

A1 SIZE (594 mm x 841 mm) | File: P:\2017\17m-02091-00 - professional computing services for chief peguis greenway extension from main street to henderson highway\WSP\Structural\17m-02091-00_CPT_Greenway_DD_01_general_notes.dwg | Layout: 1 Design Data and General Notes | Plot: February 22, 2018 at 12:57:10 PM | Last saved by: patricia.s. |

GENERAL

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH CONTRACT SPECIFICATIONS.
- THE METRIC SYSTEM OF MEASUREMENT IS USED ON ALL DRAWINGS. ELEVATIONS AND STATIONS ARE SHOWN IN METERS AND ALL OTHER DIMENSIONS ARE SHOWN IN MILLIMETERS.
- CONTRACTOR MUST VERIFY ALL EXISTING GEOMETRY AS WELL AS PROPOSED DIMENSIONS AND LAYOUT IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION.
- ALL REFERENCES TO CODES, STANDARDS, SPECIFICATIONS, GUIDELINES, ETC., SHALL MEAN THE LATEST EDITION UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION. EXCEPT WHERE INDICATED OTHERWISE, THESE DRAWINGS SHOW DETAILS FOR THE COMPLETED STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN AND STABILITY OF ANY TEMPORARY WORKS DURING CONSTRUCTION. CONSTRUCTION METHODS REQUIRING THE TEMPORARY INSTALLATION OF COFFER DAMS, 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.
- ALL WORK TO BE COMPLETED INSIDE THE EXISTING STEEL GIRDERS SHALL BE CONSIDERED CONFINED SPACE.

STRUCTURAL DESIGN DATA

- DESIGN SPECIFICATION:
CAN/CSA-S6-14 "CANADIAN HIGHWAY BRIDGE DESIGN CODE"
- LIVE LOAD:
PER CAN/CSA-S6-14
- DESIGN LIFE:
75 YEARS
- CONCRETE BARRIER COLLISION PERFORMANCE RATING:
TL-4

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: EXPRESSWAY
POSTED SPEED: 80 km/h

GEOTECHNICAL DESIGN DATA

- A GEOTECHNICAL REPORT HAS BEEN PREPARED BY AMEC FOSTER WHEELER TITLED "GEOTECHNICAL INVESTIGATION, CHIEF PEGUIS GREENWAY EXTENSION FROM MAIN STREET TO HENDERSON HIGHWAY" DATED FEBRUARY 2017. REFER TO GEOTECHNICAL REPORT FOR DETAILED 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.
- EARTH LOAD:
ACTIVE EARTH PRESSURE COEFFICIENT, $K_0 = 0.62$.
- DESIGN BACKFILL SOIL DENSITY ASSUMED TO BE 18.0 kN/m³.

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

- CONTRACTOR SHALL VERIFY ALL EXISTING ABOVE GROUND, BELOW GROUND AND EMBEDDED UTILITIES, AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING STRUCTURES AND UTILITIES BY THE CONTRACTOR'S OPERATIONS MUST BE REPAIRED BY THE CONTRACTOR AT HIS OWN COST.
- THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION METHOD STATEMENT DEMONSTRATING ADHERENCE TO THE OPERATING CONSTRAINTS FOR WORK IN CLOSE PROXIMITY TO ALL BURIED, OVERHEAD AND EMBEDDED UTILITIES.

CAST IN PLACE CONCRETE

- TO BE READ IN CONJUNCTION WITH CW 2160 AND AS AMENDED IN ACCORDANCE WITH THESE NOTES.
- CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CSA A23.1.
- ALL CEMENTITIOUS MATERIAL SHALL BE IN ACCORDANCE WITH CSA A3001.
- ALL CAST-IN-PLACE CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

SUBSTRUCTURE: (SLOPE PAVING, RETAINING WALLS, A.T. PATHWAYS)	35 MPa AT 28 DAYS CSA A23.1 EXPOSURE CLASS C-1 CEMENT TYPE GU CATEGORY 1 AIR ENTRAINMENT MAXIMUM AGGREGATE SIZE 20 mm
SUPERSTRUCTURE: (DECK SLAB AND TRAFFIC BARRIER)	35 MPa AT 28 DAYS CSA A23.1 EXPOSURE CLASS C-1 CEMENT TYPE GU CATEGORY 1 AIR ENTRAINMENT MAXIMUM AGGREGATE SIZE 20 mm
SUPERSTRUCTURE: (SIDEWALK TOPPING)	35 MPA AT 28 DAYS CSA A23.1 EXPOSURE CLASS C-2 CEMENT TYPE GU CATEGORY 1 AIR ENTRAINMENT MAXIMUM AGGREGATE SIZE 10 mm
- ALL SUPERSTRUCTURE CONCRETE SHALL BE WET CURED FOR 7 DAYS.
- CONCRETE CLEAR COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS:

TOP OF DECK SLAB, TRAFFIC FACE OF TRAFFIC BARRIER	70 mm
ALL OTHER UNLESS NOTED OTHERWISE	50 mm
- ALL EXTERIOR CORNERS SHALL BE CHAMFERED 20 mm.

