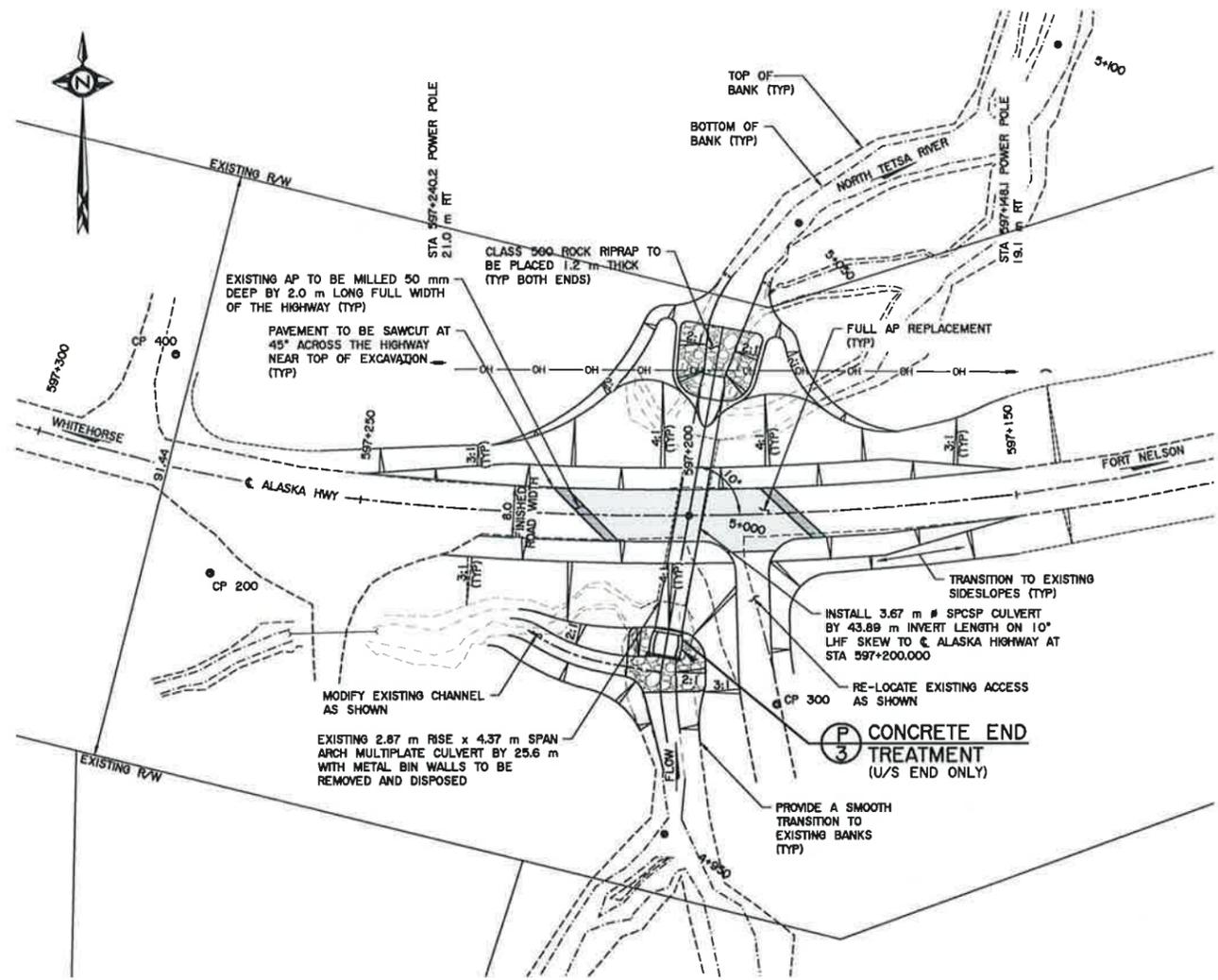


LOCATION MAP
NTS

GENERAL NOTES

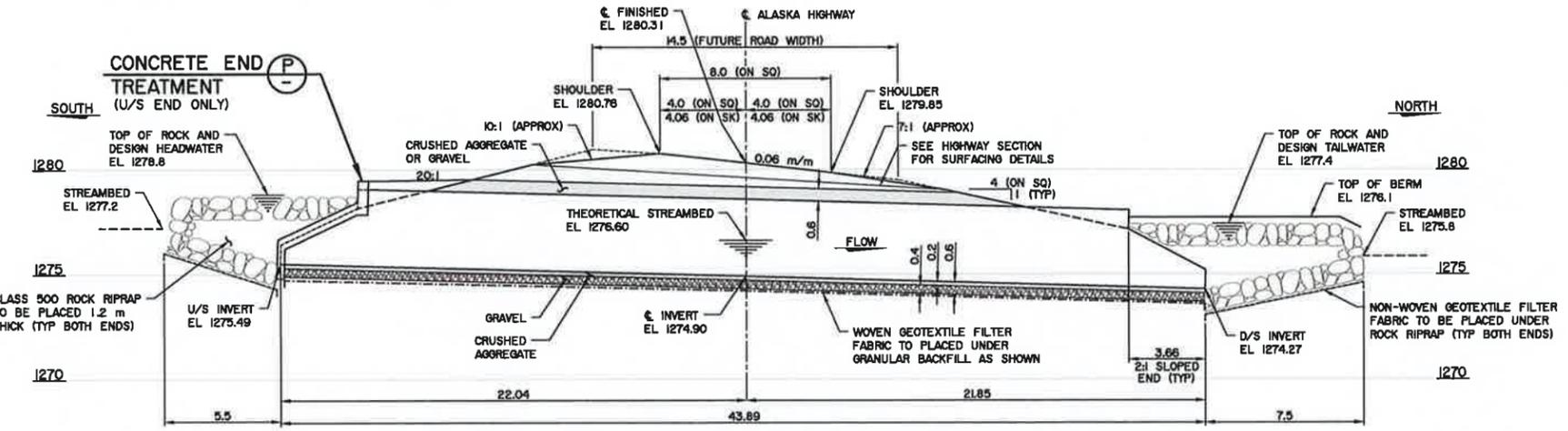
- GENERAL**
- DIMENSIONS ARE GIVEN IN METRES UNLESS NOTED OTHERWISE
 - DESIGN SPECIFICATION: CAN/CSA-S6-06
 - DESIGN SPEED = 100 Km/h
- HYDROTECHNICAL SUMMARY**
- TOTAL DRAINAGE AREA = 25 km²
 - Q₁₀₀ DESIGN FLOOD = 25 m³/s
 - MEAN OUTLET VELOCITY AT PROPOSED CULVERT FOR DESIGN FLOOD = 2.4 m/s
 - AVERAGE SURVEYED SLOPE OF STREAMBED = 0.035 m/m
- NEW STRUCTURE**
- 3.67 DIA SPCSP CULVERT BY 43.89 m INVERT LENGTH ON 10° LHF SKEW TO ALASKA HIGHWAY AT STATION 597+200.000
 - WALL THICKNESS IS 3.0 mm, 95 g/m² GALVANIZED COATING, CORRUGATION PROFILE 152 mm x 51 mm
- ASSEMBLY**
- SPCSP SHALL BE ASSEMBLED AS SHOWN ON THE MANUFACTURER'S ASSEMBLY DRAWINGS AND AS OUTLINED BELOW.
 - A) ASSEMBLY, LOOSE BOLTING AND RING CLOSURE SHALL PROGRESS FROM ONE END WITH EACH RING CHECKED AND ADJUSTED TO DESIGN GEOMETRY WITH FULLY NESTED PLATES IMMEDIATELY UPON CLOSURE OF INDIVIDUAL RINGS. WHERE TEMPORARY SUPPORTS OR TIE CABLES ARE USED, ADEQUATE MEANS SHALL BE TAKEN TO DISTRIBUTE LOADS ALONG THE PIPE WALL, TO PREVENT LOCAL DISTORTION AND MAINTAIN DESIGN SHAPE.
