

CONSULTANCY SERVICE FOR REVIEW/UPDATION AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM



**MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT. KPK.**



BIDDING DRAWINGS

BAZ ALI DAM (District Kurram)
Feb-2022

Volume -II (Drawings)

RHC Rehman Habib Consultants Private Limited

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 Cascada Group of Engineering (CGEC)

 in association with engineering & technical associates



BAZ ALI DAM (KURRAM AGENCY)

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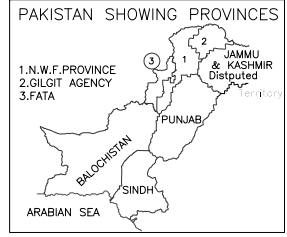
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IRRIGATION			
27	MAIN CHANNEL PLAN & PROFILE	30	BAD-BD-IR-01
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34	MC AQUEDUCT-1 TRANSITION & WING WALLS DETAIL (SHEET 2 OF 6)	1	BAD-BD-IR-07
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41	MC AQUEDUCT-2 GEOMETRIC DETAIL (SHEET 3 OF 6)	1	BAD-BD-IR-08
42	MC AQUEDUCT-2 TRANSITION REINFORCEMENT (SHEET 4 OF 6)	1	BAD-BD-IR-08
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49	MC AQUEDUCT-3 REINFORCEMENT DETAIL (SHEET 5 OF 6)	1	BAD-BD-IR-09
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53	D-1 AQUEDUCT-1 GEOMETRIC DETAIL (SHEET 3 OF 6)	1	BAD-BD-IR-10
54	D-1 AQUEDUCT-1 TRANSITION REINFORCEMENT (SHEET 4 OF 6)	1	BAD-BD-IR-10
55	D-1 AQUEDUCT-1 REINFORCEMENT DETAIL (SHEET 5 OF 6)	1	BAD-BD-IR-10
56	D-1 AQUEDUCT-1 BAR BENDING SCHEDULE (SHEET 6 OF 6)	1	BAD-BD-IR-10
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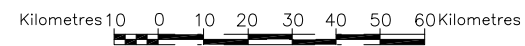
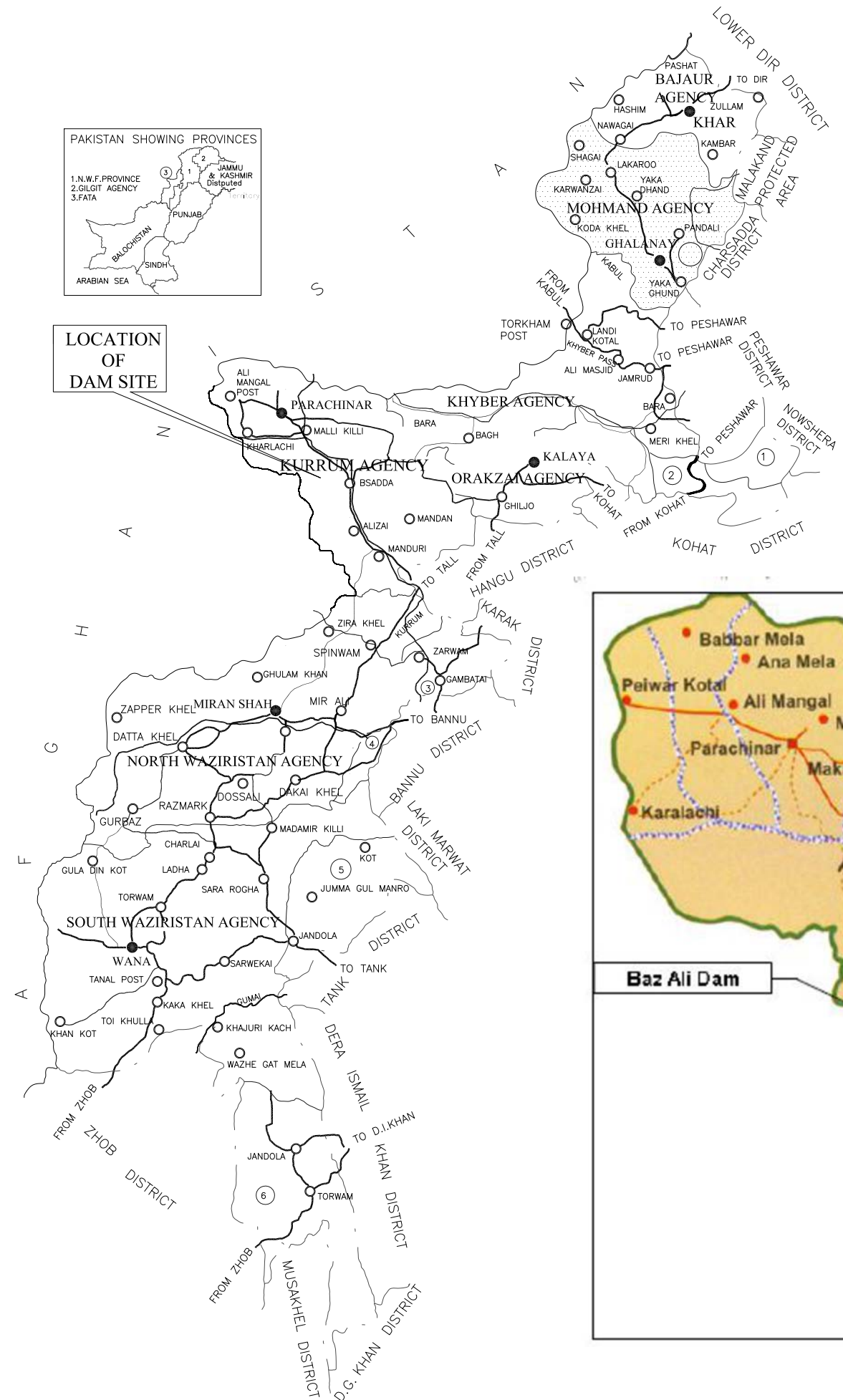
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59	D-2 AQUEDUCT-1 GEOMETRIC DETAIL (SHEET 3 OF 6)	1	BAD-BD-IR-11
60	D-2 AQUEDUCT-1 TRANSITION REINFORCEMENT (SHEET 4 OF 6)	1	BAD-BD-IR-11
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66	OPEN FLUME DETAIL (SHEET 1 OF 1)	1	BAD-BD-STR-04
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68	SUPER PASSAGE DETAIL (SHEET 1 OF 1)	1	BAD-BD-STR-06
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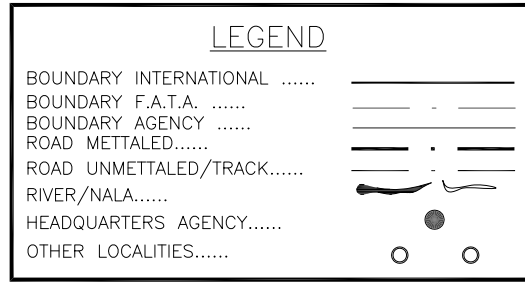
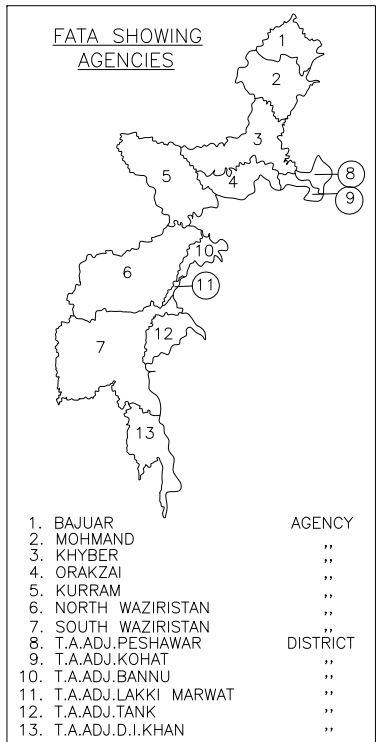


LOCATION OF DAM SITE

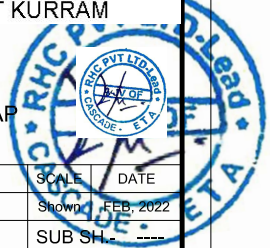


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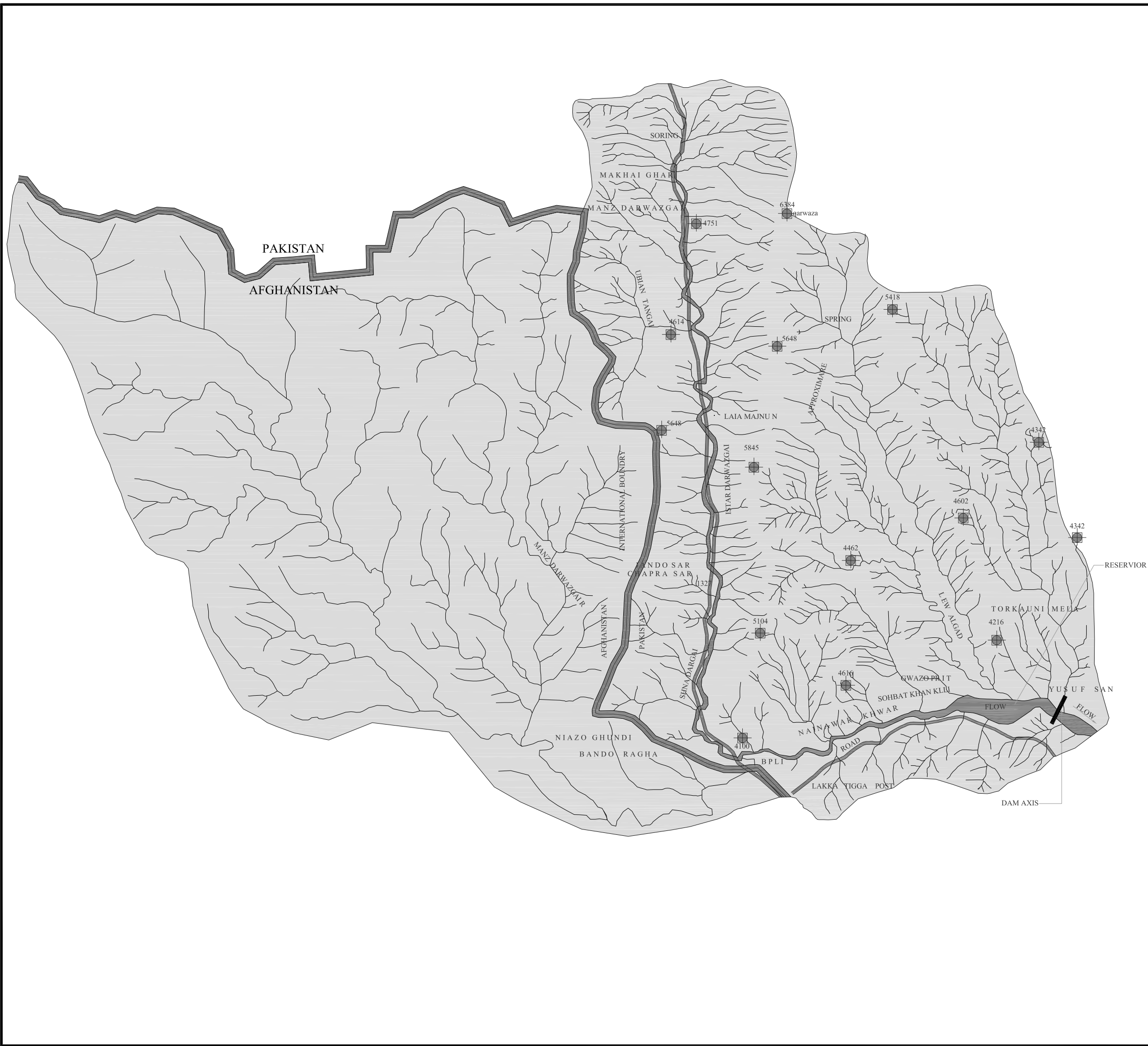
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REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
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CLIENT:	MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.				
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PROJECT:	CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM				
TITLE:	BAZ ALI DAM DISTRICT KURRAM PROJECT LOCATION MAP				
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:10000	FEB, 2022
DRG.No:- BAD-BD-GEN-01		SHEET:-		SUB SH:-	



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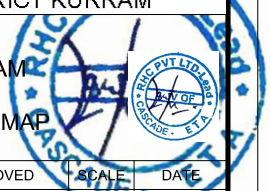
NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. CATCHMENT AREA = 114.0 SQUARE KM
3. MAIN STREAM LENGTH = 15.53 MILES
4. INLET LEVEL = 1973.0 m (6475.0 ft) amsl
5. OUTLET LEVEL = 1129.0 m (3704.0 ft) amsl
6. SLOPE = 178.0 ft/mile

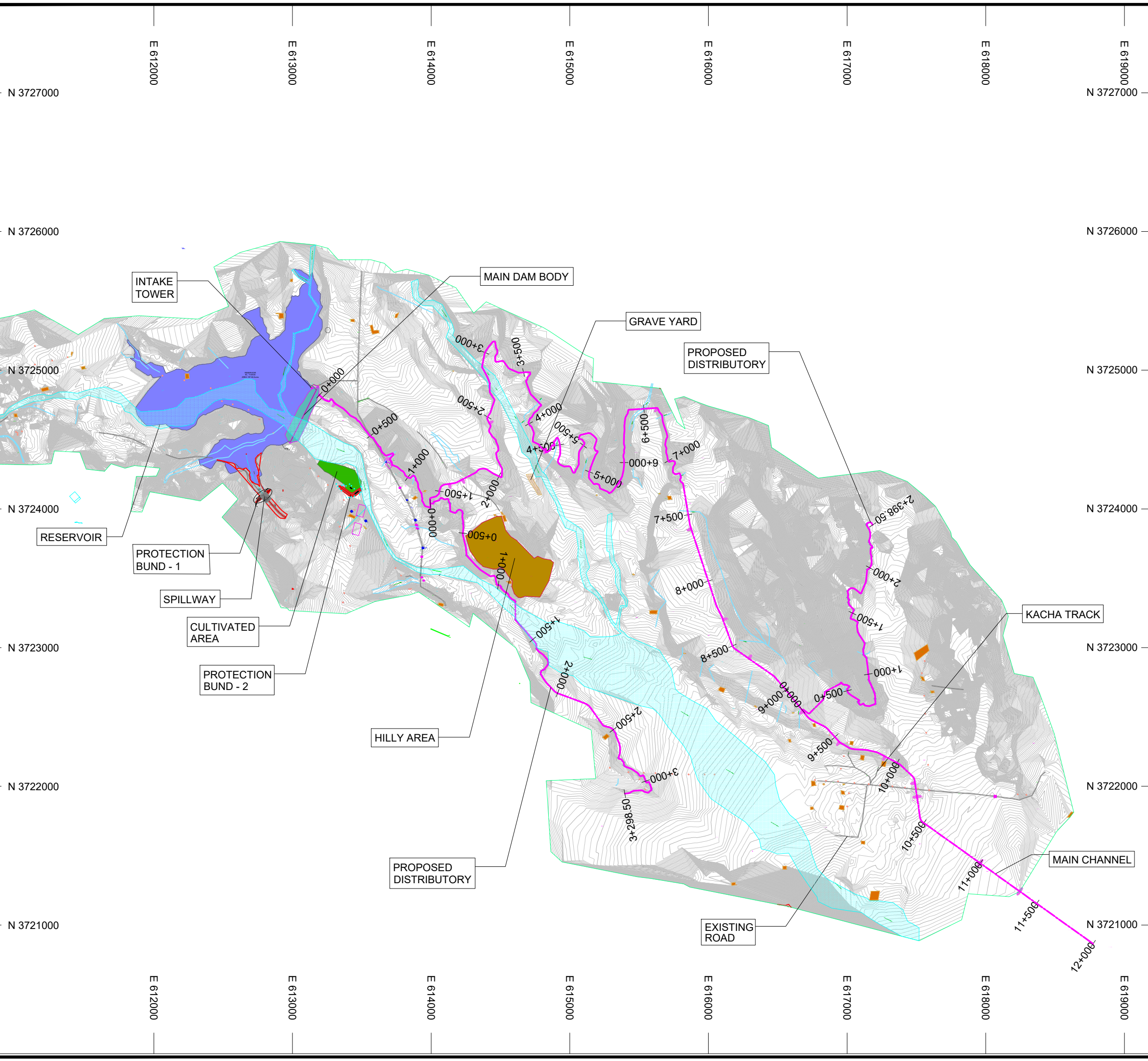
LEGENDS:

- ROAD
- MAJOR NULLAH
- MINOR NULLAH
- BUILDINGS
- SPOT LEVELS
- INTERNATIONAL BOUNDARY

REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
<input checked="" type="checkbox"/> FOR BIDDING ONLY					
CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.					
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PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM					
BAZ ALI DAM DISTRICT KURRAM					
TITLE: CATCHMENT AREA MAP					
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NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- RESERVOIR
- MAIN CHANNEL
- DISTRIBUTORIES
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR 1155
- INTERMEDIATE CONTOUR 1154
- ELECTRIC POLE EP
- MOUNTAIN
- BENCH MARK

REFERENCE DRAWINGS :-

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IRRIGATION DEPARTMENT . KPK.

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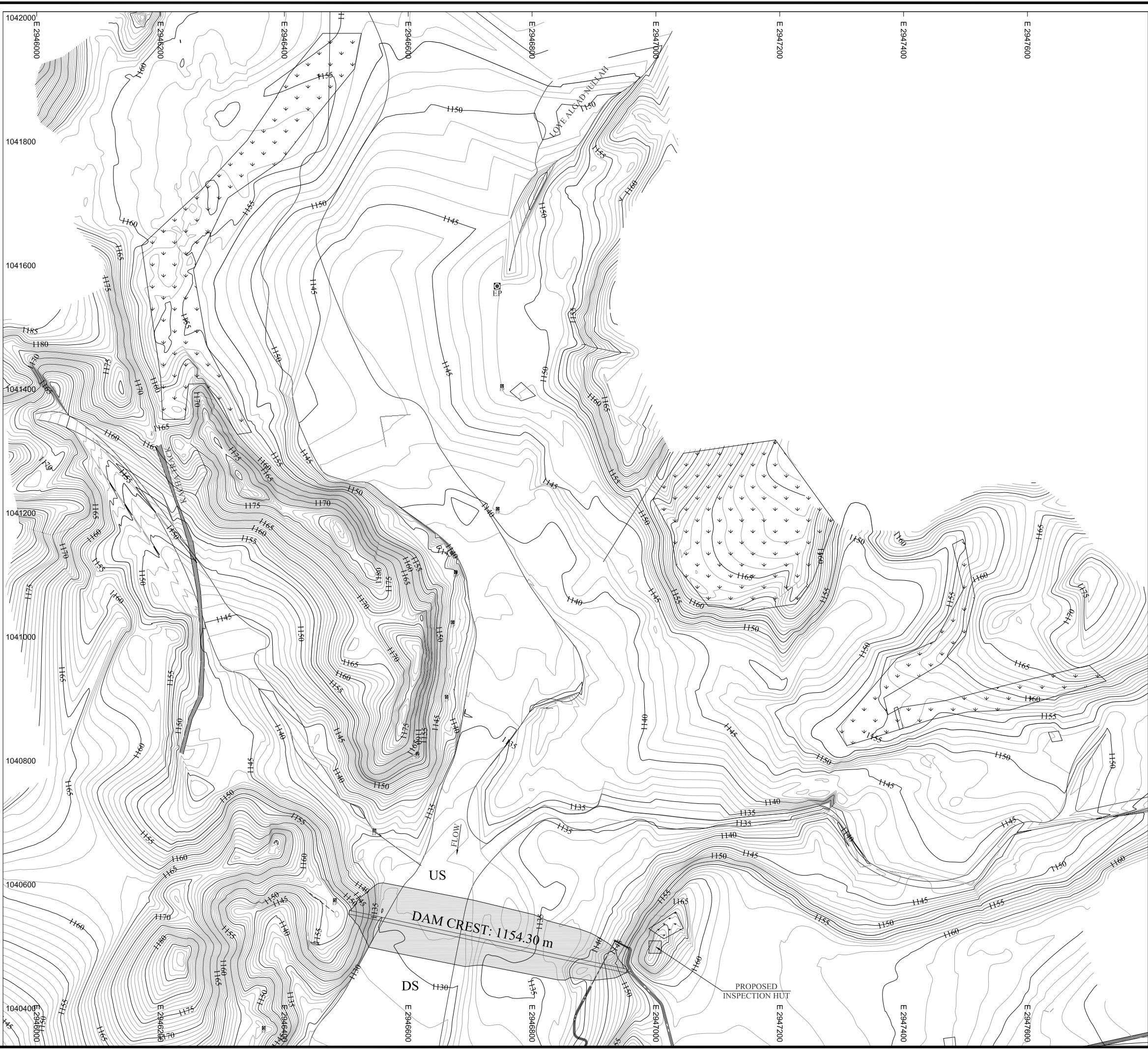
PROJECT: REVIEW/UPDATION AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

TITLE: BAZ ALI DAM DISTRICT KURRAM
PROJECT LAYOUT PLAN

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NOTES:

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LEGENDS:

- MAXIMUM FLOOD LEVEL LINE
- PLANTATION AREA = 40.0 Acres

REFERENCE DRAWINGS :-

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IRRIGATION DEPARTMENT . KPK.

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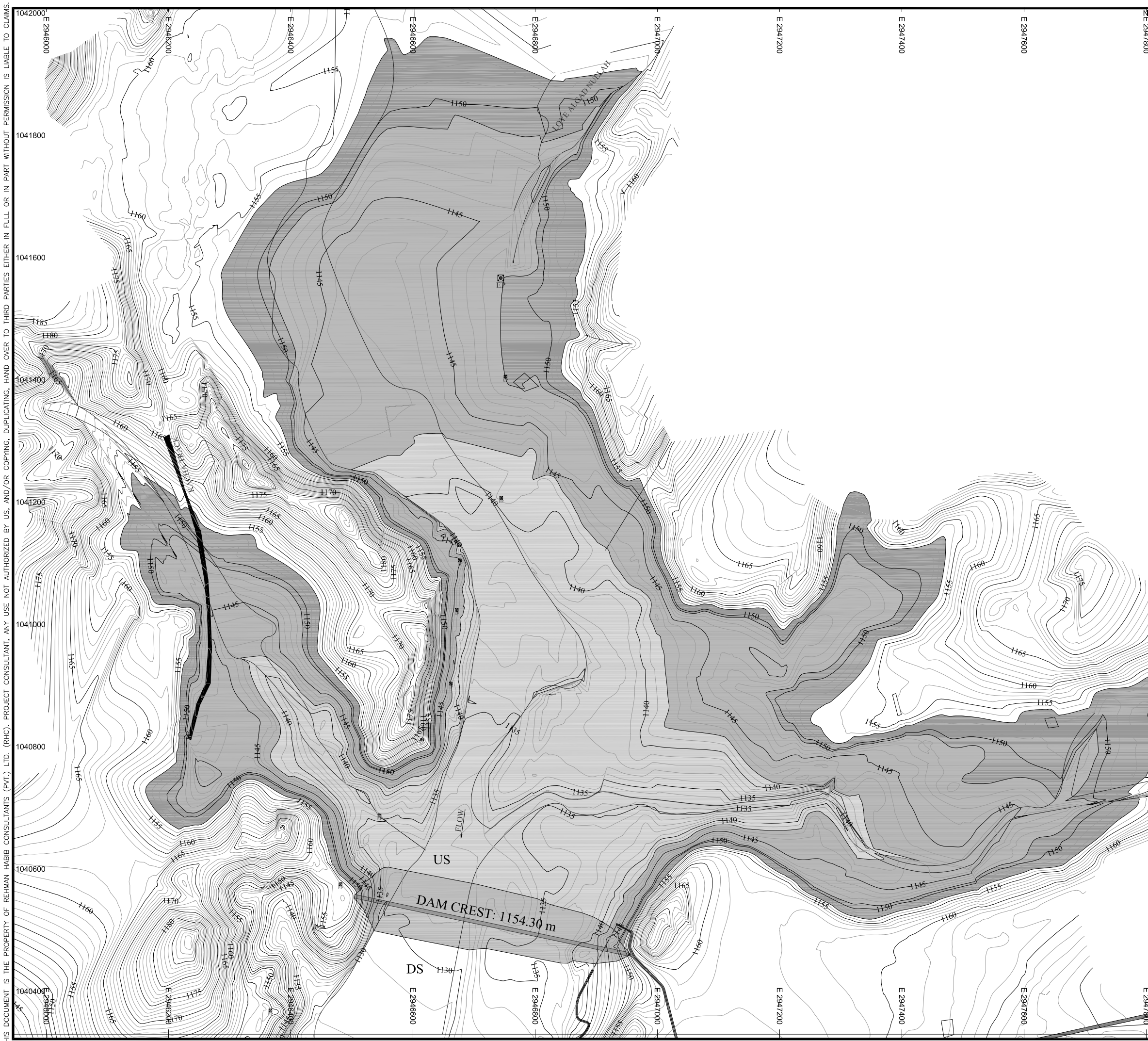
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE: RESERVOIR AREA MAP FOR PLANTATION

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NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- DEAD STORAGE LEVEL = 1142.0 m
- CONSERVATION LEVEL = 1149.5 m
- MAXIMUM FLOOD LEVEL = 1152.8 m

REFERENCE DRAWINGS :-

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

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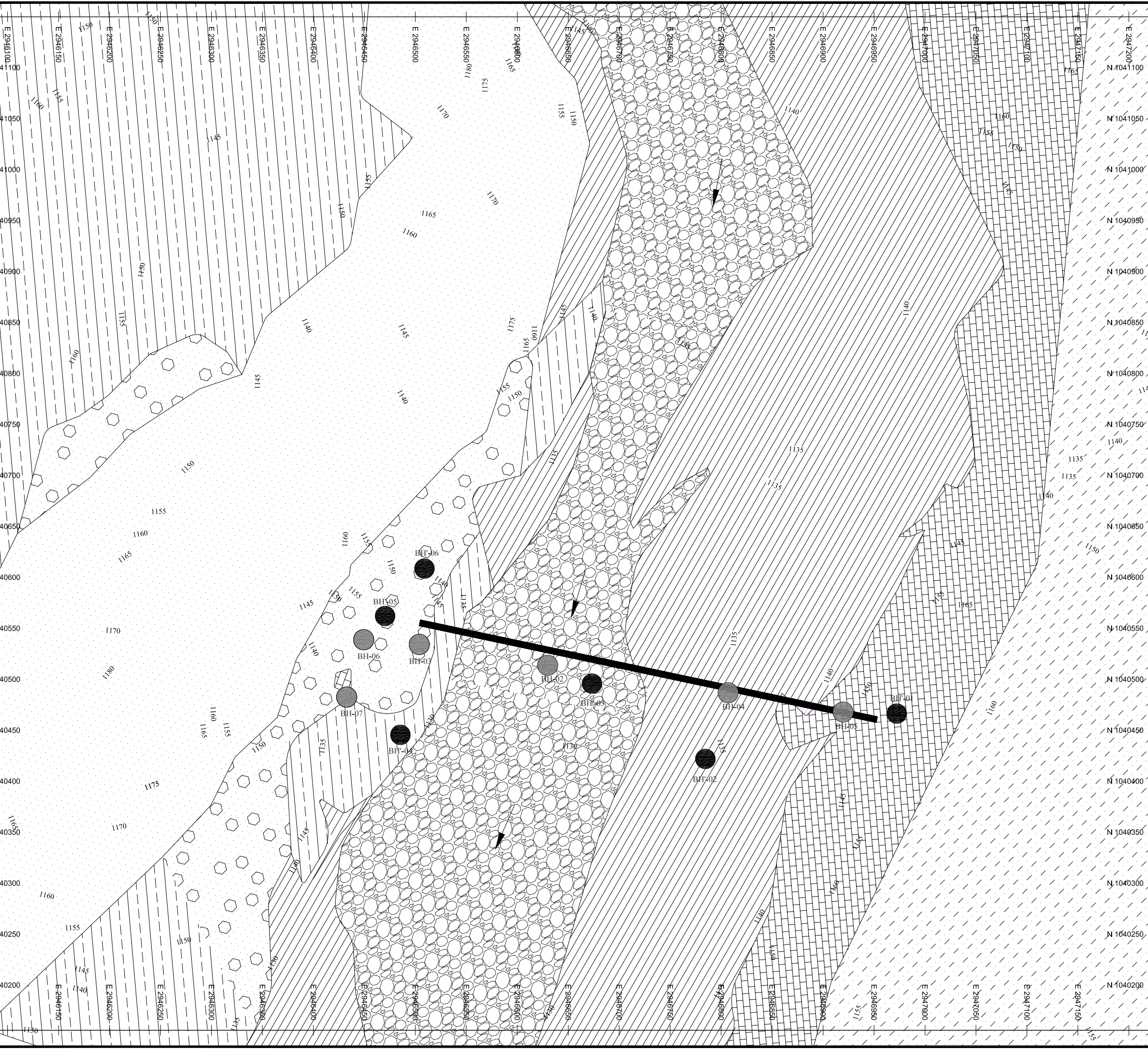
BAZ ALI DAM
DISTRICT KURRAM

TITLE: RESERVOIR AREA MAP


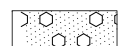
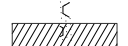







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NOTES:




- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
-  **NULLAH BED MATERIAL:**
Composed of gravels, cobbles and boulder with miner clay and silt.
 -  **OVERBURDEN:**
Composed of alluvial material laying on high reaches. Gravels, pebbles, silt and clay in layers in loose form.
 -  **ALLUVIAL FAN:**
Composed of sandy clayey silt covered with vegetation.
 -  **LIMESTONE:**
Thick to medium bedded limestone containing intercalation of shale.
 -  **SANDSTONE:**
Light gray to gray, medium to coarse grain, hard, moderately jointed and fractured.
 -  **VARIEGATED SHALE:**
Grayish green to redish, thinly bedded, mostly loose on weathered surfaces in well consolidated and compacted, having intercalation of limestone.
 -  **TERRACE DEPOSITS:**
Well rounded to sub rounded, few sub angular, well graded, stratified, sand, silt, clay, gravels cobbles, incohesive, well compacted and invariably cemented matrix
 -  **DAM AXIS**
 -  **BORE HOLE**
 -  **DIP & STRIKE OF BED**

REFERENCE DRAWINGS :-

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

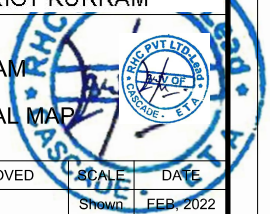
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PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

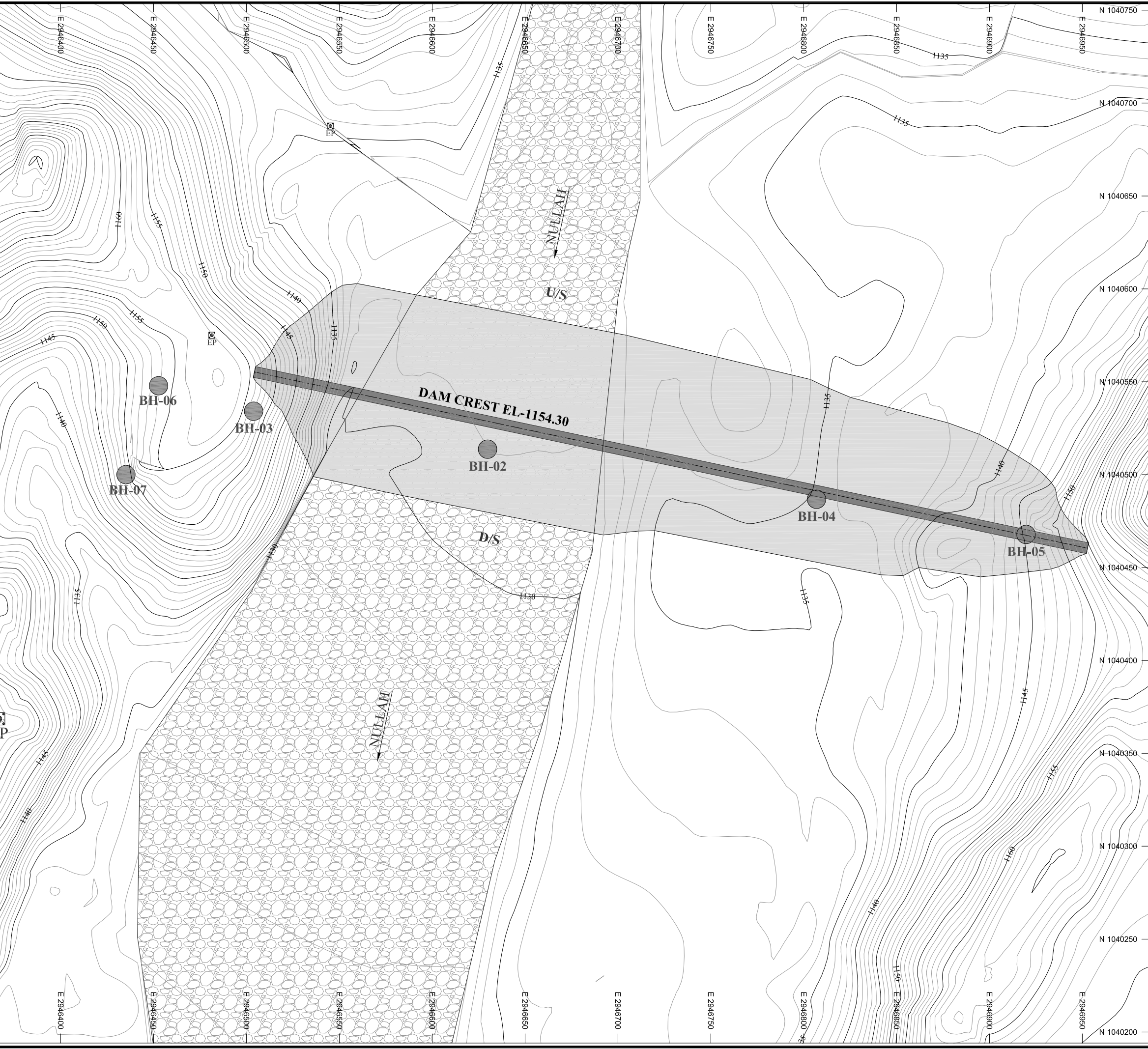
TITLE: BAZ ALI DAM DISTRICT KURRAM SURFACE GEOLOGICAL MAP

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NOTES:

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LEGENDS:

- NULLAH
- MINOR NULLAH
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- ELECTRIC POLE
- BORE HOLE

REFERENCE DRAWINGS :-					
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PROJECT:	CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM				
TITLE:	BAZ ALI DAM DISTRICT KURRAM BORE HOLES LOCATION MAP				
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DRG.No:- BAD-BD-GEO-02		SHEET:-		SUB SH.- ----	



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NOTES:

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LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
TEST PIT	
BENCH MARK	



REFERENCE DRAWINGS :-

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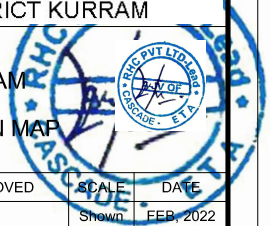
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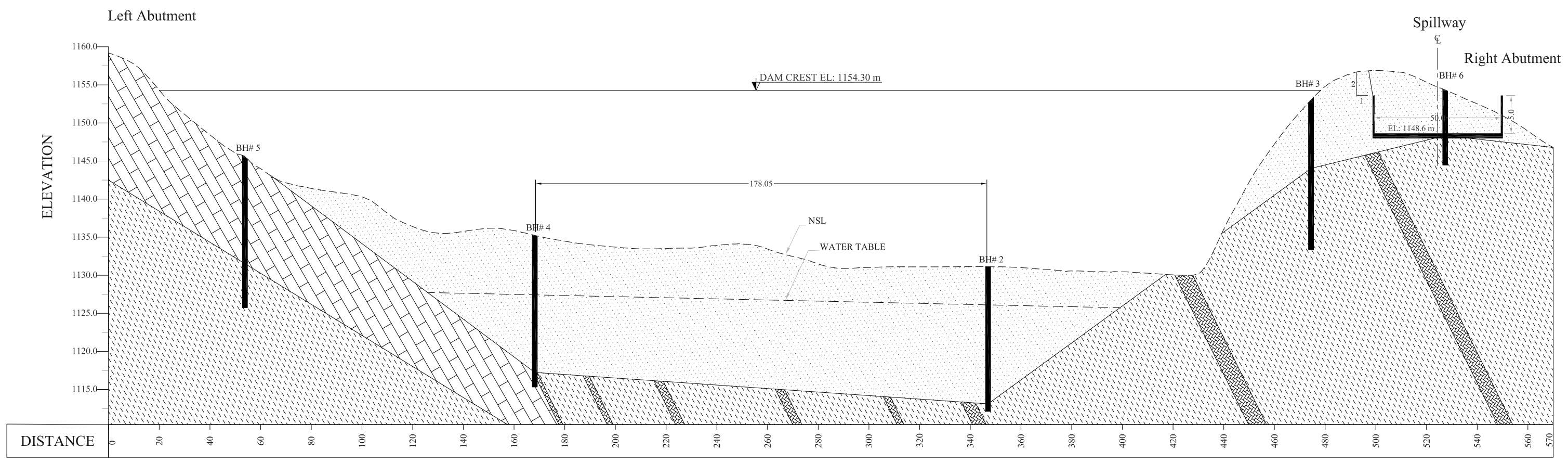
BAZ ALI DAM
DISTRICT KURRAM

TITLE: TEST PITS LOCATION MAP

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				Shown	FEB, 2022
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LEGENDS:

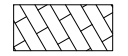
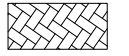
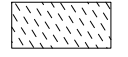



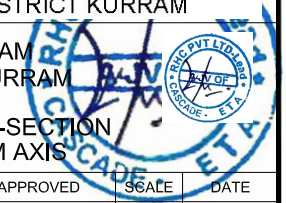
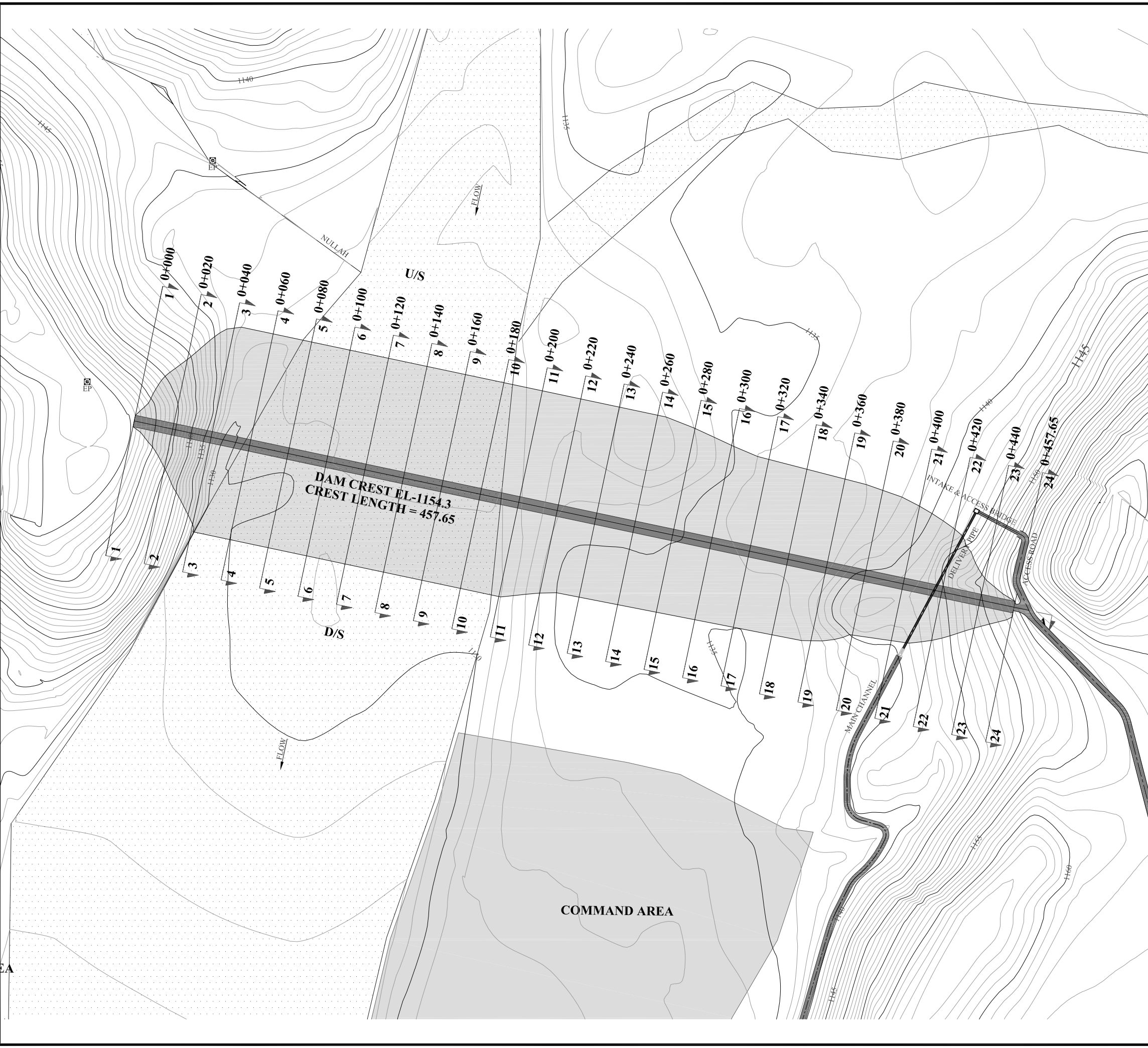
- | | |
|---|---|
|  |  |
| LIMESTONE | THIN BEDDED LIMESTONE |
|  |  |
| SHALE | OVERBURDEN |

Figure No 4.2 Geological x-Section along Dam Axis

REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
<input checked="" type="checkbox"/> FOR BIDDING ONLY					
CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.					
CONSULTANTS: A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD.  CASCAD GROUP OF ENGINEERING & CONSULTANTS  IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES					
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM					
TITLE: BAZ ALI DAM DISTRICT KURRAM GEOLOGICAL X-SECTION ALONG DAM AXIS					
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:-BAD-BD-GEO-04			SHEET:-		SUB SH.-



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NOTES:

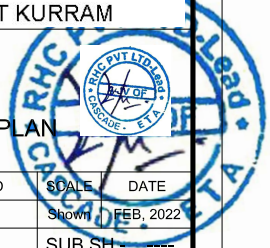
1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

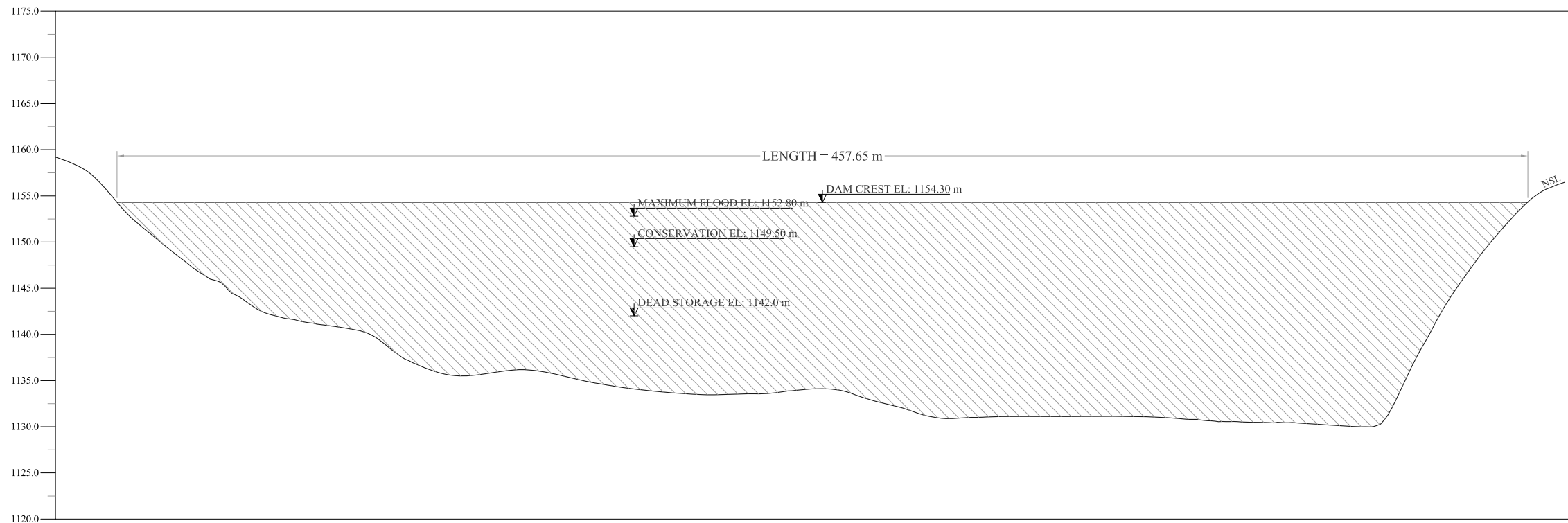
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

BC-19

REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
<input checked="" type="checkbox"/> FOR BIDDING ONLY					
CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.					
CONSULTANTS: A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD. CASCADE CASCADE GROUP OF ENGINEERING & CONSULTANTS IN ASSOCIATION WITH: ETA ENGINEERING & TECHNICAL ASSOCIATES					
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM					
TITLE: BAZ ALI DAM DISTRICT KURRAM DAM BODY LAYOUT PLAN					
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown FEB, 2022	
DRG.No:- BAD-BD-MD-01			SHEET:-		SUB SH:-



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**SECTION A-A
L-SECTION ALONG DAM AXIS**

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. FOR NATURE & DEPTH OF THE FOUNDATION REFERRED BAD-B-09-01.
3. SURFACE GEOLOGICAL MAP REFERRED BAD-B-06-01.
4. SOURCE OF MATERIAL & ITS DISTANCE REFERRED BAD-B-08-01.
5. 0.3 m STRIPPING WILL BE REQUIRED FOR CUTTING/ SMOOTHING SURFACE.
6. QUANTITY OF EACH MATERIAL REFERRED DESIGN REPORT.

LEGENDS:



- CREST
- NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

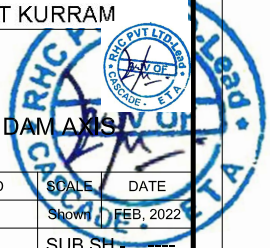
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

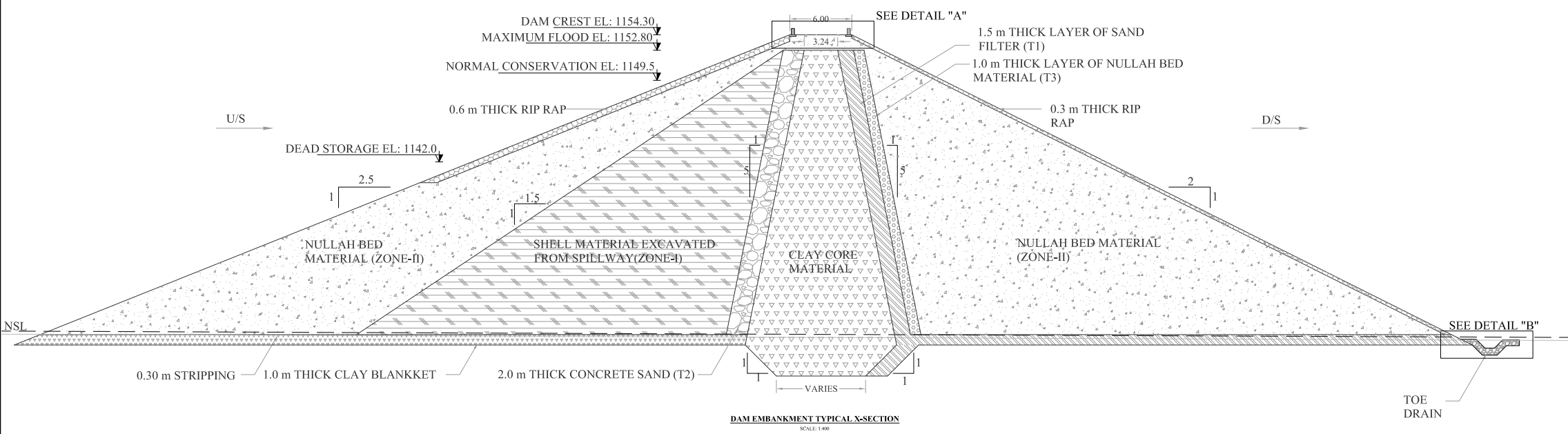
**BAZ ALI DAM
DISTRICT KURRAM**

TITLE: L-SECTION ALONG CL OF DAM AXIS

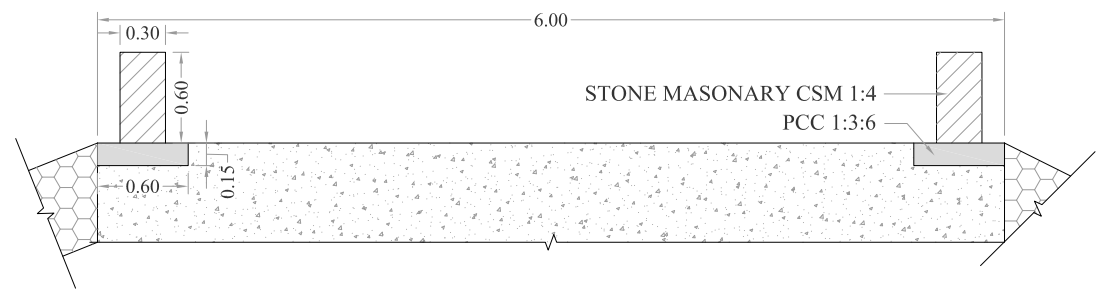
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DRG.No:- BAD-BD-MD-02			SHEET:-		SUB SH:-



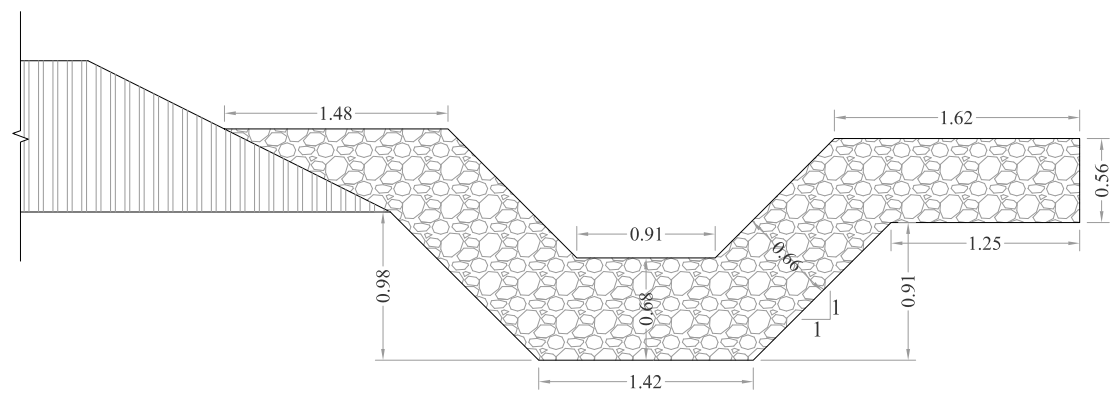
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DAM EMBANKMENT TYPICAL X-SECTION
SCALE: 1:400



DETAIL-A
SCALE: 1:50



DETAIL-B
SCALE: 1:50

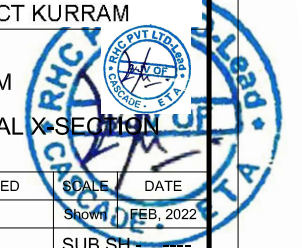
NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

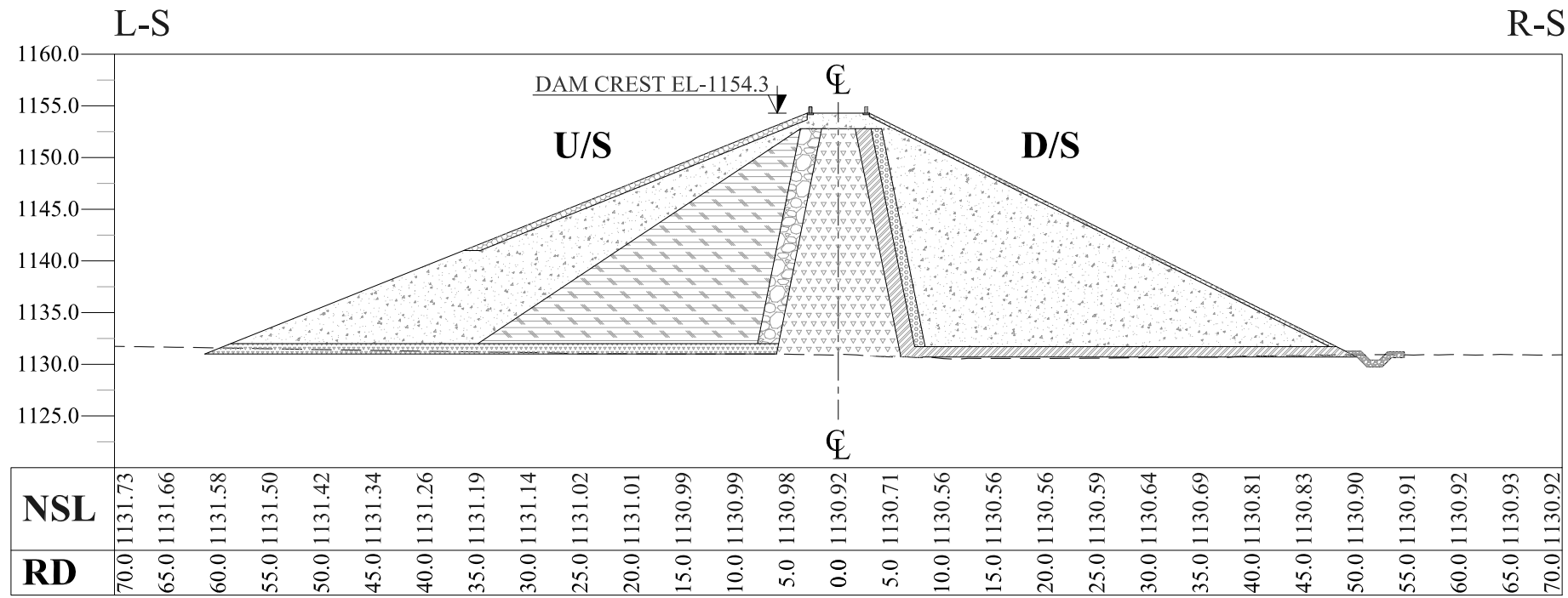
LEGENDS:

- RIPRAP
- NULLAH BED MATERIAL (ZONE-II)
- SHELL MATERIAL EXCAVATED FROM SPILLWAY (ZONE-I)
- CONCRETE SAND (T2)
- CLAY CORE MATERIAL
- NULLAH BED MATERIAL (T3)
- SAND FILTER (T1)

REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
<input checked="" type="checkbox"/> FOR BIDDING ONLY					
CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.					
CONSULTANTS: A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD. CASCADE GROUP OF ENGINEERING & CONSULTANTS IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES					
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM					
BAZ ALI DAM DISTRICT KURRAM					
TITLE: DAM EMBANKMENT TYPICAL X-SECTION					
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-MD-03				SHEET:-	
				SUB SH.:-	



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SECTION 6-6 RD = 0+100

RD = 0+100

QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTON	QUANTITY (m ²)
1	EXCAVATION	90.65
2	RIPRAP	99.78
3	ZONE-II	668.18
4	ZONE-I	281.35
5	CLAY CORE	192.40
6	T-1	81.25
7	T-2	42.43
8	T-3	21.51
9	CLAY BLANKET	54.14
10	TOE DRAIN	3.63

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- RIPRAP
- NULLAH BED MATERIAL (ZONE-II)
- SHELL MATERIAL EXCAVATED FROM SPILLWAY (ZONE-I)
- CONCRETE SAND (T2)
- CLAY CORE MATERIAL
- NULLAH BED MATERIAL (T3)
- SAND FILTER (T1)
- NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

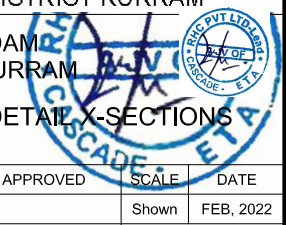
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ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

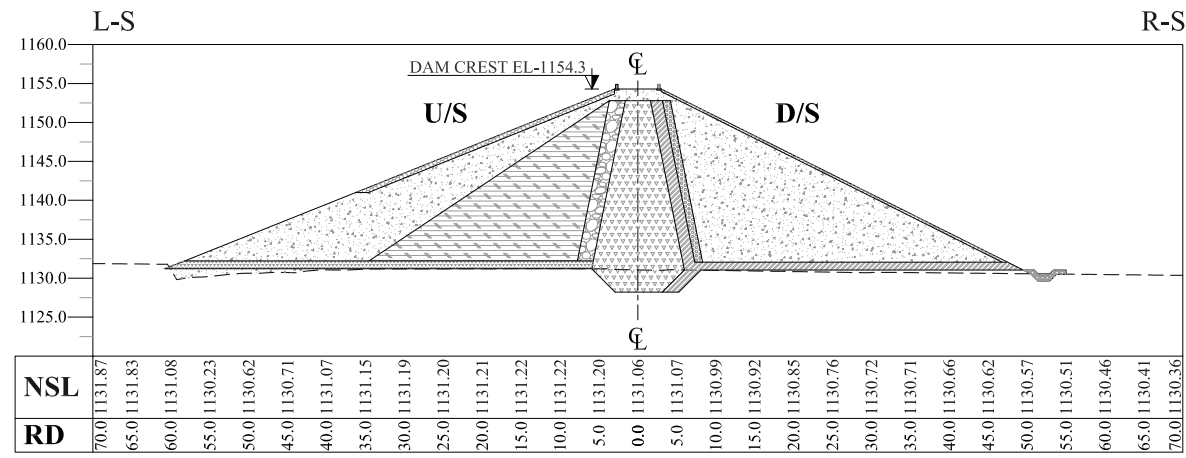
BAZ ALI DAM
DISTRICT KURRAM

TITLE: DAM EMBANKMENT DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-MD-05		SHEET:-		SUB SH.-	



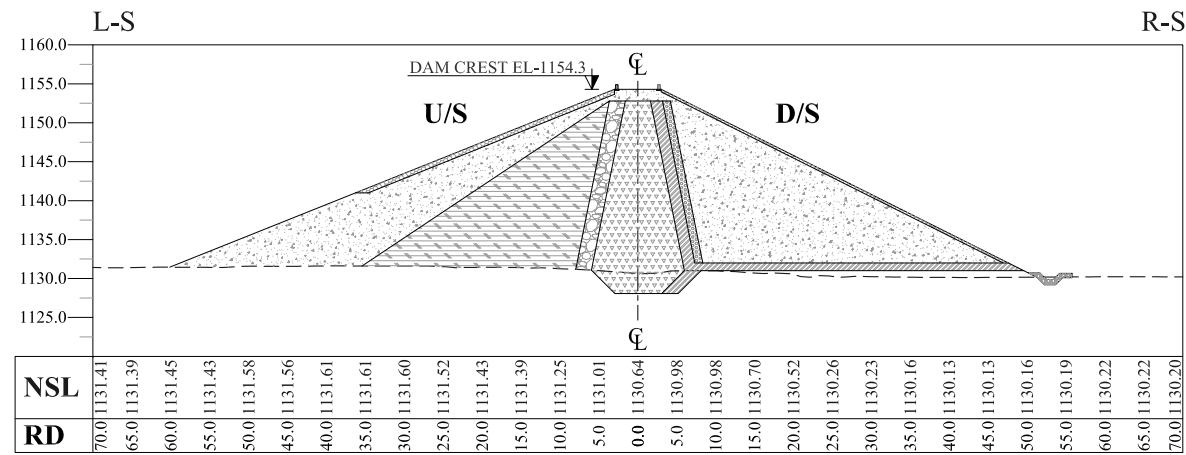
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SECTION 9-9 RD = 0+160

RD = 0+160

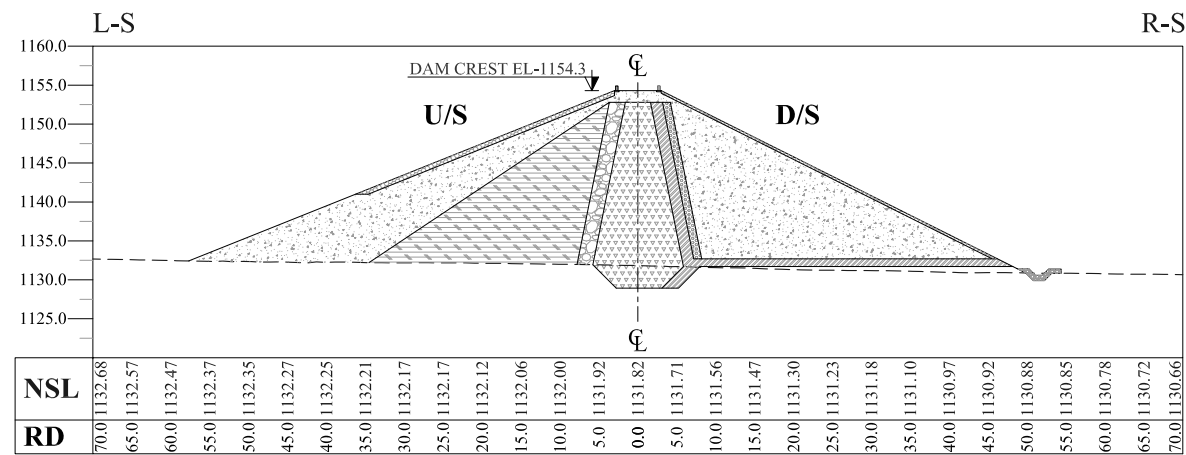
QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	91.36
2	RIPRAP	99.63
3	ZONE-II	686.60
4	ZONE-I	303.07
5	CLAY CORE	190.33
6	T-1	80.37
7	T-2	44.02
8	T-3	21.15
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63



SECTION 10-10 RD = 0+180

RD = 0+180

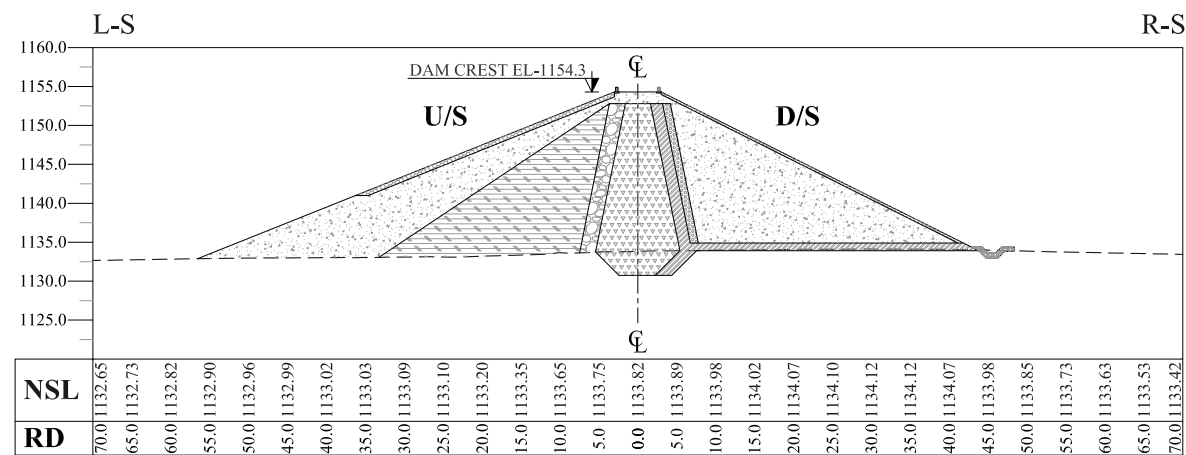
QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	90.01
2	RIPRAP	136.64
3	ZONE-II	667.40
4	ZONE-I	295.95
5	CLAY CORE	181.18
6	T-1	91.35
7	T-2	44.20
8	T-3	21.21
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63



SECTION 11-11 RD = 0+200

RD = 0+200

QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	88.38
2	RIPRAP	96.73
3	ZONE-II	624.50
4	ZONE-I	277.90
5	CLAY CORE	181.18
6	T-1	78.05
7	T-2	42.51
8	T-3	20.50
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63



SECTION 12-12 RD = 0+220

RD = 0+220

QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	84.22
2	RIPRAP	87.56
3	ZONE-II	533.12
4	ZONE-I	248.12
5	CLAY CORE	157.44
6	T-1	71.58
7	T-2	39.00
8	T-3	18.25
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- RIPRAP
- NULLAH BED MATERIAL (ZONE-II)
- SHELL MATERIAL EXCAVATED FROM SPILLWAY (ZONE-I)
- CONCRETE SAND (T2)
- CLAY CORE MATERIAL
- NULLAH BED MATERIAL (T3)
- SAND FILTER (T1)
- NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

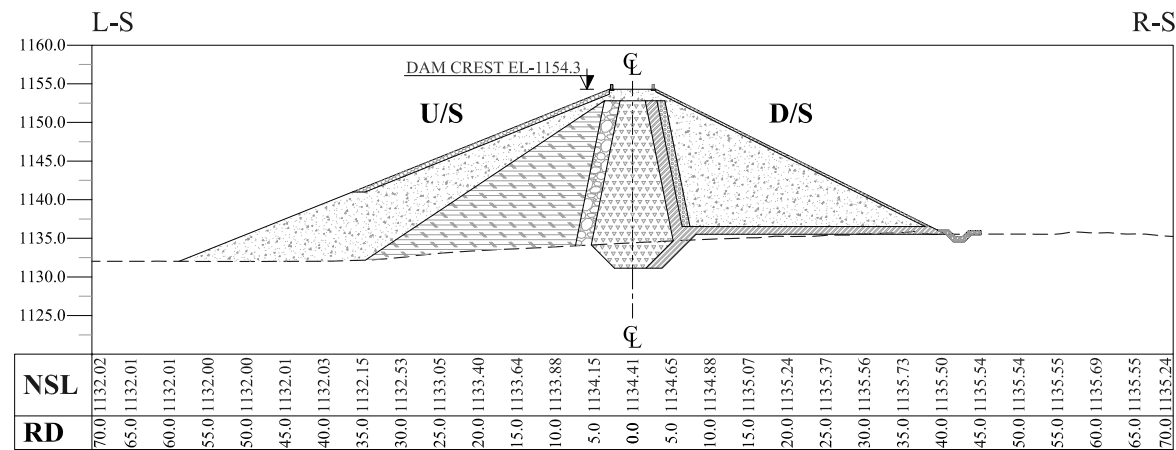
CONSULTANTS: A J.V OF
 REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

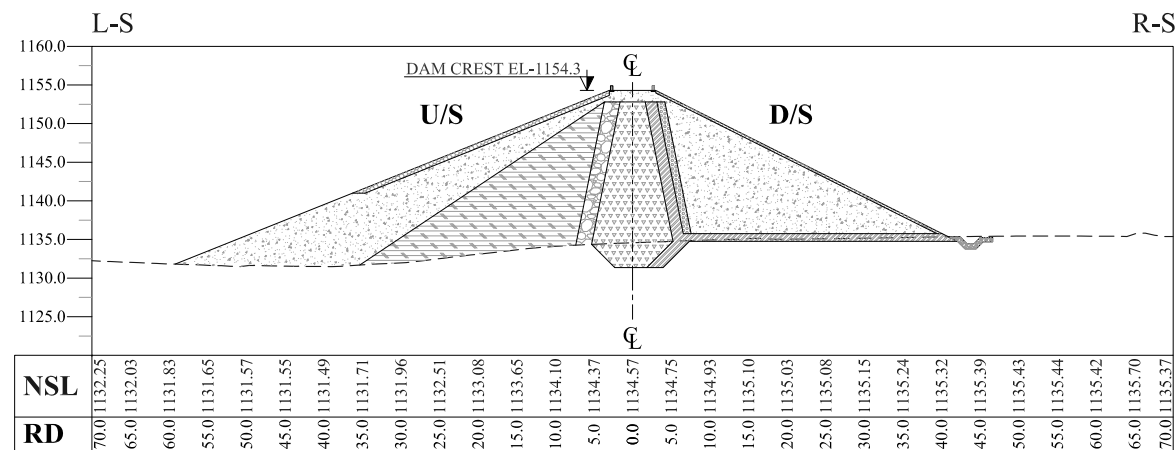
BAZ ALI DAM DISTRICT KURRAM
 TITLE: DAM EMBANKMENT DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022
DRG.No:- BAD-BD-MD-06			SHEET:-		SUB SH.- ----

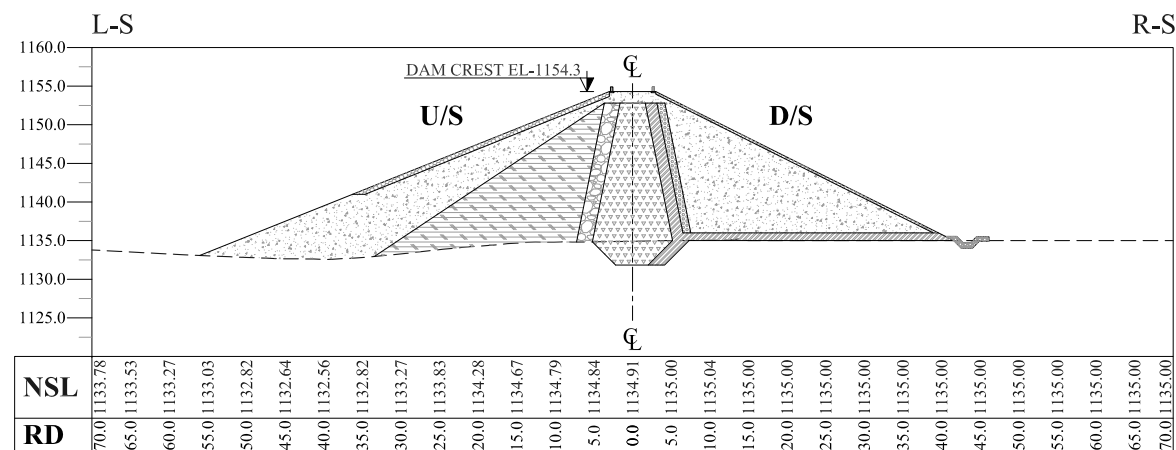
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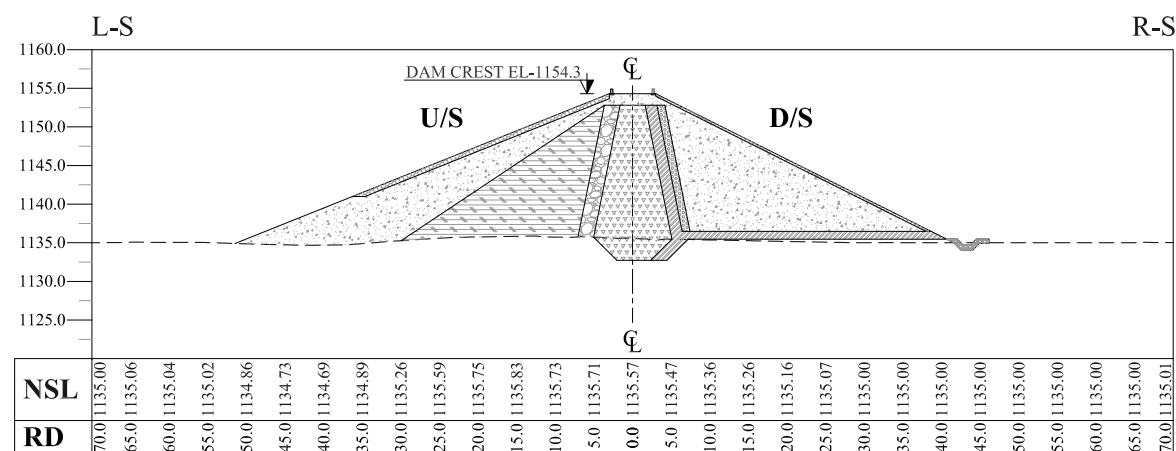
SECTION 13-13 RD = 0+240



SECTION 14-14 RD = 0+260



SECTION 15-15 RD = 0+280



SECTION 16-16 RD = 0+300

RD = 0+240

QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	84.65
2	RIPRAP	85.01
3	ZONE-II	503.63
4	ZONE-I	248.40
5	CLAY CORE	151.17
6	T-1	69.22
7	T-2	38.17
8	T-3	16.61
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

RD = 0+260

QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	84.44
2	RIPRAP	85.87
3	ZONE-II	536.76
4	ZONE-I	255.31
5	CLAY CORE	149.03
6	T-1	69.21
7	T-2	37.70
8	T-3	17.38
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

RD = 0+280

QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	81.48
2	RIPRAP	84.70
3	ZONE-II	932.82
4	ZONE-I	225.41
5	CLAY CORE	144.37
6	T-1	67.91
7	T-2	36.66
8	T-3	17.13
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

RD = 0+300

QUANTITY AT EACH SECTION		
S.NO	ITEM/ DESCRIPTION	QUANTITY (m ²)
1	EXCAVATION	75.80
2	RIPRAP	81.73
3	ZONE-II	446.63
4	ZONE-I	190.16
5	CLAY CORE	135.78
6	T-1	65.48
7	T-2	34.76
8	T-3	16.65
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- RIPRAP
- NULLAH BED MATERIAL (ZONE-II)
- SHELL MATERIAL EXCAVATED FROM SPILLWAY (ZONE-I)
- CONCRETE SAND (T2)
- CLAY CORE MATERIAL
- NULLAH BED MATERIAL (T3)
- SAND FILTER (T1)
- NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

- A J.V OF
- REHMAN HABIB CONSULTANTS (PVT) LTD.
- CASCADE GROUP OF ENGINEERING & CONSULTANTS
- IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

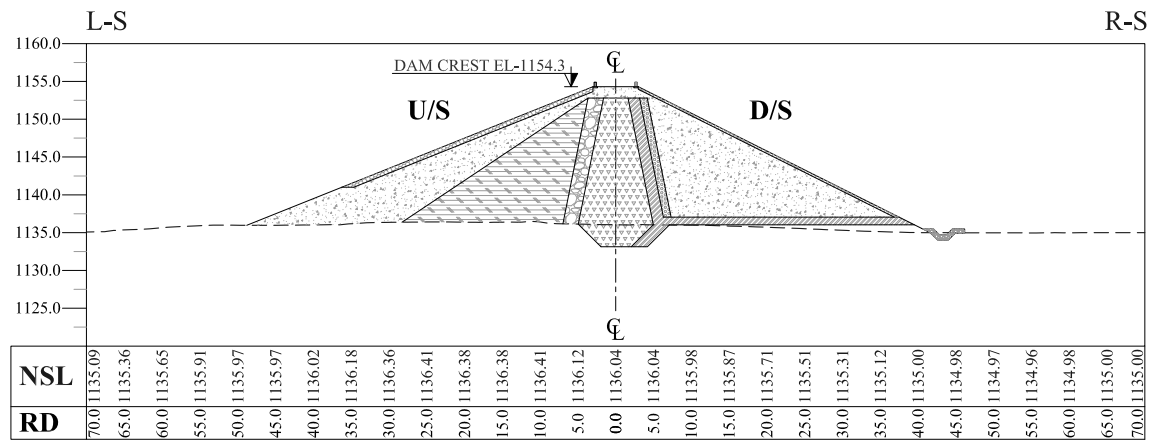
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

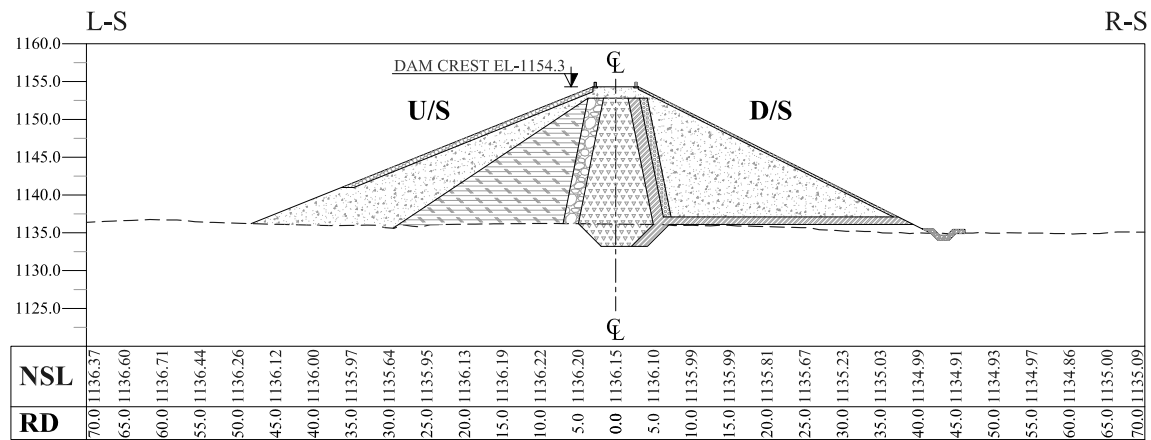
TITLE: DAM EMBANKMENT DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Shown FEB, 2022
DRG.No:- BAD-BD-MD-07			SHEET:-		SUB SH.- ----

