

BANGLADESH WATER DEVELOPMENT BOARD

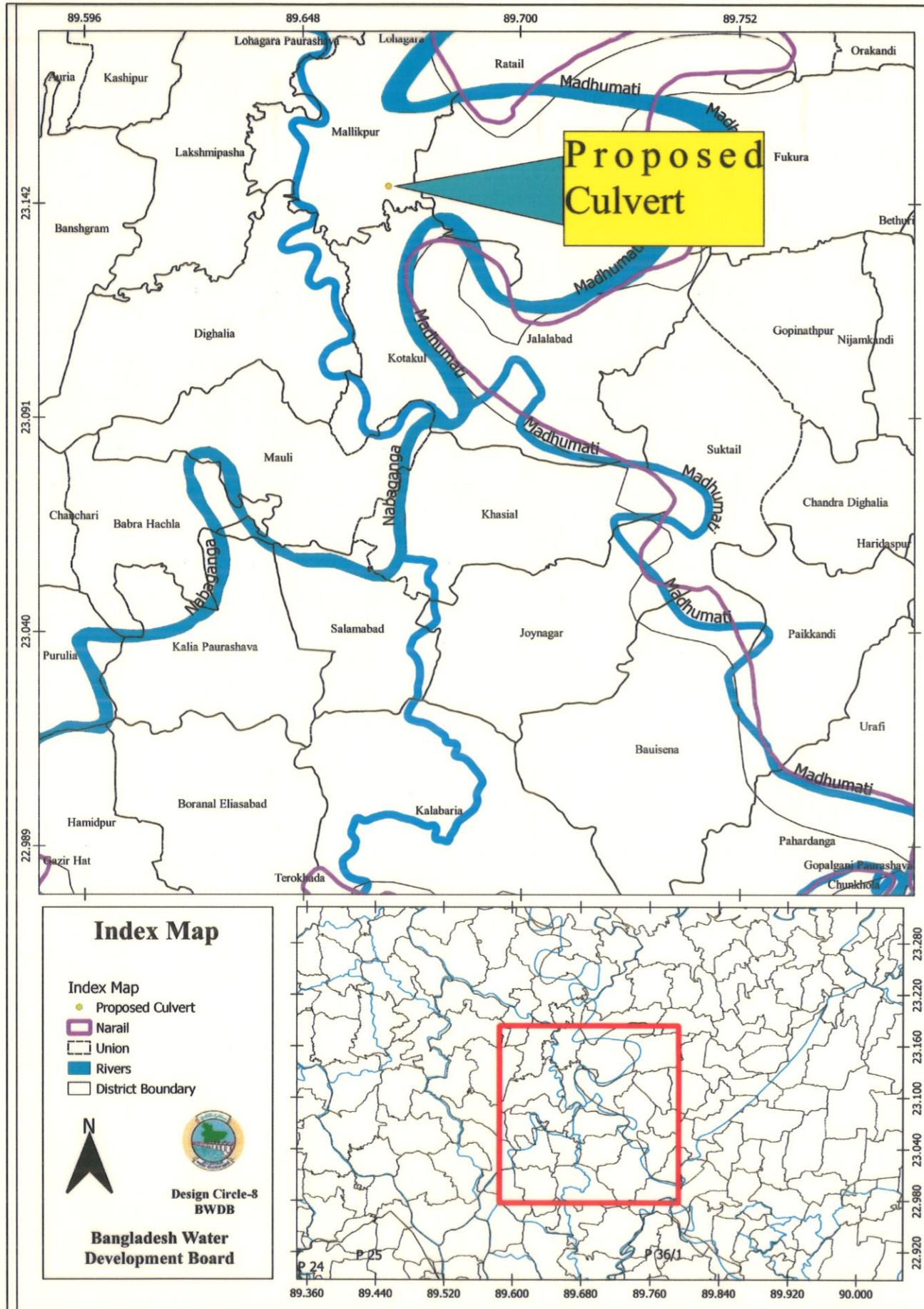


**"REHABILITATION OF MADHUMOTI-NABAGANGA SUB PROJECT AND
RE-EXCAVATION/DREDGING OF NABAGANGA RIVER TO REVIVAL AND CONSERVATION OF
ENVIRONMENTAL BALANCE"**

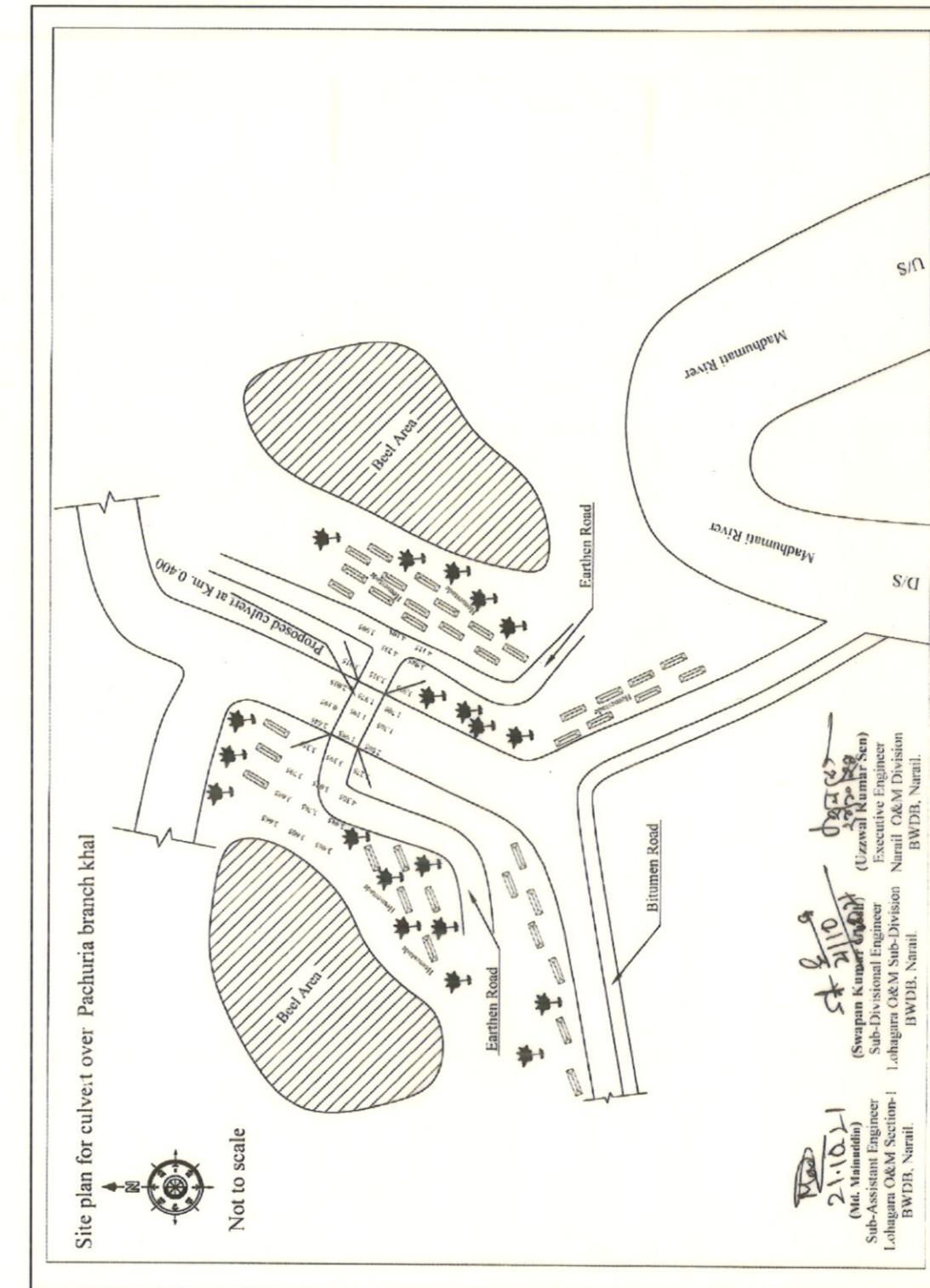
**DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA
KHAL UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION,
BWDB, NARAIL.**

NARAIL O&M DIVISION, BWDB, NARAIL

**DESIGNED BY: DESIGN CIRCLE-8, BWDB, DHAKA.
APRIL, 2022**



INDEX MAP
(Not to Scale)



SITE PLAN
(Not to Scale)

BANGLADESH WATER DEVELOPMENT BOARD	
OFFICE OF THE SUPERINTENDING ENGINEER	
DESIGN CIRCLE-8	
REHABILITATION OF MADHUMATI- NABAGONGA SUB- PROJECT & RE-EXCAVATION/ DREDGING OF NABAGONGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL BALANCE	
DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA KHAL UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION, BWDB, NARAIL.	
TITLE: INDEX MAP AND SITE PLAN	
DESIGNED BY: ZAYED BIN SAIF, AE	APPROVED BY:
CHECKED & RECOMMENDED BY: 	JAKARIA PERVEZ, EE
	MOHAMMAD SAIF UDDIN, SE
DATE: 19-4-2022	DWG NO : DC-8-0262-01/09

