



**McElhanney**

for / pour



**Parks Canada  
Agency**

**L'Agence Parcs  
Canada**

# **HIGHWAY 16 PASSING LANE KM2.5 TO KM4.5 WB**

## **JASPER NATIONAL PARK, AB**

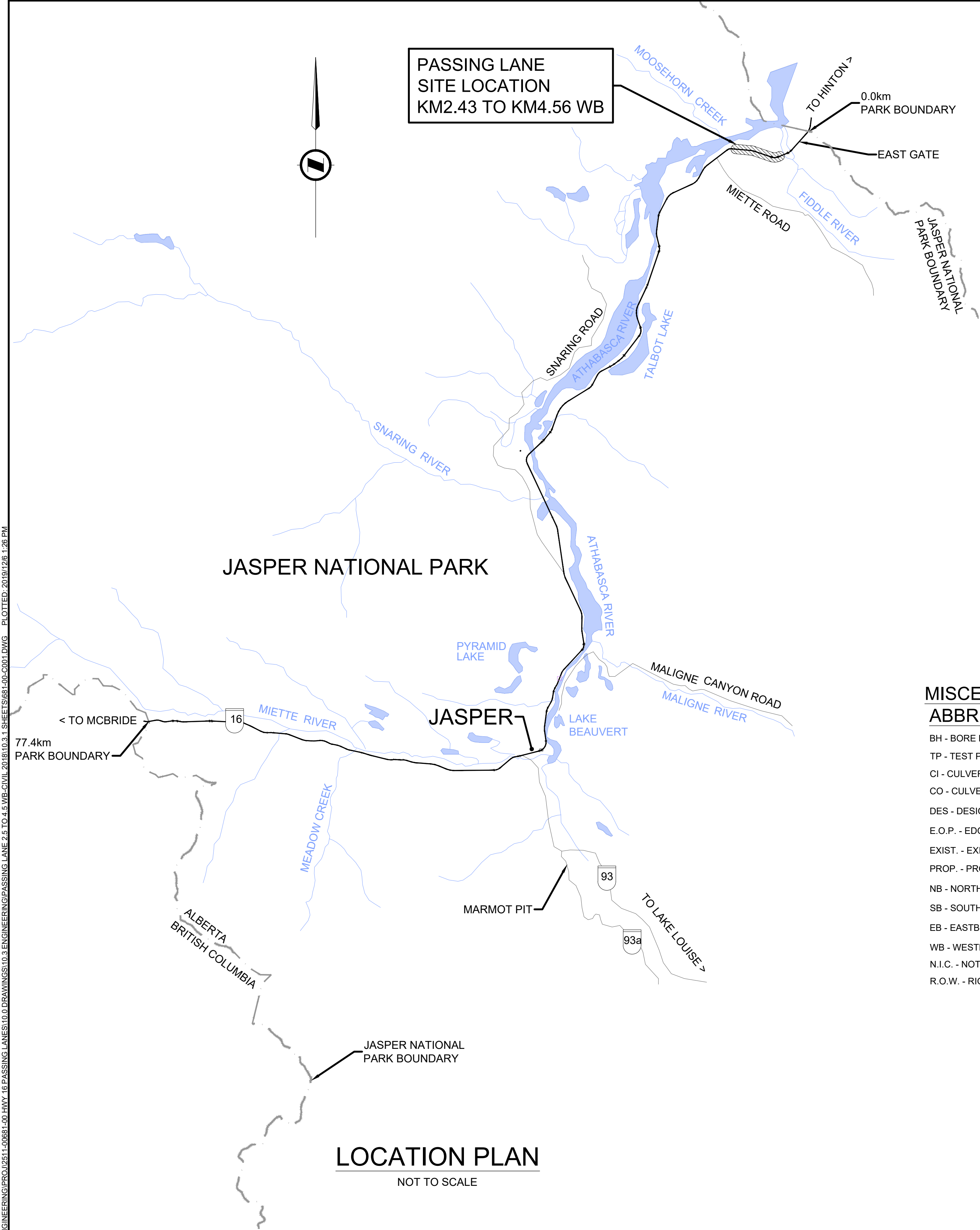
**ISSUED FOR TENDER**

**PROJECT NO. 1057-03**

**DECEMBER 2019**

**C000**

PASSING LANE  
SITE LOCATION  
KM2.43 TO KM4.56 WB



LOCATION PLAN  
NOT TO SCALE

DRAWING INDEX

SHEET No.	REV No.	SHEET TITLE
C000		COVER PAGE
C001	1	LOCATION PLAN, LEGEND & DRAWING INDEX
C002	1	KEY PLAN (PLAN & PROFILE) (PAVEMENT MARKINGS & SIGNAGE)
C101	1	PLAN & PROFILE STA. 2+428.91 TO STA. 2+850
C102	1	PLAN & PROFILE STA. 2+850 TO STA. 3+500
C103	1	PLAN & PROFILE STA. 3+500 TO STA. 4+150
C104	1	PLAN & PROFILE STA. 4+150 TO STA. 4+563.58
C301	1	TYPICAL SECTIONS
C302	1	CULVERT DETAILS
C401	1	PAVEMENT MARKINGS & SIGNAGE STA. 2+428 TO STA. 3+500
C402	1	PAVEMENT MARKINGS & SIGNAGE STA. 3+500 TO STA. 4+563.58

MISCELLANEOUS  
ABBREVIATIONS

- BH - BORE HOLE
- TP - TEST PIT
- CI - CULVERT INLET
- CO - CULVERT OUTLET
- DES - DESIGN
- E.O.P. - EDGE OF PAVEMENT
- EXIST. - EXISTING
- PROP. - PROPOSED
- NB - NORTHBOUND
- SB - SOUTHBOUND
- EB - EASTBOUND
- WB - WESTBOUND
- N.I.C. - NOT IN CONTRACT
- R.O.W. - RIGHT OF WAY

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
- B.O.F. - BOTTOM OF FILL
- T.O.C. - TOP OF CUT

LEGEND

- | EXISTING | PROPOSED                        |
|----------|---------------------------------|
|          | CLEARING                        |
|          | GRUBBING                        |
|          | APPROXIMATE B.O.F.              |
|          | APPROXIMATE T.O.C.              |
|          | DITCH                           |
|          | DRAINAGE FLOW DIRECTION         |
|          | APPROXIMATE TREELINE            |
|          | UTILITY LINE                    |
|          | APPROXIMATE EXISTING TELUS LINE |
|          | FULL DEPTH PAVEMENT             |
|          | 50mm PAVEMENT MILL AND INLAY    |
|          | SURVEY GRID (NAD 83)            |
|          | CULVERT                         |
|          | CONTROL POINT                   |
|          | DRAINAGE CHANNEL                |
|          | WETLAND                         |
|          | DIRECTIONAL ARROW               |
|          | BOREHOLES                       |
|          | TEST PITS                       |

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TENDER

1	2019.12.06	ISSUED FOR TENDER	M.B.	S.Y.	S.A.
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé

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

Client	<div> Parks Canada Agency</div>	<div> L'Agence Parcs Canada</div>
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Consultant's Name Nom de l'expert-conseil	<div> McElhanney</div>	<div>Suite 200 858 Beatty Street Vancouver BC Canada V6B 1C1 T 604 683 8521</div>
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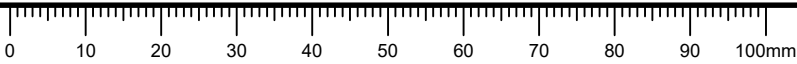
Project Title Titre du projet	<div>HIGHWAY 16 PASSING LANE KM2.5 TO KM4.5 WB</div>
	<div>JASPER NATIONAL PARK, ALBERTA</div>

Drawing Title Titre du dessin	<div>LOCATION PLAN, LEGEND &amp; DRAWING INDEX</div>
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Surveyed by / Arpenté par	Drawn by / Dessiné par M.B.	Date 2019.12.06
Designed by / Conçu par S.Y.	Reviewed by / Révisé par S.A.	Scale / Echelle NOT TO SCALE

