CONSTRUCTION NOTES

GENERAL

- 1. READ THESE DRAWINGS IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER WORKING DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- 2. PROVIDE ALL WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITIONS OF THE NCC, THE AUSTRALIAN STANDARDS AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
- 3. THE BUILDER MUST COMPLY WITH REQUIREMENTS OF THE OCCUPATIONAL HEALTH & SAFETY ACT.
- 4. REFER ANY CONFLICT BETWEEN THESE NOTES, THE SPECIFICATIONS, THE DRAWINGS OR ANY OTHER RELEVANT DOCUMENTS TO THE ENGINEER (TAYLOR CONSULTING ENGINEERS) FOR DECISION PRIOR TO PROCEEDING WITH THE WORK.
- 5. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS. FOR SETTING OUT DIMENSIONS AND LEVELS REFER TO ARCHITECTURAL DRAWINGS.
- 6. THE BUILDER IS RESPONSIBLE FOR THE PROVISION OF ALL SHORING TO MAINTAIN THE STABILITY AND INTEGRITY OF EXCAVATIONS AND ADJACENT STRUCTURES. PROVIDE DETAILS, FOR REVIEW BY THE ENGINEER, OF ANY NECESSARY TEMPORARY WORKS, INCLUDING SHORING, PRIOR TO COMMENCING CONSTRUCTION
- 7. DURING CONSTRUCTION IT IS THE BUILDER'S RESPONSIBILITY TO MAINTAIN THE STRUCTURE IN A STABLE CONDITION AND TO ENSURE NO PART IS OVERSTRESSED.
- 8. THE DESIGN AND DRAWINGS ARE COPYRIGHT AND MAY NOT BE USED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF TAYLOR CONSULTING ENGINEERS.
- 9. FIRE-RESTRAINT LEVELS (FRL'S) REQUIRED FOR THE VARIOUS STRUCTURAL ELEMENTS MUST BE CONFIRMED BY THE NCC CONSULTANT OR ARCHITECT.

FOUNDATIONS

1.	THE MINIMUM	SAFE	BEARING	CAPACITY	OF	FOUNDATION	MATERIAL
	SHALL BE:						
			1000 KD				

PAD FOOTINGS :	1000	KPA. IN	WEATHERED LS SILTSTONE/SHALE
STRIP FOOTINGS :	1000	KPA. IN	WEATHERED LS SILTSTONE/SHALE
PIERS:	1000	KPA. IN	WEATHERED LS SILTSTONE/SHALE
		KPA. IN	

- 2. FOUNDATION MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.
- 3. THE BASE OF FOOTING EXCAVATIONS SHALL BE FINISHED CLEAN AND HORIZONTAL. 4. ALL WALLS AND COLUMNS SHALL BE CONCENTRIC WITH THE
- SUPPORTING FOOTINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- 5. FOUNDING LEVELS WHERE SHOWN ARE FOR TENDER PURPOSES ONLY. 6. ANY PROPOSED FOOTING EXCAVATION NEAR BOUNDARIES, OTHER
- STRUCTURES OR SERVICES SHALL BE APPROVED BY THE ENGINEER.
- 7. SUBGRADE SHALL BE APPROVED MATERIAL COMPACTED TO 98% STANDARD DRY DENSITY DETERMINED BY TESTING TO AS1289.5.1.1 U.O.N.
- 8. LOCATE ALL NEW FOOTINGS RELATIVE TO LINE OF CUT/EXCAVATION INCLUDING EXCAVATIONS FOR RETAINING WALLS AS FOLLOWS:



- 2. SUPERIMPOSED FLOOR LIVE LOADS ARE GENERALLY IN ACCORDANCE WITH AS/NZS1170.1 AND SPECIFICALLY: 1.5 KPA. GENERALLY
- 2.0 KPA. BALCONIES
- **2.0** KPA STAIRS
- 3. WIND LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH AS4055 TERRAIN CATEGORY: 2 WIND REGION: A TOPOGRAPHIC CLASS: T1 SHIELDING: PS
- WIND CLASSIFICATION: N3 4. THE RELEVANT PROVISIONS OF AS1170.4 HAVE BEEN APPLIED FOR THE FOLLOWING EARTHQUAKE DESIGN:
- PROBABILITY FACTOR KP: 1 HAZARD FACTOR Z: 0.08 EARTHQUAKE DESIGN CATEGORY: N/A SITE SUB-SOIL CLASS: **CE**

EXISTING STRUCTURES (ALTERATIONS & ADDITIONS)

1. AFTER EXPOSING THE STRUCTURE OF THE EXISTING BUILDING. THE BUILDER MUST ADVISE THE ENGINEER TO ALLOW FOR INSPECTION TO CONFIRM SUITABILITY OF DOCUMENTED STRENGTHENING REQUIREMENTS PRIOR TO COMMENCING STRUCTURAL ALTERATIONS AND ADDITIONS.

