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 ALL DIMENSIONS SHALL BE VERIFIED ON SITE BEFORE

- EXECUTING THE WORKS. • SHOP DRAWINGS SHALL BE APPROVED BEFORE COMMENCING OF CONSTRUCTION OR
- MANUFACTURING
- PROJECT

PROPOSED LPG STATION

LOCATION

GDH.THINADHOO

type INDUSTRIAL

CLIENT MALDIVES GAS

DRAWING TITLE	

AS GIVEN

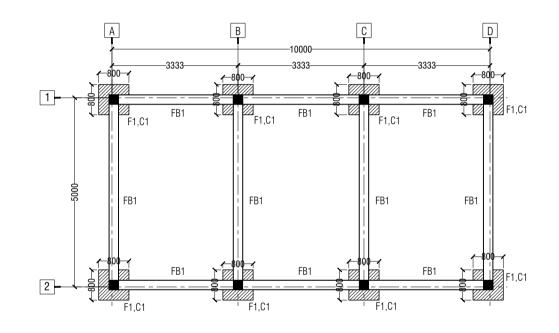
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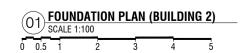
STRUCTURAL	DRAWING

DRAWN BY	-
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CHECKED BY	-	
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			DATE
DA1 AP	e RIL 2021		ING NO:
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NOTE: - FOUNDATION DEPTH = 750 mm



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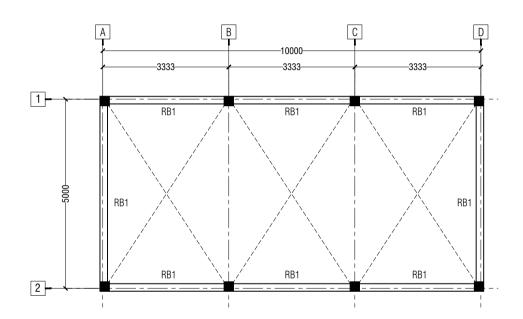
 SHOP DRAWINGS SHALL BE APPROVED BEFORE COMMENCING OF CONSTRUCTION OR MANUFACTURING

PROPOSED LPG STATION

NOTES:

PROJECT

EXECUTING THE WORKS.



01 ROOF BEAM PLAN (BUILDING 2) SCALE 1:100

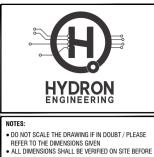
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 SHOP DRAWINGS SHALL BE APPROVED BEFORE COMMENCING OF CONSTRUCTION OR

PROPOSED LPG STATION

EXECUTING THE WORKS.