Parks Canada Project Manager / Administrateur de Projets Parcs Canada		
Client Acceptance / Acceptation du client	Approved by / Approuvé par	
Project No. / No. du projet 1057-03	Asset No. / No. du-bien	Sheet No. No. de la feuille C001
Drawing Reference No. / No. de référence du dessin 2511-00681-00		

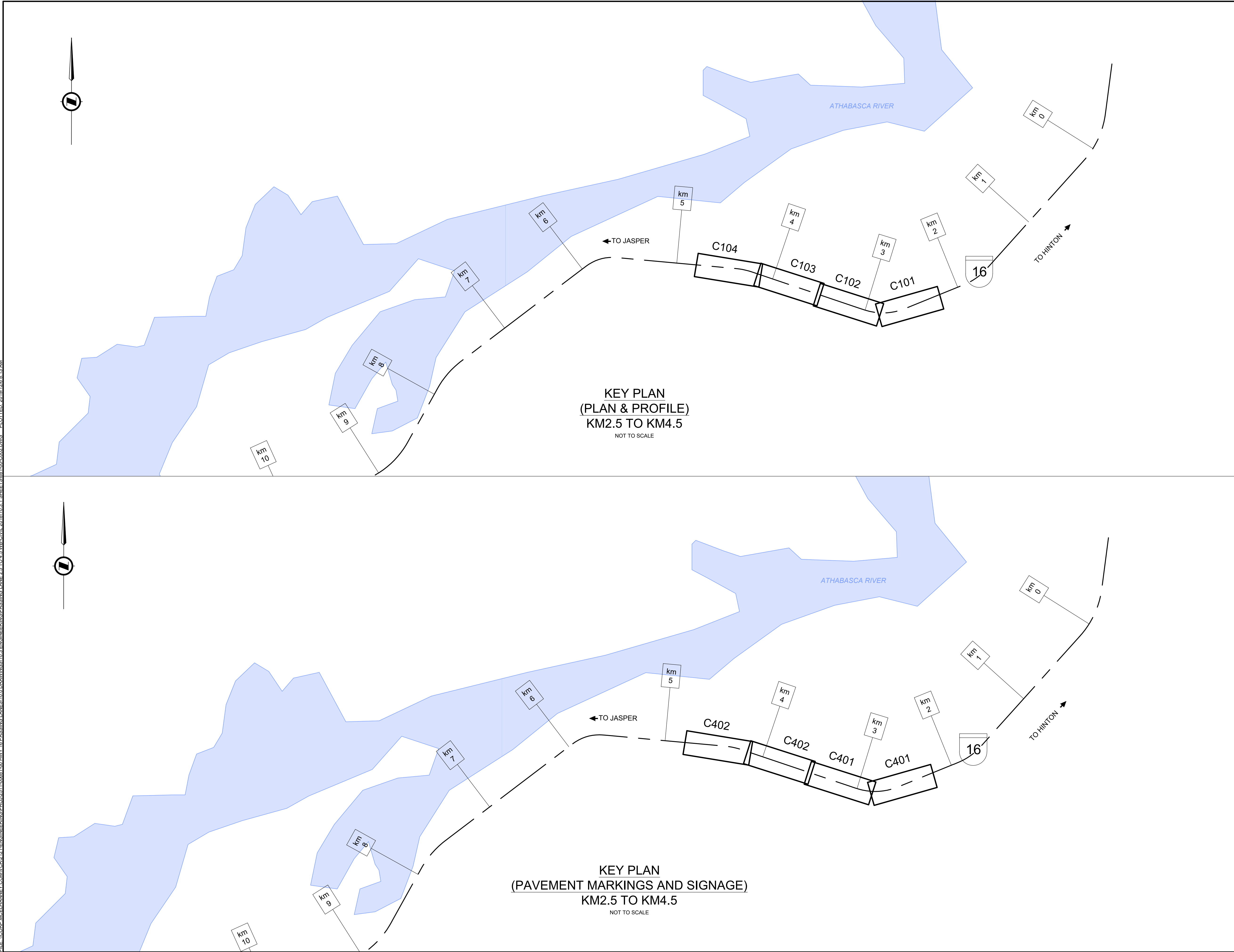
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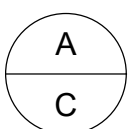
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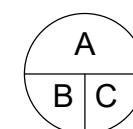
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A detail number  
B source drawing no.  
C detail on drawing no.



Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
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Client	Parks Canada Agency	L'Agence Parcs Canada
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Consultant's Name Nom de l'expert-conseil		Suite 200 858 Beatty Street Vancouver BC Canada V6B 1C1 T 604 683 8521
--	--	--

Project Title Titre du projet	<b>HIGHWAY 16 PASSING LANE KM2.5 TO KM4.5 WB</b>
	JASPER NATIONAL PARK, ALBERTA

Drawing Title Titre du dessin	<b>KEY PLAN (PLAN &amp; PROFILE) (PAVEMENT MARKINGS &amp; SIGNAGE)</b>
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Surveyed by / Arpenté par	Drawn by / Dessiné par M.B.	Date 2019.12.06
Designed by / Conçu par S.Y.	Reviewed by / Révisé par S.A.	Scale / Echelle NOT TO SCALE

Parks Canada Project Manager / Administrateur de Projets Parcs Canada		
Client Acceptance / Acceptation du client	Approved by / Approuvé par	
Project No. / No. du projet 1057-03	Asset No. / No. du-bien	Sheet No. No. de la feuille C002
Drawing Reference No. / No. de référence du dessin 2511-00681-00		