 - B) ALL BOLTED SEAMS SHALL BE PROPERLY LAPPED AND PLATES SHALL BE IN CONTACT FOR THE FULL WIDTH AND LENGTH OF THE LAP. THE BOLTS IN THE VALLEY OF EACH LONGITUDINAL SEAM SHALL BE NEAREST TO THE VISIBLE EDGE OF THE PLATE.
 - C) THE VERTICAL AXIS SHALL BE UPRIGHT AND THE LONGITUDINAL SEAMS SHALL BE STRAIGHT. ROTATION OF THE PIPE AND/OR SPIRALING OF THE LONGITUDINAL SEAMS SHALL NOT BE PERMITTED.
 - D) BOLTS SHALL BE TORQUED TO AND MAINTAINED AT NOT LESS THAN 200 N.m. AND NOT MORE THAN 340 N.m.
 - E) DISTORTION OF BOLT HOLES CAUSED BY OVER-TIGHTENING, OR POOR ASSEMBLY METHODS WILL NOT BE PERMITTED. WHERE ADDITIONAL HOLES ARE REQUIRED, THEY SHALL BE DRILLED. EXTRA HOLES AND MINOR SURFACE DAMAGE SHALL RECEIVE 2 BRUSH APPLIED COATS OF ZINC RICH PAINT.
 - USE SOFT SLINGS AND HANDLE WITH CARE TO AVOID SCRATCHING, BRUISING, AND DISTORTION OF THE PIPE. DEFORMATION DURING CONSTRUCTION SHALL NOT EXCEED A 2% UPWARD AND DOWNWARD DEFLECTION FROM THE DESIGN RISE. IF STRUTS OR CABLES ARE USED TO MAINTAIN THE PIPE SHAPE, THEY SHALL BE REMOVED BEFORE THEY RESTRICT DOWNWARD MOVEMENT OF THE CROWN
 - IF ANY DISCREPANCIES EXISTS BETWEEN THE NOTES INDICATED HERE AND THE MANUFACTURERS INSTRUCTIONS, THEN THE MANUFACTURERS INSTRUCTIONS SHALL GOVERN
 - FOR ADDITIONAL CULVERT INFORMATION SEE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTIONS 303 AND 320