MANUFACTURING

PROJECT

LOCATION

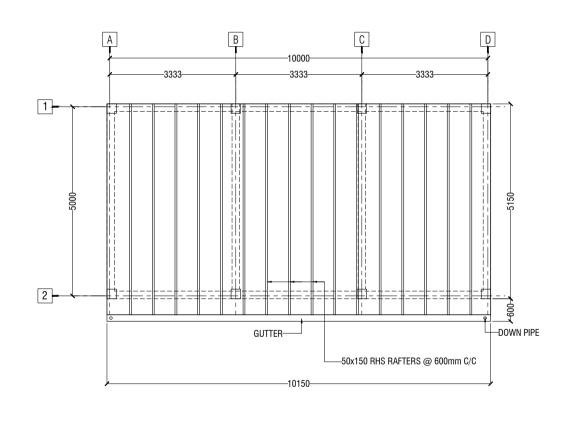
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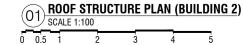
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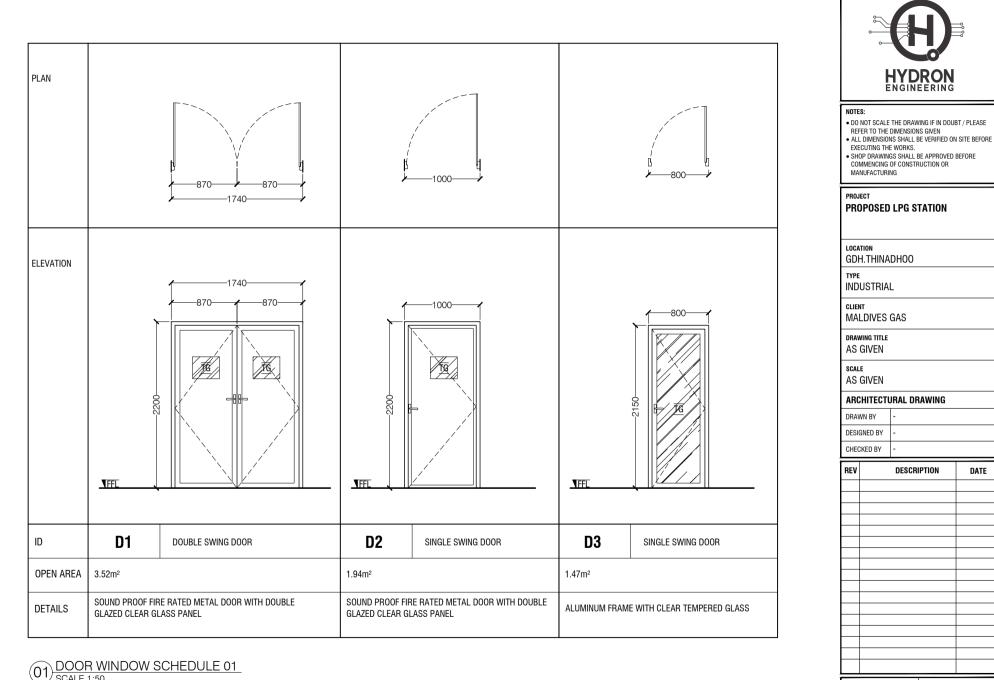




Provide 50x100x3mm THK C PURLINGS @600 c/c FIXED PERPENDICULAR TO RAFTERS (NOT SHOWN)

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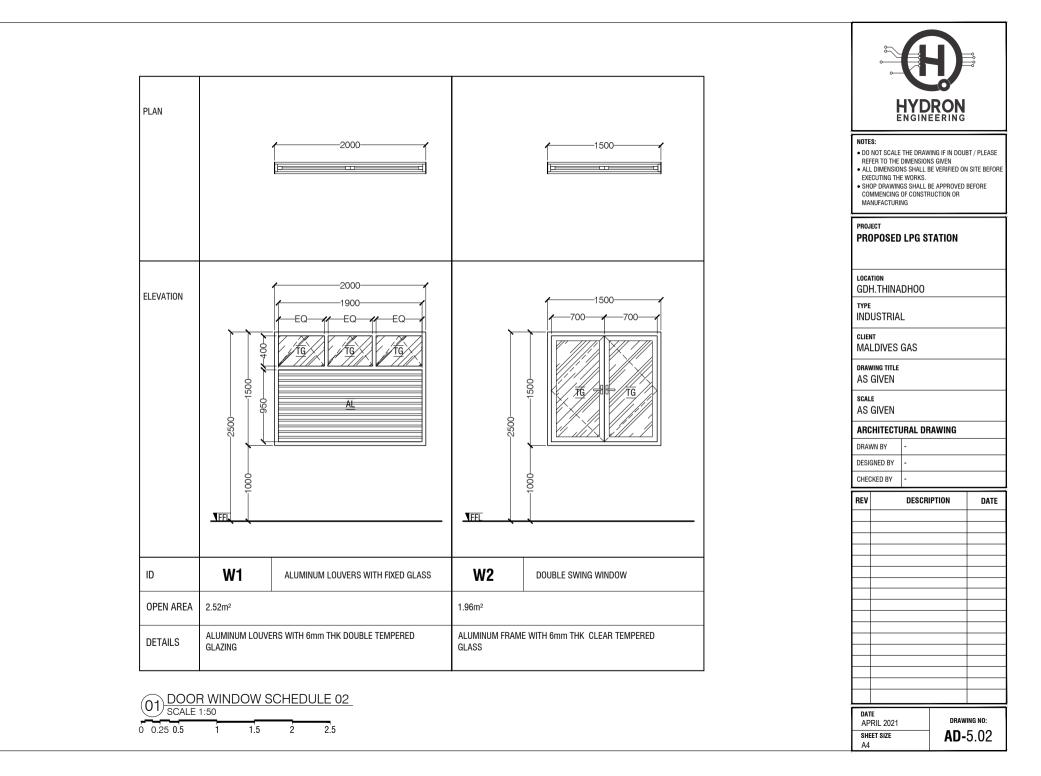
SCALE 1:50

