

# General Notes for Commercial Works

Revised May 2015

## GENERAL NOTES (NCC 2015, BCA Vol 1)

All materials and work practices shall comply with, but not limited to the Building Regulations 2006, the National Construction Code series 2012 Building Code of Australia Volume 1 and all relevant current Australian Standards (as amended) referred to therein.

Unless otherwise specified, the term BCA shall refer to National Construction Code Series 2012 Building Code of Australia Volume 1.

All materials and construction practice shall meet the Performance Requirements of the Building Code of Australia. Where an alternative solution is proposed then prior to implementation or installation it first must be assessed and approved by the Relevant Building Surveyor as meeting the Performance Requirements of the Building Code of Australia.

Step sizes (other than for spiral stairs) to be:-  
 Risers (R) 190mm maximum and 115mm minimum  
 Going (G) 355mm maximum and 250mm minimum for Public stairways and 355mm maximum and 240mm minimum for Private stairways  
 2R + 1G = 700mm maximum and 550mm minimum  
 Constructed with a less than 125mm gap to open treads

All treads, landings and the like to have non slip finish or suitable non-skid strip near edge of nosing.

Provide balustrades where change in level exceeds 1000mm above the surface beneath landings, ramps and/or treads. Balustrades (other than tensioned wire balustrades) to be:-  
 1000mm minimum above finished surface level of balconies, landings or the like, and  
 1000mm minimum above finished surface level of stair nosing or ramp, and  
 Vertical with a less than 125mm gap between, and  
 Any horizontal element within the balustrade between 150mm and 760mm above the floor must not facilitate climbing where changes in level exceeds 400mm above the surface beneath landings, ramps and/or treads.

Top of hand rails to be minimum 865mm vertically above stair nosing and floor surface of ramps.

Window sizes nominated are nominal only. Actual size may vary according to manufacturer. Windows to be flashed all around.

Waterproofing of wet areas to comply with BCA Part F1.7.

For buildings in marine or other exposure environments shall have masonry units, mortar and all built in components and the like complying with the durability requirements of AS3700-2011 Masonry structures

All storm water to be taken to the legal point of discharge to the relevant authorities' approval.

These drawings shall be read in conjunction with all architectural specifications, relevant structural and all other consultants' drawings/details and specifications and with any other written instructions issued in the course of the contract.

All measurements and levels in millimeters U.N.O.

Figured dimensions take precedence over scaled dimensions.

The builder shall take all steps necessary to ensure the stability and general water tightness of all new and/or existing structures and all essential services to be maintained during all works.

The builder and subcontractors shall check and verify all dimensions, setbacks, levels and specifications and all other relevant documentation prior to the commencement of any works. Report all discrepancies to this office for clarification.

Installation of all services shall comply with the respective Supply Authority requirements.

The builder and subcontractor shall ensure that all storm water drains, sewer pipes and the like are located at a sufficient distance from any buildings footing and/or slab edge beams so as to prevent general moisture penetration, dampness, weakening and undermining of any building and its footing system.

These plans have been prepared for the exclusive use by the client of [insert Building Designer] (the Designer) for the purpose expressly notified to the Designer. Any other person who uses or relies on these plans without the Designer's written consent does so at their own risk and no responsibility is accepted by the Designer for such use and/or reliance.

The approval by this office of a substitute material, work practice, variation or the like is not an authorisation for its use or a contract variation. Any said variations must be accepted by all parties to

the agreement and where applicable the Relevant Building Surveyor prior to implementing the said variation.

Refer to Civil Engineers design and details for all storm water, car parking and driveway construction requirements.

Refer to fire services design for all hydrant, hose reels and extinguisher details.

Electrical switchboards located in the path of travel to exits to be enclosed in a metal or other non combustible cabinet with smoke proof doors. Significant switchboards shall be provided with a 5kg carbon dioxide extinguisher or another type of extinguisher with a minimum classification of 1A:E and fitted with a hose complete with extinguisher identification signage and shall be located between 2m and 20m from the significant switchboard.

Fire hazard properties of materials and assemblies to comply with BCA Specification C1.10.

Mechanical ventilation or air-conditioning of rooms to be provided with a system complying with AS1688.2 and AS/NZS 3666.1 as amended. Exhaust outlets to be located no closer than 6.0m to fresh air inlets.

Sediment pollution control:-  
 A site management plan is to be implemented during construction to control sediment run-off in accordance with EPA Victoria publication #275 'construction techniques for sediment pollution control'.

Provide 'propex' or written approved equivalent silt fences to the low side of the allotment and around all soil stockpiles and storm water inlet pits / sumps and install 'silt stop' filter bags over all storm water entry pits during construction works.  
 "Supergro" or written approved equivalent erosion control fabric to be placed over garden beds to prevent surface erosion during re vegetation period

Personal loading:-  
 Based on sanitary facilities provided per BCA Table. F2.3

Male Employees:-  
 Female Employees:-

Male Patrons:-  
 Female Patrons:-

Male Participants:-  
 Female Participants:-

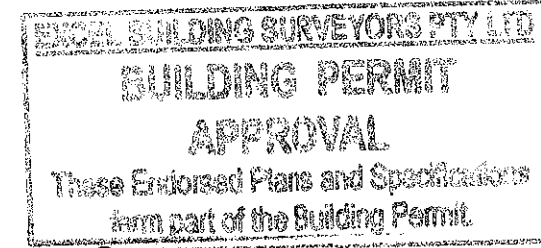
Children:-

Authorities List:-  
 Municipality-  
 Sewerage authority-  
 Drainage authority-  
 Relevant Building Surveyor-  
 Relevant Fire Authority-  
 Relevant Electrical Supply Authority-

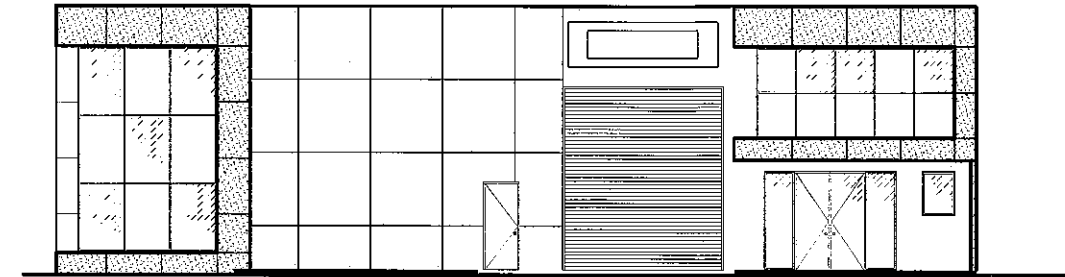
Planning Permit:-  
 Planning Permit No.-  
 Issue Date-  
 Builder to allow for all works to comply and include all required conditions in accordance with the Planning Permit and shall be responsible that all Planning Conditions are met at the completion of works.

Project Consultants List:-  
 Consulting Structural Engineer-  
 Consulting Civil Engineer-  
 Consulting Fire Service Design-  
 Consulting Land Surveyor-  
 Consulting Geotechnical Engineer-  
 Consulting Landscape Designer-  
 Consulting Mechanical Services Engineer-  
 Consulting Electrical Engineer -  
 Consulting Hydraulic Engineer,  
 Consulting Lighting Designer-

Site geotechnical investigation:-  
 Refer to geotechnical investigation report no. :-  
 By



*# Variation to Permit No. 22903-2016061-0,  
 - Change in direction of Stairs to  
 Warehouse 2, & Engineering Variations  
 as per Frame items. 12 APR 2016*



## 21 KATHERINE DRIVE RAVENHALL

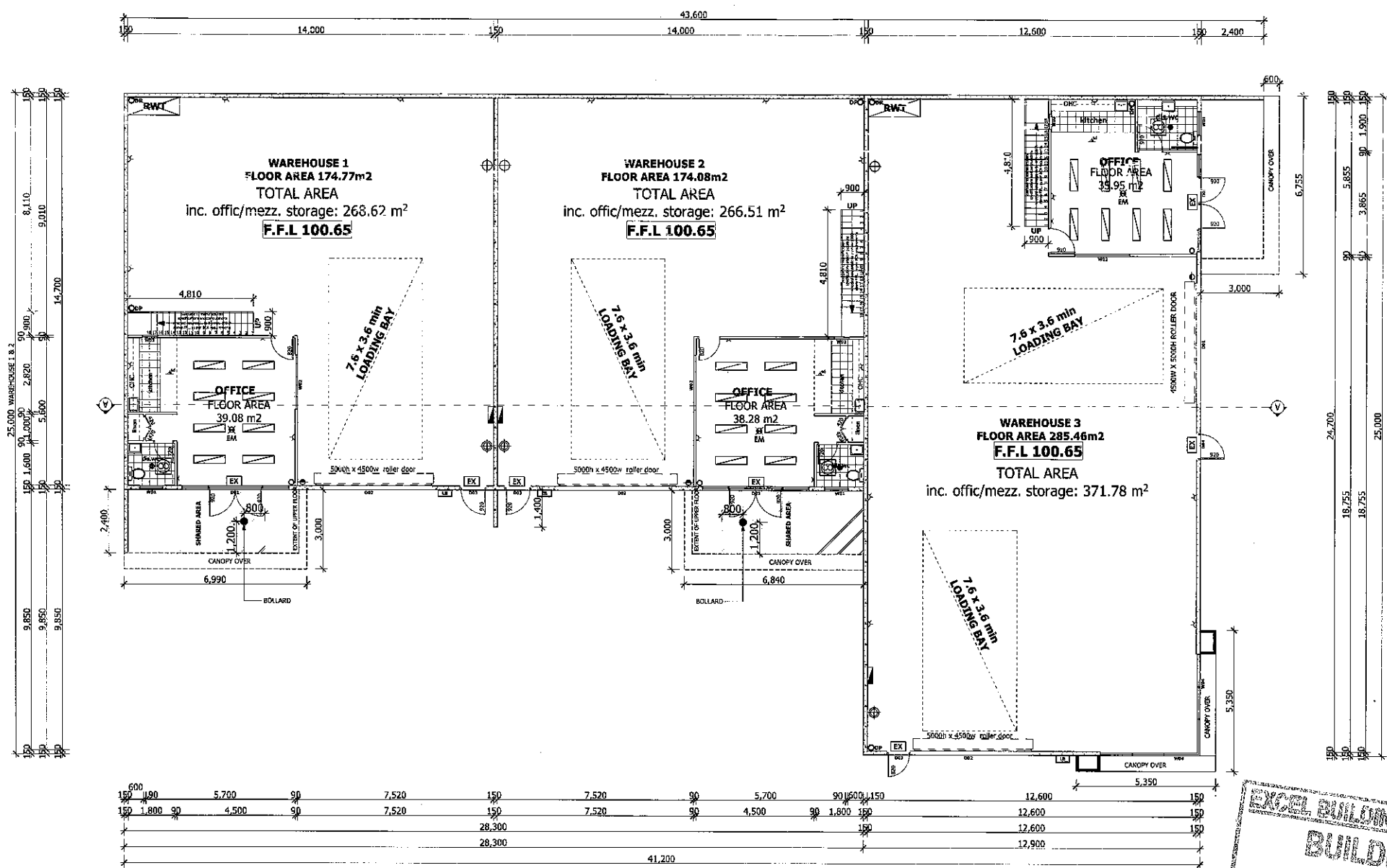
- A01 - COVER SHEET
- A02 - SITE PLAN
- A03 - GROUND FLOOR PLAN
- A04 - FIRST FLOOR PLAN
- A05 - ROOF PLAN
- A06 - ELEVATIONS
- A07 - SECTION/DETAILS

**HRT CONSTRUCTIONS**  
**At: 21 KATHERINE DRIVE,**  
**RAVENHALL, VIC 3023**

**FIRE:**  
**EMERGENCY LIGHTING EXIT SIGNS**  
**ARE PORTABLE EXIT. DRY WATER**  
**FIRE BLANKETS FOR KITCHENS.**

<b>M7 Design Group Pty. Ltd</b> building designers 1187 31.03.16	Proposed: WAREHOUSE DEVELOPMENT At: 21 KATHERINE DRIVE, RAVENHALL Client: THEO Job No: 1187 Date: 31.03.16	Date: _____ amendments: _____
	sheet no. 01	





**ELECTRICAL LEGEND**

- 1200 x 300 recessed 1 bar 230W Fluorescent light fitting
- Clevertronics emergency exit light class 9430 1 x 10w CO D16/C70 B16
- Clevertronics emergency light class 8170 1 x 40w CO D80/C70-C30
- Clevertronics emergency light class 1 x 10w CO C25/C70 C25
- Kasten 2023 wall mounted external light fitting from Edge lighting
- 1x40w High bay light
- Low voltage light
- 20 watt bayonet light fitting
- Switch and meterboard
- 10 Anus double gpo 1200 above floor
- Direct wiring to HWS
- Light switch
- Minimal 250mm exhaust fan to be ducted to external wall or roof
- 3Phase power for automatic roller shutter

**FIRE FIGHTING EQUIPMENT:**

- EXISTING EXTERNAL HYDRANT WITH DUAL HEAD
- EXISTING 36mm HOSE REEL
- WALL WETTING SPRINKLER HEAD WITH SHUT OFF VALVE
- 80 B (E) DRY CHEMICAL
- 9kg WATER BASED EXTINGUISHER
- NEW EXTERNAL HYDRANT WITH DUAL HEAD
- NEW 36mm HOSE REEL CONNECTED TO 38mm COPPER PIPE TO BE TO BE RUN TO SHUT OFF VALVE AT HOSE REEL
- 2A 208 (E) DRY CHEMICAL 2.0m FROM ELECTRICAL BOARD

NOTE: ALL FIRE SERVICES TO BE COPPER TYPE B 16 GAUGE, MIN COVER 600mm

**FIRE:**  
EMERGENCY LIGHTING EXIT SIGNS ARE PORTABLE EXIT, DRY WATER FIRE BLANKETS FOR KITCHENS.

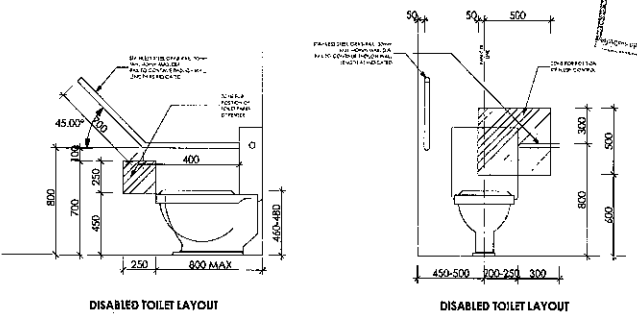
**EXCEL BUILDING SURVEYORS PTY LTD**  
**BUILDING PERMIT APPROVAL**  
These Enforced Plans and Specifications form part of the Building Permit.

**NATURAL LIGHT**  
TO BE PROVIDED AT A RATE OF 10% OF AREA

	WAREHOUSE 1	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.77	93.85
REQUIRED LIGHT AREA (m <sup>2</sup> )	17.477	9.385
TRANSLUCENT ROOFING (m <sup>2</sup> )	24.16	0
WINDOWS (m <sup>2</sup> )	15.65	12.10
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	39.81	12.10
CHECK	OK	OK

**NATURAL VENTILATION**  
TO BE PROVIDED AT A RATE OF 5% OF AREA

	WAREHOUSE 1	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.77	93.85
REQUIRED VENTILATION AREA (m <sup>2</sup> )	8.74	4.69
OPENABLE WINDOWS (m <sup>2</sup> )	0	0
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	22.50	7.39
CHECK	OK	OK



**DISABLED ACCESS**

**NOTES**

GENERAL NOTES:  
EXTERNAL PARKING BAYS ARE TO HAVE A GRADIENT OF NO GREATER THAN 1:40.  
INTERNAL DOORS TO HAVE A MINIMUM OPENING WIDTH OF 850mm FOR DISABLED ACCESS.  
PROVIDE DISABLED STORAGE THROUGHOUT THE SITE IN ACCORDANCE WITH B.C.A SPEC 3.4 AND AS1428.1

**LEGEND**

1 DENOTES MAIN ENTRANCE DOORS WITH A MINIMUM CLEAR OPENING OF 850mm  
2 DENOTES FLAT LANDING AREA FOR WHEELCHAIR ACCESS (1330mm WIDE MINIMUM)

**GENERAL NOTES:**

- a. All areas and dimensions must be checked and verified before commencing any work or work on drawings.
- b. DO NOT SCALE DRAWING. Verify dimensions from procedure drawings.
- c. All work to be in accordance with B.C.A. Code of Practice for Building and any relevant council by laws.
- d. This drawing to be read in conjunction with structural drawings & computational resources notes.
- e. All downpipes (DIP) to be 150mm dia. PVC. Gutters 60mm (10) x 200mm (10) (shower area finish metal, finished and capped over).
- f. Roof decking to be Miniback 0.48mm thick or approved similar insulate from sheet steel. Slope 3 degrees UNO. Sarking to underlaid.
- g. Make-up only lighting to match steel deck profile. To be kept a minimum of 1000mm clear gutters side boundaries and ridge.
- h. Provide 3/4" dia. stock wire or 3000US gal.
- i. Use 100mm dia. secured pipe hosing @ 450mm dia.
- j. Co. ng & floor joints as noted.
- k. All walling to comply with AS 1562.
- l. All exterior wall C.D. doors to have self-closing (REMOVABLE HINGES).
- m. Apply Carom's 500mm x 100mm perforated floor over approved sub-base. 300mm above ready base. 1800mm high in clear.
- n. Disabled toilet to comply with AS1428.1

**FIRE FIGHTING NOTES:**

- a. The height of the equipment used to be such that optical length of travel to exit are no greater than 60m.
- b. All escape doors to be fitted with "T" handles operable from inside without the use of a key, or a single handed action.

