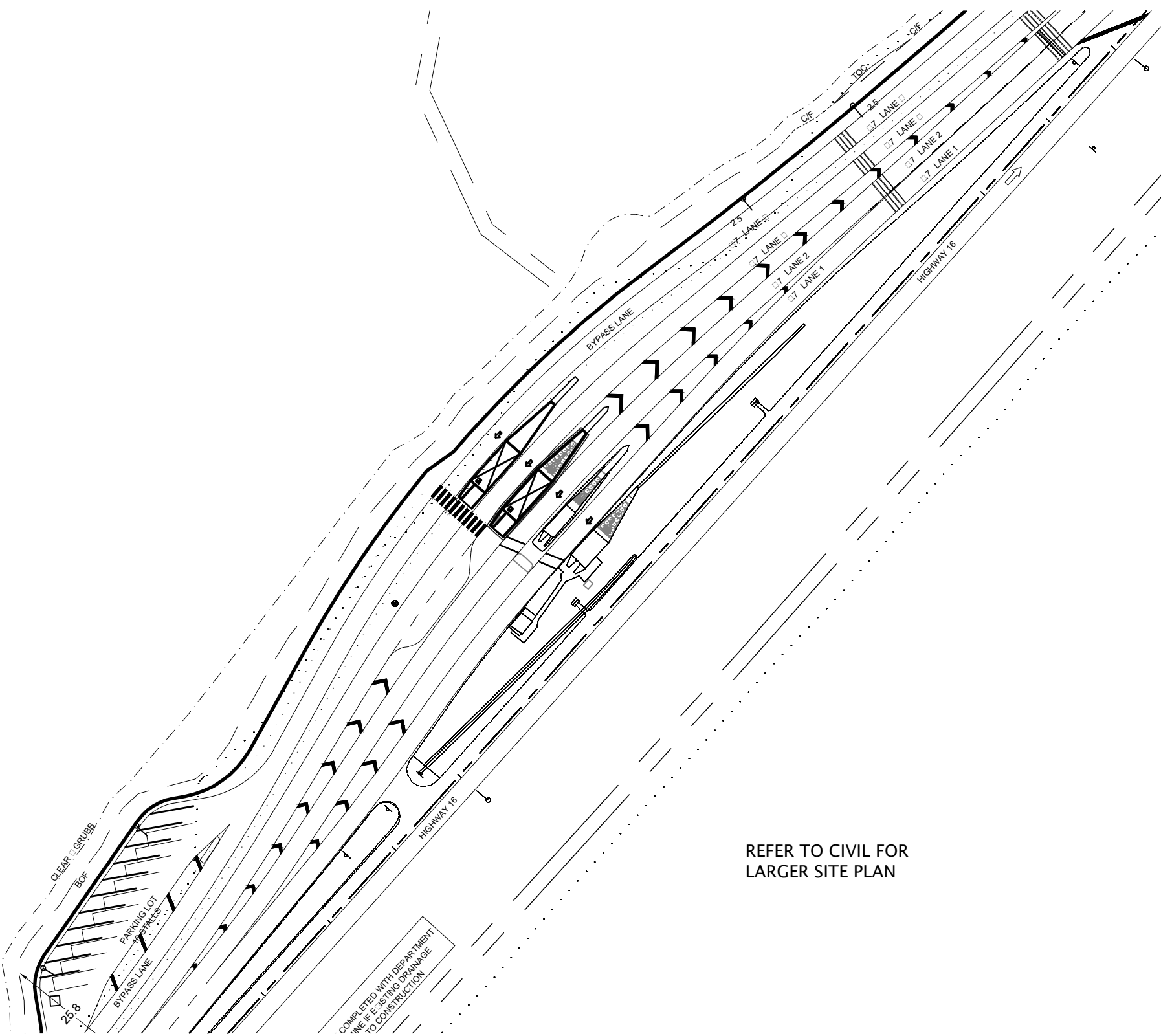
QTY	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE
1	Juniperus horizontalis	Creeping Juniper	Min. 600 spr./root ball dia. 50" 15 container size

ORNAMENTAL GRASSES

QTY	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE
25	Bouteloua gracilis	Blue Grass	Min. 200" ht. 2 cont.
18	Deschampsia caespitosa	Tufted Hairgrass	Min. 200" ht. 2 cont.

NOTES:

- All work shall conform to the Parks Canada Development Guidelines and Standard Specifications current edition
- Contractor to co-ordinate work with all other contractors on site.
- Contractor shall verify all site conditions at time of construction.
- Contractor to verify all underground services prior to any work.
- Install min. 600 soil mix for all shrubs in concrete planters.



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Chris Tai, P.Eng., APECA

5	100% - ISSUED FOR BP	2017/08/11
4	ISSUED FOR 90% REVIEW	2017/08/11
3	RE-ISSUED FOR 90% REVIEW	2017/03/09
2	ISSUED FOR 90% REVIEW	2017/02/23
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/13
0	ISSUED FOR 30% REVIEW	2016/12/16

Revision	Description	Date
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Client: client



Project title: Projet

JASPER EAST GATE

Designed by: Conçu par
K.Edinger

Drawn by: Dessiné par
K.Edinger

Approved by: Approuvé par
C.Kubrak

PWGSC Project Manager: Administrateur de Projets TPSGC
C. Mariotti

Drawing title: Titre du dessin
LANDSCAPE PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
PRO1285	L1.00 OF	5

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5	100% - ISSUED FOR BP	2017/08/11
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0	ISSUED FOR 30% REVIEW	2016/12/16

Revision	Description	Date
Client		client



Project title / Projet

JASPER EAST GATE

Designed by / Conçu par
K. Edinger

Drawn by / Dessiné par
K. Edinger

Approved by / Approuvé par
C. Kubrak

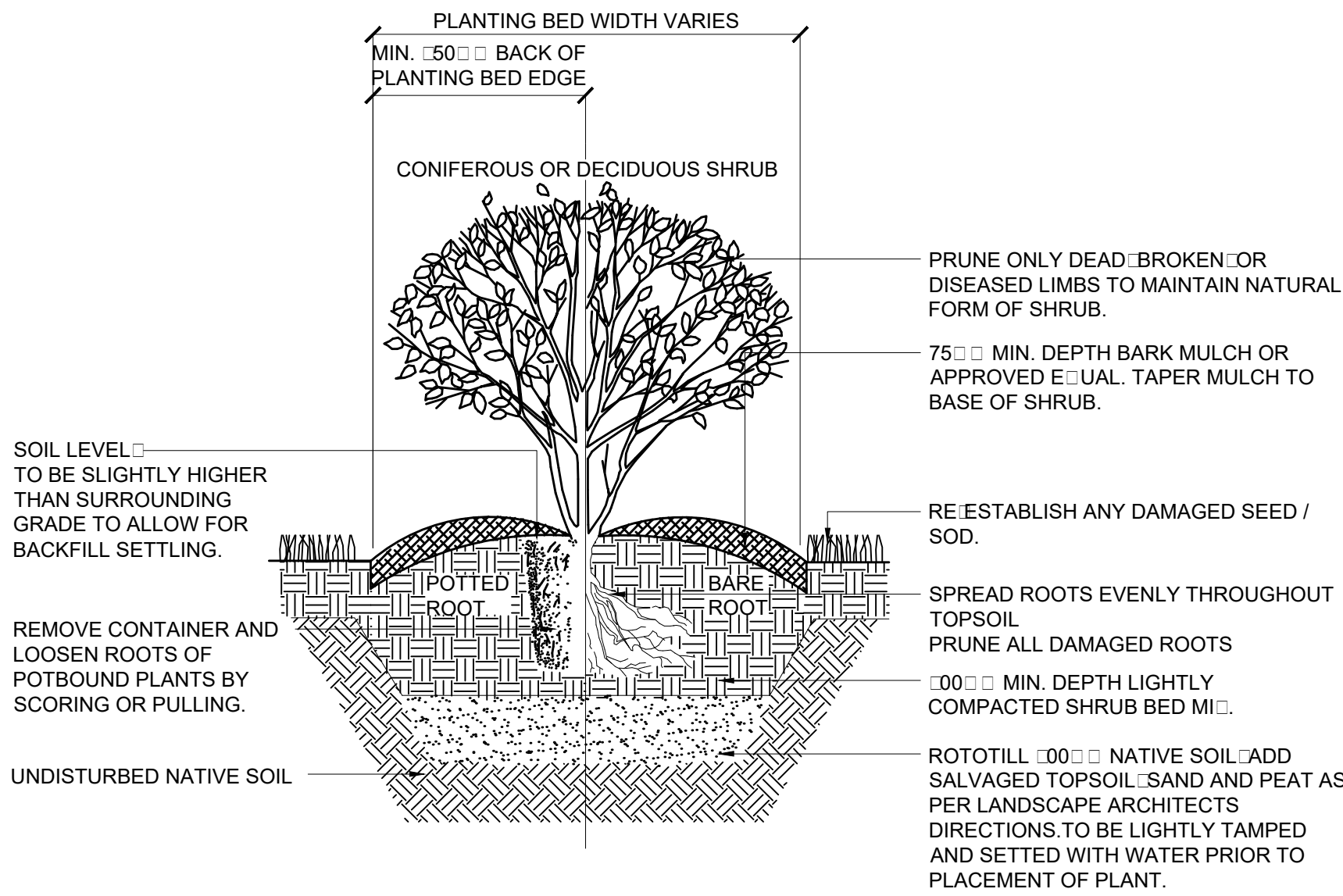
PWGSC Project Manager / Administrateur de Projets TPSGC
C. Mariotti

Drawing title / Titre du dessin
DETAILS

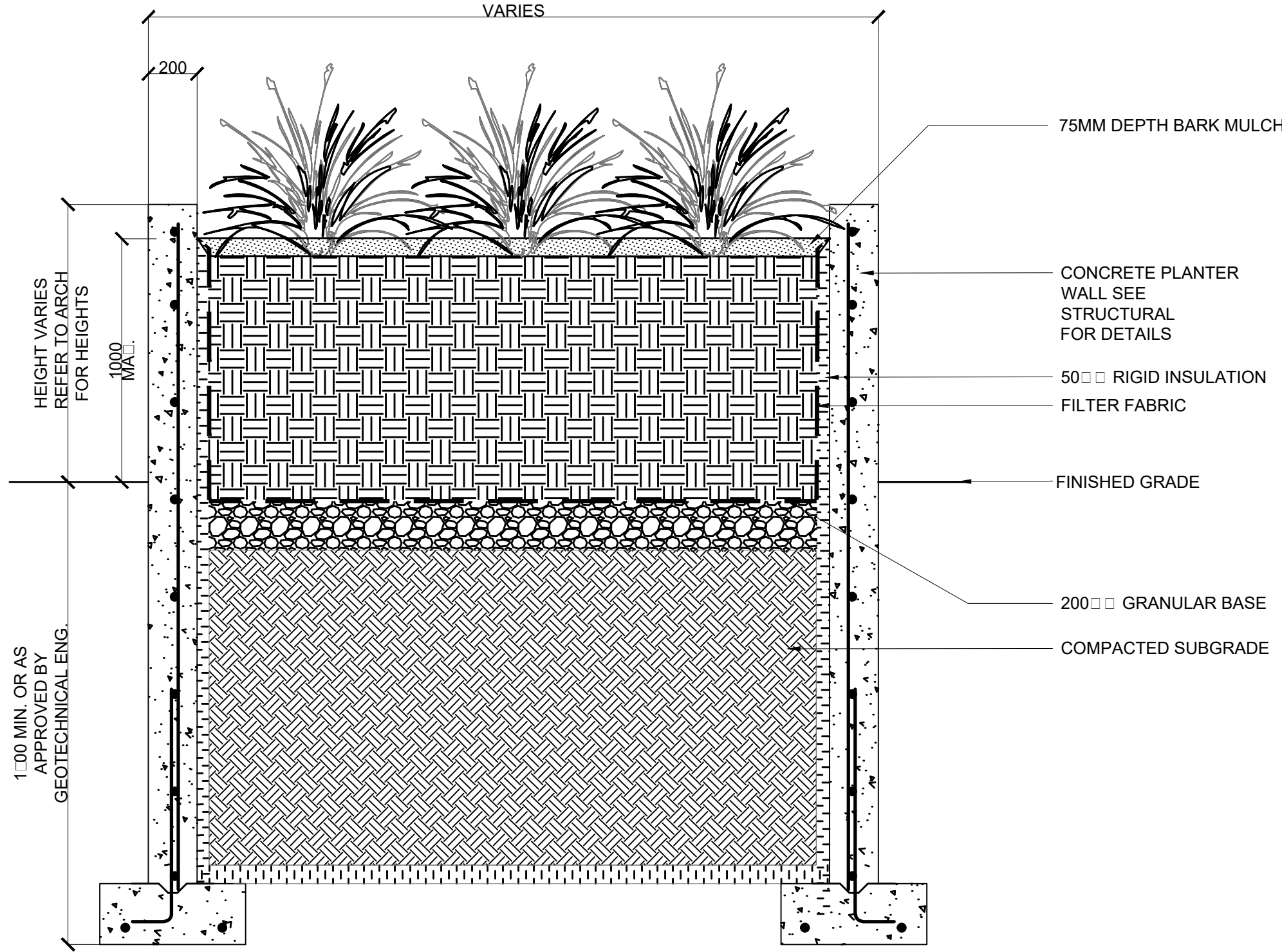
Project no./No. du projet PRO1285	Drawing no./No. du dessin L2.00 OF	Revision no. 5
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NOTES:
- NO IMPORTED TOPSOIL

1 SHRUB PLANTING
L2.00 SCALE 1:20



NOTES:
- INSTALL MIN. 600 SOIL MIX FOR ALL SHRUBS IN CONCRETE PLANTERS
- COORDINATE PLANTERS WITH STRUCTURAL FOR DETAILS



2 SECTION THROUGH PLANTER
L2.00 SCALE 1:20

PART ONE: NATIONAL BUILDING CODE 2015 REVIEW - PART 9					
REFERENCE & NOTE	REQUIRED			CODE ARTICLE	COMPLIANCE
CODE CLAUSE	BUILDING CODE REVIEW:				COMPLIANCE
	<u>REVIEW BASED ON 2015 NATIONAL BUILDING CODE</u>				
	- THE FOLLOWING NOTES PROVIDE INFORMATION HIGHLIGHTING BUILDING DESIGN CRITERIA. IT IS NOT INTENDED TO DESCRIBE ALL DESIGN & CONSTRUCTION REQUIREMENT. ALL CONSTRUCTION SHALL CONFIRM TO ALL APPLICABLE SECTIONS OF THE BUILDING CODE.				
DIV. A - 1.3.3.3.1 <small>LIMITED TO GROUP C, D, E & F</small>	- CONSTRUCTED UNDER PART "9" OF BUILDING CODE				
	<u>GENERAL INFORMATION</u>				
DIV. A - 1.3.3.3.(1)	BUILDING AREA:	45.412 m ² (MAX. INDIVIDUAL BUILDING AREA FOR THE SITE NOT EXCEEDING 600 sq.m.)			
	BUILDING HEIGHT:	1 STOREY ABOVE GRADE (MAX. 3 STOREYS ABOVE GRADE)			
9.1.1.	<u>APPLICATION</u>				9.1.1.
	1) THE APPLICATION OF THIS PART SHALL BE AS DESCRIBED IN SUBSECTION 1.3.3. OPF DIVISION A. (See note A-9.1.1.1.(1) REGARDING APPLICATION TO SEASONALLY AND INTERMITTENTLY OCCUPIED BUILDINGS.)				
9.5	<u>DESIGN OF AREAS AND SPACES</u>				
9.5.1.2.	<u>COMBINATION ROOMS</u>				9.5.1.2.
	1) TWO OR MORE AREAS MAY BE CONSIDERED AS A COMBINATION ROOM IF THE OPENING BETWEEN THE AREAS OCCUPIES THE LARGER OF 3m ² OR 40% OR MORE OF THE AREA OF THE WALL MEASURED ON THE SIDE OF THE DEPENDENT AREA.				
9.5.2.	<u>BARRIER-FREE DESIGN</u>				
9.5.2.1.	<u>GENERAL</u>				9.5.2.1.
	1) THE APPLICATION OF THIS PART SHALL BE AS DESCRIBED IN SUBSECTION 1.3.3. OPF DIVISION A. (See note A-9.1.1.1.(1) REGARDING APPLICATION TO SEASONALLY AND INTERMITTENTLY OCCUPIED BUILDINGS.)				
	1) THE APPLICATION OF THIS PART SHALL BE AS DESCRIBED IN SUBSECTION 1.3.3. OPF DIVISION A. (See note A-9.1.1.1.(1) REGARDING APPLICATION TO SEASONALLY AND INTERMITTENTLY OCCUPIED BUILDINGS.)				
9.7	<u>WINDOWS, DOORS AND SKYLIGHTS</u>				
9.7.2.	<u>REQUIRED WINDOW, DOORS AND SKYLIGHTS</u>				
9.7.2.2.	<u>OTHER REQUIREMENTS FOR WINDOWS, DOORS AND SKYLIGHTS</u>				9.7.2.2.
	1) THE MINIMUM SIZES OF DOORWAYS AND DOORS WITHIN BARRIER-FREE PATH OF TRAVEL SHALL CONFORM TO SECTION 9.5.				
	2) THE PROTECTION OF WINDOW AND DOOR OPENINGS TO PROTECT PERSONS FROM FALLING THROUGH THEM SHALL CONFORM TO ARTICLE 9.8.8.1.				
	3) PROPERTIES OF WINDOWS AND DOORS WITHIN EXITS SHALL CONFORM TO SECTION 9.9.				
	5) THE LOCATION AND PROTECTION OF WINDOWS, DOORS AND SKYLIGHTS IN ORDER TO CONTROL THE SPREAD OF FIRE SHALL CONFORM TO SUBSECTION 9.10.2.				
	7) THE SURFACE FLAME-SPREAD RATING FOR DOORS AND SKYLIGHTS SHALL CONFORM TO ARTICLE 9.10.17.1.				
	8) WINDOWS AND DOORS INSTALLED TO PROVIDE THE REQUIRED ACCESS TO A BUILDING FOR FIREFIGHTING PURPOSES SHALL CONFORM TO SUBSECTION 9.10.20.				
	9) WINDOWS AND SKYLIGHTS INSTALLED TO PROVIDE REQUIRED NON-HEATING SEASON VENTILATION SHALL CONFORM TO ARTICLE 9.32.2.2.				
	10) WINDOW, DOORS AND SKYLIGHTS SHALL CONFORM TO THE ENERGY EFFICIENCY REQUIREMENTS IN SECTION 9.36.				
9.7.3.	<u>PERFORMANCE OF WINDOWS, DOORS AND SKYLIGHTS</u>				
9.7.3.1.	<u>GENERAL PERFORMANCE EXPECTATIONS</u>				9.7.3.1.
	1) EXCEPT AS PROVIDED IN SENTENCES (2) TO (4), WINDOWS, DOORS AND SKYLIGHTS AND THEIR COMPONENTS SEPARATING CONDITIONED SPACE FROM UNCONDITIONED SPACE OR THE EXTERIOR SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED SO THAT, WHEN IN THE CLOSED POSITION, THEY:				
	a) RESIST THE INGRESS OF PRECIPITATION INTO INTERIOR SPACE (SEE NOTE -9.7.4.2.(1)),				
	b) RESIST WIND LOADS,				
	c) CONTROL AIR LEAKAGE,				
	d) RESIST THE INGRESS OF INSECTS AND VERMIN,				
	e) WHERE REQUIRED, RESIST FORCED ENTRY, AND				
	f) ARE EASILY OPERABLE WHEN NOT INTENDED TO BE FIXED.				
9.7.3.2.	<u>HEAT TRANSFER PERFORMANCE</u>				9.7.3.2.
	1) WINDOWS, DOORS AND SKYLIGHTS AND THEIR COMPONENTS DESCRIBED IN SECTION 9.7.1.1.(1) SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED TO				
	a) MINIMIZE SURFACE CONDENSATION ON THE WARM SIDE OF THE COMPONENT (SEE NOTE A-9.7.3.2.(1)(a)), AND				
	b) ENSURE COMFORTABLE CONDITIONS FOR OCCUPANTS.				
	2) COMPLIANCE WITH THE HEAT TRANSFER PERFORMANCE DESCRIBED IN SENTENCE (1) SHALL BE DEMONSTRATED BY				
	a) COMPLYING TO THE REQUIREMENTS IN ARTICLE 9.7.3.3., OR				
	b) DESIGN AND CONSTRUCTION CONFORMING TO PART 5.				
9.7.3.3.	<u>THERMAL CHARACTERISTICS OF WINDOWS, DOORS AND SKYLIGHTS</u>				9.7.3.3.
	1) METAL FRAMES AND SASH OF WINDOWS, DOORS AND SKYLIGHTS SHALL INCORPORATE THERMAL BREAKS.				
	2) WINDOWS AND DOORS DESCRIBED IN SENTENCE (1) DO NOT REQUIRE A THERMAL BREAK WHERE THEY ARE INSTALLED AS				
	a) VEHICULAR ACCESS DOORS,				
	b) STORM WINDOWS AND DOORS, OR				
	c) WINDOWS AND DOORS THAT ARE REQUIRED TO HAVE A FIRE-RESISTANCE RATING.				
	3) WINDOWS, DOORS AND SKYLIGHTS WITH OR WITHOUT STORM DOORS OR SASH THAT ARE INSTALLED IN BUILDINGS WHERE THE INTENDED USE OF THE INTERIOR SPACE WILL NOT RESULT IN HIGH MOISTURE GENERATION SHALL BE A MAXIMUM THERMAL (U-VALUE) OR MINIMUM TEMPERATURE INDEX (I) IN ACCORDANCE WITH TABLE 9.7.3.3.				
	- JASPER, AB (design temperature January 2.5% °C)				
	- 2.5% JANUARY DESIGN TEMPERATURE				
	- COLDER THAN -30°C				
	- WINDOWS AND DOORS, MAX. U-VALUE = 1.7; MIN. I = 77				
	- SKYLIGHTS, MAX. U-VALUE = 2.7; MIN. I = (2)				
	4) WINDOWS, DOORS AND SKYLIGHTS WITH OR WITHOUT STORM DOORS OR SASH THAT ARE INSTALLED IN PORTIONS OF BUILDINGS WHERE THE INTENDED USE OF THE INTERIOR SPACE WILL RESULT IN HIGH MOISTURE GENERATION SHALL BE DESIGNED IN CONFORMANCE WITH SECTION 5.3. (SEE NOTE A-9.25.5.2.)				
9.7.4.	<u>MANUFACTURED WINDOW, DOORS AND SKYLIGHTS</u>				
9.7.4.1.	<u>APPLICATION</u>				
	1) THIS SUBSECTION APPLIES TO WINDOWS, DOORS AND SKYLIGHTS COVERED IN THE SCOPE OF AAMA/WDMA/CSA 101/1.5.2/A440, "NAFES – NORTH AMERICAN FENESTRATION STANDARD/SPECIFICATION FOR WINDOWS, DOORS, AND SKYLIGHTS" (HARMONIZED STANDARD).				
9.7.4.2.	<u>GENERAL</u>				9.7.4.2.
	1) MANUFACTURED AND PRE-ASSEMBLED WINDOWS, DOORS AND SKYLIGHTS AND THEIR INSTALLATION SHALL CONFORM TO				
	a) AAMA/WDMA/CSA 101/1.5.2/A440, "NAFES – NORTH AMERICAN FENESTRATION STANDARD/SPECIFICATION FOR WINDOWS, DOORS, AND SKYLIGHTS" (HARMONIZED STANDARD),				
	b) CSA A440.1, "CANADIAN SUPPLEMENT TO AAMA/WDMA/CSA 101/1.5.2/A440, NAFES – NORTH AMERICAN FENESTRATION STANDARD/SPECIFICATION FOR WINDOWS, DOORS, AND SKYLIGHTS,"				
	c) THE REMAINDER OF THIS SUBSECTION, AND				
	d) THE APPLICABLE REQUIREMENTS IN SUBSECTION 9.7.6. (SEE NOTE A-9.7.4.2.(1)).				
9.7.4.3.	<u>PERFORMANCE REQUIREMENTS</u>				9.7.4.3.
	1) PERFORMANCE GRADES FOR WINDOWS, DOORS AND SKYLIGHTS SHALL BE SELECTED ACCORDING TO THE CANADIAN SUPPLEMENT REFERENCED IN CLAUSE 9.7.4.2.(1)(b) SO AS TO BE APPROPRIATE FOR THE CONDITIONS AND GEOGRAPHIC LOCATION IN WHICH THE WINDOW, DOOR OR SKYLIGHT WILL BE INSTALLED.				
	2) WINDOWS, DOORS AND SKYLIGHTS SHALL CONFORM TO THE PERFORMANCE GRADES SELECTED IN SENTENCE (1) WHEN TESTED IN ACCORDANCE WITH THE HARMONIZED				

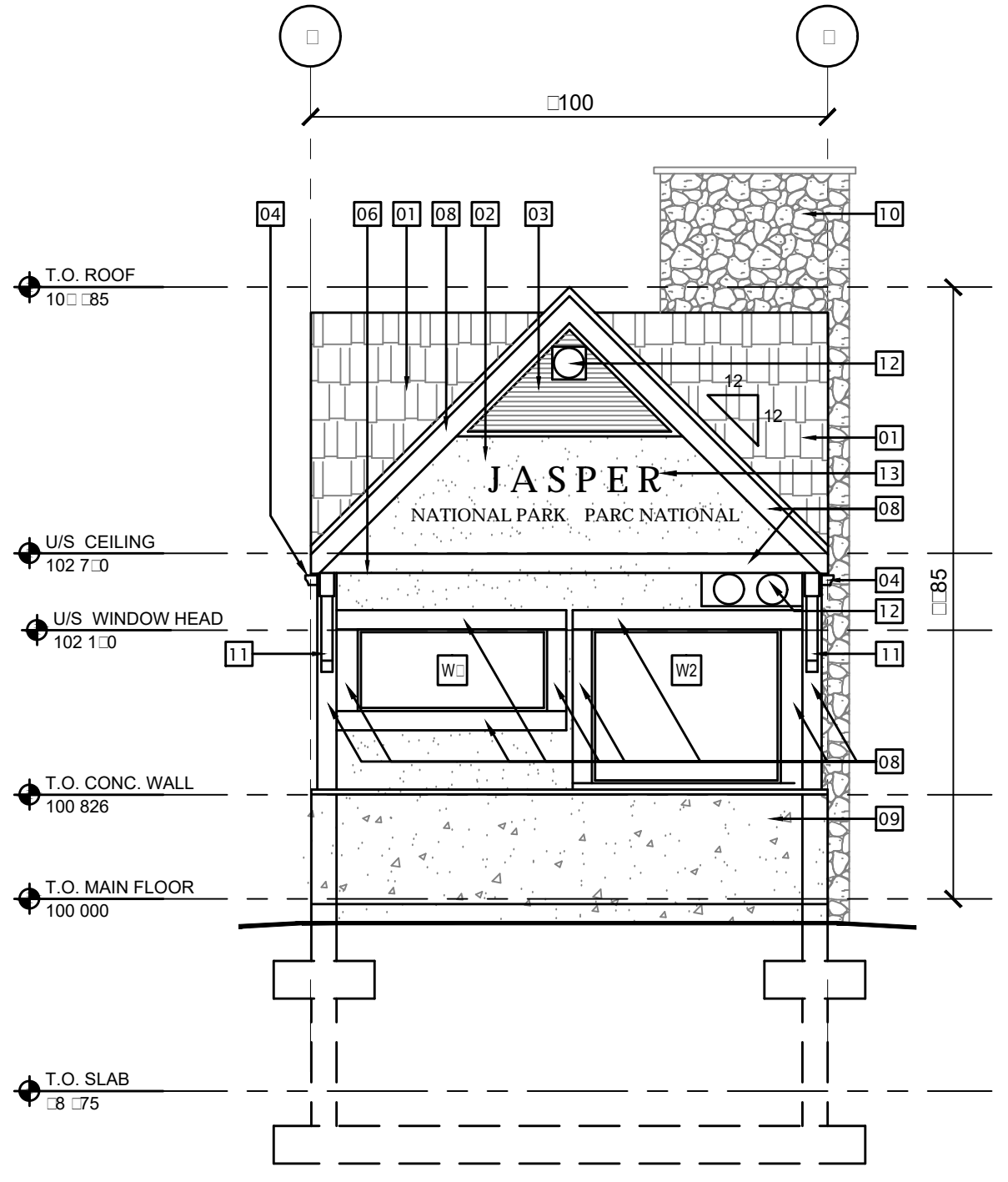
	STANDARD REFERENCED IN CLAUSE 9.7.4.2.1(4).				
	3) THE MINIMUM LEVEL OF PERFORMANCE REQUIRED FOR WINDOWS, DOORS AND SKYLIGHTS SHALL BE THAT OF THE PERFORMANCE CLASS R.				
	4) EXTERIOR WOOD DOORS SHALL CONFORM TO CAN/CSA-O132.2 SERIES, "WOOD FLUSH DOORS," AND SHALL HAVE LEGIBLY INDICATED ON THEM				
	A) THE NAME OF THE MANUFACTURER,				
	B) THE STANDARD ACCORDING TO WHICH THEY WERE PRODUCED, AND				
	C) THAT THEY ARE OF AN EXTERIOR TYPE.				
9.7.6.	INSTALLATION				
9.7.6.1.	INSTALLATION OF WINDOWS, DOORS AND SKYLIGHTS				9.7.6.1.
	1) THE INSTALLATION OF WINDOWS, DOORS AND SKYLIGHTS SHALL CONFORM TO CAN/CSA-A440.4, "WINDOW, DOOR, AND SKYLIGHT INSTALLATION," EXCEPT THAT				
	A) SHIMS USED TO SUPPORT WINDOWS, DOORS AND SKYLIGHTS ARE PERMITTED TO BE MADE OF TREATED PLYWOOD, AND				
	2) THE INSTALLATION OF MANUFACTURED AND PRE-ASSEMBLED WINDOWS, DOORS AND SKYLIGHTS AND THE FIELD ASSEMBLY OF MANUFACTURED WINDOW AND DOOR COMBINATION UNITS SHALL CONFORM TO THE MANUFACTURER'S INSTRUCTIONS.				
	3) WINDOWS, DOORS AND SKYLIGHTS SHALL BE SEALED TO AIR BARRIERS AND VAPOUR BARRIERS.				
9.7.6.2.	SEALANTS, TRIM AND FLASHING				9.7.6.2.
	1) THE SEALING COMPOUND USED TO SEAL THE GLASS COMPONENT OF AN INSULATING GLAZING UNIT TO THE SASH COMPONENT SHALL BE COMPATIBLE WITH THE SEALING COMPOUND USED TO EDGE SEAL THE GLASS COMPONENT.				
	2) FLASHING USED TO PROTECT OPENINGS SHALL CONFORM TO ARTICLES 9.27.3.7. AND 9.27.3.8.				
	3) SEALANTS SHALL BE APPLIED BETWEEN WINDOW FRAMES OR TRIM AND THE EXTERIOR CLADDING OR MASONRY IN CONFORMANCE WITH SUBSECTION 9.27.4.				
	4) ALL UNFINISHED PORTIONS OF THE FRAME AND OTHER COMPONENTS OF ALUMINUM WINDOWS, DOORS OR SKYLIGHTS IN CONTACT WITH THE EDGES OF MASONRY, CONCRETE, STUCCO OR PLASTER SHALL BE PROTECTED WITH AN ALKALI-RESISTANT COATING.				
9.9.	MEANS OF EGRESS				
9.9.1.	GENERAL				
9.9.1.3.	OCCUPANT LOAD				9.9.1.3.
	1) EXCEPT FOR DWELLING UNITS, THE OCCUPANT LOAD OF A FLOOR AREA OR PART OF A FLOOR AREA SHALL BE THE NUMBER OF PERSONS FOR WHICH SUCH AREAS ARE DESIGNED, BUT NOT FEWER THAN THAT DETERMINED FROM TABLE 3.1.17.1., UNLESS IT CAN BE SHOWN THAT THE AREA WILL BE OCCUPIED BY FEWER PERSONS.				
9.9.2.	TYPES AND PURPOSE OF EXITS				
9.9.2.1.	TYPES OF EXITS				9.9.2.1.
	1) EXCEPT AS OTHERWISE PROVIDED IN THIS SECTION, AN EXIT FROM ANY FLOOR AREA SHALL BE ONE OF THE FOLLOWING USED SINGLY OR IN COMBINATION:				
	a) AN EXTERIOR DOORWAY,				
	b) AN EXTERIOR PASSAGEWAY,				
	c) AN EXTERIOR RAMP,				
	d) AN EXTERIOR STAIRWAY,				
	e) A FIRE ESCAPE,				
	f) A HORIZONTAL EXIT,				
	g) AN INTERIOR PASSAGEWAY,				
	h) AN INTERIOR RAMP, OR				
	i) AN INTERIOR STAIRWAY.				
9.9.2.2.	PURPOSE OF EXITS				9.9.2.2.
	1) AN EXIT SHALL BE DESIGNED FOR NO PURPOSE OTHER THAN FOR EXITING EXCEPT THAT AN EXIT MAY ALSO SERVE AS AN ACCESS TO A FLOOR AREA.				
9.9.3.	DIMENSIONS OF MEANS OF EGRESS				
9.9.3.1.	APPLICATION				9.9.3.1.
	1) THIS SUBSECTION APPLIES TO EVERY MEANS OF EGRESS EXCEPT				
	a) EXITS THAT SERVE NOT MORE THAN ONE DWELLING UNIT OR A HOUSE WITH A SECONDARY SUITE INCLUDING THEIR COMMON SPACES, AND				
	b) ACCESS TO EXITS WITHIN DWELLING UNITS AND WITHIN HOUSES WITH A SECONDARY SUITE INCLUDING THEIR COMMON SPACES.				
9.9.3.2.	EXIT WIDTH				9.9.3.2.
	1) EXCEPT FOR DOORS AND CORRIDORS, THE WIDTH OF EVERY EXIT FACILITY SHALL BE NOT LESS THAN 900 mm. (SEE ARTICLE 9.9.6.3. FOR DOORS, ARTICLE 9.8.2.1. FOR STAIRS, AND ARTICLE 9.8.5.2. FOR RAMPS.)				
9.9.6.	DOORS IN A MEANS OF EGRESS				
9.9.6.1.	OBSTRUCTIONS BY DOORS				9.9.6.1.
	1) EXCEPT AS PROVIDED IN SENTENCE (4), OBSTRUCTIONS CREATED BY DOORS SHALL BE LIMITED IN ACCORDANCE WITH SENTENCES (2) AND (3)				
	a) AT EXIT DOORS,				
	b) AT DOORS THAT OPEN INTO OR ARE LOCATED WITHIN A PUBLIC CORRIDOR, AND				
	c) AT DOORS THAT OPEN INTO OR ARE LOCATED WITHIN ANOTHER FACILITY THAT PROVIDES ACCESS TO EXIT FROM A SUITE.				
	2) WHEN FULLY OPEN, DOORS DESCRIBED IN SENTENCE (1) SHALL NOT DECREASE THE REQUIRED EXIT WIDTH BY MORE THAN				
	a) 100 mm IN EXIT CORRIDORS, AND				
	b) 50 mm FOR OTHER EXIT FACILITIES.				
	3) THE SWING OF DOORS DESCRIBED IN SENTENCE (1) SHALL NOT REDUCE THE WIDTH OF THE PATH OF TRAVEL TO LESS THAN				
	a) THE REQUIRED EXIT WIDTH IN EXIT CORRIDORS AND PASSAGEWAYS, AND				
	b) 750 mm ON EXIT STAIRS OR LANDINGS.				
9.9.6.2.	CLEAR OPENING HEIGHT AT DOORWAYS				9.9.6.2.
	1) EXCEPT AS PROVIDED IN SENTENCES (2) AND (3), THE CLEAR OPENING HEIGHT OF DOORWAYS SHALL BE NOT LESS THAN 2 030 mm AT				
	a) EXIT DOORS,				
	b) DOORS THAT OPEN INTO OR ARE LOCATED WITHIN A PUBLIC CORRIDOR, AND				
	c) DOORS THAT OPEN INTO OR ARE LOCATED WITHIN ANOTHER FACILITY THAT PROVIDES ACCESS TO EXIT FROM A SUITE.				
9.9.6.3.	CLEAR OPENING WIDTH AT DOORWAYS				9.9.6.3.
	1) EXCEPT AS PROVIDED IN SENTENCE (4), THE CLEAR OPENING WIDTH OF DOORWAYS SHALL COMPLY WITH SENTENCE (2) AT				
	a) EXIT DOORS,				
	2) DOORWAYS DESCRIBED IN SENTENCE (1) SHALL BE				
	a) NOT LESS THAN 800 mm WIDE WHERE THERE IS ONLY ONE DOOR LEAF,				
9.9.6.4.	DOOR ACTION				9.9.6.4.
	1) EXCEPT AS PROVIDED IN SENTENCES (4) AND (5), REQUIRED EXIT DOORS AND DOORS IN REQUIRED MEANS OF EGRESS, EXCEPT DOORS IN MEANS OF EGRESS WITHIN DWELLING UNITS, SHALL SWING ON THE VERTICAL AXIS.				
9.9.6.5.	DIRECTION OF DOOR SWING				
	1) EXCEPT FOR DOORS SERVING A SINGLE DWELLING UNIT OR A HOUSE WITH A SECONDARY SUITE, EXIT DOORS THAT ARE REQUIRED TO SWING SHALL SWING IN THE DIRECTION OF EXIT TRAVEL.				
9.9.6.7.	DOOR LATCHING, LOCKING AND OPENING MECHANISMS				9.9.6.7.
	1) PRINCIPAL ENTRANCE DOORS, EXIT DOORS AND DOORS TO SUITES, INCLUDING EXTERIOR DOORS OF DWELLING UNITS, AND OTHER DOORS IN AN ACCESS TO EXIT SHALL				
	a) BE OPENABLE FROM THE INSIDE OR IN TRAVELLING TO AN EXIT WITHOUT REQUIRING KEYS, SPECIAL DEVICES OR SPECIALIZED KNOWLEDGE OF THE DOOR-OPENING MECHANISM, OR				
	b) BE CONTROLLED BY ELECTROMAGNETIC LOCKING MECHANISMS IN ACCORDANCE WITH SENTENCE 3.4.6.16.(4).				
	2) EXCEPT FOR DOORS SERVING A SINGLE DWELLING UNIT OR A HOUSE WITH A SECONDARY SUITE, AND DOORS TO ACCESSORY BUILDINGS AND TO GARAGES SERVING A SINGLE DWELLING UNIT, DOOR RELEASE HARDWARE ON DOORS IN A MEANS OF EGRESS SHALL BE OPERABLE WITH ONE HAND AND THE DOOR SHALL BE OPENABLE WITH NOT MORE THAN ONE RELEASING OPERATION. (SEE ALSO SENTENCE 3.8.3.6.(4) AND NOTE A-3.3.13.(4).)				
	3) DOOR RELEASE HARDWARE ON DOORS IN A MEANS OF EGRESS SHALL BE INSTALLED NOT MORE THAN 1 200 mm ABOVE THE FINISHED FLOOR.				