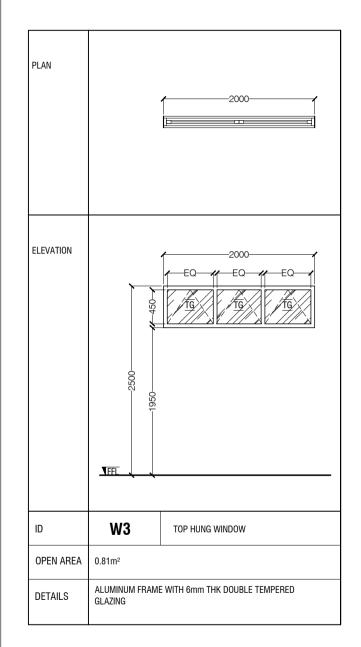
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DRAWING NO: APRIL 2021 AD-5.01 SHEET SIZE A4

DATE





01 DOOR WINDOW SCHEDULE 03 SCALE 1:50



NOTES:

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PROPOSED LPG STATION

LOCATION

GDH.THINADHOO

type INDUSTRIAL

CLIENT MALDIVES GAS

drawing title AS GIVEN

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scale AS GIVEN

ARCHITECTURAL DRAWING

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CHECKED BY REV DESCRIPTION DATE

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NOTES:

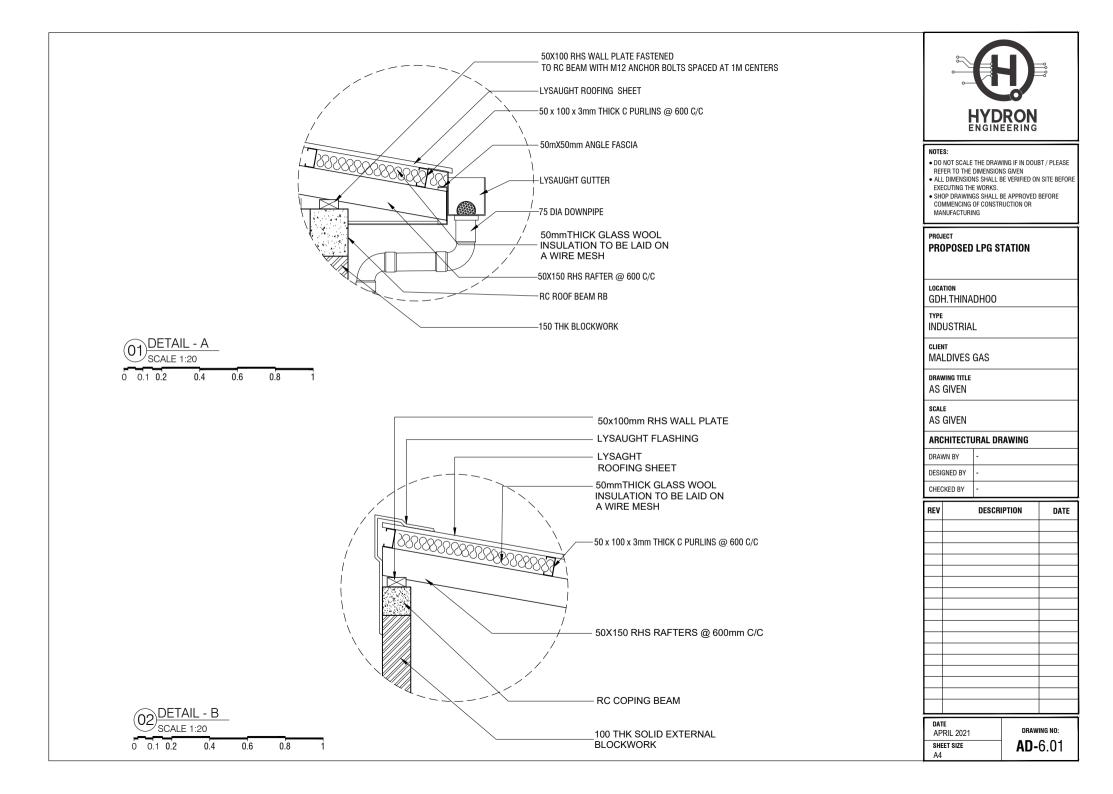
SHOP DRAWINGS AND TECHNICAL SPECIFICATIONS FOR ALL DOORS AND WINDOWS SHOWING DETAILS OF SECTIONS, ASSEMBLY, TYPE OF LOCKS, HINGES, BOLTS AND HANDLES SHOULD BE SUBMITTED BY THE CONTRACTOR FOR THE CONSULTANTS APPROVAL.

