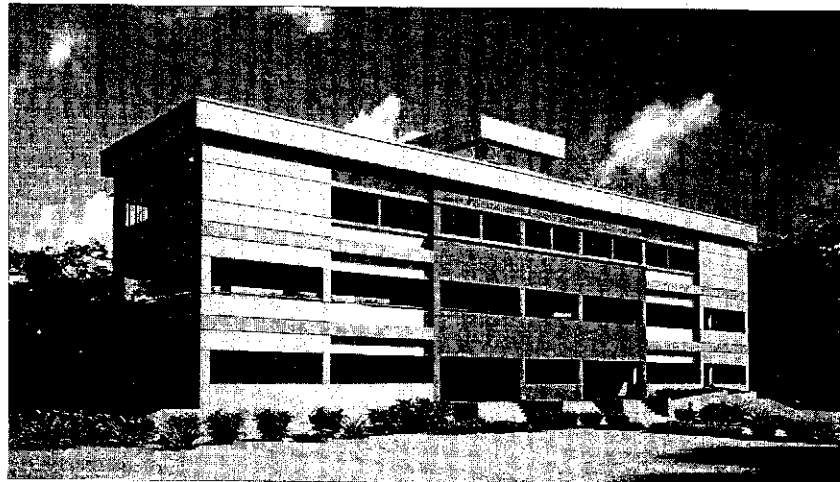




GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT AND COOPERATIVES
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS (ICB)
CONSTRUCTION OF NEW SCHOOL CUM DISASTER STEEL FRAME BUILDINGS
IN CHATTOGRAM DISTRICT
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP)



STEEL FRAME BUILDING OPTION-1

VOLUME IV OF IV
TENDER DRAWINGS
(COMMON FOR BOTH FOLLOWING PACKAGES)

DISTRICT	CONTRACT PACKAGE NO.	NO. OF SHELTERS
CHATTOGRAM	LGED/MDSP/CH/14-15/NW-03-A	25
CHATTOGRAM	LGED/MDSP/CH/14-15/NW-03-B	25

TENDER DRAWING
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FEBRUARY, 2019



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

S. NO.	SECTION	DESCRIPTION
1	SECTION-1	PACKAGE MASTER TABLES (PART-A & PART-B)
2	SECTION-2	DRAWINGS OF STEEL BUILDING OPTION-1
3	SECTION-3	DRAWINGS OF FURNITURE FOR STEEL BUILDING OPTION-1

CONSULTANTS :

Joint venture of

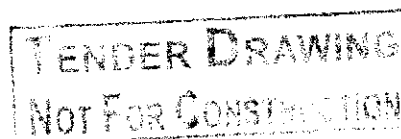
CDM Smith Inc. USA

Development Design Consultants Ltd.

Bangladesh



FEBRUARY, 2019





GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

SECTION-1 : PACKAGE MASTER TABLE
CHATTOGRAM STEEL FRAME BUILDINGS PACKAGE
OVERALL MASTER TABLE PART-A & PART-B

CONSULTANTS :

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FEBRUARY, 2019

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Multipurpose Disaster Shelter Project (MDSP)

OVERALL MASTER TABLE : Details of Steel Shelters in Chittagong District (Part A)

Total Number of Shelters: 25 Nos. (Option-01 Buildings)
Foundation Type: Pile Foundation (Cast-in-situ Pile)
Pile Diameter = 500 mm

NB: H.F.L= Highest Flood Level; E.G.L= Existing Ground level
F.G.L= Formation Ground Level

Key:

Option-1: Plinth height 0.9m above F.G.L; Footprint dimension 37.925m x 14.20 m (Rectangular Shape)

INFORMATION ON SELECTED SCHOOL CUM SHELTER LOCATION										INFORMATION OF SHELTER BUILDING												
S. No.	Database Unique ID	School Code	Upazila	Union	Mouza	Village	DS Name	Longitude	Latitude	H.F.L.	Avg. E.G.L. at Footprint	F.G.L. at Footprint	Shelter Option	RL of Plinth Level at Footprint	Pile Length (506mm dia) from F.G.L. to Toe L. (m)	No. of Piles	Existing Structure to be Demolished (sqm)				Temporary school Shed Required or Not	Palisading (m)
										(m PWD)	(m PWD)	(m PWD)		(m PWD)			Kacha	Semipucca	Pucca	Str. Condition		
1	CTGP29	411060803	Anowara	Chatori	Koyenpura	Koyenpura Mohotarpara	Mohotarpara GPS	22.258639	91.884472	6.391	5.400	5.70	Option-01	6.60	19	67	-	146	4	Bad	Yes	
2	CTGP3201	411060202	Anowara	Barasath	Boalis	Boalis	12 No Purbo Boalis GPS	91.834028	92.203750	7.245	4.400	4.70	Option-01	5.60	17	67	-	-	194	Bad	Yes	
3	CTGP3202	411060801	Anowara	Chatori	Chatori	Chatori	57 No Chatori GPS	91.876667	92.247222	6.743	5.500	5.80	Option-01	6.70	28	67	-	-	390	Bad	Yes	
4	CTGP3204	411010501	Anowara	Barokhain	Barokhain	Barokhain	Hazi Mir Ahmed	91.910639	92.260361	6.787	5.400	5.80	Option-01	6.70	22	67	-	-	-	-		
5	CTGP3205	411060108	Anowara	Boirag	Boirag	Boirag	Mohadebpur GPS	91.862778	92.233056	-	4.700	5.00	Option-01	5.90	9	67	-	-	183	Bad	Yes	
6	CTGP3206	411060107	Anowara	Boirag	Boirag	Purbo Boirag	Purbo Boirag GPS	91.854306	92.223750	6.733	5.700	6.00	Option-01	6.90	21	67	-	-	-	-		
7	CTGP65	411100403	Banskhali	Pourashava	Jangal Jaldi	Dakshin Jaldi	Purbo Jaldi Adirsho Gram GPS	22.000610	91.969410	-	5.600	5.80	Option-01	6.70	8	67	-	-	144	Bad	Yes	
8	CTGP 126	411010607	Banskhali	Sadhanpur	Rata	Rata	14 No Ratakhundo GPS	91.904139	92.272472	5.632	4.200	4.70	Option-01	5.60	23	67	-	-	-	-		
9	CTGP138	411011307	Banskhali	Sorol	Pairang	Pairang	65 No Pairang GPS	22.024556	91.946694	5.616	4.900	5.10	Option-01	6.00	21	67	-	-	-	-		
10	CTGP3207	411080803	Banskhali	Khenabad	Dongra	Dongra	115 No. Purbo Dongra Altaf Ali GPS	91.893528	92.261861	7.427	4.500	5.00	Option-01	5.90	26	67	-	-	147	Bad	Yes	
11	CTGP3209	411019008	Banskhali	Sanua	Kutubkhali	Kutubkhali	150 No. Hazi Kalamiya Para GPS	91.930472	92.295472	8.113	4.900	5.10	Option 01	6.00	30	67	-	-	-	-		
12	CTGP3210	411010401	Banskhali	Baharchara	Elisha	Elisha	154 No Elisha GPS	91.876667	92.247222	6.251	4.750	5.30	Option-01	6.20	17	67	-	104	-	Bad	Yes	
13	CTGP3211	411010304	Banskhali	Puichari	Puichari	Purbo Puichari	Puichory Hafaria GPS	91.968167	92.333167	8.676	5.700	6.00	Option-01	6.90	16	67	-	179	-	Bad	Yes	
14	CTGP3212	411019007	Banskhali	Puichori	Jungal Puichori	Puichori	Purbo Puichori GPS	91.973350	92.338541	5.666	2.000	2.50	Option-01	3.40	22	67	-	-	-	-		
15	CTGP164	411070604	Boalkhali	Popadia	Popadia	Popadia	Popadia GPS	22.386833	91.953639	5.709	4.900	5.10	Option-01	6.00	30	67	-	-	150	Bad	Yes	
16	CTGP3213	411070202	Boalkhali	Pashchim Gomdondi	Charkhijpur	Charkhijpur	100 No Dakshin Paschim Char Khijipur Amin Sharif GPS	91.885767	92.258136	6.075	3.900	4.50	Option-01	5.40	20	67	-	-	-	-		
17	CTGP3301	41107070801	Boalkhali	Charandwip	Charandwip	Paschim Charandwip	58 No Charandwip Abbasia GPS	22.414097	91.922697	5.446	4.400	4.60	Option 01	5.50	15	67	-	-	-	-		
18	CTGP652	411051002	Patiya	Kashyash	Pingala	Pingala	Pingola Nabin GPS	22.279333	91.920306	6.145	5.6	5.80	Option-01	6.70	30	67	-	-	77	Bad	Yes	
19	CTGP676	11050705	Patiya	Habilashdwp		Habilashdwp	Habilashdwp GPS	91.931717	92.304064	5.617	4.9	5.20	Option-01	6.10	23	67	-	-	-	-		
20	CTGP909	411030803	Sandwip	Rahmatpur	Rahmatpur	Rahmatpur	Rahmatpur South East GPS	22.480639	91.443750	6.842	4.6	5.00	Option-01	5.90	25	67	-	146	-	Bad	Yes	
21	CTGP920	311020801	Sandwip	Harishpur	Harishpur	Harishpur	Hazi Boduzaman GPS	22.514917	91.436833	6.681	5.600	5.80	Option 01	6.70	24	67	-	-	-	-		
22	CTGP971	411030901	Sandwip	Musapur	Musapur	Musapur	60 No Amirabad GPS	22.460260	91.458100	5.655	4.6	4.80	Option-01	5.70	22	67	-	-	-	-		
23	CTGP3225	411039027	Sandwip	Pourashava	Bauria	Bauria	Ali Nur GPS	91.456278	91.831278	6.391	5.2	5.50	Option-01	6.40	25	67	-	-	-	-		
24	CTGP3226	411031205	Sandwip	Moghdhara	Moghdhara	Moghdhara	Purbo Moghdhara Hazi Motja GPS	91.518611	91.892500	9.07	6.2	6.50	Option-01	7.40	26	67	-	-	-	-		
25	CTGP3227	411039034	Sandwip	Moghdhara	Moghdhara	Moghdhara	Purbo Shokoshar Fulmia GPS	91.532000	91.906611	6.894	5.6	6.00	Option-01	6.90	25	67	-	-	190	Bad	Yes	

TENDERS DRAWING
NOT FOR CONSTRUCTION

Multipurpose Disaster Shelter Project (MDSP)

OVERALL MASTER TABLE : Details of Steel Shelters in Chittagong District (Part B)

Total Number of Shelters: 25 Nos. (Option 01 buildings)
Foundation Type: Pile Foundation (Cast-in-situ Pile)
Pile Diameter = 500 mm

NB: H.F.L= Highest Flood Level; E.G.L= Existing Ground level
F.G.L= Formation Ground Level

Key:

Option-1: Plinth height 0.9m above F.G.L; Footprint dimension 37.925m x 14.20 m (Rectangular Shape)

INFORMATION ON SELECTED SCHOOL CUM SHELTER LOCATION								INFORMATION OF SHELTER BUILDING														
S. No.	Database Unique ID	School Code	Upazila	Union	Mouza	Village	DS Name	Longitude	Latitude	H.F.L.	Avg. E.G.L. at Footprint	F.G.L. at Footprint	Shelter Option	RI. of Plinth Level at Footprint	File Length (500mm dia) from F.G.L. to Toe L. (m)	No. of Piles	Existing Structure to be Demolished (sqm)				Temporary school Shed Required or Not	Palisading
										(m PWD)	(m PWD)	(m PWD)		(m PWD)	kacha		Semipucca	Pucca	Str. Condition	(m)		
1	CTGP184	411100508	Chandanaish	Saltaira	Jafarabad	Jafarabad	Uttar Jafarabad Daymia GPS	22.170333	92.025056	6.141	4.700	5.20	Option-01	6.10	16	67	-	-	-	-		
2	CTGP3214	411100508	Chandanaish	Borkol	Pathandondi	Pathandondi	Pathandondi Ujr Ali GPS	91.990900	92.360500	6.911	5.250	5.70	Option-01	6.60	30	67	-	-	-	-		
3	CTGP376	411049203	Fatikchhari	Paingong	South Paingong	South Paingong	207 No. Dakshin Paingong Sikdarpara GPS	22.720500	91.771806	12.486	11.500	11.80	Option-01	12.70	18	67	94	-	-	Bad	Yes	
4	CTGP418	411049203	Fatikchhari	Samitirhat	Nischintapur	Nischintapur	Nischintapur GPS	22.592960	91.830570	6.666	4.350	5.00	Option-01	5.90	24	67	-	-	-	-		
5	CTGP420	411049203	Fatikchhari	Samitirhat	Purbo Dholoi	Dakshin Sadeknagar	Dakshin Sadeknagar GPS	22.594060	91.832970	4.710	4.000	4.30	Option-01	5.20	14	67	-	141	148	Bad	Yes	
6	CTGP422	411041605	Fatikchhari	Samitirhat	Purbo Dholoi	Purbo Sadek Nogar	110 No. Purbo Sadek Nogar Rahmania GPS	22.584250	91.836250	5.943	4.200	5.00	Option-01	5.90	13	67	-	112	-	Bad	Yes	
7	CTGP3215	411110207	Hathazari	Uttar Madasha	Uttar Madasha	Barighona	73 No. Barighona GPS	91.869533	92.243904	6.017	5.1	5.40	Option-01	6.30	33	67	-	-	82	Bad	Yes	
8	CTGP3216	411110211	Hathazari	Uttar Madasha	Uttar Madasha	Dakshin Barighona	120 No Dakshin Barighona GPS	91.707200	92.081454	6.364	5.000	5.40	Option-01	6.30	30	67	-	-	182	Bad	Yes	
9	CTGP685	99411040103	Karnafuli	Charpatharghata	Charpatharghata	Charpatharghata	175 No. Paschim Char Patharghata GPS	22.318778	91.842389	7.135	6.4	6.80	Option-01	7.50	16	67	-	-	138	Bad	Yes	
10	CTGP710	411050104	Karnafuli	Char Laksha	Char Farid	Char Farid	4 No. Char Farid GPS	22.302500	91.853000	5.75	4.2	4.80	Option-01	5.70	28	67	-	238	156	Bad	Yes	
11	CTGP711	411040311	Karnafuli	Uttar Char Laksha	Char lakshya	Uttar Char Laksha	Poschim Char Laksha Moulevipara GPS	91.823111	92.194500	10.817	6.5	7.00	Option-01	7.90	16	67	-	-	185	Bad	Yes	
12	CTGP3217	411041902	Karnafuli	Char Patharghata	Ichanogor	Ichanogor	Moddho Ichanogor	91.824528	92.196194	7.109	5.9	6.20	Option-01	7.10	15	67	-	-	136	Bad	Yes	
13	CTGP3219	411089023	Lohagara	Adhunagor	Adhunagor	Adhunagor	97 No. Adhunagor damir Pukur GPS	92.076167	92.442556	14.99	13.6	14.00	Option-01	14.90	19	67	-	139	-	Bad	Yes	
14	CTGP3220	411080912	Lohagara	Amirabad	Sukchari	Sukchari	Sukchari Rahmania GPS	92.107917	92.474861	5.487	4.700	5.00	Option-01	5.90	22	67	-	3/5	-	Bad	Yes	
15	CTGP571	99411120402	Mirsharai	Mirsharai	Meltharia	Amantola	Bishowdarbar GPS	22.796833	91.549361	5.398	4.85	5.10	Option-01	6.00	12	67						
16	CTGP576	411131001	Mirsharai	Mogadiya	Moddho Mogadiya	Shafuulah Para	Safuulah Para GPS	22.755944	91.537722	6.173	5.7	5.90	Option-01	6.80	15	67	-	42	145	Bad	Yes	45
17	CTGP3221	411131405	Mirsharai	Halkandi	Kurua	Tula Barya	123 No Kamor Ali GPS	91.585517	91.963606	7.285	5.9	6.30	Option-01	7.20	22	67	-	-	285	Bad	Yes	
18	CTGP3222	411130301	Mirsharai	Sherkhali	Dom Khali	Dom Khali	Moddho Dom Khali Najipara GPS	91.562639	91.940694	7.584	6.6	6.90	Option-01	7.80	22	67	18	-	152	Bad	Yes	
19	CTGP3303	41113050102	Mirsharai	Osmanpur	Brindabanpur	Brindabanpur	Hazi Kamal Pasha GPS	22.881275	91.492119	5.165	4.35	4.50	Option-01	5.40	13	67						
20	CTGP778	411120608	Rangunia	Sonirba Rangunia	Brommuttar	Brommuttar	Brommuttar GPS	22.484139	92.081278	4.012	3.5	3.80	Option-01	4.70	33	67	-	-	-	-		
21	CTGP781	411120603	Rangunia	Sadar	Rangunia	Rangunia Sadar	23 No Sadar Ali GPS	22.494333	92.080417	6.12	4.400	5.00	Option-01	5.90	15	67	-	-	-	-		
22	CTGP816	411021409	Raozan	Bagoan	Koepara	Koepara	Koepara Girls GPS	22.432444	91.959472	6.241	4.800	5.30	Option-01	6.20	22	67	-	297	163	Bad	Yes	
23	CTGP3224	411021409	Raozan	Pahartoli	Pahartoli Unosoltorpara	Unosoltorpara	CUET GPS	91.968983	92.343387	-	3.800	4.10	Option-01	5.00	13	67	-	-	-	-		
24	CTGP1004	411201202	Satkaria	Bajalia	Bajalia	Bajalia	66 No Purbo Bajalia GPS	92.124972	92.493383	6.461	5.700	5.90	Option-01	6.90	21	67	-	-	150	Bad	Yes	
25	CTGP3304	411201003	Satkaria	Jonar Koochina	Jonar Koochina	Jonar Koochina	Matherbar Nowapara GPS	92.077444	92.415500	10.925	6.500	9.00	Option-01	9.90	13	67		140	-	Bad	Yes	

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GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

SECTION-2 : DRAWINGS OF STEEL FRAME BUILDING OPTION-1

2A : ARCHITECTURAL DRAWINGS

2B : STRUCTURAL DRAWINGS

2C : ELECTRICAL DRAWINGS

2D : SANITARY & PLUMBING DRAWINGS

CONSULTANTS :

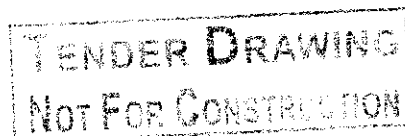
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GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

SUB SECTION-2A : ARCHITECTURAL DRAWINGS
(STEEL FRAME BUILDING OPTION-1)

CONSULTANTS :

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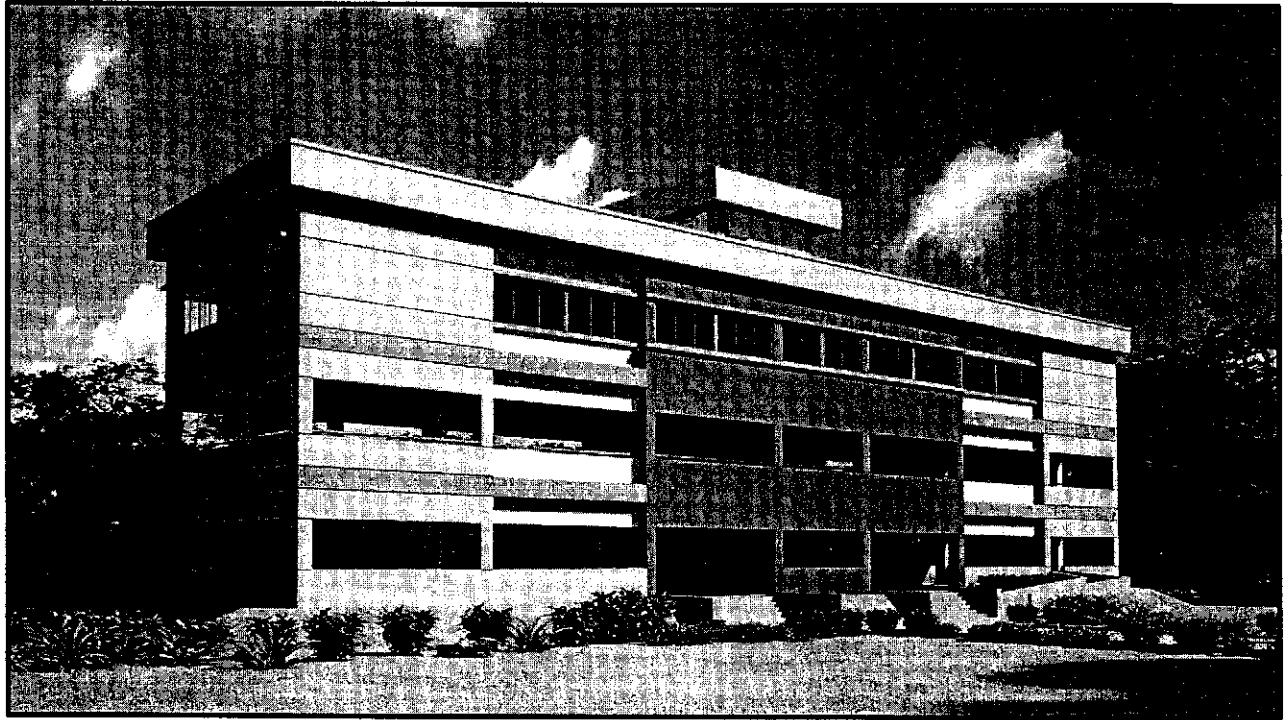
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

Local Government Engineering Department (LGED)

ARCHITECTURAL DRAWINGS FOR STEEL BUILDING (OPTION-1)

DS Name :
School code :
Database Unique ID :
Upazila :
District : CHITTAGONG
Package No. : LGED/MDSP/CHI/14-15/NW-03-A & B



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JANUARY, 2019

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ARCHITECTURAL DRAWING LIST OPTION-01

SL. NO.	SHEET NO.	DRAWING TITLE	SCALE	REMARKS
01	A-0	DRAWING LIST		
02	A-00	PERSPECTIVE VIEW	-	
03	A-01	FINISHING SCHEDULE	-	
04	A-02	GROUND FLOOR PLAN	1:110	
05	A-03	1ST FLOOR PLAN	1:110	
06	A-03-1	1ST FLOOR PLAN SHOWING LOCATION OF COLLAPSIBLE GATE & GRILL	1:110	
07	A-04	2ND FLOOR PLAN	1:110	
08	A-05	ROOF PLAN	1:110	
09	A-06	ROOF & CHILAKOTHA PLAN	1:110	
10	A-07	FRONT ELEVATION	1:110	
11	A-08	BACK ELEVATION	1:110	
12	A-09	LEFT & RIGHT SIDE ELEVATION	1:110	
13	A-10	SECTION AA & BB	1:110	
14	A-11	SECTION CC	1:110	
15	A-12	SECTION DD	1:110	
16	A-13	SECTION RAMP	1:100	
17	A-14	PLAN OF STAIR-1	1:75	
18	A-15	SECTION OF STAIR-2	1:75	
19	A-16	SECTION DETAIL-1	1:30	
20	A-17	SECTION DETAIL-2	1:30	
21	A-18	DOOR & WINDOW DETAILS	1:50	
22	A-18-1	BLOW UP OF DETAIL PLAN AND ELEVATION	AS SHOWN	
23	A-18-2	SOLAR PANNEL BATTERY LOCATION PLAN & SECURITY GRILL PLAN	AS SHOWN	
24	A-19	GRILL DETAILS	1:50	
25	A-20	EXPANSION JOINT	AS SHOWN	
26	A-21	BLACK BOARD DETAIL WITH ELEVATION & SECTION	AS SHOWN	
27	A-22	PLAN AND DETAIL OF M.S LADDER	AS SHOWN	
28	A-23	PROJECT SIGN BOARD	-	

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :
-----------	--

MUR TIPIRPOSE DISASTER SHELTER PROJECT(MDSP)	Name :	Unique ID
Funded by World Bank	Type : Option -01	School Code
	Upazila	
	District: Chittagong	
	Package : LGED/MDSP/CI/16/15/NW-03-A & B	

CLIENT:

Government of
Peoples Republic of
Bangladesh

Line Ministry :
Ministry of LGRO
Implementing Agency : Local Gov
Engineering Department (I GER)

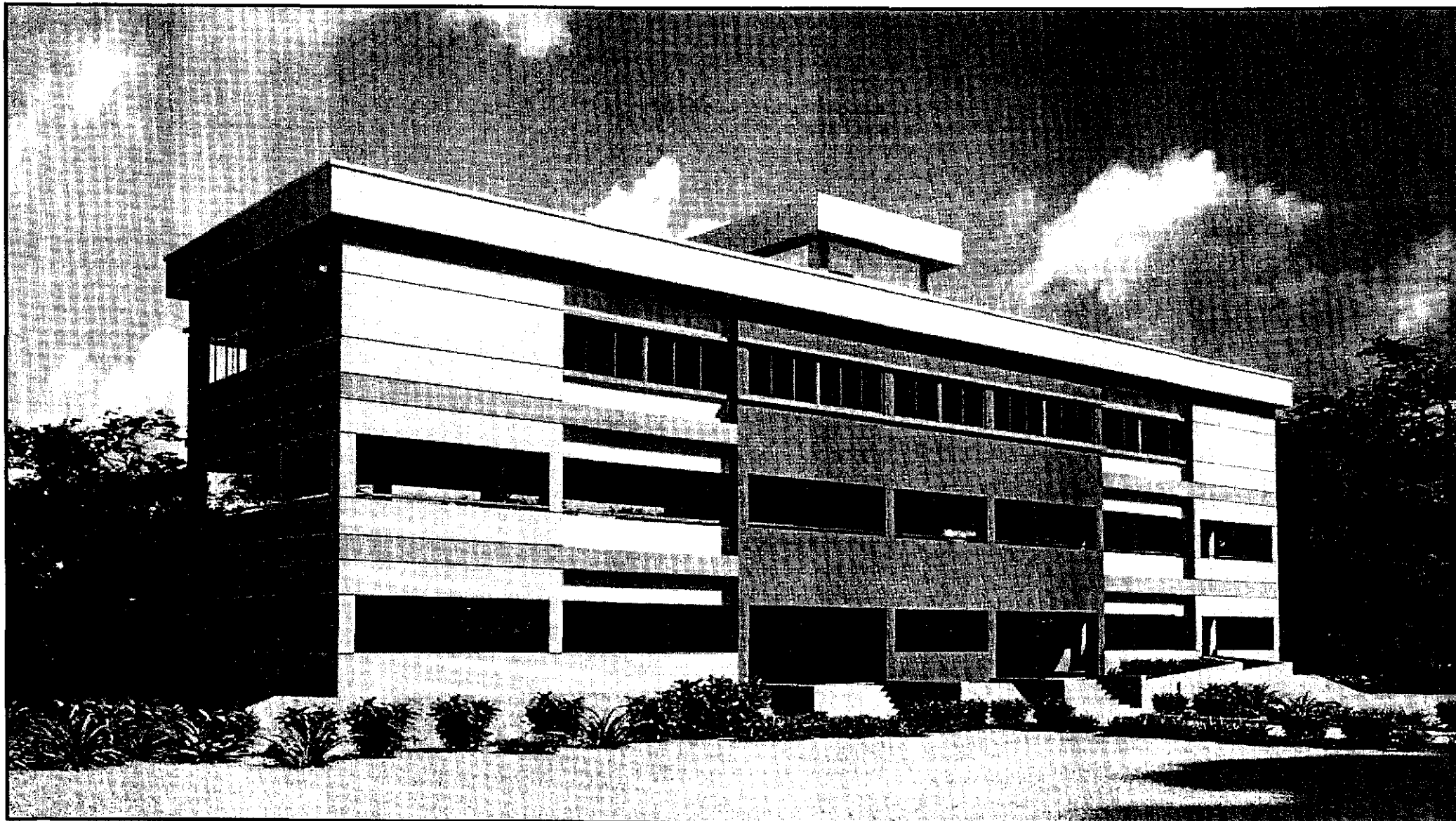
CONSULTANTS:

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Bangladesh

DRAWING TITLE:

DRAWING LIST	
Org. No. :	MDSP/AR - 0
Sheet No.	A - 0
Date :	January, 2018

Rev. No.	Date	Description
Drawn by: Md. Sarwar Hossain Khan		APPROVED BY:
Designed by:		
Architect: Mr. Ismail Hossain		
Checked by:		
Dr. S.M Parvez Mohit		
Team leader:		
Susil Somasari		Javed Karim Project Director



PROPOSED PERSPECTIVE VIEW

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :				CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name Type Upazila District Package	Call no - 01	Unique ID School Code	Government of Peoples Republic of Bangladesh	Line Ministry - Ministry of LGED Implementing Agency (Local Govt. Engineering Department (EGD))	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PERSPECTIVE VIEW	01	20/01/2019	APPROVED FOR PROJECT DIRECTION
							Eng. No. - MDSP/AR-01 Sheet No. - A-00 Date - January, 2019			Checked: AEM Project Director

FINISHING SCHEDULE (OPTION-01)

INTERIOR FINISH

Room	Floor	Skirting	Internal Wall	External Wall	Ceiling	Notes
Ground Floor/ Handicap Ramp	38mm Thick Patent Stone with NCF	NCF Skirting	12mm Thick Plaster Plastic emulsion (Off White Color)	Weather Coat (French gray etc.as per E.I.C instructions)	6mm Thick Plaster Plastic Emulsion (Brilliant white)	Floor Slope : 1/200
1st Floor	25mm Thick Patent Stone with Rough Surface (RS)	NCF Skirting	12mm Thick Plaster Plastic emulsion (Off White Color)		6mm Thick Plaster Plastic Emulsion (Brilliant white)	
Class Room (2nd Floor)	GP (Homogenous) 400x400 mm	150 mm Tiles	12mm Thick Plaster Plastic emulsion (Off White Color)		6mm Thick Plaster Plastic Emulsion (Brilliant white)	65 Desk High & Low Bench Shelf, 4 Blackboards
Teacher's Rooms (2nd Floor)	GP (Homogenous) 400x400 mm	150 mm Tiles	12mm Thick Plaster Plastic emulsion (Off White Color)		6mm Thick Plaster Plastic Emulsion (Brilliant white)	3 Desk and Chair, 2 Cabinet and Half Secretariat table & Chair- 1 No.
Store Room (2nd Floor)	GP (Homogenous) 400x400 mm	150 mm Tiles	12mm Thick Plaster Plastic emulsion (Off White Color)		6mm Thick Plaster Plastic Emulsion (Brilliant white)	
Toilets	Homogenous Tiles 300 X 300 mm	2100 mm glazed Tiles	Glazed Wall Tiles		6mm Thick Plaster Plastic Emulsion (Brilliant white)	Squatting Pan follow North-South Direction Water Sink, Drain and Floor Slope
Stair Case	GP (Homogenous stair floor) 300 x 300 mm	150 mm Tiles	12mm Thick Plaster Plastic emulsion (Off White Color)		6mm Thick Plaster Plastic Emulsion (Brilliant white)	Steps Tiles Round at end follow detail
Corridor (2nd Floor)	GP (Homogenous) 400x400 mm	150 mm Tiles	12mm Thick Plaster Plastic emulsion (Off White Color)		6mm Thick Plaster Plastic Emulsion (Brilliant white)	

DOOR/ WINDOW & GRILL FINISH

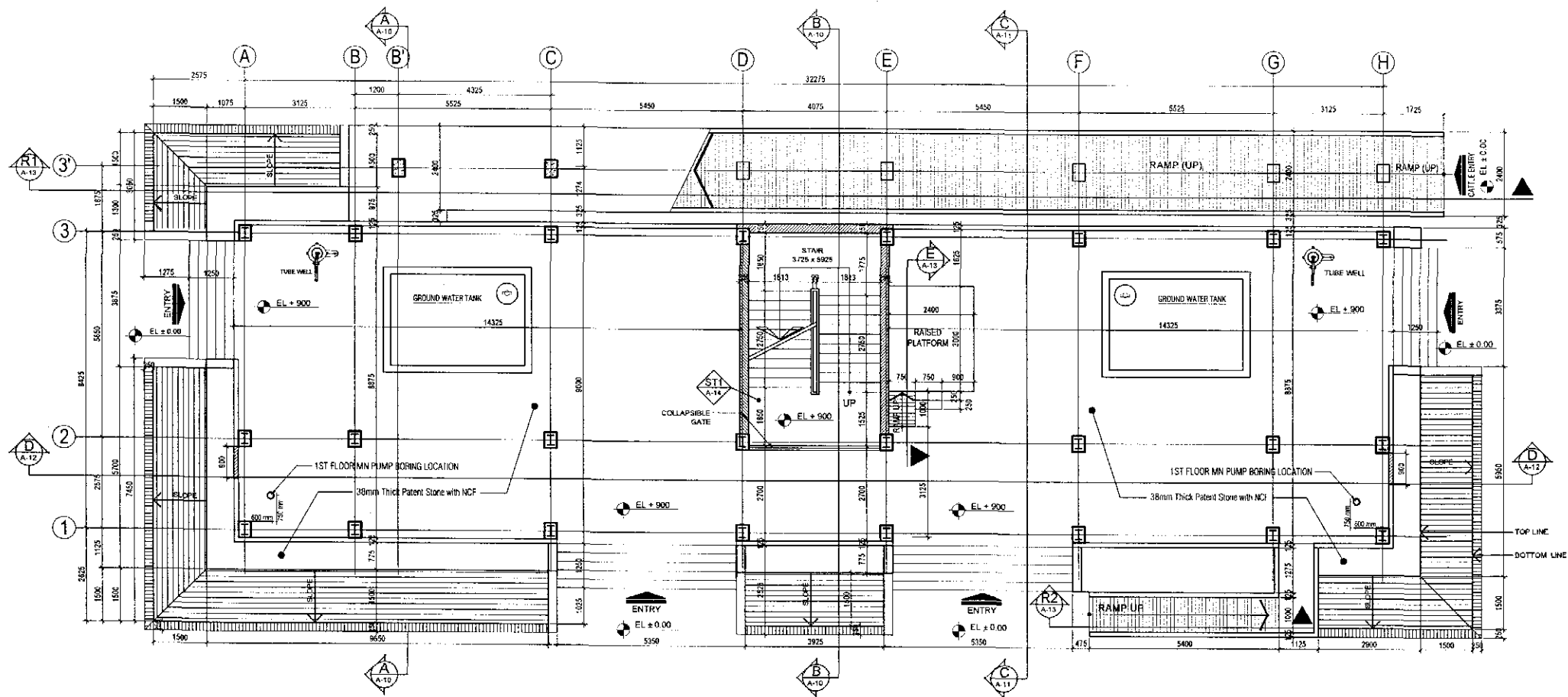
MS Door Frame	Enamel Paint (Oil Based) Tobacco Brown Colour	
MS Door Shutter	Enamel Paint (Oil Based) Tobacco Brown Colour	
Wooden Door Frame & Shutter	Enamel Paint (Oil Based) (Coffee Color)	
Window glass	Aluminum Window (10mm Thick Tempered glass)	Window Stopper
Grill	Enamel Paint (Oil Based) Tobacco Brown Colour	

OTHER FINISH

Roof & Ramp	Wearing coarse T=38mm (AV) Water Proofing Course	Roof Slope :1/200 Skirting H=150mm
Eaves	Mortar Trowel T=12mm Weather Coat (Off White Color)	
Stair Case Roof	Wearing coarse T=50mm (AV) Water Proofing Course	Roof Slope :1/200 Water send to Water Tank
Anti Salinity & damp proofing admixture to be used for all plastered & roof surfaces		

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTI-PURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Upazila : District : Package : Option : 01 Unique ID : School Code : Chittagong LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FINISHING SCHEDULE (OP-01) Dwg. No. : MDSP/ARL-01 Sheet No. : A-01 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M. Faruk Miah Isent : Susil Somasiri	APPROVED BY : Javed Karim Project Director



GROUND FLOOR PLAN (OPTION-1)

SCALE 1:110

ALL DIMENSIONS are in mm unless otherwise mentioned

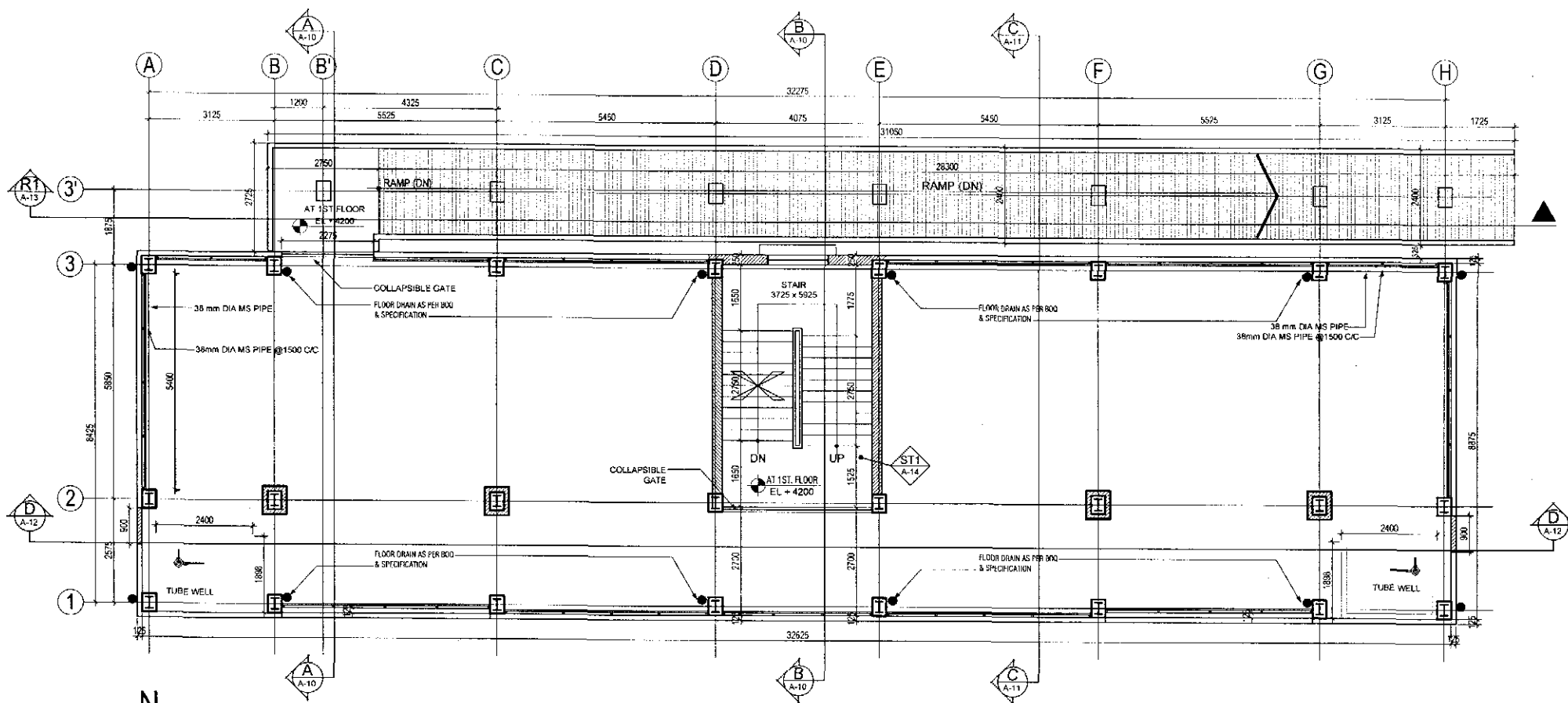
FLOOR AREA = 289.54 Sqm

RAMP AREA = 74.50 Sqm, 31050 x 2400

(SPACE REQUIRED 32625 x 8875)

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option -01 Type : Unique ID : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (I.GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	GROUND FLOOR PLAN	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M. Parvez Monir Date : January 2019	APPROVED BY : Javed Karim Project Director



1ST FLOOR PLAN (OPTION-1)

SCALE 1:110

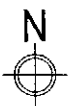
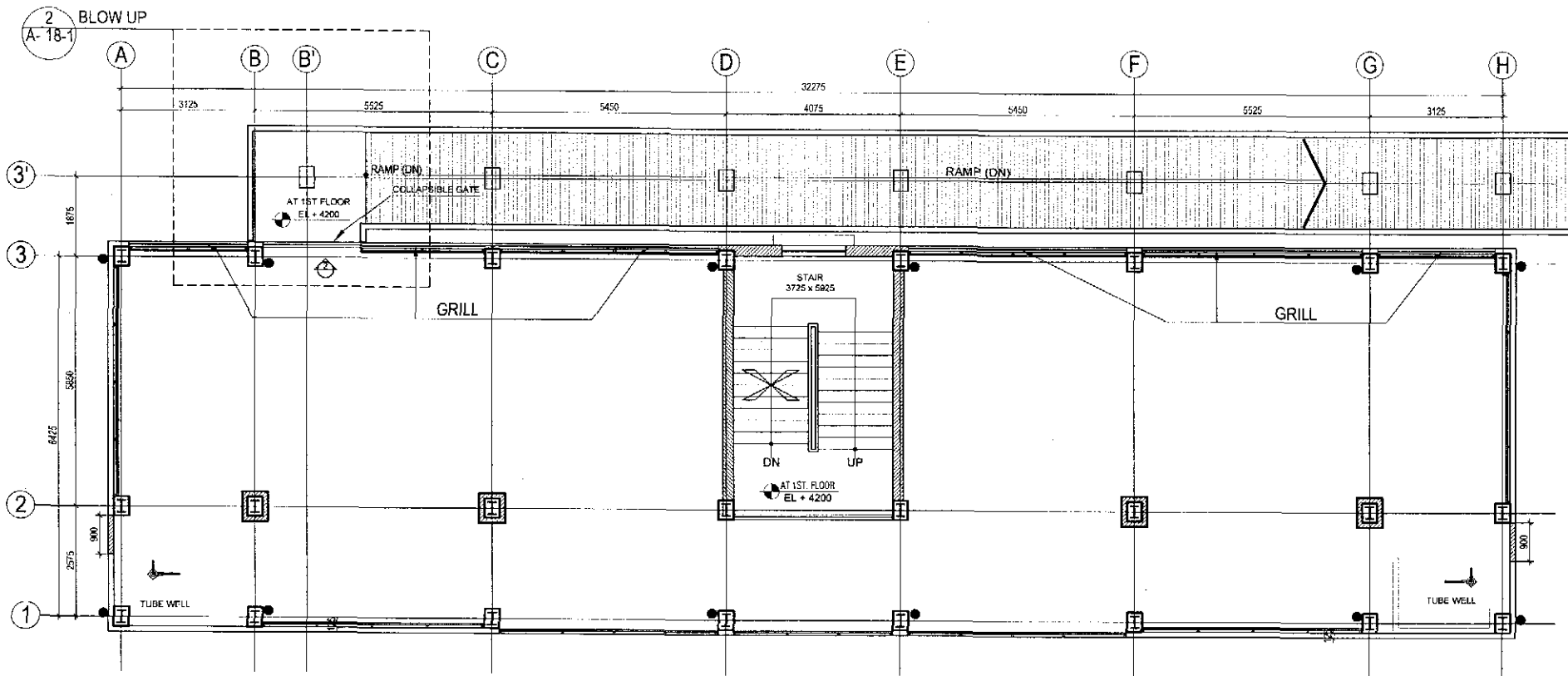
ALL DIMENSIONS are in mm unless otherwise mentioned

FLOOR AREA = 289.54 Sqm

(SPACE REQUIRED 32625 x 8875)

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Option -01 Type : Upazila : Chittagong District : Package : LGCD/MDSP/CH/14 13/NW-03-A & B	Government of Peoples Republic of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	1ST FLOOR PLAN Org. No. : MDSP/AR_01 Sheet No. : A-03 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohi Team Leader : Susil Somnath	APPROVED BY : Javed Karim Project Director	



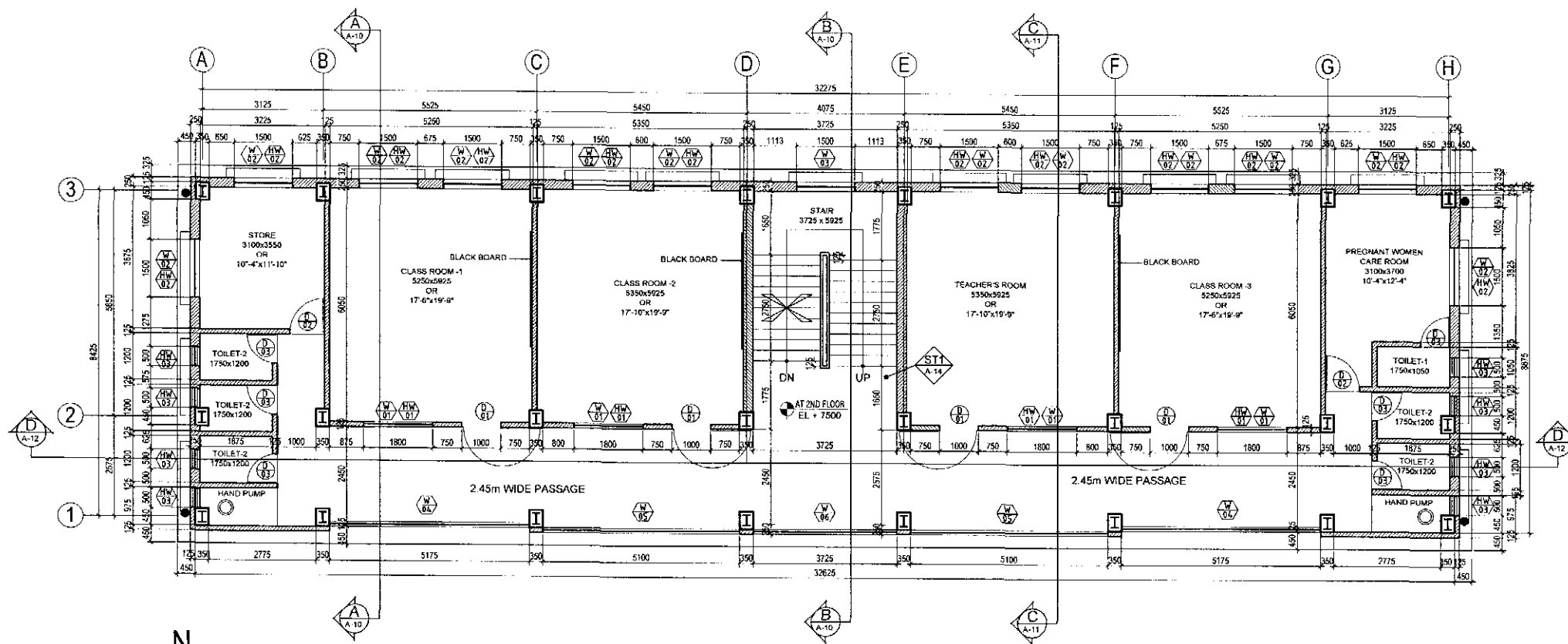
1ST FLOOR PLAN SHOWING LOCATION OF COLLAPSIBLE GATE & GRILL(OPTION-01)

SCALE 1:110

ALL DIMENSIONS are in mm unless otherwise mentioned

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MUL TIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Upazila : District : Package : Unique ID : School Code :	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of :GRD Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	1ST FLOOR PLAN SHOWING LOCATION OF COLLAPSIBLE GATE & GRILL Drg. No. : MDSP/AR. 01 Sheet No. : A-03-1 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M. Faruk Mohit Team Leader : Sustil Somasiri	APPROVED BY : Javed Karim Project Director



2ND FLOOR PLAN (OPTION-1)

SCALE 1:110

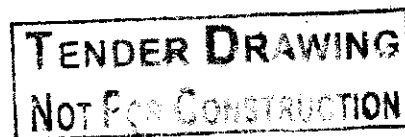
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FLOOR AREA=289.54 Sqm

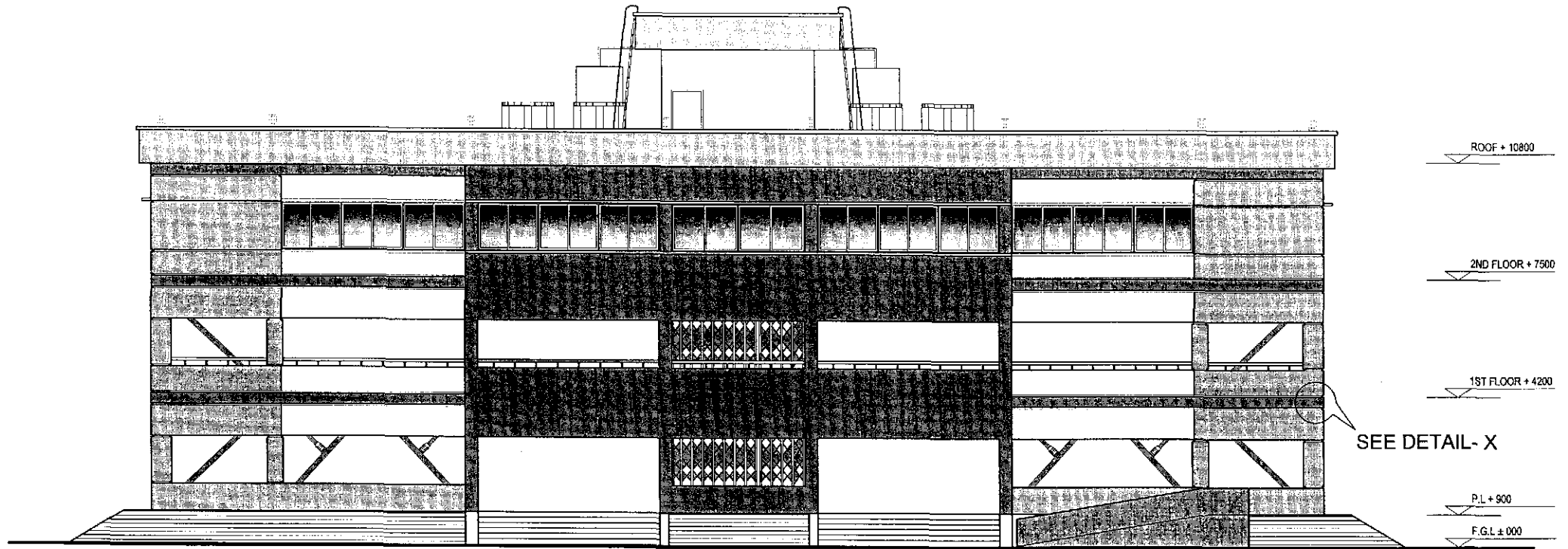
(SPACE REQUIRED 32625 x 8875)

TENDER DRAWING
NOT FOR CONSTRUCTION

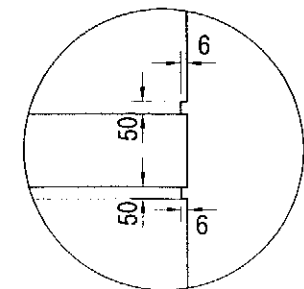
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :		CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Option-01 Type : Upazila District : Chittagong Package : LGED/MDSP/CH/14 15/NW 03-A & B	Unique ID : School Code :	Government of Peoples Republic of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	2ND FLOOR PLAN Org. No. : MDSP/AR-01 Sheet No. : A-04 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M. Parvez Mohit Tech. code : Susi. Somasiri	APPROVED BY : Javed Karim Project Director	



Rev. No.	Date	Description
Drawn by: Md. Sarwar Hossain Khan		APPROVED BY:
Designed by: Aftabul Md. Ismail Hossain		
Checked by: Dr. S.M Parwez Mohit		
Team Leader: Susil Somasiri		Javed Karim Project Director



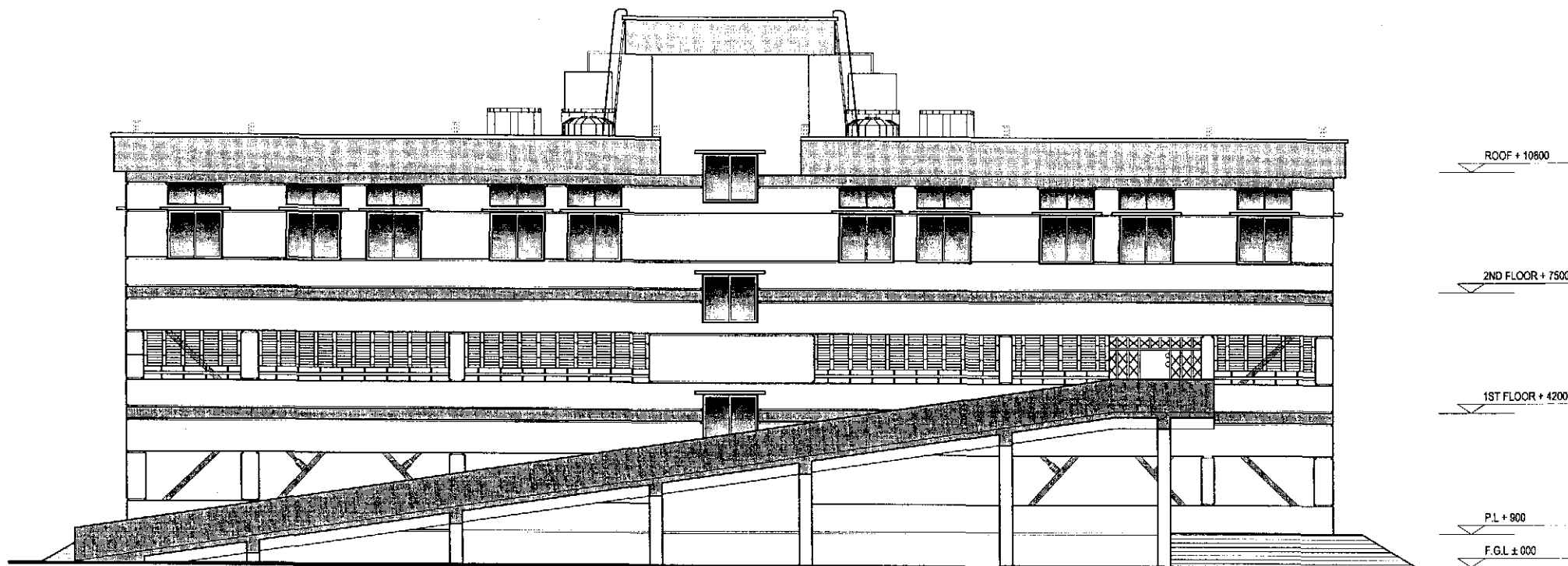
FRONT ELEVATION (OPTION-1)



DETAIL- X

TENDER DRAWING
NOT FOR CONSTRUCTION

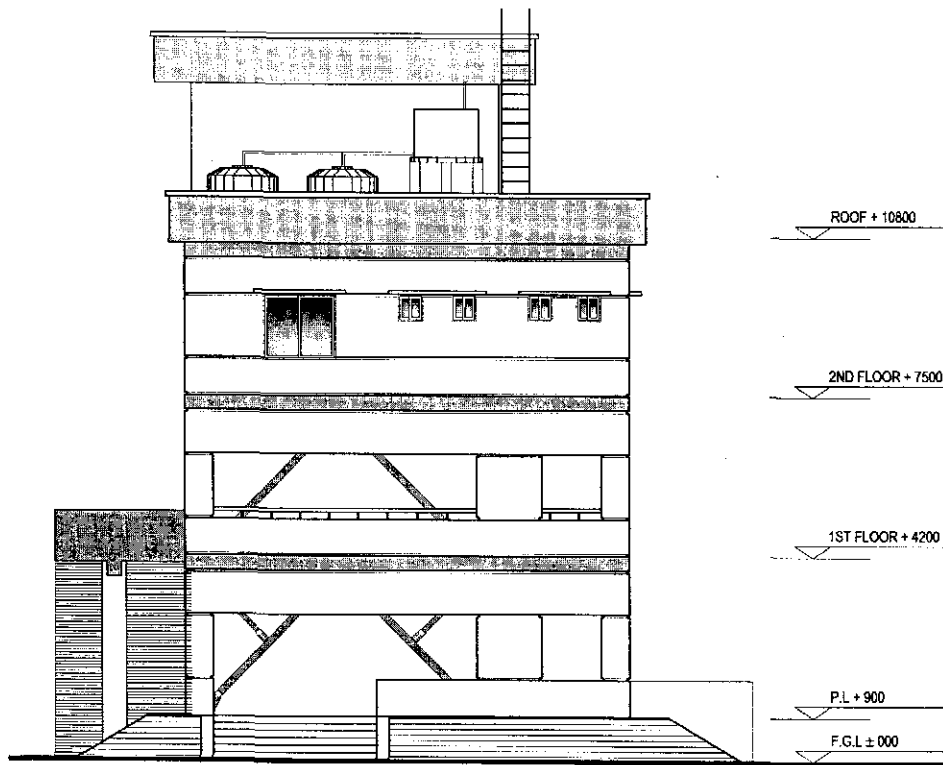
					Rev. No	Date	Description
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :	CONSULTANTS :	DRAWING TITLE :		
MULTIPURPOSE DISASTER SHIELD PROJECT(MDSP) Funded by World Bank	Name : Type : Option: 01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/11W-03-A & B	Unique ID : School Code :	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRONT ELEVATION Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohit Team Leader : Susil Somnashir	APPROVED BY : Javed Karim: Project Director



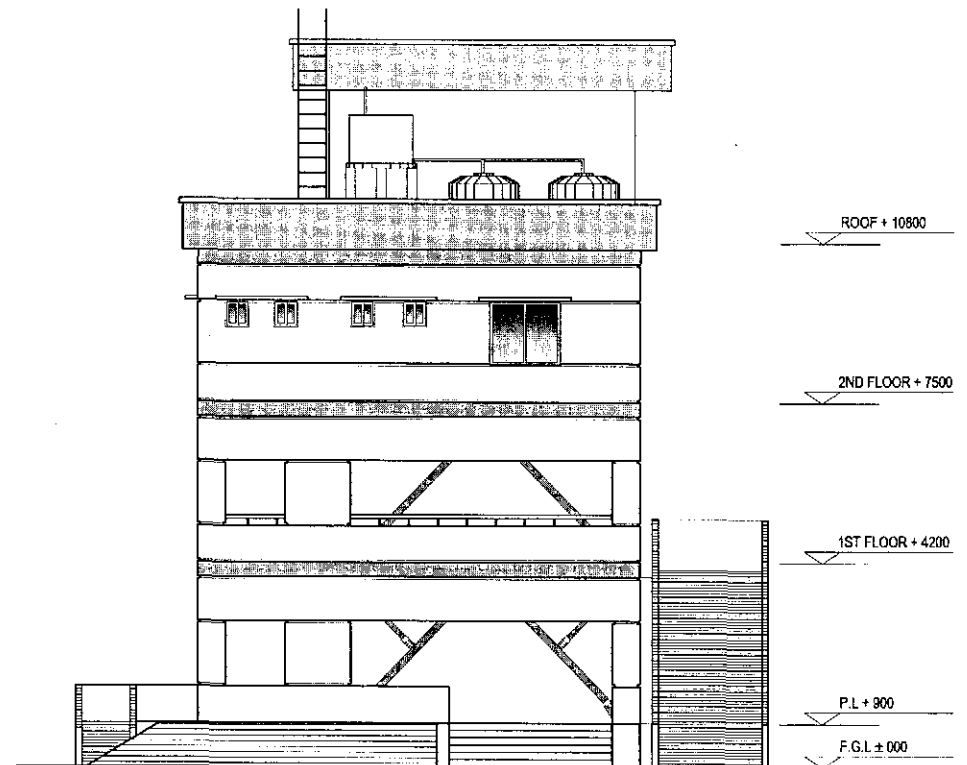
BACK ELEVATION (OPTION -1)

TENDER DRAWING
NOT FOR CONSTRUCTION

					Rev. No.	Date	Description
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :	CONSULTANTS :	DRAWING TITLE :		
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name :	Unique ID :	Government of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	BACK ELEVATION		
	Type : Option -01	School Code :			Dwg. No. : MDSP/ARL-01		
	Upazila :				Sheet No. : A - 08		
	District : Chittagong				Date : January, 2019		
	Package : LBED/MDSP/CIN/14-15/NW-03 A & B						
					Drawn by : Md. Sarwar Hossain Khan	APPROVED BY :	
					Designed by : Architect : Md. Ismail Hossain		
					Checked by : Dr. S. M Parvez Mobil		
					Team leader : Susil Somasiri	Javed Karim Project Director	



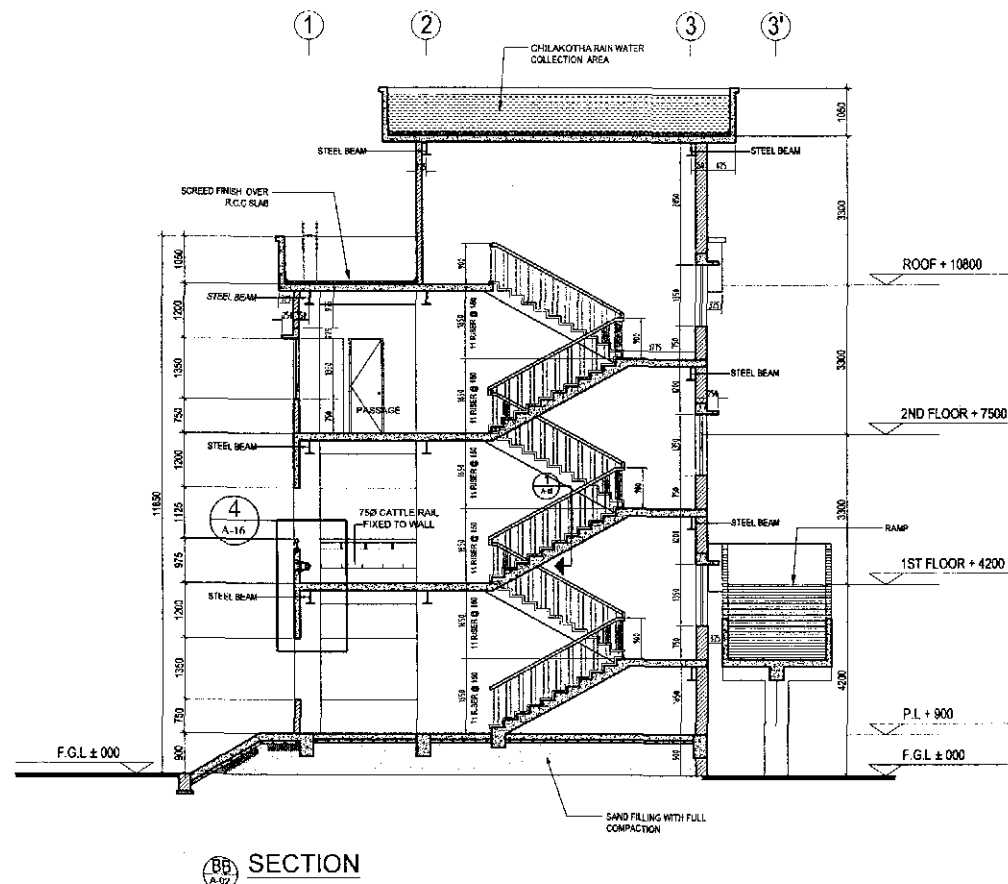
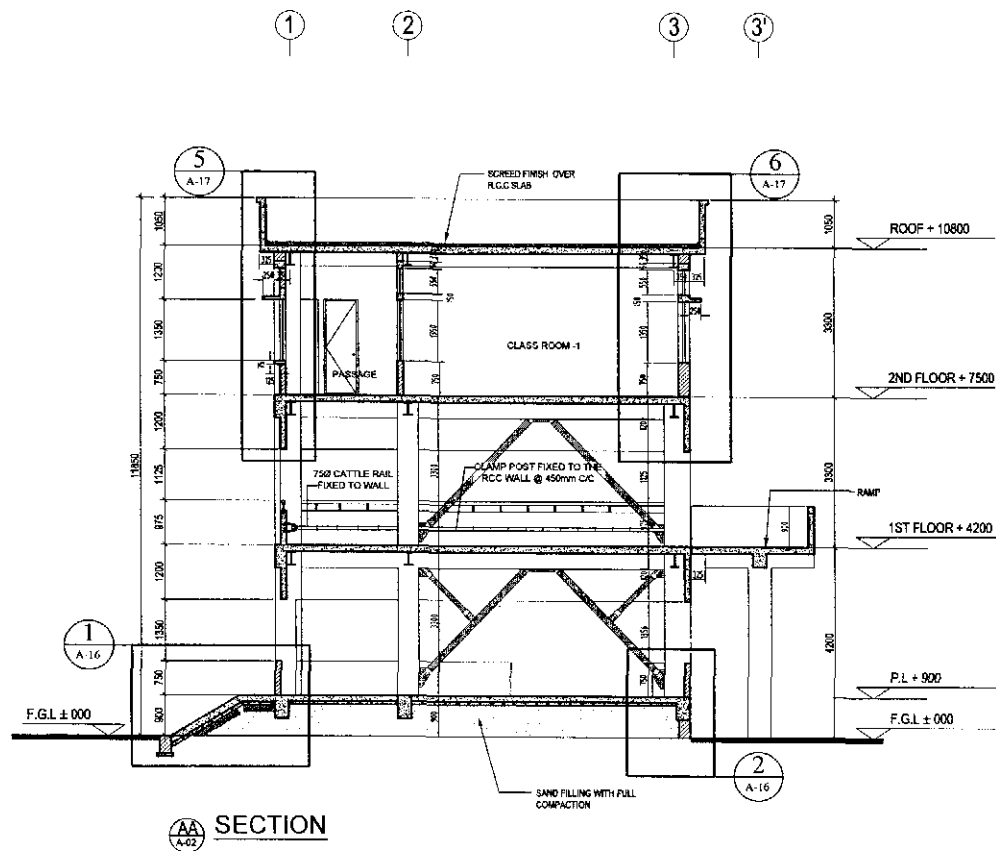
LEFT SIDE ELEVATION (OPTION -1)



RIGHT SIDE ELEVATION (OPTION -1)

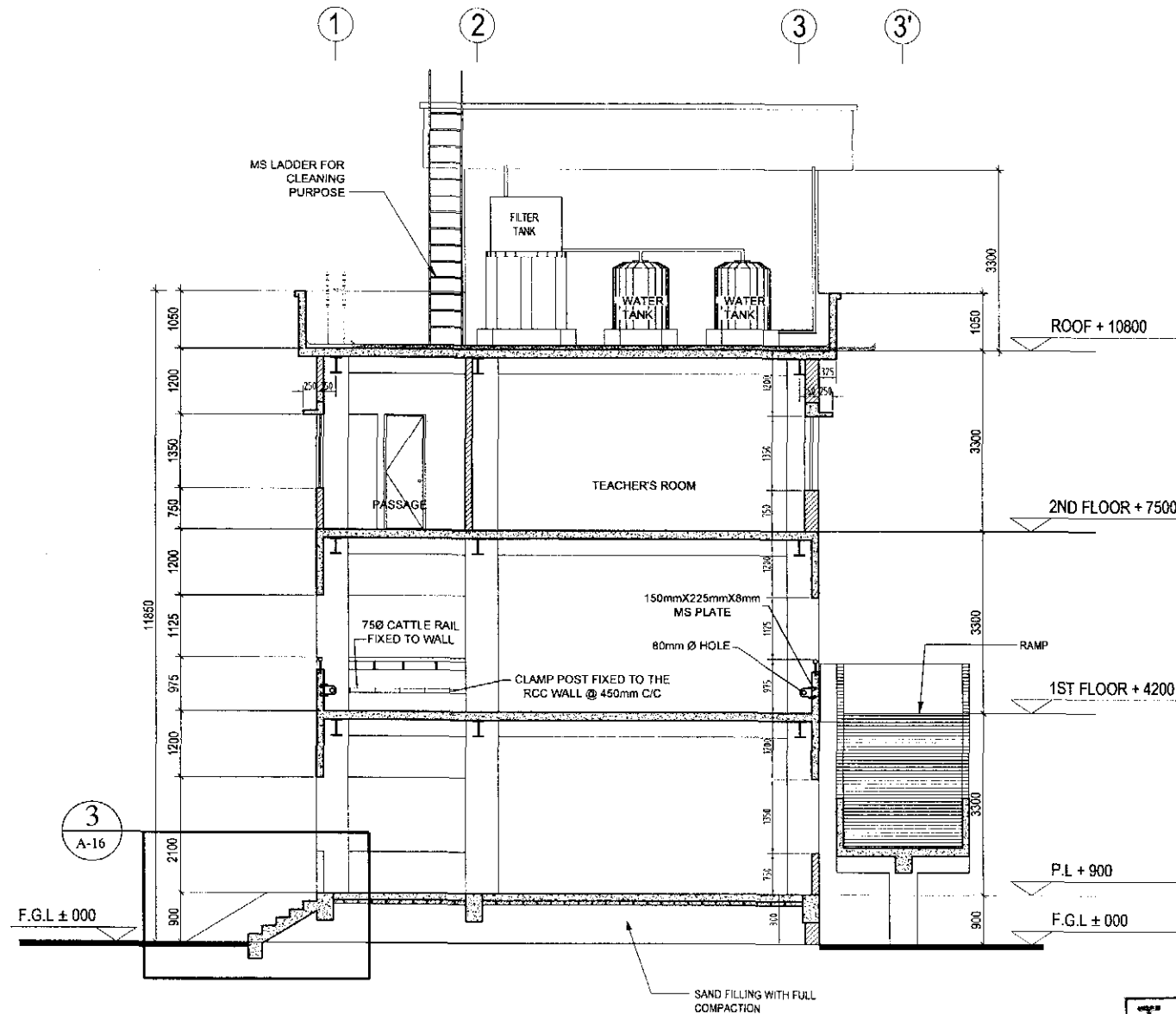
TENDER DRAWING
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option -01 District : Chittagong Package : LGED/MDSP/CH/14 13/RW 03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	LEFT & RIGHT SIDE ELEVATION	Drawn by : Md. Sarwar Hussain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M. Parvez Mohit Team leader : Susil Sonmashri	APPROVED BY : Javed Karim Project Director
				Drng. No. : MDSP/AR-01 Sheet No. : A-09 Date : January, 2019			