9.9.6.8.	EFFORT REQUIRED TO OPEN										9.9.6.8.
	1) EVERY EXIT DOOR, EXCEPT DOORS SERVING A SINGLE DWELLING UNIT OR A HOUSE WITH A SECONDARY SUITE, SHALL BE DESIGNED AND INSTALLED SO THAT WHEN THE LATCH IS RELEASED THE DOOR WILL OPEN IN THE DIRECTION OF EXIT TRAVEL UNDER A FORCE OF NOT MORE THAN 90 N APPLIED TO THE DOOR RELEASE HARDWARE. (SEE SENTENCE 3.8.3.6.(8) FOR DOOR OPENING FORCES IN A BARRIER-FREE PATH OF TRAVEL.)										
9.9.11.	<u>SIGNS</u>										
9.9.11.1.	<u>APPLICATION</u>										9.9.11.1.
	1) THIS SUBSECTION APPLIES TO ALL EXITS EXCEPT THOSE SERVING NOT MORE THAN ONE DWELLING UNIT OR A HOUSE WITH A SECONDARY SUITE.										
9.9.11.2.	<u>VISIBILITY OF EXITS</u>										9.9.11.2.
	1) EXITS SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE OR THEIR LOCATIONS SHALL BE CLEARLY INDICATED.										
	2) WHERE AN EXIT DOOR LEADING DIRECTLY TO THE OUTSIDE IS SUBJECT TO BEING OBSTRUCTED BY PARKED VEHICLES OR STORAGE BECAUSE OF ITS LOCATION, A VISIBLE SIGN OR A PHYSICAL BARRIER PROHIBITING SUCH OBSTRUCTIONS SHALL BE INSTALLED ON THE EXTERIOR SIDE OF THE DOOR.										
9.10.2.	<u>MAJOR OCCUPANCY CLASSIFICATION</u>										
9.10.2.1.	GROUP/Div. D BUSINESS & PERSONAL SERVICES OCCUPANCIES										9.10.2.1.
9.10.8.	<u>FIRE RESISTANCE AND COMBUSTIBILITY IN RELATION TO OCCUPANCY, HEIGHT AND SUPPORTED ELEMENTS</u>										
9.10.8.1.	<u>FIRE-RESISTANCE RATINGS FOR FLOORS AND ROOFS</u>										9.10.8.1.
	1) EXCEPT AS OTHERWISE PROVIDED IN THIS SUBSECTION, THE FIRE-RESISTANCE RATINGS OF FLOORS AND ROOFS SHALL CONFORM TO TABLE 9.10.8.1. (SEE SUBSECTION 9.10.2. FOR MIXED OCCUPANCIES AND SUBSECTION 9.10.21. FOR CONSTRUCTION CAMPS.)										
9.10.8.1.	TABLE 9.10.8.1. FIRE-RESISTANCE RATINGS FOR STRUCTURAL MEMBERS AND ASSEMBLIES (<i>forming part of sentence 9.10.8.1.(1)</i>)										9.10.8.1.
	- ALL OTHER OCCUPANCIES:										
	- MAX. 2 STOREYS BUILDING HEIGHT, FLOORS EXCEPT FLOORS OVER CRAWL SPACES - 45min.										
9.10.8.9.	<u>CRAWL SPACES</u>										9.10.8.9.
	1) WHERE A CRAWL SPACE EXCEEDS 1.8 m IN HEIGHT OR IS USED FOR ANY OCCUPANCY OR AS A PLENUM IN COMBUSTIBLE CONSTRUCTION OR FOR THE PASSAGE OF FLUE PIPES, IT SHALL BE CONSIDERED AS A BASEMENT IN APPLYING THE REQUIREMENTS IN ARTICLE 9.10.8.1.										
9.10.14/9.10.15	<u>SPATIAL SEPARATION & EXPOSURE PROTECTION</u>										
ONE CHART PER BLDG.											
9.10.14 STACKED HOUSES											
9.10.15 ROW HOUSES											
	BUILDING #	FACE / OCCUPANCY	LIMIT DISTANCE	AREA (sq.m.)	% OPENING ALLOWED	% OPENING PROVIDED	MIN. WALL F.R.R.(min.)	CONSTRUCTION TYPE	CLADDING TYPE REQUIRED*		
	SE	D	2.5575m	30.14m ²	18.75%	6.4% (1.94m ²)	1.0HR	COMB/NON-COMB	COMB/NON-COMB		
	SW	D	>9.0m	--	--	--	0.0HR	COMB/NON-COMB	COMB/NON-COMB		
	NW	D	0.0m	30.14m ²	19.00%	8.83% (2.66m ²)	1.0HR	COMB/NON-COMB	COMB/NON-COMB		
	NE	D	>9.0m	--	--	--	0.0HR	COMB/NON-COMB	COMB/NON-COMB		
1.3.3.4.2) b)	<u>PROVISIONS FOR FIRE FIGHTING</u>										1.3.3.4.2) {b}.
3.2.5.5.	UNOBSTRUCTED PATH OF TRAVEL FROM NEAREST STREET TO ENTRANCE - MAX. 45m										3.2.2.5.
	FROM FIRE HYDRANT FOR NOT SPRINKLER BLDG-MAX 90m / FOR SPRINKLER BLDG-MAX 45m.										
	<u>FIRE SEPARATION - NOT APPLICABLE</u>										
3.1.8.4.	<u>FIRE CLOSURES - NOT APPLICABLE</u>										
9.10.17.	<u>FLAME SPREAD RATING AND SMOKE DEVELOPED CLASSIFICATION</u>										9.10.17
	<u>MINIMUM EGRESS WIDTH</u>										
	- OUTSIDE OF DWELLING UNIT										
9.9.3.3.	CORRIDOR										NOT APPLICABLE
9.9.3.2.	EXIT WIDTH										9.9.3.2.
9.5.5.1.	DOOR WAY										9.5.5.1.
9.5.4.1.	HALLWAY										NOT APPLICABLE
	<u>HEADROOM CLEARANCE</u>										
	EXITS										9.9.3.4.
	STAIRS & STAIR LANDING										NOT APPLICABLE
	DOORWAYS										9.9.6.2.
9.7.7.	<u>ACCESS TO EXITS</u>										
9.9.7.4.	1) EXCEPT FOR DWELLING UNITS, AT LEAST 2 EGRESS DOOR SHALL BE PROVIDED WHEN THE AREA OF A ROOM OR SUITE, OR THE DISTANCE MEASURED FROM ANY POINT WITHIN THE ROOM OR SUITE TO THE NEAREST EGRESS DOOR, EXCEEDS THE VALUES IN TABLE 9.9.7.4.										9.9.7.4.
TABLE 9.9.7.4.	- OCCUPANCY OF FLOOR AREA										
	- GROUP D										
	- MAX. AREA OF FLOOR AREA = 200m ² (ACTUAL AREA = 36.65m ²)										
	- MAX. DISTANCE TO EGRESS DOOR = 25m (ACTUAL DISTANCE = 10.51m)										
9.9.9.1.2)	<u>EGRESS FROM DWELLING UNITS - NOT APPLICABLE</u>										NOT APPLICABLE
9.10.16.1.	<u>CONCEALED SPACES - NOT APPLICABLE</u>										NOT APPLICABLE
9.5.2.&3.8.	<u>BARRIER-FREE DESIGN REQUIREMENTS</u>										9.5.2. & 3.8.
	XXXXX										
9.11.2.1.	<u>SOUND CONTROL - NOT APPLICABLE</u>										NOT APPLICABLE
9.36.	<u>ENERGY EFFICIENCY</u>										9.36.
	SEE SEPARATE DETAILED REVIEW										

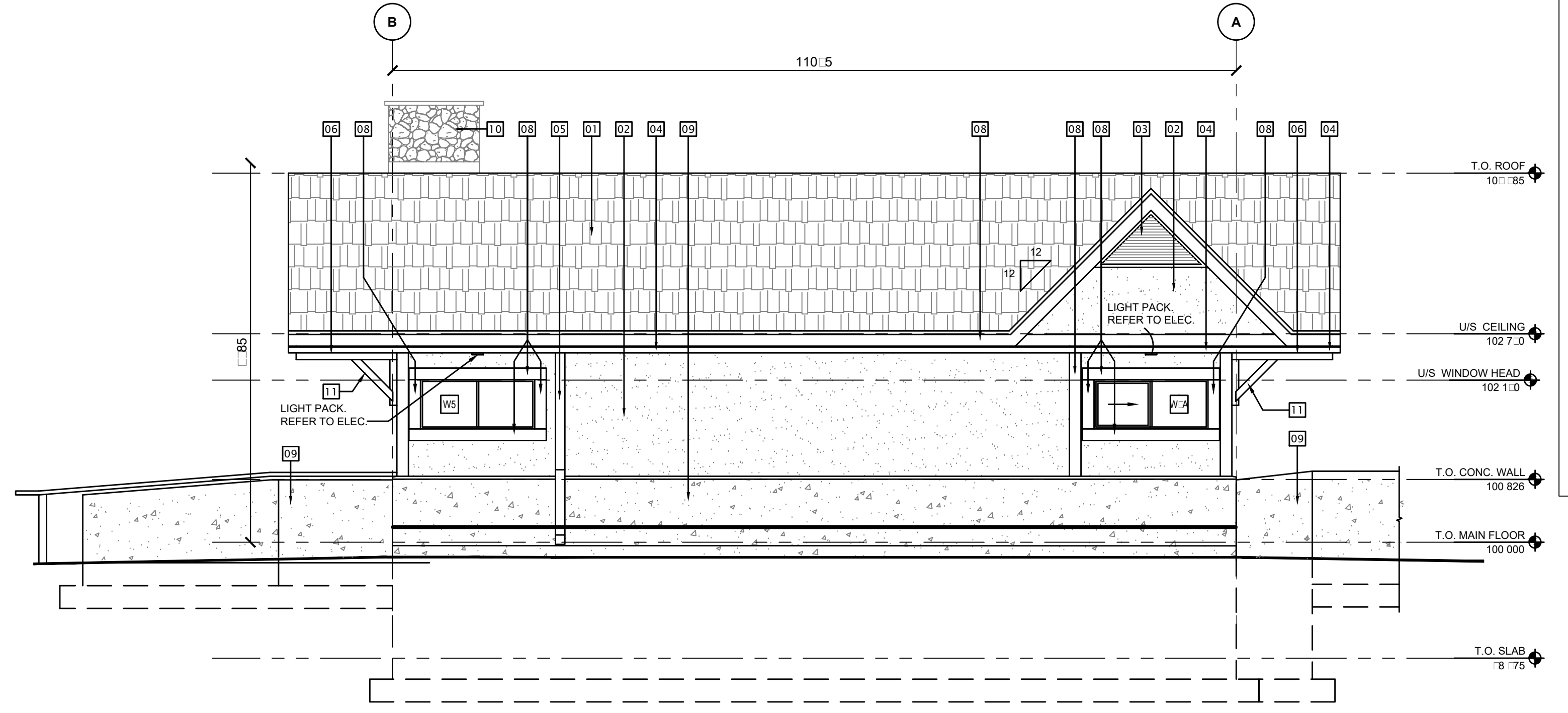
\\calnas01\Calgary\Norr\Projects\NCCA16-0188 - Jasper Eastgate Kiosk\500-Deliv\Arch_Prod\00_General\BLDG CODE REVIEW\1_PART

	Public Works and Government Services Canada	Traçage, planification et Services gouvernementaux Canada
REAL PROPERTY SERVICES Western Region SERVICES IMMOBILIERS Région de l'ouest		
		
NORR PROJECT No. NCCA16-0188-00 PWGCSC PROJECT No. PROJ285 JASPER, ALBERTA JASPER NATIONAL PARK EAST GATE KIOSK ISSUED for BUILDING PERMIT		
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5		
<input type="checkbox"/>		
<input type="checkbox"/>		
2		
1	ISSUED FOR 100% AND BUILDING PERMIT	2017/08/11
0	ISSUED FOR 10% REVIEW	2017/08/11
Revision	Description	Date
Client		client
		
 <div style="display: inline-block; text-align: center; margin: 0 20px;"> Parks Canada </div> <div style="display: inline-block; text-align: center;"> Parcs Canada </div>		
Project title		Projet
<h2 style="margin: 0;">WATER PAR EAST</h2> <h2 style="margin: 0;">WATER IMPROVEMENTS</h2> <h2 style="margin: 0;">EAST WATER IOS</h2>		
Designed by ANDREW		Conçu par
Drawn by STEPHEN SMEN		Dessiné par
Approved by BRIAN		Approuvé par
PWGCSC Project Manager CHRISTOPHER		Administrateur de Projets TPSGC
Drawing title		Titre du dessin
NATURAL BUILDING CODE REVIEW CHECKLIST PART 1		
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
PROJ285	AUGUST 09, 2017	

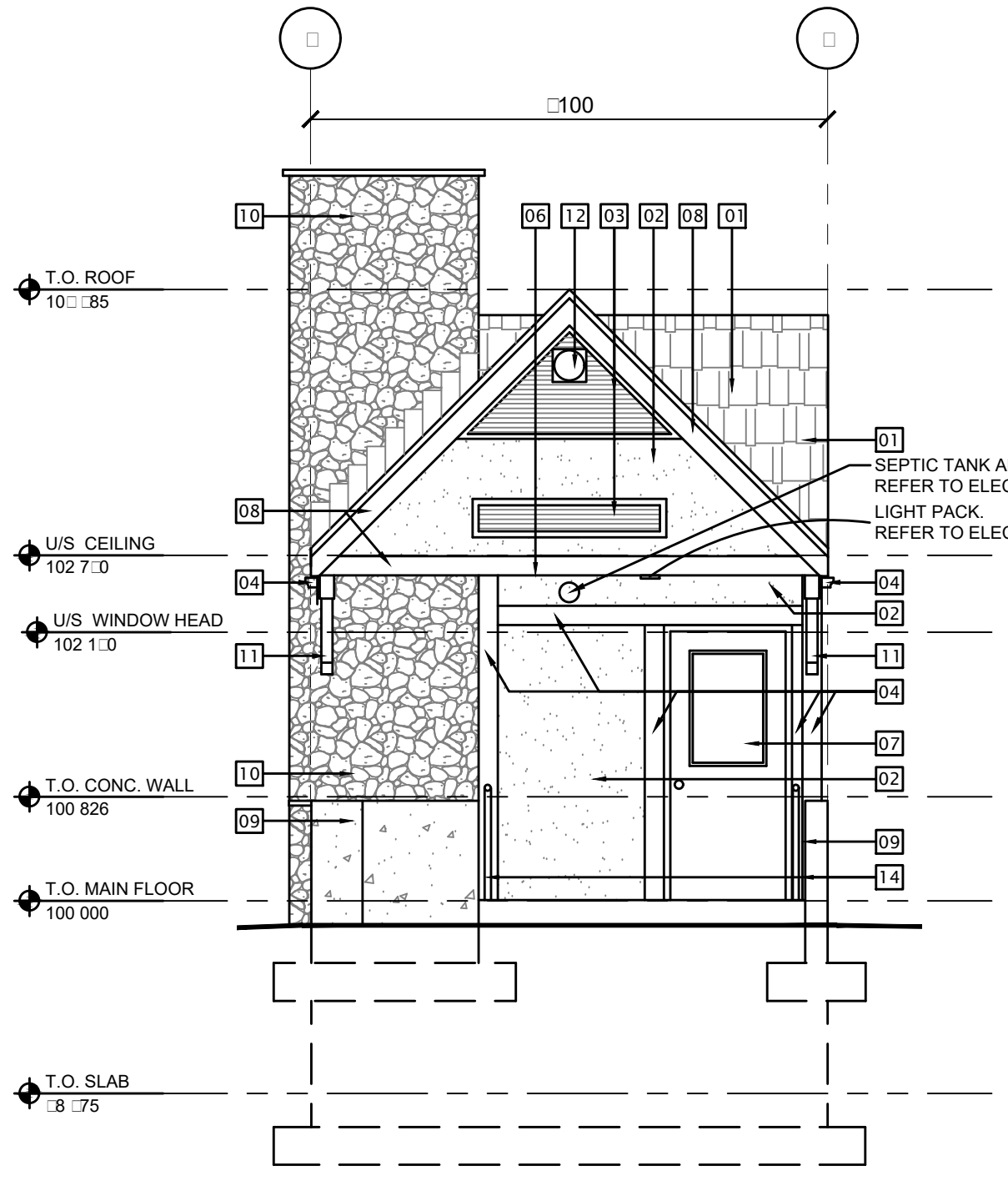




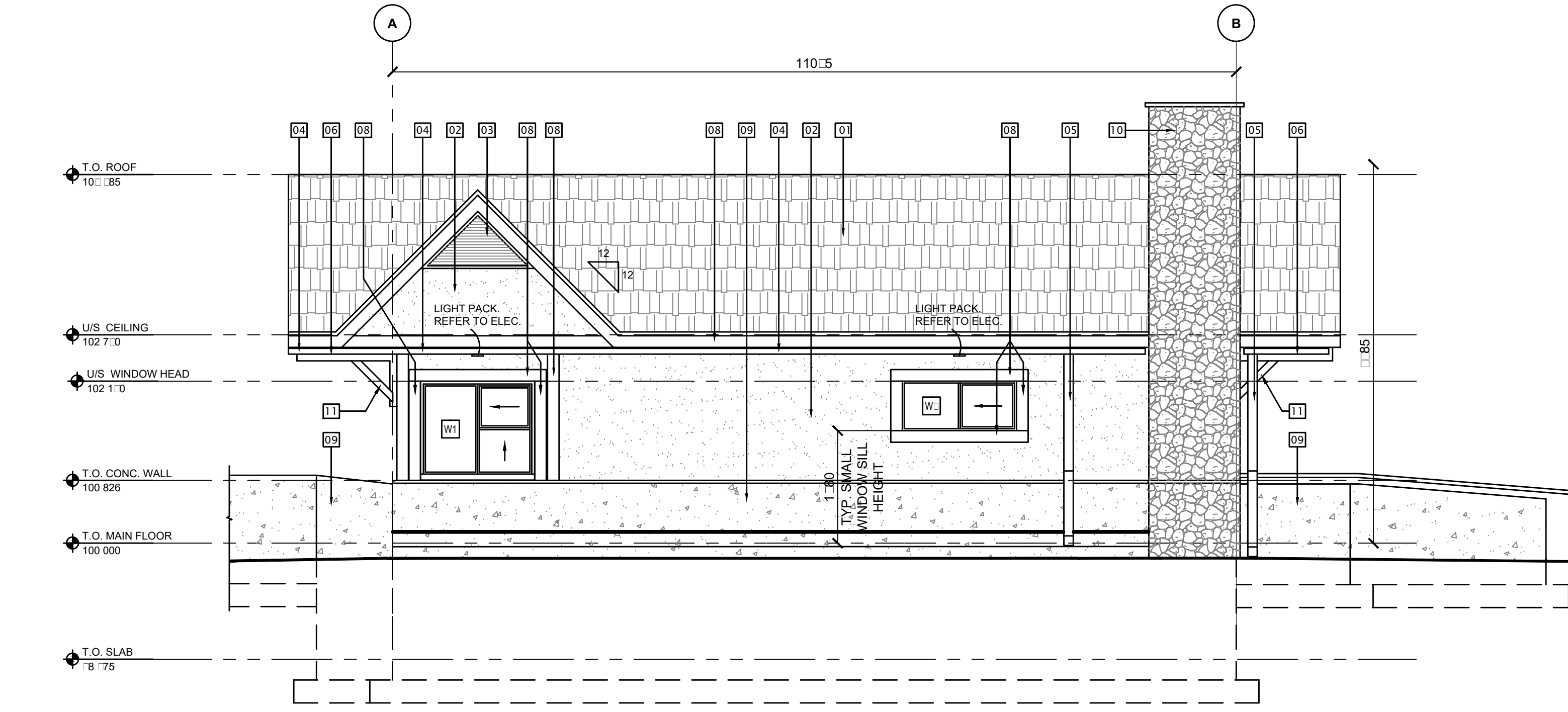
SOUT WEST ELEVATION
PROJECT SOUTH ELEVATION



SOUT EAST ELEVATION
PROJECT EAST ELEVATION
SCALE 1:50



NORTH EAST ELEVATION
PROJECT NORTH ELEVATION
SCALE 1:50



NORTH WEST ELEVATION
PROJECT WEST ELEVATION
SCALE 1:50

MATERIAL LEGEND	
01	RECYCLED RUBBER SHINGLES - SHAKE STYLE COLOUR: GREY (SUBMIT SAMPLES FOR APPROVAL)
02	STUCCO FINISH COLOUR: WARM GREY (C56 M49 Y53 K18)
03	PREFINISHED ALUMINUM LOUVRE COLOUR: WHITE (C39 M32 Y33 K01)
04	PREFINISHED METAL GUTTER COLOUR: WHITE (C39 M32 Y33 K01)
05	PREFINISHED METAL DOWNSPOUT COLOUR: WHITE (C39 M32 Y33 K01)
06	PREFINISHED METAL SOFFIT COLOUR: WARM GREY (C56 M49 Y53 K18)
07	EXTERIOR MAN DOOR COLOUR: BLUE (C85 M68 Y44 K32)
08	TREATED ENGINEERED WOOD TRIM COLOUR: WHITE (C39 M32 Y33 K01)
09	EXPOSED CONCRETE TROWEL FINISH & EXPOSED AGGREGATE, REFER TO SPECIFICATION
10	NATURAL RIVERROCK TO MATCH EXISTING BUILDINGS
11	KNEE BRACKET REFER TO DETAIL 05A51-00-02
12	TRAFFIC CONTROL LIGHT REFER TO SPECIFICATION
13	SIGNAGE REFER TO SPECIFICATION, TO MATCH EXISTING BUILDING FONT, COLOR AND FINISH
14	PAINTED STEEL HANDRAIL COLOUR: WHITE (C39 M32 Y33 K01)

NORR PROJECT No. NCCA16-0188-00
PWSC PROJECT No. PRO1285
JASPER, ALBERTA
JASPER NATIONAL PARK
EAST GATE KIOSK
ISSUED for BUILDING PERMIT

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A. Silvio Baldassarra, Architect, A.A.A., B.Arch, M.A.S.C.
Adrian Todella, P.Eng., APECA
Chris Pui, P.Eng., APECA

5	ISSUED FOR 100% AND BUILDING PERMIT	2017/08/11
4	ISSUED FOR 90% REVIEW	2017/08/11
3	RE ISSUED FOR 80% REVIEW	2017/07/08
2	ISSUED FOR 70% REVIEW	2017/02/21
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/21
0	ISSUED FOR 60% REVIEW	2016/12/16


Revision	Description	Date
Client		client

Parks Canada **Parcs Canada**

Project title: **WATER IMPROVEMENTS EAST**

Designed by: **A. McKenzie** Conçu par: **A. McKenzie**
Drawn by: **A. McKenzie / D. McKenzie** Dessiné par: **A. McKenzie / D. McKenzie**
Approved by: **B. McKenzie** Approuvé par: **B. McKenzie**
PWSC Project Manager: **C. McKenzie** Administrateur de Projets TPSGC: **C. McKenzie**
Drawing title: **BUILDING ELEVATIONS** Titre du dessin: **BUILDING ELEVATIONS**

Project no./No. du projet: PCA1000	Drawing no./No. du dessin: A1000000	Revision no.: 01
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NORR PROJECT No. NCCA16-0188-00
PWGSC PROJECT No. PRO1285
JASPER, ALBERTA
JASPER NATIONAL PARK
EAST GATE KIOSK
ISSUED for BUILDING PERMIT

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Adrian Todella, P.Eng., A.P.E.C.A.
Chris Pui, P.Eng., A.P.E.C.A.

5	ISSUED FOR 100% AND BUILDING PERMIT	2017/08/11
4	ISSUED FOR 100% REVIEW	2017/08/11
3	RE-ISSUED FOR 100% REVIEW	2017/07/08
2	ISSUED FOR 100% REVIEW	2017/02/22
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/10
0	ISSUED FOR 100% REVIEW	2016/12/16
Revision	Description	Date

Client: client





Parks
Canada

Parcs
Canada

Project title: Projet

WA

PAR

EAST

ATE IMPROVEMENTS

EAST ATE IOS

Designed by
A.C.D.

Drawn by
A.C.D./D.

Approved by
B.M.

PWGSC Project Manager
C.M.

Conçu par

Dessiné par

Approuvé par

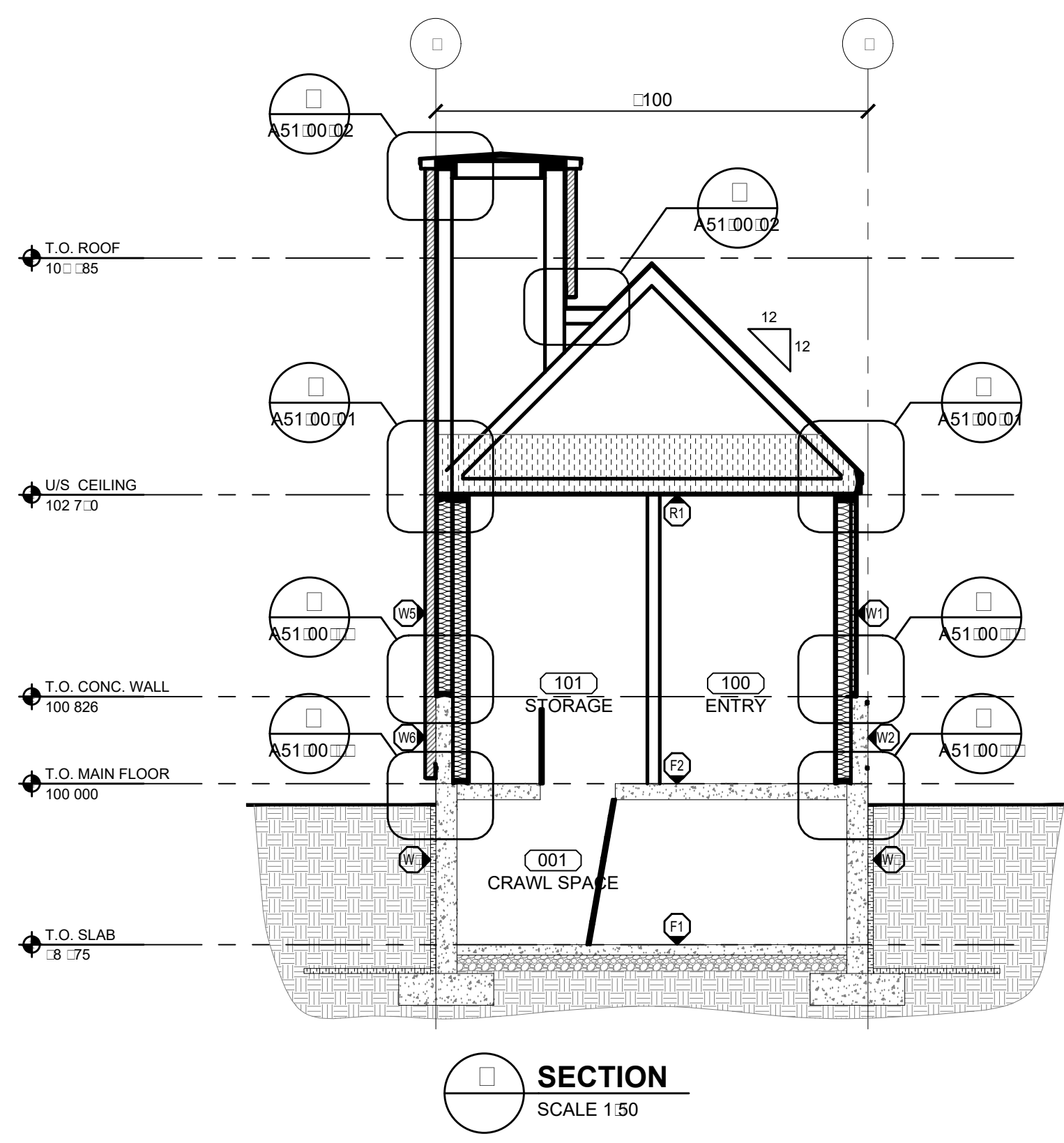
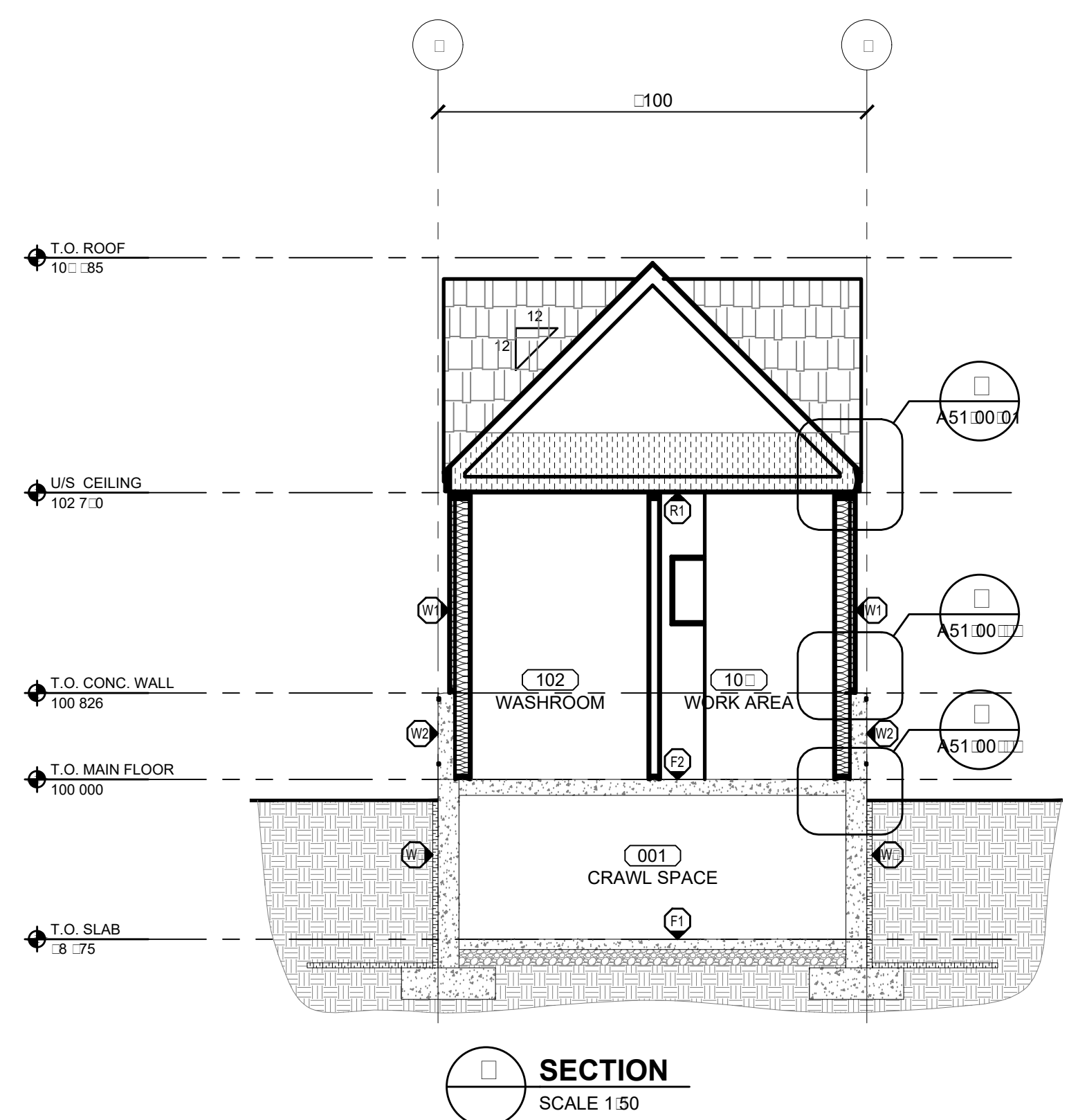
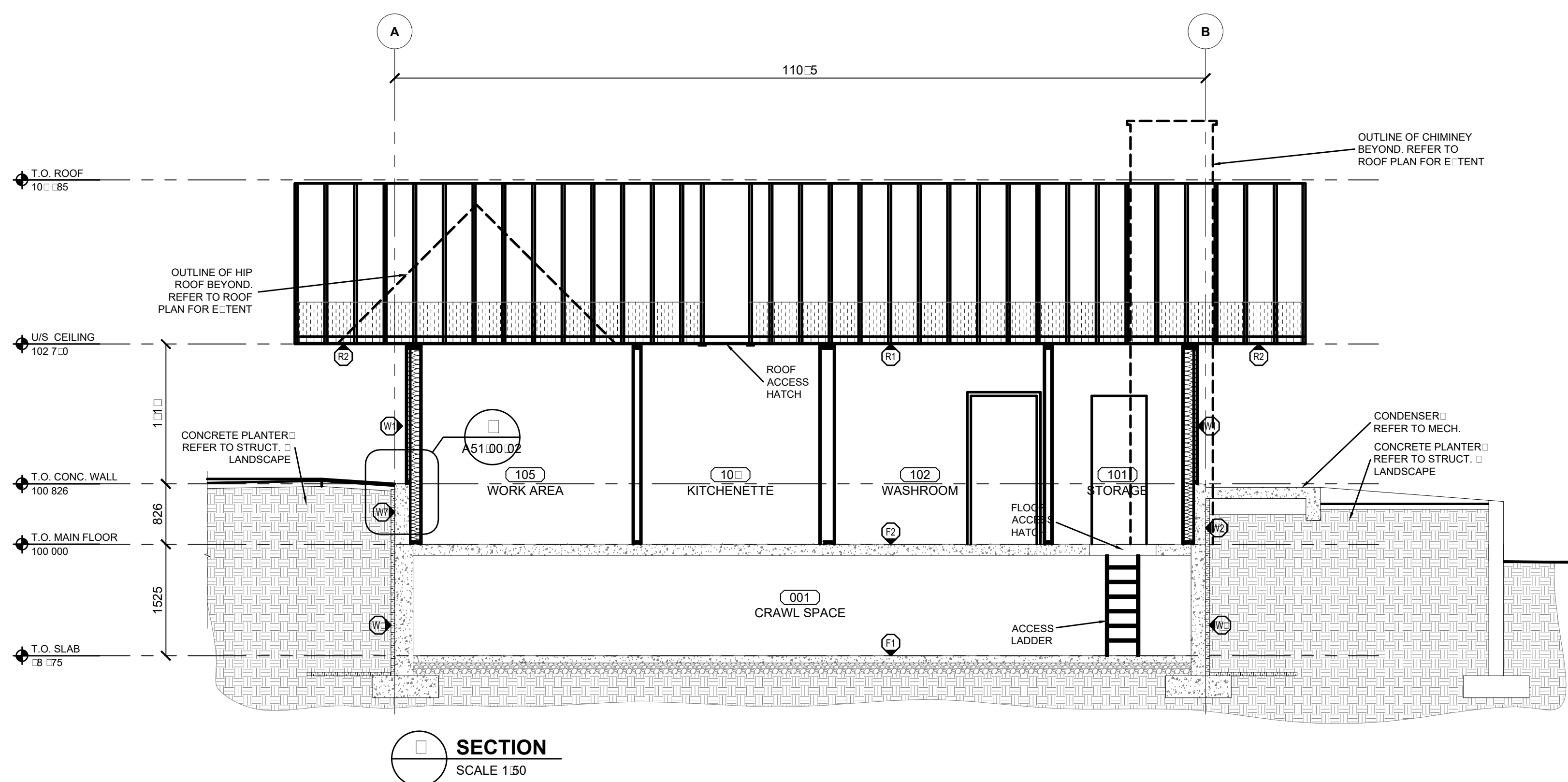
Administrateur de Projets TPSGC

