

ISO A1 - 594mm x 841mm
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Last Saved: 9/15/2017 9:38 AM by Diane
Plotted: 9/20/2017 8:56 AM by Tim Neirnick

GENERAL NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH CONTRACT SPECIFICATIONS.
- GEOMETRY, REINFORCEMENT AND LAYOUT OF THE EXISTING STRUCTURE ARE BASED ON EXISTING DESIGN INFORMATION AND LIMITED FIELD SURVEY DATA. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL NECESSARY DIMENSIONS SUCH THAT WORK CAN BE CONSTRUCTED AS SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION.
- CONTRACTOR TO REFER TO REFERENCE DRAWINGS FOR DETAILS OF EXISTING CONSTRUCTION.
- WHOLE DIMENSIONS SHOWN ON THESE DRAWINGS ARE IN MILLIMETERS. DECIMAL DIMENSIONS ARE IN METRES. THE ORIGINAL BRIDGE STRUCTURE WAS CONSTRUCTED WITH IMPERIAL UNITS OF MEASURE (HARD UNIT CONVERSION WHERE APPLICABLE).
- THE SCALES SHOWN ON THESE DRAWINGS ARE CORRECT FOR A1 SIZED DRAWING SHEETS. DO NOT DETERMINE DIMENSIONS BY SCALING OFF DRAWINGS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATIONS OF ALL EXISTING ABOVE GROUND AND BELOW GROUND UTILITIES AND REPORTING ANY DISCREPANCIES OR CONFLICTS TO THE CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION.
- EXCEPT WHERE INDICATED OTHERWISE THESE DRAWINGS SHOW DETAILS FOR THE COMPLETED STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF WORKERS AND THE DESIGN AND STABILITY OF ANY TEMPORARY WORKS DURING CONSTRUCTION. CONSTRUCTION METHODS REQUIRING THE TEMPORARY INSTALLATION OF SHORING, SCAFFOLDING, BRACING, ETC. SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR REVIEW AND ACCEPTANCE PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA TO PERFORM AND TAKE RESPONSIBILITY FOR ANY SUCH DESIGNS NECESSARY TO COMPLETE THE CONSTRUCTION AND AS REQUIRED BY THE CONTRACT DOCUMENTS.

DESIGN DATA NOTES

STRUCTURAL DESIGN DATA

- CULVERT CONFIGURATION: NOMINAL 2100 mm INSIDE DIAMETER x 36.8 m LONG DOUBLE-WIDE SEGMENTAL PRECAST CONCRETE PIPE CULVERT COMPLETE WITH CAST-IN-PLACE HEADWALLS, INSTALLED BY THE OPEN TRENCH METHOD.
- DESIGN SPECIFICATION: CAN/CSA-S6-14 "CANADIAN HIGHWAY BRIDGE DESIGN CODE"
- LIVE LOAD:
 - CL-625 TRUCK AND CL-625 LANE LOAD

TRANSPORTATION DESIGN DATA

- DESIGN SPECIFICATIONS:
 - CITY OF WINNIPEG TRANSPORTATION STANDARDS (2012 UPDATE)
 - TRANSPORTATION ASSOCIATION OF CANADA GEOMETRIC DESIGN GUIDE FOR CANADIAN ROADS
- ROADWAY DESIGN CRITERIA:
 - ROADWAY CLASSIFICATION: RESIDENTIAL LOCAL (RURAL, NON-REGIONAL)
 - POSTED SPEED: 50 km/h; DESIGN SPEED: 60 km/h