REINFORCED CONCRETE

- 1. PROVIDE ALL WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH AS3600, THE SAA STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATIONS.
- 2. PROVIDE CONCRETE COMPOSITION AND MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT AS FOLLOWS:

	CONCRETE	COVER TO REINFORCEMENT (mm)		
ELEMENT	GRADE (MPa)	TOP	BOTTOM	SIDE
STRIP AND PAD FOOTINGS	25	50	50	50
PIERS	25	50	50	50
SLAB ON GROUND	25	25	50	50
SUSPENDED SLAB (INTERNAL)	32	25	25	50
SUSPENDED SLAB (EXPOSED)	32	50	50	50

- 3. SUPPORT ALL REINFORCEMENT AT 1m MAXIMUM CENTRES BOTH WAYS ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS. USE ONLY PLASTIC CHAIR FOR EXTERNALLY EXPOSED SOFFITS.
- 4. PROVIDE ALL CONCRETE WITH 80mm MAXIMUM SLUMP, 20mm AGGREGRATE WITH NO ADMIXTURES, UNLESS APPROVED BY THE ENGINEER.
- 5. SIZES OF CONCRETE ARE NET, EXCLUSIVE OF APPLIED FINISHES. BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS.
- 6. PROPERLY FORM CONSTRUCTION JOINTS AND USE ONLY WHERE SHOWN OR APPROVED BY ENGINEER.
- 7. MAKE NO HOLES OR CHASES IN CONCRETE MEMBERS WITHOUT THE APPROVAL OF THE ENGINEER. 8. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT
- NECESSARILY SHOWN IN TRUE PROJECTION. 9. WELD OR SPLICE REINFORCEMENT ONLY IN POSITIONS APPROVED BY
- THE ENGINEER. 10. PROVIDE THE MINIMUM CLEAR SPACING BETWEEN CONDUITS, CABLES,
- PIPES AND BARS AS REQUIRED BY AS3600 BUT NOT LESS THAN THREE BAR DIAMETERS. DO NOT PLACE CONDUITS IN SLABS ABOVE TOP REINFORCEMENT OR BELOW BOTTOM REINFORCEMENT.
- 11. S– DENOTES HOT ROLLED DEFORMED BARS GRADE 230S. Ν – DENOTED HOT ROLLED DEFORMED BARS GRADE 500N. R – DENOTES HOT ROLLED PLAIN ROUND BARS GRADE 230R.
- SL, RL, L(SIZE)TM -DENOTES HARD DRAWN WIRE FABRIC GRADE 500. 12. NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS BEFORE REINFORCEMENT HAS BEEN COMPLETED. ALLOW 2 HOURS AFTER THE COMPLETION OF THE REINFORCEMENT FOR THE ENGINEER'S INSPECTION. DO NOT ORDER
- CONCRETE UNTIL REINFORCEMENT HAS BEEN APPROVED BY THE ENGINEER. 13. CURE CONCRETE IN ACCORDANCE WITH AS3600. COMMENCE CURING
- WITHIN TWO HOURS OF FINISHING OPERATIONS AND CONTINUE FOR A MINIMUM OF SEVEN DAYS BY USING AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.
- 14. TIE ALL UNSUPPORTED BARS IN TRANSVERSE DIRECTION TO N12-300, LAPPED 500 U.O.N.
- 15. LAP FABRIC IN ACCORDANCE WITH DETAILS FIG.13.2.4 OF AS3600. 16. PROVIDE HOOKS, LAPS AND BENDS IN ACCORDANCE WITH AS3600 U.O.N.

'	LAPS AND	BENDS IN	ALLURDANCE	VIIH
	ELEMENT	/ BAR SIZE	MIN LAP LENGTH	

T / BAR SIZE	MIN LAP LENGTH
N10	350mm
N12	450mm
N16	650mm
N20	900mm
N24	1150mm

- 17. PROVIDE CHAMFERS, DRIP GROOVES ETC. IN ACCORDANCE WITH THE ARCHITECT'S DETAILS.
- 18. DESIGN, CONSTRUCT AND STRIP FORMWORK IN ACCORDANCE WITH AS3610 & AS3600.
- 19. PRE CAMBER FORMWORK UPWARDS BY 1/500 OF THE CLEAR SPAN U.O.N. WHERE SUPPORTED BEAMS AND SLABS SPAN GREATER THAN 5M.
- 20. THESE SLABS HAVE NOT BEEN DESIGNED OR DETAILED FOR AN IN-SLAB HYDRAULIC HEATING SYSTEM OR FOR A POLISHED CONCRETE FINISH. CONTACT THE ENGINEER FOR REDESIGN AND INSTRUCTION OF EITHER IS TO BE FEATURED IN THESE SLABS.

FABRIC LAP DIAGRAM

- GENERAL
- COURSE OF THE WORK
- DRAWINGS

GROUND PREPARATION & DRAINAGE

- THE SITE IS TO BE TRIMMED TO SUIT FINISHED SURFACE LEVELS. IN AREAS OF CUT AND FILL THE FILL IS TO BE A MAXIMUM DEPTH OF 500MM AND COMPACTED IN HORIZONTAL LAYERS OF 150M MAXIMUM DEPTH TO 95% OF THE MODIFIED DRY DENSITY IN ACCORDANCE WITH AS 1289 "METHOD OF TESTING SOILS FOR ENGINEERING PURPOSES" AND AS 3798 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS"
- 3. THE BATTER OF ANY FILL IS TO BE AT LEAST 1000MM CLEAR OF THE EDGE OF THE SLAB AND AT A MAXIMUM SLOPE OF 1.5 TO 1.

