



ITEMS TO BE COORDINATED WITH OTHER TRADES

ROOF HATCHES

H1. WHERE ACCESS HATCHES ARE USED PLEASE PROVIDE LARGER HATCHES (4'x3'/1200x900 OR 4'x5'/1200x1500) AT THE LOCATIONS WHERE THE ACCESS HATCHES ARE TO BE USED TO TRANSPORT EQUIPMENT TO THE ROOF.

LADDERS

- L1. PLEASE PROVIDE LADDERS TO ALL AREAS WHERE FACADE ACCESS EQUIPMENTS EXISTS.
- L2. LADDERS SHOULD BE LOCATED AT LEAST 2500 FROM CORNER OR A FALL HAZARD EDGE.
- L3. FIXED LADDERS SHOULD BE PROVIDED WITH CAGES AND LANDINGS AS REQUIRED BY RELEVANT REGULATIONS.
- L4. PORTABLE LADDERS WHEN USED SHOULD BE TIED OFF TO THE STRUCTURE OR ANCHOR POINT.
- L5. FOR ROOF AREAS WHERE FACADE ACCESS EQUIPMENT DOES NOT EXIST ACCESS TO THESE ROOF AREAS SHOULD STILL BE PROVIDED FOR MAINTENANCE PURPOSE UTILIZING LADDERS WHERE POSSIBLE.
- L6. ROOF ACCESS TO NON PRIVATE (EXCLUSIVE) USE ROOFS UTILIZING DOORS, LADDERS AND (OR) HATCHES SHOULD BE PROVIDED IN FAVOR OF USING PRIVATE (EXCLUSIVE) USE SPACE.

DOORS

- D1. DOORS SHOULD BE LOCATED SO AS NOT TO OPEN ONTO A FALL HAZARD LIKE A CONFINED AREA LESS THEN 3000 FROM A FALL HAZARD OR BY A BUILDING EDGE WITHOUT A GUARD.
 - D2. ACCESS DOOR FOR MAINTENANCE CAN'T BE SMALLER OR SHORTER THE LEGALLY REQUIRED DOORS FOR PUBLIC ACCESS.
- EXAMPLE A 900x900 DOOR OPENING IS ACCEPTABLE FOR ACCESS TO AN ISOLATED ROOF.

DIVIDERS

- DV1. PLEASE COORDINATE DIVIDER OPENINGS, DOOR WHERE REQUIRE AND ACCEPTABLE.

AWA ACCESS TO WORK AREAS

SINGLE PHASE OPTION ACCEPTABLE FOR LOW RISE (20 LEVELS OR LESS)

- LINE VOLTAGE 208V, 30A, 1PH, 2 POLE, 3 WIRE GROUNDING
- 1. ELECTRIC RECEPTACLE - L6-30R - TWIST LOCK 30A, 250V, 1PH, 60HZ, 3 WIRE - TWO PERCENT - 2% MAXIMUM VOLTAGE DROP AT FULL LOAD 6KVA (BY OTHERS)
- 2. PROVIDE ELECTRICAL CABLE TIE IN ANCHOR POINT - STRAIN RELIEF ANCHOR AT EACH RECEPTACLE LOCATION (BY OTHERS)
- 3. IF RECEPTACLE IS LOCATED ON THE EXTERNAL OF THE STRUCTURE, THE STRAIN RELIEF ANCHOR IS TO BE STAINLESS STEEL OR HOT DIPPED GALVANIZED (ZINC PLATING NOT ACCEPTABLE)
- 4. THE LOAD CAPACITY OF THE STRAIN RELIEF ANCHOR IS TO BE 1.0 kN (100kg, 220lb) FACTORED LOAD. (1/2" (13mm) EYEBOLT IS USUALLY SUFFICIENT IF PROPERLY SECURED TO THE STRUCTURE. THIS IS ONLY PROVIDED AS A REFERENCE AND THE INSTALLER IS FULLY RESPONSIBLE FOR THE INSTALLATION AND FOR MEETING THE LOAD REQUIREMENTS.)
- 5. THE LOCATIONS SHOWN ON ANKOR'S DWGS ARE APPROXIMATE. THE EXACT LOCATIONS ARE TO BE DETERMINED IN COORDINATION WITH THE CLIENT AND THE ELECTRICAL CONSULTANT. SOME OF THE DESIGN CRITERIA THAT HAS TO BE CONSIDERED IS:
 - a. THE POWER LOSS IF A LONG EXTENSION ELECTRICAL CABLE HAS TO BE USED (AS A REFERENCE APPROX. 2% EVERY 30m)
 - b. LOCATE RECEPTACLE IN LOCATION WHERE POSSIBLE DAMAGE TO RECEPTACLE IS MINIMUM.
 - c. THE ELECTRICAL RECEPTACLE CABLE SHOULD BE DISCONNECTED FOR THE NIGHT AND THUS LOCATING THE RECEPTACLE ON THE INSIDE PRESENTS NO ISSUE.
 - d. ONE RECEPTACLE IS THE MINIMUM THAT IS REQUIRED TO OPERATE ONE SWING STAGE. HOWEVER THE BUILDING CONFIGURATION DOES AFFECT THE PRACTICALLY OF ACCESS TO THE RECEPTACLE AND MORE RECEPTACLES MAY BE REQUIRED.
 - e. AT THE CONSTRUCTION PERIOD ESPECIAL FOR THE FINISHING STAGES OF CONSTRUCTION EXTRA RECEPTACLE SHOULD BE CONSIDERED IF MORE THAN ONE SWING STAGE IS PLANNED FOR THE COMPLETION OF THE WORK.
- 6. THIS SYMBOL  WILL BE USED TO INDICATE THE APPROXIMATE RECEPTACLE LOCATION ON THE LEVEL IN QUESTION AND IN ANKOR'S LEDGER.