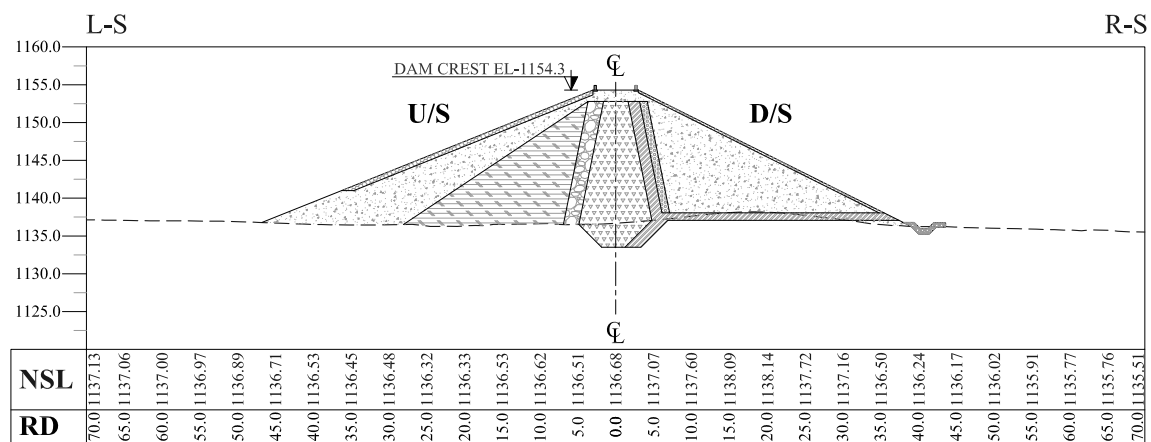
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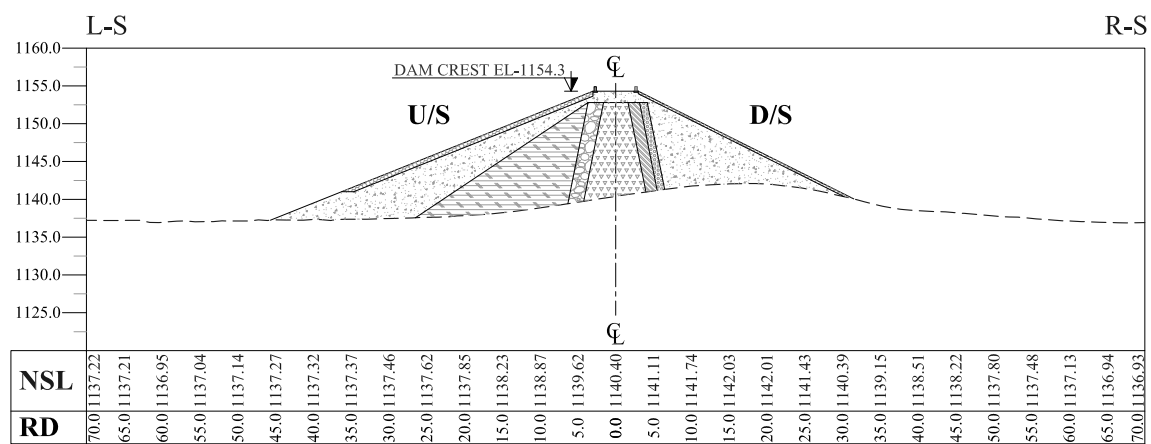
SECTION 17-17 RD = 0+320



SECTION 18-18 RD = 0+340



SECTION 19-19 RD = 0+360



SECTION 20-20 RD = 0+380

RD = 0+320

QUANTITY AT EACH SECTION		
S.NO	ITEM/DESCRIPTON	QUANTITY (m ²)
1	EXCAVATION	74.77
2	RIPRAP	79.97
3	ZONE-II	405.44
4	ZONE-I	175.32
5	CLAY CORE	130.67
6	T-1	63.93
7	T-2	33.96
8	T-3	16.07
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

RD = 0+340

QUANTITY AT EACH SECTION		
S.NO	ITEM/DESCRIPTON	QUANTITY (m ²)
1	EXCAVATION	74.60
2	RIPRAP	79.71
3	ZONE-II	406.12
4	ZONE-I	180.89
5	CLAY CORE	129.82
6	T-1	63.68
7	T-2	24.03
8	T-3	16.01
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

RD = 0+360

QUANTITY AT EACH SECTION		
S.NO	ITEM/DESCRIPTON	QUANTITY (m ²)
1	EXCAVATION	73.45
2	RIPRAP	75.21
3	ZONE-II	382.98
4	ZONE-I	173.62
5	CLAY CORE	123.94
6	T-1	61.88
7	T-2	33.24
8	T-3	15.04
9	CLAY BLANKET	0.00
10	TOE DRAIN	3.63

RD = 0+380

QUANTITY AT EACH SECTION		
S.NO	ITEM/DESCRIPTON	QUANTITY (m ²)
1	EXCAVATION	47.86
2	RIPRAP	63.55
3	ZONE-II	267.76
4	ZONE-I	137.57
5	CLAY CORE	71.10
6	T-1	17.93
7	T-2	26.97
8	T-3	11.78
9	CLAY BLANKET	0.00
10	TOE DRAIN	0.00

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- RIPRAP
- NULLAH BED MATERIAL (ZONE-II)
- SHELL MATERIAL EXCAVATED FROM SPILLWAY (ZONE-I)
- CONCRETE SAND (T2)
- CLAY CORE MATERIAL
- NULLAH BED MATERIAL (T3)
- SAND FILTER (T1)
- NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF

RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCADE GROUP
OF ENGINEERING & CONSULTANTS

ETA
IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

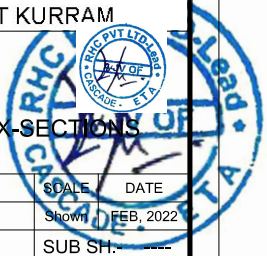
PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

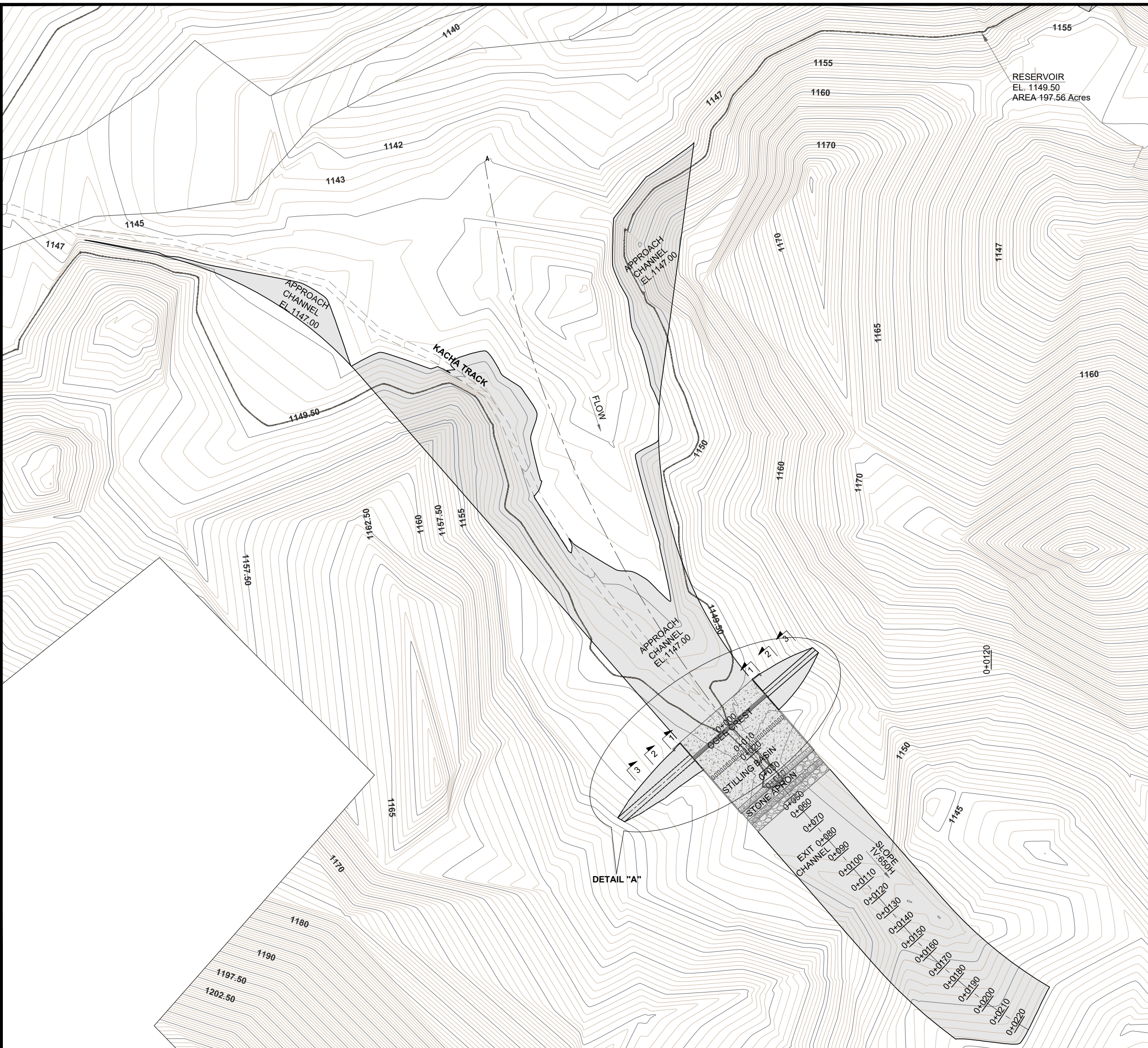
BAZ ALI DAM
DISTRICT KURRAM

TITLE: DAM EMBANKMENT DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Shown FEB, 2022
DRG.No:- BAD-BD-MD-08			SHEET:-		SUB SH:-



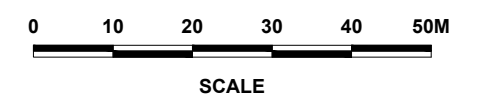
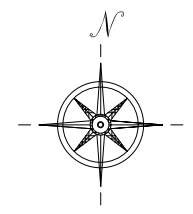
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RESERVOIR
EL. 1149.50
AREA 197.56 Acres

NOTES:-

1. ALL LEVELS AND DIMENSIONS ARE IN METER UNLESS INDICATED OTHERWISE.





REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD E GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ETA ENGINEERING & TECHNICAL ASSOCIATES

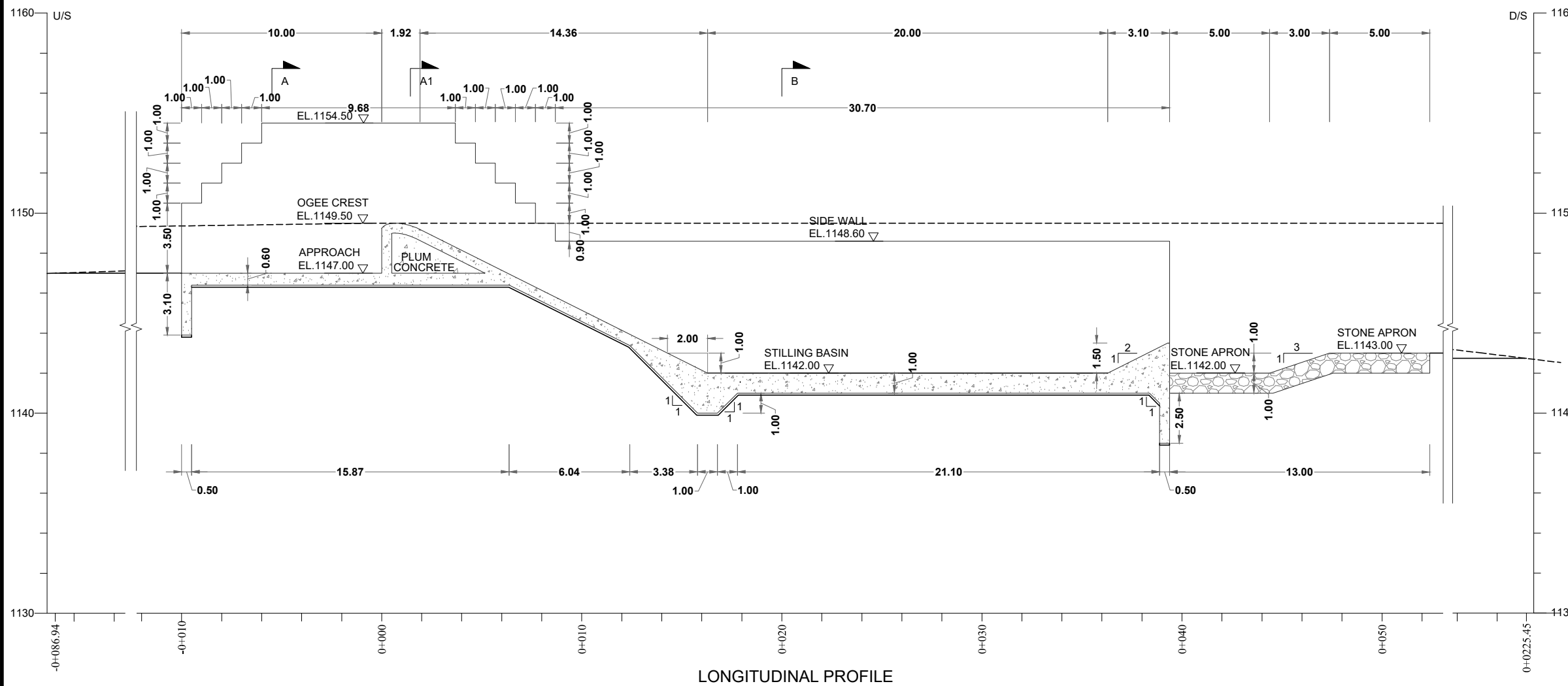
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM
TITLE: SPILLWAY LAYOUT PLAN

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-SP-01		SHEET:- 1 of 6		SUB SH.- ----	



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LONGITUDINAL PROFILE

NOTES:-



1. ALL LEVELS AND DIMENSIONS ARE IN METER UNLESS INDICATED OTHERWISE.

REFERENCE DRAWINGS :-

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATE OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

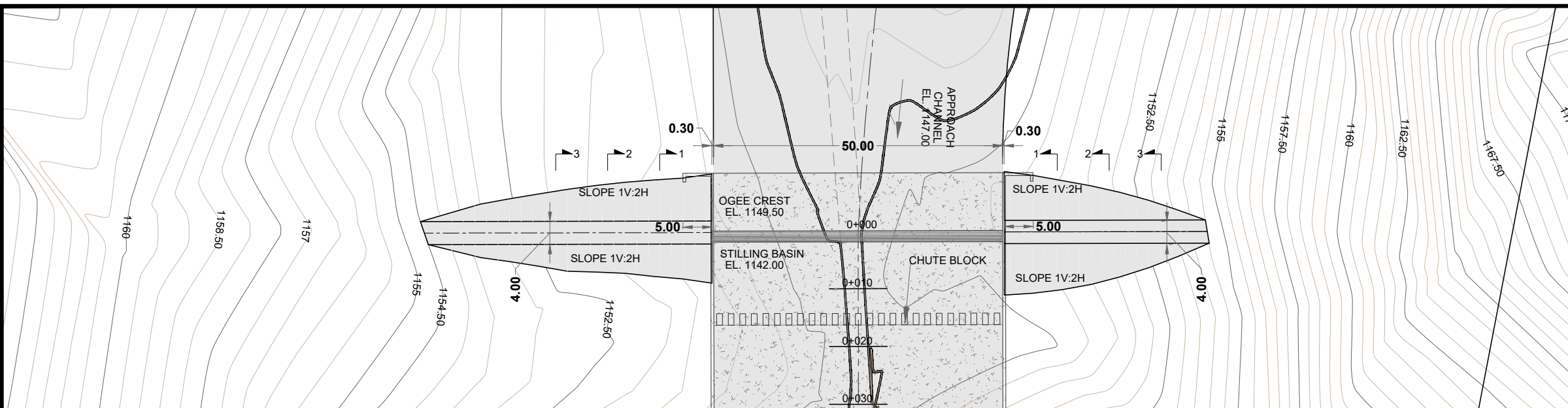
BAZ ALI DAM
DISTRICT KURRAM

TITLE: SPILLWAY LONGITUDINAL PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-SP-01		SHEET:- 2 of 6		SUB SH.- ----	



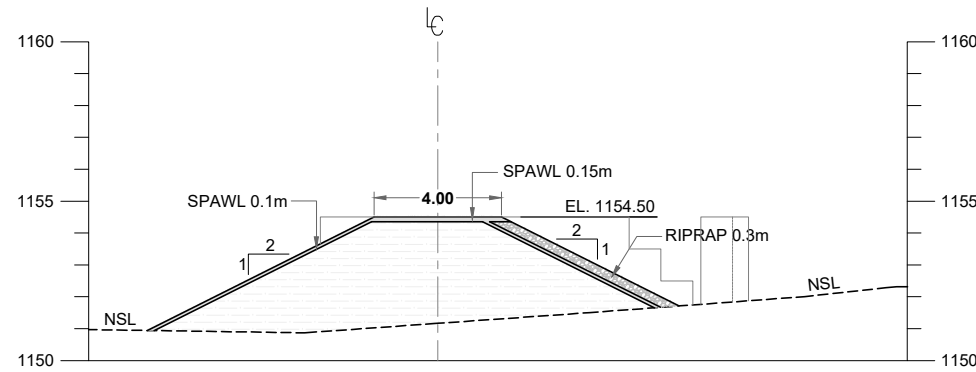
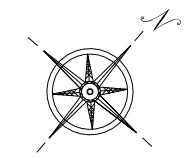
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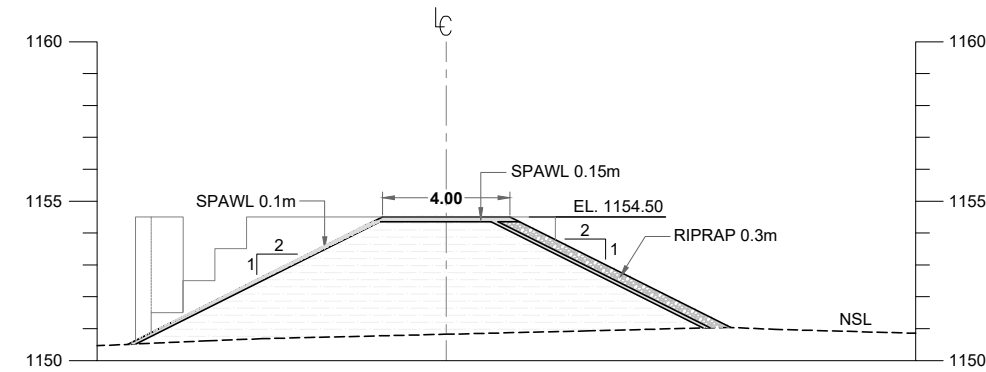
DETAIL "A"

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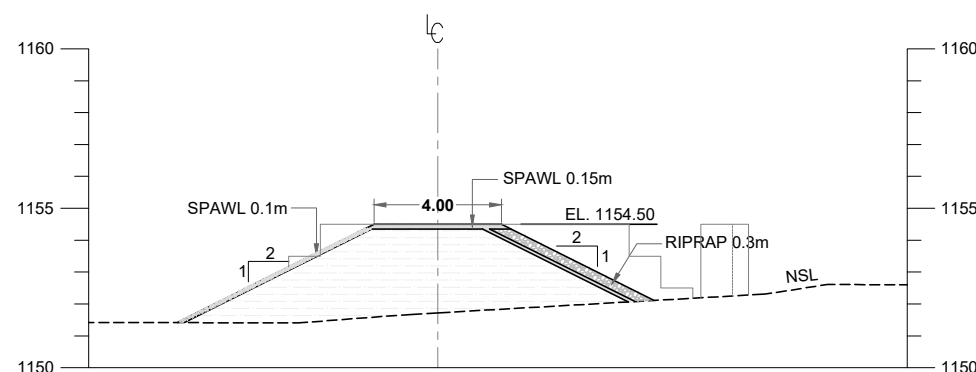
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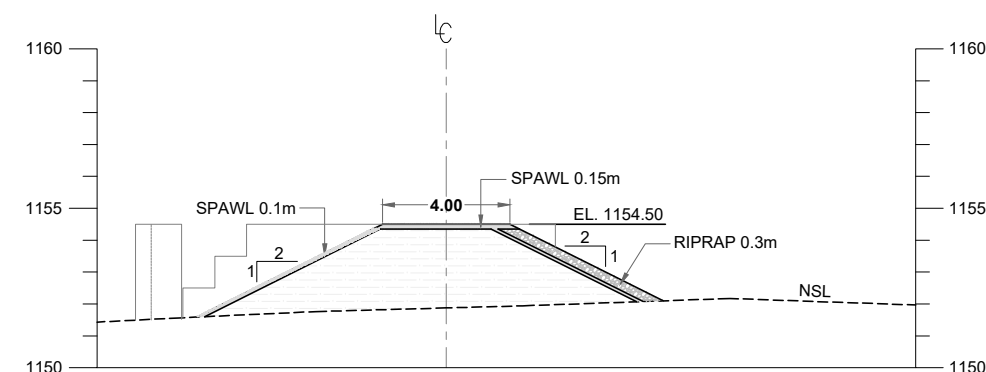
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R/S



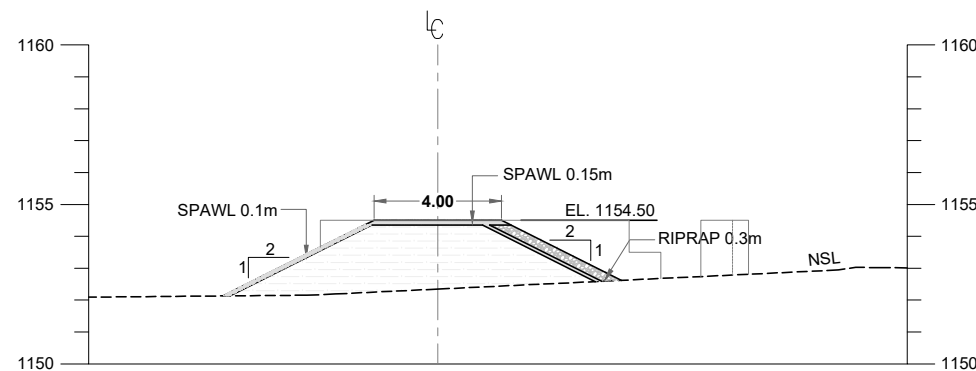
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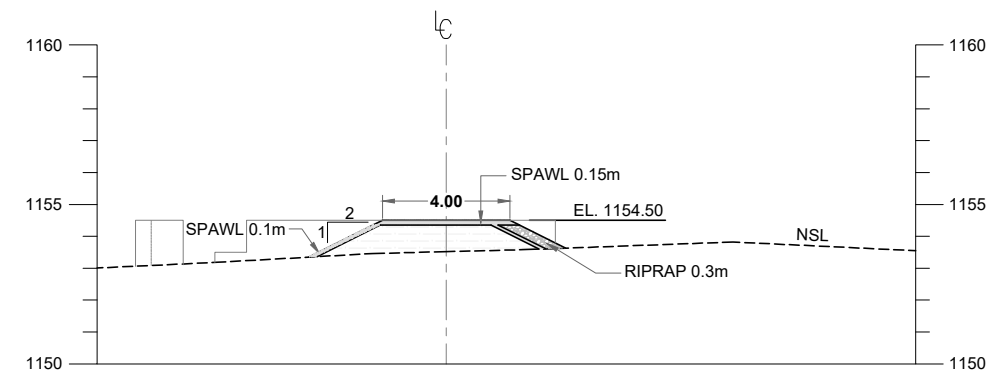
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R/S



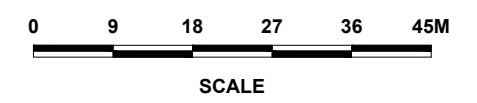
SEC 2-2
L/S



SEC 3-3
R/S



SEC 3-3
L/S



REFERENCE DRAWINGS :-

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

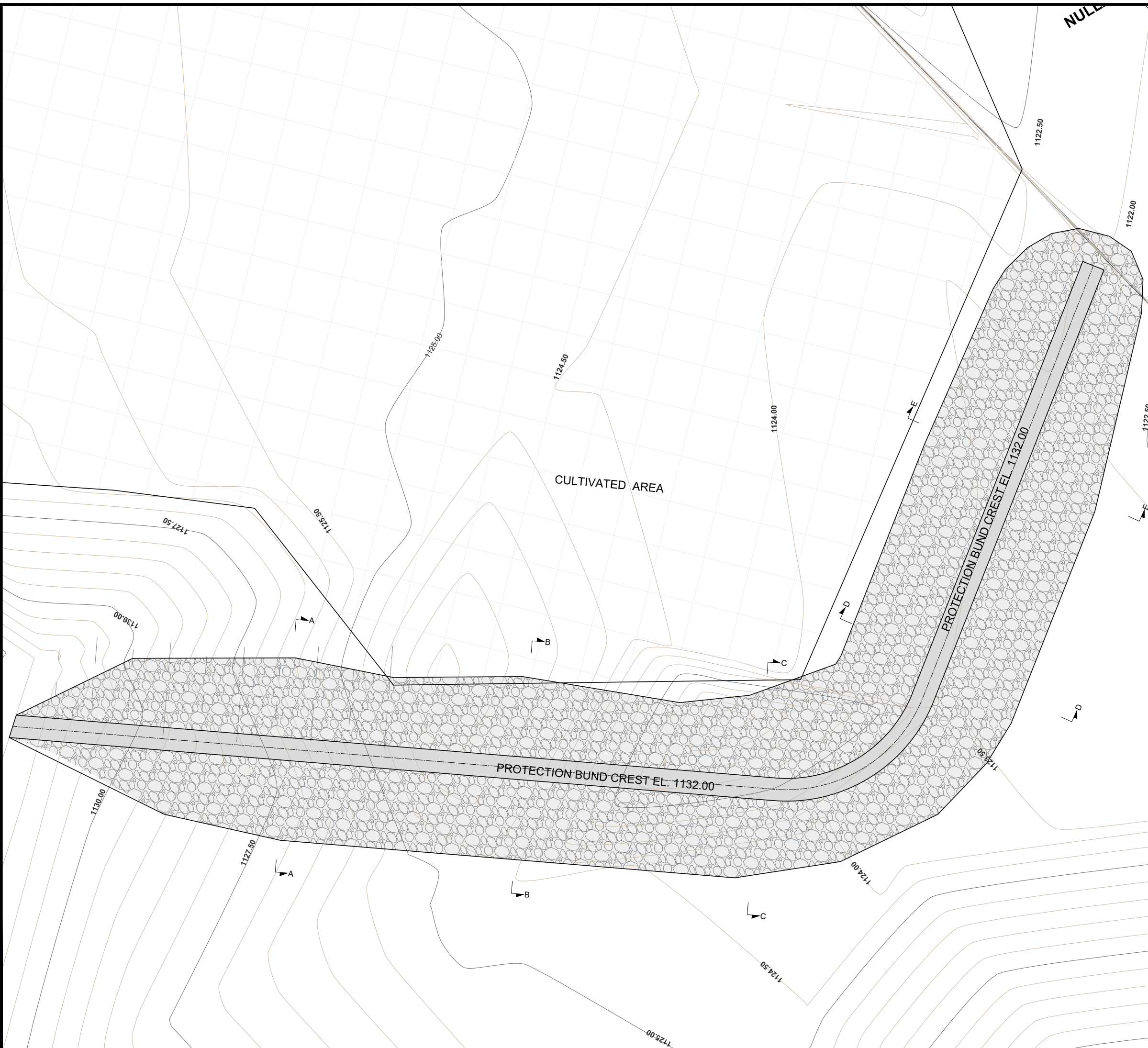
CONSULTANTS: A J.V OF
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CASCADE CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

TITLE:
BAZ ALI DAM DISTRICT KURRAM
SPILLWAY PROTECTION BUND - 1
PLAN & SECTIONS

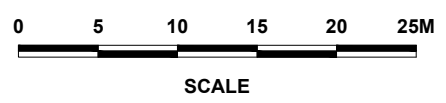
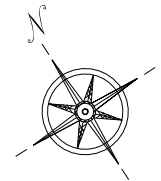
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
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NOTES:-

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REFERENCE DRAWINGS :-

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCADE GROUP OF ENGINEERING & CONSULTANTS
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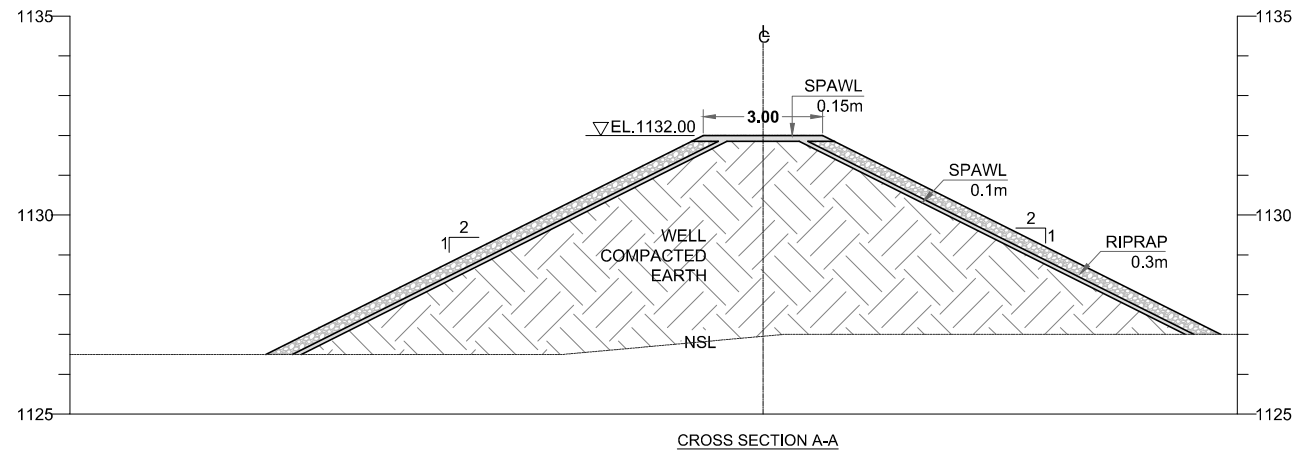
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATE OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

TITLE: BAZ ALI DAM DISTRICT KURRAM
SPILLWAY PROTECTION BUND - 2
PLAN

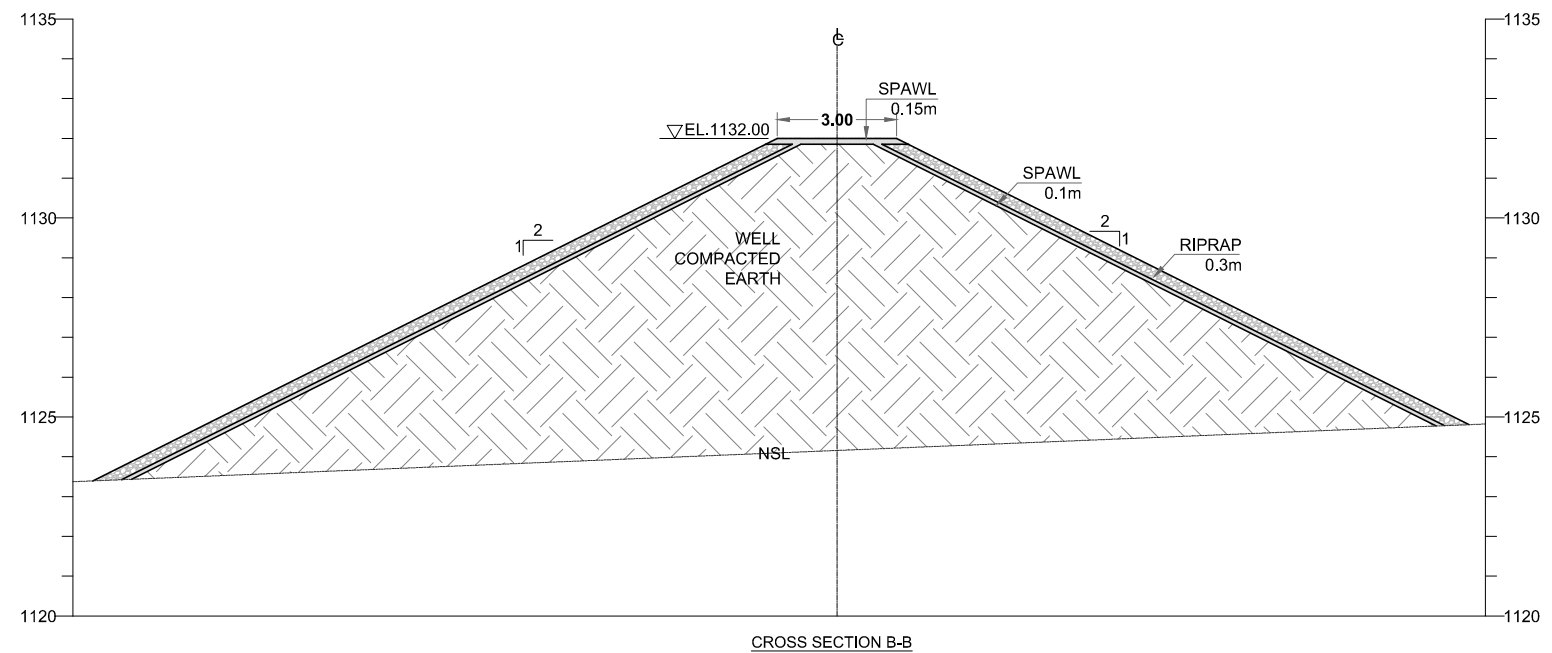
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				Shown	FEB, 2022
DRG.No:- BAD-BD-SP-01		SHEET:- 4 of 6		SUB SH.- ----	



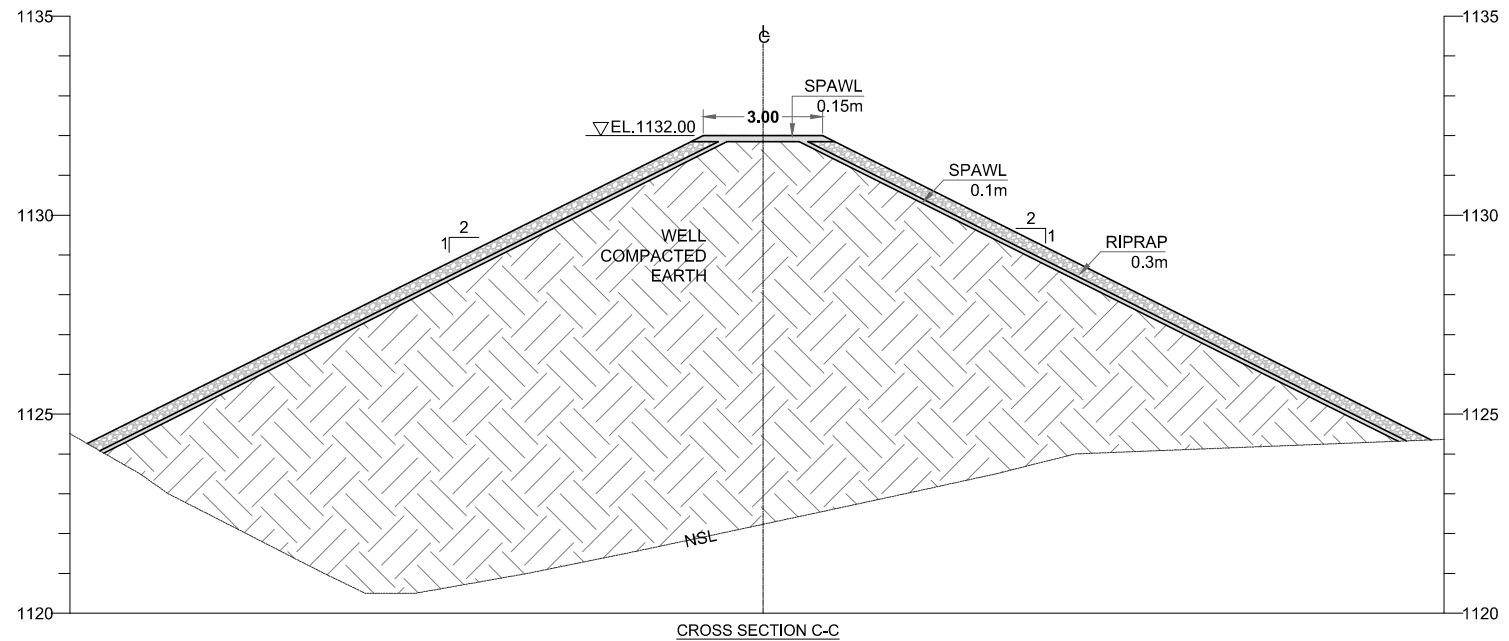
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CROSS SECTION A-A



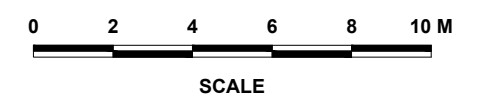
CROSS SECTION B-B



CROSS SECTION C-C

NOTES:-

1. ALL LEVELS AND DIMENSIONS ARE IN METER UNLESS INDICATED OTHERWISE.





REFERENCE DRAWINGS :-

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

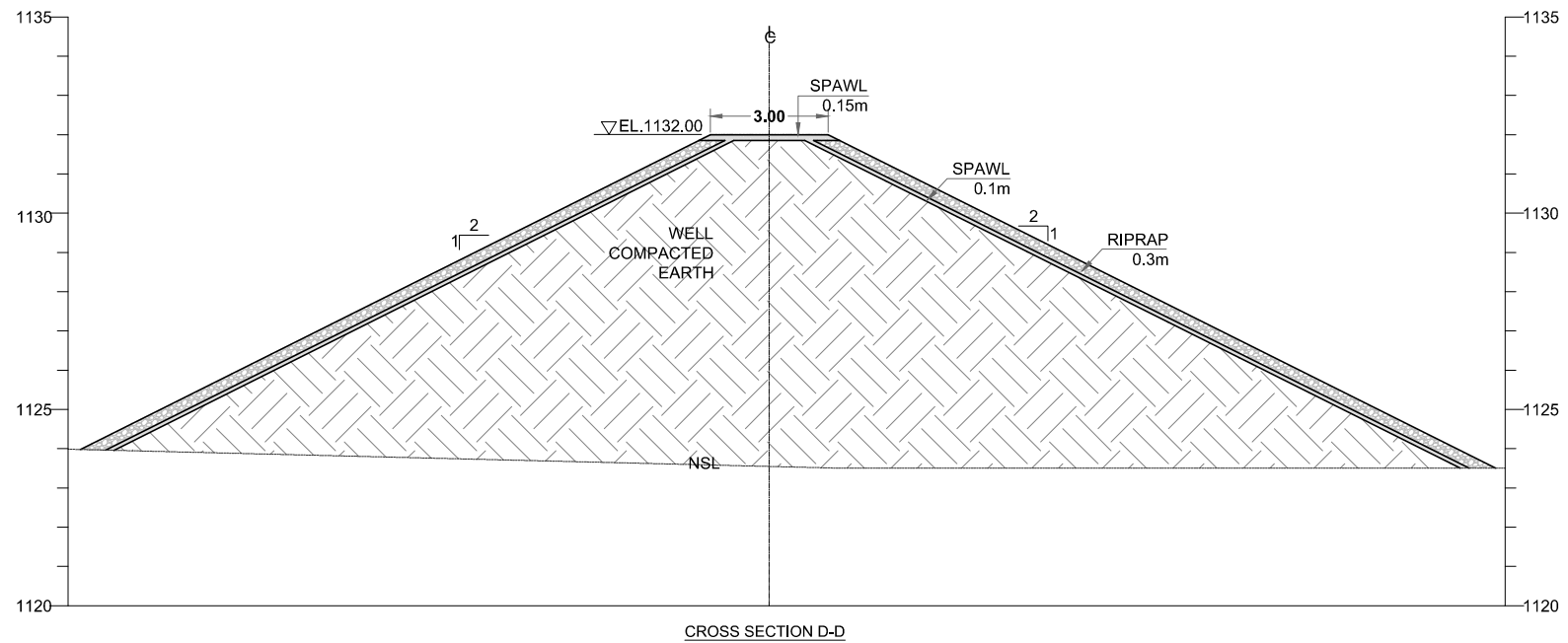
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATE OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM
TITLE: SPILLWAY PROTECTION BUND - 2 SECTIONS

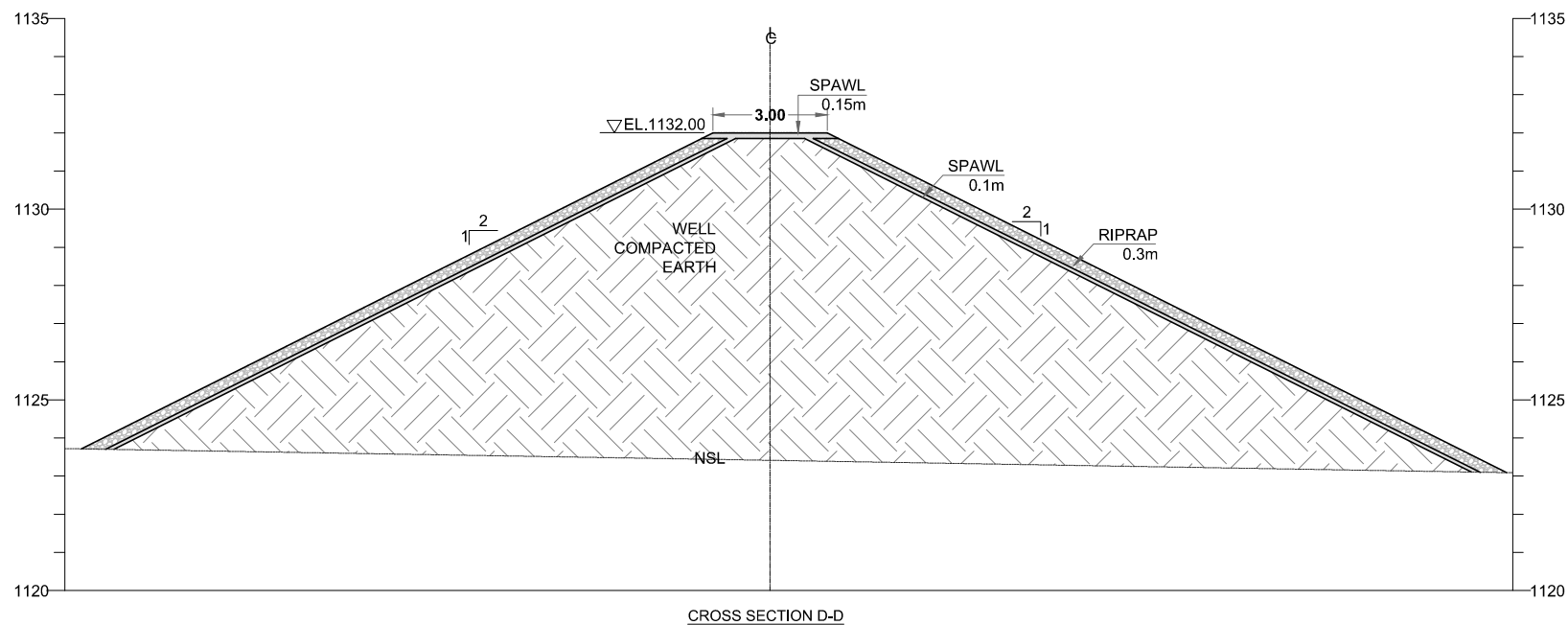
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-SP-01		SHEET:- 5 of 6		SUB SH.- ----	



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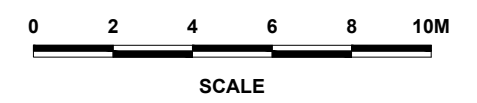
CROSS SECTION D-D



CROSS SECTION D-D

NOTES:-

1. ALL LEVELS AND DIMENSIONS ARE IN METER UNLESS INDICATED OTHERWISE.





REFERENCE DRAWINGS :-

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

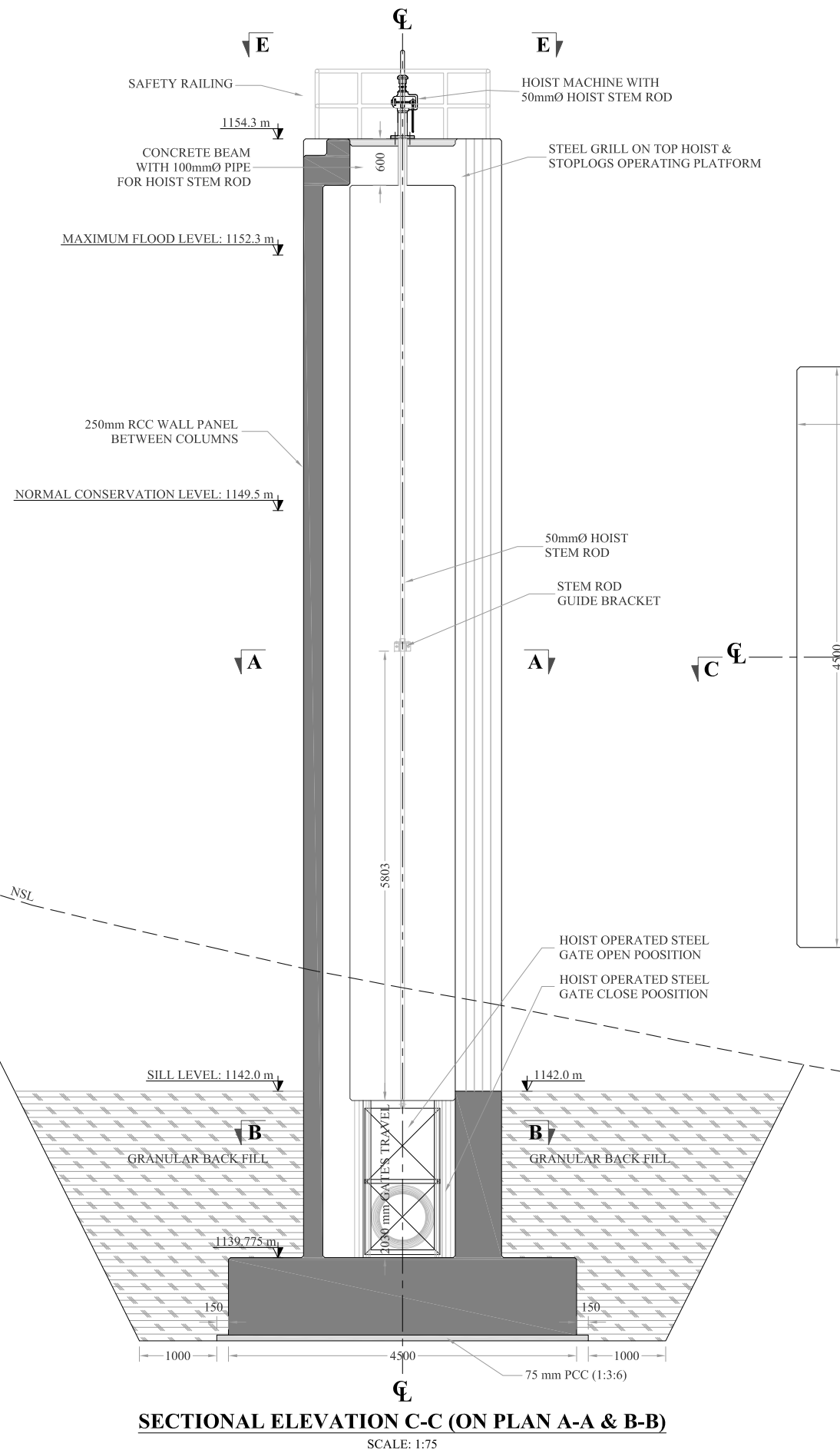
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

TITLE: BAZ ALI DAM DISTRICT KURRAM
SPILLWAY PROTECTION BUND - 2 SECTIONS

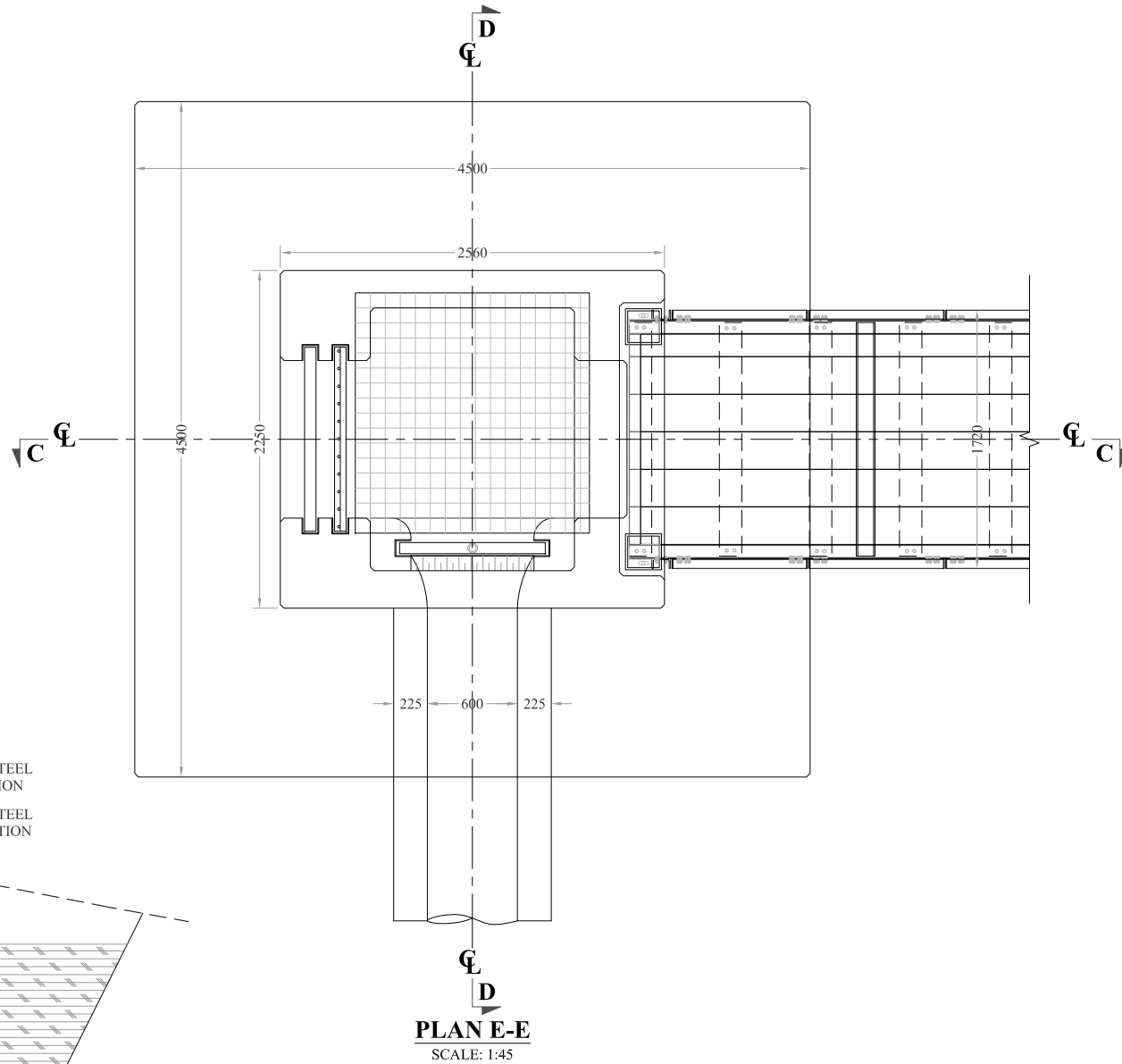
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DRG.No:- BAD-BD-SP-01		SHEET:- 6 of 6		SUB SH.- ----	



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SECTIONAL ELEVATION C-C (ON PLAN A-A & B-B)
SCALE: 1:75

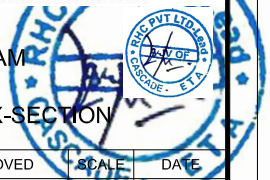


PLAN E-E
SCALE: 1:45

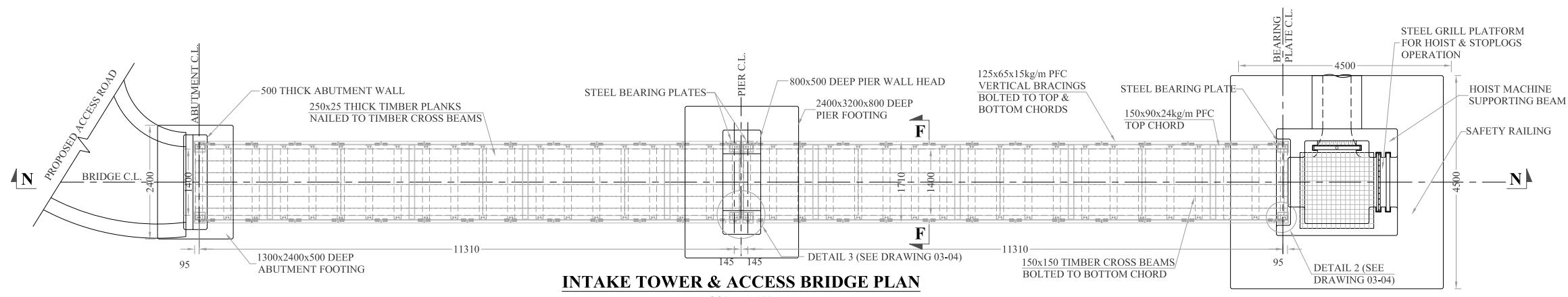
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.

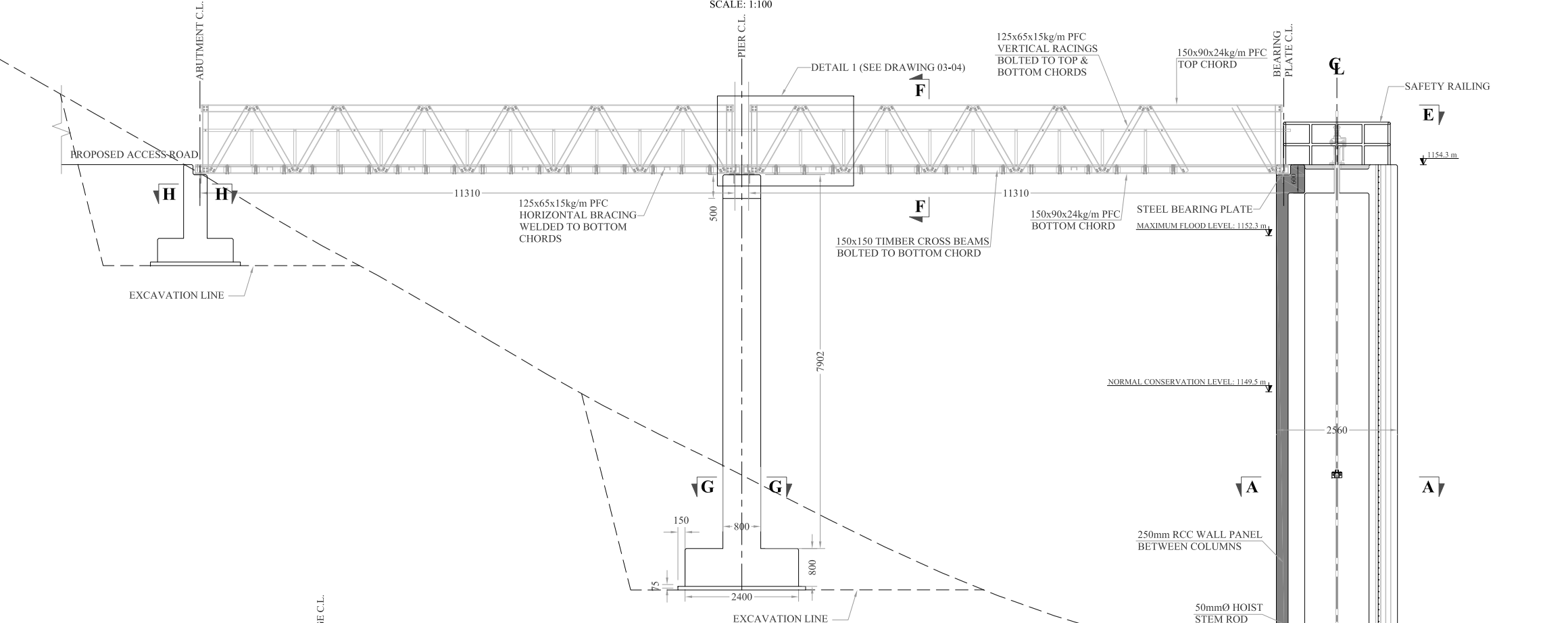
REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
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CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.					
CONSULTANTS: A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD. CGEC CASCADE GROUP OF ENGINEERING & CONSULTANTS ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES					
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM					
BAZ ALI DAM DISTRICT KURRAM					
TITLE: INTAKE TOWER PLAN & X-SECTION					
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IT-02		SHEET:-		SUB SH.- ----	



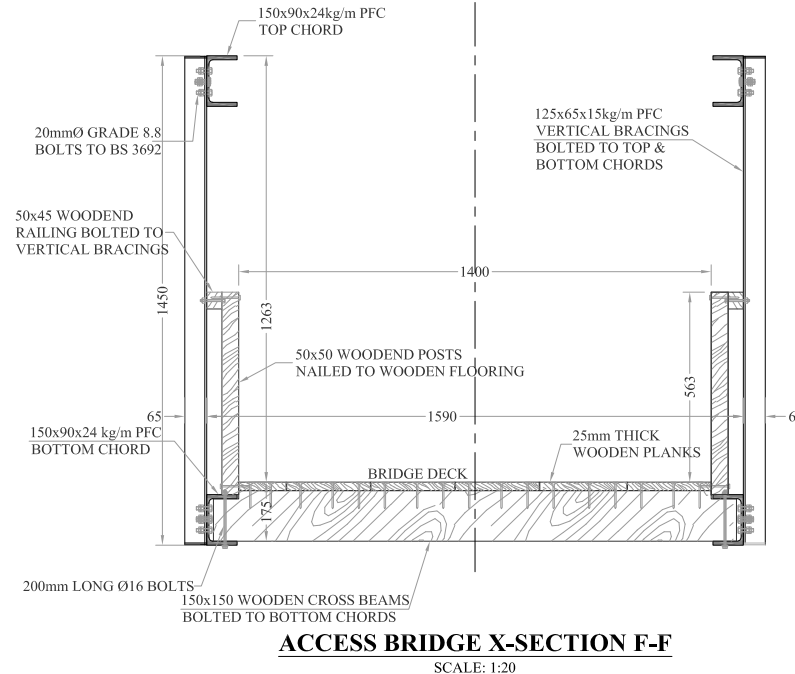
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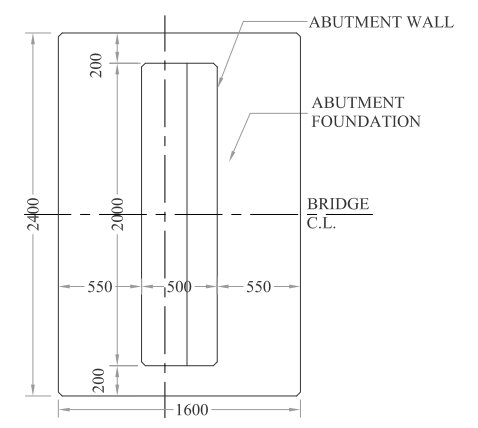
INTAKE TOWER & ACCESS BRIDGE PLAN
SCALE: 1:100



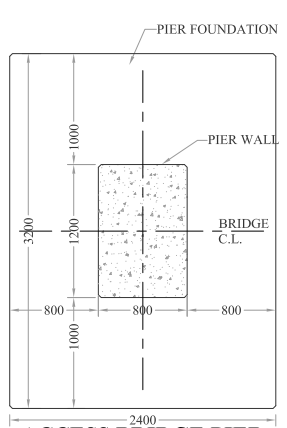
INTAKE TOWER & ACCESS BRIDGE SECTIONAL ELEVATION PROFILE
SCALE: 1:100



ACCESS BRIDGE X-SECTION F-F
SCALE: 1:20



ACCESS BRIDGE ABUTMENT FOUNDATION PLAN H-H
SCALE: 1:50



ACCESS BRIDGE PIER FOUNDATION PLAN G-G
SCALE: 1:55

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ON THE DRAWINGS SHOULD GOVERN IF DOESN'T MATCH WITH THE SCALE MEASUREMENTS.
- THE CONTRACTOR SHOULD READ THESE DRAWINGS IN CONJUNCTION WITH ALL OTHER DRAWINGS ISSUED BY BAK CONSULTING ENGINEERS FOR BAZ ALI DAM AND ALL DISCREPANCIES, MISTAKES AND OMISSIONS (IF ANY) SHOULD BE REPORTED BACK TO THE ENGINEER BEFORE STARTING THE WORKS.
- 75mm (MIN) UNIFORM PCC GRADE 10 (10 N/mm²) LAYER SHALL BE PROVIDED UNDER ALL STRUCTURAL CONCRETE TO AVOID DIRECT CONTACT WITH SOIL.
- ALL STRUCTURAL CONCRETE USED IN INTAKE TOWER STRUCTURE, BRIDGE PIER, BRIDGE ABUTMENT AND OTHER STRUCTURAL ELEMENTS TO BE GRADE 20 (20 N/mm²) WITH MINIMUM CYLINDER COMPRESSIVE STRENGTH OF 20N/mm² AT 28 DAYS.
- ALL REINFORCEMENT STEEL TO BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM STANDARDS AND WITH A MINIMUM YIELD STRENGTH OF 414 N/mm².
- CLEAR COVER TO REINFORCEMENT AT CONCRETE FACES IN DIRECT CONTACT WITH SOIL/GROUND TO BE 75mm AND 50mm ON ALL OTHER FACES.
- THE CONTRACTOR SHOULD PREPARE DETAILED BAR BENDING SCHEDULE FOR THE CONCRETE STRUCTURES AND GET APPROVAL OF THE ENGINEER AT LEAST FOUR WEEKS BEFORE COMMENCEMENT OF THE WORKS.
- ALL HOOKS, SPLICES ETC SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 12 OF THE ACI CODE.
- ALL STRUCTURAL STEEL TO BE GRADE S275 TO BS EN 10210.
- ALL STEELWORK TO BE HOT DIP GALVANIZED TO BS EN ISO 1461:1999 COATING TO BE 140UM THICK. TO BS 5493. PART 2. GALVANIZING IN ACCORDANCE WITH NR/GN/CIV/002
- ALL BURRS & SHARP EDGES REMOVED BEFORE GALVANIZING.
- ALL BOLTS TO BE GRADE 8.8 TO BS 3692. BOLTS, WASHERS & NUTS TO BE GALVANIZED TO BS 7371. PART 6 BY SPIN GALVANIZING. ALL NUTS TO NYLOC, SELF LOCKING NUT. UNLESS STATED OTHERWISE
- ALL WELDS TO BE 6mm CONTINUOUS FILLETS WELDS UNLESS NOTED OTHERWISE. WELDING TO BE IN ACCORDANCE WITH EN 15614-1 2004
- ALL WOODEN/TIMBER BEAMS AND FLOORING PLANKS TO BE MADE OF KNOTS FREE PROPERLY SEASONED DEODAR WOOD.
- ALL WOOD WORK TO BE TREATED WITH TWO COATS OF PRESERVATIVES SUCH AS COAL-TAR CREOSOTE OR SIMILAR APPROVED PRODUCTS.
- TIMBER PACKING SHOULD BE USED BETWEEN THE TOP FLANGE OF THE BOTTOM CHORD AND TIMBER CROSS BEAM TO FILL ANY GAP BETWEEN THE TWO AND TO AVOID BENDING OF THE FLANGES.
- CROSS SECTIONAL DIMENSIONAL TOLERANCE FOR THE TIMBER CROSS BEAMS IS ± 10mm.
- THICKNESS TOLERANCE FOR THE TIMBER PLANKS IS ± 2mm.

REFERENCE DRAWINGS :-

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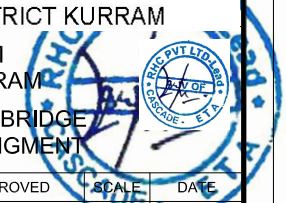
CLIENT:
**MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS:
**A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP
OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
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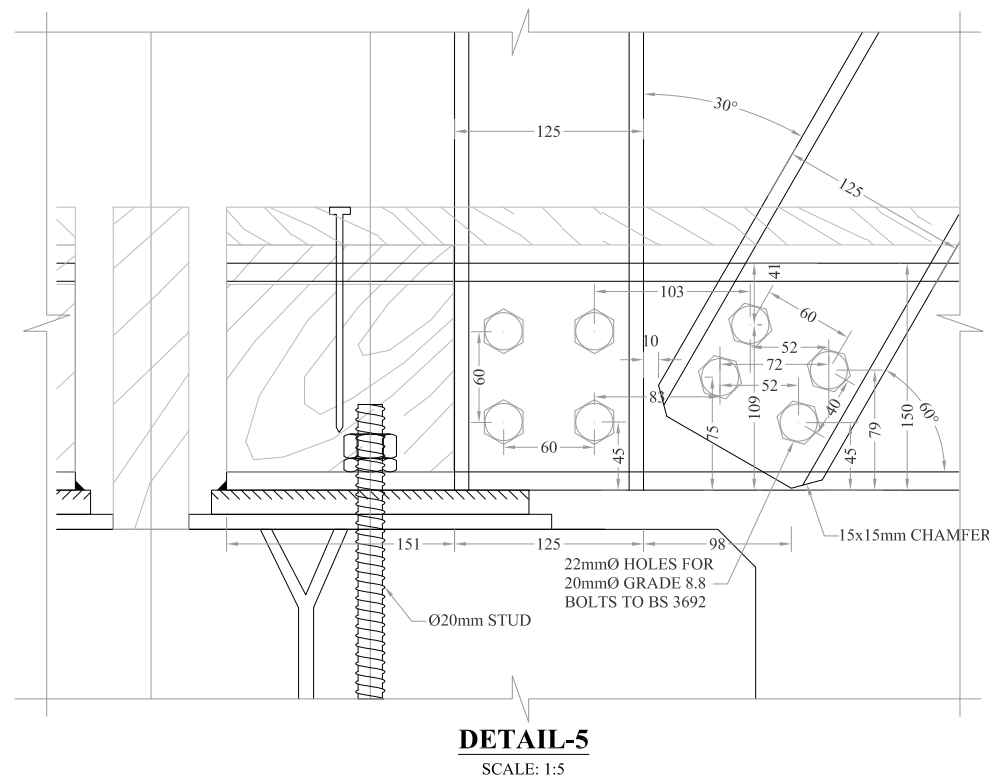
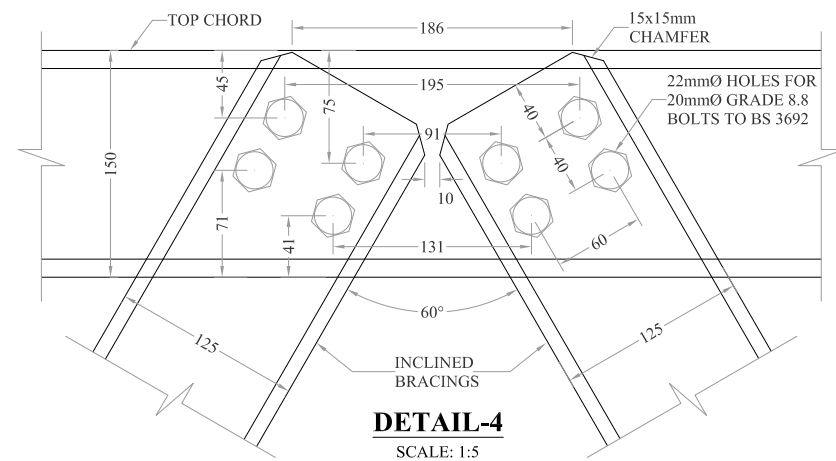
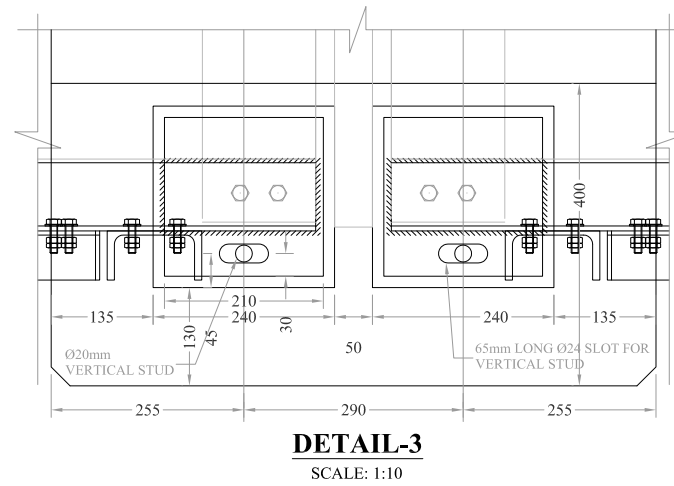
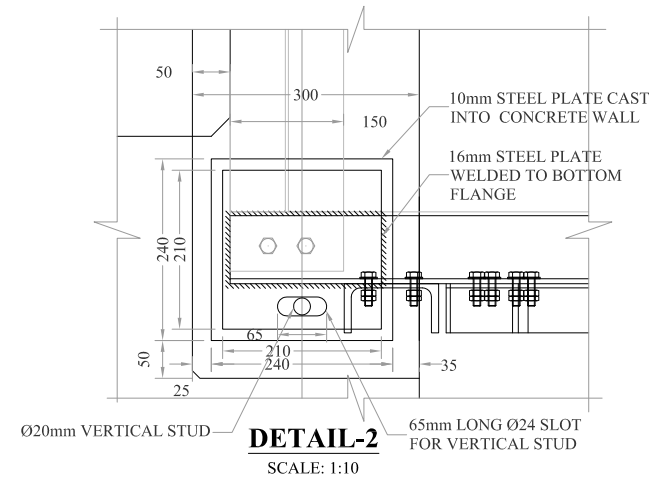
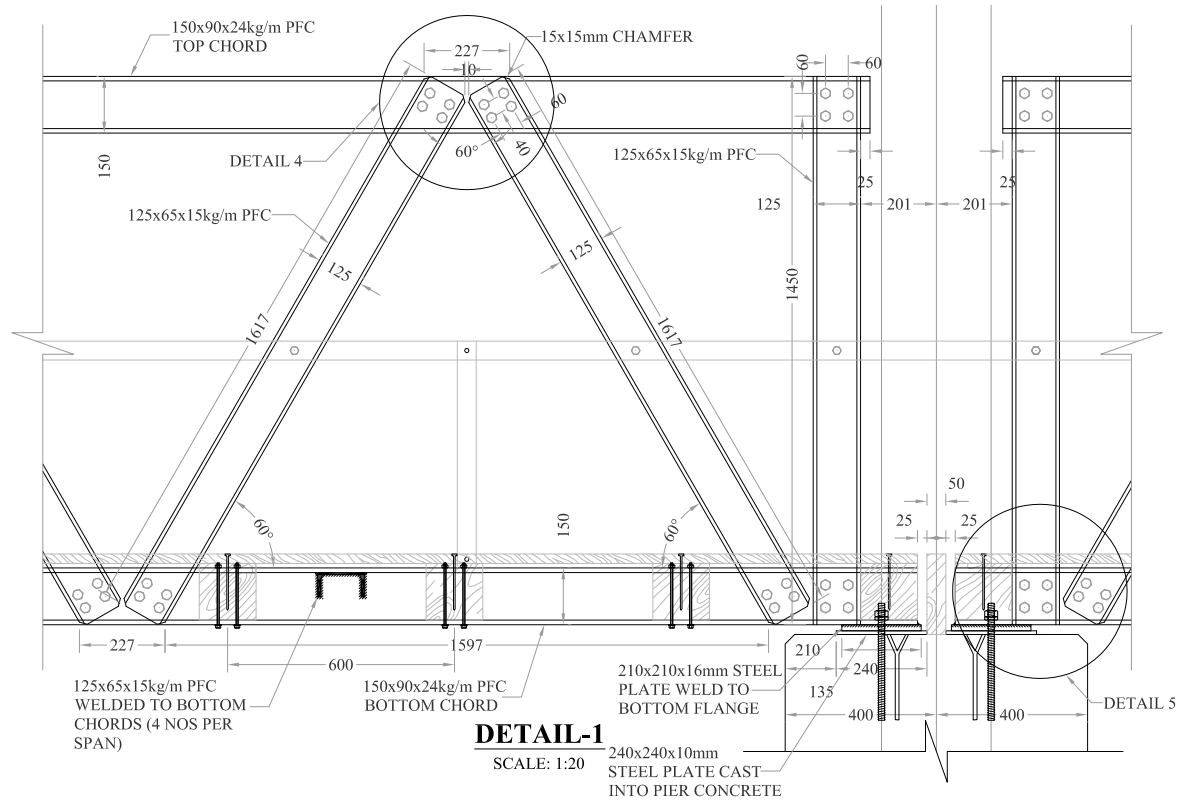
PROJECT:
**CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM**

**BAZ ALI DAM
DISTRICT KURRAM
INTAKE TOWER & BRIDGE
GENERAL ARRANGMENT**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	FEB 2022
DRG.No:- BAD-BD-IT-03			SHEET:-		SUB SH.- ----



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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

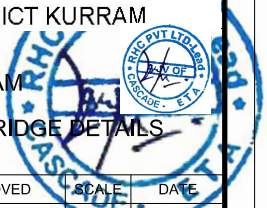
CONSULTANTS: A J.V OF
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CASC CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

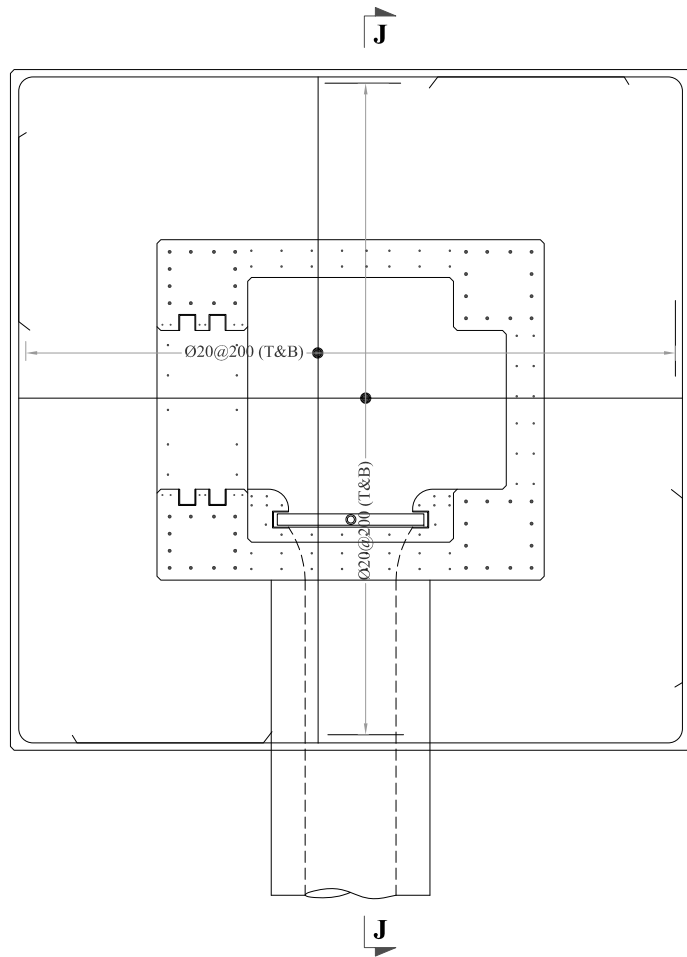
BAZ ALI DAM
DISTRICT KURRAM

TITLE: INTAKE TOWER & ACCESS BRIDGE DETAILS

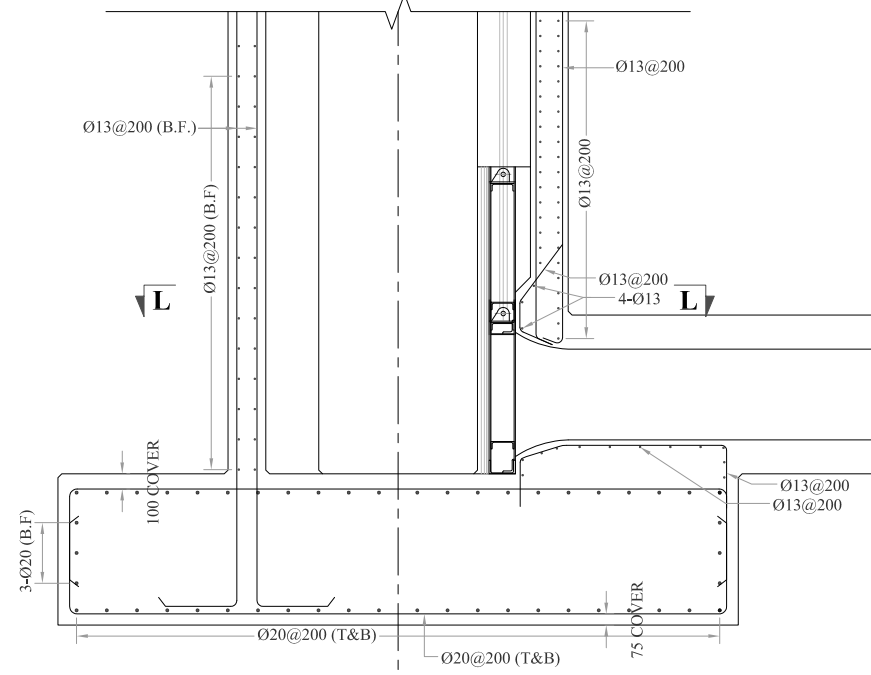
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IT-04			SHEET:-		SUB SH.- ----



