

ELECTRICITY GENERATING AUTHORITY OF THAILAND



INVITATION FOR BIDS NO. EGAT 8/2568-LTK2-H1

LAMTAKONG HYDROPOWER PROJECT

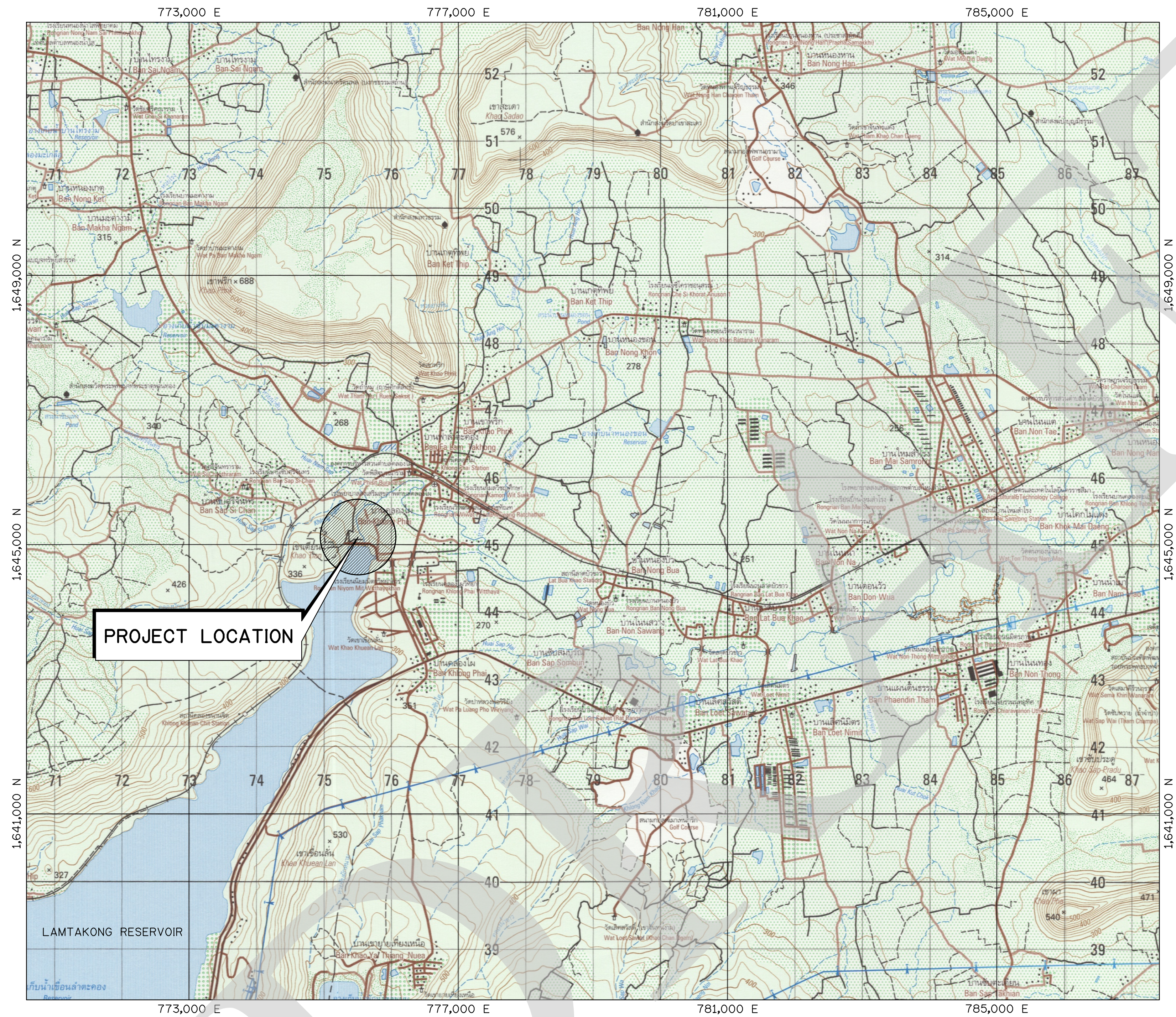
VOLUME IV

DRAWINGS

LAMTAKONG HYDROPOWER PROJECT

CIVIL & EQUIPMENT WORKS – DRAWINGS

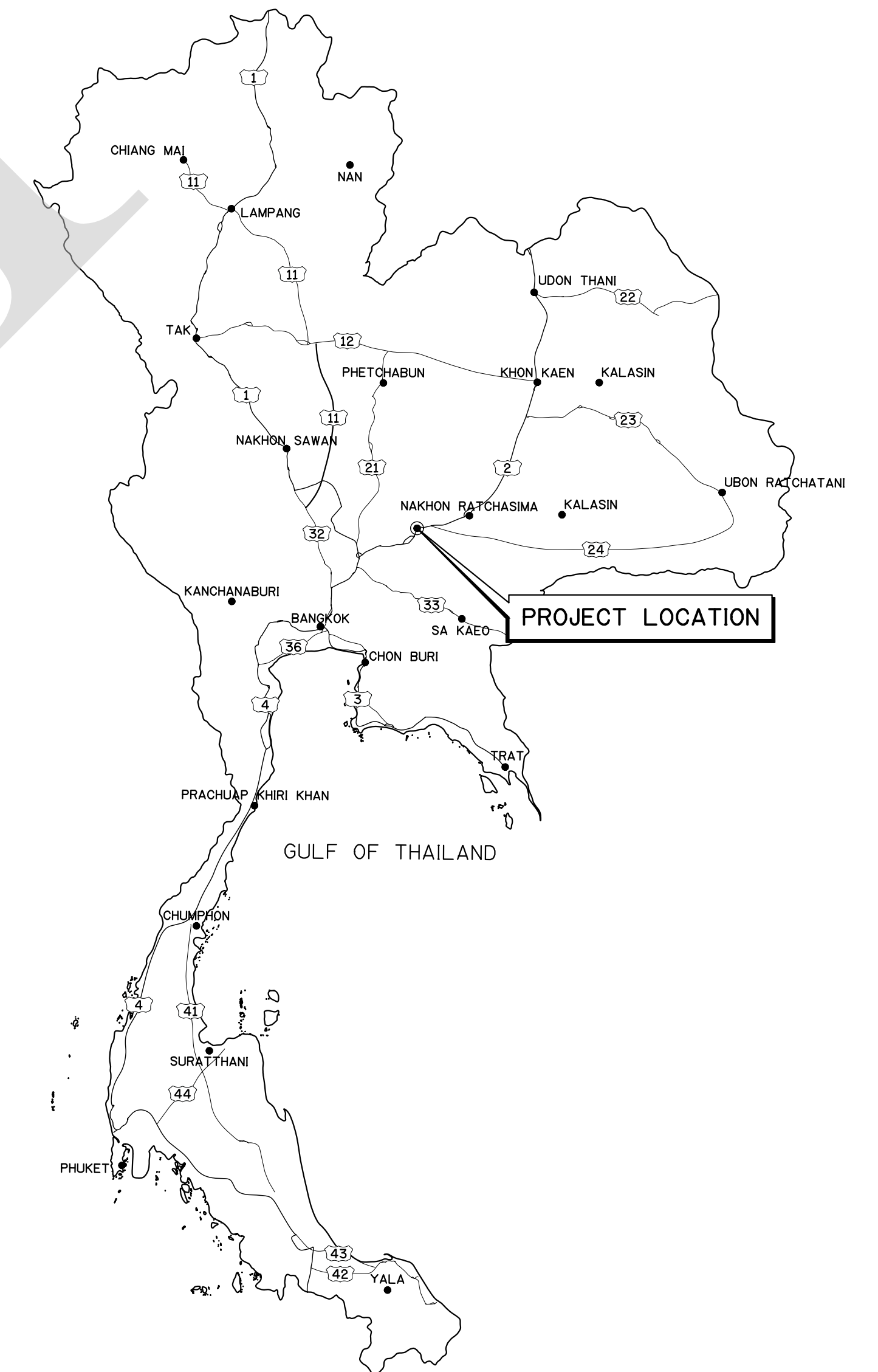
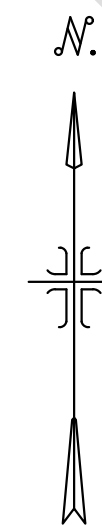
LIST OF DRAWINGS			LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	TITLE	SHEET NO.	DRAWING NO.	TITLE
<u>A. GENERAL</u>			<u>E. TAILRACE STRUCTURE</u>		
1.	HDI-LTK-000-C-001	LOCATION MAP	32.	HDI-LTK-ULQ-C-001	PLAN OF TAILRACE
2.	HDI-LTK-000-C-002	EXISTING GENERAL LAYOUT	33.	HDI-LTK-ULQ-C-002	SECTIONS A-A
3.	HDI-LTK-000-C-003	EXISTING INTAKE STRUCTURE	34.	HDI-LTK-ULQ-C-003	SECTIONS B-B , C-C , D-D AND WEEP HOLE DETAIL
4.	HDI-LTK-000-C-004	EXISTING OUTLET STRUCTURE	<u>F. CONTROL BUILDING</u>		
5.	HDI-LTK-000-C-005	GENERAL LAYOUT	35.	HDI-LTK-UCA-C-001	PLAN AT EL +251.15 (ARCHITECTURE)
6.	HDI-LTK-000-C-006	GENERAL PLAN AND LONGITUDINAL SECTION	36.	HDI-LTK-UCA-C-002	ELEVATION 1, 2, 3 AND 4
7.	HDI-LTK-000-C-007	GENERAL PROJECT LAYOUT	37.	HDI-LTK-UCA-C-003	DETAIL OF TOILET
8.	HDI-LTK-000-C-008	PERMITTED PROJECT AREA (DURING CONSTRUCTION)	<u>G. ACCESS ROAD AND STORMWATER DRAINAGE SYSTEM</u>		
9.	HDI-LTK-000-C-009	PROJECT LAYOUT (DURING CONSTRUCTION)	38.	HDI-LTK-UZA-C-001	ACCESS ROAD PLAN AND PROFILE
10.	HDI-LTK-000-C-010	D/S COFFERDAM SECTION	39.	HDI-LTK-UZA-C-002	STORMWATER DRAINAGE SYSTEM
11.	HDI-LTK-000-C-011	GEOLOGY 1 OF 3	40.	HDI-LTK-UZA-C-003	TYPICAL SECTION AND DETAILS 1 OF 2
12.	HDI-LTK-000-C-012	GEOLOGY 2 OF 3	41.	HDI-LTK-UZA-C-004	TYPICAL SECTION AND DETAILS 2 OF 2
13.	HDI-LTK-000-C-013	GEOLOGY 3 OF 3	<u>H. MISCELLANEOUS WORK</u>		
<u>B. PENSTOCK</u>			42.	HDI-LTK-UYF-C-001	FABRICATED GUARD HOUSE
14.	HDI-LTK-LPC-C-001	OVERALL PLAN AND LONGITUDINAL SECTION	43.	HDI-LTK-UYI-C-001	GATE AND FENCE
15.	HDI-LTK-LPC-C-002	PROFILE OF PENSTOCK	44.	HDI-LTK-UBF-C-001	TRANSFORMER FOUNDATION PLAN AND SECTION
16.	HDI-LTK-LPC-C-003	SECTION AND DETAIL	<u>I. EQUIPMENT WORKS</u>		
<u>C. WYE BRANCH</u>			45.	HDI-LTK-MKY-E-001	SYMBOL FOR ELECTRICAL EQUIPMENT
17.	HDI-LTK-LPC-C-004	PLAN AND SECTION	46.	HDI-LTK-MKY-E-002	SINGLE LINE DIAGRAM FOR GENERATOR WITH EXCIATION
<u>IRROGATION OUTLET</u>			47.	HDI-LTK-MKY-E-003	SINGLE LINE DIAGRAM FOR GENERATOR WITH POWER CONVERTER
18.	HDI-LTK-LPC-C-005	PLAN AND SECTION	48.	HDI-LTK-MKY-E-004	22 kv. TRANSMISSION LINE
19.	HDI-LTK-LPC-C-006	VALVE HOUSE	49.	HDI-LTK-PAC-M-001	COOLING WATER SUPPLY AND DRAINAGE SYSTEM
<u>D. POWERHOUSE ARCHITECTURE AND STRUCTURE</u>					
20.	HDI-LTK-UME-C-001	PLAN AT EL +251.00, AND +246.45			
21.	HDI-LTK-UME-C-002	SECTION A-A AND B-B			
22.	HDI-LTK-UME-C-003	SECTION C-C AND STEEL COVER DETAIL			
23.	HDI-LTK-UME-C-004	PLAN AND SECTION OF STAIR – ST1 AND ST2			
24.	HDI-LTK-UME-C-005	SAFETY STEEL LADDER – DETAIL AND SECTION			
25.	HDI-LTK-UME-C-006	DETAIL OF STEEL HANDRAIL AND LADDER RUNG			
26.	HDI-LTK-UME-C-007	FINISHING SCHEDULE			
27.	HDI-LTK-UME-C-008	DOOR AND WINDOW SCHEDULE			
28.	HDI-LTK-UME-C-009	ENTRANCE ROOM			
29.	HDI-LTK-UME-C-010	HATCH COVER			
30.	HDI-LTK-UMF-C-011	RAIN GUTTER SECTION AND INSULATED METAL SHEET ROOF			
31.	HDI-LTK-UMF-C-012	PLAN OF DECK FLOOR AT EL +251.00			



PROJECT LOCATION

LOCATION MAP

SCALE 1 : 40,000



PROJECT LOCATION

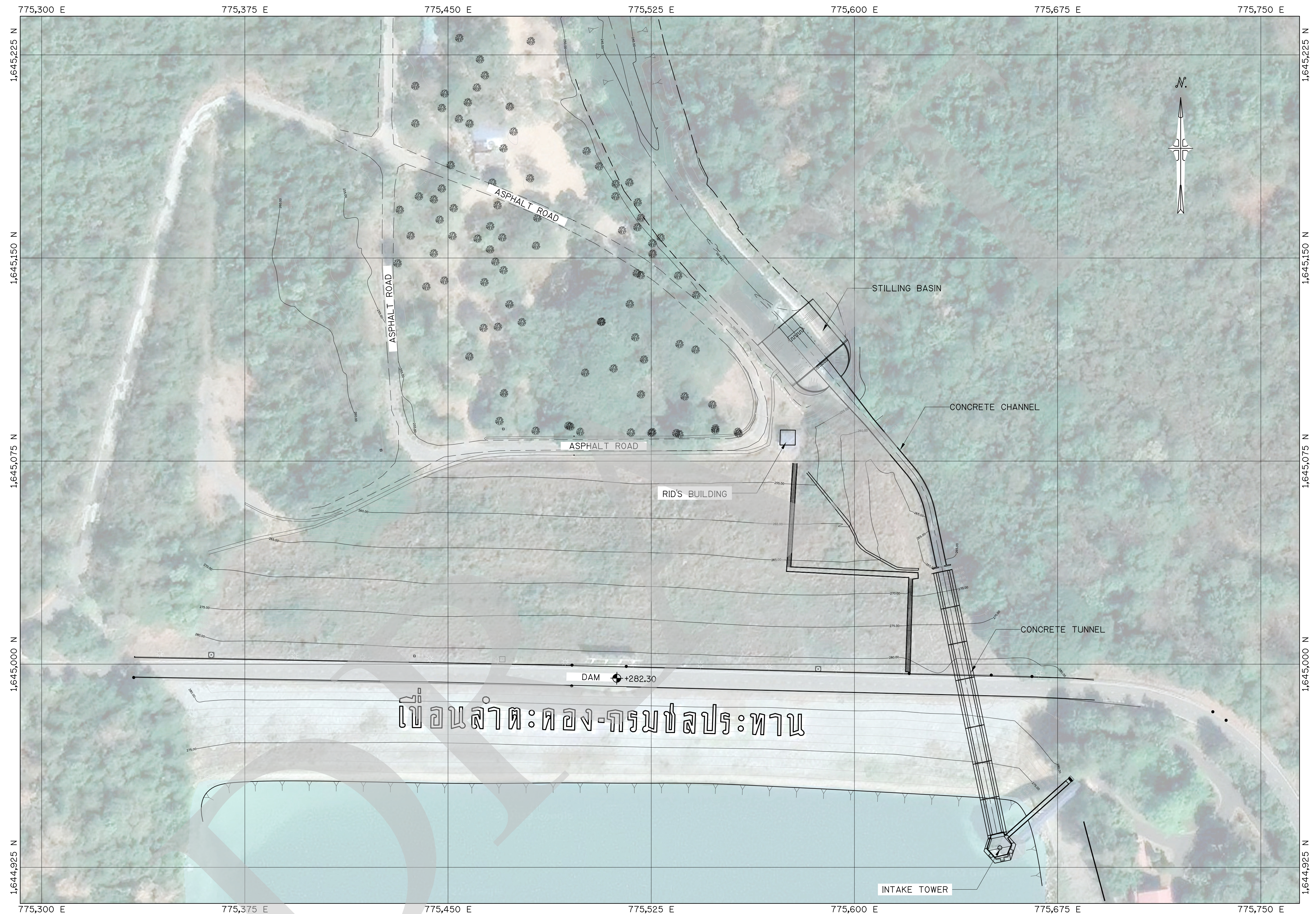
GULF OF THAILAND



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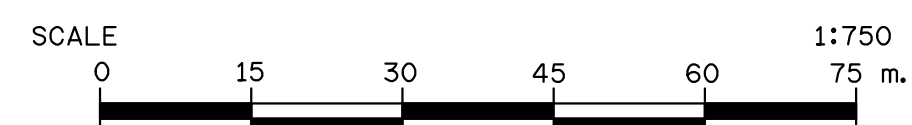
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	GENERAL LOCATION MAP		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-000-C-001	



EXISTING GENERAL LAYOUT
SCALE 1 : 750

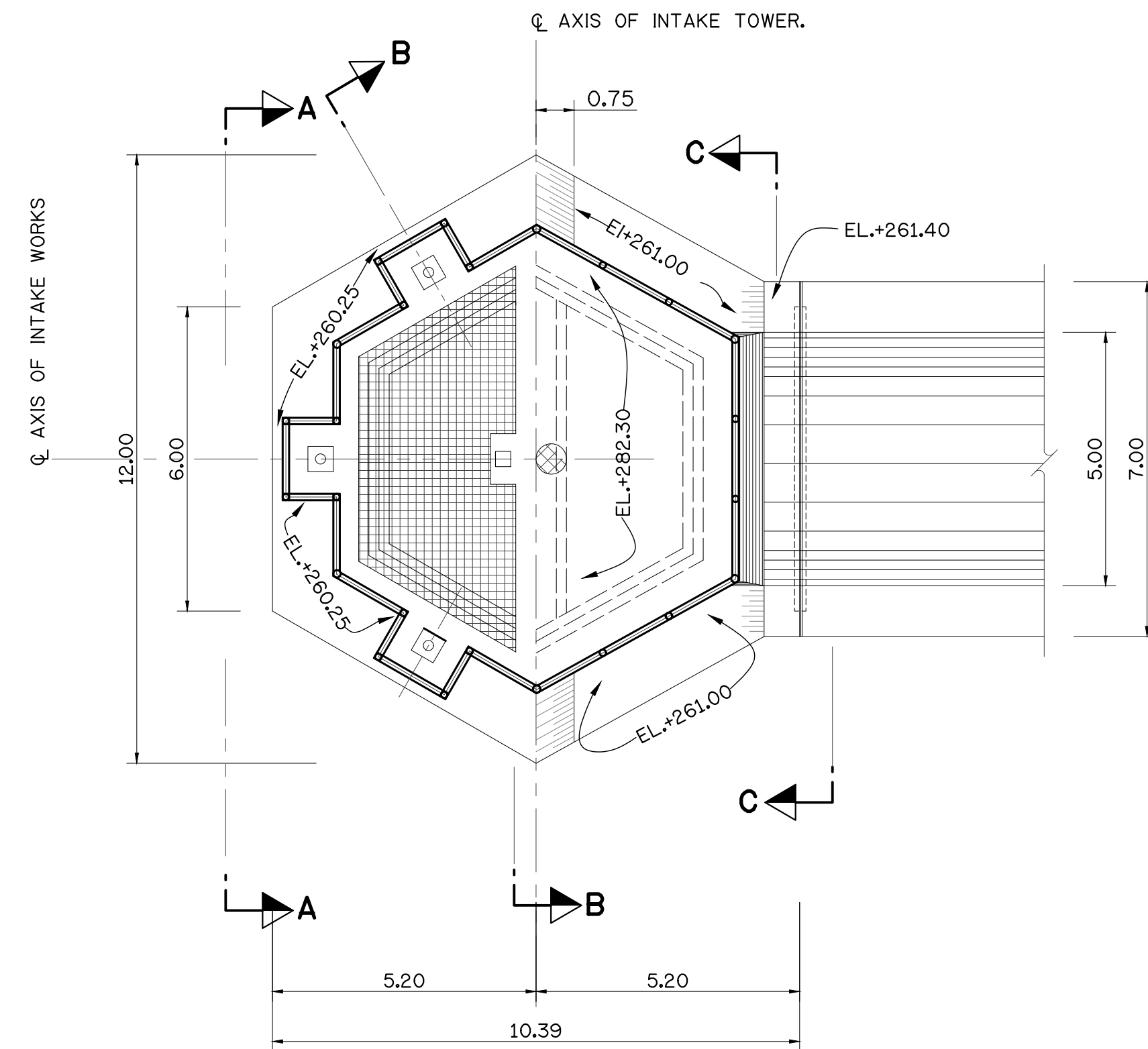
- NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. EXISTING CONDITIONS SHALL BE UPDATED BY CONTRACTOR.



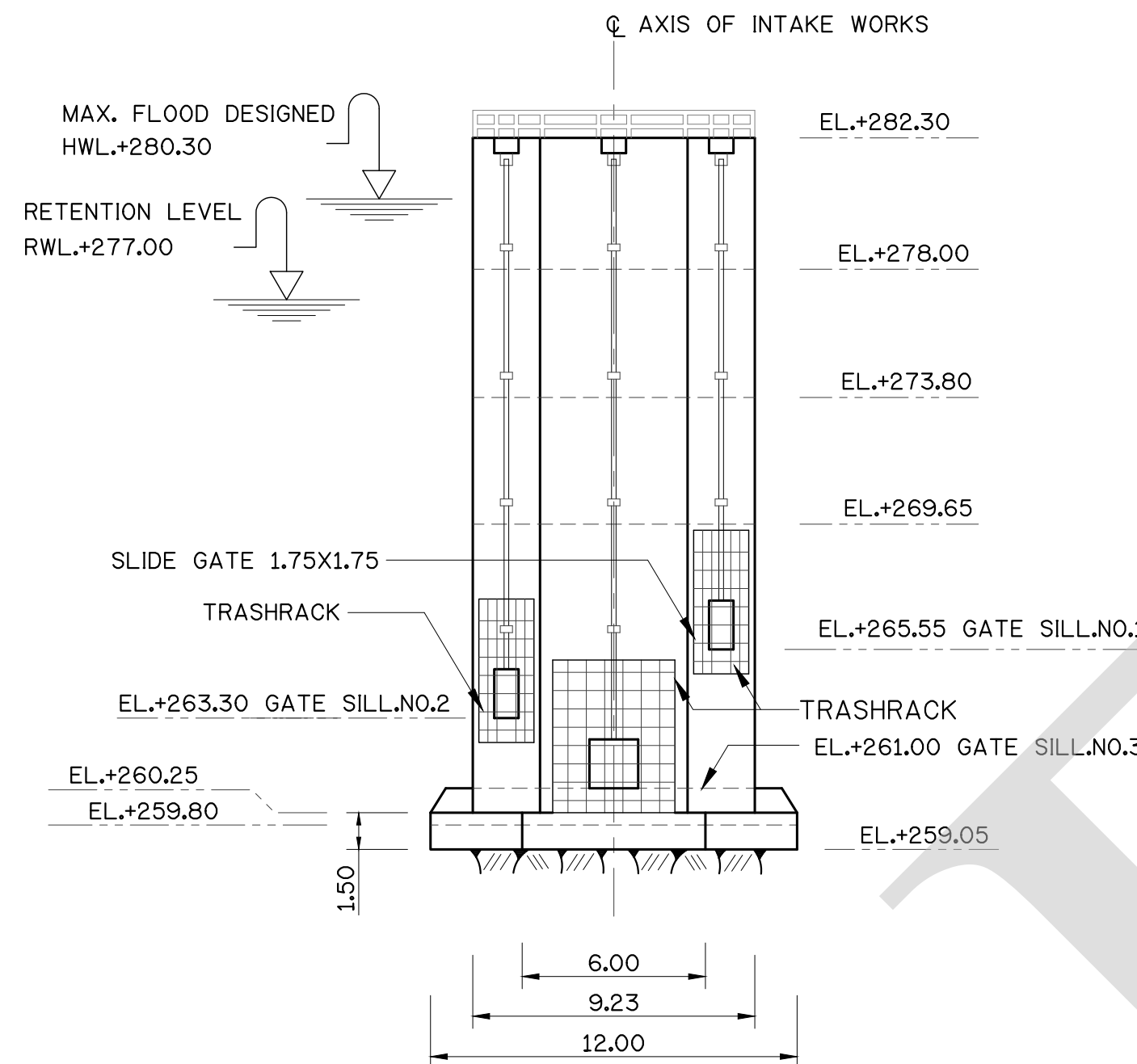
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

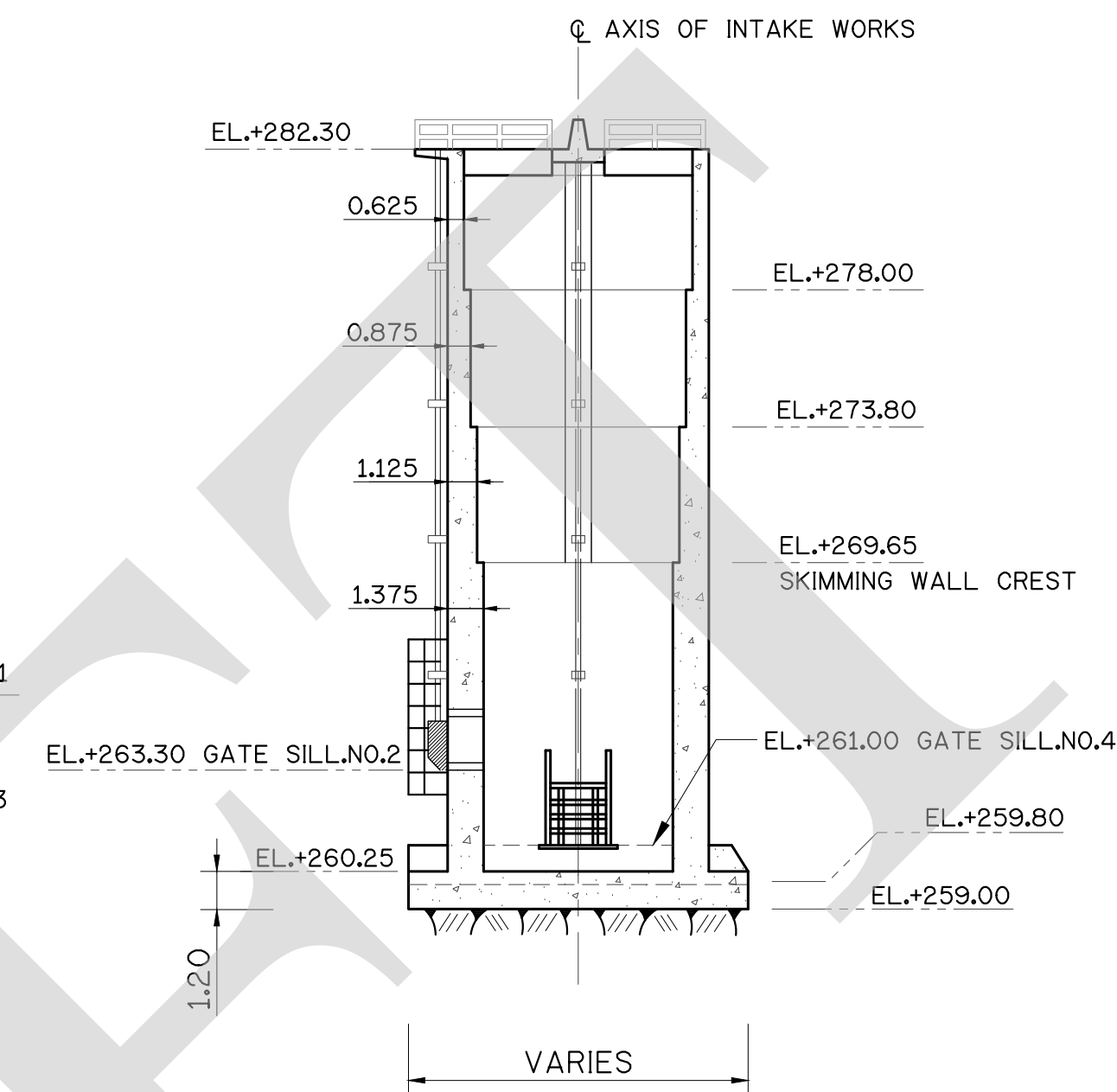
ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		.....		
ENGINEER :		CONCURRED	GENERAL EXISTING GENERAL LAYOUT		
DRAWN :		.....		
CHECKED :		.....		
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....			HDI-LTK-000-C-002	



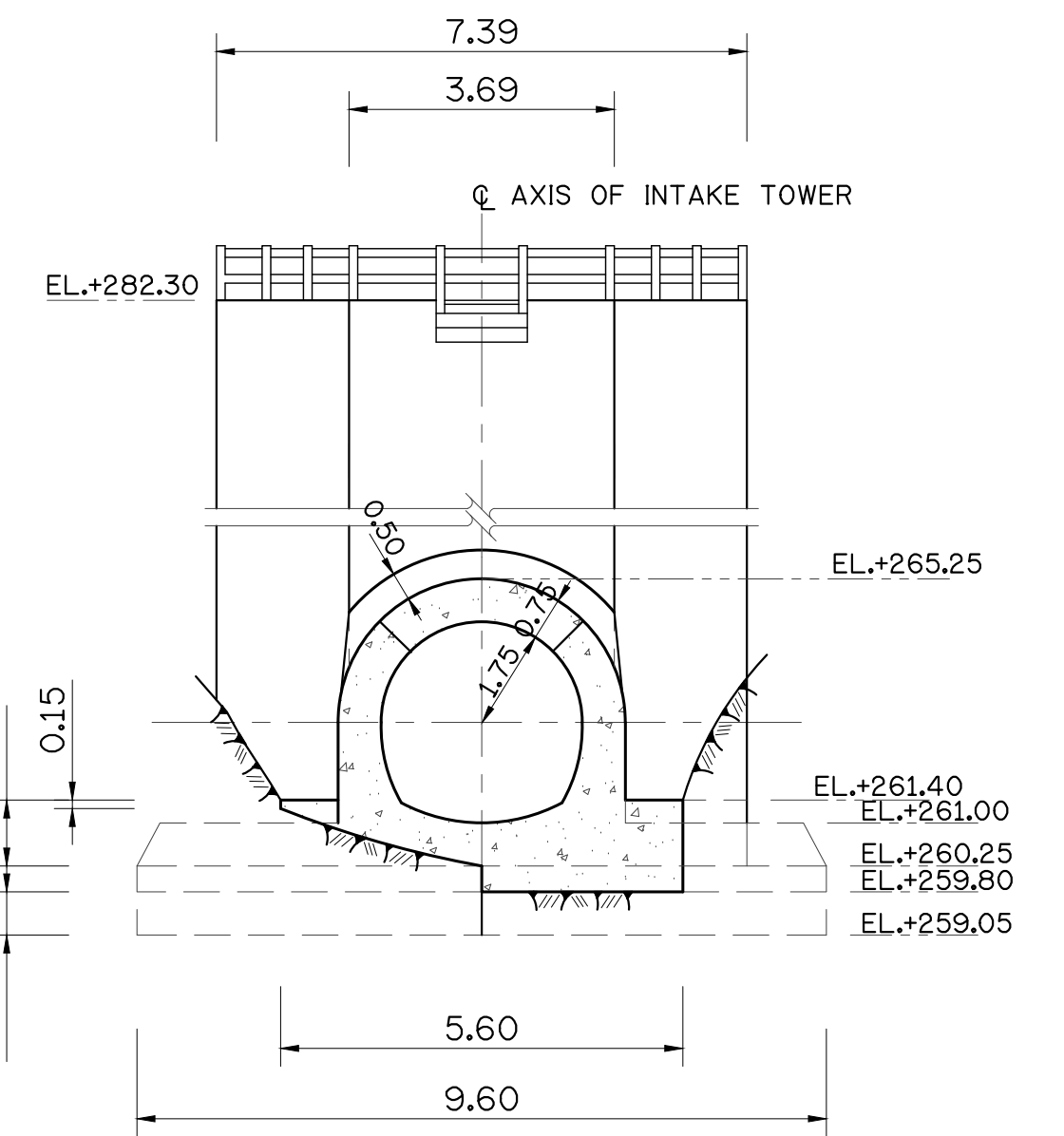
PLAN OF INTAKE WORKS
SCALE 1:1100



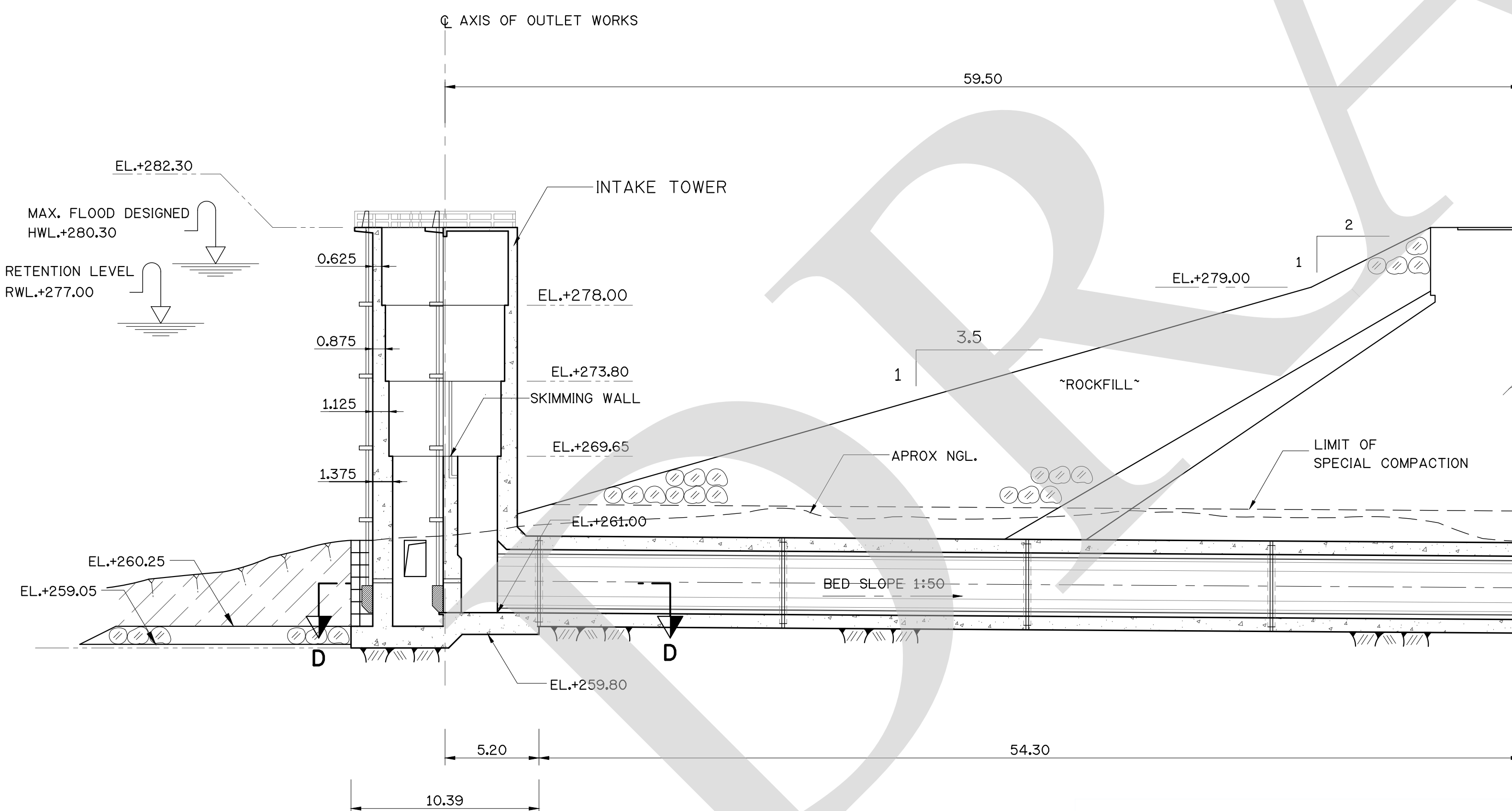
SECTION A-A
SCALE 1:200



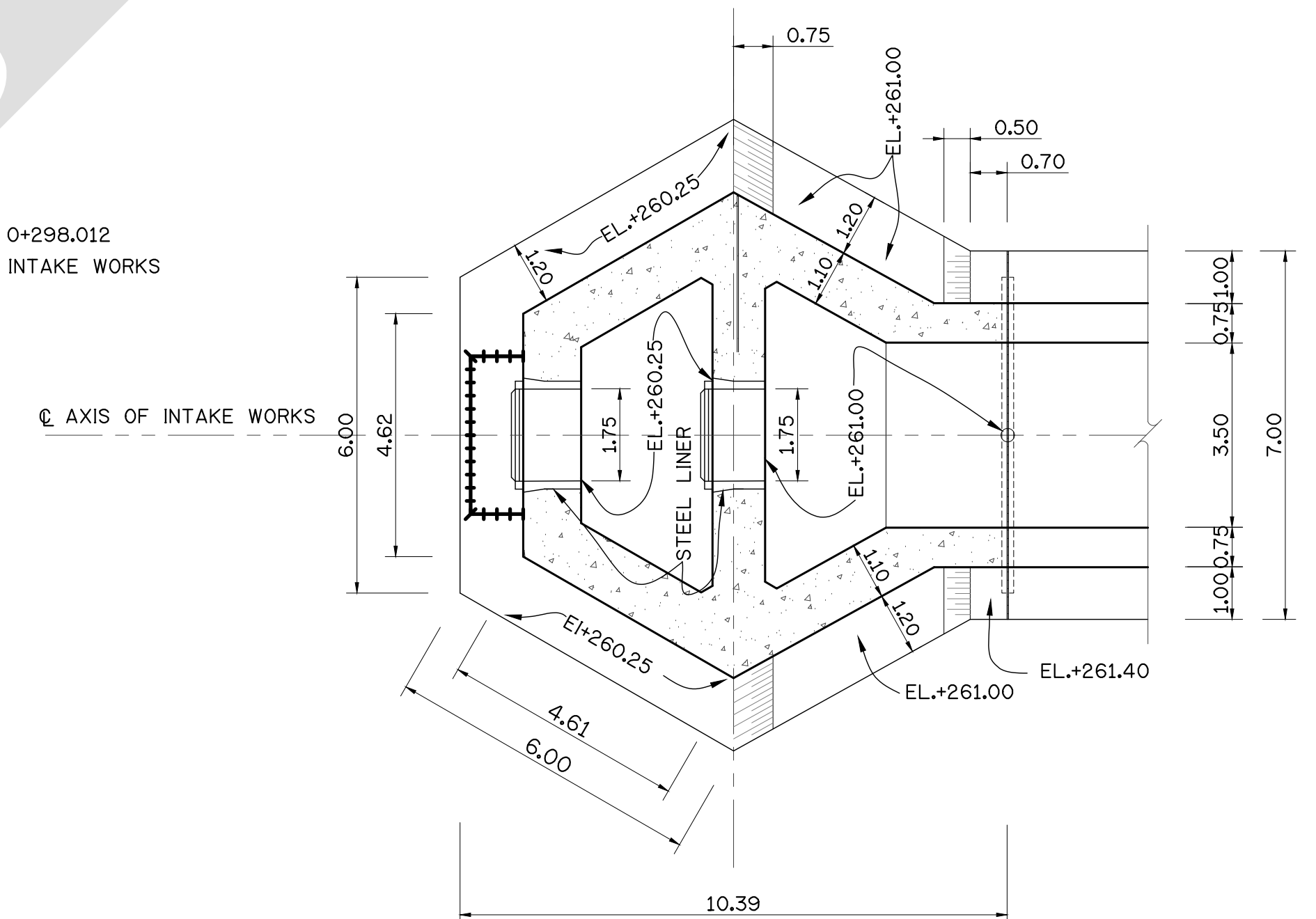
SECTION B-B
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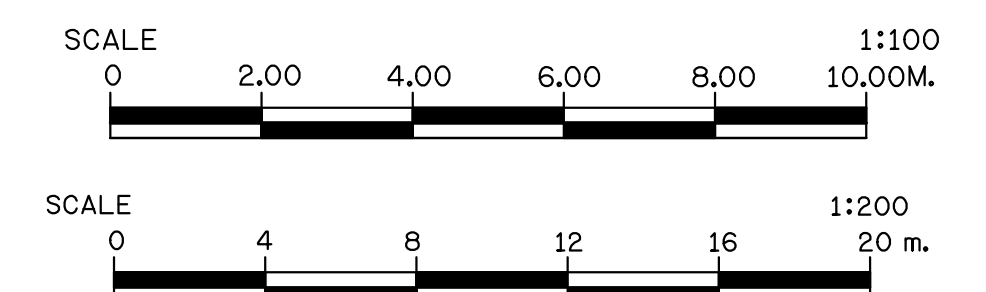
SECTION C-C
SCALE 1:1100



LONGITUDINAL SECTION OF INTAKE TOWER
SCALE 1:200



SECTION D-D
SCALE 1:1100

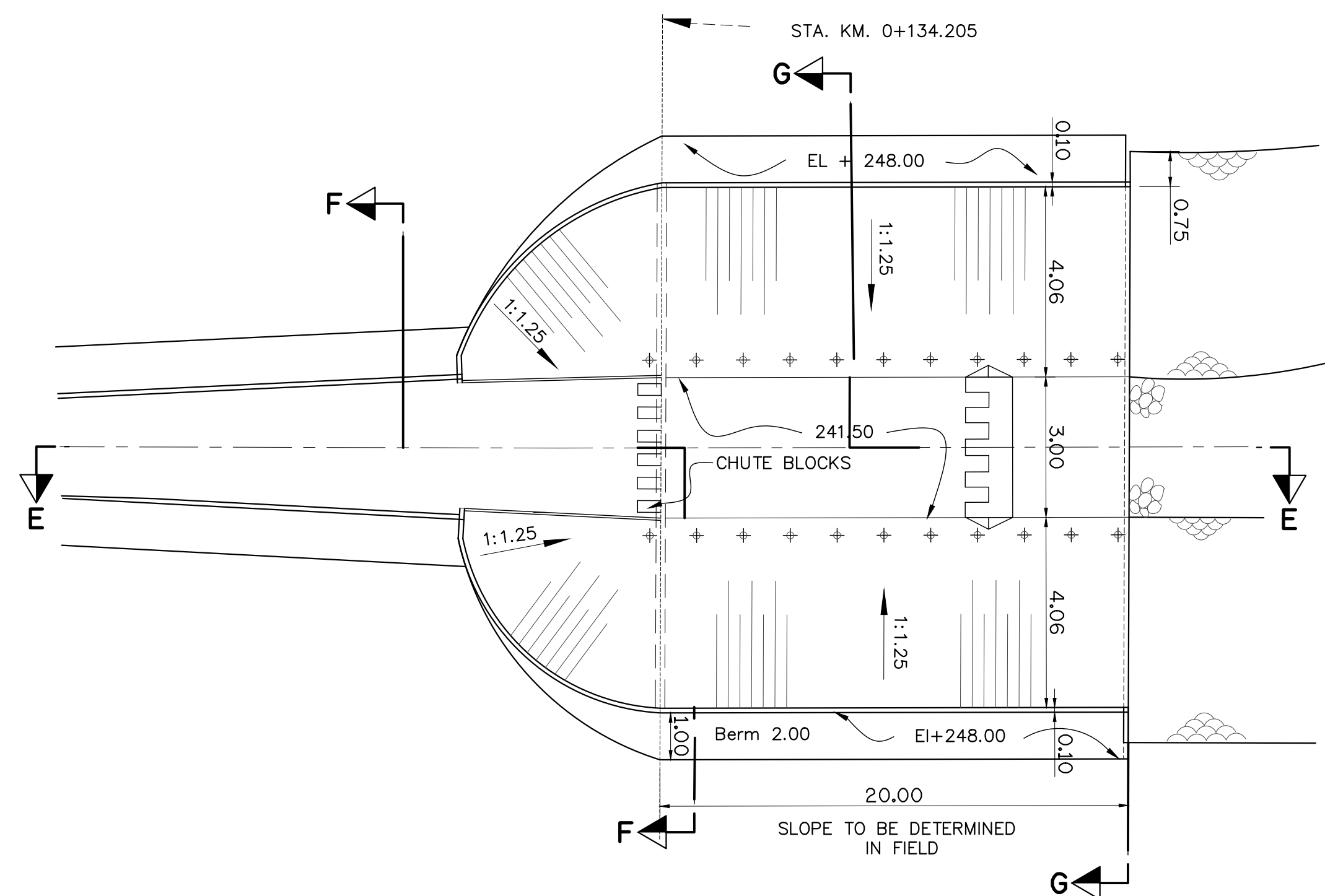


FOR BIDDING ONLY

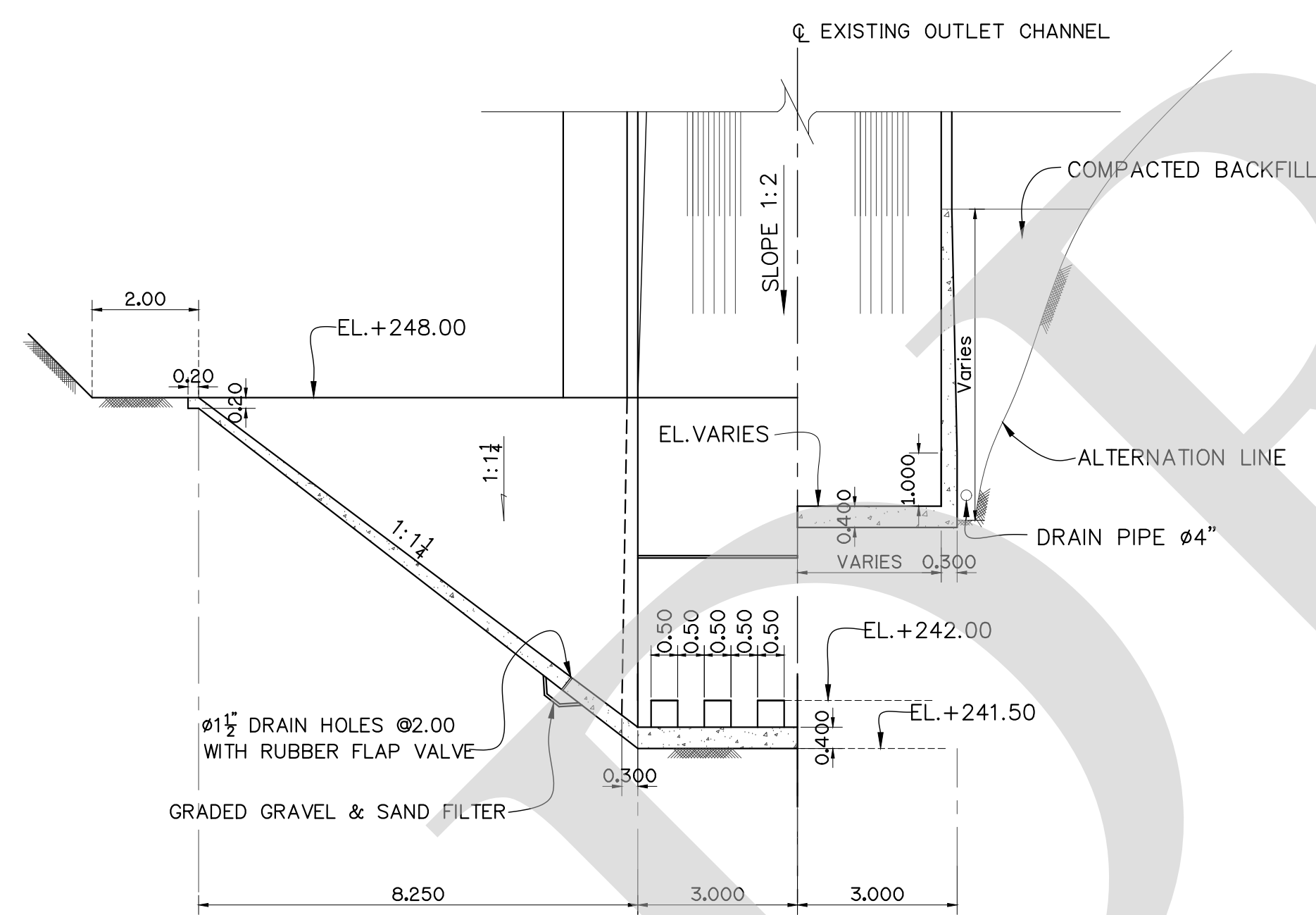
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 - EXISTING CONDITIONS SHALL BE UPDATED BY CONTRACTOR.