FOUNDATIONS

- WATER IS ENCOUNTERED.
- 2. A LEVEL BED OF CLEAN SAND, 50MM THICK IS TO BE SPREAD OVER THE FOUNDATION AND THOROUGHLY COMPACTED.

WATERPROOFING

- LAYER.

REINFORCEMENT

CONCRETE

FINISH

CIVIL & STRUCTURAL ENGINEERS

ALTERATIONS & ADDITIONS 37 SMITH STREET, MANLY

SPECIFICATION & CONSTRUCTION NOTES FOR REINFORCED CONCRETE SLAB-ON-GROUND

1. THE DRAWINGS AND SPECIFICATION ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATION AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE 2. DIMENSIONS ARE NOT TO BE OBTAINED BY SCALING FROM THE STRUCTURAL

- 3. SETTING OUT DIMENSIONS SHOWN ARE TO BE VERIFIED BY THE BUILDER. 4. ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH THE
- REQUIREMENTS OF THE SAA CODES AND BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY 5. ANY CONFLICT BETWEEN THESE NOTES AND SPECIFICATIONS OR DRAWINGS
- SHALL BE RESOLVED BY THE SUPERVISING ENGINEER.

1. THE SLAB AREA IS TO BE CLEARED OF ALL GRASS, VEGETATION, STUMPS AND ANY SOIL CONTAINING SIGNIFICANT VOLUME OF ORGANIC MATTER.

- 4. ANY IMPORTED FILL IS TO BE AN APPROVED SELECT MATERIAL. 5. THE FINISHED GROUND SURFACE ADJACENT TO THE SLAB IS TO BE AT LEAST
- 100mm BELOW THE SLAB LEVEL. 6. IN CUT AND FILL AREAS ADEQUATE SURFACE DRAINAGE IS TO BE PROVIDED AT
 - THE BASE OF EMBANKMENTS AND AT LEAST 1000MM FROM THE SLAB TO DIVERT SURFACE RUNOFF WATER AROUND THE SLAB.
- 7. IN AREAS WHERE GROUND WATER IS ENCOUNTERED, SUB-SOIL DRAINS ARE TO BE PROVIDED TO INTERCEPT AND DIVERT THE WATER FROM THE SLAB.

1. THIS SLAB IS DESIGNED FOR A UNIFORM AND STABLE FOUNDATION OF SAFE BEARING PRESSURE OF 150 KPA, FURTHER ADVICE IS TO BE OBTAINED FROM THE SUPERVISING ENGINEER IF ORGANIC MATTER, HIGHLY PLASTIC SOIL OR GROUND

- 3. IN AREAS OF TERMITE ACTIVITY OR AS REQUIRED BY LOCAL BUILDING AUTHORITIES PROTECTION IS TO BE PROVIDED TO THE BUILDING IN ACCORDANCE WITH AS 3660.1 "TERMITE MANAGEMENT PART 1: NEW BUILDING WORKS".
- 4. PROTECTION SHOULD BE PROVIDED IN THE FORM OF A CONTINUOUS PHYSICAL BARRIER OF STAINLESS STEEL MESH OR GRADED STONES, OR A CHEMICAL SOIL BARRIER AS APPROVED BY LOCAL AUTHORITIES.

1. AN UNPUNCTURED POLYTHENE VAPOUR BARRIER, 0.2mm THICK IS TO BE PROVIDED UNDER THE TOTAL AREA OF THE FLOOR AND BEAMS INCLUDING INTERNAL BEAMS AND TERMINATED AT GROUND LEVEL

2. JOINTS IN MEMBRANE TO BE LAPPED A MINIMUM OF 200mm AND SEALED WITH PRESSURE SENSITIVE TAPE. SERVICE PIPES THROUGH SLAB TO BE WRAPPED WITH POLYTHENE MEMBRANE THAT IS IN TURN LAPPED AND SEALED WITH MAIN

1. SLAB FABRIC TO BE LAPPED A MINIMUM OF 225MM AT THE ENDS AND SIDE AND SUPPORTED ON CHAIRS AT 1000mm CENTRES.

2. EDGE BEAMS AND INTERNAL BEAM TRENCH MESH TO BE FULLY LAPPED AT CORNERS WITH A MINIMUM 350mm SPLICE LAP AND SUPPORTED ON CHAIRS AT APPROXIMATELY 1200mm CENTRES.

- 3. ALL REINFORCEMENT CHAIRS TO SIT ON APPROVED BASE SUPPORTS TO PREVENT PUNCTURE OF POLYTHENE MEMBRANE.
- 1. ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS 3600 "CONCRETE STRUCTURES" AND THE CONCRETE SHALL BE THE APPROPRIATE GRADE AS NOTED ON THE STRUCTURAL DRAWINGS. SLUMP SHALL BE 80mm. SITE ADDITIVES ARE NOT PERMITTED.
- 2. TO ENABLE AN INSPECTION TO BE CARRIED OUT ON THE WATERPROOFING MEMBRANE AND REINFORCEMENT THE SUPERVISING ENGINEER IS TO BE ADVISED 24 HOURS BEFORE POURING OF CONCRETE.
- 3. CONCRETE IS TO BE COMPACTED WITH APPROVED VIBRATORS AND MOIST CURED FOR A MINIMUM OF SEVEN (7) DAYS AFTER POURING.

