



**INLAND WATERWAYS AUTHORITY OF INDIA**  
**(Ministry of Shipping, Government of India), Noida**

---

**Detailed Project Report (DPR) for Construction of IWT Terminal at Sahibganj in  
Jharkhand on River Ganga (National Waterway-1)**

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**DETAILED PROJECT REPORT**

**DRAWINGS**

**March 2016**



**Howe Engineering Projects (India) Pvt. Ltd.**  
Howe India House, 81 Nehru Place,  
New Delhi-110019



**INLAND WATERWAYS AUTHORITY OF INDIA**  
(Ministry of Shipping, Road Transport & Highways, Govt. of India)  
Head Office: A-13, Sector-1,  
Noida-201301 (U.P.)

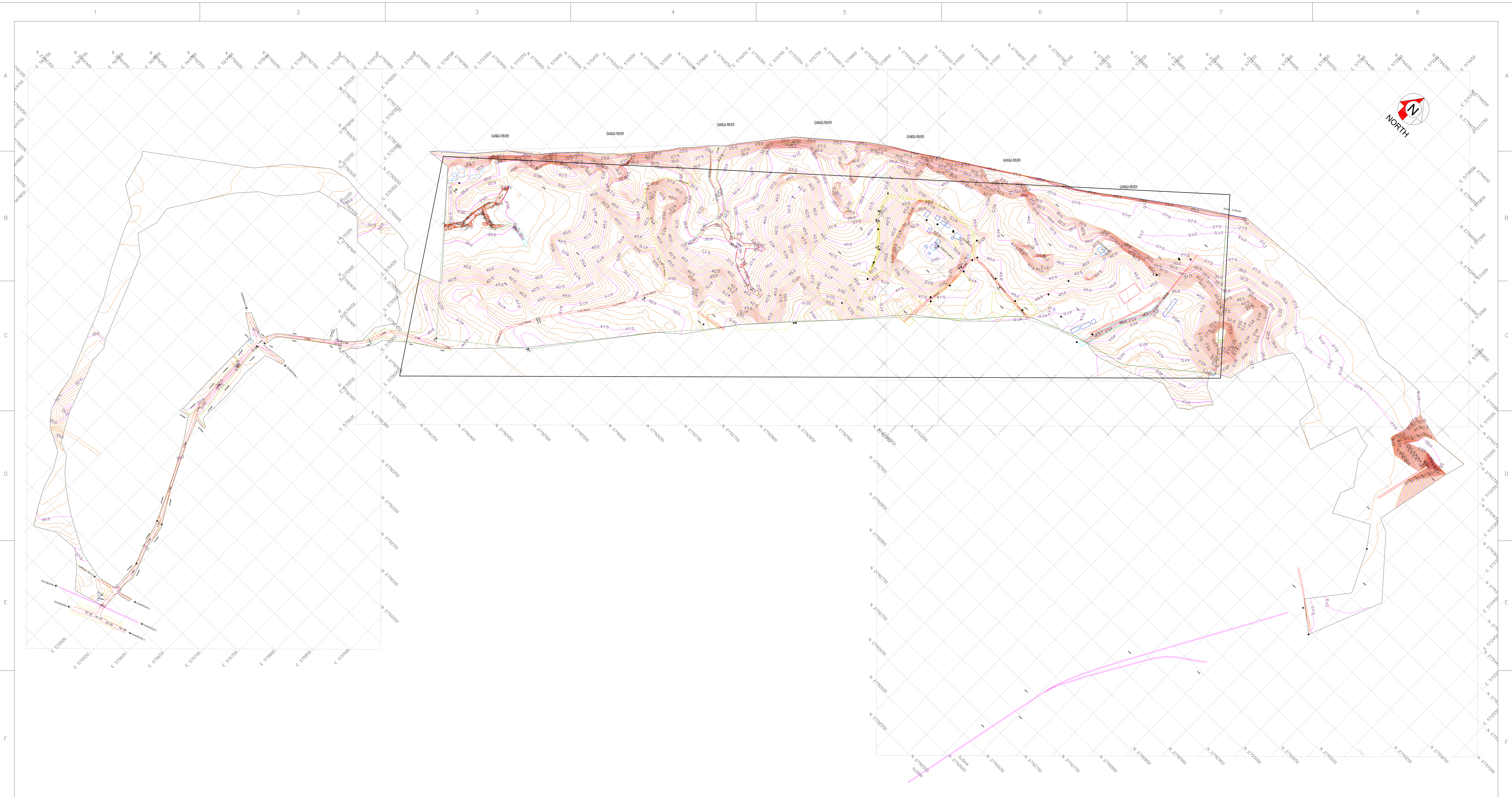
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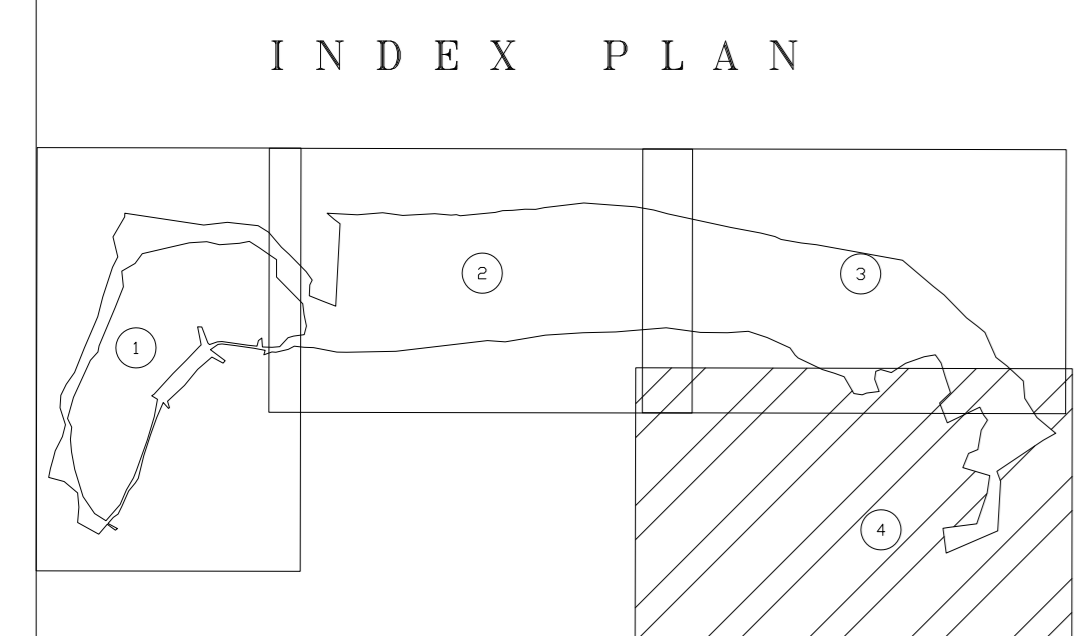
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- NOTES:**
1. All Dimensions are in metre unless otherwise stated.
  2. GPS co-ordinates were used for this survey.
  3. Level was carried from the Sakrigali Railway station. The value of the benchmark was 39.893m MSL.
  4. Contours have been drawn at an interval of 0.5m



LEGEND											
SL.NO.	DESCRIPTION	SYMBOL	SL.NO.	DESCRIPTION	SYMBOL	SL.NO.	DESCRIPTION	SYMBOL	SL.NO.	DESCRIPTION	SYMBOL
1.	BUILDING	[Symbol]	8.	SEMI Pukka BUILDING	[Symbol]	15.	REFERENCE POINTS (RP)	[Symbol]	22.	MANDIR/ TEMPLE	[Symbol]
2.	PUCCA ROAD	[Symbol]	9.	TREE	[Symbol]	16.	MAJOR CONTOUR	[Symbol]	23.	MASJID	[Symbol]
3.	KUTCHA ROAD	[Symbol]	10.	BOUNDARY LINE	[Symbol]	17.	MINOR CONTOUR	[Symbol]	24.	STAIRS	[Symbol]
4.	NALLAH	[Symbol]	11.	AGRICULTURAL LAND	[Symbol]	18.	GRID ELEVATION	[Symbol]	25.		
5.	ELECTRIC POST	[Symbol]	12.	TRANSFORMER	[Symbol]	19.	TUBE WELL	[Symbol]	26.		
6.	CULVERT	[Symbol]	13.	WELL	[Symbol]	20.	RIVER	[Symbol]	27.		
7.	GATE	[Symbol]	14.	TEMPORARY BENCH MARK (TBM)	[Symbol]	21.	WATER EDGE	[Symbol]	28.		

REV	DATE	DESCRIPTION	DRN	CHD	APPD
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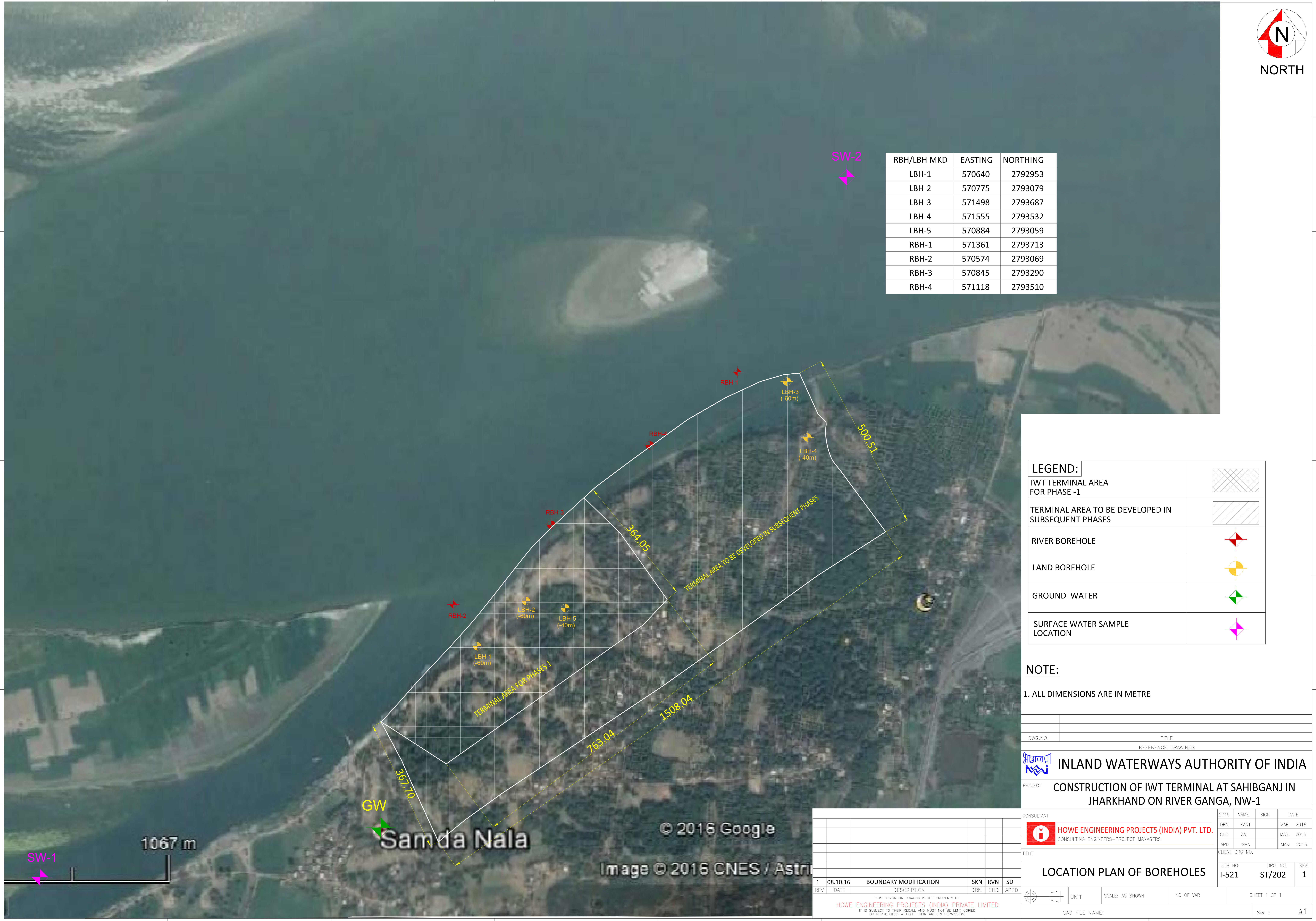
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		REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>		PROJECT			
		<b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT		2015	NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		DRN	KANT		MAR. 2016
		CHD	AM		MAR. 2016
		APD	SPA		MAR. 2016
TITLE		CLIENT DRG. NO.			
<b>TOPOGRAPHIC SURVEY OF PROPOSED IWT TERMINAL AT SAHIBGANJ</b>		JOB NO	DRG. NO.	REV.	
		I-521	ST/201	0	
UNIT		SCALE:-	NO OF VAR	SHEET 1 OF 1	
CAD FILE NAME:		Size : <b>A1</b>			





NORTH

RBH/LBH MKD	EASTING	NORTHING
LBH-1	570640	2792953
LBH-2	570775	2793079
LBH-3	571498	2793687
LBH-4	571555	2793532
LBH-5	570884	2793059
RBH-1	571361	2793713
RBH-2	570574	2793069
RBH-3	570845	2793290
RBH-4	571118	2793510



LEGEND:	
IWT TERMINAL AREA FOR PHASE -1	
TERMINAL AREA TO BE DEVELOPED IN SUBSEQUENT PHASES	
RIVER BOREHOLE	
LAND BOREHOLE	
GROUND WATER	
SURFACE WATER SAMPLE LOCATION	

**NOTE:**  
1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE												
	REFERENCE DRAWINGS												
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>													
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>													
CONSULTANT	2015 NAME SIGN DATE												
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN KANT MAR. 2016												
	CHD AM MAR. 2016												
	APD SPA MAR. 2016												
TITLE	CLIENT DRG. NO.												
<b>LOCATION PLAN OF BOREHOLES</b>	JOB NO DRG. NO. REV.												
	1-521 ST/202 1												
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1	08.10.16	BOUNDARY MODIFICATION	SKN	RVN	SD								





NORTH

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Google earth

LOCATION OF SUBSOIL PROFILE ALONG RBH - 1 & 2

LOCATION OF SUBSOIL PROFILE ALONG LBH - 1, 2 & 3

LOCATION OF SUBSOIL PROFILE ALONG LBH - 4 & 5



Samda Nala

DWG. NO. TITLE  
REFERENCE DRAWINGS

 **INLAND WATERWAYS AUTHORITY OF INDIA**

PROJECT **CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1**

CONSULTANT	2015	NAME	SIGN	DATE
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT		MAR. 2016
	CHD	AM		MAR. 2016
	APD	SPA		MAR. 2016

TITLE	JOB NO.	DRG. NO.	REV.
<b>LOCATION OF SUB-SOIL PROFILES FOR TERMINAL FACILITIES</b>	I-521	ST/203	0

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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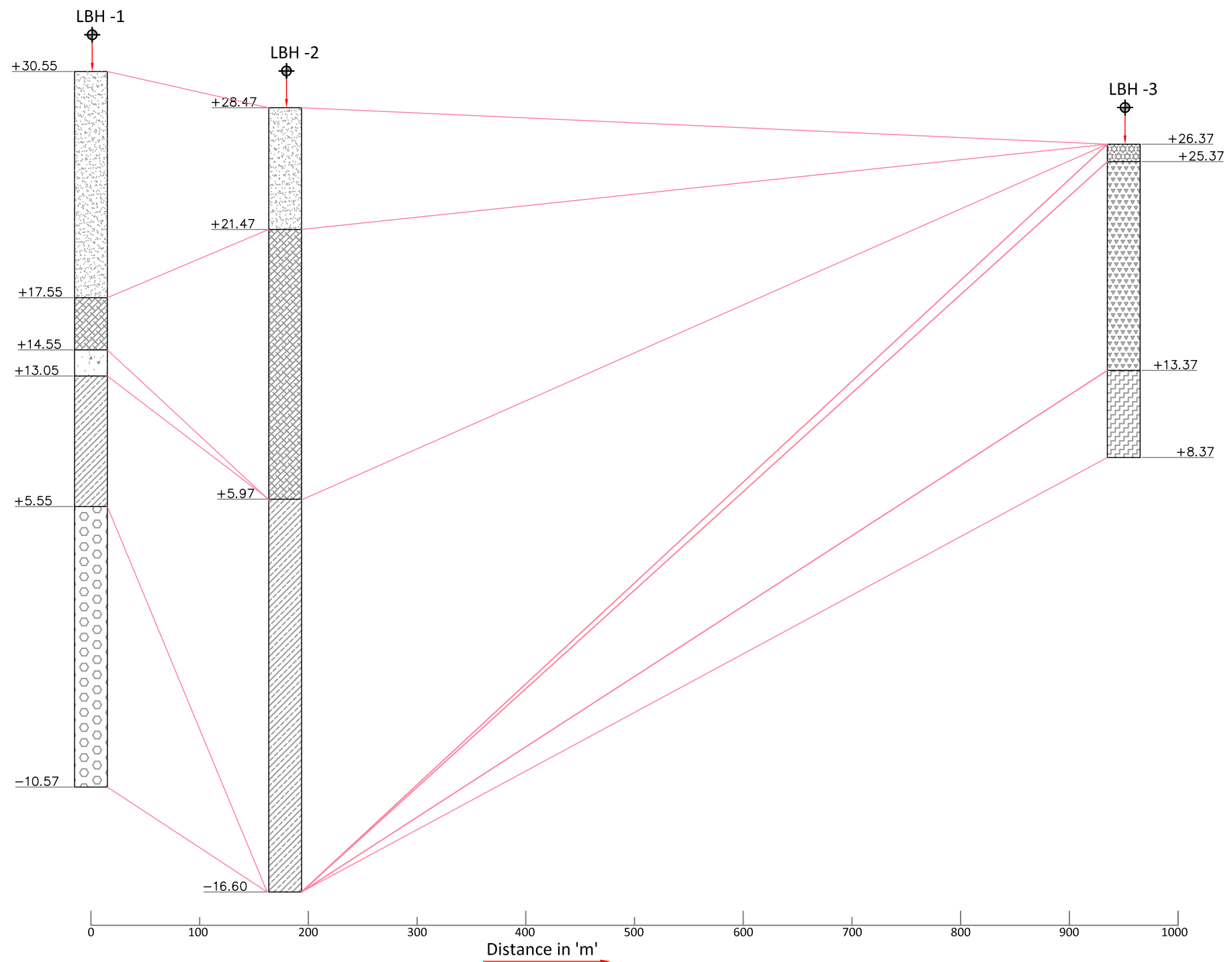
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Level in 'm' wrt MSL

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-18.00



**LEGEND**

- 1 STIFF SILTY CLAY/CLAYEY SILT
- 2 HARD SILTY CLAY/CLAYEY SILT
- 3 HIGHLY DECOMPOSED PRODUCT OF ROCK
- 4 HARD SILTY CLAY WITH TRACES OF CALCARIOUS NODULES
- 5 HARD SILTY CLAY WITH GRAVELS
- 6 SOFT SILTY CLAY
- 7 LOOSE SILTY SAND/SANDY SILT
- 8 WEATHERED SAND STONE

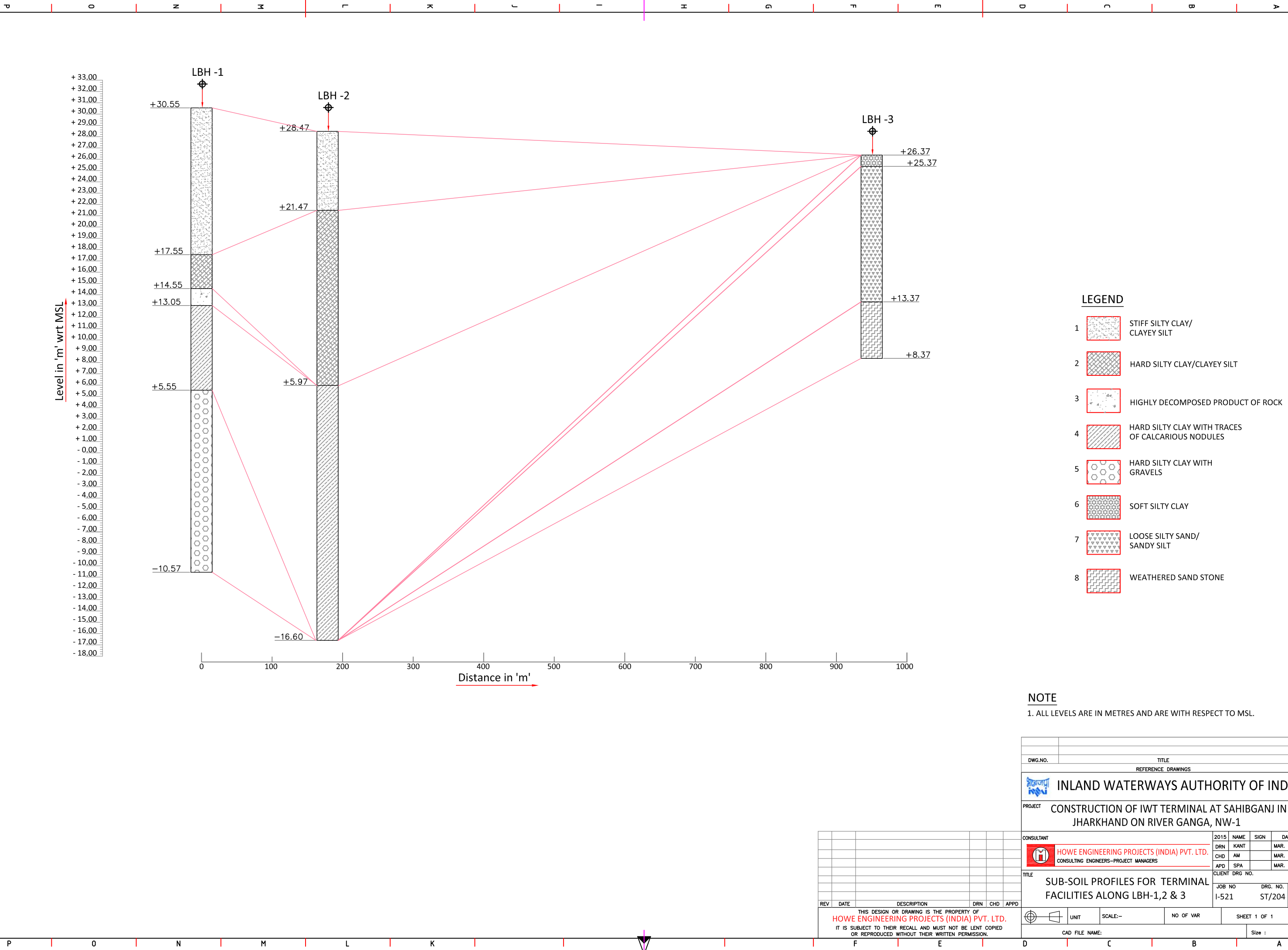
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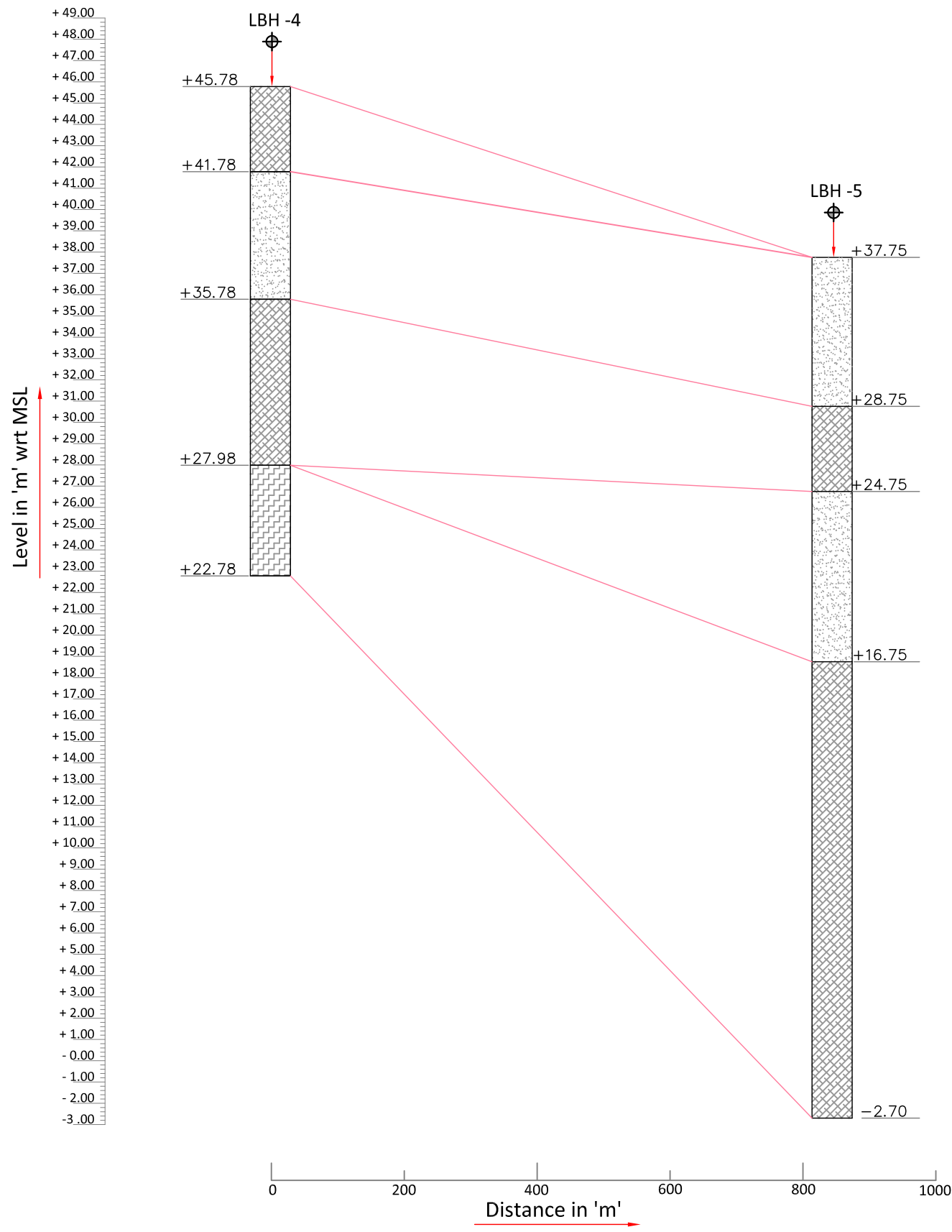
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DWG. NO.		TITLE	
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PROJECT			
CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	NAME
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		DRN	KANT
		CHD	AM
		APD	SPA
		DATE	MAR. 2016
		DATE	MAR. 2016
		DATE	MAR. 2016
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SUB-SOIL PROFILES FOR TERMINAL FACILITIES ALONG LBH-1,2 & 3			
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UNIT		SCALE:-	NO OF VAR
SHEET 1 OF 1		Size : <b>A1</b>	

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**LEGEND**

- 1 STIFF SILTY CLAY/CLAYEY SILT
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- 3 HIGHLY DECOMPOSED PRODUCT OF ROCK
- 4 HARD SILTY CLAY WITH TRACES OF CALCARIOUS NODULES
- 5 HARD SILTY CLAY WITH GRAVELS
- 6 SOFT SILTY CLAY
- 7 LOOSE SILTY SAND/SANDY SILT
- 8 WEATHERED SAND STONE

**NOTE**

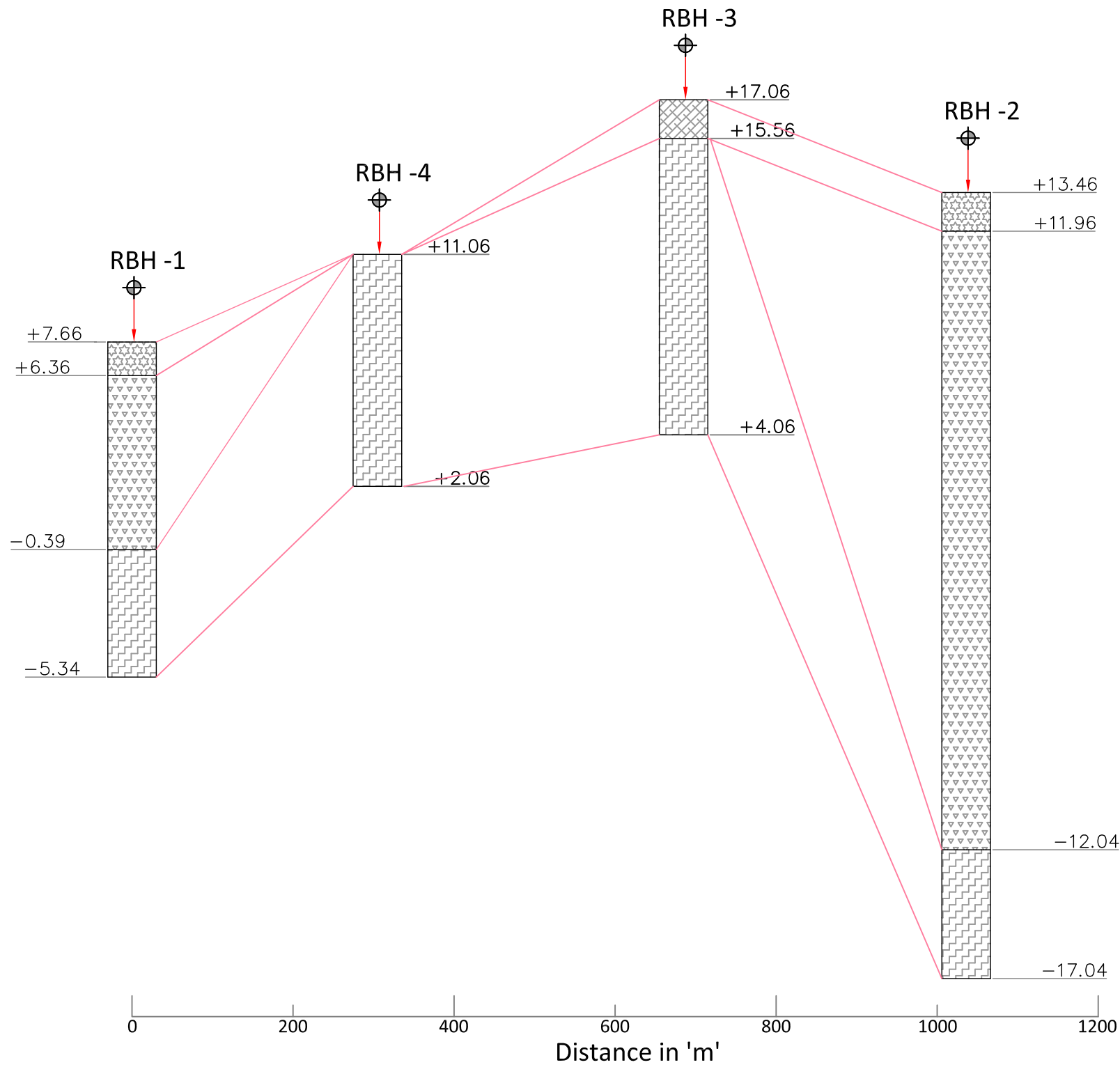
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DWG.NO.		TITLE	
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<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		DRN	KANT
		CHD	AM
		APD	SPA
TITLE		CLIENT DRG NO.	
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REV	DATE	DESCRIPTION	DRN	CHD	APPD

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Level in 'm' wrt MSL



**LEGEND**

- 1 STIFF SILTY CLAY/CLAYEY SILT
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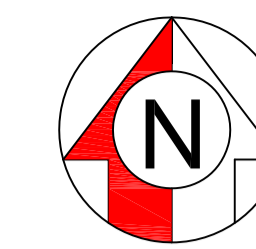
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<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	NAME
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		DRN	KANT
		CHD	AM
		APD	SPA
		DATE	MAR. 2016
		DATE	MAR. 2016
		DATE	MAR. 2016
TITLE		CLIENT	DRG NO.
<b>SUB-SOIL PROFILES FOR TERMINAL FACILITIES ALONG RBH-1 &amp; 2</b>		JOB NO	DRG. NO.
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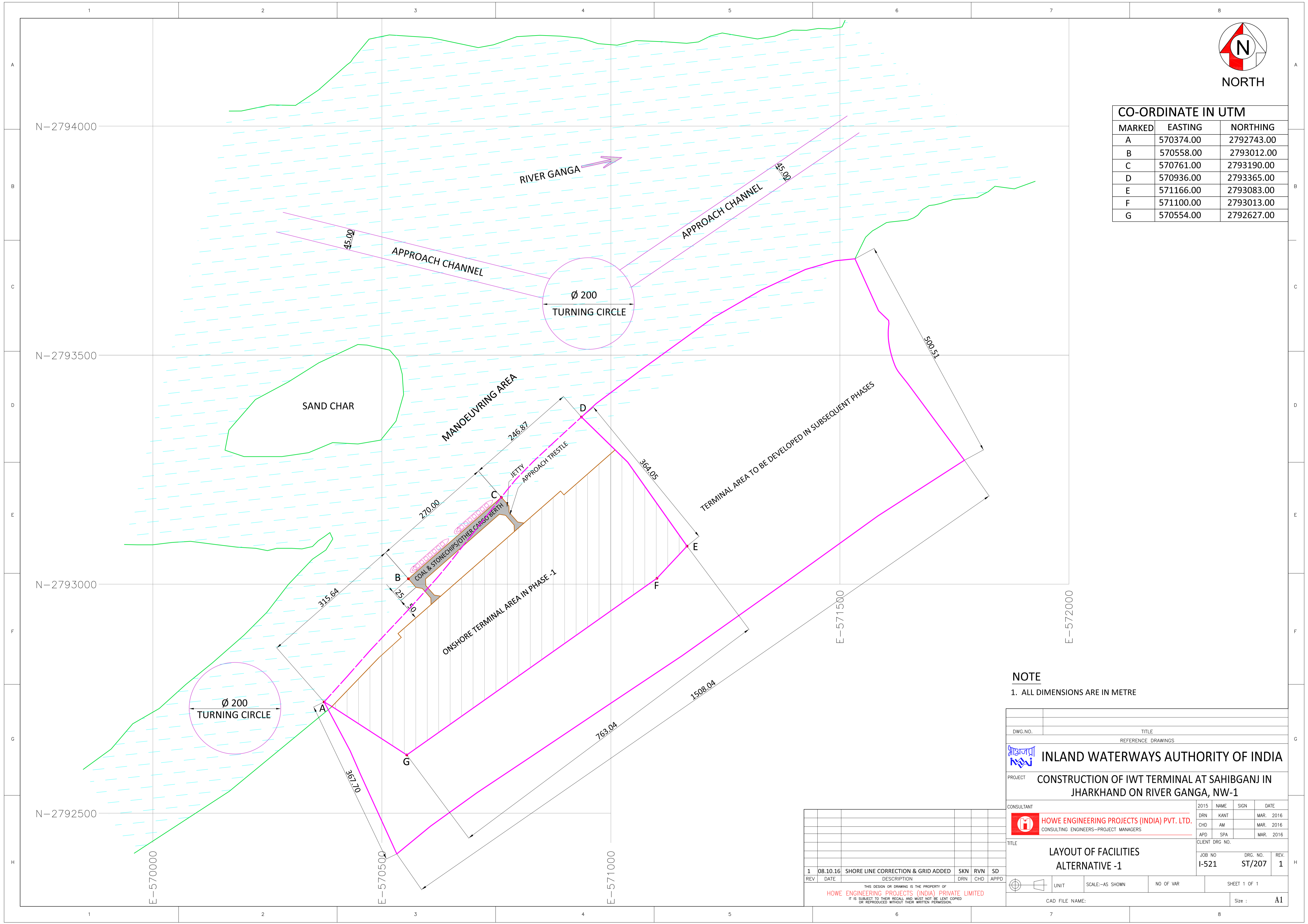
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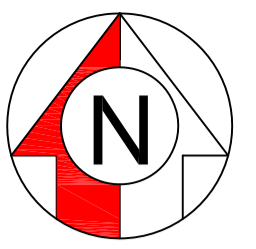
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D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00



**NOTE**  
1. ALL DIMENSIONS ARE IN METRE

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REFERENCE DRAWINGS			
		<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>	
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>LAYOUT OF FACILITIES</b>		JOB NO	DRG. NO.
<b>ALTERNATIVE -1</b>		I-521	ST/207
REV	DATE	DESCRIPTION	SKN
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN
			RVN
			SD
			DRN
			CHD
			APPD
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UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

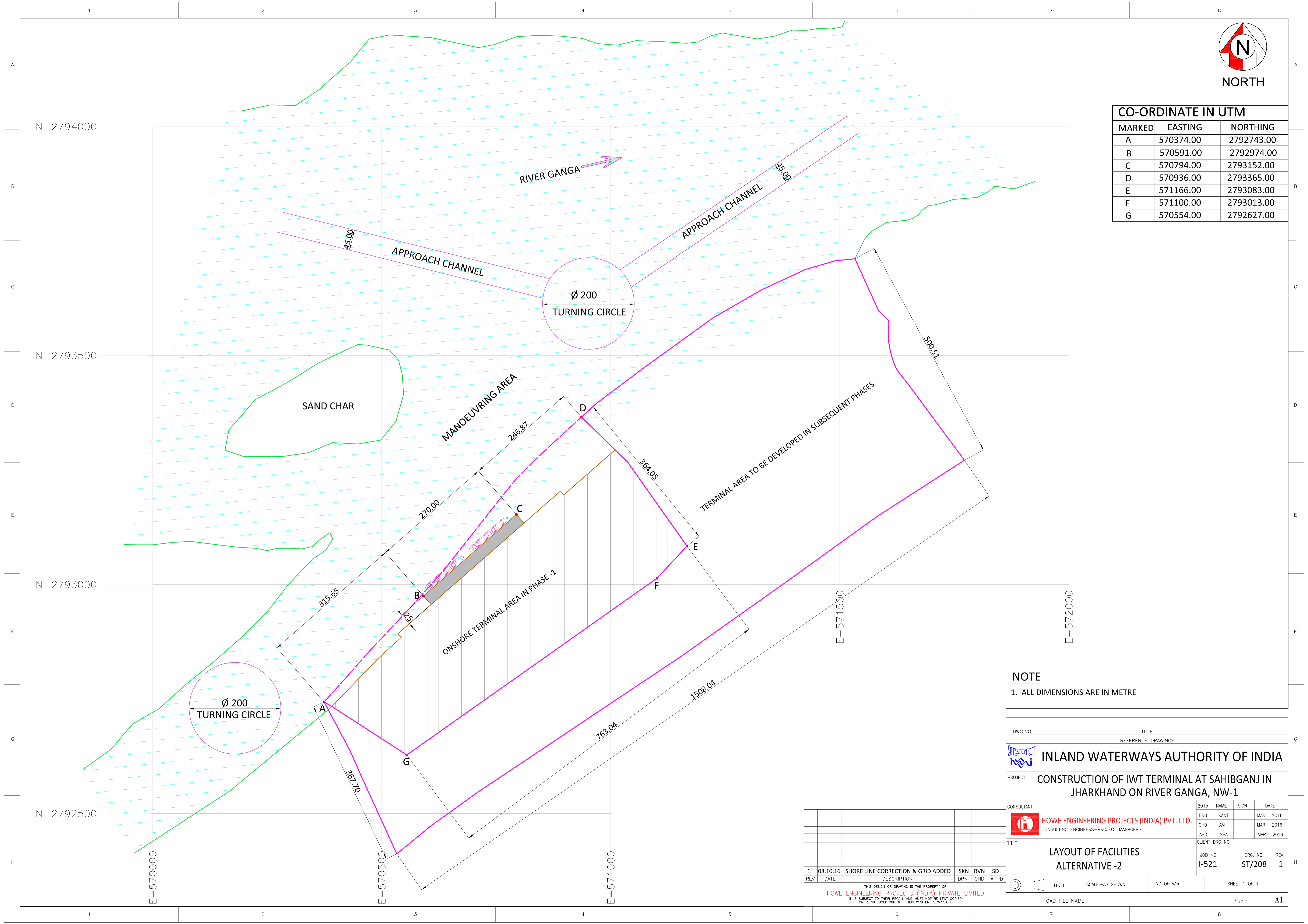




NORTH

CO-ORDINATE IN UTM

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F	571100.00	2793013.00
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NOTE

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DWG. NO.		TITLE	
REFERENCE DRAWINGS			
		<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>	
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT		2015	NAME
		DRN	KANT
CONSULTING ENGINEERS-PROJECT MANAGERS		CHD	AM
		APD	SPA
TITLE		2016	SIGN
<b>LAYOUT OF FACILITIES</b>		DRN	SD
<b>ALTERNATIVE - 2</b>		CHD	AM
		APD	SPA
CLIENT DRG. NO.		JOB NO	DRG. NO.
		I-521	ST/208
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UNIT		SCALE:-AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 1 OF 1	
		Size : <b>A1</b>	

REV	DATE	DESCRIPTION	DRN	CHD	APPD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

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CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
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B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
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**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> /600 m <sup>3</sup>	30X10	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> /500 m <sup>3</sup>	25X10	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1
10	DUMP POND	900 m <sup>2</sup> /1800 m <sup>3</sup>	30X30	1
11	ELECTRICAL SUB STATION	360 m <sup>2</sup>	20X18	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	165X60	1
14	HIGHMAST LIGHTING TOWERS	-	-	11
15	RAIN WATER HARVESTING POND	-	-	1
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1

**LEGEND**

- GREEN BELT
- STONE PITCHING
- RIVER GANGA

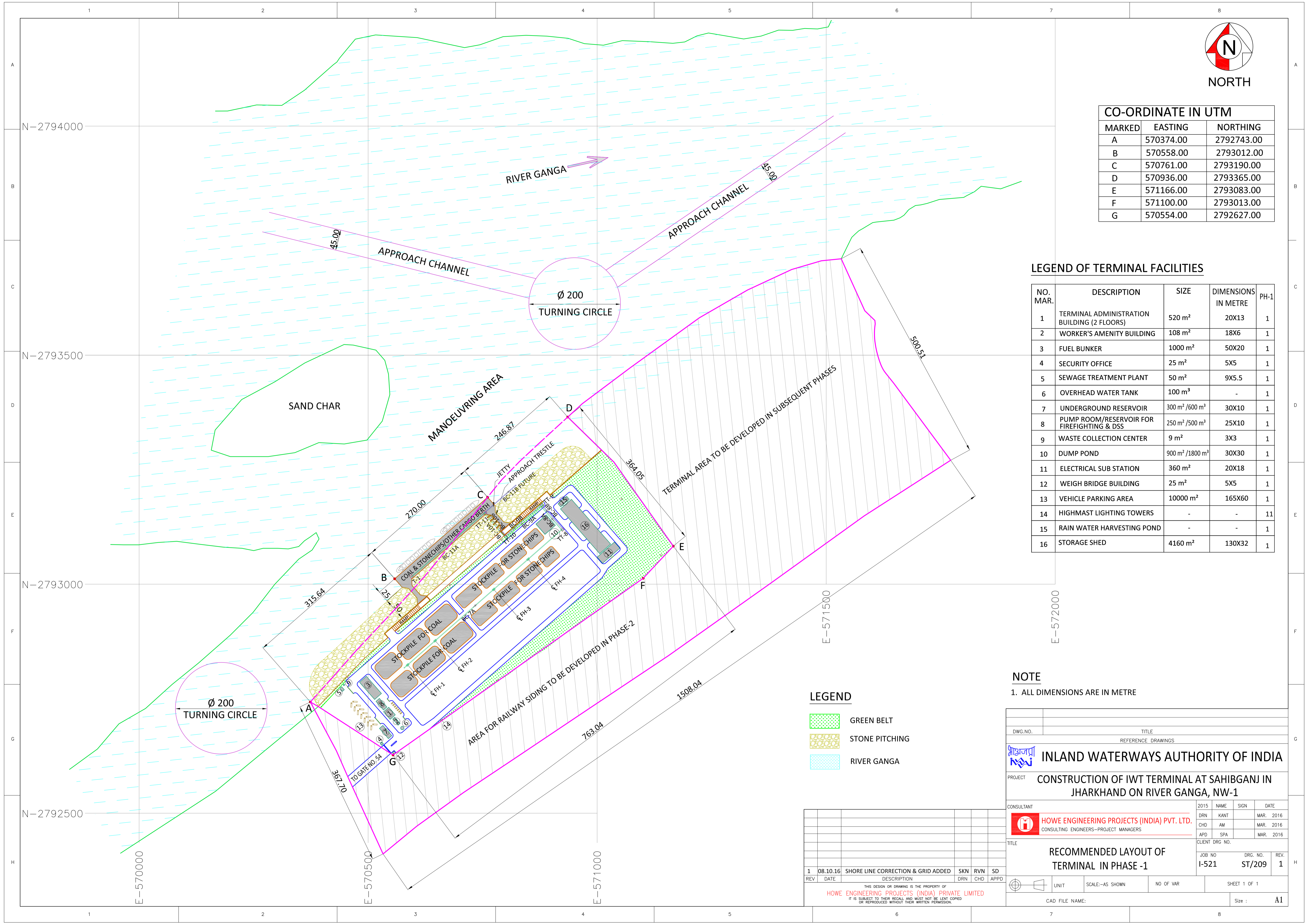
**NOTE**

1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE	CLIENT DRG. NO.		
<b>RECOMMENDED LAYOUT OF TERMINAL IN PHASE-1</b>	JOB NO.	DRG. NO.	REV.
	I-521	ST/209	1
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

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NORTH

CO-ORDINATE IN UTM

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00

LEGEND OF TERMINAL FACILITIES

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> /600 m <sup>3</sup>	30X10	1	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> /500 m <sup>3</sup>	25X10	1	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	1
10	DUMP POND	900 m <sup>2</sup> /1800 m <sup>3</sup>	30X30	1	2	3
11	ELECTRICAL SUB STATION	576 m <sup>2</sup>	32X18	1	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	21
15	RAIN WATER HARVESTING POND	-	-	1	1	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2

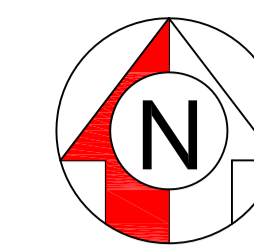
NOTE

1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
REV	DATE	DESCRIPTION	APPD
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>LAYOUT OF TERMINAL IN PHASE -2</b>		JOB NO.	DRG. NO.
		I-521	ST/210
		REV.	1
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CAD FILE NAME:		SHEET 1 OF 1	
		UNIT	Size : <b>A1</b>







NORTH

CO-ORDINATE IN UTM

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00

LEGEND OF TERMINAL FACILITIES


NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	MASTER PHASE	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>3</sup> /600 m <sup>3</sup>	30X10	1	-	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> /500 m <sup>3</sup>	25X10	1	-	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	-	1
10	DUMP POND	900 m <sup>2</sup> /1800 m <sup>3</sup>	30X30	1	2	1	4
11	ELECTRICAL SUB STATION	900 m <sup>2</sup>	50X18	1	-	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	-	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	-	21
15	RAIN WATER HARVESTING POND	-	-	1	1	-	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2	4

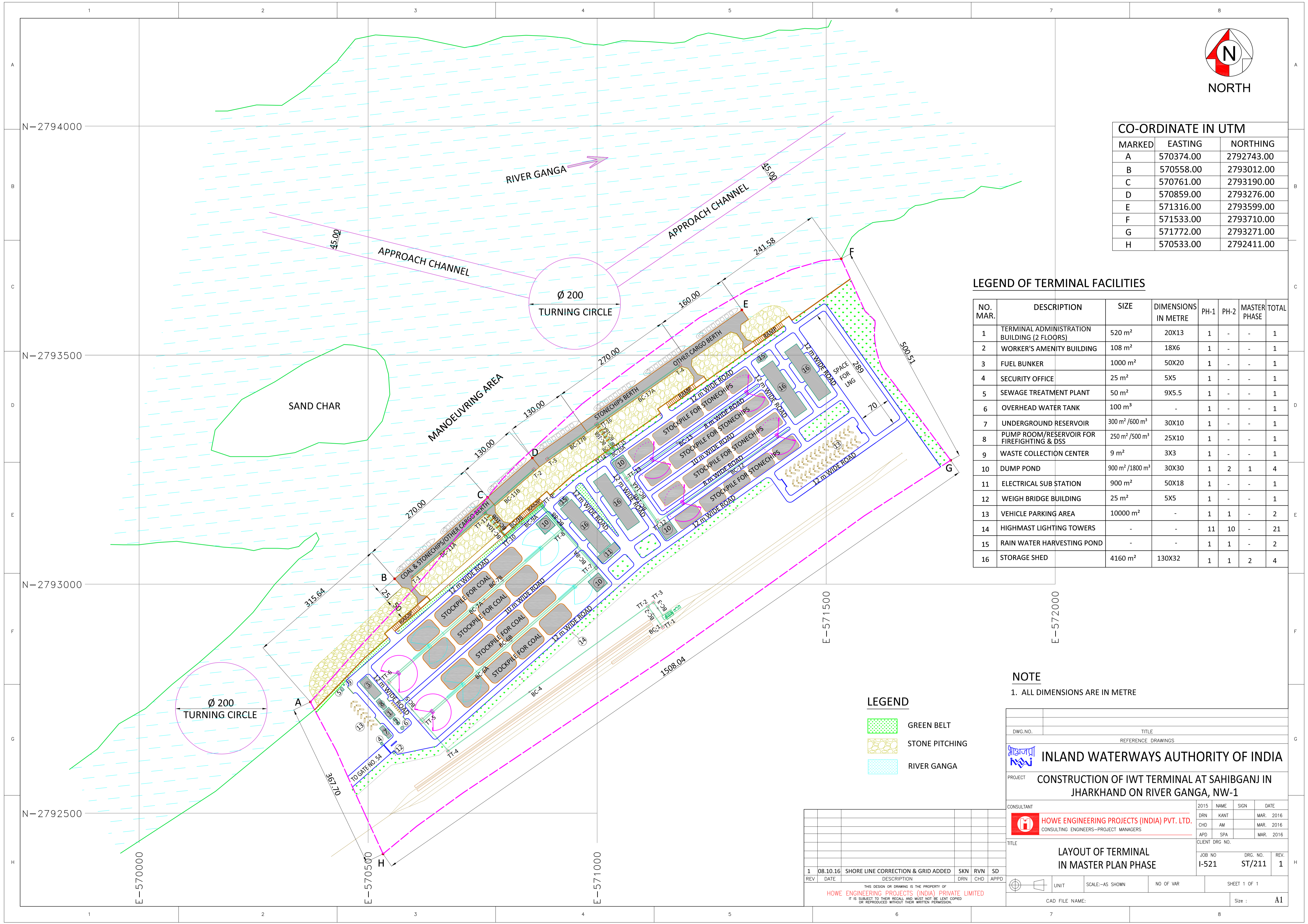
LEGEND

-  GREEN BELT
-  STONE PITCHING
-  RIVER GANGA

NOTE

1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE		JOB NO	DRG. NO.
<b>LAYOUT OF TERMINAL IN MASTER PLAN PHASE</b>		I-521	ST/211
REV		DATE	APPD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN
			RVN
			SD
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UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>



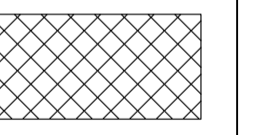
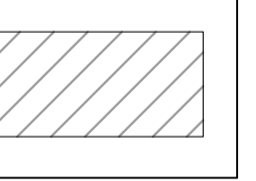




NORTH





**LEGEND:**

- IWT TERMINAL AREA FOR PHASE -1 
- TERMINAL AREA TO BE DEVELOPED IN SUBSEQUENT PHASES 

**NOTES:**

- 1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE				
	REFERENCE DRAWINGS				
	<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>				
PROJECT	CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1				
CONSULTANT	2015	NAME	SIGN	DATE	
	DRN	KANT		MAR. 2016	
	CHD	AM		MAR. 2016	
	APD	SPA		MAR. 2016	
TITLE	CLIENT DRG. NO.		JOB NO.	DRG. NO.	REV.
<b>EXTENT OF DIFFERENT PHASES OF IWT TERMINAL AT SAHIBGANJ</b>			I-521	ST/212	1
UNIT		SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1	
CAD FILE NAME:			Size : <b>A1</b>		

REV	DATE	DESCRIPTION	SKN DRN	RVN CHD	SD APPD
1	08.10.16	BOUNDARY MODIFICATION			

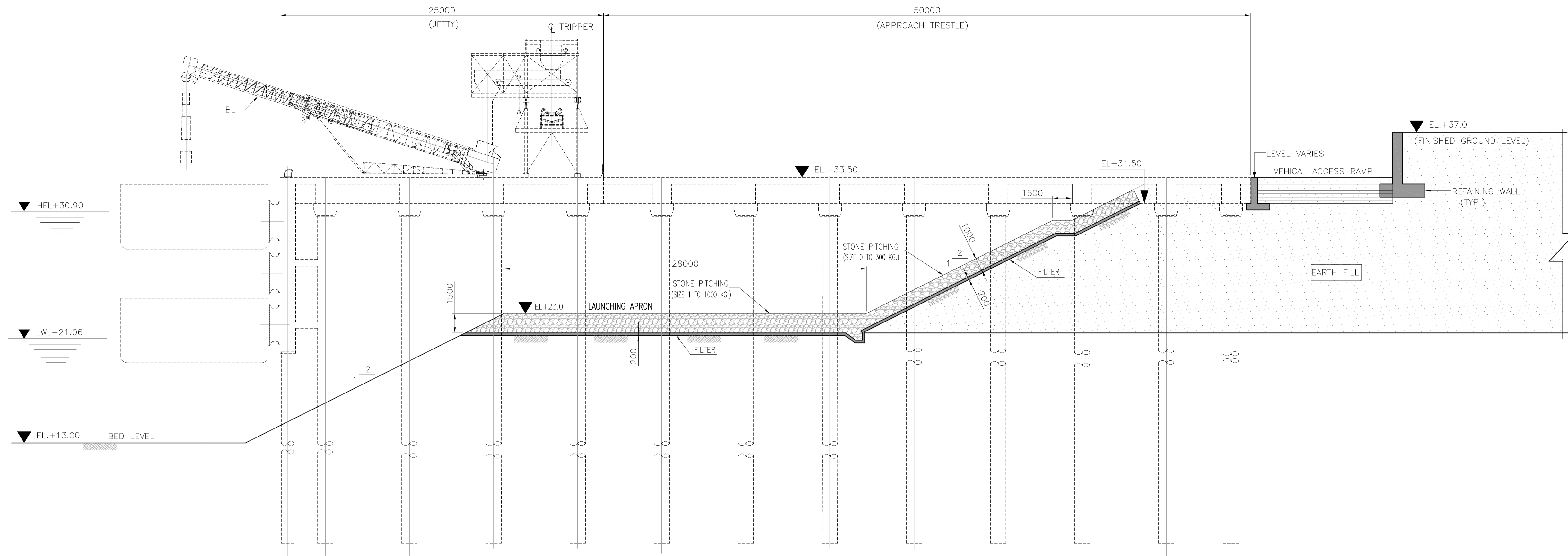
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**Samda Nala**

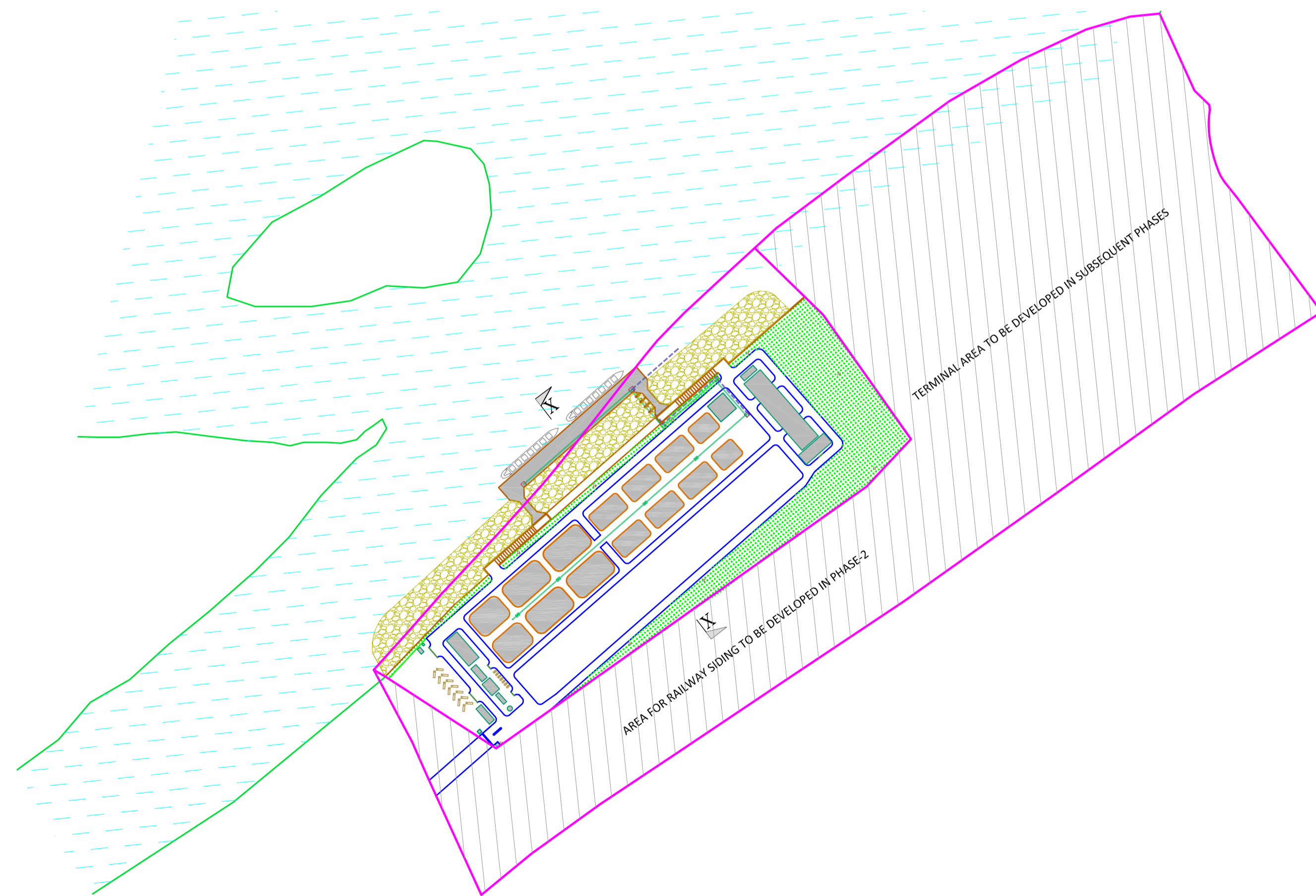
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TYPICAL DETAILS OF SHORE PROTECTION WORK



KEY PLAN

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRE
2. ALL LEVELS ARE IN METRE

DWG. NO.		TITLE	
		REFERENCE DRAWINGS	
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>DETAILS OF SHORE PROTECTION WORK</b>		JOB NO.	DRG. NO.
		I-521	ST/213
REV		DATE	REV.
1	08.10.16	GENERAL REVISED	1
DRN	RVN	SD	
CHD	CHD	APPD	
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UNIT	SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

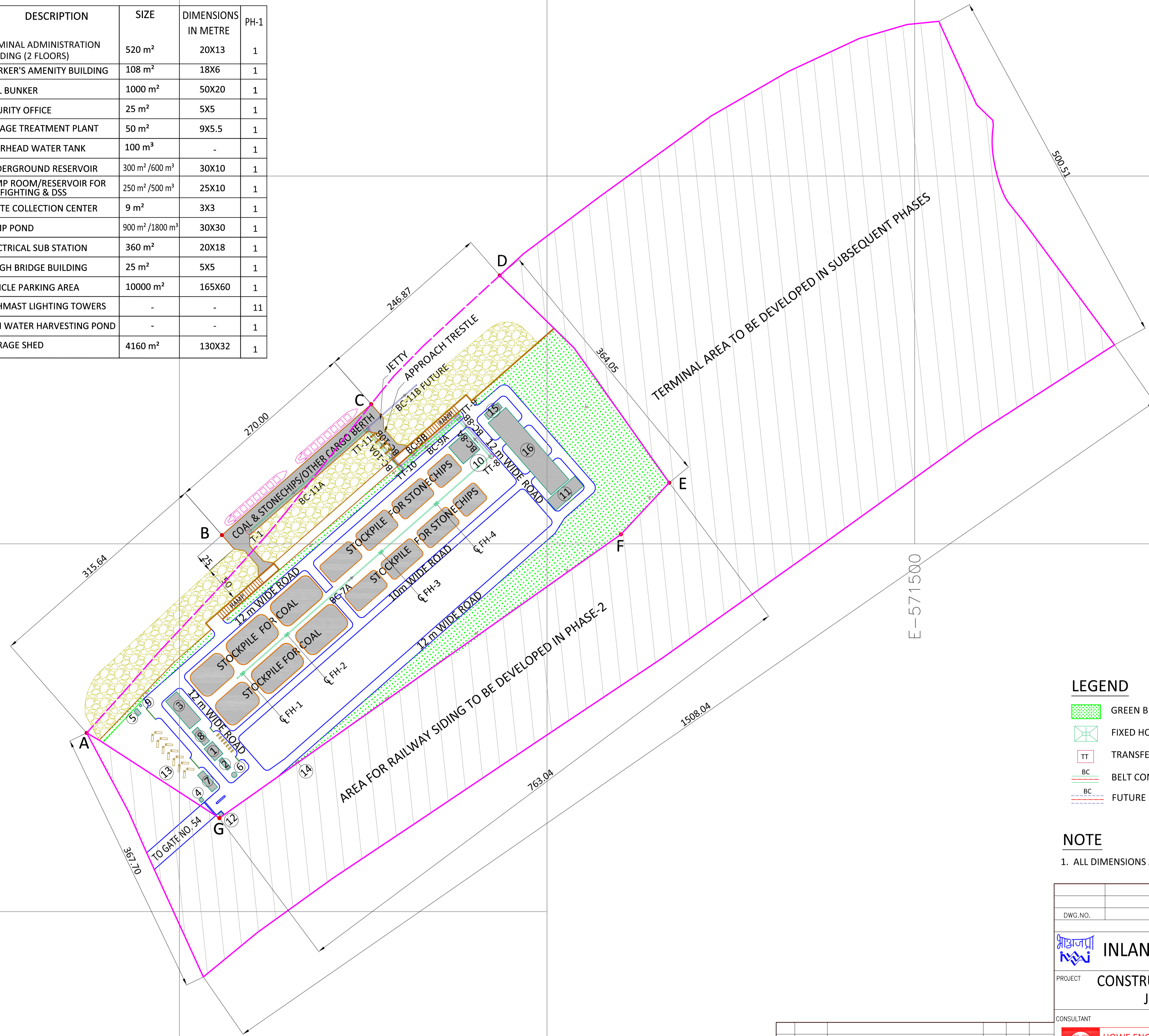


**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> / 600 m <sup>3</sup>	30X10	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> / 500 m <sup>3</sup>	25X10	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1
11	ELECTRICAL SUB STATION	360 m <sup>2</sup>	20X18	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	165X60	1
14	HIGHMAST LIGHTING TOWERS	-	-	11
15	RAIN WATER HARVESTING POND	-	-	1
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1



CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00



**LEGEND**

- GREEN BELT
- FIXED HOPPER
- TRANSFER TOWER
- BELT CONVEYOR
- FUTURE BELT CONVEYOR

**NOTE**

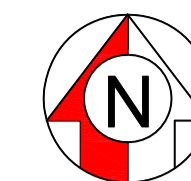
1. ALL DIMENSIONS ARE IN METRE

DWG. NO.		TITLE	
		REFERENCE DRAWINGS	
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>ONSHORE LAYOUT OF TERMINAL FACILITIES IN PHASE -1</b>		JOB NO	DRG. NO.
		I-521	ST/214
REV		DATE	DESCRIPTION
1	08.10.16		SHORE LINE CORRECTION & GRID ADDED
SKN	RVN	SD	
DRN	CHD	APPD	
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UNIT	SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>



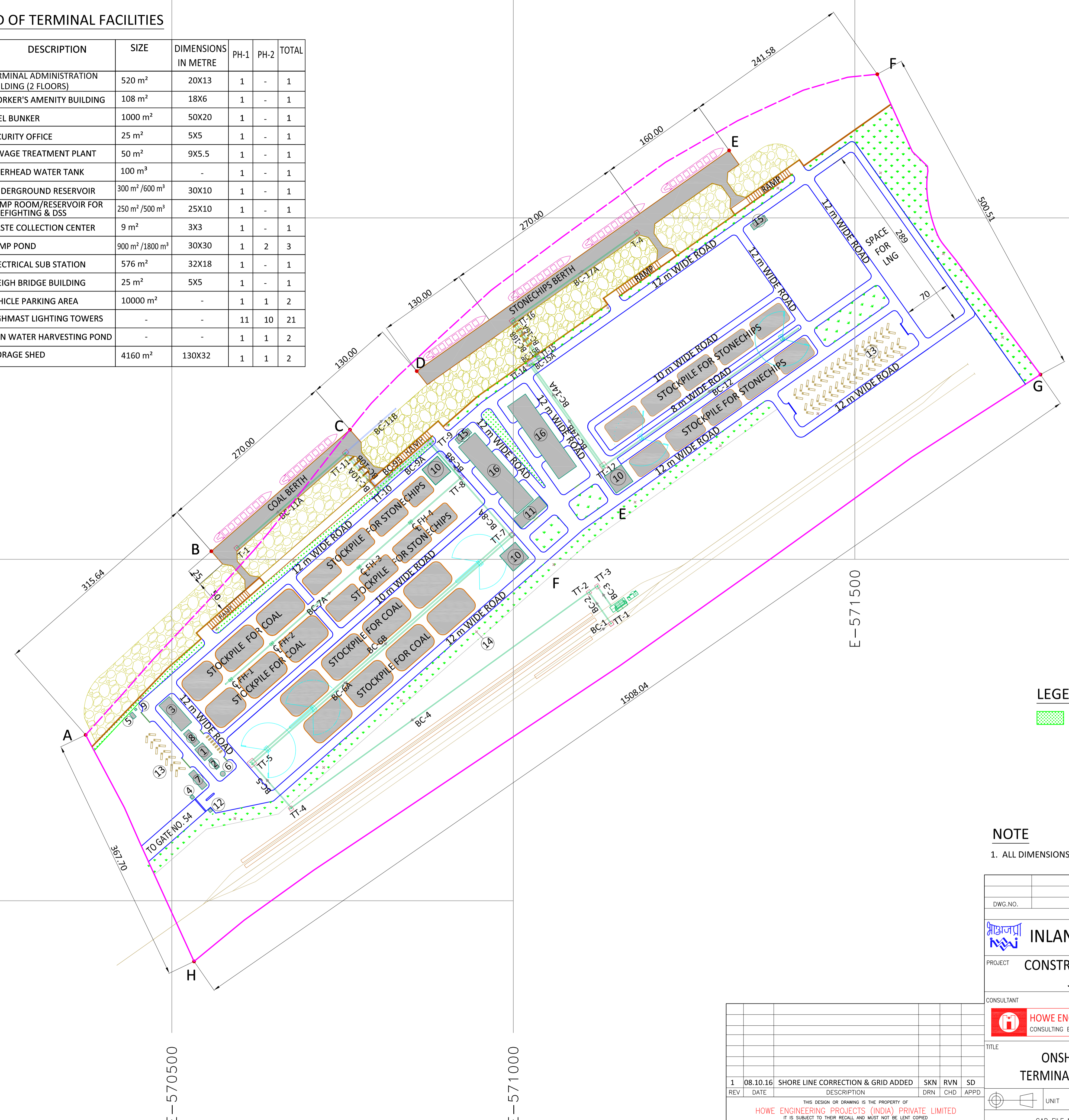
**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> / 600 m <sup>3</sup>	30X10	1	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> / 500 m <sup>3</sup>	25X10	1	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1	2	3
11	ELECTRICAL SUB STATION	576 m <sup>2</sup>	32X18	1	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	21
15	RAIN WATER HARVESTING POND	-	-	1	1	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2



NORTH

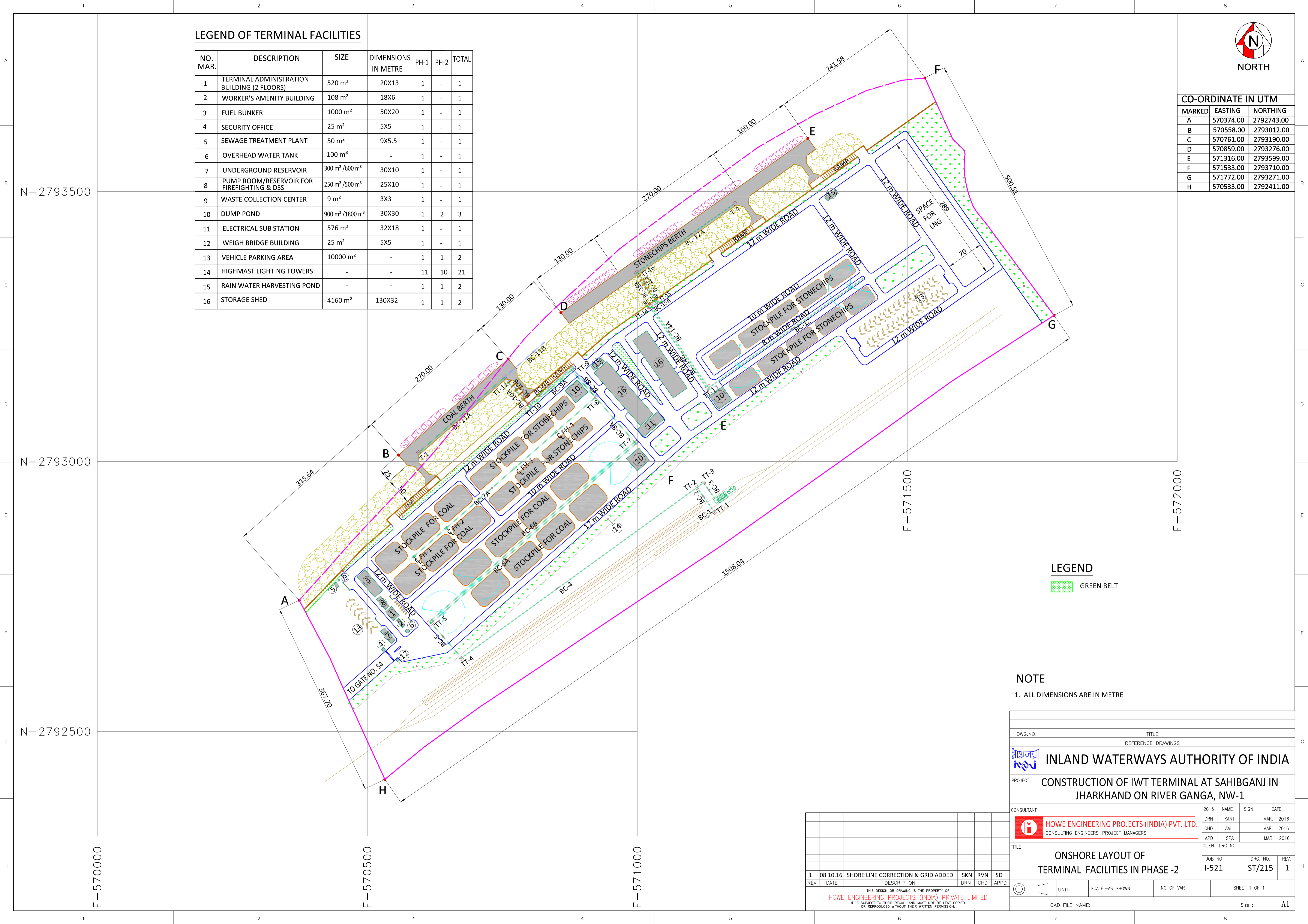
CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



**LEGEND**  
 GREEN BELT

**NOTE**  
 1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE			CLIENT DRG. NO.
<b>ONSHORE LAYOUT OF TERMINAL FACILITIES IN PHASE -2</b>			JOB NO. DRG. NO. REV.
			I-521 ST/215 1
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN RVN SD
REV	DATE	DESCRIPTION	DRN CHD APPD
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UNIT		SCALE:--AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 1 OF 1	
			Size : <b>A1</b>





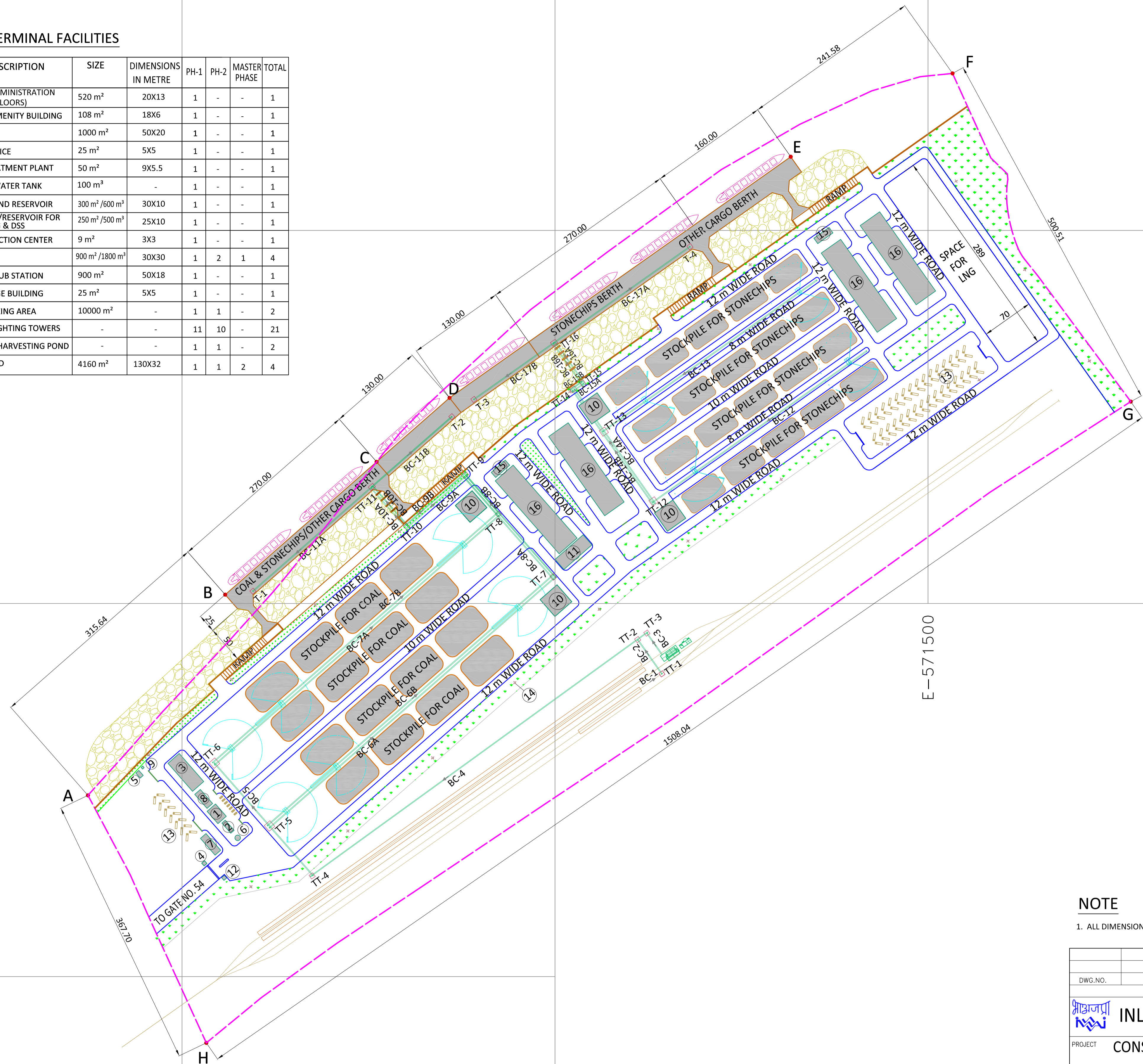
**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	MASTER PHASE	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>3</sup> / 600 m <sup>3</sup>	30X10	1	-	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>3</sup> / 500 m <sup>3</sup>	25X10	1	-	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	-	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1	2	1	4
11	ELECTRICAL SUB STATION	900 m <sup>2</sup>	50X18	1	-	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	-	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	-	21
15	RAIN WATER HARVESTING POND	-	-	1	1	-	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2	4



NORTH

CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



**LEGEND**  
 GREEN BELT

**NOTE**  
 1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>ONSHORE LAYOUT OF TERMINAL FACILITIES IN MASTER PLAN PHASE</b>		JOB NO	DRG. NO.
		I-521	ST/216
REV	DATE	DESCRIPTION	REV.
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	1
SKN	RVN	SD	
DRN	CHD	APPD	
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UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

N-2793500

N-2793000

N-2792500

E-570000

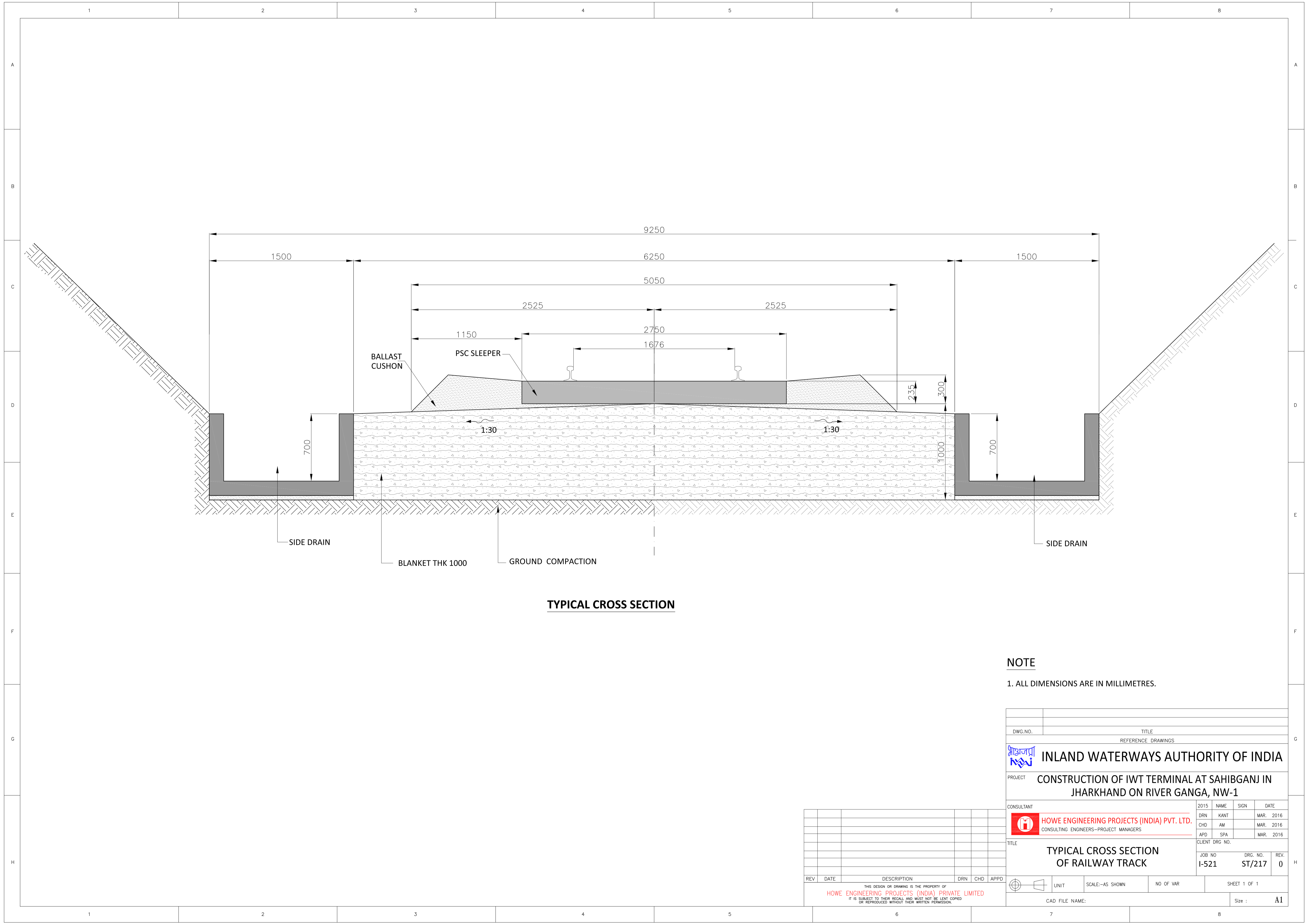
E-570500

E-571000

E-571500

E-572000





BALLAST CUSHION

PSC SLEEPER

SIDE DRAIN

BLANKET THK 1000



GROUND COMPACTION

SIDE DRAIN

**TYPICAL CROSS SECTION**

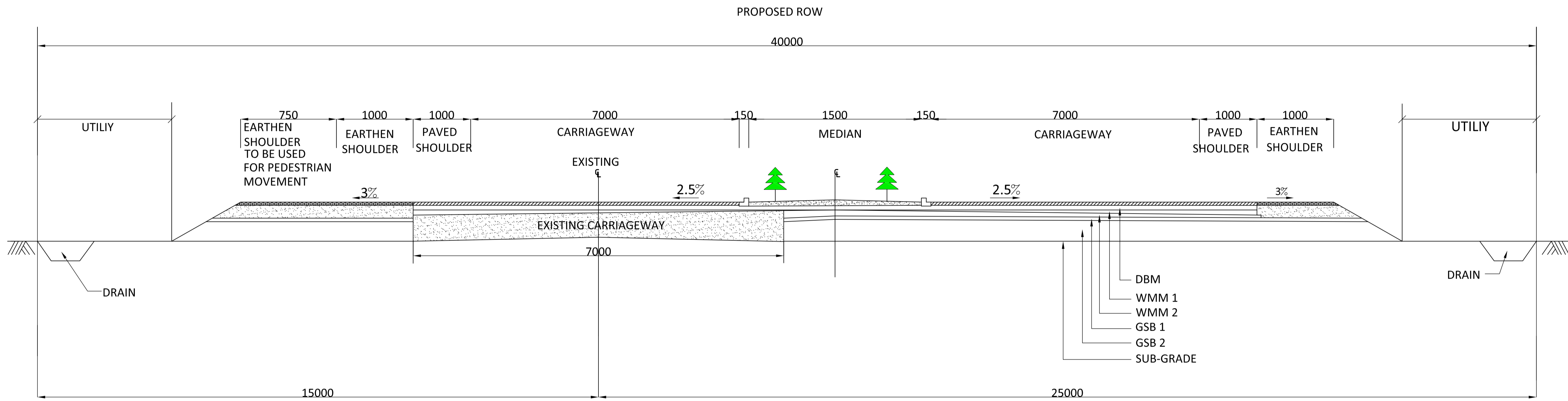
**NOTE**

1. ALL DIMENSIONS ARE IN MILLIMETRES.

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT		2015	NAME
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		DRN	KANT
		CHD	AM
		APPD	SPA
TITLE		DATE	
<b>TYPICAL CROSS SECTION OF RAILWAY TRACK</b>		2016	MAR.
		REV.	
		0	
JOB NO		DRG. NO.	REV.
I-521		ST/217	0
CLIENT DRG. NO.			
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:		Size : <b>A1</b>	

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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LEGEND	
GSB	- GRANULAR SUB BASE
WMM	- WATER MIXED MACADAM
DBM	- DENSE BITUMINOUS MACADAM
BC	- BITUMINOUS CONCRETE

**NOTES**

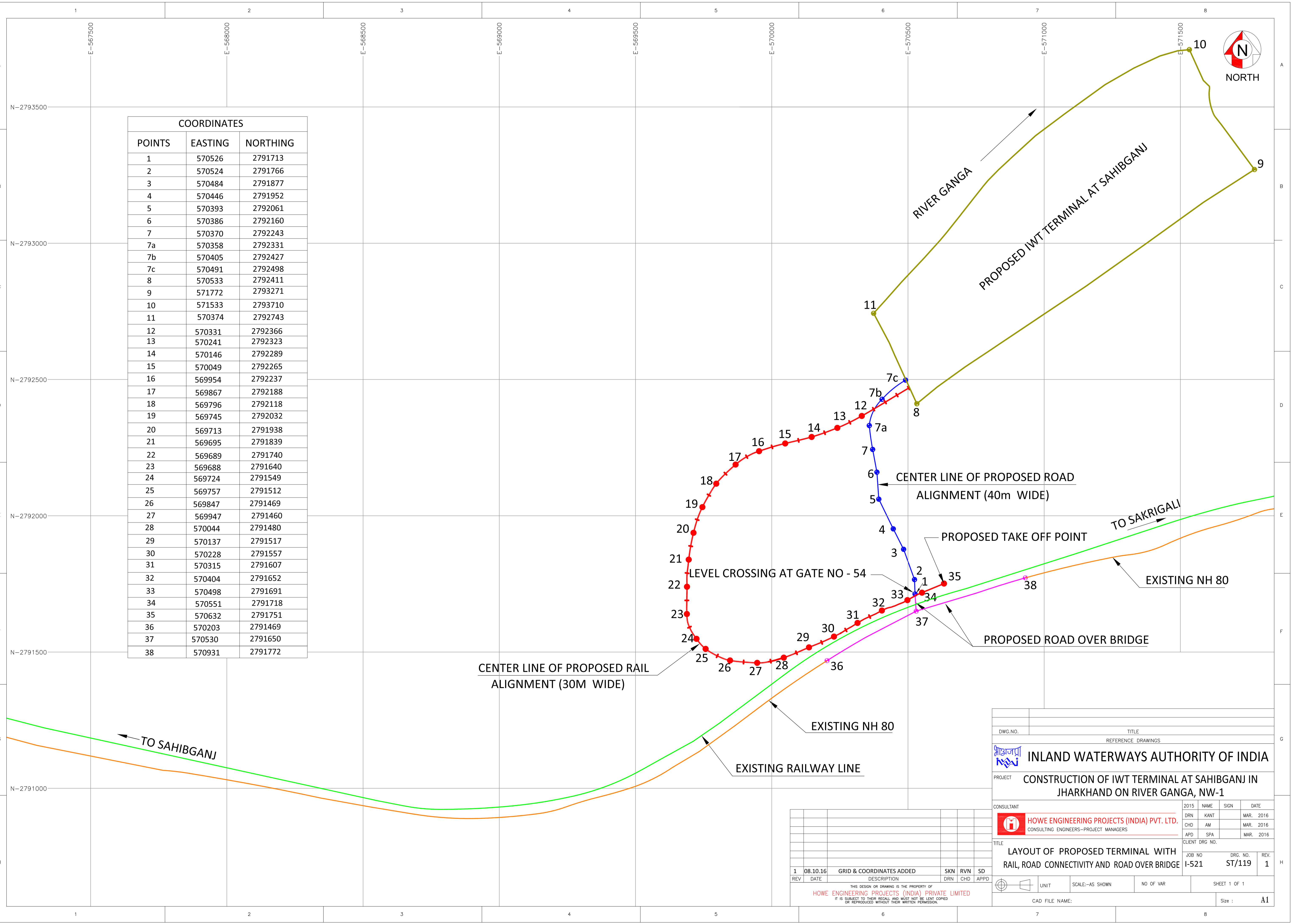
1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
2. ALL DIMENSIONS ARE IN MILLIMETERS

REV	DATE	DESCRIPTION	DRN	CHD	APPD

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE	CLIENT DRG. NO.		
<b>TYPICAL CROSS SECTION FOR FOUR LANE ROAD</b>		JOB NO	DRG. NO.
		I-521	ST/218
		REV.	
			0
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CAD FILE NAME:		NO OF VAR	SHEET 1 OF 1
			Size : <b>A1</b>



COORDINATES		
POINTS	EASTING	NORTHING
1	570526	2791713
2	570524	2791766
3	570484	2791877
4	570446	2791952
5	570393	2792061
6	570386	2792160
7	570370	2792243
7a	570358	2792331
7b	570405	2792427
7c	570491	2792498
8	570533	2792411
9	571772	2793271
10	571533	2793710
11	570374	2792743
12	570331	2792366
13	570241	2792323
14	570146	2792289
15	570049	2792265
16	569954	2792237
17	569867	2792188
18	569796	2792118
19	569745	2792032
20	569713	2791938
21	569695	2791839
22	569689	2791740
23	569688	2791640
24	569724	2791549
25	569757	2791512
26	569847	2791469
27	569947	2791460
28	570044	2791480
29	570137	2791517
30	570228	2791557
31	570315	2791607
32	570404	2791652
33	570498	2791691
34	570551	2791718
35	570632	2791751
36	570203	2791469
37	570530	2791650
38	570931	2791772

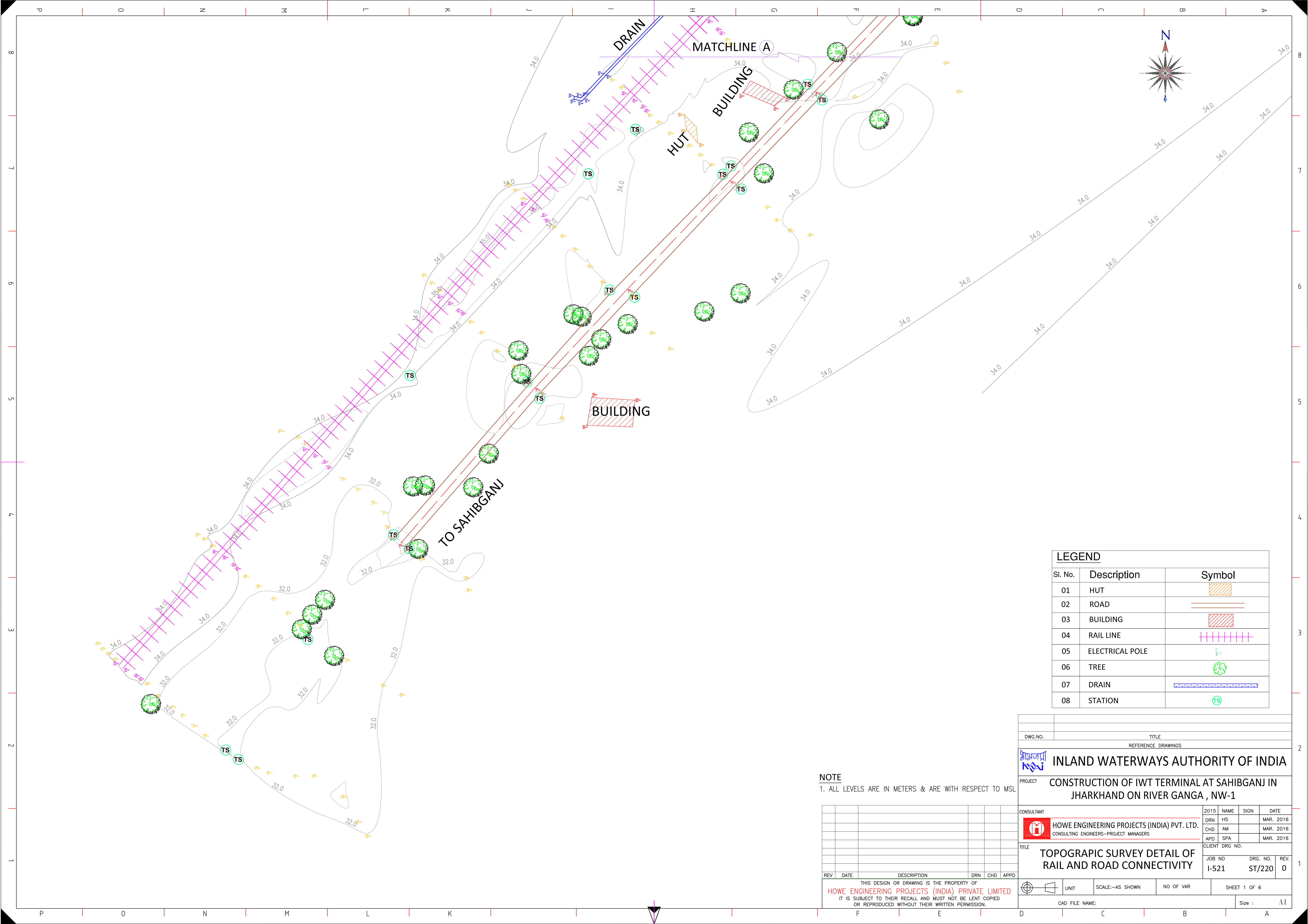


REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	GRID & COORDINATES ADDED			
			DRN	CHD	APPD

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DWG. NO.		TITLE	
REFERENCE DRAWINGS			
		<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>	
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT		2015 NAME	SIGN DATE
		DRN	KANT MAR. 2016
		CHD	AM MAR. 2016
		APPD	SPA MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>LAYOUT OF PROPOSED TERMINAL WITH RAIL, ROAD CONNECTIVITY AND ROAD OVER BRIDGE</b>		JOB NO	DRG. NO. REV.
		I-521	ST/119 1
UNIT		SCALE:--AS SHOWN	NO OF VAR
			SHEET 1 OF 1
CAD FILE NAME:		Size : <b>A1</b>	





LEGEND		
Sl. No.	Description	Symbol
01	HUT	
02	ROAD	
03	BUILDING	
04	RAIL LINE	
05	ELECTRICAL POLE	
06	TREE	
07	DRAIN	
08	STATION	

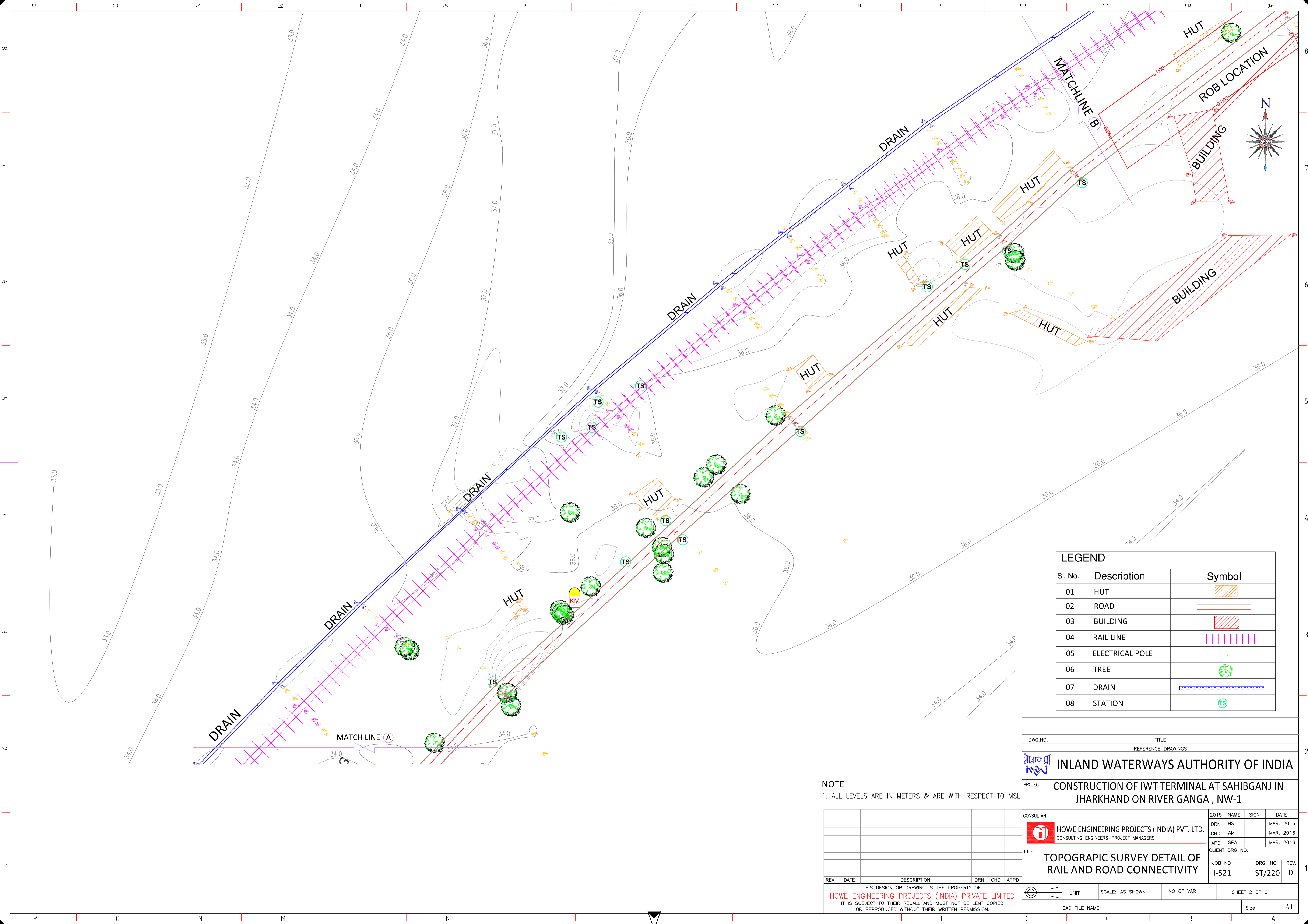
**NOTE**  
1. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL.

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.		TITLE		
REFERENCE DRAWINGS				
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>				
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA , NW-1</b>				
CONSULTANT	2015	NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	HS		MAR. 2016
	CHD	AM		MAR. 2016
	APPD	SPA		MAR. 2016
TITLE		CLIENT DRG NO.		
<b>TOPOGRAPHIC SURVEY DETAIL OF RAIL AND ROAD CONNECTIVITY</b>		JOB NO	DRG. NO.	REV.
		I-521	ST/220	0
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 6	
CAD FILE NAME:			Size : A1	





LEGEND		
Sl. No.	Description	Symbol
01	HUT	
02	ROAD	
03	BUILDING	
04	RAIL LINE	
05	ELECTRICAL POLE	
06	TREE	
07	DRAIN	
08	STATION	

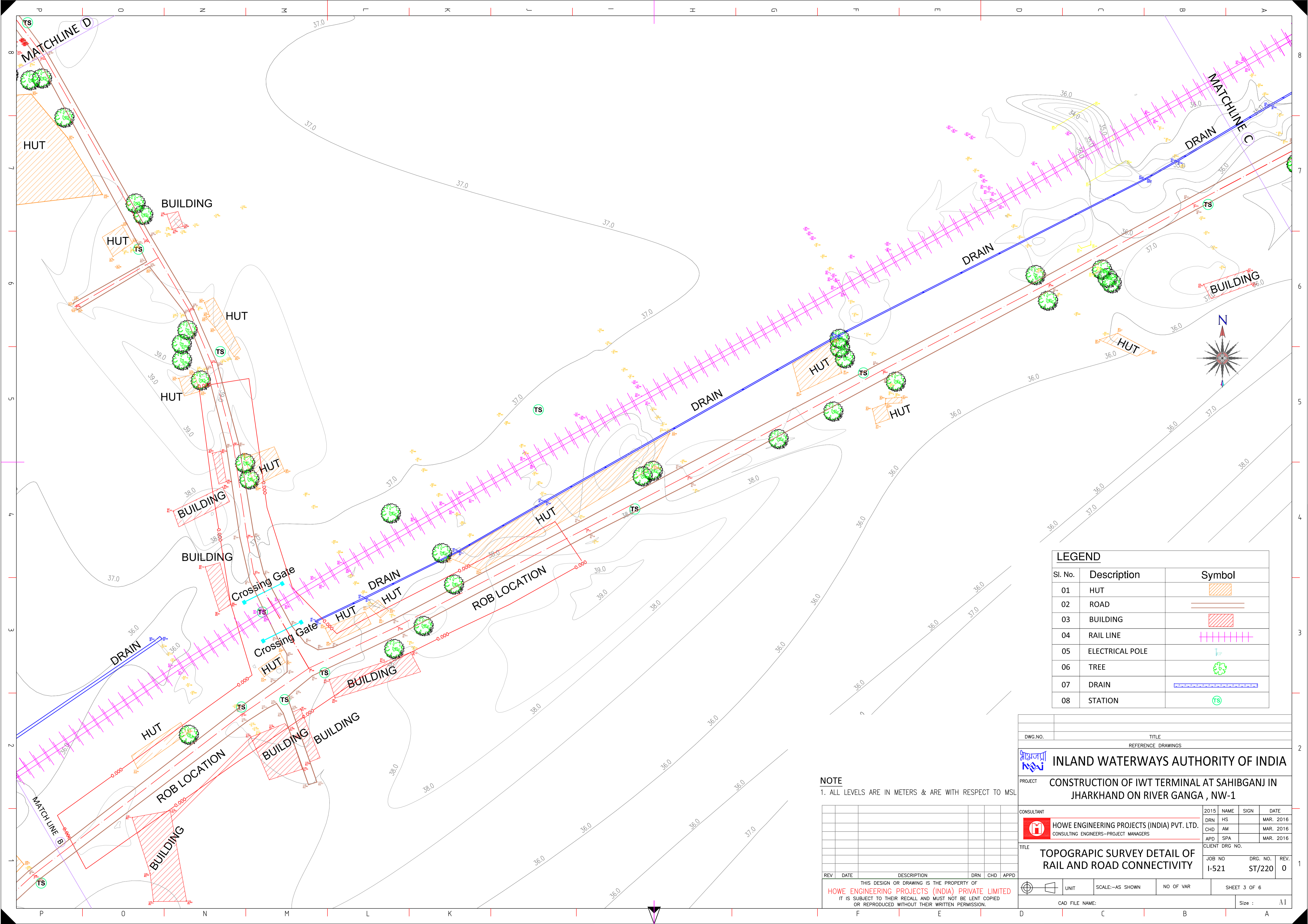
**NOTE**  
1. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.		TITLE	
REFERENCE DRAWINGS			
		<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>	
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT		2015	NAME
		DRN	HS
HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.		CHD	AM
CONSULTING ENGINEERS-PROJECT MANAGERS		APPD	SPA
TITLE		DATE	REV.
<b>TOPOGRAPHIC SURVEY DETAIL OF RAIL AND ROAD CONNECTIVITY</b>		MAR. 2016	MAR. 2016
CLIENT DRG. NO.		MAR. 2016	MAR. 2016
JOB NO	DRG. NO.	REV.	
I-521	ST/220	0	
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 2 OF 6
CAD FILE NAME:		Size : A1	





LEGEND		
Sl. No.	Description	Symbol
01	HUT	[Hatched Box]
02	ROAD	[Red Line]
03	BUILDING	[Hatched Box]
04	RAIL LINE	[Pink Line]
05	ELECTRICAL POLE	[Pole Symbol]
06	TREE	[Green Tree Symbol]
07	DRAIN	[Blue Line]
08	STATION	[TS Circle]

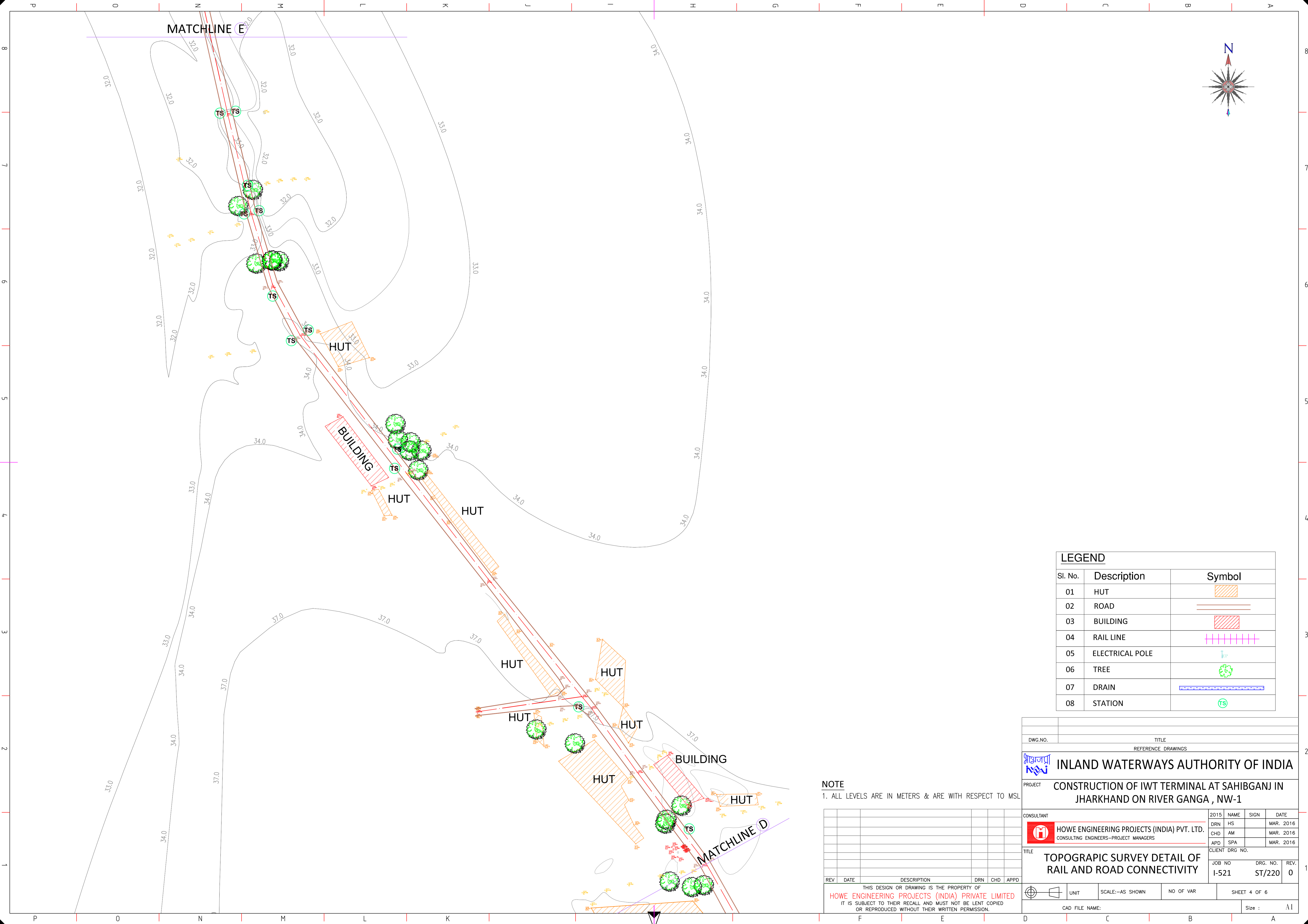
**NOTE**  
1. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	NAME
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		HS	SIGN
TITLE		DATE	
<b>TOPOGRAPHIC SURVEY DETAIL OF RAIL AND ROAD CONNECTIVITY</b>		MAR. 2016	
CLIENT DRG. NO.			
JOB NO		DRG. NO.	REV.
I-521		ST/220	0
UNIT		SCALE:-AS SHOWN	NO OF VAR
CAD FILE NAME:			SHEET 3 OF 6
			Size : A1





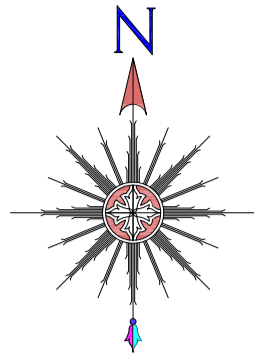
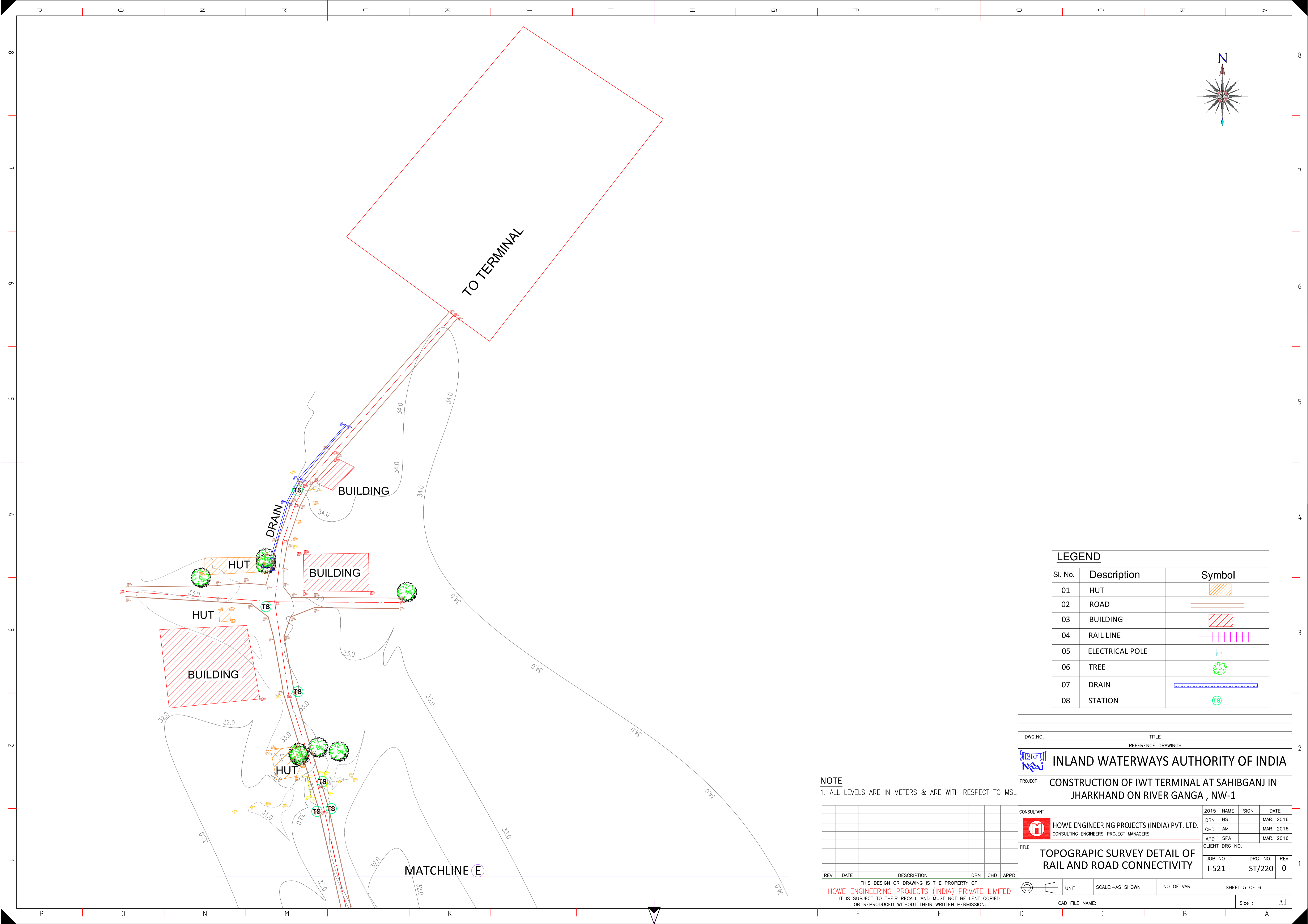
LEGEND		
Sl. No.	Description	Symbol
01	HUT	
02	ROAD	
03	BUILDING	
04	RAIL LINE	
05	ELECTRICAL POLE	
06	TREE	
07	DRAIN	
08	STATION	

**NOTE**  
1. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.	TITLE			
REFERENCE DRAWINGS				
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>				
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA , NW-1				
CONSULTANT	2015	NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	HS		MAR. 2016
	CHD	AM		MAR. 2016
	APD	SPA		MAR. 2016
TITLE				
<b>TOPOGRAPHIC SURVEY DETAIL OF RAIL AND ROAD CONNECTIVITY</b>				
CLIENT DRG NO.				
JOB NO	DRG. NO.	REV.		
I-521	ST/220	0		
UNIT		SCALE:-AS SHOWN	NO OF VAR	SHEET 4 OF 6
CAD FILE NAME:				Size : A1



TO TERMINAL

DRAIN

BUILDING

HUT

BUILDING

HUT

BUILDING

HUT

MATCHLINE (E)

LEGEND		
Sl. No.	Description	Symbol
01	HUT	
02	ROAD	
03	BUILDING	
04	RAIL LINE	
05	ELECTRICAL POLE	
06	TREE	
07	DRAIN	
08	STATION	

**NOTE**

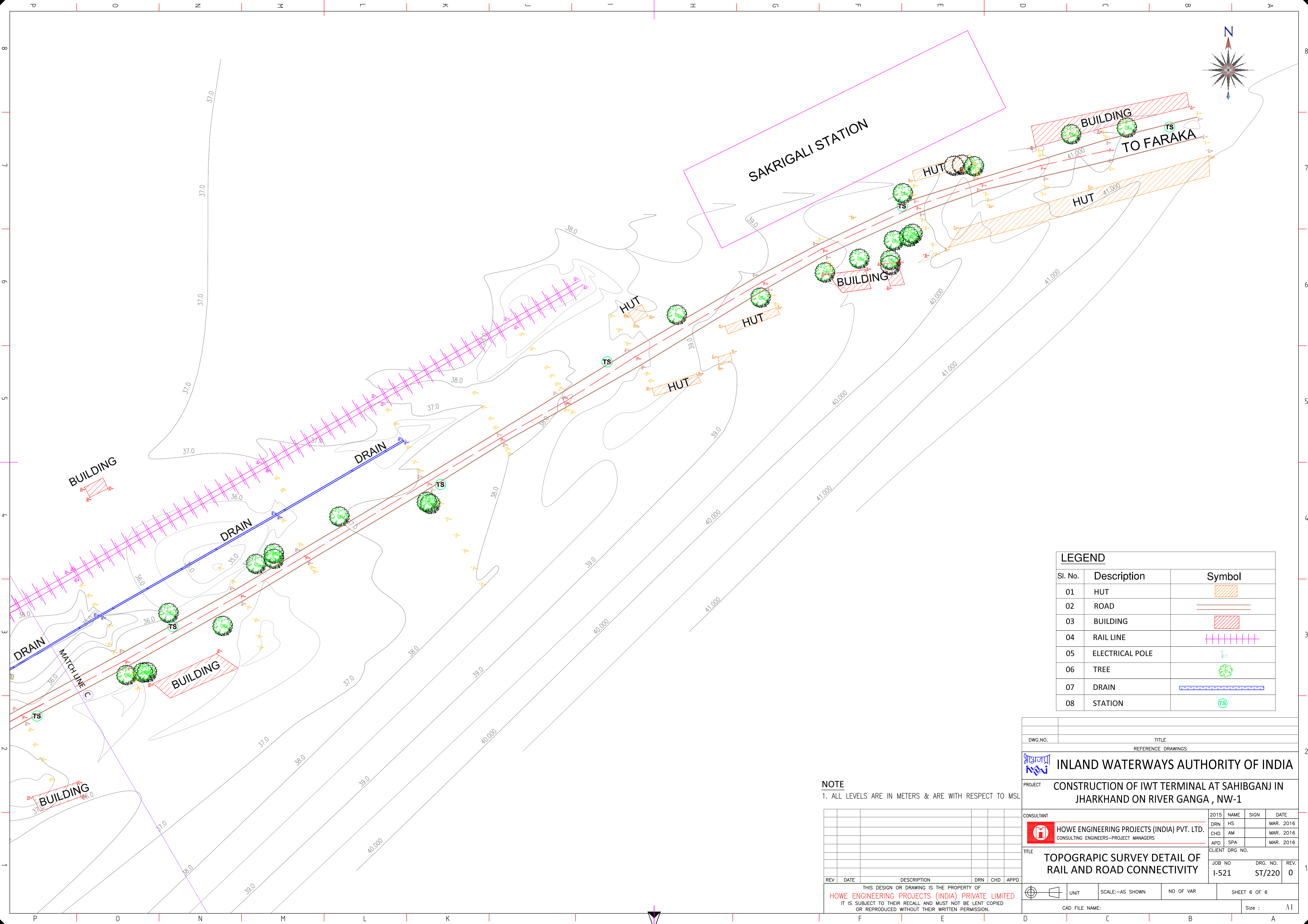
1. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.		TITLE	
REFERENCE DRAWINGS			
		<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>	
PROJECT		<b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA , NW-1</b>	
CONSULTANT	2015	NAME	SIGN
	DRN	HS	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE	CLIENT DRG NO.		
<b>TOPOGRAPHIC SURVEY DETAIL OF RAIL AND ROAD CONNECTIVITY</b>	JOB NO	DRG. NO.	REV.
	I-521	ST/220	0
UNIT		SCALE:-AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 5 OF 6	
			Size : A1





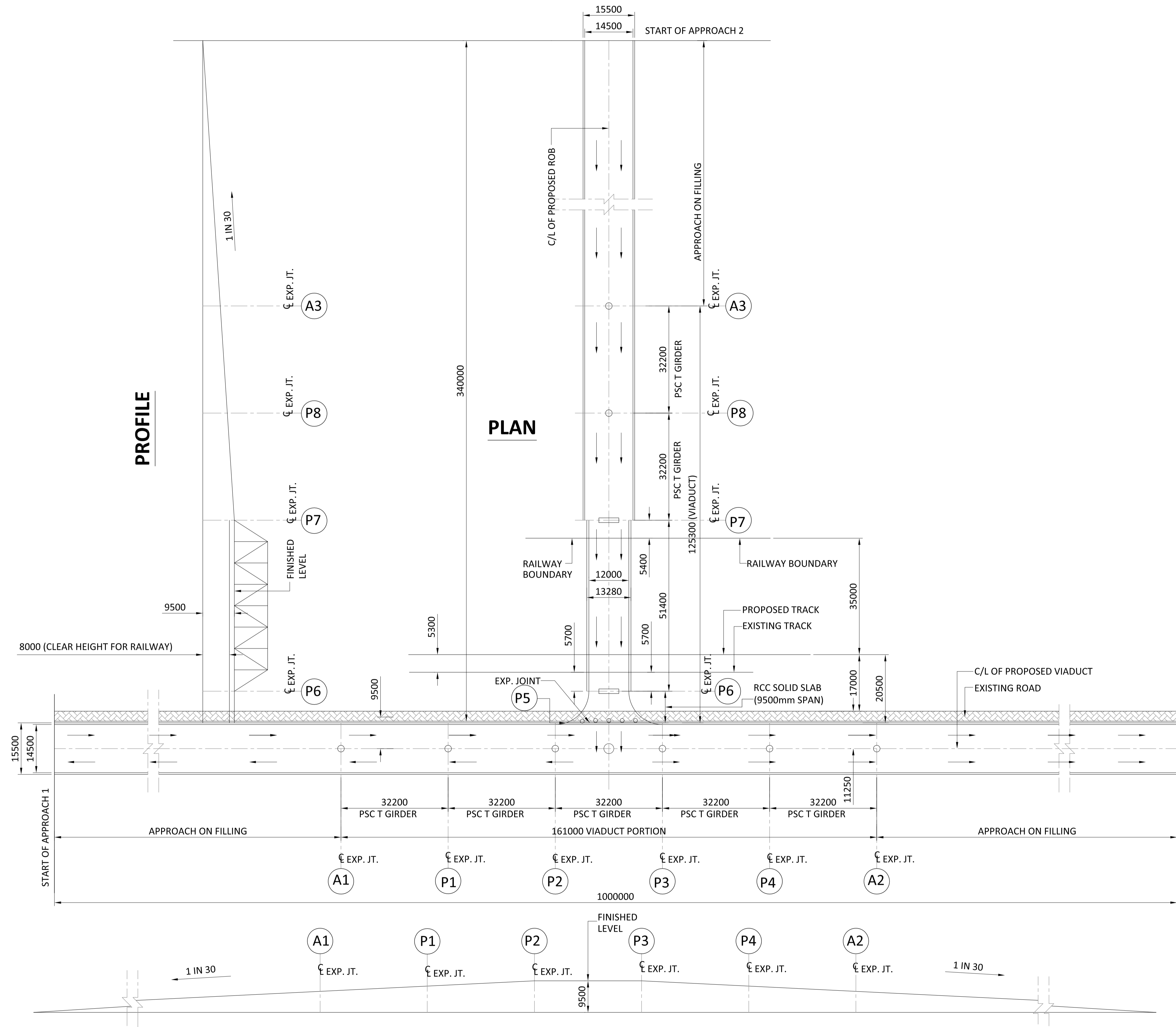
LEGEND		
Sl. No.	Description	Symbol
01	HUT	
02	ROAD	
03	BUILDING	
04	RAIL LINE	
05	ELECTRICAL POLE	
06	TREE	
07	DRAIN	
08	STATION	

**NOTE**  
1. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL



REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.	TITLE			
REFERENCE DRAWINGS				
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>				
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA , NW-1</b>				
CONSULTANT	2015	NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	HS		MAR. 2016
	CHD	AM		MAR. 2016
	APPD	SPA		MAR. 2016
TITLE		CLIENT DRG NO.		
<b>TOPOGRAPHIC SURVEY DETAIL OF RAIL AND ROAD CONNECTIVITY</b>		JOB NO	DRG. NO.	REV.
		I-521	ST/220	0
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 6 OF 6	
CAD FILE NAME:			Size :	A1



**NOTE**  
1. ALL DIMENSIONS ARE IN MILLIMETRES.

DWG. NO.		TITLE	
		REFERENCE DRAWINGS	
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT	2015	NAME	SIGN
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>GENERAL ARRANGEMENT OF ROAD OVER BRIDGE</b>		JOB NO	DRG. NO.
		I-521	ST/221
		REV.	
			0
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:		Size : <b>A1</b>	