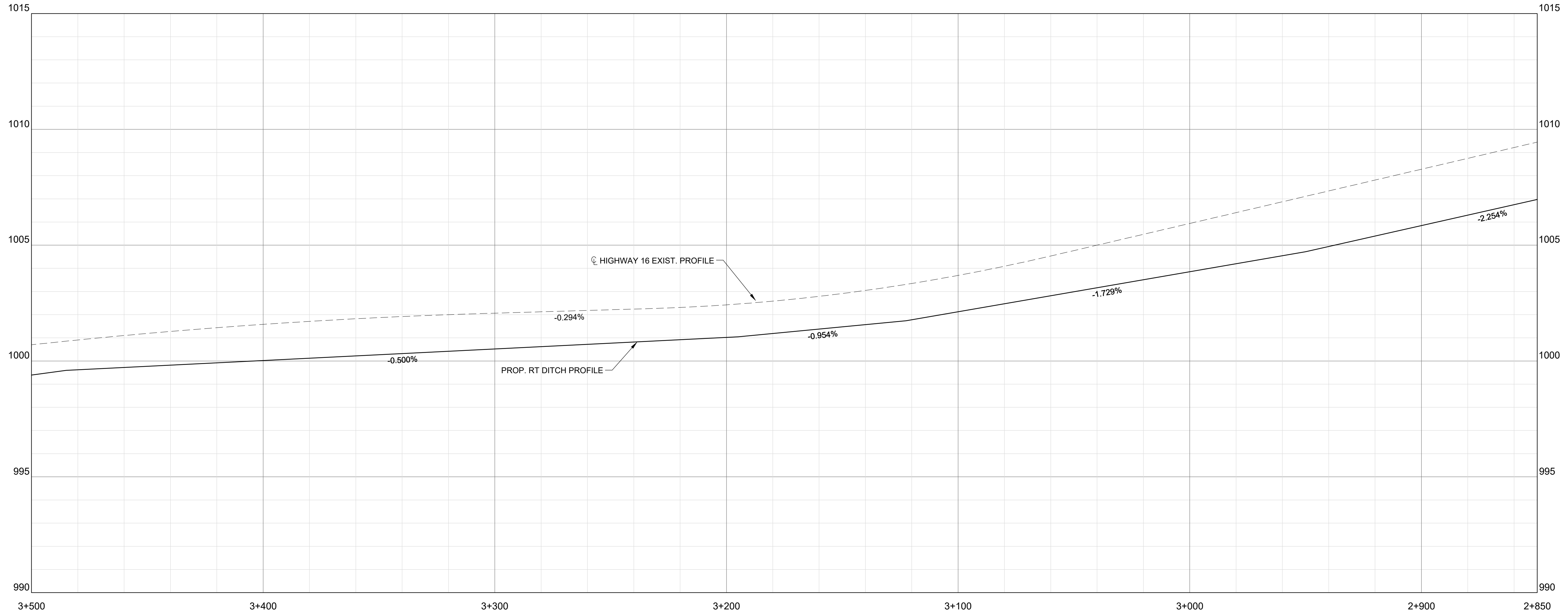
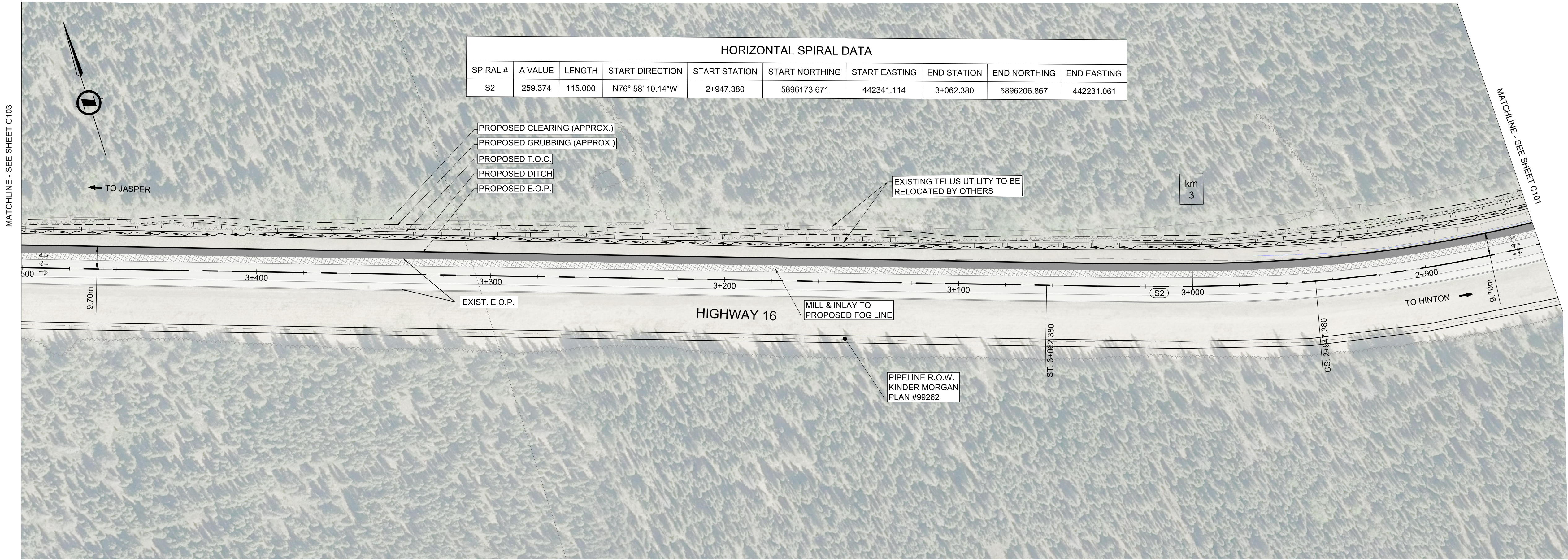
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POSTED SPEED 90 km/h  
DESIGN SPEED 100 km/h



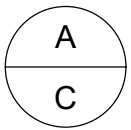
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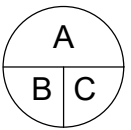
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A detail number  
B numéro de détail  
C source drawing no.  
de dessin no.  
detail on drawing no.  
détail sur dessin no.



Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
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Client	 Parks Canada Agency	L'Agence Parcs Canada
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Consultant's Name Nom de l'expert-conseil	 <b>McElhanney</b>	Suite 200 858 Beatty Street Vancouver BC Canada V6B 1C1 T 604 683 8521
--	---	--

Project Title Titre du projet	HIGHWAY 16 PASSING LANE KM2.5 TO KM4.5 WB
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JASPER NATIONAL PARK, ALBERTA
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Drawing Title Titre du dessin	PLAN & PROFILE STA. 2+850 TO STA. 3+500
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Surveyed by / Arpenté par	Drawn by / Dessiné par M.B.	Date 2019.12.06
Designed by / Conçu par S.Y.	Reviewed by / Révisé par S.A.	Scale / Echelle 1:1000

Parks Canada Project Manager / Administrateur de Projets Parcs Canada

Client Acceptance / Acceptation du client	Approved by / Approuvé par
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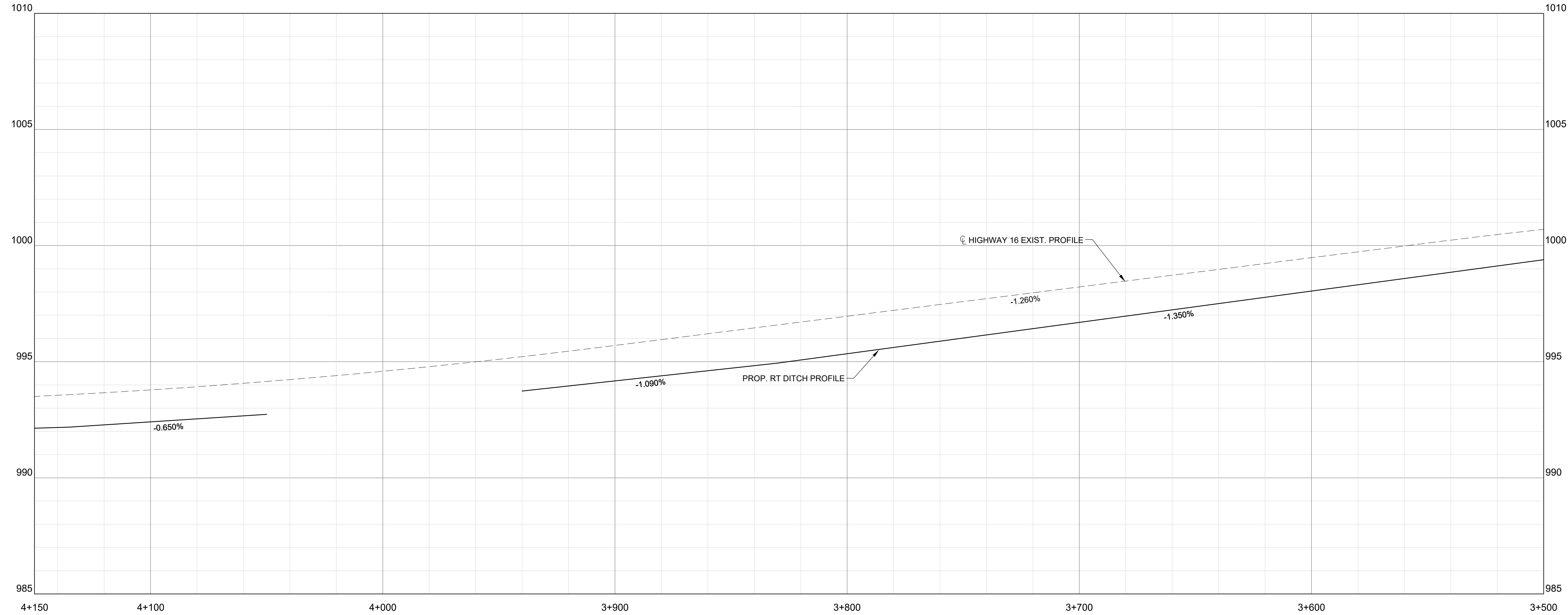
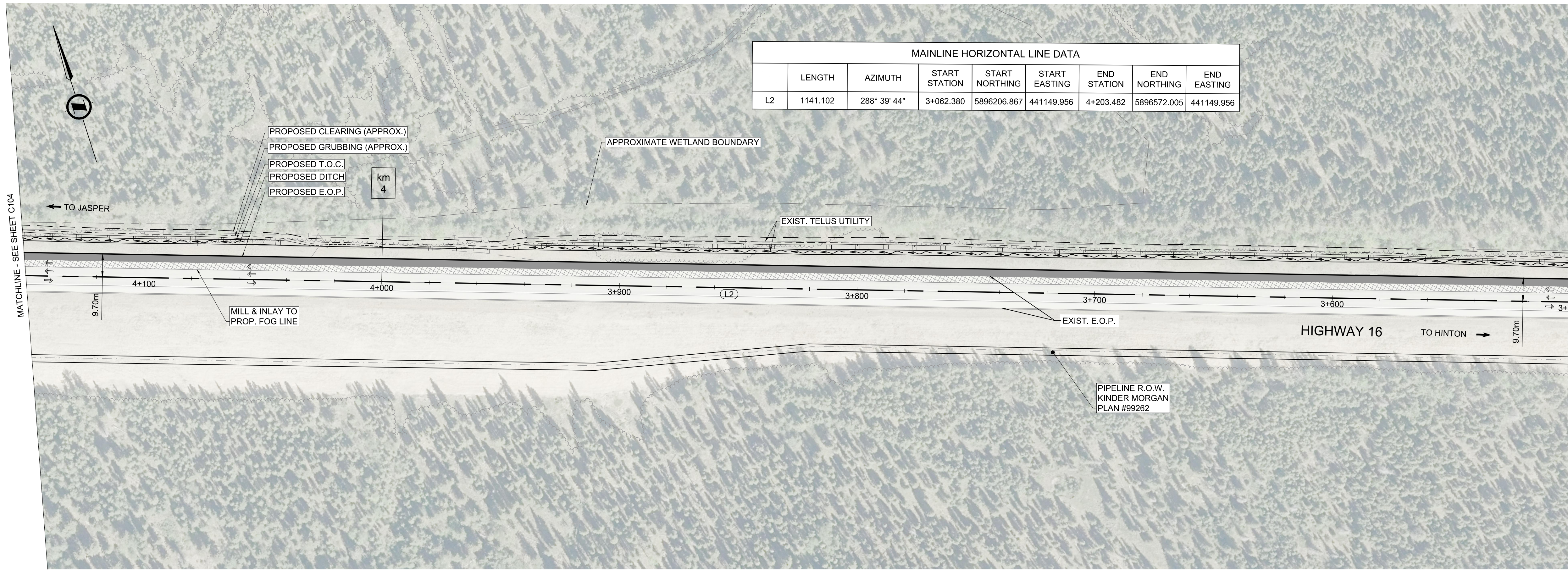
Project No. / No. du projet 1057-03	Asset No. / No. du bien	Sheet No. No. de la feuille C102
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Drawing Reference No. / No. de référence du dessin 2511-00681-00	
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POSTED SPEED 90 km/h  
DESIGN SPEED 100 km/h