BANGLADESH WATER DEVELOPMENT BOARD
GROUNDWATER HYDROLOGY DIVISION-2

72 GREEN ROAD, DHAKA-1205.

FIELD BORE LOG

Project: Rehabilitation of sub-project Madhumati-Naboganga & Revival of Naboganga by re-excavation and dredging & to protect ecological balance.		SITE: Pachuria Khal
P.S: Lohagara	DIST: Narail	
LOCATION: Pachuria Khal (.400 km)	HOLE NO: H1-H4	GROUND LEVEL:
CLIENT: XEN,O&M DIVISION, Narail	WATER LEVEL:	AT 7:00 HRS
DATE STARTED: 04-02-2022	DATE COMPLETED: 07-02-22	OF DATE-
DRILLED BY: GWHD-2	UNIT: Rig-21	TOTAL DEPTH: 72 ft

SOIL SAMPLING

A) UNDISTURB		
SAMPLE NOS:	DIMENSIONS:	NO TAKEN:
TYPE:	DRILLER: Md. Abu Jafer	GEOLOGIST: Md. Maniruzzaman Bhuiyan
B) DISTURB		
SAMPLE NOS: D1-D14	DIMENSIONS: 1 3/4 ID X 24 Inch	NO TAKEN: 14 Nos
TYPE: Split Spoon	WEIGHT OF HAMMER: 140 lb	AVG. DROP: 30 Inces
HOW SAMPLED: WOODEN/BOX/JARS/CANS/BAGS	DESPATCHED ON:	

CASING

SIZE:	LENGTH USED:	WT OF HAMMER:	AVG. DROP:
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REMARKS

Drilling was advanced by Chopping method.

LOCATION SKETCH

Not drawn to scale

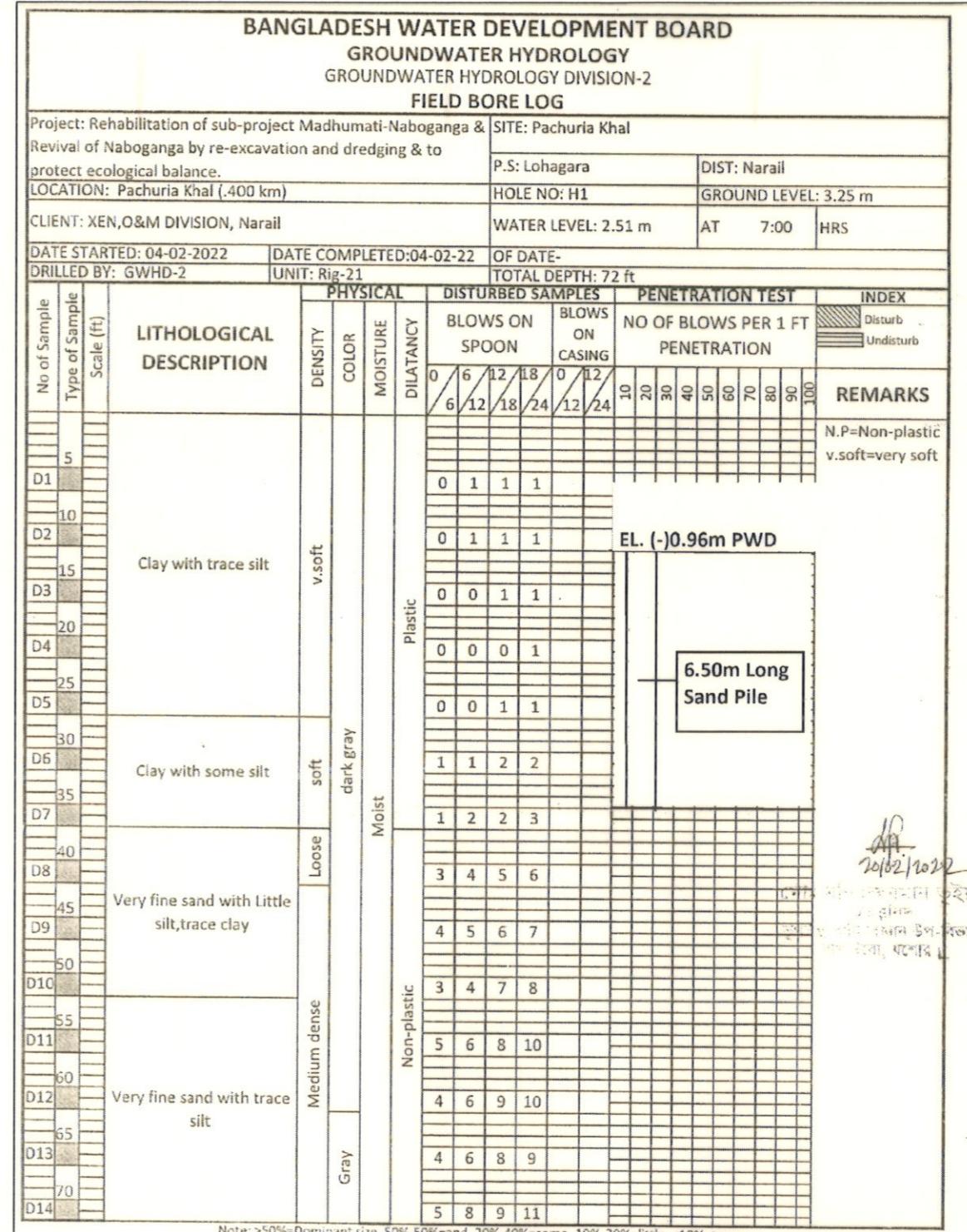
20/02/2022
মোঃ মনিরুজ্জামান ভুইয়া
ভূগত্তশ্চ পানি বিজ্ঞান উপ-বিভাগ
বাপ্তাইবা, ধaka।

23.02.2022
(মোঃ শফিক উদ্দাহ)

টেলিফোন নং-৮৮০১০৮০০
নির্বাহী প্রক্ষেপণ
সভাকালো প্রক্ষেপণ
লোহাগড়া, পজ উপ-বিভাগ
বাপ্তাইবা, লোহাগড়া, নড়াইল।

23.02.2022
(মোঃ আলুমুদ্দিন)
উপ-সহকর্মী প্রকৌশলী
লোহাগড়া পওর শাখা-১
বাপ্তাইবা, লোহাগড়া, নড়াইল।

SITE PLAN
(bore hole)
(Not to Scale)



BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-8

REHABILITATION OF MADHUMATI- NABOGANGA SUB- PROJECT & RE-EXCAVATION/ DREDGING OF NABOGANGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL BALANCE

DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA KHAL UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION, BWDB, NARAIL.

TITLE: BORE LOG

DESIGNED BY: <i>Zayed</i> ZAYED BIN SAIF, AE	APPROVED BY: <i>Mohammad Saif Uddin</i> MOHAMMAD SAIF UDDIN, SE
CHECKED & RECOMMENDED BY: <i>Jakaria Pervez</i> JAKARIA PERVEZ, EE	
DATE: 19-4-2022	DWG NO : DC-8-0262-02/09

NOTES & SPECIFICATIONS:

1. ALL DIMENSIONS ARE IN MILLIMETRE AND ALL ELEVATIONS ARE IN METRE PWD UNLESS OTHERWISE MENTIONED IN THE DRAWING.
2. THE SPECIFICATION OF MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD TECHNICAL SPECIFICATION OF BWDB IN GENERAL.
3. THE FOLLOWING SPECIFICATION OF MATERIALS AND WORKS SHALL BE FOLLOWED FOR THIS PARTICULAR STRUCTURE.

a) CONCRETE STRENGTH (CYLINDER TEST):

RCC WORKS: 25 N/mm²
BLINDING LAYER CONCRETE: 1:3:6

b) YIELD STRENGTH OF REINFORCING BAR:

DEFORMED BAR (FROM BILLET) : 400 N/ mm² (ITEM NO 76-120-10).

c) SPLICE LENGTH OF REINFORCING BARS SHALL BE 36 BAR DIAMETER.
(FOR TENTION AND COMPRESSION ZONE)

d) 150mm THICK SAND FILTER FM 1.00 TO 1.50 (ITEM NO 40-650-30).

e) GRADING OF KHOA FILTER :

BOTTOM LAYER (100mm): 5mm TO 20mm (40-610-30)

TOP LAYER (100mm) : 20mm TO 40mm (40-610-20)

f) BACK-FILLING MATERIAL: SAND OF FM 0.80. BACK FILLING FOR U-SHAPED WALL SHALL BE DONE SIMULTANEOUSLY ON BOTH WALLS (ITEM NO 16-540-20).