REINFORCING STEEL

- TO BE READ IN CONJUNCTION WITH CW 2160 AND AS AMENDED IN ACCORDANCE WITH THESE NOTES.
- ALL REINFORCING STEEL IN DECK SLAB AND TRAFFIC BARRIER SHALL CONFORM TO ASTM A955/A955M, UNS S32205, UNS S32304 OR UNS S31653, MINIMUM GRADE 420 MPa.
- ALL OTHER REINFORCING STEEL SHALL CONFORM TO CSA G30.18M, GRADE 400W, UNLESS NOTED OTHERWISE.
- THE MINIMUM LAP LENGTH FOR ALL REINFORCING STEEL SHALL MEET CAN/CSA S6, CLASS B.

BAR SIZE	LAP LENGTH
15M OR 16 S.S.	740
20M OR 19 S.S.	900
25M OR 25 S.S.	1 450
- REINFORCING STEEL LAPS SHALL BE STAGGERED UNLESS NOTED OTHERWISE.

MISCELLANEOUS METAL

- EXTRUDED ALUMINUM SHAPES SHALL CONFORM TO THE REQUIREMENTS OF ASTM B221, ALLOY 6061-T6 OR ALLOY 6351-T5 (MINIMUM ELONGATION 10%). ALUMINUM PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM B221, ALLOY 5083-H116.
- WELDING OF ALUMINUM SHALL CONFORM TO THE REQUIREMENTS OF CSA S244 WELDED ALUMINUM DESIGN AND WORKMANSHIP, W59.2 WELDED ALUMINUM CONSTRUCTION, AND W47.2 ALUMINUM WELDING QUALIFICATION CODES. ALUMINUM FILLER ALLOY SHALL BE ONE OF THE FOLLOWING: ER4043, ER5183, ER5356, ER5554, ER5556 AND ER5654.
- STEEL PLATES SHALL CONFORM TO THE REQUIREMENTS OF CSA G40.20/G40.21, GRADE 300W.
- WELDING OF STEEL SHALL CONFORM TO THE REQUIREMENTS CSA W59 WELDED STEEL CONSTRUCTION, AND CSA W48 FILLER METALS AND ALLIED MATERIALS FOR METAL ARC WELDING.
- THE STAINLESS STEEL HEX HEAD AND SOCKET HEAD CAP SCREWS SHALL MEET THE REQUIREMENTS OF ASTM A276, TYPE 430, AND THE DIMENSIONAL REQUIREMENTS OF ANSI B18.3.
- ANIT-SEIZE COATING TO BE APPLIED TO ALL THREADED COMPONENTS WHEN BEING ASSEMBLED [I.E., LPS-3-MANUFACTURED BY HOLT-LLOYD (CANADA) LTD. MARKHAM, ONTARIO, L3R 2Z3, OR APPROVED EQUAL].
- DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE, AND ACCEPTED MANUFACTURING PRACTICES.

BACKFILL MATERIAL

- BACKFILL SHALL BE SUPPLIED, PLACED, AND COMPACTED IN AN UNFROZEN CONDITION.
- BACKFILL BELOW A.T. PATHWAY SLAB SHALL BE:
 - TYPE 2 GRANULAR BACKFILL PER CW 2030.
 - COMPACTED TO MAXIMUM 95% SPMDD USING LIGHT HAND-OPERATED VIBRATING PLATE COMPACTOR.
- DRAINAGE BACKFILL BEHIND RETAINING WALLS SHALL BE:
 - TYPE 3 GRANULAR BACKFILL FOR DRAINAGE PER CW 2030, WITH REQUIREMENTS AS MODIFIED IN THE SPECIFICATIONS.

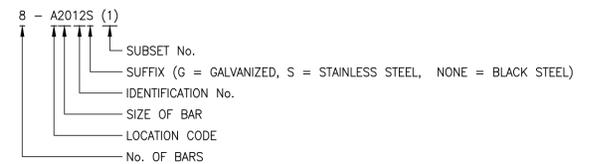
GEOTEXTILE

- GEOTEXTILE SHALL BE NON-WOVEN GEOTEXTILE IN ACCORDANCE WITH CW 3120 AND CW 3130.