**GLASSING NOTES:**

- a. All glazing to comply with AS1288. Window manufacturers to provide a specification for the building supervisor prior to installation.
- b. All windows to be Aluminium framed "Commercial" type sections, or order coated to selected colour. Window frames to provide all angles and cover-panels in the same powder coated colour.

**AREA: ANALYSIS**

TOTAL SITE AREA:	1596m <sup>2</sup>
WAREHOUSE 1 FLOOR AREA:	174.77m <sup>2</sup>
OFFICE FLOOR AREA:	93.85m <sup>2</sup>
LAND AREA:	366.75m <sup>2</sup>
WAREHOUSE 2 FLOOR AREA:	174.08m <sup>2</sup>
OFFICE FLOOR AREA:	92.43m <sup>2</sup>
LAND AREA:	366.75m <sup>2</sup>
WAREHOUSE 3 FLOOR AREA:	285.46m <sup>2</sup>
OFFICE FLOOR AREA:	86.32m <sup>2</sup>
LAND AREA:	411.37m <sup>2</sup>
TOTAL BUILT UP AREA:	906.91m <sup>2</sup>
CARPARKING:	272.6m <sup>2</sup>
TOTAL WORKSHOP AREA (inc. admin / storage area):	9.5146
NUMBER OF CAR SPACES	= 634.31m <sup>2</sup> / 100 = 6.3431 (x1.5) = 9.5146
required 10 spaces, PLUS 2 for each warehouse	
TOTAL CAR SPACES PROVIDED	= 11

**GROUND FLOOR PLAN**  
SCALE 1:100

**NATURAL LIGHT**  
TO BE PROVIDED AT A RATE OF 10% OF AREA

	WAREHOUSE 2	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.08	92.43
REQUIRED LIGHT AREA (m <sup>2</sup> )	17.408	9.243
TRANSLUCENT ROOFING (m <sup>2</sup> )	24.16	0
WINDOWS (m <sup>2</sup> )	15.65	12.10
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	39.81	12.10
CHECK	OK	OK

**NATURAL VENTILATION**  
TO BE PROVIDED AT A RATE OF 5% OF AREA

	WAREHOUSE 2	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.08	92.43
REQUIRED VENTILATION AREA (m <sup>2</sup> )	8.70	4.62
OPENABLE WINDOWS (m <sup>2</sup> )	0	0
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	22.50	7.39
CHECK	OK	OK

**NATURAL LIGHT**  
TO BE PROVIDED AT A RATE OF 10% OF AREA

	WAREHOUSE 3	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	285.46	86.32
REQUIRED LIGHT AREA (m <sup>2</sup> )	28.546	8.632
TRANSLUCENT ROOFING (m <sup>2</sup> )	42.12	0
WINDOWS (m <sup>2</sup> )	71.22	11.07
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	113.34	11.07
CHECK	OK	OK

**NATURAL VENTILATION**  
TO BE PROVIDED AT A RATE OF 5% OF AREA

	WAREHOUSE 3	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	285.46	86.32
REQUIRED VENTILATION AREA (m <sup>2</sup> )	14.27	4.32
OPENABLE WINDOWS (m <sup>2</sup> )	0	0
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	22.50	5.40
CHECK	OK	OK

**M7 Design Group Pty. Ltd.**  
building designers

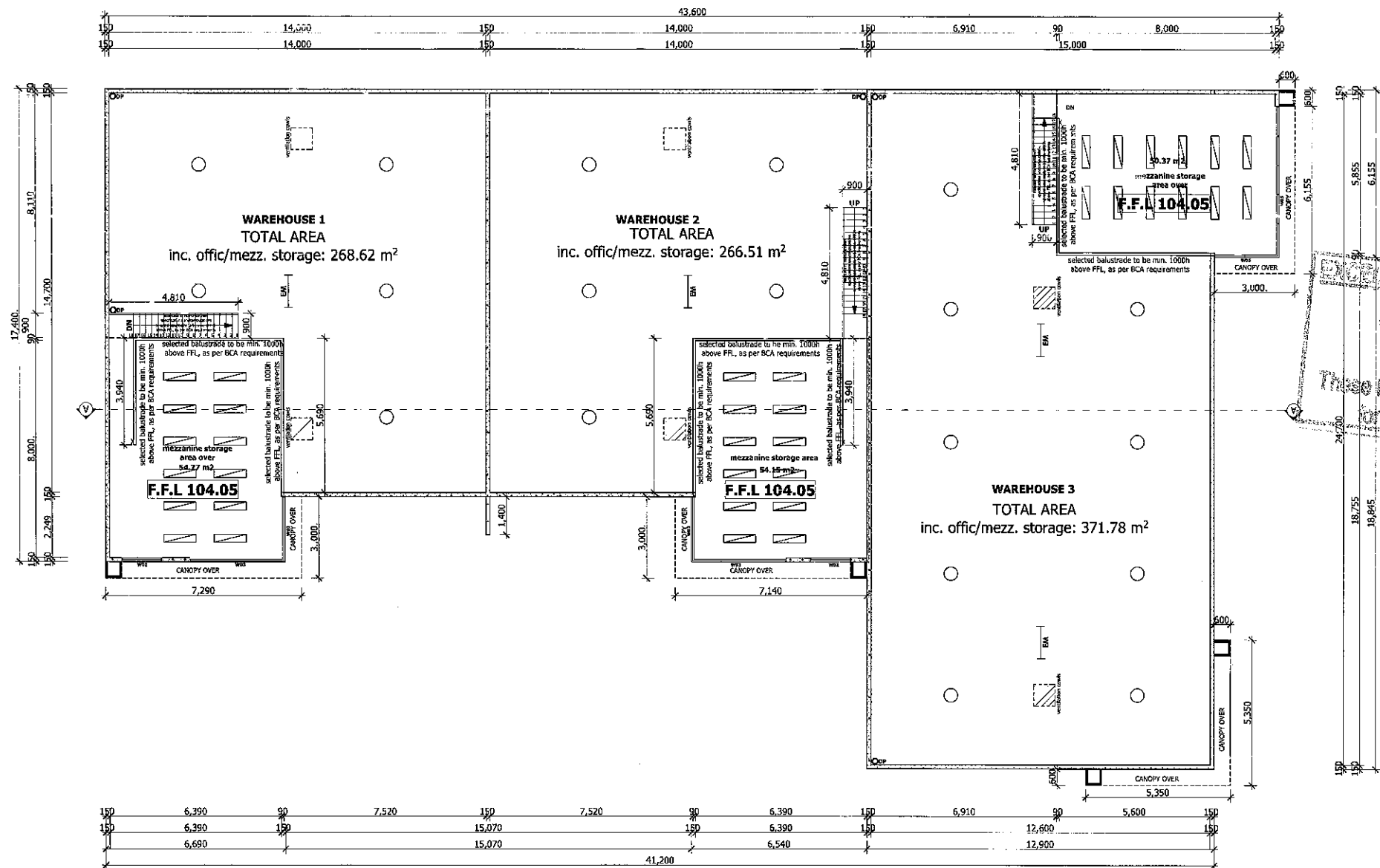
**WAREHOUSE DEVELOPMENT**

21 KATHERINE DRIVE, RAVENHALL

Client: **THEO**

Job No: **1187** Date: **31.03.16**

Sheet no: **03**



**ELECTRICAL LEGEND**

- 1200 x 300 Recessed T bar 2x36W Fluorescent light fitting
- Clevertronics emergency exit light class 9470 1 x 10w CO D16/C90 B16
- Clevertronics emergency light class 8170 1 x 40w CO D80/C90 C50
- Clevertronics emergency light class 1 x 10w CO C35/C90 C25
- Kasten 2023 wall mounted external light fitting from Eagle lighting
- 1x400w high bay light
- Low voltage light
- 40 watt bayonet light fitting
- Switch and meterboard
- 10 Amp double gpo 1200 above floor
- Direct wiring to HWS
- Light switch
- Mistral 250mm exhaust fan to be ducted to external wall or roof
- 3Phase power for automatic roller shutter

**EAGLE BUILDING SURVEYORS**  
**BUILDING PERMIT APPROVAL**  
 These Enclosed Plans and Specifications are a Part of the Building Permit

**FIRE FIGHTING EQUIPMENT:**

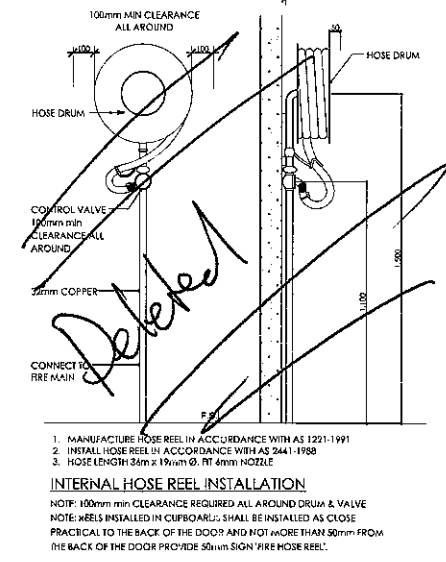
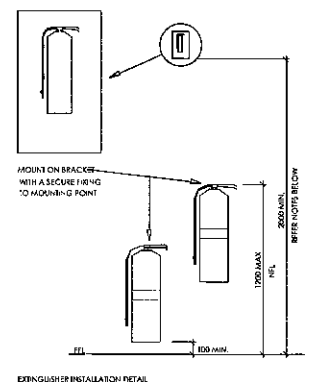
- EXISTING EXTERNAL HYDRANT WITH DUAL HEAD
- EXISTING 38mm HOSE REEL
- WALL WETTING SPRINKLER HEAD WITH SHUT OFF VALVE
- 60 B (E) DRY CHEMICAL
- 2.0kg WATER BASED EXTINGUISHER
- NEW EXTERNAL HYDRANT WITH DUAL HEAD
- NEW 38mm HOSE REEL CONNECTED TO 38mm COPPER PIPE TO BE RUN TO SHUT OFF VALVE AT HOSE REEL
- 2A 20B (E) DRY CHEMICAL 2.0m FROM ELECTRICAL BOARD

NOTE: ALL FIRE SERVICES TO BE COPPER TYPE B 16 GAUGE, MIN COVER 600mm

**FIRE: EMERGENCY LIGHTING EXIT SIGNS ARE PORTABLE EXIT. DRY WATER FIRE BLANKETS FOR KITCHENS.**

NATURAL LIGHT		
TO BE PROVIDED AT A RATE OF 10% OF AREA		
	WAREHOUSE 1	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.77	93.85
REQUIRED LIGHT AREA (m <sup>2</sup> )	17.477	9.385
TRANSLUCENT ROOFING (m <sup>2</sup> )	24.16	0
WINDOWS (m <sup>2</sup> )	15.65	12.10
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	39.81	12.10
CHECK	OK	OK

NATURAL VENTILATION		
TO BE PROVIDED AT A RATE OF 5% OF AREA		
	WAREHOUSE 1	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.77	93.85
REQUIRED VENTILATION AREA (m <sup>2</sup> )	8.74	4.69
OPENABLE WINDOWS (m <sup>2</sup> )	0	0
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	22.50	7.39
CHECK	OK	OK



AREA: ANALYSIS	
TOTAL SITE AREA:	1596m <sup>2</sup>
WAREHOUSE 1 FLOOR AREA:	174.77m <sup>2</sup>
WAREHOUSE 1 OFFICE FLOOR AREA:	93.85m <sup>2</sup>
LAND AREA:	=268.62m <sup>2</sup> 366.75m <sup>2</sup>
WAREHOUSE 2 FLOOR AREA:	174.08m <sup>2</sup>
WAREHOUSE 2 OFFICE FLOOR AREA:	92.43m <sup>2</sup>
LAND AREA:	=266.51m <sup>2</sup> 366.75m <sup>2</sup>
WAREHOUSE 3 FLOOR AREA:	285.46m <sup>2</sup>
WAREHOUSE 3 OFFICE FLOOR AREA:	86.32m <sup>2</sup>
LAND AREA:	=371.78m <sup>2</sup> 411.37m <sup>2</sup>
TOTAL BUILT UP AREA:	906.91m <sup>2</sup>
CARPARKING:	
TOTAL WORKSHOP AREA (Inc. admin / storage area)	272.6m <sup>2</sup>
NUMBER OF CAR SPACES	= 634.31m <sup>2</sup> / 100 = 6.3431 (x1.5) = 9.5146
required 10 spaces, PLUS 2 for each warehouse	
TOTAL CAR SPACES PROVIDED	= 11



**FIRST FLOOR PLAN**  
 SCALE 1:100

NATURAL LIGHT		
TO BE PROVIDED AT A RATE OF 10% OF AREA		
	WAREHOUSE 2	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.08	92.43
REQUIRED LIGHT AREA (m <sup>2</sup> )	17.408	9.243
TRANSLUCENT ROOFING (m <sup>2</sup> )	24.16	0
WINDOWS (m <sup>2</sup> )	15.65	12.10
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	39.81	12.10
CHECK	OK	OK

NATURAL VENTILATION		
TO BE PROVIDED AT A RATE OF 5% OF AREA		
	WAREHOUSE 2	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	174.08	92.43
REQUIRED VENTILATION AREA (m <sup>2</sup> )	8.70	4.62
OPENABLE WINDOWS (m <sup>2</sup> )	0	0
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	22.50	7.39
CHECK	OK	OK

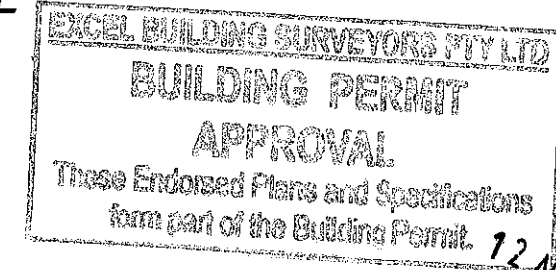
NATURAL LIGHT		
TO BE PROVIDED AT A RATE OF 10% OF AREA		
	WAREHOUSE 3	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	285.46	86.32
REQUIRED LIGHT AREA (m <sup>2</sup> )	28.546	8.632
TRANSLUCENT ROOFING (m <sup>2</sup> )	42.12	0
WINDOWS (m <sup>2</sup> )	71.22	11.07
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	113.34	11.07
CHECK	OK	OK

NATURAL VENTILATION		
TO BE PROVIDED AT A RATE OF 5% OF AREA		
	WAREHOUSE 3	WAREHOUSE OFFICE
FLOOR AREA (m <sup>2</sup> )	285.46	86.32
REQUIRED VENTILATION AREA (m <sup>2</sup> )	14.27	4.32
OPENABLE WINDOWS (m <sup>2</sup> )	0	0
ROLLER DOORS (m <sup>2</sup> )	22.50	0
TOTAL (m <sup>2</sup> )	22.50	5.40
CHECK	OK	OK

