

## Section 18 Drawings

The drawings provided in this section are solely for the purpose of bid information and bid preparation. They present the typical details of the project facilities and plant requirements for the following.

### List of Bid Drawings

| Drawing No.                                                | Drawing Title                                 |
|------------------------------------------------------------|-----------------------------------------------|
| PG/ADB/SLD.1                                               | Dhupchanchia 132/33kV Single Line Diagram     |
| PG/ADB/SLD.2                                               | Kumarkhali 132/33kV Single Line Diagram       |
| PG/ADB/SLD.3                                               | Matlab North 132/33kV Single Line Diagram     |
| PG/ADB/SLD.4                                               | Chatkhil 132/33kV Single Line Diagram         |
| PG/ADB/SLD.5                                               | Kachua 132/33 KV Single Line Diagram          |
| PG/ADB/LAY_all                                             | Overall Layout                                |
| PG/ADB/Trans_132                                           | 132KV Tr Protection                           |
| PG/ADB/LP_132kV                                            | 132kV Line & Bus Protection                   |
| PG/ADB/132kV_BC                                            | 132kV Bus Coupler Protection                  |
| PG/ADB/SAS                                                 | Substation Automation System Architecture     |
| PG/ADB/DC_110V                                             | 110V DC distribution scheme                   |
| PG/ADB/DC_48V                                              | 48V DC distribution scheme                    |
| PG/ADB/AC                                                  | LV AC distribution scheme                     |
| PG/ADB/OPT_Dupchanchia                                     | Dhupchanchia Optical Communication Scheme     |
| PG/ADB/OPT_Kumarkhali                                      | Kumarkhali Optical Communication Scheme       |
| PG/ADB/OPT_Matlab (N)                                      | Matlab North Optical Communication Scheme     |
| PG/ADB/OPT_Chatkhil                                        | Chatkhil Optical Communication Scheme         |
| PG/ADB/MCRP-1                                              | Main Control Room Ground Floor plan           |
| PG/ADB/MCRP-2                                              | Main Control Room First Floor Plan            |
| PG/ADB/MCRE                                                | Main Control Room Elevation                   |
| PG/ADB/GH                                                  | Guard house                                   |
| PG/ADB/SSL                                                 | Switchyard Surface Level                      |
| PG/ADB/Fence                                               | Fence                                         |
| PG/ADB/BW                                                  | Boundary Wall with RCC Retaining wall         |
| PG/ADB/GATE                                                | Gate                                          |
| PG/ADB/AR                                                  | Approach Road                                 |
| PG/ADB/TRS                                                 | Typical Road Sections                         |
| PG/ADB/SEP                                                 | Sentry Post                                   |
| PG/ADB/ST                                                  | Septic Tank                                   |
| PG/ADB/SW                                                  | Soak Well                                     |
| PG/ADB/WW                                                  | Walk Way                                      |
| PG/ADB/AB                                                  | Ansar Barrack with parking at Ground floor    |
| PG/ADB/SR                                                  | Stair Railing                                 |
| PG/ADB/OSY                                                 | Open Storeyard                                |
| PG/ADB/PFI                                                 | PFI Plant                                     |
| PG/ADB/CAM                                                 | IP Camera                                     |
| PG/ADB/slope                                               | Slope (1V:2H) Protection with CC blocks       |
| PG/ADB/co-ordinates                                        | Boundary co-ordinates of four new substations |
| 132kV Double Circuit Towers (Tower type 1DT6 Narrow base)* |                                               |
| T2005-1DT6-01, Rev. 0                                      | 132kV Tower Type – 1DT6, Top Part             |
| T2005-1DT6-02, Rev. 0                                      | 132kV Tower Type – 1DT6, Bottom Part          |

