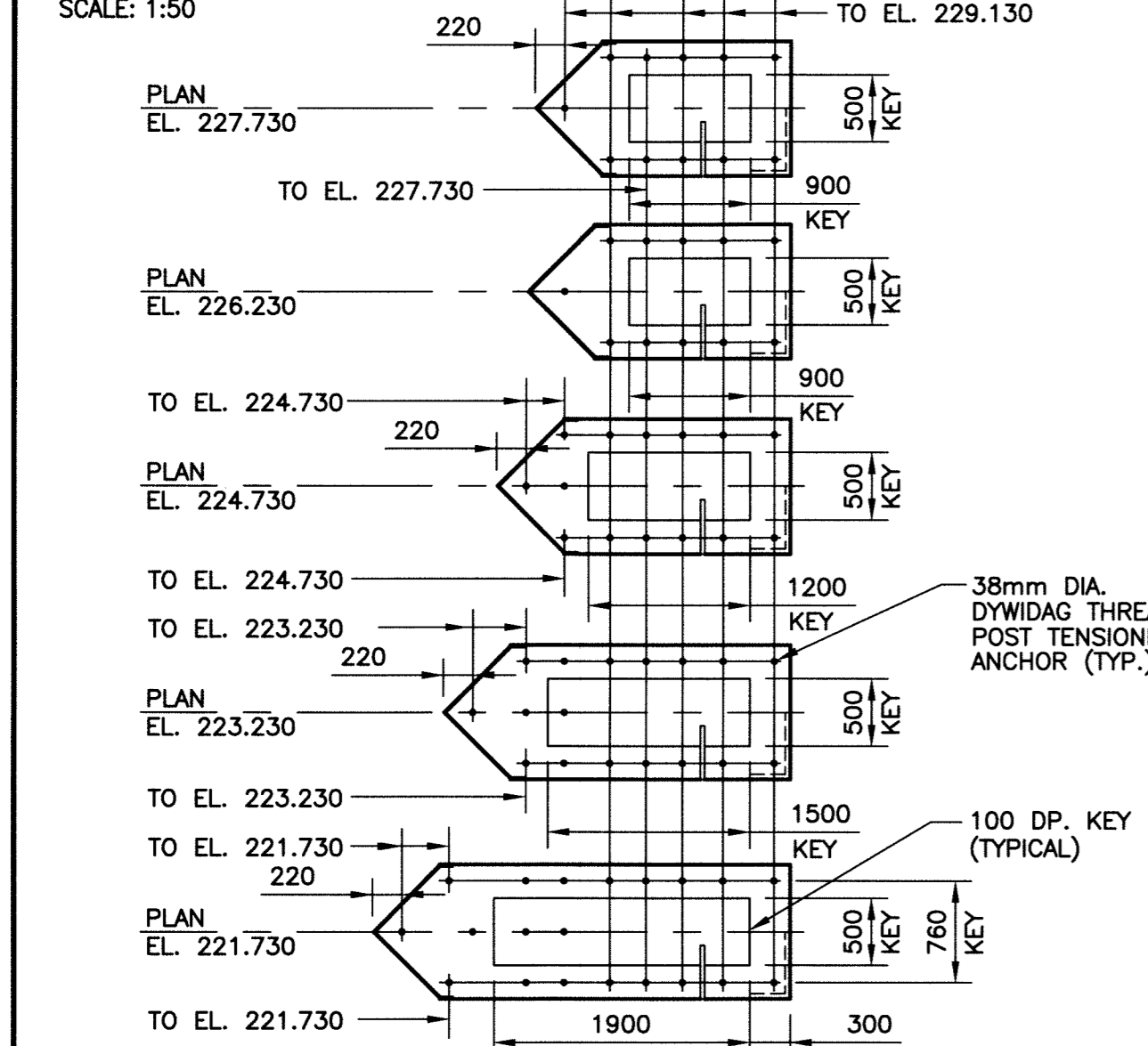