TENDER DRAWING
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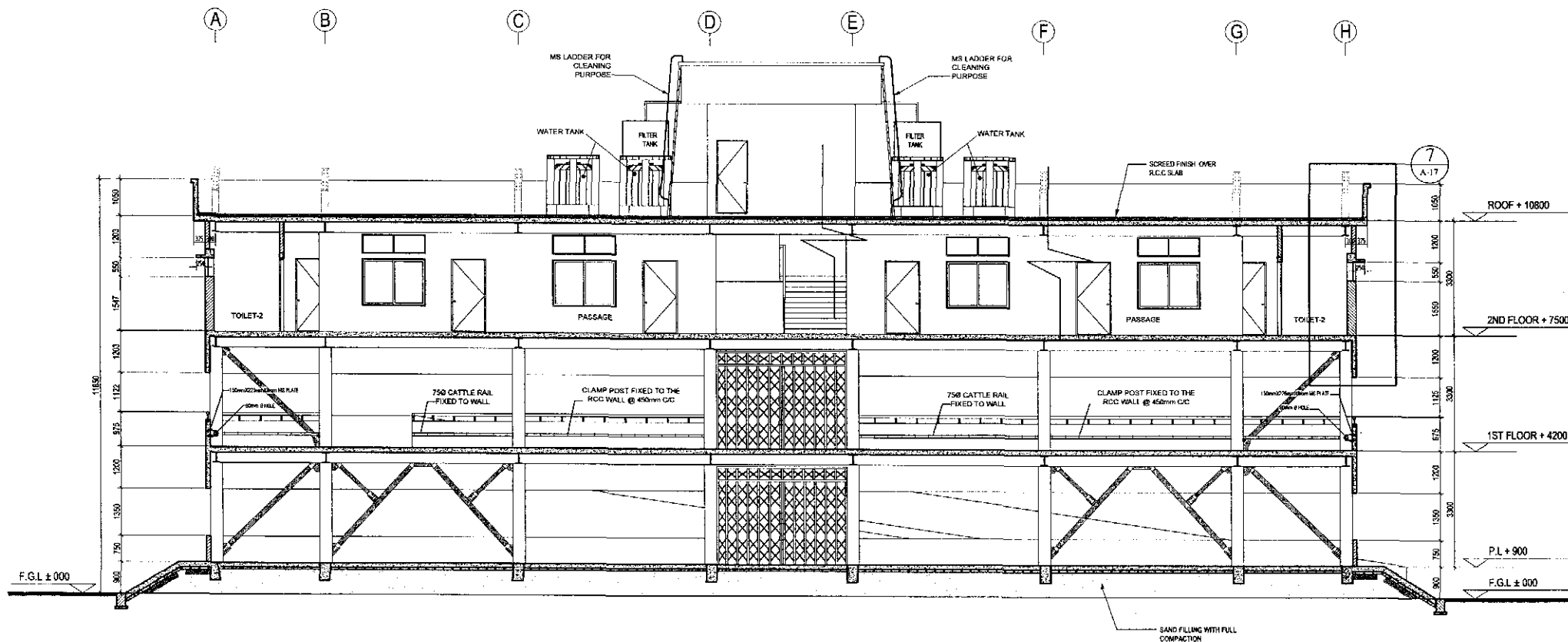
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank					Name :	Unique ID :	Government of Bangladesh	Line Ministry : Ministry of LGRD	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SECTION AA & BB		Drawn by :	Md. Sarwar Hossain Khan		APPROVED BY :
					Type :	Option -01				School Code :		Designed by :			
					Upazila :			Implementing Agency : Local Govt.		Dwg. No. : MDSP/AR_01	Checked by :	Dr. S.M Faruk Miah			Javed Karim
					District :	Chittagong		Engineering Department (I.GED)		Sheet No. : A - 10	Team Leader :	Susil Somasiri			Project Director
					Package :	LGED/MDSP/C/14 IS/NW 03 A & B				Date : January 2019					



CC SECTION
A-02

TENDER DRAWING
NOT FOR CONSTRUCTION

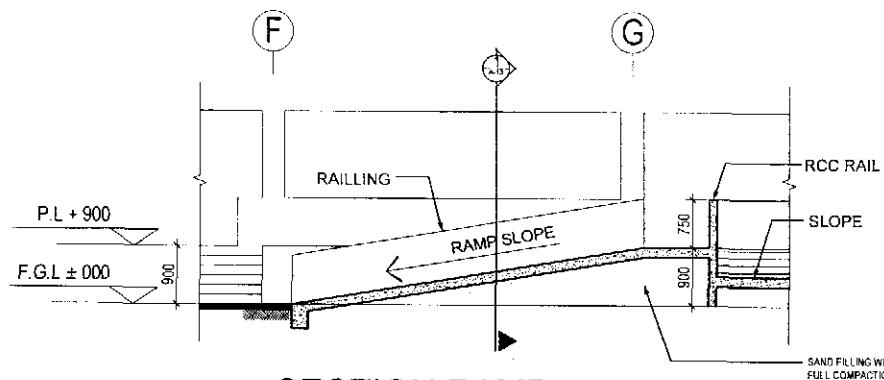
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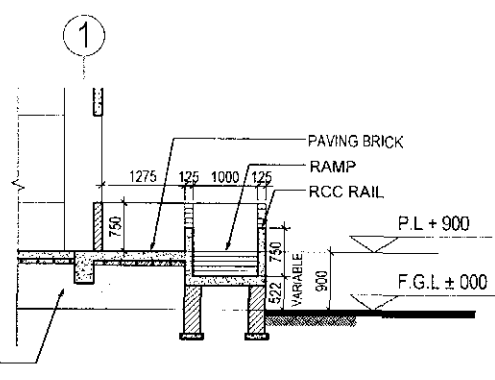
SECTION 00

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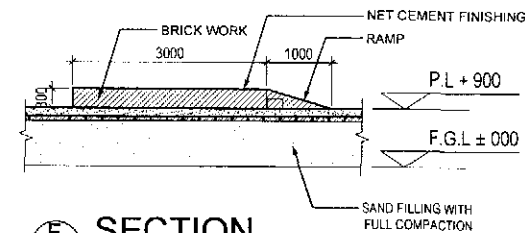
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MULTIPURPOSE DISASTER SHELTER PROJECT(MUSP) Funded by World Bank	Name : Type : Option -01 Upazila : District : Chittagong Package : LGED/MUSP/CH/14 15/NW G3-A & B	Unique ID : School Code :	Government of Peoples Republic of Bangladesh Line Ministry : Ministry of LGED Implementing Agency Local Govt. Engineering Department (I.G.E.D)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SECTION 00 Urg. No. : MUSP/AR - 01 Sheet No. : A - 12 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Archtiled Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohit Team Leader : Suzi Sumasin	APPROVED BY : Javed Karim Project Director



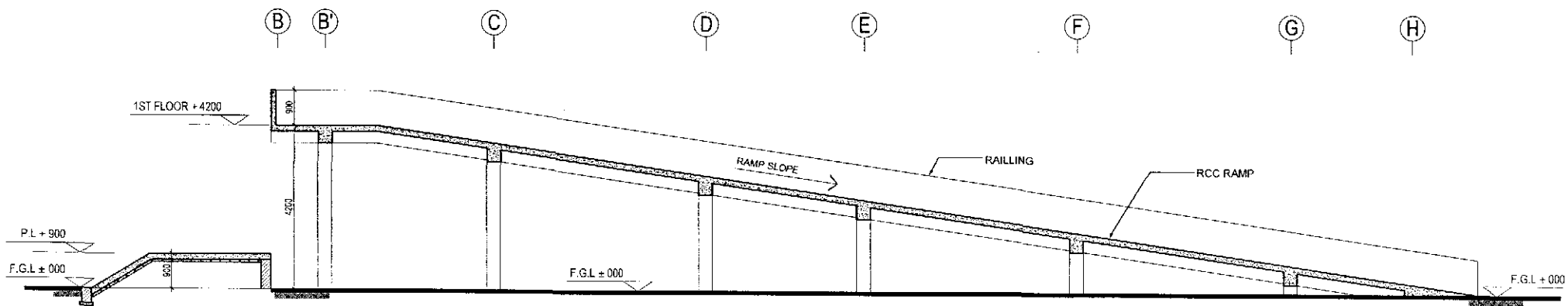
SECTION RAMP
(R2 A-02)



SECTION
(1 A-13)



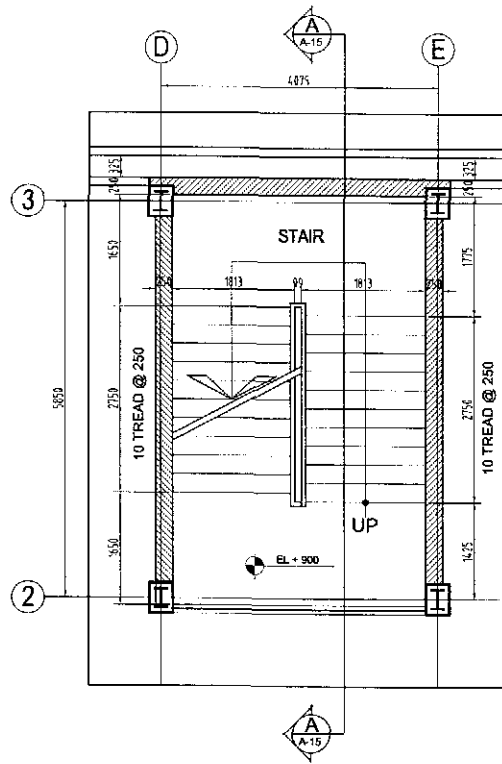
SECTION
(RAISED PLATFORM)
(E A-02)



SECTION RAMP
(R1 A-02)

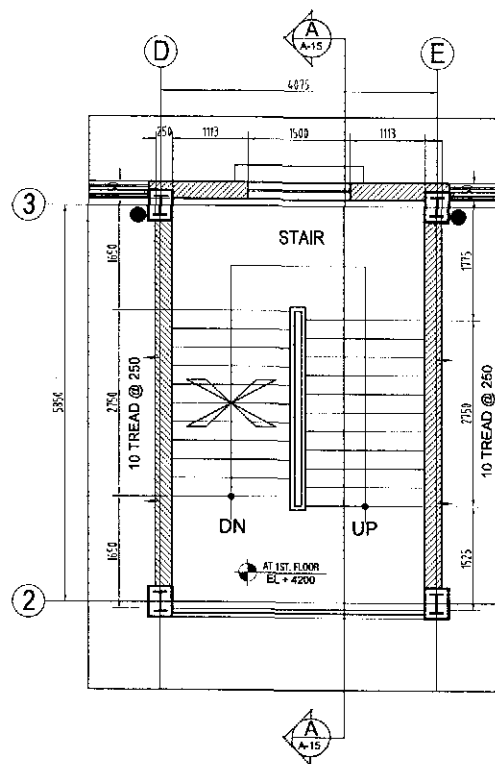
TENDER DRAWING
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :	DRAWING TITLE :	Rev No	Date	Description
MULTIPURPOSE D SASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name	Unique ID	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (I.GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SECTION RAMP	Drawn by	Mr. Sarwar Hossain Khan	APPROVED BY : Javed Karim Project Director
	Type	Option 01				Designed by	Architect Md. Ismail Hossain		
	Upazila					Checked by	Dr. S.M Parvez Mohi		
	District	Chittagong				Team Leader	Sustij Somasiri		
	Package	LGED/MOSP/CH/14-15/NW-03-A & B				Sheet No.	A - 13	Date	



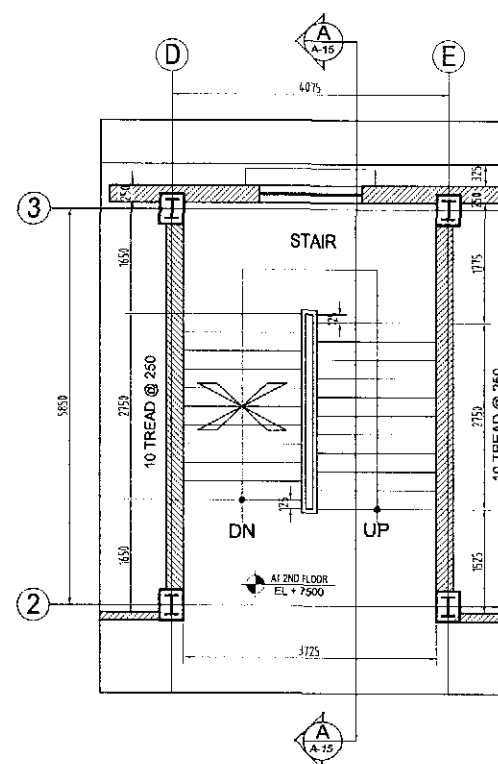
ST1
A-02

PLAN OF STAIR (GROUND FLOOR)



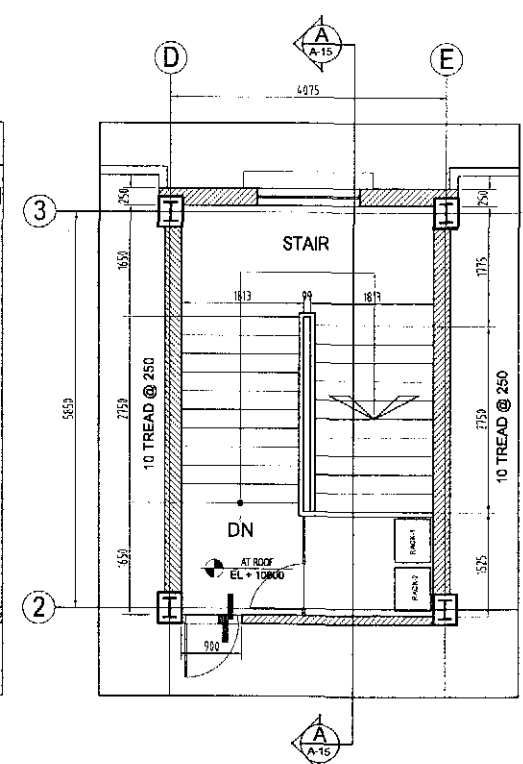
ST1
A-03

PLAN OF STAIR (1ST FLOOR)



ST1
A-04

PLAN OF STAIR (2ND FLOOR)



ST1
A-05, 1A-2

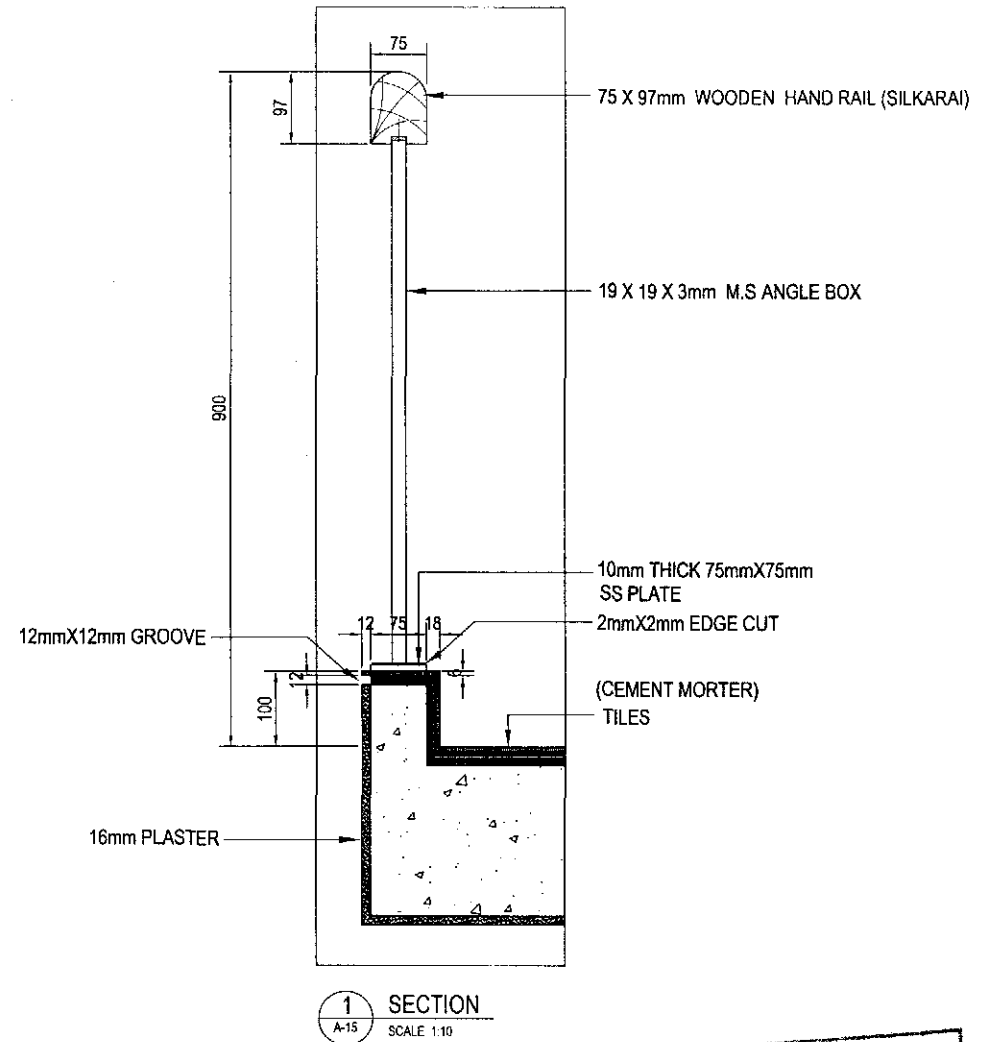
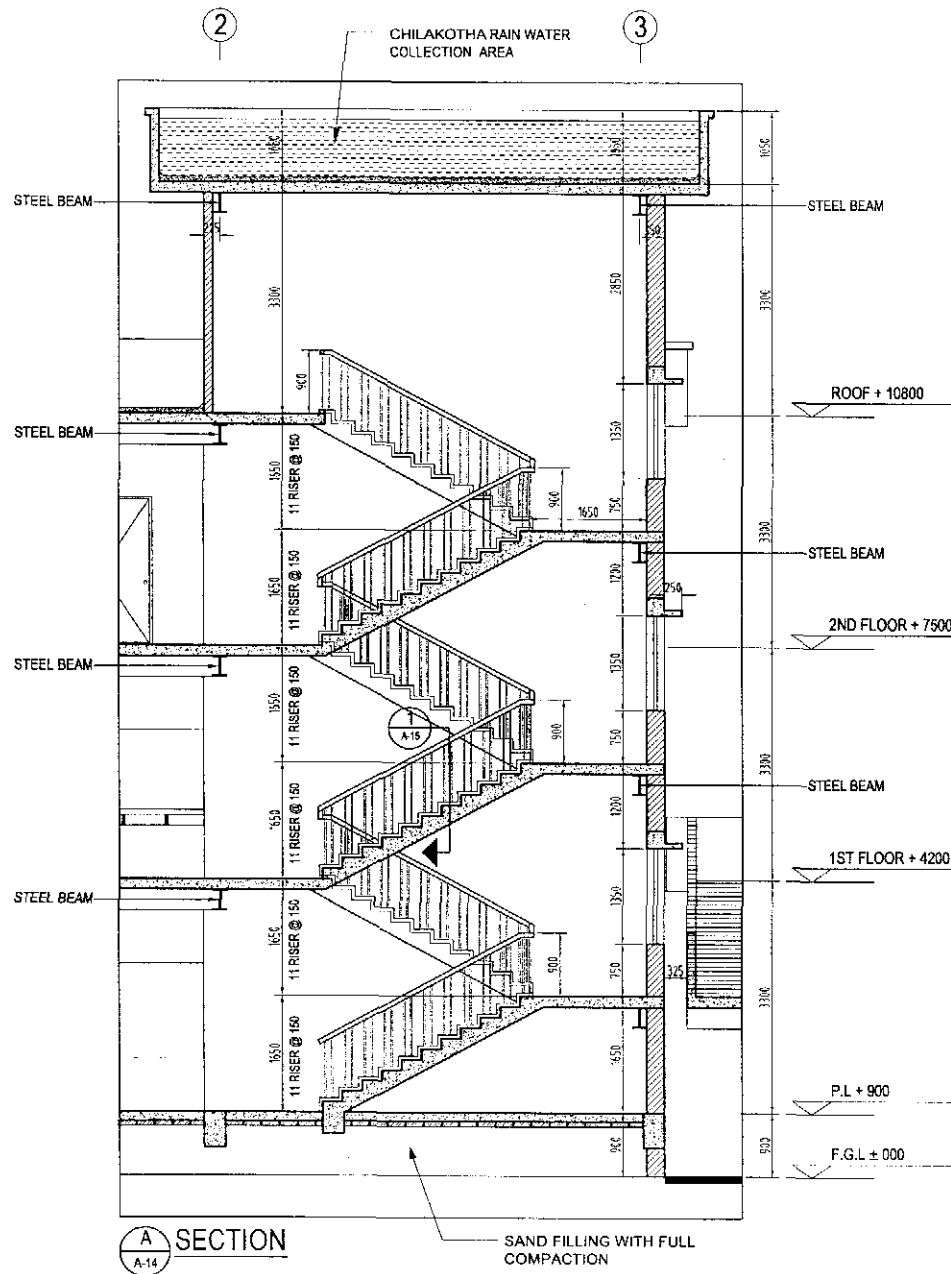
PLAN OF STAIR (ROOF)

TENDER DRAWING
NOT FOR CONSTRUCTION

Rev. No.	Date	Description
Drawn by: Md. Sarwar Hossain Khan		APPROVED BY:
Designed by:		
Architect: Md. Ismail Hossain		
Checked by:		
Dr. S.M Parvez Mohit		Javed Karim
Team Lead:		Project Director
Sush Senasari		

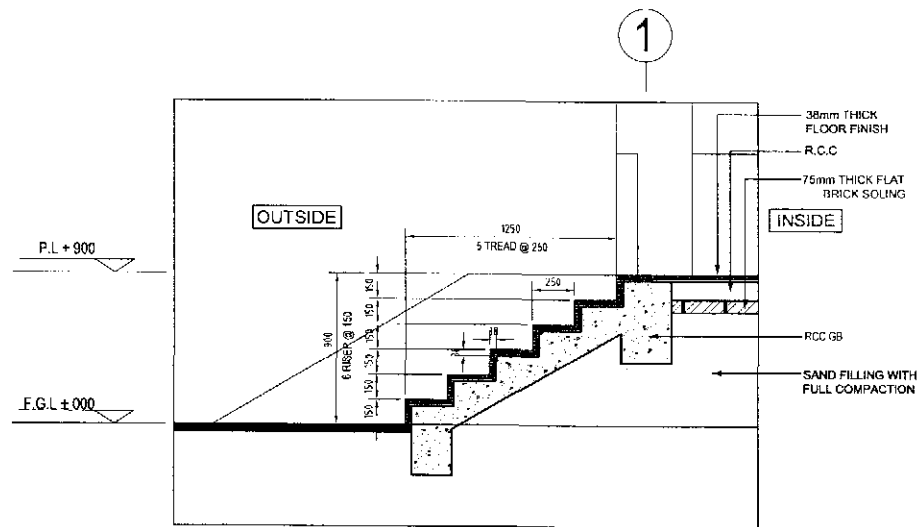
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option -01 Type : Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh

Rev. No.	Date	Description
01	January, 2019	Initial Design

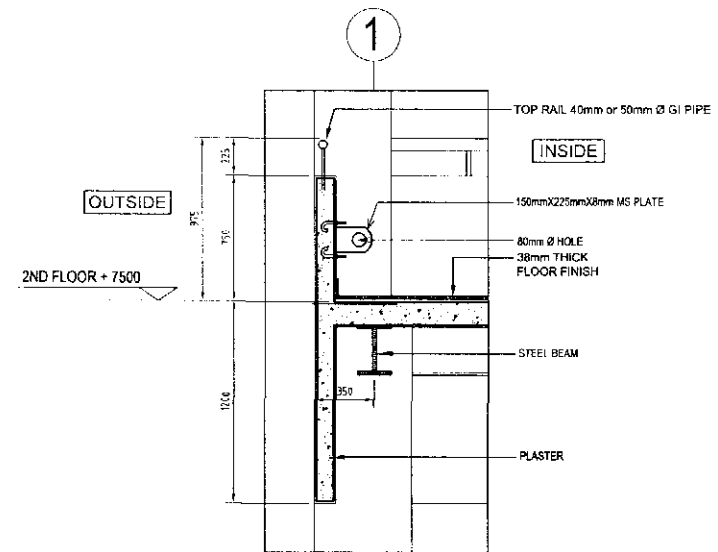


TENDER DRAWING
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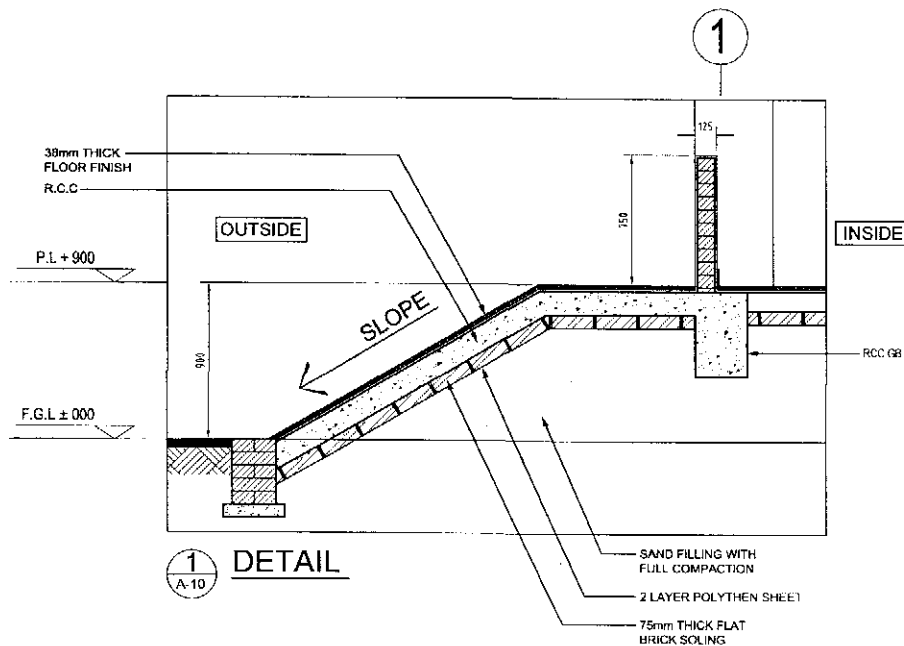
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Unique ID : Type : Option 01 Upazila : School Code : District : Chittagong Package : LGLD/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SECTION OF STAIR-2	Drawn by : Md. Sarwar Hossain Khan		APPROVED BY :
Funded by World Bank		Line Ministry : Ministry of LGED		Org. No. : MDSP/AR - 01	Designed by : Architect Md. Ismail Hossain		
		Implementing Agency : Local Govt. Engineering Department (LGED)		Sheet No. : A - 15	Checked by : Dr. S.M.Parvez Mullah		Javed Karim
				Date : January, 2019	Team Leader		Project Director
					Sust. Sorbasin		



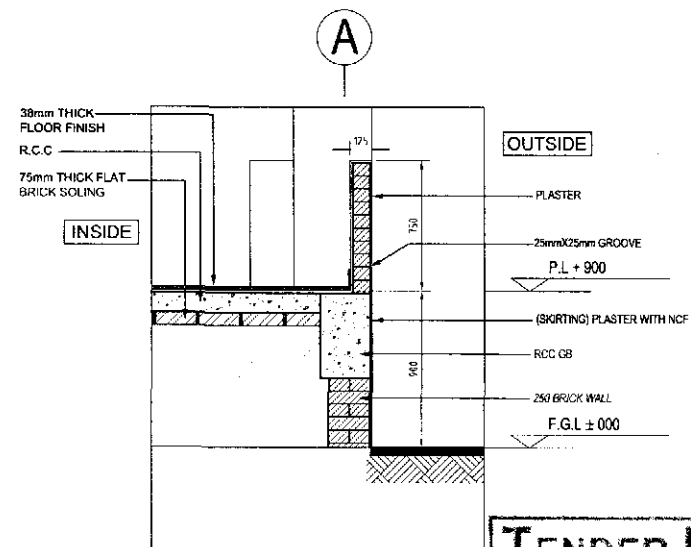
3 DETAIL
A-11



4 DETAIL
A-10



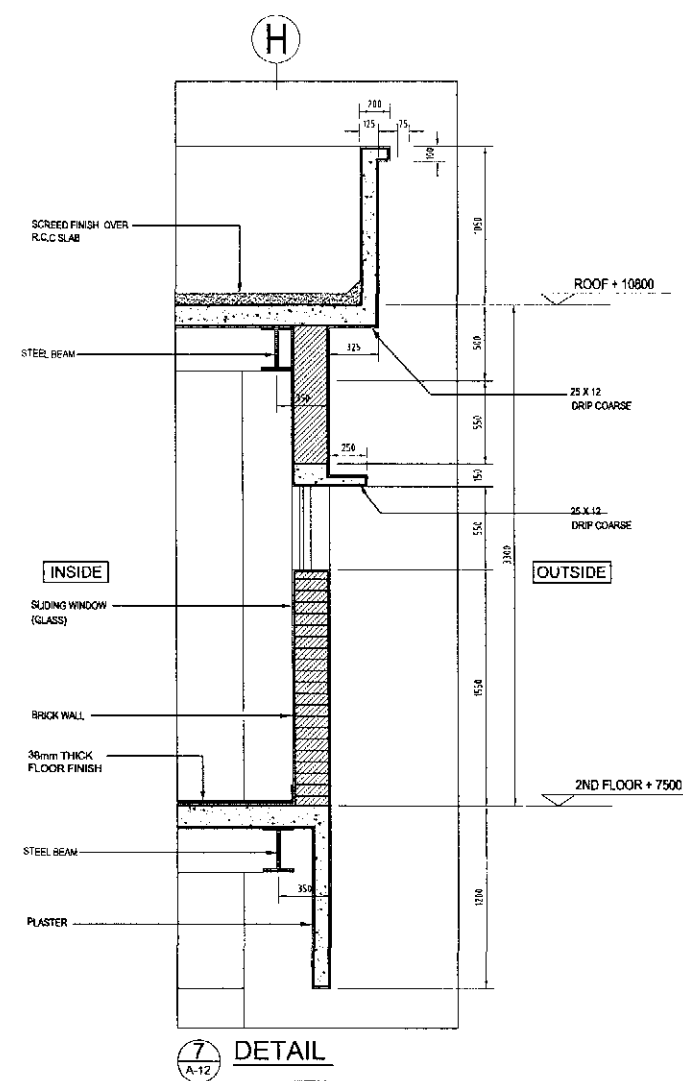
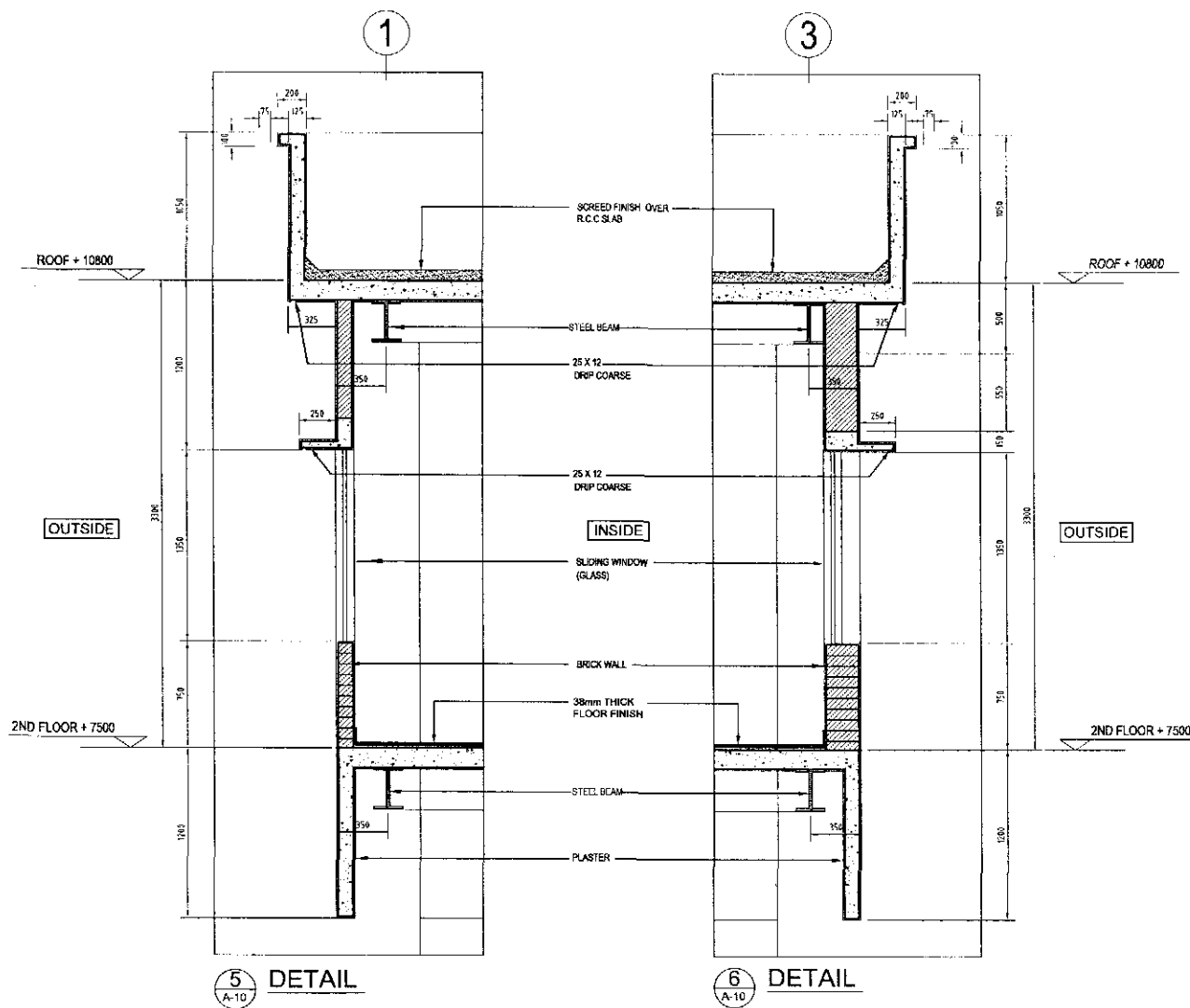
1 DETAIL
A-10



2 DETAIL
A-10

TENDER DRAWING
NOT FOR CONSTRUCTION

					Rev. No.	Date	Description
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :	CONSULTANTS :	DRAWING TITLE :		
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option -01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14 15/NW 03 A & B	Unique ID : School Code :	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SECTION DETAIL-1 Org. No. : MDSP/AR- 01 Sheet No. : A - 15 Date : January 2019	APPROVED BY : Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Faruq Mohit Team Leader : Susil Somasiri Javed Karim Project Director



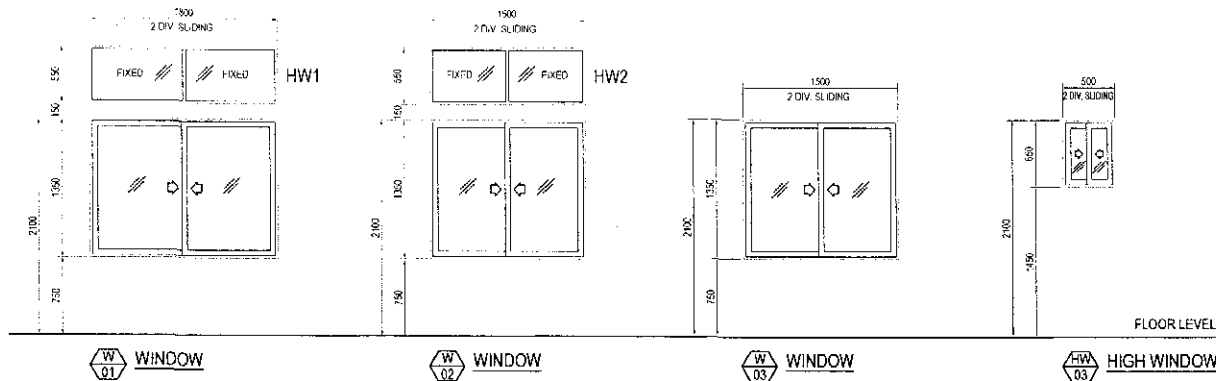
TENDER DRAWING
NOT FOR CONSTRUCTION

Rev. No.	Date	Description
Drawn by: Md. Sarwar Hossain Khan		APPROVED BY:
Designed by: Architect Md. Ismail Hossain		
Checked by: Dr. S.M. Parvez Mohi		Javed Karim
Project Code: Susil Sonasiri		Project Director

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :
MHA TIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Unique ID : Type : Option -01 School Code : Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED) Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh

Rev. No.	Date	Description
Drawn by: Md. Sarwar Hossain Khan		APPROVED BY:
Designed by: Architect Md. Ismail Hossain		
Checked by: Dr. S.M. Parvez Mohi		Javed Karim
Project Code: Susil Sonasiri		Project Director

WINDOWS

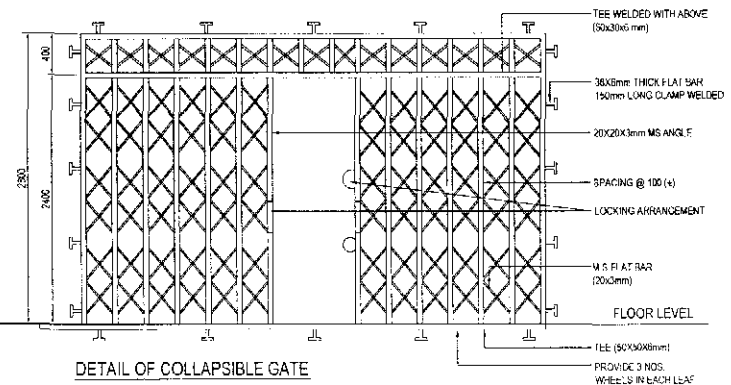
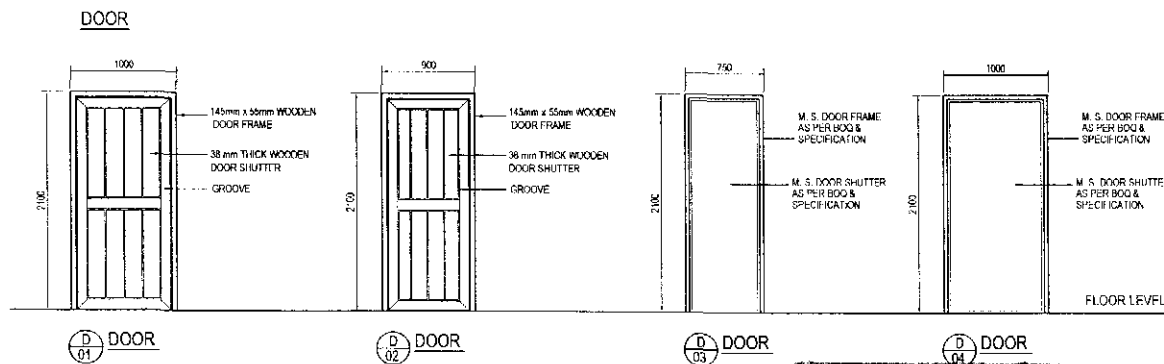
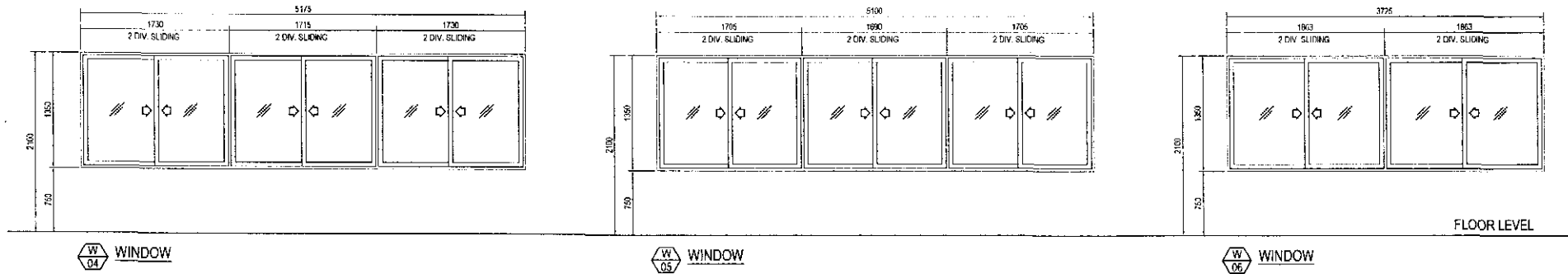


SCHEDULE OF WINDOWS:

Sl no.	Type	Dimension	Qty	Type	Dimension	Qty
1	W1	1800X1350	04	HW1	1800X550	04
2	W2	1500X1350	12	HW2	1500X550	12
3	W3(for stair)	1500X1350	02	HW3	500X650	08
4	W4	5175X1350	02			
5	W5	5100X1350	02			
6	W6	3726X1350	01			

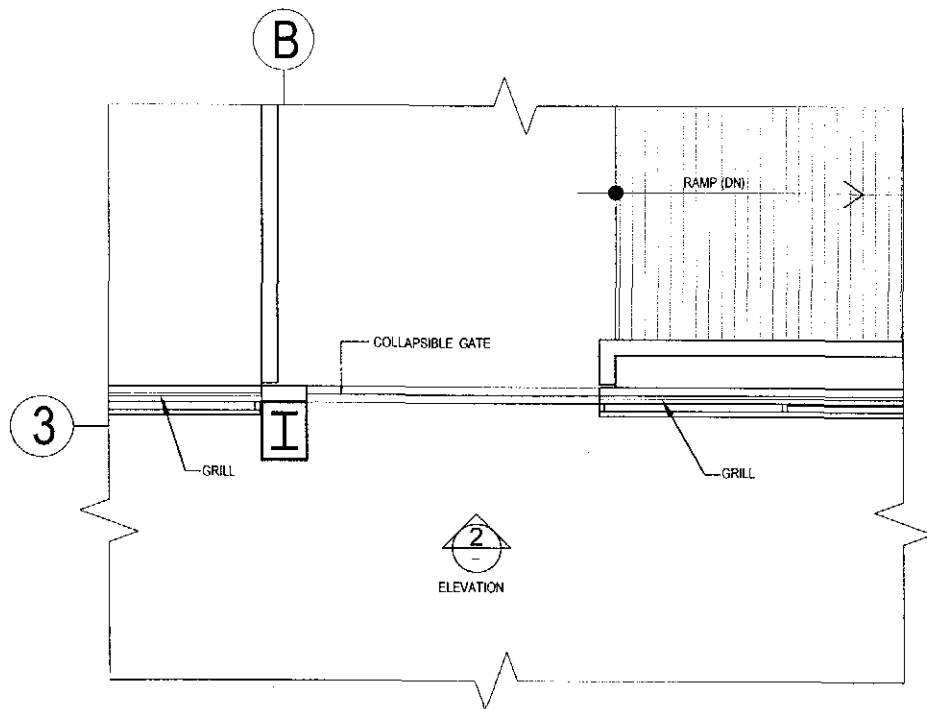
SCHEDULE OF GATE & DOORS:

Sl no.	Type	Dimension	Qty
1	COLLAPSIBLE GATE	3725X2800	01
2	COLLAPSIBLE GATE	2275X2100	02
3	D1	1000X2100 (Wooden Door)	04
4	D2	900X2100 (Wooden Door)	02
5	D3 (Toilet)	750X2100 (M.S. Sheet Door)	07
6	D4 (Chilakhota door Open Outside)	1000X2100 (M.S. Sheet Door)	01

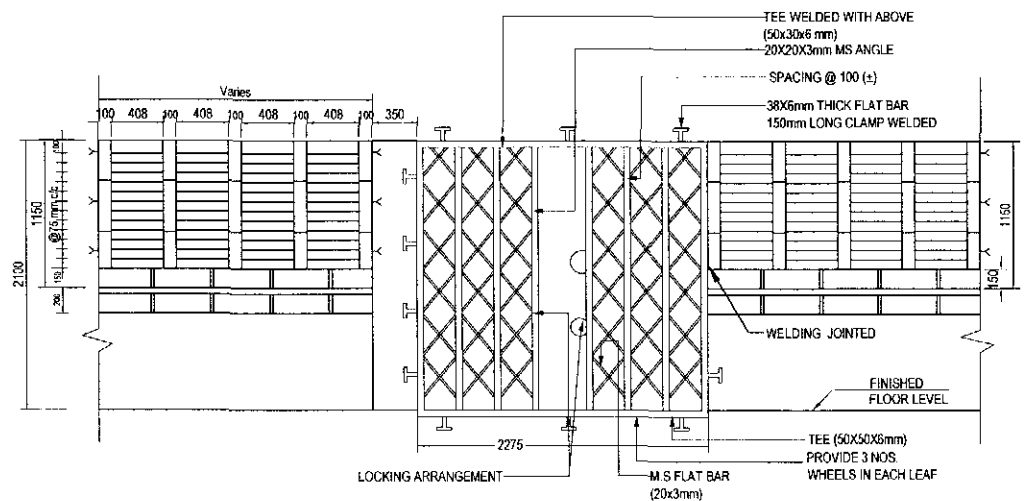


TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by :	Checked by :	Team Leader :	Project Director :	APPROVED BY :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Unique ID : Type : Option 01 Upazila : District : Chittagong Package : LGED/MDSP/CHU/14-15/SW-03-A & B	Government of Bangladesh Ministry of LGRD Implementing Agency Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DOOR & WINDOW DETAILS Orig. No. : MDSP/AR. 01 Sheet No. : A-18 Date : January, 2019	Md. Sarwar Hossain Khan Architect: Md. Ismail Hossain Dr. S.M. Farveez Muhi	Dr. S.M. Farveez Muhi	Susil Samasari	Javed Karim	Javed Karim



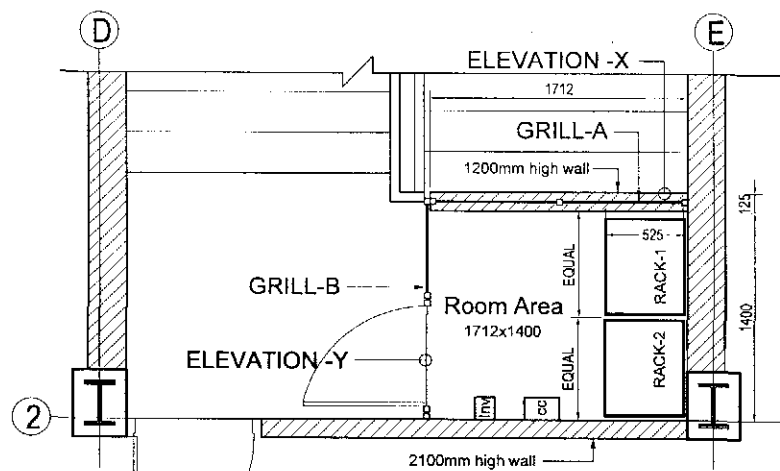
2 BLOW UP PLAN (OPTION 01)
A-3-1 SCALE: N.T.S



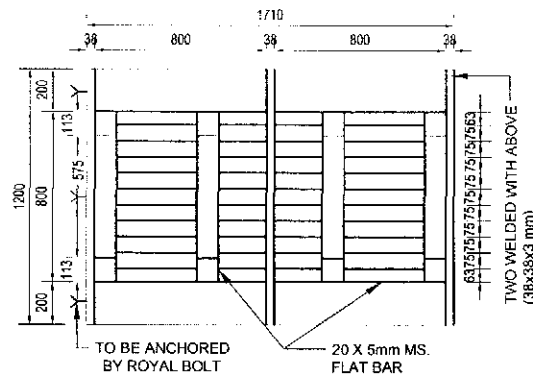
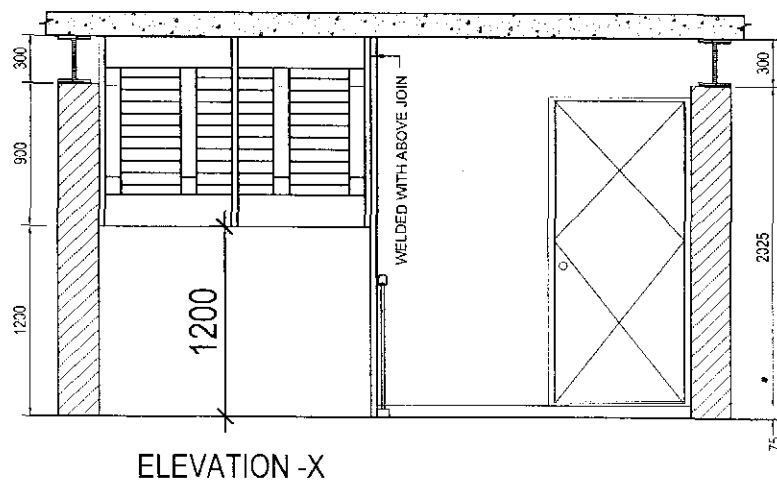
2 ELEVATION (OPTION 01)
SCALE : N. T. S

TENDER DRAWING
NOT FOR CONSTRUCTION

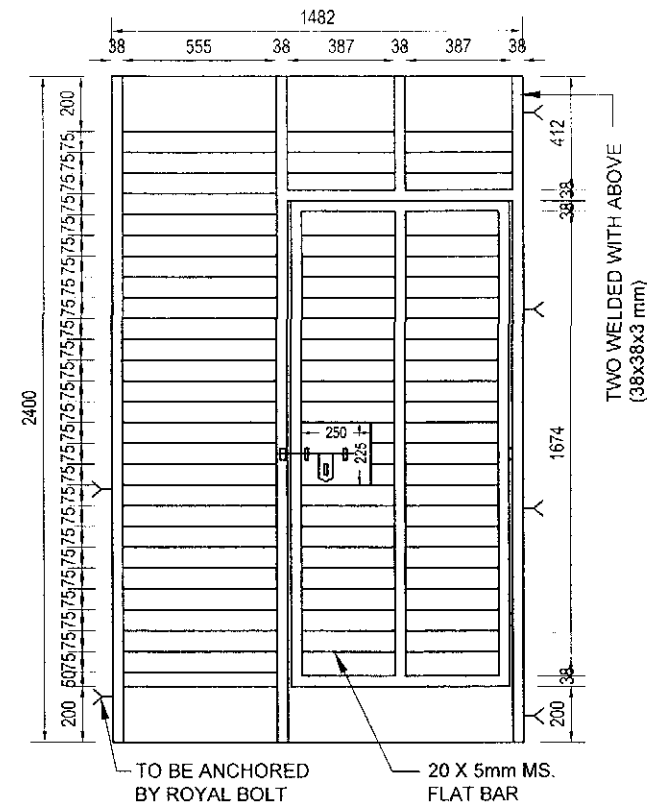
PROJECT :					NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :		DRAWING TITLE :		Rev. No		Date		Description	
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank					Name : Option -01		Unique ID :		Government of Peoples Republic of Bangladesh:		Line Ministry : Ministry of : GRD Implementing Agency :Local Govt. Engineering Department: (LGED)		Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh		Drawn by : Md. Sarwar Hossain Khan		APPROVED BY :	
					Type : Option -01		School Code :								Designed by :			
					Upazila :										Architect : Md. Ismail Hossain			
					District : Chittagong										Checked by :			
					Package : LGED/MDSP/C/14-15/NW-C3-A & B						Dwg. No. : MDSP/AR - 01		Dr. S.M. Parvez Mohit		Javed Karim			
											Sheet No. : A - 18-1		Tested by :		Susil Somasiri		Project Director	
											(Date : January, 2019)							



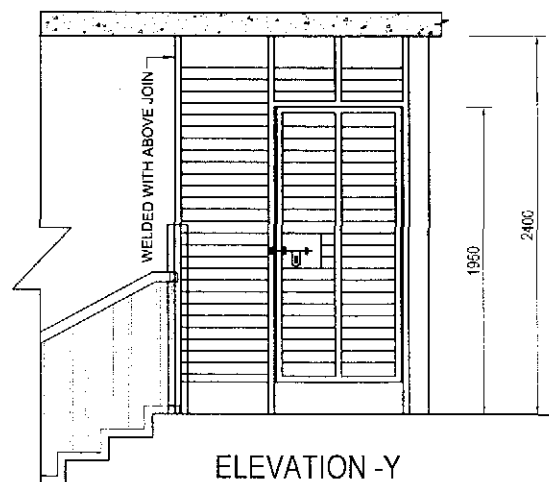
SOLAR PANEL BATTERY LOCATION PLAN & SECURITY GRILL PLAN



DETAIL OF GRILL-A



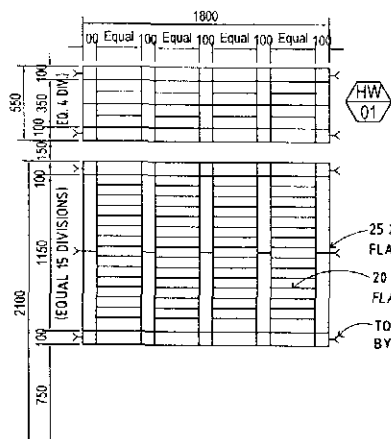
DETAIL OF GRILL-B



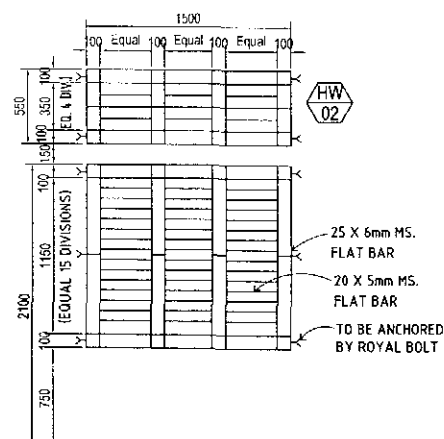
ELEVATION -Y

**TENDER DRAWING
NOT FOR CONSTRUCTION**

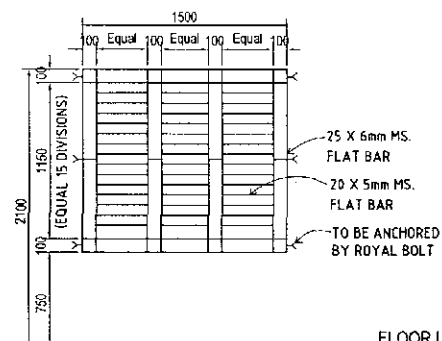
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :	DRAWING TITLE :	Rev. No	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : District : Chittagong Package : LGL/MDSP/CHI/14-15/NW-03-A & B	Unique ID : School Code :	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SOLAR PANEL BATTERY LOCATION PLAN & SECURITY GRILL PLAN Dwg. No. : MDSP/AR.-01 Sheet No. : A-18/2 Date :January 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect: Md. Ismail Hossain Checked by : Dr. S.M Parvez Monir Team Leader : Susil Sonasiri	APPROVED BY : 	



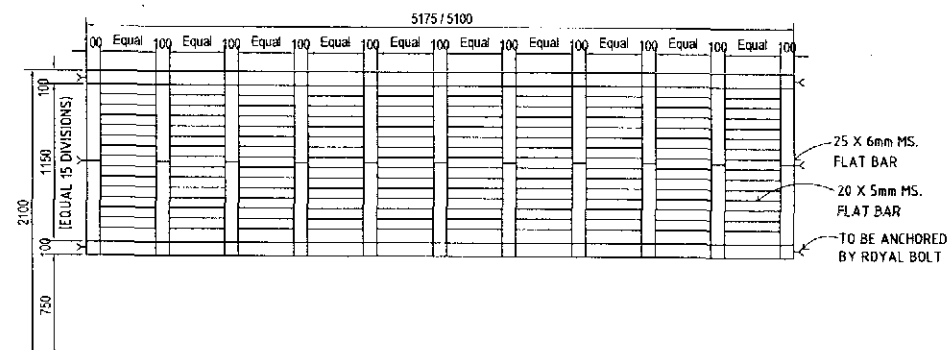
W 01 TYPICAL OF WINDOW GRILL



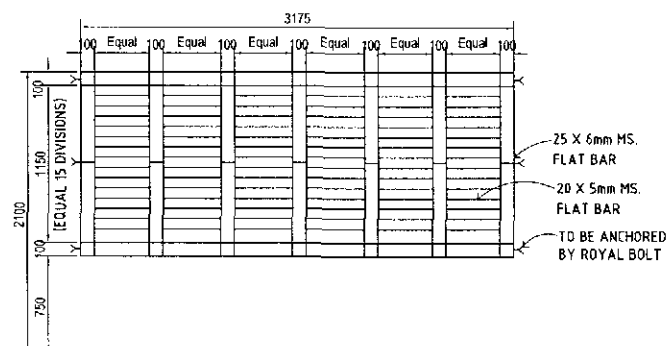
W 02 TYPICAL OF WINDOW GRILL



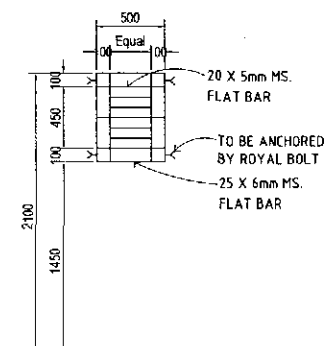
W 03 TYPICAL OF WINDOW GRILL



W 04 TYPICAL OF WINDOW GRILL



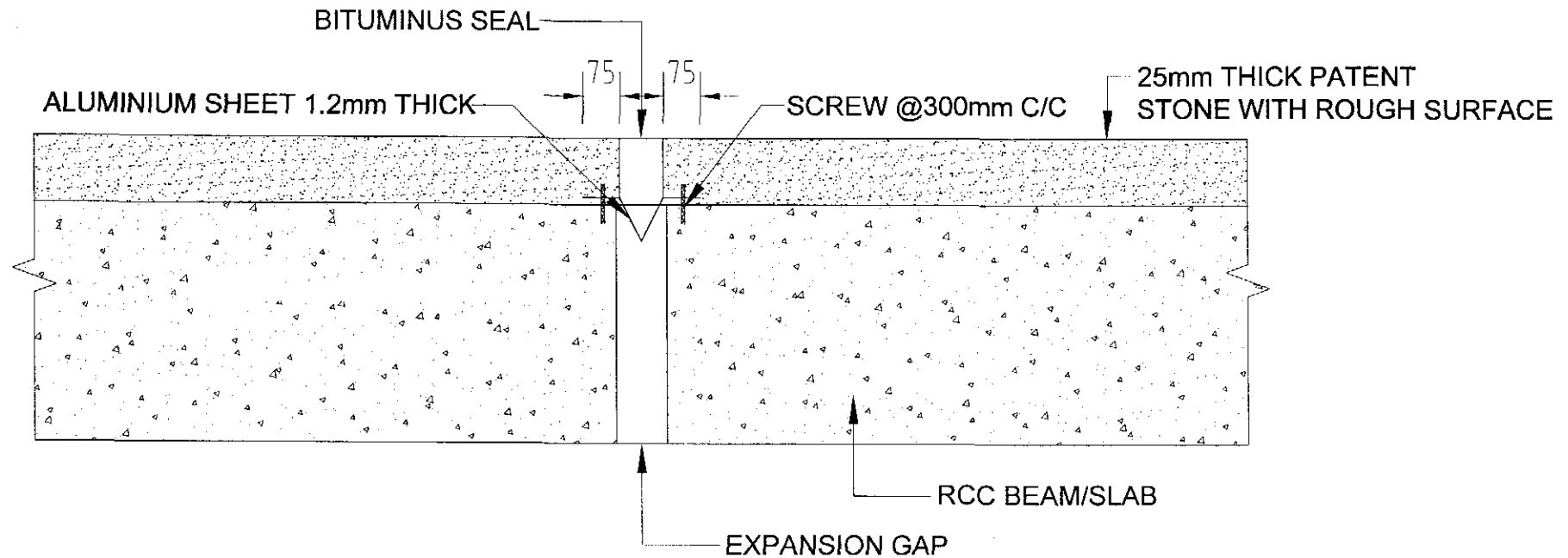
W 06 TYPICAL OF WINDOW GRILL



HW 06 TYPICAL OF HIGH WINDOW GRILL

TENDER DRAWING
NOT FOR CONSTRUCTION

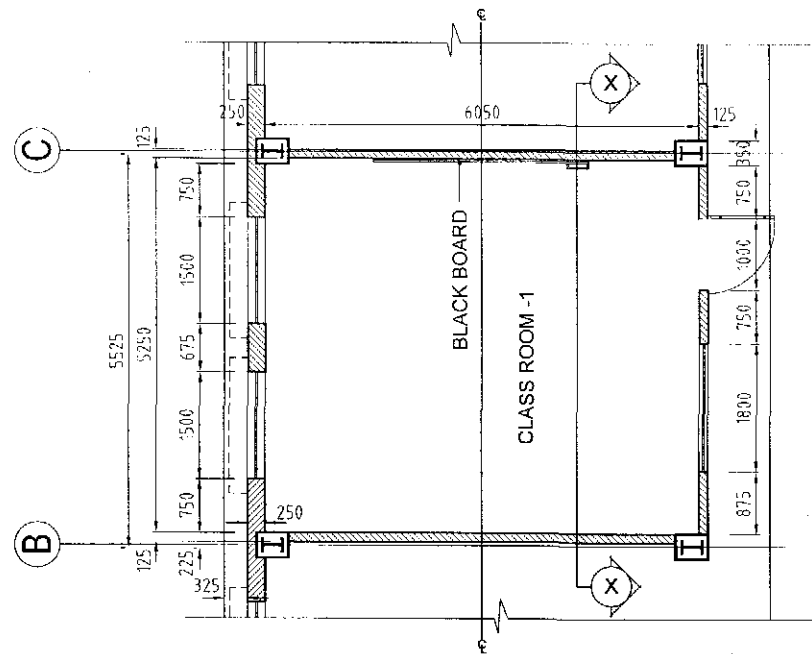
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHIF TER PROJECT(MDSP) Funded by World Bank	Name : Option 01 Type : Unique ID : Upazila : School Code : District : Chittagong Package : LGED/MDSP/CH/4-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	GHILL DETAILS Dwg No. : MDSP/AR-01 Sheet No. : A-19 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mahil Tech. Officer : Susil Somasiri	APPROVED BY : Javed Karim Project Director



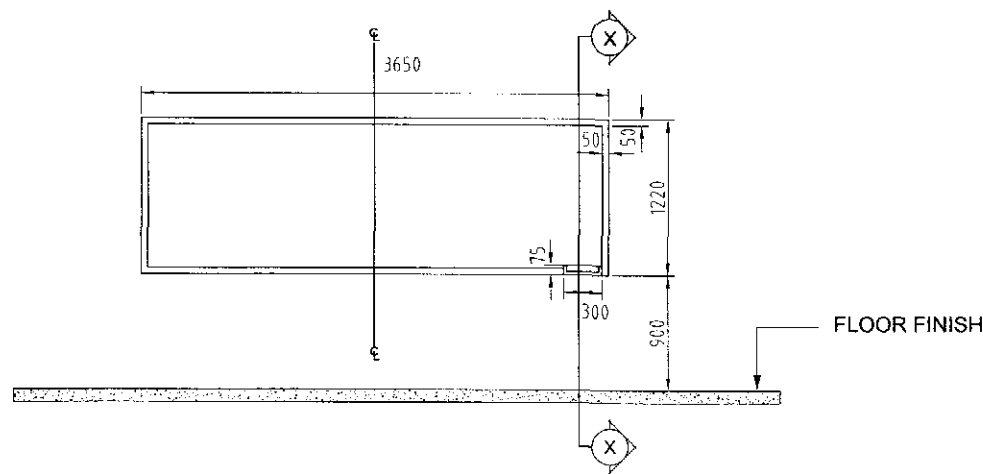
EXPANSION JOINT

TENDER DRAWING
NOT FOR CONSTRUCTION

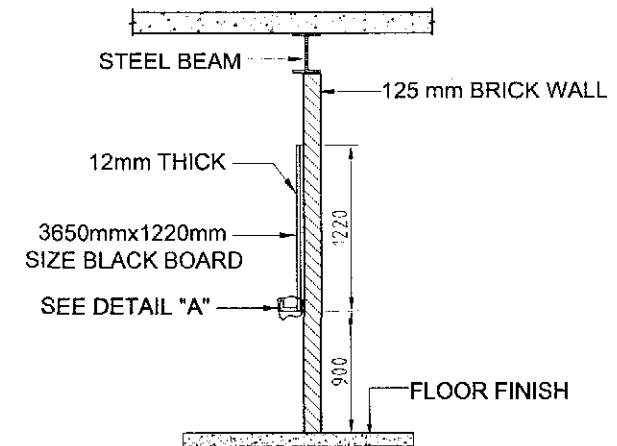
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Riv. No	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Unique ID : Type : Qutub U1 Upazila : District : Chittagang Package : LGED/MDSP/CH/14-15/NW-53-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	EXPANSION JOINT Org. No. : MDSP/AR-01 Sheet No. : A-20 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Archited Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohit Year : 2019 Susil Somasiri	APPROVED BY : Javed Karim Project Director



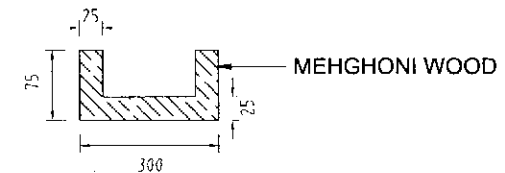
PLAN OF CLASS ROOM-1



BLACK BOARD DETAIL WITH ELEVATION & SECTION



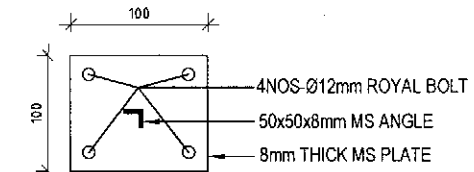
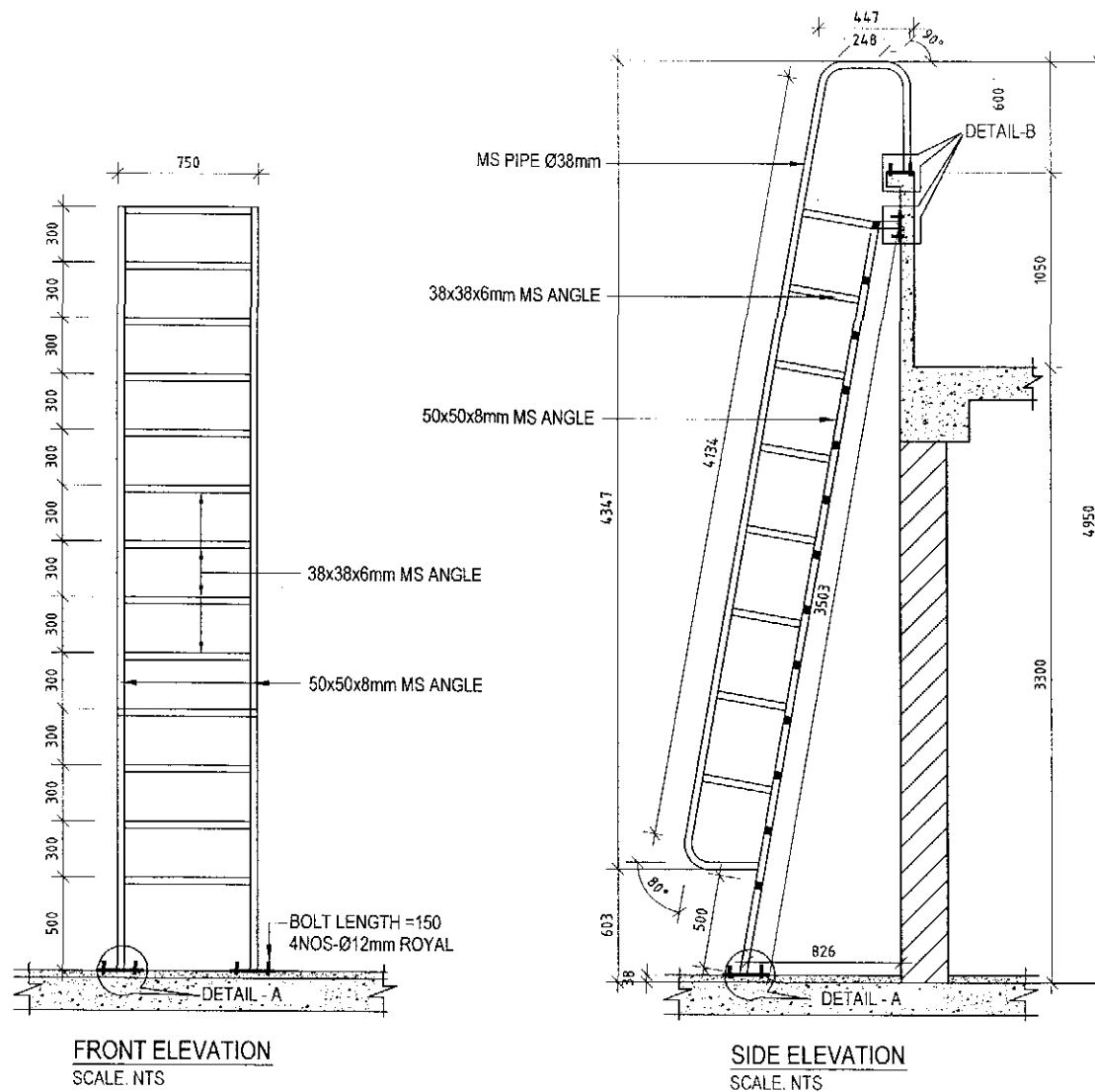
SECTION: X-X