rev 1: 18/1

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## SEC 18: DRAWINGS LIST

| Drawing No.                | Drawing Title                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| T2005-1DT6-03, Rev. 0      | 132kV Tower Type – 1DT6, E0 Body                                                                                            |
| T2005-1DT6-04, Rev. 0      | 132kV Tower Type – 1DT6, E1.5 Body                                                                                          |
| T2005-1DT6-05, Rev. 0      | 132kV Tower Type – 1DT6, E3 Body                                                                                            |
| T2005-1DT6-06, Rev. 0      | 132kV Tower Type – 1DT6, E4.5 Body                                                                                          |
| T2005-1DT6-07, Rev. 0      | 132kV Tower Type – 1DT6, E6 Body                                                                                            |
| T2005-1DT6-08, Rev. 0      | 132kV Tower Type – 1DT6, E9 Body                                                                                            |
| T2005-1DT6-09, Rev. 0      | 132kV Tower Type – 1DT6, Stub                                                                                               |
| C870/1DT6/STUB-01, Rev-0   | Detail Drawing of Stub & Cleat for Tower Type 1DT6 for Body Ext. +0M, +1.5M, +3M, +4.5M, +6M, +9M                           |
| TC529/1DT6/STUB-01A, Rev-0 | Detail Drawing of Stub & Cleat for Tower Type 1DT6 for Body Ext. +0M, +1.5M, +3M, +4.5M, +6M, +9M with +1m Raised Chimney   |
| C870/1DT6/STUB-02, Rev-0   | Detail Drawing of Stub & Cleat for Tower Type 1DT6 for Body Ext. +0M, +1.5M, +3M, +4.5M, +6M, +9M with +2.0m Raised Chimney |
| -                          | Foundation Reaction Forces                                                                                                  |

\*132 kV Double Circuit Tower Drawings/documents are included in the CD. These drawings are already approved and to be considered part of this bidding document. (Drawing no: PG/ADB/Tower)

*Sujana*

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*[Signature]*

CANAL

CANAL

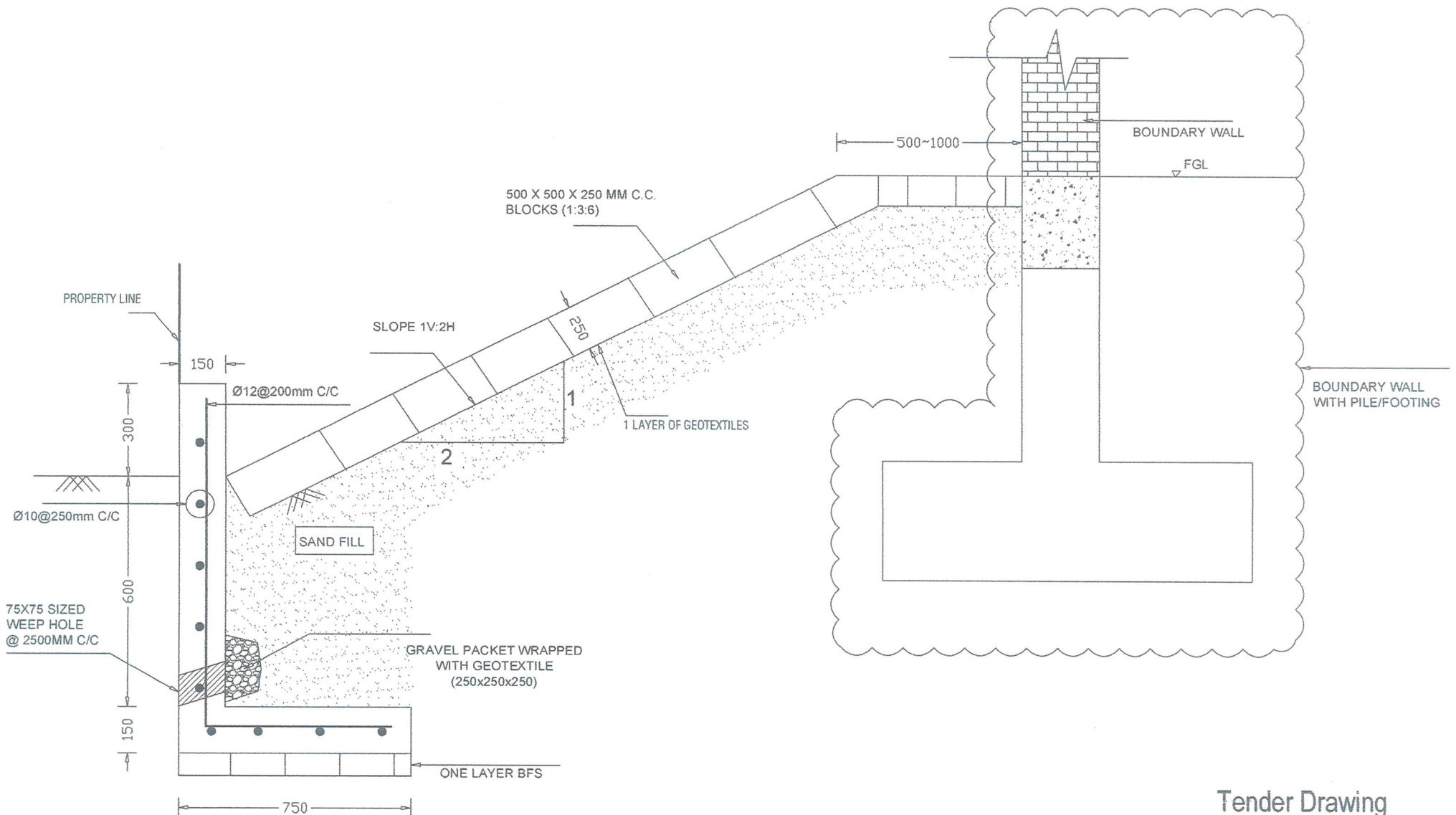
Sigmar (Brenn)