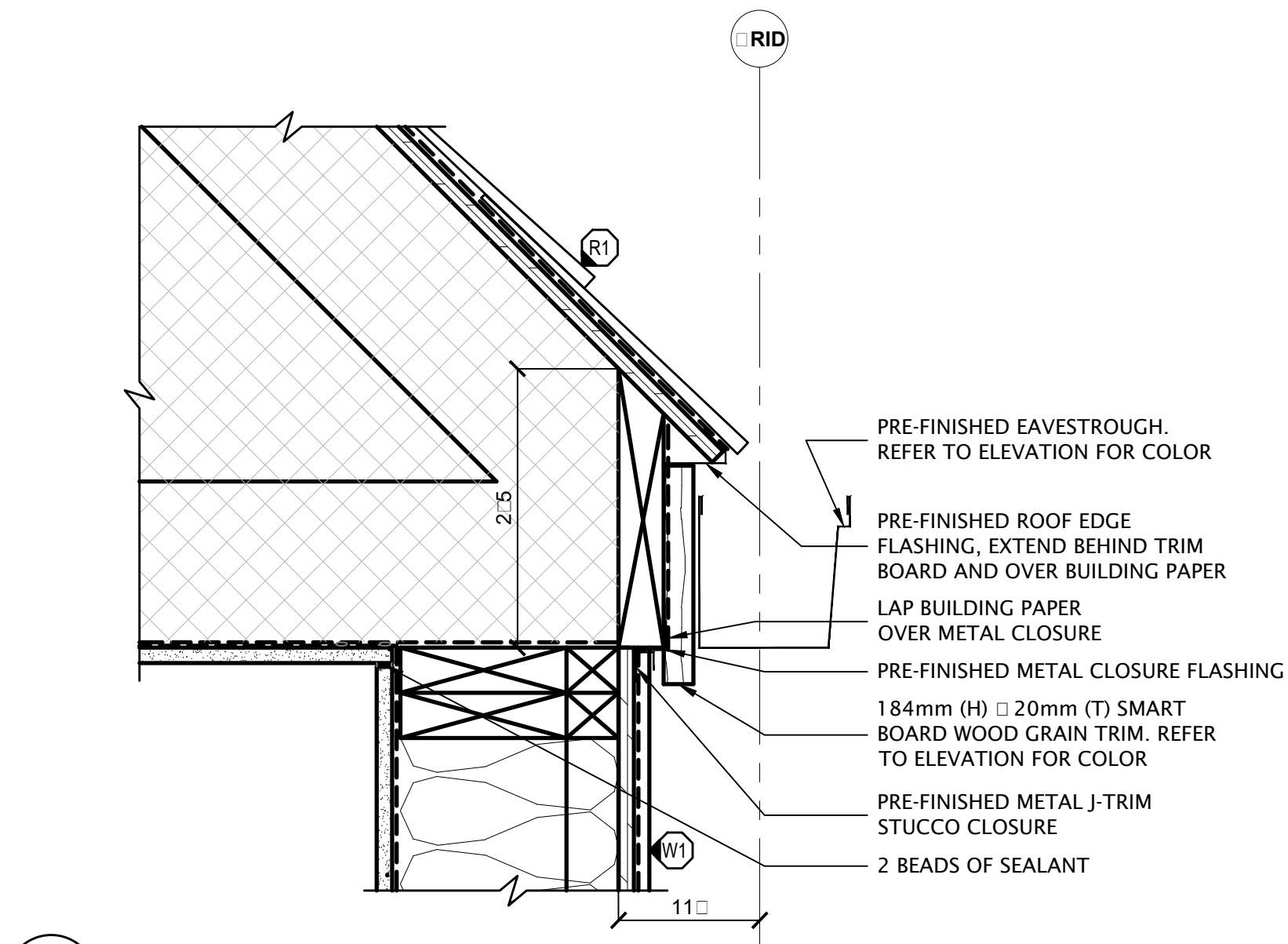
Drawing title
BUILDING SECTIONS

Project no./No. du projet
PRO

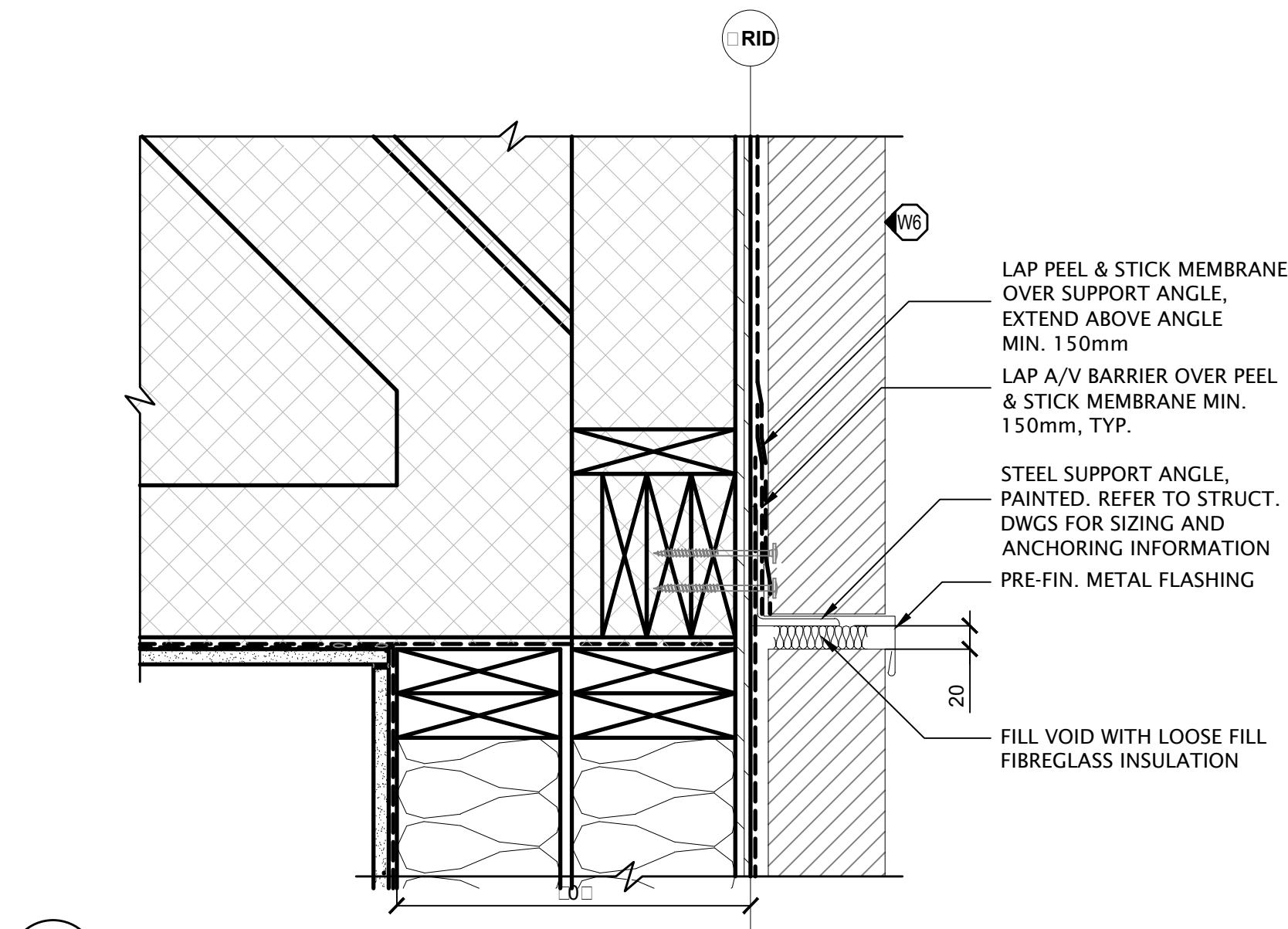
Drawing no./No. du dessin
A

Revision no.
0

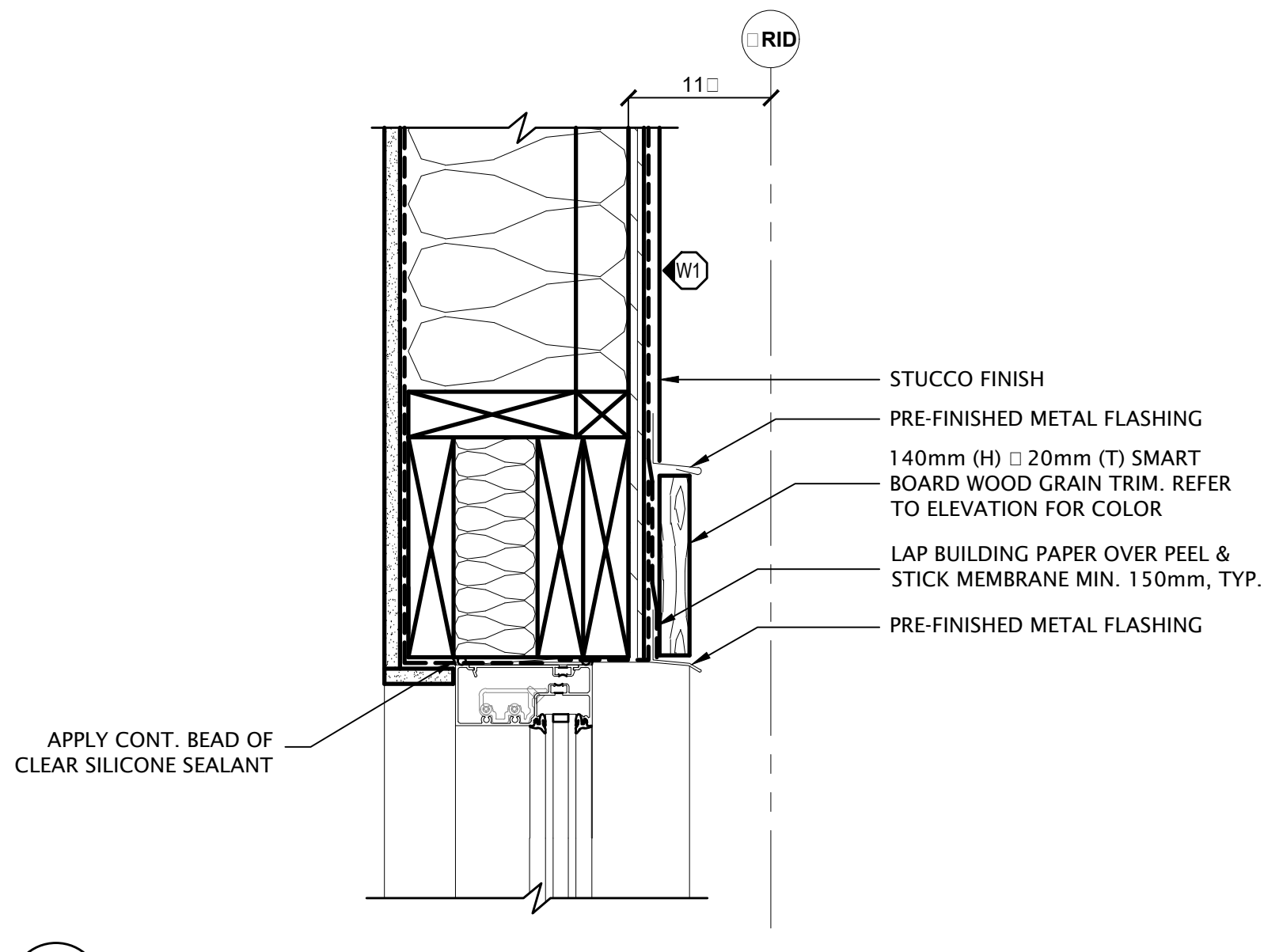




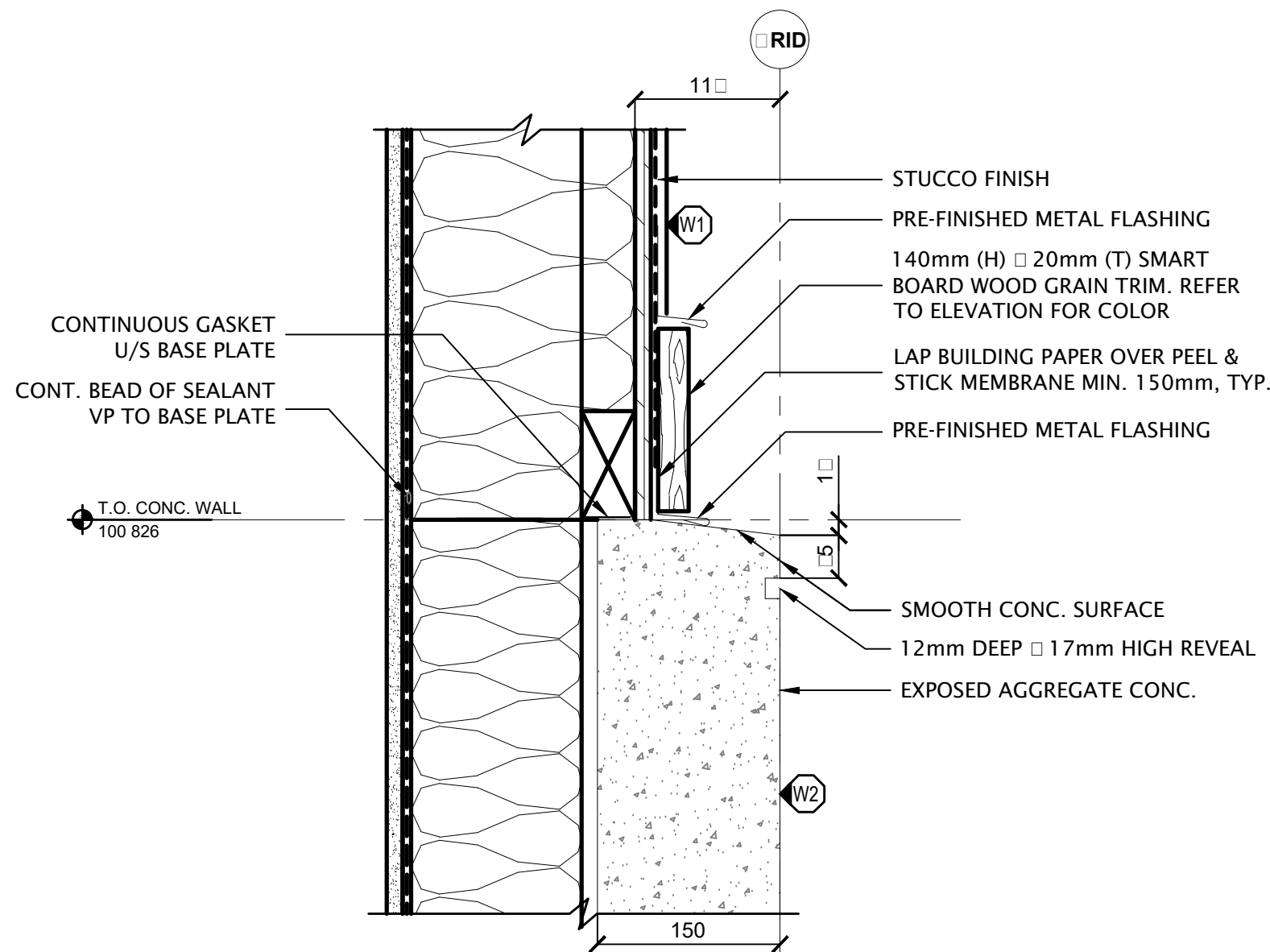
ROOF DETAIL
1/5



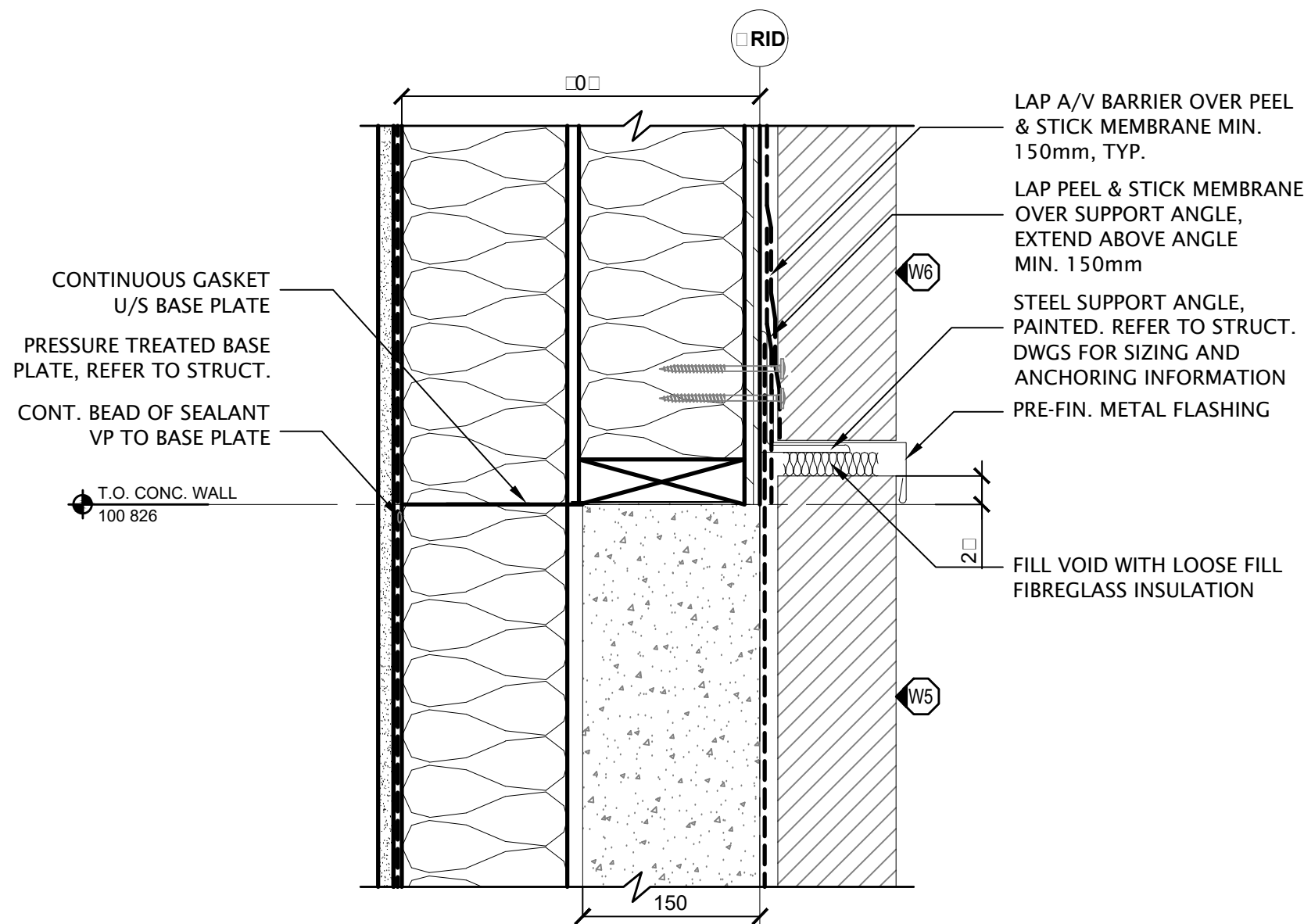
ROOF DETAIL AT CHIMNEY
1/5



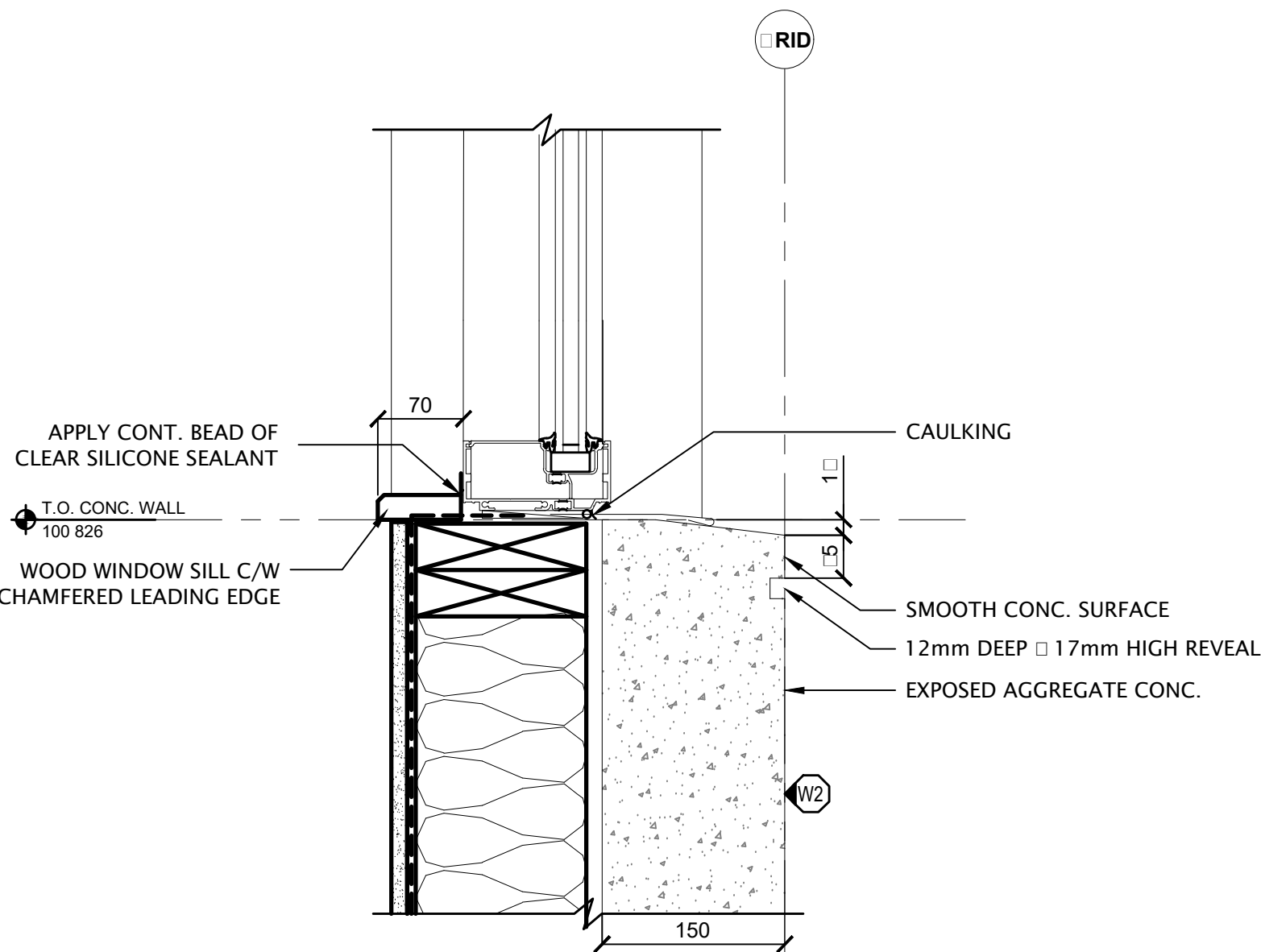
WINDOW HEAD
1/5



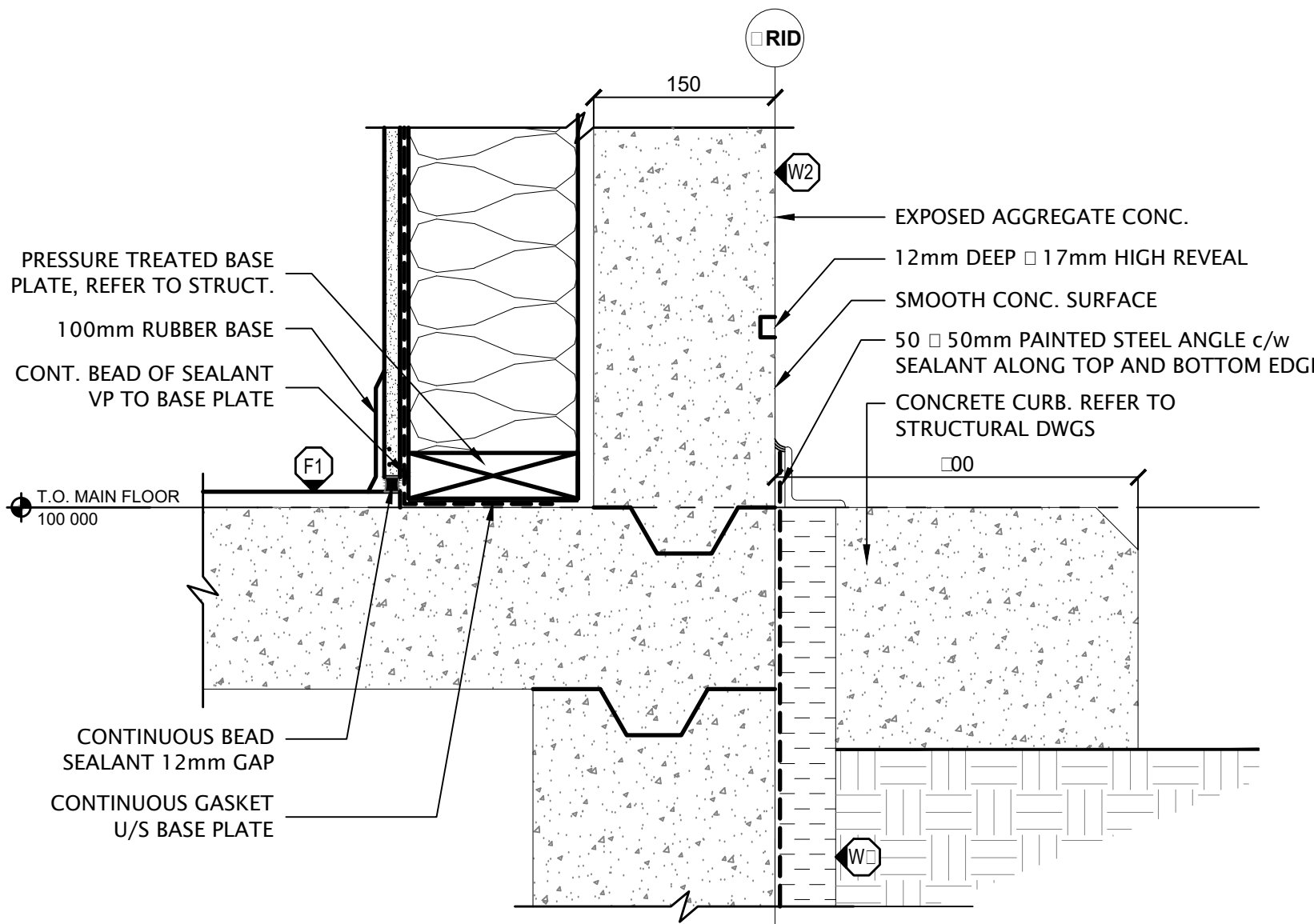
WALL AT UPSTAND
1/5



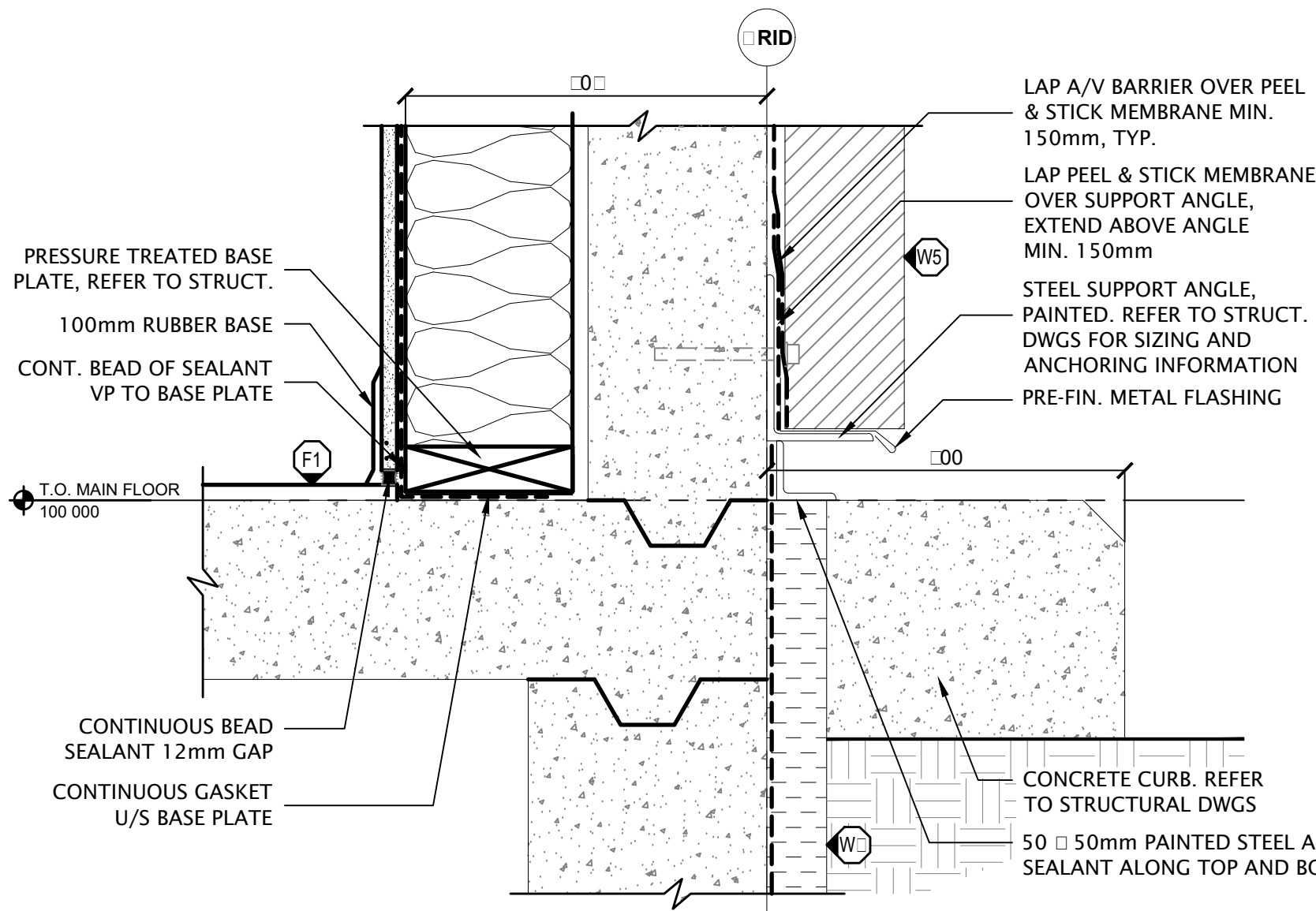
CHIMNEY WALL AT UPSTAND
1/5



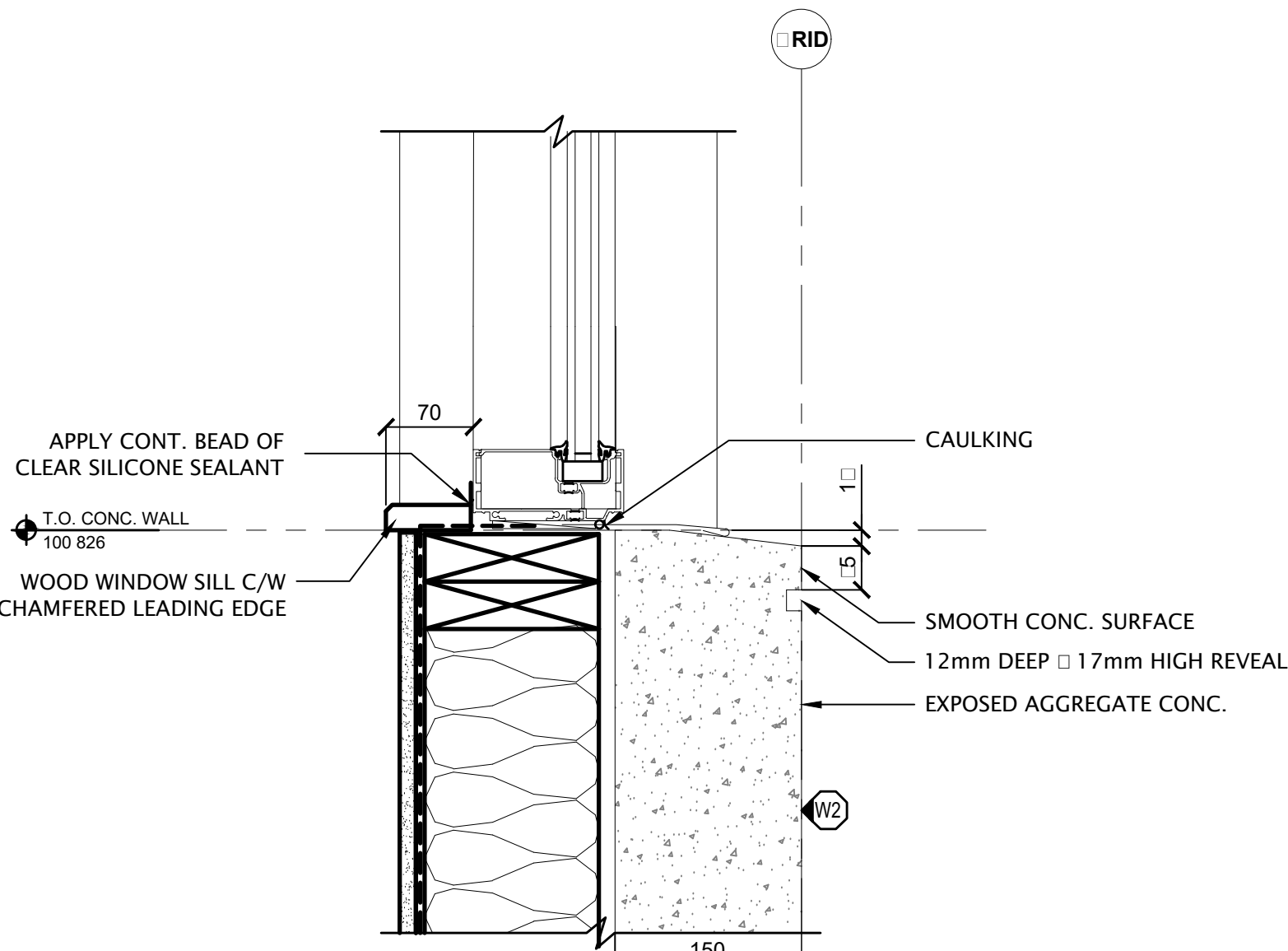
WINDOW SILL AT UPSTAND
1/5



WALL BASE
1/5



WALL BASE AT CHIMNEY
1/5



WINDOW SILL AT UPSTAND
1/5



NORR PROJECT No. NCCA16-0188-00
PWGSC PROJECT No. PR01285
JASPER, ALBERTA
JASPER NATIONAL PARK
EAST GATE KIOSK
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Adrian Todella, P.Eng., A.P.E.C.A.
Chris Pui, P.Eng., A.P.E.C.A.

Revision	Description	Date
5		
4	ISSUED FOR 100% AND BUILDING PERMIT	2017/08/11
3	ISSUED FOR 100% REVIEW	2017/08/11
2	RE-ISSUED FOR 100% REVIEW	2017/07/08
1	ISSUED FOR 100% REVIEW	2017/02/22

Client client



Project title Projet

WALL SECTION
IMPROVEMENTS
EAST SIDE

Designed by Conçu par

Drawn by Dessiné par

Approved by Approuvé par

PWGSC Project Manager Administrateur de Projets TPSGC

Drawing title Titre du dessin

WALL SECTION DETAILS

Project no./No. du projet

Drawing no./No. du dessin

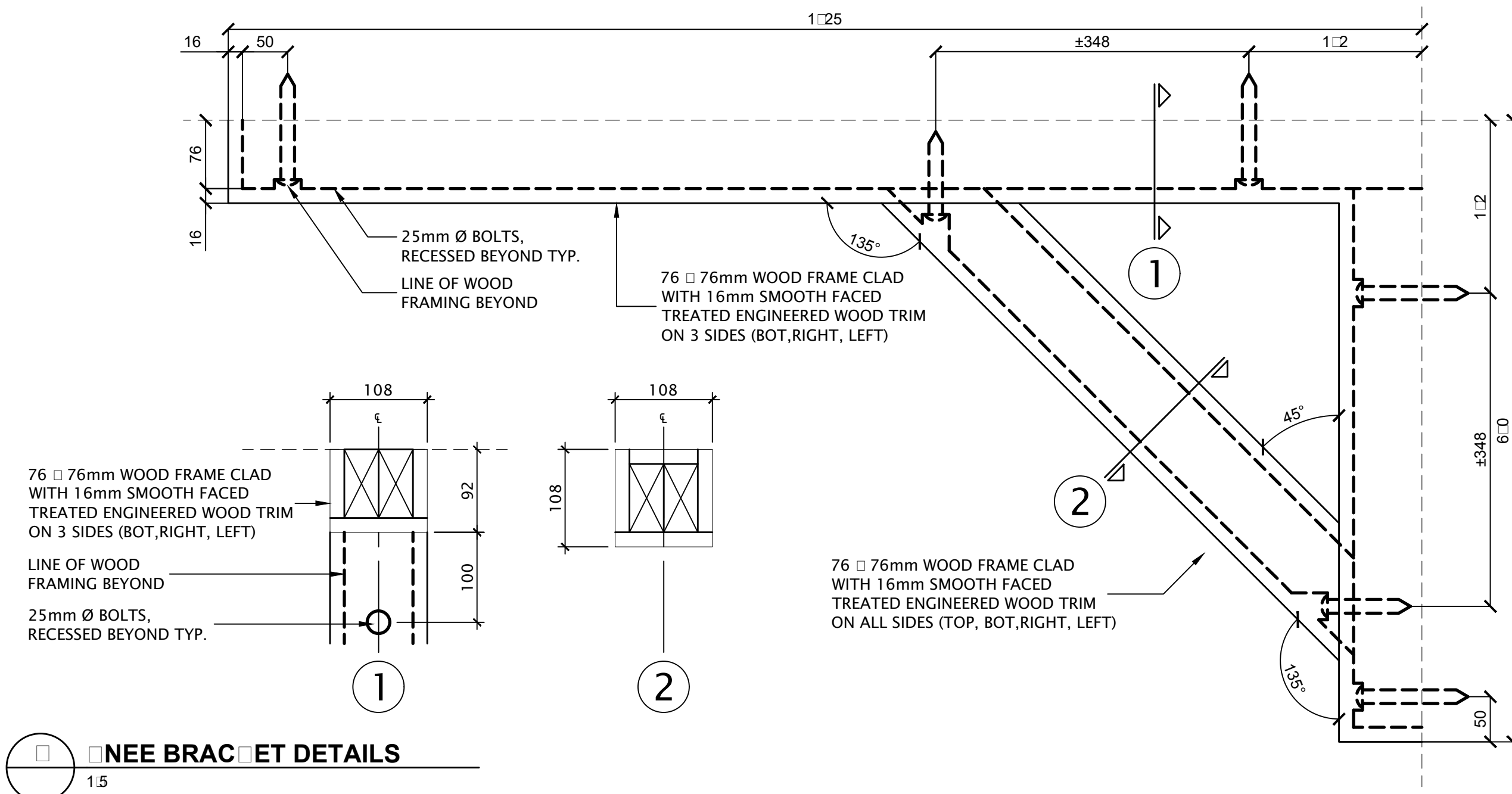
Revision no.