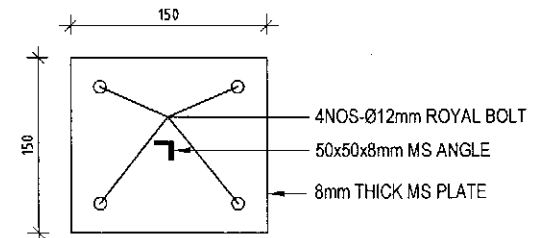
DETAIL "A"- (Duster Holder)

TENDER DRAWING
NOT FOR CONSTRUCTION

Rev. No.	Date	Description
1	01/01/2019	Initial Design
2	02/01/2019	Revised Design
3	03/01/2019	Final Design
4	04/01/2019	As per client requirement
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DETAIL - B
SCALE: NTS

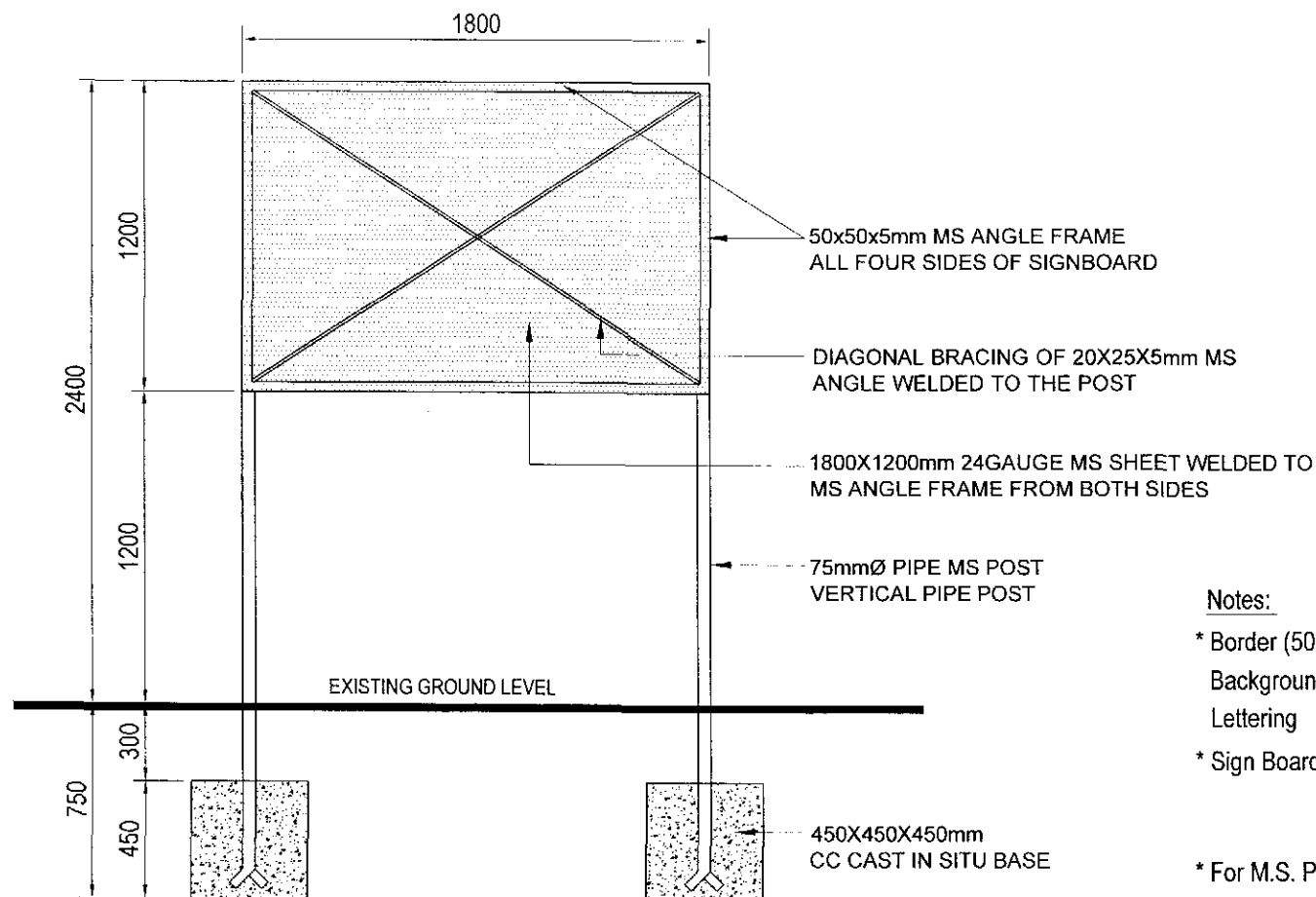


DETAIL - A
SCALE: NTS

PLAN AND DETAIL OF M.S LADDER

TENDER DRAWING
NOT FOR CONSTRUCTION

					Rev. No.	Date	Description	
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :	CONSULTANTS :	DRAWING TITLE :			
MULTIPURPOSE DISASTER SHIFTER PROJECT(MDSP) Funded by World Bank	Name :	Unique ID :	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (LGED)	PLAN AND DETAIL OF M.S LADDER		Drawn by : Md. Sarwar Hossain Khan	APPROVED BY : Javed Karim Project Director
	Type : Option 01	School Code :				Designed by : Architect Md. Ismail Hossain		
	Upazila :				Org. No. : MDSP/AR-01	Checked by : Dr. S.M Parvez Mohit		
	District : Chittagang				Sheet No. : A-22	Team leader :		
	Package : LGED/MDSP/CH/14-15/NW-03-A & B				Date : January, 2019	Sust. Supervisor :		



Notes:

- * Border (50mm) :Black
- Background :Yellow
- Lettering :Black
- * Sign Board Writing :Both in Bangla and English
- :Detail write up sample to be Collected
from Executive Engineer LGED
- * For M.S. Pipe post, enamel paint should be used

PROJECT SIGN BOARD / ENVIRONMENTAL SIGN BOARD

TENDER DRAWING
NOT FOR CONSTRUCTION

Rev. No.	Date	Description
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Upazila : District : Package : Unique ID : School Code : Option 01 : Chittagong LGED/MSDP/CH/14-15/NW-C3-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh PROJECT SIGN BOARD / ENVIRONMENTAL SIGN BOARD Org. No. : MSDP/AR/01 Sheet No. : A-23 Date : January, 2019

Drawn by : Md. Sarwar Hussain Khan	APPROVED BY :
Designed by : Architect Md. Ismail Hossain	
Checked by : Dr. S.M. Parvez Musht	Javed Karim
Team Leader : Susil Somasiri	Project Director



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

SUB SECTION-2B : STRUCTURAL DRAWINGS
(STEEL FRAME BUILDING OPTION-1)

CONSULTANTS :

Joint venture of

CDM Smith Inc. USA

Development Design Consultants Ltd.
Bangladesh

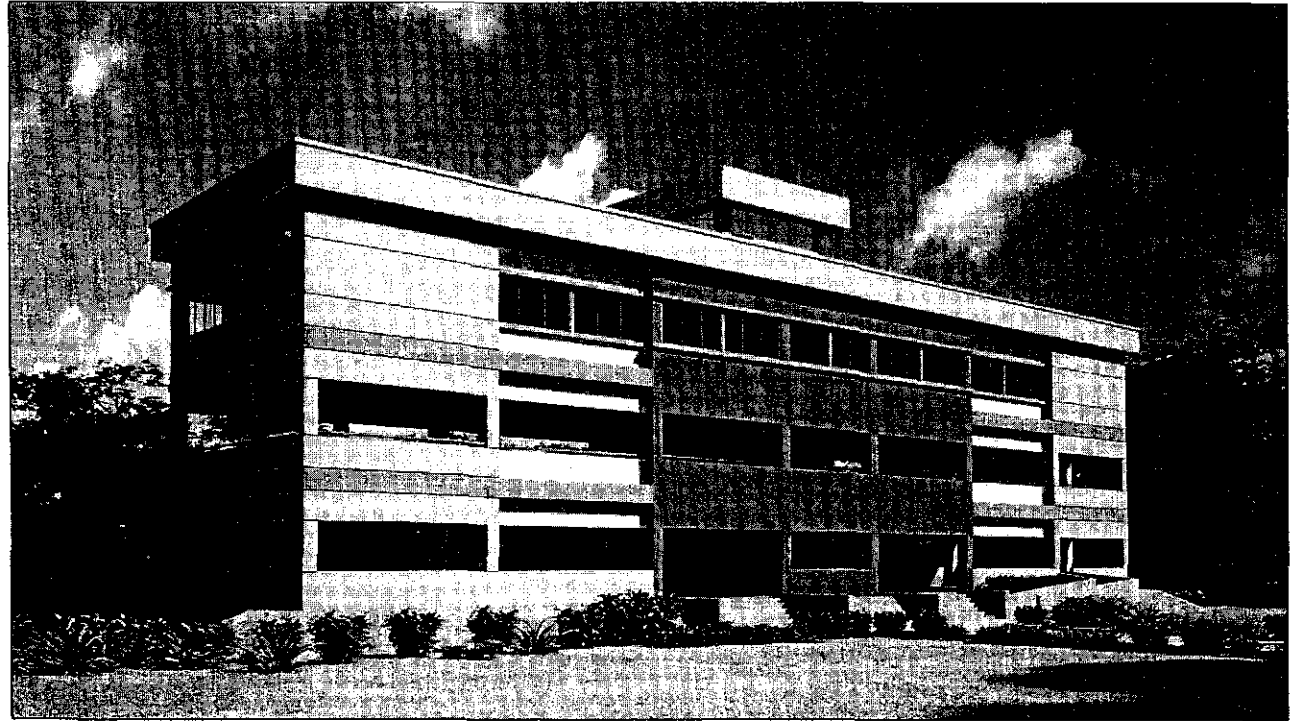


TENDER DRAWING
NOT FOR CONSTRUCTION

FEBRUARY, 2019

MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)
Local Government Engineering Department (LGED)
STRUCTURAL DRAWINGS FOR STEEL BUILDING
(OPTION-1)

DS Name :
School code :
Database Unique ID :
Upazila :
District : Chittagong
Package No. : LGED/MDSP/CHI/14-15/NW-03-A & B



CONSULTANTS :

Joint venture of

CDM Smith Inc. USA

Development Design Consultants Ltd.

Bangladesh



JANUARY, 2019

TENDER DRAWING
NOT FOR CONSTRUCTION

STRUCTURAL DRAWING LIST FOR R.C.C PART OPTION-01

SL. NO.	SHEET NO.	DRAWING TITLE	REMARKS
01	ST-0	DRAWING LIST	
02	ST-01	GENERAL NOTES-01	
03	ST-02	GENERAL NOTES-02	
04	ST-03	COLUMN LAYOUT PLAN	
05	ST-04	DETAILS OF COLUMN	
06	ST-05	PILE DETAILS-01	
07	ST-06	PILE DETAILS-02	
08	ST-07	PILE DETAILS-03	
09	ST-08	PILE LAYOUT PLAN	
10	ST-09	PILE CAP SCHEDULE	
11	ST-10	DETAILS OF PILE CAP-01	
12	ST-11	DETAILS OF PILE CAP-02	
13	ST-12	PILE CAP LAYOUT PLAN	
14	ST-13	BRACING BEAM & WATER TANK POSITION LAYOUT PLAN	
15	ST-14	REINFORCEMENT DETAILS OF UNDER GROUND WATER TANK-01	
16	ST-15	REINFORCEMENT DETAILS OF UNDER GROUND WATER TANK-02	
17	ST-16	GRADE BEAM LAYOUT PLAN	
18	ST-17	DETAILS OF GRADE BEAM-01	
19	ST-18	DETAILS OF GRADE BEAM-02	
20	ST-19	DETAILS OF RAMP BEAMS, RAMP FOR HANDICAP & APRONS	
21	ST-20	DETAILS OF STAIR	
22	ST-21	DETAILS OF SUN SHADE & LINTEL	
23	ST-22	DETAILS OF DROP WALL & RAILING	
24	ST-23	DETAILS OF PARAPET WALL	
25	ST-24	SECTIONS OF FRAME-01	
26	ST-25	SECTIONS OF FRAME-02	
27	ST-26	REINFORCEMENT DETAILS OF FLOOR SLAB	
28	ST-27	REINFORCEMENT DETAIL OF SLAB & BEAMS FOR STAIR ROOF	
29	ST-28	DETAIL OF RING BEAM FOR PVC WATER TANK ON ROOF SLAB	
30	ST-29	DETAILS OF PALISADING WORK	

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option 01 Type : Upazila : Chittagong District : Package : LGED/MDSP/Ch/14-15/NW-03-A & B	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DRAWING LIST Designed by : Checked by : Sheet No. : ST-0 Date : January, 2013	Drawn by : Md. Sarwar Hossain Khan Designed by : Checked by : Engr. Selim Ahmed Rev. Leader : Sushil Somasiri	APPROVED BY : Javed Karim Project Director

GENERAL NOTES

1. GENERAL

- USD DESIGN METHOD USED ACCORDING TO BANGLADESH NATIONAL BUILDING CODE (BNBC) 2006, UBC 1997 AND ACI 318-08.
- ALL THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS.
- BNBC 2006 FOR SPECIFICATIONS/STRUCTURAL REQUIREMENTS NOT MENTIONED IN THE DRAWINGS OR IN THIS NOTE SHEET.
- ANY DETAILS NOT SHOWN IN THE DRAWING SHOULD BE DONE ACCORDING TO ACI DETAILING MANUAL - 2004.
- BASIC WIND SPEED = 260 km/hr
- SEISMIC ZONE I; $Z = 0.075$ (FOR LAKSHMIPUR)
- LIVE LOAD = 4.8 kN/sqm. (100PSF)
- LOADS AS PER BNBC 2006

2. FOUNDATION

- ALL DRAWING SHOULD BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS.
- FOUNDATION TYPE: CAST IN SITU PILE FOUNDATION HAS BEEN CONSIDERED FOR THE BUILDING.
- DEPTH AND SIZE OF FOUNDATION WILL BE AS PER DRAWING.
- FOUNDATION HAS BEEN DESIGNED FOR FOUR STORED BUILDING.
- DURING EXCAVATION, PRECAUTIONARY MEASURE SHALL HAVE TO BE ENSURED FOR PROTECTION OF EXISTING STRUCTURES INCLUDING FOUNDATIONS.
- FOUNDATION BASE SHOULD BE KEPT DRY DURING ITS CONSTRUCTION PERIOD.

3. CONCRETE :

- TYPE : CONCRETE COMPRESSIVE STRENGTH CONSIDERED AS FOLLOWS :
 - CAST IN SITU PILE WORK :
 - $f_{cu} = 25.0$ MPa WHICH ARE TO BE CONFORMED BY TRIAL MIX DESIGN.
 - PILE CAPS, COLUMNS, BEAMS, RCC WALLS, RAMP & SLAB ETC.
 - $f_{cu} = 33.5$ MPa WHICH ARE TO BE CONFORMED BY TRIAL MIX DESIGN.
- MINIMUM CYLINDER STRENGTH : BASED ON CYLINDER TEST OF DIAMETER : $D = 150$ mm & HEIGHT = 300mm.
 - 28TH DAY STRENGTH = 100% OF TARGET STRENGTH
 - 7TH DAY STRENGTH = 70% OF TARGET STRENGTH
- CURING OF RCC WORK :
 - CURING TIME MINIMUM 14 DAYS
 - METHOD OF CURING :
 - *HORIZONTAL SURFACE - BY PONDING OF WATER
 - *OTHER SURFACES-BY WRAPPING MOIST JUTE FABRIC AND SPRINKLING WATER BY HOSE PIPE FREQUENTLY.

4. CEMENT

- OPC-ORDINARY PORTLAND CEMENT (100% CLINKER)
- PCC- PORTLAND COMPOSITE CEMENT (CEM II / AM 42.5N (80-90% CLINKER) & CEM II / AM 52.5N (95-100% CLINKER))

5. CONCRETE AGGREGATE

- FINE AGGREGATE : 100% SYLHET SAND F.M. 2.20 (MINIMUM)
- COARSE AGGREGATE : 20mm DOWN WELL GRADED CRUSHED STONE CHIPS TO BE USED AS COARSE AGGREGATE IN ALL RCC WORK, UNLESS OTHERWISE MENTIONED.

6. WATER

POTABLE WATER TO BE USED IN CONCRETE MIX

7. STEEL REINFORCEMENT

- ALL REINFORCEMENTS ARE OF 60 GRADE HIGH STRENGTH DEFORMED BAR MADE FROM BILLET STEEL
- YIELD STRENGTH OF STEEL $f_y = 420$ MPa (60,000 psi) ACCORDING TO ASTM A655 9A. THE ULTIMATE STRENGTH/YIELD STRENGTH RATIO SHOULD BE AT LEAST 1.25
- THE FOLLOWING TESTS FOR REINFORCING BARS FROM RANDOM SAMPLES SHALL BE CONDUCTED AT BUET AS PER BCS 1313 : 1991 AND TEST RESULT SHALL BE SUBMITTED TO THE ENGINEER FOR CHECKING AND RECORD :
 - TENSILE STRENGTH TEST
 - PERCENTAGE ELONGATION TEST
 - BEND/REBEND TEST

8. LAP LENGTH

UNLESS OTHERWISE MENTIONED IN THE DRAWINGS, LAP LENGTH OF BARS SHALL BE :

BAR DIA (mm)	TENSION (MM)	COMPRESSION (MM)
100	375	300
120	450	375
160	625	450
200	750	600
250	925	750
280	1100	825

* COLUMN LAPS SHALL BE TENSION LAPS

* PILE LAPS SHALL BE TENSION LAPS

9. HOOKS OF REBAR

- FOR ALL RE-BAR : PROVIDE 90° STANDARD HOOKS (L-BENT) IF NOT SHOWN IN THE DRAWINGS.

10. SPACER BARS

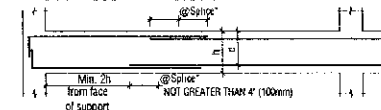
TO SUPPORT SECOND LAYER BARS IN BEAMS USE 25Ø SPACER BARS @ 4'-0" C/C WHERE REQUIRED.

11. CHAIRS

USE CHAIRS OF NECESSARY DIMENSION MADE OF 16Ø/20Ø BAR TO SUPPORT TOP BARS OF MAT @ 4'-0" C/C.

12. LAP LOCATION :

- FOR BEAM BOTTOM BAR, LAP NOT TO BE PROVIDED AT MIDDLE THIRD ZONE OF THE SPAN
- FOR BEAM TOP BAR, LAP MAY BE PROVIDED AT MIDDLE THIRD ZONE OF THE SPAN
- NOT MORE THAN 50% OF THE BARS SHALL BE SPLICED AT ONE PLACE
- LAP SPLICES ARE TO BE CONFINED BY HOOPS WITH MAXIMUM SPACING OR PITCH OF $d/4$ OR 4" WHERE d IS THE EFFECTIVE DEPTH OF THE BEAM.



13. DEVELOPMENT LENGTH

ALL BEAM AND SLAB REBARS SHOULD BE EXTENDED INTO THE SUPPORT UP TO DEVELOPMENT LENGTH.

14. ADMIXTURE

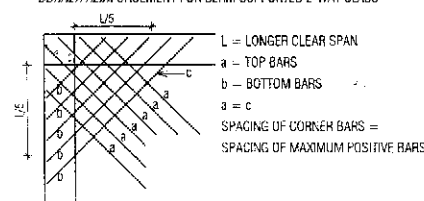
APPROVAL BY THE ENGINEER.

15. WATER STOPPER

3" WIDE PVC WATER STOPPER TO BE USED AT ALL CONSTRUCTION JOINTS BELOW GROUND IN MAT, RETAINING WALL & WATER TANK WALL.

16. CORNER REINFORCEMENT (CR)

CORNER REINFORCEMENT FOR BEAM SUPPORTED 2-WAY SLABS



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17. CONCRETE CLEAR COVER FOR REINFORCING BARS

Member	Location/Condition	Clear Cover in mm	Figure
Pile	Side	75	
Pilecap & Base Slab	Side	75	
	Bottom	75	
Column Below Gr. Level	Side	*75	
Column Above Gr. Level	Side	*50	
Beam	Bracing Beam	Top	**75
		Side	**75
		Bottom	**75
	Grade Beam	Top	**50
		Side	**75
		Bottom	**75
Floor, Stair Beam	Top	**50	
	Side	**50	
	Bottom	**60	
Slab, Stair	Top	25	
	Bottom	40	
Sun Shade & Shelf	Top & Bottom	25	
Railing	Exterior & Interior	50	
Lintel & Window Sill	Top, Bottom & Side	**25	

* From top
** From slabs

18. MAXIMUM BARS IN BEAMS IN SINGLE LAYER

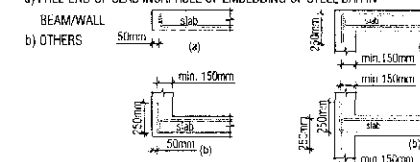
MAXIMUM NUMBER OF BARS AS A SINGLE LAYER IN BEAM STEM SHALL BE AS PER ACI DETAILING MANUAL 1994.

19. MINIMUM BAR SPACING OF COLUMN

LONGITUDINAL BARS
CLEAR DISTANCE BETWEEN LONGITUDINAL BARS SHALL NOT BE LESS THAN 1/5 TIMES BAR DIAMETER, 1/5 TIMES OF THE MAXIMUM SIZE OF COARSE AGGREGATE NOR 38mm (1 1/2").

20. SLAB END REINFORCING DETAILS

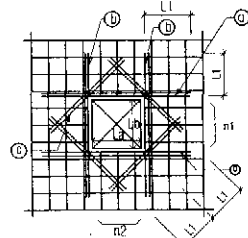
- FREE END OF SLAB INCAPABLE OF EMBEDDING OF STEEL BAR IN



- EXTRA BOTTOM BARS IN BEAMS AND SLAB SHALL BE DISCONTINUED AT 1/8 TH OF CLEAR SPAN FOR CONTINUOUS SPAN, SIMPLY SUPPORTED OR DISCONTINUOUS SPAN IF NOT OTHERWISE MENTIONED
- TOP BARS (AT INTERIOR SUPPORT) BOTH IN BEAM AND SLAB SHALL BE EXTENDED UP TO 1/3 RD THE CLEAR SPAN IN CASE OF UNEQUAL SPAN 1/3 RD OF BIGGER SPAN SHALL GOVERN FOR EXTERIOR SUPPORT EXTRA TOP BARS SHALL BE EXTENDED UP TO 1/4 TH THE CLEAR SPAN
- IN SLABS BARS IN SHORTER DIRECTION WILL BE TREATED AS MAIN REINFORCEMENT
- EXTRA REINFORCEMENT TO BE PROVIDED AT THE EXTERIOR CORNER OF TWO-WAY SLAB UP TO THE LENGTH OF 1/5TH OF CLEAR LONGER SIDE OF THE PANEL IN EACH DIRECTION IN TWO LAYERS. SPACING AND SIZE OF BARS WILL BE SAME AS MAXIMUM POSITIVE REINFORCEMENT PROVIDED FOR THE PANEL. TOP DIAGONAL BARS SHALL BE PLACED AT THE TOP MOST AND BOTTOM CROSSWISE BARS AT THE BOTTOM MOST LAYERS
- ELECTRICAL CONDUIT SHALL BE PLACED PROPERLY AS PER SPECIFICATION AND MUST BE PLACED ABOVE BOTTOM REINFORCEMENT OF SLAB AND SHALL NOT BE PARALLEL TO REINFORCEMENT. IN COLUMN AND BEAM ELECTRICAL CONDUIT (WHERE REQ.) MUST BE IN SIDE THE FABRICATION OF REINFORCEMENT
- IN ORDER TO ENSURE PROPER CLEAR COVER CONCRETE BLOCK/RING, M.S. CHAIR/SEPARATOR/SPACE TO BE PROVIDED 60mm (2'-0") TO 75mm (2'-0") C/C IN EACH DIRECTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev No. :	Date :	Description :
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : Chittagong District : Chittagong Package : LGD/MDSP/CH/14 15/AW 03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : local Govt. (Engineering Department) (CED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	GENERAL NOTES-01 (Drg No : MDSP/RST - 01 Sheet No. : S1 - 01 Date : January, 2019	Drawn by : M/A Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahmed Page made : [Susi Somasri]	APPROVED BY : Javed Karim Project Director

27. REINFORCEMENT DETAILS FOR SLAB OPENINGS



Opening
 $L_a, L_b \leq 600$

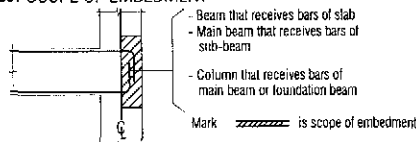
$n1, n2$: The number of bars which are cut off for opening

- ③ The number of extra bars $> n1/2$ (top and bottom bars)
- ④ The number of extra bars $> n2/2$ (top and bottom bars)
- ⑤ The number of extra bars $= 2-D12$ (top and bottom bars)

28. RECOMMENDED END HOOKS

Bar hook	Form and Extension	Bend Angle (degree)	Bend Radius (r)	Used Bar	Location
Primary reinf.		180°	$r = 2db$	6 to 25	Lap splice end of anchorage
Tie/stirrups		135°	$r = 1.25db$	6 to 12	Stirrups fastening bar diagonal hoop
Primary reinf.		90°	$r = 2.5db$	6 to 32	Bend-up for embedment
Slab		45°	$r = 5db$	8 to 20	Bend bar in slab

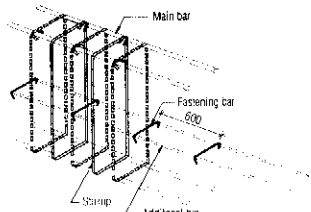
29. SCOPE OF EMBEDMENT



30. OPENING IN R.C.C. WALLS

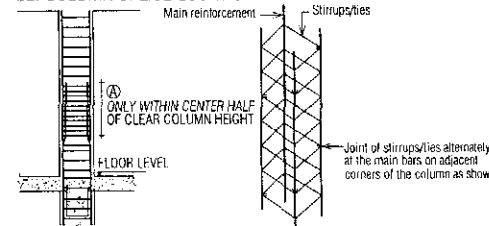
NOT LESS THAN THREE NO.200 BARS SHALL BE PROVIDED AROUND ALL DOOR AND WINDOW OPENINGS IN R.C.C. WALLS. THE BAR SHALL BE EXTENDED BEYOND THE CORNERS OF THE OPENINGS TO A DISTANCE EQUAL TO THE DEVELOPMENT LENGTH BUT NOT LESS THAN 600mm.

31. END HOOK OF STIRRUPS



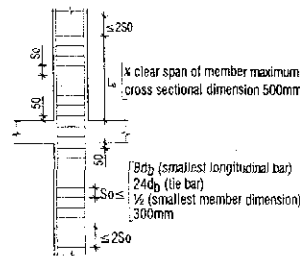
END HOOKS OF STIRRUPS ARE LOCATED ALTERNATELY AT TOP CORNER BAR OF THE SECTION.

32. COLUMN SPLICE LOCATION

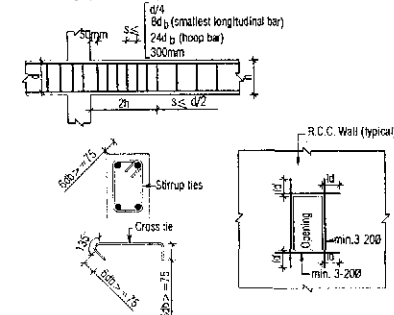


③ IS AREA FOR SPLICE OF COLUMN REINFORCEMENT. MAXIMUM 50% OF TOTAL BAR IS SPLICED AT ONE LEVEL
 $H = \text{CLEAR COLUMN HEIGHT}$

33. CONFINEMENT REQUIREMENTS OF COLUMN AT JOINTS FOR EARTHQUAKE LOADING



34. CONFINEMENT REQUIREMENTS OF BEAM AT JOINTS FOR EARTHQUAKE LOADING



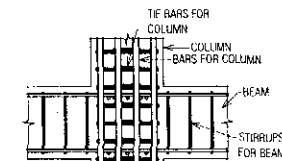
35. ADDITIONAL BAR, FASTENING BAR IN BEAM (Unless shown otherwise in the drawing(s))

depth (D)mm	$D < 600$	$600 \leq D < 900$	$900 \leq D < 1200$	$D \geq 1200$
additional bar	not necessary	2-D10	4-D12	n-D12
SECTION				
fastening	—	—	—	$\phi 6 \text{ mm } @ 600 \text{ mm}$

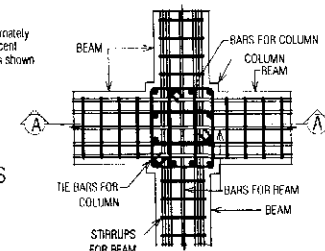
36. BUNDLE BAR



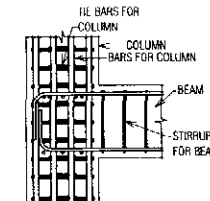
BARS IN A BUNDLE MUST TERMINATE WITH AT LEAST 14D BAR DIA STAGGER EXCEPT WHERE THE BUNDLE TERMINATED



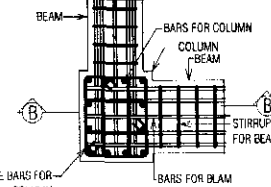
SECTION A-A (TYPICAL JOINT DETAILS OF BEAM FOR INNER COLUMN)
 SCALE: —



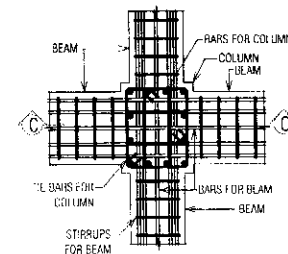
TYPICAL JOINT DETAILS OF BEAM FOR INNER COLUMN (PLAN)
 SCALE: —



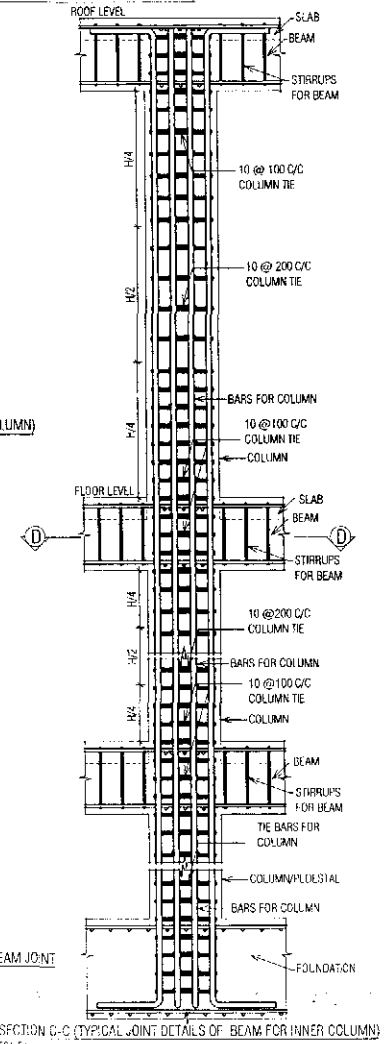
SECTION B-B (TYPICAL JOINT DETAILS OF BEAM FOR OUTER COLUMN)
 SCALE: —



TYPICAL JOINT DETAILS OF BEAM FOR OUTER COLUMN (PLAN)
 SCALE: —



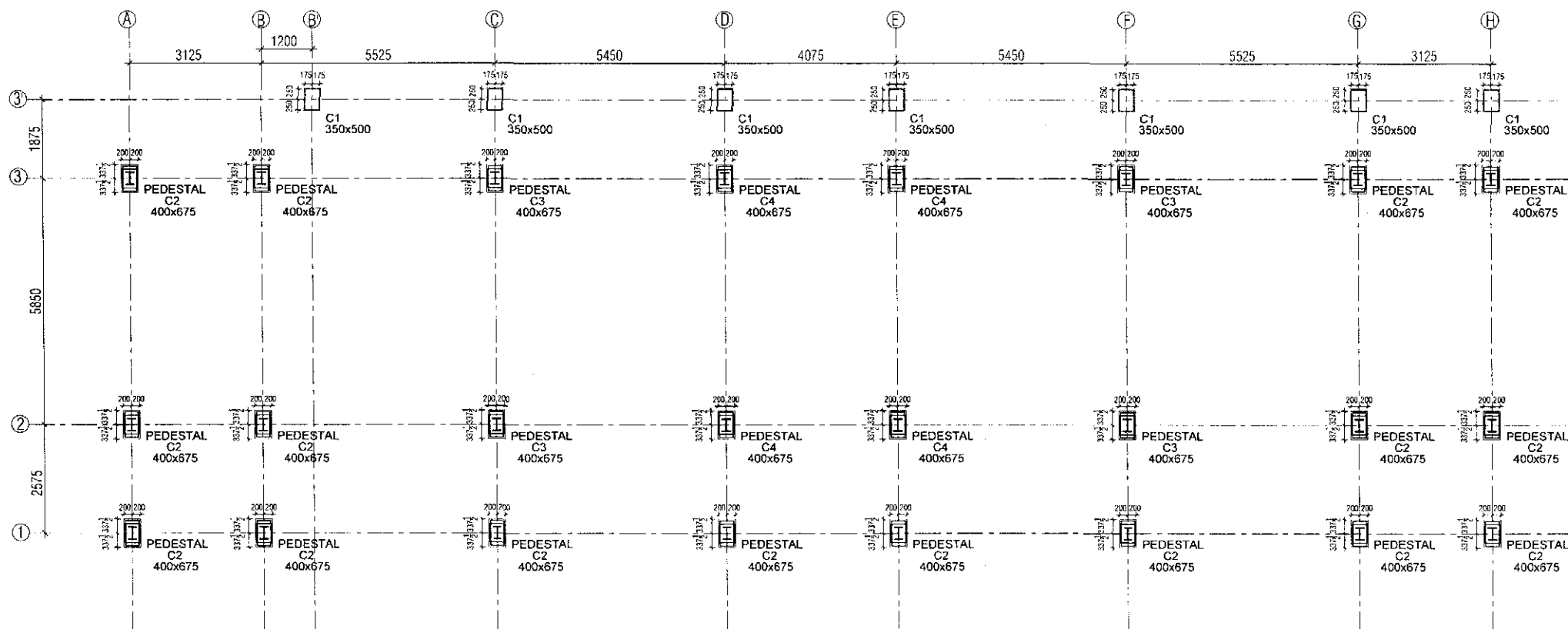
SECTIONAL PLAN D-D OF INTERIOR COLUMN & BEAM JOINT
 SCALE: —



SECTION C-C (TYPICAL JOINT DETAILS OF BEAM FOR INNER COLUMN)
 SCALE: —

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NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by : Md. Sarwar Hossain Khan	APPROVED BY :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Up on G1 Upazila : District : Chittagong Package : LGED/MDSP/CHK/14-15/NW-C3-A & B	Government of Bangladesh Ministry of LGED Implementing Agency : Local Govt Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	GENERAL NOTES-02 Cry. No. : MDSP/RS1-01 Sheet No. : ST-02 Date : January, 2019	Designed by : Md. Zakir Hossain Checked by : Engr. Seem Ahmed Team Leader : Susil Somasiri	Approved Karim Project Director

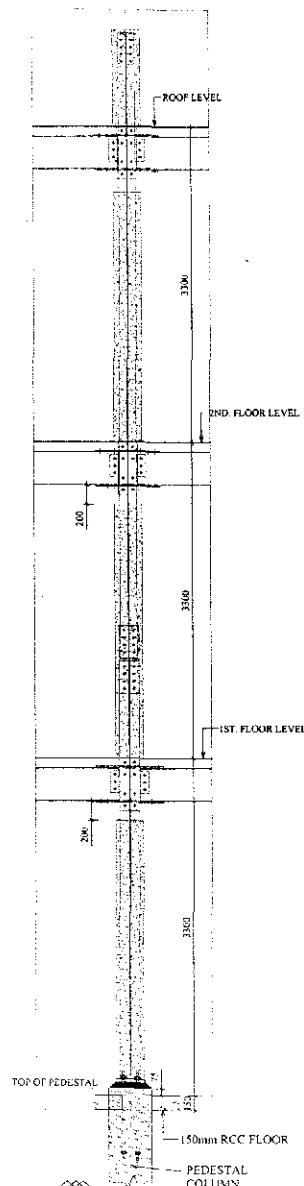


ORIENTATION OF PEDESTAL COLUMN LAYOUT PLAN

ALL DIMENSIONS ARE IN mm, OTHERWISE MENTIONED

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev No	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option D1 Upazila : District : Chittagong Package : LGED/MSDP/Ch/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	COLUMN LAYOUT PLAN	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahammad Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
				Drq. No. : MSDP/R.57 - 01 Sheet No. : ST - 03 Date : January, 2019			



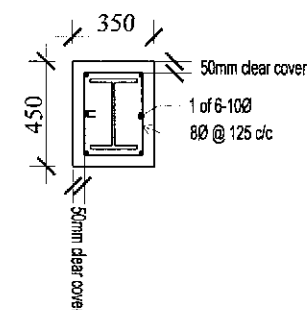
Column Schedule

Legend:
 ●---20mm bar
 ○---16mm bar

Floor Level Column Index	Up to Grade Beam	Tie
C2 16 nos.	400 x 675 14-16 mmØ	10 mm Ø @ 100 C/C
C3 4 nos.	400 x 675 10-16 mmØ + 4-20 mmØ	10 mm Ø @ 100 C/C
C4 4 nos.	400 x 675 14-20 mmØ	10 mm Ø @ 100 C/C

Schedule of Columns for Ramp

Floor Level Column Index	Up to Grade Beam	Grade Beam to Top Level	Tie
Ramp Column C1 7 nos.	400 x 550 8-20 mmØ + 4-16 mmØ	350 x 500 8-20 mmØ + 4-16 mmØ	10 mm Ø @ 100/200/100 C/C



DETAIL SECTION OF CONCRETE ENCASEMENT FOR STEEL COLUMN

MATERIAL PROPERTIES :

- CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH $f_{cu} = 33.5$ Mpa MINIMUM, AT 28 DAYS CYLINDER TEST RESULT ACCORDING TO ASTM C39. MINIMUM CEMENT CONTENT 385 Kg/m³, MIX RATIO (1 : 1 1/2 : 3)
- COARSE AGGREGATE FOR CONCRETE SHALL BE 20mm DOWN GRADED STONE CHIPS CONFORMED TO THE REQUIREMENTS OF ASTM C33.
- SAND F.M. NOT LESS THAN 2.2
- REINFORCING BARS SHALL BE 60 GRADE DEFORMED BARS, HAVING MINIMUM YIELD STRENGTH OF STEEL $f_y = 420$ MPa (60,000 psi) ACCORDING TO ASTM A955-9A. THE ULTIMATE STRENGTH/YIELD STRENGTH RATIO SHOULD BE AT LEAST 1.25
- CLEAR COVER OF REINFORCEMENT:
 - 75mm FROM SIDE EDGE OF CONCRETE (UP TO GRADE BEAM)
 - 50mm FROM SIDE EDGE OF CONCRETE (COLUMN)

NOTE :

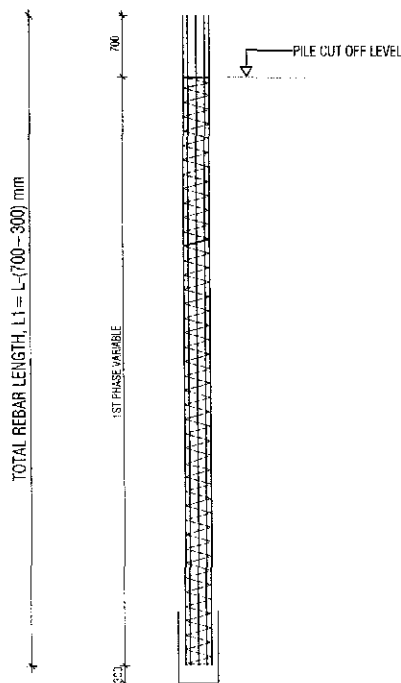
CONCRETING OF STUB COLUMNS ABOVE ROOF (WITHOUT COLUMNS OF CHILAKOTHA) SHOULD BE WEAKER CONCRETE FOR FUTURE EXTENTION.

TENDER DRAWING
NOT FOR CONSTRUCTION

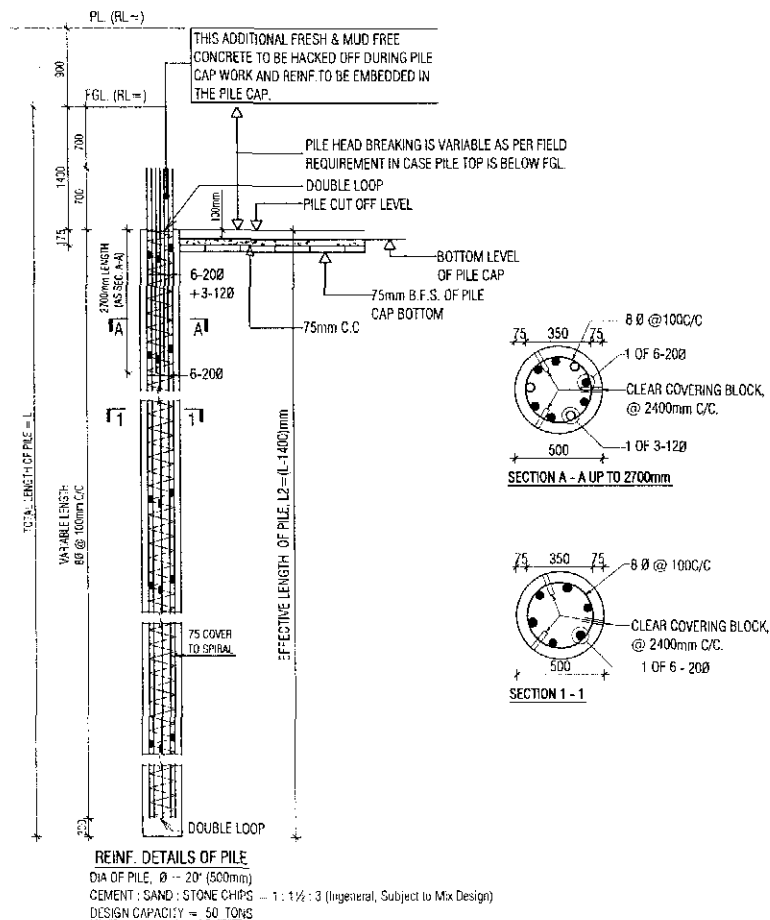
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev No	Date	Description
MULTIPURPOSE DISASTER SHELTER মাল্টিপারপোজিট (MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : (GFM/MDSP/CH/14-15/TW-03-A & B	Unique ID : School Code : Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF COLUMN Dwg No : MDSP/ R ST - 01 Sheet No : ST - 04 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Solim Ahmed Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director

NOTE: When,

PILE LENGTH UPTO 13.00 m
1ST PHASE VARIABLE



DETAIL OF PHASE WISE REINF.
FABRICATION FOR EACH PILE



NOTES FOR PILE WORKS:

- 01 ALL DRAWING SHOULD BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS.
- 02 CONCRETE FOR PILE SHALL HAVE A COMPRESSIVE STRENGTH $f_{cu} = 25$ MPa AT 28 DAYS CYLINDER TEST RESULT ACCORDING TO ASTM C39.
- 03 COARSE AGGREGATE FOR CONCRETE SHALL BE 20mm DOWN WELL GRADED STONE CHIPS CONFORMED TO THE REQUIREMENTS OF ASTM C33.
- 04 SAND F.M. NOT LESS THAN 2.2
- 05 REINFORCING BARS SHALL BE 60 GRADE DEFORMED BARS, HAVING MINIMUM YIELD STRENGTH OF STEEL $f_y = 420$ MPa (60,000 psi) ACCORDING TO ASTM A955-9A. THE ULTIMATE STRENGTH/YIELD STRENGTH RATIO SHOULD BE AT LEAST 1.25
- 06 THE SPIRAL BAR SHALL BE WELDED TO THE VERTICAL BAR & REBAR OF PILE SHALL BE PLACED AS SHOWN IN DRAWING.
- 07 PILE CASTING SHALL BE DONE BY USING TREMIE PIPE OF AT LEAST 150mm (6") DIAMETER & END OF TREMIE PIPE SHALL ALWAYS REMAIN IN RAW CONCRETE BY ATLEAST 1500mm (5'-0").
- 08 USE SLURRY TO PREVENT NECKING & SLUMP OF CONCRETE MIX IS ABOUT 150mm (6").
- 09 MINIMUM TIME INTERVAL REQUIRED TO CAST TWO PILES WITHIN SAME PILE CAP IS 48 HOURS
- 10 MINIMUM TIME INTERVAL REQUIRED TO DISMELT THE PILE HEAD IS 3 WEEKS.
- 11 LOAD TEST, UPTO 2 TIMES THE DESIGN LOAD SHALL BE CONDUCTED ON SELECTED TEST PILE UPTO 1 1/2 TIMES THE DESIGN LOAD SHALL BE CONDUCTED ON SELECTED SERVICE PILE. THEN LENGTH AND NUMBERS OF PILE MAY BE CHANGED SUBJECT TO LOAD TEST.
- 12 DESIGN CAPACITY OF PILE (500mm ϕ) = 50 TONS.
- 13 DURING EXCAVATION, PRECAUTIONARY MEASURE SHALL HAVE TO BE ENSURED FOR PROTECTION OF EXISTING STRUCTURES AND EXISTING FOUNDATIONS.
- 14 THE LOAD CARRYING CAPACITIES OF THE PILE AS RECOMMENDED ABOVE MUST BE CONFIRMED BY PILE LOAD TEST.
- 15 CONSTRUCTION SEQUENCE:
- 16 MINIMUM DISTANCE OF 2.5m TO BE MAINTAINED FOR SUCCESSIVE PILE DRIVING
- CHISEL DIAMETER > 465mm

DETAILS OF CAST-IN-SITU PILE (Length upto 13.00 m)

ALL DIMENSIONS ARE IN mm. (IF NOT OTHERWISE MENTIONED)

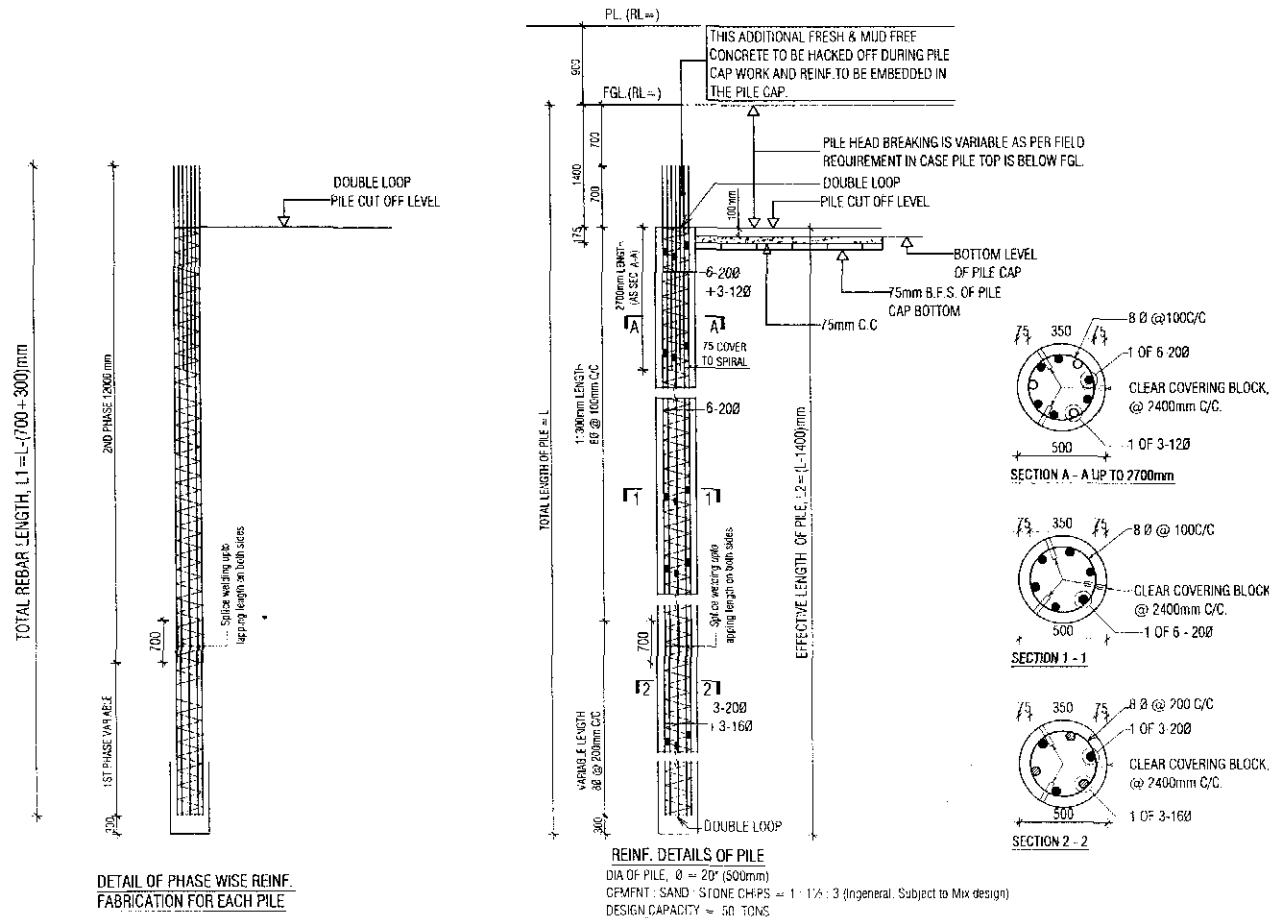
TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : GFD/MDSP/CH/14 LG/14/03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PILL DETAILS 01	Drawn by : Md. Sarwar Hossain Khan Checked by : Md. Zahir Hossain Designed by : Engr. Saifur Rahman Team : 05	APPROVED BY : Javed Karim Project Director
					Sheet No. : ST-05 Date : January, 2019		

NOTE : When,

PILE LENGTH MORE THAN 13.00 m to 24.30 m

1ST PHASE VARIABLE & 2ND PHASE (12000mm) FIXED



NOTES FOR PILE WORKS :

- 01 ALL DRAWING SHOULD BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS.
- 02 CONCRETE FOR PILE SHALL HAVE A COMPRESSIVE STRENGTH $f_c = 25 \text{ MPa}$ AT 28 DAYS CYLINDER TEST RESULT ACCORDING TO ASTM C39.
- 03 COARSE AGGREGATE FOR CONCRETE SHALL BE 20mm DOWN WELL GRADED STONE CHIPS CONFORMED TO THE REQUIREMENTS OF ASTM C33.
- 04 SAND F.M. NOT LESS THAN 2.2
- 05 REINFORCING BARS SHALL BE 60 GRADE DEFORMED BARS, HAVING MINIMUM YIELD STRENGTH OF STEEL $f_y = 420 \text{ MPa}$ (60,000 psi) ACCORDING TO ASTM A955-9A. THE ULTIMATE STRENGTH/YIELD STRENGTH RATIO SHOULD BE AT LEAST 1.25
- 06 THE SPIRAL BAR SHALL BE WELDED TO THE VERTICAL BAR & REBAR OF PILE SHALL BE PLACED AS SHOWN IN DRAWING.
- 07 PILE CASTING SHALL BE DONE BY USING TREMIE PIPE OF AT LEAST 150mm (6") DIAMETER & END OF TREMIE PIPE SHALL ALWAYS REMAIN IN RAW CONCRETE BY ATLEAST 1500mm (5'-0").
- 08 USE SLURRY TO PREVENT NECKING & SLUMP OF CONCRETE MIX IS ABOUT 150mm (6").
- 09 MINIMUM TIME INTERVAL REQUIRED TO CAST TWO PILES WITHIN SAME PILE CAP IS 48 HOURS
- 10 MINIMUM TIME INTERVAL REQUIRED TO DISMELT THE PILE HEAD IS 3 WEEKS.
- 11 LOAD TEST, UPTO 2 TIMES THE DESIGN LOAD SHALL BE CONDUCTED ON SELECTED TEST PILE UPTO 1 1/2 TIMES THE DESIGN LOAD SHALL BE CONDUCTED ON SELECTED SERVICE PILE. THEN LENGTH AND NUMBERS OF PILE MAY BE CHANGED SUBJECT TO LOAD TEST.
- 12 DESIGN CAPACITY OF PILE (500mmØ) = 50 TONS.
- 13 DURING EXCAVATION, PRECAUTIONARY MEASURE SHALL HAVE TO BE ENSURED FOR PROTECTION OF EXISTING STRUCTURES AND EXISTING FOUNDATIONS.
- 14 THE LOAD CARRYING CAPACITIES OF THE PILE AS RECOMMENDED ABOVE MUST BE CONFIRMED BY PILE LOAD TEST.
- 15 CONSTRUCTION SEQUENCE:
MINIMUM DISTANCE OF 2.5m TO BE MAINTAINED FOR SUCCESSIVE PILE DRIVING
- 16 CHISEL DIAMETER > 465mm

TENDER DRAWING
NOT FOR CONSTRUCTION

DETAILS OF CAST-IN-SITU PILE (LENGTH MORE THAN 13.00 m to 24.30 m)

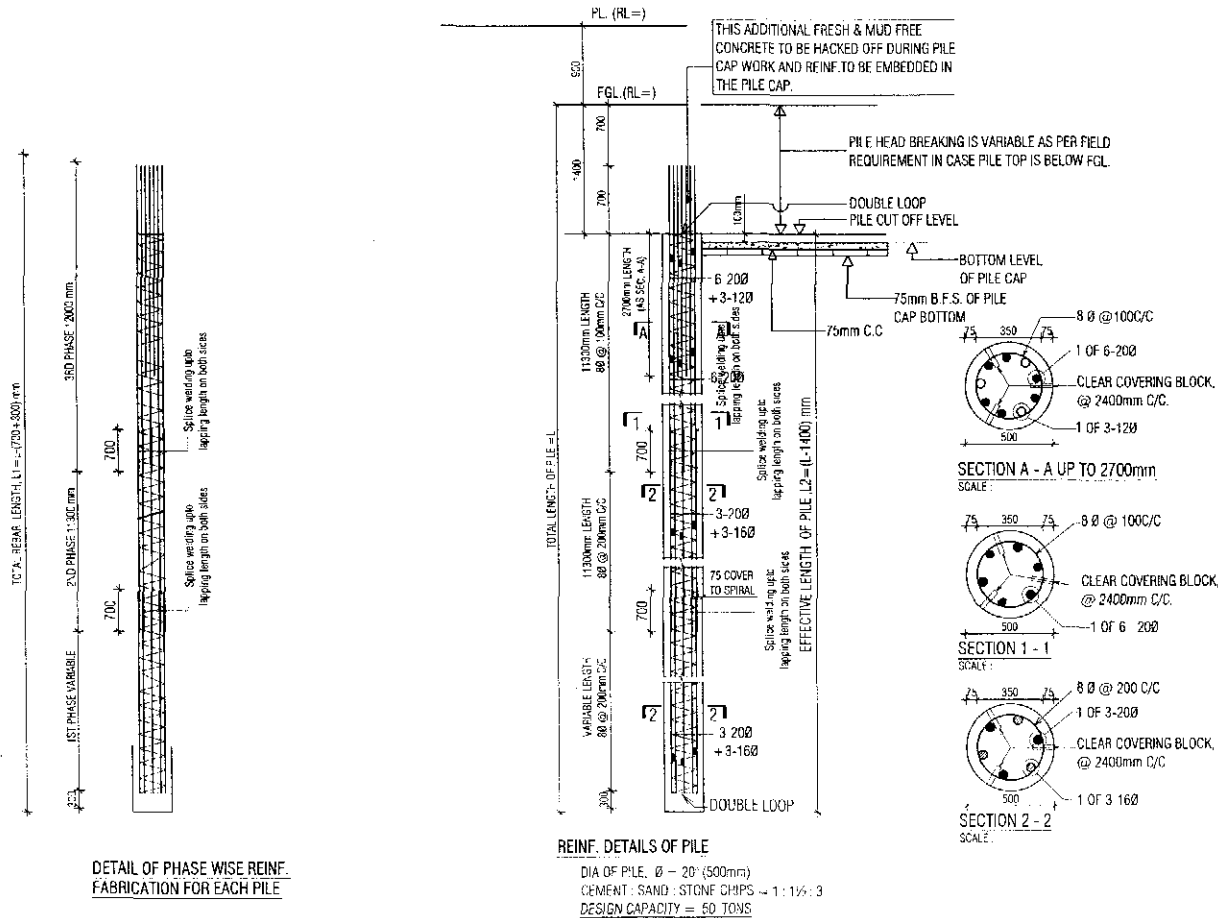
ALL DIMENSIONS ARE IN mm, (IF NOT OTHERWISE MENTIONED)

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTI PURPOSE DISASTER SHELTER PROJECT (MOSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MOSP/CH/14-15/NW-33 A & B	Government of People's Republic of Bangladesh	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PILE DETAILS-02	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Eng. Saum Akbar Team Leader : Sust. Somasiri	APPROVED BY : Awad Karim Project Director	

NOTE : When,

PILE LENGTH MORE THAN 24.30 m to 30 m

1ST PHASE VARIABLE & 2ND PHASE (11300 mm) & 3RD PHASE (12000 mm) FIXED



NOTES FOR PILE WORKS:

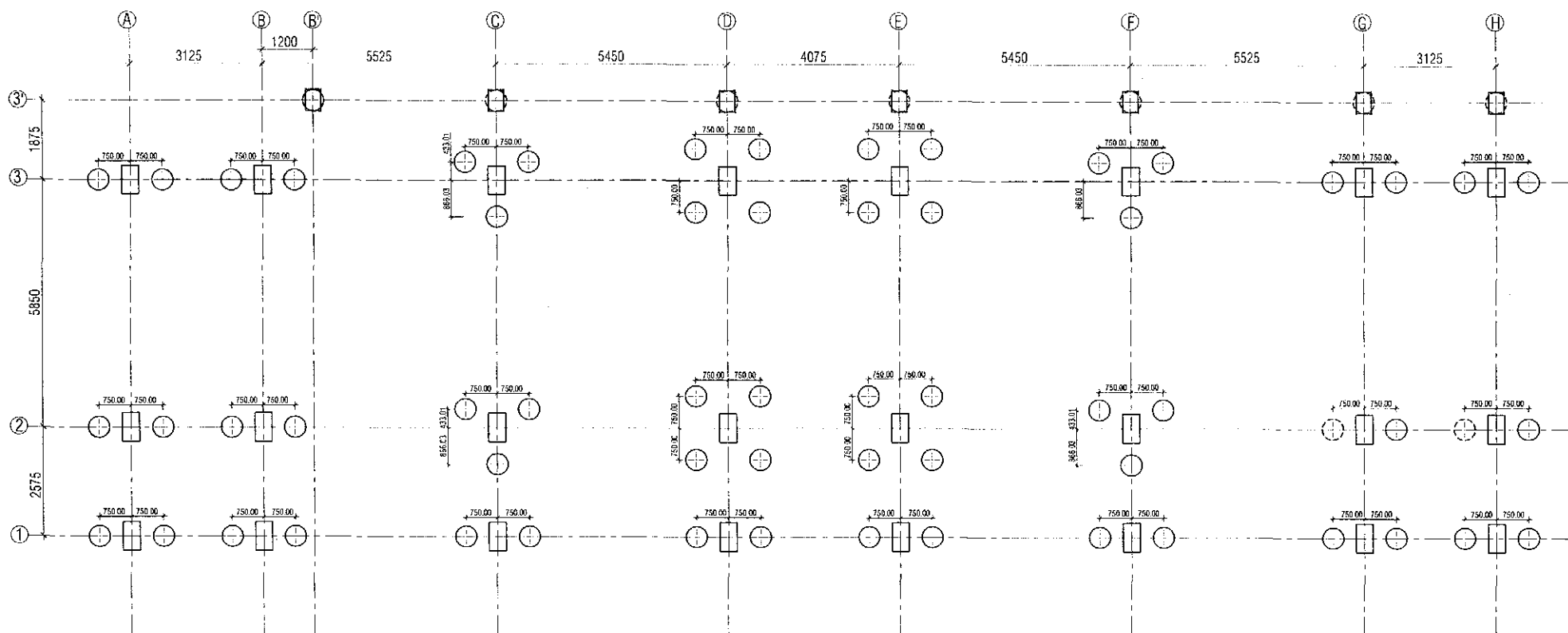
- ALL DRAWING SHOULD BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS.
- CONCRETE FOR PILE SHALL HAVE A COMPRESSIVE STRENGTH $f_{cu} = 25$ MPa AT 28 DAYS CYLINDER TEST RESULT ACCORDING TO ASTM C39.
- COARSE AGGREGATE FOR CONCRETE SHALL BE 20mm DOWN WELL GRADED STONE CHIPS CONFORMED TO THE REQUIREMENTS OF ASTM C33.
- SAND F.M. NOT LESS THAN 2.2.
- REINFORCING BARS SHALL BE 60 GRADE DEFORMED BARS, HAVING MINIMUM YIELD STRENGTH OF STEEL $f_y = 420$ MPa (60,000 psi) ACCORDING TO ASTM A955-9A. THE ULTIMATE STRENGTH/YIELD STRENGTH RATIO SHOULD BE AT LEAST 1.25.
- THE SPIRAL BAR SHALL BE WELDED TO THE VERTICAL BAR & REBAR OF PILE SHALL BE PLACED AS SHOWN IN DRAWING.
- PILE CASTING SHALL BE DONE BY USING TREMIE PIPE OF AT LEAST 150mm (6") DIAMETER & END OF TREMIE PIPE SHALL ALWAYS REMAIN IN RAW CONCRETE BY AT LEAST 1500mm (5'-0").
- USE SLURRY TO PREVENT NECKING & SLUMP OF CONCRETE MIX IS ABOUT 150mm (6").
- MINIMUM TIME INTERVAL REQUIRED TO CAST TWO PILES WITHIN SAME PILE CAP IS 48 HOURS.
- MINIMUM TIME INTERVAL REQUIRED TO DISMELT THE PILE HEAD IS 3 WEEKS.
- LOAD TEST, UPTO 2 TIMES THE DESIGN LOAD SHALL BE CONDUCTED ON SELECTED TEST PILE UPTO 1½ TIMES THE DESIGN LOAD SHALL BE CONDUCTED ON SELECTED SERVICE PILE. THEN LENGTH AND NUMBERS OF PILE MAY BE CHANGED SUBJECT TO LOAD TEST.
- DESIGN CAPACITY OF PILE (500mmØ) = 50 TONS.
- DURING EXCAVATION, PRECAUTIONARY MEASURE SHALL HAVE TO BE ENSURED FOR PROTECTION OF EXISTING STRUCTURES AND EXISTING FOUNDATIONS.
- THE LOAD CARRYING CAPACITIES OF THE PILE AS RECOMMENDED ABOVE MUST BE CONFIRMED BY PILE LOAD TEST.
- CONSTRUCTION SEQUENCE: MINIMUM DISTANCE OF 2.5m TO BE MAINTAINED FOR SUCCESSIVE PILE DRIVING CHISEL DIAMETER > 465mm.

TENDER DRAWING
NOT FOR CONSTRUCTION

DETAILS OF CAST-IN-SITU PILE (LENGTH MORE THAN 24.30 m to 30.00 m)

ALL DIMENSIONS ARE IN mm. (IF NOT OTHERWISE MENTIONED)

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Unique ID : Type : Option 01 Upazila : School Code : District : Chittagong Package : LSED/MDSP/CH/14-15/NW-33-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PILE DETAILS-03	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahmed Tamil Leaver : Date : January, 2019	APPROVED BY : Javed Karim Project Director



PILE LAYOUT PLAN
ALL DIMENSIONS ARE IN mm, OTHERWISE MENTIONED

TENDER DRAWING
NOT FOR CONSTRUCTION

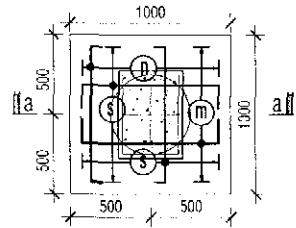
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option-2 Upazila : Chittagong District : Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Gov. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PILE LAYOUT PLAN	Drawn by : Md. Sarwar Hossain Khair Designed by : Md. Zakir Hossain Checked by : Org. No. : MDSP/R.ST. - 01 Sheet No. : ST - 08 Date : January, 2019	APPROVED BY : Javed Karim Project Director

PILE CAP SCHEDULE

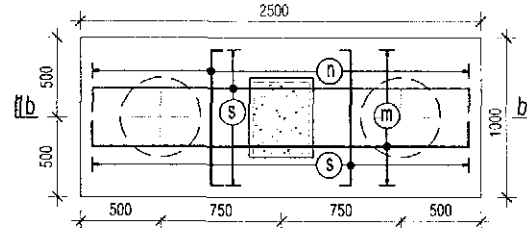
CAP MARK	No. of CAP	NO. OF PILE PER CAP	TOTAL PILE	CAP SIZE & FOUNDATION DEPTH IN MILLIMETER				CAP RE-BAR		
								Main Bar (Bottom Layer)		Distribution Bar Top Layer (s)
				L	B	T	Df	Short Direction (n)	Long Direction (m)	
PC1	7	1	7	1000	1000	625	1650	7-16mm	7-16mm	12mm@175c/c
PC2	16	2	32	2500	1000	650	1650	18-16mm	7-20mm	12mm@175c/c
PC3	4	3	12	2654.7	2299	650	1650	16-20mm	14-20mm	12mm@175c/c
PC4	4	4	16	2500	2500	750	1650	17-20mm	17-20mm	12mm@175c/c
TOTAL	31		67							

TENDER DRAWING
NOT FOR CONSTRUCTION

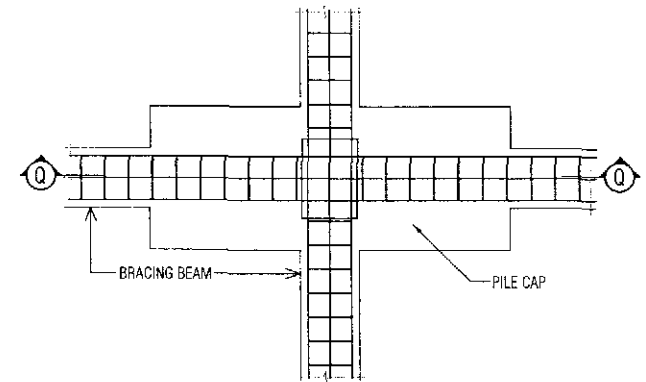
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-G1 Upazila : District : Chittagong Package : LGED/MDSP/C/18/14 15/20W 03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of : GRD Implementing Agency : Local Govt Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PILE CAP SCHEDULE	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Saikat Hossain Team Leader : Sustil Somasiri	APPROVED BY : Javed Karim Project Director
				Proj. No. : MDSP/RST - 01 Sheet No. : ST - 09 Date : January, 2019			



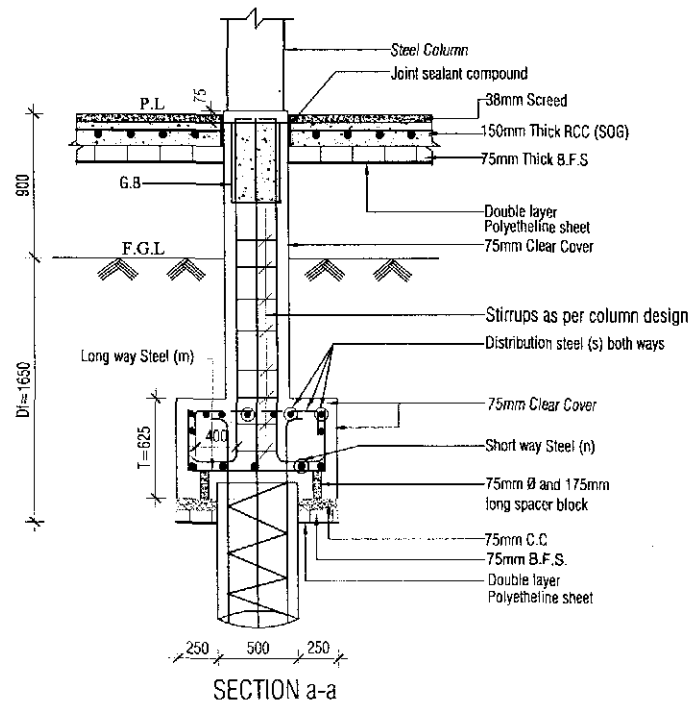
Plan of Pilecap for One Pile



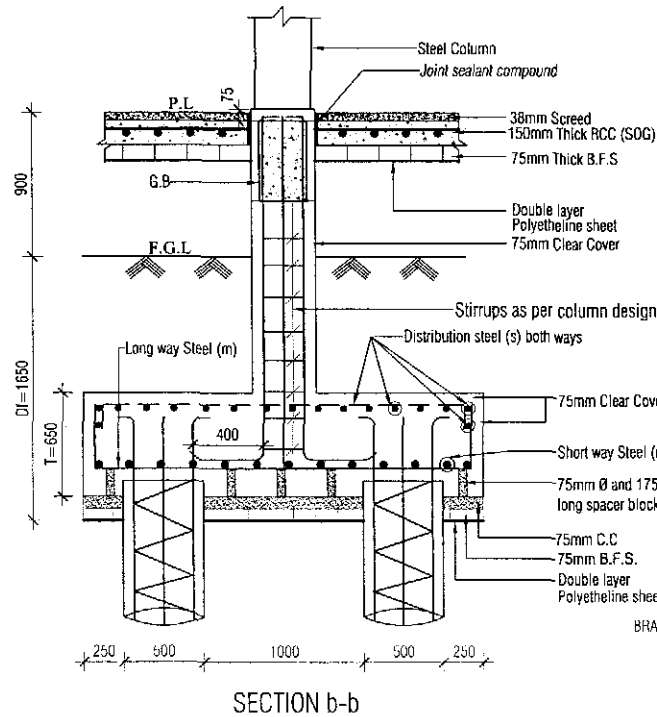
Plan of Pilecap for Two Pile



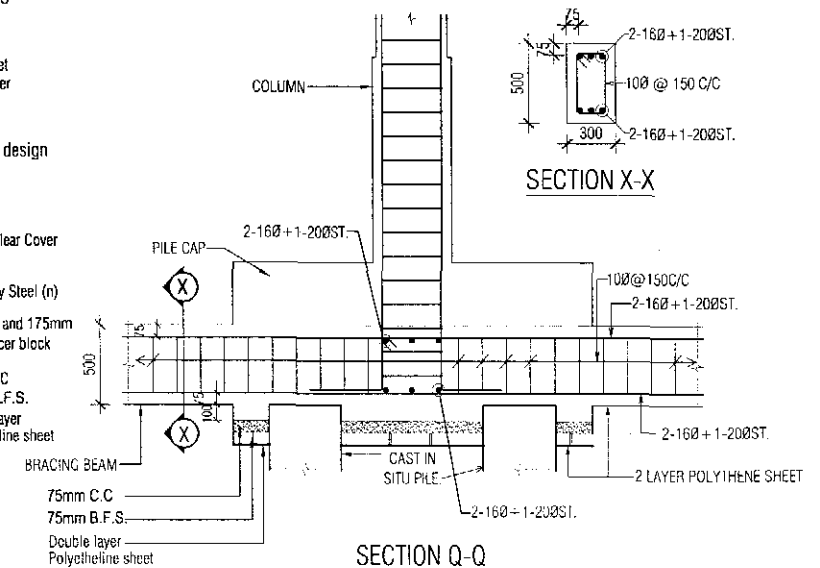
PLAN OF BRACING BEAM (PART)



SECTION a-a



SECTION b-b

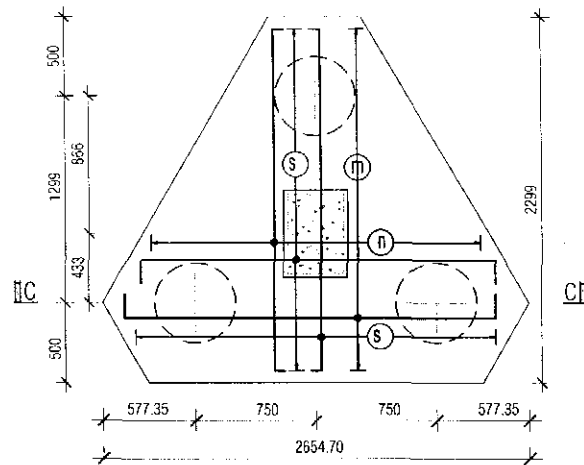


SECTION Q-Q

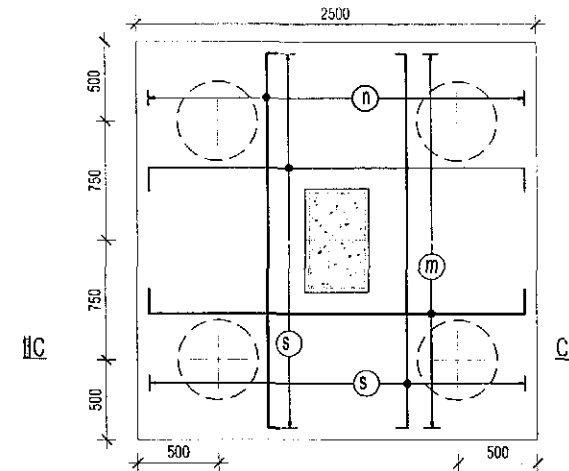
TENDER DRAWING
NOT FOR CONSTRUCTION

Note: Top level of Bracing Beam to be provided from top level of lowest depth of adjacent pile cap where applicable.

