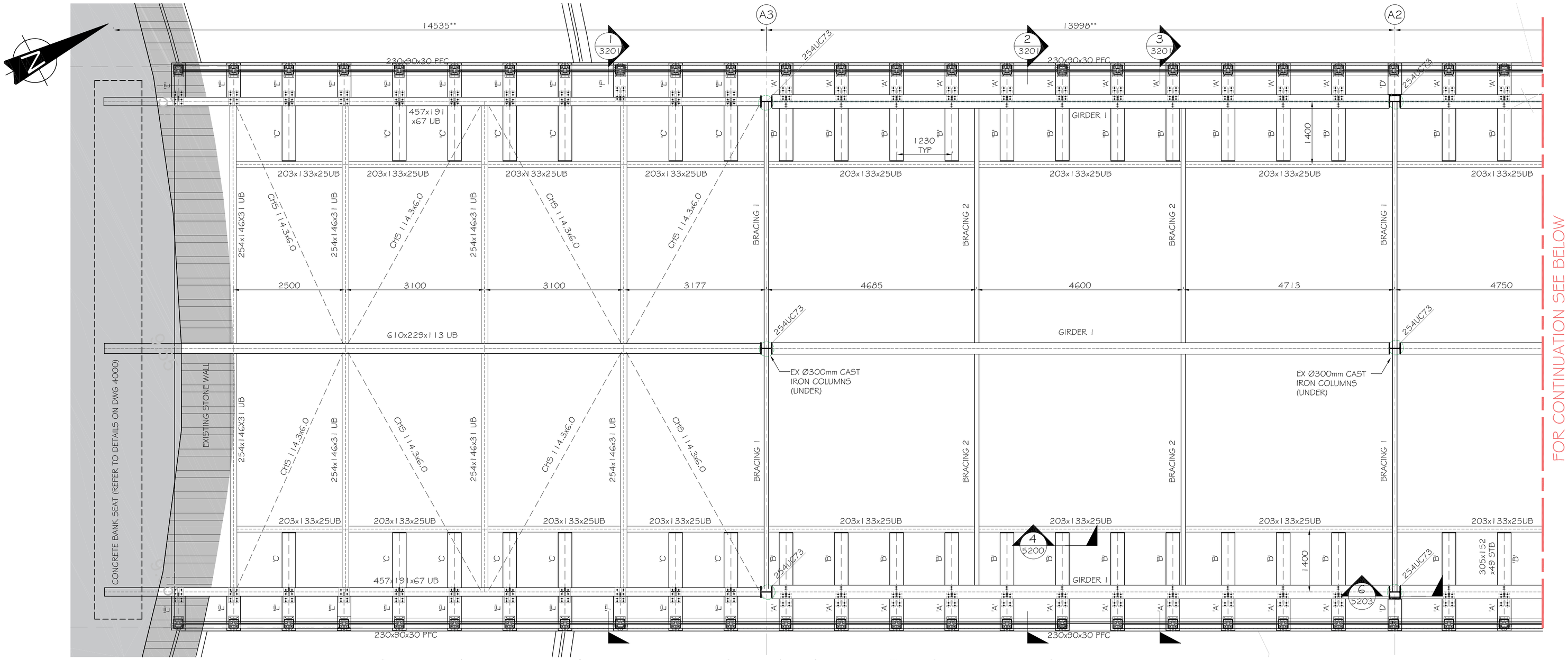

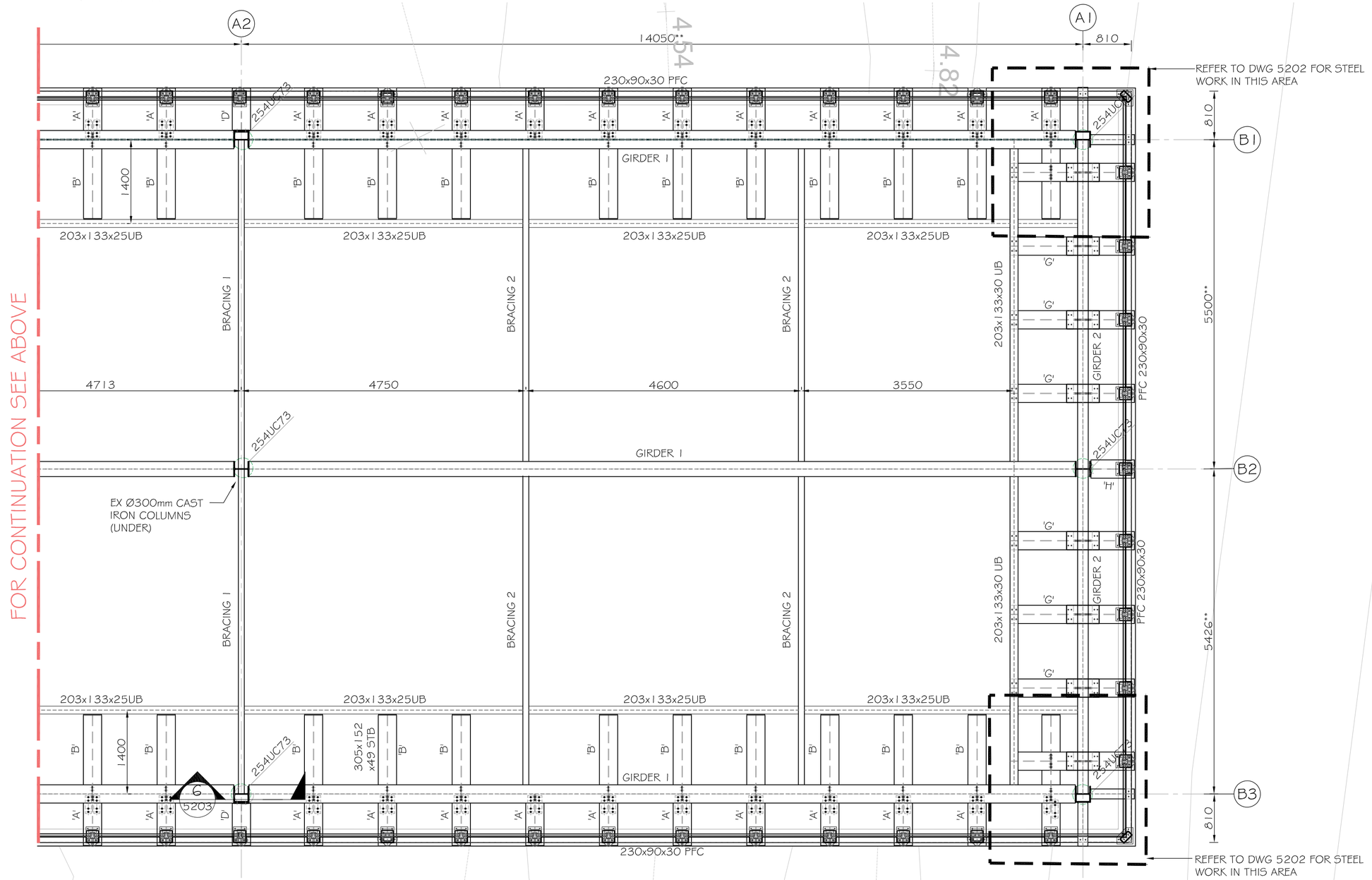

NOTE

1. DO NOT SCALE FROM THIS DRAWING, WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.

2. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING WILL BE ALLOWED WITHOUT THE PRIOR PERMISSION IN WRITING.

3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.

4. NEW STEELWORK TO BE GRADE S355 TO BS EN 10025-2.

5. NEW STEELWORK TO BE GALVANISED TO BS EN ISO 1461 APPROPRIATE TO A C5M ENVIRONMENT. REFER TO SPECIFICATION.

6. STEEL EXECUTION CLASS IS EXC2 TO BS 1090-2.

7. STEEL CONNECTION DESIGN TO BE UNDERTAKEN BY THE CONTRACTOR. FABRICATION GENERAL ARRANGEMENT DRAWINGS AND CONNECTION DESIGN CALCULATIONS TO BE SUBMITTED TO CAULMERT 2 WEEKS PRIOR TO FABRICATION.