1. CONCRETE IS TO BE SCREEDED LEVEL AND FINISHED TO A SMOOTH SURFACE WITH A WOODEN FLOAT, STEEL TROWEL OR MECHANICAL TROWELLING DEVICE DEPENDING ON TYPE OF SURFACE FINISH REQUIRED.

MASONRY

- 1. ENSURE ALL WORKMANSHIP AND MATERIALS ARE IN ACCORDANCE WITH AS3700, THE STANDARDS CITED IN AS3700, THE DRAWINGS AND THE APPL STANDARD TECHNICAL SPECIFICATION STD-D905.
- WHERE MASONRY SUPPORTS CONCRETE SLABS OR BEAMS, LAY THE TOP COURSE WITH FROGS DOWN AND COVERED IN 2 LAYERS OF APPROVED SLIP JOINT MATERIAL
- 3. WALLS SHOWN SHADED ON PLAN ARE LOAD BEARING. SEPARATE NON-LOAD BEARING WALLS UNDER SLABS FROM THE SLAB BY 15mm OF APPROVED COMPRESSIBLE MATERIAL. WHERE MASONRY ABUTS SLAB DOWNTURNS, PROVIDE 15MM GAP BETWEEN BRICKWORK AND SIDE OF DOWNTURN.
- 4. DO NOT ERECT MASONRY SUPPORTED BY CONCRETE SLABS OR BEAMS UNTIL ALL FORMWORK AND PROPS UNDER HAVE BEEN REMOVED.
- 5. PROVIDE ALL BRICKS OF STRENGTH F'UC = 20 MPA U.O.N.
- 6. PROVIDE ALL HOLLOW CONCRETE MASONRY OF STRENGTH F'UC = **15** MPA U.O.N.
- 7. PROVIDE CLASSIFICATION M3 MASONRY MORTAR U.O.N. NOTE THAT WITHIN 100M FROM NON-SURF COAST, OR 1KM SURF COAST, PROVIDE CLASSIFICATION M4 MASONRY MORTAR.
- 8. CUT NO CHASES INTO LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.
- 9. PROVIDE MOVEMENT CONTROL JOINTS VERTICALLY FOR FULL HEIGHT OF WALL AS FOLLOWS:
- FOR GENERAL MASONRY = 8M MAXIMUM CENTRES & 4m MAXIMUM FROM CORNERS.
- FOR ARTICULATED MASONRY = 6M MAXIMUM CENTRES & 4m MAXIMUM FROM CORNERS.
- PROVIDE 15mm MINIMUM JOINTS WITH AN APPROVED COMPRESSIBLE FILLER, TIED TOGETHER EVERY 4TH COURSE WITH AN MET 3.3 MASONRY SLIDING TIE OR APPROVED EQUAL
- 10. CONSTRUCT HOLLOW WALLS TO FULL HEIGHT OR MAXIMUM 3m BEFORE FILLING CORES. PROVIDE CLEANOUT OPENINGS AT THE BASE OF ALL CORES TO BE FILLED
- 11. PROVIDE HOLLOW F'C 20 MPA CORE FILLING CONCRETE WITH 10mm AGGREGATE, 180 SLUMP U.O.N.
- 12. CONSTRUCT HALLOW MASONRY RETAINING WALLS USING "DOUBLE U BLOCKS." 13. UNREINFORCED MASONRY WALLS HAVE NOT BEEN DESIGNED UNLESS NOTED.

TIMBER

- 1. ENSURE ALL WORKMANSHIP AND MATERIALS ARE IN ACCORDANCE WITH AS1720 AND AS1684, THE SAA STANDARDS CITED IN AS1720, AS1684 AND THE SPECIFICATION.
- 2. PROVIDE ALL TIMBER AS UNDRESSED MGP10 STRESS GRADE SEASONED PINE U.O.N. PROVIDE ALL EXTERNAL TIMBER AS UNDRESSED HARDWOOD OR APPROPRIATELY TREATED SEASONED PINE U.O.N.
- 3. WHERE THE USE OF TREATED PINE FOR DURABILITY IS NOTED ON THE STRUCTURAL DRAWINGS, ENSURE IT COMPLIES WITH THE FOLLOWING
- TREATMENTS LEVELS: – INTERIOR ABOVE GROUND = H2
- EXTERIOR ABOVE GROUND = H3 ► ALL IN ACCORDANCE WITH AS1684
- EXTERIOR IN GROUND = H4 & H5 4. INSTALL PROPRIETARY TIMBER CONNECTORS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 5. RETIGHTEN BOLTED CONNECTIONS IN UNSEASONED TIMBER PRIOR TO THE FIXING OF CLADDING.
- 6. TIMBER ELEMENTS OR TIMBER FRAMING HAVE NOT BEEN DESIGNED U.O.N.
- 7. PROVIDE ALL NEW CONSTRUCTION WITH PROTECTION FROM SUBTERRANEAN TERMITES IN ACCORDANCE WITH AS3660.1-1995. PROVIDE THE PROTECTION SYSTEM OR SYSTEMS AS SPECIFIED BY THE ARCHITECT.
- 8. SUBMIT THREE COPIES OF ALL TRUSS WORKSHOP DRAWINGS TO THE ENGINEER FOR CHECKING PRIOR TO FABRICATION. ALL TRUSSES TO BE PRE-CAMBERED UPWARD 1/240 SPAN U.O.N.
- 9. FOR BUSHFIRE PRONE AREAS, USE TIMBER SPECIES CLASSIFIED AS "FIRE-RETARDANT-TREATED TIMBERS" IN ACCORDANCE WITH AS3959 1999, IE. UNTREATED BLACKBUTT, KWILA (MERBAU), RED IRON BARK, RIVER RED GUM, SILVER TOP ASH, SPOTTED GUM OR TURPENTINE.