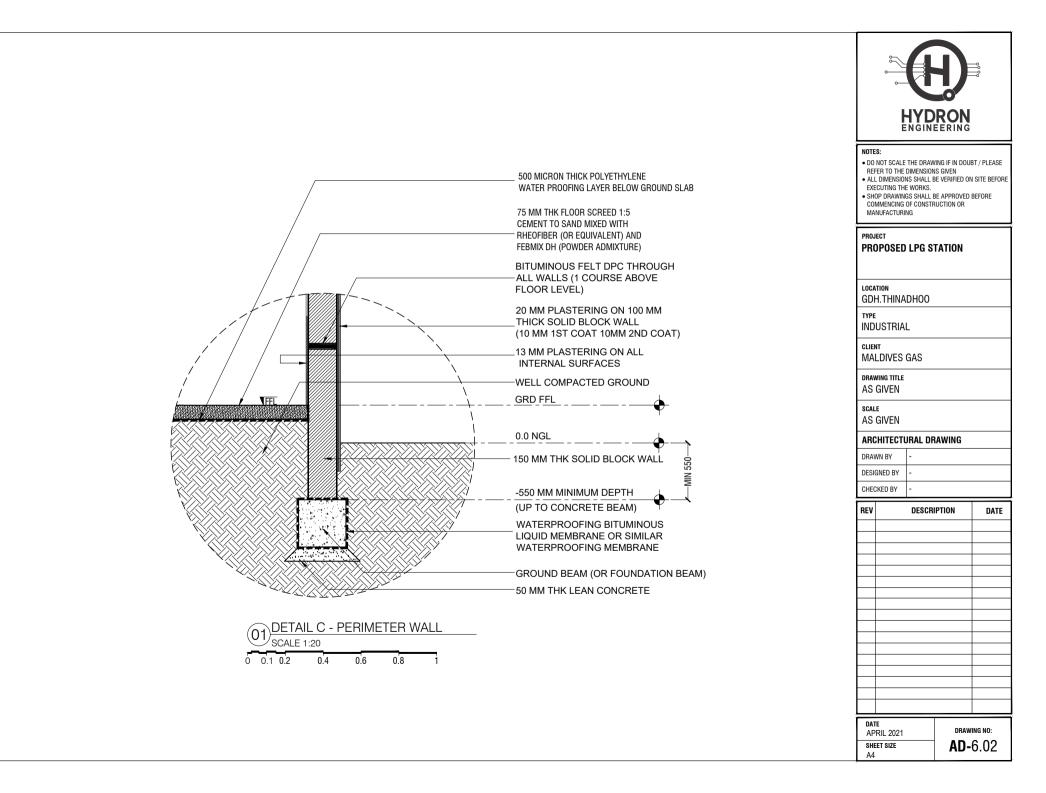
- ALL MEASUREMENTS TO BE CHECKED ON SITE - ALL ELEVATIONS SHOWN FROM OUTSIDE AND ALL SWINGS OPEN OUT (UNLESS NOTED OTHERWISE)