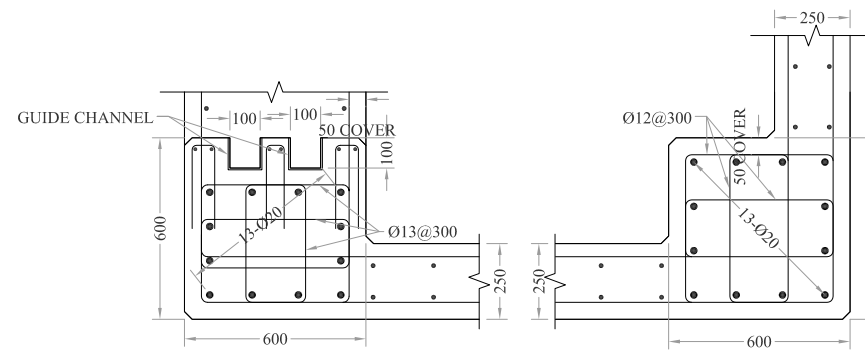
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INTAKE TOWER FOUNDATION REINFORCEMENT PLAN
SCALE: 1:50

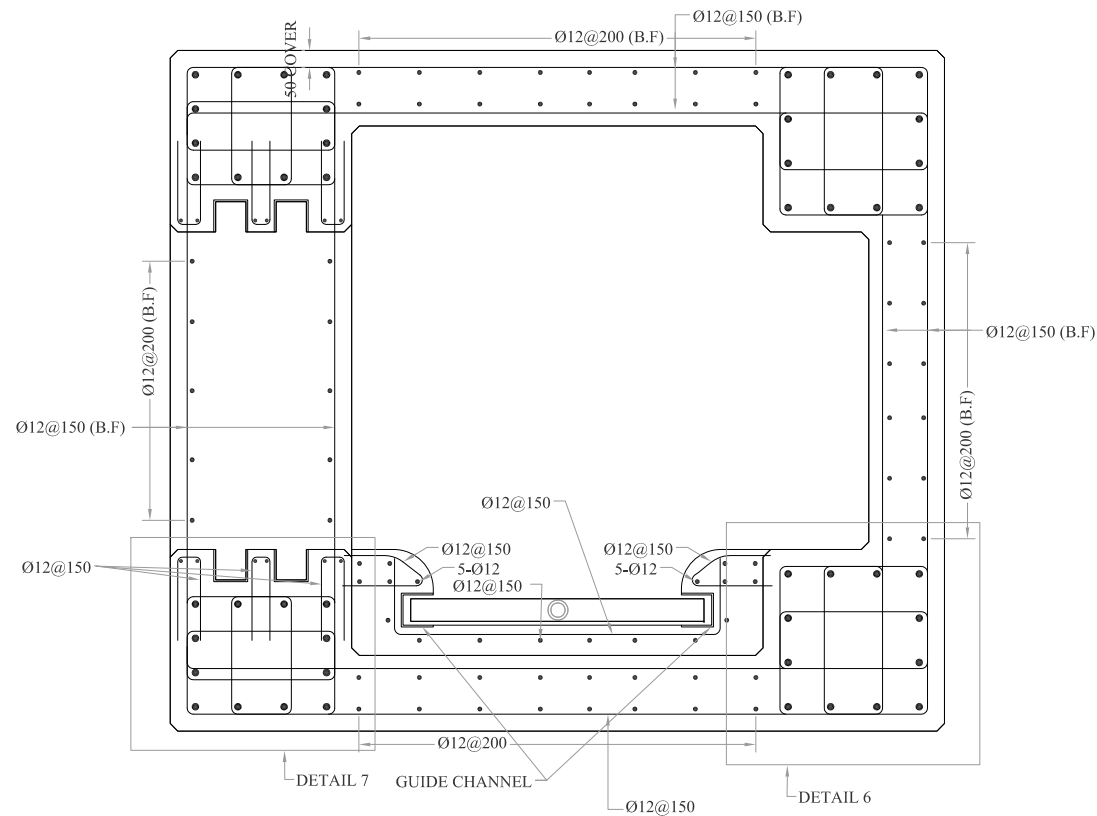


SECTION J-J
SCALE: 1:50

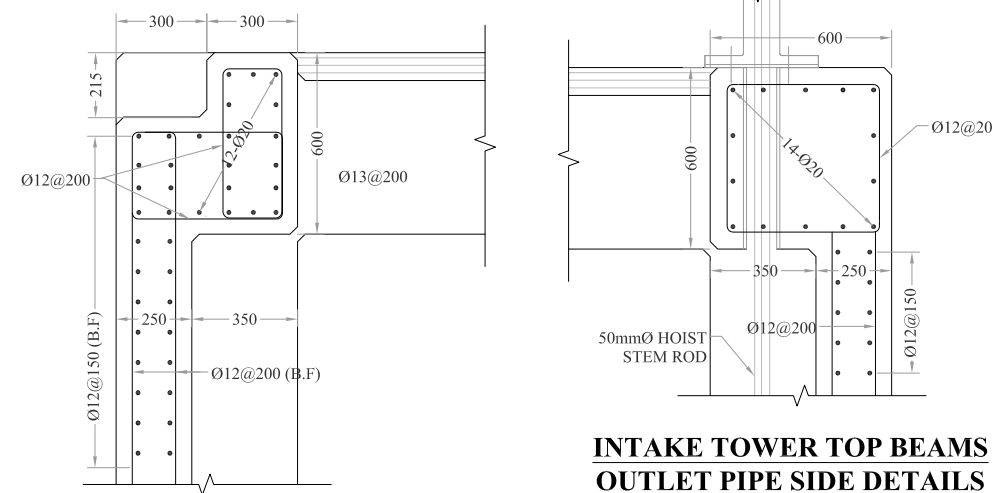


DETAIL-7
SCALE: 1:25

DETAIL-6
SCALE: 1:25



SECTION (PLAN) K-K
SCALE: 1:25



INTAKE TOWER TOP BEAMS ACCESS BRIDGE SIDE DETAILS
SCALE: 1:25

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
2. B.F = BOTH FACES.
3. T & B = TOP & BOTTOM FACE.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCAD CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

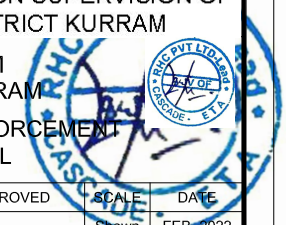
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

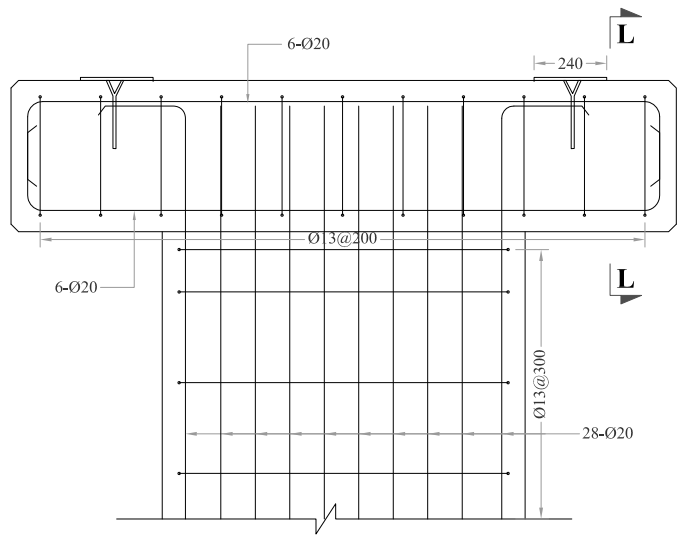
TITLE:

INTAKE TOWER REINFORCEMENT STEEL DETAIL

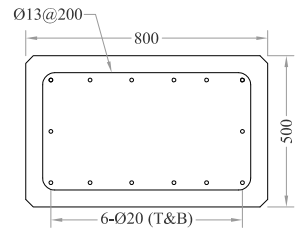
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:-	BAD-BD-IT-05	SHEET:-		SUB SH.-	----



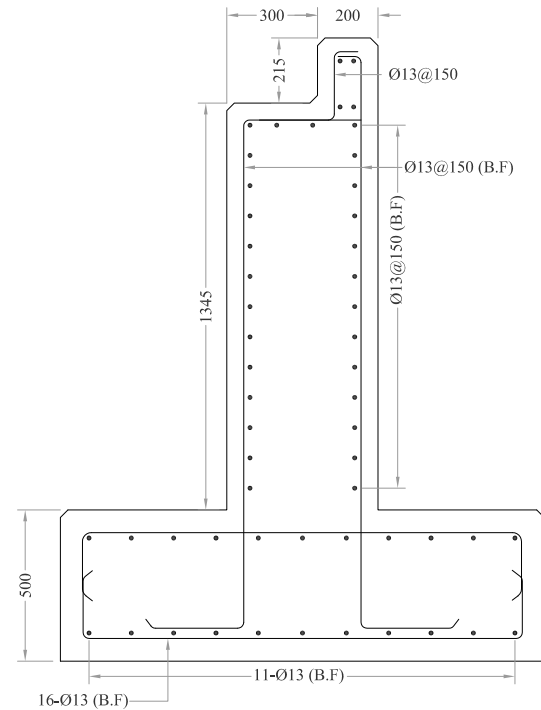
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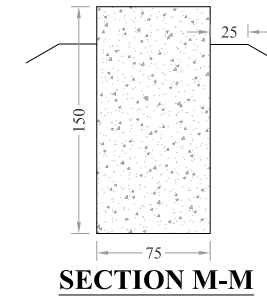
CENTRAL PIER CROSS HEAD BEAM REINFORCEMENT DETAILS
SCALE: 1:25



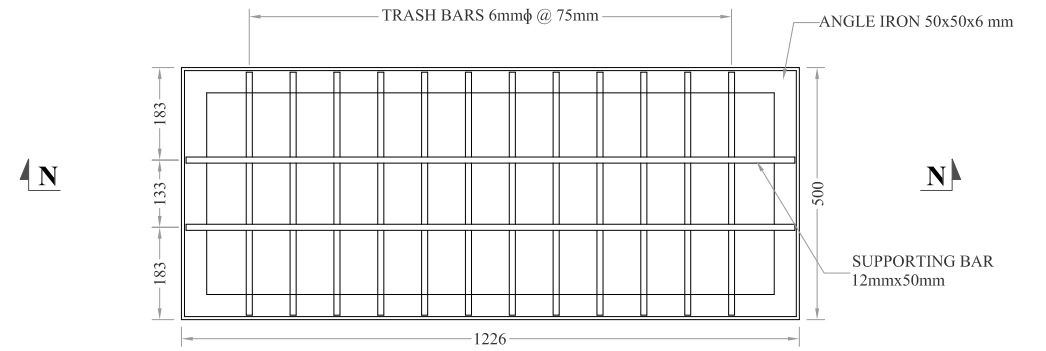
SECTION L-L
SCALE: 1:25



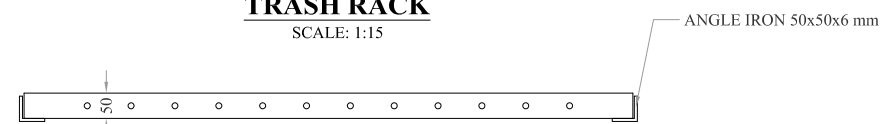
ABUTMENT REINFORCEMENT DETAILS
SCALE: 1:25



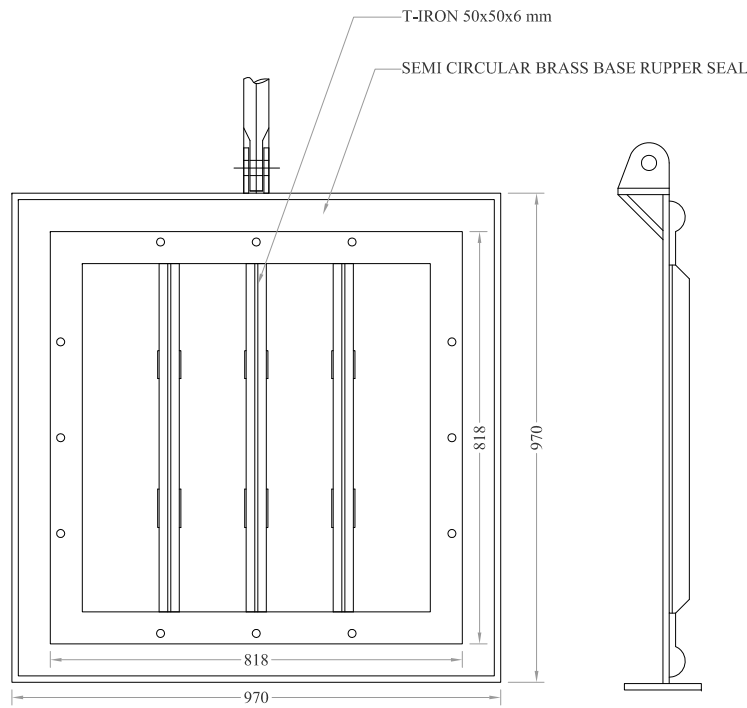
SECTION M-M



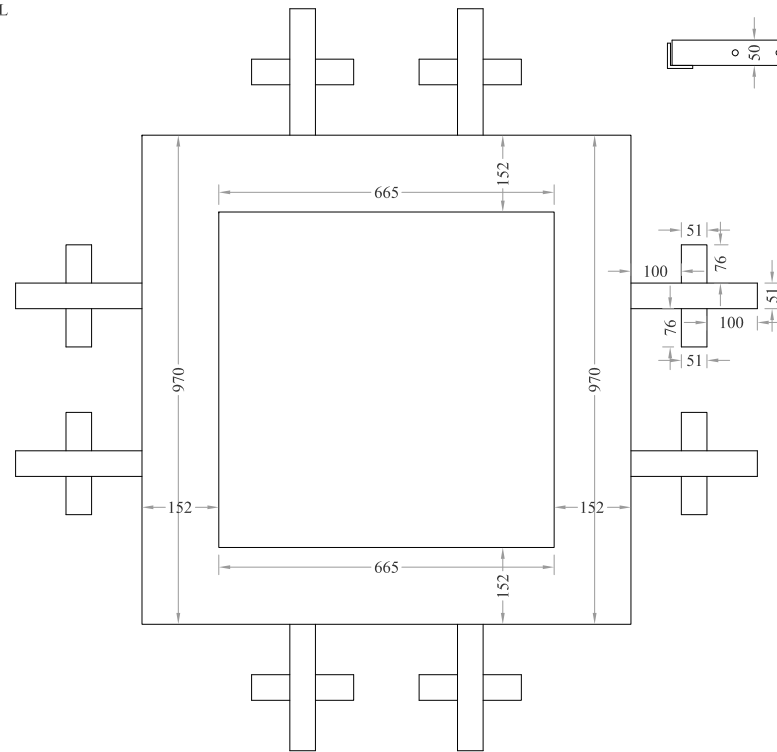
TRASH RACK
SCALE: 1:15



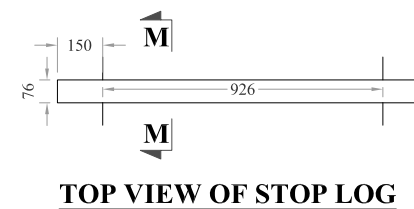
SECTION N-N
SCALE: 1:15



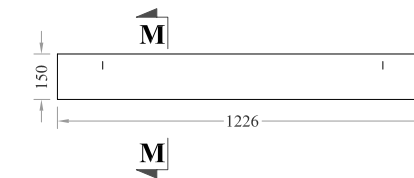
PIPE OUTLET GATE DETAIL
SCALE: 1:15



SEAT FOR MAIN GATE INTAKE
SCALE: 1:15



TOP VIEW OF STOP LOG



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
2. B.F = BOTH FACES.
3. T & B = TOP & BOTTOM FACE.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

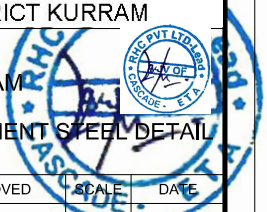
CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

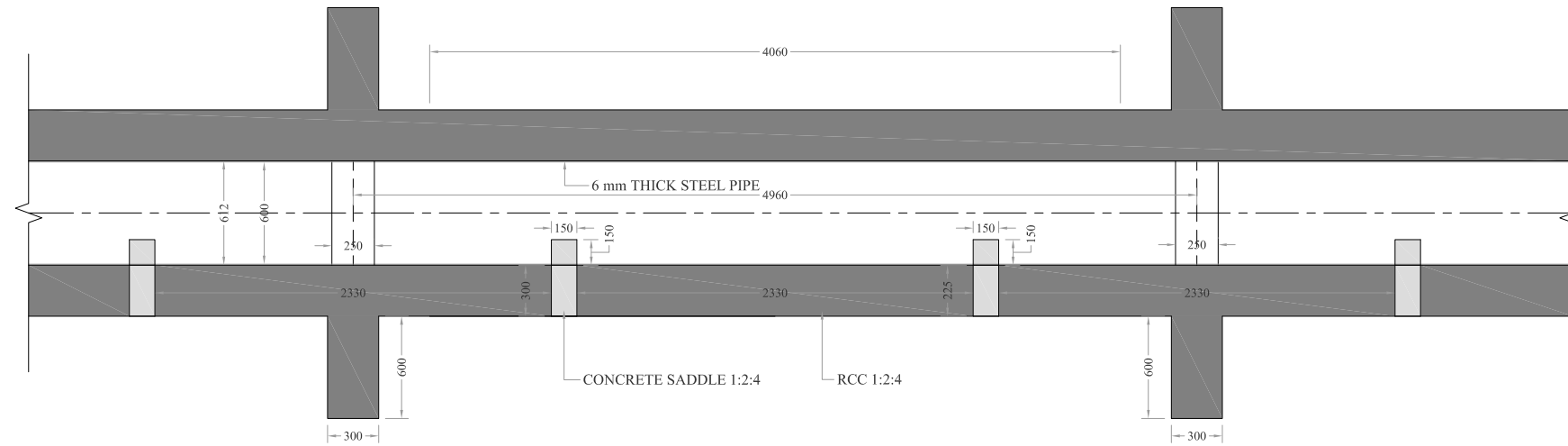
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM
TITLE: INTAKE TOWER REINFORCEMENT STEEL DETAIL

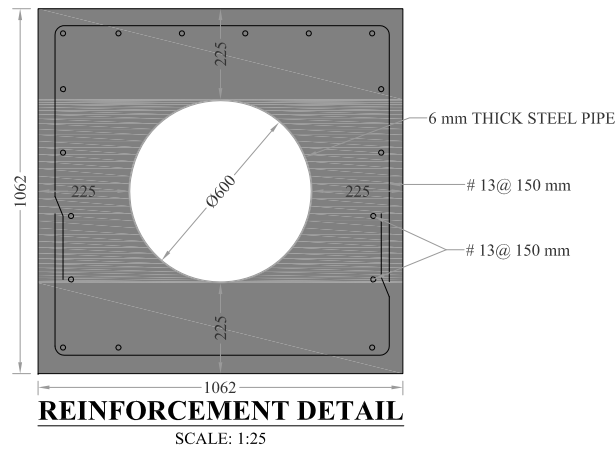
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				Shown	FEB, 2022
DRG.No:- BAD-BD-IT-06			SHEET:-	SUB SH.- ----	



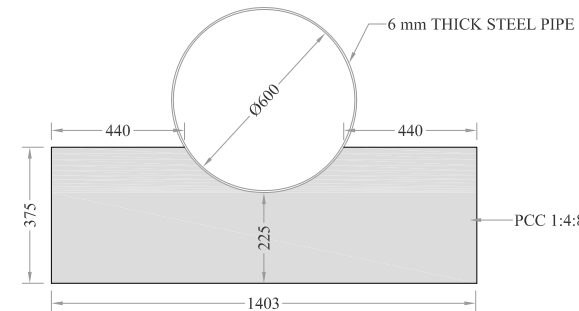
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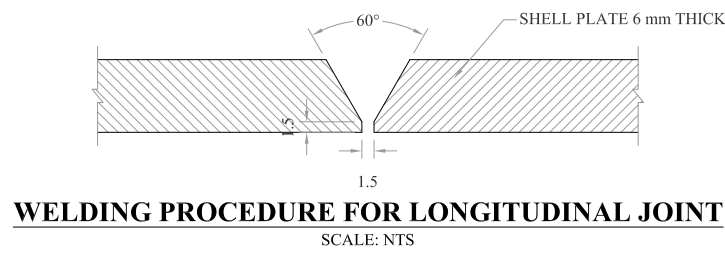
LONG SECTION OF DELIVERY PIPE
SCALE: 1:40



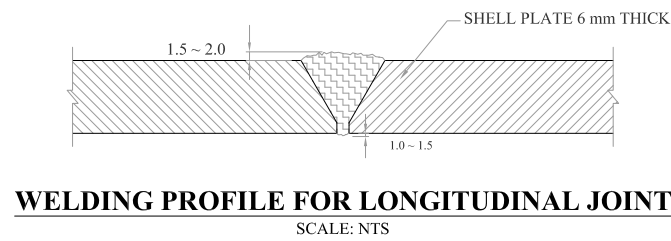
REINFORCEMENT DETAIL
SCALE: 1:25



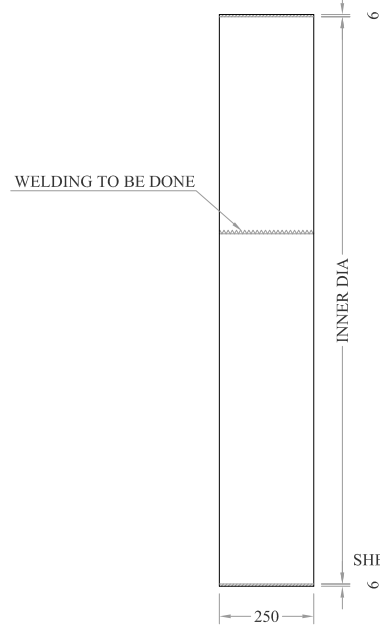
CONCRETE SADDLE
SCALE: 1:25



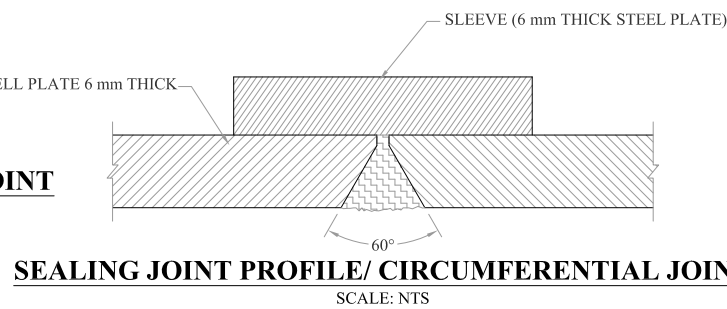
WELDING PROCEDURE FOR LONGITUDINAL JOINT
SCALE: NTS



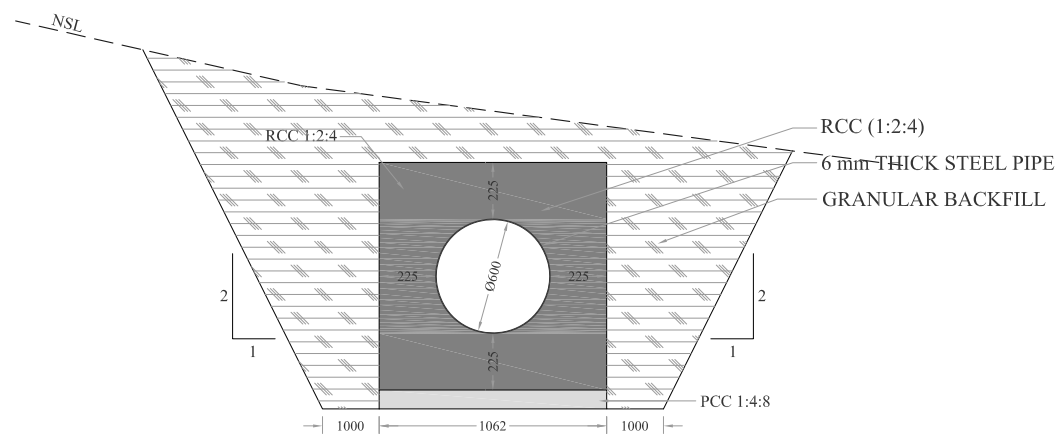
WELDING PROFILE FOR LONGITUDINAL JOINT
SCALE: NTS



SLEEVE FOR PIPE JOINT
SCALE: NTS



SEALING JOINT PROFILE/ CIRCUMFERENTIAL JOINT
SCALE: NTS



TYPICAL X-SECTION OF DELIVERY PIPE
SCALE: NTS

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

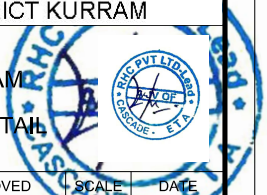
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCAD CASCADE GROUP OF ENGINEERING & CONSULTANTS
EITA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

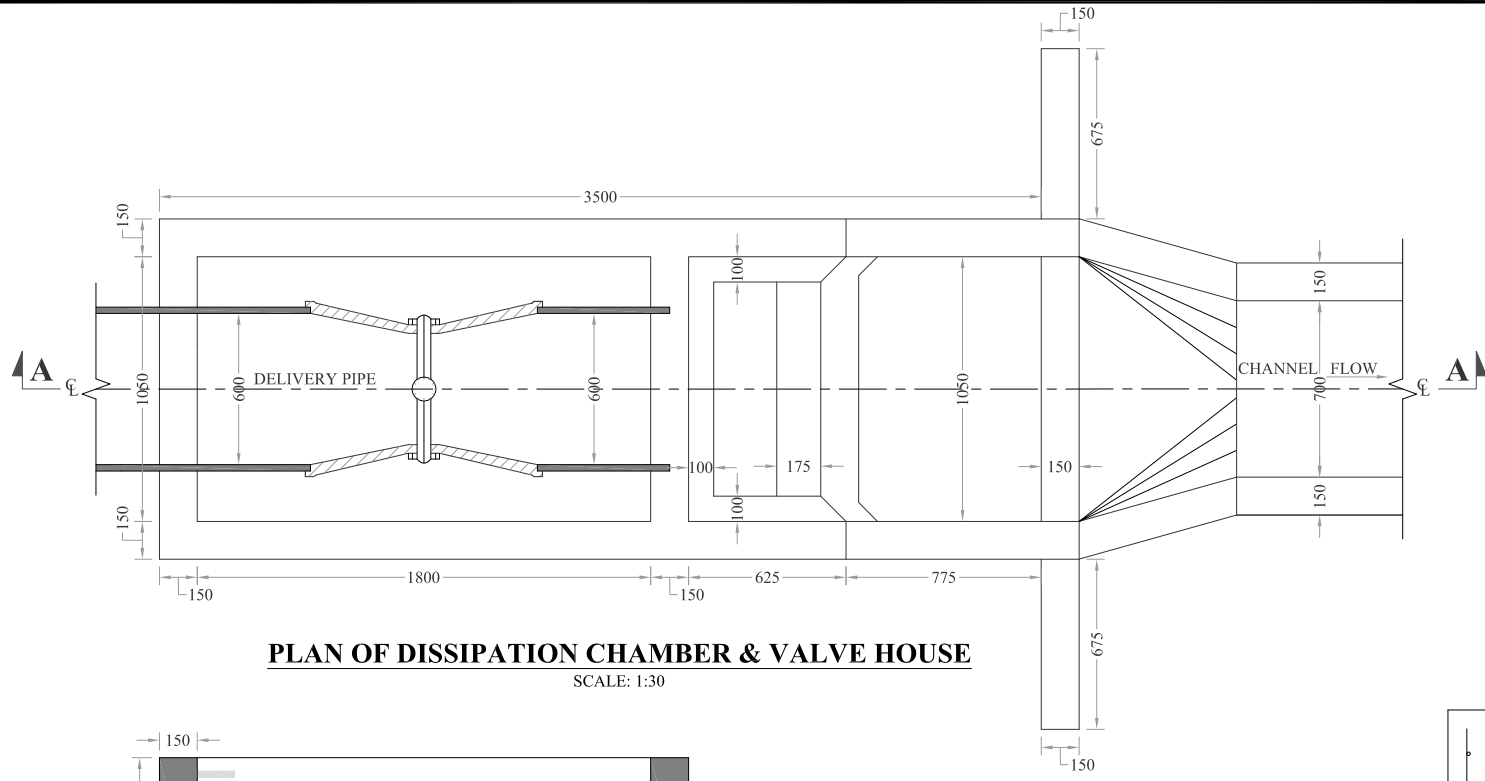
TITLE:
BAZ ALI DAM DISTRICT KURRAM
DELIVERY PIPE DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				SHOWIT	FEB. 2022

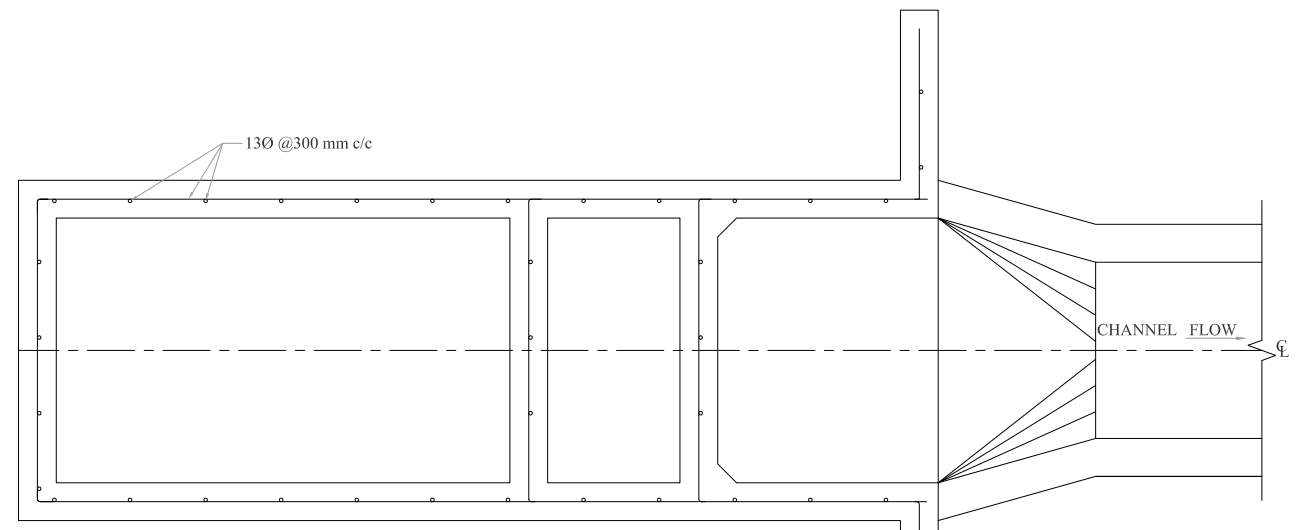
DRG.No:- BAD-BD-IT-05 SHEET:- SUB SH.- ----



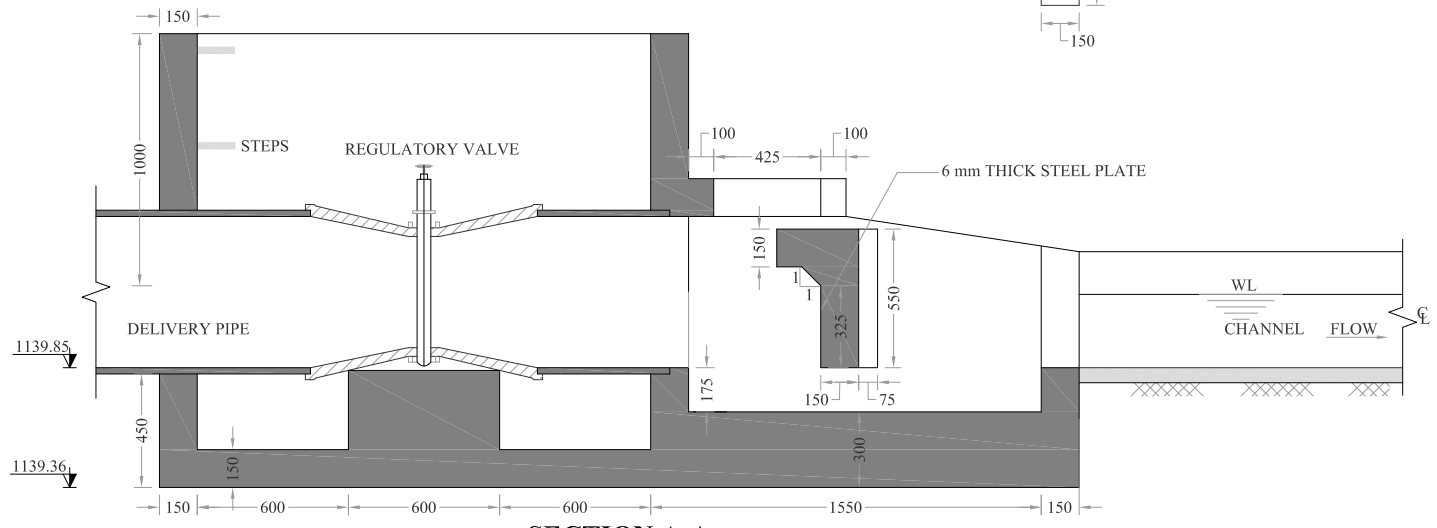
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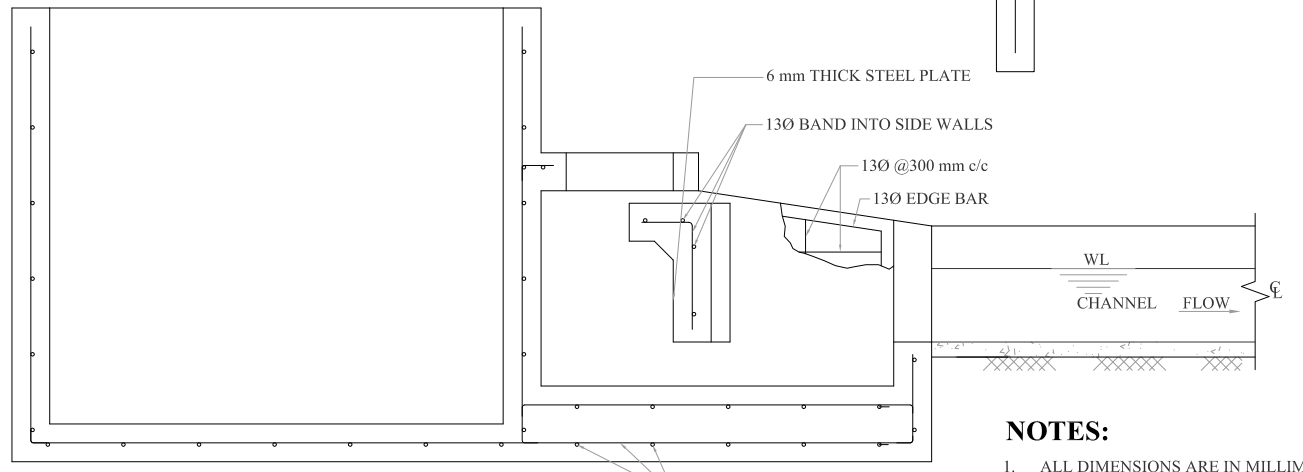
PLAN OF DISSIPATION CHAMBER & VALVE HOUSE
SCALE: 1:30



REINFORCEMENT PLAN
SCALE: 1:30

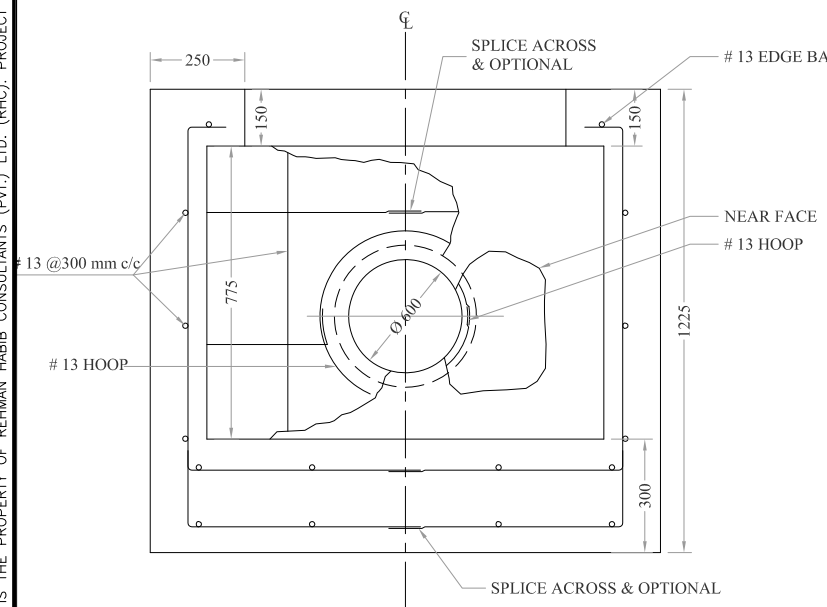


SECTION A-A
SCALE: 1:30

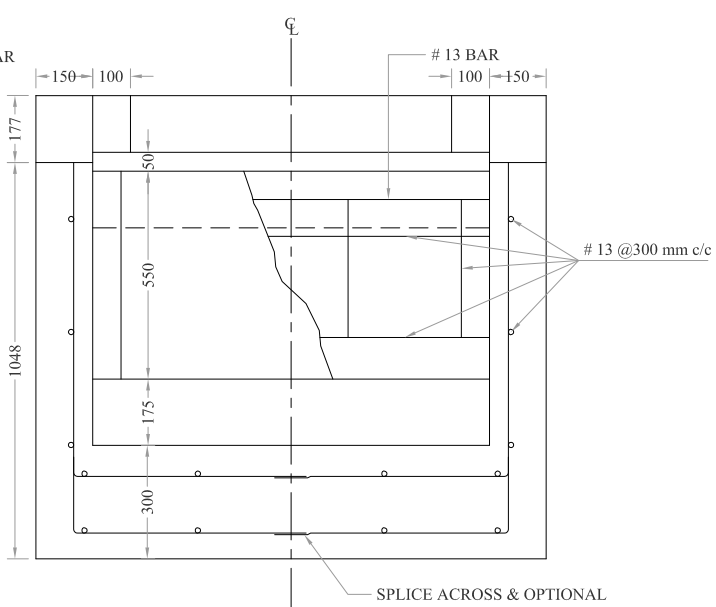


REINFORCEMENT LONG SECTION
SCALE: 1:30

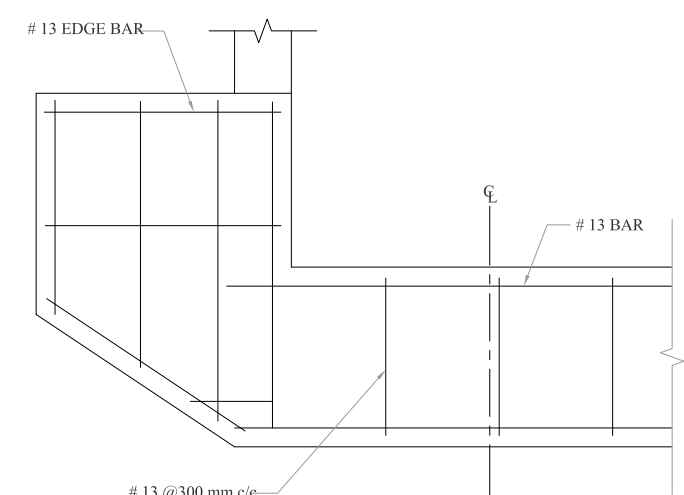
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.



SECTION B-B
SCALE: 1:20



SECTION C-C
SCALE: 1:20



SECTION D-D
SCALE: 1:20

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA ENGINEERING & TECHNICAL ASSOCIATES

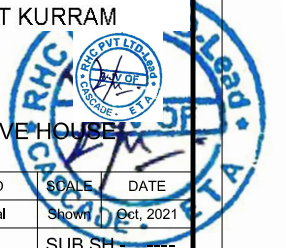
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM

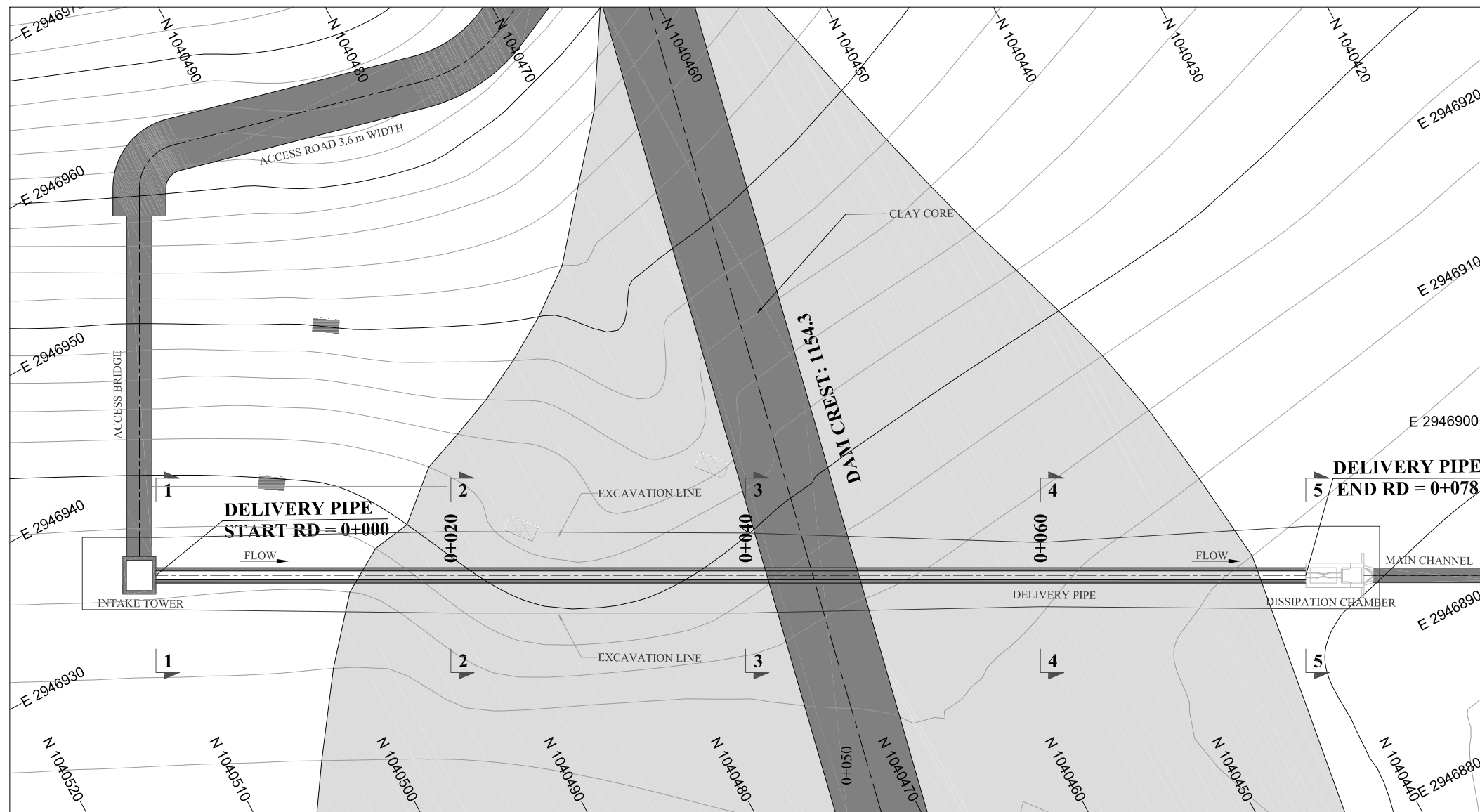
TITLE: DISSIPATION CHAMBER & VALVE HOUSE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
Usman Y.	Usman R.	Zeeshan S.	Zafar Iqbal	Shown	Oct, 2021

DRG.No:- BAD-BD-IT-06 SHEET:- SUB SH.:-



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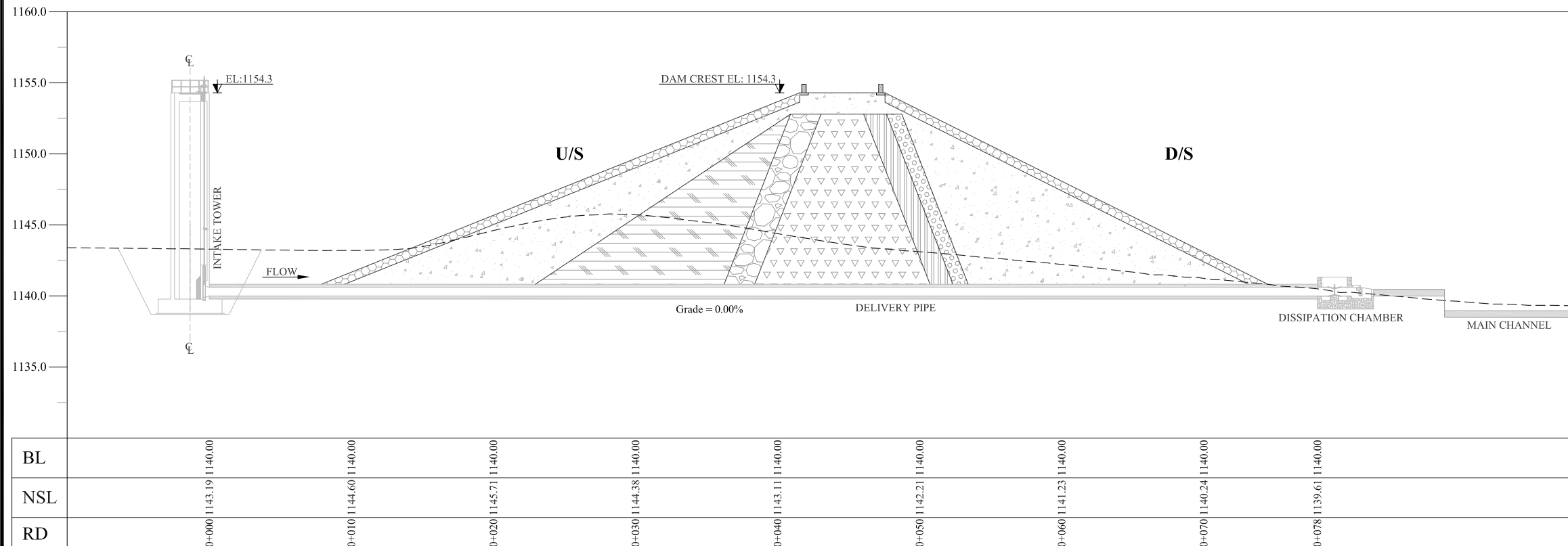


NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK



REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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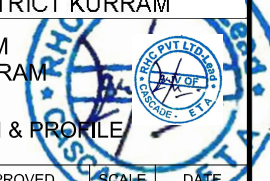
CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCAD CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

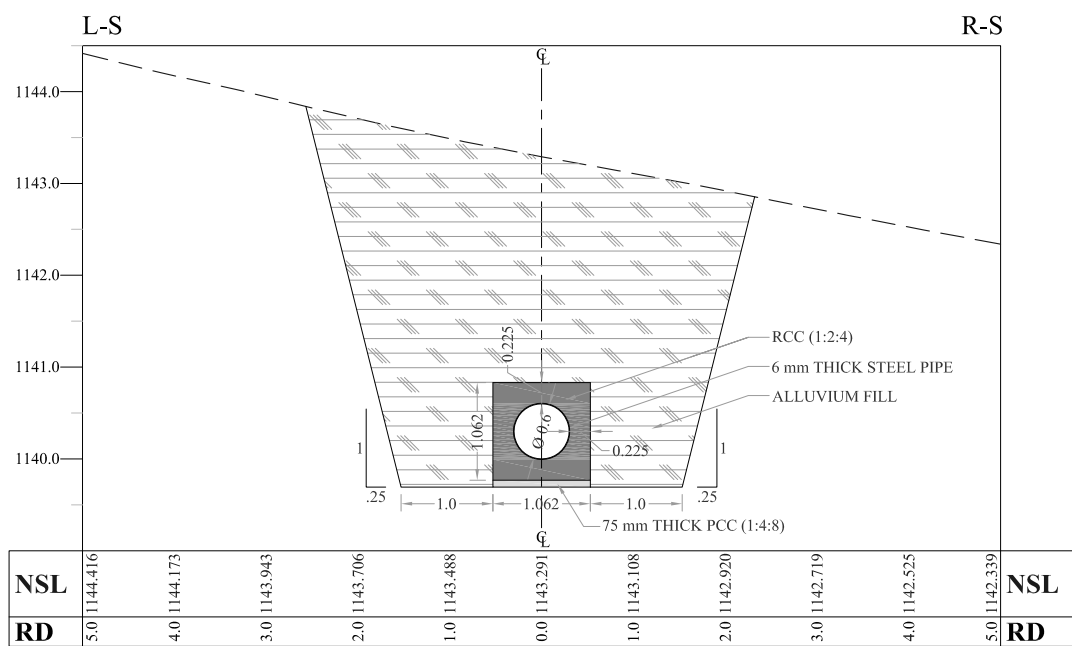
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM
TITLE: DELIVERY PIPE PLAN & PROFILE

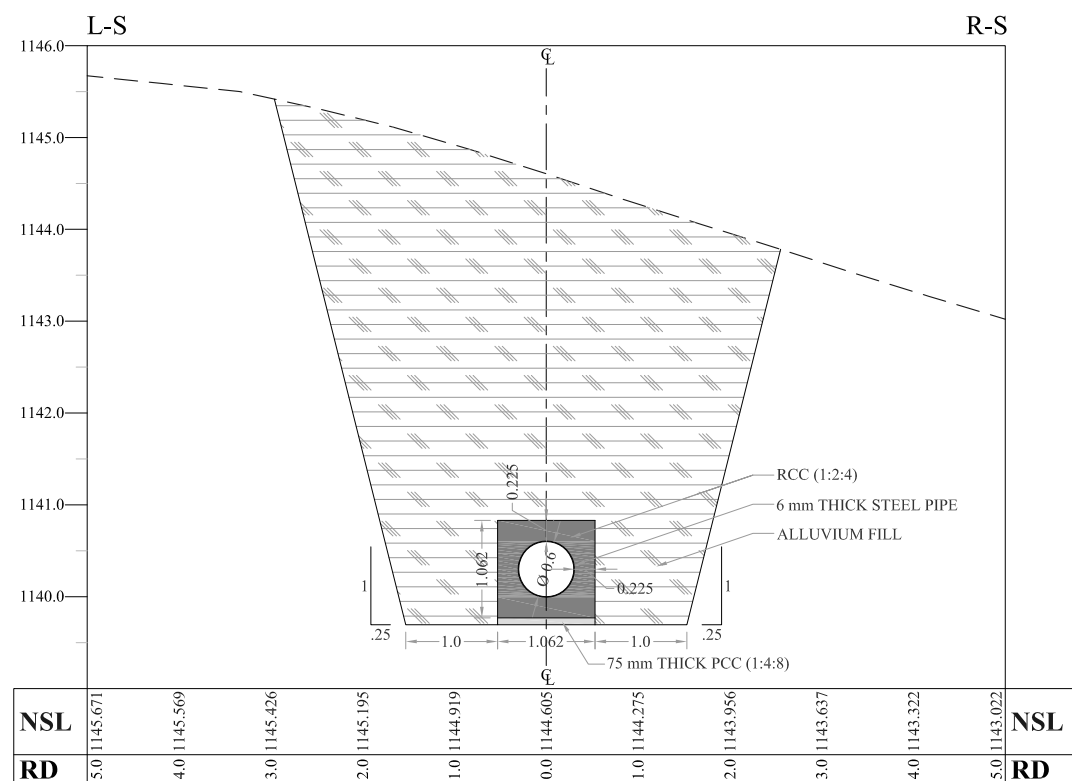
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
DRG.No:- BAD-BD-IT-09			SHEET:-		SUB SH:- ----



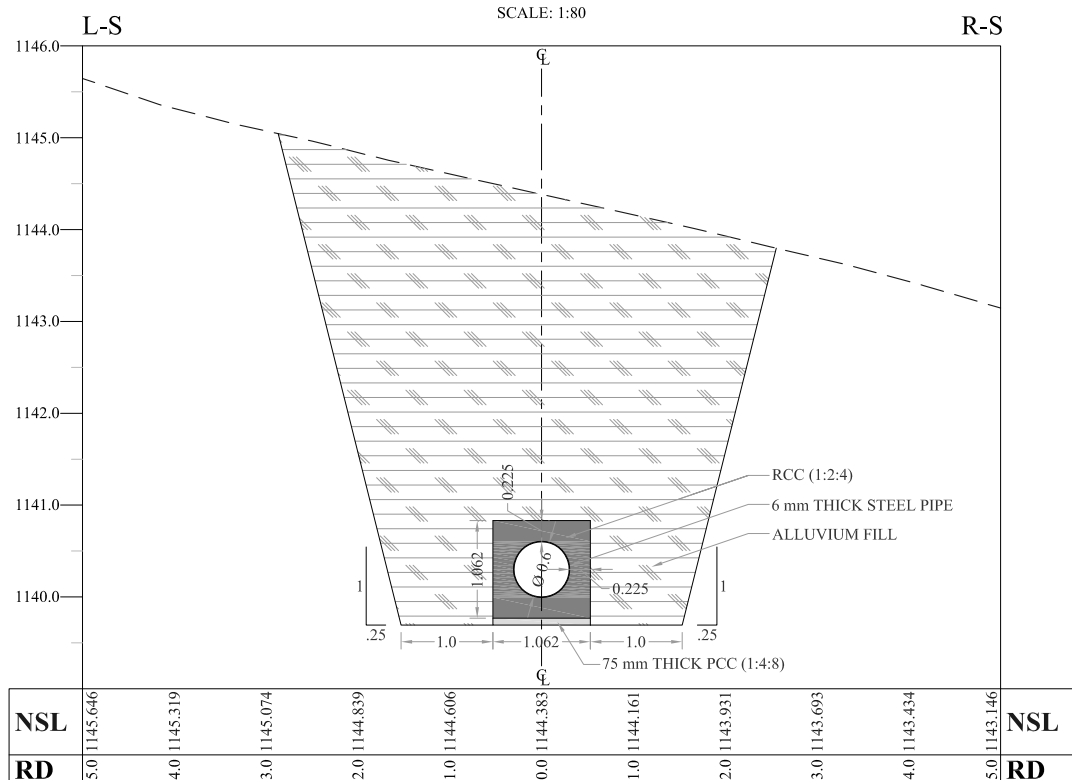
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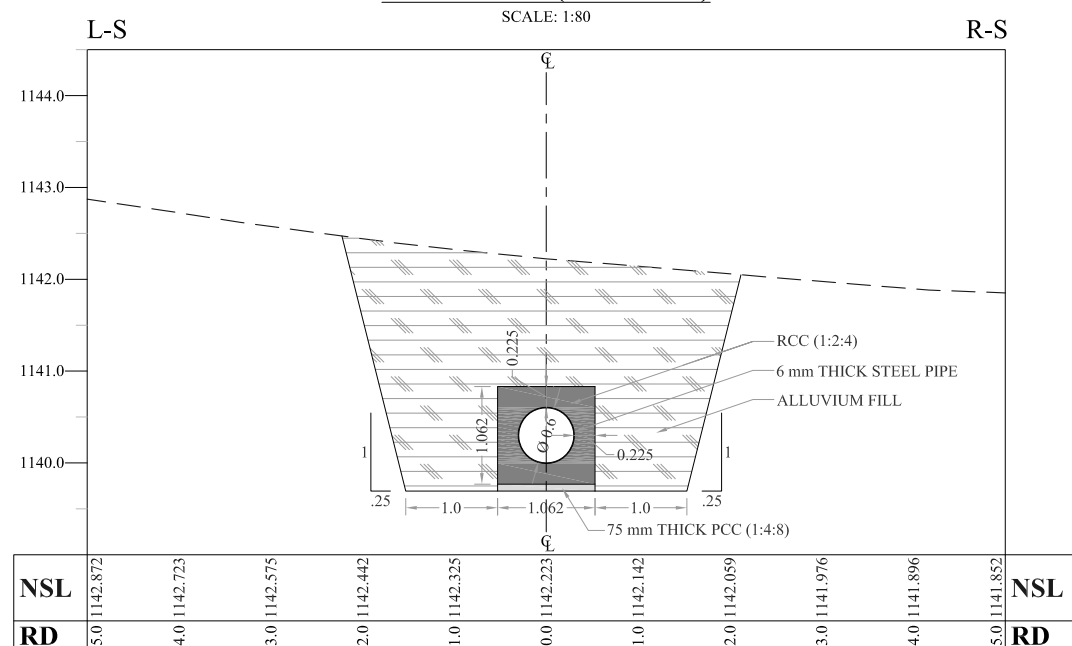
SECTION 1-1 (RD = 0+000)
SCALE: 1:80



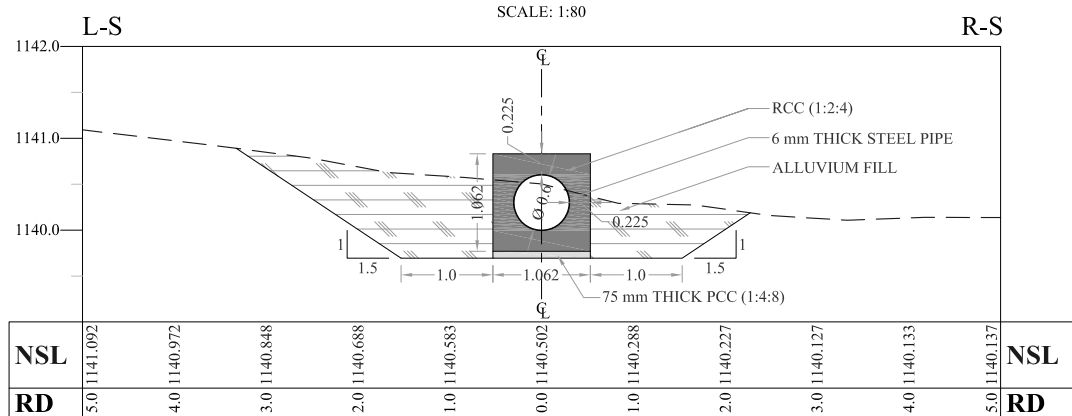
SECTION 2-2 (RD = 0+020)
SCALE: 1:80



SECTION 3-3 (RD = 0+040)
SCALE: 1:80



SECTION 4-4 (RD = 0+060)
SCALE: 1:80



SECTION 5-5 (RD = 0+078)

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE BACK FILL MATERIAL SHALL BE ALLUVIUM & COMPACTED TO 116 lbs/ ft³ & THE EXCAVATED MATERIAL OBTAINED FROM DELIVERY PIPE HAS TO BE USED IN DAM BODY.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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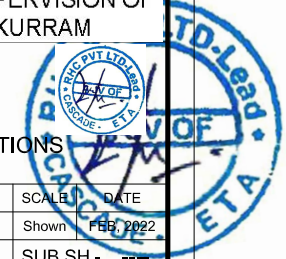
CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

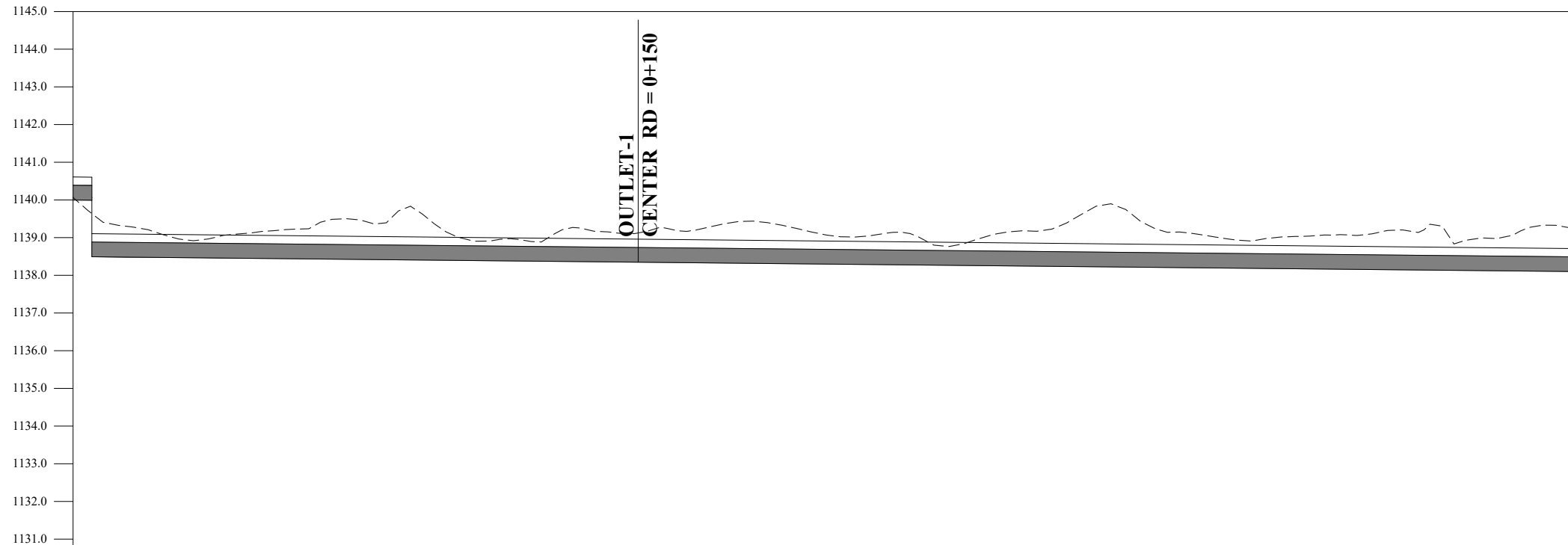
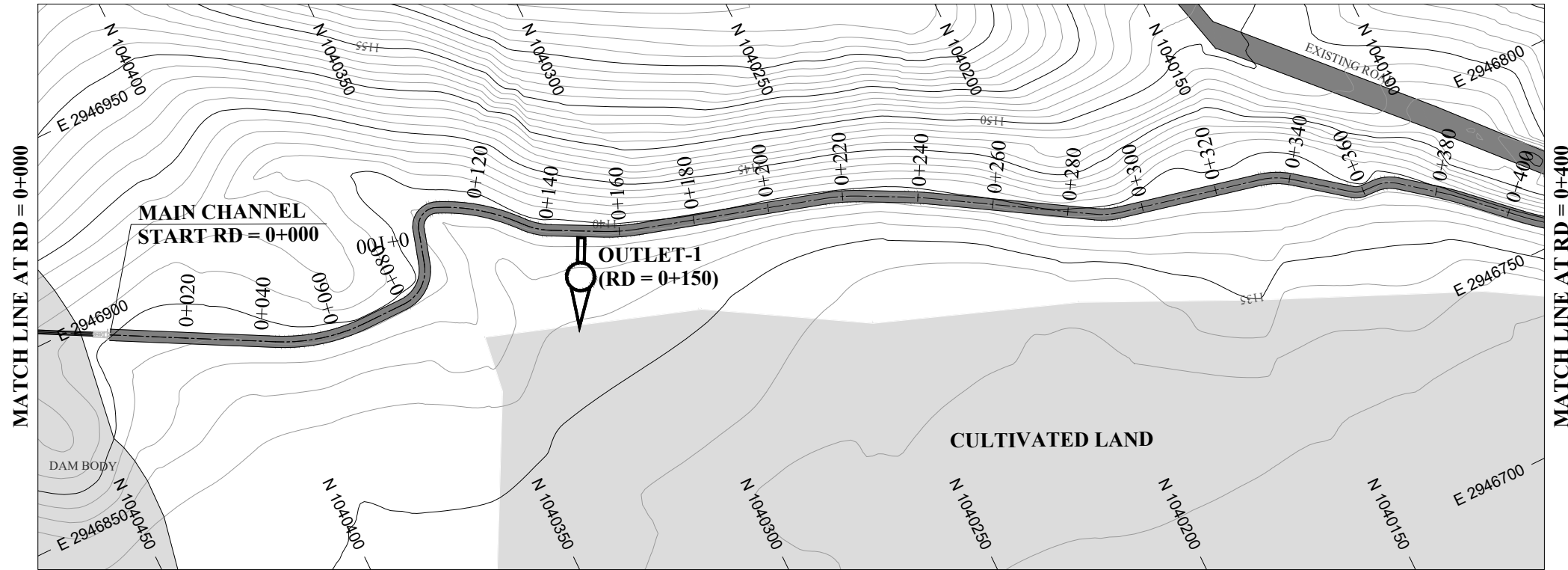
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM
TITLE: DELIVERY PIPE DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Feb, 2022
DRG.No:- BAD-BD-IT-10			SHEET:-	SUB SH.-	



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DATUM EL

Design parameters → $n = 0.015 / Q = 0.162 \text{ cumecs} / V = 0.70 \text{ m/s} / WL = 0.45 / FB = 0.16 / W = 0.92 \text{ m} / D = 0.61 \text{ m} / S = 0.001$ →

	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400
BL	1140.000	1138.480	1138.460	1138.440	1138.420	1138.400	1138.380	1138.360	1138.340	1138.320	1138.300	1138.280	1138.260	1138.240	1138.220	1138.200	1138.180	1138.160	1138.140	1138.120	1138.100
NSL	1140.067	1139.210	1139.063	1139.229	1139.362	1139.108	1138.925	1139.163	1139.193	1139.438	1139.070	1139.142	1138.960	1139.238	1139.697	1139.069	1139.012	1139.063	1139.349	1139.022	1139.254
RD	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

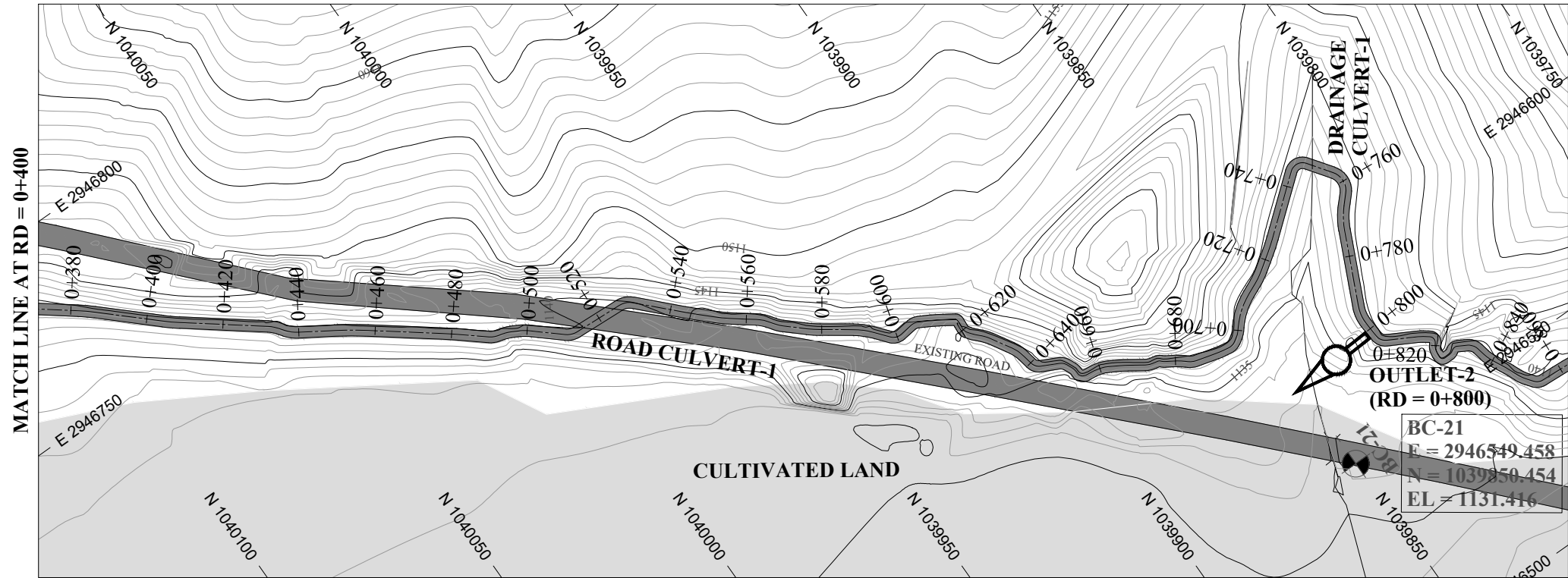
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:- 1 OF 31 SUB SH.- ----

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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	—
NATURAL SURFACE LEVEL	- - - -
EXISTING ROAD	▬▬▬▬
KACHA TRACK	▬▬▬▬
NULLAH	▬▬▬▬
MINOR NULLAH	▬▬▬▬
BUILDING + ROOM	▬▬▬▬
GRAVE YARD	▬▬▬▬
VILLAGE	▬▬▬▬
CULTIVATED AREA	▬▬▬▬
INDEX CONTOUR	1155
INTERMEDIATE CONTOUR	1154
EXISTING CULVERT	▬▬▬▬
ELECTRIC POLE	EP
MOUNTAIN	▬▬▬▬
BENCH MARK	BM

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

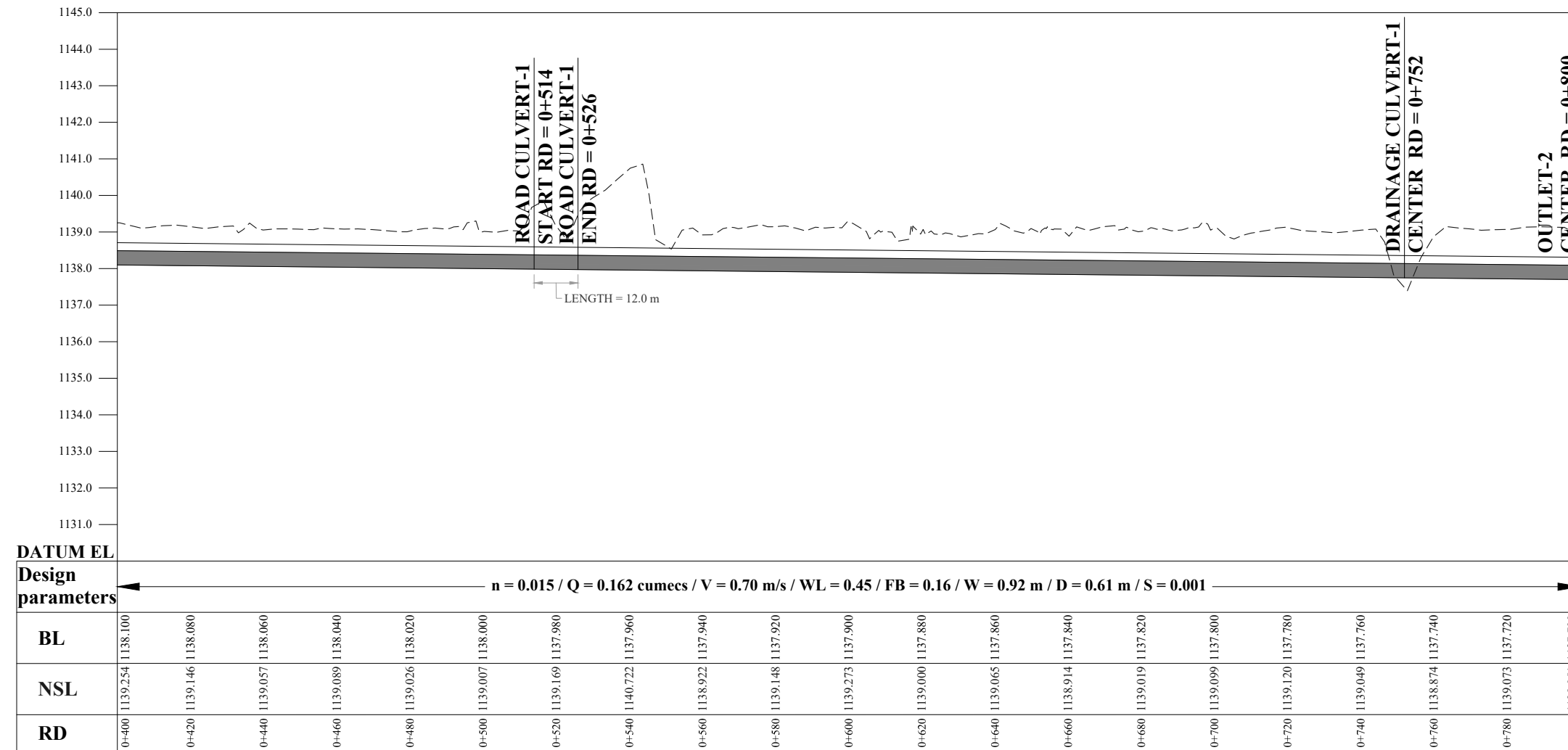
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

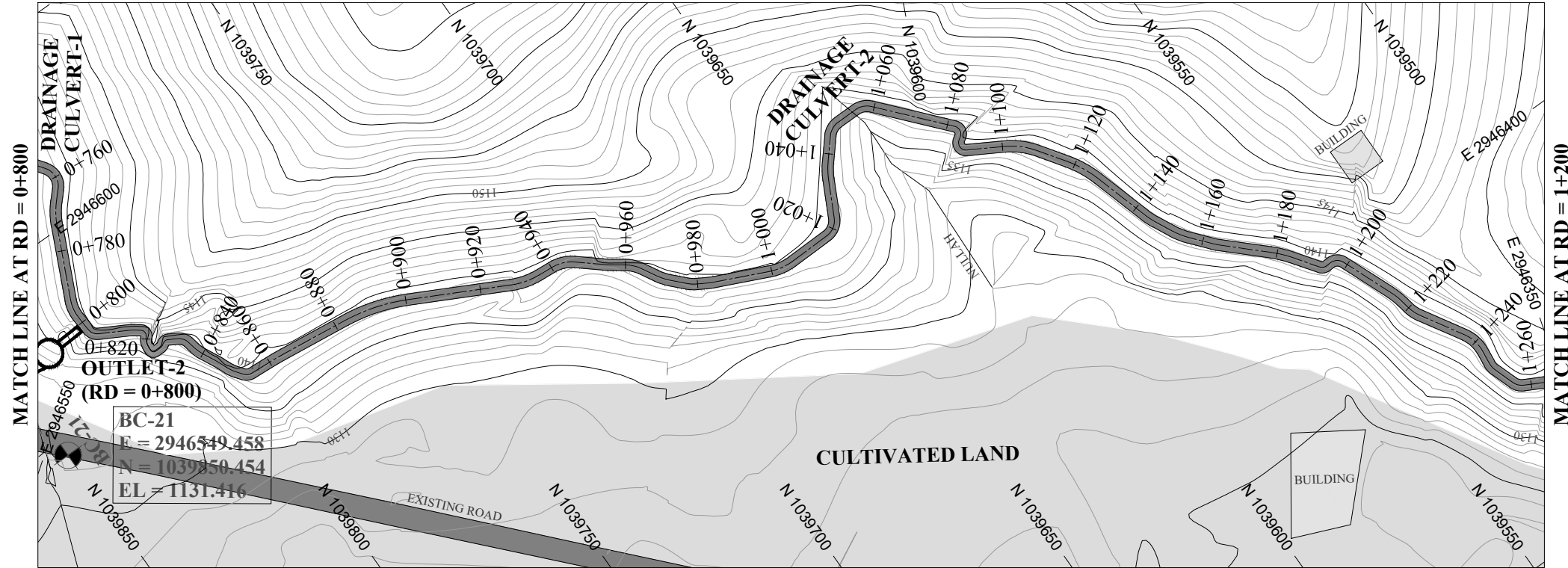
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DRG.No:- BAD-BD-IR-01 SHEET:- 2 OF 31 SUB SH.- ----



Design parameters	n = 0.015 / Q = 0.162 cumecs / V = 0.70 m/s / WL = 0.45 / FB = 0.16 / W = 0.92 m / D = 0.61 m / S = 0.001																					
BL	1139.254	1139.146	1139.057	1138.080	1138.040	1138.020	1138.000	1137.980	1137.960	1137.940	1137.920	1137.900	1137.880	1137.860	1137.840	1137.820	1137.800	1137.780	1137.760	1137.740	1137.720	1137.700
NSL	1139.254	1139.146	1139.057	1138.080	1138.040	1138.020	1138.000	1137.980	1137.960	1137.940	1137.920	1137.900	1137.880	1137.860	1137.840	1137.820	1137.800	1137.780	1137.760	1137.740	1137.720	1137.700
RD	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	

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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	—
NATURAL SURFACE LEVEL	- - - -
EXISTING ROAD	▬▬▬▬
KACHA TRACK	▬▬▬▬
NULLAH	▬▬▬▬
MINOR NULLAH	▬▬▬▬
BUILDING + ROOM	▭
GRAVE YARD	▭
VILLAGE	▭
CULTIVATED AREA	▭
INDEX CONTOUR	1155
INTERMEDIATE CONTOUR	1154
EXISTING CULVERT	▭
ELECTRIC POLE	⊙
MOUNTAIN	⊙
BENCH MARK	⊙

