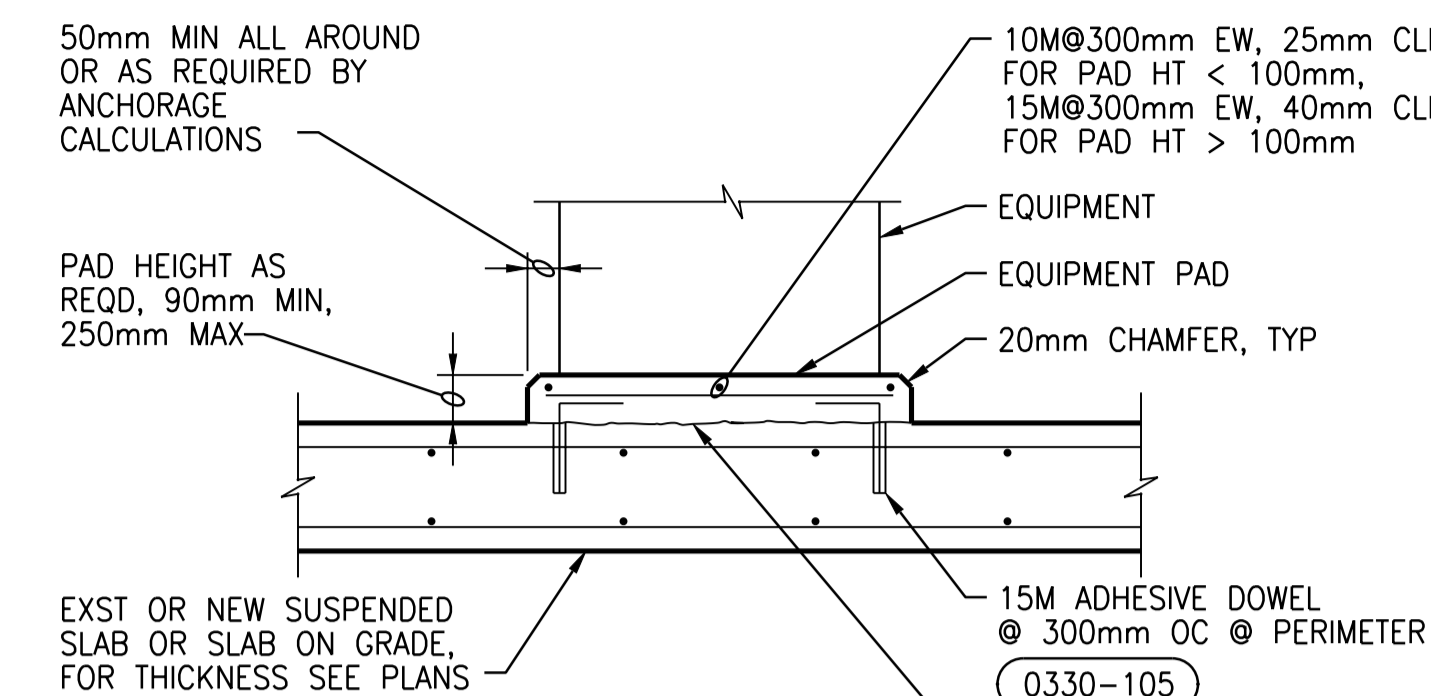


HYDRAULIC CEMENT GROUT	EPOXY GROUT
d = BAR DIA + 20mm	d AND Le IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
Le : 15M - 200mm	
20M - 250mm	
25M - 300mm	

- NOTES:**
1. DRILL HOLE OF DIAMETER AND DEPTH AS REQUIRED.
  2. CLEAN HOLE OF DUST AND DEBRIS.
  3. FILL HOLE WITH DOWELLING GROUT.
  4. INSTALL REINFORCING DOWEL BAR AND WIPE AWAY OVERFLOW.
  5. SECURE DOWEL BAR FIRMLY IN POSITION AND DO NOT DISTURB BAR FOR 24 HOURS AFTER INSTALLATION.