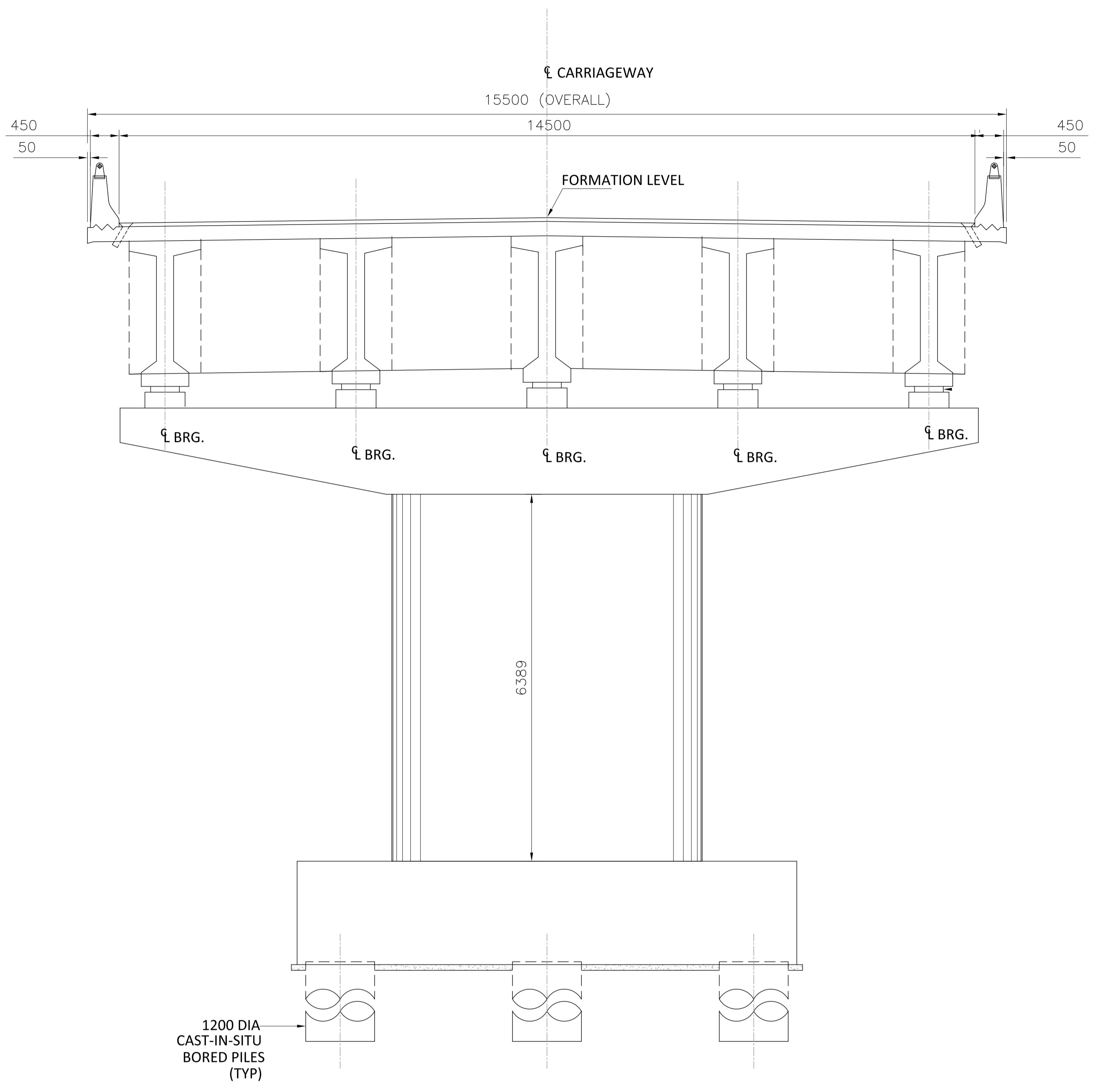
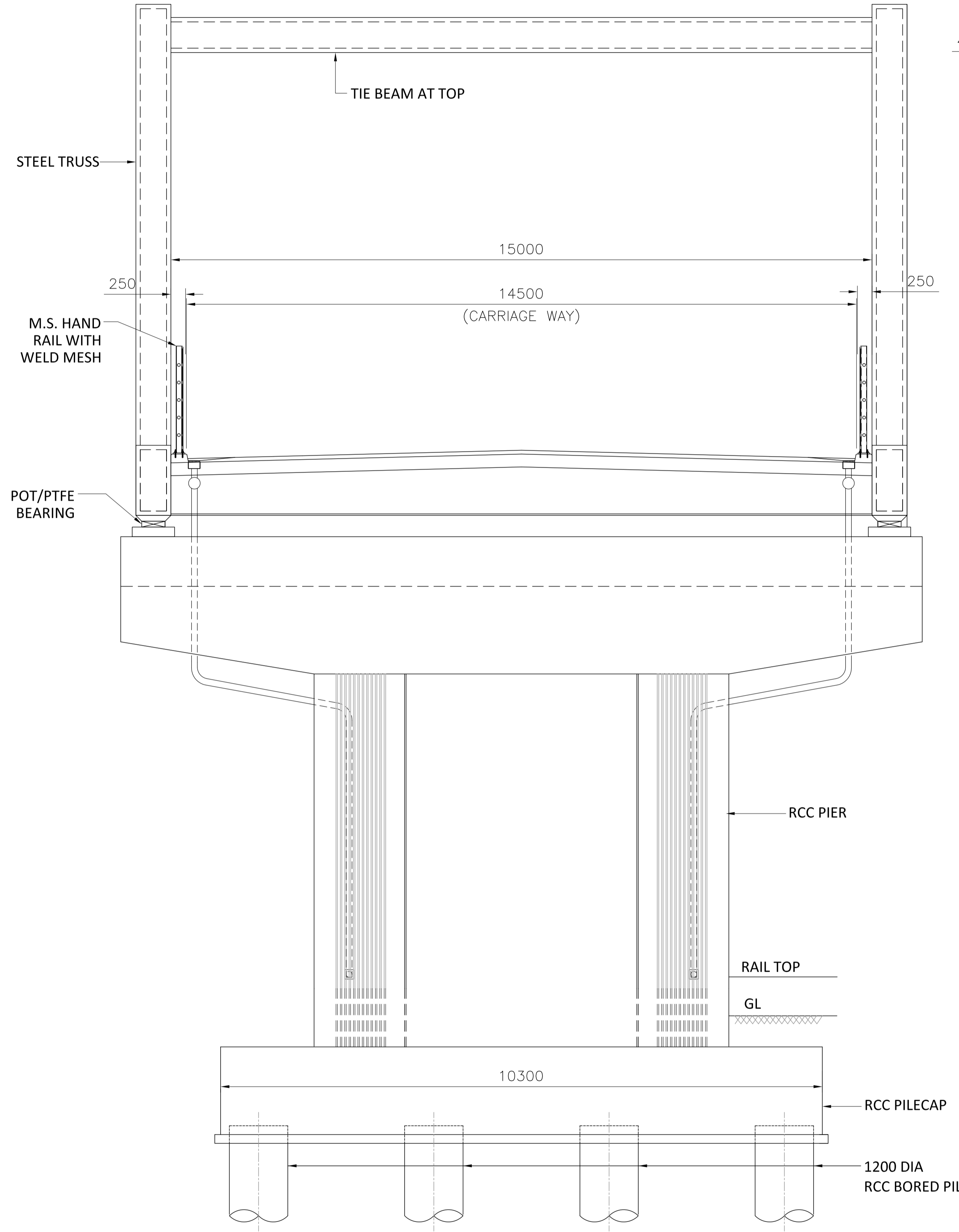
REV	DATE	DESCRIPTION	DRN	CHD	APPD

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1 2 3 4 5 6 7 8

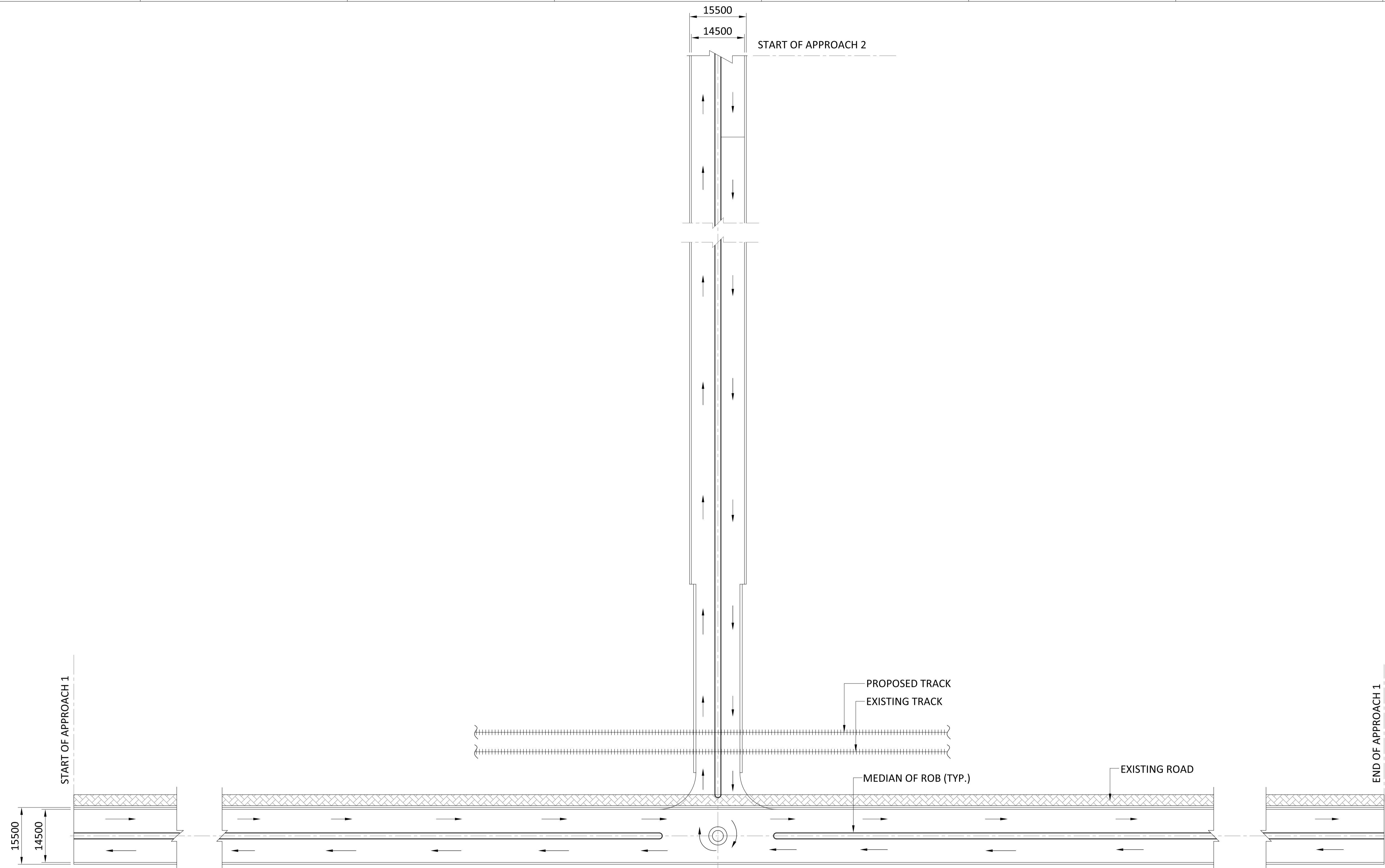
A B C D E F G H



**NOTE**  
1. ALL DIMENSIONS ARE IN MILLIMETRES.

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	NAME
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		DRN	KANT
		CHD	AM
		APPD	SPA
TITLE		CLIENT DRG. NO.	
<b>TYPICAL CROSS SECTION OF ROAD OVER BRIDGE</b>		JOB NO	DRG. NO.
		I-521	ST/222
		REV.	0
REV	DATE	DESCRIPTION	DRN CHD APPD
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UNIT		SCALE:-AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 1 OF 1	
		Size :	<b>A1</b>

1 2 3 4 5 6 7 8





**PLAN OF ROB**

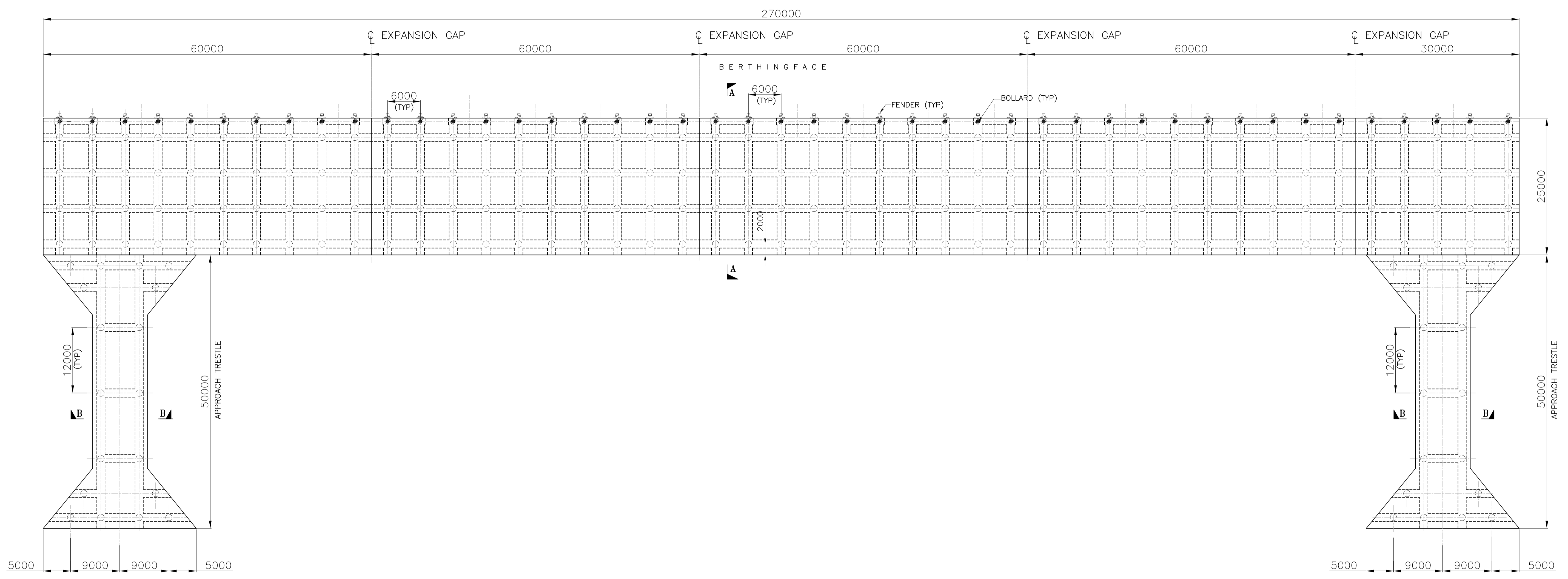
**NOTE**

1. ALL DIMENSIONS ARE IN MILLIMETRES.


REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.	TITLE		
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE	CLIENT DRG. NO.		
<b>TRAFFIC CIRCULATION PLAN FOR ROAD OVER BRIDGE</b>		JOB NO	DRG. NO.
		I-521	ST/223
		REV.	0
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

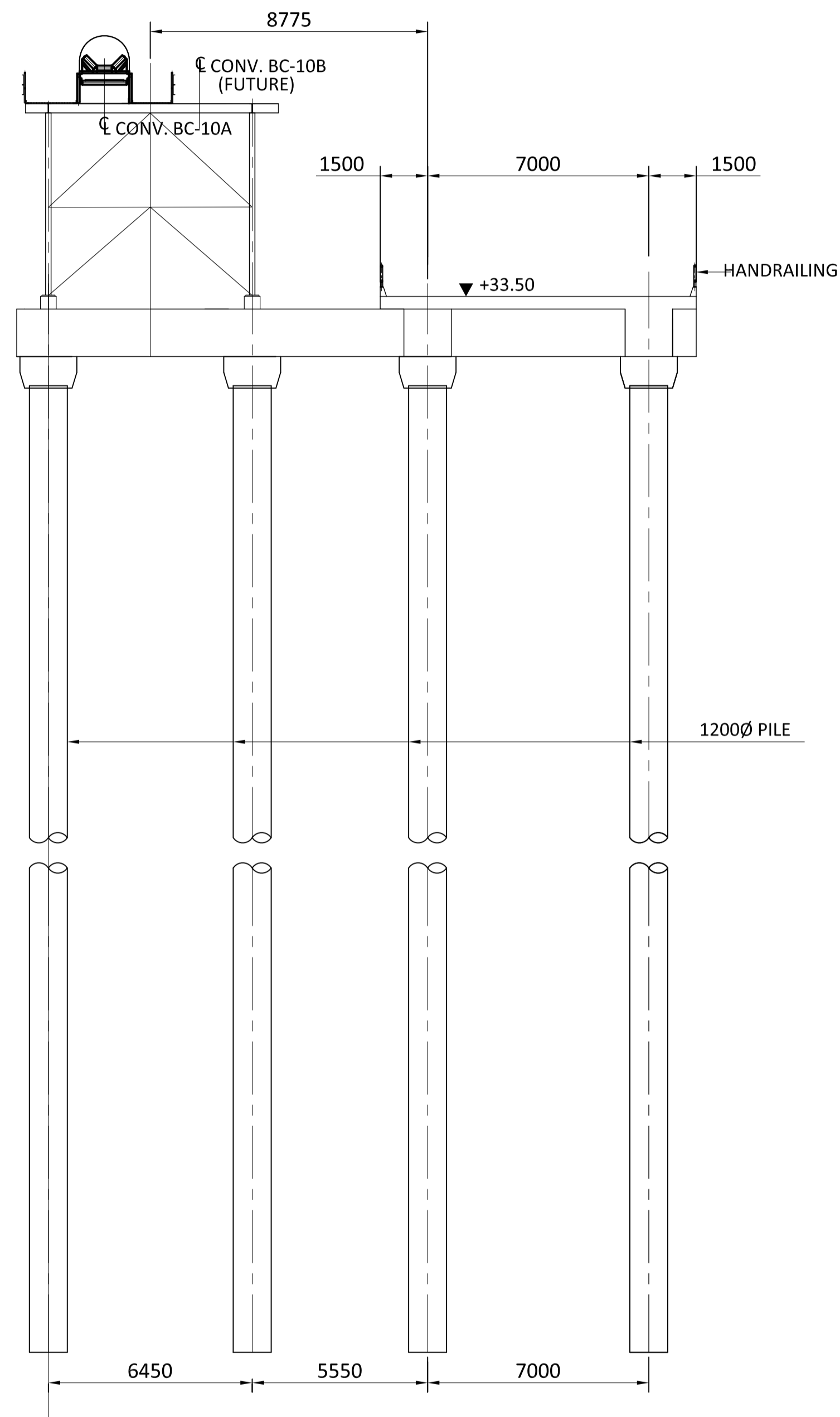


- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRE
  2. ALL LEVELS ARE IN METRE WITH & ARE RESPECT TO MSL

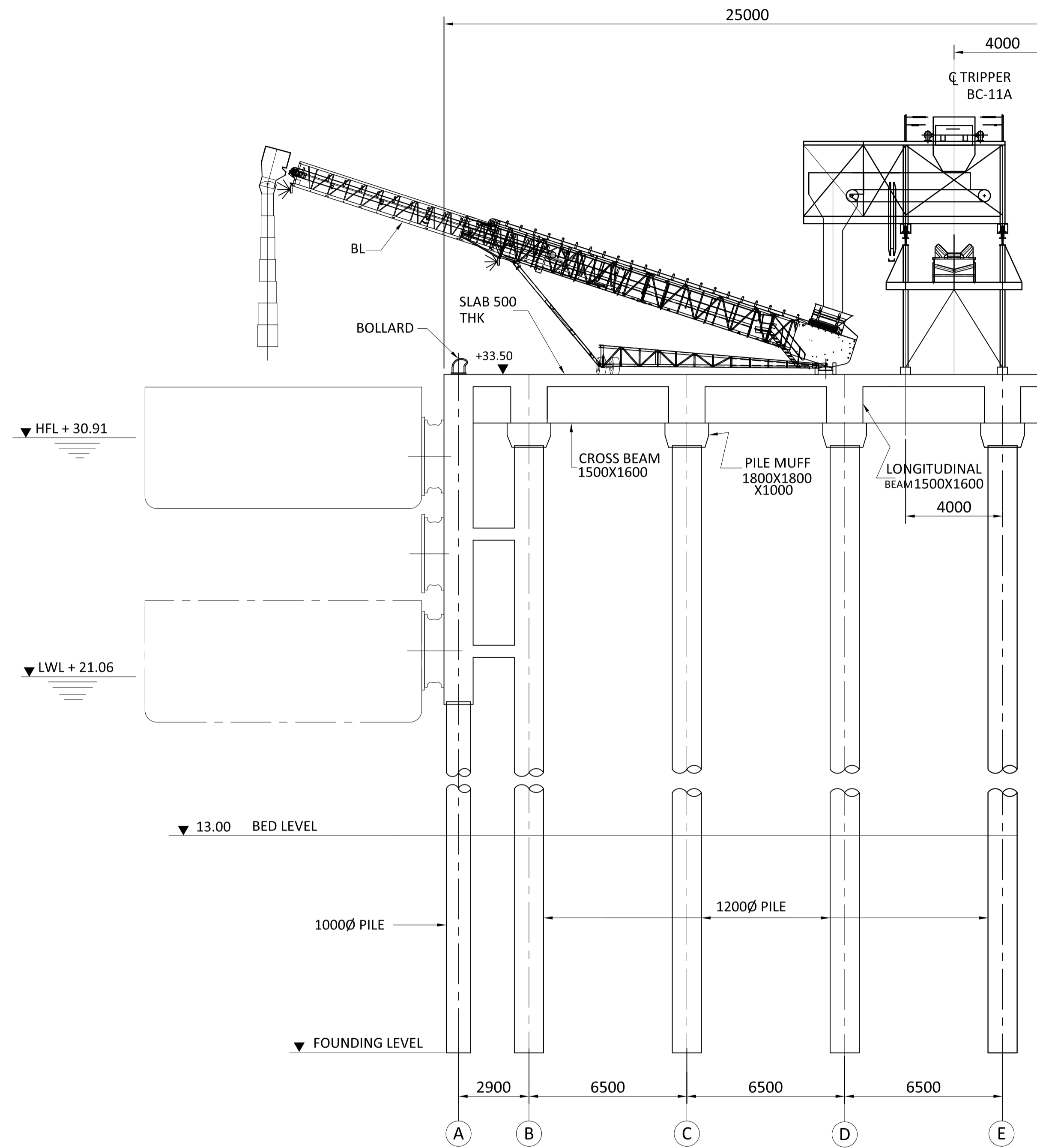
DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>GENERAL ARRANGEMENT OF JETTY &amp; APPROACH TRESTLE FOR PHASE 1</b>		JOB NO	DRG. NO.
		1-521	ST/224
		REV.	1

REV	DATE	DESCRIPTION	SKN	RVN	SD
			DRN	CHD	APPD
1	08.10.16	CL OF EXPANSION GAP HIGHLIGHTED			

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**SECTION B-B**



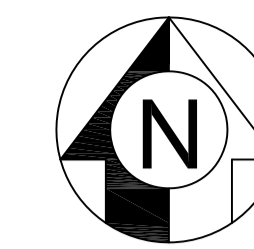
**SECTION A-A**

**NOTES**

1. ALL DIMENSIONS ARE IN MILLIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL

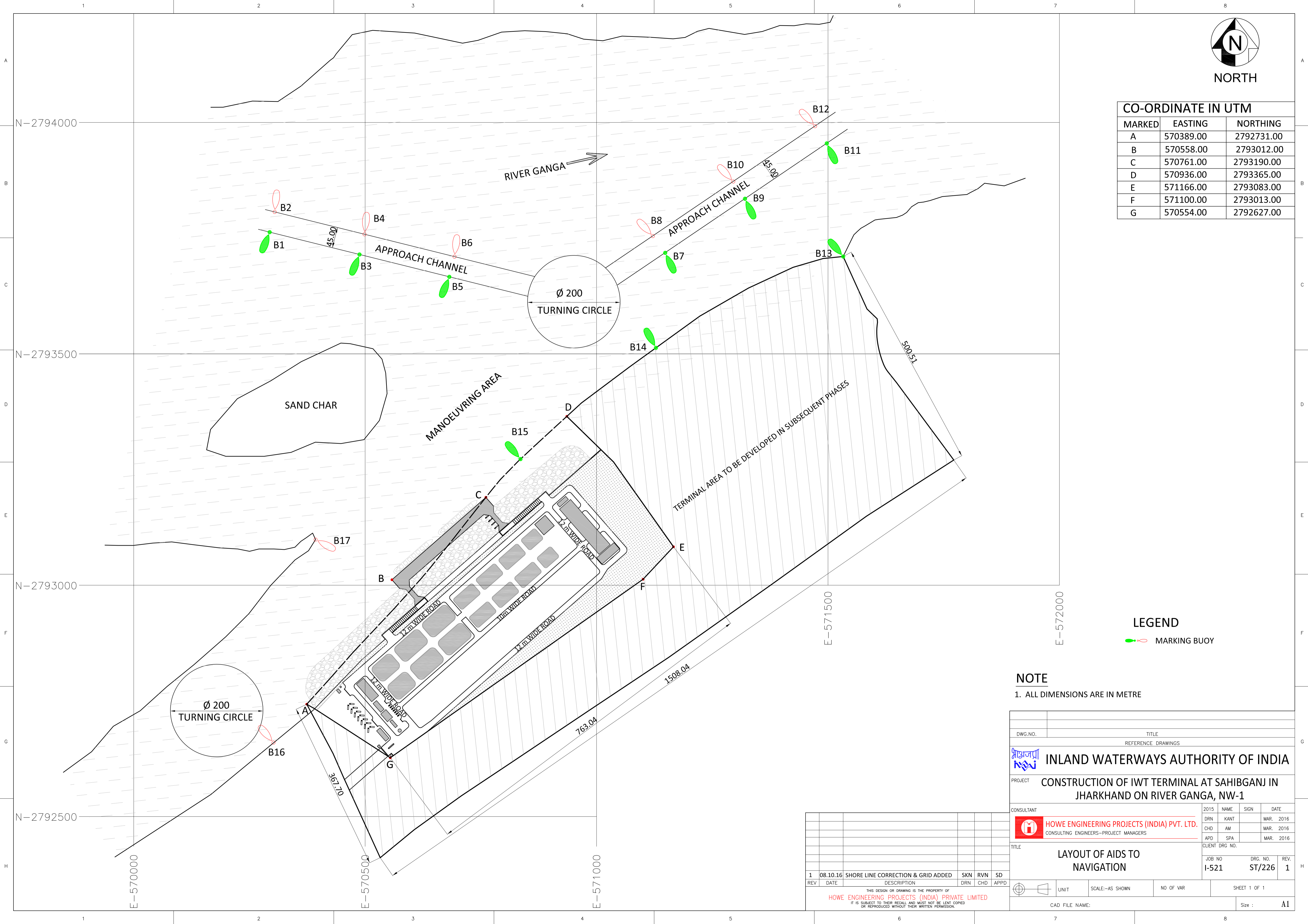
DWG. NO.		TITLE			
		REFERENCE DRAWINGS			
		<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT		<b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN	DATE	
	DRN	KANT		MAR. 2016	
	CHD	AM		MAR. 2016	
	APPD	SPA		MAR. 2016	
TITLE		CLIENT DRG. NO.			
<b>CROSS SECTIONS OF JETTY AND APPROACH TRESTLE FOR PHASE-1</b>		JOB NO	DRG. NO.	REV.	
		I-521	ST/225	0	
REV	DATE	DESCRIPTION	DRN	CHD	APPD
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UNIT		SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1	
CAD FILE NAME:				Size : <b>A1</b>	





NORTH

CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570389.00	2792731.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00



**LEGEND**  
 MARKING BUOY

**NOTE**  
 1. ALL DIMENSIONS ARE IN METRE

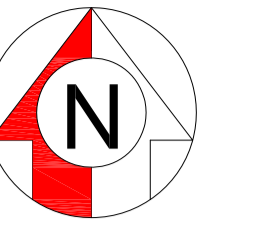
DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE <b>LAYOUT OF AIDS TO NAVIGATION</b>			
JOB NO	DRG. NO.	REV.	
I-521	ST/226	1	

REV	DATE	DESCRIPTION	DRN	CHD	APPD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

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UNIT: SCALE:--AS SHOWN NO OF VAR: SHEET 1 OF 1  
 CAD FILE NAME: Size: **A1**

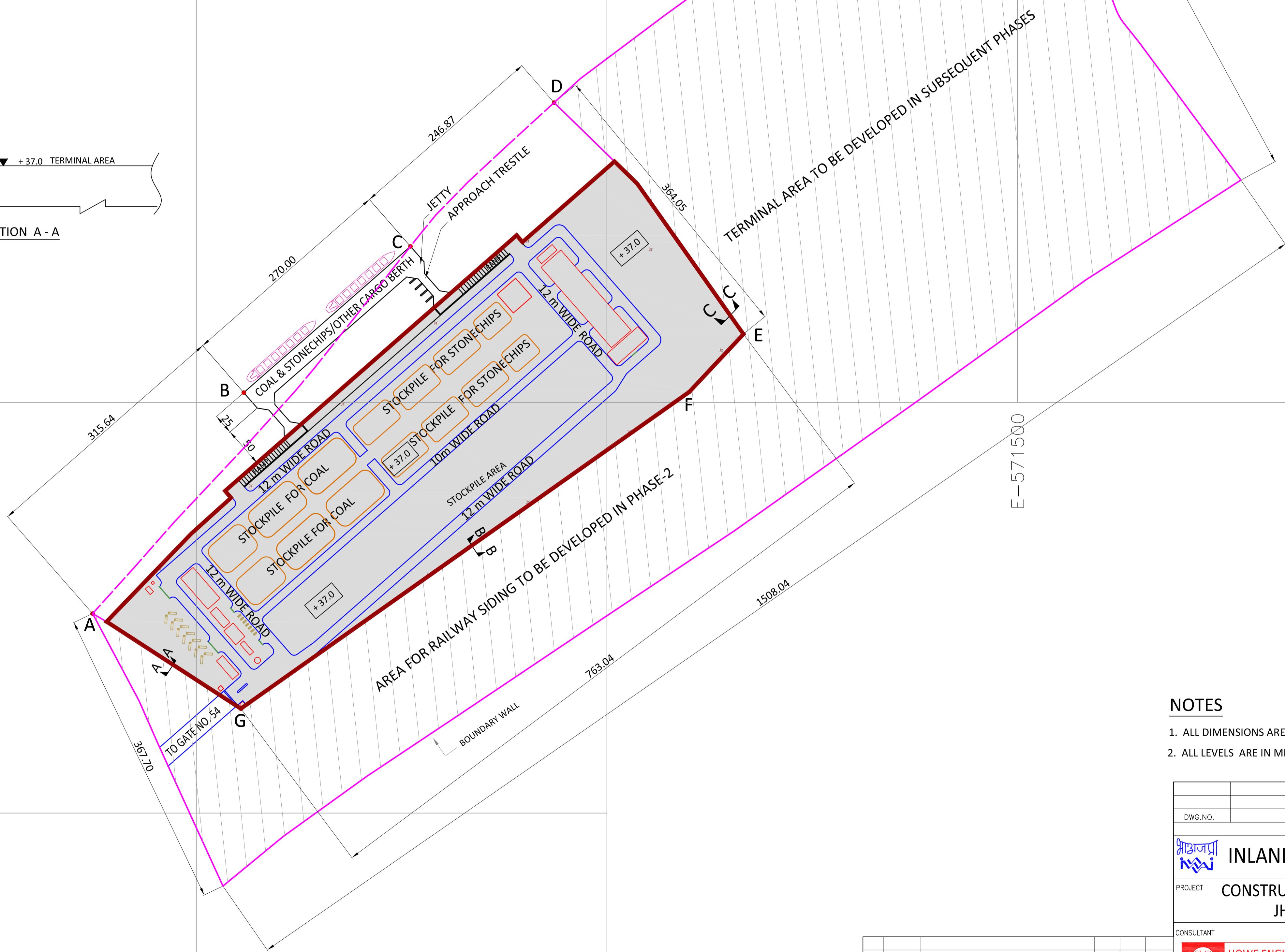
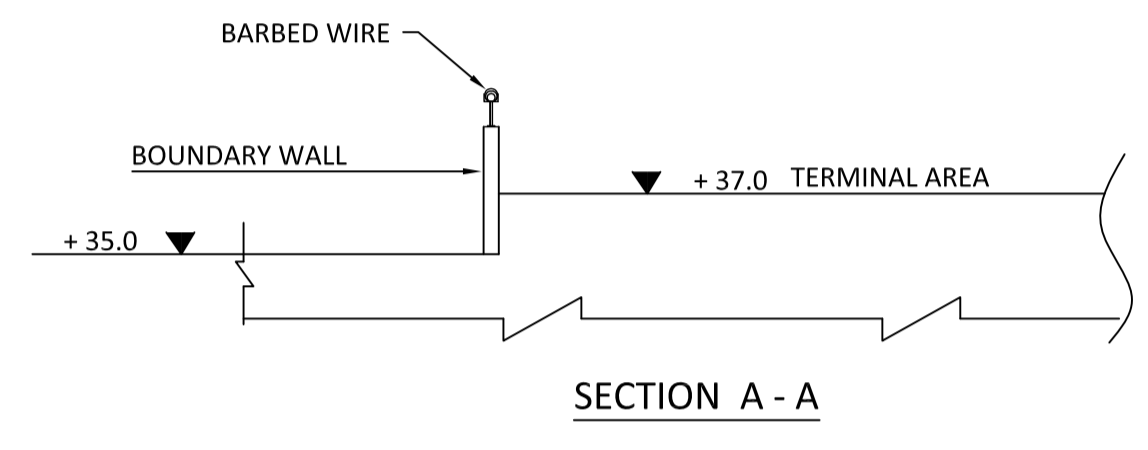
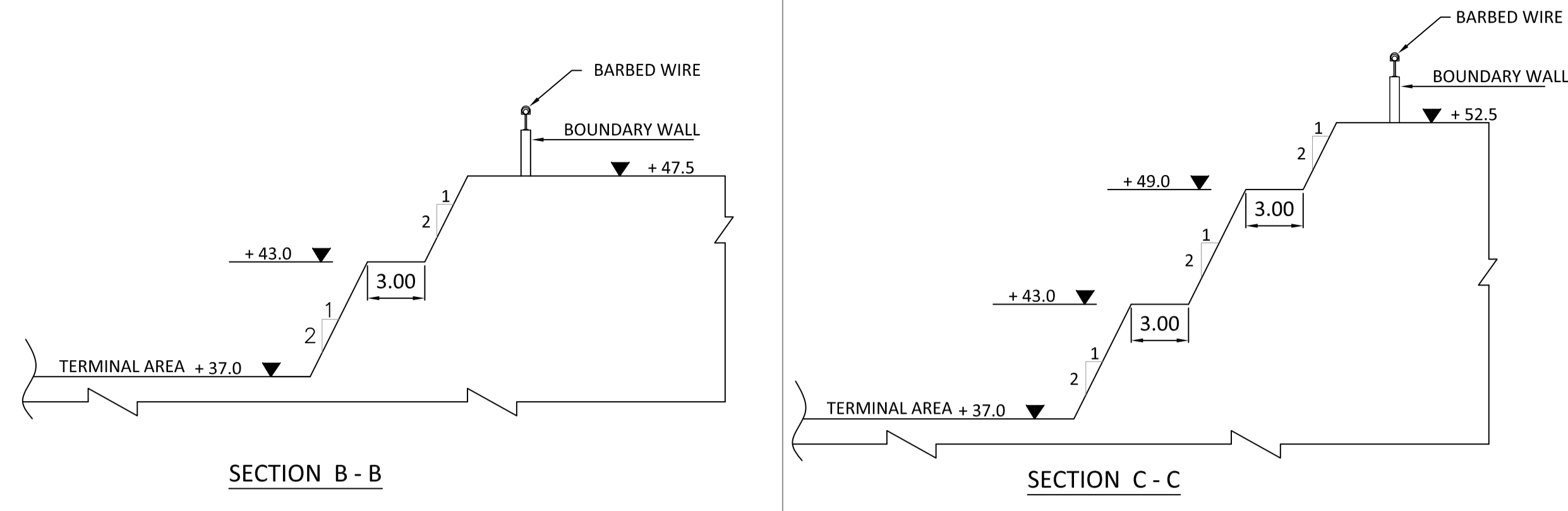




NORTH

CO-ORDINATE IN UTM

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00



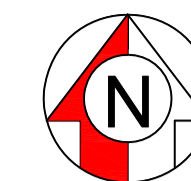
NOTES

1. ALL DIMENSIONS ARE IN METRE
2. ALL LEVELS ARE IN METRE & ARE WITH RESPECT TO MSL

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>TYPICAL SITE GRADING DETAILS FOR PHASE-1</b>		JOB NO.	DRG. NO.
		I-521	ST/227
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CAD FILE NAME:		NO OF VAR	SHEET 1 OF 1
		Size :	<b>A1</b>

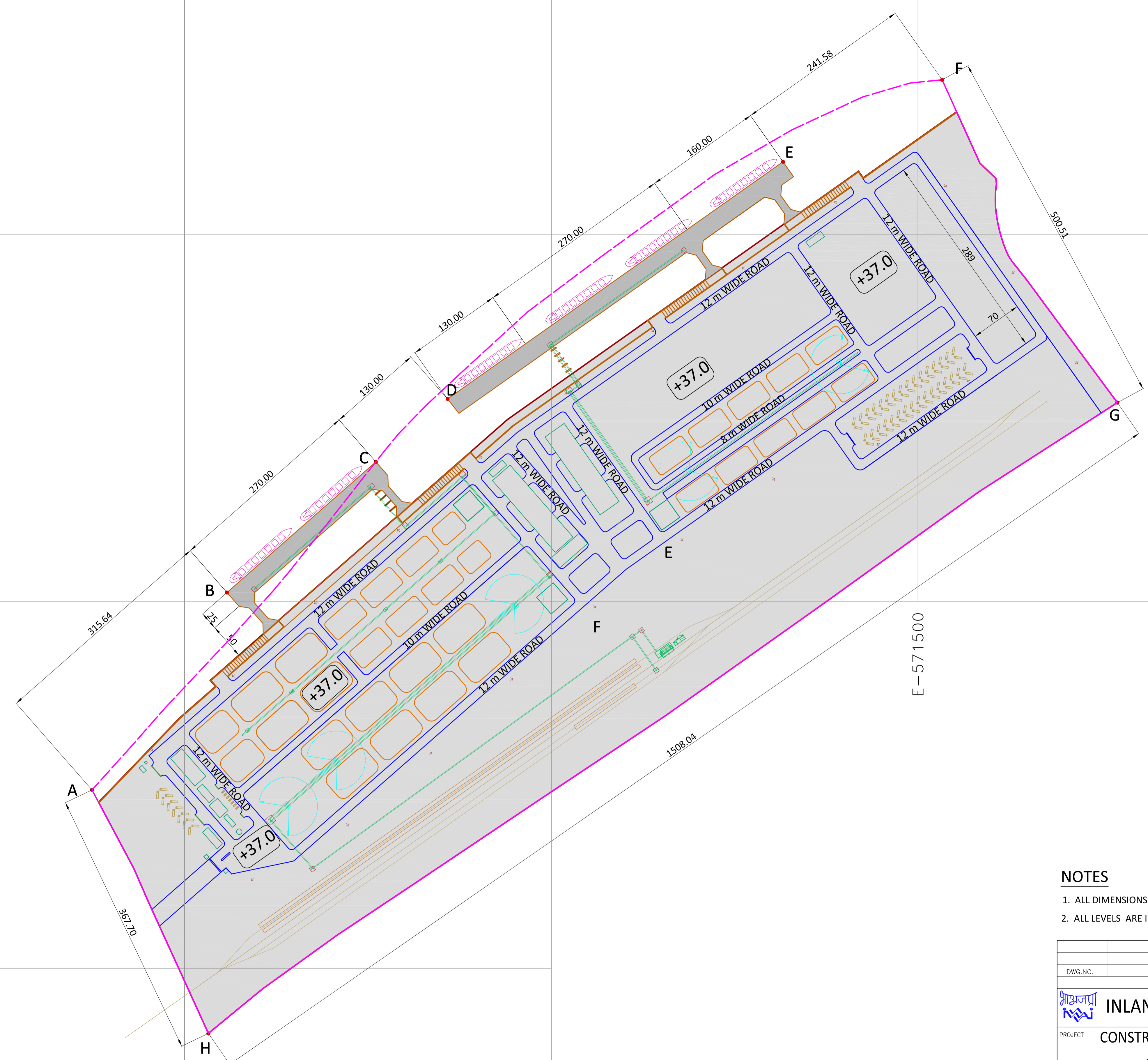
REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED			







NORTH

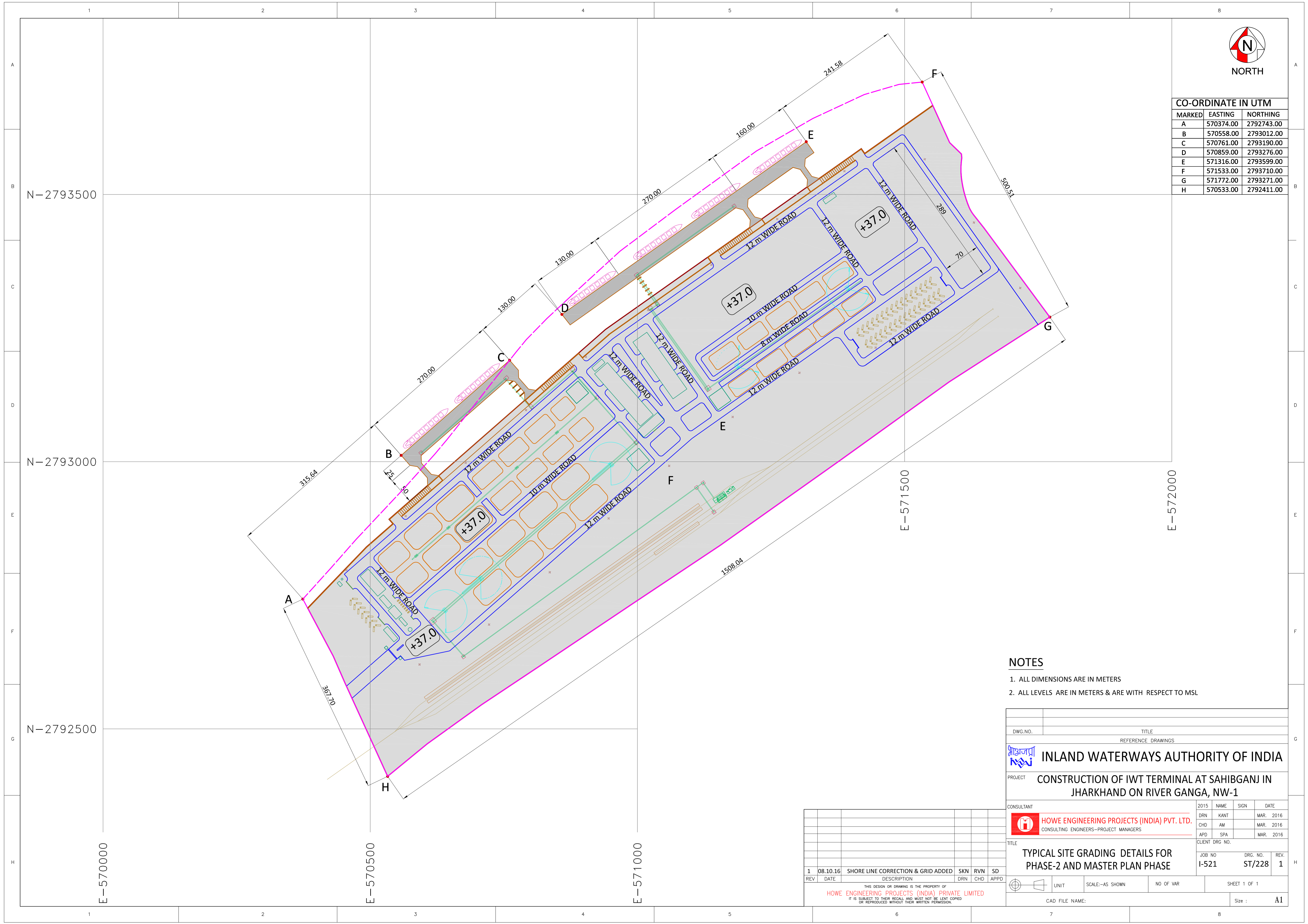
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MARKED	EASTING	NORTHING
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B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



**NOTES**

- 1. ALL DIMENSIONS ARE IN METERS
- 2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	NAME
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS		DRN	KANT
		CHD	AM
		APPD	SPA
		CLIENT DRG. NO.	
TITLE		JOB NO	DRG. NO.
<b>TYPICAL SITE GRADING DETAILS FOR PHASE-2 AND MASTER PLAN PHASE</b>		I-521	ST/228
REV		DATE	REV
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	1
2			
3			
4			
5			
6			
7			
8			
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CAD FILE NAME:		NO OF VAR	SHEET 1 OF 1
		Size :	A1

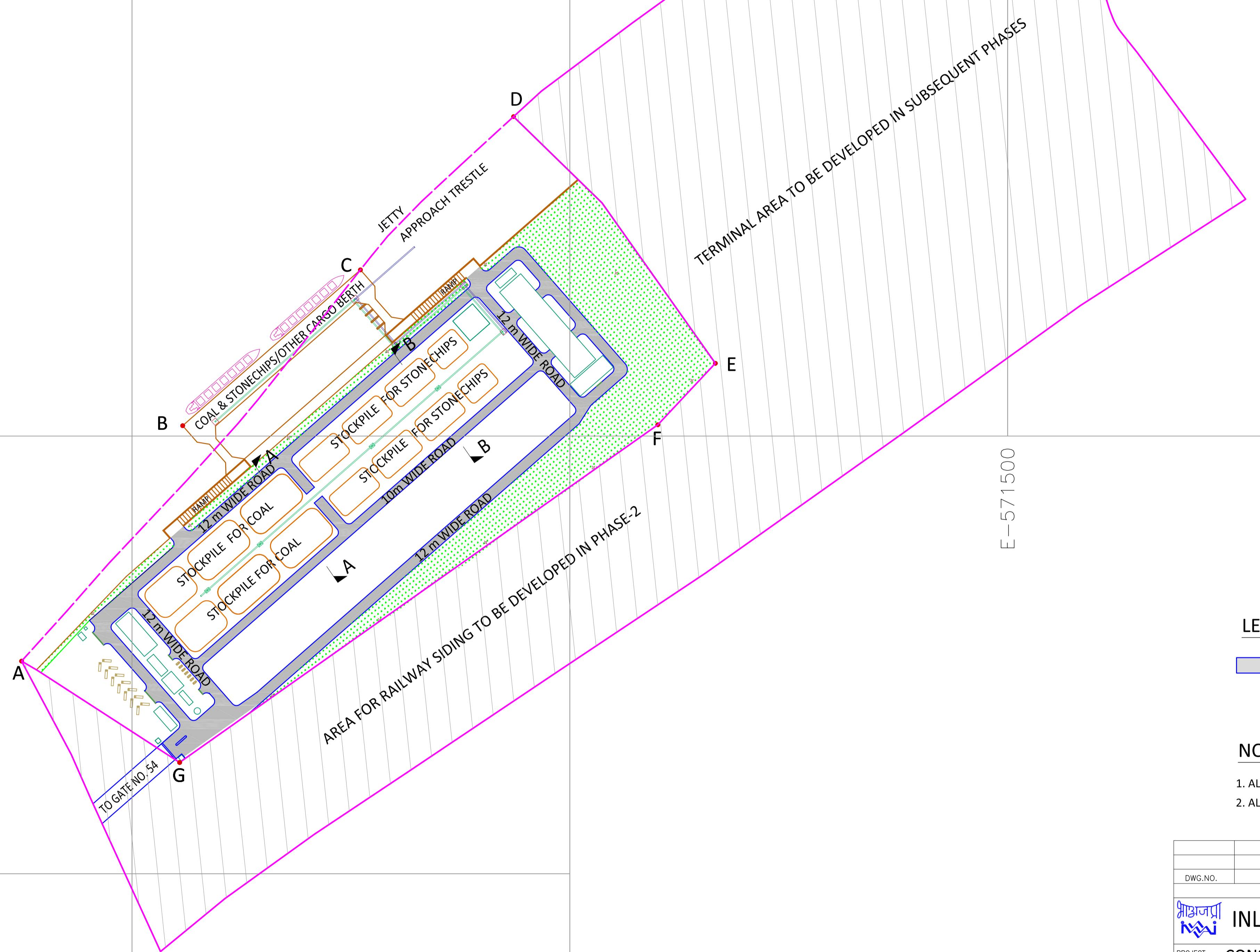
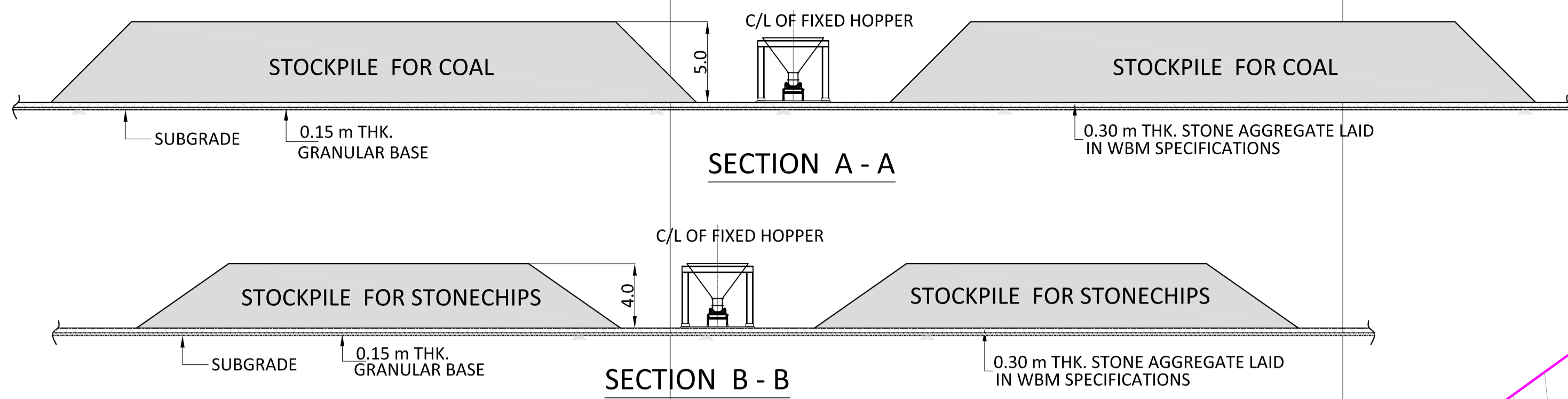






NORTH

CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00



**LEGEND**

INTERNAL ROAD

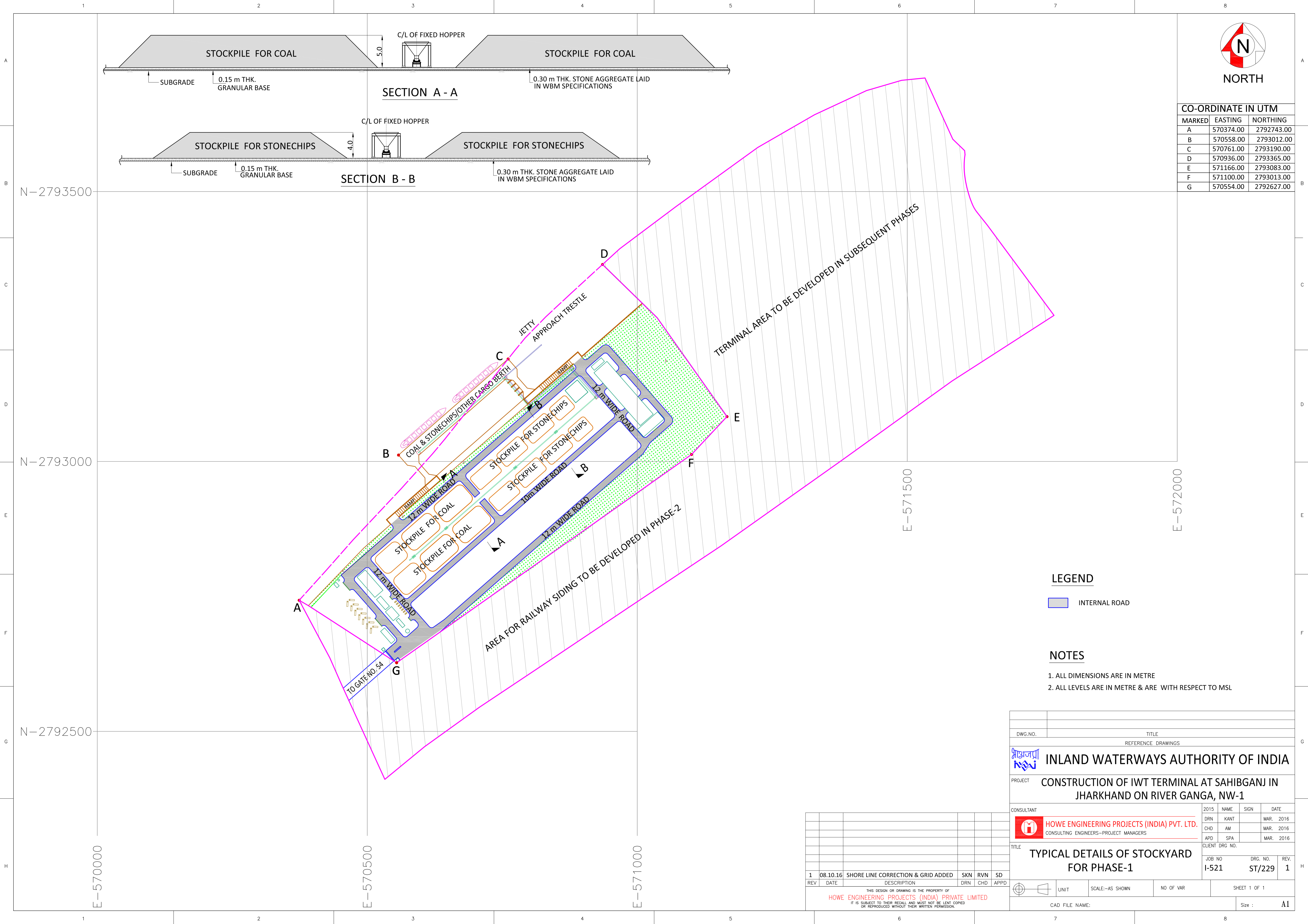
**NOTES**

1. ALL DIMENSIONS ARE IN METRE
2. ALL LEVELS ARE IN METRE & ARE WITH RESPECT TO MSL

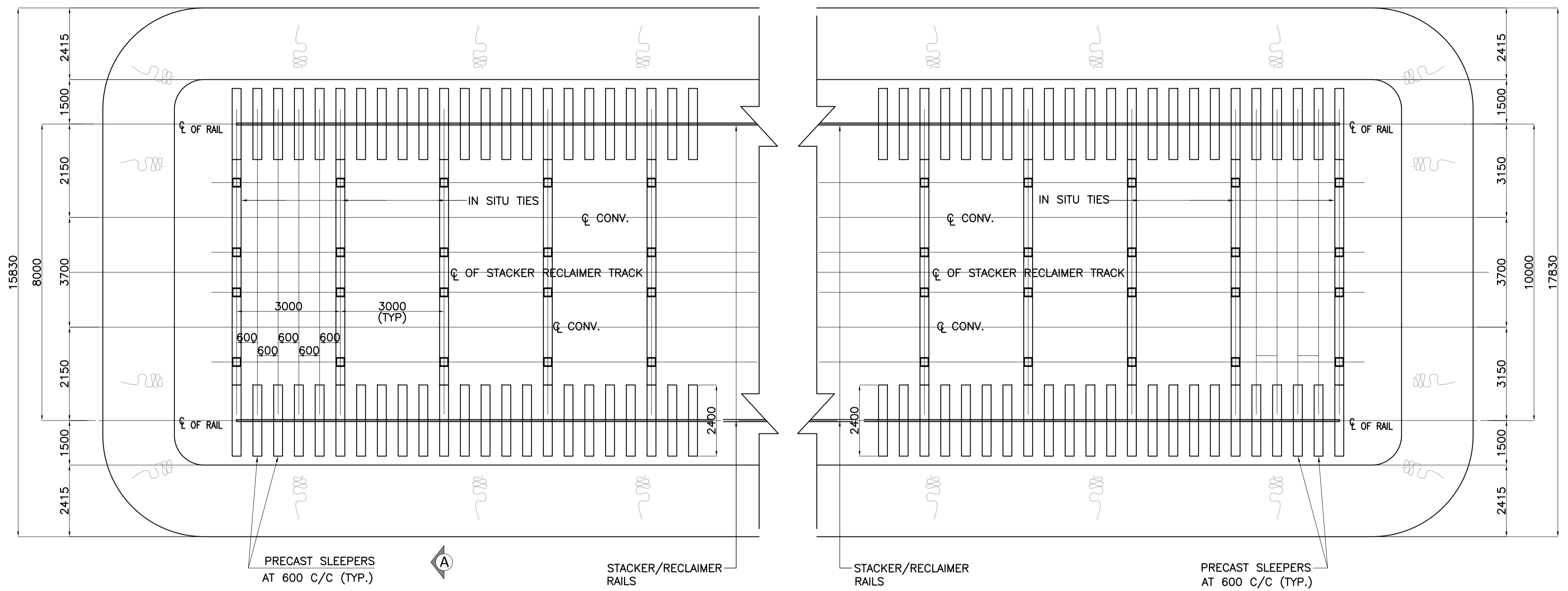
DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
JOB NO		DRG. NO.	REV.
I-521		ST/229	1
<b>TITLE TYPICAL DETAILS OF STOCKYARD FOR PHASE-1</b>			
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD
			DRN	CHD	APPD

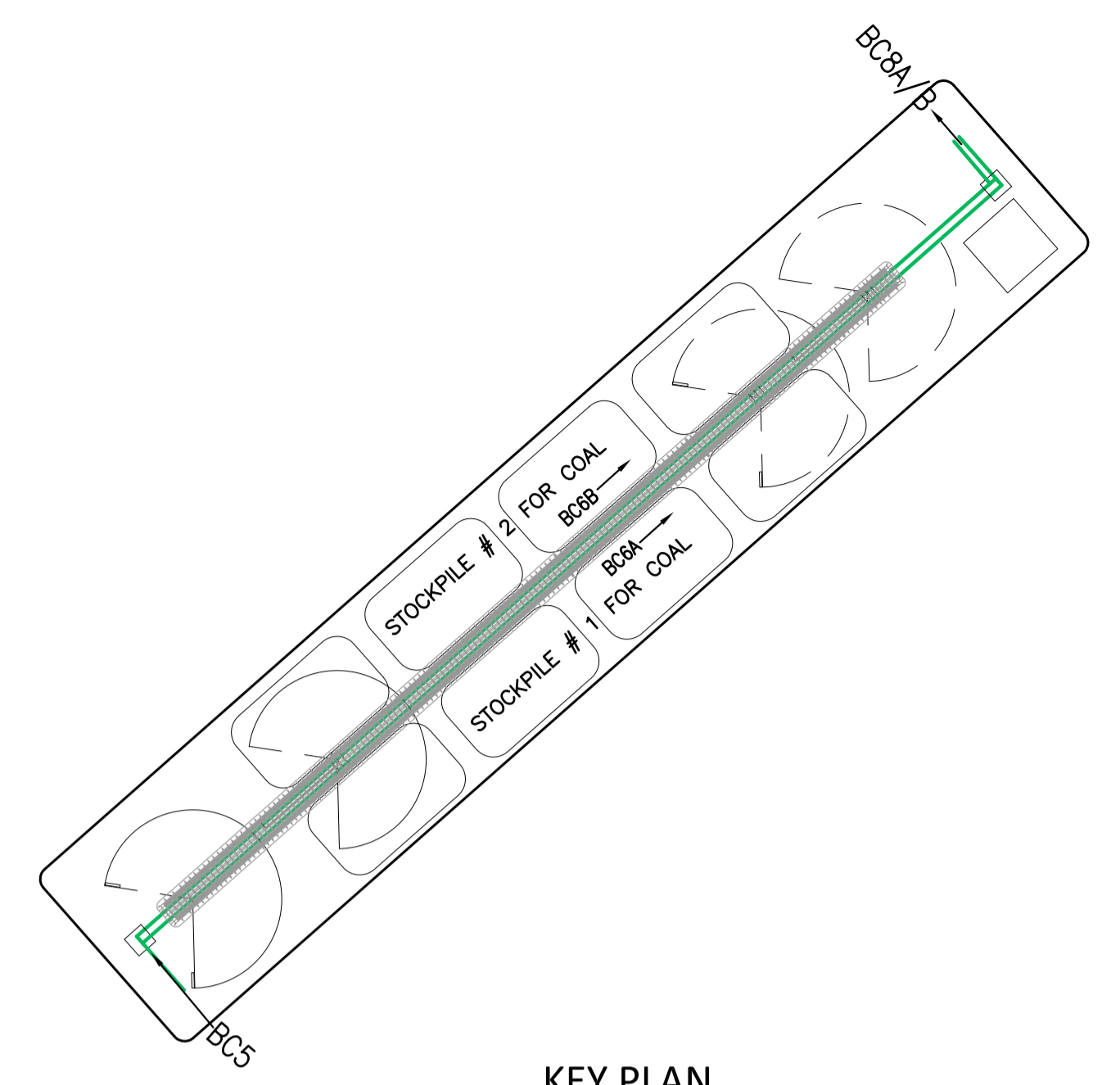
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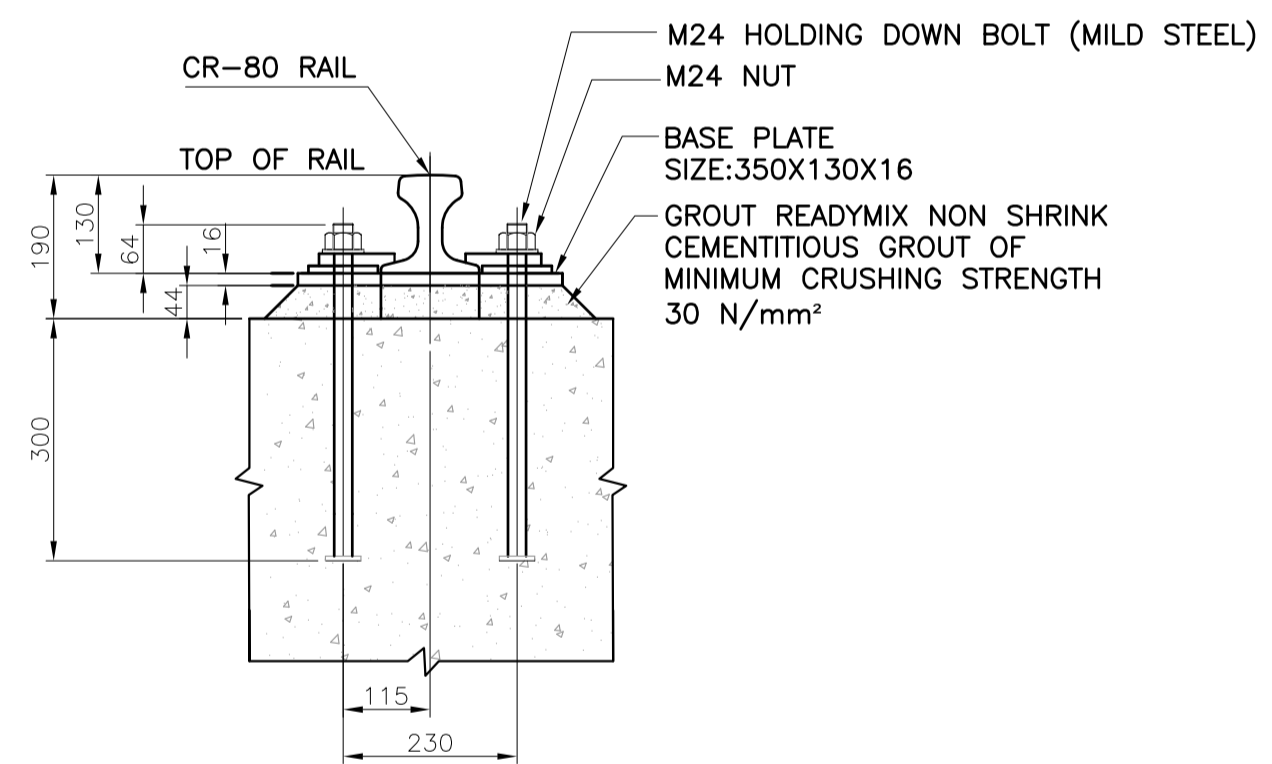




