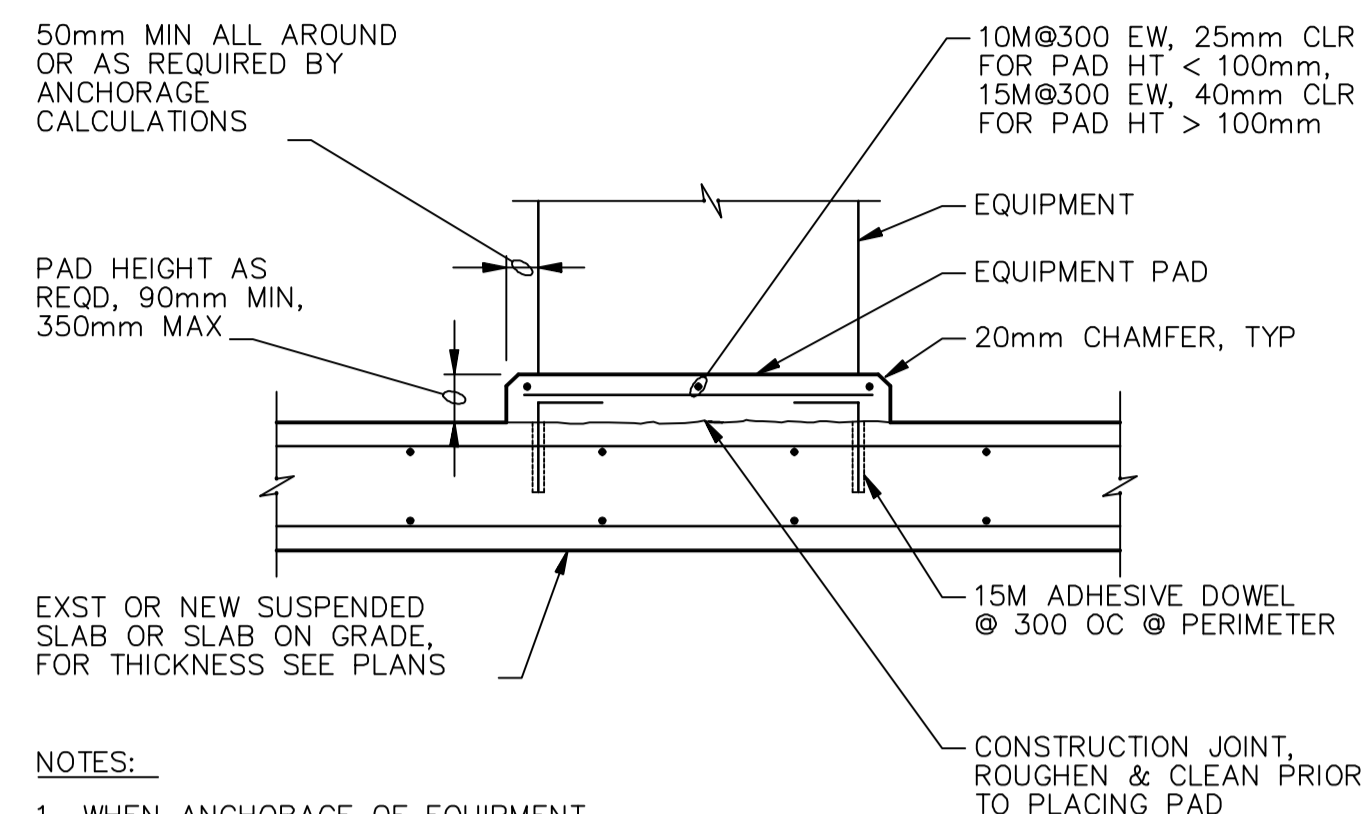


NOTES:

- PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
- 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.
- 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.
- 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.
- EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS INDICATED OTHERWISE.
- WEDGES, SHIMS, OR LEVELING NUTS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. WEDGES OR SHIMS THAT ARE LEFT IN PLACE SHALL NOT BE EXPOSED TO VIEW.
- HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT ABOVE SUPPORTING SLAB (SEE TABLE BELOW).
- 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 ENGINEER. ANCHORS SHALL BE INSTALLED WITH 100mm MINIMUM EDGE DISTANCE IN EACH DIRECTION.