*[Signature]*

GV

3



## Tender Drawing

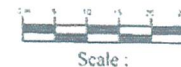
|                                                                                                                                                                                                                                              |                                         |           |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------|--|
| Power Grid Bangladesh PLC                                                                                                                                                                                                                    |                                         |           |  |
| Project: Design, Supply, Installation, Testing & Commissioning of 132/33kV AIS Substation at Dapchanda, Kamarkhola, Moulvibazar (P), Chittagong and 132kV bay extension at Kachua 230/132/33kV grid substation on turnkey basis (Package-4). |                                         |           |  |
| Drawing Title                                                                                                                                                                                                                                | Slope (1V:2H) protection with CC blocks |           |  |
| Drawing No.                                                                                                                                                                                                                                  | PG/ADB/slope                            |           |  |
| Drawn:                                                                                                                                                                                                                                       | Checked:                                | Approved: |  |

Property Description  
 = 12145.100 (Sq. Meter)  
 = 9.00 (in Bigha)  
 = 3.00 (in Acre)

EXISTING PHYSICAL FEATURE AND TOPOGRAPHICAL SURVEY  
 Proposed Matlab North 132/33kV AIS Sub-Station  
 Matlab, Chandpur.

CONTRACTOR

Coordinate Map

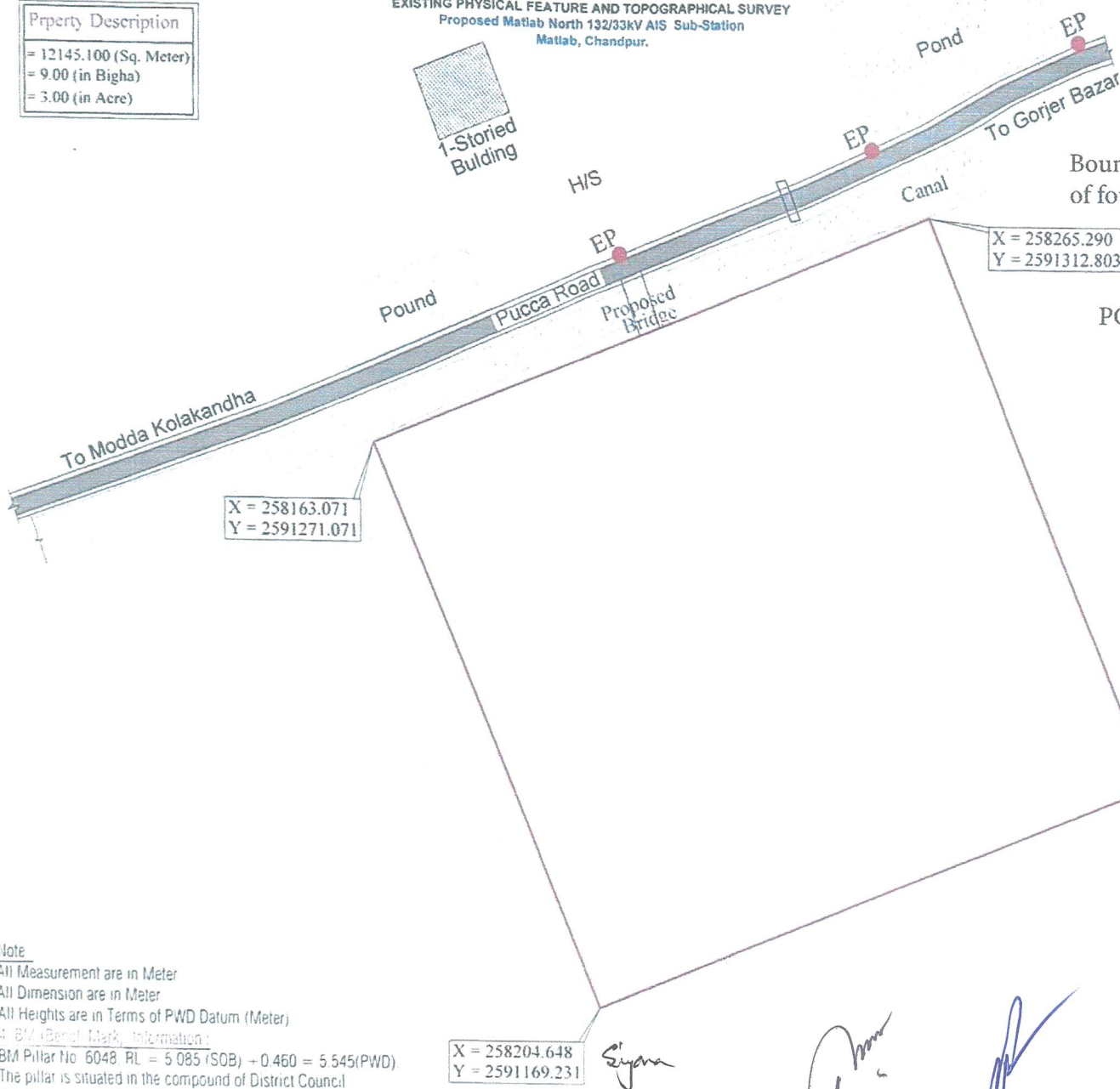


LEGEND:

- Project Boundary
- Building
- Semi-pucca
- Tin-Shed
- Gate
- Road
- River
- Electric Pole
- TBM/Control Point

Boundary co-ordinates  
 of four new substations

PG/ADB/co-ordinates



Note  
 All Measurement are in Meter  
 All Dimension are in Meter  
 All Heights are in Terms of PWD Datum (Meter)  
 4. BM (Bench Mark) Information:  
 BM Pillar No. 6048 RL = 5.085 (SOB) + 0.460 = 5.545 (PWD)  
 The pillar is situated in the compound of District Council  
 Dak Burigatow on Matlab Chandpur road Vill. Matlab  
 Upazila Matlab Dist. Chandpur  
 Highest Flood Level = 5.210 (MSL) - 0.460 = 5.670 (PWD) (1988)  
 Station ID: SW'9

Sigara

*(Handwritten signatures)*

POWER GRID COMPANY OF BANGLADESH LTD.  
 JOINT VENTURE (JV) OF  
 Proposed Matlab North 132/33kV AIS Sub-Station  
 NATIONAL SUPPLY CORPORATION  
 POWER GRID COMPANY OF BANGLADESH LTD.

# Property Description

= 12145.100 (Sq. Meter)  
= 9.00 (in Bigha)  
= 3.00 (in Acre)

## EXISTING PHYSICAL FEATURE AND TOPOGRAPHICAL SURVEY

Proposed Chatkhil 132/33kV AIS Substation.  
Chatkhil, Noakhali.

## Coordinate Map

CONTRACTOR



### LEGEND:

|                   |  |
|-------------------|--|
| Project Boundary  |  |
| Building          |  |
| Semi-pucca        |  |
| Tin-Shed          |  |
| Gate              |  |
| Road              |  |
| River             |  |
| Electric Pole     |  |
| TBM/Control Point |  |



X = 303312.241  
Y = 2551108.016

X = 303392.802  
Y = 2551182.915

X = 303467.702  
Y = 2551102.355

X = 303387.141  
Y = 2551027.455

Sijma

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### Note

All Measurement are in Meter

All Dimension are in Meter

All Heights are in Terms of PWD Datum (Meter)

4. BM (Bench Mark) Information

GPS Pillar No. 5714 RL = 4.703 (SOB) - 0.460 = 5.163(PWD)

Easting = 298862.944 Northing = 2551144.919

The pillar is situated east side of Patir Mongol High School

Upazila Sonamun Dist Noakhali

Flood Information

Highest Flood Level = 4.490(MSL) - 0.460 = 4.95 (PWD) (2015)