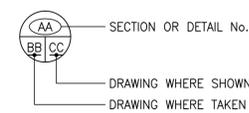
ABBREVIATIONS

⊙	AT	LDS	LAND DRAINAGE SYSTEM
ABUT.	ABUTMENT	LVC	LENGTH OF VERTICAL CURVE
ALT.	ALTERNATING	MAX.	MAXIMUM
APPROX.	APPROXIMATELY	MIN.	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MK.	MARK
B.C.	BEGIN CURVE	N.F.	NEAR FACE
BLL	BOTTOM LOWER LAYER	NB	NORTHBOUND
BLVD.	BOULEVARD	No.	NUMBER
B.O.	BOTTOM OF	N.S.W.L.	NORMAL SUMMER WATER LEVEL
BRG.	BEARING	N.T.S.	NOT TO SCALE
B.S.	BOTH SIDES	PCS.	PIECES
BTM.	BOTTOM	O.C.	ON CENTER
BUL	BOTTOM UPPER LAYER	O.D.	OUTSIDE DIAMETER
BVCE	BEGIN VERTICAL CURVE ELEVATION	O.F.	OUTSIDE FACE
BVCS	BEGIN VERTICAL CURVE STATION	O/H	OVERHEAD
CB	CATCH BASIN	O/O	OUT TO OUT
C/C	CENTER TO CENTER	OPP.	OPPOSITE
☉	CENTER LINE	PL	PLATE
CONC.	CONCRETE	PNT.	POINT
CONT.	CONTINUOUS	PVI	POINT OF VERTICAL INTERSECTION
CMP	CORRUGATED METAL PIPE	REINF.	REINFORCING
CS	COMBINED SEWER	R.C.	REINFORCED CONCRETE
CSA	CANADIAN STANDARDS ASSOCIATION	REQ'D	REQUIRED
C/W	COMPLETE WITH	R.O.W.	RIGHT OF WAY
DIA.	DIAMETER	SB	SOUTHBOUND
∅	DIAMETER	SD	STANDARD DRAWING (CITY OF WINNIPEG STANDARD SPECIFICATION)
D.L.	DEAD LOAD	SHLD.	SHOULDER
DWL	DOWEL	SL	STREET LIGHT
EB	EASTBOUND	SP.	SPACES
E.C.	END CURVE	SPDD	STANDARD PROCTOR DRY DENSITY
E.F.	EACH FACE	S.S.	STAINLESS STEEL
ELEV.	ELEVATION	STA.	STATION
EL.	ELEVATION	TC	TANGENT TO CURVE
EVCE	END VERTICAL CURVE ELEVATION	TEMP.	TEMPORARY
EVCS	END VERTICAL CURVE STATION	THK.	THICK
EXP.	EXPANSION	TLL	TOP LOWER LAYER
EXIST.	EXISTING	T.O.	TOP OF
EXT.	EXTERIOR	TUL	TOP UPPER LAYER
F.F.	FAR FACE	TYP.	TYPICAL
FM	FEEDERMAIN	VERT.	VERTICAL
FTG.	FOOTING	U/G	UNDERGROUND
GALV.	GALVANIZED	U.N.O.	UNLESS NOTED OTHERWISE
G.B.M.	GEODETIC BENCH MARK	U/S	UNDERSIDE
HORIZ.	HORIZONTAL	WB	WESTBOUND
H.W.L.	HEAD WATER LEVEL	W.O.	WORKING POINT
I.F.	INSIDE FACE	WM	WATER MAIN
INT.	INTERIOR	W.W.S.	WASTE WATER SEWER
INV.	INVERT		
K	K VALUE		

REINFORCING STEEL CODE LEGEND



SECTION AND DETAIL SYMBOLS LEGEND



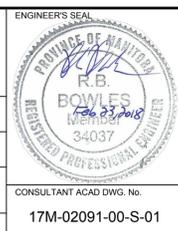
METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES



LOCATIONS APPROVED UNDERGROUND STRUCTURES		G.B.M.	ELEV.
SIGNED BY:	DATE		
SUPV U/G STRUCTURES			
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.			
0	ISSUED FOR TENDER	18.02.23	JL
No.	REVISIONS	DATE	BY

wsp		WSP Canada Group Limited 93 Lombard Avenue, Suite 111 Winnipeg MB R3B 3B1 T+ 1 204-943-3178 F+ 1 204-943-4948 www.wsp.com	
DESIGNED BY	BB	CHECKED BY	WC
DRAWN BY	CP	APPROVED BY	JL
HOR. SCALE	N.T.S.	RELEASED FOR CONSTRUCTION	
VERTICAL	N.T.S.		
0	ISSUED FOR TENDER	18.02.23	JL
No.	REVISIONS	DATE	BY



THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION CHIEF PEGUIS TRAIL - GREENWAY EXTENSION KILDONAN SETTLERS BRIDGE MODIFICATIONS DESIGN DATA AND GENERAL NOTES		CITY DRAWING NUMBER	B216-18-01
		SHEET	1 OF 26
		BID OPPORTUNITY NUMBER	4-2018

NOTE: These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.