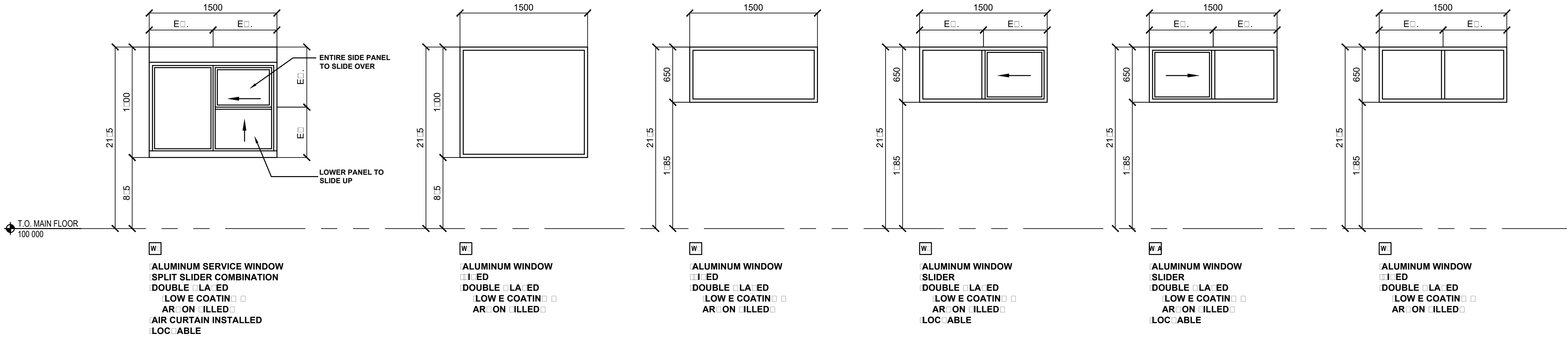
PRO

A

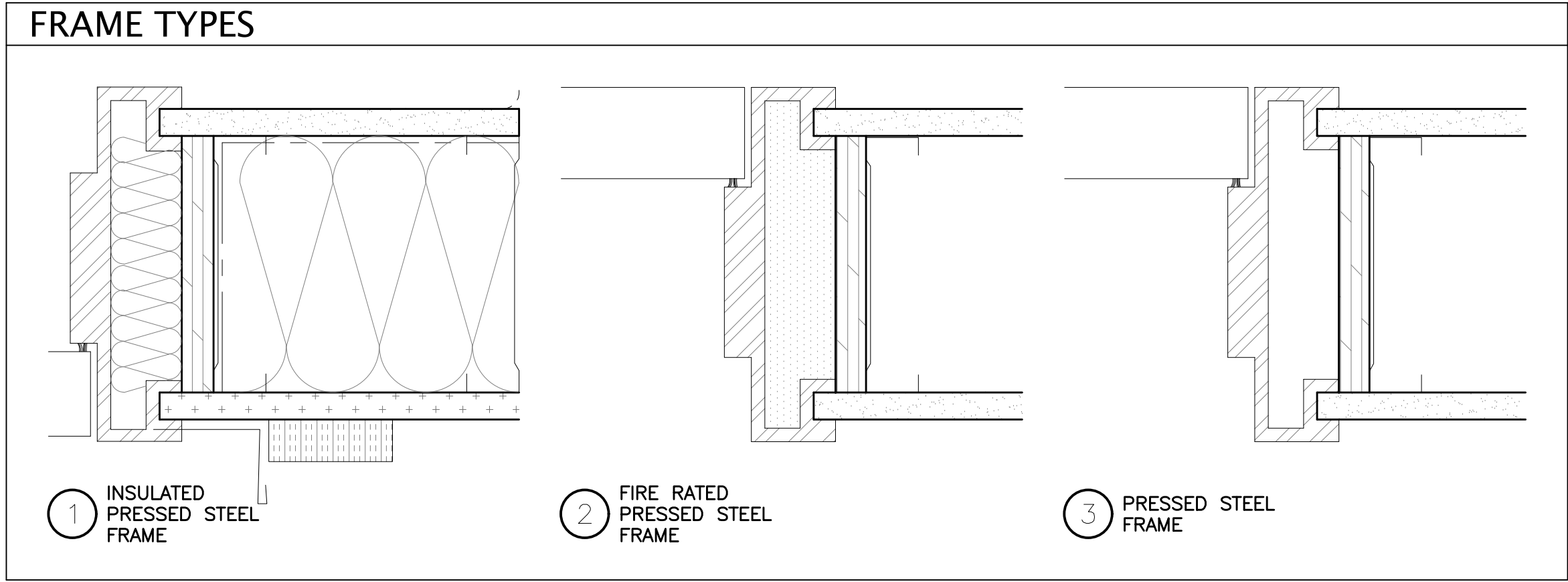
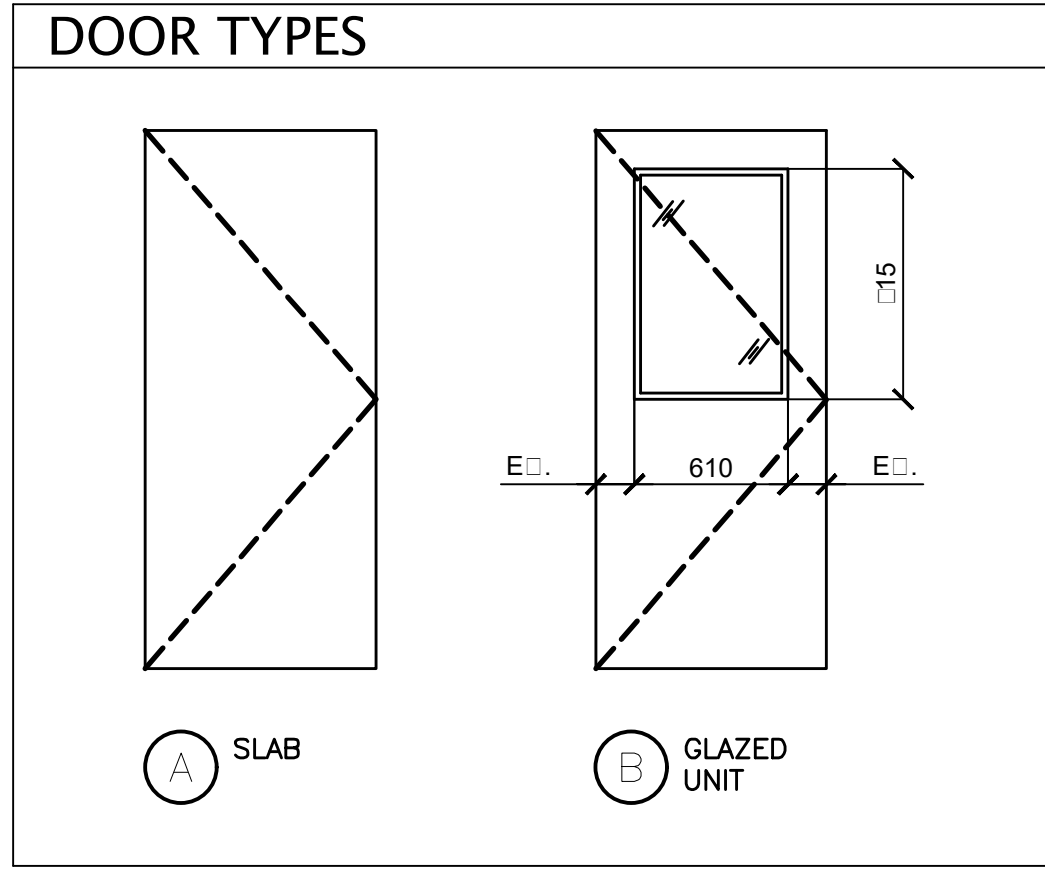
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NCCA160188





DOOR SCHEDULE															
DOOR									FRAME			FIRE LABELS		HARDWARE GROUP	REMARKS - HARDWARE REQUIREMENTS
No.	LOCATION	REBATE DIMENSIONS			TYPE	MAT.	FIN.	GLAZING	TYPE	MAT.	FIN.	F.R.R.	TEMP. RISE (250 C after)		
		W	H	TH											
D1	ENTRY	915	2032	45	B	HMI	PT	WG	1	PS	PT	--	--	--	B2/L7/L13/C2/S1/M1/M2/M6/Z4/
D2	WASHROOM	915	2032	45	A	SCWD	PT	--	3	PS	PT	--	--	--	B1/L4/S1/Z4/




DOOR SCHEDULE ABBREVIATION

ALUM ALUMINUM
DG DOUBLE GLAZED
FG FROSTED GLASS
FLG FIRELITE GLASS
HCWD HOLLOW CORE WOOD
HM HOLLOW METAL
HMI HOLLOW METAL INSULATED
M METAL
MCI METAL CLAD INSULATED
PF PREFINISHED
PS PRESSED STEEL
PT PAINT
ST STAINED
SCWD SOLID CORE WOOD
SG SINGLE GLAZED
TG TEMPERED GLASS
WD WOOD
WG WIRED GLASS (6mm)

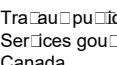
HARDWARE SCHEDULE ABBREVIATION

B BUTTS / PIVOTS HARDWARE
(1 1/2 PAIR PER LEAF, UNLESS NOTED OTHERWISE)
B1 BALL BEARING BUTTS
B2 BALL BEARING NRP BUTTS
B3 3-1/2" STANDARD BUTTS
B4 BALL BEARING SPRING BUTTS
B5 PIVOTS (OFFSET)
L LATCHING HARDWARE
L1 PANIC EXIT ONLY
L2 PANIC NIGHT LATCH (WITH PULL AND KEYED CYLINDER).
L3 PANIC THUMB LATCH
L4 PRIVACY SET
L5 LATCHSET
L6 LOCKSET STOREROOM
L7 LOCKSET ENTRANCE
L8 LOCKSET EXIT FREE
L9 DUMMY KNOB SET
L10 FIXED KNOB LOCKSET
L11 ELECTRIC STRIKE
c/w ELECTRICAL CONNECTION
L12 DEAD BOLT KEY ONE SIDE THUMBTURN OPPOSITE
L13 DEAD BOLT KEY BOTH SIDES
L14 ROLLER CATCH
L15 LOCKSET / DEAD BOLT INTERCONNECTING ROOM
L16 MAGNETIC LOCK
c/w ELECTRICAL CONNECTION
L17 FLUSHBOLTS TOP & BOTTOM
L18 SURFACE BOLTS (SLIDE TYPE)
L19 NOT USED
L20 ELECTRONIC ACCESS CONTROL LOCKSET
L21 BALL CATCH
L22 MS LOCK WITH CYLINDER AND THUMB TURN
C CLOSURE
C1 CLOSER SURFACE MOUNTED PUSH SIDE
C2 CLOSER SURFACE MOUNTED PULL SIDE
C3 NORTON 1605 CLOSER
C4 NOT USED
C5 CLOSER SURFACE MOUNTED W/ INTEGRAL HOLDOPEN / STOP

S STOPS
S1 FLOOR MTD. STOP
S2 WALL MTD. SPRING STOP, WHERE ADJACENT TO BACK WALL
S3 OVERHEAD DOOR STOP
S4 ELECTRIC HOLDOPEN c/w ELECTRICAL CONNECTION
S5 INTREGAL STOP CLOSER
S6 HINGE PIN DOOR STOP, WHERE NO ADJACENT BACK WALL
S7 WALL MOUNTED DOOR STOP
M MISCELLANEOUS HARDWARE
M1 THRESHOLD
M2 WEATHERSTRIP AND DOOR SWEEP
M3 ASTRAGAL
M4 PUSH / PULL
M5 PULLS BACK TO BACK
M6 KICK PLATE ONE SIDE
M7 DOOR VIEWER
M8 BRASS ADDRESS NUMBERS
M9 DOOR COORDINATOR
Z SPECIAL DOOR HARDWARE
Z1 POCKET DOOR HARDWARE & EASE PULLS
Z2 BIFOLD DOOR HARDWARE & BRASS KNOBS
Z3 BIPASS SLIDING DOOR HARDWARE & FLUSH PULLS
Z4 HANDICAP LEVER SET FOR TYPICAL DOOR HARDWARE
Z5 AUTOMATIC DOOR HARDWARE
Z6 BARRIER FREE OPERATOR & PUSH BUTTONS
Z7 O/H DOOR HARDWARE - CHAIN HOIST
Z8 O/H DOOR HARDWARE - AUTOMATIC OPENERS
Z9 POCKET DOOR HARDWARE & PRIVACY WITH PULLS




Public Works and Government Services Canada



Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest



AUGUST 09, 2017

NORR PROJECT No. NCCA16-0188-00
PWGSC PROJECT No. PRO1285
JASPER, ALBERTA
JASPER NATIONAL PARK
EAST GATE KIOSK
ISSUED for BUILDING PERMIT

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5	ISSUED FOR 100% AND BUILDING PERMIT	2017/08/11
4	ISSUED FOR 100% REVIEW	2017/08/11
3	RE-ISSUED FOR 100% REVIEW	2017/07/08
2	ISSUED FOR 100% REVIEW	2017/02/22
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/11
0	ISSUED FOR 100% REVIEW	2016/12/16

Revision	Description	Date
Client		client



Parks Canada



Parcs Canada

Project title	Projet
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WA PAR EAST
ATE IMPROVEMENTS
EAST ATE IOS

Designed by A.C.D.	Conçu par
Drawn by A.C.D./D.C.D.	Dessiné par
Approved by B.M.	Approuvé par
PWGSC Project Manager C.M.	Administrateur de Projets TPSGC
Drawing title	Titre du dessin

WINDOW AND
DOORS SCHEDULES

Project no./No. du projet PRO	Drawing no./No. du dessin A	Revision no. 0
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1. GENERAL NOTES

1. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH SEPARATELY BOUND SPECIFICATIONS, TYPICAL DETAILS AND ALL OTHER CONTRACT DOCUMENTS.
2. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS, UNLESS OTHERWISE NOTED OR SHOWN.
3. BEFORE PROCEEDING WITH WORK, CHECK ALL THE DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND EXISTING SITE CONDITIONS. REPORT INCONSISTENCIES TO CONSULTANT BEFORE PROCEEDING WITH THE WORK.
4. CHECK AND VERIFY IN THE FIELD ALL SIZES AND DIMENSIONS INVOLVING THE EXISTING STRUCTURE AND COORDINATE WITH NEW CONSTRUCTION.
5. DO NOT EXCEED DURING CONSTRUCTION, DESIGN LIVE LOADS SHOWN ON PLANS, REDUCED AS NECESSARY UNTIL MATERIALS REACH DESIGN STRENGTH.
6. DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
7. SCALES NOTED ON DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DO NOT SCALE DRAWINGS.
8. TYPICAL STRUCTURAL DETAILS SHOWN IN DRAWING SERIES S02 SHALL GOVERN THE WORK. IF DETAILS DIFFER ON OTHER DRAWINGS, THE MOST STRINGENT GOVERNS.
9. SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
- a. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, EXCEPT AS NOTED.
- b. SIZE AND LOCATION OF ALL INTERIOR AND EXTERIOR NON-LOAD BEARING PARTITIONS.
- c. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOOR DRAINS SLOPES, INSERTS, ETC. EXCEPT AS SHOWN.
- d. TRENCHES, PITS, AND Sumps.
- e. ROOF, WALL AND FLOOR FINISHES.
- f. WATERPROOFING AND DAM PROOFING.
- g. ELEVATIONS AND DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
10. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
- a. PIPE AND DUCT RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS ETC. EXCEPT AS SHOWN OR NOTED.
- b. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
- c. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL OR PLUMBING FIXTURES.
- d. SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES, ANCHOR BOLTS FOR MOTOR MOUNTS, EXCEPT AS SHOWN OR NOTED.
11. ALL ARCHITECTURAL, ELECTRICAL OR MECHANICAL LOADS IMPOSED ON THE STRUCTURE THAT EXCEED 50kg SHALL BE SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION UNLESS SPECIFICALLY DETAILED OR NOTED ON THE STRUCTURAL DRAWINGS.
12. DRAWINGS AND DETAILS ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MODIFICATIONS TO THE DESIGN NECESSARY TO SUIT SITE DIMENSIONS OR CONDITIONS SHALL BE SUBMITTED TO CONSULTANT FOR APPROVAL BEFORE PROCEEDING.
13. IN CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS, PLANS/DETAILS OR REFERENCE STANDARDS THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
14. MISCELLANEOUS METAL, PRECAST AND STAIR FABRICATORS SHALL:
- a. PROVIDE SHOP DRAWINGS TO THE CONSULTANT PRIOR TO FABRICATION, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.
- b. DESIGN ALL GUARDS TO MEET LATERAL LOADS DESCRIBED IN ABC 4.1.5.15.
- c. DESIGN ALL HANDRAILS TO MEET LOADS DESCRIBED IN ABC 3.4.6.4 (9).
- d. DESIGN ALL STAIRS TO SUPPORT A MINIMUM LIVE LOAD OF 4.8 kPa UNLESS NOTED OTHERWISE ON DRAWINGS.

2. DESIGN

1. THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE:
- a. ALBERTA BUILDING CODE (2014)
- b. NATIONAL BUILDING CODE (2015)
2. ALL REINFORCED CONCRETE ELEMENTS HAVE BEEN DESIGNED AND OR SHALL BE CONSTRUCTED IN ACCORDANCE WITH:
- a. CSA - A23.3-04 (R2010) "DESIGN OF CONCRETE STRUCTURES"
- b. CSA - A23.1-09 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION"
- c. CSA - A23.2-09 "METHODS OF TEST AND STANDARD PRACTICES FOR CONCRETE"
3. ALL CONCRETE FORMWORK AND OR FALSEWORK SHALL CONFORM WITH:
- a. CSA - S269.3-M "CONCRETE FORMWORK"
- b. CSA - 269.1-1975 "FALSEWORK FOR CONSTRUCTION PURPOSES"
4. ALL STRUCTURAL WOOD ELEMENTS HAVE BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH:
- a. CSA - Q86-14 "ENGINEERING DESIGN IN WOOD"
- b. CSA - Q325-07 (R2012) "CONSTRUCTION SHEATHING"
- c. CSA - Q80.1-08 (R2012) "PRESERVATIVE TREATMENT OF WOOD"
- d. CSA - Q122-06 (R2015) "STRUCTURAL GLUED-LAMINATED TIMBER"
5. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATIONS OF REQUIRED FIRE RESISTANCE AND RATINGS.
6. UNIT FLOOR AND ROOF LOADINGS, SOIL BEARING PRESSURES AND FOUNDATION LOADS GIVEN ON DRAWINGS ARE UNFACTORED. MEMBER FORCES GIVEN ON DRAWINGS ARE FACTORED.
7. SUPERIMPOSED LIVE LOADS (SERVICE):
- a. SNOW AND RAIN LOADS:
- SNOW IMPORTANCE FACTOR, I_s : 1.0 (ULS)
- SNOW IMPORTANCE FACTOR, I_s : 0.90 (SLS)
- GROUND SNOW LOAD (S_g) = 3.0 kPa
- ASSOCIATED RAIN LOAD (S_r) = 0.1 kPa
- ONE DAY RAINFALL (1/50): = 76 mm
- ROOF DESIGN SNOW LOAD (DRIFT CONDITIONS ON DRAWINGS)
- = 1.6 kPa (ULS)
- = 1.45 kPa (SLS)
- b. WIND LOAD:
- WIND IMPORTANCE FACTOR, I_w : 1.0 (ULS)
- WIND IMPORTANCE FACTOR, I_w : 0.75 (SLS)
- WIND (1/50 HOURLY PRESSURE) = 0.32 kPa
- WIND (1/10 HOURLY PRESSURE) = 0.25 kPa

- c. SEISMIC LOAD:
- SEISMIC IMPORTANCE FACTOR, I_e : 1.0 (ULS)
- 5% DAMPED RESPONSE SPECTRAL VALUES:
- $S_a(0.2) = 0.24$
- $S_a(0.5) = 0.14$
- $S_a(1.0) = 0.07$
- $S_a(2.0) = 0.04$
- PGA = 0.132
- SITE CLASSIFICATION: CLASS D
- d. GRAVITY LOADS:
- AS SHOWN ON PLAN.
8. GEOTECHNICAL INFORMATION:
- a. THE FOLLOWING GEOTECHNICAL INVESTIGATION REPORT HAS BEEN USED BY THE ENGINEER IN DESIGN AND PREPARATION OF THE DRAWINGS, FILE NO. 2511-00763-00 AS PREPARED BY MCEIHANNEY CONSULTING SERVICES LTD. DATED NOVEMBER 2016. REFER TO THE REPORT FOR ANY PARTICULARS AS TO SOIL CONDITIONS AND FOUNDATION RECOMMENDATIONS.
- b. REFER TO FOUNDATION GENERAL NOTES FOR SOIL BEARING CAPACITY.

3. CONSTRUCTION

1. THE CONTRACTOR SHALL PROPOSE A FULL METHODOLOGY FOR EXECUTING THE WORK DETAILED IN THE CONTRACT DOCUMENTS.
2. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISIONS HAVE BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION.
- a. THE CONTRACTOR SHALL DEMONSTRATE THE STABILITY AND SAFETY OF ALL ELEMENTS OF THE BUILDING DURING EVERY STAGE OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED FOR ALL STRESSES AND INSTABILITY OCCURRING DURING CONSTRUCTION. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR ALL SUCH MEASURES.
- b. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING, SHORING, SHEET PILING OR OTHER TEMPORARY SUPPORTS TO SAFEGUARD ALL EXISTING OR ADJACENCY AFFECTED BY THIS WORK.
3. THE CONTRACTOR SHALL LIAISE WITH DEPARTMENTAL REPRESENTATIVE AND ASSOCIATED UTILITIES AUTHORITIES REGARDING THE REMOVAL AND DISCONNECTION OF EXISTING UTILITIES IN THE BUILDING. NO UTILITIES SHALL BE REMOVED OR DISCONNECTED WITHOUT THE APPROVAL OF OWNER AND ASSOCIATED UTILITIES AUTHORITIES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK. THE CONSULTANT HAS NO OVERALL SUPERVISION AUTHORITY AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM ACTIONS OF ANY TRADE CONTRACTOR. THE CONSULTANT HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES OF THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS ON THE PROJECT SITE.
5. THE CONTRACTOR SHALL DETERMINE THE LOCATIONS OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO EARTHWORK, FOUNDATIONS SHORING AND EXCAVATION. ANY UTILITY INFORMATION SHOWN ON THE DRAWINGS AND DETAILS IS APPROXIMATE AND NOT NECESSARILY COMPLETE.
6. THE PROPOSED SCHEDULE OF WORK IS TO BE COORDINATED WITH ALL SUB-TRADES, THE CONSULTANT AND OWNER.

4. SHOP DRAWINGS

1. FOR ALL STRUCTURAL COMPONENTS SHOWN ON THE STRUCTURAL DRAWINGS, SUBMIT COPIES OF SHOP DRAWINGS AS DIRECTED, FOR REVIEW BY THE CONSULTANT.
2. SHOP DRAWINGS SHALL SHOW COMPLETE INFORMATION FOR THE FABRICATION AND ERECTION OF THE STRUCTURAL COMPONENTS.
3. CONCRETE REINFORCEMENT SHOP DRAWINGS SHALL CLEARLY SHOW BAR LENGTHS, BENDS, LOCATIONS OF BARS, METHOD OF SUPPORT, DETAILS OF PLACEMENT, COORDINATION WITH FORMWORK, EMBEDMENT, AND CONCRETE VIBRATION. PROVIDE AT MINIMUM, WALL AND COLUMN ELEVATIONS, WALL AND BEAM SECTIONS, MATERIAL SCHEDULES, BAR LAP SCHEDULES AND LOCATIONS.
4. REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL CONSULTANT IS ONLY TO ASSESS THAT THE SUBMITTED SHOP DRAWINGS REFLECT THE INTENT OF THE STRUCTURAL DESIGN.
5. REVIEW BY THE CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR SEEING THAT THE WORK IS COMPLETE, ACCURATE AND IN CONFORMITY WITH ALL CONTRACT DRAWINGS, AND SPECIFICATIONS.
6. SHOP DRAWINGS FOR STRUCTURAL COMPONENTS DESIGNED BY THE FABRICATOR/CONTRACTOR'S ENGINEER MUST BE SEALED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA.

5. SOILS, BACKFILLING, AND COMPACTION

1. A GEOTECHNICAL ENGINEER SHALL INSPECT THE CONDITION AND ASSURE THE ADEQUACY OF ALL SUB-GRADES, FILLS, AND BACKFILLS BEFORE PLACEMENT OF FOUNDATIONS, FOOTINGS, SLABS AND WALLS.
2. BACKFILL MATERIAL SHALL CONSIST OF CLEAN, WELL GRADED GRANULAR SOILS FREE OF ORGANIC MATERIAL, SILT AND CLAY AS SPECIFIED IN THE EARTH WORKS SPECIFICATION SECTION.
3. BACKFILLING SHALL BE CARRIED OUT IN A MAXIMUM LIFTS OF 200mm OF LOOSE FILL, EACH COMPACTED THE STANDARD PROCTOR MAXIMUM DRY DENSITY INDICATED IN THE SPECIFICATIONS.
4. DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH (OTHER THAN CANTILEVER WALLS) UNTIL THE WALLS AND THE FLOOR CONSTRUCTIONS AT TOP AND BOTTOM OF THE WALLS HAVE BEEN CAST AND ATTAINED THEIR DESIGN STRENGTH.
5. WHERE BACKFILL IS PLACED ON EACH SIDE OF FOUNDATION WALLS, DO NOT EXCEED A GRADE DIFFERENCE OF 600mm.
6. WHERE THE SLAB ON GRADE IS USED TO TIE THE TOP OF A WALL RETAINING EARTH, THAT WALL SHALL BE ADEQUATELY SHORED UNTIL THE SLAB HAS BEEN CAST AND ATTAINED ITS DESIGN STRENGTH.
7. USE LIGHT, HAND-OPERATED COMPACTING EQUIPMENT TO COMPACT BACKFILL ADJACENT TO FOUNDATION WALLS OR RETAINING WALLS.
8. EXCAVATED MATERIAL SHALL BE LEGALLY DISPOSED OF, STORED AT THE SITE, OR USED FOR BACKFILLING OPERATIONS AS REQUIRED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERS RECOMMENDATIONS AND PROJECT SPECIFICATIONS.
9. IT IS THE RESPONSIBILITY OF CONTRACTOR TO VERIFY THE GEOTECHNICAL INFORMATION AND TO OBTAIN HIS OWN DATA AND TO POINT DISCREPANCIES TO THE CONSULTANT WHERE THEY OCCUR.


6. FOUNDATIONS

1. REFER TO ALL NOTES UNDER FOUNDATION PLANS.
2. FOUND ALL FOOTINGS IN NATURALLY CONSOLIDATED NATIVE UNDISTURBED DENSE SAND AND GRAVEL CAPABLE OF SAFELY SUSTAINING A FACTORED ULTIMATE LIMIT STATE BEARING PRESSURE OF 160 kPa. IF THESE CONDITIONS DO NOT PREVAIL AT THE ELEVATIONS SHOWN, EXCAVATE DOWN TO THE UNDISTURBED SOIL AND REPLACE WITH ENGINEERED FILL (REFER TO TYPICAL DETAILS).
3. WHERE STRUCTURAL ELEMENTS, FOOTINGS, TUNNELS, PITS, PIERS, ETC. BEAR ON SHALE, PROTECT THE BEARING SURFACE WITH A 65mm MUD SLAB. OBTAIN SOIL CONSULTANTS APPROVAL PRIOR TO MUD SLAB PLACEMENT.
4. CONTRACTOR SHALL CARRY OUT EXCAVATION, DEWATERING, BACKFILLING, PILING AND FOUNDATION CONSTRUCTION IN ACCORDANCE WITH RECOMMENDATIONS OF SOILS REPORT.
5. SIDES OF FOUNDATIONS SHALL BE FORMED UNLESS CONDITIONS PERMIT EARTH FORMING. FOUNDATIONS POURED AGAINST EARTH REQUIRE THE FOLLOWING PRECAUTIONS BE ADHERED TO:
- a. PROVIDE APPROPRIATE CONCRETE COVER.
- b. SLOPE SIDES OF EXCAVATIONS AS APPROVED BY GEOTECHNICAL ENGINEER.
- c. CLEAN UP SLOUGHING BEFORE AND DURING CONCRETE PLACEMENT.
6. WHERE FOOTING STEPS ARE NECESSARY, THEY SHALL BE NO STEEPER THAN 7 VERTICAL TO 10 HORIZONTAL U.N.O.
7. FOOTING SHALL BE CENTERED UNDER COLUMNS AND WALLS UNLESS SPECIFICALLY DETAILED OTHERWISE ON THE DRAWINGS.
8. DOWELS SHALL BE PLACED BEFORE CONCRETE IS CAST, "WET-STICKING" DOWELS IS NOT PERMITTED UNLESS APPROVED BY THE ENGINEER. TEMPLATES SHALL BE USED TO ENSURE CORRECT PLACEMENT OF DOWELS.
9. NO FOOTINGS OR SLABS SHALL BE PLACED ON OR AGAINST SUB-GRADE CONTAINING FREE WATER, FROST OR ICE. SHOULD WATER OR FROST, HOWEVER SLIGHT ENTER A FOOTING EXCAVATION AFTER SUB-GRADE APPROVAL, THE SUB-GRADE SHALL BE RE-INSPECTED BY THE GEOTECHNICAL ENGINEER AFTER REMOVAL OF THE WATER OR FROST.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUB-GRADE BEFORE AND AFTER CASTING CONCRETE UNTIL THE FULL BUILDING ENCLOSURE IS COMPLETED AND HEATED.
11. DO NOT EXCEED A RISE OF 7 IN A RUN OF 10 IN THE LINE OF SLOPE BETWEEN ADJACENT EXCAVATIONS. MAXIMUM STEP 600mm APPROXIMATELY UNLESS NOTED OTHERWISE.
12. IN LOCATIONS WHERE EXISTING MECHANICAL SERVICES INTERFERE WITH NEW FOOTINGS, ESTABLISH TOP OF FOOTING MINIMUM 200mm (8") BELOW INVERT ELEVATION. SEE ARCHITECTURAL ELEVATIONS FOR LOCATION OF SERVICES.
13. INSULATION IS SHOWN WHERE REQUIRED FOR PROTECTION OF THE FOUNDATIONS FROM DAMAGE DUE TO FROST ACTION ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR FOUNDATION INSULATION NOT SHOWN ON THE STRUCTURAL DRAWINGS.
7. CAST IN PLACE CONCRETE
1. CONCRETE: CONFORM WITH CAN-CSA A23.1 REQUIREMENTS AND THOSE SHOWN IN THE CONCRETE MIX SCHEDULE BELOW, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

CONCRETE MIX SCHEDULE						
LOCATION			MIN. COMPRESSIVE STRENGTH AT 28 DAYS (MPa)	EXPOSURE CLASS	CEMENT TYPE	AIR CONTENT (%)
FOOTINGS	PAD/STRIP FOOTINGS		35	C-1	GU	5-8
WALLS	FOUNDATION WALLS	BELOW GRADE	35	C-1	GU	5-8
		ABOVE GRADE	35	C-1	GU	5-8
SLABS	SLAB ON GRADE		32	C-4	GU	4-7
	STRUCTURAL SLAB		35	C-1	GU	5-8

2. DESIGN CONCRETE MIXES TO SUIT REINFORCEMENT DETAILS SHOWN ON THE PLACEMENT DRAWINGS. PROVIDE SMALLER AGGREGATES OR SELF CONSOLIDATING CONCRETE IN AREAS OF HIGHER REINFORCEMENT DENSITY.
3. SUBMIT MIX DESIGNS FOR EACH CLASS OF CONCRETE TO BE USED ON THE PROJECT.
4. ALL CONCRETE SHALL BE NORMAL DENSITY, UNLESS NOTED OTHERWISE.
5. ADMIXTURES THAT CONTAIN CHLORIDES SHALL NOT BE USED.
6. EXTERIOR CONCRETE AND INTERIOR CONCRETE SUBJECT TO FREEZE/THAW CYCLES, SALT, ETC., INCLUDING WALLS SHALL BE AIR ENTRAINED.
7. REFER TO CAN CSA A23.1& A23.2 FOR THE HOT AND COLD WEATHER CONCRETE PROCEDURES.
8. REFER TO THE CONCRETE TYPICAL DETAILS FOR THE FOLLOWING INFORMATION:
- a. CONCRETE COVER TO REINFORCING.
- b. CONCRETE COVER FOR FIRE RATINGS.
- c. TENSION DEVELOPMENT LENGTH AND LAP SPLICES.
- d. COMPRESSION DEVELOPMENT AND LAP SPLICES.
9. FOR ALL STRUCTURAL MEMBERS PROVIDE COVER FOR A MINIMUM 2 HOUR FIRE RATING (4 HOURS FOR FIREWALLS) UNLESS NOTED OTHERWISE IN ARCHITECTURAL DRAWINGS
10. DOWELS TO EXISTING CONCRETE SHALL USE THE HILTI RE-200 DOWELING SYSTEM. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
11. THE CONTRACTOR SHALL MODIFY THE LAYOUT OF NEW THROUGH BOLTS, EXPANSION ANCHORS AND OTHER ANCHORING DEVICES TO AVOID EXISTING CONCRETE REINFORCEMENT.
12. DOWELS FROM WALLS TO SLABS SHALL HAVE A MINIMUM EMBEDMENT OF 600mm INTO WALLS AND SLABS UNLESS OTHERWISE NOTED OR SHOWN.
13. PROVIDE DOWELS TO WALLS AND COLUMNS SIMILAR IN NUMBER, SIZE AND SPACING TO THE VERTICAL STEEL IN THE WALL OR COLUMN ABOVE UNLESS OTHERWISE NOTED OR SHOWN.
14. PROVIDE MINIMUM SLAB BEARING OF 150mm FOR SLABS LESS THAN 150mm THICK AND 200mm FOR THICKER SLABS, UNLESS NOTED OTHERWISE.