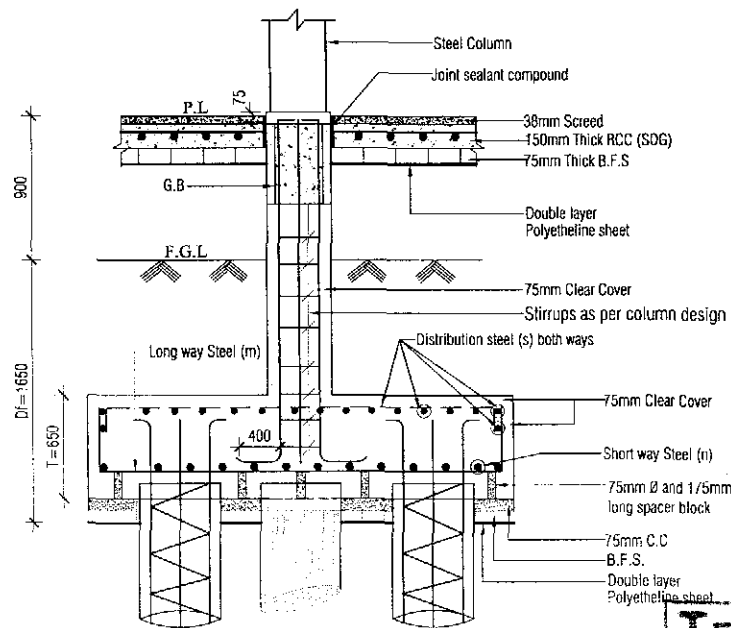
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :			CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by : Md. Sarwar Hossain Khan	APPROVED BY :	
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name Type Upazila District Package	Option-01 Chittagong	Unique ID School Code 15/NW-03-A & B	Government of People's Republic of Bangladesh	Line Ministry : Ministry of I GRD Implementing Agency (Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF PILECAP-01 Org. No. : MDSP/AST - 01 Sheet No. : SF - 10 Date : January, 2019	Designed by : Md. Zakir Hossain Checked by : Engr. Saikat Anwar Fresh Layout Sd/-: Somashri	Javed Karim Project Director



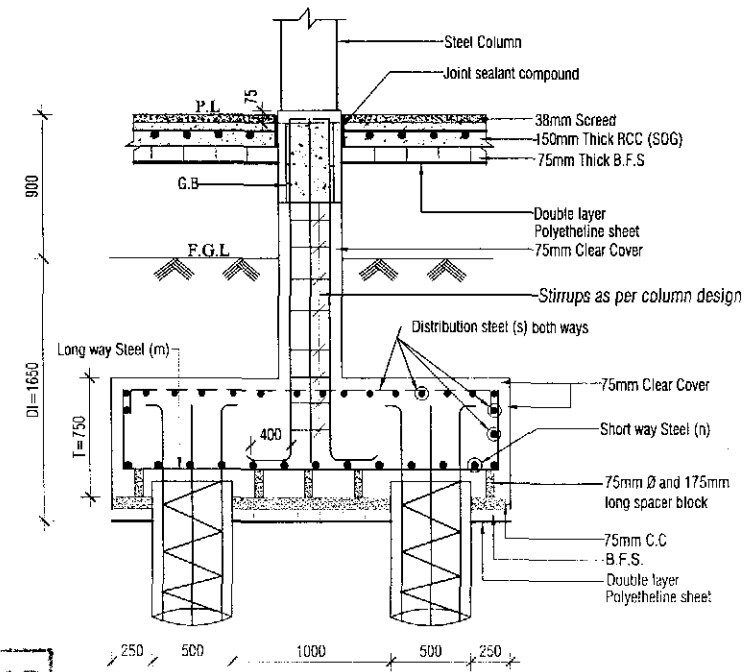
Plan of Pilecap for Three Pile



Plan of Pilecap for Four Pile



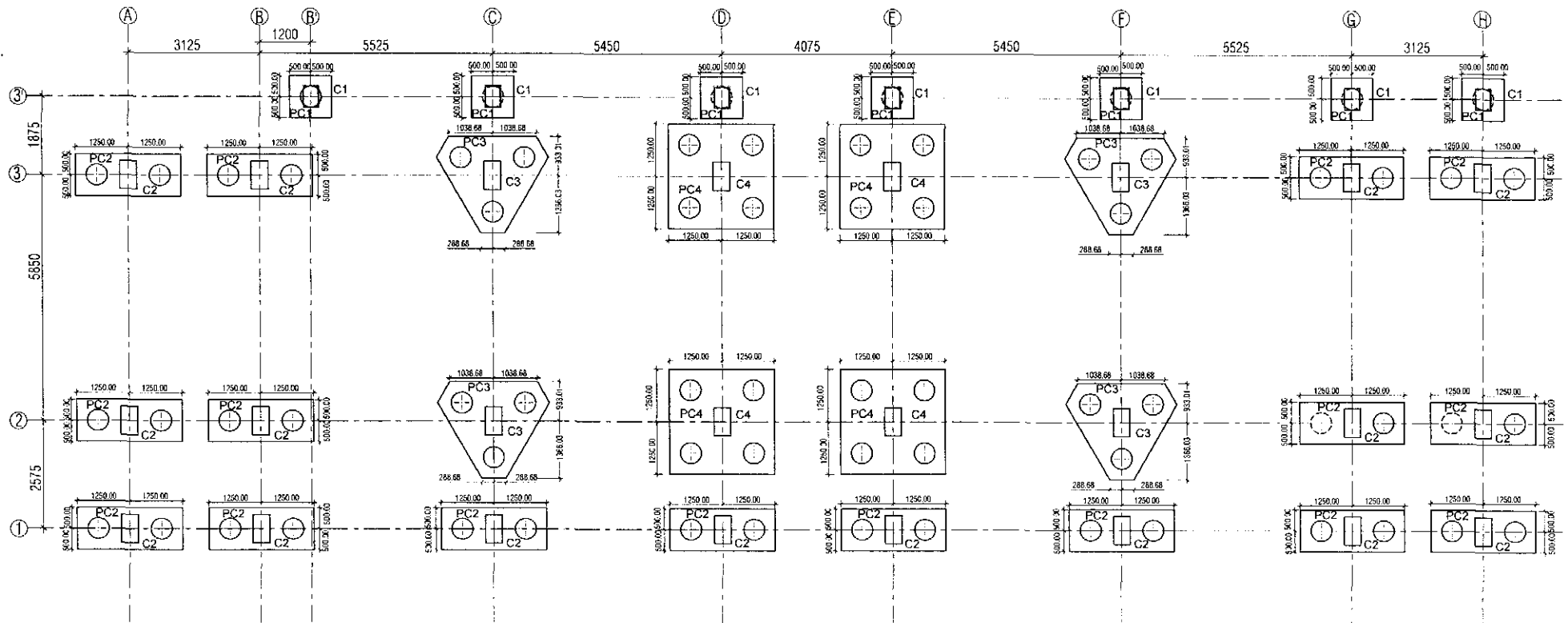
SECTION b-b



SECTION c-c

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. : , Date : , Description :
MULTI-PURPOSE DISASTER SHED, TFR PROJECT (MOSP) Funded by World Bank	Name : Option-01 Type : Upazila : Chittagong District : Package : LGED/MOSP/CH/14 15/NW 03 A & B	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh Org. No. : MOSP/RST 01 Sheet No. : 57 - 11 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Checked by : Md. Zaki Hossain Project Director : Javed Karim

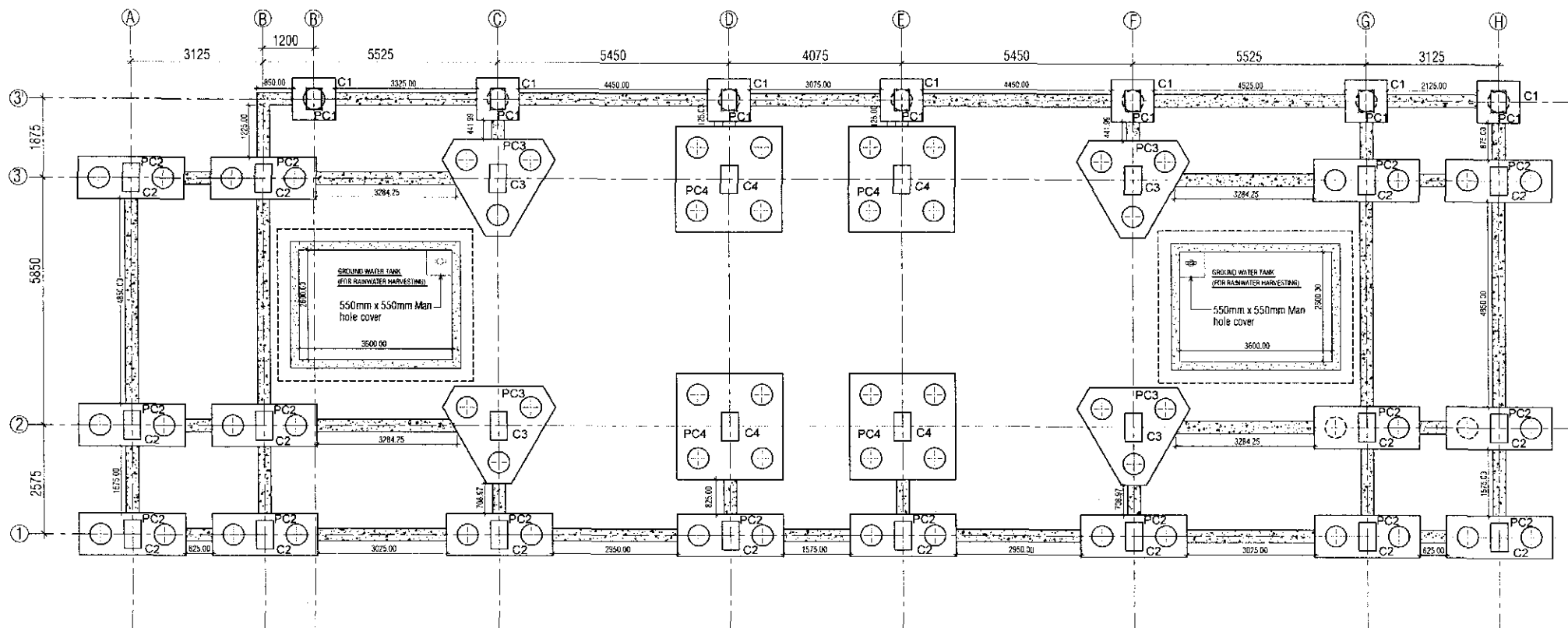


PILE CAP LAYOUT PLAN

ALL DIMENSIONS ARE IN mm, OTHERWISE MENTIONED

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by : Md. Sarwar Hassan Khan	APPROVED BY :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGFD/MDSP/CH/14-13/NW-03-A & B	Unique ID : School Code : Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGHD Implementing Agency : Local Govt. Engineering Department (IGFD)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PILECAP LAYOUT PLAN Drw. No. : MDSP/R.ST. - 01 Sheet No. : ST - 12 Date : January, 2019	Designed by : Md. Zakir Hassan Checked by : Eng. Saifur Rahman Team Leader Susi Somasiri	 Javed Karim Project Director



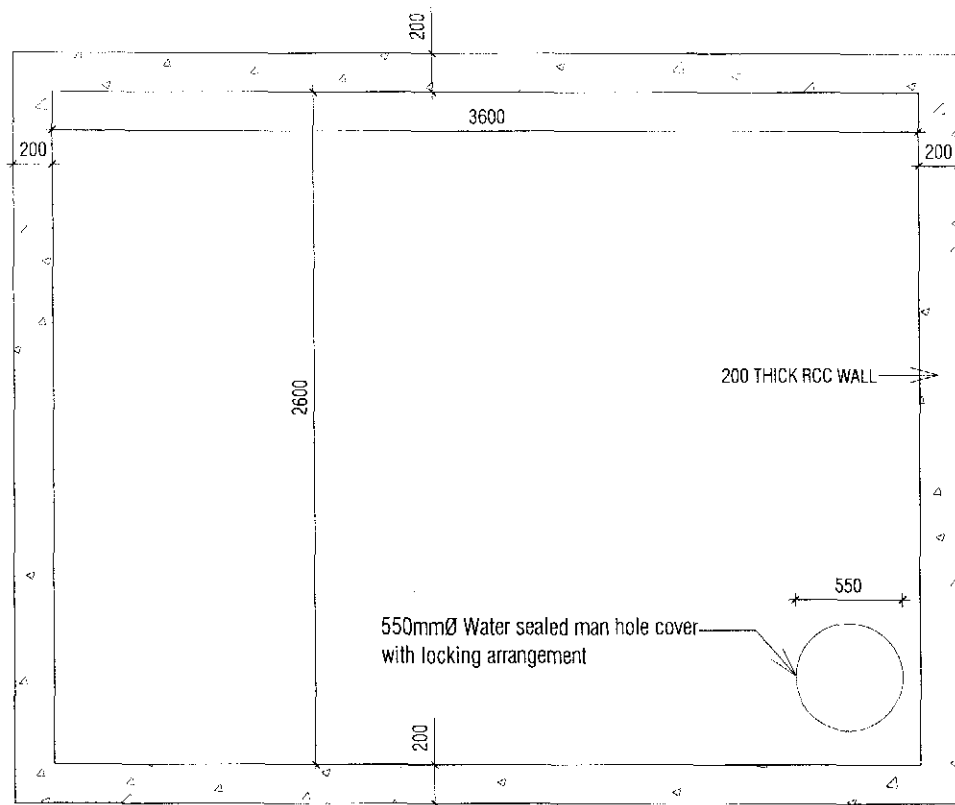
BRACING BEAM & WATER TANK POSITION LAYOUT PLAN

ALL DIMENSIONS ARE IN mm, OTHERWISE MENTIONED

Note: Top level of Bracing Beam to be provided from top level of lowest depth of adjacent pile cap where applicable.

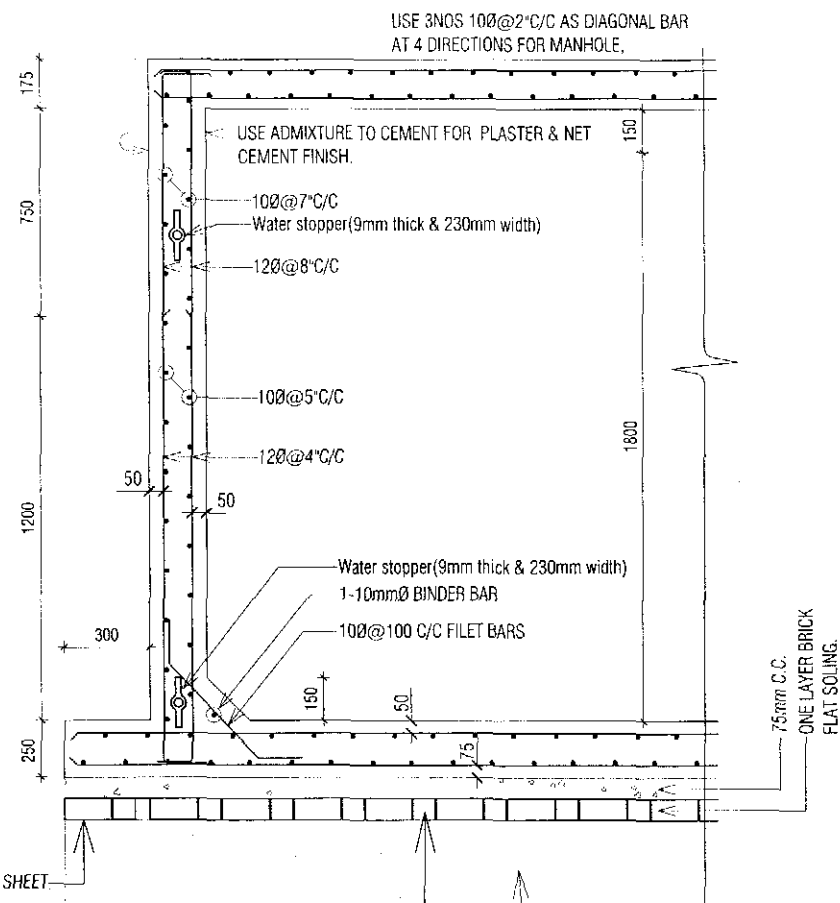
TENDERS DRAWING
NOT FOR CONSTRUCTION

PROJECT :						NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :		CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description		
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSPP) Funded by World Bank						Name	Unique ID	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	BRACING BEAM & WATER TANK POSITION LAYOUT PLAN			APPROVED BY : Javed Karim Project Director	
						Type	Option-01				School Code	Designed by : Md. Zakir Hossain			
						Upazila	Chattogram					Checked by : Engr. Saikat Alamgir			
						District	Chattogram					Drawn by : Engr. Saikat Alamgir			
						Package	LGED/MDSPP/CH/14-15/NW-03 A & B				Sheet No. : S1 - 13	Date : January, 2019	Sustil Somasiri		



PLAN OF GROUND WATER TANK

PLINTH LEVEL



SECTION X-X

250mm THICK SAND (F.M. 1.5)
FILL & COMPACTED THE LAYER
TO ATTAIN 90% COMPACTION.

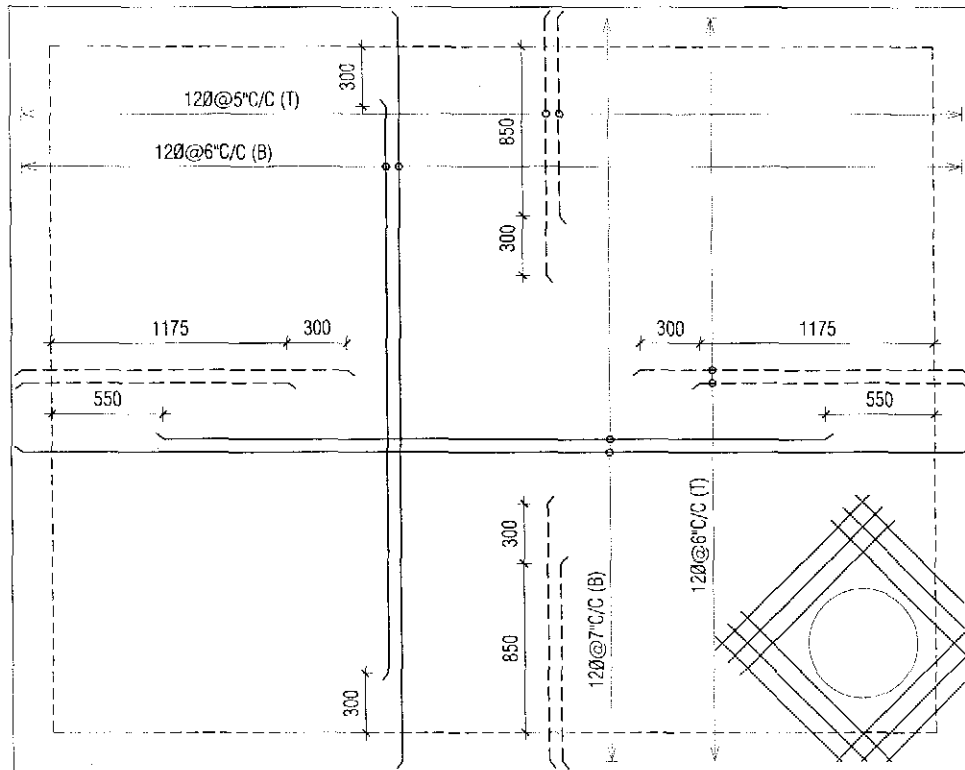
BASE SHOULD BE KEPT DRY DURING ITS
POURING & SETTING PERIOD.

TENDER DRAWING
NOT FOR CONSTRUCTION

Note:-

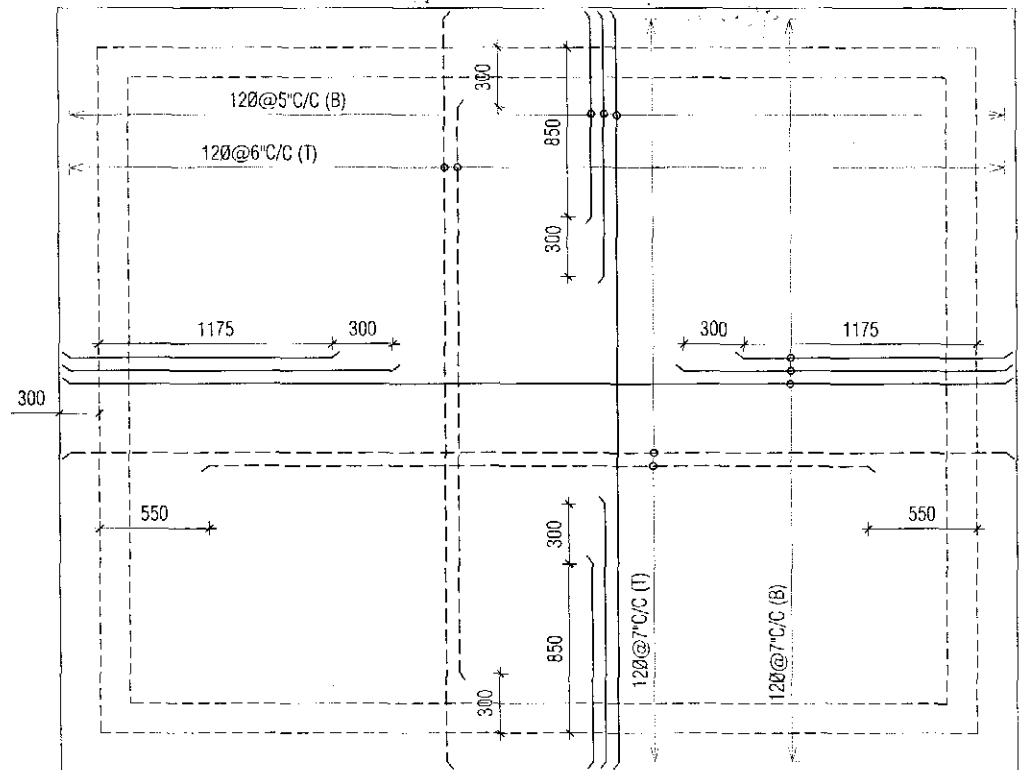
Water stopper must be used for vertical wall where
construction joint will be available for UGWR & CHILAKOTHA.

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by :	Date :	Description :
MULTI-PURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Upazila : District : Package : Unique ID : School Code : Dattar 01 Chittagong LGED/MDSP/CH/14-15/WW 03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	RCWF, DETAIL OF UNDER GROUND WATER TANK-01 Proposed by : Checked by : Sheet No. : Date : MD Zakir Hossain Engr Soim Ahmed ST-14 January, 2019	MD Zakir Hossain Engr Soim Ahmed SL/SJ Somajitri	APPROVED BY : Javed Karim Project Director



IX

DETAIL REINF. OF TOP SLAB FOR GROUND WATER TANK

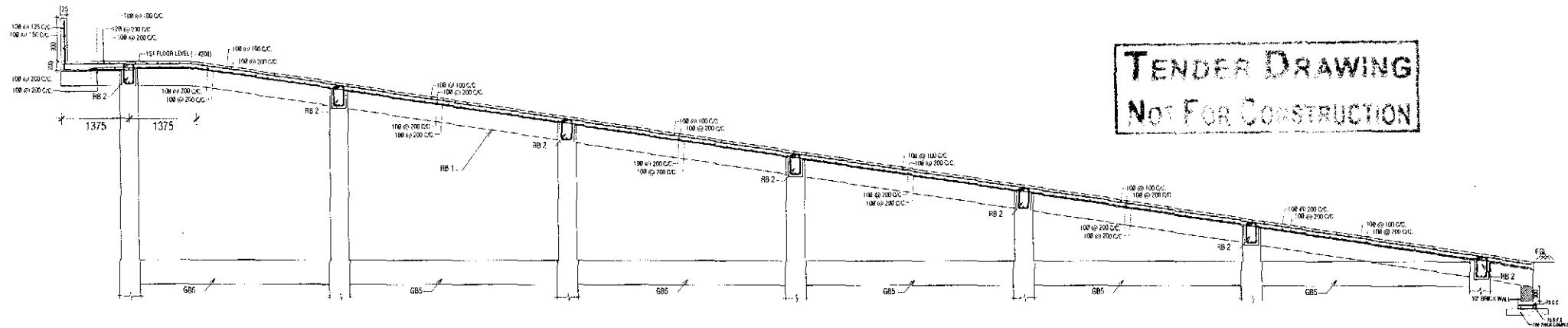


IX

DETAIL REINF. OF BOTT. SLAB FOR GROUND WATER TANK

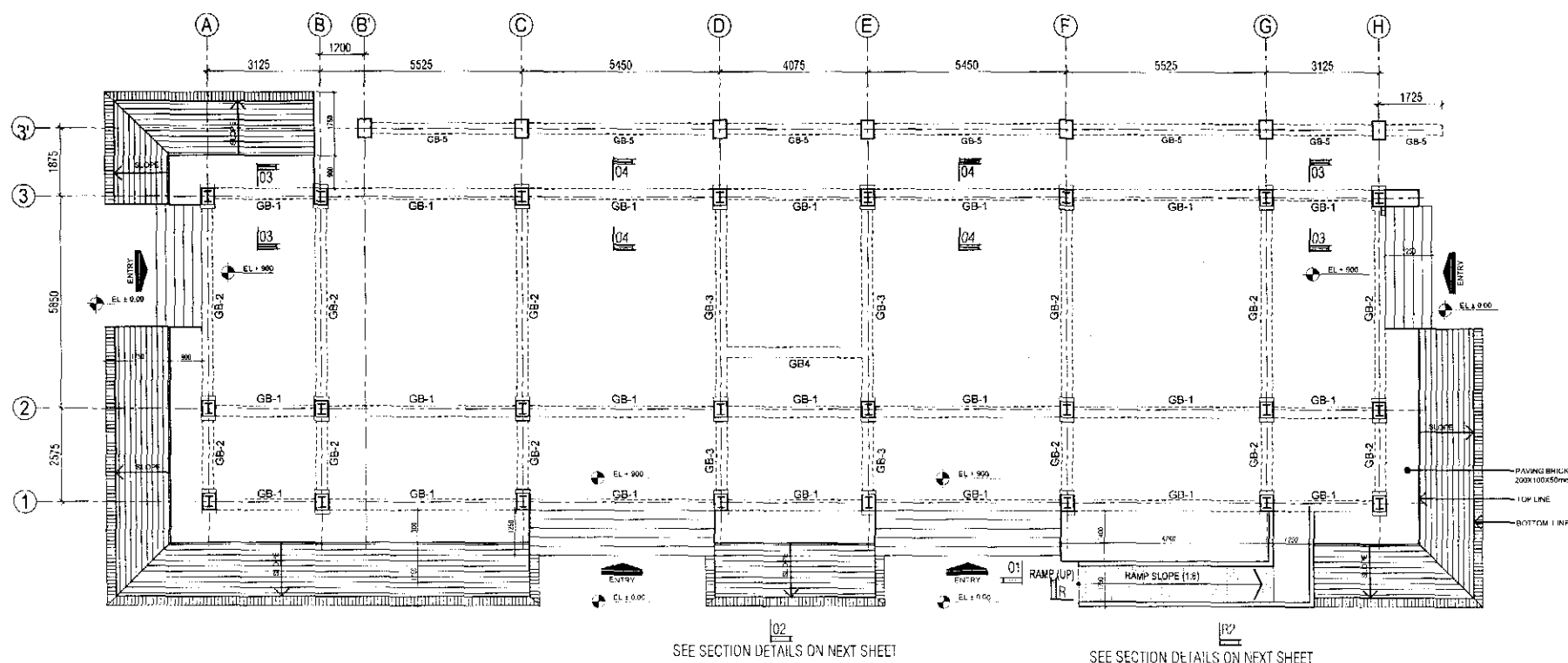
TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Cotton 01 Type : Upazila : Chittagong Dist. of : Package : LGED/MDSP/CH/14-15/VW-03 A & B	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of GDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	REINF. DETAIL OF UNDER GROUND WATER TANK-02	Drawn by : M.d. Sarwar Hossain Khan Designed by : M.d. Zakir Hossain Checked by : Engr. Selim Ahamed Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
Funded by World Bank				Org. No. : MDSP/R ST. 01 Sheet No. : ST-15 Date : January, 2018			



TENDER DRAWING
NOT FOR CONSTRUCTION

LONG SECTION OF RAMP



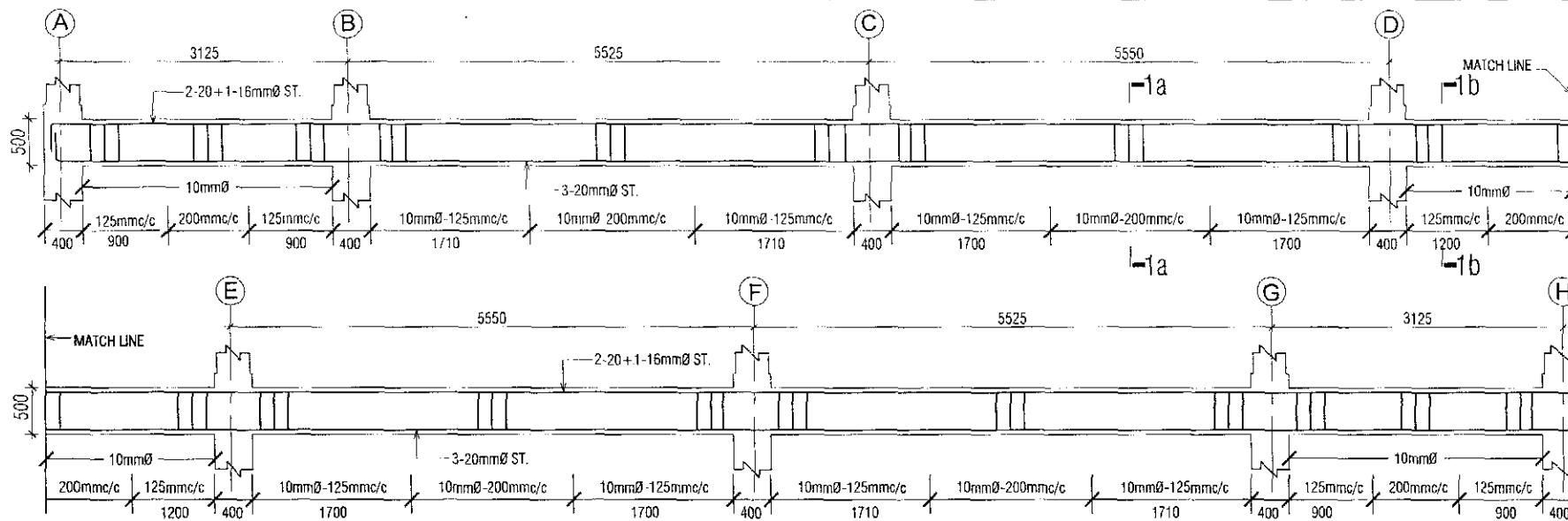
GRADE BEAM LAYOUT PLAN



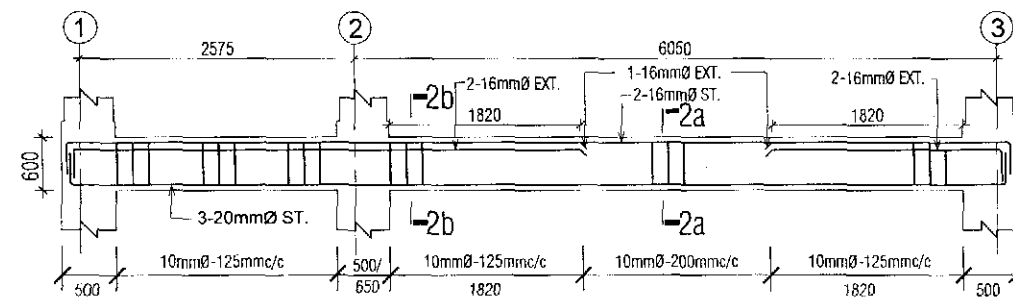
SEE SECTION DETAILS ON NEXT SHEET

SEE SECTION DETAILS ON NEXT SHEET

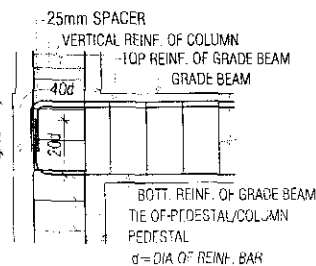
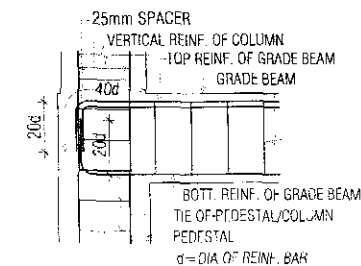
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE	CLIENT :	CONSULTANTS :	DRAWING TITLE :	REV. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option-01 Unique ID : School Code Upazila : Chittagong District : Chittagong Package : LGED/MDSP/CH/14 13/NW 03-A & B	Government of Peoples Republic of Bangladesh	Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	GRADE BEAM LAYOUT PLAN	Drawn by : Md. Saikat Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Anwarul Tech Leader : SLJH Samsat	APPROVED BY : Javed Karim Project Director
Funded by World Bank				Org. No. : MDSP/H/ST. 01 Sheet No. : ST. 16 Date : January, 2019			



LONG SECTION OF GRADE BEAM GB-1(300x500)



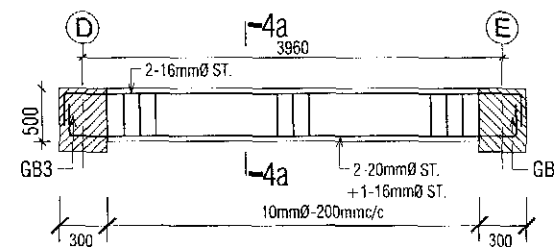
LONG SECTION OF GRADE BEAM GB-2(300x600)



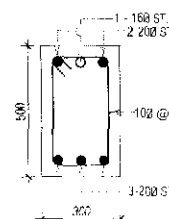
MATERIAL PROPERTIES:

1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH $f_c = 33.5$ Mpa MINIMUM AT 28 DAYS CYLINDER TEST RESULT ACCORDING TO ASTM C39. MINIMUM CEMENT CONTENT 385 Kg/m³, MIX RATIO (1 : 1.5 : 3)
2. COARSE AGGREGATE FOR CONCRETE SHALL BE 20mm DOWN GRADED STONE CHIPS CONFORMED TO THE REQUIREMENTS OF ASTM C33
3. SAND F.M. NOT LESS THAN 2.2
4. REINFORCING BARS SHALL BE 60 GRADE DEFORMED BARS, HAVING MINIMUM YIELD STRENGTH OF STEEL $f_y = 420$ MPa (60,000 psi) ACCORDING TO ASTM A955-9A. THE ULTIMATE STRENGTH YIELD STRENGTH RATIO SHOULD BE AT LEAST 1.25
5. CLEAR COVER OF REINFORCEMENT:

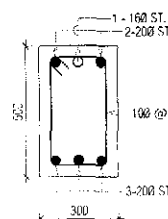
- i) 50mm FROM TOP EDGE OF CONCRETE
- ii) 25mm FROM SIDE EDGE OF CONCRETE
- iii) 75mm FROM BOTTOM EDGE OF CONCRETE



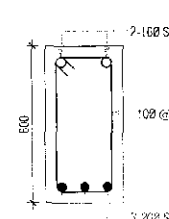
LONG SECTION OF GRADE BEAM GB-4(300x500)



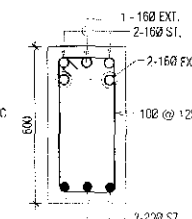
SECTION 1a-1a



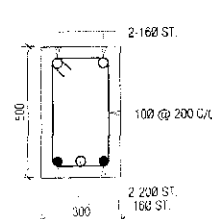
SECTION 1b 1b



SECTION 2a-2a



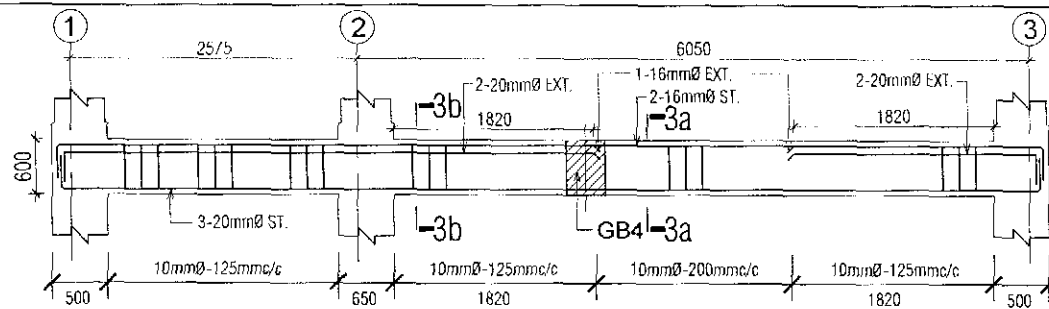
SECTION 2b-2b



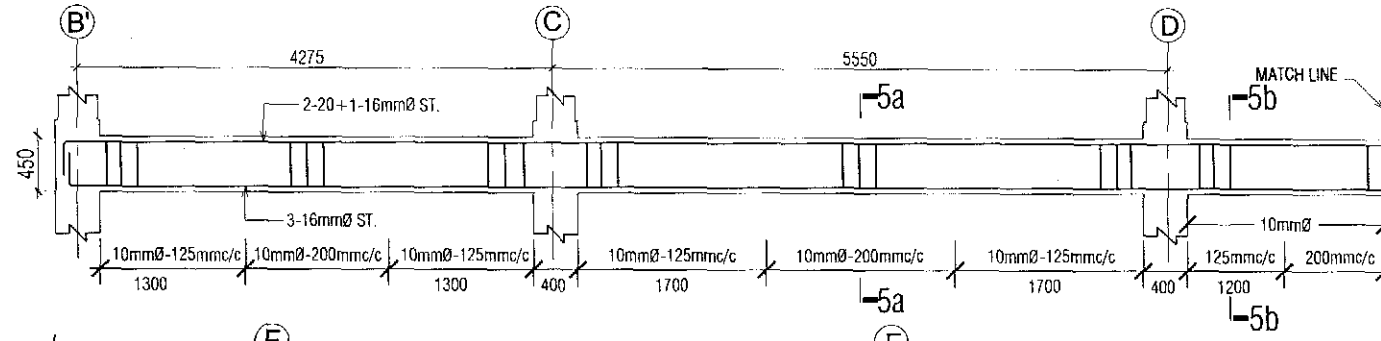
SECTION 4a-4a

TENDER DRAWING
NOT FOR CONSTRUCTION

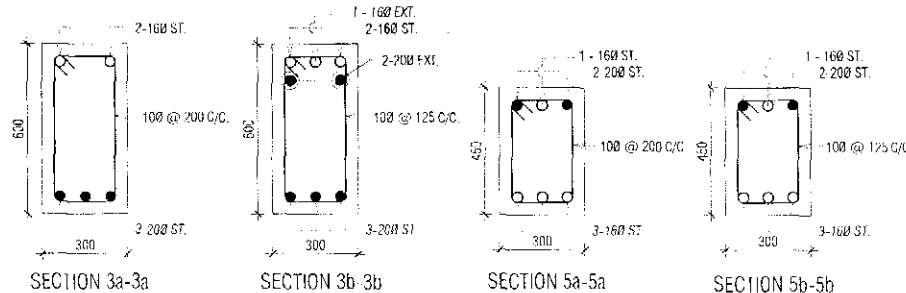
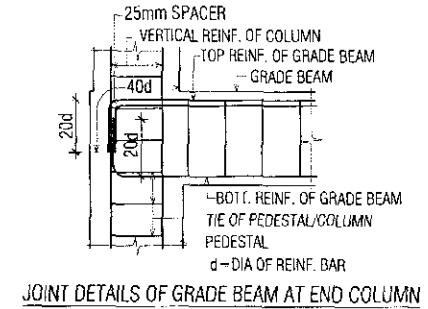
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTI-PURPOSE DISASTER SHELTER PROJECT (MDSR) Funded by World Bank	Name: Option 01 Type: Unique ID Upazila: School Code District: Chittagong Package: LGED/MDSR/CH/14-15/NA/US A & B	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency (Local Govt): Engineering Department (LGED)	Joint Venture of CDM Smith Inc, USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF GRADE BEAM-01	Drawn by: M.S. Sarwar Hossain Khan Checked by: Md. Zakir Hossain Org. No.: MDSR/354/01 Sheet No.: ST-17 Date: January, 2019	APPROVED BY: Team Leader Susil Somasiri Project Director



LONG SECTION OF GRADE BEAM GB-3(300X600)

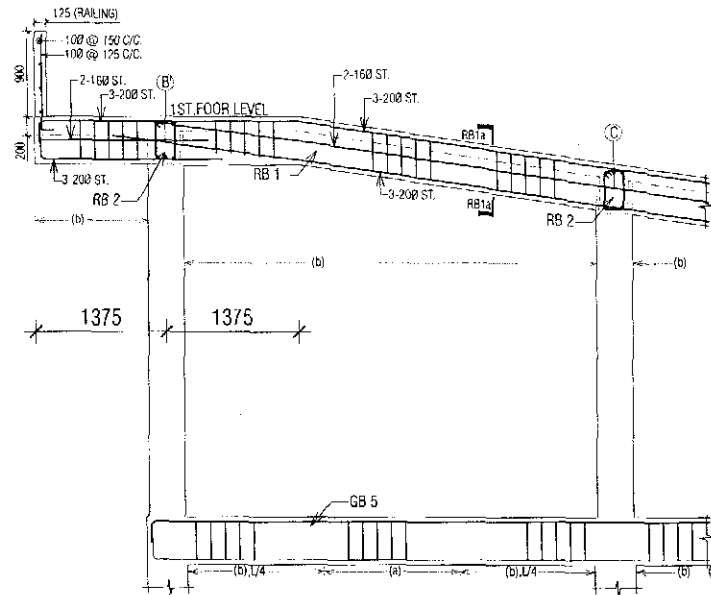


LONG SECTION OF GRADE BEAM GB-5(300x450)

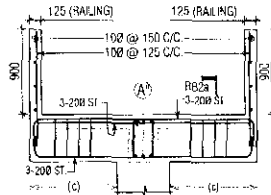


TENDER DRAWING
NOT FOR CONSTRUCTION

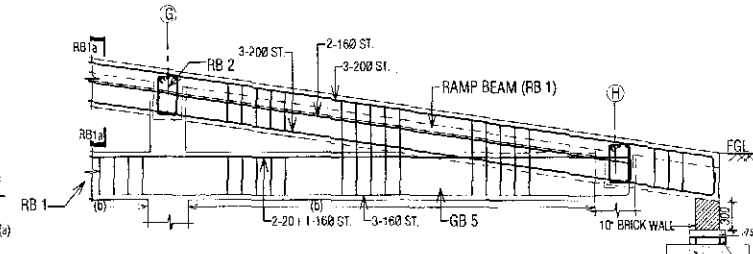
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. :	Date :	Description :
MULTIPURPOSE DISASTER SHUTTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 Location : Chittagong District : Package : LGED/MDSP/CH/14 13/NW-03 A & B	Government of People's Republic of Bangladesh	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF GRADE BEAM-02 Designed by : Md. Zakir Hossain Checked by : Engr. Sahar Alam Team's sigs : Date : January, 2019	Drawn by : Mr. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Sahar Alam Team's sigs : Date : January, 2019	APPROVED BY : Javed Karim Project Director	



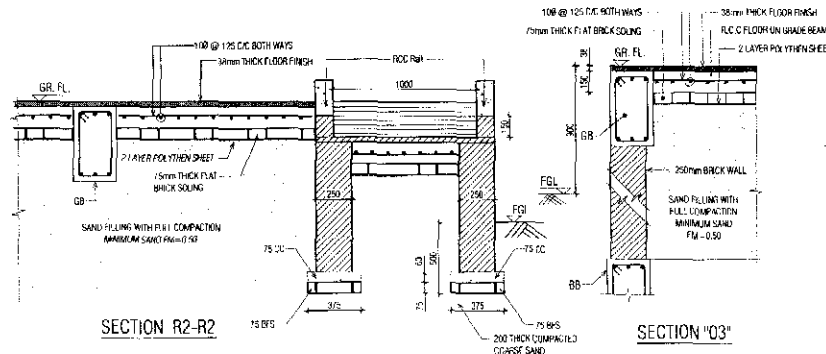
PART LONG SECTION OF RB-1 (300x500)



LONG SECTION OF RB-2 (300x500)

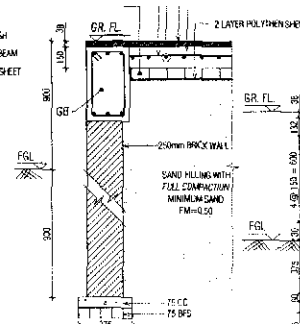


PART LONG SECTION OF RB 1 & RB-1 (300x500)

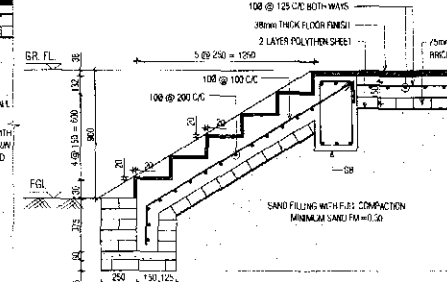


SECTION R2-R2

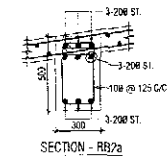
SECTION '03'



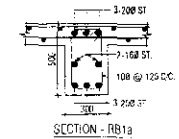
SECTION '04'



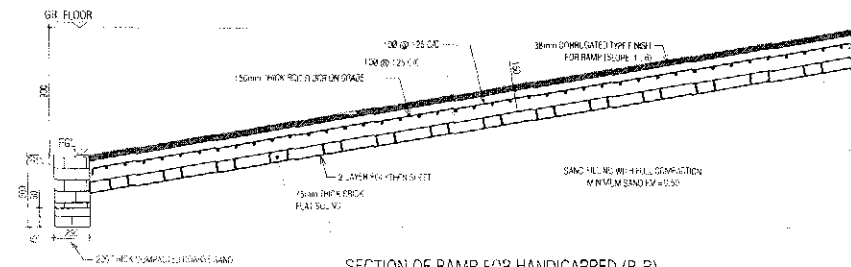
SECTION '01'



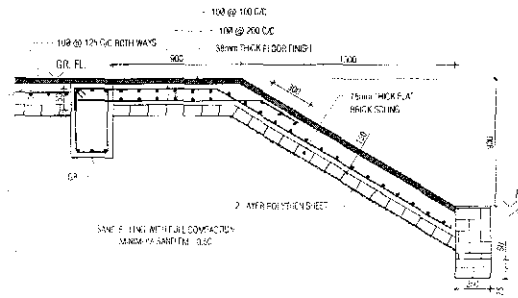
SECTION - RB2a



SECTION - RB1a



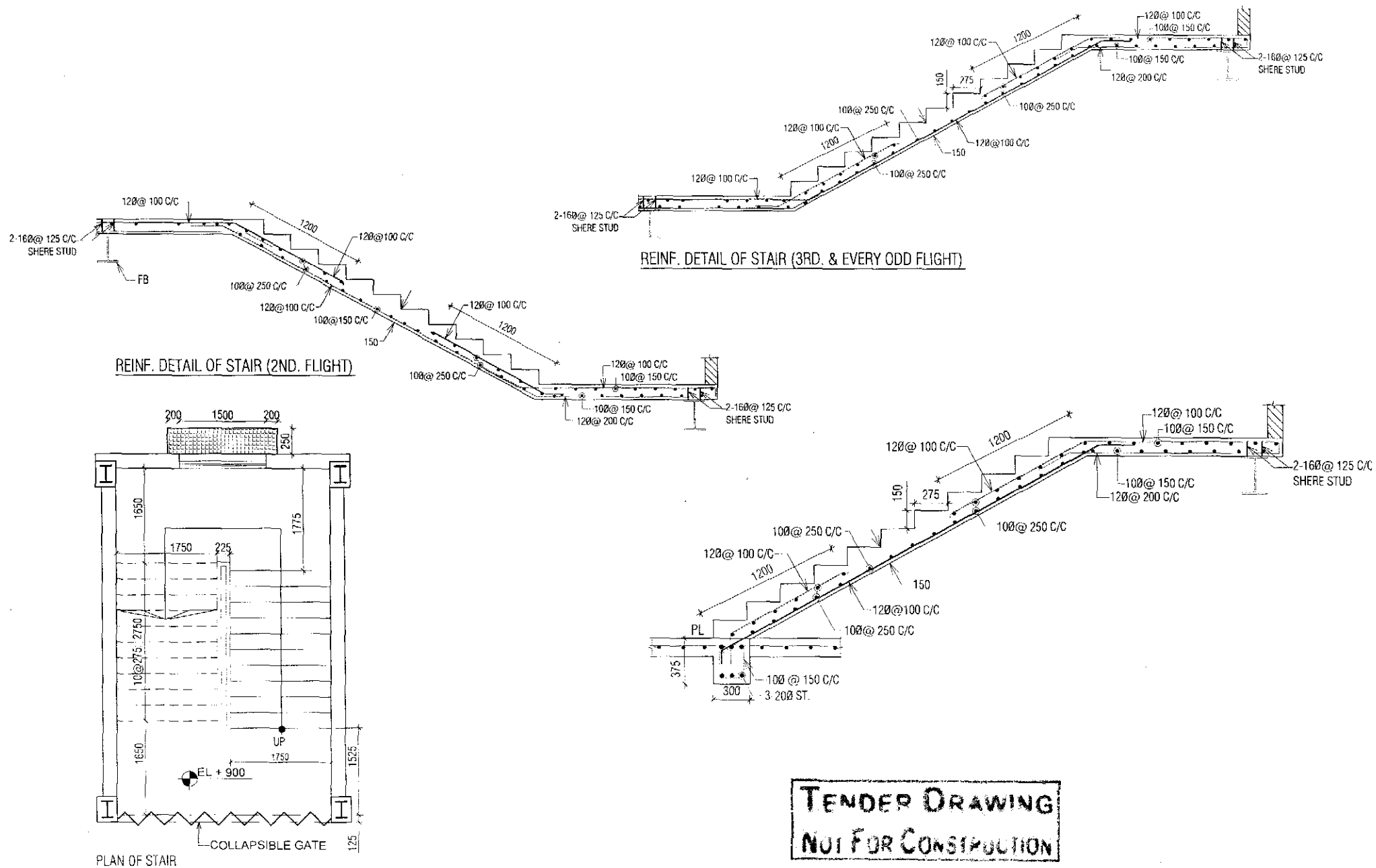
SECTION OF RAMP FOR HANDICAPPED (R-R)



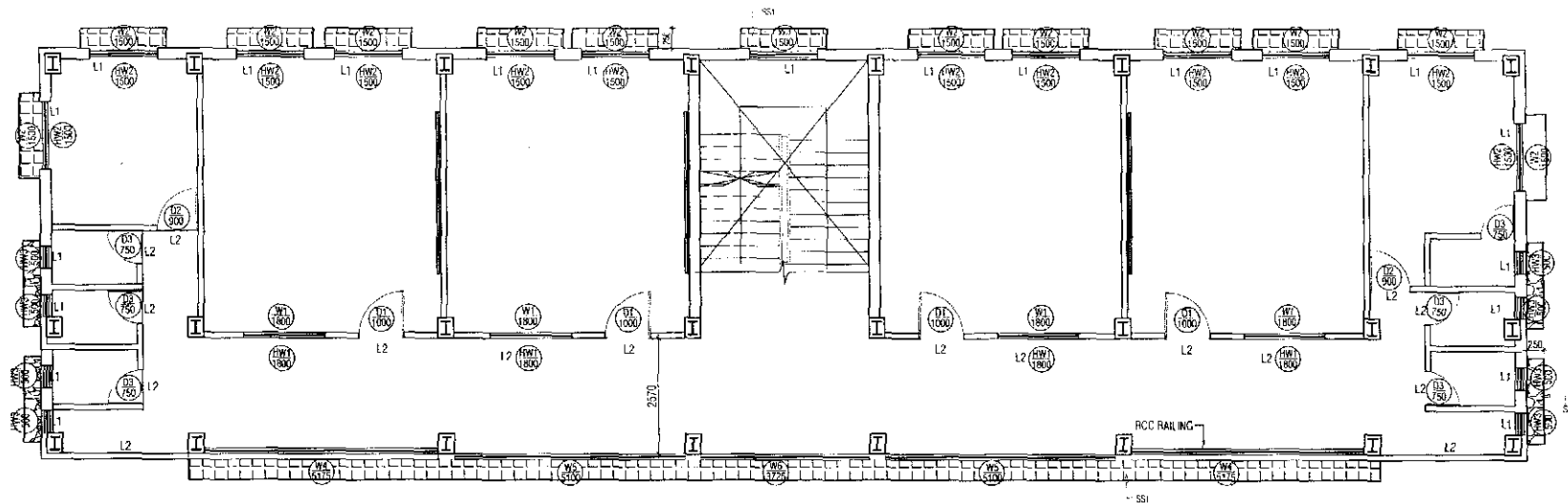
SECTION '02'

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : Chhargang District : LGED/MDSP/CH/14-15/NW-03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAIL OF RAMP BEAMS, RAMP FOR HANDICAP & APPROX	Drawn by : Md. Saowad Hossain Khan Checked by : M/s. Zakir Hossain Prj. No. : MDSP/RSI-01 Sheet No. : SI-19 Date : January, 2019	APPROVED BY : Javed Karim Project Director



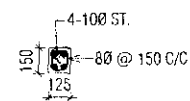
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : Chittagong District : Package : LGED/MDSP/CH/14 15/20W-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF STAIR	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahmed Team Leader : Date : January 2019	APPROVED BY : Javed Karim Project Director



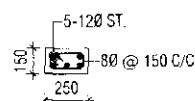
PLAN OF SUN SHADE & LINTEL FOR 2ND FLOOR

LEGEND

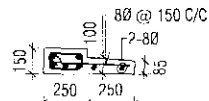
- L1 = 250x150 LINTEL (ON 250 EXTERIOR WALLS IN ROOMS)
- L2 = 125x150 LINTEL (ON 125 INTERIOR WALLS IN ROOMS)
- SS1 = SUN SHADE 250 FOR BUILDING PART
- SS2 = SUN SHADE 250 FOR TOILET BLOCK



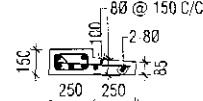
SECTION OF L2



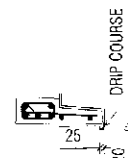
SECTION OF L1



SECTION OF SS2



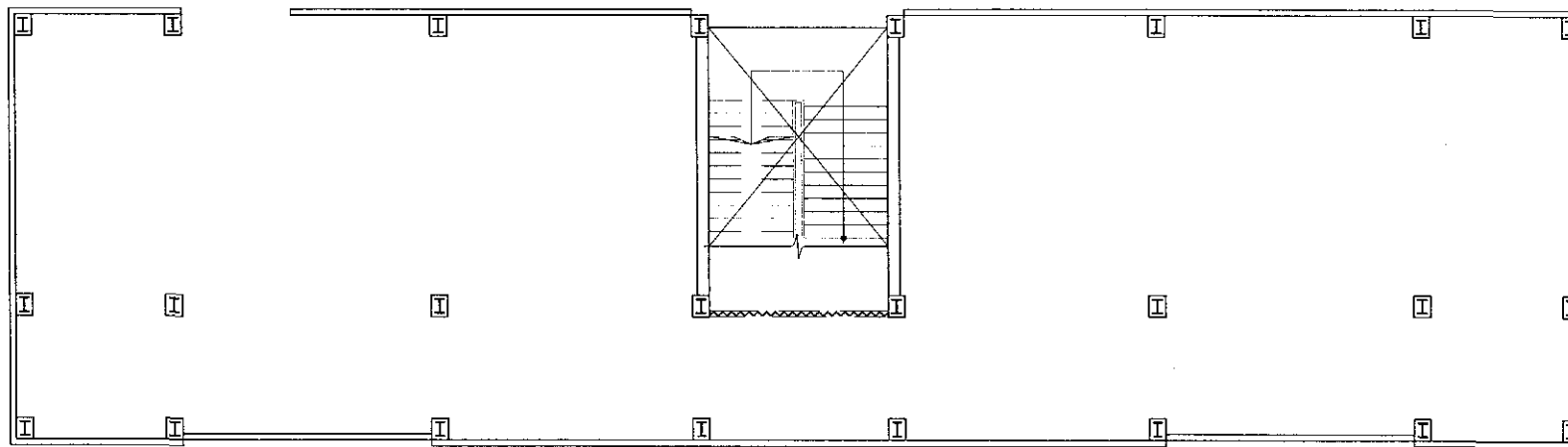
SECTION OF SS1



SECTION OF DRIP COURSE FOR LINTEL

TENDER DRAWING
NOT FOR CONSTRUCTION

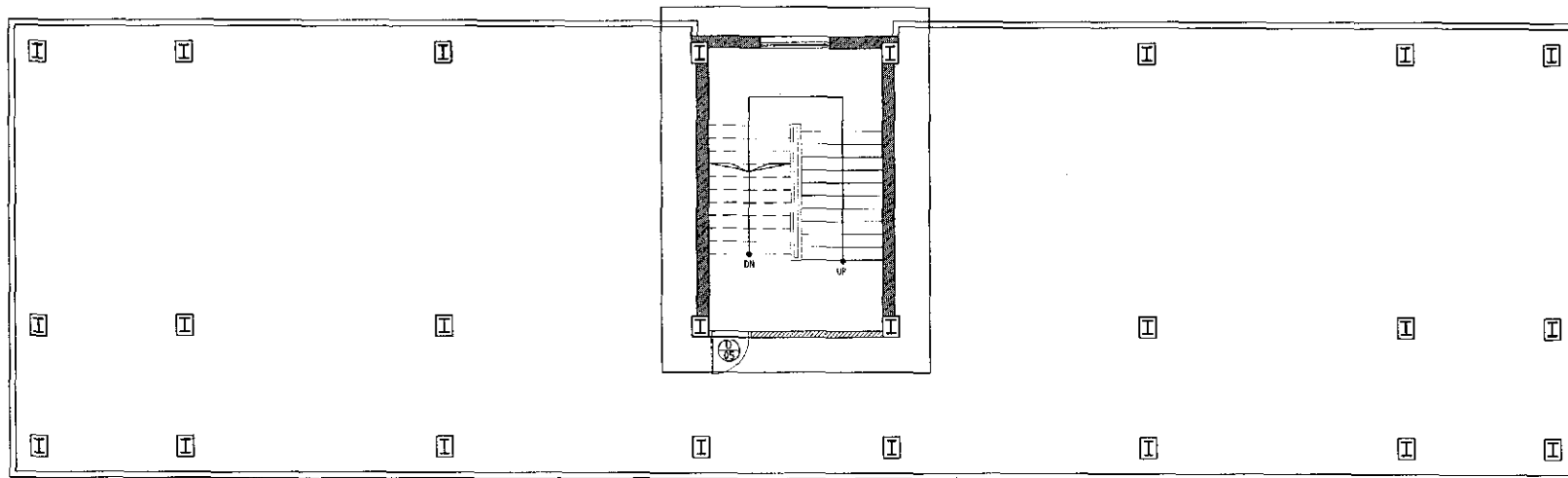
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by : Md. Sarwar Hossain Khan	APPROVED BY :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CI/14-15/3W 33-A 3-B	Unique ID : School Code : Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt Engineering Department (LEED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF SUN SHADE & LINTEL Org. No. : MDSP/R.ST-6 Sheet No. : ST-21 Date : January, 2019	Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahamed Team Leader : Susil Somasiri	Saved Karim Project Director



PLAN OF DROP WALL & RAILING FOR 1ST FLOOR & 2ND FLOOR

TENDER DRAWING
NOT FOR CONSTRUCTION

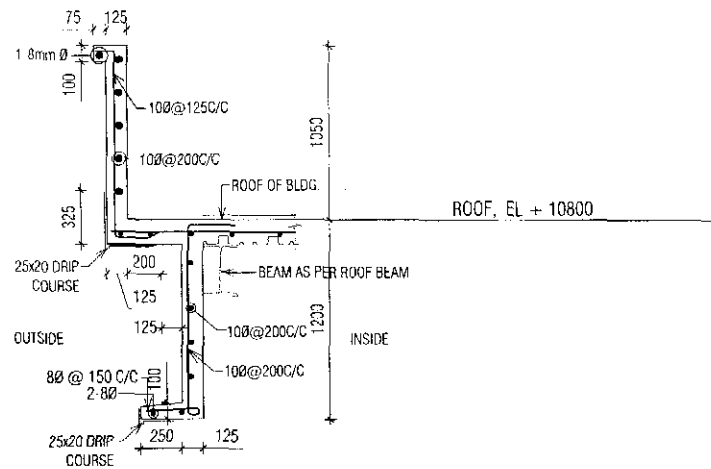
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev No	Date	Description
MULTIPURPOSE DISASTER SHUTTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : I CED/MDSP/CH/14-15/AW-03-A & B	Government of Bangladesh Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (I.GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF DROP WALL & RAILING Dwg. No. : MDSP/ R ST. 01 Sheet No. : ST - 22 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zafer Hossain Checked by : Engr. Sevim Ahamed Team Leader : Sushil Samrastra	APPROVED BY : Javed Karim Project Director	



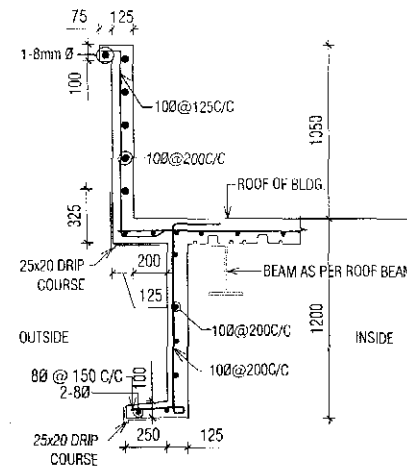
PLAN OF PARAPET WALL FOR ROOF SLAB

TENDER DRAWING
NOT FOR CONSTRUCTION

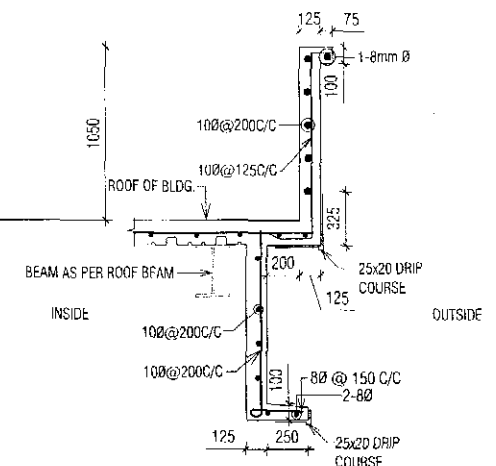
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Design/Check
MULTI-PURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14 15/NW-03-A & B	Unique ID : School Code :	Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh DETAILS OF PARAPET WALL Dwg. No. : MDSP/R.ST. - 01 Sheet No. : ST - 23 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahamed Team Leader : Susil Somasiri	APPROVED BY : Laved Karim Project Director	



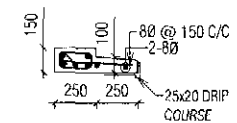
SECTION OF PARAPET, DROP WALL & SUN SHADE (FRONT SIDE)
ALONG GRID NO 1-1 (FROM GRID B to C & F to G)



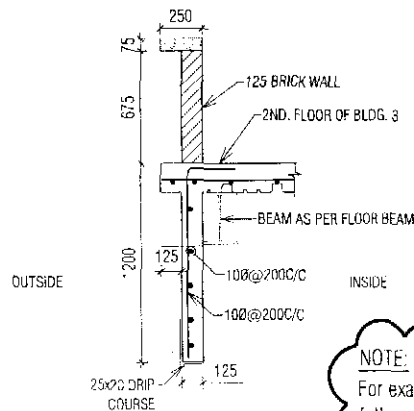
SECTION OF PARAPET, DROP WALL & SUN SHADE (FRONT SIDE)
ALONG GRID NO 1-1 (FROM GRID A to B, FROM GRID C to F & FROM GRID G to H)



SECTION OF PARAPET



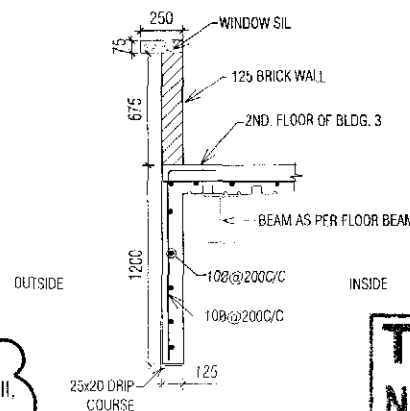
SECTION OF SUNSHADE OVER WINDOW
ALONG GRID NO A, H & 3.