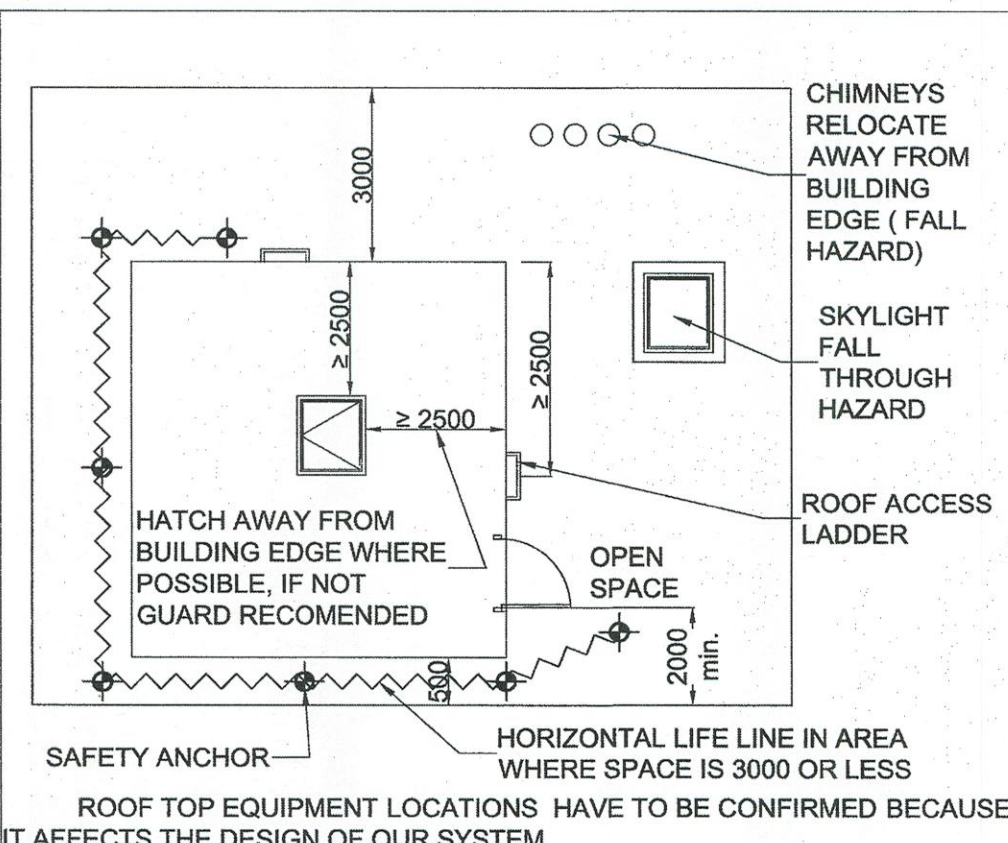
NOTE: SINGLE PHASE IS ACCEPTABLE FOR LOW RISE BUILDINGS ONLY. WILL PERMIT THE USE OF ONE SWING STAGE PER EACH DEDICATED RECEPTACLE. EVEN THOUGH THE SINGLE PHASE OPTION IS ACCEPTABLE FOR LOW RISE BUILDINGS WE RECOMMEND THE THREE PHASE OPTION BE INSTALLED FOR GREATER FLEXIBILITY.