15. CONSTRUCTION JOINTS SHALL BE DOWELED, KEYED AND THOROUGHLY CLEANED. ALL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL CONSTRUCTION JOINT DETAILS AND ANY CORRESPONDING NOTES BELOW:
- a. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE MADE IN BEAMS UNLESS SHOWN OR REVIEWED AND APPROVED BY THE CONSULTANT.
- b. VERTICAL CONSTRUCTION JOINTS MAY BE MADE ONLY AT MIDSPAN OF BEAMS OR SLABS UNLESS OTHERWISE NOTED OR SHOWN OR DIRECTED, AND THEIR LOCATION SHALL BE REVIEWED AND APPROVED BY THE CONSULTANT.
- c. WHERE THE SIZE OF KEY IS NOT SHOWN ON THE DRAWINGS, THE KEY SHALL BE 25% OF THE CROSS SECTION DIMENSION AND A MINIMUM OF 38mm INTO THE FIRST FOUR OF CONCRETE.
- d. REFER TO SPECIFICATIONS FOR POUR LENGTH LIMITATIONS.
15. CONTRACTOR TO SUBMIT PROPOSED LOCATIONS OF CONSTRUCTION JOINTS FOR APPROVAL PRIOR TO START OF WORK.
16. PROVIDE WATERSTOPS AT ALL CONSTRUCTION JOINTS IN ELEMENTS RETAINING EARTH OR EXPOSED TO WEATHER.
17. OPENINGS, SLEEVES, EMBEDDED DUCTS:
- a. COORDINATE AND INSTALL ALL REQUIRED EMBEDDED ITEMS, INSETS SLEEVES, POCKETS, ETC. AS REQUIRED PRIOR TO PLACEMENT OF CONCRETE.
- b. NO SLEEVES SHALL BE PLACED VERTICALLY OR HORIZONTALLY THROUGH BEAMS UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.
- c. ELECTRICAL CONDUITS SHALL NOT PASS THROUGH A COLUMN.
- d. PIPE OR DUCT PENETRATIONS EXCEEDING ONE QUARTER OF THE SLAB OR WALL THICKNESS ARE NOT PERMITTED UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS.
- e. NO OPENINGS SHALL BE MADE IN FLAT PLATE OR FLAT SLAB COLUMN STRIPS EXCEPT AS SHOWN ON PLANS OR UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.
- f. PROVIDE ADDITIONAL REINFORCING AT OPENINGS AS DETAILED IN THE TYPICAL DETAILS.
- g. OBTAIN CONSULTANT'S APPROVAL FOR ANY OPENINGS REQUIRED BUT NOT SHOWN ON STRUCTURAL DRAWINGS.
18. CONCRETE CAST ON SLOPED SURFACES SHALL BEGIN AT THE LOWEST ELEVATION AND CONTINUE MONOLITHICALLY TOWARD THE HIGHER ELEVATION UNTIL THE INTENDED CAST IS COMPLETED.
19. IN CASES WHERE CONCRETE FINISHES ARE GROUND OR POLISHED ENSURE THAT ADEQUATE COVER IS ACHIEVED IN THE FINAL CONDITION.
20. THE CONCRETE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POUR SEQUENCES AND CONSTRUCTION PROCEDURES FOR ALL CONCRETE WORK TO ACCOUNT FOR TEMPERATURE DIFFERENTIALS AND SHRINKAGE OCCURRING DURING THE CONSTRUCTION PHASE UNTIL THE BUILDING IS PERMANENTLY IN A MECHANICALLY CONTROLLED ENVIRONMENT.
21. THE USE OF CHLORIDES SUCH AS DEICING SALTS IS PROHIBITED FOR MELTING ICE PRIOR TO PLACEMENT OF CONCRETE.
22. SIZES OF CONCRETE PLACEMENTS SHALL NOT EXCEED THE FOLLOWING, UNLESS OTHERWISE INDICATED ON THE PLANS:
- a. WALLS: 30m MAXIMUM LENGTH
- b. SUPPORTED SLABS: PLACE IN SECTIONS WITH A MAXIMUM AREA OF 1100m² AND A MAXIMUM LENGTH OF 30m (ALL CONCRETE SLABS INCLUDING THOSE CAST ON METAL DECK)
23. MINIMUM ELAPSED TIME BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE 48 HOURS.
24. JOINTS BETWEEN THE STRUCTURAL (AND ARCHITECTURAL) MEMBERS SHALL BE PROPERLY PREPARED AND FILLED WITH JOINT SEALANT UNLESS NOTED OTHERWISE. ALL JOINT EDGES, INCLUDING TOP AND BOTTOM SURFACES AND VERTICAL AND HORIZONTAL SURFACES SHALL BE FORMED OR TOOLED AS REQUIRED. JOINT SEALANT SHALL BE APPLIED ONLY TO THE TOP, VERTICAL, AND HORIZONTAL SURFACES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
25. JOINTS TO BE PREPARED AND FILLED WITH JOINT SEALANT SHALL INCLUDE, BUT ARE NOT LIMITED TO, CONSTRUCTION JOINTS, CONTROL JOINTS, ISOLATION JOINTS, AND ALL INTERFACE JOINTS BETWEEN SIMILAR AND DISSIMILAR MEMBERS. SPECIFIC LOCATIONS MAY BE INDICATED ON THE DRAWINGS, OR MAY BE REQUIRED BY APPROVED SHOP DRAWINGS, OR MAY OCCUR DUE TO THE CONSTRUCTION SEQUENCE SELECTED BY THE CONTRACTOR.
26. PRIOR TO PLACING CONCRETE ADJACENT TO EXISTING CONCRETE WITHOUT A CONSTRUCTION JOINT THOROUGHLY CLEAN, DE-GREASE AND MECHANICALLY ROUGHEN EXISTING CONCRETE SURFACES. APPLY EPOXY BONDING AGENT PRIOR TO PLACING FRESH CONCRETE. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS FOR SURFACE PREPARATION, MIXING AND APPLICATION.
27. TOOL SLAB JOINTS AT THE TIME OF FINISHING. SAW CUTTING IS NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.
8. SLAB ON GRADE
1. UNDER SLAB FILL SHALL CONSIST OF A MINIMUM OF 125 mm OF COMPACTED GRANULAR MATERIAL AS STATED IN THE SPECIFICATIONS.
2. PLACE SLABS-ON-GRADE ON MATERIAL CAPABLE OF SUSTAINING 25 kPa SURCHARGE WITHOUT SETTLEMENT RELATIVE TO THE BUILDING FOUNDATIONS.
3. REFER TO GEOTECHNICAL FOR SPECIFIC GRADATION REQUIREMENTS FOR SUBGRADE MATERIAL WHEN UNDERSLAB GAS DEPRESSURIZATION SYSTEMS ARE REQUIRED BY THE BUILDING CODE.
9. REINFORCING STEEL
1. REINFORCING STEEL SHALL BE DEFORMED BAR CONFORMING TO CSA STANDARD G30.18-M92, GRADE 400R, UNLESS OTHERWISE NOTED. REINFORCING STAINLESS STEEL BARS SHALL BE GRADE 420. BAR MARKS WITH PREFIX 'S' DENOTE STAINLESS STEEL BARS. BAR MARKS WITH PREFIX 'C' DENOTED EPOXY-COATED STEEL BARS.
2. REFER TO TYPICAL DETAILS FOR MINIMUM COVER TO REINFORCEMENT.
3. REINFORCING BAR AREAS ARE 100, 200, 300, 500, 700, 1000, 1500 AND 2500 mm² FOR BAR DESIGNATIONS 10, 15, 20, 25, 30, 35, 45 AND 55, RESPECTIVELY.
4. WELDED WIRE FABRIC SHALL HAVE A MINIMUM YIELD STRENGTH OF 450 MPa AND SHALL CONFORM TO CSA STANDARD G30.5. SUPPLY IN FLAT SHEET ONLY.
5. REINFORCING STEEL IS TO BE DETAILED, BENT AND PLACED IN ACCORDANCE WITH R.S.I.C. REINFORCING STEEL MANUAL OF STANDARD PRACTICE SUBMIT SHOP DRAWINGS INDICATING ALL DETAILS OF REINFORCING STEEL PLACEMENT.
6. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PROPER POSITION WHILE POURING CONCRETE. CONTRACTOR SHALL PROVIDE CHAIRS, SPACER BARS, SUPPORT BARS AND OTHER ACCESSORIES TO SUPPORT REINFORCING. ALL THE WIRE, CHAIRS AND BAR SUPPORTS FOR FOUNDATIONS AND FOR EXPOSED CONCRETE SHALL BE NON-METALLIC OR COATED.
7. TACK WELDING OF REINFORCEMENT IS NOT PERMITTED. WELDED SPLICES IN REINFORCING BARS WILL ONLY BE PERMITTED IF EXPLICITLY SHOWN ON THE STRUCTURAL DRAWINGS OR IF WRITTEN APPROVAL IS GIVEN BY THE CONSULTANT.



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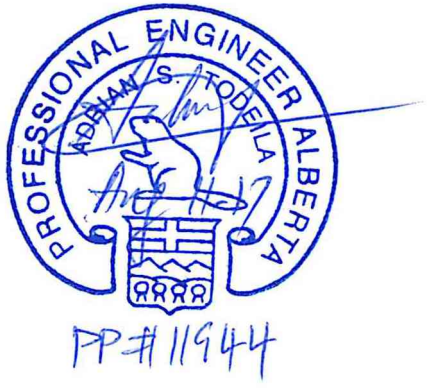


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5	100% - ISSUED FOR BP	20170611
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0	ISSUED FOR 30% REVIEW	20161216


Revisions

Description

Date



Parks Canada



Parcs Canada

Project Title

Project

JASPER EAST GATE

Designed by
H. Sun

Conçu par

Drawn by
H. Sun

Dessiné par

Approved by
A. Todella

Approuvé par

Project Manager
C. Mariotti

Administrateur de Projets (P&O)

Drawing title

Titre du dessin

GENERAL NOTES

PRO1285

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OF 57

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STRUCTURAL ABBREVIATIONS		TD-1
AB ALT ARCH AIFB	ANCHOR BOLT ADJUSTABLE ALTERNATE ARCHITECTURAL ASPHALT IMPREGNATED FIBREBOARD	MAX MECH MEZZ MID MISC MIN ML METRE m ² mm mm ² MPa
B, BOTT BC BET BEW BLDG BLD BM BM BPL BRG BSMT BUL	BOTTOM ELEV BOTT. OF CAISSON BETWEEN BOTTOM EACH WAY BUILDING BOTTOM LOWER LAYER BEAM BENDING MOMENT BAR BEARING/BASE PLATE BEARING BASEMENT BOTTOM UPPER LAYER	NBC NCB NF NIC NTS
C C/C C/W CA CB CANTIL, CANT CF CJ CL C/L COMP COL CONC CONST JT CONT	CHANNEL CENTRE TO CENTRE CONNECT WITH COLUMN ABOVE COLUMN BELOW CANTILEVER CONCRETE FIREPROOFED CONTROL JOINT CLEAR CENTRE LINE COMPOSITE COLUMN CONCRETE CONSTRUCTION JOINT CONTINUOUS	o/c o/o OBC OPNG OPP OWSJ PC PF, CF, TF MF, VF P, T, C, V, M PL PROJ P/T PVC
DET D FIR DIA DIM DIAG DL DITTO DP DWG DWL DN D.S.	DETAIL DOUGLAS FIR DIAMETER DIMENSION DIAGONAL DEAD LOAD DITTO DEEP DRAWING DOWEL DOWN DOUBLE STIRRUPS	R REF REM REQ'D REV RE REIN R/W
EA EC EE EF EJ, EXP JT. EL, ELEV ELEC, ELECT EMBED EQ EW EX, EXIST EXT	EACH EPOXY COATED EACH END EACH FACE EXPANSION JOINT ELEVATION ELECTRICAL EMBEDMENT EQUA EACH WAY EXISTING EXTERIOR	S S.S. SDF SECT SF SIM SL SOG SP SPANDREL, SPRUCE SPECIFICATION STANDARD STD STRUCT STIFF SQ ST STIR
FIN FL FTG FMC fy Fc FF	FINISHED FLOOR FOOTING FULL MOMENT CONNECTION YIELD STRENGTH COMPRESSIVE STRENGTH OF CONC FAR FACE	T T&B TC TEMP TEW TJ TLE TLL TRE TUL TYP T/O TOS TSB
GALV GA GL	GALVANIZED GAUGE GRIDLINE	USF U/S U/N UL UPT
HEE HH HIF HOF HOR, HORIZ HEF HSS HP	HOOK EACH END HOOK-HOOK (HOOK EACH END) HORIZONTAL INSIDE FACE HORIZONTAL OUTSIDE FACE HORIZONTAL HORIZONTAL EACH FACE HOLLOW STRUCTURAL SECTION HIGH POINT	VERT YBF VEF VOF VIF VSC
INT ID	INTERIOR INSIDE DIAMETER	W WP WT WWF WWF
K kN kPa	KILO KILOWEIGHT KILOPASCAL	
Ld LE LC LL LLV LLH L L LP	TENSION ANCHORAGE LENGTH LEFT END LONG/LENGTH LIVE LOAD LONG LEG VERTICAL LONG LEG HORIZONTAL SINGLE ANGLE DOUBLE ANGLES LOW POINT	

WALL REINFORCEMENT DETAILS		TDC-29
<p>LAPPING AT CORNERS</p> <p>REINFORCEMENT ARRANGEMENT FOR WALLS (OTHER THAN SHEAR WALLS)</p>	<p>DOWELING AT INTERSECTING WALLS</p>	

SLAB ON GRADE - JOINT DETAILS		TDC-3
<p>SAWCUT CONTROL JOINT</p>	<p>KEYED CONSTRUCTION JOINT OMIT KEY FOR SLABS LESS THAN 100</p>	
<p>DOWELED CONSTRUCTION JOINT FOR SLAB GREATER THAN 100</p>		

MINIMUM DEVELOPMENT AND LAP SPLICE LENGTHS IN COMPRESSION					TDC-35
BAR SIZE	Fy MPa	DEVELOPMENT LENGTHS (ld)			LAP SPLICE
		Fc \geq 20 MPa	Fc \geq 25 MPa	Fc \geq 30 MPa	Fc \geq 30 MPa
10	400	240	220	200	300
10	500	300	270	250	430
15	400	340	310	280	440
15	500	430	380	350	640
20	400	420	370	340	590
20	500	520	470	430	850
25	400	540	480	440	730
25	500	680	600	550	1070
30	400	640	570	530	880
30	500	800	720	660	1280
35	400	770	690	630	1030
35	500	960	860	790	1490
45	400	940	840	770	
45	500	1170	1050	960	
55	400	1210	1080	990	
55	500	1510	1350	1240	

NOTES:

1. VALUES GIVEN ARE FOR NORMAL WEIGHT CONCRETE AND DEFORMED BARS ONLY AND ARE TO BE MODIFIED ACCORDING TO THE FOLLOWING APPLICABLE FACTORS.
2. LAP SPLICES ARE NOT PERMITTED FOR BAR SIZES 45 AND 55.
3. 'ld' DENOTES MINIMUM DEVELOPMENT LENGTH FOR EMBEDMENT OF DOWELS IN COMPRESSION.
4. INCREASE LAP SPLICE LENGTHS FOR Fc LESS THAN 20 MPa BY A FACTOR OF 1.33.
5. MINIMUM LAP SPLICE AND DEVELOPMENT LENGTHS MAY BE REDUCED UNDER THE FOLLOWING SPECIAL CONDITIONS BY THE FACTORS SHOWN:
 - a) EXCESS AREA OF STEEL (AS REQUIRED/AS PROVIDED)
USE 1.0 UNLESS NOTED OTHERWISE.
 - b) BARS ENCLOSED WITH A SPIRAL WHICH HAS A MINIMUM WIRE DIA. OF 6 AND 100 MAXIMUM PITCH 0.75
6. AFTER APPLYING ALL APPLICABLE FACTORS OF NOTES 4 AND 5, THE LAP SPLICE LENGTHS SHALL NOT BE MADE LESS THAN 300 AND THE DEVELOPMENT LENGTHS SHALL NOT BE MADE LESS THAN 200.

CONCRETE COVER TO REINFORCING STEEL					TDC-34	
	MINIMUM COVER CSA-A23.1	MINIMUM COVER CSA-S413 (SEE NOTE 4)	MINIMUM COVER FOR FIRE-RESISTANCE RATING			
			1.5 h	2 h	3 h	4 h
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	75		75	75	75	75
CONCRETE CAST AGAINST FORMS, BUT EXPOSED TO EARTH OR WEATHER: 15 BARS, 160 WIRE, AND SMALLER, STIRRUPS, TIES, AND SPIRAL.....	40		40	40	40	40
COLUMN PRINCIPAL REINFORCEMENT.....	50		50	50	65	75
20 TO 55 BARS, AND ALL OTHER BARS.....	50		50	50	50	50
CONCRETE NOT EXPOSED TO WEATHER, OR NOT IN CONTACT WITH GROUND:						
35 BARS AND SMALLER FOR SLABS AND WALLS SEE NOTE 3	20	TOP 40 BOT. 30	20	25	35	40
FOR JOISTS	20		25	25	40	50
BEAM PRINCIPAL REINFORCEMENT	40		40	40	40	50
COLUMN PRINCIPAL REINFORCEMENT.....	40		50	50	65	75
STIRRUPS, TIES, SPIRALS, AND ALL OTHER BARS	40		40	40	40	40

NOTES:

1. FOR CAST-IN-PLACE (NON-PRESTRESSED) CONCRETE, PROVIDE MINIMUM CONCRETE COVER TO REINFORCEMENT ACCORDING TO CSA-A23.1 UNLESS OTHERWISE NOTED ON DRAWINGS.

2. WHERE THE FIRE-RESISTANCE RATING OF A COLUMN EXCEEDS 2 HOURS, ADD WELDED WIRE MESH, MINIMUM 102  102 - MW3.2  MW3.2, MIDWAY IN CONCRETE COVER.

3. FOR SHORT WALLS WHERE INDICATED ON THE DRAWING, PROVIDE COVER SAME AS FOR COLUMNS.

4. FOR PARKING STRUCTURES PROVIDE MINIMUM CONCRETE COVER TO REINFORCEMENT ACCORDING TO CSA-S413. COVER TO BOTTOM REINFORCEMENT IN THE MAIN FLOOR SLAB EXPOSED TO DEICING MUST MEET REQUIREMENTS OF CSA-S413.

TENSION DEVELOPMENT LENGTH AND TENSION LAP SPLICES (Fy □ 400 MPa)												TDC-36	
CONCRETE	25 MPa	30 MPa	35 MPa	40 MPa	45 MPa	50 MPa	CONCRETE						
SPLICE	CLASS A, Ld	CLASS B, Ld	CLASS A, Ld	CLASS B, Ld	CLASS A, Ld	CLASS B, Ld	SPLICE						
BAR	CLASS B	CLASS B	CLASS B	CLASS B	CLASS A	CLASS B	BAR						
TABLE 1: UNCOATED, OTHER THAN TOP BARS													
10	300	380	300	350	300	320	300	280	300	300	10		
15	440	570	400	520	370	480	350	450	330	420	310	400	15
20	580	750	530	690	490	640	460	600	430	560	410	530	20
25	900	1170	830	1070	760	990	720	930	670	880	640	830	25
30	1080	1410	990	1290	920	1190	860	1110	810	1050	770	1000	30
35	1260	1640	1150	1500	1070	1390	1000	1300	940	1220	890	1160	35
TABLE 2: UNCOATED, TOP BARS													
10	380	490	350	450	320	420	300	390	280	370	300	350	10
15	570	730	520	670	480	620	450	580	420	550	400	520	15
20	750	980	690	890	640	830	600	770	560	730	530	690	20
25	1170	1530	1070	1390	990	1290	930	1210	880	1140	830	1080	25
30	1410	1830	1290	1670	1190	1550	1110	1450	1050	1360	1000	1290	30
35	1640	2130	1500	1950	1390	1800	1300	1690	1220	1590	1160	1510	35
TABLE 3: EPOXY-COATED BARS, OTHER THAN TOP BARS													
10	440	570	400	520	370	480	350	450	330	420	310	400	10
15	650	850	600	770	550	720	520	670	490	630	460	600	15
20	870	1130	790	1030	730	950	690	890	650	840	610	800	20
25	1350	1760	1240	1610	1140	1490	1070	1390	1010	1310	960	1240	25
30	1620	2110	1480	1930	1370	1780	1280	1670	1210	1570	1150	1490	30
35	1890	2460	1730	2250	1600	2080	1500	1950	1410	1840	1340	1740	35
TABLE 4: EPOXY-COATED TOP BARS													
10	490	640	450	590	420	540	390	510	370	480	350	450	10
15	740	960	670	880	620	810	580	760	550	720	520	680	15
20	980	1280	900	1170	830	1080	780	1010	730	950	700	900	20
25	1530	1990	1400	1820	1300	1690	1210	1580	1140	1490	1090	1410	25
30	1840	2390	1680	2180	1560	2020	1460	1890	1370	1780	1300	1690	30
35	2150	2790	1960	2550	1810	2360	1700	2210	1600	2080	1520	1970	35

NOTES:

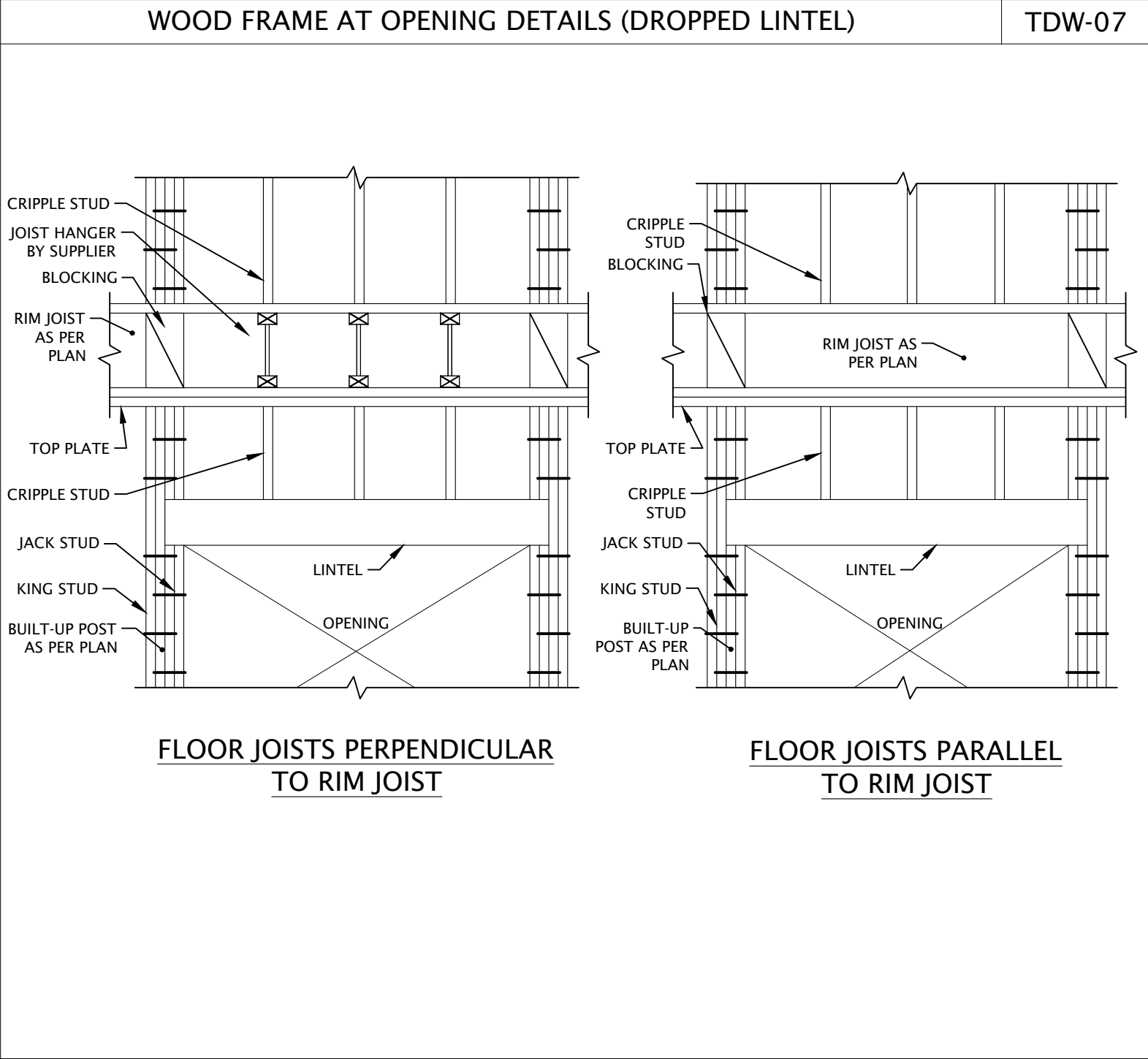
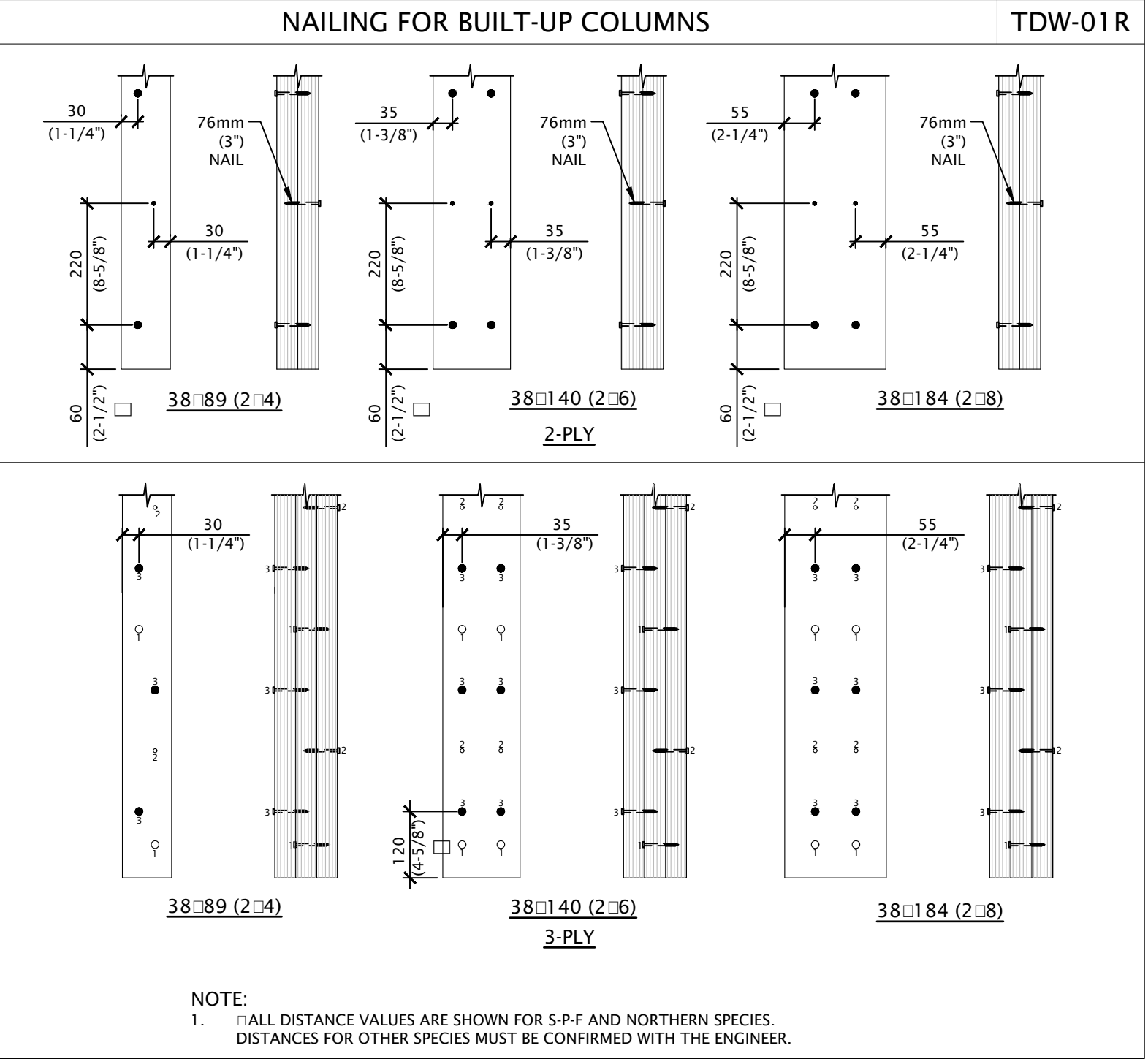
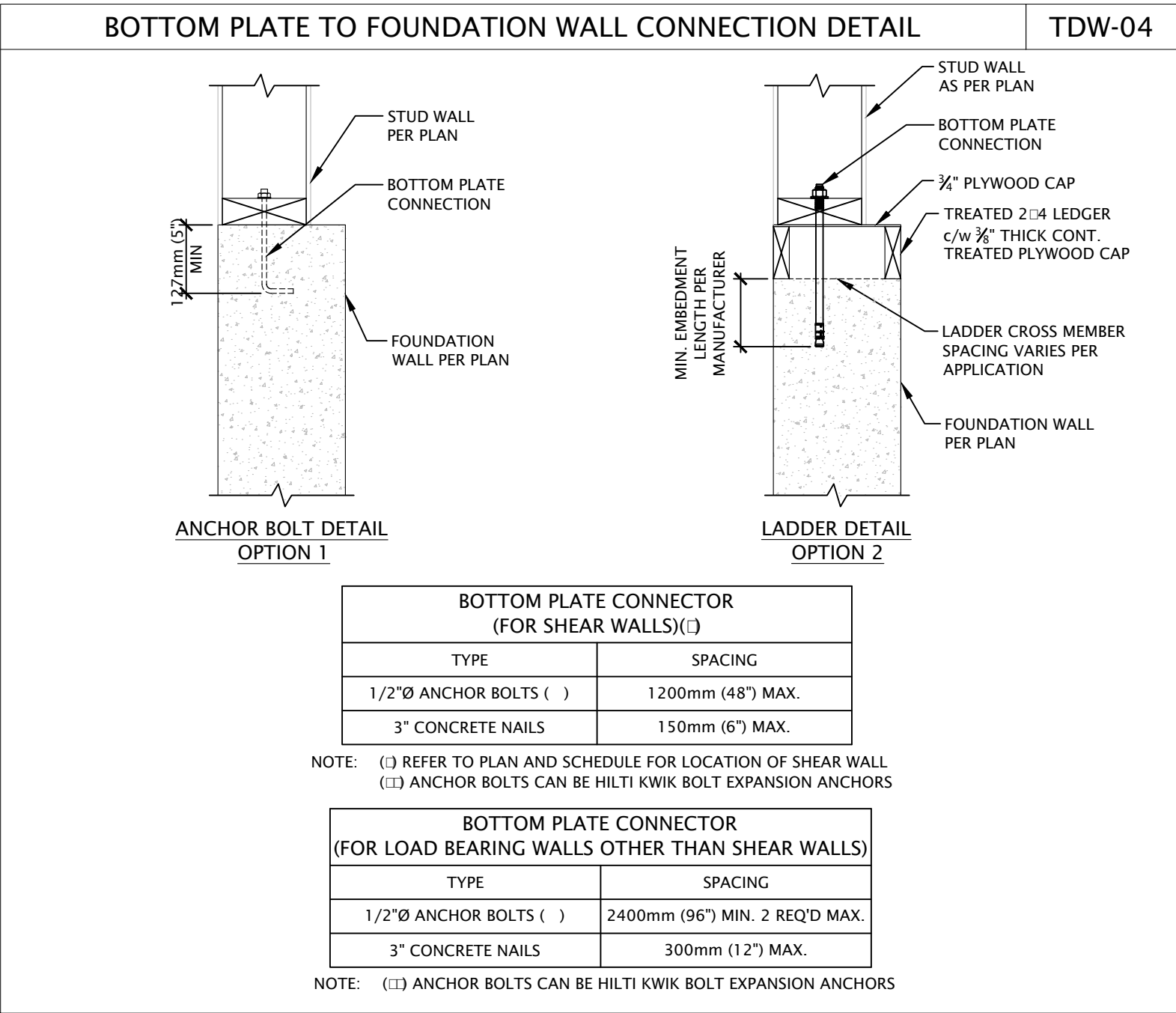
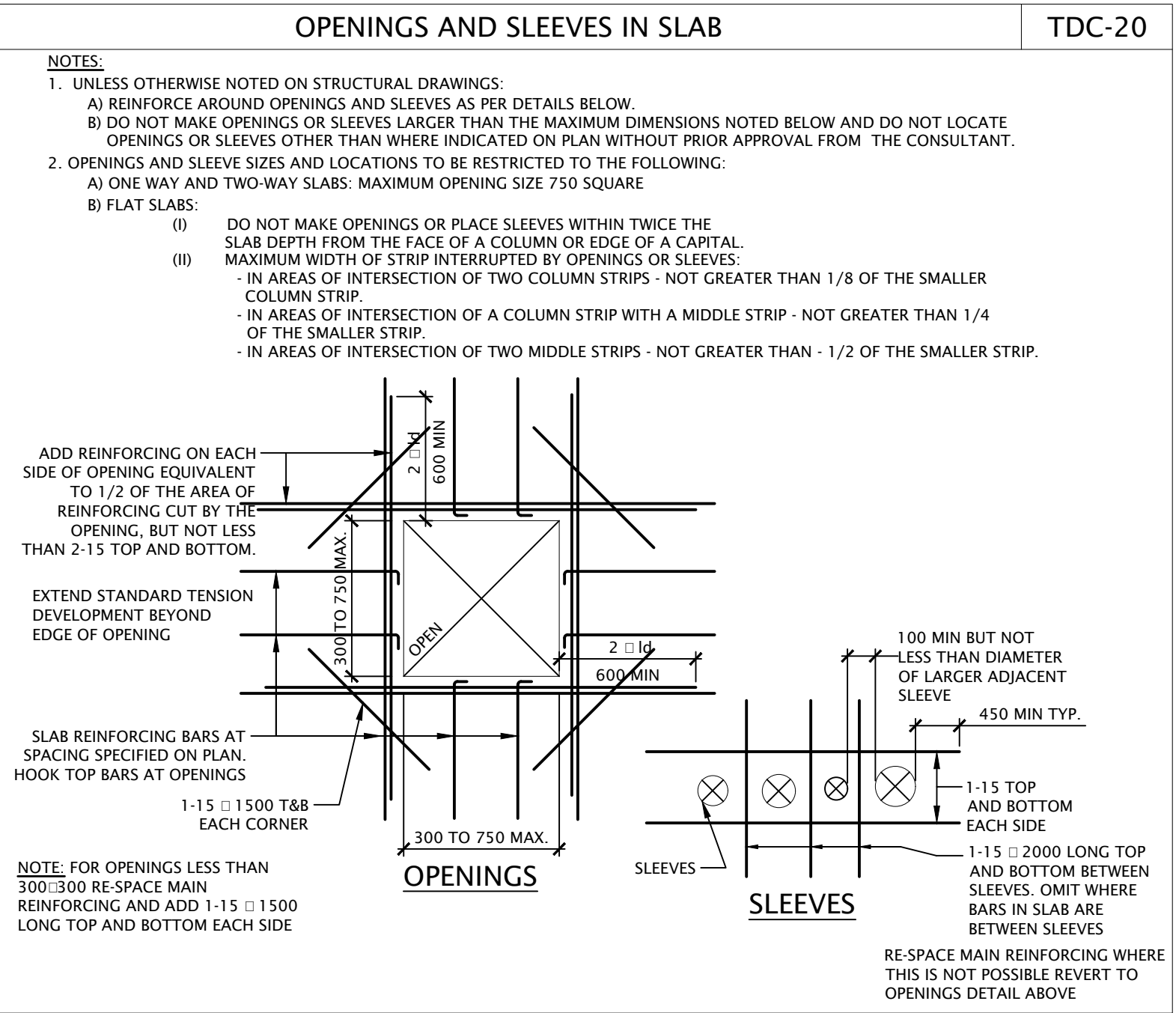
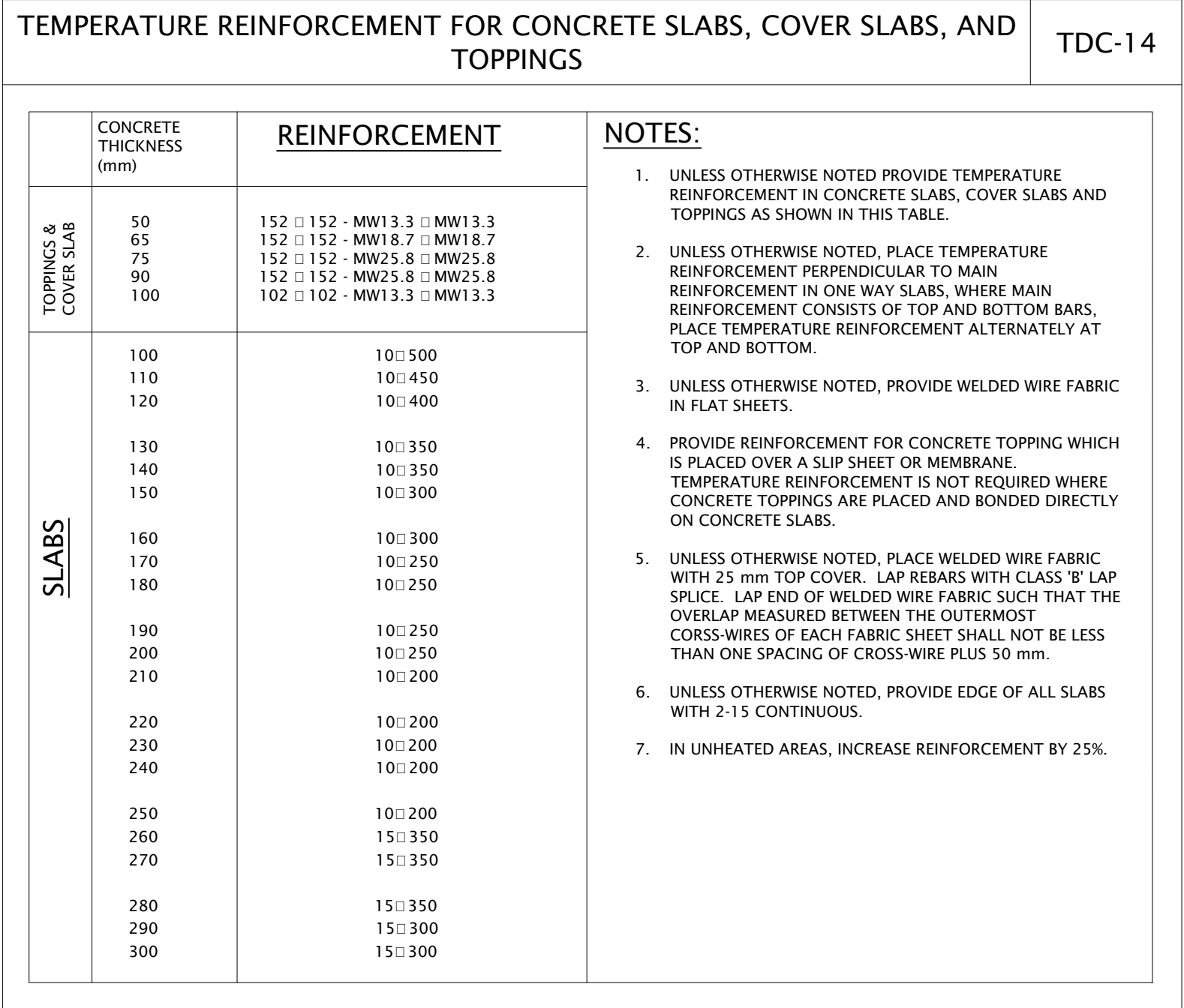
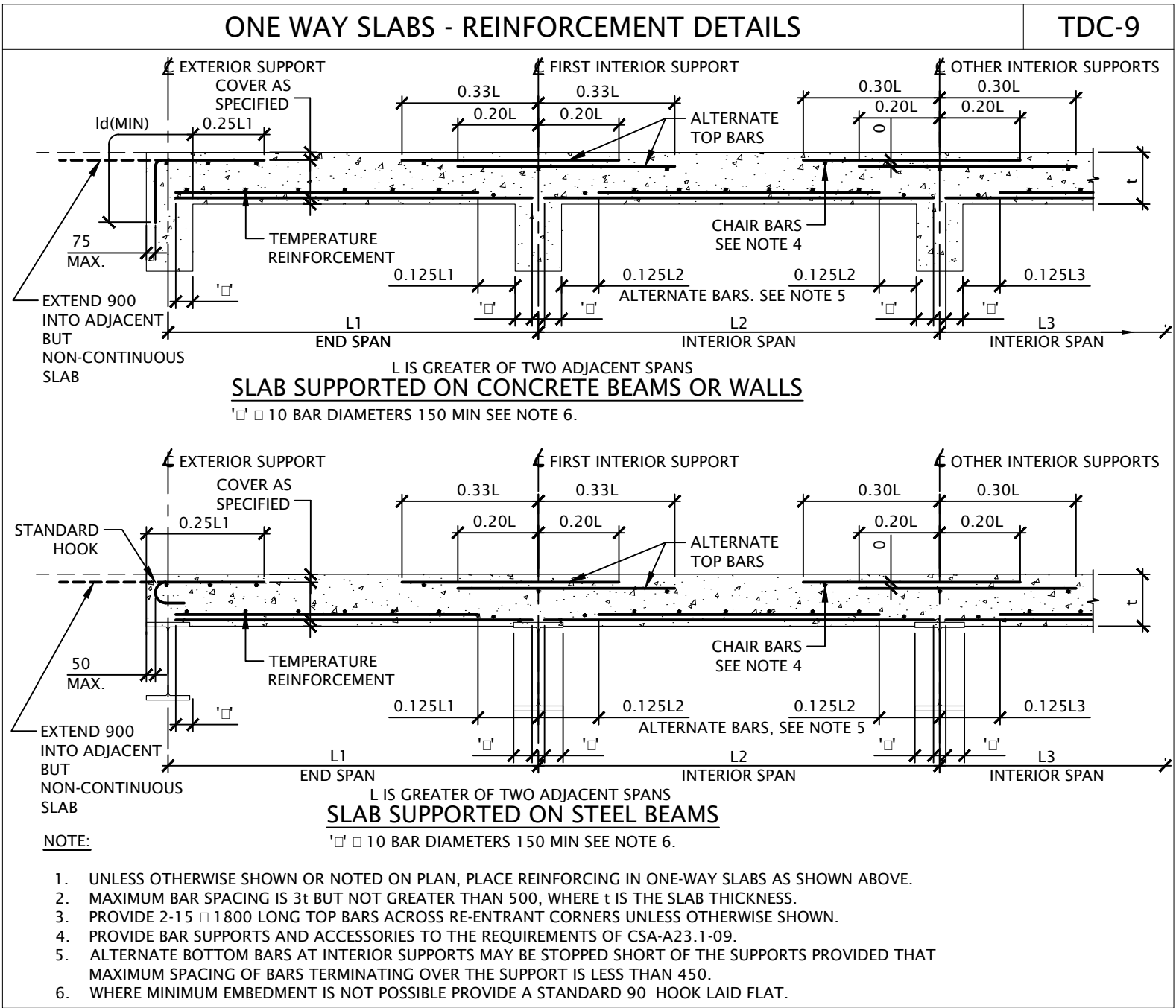
- USE FOLLOWING TENSION LAP SPLICE LENGTHS UNLESS NOTED OTHERWISE ON DRAWINGS.
- TENSION DEVELOPMENT LENGTHS, Ld, DENOTED AS TENSION LAP SPLICE CLASS A.
- FOR COLUMNS, USE COLUMN TENSION SPLICE TYPICAL DETAIL.
- TOP BARS ARE BARS WITH MORE THAN 300 OF CONCRETE CAST BELOW SPLICE.
- CLEAR COVER NOT LESS THAN d, CLEAR SPACING NOT LESS THAN 2d.
- FOR STRUCTURAL LOW-DENSITY CONCRETE, INCREASE SPLICE LENGTHS BY 30%.
- FOR STRUCTURAL SEMI-LOW-DENSITY CONCRETE, INCREASE SPLICE LENGTHS BY 20%.