4. CLEAR COVER OF CONCRETE FOR REINFORCEMENT:

a) FOUNDATION SLAB	: 75mm
b) ALL WALLS (RETURN WALL, WING WALL, PIER, TOP SLAB, BARREL ETC)	: 75mm
c) RAILING	: 40mm

5. WORK SHOULD BE EXECUTED WITH THE PRIOR ADMINISTRATIVE AND FINANCIAL APPROVAL FROM THE COMPETENT AUTHORITY AND WITHIN DPP/BUDGET PROVISION.

6. FOR ANY ERROR, OMISSION OR CONFUSION, PLEASE REFER TO THE CONCERNED DESIGN OFFICE FOR NECESSARY ACTION.

7. THIS DRAWING HAS BEEN PREPARED AS PER PROPOSAL AND DESIGN DATA SUBMITTED BY SE, JASHORE O & M CIRCLE, BWDB, KHULNA VIDE HIS OFFICE MEMO NO-543
DATED: 25-10-2021 AND 1395 DATED 24-02-2022

NOTE FOR SAND PILE:

1. SAND PILE OF 6.5m LENGTH WITH 300mm CASING DIA. AS SPECIFIED IN THE DRAWING SHALL HAVE TO BE CONSTRUCTED AS PER STANDARD DISPLACEMENT METHOD.
2. SAND TO BE USED IN PILING SHALL BE FREE FROM ALL ORGANIC AND FOREIGN MATERIALS AND SHALL HAVE FM≥2.00.
3. DIAMETER LENGTH CONTINUITY OF PILE SHALL HAVE TO BE CHECKED BY MEASURING SAND FORCE VOLUME FOR EACH EXECUTED PILE. THE SAND FORCE VOLUME PER METER AND PER PILE SHALL NOT BE LESS THAN 0.30 CUBIC METER AND 1.95 CUBIC METER RESPECTIVELY.
4. AFTER EXECUTION OF ALL SAND PILE, SPT VALUES SHALL HAVE TO BE DETERMINED BY THE FIELD TESTS. SPT VALUES ATTAINED AT 1.50 METER INTERVALS SHALL BE DETERMINED.
5. AFTER PILING SPT VALUE IN BETWEEN SAND PILES AT FOUNDATION LEVEL SHALL BE MINIMUM 12 TO 14 .
6. FOR ANY ERROR, OMISSION OR CONFUSION PLEASE REFER TO CONCERNED DESIGN OFFICE THROUGH CONSULTANTS FOR NECESSARY ACTION.

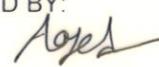
BANGLADESH WATER DEVELOPMENT BOARD

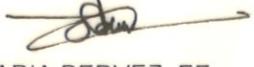
OFFICE OF THE SUPERINTENDING ENGINEER DESIGN CIRCLE-8

REHABILITATION OF MADHUMATI- NABAGONGA SUB- PROJECT & RE-EXCAVATION/ DREDGING OF NABAGONGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL BALANCE

DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA KHAL UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION, BWDB, NARAIL.

TITLE: NOTES

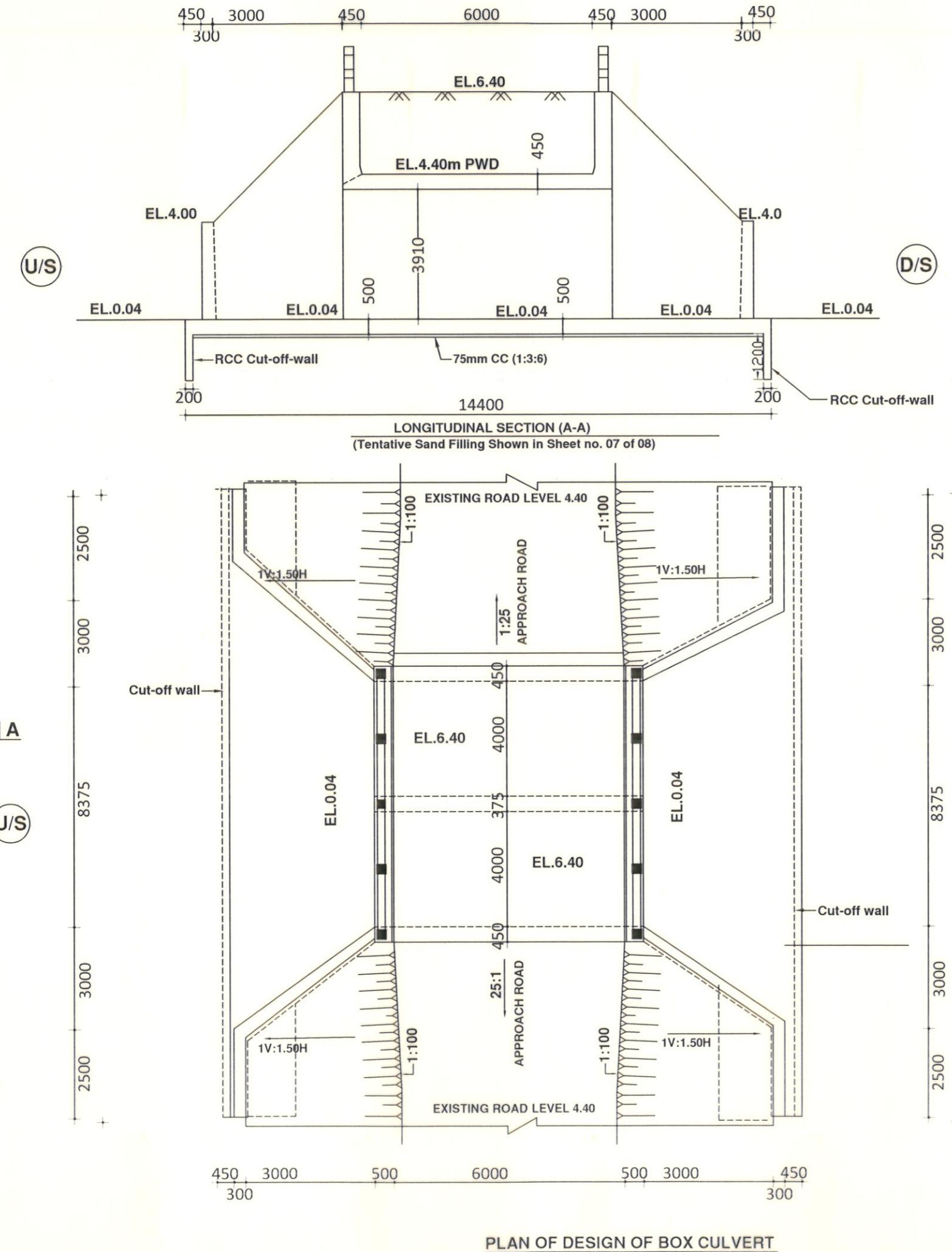
DESIGNED BY:

ZAYED BIN SAIF, AE

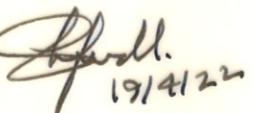
CHECKED & RECOMMENDED BY:

JAKARIA PERVEZ, EE

DATE: 19-4-2022

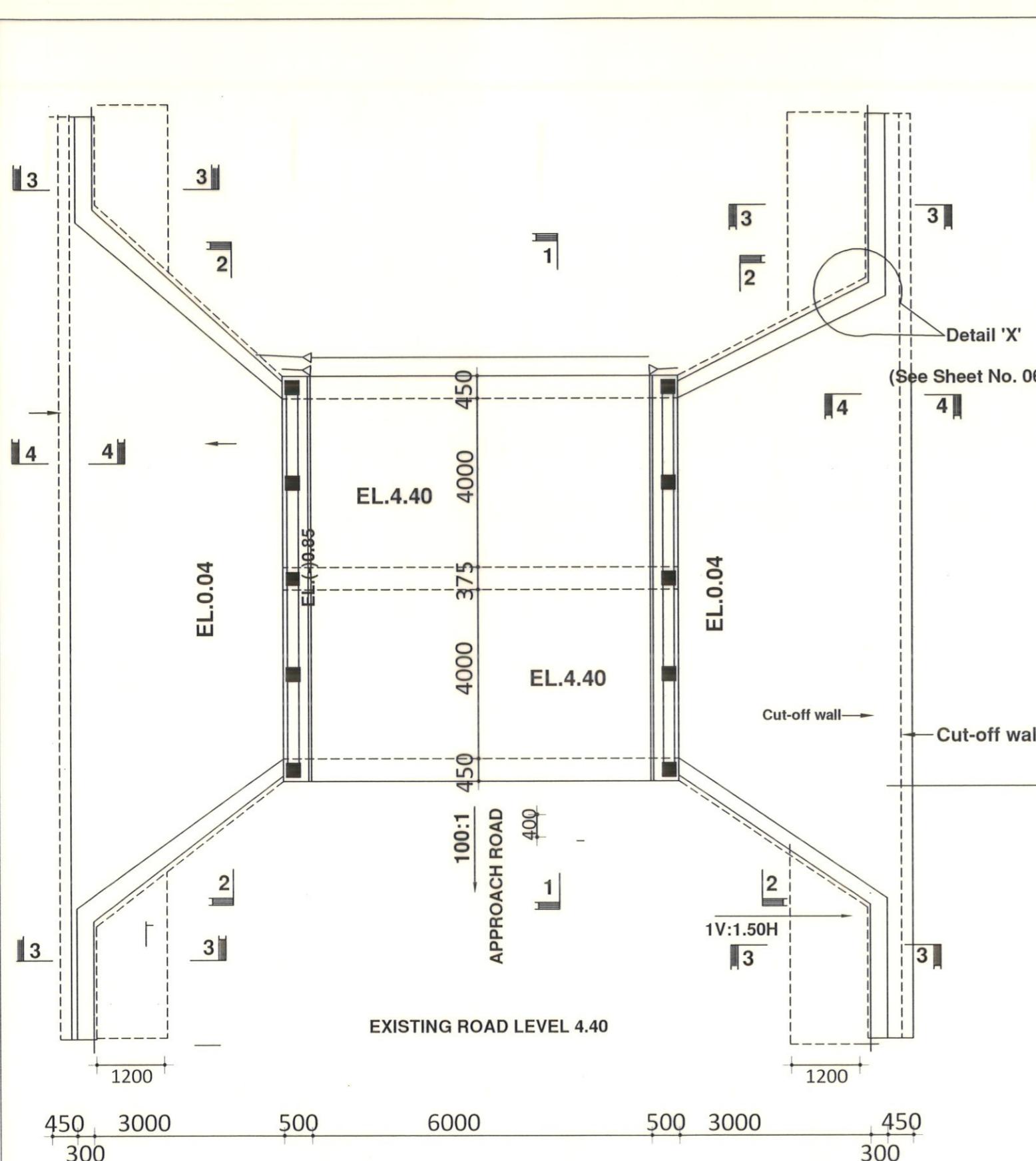


MOHAMMAD SAIF UDDIN, SE
DWG NO : DC-8-0262-03/09



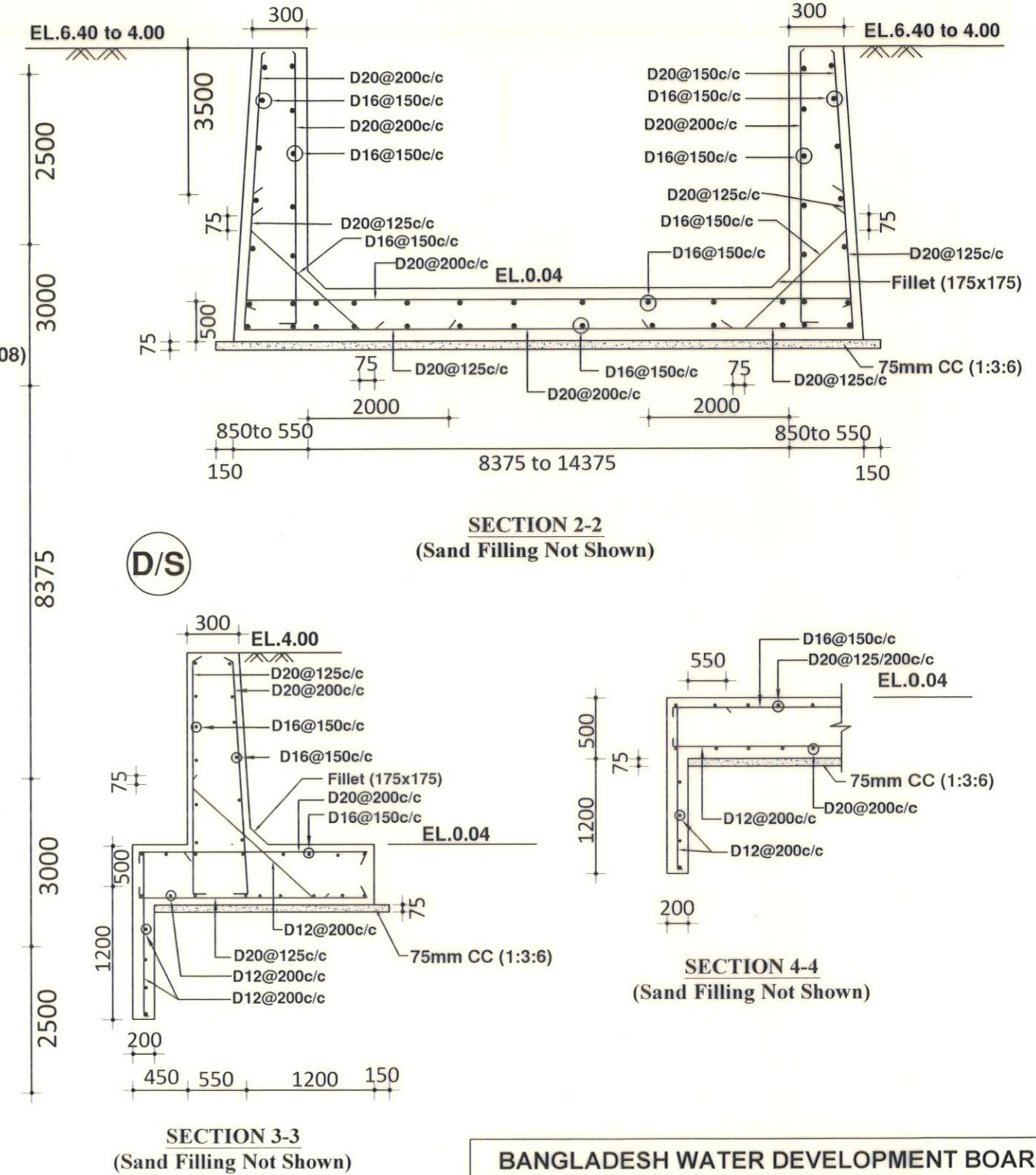
BANGLADESH WATER DEVELOPMENT BOARD	
OFFICE OF THE SUPERINTENDING ENGINEER	
DESIGN CIRCLE-8	
REHABILITATION OF MADHUMATI- NABAGONGA SUB- PROJECT & RE-EXCAVATION/ DREDGING OF NABAGONGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL BALANCE	
DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA KHAL UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION, BWDB, NARAIL.	
TITLE: PLAN AND SECTION	
DESIGNED BY:  ZAYED BIN SAIF, AE	APPROVED BY:  MOHAMMAD SAIF UDDIN, SE
CHECKED & RECOMMENDED BY:  JAKARIA PERVEZ, EE	
DATE: 19-4-2022	DWG NO : DC-8-0262-04/09

(NOT TO SCALE)



KEY PLAN OF DESIGN OF BOX CULVERT
(Sand Filling Not Shown)

(NOT TO SCALE)



SECTION 3-3
(Sand Filling Not Shown)

BANGLADESH WATER DEVELOPMENT BOARD

OFFICE OF THE SUPERINTENDING ENGINEER

DESIGN CIRCLE-8

REHABILITATION OF MADHUMATI-NABAGONGA SUB- PROJECT & RE-EXCAVATION/ DREDGING OF NABAGONGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL

**DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA KHAL
UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION,
BWBD, NARAIL.**