DISABLED ACCESS	
<b>NOTES</b>	<b>LEGEND</b>
<p>GENERAL NOTES:</p> <ul style="list-style-type: none"> <li>EXTERNAL PARKING BAYS ARE TO HAVE A GRADIENT OF NO GREATER THAN 1:40.</li> <li>INTERNAL DOORS TO HAVE A MINIMUM OPENING WIDTH OF 850mm FOR DISABLED ACCESS.</li> <li>PROVIDE DISABLED SIGNAGE THROUGHOUT THE SITE IN ACCORDANCE WITH S.C.A SPEC 3.4 AND AS1428.1</li> </ul> <p>CRITICAL NOTES:</p> <ul style="list-style-type: none"> <li>All levels and dimensions must be checked and verified before commencing any work or workshop drawings.</li> <li>DO NOT SCALE DRAWINGS. Verify all dimensions take precedence over scale.</li> <li>All works are to be in accordance with S.C.A, S.A.C. Codes, Building Regulations and any relevant council by laws.</li> <li>This drawing is to be read in conjunction with structural drawings &amp; specifications.</li> </ul> <p>WORKING NOTES:</p> <ul style="list-style-type: none"> <li>All drawings shall be in 1:100 scale.</li> <li>All drawings shall be in A3 format.</li> <li>All drawings shall be in black ink on white paper.</li> <li>All drawings shall be in metric units.</li> <li>All drawings shall be in accordance with AS1428.1.</li> <li>All drawings shall be in accordance with AS1428.2.</li> <li>All drawings shall be in accordance with AS1428.3.</li> <li>All drawings shall be in accordance with AS1428.4.</li> <li>All drawings shall be in accordance with AS1428.5.</li> <li>All drawings shall be in accordance with AS1428.6.</li> <li>All drawings shall be in accordance with AS1428.7.</li> <li>All drawings shall be in accordance with AS1428.8.</li> <li>All drawings shall be in accordance with AS1428.9.</li> <li>All drawings shall be in accordance with AS1428.10.</li> <li>All drawings shall be in accordance with AS1428.11.</li> <li>All drawings shall be in accordance with AS1428.12.</li> <li>All drawings shall be in accordance with AS1428.13.</li> <li>All drawings shall be in accordance with AS1428.14.</li> <li>All drawings shall be in accordance with AS1428.15.</li> <li>All drawings shall be in accordance with AS1428.16.</li> <li>All drawings shall be in accordance with AS1428.17.</li> <li>All drawings shall be in accordance with AS1428.18.</li> <li>All drawings shall be in accordance with AS1428.19.</li> <li>All drawings shall be in accordance with AS1428.20.</li> </ul>	<p>LEGEND:</p> <ul style="list-style-type: none"> <li>Denotes DISABLED PARKING SPACES. THESE SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AS1428.1, AS1428.2 AND AS2890.1. PROVIDE VERTICAL SIGNAGE TO THESE SPACES IN ACCORDANCE WITH AS2890.1 &amp; AS1428.1 (CLAUSE 13)</li> <li>Denotes MAIN ENTRANCE DOORS WITH A MINIMUM CLEAR OPENING OF 850mm</li> <li>Denotes FLAT LANDING AREA FOR WHEELCHAIR ACCESS (1330mm WIDE MINIMUM)</li> </ul>

<b>M7 Design Group Pty. Ltd.</b> building designers registered building practitioners	prepared by: <b>WAREHOUSE DEVELOPMENT</b> date:
	checked by: <b>21 KATHERINE DRIVE, RAVENHILL</b> date:
title: <b>THEO</b> sheet no: <b>04</b>	date: <b>31.03.16</b> sheet no: <b>04</b>

# PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT AT: LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL



**STRUCTURAL**

NO.	TITLE
S01	COVER SHEET, GENERAL NOTES & DRAWING INDEX
S10	FOOTINGS & PAVEMENT PLAN
S11	FIRST FLOOR FRAMING PLAN
S12	ROOF FRAMING PLAN

**STRUCTURAL**

NO.	TITLE
S30	FOOTING DETAILS
S40	STRUCTURAL DETAILS - SHEET 1
S41	STRUCTURAL DETAILS - SHEET 2

S20	PRECAST PANEL ELEVATIONS - SHEET 1
S21	PRECAST PANEL ELEVATIONS - SHEET 2
S22	PRECAST PANEL DETAILS

**MAINTENANCE NOTE:**  
THE BUILDER AND OWNERS OF THE RESIDENCE MUST MAKE THEMSELVES FAMILIAR WITH THE REQUIREMENTS OF THE DOCUMENT.  
CSIRO BUILDING TECHNOLOGY FILE BTF 18 'FOUNDATION MAINTENANCE & FOOTING PERFORMANCE - A HOME OWNERS GUIDE'  
AND APPLY THE REQUIREMENTS TO THE CONSTRUCTION AND MAINTENANCE OF THE SITE. SUCH INFORMATION MUST BE PASSED ON WITH SUBSEQUENT CHANGES OF OWNERSHIP OF THE HOUSE.  
COPIES ARE AVAILABLE FROM CSIRO OR OUR OFFICE.

**GENERAL NOTES:**

- G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER OR ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- G2. ALL DIMENSIONS ARE TO BE OBTAINED FROM WORKING DRAWINGS OR FROM SITE. ENGINEERS DRAWINGS MUST NOT BE SCALED.
- G3. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- G4. MATERIAL AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH RELEVANT CURRENT SAA CODES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- G5. THE APPROVAL OF SUBSTITUTION BY THE ENGINEER IS NOT AN AUTHORIZATION FOR AN EXTRA. ANY EXTRAS INVOLVED MUST BE TAKEN UP WITH THE PRINCIPAL CONSULTANT OR SITE ENGINEER BEFORE WORK COMMENCES. THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LOADS:

ROOF	0.25 KPa
OFFICE	3.00 KPa
FLOORS WAREHOUSE	2.4 kN/m OF STORAGE HEIGHT

FOUNDATION MATERIAL TO BE APPROVED BEFORE POURING CONCRETE FOR A SAFE BEARING CAPACITY OF:  
150 KPa STRIP FOOTING  
150 KPa PAD FOOTING  
(300mm INTO NATURAL CLAY)

- G6. PREPARATION OF SUB-BASE FOR SLABS ON GROUND:  
CLEAR AREA UNDER SLAB OF ALL TOP SOIL CONTAINING HUMUS AND VEGETABLE MATTER 100 MM AND REMOVE FROM SITE.  
CUT OR FILL UNDER SLAB TO PRODUCE REQUIRED FINISHED LEVELS AS SHOWN ON THE DRAWINGS. ALL FILL SHALL BE IMPORTED AND CONFORM TO R.C.A. STANDARD SPECIFICATION FOR CLASS 3 CRUSHED ROCK, 60mm NOMINAL SIZE. FILL SHALL BE PLACED IN MAXIMUM 150mm LOOSE LAYERS AND COMPACTED TO 95% OF THE MODIFIED DRY DENSITY WHEN TESTED IN ACCORDANCE WITH A.S. 1289.  
THE UPPER LAYER OF THE BENCHED SURFACE SHALL BE WITHIN 85% TO 115% OF OPTIMUM MOISTURE CONTENT AND BE PROPERLY COMPACTED TO 90% MODIFIED MAXIMUM DRY DENSITY WHEN TESTED IN ACCORDANCE WITH A.S. 1289.  
A BASE COURSE OF PACKING SAND SHALL BE SPREAD OVER THE SUB-BASE TO A THICKNESS OF 50mm AND THOROUGHLY ROLLED AND COMPACTED TO A SMOOTH LEVEL SURFACE. THE LAYER SHALL BE MOISTENED PRIOR TO PLACEMENT OF THE MOISTURE BARRIER.  
A MOISTURE BARRIER OF 0.2mm ORANGE POLYTHENE MEMBRANE IN 750mm WIDE SHEETS LAPPED 150mm AND JOINED WITH 75mm WIDE PRESSURE SENSITIVE TAPE SHALL BE LAID UNDER ALL SLABS AND WALLS IN CONTACT WITH THE GROUND.

**GEOTECHNICAL NOTE:**

THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE GEOTECHNICAL ADVICE:

PREPARED BY - ABH SOIL TESTING & SURVEYING  
PROJECT No. - 5473  
DATED - 05.12.14

THIS REPORT SHALL BE CONSULTED PRIOR TO ANY EARTH WORKS TAKING PLACE

**CONCRETE NOTES:**

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600
  - C2. CONCRETE COVER TO ALL REINFORCEMENT (FINISHES NOT INCLUDED)
- | ELEMENT  | FORMED AND SHELTERED | FORMED AND EXPOSED | NO FORM WORK |
|----------|----------------------|--------------------|--------------|
| SLAB     | 25 MM                | 30 MM              | 65 MM        |
| FOOTINGS | 65 MM                | 75 MM              | 75 MM        |
- C3. CONCRETE SIZES SHOWN DO NOT INCLUDE FINISHES AND MUST NOT BE REDUCED OR HOLED IN ANY WAY WITHOUT THE ENGINEER'S APPROVAL.
  - C4. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE PROPERLY FORMED AND LOCATED TO THE APPROVAL OF THE ENGINEER.
  - C5. REINFORCEMENT SHOWN DIAGRAMMATICALLY AND NOT NECESSARILY IN ITS TRUE PROJECTION.
  - C6. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.

- FABRIC IS TO HAVE A MINIMUM LAP OF: 425 (SL2 225)
  - C7. REINFORCEMENT SYMBOLS: -  
N TEMPORARY DEFORMED BOUND BAR TO AS1302 41CY  
R STRUCTURAL GRADE PLAIN GROUND BAR TO AS1304  
F HAND DRAWN STEEL WIRE REINFORCEMENT FABRIC TO AS1304  
THE NUMBER FOLLOWING THE BAR SYMBOL IS THE NOMINAL BAR DIAMETER IN MM
  - C8. CONCRETE COMPONENTS AND QUALITY SHALL BE AS FOLLOWS: -
- | SLUMP               | SLAB & WALLS | FOOTINGS     |
|---------------------|--------------|--------------|
| 75                  | 75           | 75           |
| MAX. AGGREGATE SIZE | 20           | 20           |
| TYPE                | NORMAL DENSE | NORMAL DENSE |

**CONCRETE GRADE**

General concrete	15 Mpa
Footings & Pads	25 Mpa
Warehouse Slab	32 Mpa
R.C. panels	40 Mpa

- C9. ALL REINFORCEMENT SHALL BE SUPPORTED IN ITS CORRECT POSITION SO AS NOT TO BE DISPLACED DURING CONCRETING. ON APPROVED BAR CHAIRS AT 1M MAX. CTS. BOTH WAYS. WHERE REQUIRED PROVIDE SUPPORT Y12 BARS AT 1M MAX. CTS.
- C10. CONCRETE IS TO BE KEPT FREE OF SUPPORTING BRICKWORK BY TWO LAYERS OF SUITABLE MEMBRANE (MALTHOID, ETC.) OR AS DIRECTED BY THE ENGINEER. VERTICAL FACES OF CONCRETE TO BE KEPT BY 10MM THICKNESS OF COMPRESSIBLE STYRENE FOAM.
- C11. WHERE WALLS ARE NON-LOAD BEARING AT EITHER HORIZONTAL OR VERTICAL FACES THEY SHALL BE SEPARATED FROM CONCRETE BY 10MM THICK COMPRESSIBLE STYRENE FOAM.
- C12. ALL REINFORCEMENT FOR ANY ONE COLUMN SHALL BE COMPLETELY PLACED AND TIED PRIOR TO INSPECTION BY THE ENGINEER. NO CONCRETE SHALL BE POURED UNTIL REINFORCEMENT HAS BEEN INSPECTED AND APPROVED.
- C13. WHERE SLABS AND BEAMS ARE TO SUPPORT BRICKWORK OVER, FORMWORK AND PROPS MUST BE REMOVED BEFORE COMMENCEMENT OF BRICKWORK.

**STRUCTURAL STEELWORK:**

- S1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100
- S2. WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR AND IN ACCORDANCE WITH AS1354 PARTS 1-3.
- S3. TWO COPIES OF THE SHOP DETAIL DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEER'S APPROVAL OF SAME OBTAINED BEFORE COMMENCING FABRICATION.
- S4. THE CONTRACTOR SHALL PROVIDE AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED SUCH TEMPORARY BRACINGS AS IS NECESSARY TO STABILIZE THE STRUCTURE DURING ERECTION.
- S5. CAMBER TO STRUCTURAL STEEL ROOF BEAMS, TRUSSES, PORTALS ETC. TO BE 2 MM FOR EVERY 1 M OF SPAN UNLESS OTHERWISE NOTED.
- S6. ALL GLEATS AND DRILLINGS FOR FIXING OF TIMBER MEMBERS ETC. TO BE PROVIDED BY FABRICATOR.
- S7. EXCEPT WHERE OTHERWISE SHOWN CONNECTIONS SHALL HAVE 6 MM CONTINUOUS FILLET WELDS. 2-M20 8.8/S BOLTS.
- S8. UNLESS NOTED OTHERWISE, CORROSION PROTECTION OF STEEL WORK SHALL BE AS FOLLOWS: -  
- ALL STEELWORK SHALL BE PAINTED WITH ONE COAT OF APPROVED ZINC PHOSPHATE PRIMER.  
- ALL EXPOSED STEELWORK INCLUDING BOLTS AND FIXING SHALL BE HOT DIP GALVANISED. IN CASE OF COMPOSITE BEAMS WHERE THE SHEAR CONNECTORS ARE INTENDED TO BE AUTOMATICALLY WELDED TO THE BEAMS ON SITE THROUGH METAL FORMWORK, THE EXTERNAL SURFACE OF THE BEAM IN CONTACT WITH THE SHEAR CONNECTORS SHALL NOT BE HOT DIP GALVANISED TO AVOID DIFFICULTIES WITH THE AUTOMATIC WELDING. CONTRACTOR TO SEEK FURTHER ADVICE FROM RELEVANT MANUFACTURER AND/OR SPECIALIST.  
- ALL STRUCTURAL STEELWORK BELOW GROUND TO BE ENCASED BY CONCRETE 75mm THICK.  
- ALL ROUND AND STEELWORK TO BE GALVANISED WITHIN ENCASEMENT TO 150mm ABOVE.  
- STEEL SURFACES MUST NOT BE PAINTED/GALVANISED IF MEMBER IS TO BE FIRE SPRAYED OR FRICTION RIPP BOLTED.  
- DAMAGE TO STEELWORK ON SITE TO BE MECHANICALLY WIRE BRUSHED AND PRIMED WITH ZINC RICH EPOXY PRIMER.

**PURLINS AND GIRTS:**

- PG1. PURLINS AND GIRTS LAYOUT IS DIAGRAMMATIC ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS OF ANY ADDITIONAL PURLINS AND TRIMMERS AND THEIR PRECISE LOCATIONS.
- PG2. REFER TO PLAN FOR PURLIN SIZES AND SPACINGS. PURLIN BRACING TO BE 'HONY-LOK' BRIDGING OR SIMILAR INSTALLED TO PURLIN MANUFACTURERS REQUIREMENTS. DIAGONAL SAG RODS TO BE 12mm DIA. PENETRATING PURLINS AS REQUIRED.
- PG3. PURLIN CONNECTIONS TO BE 8mm THICK PLATE, 8mm CPW, 2-M12 4.8/S BOLTS.
- PG4. GALVANISED PURLINS AND GIRTS TO CONFORM WITH AS1397 0450 - Z100 (160G/M ZINC COATING AND 450 MPa YIELD STRESS)

**BOLT TYPE & PROCEDURE:**

- 4.8/S REFERS TO COMMERCIAL BOLTS OF STRENGTH GRADE 4.8 CONFORMING TO AS1111 AND TIGHTENED USING A STANDARD WRENCH TO A 'SNUG TIGHT' CONDITION.
- 8.8/S REFERS TO COMMERCIAL BOLTS OF STRENGTH GRADE 8.8 CONFORMING TO AS1252 AND TIGHTENED USING A STANDARD WRENCH TO A 'SNUG TIGHT' CONDITION.
- 8.8/TF REFERS TO HIGH STRENGTH GRADE 8.8 CONFORMING TO AS1252 AND FULLY TENSIONED IN A CONTROLLED MANNER TO THE REQUIREMENTS OF AS1511.