GEOTECHNICAL DESIGN DATA

- A GEOTECHNICAL REPORT HAS BEEN PREPARED BY TREK GEOTECHNICAL TITLED "PRELIMINARY DESIGN - RUE DES TRAPPISTES CULVERT REPLACEMENT GEOTECHNICAL REPORT (1ST REVISION)" DATED DECEMBER 6, 2016. REFER TO GEOTECHNICAL REPORT FOR DESIGN DATA AND RECOMMENDATIONS.
- EXCAVATION SLOPES SHOWN BASED ON PRELIMINARY ENGINEERING FOR THE PURPOSE OF SCOPING WORK AND DEVELOPING QUANTITIES.
- THE CONTRACTOR SHALL SUBMIT AN EXCAVATION AND DEMOLITION PLAN WHICH INCLUDES A DESCRIPTION OF THE EXCAVATION METHODOLOGY AND EQUIPMENT, STOCKPILING LOCATIONS, AND THE PROCESS AND RATE OF REMOVALS OF EXCAVATED AND DEMOLISHED MATERIAL. THE SUBMITTAL SHALL INCLUDE AN ASSESSMENT OF THE IMPACT OF SURCHARGE LOADS INTRODUCED BY CONSTRUCTION ACTIVITIES ON THE STABILITY OF THE EXCAVATION, AND SHALL INCLUDE SLOPE STABILITY ANALYSIS SIGNED AND SEALED BY A GEOTECHNICAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF MANITOBA.
- SELECT GEOTECHNICAL DESIGN DATA:
 - MINIMUM FACTOR OF SAFETY AGAINST SLOPE FAILURE IN FINAL CONSTRUCTED CONDITION = 1.28
 - BEARING RESISTANCE OF UNDISTURBED FIRM TO STIFF CLAY IMMEDIATELY BELOW PROPOSED CULVERT:
 - $\sigma_{ULS} = 100 \text{ kPa}$, INCLUDING A RESISTANCE FACTOR OF $\phi = 0.50$
 - $\sigma_{SLS} = 60 \text{ kPa}$, BASED ON A MAXIMUM ALLOWABLE SETTLEMENT OF 25 mm
 - UNIT WEIGHT OF GRANULAR BACKFILL, $\gamma = 21 \text{ KN/m}^3$
 - LATERAL EARTH PRESSURE COEFFICIENTS FOR HEADWALL DESIGN:
 - AT REST, $K_0 = 0.4$
 - PASSIVE, $K_0 = 3.0$

HYDRAULIC DESIGN DATA

- A HYDRAULIC REPORT HAS BEEN PREPARED BY BRUCE HARDING CONSULTING LTD. TITLED "TRUE DES TRAPPISTES CROSSING REPLACEMENT HYDROLOGIC AND HYDRAULIC ASSESSMENT (REV 2)" DATED MARCH 2017.
- HYDRAULIC DESIGN DATA:
 - DESIGN DISCHARGE (Q_{99}) FOR THE DOUBLE WIDE SEGMENTAL PRECAST CULVERT PIPE IS THE 1% FLOOD, WHICH HAS A 1% PROBABILITY OF EXCEEDANCE IN A GIVEN YEAR.
 - HIGH WATER LEVEL FOR THE 1% FLOOD AND 50% FLOOD AT THE CULVERT ARE SHOWN ON DETAIL 1, SHEET 7.
 - DESIGN DISCHARGE AT THE 1% FLOOD - $Q_{99} = 10.5 \text{ m}^3 \text{ @ EL. 227.79 m}$
 - VELOCITY AT DESIGN DISCHARGE - $V_{99} = 2.05 \text{ m/s}$
 - HEADLOSS DURING DESIGN DISCHARGE = 0.22 m
 - MAXIMUM VELOCITY TO ACCOMMODATE FISH PASSAGE IS NOT A DESIGN CRITERIA AT THIS SITE
 - MINIMUM SOFFIT ELEVATION - NO SUBMERGENCE DURING PASSAGE OF DESIGN DISCHARGE (WHEN LASALLE RIVER IS LOW). WHEN LASALLE RIVER IS IN FLOOD, CULVERT MAY BE COMPLETELY SUBMERGED.

ENVIRONMENTAL PROTECTION

- NO IN-STREAM WORK IS PERMITTED BETWEEN APRIL 1 AND JUNE 15.
- IMPLEMENT ENVIRONMENTAL PROTECTION MEASURES AS DESCRIBED BY THE CONTRACT SPECIFICATIONS.