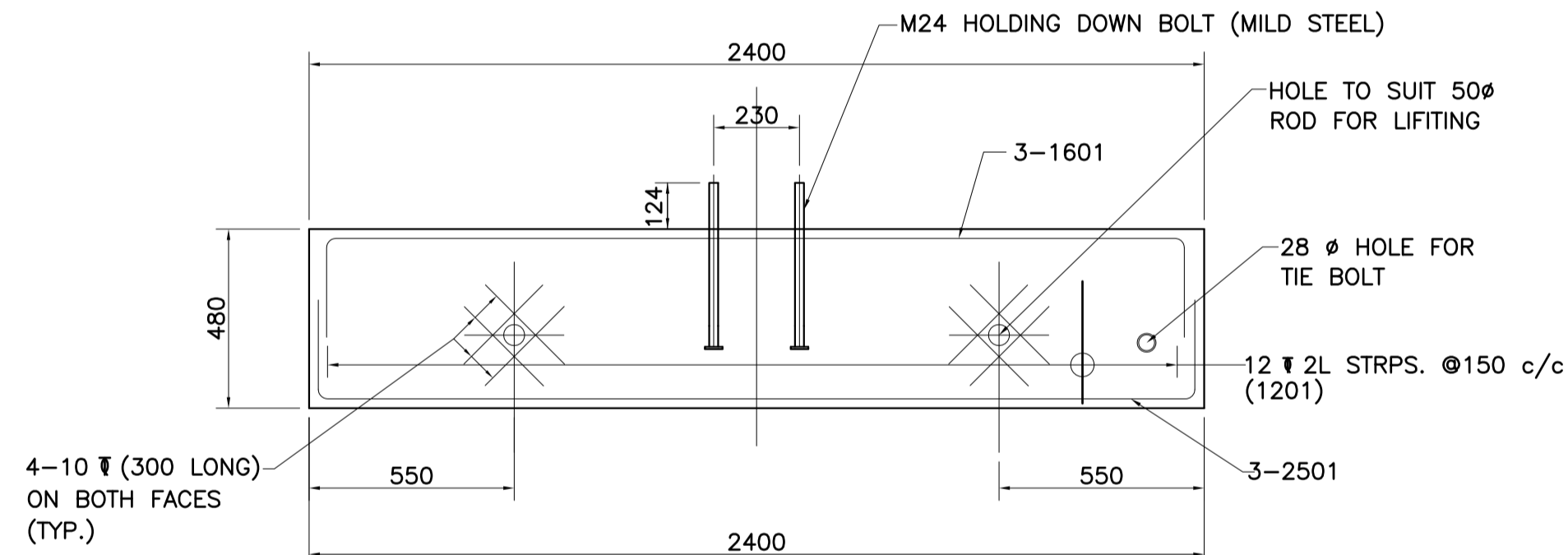
**PART PLAN OF STACKER/RECLAIMER TRACK**



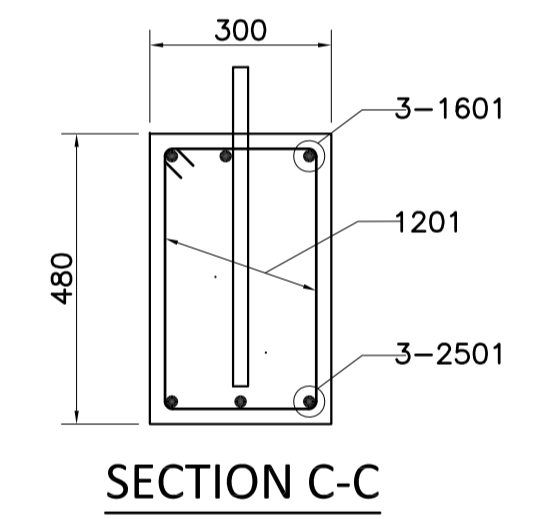
**KEY PLAN**



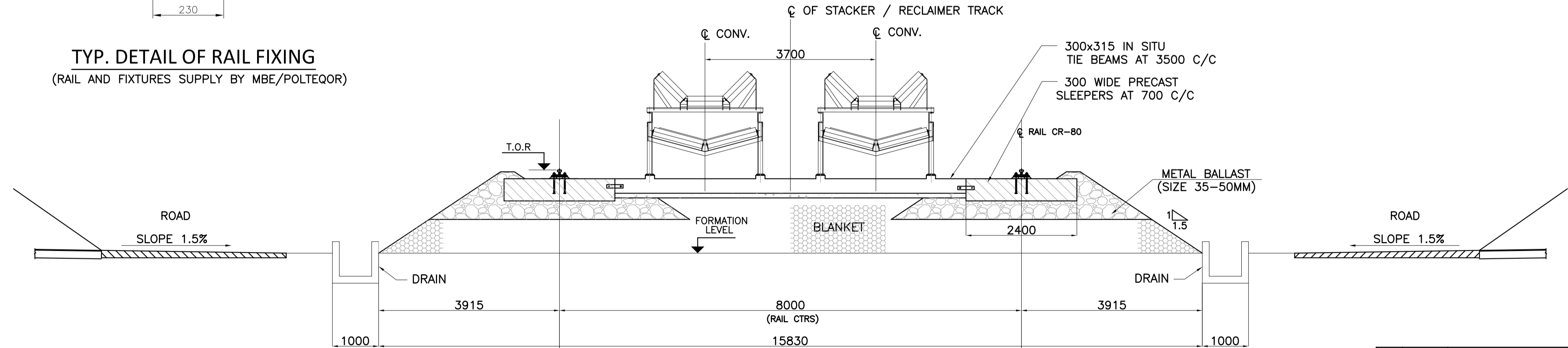
**TYP. DETAIL OF RAIL FIXING**  
(RAIL AND FIXTURES SUPPLY BY MBE/POLTEGOR)



**TYP. DETAIL OF PRECAST SLEEPER**



**SECTION C-C**

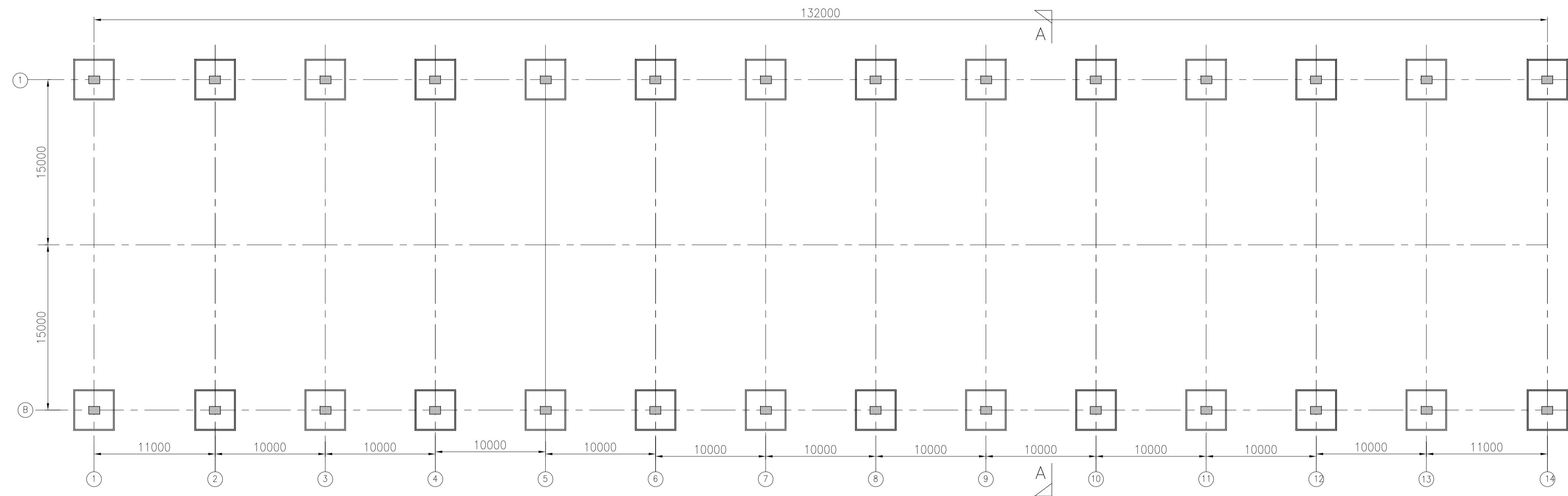


**SECTION A-A**  
(TYP. SECTION OF STACKER RECLAIMER TRACK.)

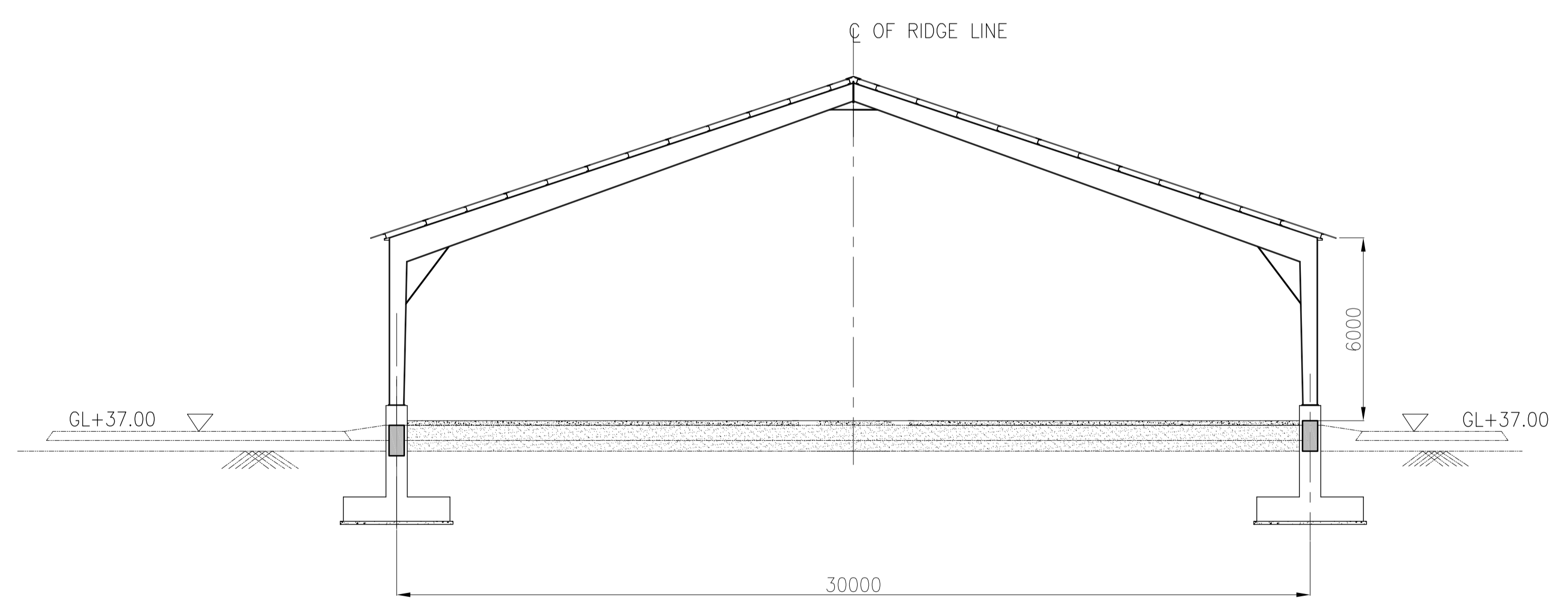
**NOTE**  
1. ALL DIMENSIONS ARE IN MILLIMETERS

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
DRN	KANT		MAR. 2016
CHD	AM		MAR. 2016
APPD	SPA		MAR. 2016
CLIENT DRG NO.			
TITLE		JOB NO	DRG. NO.
TYPICAL DETAILS OF STOCKYARD FOR PHASE-2 AND MASTER PLAN PHASE		I-521	ST/230
REV		DATE	DESCRIPTION
DRN		CHD	APPD
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UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>






**LAYOUT OF SHED**



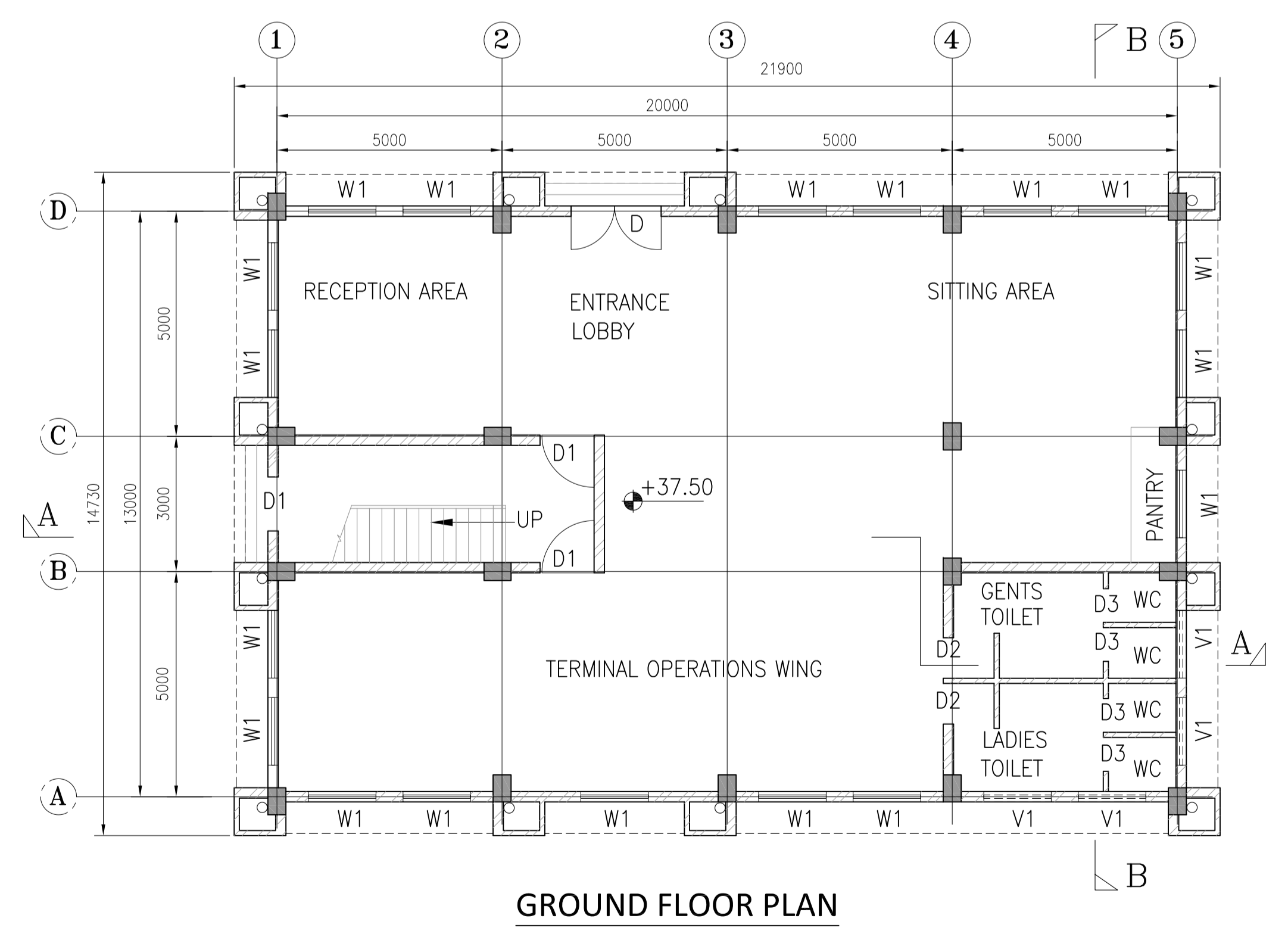
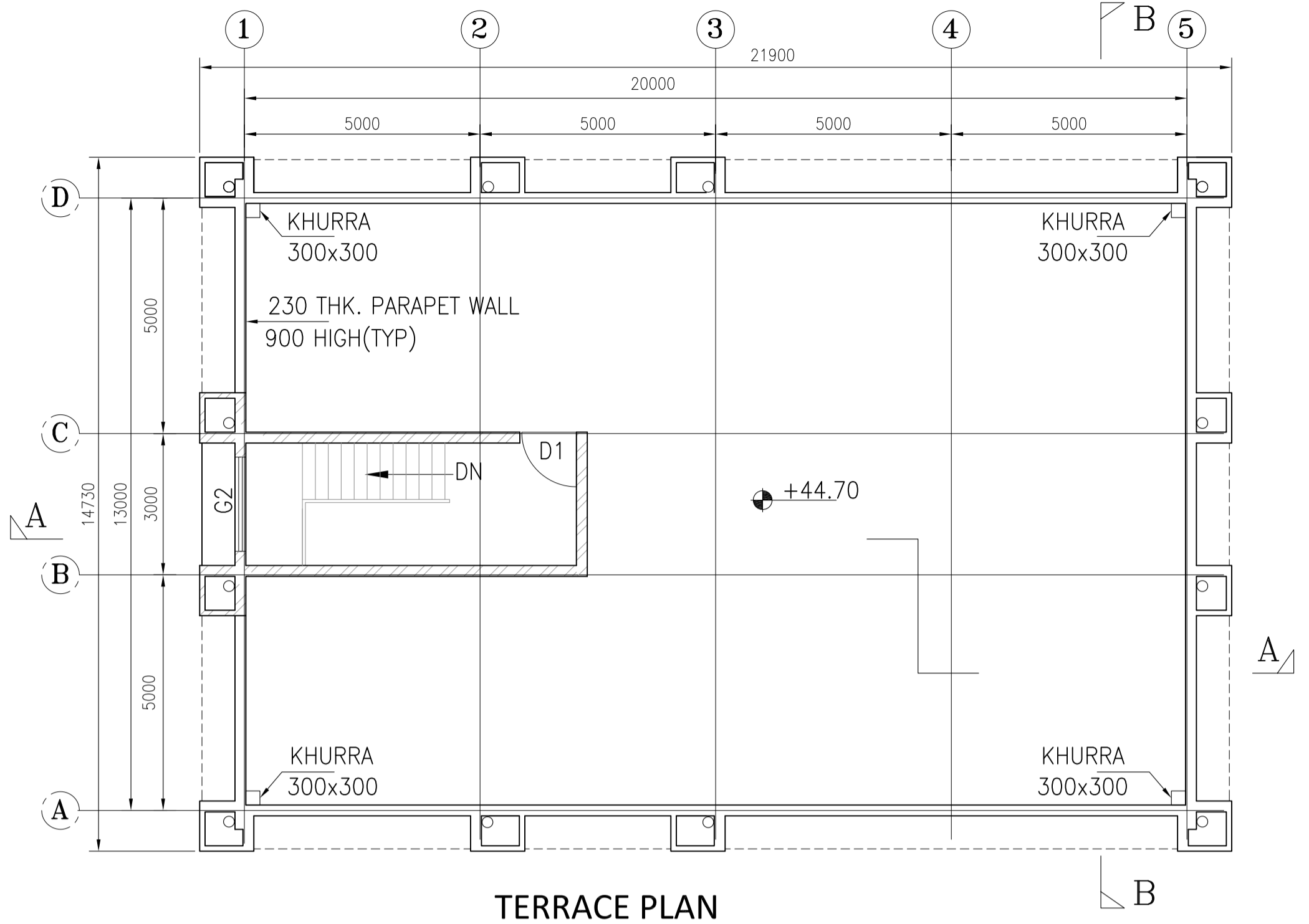
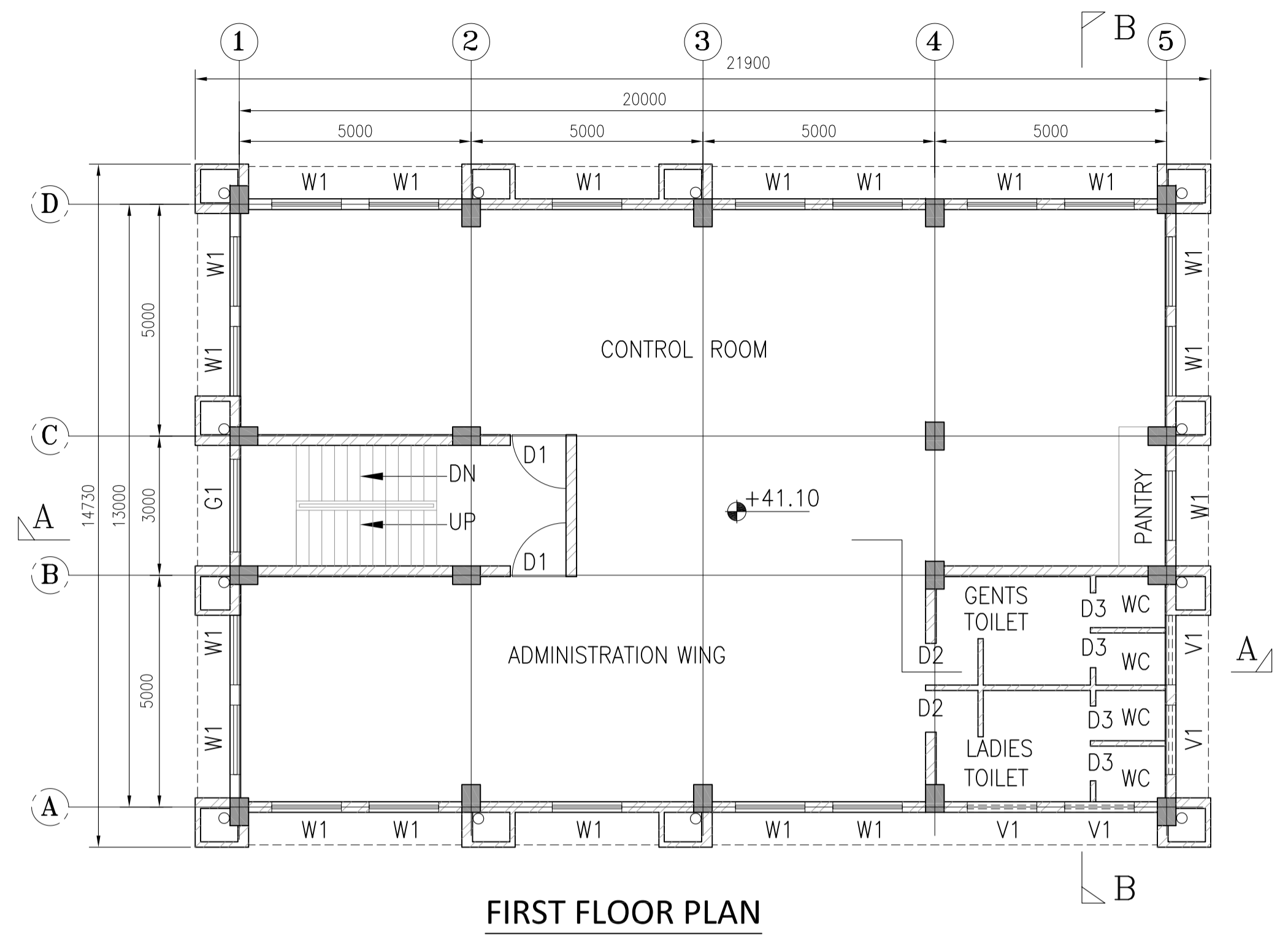
**SECTION A-A**

**NOTES**

1. ALL DIMENSIONS ARE IN MILLIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO MSL

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
DRN	KANT		MAR. 2016
CHD	AM		MAR. 2016
APPD	SPA		MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>TYPICAL DETAILS OF STORAGE SHED</b>		JOB NO	DRG. NO.
		I-521	ST/231
		REV.	0
REV	DATE	DESCRIPTION	DRN
			CHD
			APPD
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UNIT		SCALE:--AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 1 OF 1	
			Size : <b>A1</b>

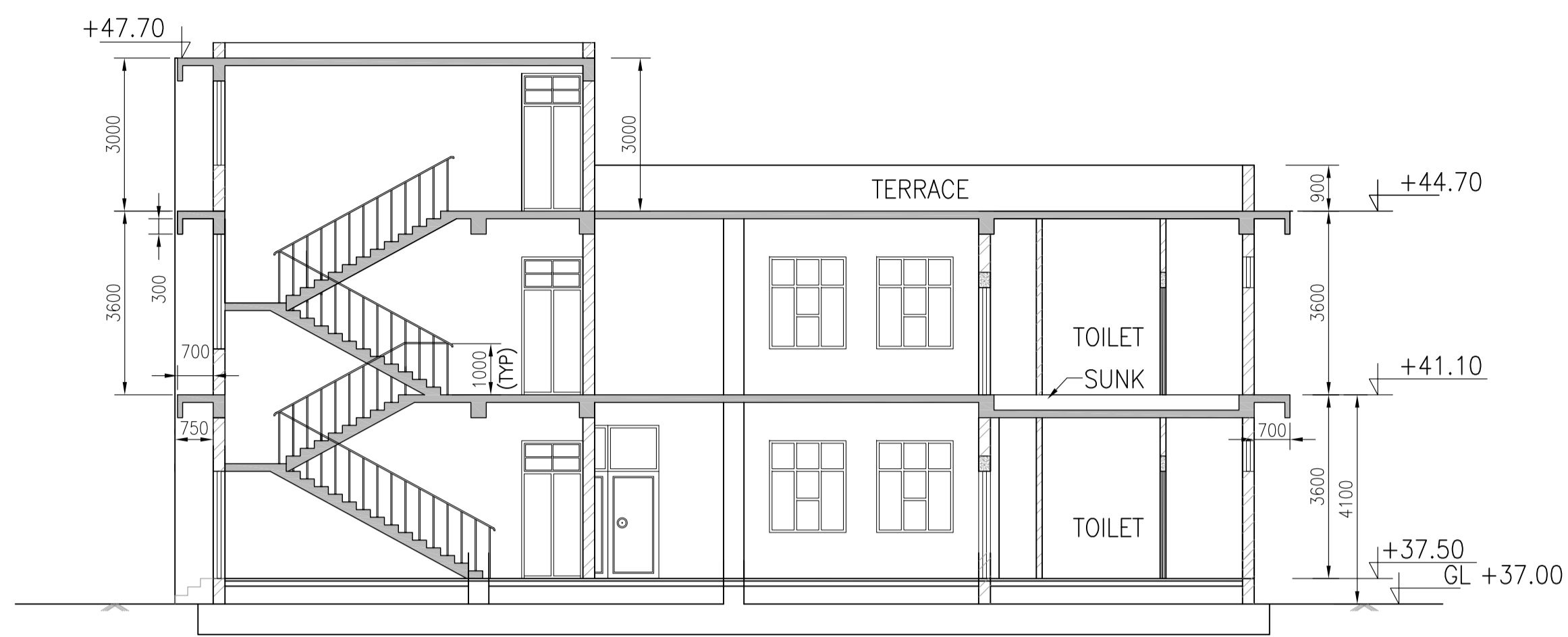




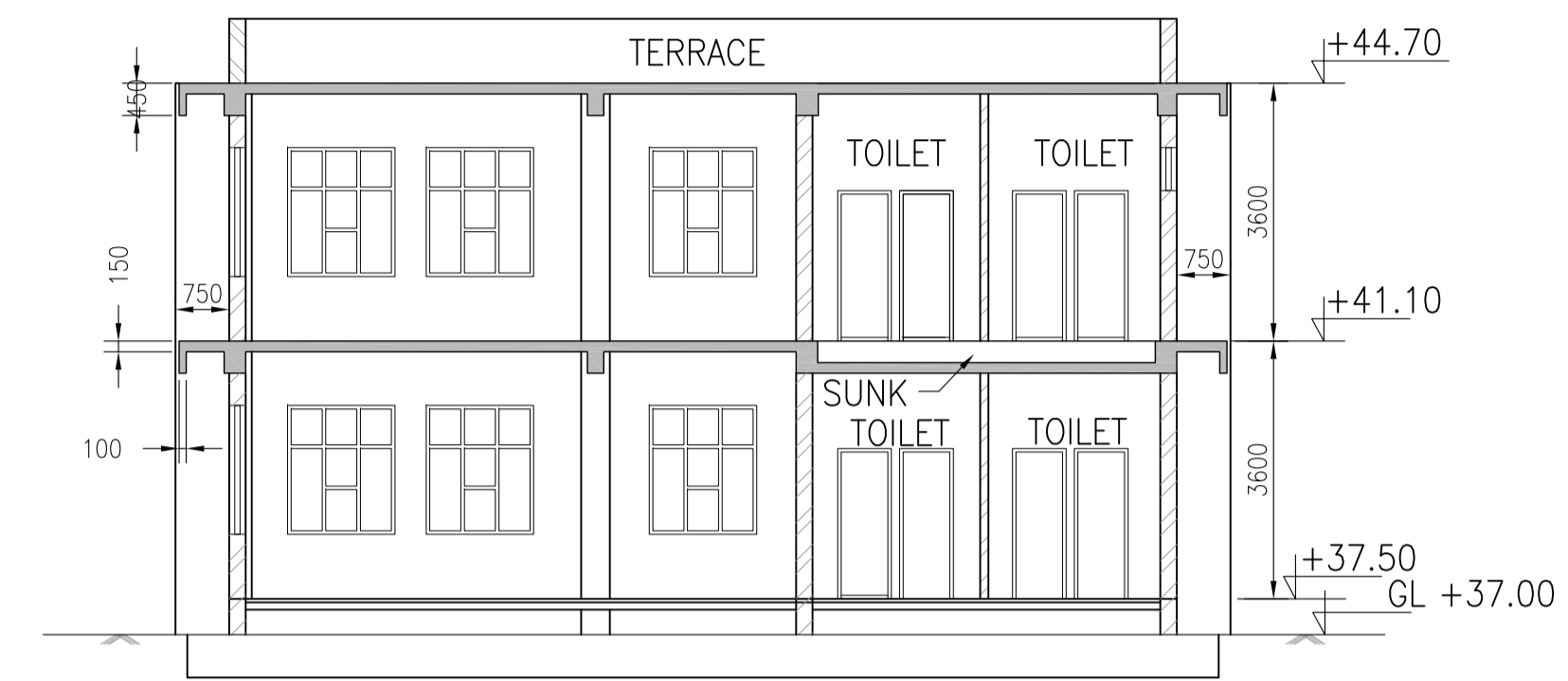
- NOTES**
1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
  2. ALL DIMENSIONS ARE IN MILLIMETRES.

DWG. NO.		TITLE			
		REFERENCE DRAWINGS			
PROJECT		INLAND WATERWAYS AUTHORITY OF INDIA			
		CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	NAME	SIGN	DATE
		DRN	KANT		MAR. 2016
		CHD	AM		MAR. 2016
		APPD	SPA		MAR. 2016
TITLE		CLIENT DRG. NO.			
		JOB NO	DRG. NO.	REV.	
		I-521	ST/232	0	
REV	DATE	DESCRIPTION	DRN	CHD	APPD
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UNIT		SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1	
CAD FILE NAME:				Size : A1	





SECTION A-A



SECTION B-B




FRONT ELEVATION



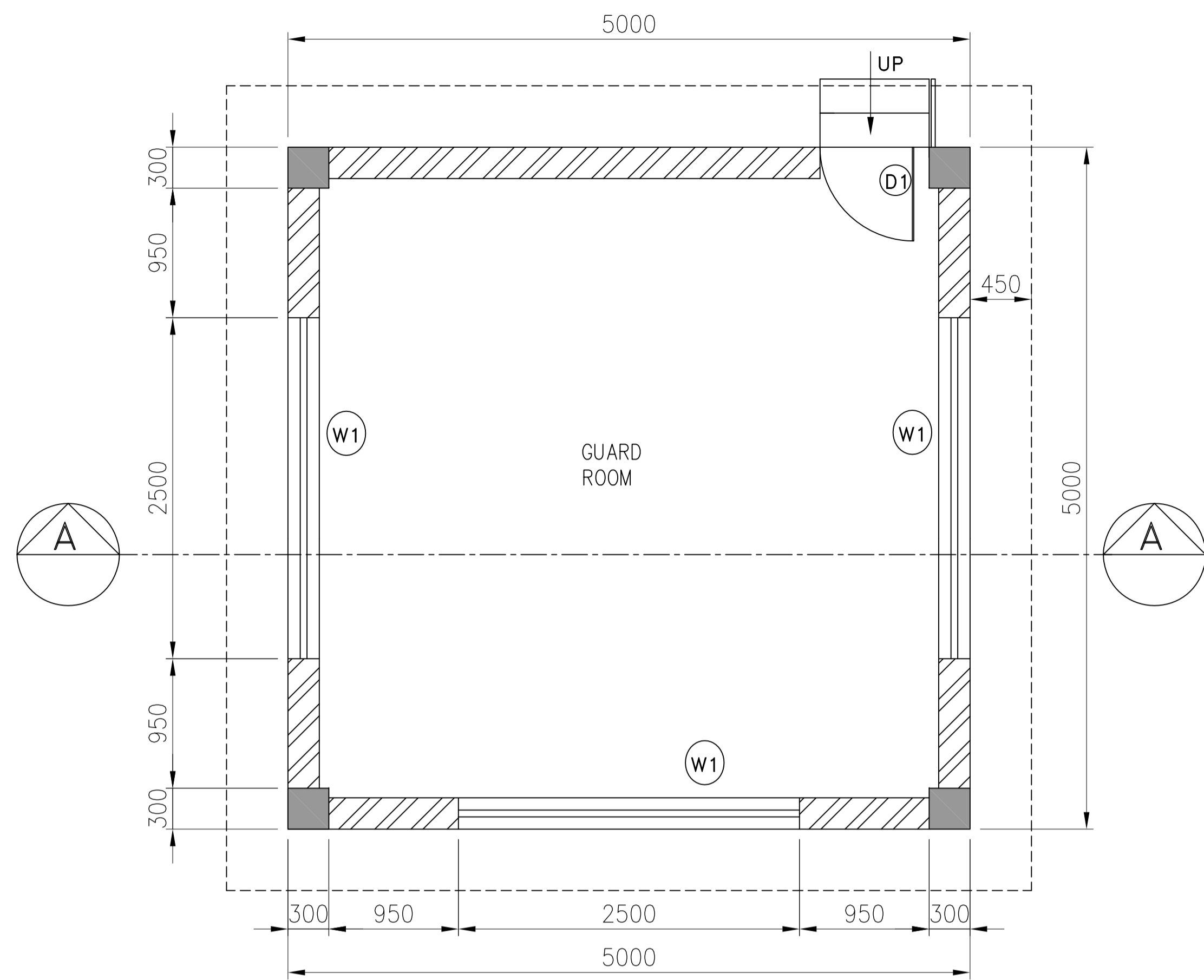
REAR ELEVATION

**NOTES**

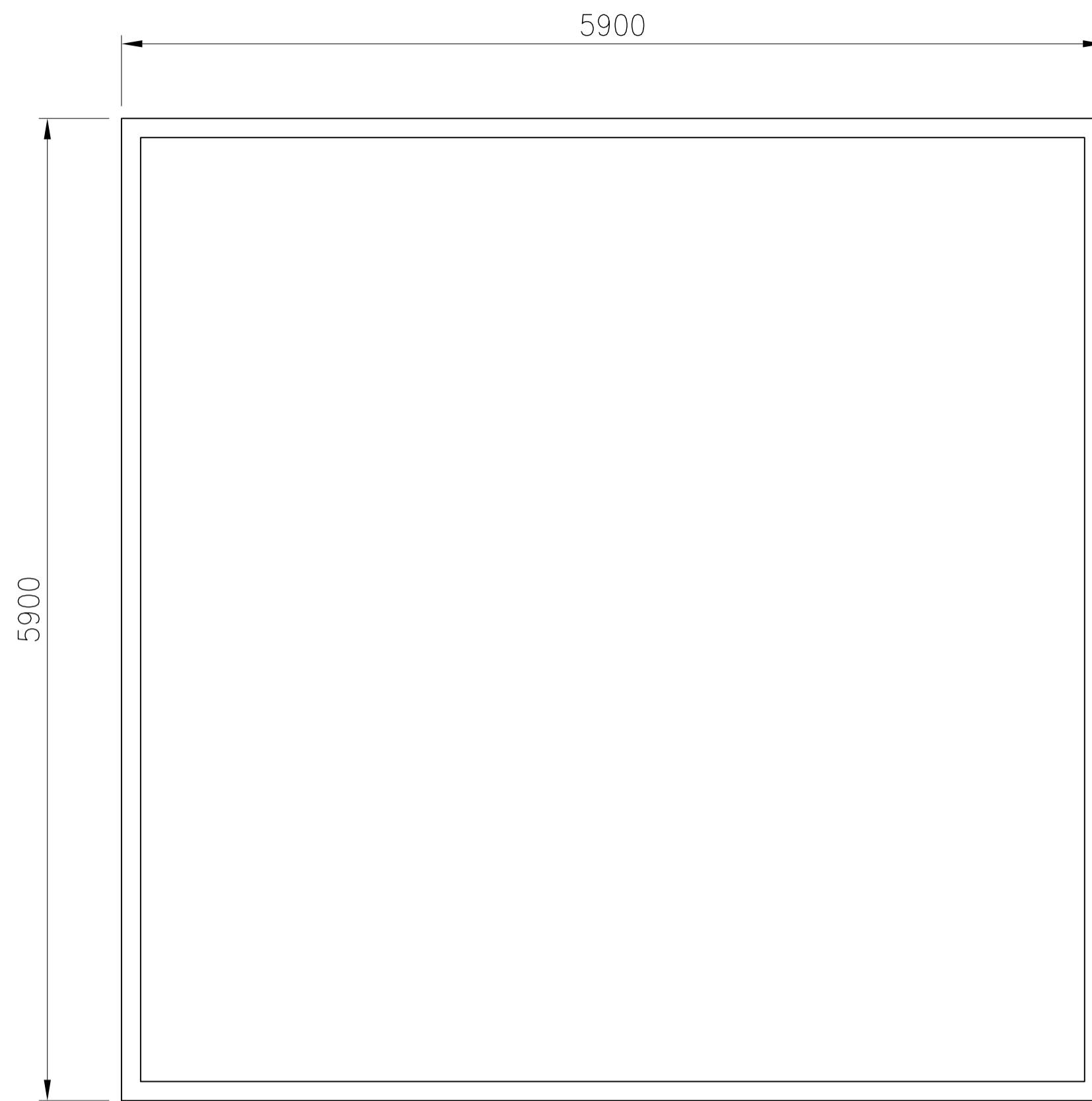
1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
2. ALL DIMENSIONS ARE IN MILLIMETRES.

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
DRN	KANT		MAR. 2016
CHD	AM		MAR. 2016
APPD	SPA		MAR. 2016
CLIENT DRG. NO.			
TITLE		JOB NO	DRG. NO.
<b>ELEVATIONS OF TERMINAL ADMINISTRATION BUILDING</b>		I-521	ST/233
		REV.	0
REV	DATE	DESCRIPTION	DRN CHD APPD
<small>THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE ENGINEERING PROJECTS (INDIA) PRIVATE LIMITED. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT, COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.</small>			
UNIT		SCALE:--AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 1 OF 1	
		Size :	<b>A1</b>

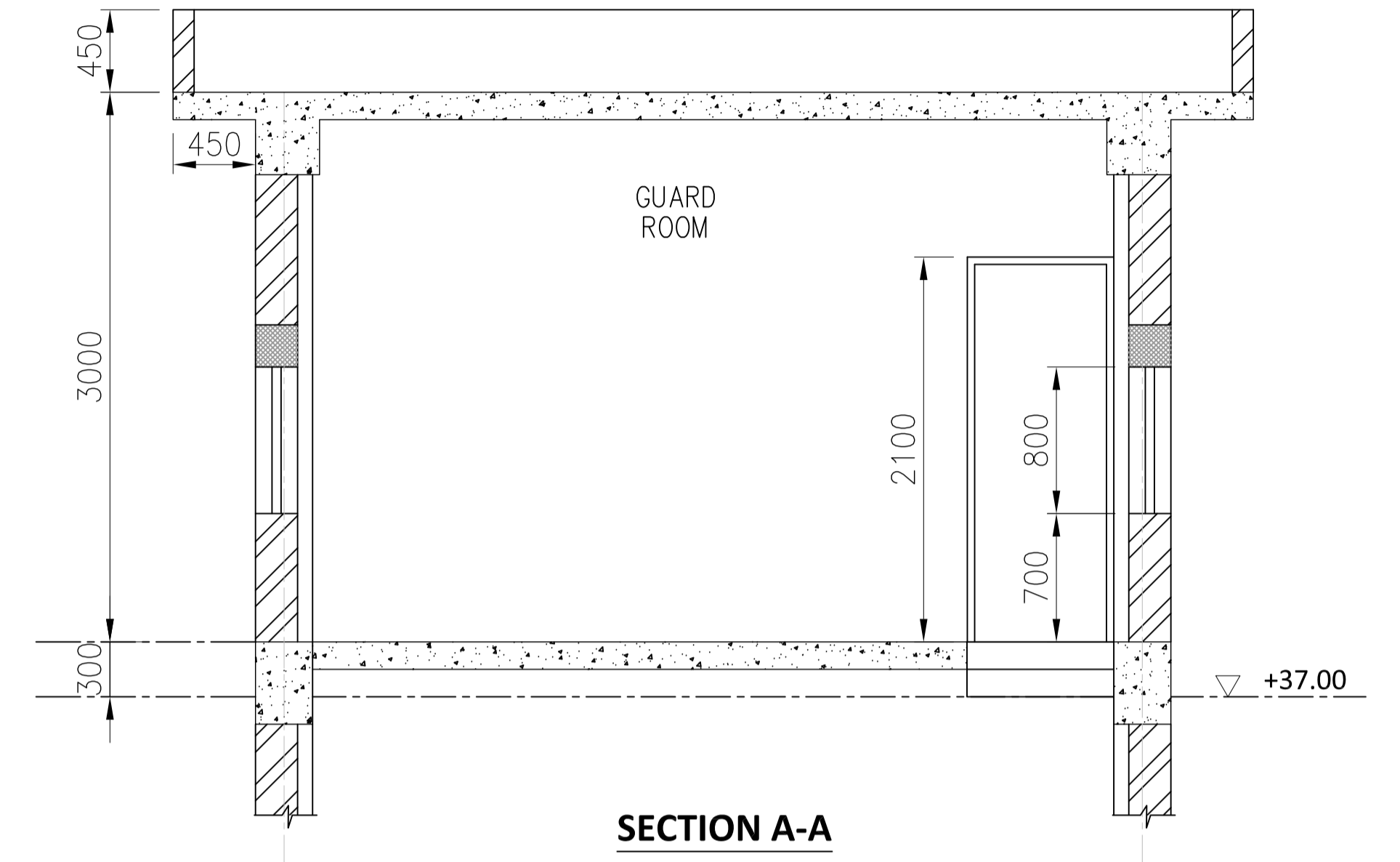




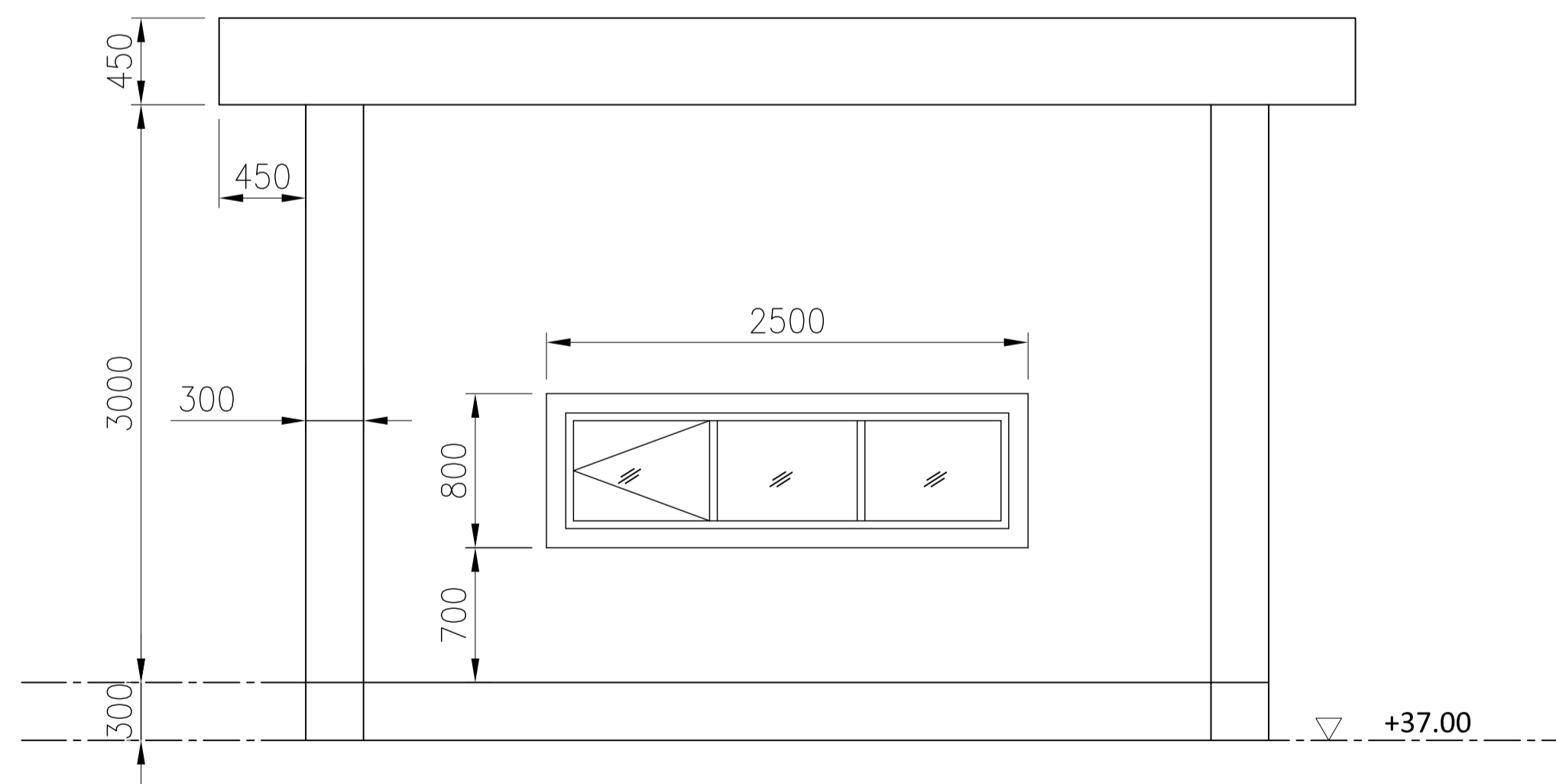
**GROUND FLOOR PLAN**



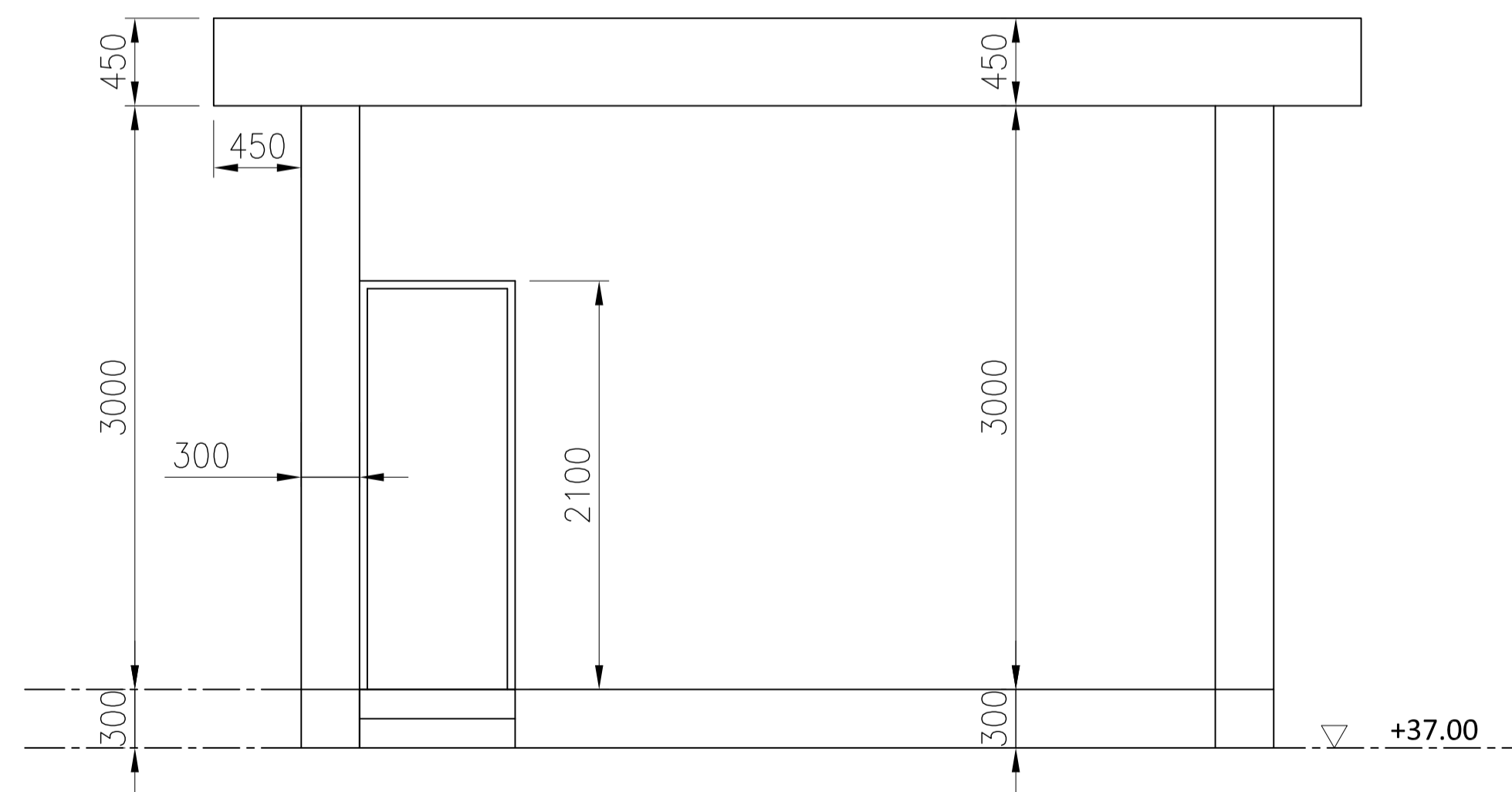
**TERRACE PLAN**



**SECTION A-A**




**FRONT ELEVATION**

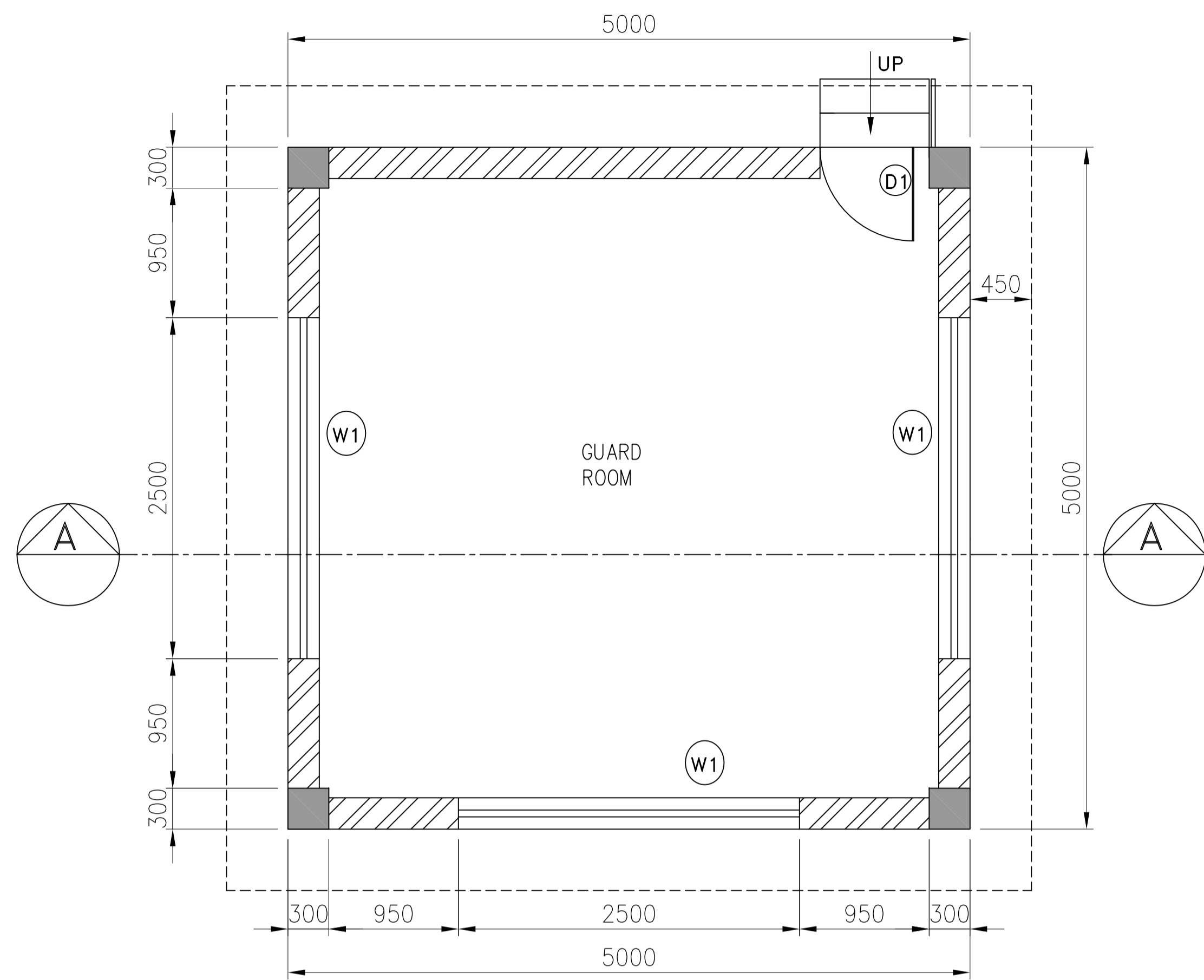


**REAR ELEVATION**

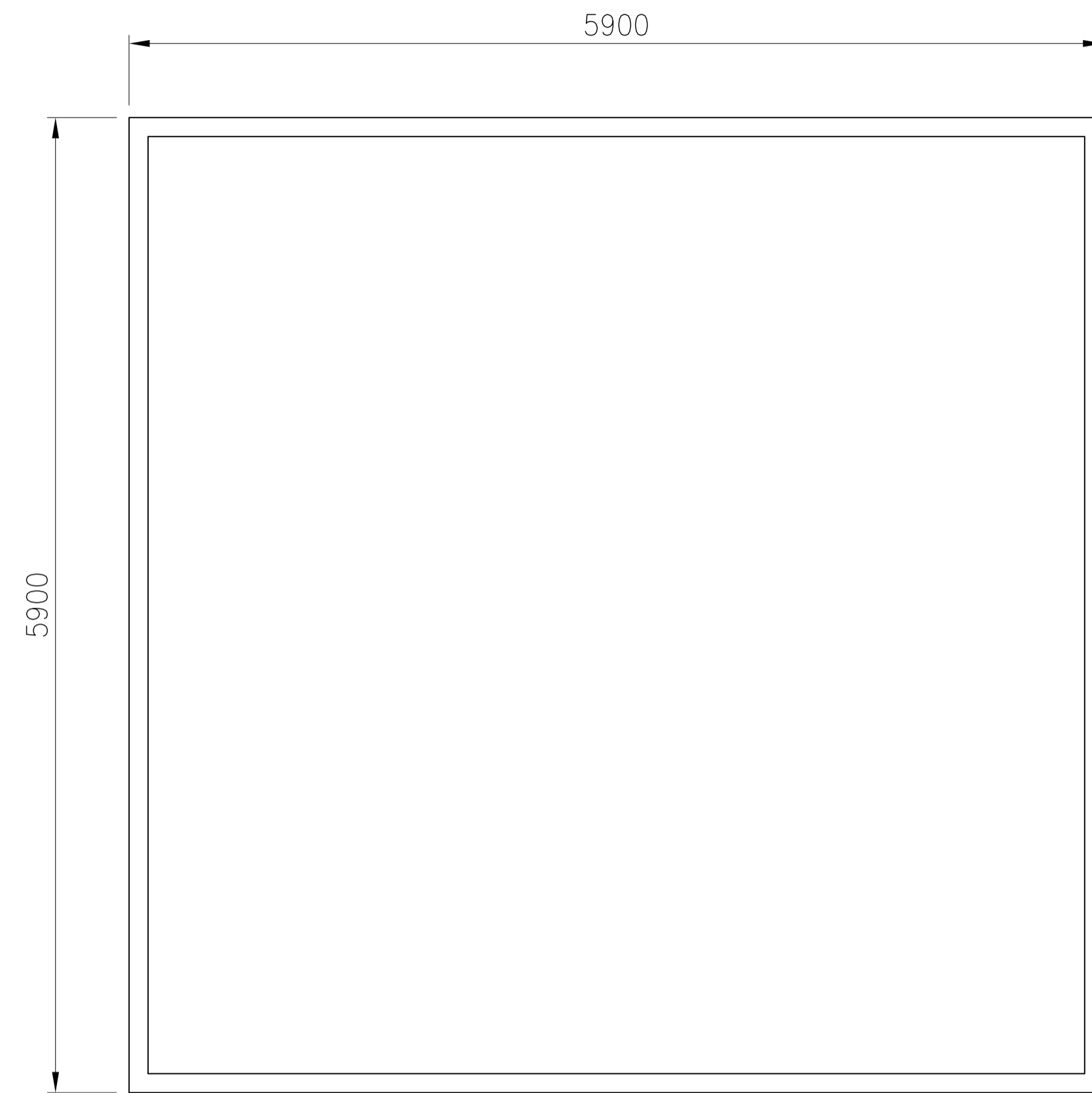
**NOTES**

1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
2. ALL DIMENSIONS ARE IN MILLIMETRES.