NO.	DATE	REVISION	CONCURRED	APPROVED

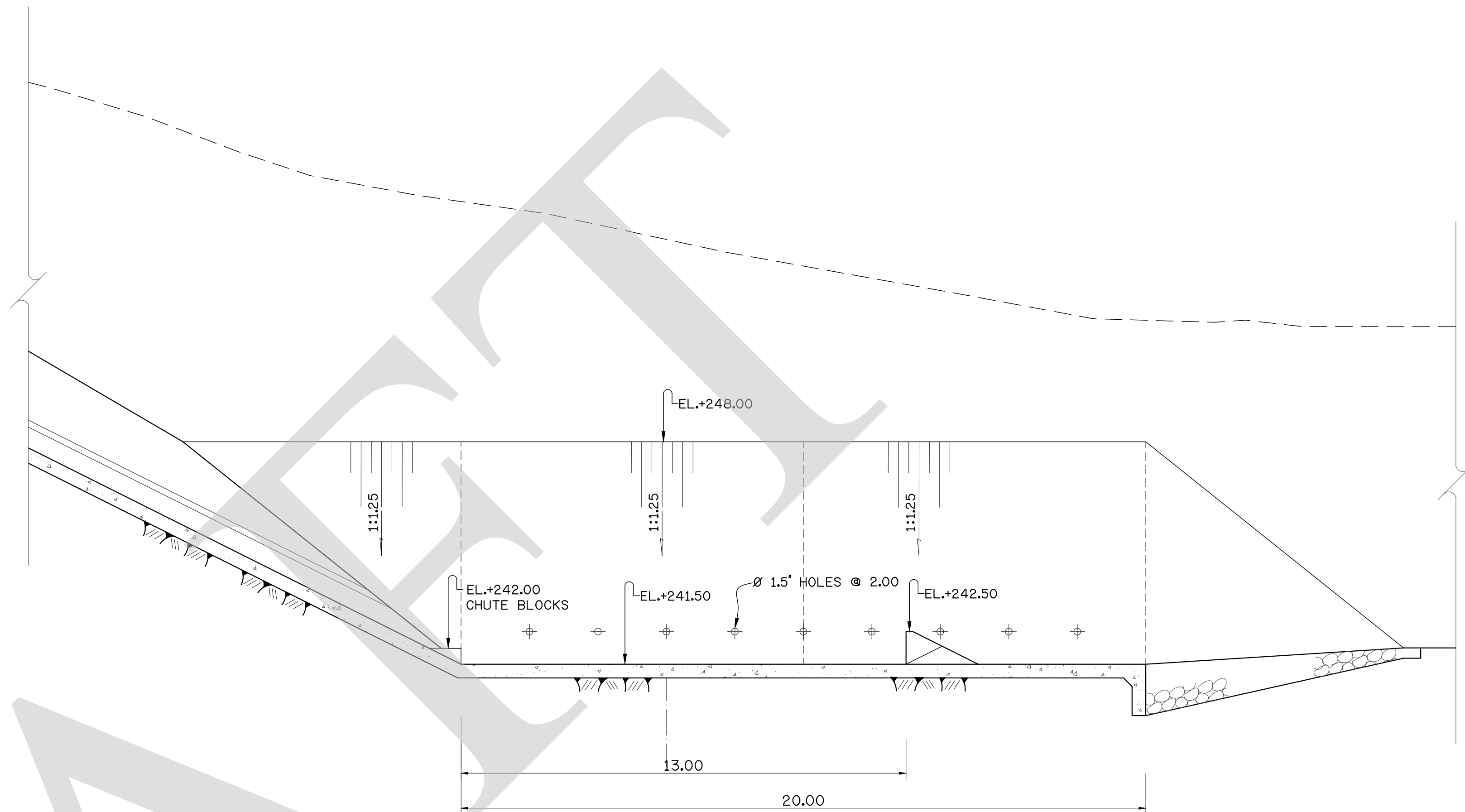
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ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		GENERAL		
ENGINEER :	CONCURRED	EXISTING INTAKE STRUCTURE		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-000-C-003	



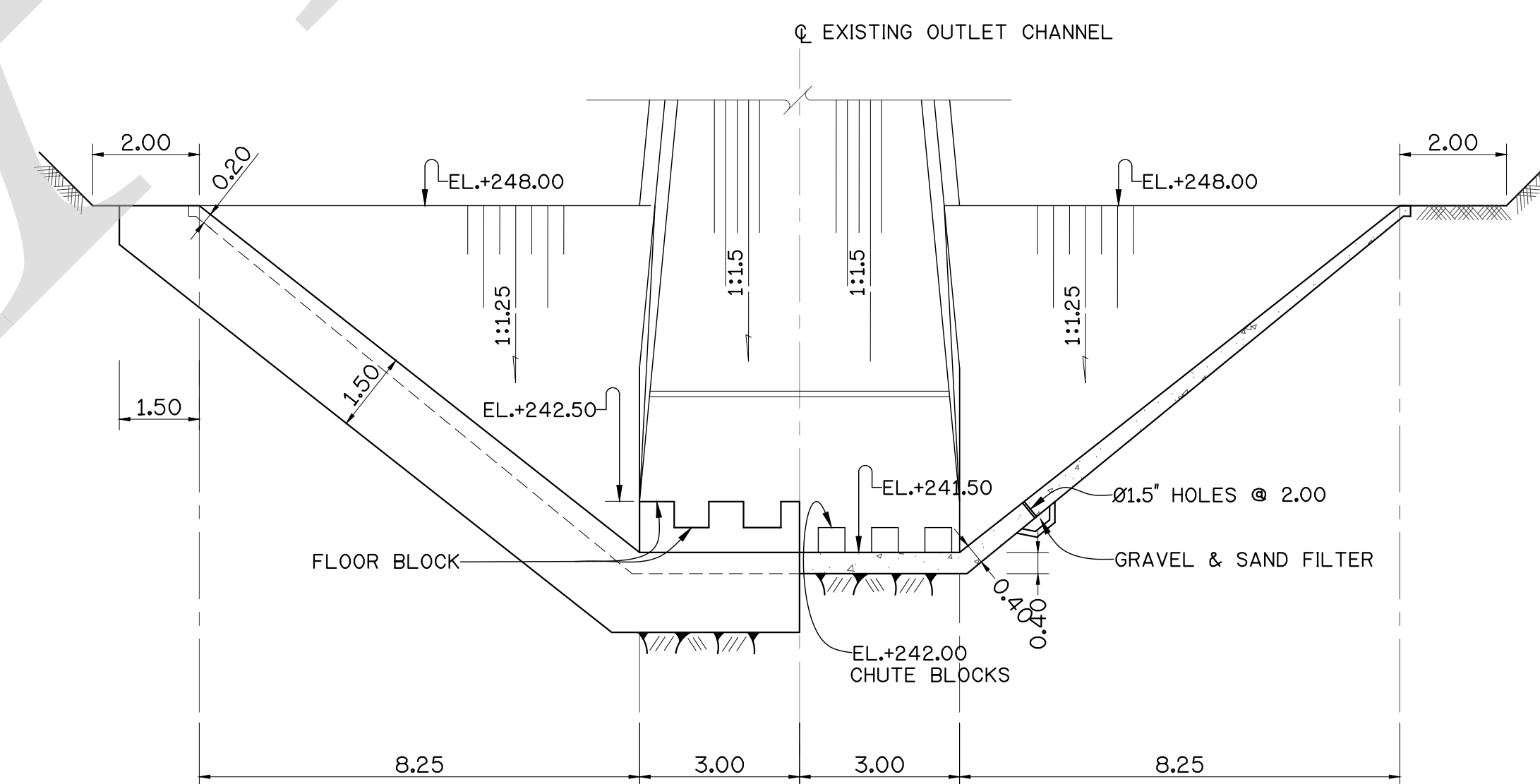
PLAN
SCALE 1:200



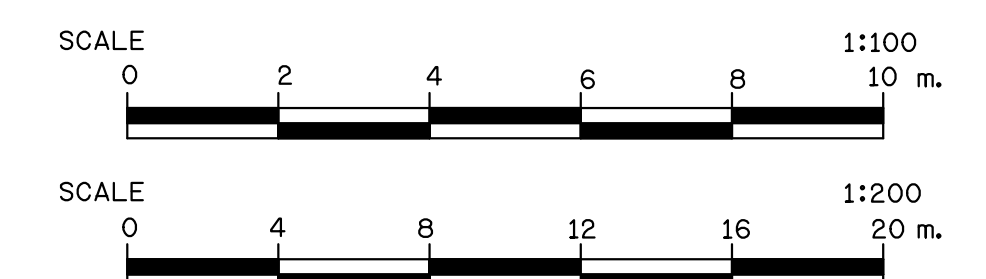
SECTION F-F
SCALE 1:100



SECTION E-E
SCALE 1:100



SECTION G-G
SCALE 1:100



NOTES :

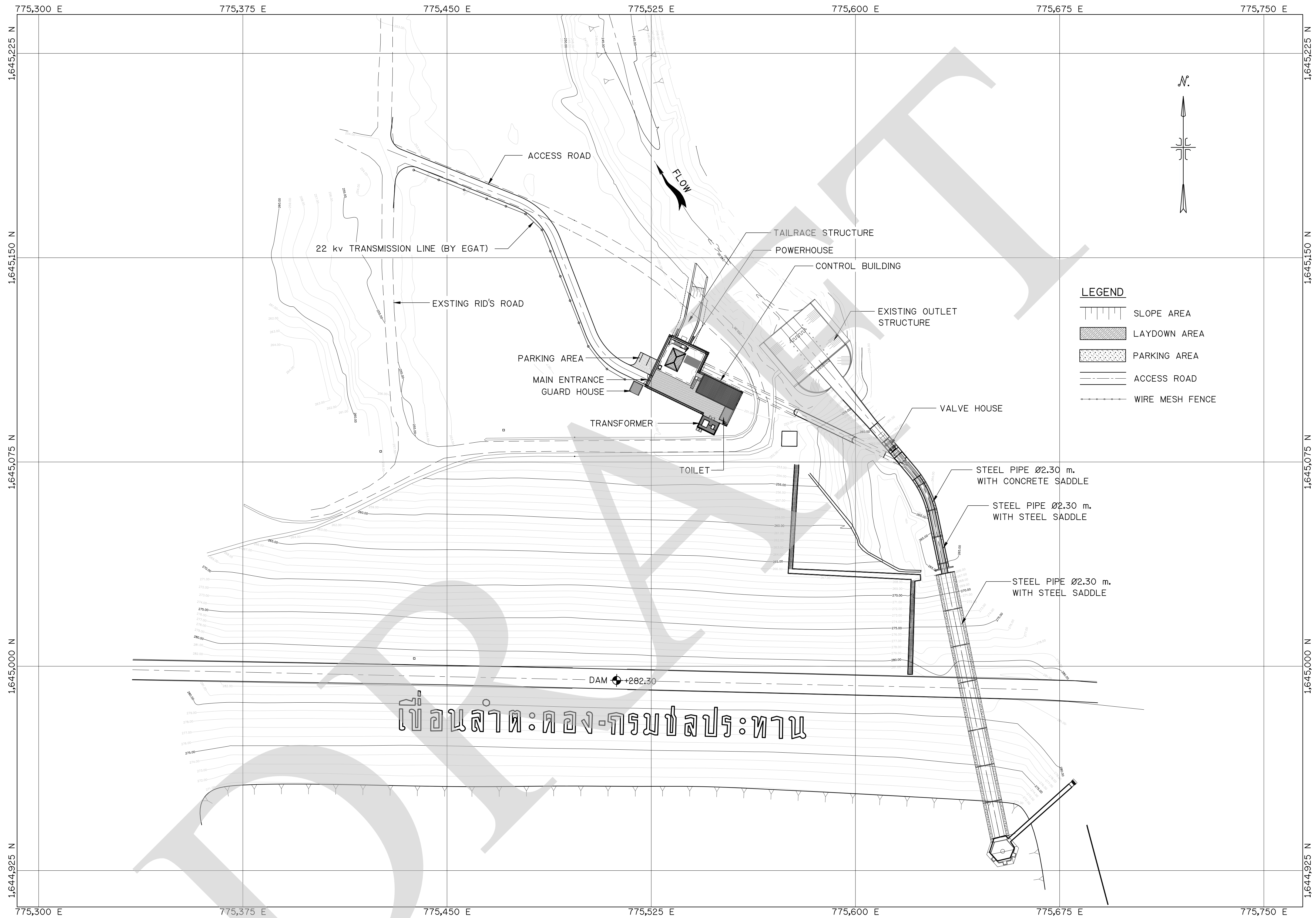
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2. EXISTING CONDITIONS SHALL BE UPDATED BY CONTRACTOR.

FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND

ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	GENERAL		
DRAWN :		EXISTING OUTLET STRUCTURE		
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-000-C-004	



เขื่อนลำตะคอง-กรมชลประทาน

GENERAL LAYOUT

SCALE 1 : 750

NOTES :

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

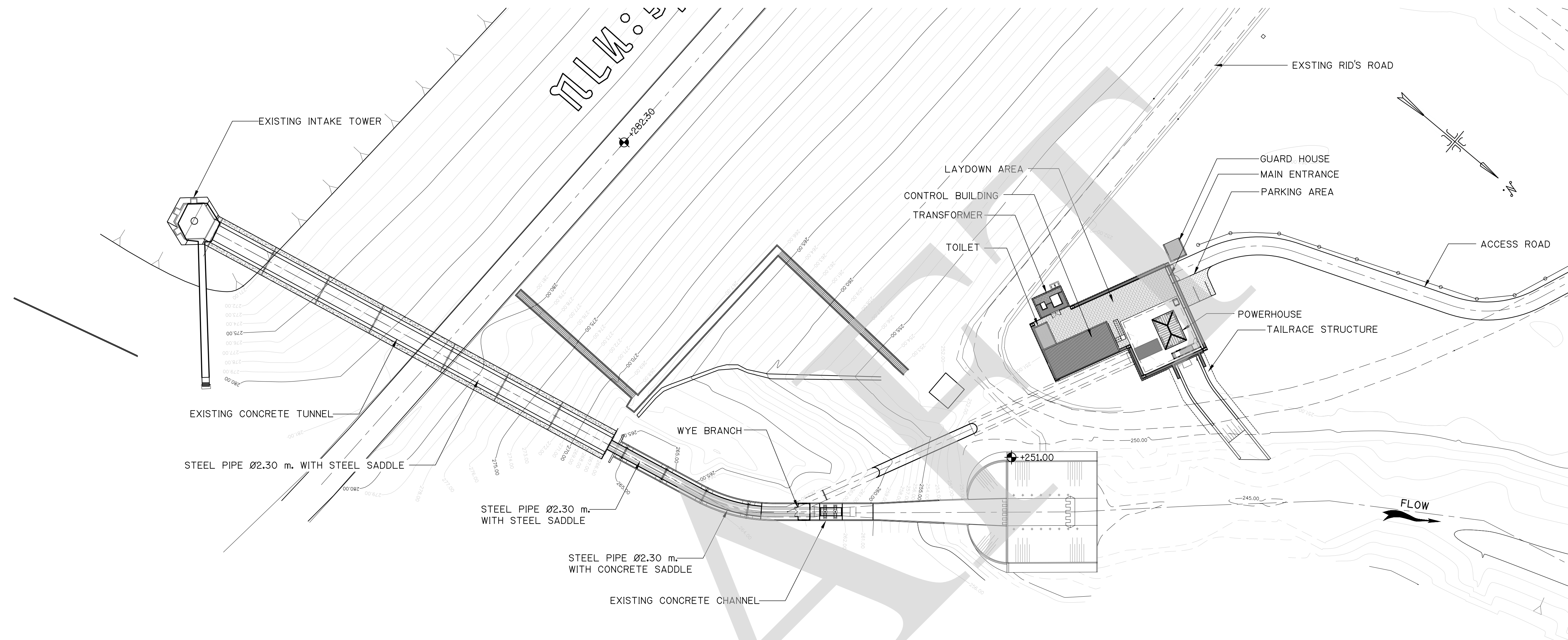


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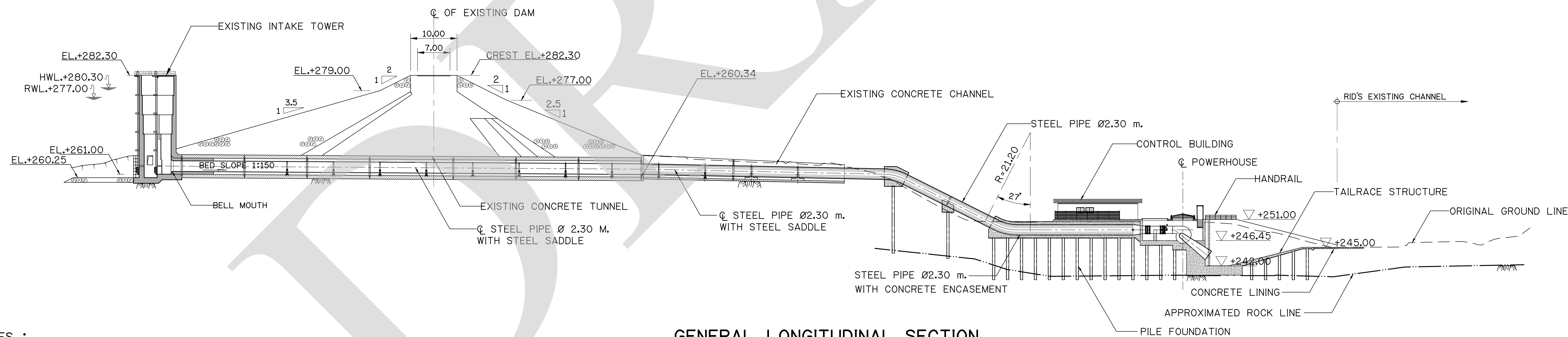
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND

ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	GENERAL		
DRAWN :		GENERAL LAYOUT		
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-000-C-005	



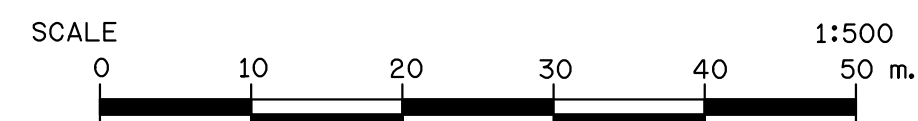
GENERAL PLAN
SCALE 1 : 500



GENERAL LONGITUDINAL SECTION
SCALE 1 : 500

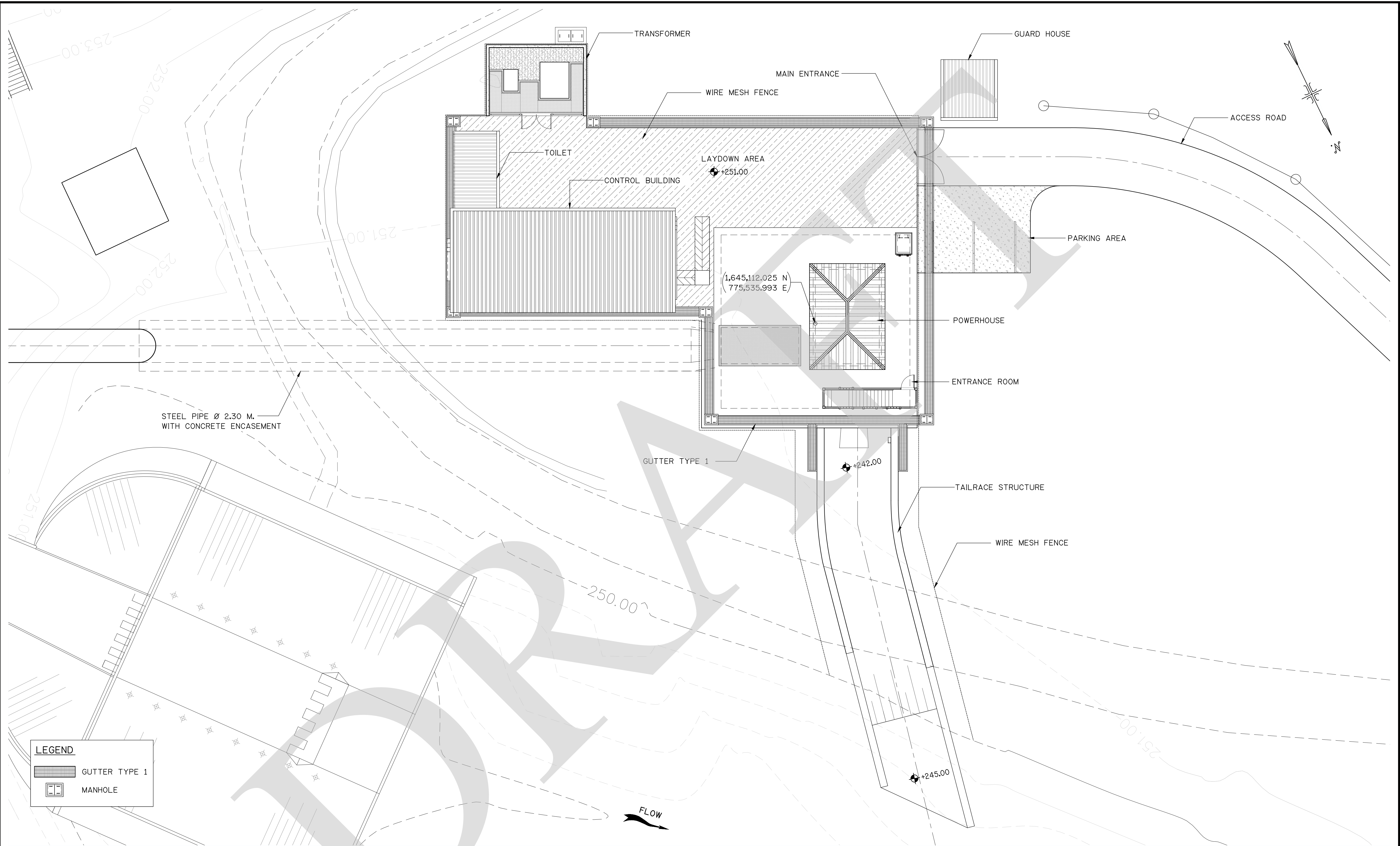
- NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. SEE WATER SURFACE ELEVATIONS OF RESERVOIR AND TAILWATER IN VOLUME II TECHNICAL SPECIFICATIONS-EQUIPMENT WORKS, TM-I TURBINE EQUIPMENT, CLAUSE No. TM-1.3 DESIGN DATA.

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NO.	DATE	REVISION	CONCURRED	APPROVED

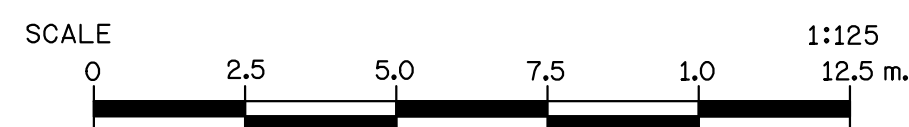
ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :					
ENGINEER :		CONCURRED	GENERAL GENERALPLAN AND LONGITUDINAL SECTION		
DRAWN :					
CHECKED :					
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO. HDI-LTK-000-C-006	REV.



GENERAL PROJECT LAYOUT
SCALE 1 : 125

LEGEND	
	GUTTER TYPE 1
	MANHOLE

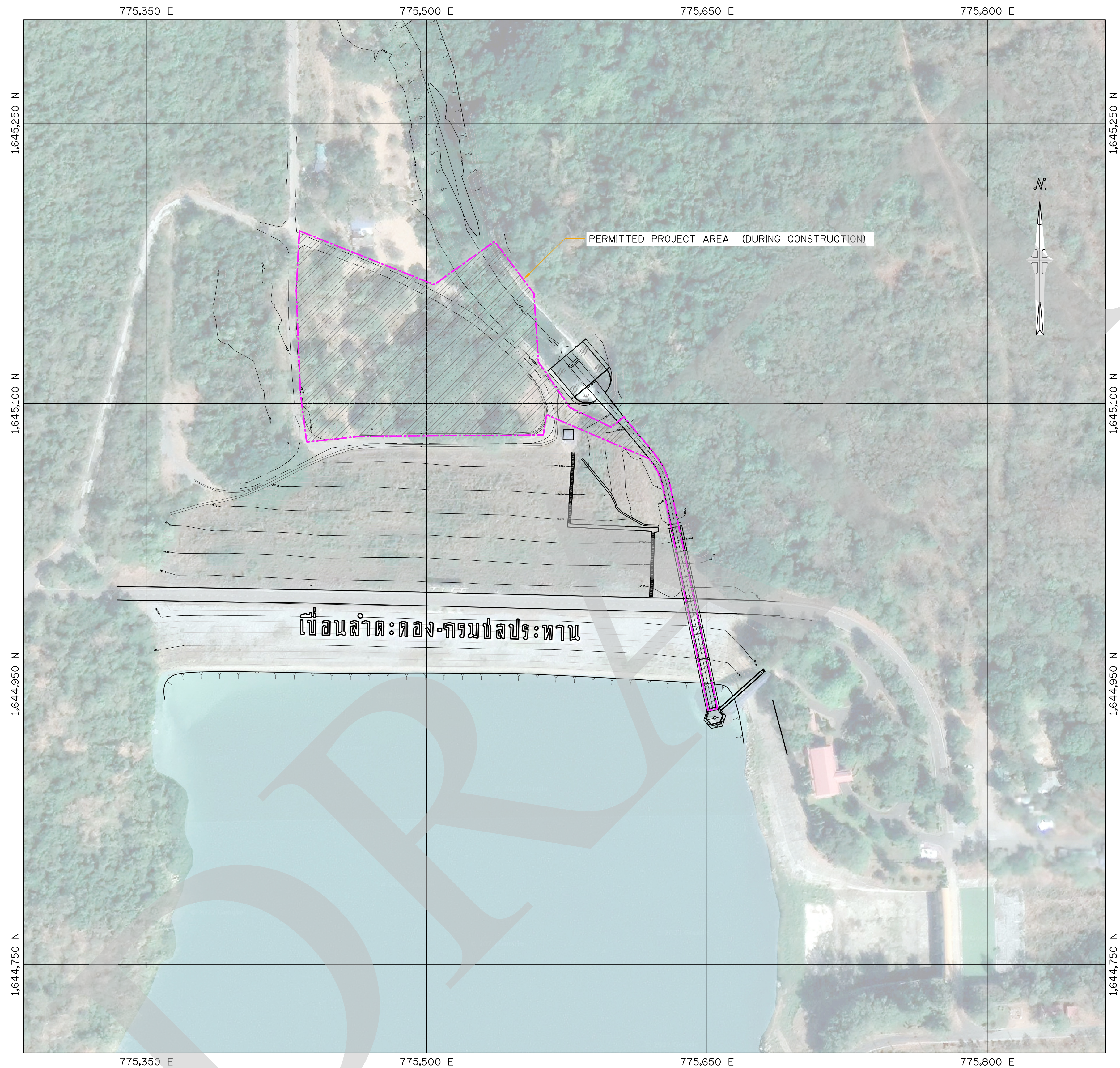
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



FOR BIDDING ONLY

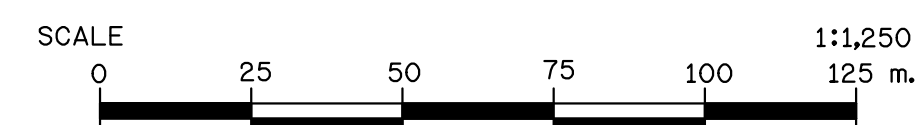
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		.....		
ENGINEER :		CONCURRED	GENERAL GENERAL PROJECT LAYOUT		
DRAWN :		.....		
CHECKED :		.....		
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....			HDI-LTK-000-C-007	



PERMITTED PROJECT AREA (DURING CONSTRUCTION)
SCALE 1 : 1,250

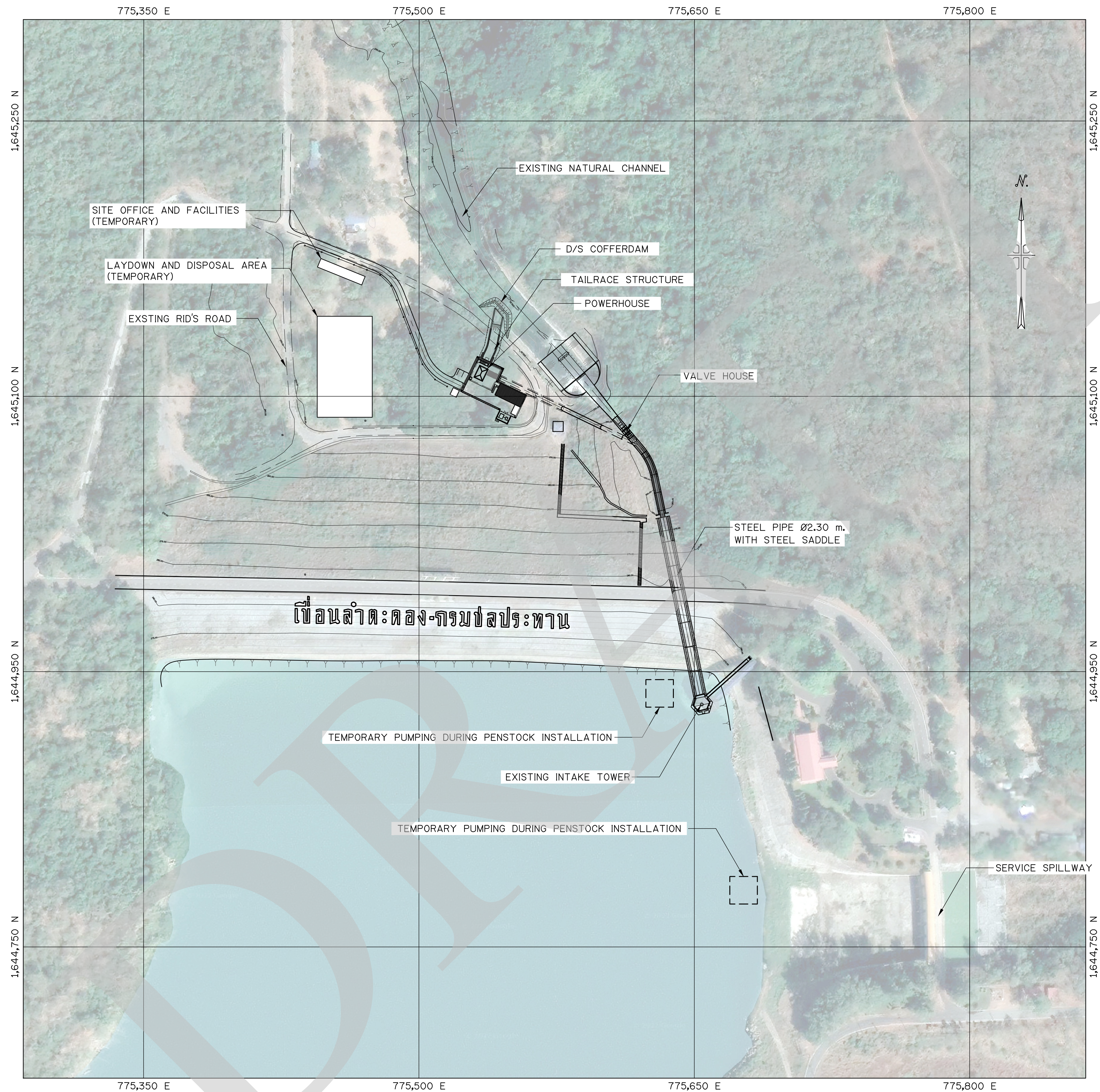
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	.....		
ENGINEER :	CONCURRED	GENERAL PERMITTED PROJECT AREA (DURING CONSTRUCTION)		
DRAWN :	.....		
CHECKED :	.....	REPLACING DWG. NO. DWG. NO. REV.		
APPROVED	DATE			
			HDI-LTK-000-C-008	

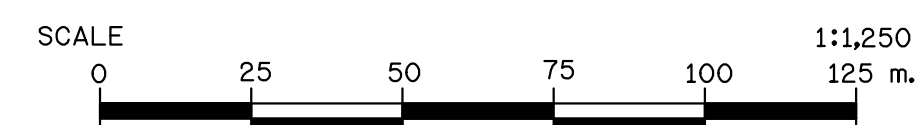
FOR BIDDING ONLY



FOR BIDDING ONLY

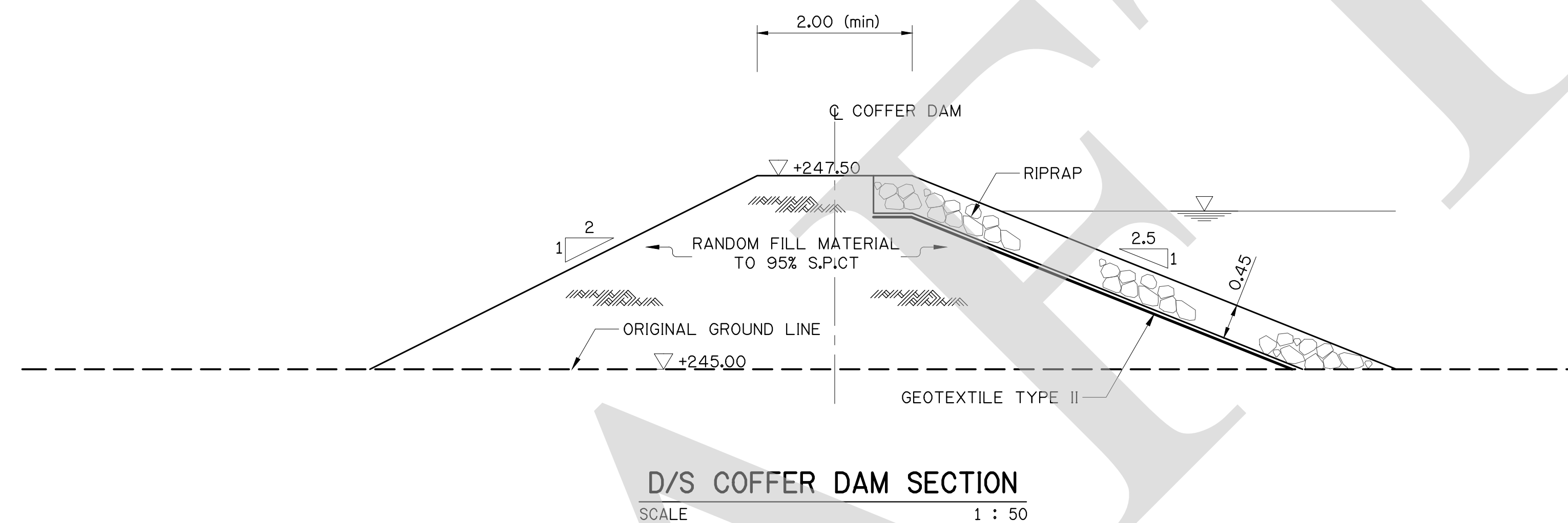
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

PROJECT LAYOUT (DURING CONSTRUCTION)
SCALE 1 : 1,250



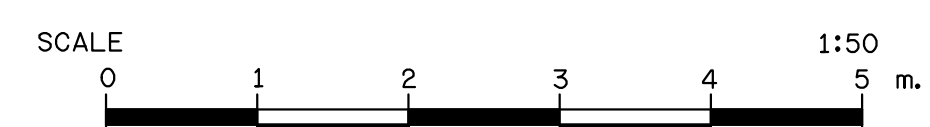
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED		LAMTAKONG HYDROPOWER PROJECT	
ENGINEER :				
ENGINEER :	CONCURRED		GENERAL	
DRAWN :			PROJECT LAYOUT (DURING CONSTRUCTION)	
CHECKED :				
APPROVED	DATE		REPLACING DWG. NO.	DWG. NO.
				HDI-LTK-000-C-009



NOTES :

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. LOOSE MATERIALS AND BOULDERS SHALL BE REMOVED FROM THE FOUNDATION OF DAM AND APPURTENANT STRUCTURES.



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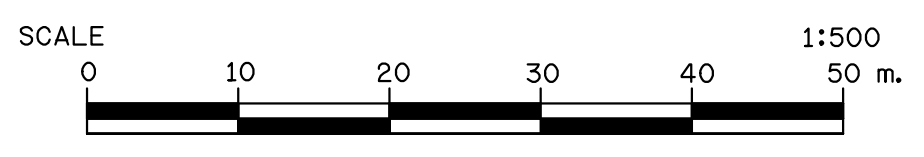
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ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	GENERAL D/S COFFERDAM SECTION		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-000-C-010	



LOCATION OF BOREHOLES
SCALE 1 : 500

NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



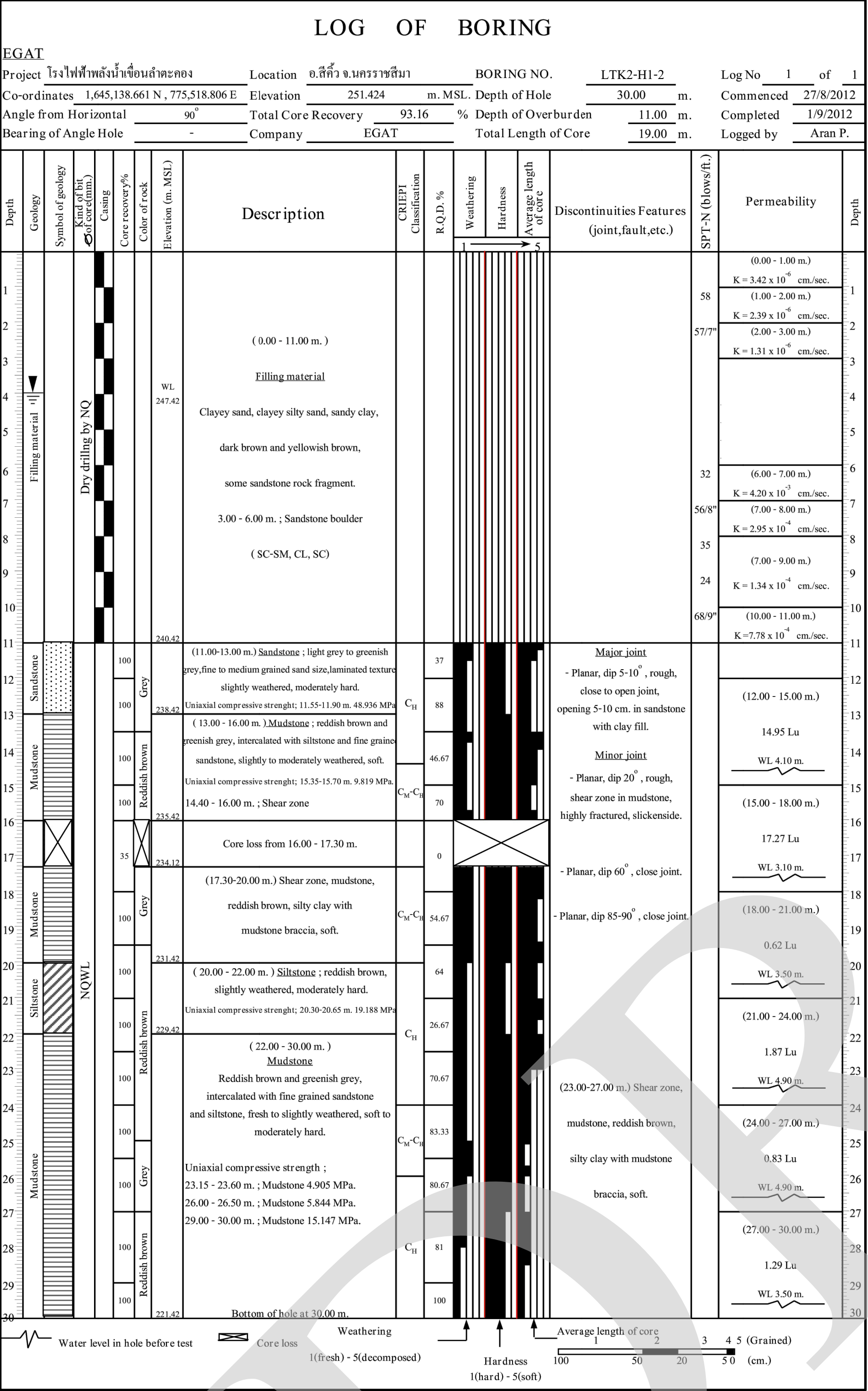
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NO.	DATE	REVISION	CONCURRED	APPROVED

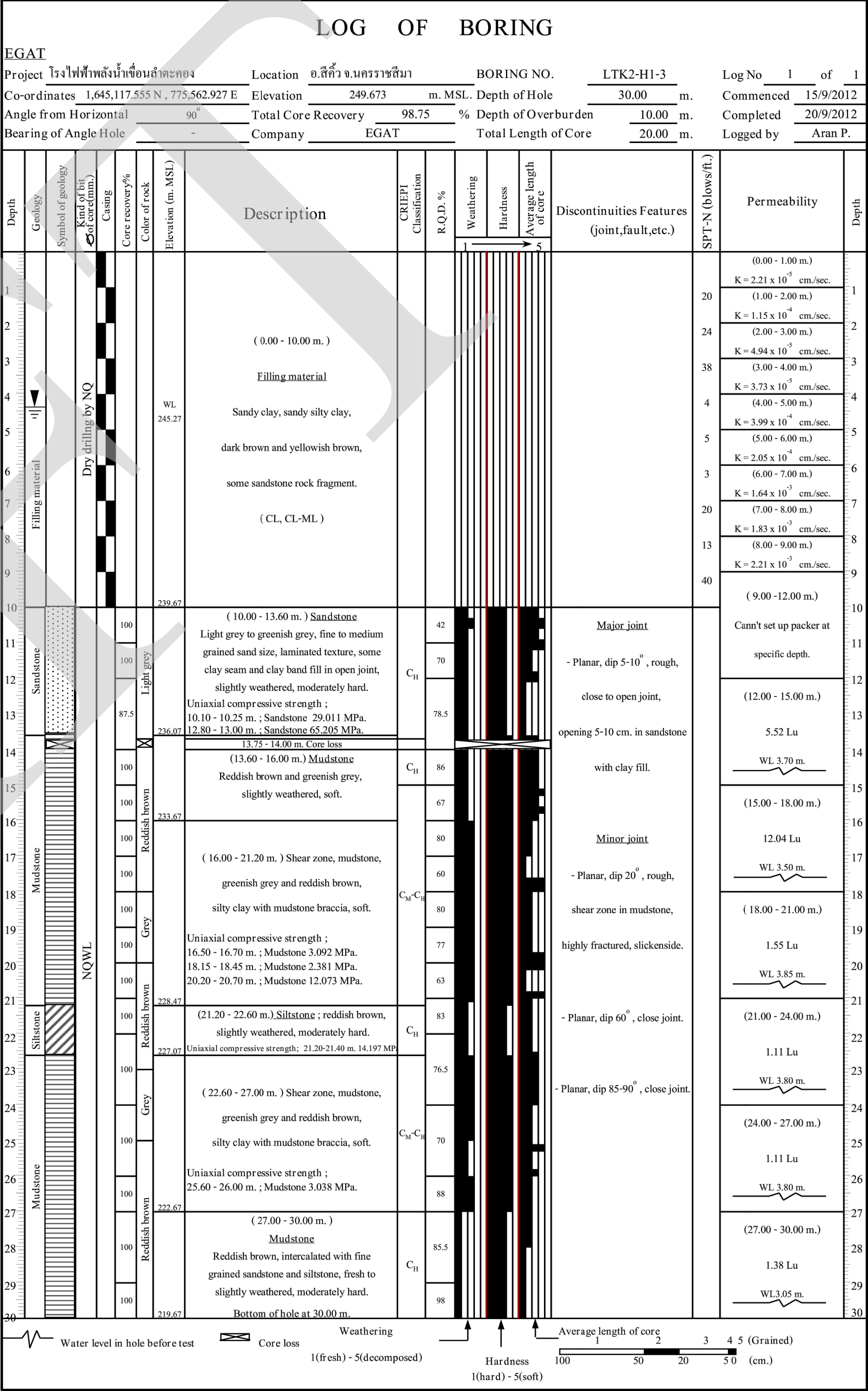
LOG OF BORING																				
EGAT			Project โรงไฟฟ้าพลังน้ำเขื่อนลำตะคอง			Location อ.สีคิ้ว จ.นครราชสีมา			BORING NO. LTK2-H1-1			Log No 1 of 1								
Co-ordinates 1,645,119.834 N , 775,512.084 E			Elevation 252.124 m. MSL.			Depth of Hole 30.00 m.			Completed 14/8/2012											
Angle from Horizontal 90°			Total Core Recovery 68.25 %			Depth of Overburden 10.00 m.			22/8/2012											
Bearing of Angle Hole -			Company EGAT			Total Length of Core 20.00 m.			Logged by Aran P.											
Depth	Geology	Symbol of geology	Kind of this core (m)	Casing	Core recovery %	Color of rock	Elevation (m. MSL)	Description	CRIPPI Classification	R.Q.D. %	Weathering	Hardness	Average length of core	Discontinuities Features (joint,fault,etc.)	SPT-N (blows/ft.)	Permeability	Depth			
1	Filling material						WL 247.62	(0.00 - 10.00 m.)												
2																		22	(0.00 - 1.00 m.)	1
3																		12	(1.00 - 2.00 m.)	2
4																		21	(2.00 - 3.00 m.)	3
5																		22	(3.00 - 4.00 m.)	4
6																		16	(4.00 - 5.00 m.)	5
7																		42	(4.00 - 6.00 m.)	6
8																		50/4"	(6.00 - 7.00 m.)	7
9																		50/2"	(7.00 - 8.00 m.)	8
10																		50/4"	(8.00 - 9.00 m.)	9
11	Sandstone					Grey	241.67	Core loss from 10.00 - 10.45 m.	C _{II}	92.5				Major joint		Can't set up packer at specific depth.				
12							100	(10.45 - 12.70 m.) Sandstone										11		
13							339.42	Greyish green, fine to medium grained sand size, laminated texture,slightly weathered,moderately hard. Uniaxial compressive strength : 11.15 - 11.45 m.; Sandstone 32.409 MPa.										12		
14							56.67	Core loss from 12.70 - 14.00 m.										13		
15							238.12	(14.00-15.00 m.) Mudstone: Reddish brown and greenish grey, slightly to moderately weathered, soft.										14		
16							237.12											15		
17							33.33	Core loss from 15.00 - 17.00 m.										16		
18							235.12	(17.00 - 18.50 m.) Shear zone, mudstone, reddish brown, highly fractured, silty clay with mudstone braccia, soft.										17		
19							233.62											18		
20							26.67	Core loss from 18.50 - 20.70 m.										19		
21							231.42	(20.70 - 22.00 m.) Siltstone										20		
22							100	Reddish brown, highly fracture, slightly weathered, moderately hard.										21		
23							230.12											22		
24							100	Core loss from 23.20 - 23.60 m.										23		
25							60	(22.00 - 26.00 m.) Sheared zone, mudstone, reddish brown, highly fractured, silty clay with mudstone braccia, soft.										24		
26							100	Uniaxial compressive strength : 22.65 - 22.90 m.; Mudstone 4.731 MPa.										25		
27							226.12	(26.00 - 30.00 m.) Mudstone										26		
28							100	Reddish brown and greenish grey, intercalated with fine grained sandstone and siltstone, fresh to slightly weathered, soft.										27		
29							100	Uniaxial compressive strength : 27.75 - 28.00 m.; Mudstone 7.376 MPa. 29.30 - 29.55 m.; Mudstone 9.554 MPa.										28		
30	222.12	Bottom of hole at 30.00 m.	29																	
<div> Water level in hole before test</div> <div> Core loss</div> <div> Weathering</div> <div> Hardness</div> <div> Average length of core</div> <div>1 (fresh) - 5 (decomposed)</div> <div>100 50 20 5 0 (cm.)</div> <div>1 2 3 4 5 (Grained)</div> <div>100 50 20 5 0 (cm.)</div>																				

LTK2-H1-1

ELECTRICITY GENERATING AUTHORITY OF THAILAND			
ARCHITECT :		SUBMITTED	
ENGINEER :		.....
ENGINEER :		CONCURRED	
DRAWN :		.....
CHECKED :		.....
APPROVED		DATE	
.....		
REPLACING DWG. NO.		DWG. NO.	
HDI-LTK-000-C-011		REV.	



LTK2-H1-2

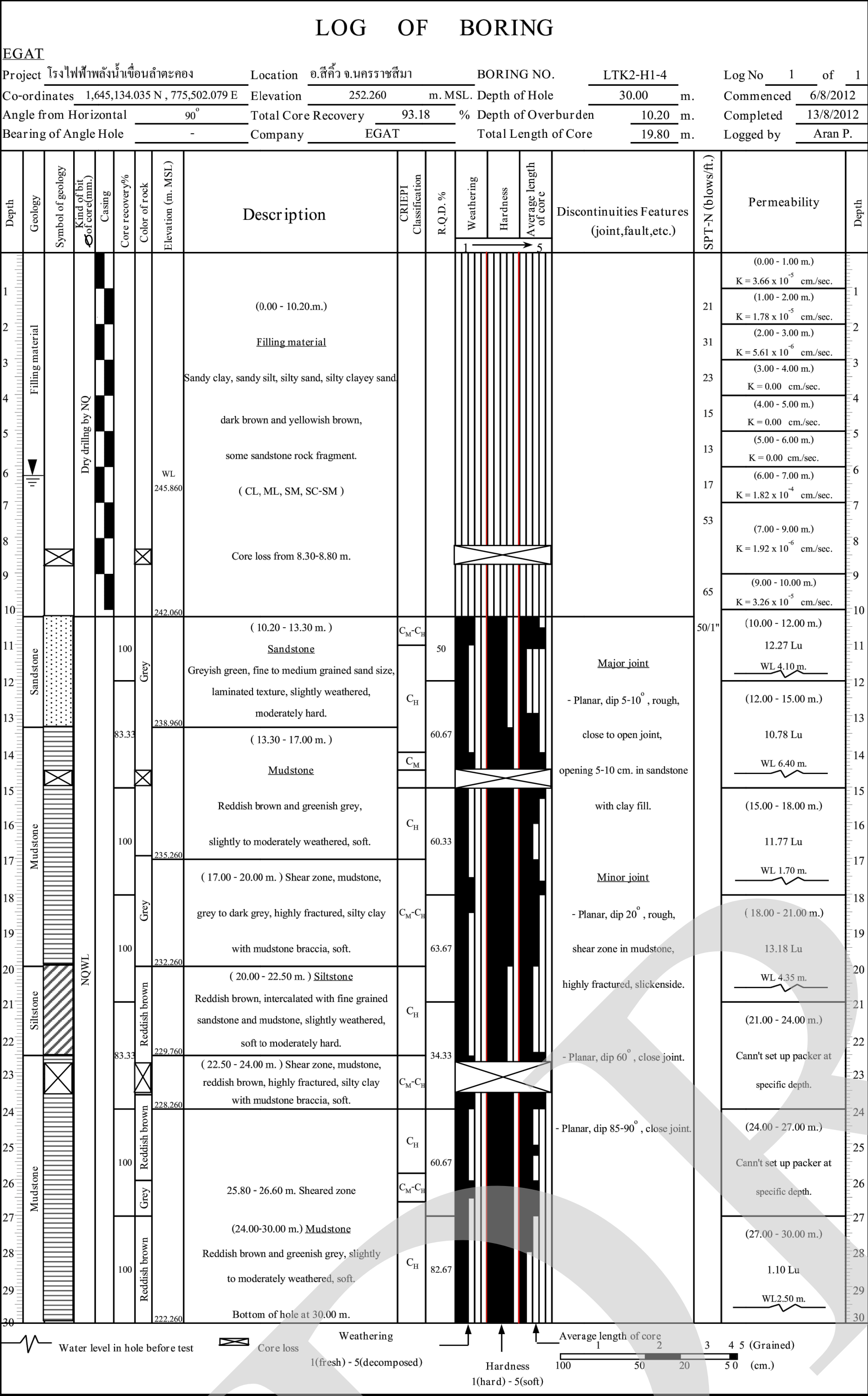


LTK2-H1-3

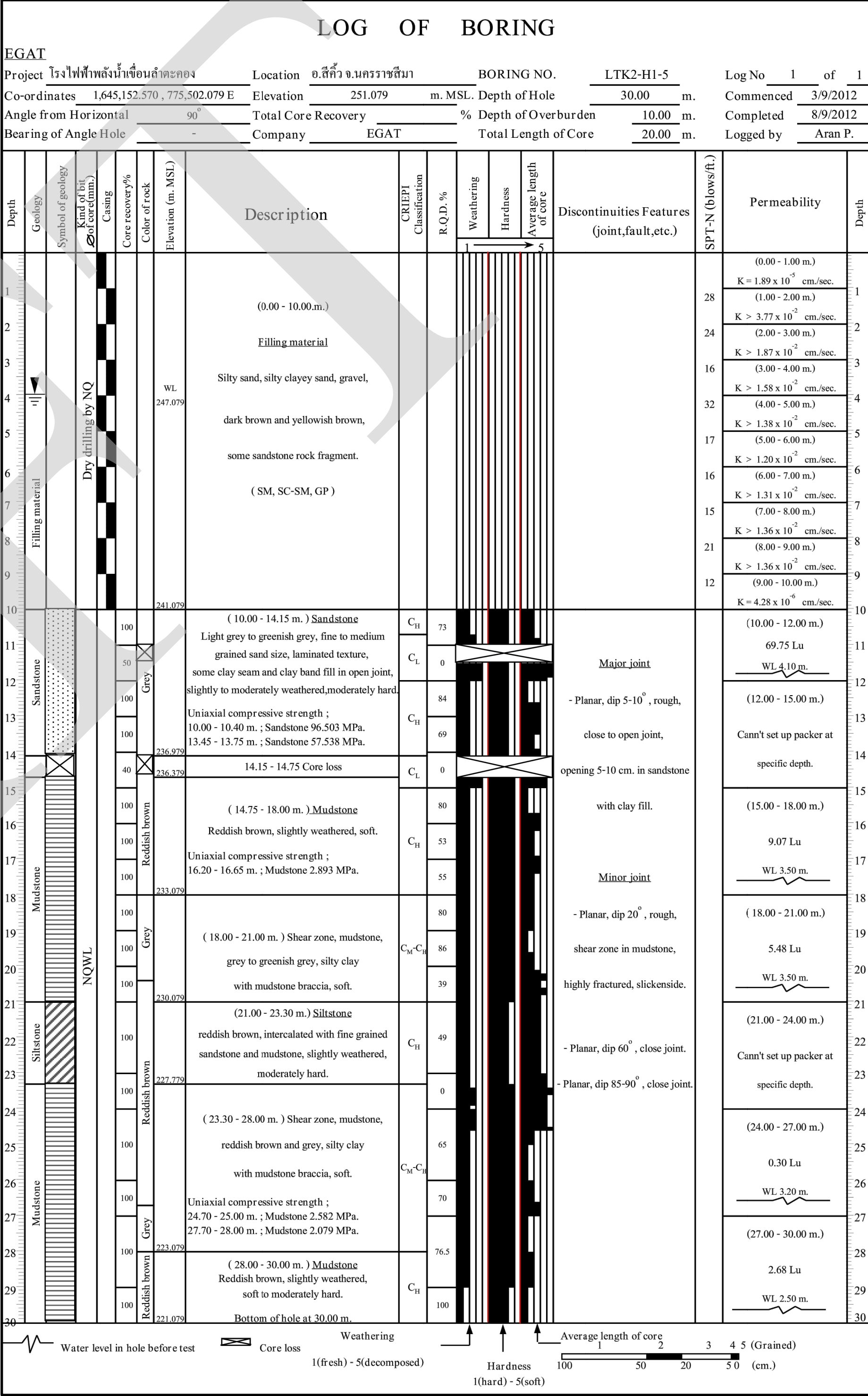
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	.....		
ENGINEER :	CONCURRED			
DRAWN :	.....		
CHECKED :	.....		
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....	.....		HDI-LTK-000-C-012	



LTK2-H1-4

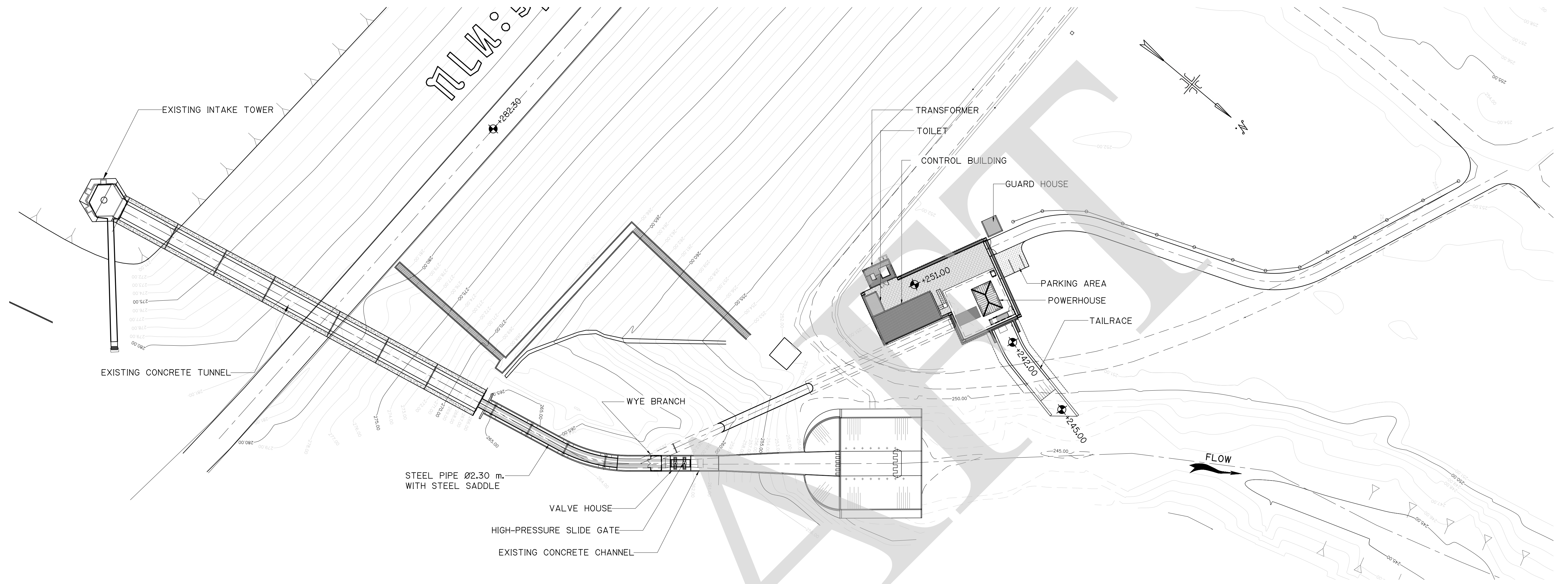


LTK2-H1-5

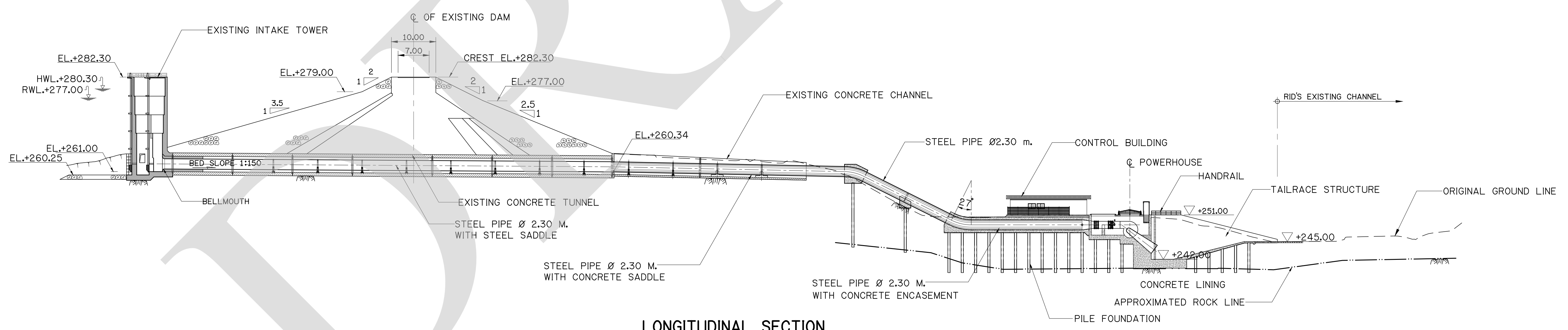
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED	

ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :			SUBMITTED		
ENGINEER :			.....	
ENGINEER :			CONCURRED		
DRAWN :				
CHECKED :				
APPROVED			DATE		
.....			REPLACING DWG. NO.		
.....			DWG. NO.		
.....			HDI-LTK-000-C-013		
.....			REV.		
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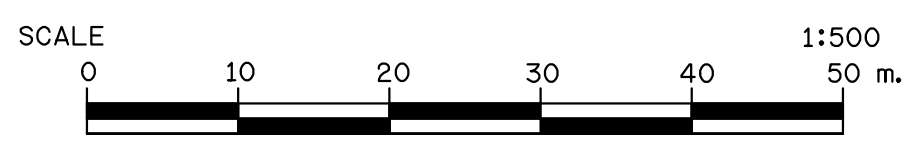


PLAN OF PENSTOCK
SCALE 1 : 500



LONGITUDINAL SECTION
SCALE 1 : 500

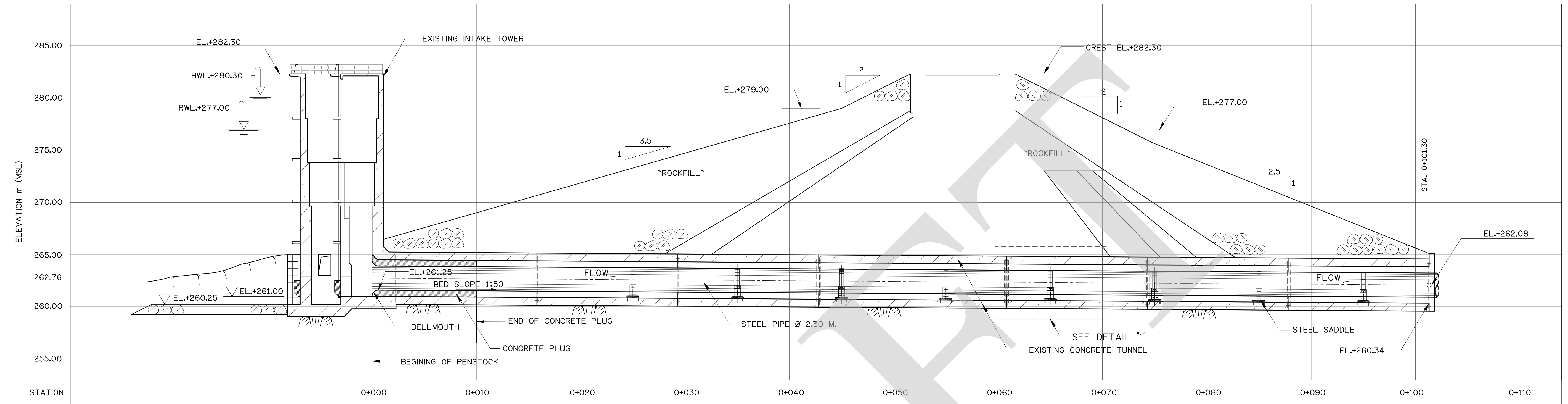
- NOTES :
- 1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - 2. SEE WATER SURFACE ELEVATIONS OF RESERVOIR AND TAILWATER IN VOLUME II TECHNICAL SPECIFICATIONS-EQUIPMENT WORKS, TM-I TURBINE EQUIPMENT, CLAUSE No. TM-1.3 DESIGN DATA.