EXISTING UTILITY PROTECTION

- SEVERAL UTILITIES ARE BURIED BELOW THE WORK ZONE, INCLUDING BUT NOT LIMITED TO: 50 GAS, 250 WWS, 200 WM, AND MTS CONDUIT. OVERHEAD UTILITIES INCLUDE A POWERLINE AND MTS FIBRE-OPTICS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATIONS OF ALL EXISTING ABOVE GROUND AND BELOW GROUND UTILITIES AND REPORTING ANY DISCREPANCIES OR CONFLICTS TO THE CONSULTANT PRIOR TO CONSTRUCTION.
- THE 250 WWS IS EXTREMELY SHALLOW RELATIVE TO THE BASE OF THE EXCAVATION. THE WWS CANNOT BE TAKEN OUT OF SERVICE TO FACILITATE CONSTRUCTION, AND INADVERTENT DAMAGE CAUSED TO THE PIPE MAY HAVE SEVERE CONSEQUENCES.

- THE 200 WM IS SHALLOW RELATIVE TO THE BASE OF THE EXCAVATION. THE WM CANNOT BE TAKEN OUT OF SERVICE TO FACILITATE CONSTRUCTION, AND INADVERTENT DAMAGE CAUSED TO THE PIPE MAY HAVE SEVERE CONSEQUENCES.
- THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION METHOD STATEMENT DEMONSTRATING ADHERENCE TO THE OPERATING CONSTRAINTS FOR WORK IN CLOSE PROXIMITY TO ALL BURIED AND OVERHEAD UTILITIES.

PROPERTY AND CONSTRUCTION EASEMENTS

- CITY OF WINNIPEG OWNED PROPERTIES PROXIMATE TO CULVERT WORKS: PLAN 13,968 LOT 2, PLAN 22,368 LOT 14.
- CONSTRUCTION EASEMENTS HAVE BEEN OBTAINED FOR TEMPORARY WORKS AND SLOPE SHAPING / REGRADING FOR THE FOLLOWING PROPERTIES: PLAN 6857 PT PCL A, AND A SMALL TRIANGULAR AREA OF PLAN 10,669 BLOCK 3 LOT 1 AT THE CREEK TIE-IN.

MATERIAL NOTES

CONCRETE:

DELEGATED DESIGN OF PRECAST CONCRETE PIPE

- THE DESIGN OF THE PRECAST REINFORCED CONCRETE CULVERT PIPE IS DELEGATED TO THE PRECAST CONCRETE SUPPLIER. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS.

ITEM	CLASS OF EXPOSURE	CEMENT TYPE	MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (MPa)	NOMINAL MAX SIZE OF AGGREGATE (mm)	AIR CONTENT (%)
PRECAST CONCRETE CULVERT PIPE	F-1 & S-1	HS, Hsb	35	20	5-8
CAST-IN-PLACE HEADWALLS	F-1 & S-1	HS, Hsb	35	20	5-8

CLEAR COVER TO REINFORCING STEEL (mm) UNLESS NOTED OTHERWISE	LOCATION
50	PRECAST CONCRETE PIPE
75	EARTH SIDE AND CREEK SIDE OF CAST-IN-PLACE HEADWALLS

- CONCRETE FINISHES - REFER TO SPECIFICATIONS
- ALL VISUALLY EXPOSED CONCRETE CORNERS SHALL HAVE A 20 mm CHAMFER UNLESS NOTED OTHERWISE.

REINFORCEMENT FOR REINFORCED PRECAST CONCRETE CULVERT PIPE:

- DESIGN OF REINFORCEMENT FOR REINFORCED PRECAST CONCRETE CULVERT PIPE IS DELEGATED TO THE PIPE SUPPLIER.
- STEEL REINFORCEMENT SHALL CONSIST OF CARBON STEEL BARS, COLD-DRAWN STEEL WIRE, DEFORMED STEEL WIRE, WELDED STEEL WIRE FABRIC, OR WELDED DEFORMED STEEL WIRE FABRIC AND SHALL COMPLY WITH THE SPECIFICATIONS.

GASKETS FOR PRECAST CONCRETE CULVERT PIPE:

- GASKETS SHALL MEET THE REQUIREMENTS OF ASTM C443 AND CAN/CSA A257.4 CONCRETE PIPE GASKETS, FLEXIBLE RUBBER.