TITLE: PLAN AND SECTION

DESIGNED BY: 
ALZAYD BIN SAIF AL-FAYEZ

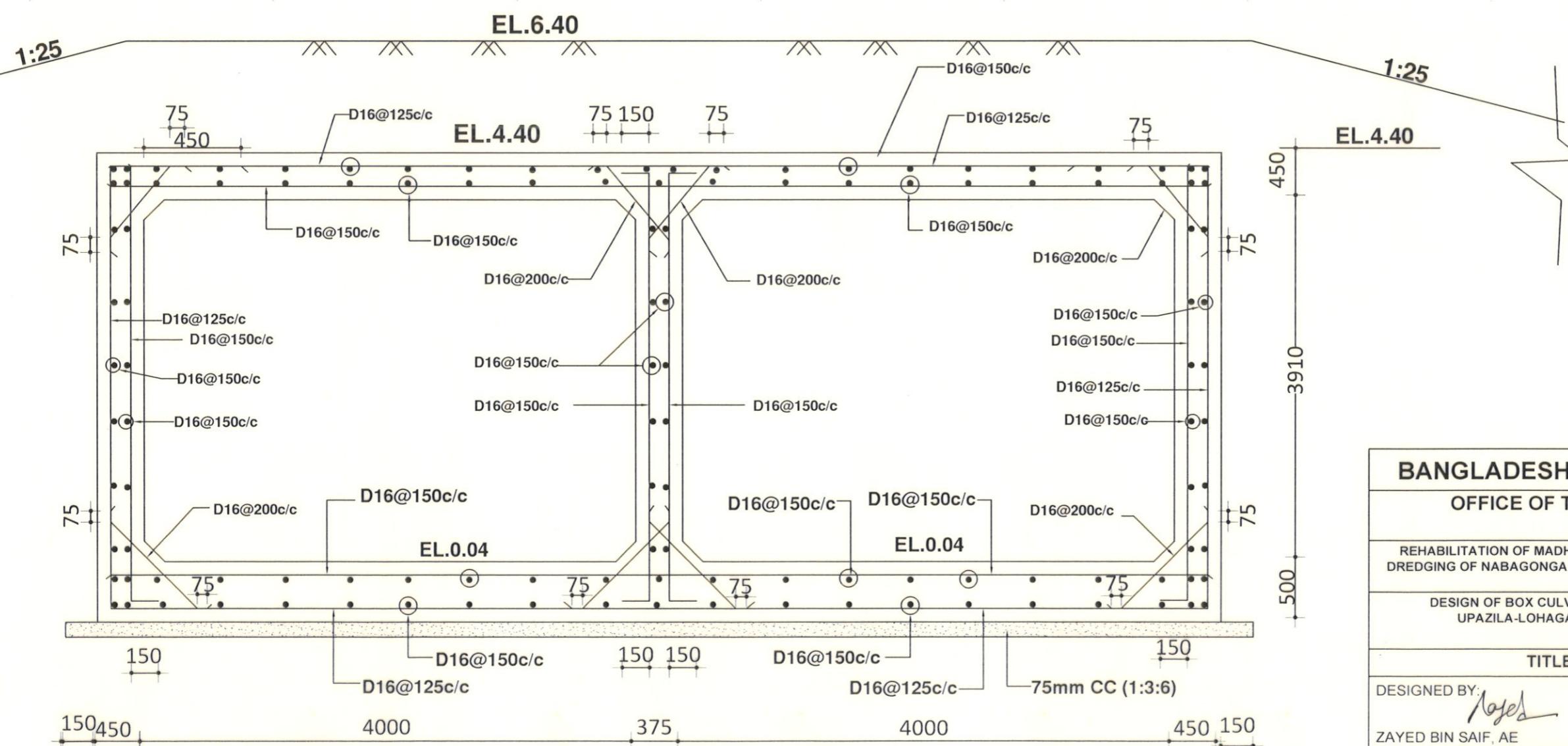
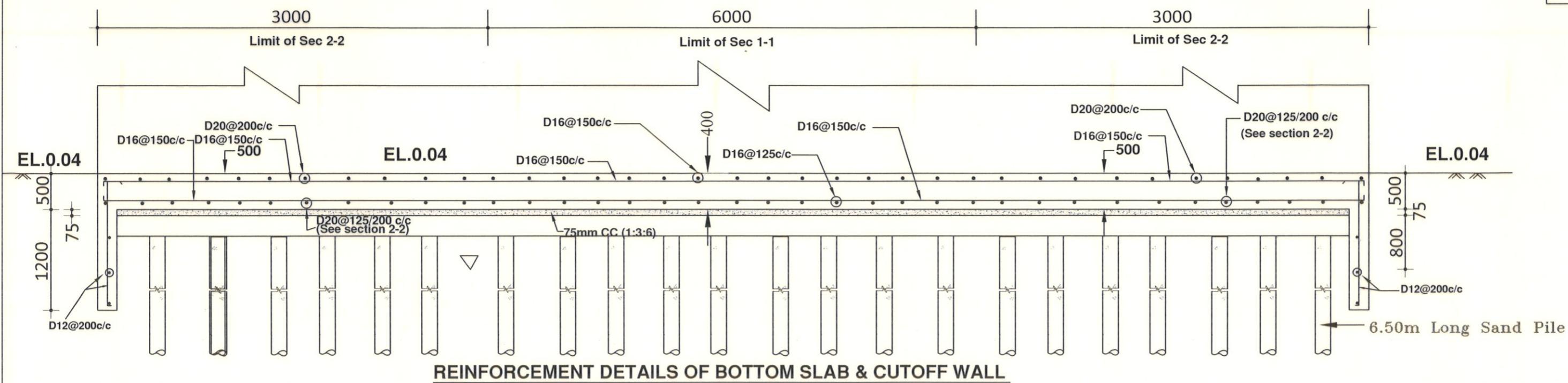
APPROVED BY:

ZAYED BIN SAIF, AE
CHECKED & RECOMMENDED

MOHAMMAD SAIE UDDIN SE

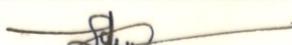
DATE: 10-4-2023

DWG NO : DC-8-0262-05/09



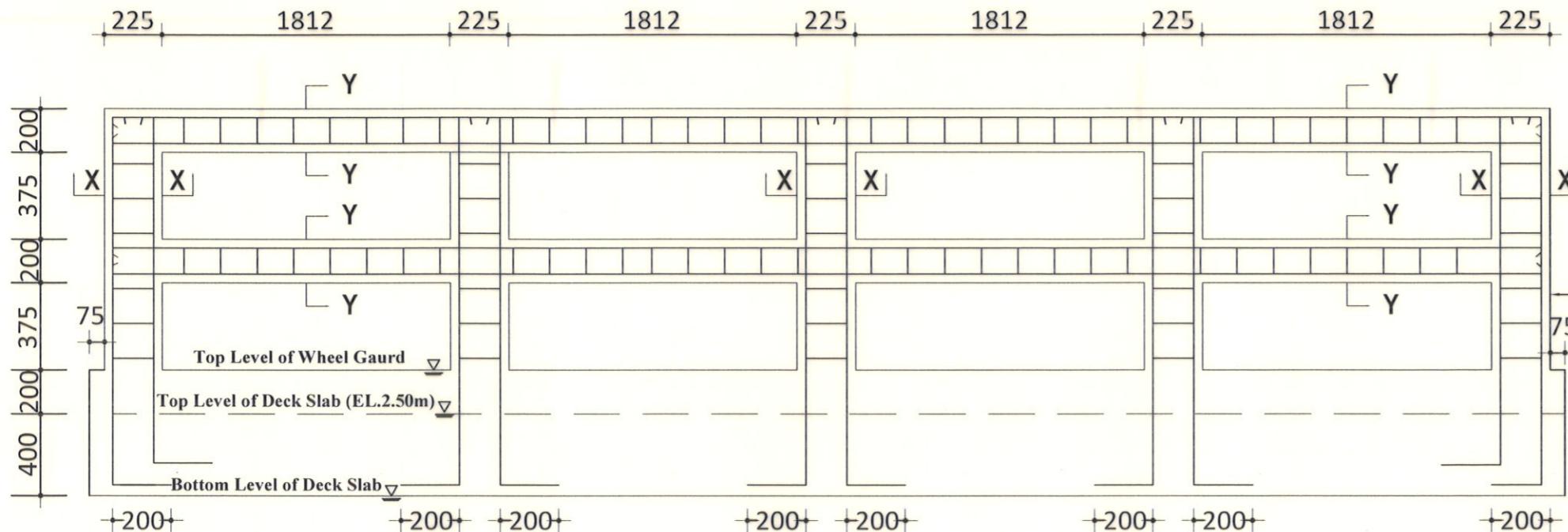
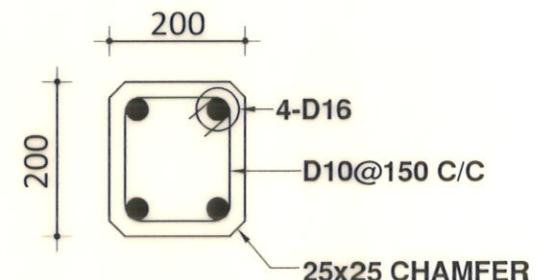
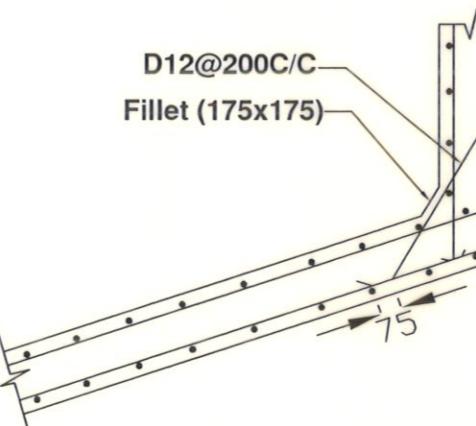
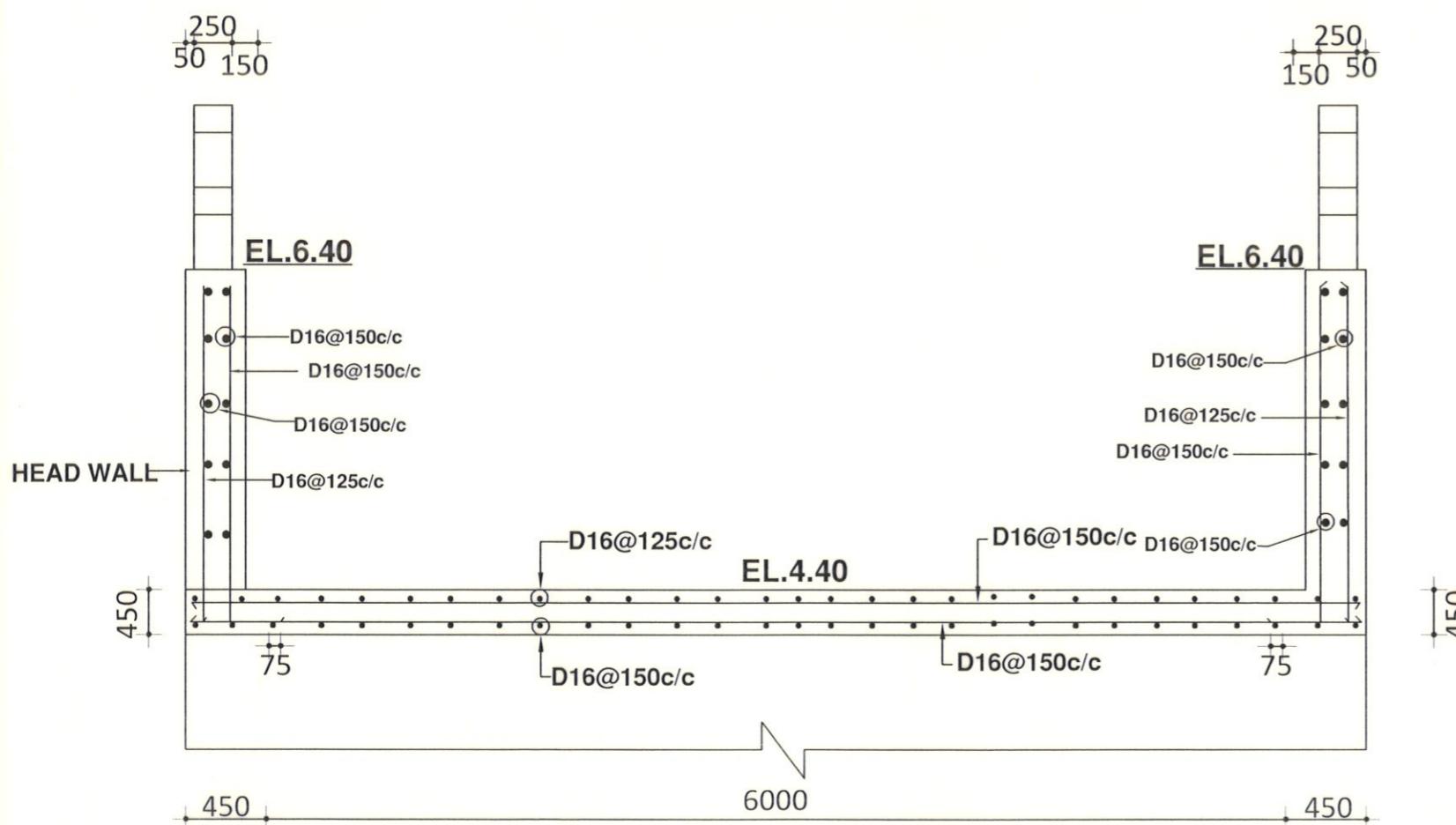
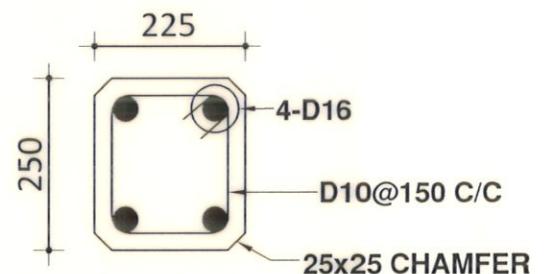
(NOT TO SCALE)