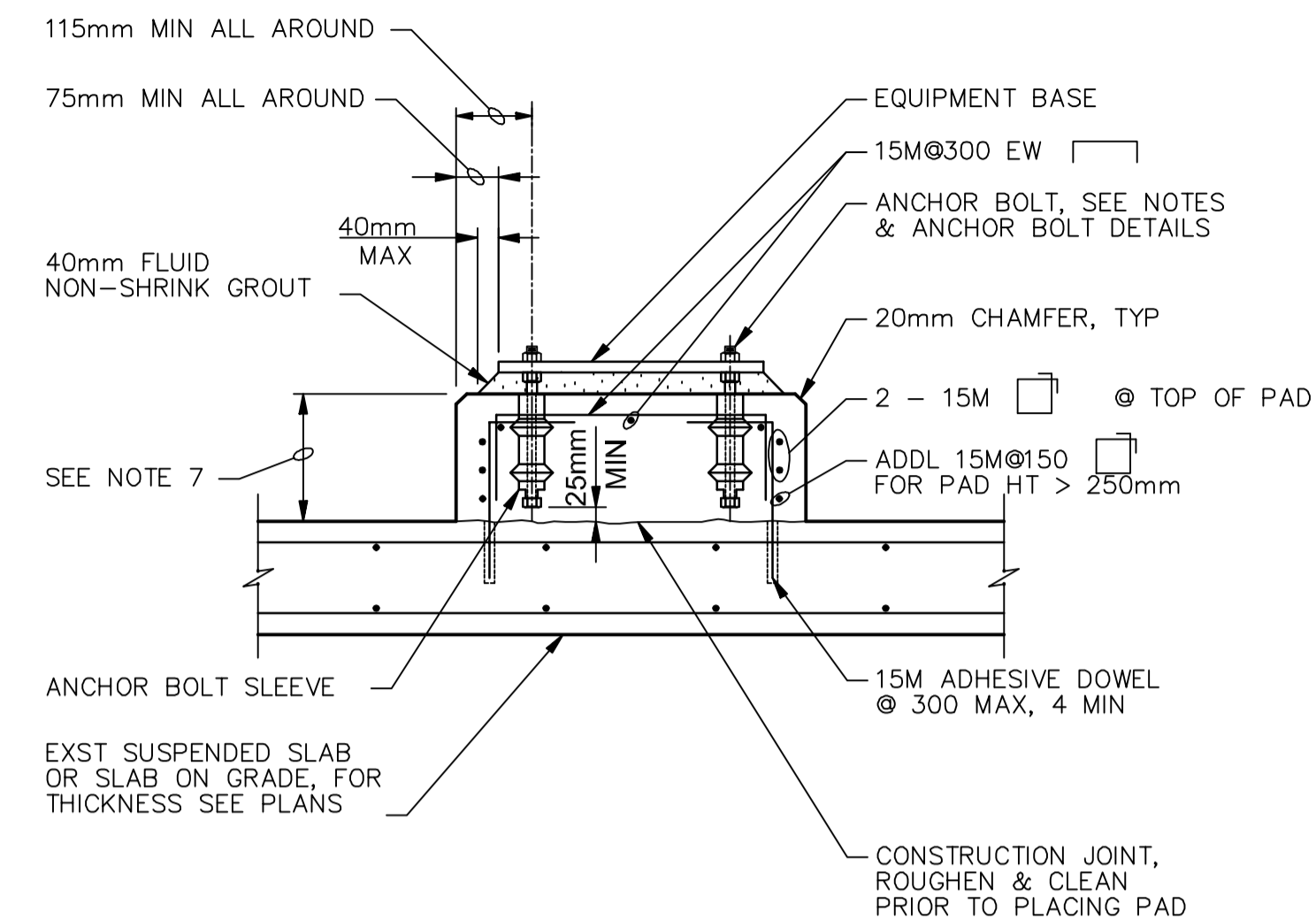
AB DIA (mm)	12	16	20	22	25	33	35	38	44	50
MIN PAD HT (mm)	175	215	250	275	320	380	420	450	535	600