REINFORCING STEEL

- PLAIN REINFORCING STEEL TO CAN/CSA-G30.18-09 GRADE 400W.
- REINFORCING STEEL SPLICES TO CAN/CSA S6-14 CLASS B.

BAR SIZE	LAP SPLICE TABLE	
	HORIZONTAL LAP	VERTICAL LAP
15M	700	550
20M	850	650

STAINLESS STEEL STRAPS FOR PRECAST CONCRETE CULVERT PIPE

- STRAPS SHALL BE STAINLESS STEEL IN ACCORDANCE WITH ASTM A320, ANSI TYPE 316 MARKED AS SUCH WITH RAISED OR INDENTED NUMERALS.

POST-INSTALLED ANCHOR RODS

- POST-INSTALLED ANCHOR ROD SHALL BE STAINLESS STEEL THREADED ROD ANCHORS MEETING THE REQUIREMENTS OF AISI 316 ASTM F593 CW1, WITH MINIMUM YIELD STRENGTH OF 448 MPA. HILTI HAS-R 316 RODS OR ACCEPTED EQUIVALENT.
- NUTS FOR POST-INSTALLED ANCHOR RODS SHALL MEET ASTM F594.
- WASHERS FOR POST-INSTALLED ANCHOR RODS SHALL MEET SS304 OR SS316.

MISCELLANEOUS METAL

- STRUCTURAL SHAPES AND PLATES, MATERIAL REQUIREMENTS TO CSA G40.20-04/G40.21-04 (2009) GRADE 300W.
- WELDING SHALL CONFORM TO CURRENT AWS SPECIFICATION D1.5.

ASPHALTIC CONCRETE PAVEMENT

- ASPHALTIC CONCRETE PAVEMENT TYPE 1A PER CW 3310.

BASE & SUB-BASE

- BASE AND SUB-BASE SHALL BE SUPPLIED, PLACED, AND COMPACTED IN AN UNFROZEN CONDITION.
- BASE AND SUB-BASE COURSE SHALL COMPLY WITH CW 3110.

STRUCTURAL BACKFILL AND GRANULAR BEDDING

BACKFILL SHALL BE SUPPLIED, PLACED, AND COMPACTED IN AN UNFROZEN CONDITION.

- **BACKFILL IN OVERFILL ZONE OF EXCAVATION**
 - BACKFILL OVERFILL ZONE WITH TYPE 1 MODIFIED GRANULAR BACKFILL PER CW 2030 WITH REQUIREMENTS AS MODIFIED IN THE SPECIFICATIONS.
 - COMPACT TO MINIMUM 95% SPMDD.
- **BACKFILL AT PRECAST CONCRETE PIPE**
 - BACKFILL WITH TYPE 2 MODIFIED GRANULAR BACKFILL PER CW 2030, WITH REQUIREMENTS AS MODIFIED IN THE SPECIFICATIONS.
 - MAXIMUM LIFT HEIGHT 300 mm.
 - MAXIMUM IMBALANCE IN LIFT HEIGHT ACROSS PIPE WIDTH DURING BACKFILLING 200 mm.
 - COMPACTION OF NATIVE CLAY SURFACE, GRANULAR BEDDING AND GRANULAR BACKFILL PROXIMATE TO THE REINFORCED PRECAST CONCRETE CULVERT PIPE, INCLUDING THE HAUNCH ZONE, MIDDLE BEDDING ZONE, OUTER BEDDING ZONE, SHALL BE ACCORDING TO DETAIL 3, SHEET 08.
- **BACKFILL AT CAST-IN-PLACE RETAINING WALLS**
 - BACKFILL WITH TYPE 2 MODIFIED GRANULAR BACKFILL PER CW 2030, WITH REQUIREMENTS AS MODIFIED IN THE SPECIFICATIONS.
 - WITHIN 1.5 m OF RETAINING WALLS, LIGHTLY COMPACT GRANULAR BACKFILL TO MAXIMUM 92% SPMDD USING LIGHT HAND-OPERATED VIBRATING PLATE COMPACTOR.
- **GRANULAR BACKFILL BELOW CAST-IN-PLACE APRON SLABS**
 - BACKFILL WITH TYPE 2 MODIFIED GRANULAR BACKFILL PER CW 2030, WITH REQUIREMENTS AS MODIFIED IN THE SPECIFICATIONS.
 - MAXIMUM LIFT HEIGHT 150 mm.
 - COMPACT TO MINIMUM 100% SPMDD.