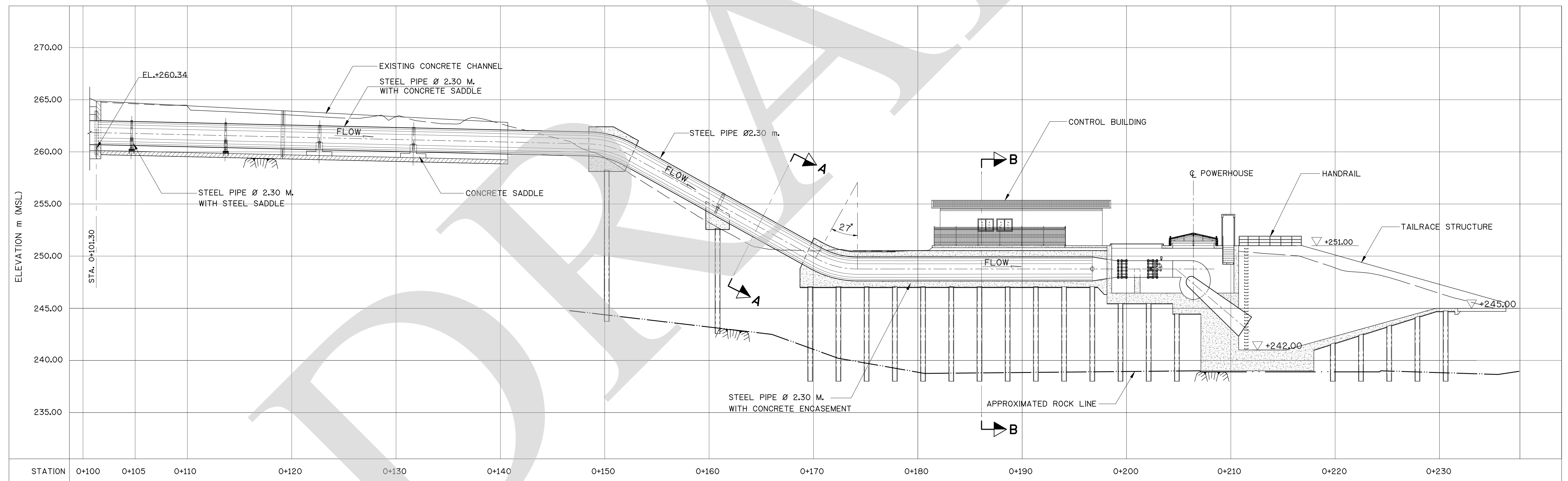
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		.....		
ENGINEER :		CONCURRED	PENSTOCK OVERALL PLAN AND LONGITUDINAL SECTION		
DRAWN :		.....		
CHECKED :		.....		
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....			HDI-L TK-LPC-C-001	



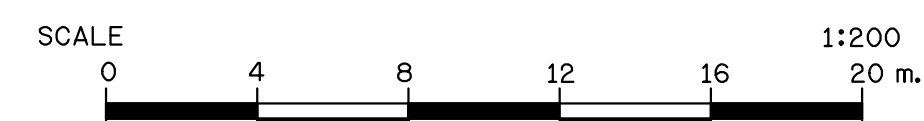
PROFILE OF PENSTOCK
SCALE 1 : 200



PROFILE OF PENSTOCK
SCALE 1 : 200

NOTES :

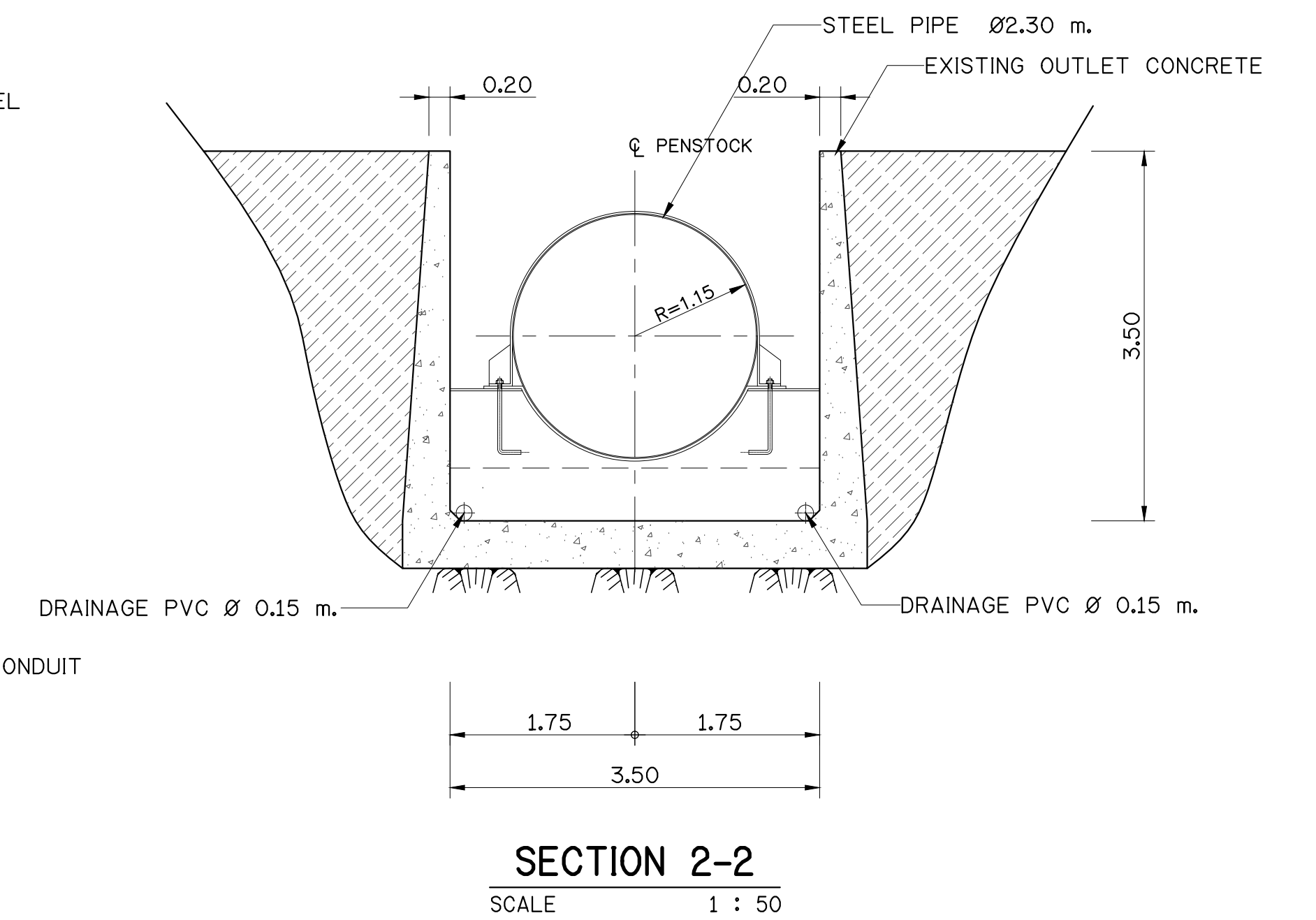
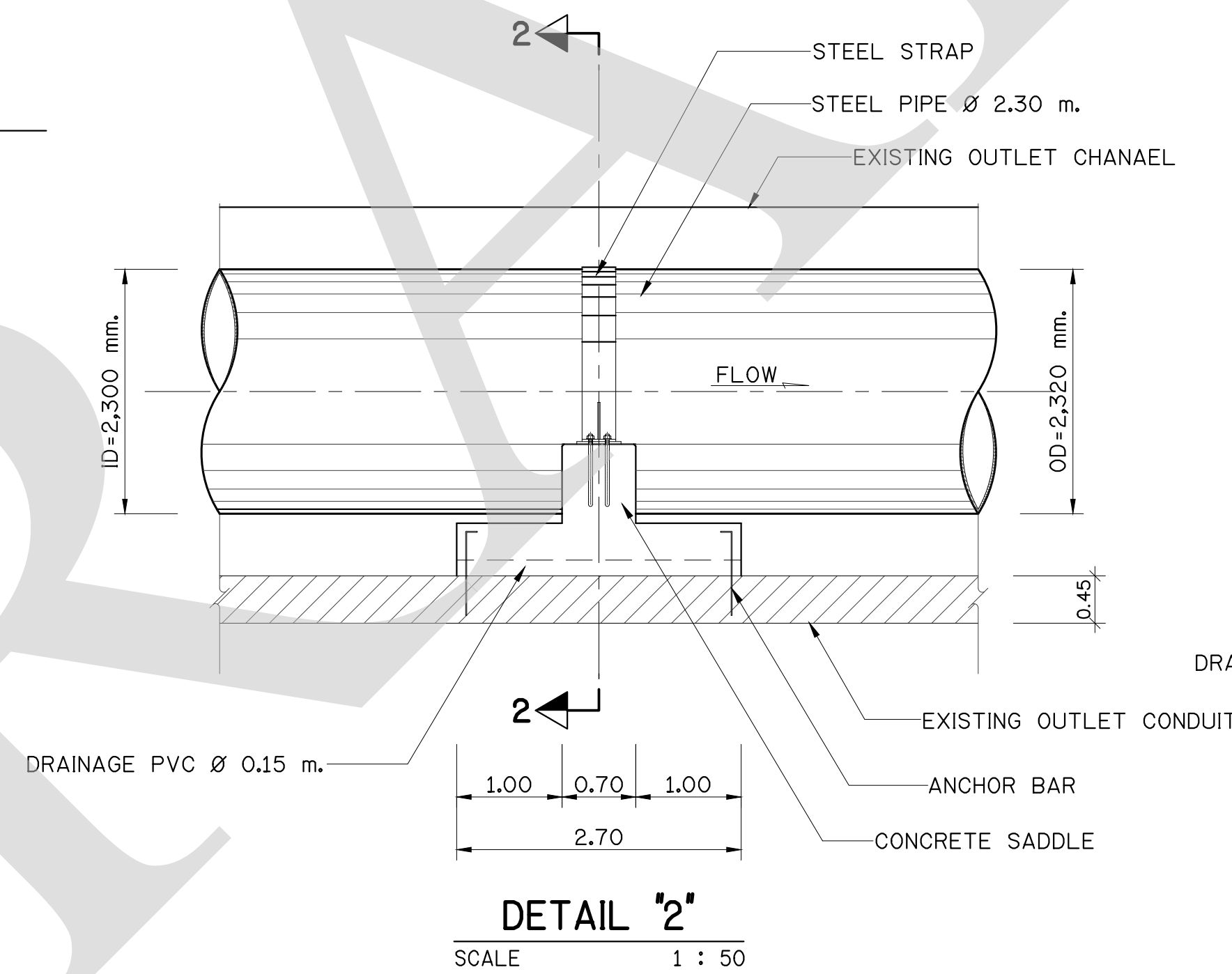
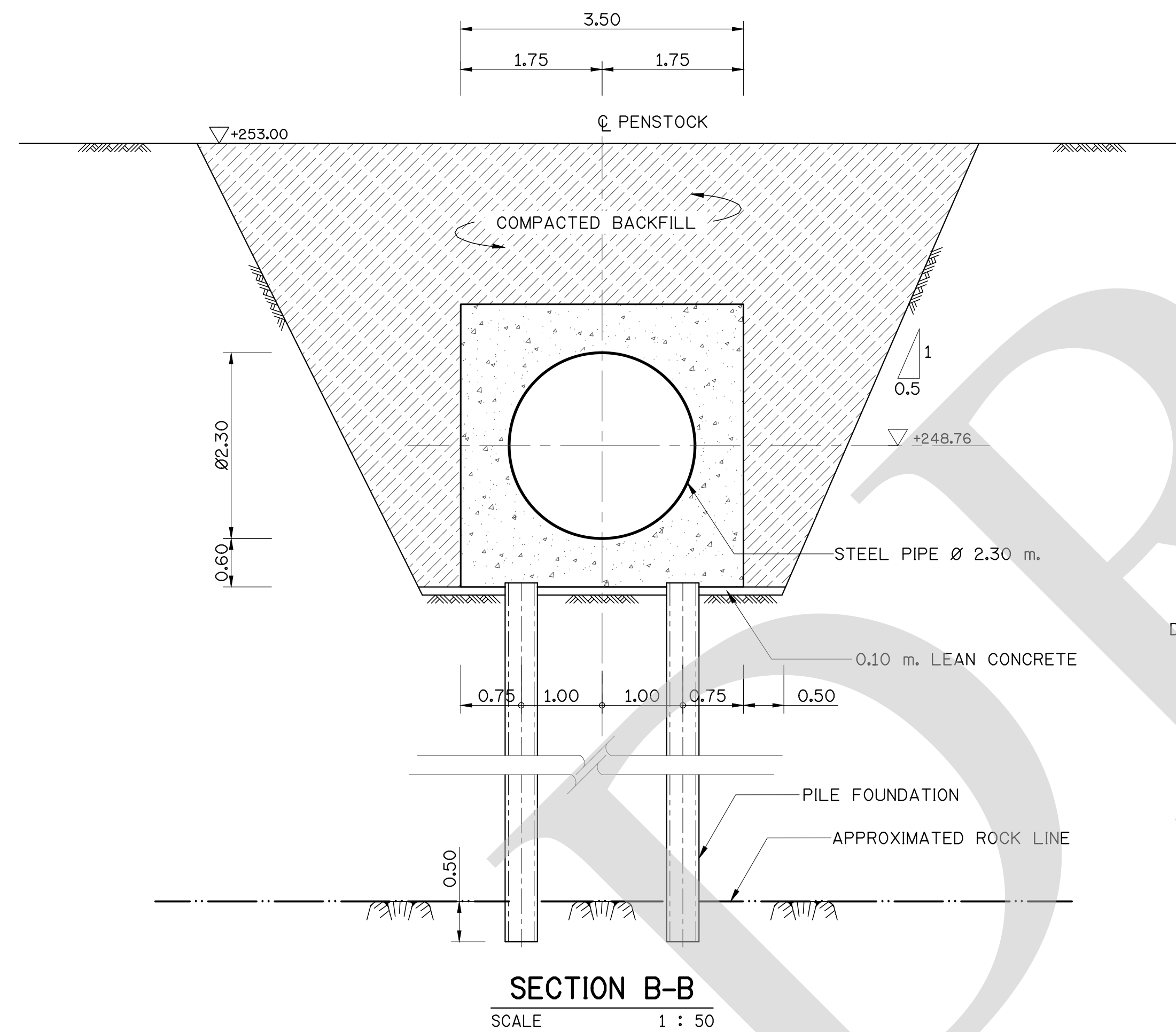
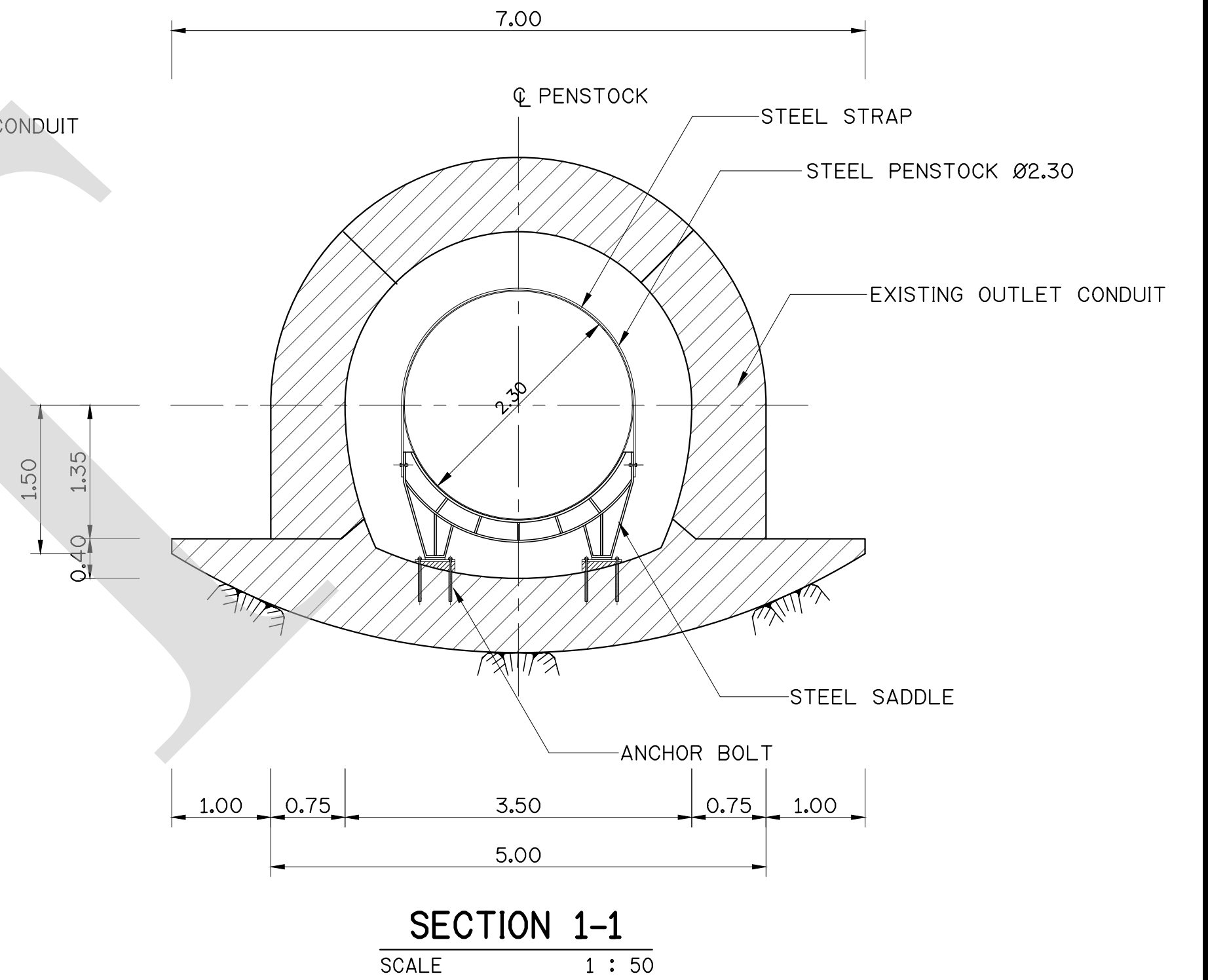
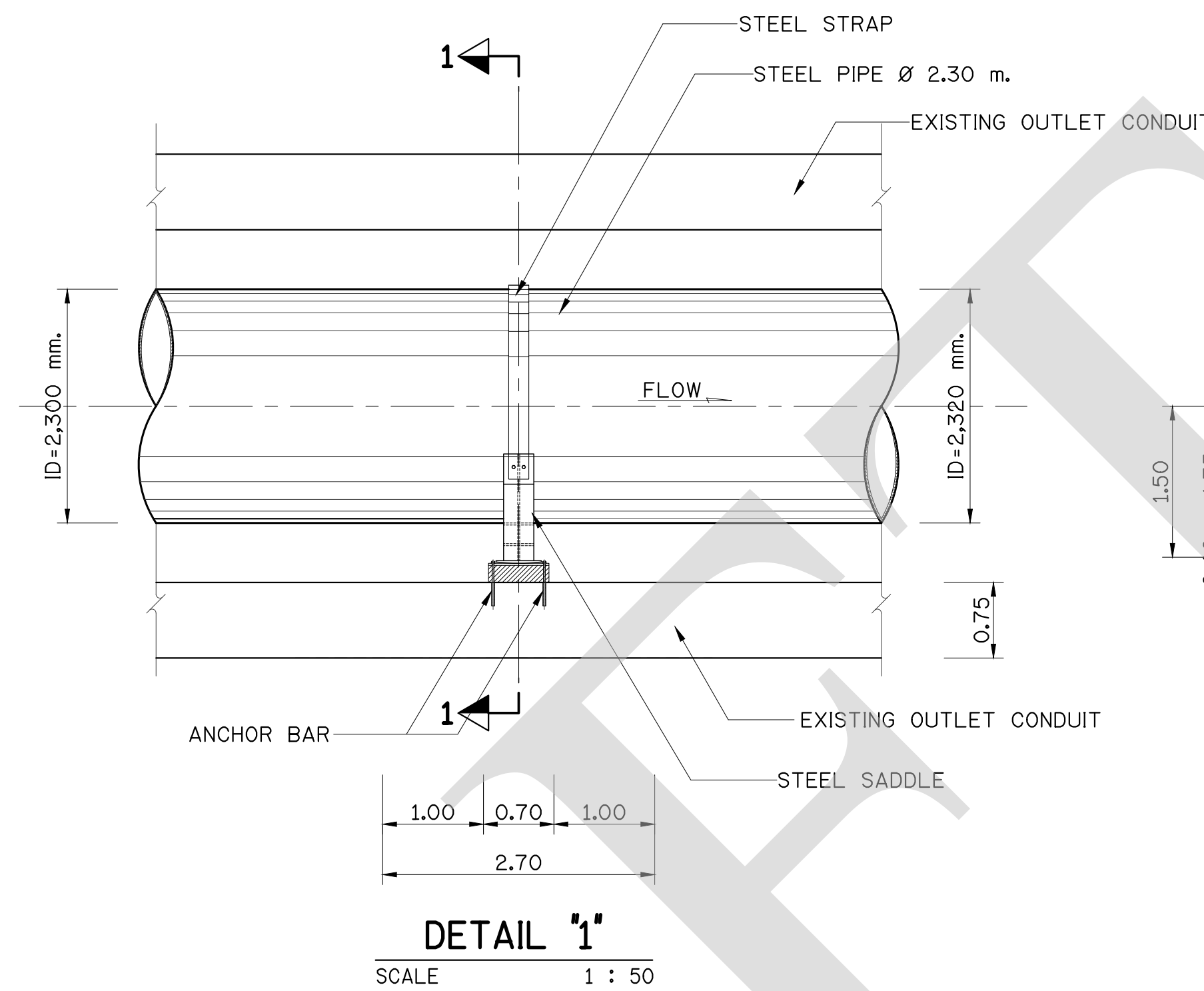
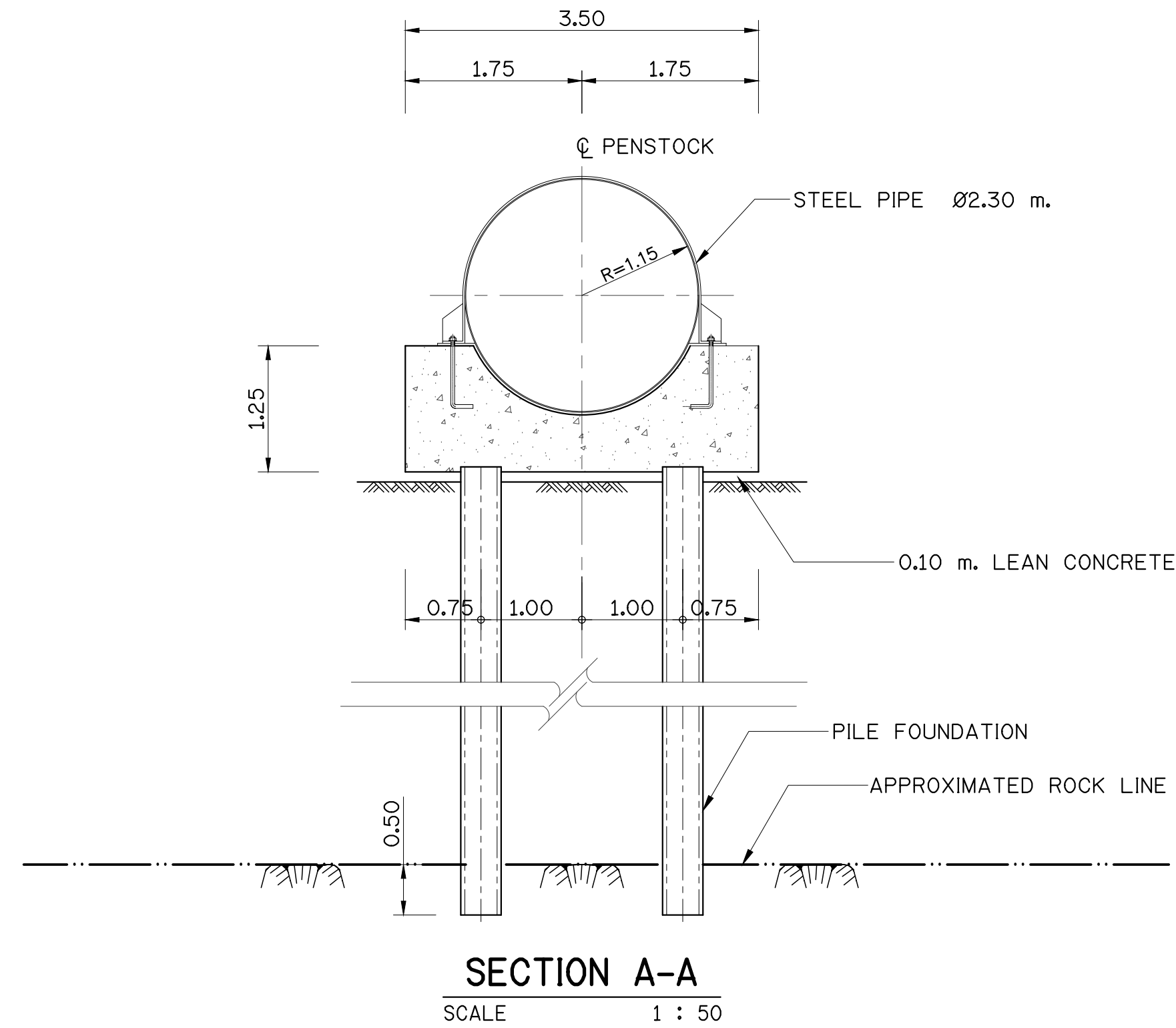
- ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- SEE WATER SURFACE ELEVATIONS OF RESERVOIR AND TAILWATER IN VOLUME II TECHNICAL SPECIFICATIONS-EQUIPMENT WORKS, TM-I TURBINE EQUIPMENT, CLAUSE No. TM-1.3 DESIGN DATA.



FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	PENSTOCK PROFILE OF PENSTOCK		
DRAWN :		REPLACING DWG. NO.	DWG. NO.	REV.
CHECKED :			HDI-LTK-LPC-C-002	
APPROVED	DATE			



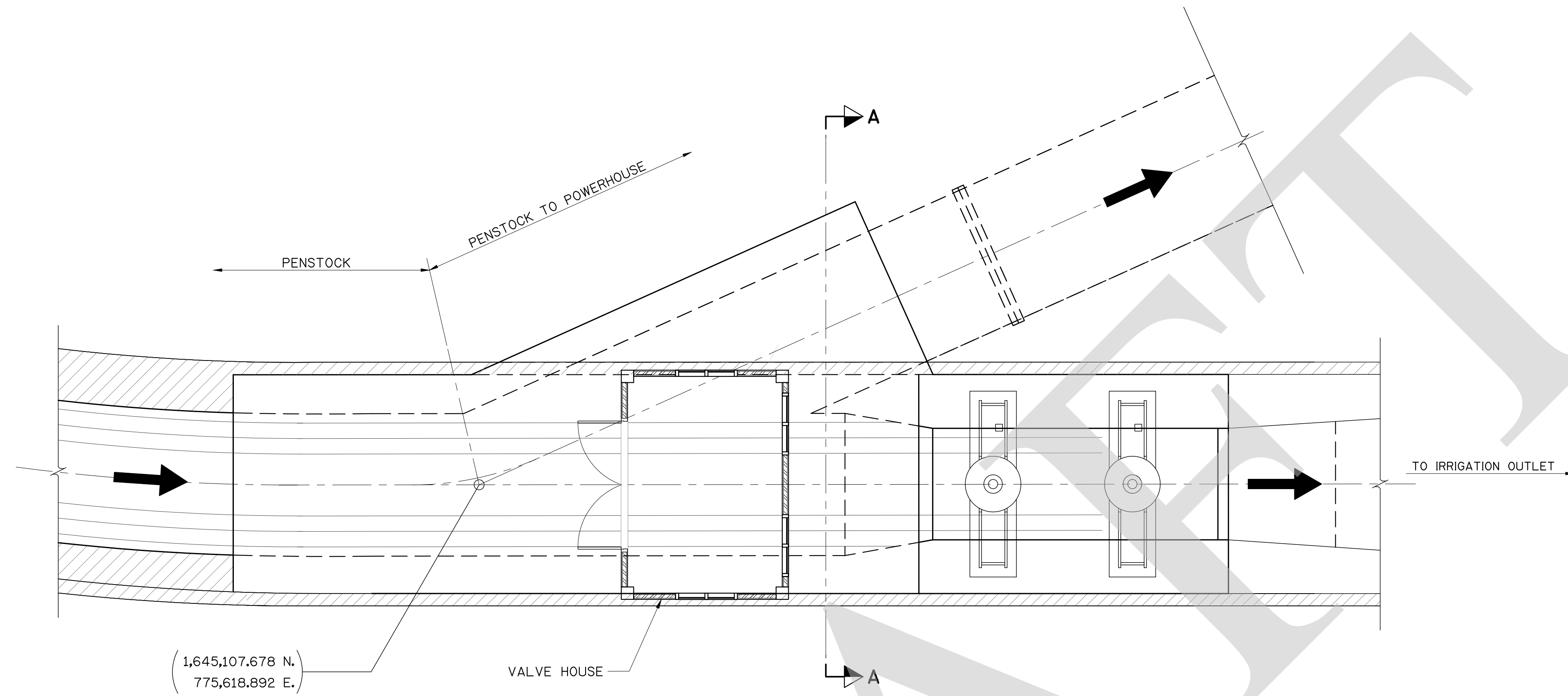
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

FOR BIDDING ONLY



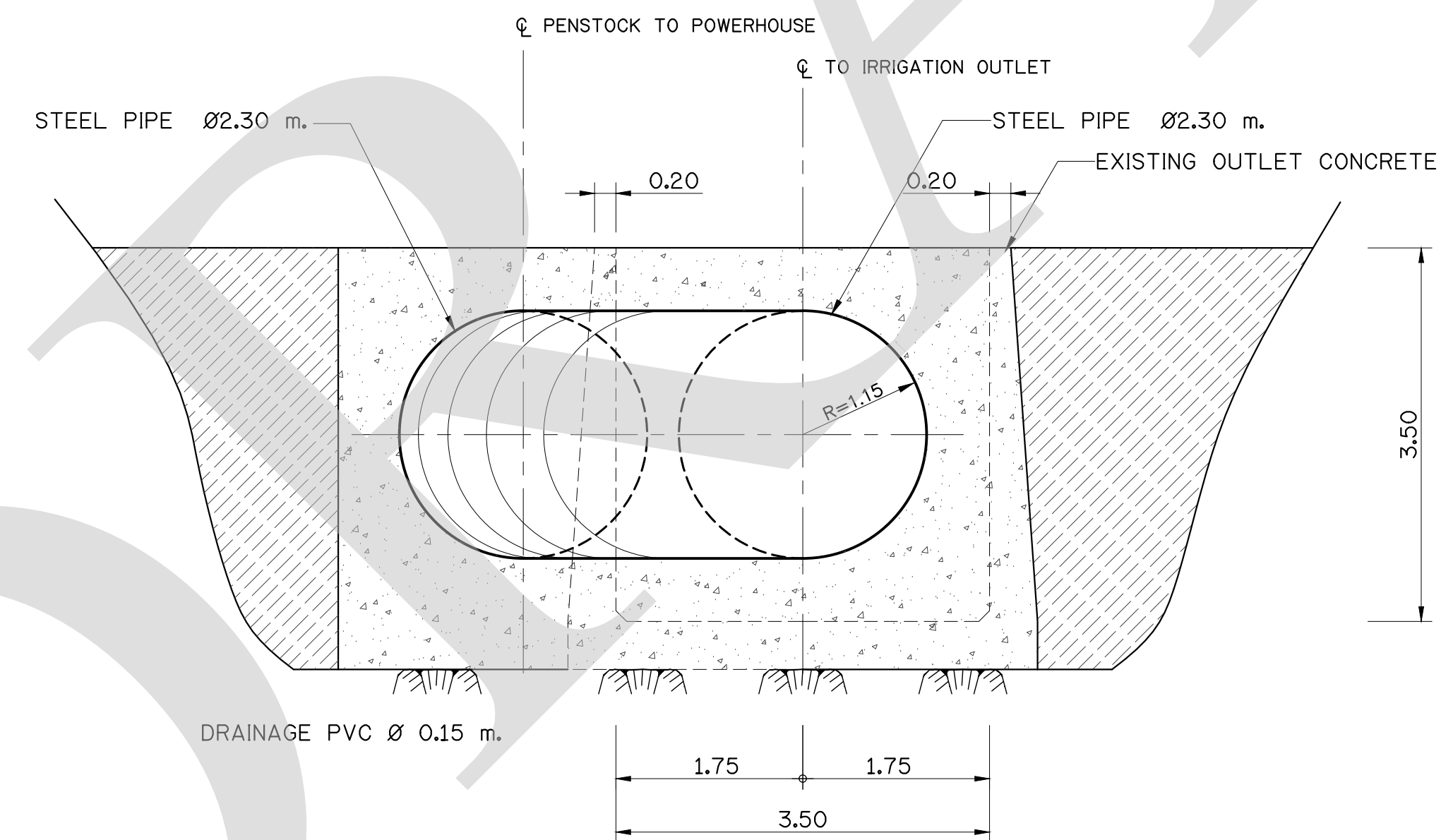
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	PENSTOCK SECTION AND DETAIL		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-LPC-C-003	



PLAN OF WYE BRANCH

SCALE 1 : 50



SECTION A-A

SCALE 1 : 50

NOTES :

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

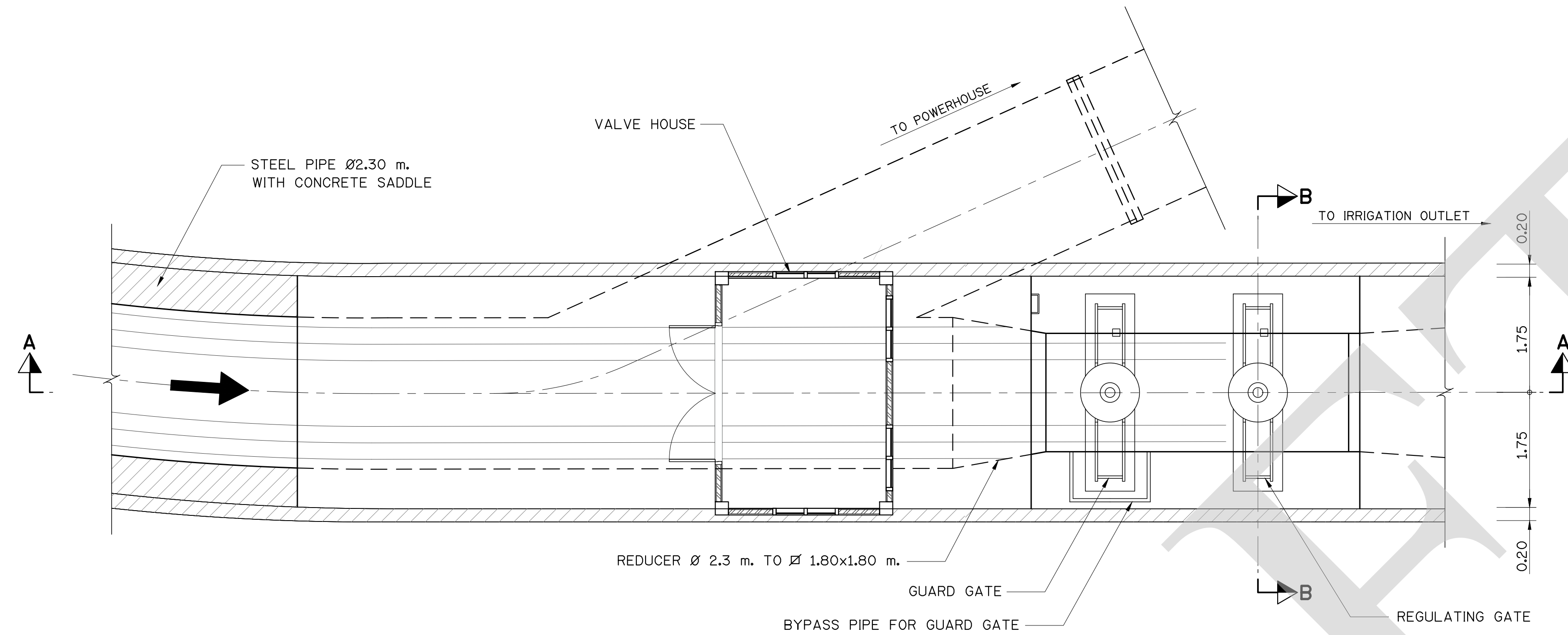


FOR BIDDING ONLY

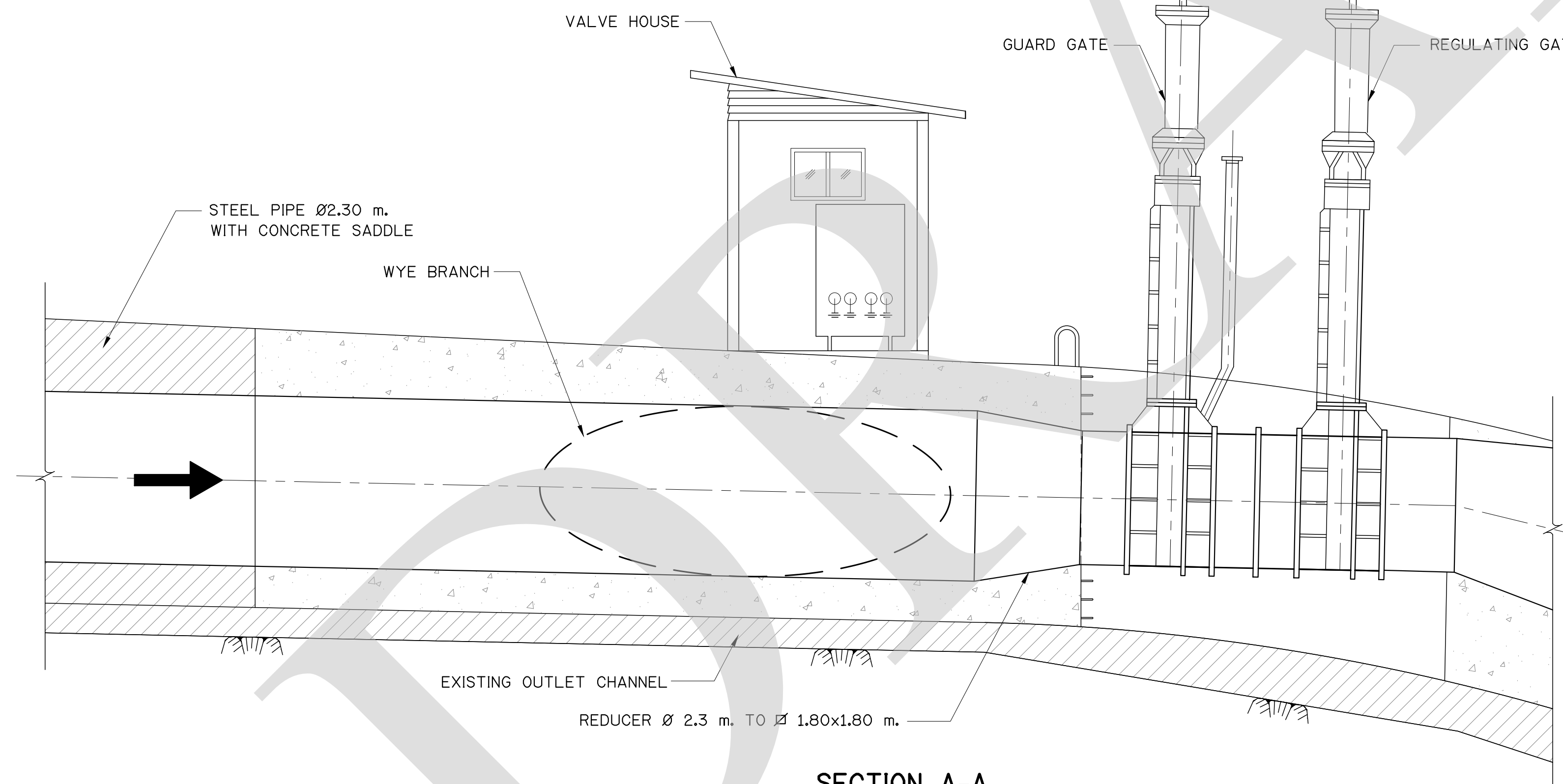
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND

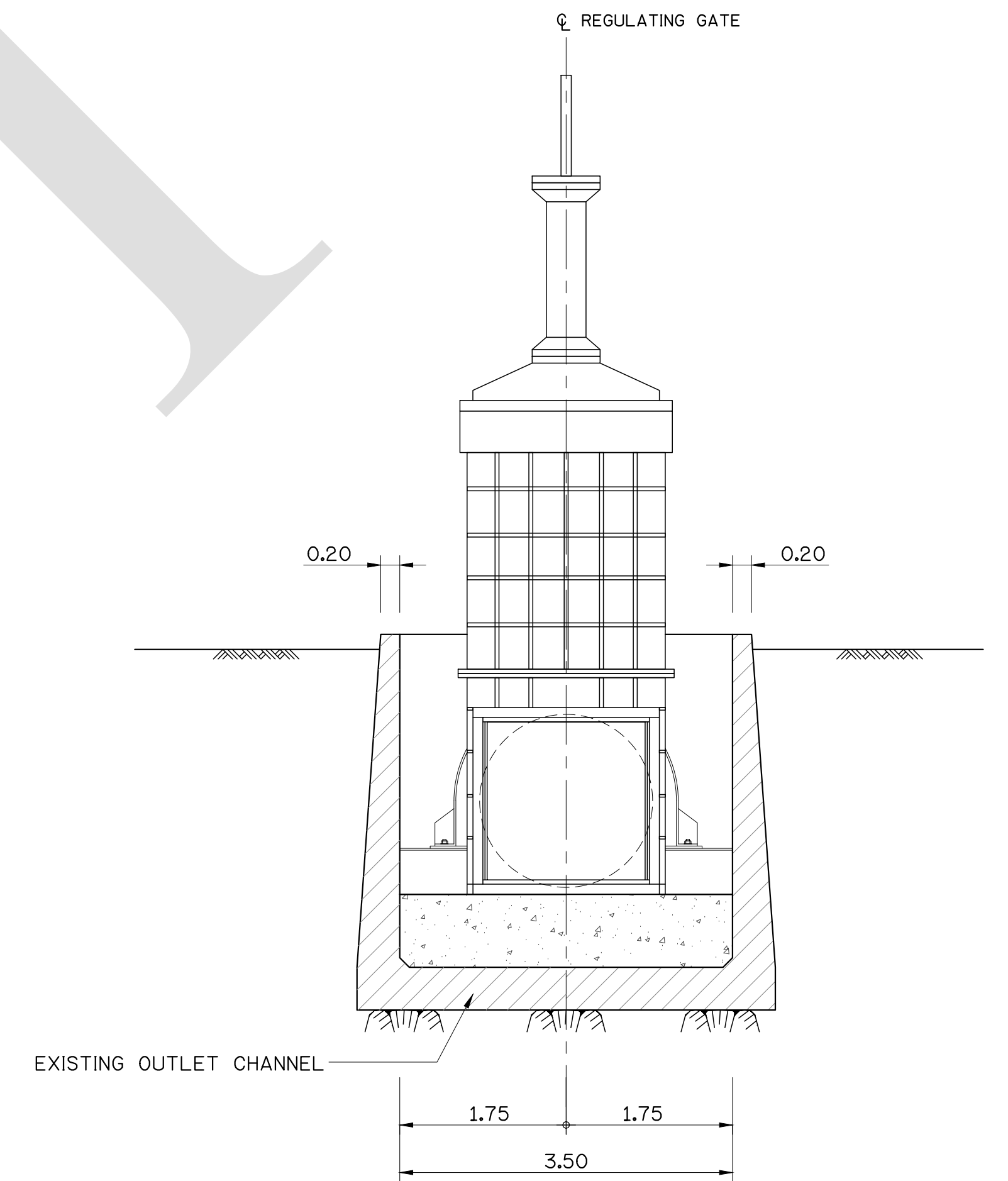
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ENGINEER :				
ENGINEER :	CONCURRED	WYE BRANCH PLAN AND SECTION		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-LPC-C-004	



PLAN
SCALE 1 : 50

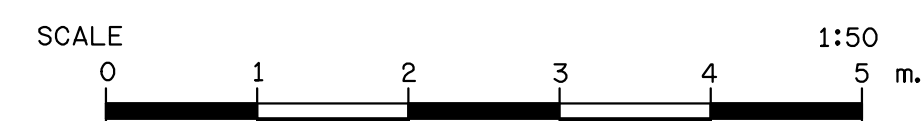


SECTION A-A
SCALE 1 : 50



SECTION B-B
SCALE 1 : 50

NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

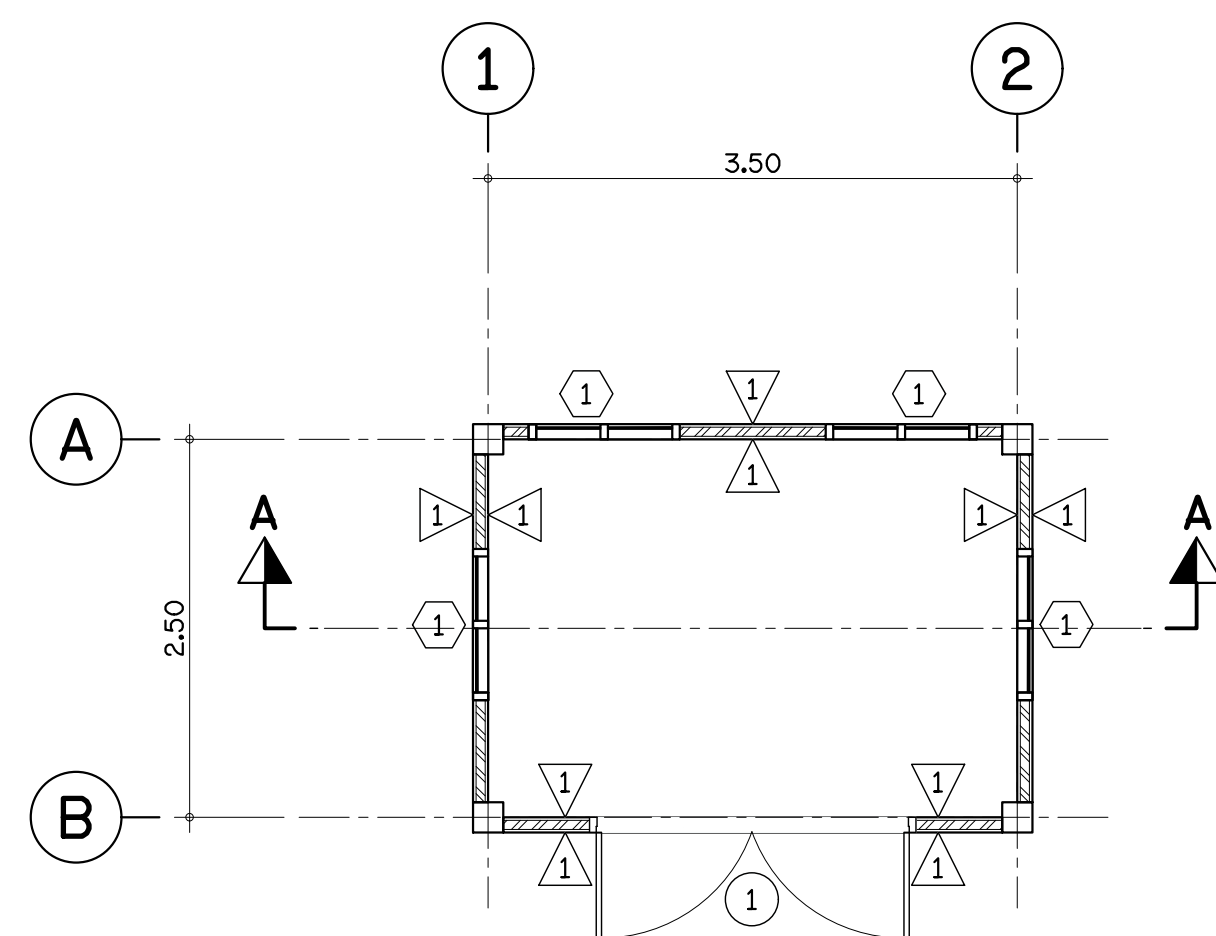


FOR BIDDING ONLY

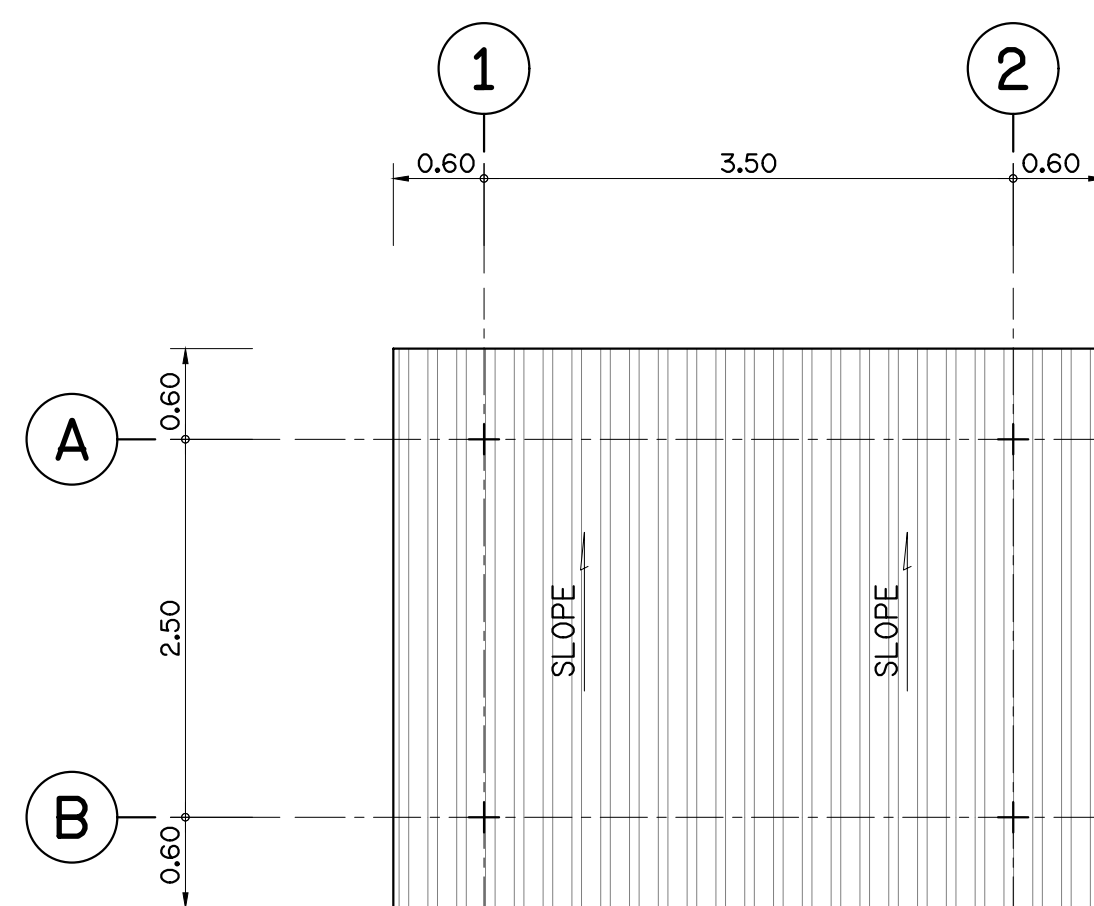
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND

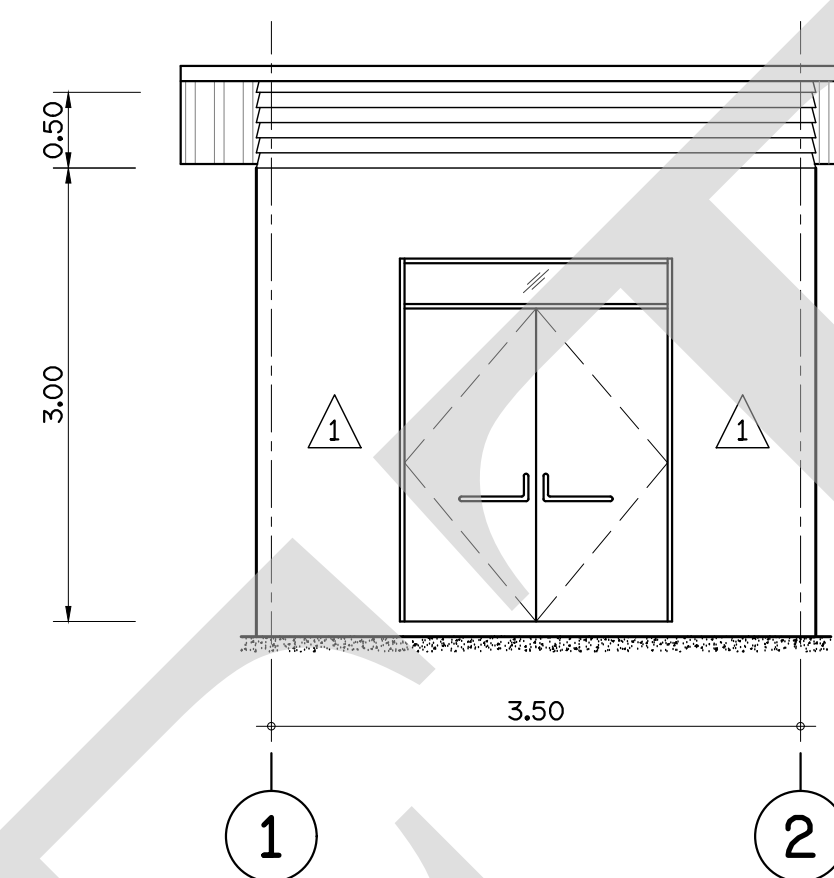
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	IRRIGATION OUTLET PLAN AND SECTION		
DRAWN :				
CHECKED :		REPLACING DWG. NO.		
APPROVED	DATE			
		DWG. NO.	HDI-LTK-LPC-C-005	REV.