MAINLINE HORIZONTAL LINE DATA								
	LENGTH	AZIMUTH	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING
L2	1141.102	288° 39' 44"	3+062.380	5896206.867	441149.956	4+203.482	5896572.005	441149.956

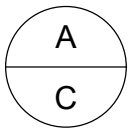
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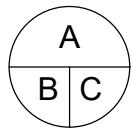
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1	2019.12.06	ISSUED FOR TENDER	M.B.	S.Y.	S.A.



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

L'Agence Parcs  
Canada

Consultant's Name  
Nom de l'expert-conseil



McElhanney

Suite 200  
858 Beatty Street  
Vancouver BC  
Canada V6B 1C1  
T 604 683 8521

Project Title  
Titre du projet

HIGHWAY 16  
PASSING LANE KM2.5 TO KM4.5 WB

JASPER NATIONAL PARK, ALBERTA

Drawing Title  
Titre du dessin

PLAN & PROFILE  
STA. 3+500 TO STA. 4+150

Surveyed by / Arpenté par

Drawn by / Dessiné par

Date

M.B.

2019.12.06

Designed by / Conçu par

Reviewed by / Révisé par

Scale / Echelle

S.Y.

S.A.

1:1000

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

Asset No. / No. du-bien

Sheet No.  
No. de la feuille

1057-03

Drawing Reference No. / No. de référence du dessin

C103

2511-00681-00

Paper Size: ANSI D (22 x 34")







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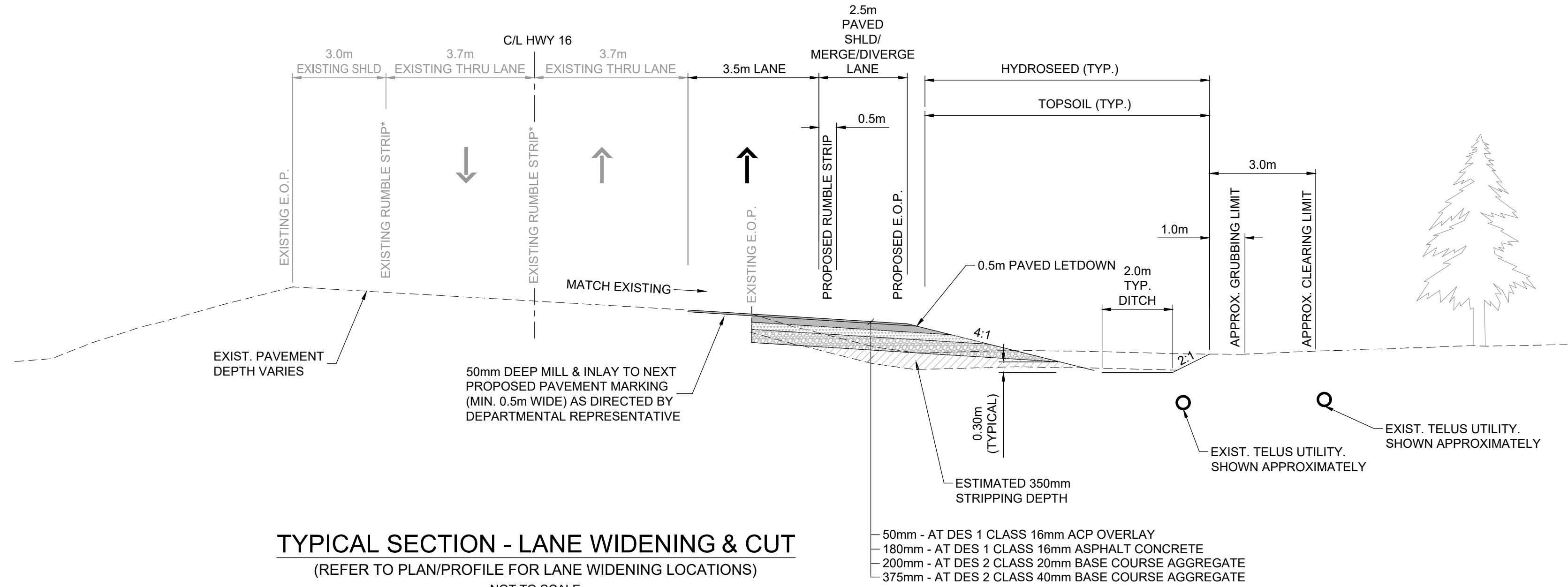
**EXCAVATION NOTE**

UNSUITABLE FOUNDATION SOILS MAY BE REQUIRED TO BE REMOVED AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE. REPLACE WITH APPROVED GRANULAR BACKFILL. VOLUME OF UNSUITABLE MATERIALS MUST BE MEASURED AND APPROVED PRIOR TO BACKFILLING.