SUBDRAINS

- SUBDRAINS SHALL BE PERFORATED SCHEDULE 40 PVC DRAIN PIPE IN CLEAN-DRAINING GRAVEL WRAPPED IN GEOTEXTILE.

COMMON FILL FOR CREEKWORKS

- COMMON FILL FOR CREEKWORKS SHALL CONSIST OF SUITABLE SITE BACKFILL MATERIAL. CLASS 4 BACKFILL: COMPACTED, EXCAVATED MATERIAL PER CW 2030 AND SD-002.
- COMMON FILL FOR CREEKWORKS SHALL BE PLACED AND COMPACTED IN AN UNFROZEN CONDITION. REMOVE AND DISPOSE OF UNSUITABLE FROZEN EXCAVATED MATERIAL.
- COMMON FILL FOR CREEKWORKS SHALL BE COMPACTED IN LIFTS NO GREATER THAN 500 MM TO 90% SPMDD.

CHAIN LINK FENCE

- CHAIN LINK FENCE SHALL CONFORM TO CW 3550-R3. POSITION POSTS AS SHOWN ON THE DRAWINGS.
- FIT MESH ON THE SIDE OF THE CULVERT HEADWALLS WHERE EARTH IS RETAINED, OR ON THE SIDE OF THE FENCE FACING THE SIDEWALK.
- FIT CHAIN LINK FENCE WITH TOP RAILS AND BOTTOM RAILS. CONNECT CHAIN MESH FABRIC TO TOP AND BOTTOM RAILS BY MEANS OF CONTINUOUS SPIRAL GALVANIZED TIE-WIRE, WITH AT LEAST ONE FULL WRAP AROUND THE SUPPORTING RAIL EVERY 150 mm.
- FIELD-APPLIED GALVANIZING, TOUCH-UP, AND WELD GALVANIZING SHALL BE DONE WITH SELF-FLUXING, LOW TEMPERATURE, ZINC-BASED ALLOY RODS IN ACCORDANCE WITH ASTM A780-01. GALVALLOY OR WELCO GAL-VIZ GALVANIZING ALLOY, OR ACCEPTED EQUIVALENT IN ACCORDANCE WITH B7.

RIGID BOARD INSULATION

- EXTRUDED POLYSTYRENE RIGID INSULATION IN ACCORDANCE WITH NATIONAL STANDARD OF CANADA CAN/ULC-S701 (TYPE 4).
- MINIMUM COMPRESSIVE STRENGTH SHALL BE 275 KPA (40 PSI) IN ACCORDANCE WITH ASTM D1621.

EROSION CONTROL BLANKET

- EROSION CONTROL BLANKET SHALL BE MACHINE PRODUCED 100% COCONUT FIBRE MATRIX MEETING THE REQUIREMENTS OF THE SPECIFICATIONS.

STRAW WATTLES

- STRAW WATTLES SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS.

GROUTED STONE RIP-RAP

- GROUTED STONE RIP-RAP AT DITCH INLET GRATE SHALL MEET THE REQUIREMENTS OF CW 3615.

ROCKFILL SHEAR KEY EXCAVATION NORTH OF RUE DES TRAPPISTES

- INSTALL ROCKFILL SHEAR KEY FOLLOWING EXCAVATION OF CULVERT TRENCH. BACKFILL NARROW ROCK KEY EXCAVATION TRENCH IMMEDIATELY FOLLOWING PERFORMANCE OF EXCAVATION. DO NOT LEAVE EXPOSED.
- BACKFILL ROCKFILL SHEAR KEY WITH 150mm CRUSHED LIMESTONE SUB-BASE MATERIAL IN ACCORDANCE WITH CW 3110.
- COMPACTION AS DESCRIBED IN THE SPECIFICATIONS.