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

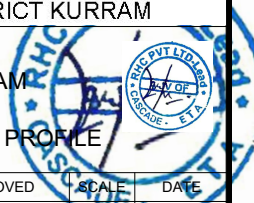
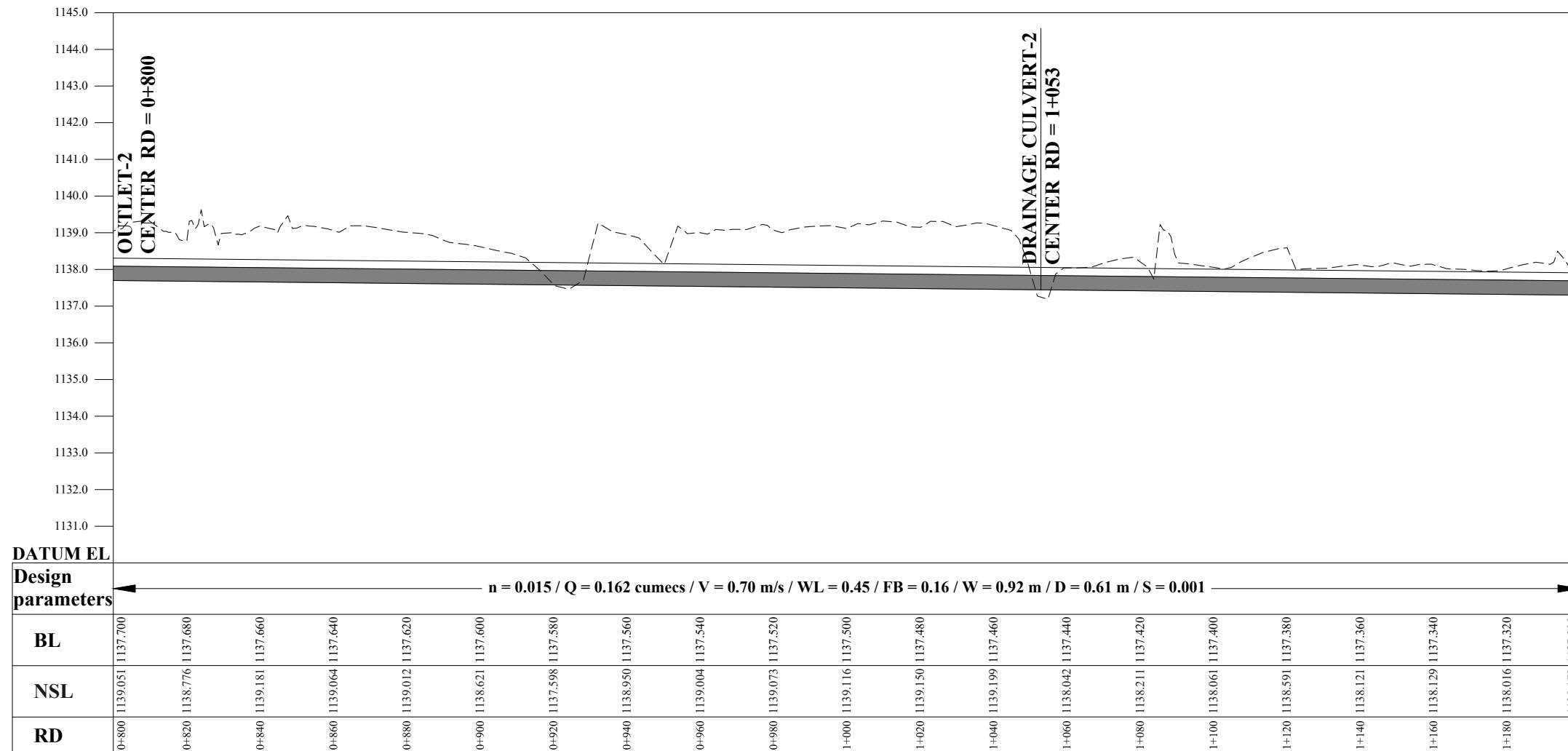
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

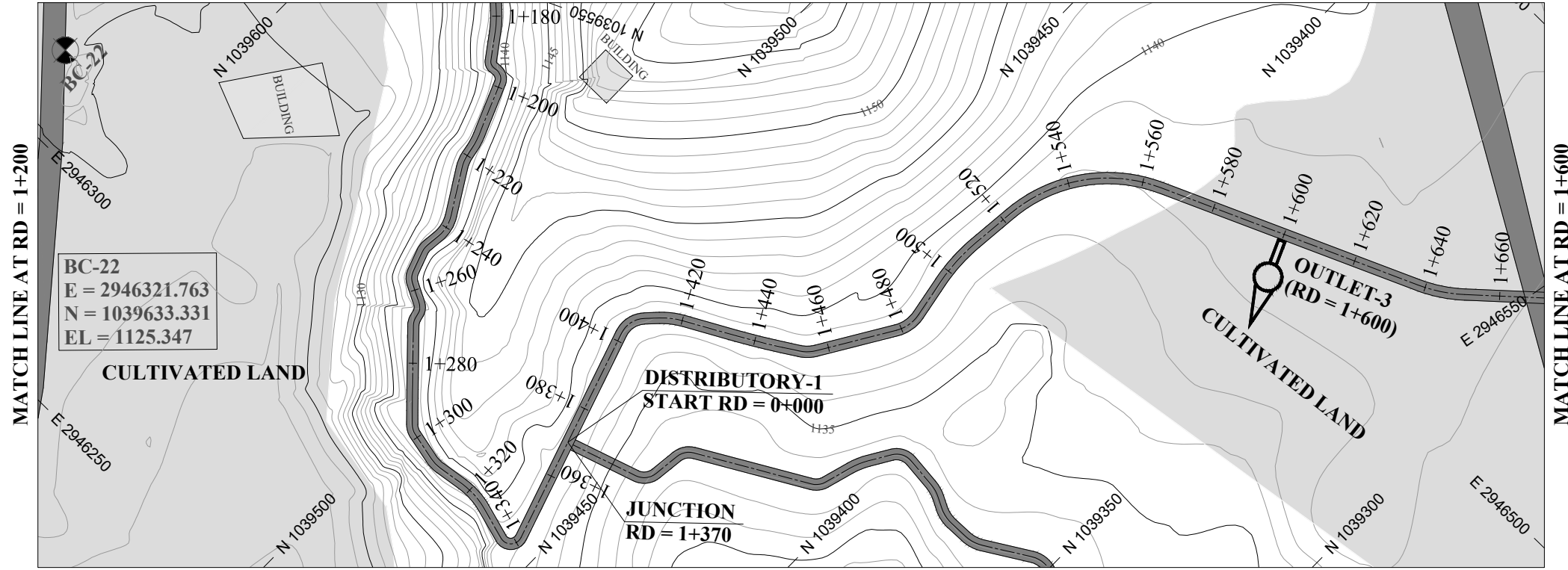
BAZ ALI DAM
DISTRICT KURRAM
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:- 3 OF 31 SUB SH.- ----



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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

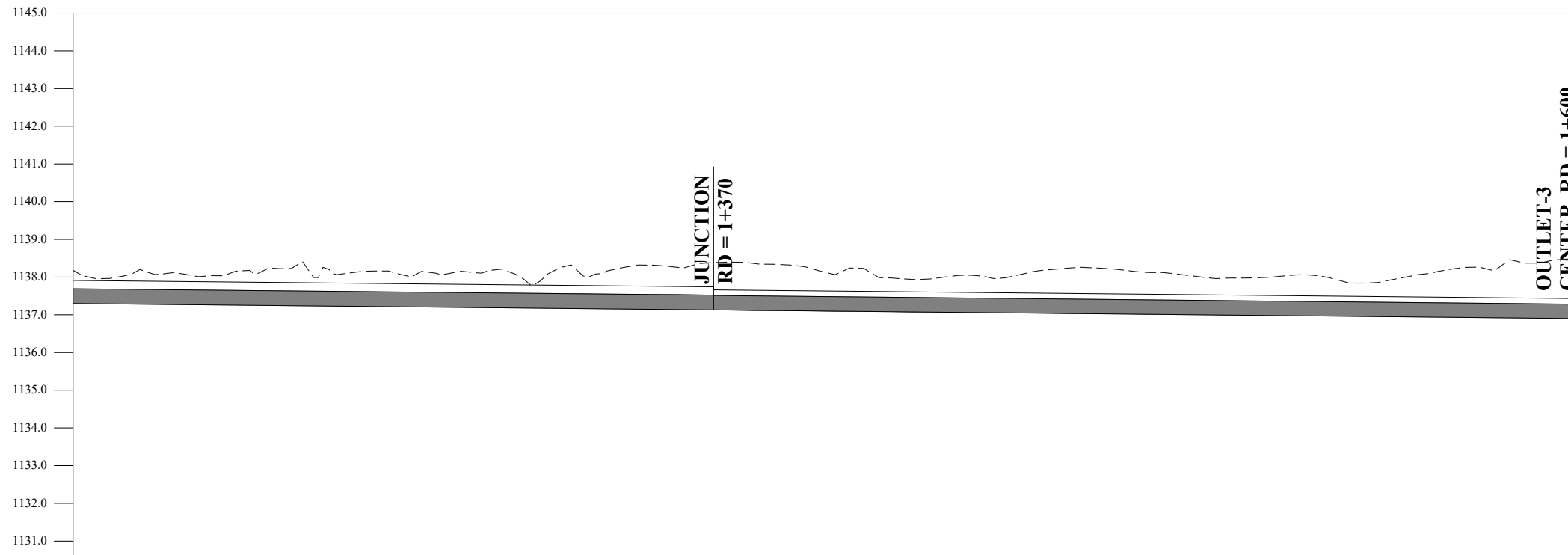
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

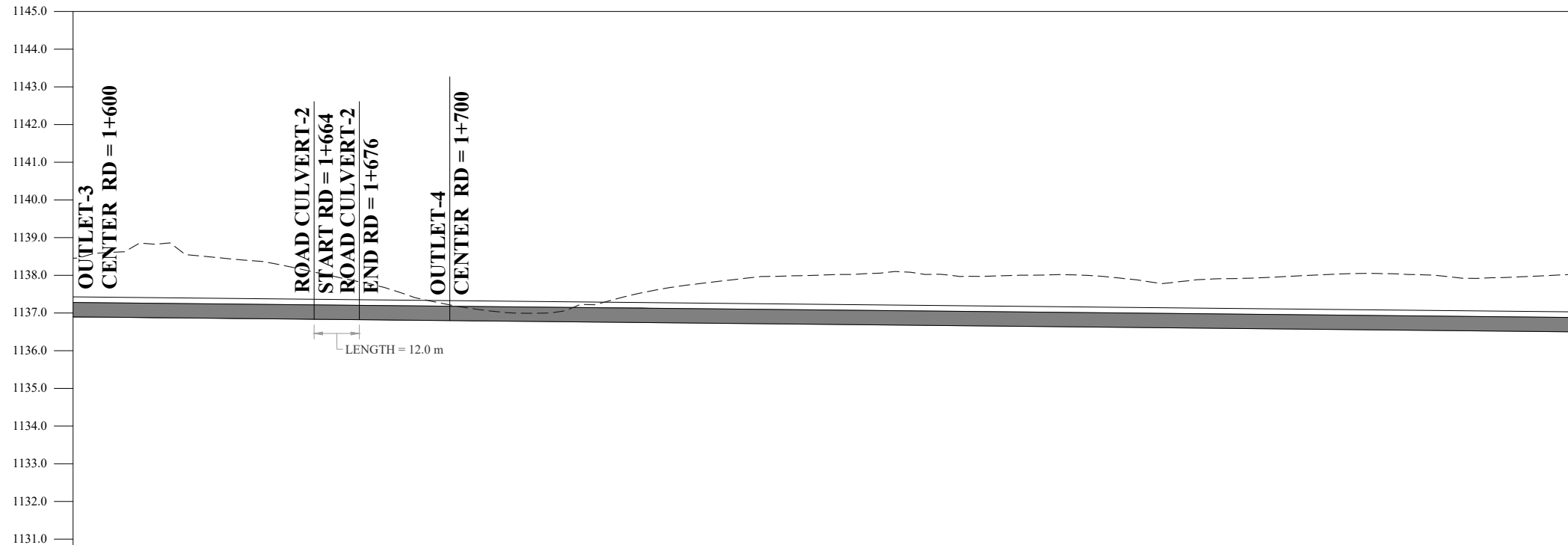
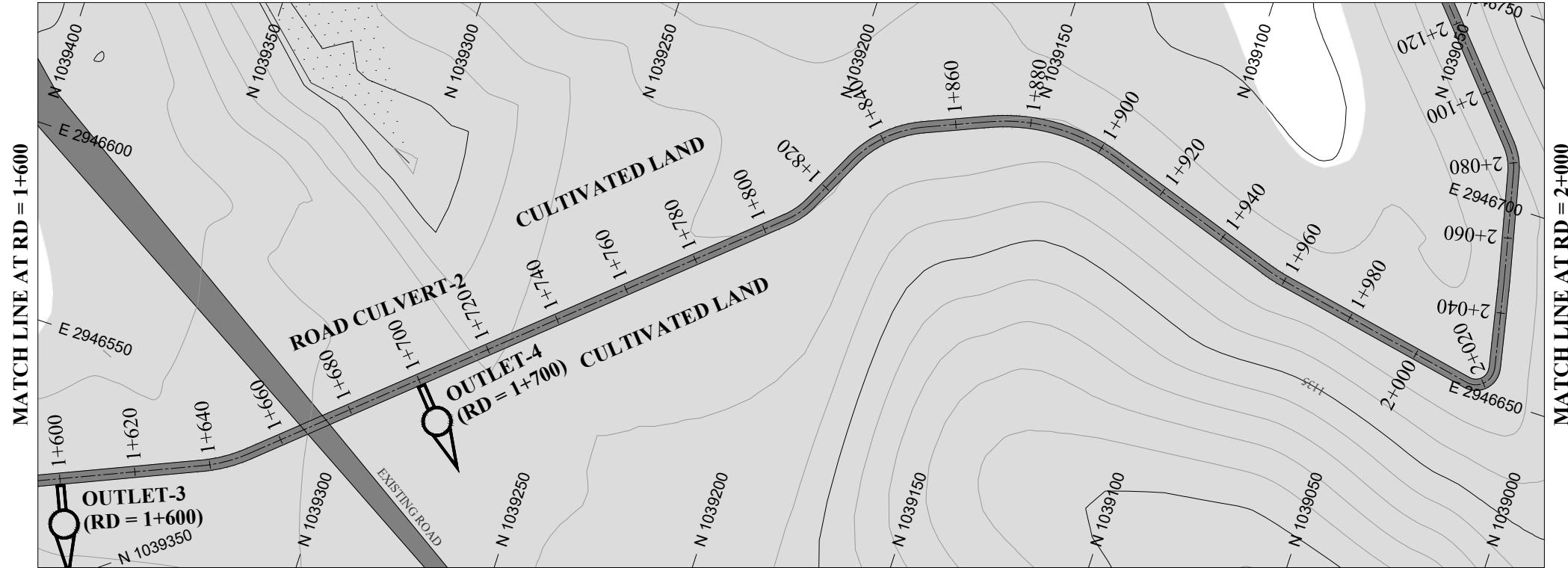
DRG.No:- BAD-BD-IR-01 SHEET:- 4 OF 31 SUB SH.- ----



DATUM EL	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	
BL	1137.300	1137.280	1137.260	1137.240	1137.220	1137.200	1137.180	1137.160	1137.140	1137.120	1137.100	1137.080	1137.060	1137.040	1137.020	1137.000	1136.980	1136.960	1136.940	1136.920	1136.900	
NSL	1138.179	1138.123	1138.038	1138.357	1138.162	1138.101	1137.913	1138.089	1138.263	1138.370	1138.117	1137.953	1138.035	1138.204	1138.171	1137.993	1138.016	1137.842	1138.100	1138.374	1138.920	1138.454
RD	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	

Design parameters: $n = 0.015 / Q = 0.162 \text{ cumecs} / V = 0.70 \text{ m/s} / WL = 0.45$ $FB = 0.16 / W = 0.92 \text{ m} / D = 0.61 \text{ m} / S = 0.001$ $n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / WL = 0.43 / FB = 0.10 / W = 0.76 \text{ m} / D = 0.53 \text{ m} / S = 0.001$

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DATUM EL		Design parameters $n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / WL = 0.43 / FB = 0.10 / W = 0.76 \text{ m} / D = 0.53 \text{ m} / S = 0.001$																				
BL	1136.900	1136.880	1136.860	1136.840	1136.820	1136.800	1136.780	1136.760	1136.740	1136.720	1136.700	1136.680	1136.660	1136.640	1136.620	1136.600	1136.580	1136.560	1136.540	1136.520	1136.500	
NSL	1138.454	1138.838	1138.453	1138.174	1137.743	1137.216	1136.993	1137.259	1137.698	1137.938	1138.011	1138.092	1137.972	1138.013	1137.902	1137.890	1137.958	1138.047	1138.009	1137.942	1138.034	1138.034
RD	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+960	1+980	2+000	

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

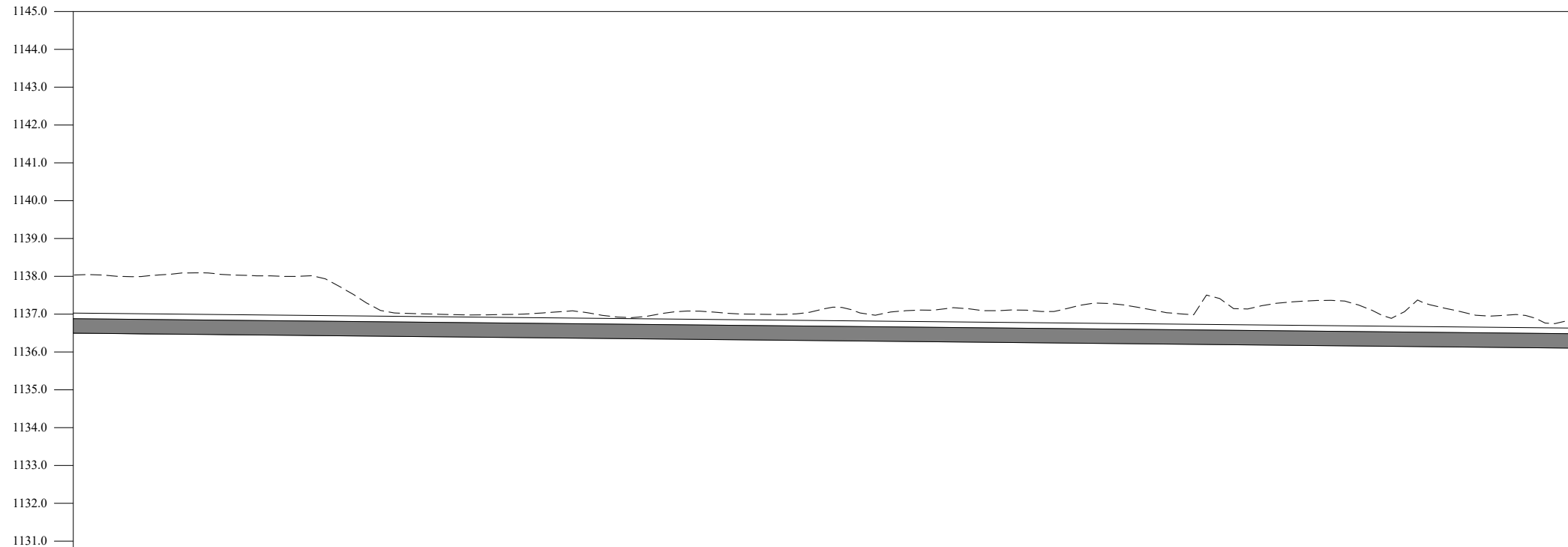
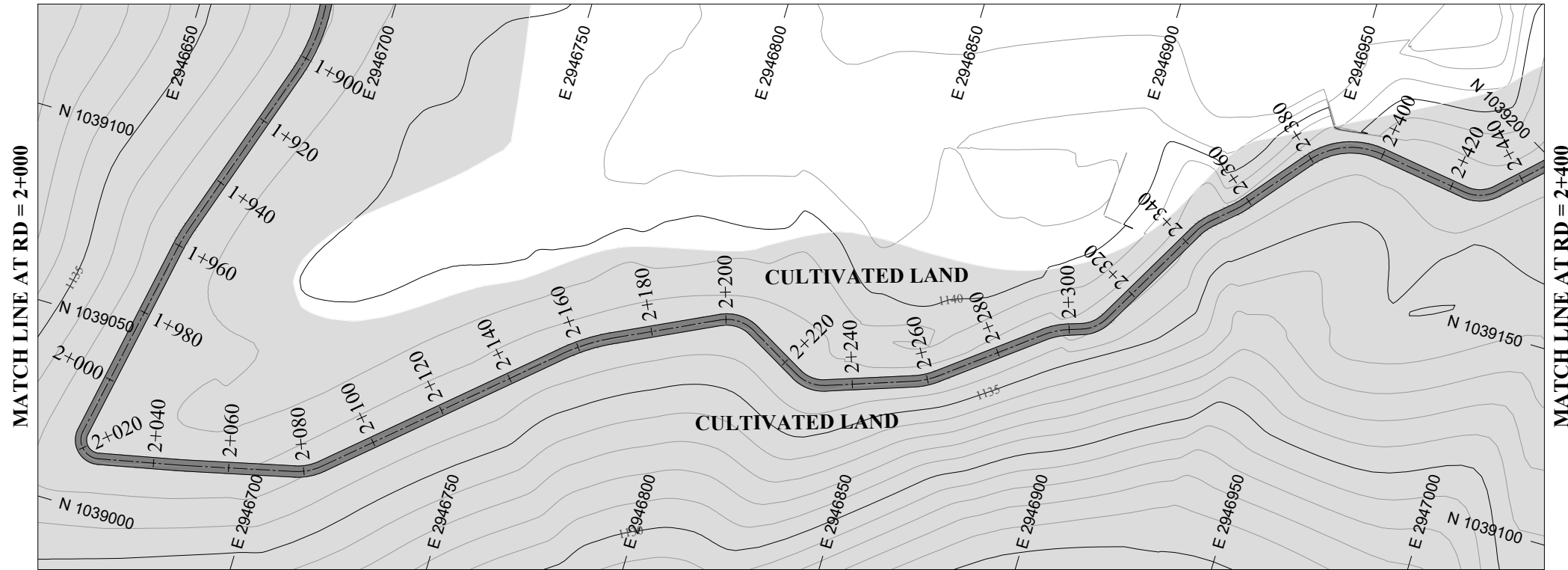
TITLE:

MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:- 5 OF 31 SUB SH.- ----

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																				
BL	2+000 1136.500	2+020 1136.480	2+040 1136.460	2+060 1136.440	2+080 1136.420	2+100 1136.400	2+120 1136.380	2+140 1136.360	2+160 1136.340	2+180 1136.320	2+200 1136.300	2+220 1136.280	2+240 1136.260	2+260 1136.240	2+280 1136.220	2+300 1136.200	2+320 1136.180	2+340 1136.160	2+360 1136.140	2+380 1136.120	2+400 1136.100
NSL	1138.034	1138.017	1138.046	1138.001	1137.169	1136.989	1137.005	1136.968	1137.067	1137.000	1137.167	1137.088	1137.100	1137.080	1137.209	1137.502	1137.302	1137.244	1137.225	1136.978	1137.025
RD	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400



- NOTES:**
- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- LEGENDS:**
- BED LEVEL
 - NATURAL SURFACE LEVEL
 - EXISTING ROAD
 - KACHA TRACK
 - NULLAH
 - MINOR NULLAH
 - BUILDING + ROOM
 - GRAVE YARD
 - VILLAGE
 - CULTIVATED AREA
 - INDEX CONTOUR
 - INTERMEDIATE CONTOUR
 - EXISTING CULVERT
 - ELECTRIC POLE
 - MOUNTAIN
 - BENCH MARK
- ABBREVIATIONS OF DRAWING**
- | | |
|-----------------------|-----|
| COEFFICIENT | n |
| DISCHARGE | Q |
| VELOCITY | V |
| WATER LEVEL | WL |
| FREE BOARD | FB |
| WIDTH OF CHANNEL | W |
| DEPTH OF CHANNEL | D |
| SLOPE | S |
| BED LEVEL | BL |
| NATURAL SURFACE LEVEL | NSL |
| REDUCED LEVEL | RD |
| METER | m |
| MAIN CHANNEL | MC |
| DISTRIBUTORY-1 | D-1 |
| DISTRIBUTORY-2 | D-2 |

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: **MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS: **A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES**

PROJECT: **CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM**

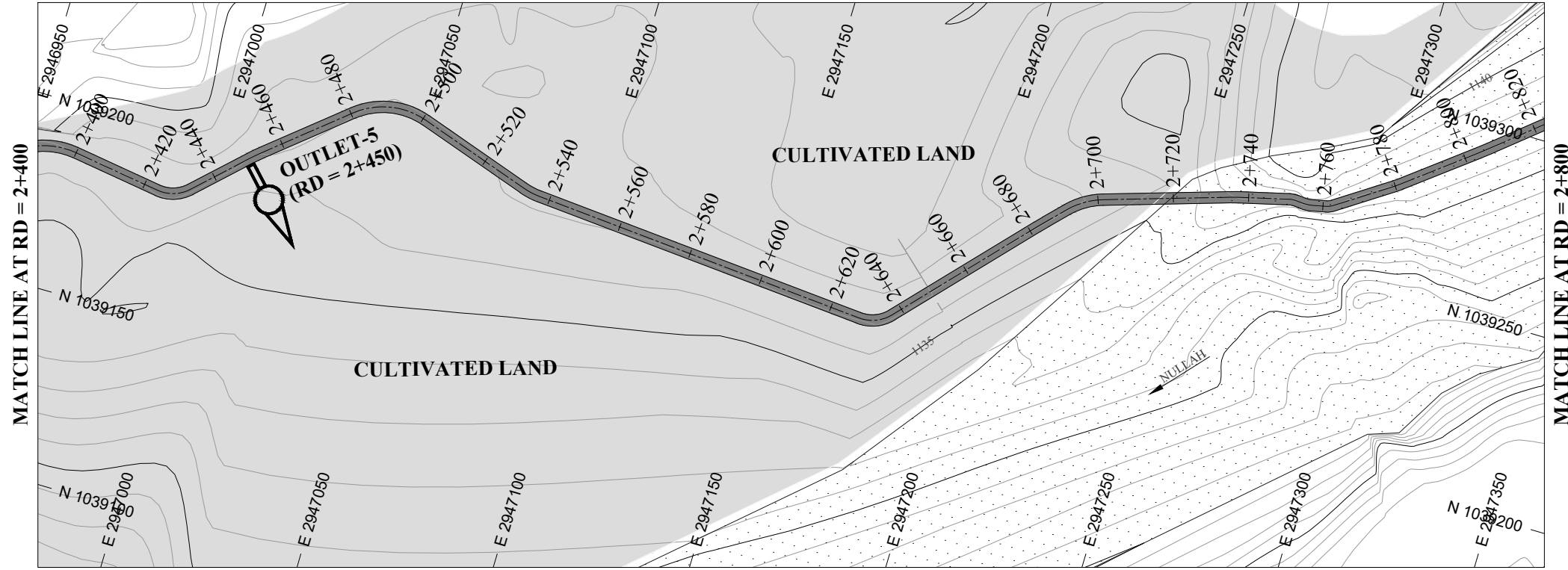
**BAZ ALI DAM
DISTRICT KURRAM**

TITLE: **MAIN CHANNEL PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:- 6 OF 31 SUB SH.- ----

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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: **ETA** ENGINEERING & TECHNICAL ASSOCIATES

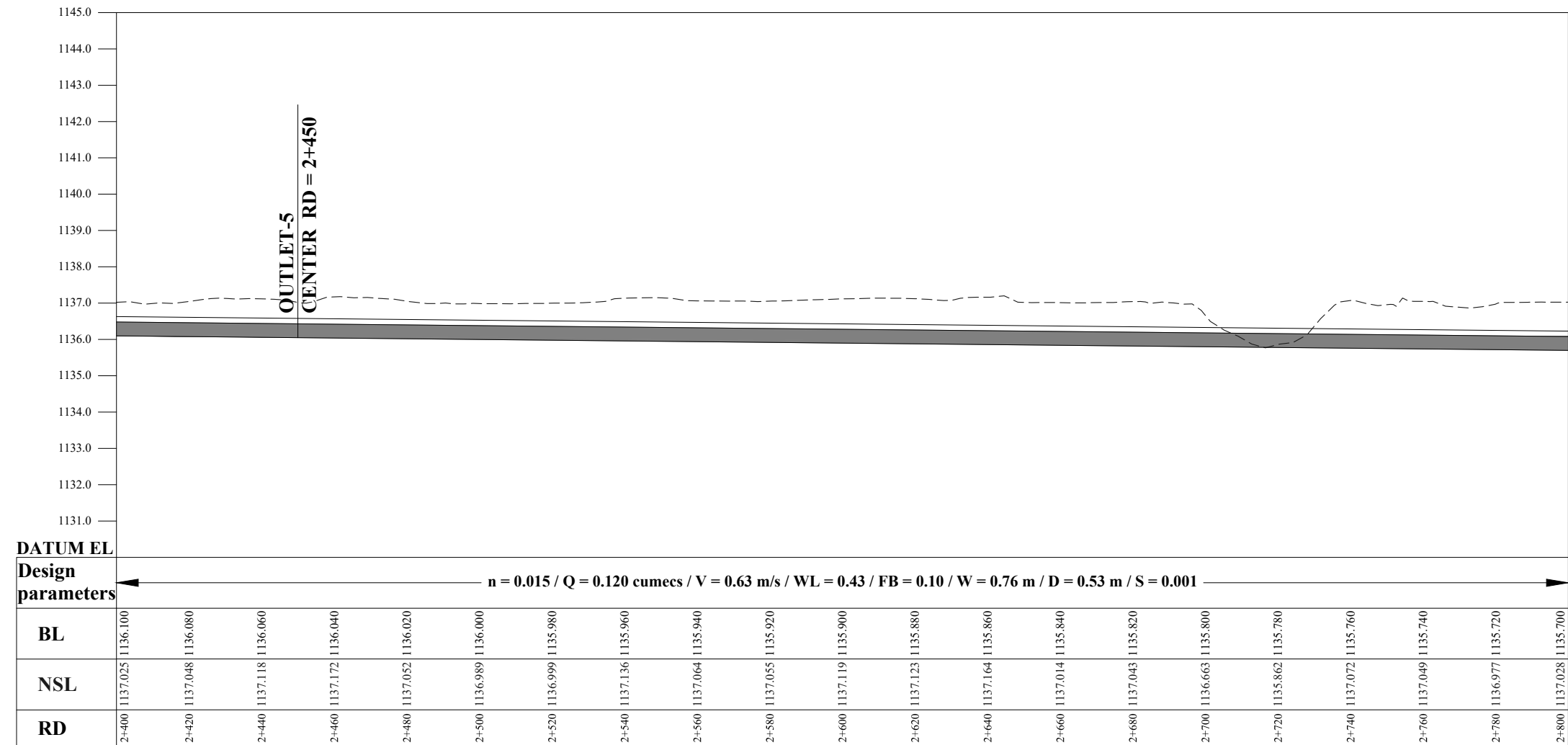
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

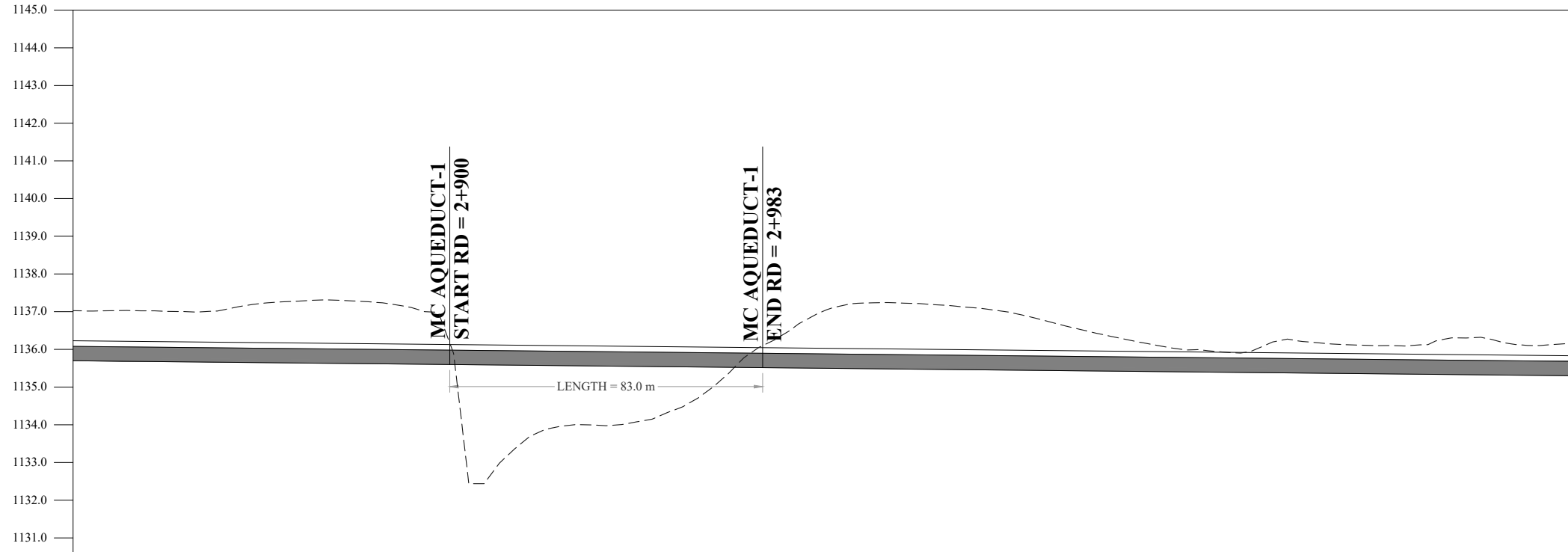
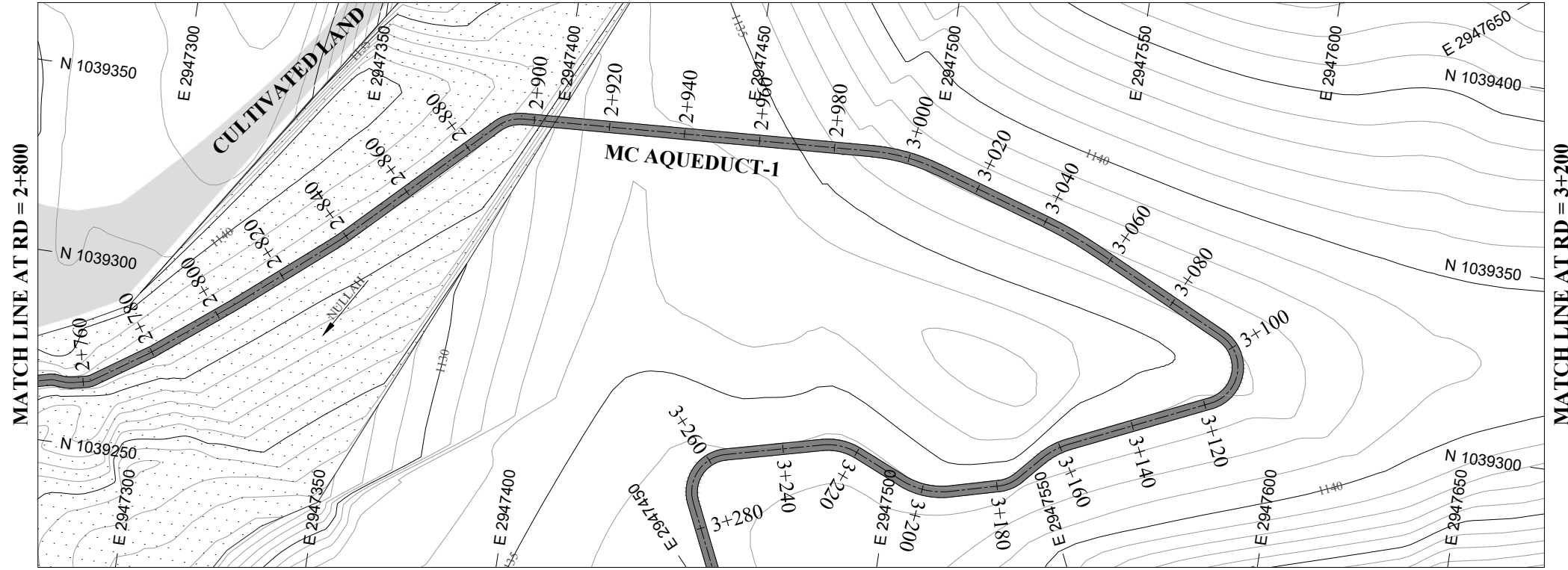
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:- 7 OF 31 SUB SH.- ----



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DATUM EL	Design parameters $n = 0.015 / Q = 0.120$ cumecs / $V = 0.63$ m/s / $WL = 0.43$ / $FB = 0.10$ / $W = 0.76$ m / $D = 0.53$ m / $S = 0.001$																				
BL	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200
NSL	1137.028	1137.024	1137.051	1137.283	1137.251	1136.166	1133.595	1133.986	1134.411	1135.914	1137.053	1137.230	1137.097	1136.710	1136.254	1135.979	1136.229	1136.118	1136.147	1136.174	1136.139
RD	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP
OF ENGINEERING & CONSULTANTS
ETA
IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

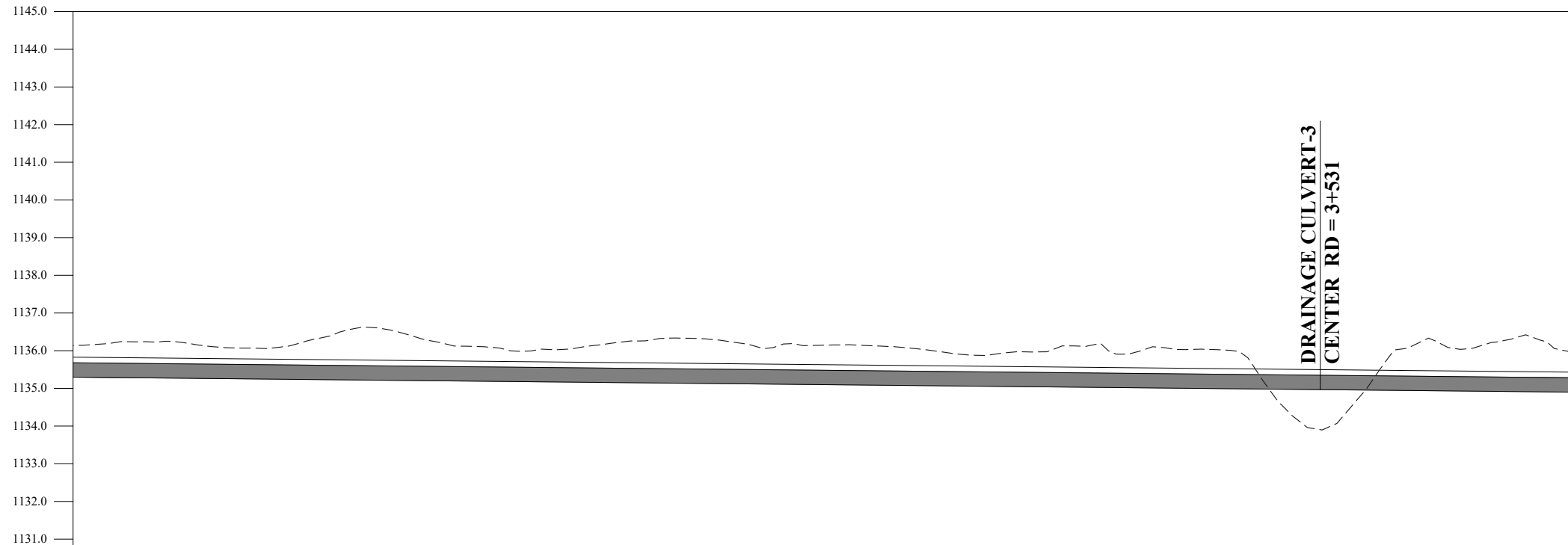
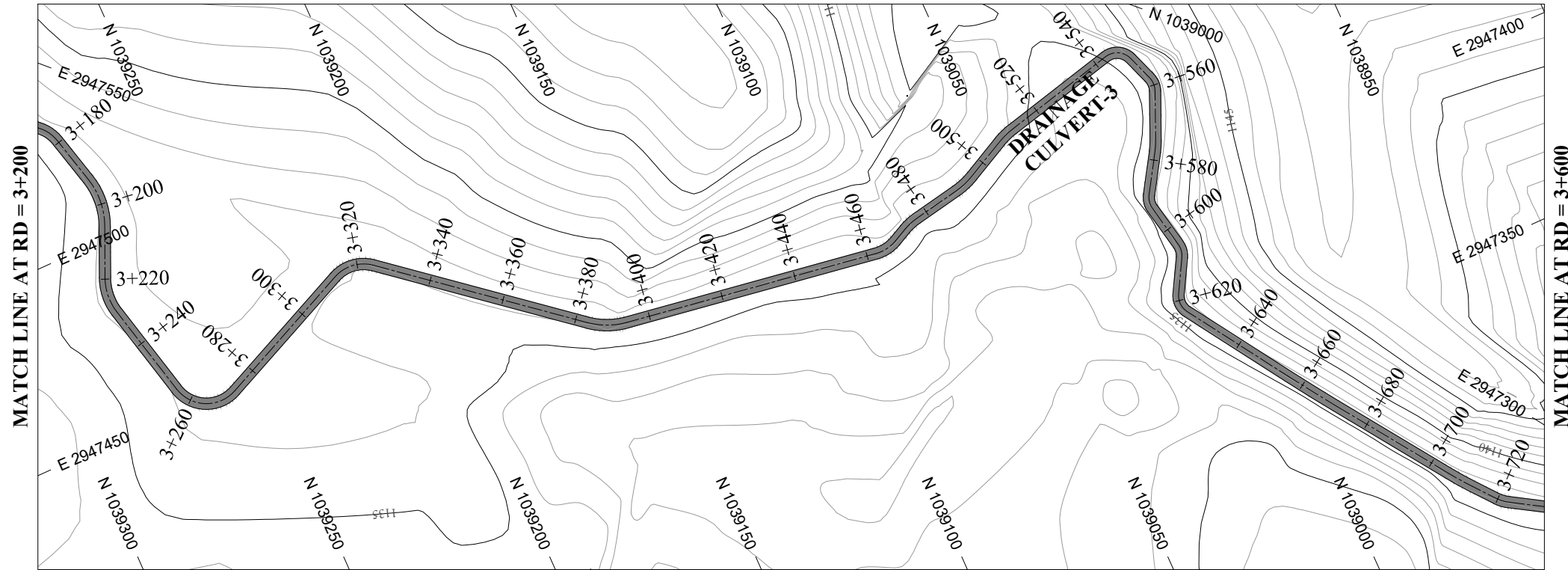
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:- 8 OF 31 SUB SH.- ----

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																					
BL	3+200	3+220	3+240	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+600	
NSL	1136.139	1136.238	1136.085	1136.199	1136.613	1136.153	1135.988	1136.159	1136.338	1136.148	1136.149	1136.090	1135.878	1136.032	1135.909	1136.041	1134.635	1134.609	1136.322	1134.940	1136.276	1134.900
RD	3+200	3+220	3+240	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+600	

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCAD GROUP
OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

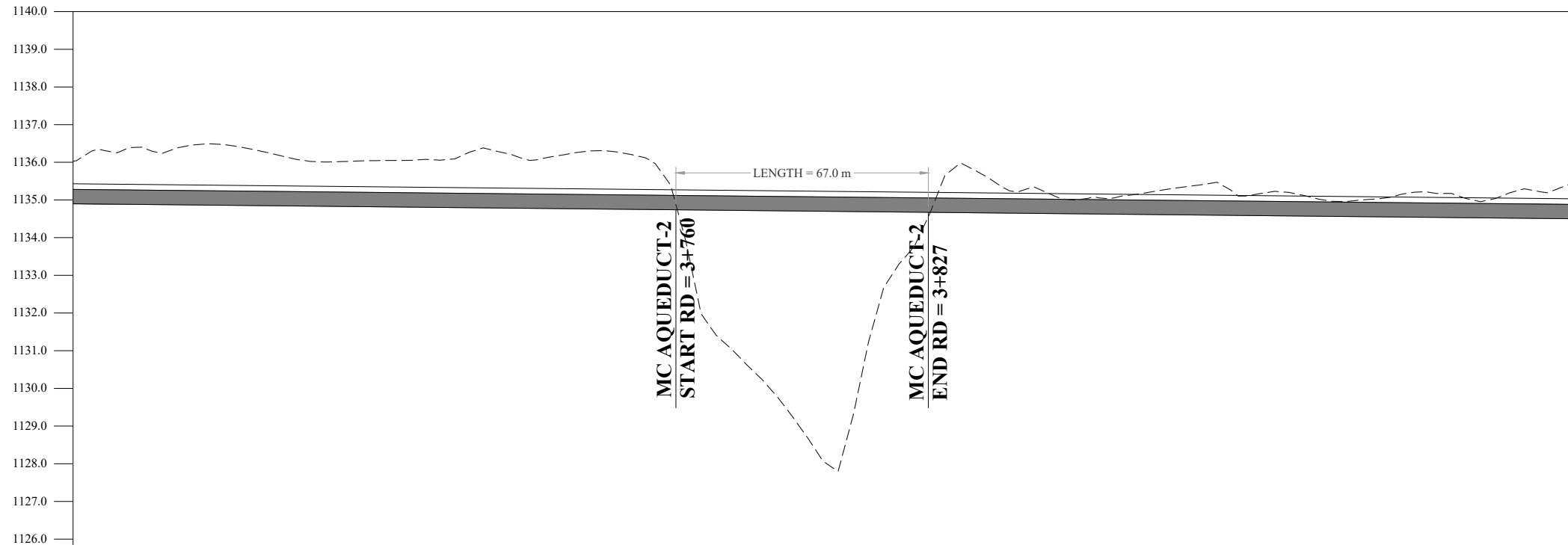
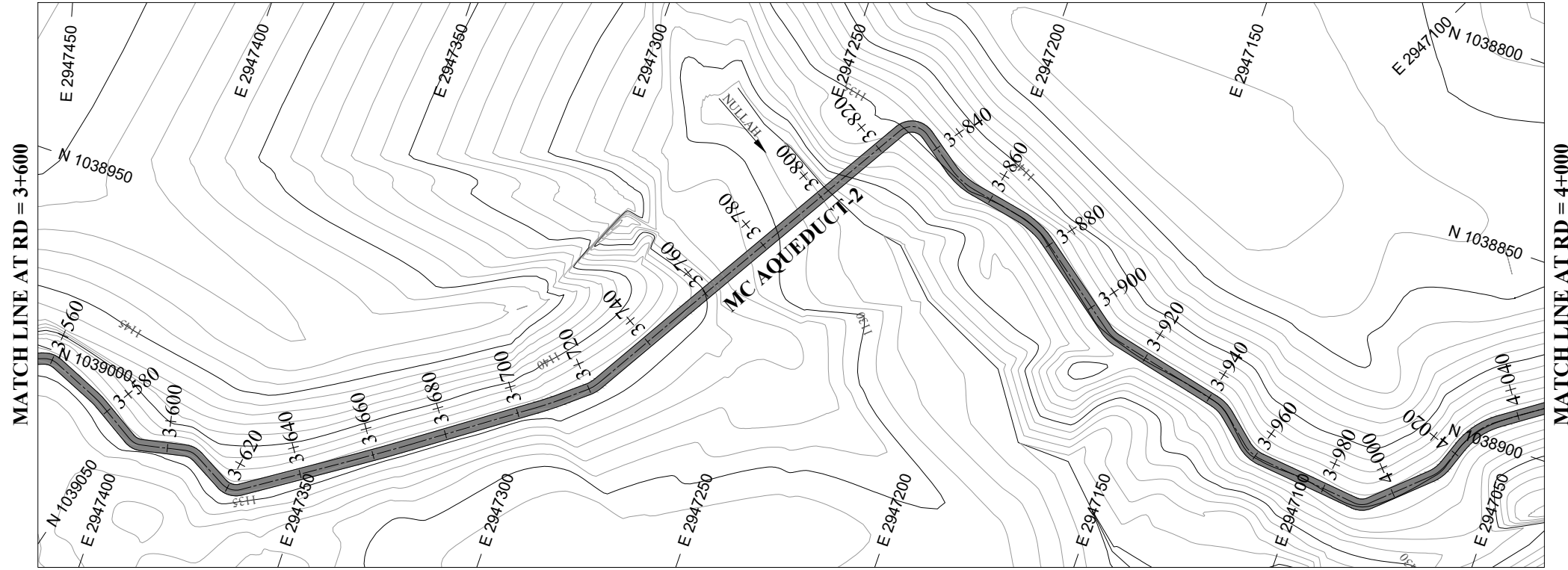
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:- 9 OF 31 SUB SH.- ----

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																				
BL	3+600	3+620	3+640	3+660	3+680	3+700	3+720	3+740	3+760	3+780	3+800	3+820	3+840	3+860	3+880	3+900	3+920	3+940	3+960	3+980	4+000
NSL	1136.027	1136.333	1136.471	1136.067	1134.820	1136.080	1134.780	1136.309	1134.740	1130.511	1128.005	1133.392	1135.751	1135.127	1135.124	1135.410	1135.221	1134.981	1135.203	1135.140	1135.425
RD	3+600	3+620	3+640	3+660	3+680	3+700	3+720	3+740	3+760	3+780	3+800	3+820	3+840	3+860	3+880	3+900	3+920	3+940	3+960	3+980	4+000

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCAD GROUP
OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

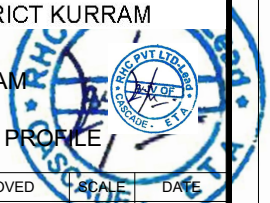
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

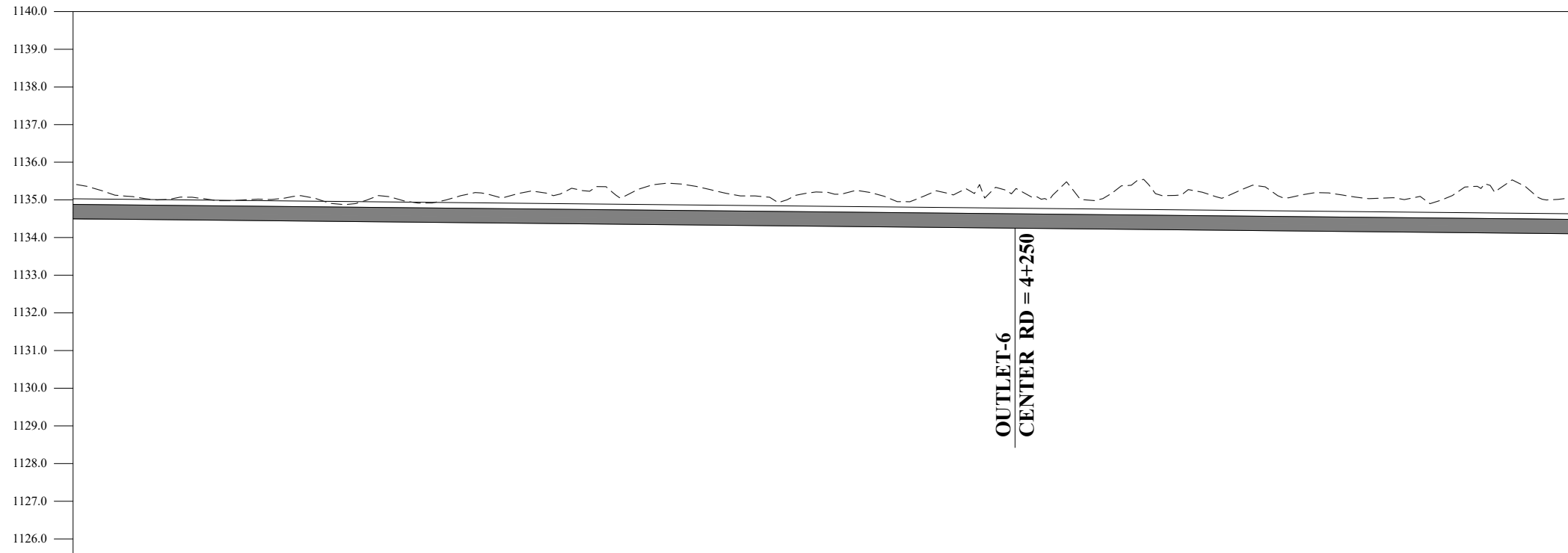
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-10 OF 31 SUB SH.- ----



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DATUM EL	Design parameters $n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / WL = 0.43 / FB = 0.10 / W = 0.76 \text{ m} / D = 0.53 \text{ m} / S = 0.001$																														
BL	4+000	4+020	4+040	4+060	4+080	4+100	4+120	4+140	4+160	4+180	4+200	4+220	4+240	4+260	4+280	4+300	4+320	4+340	4+360	4+380	4+400										
NSL	1135.425	1135.024	1134.979	1135.109	1135.076	1135.026	1135.380	1135.352	1135.432	1135.106	1135.320	1135.300	1135.201	1134.280	1134.954	1135.260	1135.128	1135.383	1134.220	1135.194	1134.180	1135.101	1134.160	1135.079	1134.140	1134.908	1134.140	1135.400	1134.120	1135.142	1134.100
RD	4+000	4+020	4+040	4+060	4+080	4+100	4+120	4+140	4+160	4+180	4+200	4+220	4+240	4+260	4+280	4+300	4+320	4+340	4+360	4+380	4+400										

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

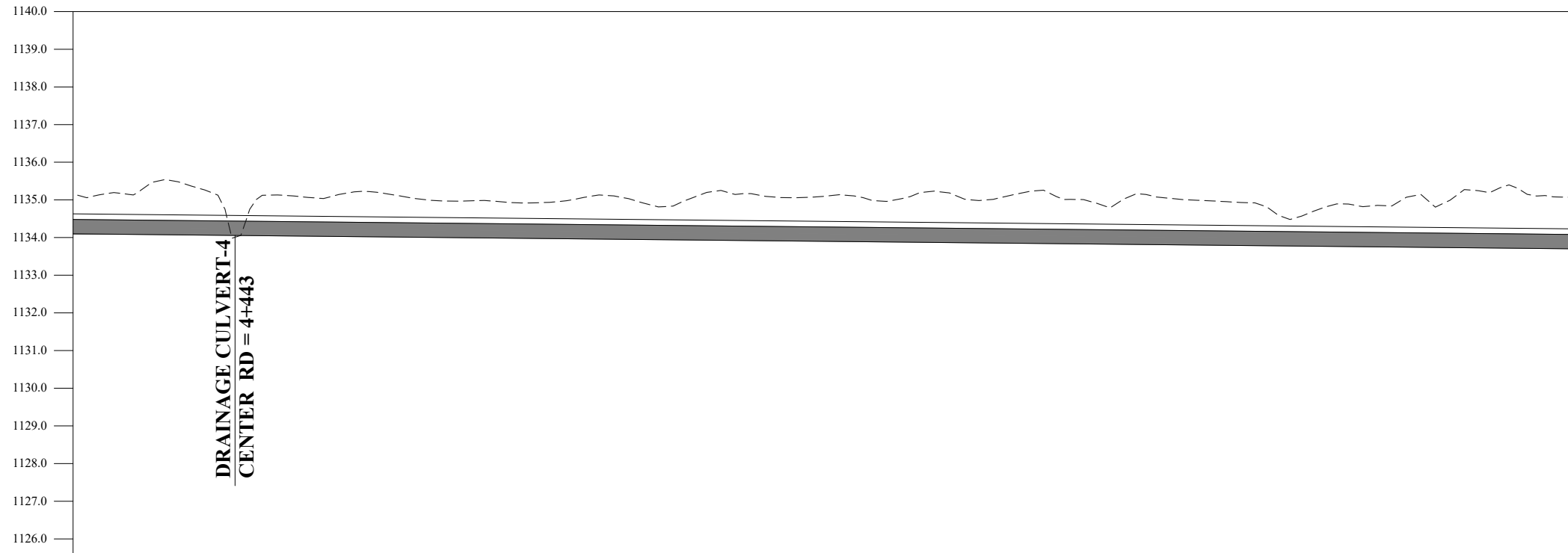
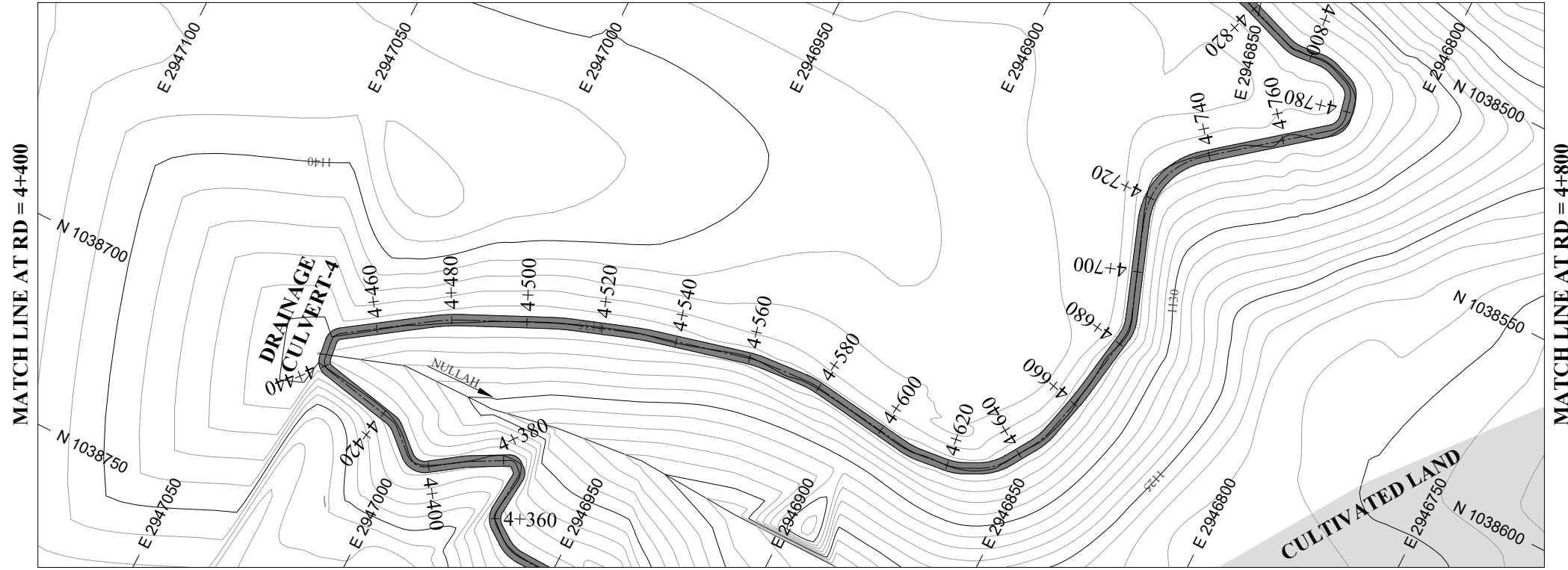
BAZ ALI DAM DISTRICT KURRAM

TITLE: **MAIN CHANNEL PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB. 2022

DRG.No:- BAD-BD-IR-01 SHEET:-11 OF 31 SUB SH.- ----

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DATUM EL

Design parameters $n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / \text{WL} = 0.43 / \text{FB} = 0.10 / \text{W} = 0.76 \text{ m} / \text{D} = 0.53 \text{ m} / \text{S} = 0.001$

BL	4+400	4+420	4+440	4+460	4+480	4+500	4+520	4+540	4+560	4+580	4+600	4+620	4+640	4+660	4+680	4+700	4+720	4+740	4+760	4+780	4+800
	1135.142	1135.402	1134.817	1135.090	1135.209	1134.968	1135.130	1134.871	1135.167	1133.920	1135.102	1135.037	1134.986	1135.137	1135.071	1134.984	1134.588	1134.863	1134.943	1135.364	1133.720
NSL	1135.142	1135.402	1134.817	1135.090	1135.209	1134.968	1135.130	1134.871	1135.167	1133.920	1135.102	1135.037	1134.986	1135.137	1135.071	1134.984	1134.588	1134.863	1134.943	1135.364	1133.720
RD	4+400	4+420	4+440	4+460	4+480	4+500	4+520	4+540	4+560	4+580	4+600	4+620	4+640	4+660	4+680	4+700	4+720	4+740	4+760	4+780	4+800

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

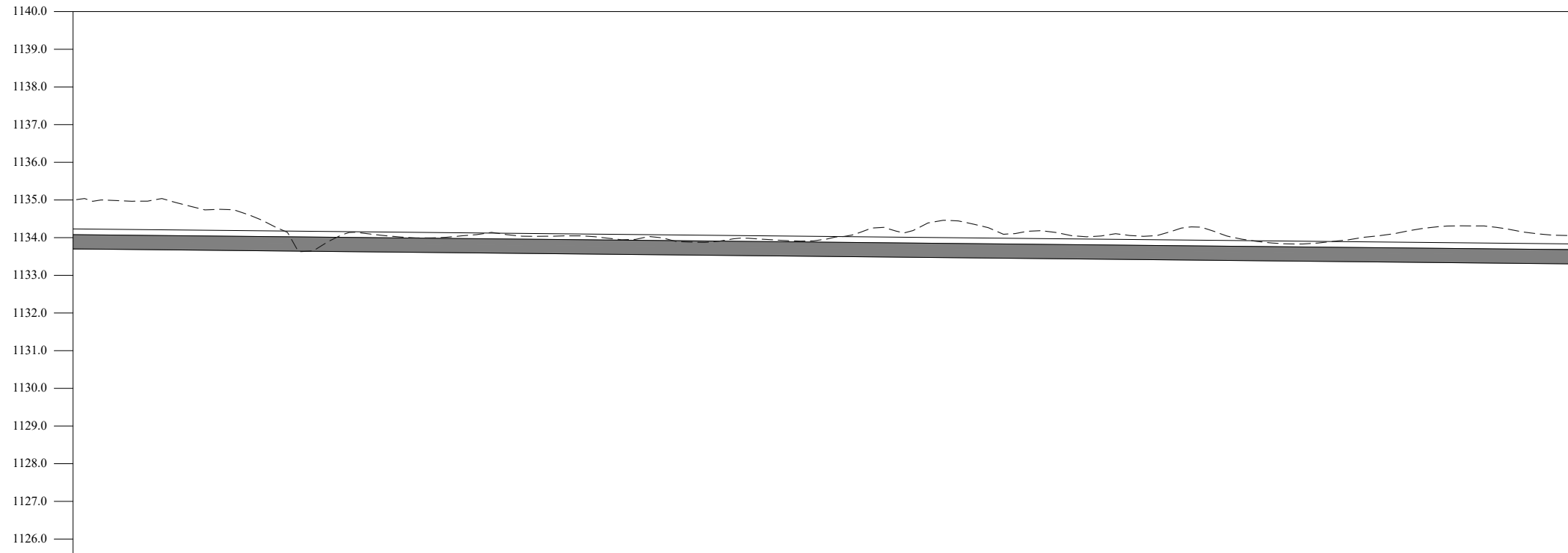
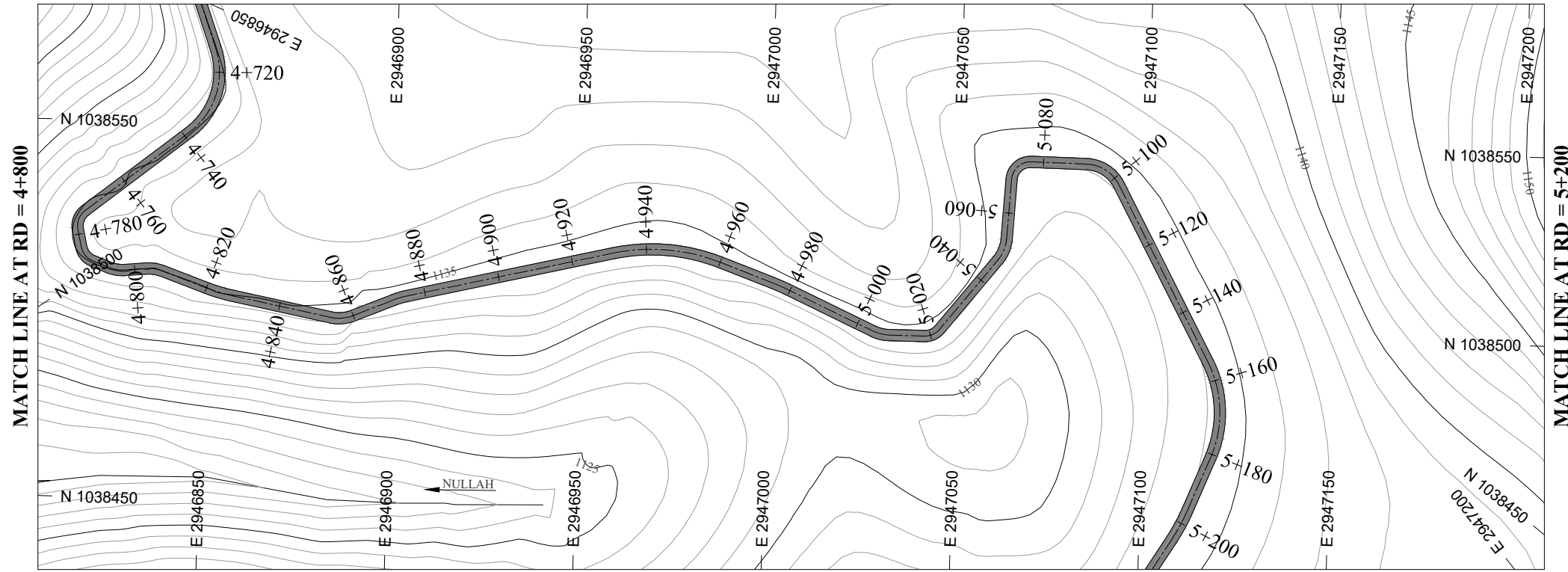
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-12 OF 31 SUB SH.- ----

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																				
BL	4+800	4+820	4+840	4+860	4+880	4+900	4+920	4+940	4+960	4+980	5+000	5+020	5+040	5+060	5+080	5+100	5+120	5+140	5+160	5+180	5+200
NSL	1135.006	1134.972	1134.748	1133.625	1134.082	1134.017	1134.038	1134.006	1133.900	1133.977	1133.961	1134.140	1134.334	1134.148	1134.062	1134.259	1133.846	1133.967	1134.265	1134.238	1134.057
RD	1133.700	1133.680	1133.660	1133.640	1133.620	1133.600	1133.580	1133.560	1133.540	1133.520	1133.500	1133.480	1133.460	1133.440	1133.420	1133.400	1133.380	1133.360	1133.340	1133.320	1133.300

NOTES:

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LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

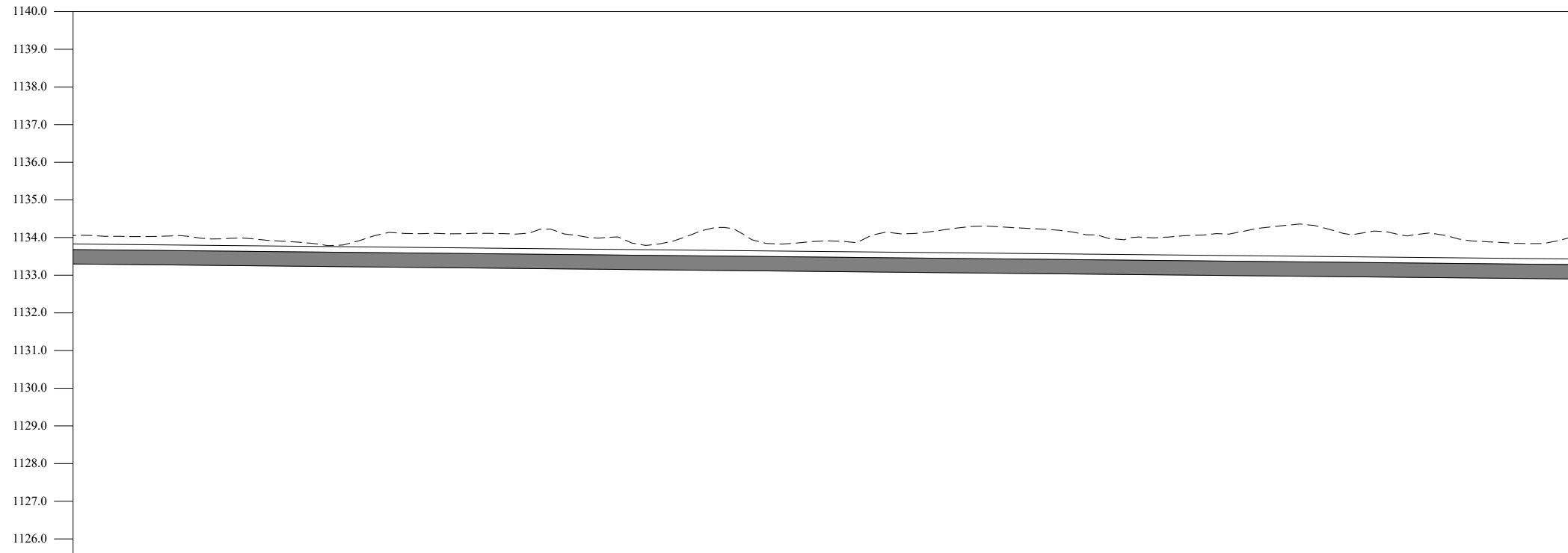
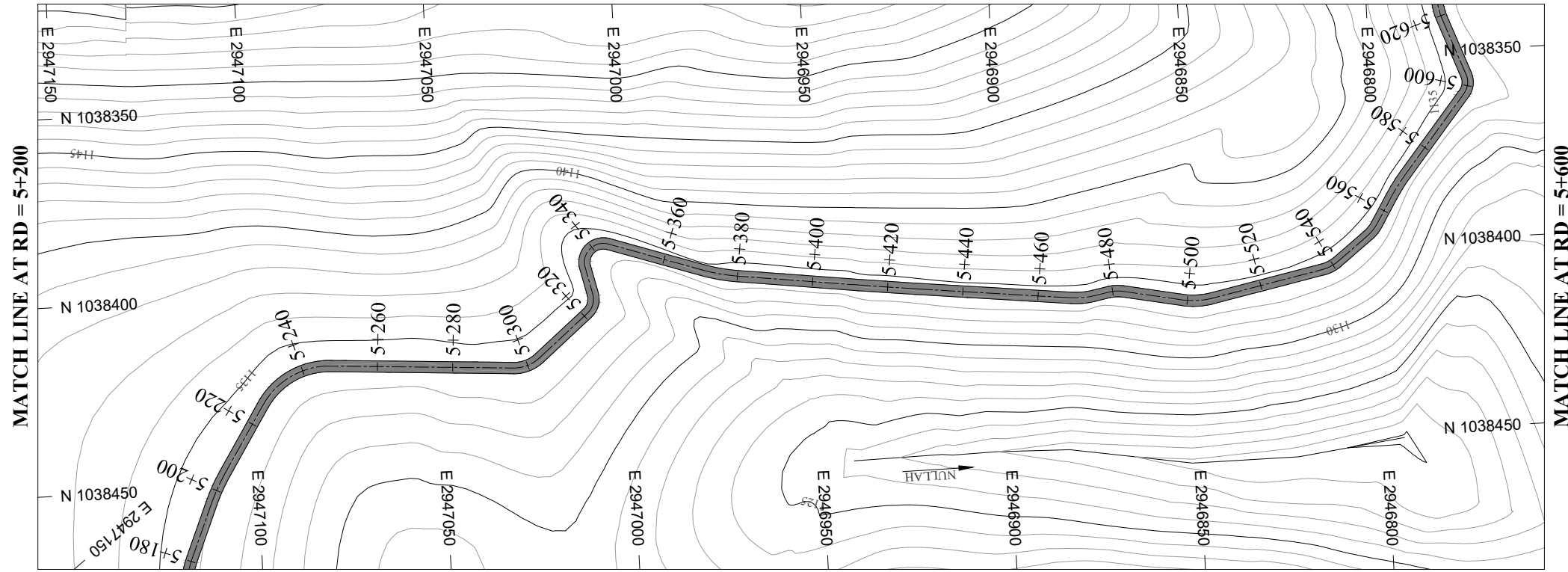
BAZ ALI DAM DISTRICT KURRAM

TITLE: **MAIN CHANNEL PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-13 OF 31 SUB SH.- ----

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																				
BL	S+200	S+220	S+240	S+260	S+280	S+300	S+320	S+340	S+360	S+380	S+400	S+420	S+440	S+460	S+480	S+500	S+520	S+540	S+560	S+580	S+600
NSL	1134.057	1134.028	1133.970	1133.876	1134.050	1134.099	1134.113	1133.991	1133.931	1133.953	1133.915	1134.101	1134.300	1134.207	1133.974	1134.068	1134.306	1134.085	1134.122	1133.865	1134.058
RD	1133.300	1133.280	1133.260	1133.240	1133.220	1133.200	1133.180	1133.160	1133.140	1133.120	1133.100	1133.080	1133.060	1133.040	1133.020	1133.000	1132.980	1132.960	1132.940	1132.920	1132.900

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM

TITLE: **MAIN CHANNEL PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-14 OF 31 SUB SH.- ----

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NOTES:

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LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
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REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP
OF ENGINEERING & CONSULTANTS
ETA
IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

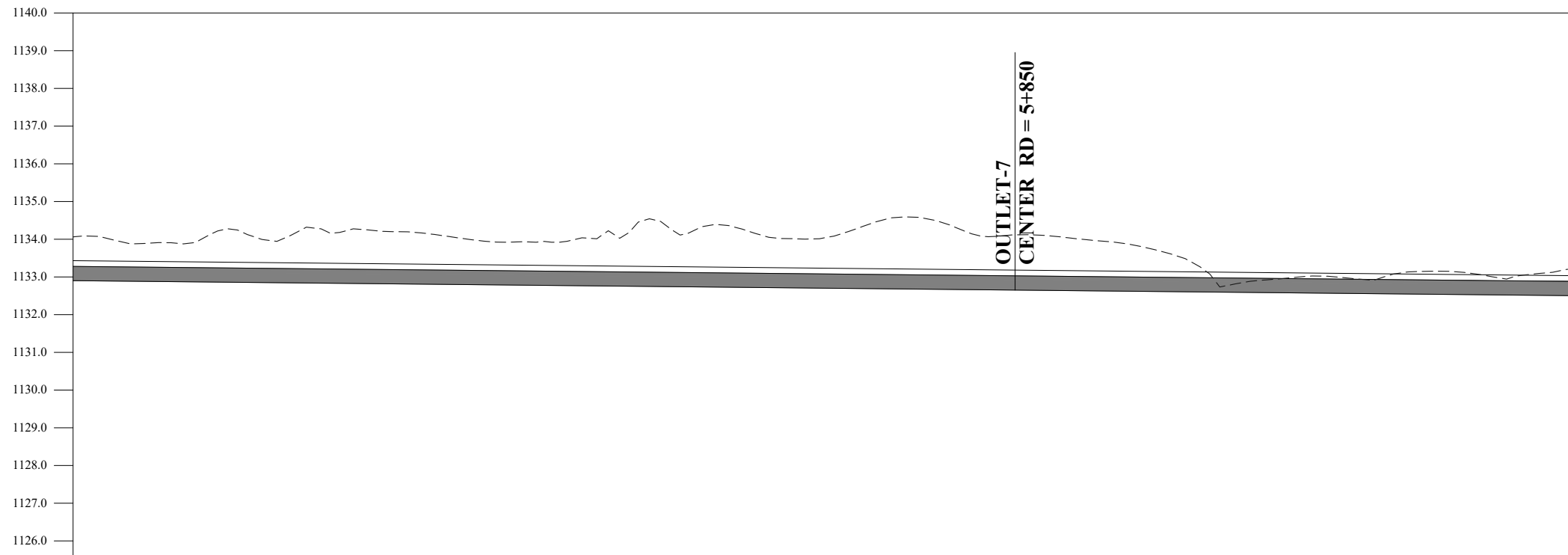
BAZ ALI DAM
DISTRICT KURRAM

TITLE:

MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As Shown	FEB. 2022

DRG.No:- BAD-BD-IR-01 SHEET:-15 OF 31 SUB SH.- ----

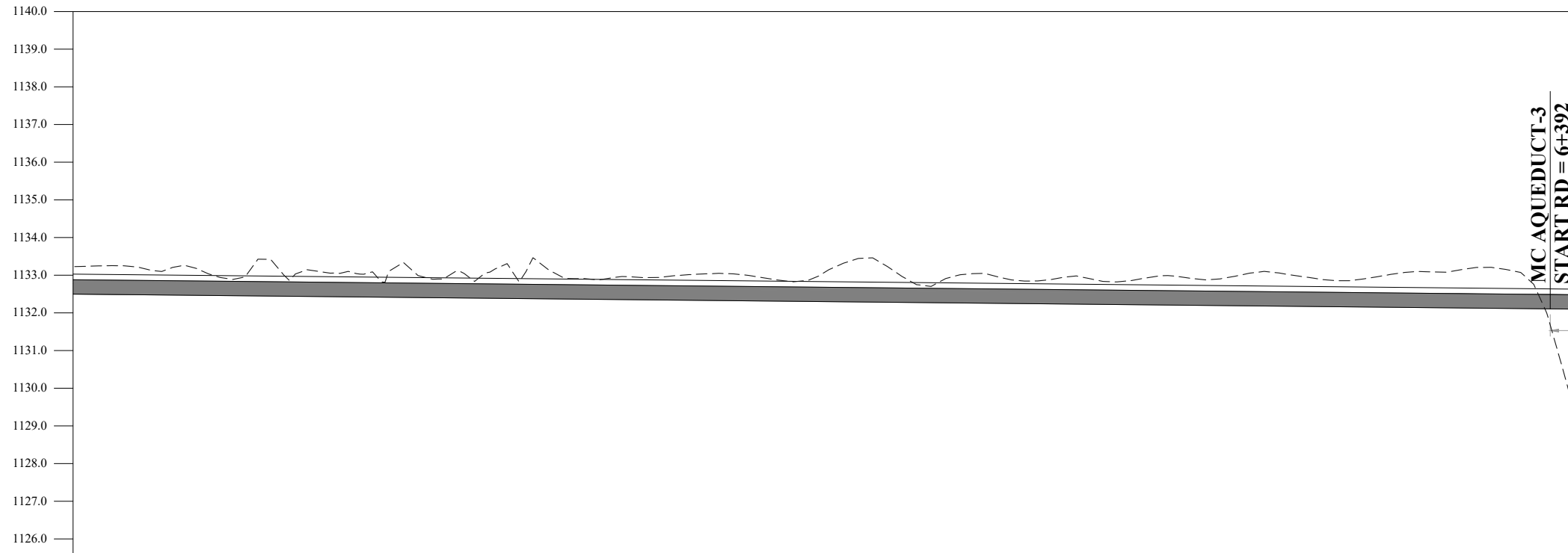
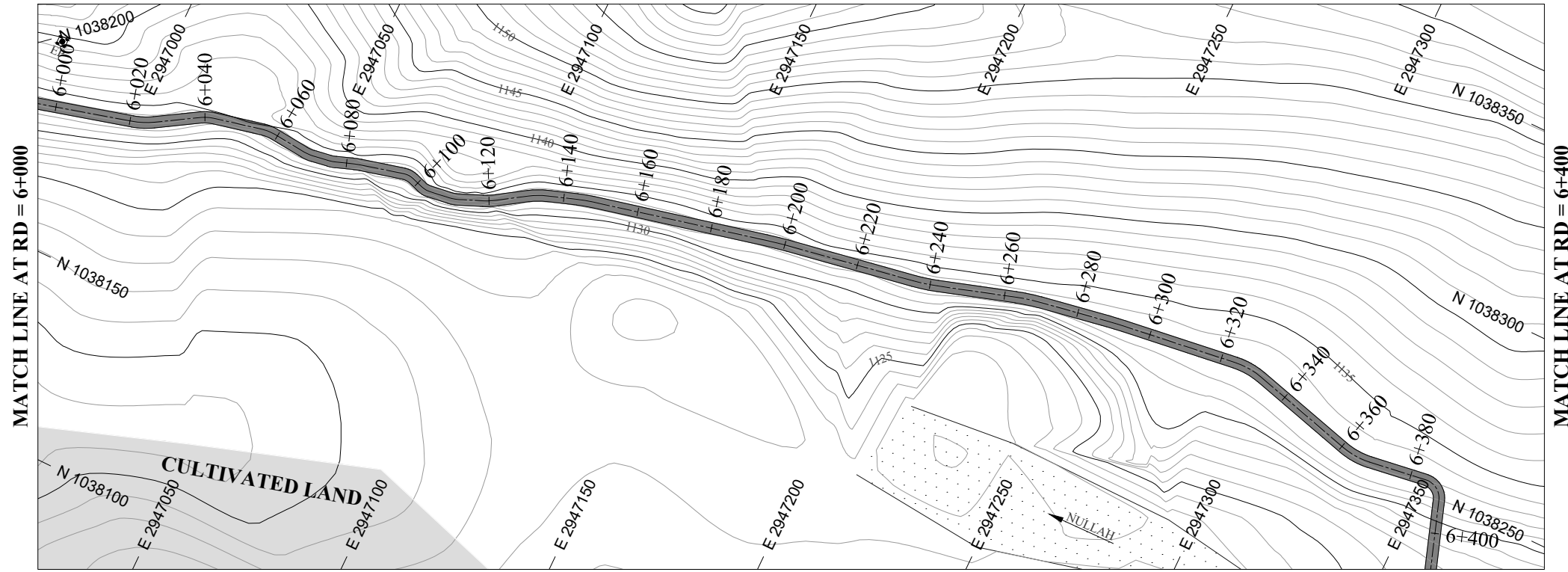


DATUM EL
Design parameters

$n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / WL = 0.43 / FB = 0.10 / W = 0.76 \text{ m} / D = 0.53 \text{ m} / S = 0.001$

BL	5+600	5+620	5+640	5+660	5+680	5+700	5+720	5+740	5+760	5+780	5+800	5+820	5+840	5+860	5+880	5+900	5+920	5+940	5+960	5+980	6+000
	1132.900	1132.880	1132.860	1132.840	1132.820	1132.800	1132.780	1132.760	1132.740	1132.720	1132.700	1132.680	1132.660	1132.640	1132.620	1132.600	1132.580	1132.560	1132.540	1132.520	1132.500
NSL	1134.058	1133.895	1134.255	1134.219	1134.229	1134.068	1133.932	1134.082	1134.181	1134.189	1134.048	1134.587	1134.105	1134.081	1133.872	1133.200	1132.948	1132.954	1133.149	1132.949	1133.231
RD	1134.058	1133.895	1134.255	1134.219	1134.229	1134.068	1133.932	1134.082	1134.181	1134.189	1134.048	1134.587	1134.105	1134.081	1133.872	1133.200	1132.948	1132.954	1133.149	1132.949	1133.231

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																					
BL	6+000	6+020	6+040	6+060	6+080	6+100	6+120	6+140	6+160	6+180	6+200	6+220	6+240	6+260	6+280	6+300	6+320	6+340	6+360	6+380	6+400	
NSL	1133.231	1133.149	1132.928	1133.069	1133.033	1133.007	1132.380	1132.884	1132.991	1132.985	1133.113	1132.280	1132.046	1132.896	1132.851	1132.200	1133.061	1132.870	1133.092	1133.158	1132.120	1128.844
RD	1132.500	1132.480	1132.460	1132.440	1132.420	1132.400	1132.380	1132.360	1132.340	1132.320	1132.300	1132.280	1132.260	1132.240	1132.220	1132.200	1132.180	1132.160	1132.140	1132.120	1132.100	1132.100

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

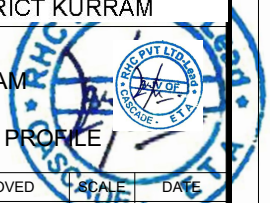
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

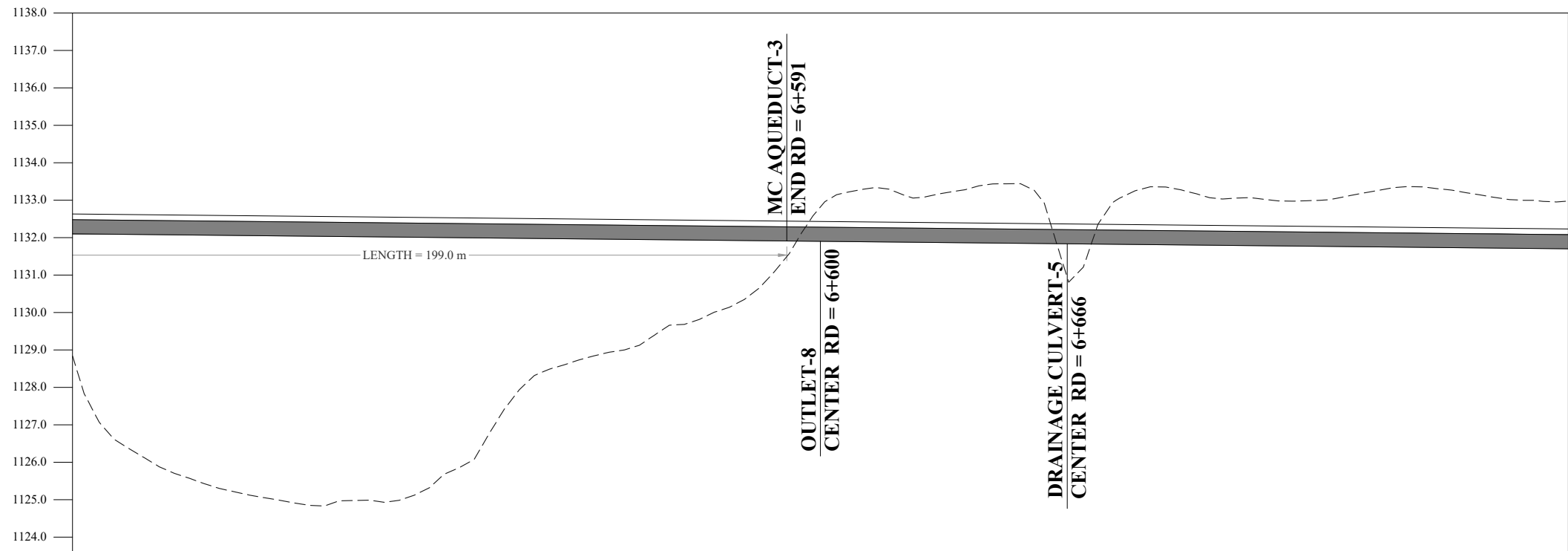
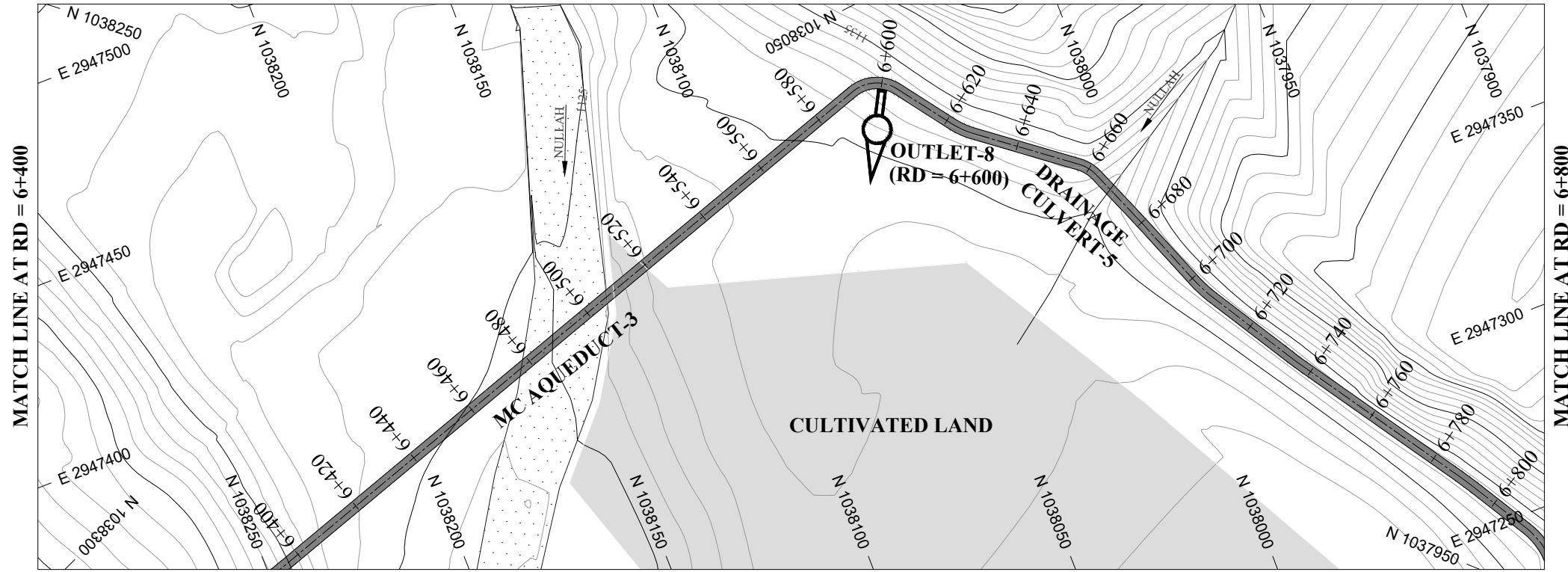
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-16 OF 31 SUB SH.- ----



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DATUM EL

Design parameters → $n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / WL = 0.43 / FB = 0.10 / W = 0.76 \text{ m} / D = 0.53 \text{ m} / S = 0.001$ →

RD	6+400	6+420	6+440	6+460	6+480	6+500	6+520	6+540	6+560	6+580	6+600	6+620	6+640	6+660	6+680	6+700	6+720	6+740	6+760	6+780	6+800
BL	1132.100	1132.080	1132.060	1132.040	1132.020	1132.000	1131.980	1131.960	1131.940	1131.920	1131.900	1131.880	1131.860	1131.840	1131.820	1131.800	1131.780	1131.760	1131.740	1131.720	1131.700
NSL	1128.844	1126.075	1125.286	1124.904	1124.980	1125.709	1127.985	1128.855	1129.664	1130.374	1132.818	1133.228	1133.317	1132.872	1133.054	1133.183	1133.009	1133.089	1133.358	1133.078	1132.975

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCAD GROUP
OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

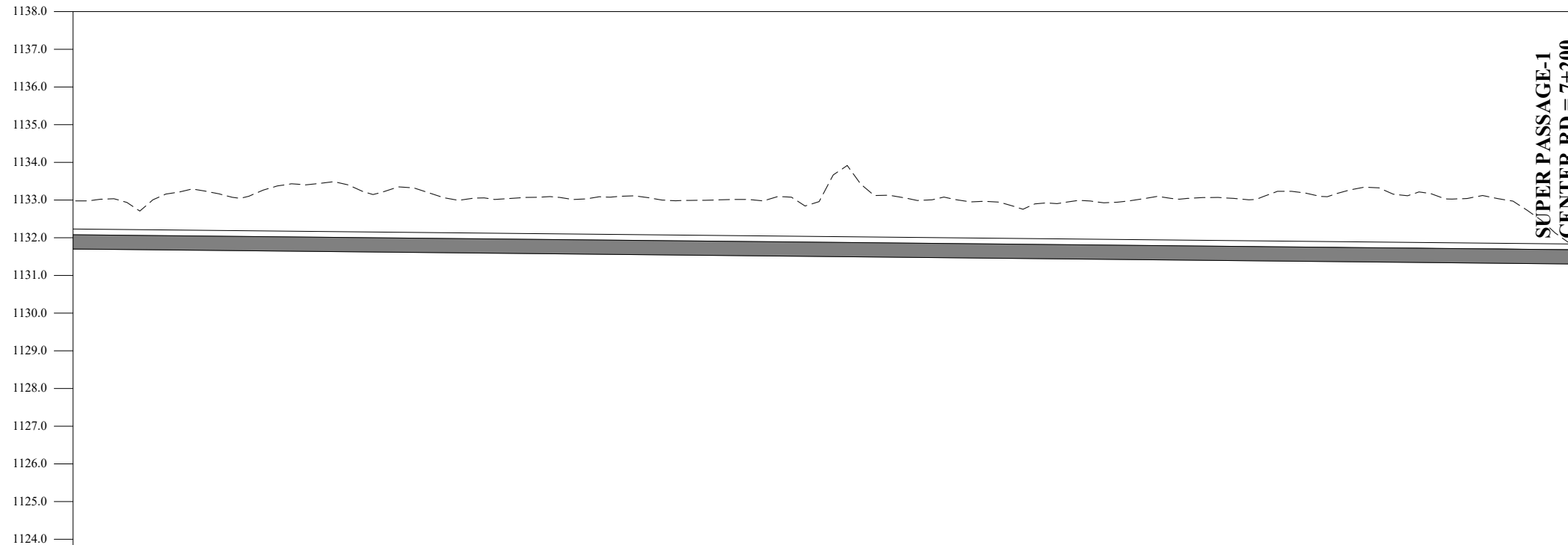
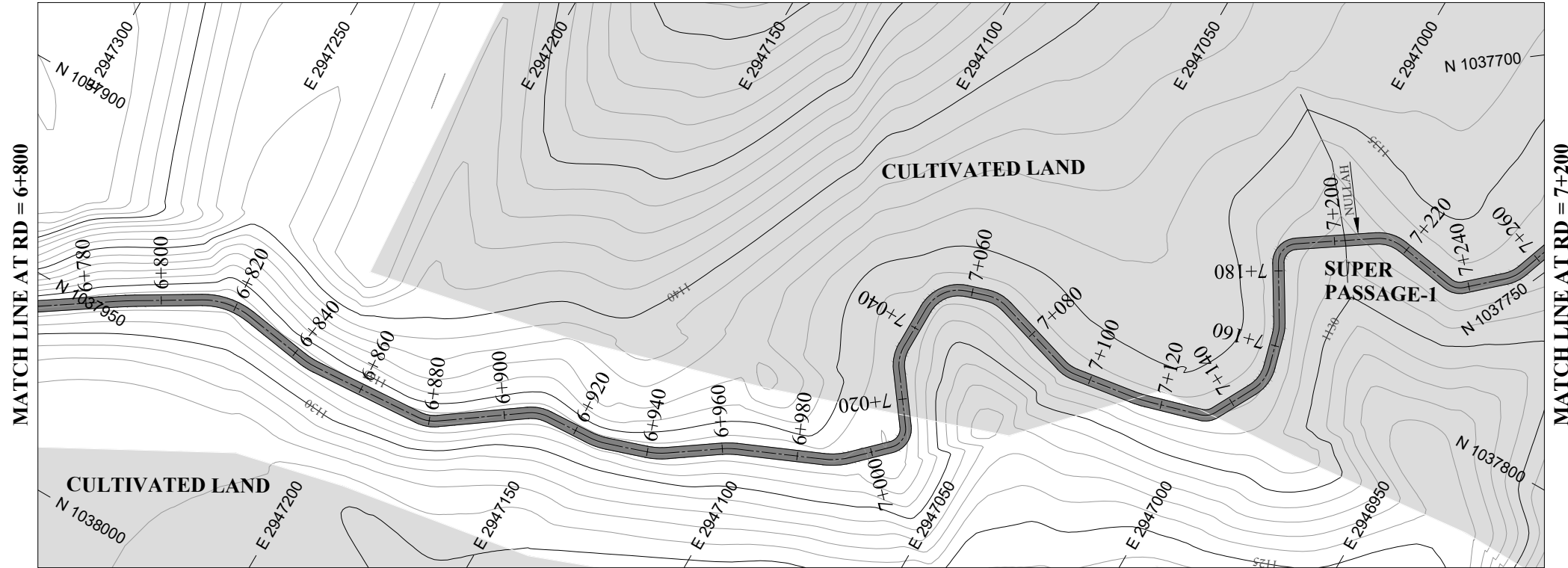
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-17 OF 31 SUB SH.- ----

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																				
BL	6+800	6+820	6+840	6+860	6+880	6+900	6+920	6+940	6+960	6+980	7+000	7+020	7+040	7+060	7+080	7+100	7+120	7+140	7+160	7+180	7+200
NSL	1132.975	1132.902	1133.131	1133.416	1133.155	1133.033	1133.069	1133.086	1132.980	1133.007	1133.337	1133.070	1132.958	1132.913	1132.975	1133.066	1133.231	1133.289	1133.178	1133.005	1131.600
RD	1131.700	1131.680	1131.660	1131.640	1131.620	1131.600	1131.580	1131.560	1131.540	1131.520	1131.500	1131.480	1131.460	1131.440	1131.420	1131.400	1131.380	1131.360	1131.340	1131.320	1131.300

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

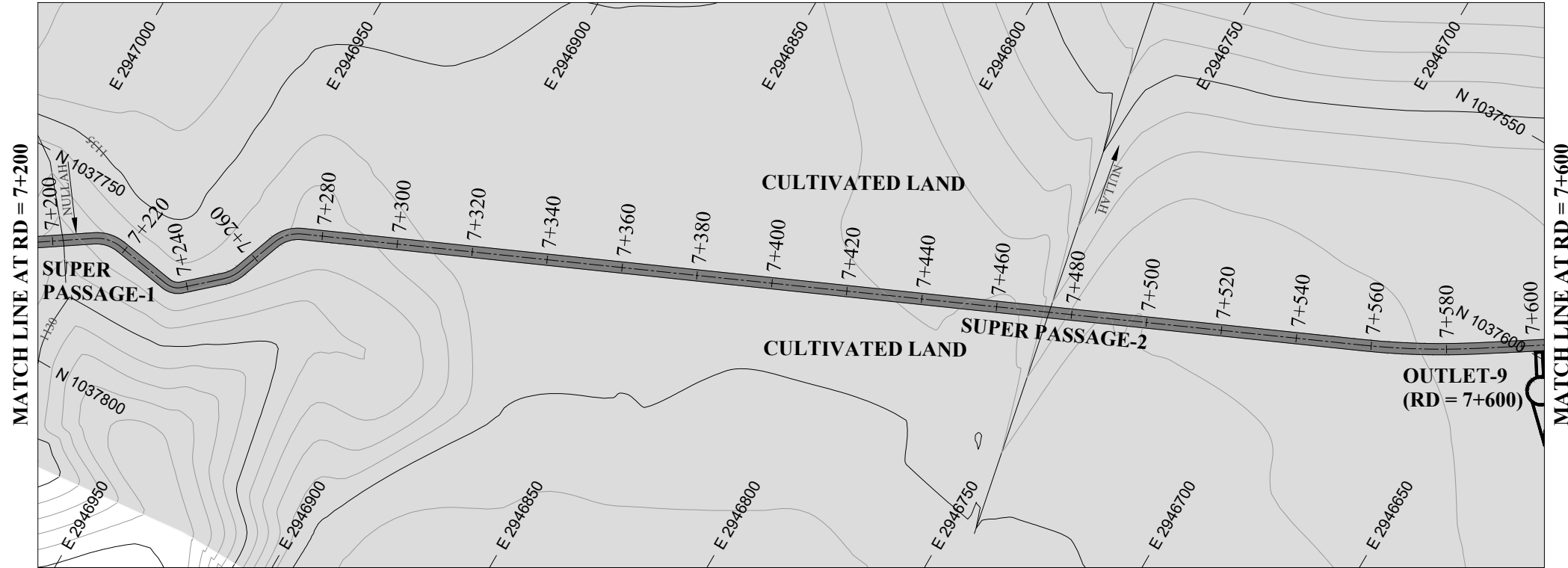
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM
 TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

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NOTES:

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LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

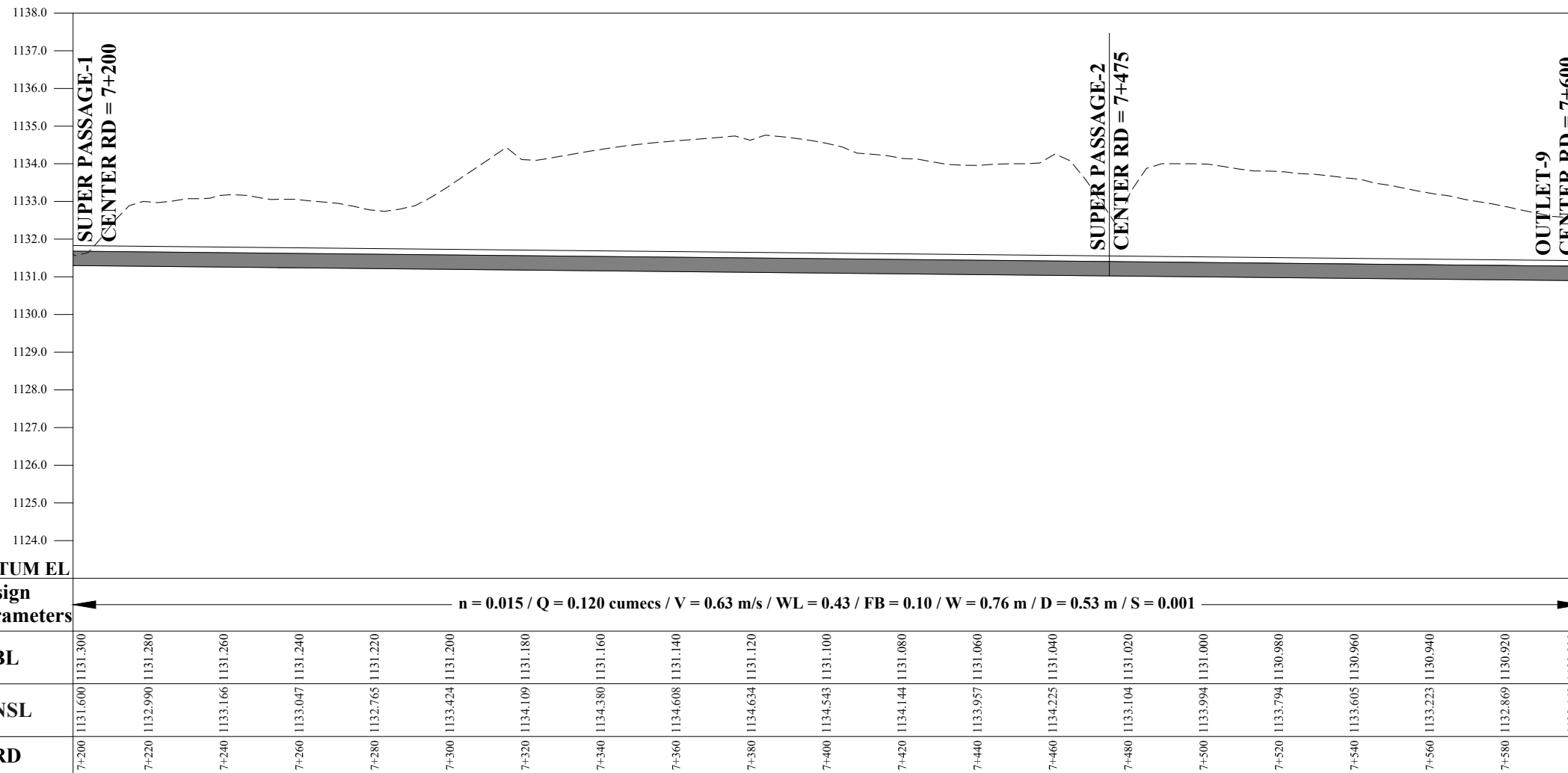
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM

TITLE: **MAIN CHANNEL PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

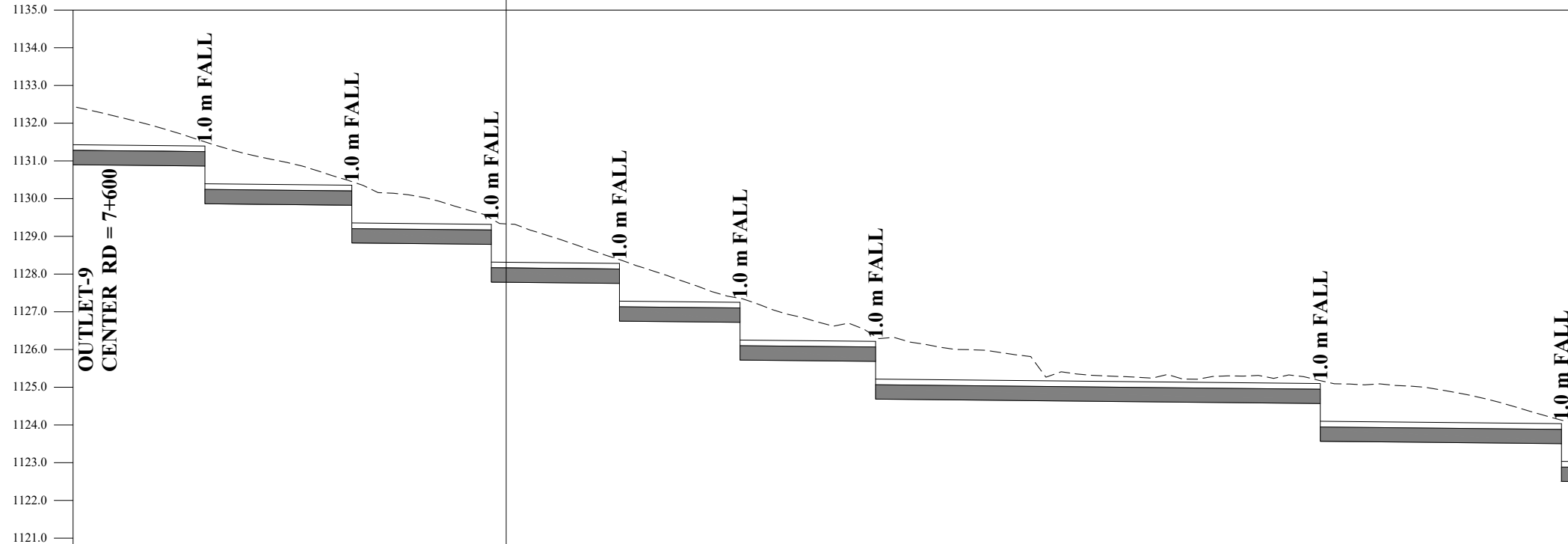
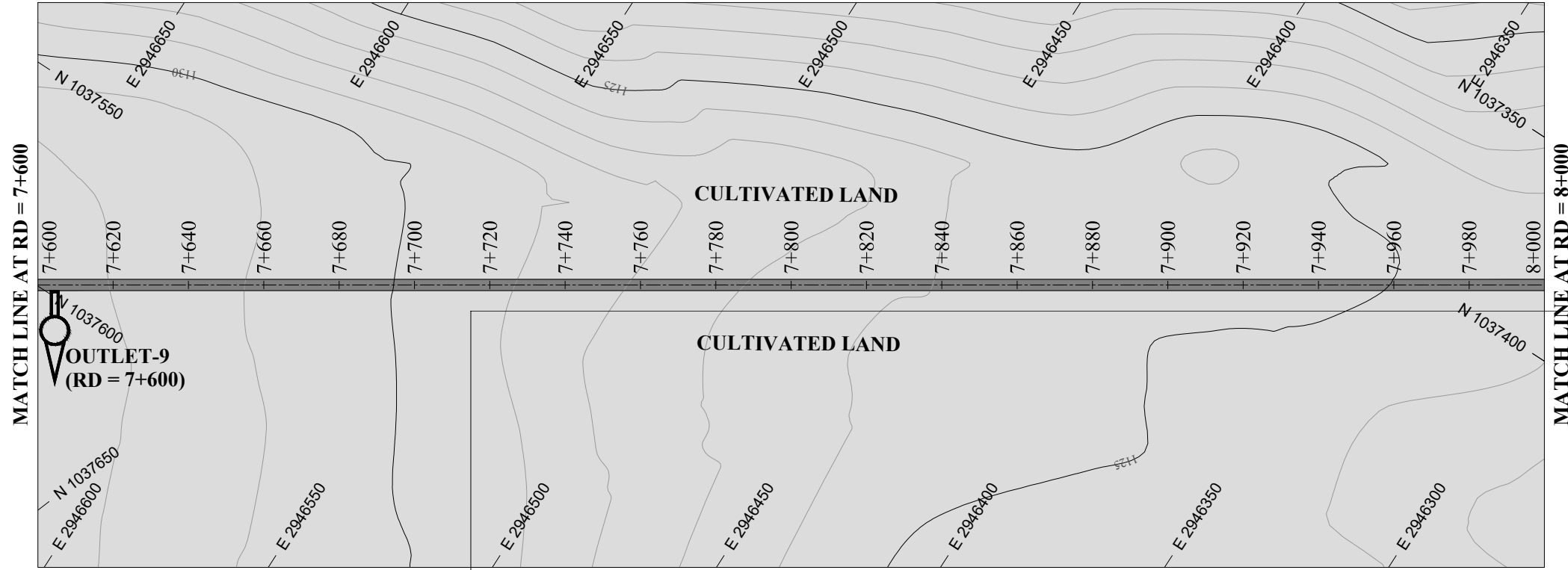
DRG.No:- BAD-BD-IR-01 SHEET:-19 OF 31 SUB SH.- ----



DATUM EL
Design parameters

BL	7+200	7+220	7+240	7+260	7+280	7+300	7+320	7+340	7+360	7+380	7+400	7+420	7+440	7+460	7+480	7+500	7+520	7+540	7+560	7+580	7+600	
NSL	1131.600	1132.990	1133.166	1133.047	1132.765	1133.424	1134.109	1134.380	1134.608	1134.634	1134.543	1134.144	1133.957	1134.225	1133.104	1133.994	1133.794	1133.605	1133.223	1132.869	1130.920	1130.900
RD	1131.300	1131.280	1131.260	1131.240	1131.220	1131.200	1131.180	1131.160	1131.140	1131.120	1131.100	1131.080	1131.060	1131.040	1131.020	1131.000	1130.980	1130.960	1130.940	1130.920	1130.900	1130.900

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DATUM EL $n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / \text{WL} = 0.43 / \text{FB} = 0.10 / \text{W} = 0.76 \text{ m} / \text{D} = 0.53 \text{ m} / \text{S} = 0.001$

Design parameters	7+600	7+620	7+635	7+640	7+660	7+674	7+680	7+700	7+711	7+720	7+740	7+745	7+760	7+777	7+780	7+800	7+813	7+820	7+840	7+860	7+880	7+900	7+920	7+931	7+940	7+960	7+980	7+995	8+000	
BL	1130.900	1130.880	1129.865	1129.860	1129.840	1128.826	1128.820	1128.800	1127.789	1127.780	1127.760	1126.755	1126.740	1125.723	1125.720	1125.700	1124.687	1124.680	1124.660	1124.640	1124.620	1124.600	1124.580	1123.569	1123.560	1123.540	1123.520	1122.505	1122.500	
NSL	1132.449	1131.968	1131.507	1131.351	1130.885	1130.452	1130.207	1129.844	1129.470	1129.218	1128.548	1128.385	1127.878	1127.357	1127.267	1126.667	1126.345	1126.261	1125.990	1125.332	1125.277	1125.241	1125.241	1125.269	1125.177	1125.080	1124.981	1124.560	1124.130	1124.023
RD	7+600	7+620	7+635	7+640	7+660	7+674	7+680	7+700	7+711	7+720	7+740	7+745	7+760	7+777	7+780	7+800	7+813	7+820	7+840	7+860	7+880	7+900	7+920	7+931	7+940	7+960	7+980	7+995	8+000	

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

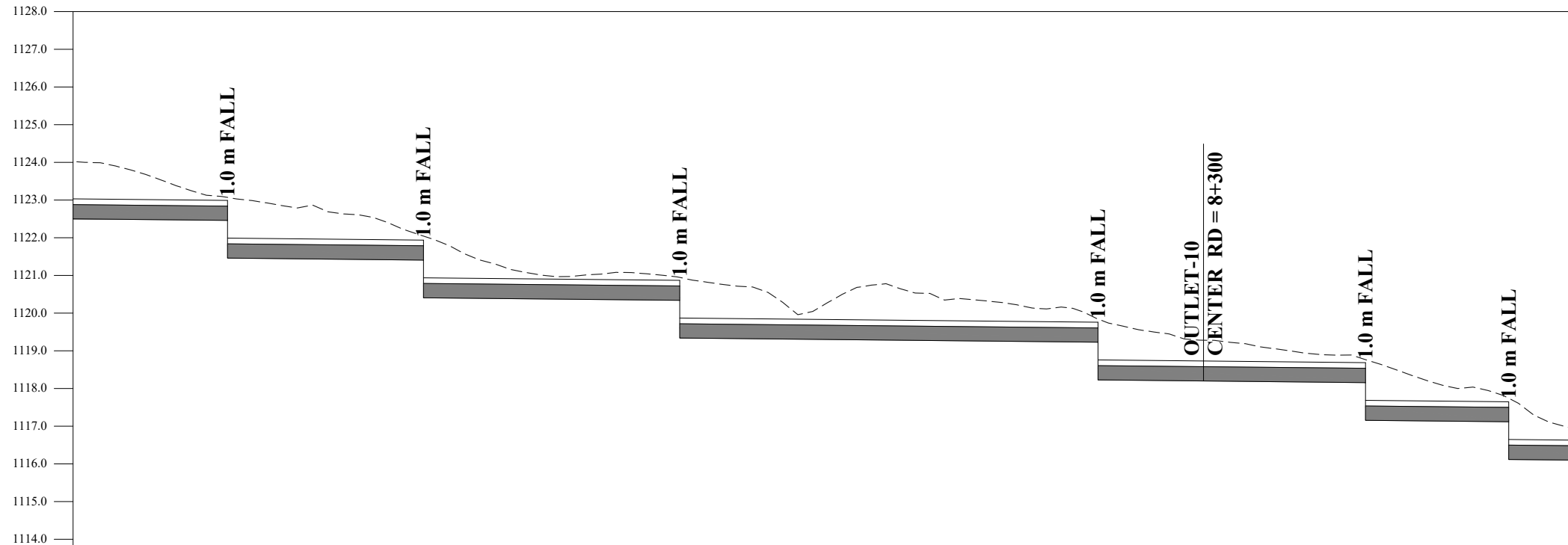
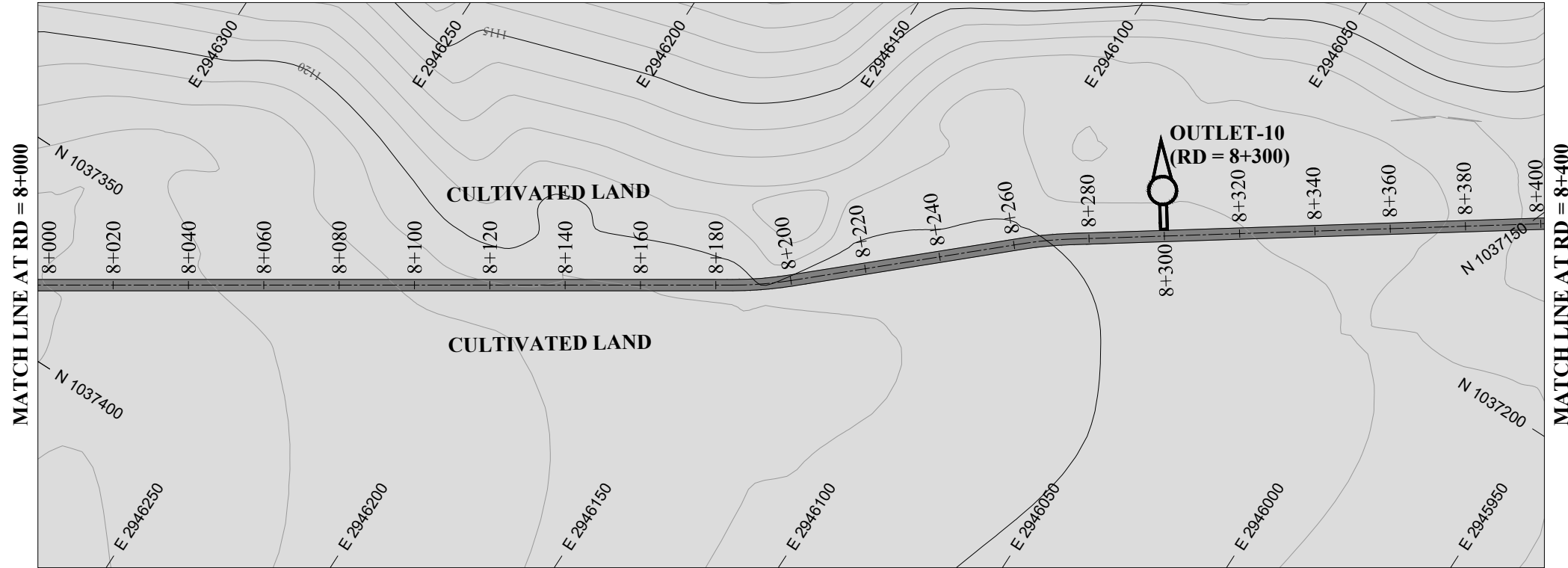
BAZ ALI DAM DISTRICT KURRAM

TITLE: **MAIN CHANNEL PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-20 OF 31 SUB SH.- ----

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DATUM EL

Design parameters $n = 0.015 / Q = 0.120 \text{ cumecs} / V = 0.63 \text{ m/s} / \text{WL} = 0.43 / \text{FB} = 0.10 / \text{W} = 0.76 \text{ m} / \text{D} = 0.53 \text{ m} / \text{S} = 0.001$

	8+000	8+020	8+040	8+060	8+080	8+100	8+120	8+140	8+160	8+180	8+200	8+220	8+240	8+260	8+280	8+300	8+320	8+340	8+360	8+380	8+400	
BL	1122.500																					
NSL	1124.023	1123.654	1123.086	1122.797	1122.528	1122.045	1121.080	1121.036	1120.966	1120.947	1120.634	1120.634	1120.346	1120.133	1119.843	1119.282	1119.041	1118.865	1118.191	1117.794	1117.420	1116.886
RD	1122.500	1122.480	1122.460	1121.459	1121.420	1120.407	1120.380	1120.360	1120.340	1119.339	1119.320	1119.300	1119.260	1119.240	1118.228	1118.220	1118.200	1118.180	1117.157	1117.140	1116.119	1116.100

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP
OF ENGINEERING & CONSULTANTS
ETA
IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

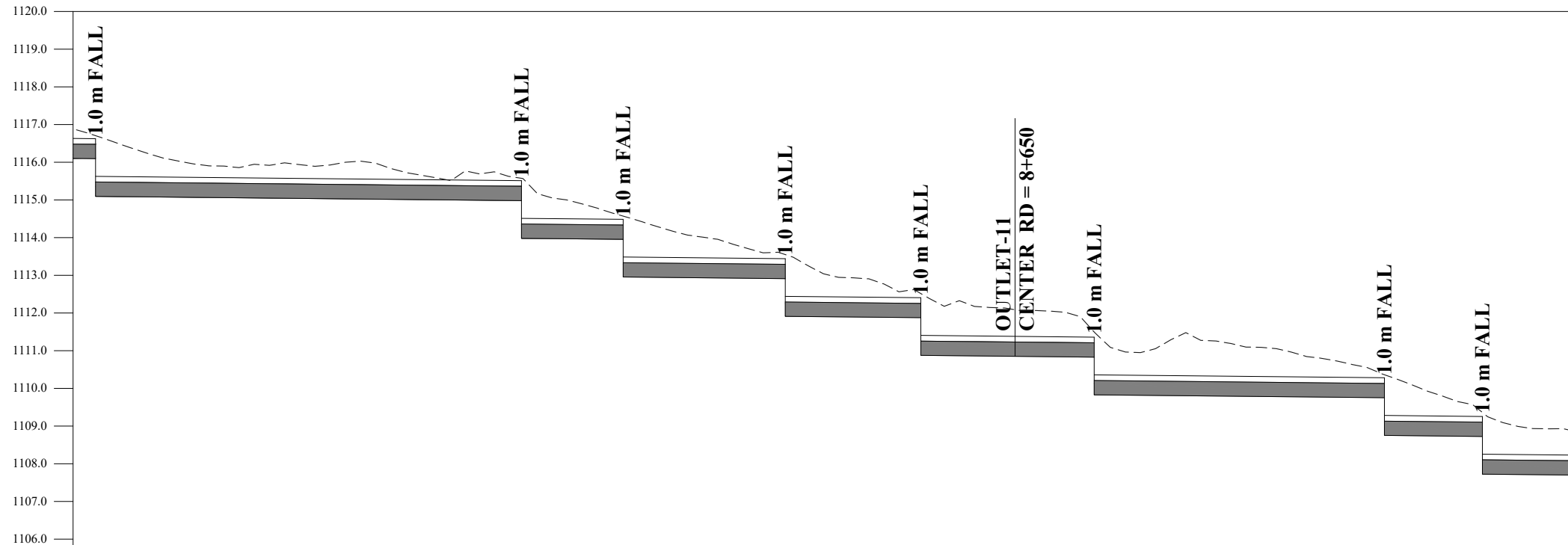
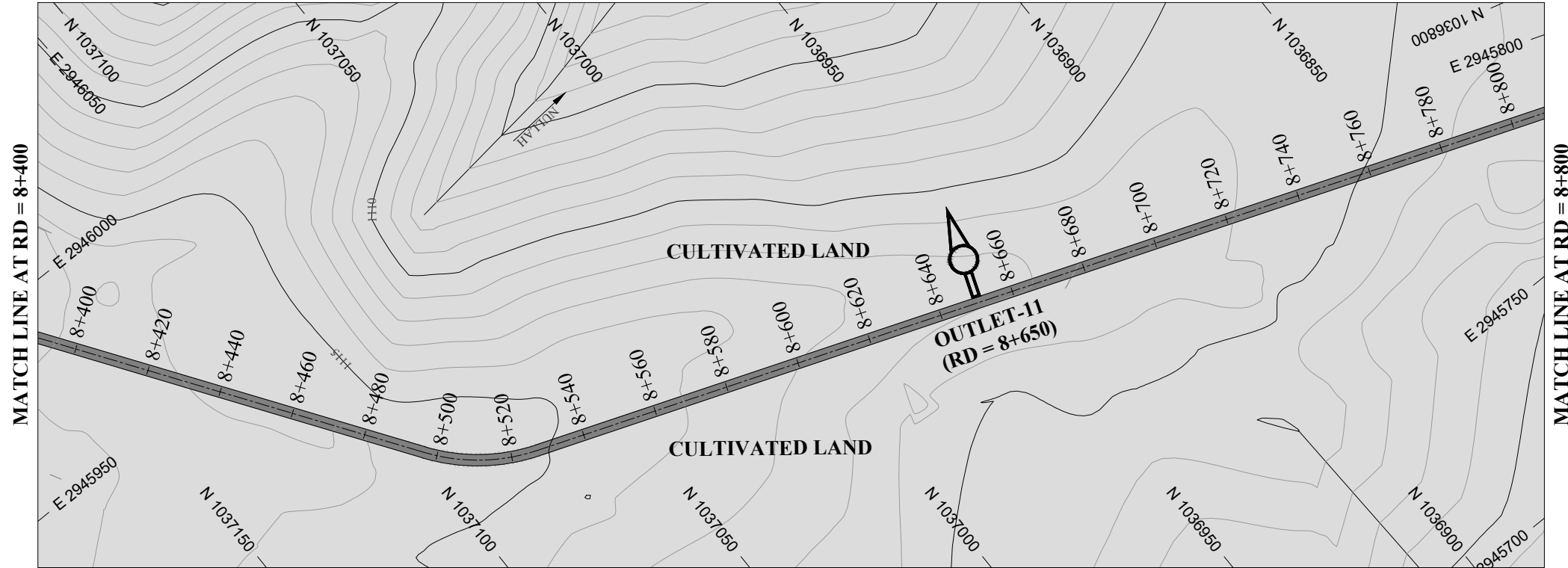
TITLE:

MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As Shown	FEB. 2022

DRG.No:- BAD-BD-IR-01 SHEET:-21 OF 31 SUB SH.- ----

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Design parameters	n = 0.015 / Q = 0.120 cumecs / V = 0.63 m/s / WL = 0.43 / FB = 0.10 / W = 0.76 m / D = 0.53 m / S = 0.001																																		
BL	1116.886	1116.100	1115.094	1115.080	1115.060	1115.040	1115.020	1115.000	1113.981	1113.980	1113.960	1112.954	1112.940	1112.920	1111.911	1111.900	1112.880	1111.880	1110.875	1110.860	1110.840	1109.829	1109.820	1109.800	1109.780	1109.760	1108.752	1108.740	1107.726	1107.720	1107.700				
NSL	1116.886	1116.704	1115.094	1115.080	1115.060	1115.040	1115.020	1115.000	1114.753	1113.981	1113.960	1114.570	1114.147	1113.684	1112.920	1113.549	1113.020	1112.575	1112.517	1110.875	1112.170	1110.840	1111.495	1109.829	1110.963	1109.820	1110.624	1110.364	1108.752	1109.909	1108.740	1109.363	1107.726	1109.077	1107.720
RD	8+400	8+406	8+420	8+440	8+460	8+480	8+500	8+519	8+520	8+540	8+546	8+560	8+580	8+589	8+600	8+620	8+625	8+640	8+660	8+671	8+680	8+700	8+720	8+740	8+748	8+760	8+774	8+780	8+800						

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCAD GROUP
OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

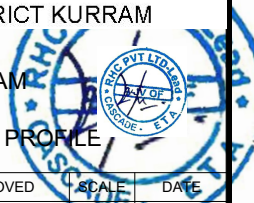
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

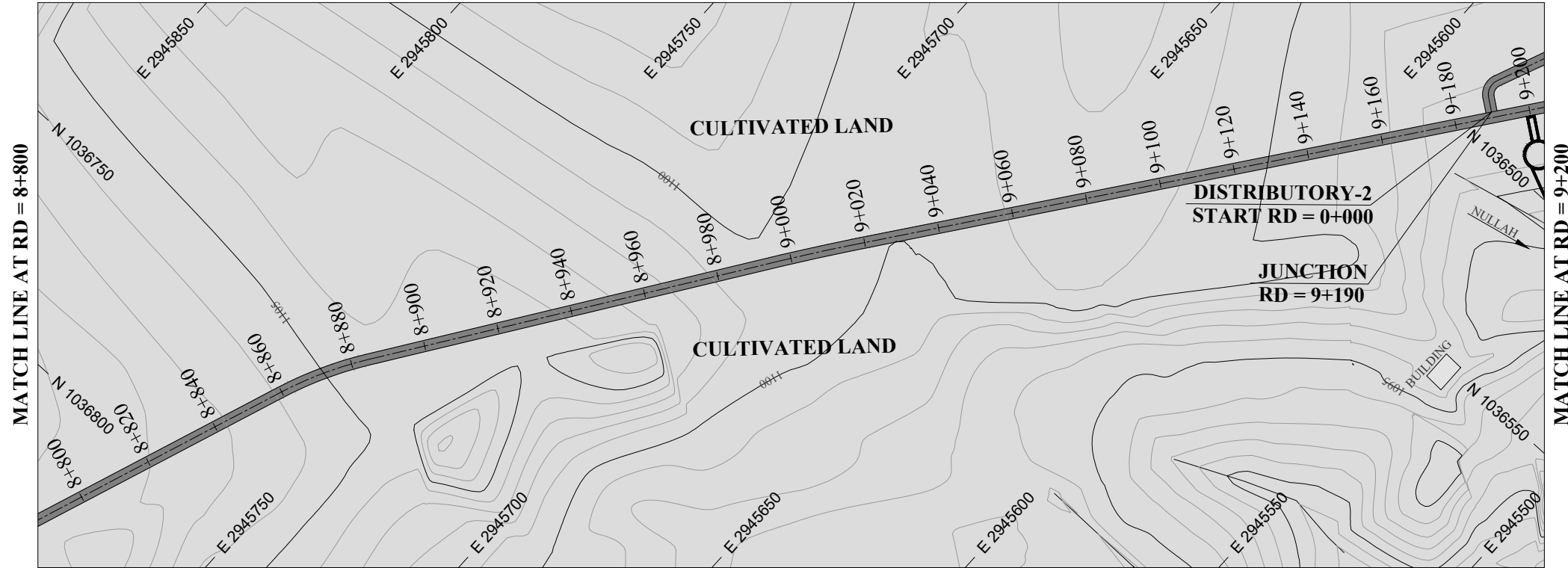
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-22 OF 31 SUB SH.- ----



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LEGENDS:

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NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

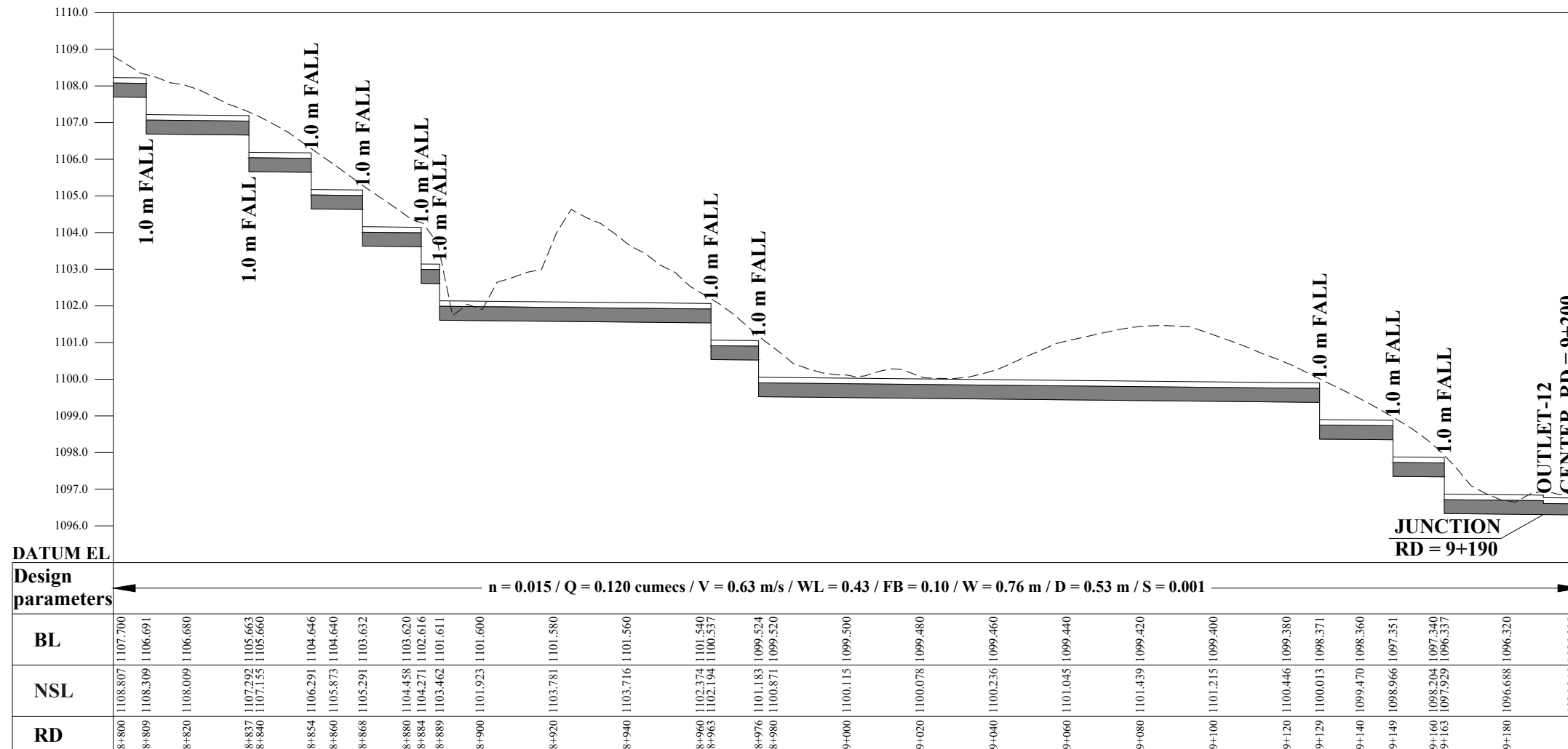
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

**BAZ ALI DAM
DISTRICT KURRAM**

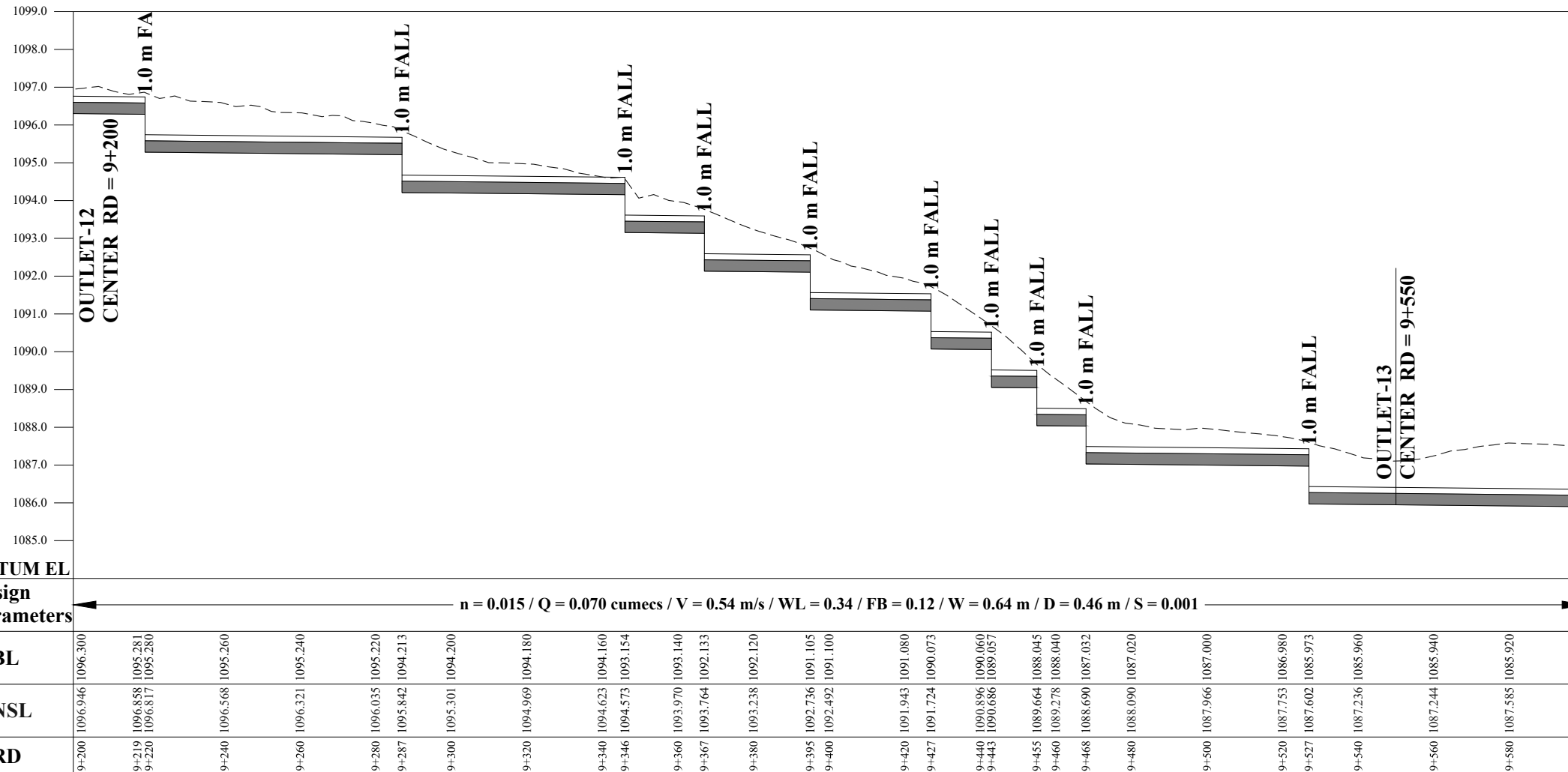
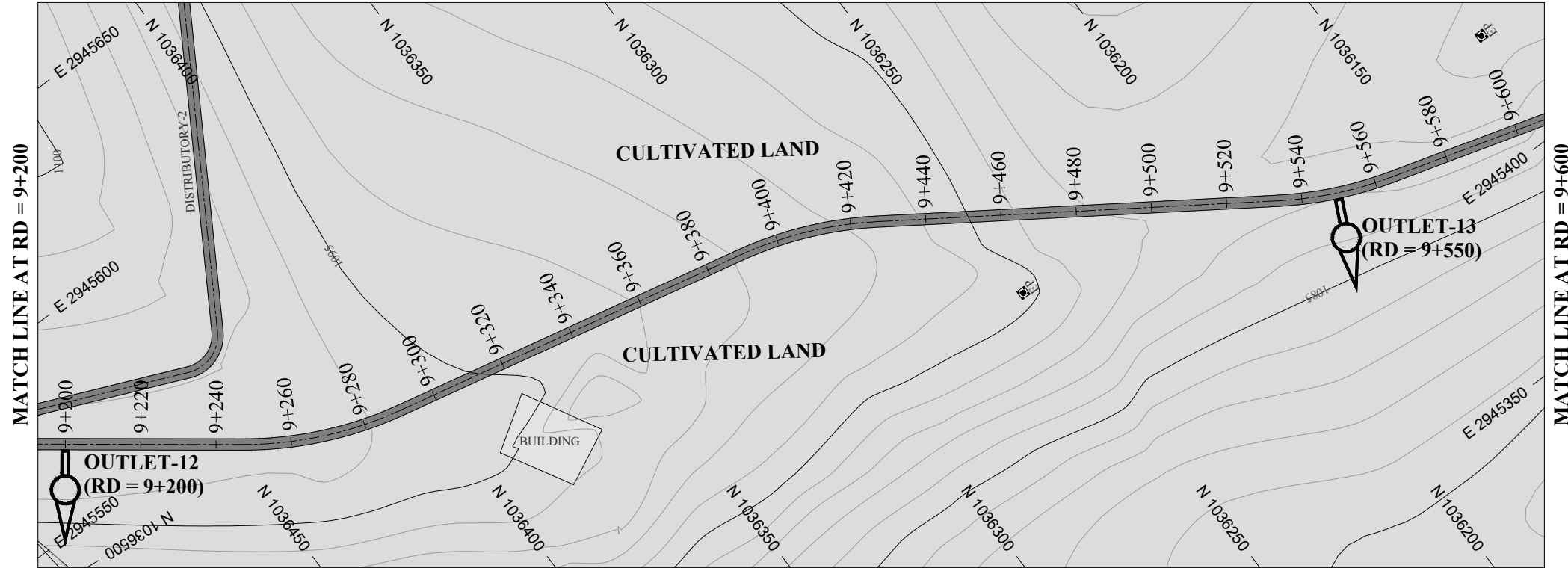
TITLE: **MAIN CHANNEL PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB. 2022

DRG.No:- BAD-BD-IR-01 SHEET:-23 OF 31 SUB SH.- ----



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LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCAD GROUP
OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

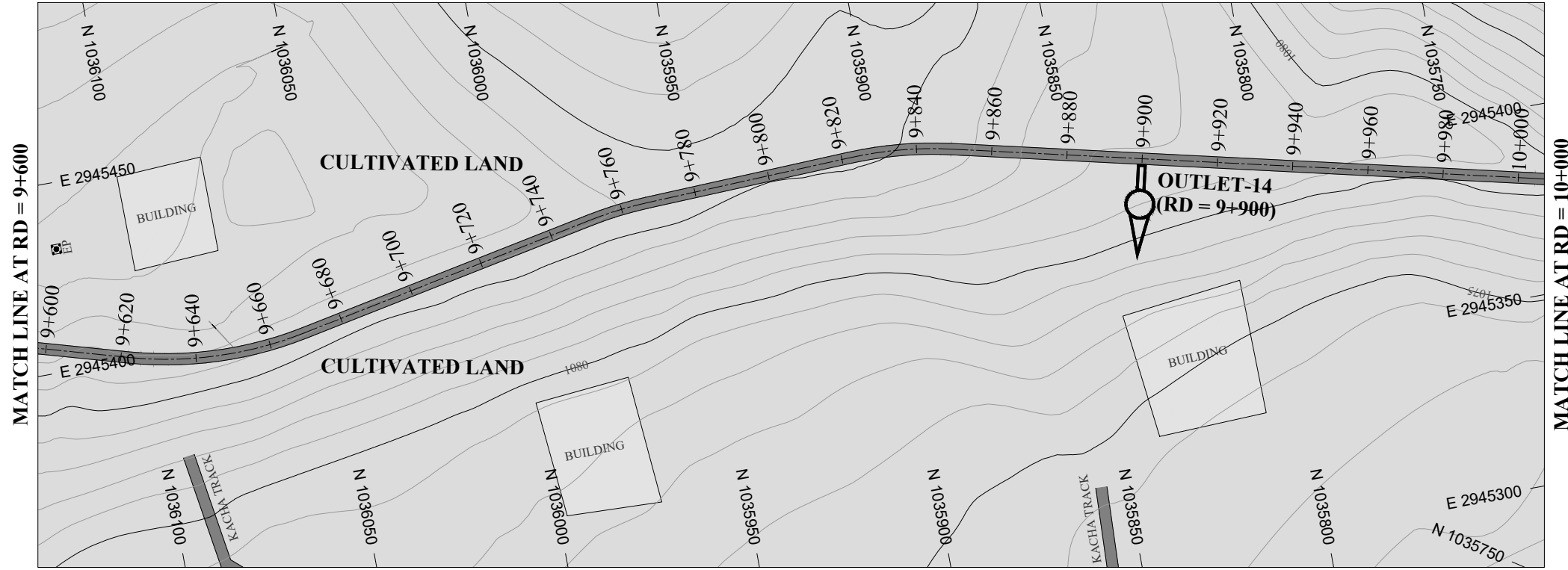
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL PLAN & PROFILE

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NOTES:

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- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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CASCAD GROUP
OF ENGINEERING & CONSULTANTS

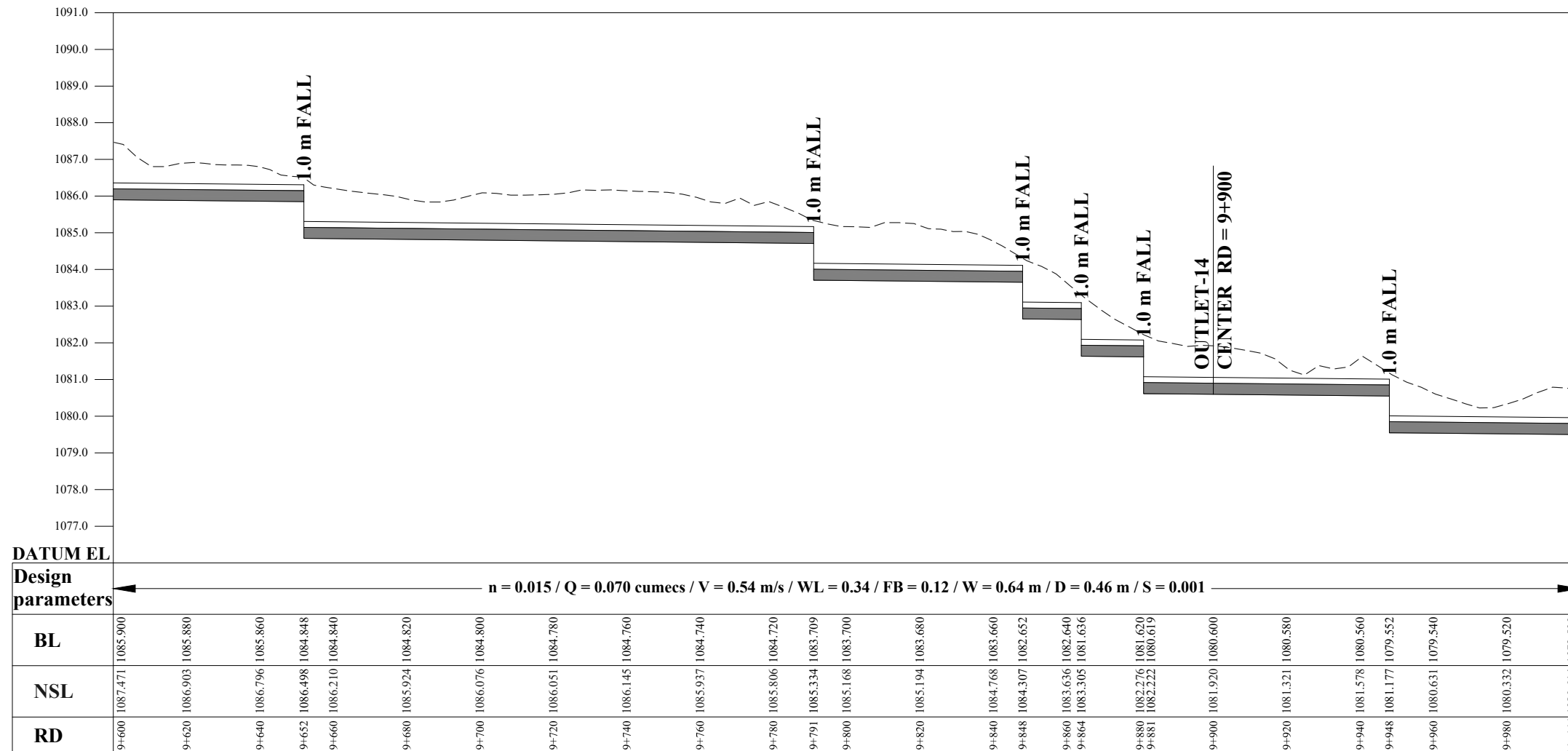
IN ASSOCIATION WITH:
ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

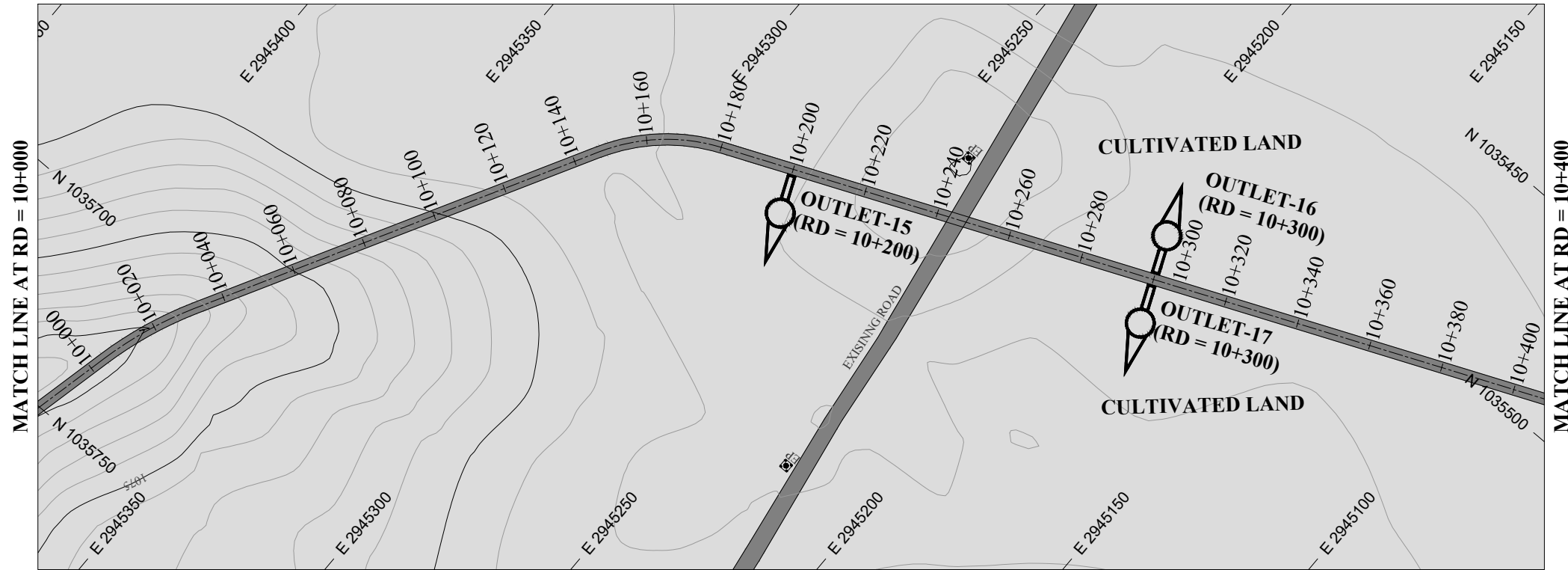
BAZ ALI DAM
DISTRICT KURRAM
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-25 OF 31 SUB SH.- ----



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- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

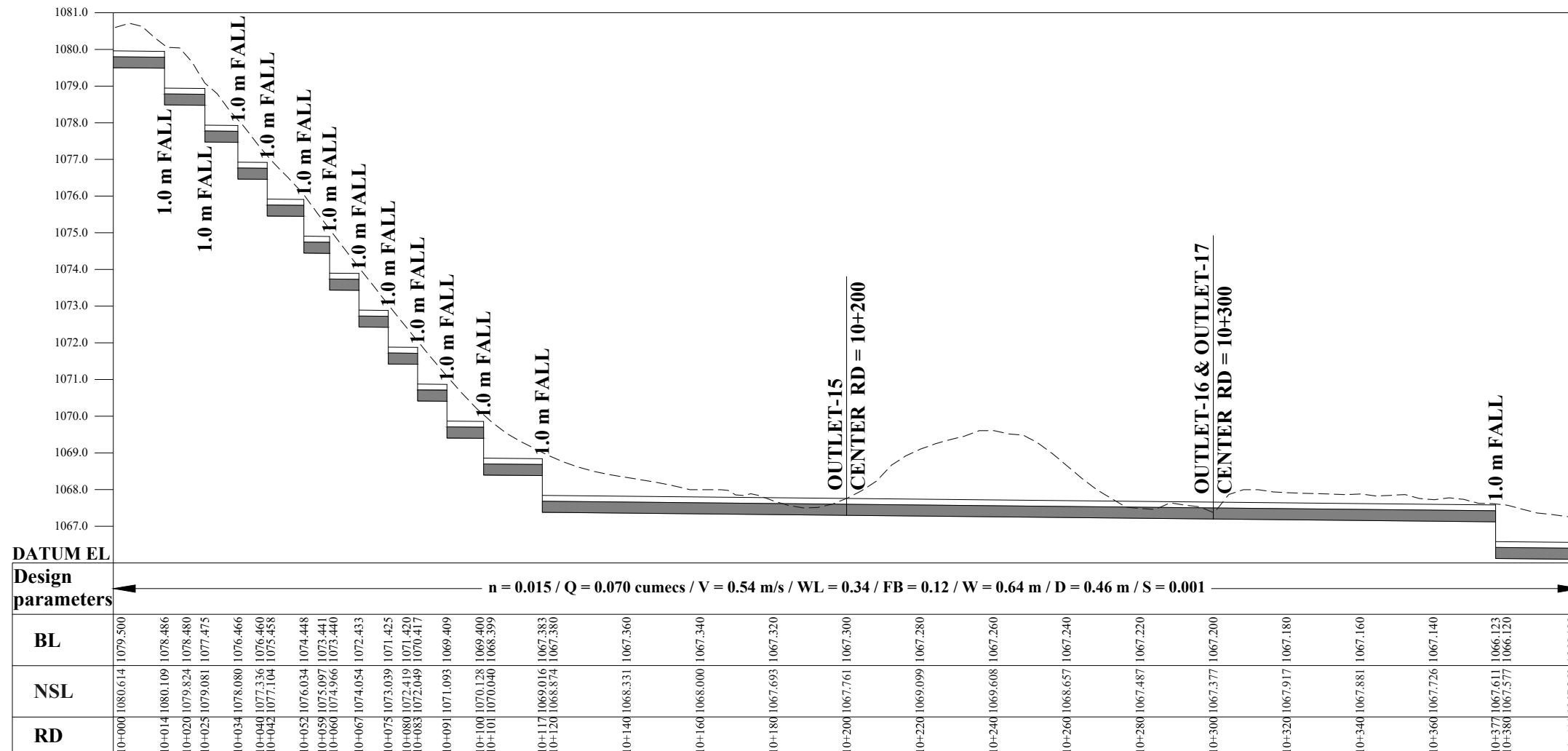
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

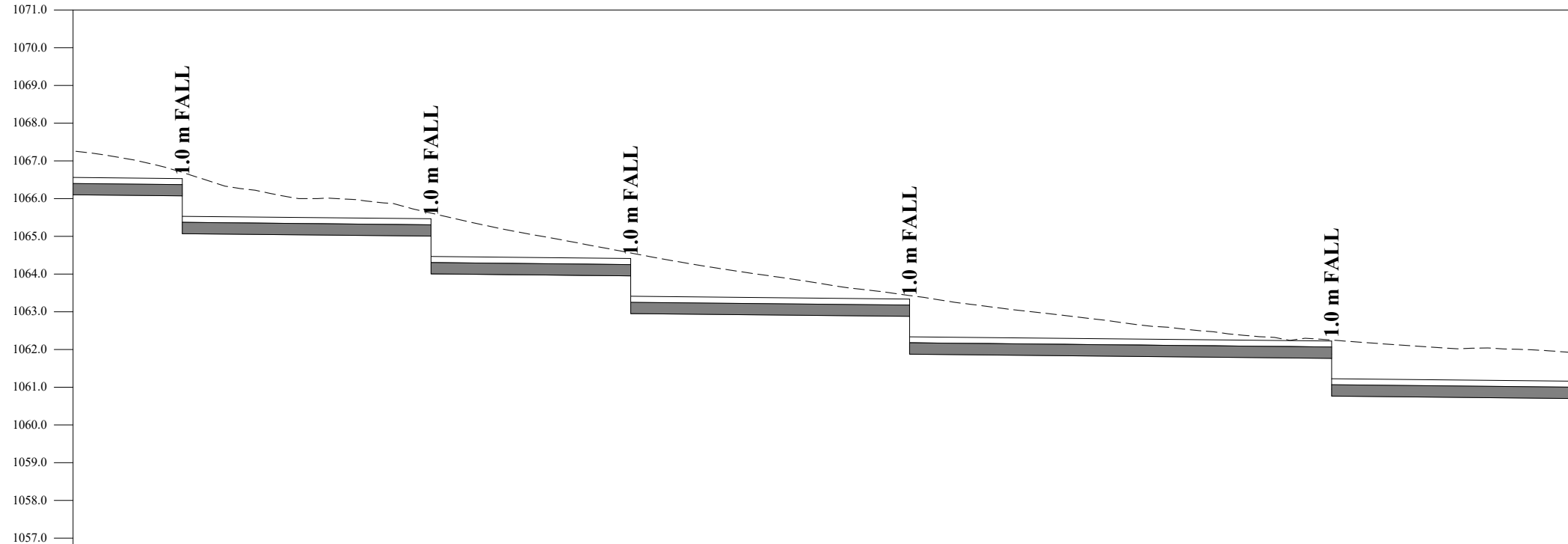
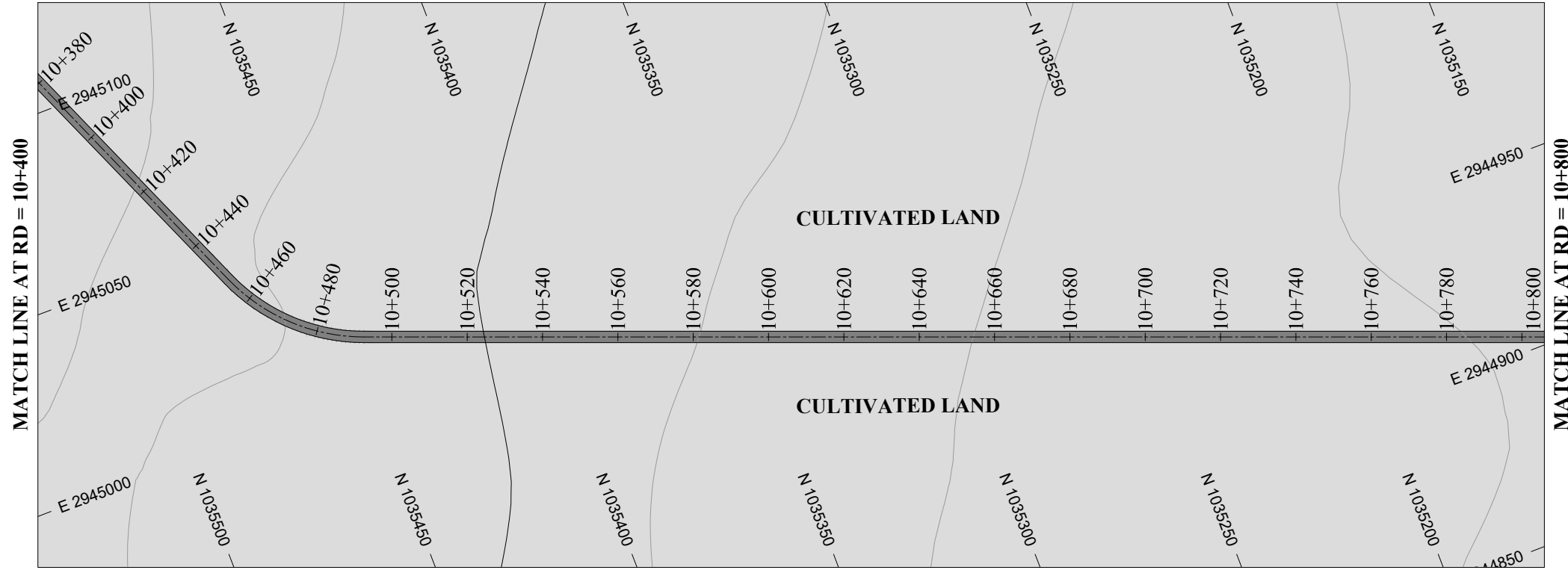
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-26 OF 31 SUB SH.- ----