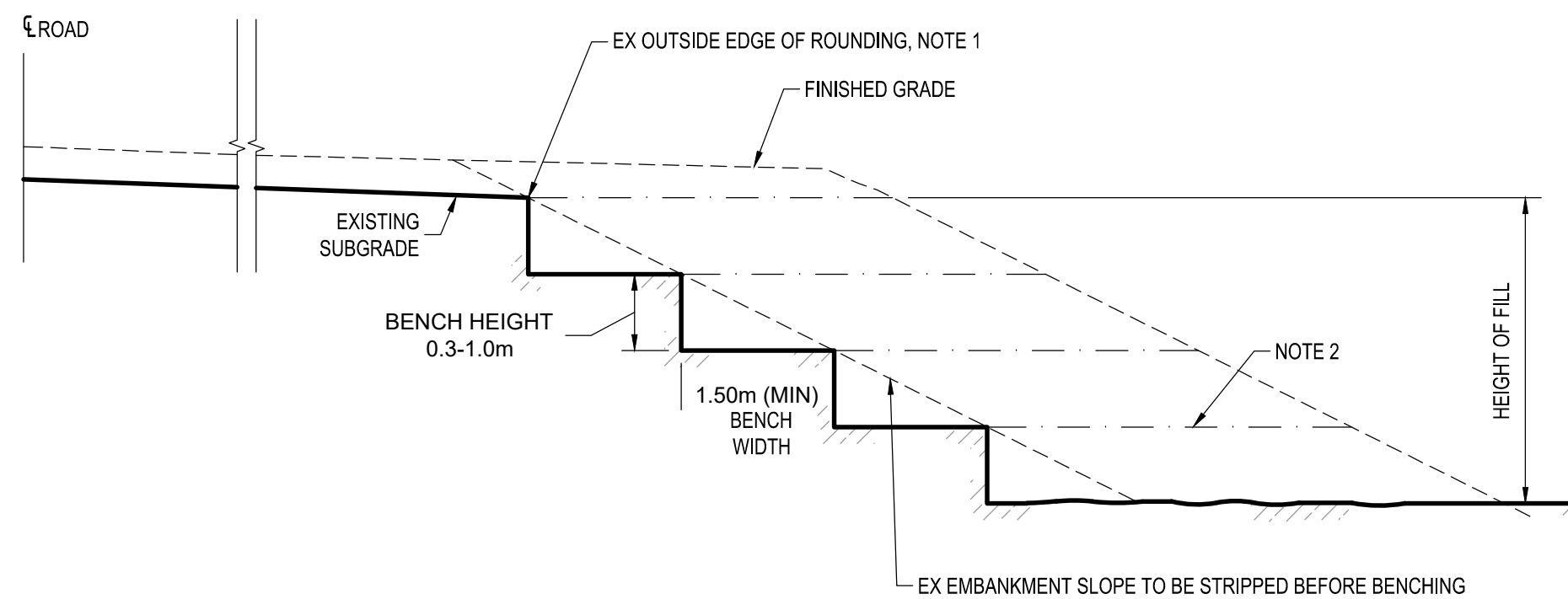
**RUMBLE STRIP NOTES**

UNLESS DIRECTED OTHERWISE BY DEPARTMENTAL REPRESENTATIVE:

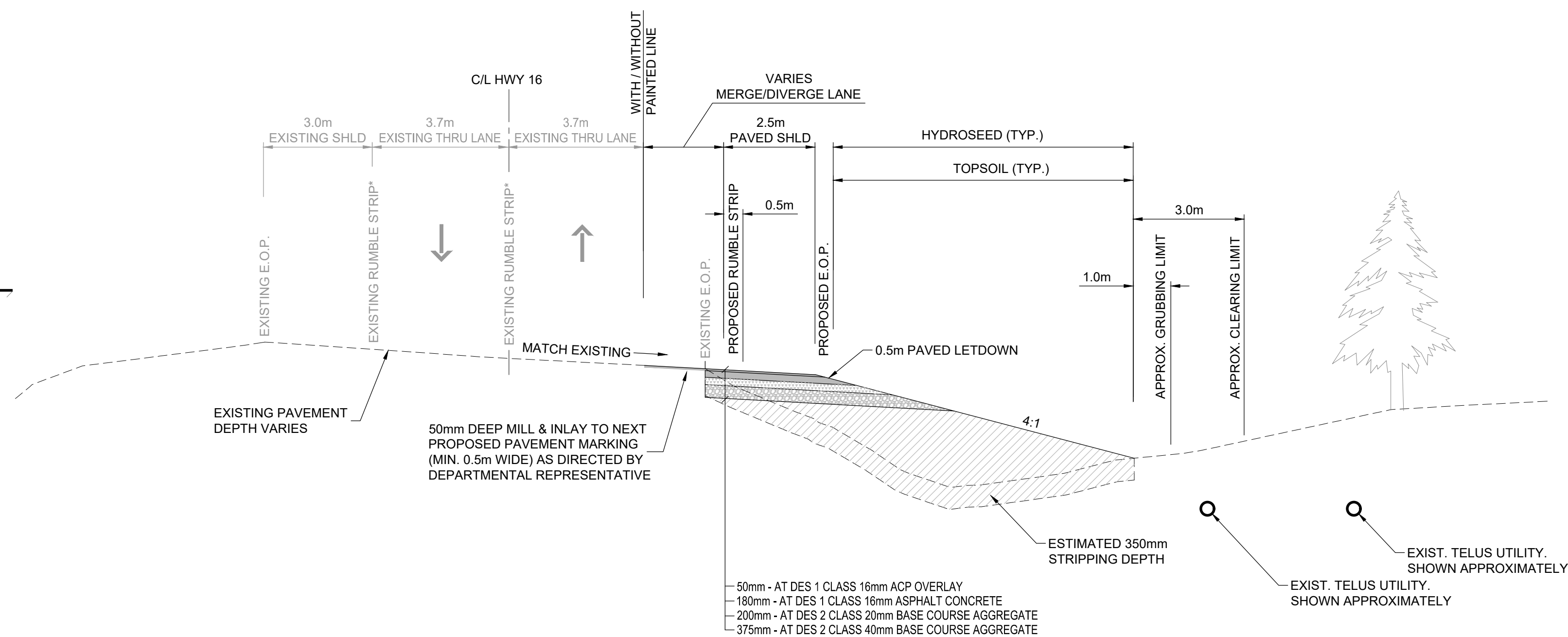
1. BICYCLE FRIENDLY SHOULDER RUMBLE STRIPS IN ACCORDANCE WITH AT DESIGN BULLETIN #18 AND TAC 2017 FIGURE 4.4.4: BICYCLE FRIENDLY SHOULDER RUMBLE STRIPS
2. RUMBLE STRIPS SHALL NOT BE INSTALLED:
  - 2.1. INSIDE OF GUARDRAILS OR CONCRETE BARRIERS WHERE DISTANCE FROM FOGLINE TO FACE OF BARRIER IS LESS THAN 2.5m
  - 2.2. WHERE PAVED SHOULDER WIDTH IS LESS THAN 2.0m
  - 2.3. ADJACENT TO ANY INTERSECTION TREATMENT PAVEMENT MARKINGS, OR WITHIN 60m OF ANY SIDE ROAD OR DUA.



\* INSTALL CENTERLINE RUMBLE STRIP BETWEEN STA 2+398 TO 4+564



- NOTES:**
1. BENCHING IS NOT REQUIRED ON EXISTING SLOPES FLATTER THAN 3H:1V.
  2. BENCHES ARE TO BE EXCAVATED ONE LEVEL AT A TIME AND THE FILL PLACED AND COMPACTED BEFORE THE NEXT BENCH IS EXCAVATED.
  3. 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.
  4. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.





