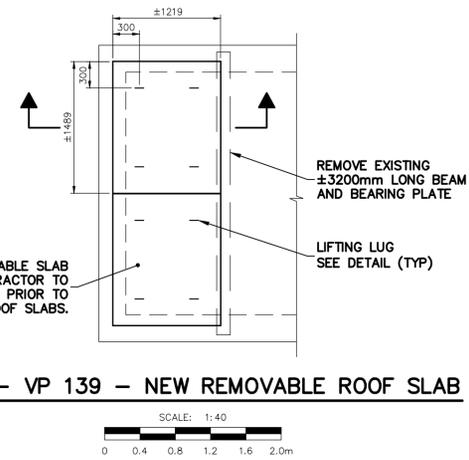
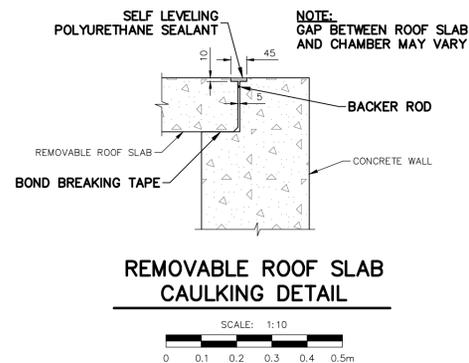


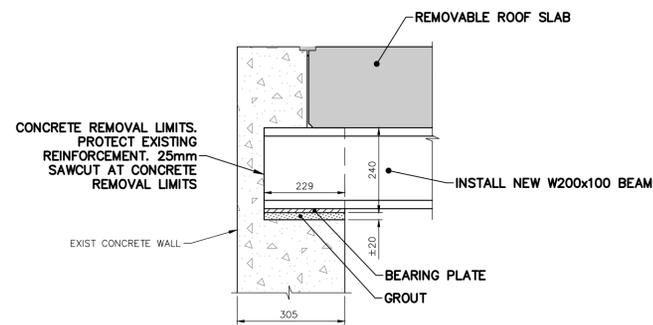
**ELEVATION - VP 139 - EXISTING CONDITIONS**



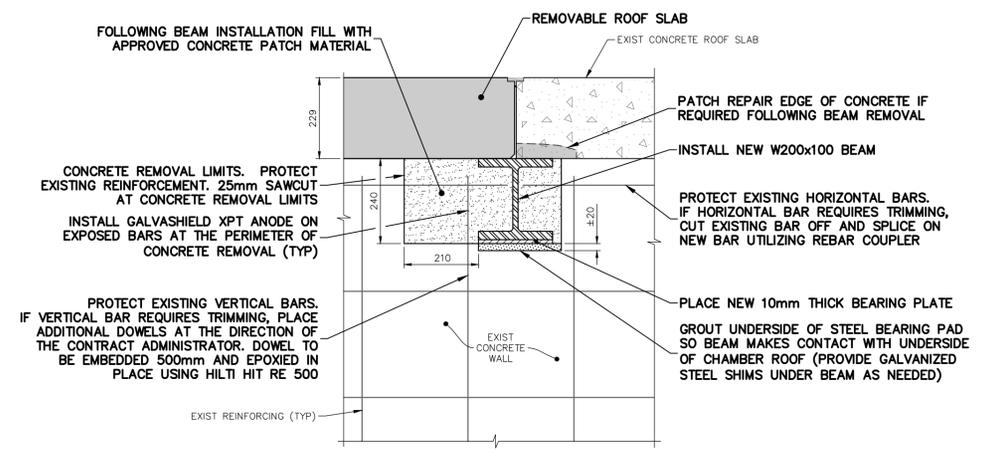
**PLAN - VP 139 - NEW REMOVABLE ROOF SLAB**



**REMOVABLE ROOF SLAB CAULKING DETAIL**

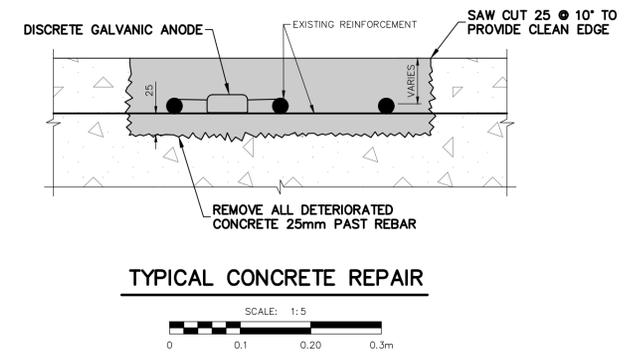


**ELEVATION - VP 139 - BEAM REPLACEMENT WORKS**



**SECTION - VP 139 - BEAM REPLACEMENT WORKS**

- CONCRETE REPAIR PROCEDURE (DELAMINATION EXTENDS TO REBAR):**
1. SAWCUT PERIPHERY OF REPAIR AREA TO 25 DEEP.
  2. REMOVE ALL DETERIORATED CONCRETE 25mm PAST REBAR.
  3. SANDBLAST ALL EXPOSED REINFORCING STEEL AND FIELD APPLY EPOXY COATING TOUCH UPS WHERE REQUIRED.
  4. INSTALL DISCRETE GALVANIC ANODE.
  5. PLACE NEW CONCRETE TO COMPLETE PATCH REPAIR.