IMPORTANT

THIS DRAWING IS PROVIDED, AMONG OTHERS, TO EXPLAIN THE STRUCTURAL DESIGN OF THE PIER REINSTATEMENT. IT SHOULD BE NOTED THAT DIMENSIONS ARE USED SPARINGLY IN ORDER TO MAINTAIN CLARITY OF THE DETAIL. ABSENT DIMENSIONS CAN BE OBTAINED FROM THE SECTION AND DETAIL DRAWINGS 3200-3201 AND 5200-5204, WHERE THE APPROACH IS CONSISTENT. FOR ANY QUERIES ON SETTING OUT AND LEVELS, CONSULT CAULMERT FOR ASSISTANCE.

LEGEND

'A' = REFER TO DETAIL 'A' ON DWG 5200

'B' = REFER TO DETAIL 'B' ON DWG 5200

'C' = REFER TO DETAIL 'C' ON DWG 5201

'D' = REFER TO DETAIL 'D' ON DWG 5201

'E' = REFER TO DETAIL 'E' ON DWG 5201

'F' = REFER TO DETAIL 'F' ON DWG 5203

'G' = REFER TO DETAIL 'G' ON DWG 5201

'H' = REFER TO DETAIL 'F' ON DWG 5203

XX** = DIMENSIONS TBC ON SITE. DICTATED BY EXISTING COLUMN LOCATIONS

X XXXX = DETAIL REF / DWG NO.

DESIGN PHILOSOPHY OF STEEL SUPERSTRUCTURE AND MATERIAL SPECIFICATIONS

1. EXISTING CAST IRON COLUMN CAP PLATES (9 No.) ARE TO SUPPORT THE NEW PIER SUPERSTRUCTURE. THESE ARE TO BE INSPECTED ON SITE PRIOR TO FINALISING THE FABRICATION CONNECTION DESIGN OF THE STEEL TRUSSES AND COLUMN STUBS. CAP PLATE LEVELS ARE OBTAINABLE FROM THE TOPOGRAPHICAL SURVEY.

2. FROM INSPECTION OF CAP PLATES ON SIMILAR REDUNDANT COLUMNS (NOW STORED OFF SITE), THE OVERALL PLAN DIMENSIONS ARE APPROXIMATELY 600mm X 300mm. THE SETTING-OUT CONFIGURATION OF BOLT HOLES IS HOWEVER VARIABLE AND THIS IS TO BE EXPECTED OF THE 'IN-SITU' COLUMNS THAT ARE TO BE RE-USED. THE COLUMNS THEMSELVES APPEAR TO BE 12 INCH I.E. APPROX 300mm.

3. THE CAP PLATE GEOMETRY OF THE 'IN-SITU' COLUMNS IS THEREFORE TO BE ACCURATELY DETERMINED BY THE CONTRACTOR AT ALL 9 LOCATIONS PRIOR TO THE FABRICATION DESIGN. THE SURVEY RESULTS WILL INCLUDE: CONFIRMATION OF OVERALL DIMENSIONS, THE SIZE AND SETTING OUT OF BOLT HOLES, WHETHER THE BOLT HOLES ARE SLOTTED OR CIRCULAR, AND WHETHER THE PLATE HAS ANY DEFECTS OR DISTORTIONS (ROTATIONALLY OR TRANSLATIONARY) THAT NEED TO BE ADDRESSED IN ADVANCE TO ENABLE A SOUND CONNECTION INTERFACE AND FINALISATION OF THE DETAIL. ONE COLUMN CAP PLATE HAS OBVIOUS CORNER DAMAGE.

4. COLUMN CAP PLATE BEARING SURFACES ARE TO BE MECHANICALLY BLAST CLEANED OR CHEMICALLY CLEANED OR HAVE OTHER SUITABLE TREATMENT TO CREATE A CONSISTENT LEVEL BEARING SURFACE FOR THE ATTACHMENT OF THE NEW SUPERSTRUCTURE.

5. TO FACILITATE INSTALLATION OF THE 6 No. LONGITUDINAL TRUSS GIRDERS, THE INTENT IS TO HAVE HORIZONTAL SLOTTED HOLES AT ONE END OF EACH TRUSS CONNNECTION. THE SLOTTED HOLES MAY ALREADY BE FORMED IN THE SUPPORTING COLUMN CAP PLATE OR ALTERNATIVELY THEY CAN BE FORMED WITHIN THE BOTTOM CHORD OF THE TRUSS (I.E. A TEE SECTION). SITE SURVEY TO CONFIRM THE SITUATION AND APPROACH AT EVERY LOCATION. IT SHOULD BE NOTED THAT THIS APPLIES TO THE LONGITUDINAL TRUSSES ONLY. BOLT SIZE TO BE 30mm. CIRCULAR HOLE 35mm DIA. AND SLOTTED HOLE IS ANTICIPATED TO BE 35mm X 70mm (TBC).