THREE PHASE OPTION RECOMMENDED FOR HIGH RISE (20 LEVELS OR MORE)

- LINE VOLTAGE 208V, 30A, 3PH, 3 POLE 4 WIRE GROUNDING
- 1. ELECTRIC RECEPTACLE - L15 - 30R - TWIST LOCK 30A, 250V, 3PH, 60 HZ, 4 WIRE - 2% MAXIMUM VOLTAGE DROP AT FULL LOAD 11 KVA
- 2. PROVIDE ELECTRICAL CABLE TIE DOWN POINT - STRAIN RELIEF ANCHOR AT EACH RECEPTACLE LOCATION (BY OTHERS)
- 3. IF RECEPTACLE IS LOCATED ON THE EXTERNAL OF THE STRUCTURE, THE STRAIN RELIEF ANCHOR IS TO BE STAINLESS STEEL OR HOT DIPPED GALVANIZED (ZINC PLATING NOT ACCEPTABLE)
- 4. THE LOAD CAPACITY OF THE STRAIN RELIEF ANCHOR IS TO BE 1.0kN (100kg, 220lb) FACTORED LOAD. (1/2" (13mm) EYEBOLT IS USUALLY SUFFICIENT IF PROPERLY SECURED TO THE STRUCTURE. THIS IS ONLY PROVIDED AS A REFERENCE AND THE INSTALLER IS FULLY RESPONSIBLE FOR THE INSTALLATION AND FOR MEETING THE LOAD REQUIREMENTS.)
- 5. THE LOCATIONS SHOWN ON ANKOR'S DWGS ARE APPROXIMATE. THE EXACT LOCATIONS ARE TO BE DETERMINED IN COORDINATION WITH THE CLIENT AND THE ELECTRICAL CONSULTANT. SOME OF THE DESIGN CRITERIA THAT HAS TO BE CONSIDERED IS:
 - a. THE POWER LOSS IF A LONG EXTENSION ELECTRICAL CABLE HAS TO BE USED (AS A REFERENCE APPROX. 2% EVERY 30m (100ft))
 - b. LOCATE RECEPTACLE IN LOCATION WHERE POSSIBLE DAMAGE TO RECEPTACLE IS MINIMUM.
 - c. THE ELECTRICAL RECEPTACLE CABLE SHOULD BE DISCONNECTED FOR THE NIGHT AND THUS LOCATING THE RECEPTACLE ON THE INSIDE PRESENTS NO ISSUE.
 - d. ONE RECEPTACLE IS THE MINIMUM THAT IS REQUIRED TO OPERATE ONE SWING STAGE. HOWEVER THE BUILDING CONFIGURATION DOES AFFECT THE PRACTICALLY OF ACCESS TO THE RECEPTACLE AND MORE RECEPTACLE MAY BE REQUIRED.
 - e. AT THE CONSTRUCTION PERIOD ESPECIAL FOR THE FINISHING STAGES OF CONSTRUCTION EXTRA RECEPTACLE SHOULD BE CONSIDERED IF MORE THAN ONE SWING STAGE IS PLANNED FOR THE COMPLETION OF THE WORK.
- 6. THIS SYMBOL  WILL BE USED TO INDICATE THE APPROXIMATE RECEPTACLE LOCATION ON THE LEVEL IN QUESTION AND IN ANKOR'S LEDGER.

NOTE: THREE PHASE OPTION WILL PERMIT THE USE OF AT LEAST TWO SWING STAGES AT THE SAME DEDICATED RECEPTACLE. ALSO A THREE PHASE POWER SUPPLY WILL ALLOW THE USE OF 3 PHASE HOIST UNIT WHICH IS PREFERABLE WHEN LONG EXTENSION CABLES ARE REQUIRED TO BE USED AND POWER IS REDUCED (APPROX. 2% PER 30m (100ft))