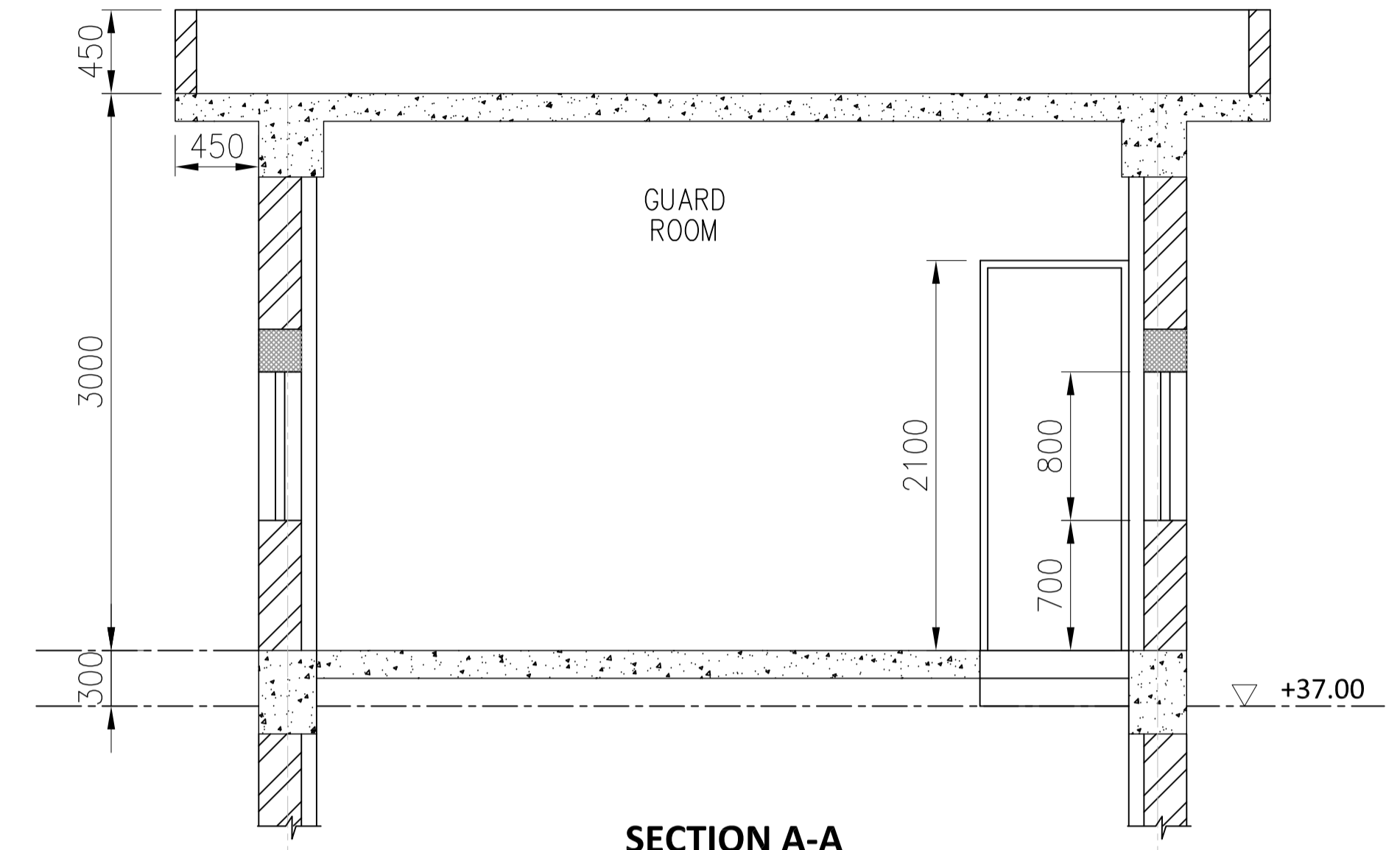
DWG. NO.		TITLE			
		REFERENCE DRAWINGS			
		<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT		<b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN	DATE	
	DRN	KANT		MAR. 2016	
	CHD	AM		MAR. 2016	
	APPD	SPA		MAR. 2016	
TITLE		CLIENT DRG. NO.		JOB NO.	REV.
<b>TYPICAL LAYOUT AND ELEVATIONS OF SECURITY OFFICE</b>				I-521	ST/234 0
REV	DATE	DESCRIPTION	DRN	CHD	APPD
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UNIT		SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1	
CAD FILE NAME:				Size :	A1



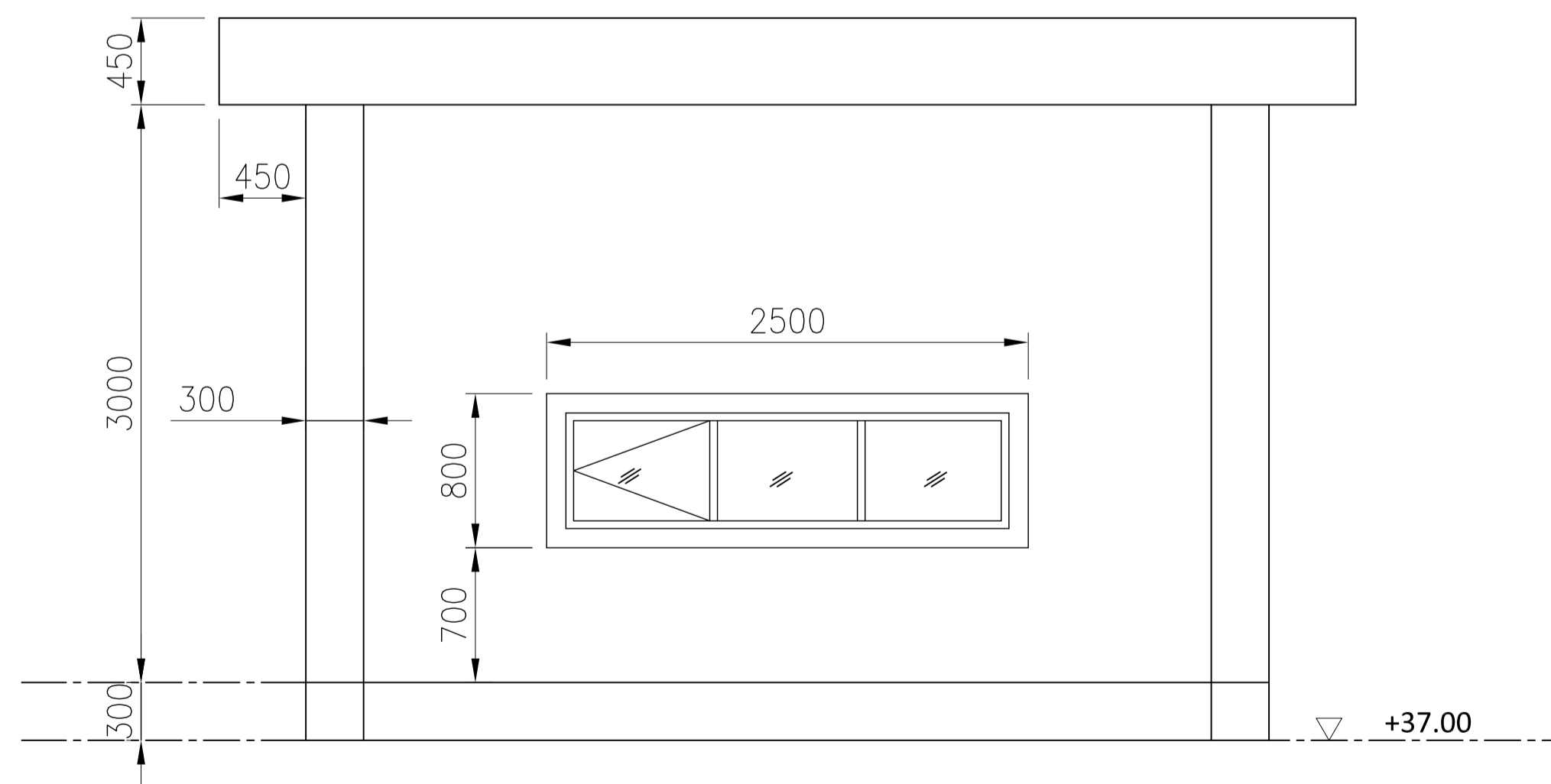
**GROUND FLOOR PLAN**



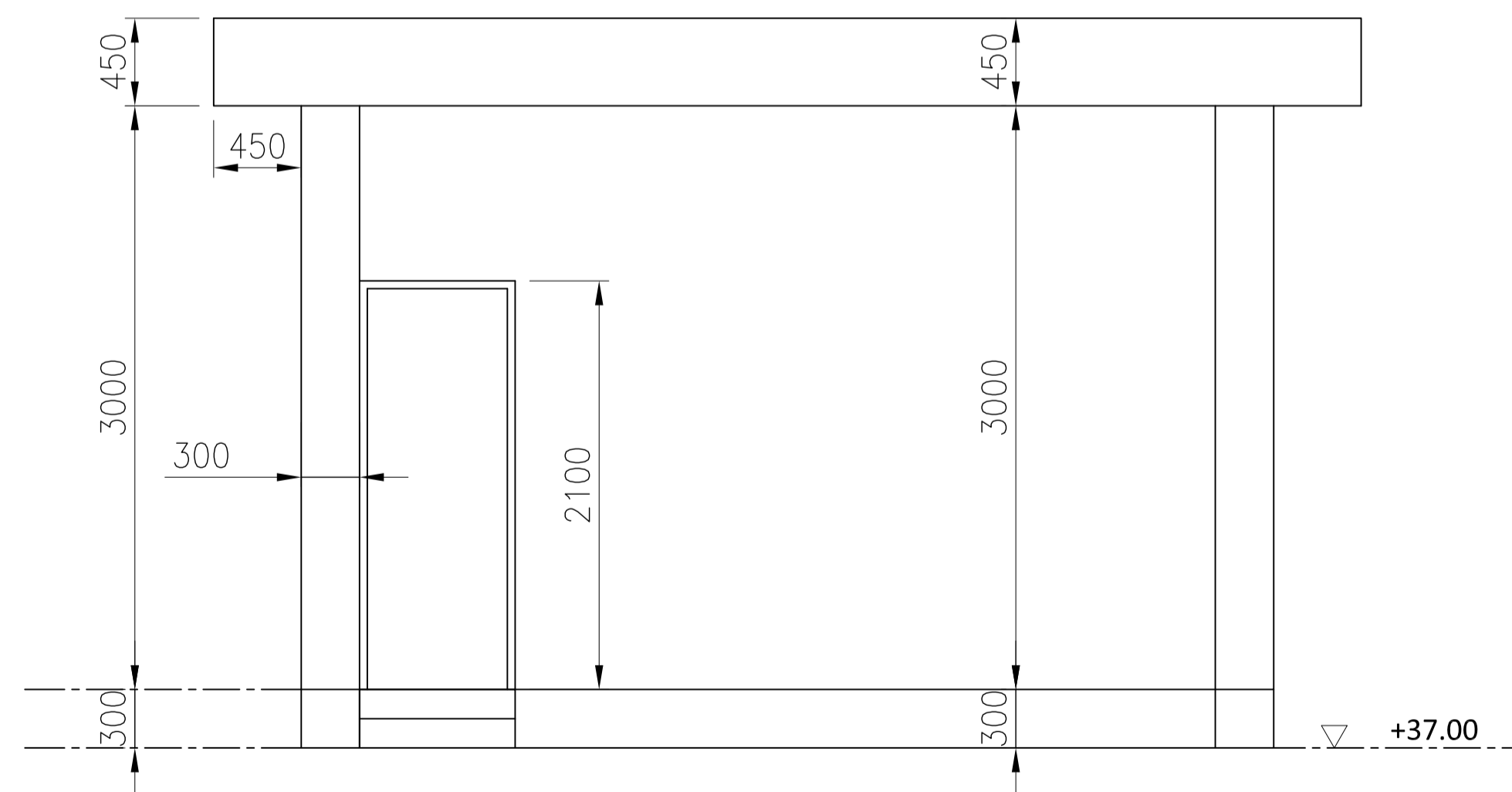
**TERRACE PLAN**



**SECTION A-A**




**FRONT ELEVATION**



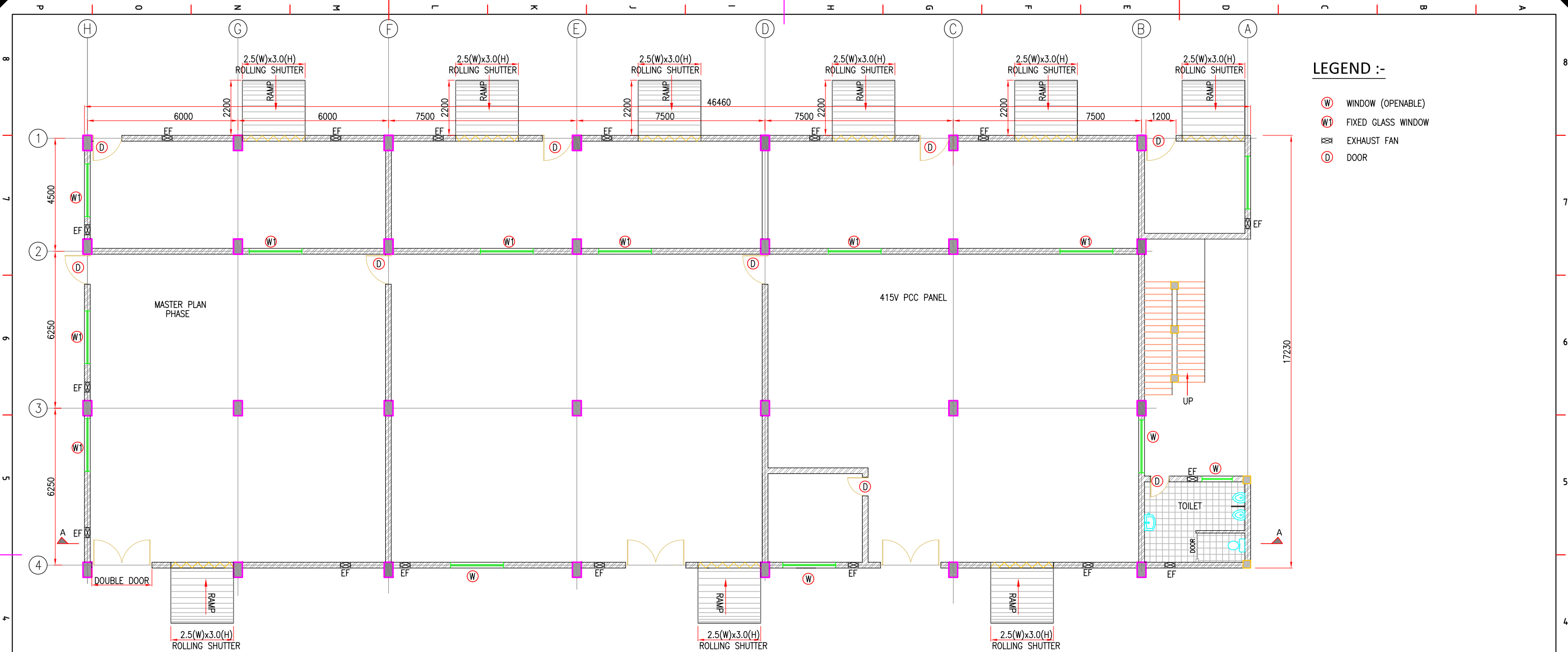
**REAR ELEVATION**

**NOTES**

1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
2. ALL DIMENSIONS ARE IN MILLIMETRES.

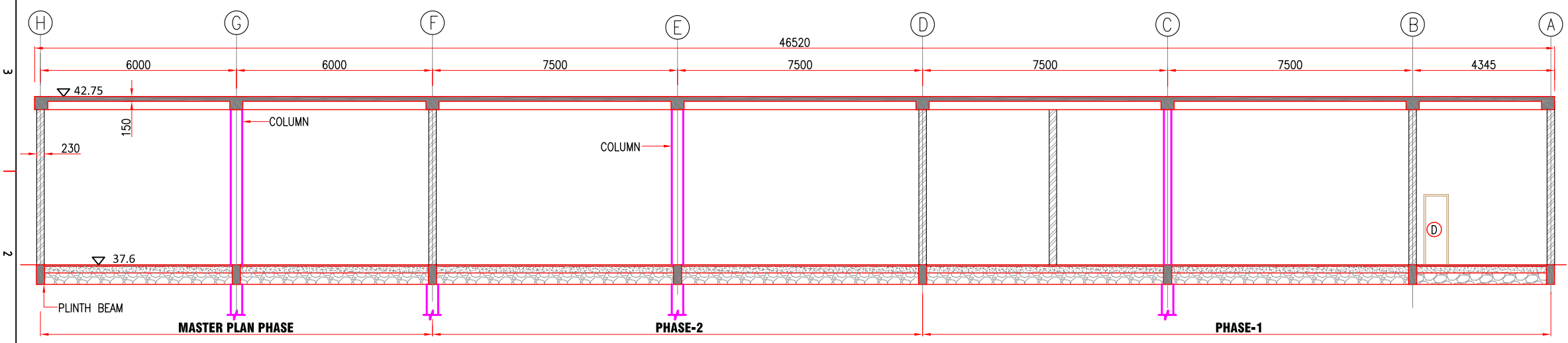
DWG. NO.		TITLE	
		REFERENCE DRAWINGS	
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
TYPICAL LAYOUT AND ELEVATIONS OF WEIGH BRIDGE BUILDING		JOB NO	DRG. NO.
		I-521	ST/235
		REV.	0
REV	DATE	DESCRIPTION	DRN
			CHD
			APPD
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UNIT	SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>





- LEGEND :-**
- (W) WINDOW (OPENABLE)
  - (W1) FIXED GLASS WINDOW
  - (EF) EXHAUST FAN
  - (D) DOOR

**GROUND FLOOR PLAN**



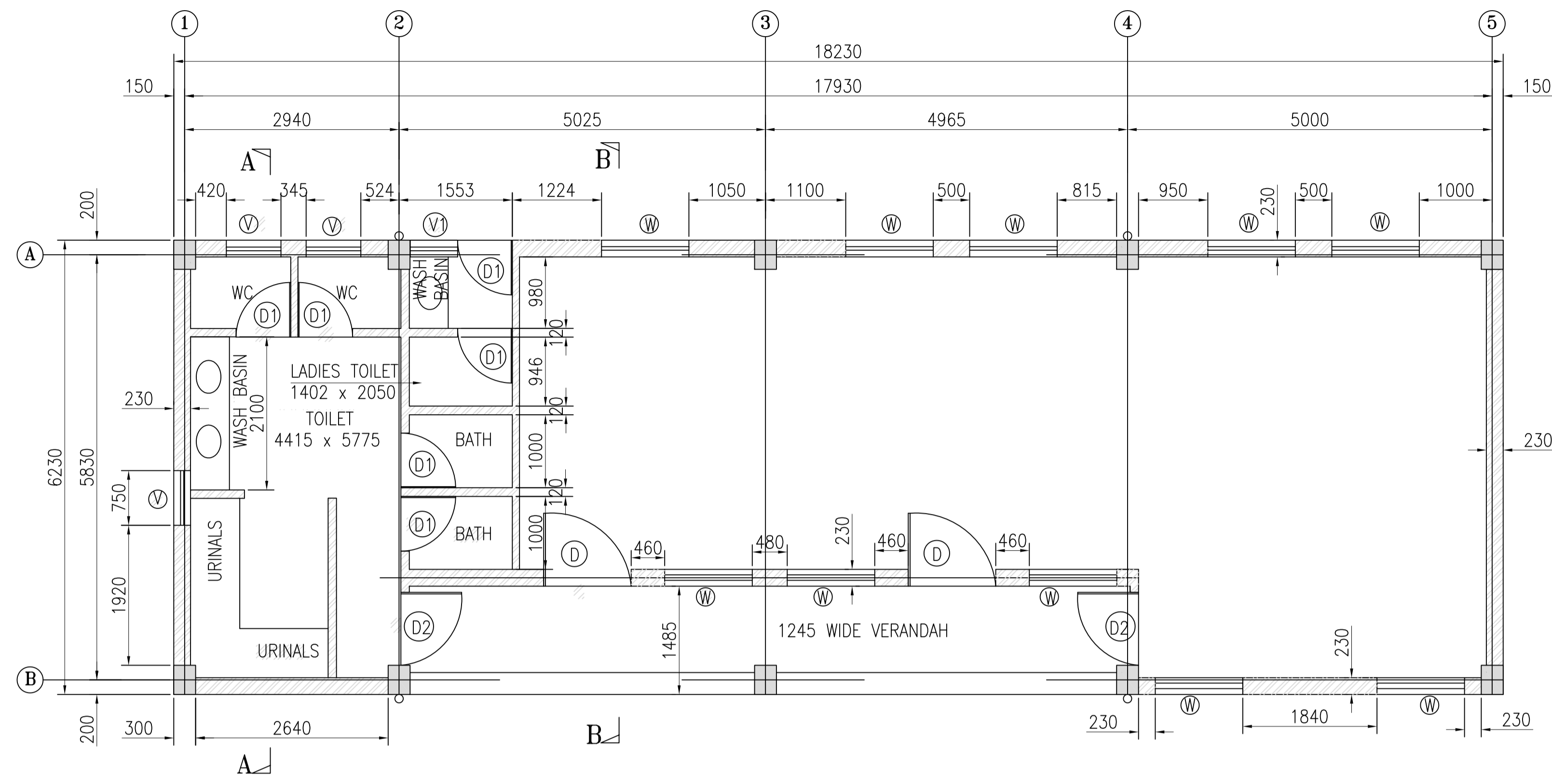
**SECTION A-A**

- NOTES**
1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
  2. ALL DIMENSIONS ARE IN MILLIMETRES.

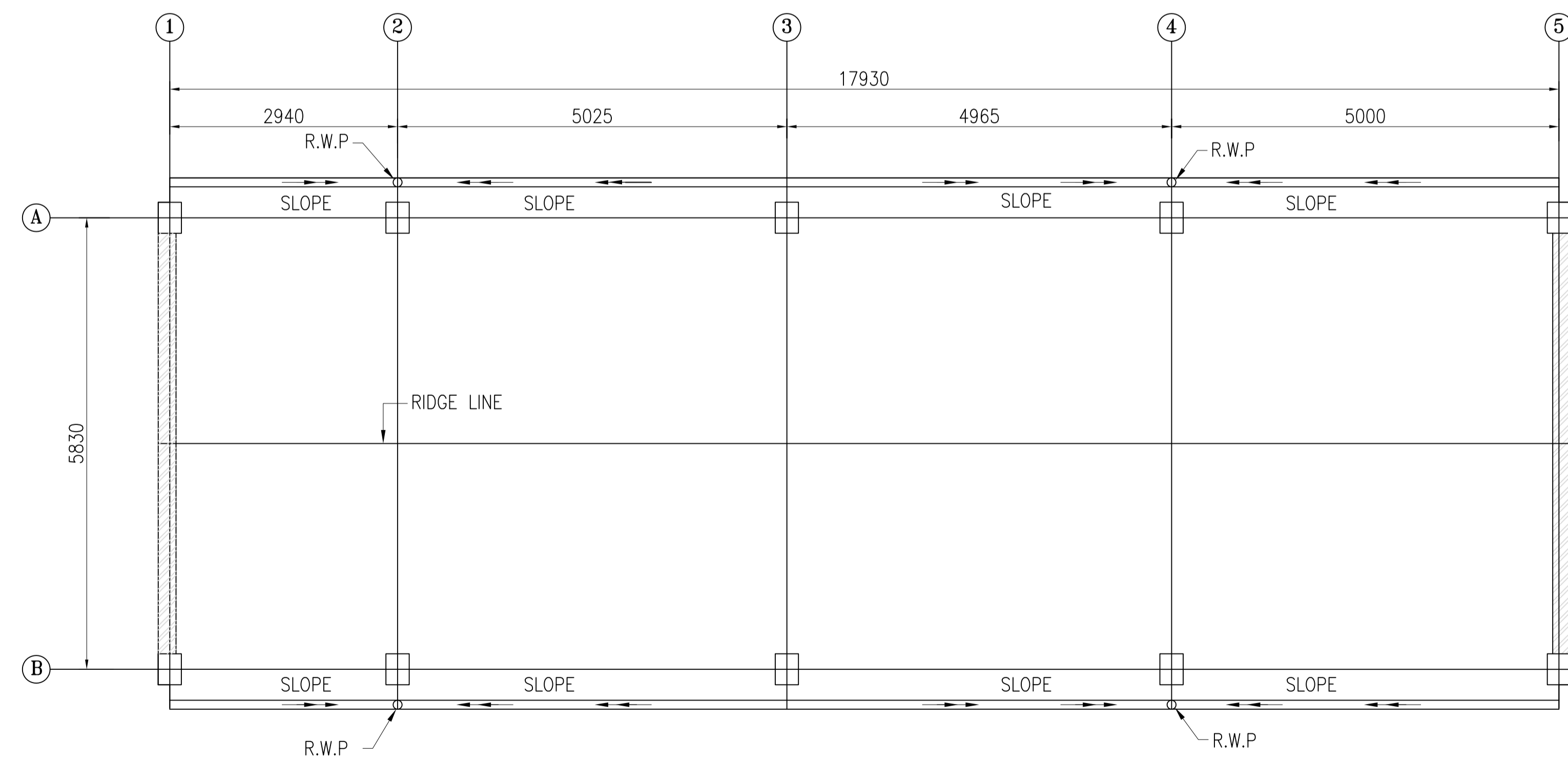
DWG. NO.		TITLE	
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT	2015 NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	VS	MAR. 2016
	CHD	SS	MAR. 2016
	APD	NV	MAR. 2016
TITLE		CLIENT DRG NO.	
ELECTRICAL SUB-STATION FOR PHASE-1		JOB NO	DRG. NO.
		I-521	ST/236
		REV.	
		0	
UNIT	SCALE:- AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:		Size : A1	

REV	DATE	DESCRIPTION	DRN	CHD	APPD

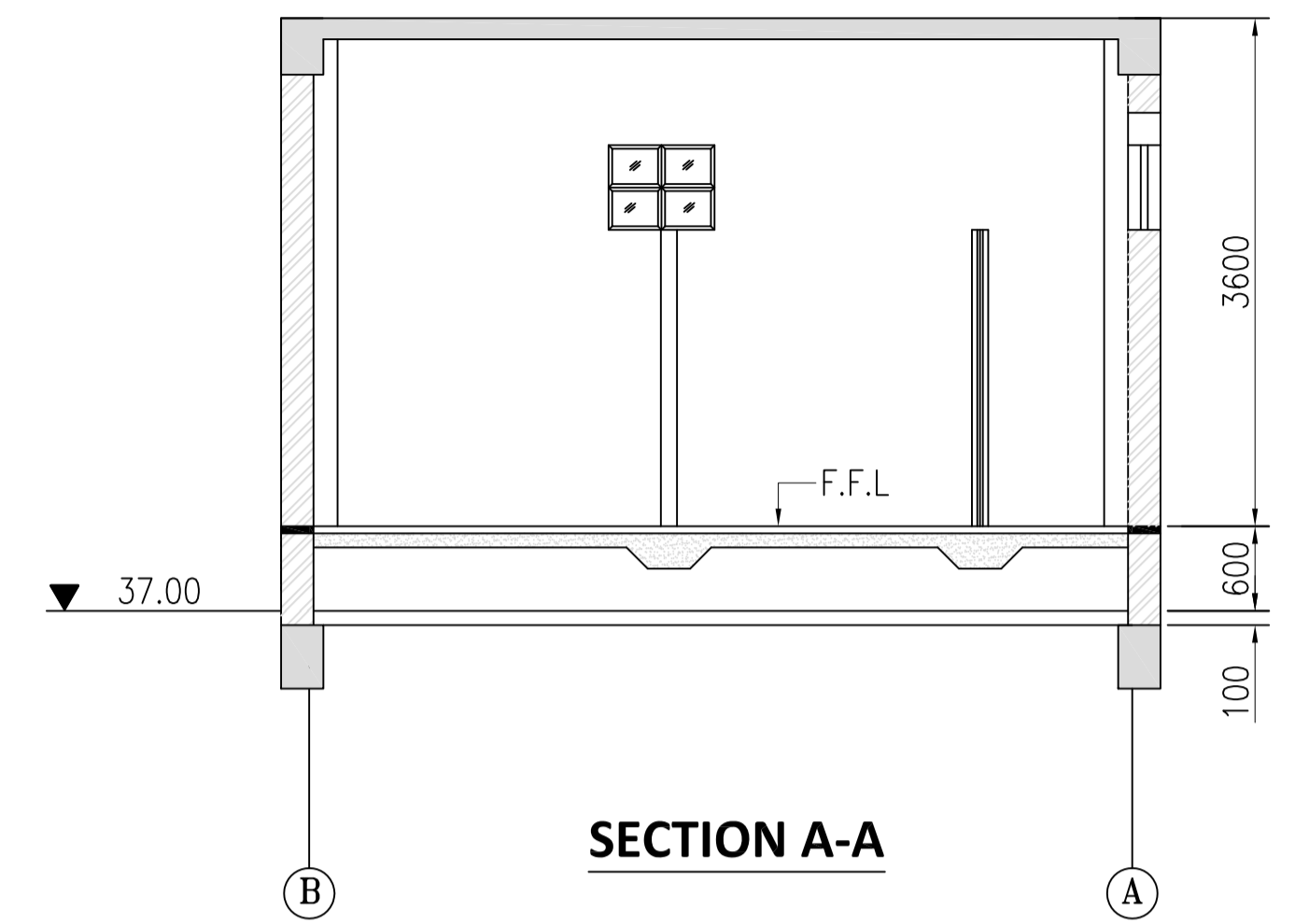
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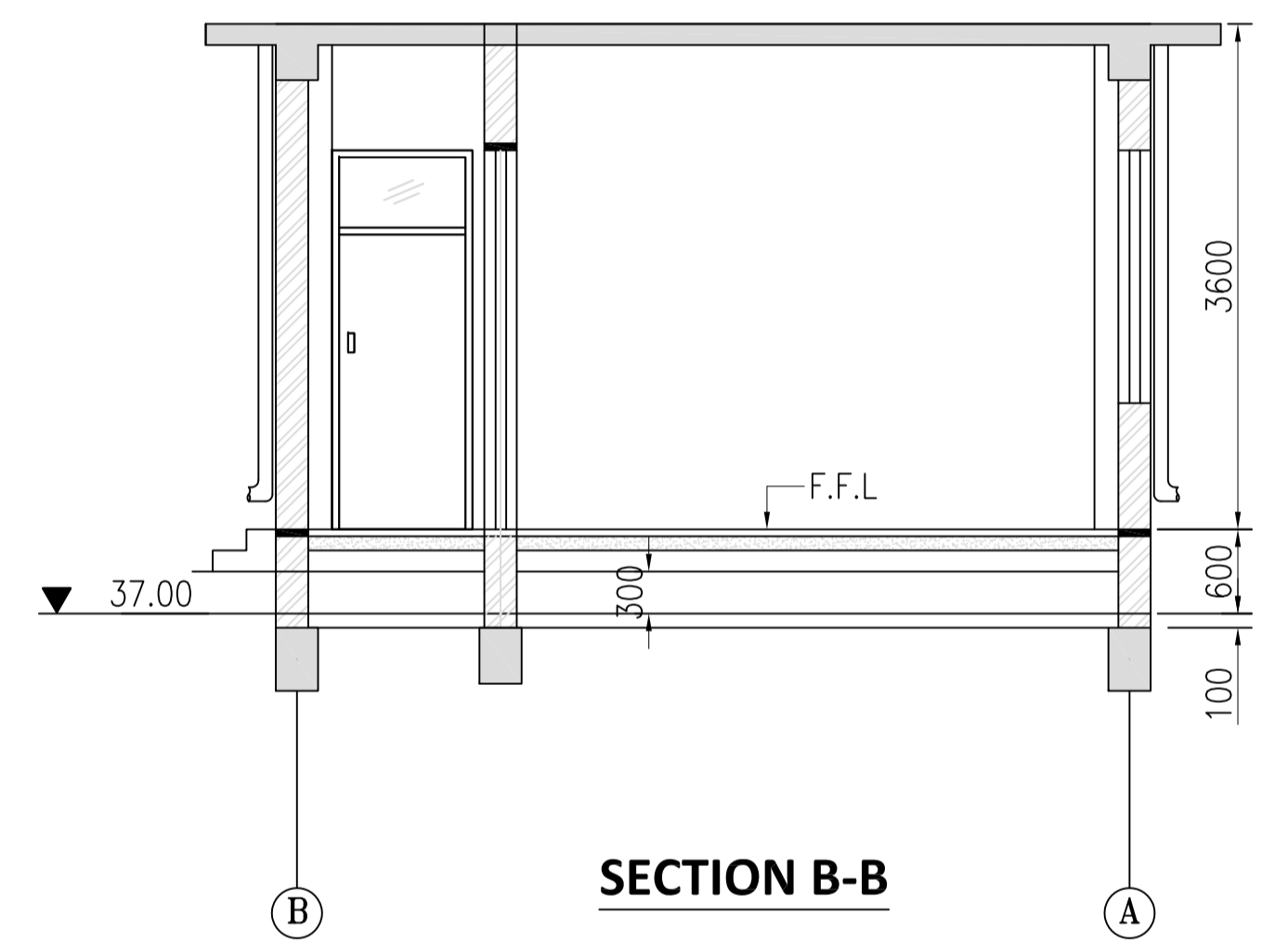
**GROUND FLOOR PLAN**



**ROOF PLAN**




**SECTION A-A**



**SECTION B-B**

**NOTES**

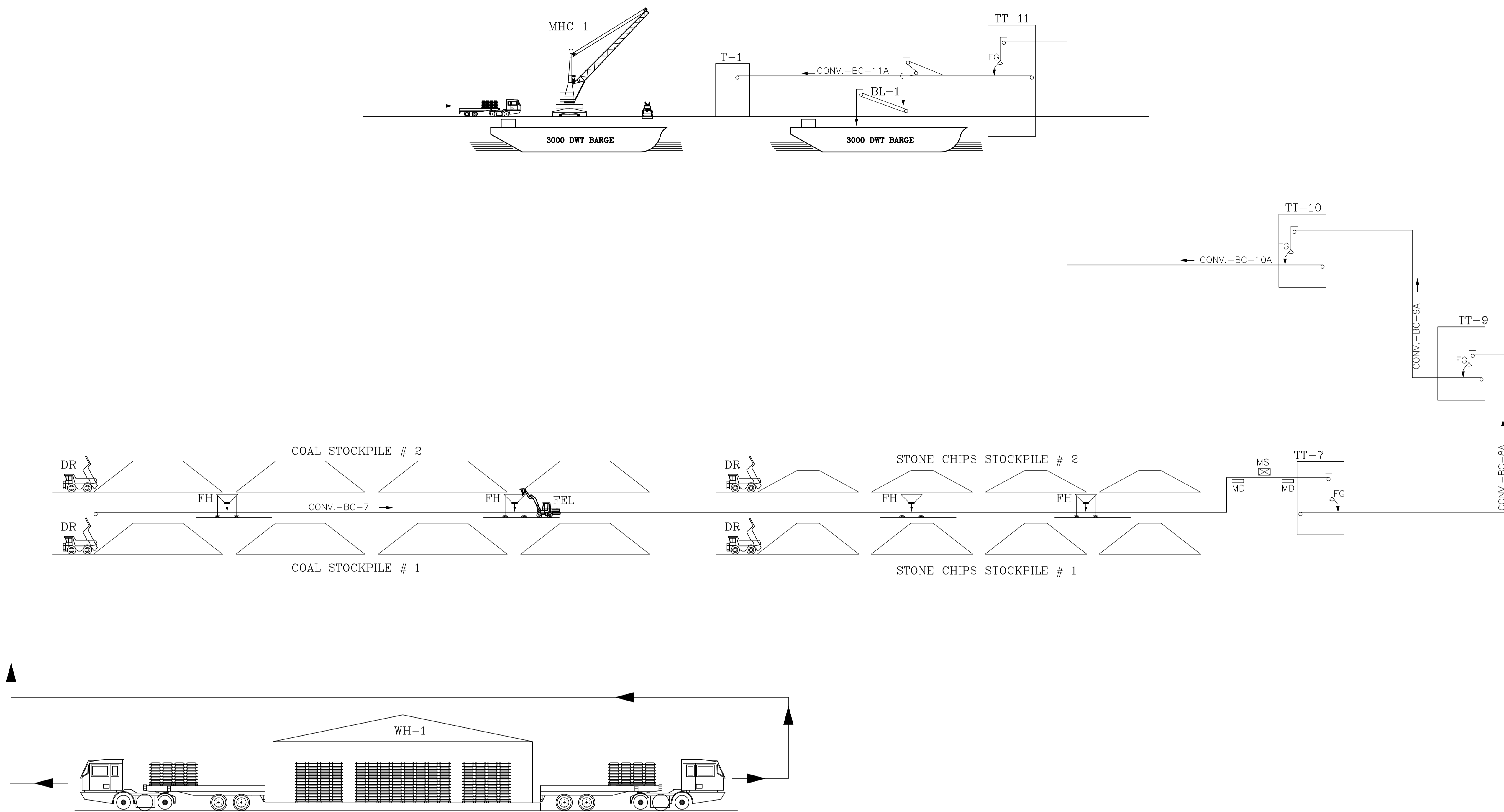
1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
2. ALL DIMENSIONS ARE IN MILLIMETERS

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
DRN	KANT		MAR. 2016
CHD	AM		MAR. 2016
APPD	SPA		MAR. 2016
CLIENT DRG. NO.			
JOB NO	DRG. NO.	REV.	
I-521	ST/237	0	
<b>TYPICAL LAYOUT AND SECTION OF WORKER'S AMENITY BUILDING</b>		UNIT	SCALE:--AS SHOWN
NO OF VAR		SHEET 1 OF 1	
CAD FILE NAME:		Size : <b>A1</b>	

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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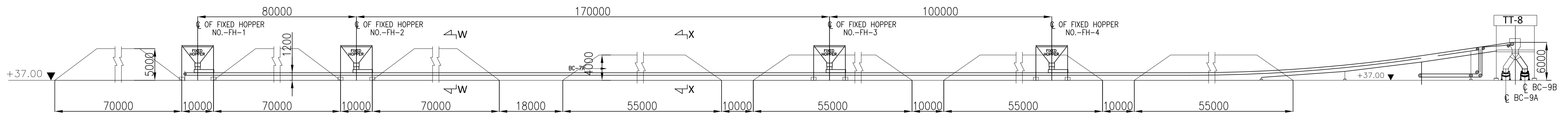


SYM-BOL	DESCRIPTION	RATED CAP. TPH.	QTY.	REMARKS
BC	BELT CONVEYOR	1200	LOT	
FG	FLAP GATES	-	LOT	
TT	TRANSFER TOWER	-	LOT	
T	TOWER	-	LOT	
FH	FIXED HOPPER WITH ROD GATE	-	4 NO.S	
BL	BARGE LOADER	1200	1 NO.	
MHC	MOBILE HARBOUR CRANE	-	1 NO.	
WH-1	WARE HOUSE FOR SUGAR/FOOD GRAINS/FERTILISER/CEMENT	-	1 NO.	BAGGED GARGO
DR	TRUCK DUMPER	-	LOT	BY OTHERS
TR	TRUCK / TRAILER	-	LOT	BY OTHERS
FEL	FRONT END LOADER	-	LOT	BY OTHERS
MS	MAGNETIC SEPERATOR	-	1 NO,	
MD	METAL DETECTOR	-	2 NO,S	

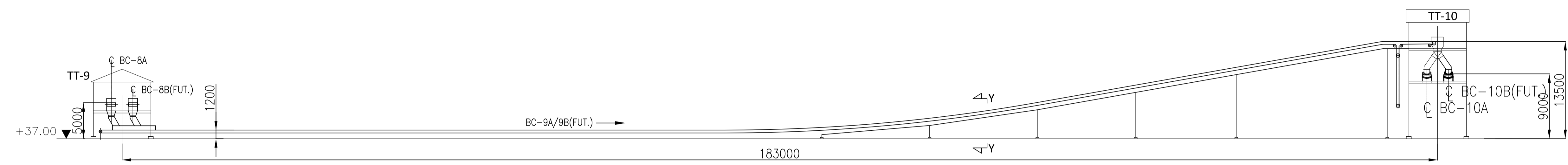
REV	DATE	DESCRIPTION	DRN	CHD	APPD
1	08.10.16	MAGNET & METAL DETECTOR ADDED	SKN	AK	SD

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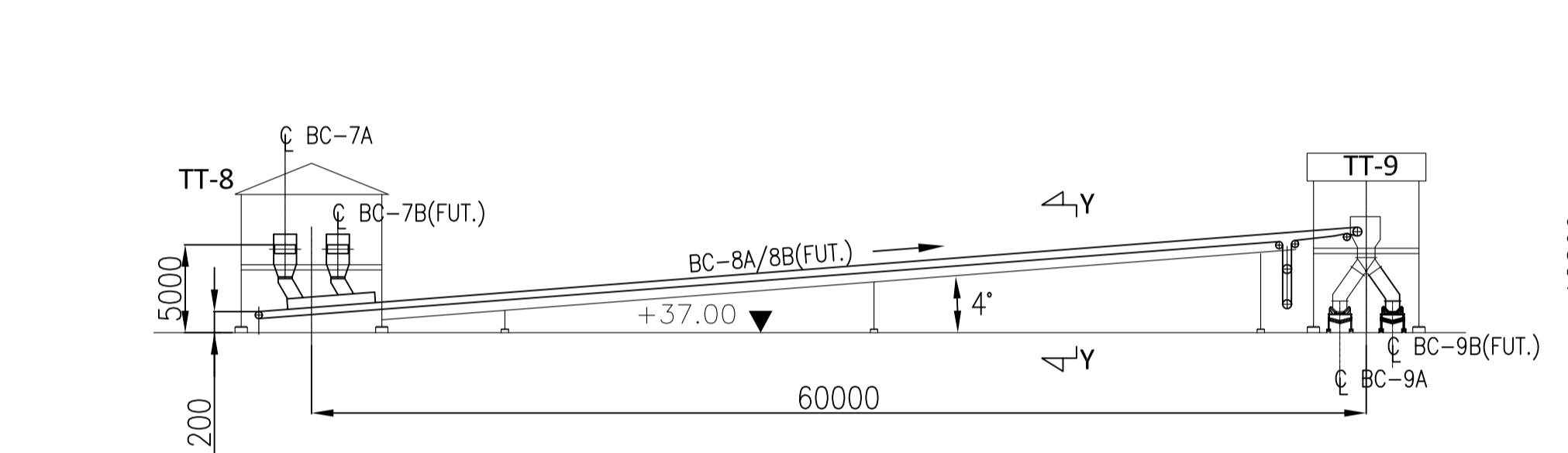
DWG. NO.	TITLE		
REFERENCE DRAWINGS			
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE	CLIENT DRG NO.	JOB NO	DRG. NO.
<b>FLOW DIAGRAM OF CARGO HANDLING SYSTEM IN PHASE-1</b>		I-521	ST/238
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>



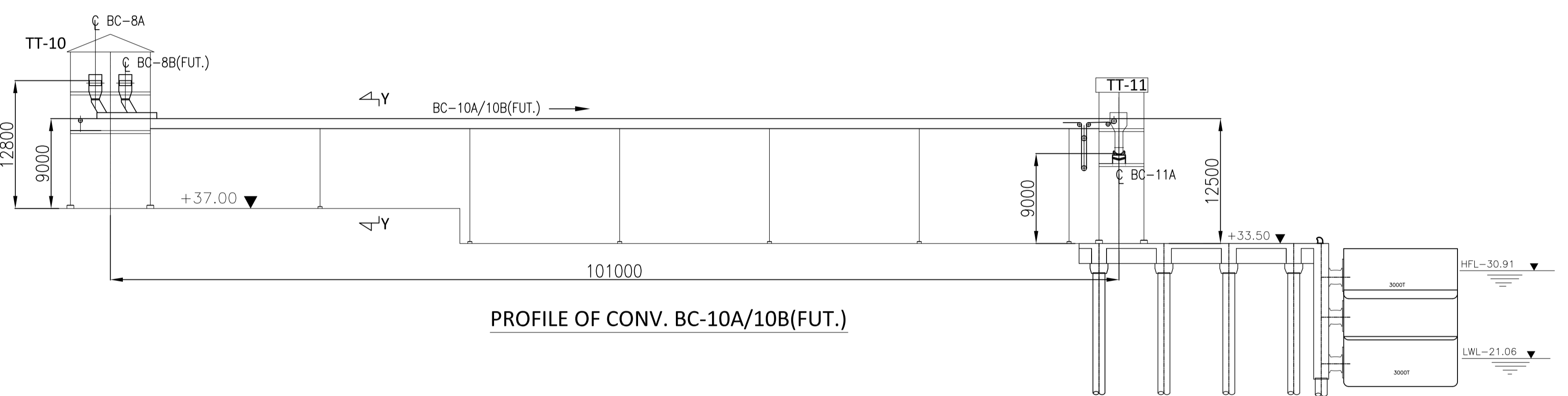
PROFILE OF CONV. BC-7A



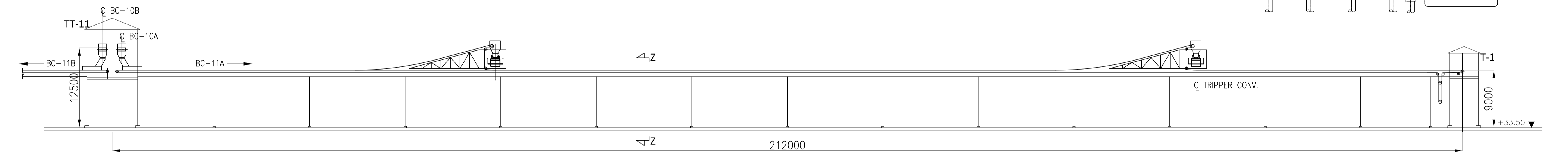
PROFILE OF CONV. BC-9A/9B(FUT.)



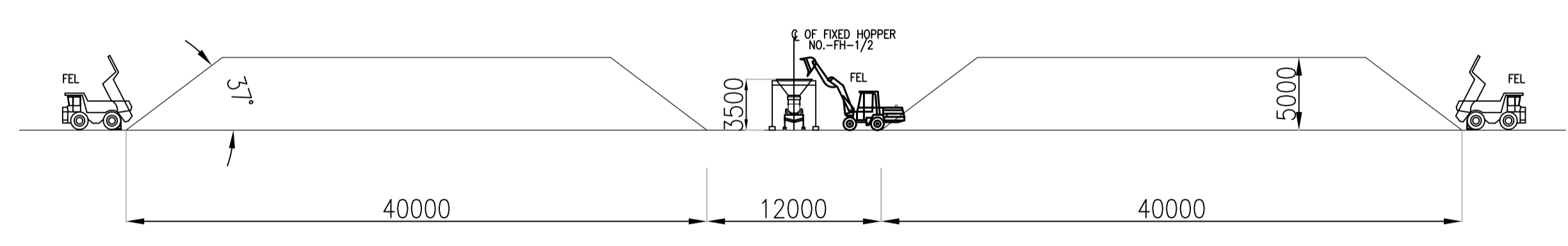
PROFILE OF CONV. BC-8A/8B(FUT.)



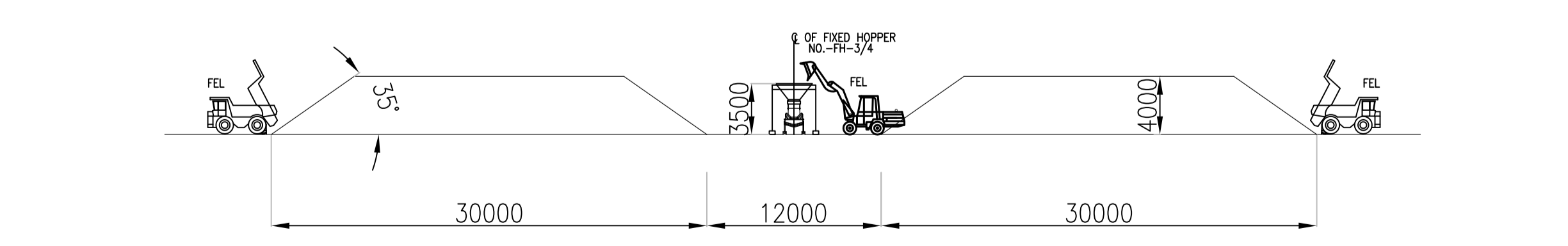
PROFILE OF CONV. BC-10A/10B(FUT.)



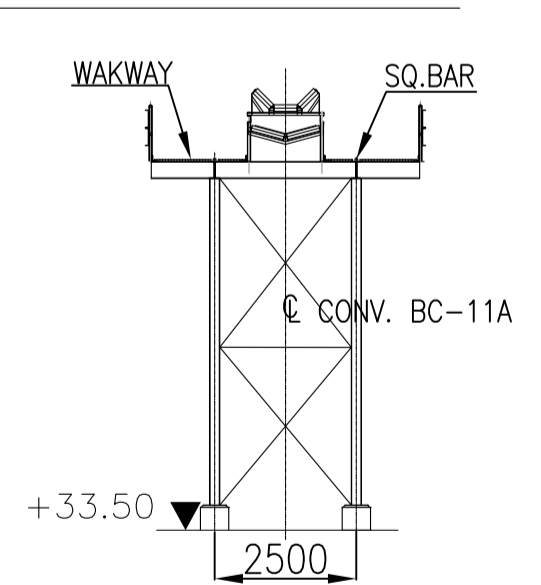
PROFILE OF CONV. BC-11A



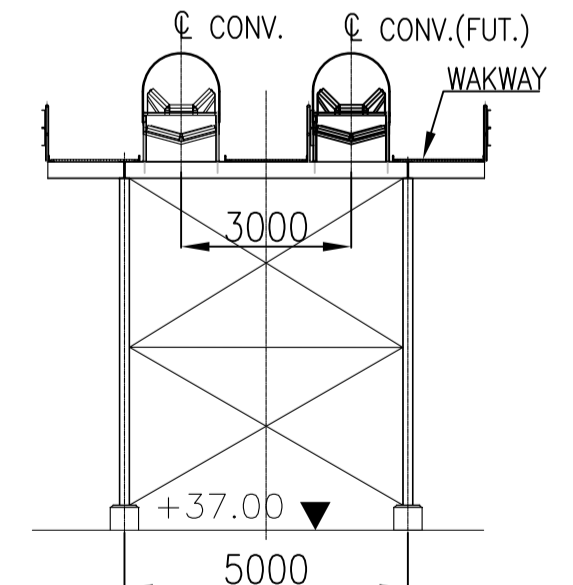
CROSS SECTION W-W (FOR COAL)



CROSS SECTION X-X (FOR STONE CHIPS)



VIEW FROM Z-Z



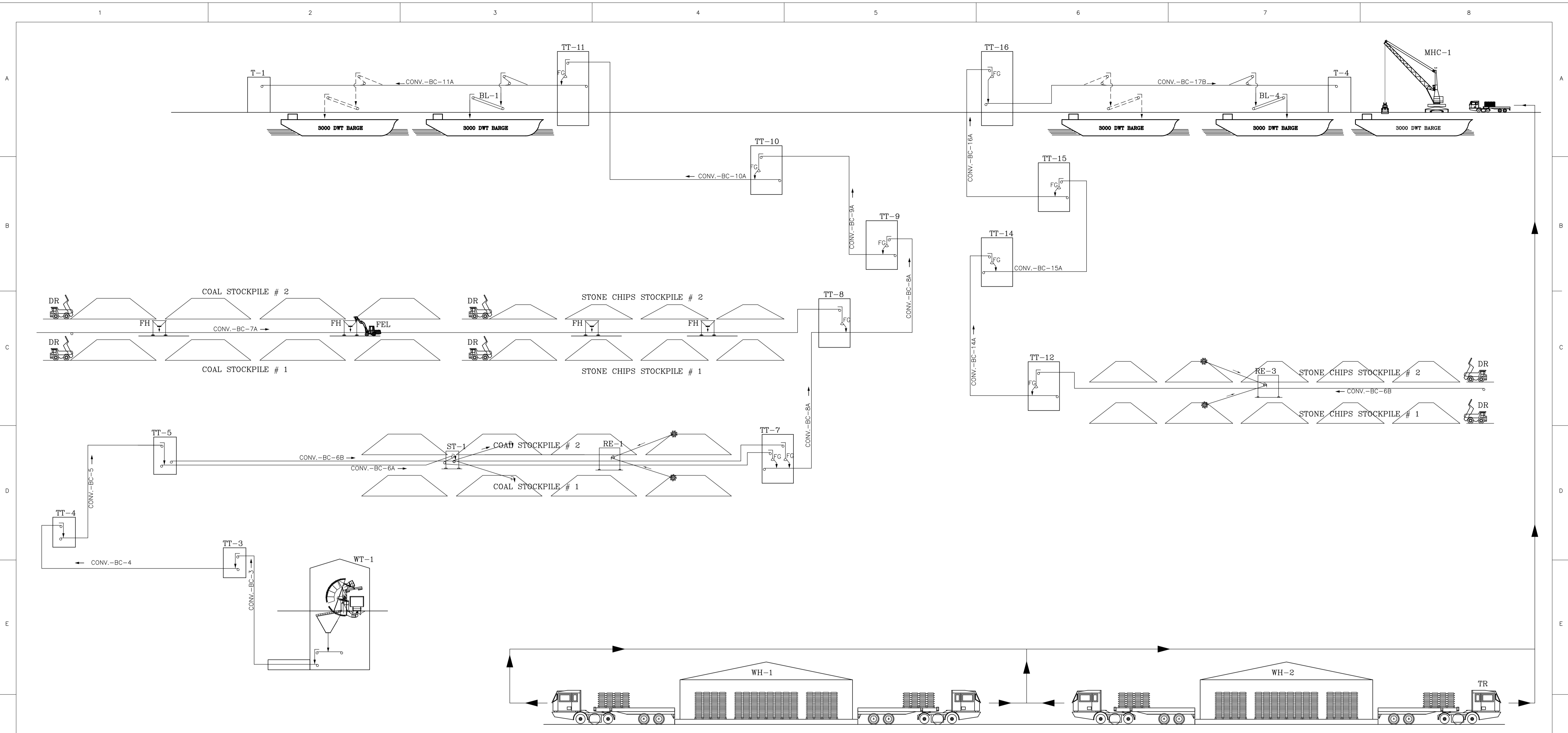
VIEW FROM Y-Y

NOTES

1. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.
2. ALL DIMENSIONS ARE IN MILLIMETERS

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015 NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE		JOB NO.	DRG. NO.
<b>CROSS SECTION OF CONVEYOR PROFILE FOR PHASE-1</b>		I-521	ST/239
		REV.	0
REV	DATE	DESCRIPTION	DRN CHD APPD
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UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>







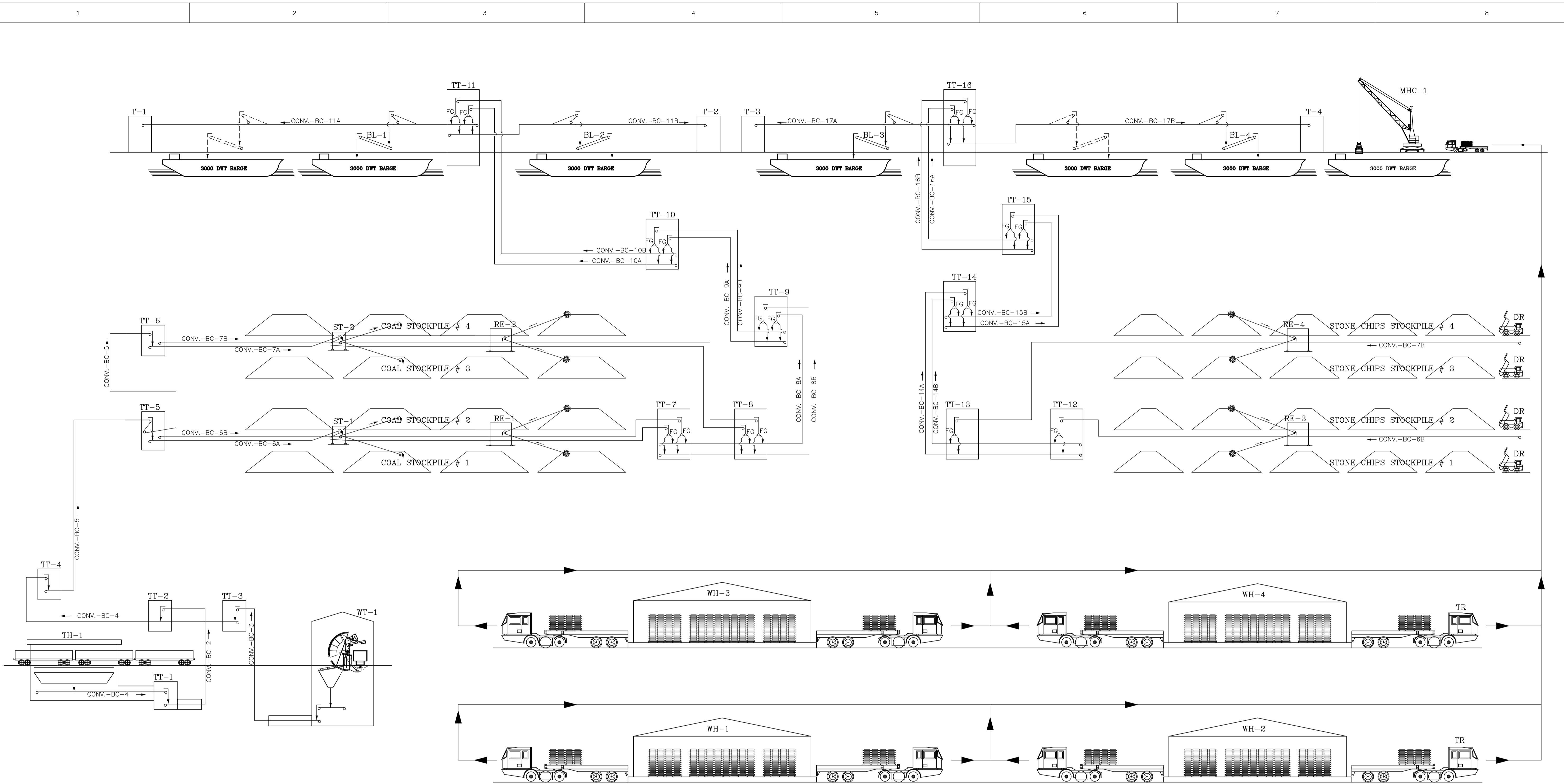
**LEGEND**

SYMBOL	DESCRIPTION	RATED CAP. (TPH)	QTY.
WT	WAGON TIPPLER	25 TIPS /HR	1 NO.
BL	BARGE LOADER	1200	4 NO.S
MHC	MOBILE HARBOUR CRANE	-	1 NO.
ST	STACKER	1200	2 NO.S
RE	RECLAIMER	1200	4 NO.S
BC	BELT CONVEYOR	1200	LOT
FG	FLAP GATES	-	LOT
TT	TRANSFER TOWER	-	LOT
T	TOWER	-	LOT
WH-1	WARE HOUSE FOR SUGAR / FOOD GRAINS	-	1 NO.
WH-2	WARE HOUSE FOR FERTILISER / CEMENT	-	1 NO.
DR	TRUCK DUMPER	-	LOT
TR	TRUCK / TRAILER	-	LOT

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.		TITLE	
		REFERENCE DRAWINGS	
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE	CLIENT DRG NO.		
<b>FLOW DIAGRAM FOR CARGO HANDLING SYSTEM IN PHASE-2</b>	JOB NO	DRG. NO.	REV.
	I-521	ST/240	0
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:		Size : <b>A1</b>	





**LEGEND**

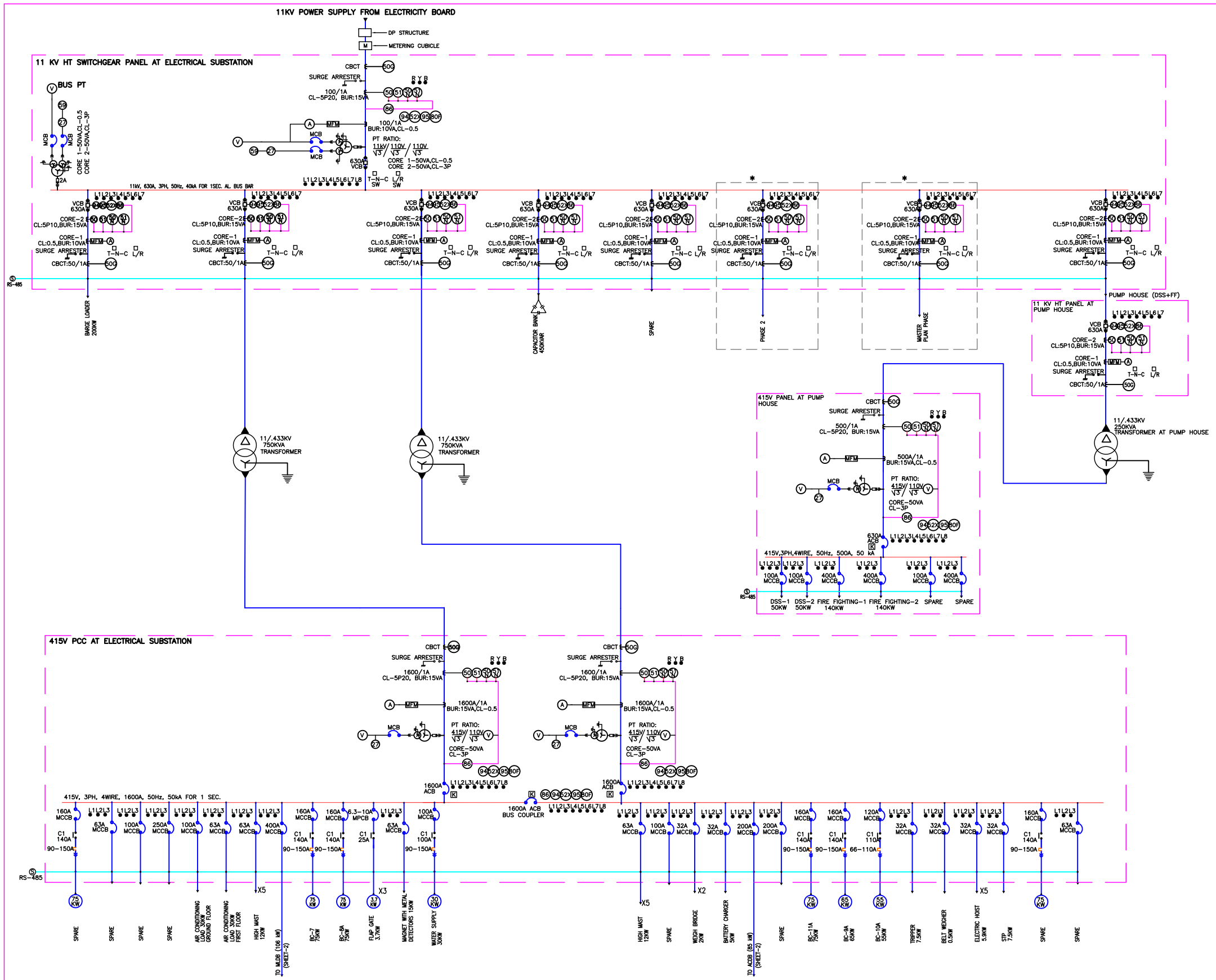
SYMBOL	DESCRIPTION	RATED CAP. (TPH)	QTY.
WT	WAGON TIPPLER	25 TIPS /HR	1 NO.
TH	TRACK HOPPER	-	1 NO.
BL	BARGE LOADER	1200	4 NO.S
MHC	MOBILE HARBOUR CRANE	-	1 NO.
ST	STACKER	1200	2 NO.S
RE	RECLAIMER	1200	4 NO.S
BC	BELT CONVEYOR	1200	LOT
FG	FLAP GATES	-	LOT
TT	TRANSFER TOWER	-	LOT
T	TOWER	-	LOT
WH-1	WARE HOUSE FOR SUGAR	-	1 NO.
WH-2	WARE HOUSE FOR FOOD GRAINS	-	1 NO.
WH-3	WARE HOUSE FOR FERTILISER	-	1 NO.
WH-4	WARE HOUSE FOR CEMENTTT	-	1 NO.
DR	TRUCK DUMPER	-	LOT
TR	TRUCK / TRAILER	-	LOT

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
 <b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
 <b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE	CLIENT DRG NO.	JOB NO	DRG. NO.
<b>FLOW DIAGRAM FOR CARGO HANDLING SYSTEM IN MASTER PLAN PHASE</b>		I-521	ST/241
REV. 0			
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

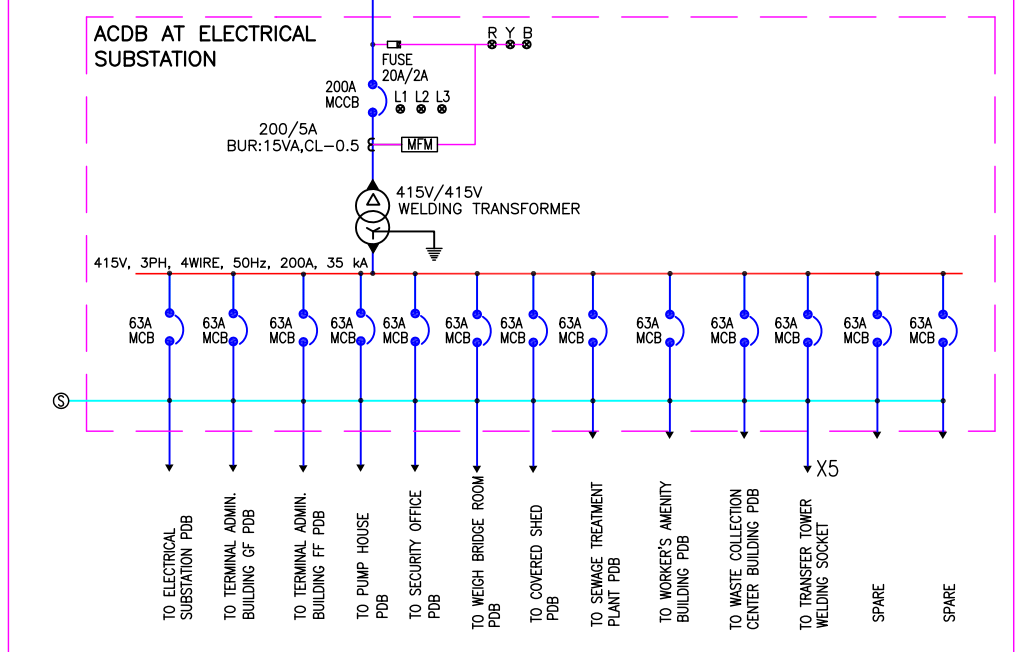
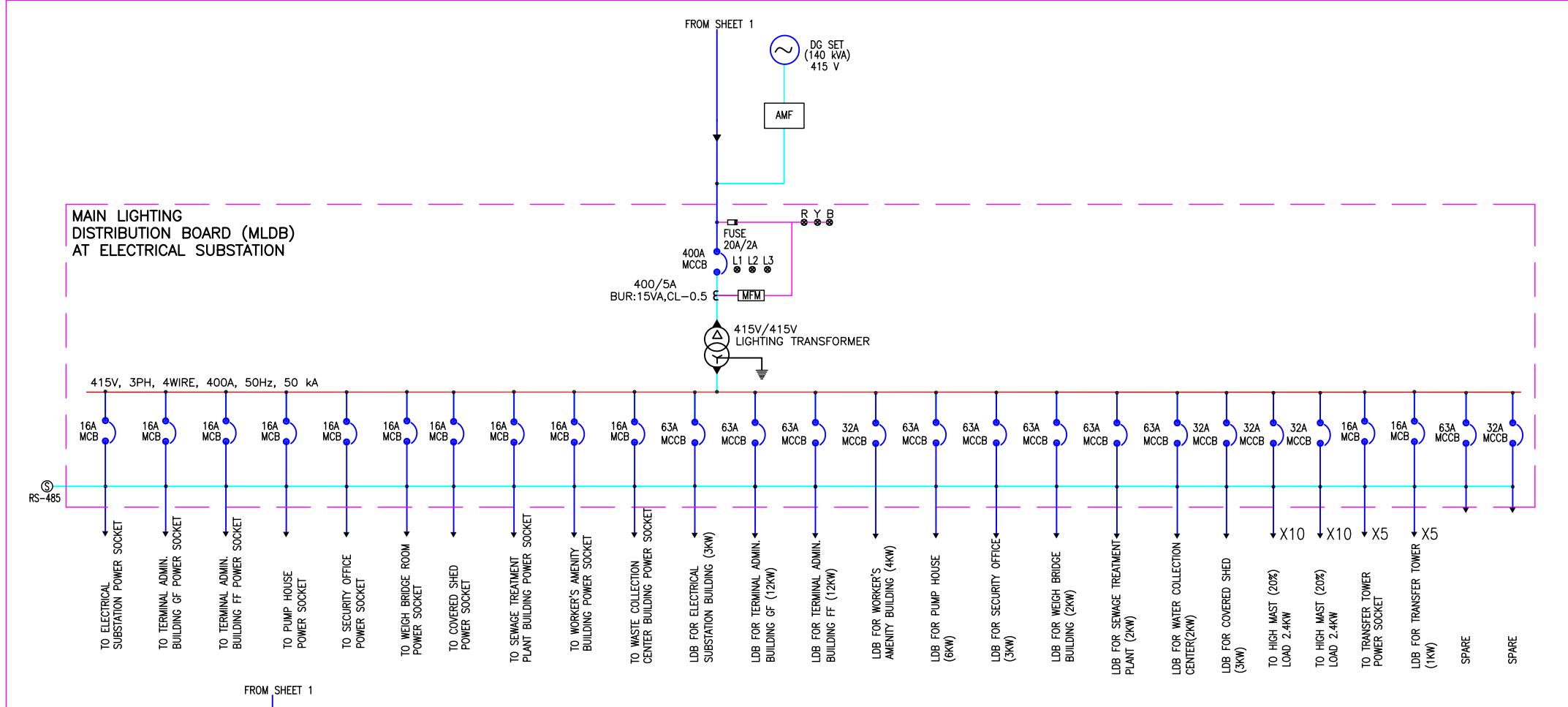




SYMBOL	DESCRIPTION
	FUSE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	MOULDED CASE CIRCUIT BREAKER
	INDICATION
	AIR CIRCUIT BREAKER
	SURGE ARRESTER
	CORE BALANCE CURRENT TRANSFORMER
	UNDER VOLTAGE RELAY
	INSTANTANEOUS OVER CURRENT RELAY
	INSTANTANEOUS EARTH FAULT RELAY
	IDMT OVER CURRENT RELAY
	IDMT EARTH FAULT RELAY
	OVER VOLTAGE RELAY
	TRIP CIRCUIT SUP. RELAY
	LOCK OUT RELAY
	ANTI PUMPING RELAY
	INSTANTANEOUS GROUND FAULT RELAY
	DC FAIL RELAY
	BREAKER ON RED
	BREAKER OFF GREEN
	BREAKER TRIP AMBER
	SPRING CHARGED RED
	BREAKER IN TEST POSITION
	BREAKER IN SERVICE POSITION
	DC FAIL
	BREAKER CONTACT MULTIPLIER RELAY
	TRIP NEUTRAL CLOSE SWITCH
	LOCAL/REMOTE SELECTOR SWITCH
	VOLTMETER
	AMMETER
	MULTI FUNCTION METER
	VACUUM CIRCUIT BREAKER
	ELECTRICAL & MECHANICAL INTERLOCK
	CONTACTOR
	AUTO MAINS FAILURE WITH CHANGE OVER SWITCH
	POWER CONTROL CENTER
	MAIN LIGHTING DISTRIBUTION BOARD
	AC DISTRIBUTION BOARD
	LIGHTING DISTRIBUTION BOARD
	POWER DISTRIBUTION BOARD

\* SHALL BE PROCURED IN THE RESPECTIVE PHASES.