6. THE ABOVE PHILOSOPHY CATERS FOR THE LONGITUDINAL EXPANSION OF THE PIER CAUSED BY TEMPERTURE VARIATIONS. LONGITUDINAL STABILITY IS ACHIEVED BY ANCORAGE OF THE PIER BEAMS SUPPORTING THE FIRST SPAN INTO THE BANKSEAT ON THE UPPER PROMENADE. LATERAL STABILITY IS ACHIEVED BY CROSS BRACING ATTACHED TO EXISTING COLUMNS. THERE IS NO DESIGN PROVISION FOR LATERAL THERMAL MOVEMENT OF THE PIER AS VALUES WILL BE NEGLIGIBLE. IN ANY EVENT THE 9 NO. COLUMNS ON EMBEDDED PILES WILL HAVE SOME LATERAL MOVEMENT CAPACITY.

7. BOLTS ARE TO BE STAINLESS STEEL GRADE A4 TO BS EN ISO 3506. HOT ROLLED STEELWORK TO BE GRADE S355 J2 TO BE EN 10025-2. STRUCTURAL HOLLOW SECTIONS TO BE GRADE S355J0H TO BS EN 10210-1.

8. INSULATION GASKETS AND WASHERS ARE TO BE PROVIDED FOR STAINLESS STEEL BOLTED CONNECTIONS (EXCEPT AT 'SOFFIT' LOCATIONS) IN ORDER TO PREVENT BIMETALLIC CORROSION BETWEEN BOLTS AND GALVANIZED STEEL MEMBERS.

9. IT IS PROPOSED TO INCLUDE VERTICAL 'PACKER PLATES' OF MAX 20mm THICK AT ONE OR BOTH ENDS OF THE TRUSS AT THE THEIR INTERFACE WITH THE 254x73 UC COLUMN STUB. THIS ALSO APPLIES TO THE 6No. TRANSVERSE TRUSSES, HOWEVER THESE TRUSSES WILL NOT BE DIRECTLY CONNECTED TO THE EXISTING COLUMN CAP PLATES OWING TO NO EXISTING BOLT HOLES PRESENT ON THIS AXIS, NOR SUFFICIENT BEARING AREA GIVEN THE ORIENTATION OF THE PLATE. THE LATERAL TRUSSES WILL THUS TERMINATE AT THE WEBS OF THE 254UC STUBS, AGAIN WITH A VERTICAL PACKER PLATE AND 2NO. VERTICAL ROWS OF BOLTS, AND WILL BEAR ONTO THE 254UC BASEPLATE (UNOBSTRUCTED BY BOLTS).

10. THE 9No. 254UC POSTS WILL HAVE PRE-WELDED BASEPLATES OF 300mm WIDE (IN GL A DIRECTION) TO MATCH THE WIDTH OF THE CAP PLATE. LENGTH (IN GL B DIRECTION) IS TO BE 275mm TO ALLOW EXTERNAL 6mm FILLET WELD ON BOTH SIDES (AND PACKER PLATE ABOVE, MINIMUM 10MM THICK). ON THE UNDERSIDE OF THE BASEPLATE IT IS PROPOSED TO WELD A CHS x SAY 400mm LONG THAT CAN SLOT INTO THE INTERNAL VOID WITHIN THE SUPPORTING CAST IRON 12 INCH COLUMN. THIS IS TO ASSIST WITH ROBUSTNESS AND STABILITY. CHS DIAMETER AND LENGTH TBC FOLLOWING SIZE OF COLUMN VOID THAT CAN ACCOMMODATE IT. AN ALTERNATIVE SECTION MAY BE MORE APPROPRIATE.

REV	MODIFICATIONS	BY	RE	AP	DATE
P1	ISSUED FOR INFORMATION	DRM	CT	PD	18.01.19

CONWY
CYNGOR BWRDEISTREF SIROL
COUNTY BOROUGH COUNCIL

PROJECT:
COLWYN BAY PIER

TITLE:
STEELWORK GENERAL ARRANGEMENT

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