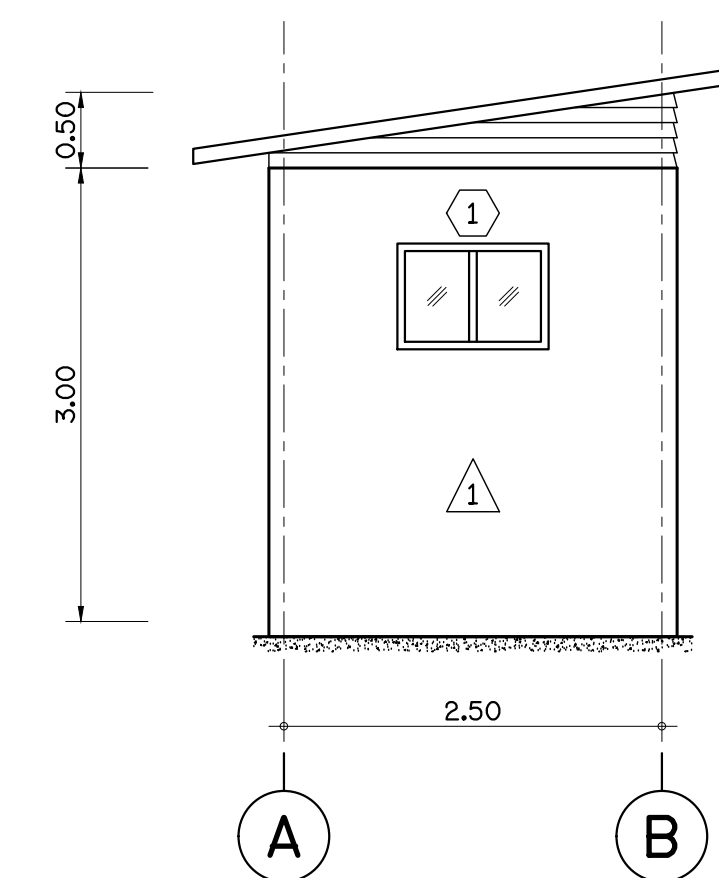
PLAN
SCALE 1 : 50



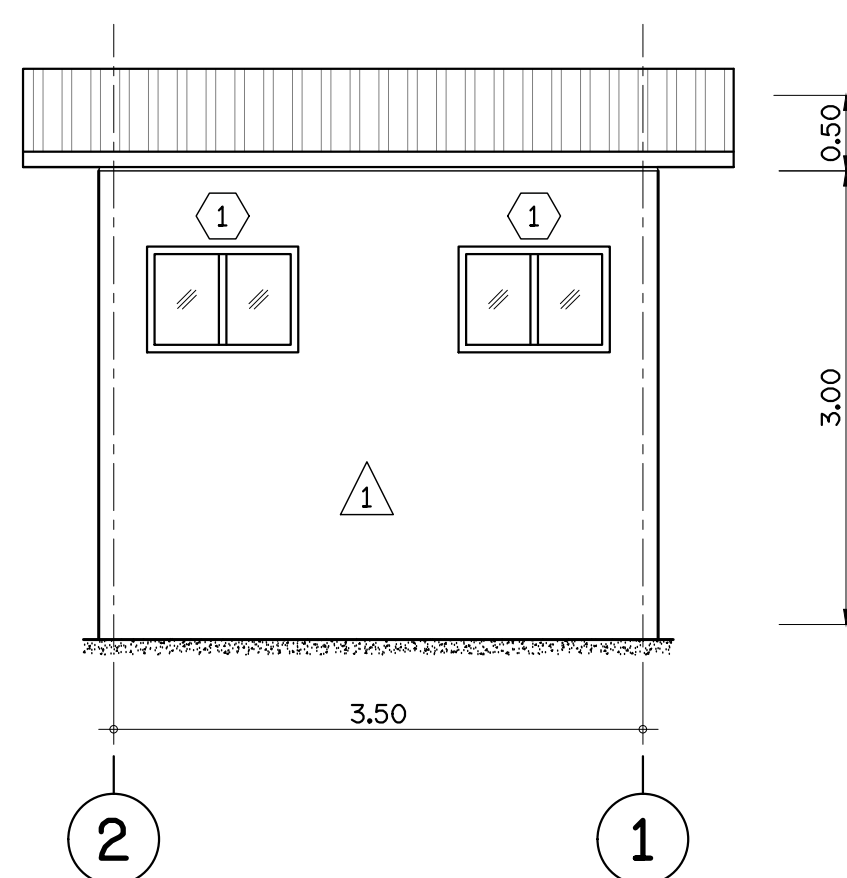
ROOF PLAN
SCALE 1 : 50



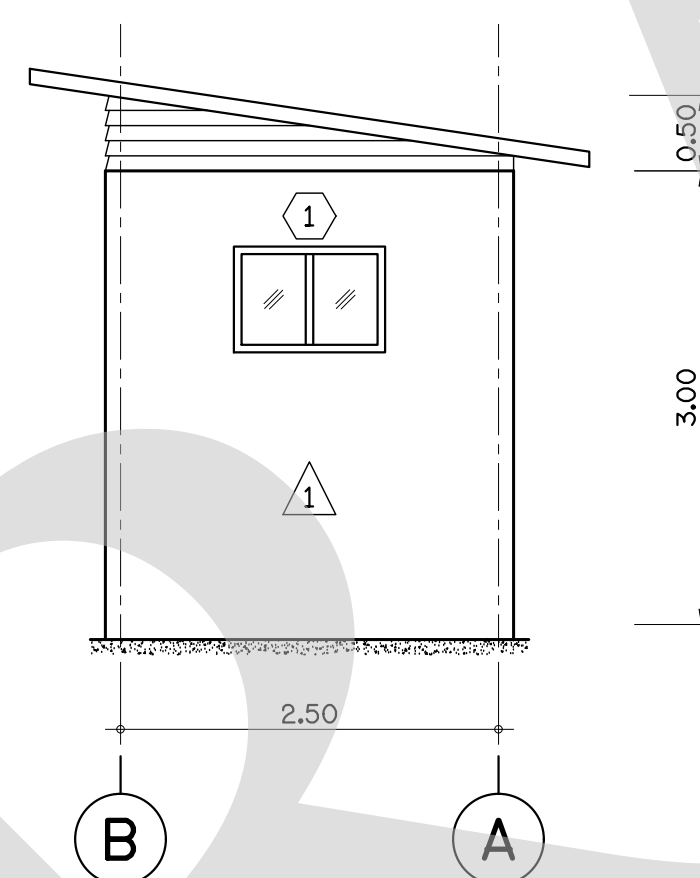
ELEVATION 1
SCALE 1 : 50



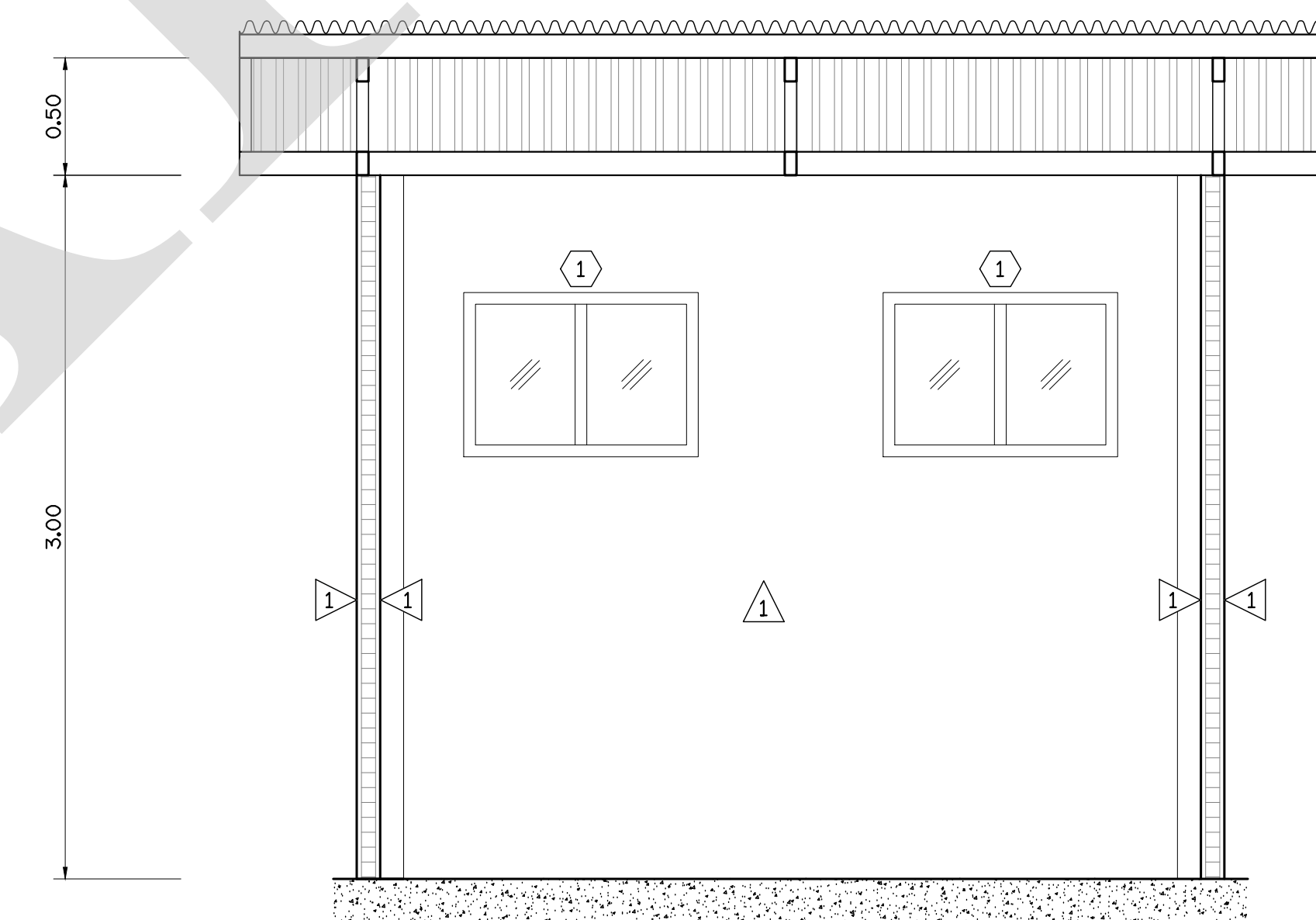
ELEVATION 2
SCALE 1 : 50



ELEVATION 3
SCALE 1 : 50



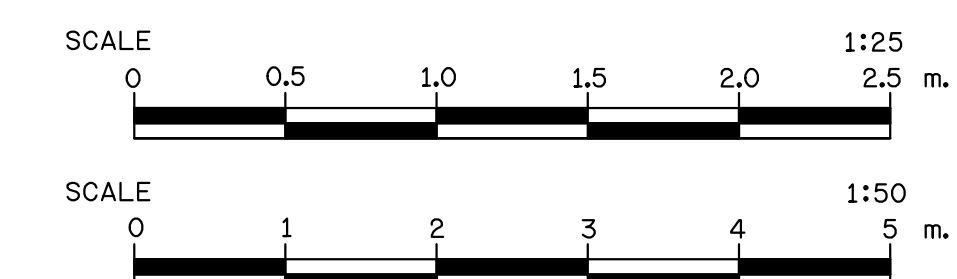
ELEVATION 4
SCALE 1 : 50



SECTION A-A
SCALE 1 : 25

SYMBOL

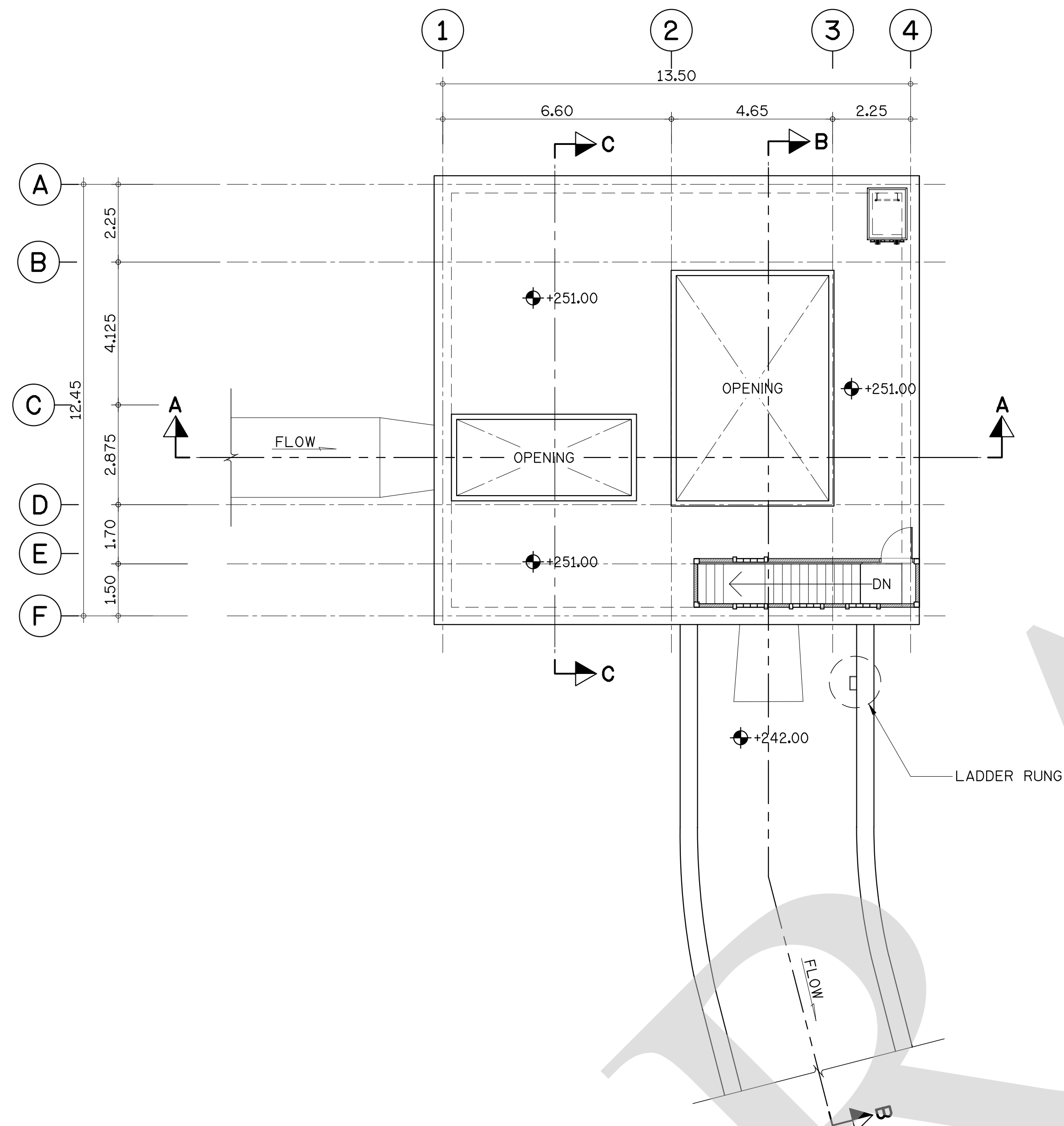
- LIGHTWEIGHT BLOCK WALL INCLUDED PLASTER WALL 100 mm. THK.
- ALUMINIUM SLIDING WINDOW
- STEEL FLUSH DOOR



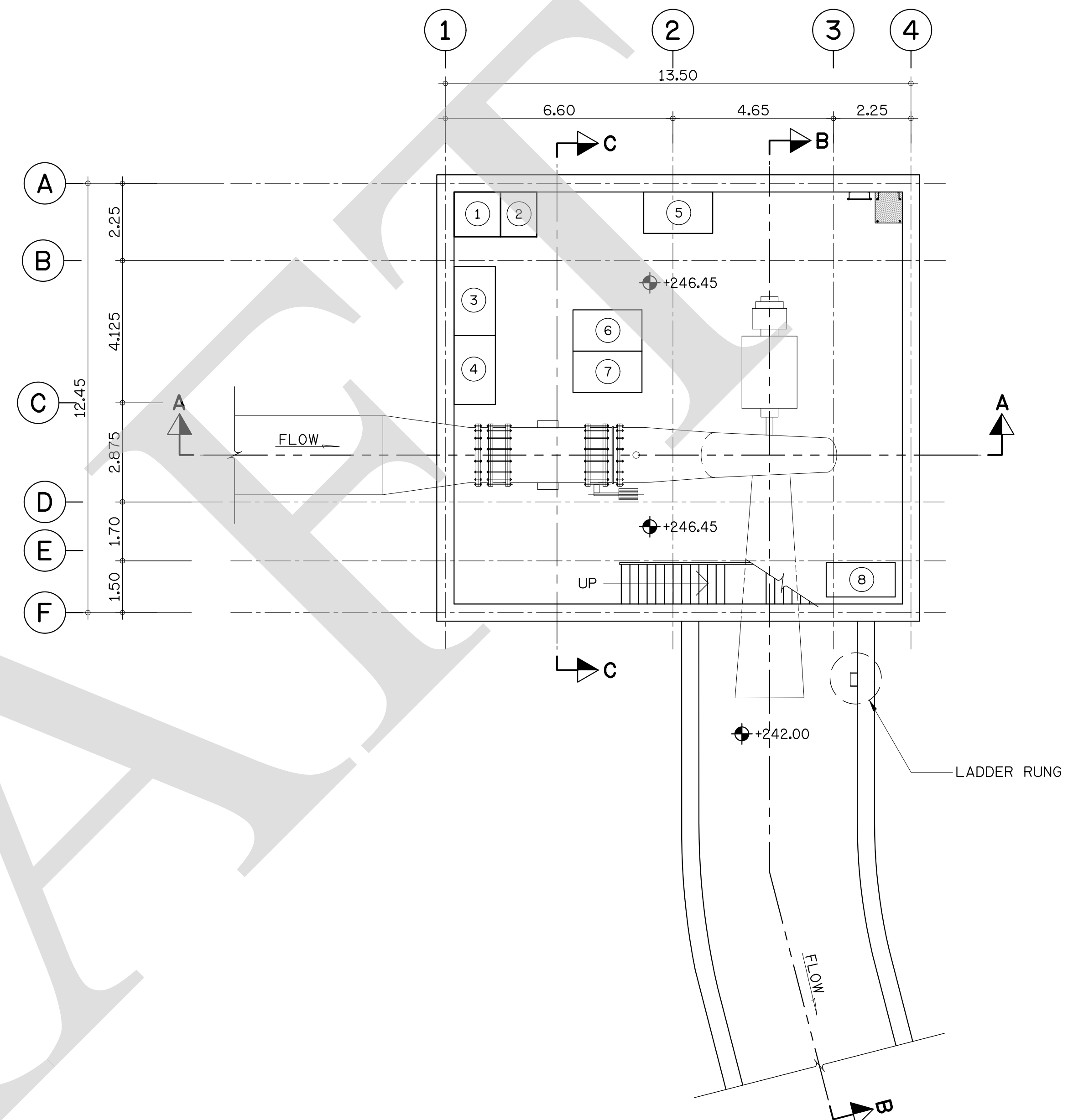
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	IRROGATION OUTLET VALVE HOUSE		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-LPC-C-006	



PLAN AT +251.00
SCALE 1 : 100



PLAN AT +246.45
SCALE 1 : 100

FACILITIES LEGEND

- ① NGT. PANEL
- ② LAVT. PANEL
- ③ VENTILATION
- ④ AIR COMPRESSOR
- ⑤ COOLING WATER SYSTEM
- ⑥ OIL SYSTEM
- ⑦ GOVERNOR
- ⑧ SUMP PIT

NOTES :

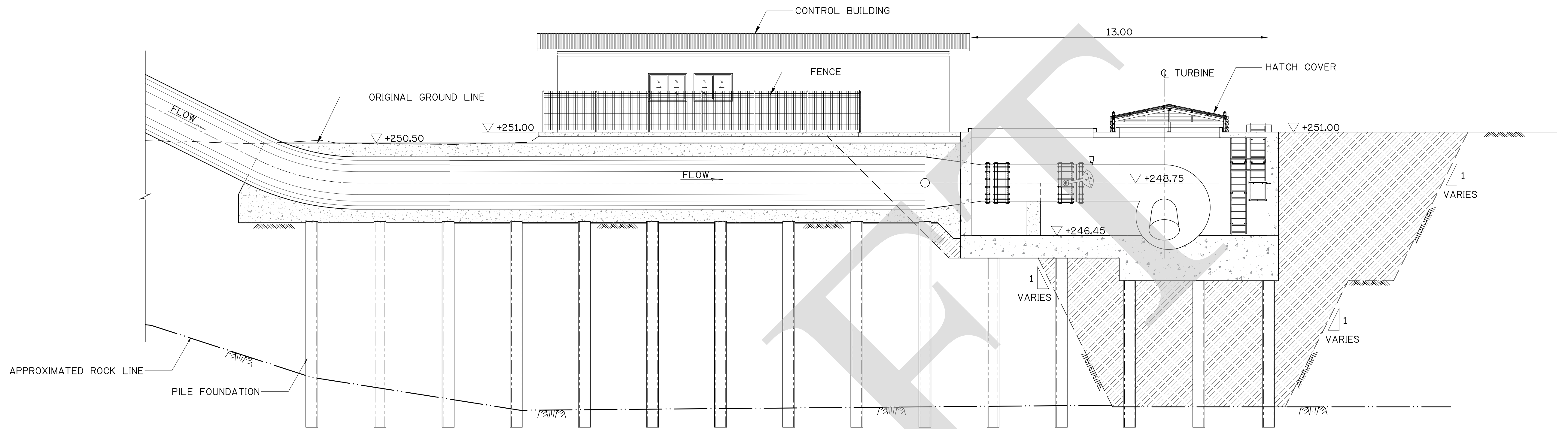
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

FOR BIDDING ONLY

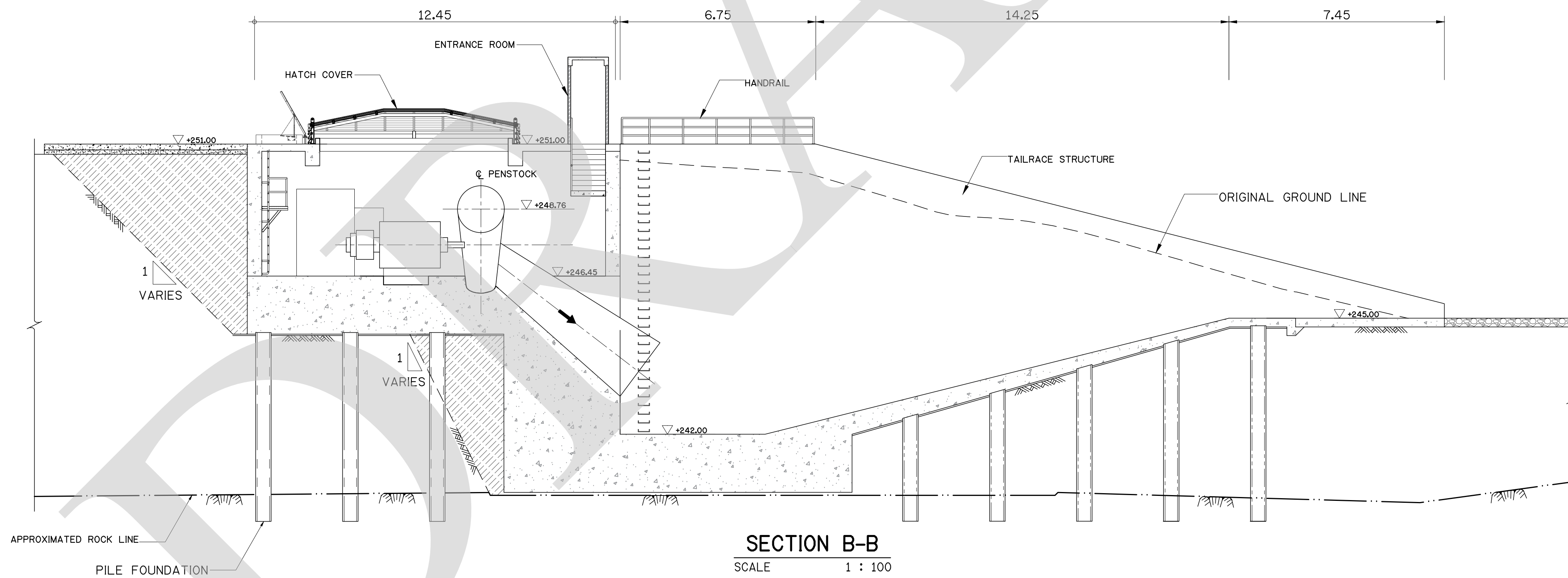


NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		.....		
ENGINEER :		CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE PLAN AT EL.+251.00 AND +246.45		
DRAWN :		.....		
CHECKED :		.....		
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....		.....		HDI-LTK-UME-C-001	
D					



SECTION A-A
SCALE 1 : 100



SECTION B-B
SCALE 1 : 100

NOTES :

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. SEE WATER SURFACE ELEVATIONS OF RESERVOIR AND TAILWATER IN VOLUME II TECHNICAL SPECIFICATIONS-EQUIPMENT WORKS, TM-I TURBINE EQUIPMENT, CLAUSE No. TM-1.3 DESIGN DATA.

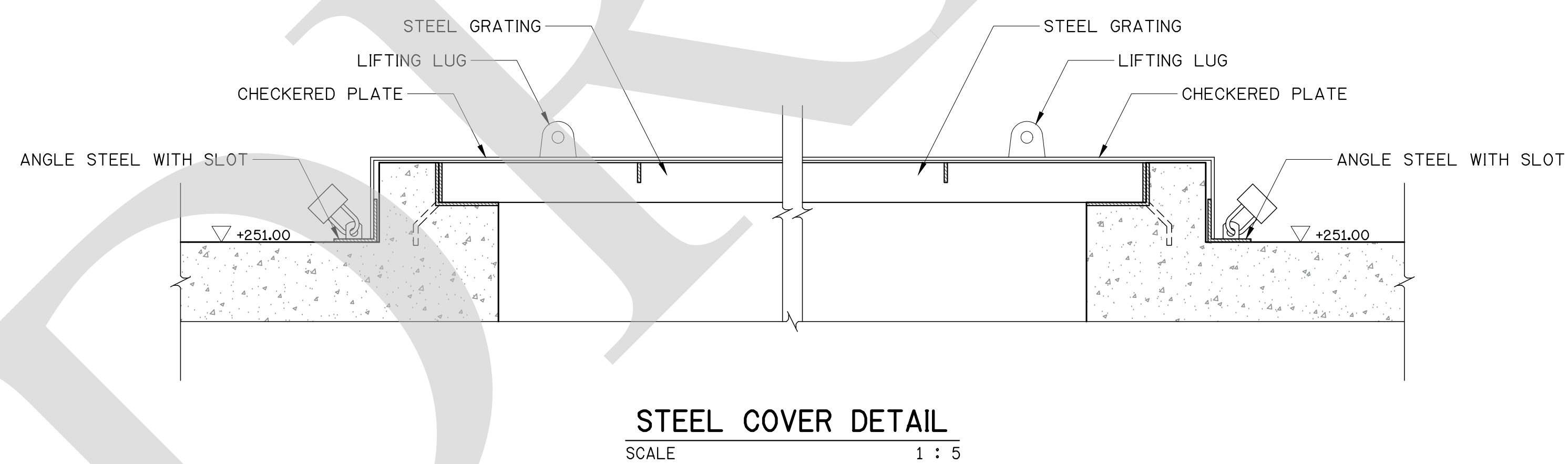
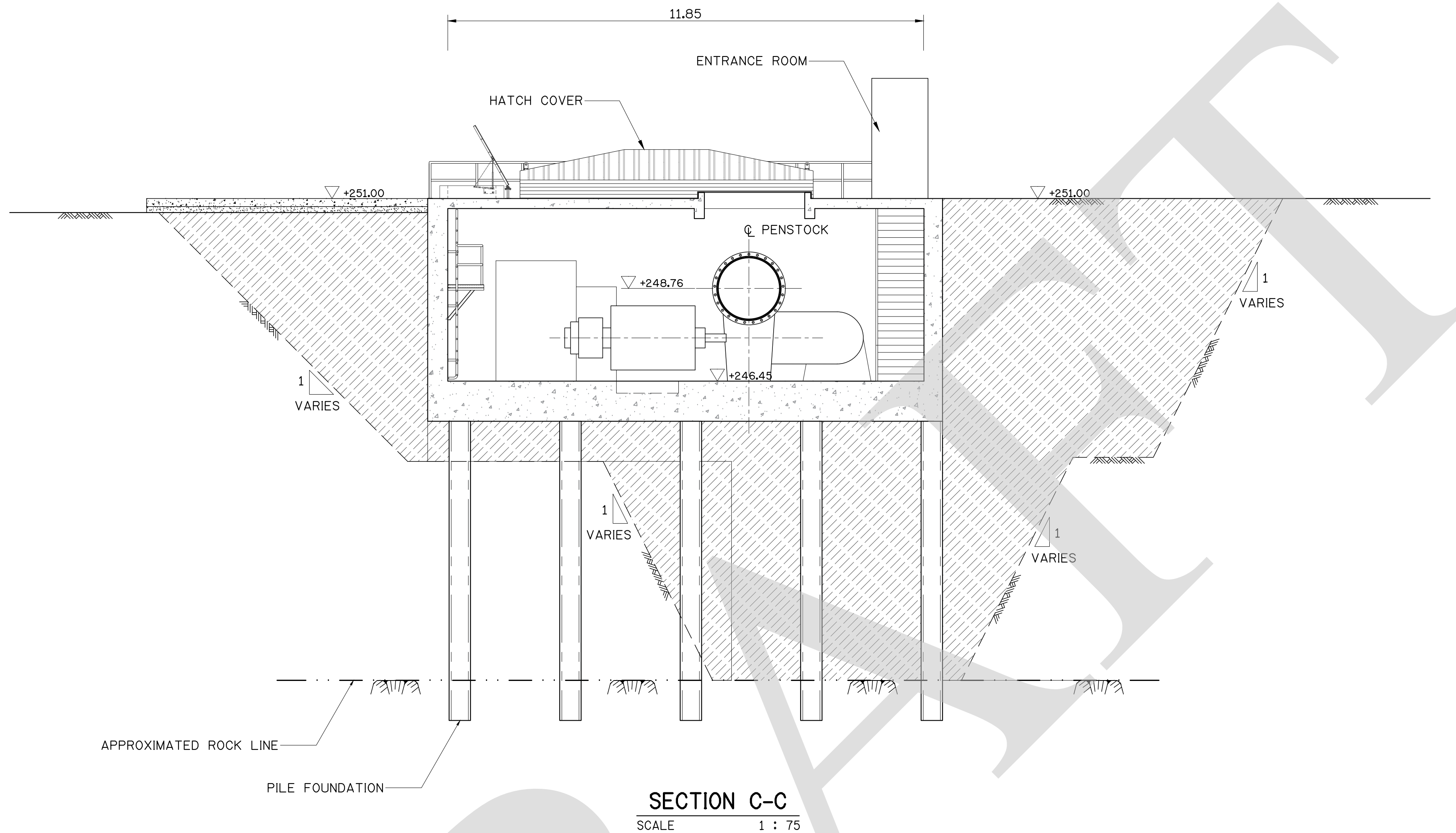
FOR BIDDING ONLY



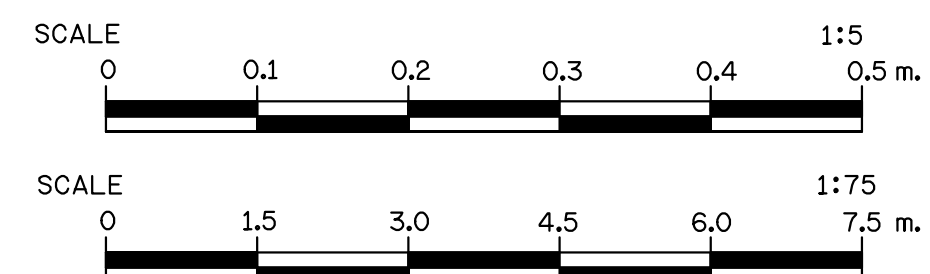
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND

ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		POWERHOUSE ARCHITECTURE AND STRUCTURE		
ENGINEER :	CONCURRED	SECTION A-A AND B-B		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-UME-C-002	



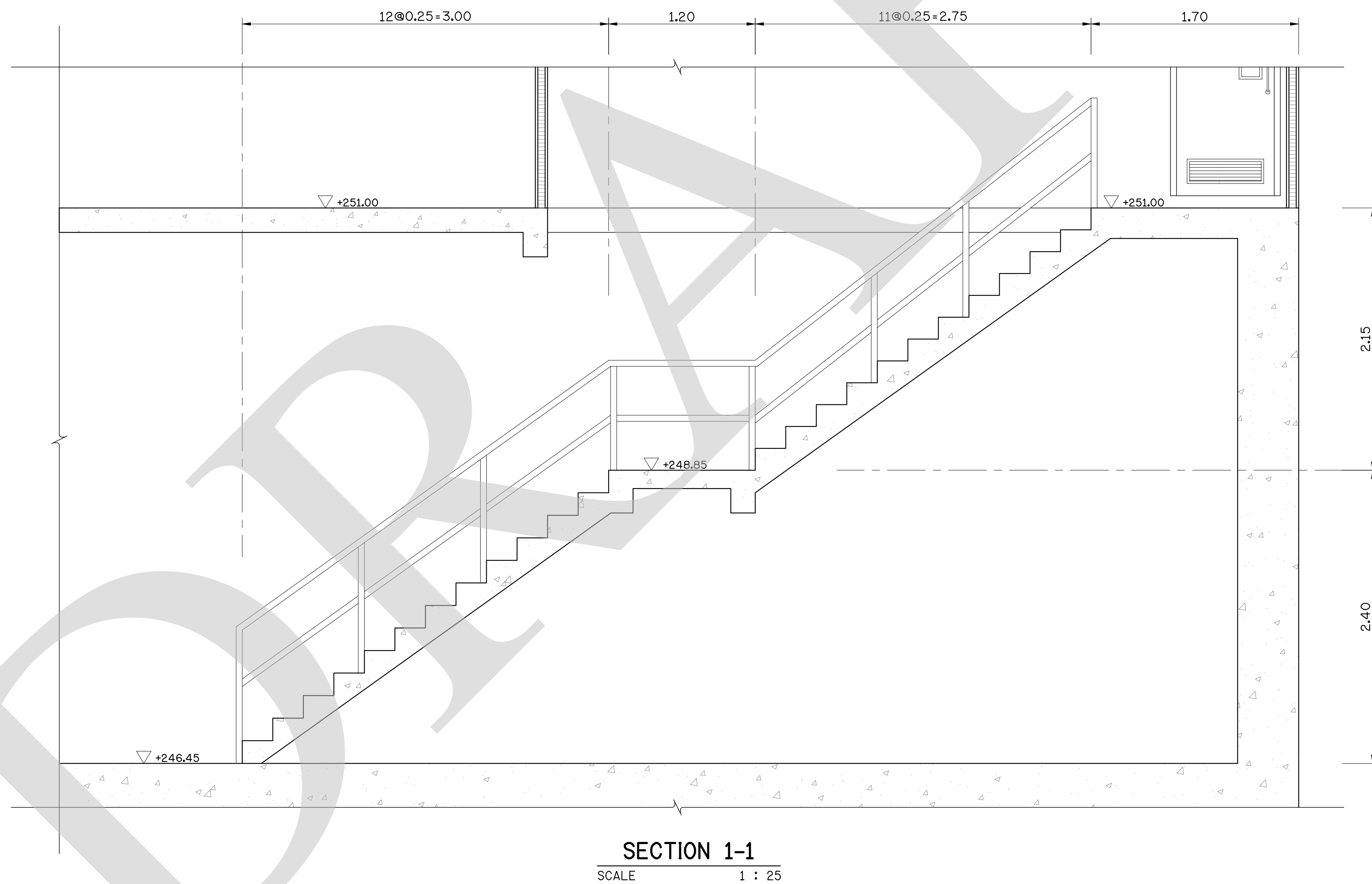
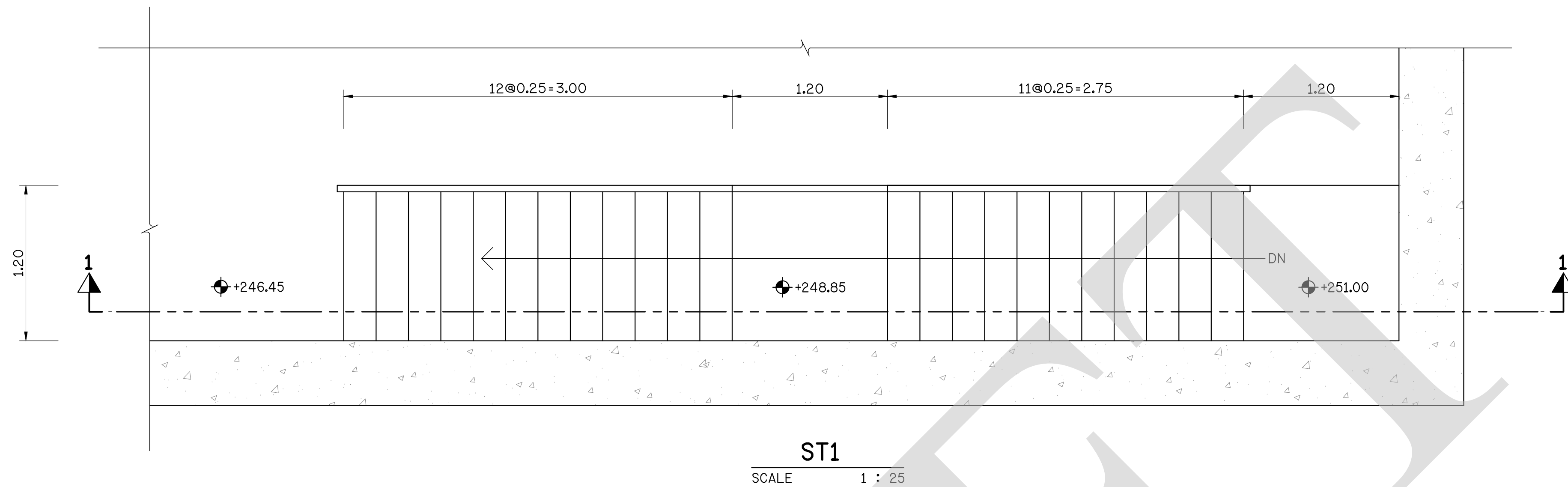
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



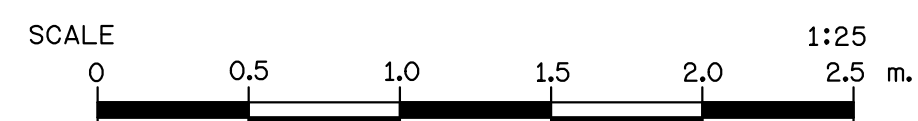
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE		
DRAWN :		SECTION C-C AND STEEL COVER DETAIL		
CHECKED :		REPLACING DWG. NO.	DWG. NO.	REV.
APPROVED	DATE		HDI-LTK-UME-C-003	



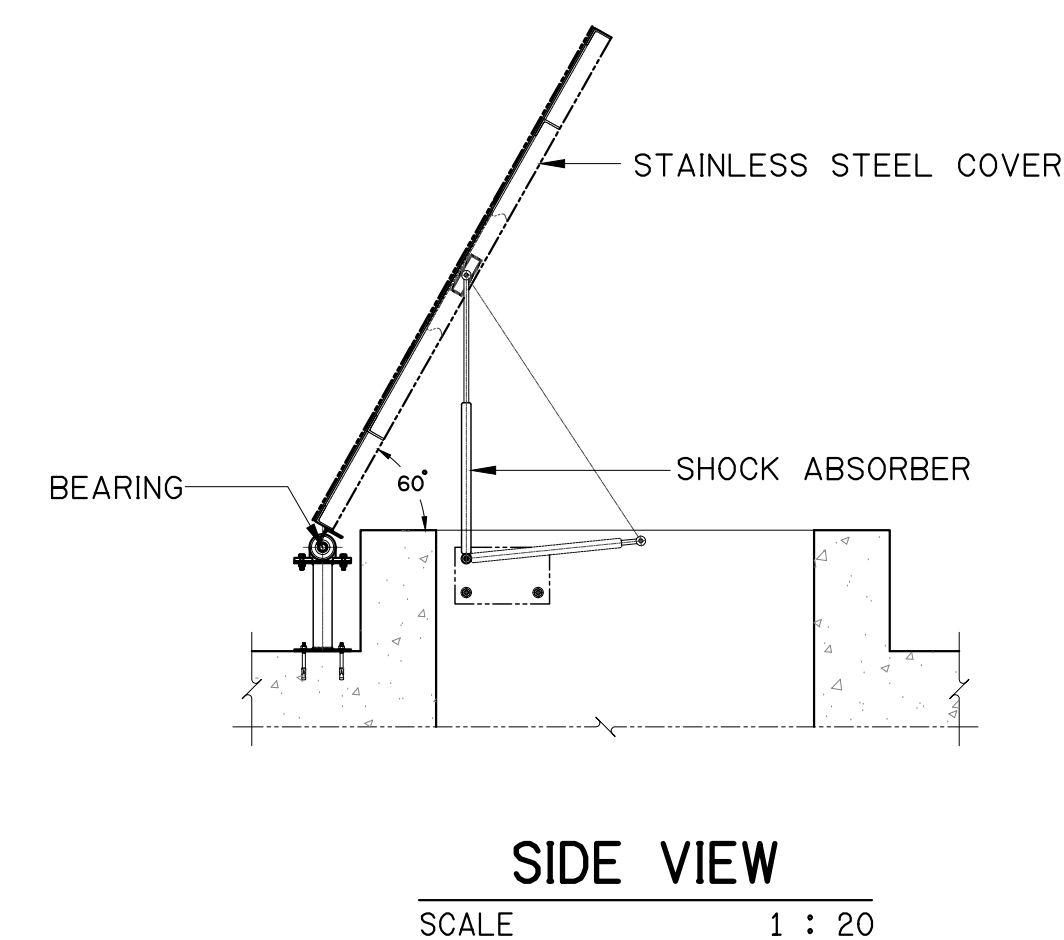
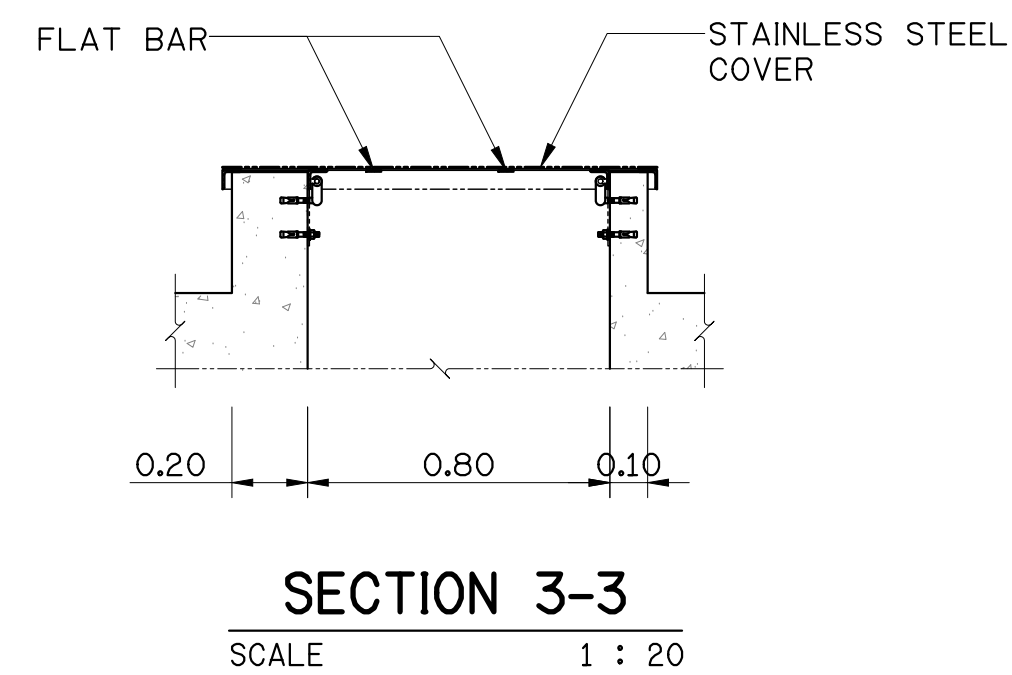
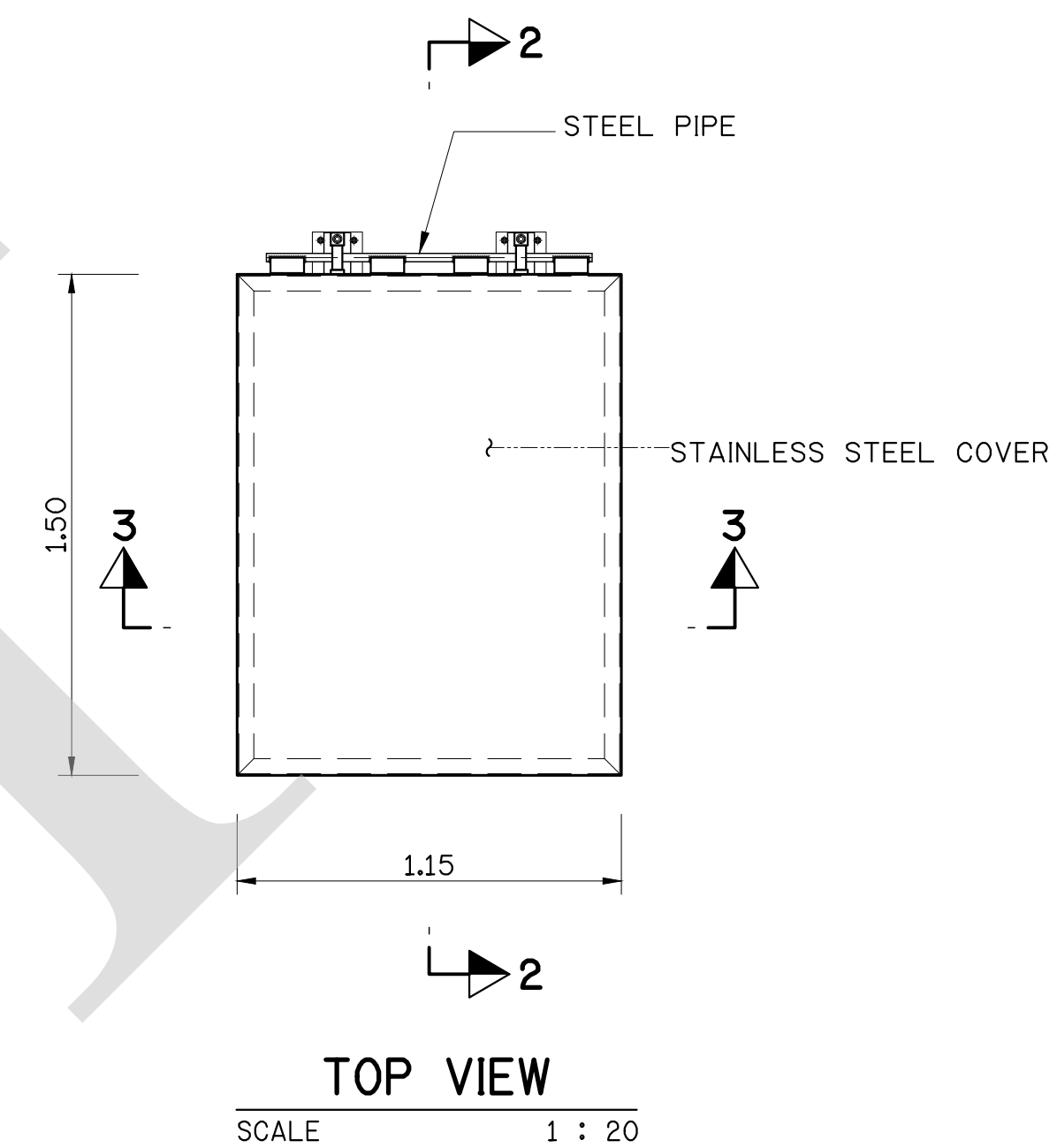
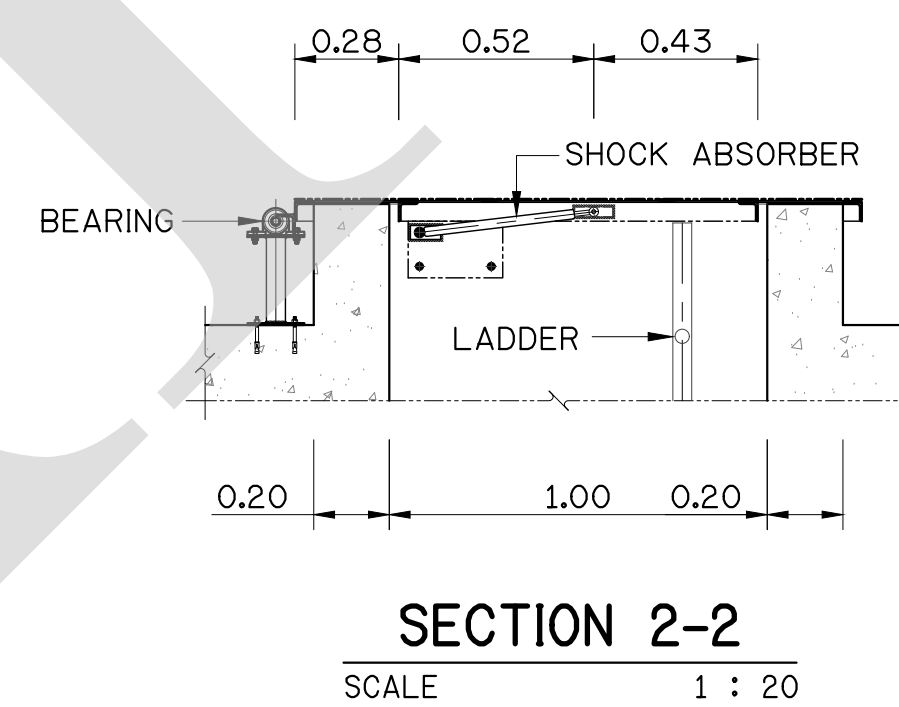
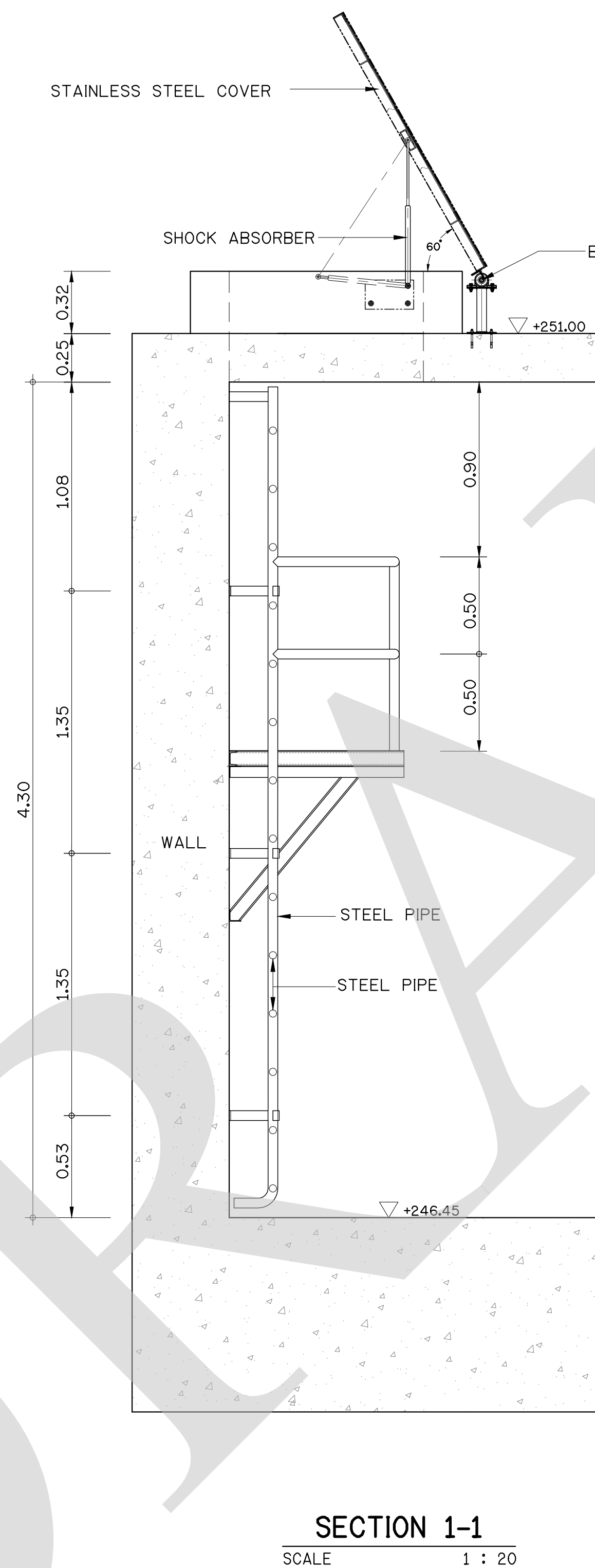
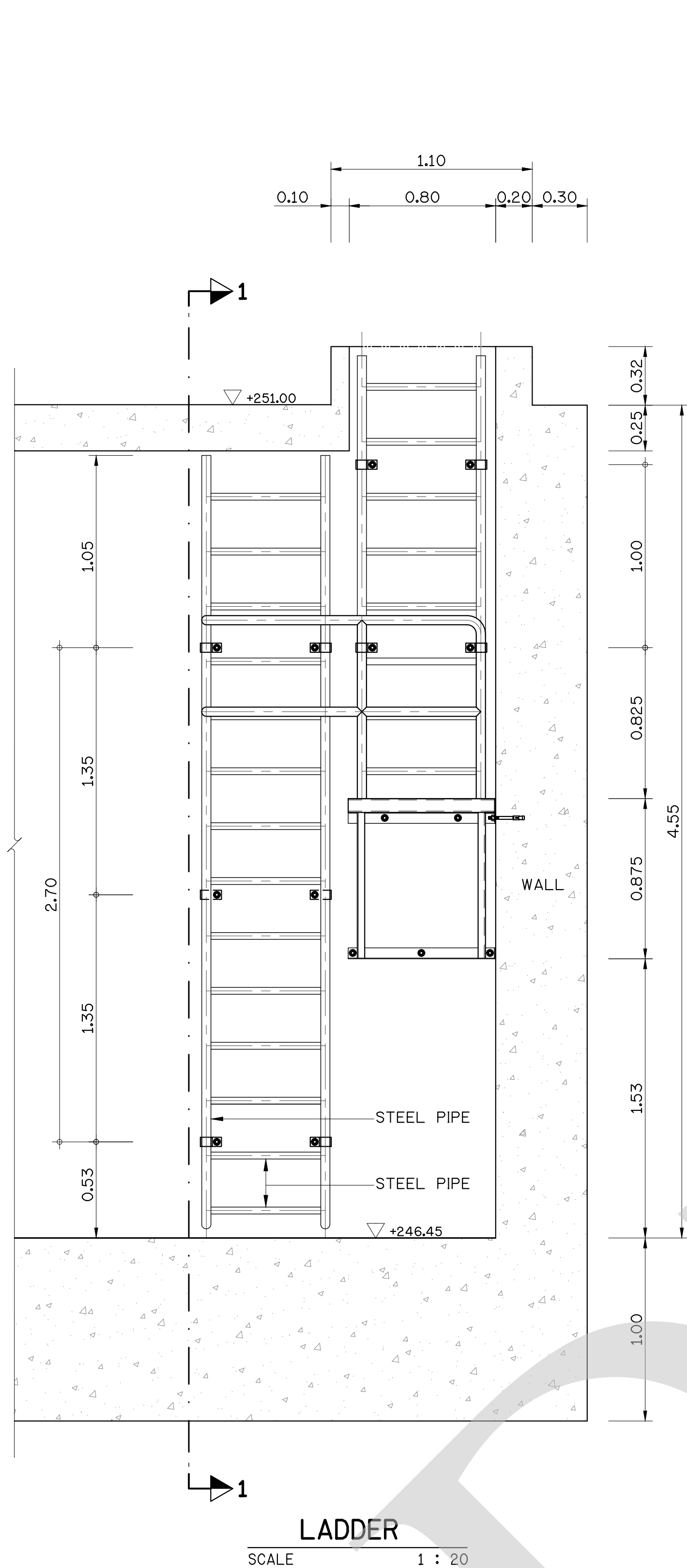
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