**DOWELLING IN EXISTING CONCRETE**

NTS 0330-816

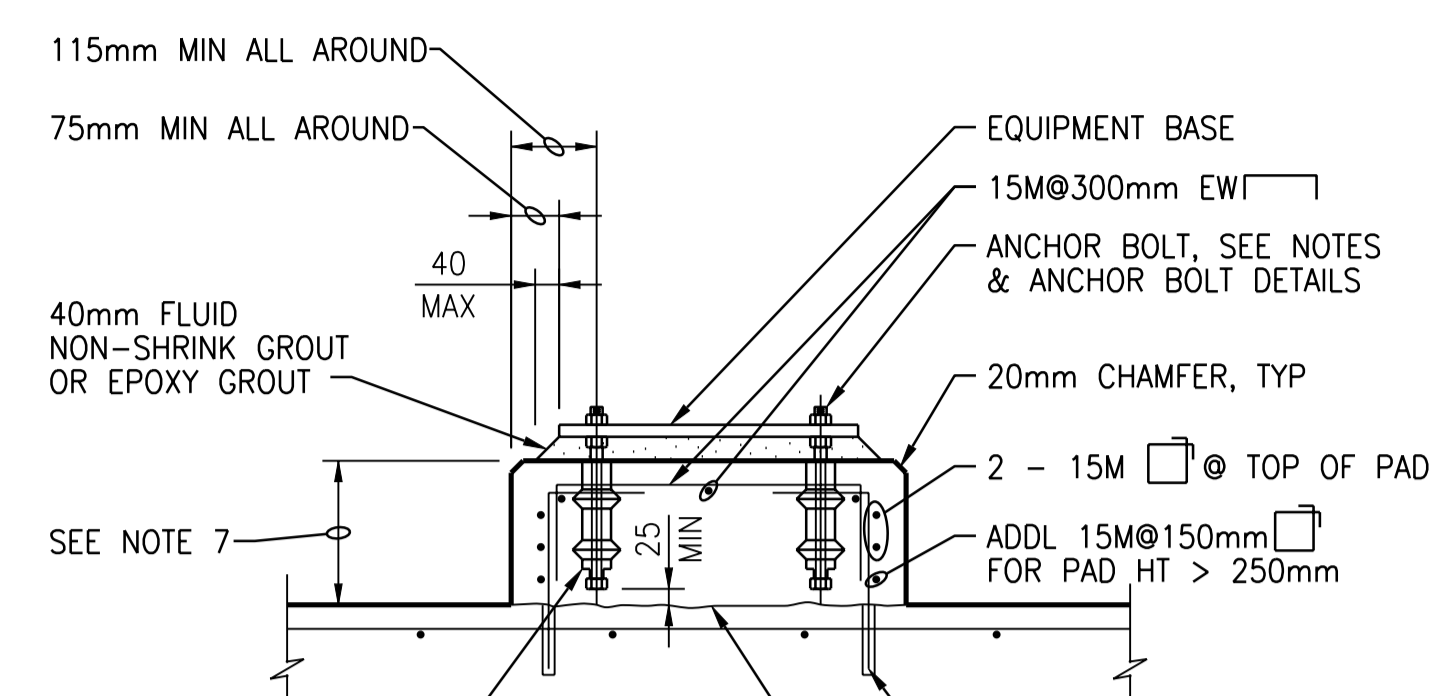


- NOTES:**
1. WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.
  2. CONCRETE PADS FOR ELECTRICAL EQUIPMENT SHALL BE 90mm HIGH, UNLESS NOTED OTHERWISE.

**GENERAL NOTE:**  
FOR GENERAL NOTES SEE DETAIL 3 OF 3.

**CONCRETE EQUIPMENT PAD - TYPE E**

NTS 0330-056



- GENERAL NOTE:**  
FOR GENERAL NOTES SEE DETAIL 3 OF 3.