SECTION 1-1(See Sheet No. 04 of 08)
(Sand Filling & Railing Not Shown)

<p style="text-align: center;">BANGLADESH WATER DEVELOPMENT BOARD</p> <p style="text-align: center;">OFFICE OF THE SUPERINTENDING ENGINEER</p> <p style="text-align: center;">DESIGN CIRCLE-8</p> <p style="text-align: center;">REHABILITATION OF MADHUMATI- NABAGONGA SUB- PROJECT & RE-EXCAVATION/ DREDGING OF NABAGONGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL BALANCE</p> <p style="text-align: center;">DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA KHAL UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION, BWDB, NARAIL.</p>	
<p>TITLE: SECTION</p>	
<p>DESIGNED BY:</p>  <p>ZAYED BIN SAIF, AE</p>	<p>APPROVED BY:</p>  <p>MOHAMMAD SAIF UDDIN, SE</p>
<p>CHECKED & RECOMMENDED BY :</p>  <p>JAKARIA PERVEZ, EE</p>	
<p>DATE: 19-4-2022</p>	<p>DWG NO : DC-8-0262-06/09</p>

NOTES:

- 1. VERTICAL REINFORCEMENT
OF RAILING POST SHALL BE
EMBEDDED UPTO BOTTOM
ROD OF TOP SLAB
AS SHOWN IN FIGURE.**

**RAILING POST****SECTION Y-Y
(Railing)****Detail 'X' (See Sheet No. 04 of 08)****SECTION X-X
(Railing Post)****REINFORCEMENT DETAILS OF TOP SLAB AND HEAD WALL**

(NOT TO SCALE)

NARAIL O&M DIVISION

**BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-8**

REHABILITATION OF MADHUMATI-NABAGONGA SUB-PROJECT & RE-EXCAVATION/
DREDGING OF NABAGONGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL
BALANCE

DESIGN OF BOX CULVERT (2V- 4.00m X 3.91m), AT KM 0.400 OF PACHURIA KHAL
UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION,
BWDB, NARAIL.

TITLE: RAILING

DESIGNED BY:
ZAYED BIN SAIF, AE

CHECKED & RECOMMENDED BY:

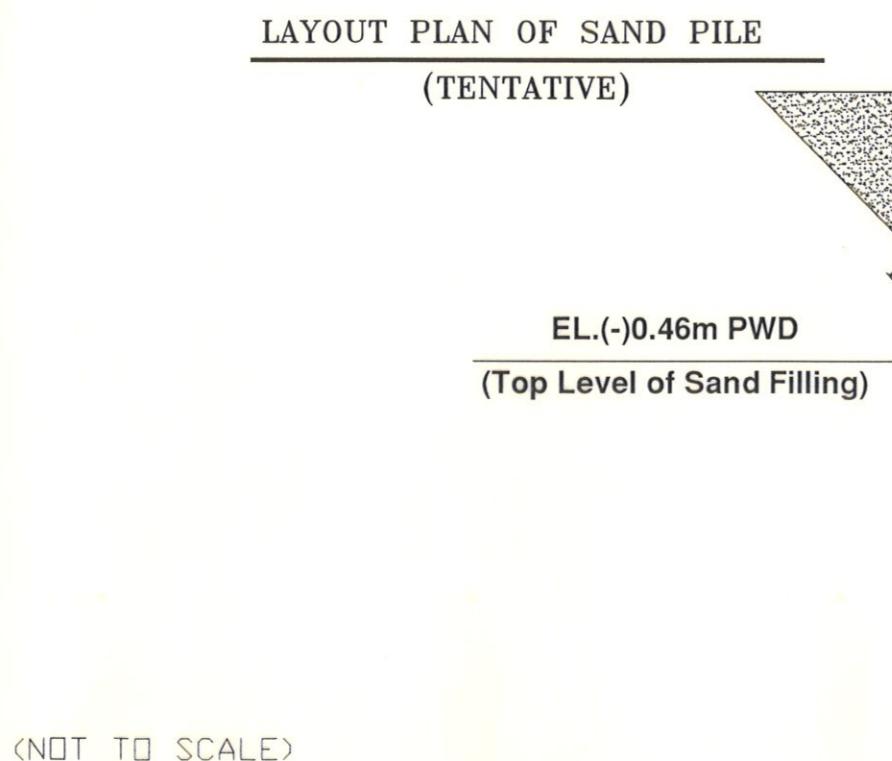
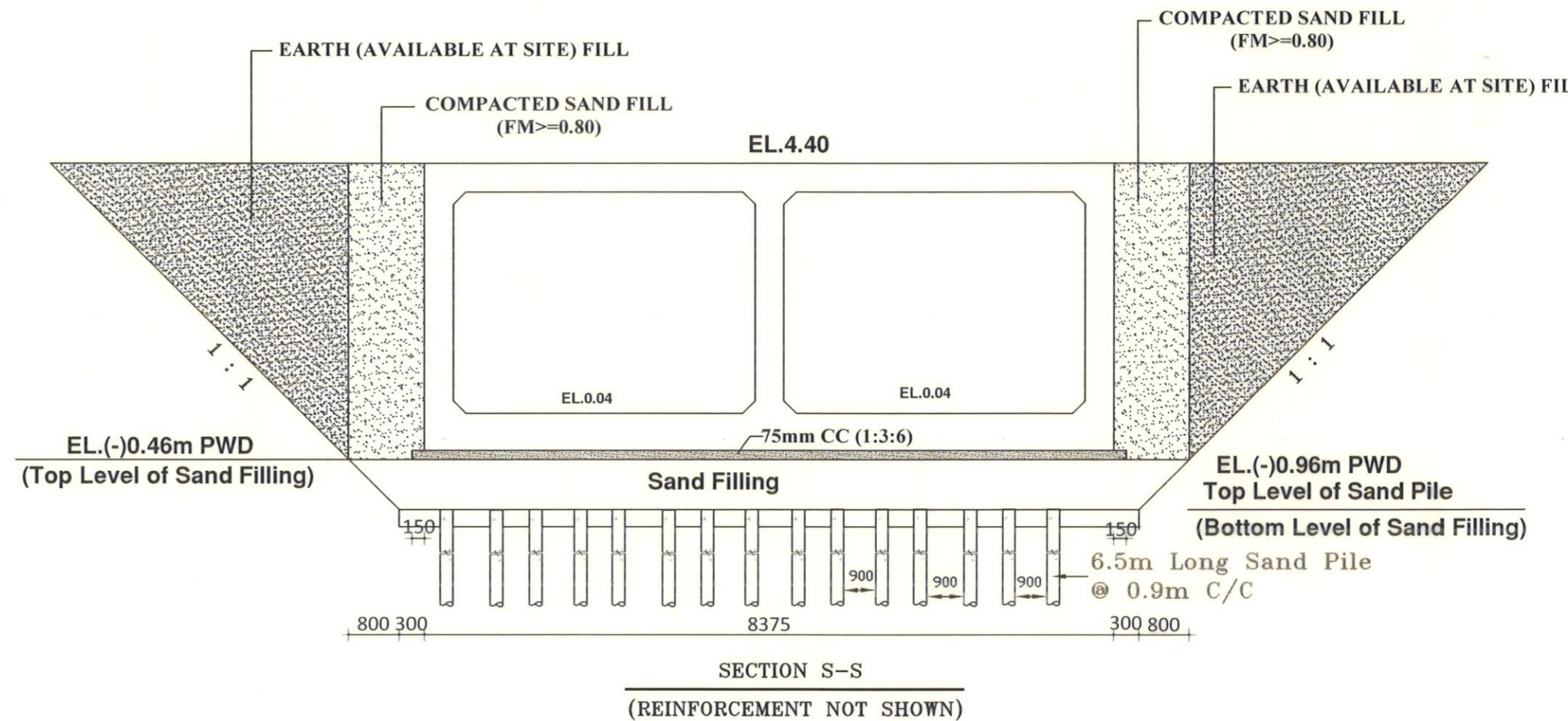
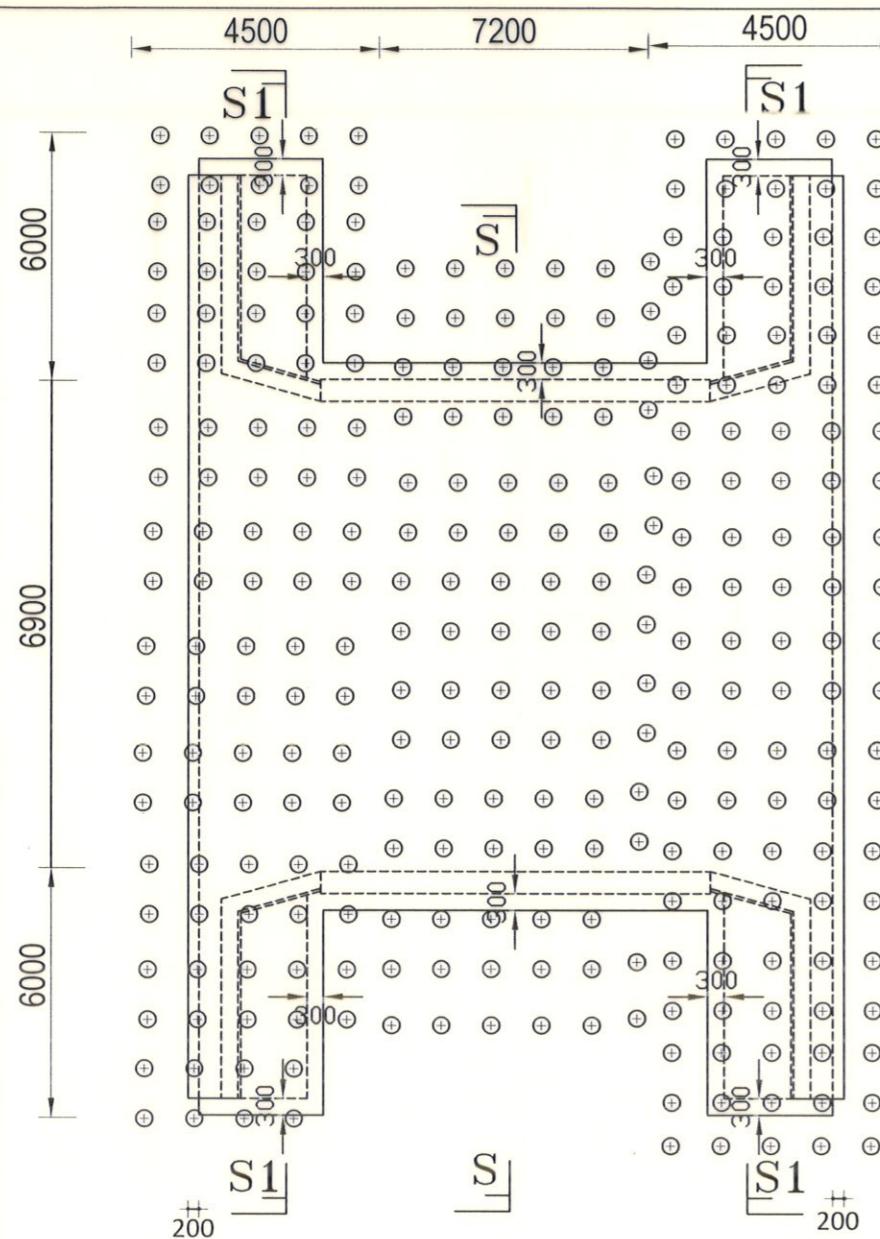
JAKARIA PERVEZ, EE