## BENCH OF EARTH SLOPES

NOT TO SCALE

**TYPICAL SECTION - TAPER WIDENING & FILL**  
(REFER TO PLAN/PROFILE FOR E.O.P TAPER LOCATIONS)  
NOT TO SCALE


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TENDER**

1	2019.12.06	ISSUED FOR TENDER	M.B.	S.Y.	S.A
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	<p>A detail number numéro de detail</p> <p>B source drawing no. de dessin no.</p> <p>C detail on drawing no. detail sur dessin no.</p>	
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Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
---	------------------------------------

Client

 Parks Canada  
Agency

L'Agence Parcs  
Canada

Consultant's Name  
Nom de l'expert-conseil

 **McElhanney**

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Vancouver BC  
Canada V6B 1C1  
T 604 683 8521

Project Title  
Titre du projet

HIGHWAY 16  
PASSING LANE KM2.5 TO KM4.5 WB

JASPER NATIONAL PARK, ALBERTA

Drawing Title  
Titre du dessin

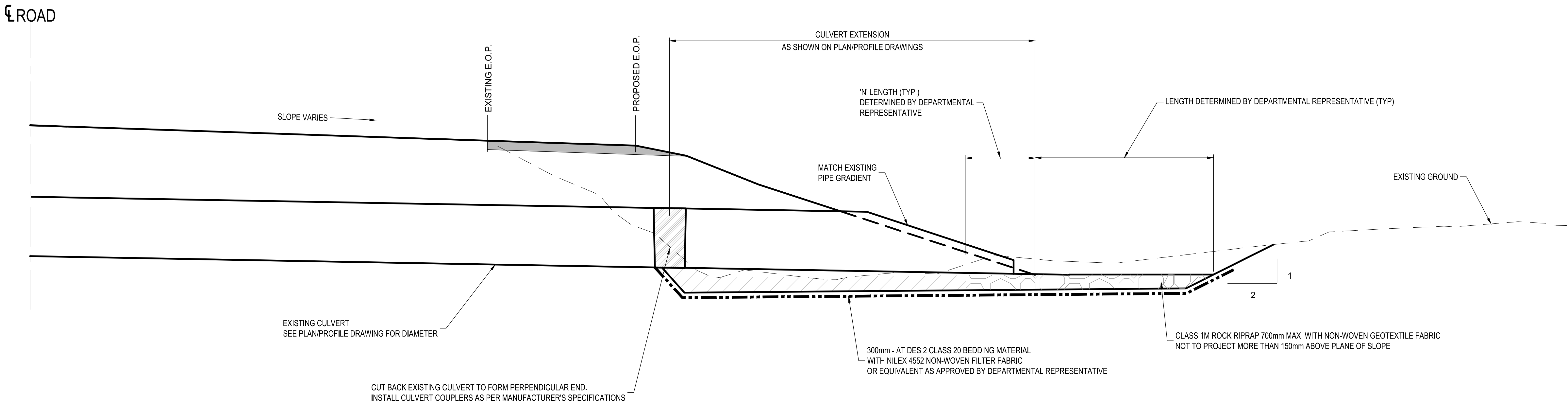
# TYPICAL SECTIONS

Surveyed by / Arpenté par	Drawn by / Dessiné par	Date
	M.B.	2019.12.06
Designed by / Conçu par	Reviewed by / Révisé par	Scale / Échelle
S.Y.	S.A.	NOT TO SCALE

Parks Canada Project Manager / Administrateur de Projets Parcs Canada		
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<div></div> <div>Parks Canada Responsible Officer / Agent Responsable Parcs Canada</div>		<div></div> <div>Parks Canada Project Manager / Administrateur de Projets Parcs Canada</div>
Project No. / No. du projet	Asset No. / No. du bien	Sheet No. No. de la feuille  <b>C301</b>
1057-03		
Drawing Reference No. / No. de référence du dessin  2511-00681-00		

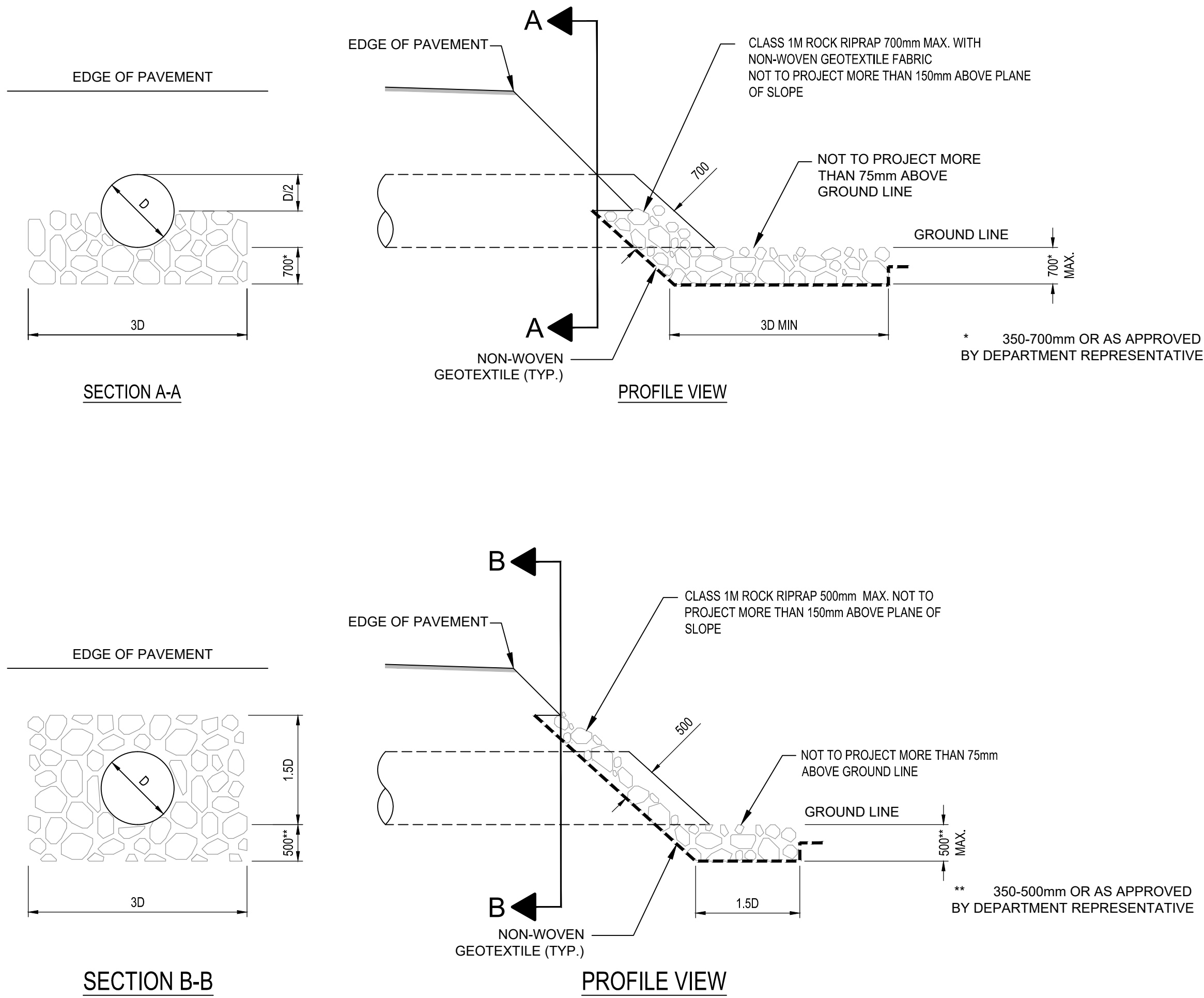


FILE: \\CORP.McELHANNEY.COM\VC\2142 ENGINEERING\PROJ\2142\1-00681-00 HWY 16 PASSING LANES\10.0 DRAWINGS\10.3 ENGINEERING\PASSING LANE 2.5 TO 4.5 WB\DWG 20191216 2.15 PM PLOTTED: 2019/12/16 2:15 PM