ALL TIMBER CONNECTIONS, TIE DOWNS BRACING AND TIMBER SIZES NOT NOMINATED ARE TO BE IN STRICT ACCORDANCE WITH AS1684 RESIDENTIAL TIMBER-FRAMED CONSTRUCTION CODE. ALL TIE DOWNS TO BE DESIGNED FOR ULTIMATE LIMIT STATE GUST WIND SPEED OF 40 m/s (CATEGORY N2) AS DETERMINED FROM AS4055 - WIND LOADS FOR HOUSING).

STEELWORK

- SPECIFICATION
- FABRICATION.
- AS 10MM PLATE U.O.N.
- 4. FOR BOLTS, THE FOLLOWING NOTATION IS USED: FULLY TENSIONED IN A NO SLIP JOINT.
- FULLY TENSIONED IN A BEARING JOINT.
- MILL SCALE AND RUST.
- BOLTS IS PROHIBITED.
- STEEL TO STEEL OR TIMBER.
- WITH AN UPWARD PRE CAMBER OF 1/500 SPAN U.O.N.
- PHOSPHATE PRIMER TO A THICKNESS OF 70 MICROMETRES U.O.N. ACCORDANCE WITH GRADE HDG900 TO AS/NZS2312.
- 11. PROVIDE FIRE PROTECTION TO ALL STEELWORK AS REQUIRED.

12. ENSURE ALL COLD FORMED SECTIONS CONFORM TO AS1538 AND ARE ROLL-FORMED FROM STEEL STRIP, MINIMUM YIELD STRESS 450 MPA, 300G/M MINIMUM ZINC COATING MASS U.O.N. ALL CHEMICAL ANCHORS FOR THREADED FIXINGS OR REINFORCEMENT, SHALL BE HILTI HIT-RE 500 ADHESIVE ANCHOR SYSTEM OR APPROVED EQUIVALENT INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

ALL THREADED CHEMICAL ANCHORS SHALL BE HOT DIP GALVANISED UNLESS NOTED OTHERWISE: M12 MIN. 100 EMBEDMENT, MIN. 60 EDGE DISTANCE, MIN. 70 SPACING M16 MIN. 125 EMBEDMENT, MIN. 70 EDGE DISTANCE, MIN. 100 SPACING

SPECIFICATION FOR PAINT SYSTEMS (ALTERNATIVE TO HOT-DIP GALVANISING) PROVIDE ALL EXTERNAL STEELWORK WITH THE FOLLOWING CORROSION PROTECTION SYSTEM AS MANUFACTURED BY INTERNATIONAL PROTECTIVE COATINGS: PREPARTION: ABRASIVE BLAST CLEAN

PRIMER: INTERZINC 52 AT 75 MICRONS INTERMEDIATE COAT: INTERCURE 420 FINAL COAT: INTERFINE 629 AT 75 MICRONS (DFT.) OR APPROVED EQUIVALENT SYSTEM. PROVIDE WRITTEN CERTIFICATION ISSUED BY THE STEELWORK FABRICATOR CONFIRMING THE THICKNESS OF THE APPLIED PAINT SYSTEM WAS MEASURED ON SITE AND COMPLIES WITH THE ABOVE SPECIFICATION

ABBRE	VIATIONS
U.O.N.	UNLESS OTHERWISE NOTED
L 1st	LAY FIRST
L 2nd	LAY SECOND
L 3rd	LAY THIRD Etc.
LL	LAY LAST
CP	CENTRALLY PLACED
TYP.	TYPICAL

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TRUCT-1 STRUCTURAL DETAILS TORM-1 STORMWATER MANAGEMEN				PLAN	
CONSTRUC 37 SMITH	TION NOTES – , STREET, MA	ALTERATIONS NLY	S & ADDITIONS	TAYI OR	COVER
DRAWN	DATE	CHECKED		CONSULTING	<u>s</u>
CJM	2 MAY 2022	BE Civil (Hons) MIE Au	st.	CIVIL & STAUCTURAL ENGINEERS	
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DRAWING SCHEDUL
SHEET NUMBER
STRUCT-1
STORM-1

TITLE	
STRUCTURAL DETAILS	
STORMWATER MANAGEMENT P	LAN

N TO CLASS 2 ¹ / ₂ .	
DRY FILM THICKNESS (DFT.)	
AT 125 MICRONS (DFT.)	
DONG (DET)	

WITH GRADE HDG600 TO AS/NZS2312. WITHIN 100m FROM THE NON-SURF COAST OR 1KM FROM THE SURF COAST, HOT DIP GALVANISE ABOVE IN