 $\begin{array}{l} \mathsf{CG} = \mathsf{CLEAR} \; \mathsf{GLAZING} \\ \mathsf{FG} = \mathsf{FIXED} \; \mathsf{GLAZING} \\ \mathsf{RG} = \mathsf{REFLECTIVE} \; \mathsf{GLASS} \end{array}$

 $\label{eq:FRG} \begin{array}{l} \mathsf{FRG} = \mathsf{FIXED} \; \mathsf{REFLECTIVE} \; \mathsf{GLASS} \\ \mathsf{FCG} = \mathsf{FIXED} \; \mathsf{CLEAR} \; \mathsf{GLASS} \\ \mathsf{TG} = \mathsf{TEMPERED} \; \mathsf{GLASS} \end{array}$

- ST = SOLID TIMBER
- AL = ALUMINUM LOUVERS SL = SLIDING





GENERAL NOTES

GENERAL

- 1. THE CONTRACTOR IS REQUIRED TO SUBMIT COORDINATED M&E PENETRATION DRAWINGS FOR APPROVAL.
- 2. ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND SERVICE DRAWINGS, SPECIFICATIONS AND WRITTEN INSTRUCTIONS IF ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFEREED FOR DECISION BEFORE PROCEEDING WITH THE WORK. IF A CONFLICT OCCURS BETWEEN GENERAL SPECIFICATIONS AND ANY OF THESE DRAWINGS, THE INDIVIDUAL DRAWINGS SHALL GOVERN.
- 3. THE DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED.
- DURING THE CONSTRUCTION PERIOD THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE STABILITY OF STRUCTURE AND ENSURE THAT NO STRUCTURAL ELEMENT BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- 5. WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE RELEVANT RECENT BS CODES OR OTHER ACCEPTABLE STANDARDS.
- 6. BASED ON THE DRAWINGS AND SPECIFICATIONS THE CONTRACTOR SHALL PRODUCE STRUCTURAL SHOP DRAWINGS FOR APPROVAL IF REQUESTED.
- ALL DIMENSIONS TO STRUCTURAL DRAWINGS ARE IN MILLIMETERS UNLESS STATED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METERS.
- 8. THE REINFORCED CONCRETE DESIGN IS BASED ON BS 8110 'STRUCTURAL USE OF CONCRETE'
- 9. REFER TO STANDARD AND TYPICAL DETAILS AS SHOWN IN THE TYPICAL DRAWINGS FOR DETAILS NOT SHOWN SPECIFICALLY.
- 10. ALL PROPS AND FRAMEWORK FOR BEAMS AND SLABS SHALL BE REMOVED BEFORE CONSTRUCTION OF ANY MASONRY WALLS OR OTHER PERMANENT LOADING ON THE SLAB.
- 11. ALL NON-LOAD BEARING WALLS SHALL BE KEPT CLEAR OFF THE UNDERSIDE OF SLABS AND BEAMS BY 30MM. THE JOINT SHALL BE FILLED WITH FIBRE BOARD OR COMPRESSIBLE MATERIAL PRESSED METAL COVERING BOTH SIDES OF THE JOINT, AND THE METAL COVERING SHALL BE FIXED TO SOFFIT OF THE BEAM OR SLAB AS THE CASE MAYBE.
- 12. THE CONTRACTOR IS REQUIRED TO SUBMIT A DRAWING SHOWING THE INTENDED SEQUENCE OF POURING, LOCATION AND DETAILS OF CONSTRUCTION JOINTS TO MINIMIZE THE POSSIBILITY OF OCCURRENCE OF SHRINKAGE CRACKS.
- 13. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR THE APPROVAL BY THE EMPLOYER'S PERSONNEL:
- 13.1. METHOD AND SEQUENCE OF CONSTRUCTION.
- 13.2. DESIGN AND CALCULATION OF TEMPORARY SUPPORT TO EXCAVATION PREPARED AND APPROVED BY AN ACCREDITED GEOTECHNICAL ENGINEER.
- 13.3. INSTRUMENTATION PROGRAMME TO MONITOR SOIL MOVEMENT, WATER TABLE AND SETTLEMENT.
- 13.4. EFFECTS OF GROUND WATER LEVEL DRAW-DOWN.
- 13.5. PRECAUTIONARY MEASURES TO AVOID DAMAGE TO NEIGHBORING BUILDING STRUCTURES.

