## **GENERAL NOTES:**

- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE IN METERS AND ARE TO GEODETIC DATUM. THE CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THE DRAWINGS.
- 2. DISCREPANCIES OR AMBIGUITIES ON THE DRAWINGS AND/OR SITE, WHICH AFFECT THE
- STRUCTURAL FRAMING, SHALL BE REPORTED TO THE CONTRACT ADMINISTRATOR. 3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND SERVICES PRIOR TO START OF CONSTRUCTION.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL NECESSARY SHORING, BRACING AND FORMWORK, FORM WORK FOR NEW CONSTRUCTION SHALL BE BRIDGED OVER EXISTING SERVICES. PROCEDURE MUST BE APPROVED BY ENGINEER.
- 5. NOTIFY ENGINEER AT LEAST 48 HOURS PRIOR TO ALL CONCRETE POURS AND/OR INSTALLATION OF INTERIOR SHEATHING/FORMING, TO ALLOW FOR SITE REVIEWS. ALL CONCRETE WORK TO CSA A23.1 (LATEST).

## **CONCRETE NOTES:**

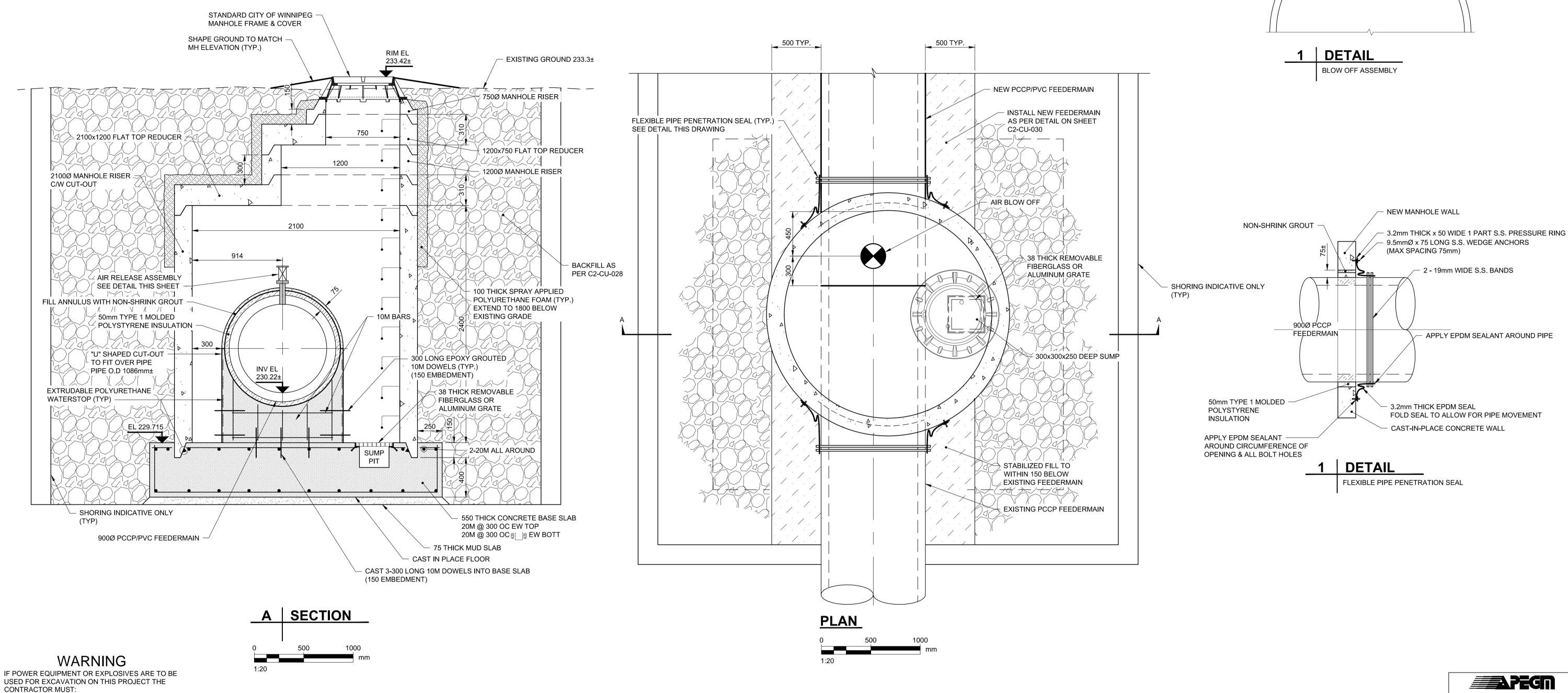
- 1. ALL CONCRETE WORK TO CSA A23.1 (LATEST). TEST CONCRETE TO CSA A23.2 (LATEST).
- 2. CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:

MIX TYPE	INTENDED APPLICATION	MINIMUM COMPRESSIVE STRENGTH (MPa)	CSA EXPOSURE CLASS	CONCRETE COVER TO REINFORCING STEEL (mm)	
2	STRUCTURAL CONCRETE FOR BASE SLAB	35	S-1	50 TOP 75 BOTTOM	

3. FORMWORK AND FALSEWORK SHALL BE COMPLETED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT TO ENGINEER FOR REVIEW.