EPR ELECTRICAL POWER REQUIREMENTS



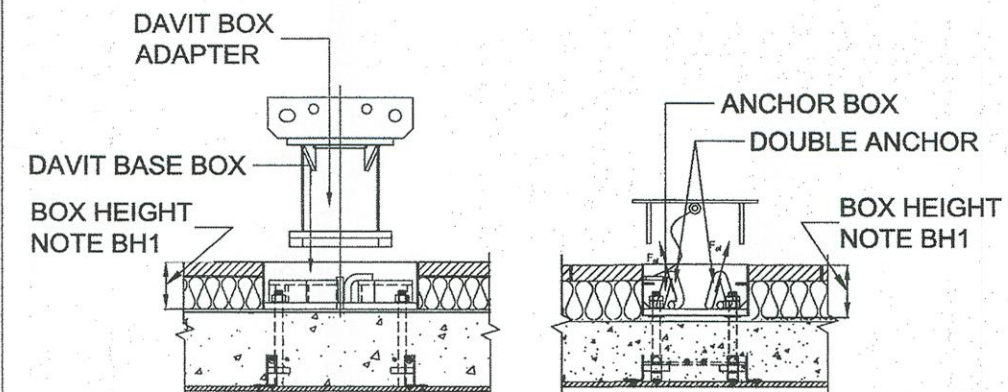
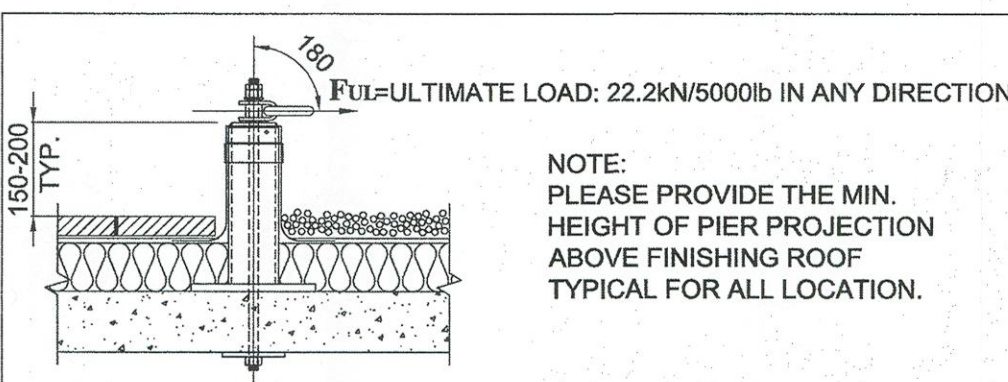
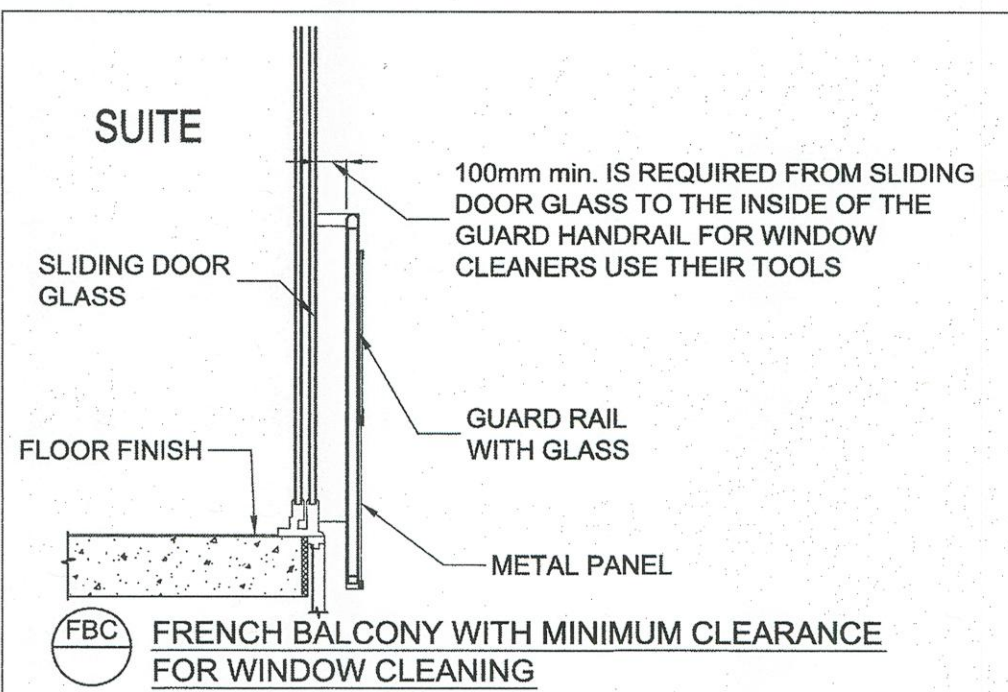
ROOF TOP EQUIPMENT LOCATIONS HAVE TO BE CONFIRMED BECAUSE IT AFFECTS THE DESIGN OF OUR SYSTEM.

- 1) MECHANICAL EQUIPMENT PLEASE VERIFY ALL LOCATIONS OF MECHANICAL EQUIPMENT, PLEASE PROVIDE ACCURATE LAYOUT SHOWING ALL ROOF TOP EQUIPMENT.
- 2) MECHANICAL STACKS & VENTILATION THAT ARE CLOSE TO THE PARAPET (FALL HAZARD) PRESENT A CHALLENGE FOR ACCESSIBILITY AND THE SERVICING OF THE BUILDING FACADE. RELOCATION IS RECOMMENDED & CAN BE COORDINATE WITH THE DESIGN OF THIS SYSTEM.