DATE: 19-4-2022

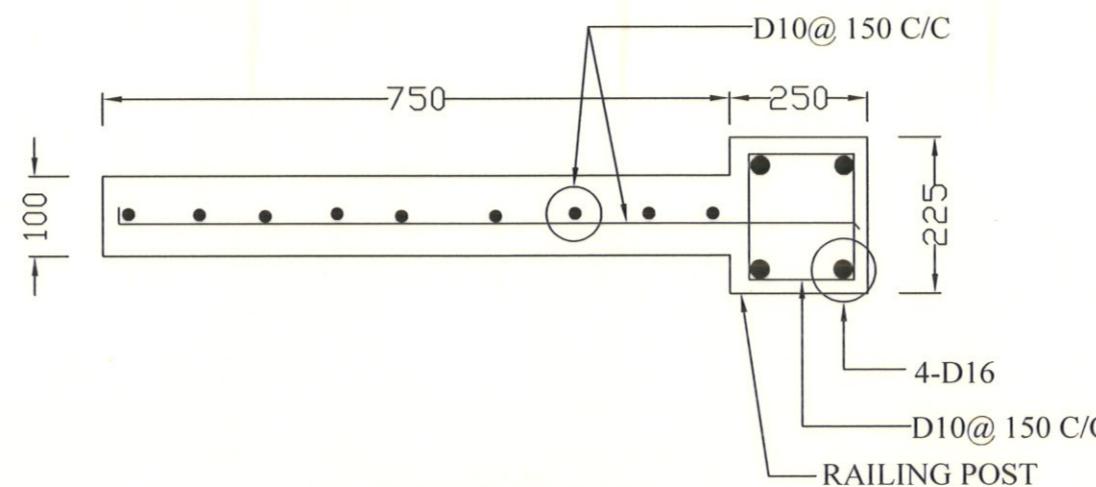
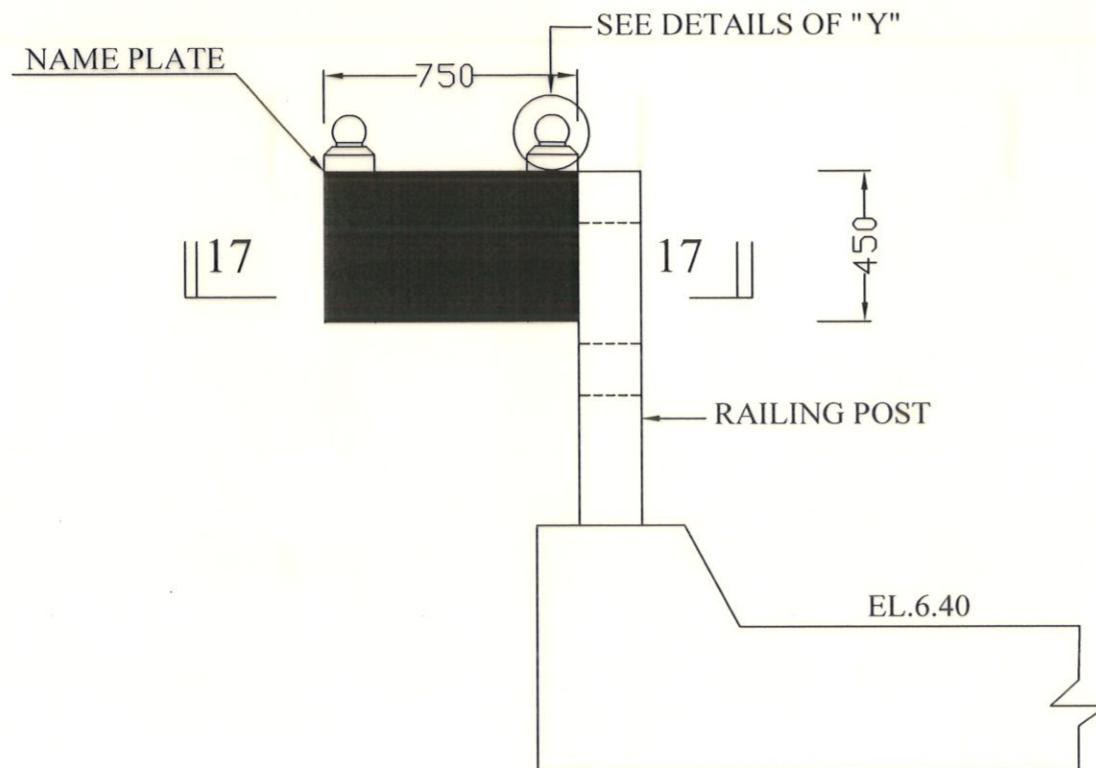
APPROVED BY:

MOHAMMAD SAIF UDDIN, SE

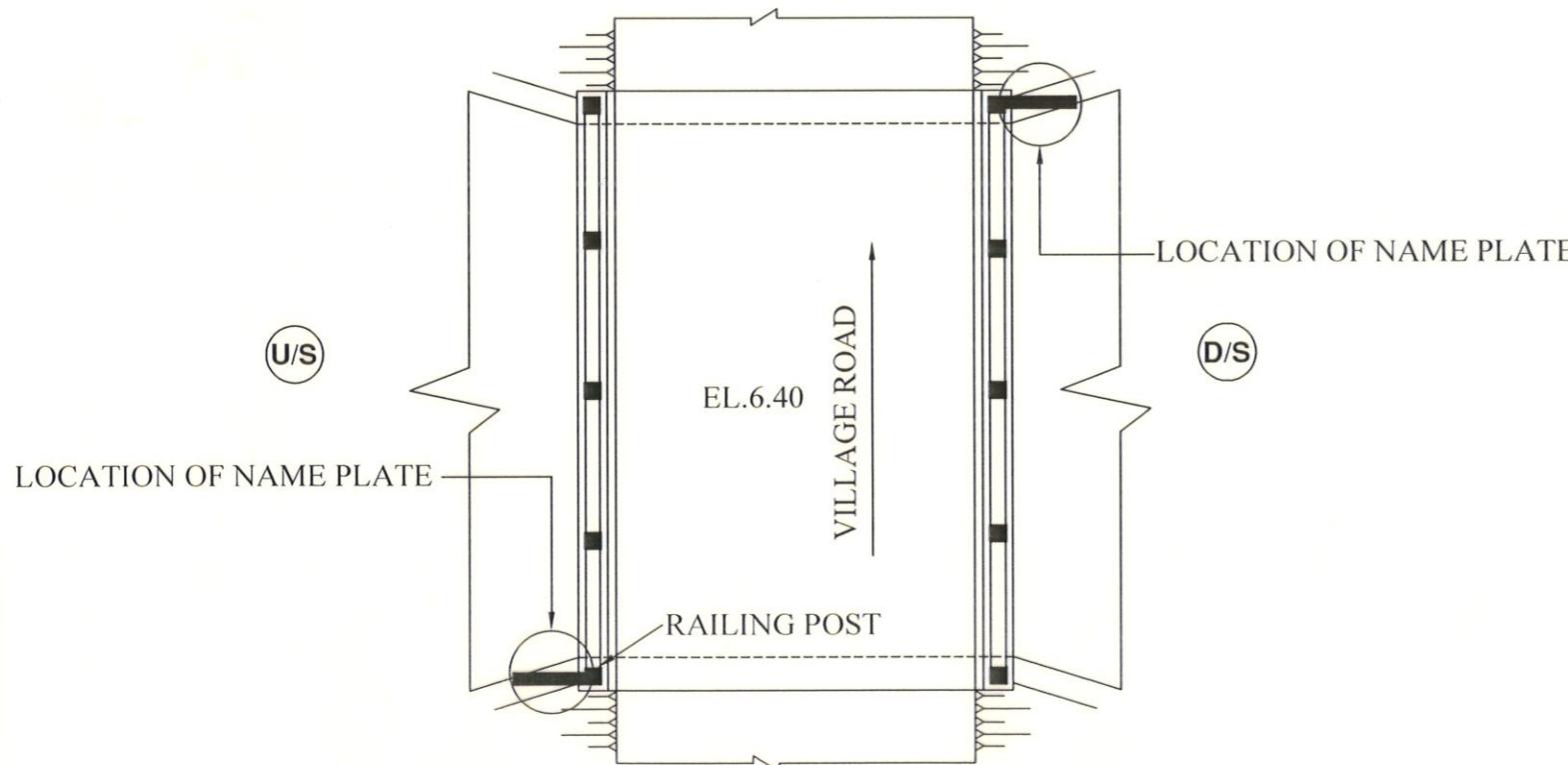
DWG NO : DC-8-0262-07/09



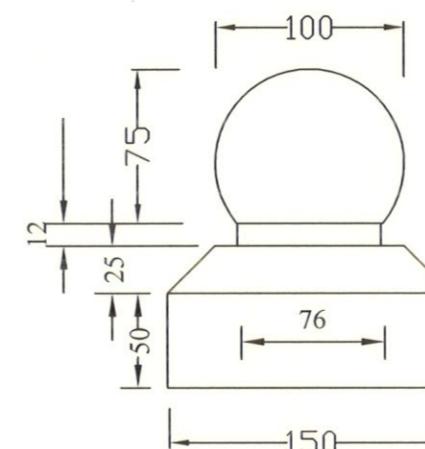
BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-8
REHABILITATION OF MADHUMATI- NABAGONGA SUB- PROJECT & RE-EXCAVATION/
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UPAZILA-LOHAGARA, DISTRICT-NARAIL UNDER NARAIL O&M DIVISION,
BWDB, NARAIL.
TITLE: FOUNDATION
DESIGNED BY: *Zayed*
ZAYED BIN SAIF, AE
APPROVED BY:
Mohammad Saif Uddin
MOHAMMAD SAIF UDDIN, SE
CHECKED & RECOMMENDED BY:
Jakaria Pervez
JAKARIA PERVEZ, EE
DATE: 19-4-2022
DWG NO : DC-8-0262-08/09



SECTION 17-17

DETAILS OF NAME PLATEPLAN SHOWING NAME PLATE LOCATION ON CULVERT

(NOT TO SCALE)

DETAILS OF "Y"TYPICAL NAME PLATE

BANGLADESH WATER DEVELOPMENT BOARD	
OFFICE OF THE SUPERINTENDING ENGINEER	
DESIGN CIRCLE-8	
REHABILITATION OF MADHUMATI-NABAGONGA SUB-PROJECT & RE-EXCAVATION/DREDGING OF NABAGONGA RIVER REVIVAL AND CONSERVATION OF ENVIRONMENTAL BALANCE	
DESIGNED BY:	APPROVED BY:
ZAYED BIN SAIF, AE	
CHECKED & RECOMMENDED BY:	
JAKARIA PERVEZ, EE	MOHAMMAD SAIF UDDIN, SE
DATE: 19-4-2022	DWG NO : DC-8-0262-09/09