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DATUM EL
Design parameters

$n = 0.015 / Q = 0.070 \text{ cumecs} / V = 0.54 \text{ m/s} / WL = 0.34 / FB = 0.12 / W = 0.64 \text{ m} / D = 0.46 \text{ m} / S = 0.001$

BL	10+400	1066.100	10+420	1066.080	10+440	1065.071	10+460	1065.040	10+480	1065.020	10+500	1064.005	10+520	1063.980	10+540	1063.960	10+560	1062.952	10+580	1062.940	10+600	1062.920	10+620	1062.880	10+640	1061.878	10+660	1061.860	10+680	1061.840	10+700	1061.820	10+720	1061.800	10+740	1060.780	10+760	1060.766	10+780	1060.760	10+800	1060.740
NSL	10+400	1067.260	10+420	1066.938	10+440	1066.696	10+460	1066.000	10+480	1065.911	10+500	1065.500	10+520	1065.079	10+540	1064.711	10+560	1064.560	10+580	1064.022	10+600	1063.723	10+620	1063.459	10+640	1063.431	10+660	1063.176	10+680	1062.939	10+700	1062.691	10+720	1062.500	10+740	1062.251	10+760	1062.206	10+780	1062.015	10+800	1061.910
RD	10+400	1067.260	10+420	1066.938	10+440	1066.696	10+460	1066.000	10+480	1065.911	10+500	1065.500	10+520	1065.079	10+540	1064.711	10+560	1064.560	10+580	1064.022	10+600	1063.723	10+620	1063.459	10+640	1063.431	10+660	1063.176	10+680	1062.939	10+700	1062.691	10+720	1062.500	10+740	1062.251	10+760	1062.206	10+780	1062.015	10+800	1061.910

NOTES:

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LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: **ETA** ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

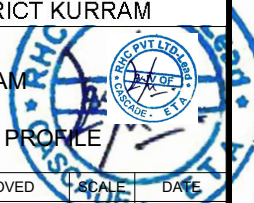
BAZ ALI DAM
DISTRICT KURRAM

TITLE:

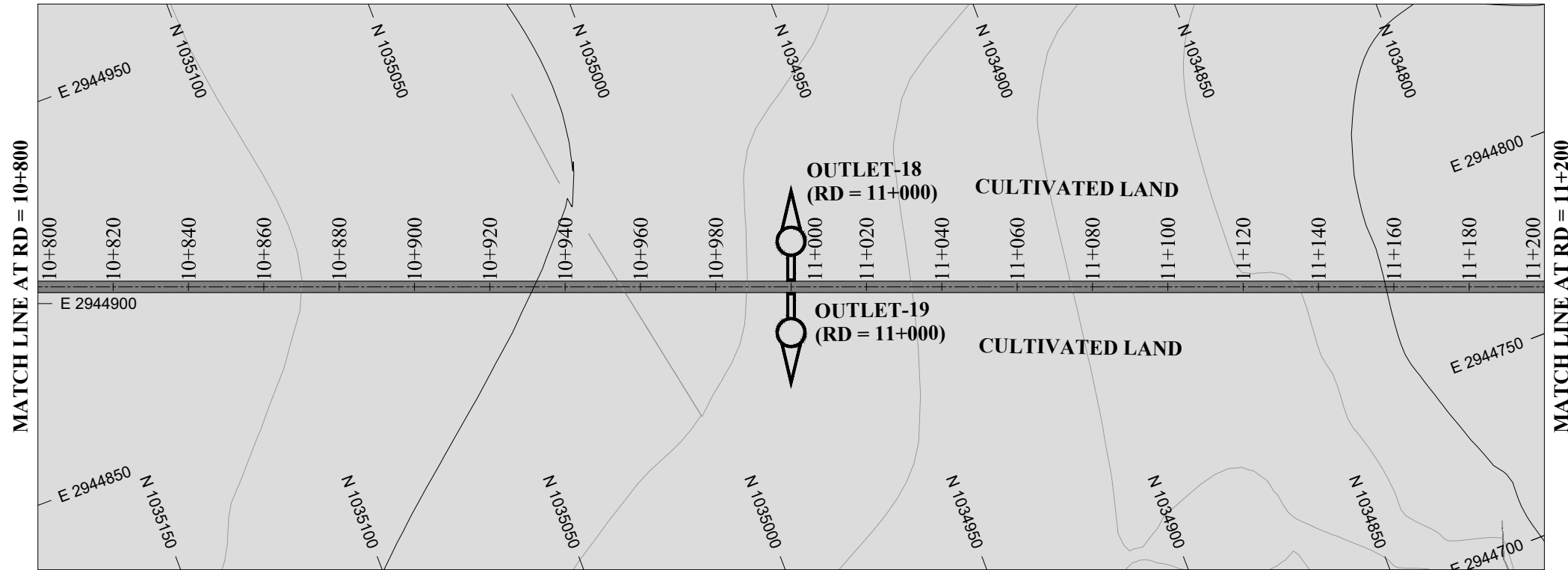
MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:1	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-27 OF 31 SUB SH.- ----



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ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
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NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

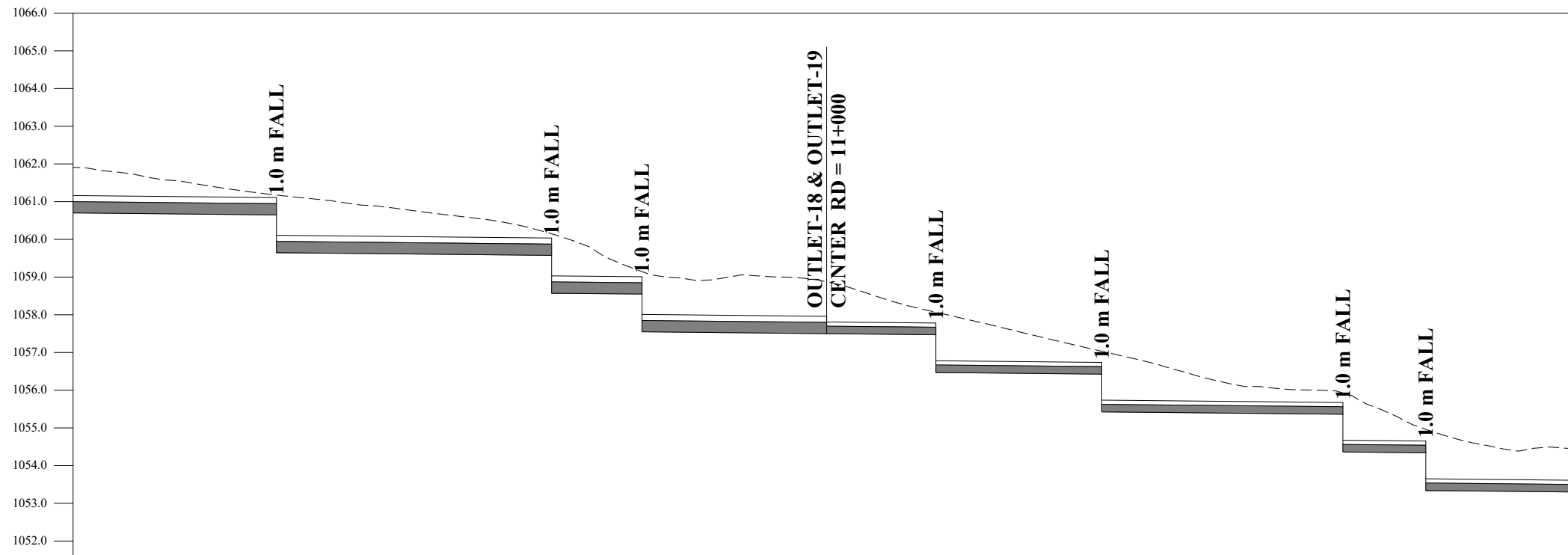
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM

TITLE: **MAIN CHANNEL PLAN & PROFILE**

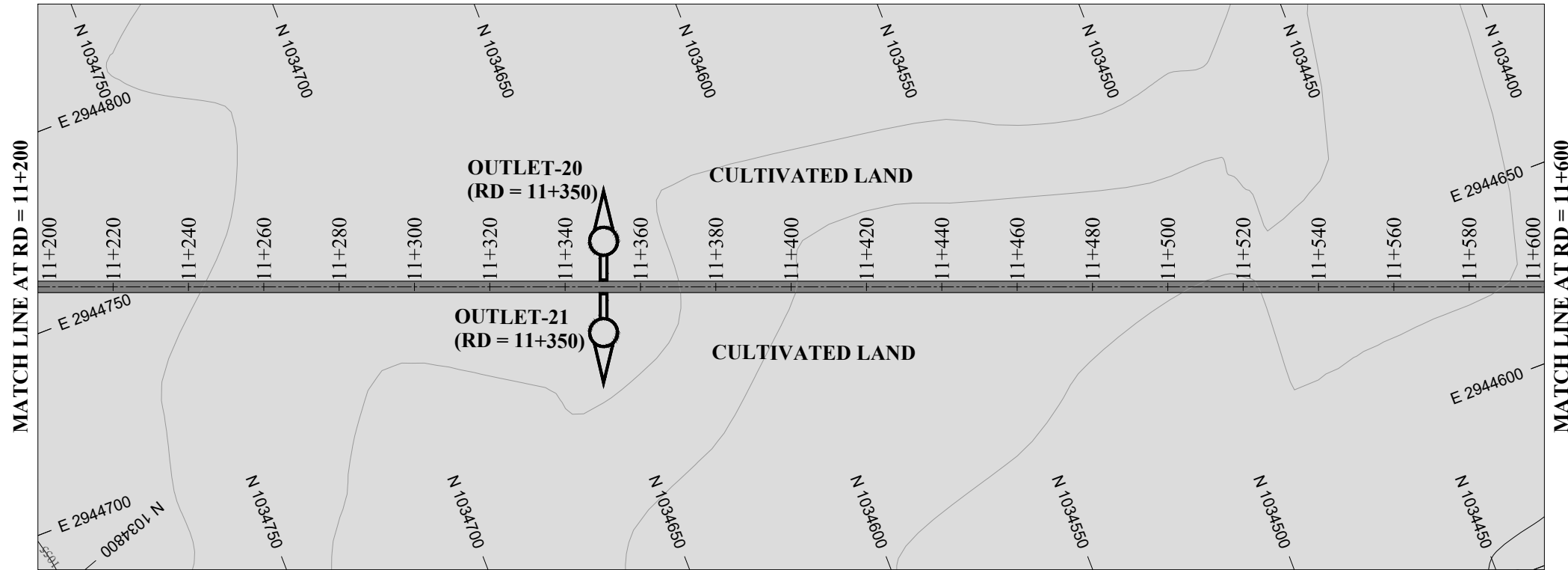
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-28 OF 31 SUB SH.- ----



Design parameters	n = 0.015 / Q = 0.070 cumecs / V = 0.54 m/s / WL = 0.34 FB = 0.12 / W = 0.64 m / D = 0.46 m / S = 0.001										n = 0.015 / Q = 0.030 cumecs / V = 0.44 m/s / WL = 0.24 FB = 0.07 / W = 0.46 m / D = 0.31 m / S = 0.001																																																																									
	RD	BL	NSL	RD	BL	NSL	RD	BL	NSL	RD	BL	NSL	RD	BL	NSL	RD	BL	NSL	RD	BL	NSL																																																															
	10+800	1061.910	1060.700	10+820	1061.645	1060.680	10+840	1061.356	1060.660	10+854	1061.175	1059.646	10+860	1061.111	1059.640	10+880	1060.888	1059.620	10+900	1060.640	1059.600	10+920	1060.336	1059.580	10+927	1060.147	1058.573	10+940	1059.611	1058.560	10+951	1059.143	1057.549	10+960	1058.983	1057.540	10+980	1059.043	1057.520	11+000	1058.875	1057.500	11+020	1058.283	1057.480	11+029	1058.068	1056.471	11+040	1057.815	1056.460	11+060	1057.335	1056.440	11+073	1057.033	1055.427	11+080	1056.873	1055.420	11+100	1056.339	1055.400	11+120	1056.043	1055.380	11+137	1055.927	1054.363	11+140	1055.818	1054.360	11+159	1054.961	1053.341	11+160	1054.927	1053.340	11+180	1054.437	1053.320	11+200	1054.433	1053.300

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LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
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VILLAGE	
CULTIVATED AREA	
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ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
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MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
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REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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ETA ENGINEERING & TECHNICAL ASSOCIATES

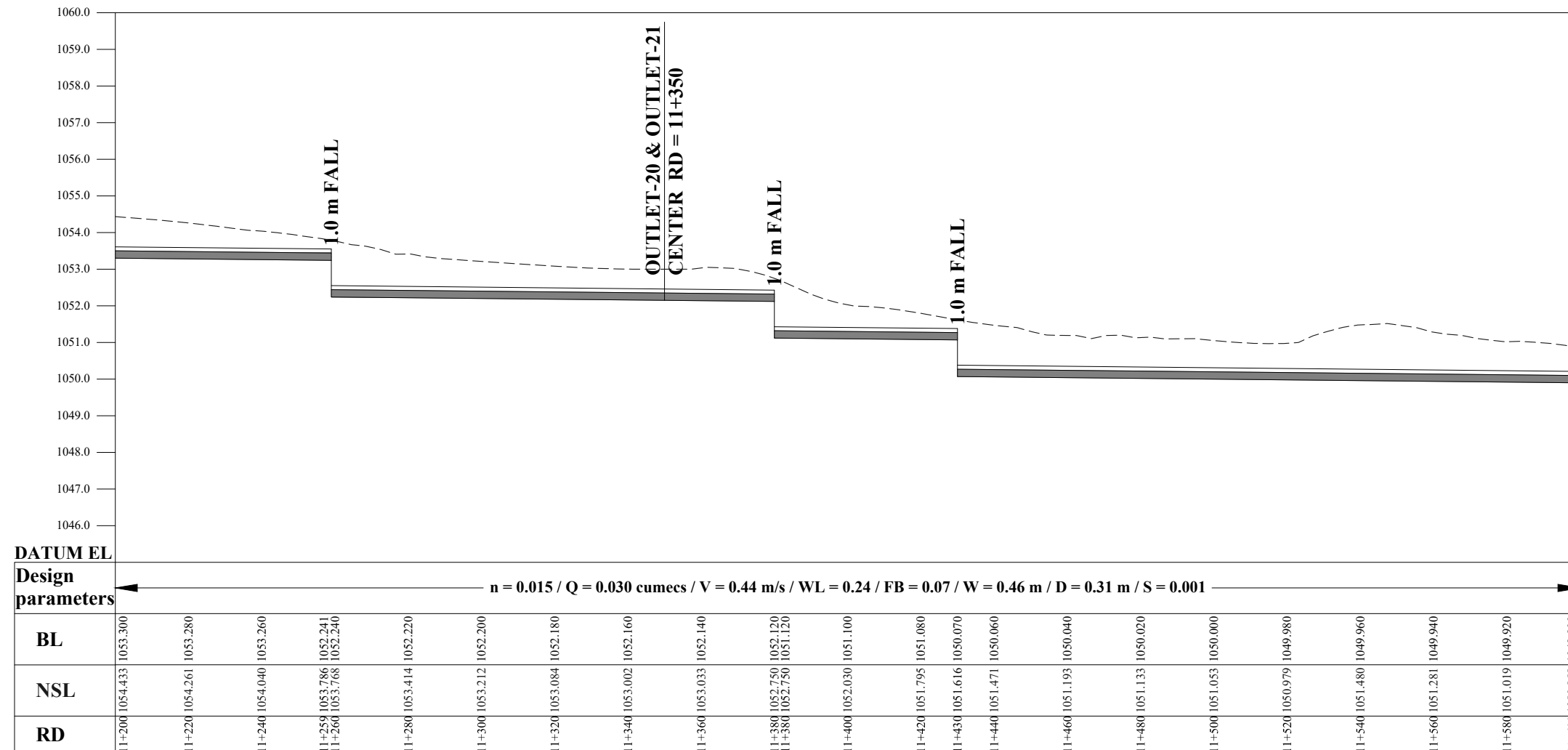
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

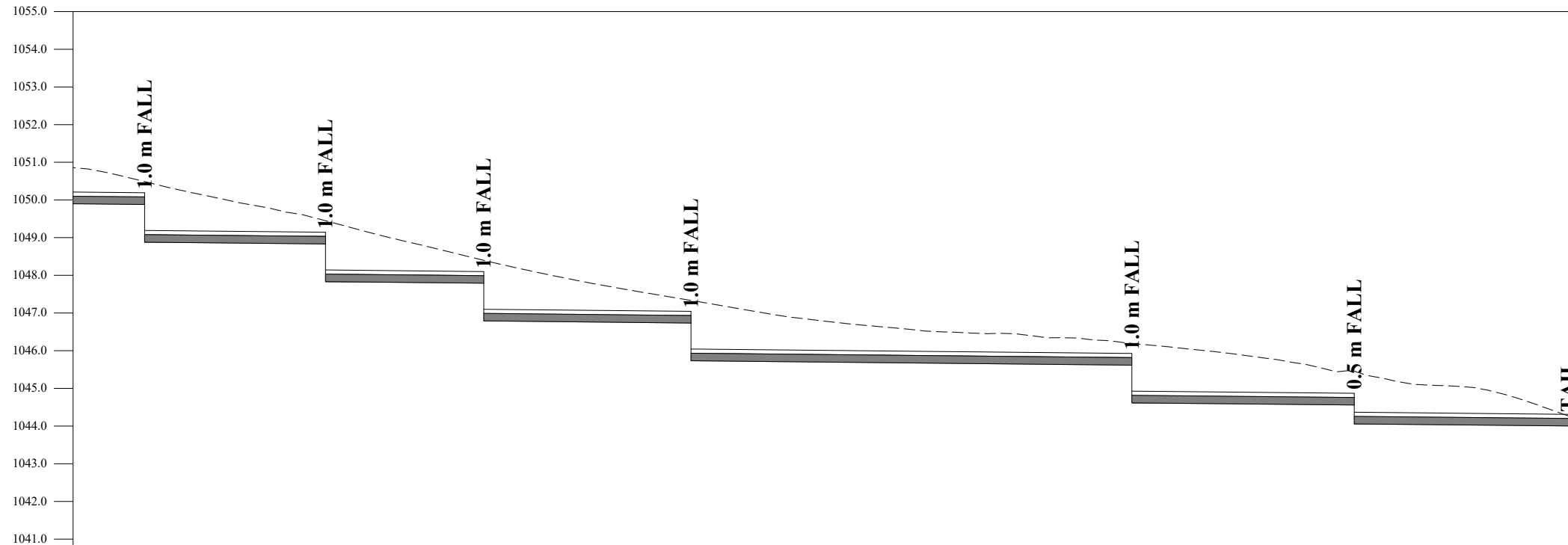
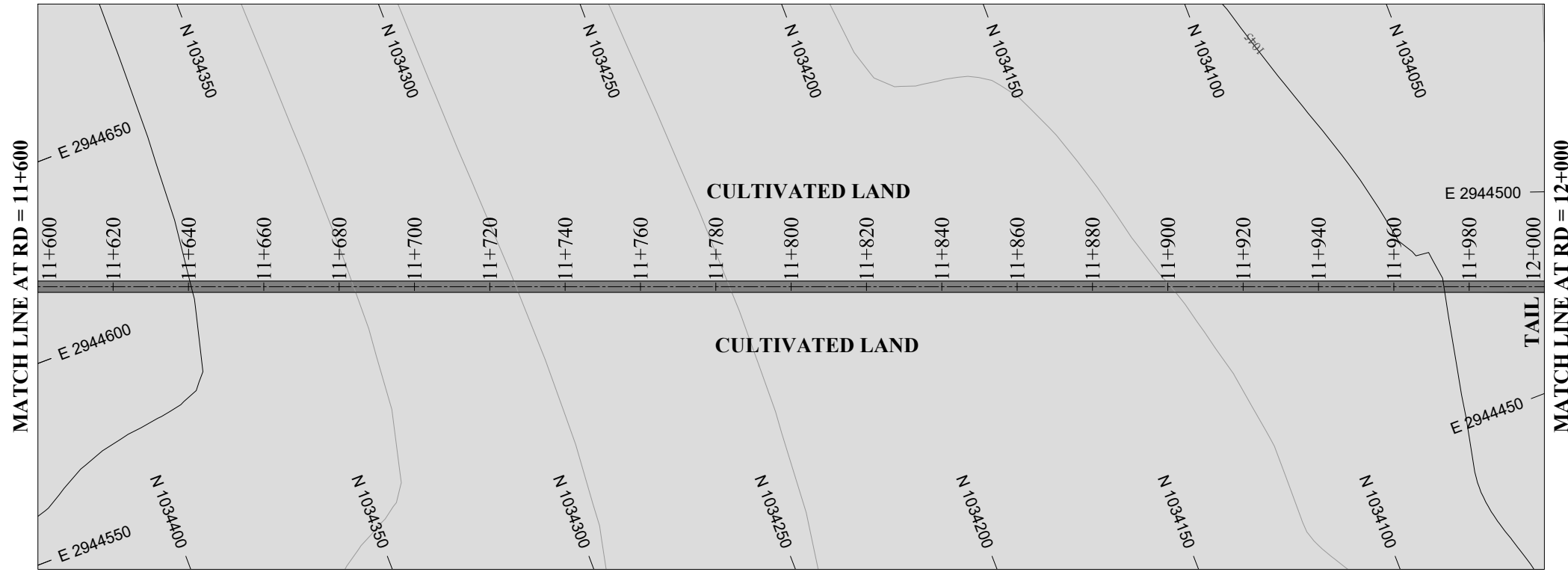
TITLE: MAIN CHANNEL PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-01 SHEET:-29 OF 31 SUB SH.- ----



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DATUM EL ← $n = 0.015 / Q = 0.030 \text{ cumecs} / V = 0.44 \text{ m/s} / WL = 0.24 / FB = 0.07 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$ →

Design parameters	11+600	11+619	11+620	11+640	11+660	11+667	11+680	11+700	11+709	11+720	11+740	11+760	11+764	11+780	11+800	11+820	11+840	11+860	11+880	11+881	11+900	11+920	11+940	11+940	11+960	11+980	12+000
BL	1049.900	1048.881	1048.880	1048.860	1048.840	1047.833	1047.820	1047.800	1046.791	1046.780	1046.760	1046.740	1045.736	1045.720	1045.700	1045.680	1045.660	1045.640	1045.620	1044.619	1044.600	1044.580	1044.560	1044.060	1044.040	1044.020	1044.000
NSL	1050.858	1050.489	1050.464	1050.017	1049.627	1049.450	1049.103	1048.621	1048.400	1048.149	1047.747	1047.403	1047.335	1047.061	1046.779	1046.587	1046.463	1046.346	1046.204	1046.194	1045.754	1045.754	1045.461	1045.461	1045.087	1044.841	1044.161
RD	1050.858	1050.489	1050.464	1050.017	1049.627	1049.450	1049.103	1048.621	1048.400	1048.149	1047.747	1047.403	1047.335	1047.061	1046.779	1046.587	1046.463	1046.346	1046.204	1046.194	1045.754	1045.754	1045.461	1045.461	1045.087	1044.841	1044.161

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

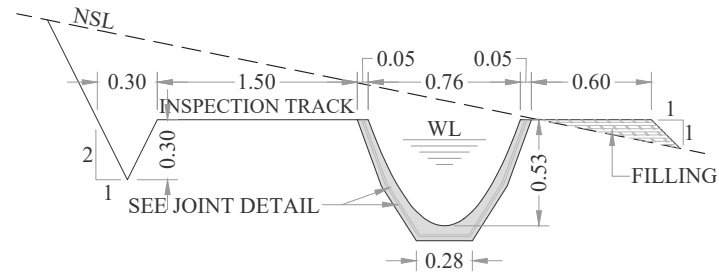
BAZ ALI DAM DISTRICT KURRAM

TITLE: **MAIN CHANNEL PLAN & PROFILE**

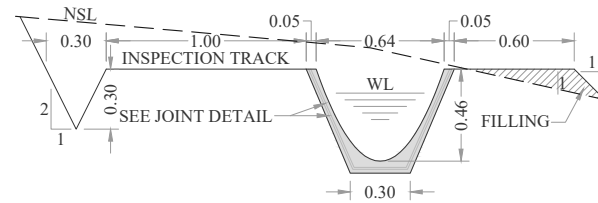
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB. 2022

DRG.No:- BAD-BD-IR-01 SHEET:-30 OF 31 SUB SH.- ----

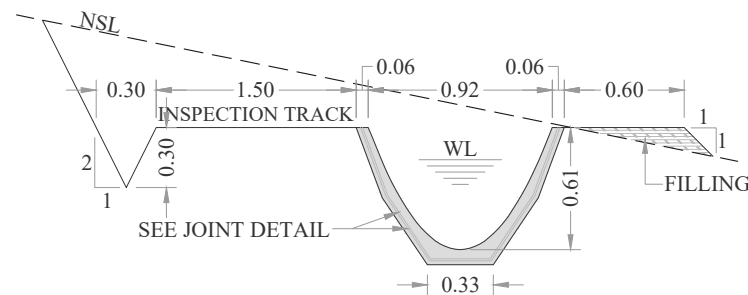
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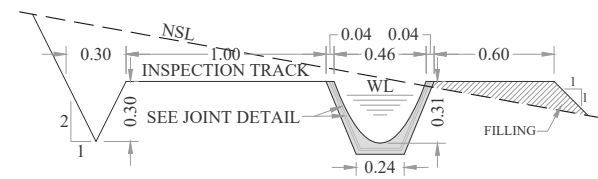
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SCALE: NTS



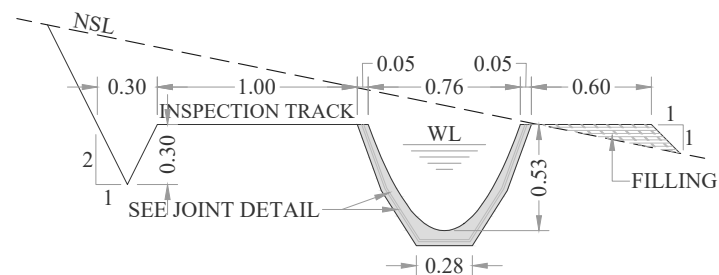
TYPE D SIZE = 640 mm x 460 mm
SCALE: 1:40



TYPE B SIZE = 920 mm x 610 mm
SCALE: NTS



TYPE E SIZE = 460 mm x 310 mm
SCALE: 1:40



TYPE C SIZE = 760 mm x 530 mm
SCALE: 1:50



NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

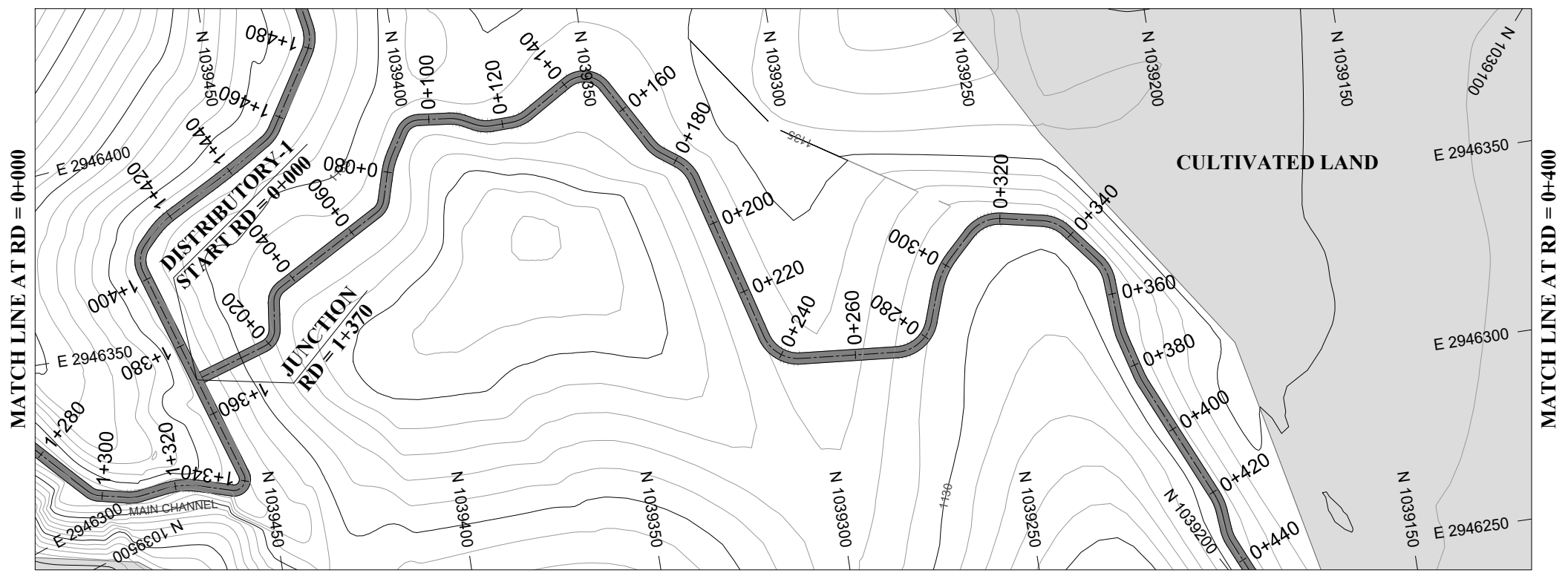
A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM					
TITLE: TYPICAL SECTIONS					
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-01		SHEET:-31 OF 31		SUB SH.- ----	

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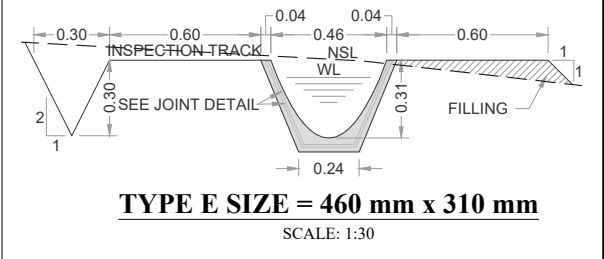


NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK



REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

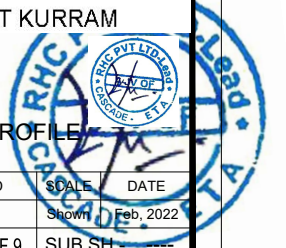
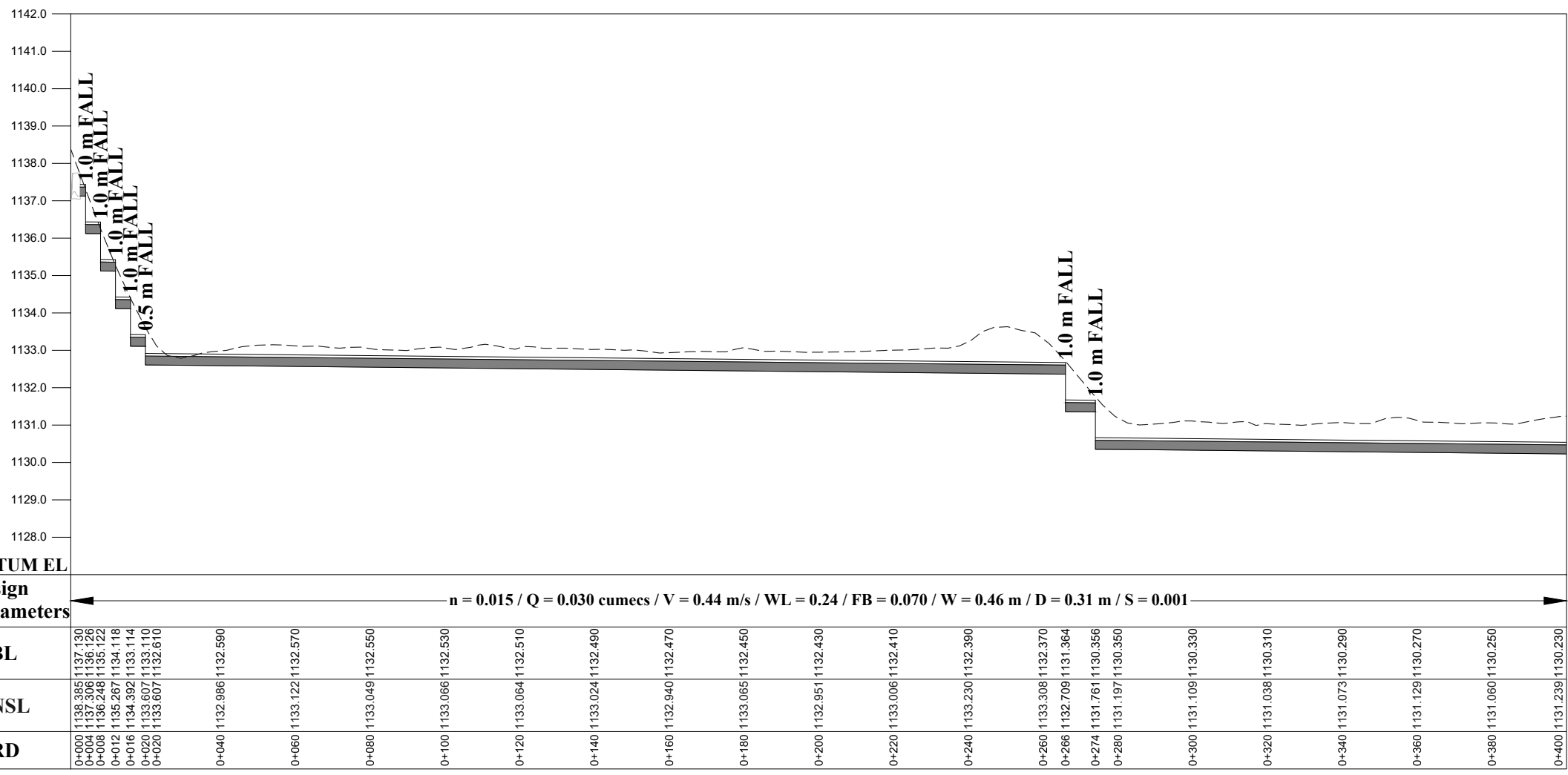
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

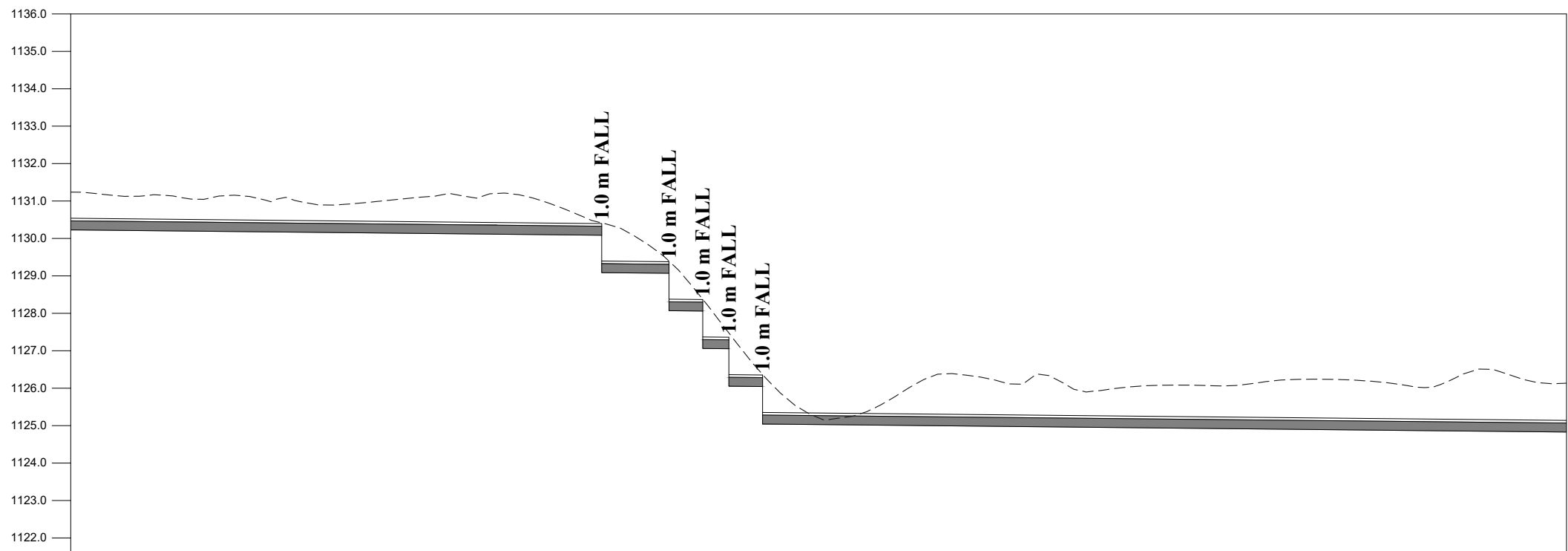
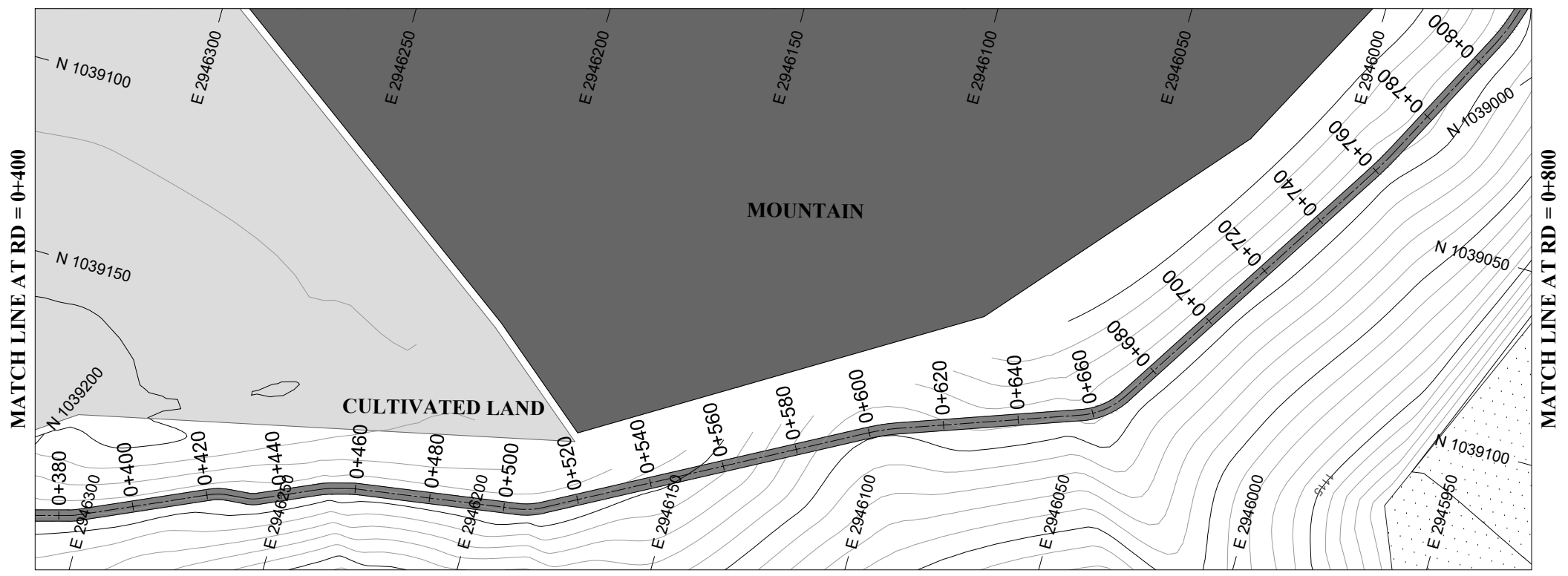
**BAZ ALI DAM
DISTRICT KURRAM**

TITLE: **DISTRIBUTORY-1 PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022
DRG.No:- BAD-BD-IR-02		SHEET:- 1 OF 9		SUB SH.:-	



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DATUM EL

Design parameters → $n = 0.015 / Q = 0.030 \text{ cumecs} / V = 0.44 \text{ m/s} / \text{WL} = 0.24 / \text{FB} = 0.070 / \text{W} = 0.46 \text{ m} / \text{D} = 0.31 \text{ m} / \text{S} = 0.001$ ←

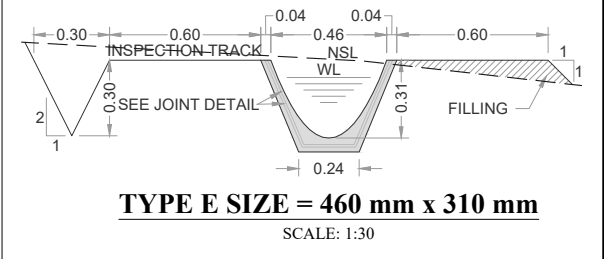
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0+420 1130.210	0+420 1131.145	0+420 1131.145
0+440 1130.190	0+440 1131.135	0+440 1131.135
0+460 1130.170	0+460 1131.014	0+460 1130.170
0+480 1130.150	0+480 1130.970	0+480 1130.970
0+500 1130.130	0+500 1131.183	0+500 1130.130
0+520 1130.110	0+520 1131.167	0+520 1130.110
0+540 1130.090	0+540 1130.467	0+540 1130.090
0+542 1129.088	0+542 1130.418	0+542 1129.088
0+560 1129.070	0+560 1129.397	0+560 1129.397
0+562 1128.070	0+562 1129.397	0+562 1128.070
0+569 1127.061	0+569 1128.380	0+569 1127.061
0+576 1126.054	0+576 1127.476	0+576 1126.054
0+580 1126.050	0+580 1126.966	0+580 1126.050
0+585 1125.045	0+585 1126.370	0+585 1125.045
0+600 1125.030	0+600 1125.209	0+600 1125.030
0+620 1125.010	0+620 1125.752	0+620 1125.010
0+640 1124.990	0+640 1126.344	0+640 1124.990
0+660 1124.970	0+660 1126.359	0+660 1124.970
0+680 1124.950	0+680 1126.004	0+680 1124.950
0+700 1124.930	0+700 1126.081	0+700 1124.930
0+720 1124.910	0+720 1126.182	0+720 1124.910
0+740 1124.890	0+740 1126.231	0+740 1124.890
0+760 1124.870	0+760 1126.028	0+760 1124.870
0+780 1124.850	0+780 1126.504	0+780 1124.850
0+800 1124.830	0+800 1126.134	0+800 1124.830

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	1155
INTERMEDIATE CONTOUR	1154
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	



REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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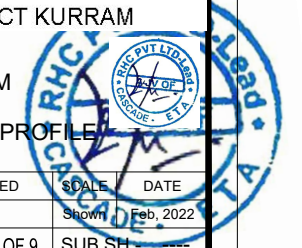
CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:
A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

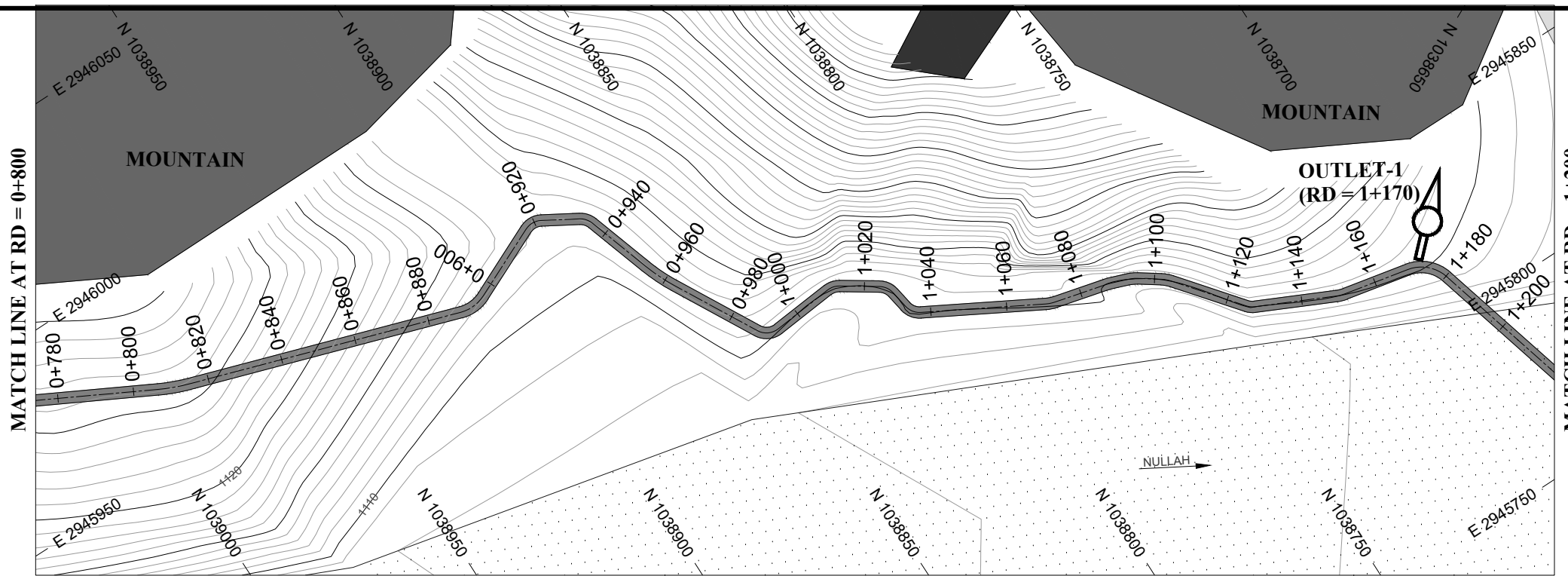
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM
TITLE: DISTRIBUTORY-1 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022
DRG.No:- BAD-BD-IR-02		SHEET:- 2 OF 9		SUB SH.:-	



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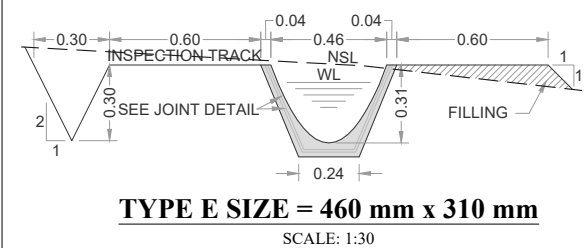


NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK



REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

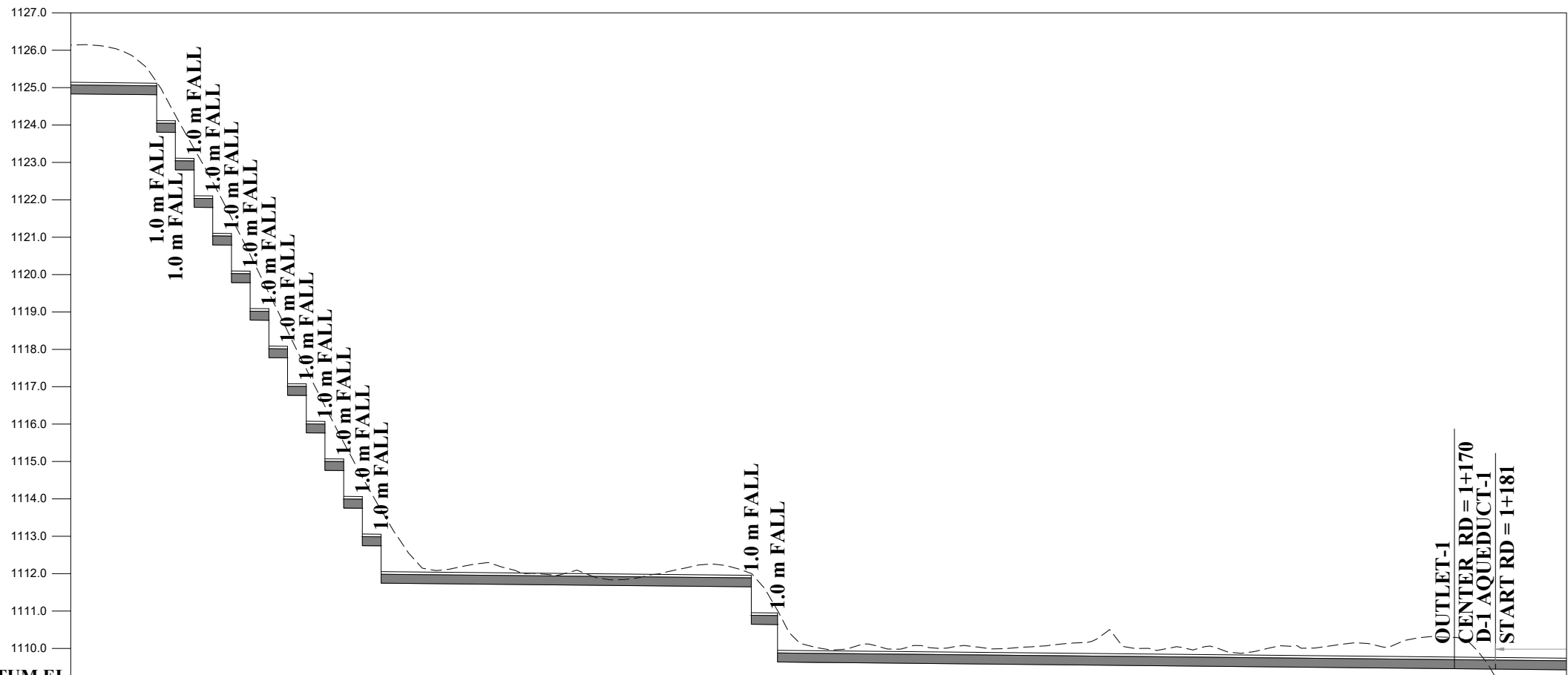
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE: DISTRIBUTORY-1 PLAN & PROFILE

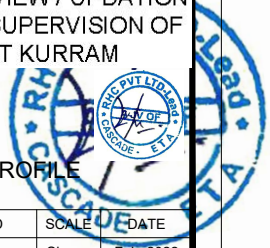
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022
DRG.No:- BAD-BD-IR-02		SHEET:- 3 OF 9		SUB SH. - ----	



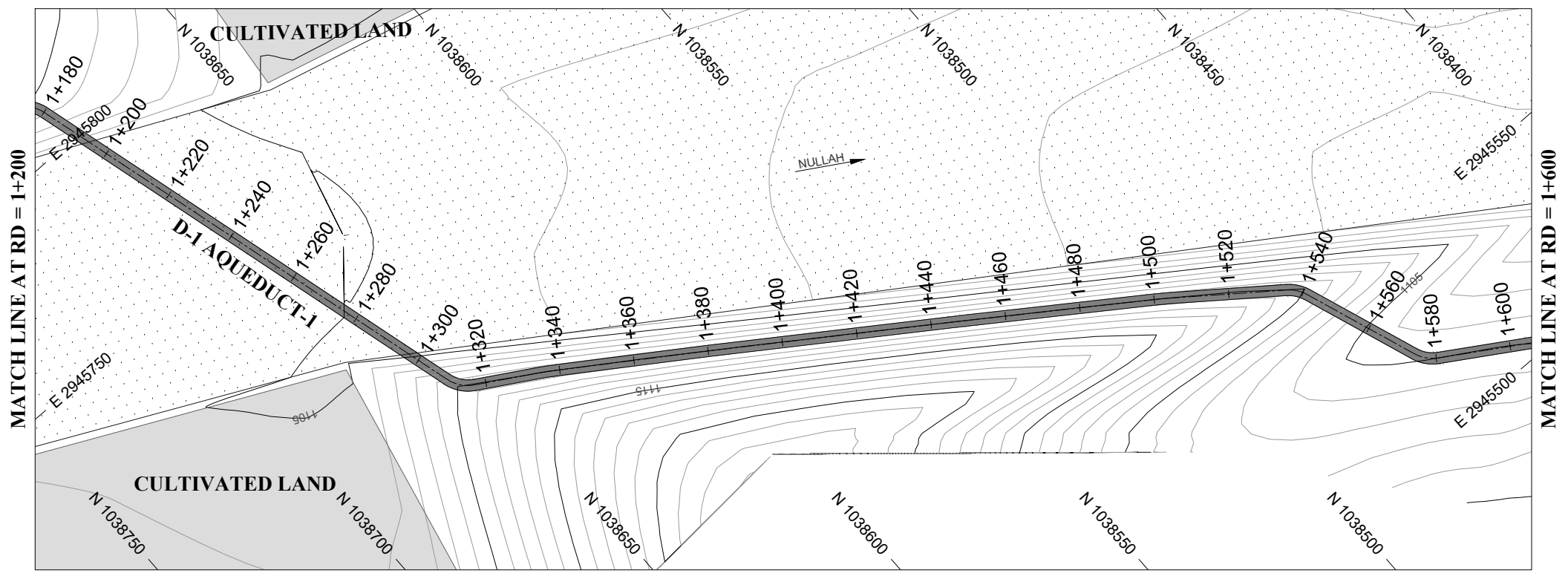
DATUM EL 1110.00

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BL	NSL	RD
0+800	1126.134	1124.830
0+820	1125.565	1124.810
0+823	1125.142	1123.807
0+828	1124.259	1122.802
0+833	1123.370	1121.797
0+838	1122.470	1120.792
0+840	1122.095	1120.790
0+843	1121.516	1119.787
0+848	1120.525	1118.782
0+853	1119.507	1117.777
0+858	1118.486	1116.772
0+860	1118.078	1116.770
0+863	1117.472	1115.767
0+868	1116.478	1114.762
0+873	1115.512	1113.757
0+878	1114.590	1112.752
0+883	1113.224	1112.750
0+885	1113.704	1111.747
0+900	1112.106	1111.730
0+920	1112.040	1111.710
0+940	1111.915	1111.690
0+960	1112.063	1111.670
0+980	1112.077	1111.650
0+982	1112.004	1110.648
0+988	1111.018	1109.641
1+000	1110.016	1109.630
1+020	1109.984	1109.610
1+040	1110.068	1109.590
1+060	1110.067	1109.570
1+080	1110.226	1109.550
1+100	1109.964	1109.530
1+120	1110.001	1109.510
1+140	1110.115	1109.490
1+160	1110.280	1109.470
1+180	1109.403	1109.450
1+200	1104.466	1109.430



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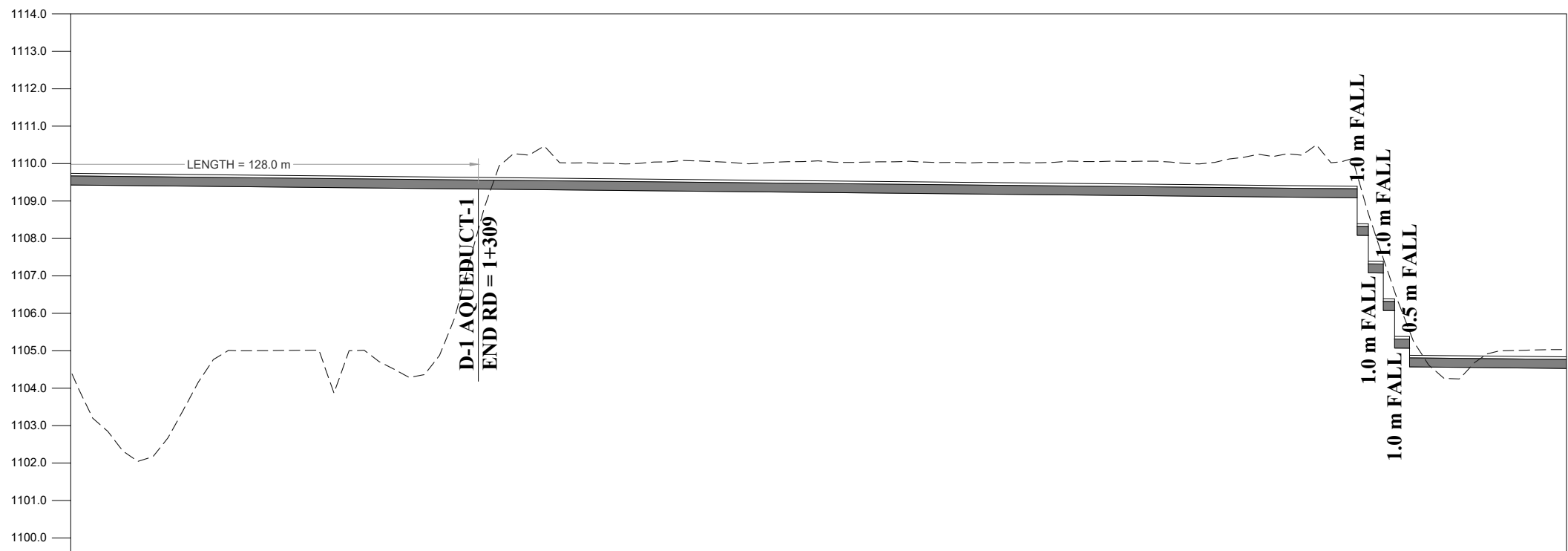
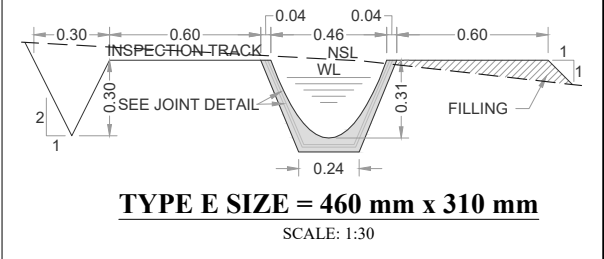


NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

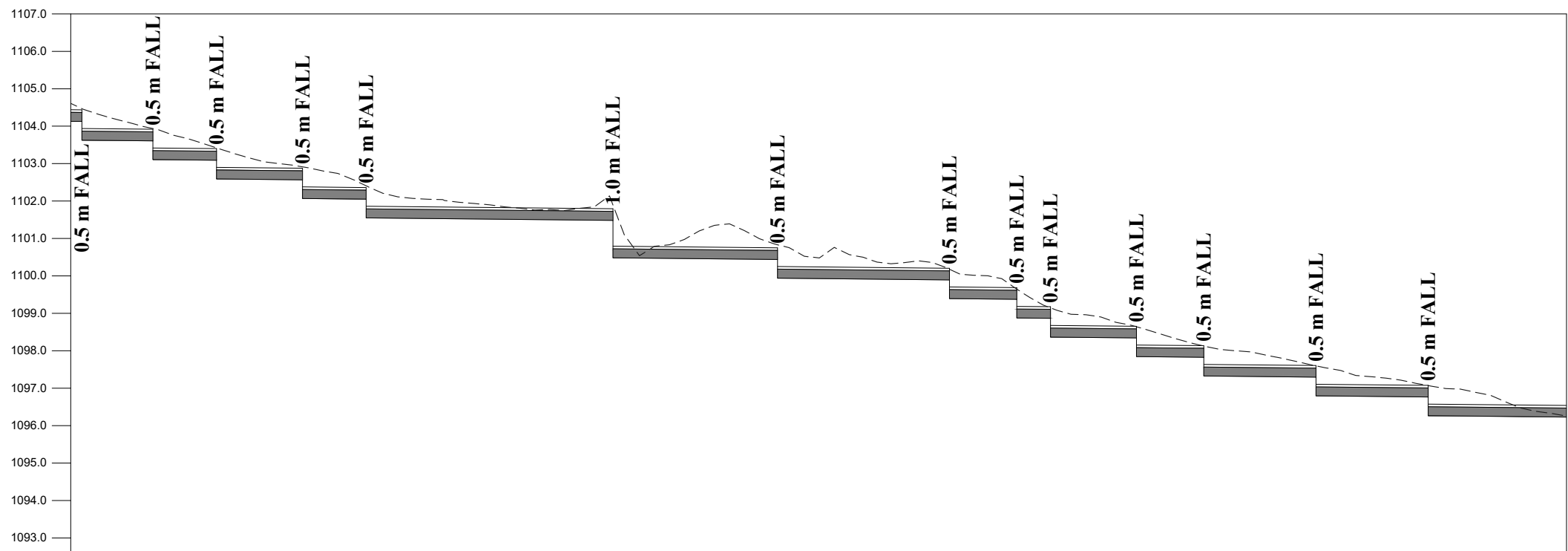
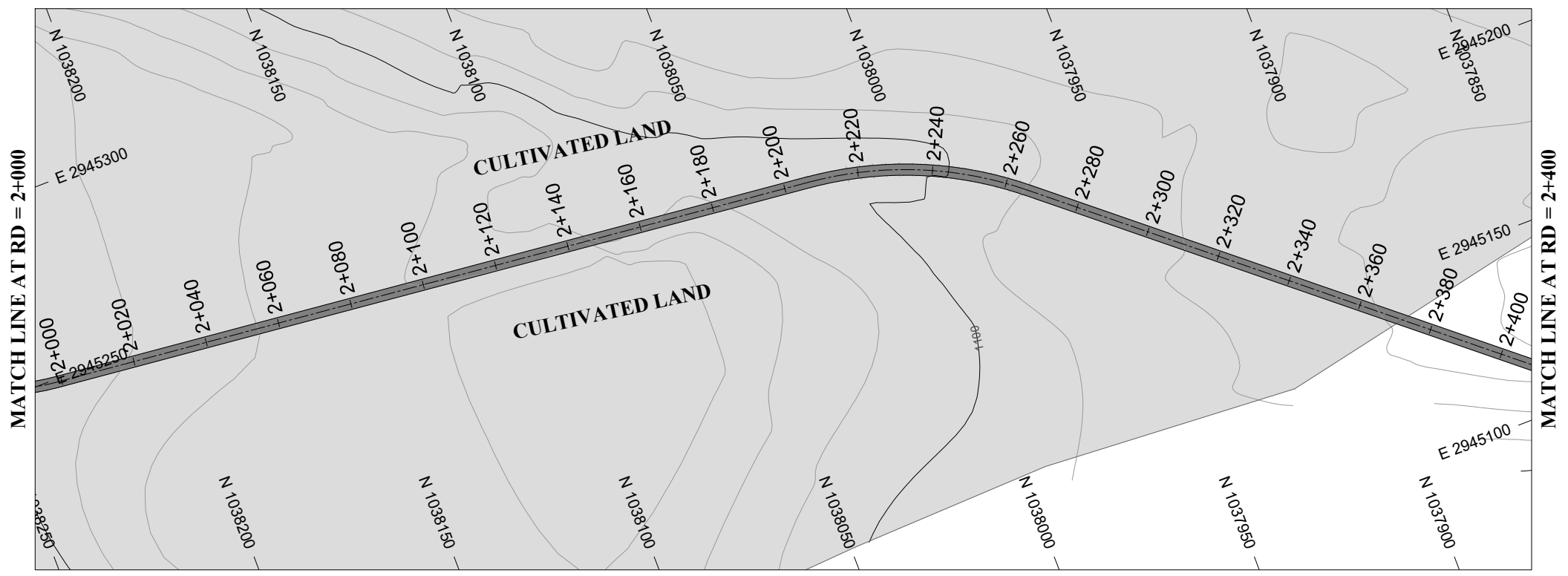


DATUM EL

Design parameters $n = 0.015 / Q = 0.030 \text{ cumecs} / V = 0.44 \text{ m/s} / \text{WL} = 0.24 / \text{FB} = 0.070 / \text{W} = 0.46 \text{ m} / \text{D} = 0.31 \text{ m} / \text{S} = 0.001$

	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BL	1109.430	1109.410	1109.390	1109.370	1109.350	1109.330	1109.310	1109.290	1109.270	1109.250	1109.230	1109.210	1109.190	1109.170	1109.150	1109.130	1109.110	1109.090	1109.086	1109.083	1109.079	1109.076	1109.072	1109.068	1109.063	1109.058	1109.053	1109.049	1109.045	1109.041	1109.037	1109.033	1109.029	1109.025	1109.021	1109.017	1109.013	1109.009	1109.005	1109.001	1108.997	1108.993	1108.989	1108.985	1108.981	1108.977	1108.973	1108.969	1108.965	1108.961	1108.957	1108.953	1108.949	1108.945	1108.941	1108.937	1108.933	1108.929	1108.925	1108.921	1108.917	1108.913	1108.909	1108.905	1108.901	1108.897	1108.893	1108.889	1108.885	1108.881	1108.877	1108.873	1108.869	1108.865	1108.861	1108.857	1108.853	1108.849	1108.845	1108.841	1108.837	1108.833	1108.829	1108.825	1108.821	1108.817	1108.813	1108.809	1108.805	1108.801	1108.797	1108.793	1108.789	1108.785	1108.781	1108.777	1108.773	1108.769	1108.765	1108.761	1108.757	1108.753	1108.749	1108.745	1108.741	1108.737	1108.733	1108.729	1108.725	1108.721	1108.717	1108.713	1108.709	1108.705	1108.701	1108.697	1108.693	1108.689	1108.685	1108.681	1108.677	1108.673	1108.669	1108.665	1108.661	1108.657	1108.653	1108.649	1108.645	1108.641	1108.637	1108.633	1108.629	1108.625	1108.621	1108.617	1108.613	1108.609	1108.605	1108.601	1108.597	1108.593	1108.589	1108.585	1108.581	1108.577	1108.573	1108.569	1108.565	1108.561	1108.557	1108.553	1108.549	1108.545	1108.541	1108.537	1108.533	1108.529	1108.525	1108.521	1108.517	1108.513	1108.509	1108.505	1108.501	1108.497	1108.493	1108.489	1108.485	1108.481	1108.477	1108.473	1108.469	1108.465	1108.461	1108.457	1108.453	1108.449	1108.445	1108.441	1108.437	1108.433	1108.429	1108.425	1108.421	1108.417	1108.413	1108.409	1108.405	1108.401	1108.397	1108.393	1108.389	1108.385	1108.381	1108.377	1108.373	1108.369	1108.365	1108.361	1108.357	1108.353	1108.349	1108.345	1108.341	1108.337	1108.333	1108.329	1108.325	1108.321	1108.317	1108.313	1108.309	1108.305	1108.301	1108.297	1108.293	1108.289	1108.285	1108.281	1108.277	1108.273	1108.269	1108.265	1108.261	1108.257	1108.253	1108.249	1108.245	1108.241	1108.237	1108.233	1108.229	1108.225	1108.221	1108.217	1108.213	1108.209	1108.205	1108.201	1108.197	1108.193	1108.189	1108.185	1108.181	1108.177	1108.173	1108.169	1108.165	1108.161	1108.157	1108.153	1108.149	1108.145	1108.141	1108.137	1108.133	1108.129	1108.125	1108.121	1108.117	1108.113	1108.109	1108.105	1108.101	1108.097	1108.093	1108.089	1108.085	1108.081	1108.077	1108.073	1108.069	1108.065	1108.061	1108.057	1108.053	1108.049	1108.045	1108.041	1108.037	1108.033	1108.029	1108.025	1108.021	1108.017	1108.013	1108.009	1108.005	1108.001	1107.997	1107.993	1107.989	1107.985	1107.981	1107.977	1107.973	1107.969	1107.965	1107.961	1107.957	1107.953	1107.949	1107.945	1107.941	1107.937	1107.933	1107.929	1107.925	1107.921	1107.917	1107.913	1107.909	1107.905	1107.901	1107.897	1107.893	1107.889	1107.885	1107.881	1107.877	1107.873	1107.869	1107.865	1107.861	1107.857	1107.853	1107.849	1107.845	1107.841	1107.837	1107.833	1107.829	1107.825	1107.821	1107.817	1107.813	1107.809	1107.805	1107.801	1107.797	1107.793	1107.789	1107.785	1107.781	1107.777	1107.773	1107.769	1107.765	1107.761	1107.757	1107.753	1107.749	1107.745	1107.741	1107.737	1107.733	1107.729	1107.725	1107.721	1107.717	1107.713	1107.709	1107.705	1107.701	1107.697	1107.693	1107.689	1107.685	1107.681	1107.677	1107.673	1107.669	1107.665	1107.661	1107.657	1107.653	1107.649	1107.645	1107.641	1107.637	1107.633	1107.629	1107.625	1107.621	1107.617	1107.613	1107.609	1107.605	1107.601	1107.597	1107.593	1107.589	1107.585	1107.581	1107.577	1107.573	1107.569	1107.565	1107.561	1107.557	1107.553	1107.549	1107.545	1107.541	1107.537	1107.533	1107.529	1107.525	1107.521	1107.517	1107.513	1107.509	1107.505	1107.501	1107.497	1107.493	1107.489	1107.485	1107.481	1107.477	1107.473	1107.469	1107.465	1107.461	1107.457	1107.453	1107.449	1107.445	1107.441	1107.437	1107.433	1107.429	1107.425	1107.421	1107.417	1107.413	1107.409	1107.405	1107.401	1107.397	1107.393	1107.389	1107.385	1107.381	1107.377	1107.373	1107.369	1107.365	1107.361	1107.357	1107.353	1107.349	1107.345	1107.341	1107.337	1107.333	1107.329	1107.325	1107.321	1107.317	1107.313	1107.309	1107.305	1107.301	1107.297	1107.293	1107.289	1107.285	1107.281	1107.277	1107.273	1107.269	1107.265	1107.261	1107.257	1107.253	1107.249	1107.245	1107.241	1107.237	1107.233	1107.229	1107.225	1107.221	1107.217	1107.213	1107.209	1107.205	1107.201	1107.197	1107.193	1107.189	1107.185	1107.181	1107.177	1107.173	1107.169	1107.165	1107.161	1107.157	1107.153	1107.149	1107.145	1107.141	1107.137	1107.133	1107.129	1107.125	1107.121	1107.117	1107.113	1107.109	1107.105	1107.101	1107.097	1107.093	1107.089	1107.085	1107.081	1107.077	1107.073	1107.069	1107.065	1107.061	1107.057	1107.053	1107.049	1107.045	1107.041	1107.037	1107.033	1107.029	1107.025	1107.021	1107.017	1107.013	1107.009	1107.005	1107.001	1106.997	1106.993	1106.989	1106.985	1106.981	1106.977	1106.973	1106.969	1106.965	1106.961	1106.957	1106.953	1106.949	1106.945	1106.941	1106.937	1106.933	1106.929	1106.925	1106.921	1106.917	1106.913	1106.909	1106.905	1106.901	1106.897	1106.893	1106.889	1106.885	1106.881	1106.877	1106.873	1106.869	1106.865	1106.861	1106.857	1106.853	1106.849	1106.845	1106.841	1106.837	1106.833	1106.829	1106.825	1106.821	1106.817	1106.813	1106.809	1106.805	1106.801	1106.797	1106.793	1106.789	1106.785	1106.781	1106.777	1106.773	1106.769	1106.765	1106.761	1106.757	1106.753	1106.749	1106.745	1106.741	1106.737	1106.733	1106.729	1106.725	1106.721	1106.717	1106.713	1106.709	1106.705	1106.701	1106.697	1106.693	1106.689	1106.685	1106.681	1106.677	1106.673	1106.669	1106.665	1106.661	1106.657	1106.653	1106.649	1106.645	1106.641	1106.637	1106.633	1106.629	1106.625	1106.621	1106.617	1106.613	1106.609	1106.605	1106.601	1106.597	1106.593	1106.589	1106.585	1106.581	1106.577	1106.573	1106.569	1106.565	1106.561	1106.557	1106.553	1106.549	1106.545	1106.541	1106.537	1106.533	1106.529	1106.525	1106.521	1106.517	1106.513	1106.509	1106.505	1106.501	1106.497	1106.493	1106.489	1106.485	1106.481	1106.477	1106.473	1106.469	1106.465	1106.461	1106.457	1106.453	1106.449	1106.445	1106.441	1106.437	1106.433	1106.429	1106.425	1106.421	1106.417	1106.413	1106.409	1106.405	1106.401	1106.397	1106.393	1106.389	1106.385	1106.381	1106.377	1106.373	1106.369	1106.365	1106.361	1106.357	1106.353	1106.349	1106.345	1106.341	1106.337	1106.333	1106.329	1106.325	1106.321	1106.317	1106.313	1106.309	1106.305	1106.301	1106.297	1106.293	1106.289	1106.285	1106.281	1106.277	1106.273	1106.269	1106.265	1106.261	1106.257	1106.253	1106.249	1106.245	1106.241	1106.237	1106.233	1106.229	1106.225	1106.221	1106.217	1106.213	1106.209	1106.205	1106.201	1106.197	1106.193	1106.189	1106.185	1106.181	1106.177	1106.173	1106.169	1106.165	1106.161	1106.157	1106.153	1106.149	1106.145	1106.141	1106.137	1106.133	1106.129	1106.125	1106.121	1106.117	1106.113	1106.109	1106.105	1106.101	1106.097	1106.093	1106.089	1106.085	1106.081	1106.077	1106.073	1106.069	1106.065	1106.061	1106.057	1106.053	1106.049	1106.