LER LOCATION OF EQUIPMENT ON ROOF

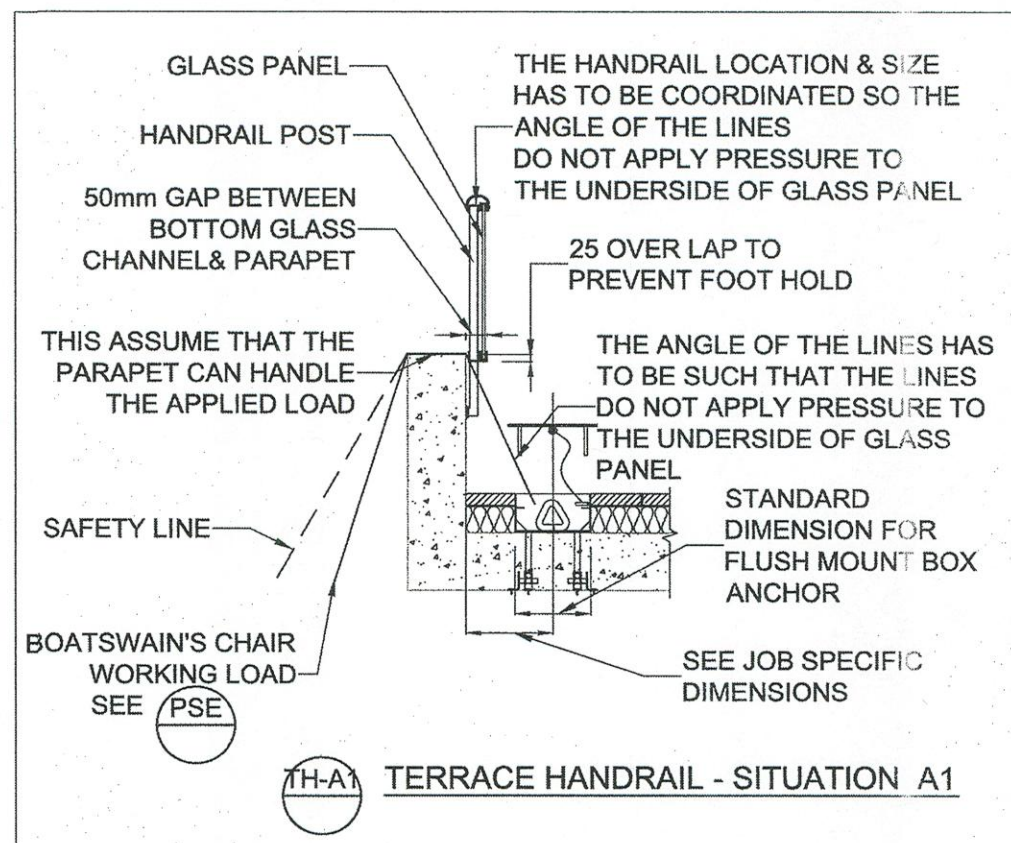
- W1. PLEASE PROVIDE WATER SUPPLY WITHIN A REASONABLE PROXIMITY TO THE WORK AREA.
- W2. ACCESS TO HOT WATER IS RECOMMENDED
- W3. ANKOR RECOMMENDS A SLOP SINK BE PROVIDED TO DRAW WATER AND TO CLEAN UP AFTER COMPLETION OF TASKS TO AVOID CARRYING DIRT THROUGH THE CORRIDORS, THE ELEVATOR AND THE LOBBY. THIS BECOMES USEFUL FOR ALL MAINTENANCE PERSONNEL AT TIME OF CONSTRUCTION & BUILDING OPERATORS.
- W4. FOR TALL BUILDINGS ANKOR RECOMMENDS TOILET FACILITIES BE PROVIDED AT THE ROOF LEVEL TO SAVE TIME (MONEY) FOR THE DEVELOPER AND BUILDING OPERATORS.