STEPPED WALL FOOTING AND EXCAVATION SLOPES		TDF-1
<p>STEPPED WALL FOOTING</p>	<p>PIPES REQUIRING STEPPED FOOTINGS</p>	

5	100% - ISSUED FOR BP	2017/08/11
4	FINAL REVIEW	2017/08/04
3	RE-ISSUED FOR 90% REVIEW	2017/03/09
2	ISSUED FOR 90% REVIEW	2017/02/23
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/13
0	ISSUED FOR 30% REVIEW	2016/12/16

Project Title	Project
JASPER EAST GATE	
Designed by H. Sun	Conçu par H. Sun
Drawn by H. Sun	Dessiné par H. Sun
Approved by A. Todella	Approuvé par A. Todella
Project Manager C. Mariotti	Administrateur de Projets (P&O) C. Mariotti
Drawing title	Titre du dessin
TYPICAL DETAILS	

PRO1285	S3 OF S7	0
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Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES / Services Immobiliers / Western Region / Région de l'ouest

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Rev	Description	Date
5	100% - ISSUED FOR BP	2017/08/11
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1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/13
0	ISSUED FOR 30% REVIEW	2016/12/16

Project Title: JASPER EAST GATE

Designed by: H. Sun / Conçu par: H. Sun

Drawn by: H. Sun / Dessiné par: H. Sun

Approved by: A. Todella / Approuvé par: A. Todella

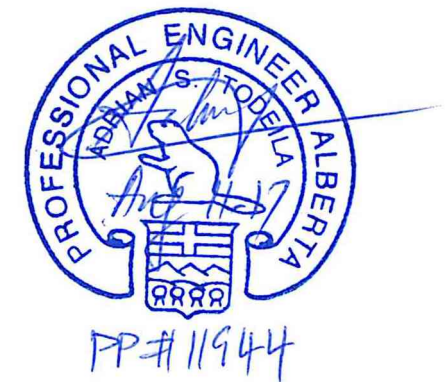
Project Manager / Administrateur de Projets: C. Mariotti

Drawing Title: TYPICAL DETAILS / Titre du dessin: TYPICAL DETAILS

Project No: PRO1285 / S4 / 0

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Chris Pui, P.Eng., APECA

5	100% - ISSUED FOR BP	2017/08/11
4	FINAL REVIEW	2017/08/04
3	RE-ISSUED FOR 90% REVIEW	2017/03/09
2	ISSUED FOR 90% REVIEW	2017/02/23
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/13
0	ISSUED FOR 30% REVIEW	2016/12/16

Revisions

Client



Project Title

JASPER EAST GATE

Designed by
H. Sun

Drawn by
H. Sun

Approved by
A. Todella

Project Manager
C. Mariotti

Drawing title

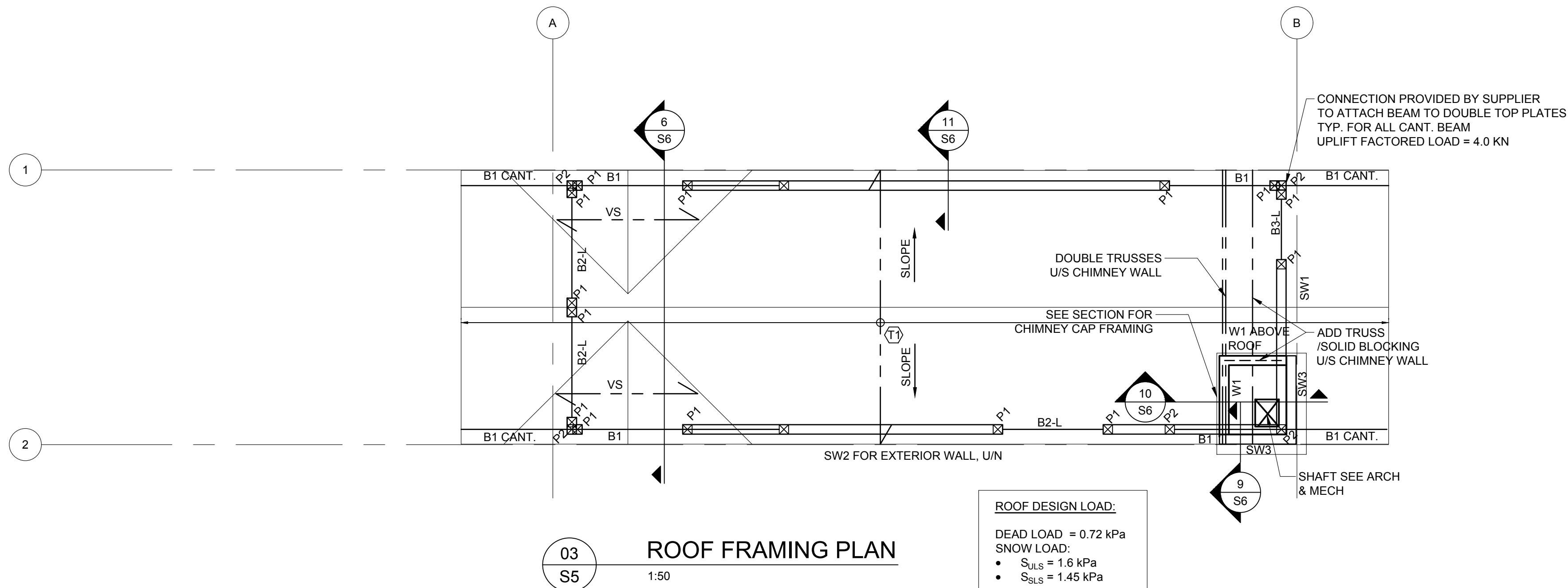
**FOUNDATION AND CRAWL SPACE PLAN
MAIN FLOOR PLAN
ROOF PLAN**

PRO1285

S5

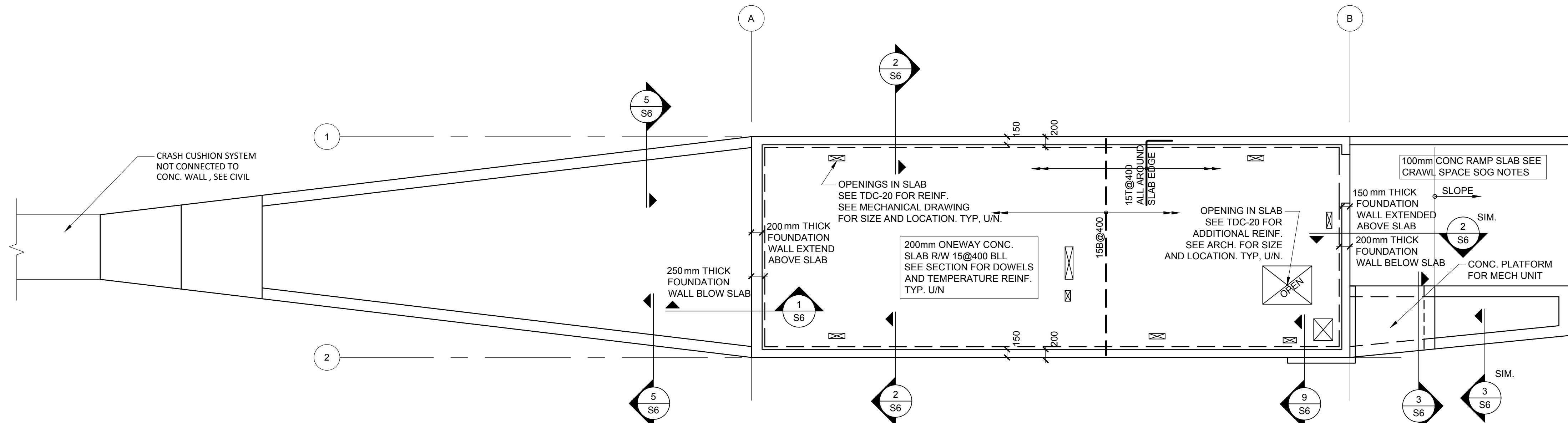
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OF S7



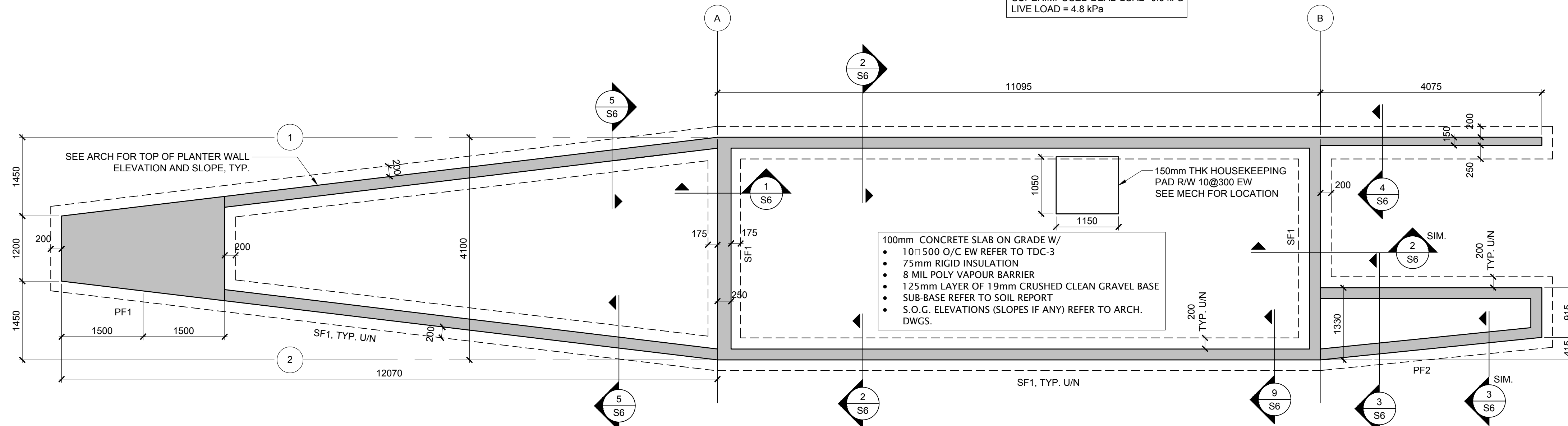
ROOF FRAMING PLAN

1:50



MAIN FLOOR PLAN

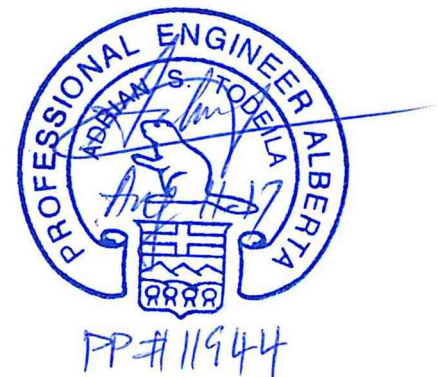
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**FOUNDATION AND
CRAWL SPACE PLAN**

1:50

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Adrian Todella, P.Eng., A.P.E.C.A.
Chris Pui, P.Eng., A.P.E.C.A.

5	100% - ISSUED FOR BP	2017/08/11
4	FINAL REVIEW	2017/08/04
3	RE-ISSUED FOR 90% REVIEW	2017/03/09
2	ISSUED FOR 90% REVIEW	2017/02/23
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/13
0	ISSUED FOR 30% REVIEW	2016/12/16

Revisions

Client



Project Title

JASPER EAST GATE

Designed by

H. Sun

Drawn by

H. Sun

Approved by

A. Todella

Project Manager

C. Mariotti

Drawing title

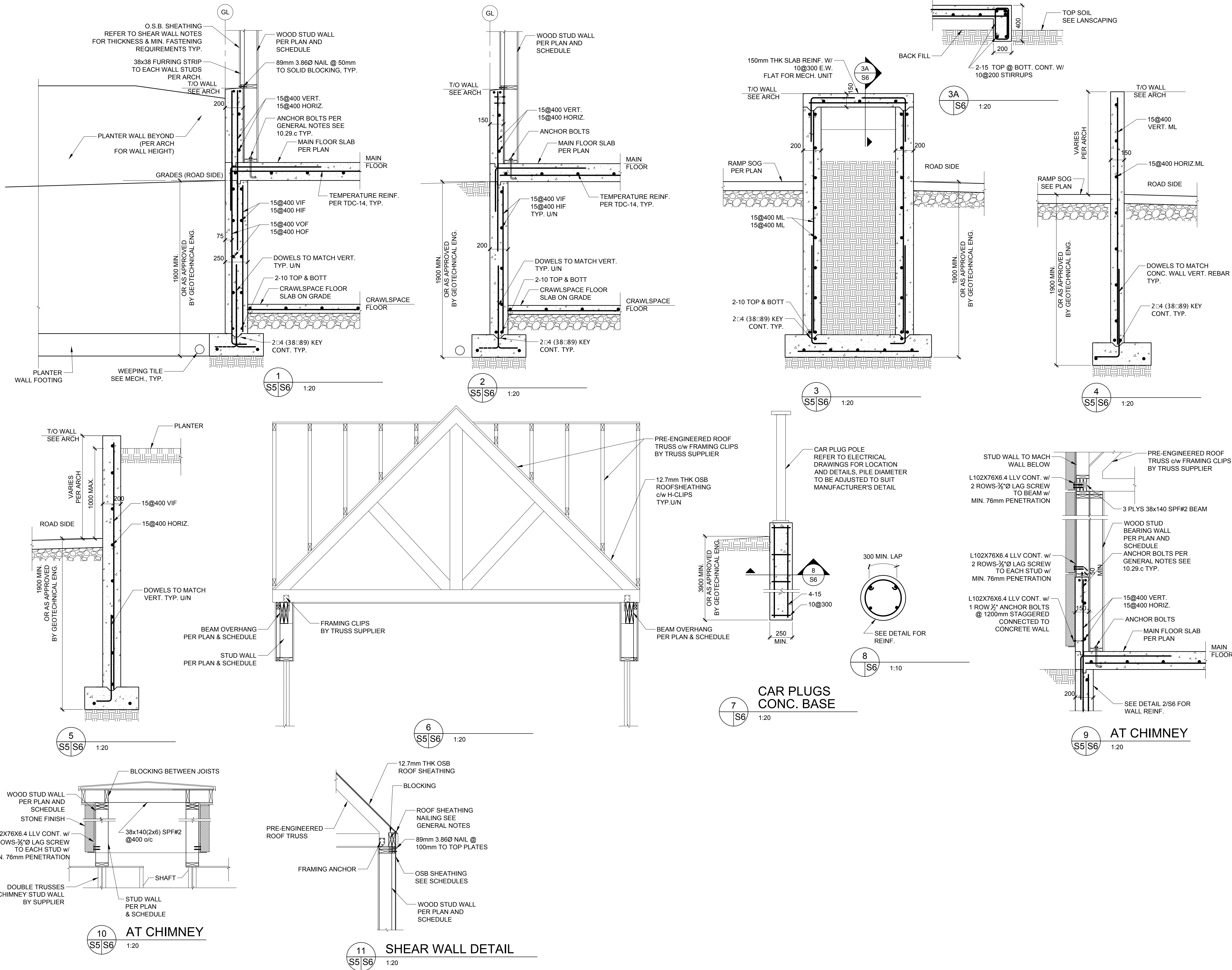
SECTIONS AND DETAILS

PRO1285

S6

0

OF S7



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2	ISSUED FOR 90% REVIEW	2017/02/
1	ISSUED FOR CLASS "A" COST ESTIMATE	2017/02/
0	ISSUED FOR 30% REVIEW	2016/12/
Revision	Description	Date



Project title	Project
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JASPER EAST GATE

Designed by Çonğu p
H. Sun

Drawn by Dessiné par
H. Sun

Approved by	Approuvé p
A. Todeila	

PWGSC Project Manager Administrateur de Projets TPSG
C. Mariotti

Drawing title	Titre du dessin
---------------	-----------------

SCHEDULES

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
---------------------------	---------------------------	--------------

WOOD BEAM SCHEDULE

MARK	MEMBER SIZE	# OF PLYS	LUMBER GRADE	COMMENTS
B1	44x235	2	2.0E LVL	
B2-L	38x235	2	SPF#2	LINTEL
B3-L	38x184	2	SPF#2	LINTEL

NOTES:

1. BEAMS ARE FLUSH BEAMS.
2. LINTEL BEAMS ARE IDENTIFIED BY "L" DESIGNATION (IE B# - L).
2. HANGERS TO BE PROVIDED BY JOIST/BEAM SUPPLIER.
3. ALL EXTERIOR BEAMS EXPOSED TO WEATHER TO BE PRESSURE TREATED.
4. CONNECTIONS EXPOSED TO EXTERIOR CONDITIONS TO BE HOT DIP GALVANIZED/BOLTS TO BE STAINLESS STEEL.

WOOD POST SCHEDULE

MARK	MEMBER SIZE	No. PLYS.	LUMBER GRADE	COMMENTS
P1	2x6 (38x140)	3 (2J, 1K)	SPF #2	LINTEL POSTS
P2	2x6 (38x140)	3	SPF #2	

NOTES:

1. LABELING OF POSTS USED INDICATES POSTS ARE STOPPING BELOW THE LEVEL WHERE THE LABEL IS APPLIED.
2. WOOD POSTS INDICATED ON PLAN OCCUR BELOW THE LEVEL ON WHICH THEY ARE SPECIFIED.
3. ALL POSTS ARE TO CONTINUE DOWN TO FOUNDATION OR TRANSFER BEAM BELOW.
4. SEE GENERAL NOTES ON DRAWING S2 AND TYPICAL DETAILS ON S4 .
5. 2J, 1K - 2 JACK STUDS, 1 KING STUD.

WOOD TRUSS SCHEDULE

MARK	MEMBER SIZE
T1	PRE-ENGINEERED ROOF TRUSSES @ 600mm o/c (MAX.)
VS	PRE-ENGINEERED VALLEY SET @ 600mm o/c (MAX.)

NOTES:

1. TRUSS SUPPLIER TO PROVIDE ACCESSORIES AS REQUIRED.
2. TRUSS LAYOUT SHOWN ON PLAN ARE SUGGESTED ONLY. TRUSS SUPPLIER TO SUBMIT SHOW DRAWINGS WITH ENGINEER'S SEAL FOR REVIEW.
3. SEE GENERAL NOTES ON DRAWING S1,S2.

WOOD SHEAR WALL SCHEDULE

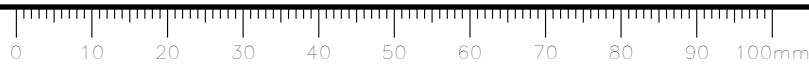
MARK	MEMBER SIZE	COMMENTS
SW1	1. 38x140 (2x6) SPF NO. 1/2 STUDS @ 400 o/c c/w; 2-38x140 (2x6) TOP PLATE; 1-38x140 (2x6) SILL PLATE 38x38 (2x2) SPF NO. 1/2 STUDS (EXTERIOR FACE)@400 o/c c/w; 2-38x38 (2x2) TOP PLATE; 1-38x38 (2x2) SILL PLATE 2. 12.7mm MIN. OSB SHEATHING AT ONE SIDE NAILED TO STUDS c/w 75x3.25Ø COMMON WIRE NAILS; @75 ALONG ALL PANEL EDGES; @300 ALONG INTERMEDIATE SUPPORTS 3. ANCHORAGE: 16Ø BOLTS @ 600 o/c MIN EMBEDMENT 125mm	
SW2	1. 38x140 (2x6) SPF NO. 1/2 STUDS @ 400 o/c c/w; 2-38x140 (2x6) TOP PLATE; 1-38x140 (2x6) SILL PLATE 38x38 (2x2) SPF NO. 1/2 STUDS (EXTERIOR FACE)@400 o/c c/w; 2-38x38 (2x2) TOP PLATE; 1-38x38 (2x2) SILL PLATE 2. 9.5mm MIN. OSB SHEATHING AT ONE SIDE NAILED TO STUDS c/w 75x3.25Ø COMMON WIRE NAILS; @100 ALONG ALL PANEL EDGES; @300 ALONG INTERMEDIATE SUPPORTS 3. ANCHORAGE: 16Ø BOLTS @ 600 o/c MIN EMBEDMENT 125mm	
SW3	1. DOUBLE 38x140 (2x6) SPF NO. 1/2 STUDS @ 400 o/c c/w; 2-38x140 (2x6) TOP PLATE; 1-38x140 (2x6) SILL PLATE 2. 9.5mm MIN. OSB SHEATHING AT ONE SIDE NAILED TO STUDS c/w 75x3.25Ø COMMON WIRE NAILS; @100 ALONG ALL PANEL EDGES; @300 ALONG INTERMEDIATE SUPPORTS 3. ANCHORAGE: 16Ø BOLTS @ 600 o/c MIN EMBEDMENT 125mm	AT CHIMNEY LOCATION
W1	1. 38x140 (2x6) SPF NO. 1/2 STUDS @ 400 o/c c/w; 2-38x140 (2x6) TOP PLATE; 1-38x140 (2x6) SILL PLATE 2. 9.5mm MIN. OSB SHEATHING AT ONE SIDE NAILED TO STUDS c/w 75x3.25Ø COMMON WIRE NAILS; @100 ALONG ALL PANEL EDGES; @300 ALONG INTERMEDIATE SUPPORTS 3. ANCHORAGE: 75 NAILS @ 150mm TO ROOF STHEATHING	FOR CHIMNEY ABOVE ROOF

NOTES:

1. SEE GENERAL NOTES ON DRAWING S1,S2, AND SHEAR WALL DETAIL IN S6.

CONCRETE FOOTING SCHEDULE

MARK	SIZE	REINFORCING	COMMENTS
SF1	600x250 DEEP	2-15M BOT. LONGITUDINAL CONT.	STRIP FOOTING
PF1	SEE PLAN, 250 DEEP	10M@300 o/c EACH WAY	PAD FOOTING
PF2	SEE PLAN, 250 DEEP	10M@300 o/c EACH WAY	PAD FOOTING



FURNACE SCHEDULE													
TAG	MANUF. AND MODEL/SERIES	AIR FLOW (L/S)	HEAD (IN PA)	GAS INPUT (CFH)	HEAT INPUT (KW)	HEAT OUTPUT (KW)	COOLING CAPACITY	V/Hz/P	UNIT MCA (AMPS)	MOCP (AMPS)	WEIGHT (KG)	W□D□H (mm)	NOTES
FUR-1	LENNOX EL296UH045XE368	290	125	44	12.9	12.3	1.5 TONS	120/ 60 /1	7.7	15	59	446□732□838	EVAPORATOR COIL MODEL - CH43-31B-2F. AFUE 96%. C/W LENNOX COMFORTSENSE 7000 L7742U THERMOSTAT. INTERLOCK WITH ERV-1 AND ACC-1

AIR COOLED CONDENSING UNIT SCHEDULE												
TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	COOLING CAPACITY	REFRIGERANT TYPE	V/HZ/P	MAX FUSE (A)	WIDTH (mm)	WEIGHT (KG)	NOTES	
ACC-1	OUTDOOR	FUR-1	LENNOX	14ACX-018-230	1.5 TONS	R-410A	240/ 60 /1	20	60806080733	77.6	C/W REFRIGERANT LINE KIT	

ENERGY RECOVERY VENTILATOR SCHEDULE													
TAG	EQUIPMENT	SERVICE & LOCATION	MANUFACTURER	MODEL & TYPE	FRESH AIR FLOW, L/S	EXHAUST AIR FLOW, L/S	HEAD (PA)	EXTERNAL AIR TEMPERATURE, (C) WINTER / SUMMER	MOTOR SIZES, FLA, SUPPLY / EXHAUST	POWER SUPPLY (V/PH/ Hz - A)	WEIGHT, KG	WIDTH (mm)	NOTES
ERV-1	ENERGY RECOVERY UNIT	FUR-1/ CRAWL SPACE	VANEE	ERV 60H - 41604	49	49	100	-32 / 28	1 / 0.8	120/60/1 / - 0.12	20.4	5030310688	C/W SPEED CONTROL. SWITCH TO BE INSTALLED IN THE BATH ROOM

EXHAUST FAN SCHEDULE												
TAG	MANUF. AND MODEL	AIR FLOW (CFM)	E.S.P. (Pa)	W	V/P/HZ	FLA (AMPS)	RPM	SERVES	OPERATION SEQUENCE	NOTE		
EF-1	BROAN - DX90	70	0.3	-	120/60/1	0.5	905	WASHROOM	ON/OFF SWITCH	C/W BBD, ROOF CAP.		

ELECTRIC WATER HEATER SCHEDULE									
TAG	EQUIPMENT	SERVICE	MANUF. AND MODEL	STORAGE (L)	RECOVERY (LPH) □ 90F RISE	V/Hz/P	POWER (KW)	H□D (mm)	NOTES
EWH-1	ELECTRIC HOT WATER HEATER	WASHROOM	JOHNWOOD - SS630LDE-45	108	76	240/ 60 /1	4	790 5600	COMPLY WITH ASHRAE 90.1-2010. C/W AUTOMATIC TEMPERATURE CONTROL. C/W FACTORY INSTALLED TEMPERATURE AND PRESSURE RELIEF VALVE.

MISCELLANEOUS MECHANICAL SCHEDULE												
UNIT INFORMATION						ELECTRICAL						
TAG	EQUIPMENT	SERVICE & LOCATION	MANUFACTURER	MODEL & TYPE	STORAGE (GALLONS)	WEIGHT (LBS)	VOLTAGE (VAC/Hz/Phase)	UNIT MCA (AMPS)	MOCP (AMPS)	HEAT (BTU/HR)	FLOW (GPM)	TEMP. IN/OUT (F)
BWV	STORM BACKWATER VALVE	MECHANICAL ROOM	WATTS	BV-200	N/A	N/A	N/A	N/A	N/A	N/A	---	---
											C/W 20"x16" ACCESS HOUSING IN FINISHED FLOOR. 4"Ø PIPE.	

TAG	MANUFACTURER	MODEL	FIXTURE	SERVICE	DESCRIPTION/TRIM
SK-1	FRANKE COMMENRCIAL	LB56810-1/1	KITCHEN SINK	KITCHEN	-FRANKE COMMERCIAL #LB56810-1/1, COUNTERTOP MOUNT SINK. -AMERICAN STANDARD #4932.300.002, 'EDGEWATER', SINGLE HANDLE FAUCET, AMERICAN STANDARD EDGEWATER #4932.300.002 SINGLE HANDLE FAUCET, POLISHED CHROME FINISH, CENTER HOLE ONLY, BRASS BODY, WASHERLESS CERAMIC DISC VALVE CARTRIDGES, BRASS SWING SPOUT, 229 MM (9") PROJECTION REACH, WITH VANDAL RESISTANT PRESSURE COMPENSATING 5.7 LPM (1.5 GPM), AERATOR OUTLET, FOUR-FUNCTION PULL DOWN SPRAYER WITH STAINLESS STEEL HOSE PROTECTOR COIL... -AMERICAN STANDARD #866XTM1070, POINT-OF-USE THERMOSTATIC WATER MIXING VALVE, BUILT-IN CHECKS. -MCGUIRE #LFH170BV, POLISHED BRASS FAUCET SUPPLIES. -MCGUIRE #8912CB, P-TRAP. -PROVIDE TEE, ADAPTORS AND FLEX. COPPER TUBING TO SUIT INSTALLATION. -PROVIDE TEMPERED WATER TO HOT SIDE OF FAUCET.
LAV-1	AMERICAN STANDARD	9141.029.020	LAVATORY	WASHROOM	-AMERICAN STANDARD #9141.029.020 "WHEELCHAIR" BASIN, WHITE FINISH. -SLOAN #ETF-600-L/ETF-688, 'OPTIMA', ELECTRONIC FAUCET. SLOAN OPTIMA #ETF-600-L/ETF-688 ELECTRONIC FAUCET, CHROME PLATED FINISH, 4" (102 MM) CENTERSET, CAST BRASS, WITH VANDAL RESISTANT 5.7 LPM (1.5 GPM), NON-AERATING LAMINAR FLOW OUTLET, INFRARED SENSOR WITH SCREW ADJUSTABLE RANGE, UNDER COUNTER FILTERED SOLENOID VALVE WITH SERVICEABLE STRAINER FILTER, MODULE CONTROL ASSEMBLY HOUSED IN SPLASH PROOF JUNCTION BOX, 24VAC 50/60HZ, VANDAL PROOF BOX. -SLOAN #EL-24B-40, HARD WIRED TRANSFORMER. -SLOAN #BDM, BELOW DECK MECHANICAL MIXING VALVE, INTEGRAL CHECK VALVES. -MCGUIRE #155WC OFFSET OPEN GRID DRAIN. -MCGUIRE #LFH170BV, POLISHED BRASS FAUCET SUPPLIES. -MCGUIRE #8872C, P-TRAP. -MCGUIRE 'PROWRAP' #PW2000WC SANITARY COVERING. -WATTS #WCA-411-WC, BASIN CARRIER. -PROVIDE TEE, ADAPTORS AND FLEX. COPPER TUBING TO SUIT INSTALLATION. -15 VA POWER REQUIRED PER UNIT. -PROVIDE TEE, ADAPTORS AND FLEX. COPPER TUBING TO SUIT INSTALLATION.
WC-1	AMERICAN STANDARD	2467.100.020	WATER CLOSET	WASHROOM	-AMERICAN STANDARD #2467.100.020, 'CADET FLOWISE RIGHT HEIGHT PRESSURE-ASSISTED ELONGATED', 419 MM HIGH TOILET, VITREOUS CHINA, FLOOR MOUNTED, 4.2 L (1.1 US GAL) PER FLUSH, TWO (2) PIECE, ELONGATED BOWL, SIPHON JET FLUSH ACTION, RAISED SANITARY BAR. -CENTOCO #820STS.001, EXTRA HEAVY DUTY TOILET SEAT, SOLID PLASTIC, OPEN FRONT WITH COVER. -MCGUIRE #LFH172BV, POLISHED BRASS TOILET SUPPLY. -PROVIDE FLOOR FLANGE, (SAME MATERIAL AS THE CONNECTING PIPE DRAIN), WITH ALL BRASS BOLTS AND WITH RUBBER GASKET. -PROVIDE BOLTED TANK COVER IF REQUIRED - TO MEET LOCAL CODES -PROVIDE TRIP LEVER ON OPEN SIDE OF TOILET (WIDE SIDE) IF REQUIRED - TO MEET LOCAL CODES.
FD-1	WATTS	FD-100-C-A	FLOOR DRAIN	WASHROOM	EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE MEMBRANE CLAMP WITH PRIMARY AND SECONDARY WEEPHOLES, 3 1/2" THICK 4" ADJUSTABLE NICKEL BRONZE STRAINER, AND NO HUB M/J OUTLET.

ELECTRIC BASEBOARD HEATERS SCHEDULE							
TAG	SERVICE	MANUF. AND MODEL/SERIES	CONTROLS	HEATING CAPACITY (W)	V/HZ/P	LENGTH (INCHES)	NOTES
EBBH	MECH ROOM	OUELLET - OFM1002	PROVIDE BUILT IN T-STAT	1000	120/1/60	38	C/W BUILT IN THERMOSTAT.

WINDOW AIR CURTAIN											
UNIT INFORMATION						ELECTRICAL		REMARKS			
TAG	EQUIPMENT	MANUFACTURER	MODEL & TYPE	AIR FLOW (CFM)	WEIGHT (LBS)	DIMENSION (LxDxH)	VOLTAGE (VAC/Hz/Phase)				
WAC	AIR CURTAIN FOR WINDOW	AWOCO	ELEGANT FM55 - 36"	900 / 742	28.5	35.5"x8.5"x9.3"	120/60/1	300	C/W HEAVY DUTY DOOR SWITCH, INSTALL PER MANUFACTURER'S INSTRUCTION.		