SEC. OF DROP WALL (FRONT)
ALONG GRID NO 1-1 (FROM GRID B to C & F to G)

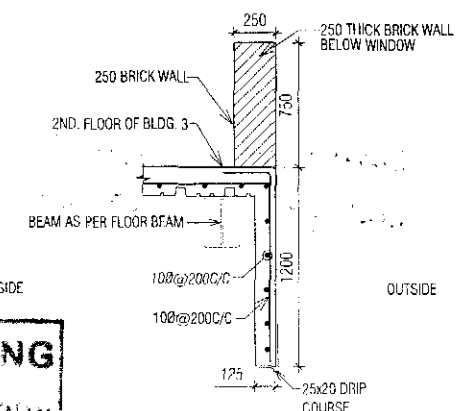
NOTE:

For exact position and detail section of dropwall, parapet wall, follow Architectural Sheet No. A-10 (Section A-A, Section B-B), A-11 (Section CC), A-12 (Section D-D)



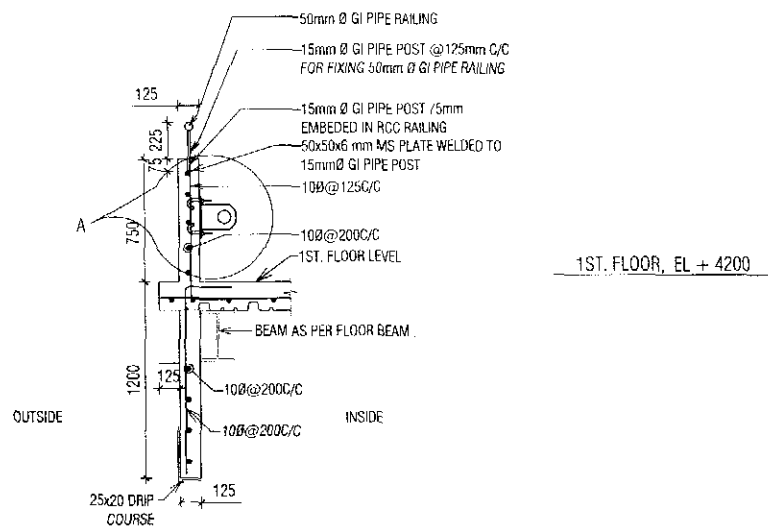
SEC. OF DROP WALL (FRONT)
ALONG GRID NO 1-1 (FROM GRID A to B, FROM GRID C to F & FROM GRID G to H)

TENDER DRAWING
NOT FOR CONSTRUCTION



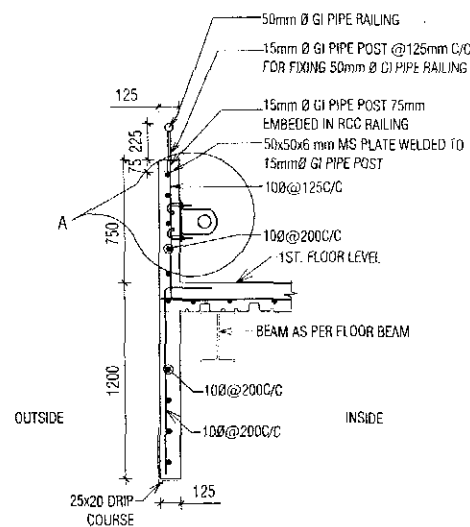
SEC. OF DROP WALL
(ALONG GRID NO A, H & 3)

PROJECT :	NAME :	UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. :	Date :	Description :
MULTI-PURPOSE DISASTER SHELTER PROJECT (MCDSP) Funded by World Bank	Name : Type : Upazila : District : Package :	Unique ID : School Code : Option-01 Ch. Dagon IGED/MDS/CH/14-15/NW-03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SECTIONS OF FRAME-01 Design No. : MCDSP/R/S/1-01 Sheet No. : S7-24 Date : January, 2019	Drawn by : Md. Sajawal Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahmed Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director



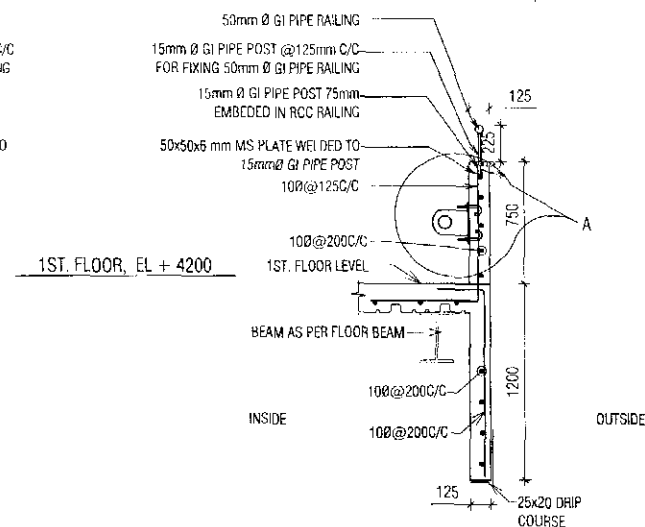
SEC. OF DROP WALL & RAILING

ALONG GRID NO 1-1 (FROM GRID B TO C & F TO G)



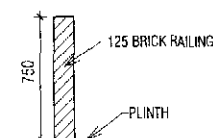
SEC. OF DROP WALL & RAILING

ALONG GRID NO 1-1 (FROM GRID A TO B, FROM GRID C TO F & FROM GRID G TO H)



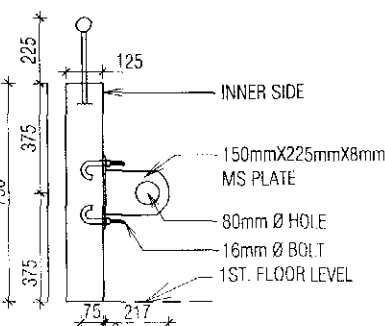
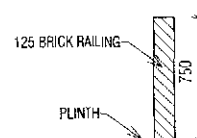
SEC. OF DROP WALL & RAILING

(ALONG GRID NO A, H & 3)

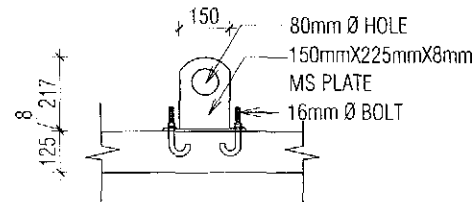


SECTION 3-3

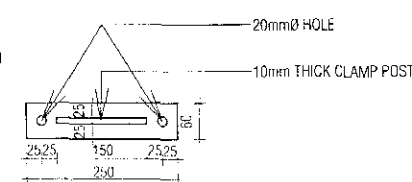
REF. DRAWING, GRADE
BEAM LAYOUT PLAN



SECTION A-A & DETAIL-A



DETAIL OF MS OF CLAMP



DETAIL OF MS BASE PLATE OF CLAMP

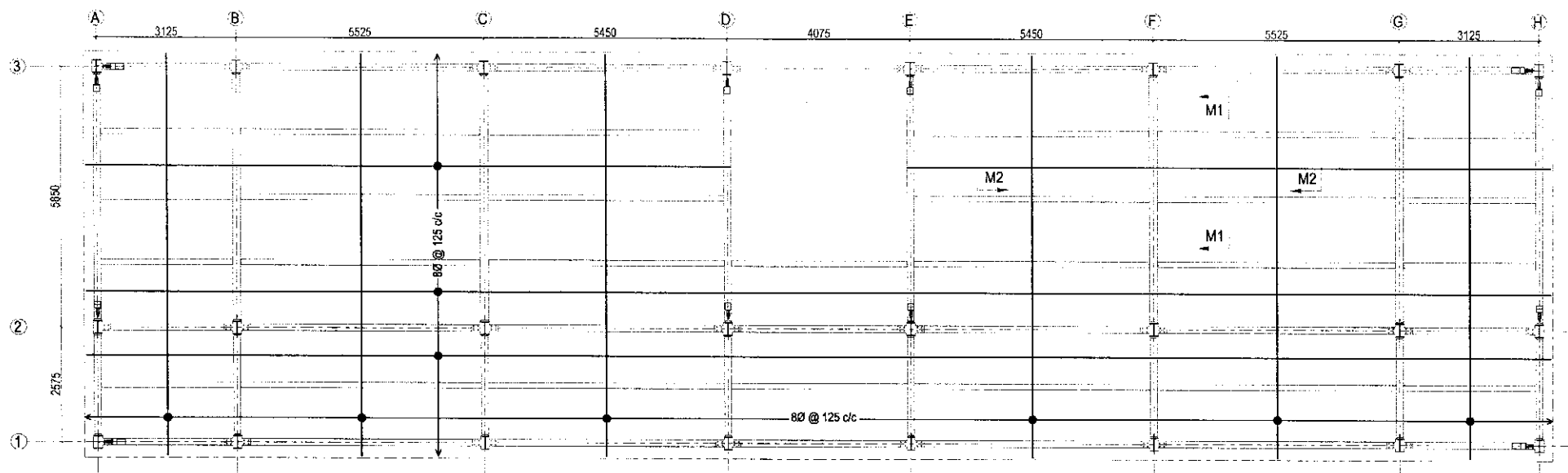
NOTE:

For exact position and detail section of dropwall, parapet wall, follow Architectural Sheet No. A-10 (Section A-A, Section B-B), A-11 (Section C-C), A-12 (Section D-D)

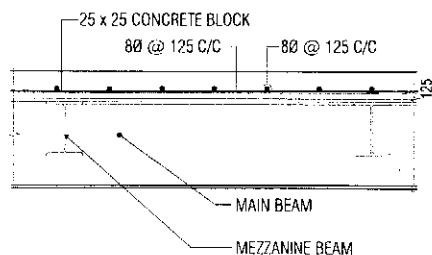
**TENDER DRAWING
NOT FOR CONSTRUCTION**

DETAIL OF CATTLE BARRIER WITH RAILING

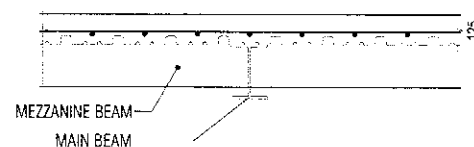
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name: Section 01 Type: Upazila District: Chittagong Package: LGED/MDSP/CH/14-15/NW/03 A & B	Government of Bangladesh Ministry of L&ED Implementing Agency: Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SECTIONS OF FRAME 02 Dr. No.: MDSP/RST-01 Sheet No.: ST-25 Date: January, 2019	Drawn by: Md. Sarwar Hossain Khan Designed by: Md. Zakir Hossain Checked by: Engr. Selim Attamur Team Leader: Susil Somasiri	APPROVED BY: Javed Karim Project Director	



Plan



SECTION M1-M1



SECTION M2-M2

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : GFD/MDSP/Ch/14-15/NW-03 A & B	Government of People's Republic of Bangladesh	Line Ministry Ministry of LGED Implementing Agency Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	REINFORCEMENT DETAILS OF FLOOR SLAB	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ananad Erich Under : Date : January 2019	APPROVED BY : Laved Karim Project Director

LEGEND CLEAR COVER OF BOT. REINF. 25mm
CLEAR COVER OF TOP REINF. 25mm.

A= 8mmØ-300mmc/c

B= 1-8mmØ EXT. IN BETN. ST. A

C= 8mmØ-250mmc/c

D= 1-8mmØ EXT. IN BETN. ST. C

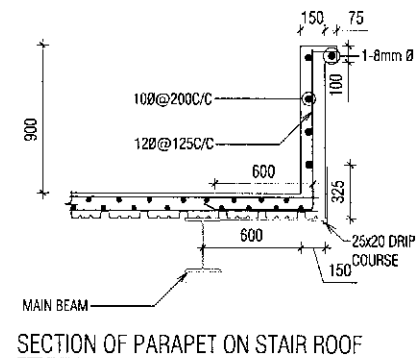
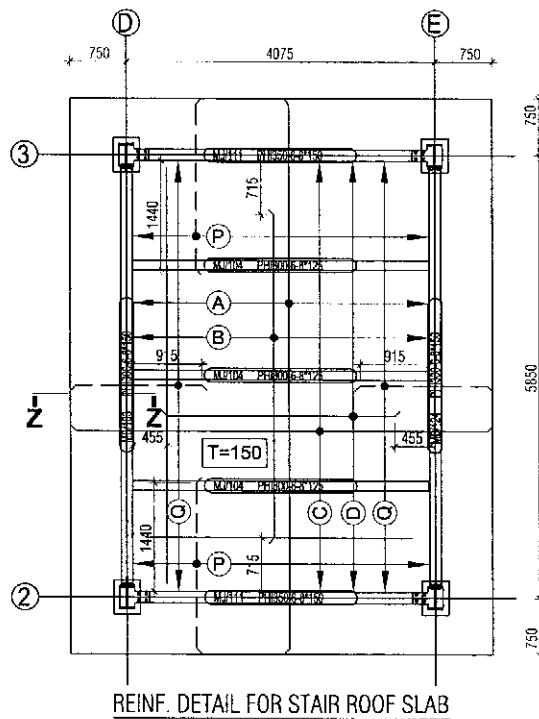
P= 10mmØ-125mmc/c

Q= 10mmØ-125mmc/c

USE 8mmØ-200mmc/c

AS BINDER BAR
WHERE REQUIRED.

T = SLAB THICKNESS IN MM



**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by : M.C. Sarwar, Hossain Khan Checked by : M.C. Zakir Hossain Approved by : Date: January, 2019
MULTI-PURPOSE D-MASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Unique ID : School Code : District : Package : LGED/MDSP/CH/24/15/NN/03 A & B	Government of People's Republic of Bangladesh Ministry of GRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	REIN. DETAIL OF SLAB & BEAMS FOR STAIR ROOF Org. No.: MDSP/ R ST - 01 Sheet No.: ST - 27 Date: January, 2019	Drawn by : M.C. Sarwar, Hossain Khan Checked by : M.C. Zakir Hossain Approved by : Date: January, 2019

4 Nos. 200mmx200mm RCC GUARD POST AS
GUIDE OF THE ROOF TOP EACH WATER TANK

200mmx200mm RCC RING BEAM
WITH SANDS ON 4 NOS. GUARD POST

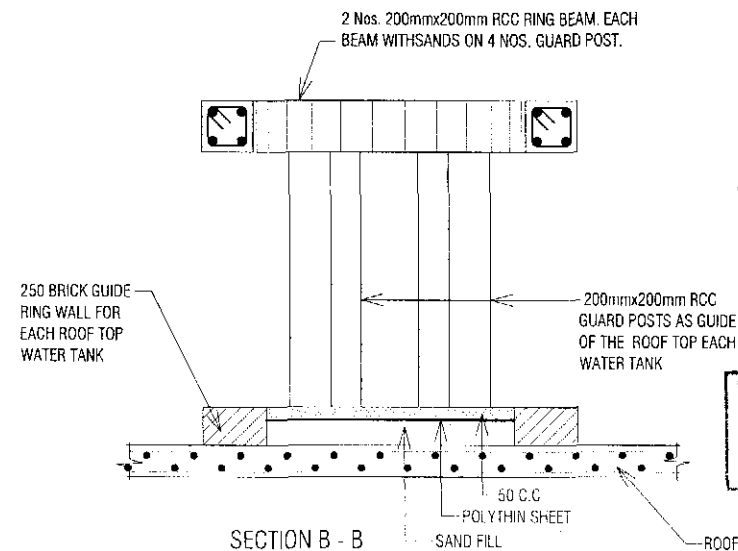
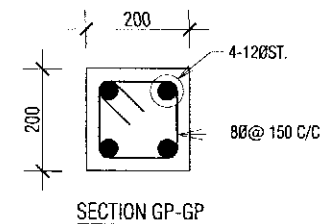
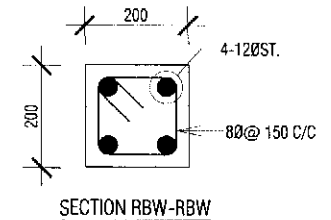
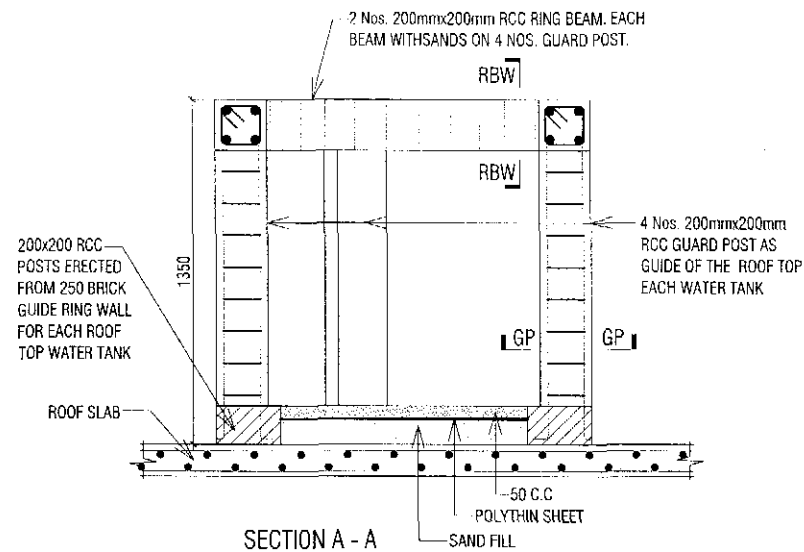
200mmx200mm RCC RING BEAM
WITH SANDS ON 4 NOS. GUARD POST

4 Nos. 200mmx200mm RCC GUARD POST AS
GUIDE OF THE ROOF TOP EACH WATER TANK

200mmx200mm RCC RING BEAM
WITH SANDS ON 4 NOS. GUARD POST

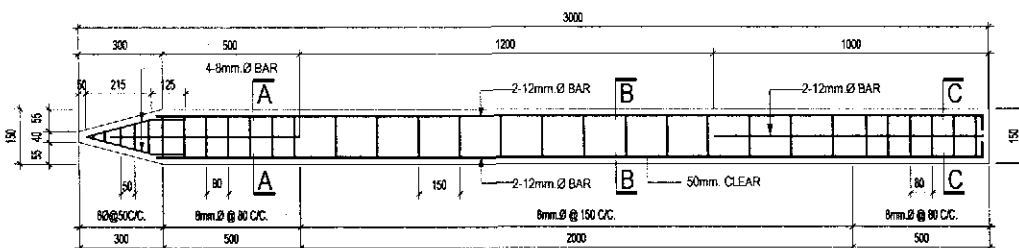
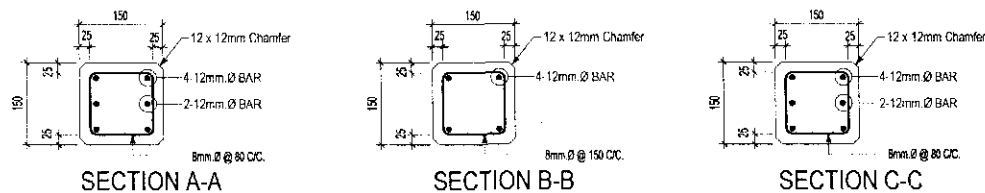
4 Nos. 200mmx200mm RCC GUARD POST AS
GUIDE OF THE ROOF TOP EACH WATER TANK

PLAN OF BASE RING BEAM FOR PVC WATER TANK ON ROOF SLAB

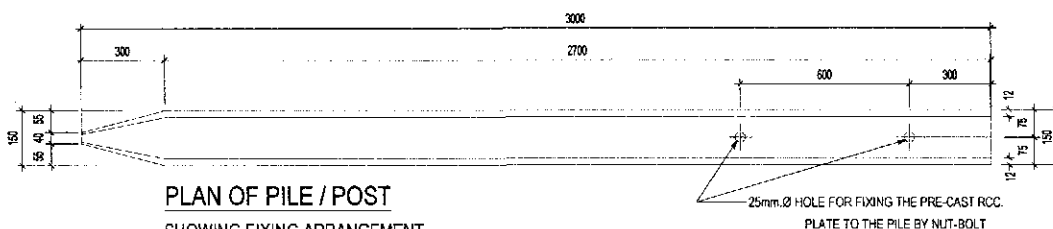


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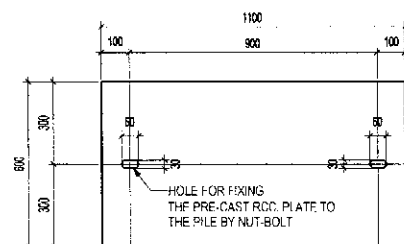
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option-01 Type : Unique ID : School Code : District : Chittagong Package : LGED/MDSP/CH/14-15/RW-03 A & B	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAIL OF RING BEAM FOR PVC WATER TANK ON ROOF SLAB	Drawn by : Md. Saifur Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahmed Team leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
Funded by World Bank				Proj. No. : MDSP/RST - 01 Sheet No. : ST - 29 Date : January, 2019			



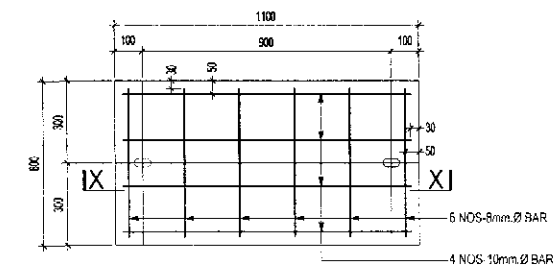
LONG SECTION OF R.C.C. PILE / POST
SHOWING DETAILS OF REINFORCEMENT



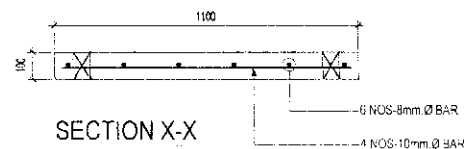
PLAN OF PILE / POST
SHOWING FIXING ARRANGEMENT



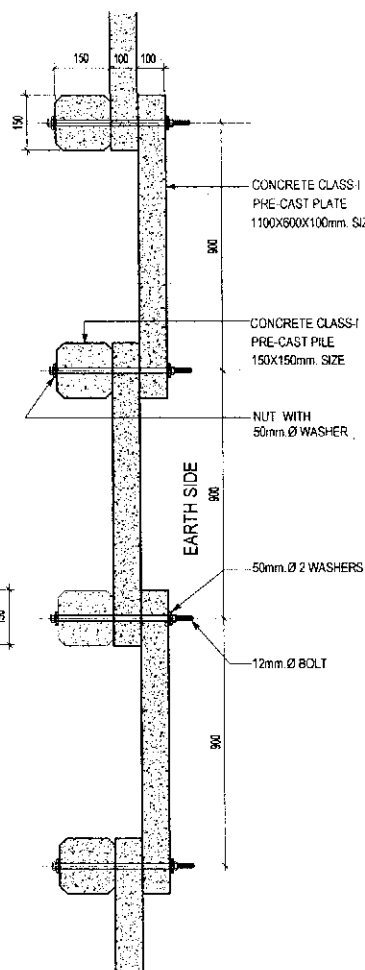
PLAN OF PLATE



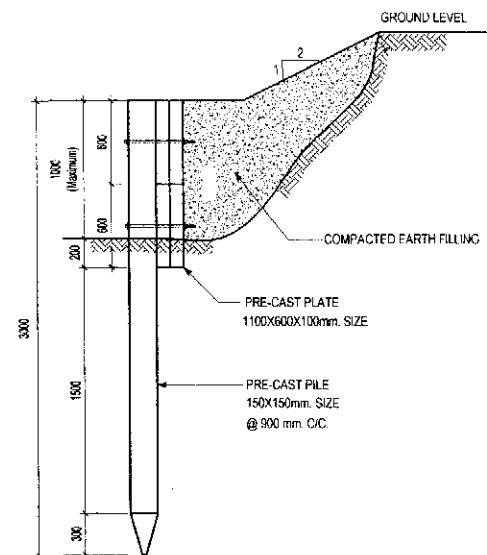
REINFORCEMENT DETAILS OF PLATE



SECTION X-X



PLAN OF PILE/POST AND PLATE
SHOWING FIXING ARRANGEMENT



X-SECTION THROUGH PILE/POST

NOTES

1. All Dimensions are in mm
2. Concrete compressive strength, $f_{cr} = 25.0$ Mpa
3. M.S deformed bar for Pile / Post shall be RB 400W (60 grade) and for Plate shall be RB 400 (60 grade)
4. Clear cover shall be 25mm
5. Pre-cast piles/posts are to be driven manually with minimum 130 Kg hammer having maximum height of fall 1.3m by placing proper packing on top of Pile / Post to avoid distortion / cracking at pile top.

TENDER DRAWING
NOT FOR CONSTRUCTION

Scale: Not to scale

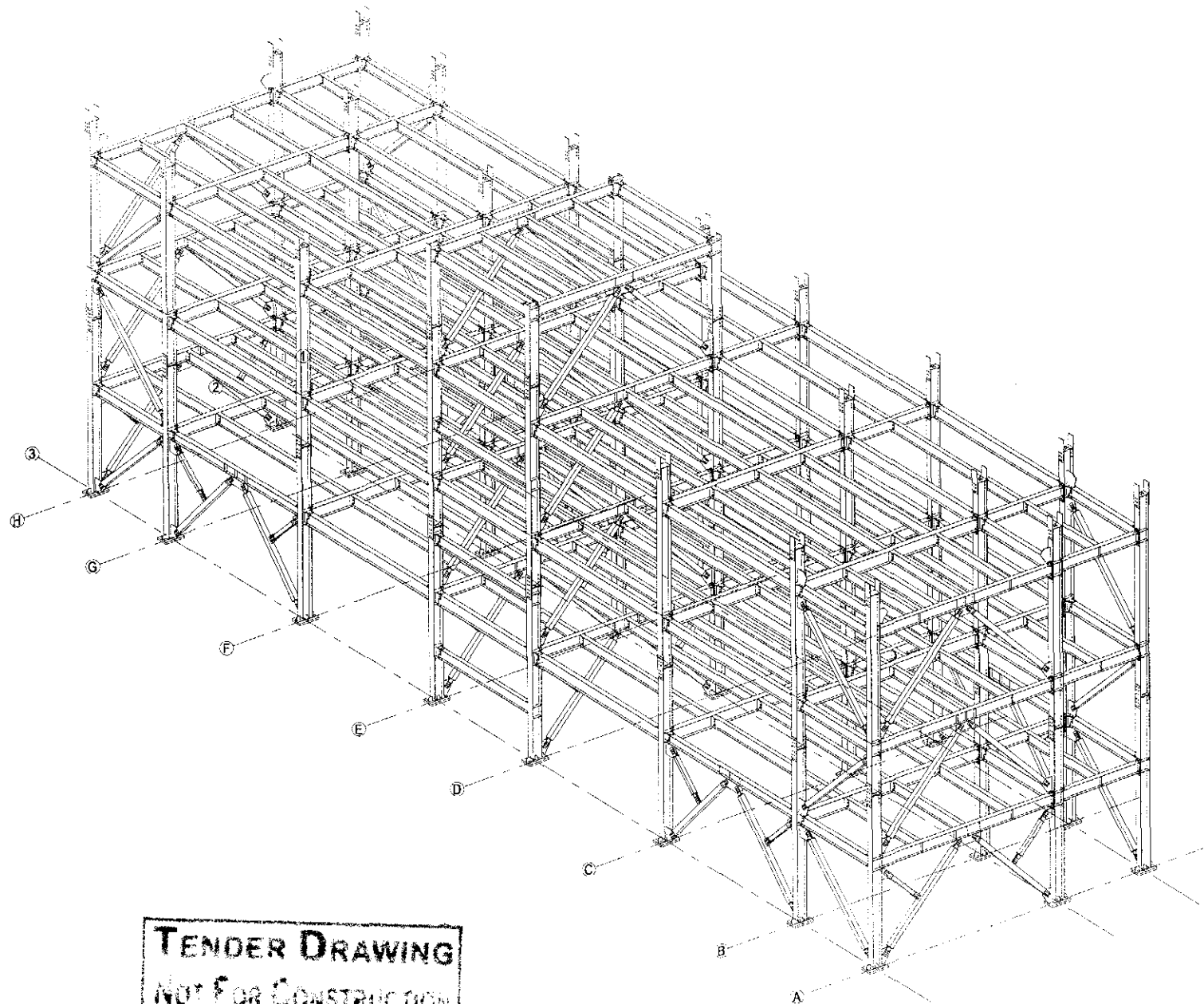
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/AW-03 A & B	Government of Bangladesh Ministry of LGRD Implementing Agency (Local Govt. Engineering Department (LGED))	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF PALISADING WORK Org. No. : MDSP/ST-01/PALISADING Sheet No. : ST-29 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Zakir Hossain Checked by : Engr. Selim Ahmed Team Leader : Sustil Somasiri	Approved by : Javed Karim Project Director	

STRUCTURAL DRAWING LIST FOR STEEL PART OPTION-01

SL. NO.	SHEET NO.	DRAWING TITLE	REMARKS
01	ST-00	DRAWING LIST	
02	ST-01	ISOMETRIC VIEW	
03	ST-02	ANCHOR BOLT LAYOUT	
04	ST-03	COLUMN LAYOUT AT GROUND FLOOR LEVEL	
05	ST-04	COLUMN LAYOUT AT SPLICE LEVEL 1 (2ND FLOOR LEVEL)	
06	ST-05	COLUMN LAYOUT AT SPLICE LEVEL 2 (ROOF LEVEL)	
07	ST-06	FRAME ELEVATION (Grid 1-1)	
08	ST-07	FRAME ELEVATION (Grid 2-1)	
09	ST-08	FRAME ELEVATION (Grid 3-1)	
10	ST-09	FRAME ELEVATION (Grid A-1)	
11	ST-10	FRAME ELEVATION (Grid B-1)	
12	ST-11	FRAME ELEVATION (Grid C-1)	
13	ST-12	FRAME ELEVATION (Grid D-1)	
14	ST-13	FRAME ELEVATION (Grid E-1)	
15	ST-14	FRAME ELEVATION (Grid F-1)	
16	ST-15	FRAME ELEVATION (Grid G-1)	
17	ST-16	FRAME ELEVATION (Grid H-1)	
18	ST-17	1ST FLOOR BEAM LAYOUT PLAN	
19	ST-18	2ND FLOOR BEAM LAYOUT PLAN	
20	ST-19	ROOF FLOOR BEAM LAYOUT PLAN	
21	ST-20	CHILAKOTHA BEAM LAYOUT PLAN	

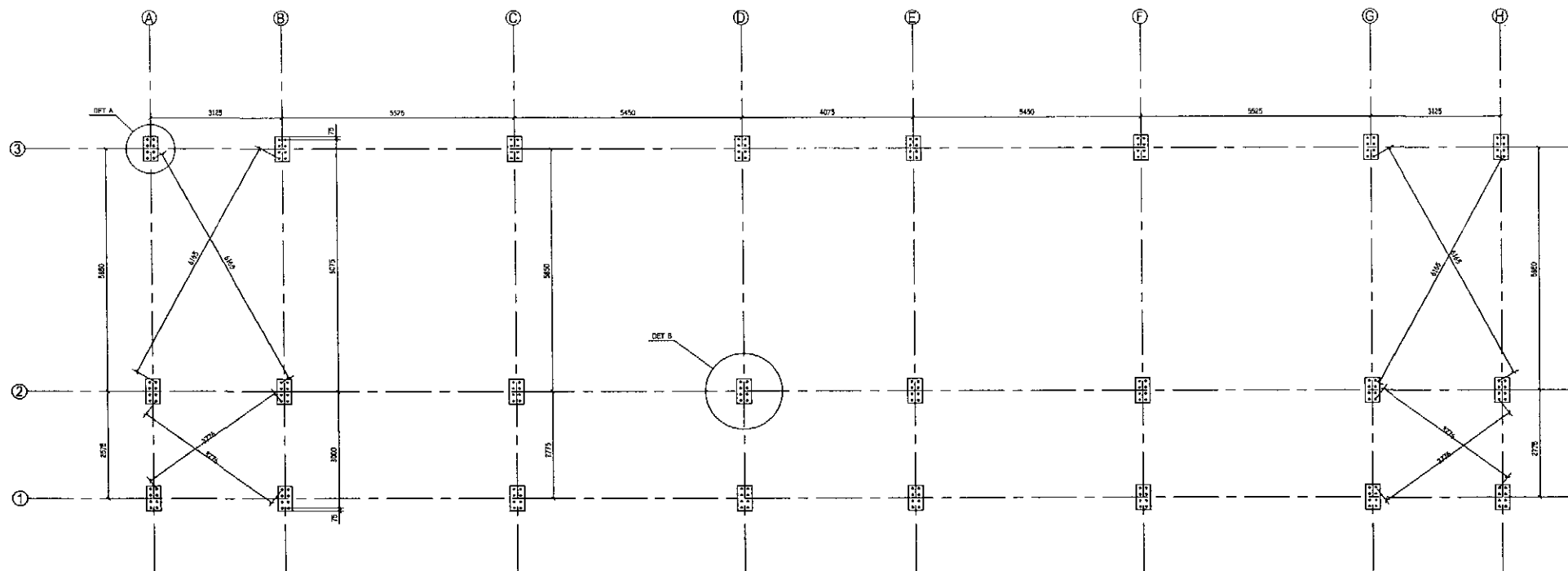
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NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	REV. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DRAWING LIST Drw. No. : MDSP/SS-01 Sheet No. : ST-00 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Ms. Zakir Hossain Team Leader : Susil Somasiri	APPROVED BY : Javed Karim, Project Director



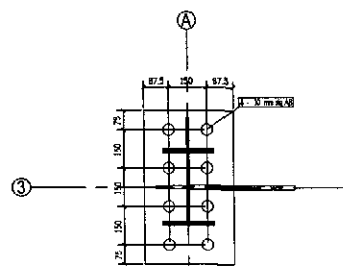
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PROJECT :					NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :		DRAWING TITLE :		Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank					Name : Type : Option 01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-33-A & B		Unique ID : School Code :		Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency Local Govt. Engineering Department (LEED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	ISOMETRIC VIEW		Drawn By : Md. Sarwar Hossain Khan	APPROVED BY :
								Drg. No. : MDSP/SS/ - 01				Designed by : DDC Ltd.			
								Sheet No. : ST - 01 Date : January, 2019				Checked by : Md. Zakir Hossain Team Leader : Susil Somasiri			

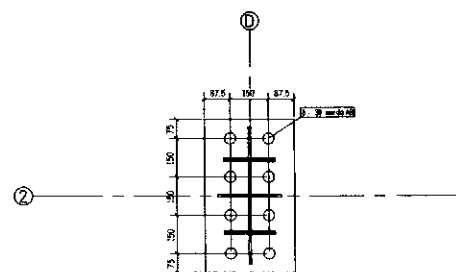


Plan 0.00-1

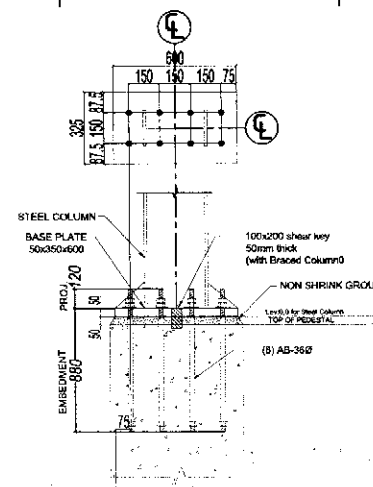
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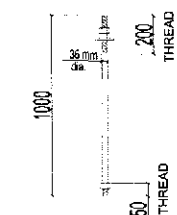
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DETAIL-B

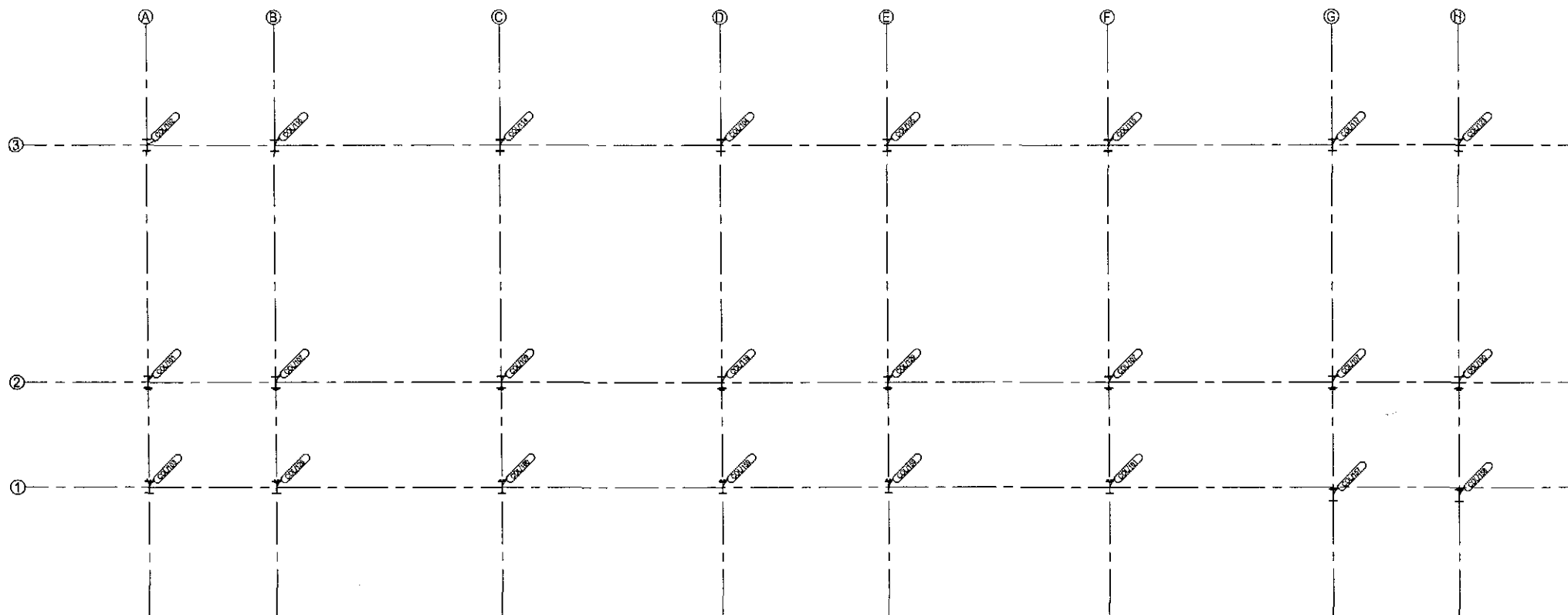


DETAIL-A
(24-LOCATION)



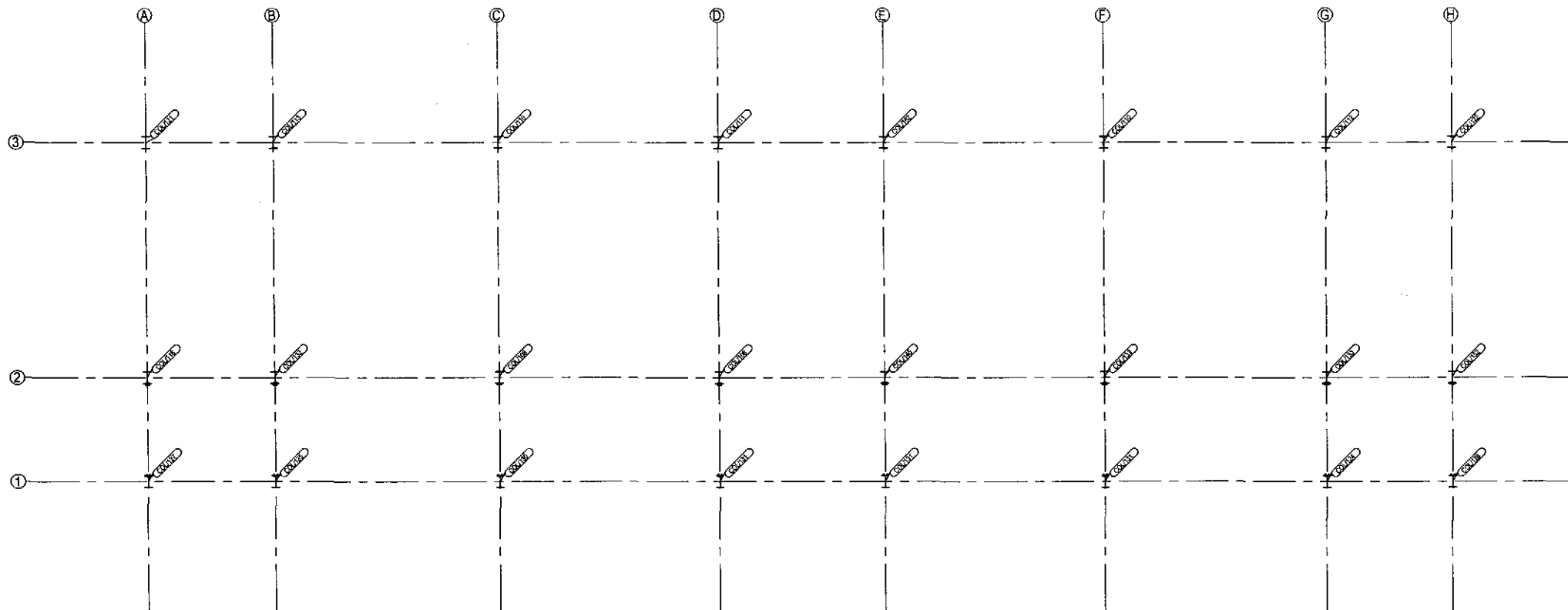
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. :	Date :	Description :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Unique ID : School Code :	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt Engineering Department (LG&U)	Joint Venture of CDM Smith inc. USA & Development Design Consultants Ltd. Bangladesh	ANCHOR ROD LAYOUT Dwg No. : MDSP/S.SI. 01 Sheet No. : ST 02 Date : January 2019	Drawn by : Md. Saikar Hossain Khan Designed by : Checked by : Md. Zakir Hossain Team Leader Sushil Somrassiri APPROVED BY : Javed Karim Project Director



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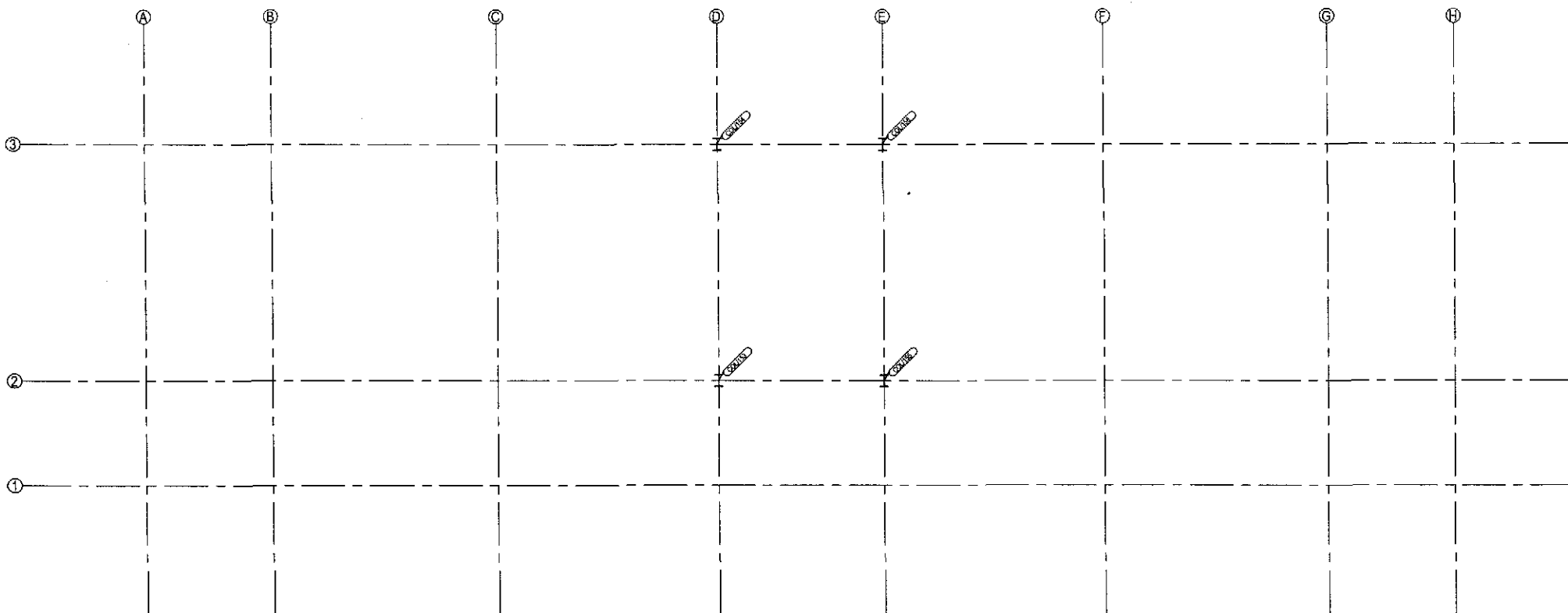
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MULTIPURPOSE DISASTER SHELTER (PROJ/CL1(MDSP)) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14 1b/NW 03 A & B Unique ID : School Code :	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGR Implementing Agency (Local Govt. Engineering Department (LGED))	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	COLUMN LAYOUT AT GROUND FLOOR LEVEL	Drawn by : Md. Sarwar Hossain Khan Designed by : JDC Ltd. Checked by : Md. Zakir Hussain Team Leader : Date : January, 2019	APPROVED BY : Javed Karim Project Director



Plan 6475.00-1

TENDER DRAWING
NOT FOR CONSTRUCTION

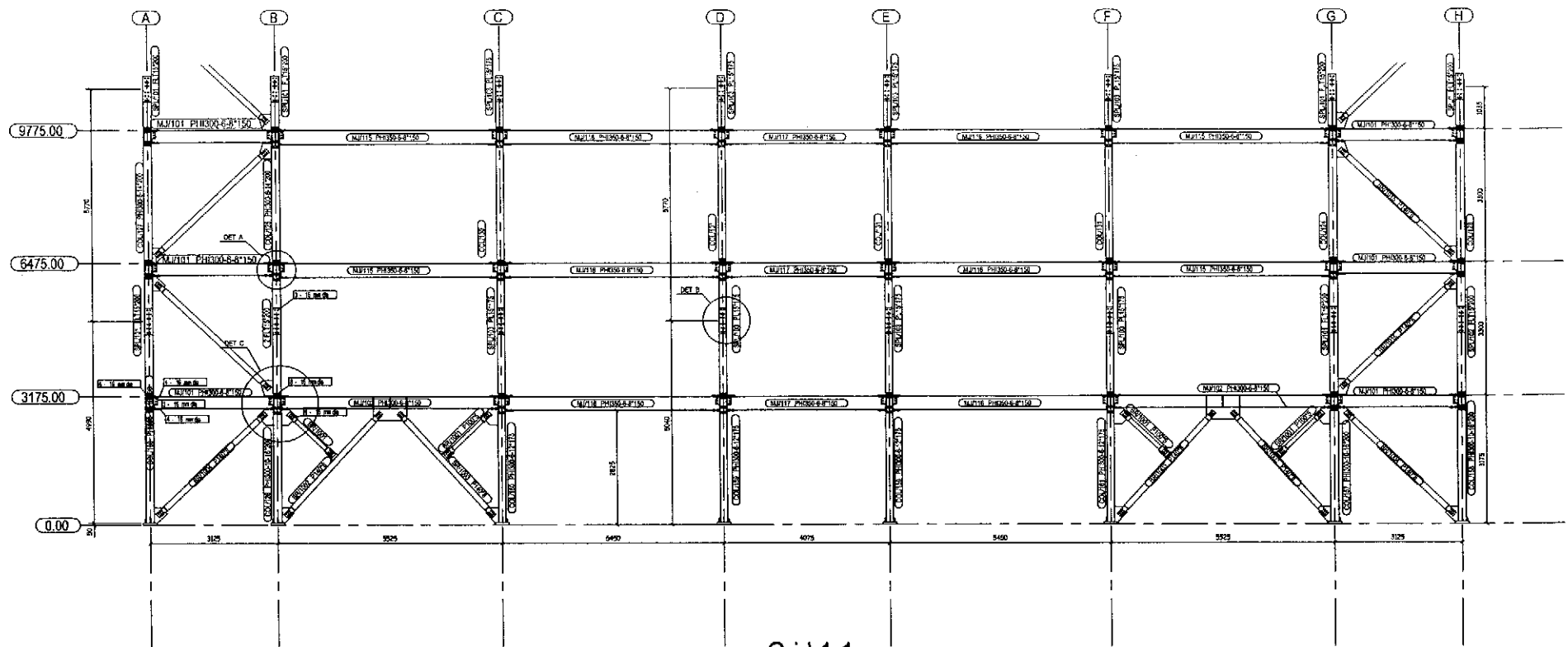
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : District : Chittagong Package : LGED/MSDP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh COLUMN LAYOUT AT SPLICE LEVEL 1 (2ND FLOOR LEVEL) Drg. No. : MSDP/ S.S.T. - 01 Sheet No. : ST - 04 Date : January, 2019	Drawn by : Md. Sanwar Hossain Khan Designed by : GDC Ltd. Checked by : Md. Zakir Hossain Team Leader Sujit Somasiri	APPROVED BY : Javed Karim Project Director	



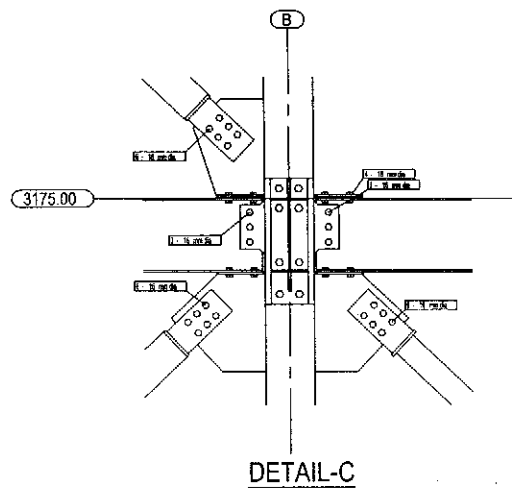
Plan 13075-1

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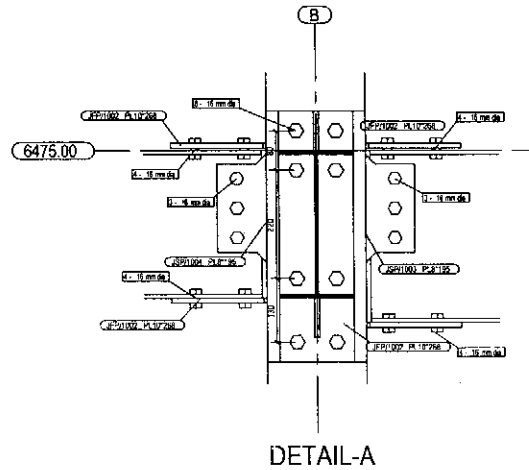
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MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP)	Name : Type : Option 0: Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency (Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd.	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hossain Drawn by : Checked by : Drawn by : Checked by :	APPROVED BY :	
Funded by World Bank				COLUMN LAYOUT AT SPLICE LEVEL 2 (ROOF LEVEL) Dwg. No. : MDSP/ S.S.T. - 01 Sheet No. : ST - 05 Date : January, 2019			Javed Karim Project Director



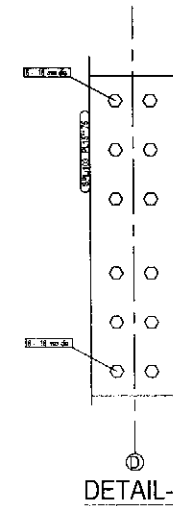
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DETAIL-C



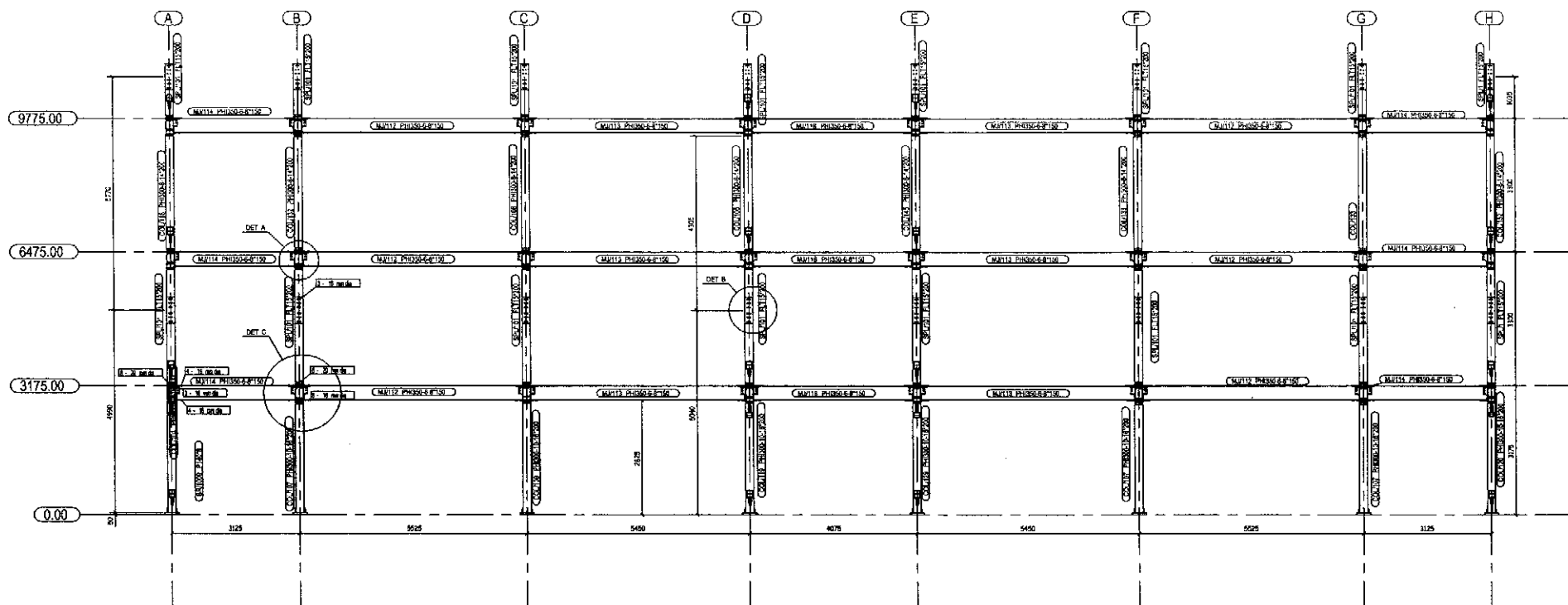
DETAIL-A



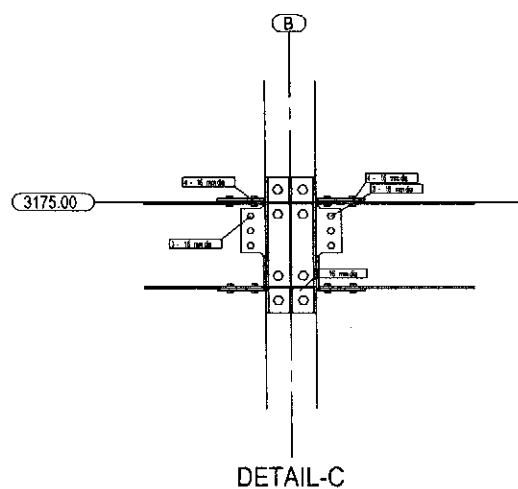
DETAIL-B

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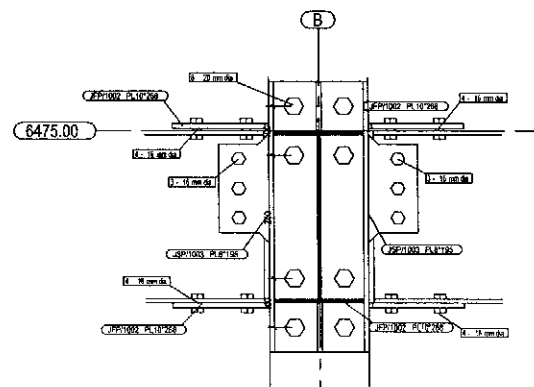
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MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Option-01 Type : Upazila : District : Chittagong Package : LGED/MDSP/CH/14 15/WW 03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (i. GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid 1-1) Drig. No. : MDSP/5.5" - 01 Sheet No. : ST - 06 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Checked by : Md. Zakir Hossain Team Leader : Sustil Somasiri	APPROVED BY : Javed Karim Project Director



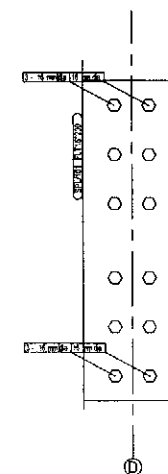
Grid 2-1



DETAIL-C



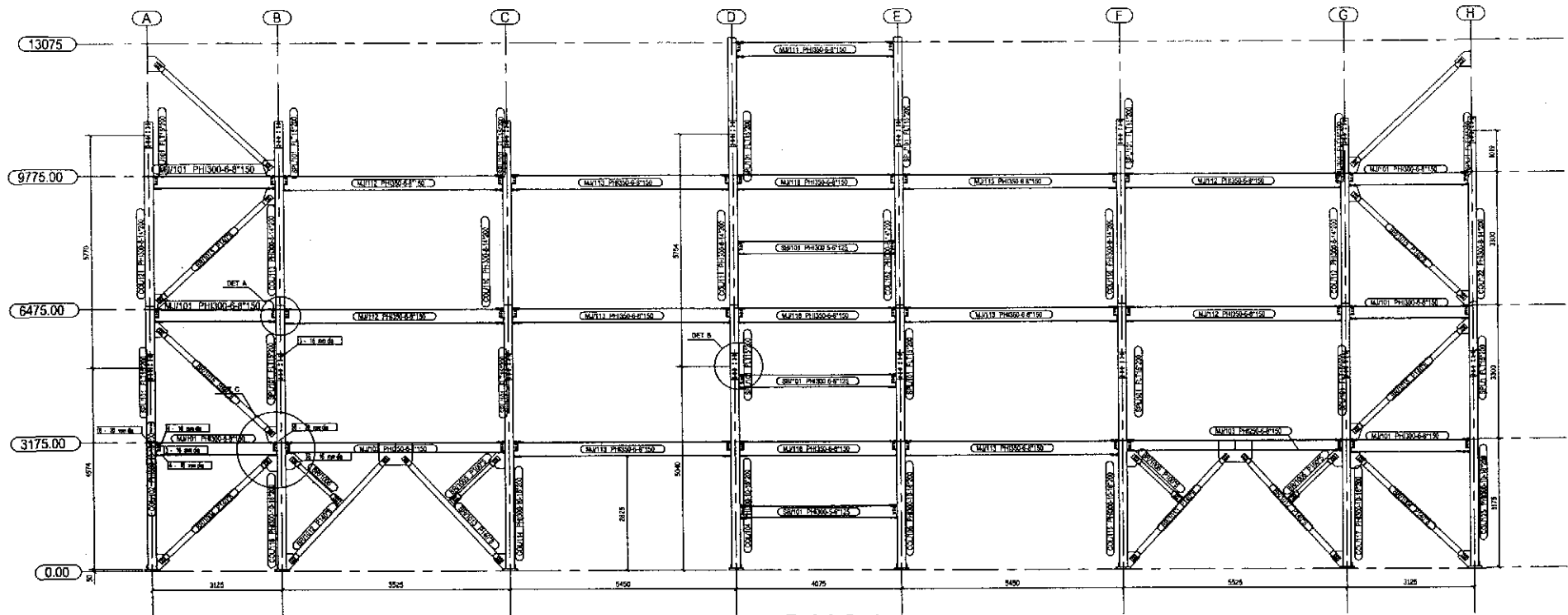
DETAIL-A



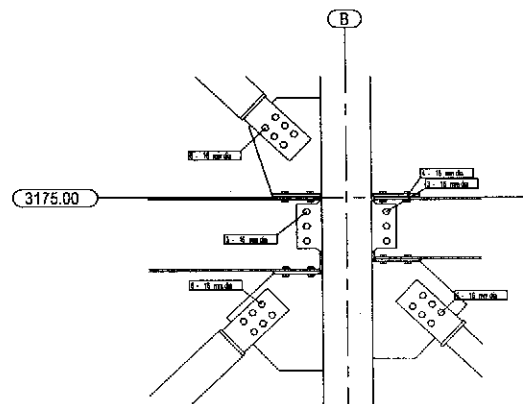
DETAIL-B

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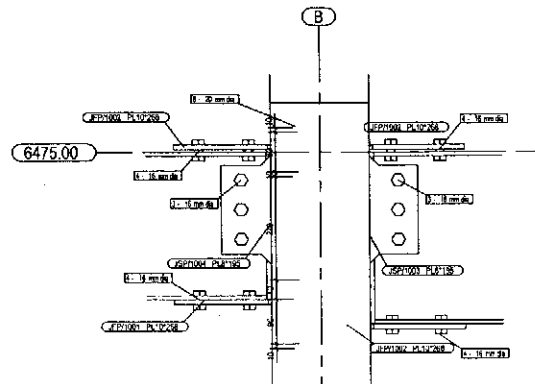
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :	DRAWING TITLE :	
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MOSP/CH/14-15/AW-03-A & B	Unique ID : School Code :	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (i GFD)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid 2-1) Orig. No. : MDSP/S.S.T. - 01 Sheet No. : ST - 07 Date : January 2019	Drawn by : Md. Sarwar Hossain Khan Des. g. ad by : DCC Ltd. Checked by : Md. Zakir Hossain Team Leader : Susil Somasiri
						APPROVED BY :	Javed Karim Project Director



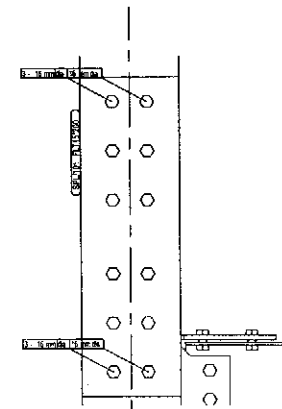
Grid 3-1



DETAIL-C



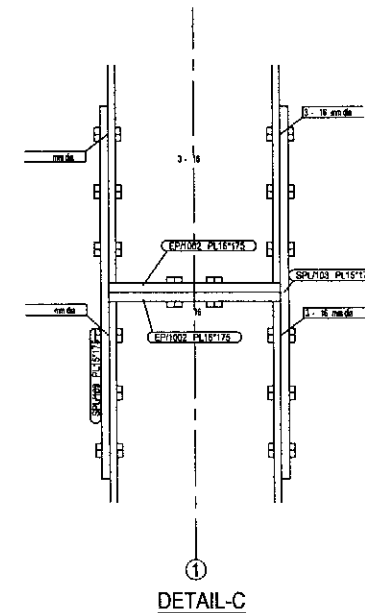
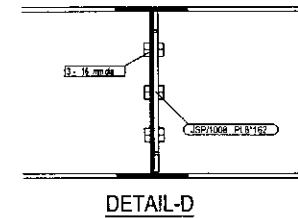
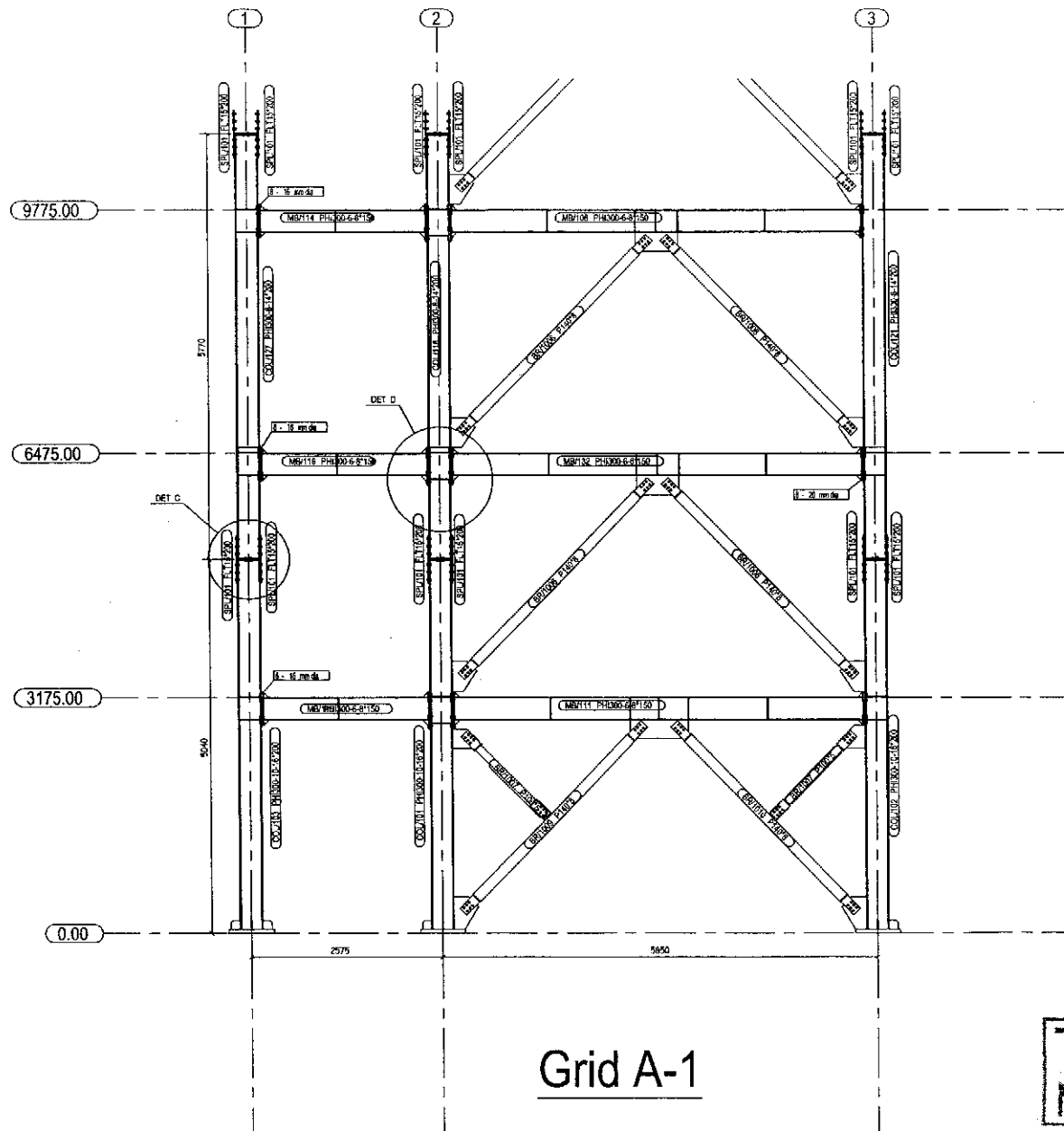
DETAIL-A



DETAIL-B

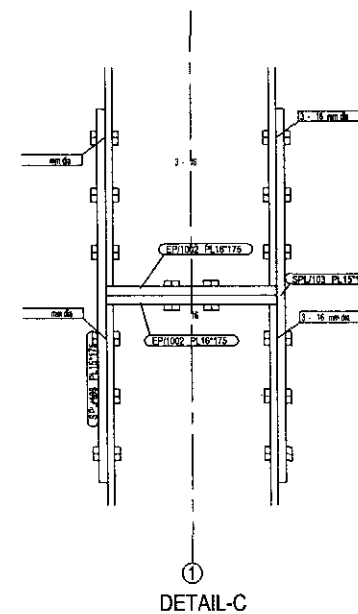
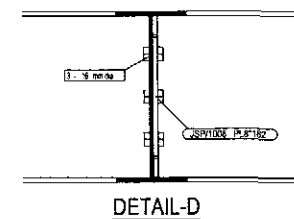
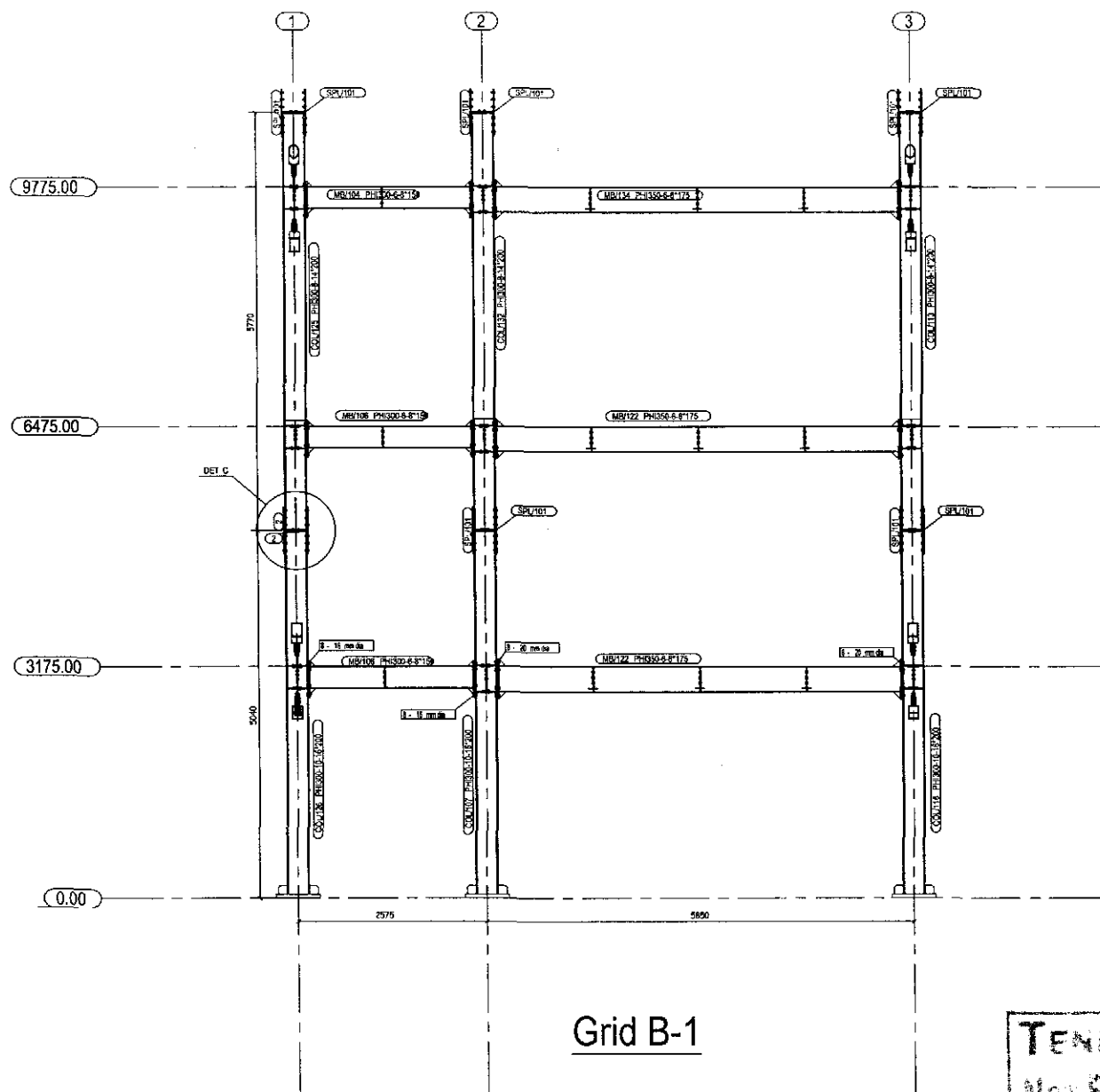
**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :			CLIENT :	CONSULTANTS :	DRAWING TITLE :	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd.	APPROVED BY :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Upazila : District : Chittagong Package : LGFD/MDSP/CH/14-15/NW-03-A & B	Unique ID : School Code :		Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid 3-1) Dwg No : MOSP/SST-01 Sheet No : S1-08 Date : January, 2019	Checked by : Md. Zakir Hossain Team Leader : Susil Sornasin	Javed Karim Project Director