INDEX	
SHEET	DESCRIPTION
1 OF 3	GENERAL LAYOUT
2 OF 3	INFORMATION SHEET
3 OF 3	CONCRETE END TREATMENT DETAILS



SITE PLAN
1:500

- SURVEY**
- SURVEY BY WSP, UNDER THE DIRECTION OF MR. KURT PETRICA, P. ENG., OCTOBER 2013
 - SURVEYED IN UTM NAD 83 ZONE 10
- BENCHMARKS**
- CP 300, IRON SPIKE, LOCATED 28.596 m RT OF HIGHWAY ALIGNMENT AT STA 597+187.476, EL 1280.517 - (N=6502394.212 E=404420.627)
 - CP 200, IRON SPIKE, LOCATED 15.301 m RT OF HIGHWAY ALIGNMENT AT STA 597+270.056, EL 1281.222 - (N=6502414.510 E=404334.573)
 - CP 400, IRON SPIKE, LOCATED 16.452 m LT OF HIGHWAY ALIGNMENT AT STA 597+282.252, EL 1281.380 - (N=6502448.117 E=404329.396)



LONGITUDINAL SECTION THROUGH CULVERT
1:150
(ON 10° LHF SKEW TO ALASKA HWY TAKEN ON CULVERT AT STATION 597+200.000)

#	REVISION	DATE

Client/Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA
REAL PROPERTY SERVICES PACIFIC REGION