**CONCRETE EQUIPMENT PAD - TYPE F**

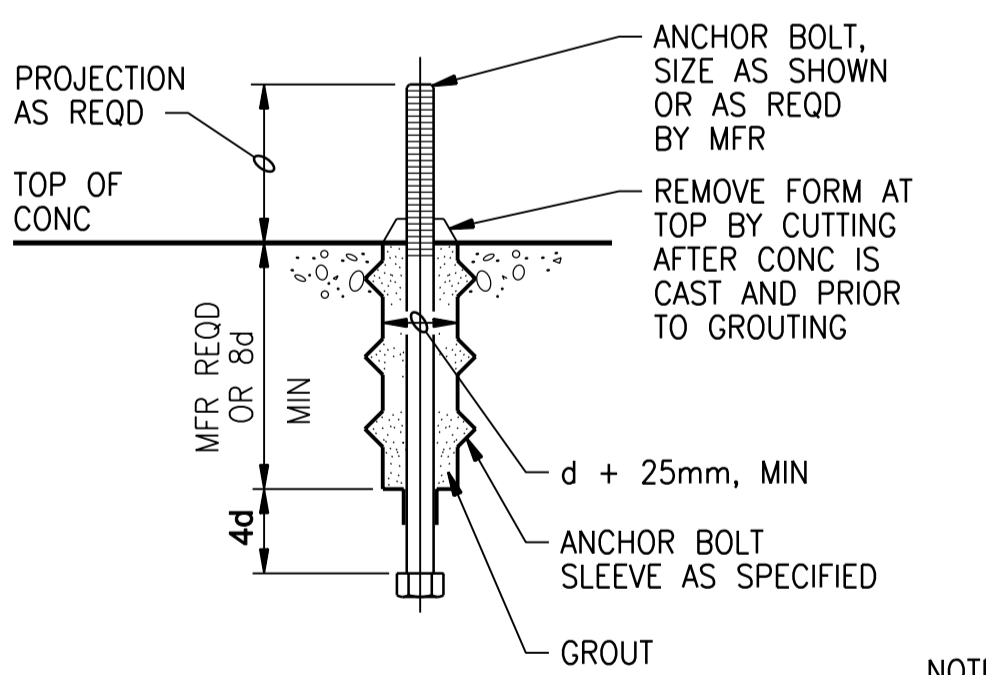
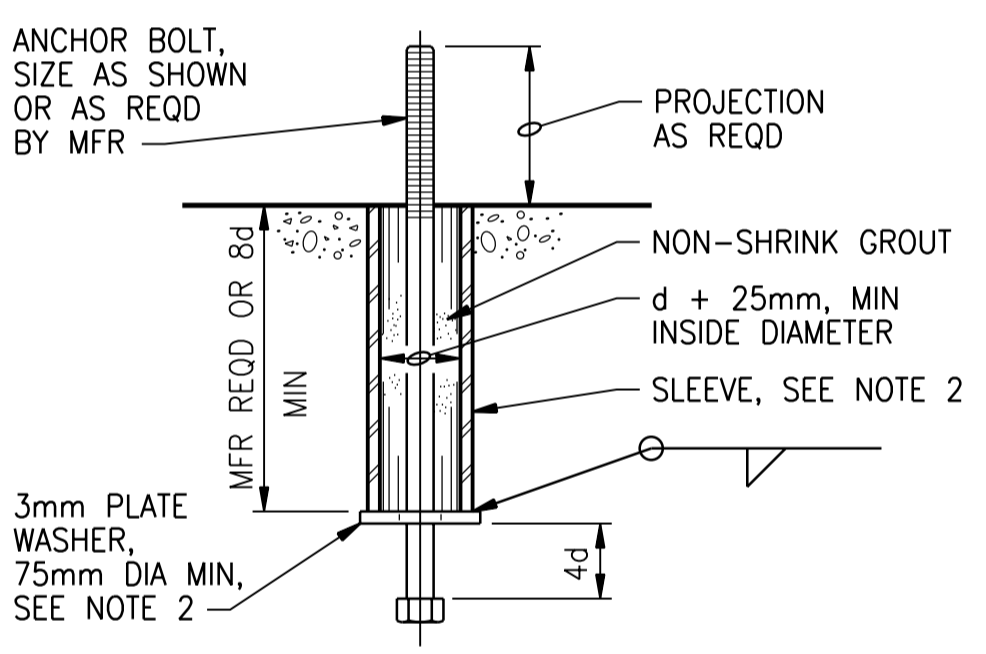
NTS 0330-056