FOUNDATIONS

- 1. ALL FOUNDATIONS HAS BEEN DESIGNED FOR SAFE GROUND PRESSURE OF 150 kN/m²
- ALL BACKFILL SHOULD BE DONE WITH APPROVED MATERIAL AND SOURCE. ALL BACKFILL SHOULD BE STRUCTURAL FILL, COMPACTED IN LAYERS AS SPECIFIED.
- WEAK POCKETS FOUND BELOW THE ASSUMED FOUNDATION LEVELS SHALL BE REMOVED AND REPLACED BY PLAIN CONCRETE.
- 4. IN CASE OF EXCAVATIONS BELOW THE ASSUMED LEVEL OF THE FOUNDATION, THE SOIL SHALL BE REPLACED BY PLAIN CONCRETE.
- IN CASE GROUND WATER IS PRESENT ABOVE FOUNDATION LEVEL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING THE SITE, AND LOWERING THE GROUND WATER TO AT LEAST 70 cm BELOW LEVEL OF FOUNDATIONS.
- THE CONTRACTOR SHALL MAINTAIN DRY WORKING CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD. RESTORING WATER TABLE CAN BE DONE AFTER BACKFILLING AND COMPACTION UP TO THE SLAB ON GRADE LEVEL, OR AS DIRECTED BY THE ENGINEER.
- NO BACK FILLING SHALL BE PLACED AGAINST WALLS RETAINING EARTH, UNLESS THE WALLS ACHIEVE SUFFICIENT STRENGTH TO PREVENT MOVEMENT OR STRUCTURAL DAMAGE.

CONCRETE

- 1. CEMENT SHALL BE ORDINARY PORTLAND CEMENT TO BS 12.
- 2. CONCRETE GRADE:
- 2.1. ALL IN-SITU STRUCTURAL CONCRETE SHALL HAVE MINIMUM 28 DAYS CUBE STRENGTH AS SPECIFIED ON FOUNDATION PLAN TO THE RELEVANT CLAUSES OF BS5328.
- 2.2. ALL PLAIN CONCRETE (OR BLINDING) SHALL HAVE MINIMUM 28 DAYS CUBE STRENGTH OF 15 N/mm², TO THE RELEVANT CLAUSES OF BS5328.
- AGGREGATES SHALL BE TO BS 882 WITH A NOMINAL SIZE OF 20 mm
 SULPHATE RESISTING CEMENT SHALL BE USED FOR ALL CONCRETE IN CONTACT WITH GARBAGE.
- NO OPENINGS, HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE IN THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL.
- 6. CONSTRUCTION AND EXPANSION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR SPECIFICALLY APPROVED.
- 7. NO ELECTRICAL CONDUIT AND PIPES ARE TO BE CAST IN COLUMNS OR THROUGH BEAMS WITHOUT PRIOR APPROVAL UNLESS OTHERWISE SHOWN IN THE DRAWINGS.
- 8. OPENING IN SLABS:
- 8.1. FOR OPENING LESS THAN 300 x 300 mm, BARS SHALL BE RE-ARRANGED AROUND THE OPENING.
- 8.2. FOR OPENINGS GREATER THAN 300 x 300 mm BUT LESS THAN 450 x 450 mm AND NOT SHOWN ON PLAN, PROVIDE 2 DIA 12 TOP AND BOTTOM ALONG EACH SIDE AND T16 DIAGONALLY AT CORNERS OR AS OTHERWISE DETAILED. AMOUNT OF BARS DISCONTINUED DUE TO THE OPENING SHALL BE PLACED AT THE RESPECTIVE SIDES.
- 8.3. OPENINGS GREATER THAN 450 x 450 mm AND NOT SHOWN ON PLAN SHALL BE APPROVED.
- 9. SHEAR KEY SHALL BE PROVIDED AT ALL CONSTRUCTION JOINTS.
- WATERPROOFING SYSTEM AS SPECIFIED IN THE SPECIFICATIONS SHALL BE USED IN STRUCTURAL ELEMENTS WHICH ARE CONTINUOUSLY IN CONTACT WITH SOIL OR WATER ON LIFT PIT, ROOF SLAB, R.C. RETAINING WALL AND RAFT ETC.
- TO PROVIDE INTEGRAL SEALING BETWEEN CONCRETE CAST IN-SITU IN SEPARATE POUR, APPROVED WATERSTOP HAS TO BE INSTALLED FOR ALL CONSTRUCTION JOINTS IN CONTACT WITH WATER AND SOIL.
- 12. SPECIAL RULES REGARDING CONCRETING IN HOT WEATHER SHALL BE OBSERVED.