**SITE DRAINAGE**

- SD1. Sites should be drained so that water cannot pond against or near the house. The ground immediately adjacent to the house should be graded to fall 50mm over the first metre. Where this is impracticable (ie: on several sloping sites) use A.G. drains adjacent to footings where the ground falls towards the building (refer to details below).
- 
- SOIL SLOPING AWAY BUILDING    SOIL SLOPING TOWARD BUILDING**

- SD2. Discharge from the downpipes must be directed away from the building during construction to ensure water does not discharge or pond adjacent to footings.
  - SD3. For all sites the natural ground immediately adjacent to the house shall be graded to a uniform fall of 50mm run, away from the house over the first metre. The surface water and sub-surface water is to be drained to a legal point of discharge.
  - SD4. For paved areas abutting footings, grade finished surface with 1:60 fall away from building.
  - SD5. Watering and garden beds are not permitted adjacent to buildings and adjacent to the perimeter concrete paving slab. Shallow (300mm max.) agricultural drains is to be installed below ground level at the outer perimeter of the concrete paving slab connected to legal point of discharge.  
Sub-surface water in the form of perched water table may occur where any clays and sands over impermeable clay. Where this occurs and agricultural drain must be provided to divert the flow of water away from the footing system. This drain should be embedded into impermeable clay. Special attention should be made not to undermine the footing.
  - SD6. Builder/owner to provide site drainage to prevent surface soil saturation or water ponding near footings.
  - SD7. Care shall be taken with surface drainage of the allotment from the start of construction. The drainage system shall be completed by the finish of construction of the house.
  - SD8. Plumbing trenches shall be sloped away from the house and shall be bedded with clay in the top 300mm within 1.5m of the house. The clay used for bedding shall be compacted. Where pipes pass under the footing system, the trench shall be bedded with clay or concrete to restrict the ingress of water beneath the footing system.
  - SD9. Subsurface drains shall be free draining and shall be able to be inspected and maintained. Subsurface drains shall be protected by filters and geotextile.
- NOTE: Wherever practicable, subsurface drains should be avoided near footings.
- SD10. Refer to section 5 and 6 AS2610-2016 and AS2670-2011 for full set of detailing and construction requirements.
  - SD11. Refer to soil test and detail sheets for additional construction and maintenance requirements which form part of this design.
  - SD12. Soil and footing movement can be expected and may result in superstructure damage generally to category 2 and can be including category 3, as outlined in Clause 63 and Appendix C of AS 2670. Builder must ensure the building structure and all of its elements are flexible to tolerate all footing movements. Refer to BCA P2.1 Structures.
- THE FOOTING DESIGN IS BASED ON A SITE HAVING PROPER SITE DRAINAGE.  
IF THE ABOVE DRAINAGE REQUIREMENTS CANNOT BE ACHIEVED CONTACT THIS OFFICE FOR FURTHER ADVICE.

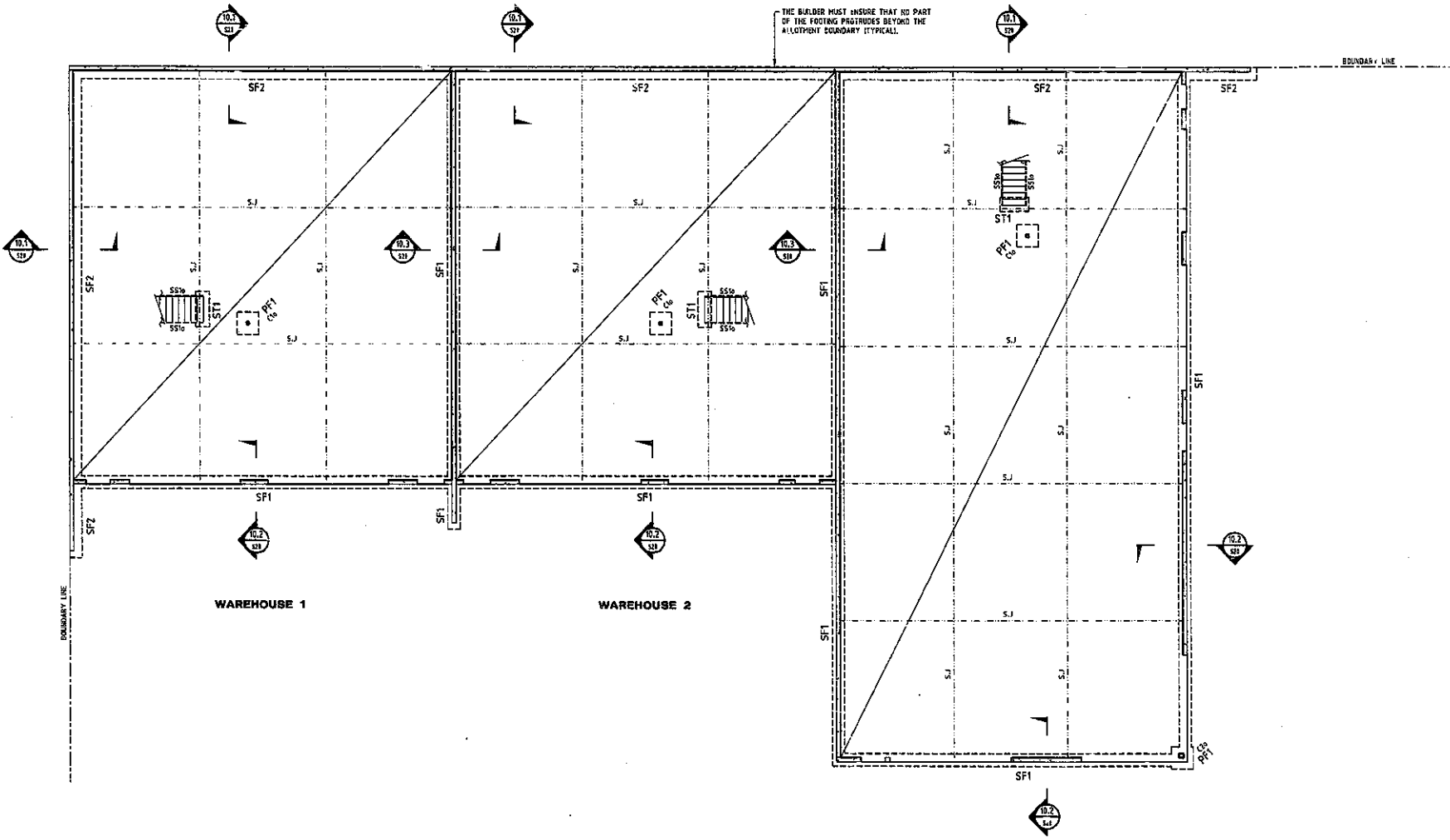
No.	Date	Revision	By	No.	Date	Revision	By
D	6.04.18	AMENDMENTS DUE TO SITE ISSUES ABL AS CONSTRUCTED ON SITE CONNECTIONS SHALL/CLEAR	PP				
C	23.03.18	AMENDMENTS DUE TO SITE ISSUES RB2/ABH CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP				
B	25.11.17	PERMIT ISSUE	PP				
A	15.10.15	PRELIMINARY ISSUE	PP				

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Structural Civil Project Managers  
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Email: admin@matrixgroup.net.au

COVER SHEET  
DRAWING INDEX  
& GENERAL NOTES

Drawn by	Checked by	CLIENT	Scale @ A1 SIZE (HEET)
TH	RB	M7 DESIGN GROUP	AS NOTED
		PROJECT	142626
		PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL	Drawing No. S01 Rev. D



**FOOTING PLAN**  
SCALE - 1:100

FOOTING SCHEDULE		
MARK	DESCRIPTION	REMARKS
SF1	450 W x 700 DEEP STRIP FOOTING	40% BARS TOP & BOTTOM, 210 LBS @ 900 CTS.
SF2	440 W x 700 DEEP STRIP FOOTING	40% BARS TOP & BOTTOM, 210 LBS @ 900 CTS.
PF1	800 x 800 x 200 DEEP PAD FOOTING	SL92 MESH TOP & BOTTOM
ST1	300 DEEP x 500 WIDE SLAB THICKNESS	SL92 MESH BOTTOM

**FOUNDING NOTE:**  
ALL FOOTINGS ARE TO BE FOUNDED 300 INTO THE NATURAL UNDISTURBED CLAY MATERIAL APPROXIMATELY 1300 TO 2100mm BELOW GROUND LEVEL, AS NOTED IN THE SOIL REPORT WITH A BEARING CAPACITY OF 150 KPa, TO BE CONFIRMED ON SITE.

**PROTECTION WORKS TO ADJOINING NEIGHBOURING PROPERTIES**  
REFERENCE MUST BE MADE TO THE ENDORSED ARCHITECTURAL DRAWINGS

- THE CONSTRUCTION WORKS PROPOSED FOR THIS SITE HAS BEEN DESIGNED TO HAVE NO STRUCTURAL EFFECT TO THE NEIGHBOURING PROPERTY BUILDINGS.
- THE SITE IS TO BE CONTINUOUSLY FENCED THROUGHOUT THE PROJECT AND ONLY REMOVED ON A TEMPORARY BASIS AS REQUIRED THROUGHOUT THE CONSTRUCTION PROCESS. THE FENCE MUST ALWAYS REMAIN SECURED AT ALL OTHER TIMES.
- ALL MEASURES SHALL BE UNDERTAKEN TO PREVENT DISTURBANCE TO NEIGHBOURING PROPERTIES.
- ALL AREAS DISTURBED SHALL BE MADE GOOD AT COMPLETION.
- ALL NOTICES ARE TO BE ISSUED IN ACCORDANCE TO THE BUILDING ACT.
- ALL WORKS ARE TO BE PERFORMED IN ACCORDANCE TO THE BUILDING ACT, AND OHS REGULATIONS.
- ANY DAMAGE DONE TO ADJOINING PROPERTY IS TO BE REINSTATED BY THE OWNER AND THE BUILDER AT THEIR COST.

**SL1 INFILL SLAB**  
150 THICK PAVING SLAB ON 0.2mm POLYTHENE MEMBRANE.  
SL92 MESH TOP, 25 COVER.  
ON 50mm PACKING SAND & 200mm F.C.B. BASE ON WELL COMPACTED SUB GRADE TO 98% MMD OR BETTER.

— S.J — S.J - DENOTES SLAB SAWCUT JOINTS @ 5000mm MAX. CTS.

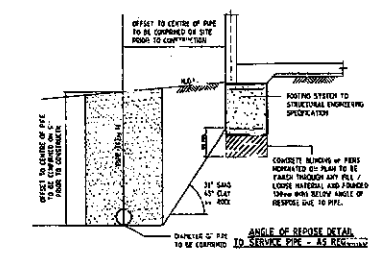
**GEOTECHNICAL NOTE:**  
THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE GEOTECHNICAL ADVICE

PREPARED BY - ABH SOIL TESTING & SURVEYING  
REPORT NO - 5472  
DATED - 05.12.11

THIS REPORT SHALL BE CONSULTED PRIOR TO ANY EARTH WORKS TAKING PLACE

**EXISTING SERVICES NOTE:**  
THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LOCATION AND LEVEL OF ALL EXISTING SERVICES ON SITE PRIOR TO COMMENCING CONSTRUCTION. ALLOW FOR ANY PROTECTION TO EXISTING SERVICES REQUIRED BY AUTHORITIES. ANY SERVICES DAMAGED BY THE CONTRACTOR SHALL BE REINSTATED AT THE CONTRACTORS EXPENSE.

- PREPARATION OF SUB-BASE FOR SLABS ON GROUND**
- Clear area under slab of all top soil containing humus and vegetable matter 150mm min.
  - Excavate & remove the top 400mm of surface material to the area of the proposed structure.
  - Provide fill under slab where required to produce finished levels as shown on plans. All fill shall be imported and conform to R.C.A. standard specification for class 3 crushed rock (20mm nom. size). Fill to be compacted in 200mm max layers to 95% of the modified max dry density (M.M.D.) when tested in accordance with AS 1289.
  - The upper layer of the cut surface shall be within 85% to 115% of optimum moisture content and to be properly compacted to 95% M.M.D.
  - A 50mm min. base course of packing sand shall be spread over the sub-base and to be thoroughly rolled and compacted to a smooth level surface. The sand shall be maintained prior to placement of a 0.2mm polythene membrane in 3600mm min. wide sheets lapped 150mm and joined with 75mm wide pressure sensitive tape. The tape shall be laid under all slabs and joints in contact with the ground.



SCALE 0 1 2 3 4 5 METRES

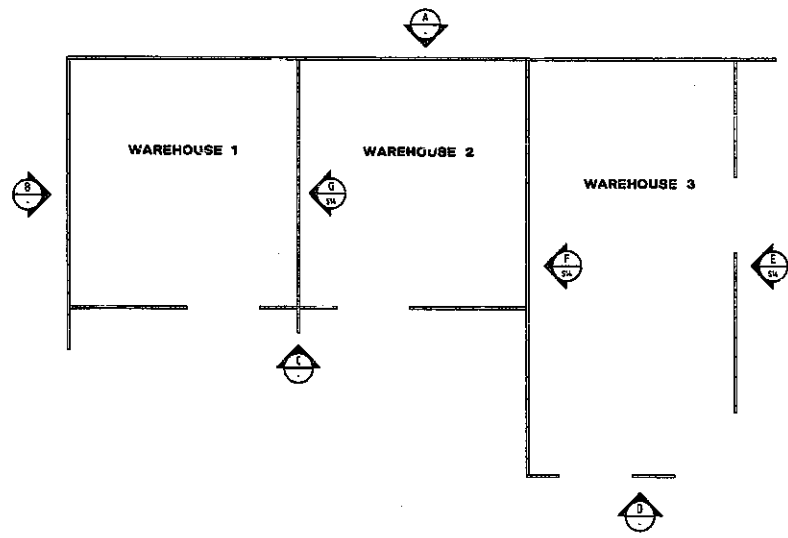
No.	Date	Revised	By	No.	Date	Revision	By
D	16.04.18	AMENDMENTS DUE TO SITE ISSUES RB4	PP				
C	23.03.18	AS CONSTRUCTED ON SITE CONNECTIONS ANGLE/CLEAR CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP				
B	25.11.15	PERMIT ISSUE	PP				
A	15.10.15	PRELIMINARY ISSUE	PP				

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DRAWING	Drawn by: pp	CLIENT	M7 DESIGN GROUP	Scale: AS NOTED
FOOTING PLAN	Drawn in: TH	PROJECT	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, PAVENHALL	Job No. 142826
	Checked by: RG			Drawing No. S10



PRECAST PANEL KEY PLAN  
SCALE 1:200

ALL PANELS 150 THICK U.N.O.  
SL92 FABRIC CENTRAL THROUGHOUT U.N.O.  
REFER DRAWING S22 FOR ADDITIONAL  
REINFORCEMENT.