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT: CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN		MAR. 2016
	CHD		MAR. 2016
	APPD		MAR. 2016
TITLE	CLIENT DRG. NO.		
POWER SINGLE LINE DIAGRAM FOR PHASE-1	JOB NO	DRG. NO.	REV.
	I-521	ST/242	0
REV	DATE	DESCRIPTION	DRN
			CHD
			APPD
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UNIT	SCALE:- AS SHOWN	NO OF VAR	SHEET 1 OF 2
CAD FILE NAME:		Size : <b>A1</b>	



**NOTES:-**

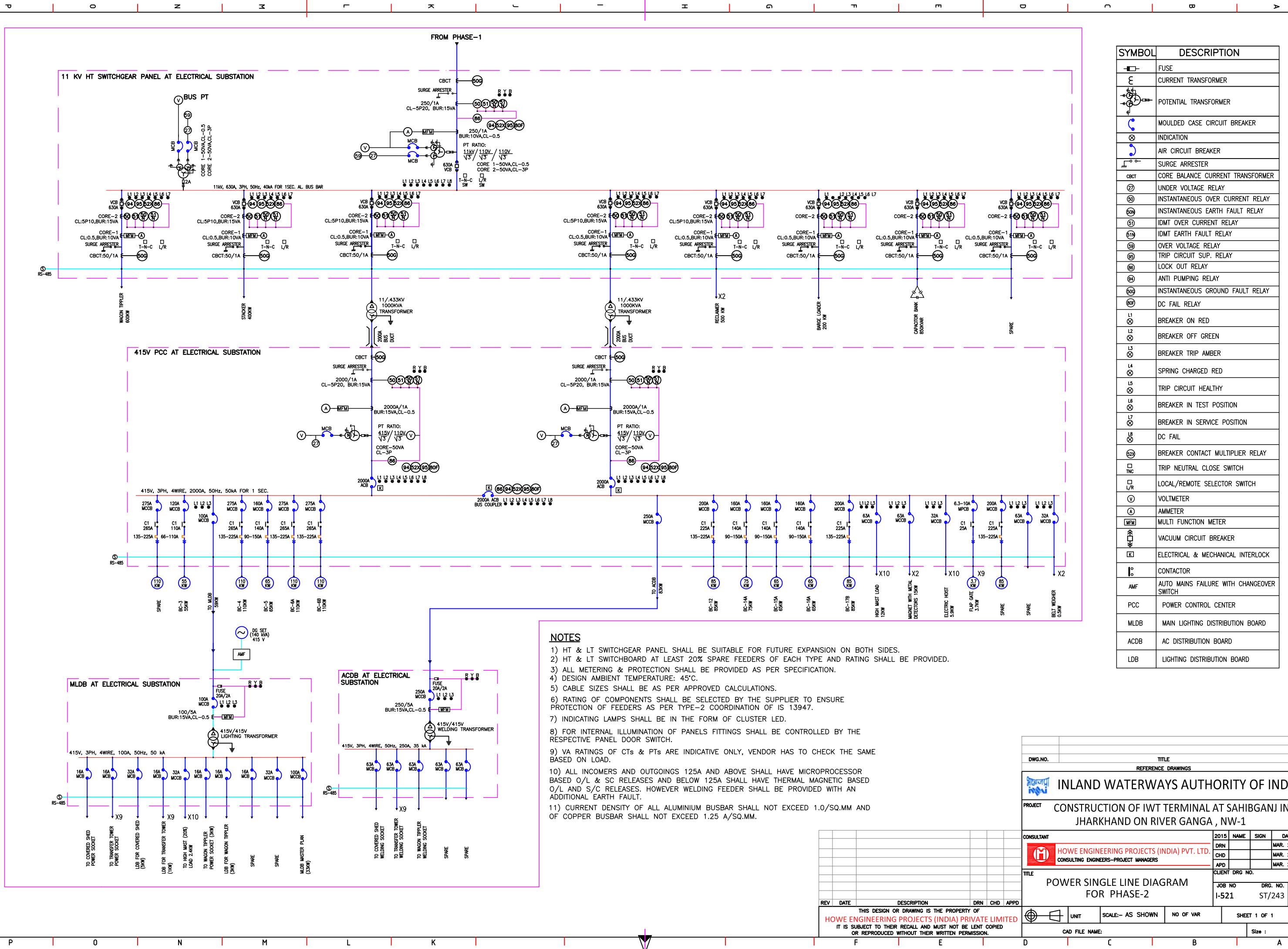
- 1) HT & LT SWITCHGEAR PANEL SHALL BE SUITABLE FOR FUTURE EXPANSION ON BOTH SIDES.
- 2) HT & LT SWITCHBOARD AT LEAST 20% SPARE FEEDERS OF EACH TYPE AND RATING SHALL BE PROVIDED.
- 3) ALL METERING & PROTECTION SHALL BE PROVIDED AS PER SPECIFICATION.
- 4) DESIGN AMBIENT TEMPERATURE: 45°C.
- 5) CABLE SIZES SHALL BE AS PER APPROVED CALCULATIONS.
- 6) RATING OF COMPONENTS SHALL BE SELECTED BY THE SUPPLIER TO ENSURE PROTECTION OF FEEDERS AS PER TYPE-2 COORDINATION OF IS 13947.
- 7) INDICATING LAMPS SHALL BE IN THE FORM OF CLUSTER LED.
- 8) FOR INTERNAL ILLUMINATION OF PANELS FITTINGS SHALL BE CONTROLLED BY THE RESPECTIVE PANEL DOOR SWITCH.
- 9) VA RATINGS OF CTs & PTs ARE INDICATIVE ONLY, VENDOR HAS TO CHECK THE SAME BASED ON LOAD.
- 10) ALL INCOMERS AND OUTGOINGS 125A AND ABOVE SHALL HAVE MICROPROCESSOR BASED O/L & SC RELEASES AND BELOW 125A SHALL HAVE THERMAL MAGNETIC BASED O/L AND S/C RELEASES. HOWEVER WELDING FEEDER SHALL BE PROVIDED WITH AN ADDITIONAL EARTH FAULT.
- 11) CURRENT DENSITY OF ALL ALUMINIUM BUSBAR SHALL NOT EXCEED 1.0/SQ.MM AND OF COPPER BUSBAR SHALL NOT EXCEED 1.25 A/SQ.MM.
- 12) PDB SHALL FED POWER TO THE WELDING SOCKETS OF RESPECTIVE BUILDINGS.

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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DWG.NO.	TITLE			
REFERENCE DRAWINGS				
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>				
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA , NW-1				
CONSULTANT	2015	NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN			MAR. 2016
	CHD			MAR. 2016
	APPD			MAR. 2016
TITLE		CLIENT DRG NO.		
<b>POWER SINGLE LINE DIAGRAM FOR PHASE-1</b>		JOB NO	DRG. NO.	REV.
		I-521	ST/242	0
		UNIT	SCALE:- AS SHOWN	NO OF VAR
				SHEET 2 OF 2
CAD FILE NAME:		Size : <b>A1</b>		





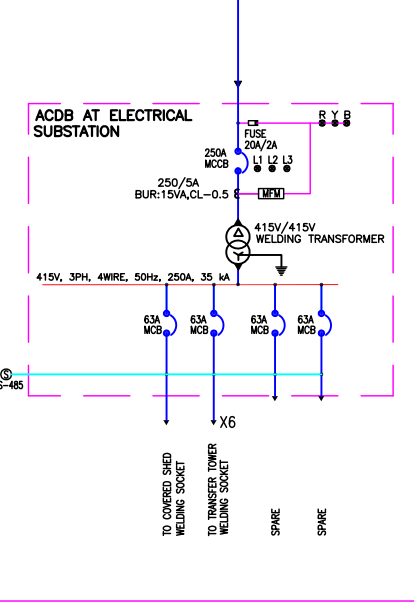
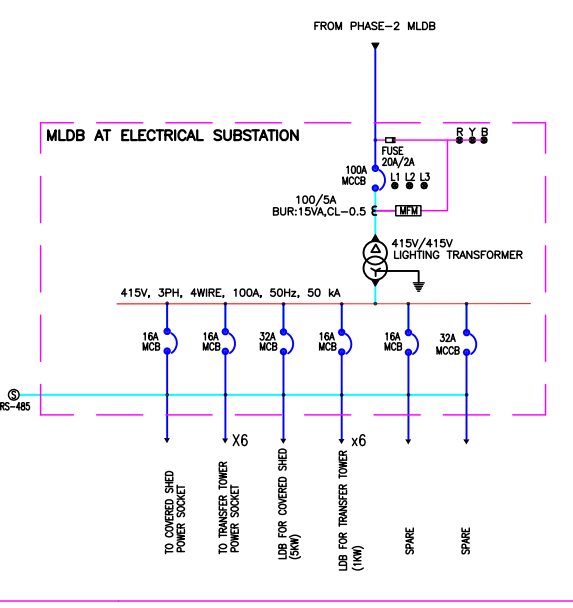
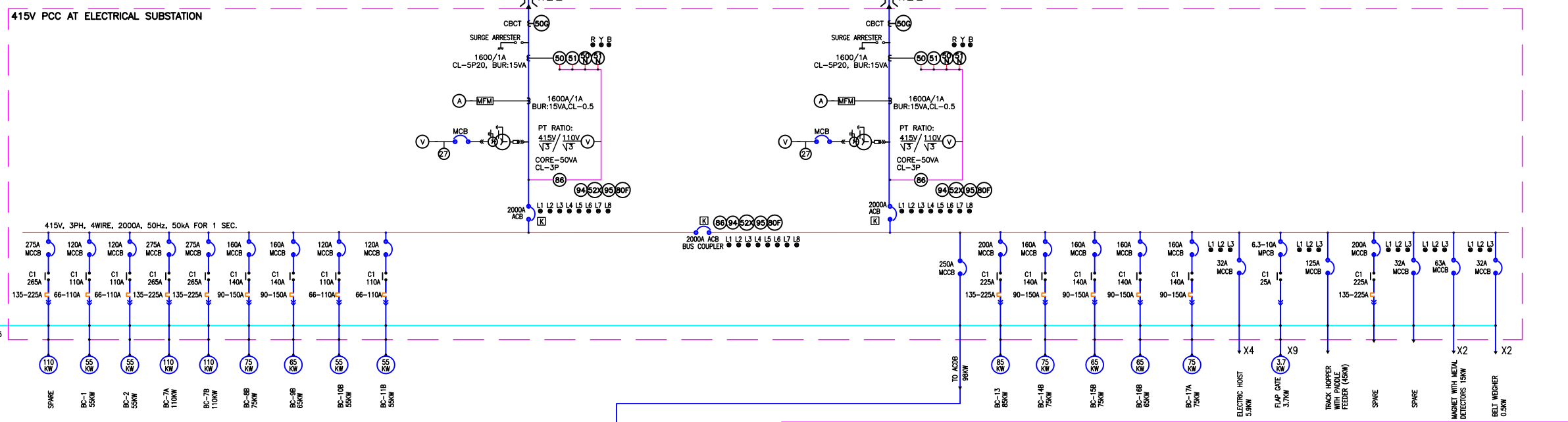
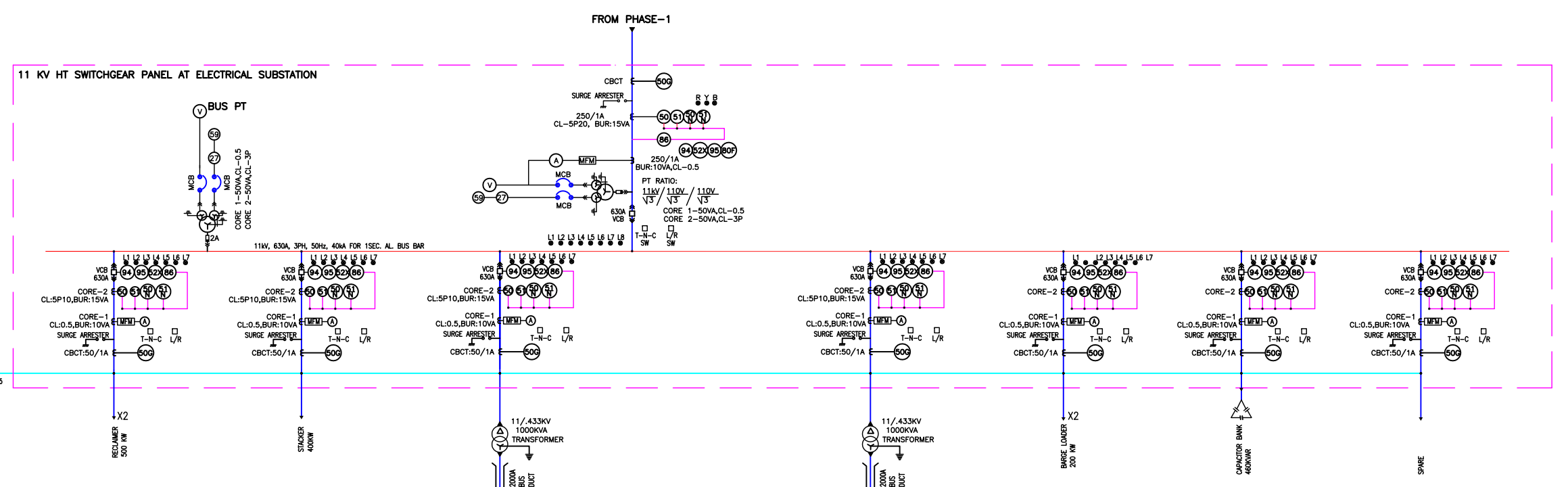
SYMBOL	DESCRIPTION
[Symbol]	FUSE
[Symbol]	CURRENT TRANSFORMER
[Symbol]	POTENTIAL TRANSFORMER
[Symbol]	MOULDED CASE CIRCUIT BREAKER
[Symbol]	INDICATION
[Symbol]	AIR CIRCUIT BREAKER
[Symbol]	SURGE ARRESTER
[Symbol]	CORE BALANCE CURRENT TRANSFORMER
[Symbol]	UNDER VOLTAGE RELAY
[Symbol]	INSTANTANEOUS OVER CURRENT RELAY
[Symbol]	INSTANTANEOUS EARTH FAULT RELAY
[Symbol]	IDMT OVER CURRENT RELAY
[Symbol]	IDMT EARTH FAULT RELAY
[Symbol]	OVER VOLTAGE RELAY
[Symbol]	TRIP CIRCUIT SUP. RELAY
[Symbol]	LOCK OUT RELAY
[Symbol]	ANTI PUMPING RELAY
[Symbol]	INSTANTANEOUS GROUND FAULT RELAY
[Symbol]	DC FAIL RELAY
[Symbol]	BREAKER ON RED
[Symbol]	BREAKER OFF GREEN
[Symbol]	BREAKER TRIP AMBER
[Symbol]	SPRING CHARGED RED
[Symbol]	TRIP CIRCUIT HEALTHY
[Symbol]	BREAKER IN TEST POSITION
[Symbol]	BREAKER IN SERVICE POSITION
[Symbol]	DC FAIL
[Symbol]	BREAKER CONTACT MULTIPLIER RELAY
[Symbol]	TRIP NEUTRAL CLOSE SWITCH
[Symbol]	LOCAL/REMOTE SELECTOR SWITCH
[Symbol]	VOLTMETER
[Symbol]	AMMETER
[Symbol]	MULTI FUNCTION METER
[Symbol]	VACUUM CIRCUIT BREAKER
[Symbol]	ELECTRICAL & MECHANICAL INTERLOCK
[Symbol]	CONTACTOR
[Symbol]	AUTO MAINS FAILURE WITH CHANGEOVER SWITCH
[Symbol]	PCC POWER CONTROL CENTER
[Symbol]	MLDB MAIN LIGHTING DISTRIBUTION BOARD
[Symbol]	ACDB AC DISTRIBUTION BOARD
[Symbol]	LDB LIGHTING DISTRIBUTION BOARD

**NOTES**

- 1) HT & LT SWITCHGEAR PANEL SHALL BE SUITABLE FOR FUTURE EXPANSION ON BOTH SIDES.
- 2) HT & LT SWITCHBOARD AT LEAST 20% SPARE FEEDERS OF EACH TYPE AND RATING SHALL BE PROVIDED.
- 3) ALL METERING & PROTECTION SHALL BE PROVIDED AS PER SPECIFICATION.
- 4) DESIGN AMBIENT TEMPERATURE: 45°C.
- 5) CABLE SIZES SHALL BE AS PER APPROVED CALCULATIONS.
- 6) RATING OF COMPONENTS SHALL BE SELECTED BY THE SUPPLIER TO ENSURE PROTECTION OF FEEDERS AS PER TYPE-2 COORDINATION OF IS 13947.
- 7) INDICATING LAMPS SHALL BE IN THE FORM OF CLUSTER LED.
- 8) FOR INTERNAL ILLUMINATION OF PANELS FITTINGS SHALL BE CONTROLLED BY THE RESPECTIVE PANEL DOOR SWITCH.
- 9) VA RATINGS OF CTs & PTs ARE INDICATIVE ONLY, VENDOR HAS TO CHECK THE SAME BASED ON LOAD.
- 10) ALL INCOMERS AND OUTGOINGS 125A AND ABOVE SHALL HAVE MICROPROCESSOR BASED O/L & SC RELEASES AND BELOW 125A SHALL HAVE THERMAL MAGNETIC BASED O/L AND S/C RELEASES. HOWEVER WELDING FEEDER SHALL BE PROVIDED WITH AN ADDITIONAL EARTH FAULT.
- 11) CURRENT DENSITY OF ALL ALUMINIUM BUSBAR SHALL NOT EXCEED 1.0/SQ.MM AND OF COPPER BUSBAR SHALL NOT EXCEED 1.25 A/SQ.MM.

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT: CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT	2015 NAME	SIGN	DATE
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN		MAR. 2016
	CHD		MAR. 2016
	APPD		MAR. 2016
TITLE: POWER SINGLE LINE DIAGRAM FOR PHASE-2		CLIENT DRG NO.	
		JOB NO: I-521	DRG. NO: ST/243
		REV: 0	
REV	DATE	DESCRIPTION	DRN CHD APPD
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UNIT	SCALE:- AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:		Size: A1	

SYMBOL	DESCRIPTION
	FUSE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	MOULDED CASE CIRCUIT BREAKER
	INDICATION
	AIR CIRCUIT BREAKER
	SURGE ARRESTER
	CORE BALANCE CURRENT TRANSFORMER
	UNDER VOLTAGE RELAY
	INSTANTANEOUS OVER CURRENT RELAY
	INSTANTANEOUS EARTH FAULT RELAY
	IDMT OVER CURRENT RELAY
	IDMT EARTH FAULT RELAY
	OVER VOLTAGE RELAY
	TRIP CIRCUIT SUP. RELAY
	LOCK OUT RELAY
	ANTI PUMPING RELAY
	INSTANTANEOUS GROUND FAULT RELAY
	DC FAIL RELAY
	BREAKER ON RED
	BREAKER OFF GREEN
	BREAKER TRIP AMBER
	SPRING CHARGED RED
	TRIP CIRCUIT HEALTHY
	BREAKER IN TEST POSITION
	BREAKER IN SERVICE POSITION
	DC FAIL
	BREAKER CONTACT MULTIPLIER RELAY
	TRIP NEUTRAL CLOSE SWITCH
	LOCAL/REMOTE SELECTOR SWITCH
	VOLTMETER
	AMMETER
	MULTI FUNCTION METER
	VACUUM CIRCUIT BREAKER
	ELECTRICAL & MECHANICAL INTERLOCK
	CONTACTOR
	AUTO MAINS FAILURE WITH CHANGEOVER SWITCH
	POWER CONTROL CENTER
	MAIN LIGHTING DISTRIBUTION BOARD
	AC DISTRIBUTION BOARD
	LIGHTING DISTRIBUTION BOARD

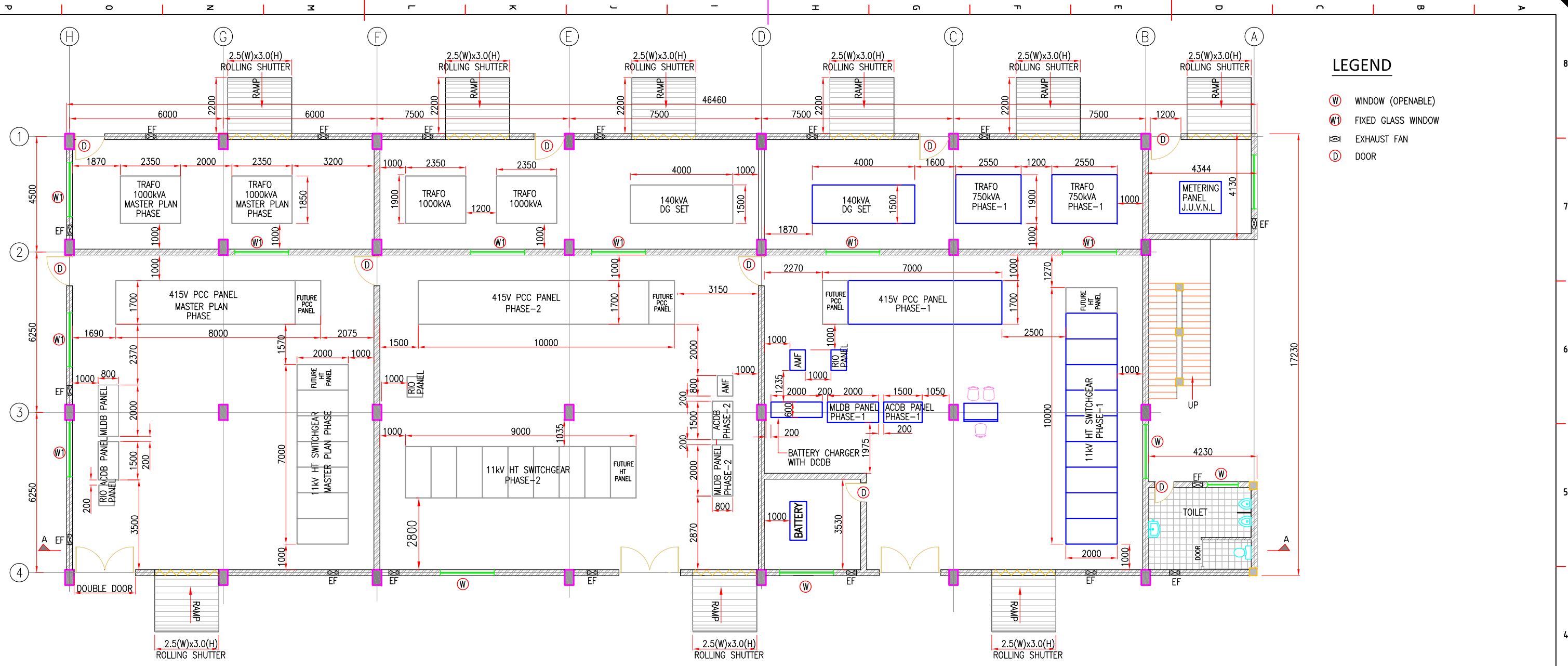


- NOTES**
- 1) HT & LT SWITCHGEAR PANEL SHALL BE SUITABLE FOR FUTURE EXPANSION ON BOTH SIDES.
  - 2) HT & LT SWITCHBOARD AT LEAST 20% SPARE FEEDERS OF EACH TYPE AND RATING SHALL BE PROVIDED.
  - 3) ALL METERING & PROTECTION SHALL BE PROVIDED AS PER SPECIFICATION.
  - 4) DESIGN AMBIENT TEMPERATURE: 45°C.
  - 5) CABLE SIZES SHALL BE AS PER APPROVED CALCULATIONS.
  - 6) RATING OF COMPONENTS SHALL BE SELECTED BY THE SUPPLIER TO ENSURE PROTECTION OF FEEDERS AS PER TYPE-2 COORDINATION OF IS 13947.
  - 7) INDICATING LAMPS SHALL BE IN THE FORM OF CLUSTER LED.
  - 8) FOR INTERNAL ILLUMINATION OF PANELS FITTINGS SHALL BE CONTROLLED BY THE RESPECTIVE PANEL DOOR SWITCH.
  - 9) VA RATINGS OF CTs & PTs ARE INDICATIVE ONLY, VENDOR HAS TO CHECK THE SAME BASED ON LOAD.
  - 10) ALL INCOMERS AND OUTGOINGS 125A AND ABOVE SHALL HAVE MICROPROCESSOR BASED O/L & SC RELEASES AND BELOW 125A SHALL HAVE THERMAL MAGNETIC BASED O/L AND S/C RELEASES. HOWEVER WELDING FEEDER SHALL BE PROVIDED WITH AN ADDITIONAL EARTH FAULT.
  - 11) CURRENT DENSITY OF ALL ALUMINIUM BUSBAR SHALL NOT EXCEED 1.0/A/SQ.MM AND OF COPPER BUSBAR SHALL NOT EXCEED 1.25 A/SQ.MM.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT	CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1		
CONSULTANT	2015 NAME	SIGN	DATE
	DRN		MAR. 2016
	CHD		MAR. 2016
	APPD		MAR. 2016
TITLE	CLIENT DRG. NO.		
POWER SINGLE LINE DIAGRAM FOR MASTER PLAN PHASE		JOB NO	DRG. NO.
		1-521	ST/244
		REV.	0
THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE ENGINEERING PROJECTS (INDIA) PRIVATE LIMITED IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT, COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.		UNIT	SCALE:- AS SHOWN
		NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:		Size : A1	

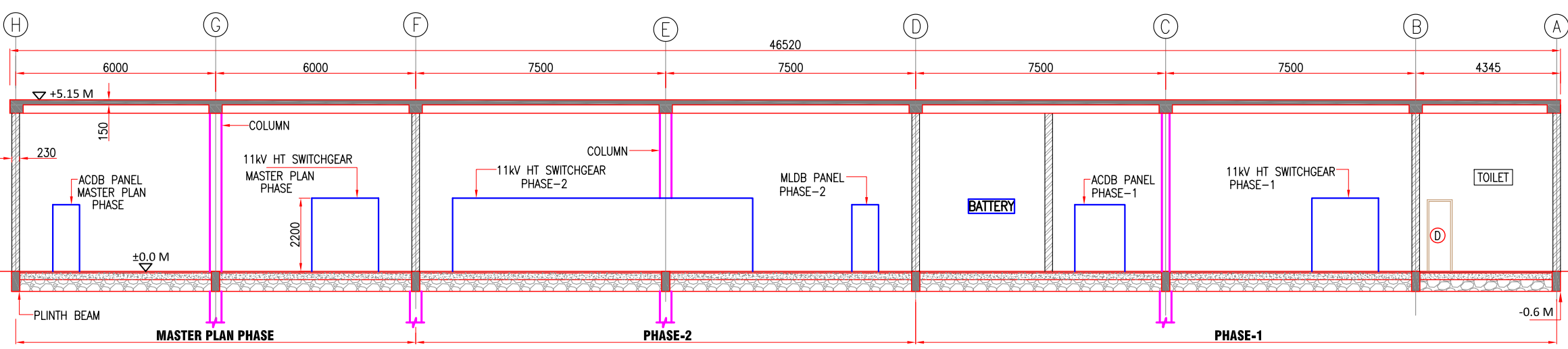
REV	DATE	DESCRIPTION	DRN	CHD	APPD





- LEGEND**
- (W) WINDOW (OPENABLE)
  - (W1) FIXED GLASS WINDOW
  - (EF) EXHAUST FAN
  - (D) DOOR

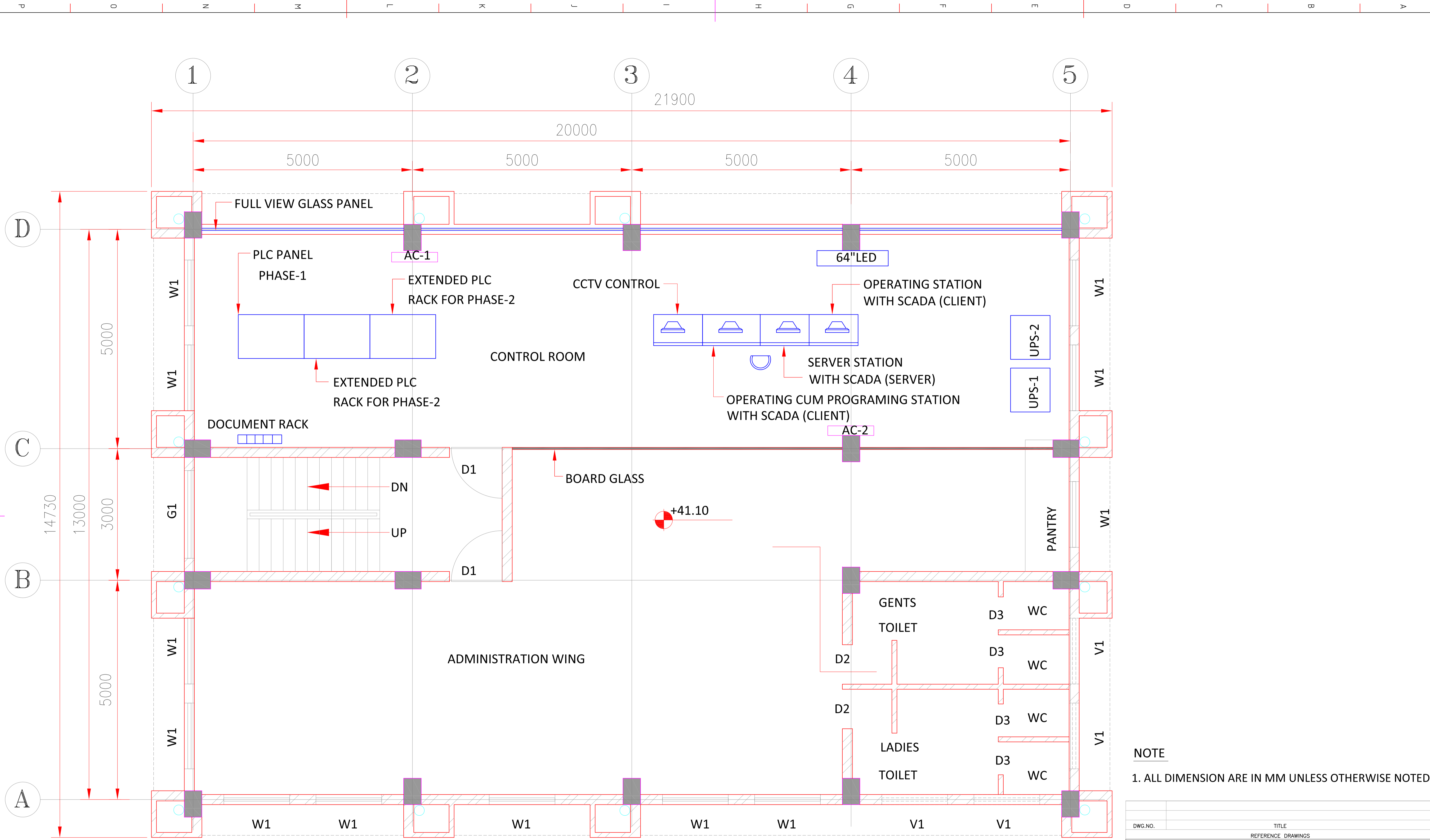
**GROUND FLOOR PLAN**



**SECTION A-A**

**NOTE**  
 1. ALL DIMENSION ARE IN MM UNLESS OTHERWISE NOTED.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<p><b>INLAND WATERWAYS AUTHORITY OF INDIA</b></p> <p>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</p>			
CONSULTANT	2015 NAME	SIGN	DATE
<p><b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b>          CONSULTING ENGINEERS-PROJECT MANAGERS</p>	DRN	VS	MAR. 2016
	CHD	SS	MAR. 2016
	APP	NV	MAR. 2016
TITLE	CLIENT DRG NO.		
SUB-STATION EQUIPMENT LAYOUT	JOB NO	DRG. NO.	REV.
	I-521	ST/245	0
REV	DATE	DESCRIPTION	DRN CHD APPD
<p>THIS DESIGN OR DRAWING IS THE PROPERTY OF  <b>HOWE ENGINEERING PROJECTS (INDIA) PRIVATE LIMITED</b>          IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.</p>			
UNIT	SCALE:- AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>



# FIRST FLOOR PLAN

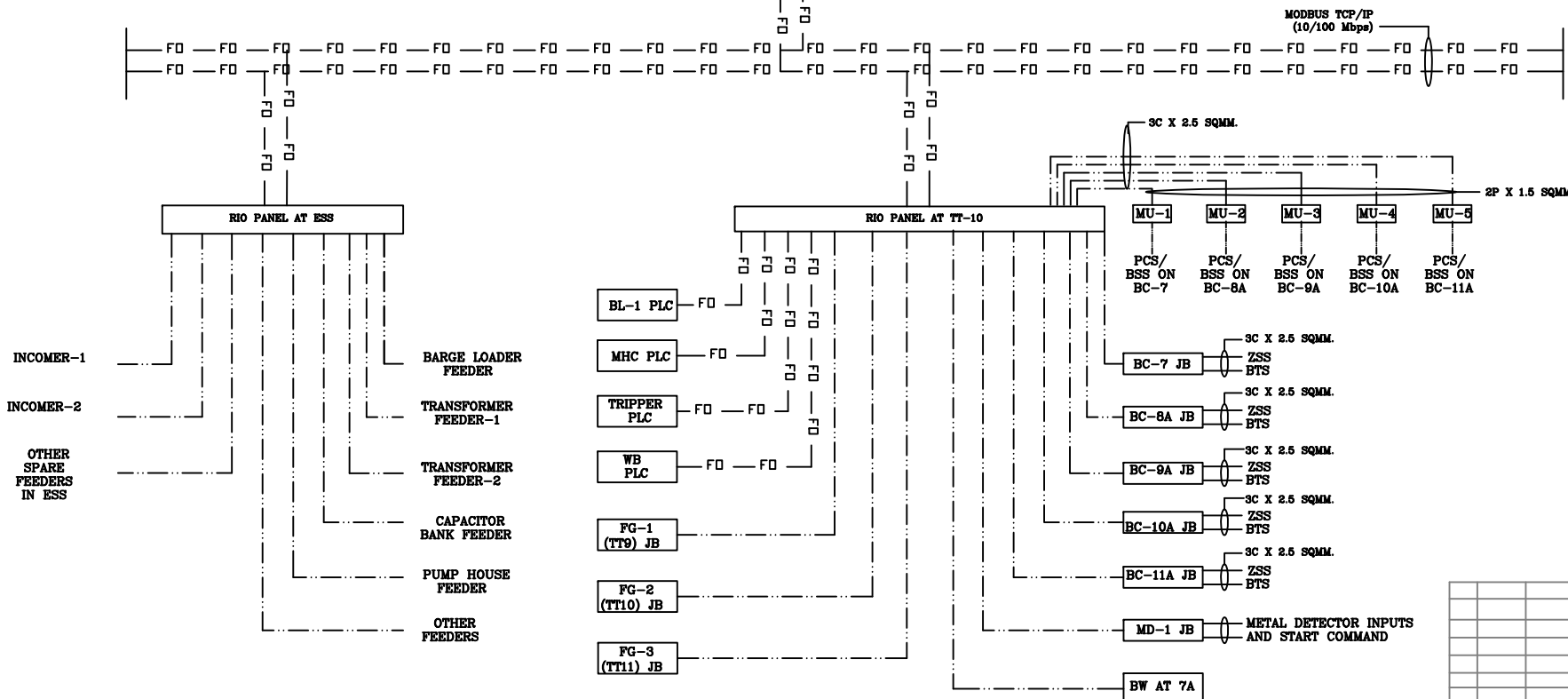
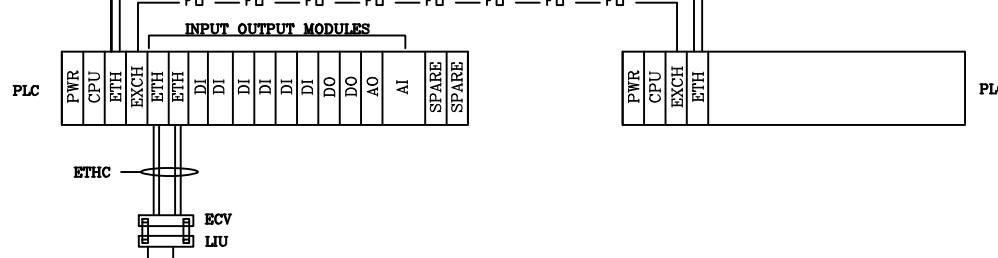
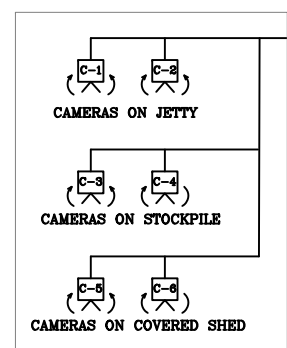
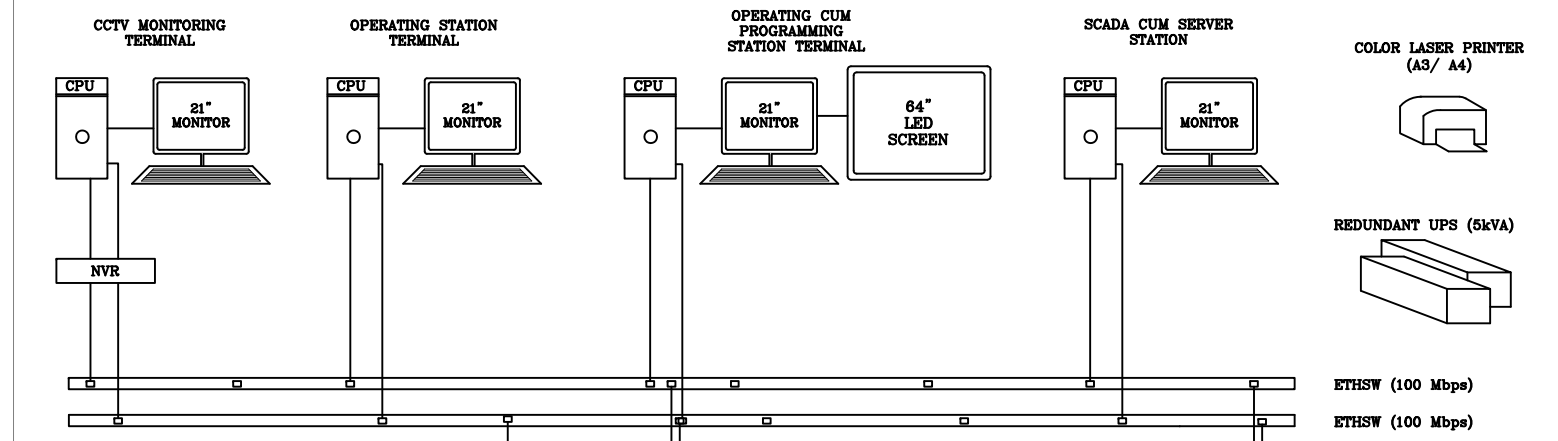
**NOTE**  
 1. ALL DIMENSION ARE IN MM UNLESS OTHERWISE NOTED.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT</b> CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
<b>CONSULTANT</b>			
2015	NAME	SIGN	DATE
DRN	VS		MAR. 2016
CHD	SS		MAR. 2016
APD	NV		MAR. 2016
<b>TITLE</b>			
<b>CONTROL ROOM EQUIPMENT LAYOUT</b> <b>FIRST FLOOR ADMIN. BUILDING</b>			
JOB NO	DRG. NO.	REV.	
I-521	ST/246	0	
UNIT		SCALE:- AS SHOWN	NO OF VAR
SHEET 1 OF 1		Size : A1	

REV	DATE	DESCRIPTION	DRN	CHD	APPD
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CAD FILE NAME:					



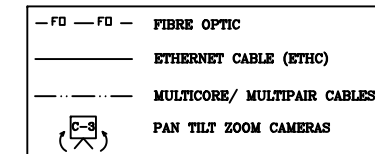
CONTROL ROOM AT ADMIN BUILDING (FIRST FLOOR)



LEGEND

MU	MASTER UNIT
PCS	PULL CORD SWITCH
BSS	BELT SWAY SWITCH
UPS	UNINTERRUPTED POWER SUPPLY
JB	JUNCTION BOX
ETHSW	ETHERNET SWITCH
PLC	PROGRAMMABLE LOGIC CONTROLLER
PWR	PLC POWER SUPPLY
CPU	PLC CENTRAL PROCESSING UNIT
EXCH	PLC MEMORY EXCHANGE WITH REDUNDANT PLC
ETH	PLC ETHERNET MODULE
DI	PLC DIGITAL INPUT MODULES
DO	PLC DIGITAL OUTPUT MODULE
SPARE	PLC SPARE I/O BASE
WT	WAGON TIPPLER
CPU	CENTRAL PROCESSING UNIT
BL	BARGE LOADER
JB	JUNCTION BOX
BC	BELT CONVEYOR
ST	STACKER
RE	RECLAIMER
NVR	NETWORK VIDEO RECORDER
RIO	REMOTE INPUT OUTPUT
ECV	ETHERNET TO FIBRE OPTIC CONVERTER
LIU	LIGHT INTERFACE UNIT
WB	WEIGH BRIDGE

CABLE LEGEND



1. NUMBER OF INPUT/ OUTPUTS FOR RIO PANEL AND PLC PANEL SHALL BE CONSIDERED FOR THE PROPOSED PHASE-2 WITH 20% SPARE,
2. HOWEVER INPUT/OUTPUT MODULE SPACE SHALL ONLY BE CONSIDERED FOR PHASE-3 EXPANSION AND EXISTING REQUIREMENTS..

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
INLAND WATERWAYS AUTHORITY OF INDIA			
PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT	2015 NAME	SIGN	DATE
HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD. CONSULTING ENGINEERS-PROJECT MANAGERS	DRN		MAR. 2016
	CHD		MAR. 2016
	APPD		MAR. 2016
TITLE		CLIENT DRG NO.	
BASIC CONTROL ARCHITECTURE FOR PHASE-1		JOB NO	DRG. NO.
		I-521	ST/247
		REV.	
			0
UNIT	SCALE:- AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			
Size : A1			

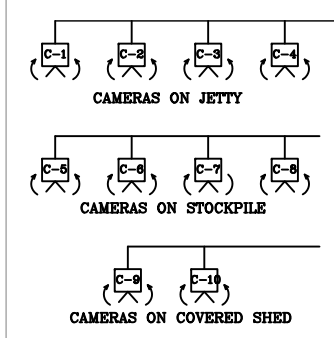
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REV DATE DESCRIPTION DRN CHD APPD

**CONTROL ROOM AT ADMIN BUILDING (1ST FLOOR)**

- EQUIPMENTS IN CONTROL ROOM AT TERMINAL BUILDING (1ST FLOOR) :-**
- CCTV MONITORING TERMINAL
  - OPERATING STATION TERMINAL
  - OPERATING CUM PROGRAMMING STATION TERMINAL
  - SCADA CUM SERVER STATION
  - LASER PRINTER
  - REDUNDANT UPS
  - ETHERNET SWITCHES
- ARE ALREADY COVERED IN PHASE-1

**PROPOSED CCTV CAMERAS FOR PHASE-2**



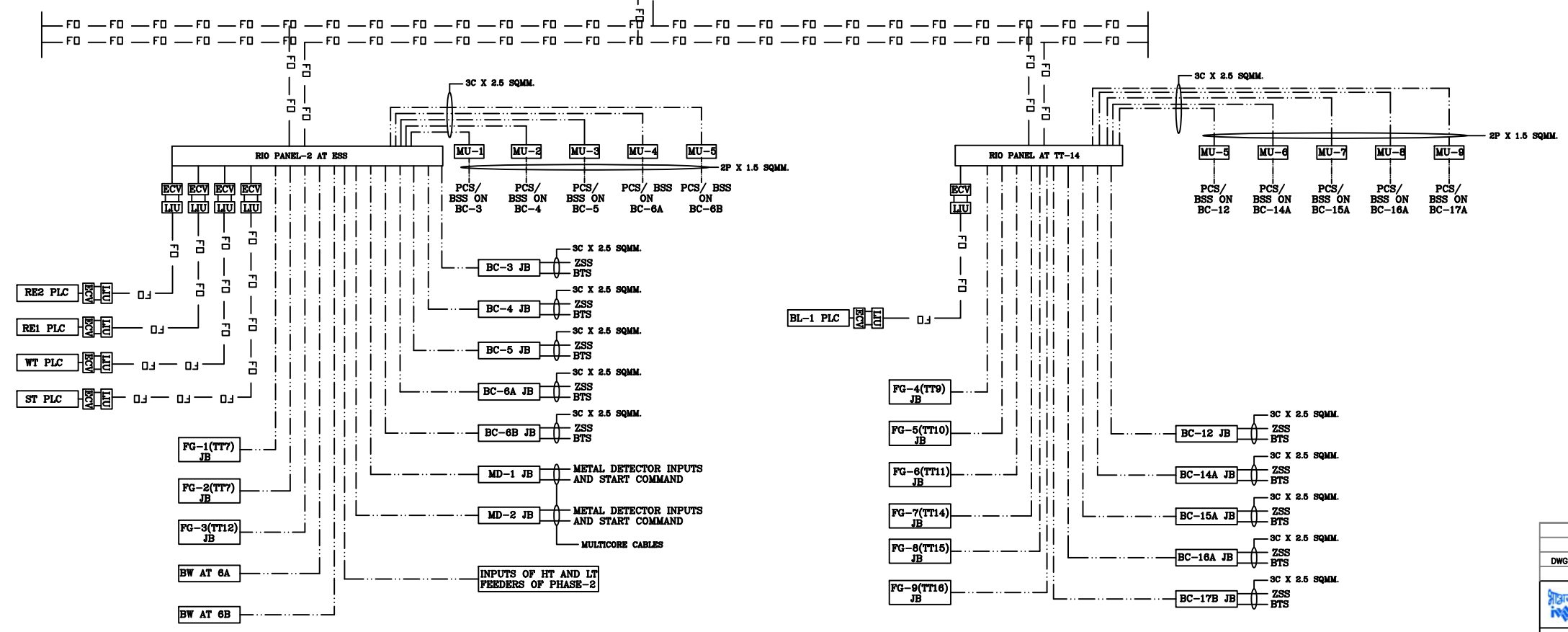
TO CATER THE REQUIREMENT OF PHASE-2 AN EXTENDED PANEL HOUSING INPUT/ OUTPUT MODULES, LIU's, CONVERTERS AND OTHER NECESSARY ITEMS SHALL BE PROVIDED AND THE SAME SHALL BE HOOKED WITH CENTRAL CONTROL ROOM FOR PHASE-1.

**LEGEND**

MU	MASTER UNIT
PCS	PULL CORD SWITCH
BSS	BELT SWAY SWITCH
UPS	UNINTERRUPTED POWER SUPPLY
JB	JUNCTION BOX
ETHSW	ETHERNET SWITCH
PLC	PROGRAMMABLE LOGIC CONTROLLER
PWR	PLC POWER SUPPLY
CPU	PLC CENTRAL PROCESSING UNIT
EXCH	PLC MEMORY EXCHANGE WITH REDUNDANT PLC
ETH	PLC ETHERNET MODULE
DI	PLC DIGITAL INPUT MODULES
DO	PLC DIGITAL OUTPUT MODULE
SPARE	PLC SPARE I/O BASE
WT	WAGON TIPPLER
CPU	CENTRAL PROCESSING UNIT
BL	BARGE LOADER
JB	JUNCTION BOX
BC	BELT CONVEYOR
ST	STACKER
RE	RECLAIMER
NVR	NETWORK VIDEO RECORDER
RIO	REMOTE INPUT OUTPUT
ECV	ETHERNET TO FIBRE OPTIC CONVERTER
LIU	LIGHT INTERFACE UNIT
FG	FLAP GATE
MD	METAL DETECTOR
BW	BELT WEIGHER

**CABLE LEGEND**

FO	FIBRE OPTIC
ETHC	ETHERNET CABLE (ETHC)
MULTICORE	MULTICORE/ MULTIPAIR CABLES



IN CONTROL ROOM  
PC, SERVER, NETWORK SWITCH AND  
ETHERNET SWITCHES  
(AS ALREADY COVERED IN PHASE-1)

PROGRAMMABLE LOGIC CONTROLLER  
(SAME AS PHASE-1)

RIO PANEL, JUNCTION BOX AND FIELD  
DEVICES

DWG. NO.		TITLE	
REFERENCE DRAWINGS			
INLAND WATERWAYS AUTHORITY OF INDIA			
PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1			
CONSULTANT		2015	NAME
HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.		DRN	SIGN
CONSULTING ENGINEERS-PROJECT MANAGERS		CHD	DATE
		APD	MAR. 2016
TITLE		CLIENT DRG NO.	
BASIC CONTROL ARCHITECTURE FOR PHASE-2		JOB NO	DRG. NO.
		I-521	ST/248
		REV.	0
UNIT		SCALE:- AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 1 OF 1	
		Size : A1	

REV	DATE	DESCRIPTION	DRN	CHD	APPD

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IN CONTROL ROOM  
PC, SERVER, NETWORK SWITCH AND  
AUXILIARIES  
(AS ALREADY COVERED IN PHASE-1)

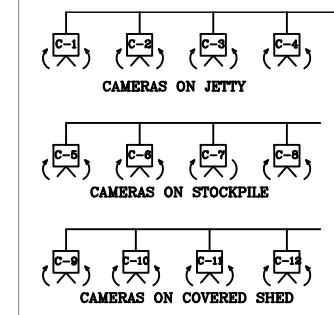
PROGRAMMABLE LOGIC CONTROLLER  
(SAME AS ALREADY COVERED IN  
PHASE-1)

RIO PANEL, JUNCTION BOX AND  
DEVICES

**CONTROL ROOM AT ADMIN BUILDING (1ST FLOOR)**

- EQUIPMETS IN CONTROL ROOM AT TERMINAL BUILDING (1ST FLOOR) :-
- CCTV MONITORING TERMINAL
  - OPERATING STATION TERMINAL
  - OPERARTING CUM PROGRAMMING STATION TERMINAL
  - SCADA CUM SERVER STATION
  - LASER PRINTER
  - REDUNDANT UPS
  - ETHERNET SWITCHES
- ARE ALREADY COVERED IN PHASE-1

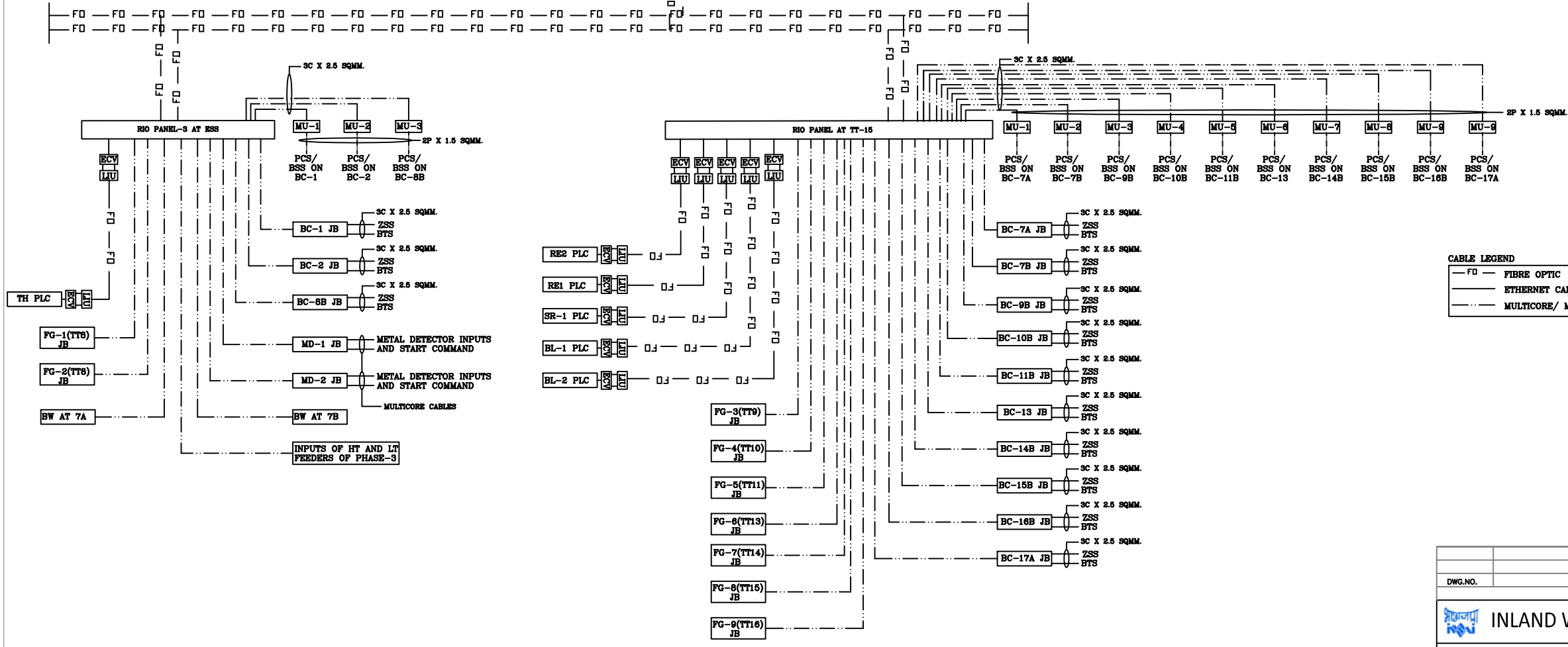
**PROPOSED CCTV CAMERAS FOR PHASE-3**



TO CATER THE REQUIREMENT OF MASTER PLAN PHASE AN EXTENDED PANEL HOUSING INPUT/OUTPUT MODULES, LIU's, CONVERTERS AND OTHER NECESSARY ITEMS SHALL BE PROVIDED AND THE SAME SHALL BE HOOKED WITH CENTRAL CONTROL ROOM FOR PHASE-1.