MECHANICAL DRAWING LIST	
DRAWING No.	DRAWING NAME
M01	MECHANICAL SCHEDULE, LEGEND, DETAILS & DRAWING LIST
M02	MECHANICAL SITE PLAN
M03	PLUMBING PLAN
M04	HVAC PLAN

MECHANICAL DRAWING LEGEND					
DESIGNATION	SERVICE	DESIGNATION	SERVICE	DESIGNATION	SERVICE
	DOMESTIC COLD WATER		GLOBE VALVE		PUMP
	DOMESTIC HOT WATER		BALL VALVE		UNIT HEATER HORIZONTAL
	GATE VALVE		TURNING VANES		
	VENT		CHECK VALVE		FAN
	SANITARY ABOVE GRADE		BALANCING VALVE		HEATING OR COOLING COIL
	SANITARY BELOW GRADE		3-WAY VALVE		
	STORM ABOVE GRADE		2-WAY CONTROL VALVE		THERMOSTAT
	STORM BELOW GRADE		RELIEF VALVE		FIRE DAMPER
	NATURAL GAS		PRESSURE REDUCING VALVE		VOLUME DAMPER
	HEATING WATER SUPPLY		THERMOMETER		DIFFUSER/GRILLE TYPE SIZE AIRFLOW
	HEATING WATER RETURN		STRAINER		FIN TYPE SIZE AIRFLOW
	REFRIGERATION SUCTION		SOLENOID VALVE		WATER HEATER TYPE TANK CAPACITY
	REFRIGERATION LIQUID		BACK FLOW PREVENTOR		BACK DRAFT DAMPER
	CLEANOUT TURNED UP THROUGH FLOOR		CIRCULATION BALANCING VALVE		SPLITTER DAMPER
	CLEANOUT ABOVE GRADE OR FLOOR		PORTABLE FIRE EXTINGUISHER		BALANCING DAMPER
	HOSE BIB		FIRE EXTINGUISHER IN CABINET		
	TO BE REMOVED AND RELOCATED		GAS METER		TSP
	FLOOR DIFFUSER		EYE WASH		TRAP SEAL PRIMER
	SQUARE SUPPLY DIFFUSER		RETURN GRILL		TSP
	SUPPLY DIFFUSER				

PLUMBING FIXTURE CONNECTION				
FIXTURE	COLD WATER (mm)	HOT WATER (mm)	SANITARY (mm)	VENT (mm)
SK	15	15	40	30
PS	15	15	40	30
WC	15	-	75	40

GRILLE AND DIFFUSER SCHEDULE				
TAG	SERVICE	MANUFACTURER	MODEL & TYPE	NOTES
A	SUPPLY GRILLS	HART AND COOLEY	411 FLOOR DIFFUSER	
R	RETURN/ TRANSFER GRILLS	NAILOR	6145H RETURN GRILL	

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5	100% - ISSUED FOR BP	2017/08/11
4	FINAL REVIEW	2017/08/04
3	RE-ISSUED FOR 90% REVIEW	2017-03-09
2	90% PROGRESS REVIEW	2017-02-22
1	ISSUED FOR COST ESTIMATION	2017-02-13
0	30% PROGRESS REVIEW	2016-12-16
Revised	Description	Date

Client



Parcs Canada

Project title

Projet

HIGHWAY 16 PARK EAST

GATE IMPROVEMENTS

EAST GATE KIOSK

Designed by
K. QUANG

Conçu par

Drawn by
K. QUANG

Dessiné par

Approved by
L. YANG

Approuvé par


Project Manager
C.MARIOTTI

Administrateur de Projets IPSBC

Drawing title
MECHANICAL LEGENDS, SCHEDULES
DETAILS & DRAWING LIST

Titre du dessin

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 LILLIAN L. YANG
 Aug. 11th / 2017

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Revision	Description	Date
Client		client

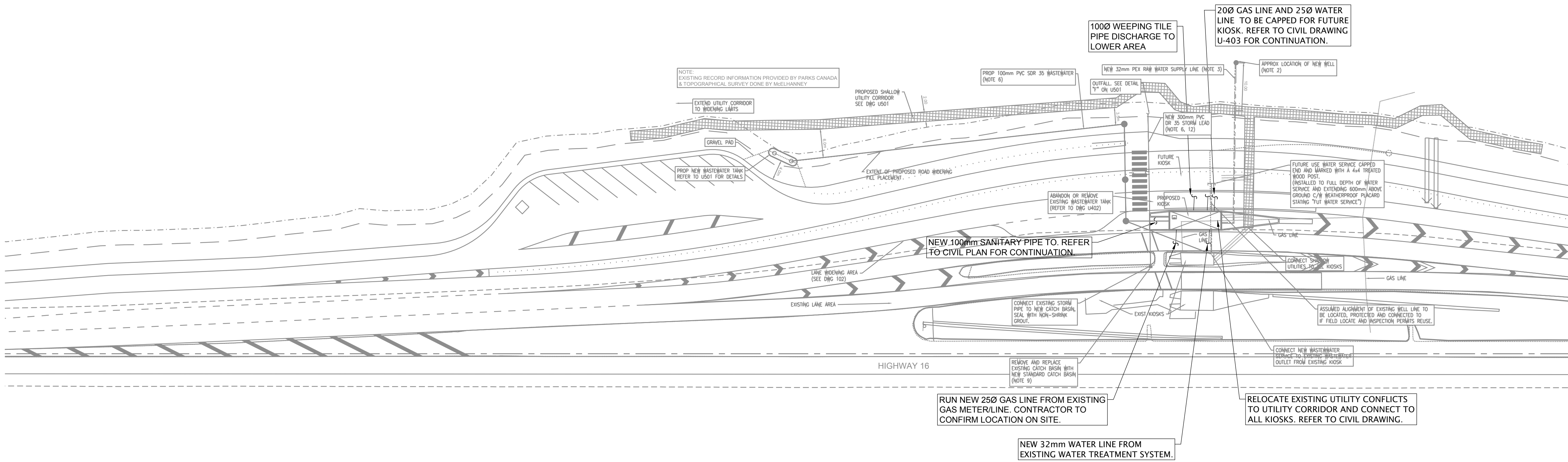


HIGHWAY 16 PARK EAST GATE IMPROVEMENTS EAST GATE KIOSK

PWGSC Project Manager Administrateur de Projets TPSGC
C. MARIOTTI

MECHANICAL SITE PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
PRO1285	M2 OF M4	1



01 MECHANICAL SITE PLAN
M2 1:

SEAL:



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 Chris Pal, P.Eng., APEGA

5	100% - ISSUED FOR BP	2017-08-11
4	FINAL REVIEW	2017-08-01
3	RE-ISSUED FOR 90% REVIEW	2017-03-01
2	90% PROGRESS REVIEW	2017-02-28
1	ISSUED FOR COST ESTIMATION	2017-02-11
0	30% PROGRESS REVIEW	2016-12-16
Revision	Description	Date

Client	client
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Parks Canada Parcs Canada

Project title	Project
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Designed by Conçu par
K. QUANG

Drawn by _____ Dessiné par _____

K. QUANG

Approved by _____ Approved on _____

L. YANG

DWSGO 0 : 1 M A L L I T D : 1 YDCGA

C. MARIOTTI

Age Group	Male (%)	Female (%)
18-29	85	80
30-49	80	75
50-69	75	70
70+	70	65

HVAC PLAN

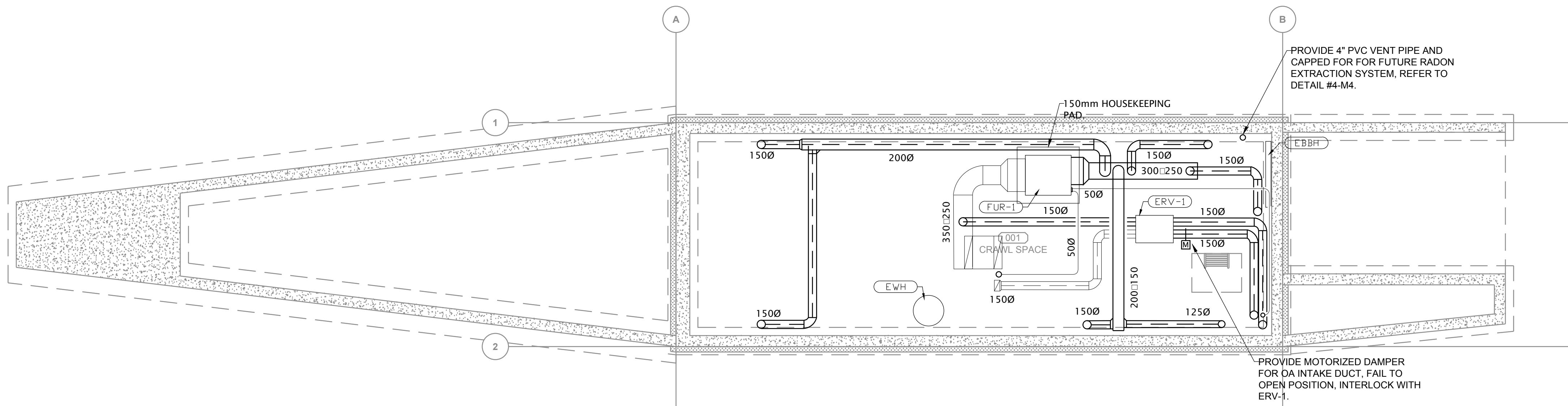
☐ Dorsal as (A) d. dorsal ☐ Dorsine as (A) d. dorsal ☐ Dorsine as

<input type="checkbox"/> Project	<input checked="" type="checkbox"/> Not a project	<input type="checkbox"/> Drawing	<input checked="" type="checkbox"/> Not a drawing	<input type="checkbox"/> Revision	<input checked="" type="checkbox"/> Not a revision
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PRQ1285	M4	1
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PRO1259	M14	1
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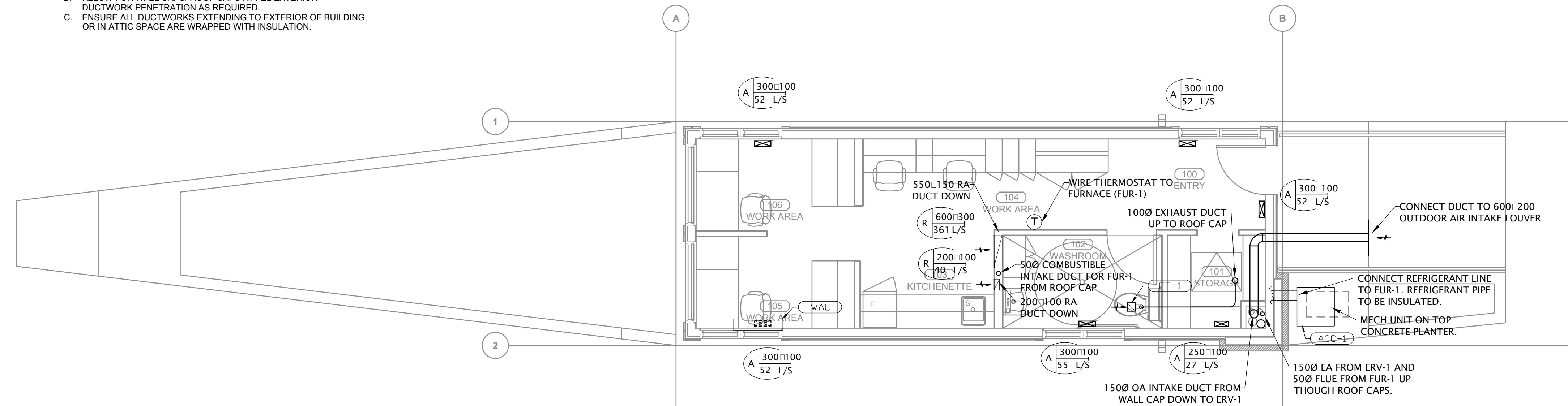
OF M4

[illegible]

1:50

- ### GENERAL HVAC NOTES

- A. SUPPLY AND INSTALL ALL FIRE STOPPING MATERIAL AND ENSURE THAT ALL FIRE PENETRATIONS ARE PROTECTED AS REQUIRED BY THE ALBERTA BUILDING CODE AND THE LOCAL AUTHORITIES.
- B. ALLOW FOR WALL CAPS/ ROOF CAPS AT ALL EXTERIOR DUCTWORK PENETRATION AS REQUIRED.
- C. ENSURE ALL DUCTWORKS EXTENDING TO EXTERIOR OF BUILDING OR IN ATTIC SPACE ARE WRAPPED WITH INSULATION.



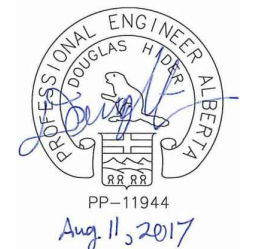
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Aug 11, 2017

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1	CLASS A COST ESTIMATE	2017-02-13
0	ISSUED FOR 30% REVIEW	2016/12/16
Revision	Description	Date
Client		client



Parks
Canada



Parcs
Canada

Project title

Project

JASPER EAST GATE

Designed by
F.HAK

Conçu par

Drawn by
F.HAK

Dessiné par

Approved by
D.HIDER

Approuvé par

PM/SC Project Manager
C. Mariotti

Administrateur de Projets TPS/SC

Drawing title

Titre du dessin

ELECTRICAL SITE PLAN

Project no./No. du projet

Drawing no./No. du dessin





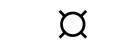


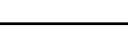




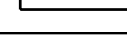
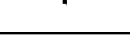
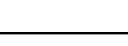

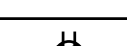
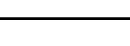
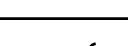


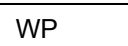



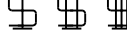


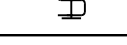
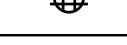
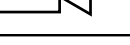
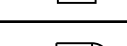

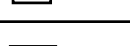
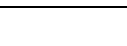

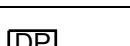








Revision no.

PRO1285

E10-00-00

1

OF

LEGEND OF SYMBOLS											DEC 2016
LIGHTING		MECHANICAL		COMMUNICATION SYSTEMS		GENERAL					
	RECESSED LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE		MOTOR C/W DISCONNECT SWITCH		VOICE OUTLET		CONDUIT CONCEALED IN WALL OR CEILING				
	SURFACE LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE		THERMOSTAT		DATA OUTLET		CONDUIT CONCEALED IN SLAB OR RUN UNDERGROUND				
	WALL LED / INCANDESCENT / COMPACT FLUORESCENT LUMINAIRE		MOTOR IDENTIFICATION TAG (REFER TO MECHANICAL SCHEDULE)		COMBINATION VOICE/DATA OUTLET		CONDUIT UP				
	SURFACE LED LINEAR LUMINAIRE	POWER			GROUND BAR		CONDUIT DOWN				
	LIGHTING LUMINAIRE TYPE TAG		DUPLEX RECEPTACLE		BACKBOARD		CONDUIT STUB				
	EXIT LIGHT - WALL (C/W ARROWS AS INDICATED)		ARC FAULT RECEPTACLE	SECURITY SYSTEMS			CONDUIT CONTINUATION				
	EMERGENCY POWER BATTERY PACK C/W LIGHTING HEADS		GROUND FAULT RECEPTACLE		PUSH BUTTON	WP	DENOTES WEATHERPROOF DEVICE				
	DOUBLE REMOTE EMERGENCY LIGHTING HEAD - CEILING MOUNT		20A T-SLOT RECEPTACLE		2-WAY VOICE/PANIC	NL	DENOTES UNSWITCHED LUMINAIRE (NIGHT LIGHT)				
	SWITCH - SINGLE, TWO, AND THREE GANG		20A T-SLOT GFCI RECEPTACLE		SECURITY MOTION SENSOR	R	DENOTES DEVICE TO REMOVE OR RELOCATE				
	SWITCH - OCCUPANCY SENSOR SWITCH		FOURPLEX RECEPTACLE		CCTV CAMERA	RL	DENOTES RELOCATED DEVICE				
	PHOTO ELECTRIC CELL		WALL MOUNTED JUNCTION BOX		CARD READER	•	DENOTES FURNITURE MOUNTED DEVICE				
	BEACON LIGHT		ELECTRICAL PANELBOARD - SURFACE MOUNTED		ELECTRIC STRIKE	E	DENOTES EXISTING TO REMAIN				
			ELECTRICAL PANELBOARD - RECESSED		DOOR POSITION SWITCH	<div>GENERAL NOTES:</div> <div>A) ELECTRICAL CONTRACTOR TO REFER TO ATCO ELECTRIC GUIDELINE FOR INSTALLATION METHODS AND MATERIALS REQUIREMENTS. CONTRACTOR TO INCLUDE ALL EQUIPMENT AND MATERIALS TO COMPLETE THE WORK AS PER ATCO ELECTRIC GUIDELINE TO ENSURE ALL COSTS ARE COVERED.</div> <div>B) THE EXISTING KIOSK POWER RE-CONNECTION TO THE UTILITY TRANSFORMER IS IN CONTRACTOR SCOPE OF WORK.</div> <div>C) THE TELECOM SERVICE FOR NEW KIOSK TO BE FED FROM EXISTING TELECOM PEDESTAL. ALL SECONDARY CONDUITS AND CONNECTIONS ARE IN CONTRACTOR SCOPE OF WORK.</div>					
			CAR PLUG POST		REQUEST TO EXIT SENSOR						
			TIME CLOCK	FIRE ALARM							
			SINGLE PHASE DIRECT CONNECTION		SMOKE ALARM						
			CEILING MOUNTED JUNCTION/SLAB BOX		SMOKE ALARM/CARBON MONOXIDE ALARM						
			WALL MOUNTED JUNCTION BOX								

- GENERAL NOTES:
- A)

ELECTRICAL CONTRACTOR TO REFER TO ATCO ELECTRIC GUIDELINE FOR INSTALLATION METHODS AND MATERIALS REQUIREMENTS. CONTRACTOR TO INCLUDE ALL EQUIPMENT AND MATERIALS TO COMPLETE THE WORK AS PER ATCO ELECTRIC GUIDELINE TO ENSURE ALL COSTS ARE COVERED.
- B)

THE EXISTING KIOSK POWER RE-CONNECTION TO THE UTILITY TRANSFORMER IS IN CONTRACTOR SCOPE OF WORK.
- C)

THE TELECOM SERVICE FOR NEW KIOSK TO BE FED FROM EXISTING TELECOM PEDESTAL. ALL SECONDARY CONDUITS AND CONNECTIONS ARE IN CONTRACTOR SCOPE OF WORK.
- D)

ELECTRICAL CONTRACTOR TO COORDINATE THE SECONDARY POWER, TELECOM AND FIBRE CONDUITS WITH CIVIL AND MECHANICAL PIPES AND ON SITE EQUIPMENT.
- E)

UTILITY TRANSFORMER AND PRIMARY CONDUIT WORKS ARE IN UTILITY SCOPE OF WORK.
- F)

ELECTRICAL CONTRACTOR TO MAINTAIN ALL CLEARANCES FROM GAS AND SITE PIPES AS PER CIVIL AND UTILITY REQUIREMENTS.
- G)

EXISTING KIOSK TO BE FED FROM NEW KIOSK (POWER, TELUS AND SHAW) BY NEW CONDUITS. EXISTING UTILITY CONDUITS TO BE ABANDONED.
- H)

ELECTRICAL CONTRACTOR TO COORDINATE WITH OVERHEAD SIGN CONTRACTOR TO RUN THE CONDUITS IN THE SAME TRENCH. WHERE TRENCHES RUN IN PARALLEL, RUN ALL ELECTRICAL CONDUITS IN SAME TRENCH.

- REFERRAL NOTES:
- 1

APPROXIMATE LOCATION OF EXISTING POWER POLE AND UPGRADED UTILITY TRANSFORMER. TRANSFORMER UPGRADED BY UTILITY.
- 2

APPROXIMATE LOCATION OF EXISTING TELECOM PEDESTAL.
- 3

APPROXIMATE ROUTING OF POWER AND TELECOM CONDUITS TO EXISTING KIOSKS, ELECTRICAL CONTRACTOR TO COORDINATE WITH CIVIL AND STRUCTURAL DRAWINGS PRIOR TO INSTALLATION.
- 4

APPROXIMATE ROUTING OF POWER AND TELECOM CONDUITS TO NEW KIOSK. ELECTRICAL CONTRACTOR TO COORDINATE WITH CIVIL, STRUCTURAL AND EXISTING SITE PLAN. INSTALLED IN SHARED TRENCH SEE MCELHANNY DRAWING E-32
- 5

STUB POWER AND TELECOM CONDUITS FOR FUTURE KIOSK.
2-100mm - FOR POWER.
2-100mm - FOR TELECOM.
- 6

NOT USED.
- 7

LOCATION OF NEW POWER PEDESTALS, CAR RECEPTACLES TO BE SMART TYPE.
- 8

APPROXIMATE LOCATION OF EXISTING POWER PEDESTALS, TO BE REMOVED.
- 9

APPROXIMATE LOCATION OF NEW SEPTIC TANK. COORDINATE TANK CONNECTIONS WITH TANK VENDOR.
- 10

APPROXIMATE ROUTING OF NEW POWER PEDESTALS POWER CONDUITS.
- 11

APPROXIMATE ROUTING OF ELECTRICAL CONDUIT FOR SEPTIC TANK ALARMS TO NEW KIOSK, CONDUIT SIZE TO BE COORDINATED WITH VENDOR REQUIREMENTS PRIOR TO INSTALLATION.
- 12

EXISTING LIGHTING POLE TO BE RE-LOCATED. RELOCATION BY ATCO ELECTRIC.
- 13

PHOTOCELL FOR SITE LIGHTING CONTROL.
- 14

THERMOSTAT FOR CAR PLUG CONTROL.
- 15

APPROXIMATE LOCATION OF EXISTING FIBRE UTILITY TELECOM BOX.
- 16

CONDUIT RUN BETWEEN FIBRE UTILITY TELECOM BOX AND NEW KIOSK. THE CABLE WILL BE INSTALLED BY UTILITY UP ON OWNER REQUEST.
- 17

BUILDING GROUND PLATE.
- 18

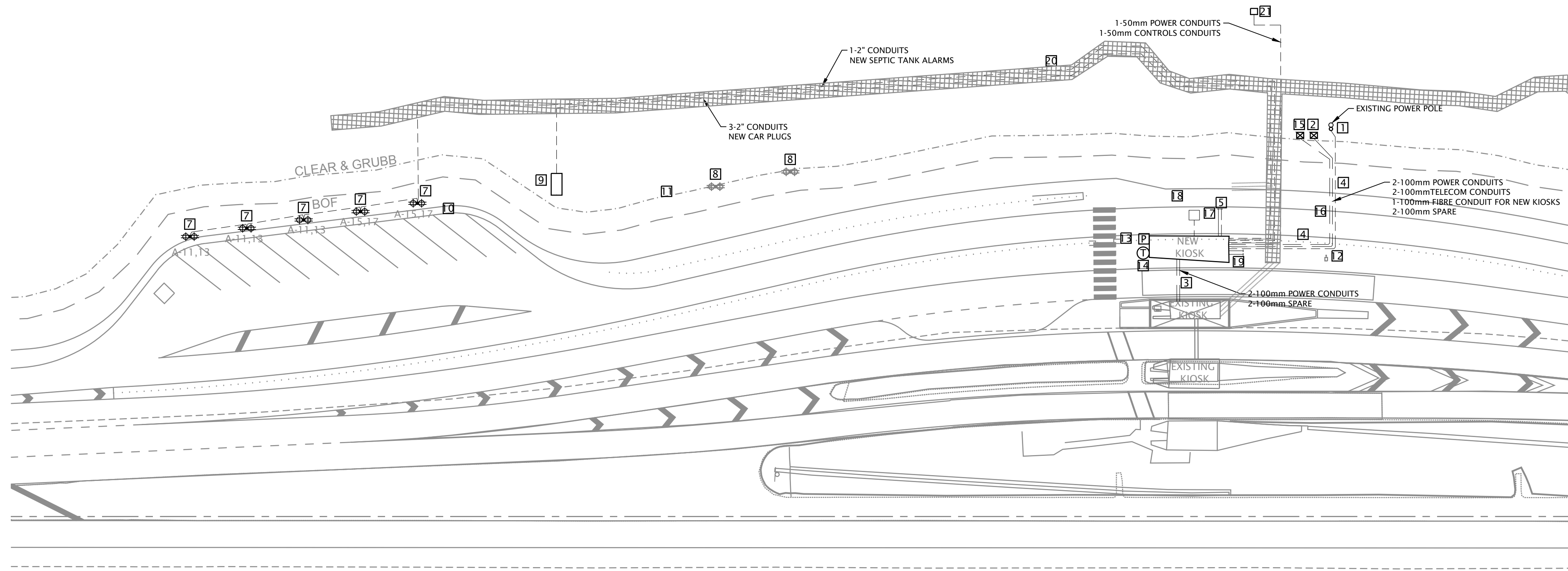
APPROXIMATE LOCATION OF FUTURE KIOSK.
- 19

STUB POWER AND TELECOM CONDUITS FOR OVERHEAD SIGN. CONDUITS PAST THIS POINT SHALL BE INSTALLED BY SITE ELECTRICIAN. WIRING FOR SITE LIGHTING SIGNAGE BY SITE CONTRACTOR.
1-50mm - FOR POWER.
1-50mm - FOR TELECOM.
- 20

CONDUIT FOR NEW CAR PLUGS AND NEW SEPTIC TANK ALARMS TO BE RUN IN CIVIL TRENCHING. COORDINATE WITH CIVIL DRAWINGS FOR TRENCH LOCATION.
- 21

APPROXIMATE LOCATION OF NEW WELL. THE WATER PUMP FROM THE EXISTING WELL WILL BE RELOCATED TO THE NEW WELL.

LIST OF DRAWINGS	
Sheet Number	Sheet Title
E10-00-00	ELECTRICAL SITE PLAN
E20-00-00	POWER AND SYSTEMS PLAN
E20-00-01	LIGHTING PLAN
E30-00-00	ELECTRICAL SCHEDULES & SINGLE LINE DIAGRAM
E40-00-00	ELECTRICAL TYPICAL DETAILS



01

E10-00-00

ELECTRICAL SITE PLAN

1:100

- GENERAL NOTES (STRUCTURAL COORDINATION):
- THE FOLLOWING NOTES ARE APPLICABLE TO ALL SHEETS OF DESIGN DRAWINGS:
- A)

MECHANICAL/ELECTRICAL SYSTEMS AND THEIR SUPPORTS, AND THE LIKE, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED UNDER 'SERVICEABILITY CRITERIA' ON THE STRUCTURAL DRAWINGS.
- B)

DESIGN AND DETAIL ALL NECESSARY SEISMIC RESTRAINTS FOR MECHANICAL/ELECTRICAL SYSTEMS SHOWN ON THE CONTRACT DOCUMENTS. SUBMIT SHOP DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, FOR REVIEW BY THE CONSULTANT.
- C)

ELECTRICAL CONTRACTOR SHALL SUBMIT SLEEVING DRAWINGS INDICATING LAYOUT AND SIZES OF ALL INTENDED PENETRATIONS THROUGH ANY STRUCTURAL ELEMENTS, INCLUDING ANY EMBEDDED ITEMS, FOR REVIEW BY CONSULTANT WELL IN ADVANCE OF COMPLETING THE WORK.

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Adrian Todella, P.Eng., A.P.E.C.A.
Chris Pelt, P.Eng., A.P.E.C.A.

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Revision	Description	Date
Client		Client



Parks
Canada

Parcs
Canada

Project title	Projet
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JASPER EAST GATE

Designed by F.HAK	Conçu par
Drawn by F.HAK	Dessiné par
Approved by D.HIDER	Approuvé par
PM/SC: Project Manager C. Mariotti	Administrateur de Projets /P.SOC
Drawing title	Titre du dessin

POWER AND SYSTEMS PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
PRO1285	E20-00-00	1
	OF	

GENERAL NOTES:

- A. THE DEMAND POWER WILL BE SUPPLIED FROM NEW SERVICE COMES FROM UPGRADED EXISTING POLE MOUNTED TRANSFORMER. THE NEW SERVICE INCLUDING ALL REQUIRED CABLES AND CONDUITS FROM UTILITY TRANSFORMER TO THE MAIN POWER PANEL IN NEW KIOSK IS IN CONTRACTOR'S SCOPE OF SUPPLY AND INSTALL.
- B. ELECTRICAL CONTRACTOR TO VERIFY THE EXISTING SECONDARY CABLES TO THE UTILITY TRANSFORMER. RECONNECTION OF THE EXISTING SERVICE CONDUCTORS TO UPGRADED TRANSFORMER AND INSTALL ANY REQUIRED NEW CONDUITS IS IN CONTRACTOR'S SCOPE OF WORK.
- C. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL WORKS ASSOCIATED TO RECONNECTION OF THE EXISTING SERVICE TO THE UPGRADED TRANSFORMER.
- D. TRANSFORMER UPGRADE IS IN ATCO ELECTRIC SCOPE OF WORK.
- E. TELECOMMUNICATION SYSTEM IN NEW KIOSK WILL BE FED FROM EXISTING KIOSK. CONTRACTOR TO INSTALL JUNCTION BOXES FOR TELUS AND SHAW IN BASEMENT AND INSTALL ALL REQUIRED CONDUIT AND CABLE FOR INTERCONNECTION TO EXISTING D-MARK POINT.
- F. ALL ELECTRICAL RATING WORKS TO MEET CEC 2015 REQUIREMENTS.
- G. ELECTRICAL CONTRACTOR TO REFER TO MECHANICAL DRAWING AND EQUIPMENT LAYOUT FOR ALL MECHANICAL RATING, LOCATION AND ELECTRICAL REQUIREMENTS.
- H. REFER TO ELECTRICAL SCHEDULE ON E3 FOR LUMINAIRE SCHEDULE AND POWER PANEL SCHEDULE.
- I. FOR ALL EXTERIOR EQUIPMENT INSTALLATION HEIGHTS ON NEW KIOSK, CONTRACTOR TO REFER TO EXISTING KIOSK. THE INSTALLATION HEIGHT TO BE SAME AS EXISTING KIOSKS.
- J. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION AND HEIGHT OF ALL RECEPTACLES AND TELECOM OUTLETS WITH MILLWORK PRIOR TO INSTALLATION.
- K. SEPTIC TANK CONTROL PANEL TO HAVE CELLULAR DATA COMMUNICATION AND DIALING OUT THE ALARMS.

MAIN FLOOR REFFERAL NOTES:

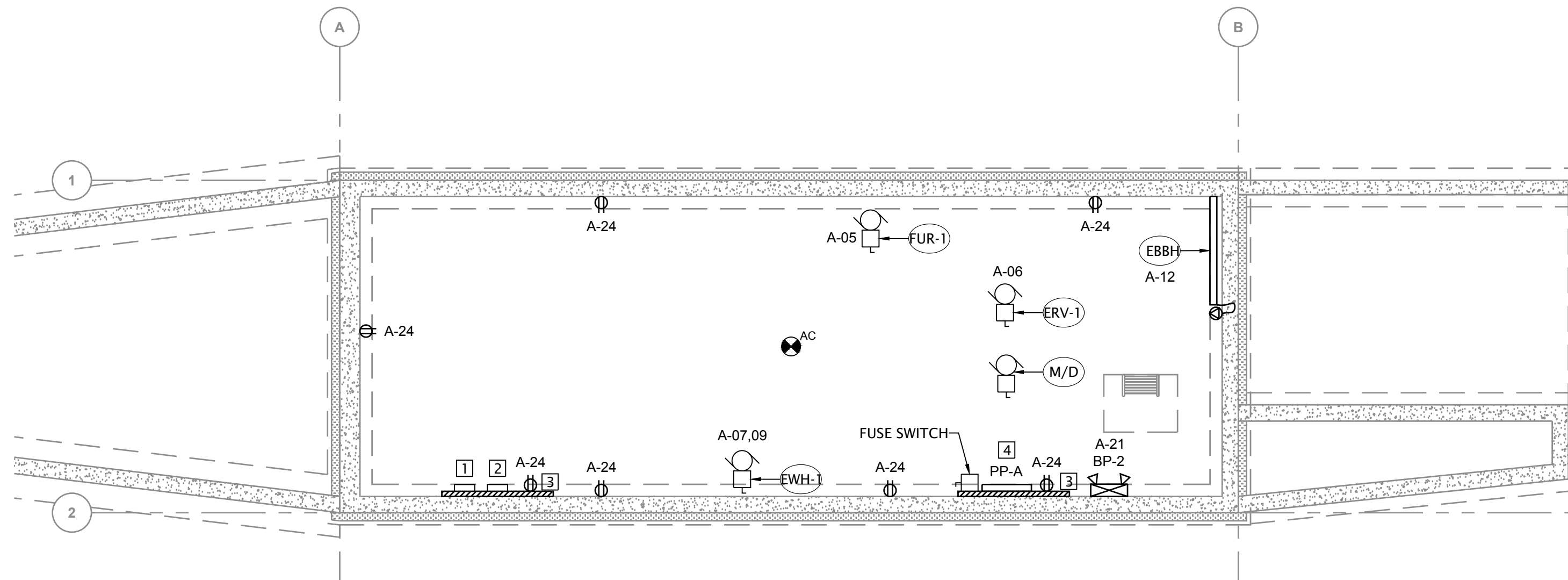
- 1 JUNCTION BOX FOR FLASHING LIGHT, CONTROLLED BY LANE CONTROL PANEL.
- 2 THERMOSTAT FOR PARKING PEDESTALS.
- 3 PHOTOCELL.
- 4 JUNCTION BOX AND SWITCH FOR WINDOW AIR CURTAIN. ELECTRICAL CONTRACTOR TO COORDINATE THE REQUIREMENTS WITH VENDOR AND ARCHITECTURAL DRAWINGS.
- 5 SITE LIGHTING/POWER CONTROL PANEL.
- 6 PANIC BUTTON MOUNTED UNDER COUNTER.
- 7 UNDER COUNTER POWER RECEPTACLES AND DATA/VOICE OUTLETS.
- 8 SECURITY PANEL.
- 9 ELECTRICAL UTILITY METER.
- 10 TELECOM JUNCTION BOX FOR ANTENNA. CONTRACTOR TO COORDINATE THE LOCATION AND REQUIREMENT WITH VENDOR AND CLIENT.
- 11 ALARM PANEL FOR NEW SEPTIC TANK. ELECTRICAL CONTRACTOR TO COORDINATE ALL POWER AND TELECOM REQUIREMENTS WITH VENDOR PRIOR TO ROUGH-IN AND INSTALLATION.
- 12 SPACE FOR FUTURE LANE SIGNAL CONTROL PANEL AND OVERHEAD SIGN LIGHTING CONTROL.
- 13 LIGHTING SWITCH FOR BUILDING EXTERIOR LIGHTING CONTROL.
- 14 CCTV PANEL
- 15 SEPTIC ALARM BEACON CONNECTED TO CONTROL PANEL. SUPPLIED BY SEPTIC SYSTEM VENDOR INSTALLED UNDER THIS CONTRACT.

BASEMENT REFFERAL NOTES:

- 1 MAIN TELUS BACKBOARD FED FROM D-MARK POINT IN EXISTING KIOSK.
- 2 MAIN SHAW BACKBOARD FED FROM D-MARK POINT IN EXISTING KIOSK.
- 3 FIRE RETARDANT PLYWOOD BACKBOARD. ELECTRICAL CONTRACTOR TO SIZE AS REQUIRED.
- 4 MAIN POWER PANEL PP-A.

CCTV AND SECURITY CONDUIT NOTES:

- 21mm CONDUIT BACK TO SECURITY CABINET LOCATED IN THE MAIN FLOOR.
- 21mm CONDUIT BACK TO CCTV PANEL LOCATED IN THE MAIN FLOOR.



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Revision

Description

Date

Client

client



Parks
Canada



Parcs
Canada

Project titleProject

JASPER EAST GATE

Designed by F.HAK	Conçu par
Drawn by F.HAK	Dessiné par
Approved by D.HIDER	Approuvé par
PWOSC Project Manager Administrateur de Projets IPSC C. Mariotti	
Drawing title	Titre du dessin
LIGHTING PLAN	

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
PRO1285	E20-00-01	1
OF		

01
E20-00-01

LIGHTING PLAN - BASEMENT

1:50

02
E20-00-01

LIGHTING PLAN - MAIN FLOOR

1:50

GENERAL NOTES:

A.

THE DEMAND POWER WILL BE SUPPLIED FROM NEW SERVICE COMES FROM UPGRADED EXISTING POLE MOUNTED TRANSFORMER. THE NEW SERVICE INCLUDING ALL REQUIRED CABLES AND CONDUITS FROM UTILITY TRANSFORMER TO THE MAIN POWER PANEL IN NEW KIOSK IS IN CONTRACTOR'S SCOPE OF SUPPLY AND INSTALL.

B.

ELECTRICAL CONTRACTOR TO VERIFY THE EXISTING SECONDARY CABLES TO THE UTILITY TRANSFORMER. RECONNECTION OF THE EXISTING SERVICE CONDUCTORS TO UPGRADED TRANSFORMER AND INSTALL ANY REQUIRED NEW CONDUITS IS IN CONTRACTOR'S SCOPE OF WORK.

C.

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL WORKS ASSOCIATED TO RECONNECTION OF THE EXISTING SERVICE TO THE UPGRADED TRANSFORMER.

D.

TRANSFORMER UPGRADE IS IN ATCO ELECTRIC SCOPE OF WORK.

E.

TELECOMMUNICATION SYSTEM IN NEW KIOSK WILL BE FED FROM EXISTING KIOSK. CONTRACTOR TO INSTALL JUNCTION BOXES FOR TELUS AND SHAW IN BASEMENT AND INSTALL ALL REQUIRED CONDUIT AND CABLE FOR INTERCONNECTION TO EXISTING D-MARK POINT.

F.

ALL ELECTRICAL RATING WORKS TO MEET CEC 2015 REQUIREMENTS.

G.

ELECTRICAL CONTRACTOR TO REFER TO MECHANICAL DRAWING AND EQUIPMENT LAYOUT FOR ALL MECHANICAL RATING, LOCATION AND ELECTRICAL REQUIREMENTS.

H.

REFER TO ELECTRICAL SCHEDULE ON E3 FOR LUMINAIRE SCHEDULE AND POWER PANEL SCHEDULE.

I.

FOR ALL EXTERIOR EQUIPMENT INSTALLATION HEIGHTS ON NEW KIOSK, CONTRACTOR TO REFER TO EXISTING KIOSK. THE INSTALLATION HEIGHT TO BE SAME AS EXISTING KIOSKS.

J.

ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION AND HEIGHT OF ALL RECEPTACLES AND TELECOM OUTLETS WITH MILLWORK PRIOR TO INSTALLATION.

K.

SEPTIC TANK CONTROL PANEL TO HAVE CELLULAR DATA COMMUNICATION AND DIALING OUT THE ALARMS.

MAIN FLOOR REFFERAL NOTES:

1

JUNCTION BOX FOR FLASHING LIGHT, CONTROLLED BY LANE CONTROL PANEL.

2

THERMOSTAT FOR PARKING PEDESTALS.

3

PHOTOCELL.

4

JUNCTION BOX AND SWITCH FOR WINDOW AIR CURTAIN. ELECTRICAL CONTRACTOR TO COORDINATE THE REQUIREMENTS WITH VENDOR AND ARCHITECTURAL DRAWINGS.

5

SITE LIGHTING/POWER CONTROL PANEL.

6

PANIC BUTTON MOUNTED UNDER COUNTER.

7

UNDER COUNTER POWER RECEPTACLES AND DATA/VOICE OUTLETS.

8

SECURITY PANEL.

9

ELECTRICAL UTILITY METER.

10

TELECOM JUNCTION BOX FOR ANTENNA. CONTRACTOR TO COORDINATE THE LOCATION AND REQUIREMENT WITH VENDOR AND CLIENT.

11

ALARM PANEL FOR NEW SEPTIC TANK. ELECTRICAL CONTRACTOR TO COORDINATE ALL POWER AND TELECOM REQUIREMENTS WITH VENDOR PRIOR TO ROUGH-IN AND INSTALLATION.

12

SPACE FOR FUTURE LANE SIGNAL CONTROL PANEL AND OVERHEAD SIGN LIGHTING CONTROL.

13

LIGHTING SWITCH FOR BUILDING EXTERIOR LIGHTING CONTROL.

14

CCTV PANEL

15

SEPTIC ALARM BEACON CONNECTED TO CONTROL PANEL. SUPPLIED BY SEPTIC SYSTEM VENDOR INSTALLED UNDER THIS CONTRACT.

BASEMENT REFFERAL NOTES:

1

MAIN TELUS BACKBOARD FED FROM D-MARK POINT IN EXISTING KIOSK.

2

MAIN SHAW BACKBOARD FED FROM D-MARK POINT IN EXISTING KIOSK.

3

FIRE RETARDANT PLYWOOD BACKBOARD. ELECTRICAL CONTRACTOR TO SIZE AS REQUIRED.

4

MAIN POWER PANEL PP-A.

CCTV AND SECURITY CONDUIT NOTES:

①→

21mm CONDUIT BACK TO SECURITY CABINET LOCATED IN THE MAIN FLOOR.

②→

21mm CONDUIT BACK TO CCTV PANEL LOCATED IN THE MAIN FLOOR.