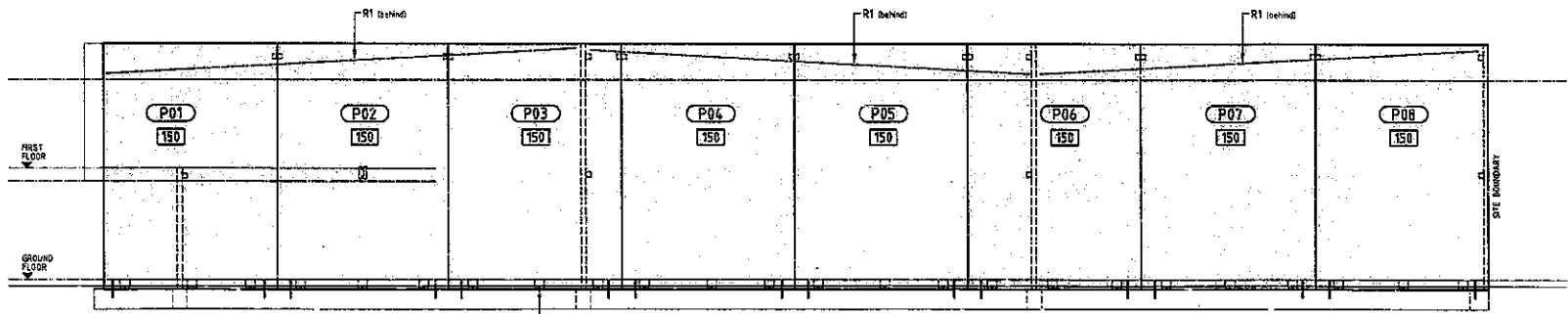
PERFORMANCE OF EXTERNAL WALLS IN  
FIRE COMPLIES WITH SPECIFICATION CL11  
REQUIREMENTS UNDER THE BCA

**LEGEND**

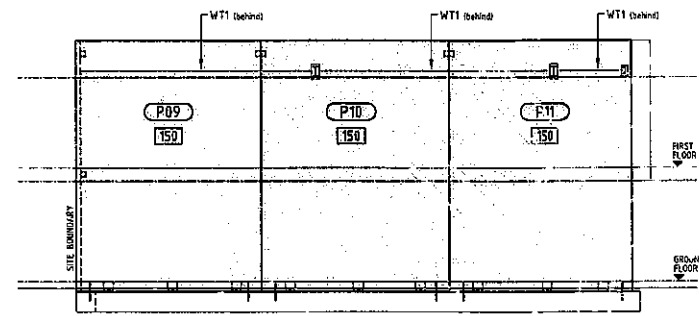
- PANEL EXTENT
- PANEL IN SECTION
- PANEL MARK
- PANEL THICKNESS

REFER DWG. S22 FOR PANEL  
REINFORCEMENT & CONNECTION DETAILS

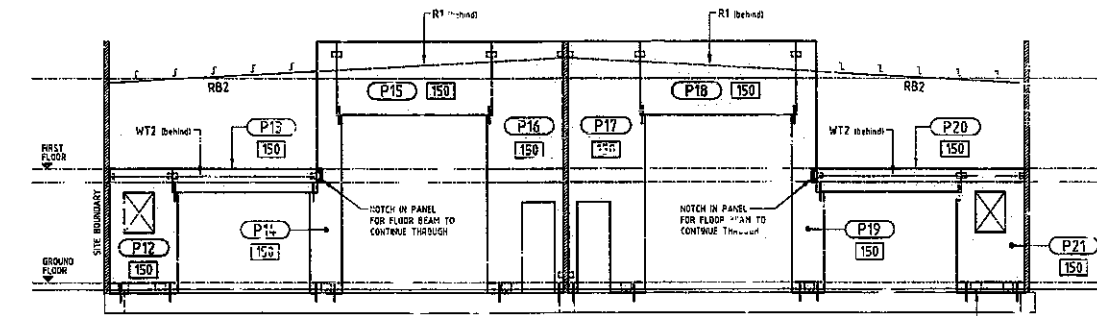
- PRECAST PANEL NOTES**
- PP1 ALL PRECAST UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH AS3600 AND THE CONTRACT SPECIFICATION
  - PP2 THE MANUFACTURER SHALL PREPARE FULLY DETAILED SHOP DRAWINGS AND OBTAIN THE DESIGNER'S APPROVAL OF THEM BEFORE COMMENCING ANY MANUFACTURE OF PRECAST UNITS CONCERNED
  - PP3 CONCRETE CHARACTERISTIC COMPRESSIVE STRENGTH  $f_{ck}$  AT TIME OF LIFTING SHALL BE 28 MPa MIN. THE MINIMUM CONCRETE GRADE SHALL BE 40 MPa AND SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.35
  - PP4 DIMENSIONAL TOLERANCES SHALL BE IN ACCORDANCE WITH SECTION 9 AS3600 PRIOR TO POURING OF CONCRETE A SUITABLE CORE BREAKER COMPLYING WITH ASTM-C-303-7-4 TYPE 1 CLASS A & B SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
  - PP5 ALL LIFTING EQUIPMENT AND INSERTS SHALL BE IN ACCORDANCE WITH THE GENERAL RECOMMENDATIONS OR AS APPROVED BY THE DESIGNER
  - PP6 THE MANUFACTURER SHALL SUPPLY TEST DATA TO THE DESIGNER GIVING THE CAPACITY OF THE INSERTS AND FIXINGS UNDER VARIOUS TYPES OF LOADS
  - PP7 MIN. INSERT FACE TENSION WORKING CAPACITY = 5 TONNE
  - PP8 PRIOR TO LIFTING OF ANY WALL PANELS THE MANUFACTURER OR CONTRACTOR SHALL PROVIDE TO THE DESIGNER ALL RELEVANT CRANE WHEEL LOADINGS TO BE APPLIED ON THE FLOOR SLAB AND SHALL PROVIDE LOAD SPREADERS AS AND IF DIRECTED BY THE DESIGNER
  - PP9 ALL JOINTS SHALL BE SEALED WITH AN APPROVED ONE STAGE FACE SEAL
  - PP10 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PANELS IN A STABLE CONDITION DURING ERECTION AND SHALL ENSURE THAT NO PART IS OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES
  - PP11 ALL METAL FIXINGS SHALL BE HOT DIP GALVANIZED
  - PP12 GROUT USED FOR SEALING SHALL BE HARD RAMMED, NON SHRINK GROUT USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. EG  
1 PART MULTIX GROUTING AGGREGATE  
2 PARTS PORTLAND CEMENT TYPE A  
2 PARTS DRY SAND, WATER/CEMENT RATIO 0.35
  - PP13 ALL PANELS SHALL BE LEVELLED USING SUPER SLIPER SHIMS OR APPROVED EQUIVALENT
  - PP14 ALL PANELS SHALL BE FULLY CURED FOR 10 DAYS MINIMUM BEFORE ANY ADDITIONAL LOAD IS APPLIED TO THE PANELS
  - PP15 THE BUILDER SHALL VERIFY THE NUMBER, SIZE AND LOCATION OF ALL SERVICE PENETRATIONS PRIOR TO CASTING PANELS. ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER
  - PP16 THE CONTRACTOR SHALL PREPARE A CONSTRUCTION PROGRAM TAKING INTO ACCOUNT ACCESS FOR FABRICATION AND ERECTION



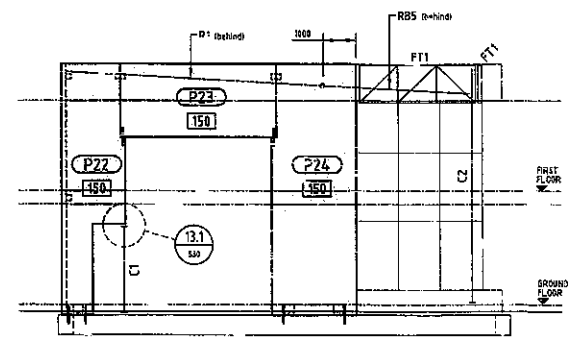
ELEVATION A  
SCALE 1:100



ELEVATION B  
SCALE 1:100



ELEVATION C  
SCALE 1:100



ELEVATION D  
SCALE 1:100

SCALE 0 1 2 3 4 5 METRES

No.	Date	Revision	By	No.	Date	Revision	By
D	06.07.18	AMENDMENT/DUE TO SITE ISSUES RB4 AS CONSTRUCTED UN SITE CONNECTIONS ANGLE/CLEAR	PP				
C	23.03.18	AMENDMENT/DUE TO SITE ISSUES RB2/RB4 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS	PP				
B	25.11.15	PERMIT ISSUE	PP				
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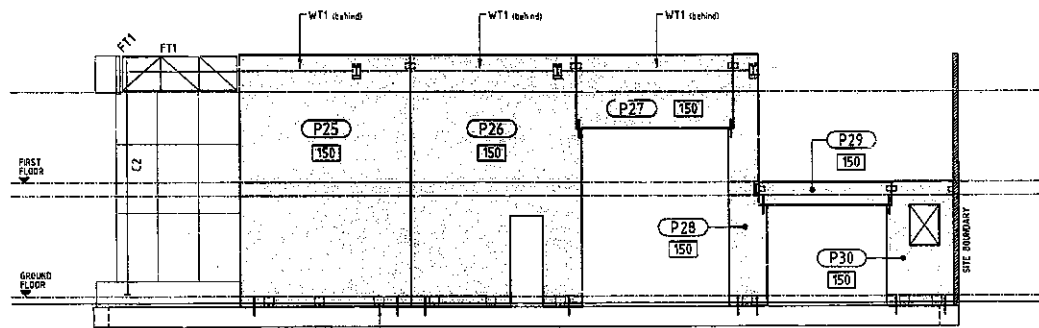
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PRECAST PANEL ELEVATIONS  
SHEET 1

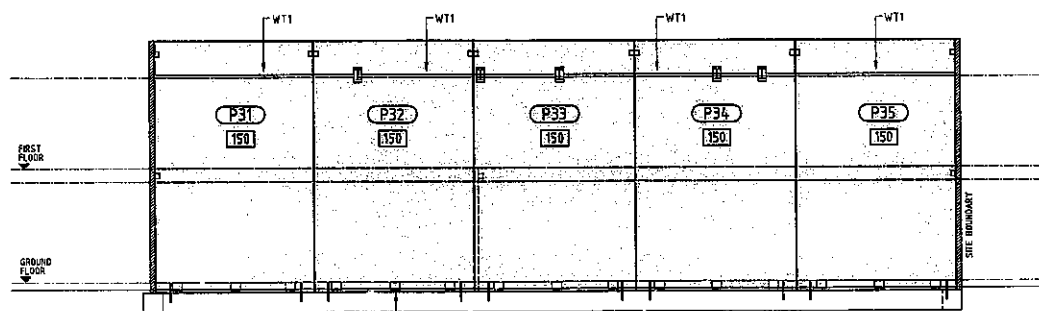
Designed by	OD	CLIENT	M7 DESIGN GROUP
Drawn by	TH	PROJECT	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL
Checked by	RB		

Scale	AS NOTED
Job No	142R26
Sheet No	S26
Rev.	D



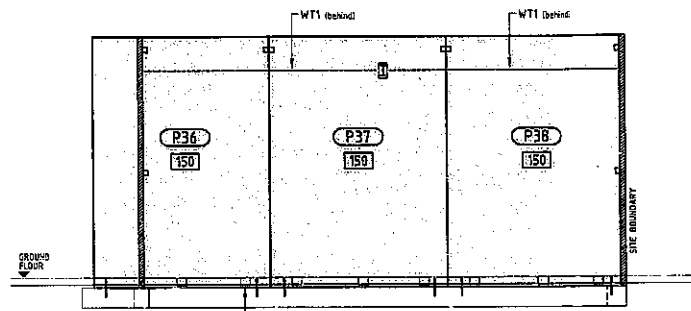
TYPICAL CAST-IN PLATES FOR CONNECTION TO SLAB. REFER PANEL CONNECTION TO SLAB ON DWG. S22.

ELEVATION E  
SCALE 1:50



TYPICAL CAST-IN PLATES FOR CONNECTION TO SLAB TO THIS FACE ONLY. REFER PANEL CONNECTION TO SLAB ON DWG. S22.

ELEVATION F  
SCALE 1:50



TYPICAL CAST-IN PLATES FOR CONNECTION TO SLAB TO THIS FACE ONLY. REFER PANEL CONNECTION TO SLAB ON DWG. S22.

ELEVATION G  
SCALE 1:50

ALL PANELS 150 THICK U.N.O.  
SL92 FABRIC CENTRAL THROUGHOUT U.N.O.  
REFER DRAWING S22 FOR ADDITIONAL REINFORCEMENT.

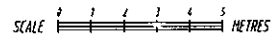
PERFORMANCE OF EXTERNAL WALLS IN FIRE COMPLIES WITH SPECIFICATION C1.11 REQUIREMENTS UNDER THE BCA

**LEGEND**

- PANEL EXTENT
- PANEL IN SECTION
- PANEL MARK
- PANEL THICKNESS

REFER DWG. S22 FOR PANEL REINFORCEMENT & CONNECTION DETAILS

- PRECAST PANEL NOTES**
- PP1 ALL PRECAST UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH AS3600 AND THE CONTRACT SPECIFICATION
  - PP2 THE MANUFACTURER SHALL PREPARE FULLY DETAILED SHOP DRAWINGS AND OBTAIN THE DESIGNER'S APPROVAL OF THEM BEFORE COMMENCING ANY MANUFACTURE OF PRECAST UNITS CONCERNED.
  - PP3 CONCRETE MANUFACTURER'S COMPRESSION STRENGTH (F<sub>c</sub>) AT TIME OF LIFTING SHALL BE 20 MPa MIN. THE MINIMUM CONCRETE GRADE SHALL BE 40 MPa AND SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.35
  - PP4 DIMENSIONAL TOLERANCES SHALL BE IN ACCORDANCE WITH SECTION 9 AS3600
  - PP5 PRIOR TO POURING OF CONCRETE A SUITABLE BOND BREAKER COMPLYING WITH ASTM-C-309-7.4 TYPE 1 CLASS A & B SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  - PP6 ALL LIFTING EQUIPMENT AND INSERTS SHALL BE IN ACCORDANCE WITH THE GENERAL RECOMMENDATIONS OR AS APPROVED BY THE DESIGNER. THE MANUFACTURER SHALL SUPPLY TEST DATA TO THE DESIGNER GIVING THE CAPACITY OF THE INSERTS AND FRAMES UNDER VARIOUS TYPES OF LOADS. MIN. INSERT FACE TENSION WORKING CAPACITY = 5 TONNE
  - PP7 PRIOR TO LIFTING OF ANY WALL PANELS THE MANUFACTURER OR CONTRACTOR SHALL PROVIDE TO THE DESIGNER ALL RELEVANT CRANE WHEEL LOADING TO BE APPLIED ON THE FLOOR SLAB AND SHALL PROVIDE LOAD SPREADERS AS AND IF DIRECTED BY THE DESIGNER.
  - PP8 ALL JOINTS SHALL BE SEALED WITH AN APPROVED ONE STAGE FACE SEAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PANELS IN A STABLE CONDITION DURING ERECTION AND SHALL ENSURE THAT NO PART IS OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
  - PP10 ALL METAL FRAMES SHALL BE HOT DIP GALVANISED.
  - PP11 GROUT USED FOR SEALING SHALL BE HARD RANDED, NON SHRINK GROUT USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. EG.
    - 1 PART MELLALOX GROUTING AGGREGATE.
    - 2 PARTS PORTLAND CEMENT TYPE A
    - 2 PARTS DRY SAND. WATER CEMENT RATIO 0.35
  - PP12 ALL PANELS SHALL BE LEVELLED USING BURKE SUPER SHIMS OR APPROVED EQUIVALENT
  - PP13 ALL PANELS SHALL BE FULLY GROUTED FOR 12 DAYS MINIMUM BEFORE ANY ADDITIONAL LOAD IS APPLIED TO THE PANELS.
  - PP14 THE BUILDER SHALL VERIFY THE NUMBER, SIZE AND LOCATION OF ALL SERVICE PENETRATIONS PRIOR TO CASTING PANELS. ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER.
  - PP15 THE CONTRACTOR SHALL PREPARE A CONSTRUCTION PROGRAM TAKING INTO ACCOUNT ACCESS FOR FABRICATION AND ERECTION



No.	Date	Revised	By	No.	Date	By
D	16.04.10	AMENDMENTS DUE TO SITE ISSUES RB4 AS CONSTRUCTED ON SITE CONNECTIONS ANGLE/CLEAT	PP			
C	23.03.10	AMENDMENTS DUE TO SITE ISSUES RB2/RB3 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP			
B	25.11.15	PERMIT ISSUE	PP			
A	15.10.15	PRELIMINARY ISSUE	PP			

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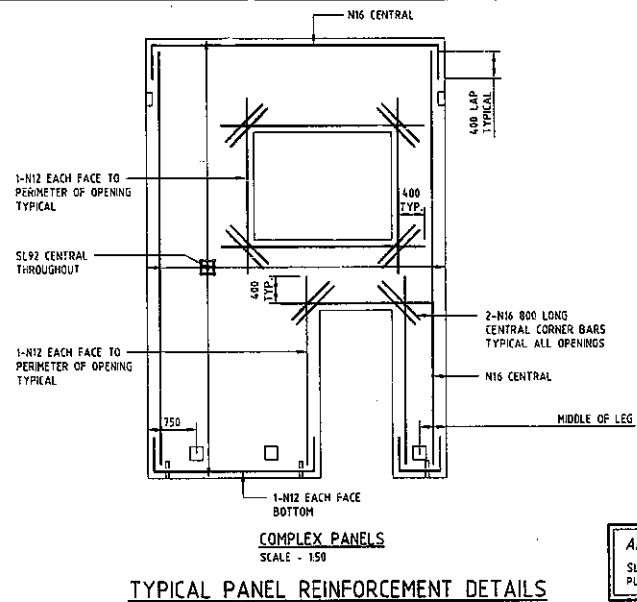
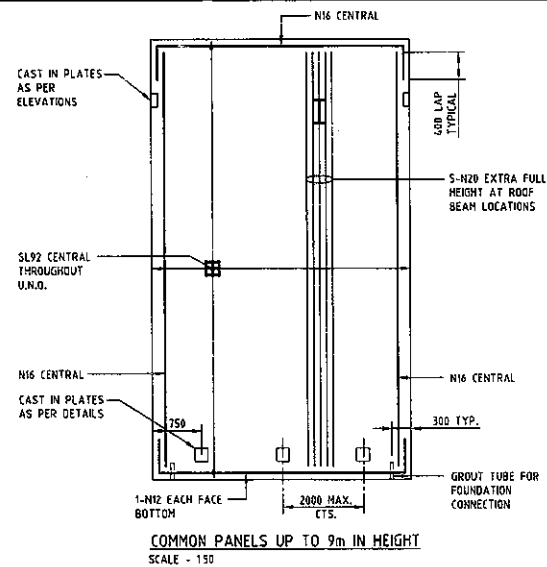
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email: admin@matrixgroup.net.au