REINFORCEMENT

- HIGH STRENGTH DEFORMED BARS DENOTED T SHALL CONFIRM TO BS-4449 WITH MINIMUM YIELD STRENGTH Fy= 460 N/mm², MILD STEEL DENOTED R SHALL HAVE 250 N/mm² YIELD STRENGTH. WELDED WIRE MESH SHALL COMPLY WITH BS-4483.
- 2. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN OR AS OTHERWISE APPROVED
- SPACER BARS SHALL BE PROVIDED AT 100cm CENTERS WHEREVER REINFORCEMENT IS PLACED IN MORE THAN ONE LAYER, UNLESS STATED OTHERWISE
- 4. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED. IF REINFORCEMENT SHOULD BE WELDED, APPROVAL IS REQUIRED.
- 5. ALL REINFORCEMENT SHALL BE SUPPORTED IN ITS CORRECT POSITION DURING CONCRETING BY APPROVED BAR CHAIRS, SPACERS, OR SUPPORT BARS.
- TYPICAL DEVELOPMENT AND SPLICES OF DEFORMED BARS WITH Fy = 460 N/mm² AND Fcu = 30 N/mm², (CUBE STRENGTH) SHALL BE AS FOLLOWS, UNLESS OTHERWISE MENTIONED IN DRAWINGS:
- 6.1. BASIC TENSION DEVELOPMENT LENGTH, LD = 56 x BAR DIA
- 6.2. MINIMUM COMPRESSION DEVELOPMENT LENGTH, LDC = 40 x BAR DIA (OR 300mm WHICH EVER IS MORE)
- 7. BENDING OF REINFORCEMENTS SHALL BE IN ACCORDANCE WITH BS 4466.

ABBREVIATIONS

ABBREVIATIO	<u>NS</u>
APPROX	-APPROXIMATE
В	-BEAM
B.W.	-BOTH WAYS
BOT OR BTM	-BOTTOM
BOB	-BOTTOM OF BASE
BOS	-BOTTOM OF STEEL
вот	-BOTTOM OF TRUSS
(B1)	-BOTTOM STEEL BOTTOM RNFMT.
(B2)	-BOTTOM STEEL TOP RNFMT.
BLDG	-BUILDING
L	-CENTER LINE
C/C	-CENTER TO CENTER
C	-COLUMN
CO-ORD	-CO-ORDINATE
	-DAMP PROOF COURSE
DET OR DTL	-DETAIL -DIAMETER
D/B	-DISTRIBUTION BAR
DWG	-DRAWING
EF	-EACH FACE
EW	-EACH WAY
EL	-ELEVATION (HEIGHT)
ELEV	-ELEVATION (VIEW)
FF	-FAR FACE
FS	-FAR SIDE
FW	-FILLET WELD
FFL	-FINISHED FLOOR LEVEL
FDN OR FND	
FB	-FOUNDATION BEAM
GA	-GENERAL ARRANGEMENT
G.I.	-GALVANIZED IRON
L	-INVERT LEVEL
LG MAX	-LONG OR LENGTH
MAX MKD	-MAXIMUM -MARKED
MIN	-MINIMUM
/ISC	-MISCELLANEOUS
1/F	-MISCELLANEOUS -NEAR FACE
1/S	-NEAR SIDE
NOM	-NOMINAL
ITS	-NOT TO SCALE
los	-NUMBERS
D/D	-OUTSIDE DIAMETER
۲L	-PAVEMENT LEVEL
PROJ	-PROJECTION
ŶŦŶ	-QUANTITY
RAD	-RADIUS
R.C.	-REINFORCED CONCRETE
REQ'D	-REQUIRED
SW STIFF	-SHEAR WALL -STIFFENER
SO	-SUFFENER
	-STRUCTURAL FINISH LEVEL
	-THICK (NESS)
	-TEMPORARY
	-TOP OF BEAM
	-TOP OF COLUMN
OG	-TOP OF GROUT
O Platf	-TOP OF PLATFORM
S	-TOP OF SLAB
os	-TOP OF STEEL
ОТ	-TOP OF TRUSS
	-TYPICAL
	-UNDERSIDE
	-UNLESS NOTED OTHERWISE -TOP STEEL TOP RNFMT.
T1) T2)	-TOP STEEL BOTTOM RNFMT.
UPB)	-UPSTAND BEAM