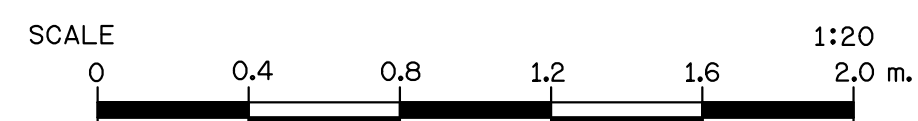
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE		
DRAWN :		PLAN AND SECTION OF STAIR		
CHECKED :		REPLACING DWG. NO.	DWG. NO.	REV.
APPROVED	DATE		HDI-LTK-UME-C-004	



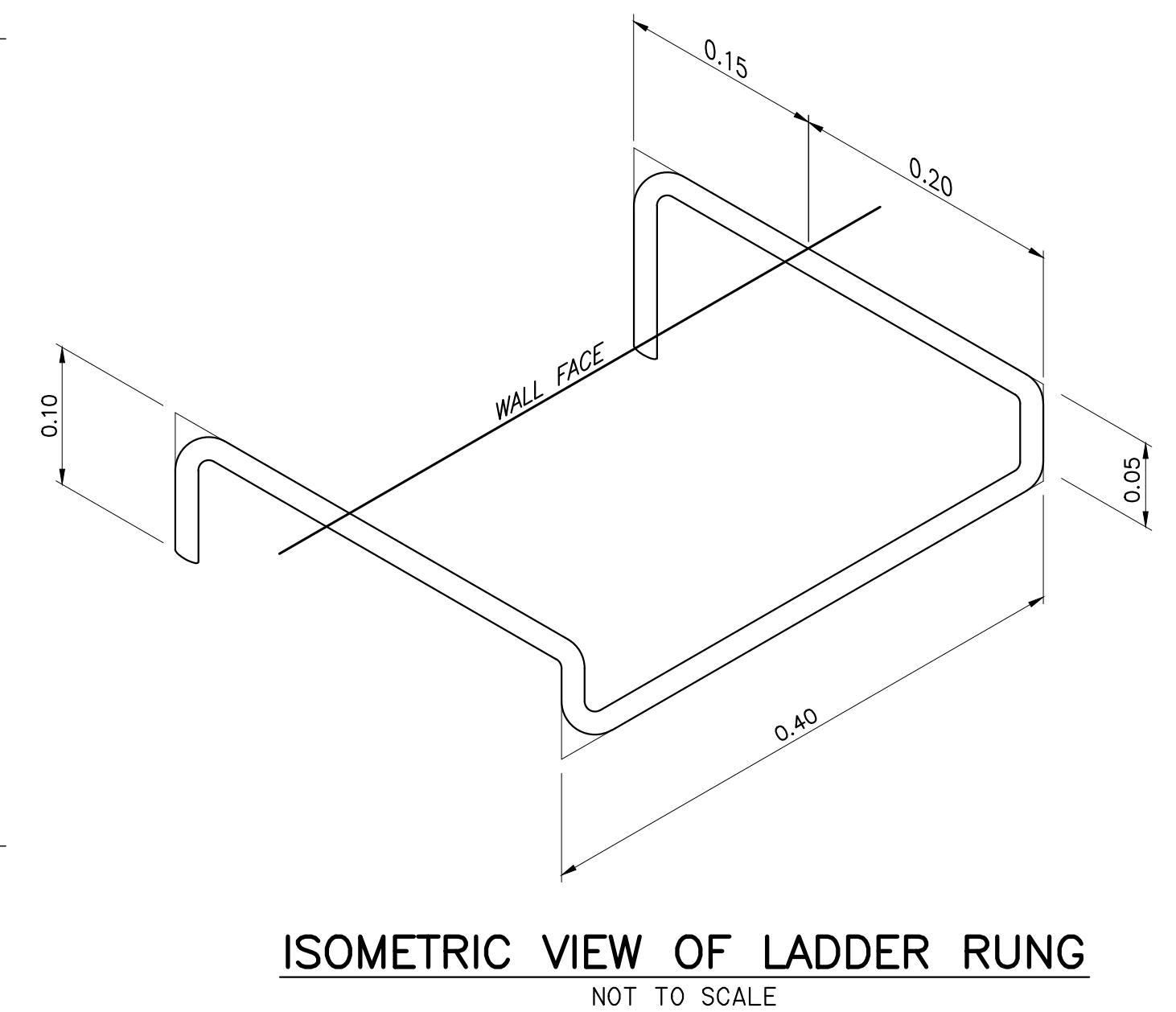
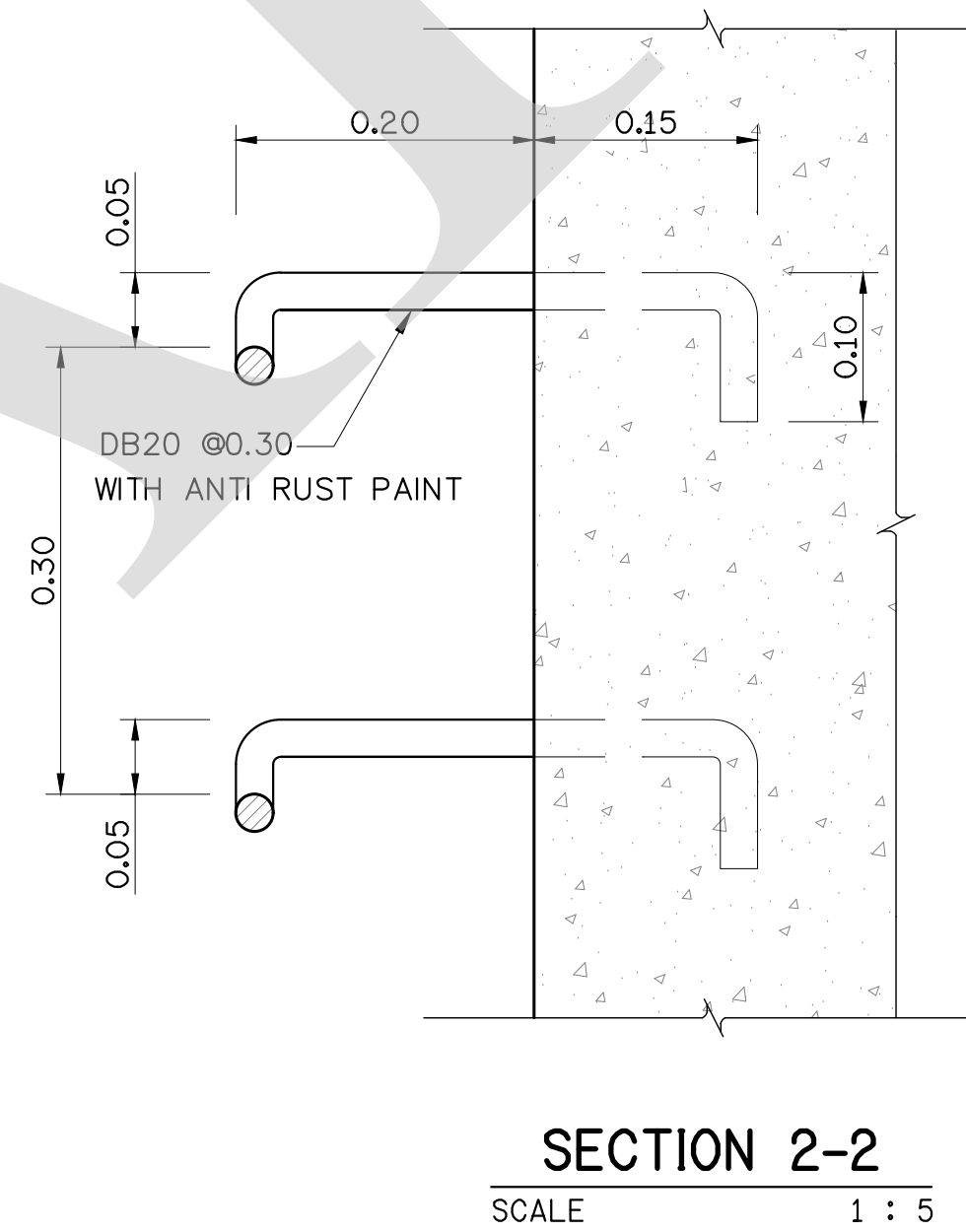
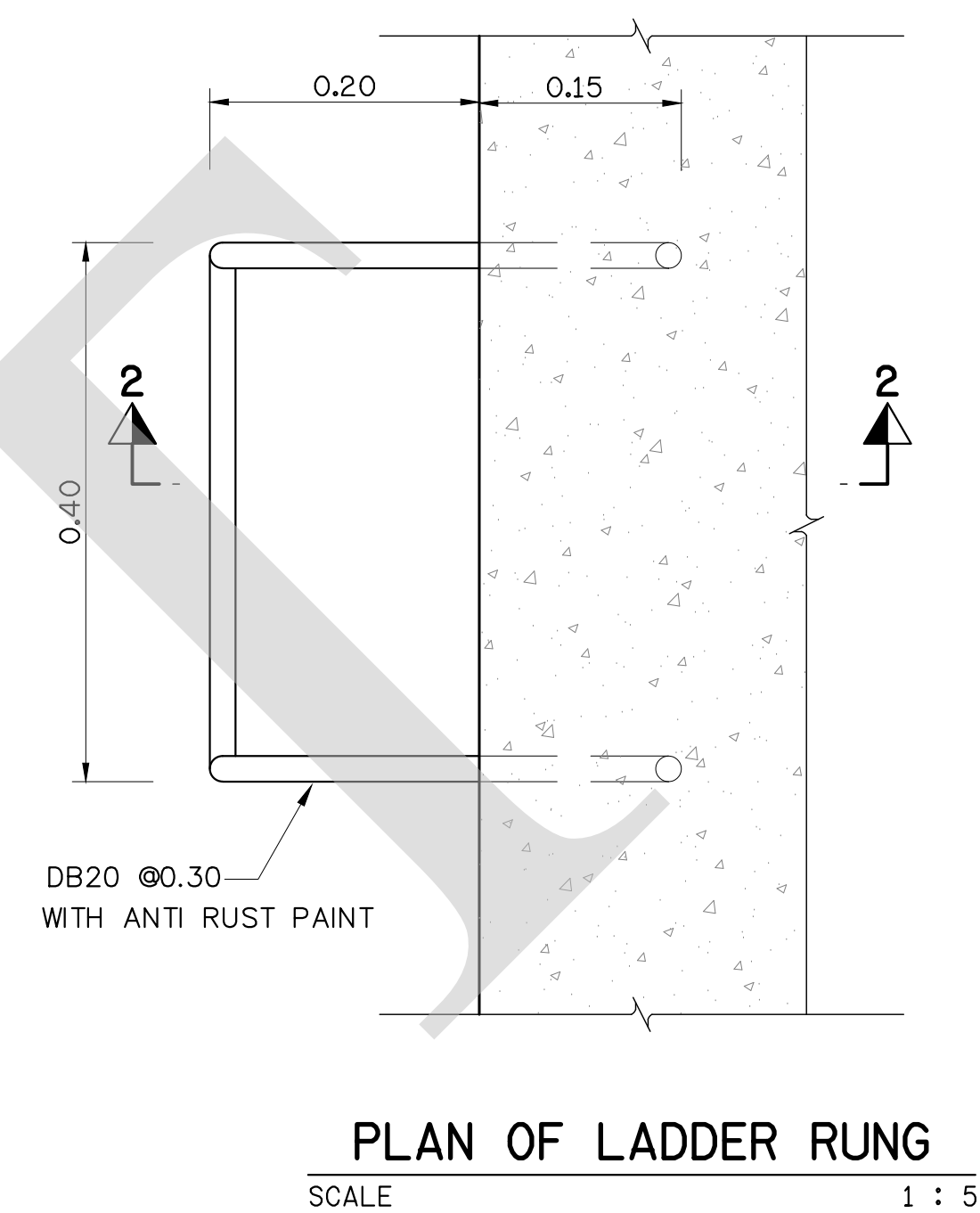
- NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. STEEL PIPE AND STEEL PLATE SHALL CONFORM TO TIS 1227-2558, GRADE SS400
 3. ALL METAL WORKS SHALL BE SC1, GREY.



FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE		
DRAWN :		SAFETY STEEL LADDER - DETAIL AND SECTION		
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-UME-C-005	



FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		.....		
ENGINEER :		CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE DETAIL OF STEEL HANDRAIL AND LADDER RUNG		
DRAWN :		.....		
CHECKED :		.....		
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....			HDI-LTK-UME-C-006	

POWERHOUSE INTERIOR FINISHING SCHEDULE

	ELEVATION	ROOM NAME	FLOOR	WALL FINISHING	BASEBOARD	CEILING	CEILING HEIGHT FROM FLOOR FINISH	REMARKS
POWERHOUSE	+ 251.00	POWERHOUSE ROOF SLAB	STEEL TROWEL, EPOXY COATING F2	-	-	-	-	
		ENTRANCE ROOM	STEEL TROWEL, EPOXY COATING (GREY) EPX3 F2	CONCRETE BLOCK INCLUDED PLASTER WALL 100 mm THK. + PA2 1	-	-	-	
	+ 251.00 TO + 246.45	STAIR	STEEL TROWEL, EPOXY COATING (GREY) EPX3 F2	EXPOSED CONCRETE WITH WATERPROOFING ADMIXTURE AND MOISTURE RESISTANT + PA2 PLASTER WALL + PA2 2 + 1	-	EXPOSED CONCRETE + PA2	-	
		GENERATOR FLOOR	STEEL TROWEL, EPOXY COATING (GREY) EPX3 F3	EXPOSED CONCRETE WITH WATERPROOFING ADMIXTURE AND MOISTURE RESISTANT + PA2 2	-	EXPOSED CONCRETE + PA2	-	
CONTROL BUILDING	+ 251.15	ELECTRICAL ROOM	STEEL TROWEL, EPOXY COATING (GREY) EPX3 F2	CONCRETE BLOCK INCLUDED PLASTER WALL 100 mm THK. WITH WATERPROOFING ADMIXTURE + PA2 5 + 1	ALUMINIUM H =0.10 m	ACOUSTIC BOARD + PA2 (WHITE) (WITH GALVANIZED FRAME)	3.00	
		CONTROL ROOM	STATIC DISSIPATIVE PVC TILE F3	CONCRETE BLOCK INCLUDED PLASTER WALL 100 mm THK. + PA2 1	ALUMINIUM H =0.10 m	ACOUSTIC BOARD + PA2 (WHITE) (WITH GALVANIZED FRAME)	3.00	

POWERHOUSE EXTERIOR FINISHING SCHEDULE

ROOF	WALL	OTHERS
METAL SHEET ROOFING : INSULATED AND COATED METAL SHEET (ZINCALUME) PANEL	PLASTER + PA1 INC. ALL EXPOSED WALL GROOVE, METAL MESH WITH LOUVER	STEEL TRUSS AND STEEL FRAME (SC3)
HATCH COVER : COATED METAL SHEET (ZINCALUME)		

LEGEND

LEGEND	DESCRIPTION
EPX1	ACID-RESISTANT EPOXY PAINT FOR FLOOR
EPX2	ACID-RESISTANT EPOXY PAINT FOR WALL AND CEILING
EPX3	EPOXY PAINT FOR FLOOR
PA1	PURE ACRYLIC PAINT FOR EXTERIOR
PA2	PURE ACRYLIC PAINT FOR INTERIOR
ALK1	ALKYD TOP COAT FOR WOOD
ALK2	ALKYD TOP COAT FOR STEEL
CLK	CLEAR LACQUER
SC1	INORGANIC ZINC , POLYAMIDE EPOXY AND ACRYLIC ASPHALTIC POLYURETHANE
SC2	EPOXY MASTIC AND POLYURETHANE
SC3	FIREPROOF COATING

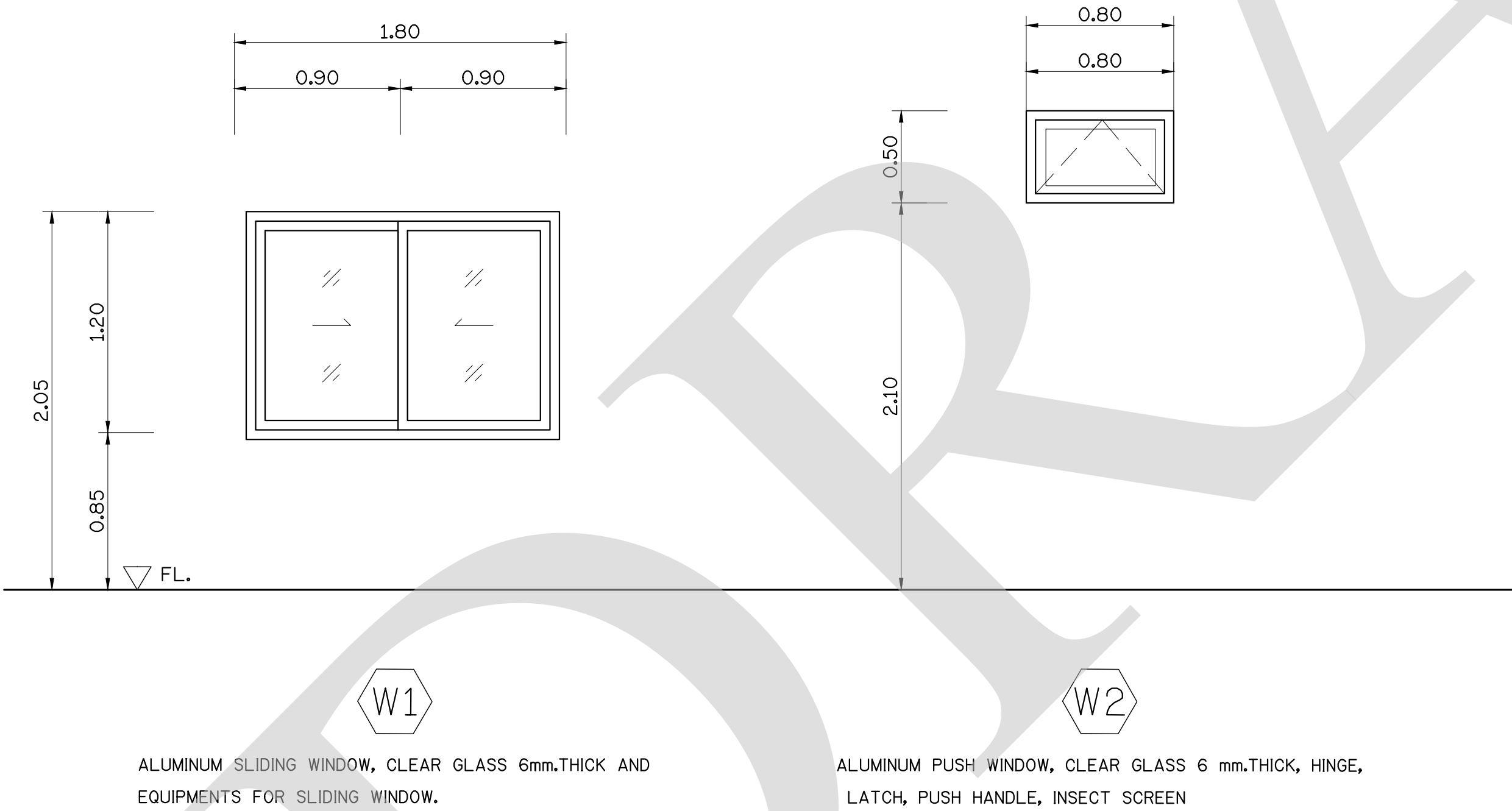
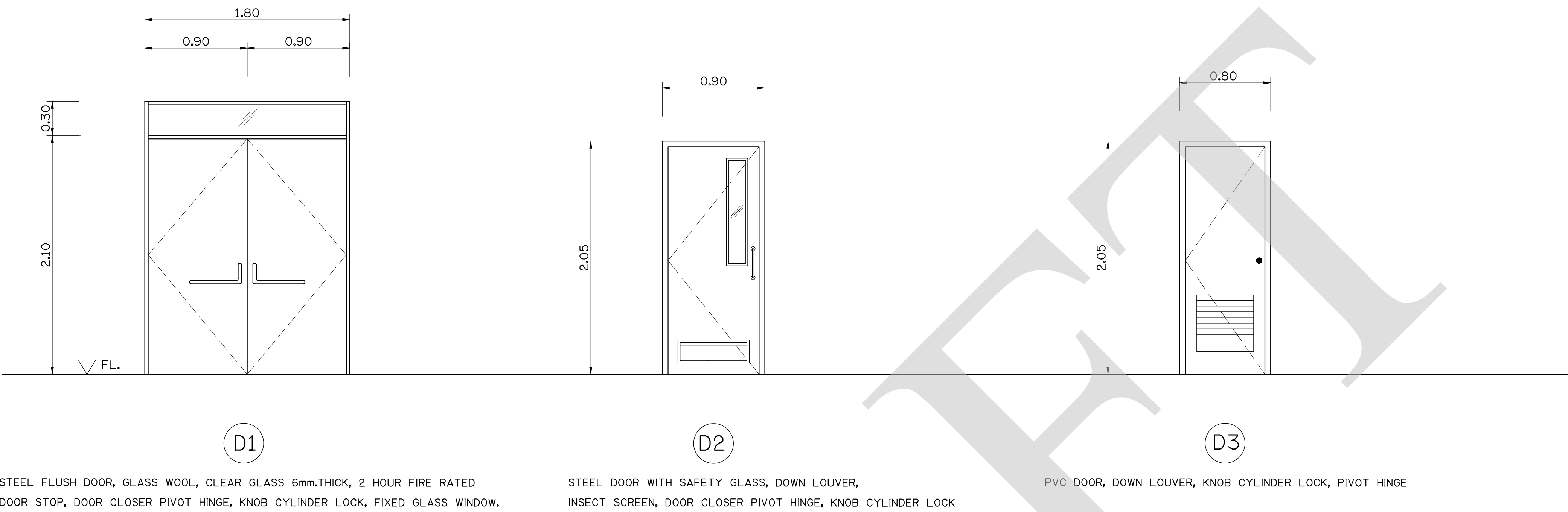
SYMBOLS

SYMBOLS	DESCRIPTION
F1	- ANTI-SLIP CERAMIC TILE 12"x12"
F2	- CONCRETE FLOOR WITH EPOXY COATING
F3	- STATIC DISSIPATIVE PVC TILE
1	- PLASTER WALL + PA1 FOR EXTERIOR AND PA2 FOR INTERIOR
2	- EXPOSED CONCRETE WITH WATERPROOFING ADMIXTURE
3	- PLASTER WALL - CHEMICAL RESISTANT COATING
4	- CERAMIC 12"x12" (GREEN)
5	- PLASTER WALL WITH WATERPROOFING ADMIXTURE

FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE FINISHING SCHEDULE		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-UME-C-007	



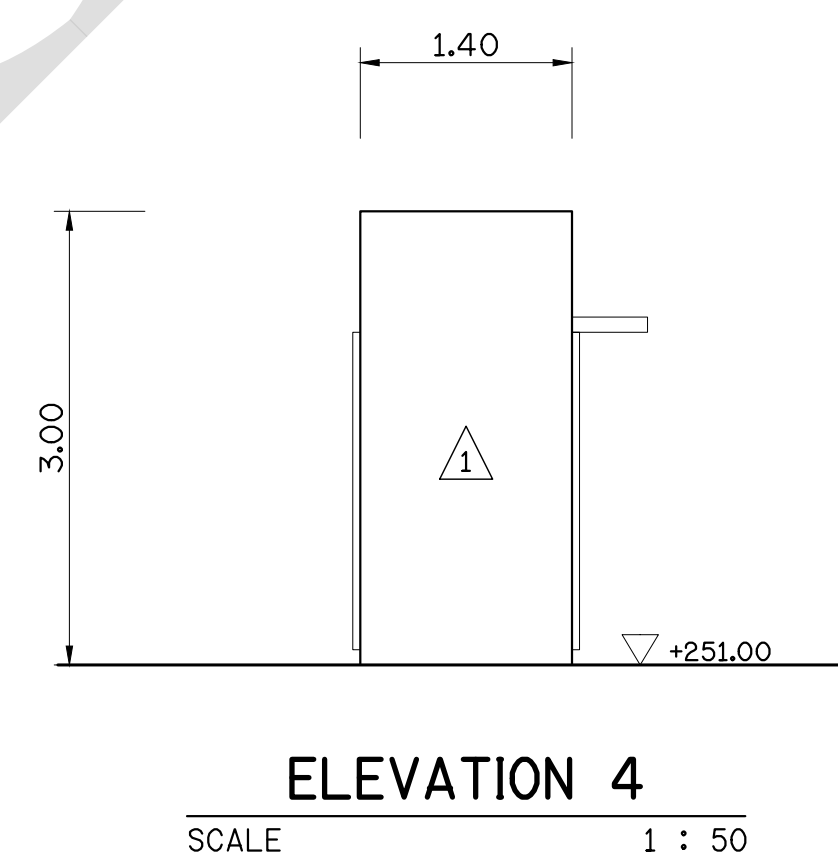
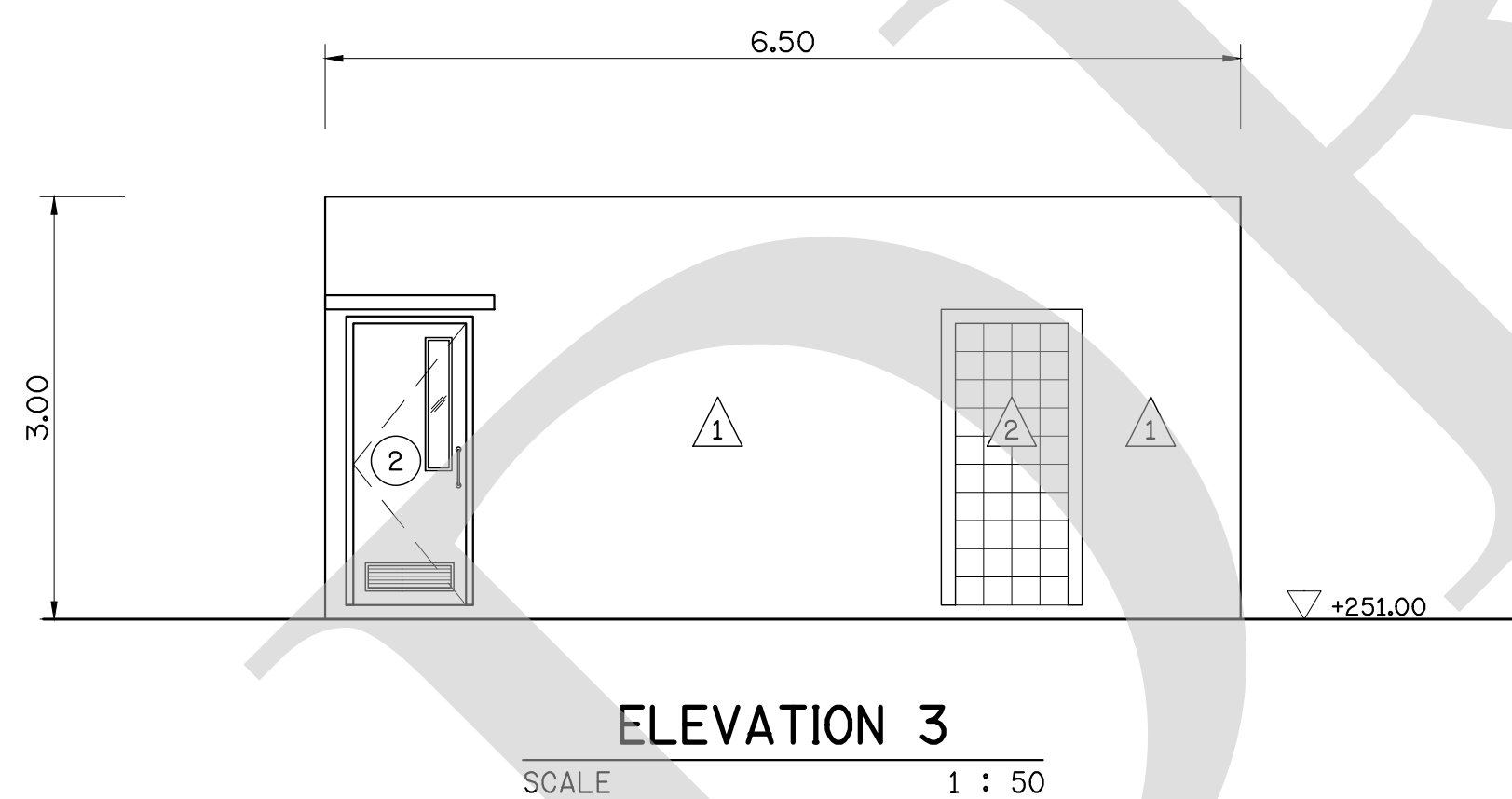
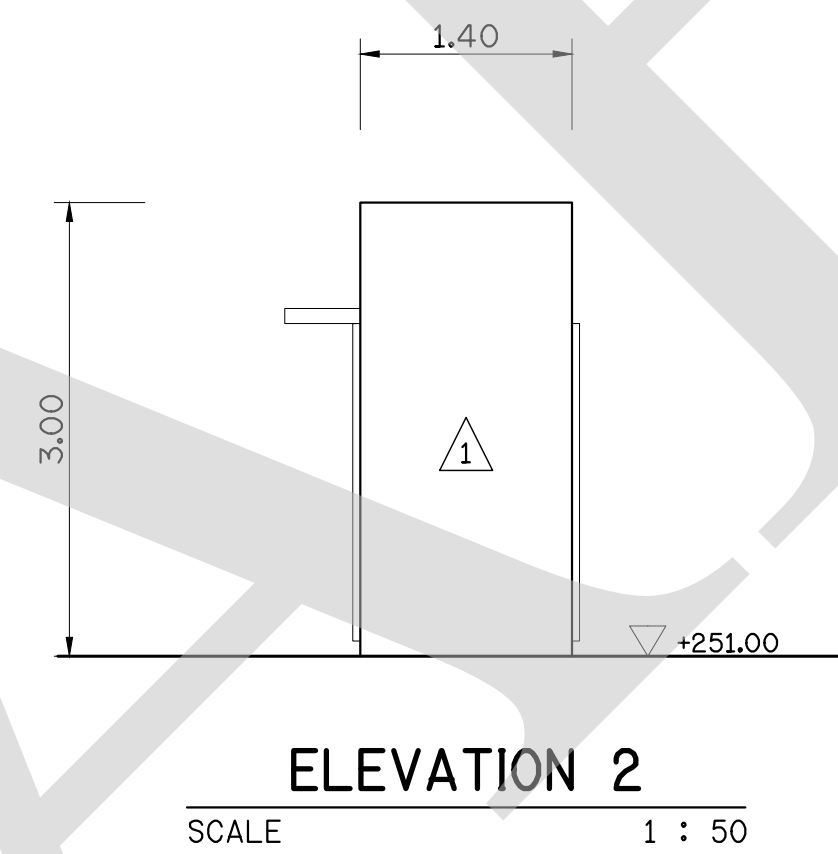
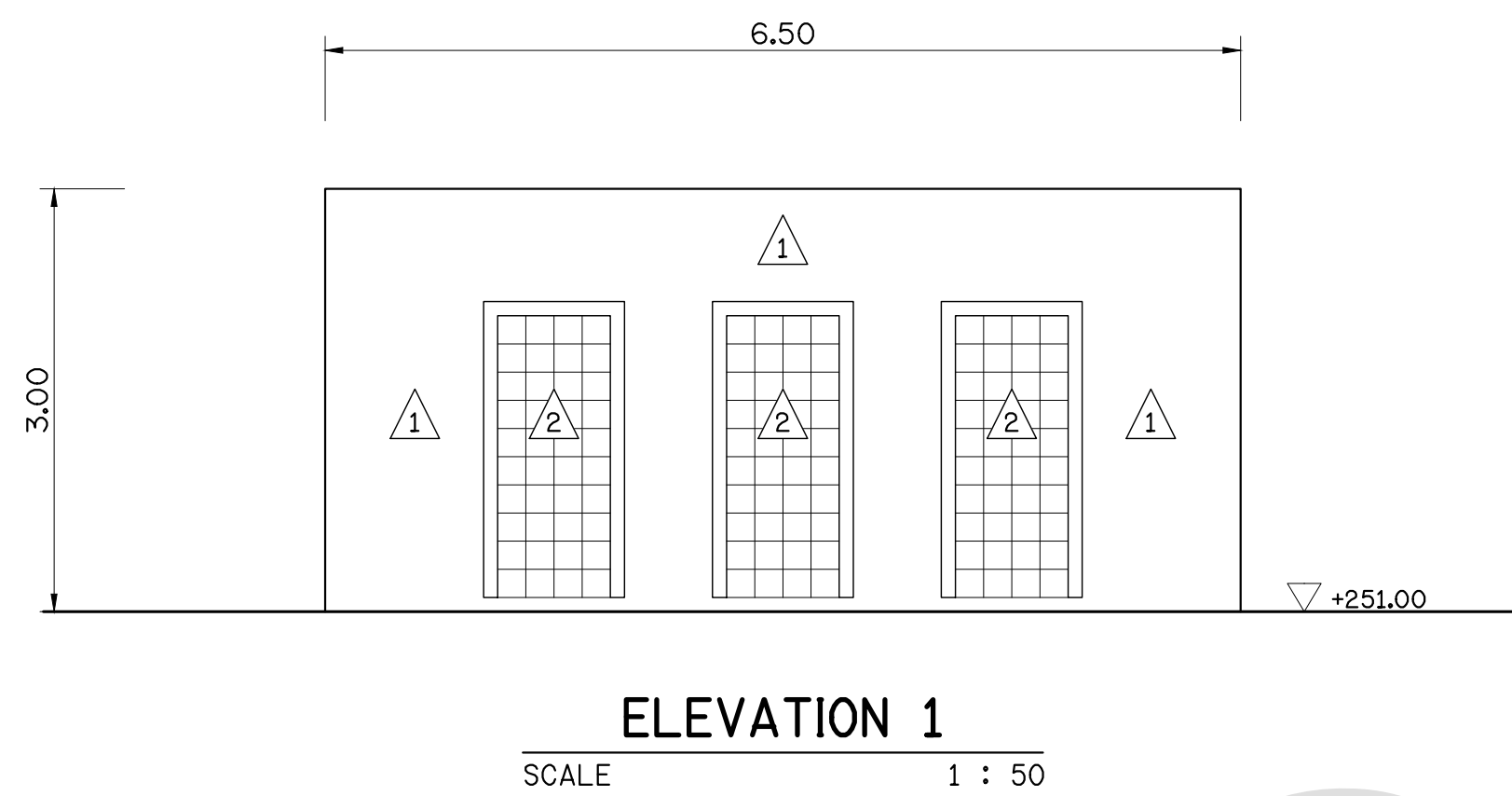
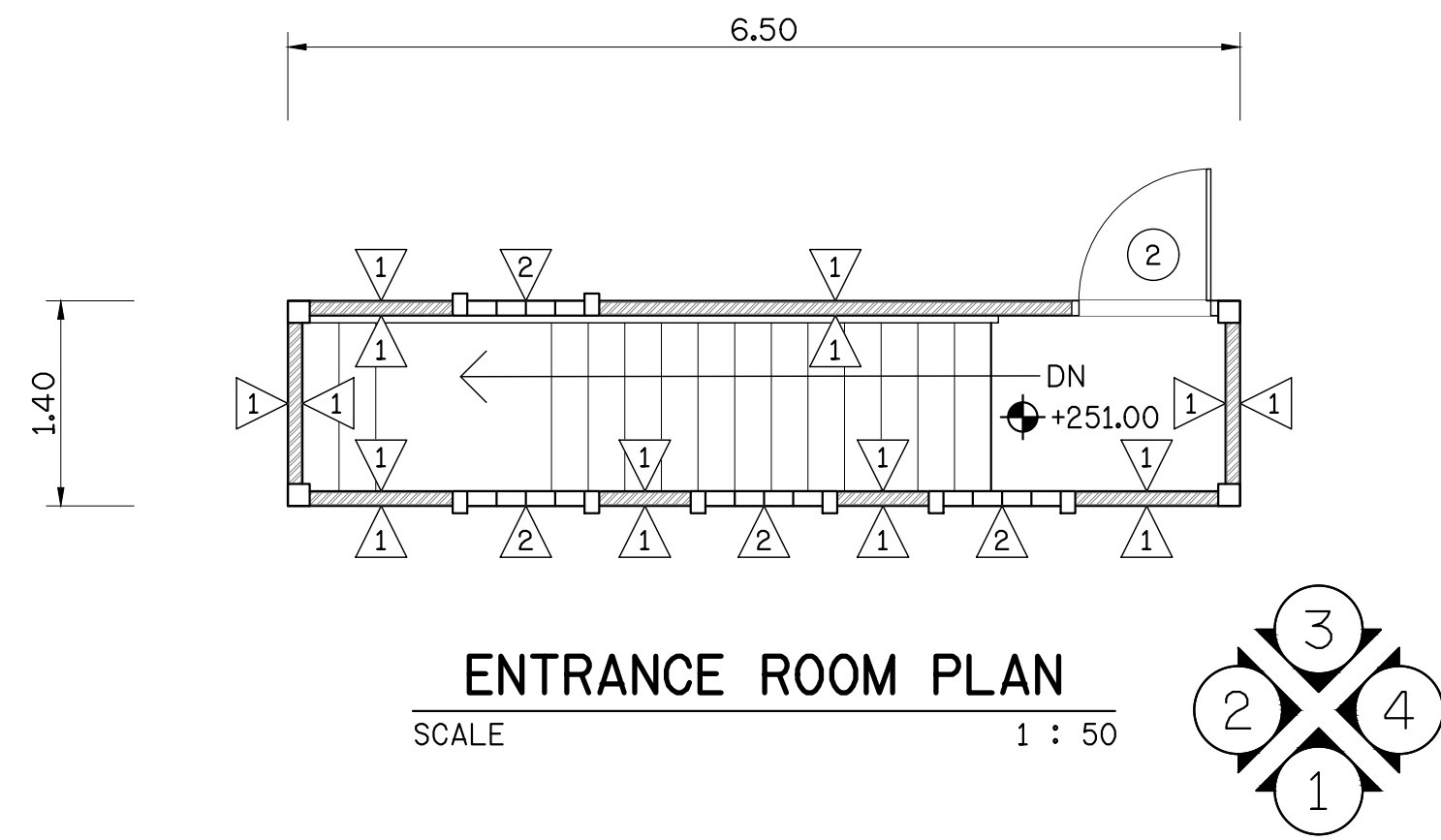
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.





FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED		LAMTAKONG HYDROPOWER PROJECT	
ENGINEER :				
ENGINEER :	CONCURRED		POWERHOUSE ARCHITECTURE AND STRUCTURE	
DRAWN :			DOOR AND WINDOW SCHEDULE	
CHECKED :				
APPROVED	DATE		REPLACING DWG. NO.	REV.
			DWG. NO.	
			HDI-LTK-UME-C-008	



LEGEND :

-  CONCRETE BLOCK INCLUDED PLASTER WALL 100 mm. THK. -PA1.
-  GLASS BLOCK 100 mm. THK.

NOTES :

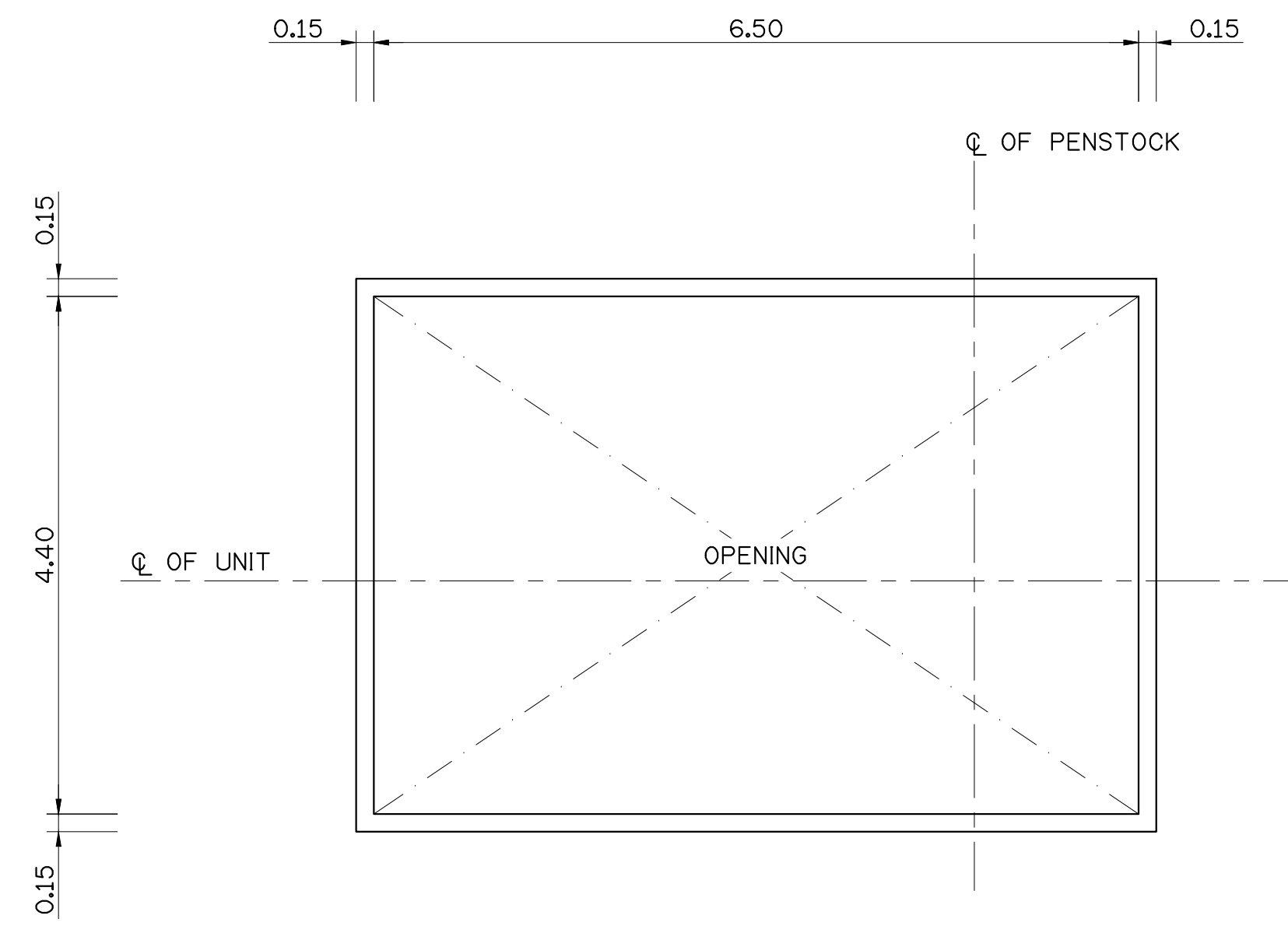
- 1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

FOR BIDDING ONLY

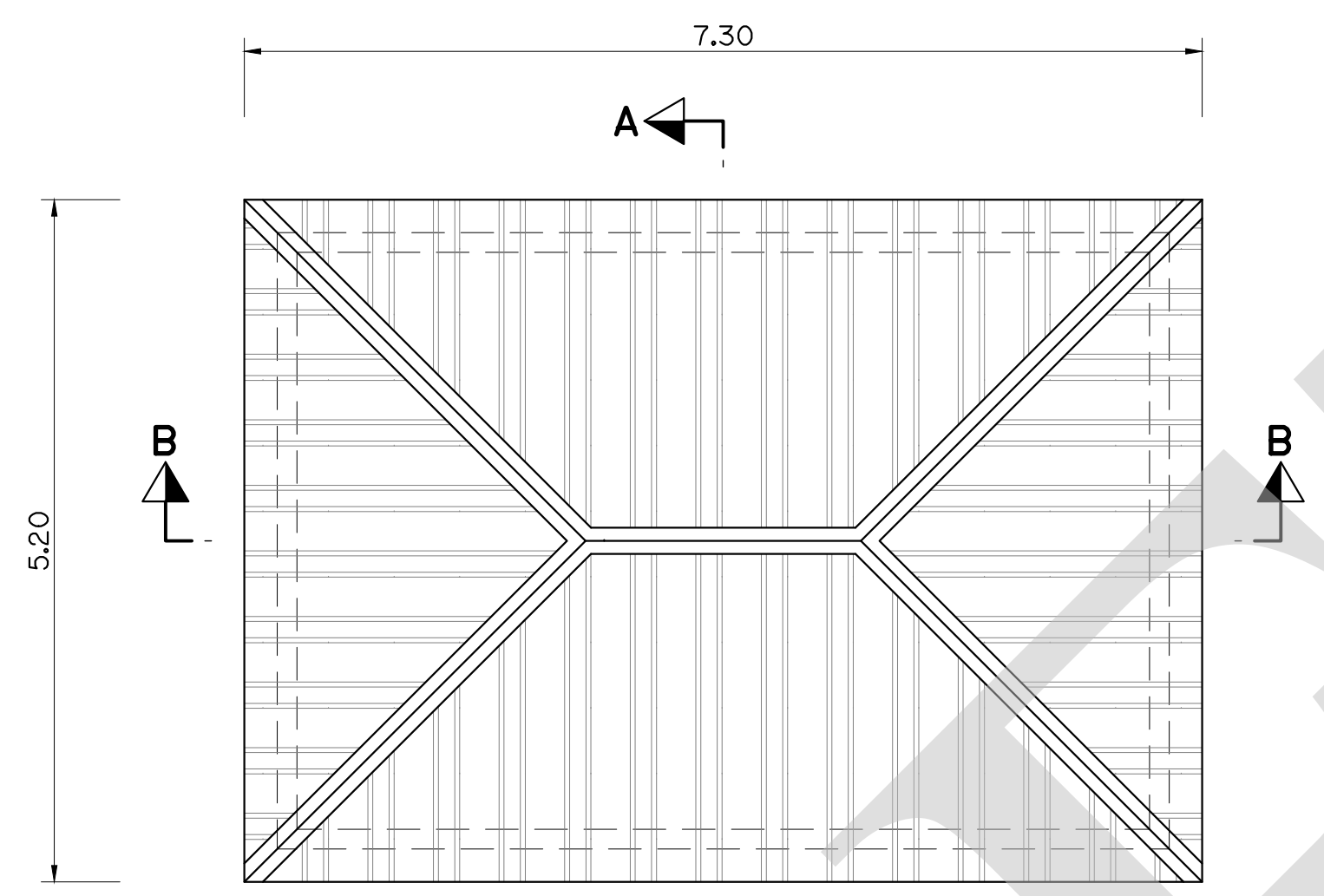


NO.	DATE	REVISION	CONCURRED	APPROVED

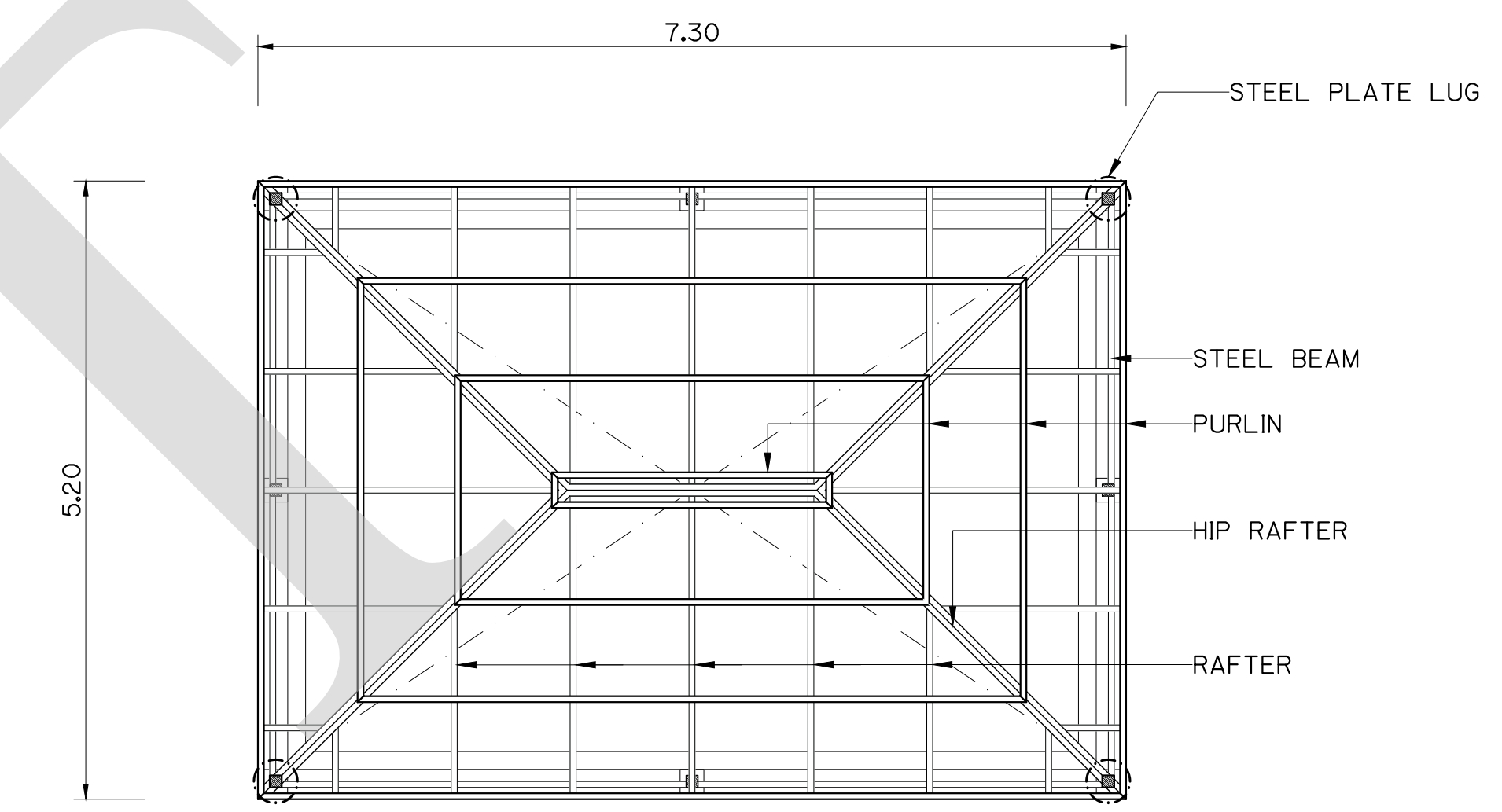
ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	.....		
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE ENTRANCE ROOM		
DRAWN :	.....		
CHECKED :	.....	REPLACING DWG. NO.		
APPROVED	DATE			
		DWG. NO.	HDI-LTK-UME-C-009	REV.