**LEGEND**

MU	MASTER UNIT
PCS	FULL CORD SWITCH
BSS	BELT SWAY SWITCH
UPS	UNINTERRUPTED POWER SUPPLY
JB	JUNCTION BOX
ETHSW	ETHERNET SWITCH
PLC	PROGRAMMABLE LOGIC CONTROLLER
PWR	PLC POWER SUPPLY
CPU	PLC CENTRAL PROCESSING UNIT
EXCH	PLC MEMORY EXCHANGE WITH REDUNDANT PLC
ETH	PLC ETHERNET MODULE
DI	PLC DIGITAL INPUT MODULES
DO	PLC DIGITAL OUTPUT MODULE
SPARE	PLC SPARE I/O BASE
WT	WAGON TIPPLER
CPU	CENTRAL PROCESSING UNIT
BL	BARGE LOADER
JB	JUNCTION BOX
BC	BELT CONVEYOR
ST	STACKER
RE	RECLAIMER
NVR	NETWORK VIDEO RECORDER
RIO	REMOTE INPUT OUTPUT
ECV	ETHERNET TO FIBRE OPTIC CONVERTER
LIU	LIGHT INTERFACE UNIT
FG	FLAP GATE
MD	METAL DETECTOR
BW	BELT WEIGHER

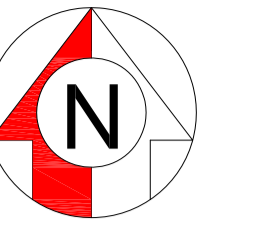


**CABLE LEGEND**

—FD—	FIBRE OPTIC
—ETHC—	ETHERNET CABLE (ETHC)
—MC—	MULTICORE/ MULTIPAIR CABLES

DWG.NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT	CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA , NW-1		
CONSULTANT	2015 NAME	SIGN	DATE
	DRN		MAR. 2016
	CHD		MAR. 2016
	APPD		MAR. 2016
TITLE	CLIENT DRG NO.		
<b>BASIC CONTROL ARCHITECTURE FOR MASTER PLAN PHASE</b>		JOB NO	DRG. NO.
		1-521	ST/249
		REV.	0
UNIT		SCALE:- AS SHOWN	NO OF VAR
CAD FILE NAME:		SHEET 1 OF 1	
		Size :	A1

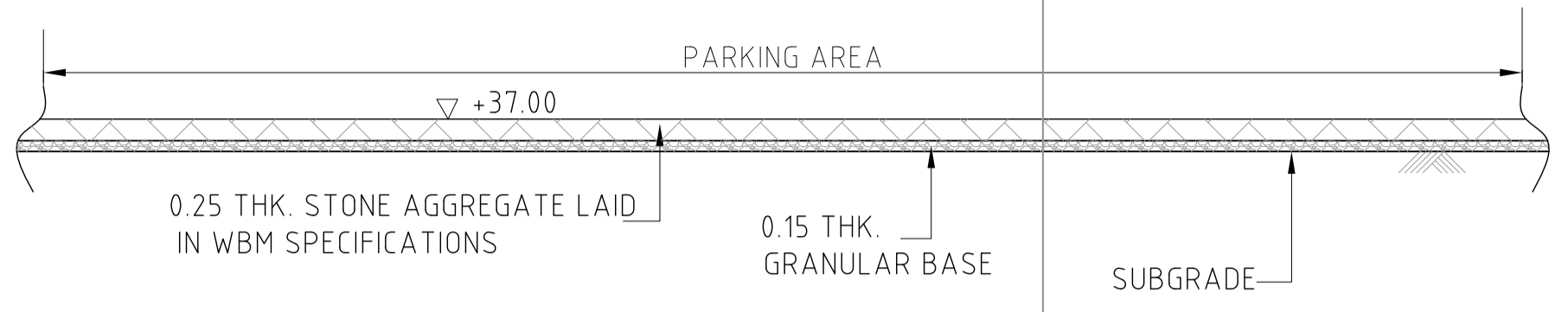
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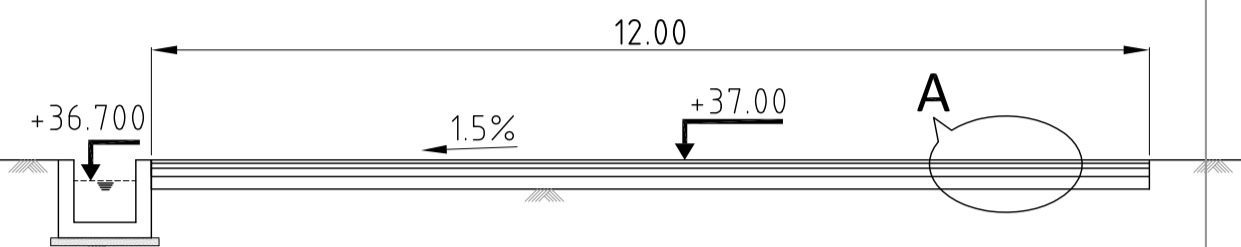
NORTH

CO-ORDINATE IN UTM

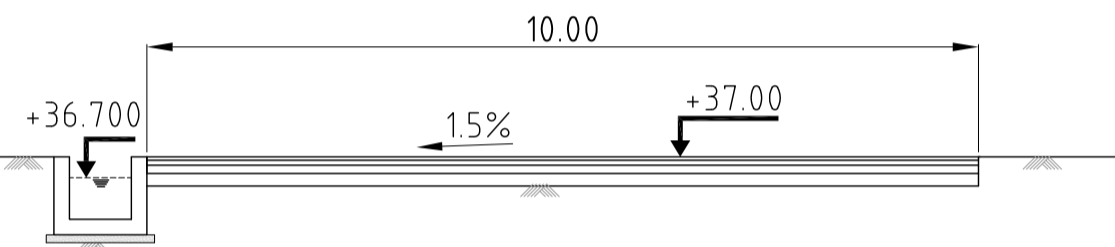
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E	571166.00	2793083.00
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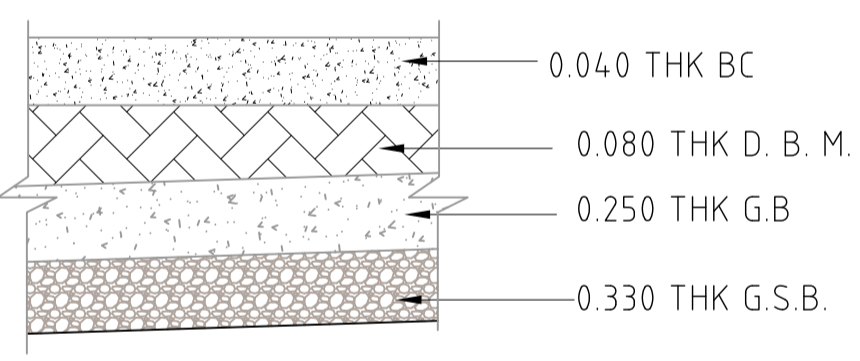
TYPICAL CROSS SECTION FOR PARKING AREA



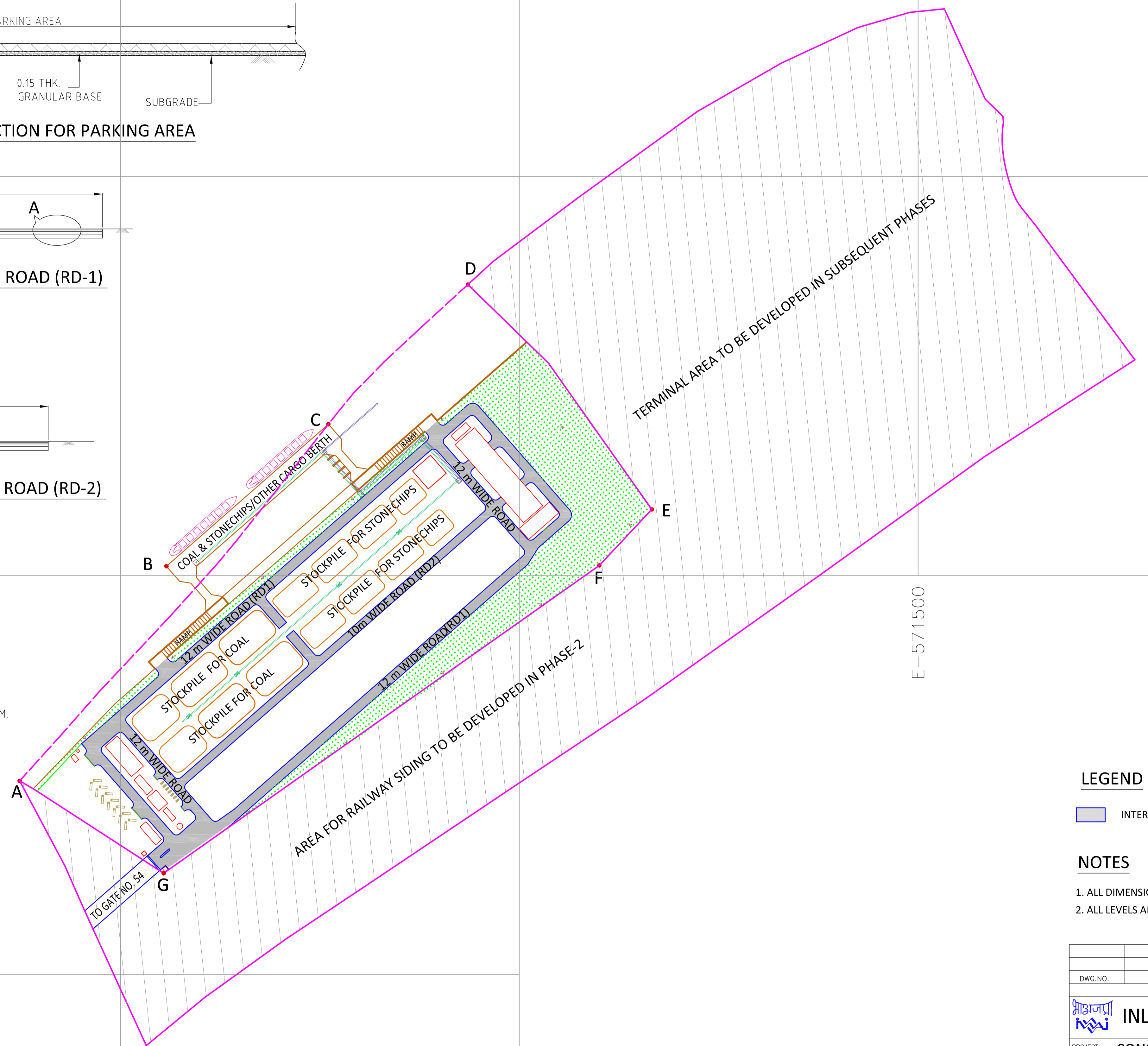
TYPICAL CROSS SECTION FOR ROAD (RD-1)



TYPICAL CROSS SECTION FOR ROAD (RD-2)



DETAIL - A



LEGEND

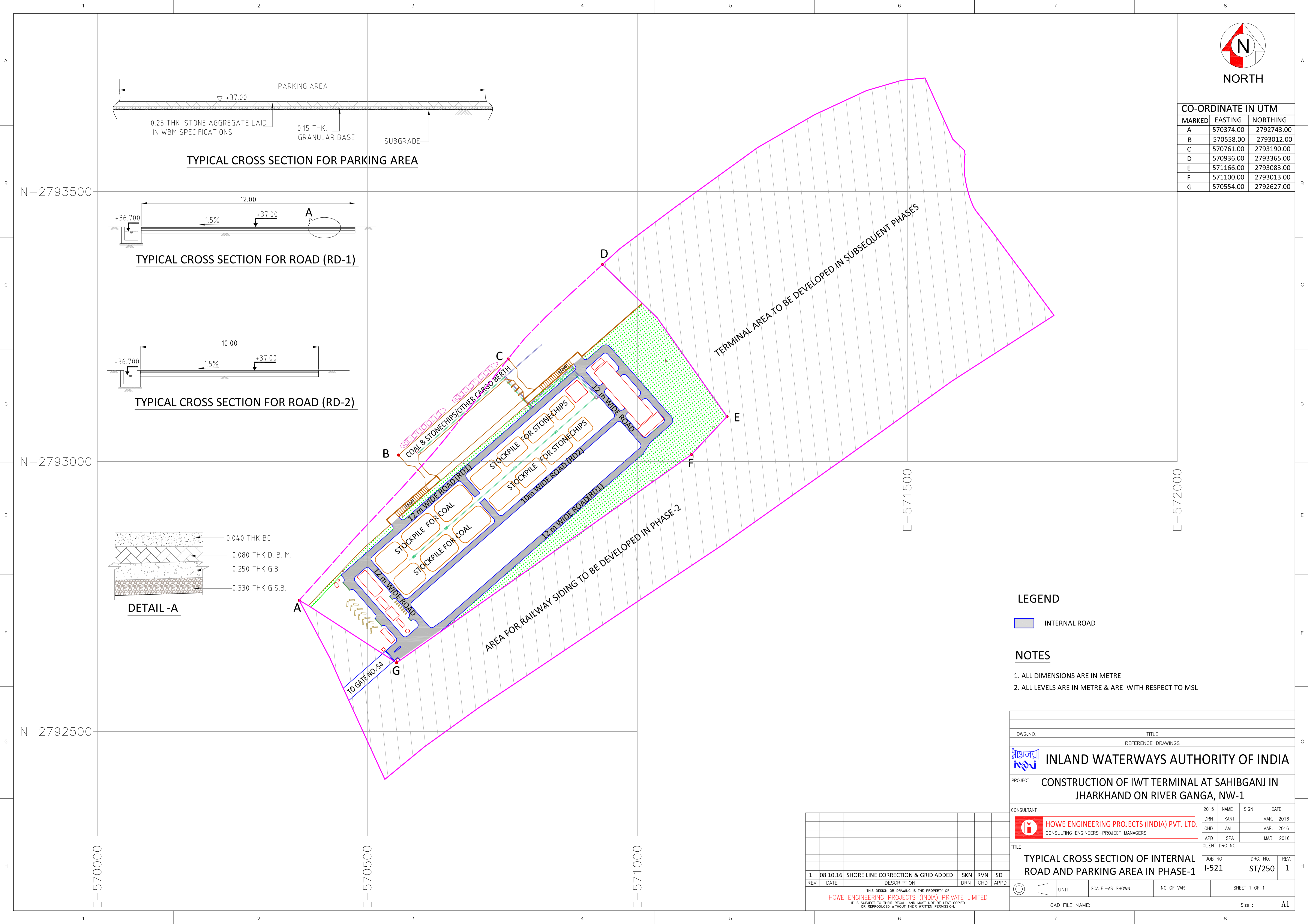
INTERNAL ROAD

NOTES

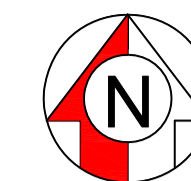
1. ALL DIMENSIONS ARE IN METRE
2. ALL LEVELS ARE IN METRE & ARE WITH RESPECT TO MSL

DWG. NO.	TITLE				
REFERENCE DRAWINGS					
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>					
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>					
CONSULTANT	2015	NAME	SIGN	DATE	
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT		MAR. 2016	
	CHD	AM		MAR. 2016	
	APD	SPA		MAR. 2016	
TITLE	CLIENT DRG. NO.				
<b>TYPICAL CROSS SECTION OF INTERNAL ROAD AND PARKING AREA IN PHASE-1</b>		JOB NO	DRG. NO.	REV.	
		I-521	ST/250	1	
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CAD FILE NAME:		Size : <b>A1</b>			

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

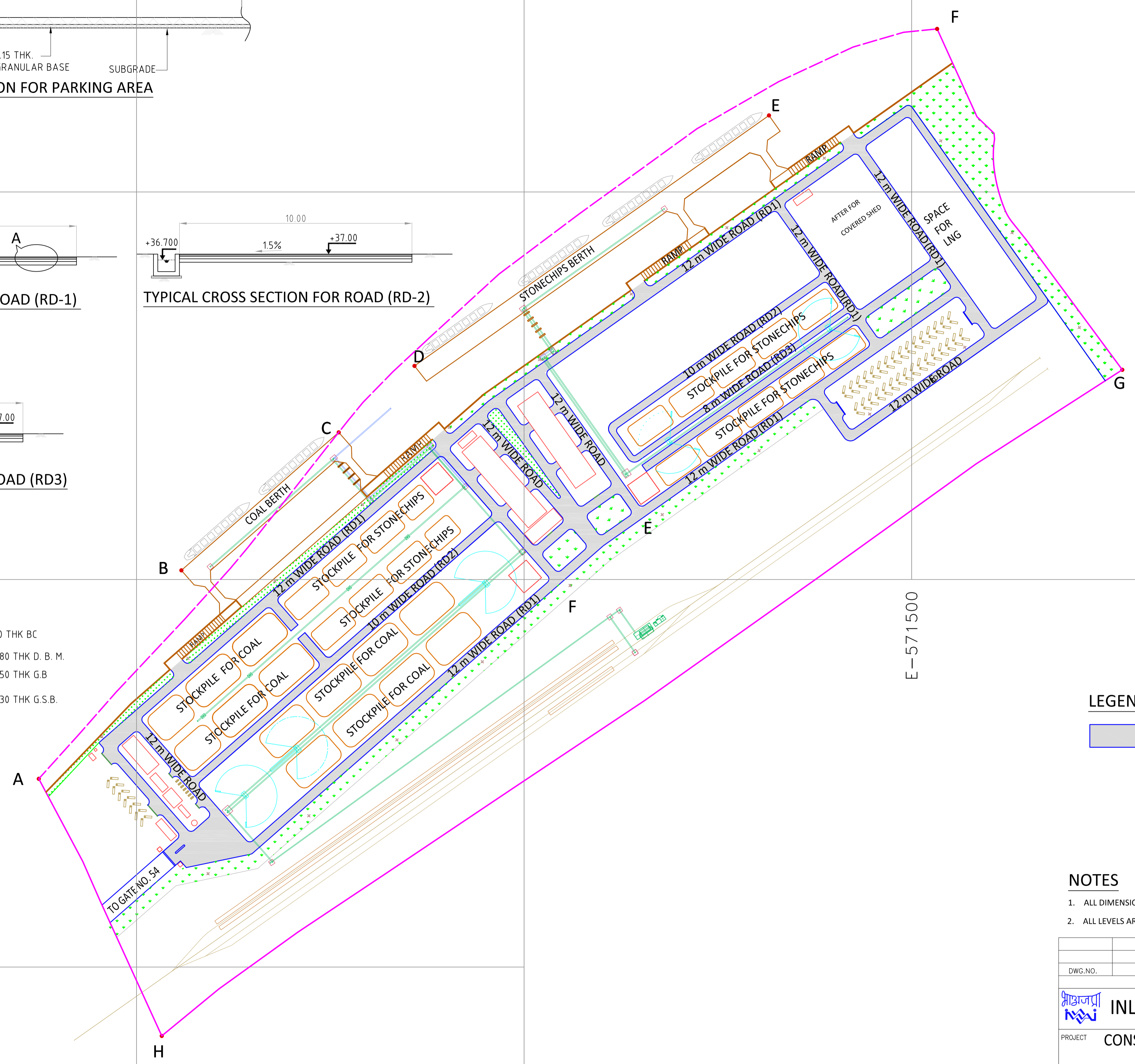
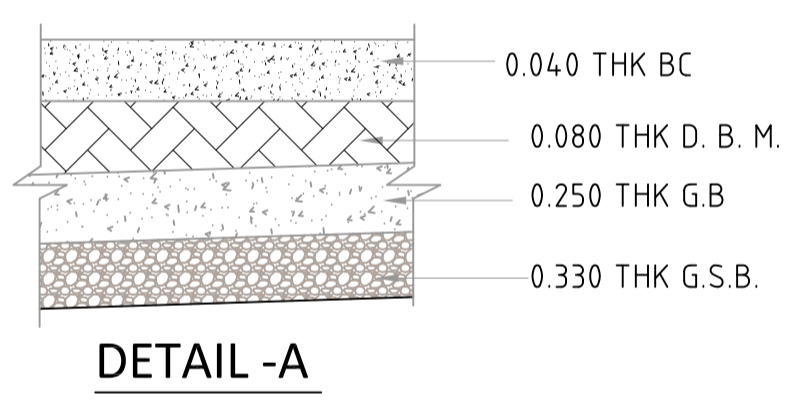
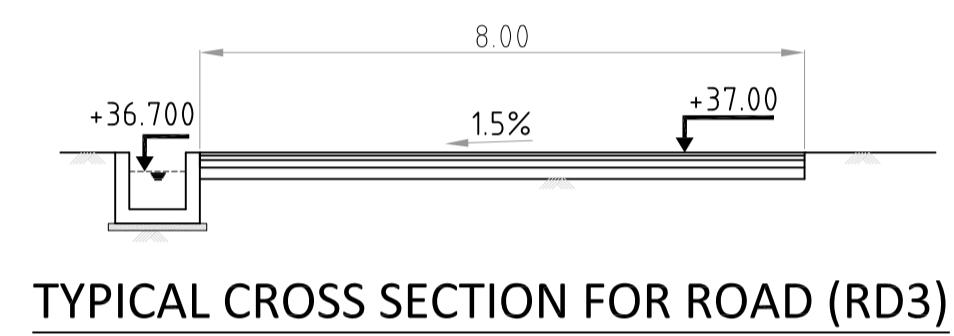
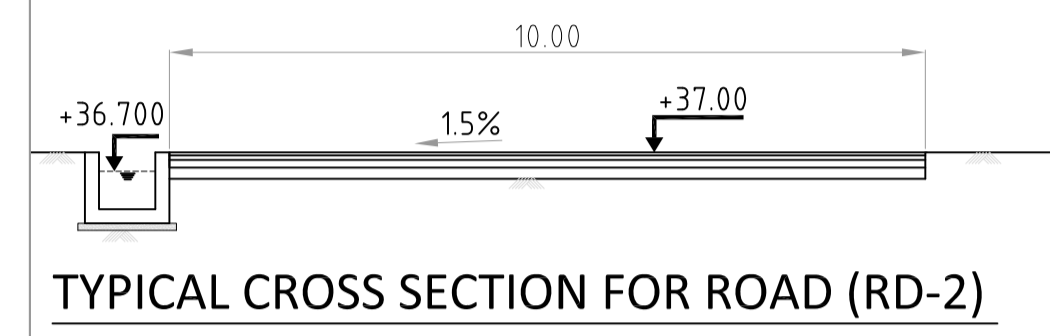
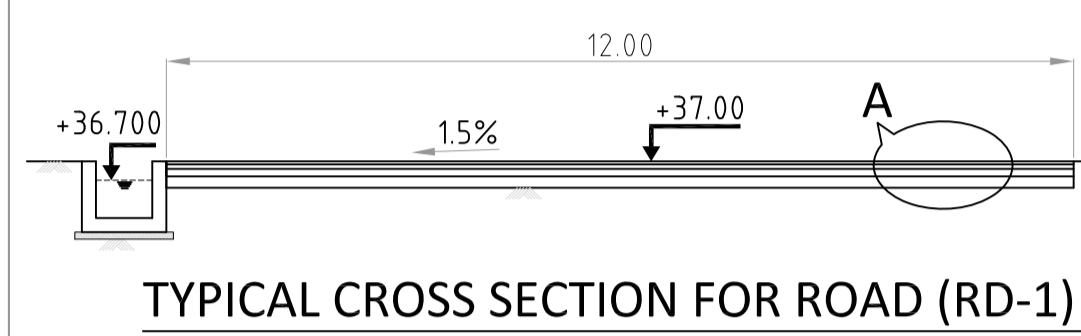
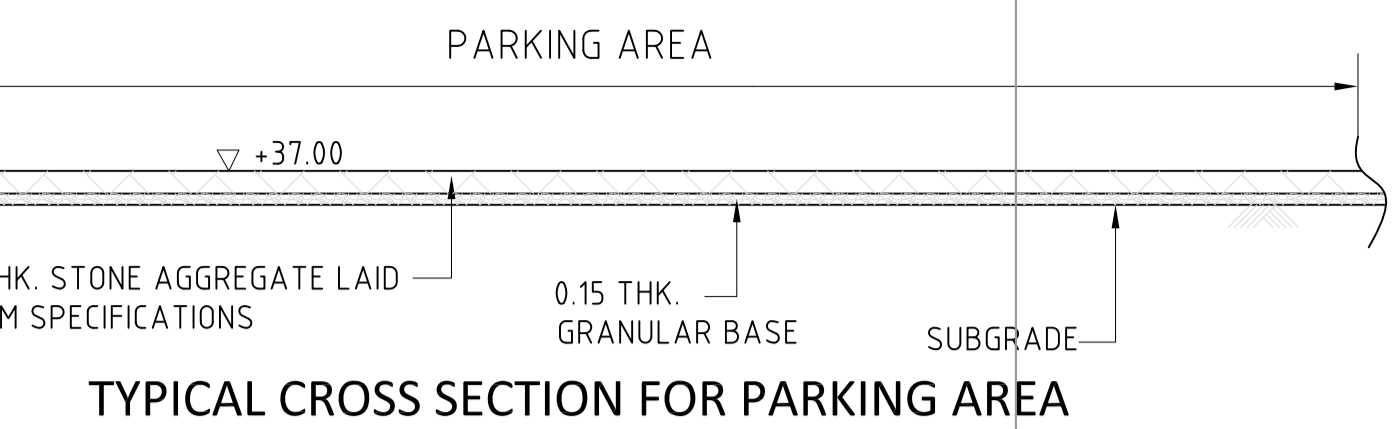






NORTH

CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



**LEGEND**



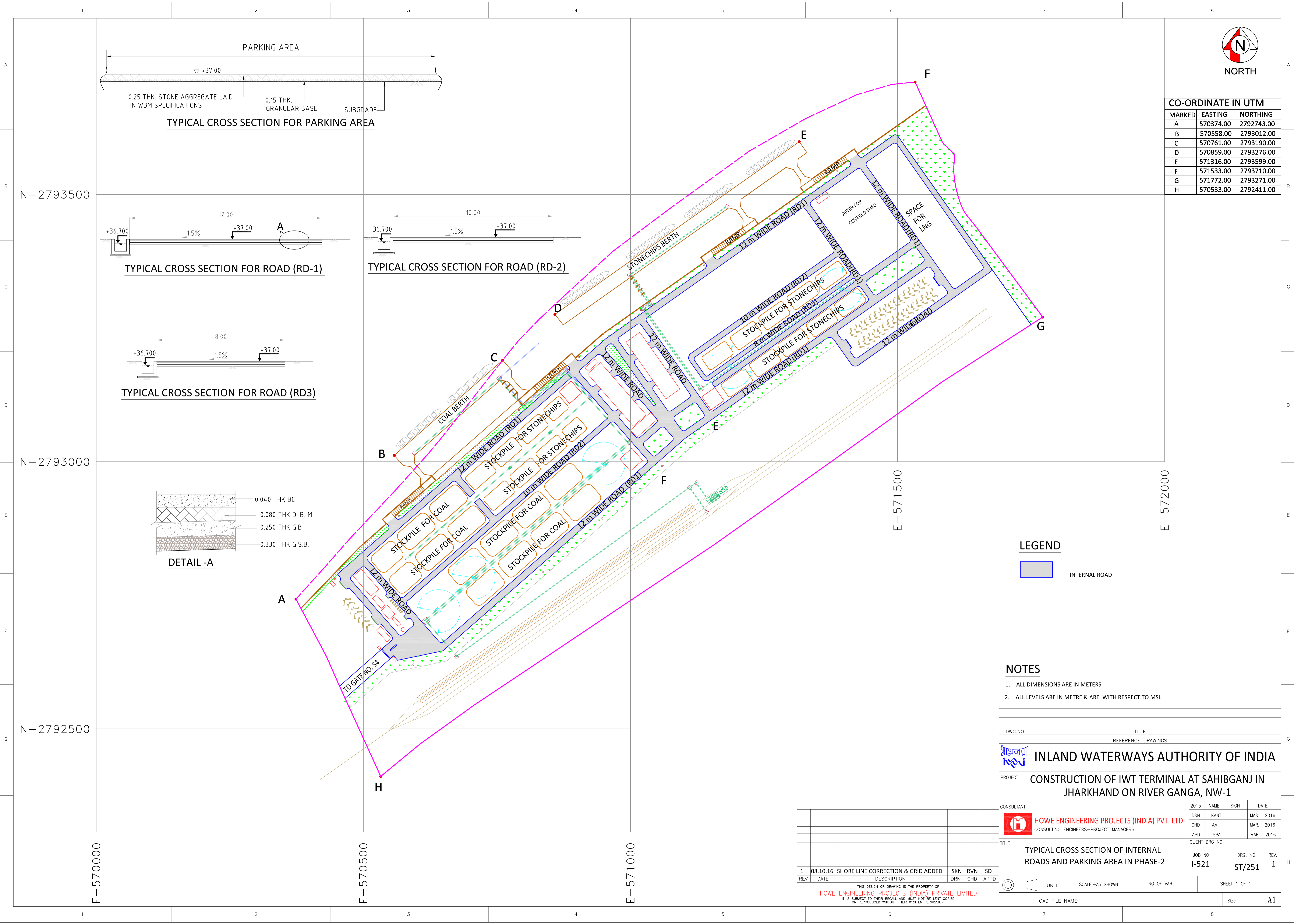
**NOTES**

1. ALL DIMENSIONS ARE IN METERS
2. ALL LEVELS ARE IN METRE & ARE WITH RESPECT TO MSL

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
JOB NO.	DRG. NO.	REV.	
I-521	ST/251	1	
UNIT		SCALE:-AS SHOWN	NO OF VAR
CAD FILE NAME:			SHEET 1 OF 1
			Size : A1

REV	DATE	DESCRIPTION	DRN	CHD	APPD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

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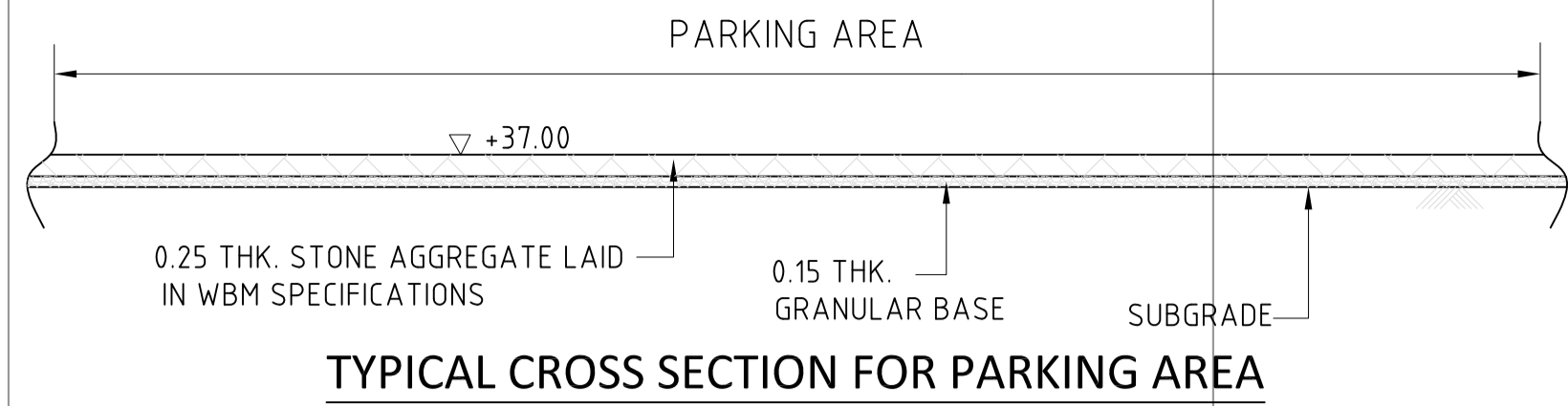




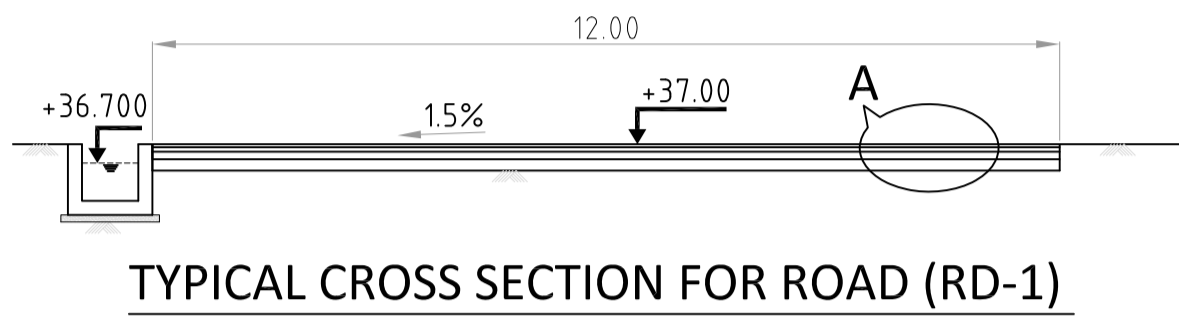
NORTH

CO-ORDINATE IN UTM

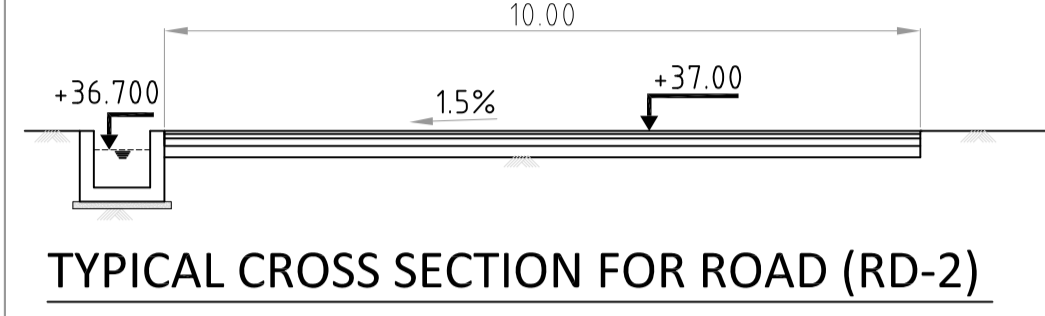
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



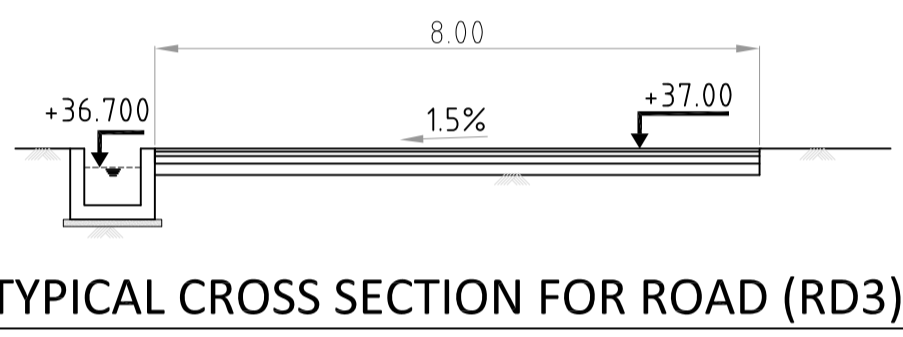
TYPICAL CROSS SECTION FOR PARKING AREA



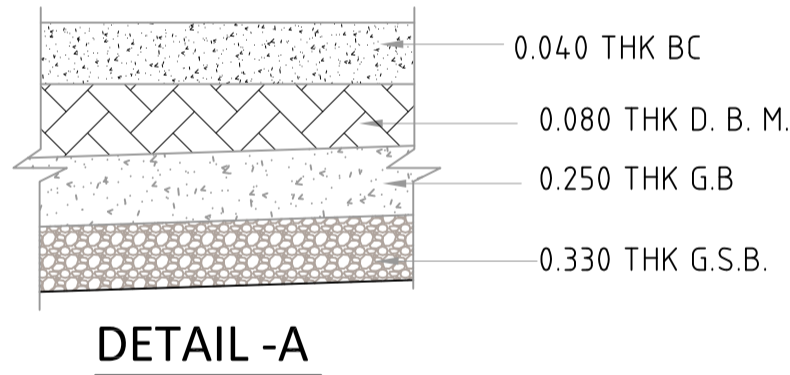
TYPICAL CROSS SECTION FOR ROAD (RD-1)



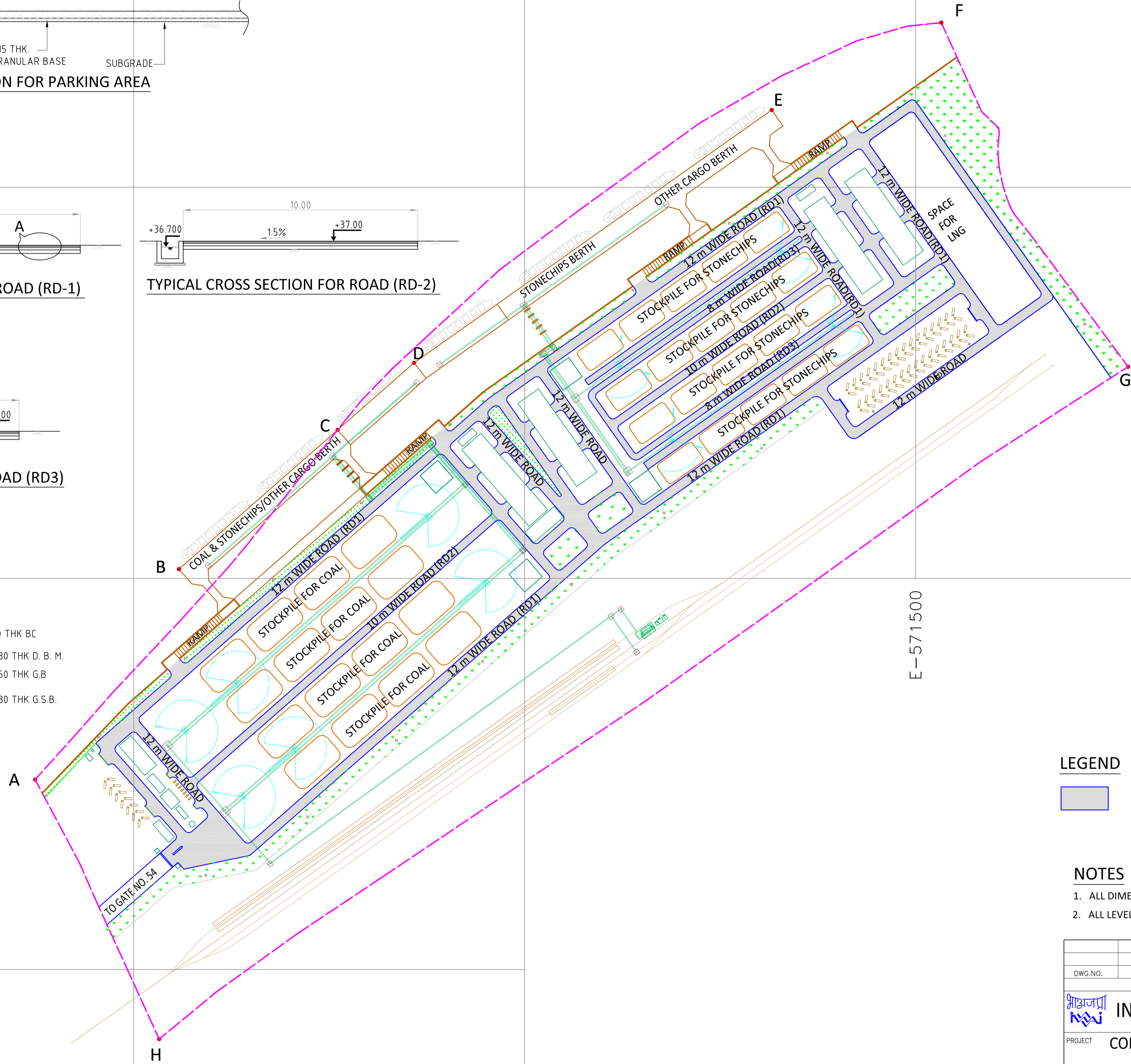
TYPICAL CROSS SECTION FOR ROAD (RD-2)



TYPICAL CROSS SECTION FOR ROAD (RD3)



DETAIL -A



LEGEND



NOTES

1. ALL DIMENSIONS ARE IN METERS
2. ALL LEVELS ARE IN METRE & ARE WITH RESPECT TO MSL

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
CLIENT DRG. NO.		JOB NO.	DRG. NO.
		I-521	ST/252
TITLE			REV.
<b>TYPICAL CROSS SECTION OF INTERNAL ROADS AND PARKING AREA IN MASTER PLAN PHASE</b>			1
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

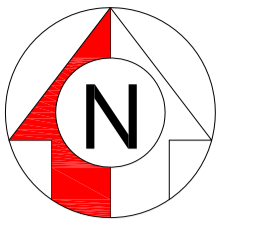
REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

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**LEGEND OF TERMINAL FACILITIES**

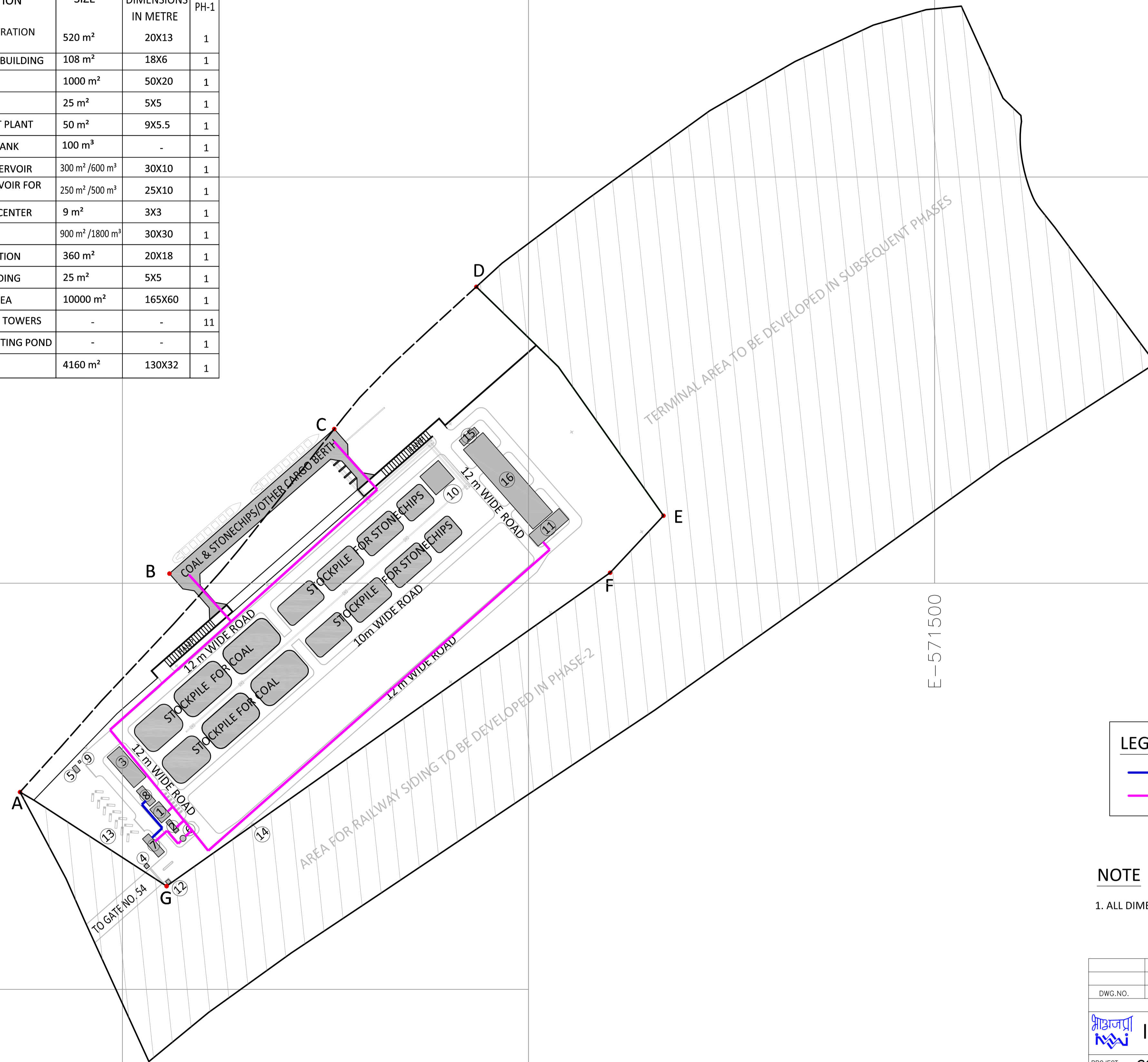
NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> / 600 m <sup>3</sup>	30X10	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> / 500 m <sup>3</sup>	25X10	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1
11	ELECTRICAL SUB STATION	360 m <sup>2</sup>	20X18	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	165X60	1
14	HIGHMAST LIGHTING TOWERS	-	-	11
15	RAIN WATER HARVESTING POND	-	-	1
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1



**NORTH**

**CO-ORDINATE IN UTM**

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00



**LEGEND**

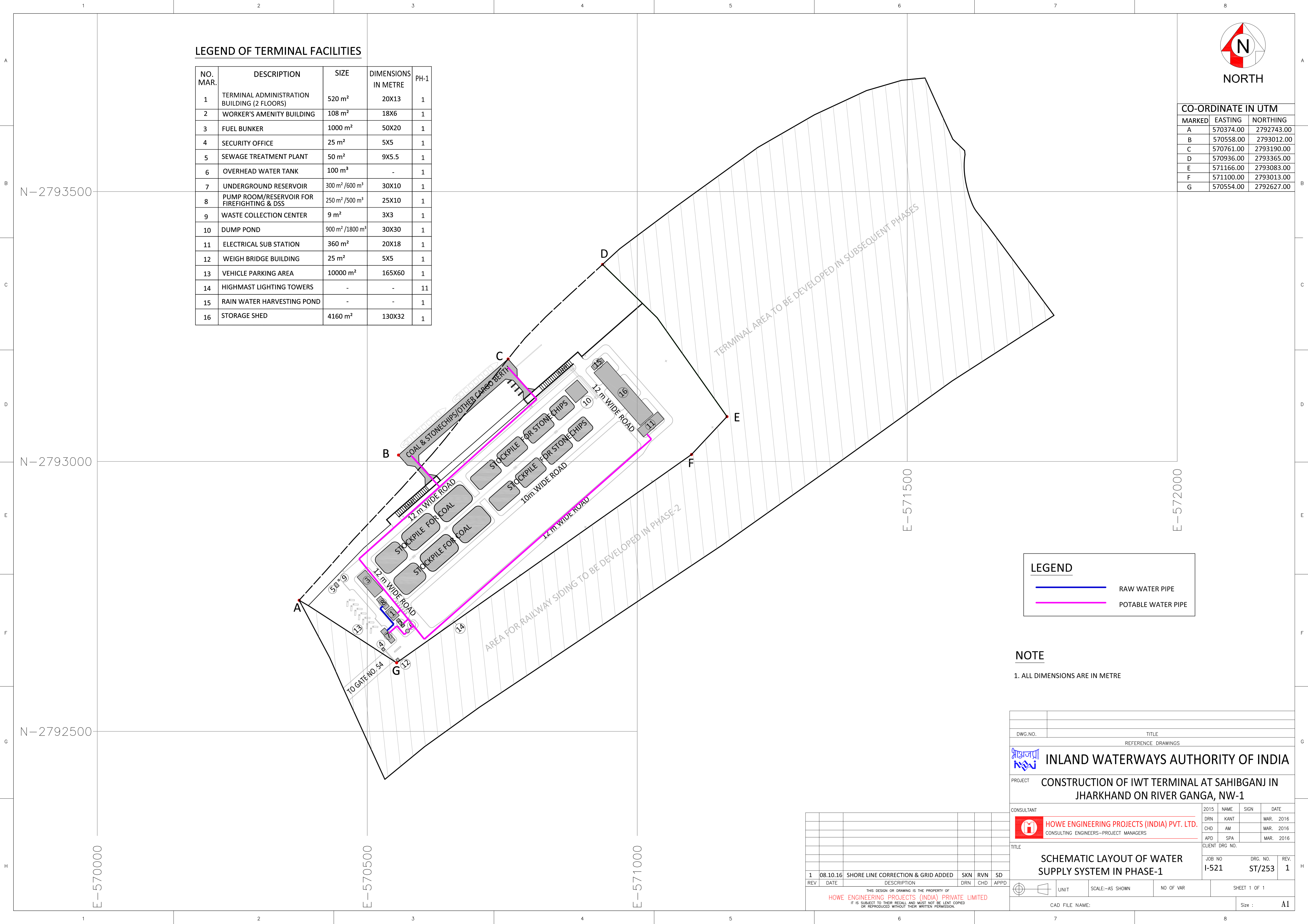
	RAW WATER PIPE
	POTABLE WATER PIPE

**NOTE**

1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
<b>HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD.</b> CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE		JOB NO	DRG. NO.
<b>SCHEMATIC LAYOUT OF WATER SUPPLY SYSTEM IN PHASE-1</b>		I-521	ST/253
THIS DESIGN OR DRAWING IS THE PROPERTY OF <b>HOWE ENGINEERING PROJECTS (INDIA) PRIVATE LIMITED</b> IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT, COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.		NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:		UNIT	SCALE:-AS SHOWN
		NO OF VAR	Size : <b>A1</b>

REV	DATE	DESCRIPTION	DRN	CHD	APPD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD





**LEGEND OF TERMINAL FACILITIES**

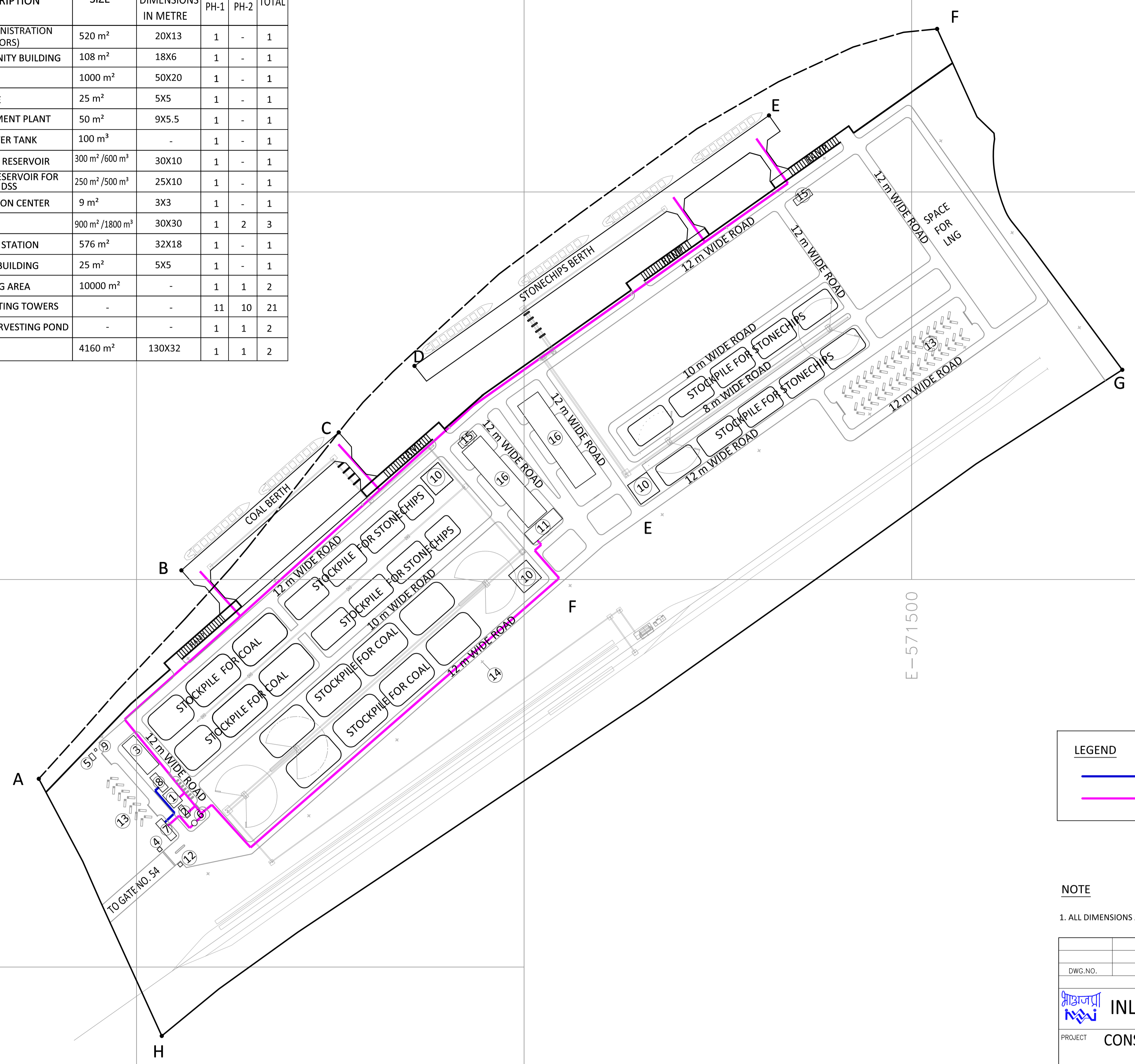
NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> /600 m <sup>3</sup>	30X10	1	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> /500 m <sup>3</sup>	25X10	1	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	1
10	DUMP POND	900 m <sup>2</sup> /1800 m <sup>3</sup>	30X30	1	2	3
11	ELECTRICAL SUB STATION	576 m <sup>2</sup>	32X18	1	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	21
15	RAIN WATER HARVESTING POND	-	-	1	1	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2



NORTH

**CO-ORDINATE IN UTM**

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



**LEGEND**

	RAW WATER PIPE
	POTABLE WATER PIPE

**NOTE**  
1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE																			
REFERENCE DRAWINGS																				
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>																				
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>																				
CONSULTANT	2015	NAME	SIGN	DATE																
	DRN	KANT		MAR. 2016																
	CHD	AM		MAR. 2016																
	APPD	SPA		MAR. 2016																
TITLE				CLIENT DRG. NO.																
<b>SCHEMATIC LAYOUT OF WATER SUPPLY SYSTEM IN PHASE-2</b>				JOB NO. <b>I-521</b>																
				DRG. NO. <b>ST/254</b>																
				REV. <b>1</b>																
<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DRN</th> <th>CHD</th> <th>APPD</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>08.10.16</td> <td>SHORE LINE CORRECTION &amp; GRID ADDED</td> <td>SKN</td> <td>RVN</td> <td>SD</td> </tr> </tbody> </table>				REV	DATE	DESCRIPTION	DRN	CHD	APPD	1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD	<table border="1"> <tr> <td>UNIT</td> <td>SCALE:-AS SHOWN</td> <td>NO OF VAR</td> <td>SHEET 1 OF 1</td> </tr> </table>	UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
REV	DATE	DESCRIPTION	DRN	CHD	APPD															
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD															
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1																	
<p style="text-align: center;">THIS DESIGN OR DRAWING IS THE PROPERTY OF <b>HOWE ENGINEERING PROJECTS (INDIA) PRIVATE LIMITED</b> IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.</p>				<p>CAD FILE NAME: _____</p> <p>Size : <b>A1</b></p>																



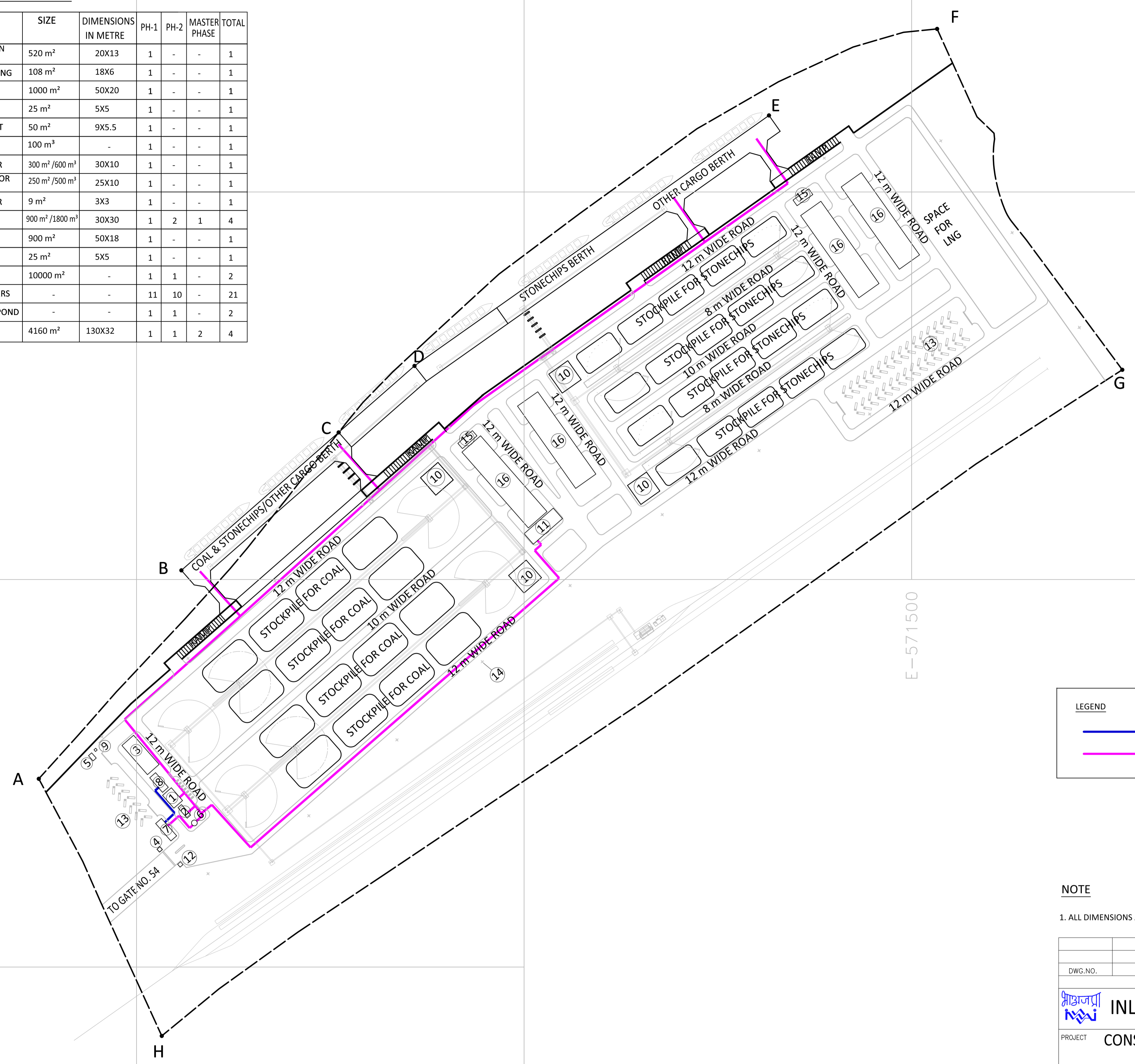
**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	MASTER PHASE	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>3</sup> / 600 m <sup>3</sup>	30X10	1	-	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>3</sup> / 500 m <sup>3</sup>	25X10	1	-	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	-	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1	2	1	4
11	ELECTRICAL SUB STATION	900 m <sup>2</sup>	50X18	1	-	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	-	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	-	21
15	RAIN WATER HARVESTING POND	-	-	1	1	-	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2	4



**NORTH**

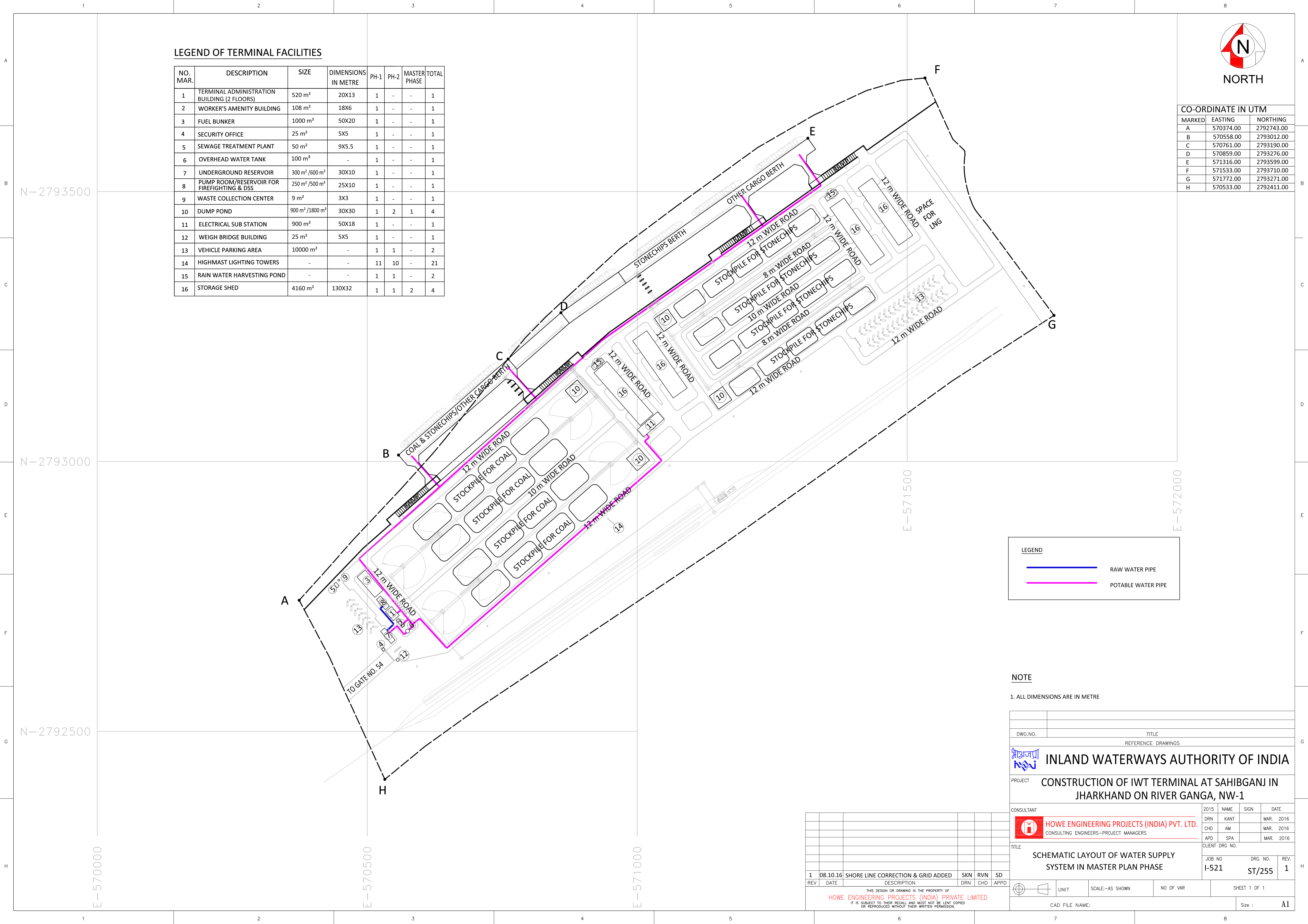
CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



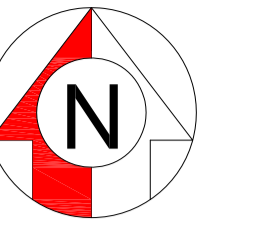
LEGEND	
	RAW WATER PIPE
	POTABLE WATER PIPE

**NOTE**  
1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
HOWE ENGINEERING PROJECTS (INDIA) PVT. LTD. CONSULTING ENGINEERS-PROJECT MANAGERS	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
SCHEMATIC LAYOUT OF WATER SUPPLY SYSTEM IN MASTER PLAN PHASE		JOB NO	DRG. NO.
		I-521	ST/255
REV. DATE DESCRIPTION SKN RVN SD DRN CHD APPD		NO OF VAR	SHEET 1 OF 1
1 08.10.16 SHORE LINE CORRECTION & GRID ADDED		SCALE:-AS SHOWN	Size : <b>A1</b>
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CAD FILE NAME:			