9. PREPARE STRUCTURAL STEELWORK TO CLASS 2 AND PAINT WITH ZINC 10. HOT DIP GALVANISE ALL EXPOSED EXTERNAL STEELWORK AND ALL STEELWORK BUILT INTO AN EXTERNAL MASONRY SKIN, IN ACCORDANCE

8. FABRICATE STEEL BEAMS AND TRUSSES SPANNING GREATER THAN 5m

7. PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING

TORQUE WRENCHES. USE A HARDENED WASHER UNDER THE BOLT HEAD OR NUT, WHICHEVER IS ROTATED. THE RE-USE OF FULLY TENSIONED

5. LEAVE MATING SURFACES OF TF CONNECTIONS UNPAINTED AND FREE OF 6. TIGHTEN BOLTS IN TF AND TB CONNECTIONS USING THE PART TURN METHOD OR LOAD INDICATING WASHERS. DO NOT USE CALIBRATED

- 8-M24 8.8/TB DENOTES 8 x M24 HIGH STRENGTH STRUCTURAL BOLTS

- 6-M20 8.8/TF DENOTES 6 x M20 HIGH STRENGTH STRUCTURAL BOLTS

- 4-M16 4.6/S DENOTES 4 x M16 COMMERCIAL GRADE BOLTS SNUG TIGHT.

3. PROVIDE ALL WELDS AS 6mm CONTINUOUS FILLET FROM E41XX ELECTRODES, ALL BOLTS AS M20 4.6/S AND ALL CLEATS AND GUSSETS

2. SUBMIT THREE COPIES OF ALL WORKSHOP DRAWINGS TO THE ARCHITECT AND THE ENGINEER TO OBTAIN THEIR WRITTEN APPROVAL PRIOR TO

1. ENSURE MATERIALS, FABRICATION AND ERECTION ARE IN ACCORDANCE WITH AS4100, THE SAA STANDARDS CITED IN AS4100 AND THE

THE BUILDER OF THE USUAL CONSTRUCTION RESPONSIBILITIES ONE TIMBER FLOOP OR ROOF ABOVE -NEEDLES -PREDEFLECT NEW BEAM WITH STEEL FOX WEDGES PACK GAPS WITH DRY NON-SHRINK GROUT -NEW BEAM -PROPS PROP RATING 1 TONN AT HEIGHT OF NEEDLE -EXISTING WALL TO BE DEMOLISHED AL. 14 A. 14 -EXISTING WALL 450 MAX. 📙 450 MAX. NEEDLING DETAIL

BRICKWORK WITH DRY NON-SHRINK GROUT.

- 5. RAM PACK BETWEEN NEW STEEL BEAM & UNDERSIDE OF EXISTING
- 6. A MINIMUM OF 48 HOURS AFTER GROUTING, REMOVE PROPS & NEEDLES AND MAKE GOOD.

NOTE: THE ABOVE SUGGESTED PROCEDURE IN NO WAY RELIEVES

- NEW BEAM.

- PREDEFLECT BEAM BY DRIVING 1:20 STEEL FOX WEDGES BETWEEN UNDERSIDE OF BRICKWORK & TOP OF BEAM TO TRANSFER LOAD TO
- 3. BREAK OUT OPENING. 4. INSERT BEAM WITH SEATING ON GROUT BED AS PER DETAILS.

NEEDLING

2. PROPS SHALL BE SUPPORTED DIRECTLY ON THE EXISTING CONCRETE FLOOR SLAB. SCREW UP PROPS TO SUPPORT FULL LOAD OF BRICKWORK ABOVE NEEDLES.

ALLOW 24 HOURS FOR GROUT TO CURE.

ENGINEER'S DRAWINGS, PROCEED WITH THE FOLLOWING: 1. NEEDLE THROUGH WALL DIRECTLY ABOVE POSITION OF NEW STEEL BEAMS AT 900 MAX. CENTRES WITH 125 PFC OR 100 x 6 SHS OR EQUAL NEEDLES SPANNING 900 MAX ONTO PROP AT EACH END.

SUGGESTED WALL NEEDLING PROCEDURE IN CONJUNCTION WITH







TYPICAL STEEL ROOF BEAM TAPER CUT DETAIL SCALE 1:10





TYPICAL TIMBER ROOF BEAM TAPER CUT DETAIL SCALE 1:10

LINTELS FOR NON LOAD BEARING BRICKWORK

SPAN	LINTEL
UP TO 1.0m	87 WIDE GALINTEL FLAT
UP TO 2.4m	100 x 100 GALINTEL ANGLE
UP TO 3.6m	150 x 100 GALINTEL ANGLE
UP TO 4.0m	150 x 100 x 10 TRADITIONAL ANGLE

- PROP LINTEL DURING CONSTRUCTION
- LINTELS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S **INSTRUCTIONS & STANDARD BUILDING PRACTICE.**