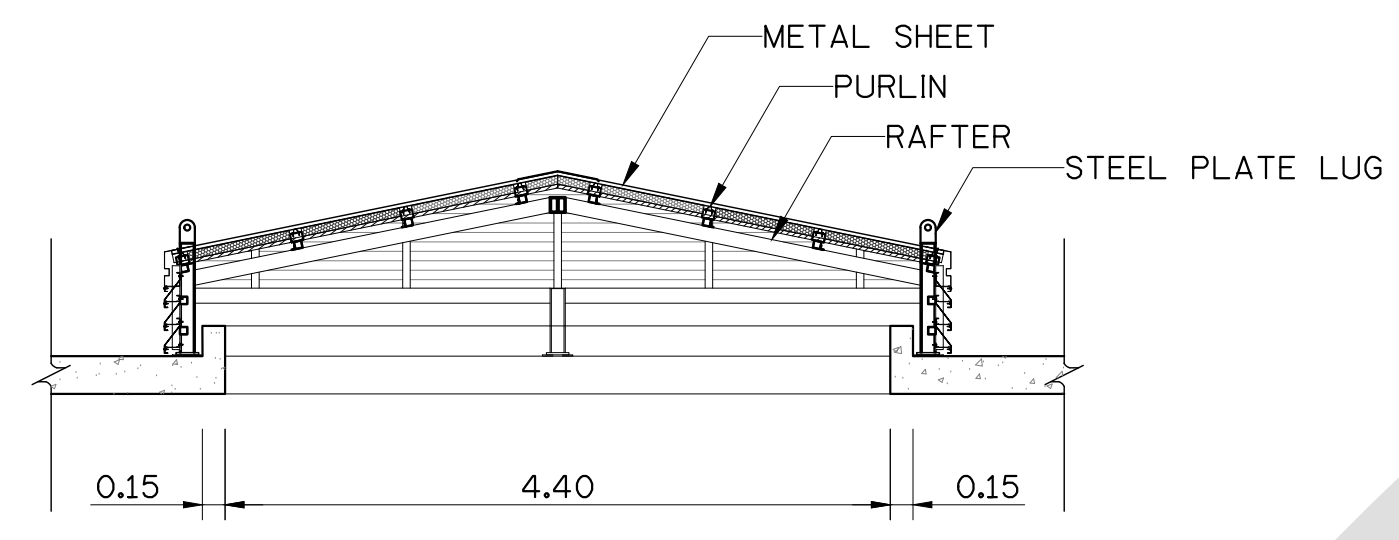
OPENING
SCALE 1 : 50



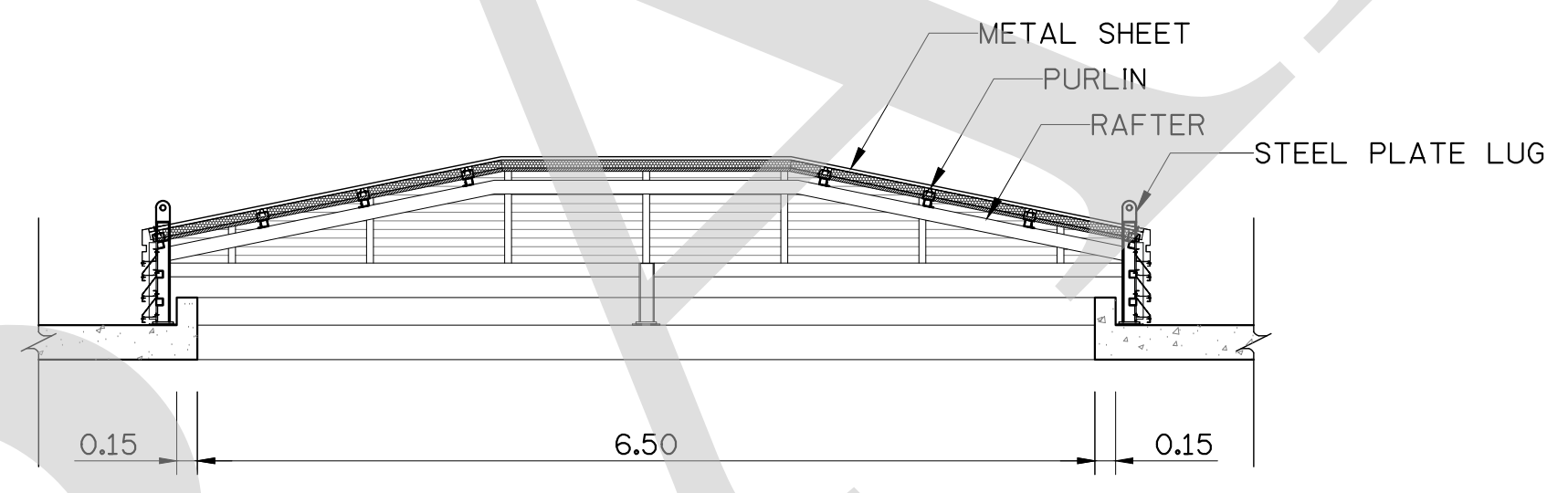
ROOF PLAN
SCALE 1 : 50



DETAIL HATCH COVER ROOF
SCALE 1 : 50

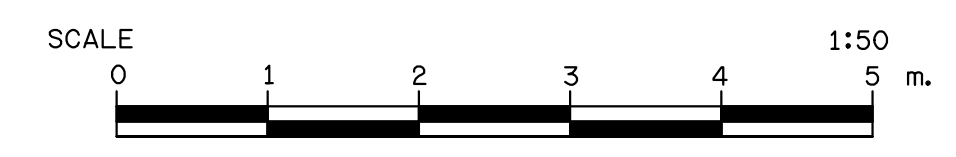


SECTION A-A
SCALE 1 : 50



SECTION B-B
SCALE 1 : 50

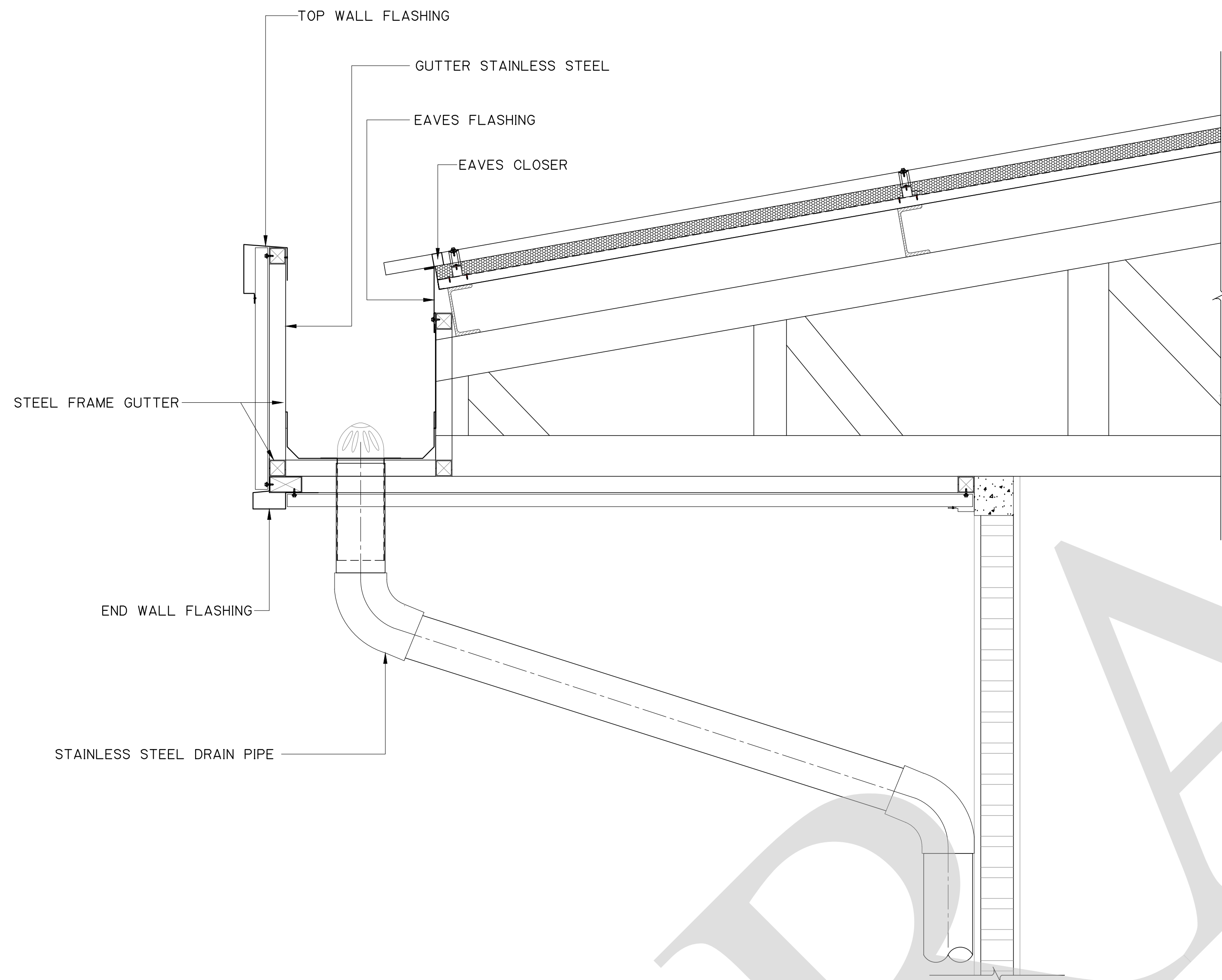
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



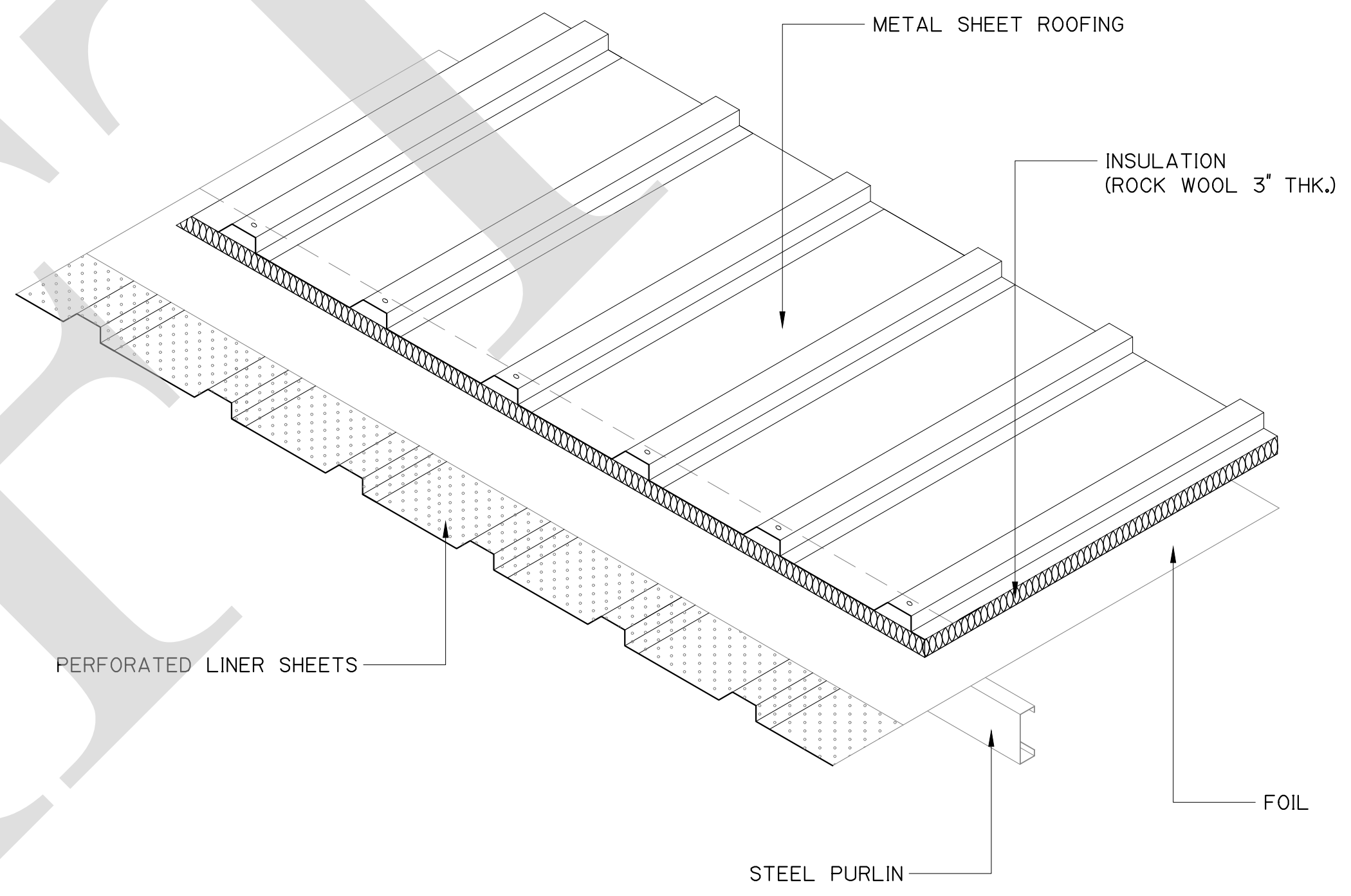
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	.....		
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE HATCH COVER		
DRAWN :	.....		
CHECKED :	.....		
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....	.....		HDI-LTK-UME-C-010	

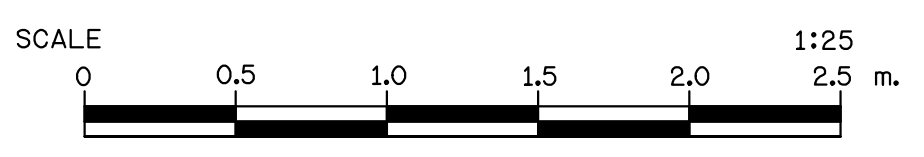


RAIN GUTTER SECTION
NOT TO SCALE



INSULATED METAL SHEET ROOF PANEL SYSTEM DETAIL
NOT TO SCALE

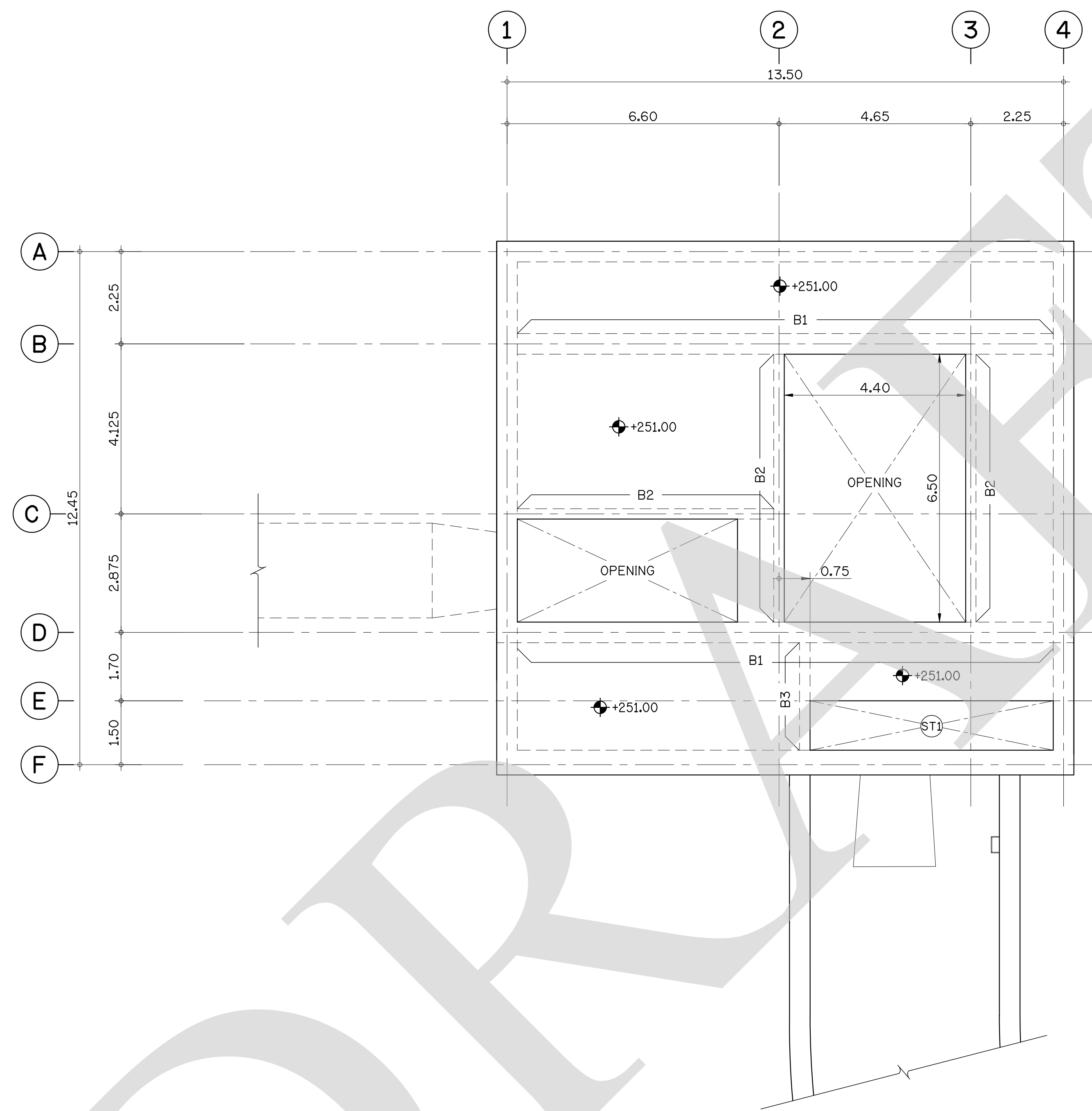
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



FOR BIDDING ONLY

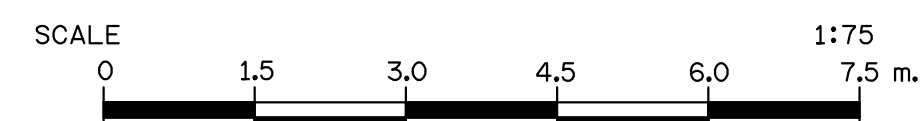
NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	.....		
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE RAIN GUTTER SECTION AND INSULATED METAL SHEET ROOF		
DRAWN :	.....		
CHECKED :	.....	REPLACING DWG. NO. DWG. NO. REV.		
APPROVED	DATE			
.....	.....	HDI-LTK-UME-C-011		



PLAN OF DECK FL00R AT EL +251.00
SCALE 1 : 75

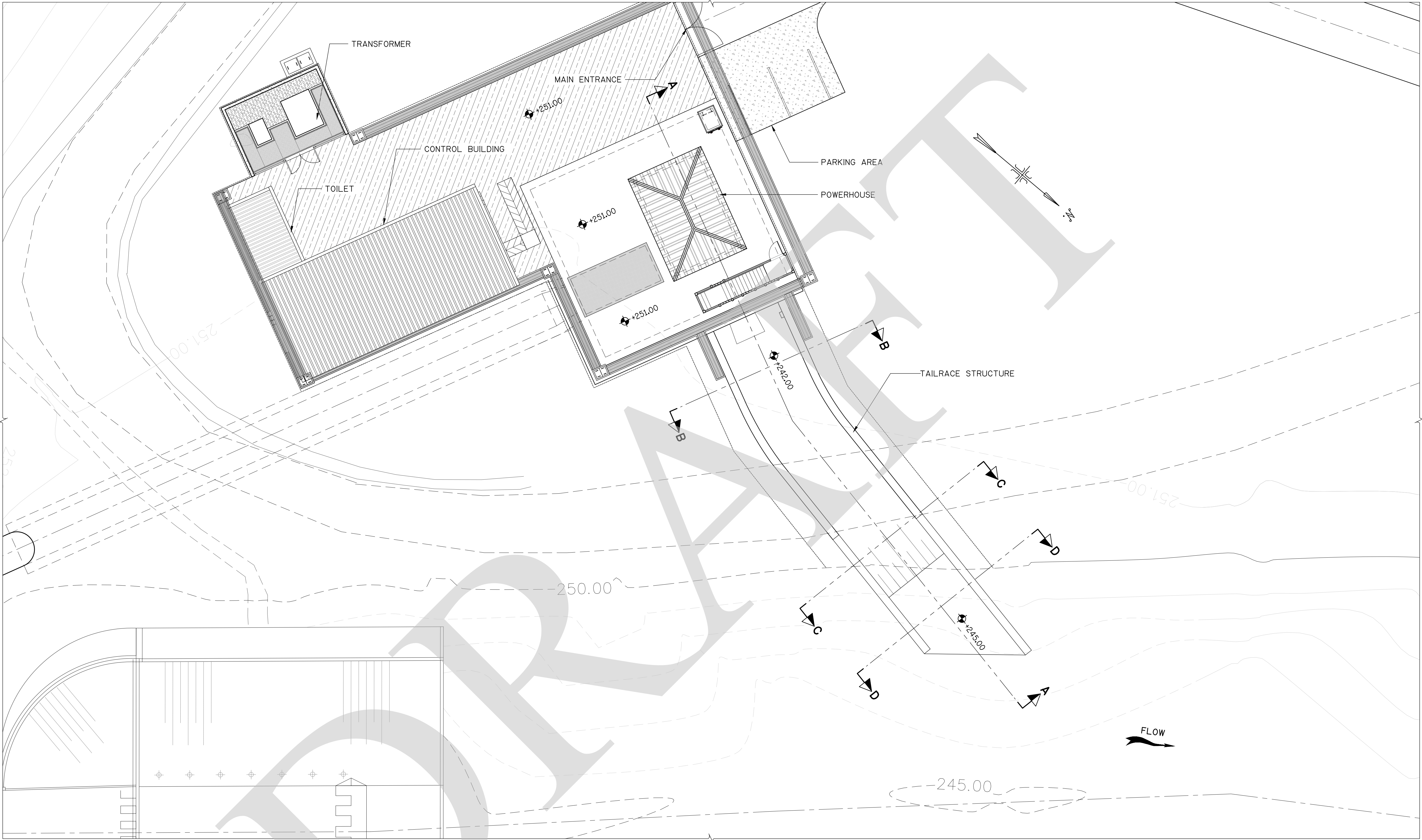
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	POWERHOUSE ARCHITECTURE AND STRUCTURE		
DRAWN :		PLAN OF DECK FLOOR AT EL +251.00		
CHECKED :		REPLACING DWG. NO.	DWG. NO.	REV.
APPROVED	DATE	HDI-LTK-UMF-C-001		



PLAN OF TAILRACE
SCALE 1 : 125

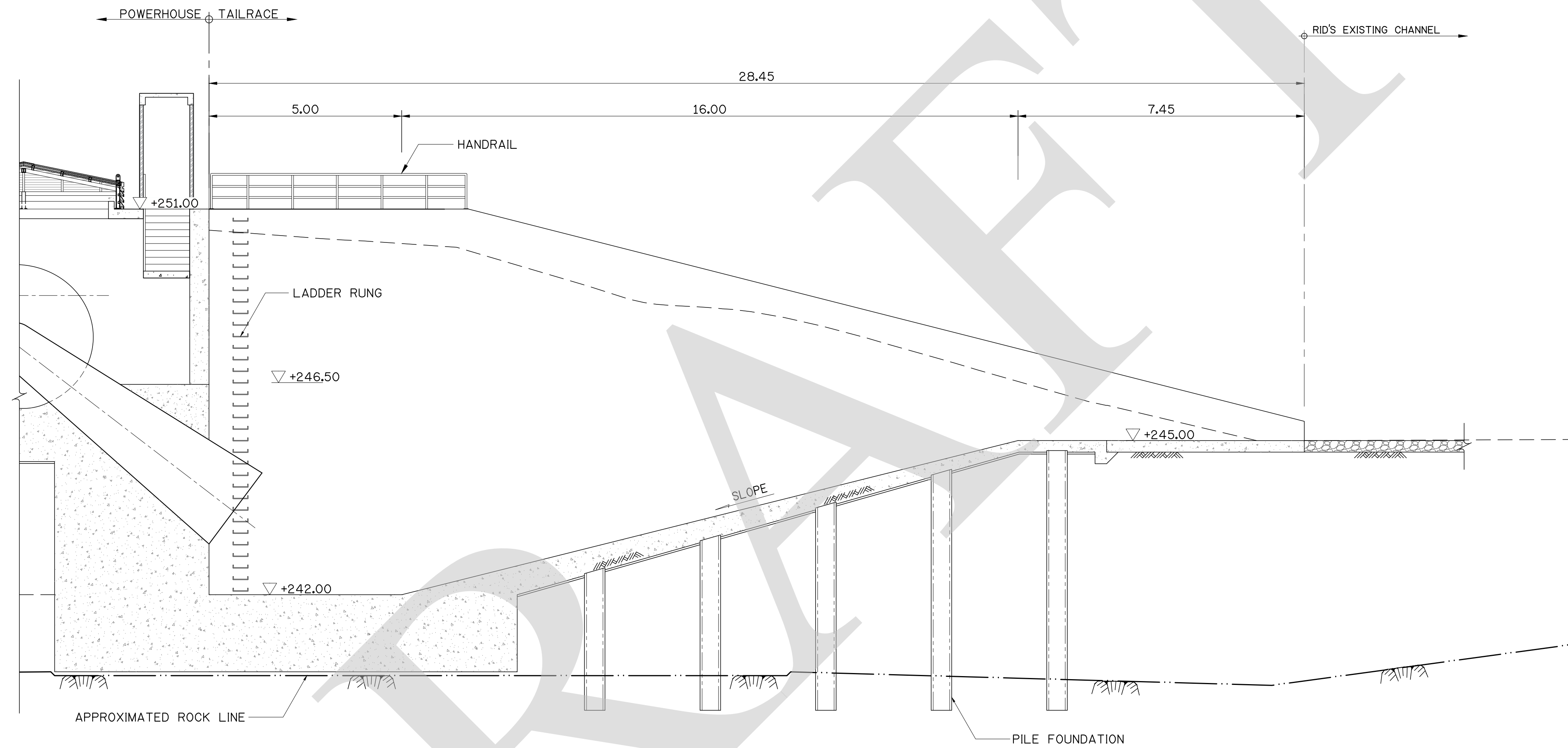
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

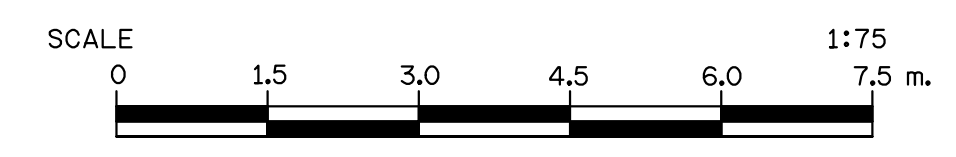
ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		.....		
ENGINEER :		CONCURRED	TAILRACE STRUCTURE PLAN OF TAILRACE		
DRAWN :		.....		
CHECKED :		.....		
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO. HDI-LTK-ULQ-C-001	REV.
.....				



SECTION A-A
SCALE 1 : 75

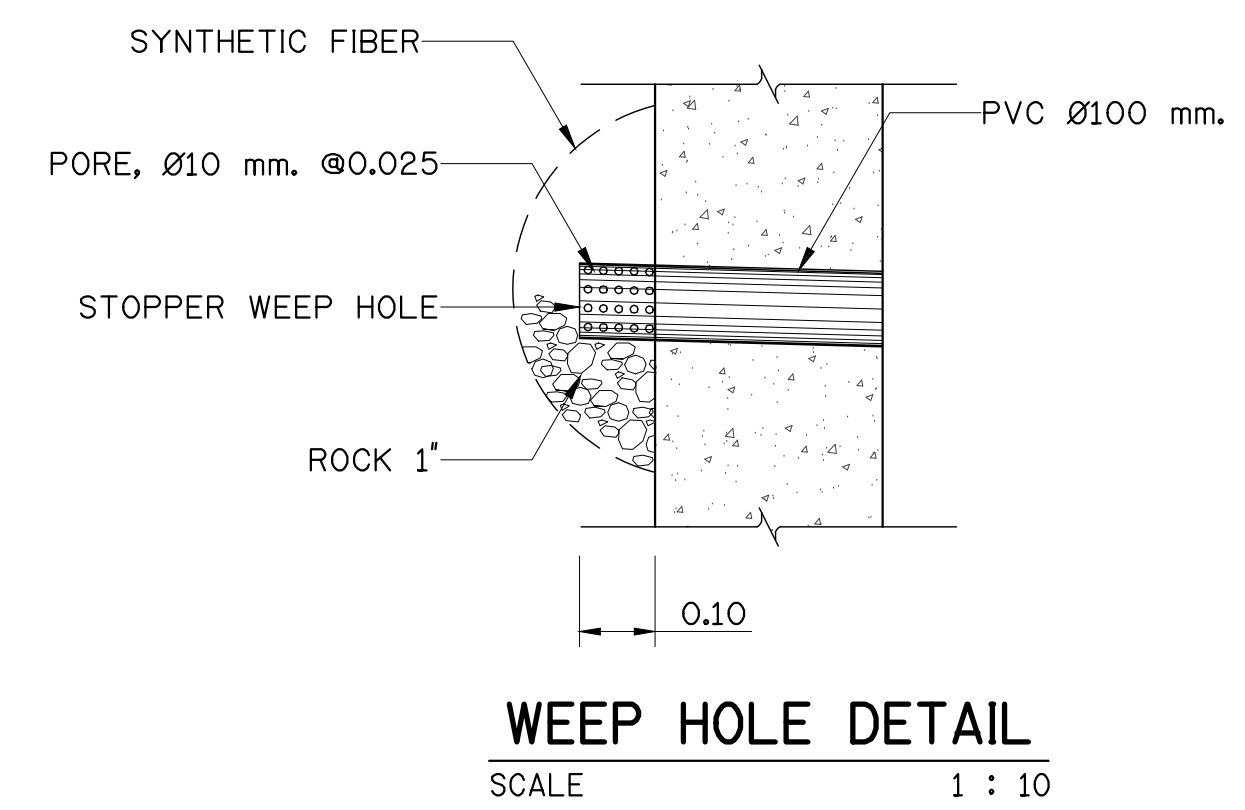
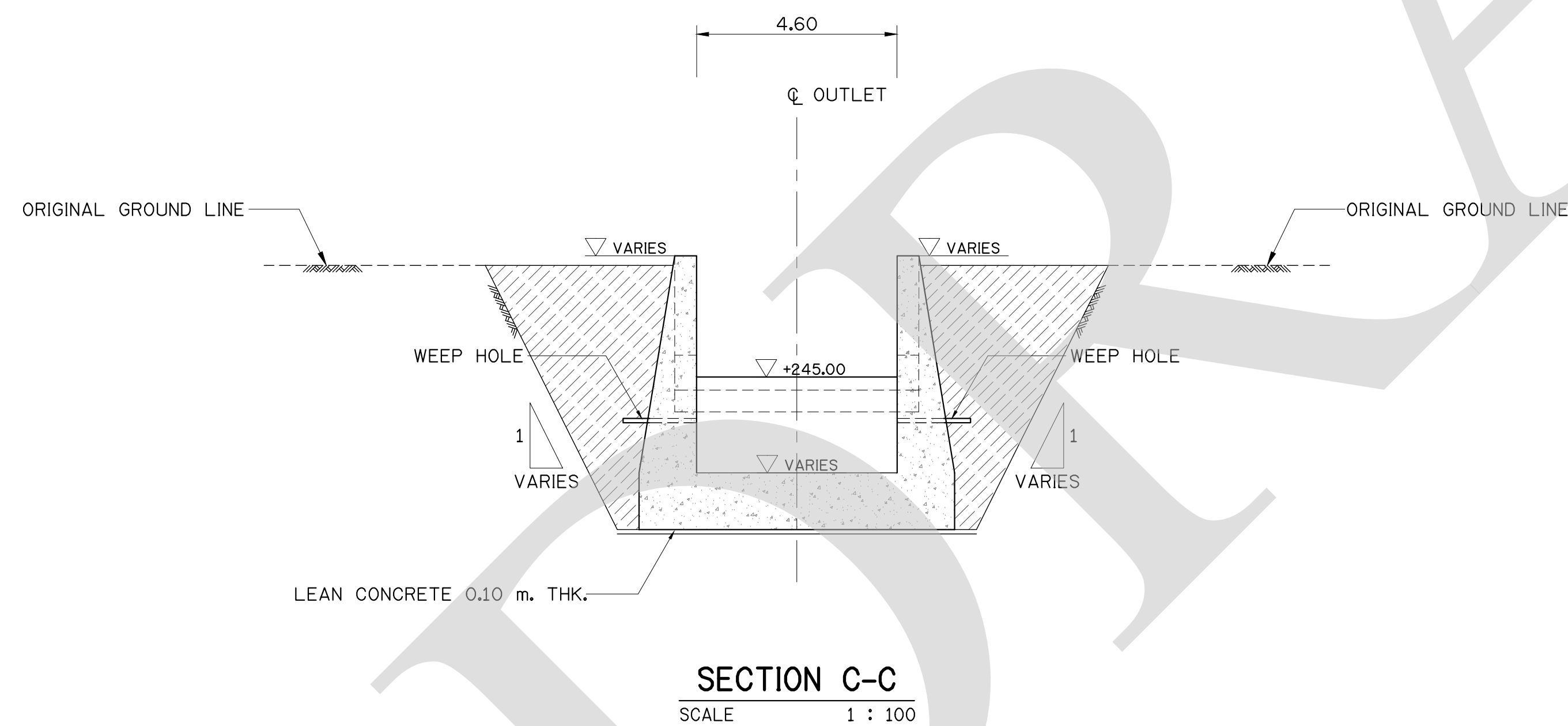
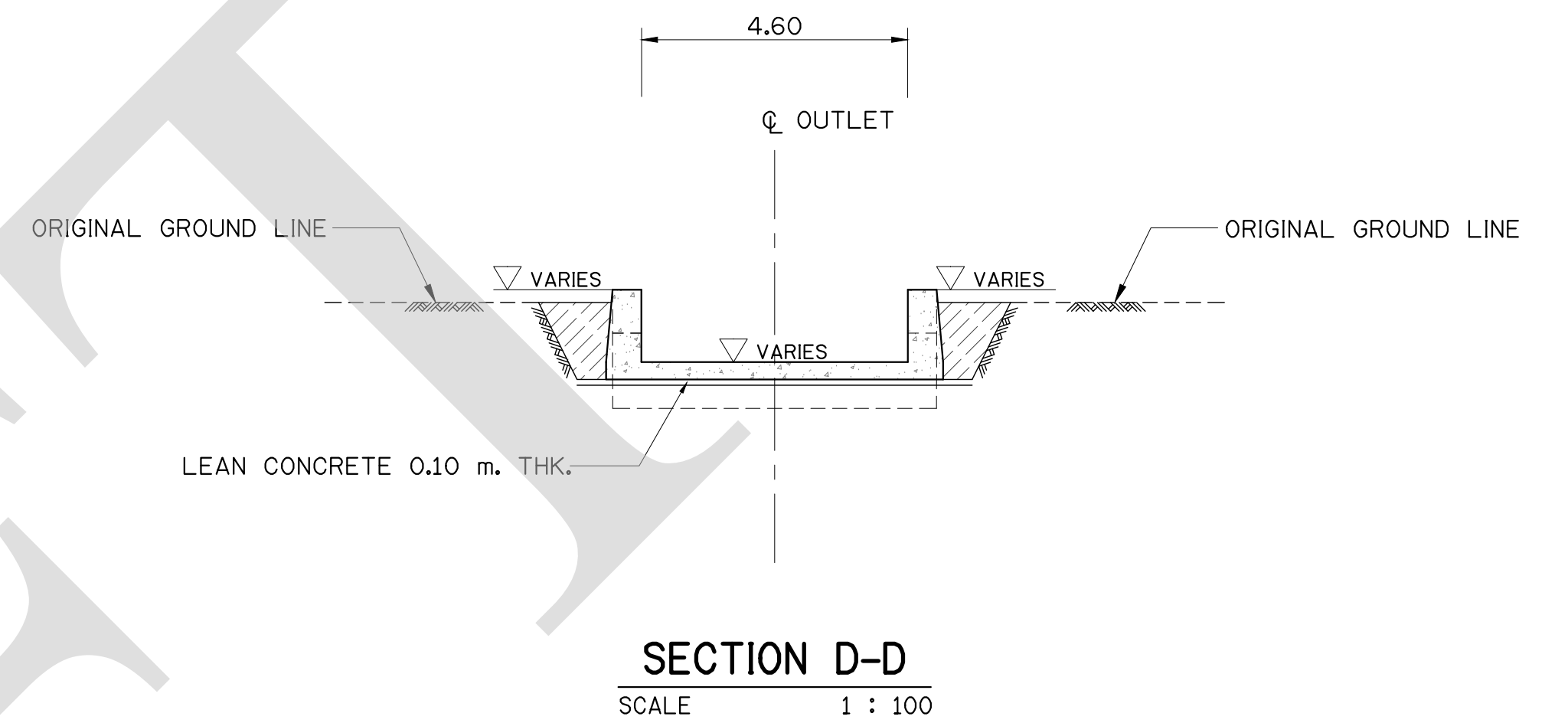
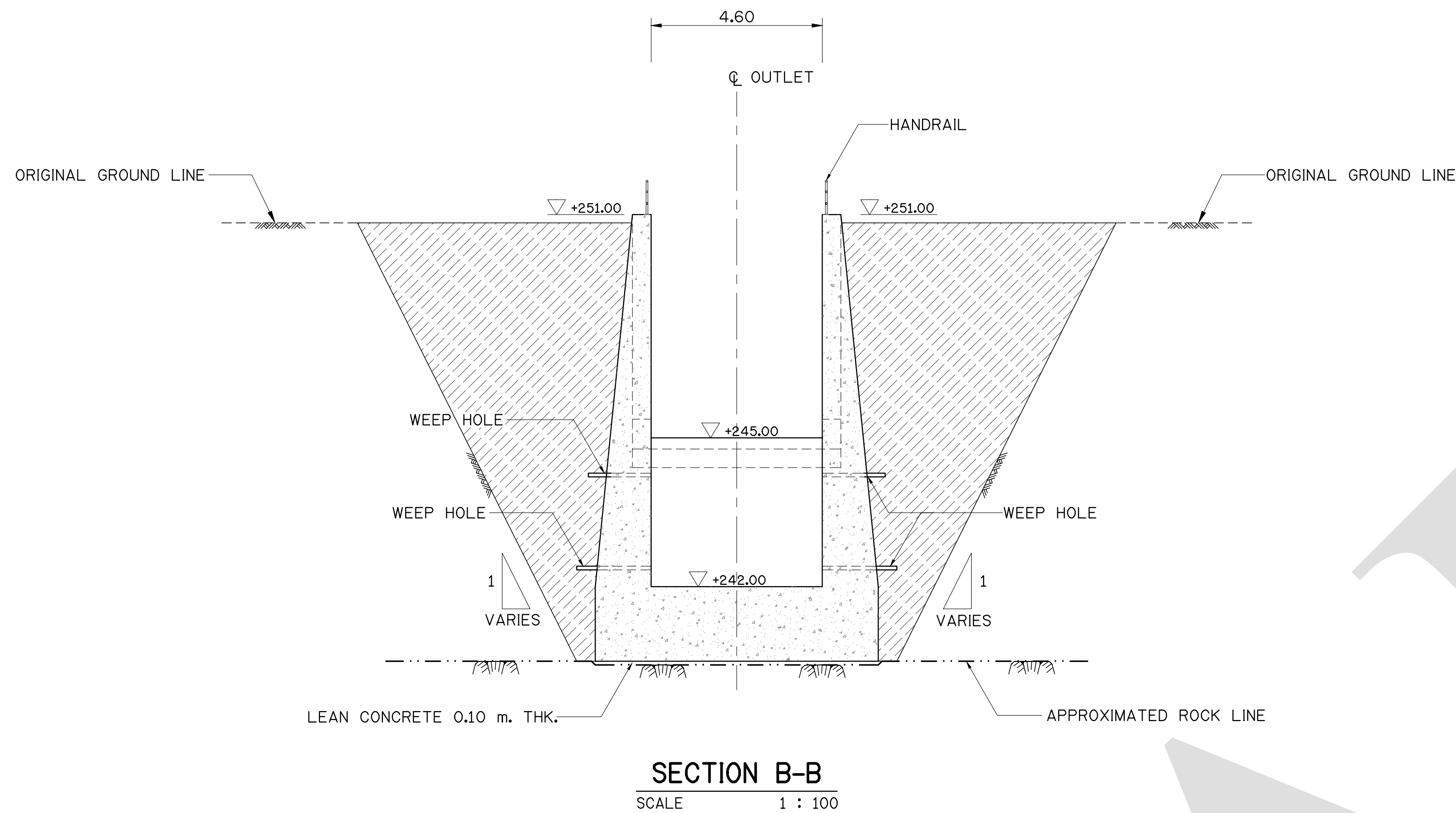
- NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. SEE WATER SURFACE ELEVATIONS OF RESERVOIR AND TAILWATER IN VOLUME II TECHNICAL SPECIFICATIONS-EQUIPMENT WORKS, TM-I TURBINE EQUIPMENT, CLAUSE No. TM-1.3 DESIGN DATA.

FOR BIDDING ONLY



NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	TAILRACE STRUCTURE SECTIONS A-A		
DRAWN :				
CHECKED :		HDI-LTK-ULQ-C-002		
APPROVED	DATE			



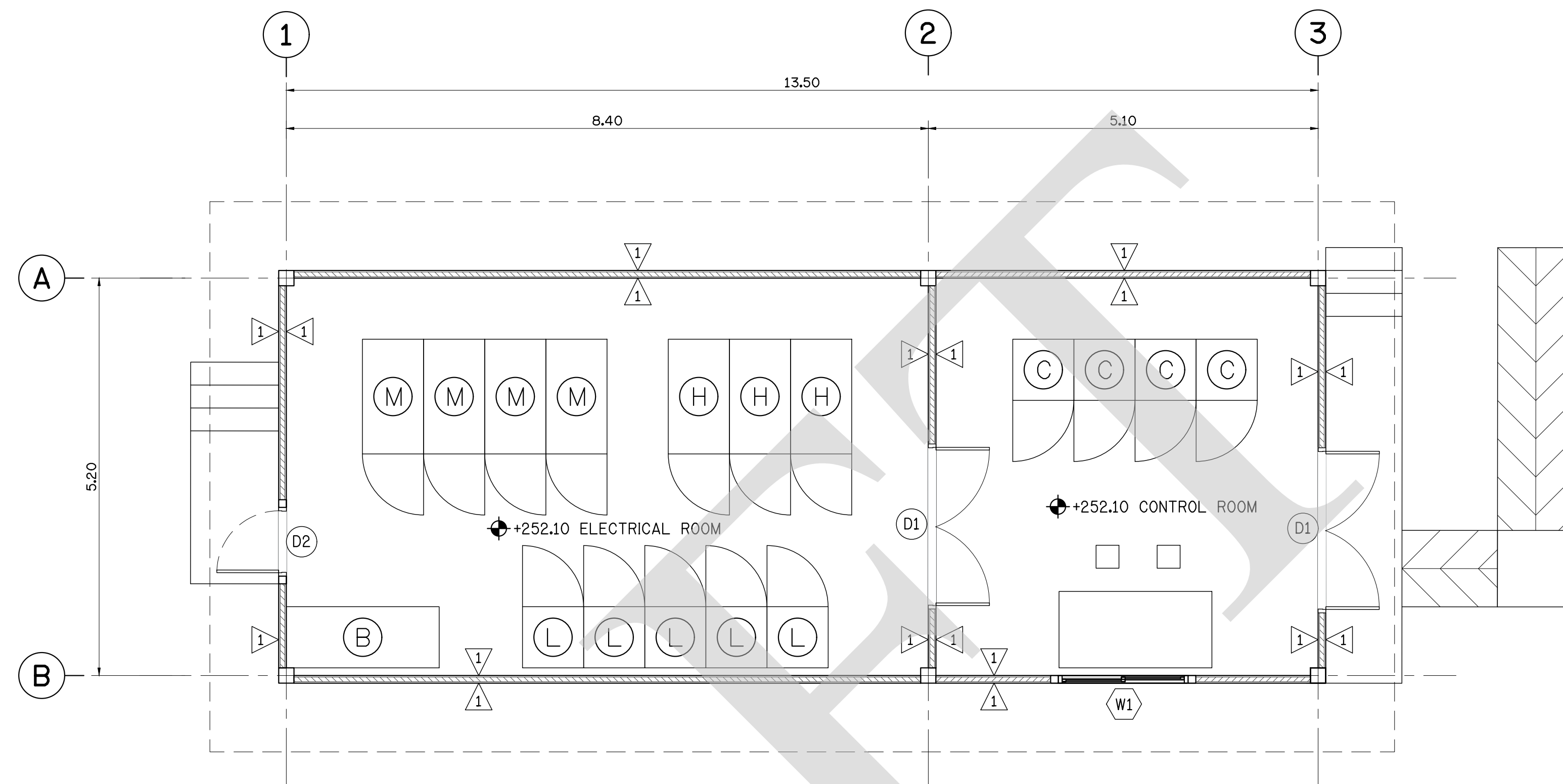
- NOTES :**
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. SEE WATER SURFACE ELEVATIONS OF RESERVOIR AND TAILWATER IN VOLUME II TECHNICAL SPECIFICATIONS-EQUIPMENT WORKS, TM-I TURBINE EQUIPMENT, CLAUSE No. TM-1.3 DESIGN DATA.

FOR BIDDING ONLY

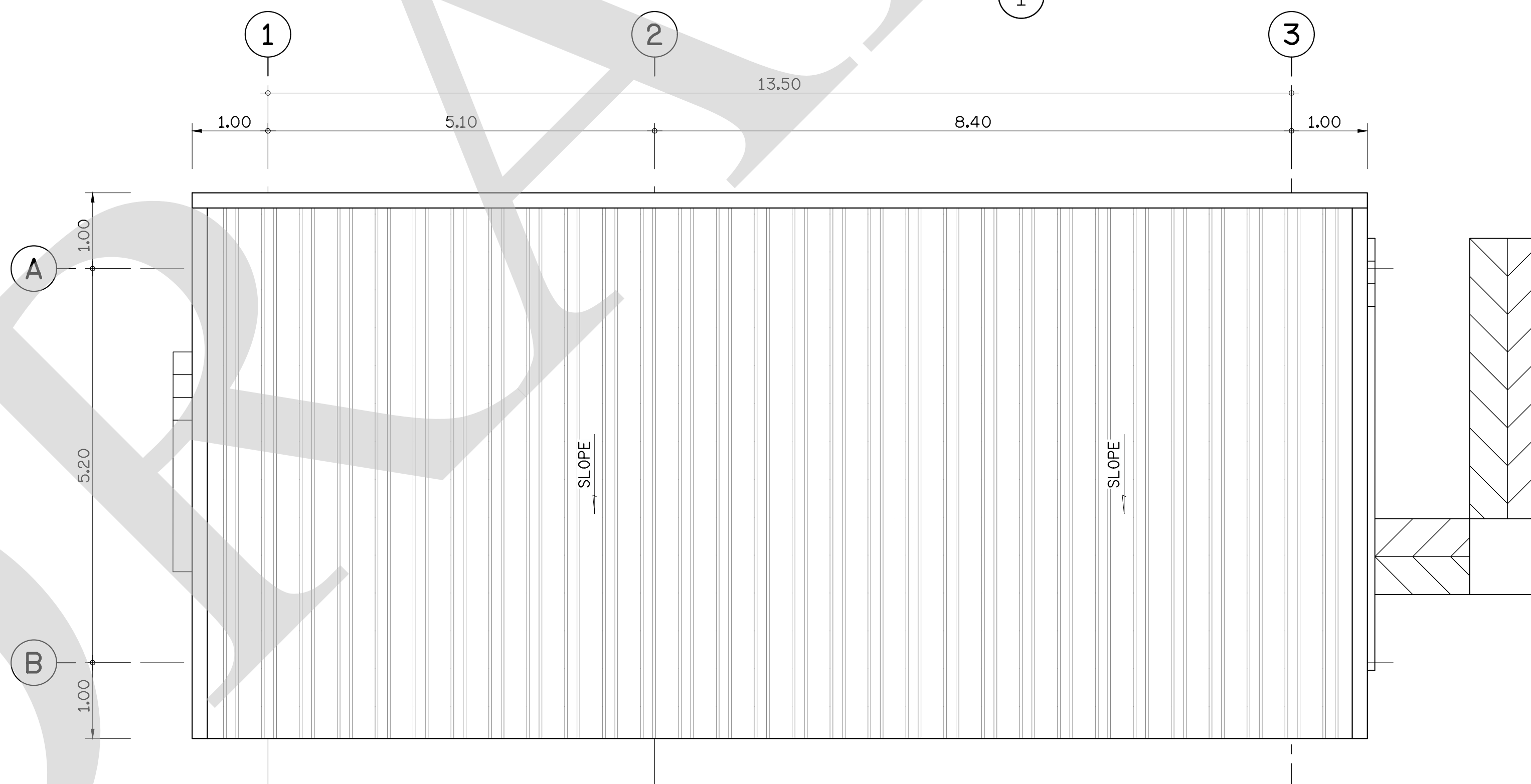


NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	TAILRACE STRUCTURE SECTIONS B-B , C-C , D-D AND WEEP HOLE DETAIL		
DRAWN :				
CHECKED :		HDI-LTK-ULQ-C-003		
APPROVED	DATE			
		REPLACING DWG. NO.	DWG. NO.	REV.