- NOTES:**
1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE CONTRACT ADMINISTRATOR.
  2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
  3. ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE MINIMUM ANCHOR BOLT MOVEMENT OF 13mm IN ALL HORIZONTAL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER.
  4. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 25mm GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 75mm GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER BOLTS ARE ALIGNED. SEE 0330-057.
  5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS INDICATED OTHERWISE.
  6. WEDGES, SHIMS, OR LEVELING NUTS SHALL BE USED TO SUPPORT THE BASE WHILE THE GROUT IS PLACED. WEDGES OR SHIMS SHALL BE REMOVED AFTER GROUT IS SET AND PACK VOID WITH GROUT.
  7. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT ABOVE SUPPORTING SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOWN, USE TYPE "B" EQUIPMENT PAD WITH BLOCKOUT.
  8. AT CONTRACTOR'S OPTION, CONCRETE ANCHORS MAY BE USED IN LIEU OF CAST-IN-PLACE ANCHOR BOLTS FOR EQUIPMENT ANCHOR BOLTS LESS THAN 20mm DIAMETER WHEN APPROVED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE CONTRACT ADMINISTRATOR. ANCHORS SHALL BE INSTALLED WITH 100mm MINIMUM EDGE DISTANCE IN EACH DIRECTION.

AB DIA (mm)	12	16	20	22	25	33	35	38	44	50
MIN PAD HT (mm)	175	215	250	275	320	380	420	450	535	600

**CONCRETE EQUIPMENT PAD - NOTES**

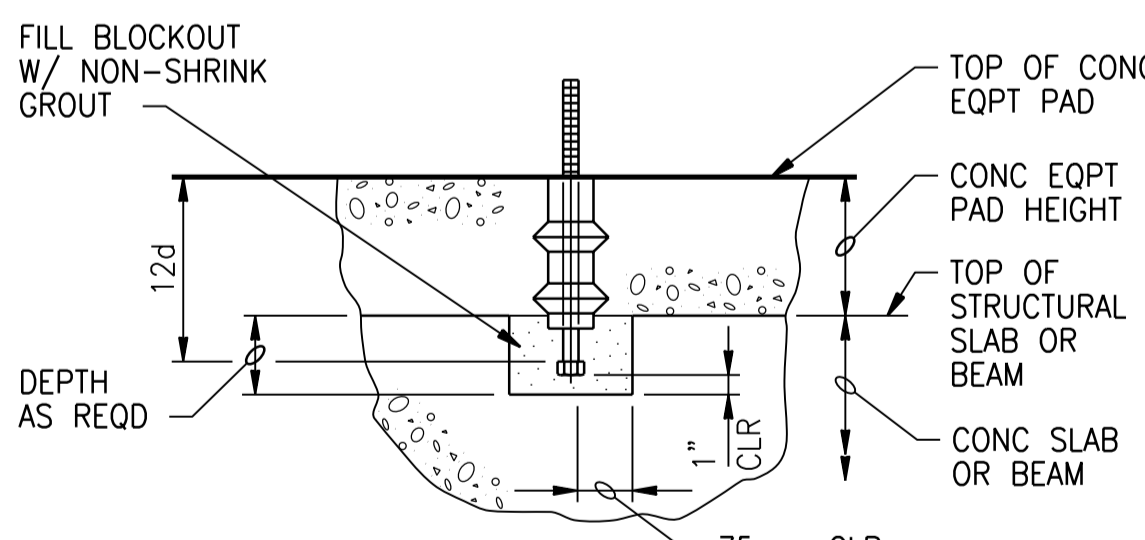
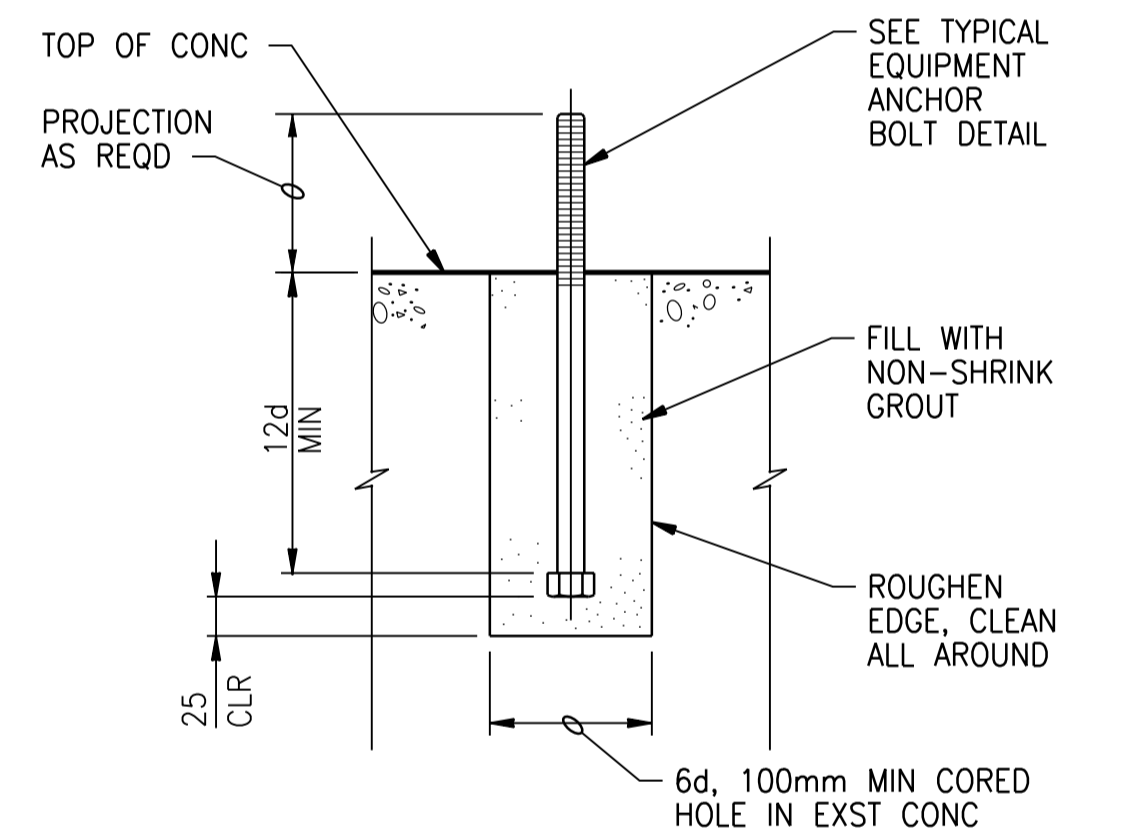
NTS 0330-056