Station ID: SW221.5

|                                                                                        |                                           |
|----------------------------------------------------------------------------------------|-------------------------------------------|
| POWER GRID COMPANY OF BANGLADESH LTD.                                                  |                                           |
| CLIENT                                                                                 | JOINT VENTURE (JV) OF                     |
|                                                                                        |                                           |
| Project: Transmission Strengthening & Integration of Renewable Energy (TTSIES) Project |                                           |
| DESIGN NAME                                                                            | Proposed Chatkhil 132/33kV AIS Substation |
| DESIGN NO.                                                                             | NATIONAL GRID CORPORATION                 |
| DESIGN DATE                                                                            | 10/01/2024                                |
| DESIGN BY                                                                              | Eng. ABANISHA                             |
| DESIGN NO.                                                                             | 12                                        |
| DESIGN DATE                                                                            | 10/01/2024                                |

# Property Description

= 16187.29 (Sq. Meter)  
= 12.099 (in Bigha)  
= 4.00 (in Acre)

## COORDINATE MAP

## EXISTING PHYSICAL FEATURE AND TOPOGRAPHICAL SURVEY Proposed Kumarkhali 132/33kV AIS Sub-Station Kumarkhali, Kushtia.

### LEGEND:

Project Boundary

Building

Semi-pucca

Tin-Shed

Electric Pole

TBM/Control Point

X = 726232.612  
Y = 2641799.609

X = 726371.686  
Y = 2641780.436

X = 726216.864  
Y = 2641685.377

X = 726355.938  
Y = 2641666.204



Scale :

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Note:  
1. All Measurement are in Meter.  
2. Dimensions are in Meter.  
3. All measurements are in terms of PWD Survey Method.  
4. All measurements are in terms of PWD Survey Method.  
5. All measurements are in terms of PWD Survey Method.  
6. All measurements are in terms of PWD Survey Method.  
7. All measurements are in terms of PWD Survey Method.  
8. All measurements are in terms of PWD Survey Method.  
9. All measurements are in terms of PWD Survey Method.  
10. All measurements are in terms of PWD Survey Method.

Prepared by: Mr. Md. Masud Raza, PWD, Dhaka.  
Checked by: Mr. Md. Masud Raza, PWD, Dhaka.

CLIENT POWER GRID COMPANY OF BANGLADESH LTD.

CONSULTANT JOINT VENTURE (JV) OF

PROJECT NAME Power Transmission Strengthening & Integration of Renewable Energy (PTSIRE) Project

SUB STATION NAME Proposed Kumarkhali 132/33kV AIS Substation.

SURVEYED BY NATIONAL SURVEY ORGANISATION  
Tel/Fax 7272346 Mob 01711 828279  
E-mail nso1214@gmail.com

SUBMISSION DATE SCALE 1:1000

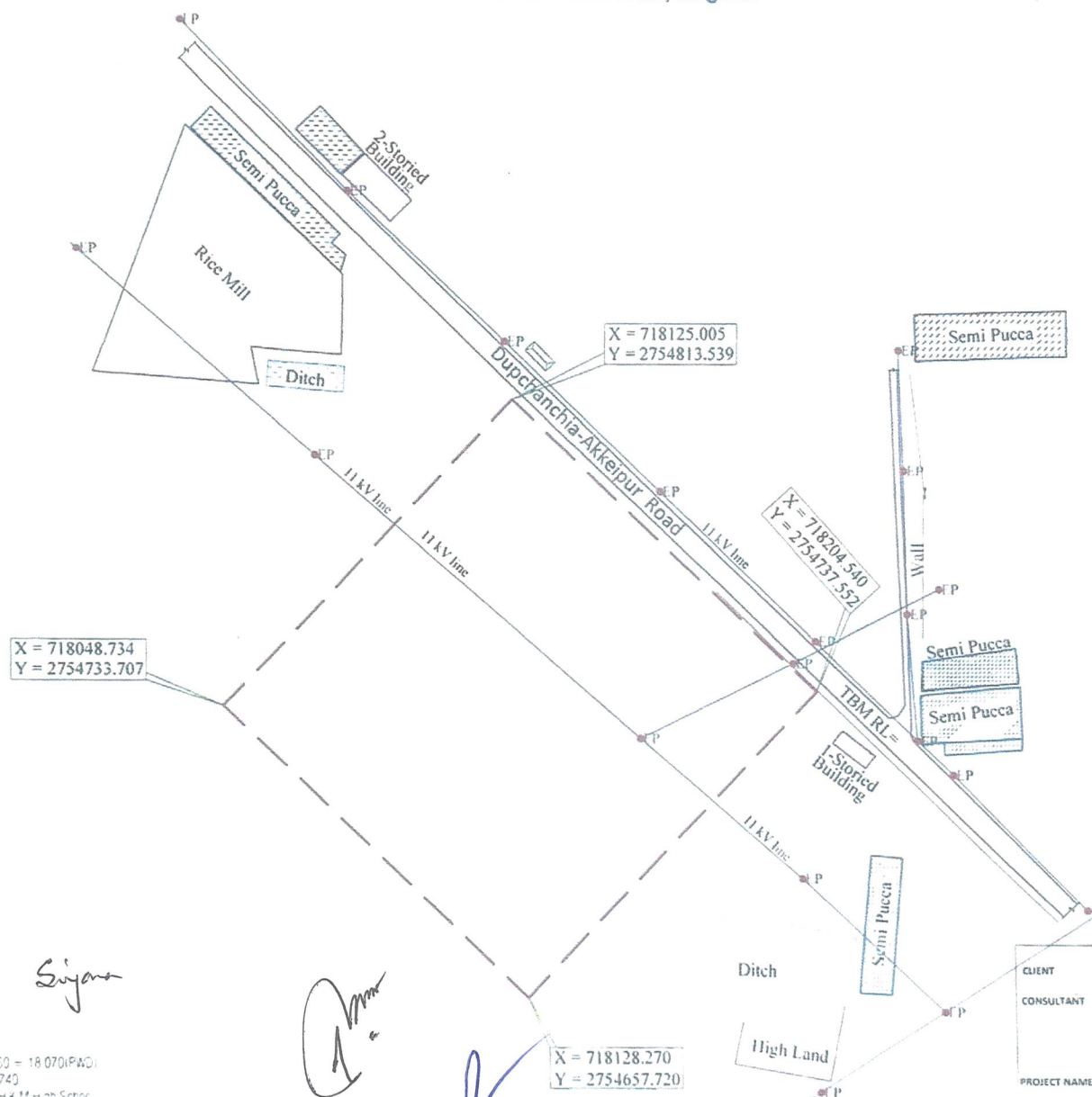
DRAWN BY N/S Shasulatan  
CHECKED BY Engr. Akhteruzzaman