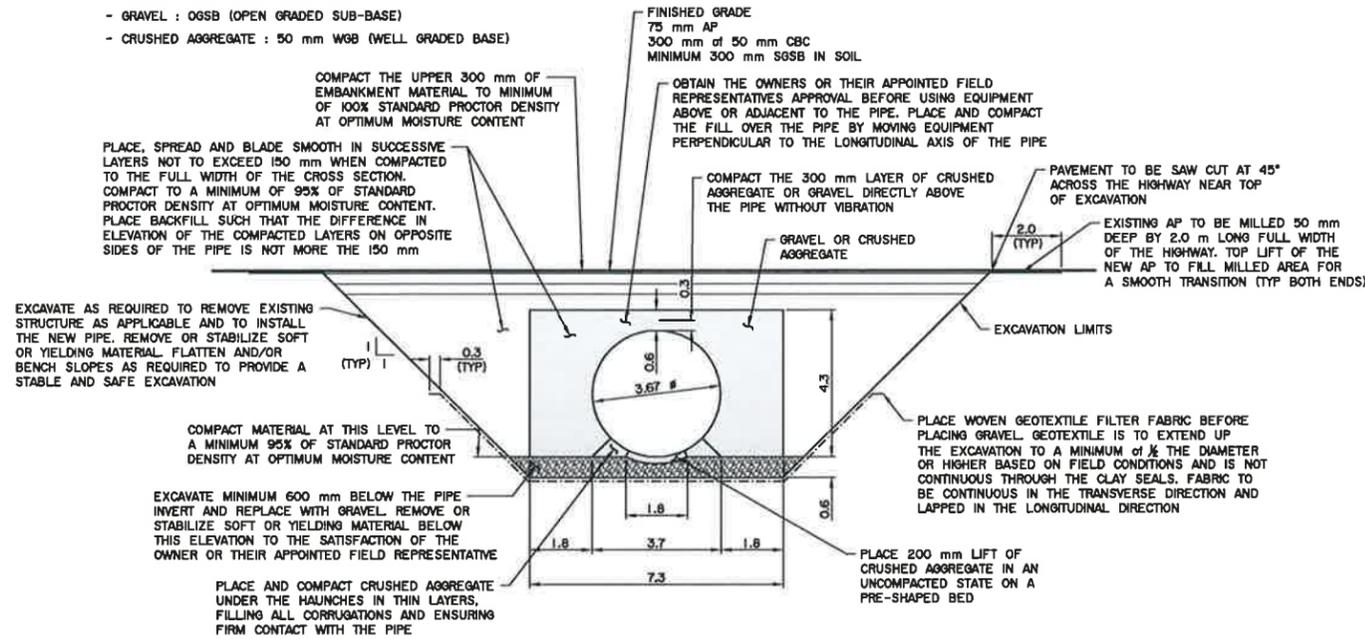
Project Title/Titre du projet: ALASKA HIGHWAY, km 597.2 BRITISH COLUMBIA
NORTH TETSA RIVER BRIDGE CULVERT No. 5 CULVERT REPLACEMENT

Approved by/Approve par: [Signature]
Designed by/Concepé par: KURT PETRICA, P.ENG - 2014/07/02
Drawn by/Dessiné par: DEVAN KRAHN - 2014/07/02
PWOSC Project Manager/Administrateur de Projets TPSGC: ALEX TAHERI, P.ENG
PWOSC, Architectural and Engineering Resources Manager/Ressources Architectural et de Directeur d'ingénierie, TPSGC

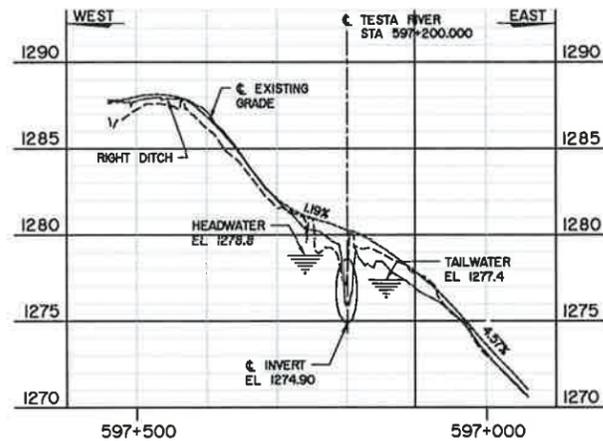
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Drawing Title/Titre du dessin: GENERAL LAYOUT
Project No./No. du projet: R.017173.607
Sheet/Feuille: 1 OF 3
Revision no./Le Révision no.: 0