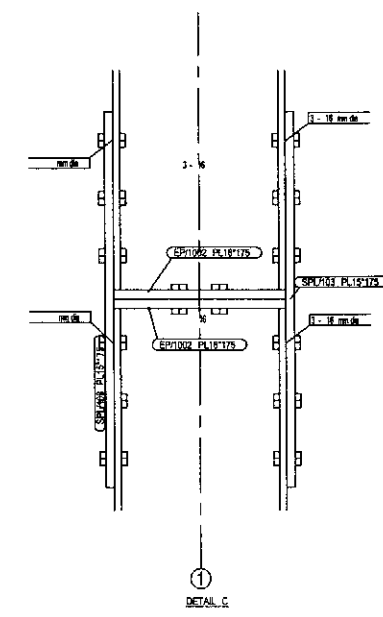
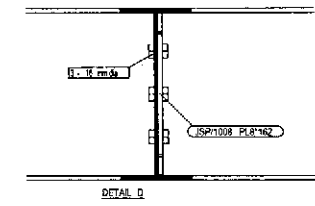
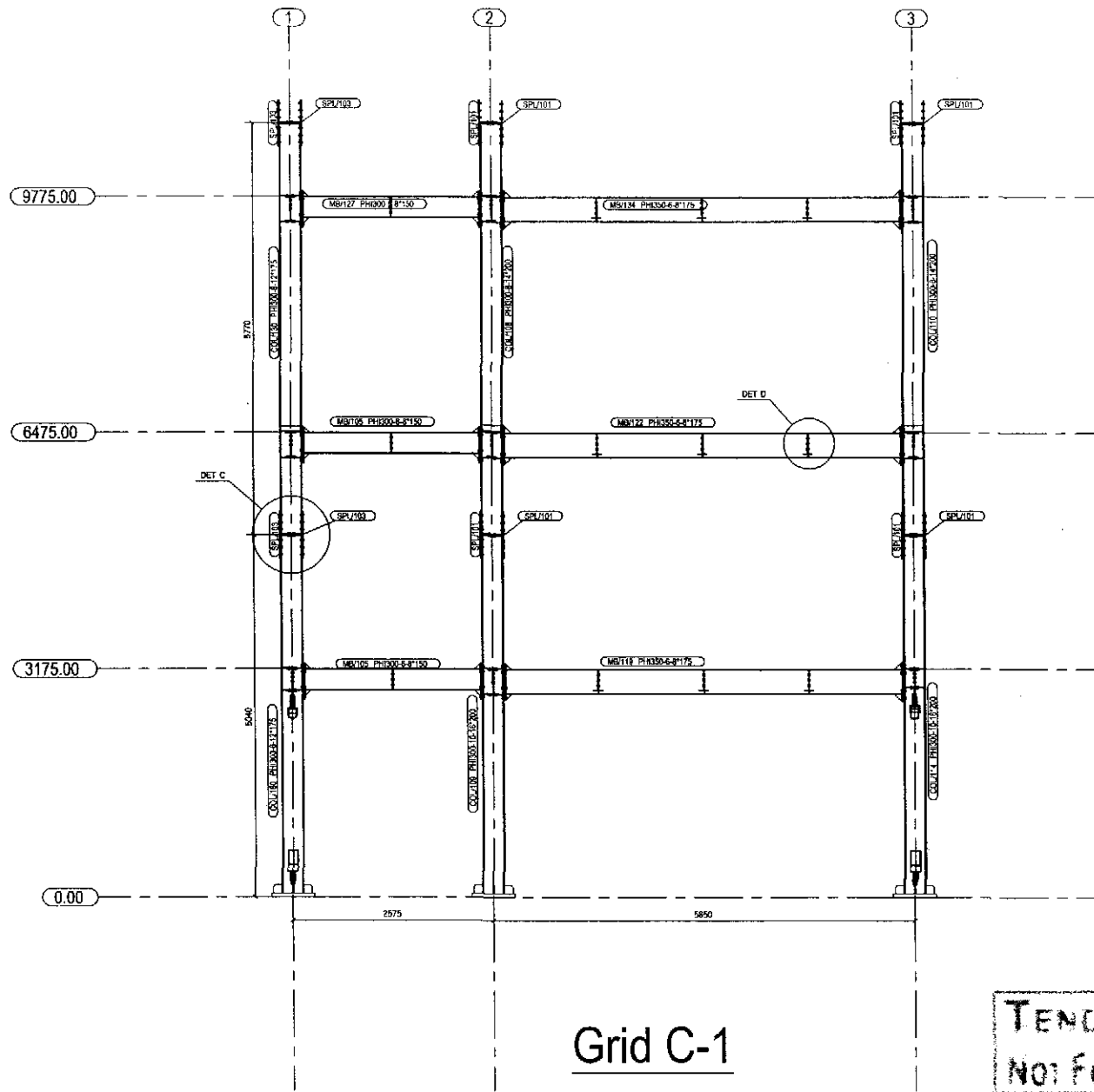
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					Rev. No.	Date	Description
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :	CONSULTANTS :	DRAWING TITLE :		
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : District : Chittagang Package : LGED/MOSP/CH/14-15/NW-03-A & B	Unique ID : School Code :	Government of Peoples Republic of Bangladesh;	Line Ministry : Ministry of LGED Implementing Agency (Local Govt. Engineering Department (I. GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid A-1) Dig. No. : MOSP/ S.S.T. - 01 Sheet No. : ST - 09 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hossain Team Leader Susil Somasiri
							APPROVED BY : Javed Karim Project Director



TENDER DRAWING
NOT FOR CONSTRUCTION

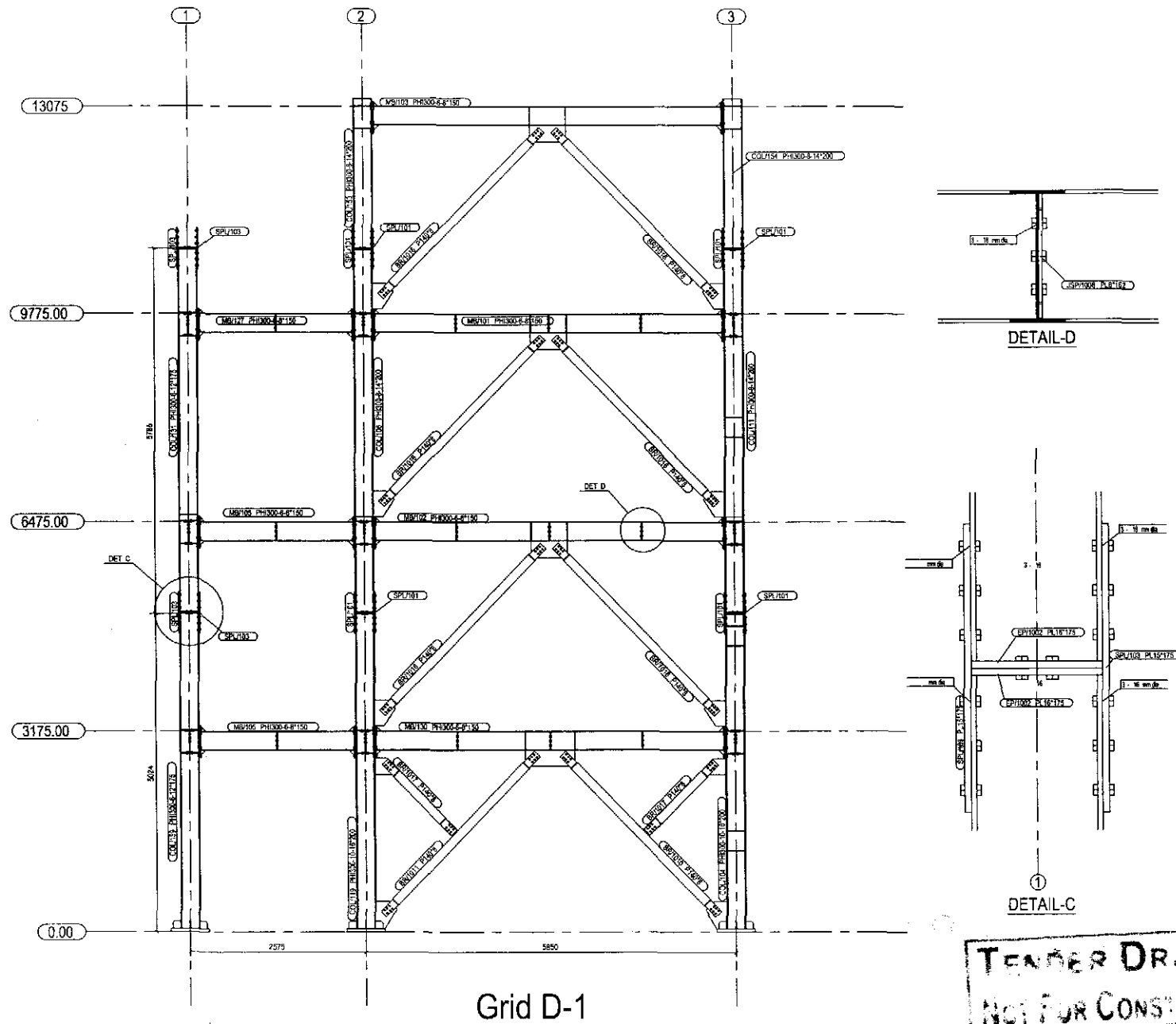
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option-01 Type : School Code : Upazila : Chittagang District : Chittagang Package : LGFD/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Ministry of LGED Implementing Agency, Local Govt. Engineering Department (I.GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid B-1) Drw. No. : MDSP/ S.ST - 01 Sheet No. : ST- 10 Date : January, 2019	Drawn by : Md. Saadur -ossam Khan Designed by : DDC Ltd. Checked by : Md. Zakir -ossam Team Leader : Sussil Somasiri
Funded by World Bank						APPROVED BY : Javed Karim Project Director



Grid C-1

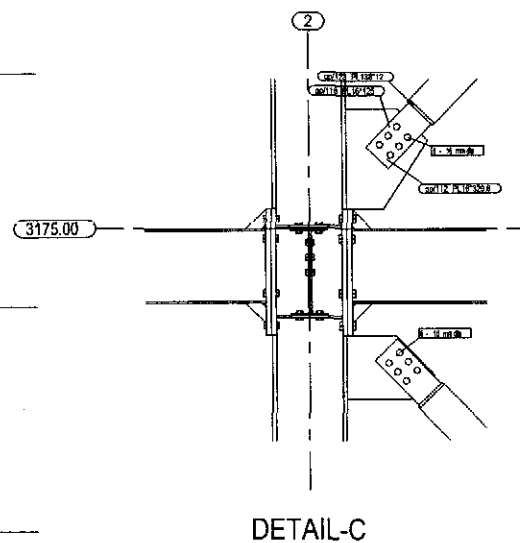
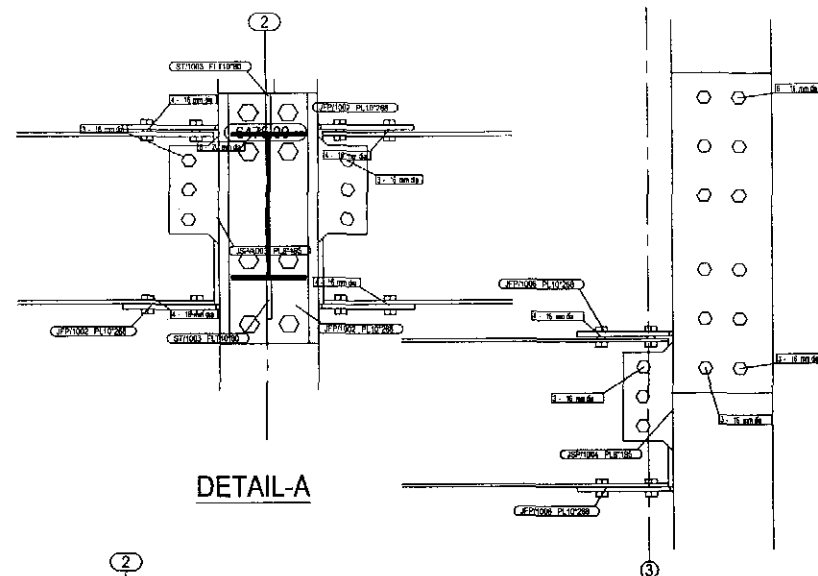
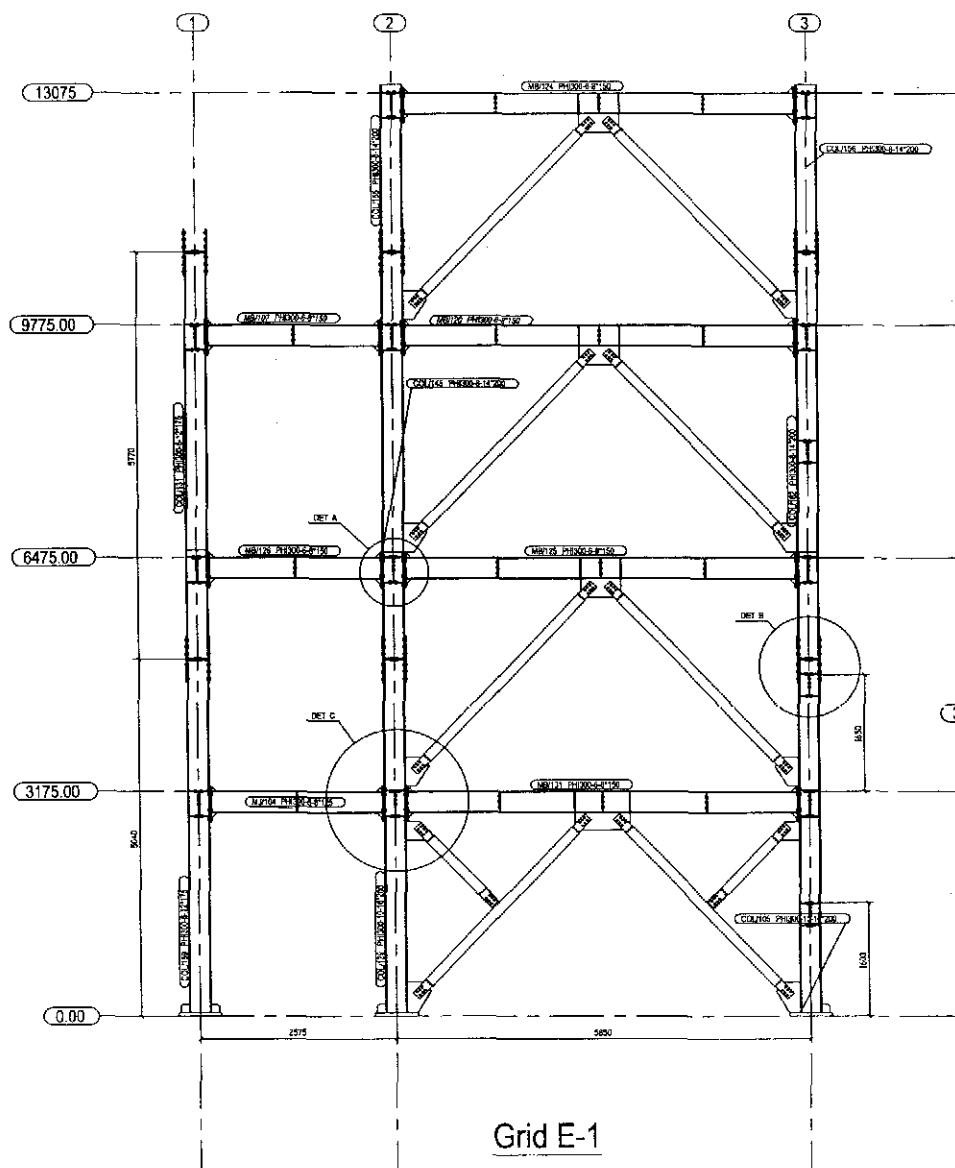
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Option-01 Type : Upazila : Chittagong District : Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Bangladesh Ministry of LGED Implementing Agency (Local Govt. Engineering Department (LGED))	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid C-1) Dig. No.: MDSP/ S.S.T. - 01 Sheet No.: S.T. - 11 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zaki Hussain Team Leader : Sushil Samrasini	APPROVED BY : Javed Karim Project Director	



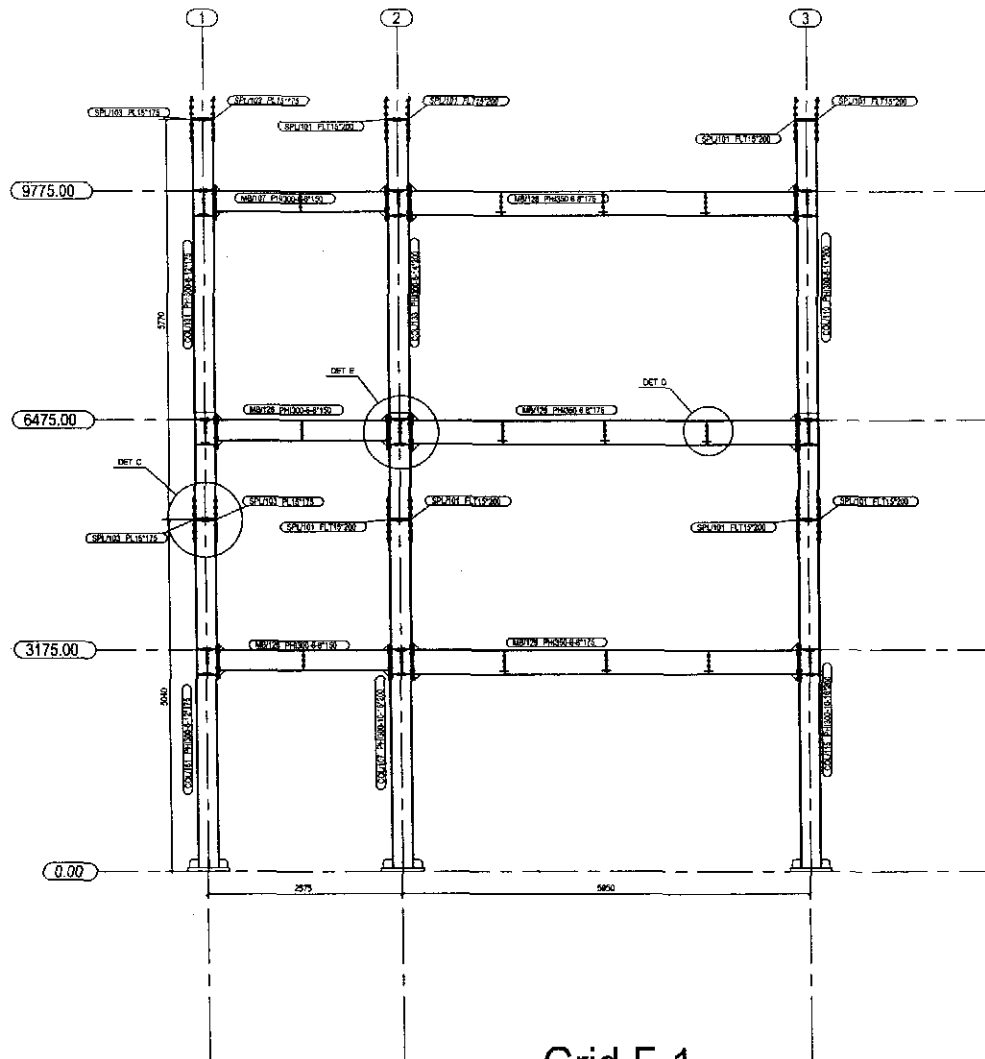
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. / Date / Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Uprila District : Chittagong Package : LGED/MDSP/CHA-4-15/NW-03-A & B	Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Departmental (E.GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid D-1) Dwg. No. : MDSP/SST.-01 Sheet No. : ST-12 Date : January, 2019	Rev. No. / Date / Description Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hossain Team Lead : Susil Somasiri APPROVED BY : Javed Karim Project Director

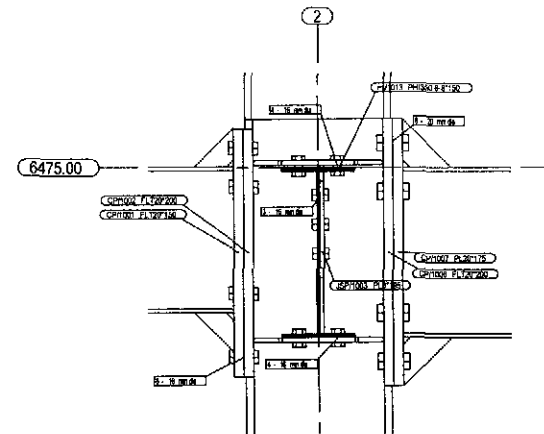


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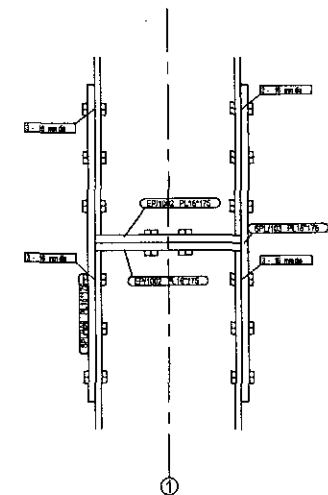
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank					Name	Government of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (GFD)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid E-1) Org. No. : MDSP/ST-01 Sheet No. : ST-13 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hossain Drawn by : Susil Somasiri	APPROVED BY : Javed Karim Project Director	
					Type							Option-01
					Upazila							
					District							Chittagong
					Package	GFD/MSDP/CH/14 15/AW 03 A & B						



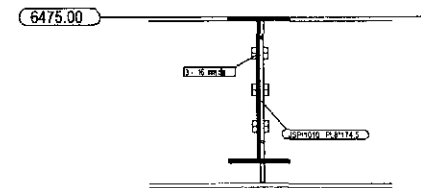
Grid F-1



DETAIL-E



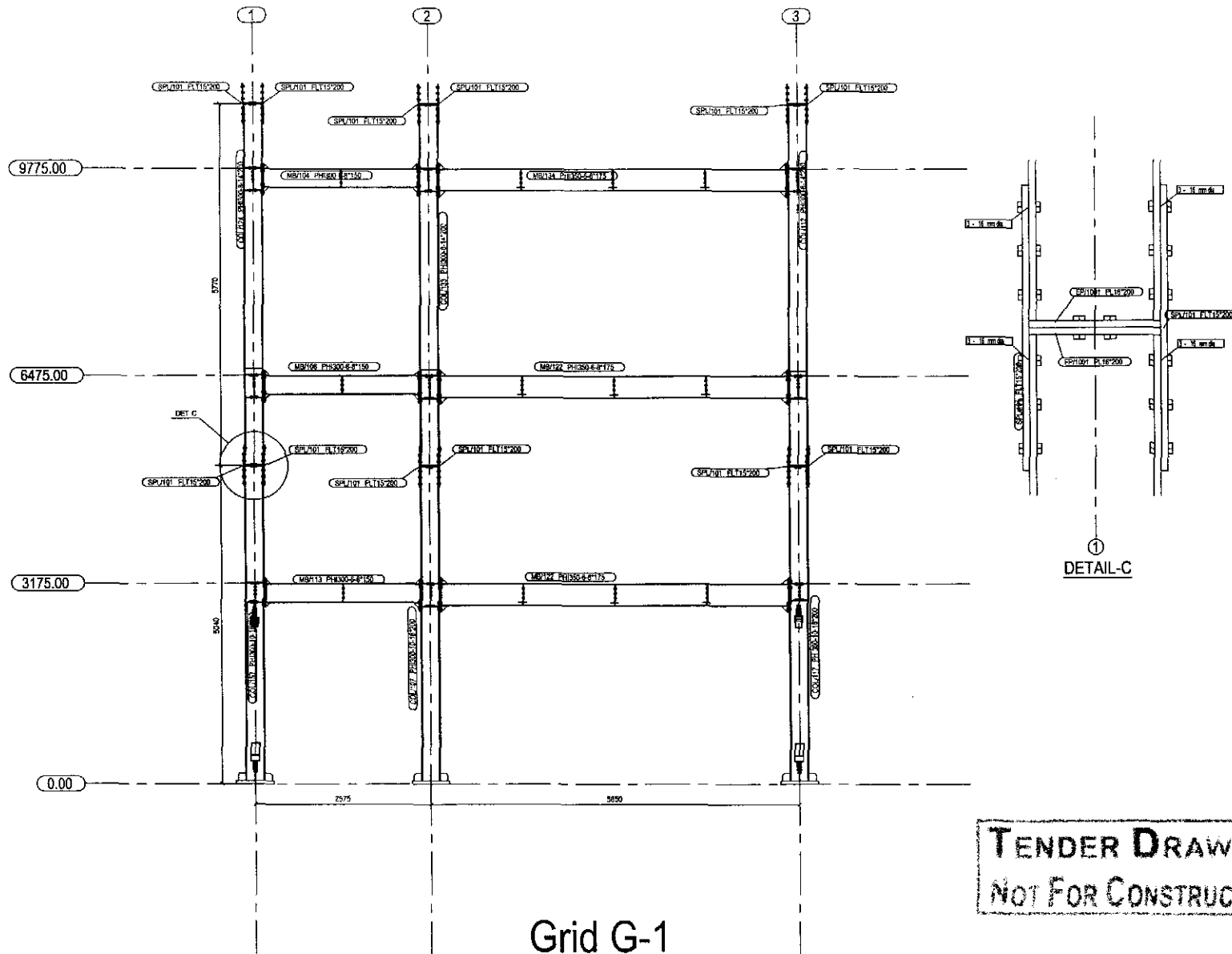
DETAIL-C



DETAIL-D

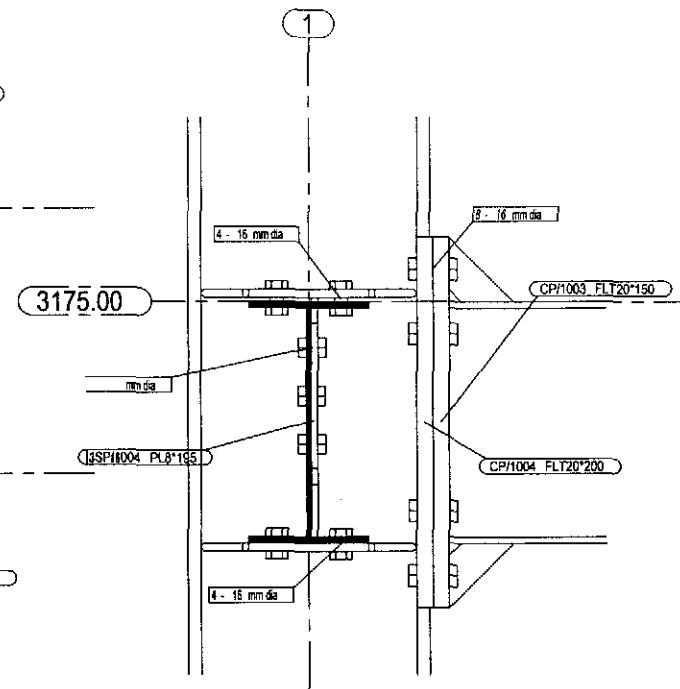
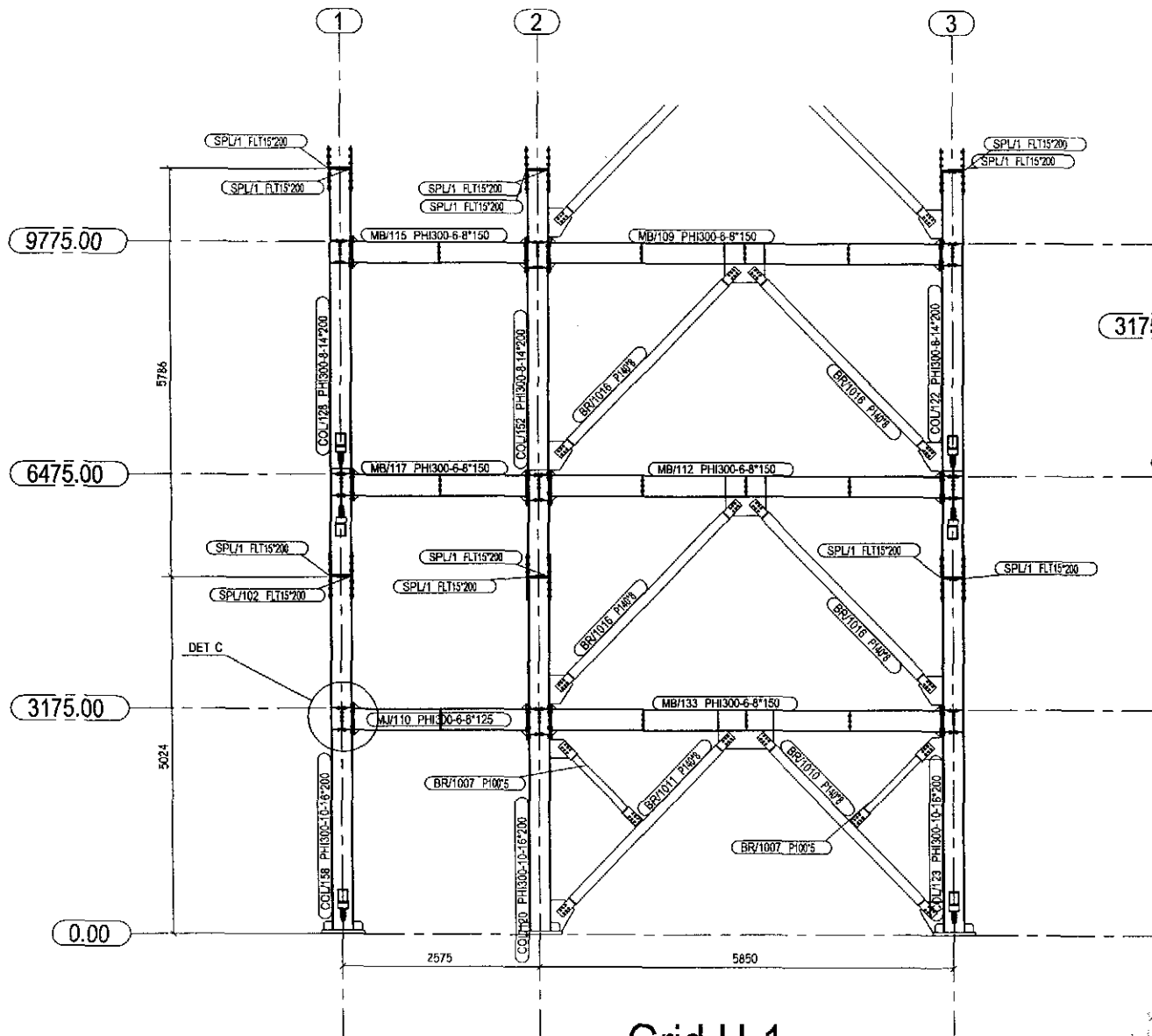
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NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description	
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name Type Upazila District Package	Option-01 Chittagong LGED/MSDP/C/Y/14-15/NW-03-A & B	Unique ID School Code	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency (Local Govt. Engineering Department (LGED))	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid F-1) Dwg. No. : MSDP/S.ST. - 01 Sheet No. : ST - 14 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hussain Team Leader : Sustil Somasiri	APPROVED BY : Javed Karim Project Director



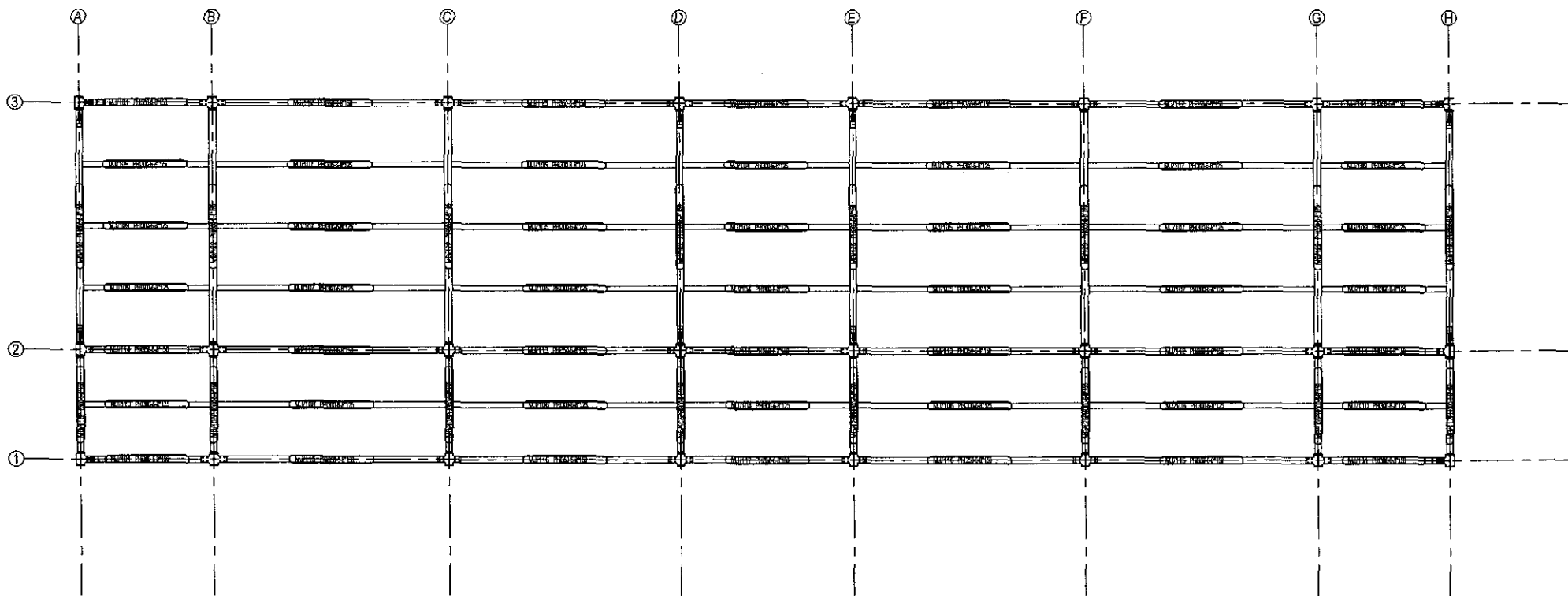
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PROJECT :					Rev. No.	Date	Description
NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :	DRAWING TITLE :		
Name : Unique ID : Type : Opt-01-01 Upazila : District : Chittagong Package : LGED/MDSP/C/14-15/NW-03-A & B		Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt Engineering Department (LGED)		Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid G-1) Drig. No. : MDSP/ S.S.T. : 01 Sheet No. : ST - 15 Date : January, 2019		
Funded by World Bank					Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hossain Team Leader : Susil Somasiri		
					APPROVED BY : Javed Karim Project Director		



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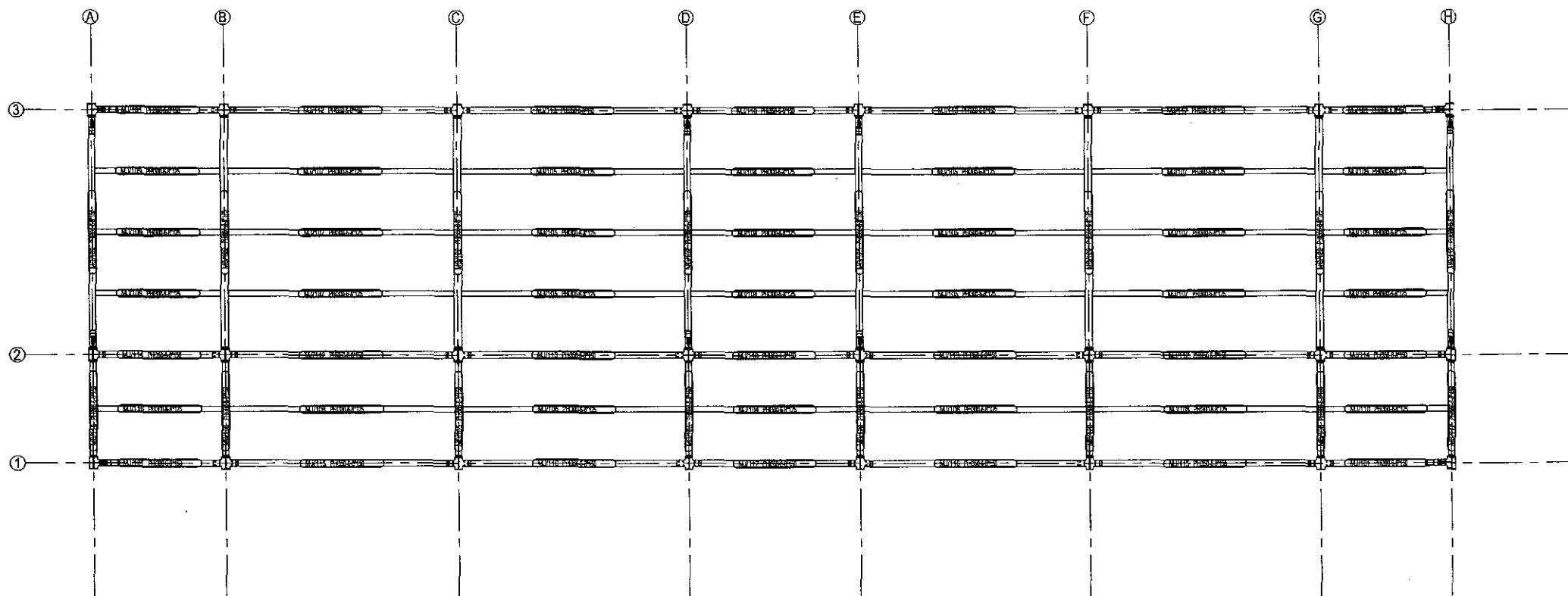
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Unique ID : School Code : District : Chittagong Package : LGED-MDSP/CH/14-15/NW-03-A & B	Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	FRAME ELEVATION (Grid H-1) Dwg. No. : MDSP/SST-01 Sheet No. : ST-16 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hossain Drawn/Issued : Susil Somasiri	APPROVED BY : Javed Karim Project Director	



Plan 3175.00-1

TENDER DRAWING
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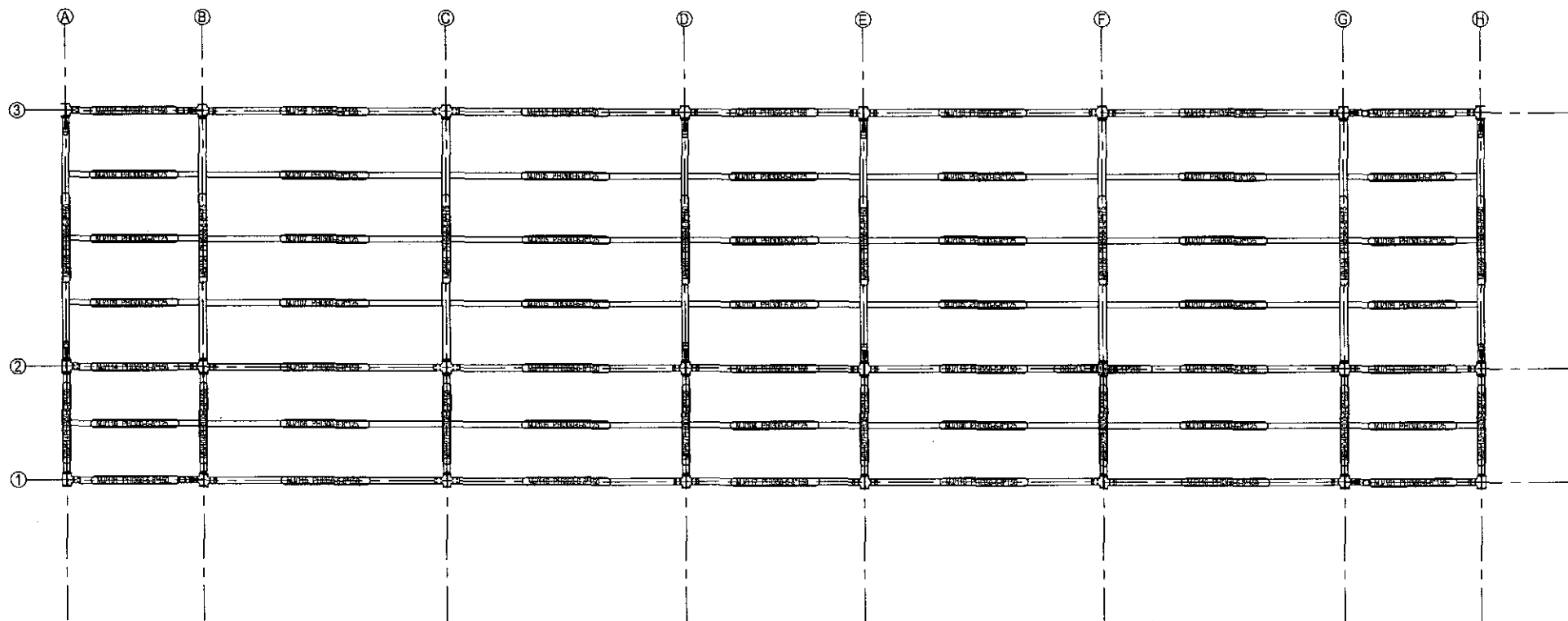
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank		Name	Unique ID	Government of People's Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	1ST FLOOR BEAM LAYOUT PLAN Orig. No. : MDSP/ S.S.T. - 01 Sheet No. : ST - 17 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan	APPROVED BY : Javed Karim Project Director	
		Type	Option-01					School Code		Designed by : DDC Ltd.
		Upazila								Checked by : Md. Zakir Hassan
		District	Chittagong							Team leader
		Package	LGED/MDSP/CHI/14-15/NW-03-A & B					Susil Somasiri		



Plan 6475.00-1

TENDER DRAWING
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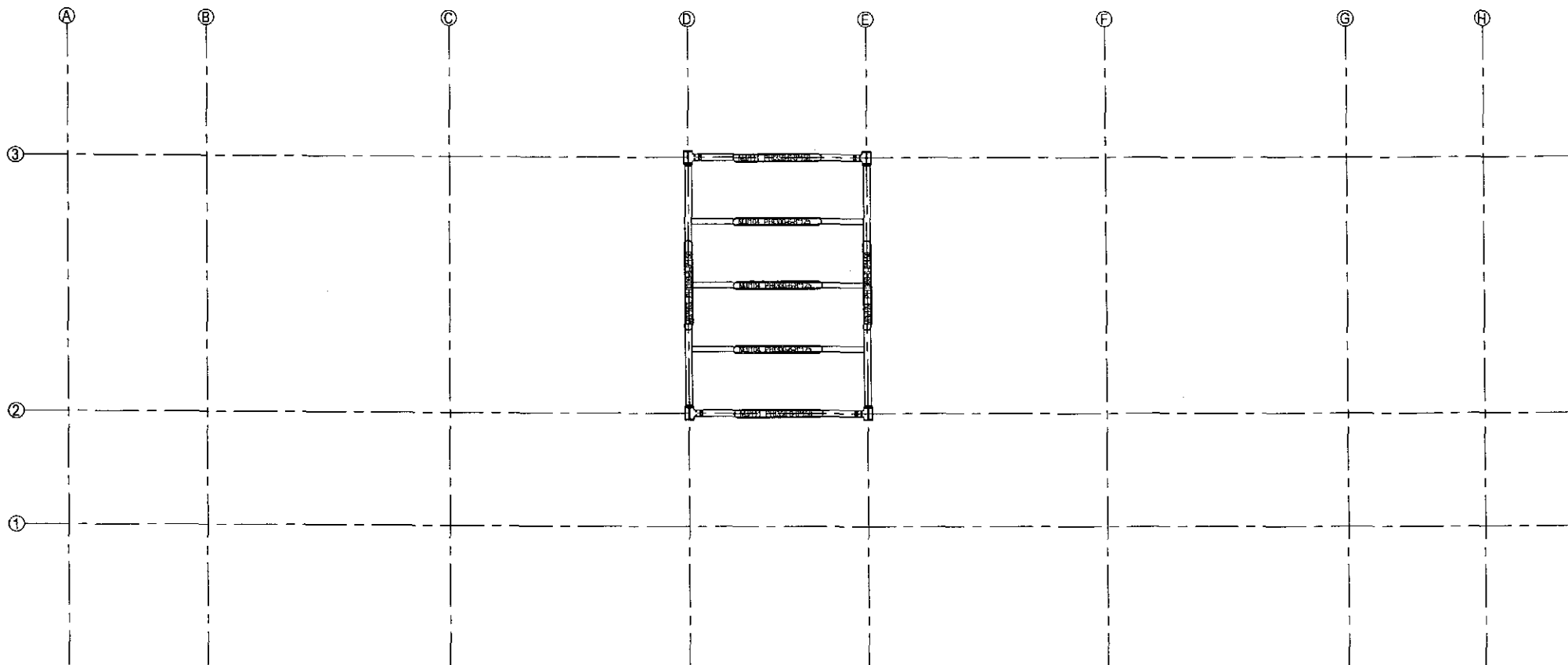
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : GFD/MDSP/CH/14-15/NW 03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	2ND FLOOR BEAM LAYOUT PLAN	Drawn by : Md. Sarwar Hossain Khan Designed by : DDC Ltd. Checked by : Md. Zakir Hossain Scale/Date : 1:100 / January, 2019	APPROVED BY : Javed Karim Project Director



Plan 9775.00-1

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	REV. No	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : I/GED/MDSP/CH/14 15/NW 03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	ROOF FLOOR BEAM LAYOUT PLAN Org. No. : MDSP/S.S1-01 Sheet No. : S1-19 Date : January, 2019	Drawn by : Mr. Samwar Hossain Khan Designed by : DDC Ltd Checked by : Mr. Zaver Hossain Team Leader Susil Somasiri	APPROVED BY : Javed Karim Project Director



Plan 13075-1

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Type : Option 01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (I.GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	CHILAKOTHA BEAM LAYOUT PLAN	Drawn by : Md. Sargwar Hossain Khan Designed by : DDC Ltd. Checked by : Mr. Zakir Hossain Team Leader : Sushil Somasiri	APPROVED BY Javed Karim Project Director
Funded by World Bank				Drw. No. : MDSP/ST-01 Sheet No. : ST-20 Date : January, 2019			



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

SUB SECTION-2C : ELECTRICAL DRAWINGS
(STEEL FRAME BUILDING OPTION-1)

CONSULTANTS :

Joint venture of

CDM Smith Inc. USA

Development Design Consultants Ltd.

Bangladesh

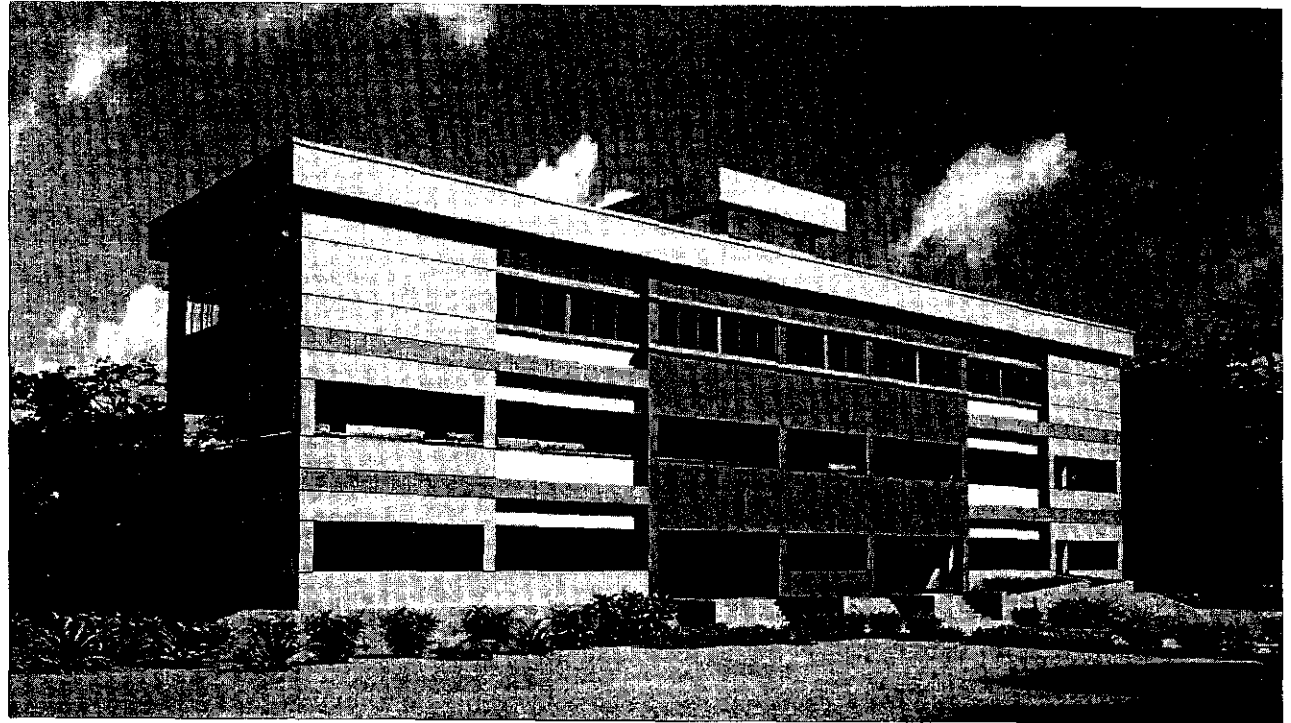


FEBRUARY, 2019

**TENDER DRAWING
NOT FOR CONSTRUCTION**

MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)
Local Government Engineering Department (LGED)
ELECTRICAL DRAWINGS FOR STEEL BUILDING
(OPTION-1)

DS Name :
School code :
Database Unique ID :
Upazila :
District : Chittagong
Package No. : LGED/MDSP/CHI/14-15/NW-03-A & B



CONSULTANTS :

Joint venture of

CDM Smith Inc. USA

Development Design Consultants Ltd.

Bangladesh



TENDER DRAWING
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JANUARY, 2019

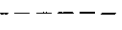
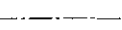
ELECTRICAL DRAWINGS LIST

SL. NO.	SHEET NO.	CONTENT	SCALE	REMARK
01	E-00	ELECTRICAL DRAWING LIST	NTS	
02	E-01	GENERAL NOTES AND LEGEND	NTS	
03	E-02	LIGHTNING PROTECTION SYSTEM (SHEET 1 OF 3)	NTS	
04	E-03	ELECTRICAL FITTINGS AND CONDUIT LAYOUT OF GROUND FLOOR	NTS	
05	E-04	ELECTRICAL FITTINGS AND CONDUIT LAYOUT OF 1ST FLOOR	NTS	
06	E-05	ELECTRICAL FITTINGS AND CONDUIT LAYOUT OF 2ND FLOOR	NTS	
07	E-06	ELECTRICAL FITTINGS AND CONDUIT LAYOUT OF ROOF	NTS	
08	E-07	CIRCUIT DIAGRAM OF GROUND AND FIRST FLOOR	NTS	
09	E-08	CIRCUIT DIAGRAM OF 2ND FLOOR	NTS	
10	E-09	SINGLE LINE DIAGRAM OF MDB & SDB (SOLAR)	NTS	
11	E-10	LIGHTNING PROTECTION SYSTEM (SHEET 2 OF 3)	NTS	
12	E-11	LIGHTNING PROTECTION SYSTEM (SHEET 3 OF 3)	NTS	
13	E-12	SOLAR POWER SYSTEM	NTS	

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option -01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	ELECTRICAL DRAWING LIST	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Joyntal Abedin Checked by : S. M. Nurul Islam Team Leader : Date : January, 2019	APPROVED BY : Javed Karim Project Director

LEGEND :

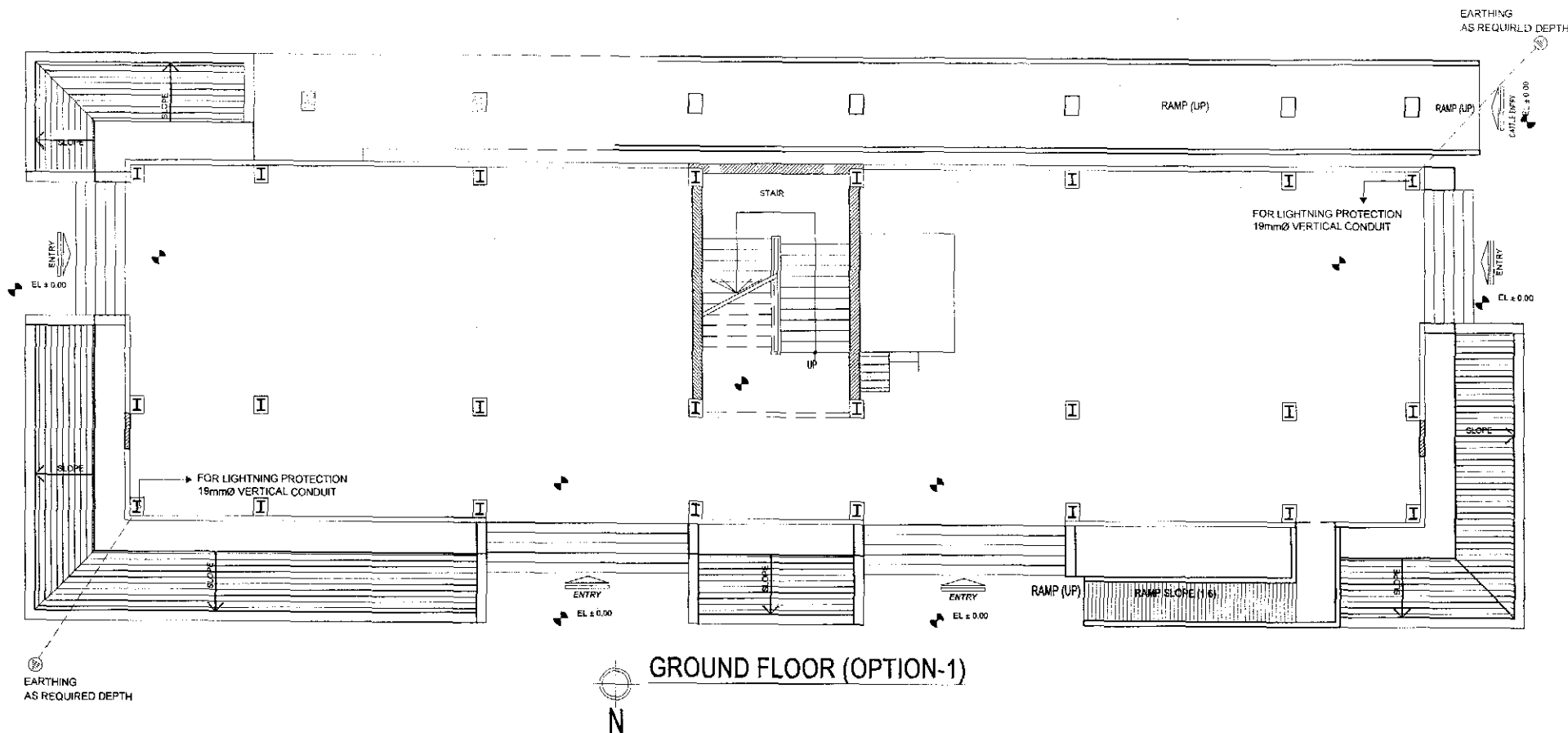
	MDB	MAIN Distribution Board (Lower Plane at 1500mm From FFL)
	SDB	Sub Distribution Board (Lower Plane at 1500mm From FFL)
	SDB(S)	Sub Distribution Board(solar) (Lower Plane at 1500mm From FFL)
	COS	Change Over Switch at 1500mm from FFL
	SB	Switch Board at 1350mm from FFL
	ML	Mirror Light with 23W CFL Light at required height.
	TL	Ceiling Mounted Circular light fitting With 1x23W CFL Lamp.
	TL(s)	Ceiling Mounted Circular light (Solar) fitting With 1x23W CFL Lamp.
	B	Bracket light fitting with 1x23W CFL Lamp At 2400mm From FFL
	B(s)	Bracket light (Solar) fitting with 1x23W CFL Lamp At 2400mm From FFL
	SL	Outdoor Type Security Light With 15W CFL lamp Mounting Height as required drawing
	S	5A, 2 pin, 250V switched socket on/below switch board
	Q	13A, 3pin, 250V switched socket at skirting level
	F/F(S)	Ceiling fan/Ceiling fan (SOLAR)
	FH	Fan hook (Box Type)
	EX.	Exhaust Fan
	PB	Pull box
		Concealed cable route
		Cable route through floor/Under Ground

NOTES :

1. Unless otherwise specified, the conduit size shall be 1" in diameter
2. Hatched fixtures will be catered by normal power as well as solar power
3. Solvent Cement & PIB Tape must be used for PVC Conduit joint.
4. There is no switch Board at Ground Floor.
5. Conduit for Solar light should be completely separated from normal light.

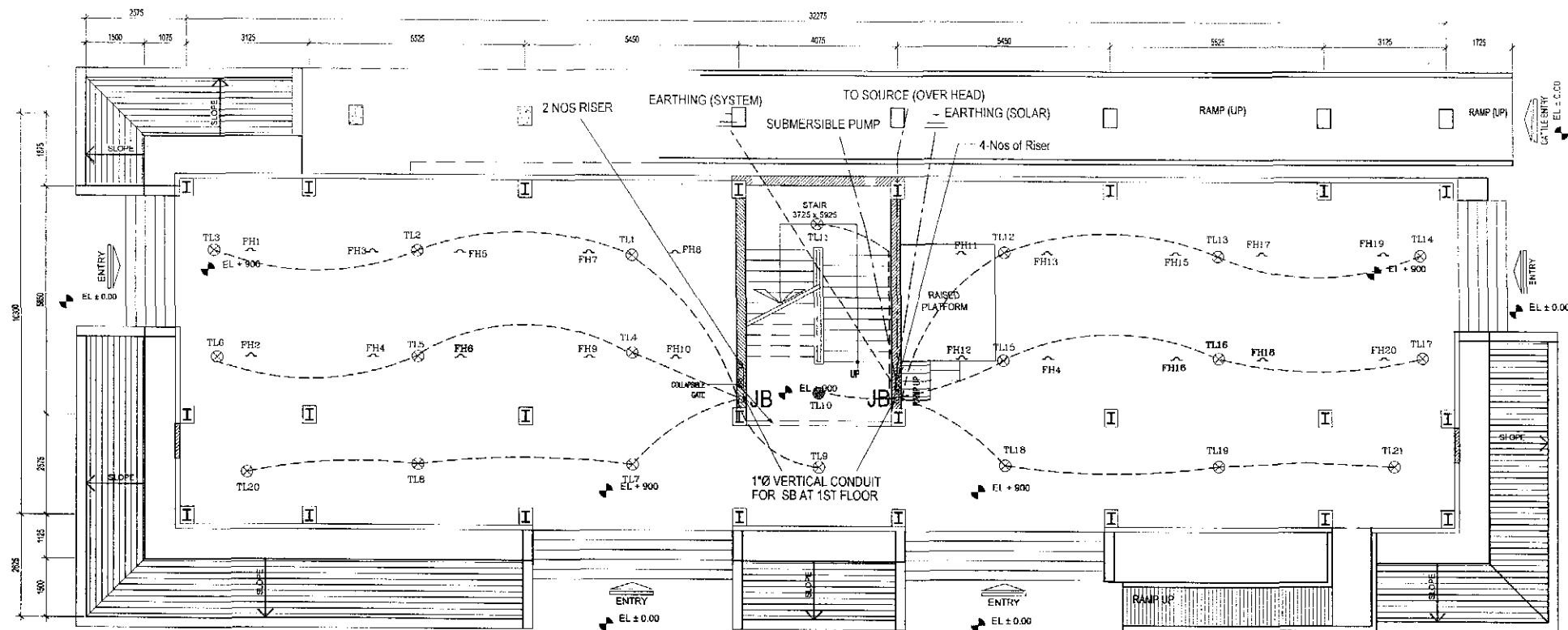
**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT : MAINTENANCE OF DISASTER SHELTER PROJECT (MDS) Funded by World Bank		NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE : Name : Type : District : Package : Unique ID : School Code :	
CLIENT : Government of Peoples Republic of Bangladesh		CONSULTANTS : Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	
DRAWING TITLE : Electrical Notes and Legend Dwg No. : E-01 Date : January, 2019		APPROVED BY : Prepared by : Checked by : Drawn by : Project Director :	



**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name :	Unique ID :	Government of Peoples Republic of Bangladesh	Line Ministry :	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	LIGHTNING PROTECTION SYSTEM (SHEET 1 OF 3)			APPROVED BY : Javed Karim Project Director
Funded by World Bank	Type :	School Code :		Ministry of LGED					
	Upazila :			Implementing Agency :Local Govt.					
	District :			Engineering Department (LGED)					
	Package :	LGED/MDSP/CHI/14-15/NW-03-A & B				Drg. No. : MDSP/E - 01	Drawn by : Md. Sarwar Hossain Khan		
						Sheet No. : E - 02	Designed by : Md. Joyanal Abedin		
						Date : January, 2019	Checked by : S.M. Nurul Islam		
							Team Leader		
							Susil Somasiri		



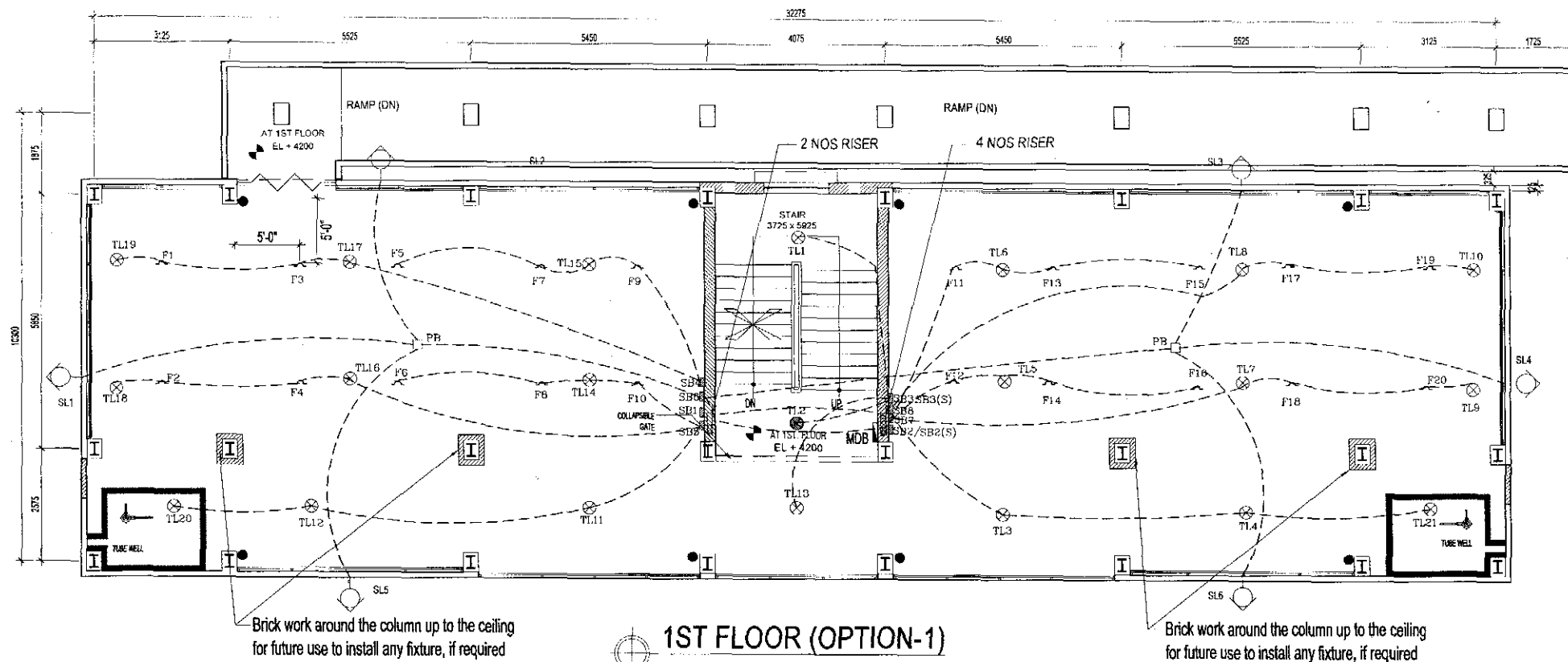
N
GROUND FLOOR (OPTION-1)

NOTE:

1. There is no conduit laying for Fan points
2. Solvent Cement & PIB Tape must be used for PVC Conduit joint.

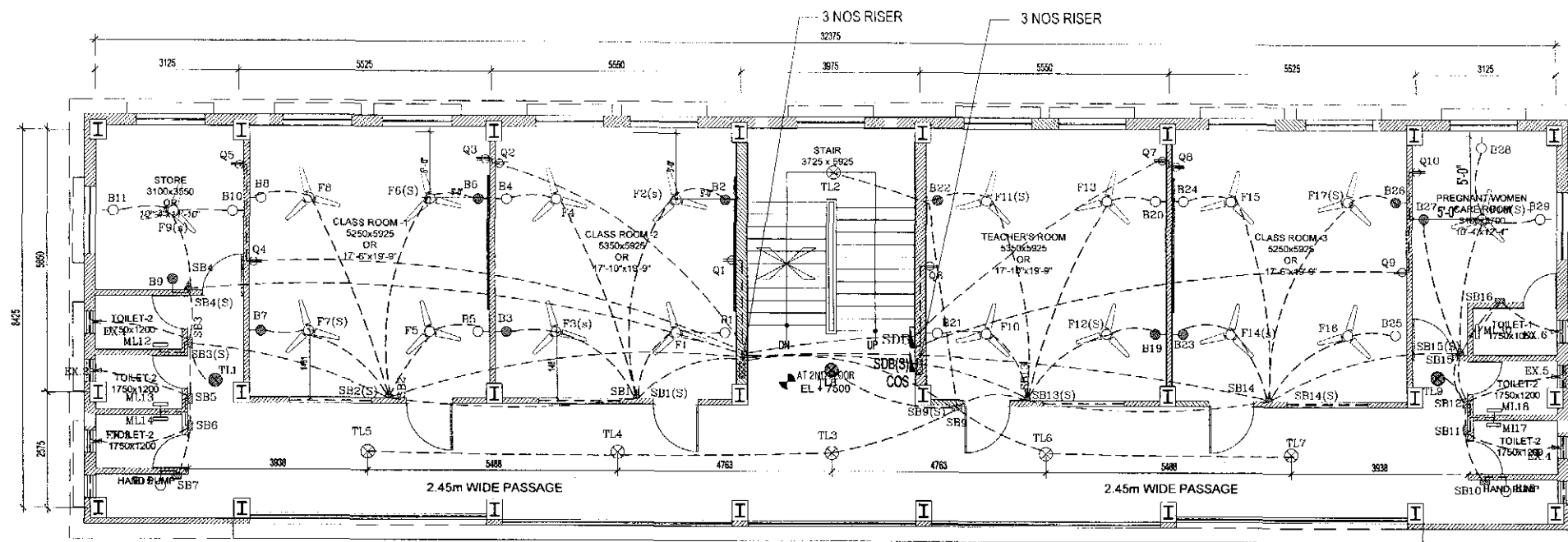
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NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Unique ID : School Code : Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	Electrical fittings and conduit layout on ground floor	Drawn by : Md. Sayadul Hossain Khan Designed by : Md. Joyrat Abedin Checked by : S.M. Nurul Islam Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director



PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELIER PROJECT(MDSP) Funded by World Bank	Name : Type : Upazila : District : Package :	Unique ID : School Code :	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	ELECTRICAL FITTINGS AND CONDUIT LAYOUT OF FIRST FLOOR	Drawn by : Md. Sarwar Hossain Khan	APPROVED BY :	Javed Karim Project Director
				Implementing Agency :Local Govt. Engineering Department (LGED)		Dwg. No. : MDSP/E - 01	Designed by : Md. Joyrat Abedin		
						Sheet No. : E - 04	Checked by : S.M. Nurul Islam		
				Date : January, 2019			Team Leader Susil Somasiri		

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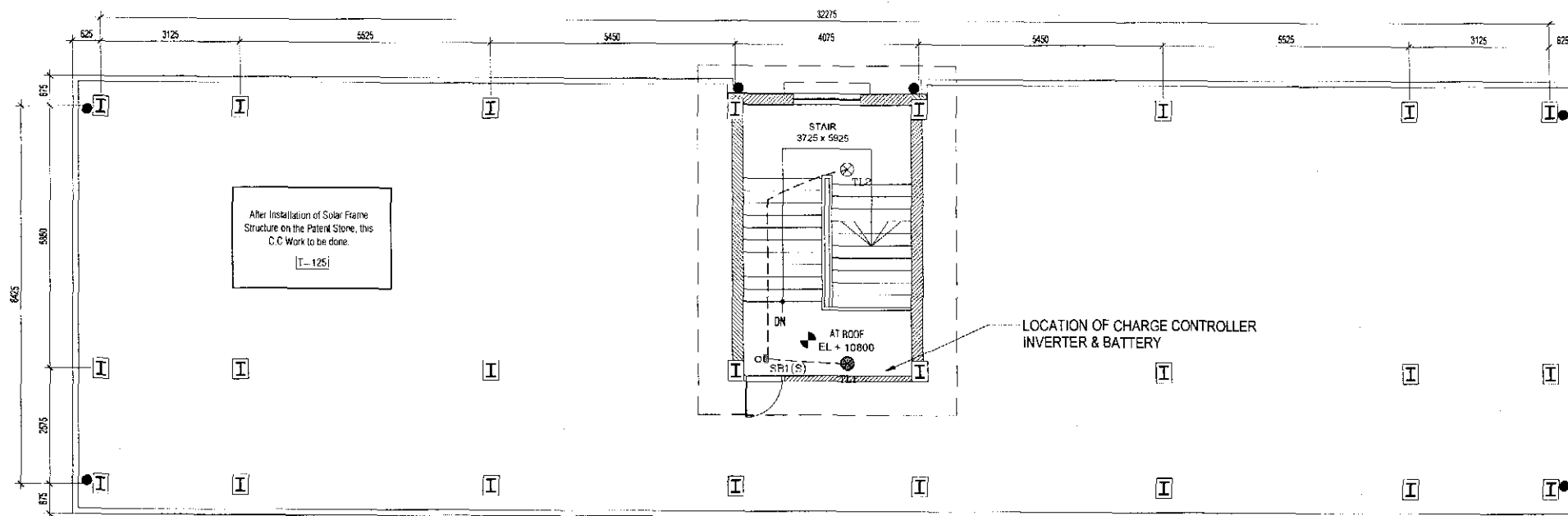
2ND FLOOR (OPTION-1)

NOTE:

1. Solvent Cement & PIB Tape must be used for PVC Conduit joint.

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULI PURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option -01 Type : Upazila : Chittagong District : Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	ELECTRICAL FITTINGS AND CONDUIT LAYOUT OF 2ND FLOOR Org. No. : MDSP/ E - 01 Sheet No. : E - 05 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Joydul Abedin Checked by : S. M. Nurul Islam Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director	

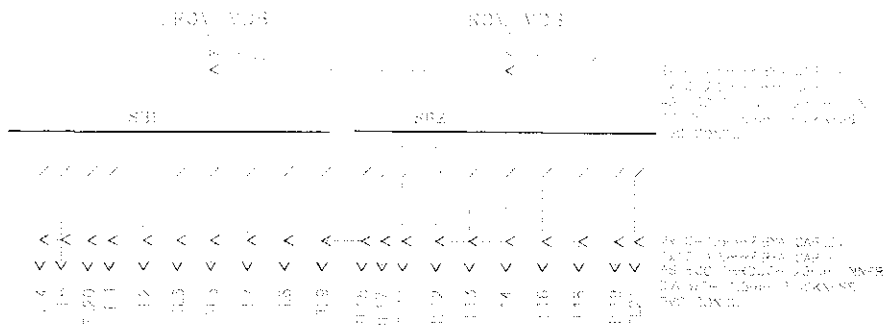


ROOF PLAN (OPTION-1)

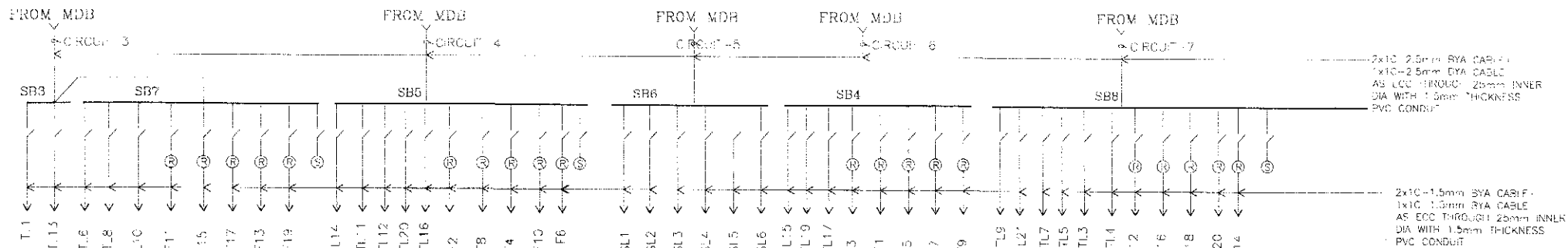
**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option -01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14 15/NW-03-A & B	Unique ID : School Code : Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	ELECTRICAL FITTINGS AND CONDUIT LAYOUT OF ROOF	Drawn by : Md. Sarawat Hossain Khan Designed by : Md. Joyntal Abedin Checked by : S.M. Nurul Islam Team Leader Date : January, 2019	APPROVED BY : Javed Karim Project Director

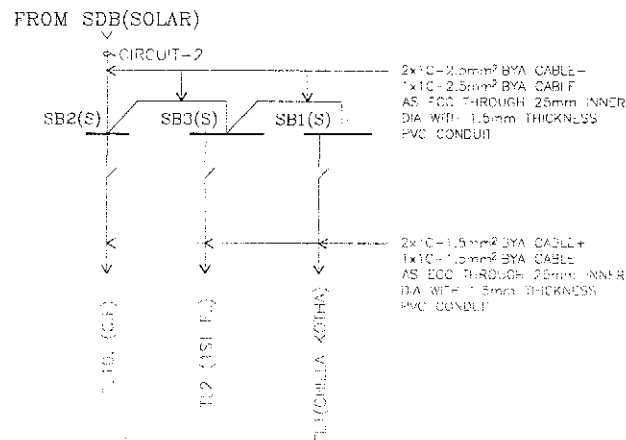
CIRCUIT DIAGRAM OF GROUND FLOOR



CIRCUIT DIAGRAM OF FIRST FLOOR



SOLAR CIRCUIT DIAGRAM FOR G.F. 1ST. & CHILA KOTHA



TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option -01 Upazila : Chittagong District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	CIRCUIT DIAGRAM OF GROUND AND FIRST FLOOR	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Joyntal Abedin Checked by : S.M. Nurul Islam Team Leader : Date : January, 2019	APPROVED BY : Javed Karim Project Director

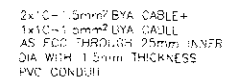
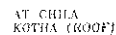


Diagram illustrating a 1000V busbar system with 10 busbars and 10 circuit breakers.