NOTES:

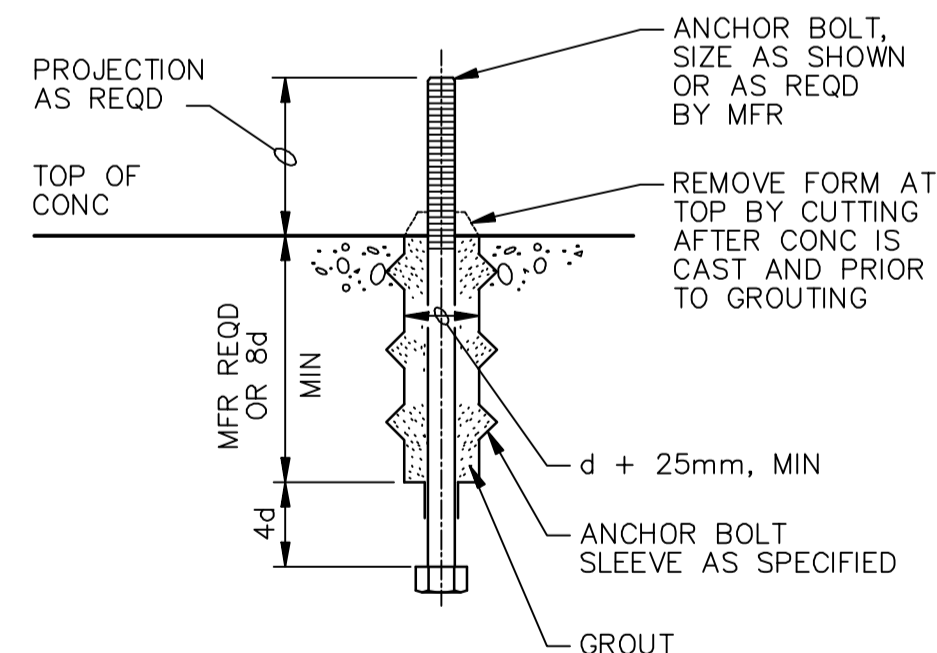
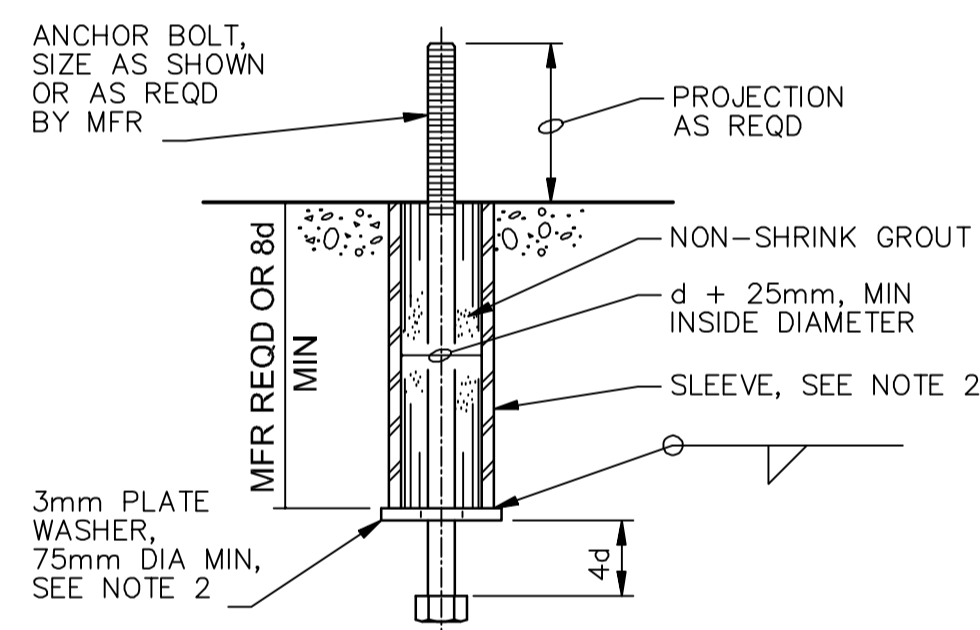
- WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.
- CONCRETE PADS FOR ELECTRICAL EQUIPMENT SHALL BE 90mm HIGH, UNLESS NOTED OTHERWISE.

