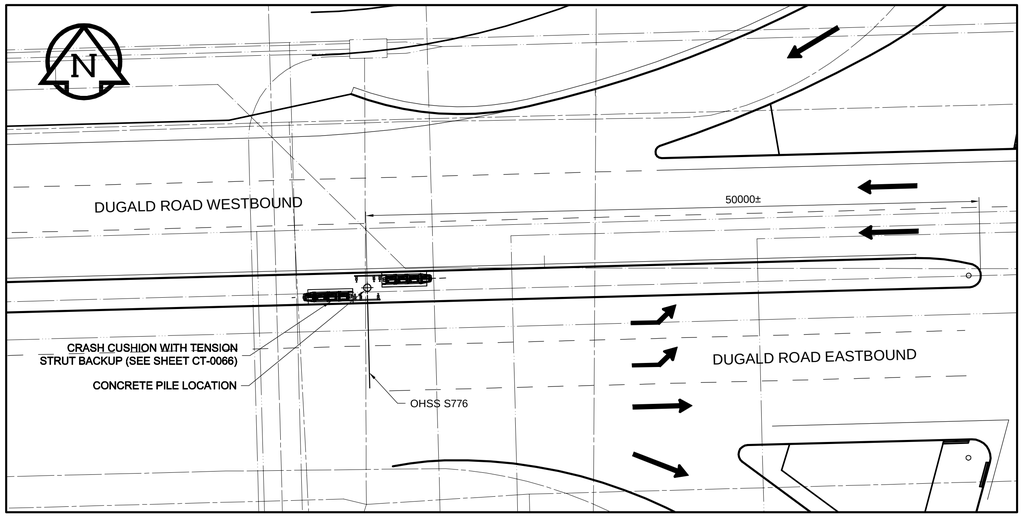
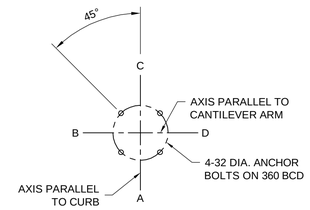
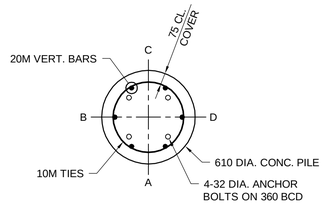


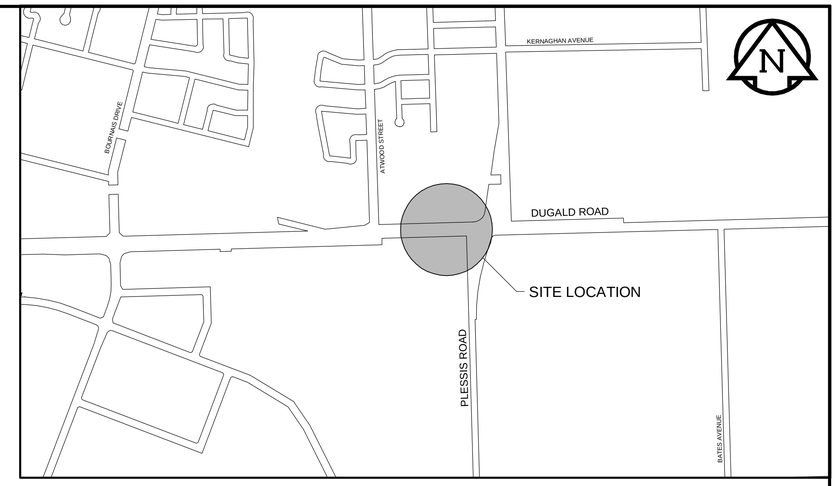
LOCATION PLAN



ANCHOR BOLT LAYOUT



PLAN



KEY PLAN

SITE ELEVATION - LOOKING EAST

1:50 (CRASH PROTECTION NOT SHOWN FOR CLARITY)

ELEVATION

CONCRETE PILE FOUNDATION DETAIL

1:20

PILE CONSTRUCTION NOTES

1. REINFORCING STEEL
   - CSA G30.18 400W
   - VERTICAL BARS FULL LENGTH OF PILE
   - HOT DIP GALVANIZED

2. ANCHORS BOLTS
   - ASTM F1554 GR. 55 (380 MPa)
   - 4-32 DIA. x 1500 LONG + 150 HOOK
   - EACH BOLT C/W 2 NUTS & 2 WASHERS
   - TOP 300 THREADED
   - HOT DIP GALVANIZED FULL LENGTH
   - FOLLOWING INSTALLATION OF THE STEEL STRUCTURE, TIGHTEN THE LOWER LEVELING NUTS AND UPPER ANCHORING NUTS TO A SNUG-TIGHT CONDITION FOLLOWED BY 1/3 NUT ROTATION (+20°/-0°) OF THE UPPER ANCHOR NUTS.

3. ANCHOR BOLTS SHALL BE ALIGNED WITH A TEMPORARY STEEL TEMPLATE, PLACEMENT OF ANCHOR BOLTS AND CONCRETE WITHOUT THE TEMPLATE WILL NOT BE PERMITTED.

4. TOP OF PILE SHALL BE FORMED WITH A TUBULAR FORM (SONOTUBE) AS FOLLOWS:
   a) FOR BORED PILES, 1.0 m BELOW FINAL GRADE
   ii) FOR HYDRO-JET EXCAVATED PILES, 1.5 m BELOW FINAL GRADE

5. CONTRACTOR SHALL REMOVE THE BASE TEMPLATE, NUTS AND FORM, FOLLOWING A MINIMUM 24 HOUR CONCRETE CURING PERIOD.

6. CONCRETE MIX DESIGN
   PROPORTIONING OF FINE AGGREGATE, COARSE AGGREGATE, CEMENT, WATER, AND AIR ENTRAINING AGENT SHALL BE SUCH AS YIELD CONCRETE HAVING THE REQUIRED STRENGTH AND WORKABILITY AS FOLLOWS:
   i) CLASS OF EXPOSURE: S-1
   ii) COMPRESSIVE STRENGTH AT 56 DAYS = 35 MPa
   iii) WATER/CEMENTING MATERIALS RATIO = 0.4
   iv) AIR CONTENT: CATEGORY 2 PER TABLE 4 OF CSA A23.1-09 (4-7%)
   v) CEMENT - TYPE HS OR HSb HIGH SULPHATE RESISTENT

2013-07-05

APEGM
Certificate of Authorization
Dillon Consulting Limited (MB)
No. 1789 Date: 2013/11/21

BID OPPORTUNITY NO. 712-2013

B.M. ELEV.			
A	ISSUED FOR TENDER	2013/11/21	TJP
NO.	REVISIONS	DATE	BY

DILLON CONSULTING

DESIGNED BY	CDW	CHECKED BY	SSR
DRAWN BY	JLD	APPROVED BY	DPK
HOR. SCALE: AS NOTED VERTICAL:		RELEASED FOR CONSTRUCTION BY:	
DATE		DATE	2013/11/21

ENGINEER'S SEAL
PROVINCE OF MANITOBA
ORIGINAL STAMPED BY
C.D. WARD
2013/11/21
Member
24456
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO.
12-6576-CT-0064

Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

PLESSIS ROAD TWINNING AND GRADE SEPARATION AT CN REDDITT SUBDIVISION
CONTRACT 3

CITY DRAWING NUMBER: S776-2013-01

SHEET 64 OF 66

S776 - DUGALD ROAD E.B.
WEST OF PLESSIS ROAD

CT-0064

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