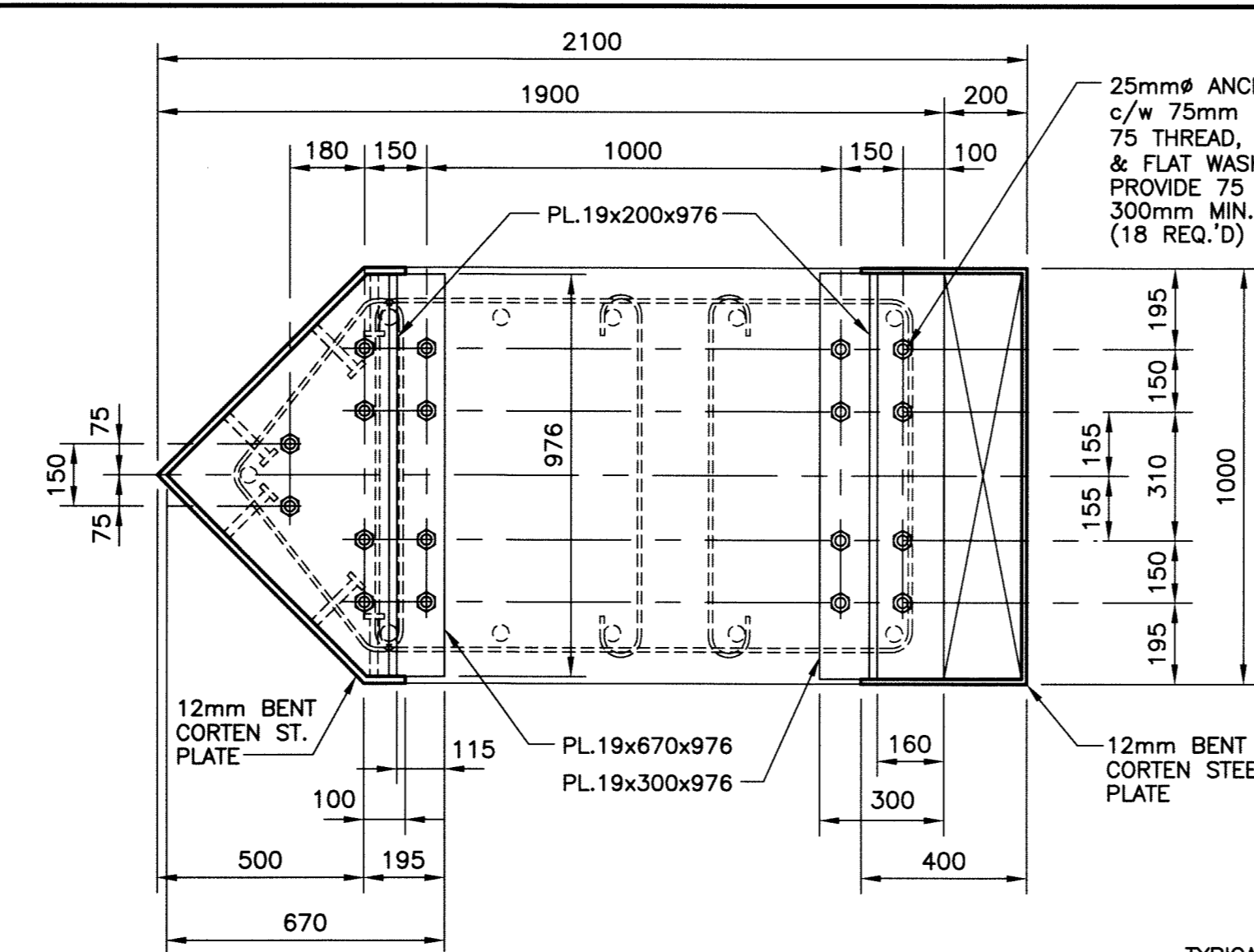