TYPE E



TYPE F

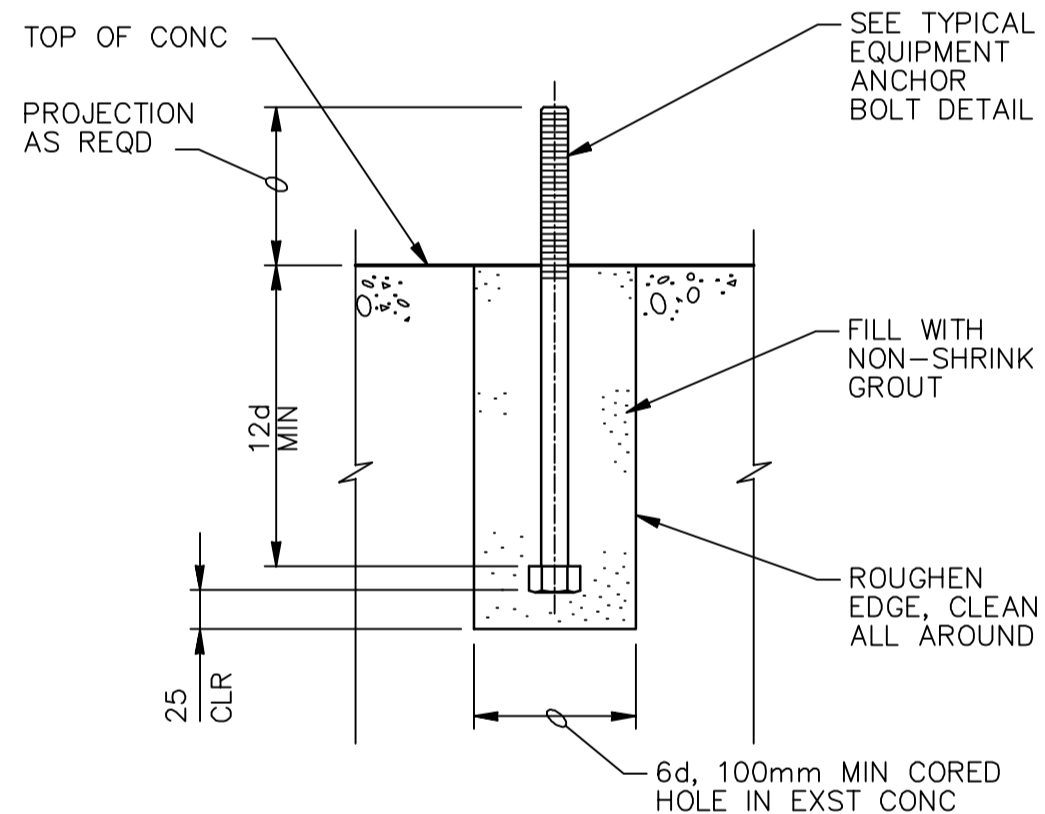
1 CONCRETE EQUIPMENT PADS
N.T.S.