DRAWING: PRECAST PANEL ELEVATIONS SHEET 2

Designed by	MP	CLIENT	M7 DESIGN GROUP
Drawn by	TH	PROJECT	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL
Checked by	RB		

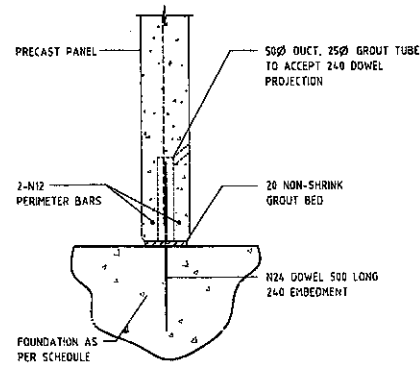
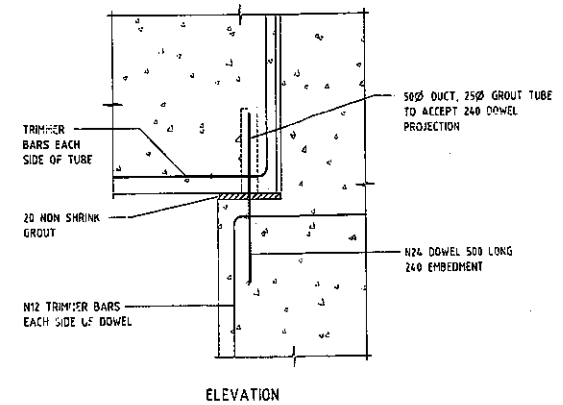
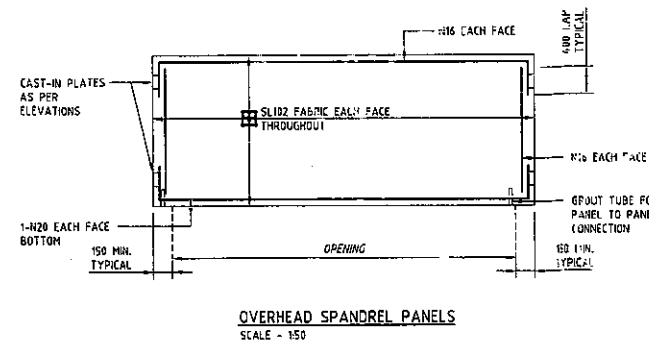
Scale @ A1 SIZE SHEET	AS NOTED
Job No.	142626
Sheet No.	S21
Rev.	D



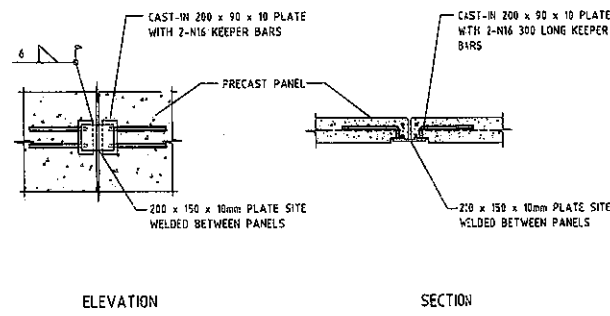
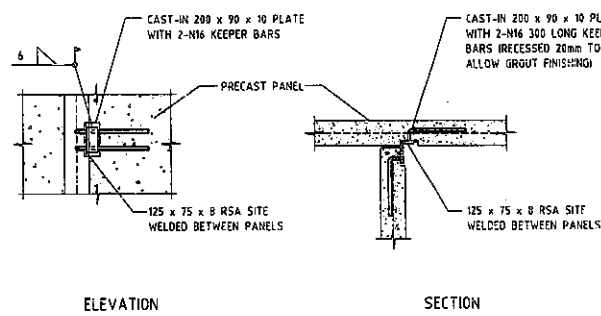


ALL PANELS 150 THICK U.N.O.  
SL92 FABRIC CENTRAL THROUGHOUT U.N.O.  
PLUS ADDITIONAL REINFORCEMENT AS SHOWN

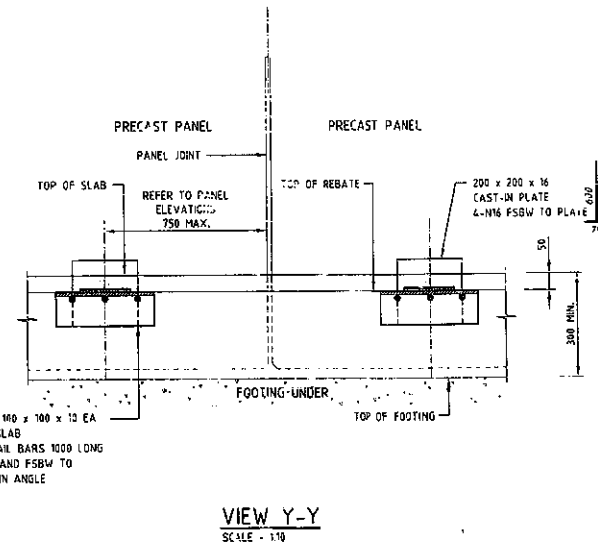
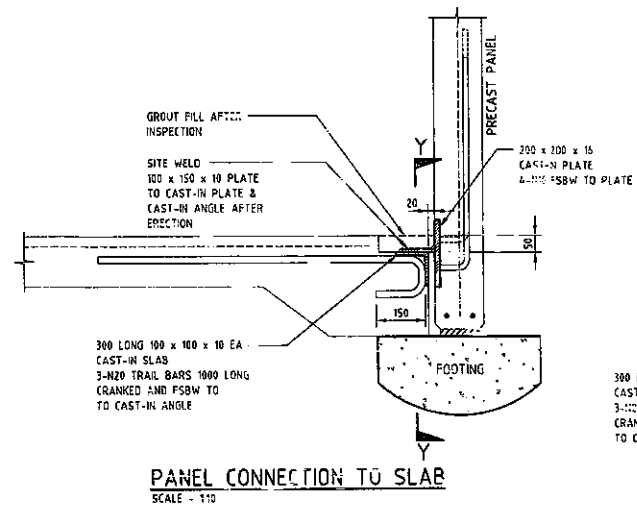
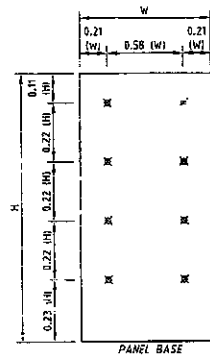
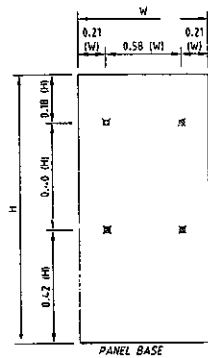
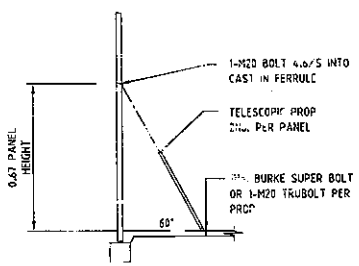
PERFORMANCE OF EXTERNAL WALLS IN FIRE COMPLYS WITH SPECIFICATION C111 REQUIREMENTS UNDER THE BCA



LOCATED AS PER PANEL ELEVATION (TYPICAL 300mm FROM EDGE OF PANEL)



NOTE: PROVIDE "Z" TIES FOR PANELS TILL ALL THE CAST-IN PLATES AND COLUMN CONNECTIONS ARE IN PLACE



No.	Date	Revision	By	Check	Revision
D	6.04.18	AMENDMENTS DUE TO SITE ISSUES R84 AS CONSTRUCTED ON SITE CONNECTIONS ANGLE/CLEAR	PP		
C	23.03.18	AMENDMENTS DUE TO SITE ISSUES R82/R84 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP		
B	25.11.15	PERMIT ISSUE	PP		
A	15.10.15	PRELIMINARY ISSUE	PP		

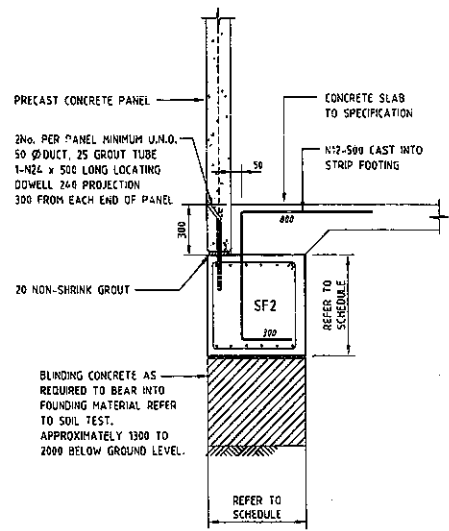
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Structural Civil Project Managers  
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fax: 03 9331 7322  
email: admin@matrixgroup.net.au

DRAWING: PRECAST PANEL DETAILS

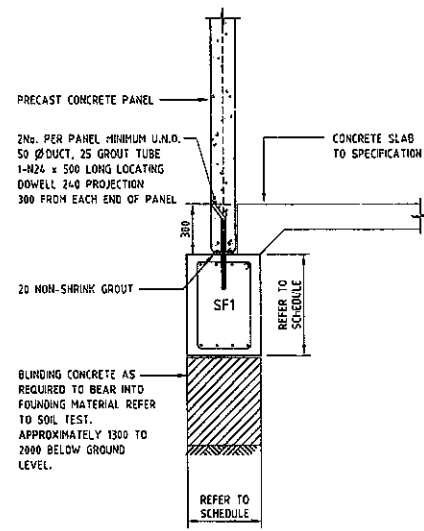
Designed by	pp	CLIENT	M7 DESIGN GROUP
Drawn by	TH	PROJECT	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL.
Checked by	RB		

Scale	AS NOTED
Job No.	142623
Drawing No.	S22
Rev.	D



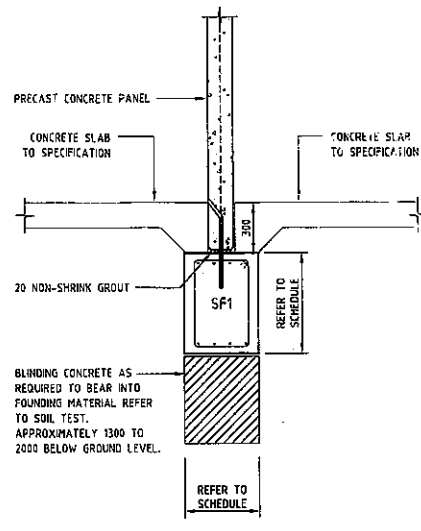
DETAIL AT ECCENTRIC FOOTING @ SF2

SECTION 10.1  
SCALE N.T.S.



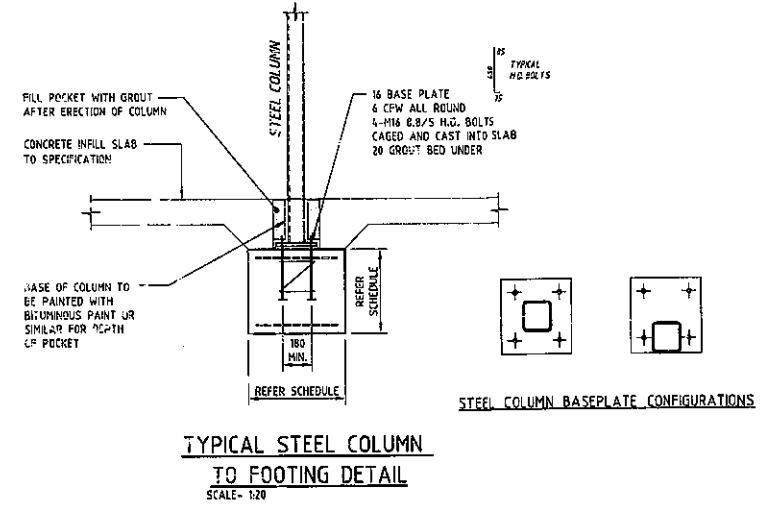
DETAIL AT LOCATING DOWEL IN PANEL

SECTION 10.2  
SCALE N.T.S.



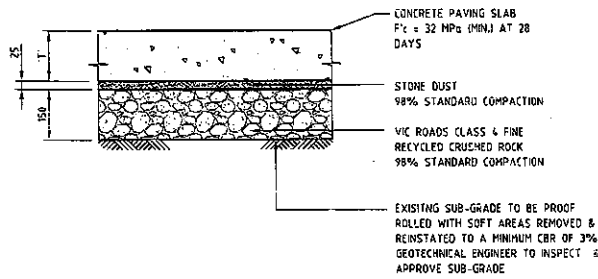
DETAIL FOR LOAD BEARING PANELS WHEN R.C. SLAB IS LOCATED EACH SIDE

SECTION 10.3  
SCALE N.T.S.



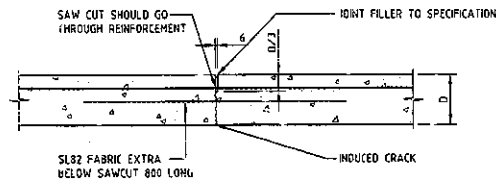
TYPICAL STEEL COLUMN TO FOOTING DETAIL  
SCALE- 1:20

STEEL COLUMN BASEPLATE CONFIGURATIONS

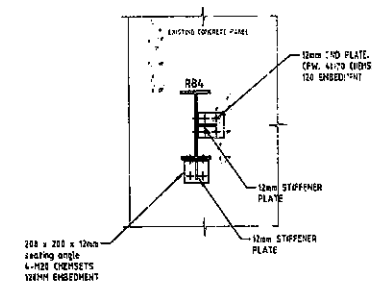


TYPICAL CONCRETE PAVEMENT DETAIL  
SCALE - 1:10

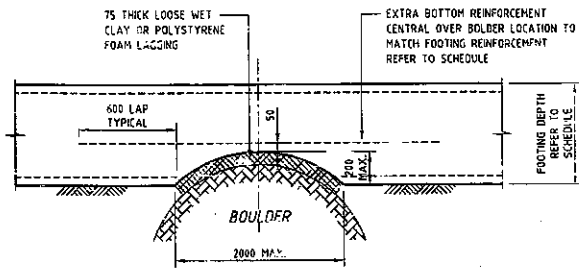
SAW CUTS ARE TO BE MADE BETWEEN 12 AND 24 HOURS AFTER COMPLETION OF THE POUR, DEPENDING ON CURING CONDITIONS REFER TO THE CEMENT AND CONCRETE ASSOCIATION "INDUSTRIAL FLOORS AND PAVEMENTS" MANUAL, "SECTION 8.2 SAWN JOINTS" FOR FURTHER DETAILS



TYPICAL CONCRETE SAWCUT JOINT DETAIL  
SCALE - 1:10

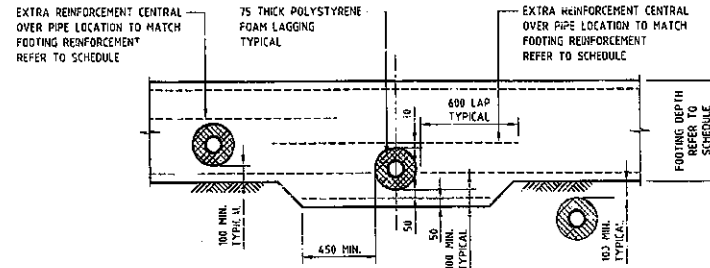


SEATING ANGLE/CLEAT PLATE DETAIL ALTERNATIVE RB4

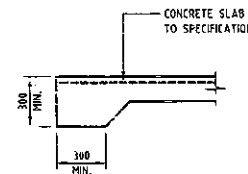


TYPICAL FOOTING TREATMENT @ BOULDER  
SCALE- 1:20

NOTE:  
ALL SERVICES & PIPES PASSING THROUGH SLABS, BEAMS, FOOTINGS, WALLS OR ANY CONCRETE ELEMENT ARE TO BE FULLY INSULATED WITH 75 THICK POLYSTYRENE LAGGING