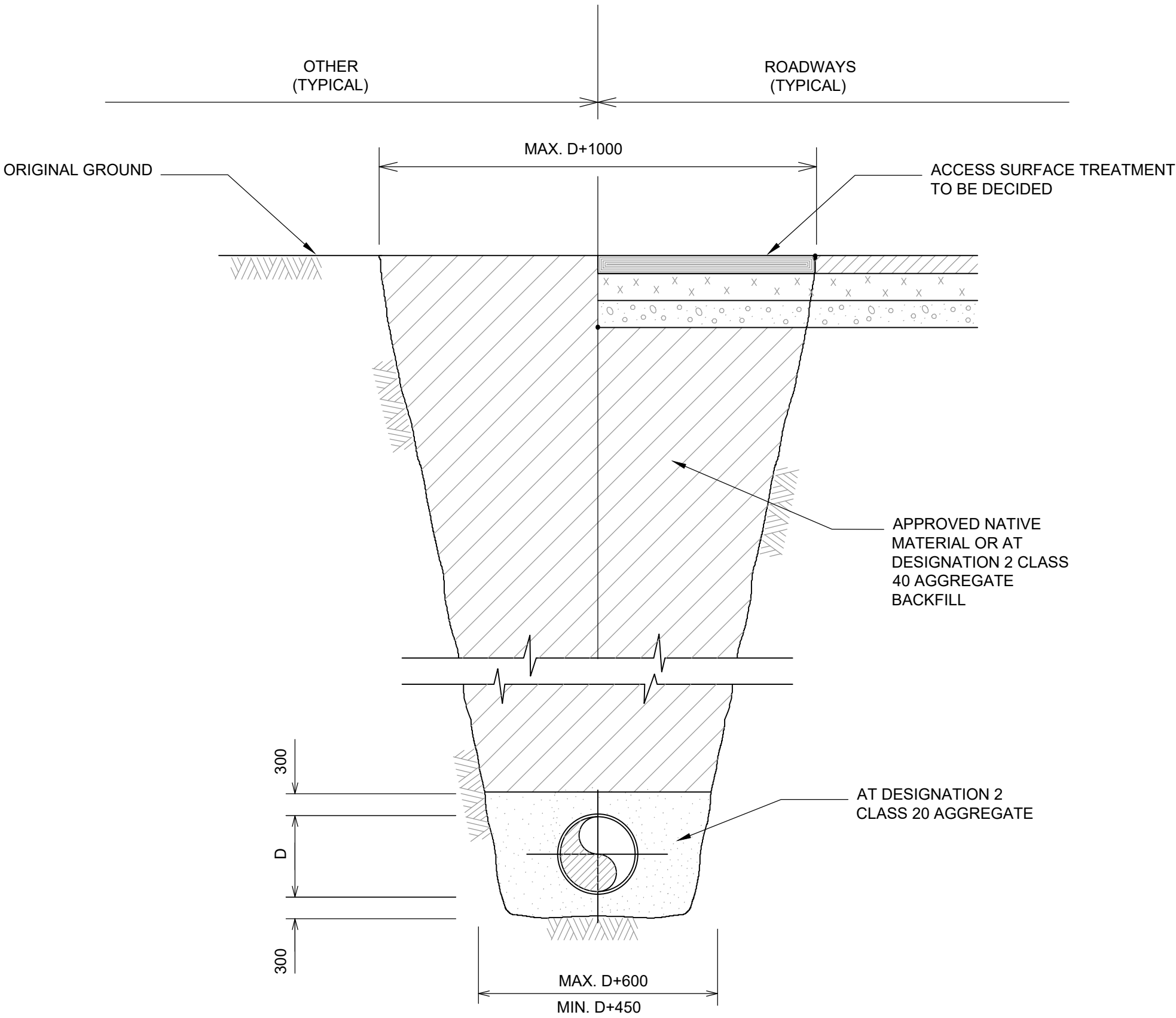
CULVERT EXTENSION DETAIL (TYP.)

(REFER TO PLAN/PROFILE FOR CULVERT LOCATIONS)  
NOT TO SCALE



CULVERT DETAIL

(REFER TO PLAN/PROFILE FOR CULVERT LOCATIONS)  
NOT TO SCALE



ACCESS CULVERT-REMOVE AND REPLACE

(REFER TO PLAN/PROFILE FOR CULVERT LOCATION)  
NOT TO SCALE

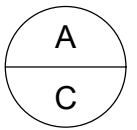
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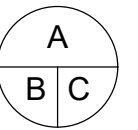
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ISSUED FOR  
TENDER

1	2019.12.06	ISSUED FOR TENDER	M.B.	S.Y.	S.A.
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé



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



Consultant's Stamp  
Sceau de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur

Client



Parks Canada  
Agency

L'Agence Parcs  
Canada

Consultant's Name  
Nom de l'expert-conseil



McElhanney

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858 Beatty Street  
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Project Title  
Titre du projet

HIGHWAY 16  
PASSING LANE KM2.5 TO KM4.5 WB

JASPER NATIONAL PARK, ALBERTA

Drawing Title  
Titre du dessin

CULVERT DETAILS

Surveyed by / Arpenté par	Drawn by / Dessiné par M.B.	Date 2019.12.06
Designed by / Conçu par S.Y.	Reviewed by / Révisé par S.A.	Scale / Echelle NOT TO SCALE

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

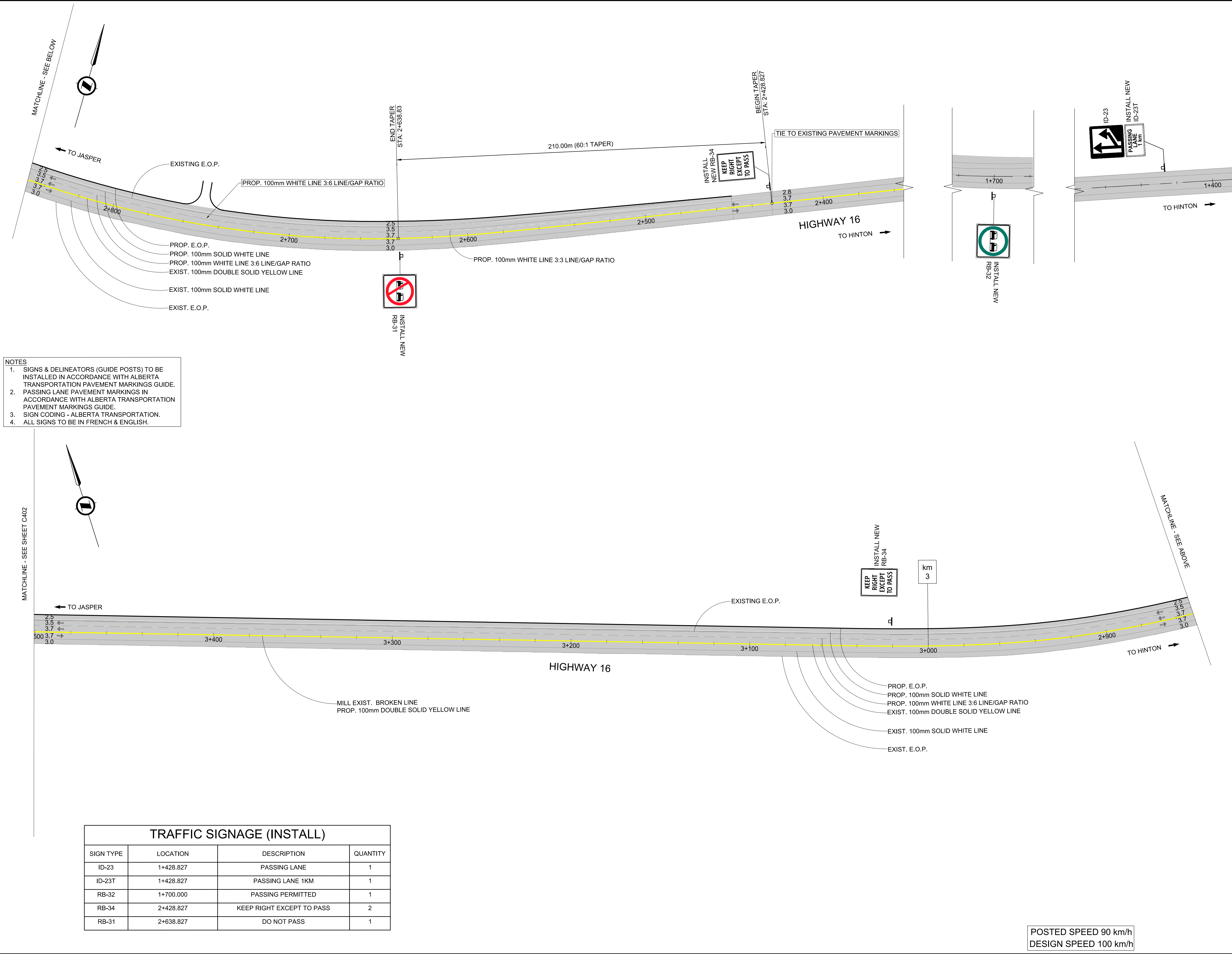
Project No. / No. du projet 1057-03	Asset No. / No. du-bien	Sheet No. No. de la feuille C302
Drawing Reference No. / No. de référence du dessin 2511-00681-00		



Paper Size: ANSI D (22 x 34")



FILE: \\C:\CORP\McELHANNEY\COM\VC\24\ENGINEERING\PROJ\2511-00681-00-HWY-16-PASSING LANE\100-DRAWINGS\100-ENGINEERING\PASSING LANE 2+5 TO 4.5 WB-2VL 2018.10.3.1 SHEETS\081-00-C400.DWG PLOTTED: 2019/12/2 2:14 PM



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Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé
1	2019.12.06	ISSUED FOR TENDER	M.B.	S.Y.	S.A.