THICKENED RIP-RAP ROCK KEY EXCAVATION SOUTH OF RUE DES TRAPPISTES

- INSTALL ROCK KEY FOLLOWING EXCAVATION OF CULVERT TRENCH.

CLASS 450 RIP-RAP

- CLASS 450 RIP-RAP SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.
- INSTALL ON NON-WOVEN GEOTEXTILE KEYED MINIMUM 300 mm VERTICALLY INTO THE TOP OF SLOPE.

GEOTEXTILE

- GEOTEXTILE FOR RIP-RAP AND SUBDRAINS SHALL BE NON-WOVEN GEOTEXTILE IN ACCORDANCE WITH CW 3120 AND CW 3130.

DRAINAGE BOARD

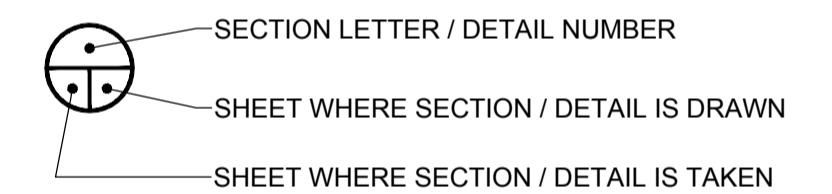
- DRAINAGE BOARD SHALL BE NU-DRAIN DN50-1 OR ACCEPTED EQUAL IN ACCORDANCE WITH B7.

LIST OF ACRONYMS & SYMBOLS*

N,S,E,W	COMPASS DIRECTIONS
ALT	ALTERNATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BLL	BOTTOM LOWER LAYER
BRG	BEARING
BUL	BOTTOM UPPER LAYER
CB	CATCH BASIN
CL	CENTRELINE
CPR	CANADIAN PACIFIC RAILWAY
CSA	CANADIAN STANDARDS ASSOCIATION
CW	CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATION
C/W	COMPLETE WITH
EB	EASTBOUND
EL	ELEVATION
EX	EXISTING
FM	FEEDERMAIN
HWL	HIGH WATER LEVEL
MIN	MINIMUM
O/C	ON CENTRE
O/H	OVERHEAD
OHWL	ORDINARY HIGH WATER LEVEL
PL	PROPERTY LINE
RSIC	REINFORCING STEEL INSTITUTE OF CANADA
SD	STANDARD DRAWING (CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS)
SHLD	SHOULDER
SPMDD	STANDARD PROCTOR MODIFIED DRY DENSITY
TLL	TOP LOWER LAYER
TUL	TOP UPPER LAYER
TYP	TYPICAL
UG	UNDERGROUND
UNS	UNIFIED CLASSIFICATION SYSTEM
W/	WITH
WB	WESTBOUND
WL	WATER LEVEL
WM	WATER MAIN
@	AT
Ø	DIAMETER

*REFER ALSO TO TITLE BLOCK ON SELECT DRAWINGS

SECTION & DETAIL SYMBOLS



LOCATION APPROVED UNDERGROUND STRUCTURES

SUPR. U/G STRUCTURES COMMITTEE DATE

NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

BM ELEV					
0	ISSUED FOR TENDER	17/09/15	DAN		
No.	REVISIONS	YY/MM/DD	BY	DATE	

DESIGNED BY		CHECKED BY	
DAN		BE	
DRAWN BY		APPROVED BY	
MS		SAL	
HOR SCALE		RELEASED FOR CONSTRUCTION	
NTS			
VERT SCALE		DATE	

PROFESSIONAL'S SEAL
PROVINCE OF MANITOBA REGISTERED PROFESSIONAL ENGINEER D.A. NEILSON ORIGINAL SIGNED 17/09/15 37248
CONSULTANT FILE NAME 5160966-GN-02.DWG

BID OPPORTUNITY No. 698-2017

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

**RUE DES TRAPPISTES AT WESTENDORF
COULEE CULVERT REPLACEMENT AND
ROAD RECONSTRUCTION**

GENERAL NOTES AND DESIGN DATA

CITY DRAWING NUMBER C372-17-02
SHEET OF 02 22
DRAWING No. REV 02 0