WSW WATER SUPPLY AT WORK AREAS

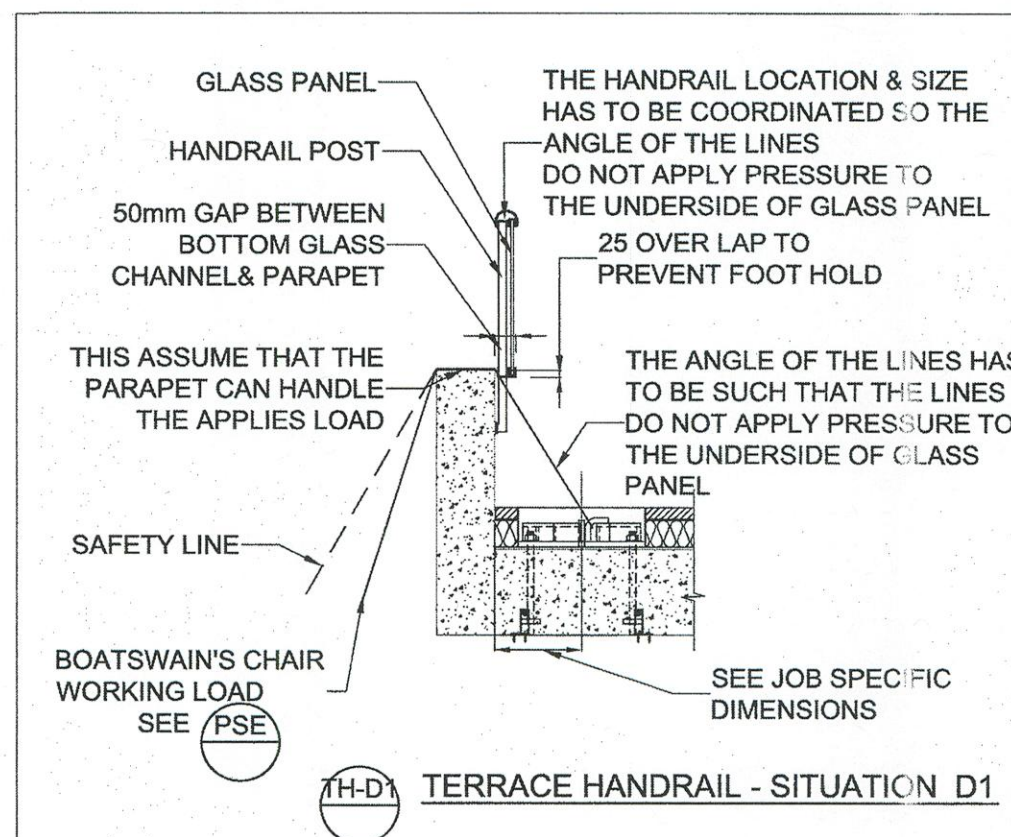


NOTE BH1: ANKOR REQUIRES A MINIMUM BOX HEIGHT OF 100mm, THIS HAS TO BE COORDINATED WITH OTHER TRADES AS TO WHAT HEIGHT GREATER THAN 100mm IS REQUIRED FOR ANKOR TO CONSTRUCT ITS BOXES. OUR STANDARD BOX HEIGHT IS 125mm WHICH AIMS TO HAVE THE BOX HEIGHT 25mm BELOW THE PAVERS (100mm - INSULATION, 50mm PAVERS STONE). IF DUE TO GRAVEL/SAND INFILL THE TOP OF THE PAVERS IS SIGNIFICANTLY HIGHER THEN 150mm - WE CAN ADJUST THE HEIGHT BY USING BOX SPACERS PLACED ON TOP OF THE INSTALLED 125mm BOX. IF THE INSULATION AND PAVES STONES ARE TO BE A LOT GREATER THEN 150mm THEN PLEASE LET US KNOW AND WE WILL PROVIDE A GREATER BOX HEIGHT. THE PLACING AND TRIMMING (SIZE AND THICKNESS) OF THE PAVERS TO THE BOX SIDES IS BY OTHERS.

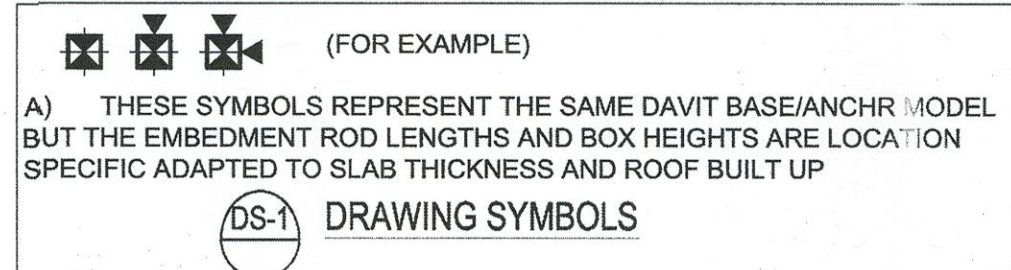
AR ANKOR'S REQUIRED ROOF BUILD-UP AT TERRACE