A

B

C

A

detail number  
numéro de détail

B

source drawing no.  
de dessin no.

C

detail on drawing no.  
détail sur dessin no.

Consultant's Stamp  
Sceau de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur

Client

Parks Canada Agency

L'Agence Parcs Canada

Consultant's Name  
Nom de l'expert-conseil

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858 Beatty Street  
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T 604 683 8521

Project Title  
Titre du projet

**HIGHWAY 16  
PASSING LANE KM2.5 TO KM4.5 WB**

JASPER NATIONAL PARK, ALBERTA

Drawing Title  
Titre du dessin

**PAVEMENT MARKINGS & SIGNAGE  
STA. 2+428 TO STA. 3+500**

Surveyed by / Arpenté par	Drawn by / Dessiné par <b>M.B.</b>	Date <b>2019.12.06</b>
Designed by / Conçu par <b>S.Y.</b>	Reviewed by / Révisé par <b>S.A.</b>	Scale / Echelle <b>1:1000</b>

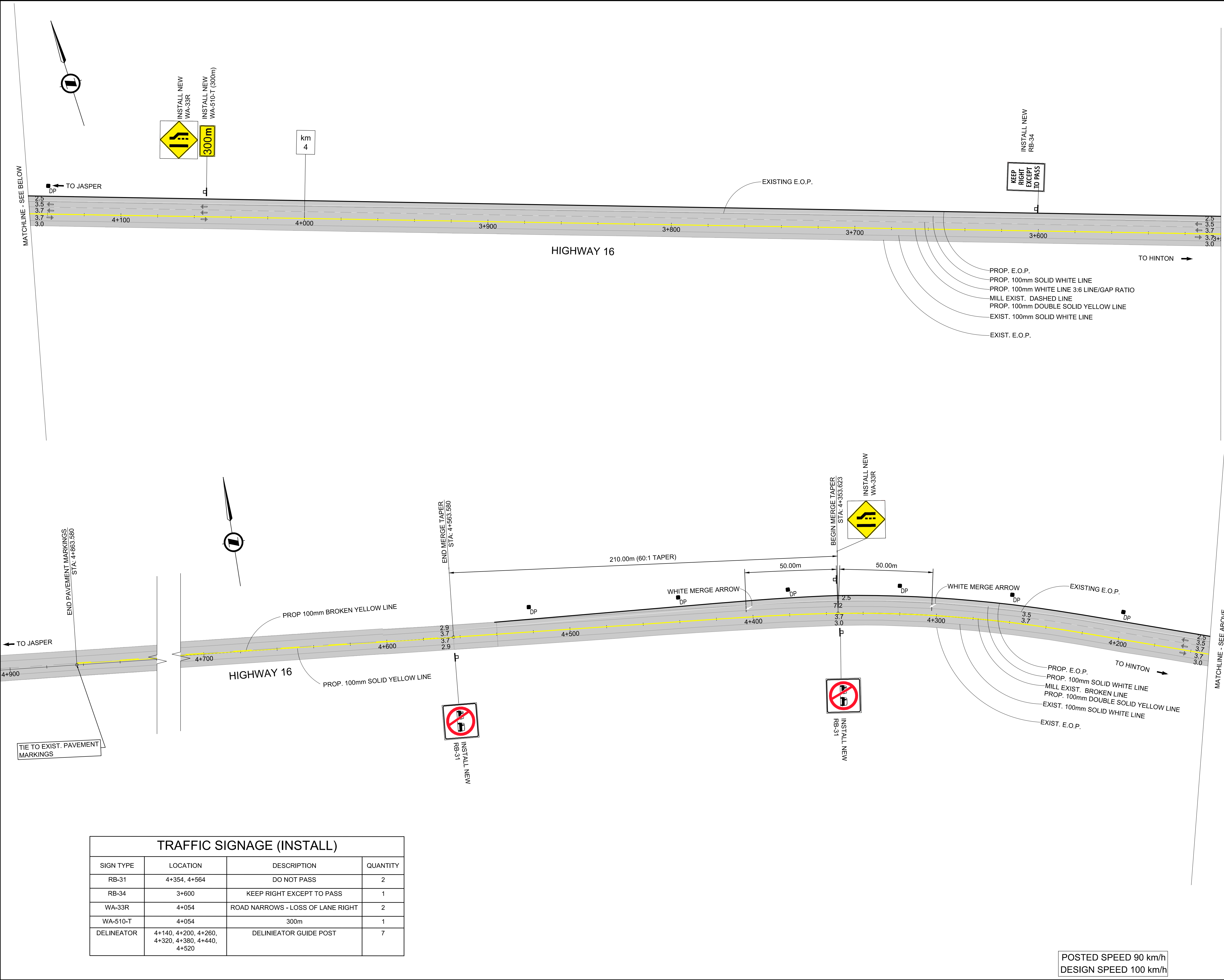
Parks Canada Project Manager / Administrateur de Projets Parcs Canada

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 <b>1057-03</b>	Asset No. / No. du-bien	Sheet No. No. de la feuille <b>C401</b>
Drawing Reference No. / No. de référence du dessin <b>2511-00681-00</b>		



FILE: \\C:\COP\MCH\HANNEY\COM\WORK\214\ENGINEERING\PROJ\214\0081-00\HWY 16 PASSING LANE\100 DRAWINGS\100 ENGINEERING\PASSING LANE 2.5 TO 4.5 WB\DWG 20181010.3.1 SHEETS\081-00-C401.DWG PLOTTED: 2019/12/2 2:12 PM



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1	2019.12.06	ISSUED FOR TENDER	M.B.	S.Y.	S.A.
Rev.	Date	Description	Drawn Dessiné	Designed Conçu	Approved Approuvé

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C

Consultant's Stamp  
Sceau de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur

Parks Canada  
Agency

L'Agence Parcs  
Canada

Consultant's Name  
Nom de l'expert-conseil

Suite 200  
858 Beatty Street  
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Canada V6B 1C1  
T 604 683 8521

Project Title  
Titre du projet

HIGHWAY 16  
PASSING LANE KM2.5 TO KM4.5 WB

JASPER NATIONAL PARK, ALBERTA

Drawing Title  
Titre du dessin

PAVEMENT MARKINGS & SIGNAGE  
STA. 3+500 TO STA. 4+563.58

Surveyed by / Arpenté par

Drawn by / Dessiné par

Date

Designed by / Conçu par

Reviewed by / Révisé par

Scale / Echelle

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

Sheet No.  
No. de la feuille

1057-03

C402

Drawing Reference No. / No. de référence du dessin

2511-00681-00

TRAFFIC SIGNAGE (INSTALL)			
SIGN TYPE	LOCATION	DESCRIPTION	QUANTITY
RB-31	4+354, 4+564	DO NOT PASS	2
RB-34	3+600	KEEP RIGHT EXCEPT TO PASS	1
WA-33R	4+054	ROAD NARROWS - LOSS OF LANE RIGHT	2
WA-510-T	4+054	300m	1
DELINEATOR	4+140, 4+200, 4+260, 4+320, 4+380, 4+440, 4+520	DELINEATOR GUIDE POST	7

POSTED SPEED 90 km/h  
DESIGN SPEED 100 km/h