TYPICAL FOOTING TREATMENT @ SERVICE PENETRATIONS  
SCALE- 1:20



TYPICAL CONCRETE INFILL SLAB EDGE DETAIL  
SCALE- 1:20

No.	Date	Revision	By
D	06.04.18	AMENDMENTS DUE TO SITE ISSUES RB4 AS CONSTRUCTED ON SITE CONNECTIONS ANGLE/CLEAT	PP
C	23.03.18	AMENDMENTS DUE TO SITE ISSUES RB2/RB3 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS	PP
B	25.11.15	PERMIT ISSUE	PP
A	15.10.15	PRELIMINARY ISSUE	PP

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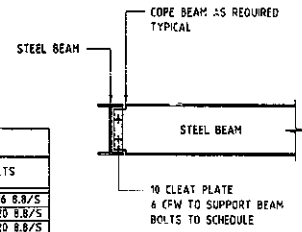
ph: 03 9331 7522  
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email: admin@matrixgroup.net.au

DRAWING  
FOOTING DETAILS & SECTIONS

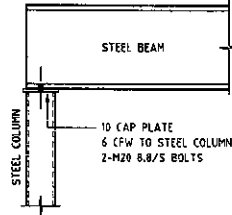
Designed by	PP	CLIENT	M7 DESIGN GROUP
Drawn by	TH		
Checked by	RB	PROJECT	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL

Scale @ A1 SIZE SHEET	AS NOTED
Job No.	142626
Drawing No.	S30
Rev.	D

BEAM SIZE	BOLTS
150 or 180	2-M16 8.8/5
150 to 250	2-M20 8.8/5
300 to 360	3-M20 8.8/5
400 or 440	4-M20 8.8/5
550	6-M20 8.8/5
610	6-M20 8.8/5

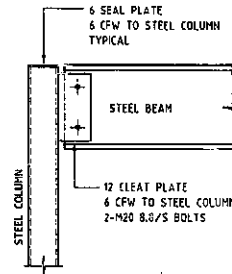


TYPICAL STEEL BEAM TO STEEL BEAM DETAIL

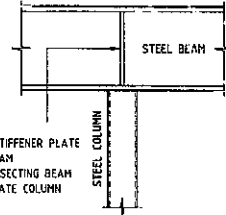


TYPICAL STEEL BEAM TO TOP OF STEEL COLUMN

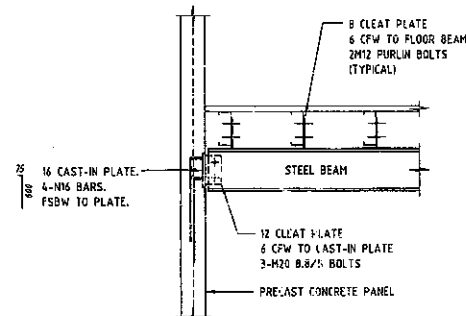
ALTERNATIVE



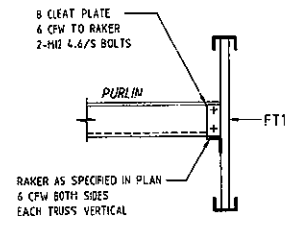
TYPICAL STEEL BEAM TO SIDE OF STEEL COLUMN



TYPICAL STIFFENER PLATE IN STEEL BEAM DETAIL

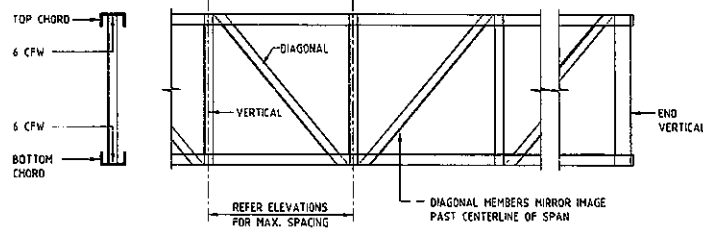


TYPICAL STEEL FLOOR BEAM TO PRECAST PANEL  
BEAM SIZE UP TO 250 UB



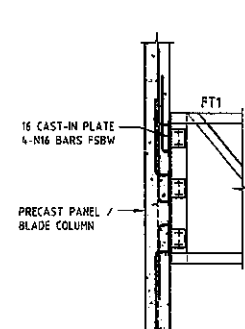
TYPICAL CONNECTION ROOF RAKER TO FT1  
N.T.S.

STANDARD STEELWORK CONNECTION DETAILS U.N.O.

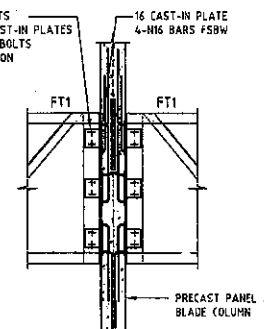


MARK	TOP CHORD	BOTTOM CHORD	VERTICAL	DIAGONAL	END VERTICALS
FT1	150 x 75 PFC	150 x 75 PFC	75 x 75 x 6 EA	75 x 75 x 6 EA	100 x 100 x 10 EA

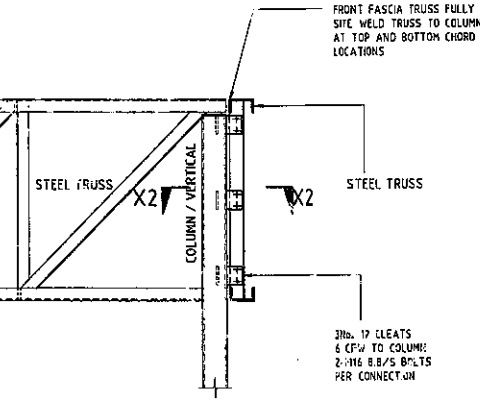
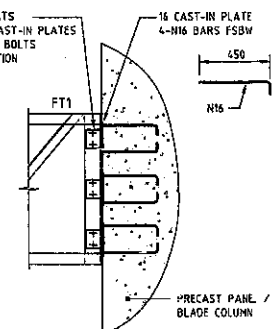
FT1 STEEL TRUSS SPECIFICATIONS



TYPICAL DETAIL - TRUSS TO PANEL FACE

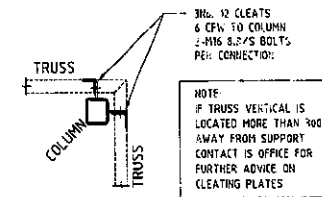


TYPICAL DETAIL - TRUSS TO PANEL EDGE

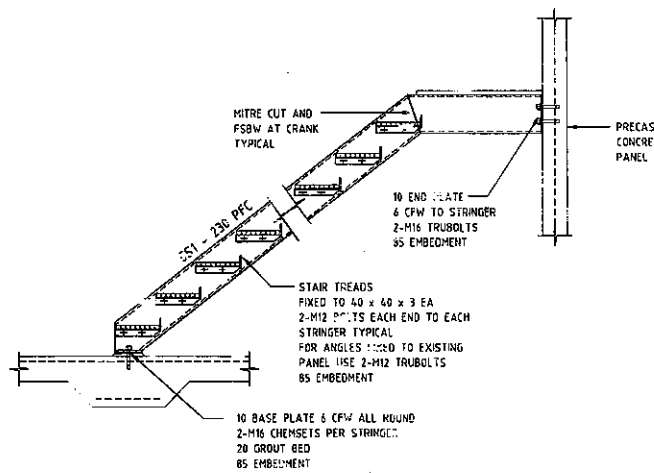


TYPICAL TRUSS CONNECTION TO COLUMN

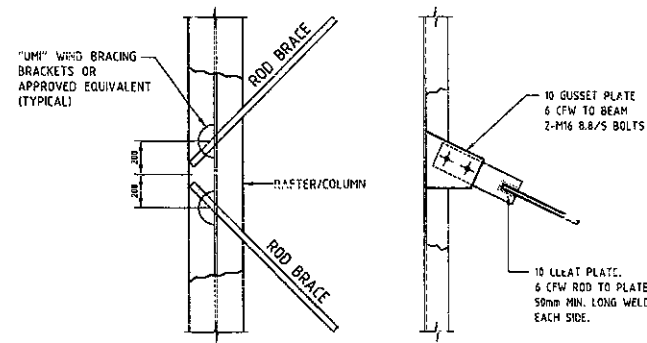
TYPICAL FT1 TO PANEL CONNECTION DETAILS



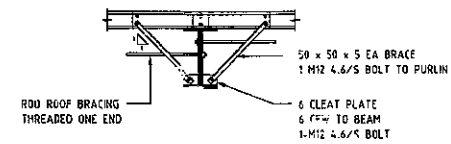
VIEW X2 - X2  
SCALE - 1/20



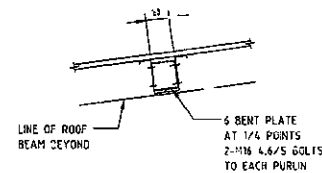
TYPICAL STAIR STRINGER DETAILS



OPTION - 1  
OPTION - 2  
TYPICAL CONNECTION DETAILS  
ROD BRACING  
SCALE - 1/10



TYPICAL FLY BRACING DETAIL  
DENOTED F9 ON ROOF PLAN



DOUBLE PURLIN DETAIL  
DENOTED DP ON ROOF PLAN

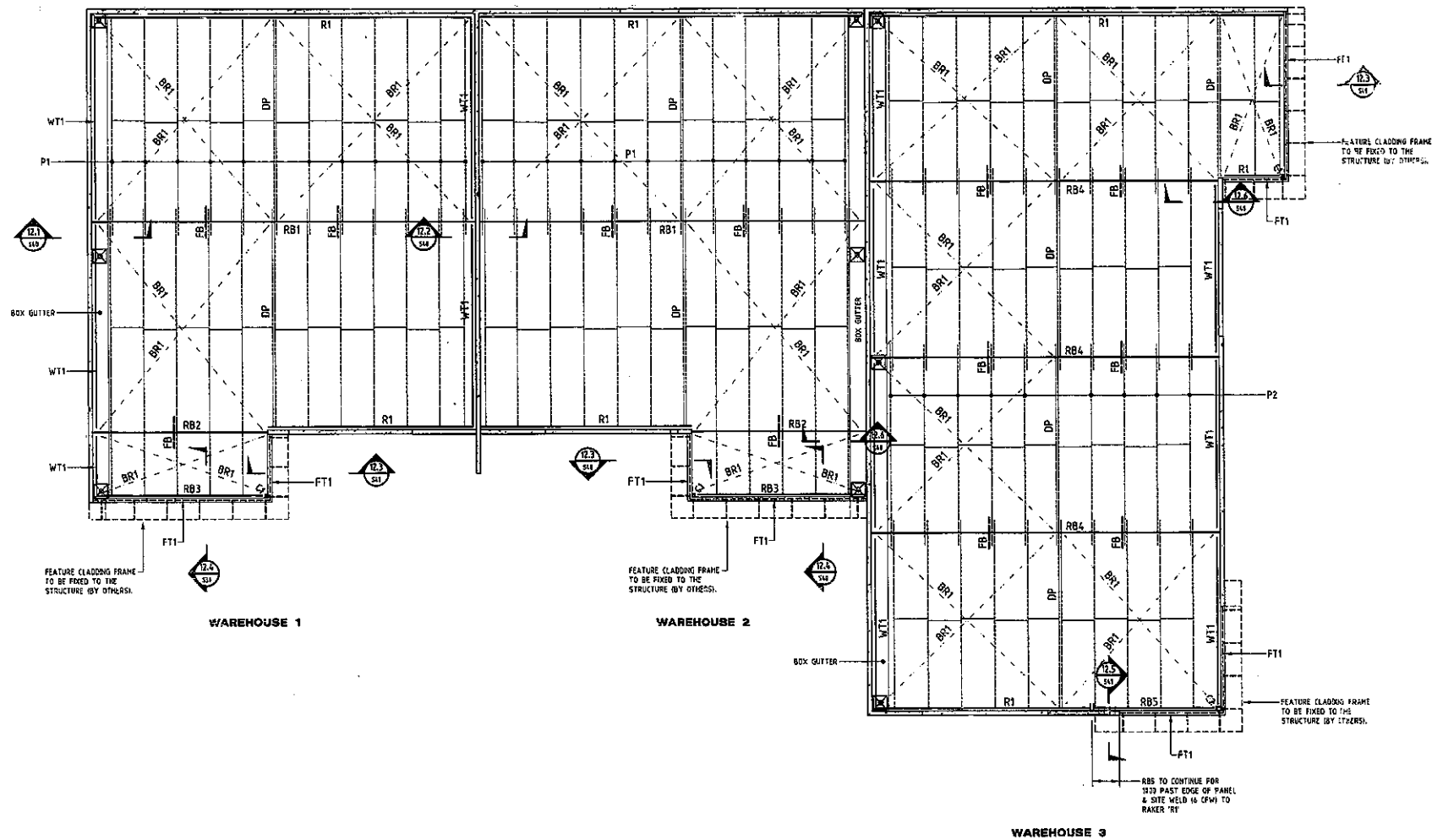
No.	Date	Version	By	No.	Date	Revision
D	04.18	AMENDMENTS DUE TO SITE ISSUES RBL AS CONSTRUCTED ON SITE CONNECTIONS ANGLE/CLEAT	PP			
C	23.03.18	AMENDMENTS DUE TO SITE ISSUES RBZ/PB4 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP			
B	22.11.15	PERMIT ISSUE	PP			
A	15.10.15	PRELIMINARY ISSUE	PP			

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Structural Civil Project Managers  
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email: admin@matrixgroup.net.au

DRAWING  
FRAMING DETAILS - SHEET 2

Designed by	CLIENT	Scale @ A1 size sheet
PP	M7 DESIGN GROUP	AS NOTED
Drawn by		Job No.
TH		142826
Checked by	PROJECT	Drawing No.
RB	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, PAVENHALL	S41
		Rev.
		D



ROOF FRAMING PLAN  
SCALE - 1:100

MARK	DESCRIPTION	REMARKS
C1	150 x 100 x 4.0 SHS	
C2	150 x 100 x 5.0 SHS	
RB1	440 UB 62	FLYBRACES AT 1/3 POINTS
RB2	250 UB 26	FLYBRACE AT MID-SPAN
RB3	180 PFC	TEES OUTWARDS
RB4	410 UB 68	FLYBRACES AT 1/3 POINTS
RB5	250 PFC	TEES OUTWARDS, REFER SECTION 12.5 ON S48
FT1	FASCIA TRUSS	REFER TYPICAL TRUSS SPECIFICATION ON S41
WT1	200 PFC	TEES EQUAL RESTRAINED AT MID-SPAN, REFER TYPICAL DETAILS
R1	150 x 150 x 12 SA	RAKER WELDED TO FASCIA TRUSS & FIXED TO PRECAST PANELS
P1	220X15 PURLINS @ 1200 MAX. CTS.	90° LAPS, 1 ROW OF BRACING
P2	220X15 PURLINS @ 1200 MAX. CTS.	90° LAPS, 1 ROW OF BRACING
DP	DOUBLE PURLIN	
BR1	20 DIA. M.S. ROD	ROOF BRACING
FB	FLYBRACE	REFER TYPICAL DETAIL

SCALE 0 1 2 3 4 5 METRES

No.	Date	Revised	By	No.	Date	Revision
D	06.04.18	AMENDMENTS DUE TO SITE ISSUES RB4 AS CONSTRUCTED ON 45° CONNECTIONS ANGLE/CLEAT	PP			
C	23.03.18	AMENDMENTS DUE TO SITE ISSUES RB2/RB4 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP			
B	25.11.15	PERMIT ISSUE	PP			
A	15.10.15	PRELIMINARY ISSUE	PP			