PLAN
SCALE 1 : 50



ROOF PLAN
SCALE 1 : 50

LEGEND :

- ① CONCRETE BLOCK WALL, PLASTER WALL-PA1, PA2. (LIGHT GREY) OR EQUIVALENT
- ② STORAGE BATTERIES
- ③ CONTROL EQUIPMENT
- ④ HIGH VOLTAGE (22kV)
- ⑤ LOW VOLTAGE (< 1000 V)
- ⑥ MEDIUM VOLTAGE (3.3kV TO 1 kV)

NOTES :

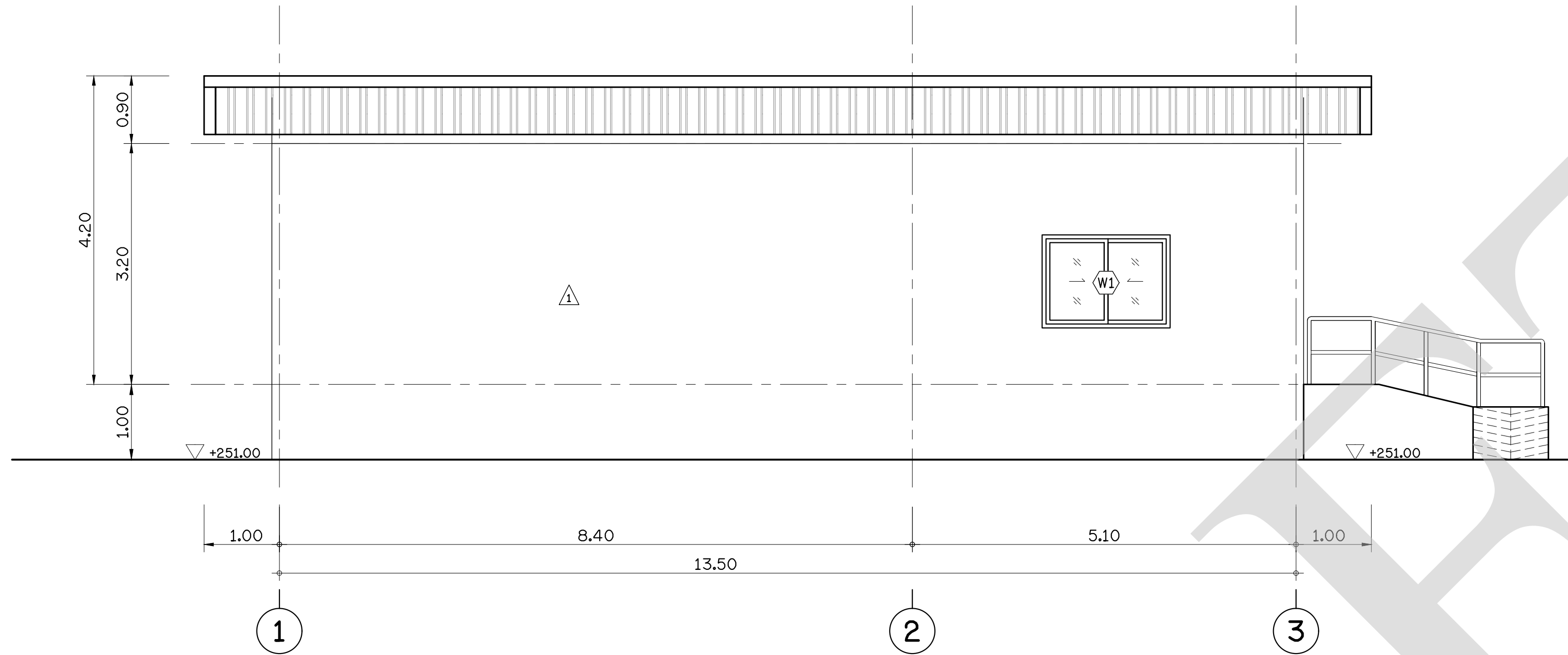
- 1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



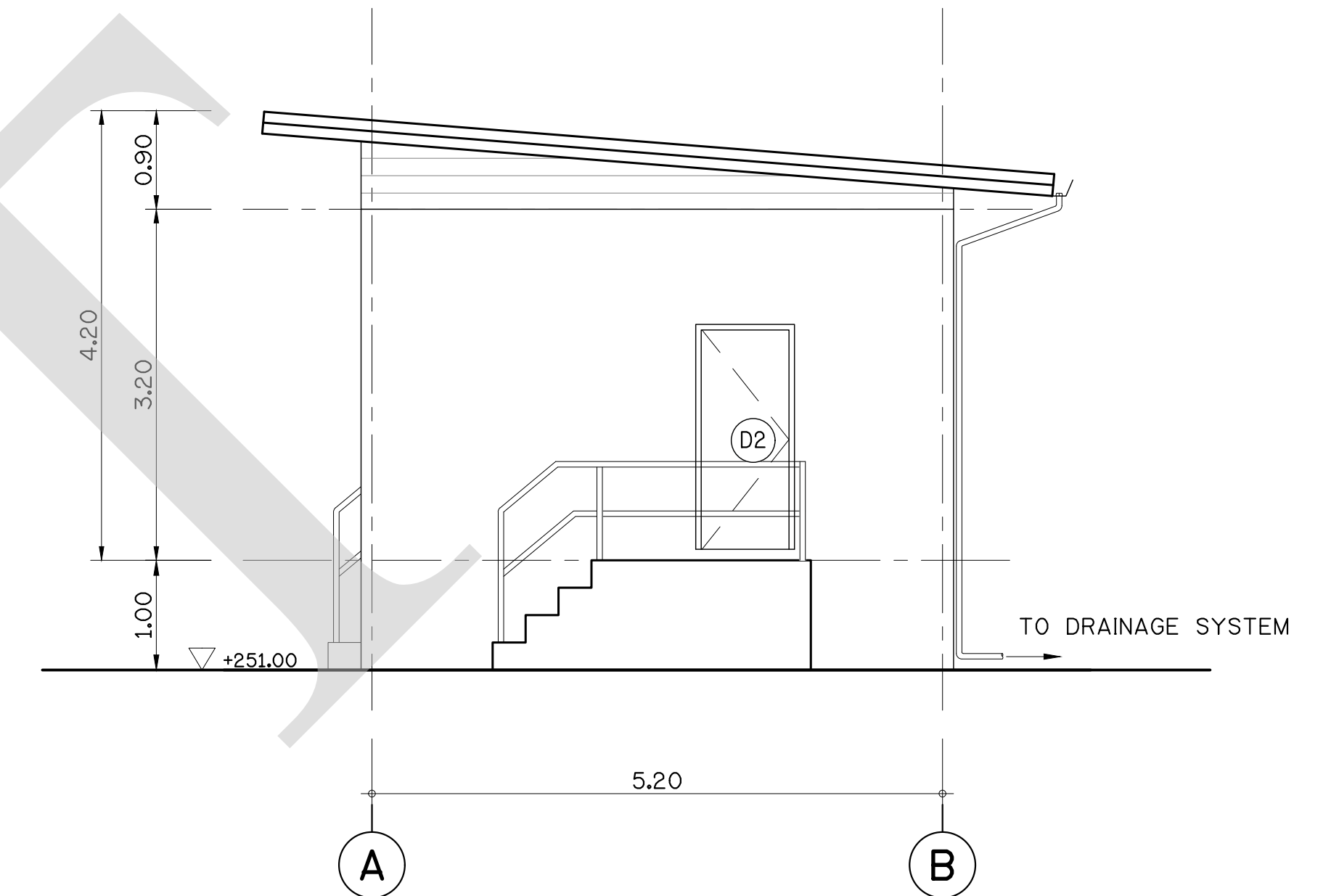
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

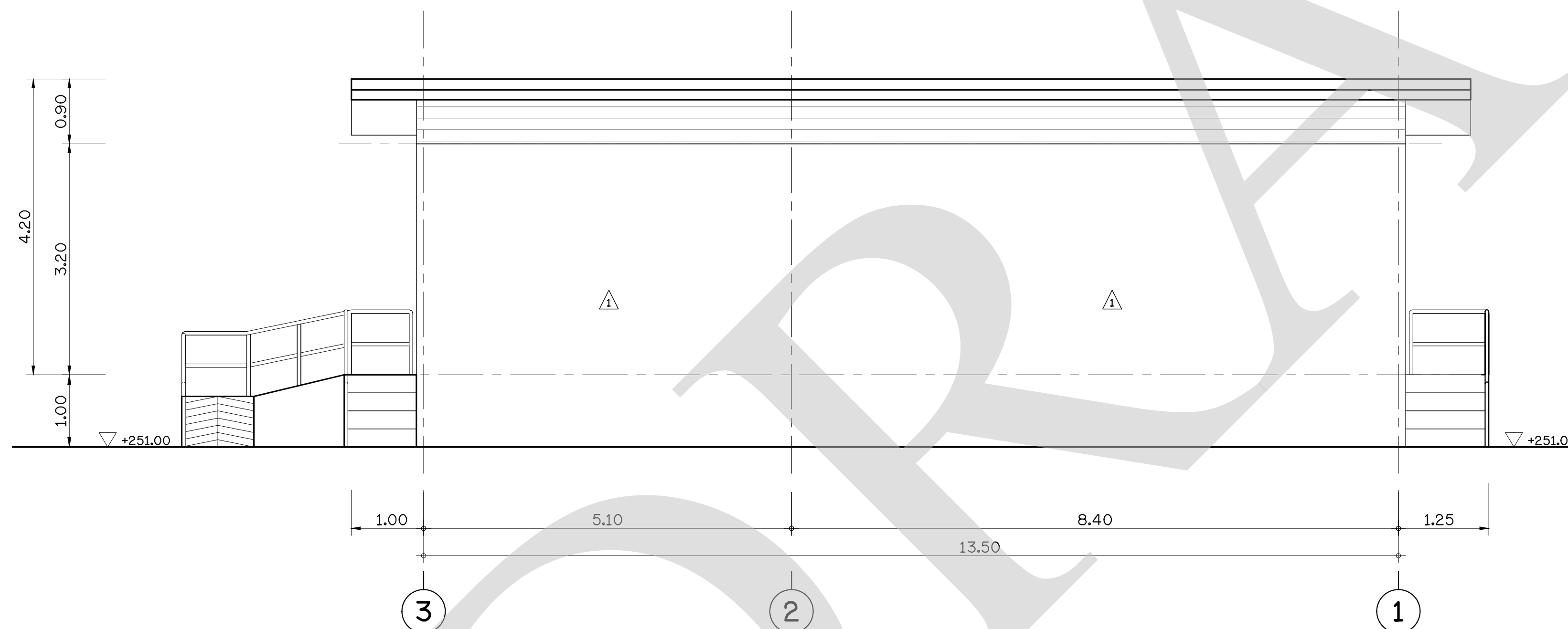
ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	CONTROL BUILDING		
DRAWN :		PLAN AT EL.+252.10 (ARCHITECTURE)		
CHECKED :		REPLACING DWG. NO.	DWG. NO.	REV.
APPROVED	DATE		HDI-LTK-UCA-C-001	



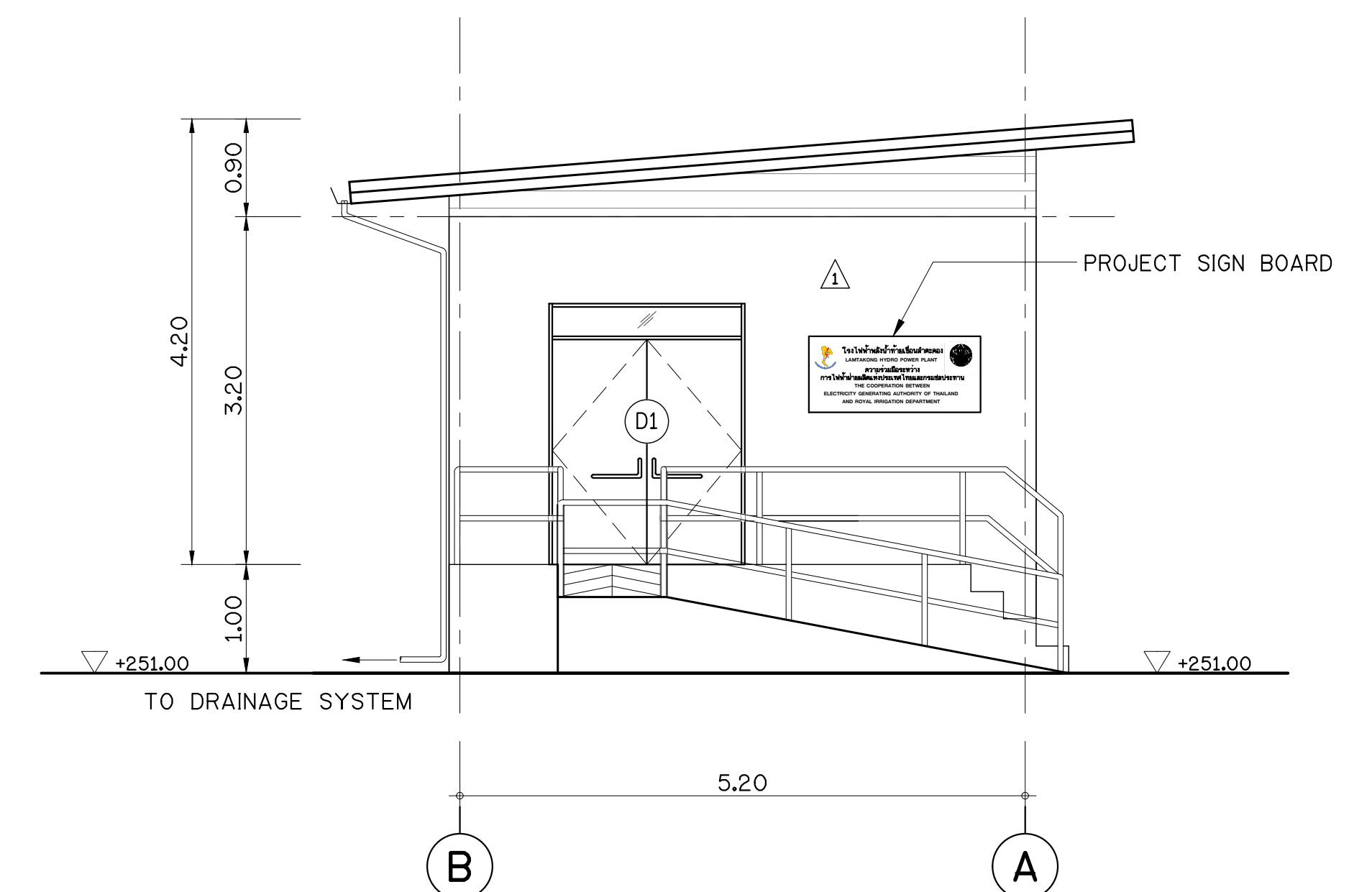
ELEVATION 1
SCALE 1 : 50



ELEVATION 2
SCALE 1 : 50



ELEVATION 3
SCALE 1 : 50



ELEVATION 4
SCALE 1 : 50

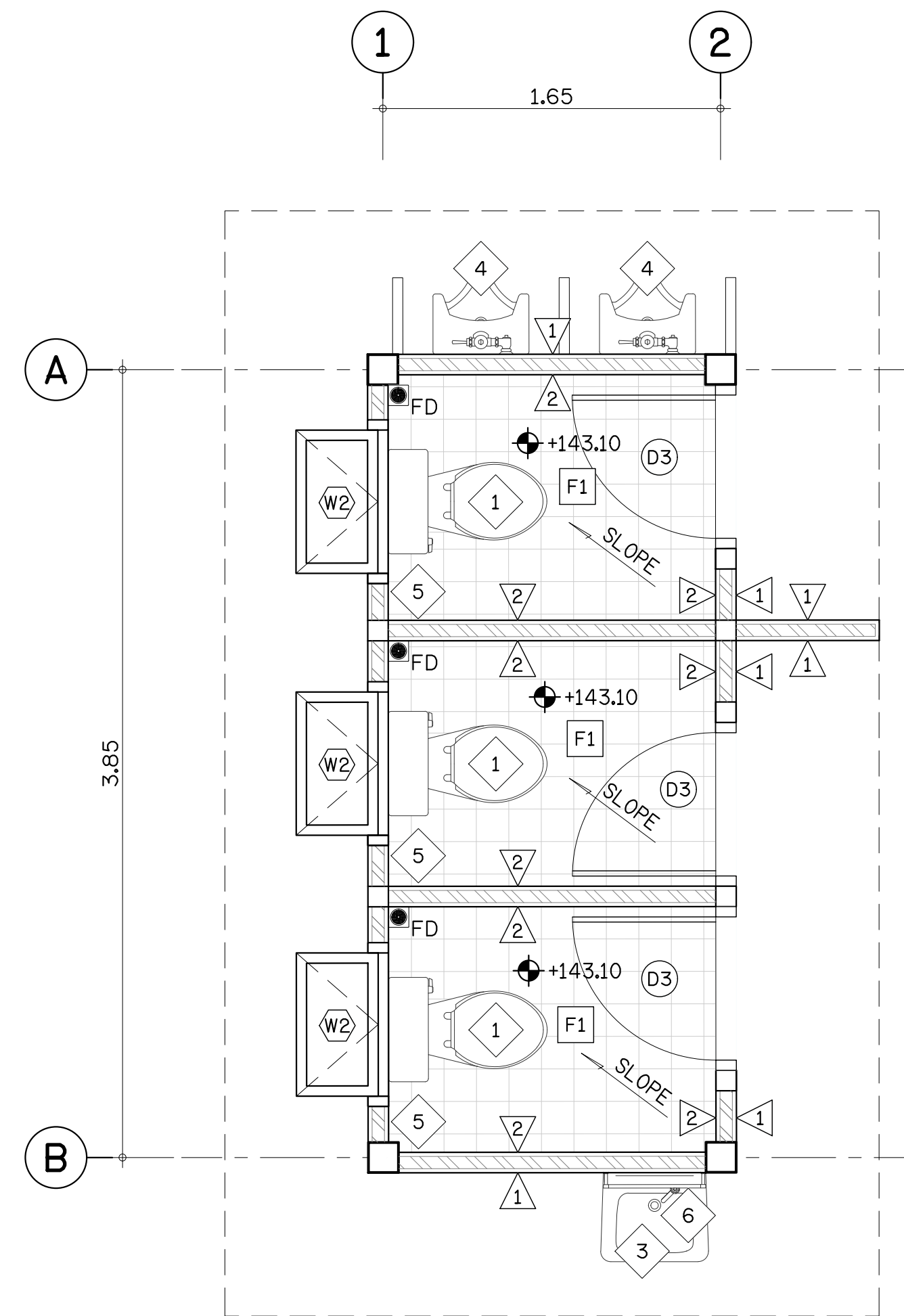
- NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. PROJECT SIGN BOARD SHALL BE STAINLESS STEEL ALPHABET 3 MM. THICKNESS.

FOR BIDDING ONLY



NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		CONTROL BUILDING		
ENGINEER :	CONCURRED	ELEVATION 1, 2, 3 AND 4		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-UCA-C-002	



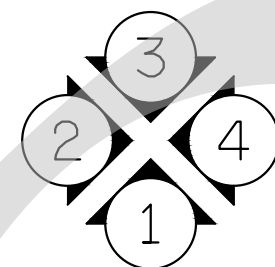
LEGEND :

- 1 FLUSH VALVE TOILET
- 2 HALF COUNTER LAVATORY + SELF-CLOSING FAUCET+PLUG WASTE
- 3 PEDESTAL LAVATORY + SELF-CLOSING FAUCET+PLUG WASTE
- 4 URINALS
- 5 RINSING SPRAY
- 6 MIRROR
- FD FLOOR DRAIN Ø4"

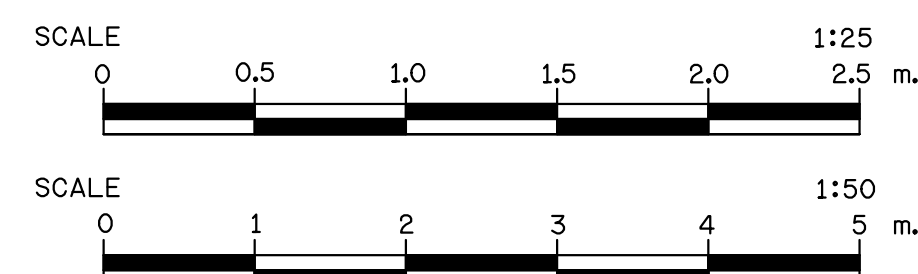
SYMBOL :

- 1 CONCRETE BLOCK WALL, PLASTER WALL-PA1, (LIGHT GREY) OR EQUIVALENT
- 2 CONCRETE BLOCK INCLUDED PLASTER WALL 100 mm THK, CERAMIC TILE 12"x12" H=2.40 m. (LIGHT GREY)
- F1 ANTI-SLIP CERAMIC TILE 12"x12"

PLAN
SCALE 1 : 25

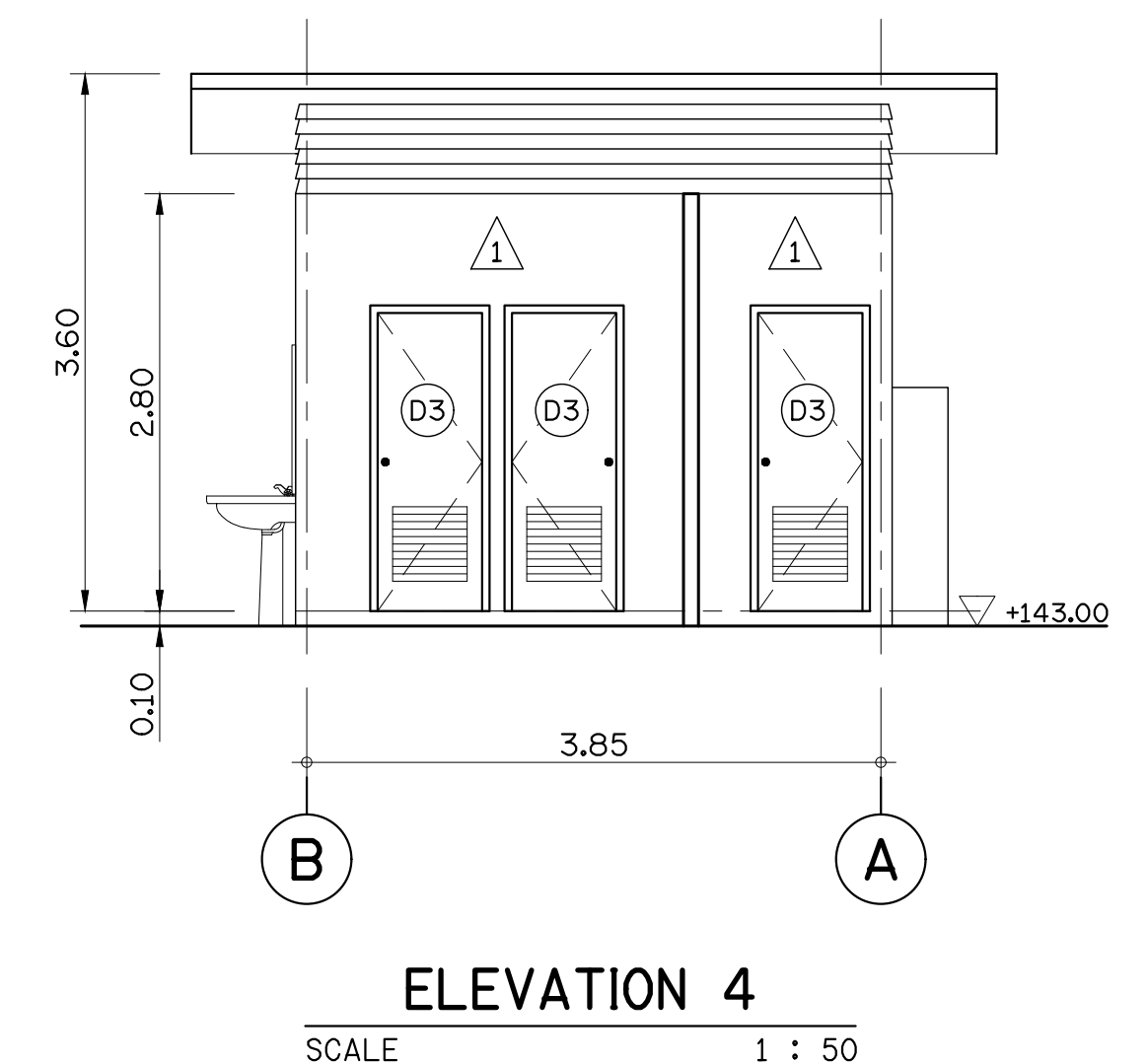
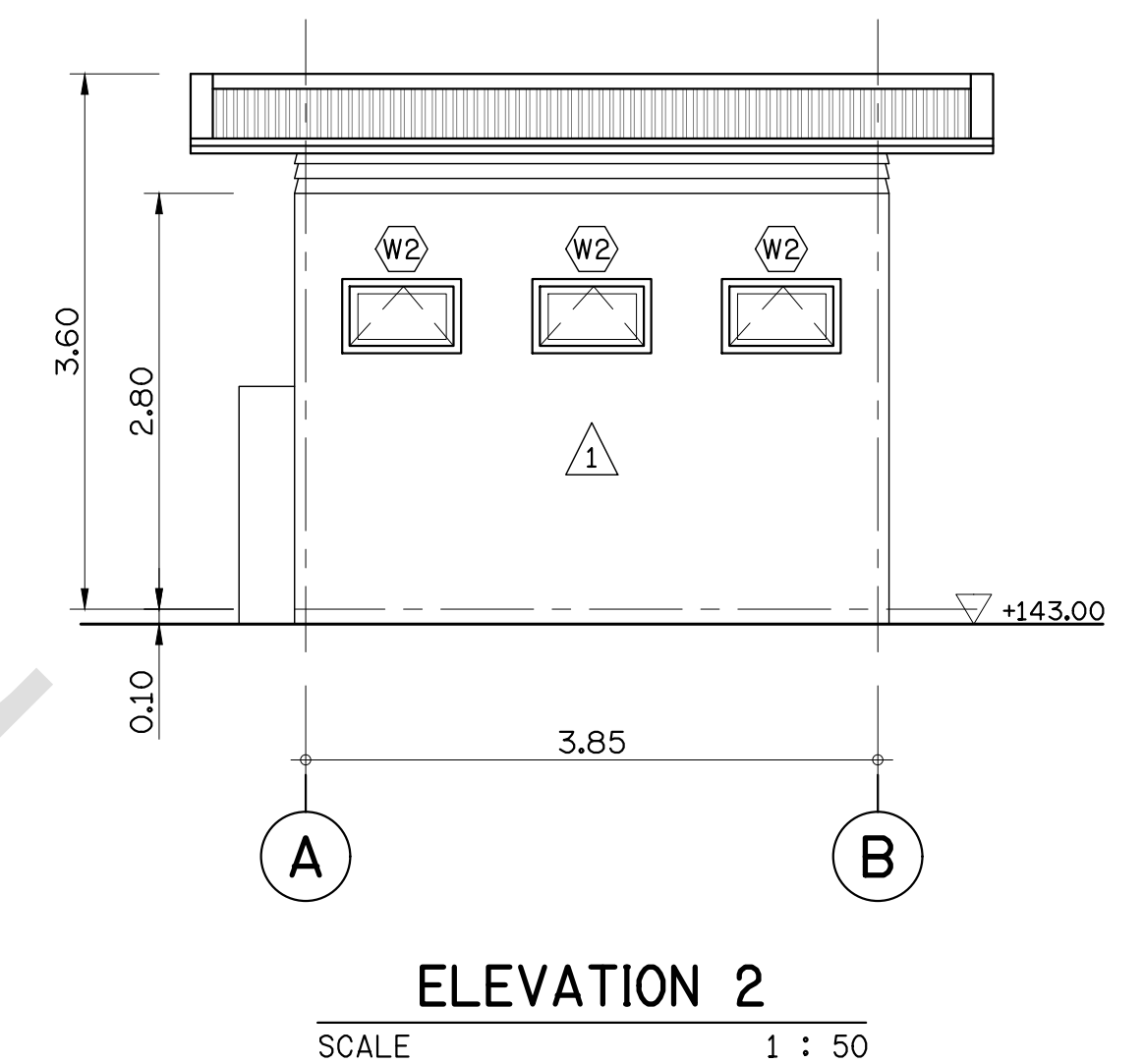
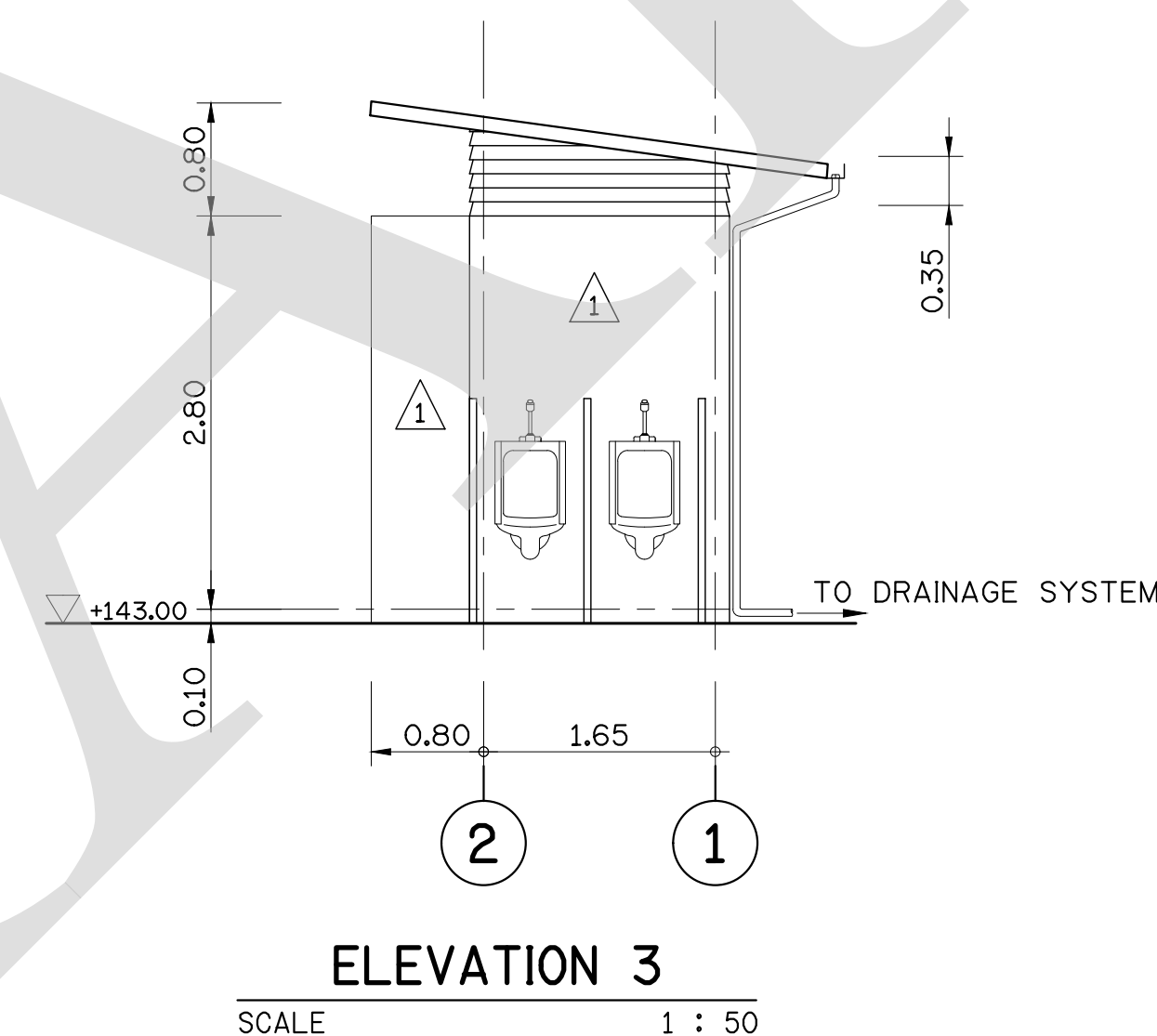
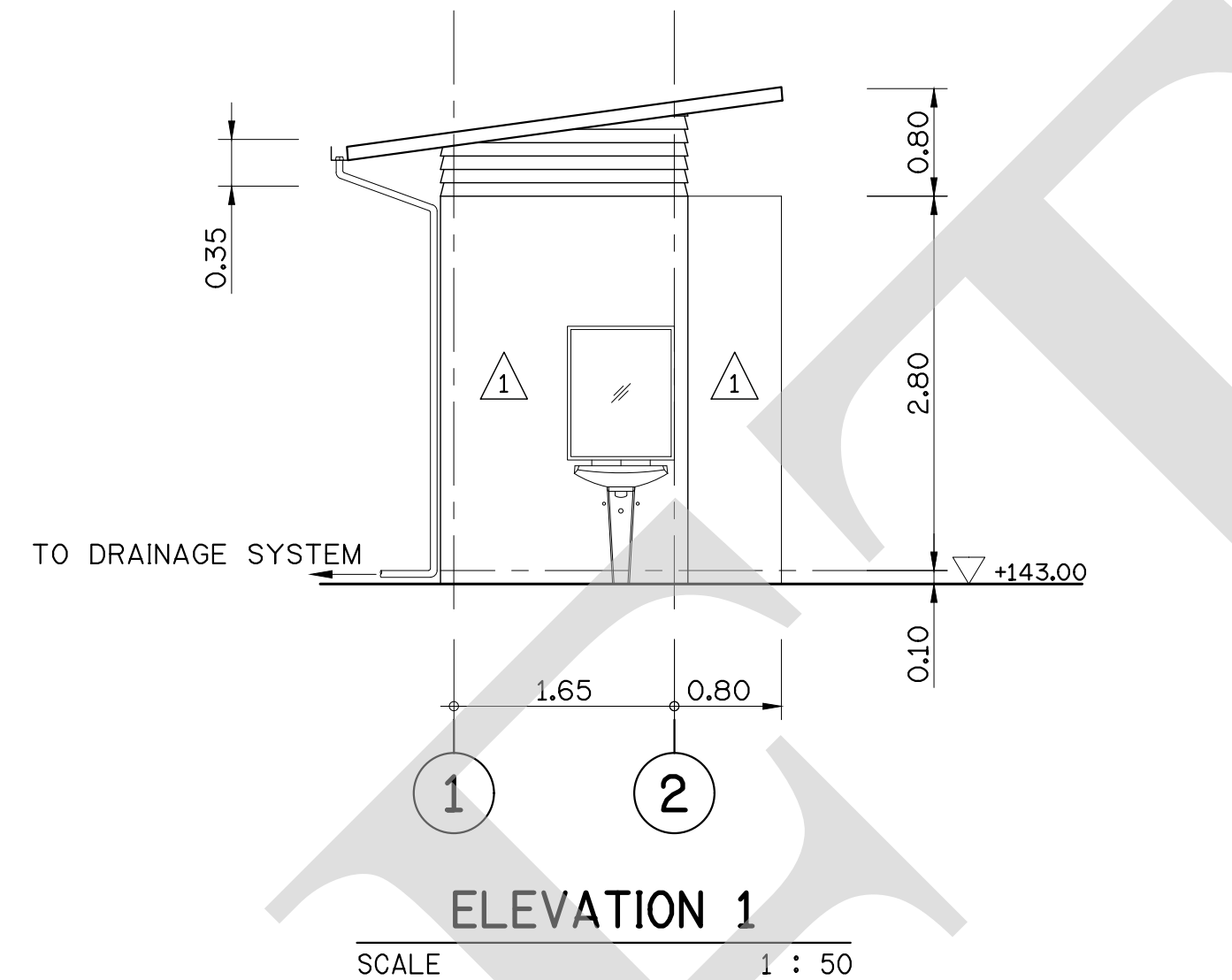


NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



FOR BIDDING ONLY

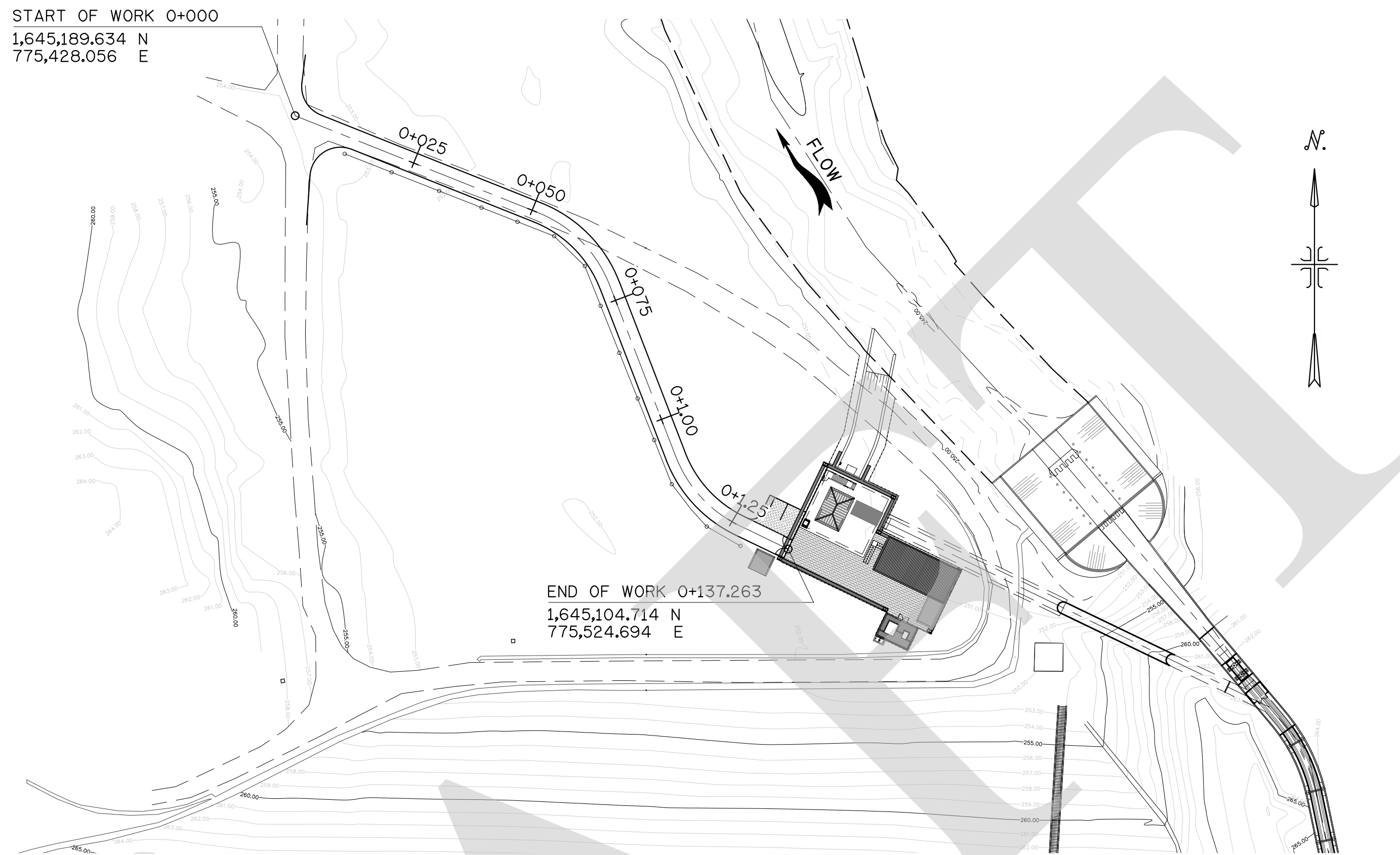
NO.	DATE	REVISION	CONCURRED	APPROVED



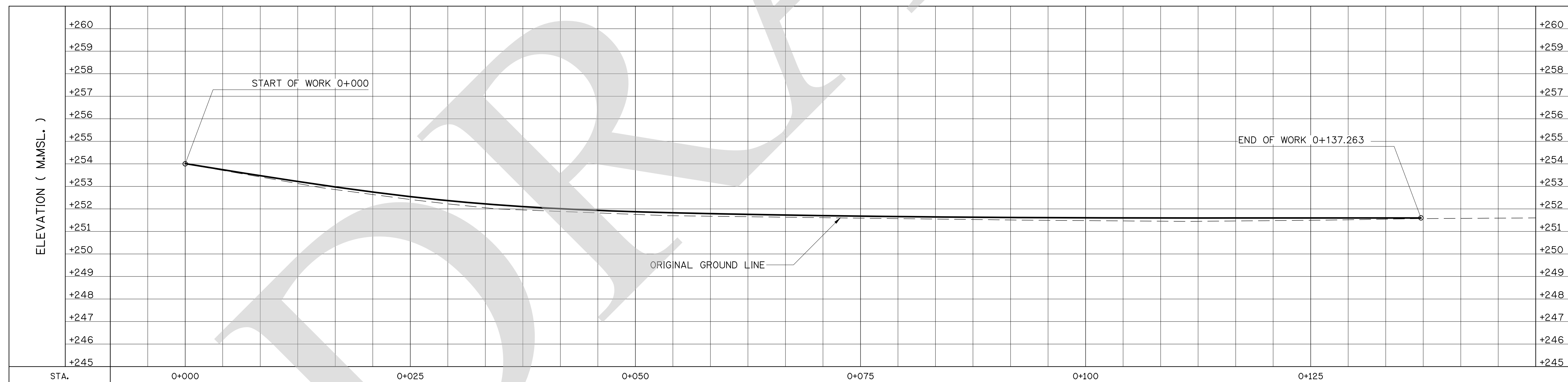
ELECTRICITY GENERATING AUTHORITY OF THAILAND

ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	.....		
ENGINEER :	CONCURRED			
DRAWN :	.....	CONTROL BUILDING DETAIL OF TOILET		
CHECKED :	.....		
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....	.....		HDI-LTK-UCA-C-003	

START OF WORK 0+000
1,645,189.634 N
775,428.056 E



PLAN
SCALE 1 : 750

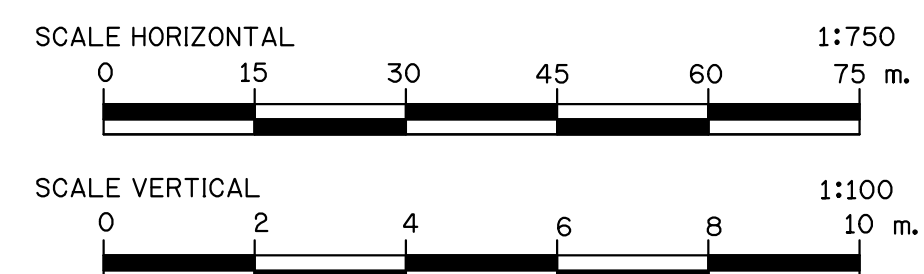


PROFILE

HORIZONTAL 1 : 250
VERTICAL 1 : 100

NOTES :

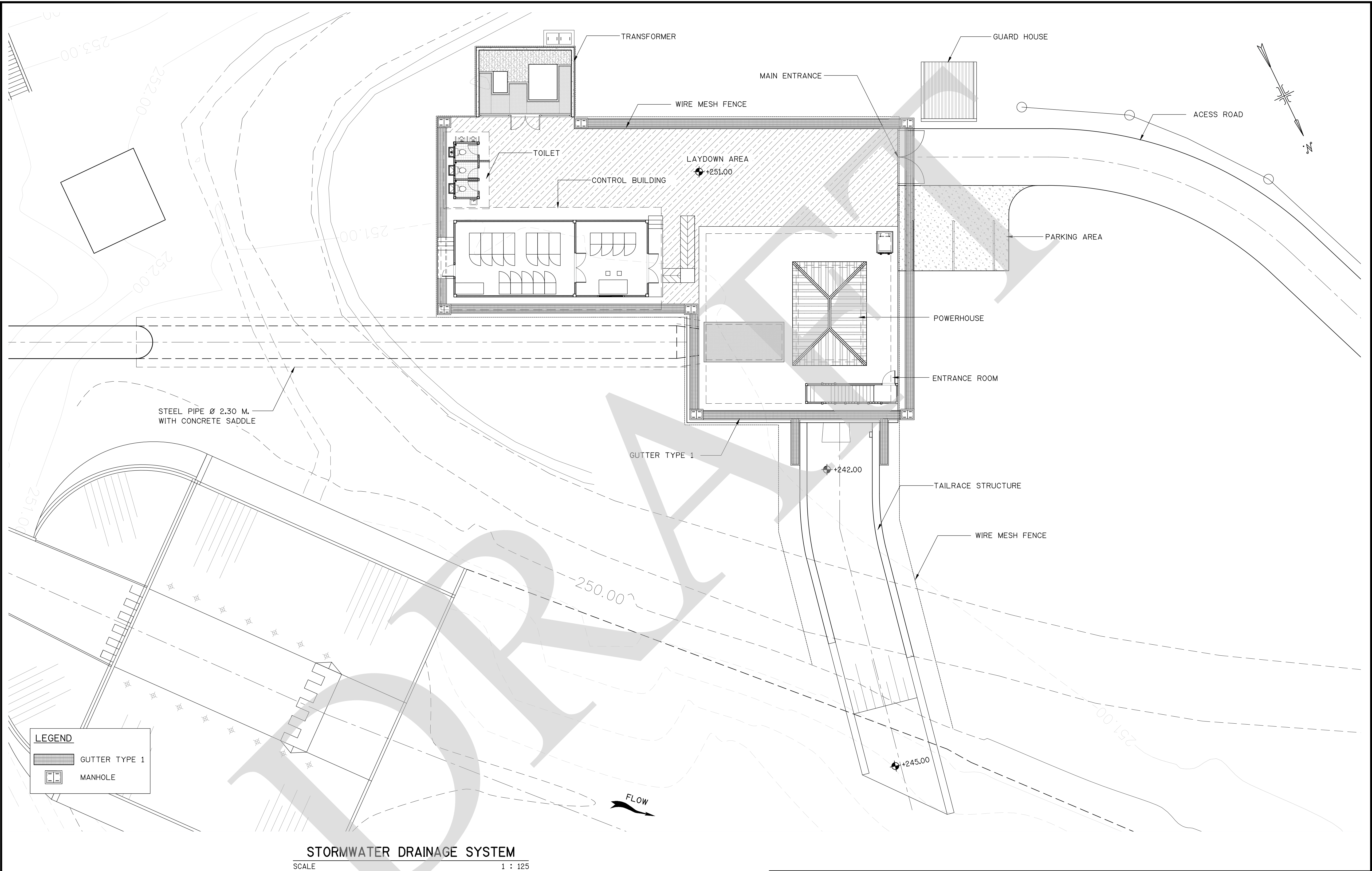
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.




FOR BIDDING ONLY


NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		ACCESS ROAD AND STORMWATER DRAINAGE SYSTEM		
ENGINEER :	CONCURRED	ACCESS ROAD PLAN AND PROFILE		
DRAWN :				
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-UZA-C-001	



LEGEND

 GUTTER TYPE 1

 MANHOLE

STORMWATER DRAINAGE SYSTEM
SCALE 1 : 125

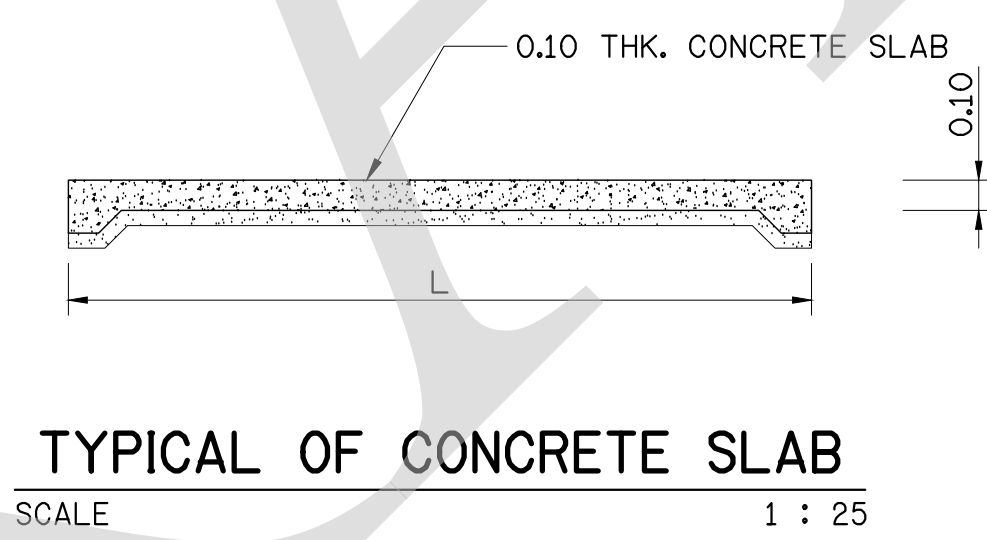
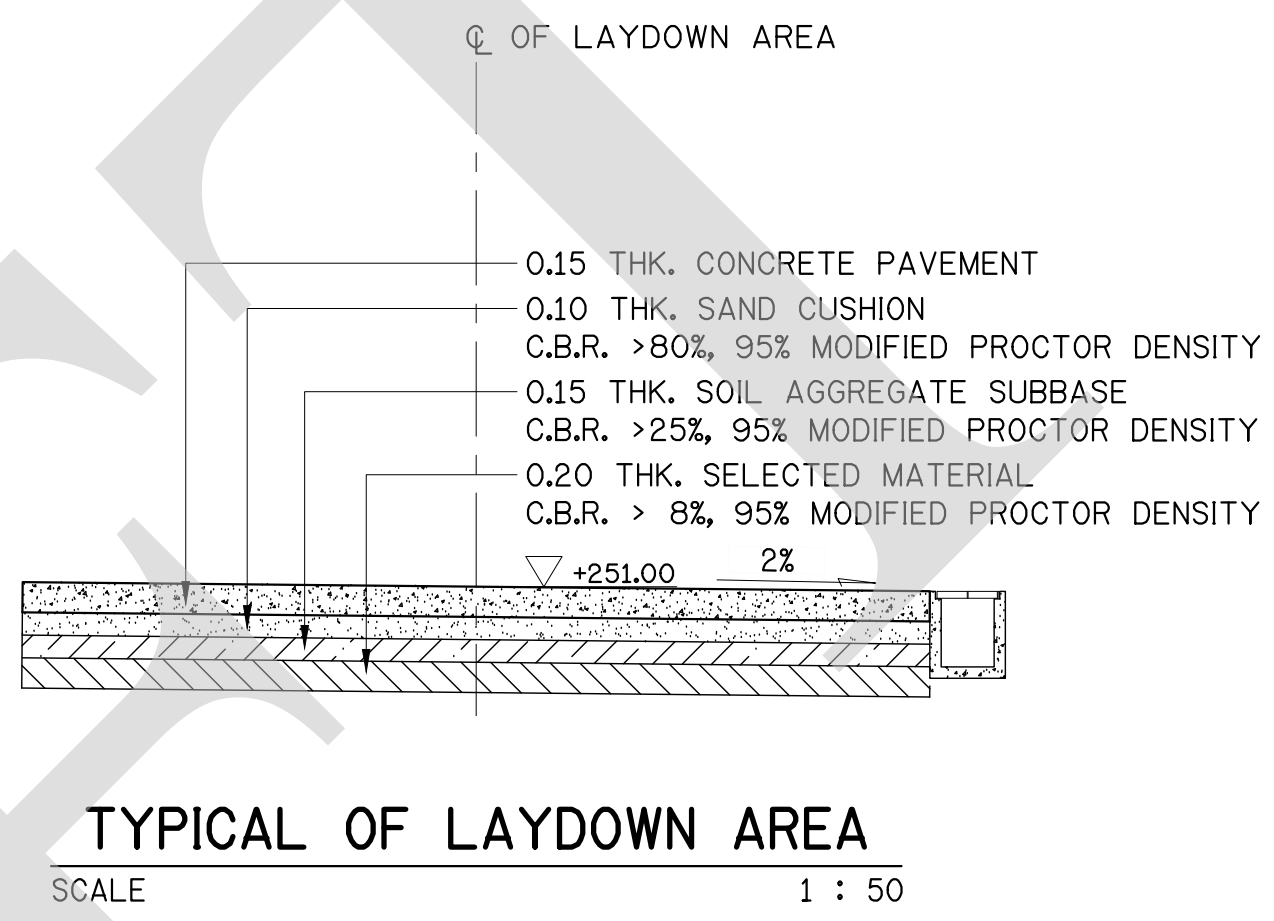
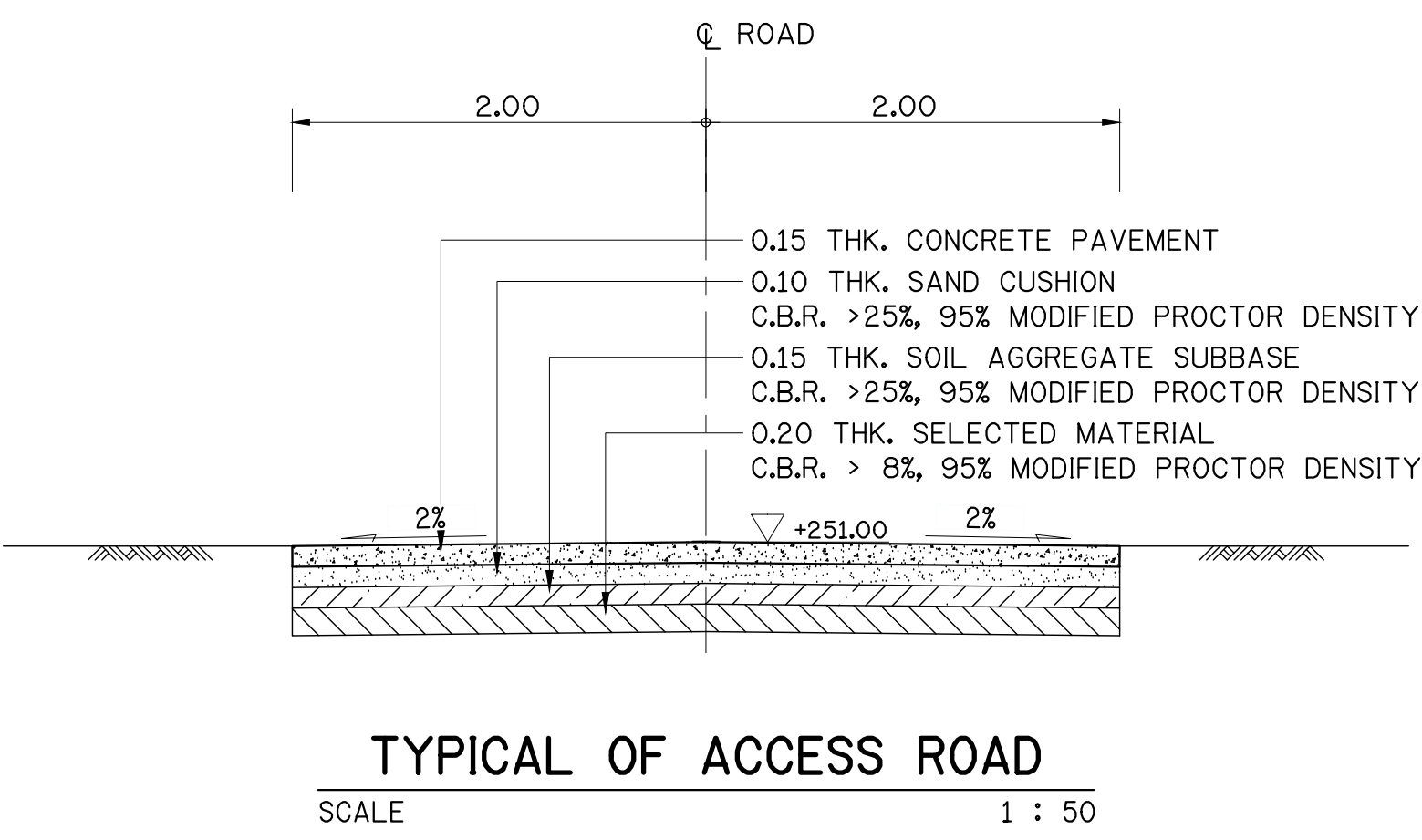
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



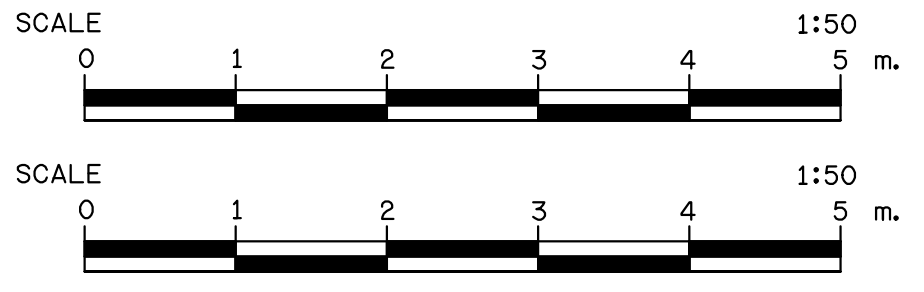
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :		SUBMITTED 	LAMTAKONG HYDROPOWER PROJECT	
ENGINEER :				
ENGINEER :		CONCURRED 	ACCESS ROAD AND STORMWATER DRAINAGE SYSTEM	
DRAWN :			STORMWATER DRAINAGE SYSTEM	
CHECKED :				
APPROVED 		DATE	REPLACING DWG. NO.	DWG. NO. HDI-LTK-UZA-C-002
				REV.



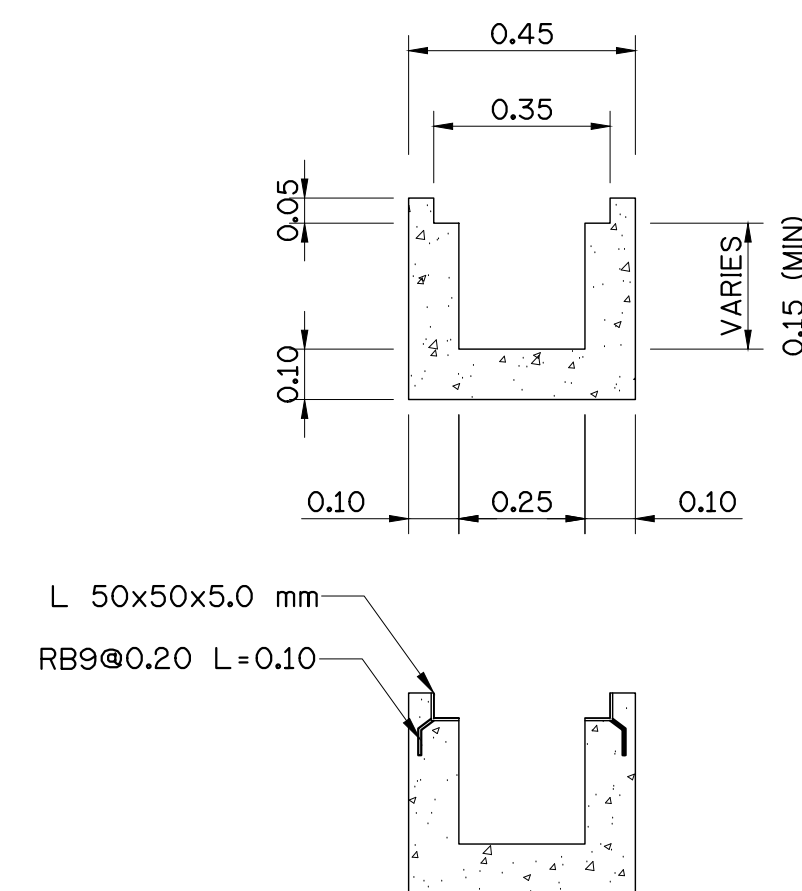
- NOTES :
- 1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - 2. DETAILS OF GUIDE POST AND GUARD RAIL SHALL CONFORM TO THE MINISTETIAL REGULATION OF THE DEPARTMENT OF HIGHWAYS, MINISTRY OF TRANSPORT.