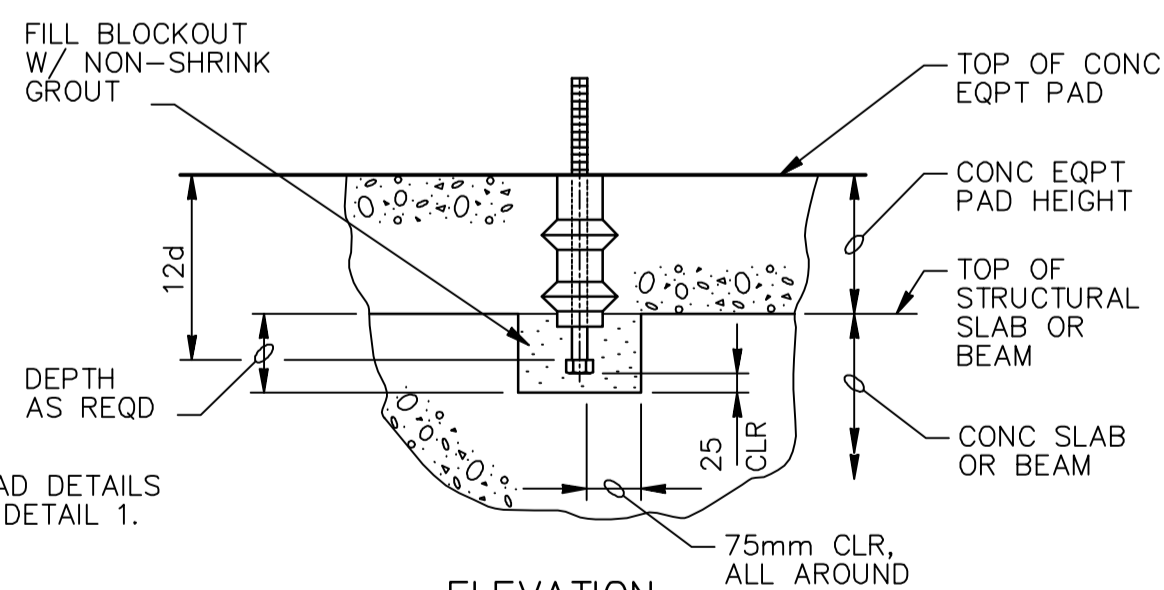
NOTES:

- FOR CONCRETE EQUIPMENT PAD DETAILS AND NOTES NOT SHOWN SEE DETAIL 1.
- MATERIAL TO MATCH BOLT.
- DO NOT USE RETROFIT OR BLOCKOUT OPTION WITHOUT ENGINEER'S APPROVAL.

MACHINERY ANCHOR BOLT DETAIL



ANCHOR BOLT RETROFIT



ELEVATION
ANCHOR BOLT BLOCKOUT

2 ANCHOR BOLTS DETAILS
N.T.S.



B.M. ELEV.	CONSTRUCTION COMPLETION DATE: YYYY MM DD		
DESIGNED BY	KS	CHECKED BY	RP
DRAWN BY	JBC	APPROVED BY	BW
SCALE: HORIZONTAL AS SHOWN VERTICAL -		RELEASED FOR CONSTRUCTION	
0 ISSUED FOR TENDER	14-01-21	JBC	
NO.	REVISIONS	DATE	BY
		2014 01 21	

CH2MHILL

ENGINEER'S SEAL

PROVINCE OF MANITOBA
REGISTERED PROFESSIONAL ENGINEER
PARIKH
Member
30474

CONSULTANT DRAWING NUMBER
WX-S0403

BID OPPORTUNITY: 25-2014
CONTRACT NUMBER: X

FILE PATH: \\WINNIPEG\Pro\WinnipegCityof\462784Waterworks\DWG\DLV\
FILE NAME: 462784-S-0403.dwg

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

MEZZANINE, WALKWAY AND EQUIPMENT SUPPORTS
FOR A WATER TREATMENT RESEARCH AND
PROCESS OPTIMIZATION FACILITY
STRUCTURAL

STANDARD DETAILS
SHEET 3 OF 4

SHEET 8 OF 9

CITY DRAWING NUMBER

1-0601X-S0004-003-00