- NOTES:**
1. FOR CONCRETE EQUIPMENT PAD DETAILS AND NOTES NOT SHOWN SEE 0330-056
  2. MATERIAL TO MATCH BOLT.

**ANCHOR BOLT DETAILS**

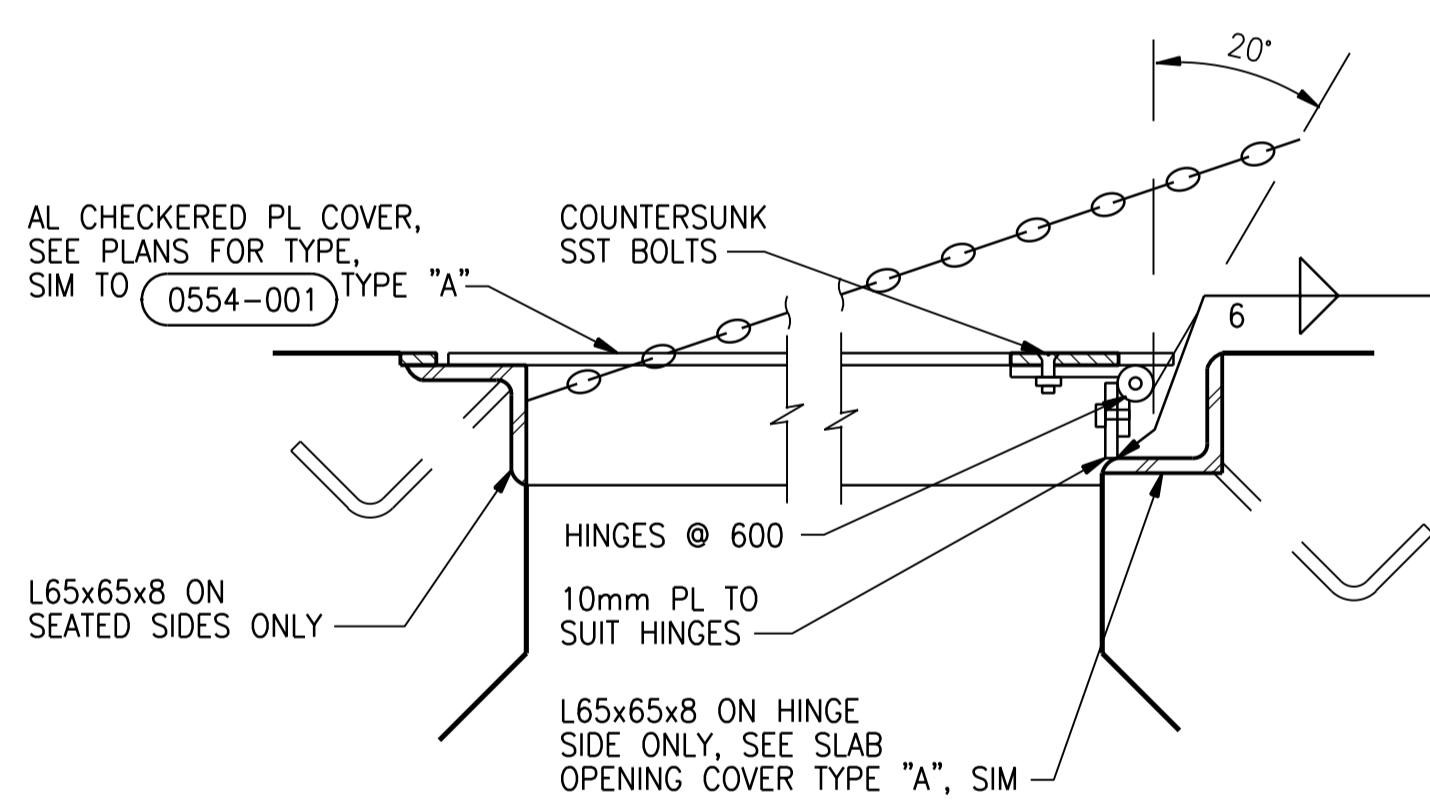
NTS



**ANCHOR BOLT RETROFIT**

**ANCHOR BOLT BLOCKOUT**

0330-057



- NOTES:**
1. INSTALL SST CHAIN. TACK WELD OR BOLT TO PLATE AND FRAME. CHAIN TO STOP PLATE AT 20° PAST VERTICAL.
  2. HINGES TO BE STAINLESS STEEL FULL MORTISE BUTT HINGES WITH STAINLESS STEEL BOLTS.
  3. MAX WEIGHT TO BE 35 kg.
  4. SEE LIFTING EYE DETAILS AND PLANS FOR TYPE.

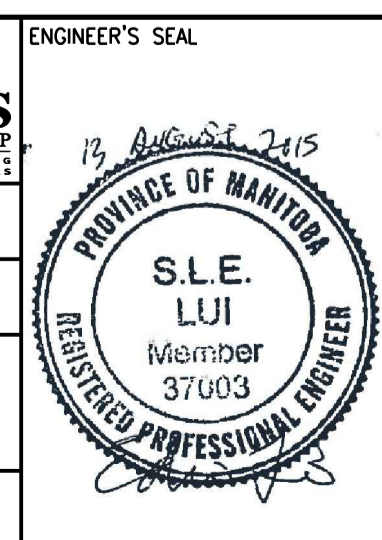
**CHECKERED ALUMINUM HINGED FLOOR PLATE**

NTS 0554-003



NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR TENDER	08/2015	G.O.	J.C.

<b>CH2MHILL.</b>	
DESIGNED BY: E. LUJ	CHECKED BY: R. PARIKH
DRAWN BY: G. OMORI	APPROVED BY: E. LUJ
SCALE: NTS	ISSUED FOR CONSTRUCTION BY: T. TURZAK
DATE: 2015/08/13	DATE: 2015/08/13
CONSULTANT NO.: 474248	



**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE  
SEWPPC UPGRADE/EXPANSION PROJECT  
STRUCTURAL  
STANDARD DETAILS (7)

CITY DRAWING NUMBER: 1-0102-SDTL-A008  
SHEET: 00  
REV: A1  
SIZE: A1