PWOSC -- A1 -- 841x594

0 10 20 30 40 50 60 70 80 90 100mm

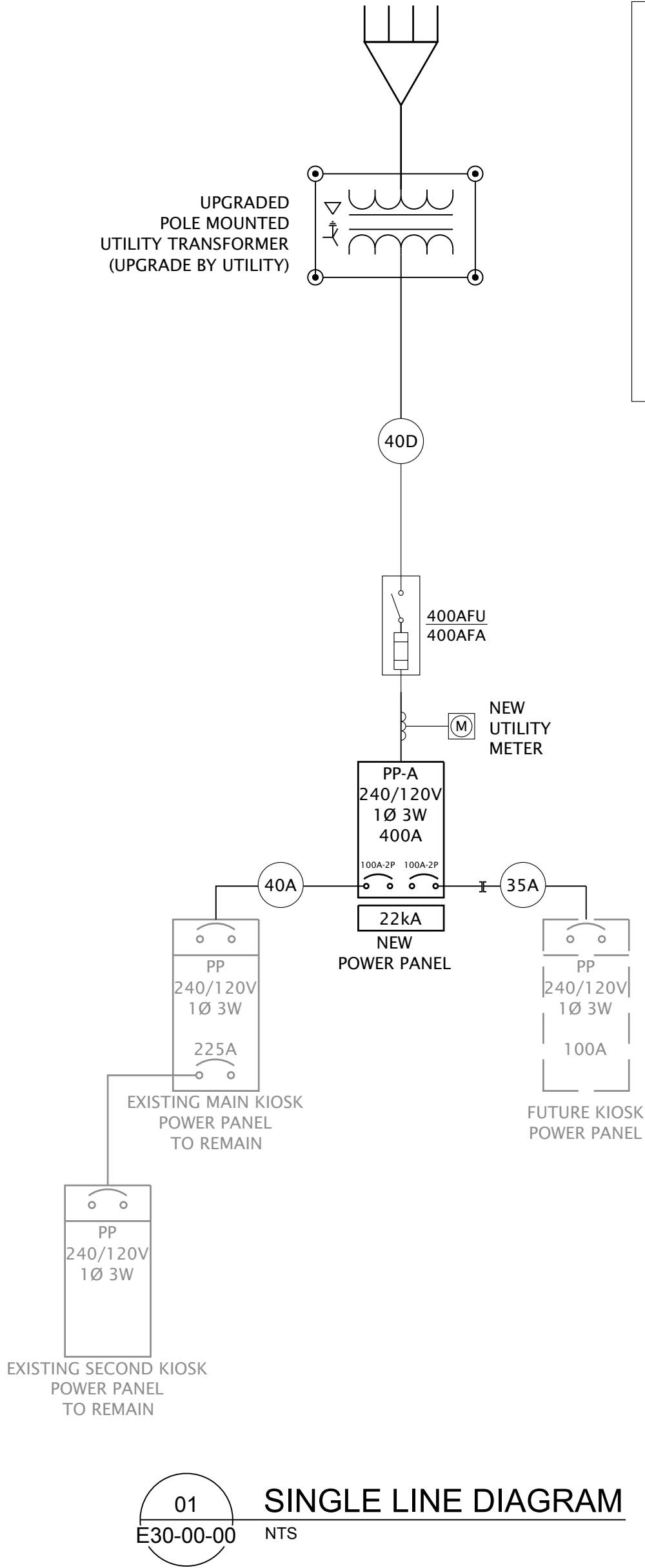
NCCA160188

Cct NO.	*	Load Description	Volt-Amperes		Breaker		Breaker		Volt-Amperes		Load Description	*	Cct No.
			A	B	Pole	A	A	Pole	A	B			
1		ELECTRICAL CURTAIN (WAC)	2450		2	30	100	2	10000		FUTURE KIOSK		2
3				2450						10000			4
5		FUR-1			1	20	15	1			ERV-1		6
7		EHW-1		2000	2	30	20	2		2800	ACCU-1		8
9			2000				15	1	2800				10
11		CAR PLUGS (6 PEDESTALS)		1950	2	30	20	2		1000	BASEBOARD HEATER (EBBH)		12
13			1950				20	1			SPARE		14
15		CAR PLUGS (4 PEDESTALS)		1300	2	30	20	1			SPARE		16
17			1300				20	1			SPARE		18
19		MAIN FLOOR LIGHTING			1	15	15	1			CASHIER-1 RECEPTACLES		20
21		BASEMENT LIGHTING			1	15	15	1			CASHIER-2 RECEPTACLES		22
23		SEPTIC TANK PANEL POWER			1	15	20	1			BASEMENT RECEPTACLES		24
25		WASHROOM POWER AND LIGHTING	500		1	15	20	1			EXTERIOR RECEPTACLE		26
27		EXTERIOR LIGHTING CONTROL PANEL			1	15	15	1		800	FRIDGE		28
29		BUILDING EXTERIOR LIGHTING			1	15	15	1			COUNTER TOP RECEPTACLES		30
31		WATER PUMP CONTROL PANEL			1	15	15	1		400	COFFEE MACHINE		32
33		MAIN FLOOR GENERAL RECEPTACLES			1	20	15	1	800		MICROWAVE		34
35		LANE AND OVERHEAD SIGN PANEL		5000	2	60	15	2			CAR PLUGS (SPARE)		36
37			5000										38
39		EXISTING KIOSK		10000	2	100	20	1			EXTERIOR LIGHTING (SPARE)		40
41			10000				20	1			EXTERIOR LIGHTING (SPARE)		42
43		MOTORIZED DAMPER EF-1			1	15							44
45					1	15	15	3			WATER WELL PUMP		46
47													48
49													50
51													52
53													54
55													56
57													58
59													60

Odd Circuit Number Subtotals				23200	22700	Features:		13600	15000				
Bus and Lugs Rating (A):				SLD	Total Phase A Load:	36.8		Remarks:					
Main Circuit Breaker Rating (A):				SLD	Total Phase B Load:	37.7							
Phase:				1	Total Connected Load:	74.5							
Wires:				3	Demand Factor:	100							
Line to Line Voltage (V):				240	Demand Load:	74.5							
Line to Neutral Voltage (V):				120	Future Load:	0.0		Project Title: JASPER EAST GATES					
Number of Poles:				84	Total Demand Load:	74.5		Project Number: NCCA16-0188					
								Plan Drawing Number: E30-00-00					
								Date: 2017-07-31				Revision: 1	

Mounting:		Total Demand Current:	310.4	Panelboard		PP-A	
NORR		411 1st St. SE, Calgary AB		Canada T2G 0V9			

LUMINAIRE SCHEDULE							
		Lamps					
TYPE	DESCRIPTION	TYPE	WATTS	NO.	VOLTS	MANUFACTURER	REMARKS
100	CRAWL SPACE KEYLESS LIGHTING	INC	60	1	120	LEVITON LIGHTING CAT# 9875	MINIMAL ACCEPTED STANDARD AS INDICATED.
301	EXTERIOR WALL PACK	LED	52		120	RAB DESIGN LIGHTING CAT# VEK2-LED52-A-3K	● MINIMAL ACCEPTED STANDARD AS INDICATED. ● DARK SKY COMPLIANCE.
302	4' LINEAR LIGHTING	LED	25		120	COOPER LIGHTING CAT# 4WSL-LD2-30-SRS-UNV-L835	MINIMAL ACCEPTED STANDARD AS INDICATED.
303	EXTERIOR POT LIGHT	LED	13		120	JUNO LIGHTING CAT# L6-1330-U-G3-90 L600P-C-WET	● MINIMAL ACCEPTED STANDARD AS INDICATED. ● DARK SKY COMPLIANCE.
BP1	EMERGENCY LIGHTING BATTERY PACK	LED	14	-	120	BEGHELLI MODEL# NV-12-120-BTMR2-12V/7W-AT	MINIMAL ACCEPTED STANDARD AS INDICATED.
RM1	EMERGENCY LIGHTING REMOTE MOUNTED HEAD	LED	14	-	120	BEGHELLI MODEL# BTMR2-LED-MR16-12V/7W-WH	AS NOTED ON PLANS MINIMAL ACCEPTED STANDARD AS INDICATED.
EX1	EXIT LIGHTING	LED	2.5	-	120	BEGHELLI MODEL# FORMA RM & GUIDA RM SERIES (GREEN RUNNING MAN)	AS NOTED ON PLANS MINIMAL ACCEPTED STANDARD AS INDICATED.
NOTES:							



- GENERAL NOTES:
- A) 'X -KAIC SYM.' DENOTES CALCULATED SHORT CIRCUIT CURRENT AVAILABILITY.
- B) SHORT CIRCUIT LEVELS BELOW 10KAIC SYM. ARE NOT SHOWN.
- C) IC LEVELS SHOWN REPRESENT MINIMUM REQUIRED INTERRUPTING CAPACITY. EQUIPMENT CAN HAVE IC RATINGS HIGHER THAN LEVELS INDICATED.
- D) ALL CONNECTIONS TO ROTATING MECHANICAL EQUIPMENT SHALL BE COPPER CONDUCTORS.
- E) SERIES RATING OF EQUIPMENT SHALL ONLY BE PERMITTED WHERE CALCULATED FAULT CURRENT EXCEEDS 22kA.
- F) ELECTRICAL CONTRACTOR TO ENSURE NEW INSTALLATION MEET ATCO ELECTRIC REQUIREMENTS FOR POWER CONNECTION AND METERING

Feeder Schedule		
TAG	CABLE DESIGNATION	CONDUIT
35A	3#1AWG RW75XLPE AL + 1#4AWG RW75XLPE AL GND	41MM
40A	3#250kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	63MM
40D	2 RUNS OF 3#250kcmil RW75XLPE AL + 1#2AWG RW75XLPE AL GND	63MM

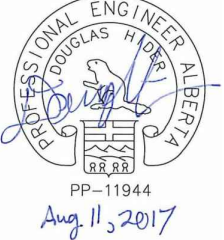


Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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SEAL:

PP-11344
Aug 11, 2017

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5	100% - ISSUED FOR BP	2017-08-11
4	ISSUED FOR FINAL REVIEW	2017-08-04
3	RE-ISSUED FOR 90% REVIEW	2017-03-09
2	90% REVIEW	2017-02-22
1	CLASS A COST ESTIMATE	2017-02-13
0	ISSUED FOR 30% REVIEW	2016/12/16

Revision	Description	Date
Client		client



Parks
Canada



Parcs
Canada

Project title
JASPER EAST GATE

Designed by
F.HAK
Conçu par
F.HAK

Drawn by
F.HAK
Dessiné par
F.HAK

Approved by
D.HIDER
Approuvé par
D.HIDER

PROJECT: Project Manager
C. Mariotti
Administrateur de Projets IP/SC

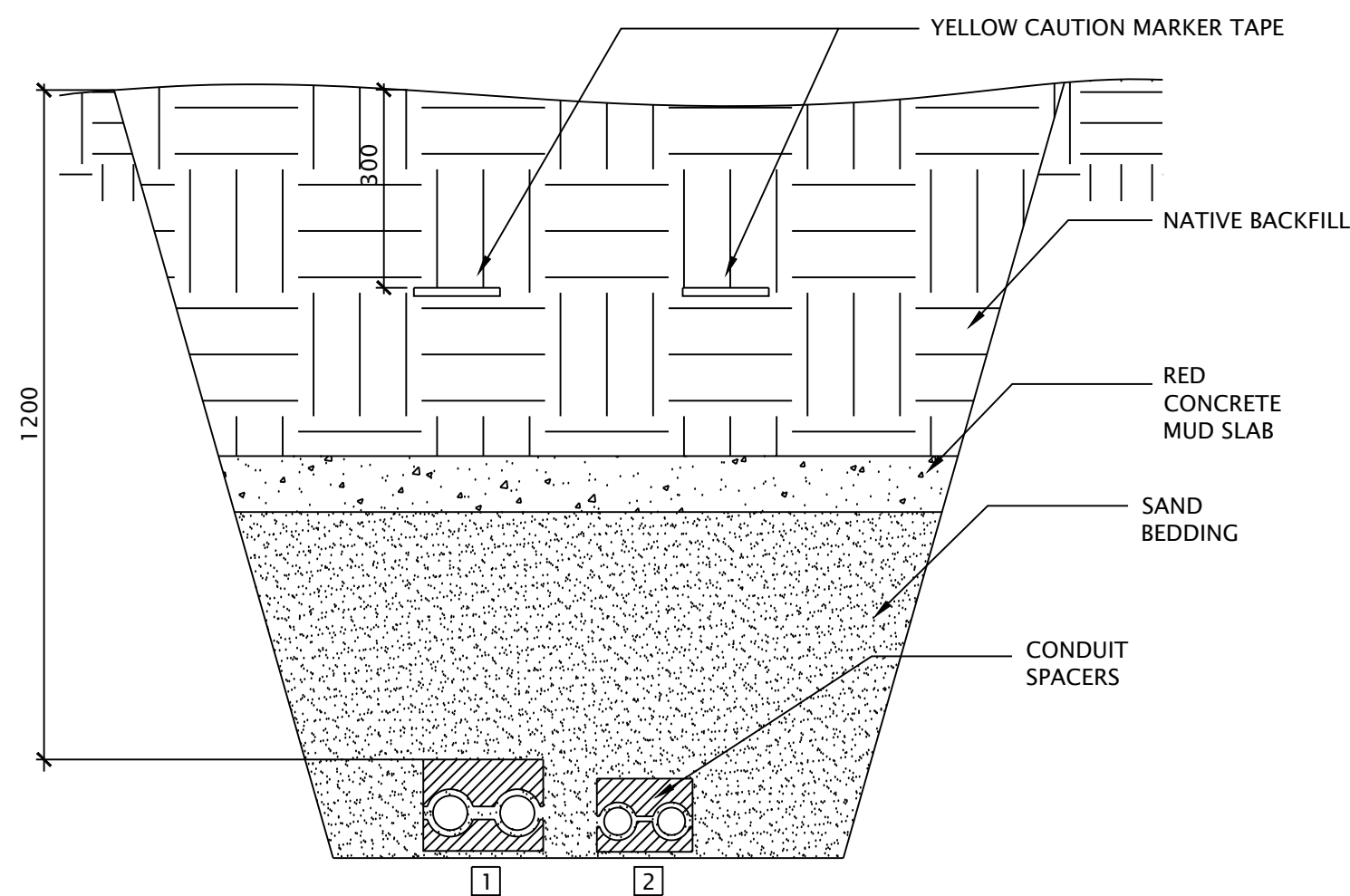
Drawing title
ELECTRICAL SCHEDULE AND
SINGLE LINE DIAGRAM
Titre du dessin

Project no./No. du projet
PRO1285

Drawing no./No. du dessin
E30-00-00

Revision no.
1

OF



THE CONDUIT NUMBER IN THIS DETAIL IS TYPICAL. FOR CONDUITS SIZE AND NUMBERS, REFER TO SITE PLAN AND SINGLE LINE DIAGRAM.

GENERAL NOTES:

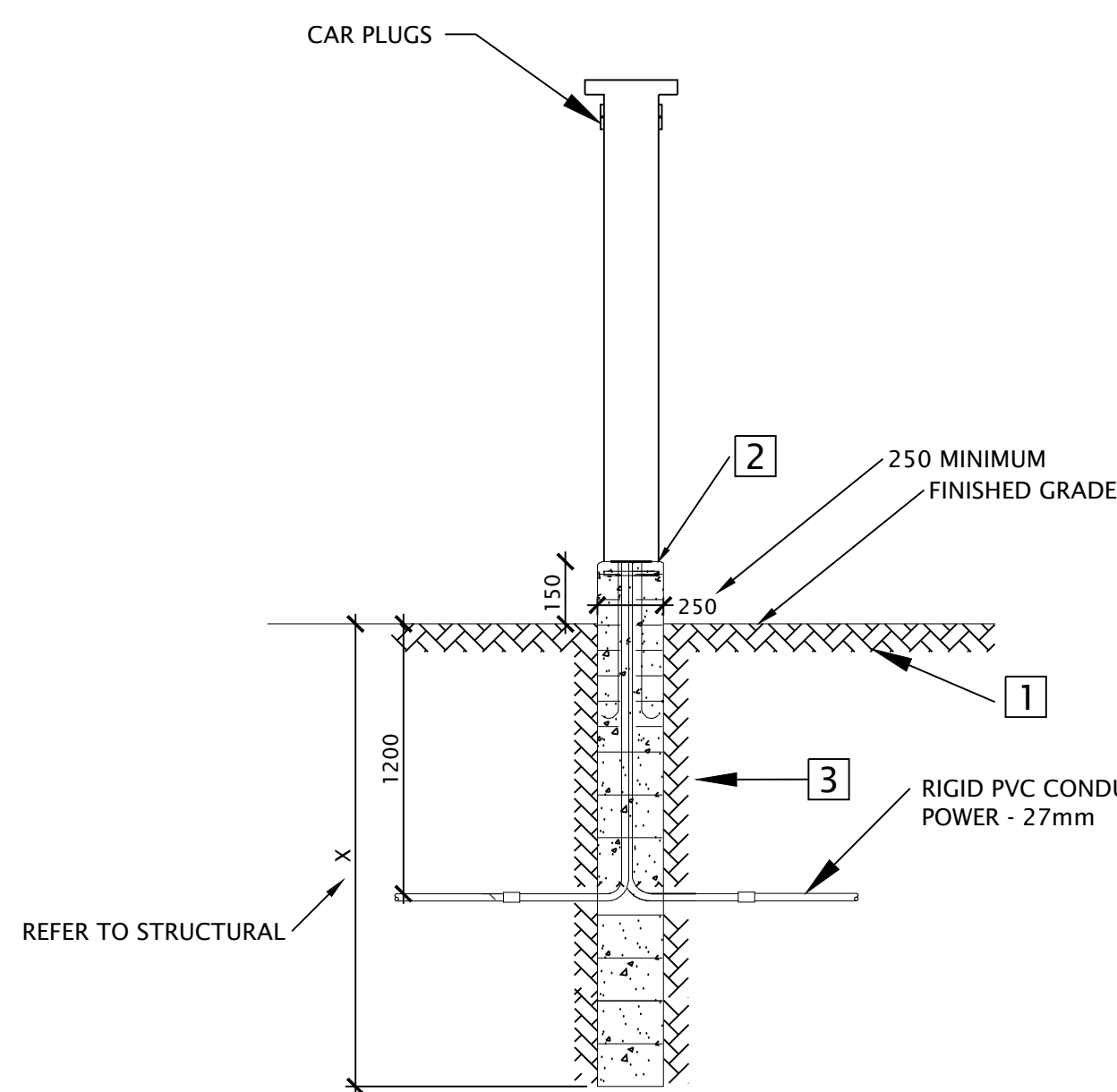
- THIS DETAIL IS TYPICAL FOR ALL BUILDINGS, COORDINATE ROUTING AND CONDUIT COUNTS WITH SITE PLAN, DETAILS AND SINGLE LINE DIAGRAM.
- MUD SLAB NOT REQUIRED FOR CONDUITS INSTALLED BELOW BUILDING OR GRASS.
- POWER CONDUITS ARE TO BE ARRANGED IN TRENCH PER DIAGRAM D11 IN CANADIAN ELECTRICAL CODE.

REFERRAL NOTES:

- POWER CONDUIT SIZE AND COUNT AS INDICATED ON SINGLE LINE DIAGRAM AND SITE PLAN.
- TELECOM CONDUITS SIZE AND COUNT AS INDICATED ON SITE PLAN.

01 ELECTRICAL DUCT BANK DETAIL

E40-00-00 N.T.S.



GENERAL NOTES:

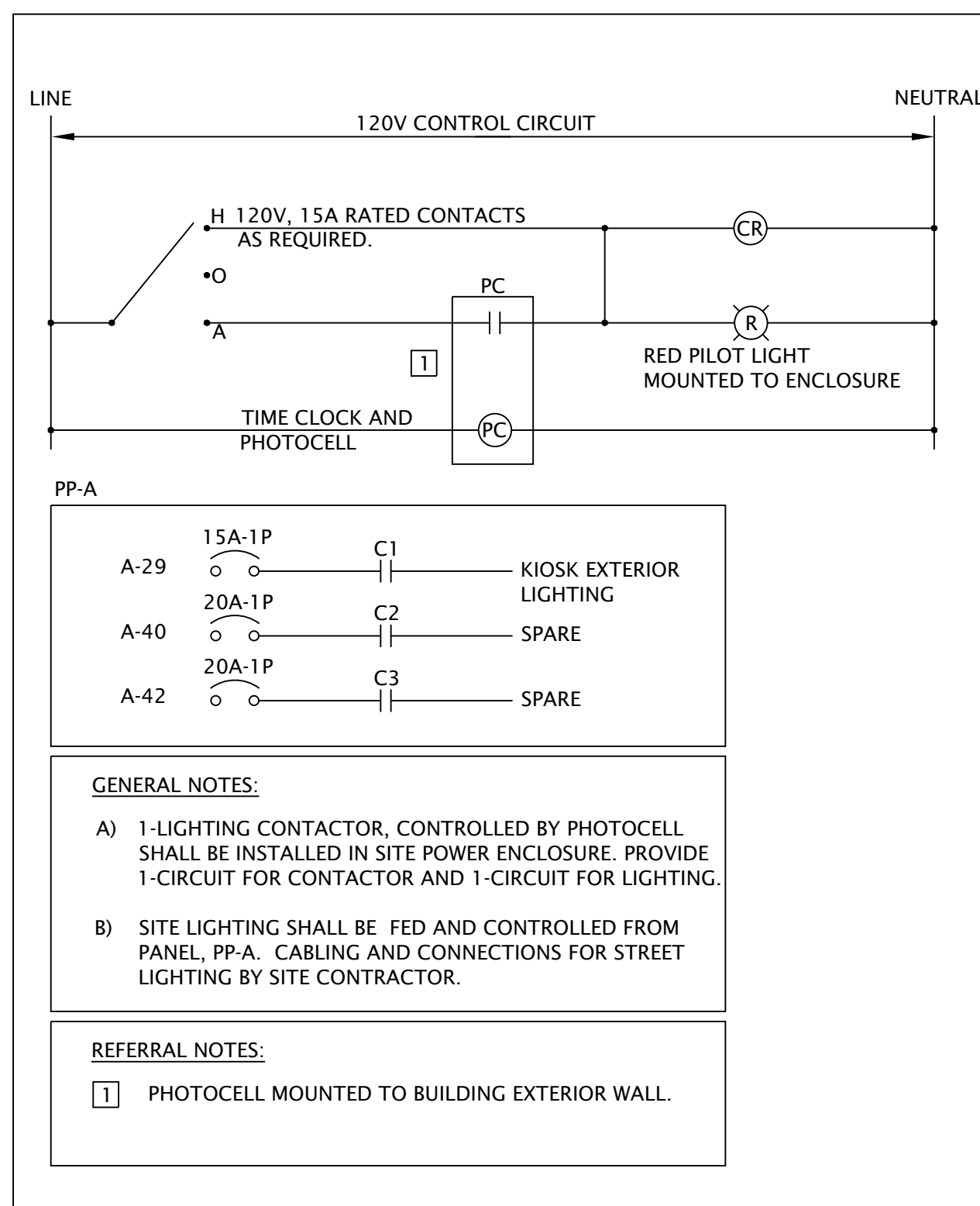
- BACKFILL, CONCRETE, REINFORCING STEEL AND ANCHOR BOLTS ARE SHOWN FOR REFERENCE ONLY, STRUCTURAL DESIGN IS SHOWN ON STRUCTURAL DRAWINGS.

REFERRAL NOTES:

- UNDISTURBED SOIL OR SELECT BACKFILL COMPACTED, SEE NOTE ABOVE.
- ANCHOR BOLTS PER MANUFACTURERS REQUIREMENTS WITH LEVELING NUTS ABOVE AND BELOW BASE PLATE.
- CONCRETE BASE AND REINFORCING STEEL. SEE GENERAL NOTE 'A'.

03 CAR PLUG TYPICAL DETAIL

E40-00-00 N.T.S.

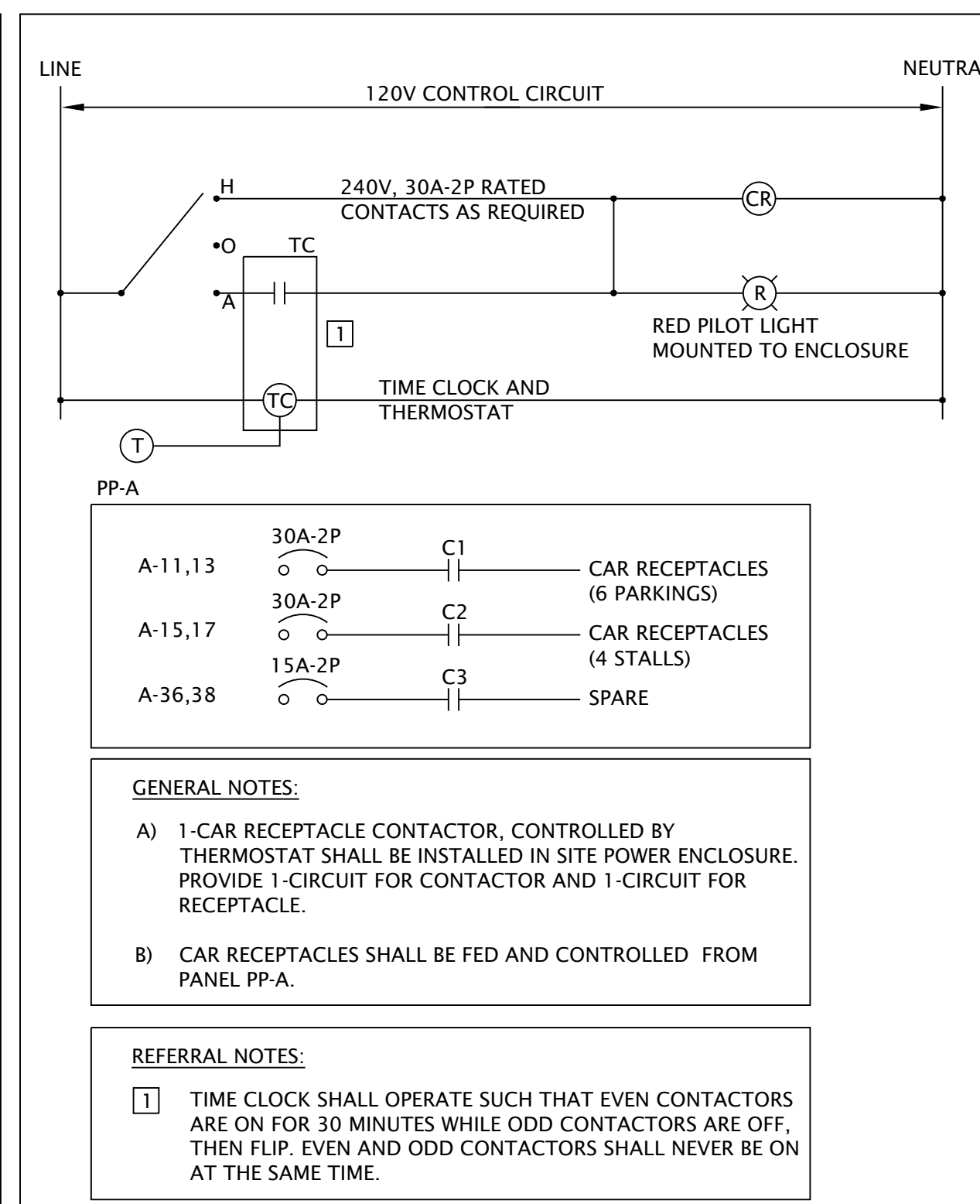


GENERAL NOTES:

- 1-LIGHTING CONTACTOR, CONTROLLED BY PHOTOCELL. SHALL BE INSTALLED IN SITE POWER ENCLOSURE. PROVIDE 1-CIRCUIT FOR CONTACTOR AND 1-CIRCUIT FOR LIGHTING.
- SITE LIGHTING SHALL BE FED AND CONTROLLED FROM PANEL, PP-A. CABLING AND CONNECTIONS FOR STREET LIGHTING BY SITE CONTRACTOR.

REFERRAL NOTES:

- PHOTOCELL MOUNTED TO BUILDING EXTERIOR WALL.



GENERAL NOTES:

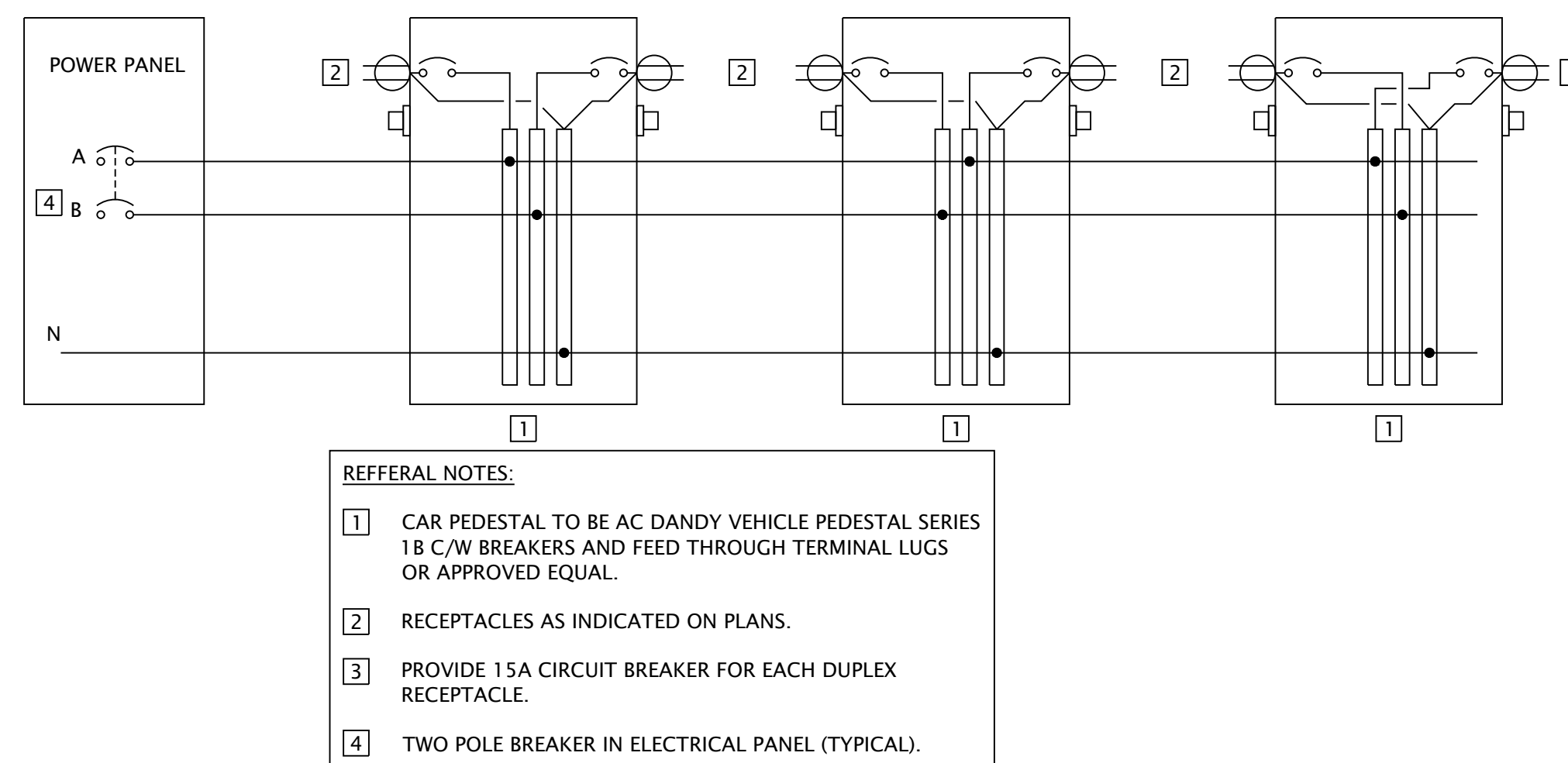
- 1-CAR RECEPTACLE CONTACTOR, CONTROLLED BY THERMOSTAT SHALL BE INSTALLED IN SITE POWER ENCLOSURE. PROVIDE 1-CIRCUIT FOR CONTACTOR AND 1-CIRCUIT FOR RECEPTACLE.
- CAR RECEPTACLES SHALL BE FED AND CONTROLLED FROM PANEL PP-A.

REFERRAL NOTES:

- TIME CLOCK SHALL OPERATE SUCH THAT EVEN CONTACTORS ARE ON FOR 30 MINUTES WHILE ODD CONTACTORS ARE OFF, THEN FLIP. EVEN AND ODD CONTACTORS SHALL NEVER BE ON AT THE SAME TIME.

02 SITE LIGHTING AND CAR RECEPTACLE CONTROL

E40-00-00 N.T.S.

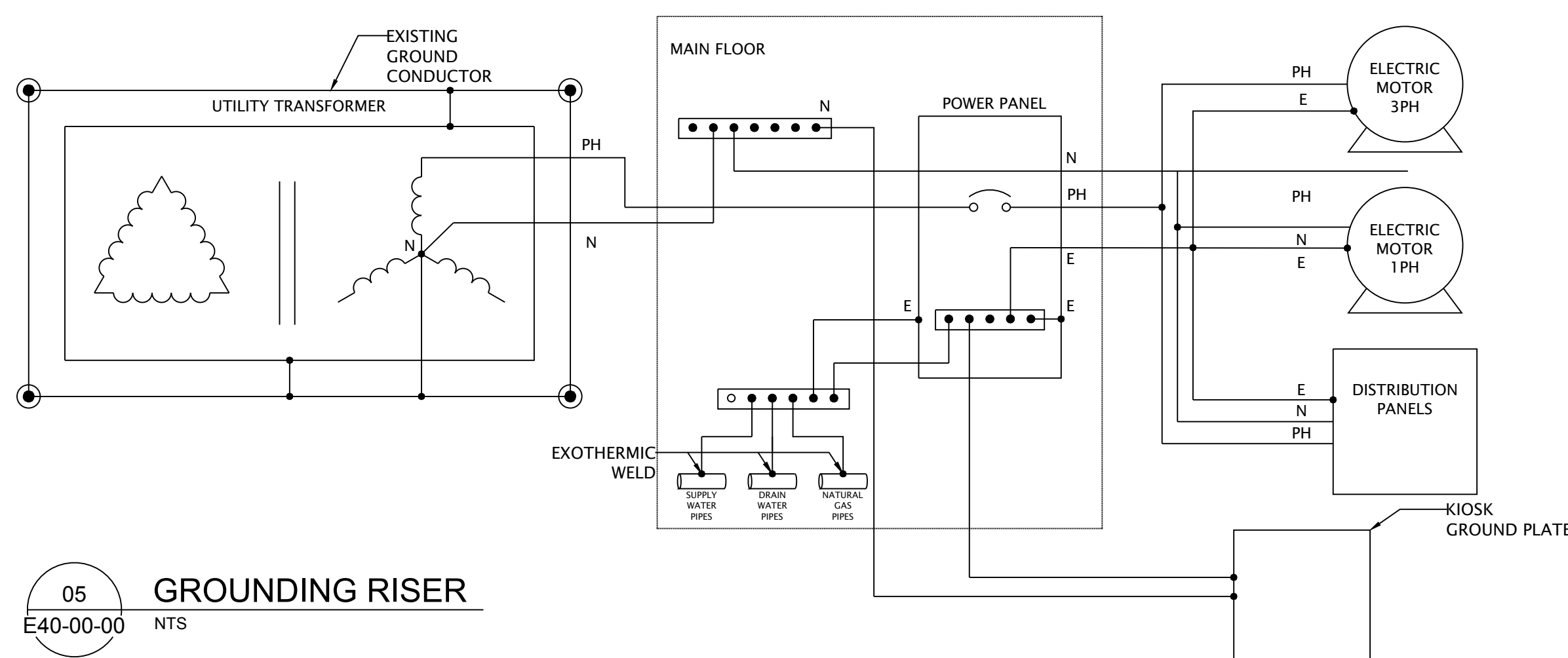


REFERRAL NOTES:

- CAR PEDESTAL TO BE AC DANDY VEHICLE PEDESTAL SERIES 1B C/W BREAKERS AND FEED THROUGH TERMINAL LUGS OR APPROVED EQUAL.
- RECEPTACLES AS INDICATED ON PLANS.
- PROVIDE 15A CIRCUIT BREAKER FOR EACH DUPLEX RECEPTACLE.
- TWO POLE BREAKER IN ELECTRICAL PANEL (TYPICAL).

04 TYPICAL CAR RECEPTALE WIRING DETAIL

E40-00-00 NTS



GENERAL NOTES:

- FOR SIMPLICITY PURPOSES, ONLY PHASE A HAS BEEN SHOWN. ALL PHASES SHALL BE CONNECTED IN A SIMILAR FASHION TO PHASE A.
- CSA APPROVED COMPRESSION OR BOLTED FITTING SHALL BE USED FOR ABOVE GROUND CONNECTION.
- ALL UNDER GROUND CONNECTIONS AND ALL CONDUCTOR TO PIPE OR ROD CONNECTION SHALL BE DONE BY EXOTHERMIC WELD OR OTHER CSA APPROVED METHOD..
- UTILITY TRANSFORMER GROUNDING SYSTEM SHALL BE DONE BASED ON UTILITY STANDARDS AND REQUIREMENTS.
- GROUND ROD SHALL BE CONSIDERED AS TWO 1.5m PARTS WHICH ARE CONNECTED VIA COUPLING.
- MIN. 3m DISTANCE SHALL BE CONSIDERED BETWEEN ADJACENT GROUND RODS.
- ALL SAME PANELS FOR TRANSFORMERS SHALL BE CONSIDERED WITH THE SHOWN GROUNDING SYSTEM.
- GROUNDING DIAGRAM INDICATES TYPICAL; CONNECTION, GROUNDING WILL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT.

05 GROUNDING RISER

E40-00-00 NTS

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1	CLASS A COST ESTIMATE	2017-02-13
0	ISSUED FOR 30% REVIEW	2016/12/16

Revisions: Client Description: Date: Client

Client: Client



Project title: Project

JASPER EAST GATE

Designed by: F.HAK Conçu par:

Drawn by: F.HAK Dessiné par:

Approved by: D.HIDER Approuvé par:

Project Manager: C. Mariotti Administrateur de Projets: C. Mariotti

Drawing title: Électrical Details Titre du dessin:

Project no./No. du projet: PRO1285 Drawing no./No. du dessin: E40-00-00 Revision no.: 1

Project no./No. du projet: PRO1285 Drawing no./No. du dessin: E40-00-00 Revision no.: 1

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