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$n = 0.015 / Q = 0.030 \text{ cumecs} / V = 0.44 \text{ m/s} / WL = 0.24 / FB = 0.070 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$

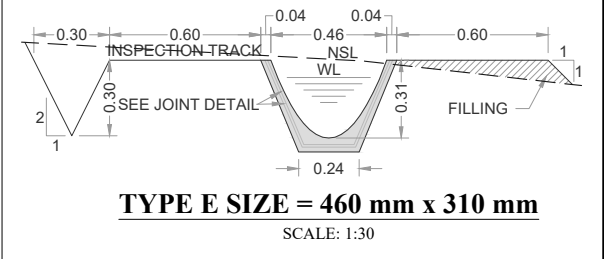
Design parameters																																																																																																									
BL	2+000	1104.611	1104.130	2+003	1104.470	1103.627	2+020	1103.980	1103.610	2+022	1103.937	1103.108	2+039	1103.421	1102.591	2+040	1103.389	1102.590	2+060	1102.948	1102.570	2+062	1102.915	1102.066	2+079	1102.407	1101.551	2+080	1102.385	1101.550	2+100	1102.016	1101.530	2+120	1101.811	1101.510	2+140	1101.848	1101.490	2+145	1101.897	1100.485	2+160	1100.831	1100.470	2+180	1101.218	1100.450	2+189	1100.833	1099.941	2+200	1100.484	1099.930	2+220	1100.332	1099.910	2+235	1100.180	1099.395	2+240	1100.030	1099.390	2+253	1099.647	1098.877	2+260	1099.224	1098.870	2+262	1099.148	1098.366	2+280	1098.751	1098.350	2+285	1098.643	1097.845	2+300	1098.199	1097.830	2+303	1098.126	1097.327	2+320	1097.877	1097.310	2+333	1097.600	1096.797	2+340	1097.460	1096.790	2+360	1097.127	1096.770	2+363	1097.072	1096.267	2+380	1096.797	1096.250	2+400	1096.265	1096.230
NSL	2+000	1104.611	1104.130	2+003	1104.470	1103.627	2+020	1103.980	1103.610	2+022	1103.937	1103.108	2+039	1103.421	1102.591	2+040	1103.389	1102.590	2+060	1102.948	1102.570	2+062	1102.915	1102.066	2+079	1102.407	1101.551	2+080	1102.385	1101.550	2+100	1102.016	1101.530	2+120	1101.811	1101.510	2+140	1101.848	1101.490	2+145	1101.897	1100.485	2+160	1100.831	1100.470	2+180	1101.218	1100.450	2+189	1100.833	1099.941	2+200	1100.484	1099.930	2+220	1100.332	1099.910	2+235	1100.180	1099.395	2+240	1100.030	1099.390	2+253	1099.647	1098.877	2+260	1099.224	1098.870	2+262	1099.148	1098.366	2+280	1098.751	1098.350	2+285	1098.643	1097.845	2+300	1098.199	1097.830	2+303	1098.126	1097.327	2+320	1097.877	1097.310	2+333	1097.600	1096.797	2+340	1097.460	1096.790	2+360	1097.127	1096.770	2+363	1097.072	1096.267	2+380	1096.797	1096.250	2+400	1096.265	1096.230
RD	2+000	1104.611	1104.130	2+003	1104.470	1103.627	2+020	1103.980	1103.610	2+022	1103.937	1103.108	2+039	1103.421	1102.591	2+040	1103.389	1102.590	2+060	1102.948	1102.570	2+062	1102.915	1102.066	2+079	1102.407	1101.551	2+080	1102.385	1101.550	2+100	1102.016	1101.530	2+120	1101.811	1101.510	2+140	1101.848	1101.490	2+145	1101.897	1100.485	2+160	1100.831	1100.470	2+180	1101.218	1100.450	2+189	1100.833	1099.941	2+200	1100.484	1099.930	2+220	1100.332	1099.910	2+235	1100.180	1099.395	2+240	1100.030	1099.390	2+253	1099.647	1098.877	2+260	1099.224	1098.870	2+262	1099.148	1098.366	2+280	1098.751	1098.350	2+285	1098.643	1097.845	2+300	1098.199	1097.830	2+303	1098.126	1097.327	2+320	1097.877	1097.310	2+333	1097.600	1096.797	2+340	1097.460	1096.790	2+360	1097.127	1096.770	2+363	1097.072	1096.267	2+380	1096.797	1096.250	2+400	1096.265	1096.230

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK



REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

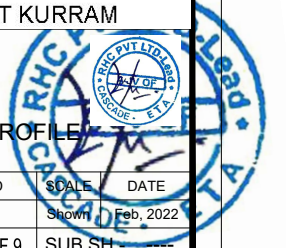
CONSULTANTS:
A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

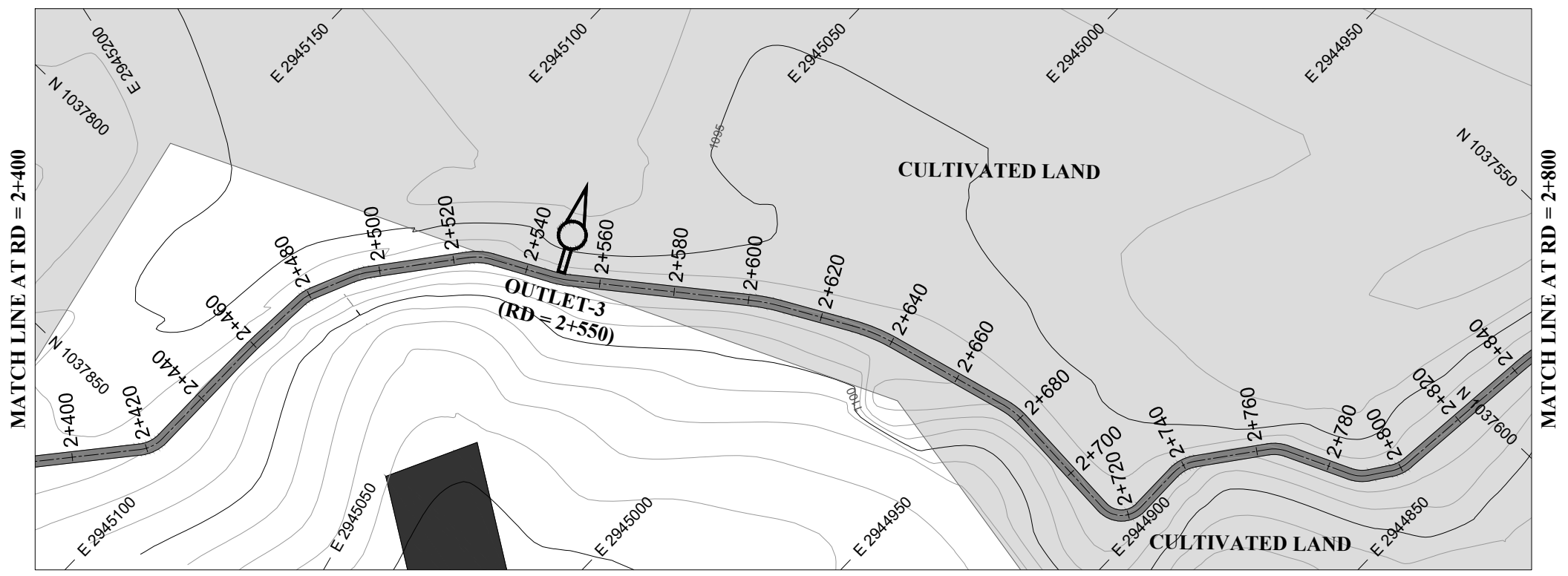
BAZ ALI DAM
DISTRICT KURRAM

TITLE: **DISTRIBUTORY-1 PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022
DRG.No:- BAD-BD-IR-02		SHEET:- 6 OF 9		SUB SH.:-	



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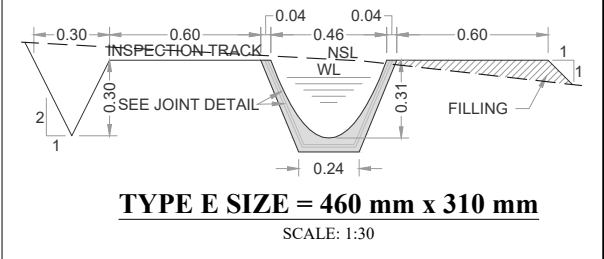


NOTES:

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LEGENDS:

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- EXISTING ROAD
- KACHA TRACK
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- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK



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DRAWING IS RELEASED

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

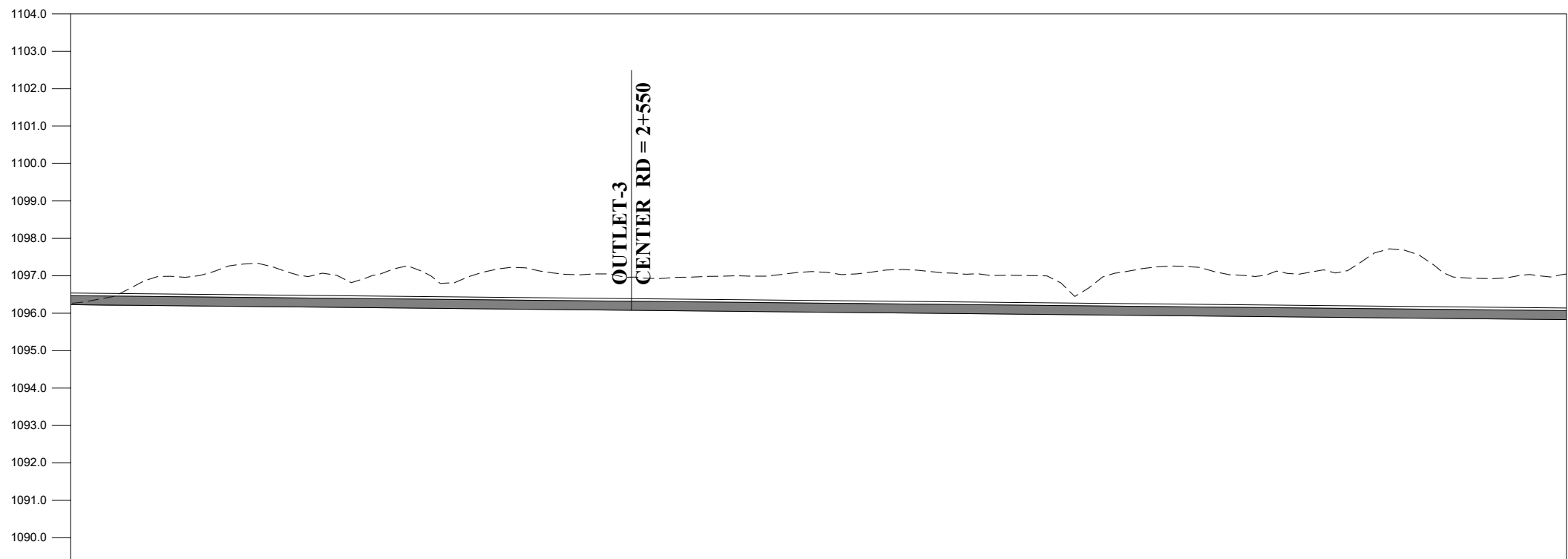
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE: **DISTRIBUTORY-1 PLAN & PROFILE**

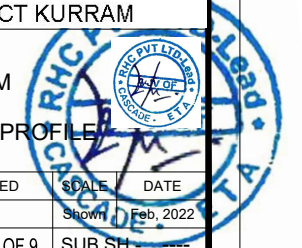
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022
DRG.No:- BAD-BD-IR-02		SHEET:- 7 OF 9		SUB SH.:-	



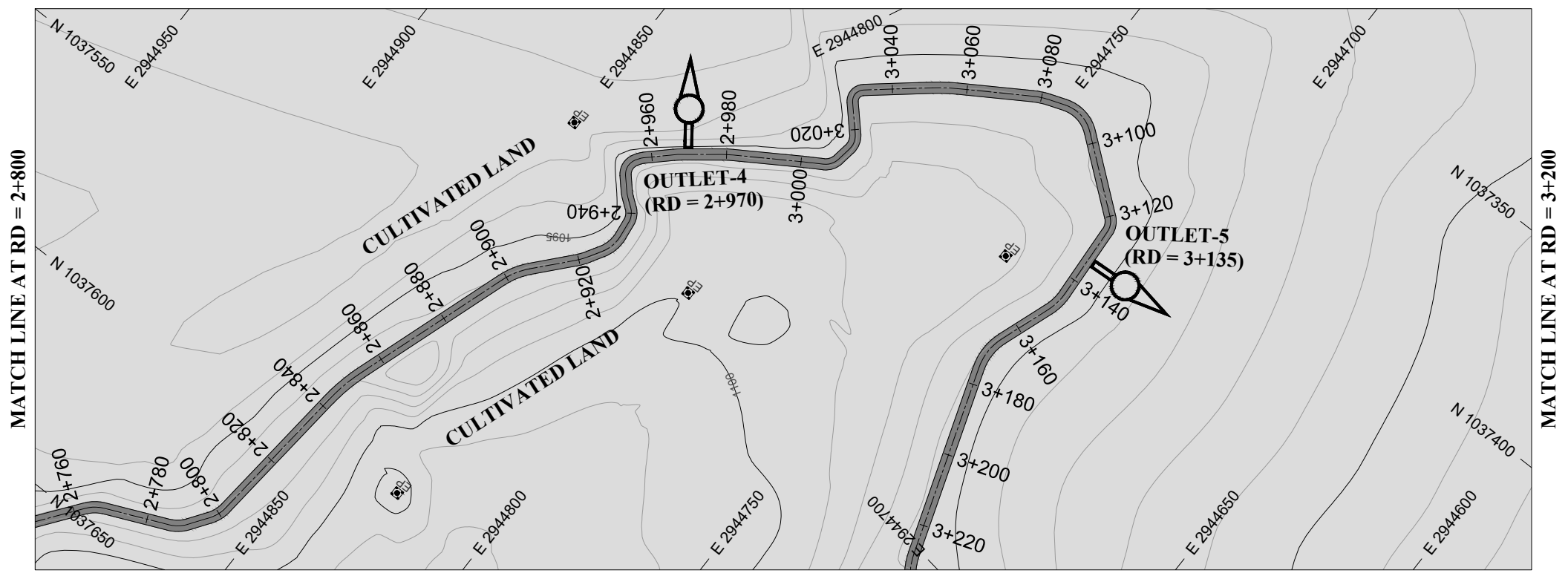
DATUM EL

Design parameters $n = 0.015 / Q = 0.030 \text{ cumecs} / V = 0.44 \text{ m/s} / WL = 0.24 / FB = 0.070 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$

BL	1096.230	1096.210	1096.190	1096.170	1096.150	1096.130	1096.110	1096.090	1096.070	1096.050	1096.030	1096.010	1095.990	1095.970	1095.950	1095.930	1095.910	1095.890	1095.870	1095.850	1095.830
NSL	1096.265	1096.878	1097.180	1097.043	1096.984	1096.804	1097.221	1097.051	1096.947	1096.997	1097.105	1097.163	1097.046	1097.001	1097.082	1097.239	1097.035	1097.111	1097.577	1096.926	1097.049
RD	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800



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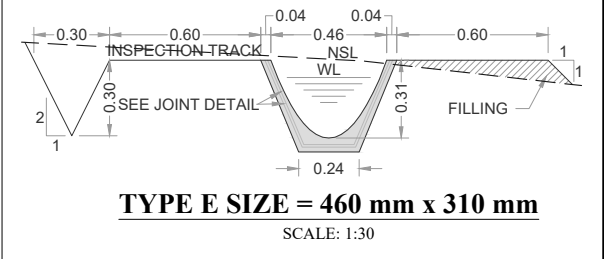


NOTES:

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

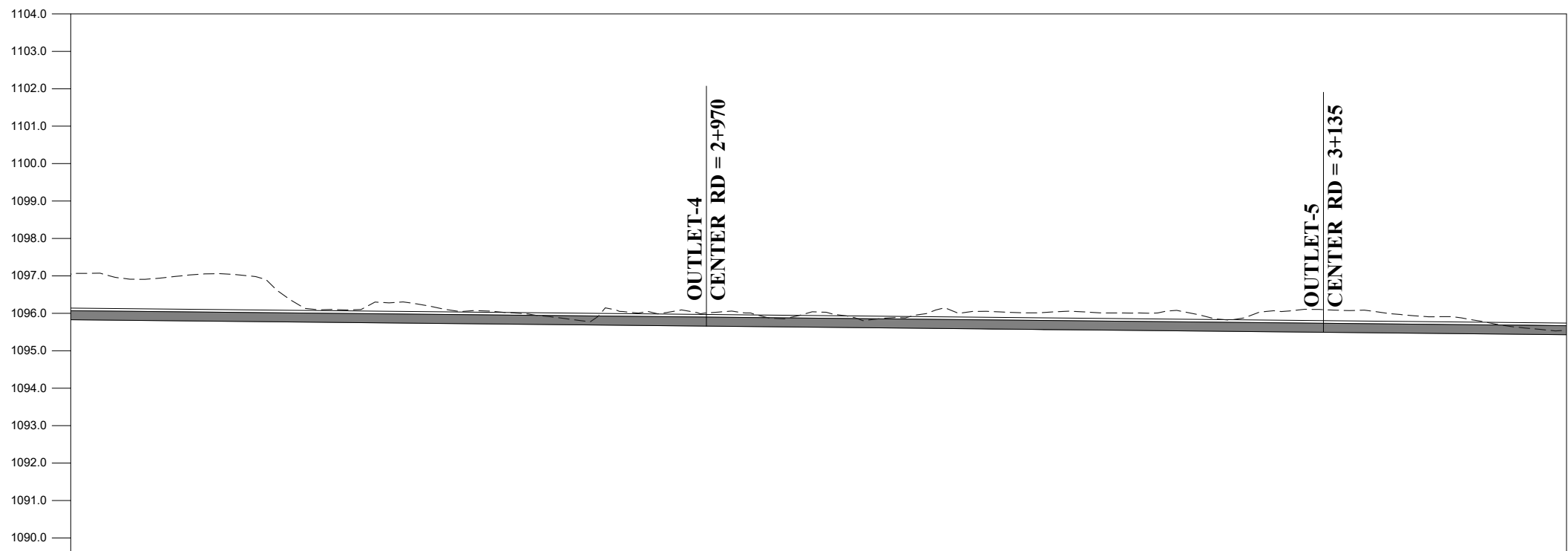
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

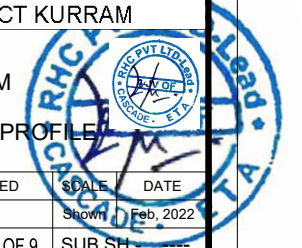
**BAZ ALI DAM
DISTRICT KURRAM**

TITLE: **DISTRIBUTORY-1 PLAN & PROFILE**

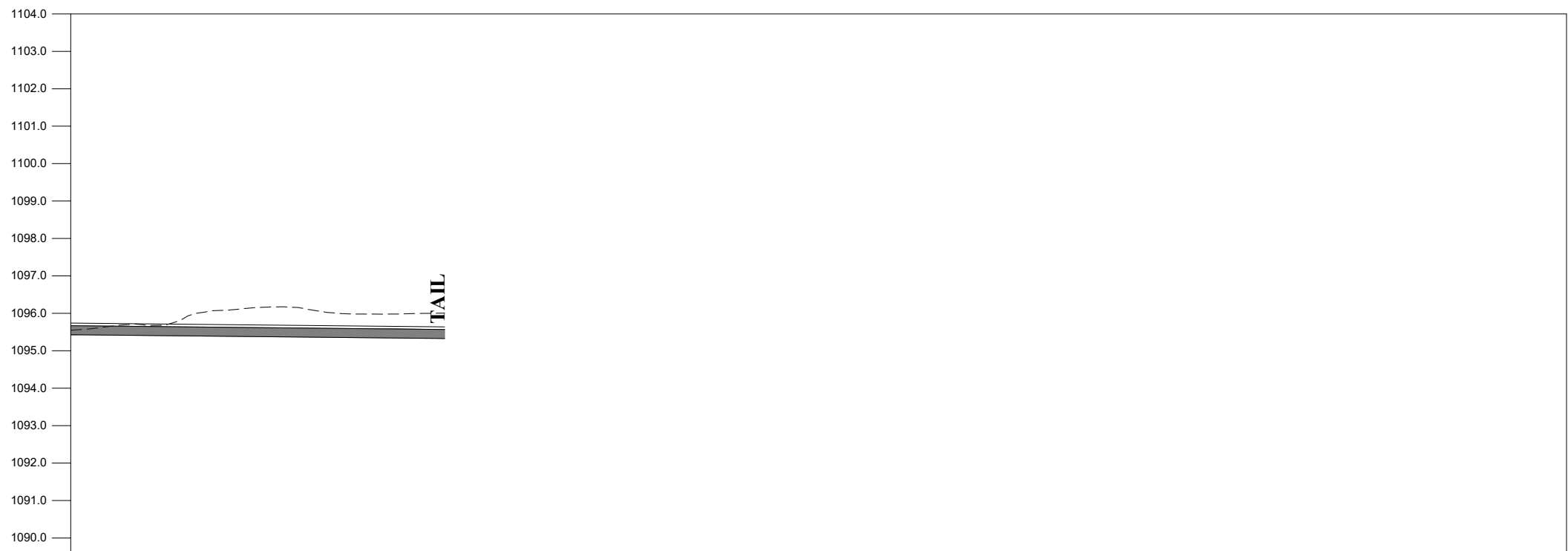
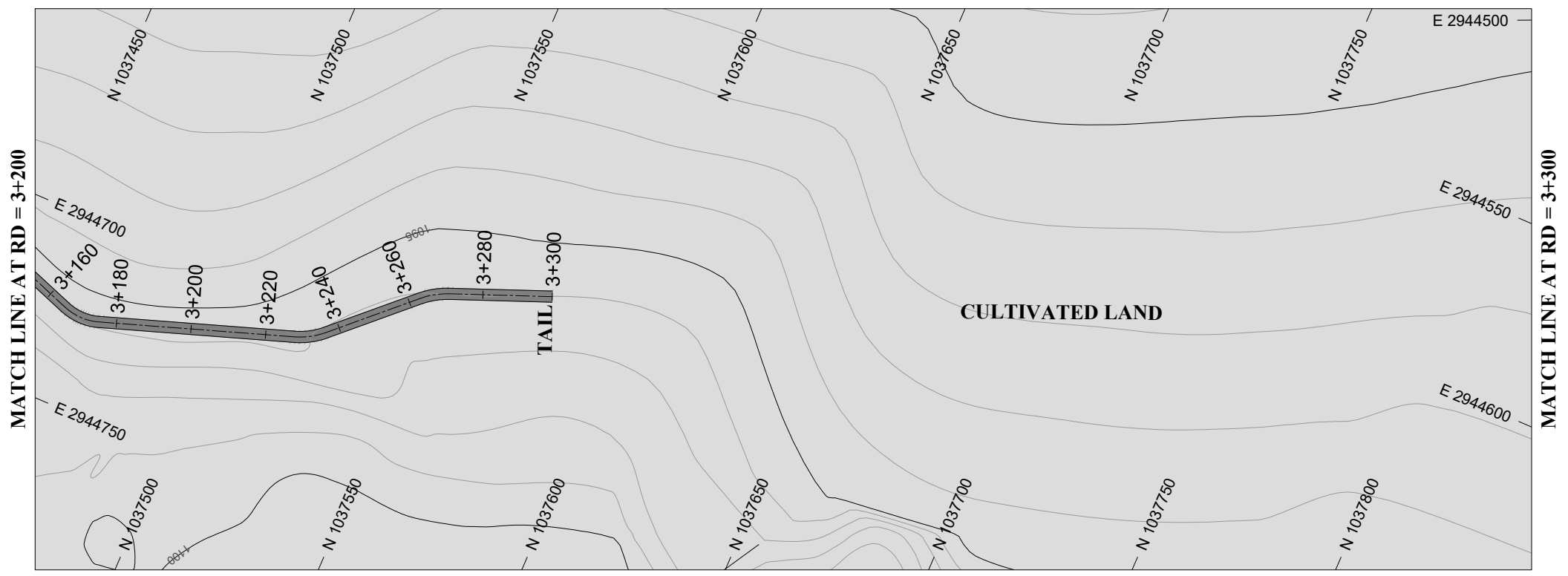
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022
DRG.No:- BAD-BD-IR-02		SHEET:- 8 OF 9		SUB SH.:-	



DATUM EL	Design parameters $n = 0.015 / Q = 0.030 \text{ cumecs} / V = 0.44 \text{ m/s} / \text{WL} = 0.24 / \text{FB} = 0.070 / \text{W} = 0.46 \text{ m} / \text{D} = 0.31 \text{ m} / \text{S} = 0.001$																				
BL	1095.830	1095.810	1095.790	1095.770	1095.750	1095.730	1095.710	1095.710	1095.670	1095.650	1095.630	1095.610	1095.590	1095.570	1095.550	1095.530	1095.510	1095.490	1095.470	1095.450	1095.430
NSL	1097.049	1096.910	1097.061	1096.288	1096.228	1096.110	1096.002	1095.848	1096.035	1096.016	1096.036	1095.884	1096.036	1096.023	1096.010	1095.996	1096.055	1096.080	1095.930	1095.733	1095.550
RD	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200



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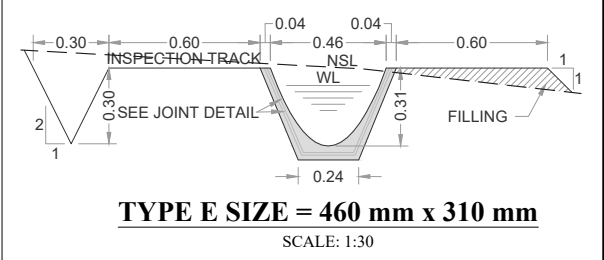
DATUM EL	Design parameters $n = 0.015 / Q = 0.030 \text{ cumecs} / V = 0.44 \text{ m/s} / WL = 0.24 / FB = 0.070 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$					
BL	1095.430	1095.410	1095.390	1095.370	1095.350	1095.330
NSL	1095.550	1095.689	1096.078	1096.161	1095.982	1096.009
RD	3+200	3+220	3+240	3+260	3+280	3+300

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK



REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

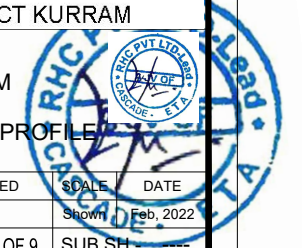
CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM
TITLE: DISTRIBUTORY-1 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022
DRG.No:-	BAD-BD-IR-02	SHEET:-	9 OF 9	SUB SH.	



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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CANAL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

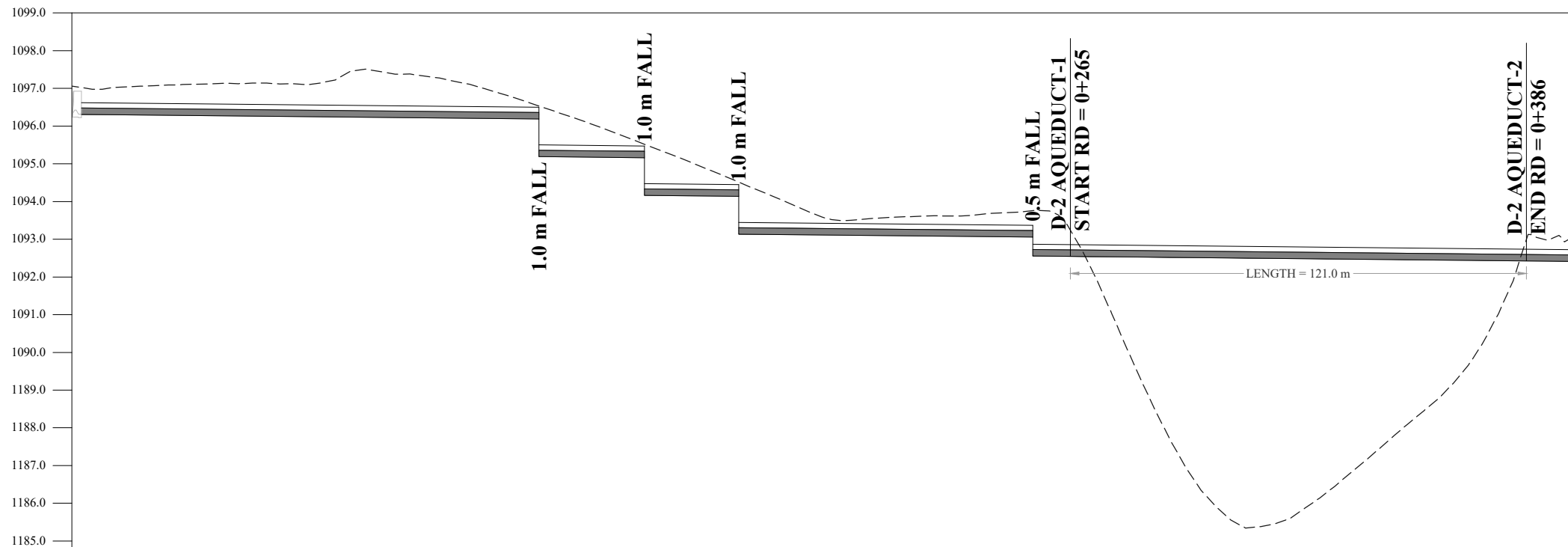
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE: DISTRIBUTORY-2 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

DRG.No:- BAD-BD-IR-03 SHEET:- 1 OF 6 SUB SH.- ----



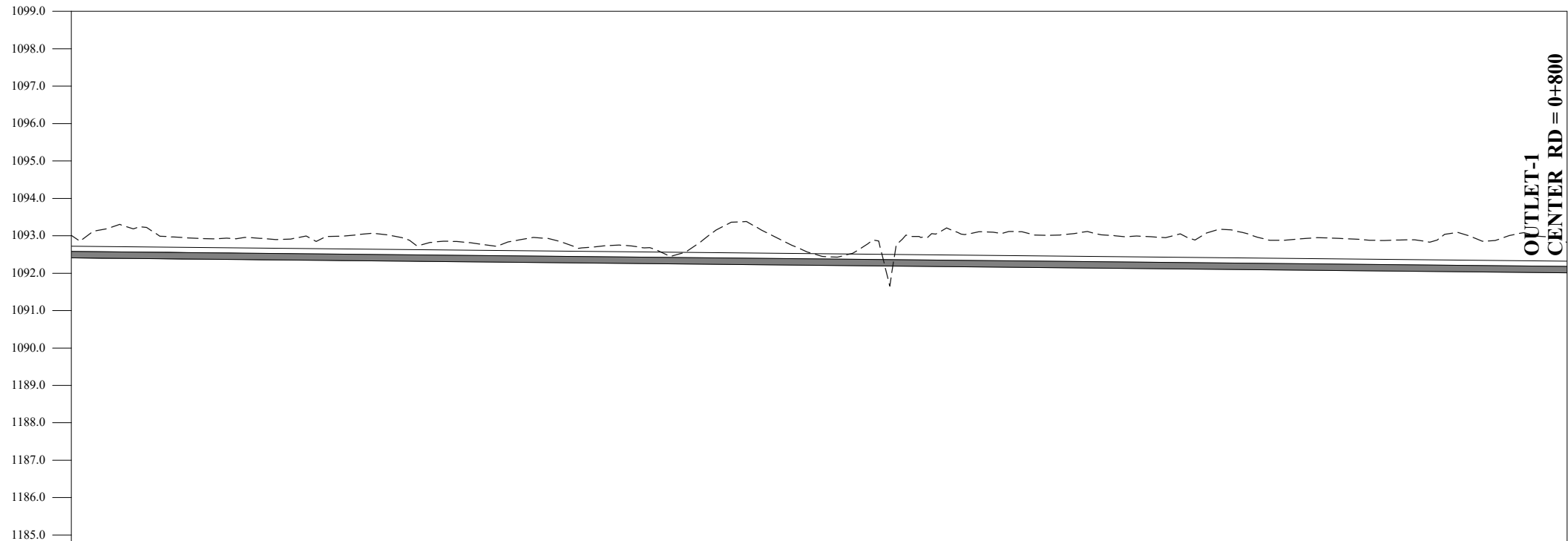
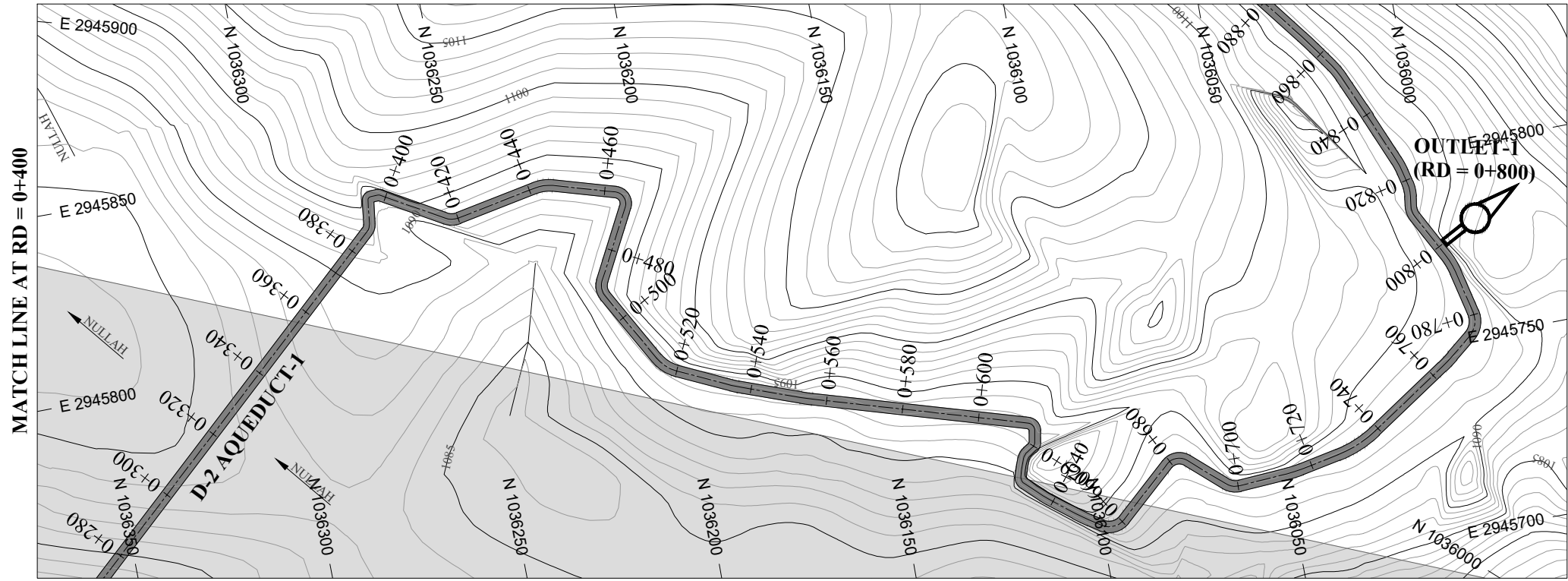
DATUM EL

Design parameters

$n = 0.015 / Q = 0.0142 \text{ cumecs} / V = 0.44 \text{ m/s} / WL = 0.17 / FB = 0.14 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$

BL	1096.310	1096.290	1096.270	1096.250	1096.230	1096.210	1096.190	1096.186	1095.170	1094.158	1094.150	1093.133	1093.130	1093.110	1093.090	1093.070	1092.555	1092.550	1092.530	1092.510	1092.490	1092.470	1092.450	1092.430	1092.410
NSL	1097.055	1097.060	1097.129	1097.111	1097.470	1097.217	1096.663	1096.529	1095.974	1095.514	1095.207	1094.511	1094.384	1093.560	1093.587	1093.642	1093.759	1093.747	1090.099	1086.307	1085.480	1086.860	1088.554	1091.346	1093.011
RD	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+124	0+140	0+152	0+160	0+177	0+180	0+200	0+220	0+240	0+255	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400

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DATUM EL 1185.0

Design parameters $n = 0.015 / Q = 0.0142 \text{ cumecs} / V = 0.44 \text{ m/s} / \text{WL} = 0.17 / \text{FB} = 0.14 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$

Station	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800
BL	1092.410	1092.390	1092.370	1092.350	1092.330	1092.310	1092.290	1092.270	1092.250	1092.230	1092.210	1092.190	1092.170	1092.150	1092.130	1092.110	1092.090	1092.070	1092.050	1092.030	1092.010
NSL	1093.011	1093.221	1092.927	1092.937	1093.063	1092.852	1092.892	1092.702	1092.453	1093.376	1092.471	1092.390	1093.051	1093.013	1092.990	1092.899	1092.888	1092.922	1092.880	1092.866	1092.816
RD	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800



NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CANAL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: **ETA** ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM

TITLE: **DISTRIBUTORY-2 PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	Feb, 2022

DRG.No:- BAD-BD-IR-03 SHEET:- 2 OF 6 SUB SH.- ----

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NOTES:

- 1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CANAL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
 REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

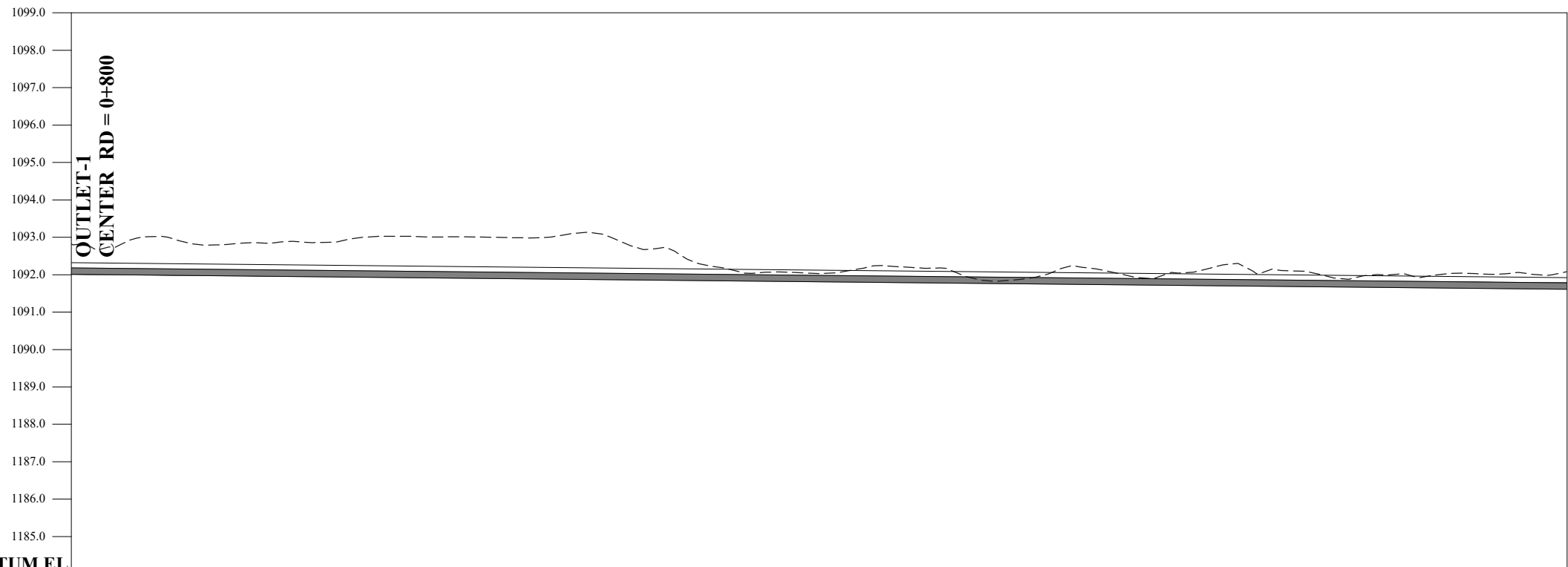
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM DISTRICT KURRAM

TITLE: **DISTRIBUTORY-2 PLAN & PROFILE**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	Feb, 2022

DRG.No:- BAD-BD-IR-03 SHEET:- 3 OF 6 SUB SH.- ----

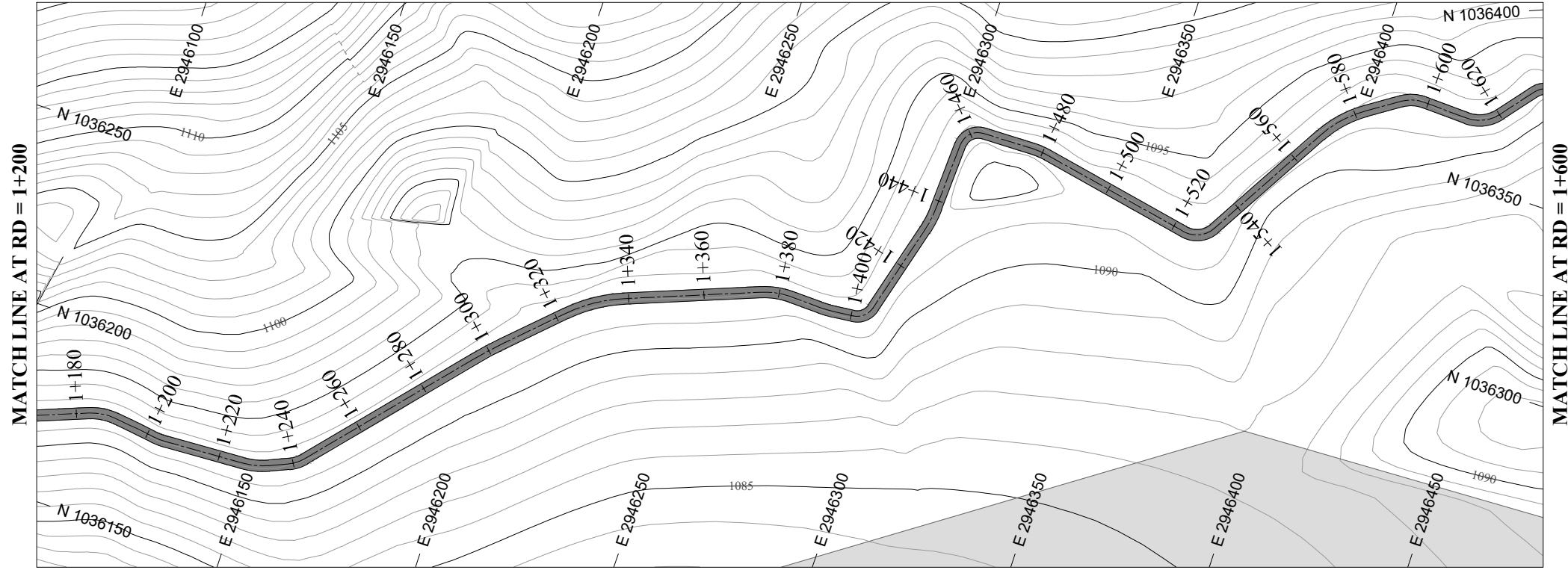


DATUM EL

Design parameters $n = 0.015 / Q = 0.0142 \text{ cumecs} / V = 0.44 \text{ m/s} / WL = 0.17 / FB = 0.14 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$

BL	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	
NSL	1092.816	1093.008	1092.796	1092.883	1093.011	1093.008	1092.985	1093.110	1092.683	1092.040	1092.030	1092.217	1091.790	1091.927	1091.984	1092.029	1092.106	1091.889	1091.922	1091.650	1092.009	1091.610
RD	1092.010	1091.990	1091.970	1091.950	1091.930	1091.910	1091.890	1091.870	1091.850	1091.830	1091.810	1091.790	1091.770	1091.750	1091.730	1091.710	1091.690	1091.670	1091.650	1091.630	1091.610	1091.610

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NOTES:
1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	---
NATURAL SURFACE LEVEL	---
EXISTING ROAD	▬▬▬
KACHA TRACK	▬▬▬
NULLAH	▬▬▬
MINOR NULLAH	▬▬▬
BUILDING + ROOM	▬▬▬
GRAVE YARD	▬▬▬
VILLAGE	▬▬▬
CULTIVATED AREA	▬▬▬
INDEX CONTOUR	1155
INTERMEDIATE CONTOUR	1154
EXISTING CULVERT	▬▬▬
ELECTRIC POLE	EP
MOUNTAIN	▬▬▬
BENCH MARK	BM

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CANAL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

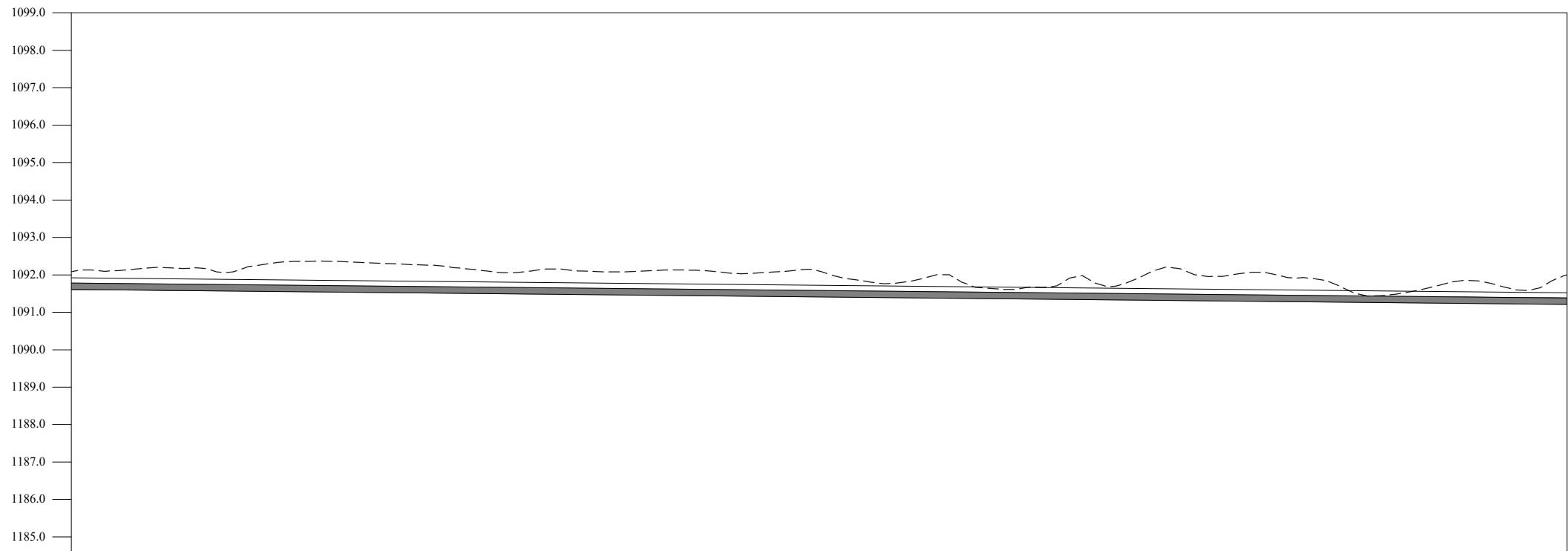
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE: DISTRIBUTORY-2 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

DRG.No:- BAD-BD-IR-03 SHEET:- 4 OF 6 SUB SH.- ----

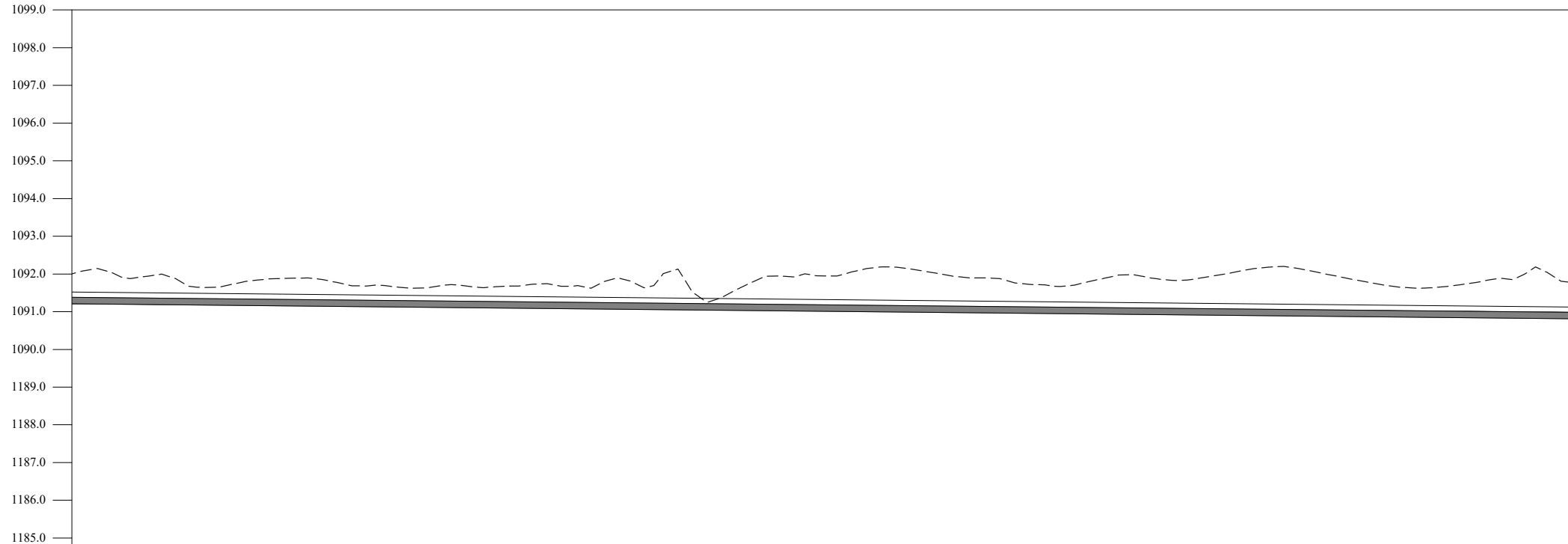
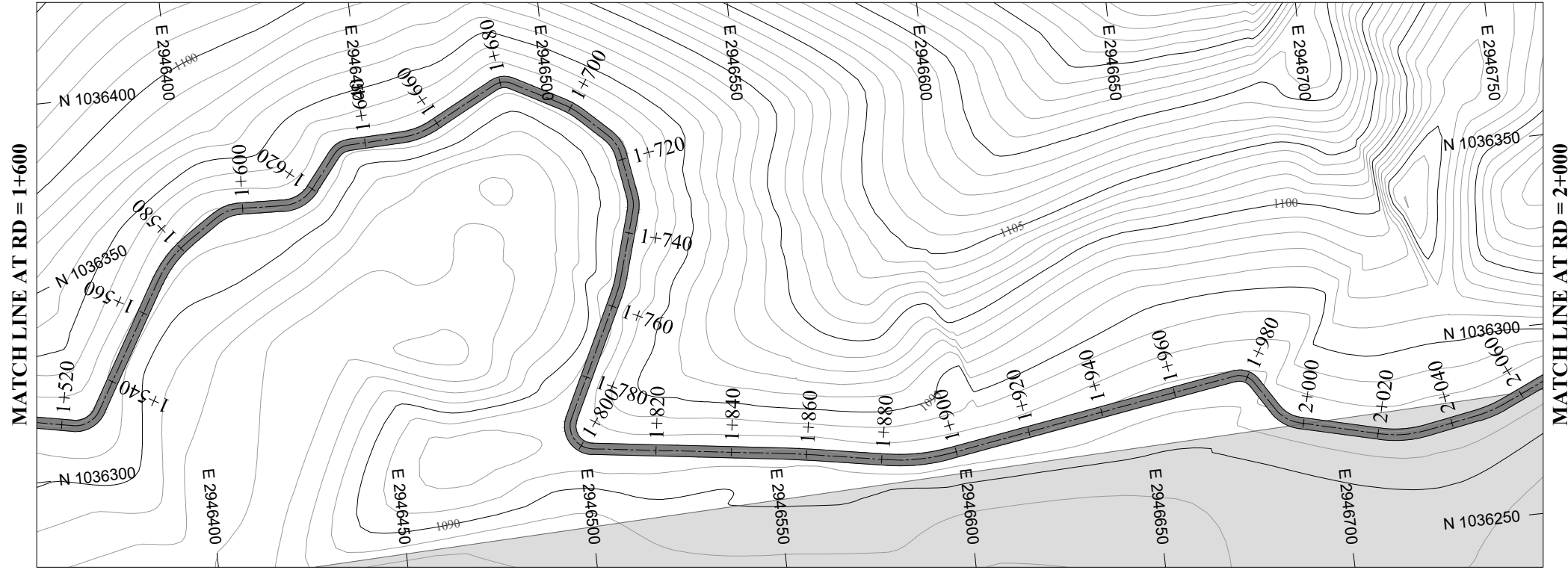


DATUM EL 1189.0

Design parameters $n = 0.015 / Q = 0.0142 \text{ cumecs} / V = 0.44 \text{ m/s} / WL = 0.17 / FB = 0.14 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$

BL	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600
	1091.610	1091.590	1091.590	1091.550	1091.530	1091.510	1091.490	1091.470	1091.450	1091.430	1091.410	1091.390	1091.370	1091.350	1091.330	1091.310	1091.290	1091.270	1091.250	1091.230	1091.210
NSL	1092.080	1092.178	1092.066	1092.359	1092.318	1092.228	1092.068	1092.090	1092.130	1092.029	1092.099	1091.774	1091.731	1091.665	1091.716	1092.017	1092.047	1091.654	1091.585	1091.759	1091.998
RD	1091.610	1091.590	1091.590	1091.550	1091.530	1091.510	1091.490	1091.470	1091.450	1091.430	1091.410	1091.390	1091.370	1091.350	1091.330	1091.310	1091.290	1091.270	1091.250	1091.230	1091.210

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DATUM EL
Design parameters

$n = 0.015 / Q = 0.0142 \text{ cumecs} / V = 0.44 \text{ m/s} / \text{WL} = 0.17 / \text{FB} = 0.14 / W = 0.46 \text{ m} / D = 0.31 \text{ m} / S = 0.001$

BL	1091.210	1091.190	1091.170	1091.150	1091.130	1091.110	1091.090	1091.070	1091.050	1091.030	1091.010	1090.990	1090.970	1090.950	1090.930	1090.910	1090.890	1090.870	1090.850	1090.830	1090.810
NSL	1091.998	1091.937	1091.669	1091.589	1091.601	1091.712	1091.694	1091.734	1092.102	1091.752	1091.946	1092.161	1091.893	1091.679	1091.976	1091.801	1092.190	1091.853	1091.629	1091.876	1091.776
RD	0+00	0+20	0+40	0+60	0+80	1+00	1+20	1+40	1+60	1+80	2+00	2+20	2+40	2+60	2+80	3+00	3+20	3+40	3+60	3+80	4+00

NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CANAL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE:

DISTRIBUTORY-2 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

DRG.No:- BAD-BD-IR-03 SHEET:- 5 OF 6 SUB SH.- ----



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NOTES:
 1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CANAL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
 MERGED AREAS SMALL DAM SECTION
 IRRIGATION DEPARTMENT . KPK.

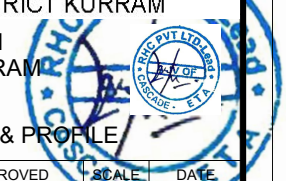
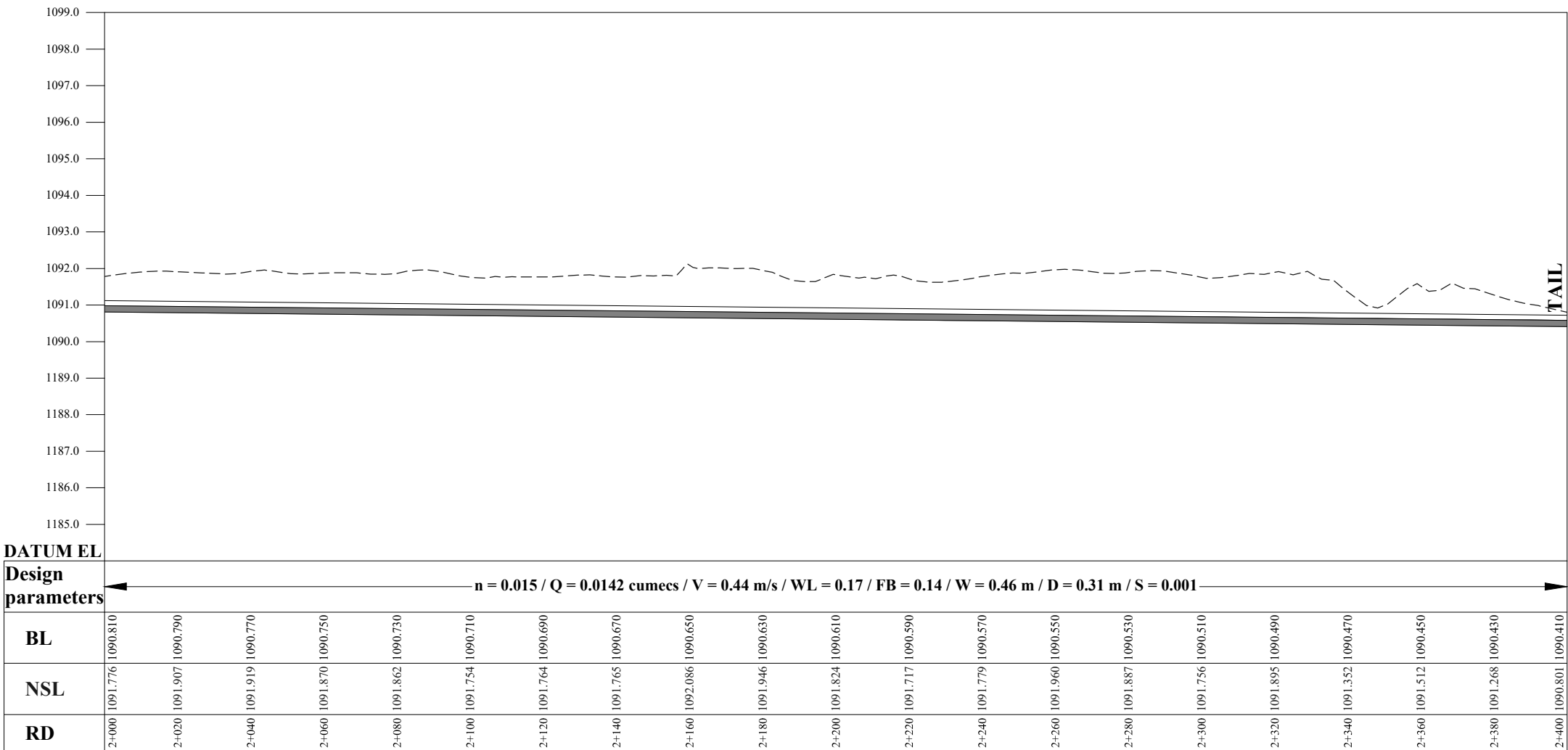
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
 CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
 BAZ ALI DAM
 DISTRICT KURRAM

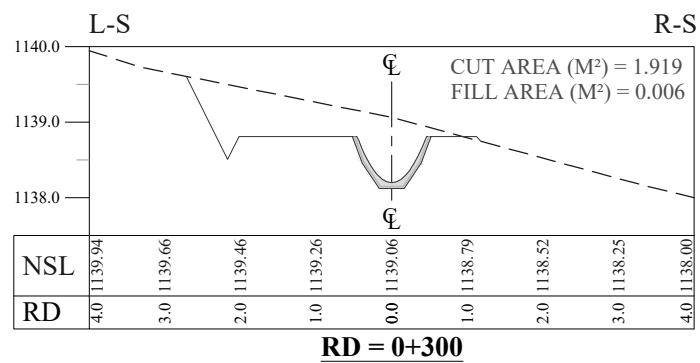
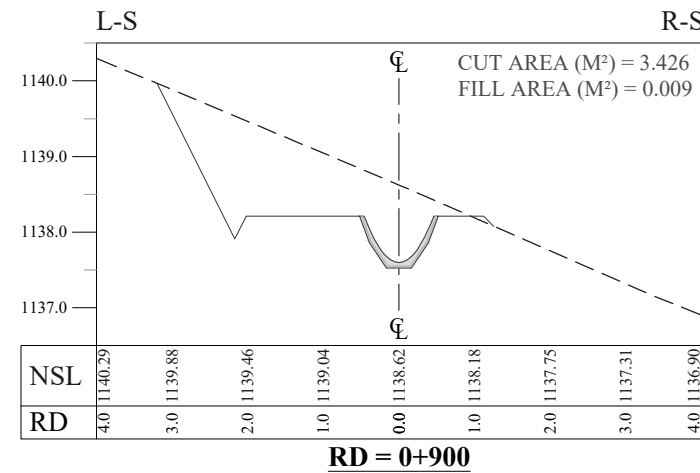
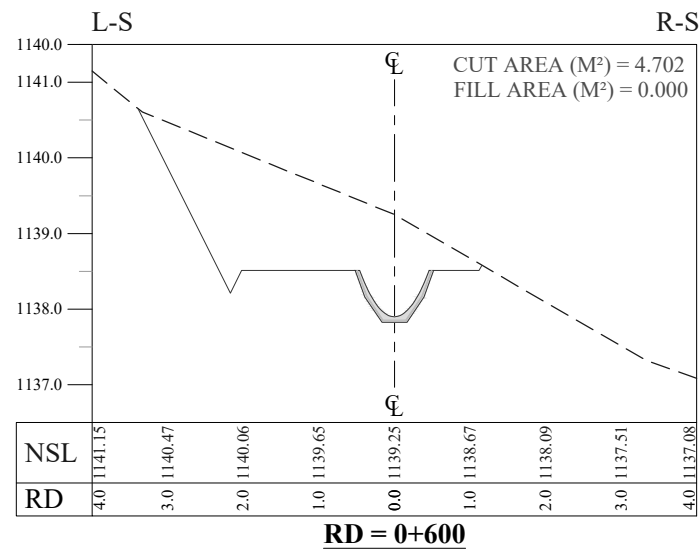
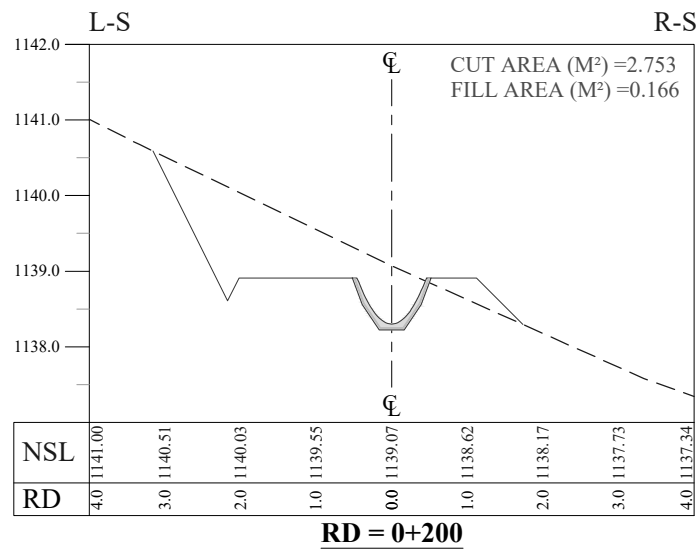
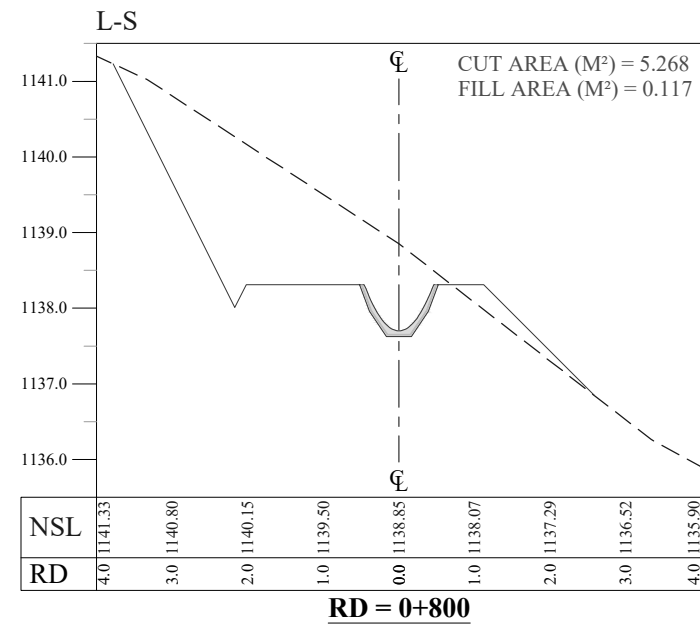
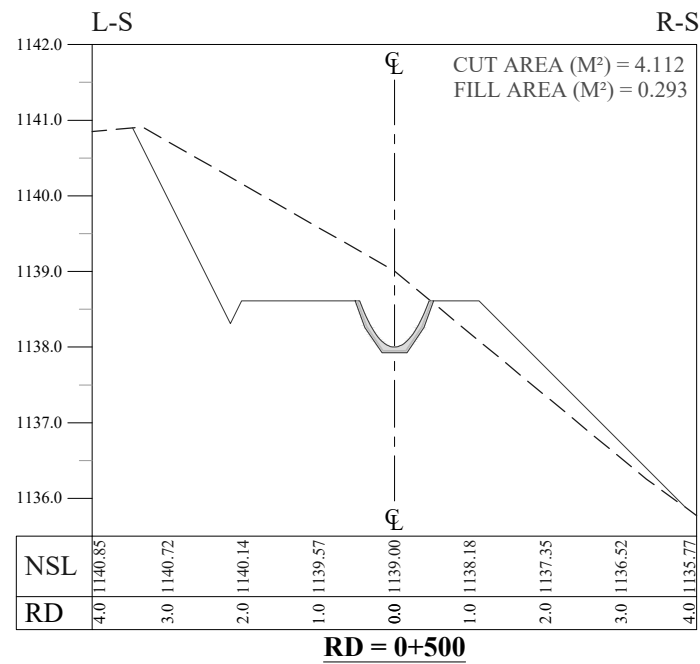
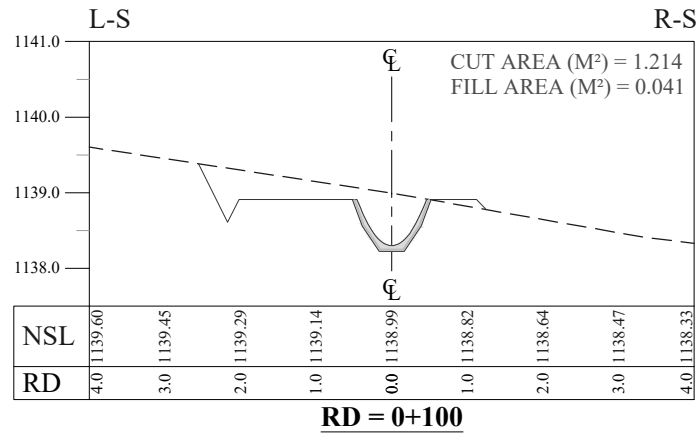
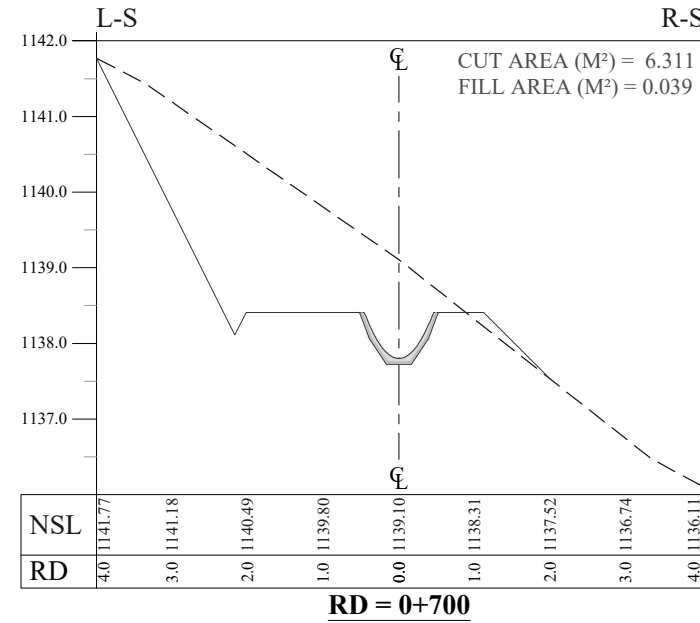
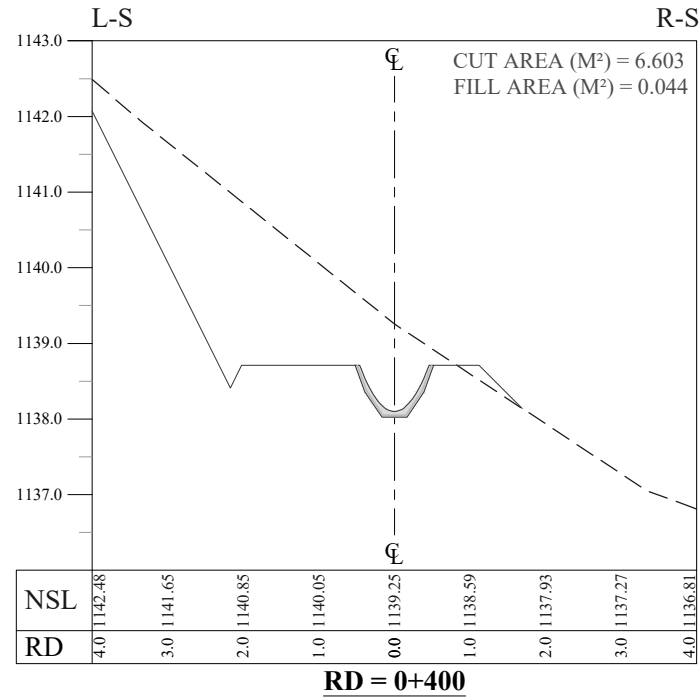
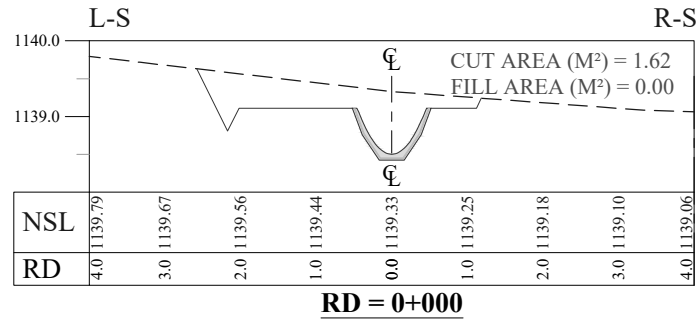
TITLE:
 DISTRIBUTORY-2 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	FEB 2022

DRG.No:- BAD-BD-IR-03 SHEET:- 6 OF 6 SUB SH.- ----



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NOTES:

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LEGENDS:

BED LEVEL
 NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-



DRAWING IS RELEASED

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CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

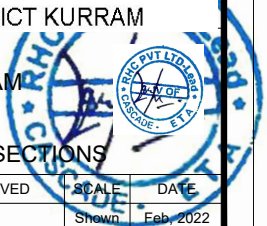
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
 BAZ ALI DAM
 DISTRICT KURRAM

TITLE:

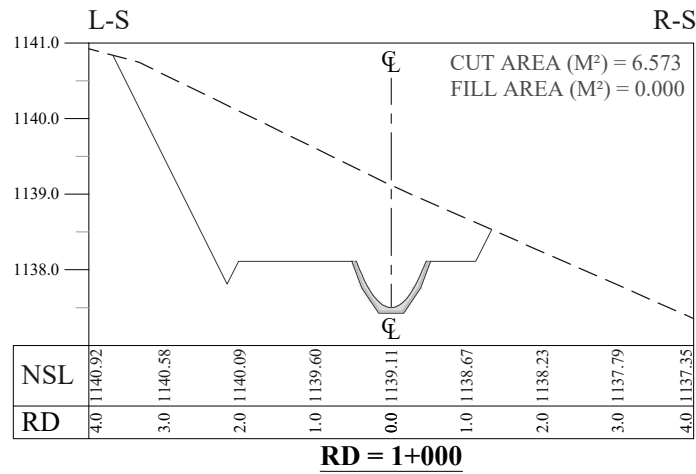
MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

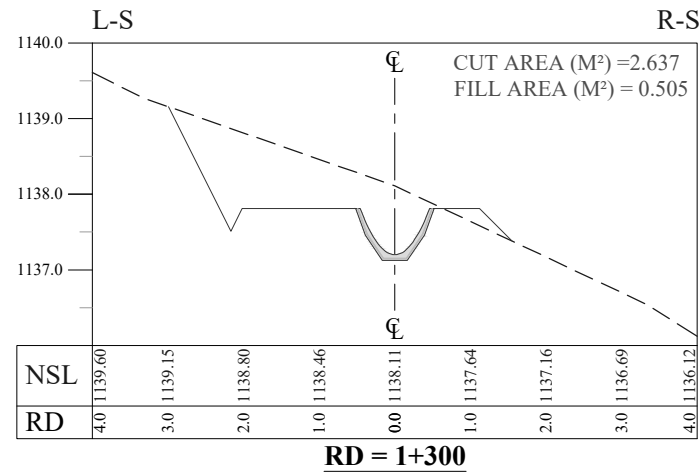
DRG.No:- BAD-BD-IR-04 SHEET:- 1 OF 10 SUB SH.- ----



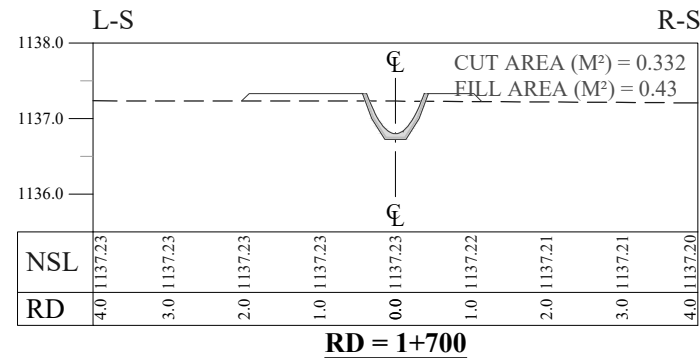
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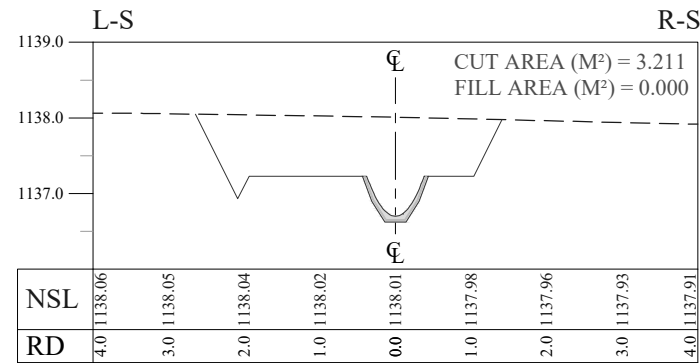
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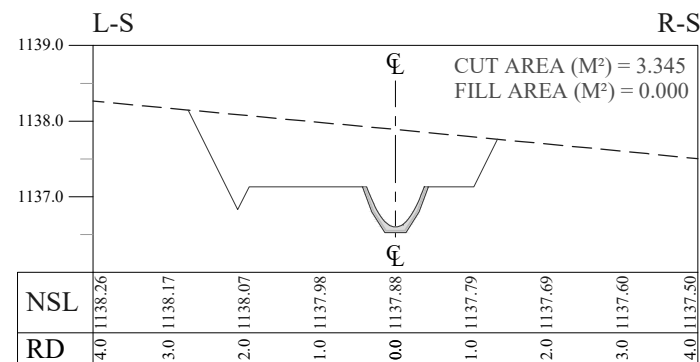
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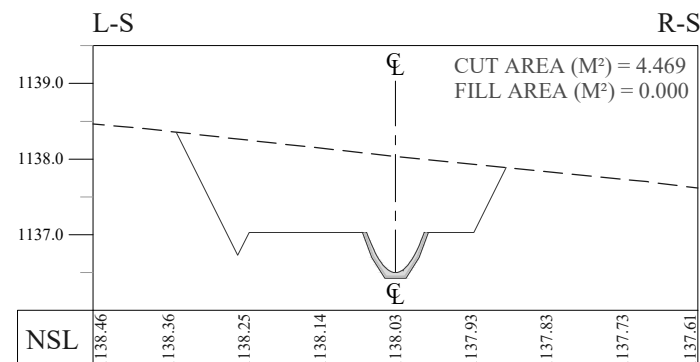
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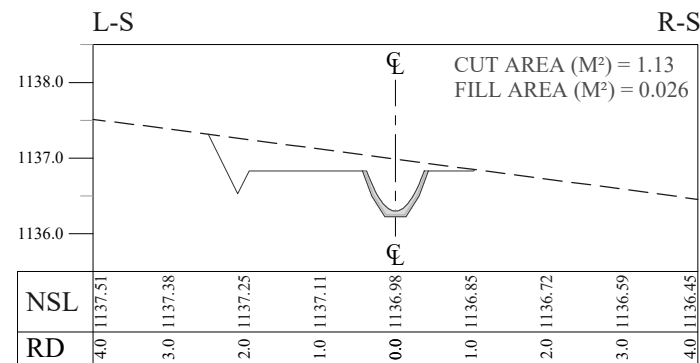
RD = 1+800



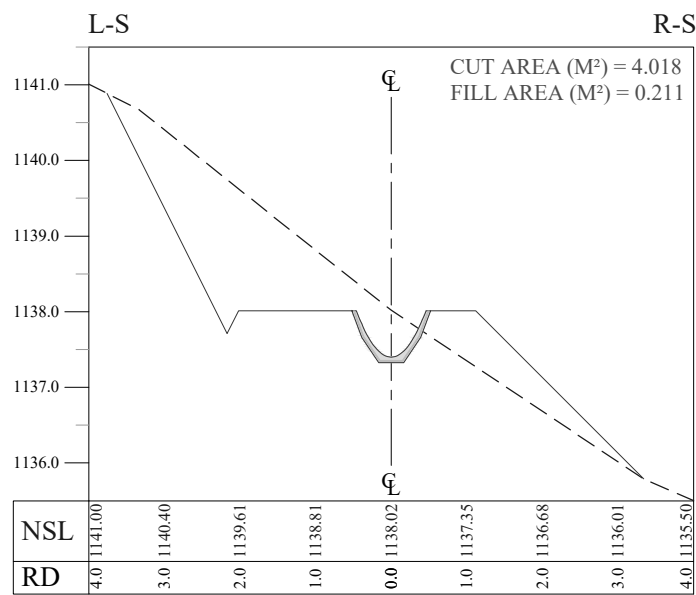
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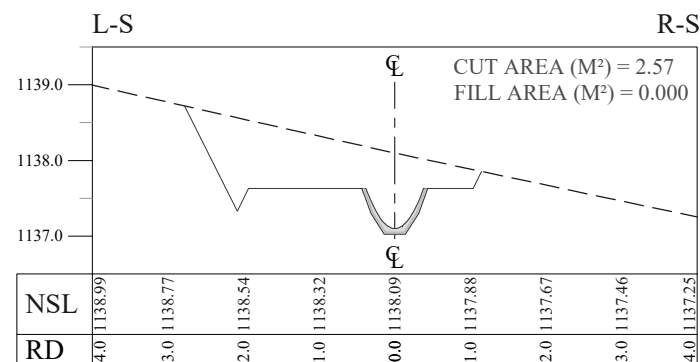
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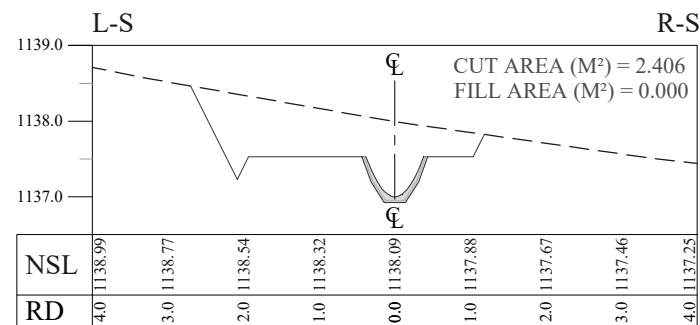
RD = 2+100