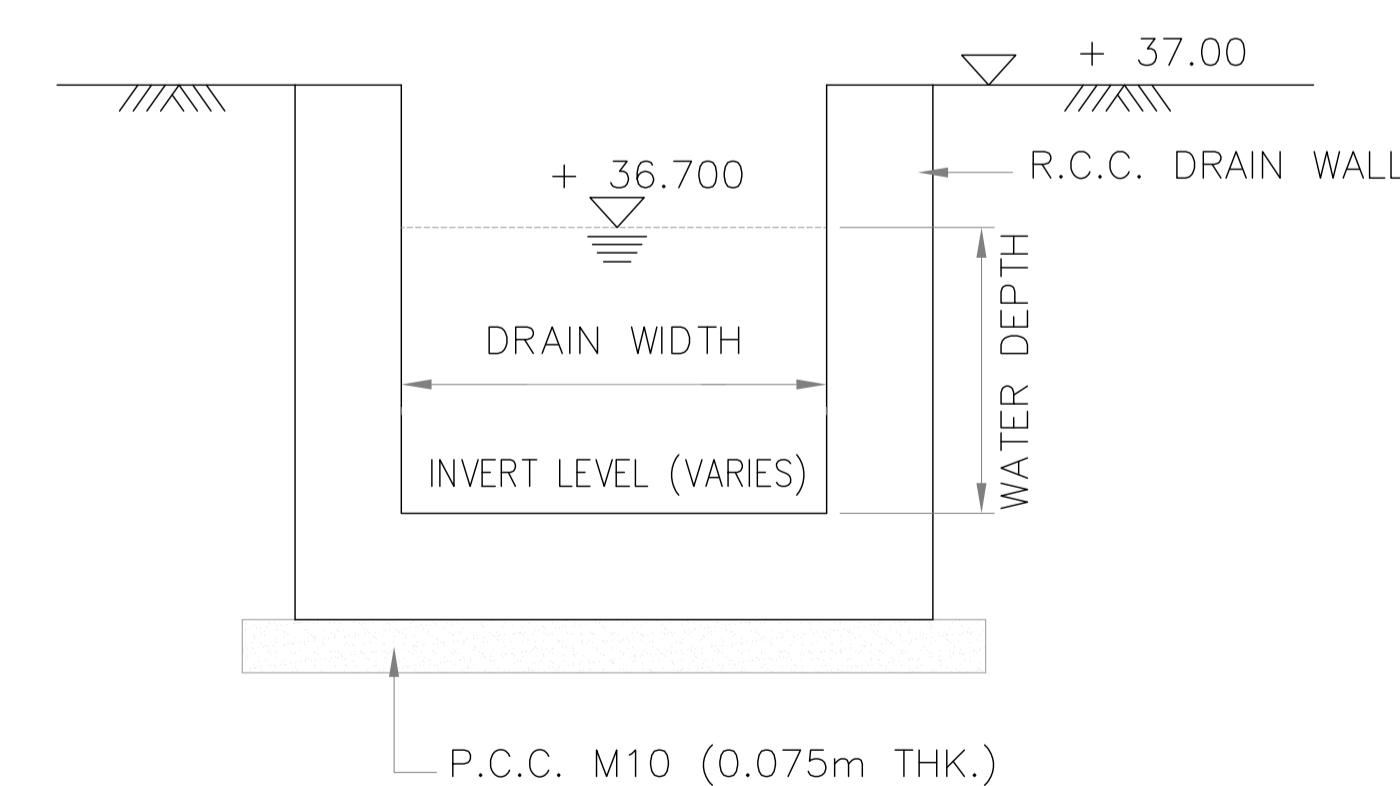
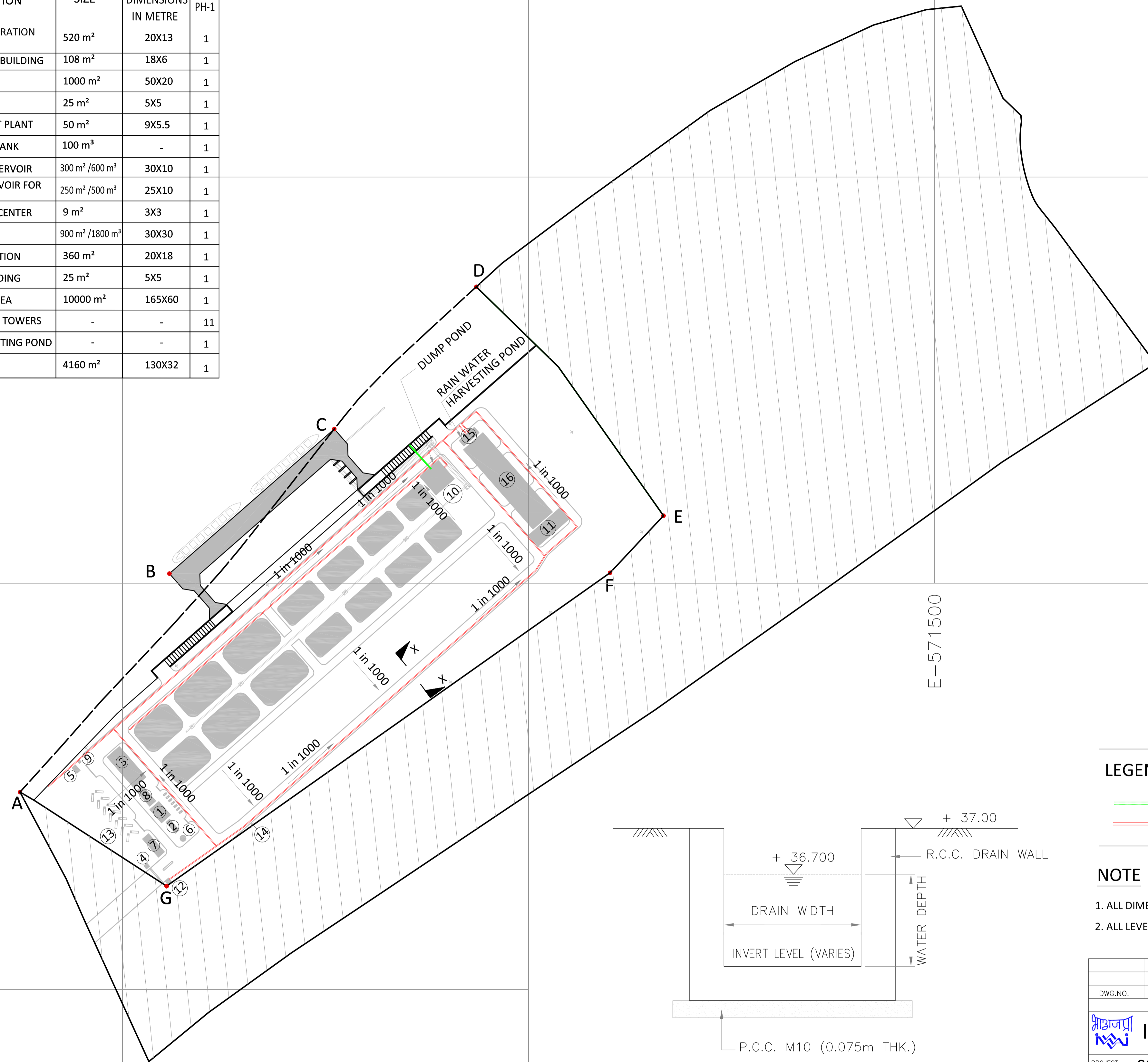
NORTH

**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> / 600 m <sup>3</sup>	30X10	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> / 500 m <sup>3</sup>	25X10	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1
11	ELECTRICAL SUB STATION	360 m <sup>2</sup>	20X18	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	165X60	1
14	HIGHMAST LIGHTING TOWERS	-	-	11
15	RAIN WATER HARVESTING POND	-	-	1
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1

**CO-ORDINATE IN UTM**

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00



**TYPICAL DETAIL X-X OF DRAIN**

**LEGEND:**

- PIPE DRAIN
- OPEN DRAIN

- NOTE**
- ALL DIMENSIONS ARE IN METRE
  - ALL LEVELS ARE IN METRE AND ARE WITH RESPECT TO MSL.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
CLIENT DRG. NO.			
JOB NO		DRG. NO.	REV.
I-521		ST/256	1
<b>LAYOUT OF STORM WATER DRAINAGE IN PHASE 1</b>			
UNIT	SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD
			DRN	CHD	APPD

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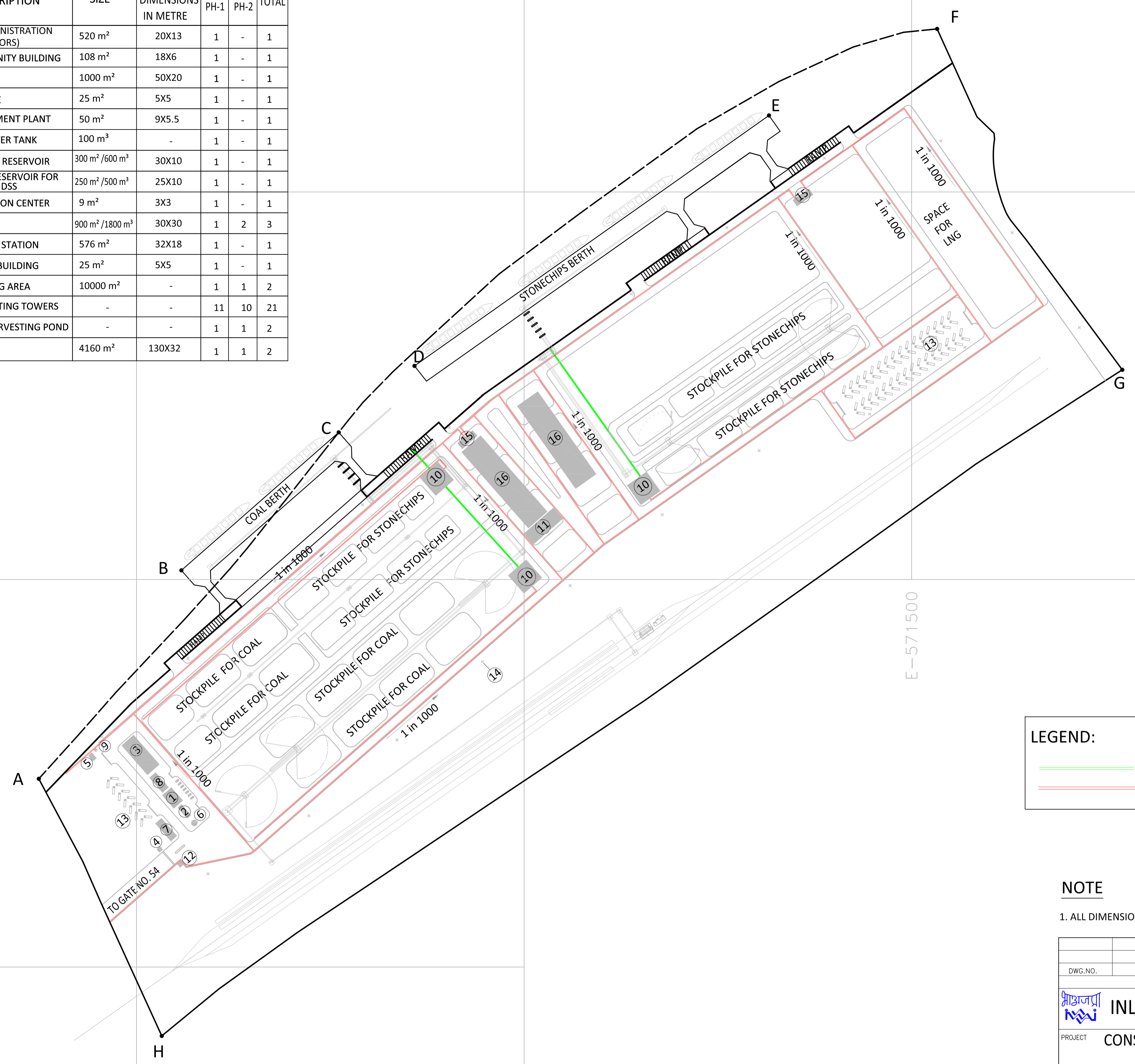
**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> /600 m <sup>3</sup>	30X10	1	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> /500 m <sup>3</sup>	25X10	1	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	1
10	DUMP POND	900 m <sup>2</sup> /1800 m <sup>3</sup>	30X30	1	2	3
11	ELECTRICAL SUB STATION	576 m <sup>2</sup>	32X18	1	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	21
15	RAIN WATER HARVESTING POND	-	-	1	1	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2



NORTH

CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



LEGEND:	
	PIPE DRAIN
	OPEN DRAIN

**NOTE**

1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE		
REFERENCE DRAWINGS			
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APPD	SPA	MAR. 2016
TITLE		CLIENT DRG. NO.	
<b>LAYOUT OF STORM WATER DRAINAGE IN PHASE -2</b>		JOB NO	DRG. NO.
		I-521	ST/257
		REV.	1
		SHEET 1 OF 1	
CAD FILE NAME:		Size : <b>A1</b>	

REV	DATE	DESCRIPTION	DRN	CHD	APPD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

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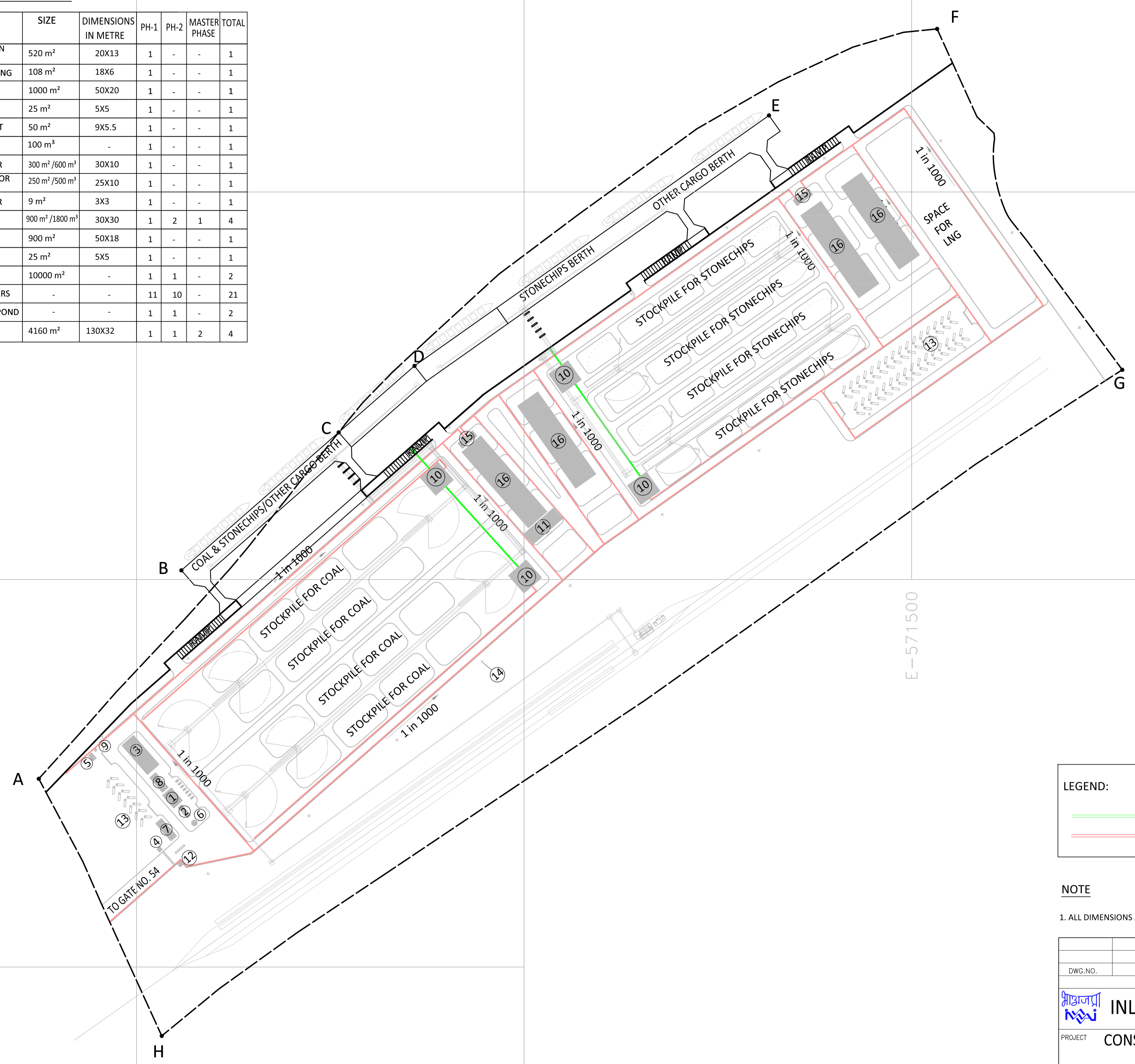


**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	MASTER PHASE	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>3</sup> / 600 m <sup>3</sup>	30X10	1	-	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>3</sup> / 500 m <sup>3</sup>	25X10	1	-	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	-	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1	2	1	4
11	ELECTRICAL SUB STATION	900 m <sup>2</sup>	50X18	1	-	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	-	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	-	21
15	RAIN WATER HARVESTING POND	-	-	1	1	-	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2	4



CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



**LEGEND:**

	PIPE DRAIN
	OPEN DRAIN

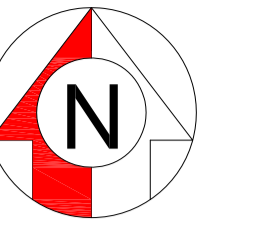
**NOTE**  
1. ALL DIMENSIONS ARE IN METRE

DWG. NO.	TITLE			
REFERENCE DRAWINGS				
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>				
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>				
CONSULTANT	2015	NAME	SIGN	DATE
	DRN	KANT		MAR. 2016
	CHD	AM		MAR. 2016
	APPD	SPA		MAR. 2016
TITLE <b>LAYOUT OF STORM WATER DRAINAGE IN MASTER PLAN PHASE</b>				CLIENT DRG. NO.
JOB NO <b>I-521</b>		DRG. NO. <b>ST/258</b>	REV. <b>1</b>	
UNIT		SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:				Size : <b>A1</b>

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD
			DRN	CHD	APPD

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NORTH

**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> / 600 m <sup>3</sup>	30X10	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> / 500 m <sup>3</sup>	25X10	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1
11	ELECTRICAL SUB STATION	360 m <sup>2</sup>	20X18	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	165X60	1
14	HIGHMAST LIGHTING TOWERS	-	-	11
15	RAIN WATER HARVESTING POND	-	-	1
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1

**CO-ORDINATE IN UTM**

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00

N-2793500

N-2793000

N-2792500

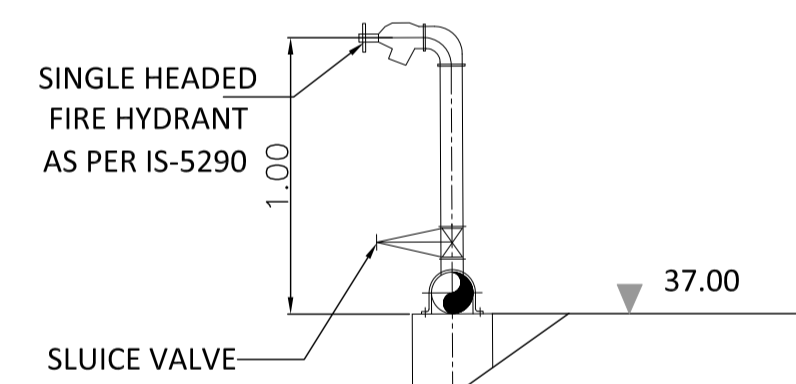
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E-570500

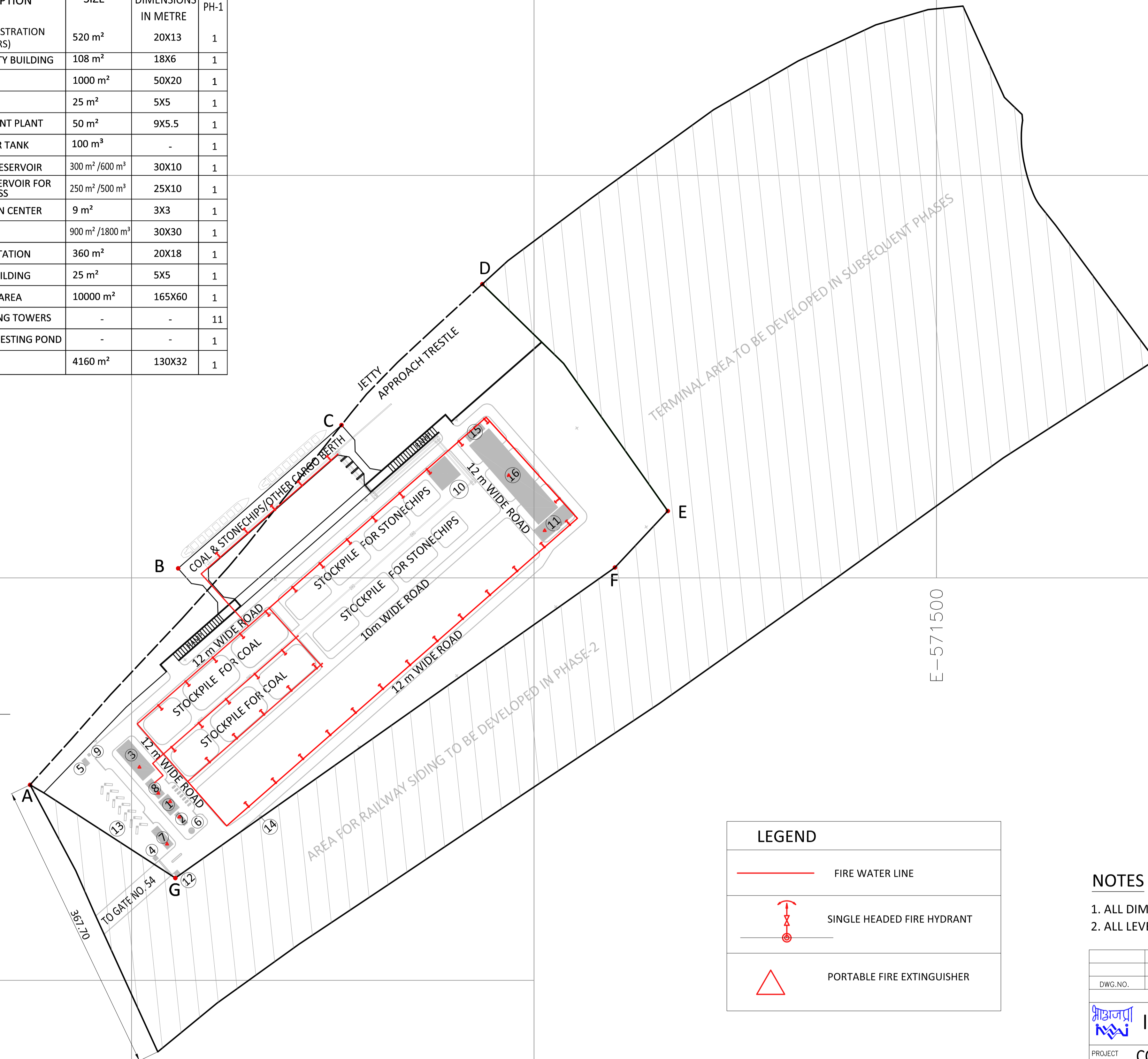
E-571000

E-571500

E-572000



**DETAILS OF FIRE HYDRANT**



LEGEND	
	FIRE WATER LINE
	SINGLE HEADED FIRE HYDRANT
	PORTABLE FIRE EXTINGUISHER

**NOTES**

1. ALL DIMENSIONS ARE IN METRE.
2. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE <b>GENERAL ARRANGEMENT OF FIREFIGHTING SYSTEM IN PHASE-1</b>			
JOB NO	DRG. NO.	REV.	
I-521	ST/259	1	
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD
			DRN	CHD	APPD

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**LEGEND OF TERMINAL FACILITIES**

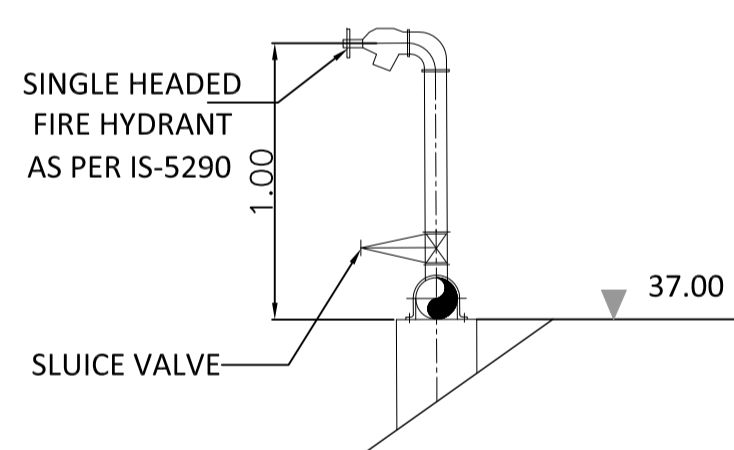
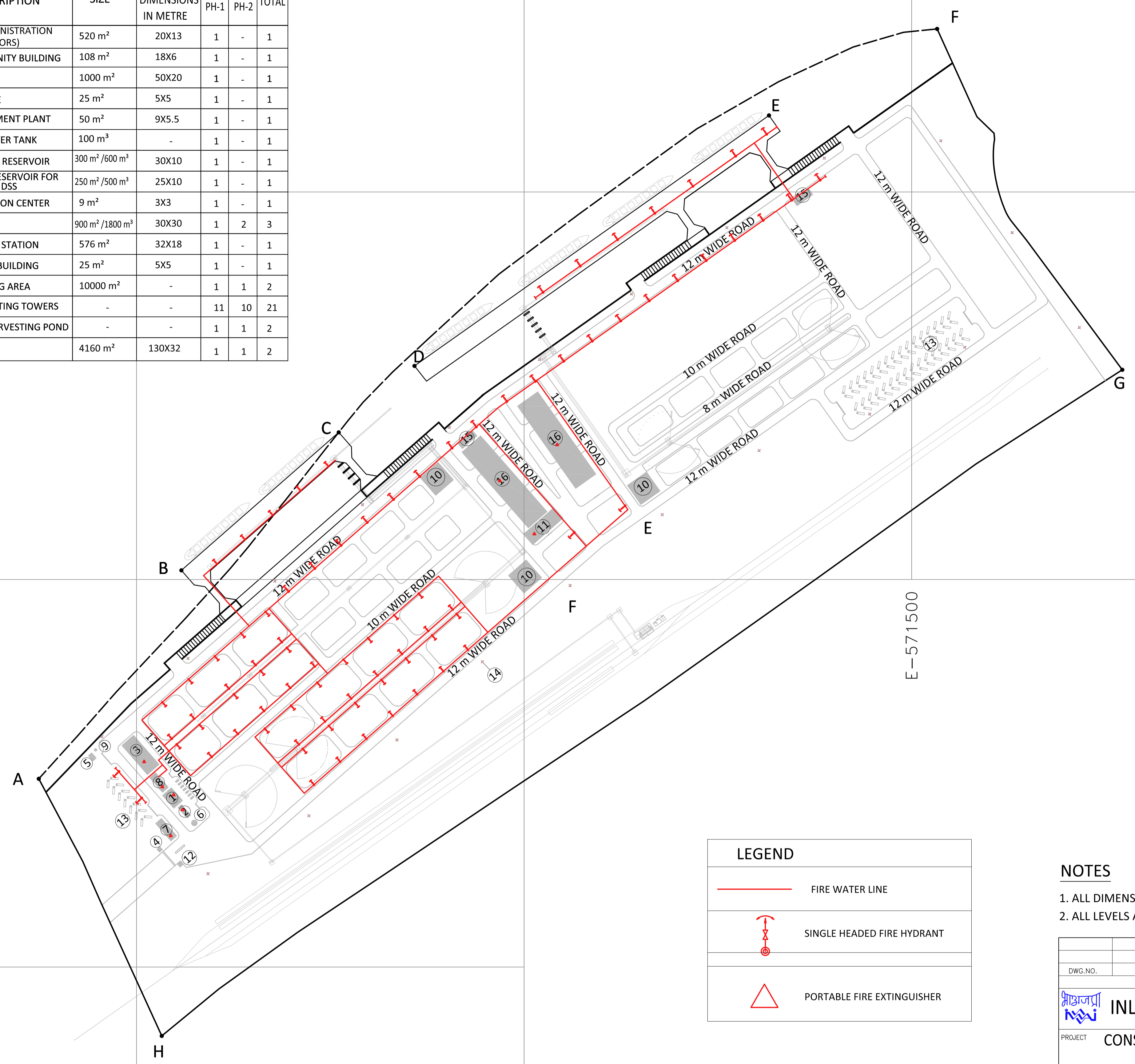
NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> /600 m <sup>3</sup>	30X10	1	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> /500 m <sup>3</sup>	25X10	1	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	1
10	DUMP POND	900 m <sup>2</sup> /1800 m <sup>3</sup>	30X30	1	2	3
11	ELECTRICAL SUB STATION	576 m <sup>2</sup>	32X18	1	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	21
15	RAIN WATER HARVESTING POND	-	-	1	1	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2



NORTH

**CO-ORDINATE IN UTM**

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



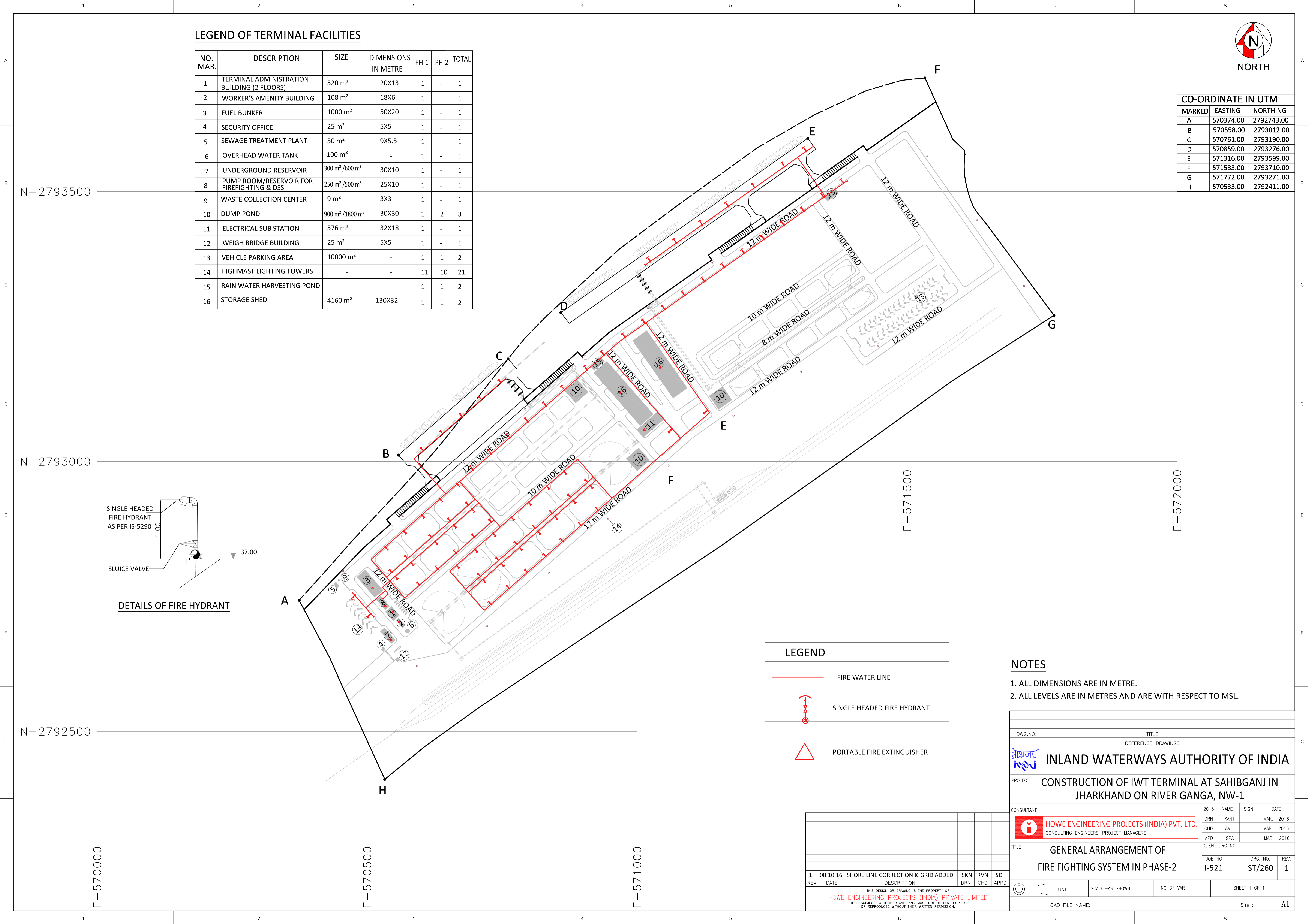
**DETAILS OF FIRE HYDRANT**

LEGEND	
	FIRE WATER LINE
	SINGLE HEADED FIRE HYDRANT
	PORTABLE FIRE EXTINGUISHER

**NOTES**

1. ALL DIMENSIONS ARE IN METRE.
2. ALL LEVELS ARE IN METRES AND ARE WITH RESPECT TO MSL.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE		JOB NO.	DRG. NO.
<b>GENERAL ARRANGEMENT OF FIRE FIGHTING SYSTEM IN PHASE-2</b>		I-521	ST/260
REV	DATE	DESCRIPTION	SKN
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN
			RVN
			SD
			DRN
			CHD
			APPD
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UNIT	SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>





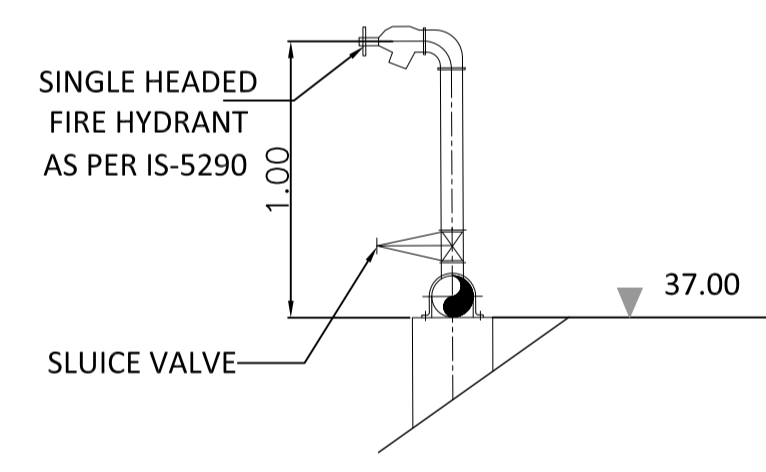
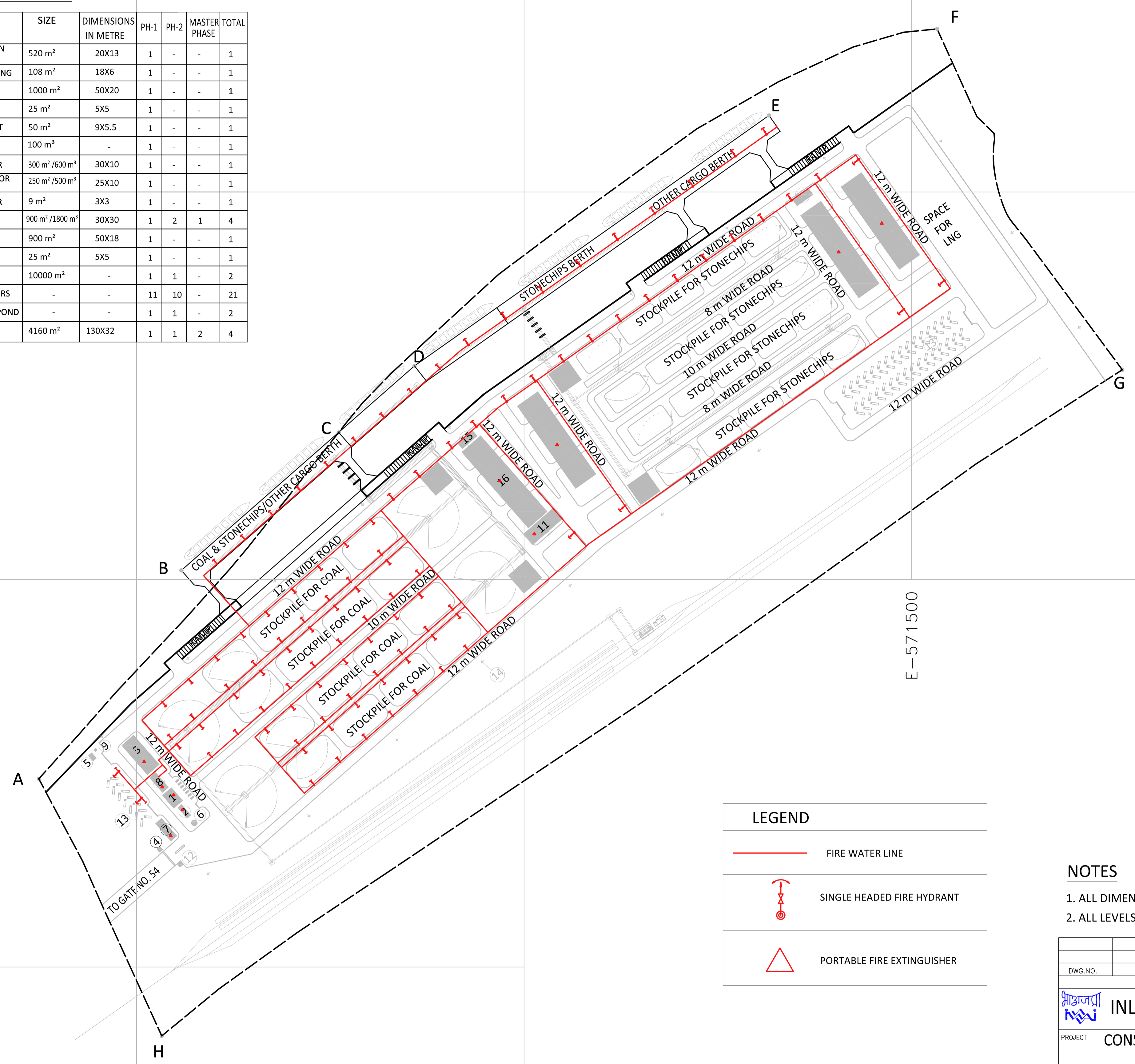
**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	MASTER PHASE	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>3</sup> / 600 m <sup>3</sup>	30X10	1	-	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> / 500 m <sup>3</sup>	25X10	1	-	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	-	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1	2	1	4
11	ELECTRICAL SUB STATION	900 m <sup>2</sup>	50X18	1	-	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	-	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	-	21
15	RAIN WATER HARVESTING POND	-	-	1	1	-	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2	4



NORTH

CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00



DETAILS OF FIRE HYDRANT

LEGEND	
	FIRE WATER LINE
	SINGLE HEADED FIRE HYDRANT
	PORTABLE FIRE EXTINGUISHER

**NOTES**

1. ALL DIMENSIONS ARE IN METRE.
2. ALL LEVELS ARE IN METRE AND ARE WITH RESPECT TO MSL.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE		JOB NO.	DRG. NO.
GENERAL ARRANGEMENT OF FIRE FIGHTING SYSTEM IN MASTER PLAN PHASE		I-521	ST/261
REV		DATE	REV.
1		08.10.16	1
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UNIT	SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

N-2793500

N-2793000

N-2792500

E-570000

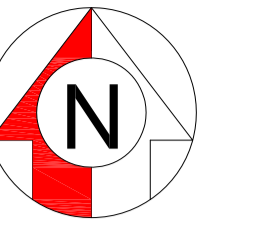
E-570500

E-571000

E-571500

E-572000





NORTH

**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> / 600 m <sup>3</sup>	30X10	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> / 500 m <sup>3</sup>	25X10	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1
11	ELECTRICAL SUB STATION	360 m <sup>2</sup>	20X18	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	165X60	1
14	HIGHMAST LIGHTING TOWERS	-	-	11
15	RAIN WATER HARVESTING POND	-	-	1
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1

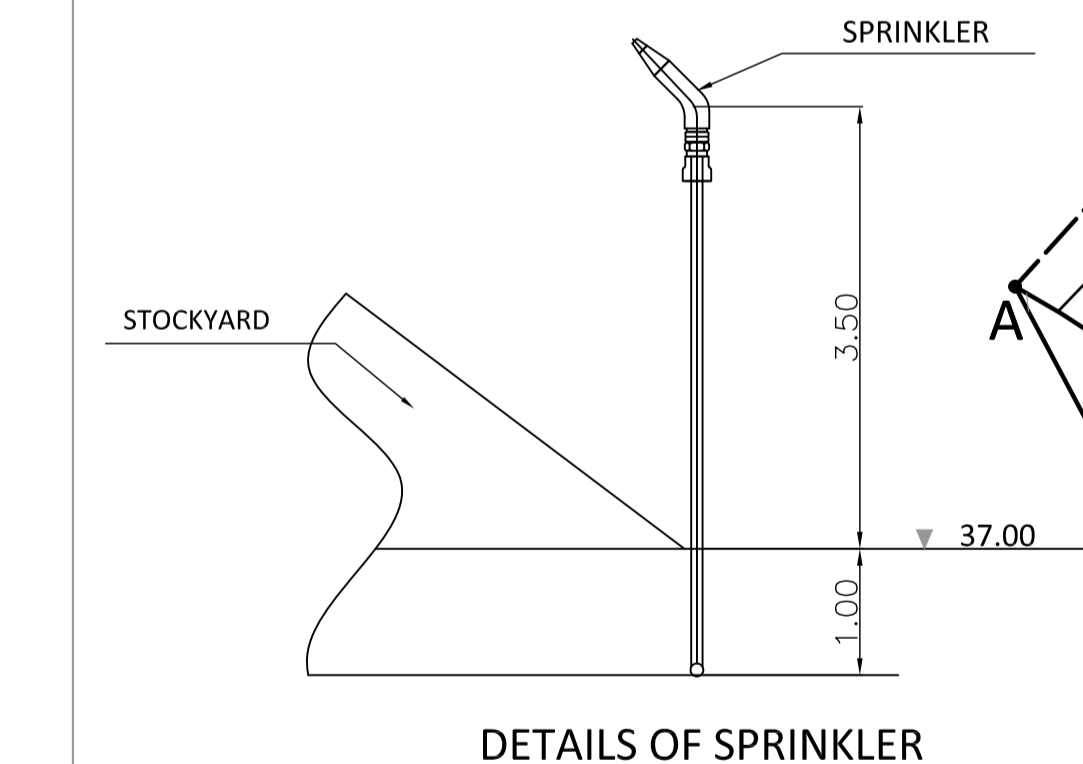
**CO-ORDINATE IN UTM**

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570936.00	2793365.00
E	571166.00	2793083.00
F	571100.00	2793013.00
G	570554.00	2792627.00

N-2793500

N-2793000

N-2792500



LEGEND	
	DSS LINE
	SPRINKLER

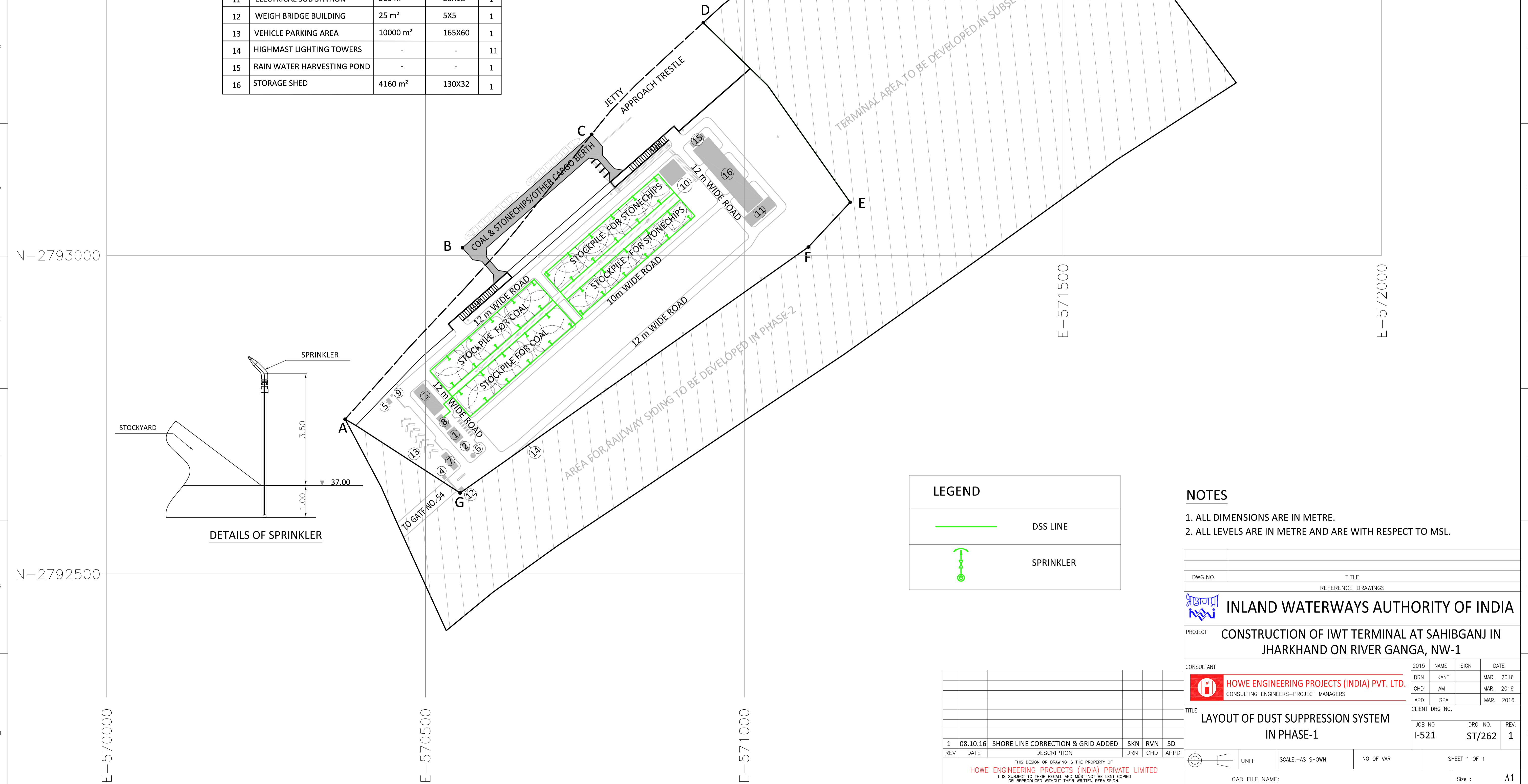
**NOTES**

- ALL DIMENSIONS ARE IN METRE.
- ALL LEVELS ARE IN METRE AND ARE WITH RESPECT TO MSL.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
<b>PROJECT CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
TITLE		JOB NO.	DRG. NO.
LAYOUT OF DUST SUPPRESSION SYSTEM IN PHASE-1		I-521	ST/262
		REV.	1
		UNIT	SCALE:-AS SHOWN
CAD FILE NAME:		NO OF VAR	SHEET 1 OF 1
		Size :	A1

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD
			DRN	CHD	APPD

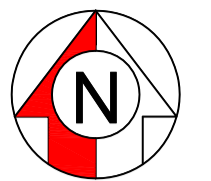
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**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>2</sup> /600 m <sup>3</sup>	30X10	1	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>2</sup> /500 m <sup>3</sup>	25X10	1	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	1
10	DUMP POND	900 m <sup>2</sup> /1800 m <sup>3</sup>	30X30	1	2	3
11	ELECTRICAL SUB STATION	576 m <sup>2</sup>	32X18	1	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	21
15	RAIN WATER HARVESTING POND	-	-	1	1	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2



NORTH

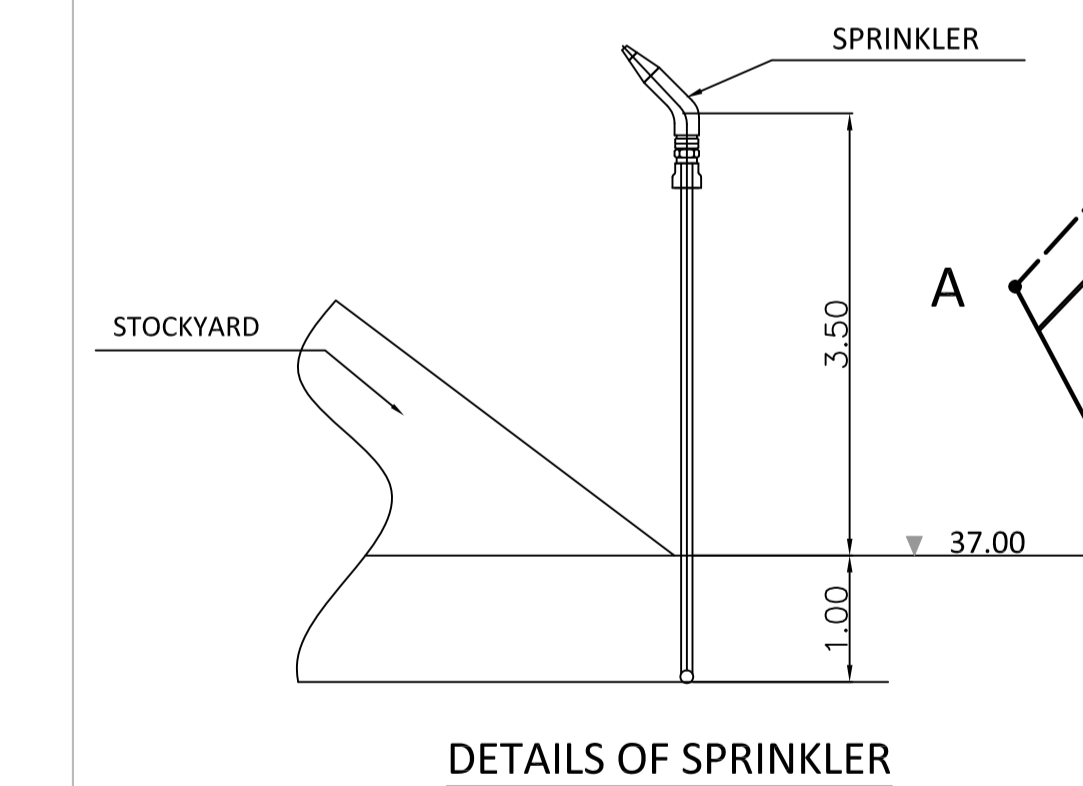
**CO-ORDINATE IN UTM**

MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00

N-2793500

N-2793000

N-2792500



LEGEND	
	DSS LINE
	SPRINKLER

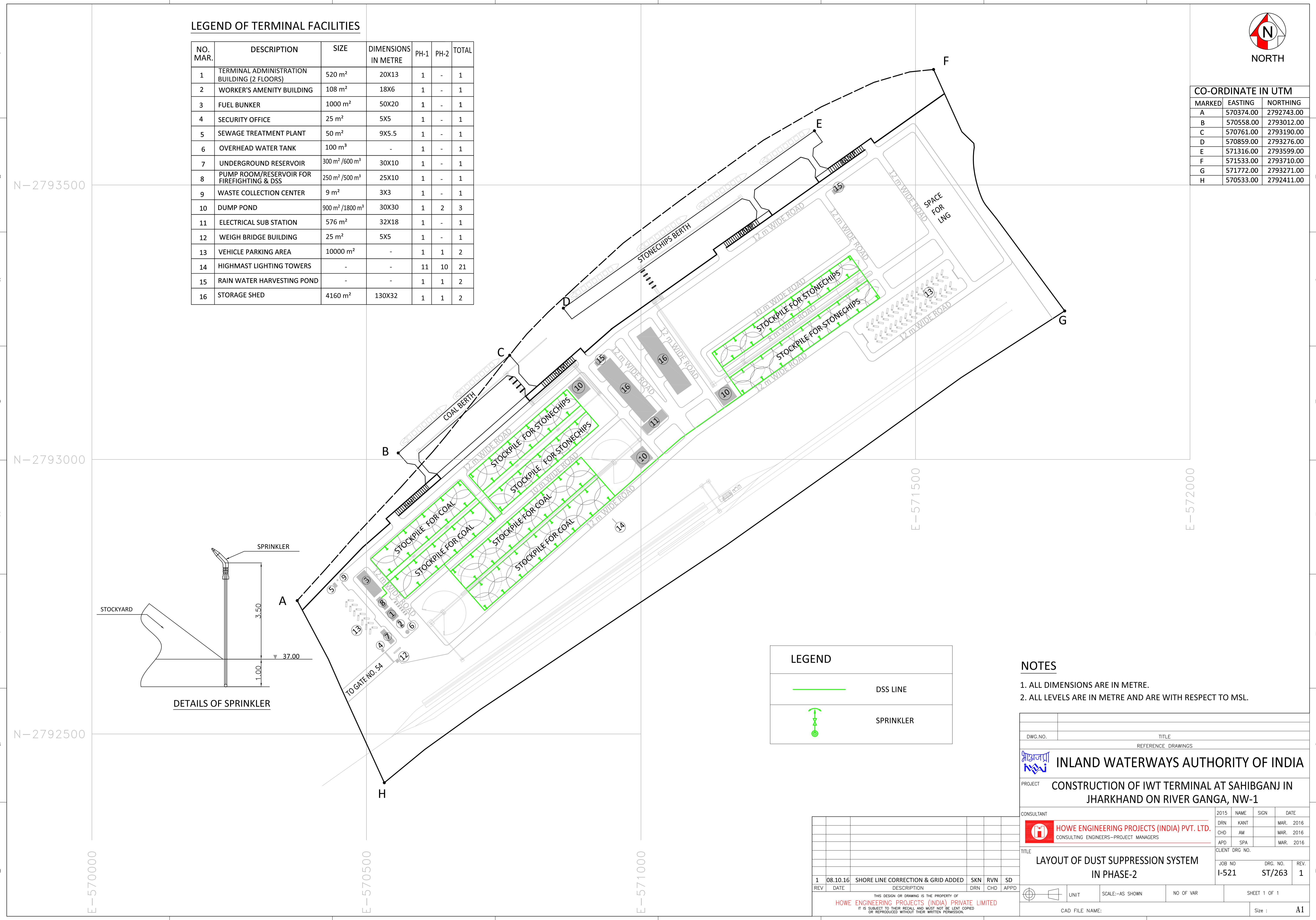
**NOTES**

- ALL DIMENSIONS ARE IN METRE.
- ALL LEVELS ARE IN METRE AND ARE WITH RESPECT TO MSL.

DWG. NO.	TITLE		
	REFERENCE DRAWINGS		
<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT <b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN
	DRN	KANT	MAR. 2016
	CHD	AM	MAR. 2016
	APD	SPA	MAR. 2016
CLIENT DRG. NO.			
JOB NO		DRG. NO.	REV.
I-521		ST/263	1
TITLE <b>LAYOUT OF DUST SUPPRESSION SYSTEM IN PHASE-2</b>			
UNIT	SCALE:-AS SHOWN	NO OF VAR	SHEET 1 OF 1
CAD FILE NAME:			Size : <b>A1</b>

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD
			DRN	CHD	APPD

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**LEGEND OF TERMINAL FACILITIES**

NO. MAR.	DESCRIPTION	SIZE	DIMENSIONS IN METRE	PH-1	PH-2	MASTER PHASE	TOTAL
1	TERMINAL ADMINISTRATION BUILDING (2 FLOORS)	520 m <sup>2</sup>	20X13	1	-	-	1
2	WORKER'S AMENITY BUILDING	108 m <sup>2</sup>	18X6	1	-	-	1
3	FUEL BUNKER	1000 m <sup>2</sup>	50X20	1	-	-	1
4	SECURITY OFFICE	25 m <sup>2</sup>	5X5	1	-	-	1
5	SEWAGE TREATMENT PLANT	50 m <sup>2</sup>	9X5.5	1	-	-	1
6	OVERHEAD WATER TANK	100 m <sup>3</sup>	-	1	-	-	1
7	UNDERGROUND RESERVOIR	300 m <sup>3</sup> / 600 m <sup>3</sup>	30X10	1	-	-	1
8	PUMP ROOM/RESERVOIR FOR FIREFIGHTING & DSS	250 m <sup>3</sup> / 500 m <sup>3</sup>	25X10	1	-	-	1
9	WASTE COLLECTION CENTER	9 m <sup>2</sup>	3X3	1	-	-	1
10	DUMP POND	900 m <sup>2</sup> / 1800 m <sup>3</sup>	30X30	1	2	1	4
11	ELECTRICAL SUB STATION	900 m <sup>2</sup>	50X18	1	-	-	1
12	WEIGH BRIDGE BUILDING	25 m <sup>2</sup>	5X5	1	-	-	1
13	VEHICLE PARKING AREA	10000 m <sup>2</sup>	-	1	1	-	2
14	HIGHMAST LIGHTING TOWERS	-	-	11	10	-	21
15	RAIN WATER HARVESTING POND	-	-	1	1	-	2
16	STORAGE SHED	4160 m <sup>2</sup>	130X32	1	1	2	4

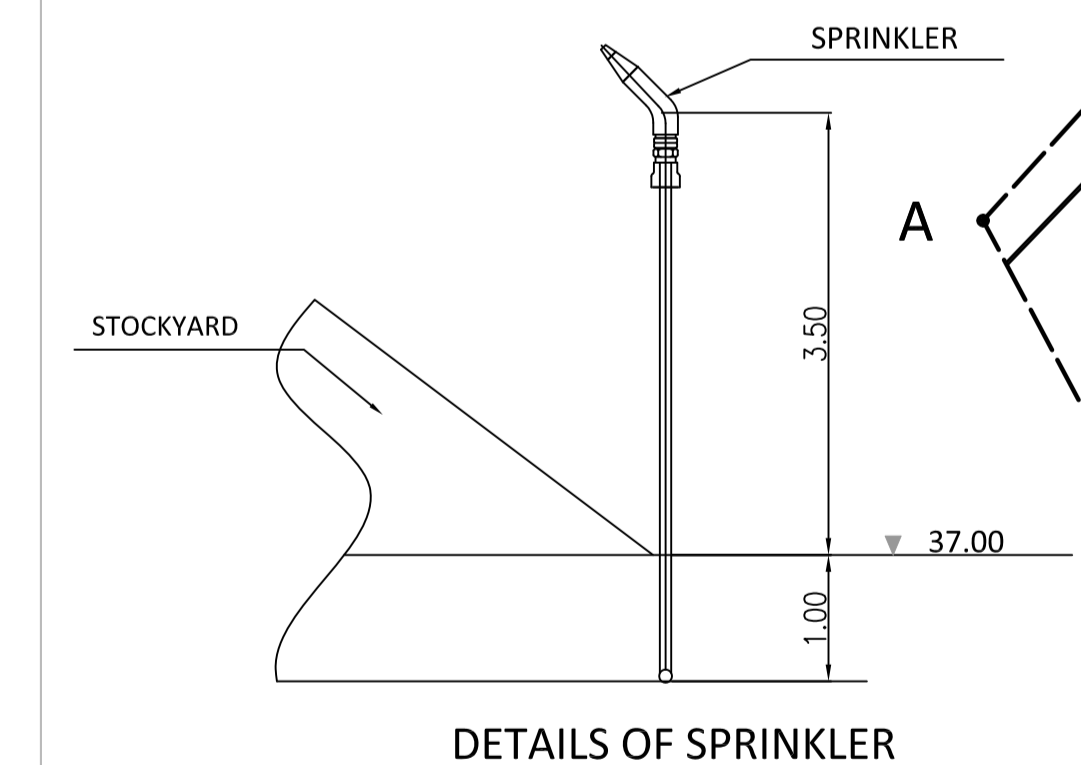


CO-ORDINATE IN UTM		
MARKED	EASTING	NORTHING
A	570374.00	2792743.00
B	570558.00	2793012.00
C	570761.00	2793190.00
D	570859.00	2793276.00
E	571316.00	2793599.00
F	571533.00	2793710.00
G	571772.00	2793271.00
H	570533.00	2792411.00

N-2793500

N-2793000

N-2792500



**DETAILS OF SPRINKLER**

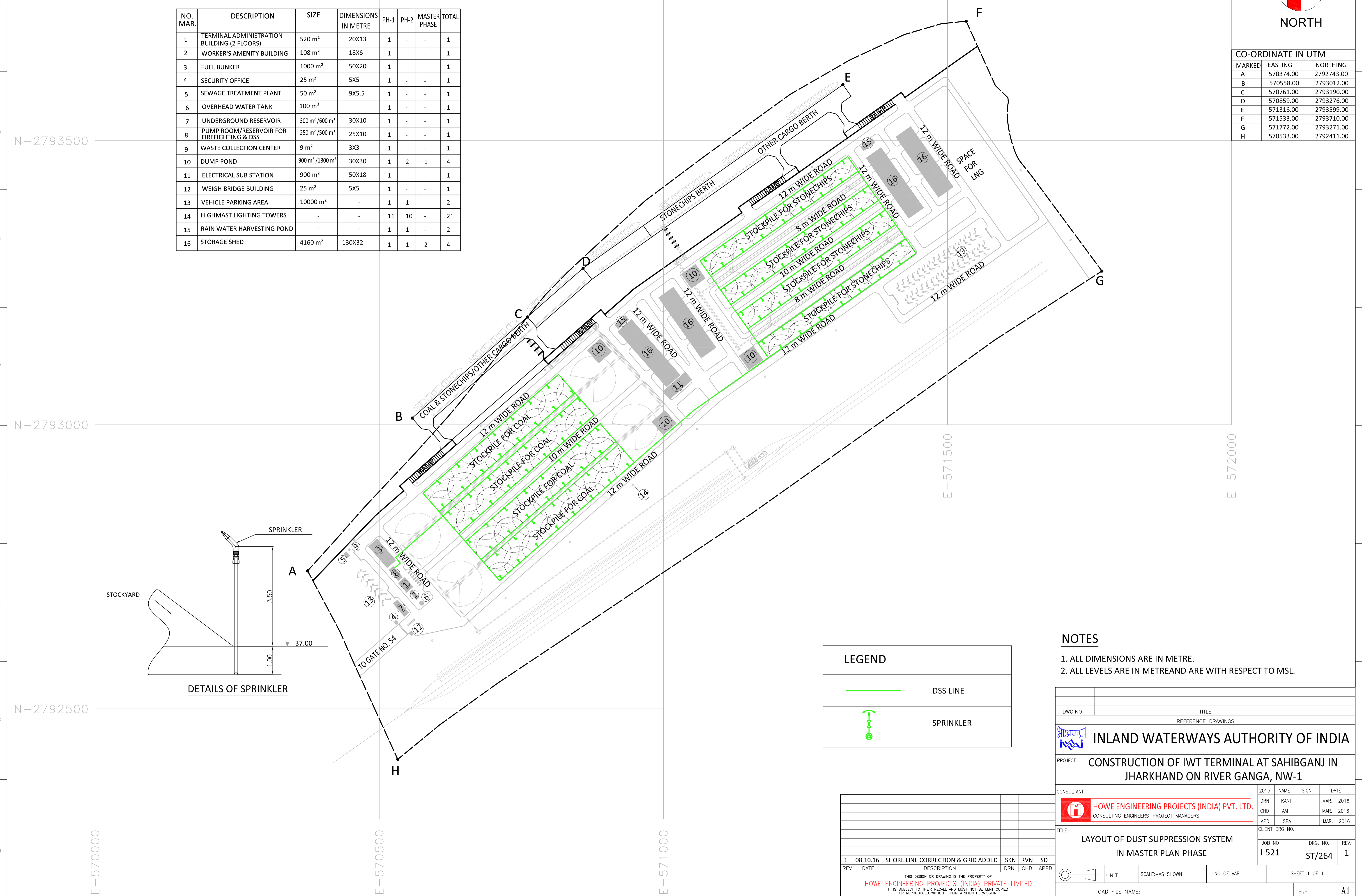
E-570000

E-570500

E-571000

E-571500

E-572000



LEGEND	
	DSS LINE
	SPRINKLER

**NOTES**

1. ALL DIMENSIONS ARE IN METRE.
2. ALL LEVELS ARE IN METRE AND ARE WITH RESPECT TO MSL.

DWG. NO.	TITLE			
	REFERENCE DRAWINGS			
	<b>INLAND WATERWAYS AUTHORITY OF INDIA</b>			
PROJECT	<b>CONSTRUCTION OF IWT TERMINAL AT SAHIBGANJ IN JHARKHAND ON RIVER GANGA, NW-1</b>			
CONSULTANT	2015	NAME	SIGN	DATE
	DRN	KANT		MAR. 2016
	CHD	AM		MAR. 2016
	APD	SPA		MAR. 2016
TITLE	LAYOUT OF DUST SUPPRESSION SYSTEM IN MASTER PLAN PHASE			
JOB NO.	DRG. NO.	REV.		
I-521	ST/264	1		
UNIT	SCALE:--AS SHOWN	NO OF VAR	SHEET 1 OF 1	
CAD FILE NAME:		Size : <b>A1</b>		

REV	DATE	DESCRIPTION	SKN	RVN	SD
1	08.10.16	SHORE LINE CORRECTION & GRID ADDED	SKN	RVN	SD

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