GRANULAR BACKFILL MATERIAL

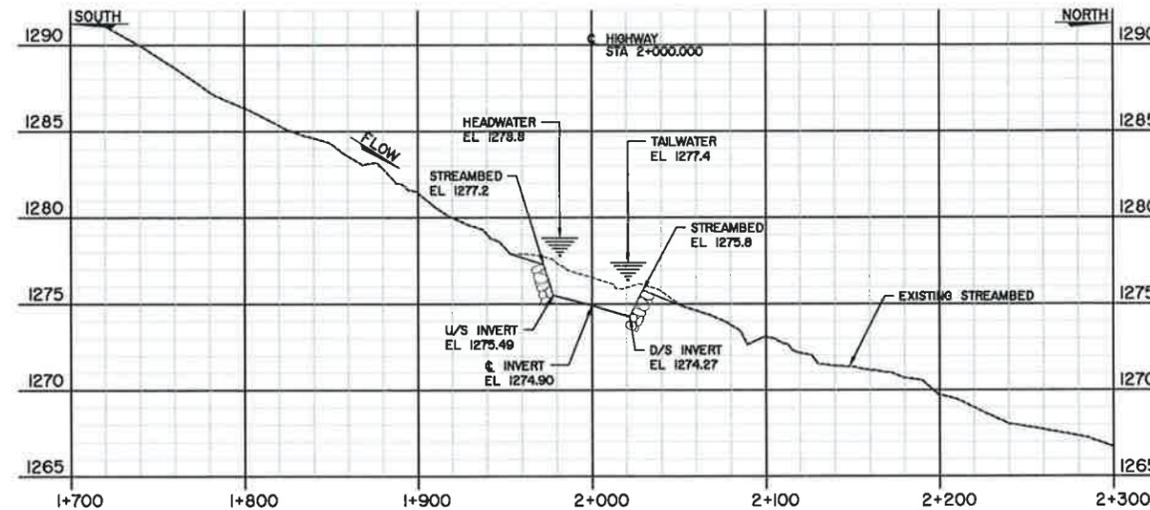
- GRAVEL : OGSB (OPEN GRADED SUB-BASE)
- CRUSHED AGGREGATE : 50 mm WGB (WELL GRADED BASE)



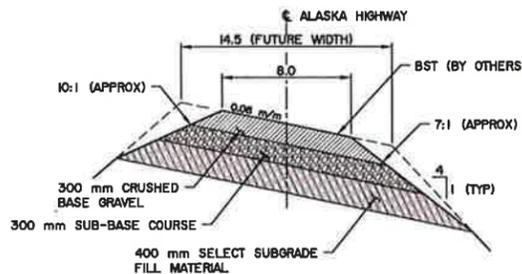
BACKFILL DETAIL
1:100



HIGHWAY PROFILE
HOR: 1:5000 VERT: 1:200



STREAMBED PROFILE
HOR: 1:2000 VERT: 1:200



NOTES:

- HIGHWAY CONSTRUCTION TO BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE B.C. MINISTRY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND ALASKA HIGHWAY BRITISH COLUMBIA CONSTRUCTION DRAWING STANDARD EMBANKMENT STRUCTURE TEMPLATE SHEET 03A
- RE-PAINT LANE TRAFFIC MARKINGS TO MATCH EXISTING
- FINISHED TOP OF PAVEMENT TO MATCH EXISTING

TYPICAL HIGHWAY SECTION
HOR: 1:250 VERT: 1:50

GENERAL NOTES (CONT.)