TH-A1 TERRACE HANDRAIL - SITUATION A1



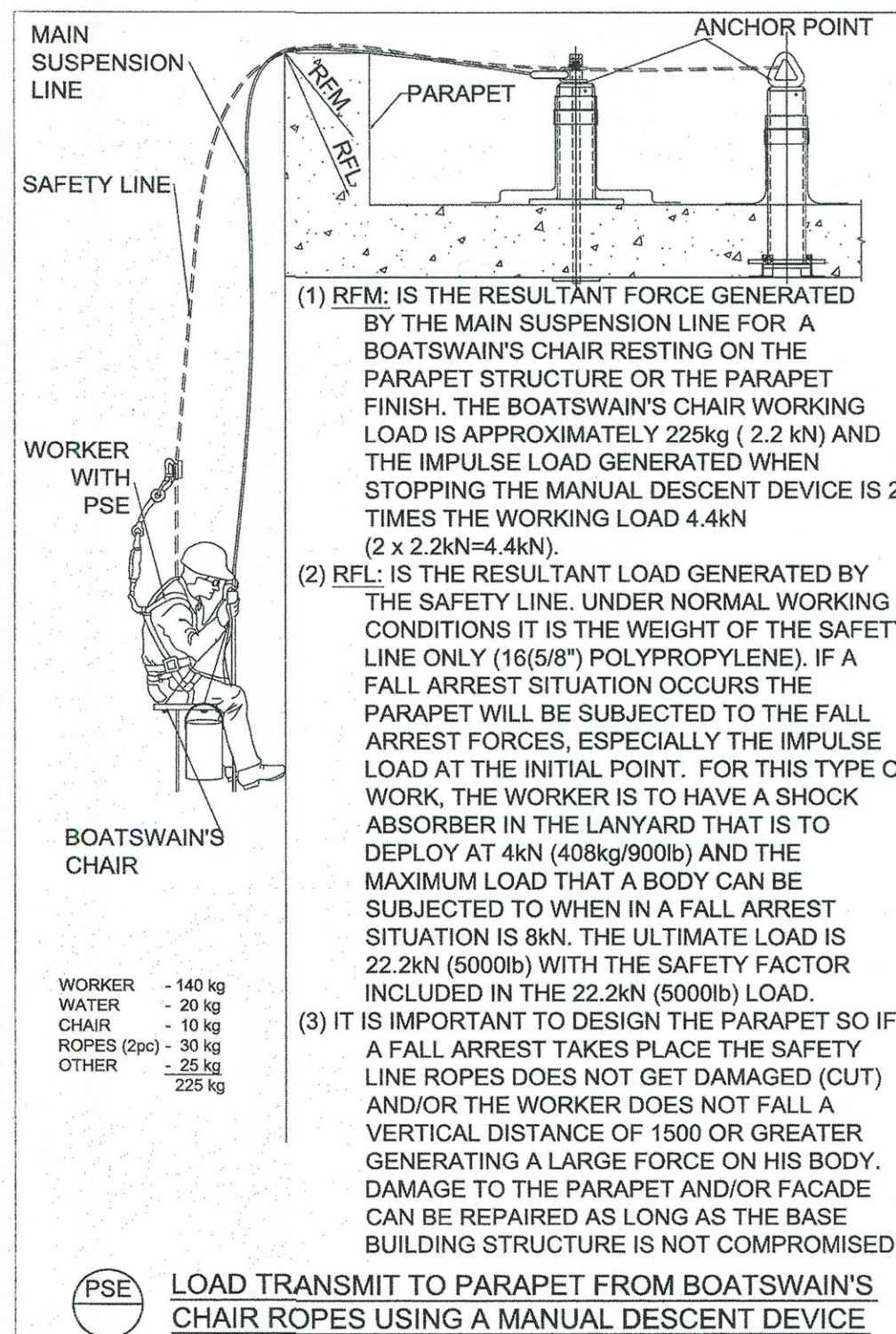
TH-D1 TERRACE HANDRAIL - SITUATION D1



- A) PLEASE TAKE NOTE THAT ALL EMBEDDED BOLT CAGES/RODS ARE NUMBERED AND THESE NUMBERS SHOULD BE FOLLOWED WHEN PLACING THE BOLT CAGES ON THE FORM WORK
- B) THE BOLT CAGES/RODS THAT HAVE MANY NUMBERS CAN BE PLACED IN ANY POSITION THAT MATCH THE NUMBER ON THE DRAWING LAYOUT

EN EMBEDMENT NUMBERING

ENGINEERING COORDINATION



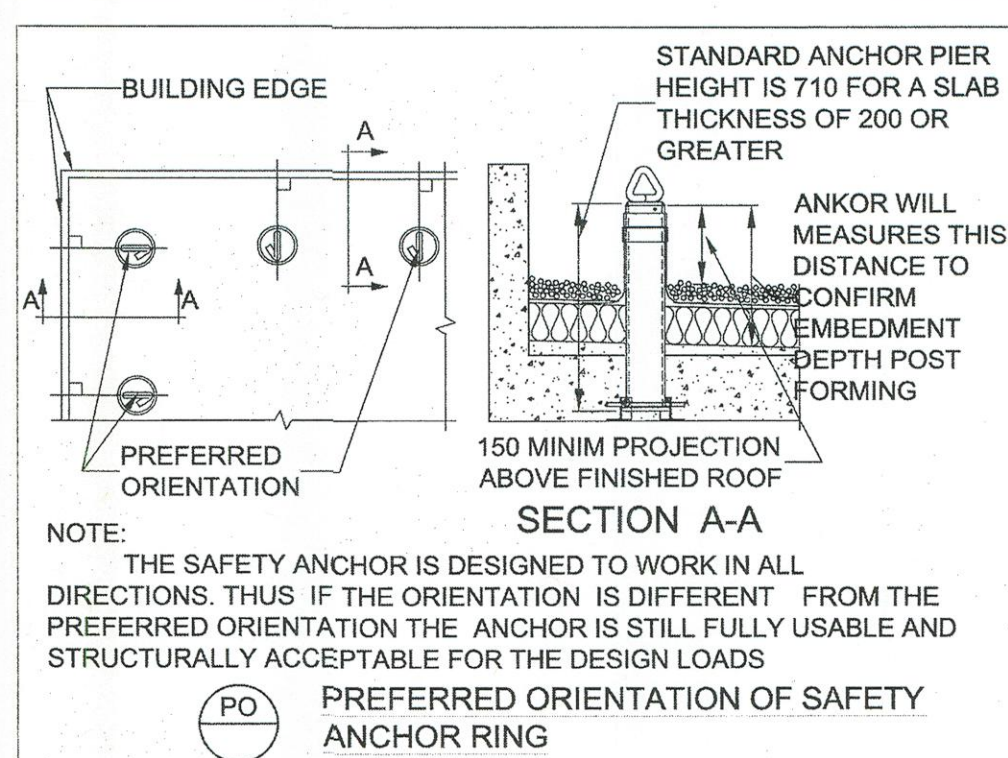
1. ONTARIO BUILDING CODE ARTICLE 4.4.4.1 - SEE W0.20
2. SECTION 5.4.1 OF CSA-291-02 TIEBACK AND LIFELINE ANCHORS SHALL BE IN ACCORDANCE WITH CANCSA-Z 271.
3. SECTION 9.4.3 STRENGTH REQUIREMENTS CAN/CSA-Z 271-10 AN ANCHORAGE CONNECTION SHALL:
 - a) BE DESIGNED TO RESIST THE APPLICATION OF 22.2 kN (2265kg/5000lb) IN ANY DIRECTION WITHOUT FRACTURE OF ANY COMPONENT OR PULLOUT, OR BOTH, FROM THE ANCHORAGE, AND
 - b) RESIST A TEST LOADING OF 11.1kN (1133kg/2500lb) WITHOUT PERMANENT DEFORMATION OF ANY COMPONENT WHEN SUBJECTED TO TEST LOADING IN THE DIRECTION(S) THAT GENERATE THE MOST CRITICAL EFFECT ON THE ANCHORAGE SYSTEM WITH RESPECT TO STABILITY AND STRENGTH.