**TYPICAL CONCRETE REPAIR**

**STRUCTURAL STEEL:**

1. STRUCTURAL STEEL FOR THE W200X100 STRUCTURAL SECTION SHALL BE NEW AND OF THE GRADE 350W, CATEGORY 3, AND SHALL BE IN ACCORDANCE WITH CAN/CSA G40.20/G40.21.
2. STRUCTURAL STEEL FOR THE PLATES SHALL BE GRADE 300W AND CONFORM TO THE REQUIREMENTS OF CAN/CSA G40.20/G40.21.
3. ALL STRUCTURAL STEEL AND STEEL SHIMS TO BE HOT DIP GALVANIZED. HOT-DIP GALVANIZING SHALL BE EXECUTED AFTER FABRICATION OF THE ELEMENT AND SHALL BE IN ACCORDANCE WITH ASTM A123 AND CSA G164 AND SHALL HAVE A MINIMUM MASS OF ZINC COATING OF 610 G/M<sup>2</sup>.

**CONCRETE:**

1. STRUCTURAL CONCRETE DESIGN SHALL BE IN ACCORDANCE WITH PERFORMANCE SPECIFICATION HAVING THE FOLLOWING PROPERTIES:
  - (I) CLASS OF EXPOSURE: S-1 & F-1
  - (II) MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS: 35 MPA
2. CONCRETE FOR PATCH REPAIRS SHALL BE POLYMER MODIFIED MORTAR BASED SIKA TOP 123 PLUS BY SIKA CANADA INC., MASTER EMACO S 488CI BY BASF MASTER BUILDERS SOLUTIONS, OR APPROVED EQUAL IN ACCORDANCE WITH B7.
3. CONCRETE CLEAR COVER TO BE 60 MM TO ALL SURFACES.

**REINFORCING STEEL:**

1. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF CSA G30.18, GRADE 400W.

**ANTICIPATED STAGING OF STRUCTURAL WORKS:**

1. REMOVAL OF OVERHEAD FILL ON CHAMBER ROOF AND EQUAL REMOVAL OF FILL ON EITHER SIDE OF CHAMBER WHERE BEAM IS TO BE REMOVED.
2. REMOVE EXISTING REMOVABLE ROOF SLABS. DISPOSE OF EXISTING SLABS (VP 139 ONLY)
3. SAW-CUT CONCRETE REMOVAL LIMITS FOR BEAM REPLACEMENT AND JACKHAMMER WITH HAND OPERATED POWER TOOLS TO THE LIMITS SHOWN ON THE DRAWINGS, PROTECTING EXISTING REINFORCING STEEL.
4. REMOVE EXISTING STEEL BEAM AND PATCH REPAIR THE ROOF SLAB UNDER EXISTING BEAM AS REQUIRED AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR.
5. PLACE GROUT AND STEEL BEARING PLATES FOR INSTALLATION OF NEW W200X100 BEAM. PERFORM LOCALIZED DEMOLITION UNDER THE BEAM AS REQUIRED FOR COMPETENT GROUT PLACEMENT.
6. SLIDE IN NEW W200X100 STEEL BEAM AND PLACE STEEL SHIMS AS REQUIRED FOR BEAM TO BEAR ON UNDERSIDE OF EXISTING CONCRETE ROOF. CUT EXISTING REINFORCEMENT ONLY AS NECESSARY WITHIN THE CONCRETE REMOVAL LIMITS TO INSTALL NEW BEAM.
7. PERFORM REMEDIAL MEASURES TO THE REINFORCEMENT (NEW DOWELS / BAR EXTENSION WITH REBAR COUPLERS) AS REQUIRED TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
8. PLACE CORROSION CONTROL ANODES (GALVANIZED XPT ANODES OR ACCEPTED EQUIVALENT) AT THE PERIMETER OF THE CONCRETE REMOVAL LIMITS AT LOCATIONS OF EXPOSED REINFORCING BAR.
9. PLACE PATCH REPAIR MATERIAL WITHIN THE CONCRETE REMOVAL LIMITS TO BE FLUSH WITH THE OUTSIDE EDGE OF DEMOLITION. HEAT AND HOARD AS REQUIRED UNTIL PATCH REPAIR HAS OBTAINED SUFFICIENT STRENGTH.
10. EPOXY INJECT CRACKS AS REQUIRED WITHIN THE CHAMBER AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR.
11. INSTALL NEW REMOVABLE ROOF SLAB ONCE READY AND WATERPROOF IN ACCORDANCE WITH THESE PLANS.

FOR INDEX SEE 1-0798B-D002-001



**METRIC**  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES  
UNLESS OTHERWISE NOTED

<b>WARNING</b>	
IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:	
1) NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.	
2) TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS.	
SEE PROVINCIAL REGULATION 210/72 FOR DETAILS	

<b>LOCATION APPROVED UNDERGROUND STRUCTURES</b>	
SUPV. 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.	

VERTICAL DATUM: CGVD28 (HT2.0 Geoid)	
HORIZONTAL DATUM: NAD83 (June 1990), Zone 14	
DESIGNED BY	ADB
CHECKED BY	NJK
DRAWN BY	DML
APPROVED BY	ADB
SCALE:	AS SHOWN
HORIZONTAL:	N/A
VERTICAL:	N/A
ISSUED FOR CONSTRUCTION	2023/04/21
DATE	APRIL 21, 2023
NO.	REVISIONS

<b>MORRISON HERSHFIELD</b>	
DESIGNED BY	ADB
CHECKED BY	NJK
DRAWN BY	DML
APPROVED BY	ADB
SCALE:	AS SHOWN
HORIZONTAL:	N/A
VERTICAL:	N/A
ISSUED FOR CONSTRUCTION	2023/04/21
DATE	APRIL 21, 2023
NO.	REVISIONS

<b>ENGINEER'S SEAL</b>	
CONSULTANT DRAWING NUMBER	

**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT  
ENGINEERING SERVICES DIVISION

**FEEDER MAIN VALVE CHAMBER REHABILITATION**  
VALVE PIT 138 AND 139

**DETAILS**

SHEET 6 OF 6  
CITY DRAWING NUMBER  
1-0798B-C0007-001