TYPICAL TIE DOWN NOTES

- BATTENS TO BE FIXED TO RAFTERS WITH 1 TEK SCREW WITH 38mm PENETRATION INTO TRUSSES.
- TRUSSES TO BE FIXED TO TOP PLATE OR BEAMS WITH 1 FRAMING ANCHOR WITH 4-2.8mm DIAM NAILS INTO SIDE GRAIN OF EACH MEMBER.
- WALL TOP PLATE TO BE ANCHORED TO STUD AT AN AVERAGE OF 1.8m c/c AND EACH SIDE OF ALL OPENINGS WITH 30mm × 0.8mm HOOP IRON STRAP TURNED OVER TOP PLATE AND NAILED TO EACH SIDE OF STUD WITH 3-2.8mm DIAM NAILS. BOTTOM OF STUD TO HAVE SIMILAR FIXED
- TO BOTTOM PLATE. BOTTOM PLATE TO BE NAIL FIXED TO FLOOR FRAME WITH 2-3.15mm
- BRACING AND TIE-DOWNS TO BE IN ACCORDANCE WITH RESIDENTIAL





ABBR U.O.N.	EVIATIONS UNLESS OTHERWISE NOTED	ISSUE DATE	REVISION
Т	ТОР		
В	BOTTOM		
H.D.	HOT DIPPED		
GALV.	GALVANISED		
MIN.	MINIMUM	· · · · · · · · · · · · · · · · · · ·	
c/c	CENTRE TO CENTRE		
SQ.	SQUARE		ii
TYP.	TYPICAL		

UNBUR TO BE	DENED
DO NOT EXCAVATE CONTACT SUPERVISING ENGINEER FOR UNDERPINNING DETAIL.	2
INFLUENCE LINE IN	∠inf IN S

	GALVA ALTERN
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DIAM SKEW NAILS AT 900mm c/c. TIMBER FRAMED CONSTRUCTION AS 1684.2 - 2010 U.O.N.

TYP STRUCTURAL DETAILS – STANDARD DETAILS 37 SMITH STREET, MANLY **TAYLOR** DETAIL CONSULTING : SCALE @ A1 DRAWN DATE CHECKED CIVIL & STRUCTURAL ENGINEERS 1:50 1:20 CJM 2 MAY 2022 So 1:10 Ś BE Civil (Hons) MIE Aust.

"Seascape" Suite 7 22-26 Fisher Rd Dee Why NSW 2099 T 02 9982 7092 F 02 9982 5898 enquire@taylorconsulting.net.au www.taylorconsulting.net.au



GROUND FLOOR SLAB PLAN SCALE 1:100

SHOWING GARAGE SLAB TO BE EXTENDED







GROUND FLOOR PLAN

SCALE 1:100 SHOWING WALL SECTIONS TO BE REMOVED AND NEW FLOOR & LINTEL BEAMS TO BE PROVIDED





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H.D.	HOT DIPPED			DRAWN	DATE	CHECKED	: SCALE @ A1	CONSULTING	
GALV.	GALVANISED						1.100	CIVIL & STRUCTURAL ENGINEERS	
MIN.	MINIMUM			CJM	2 MAY 2022	Sshot	1:20		
c/c	CENTRE TO CENTRE					BE Civil (Hone) MIE Aust	1:10		
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TYP.	TYPICAL			"Seascape" Suite 7 22-26 F	isher Rd Dee Why NSW 2099	T 02 9982 7092 F	- 02 9982 5898 enquire@	taylorconsulting.net.au www.taylorco	onsulting.net.au

MEMBER SCHEDULE

RAFTERS

.. 90 x 45 SMART LVL 13 @ 600c/c WEATHER PROTECTED

ROOF BEAMS230PFC

LINTEL BEAMS LB1, LB2..... 250PFC

FLOOR BEAMS FB1, FB2.....

.... 200UC60 5-8mm PRE-DEFLECT + M12 MASONRY ANCHORS @1500 c/c STAGGERED EACH SIDE OF WEB BEAM INSTALLATION PROCEDURE:

- 1. INSTALL TEMPORARY PROPPING TO FULL SUPPORT OF EXISTING SLAB OVER (2 PROPS EACH SIDE OF WALL). 2. DEMOLISH EXISTING WALL IN A MANNER TO MINIMIZE
- VIBRATION AND DAMAGE TO SURROUNDING UNITS (DO NOT USE HEAVY BREAKERS).
- 3. POSITION AND INSTALL BEAM. 4. DRIVE STEEL WEDGES AT MIDSPAN BETWEEN TOP FLANGE OF BEAM AND UNDERSIDE OF FLOOR SLAB TO PRE-DEFLECT (B1 3-5mm) AT THE CENTRE OF THE SPAN.
- INSTALL NON-SHRINK GROUT AND ALLOW TO CURE FOR 24 HOURS PRIOR TO REMOVING WEDGES.
- GROUT FILL POCKETS WHERE WEDGES REMOVED. INSTALL CHEMICAL ANCHORS TO MANUFACTURERS
- SPECIFICATION. CONTACT SUPERVISING ENGINEER TO INSPECT PRIOR TO
- INSTALLATION OF FIRE PROTECTION AND REMOVAL OF TEMPORARY PROPS.