Busbar Details:

- SPN&E, 80A, COPPER BUSBAR
- 230V
- 10A SP MCB (10 busbars)

Circuit Breaker Details:

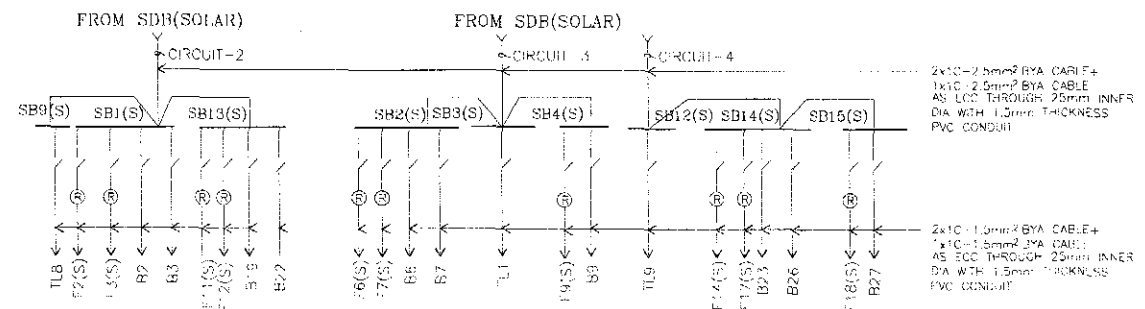
- CIRCUIT 1
- CIRCUIT 2
- CIRCUIT 3
- CIRCUIT 4
- CIRCUIT 5
- CIRCUIT 6
- CIRCUIT 7
- CIRCUIT 8
- CIRCUIT 9
- CIRCUIT 10

Other Components:

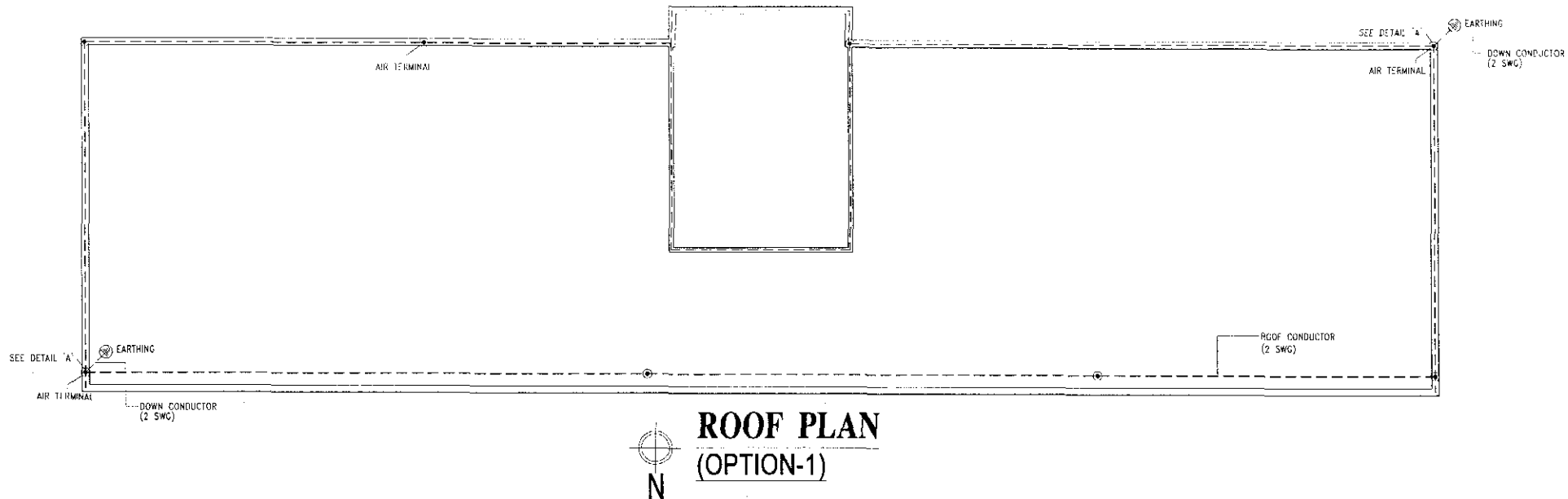
- FROM MDB
- 40A SP MCB
- SDB (Supporting Device)
- PVC CONDUIT

Legend:

- 2x10-2.5mm² BYA Cable+ 1x10-2.5mm² PVC Insulated green/green-yellow colour cable
- AS ECC THROUGH 25mm INNER DIA WITH 1.5mm THICKNESS PVC CONDUIT

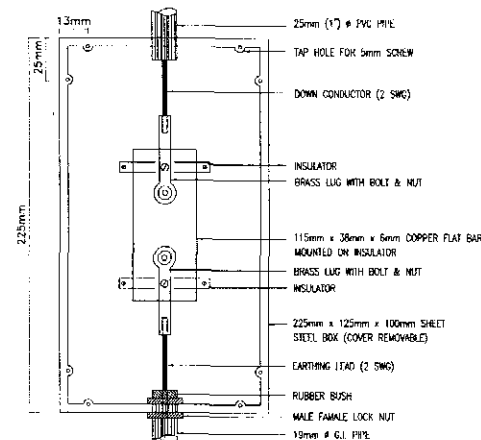
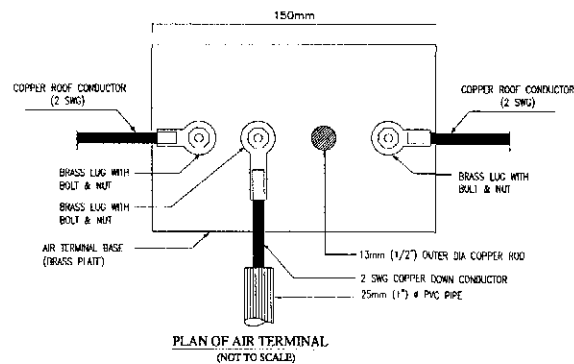
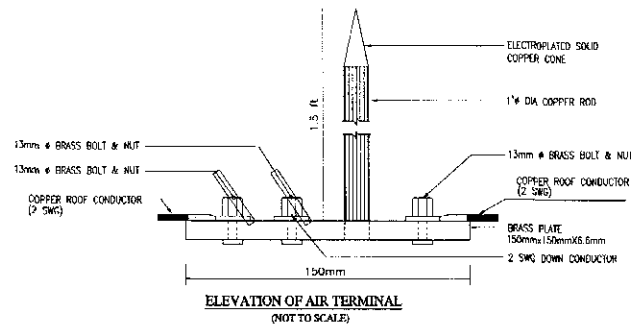
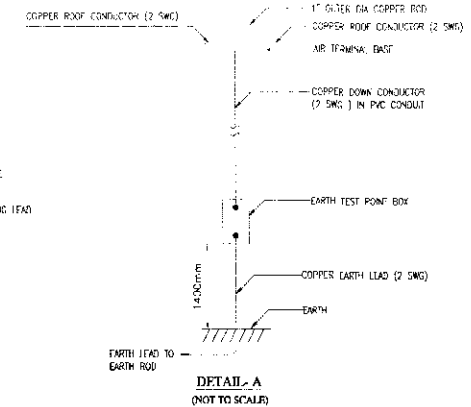
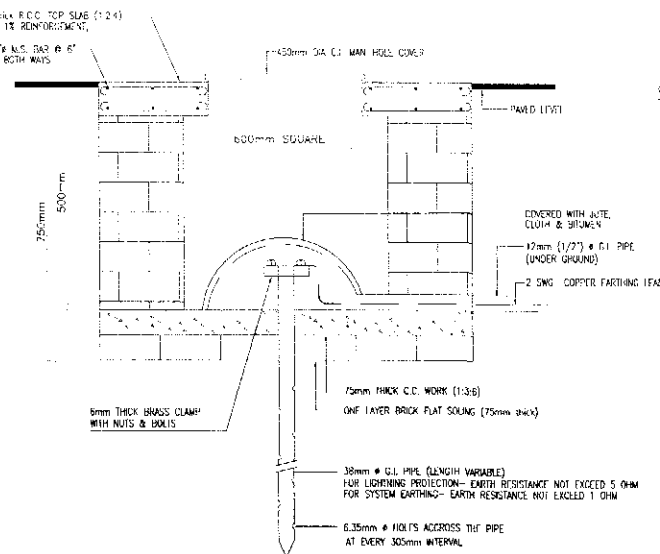
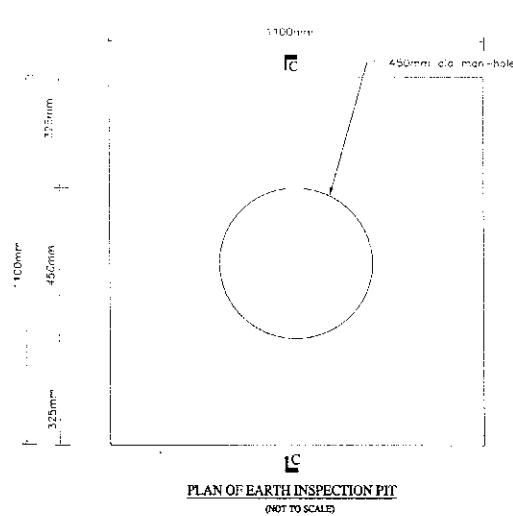


PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	REV. NO.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option -01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14 15/NW 03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	CIRCUIT DIAGRAM OF 2ND FLOOR Drg. No. : MDSP/E - 01 Sheet No. : E - 08 Date : January, 2019	Drawn by : Md. Saewar Hossain Khan Designed by : Md. Joyanal Abedin Checked by : S.M. Nurul Islam Team Leader Susit Somasiri	APPROVED BY : Javed Karim Project Director



**TENDER DRAWING
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PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option -01 Type : Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Joyrat Abedin Checked by : S.M. Nurul Islam Team Leader : Date : January, 2019		APPROVED BY : Javed Karim Project Director

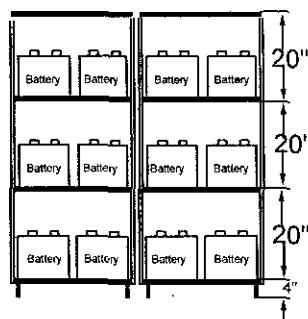


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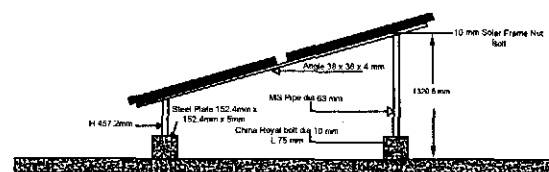
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option -01 Type : Upazila District : Chittagong Package : LGED/MOSP/CH/14 15/NW-03-A & B	Government of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	Lightning Protection System (Sheet 3 of 3)	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Joydul Abedin Checked by : S.M. Nurul Islam Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
Funded by World Bank				Fig. No. : MDSP/E - 01 Sheet No. : F - 11 Date : January, 2019			



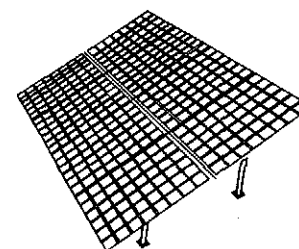
Fig: Block Diagram of Solar Power System



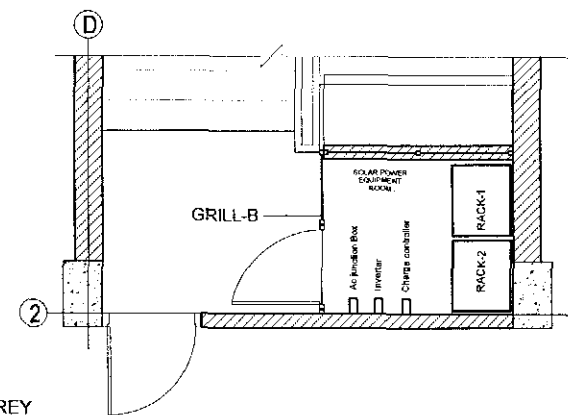
BATTERY RACK - 1 & 2 (EQUAL SIZE)



SOLAR MODULE MOUNTING
STRUCTURE DESIGN



ISOMETRIC VIEW OF SOLAR PANEL ARREY



LAYOUT PLAN OF SOLAR POWER EQUIPMENTS

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Unique ID : School Code : Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SOLAR POWER SYSTEM	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Joyanal Abedin Checked by : S.M. Nurul Islam Team leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

SUB SECTION-2D : SANITARY AND PLUMBING DRAWINGS
(STEEL FRAME BUILDING OPTION-1)

CONSULTANTS :

Joint venture of

CDM Smith Inc. USA

Development Design Consultants Ltd.

Bangladesh



FEBRUARY, 2019

**TENDER DRAWING
NOT FOR CONSTRUCTION**

MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

Local Government Engineering Department (LGED)

PLUMBING DRAWINGS FOR STEEL BUILDING

(OPTION-1)

DS Name :

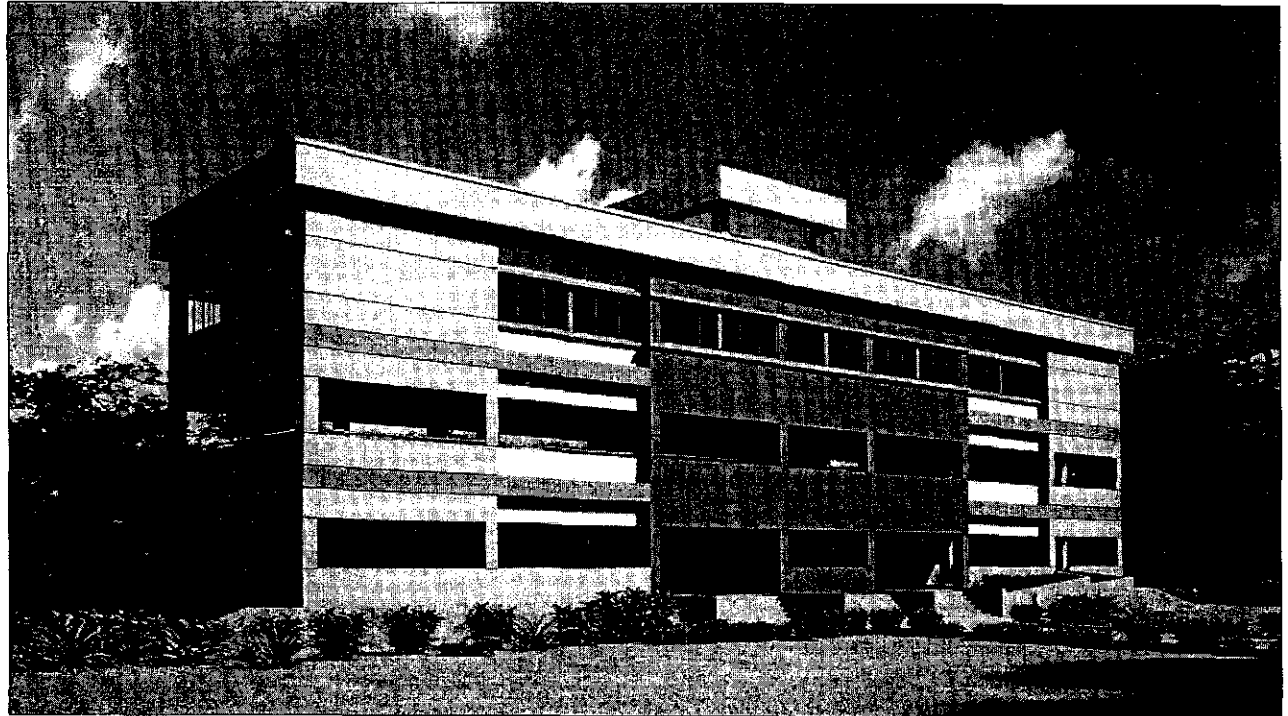
School code :

Database Unique ID :

Upazila :

District : Chittagong

Package No. : LGED/MDSP/CHI/14-15/NW-03-A & B



CONSULTANTS :

Joint venture of

CDM Smith Inc. USA

Development Design Consultants Ltd.

Bangladesh



TENDER DRAWING
NOT FOR CONSTRUCTION

JANUARY, 2019

**PIUMBING DRAWING LIST FOR
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank (Option - 01)**

SL. NO. SHEET NO. DRAWING TITLE

0		COVER PAGE
01	PD - 0	DRAWING LIST
02	PD - 00	PLUMBING NOTE & LEGEND
03	PD - 01	LAYOUT OF RAIN WATER PIPE LINE , WASTE DISPOSAL PIPES & SEPTIC TANK OF OPTION-01 (GR. FLOOR)
04	PD - 02	LAYOUT OF WASTE DISPOSAL & WATER DISTRIBUTION PIPES OF OPTION-01 (1ST. FLOOR)
05	PD - 03	LAYOUT OF WASTE & SOIL PIPES & WATER SUPPLY DISTRIBUTION PIPES OF OPTION-01 (2ND FLOOR)
06	PD - 04	ROOF PLAN OF BUILDING (OPTION-01)
07	PD - 05	ROOF AND CHILAKOTHA ROOF PLAN OF BUILDING (OPTION - 01)
08	PD - 06	TOILET PLAN AND PUNCH LAYOUT FOR 2nd FLOOR TOILET (SIDE- X)
09	PD - 07	SOIL , WASTE WATER DISPOSAL AND WATER SUPPLY LAYOUT PLAN FOR 2nd FLOOR TOILET (SIDE- X)
10	PD - 08	TOILET PLAN AND PUNCH LAYOUT FOR 2nd FLOOR TOILET (SIDE- Y)
11	PD - 09	SOIL , WASTE WATER DISPOSAL AND WATER SUPPLY LAYOUT PLAN FOR 2nd FLOOR TOILET (SIDE- Y)
12	PD - 10	STANDARD DETAIL FOR WATER SUPPLY PIPING OF UNDER GROUND & CHILAKOTHA ROOF TANK
13	PD - 11	100USERS SEPTIC TANK (2NOS) & SOAK WELL (3NOS) PLAN AND SECTION
14	PD - 12	PLUMBING FIXTURE & FITTING DETAILS
15	PD - 13	DETAIL OF INSPECTION PIT
16	PD - 14	No.6 PUMP (HAND T/W) - 290m DEPTH (GROUND FLOOR)
17	PD - 15	MN HAND PUMP ASSEMBLY DRAWING -290m DEPTH (1ST FLOOR)
16	PD - 16	SUBMERSIBLE PUMP 305m DEPTH

**TENDER DRAWING
NOT FOR CONSTRUCTION**

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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : District : Chittagong Package : LGED/MDSP/CHI/14-15/NW-03-A & B	Unique ID : School Code : Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DRAWING LIST Org. No : MDSP/ PD - OPT.01 Sheet No. : PD - 0 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Hasan Checked by : Dr. S.M. Parvez Mohit Team Leader Susi Somasiri	APPROVED BY : Javed Karim Project Director

PLUMBING NOTE & LEGEND :-

THE DRAWINGS OF THE CONTENTS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, STRUCTURAL AND OTHER RELATED DRAWINGS.

NOTE :

- All Internal and External Sewerage pipe shall be uPVC or as specified in BOQ
- Minor Change of Location of Pipe to be Adjusted as per Site Condition.
- Minor Change of Location of Toilet Fittings to be Adjusted as per Site Condition.

SPECIAL NOTE :

Drain pipes shall be allowed to following gradients unless otherwise specified or shown in the drawings :

Size of pipe	Soil pipe	Rain or Waste water pipe
100 mm dia	1 in 40 to 100	1 in 60 to 100
150 mm dia	1 in 60 to 250	1 in 90 to 250
200 mm dia	1 in 100 to 500	1 in 150 to 1000

INSTALLATION LEVEL OF PLUMBING FIXTURES

Plumbing fixtures shall have the following height measured from finished floor level except where indicated in the drawing or instructed.

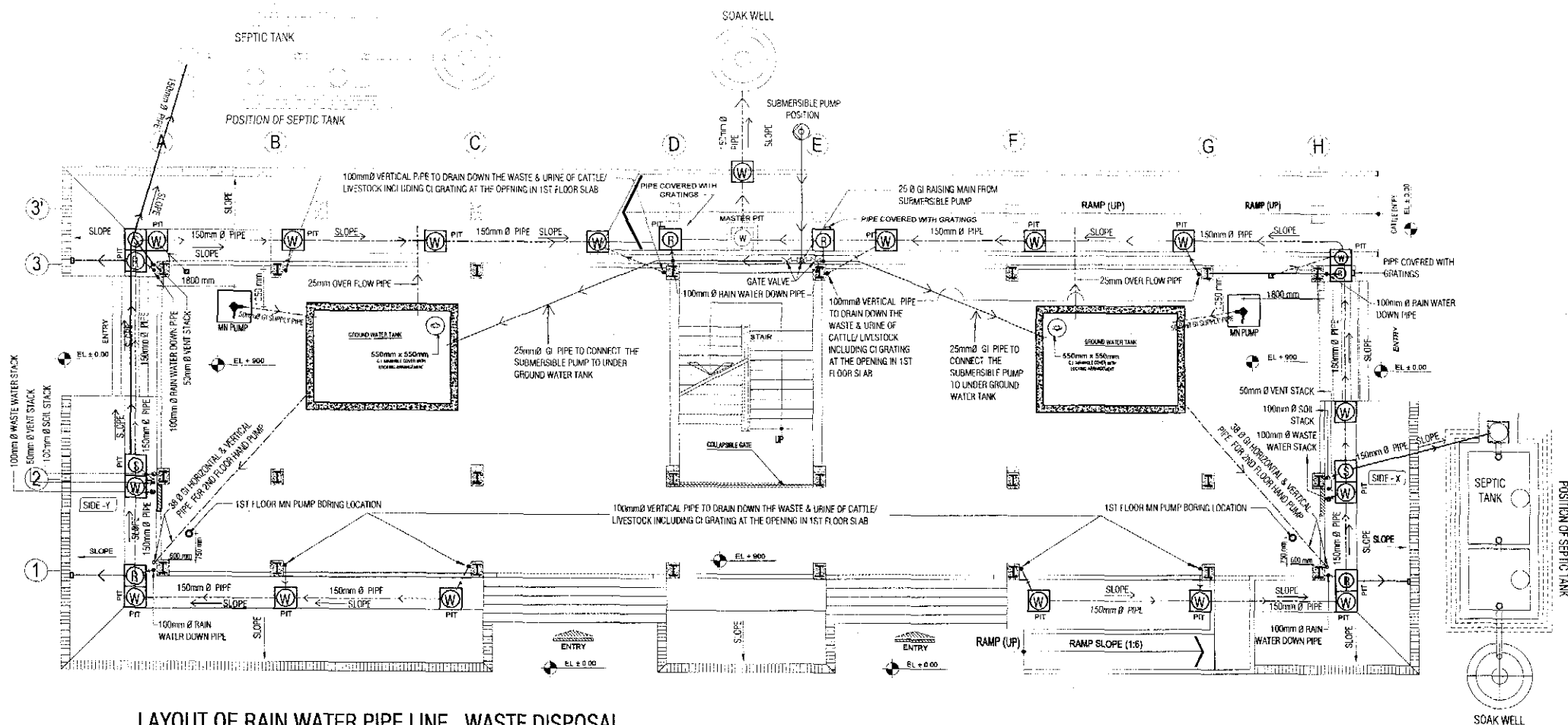
SL.NO.	NAME OF FIXTURES	HEIGHT IN MM. FROM F.F LEVEL
1.	WASH BASIN (TOP)	750 mm.
2.	GLASS SHELF WITH RAIL (SHELF LEVEL)	1000 mm.
3.	MIRROR (BOTTOM LEVEL)	1200 mm.
4.	SHOWER HEAD	1725 mm.
5.	STOP COCK FOR SHOWER (CENTER LINE)	1350 mm.
6.	BIB COCK BELOW SHOWER (CENTER LINE)	500 mm.
7.	SOAP HOLDER	300/750mm.
8.	TOWEL RAIL	1500 mm.
9.	LOW DOWN CISTERN (TOP LEVEL)	775 mm.
10.	C.I CISTERN (BOTTOM EDGE)	1725 mm.
11.	TOILET PAPER HOLDER (RAIL)	500 mm.
12.	BIB COCK NEAR W.C. (CENTER LINE)	300 mm.
13.	KITCHEN SINK (TOP)	750 mm.
14.	SINK TOP (CENTER LINE)	750 mm.
15.	BIB COCK IN WASHING SPACE (CENTER LINE)	375 mm.
16.	ALL FAUCET POINT LEVEL FOR WC, BT, SINK, LOWDOWN ETC.	375 mm.

PIUMBING LEGEND :

PIPE:		FLOOR DRAIN (FD)	URINAL	WASTE WATER PIPE (WWP)	SURFACE DRAIN
VENT STACK (VS)		WASH BASIN (WB)	SHOWER POINT	SOIL PIPE (SP)	GATE VALVE
WASTE WATER STACK (WWS)		LONG PAN (LP)	SOAP TRAY	VENT PIPE (VP)	REDUCER
SOIL STACKE (SS)		WATER CLOSET (WC)	TOWEL RAIL	COLD WATER SUPPLY (CWS)	ELBOW
WATER SUPPLY DOWN PIPE (WSDP)			BURNER	HOT WATER SUPPLY (HWS)	TOILET PAPER HOLDER
RAIN WATER DOWN PIPE (RWDP)			KITCHEN SINK	STORM DRAINAGE PIPE	

TENDER DRAWING
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MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PLUMBING NOTE & LEGEND Org. No. : MDSP/PD - OPT-01 Sheet No. : PD - 00 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Susil Somasiri		APPROVED BY : Javed Karim Project Director

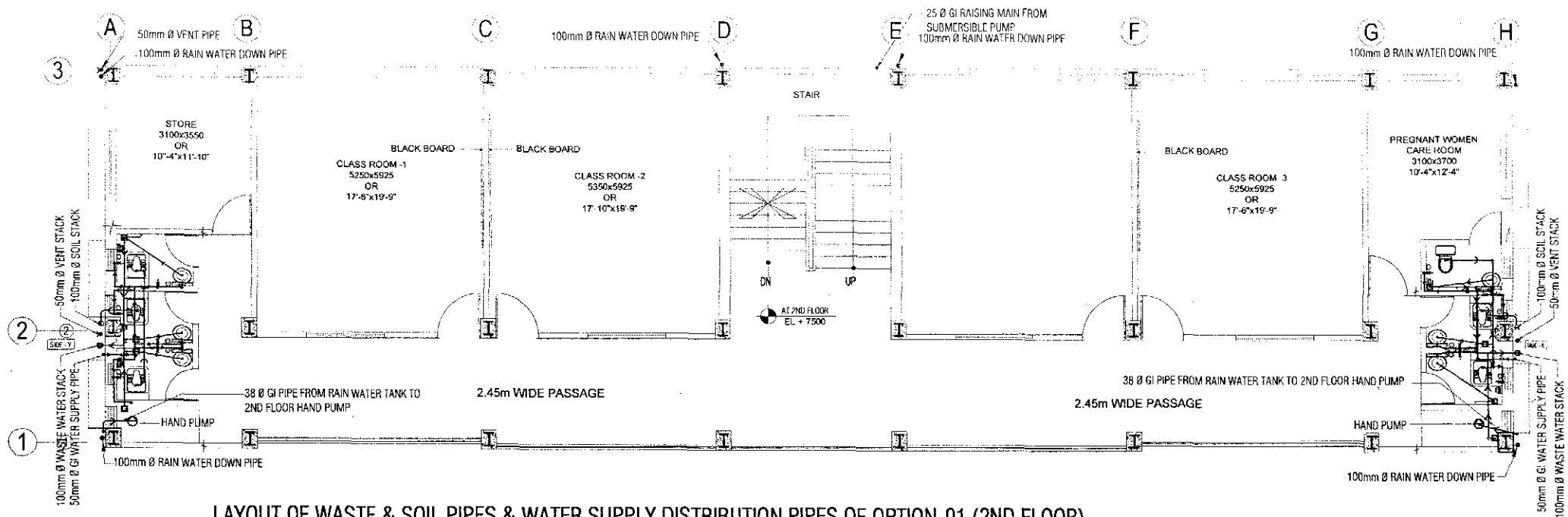


**LAYOUT OF RAIN WATER PIPE LINE , WASTE DISPOSAL
PIPES & SEPTIC TANK OF OPTION-1 (GR. FLOOR)**

- (a) SUFFICIENT CLAMP MUST BE PROVIDED.
(b) ALL 100mm Ø RAIN WATER DOWN PIPE OUTLET
COVERED WITH GRATINGS.

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Upazila : District : Chittagong Package : EGED/MOSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	LAYOUT OF RAIN WATER PIPE LINE , WASTE DISPOSAL PIPES & SEPTIC TANK OF OPTION-1 (GR. FLOOR) Drg. No. : MOSP/ PD - OPT.01 Sheet No. : PD - 01 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahsan Checked by : Dr. S.M. Parvez Mohit Team Leader Susil Somasiri	APPROVED BY : Javed Karim Project Director



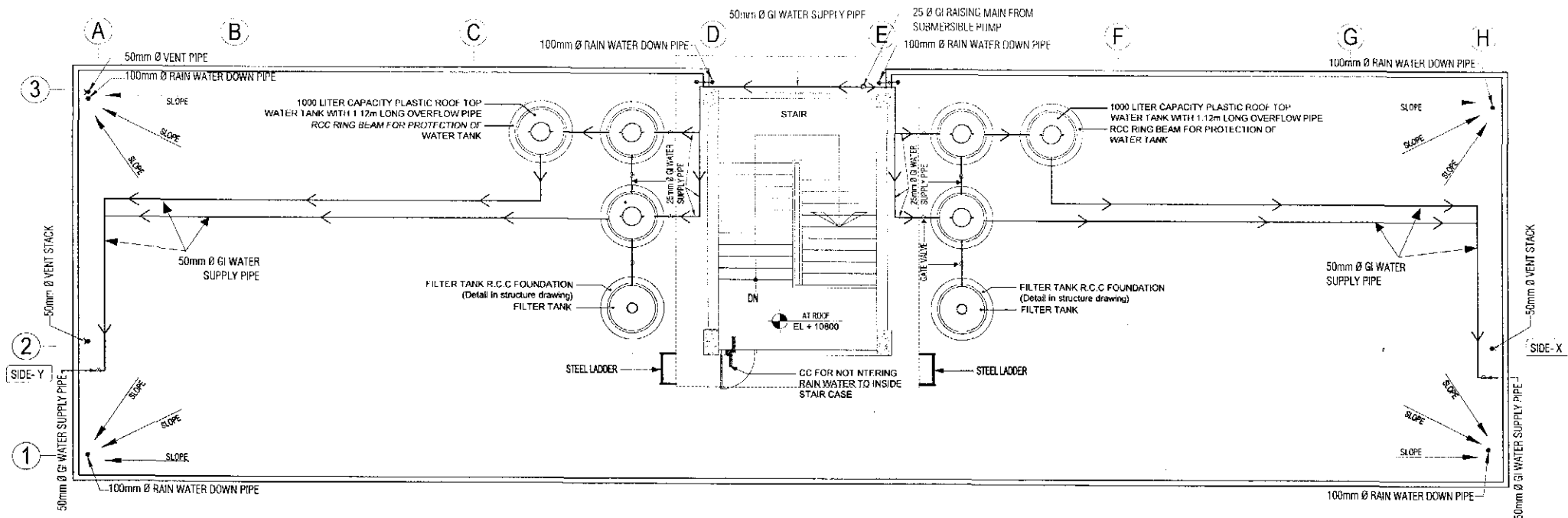
LAYOUT OF WASTE & SOIL PIPES & WATER SUPPLY DISTRIBUTION PIPES OF OPTION-01 (2ND FLOOR)

NOTE:

TOILET PAN SHOULD BE IN THE DIRECTION OF NORTH -SOUTH

TENDER DRAWING
NOT FOR CONSTRUCTION

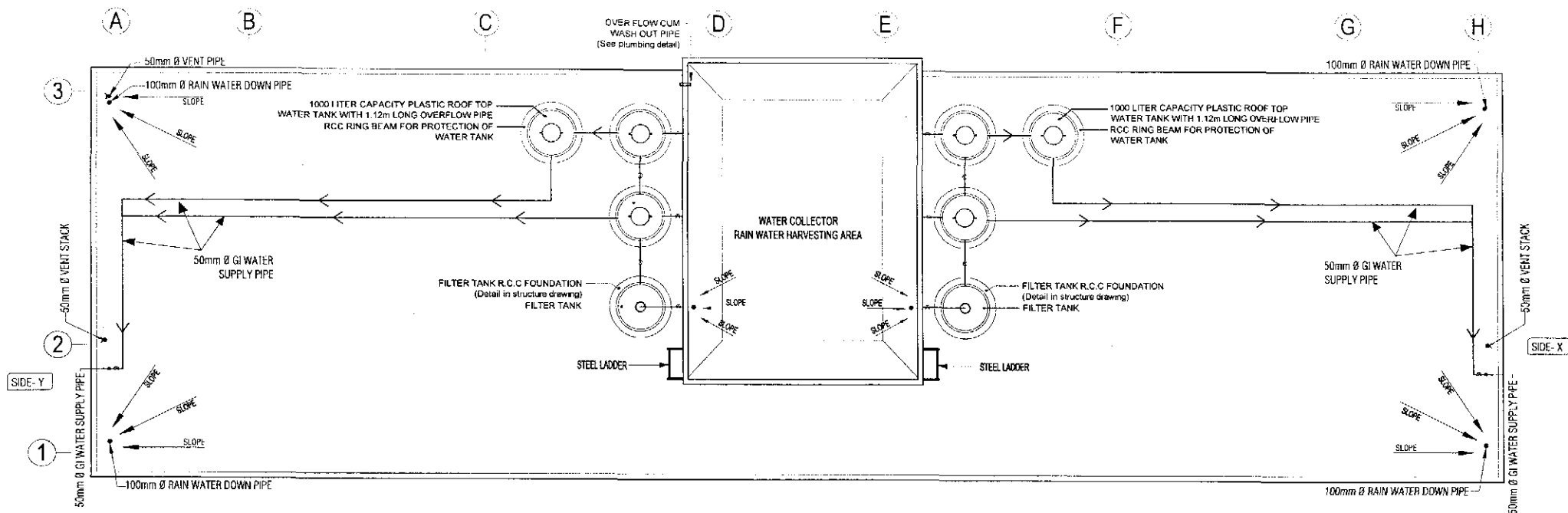
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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/RW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	LAYOUT OF WASTE & SOIL PIPES & WATER SUPPLY DISTRIBUTION PIPES OF OPTION-01 (2ND FLOOR)	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
				Org. No. : MDSP/ PD - OPT-01 Sheet No. : PD - 03 Date : January, 2019			



ROOF PLAN OF BUILDING (OPTION-1)

TENDER DRAWING
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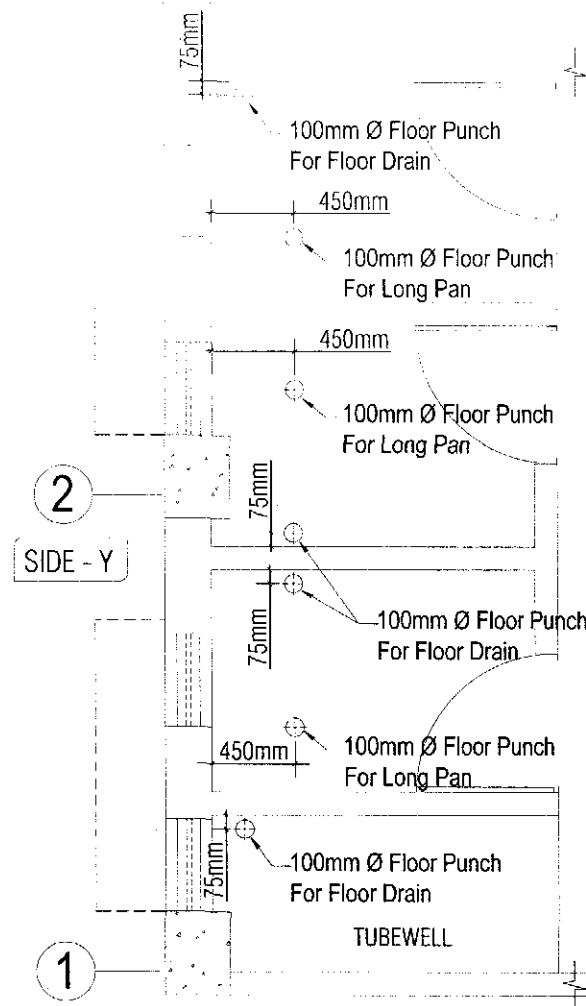
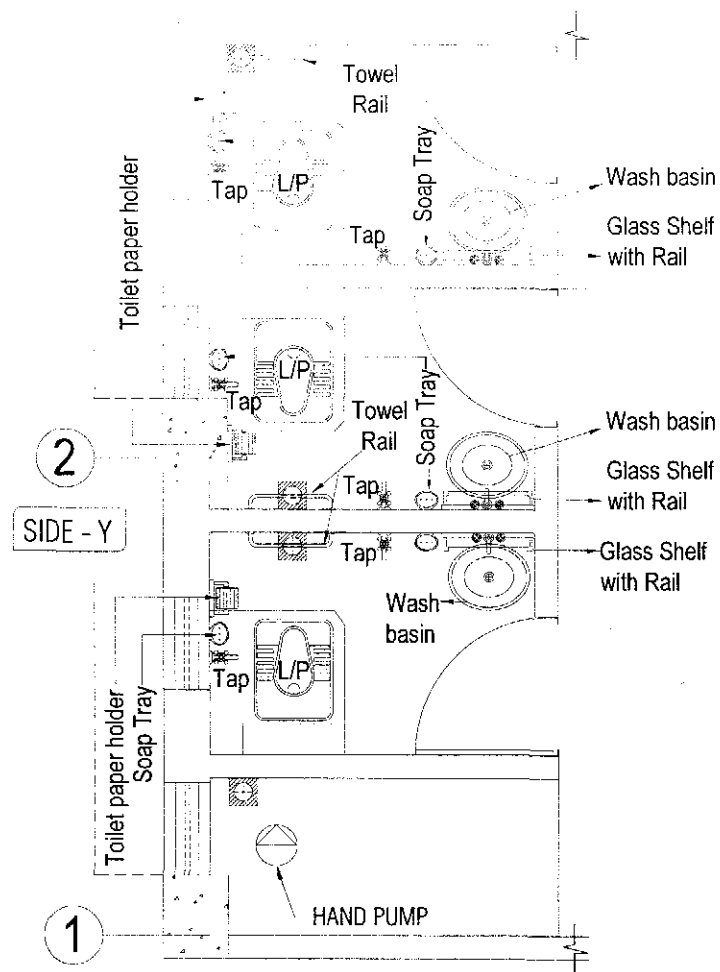
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Upazila : Chittagong District : Package : LGED/MDSP/CH/14-15/NW-03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of IGRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Hasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Sustil Somasiri		APPROVED BY : Javed Karim Project Director
				ROOF PLAN OF BUILDING (OPTION-1) Org. No. : MDSP/PD - OPT.01 Sheet No. : PD - 04 Date : January, 2019			



ROOF AND CHILAKOTHA ROOF PLAN OF BUILDING (OPTION - 1)

TENDER DRAWING
NOT FOR CONSTRUCTION

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MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option-01 Type : Upazila : District : Chittagong Package : LGED/MDSP/CHI/14 15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	ROOF AND CHILAKOTHA ROOF PLAN OF BUILDING (OPTION - 1)	Drawn by : Md. Sarwar Hossain Khan		APPROVED BY :
Funded by World Bank		Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)		Drig. No. : MDSP/PD - OPT.01 Sheet No. : PD - 05 Date : January, 2019	Designed by : Md. Towhid Ahsan Checked by : Dr. S.M. Parvez Mohit Team Leader : Sustil Somasiri		Javed Karim Project Director



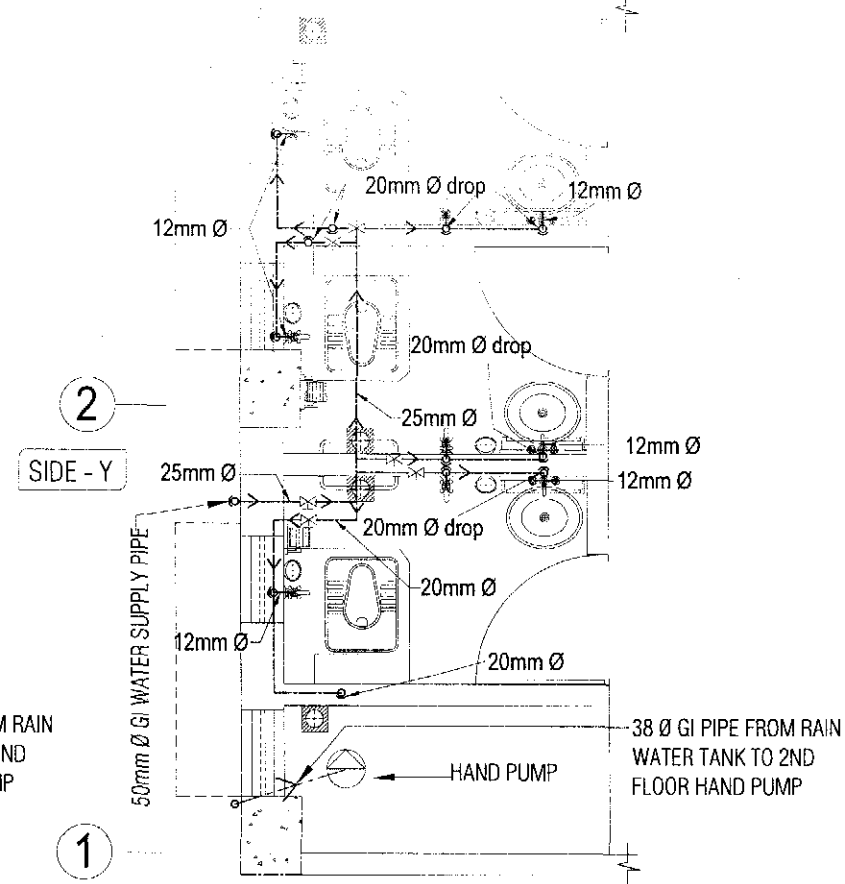
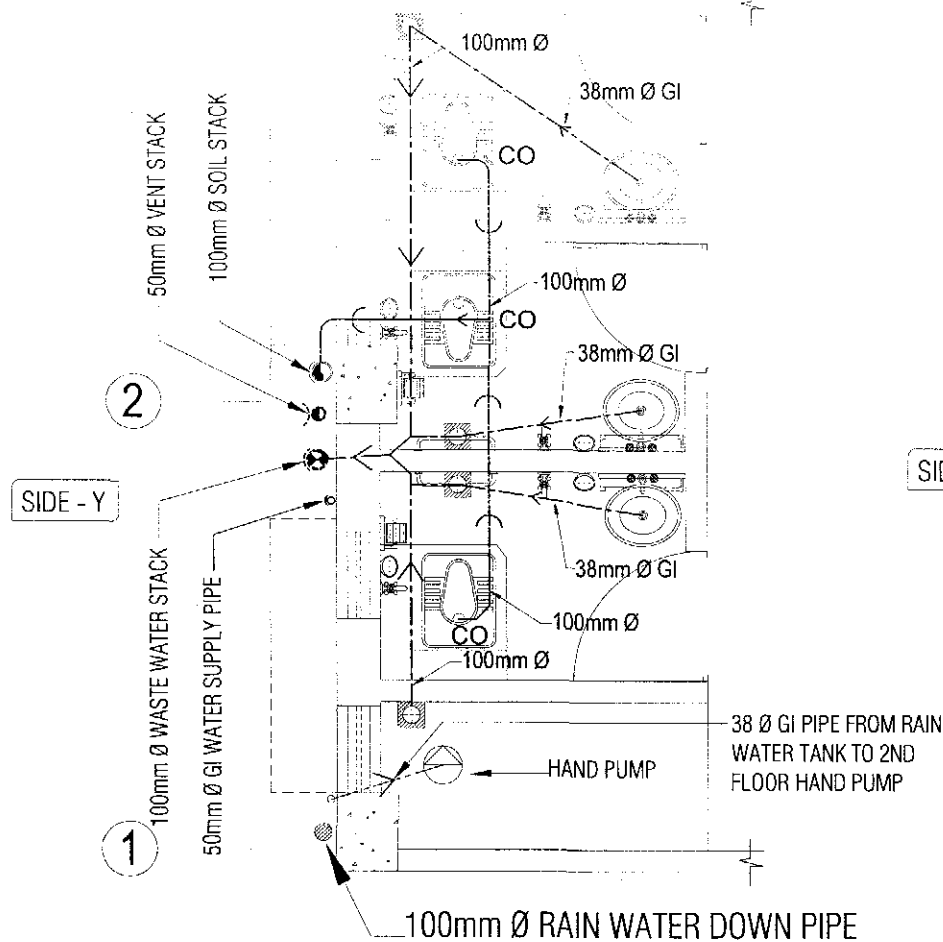
TOILET PLAN AND PUNCH LAYOUT FOR 2nd FLOOR TOILET (SIDE - Y)

NOTE:

TOILET PAN SHOULD BE IN THE DIRECTION OF NORTH-SOUTH

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. / Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 District : Chittagong Package : LGED/MDSP/CHI/14 15/NW 03 A & B	Government of Peoples Republic of Bangladesh	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	TOILET PLAN AND PUNCH LAYOUT FOR 2nd FLOOR TOILET (SIDE - Y) Orig. No. : MDSP/PD OPT.01 Sheet No. : PD - 06 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahsan Checked by : Dr. S.M. Parvez Mohit Team Leader : Sunit Somasri	APPROVED BY : Javed Karim Project Director



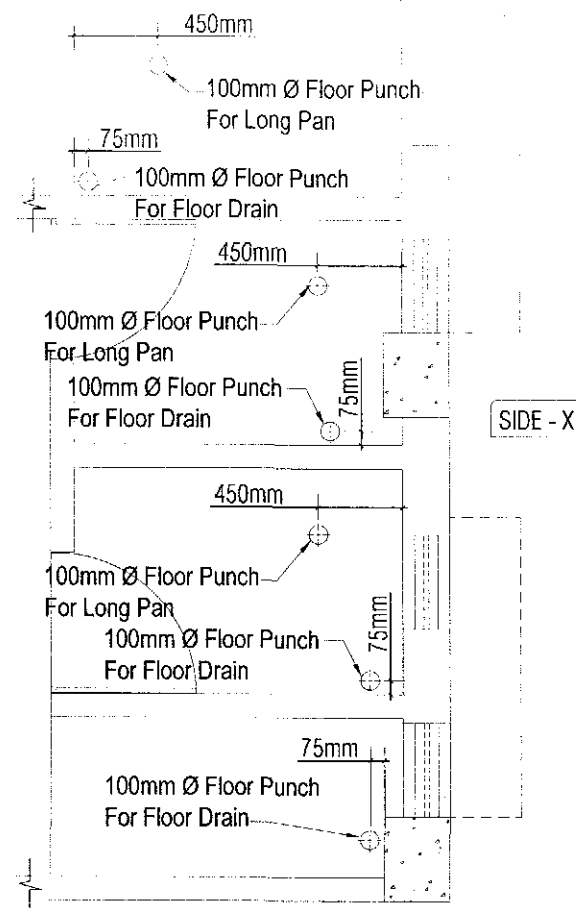
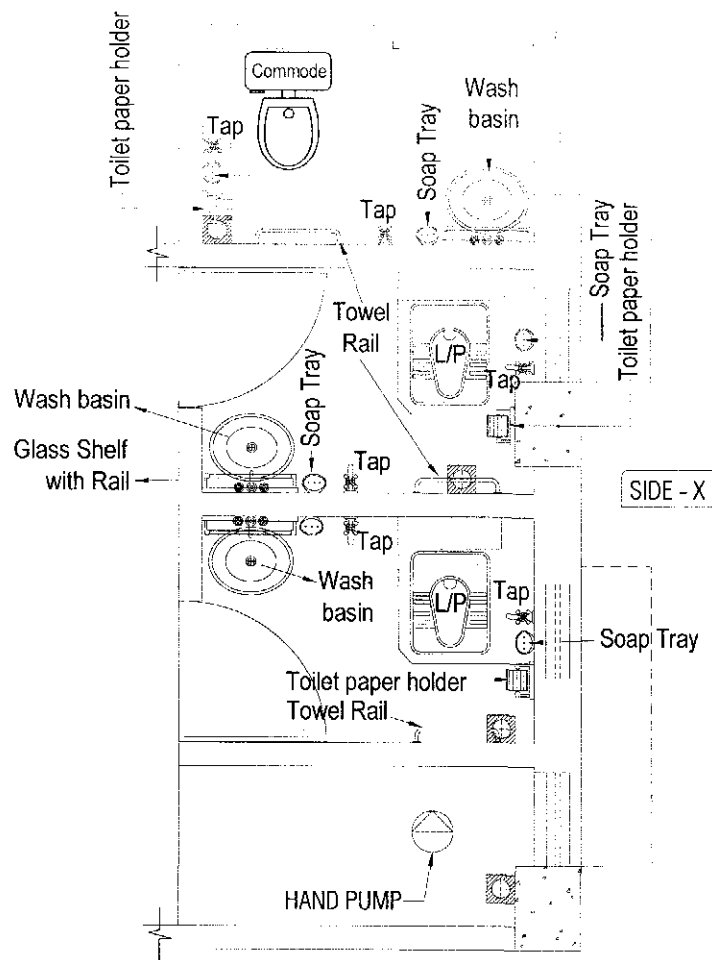
SOIL , WASTE WATER DISPOSAL AND WATER SUPPLY LAYOUT PLAN FOR 2nd FLOOR TOILET (SIDE - Y)

NOTE:

TOILET PAN SHOULD BE IN THE DIRECTION OF NORTH-SOUTH

TENDER DRAWING
NOT FOR CONSTRUCTION

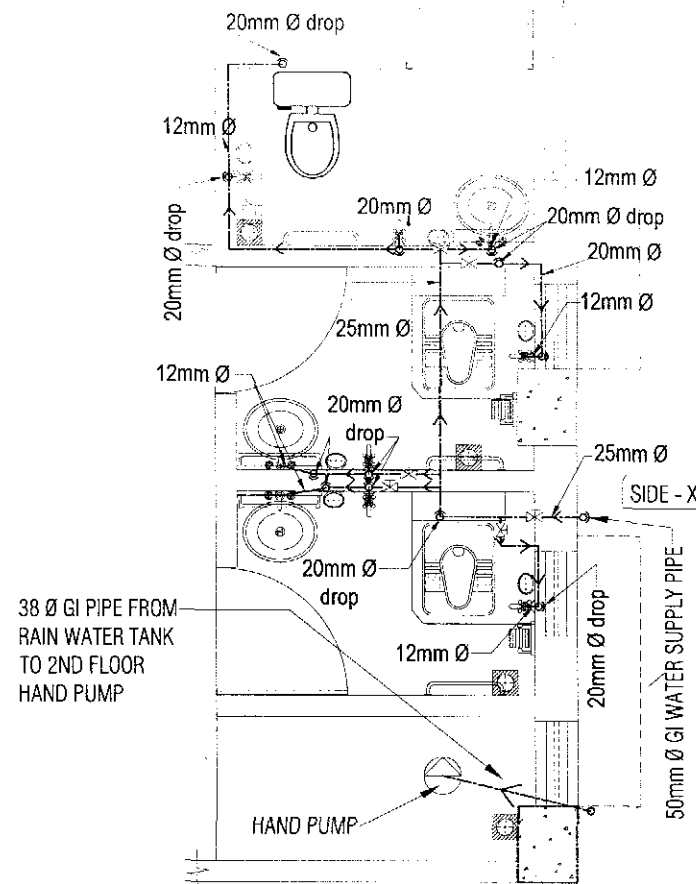
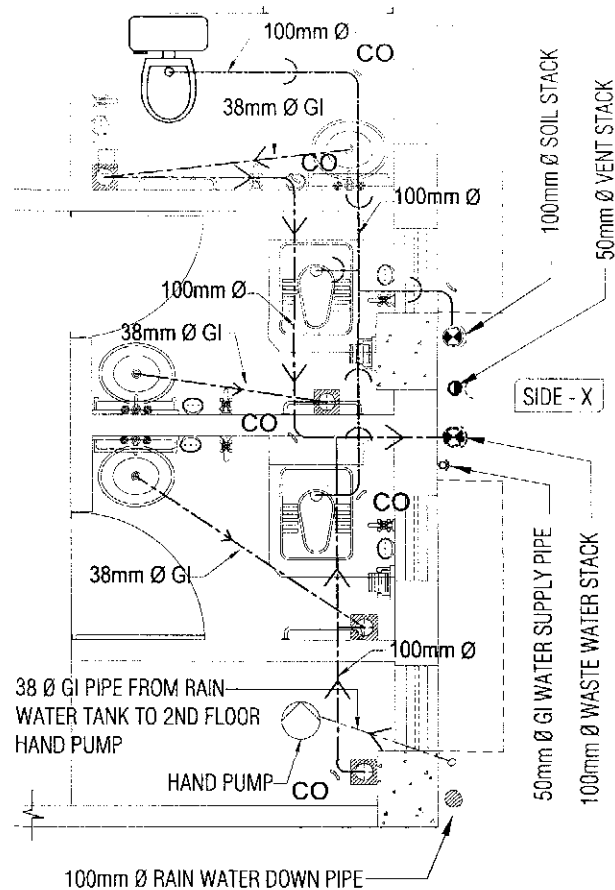
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. :	Date :	Description :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : Option-01 Type : Option-01 Upazila : Chittagong District : Chittagong Package : LGED/MDSP/CHI/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of COM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SOIL , WASTE WATER DISPOSAL AND WATER SUPPLY LAYOUT PLAN FOR 2nd FLOOR TOILET (SIDE - Y)	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Alasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
Funded by World Bank				Drg. No. : MDSP/PD - OPT.01 Sheet No. : PD - 07 Date : January, 2019			



**TENDER DRAWING
NOT FOR CONSTRUCTION**

TOILET PLAN AND PUNCH LAYOUT FOR 2nd FLOOR TOILET (SIDE - X)
NOTE:
 TOILET PAN SHOULD BE IN THE DIRECTION OF NORTH-SOUTH

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Unique ID : School Code : Upazila : District : Chittagong Package : LGED/MDSP/CHU/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LCIRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	TOILET PLAN AND PUNCH LAYOUT FOR 2nd FLOOR TOILET (SIDE - X)	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Date : January, 2019	APPROVED BY : Javed Karim Project Director



SOIL , WASTE WATER DISPOSAL AND WATER SUPPLY LAYOUT PLAN FOR 2nd FLOOR TOILET (SIDE - X)

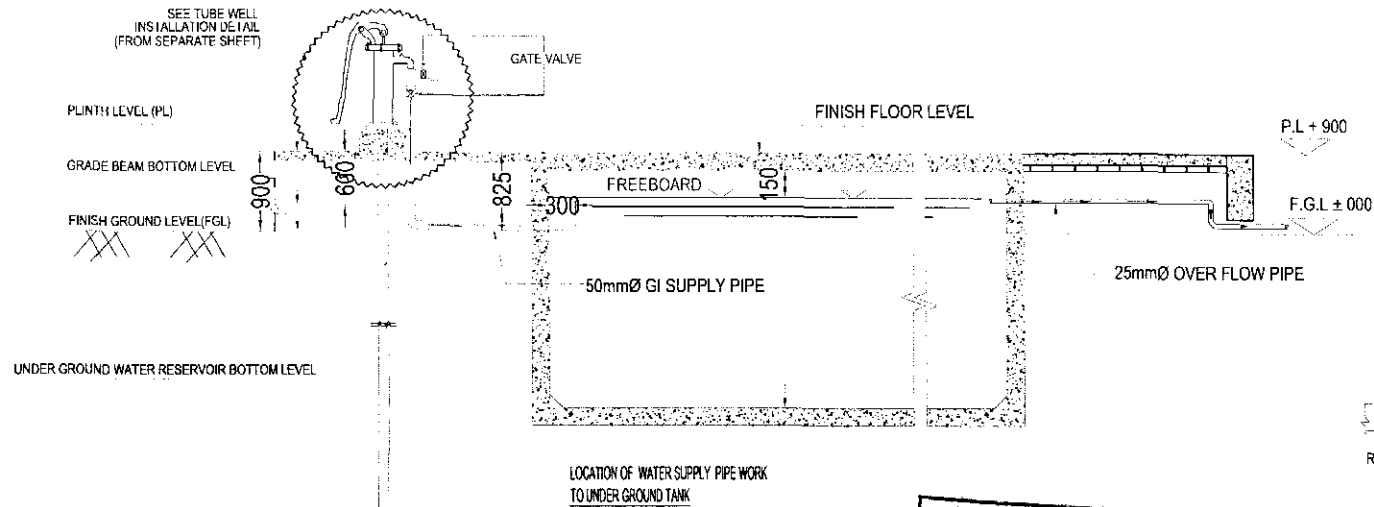
NOTE:

TOILET PAN SHOULD BE IN THE DIRECTION OF NORTH-SOUTH

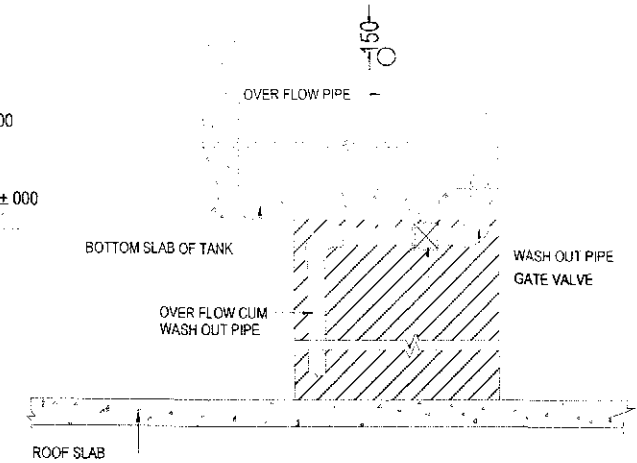
TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CHI/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	SOIL , WASTE WATER DISPOSAL AND WATER SUPPLY LAYOUT PLAN FOR 2nd FLOOR TOILET (SIDE - X)	Drawn by : Md. Sarwar Hussain Khan Designed by : Md. Towhid Ahasan Checked by : Dr. S.M. Parvez Mohit Team Leader Date : January, 2019	APPROVED BY : Javed Karim Project Director

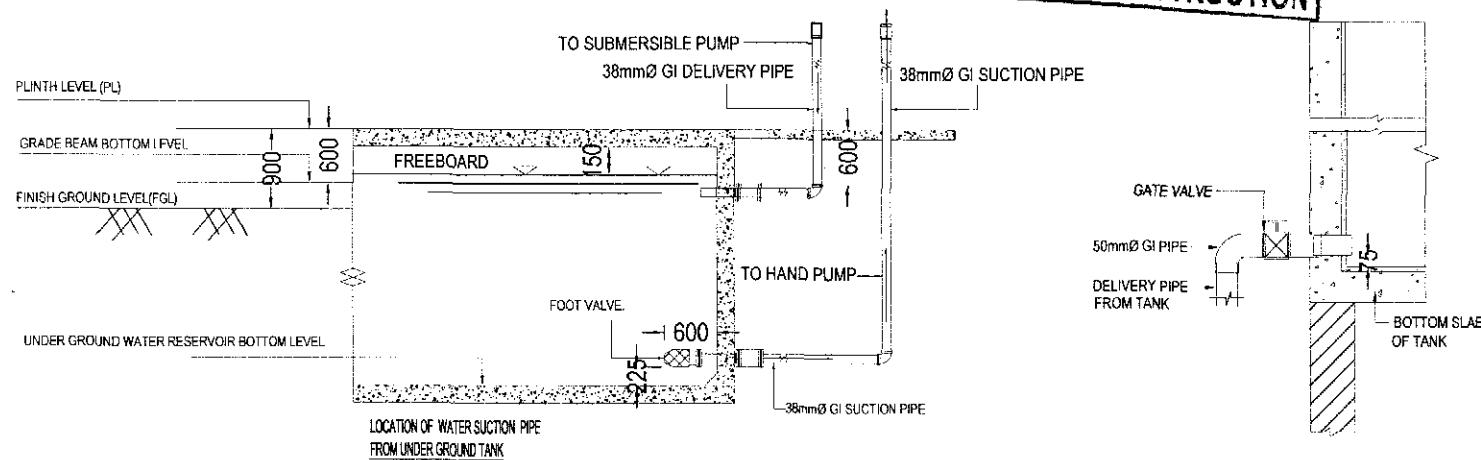
TUBE WELL CONNECTION DETAIL



CHILAKOTHA CONNECTION DETAIL

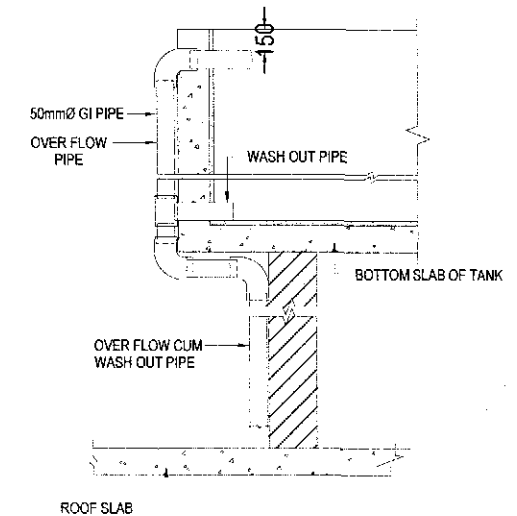


DETAIL OF OVER FLOW CUM WASH OUT PIPE IN CHILAKOTHA ROOF TOP RCC TANK (FRONT VIEW)