SOUTH ELEVATION - DYWIDAG ANCHORS
SCALE: 1:50

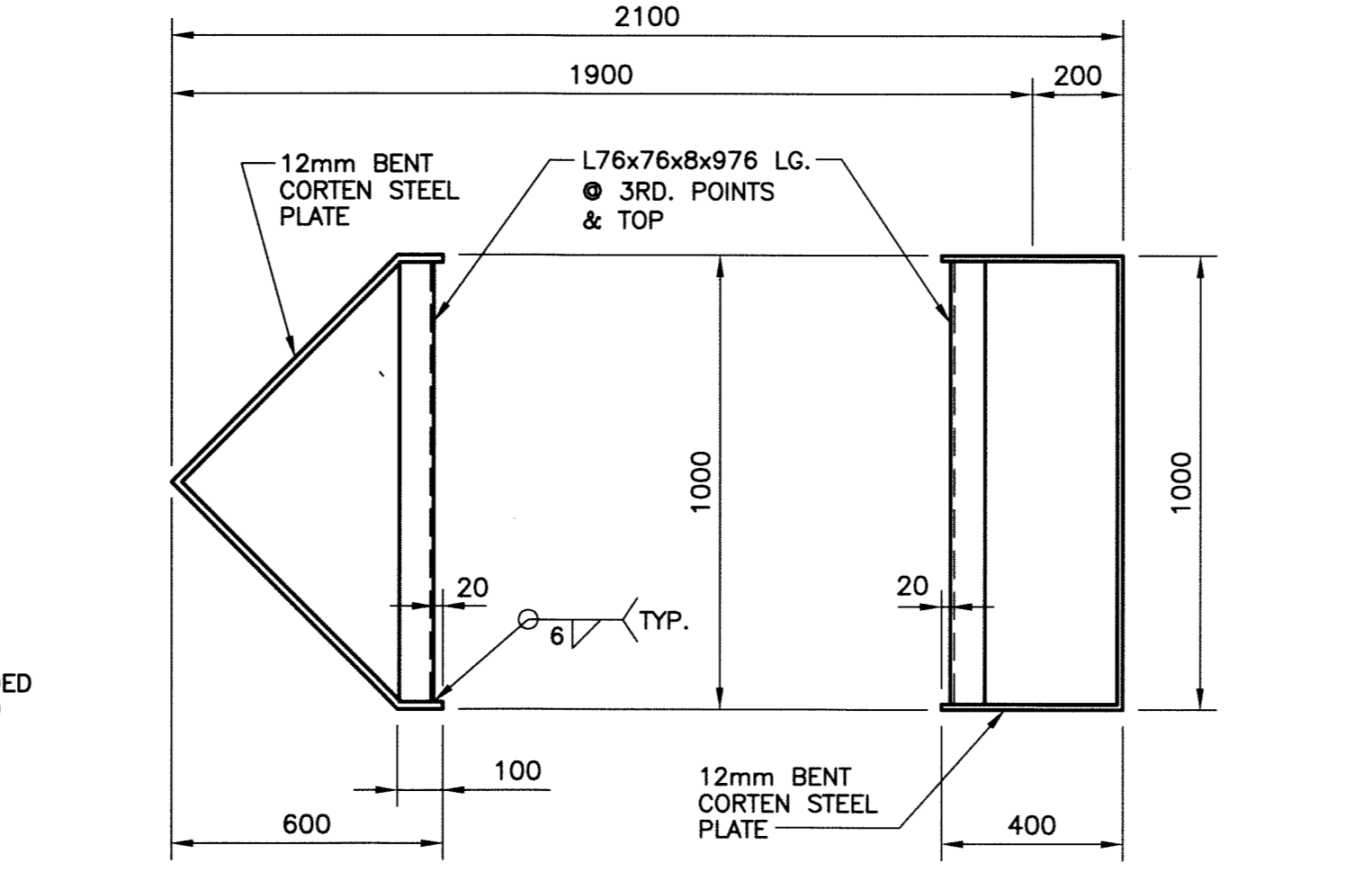


CONSTRUCTION JOINT KEYS & DYWIDAG ANCHOR LAYOUTS
SCALE: 1:50

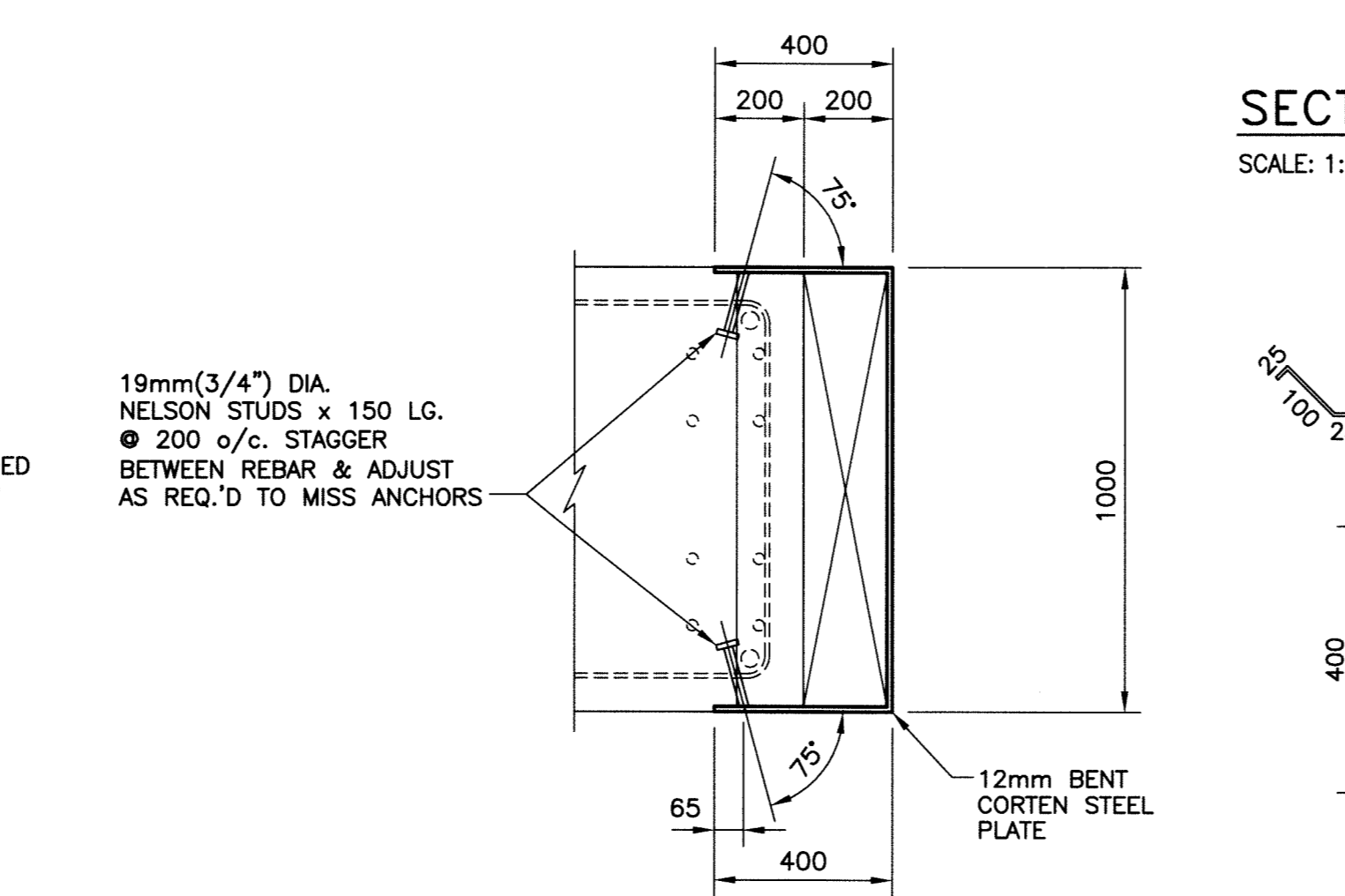
150 WM	WATERMAIN	150 WM	HYDRO	150 WM	WATERMAIN
+	HYDRANT	+	M.T.S.	+	HYDRANT, VALVE
o	VALVE	o	CONCRETE	o	LAND DRAINAGE SEWER
300 LBS	LAND DRAINAGE SEWER	300 LBS	ASPHALT	250 WWS	WASTE WATER SEWER
250 WWS	WASTE WATER SEWER	250 WWS	SIDEWALK	X	Q PROFILE
o	MANHOLE	o	KGS TEST HOLE	o	NORTH/WEST GUTTER
□	CATCH BASIN	□	PROPERTY LINE	o	SOUTH/EAST GUTTER
▽	CURB INLET	▽	SURVEY BAR	◇, ○	N/W, S/E P'S
+	JUNCTIONS	+	DITCH	△, ▽	N/W, S/E TOP/CURB
---	CULVERT	---	ELEVATION	---	NORTH/WEST DITCH
---	GAS	---		---	SOUTH/EAST DITCH
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED



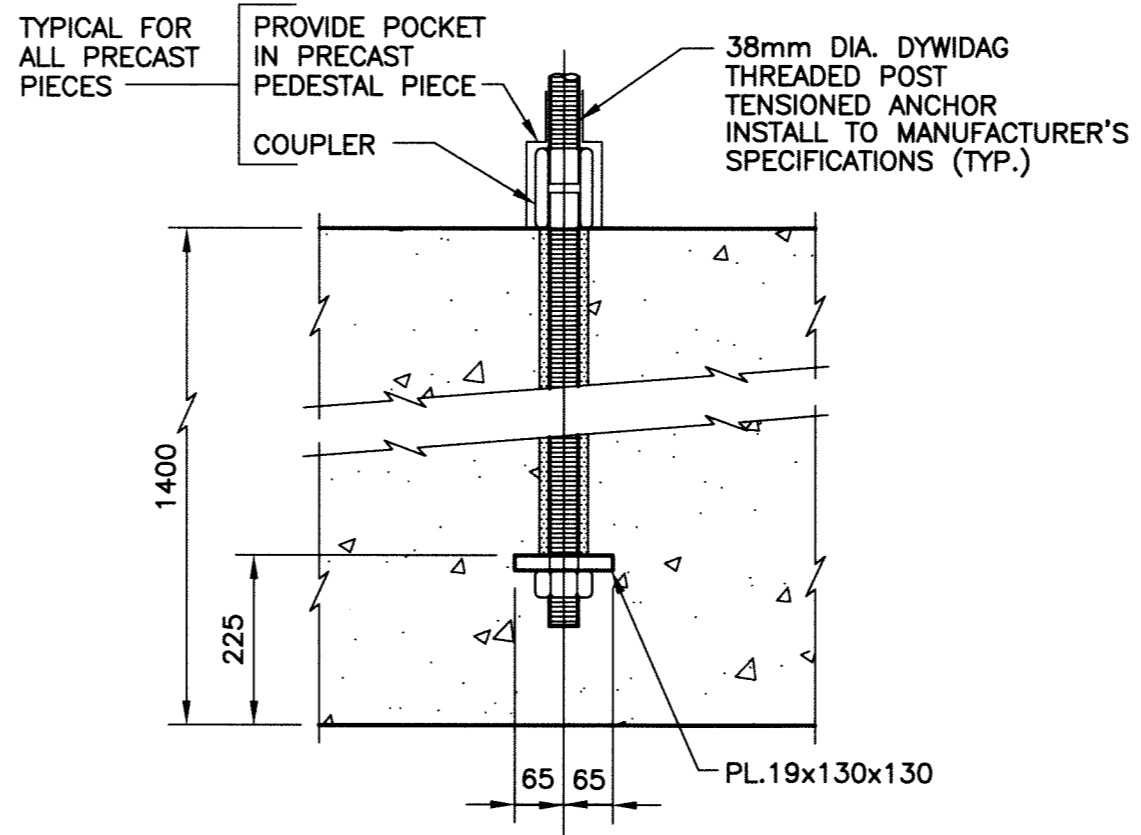
F SECTION S03
SCALE: 1:15



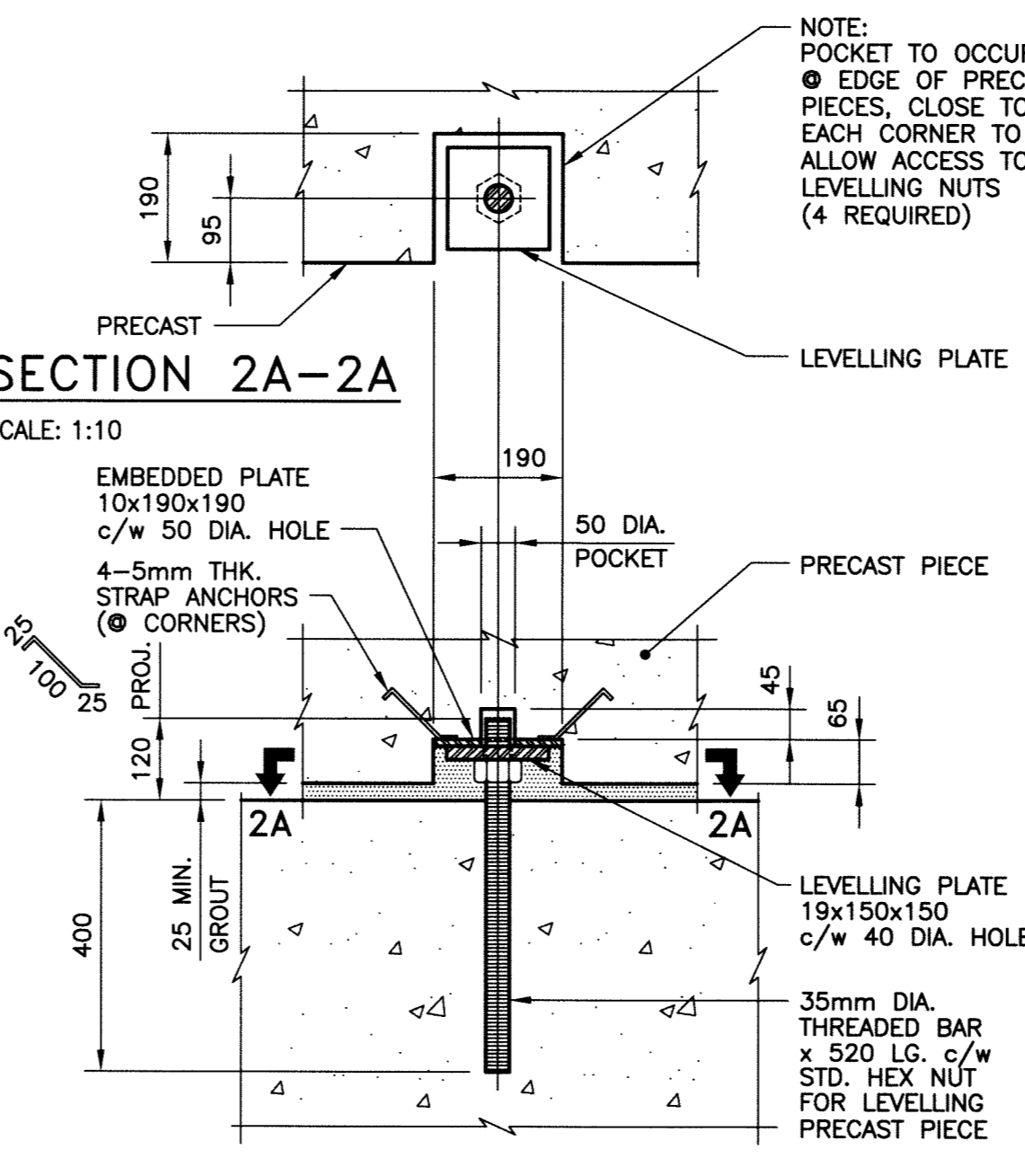
G SECTION S03
SCALE: 1:15



H SECTION S03
SCALE: 1:15



1 DETAIL
SCALE: 1:10



2 DETAIL
SCALE: 1:10

CONCRETE NOTES:

- CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CAN/CSA-A23.1/A23.2 (LATEST). SEE BELOW FOR MIX REQUIREMENTS.
- CONCRETE MATERIALS, FORMING, PLACING, FORM REMOVAL, REINFORCING, ETC. TO ACI RECOMMENDATIONS AND ACCEPTABLE PRACTICE.
- MIX WATER SHALL BE POTABLE. CALCIUM CHLORIDE SHALL NOT BE USED.
- PROVIDE ADEQUATE COLD WEATHER PROTECTION FOR CONCRETE DURING CURING PERIOD.
- CONCRETE MIX CONCRETE MIX DESIGN SHALL BE PROPORTIONED AS FOLLOWS:

EXPOSURE CLASS	C-2
28 DAY COMP. STRENGTH	32 MPa
CEMENT	TYPE GU
W/C RATIO	0.45
AGGREGATE SIZE (MAX.)	19MM
ENTRAINED AIR	5%-8%
SLUMP (MAX.)	90mm (±10mm)

REINFORCING STEEL NOTES:

- REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CAN/CSA G30.18-M92. GRADES TO BE: 400 MPa FOR 15M BARS AND LARGER; 300 MPa FOR 10M BARS.
- REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
- PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING AS SHOWN ON DRAWINGS.

CAISSON NOTES:

- INSTALLATION OF ALL CONCRETE CAISSONS SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA, PRIOR TO PLACEMENT OF CONCRETE.
- CAISSONS SHALL BE SOCKETED A MINIMUM OF 2400MM INTO SOUND INFACURE LIMESTONE BEDROCK.
- CAISSONS SHALL NOT BE MORE THAN 50mm OUT OF POSITION Laterally AT THE TOP AND NOT MORE THAN 2% OUT OF PLUMB.
- REINFORCE ALL CAISSONS AS DETAILED ON THE DRAWINGS. REFER TO CONCRETE NOTES FOR CONCRETE REQUIREMENTS. INSTALL EACH CAISSON AS A CONTINUOUS POUR.
- VIBRATE TOP 4.5 METRES OF CONCRETE IN ALL CAISSONS.
- SLEEVING WHERE REQUIRED SHALL BE INCLUDED IN THE CAISSON CONTRACT.

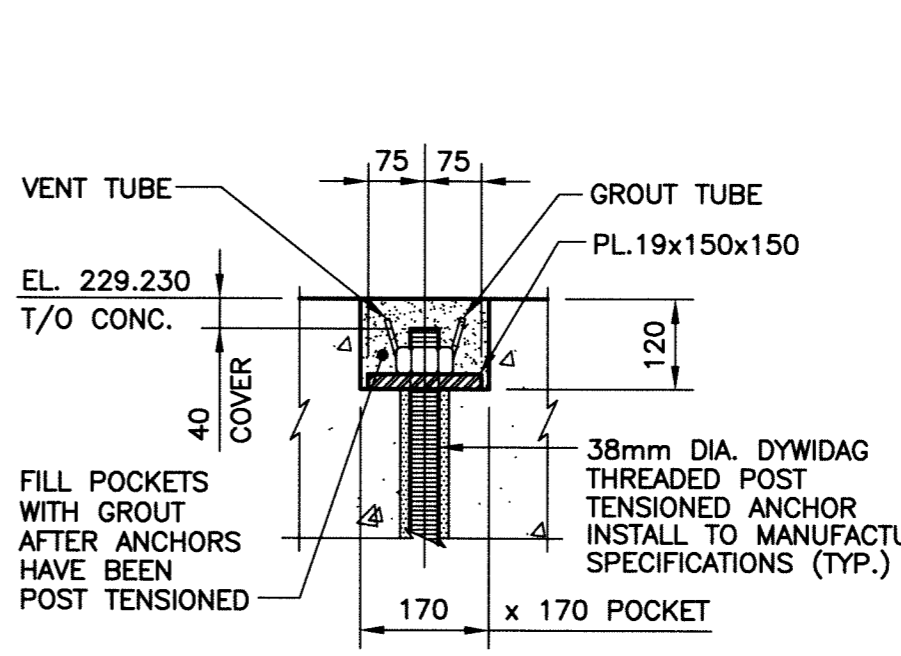
CONCRETE MIX DESIGNS:

CAISSONS	EXPOSURE CLASS	S-2
	MIN. 28 DAY COMP. STRENGTH	30 MPa
	MIN. 56 DAY COMP. STRENGTH	32 MPa
	CEMENT TYPE	HS
	MAX. W/C RATIO	0.45
	MAX. AGGREGATE SIZE	19mm
	ENTRAINED AIR CONTENT	4%-6%

STRUCTURAL AND MISCELLANEOUS STEEL:

- STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CAN/CSA S16 (LATEST).
- STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF CAN/CSA G40.20/G40.21 (LATEST).
- WELDING SHALL BE IN ACCORDANCE WITH CSA W59 (LATEST), BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1 (LATEST). ALL WELDS TO BE 6mm UNLESS NOTED OTHERWISE.

GALVANIZING
WHERE NOTED STRUCTURAL STEEL & MISCELLANEOUS STEEL SHALL BE HOT-DIPPED GALVANIZED TO CAN/CSA G164-M92. APPLY GALVALLOY TO ALL GALVANIZED STEEL AREAS THAT HAVE BEEN DAMAGED.



3 DETAIL
SCALE: 1:10

1. SUBGRADE PREPARATION

- THE SUBGRADE PREPARATION SHALL INCLUDE THE EXCAVATION AND DISPOSAL OF ALL EXISTING SOIL, AND ANY DELETERIOUS OR WET MATERIAL, TO THE DEPTH SHOWN.
- ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF OFF-SITE AT A LOCATION SELECTED BY THE CONTRACTOR AND APPROVED BY THE CONTRACT ADMINISTRATOR.
- THE EXCAVATED SUBGRADE SHALL THEN BE COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.

2. GEOTEXTILE

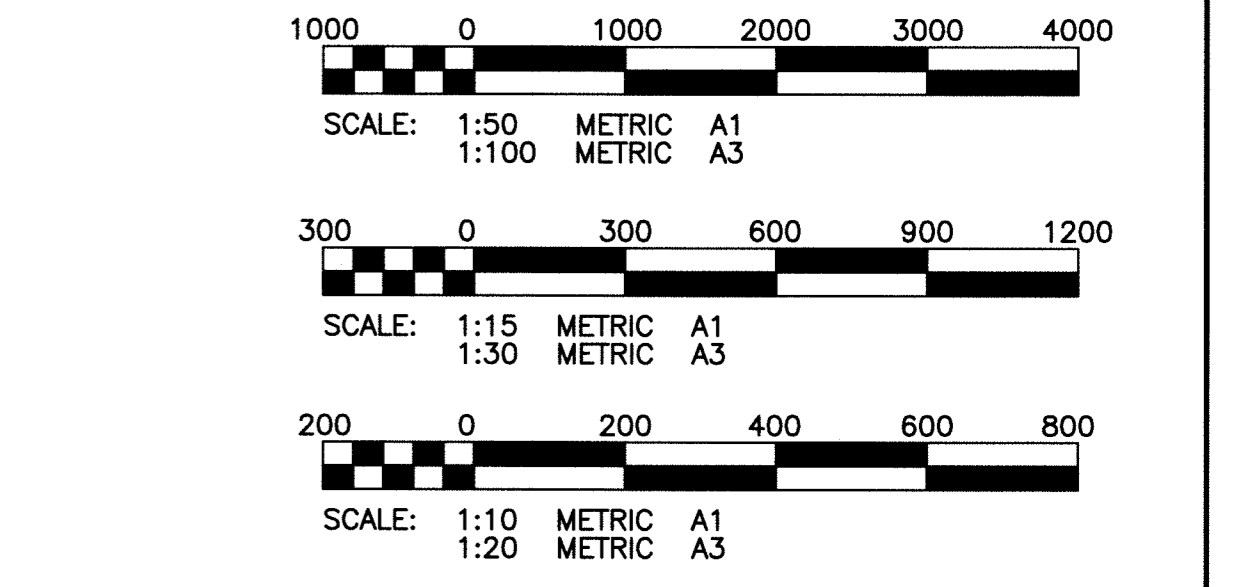
- THE GEOTEXTILE SHALL CONSIST OF A NON-WOVEN MATERIAL WITH A MINIMUM GRAB TENSILE STRENGTH OF 900 N AND TRAPEZOID TEAR OF 350 N. ACCEPTABLE PRODUCTS SHALL BE PROPEX 4553, LAYFIELD LP8, MIRAFI 180N, OR APPROVED EQUIVALENT.
- ALL STORAGE, HANDLING, AND INSTALLATION METHODS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AND RECOMMENDATIONS OF THE MANUFACTURER, AS APPROVED BY THE CONTRACT ADMINISTRATOR.
- PRIOR TO LAYING THE FABRIC, THE SUBGRADE SHALL BE SMOOTH AND ALL DELETERIOUS MATERIAL THAT COULD TEAR OR PUNCTURE THE FABRIC REMOVED. THE FABRIC SHALL BE LOOSELY LAID CONFORMING TO THE BEDDING SURFACE, AVOIDING FOLDS OR WRINKLES. A MINIMUM OF 300mm OF MATERIAL SHALL BE PLACED OVER THE GEOTEXTILE PRIOR TO EQUIPMENT PASSAGE.
- ANY DAMAGED GEOTEXTILE SHALL BE REPAIRED WITH A MINIMUM OF 600mm OVERLAP ONTO UNDAUNAGED GEOTEXTILE PRIOR TO REPLACEMENT OF OVERLYING FILL.