NOTES:

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PROJECT

PROPOSED LPG STATION

LOCATION

GDH.THINADHOO

type INDUSTRIAL

client MALDIVES GAS

drawing title AS GIVEN

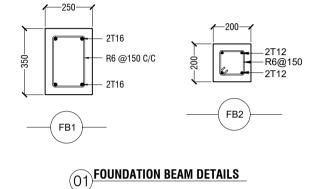
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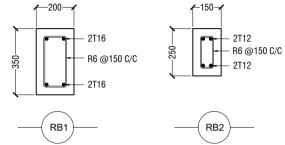
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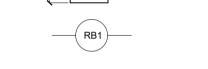
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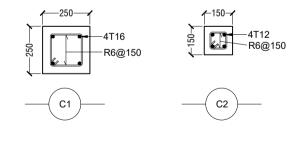
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(02) ROOF BEAM DETAILS



03 RC COLUMN DETAILS

RC COVER & CONCRETE GRADE SCHEDULE (BS 5328)

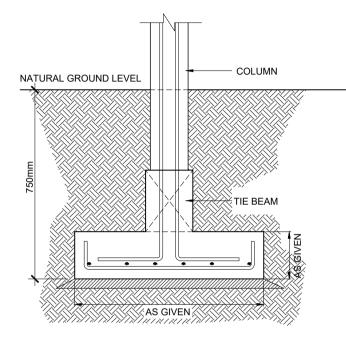
MEMBER	COVER	CONCRETE GRADE	
FOUNDATION BEAMS AND PADS	50 mm		
COLUMNS	40 mm	- C30	
FLOOR BEAMS	40 mm		
FLOOR SLABS & STAIRCASES	30 mm		
STIFFENER AND LINTEL	30 mm	C25	
MASS CONCRETE	-	C25	
LEAN CONCRETE	-	C15	

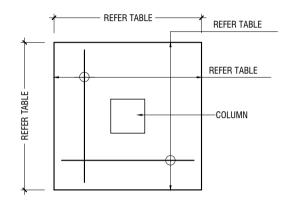
STRUCTUR	AL DET	AILS 1		
SCALE 1:20				
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HYDRON ENGINEERING						
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type INDUSTRIAL						
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DATE APRIL 2021 Sheet size A4	drawing no: SD- 6.01					



NOTES:





TYPE	DIMENSIONS	REINFORCEMENT			
F1	800mm x 800mm x 300mm	T12@150 C/C B/W BOTTOM			
FOUNDATION DEPTH = 750mm BELOW NATURAL GROUND LEVEL					

 Typical Footing Details

 Scale 1:20

 0
 0.1
 0.2
 0.4
 0.6
 0.8
 1

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	LOCATION GDH.THINADHOO						
	type INDUSTRIAL						
	client MALDIVES GAS						
	drawing title AS GIVEN						
	scale AS GIVEN						
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