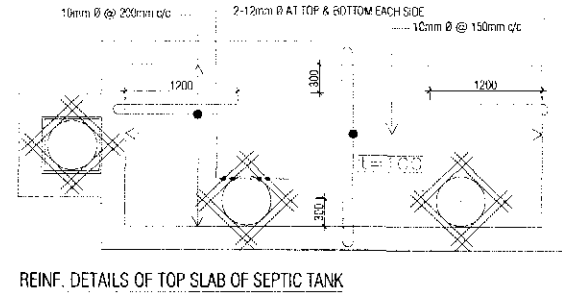
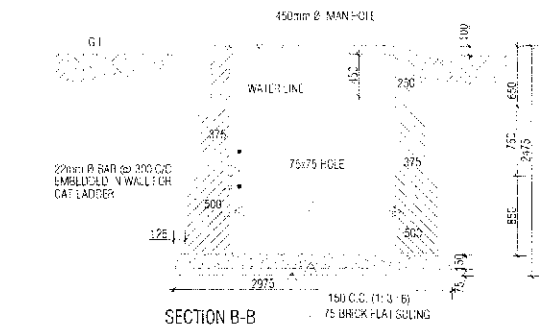
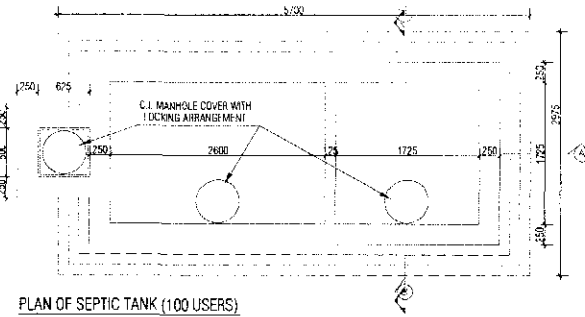
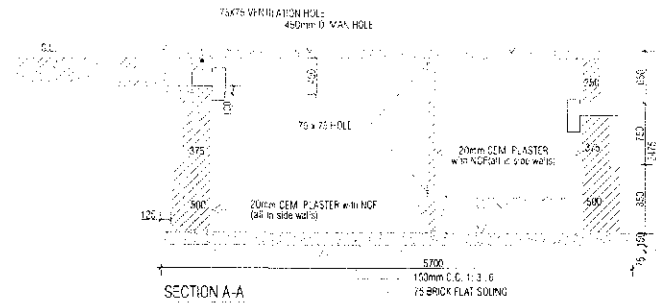
STANDARD DETAIL FOR WATER SUPPLY PIPING OF UNDER GROUND & CHILAKOTHA ROOF TANK

DETAIL OF DELIVERY PIPE IN ROOF TOP CHILAKOTHA RCC TANK TO FILTER TANK

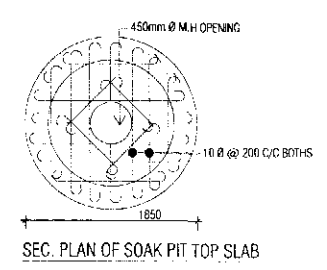
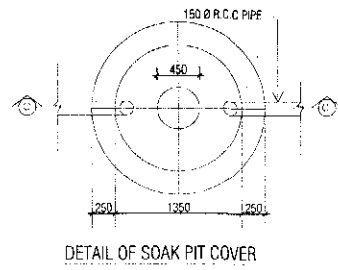
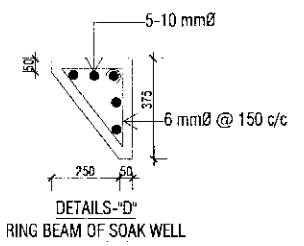
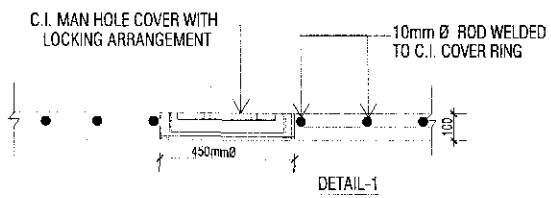
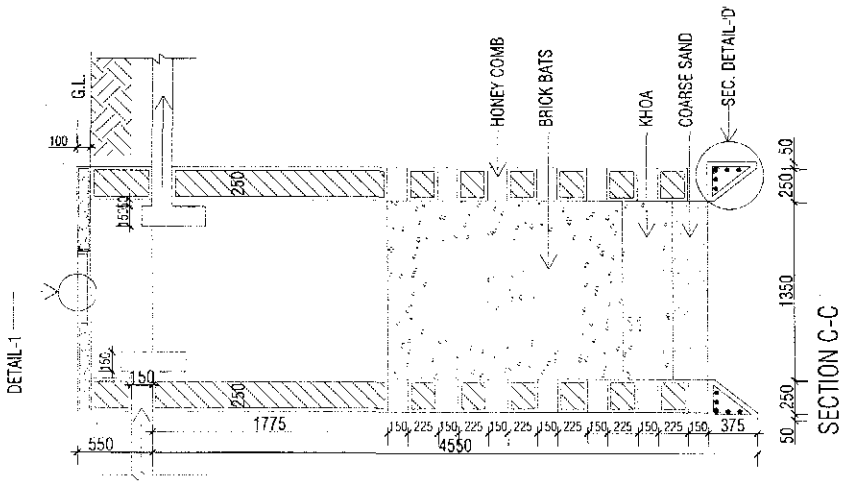


DETAIL OF OVER FLOW CUM WASH OUT PIPE IN CHILAKOTHA ROOF TOP RCC TANK (SIDE VIEW)

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP)	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CHV/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	STANDARD DETAIL FOR WATER SUPPLY PIPING OF UNDER GROUND & CHILAKOTHA ROOF TANK	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahasan Checked by : Dr. No. : MDSP/PD - OPT.01 Sheet No. : PD - 10 Date : January, 2019	APPROVED BY : Javed Karim Project Director



**TENDER DRAWING
NOT FOR CONSTRUCTION**



100USERS SEPTIC TANK (2NOS) & SOAK WELL (3NOS) PLAN AND SECTION

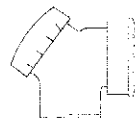
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MOSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MOSP/CH/14-15/NW-03-A & B	Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	100USERS SEPTIC TANK (2NOS) & SOAK WELL (3NOS) PLAN AND SECTION Org. No. : MOSP/PD - OPT.01 Sheet No. : PD - 11 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Susil Somasiri	APPROVED BY :	Javed Karim Project Director



uPVC S-TRAP



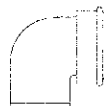
uPVC WYE BRANCH (SINGLE)



DOOR BEND



uPVC TEE BRANCH (SINGLE)

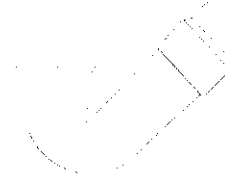


uPVC COMBINATION WYE (SINGLE)

PVC VENT COWL



TOP TILE & STRAINER



uPVC P-TRAP



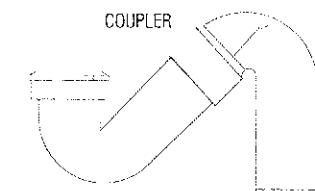
PIPE CLIP



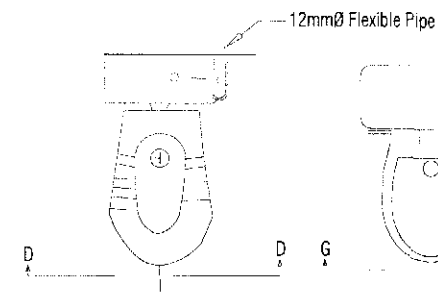
PVC P-TRAP



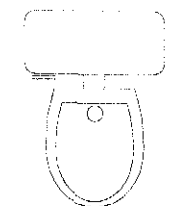
COUPLER



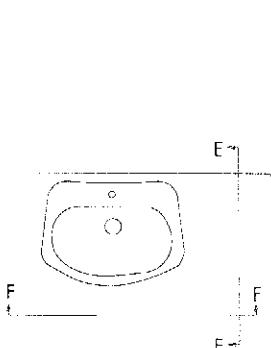
uPVC S-TRAP



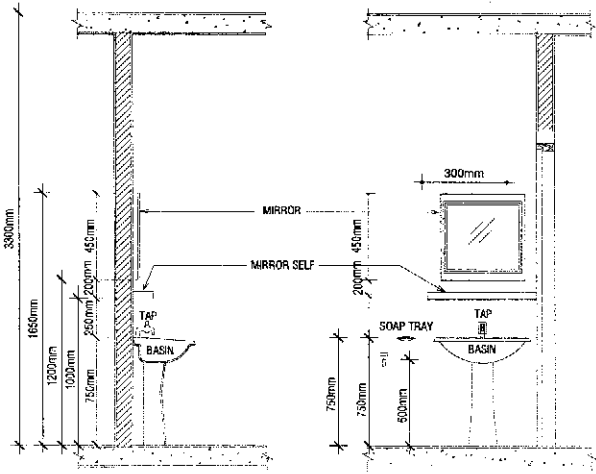
LOW PAN



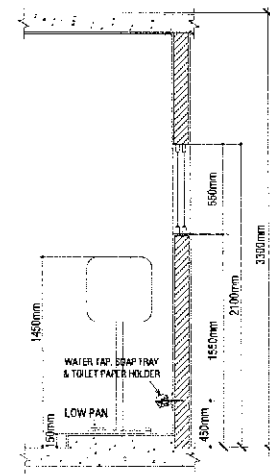
COMMODE



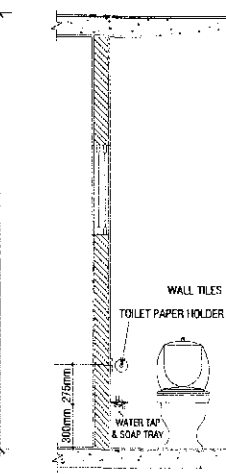
TYPICAL SECTION E-E
BASIN



TYPICAL SECTION F-F
BASIN



TYPICAL SECTION D-D OF
LOW PAN

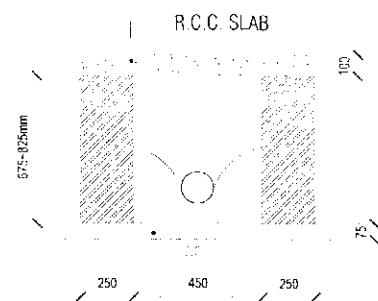


TYPICAL SECTION G-G OF
COMMODE

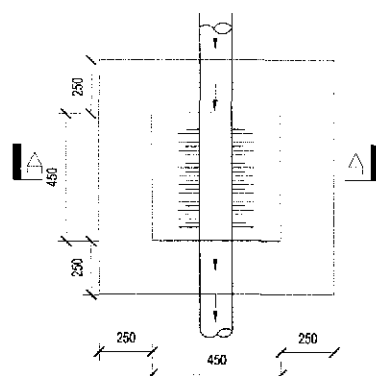
PLUMBING FIXTURE & FITTING DETAILS

TENDER DRAWING
NOT FOR CONSTRUCTION

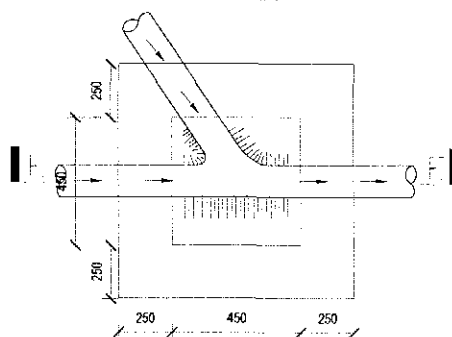
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CHU/14-15/NW-03-A & B	Unique ID : School Code :	Line Ministry : Ministry of IGRD Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	PLUMBING FIXTURE & FITTING DETAILS	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhid Ahasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
				Orig. No. : MDSP/PD - OPT-01 Sheet No. : PD - 12 Date : January, 2018			



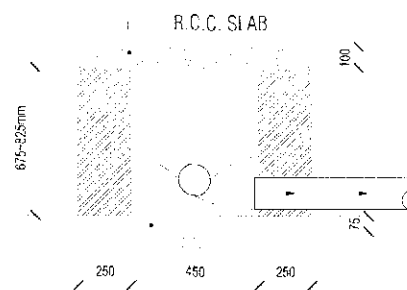
SECTION A-A



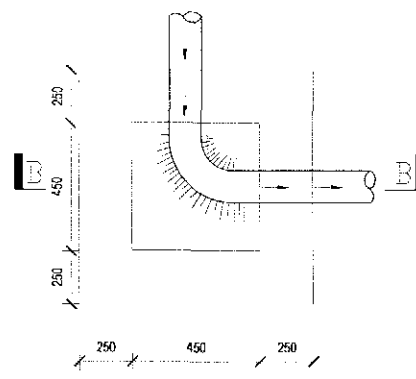
INSPECTION PIT (TYPE-1)



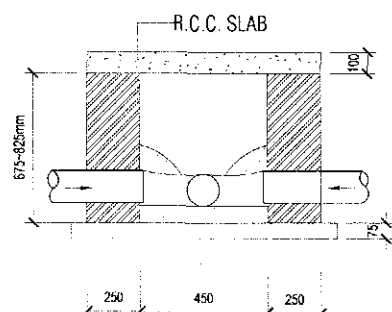
INSPECTION PIT (TYPE-4)



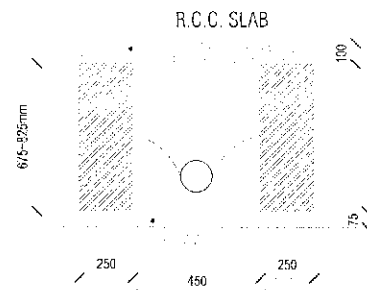
SECTION B-B



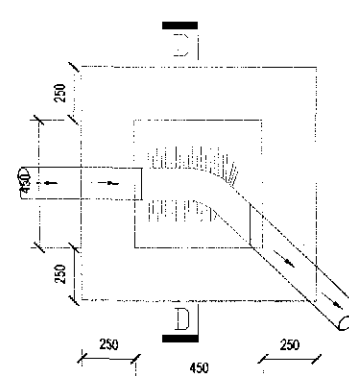
INSPECTION PIT (TYPE-2)



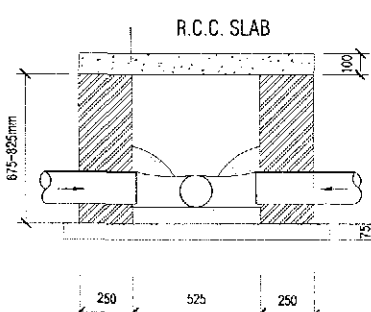
SECTION E-E



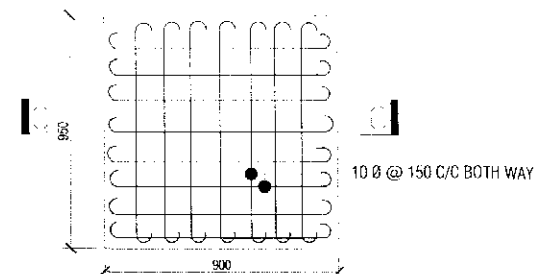
SECTION D-D



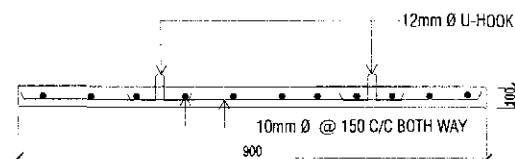
INSPECTION PIT (TYPE-3)



MASTER PIT



INSPECTION PIT COVER SLAB REINFORCEMENT DETAIL



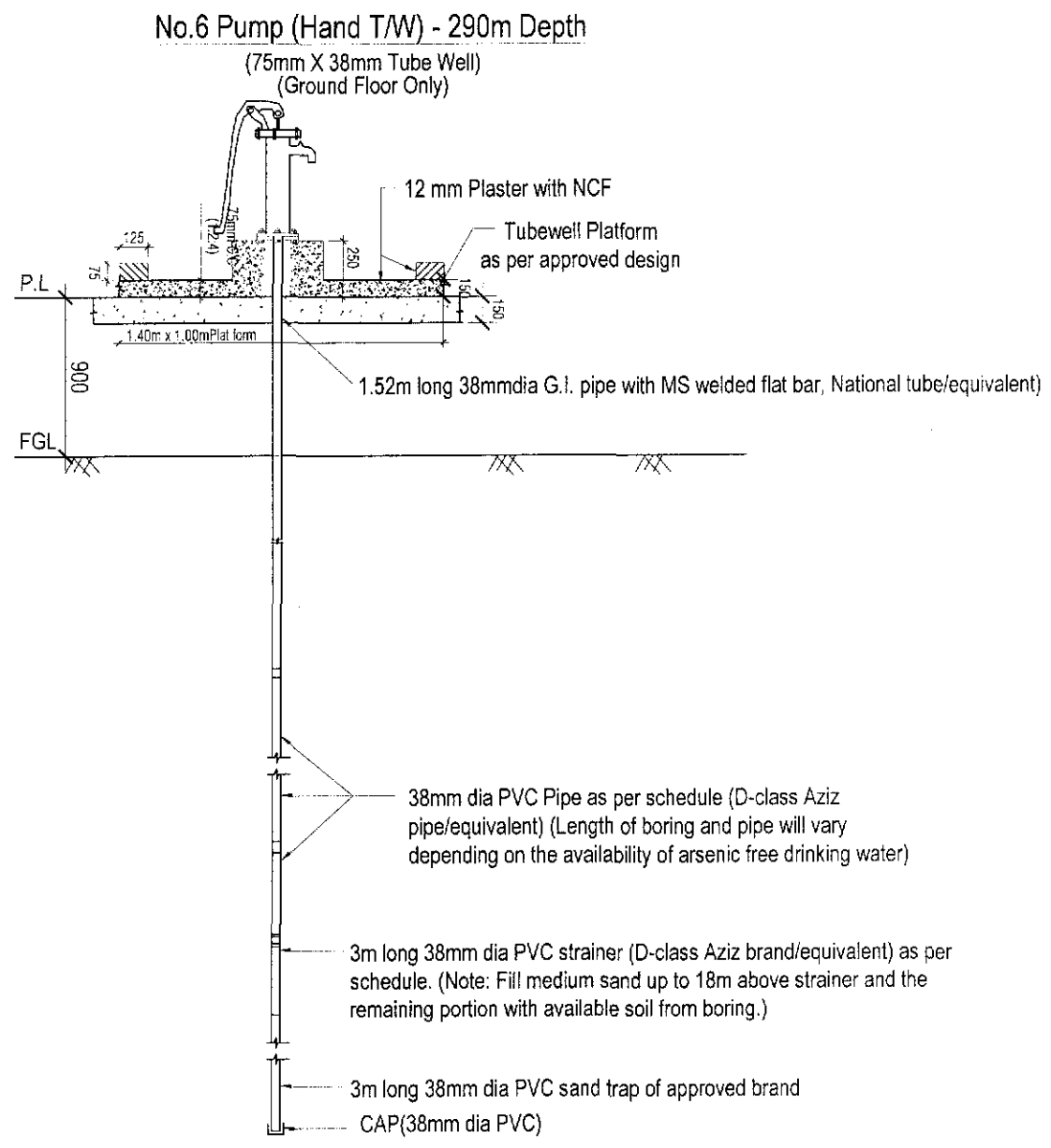
DETAIL OF MANHOLE COVER SLAB SECTION C-C

DETAIL OF INSPECTION PIT
NOT TO SCALE

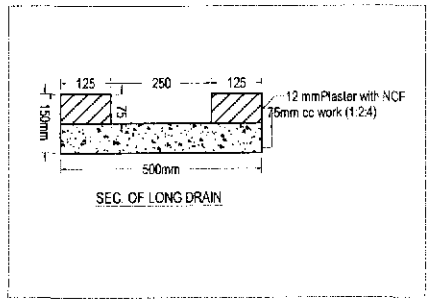
TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP)	Name : Option-01 Type : Option-01 Upazila : Chittagong District : Chittagong Package : LGED/MDSP/CH/14 15/NW 03 A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	Drawn by : Md. Sarwar Hossain Khan Designed by : Md. Towhidul Hasan Checked by : Dr. S.M. Parvez Mohit Team Leader : Susil Somaschi	APPROVED BY :	Javed Karim Project Director
Funded by World Bank				Org. No. : MDSP/PII - OPT.01 Sheet No. : PD - 13 Date : January, 2019			

PROJECT :		NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :		DRAWING TITLE :		Revision	
MULTI PURPOSE DISASTER SHELTER PROJECT (MDSPT) Funded by World Bank		Name : Type : District : Package : Unique ID : School Code :		Government of People's Republic of Bangladesh Line Ministry : Ministry of LGED Implementing Agency Local Gov Engineering Department (LGD)		Joint Venture of COM Smith Inc. USA & Development Design Consultants Ltd Bangladesh		MIN HAND PUMP ASSEMBLY DRAWING - 290m DEPTH (GROUND FLOOR) Dwg No. : MDSPT/PT-01 Sheet No. : PD - 14 Date : January, 2019		Drawn by : Md. Sumrat Hossain Khan Designed by : Md. Towhid Arshad Checked by : In-charge : Joint Secy : Project Director	
										APPROVED BY : Javed Karim Project Director	



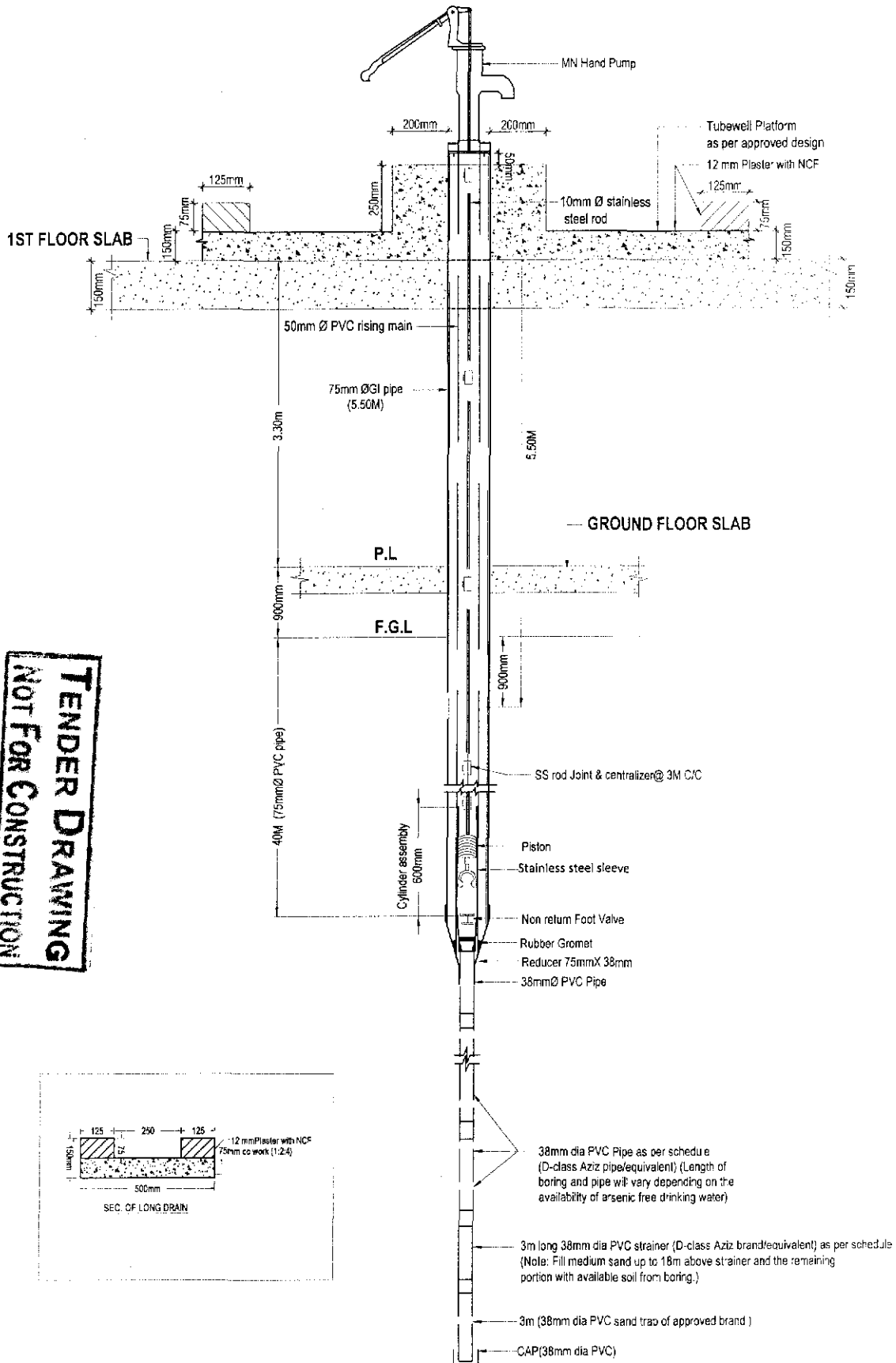
DETAILS OF No.6 HAND TUBEWELL



**TENDER DRAWING
NOT FOR CONSTRUCTION**

MN HAND PUMP ASSEMBLY DRAWING -290mDepth

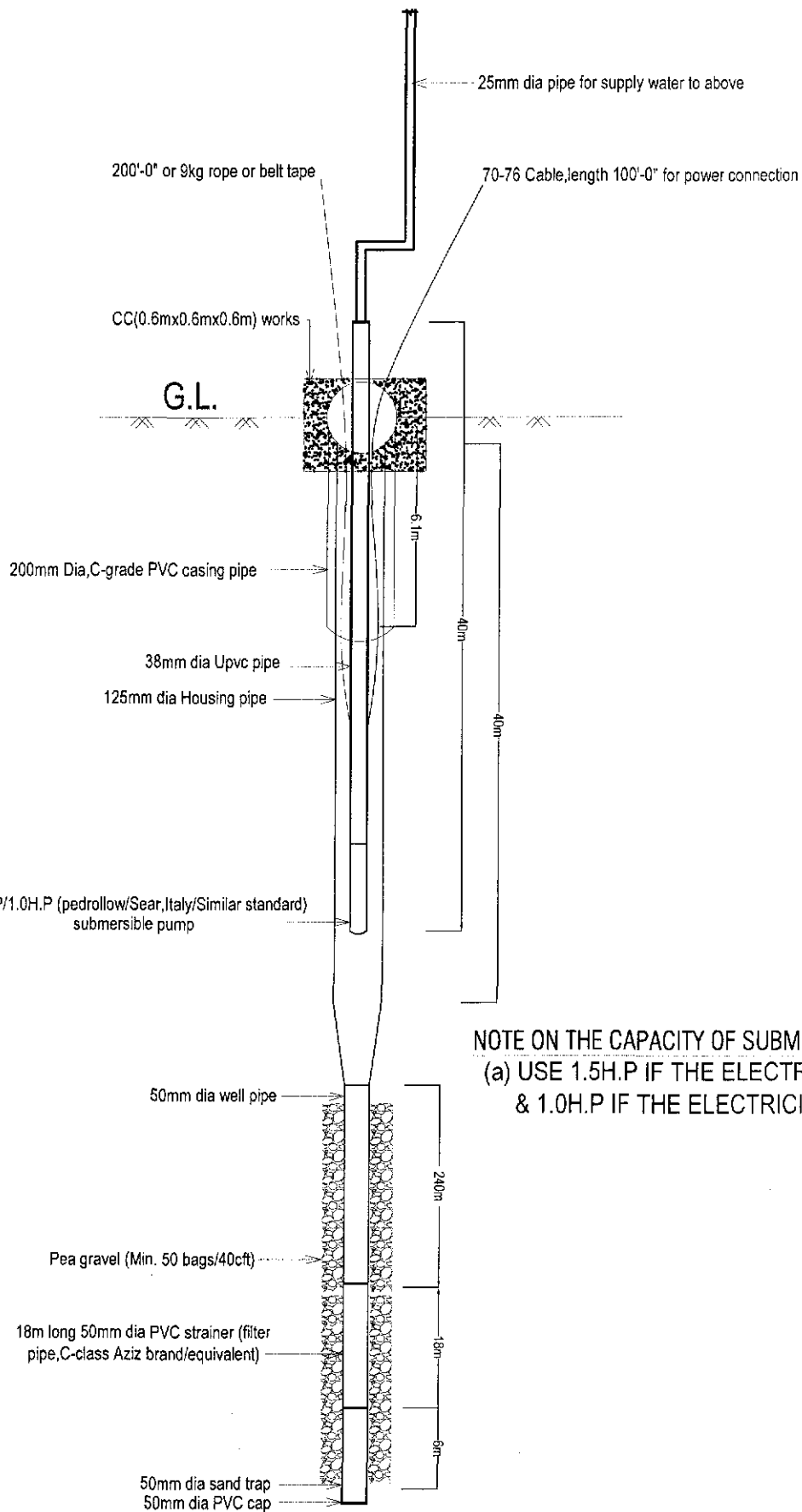
Detailed Drawing of Non Suction Type Hand Pump & Tube well
(1st Floor Only)



DETAIL OF MN HAND PUMP

PROJECT : MULTIPURPOSE DISASTER SHELTER PROJECT (MOSP) Funded by World Bank	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE : Name : Type : Unique ID : Package :	CLIENT : Government of People's Republic of Bangladesh Ministry of Land Engineering Department (GED)	CONSULTANTS : Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DRAWING TITLE : MN HAND PUMP ASSEMBLY DRAWING -290m DEPTH (1ST FLOOR) Drawn by : Md. Saikat Hossain Khan Designed by : Md. Towhidul Karim Checked by : S.M. Parag Mohi Date : January, 2019	APPROVED BY : Project Director
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Submersible Pump 305m depth



NOTE ON THE CAPACITY OF SUBMERSIBLE PUMP:
 (a) USE 1.5H.P IF THE ELECTRICITY IS ON GRID
 & 1.0H.P IF THE ELECTRICITY IS OFF GRID.

DETAIL OF SUBMERSIBLE PUMP

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :		NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :		CLIENT :		CONSULTANTS :		DRAWING TITLE :		REV. NO. DATE		DESCRIPTION	
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)		Name : Option-01		Government of Peoples Republic of Bangladesh		Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh		SUBMERSIBLE PUMP 305m DEPTH		Drawn by : Md. Shaker Hossain Khan		APPROVED BY :	
Funded by World Bank		Type : Upvc		Ministry of L&ED		Line Ministry : Ministry of L&ED		Dwg No. : MSDF/PD-OPT 01		Checked by : Md. Towhid Ahsan		DR. S.M. Faruk Mollah	
		District : Chittagong		Implementing Agency: Local Govt Engineering Department (LGED)		Bangladesh		Sheet No. : PD-16		Date : January 2019		Javed Karim	
		Package : LGED/MSDF/CH/4-15/NW-03-A & B										Project Director	



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)

TENDER DOCUMENTS FOR THE PROCUREMENT OF WORKS

VOLUME IV OF IV

SECTION-3 : DRAWINGS OF FURNITURE FOR STEEL BUILDING OPTION-1

CONSULTANTS :

Joint venture of

CDM Smith Inc. USA

Development Design Consultants Ltd.

Bangladesh



FEBRUARY, 2019

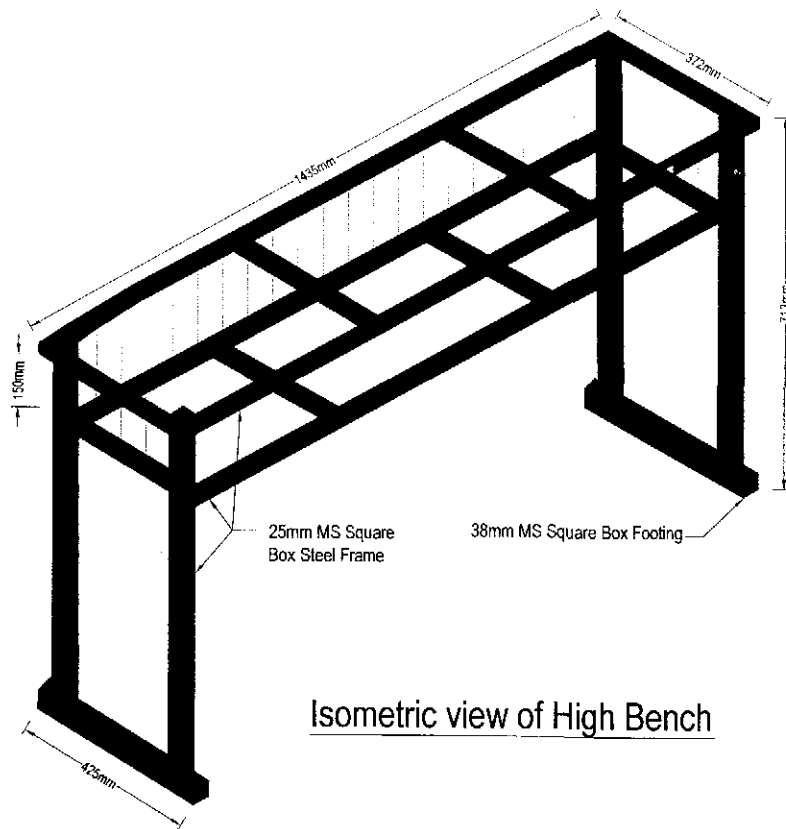
**TENDER DRAWING
NOT FOR CONSTRUCTION**

FURNITURE DRAWING LIST

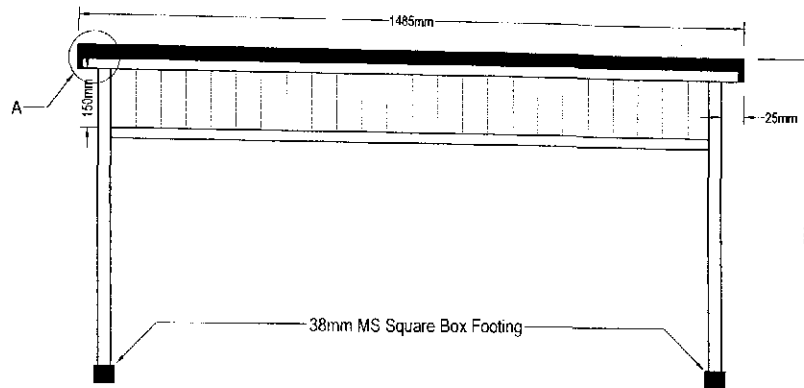
SL. NO.	SHEET NO.	DRAWING TITLE
1	FD-01	FURNITURE DRAWING LIST
2	FD-02	DETAILS OF HIGH BENCH
3	FD-03	DETAILS OF LOW BENCH
4	FD-04	DETAILS OF TEACHER'S TABLE
5	FD-05	DETAILS OF TEACHER'S CHAIR
6	FD-06	DETAILS OF SECRETARIAT TABLE
7	FD-07	DETAILS OF HEADMASTER'S CHAIR
8	FD-08	DETAILS OF TEA TABLE
9	FD-09	DETAILS OF STEEL ALMIRAH

TENDER DRAWING
NOT FOR CONSTRUCTION

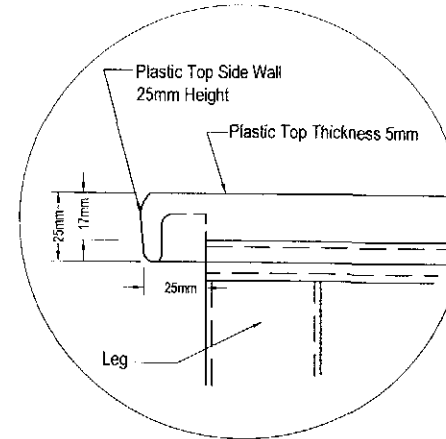
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT (MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Unique ID : School Code : Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (I.GED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh FURNITURE DRAWING LIST Orig. No. : MDSP / AR-03 Sheet No. : FD - 01 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohit Team Leader Susil Somasiri	APPROVED BY : Javed Karim Project Director	



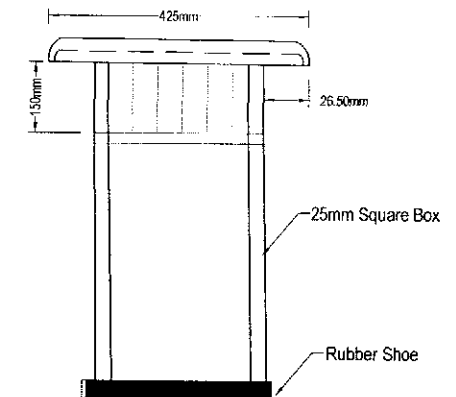
Isometric view of High Bench



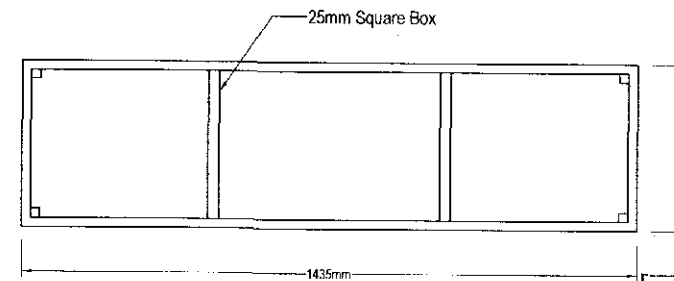
Elevation of High Bench



Detail : A



Side view of High Bench



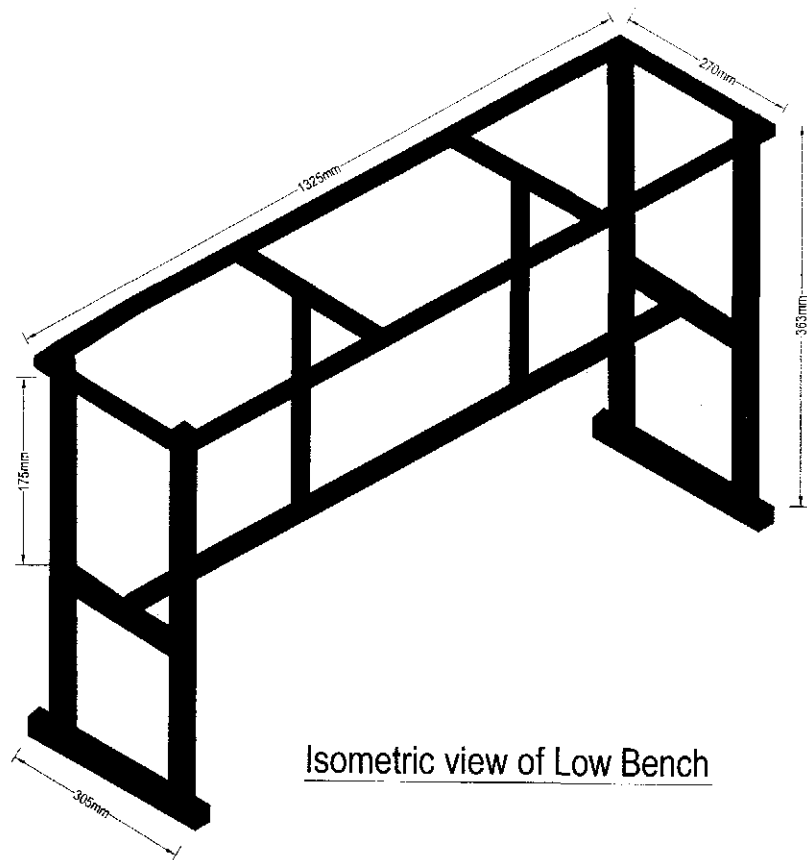
Frame Plan of High Bench

Note :

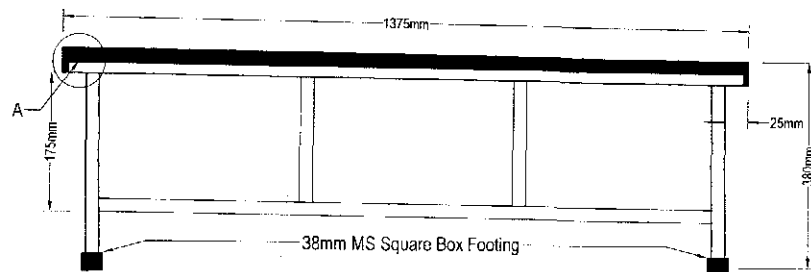
Plastic frame weight 5000gm, vertical ribs 25 nos, horizontal ribs 7 nos, rib height 12mm and thickness 4mm.

**TENDER DRAWING
NOT FOR CONSTRUCTION**

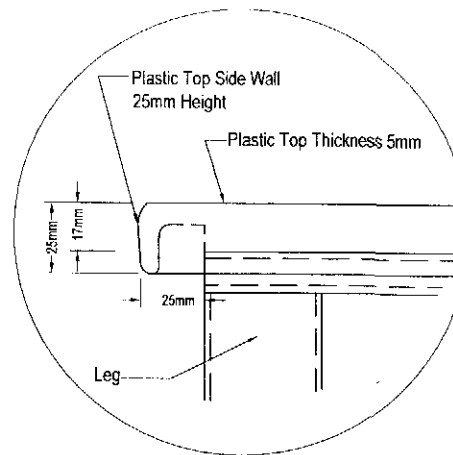
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option 01 Upazila : District : Chittagong Package : LGED/MDSP/CHV/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh Dr. No. : MDSP / AR-03 Sheet No. : FD - 02 Date : January, 2019	Drawn by : Md. Sarawat Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohit Team Leader Sushil Sonuairi	APPROVED BY : Javed Karim Project Director	



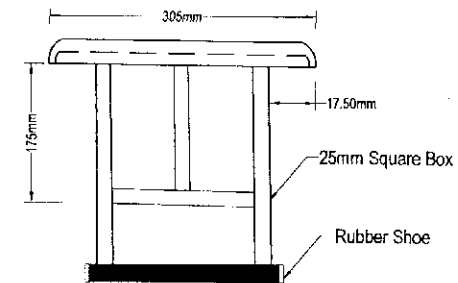
Isometric view of Low Bench



Elevation of Low Bench

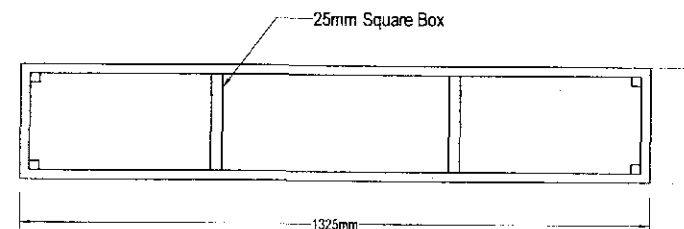


Detail : A



Side view of Low Bench

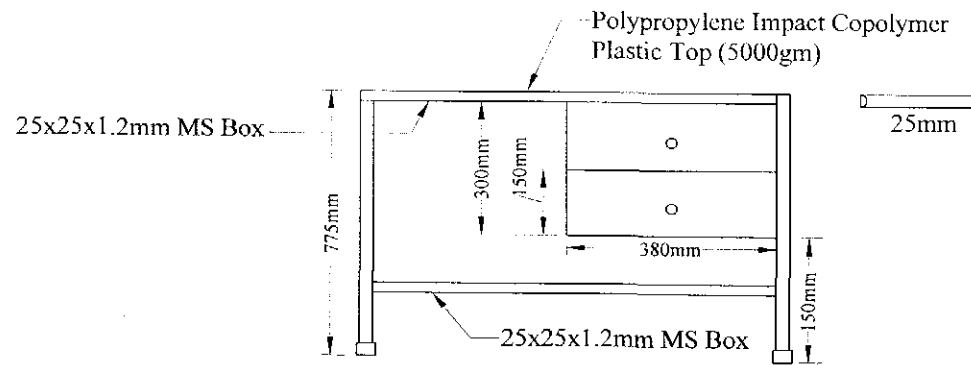
**TENDER DRAWING
NOT FOR CONSTRUCTION**



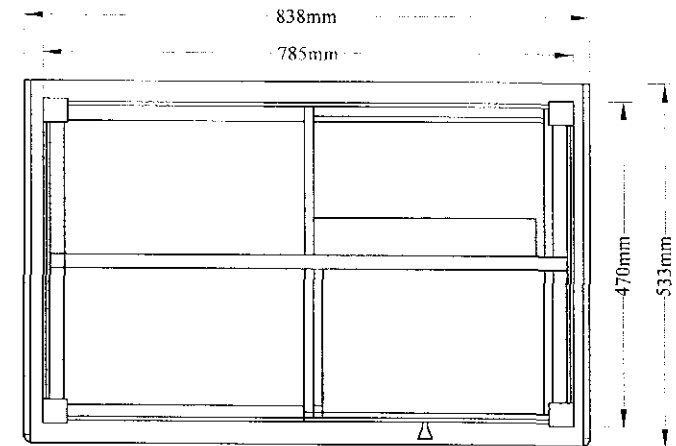
Frame Plan of Low Bench

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Bangladesh Line Ministry : Ministry of LGED Implementing Agency : Local Govt. (Engineering Department (LGED))	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAIL OF LOW BENCH Org. No. : MDSP / AR-03 Sheet No. : FD - 03 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohi Team Leader : Susil Somasiri		APPROVED BY : Javed Karim Project Director

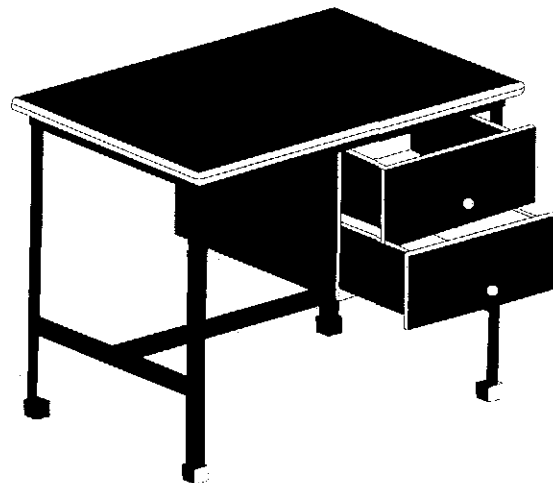
Teacher's Table



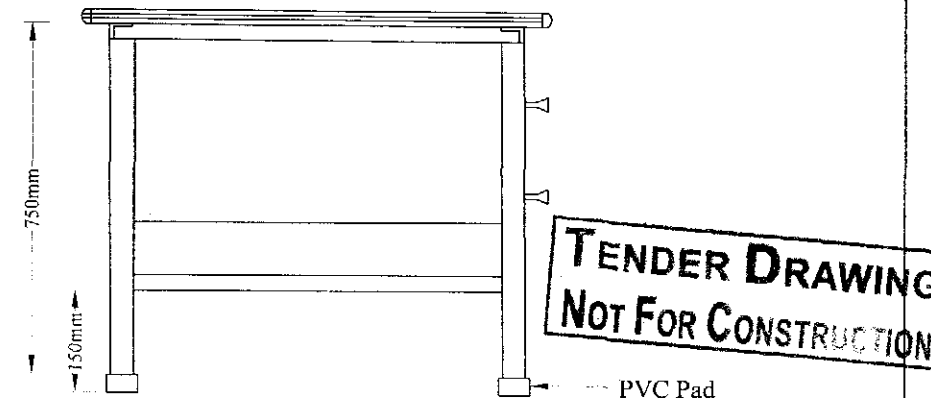
Front View



Top View



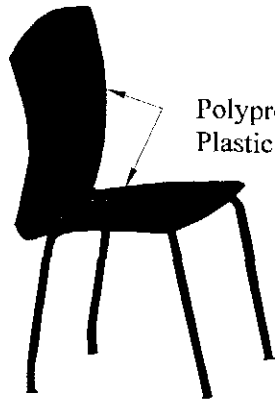
Isometric View



Side View

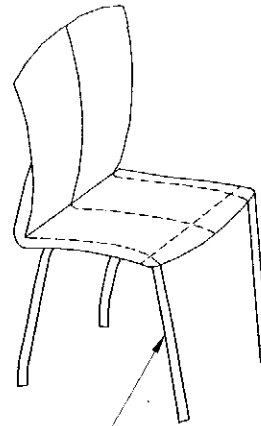
PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev No :	Date :	Description :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency :Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF TEACHERS TABLE Orig. No. : MDSP / AR-03 Sheet No. : FD - 04 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohi Team Leader Sustil Somasiri	APPROVED BY : Javed Karim Project Director

Teacher's Chair

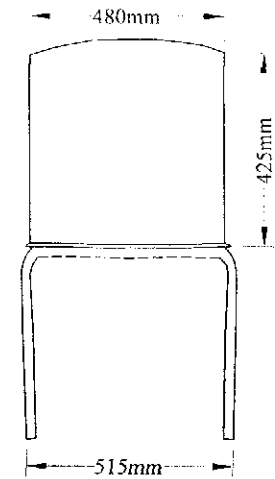


Polypropylene Impact Copolymer
Plastic Top (5000gm)

Isometric View



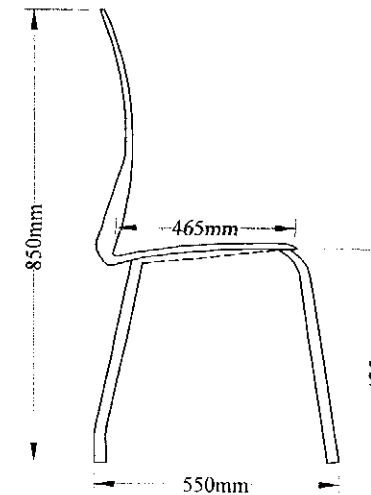
SS Round Tube
(25mm Outer x 22mm Inner x 1.2m Thick)



Front View



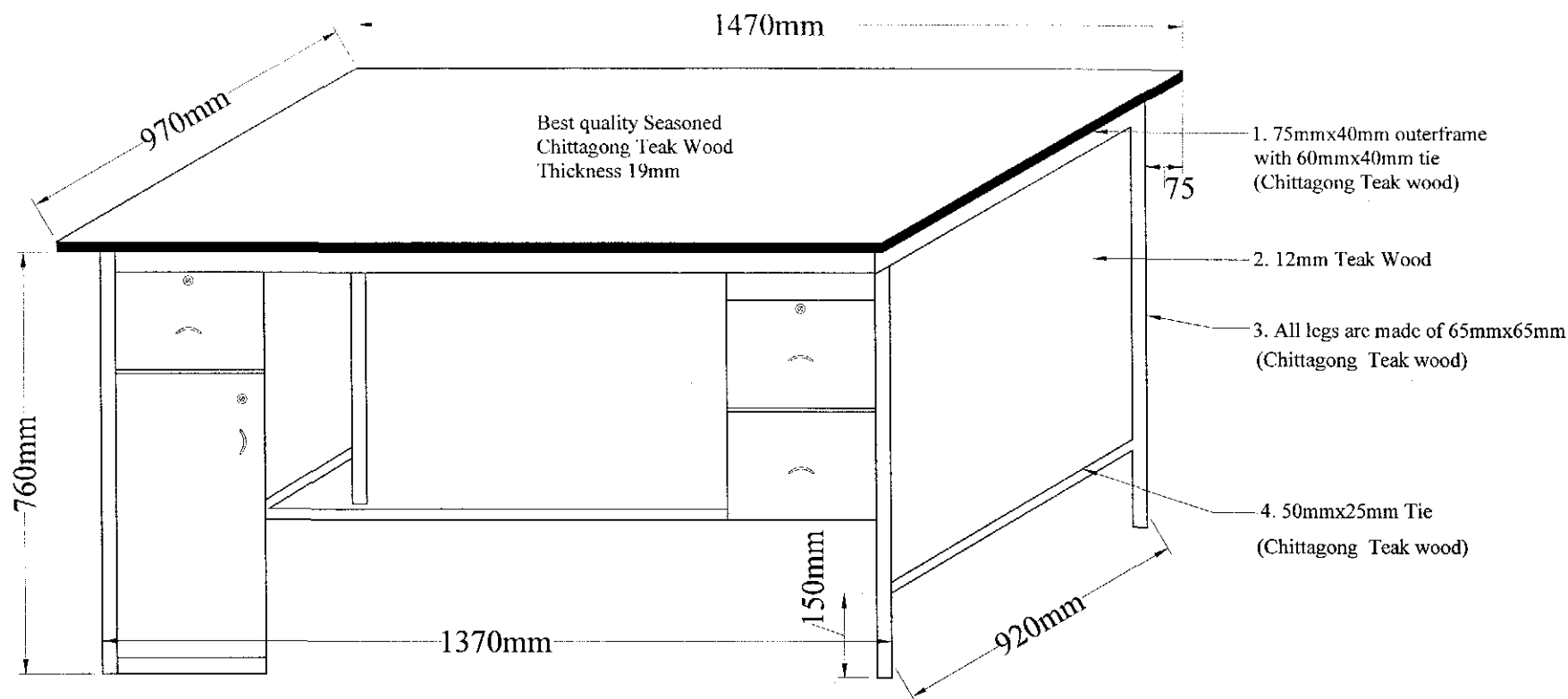
Isometric View



Side View

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHUTTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Upazila : District : Chittagong Package : LGED/MOSP/CHI/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF TEACHERS CHAIR	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohit Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director
				Reg. No : MDSP / AR-03 Sheet No : HD - 05 Date : January, 2019			

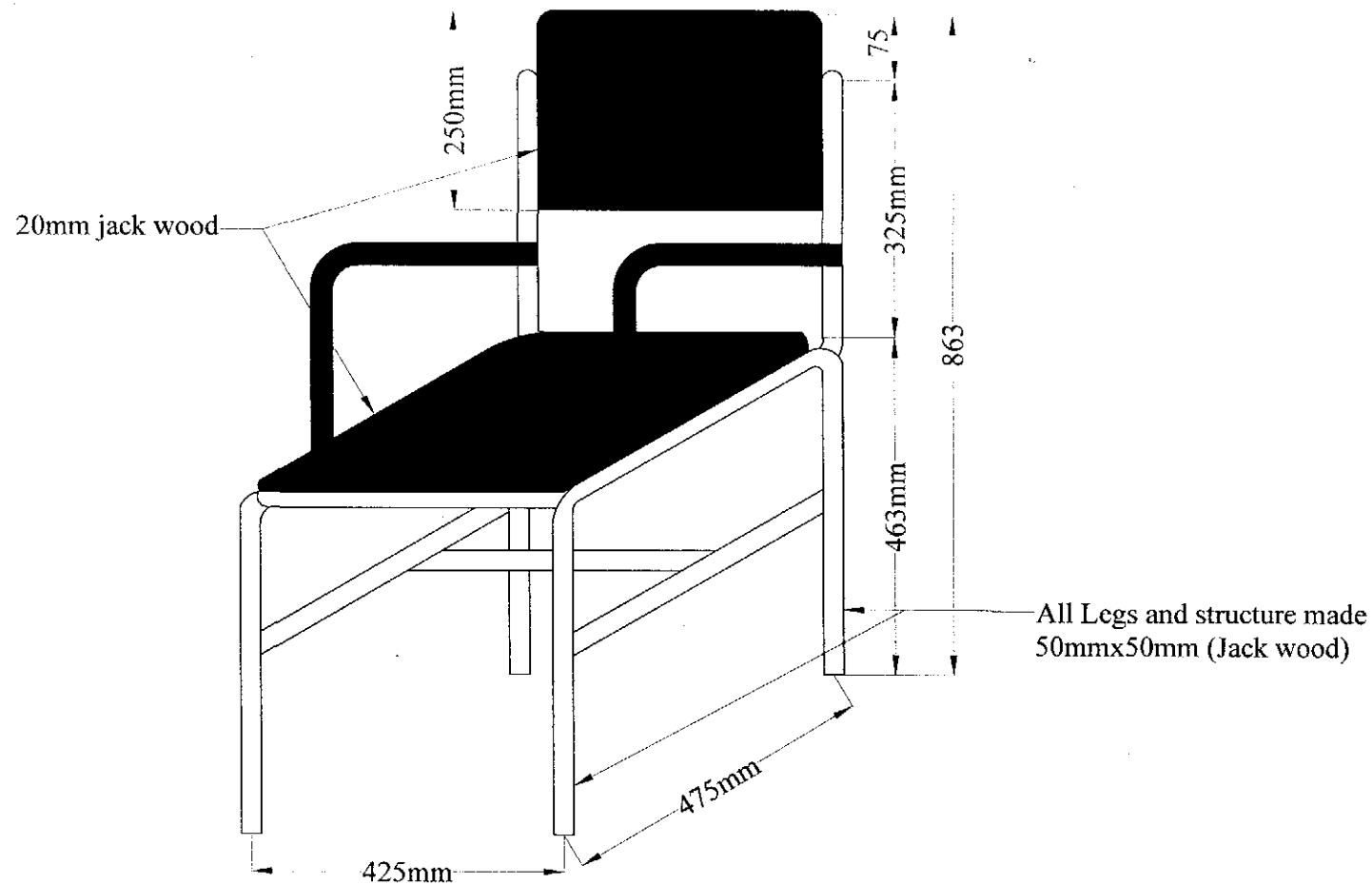


SECRETARIAT TABLE

Schedule Item No:-11.06

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Option-01 Type : Upazila District : Chittagong Package : LGED/MDSP/CHI/14-15/NW-03-A & B	Government of Bangladesh	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF SECRETARIAT TABLE Org. No. : MDSP / AR-03 Sheet No. : FD - 06 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S.M Parvez Mohit Team Leader : Susil Somasiri		APPROVED BY : Javed Karim Project Director

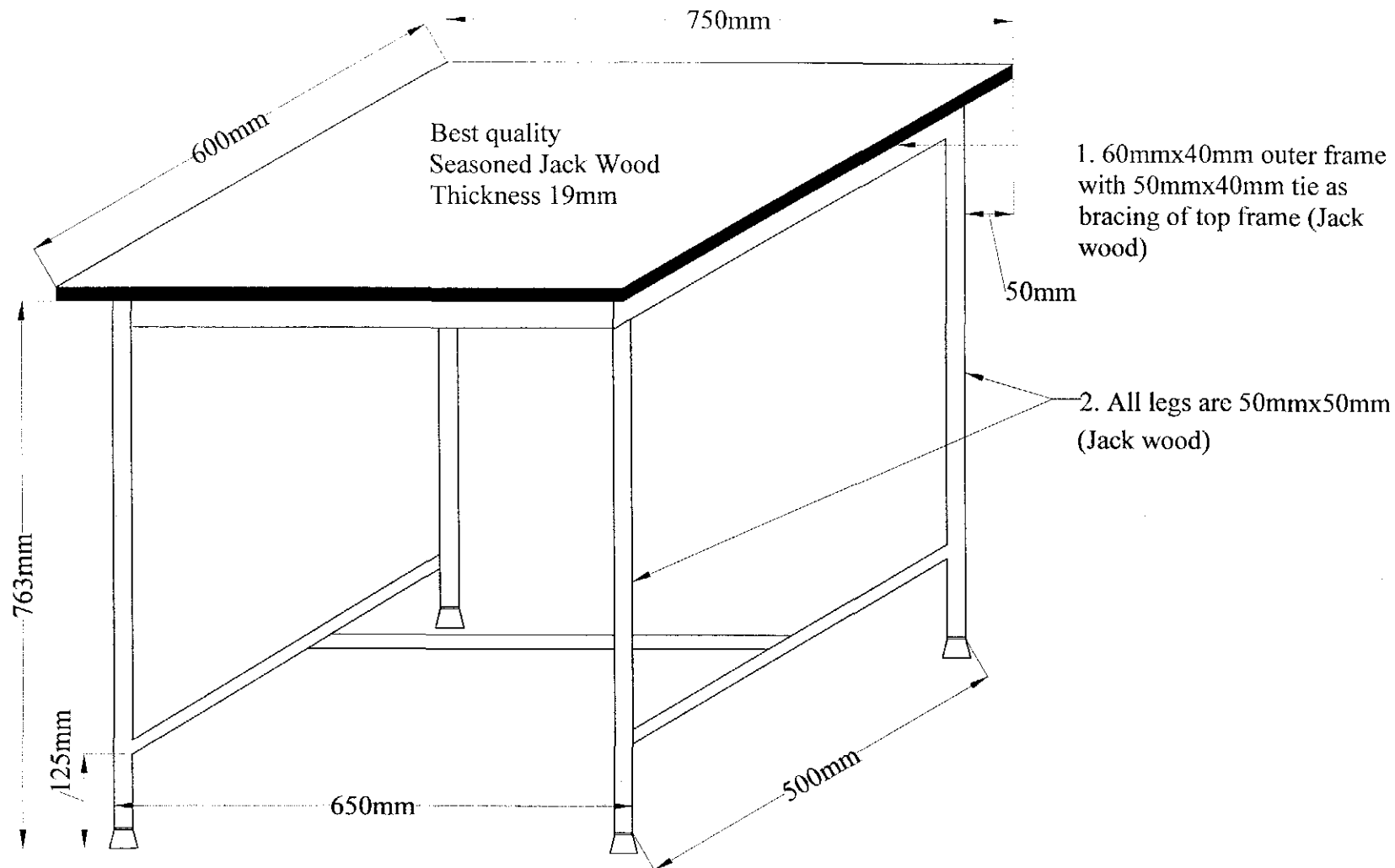


HEADMASTER'S CHAIR

Schedule Item No:-11.11

**TENDER DRAWING
NOT FOR CONSTRUCTION**

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. : _____ Date : _____ Description : _____
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP)	Name : _____ Unique ID : _____ Type : Option-01 School Code : _____ Upazila : _____ District : Chittagong Package : LGFD/MDSP/CHI/14-15/NW-03-A & B	Government of Bangladesh Line Ministry : Ministry of LGRD Implementing Agency : Local Govt. Engineering Department (LGFD)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh	DETAILS OF HEADMASTER'S CHAIR Drg. No. : MDSP / AR-03 Sheet No. : FD - 07 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S M Parvez Mohit Team Leader : Susil Somasiri APPROVED BY : _____ Javed Karim Project Director

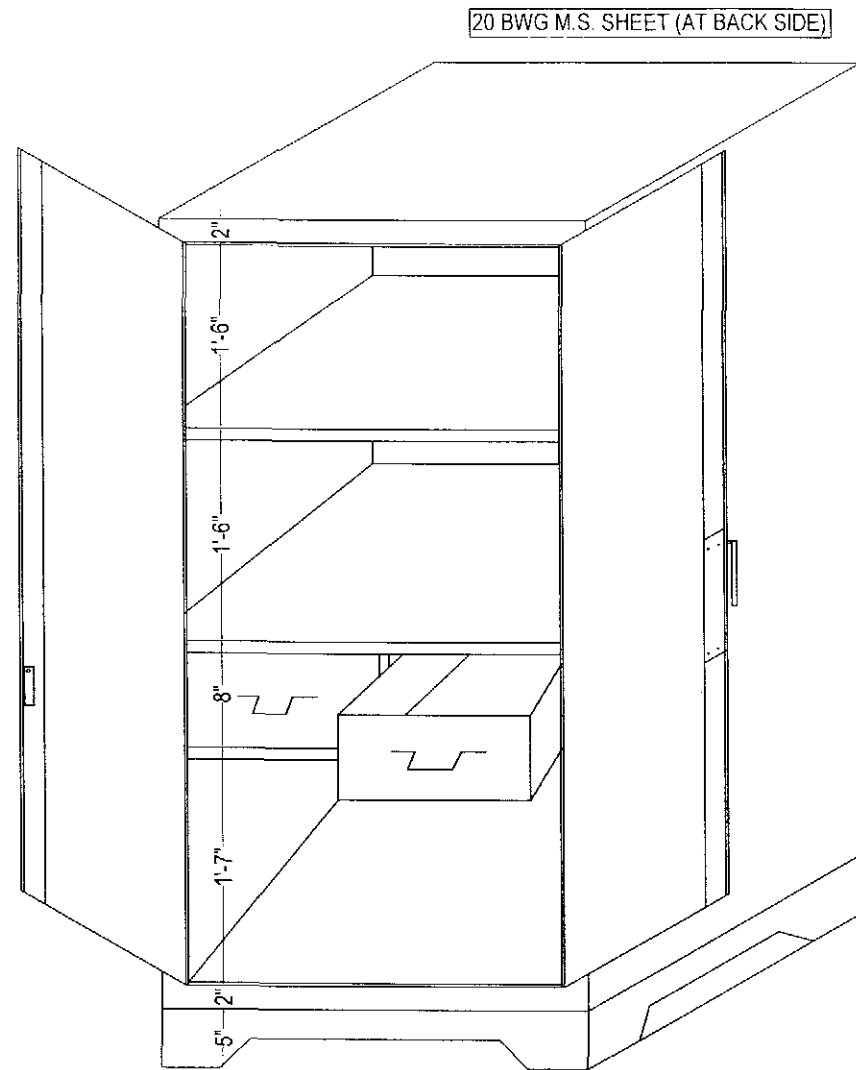
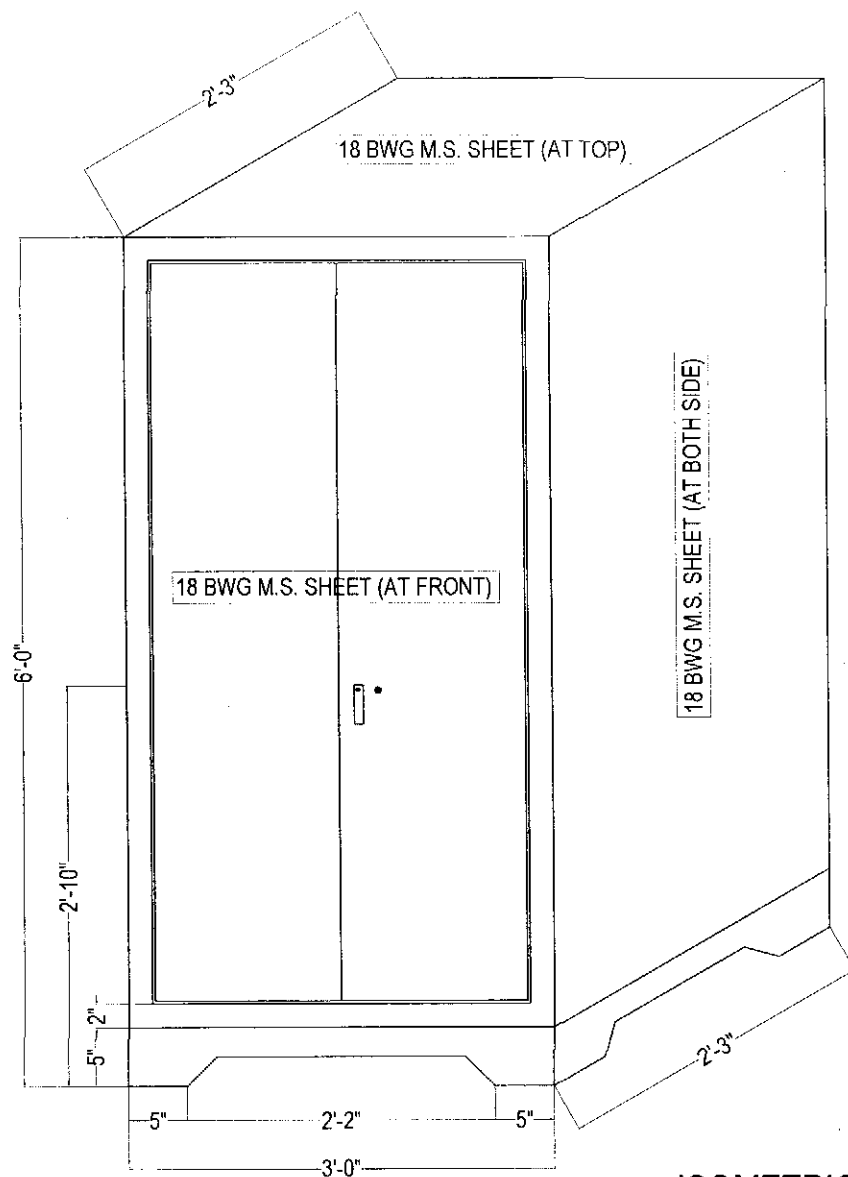


TEA TABLE

Schedule Item No:-11.05

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No. :	Date :	Description :
MULTIPURPOSE DISASTER SHELTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : I GED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGRD Implementing Agency :Local Govt. Engineering Department (I GED)	Joint Venture of CDM Smith Inc, USA & Development Design Consultants Ltd, Bangladesh	DETAILS OF TEA TABLE Drg. No. : MDSP / AR-03 Sheet No. : FD - 08 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by : Architect Md. Ismail Hossain Checked by : Dr. S. M Parvez Mohit Team Leader : Susil Somasiri	APPROVED BY : Javed Karim Project Director



ISOMETRIC VIEW OF A STEEL ALMIRAH
Schedule Item No:- 11E

TENDER DRAWING
NOT FOR CONSTRUCTION

PROJECT :	NAME, UNIQUE ID, TYPE, LOCATION, PACKAGE & SCHOOL CODE :	CLIENT :	CONSULTANTS :	DRAWING TITLE :	Rev. No.	Date	Description
MULTIPURPOSE DISASTER SHUTTER PROJECT(MDSP) Funded by World Bank	Name : Type : Option-01 Upazila : District : Chittagong Package : LGED/MDSP/CH/14-15/NW-03-A & B	Government of Peoples Republic of Bangladesh	Line Ministry : Ministry of LGED Implementing Agency : Local Govt. Engineering Department (LGED)	Joint Venture of CDM Smith Inc. USA & Development Design Consultants Ltd. Bangladesh Org. No. : MDSP / AR-03 Sheet No. : HJ-09 Date : January, 2019	Drawn by : Md. Sarwar Hossain Khan Designed by Architect Md. Ismail Hossain Checked by Dr. S.M Parvez Mohit Team Leader Susil Somasiri		APPROVED BY : Javed Karim Project Director