BACKFILLING

- SHAPE CHECKS SHALL BE PERFORMED DURING AND AFTER CONSTRUCTION TO ENSURE THAT THE DESIGN SHAPE IS MAINTAINED WITHIN ACCEPTABLE TOLERANCES
- PLACE BACKFILL AND ADJACENT EMBANKMENT BY EQUIPMENT MOVING PARALLEL TO THE LONGITUDINAL AXIS OF THE PIPE. FOR ADDITIONAL INFORMATION ON BACKFILL OVER THE PIPE SEE THE BACKFILL DETAILS
- BEDDING AND BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% OF THE LABORATORY DENSITY BY FOLLOWING CURRENT ASTM METHOD D698
- BACKFILL SHALL CONSIST OF APPROVED GRANULAR MATERIAL. BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN AN UNFROZEN CONDITIONS, MEET THE SPECIFIED GRADATION AND BE FREE OF LARGE OR FROZEN LIMPS, WOOD OR OTHER UNSUITABLE MATERIAL. BACKFILLING IS NOT ALLOWED ON FROZEN SUBSTRATE OR WHEN AIR TEMPERATURE IS BELOW 0 DEGREES CELSIUS
- PRE-APPROVED GRANULAR MATERIALS SHALL MEET GRADATION SPECIFICATIONS IN ACCORDANCE WITH B.C. MINISTRY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTION 202 (TABLE 202-C)
- HEAVY CONSTRUCTION EQUIPMENT AND LARGE COMPACTION EQUIPMENT SHALL NOT BE PERMITTED WITHIN 1.0 M OF THE PIPE SIDEWALLS

HEAVY ROCK RIPRAP

- HEAVY ROCK RIPRAP SHALL COVER THE AREAS SHOWN AND BE PLACED AT MINIMUM THICKNESSES IN ACCORDANCE WITH B.C. MINISTRY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTION 205 (TABLE 205-A)
- PLACE NON-WOVEN GEOTEXTILE FILTER FABRIC UNDER ALL HEAVY ROCK RIPRAP
- GEOTEXTILE FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:

WOVEN GEOTEXTILE FILTER FABRIC

SPECIFICATIONS AND PHYSICAL PROPERTIES	
GRAB STRENGTH	1275 N
ELONGATION (FAILURE)	15 %
PUNCTURE STRENGTH	275 N
BURST STRENGTH	3.6 MPa
TRAPEZOIDAL TEAR	475 N
MINIMUM FABRIC LAP TO BE 1000 mm	

NON-WOVEN GEOTEXTILE FILTER FABRIC

SPECIFICATIONS AND PHYSICAL PROPERTIES	
GRAB STRENGTH	650 N
ELONGATION (FAILURE)	50 %
PUNCTURE STRENGTH	275 N
BURST STRENGTH	2.1 MPa
TRAPEZOIDAL TEAR	250 N
MINIMUM FABRIC LAP TO BE 300 mm	

QUANTITY ESTIMATE

ITEM	UNIT	ESTIMATE
EXCAVATION	m³	2400
BACKFILL - GRANULAR	m³	700
BACKFILL - NON-GRANULAR (CLAY SEALS)	m³	750
HEAVY ROCK RIPRAP - CLASS 500 kg	m³	430
CLASS B CONCRETE (32 MPa)	m³	6
GALVANIZED MACHINE BOLTS c/w 2 NUTS		58



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July 2, 2014

Revision/Édition	Description/Description	Date/Date
1	DESIGN COMPLETION	2014/07/02

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA
REAL PROPERTY SERVICES PACIFIC REGION

Project title/Titre du projet
ALASKA HIGHWAY, km 597.2 BRITISH COLUMBIA

NORTH TETSA RIVER BRIDGE CULVERT No. 5 CULVERT REPLACEMENT

Approved by/Approuvé par:
Designed by/Conçue par: **KURT PETRICA, P.ENG - 2014/07/02**
Drawn by/Dessiné par: **DEVAN KRAJIN - 2014/07/02**
PWSC Project Manager/Administrateur de Projets TPSC: **ALEX TAHERI, P.ENG**
PWSC Architectural and Engineering Resource Manager/Ressources Architectural et de Directeur d'ingénierie, TPSC

Client/client
Drawing title/Titre du dessin

INFORMATION SHEET

Project No./No. du projet R.017173.807	Sheet/Feuille 2 of 3	Revision no./La Révision no. 0
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