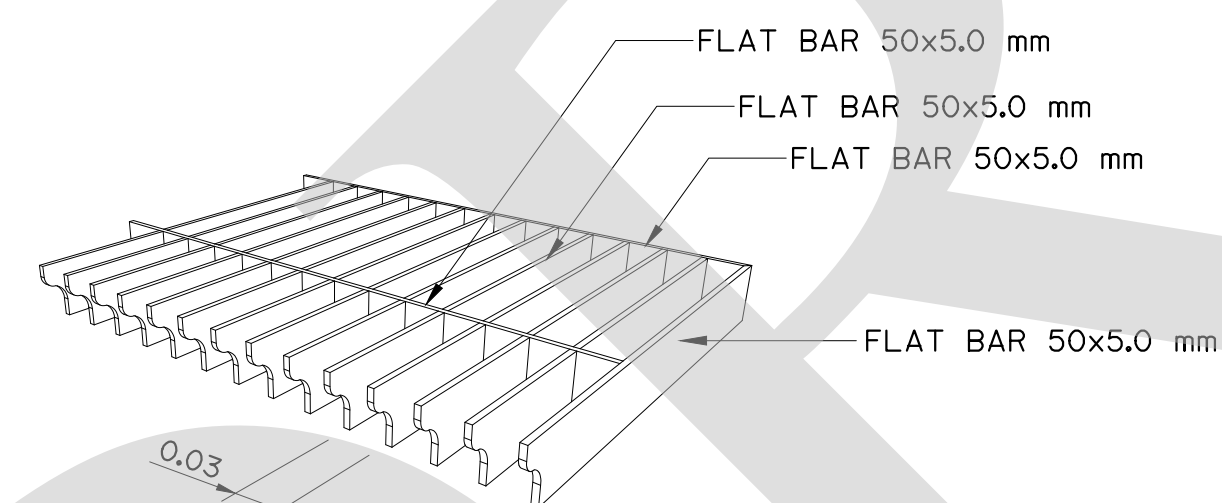
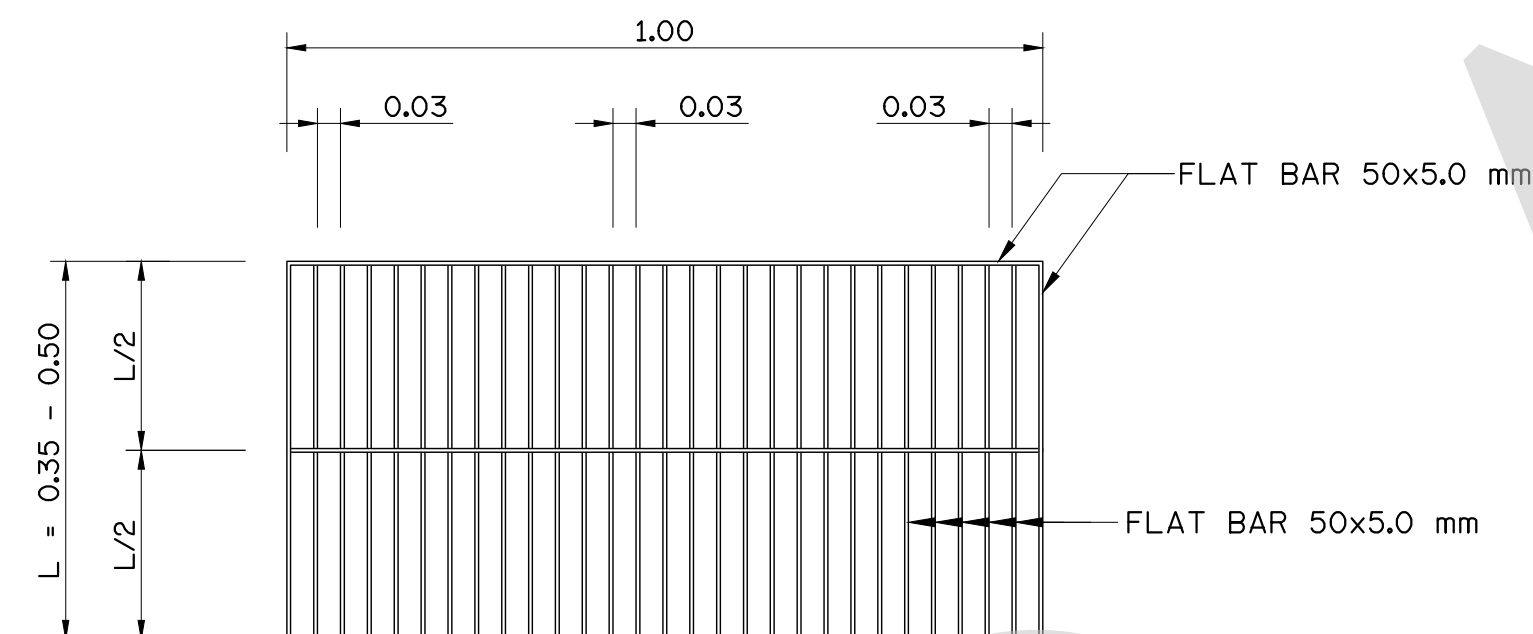
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

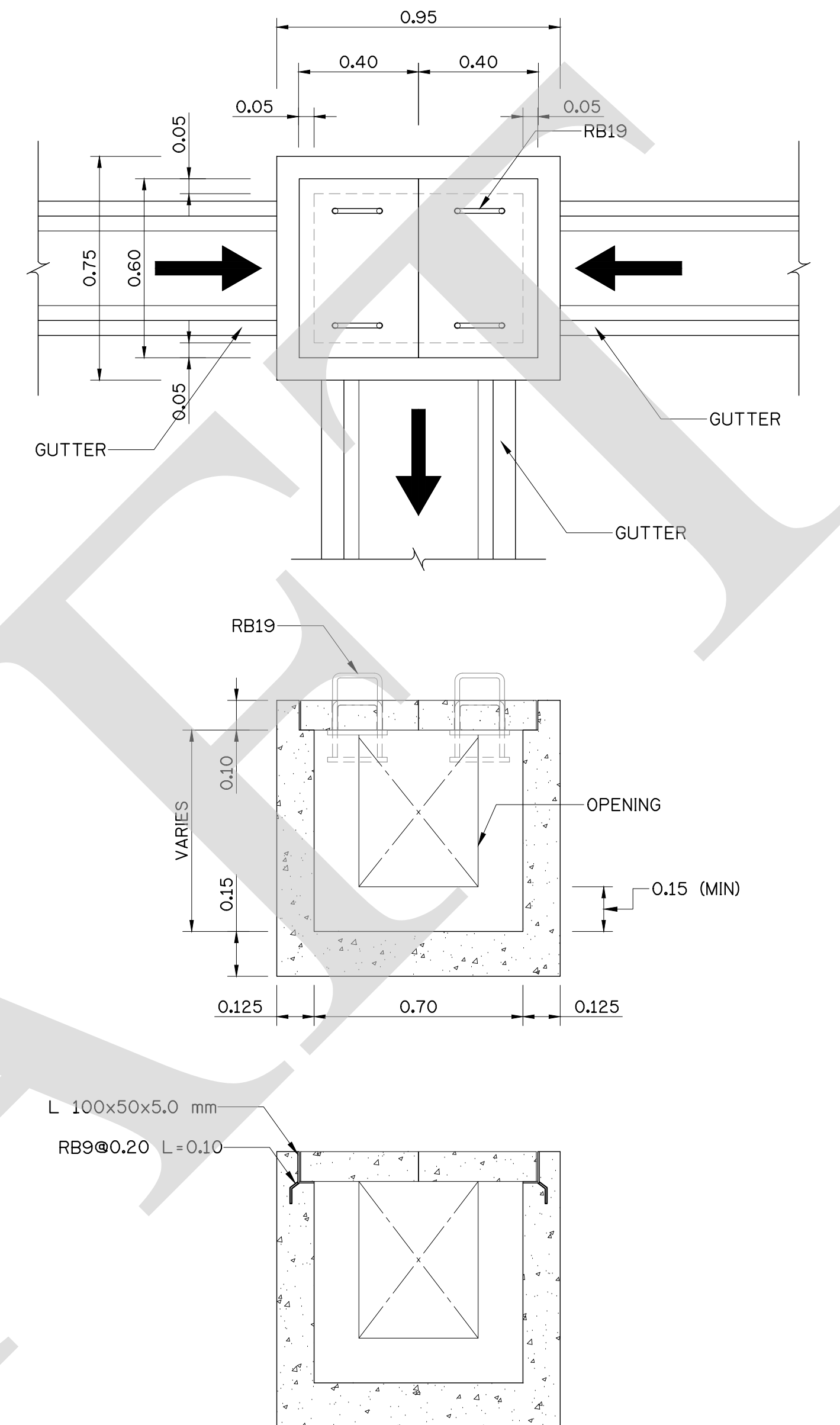
ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	ACCESS ROAD AND STORMWATER DRAINAGE SYSTEM		
DRAWN :		TYPICAL SECTION AND DETAILS 1 OF 2		
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-UZA-C-003	



GUTTER TYPE 1
SCALE 1 : 15

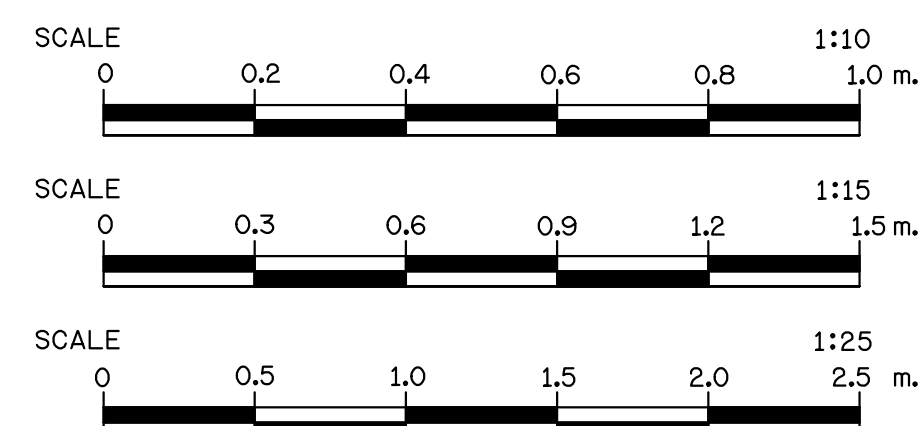


STEEL GRATING
SCALE 1 : 10



MANHOLE (TYPICAL)
SCALE 1 : 15

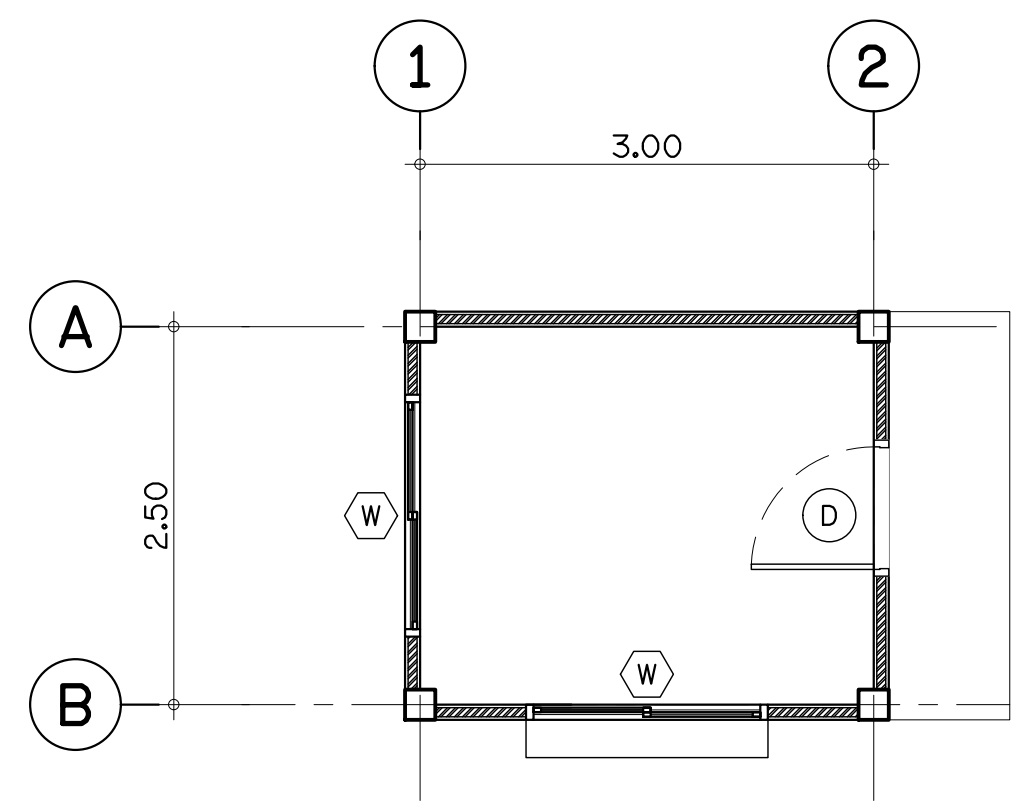
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



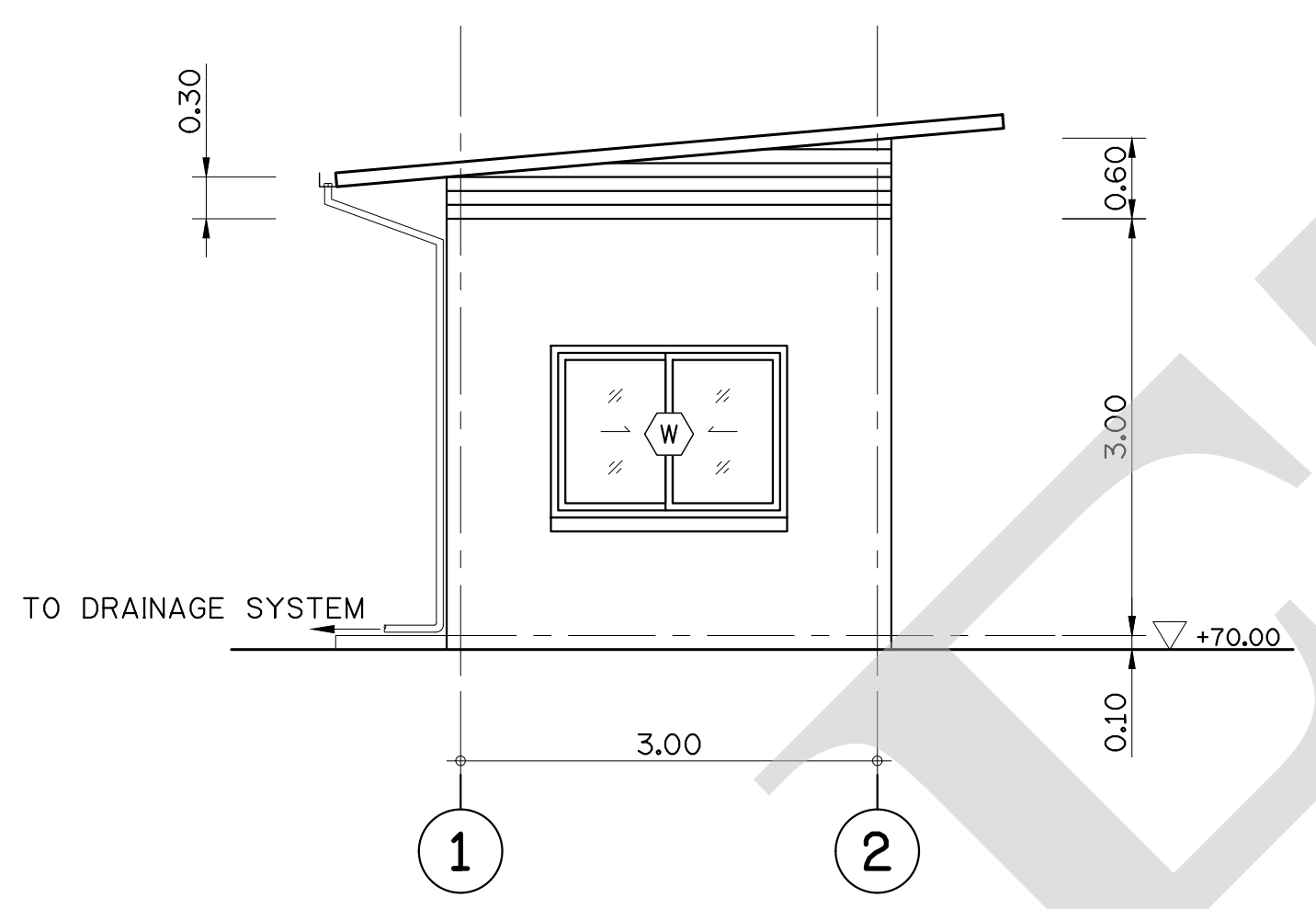
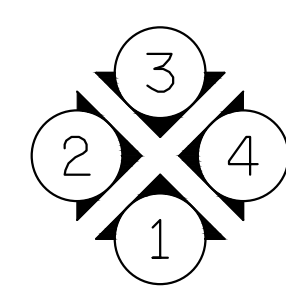
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

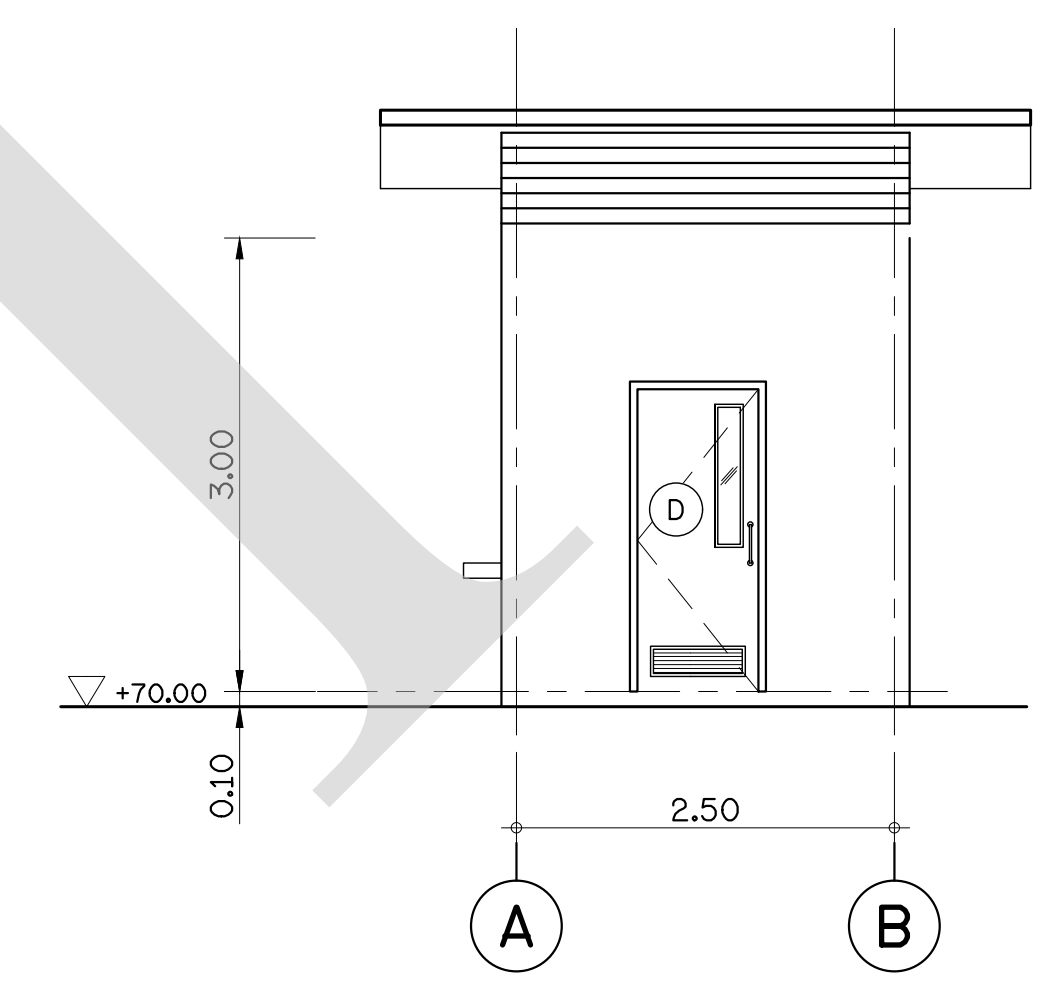
ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	ACCESS ROAD AND STORMWATER DRAINAGE SYSTEM		
DRAWN :		TYPICAL SECTION AND DETAILS 2 OF 2		
CHECKED :		REPLACING DWG. NO.	DWG. NO.	REV.
APPROVED	DATE		HDI-LTK-UZA-C-004	



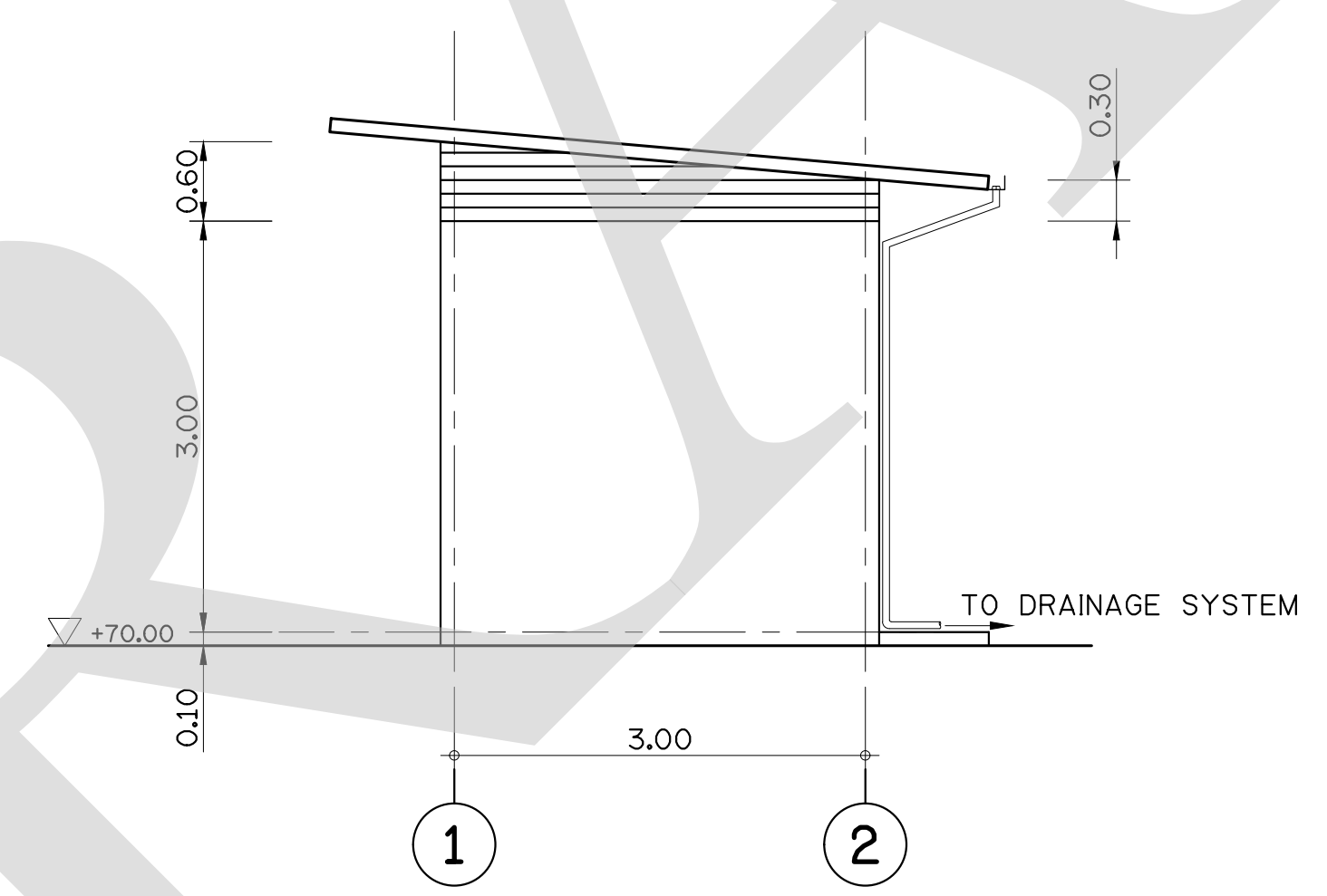
FABRICATED GUARD HOUSE PLAN
SCALE 1 : 50



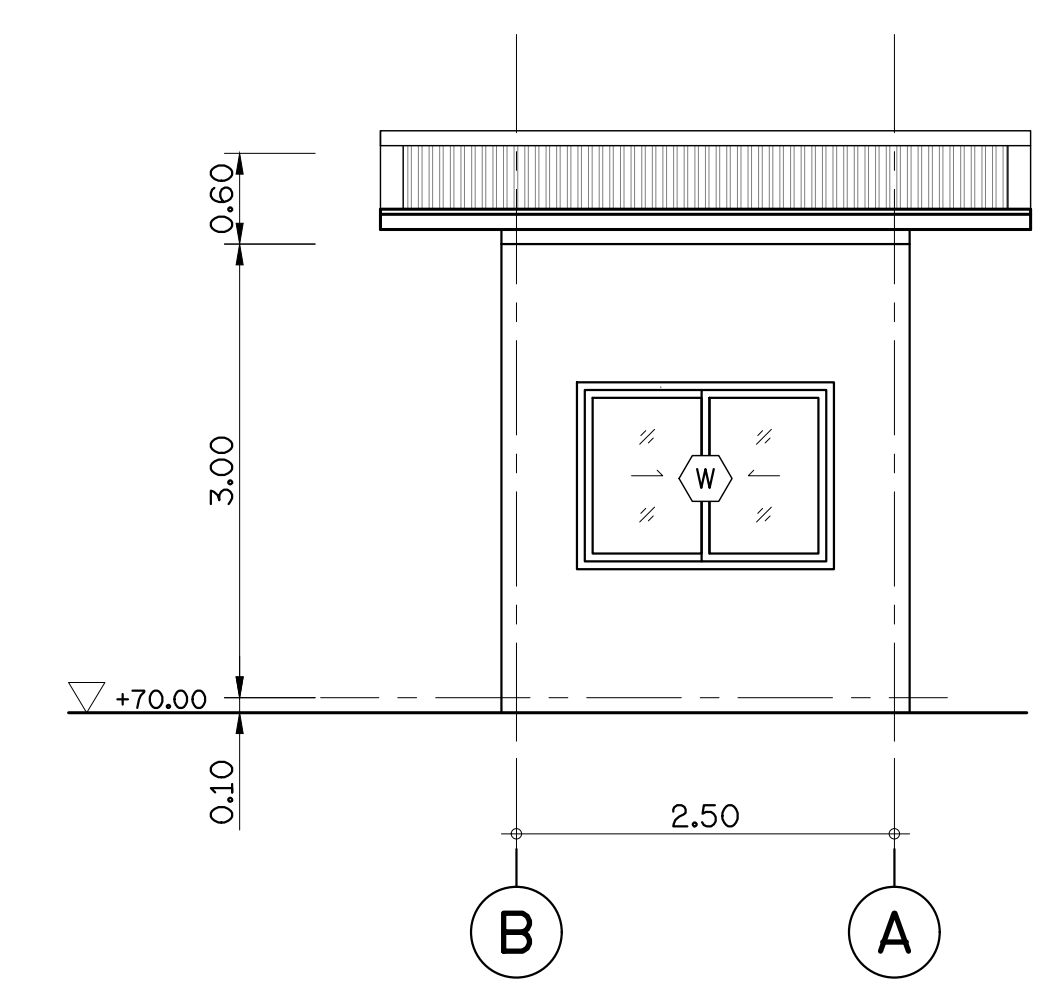
ELEVATION 1
SCALE 1 : 50



ELEVATION 2
SCALE 1 : 50

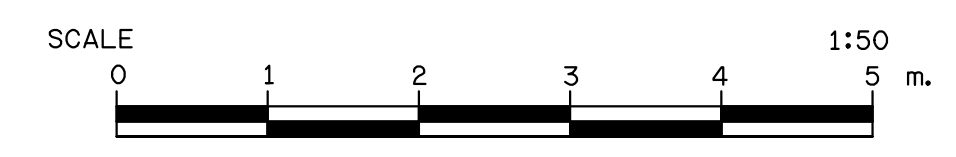


ELEVATION 3
SCALE 1 : 50



ELEVATION 2
SCALE 1 : 50

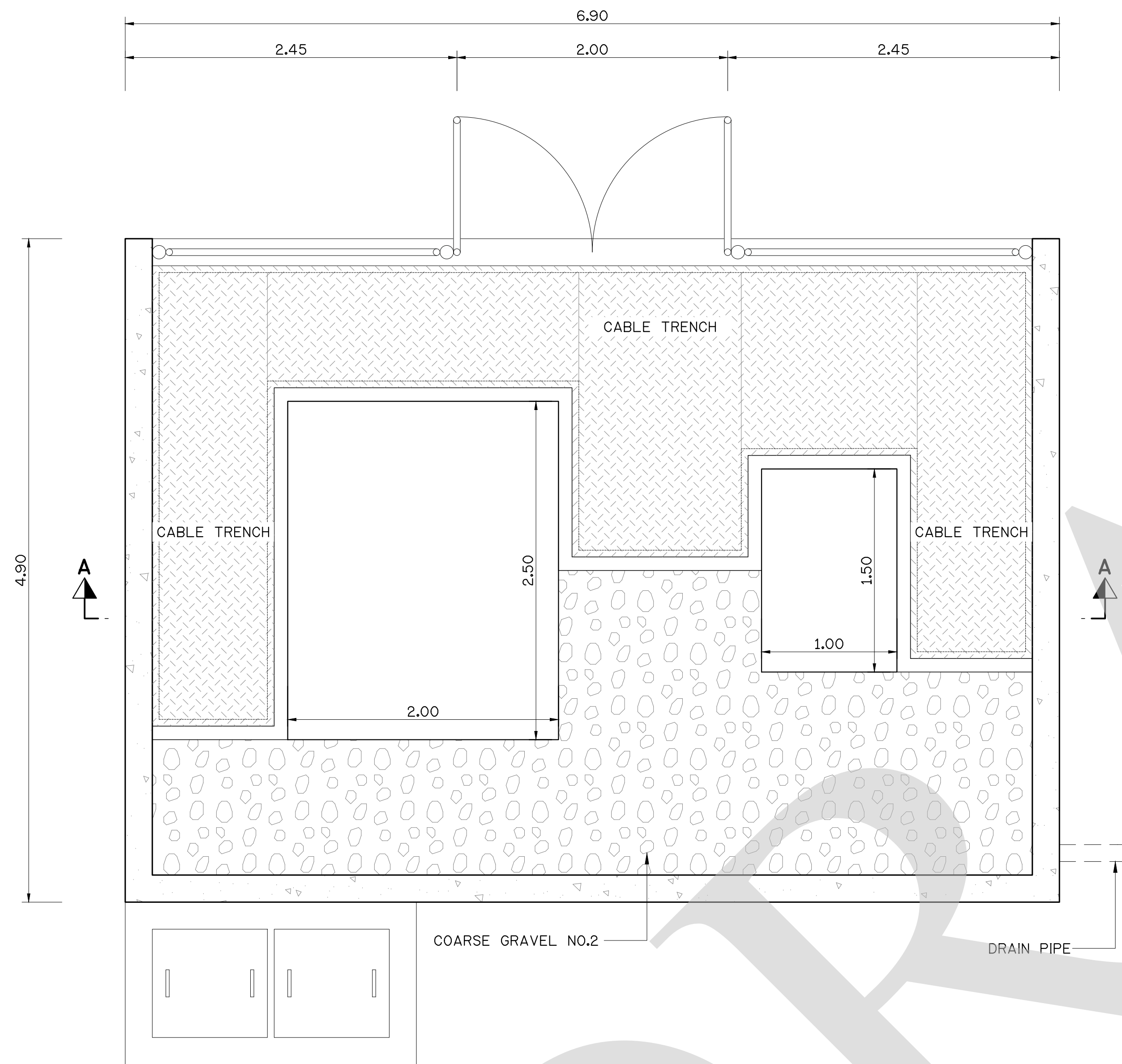
NOTES :
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



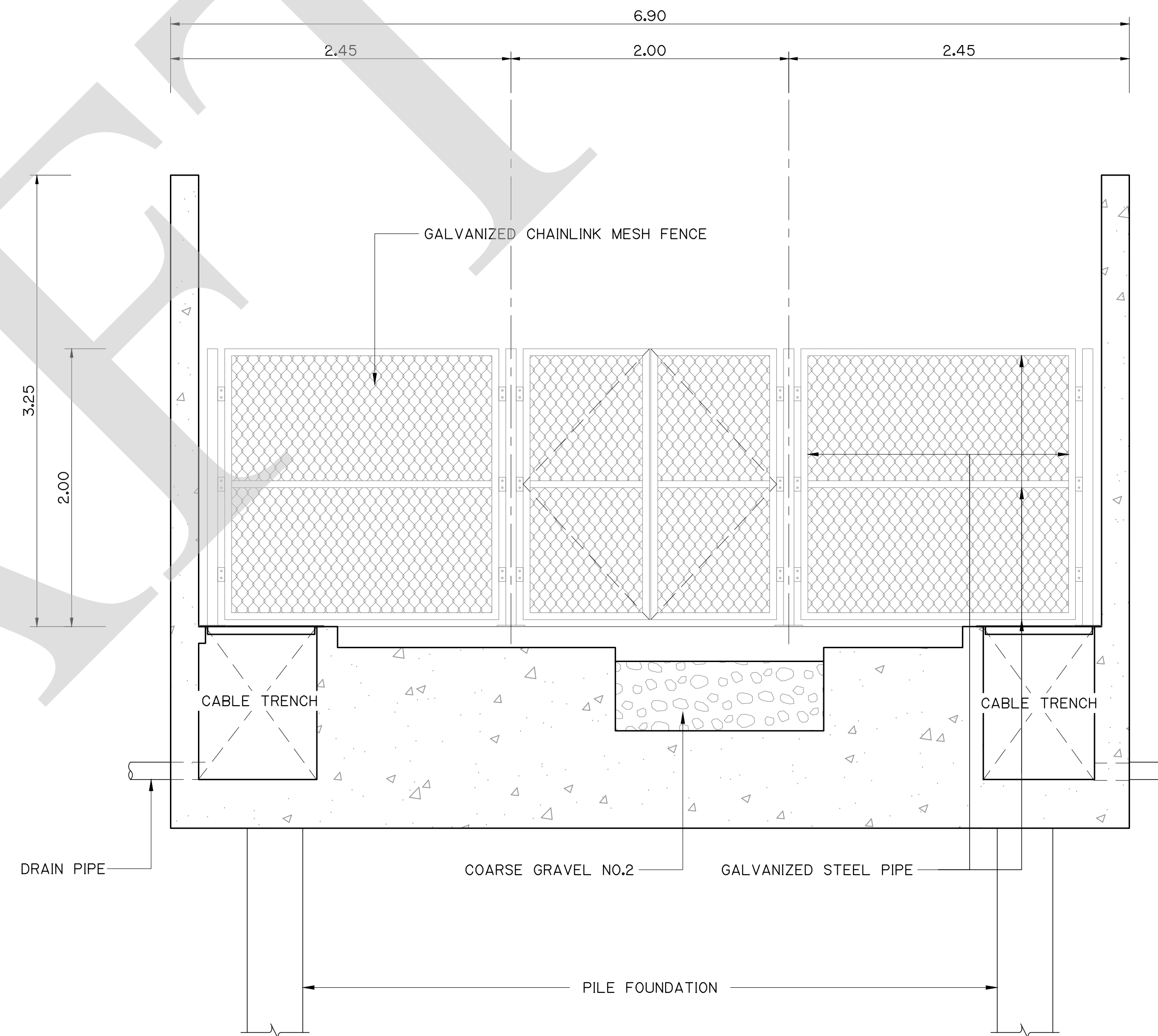
FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	.....		
ENGINEER :	CONCURRED	MISCELLANEOUS WORK FABRICATED GUARD HOUSE		
DRAWN :	.....		
CHECKED :	.....	REPLACING DWG. NO. DWG. NO. REV.		
APPROVED	DATE			
.....	.....	HDI-LTK-UYF-C-001		



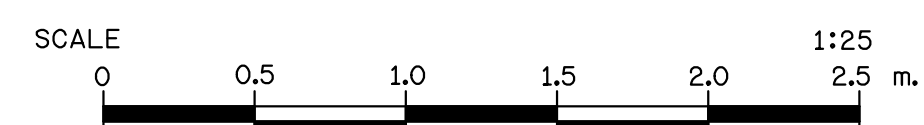
PLAN
SCALE 1 : 25



SECTION A-A
SCALE 1 : 25

NOTES :

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. "BEWARE HIGH VOLTAGE" WARNING SIGN SHALL BE PROVIDED IN VISIBLE POSITION.
3. MATERIAL AND COLOR OF WARNING SIGN SHALL CONFORM TO SAFETY STANDARD.

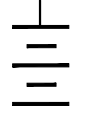

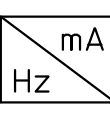

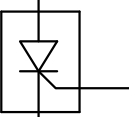

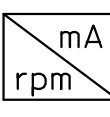
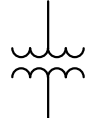



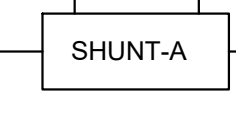
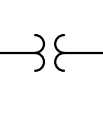


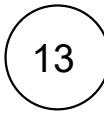
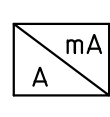
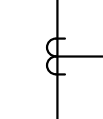


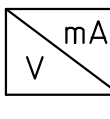
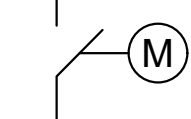

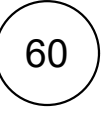

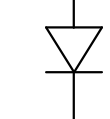



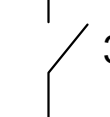
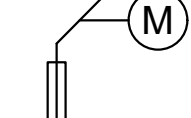

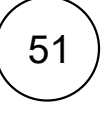

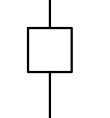
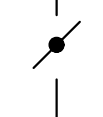



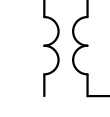
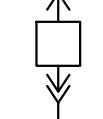
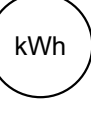

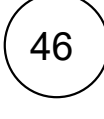
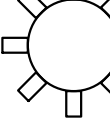
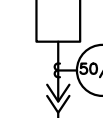

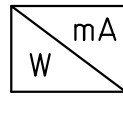

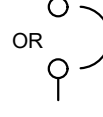

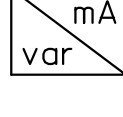

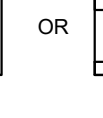




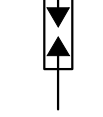

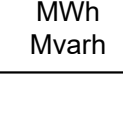
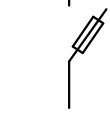
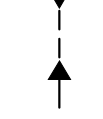
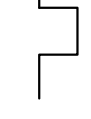


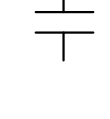
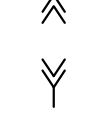

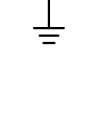
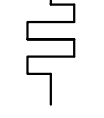
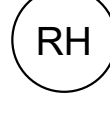


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NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND

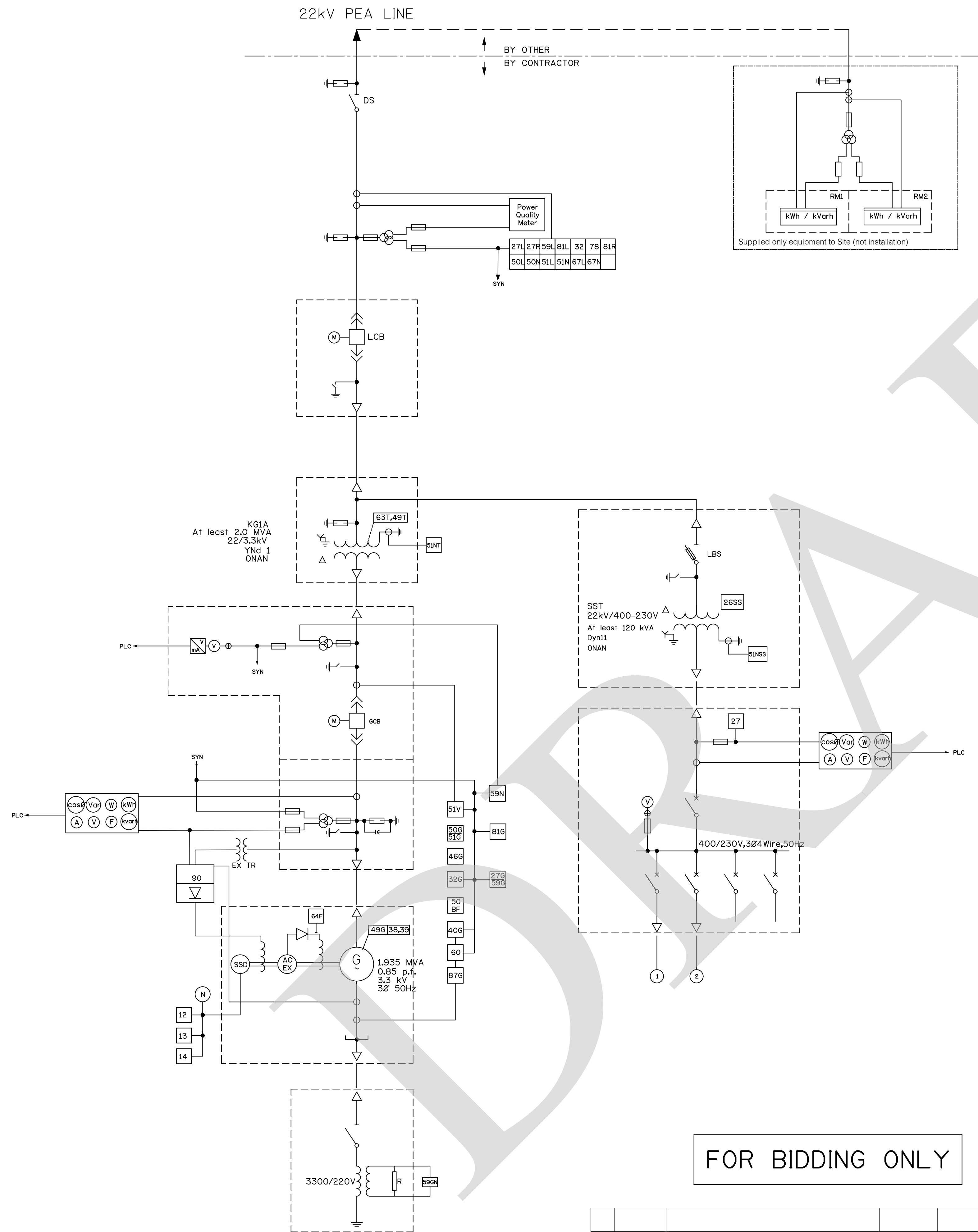
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	MISCELLANEOUS WORK		
DRAWN :		TRANSFORMER FOUNDATION PLAN AND SECTION		
CHECKED :		REPLACING DWG. NO.	DWG. NO.	REV.
APPROVED	DATE		HDI-LTK-UBF-C-001	

LEGEND	DESCRIPTION	LEGEND	DESCRIPTION	LEGEND	DESCRIPTION	LEGEND	DESCRIPTION	LEGEND	DESCRIPTION
	GENERATOR		BATTERY		MOTOR		UNDERVOLTAGE RELAY		FREQUENCY TRANSDUCER DEVICE
	EMERGENCY DIESEL GENERATOR		RECTIFIER UNIT		GEN-TRANSFORMER DIFFERENTIAL RELAY		IMPEDANCE RELAY		RPM TRANSDUCER DEVICE
	POWER TRANSFORMER		VOLTMETER		GENERATOR DIFFERENTIAL RELAY		UNDERSPEED RELAY		CURRENT SHUNT DEVICE
	VOLTAGE TRANSFORMER		AMMETER		ROTOR EARTH FAULT RELAY		SYNCHRONOUS SPEED RELAY		CURRENT TRANSDUCER DEVICE
	CURRENT TRANSFORMER		FREQUENCY METER		STATOR EARTH FAULT RELAY		OVERSPEED RELAY		VOLTAGE TRANSDUCER DEVICE
	DISCONNECTING SWITCH VERTICAL BREAK MOTOR OPERATED TYPE		VARMETER		VOLTAGE BALANCE RELAY		GUIDE VANE OPENING METER		DIODE
	DISCONNECTING SWITCH DOUBLE SIDE BREAK MOTOR OPERATED TYPE		POWER FACTOR METER		GENERATOR OVERVOLTAGE RELAY		GATE POSITION LIMIT METER		FIELD FLASHING SWITCH
	DISCONNECTING SWITCH VERTICAL BREAK MOTOR OPERATED WITH POWER FUSE		AMP SELECTOR SWITCH		GENERATOR OVERCURRENT RELAY		RUNNER BLADE POSITION METER		FIELD BREAKER
	DISCONNECTING SWITCH DOUBLE SIDE BREAK MANUAL OPERATED TYPE		VOLT SELECTOR SWITCH		TRANSFORMER EARTH FAULT RELAY		THERMAL RELAY		NEUTRAL GROUND TRANSFORMER
	CIRCUIT BREAKER MOTOR OPERATED DRAW OUT TYPE		KILOWATT-HOUR METER		STATION SERVICE TRANSFORMER EARTH FAULT RELAY		NEGATIVE PHASE SEQUENCE RELAY		SPEED DETECTOR
	CIRCUIT BREAKER WITH OVERCURRENT MOTOR OPERATED DRAW OUT TYPE		MEGAWATT-HOUR METER		EXCITE TRANSFORMER OVERCURRENT RELAY		WATT TRANSDUCER DEVICE		AUTOMATIC VOLTAGE REGULATOR
	CIRCUIT BREAKER FIXED TYPE		MEGAVAR-HOUR METER		BREAKER FAILURE RELAY		VAR TRANSDUCER DEVICE		GOVERNOR REGULATOR
	FUSE		SPEED METER		LOSS OF EXCITATION RELAY		POWER FACTOR TRANSDUCER DEVICE		SUPPLY BY CONTRACTOR
	SURGE ARRESTER OR LIGHTNING ARRESTER		WATTMETER		GENERATOR REVERSE POWER RELAY		MEGAWATT-HOUR MEGAVAR-HOUR TRANSDUCER DEVICE		LOAD BREAK SWITCH COMPLETE WITH FUSE
	POWER CABLE		THERMAL OVERLOAD TRIPPING DEVICE		DC GROUND RELAY		KILOWATT-HOUR TRANSDUCER DEVICE		NORMALLY OPENED CONTACT
	DRAW OUT TYPE		HEATER		GROUND, EARTH		NEUTRAL GROUNDING RESISTOR		RUNNING HOUR METER

FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED	

ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :		.....		
ENGINEER :		CONCURRED	EQUIPMENT WORK SYMBOL FOR ELECTRICAL EQUIPMENT		
DRAWN :		.....		
CHECKED :		.....		
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO.	REV.
.....			HDI-LTK-MKY-E-001	



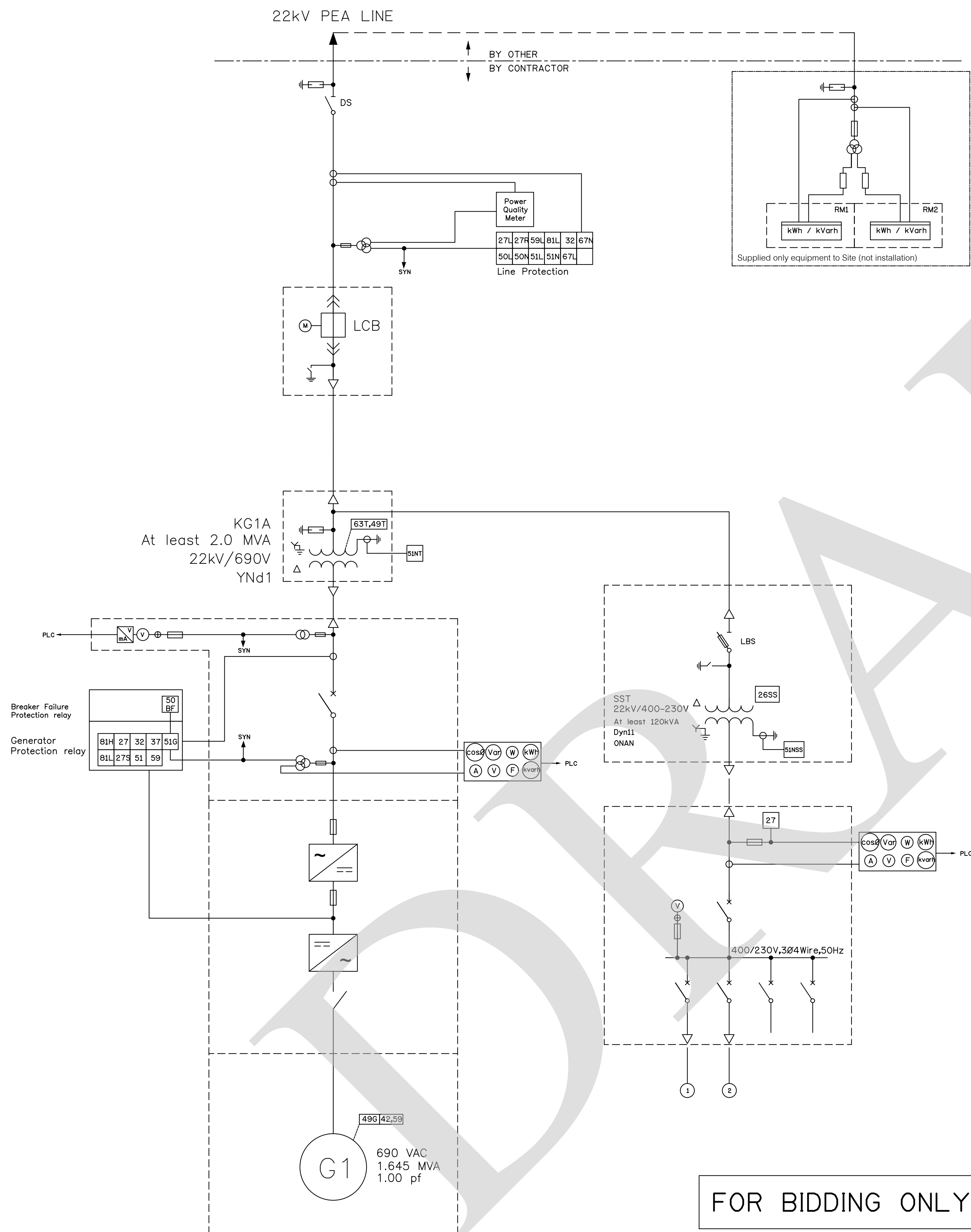
RM : REVENUE METER WITH REMOTE READING INTERFACE DEVICE
PQM : POWER QUALITY METER WITH REMOTE READING INTERFACE DEVICE
GCB : GENERATOR CIRCUIT BREAKER
LCB : LINE CIRCUIT BREAKER
AVR : AUTOMATIC VOLTAGE REGULATOR
SST : STATION SERVICE TRANSFORMER
SYN : DIGITAL SYNCHRONIZER
LBS : LOAD BREAK SWITCH

NOTE
THE BIDDER SHALL SUPPLY CT AND PT CABLES ALONG THE TRANSMISSION LINE TO THE REVENUE METER.
THE FOLLOWING FEATURES MUST BE PROVIDED:
1. PROVISION SHALL BE MADE TO PREVENT CLOSING OF GCB IF THERE
IS NO GENERATOR VOLTAGE IN NORMAL OPERATING CONDITION.
2. ALL METERS SHALL BE MULTI FUNCTION DIGITAL TYPE AND CONNECTED TO PLC FOR MONITORING.

FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :	CONCURRED	EQUIPMENT WORK		
DRAWN :		SINGLE LINE DIAGRAM FOR GENERATOR WITH EXCIATION		
CHECKED :		REPLACING DWG. NO.	DWG. NO.	REV.
APPROVED	DATE		HDI-LTK-MKY-E-002	



RM : REVENUE METER WITH REMOTE READING INTERFACE DEVICE
PQM : POWER QUALITY METER WITH REMOTE READING INTERFACE DEVICE
GCB : GENERATOR CIRCUIT BREAKER
LCB : LINE CIRCUIT BREAKER
AVR : AUTOMATIC VOLTAGE REGULATOR
SST : STATION SERVICE TRANSFORMER
SYN : DIGITAL SYNCHRONIZER
LBS : LOAD BREAK SWITCH

NOTE
THE BIDDER SHALL SUPPLY CT AND PT CABLES ALONG THE TRANSMISSION LINE TO THE REVENUE METER.
THE FOLLOWING FEATURES MUST BE PROVIDED:
1. PROVISION SHALL BE MADE TO PREVENT CLOSING OF GCB IF THERE IS NO GENERATOR VOLTAGE IN NORMAL OPERATING CONDITION.
2. ALL METERS SHALL BE MULTI FUNCTION DIGITAL TYPE AND CONNECTED TO PLC FOR MONITORING.

FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED	EQUIPMENT WORK		
DRAWN :		SINGLE LINE DIAGRAM FOR GENERATOR WITH POWER CONVERTER		
CHECKED :				
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-MKY-E-003	

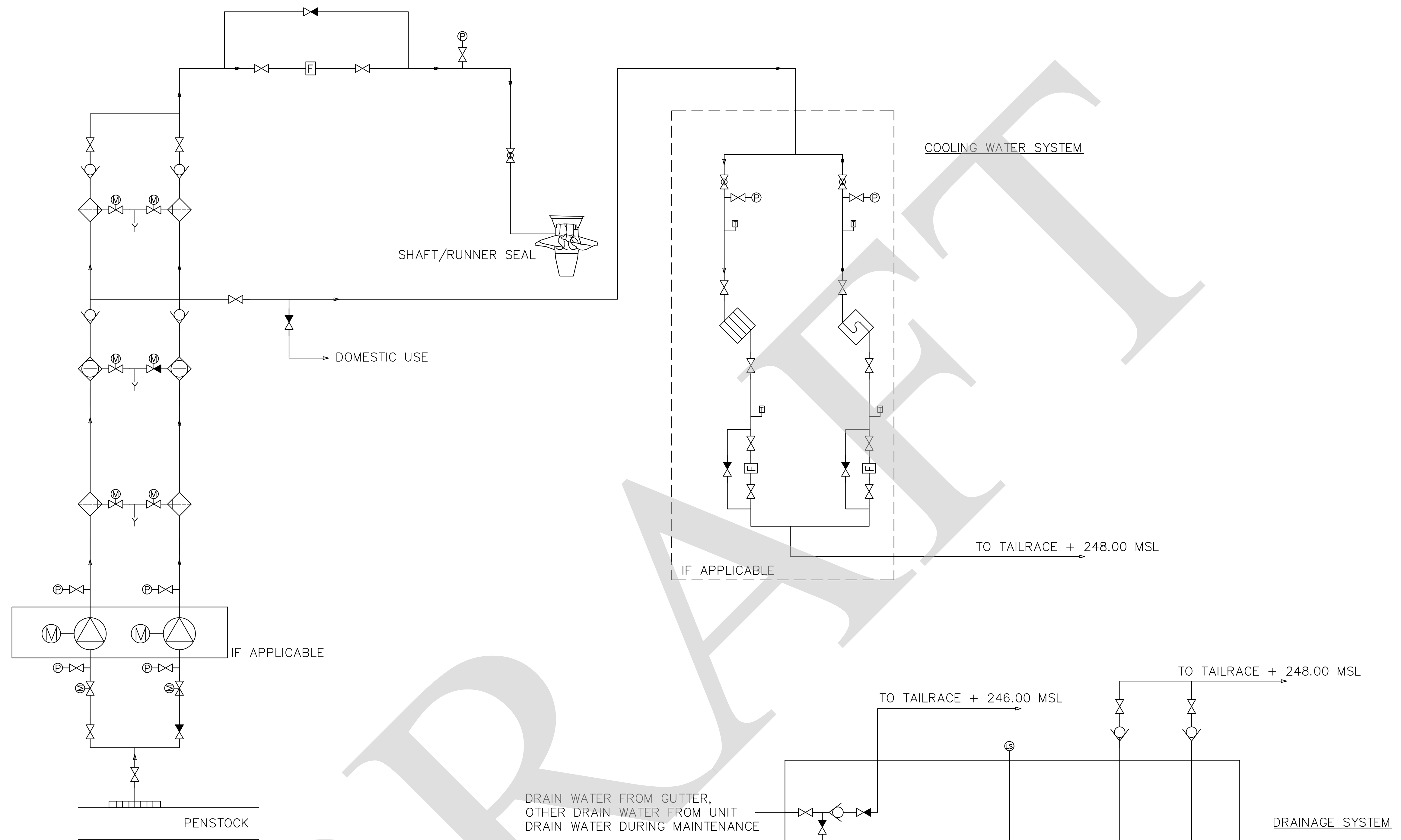


22 kv. TRANSMISSION LINE
NOT TO SCALE

FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND					
ARCHITECT :		SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :					
ENGINEER :		CONCURRED 	EQUIPMENT WORK 22 kv. TRANSMISSION LINE		
DRAWN :					
CHECKED :					
APPROVED		DATE	REPLACING DWG. NO.	DWG. NO. HDI-LTK-MKY-E-004	REV.



LEGENDS

	NORMAL OPEN VALVE		FLOW TRANSMITTER
	NORMAL CLOSED VALVE		WATER INTAKE
	CHECK VALVE		PRESSURE TRANSMITTER
	THREE-WAY VALVE		PRESSURE INDICATOR
	WATER STRAINER VALVE		LEVEL SWITCH
	PUMP		MOTOR
	AIR COOLER		OIL COOLER
	TEMPERATURE TRANSMITTER		SAND SEPERATOR
	MOTOR OPERATED VALVE		DRAIN
	GLOBE VALVE		HEAT PLATE EXCHANGER
	IF APPLICABLE		

FOR BIDDING ONLY

NO.	DATE	REVISION	CONCURRED	APPROVED

ELECTRICITY GENERATING AUTHORITY OF THAILAND				
ARCHITECT :	SUBMITTED	LAMTAKONG HYDROPOWER PROJECT		
ENGINEER :				
ENGINEER :	CONCURRED			
DRAWN :		EQUIPMENT WORK		
CHECKED :		COOLING WATER SUPPLY AND DRAINAGE SYSTEM		
APPROVED	DATE	REPLACING DWG. NO.	DWG. NO.	REV.
			HDI-LTK-PAC-M-001	