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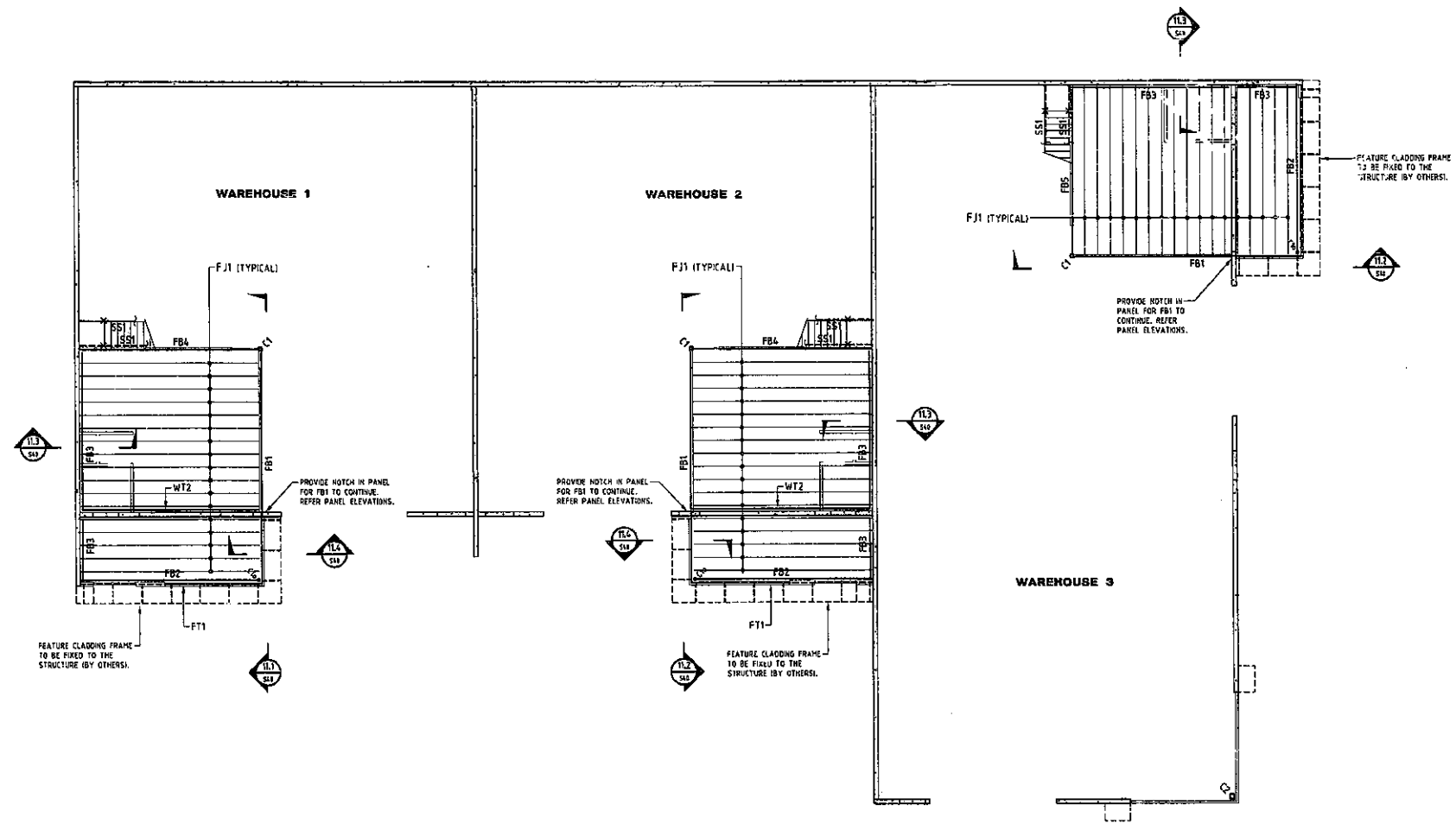
ph: 03 9331 7522  
fac: 03 9331 7322  
email: admin@matrixgroup.net.au

CRAWLING  
ROOF FRAMING PLAN

Designed by: PP  
Drawn by: TH  
Checked by: RB

Client: imf DESIGN GROUP  
PROJECT: PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL

Scale @ A1 SIZE SHEET: AS NOTED  
Job No.: 142626  
Drawing No.: S12  
Rev.: D



MEMBER SCHEDULE		
MARK	DESCRIPTION	REMARKS
L1	100 x 100 x 4.0 SHS	-
FB1	300 PFC OR 410 UB S3	-
FB2	250 PFC	FIXED TO PRECAST PANELS
FB3	150 x 150 x 10 EA.	TYPICAL FLOOR JOISTS
FB4	3 No. F11 JOISTS	TYPICAL FLOOR JOISTS
FJ1	FLOOR JOISTS TO MANUFACTURER'S DESIGN & SPECIFICATIONS	3.0kPa DESIGN LOADING
OR	250 C 24 PURLINS @ 450 CTR	FLOOR JOISTS
FT1	PASCOA TRUSS	REFER TYPICAL TRUSS SPECIFICATION
WT2	150 PFC	REFER TYPICAL CONNECTION DETAIL ON S14
SS1	210 PFC	STEEL STRINGER. REFER DWG. S31 FOR TYPICAL DETAIL. 1 X BENTON'S STRINGER CRANK

FIRST FLOOR FRAMING PLAN  
SCALE - 1:100

SCALE 0 1 2 3 4 5 METRES

No.	Date	Revised	By	No.	Date	By
D	06.04.18	AMENDMENTS RUE TO SITE ISSUES RB4 AS CONSTRUCTED ON SITE CONNECTIONS ANGLE/CLEAT	PP			
C	22.03.18	AMENDMENTS DUE TO SITE ISSUES RB2/PP4 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP			
B	25.11.15	PERMIT ISSUE	PP			
A	15.10.15	PRELIMINARY ISSUE	PP			

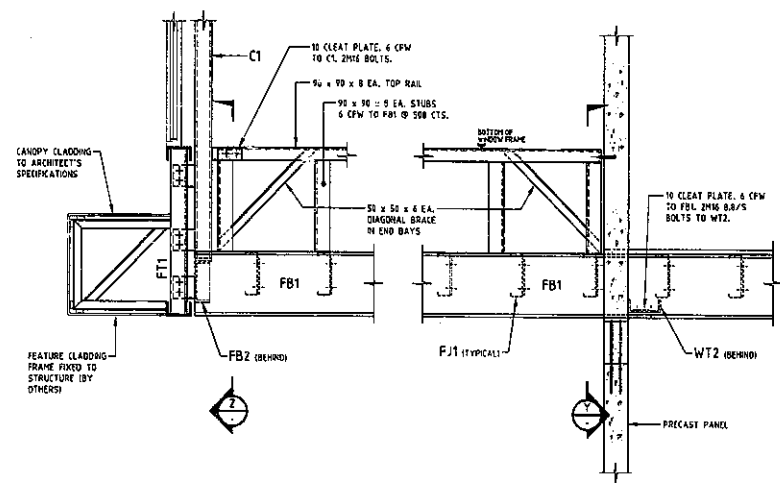
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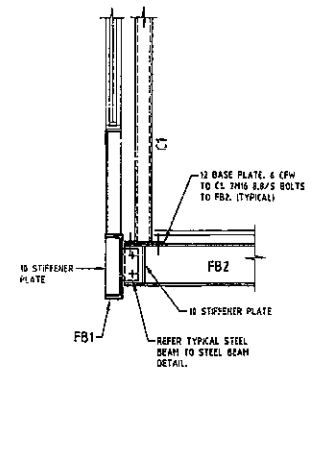
DRAWING  
FIRST FLOOR FRAMING PLAN

Designed by	pp	CLIENT	M7 DESIGN GROUP
Drawn by	TH	PROJECT	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL
Checked by	RB		

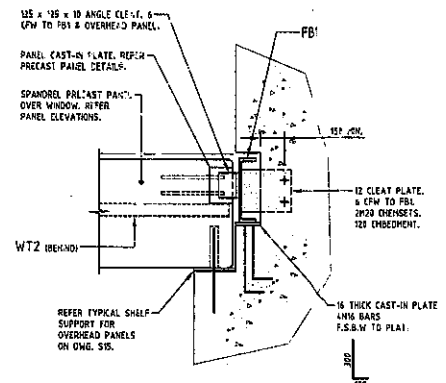
Scale	AS NOTED
Job No.	142626
Drawing No.	S11
Rev.	D



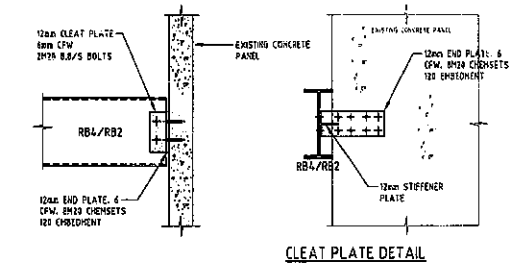
SECTION 11.1 SCALE N.T.S.  
SECTION 11.2 SCALE N.T.S. (MIRRORED)



SECTION 2 SCALE N.T.S.

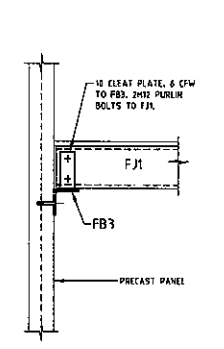


SECTION 7 SCALE N.T.S.



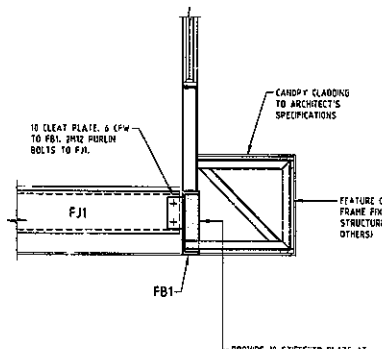
RB4/RB2 TO PANEL CONNECTION DETAIL

SECTION 12.6 SCALE N.T.S.

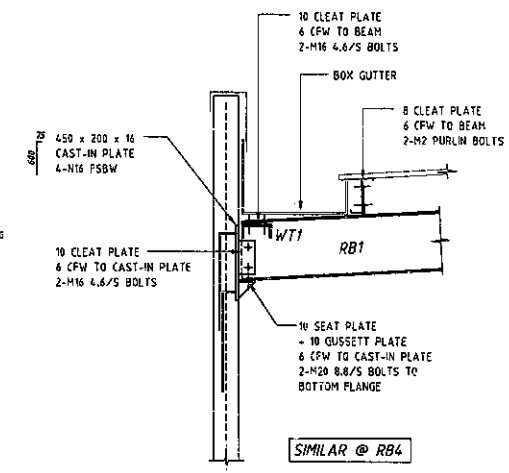


TYPICAL DETAIL - FB3 TO PANEL

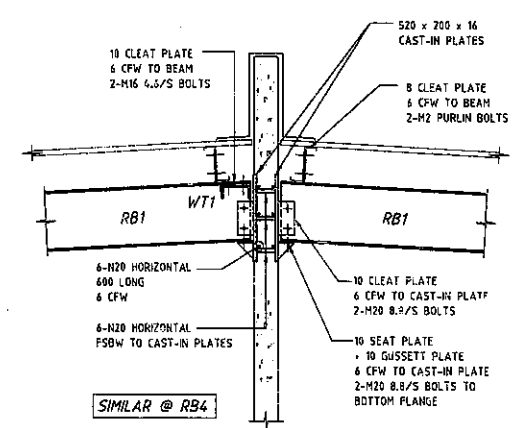
SECTION 11.3 SCALE N.T.S.



SECTION 11.4 SCALE N.T.S.

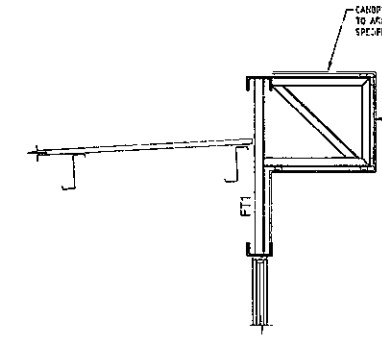


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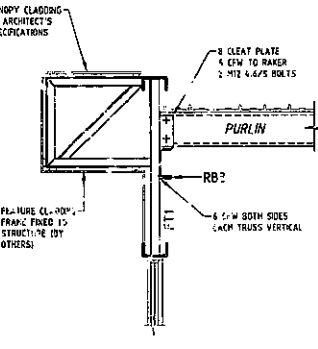


SECTION 12.2 SCALE N.T.S.

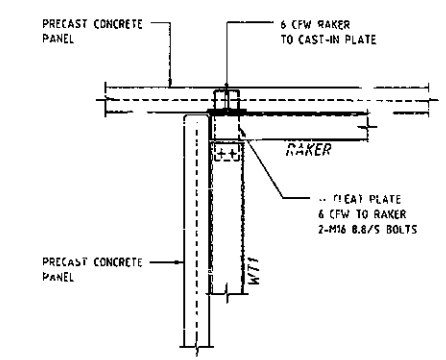
TYPICAL RB1 TO PANEL CONNECTION DETAILS



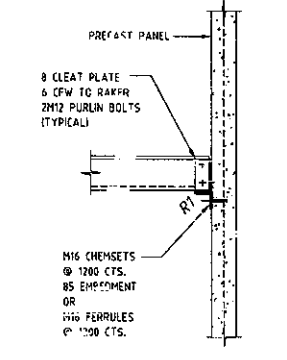
SECTION 12.3 SCALE N.T.S.



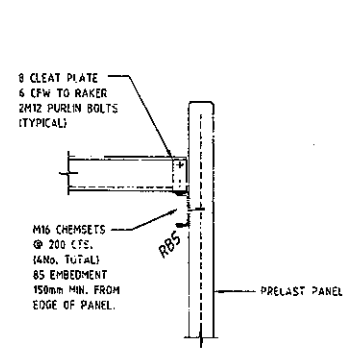
SECTION 12.4 SCALE N.T.S.



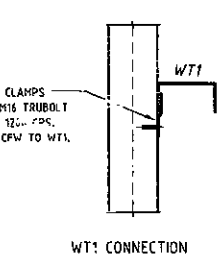
PLAN DETAIL RAKER TO WALL TIE CONNECTION N.T.S.



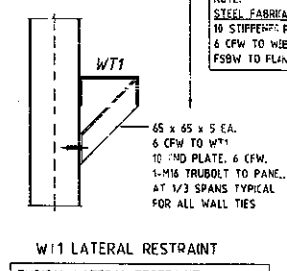
TYPICAL RAKER R1 TO PANEL CONNECTION DETAIL N.T.S.



SECTION 12.5 SCALE N.T.S.



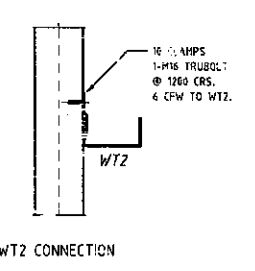
WT1 CONNECTION



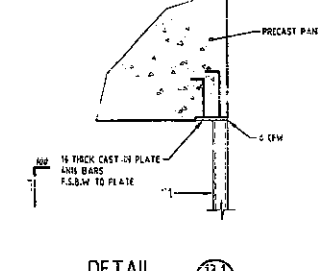
W1 LATERAL RESTRAINT

TYPICAL LATERAL RESTRAINT FOR WALL TIES AS NOTED IN SCHEDULE

WALL TIE CONNECTION DETAILS SCALE - 1/2"



WT2 CONNECTION



DETAIL 13.1 SCALE N.T.S.

No.	Date	Revised	By	No.	Date	Revision	By
D	6.04.15	AMENDMENTS DUE TO SITE ISSUES RB4 AS CONSTRUCTED ON SITE CONNECTIONS ANGLE/CLEAT	PP				
F	23.03.18	AMENDMENTS DUE TO SITE ISSUES RB2/RB4 CONNECTIONS/FLOOR JOISTS OPTION IN PURLINS.	PP				
B	25.11.14	PERMIT ISSUE	PP				
A	15.10.15	PRELIMINARY ISSUE	PP				

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DRAWING: FRAMING DETAILS - SHEET 4

Designed by	PP	CLIENT:	M7 DESIGN GROUP
Drawn by	TH	PROJECT:	PROPOSED WAREHOUSE & OFFICE DEVELOPMENT AT LOT 129, No. 21 KATHERINE DRIVE, RAVENHALL
Checked by	RB	Scale @ 1:100 SHEET AS NOTED	142626
		Drawing No.	S40
		Rev.	D