3. GABIONS

- ALL MATERIAL AND CONSTRUCTION METHODS FOR SUPPLYING AND PLACING THE GABIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND APPROVED BY THE CONTRACT ADMINISTRATOR.
- THE GABION BASKETS SHALL BE GALVANIZED AND PVC COATED WITH MESH TYPE 8x10 (NOMINAL MESH OPENING 83mm), AS MANUFACTURED BY MACCAFERRI INC.
- THE GABIONS SHALL BE CONNECTED TOGETHER USING EITHER APPROVED LACING WIRE WITH SINGLE AND DOUBLE LOOPS OR STAINLESS STEEL FASTENERS AT A MAXIMUM SPACING OF 150mm, AS APPROVED BY THE CONTRACT ADMINISTRATOR.
- THE GABION BACKFILL SHALL CONSIST OF CRUSHED LIMESTONE VARYING BETWEEN 100 AND 200mm IN DIAMETER, THE LIMESTONE SHALL CONSIST OF A CLEAN FREE DRAINING, SOUND, DENSE AND DURABLE CRUSHED ROCK, FREE FROM ORGANICS, ROOTS, CLAY AND ANY OTHER MATERIAL THAT WOULD DETRACT FROM THE STRENGTH AND DRAINAGE CHARACTERISTICS OF CLEAN ROCKFILL. IT SHALL BE DURABLE WHITE CRYSTALLINE MATERIAL. SOFTER BUFF TO YELLOW DOLOMITE OR DOLOSTONE WILL NOT BE ACCEPTED. THE MAXIMUM LA ABRASION LOSS SHALL BE 32% (ASTM C131).
- PRIOR TO PLACING THE BASKETS, THE SUBGRADE AND GRANULAR BASE FOUNDATION SHALL BE PREPARED AND LEVELED TO RECEIVE THE BASKETS.
- INDIVIDUAL BASKETS SHALL BE ALIGNED IN ACCORDANCE WITH THE TYPICAL LAYOUT SHOWN, WHICH WILL INCLUDE HORIZONTAL SEAMS ALONG THE LENGTH OF THE WALL, AND STAGGERED BASKETS ACROSS VERTICAL SEAMS.

4. PEDESTAL CONSTRUCTION NOTES

- PEDESTAL BASE SHALL BE CAST IN THE DRY.
- ALL DYWIDAG BARS ARE TO BE GROUTED AFTER TENSIONING.
- IF THE TOP OF BASE SLAB DOES NOT PROVIDE A LEVEL BEARING SURFACE, LEVEL THE FIRST SECTION OF PRECAST WITH 4 LEVELING NUTS AND GROUT BETWEEN PRECAST CONCRETE AND TOP OF BASE SLAB.



PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

APEGM
Certificate of Authorization
KGS Group
No. 245

THE CITY OF WINNIPEG
PLANNING, PROPERTY & DEVELOPMENT DEPARTMENT

PROJECT TITLE: **ST. VITAL PARK BOAT LAUNCH PERMANENT ANCHOR PEDESTAL ELEVATION, SECTIONS & AND SPECIFICATIONS**

COMPUTER FILE NAME: **12-0109-009**

CITY DRAWING NUMBER: _____

LOCATION APPROVED UNDERGROUND STRUCTURES

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.

NO.	ISSUED FOR TENDER	DATE	BY
1	ISSUED FOR TENDER	13/01/04	RJL
0	ISSUED FOR TENDER	12/20/12	RJL
NO.	REVISIONS	DATE	BY

KGS GROUP CONSULTING ENGINEERS

DESIGNED BY: **RJL**

DRAWN BY: **JF**

SCALE: **AS NOTED**

DATE: **12/12/17**

ENGINEER'S SEAL

R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO. **12-0109-009-S04**

P:\Projects\2012\12-0109-009\Drawings\DWG\12-0109-009_S04-Rev. 1.dwg - Tab. S04 Plotted By: Dberneche 01/03/2013 [Thu. 2:28pm] C:\WORK\LEGEND