Fal - ANCHOR LOADING/ FORCE

- R1. ANKOR ENGINEERING SYSTEMS LTD. IS RESPONSIBLE FOR THE DESIGN OF ITS EQUIPMENT AND THE TENSION CONNECTION OF ANKOR'S EQUIPMENT TO BASE BUILDING.
- R2. THE BUILDING OWNER SHALL BE RESPONSIBLE FOR BASE BUILDING STRUCTURE DESIGN AND REINFORCING AT ATTACHMENTS LOCATIONS TO ACCOMMODATE LOADS TRANSFERRED BY ANKOR'S EQUIPMENT TO THE BUILDING FOR ALL NEW STRUCTURES.
- R3. FOR EXISTING BUILDINGS, ANKOR ENGINEERING SYSTEMS LTD. TAKES ENGINEERING RESPONSIBILITY FOR THE ROOF STRUCTURE AT ANCHOR LOCATIONS ONLY.

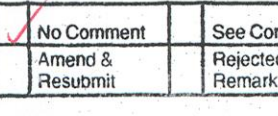
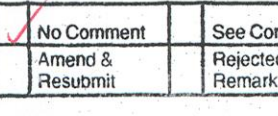
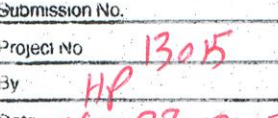
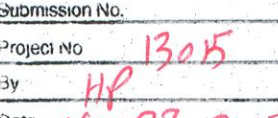
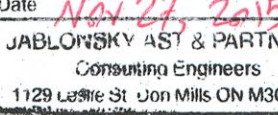
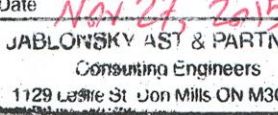
AER ANKOR'S ENGINEERING RESPONSIBILITIES

INSTALLATION COORDINATION



NOTE: THE SAFETY ANCHOR IS DESIGNED TO WORK IN ALL DIRECTIONS. THUS IF THE ORIENTATION IS DIFFERENT FROM THE PREFERRED ORIENTATION THE ANCHOR IS STILL FULLY USABLE AND STRUCTURALLY ACCEPTABLE FOR THE DESIGN LOADS

PO PREFERRED ORIENTATION OF SAFETY ANCHOR RING

DRAWING REVIEW	
The review of this drawing does not in any way relieve the contractor of responsibility for its accuracy or for compliance with the contract documents.	
Approved By: 	See Comments: 
Drawn By: 	Checked By: 
Date: 	Checked By: 
JABLOVSKY & PARTNERS Consulting Engineers 1128 Leslie St., Unit 1000, Toronto, ON M5C 2K5	



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1	OCT 20/2015	SHOP DWGS ISSUED	H.L.
NO.	DATE	REVISIONS	BY
ANKOR ENGINEERING SYSTEMS LTD. ADDRESS: 32 PENN DRIVE, TORONTO ON, M2L 2A5 TELEPHONE: (416) 740-5761 FAX: (416) 740-5650 EMAIL: ANKOR@ANKOR.CA WEB: WWW.ANKOR.CA			
TITLE:		SYSTEM NOTES	
PROJECT:		SQ ALEXANDRA PARK - BLOCK 11 38 CAMERON ST., TORONTO, ON.	
CLIENT:		TRIDEL	
SCALE:	AS SHOWN	DATE:	JAN 12/2015
DRAWN:	H.L.	CHECKED:	J.B.
JOB No.:	J14096	DWG No.:	W0.2