## **REINFORCING STEEL NOTES:**

- 1. REINFORCING STEEL: NEW DEFORMED BARS TO CSA G30.18 "BILLET STEEL BARS FOR CONCRETE REINFORCEMENT", WITH MIN 400 MPa YIELD STRENGTH.
- 2. DEFORMED BARS CONFORMING TO CSA G30.18, GRADE 400. LAP SPLICES AS PER CSA A23.3.
- 3. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CSA A23.1 AND CSA A23.3.



**METRIC** WHOLE NUMBERS INDICATE MILLIMETRES DECIMALIZED NUMBERS INDICATE METRES

Winnipeg

ENGINEER'S SEAL

A. D.

BRAUN

Member

24453

CONSULTANT PROJECT NUMBER

60321148

50 THREADED STEEL NIPPLE

Certificate of Authorization AECOM Canada Ltd. No. 4671 Date:\_

**BID OPPORTUNITY NO. 473-2016** 

U239-2016-C2-CU-031

0	THE CITY OF WINNIPEG
	PUBLIC WORKS DEPARTMENT

1 0			
WAVERLEY STREET UNDERPASS AT CN MILE 3.89 RIVERS SUB CONTRACT 2: UNDERPASS STRUCTURE, RAILWORKS,	CITY DRAWING NUMBER U239-2016-C2-CU-0		
ROADWORKS, LAND DRAINAGE SEWER, PUMPING STATION	SHEET	OF	
AND LANDSCAPING WORKS	31	4	

AND LANDSCAPING WORKS	SHEET 31	of <b>41</b>
EXISTING MIDTOWN FEEDER MAIN	CONSULTANT [	DRAWING NUMBER
RAIL CROSSING AIR RELEASE CHAMBER	C2-0	CU-031

50 FL x FL STAINLESS STEEL BALL VALVE

C/W ISOLATION KIT

50 THREADED STEEL FLANGE

COMPANY INSTALLATIONS SEE PROVINCIAL REGULATION 210/72 FOR DETAILS. OBTAIN EXCAVATION PERMITS PRIOR TO CONSTRUCTION.

1. NOTIFY THE GAS COMPANY OF THE PROPOSED

TAKE PRECAUTION TO AVOID DAMAGE TO GAS

LOCATION OF EXCAVATION.

150 WM	WATER MAIN	150 WM		PIPE ABANDONMENTS	<del></del>	150 WM	WATER MAIN	150 WM	
- <b></b>	HYDRANT	<b>+</b>	+	SURVEY BAR		†	HYDRANT	t	. UNI
8	VALVE	•	ο̈́	CURB STOP	•	X	VALVE	X	.]
300 LDS	LAND DRAINAGE SEWER	300 LDS		REDUCER		300 LDS	LAND DRAINAGE SEWER	300 LDS	$\int \frac{1}{\sin x}$
250 WWS	WASTE WATER SEWER	250 WWS	X	COUPLING	<del></del>	250 WWS	WASTE WATER SEWER	250 WWS	SUPV
	SEWER SERVICE PIPE	SSP	N	ANODE	₽		PAVEMENT CROWN		,
	DRAINAGE CONNECTION PIP	E		HYDRO		<b>→</b>	N/W PROPERTY LINE		]
	MANHOLE	•		MTS		<del></del>	S/E PROPERTY LINE		LOCA
	CATCH BASIN			GAS			N/W GUTTER		LOCA SHOW AVAIL THAT
Δ	CURB INLET	<b>A</b>	<del>•</del>	TESTHOLE		$- \leftarrow -$	S/E GUTTER		THAT
	CULVERT		•—•	LAMP STANDARD					THAT CONF LOCA OBTA BEFO
EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PROFILE	NEW	BEFO

**AECOM** NDERGROUND STRUCTURES DATE DESIGNED CHECKED ADB DRAWN APPROVED ISSUED FOR ADDENDUM 5 17/03/02 KLC RELEASED FOR AS NOTED ISSUED FOR ADDENDUM 1 17/01/25 DKD CONSTRUCTION VERTICAL AS NOTED ISSUED FOR TENDER 17/01/09 DKD DATE BY NO. REVISIONS DATE

IPV. U/G STRUCTURES