11-07-2024 DRG No 02 SHEET NO 03

= 12145.100 (Sq. Meter)  
= 9.00 (in Bigha)  
= 3.00 (in Acre)

**EXISTING PHYSICAL FEATURE AND TOPOGRAPHICAL SURVEY  
PROPOSED DUPCHANCHIA 132/33KV AIS SUB-STATION  
DUPCHANCHIA, Bogura.**

| Project Boundary  |                                                                                     |
|-------------------|-------------------------------------------------------------------------------------|
| Building          |  |
| Semi-pucca        |  |
| Tin-Shed          |  |
| Gate              |  |
| Road              |  |
| River             |  |
| Electric Pole     |  |
| TBM/Control Point |  |



Note:  
 All Measurement are in Meter  
 All Dimensions are in Meter  
 All Heights are in Terms of PWD Datum (Meter)  
 & BM (Benchmark) Information  
 GPS Pillar No: 6527  $R_L = 17.610$  (SOB)  $+ 0.460 = 18.070$  (PWD)  
 Easting = 714336.2249 Northing = 2756532.8740  
 The pillar is situated in the compound of Taluch H.K.M High School,  
 and north side of Taluch Bazar. Vill. Taluch Upasna, Dushanora & Dist. Bargarha  
Provided information  
 Height of Road Level =  $+16.61$  (MSL)  $+ 0.460 = 16.127$  PWD  $+16.66$   
 Station = 0.51337

|                  |                                                                                                |        |                                    |
|------------------|------------------------------------------------------------------------------------------------|--------|------------------------------------|
| CLIENT           | POWER GRID COMPANY OF BANGLADESH LTD.                                                          |        |                                    |
| CONSULTANT       | JOINT VENTURE (JV) OF                                                                          |        |                                    |
|                  |                                                                                                |        |                                    |
| PROJECT NAME     | Power Transmission Strengthening & Integration of Renewable Energy (PTSIRE) Project            |        |                                    |
| SUB STATION NAME | Proposed Dupchanchia 132/33kV AIS Substation.                                                  |        |                                    |
| SURVEYED BY      | NATIONAL SURVEY ORGANISATION<br>Tel/Fax 7272346, Mob.01711 828274<br>E mail: nso1214@gmail.com |        | SUBMISSION DATE<br>SCALE<br>1:1300 |
| DRAWN BY         | Md. Shasulatan                                                                                 | REV NO | 02                                 |
| CHECKED BY       | Engr. Akhteruzzaman                                                                            | DRG NO |                                    |
|                  |                                                                                                |        | SHEET NO                           |