NOTES:

- 1. ALL EXPOSED STEEL MEMBERS, FITTINGS AND FASTENERS TO BE HOT-DIP GALVANISED.
- PROVIDE TEMPORARY SUPPORT TO EXISTING SLAB OVER AS NECESSARY TO ALLOW FOR INSTALLATION OF NEW STEEL BEAM.
- PROVIDE 200 END BEARING TO ALL BEAMS SUPPORTED ON BRICKWORK UNLESS OTHERWISE NOTED.
- INSTALL FIRE PROTECTION TO BEAM TO B.C.A.
- REQUIREMENTS. BUILDER TO CONFIRM ADEQUACY OF EXISTING BRICKWORK PRIOR TO INSTALLING BEAMS ELSE MAKE GOOD TO AS 3700 OR OTHERWISE INSTALL 89 SQ. x 3.5 STEEL POST TO SEPARATE DETAIL UPON REQUEST



SITE DRAINAGE PLAN SCALE 1:100



SCALE 1:10 -TYPICAL SURFACE INLET PIT DETAIL



ISSUE DATE	REVISION
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DRAINAGE NOTES

1. + DENOTES EXISTING GROUND LEVEL

- 2. FALL STORMWATER PIPES AT 1% MIN. UNLESS OTHERWISE NOTED.
- 3. SUB-SOIL DRAINAGE TO BE CONNECTED TO THE SITE DRAINAGE SYSTEM AS NECESSARY.
- SURFACE GRATES 300 SQ. UNLESS OTHERWISE NOTED.
- ALL STORMWATER PIPES TO HAVE SOLVENT CEMENT WATERTIGHT JOINTS.
- CHECK & LOCATE DEPTH OF EXISTING MAINS & SERVICES PRIOR TO CONSTRUCTION OF STORMWATER SYSTEM AS VARIATIONS IN POSITION OF MAINS COULD AFFECT DRAINAGE CONSTRUCTION DETAILS.
- INSPECTIONS MUST BE UNDERTAKEN BY THIS OFFICE (BY PRIOR ARRANGEMENT WITH ENGINEER) DURING CONSTRUCTION TO ENABLE FULL CERTIFICATION UPON COMPLETION OF WORKS.
- 8. ALL CONSTRUCTION OF COUNCIL DRAINAGE WORKS TO COMPLY WITH COUNCIL STANDARD.
- 9. REMOVE REDUNDANT DRAINAGE PITS AND SEAL PIPES.
- PIT BENCHING TO BE HALF THE OUTGOING PIPE DIAMETER. CONCRETE FOR BENCHING TO BE 20 MPa MASS CONCRETE.
- 11. APPROVED PRE-CAST PITS MAY BE USED.
- ALL PIPES TO BE LAID ON COMPACTED FINE CRUSHED ROCK OR SAND BEDDING 75mm THICK & PIPES BACKFILLED WITH COMPACTED SAND TO 300mm ABOVE TOP OF PIPE, ELSE ATTACHED TO UNDERSIDE OF STRUCTURE AT 600mm c/c AS NECESSARY
- 13. PIPE ROUTES SHOWN ARE INDICATIVE ONLY AND SHOULD BE AS NECESSARY ACCORDING TO SITE CONDITIONS, TREE POSITIONS ETC. CONFIRM SIGNIFICANT CHANGES IN PIPES SYSTEM DETAILS WITH SUPERVISING ENGINEER PRIOR TO COMMENCEMENT OF DRAINAGE CONSTRUCTION WORKS.
- 14. CONTRACTOR SHALL ENSURE THAT SERVICES TO BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS WHERE REQUIRED. ONCE WORKS ARE COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SERVICES AND MAKE GOOD ALL DISTURBED AREAS.
- 15. STORMWATER SYSTEM REQUIRES SIGNIFICANT MAINTENANCE DUE TO POTENTIAL HIGH POLLUTANT LOAD. FILTERS AND POLLUTANT TRAPS SHOULD BE CHECKED AFTER LARGE STORM EVENTS AND CLEANED EVERY 6 MONTHS.
- PLUMBING AND DRAINAGE WORKS TO COMPLY WITH AS-3500, THE NATIONAL DRAINAGE & PLUMBING CODE.
- 17. WHERE POSSIBLE DRAINAGE LINES SHALL BE LAID IN AREAS PREVIOUSLY DISTURBED BY OTHER SITE WORKS AND FOLLOW TOPOGRAPHICAL FEATURES TO REDUCE IMPACT AND AVOID TREE ROOTS
- 18. THIS STORMWATER MANAGEMENT PLAN HAS BEEN PREPARED FOR D.A. SUBMISSION TO COUNCIL AND DOES NOT NECESSARILY CONTAIN ALL APPROPRIATE INFORMATION TO ENABLE FOR ISSUE TO PLUMBER/BUILDER FOR CONSTRUCTION. CONTACT TAYLOR CONSULTING FOR MORE INFORMATION.

				STORMW SITE DA SITE ARI PROPOSI PROPOSI EXISTING EXISTING	VATER SYSTEM DESIGN DA TA EA = 307 m ² (100%) ED IMPERVIOUS AREA = 23 ED LANDSCAPED AREA = 7 G IMPERVIOUS AREA = 222 G LANDSCAPED AREA = 85	TA 7 m ² (77%) 0 m ² (23%) m ² (72%) m ² (28%)
STORMWA 37 SMITH S	TER MANAG STREET, MAI	ement plan Nly	N		TAYI OR	STORI
CJM	DATE 28 APRIL 2022	CHECKED SSL BE Civil (Hons) MIE Aust	SCALE @ A1 1:100 1:10		CONSULTING	
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