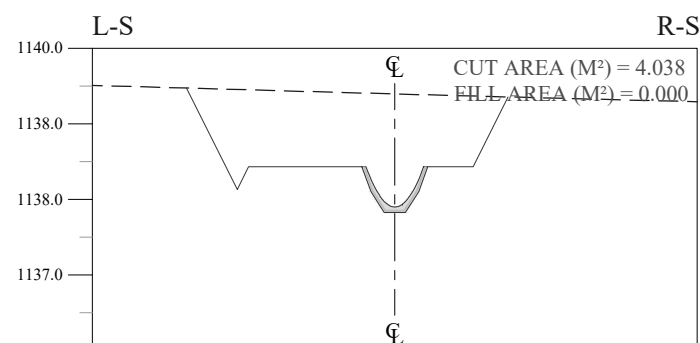
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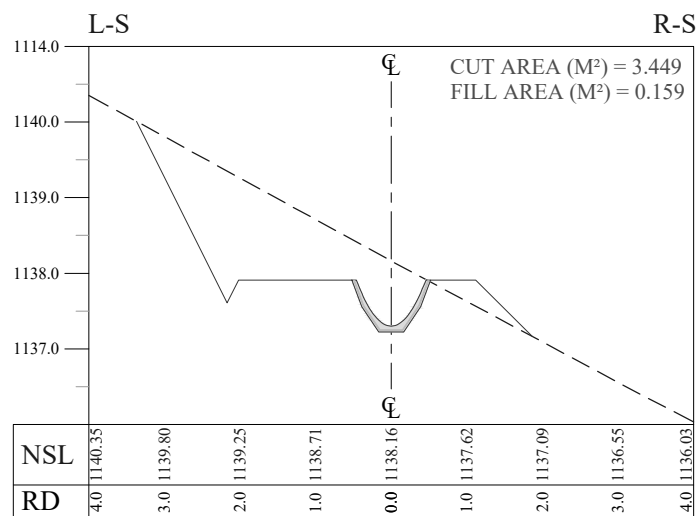
RD = 1+400



RD = 1+500



RD = 1+600



RD = 1+200

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL
NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

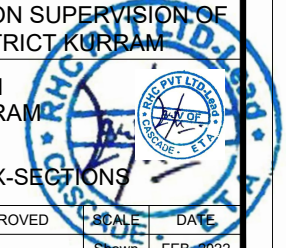
CONSULTANTS: A J.V OF
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CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

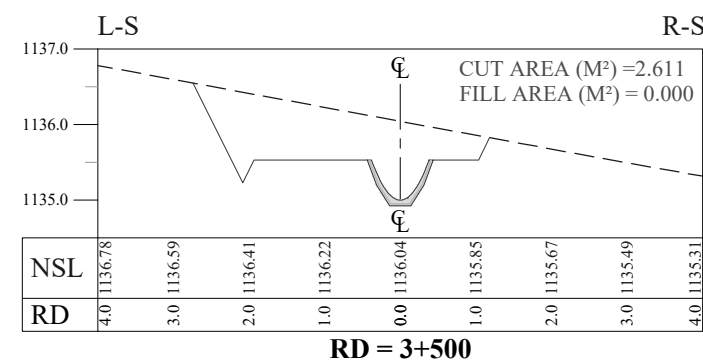
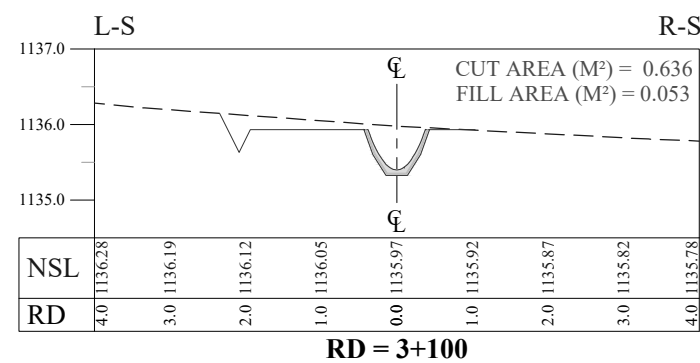
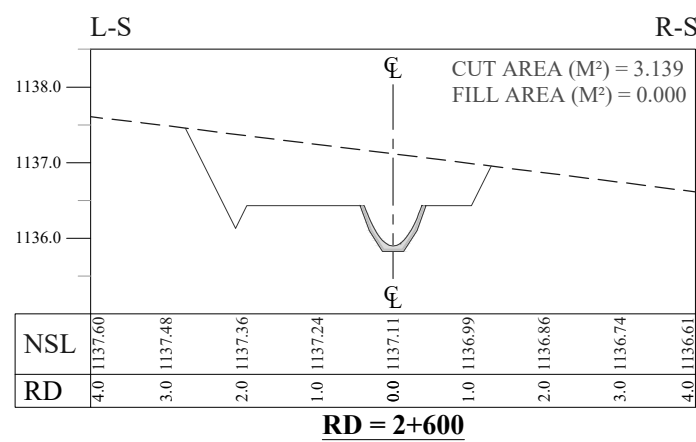
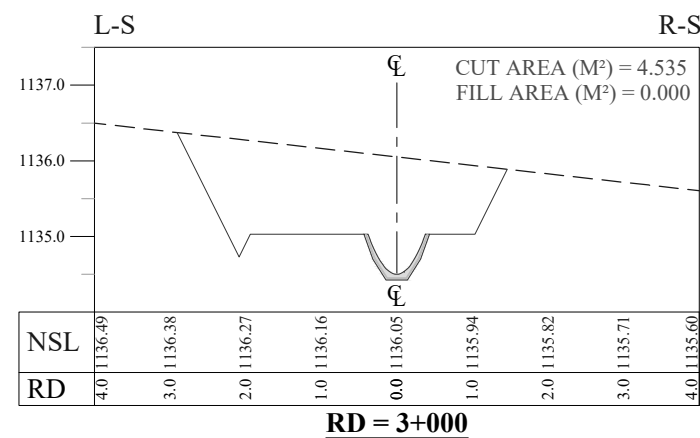
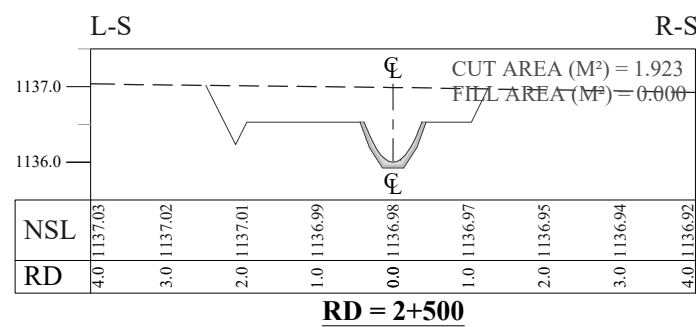
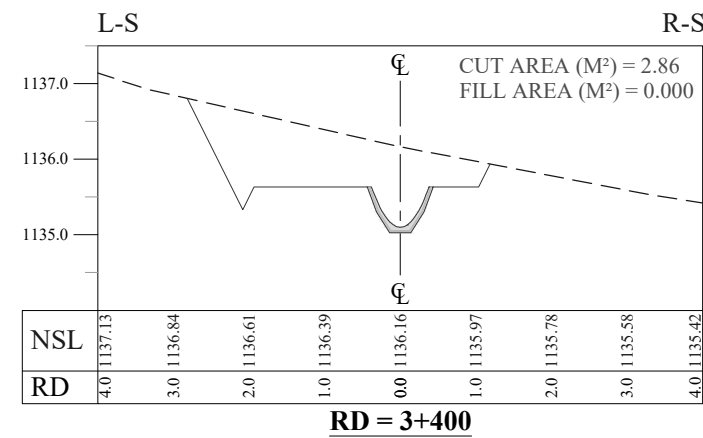
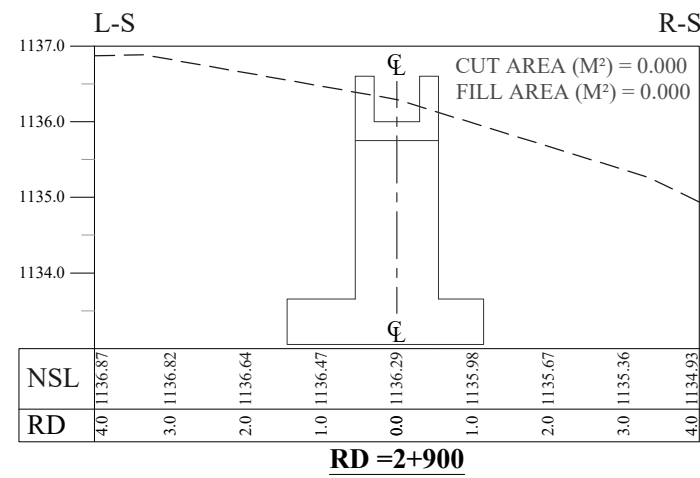
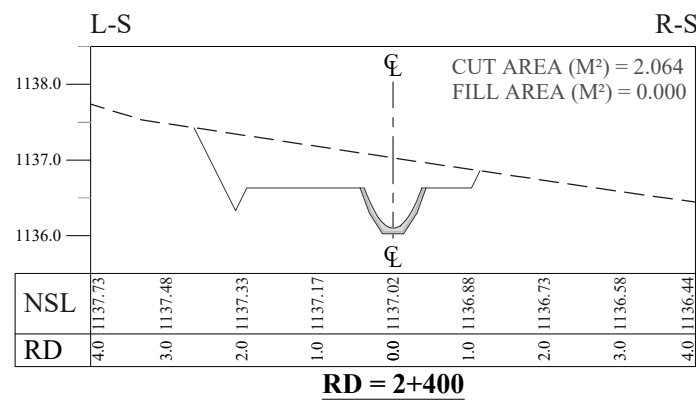
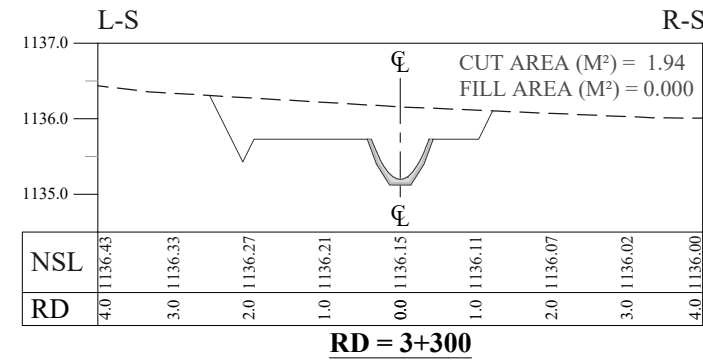
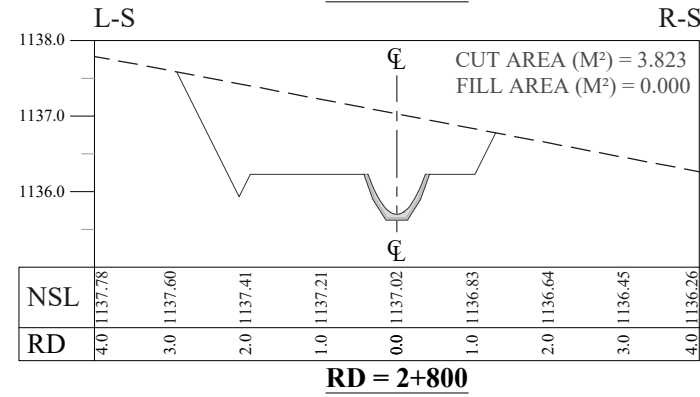
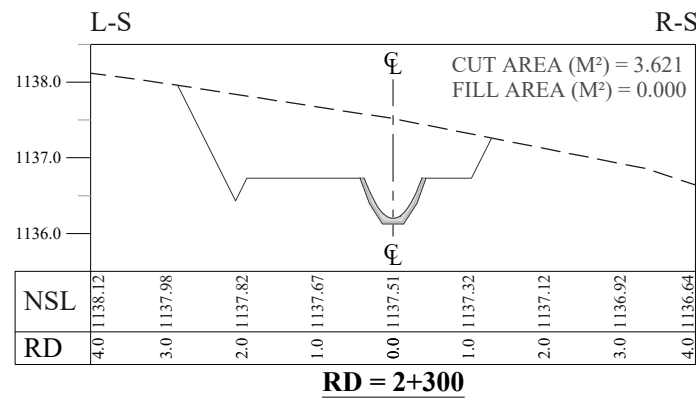
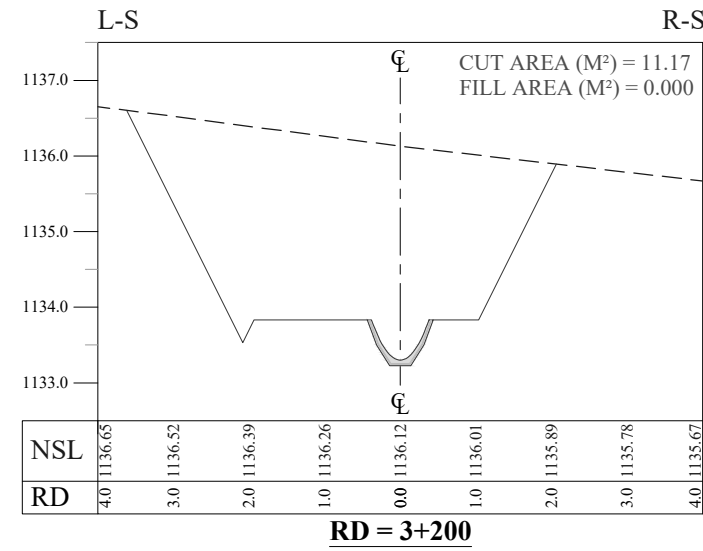
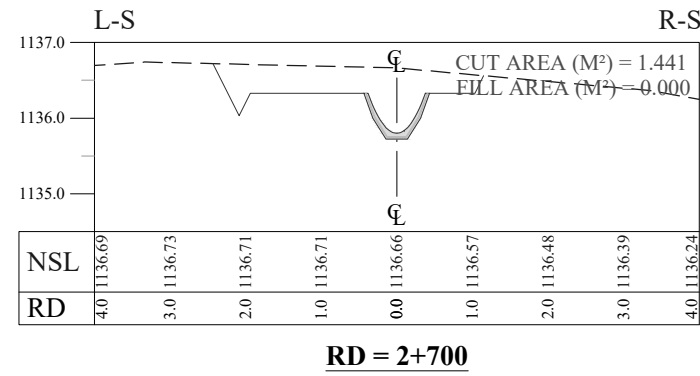
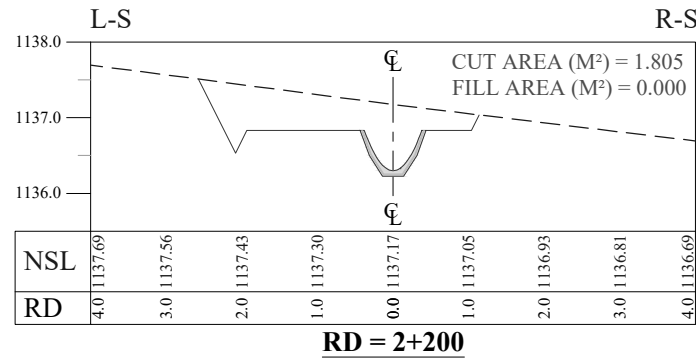
BAZ ALI DAM DISTRICT KURRAM
TITLE: MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	FEB, 2022

DRG.No:- BAD-BD-IR-04 SHEET:- 2 OF 10 SUB SH.- ----



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NOTES:

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LEGENDS:

BED LEVEL _____
NATURAL SURFACE LEVEL - - - - -

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

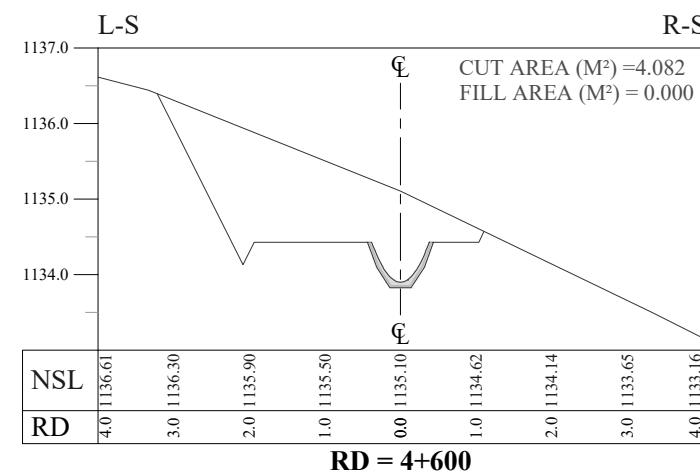
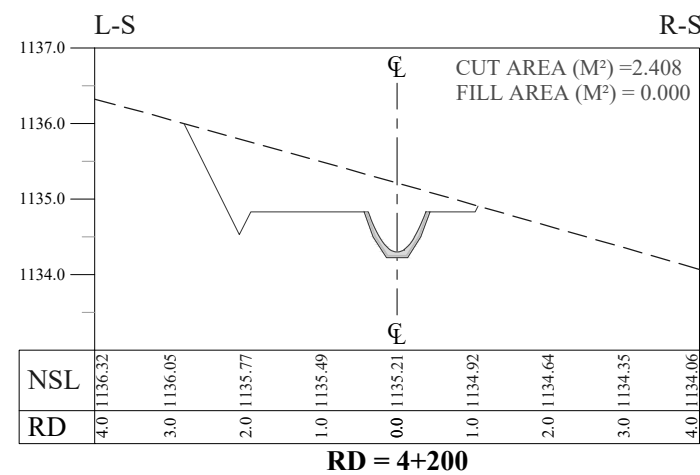
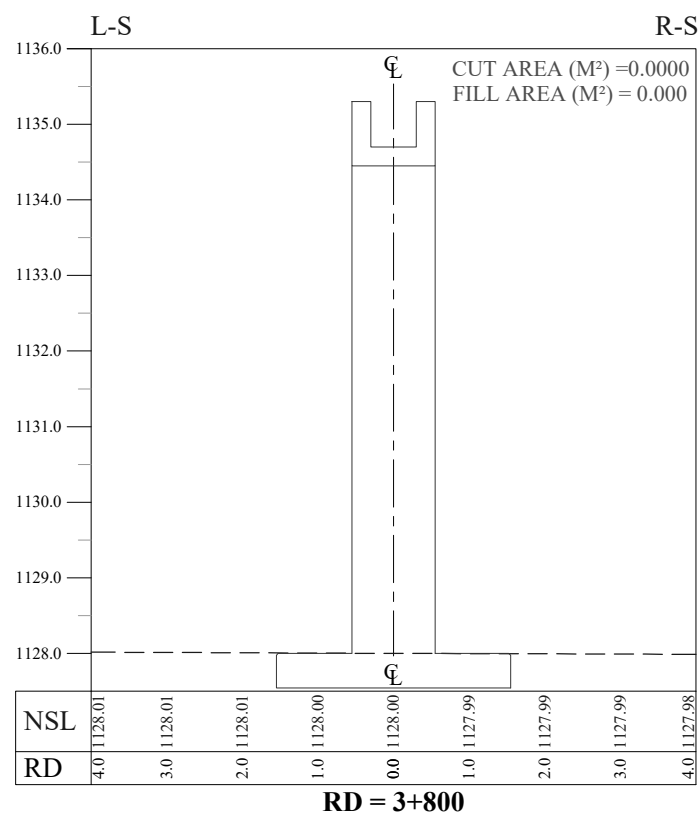
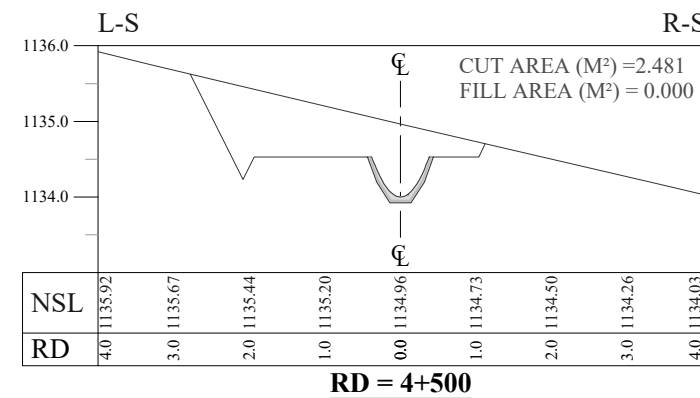
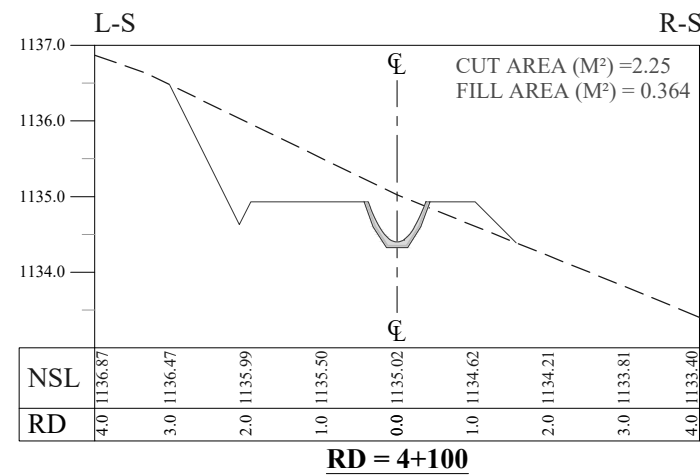
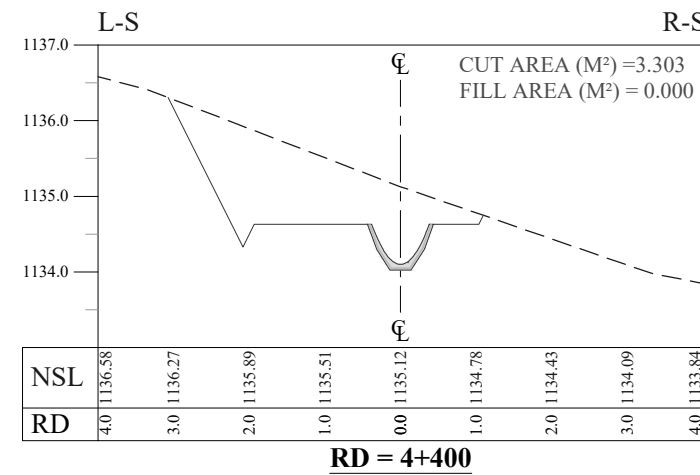
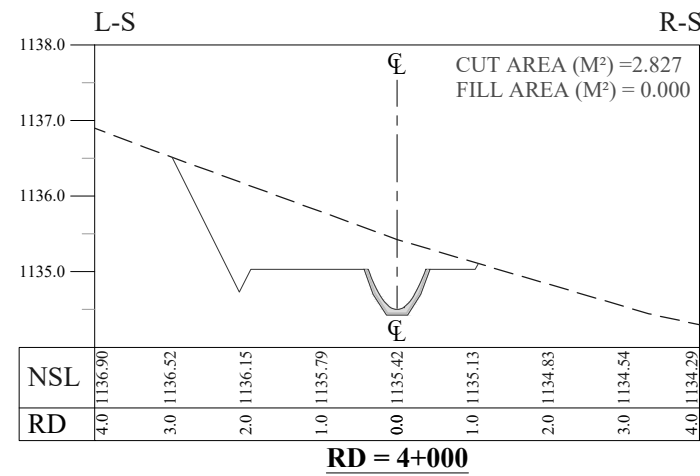
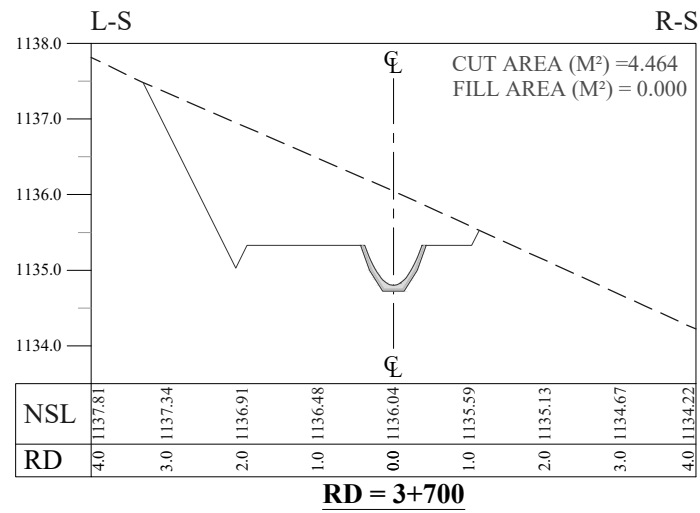
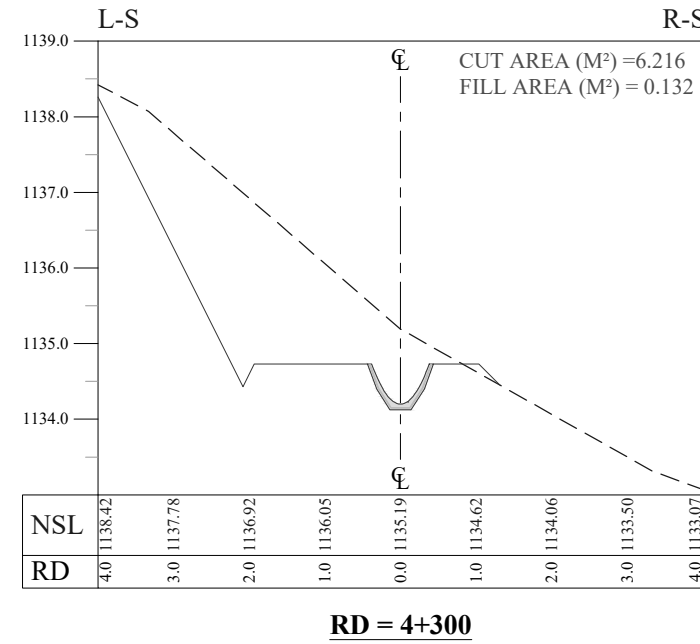
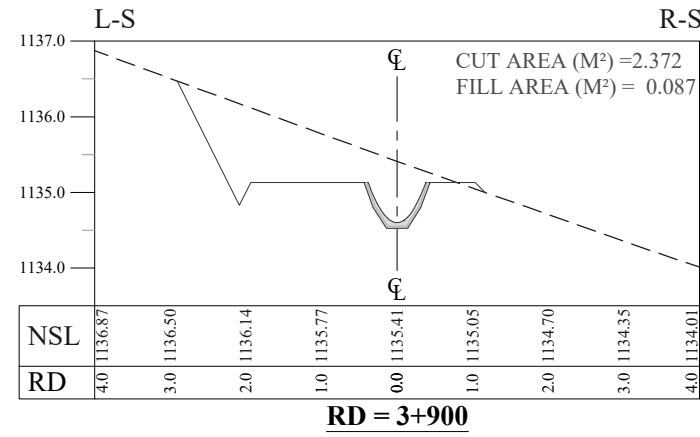
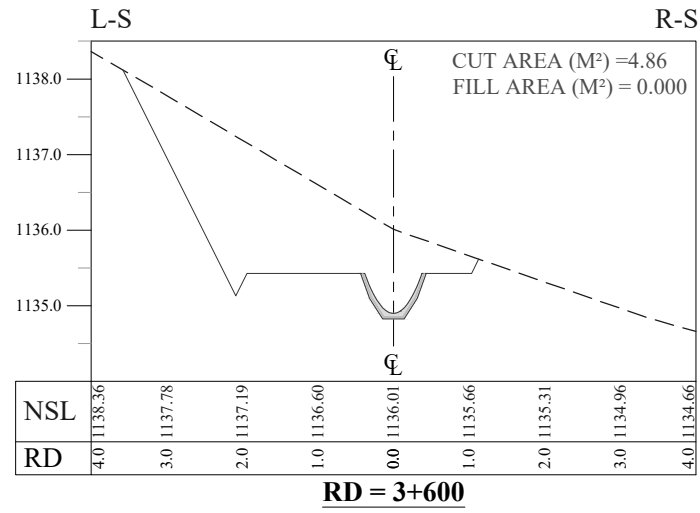
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Shown Feb, 2022

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LEGENDS:

BED LEVEL

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CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

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PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

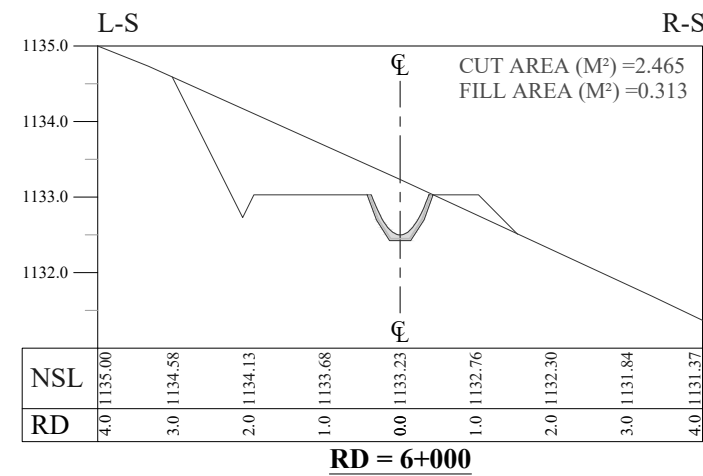
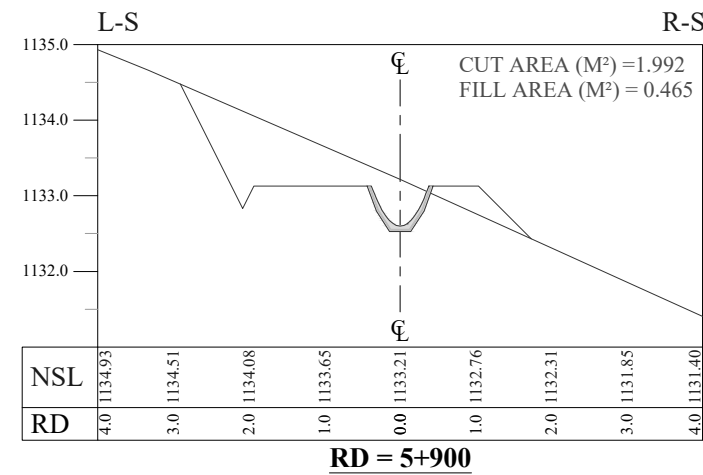
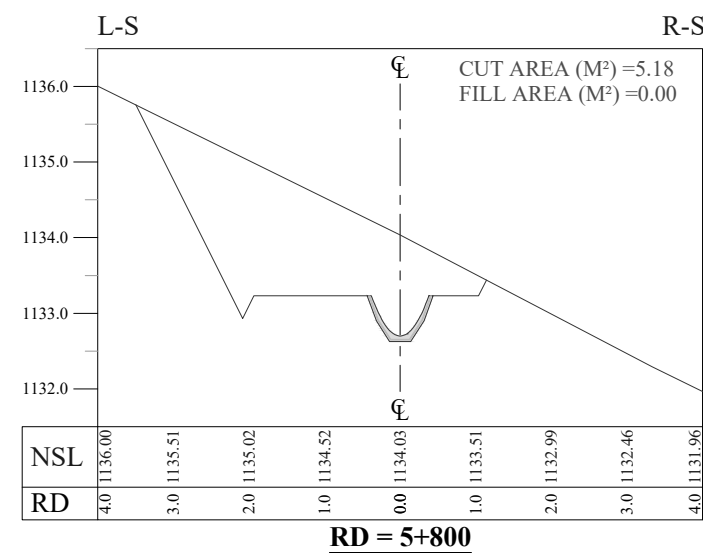
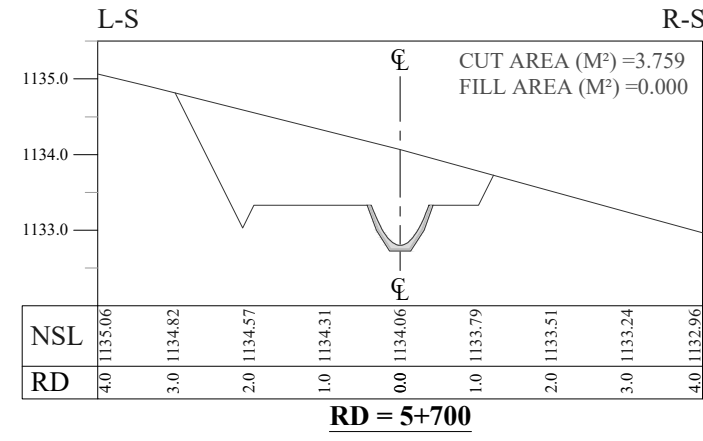
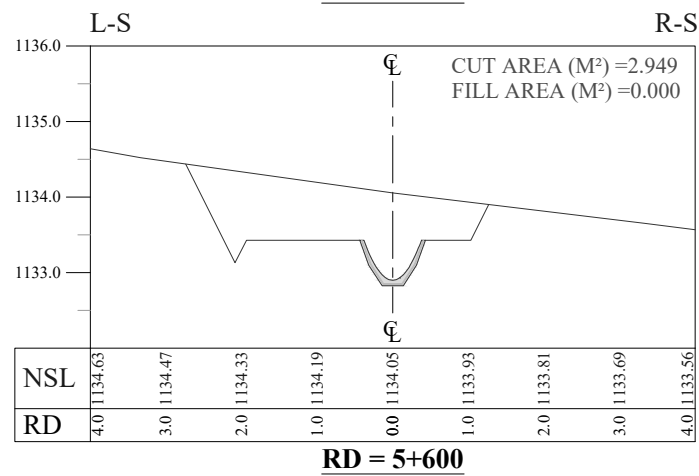
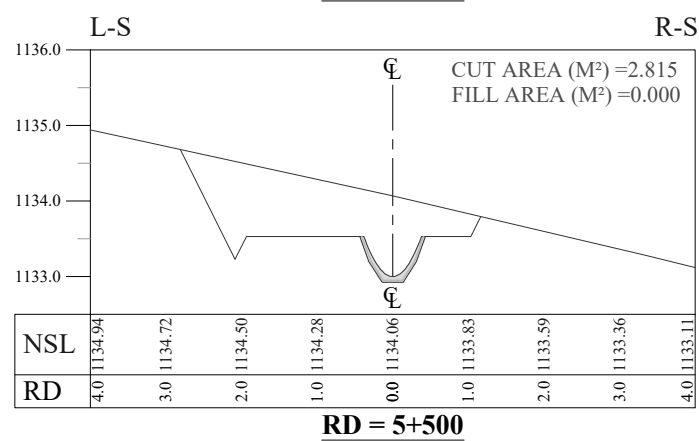
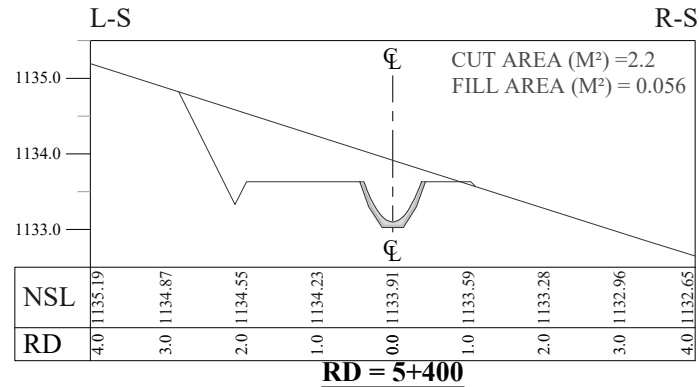
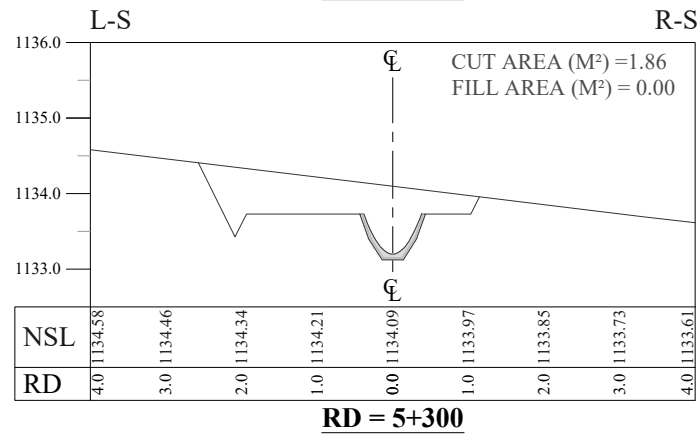
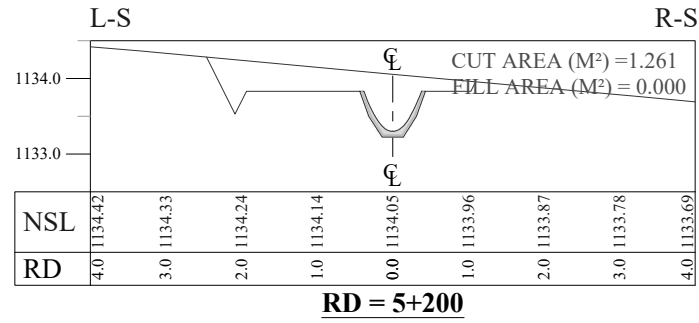
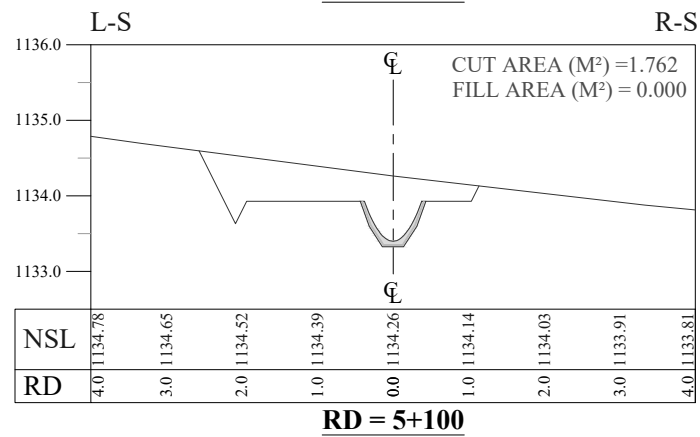
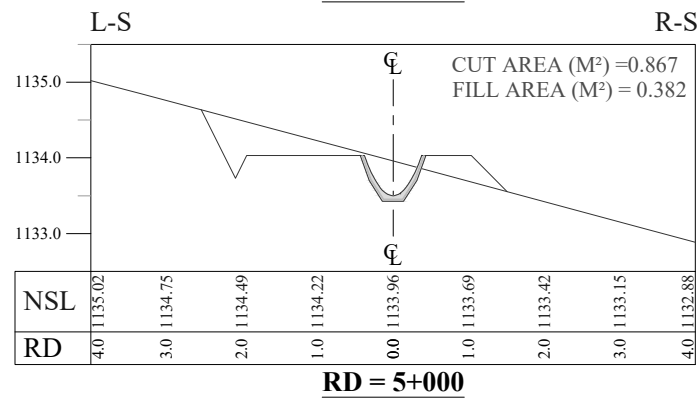
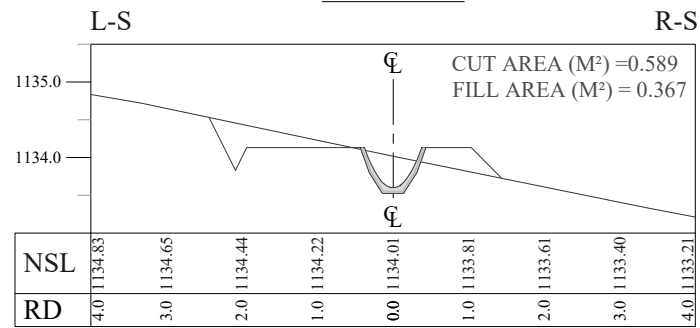
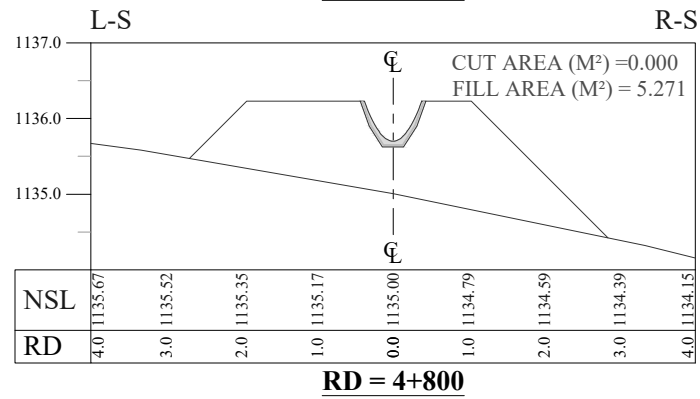
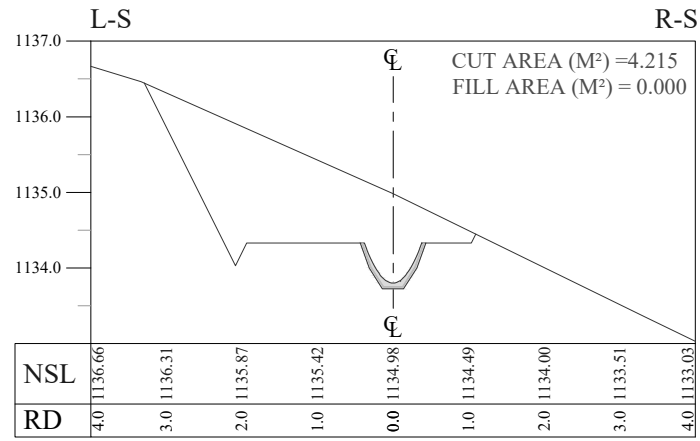
BAZ ALI DAM
DISTRICT KURRAM

TITLE:

MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Shown Feb, 2022

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NOTES:

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LEGENDS:

BED LEVEL —————
NATURAL SURFACE LEVEL - - - - -

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

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ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

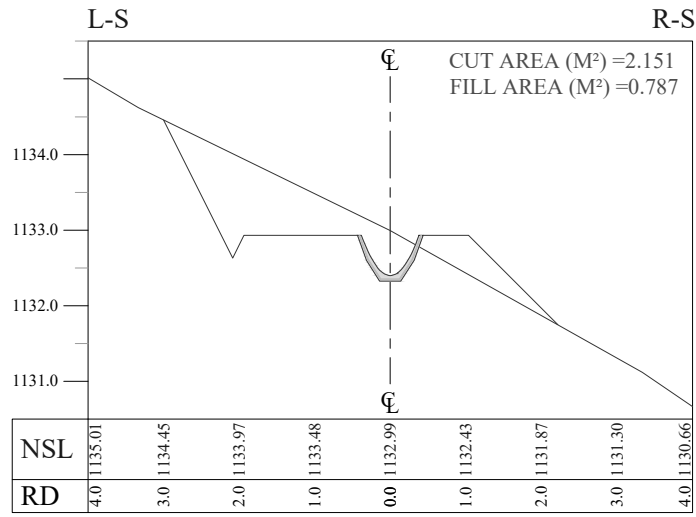
TITLE:

MAIN CHANNEL DETAIL X-SECTIONS

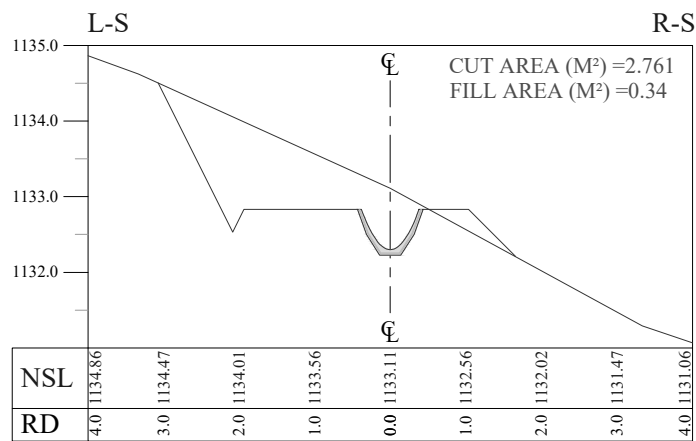
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

DRG.No:- BAD-BD-IR-04 SHEET:- 5 OF 10 SUB SH.- ----

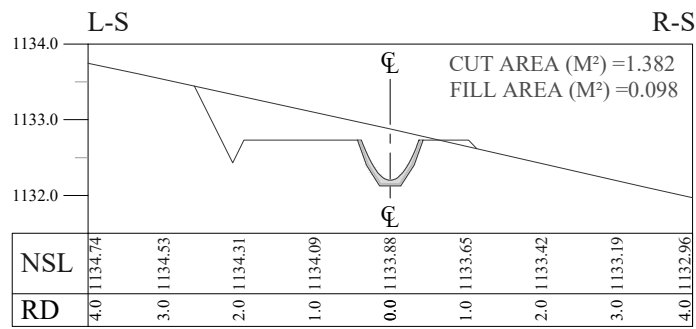
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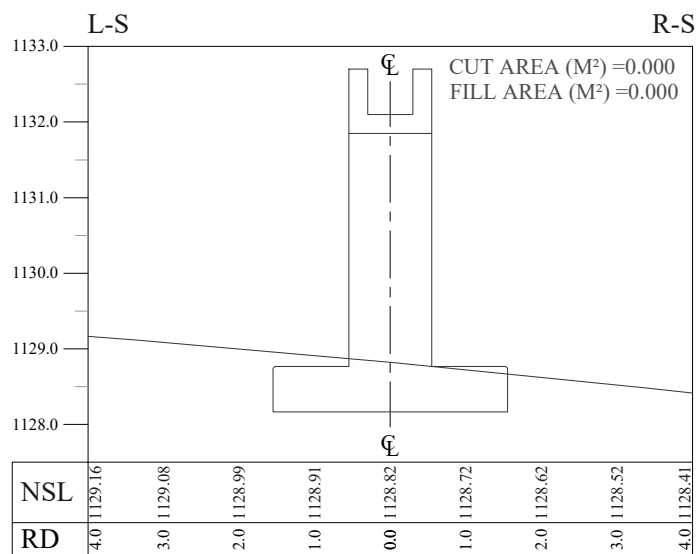
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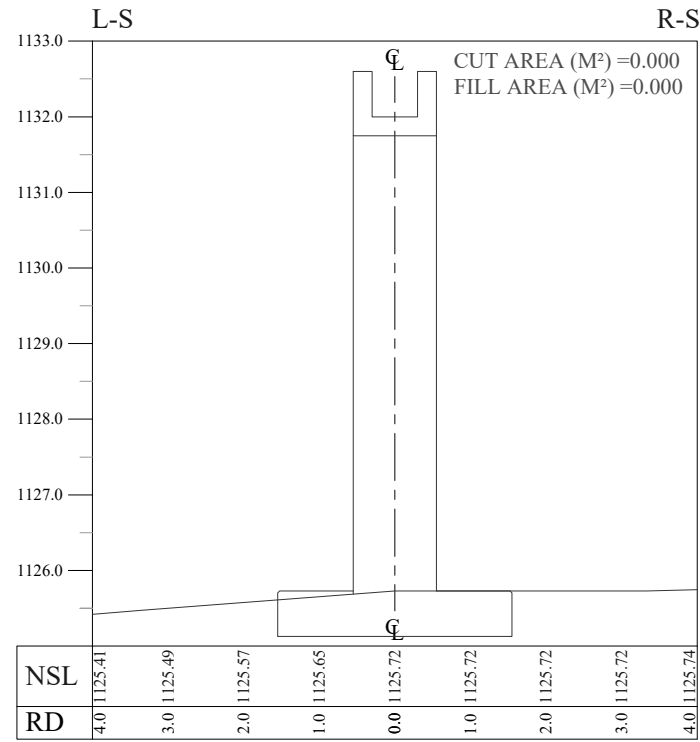
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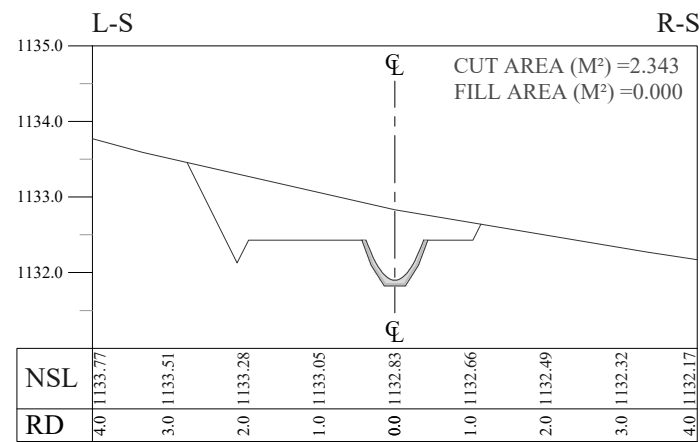
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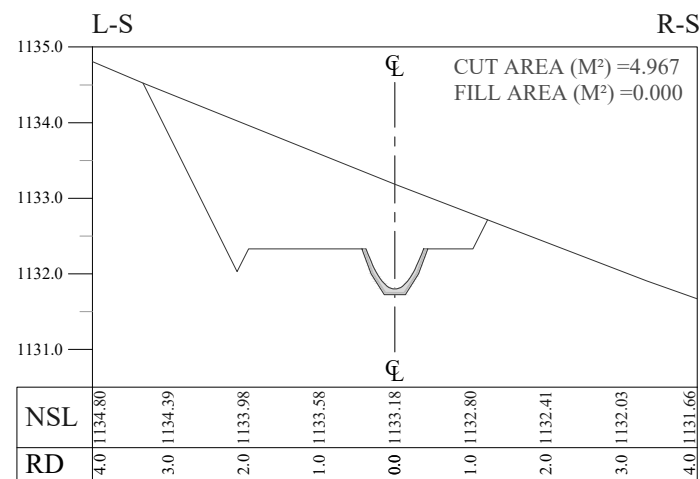
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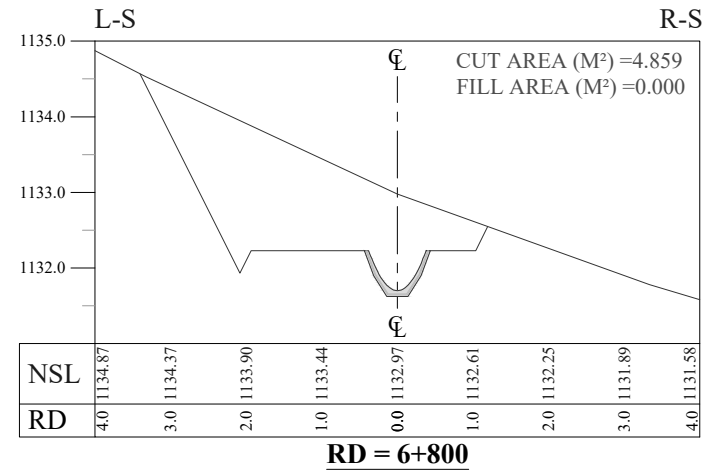
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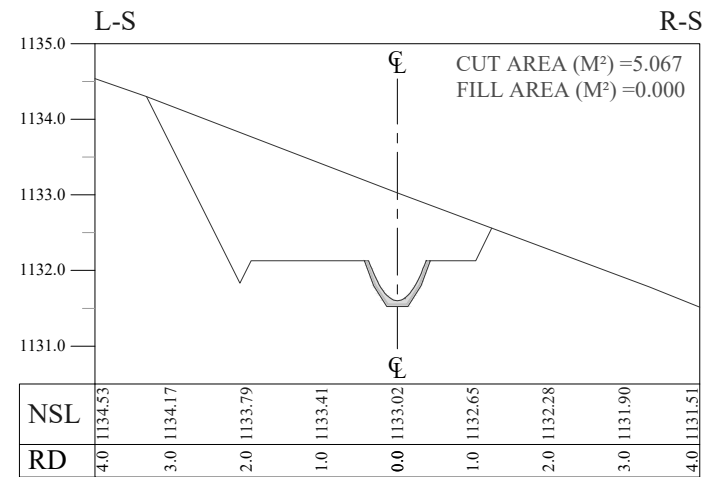
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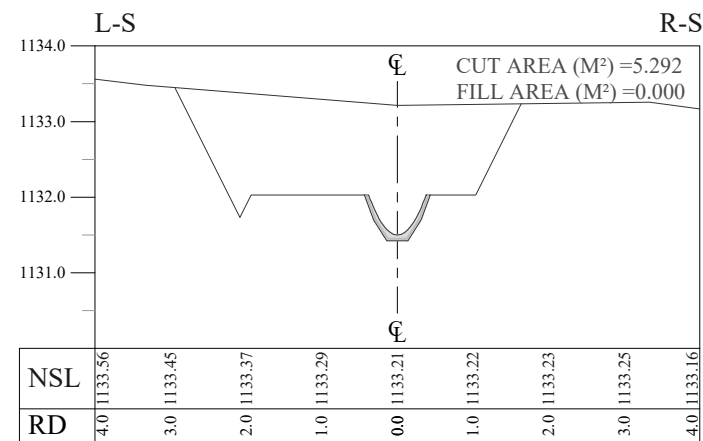
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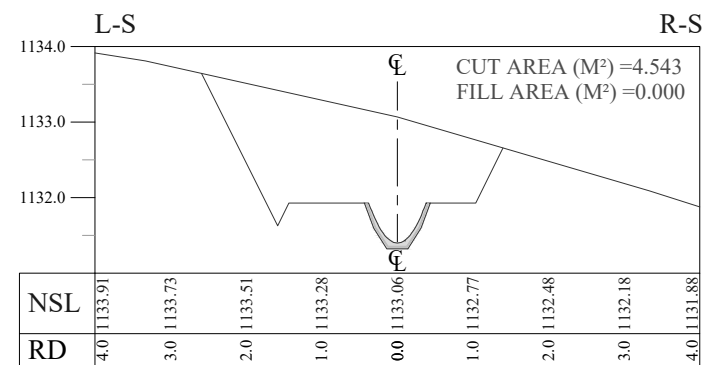
RD = 6+800



RD = 6+900



RD = 7+000



RD = 7+100

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL —————
NATURAL SURFACE LEVEL - - - - -

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

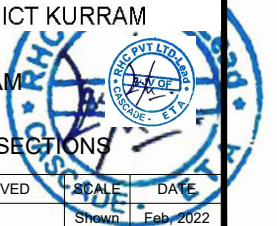
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

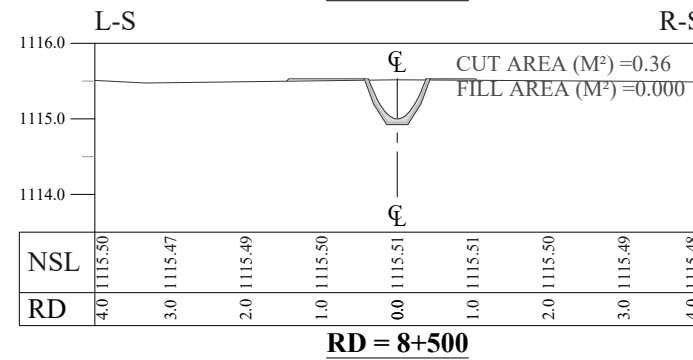
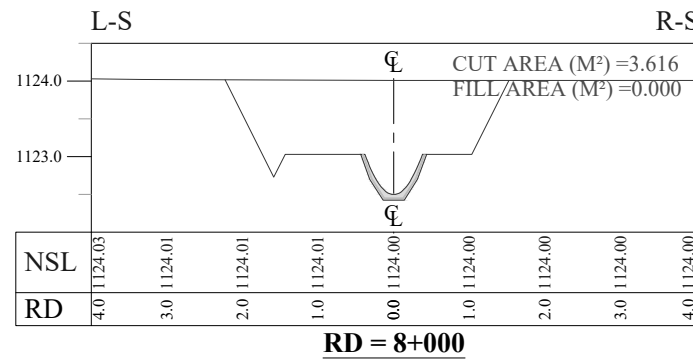
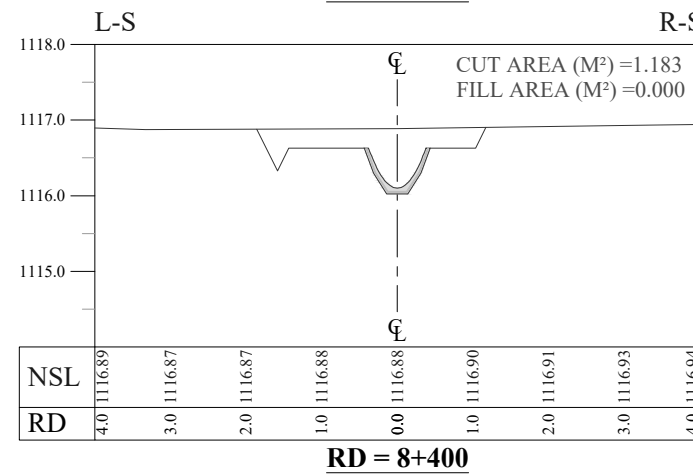
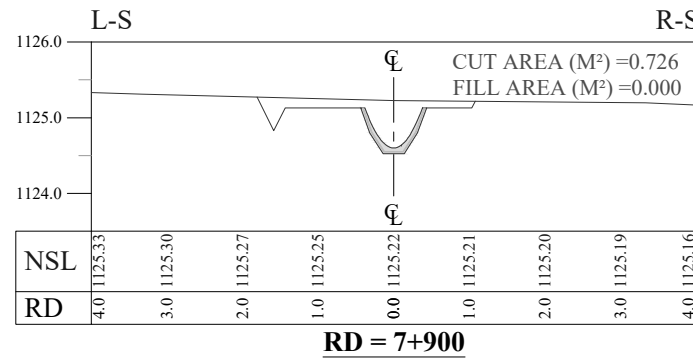
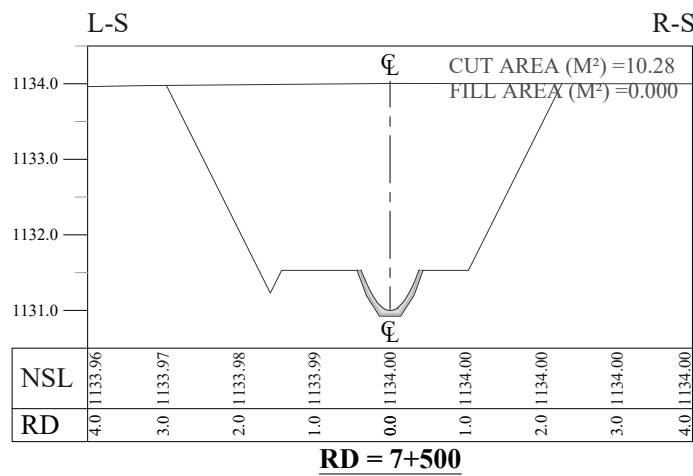
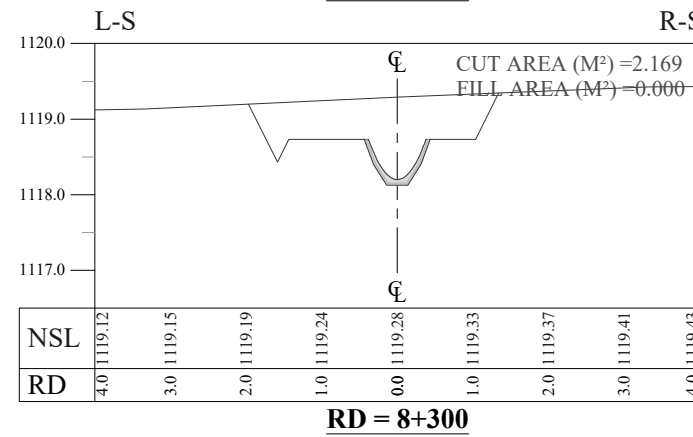
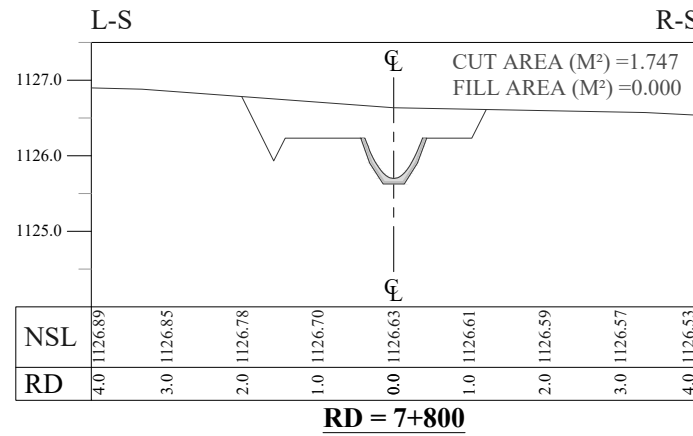
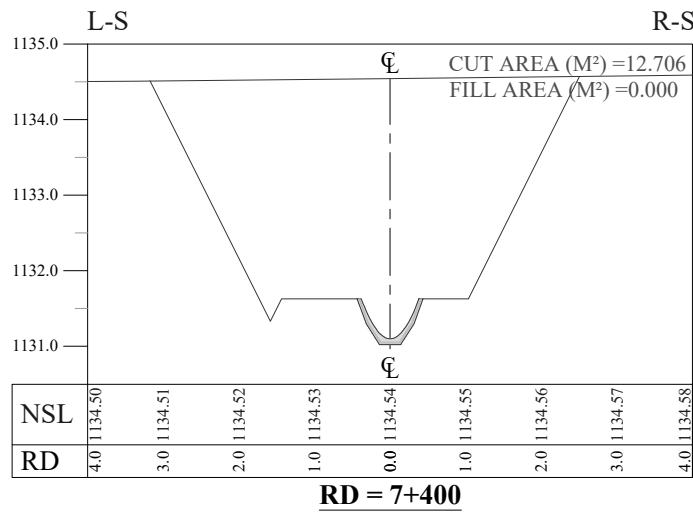
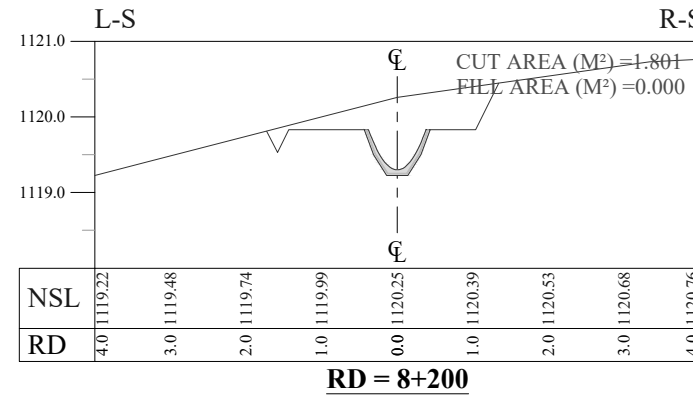
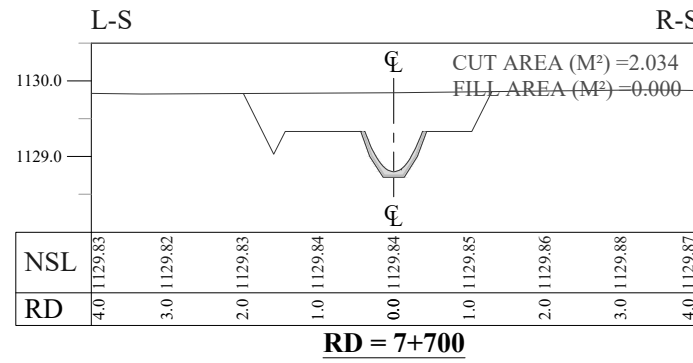
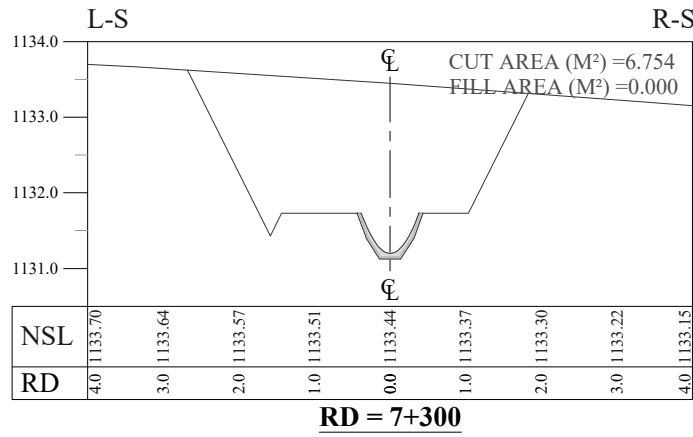
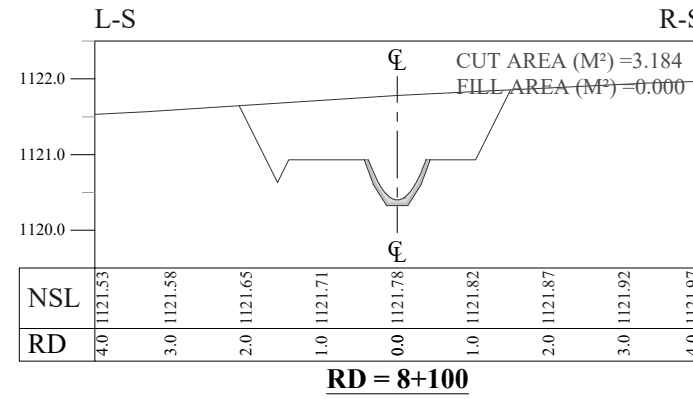
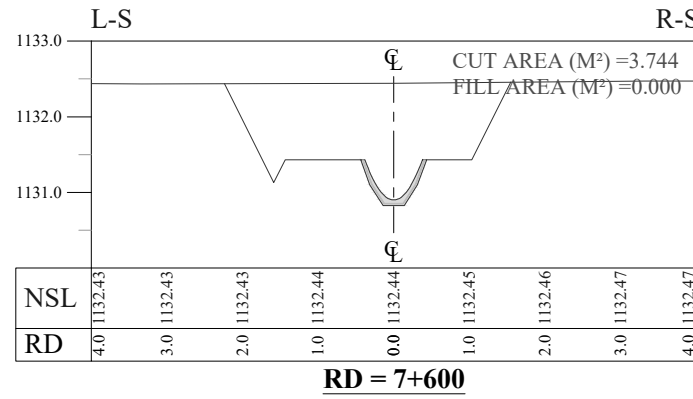
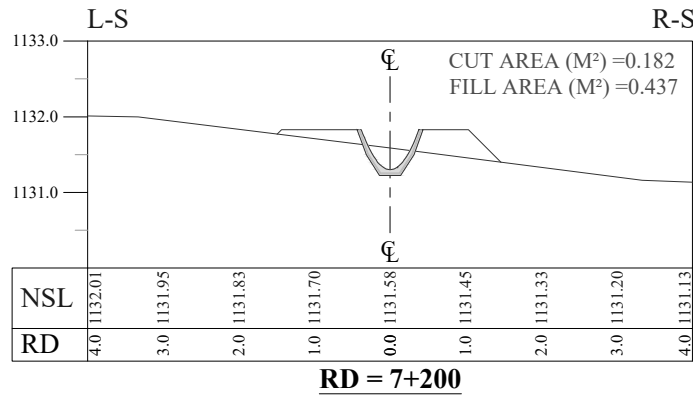
TITLE: MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

DRG.No:- BAD-BD-IR-04 SHEET:- 6 OF 10 SUB SH.- ----



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LEGENDS:

BED LEVEL —————
 NATURAL SURFACE LEVEL - - - - -

REFERENCE DRAWINGS :-

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CLIENT: MERGED AREAS SMALL DAM SECTION
 IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

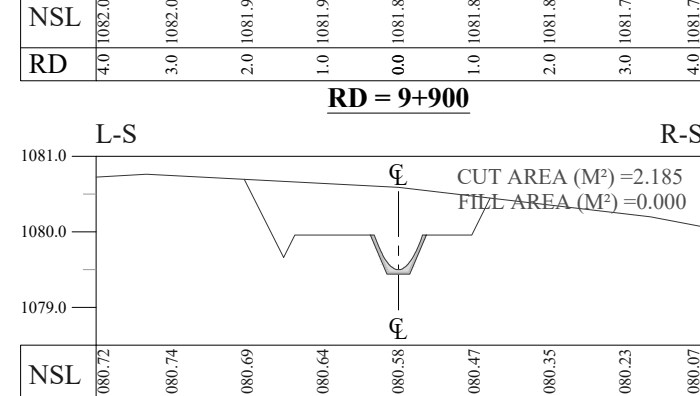
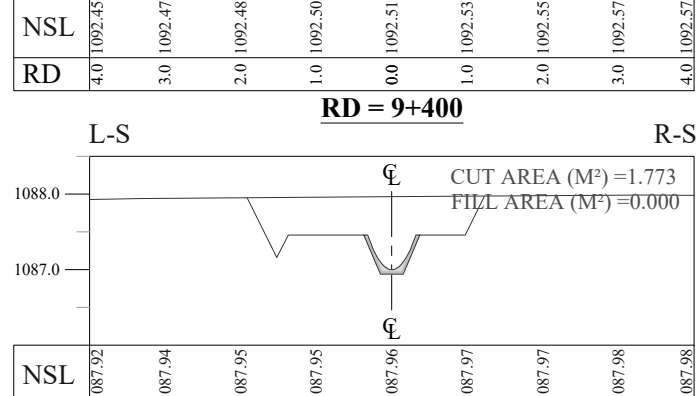
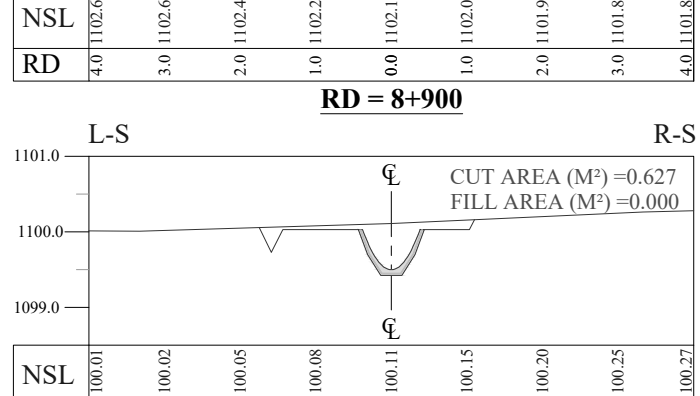
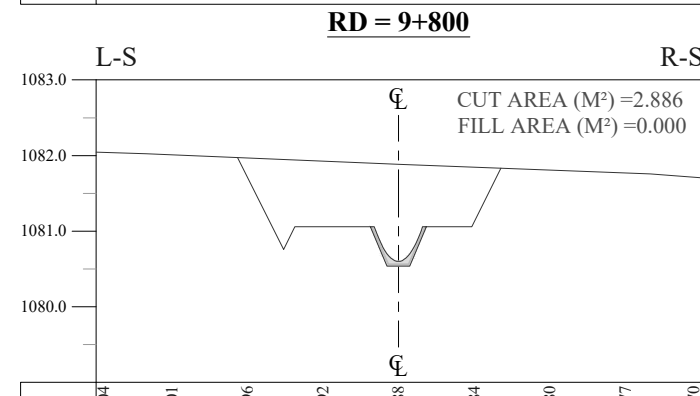
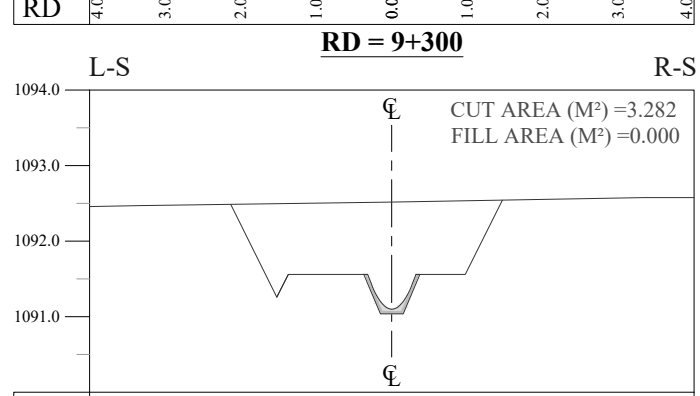
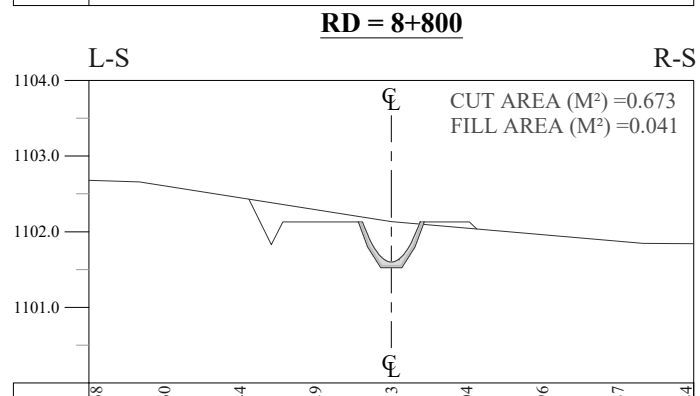
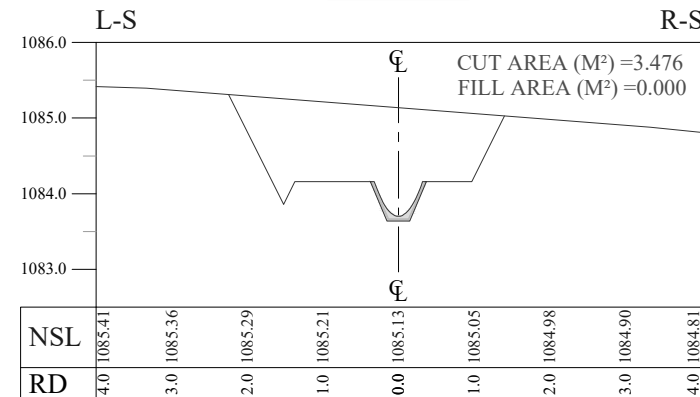
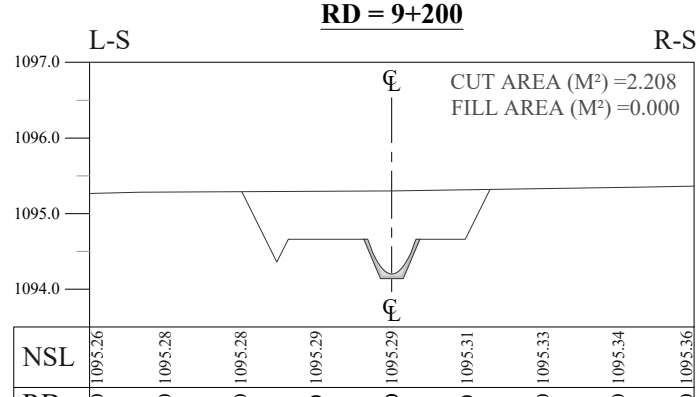
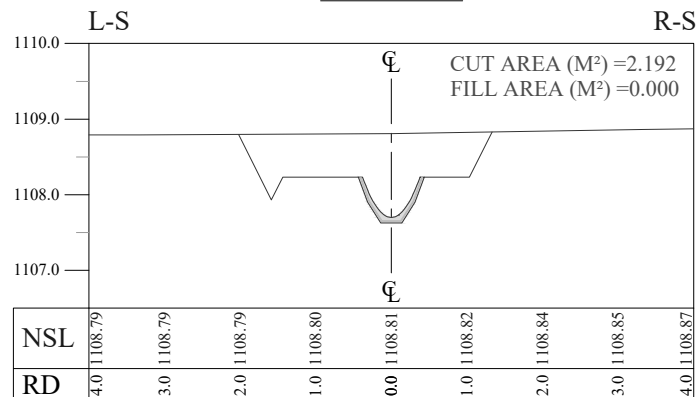
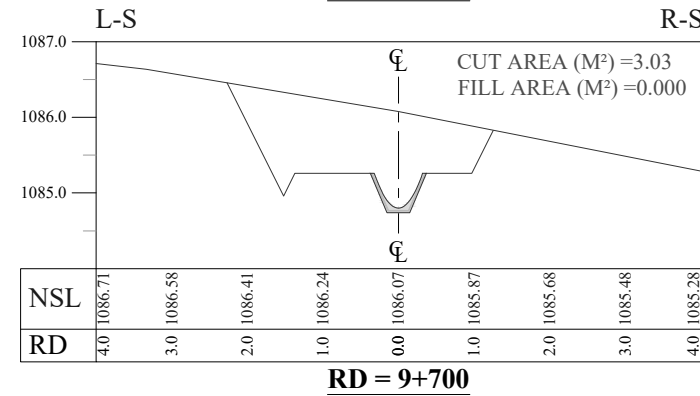
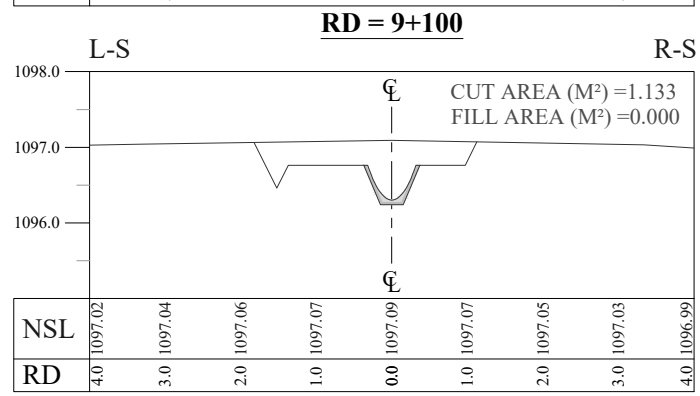
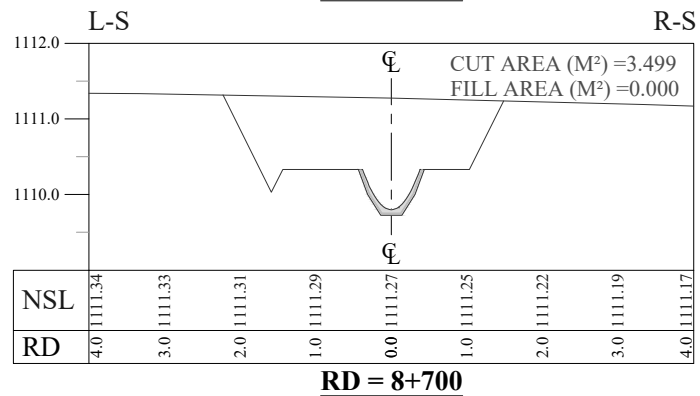
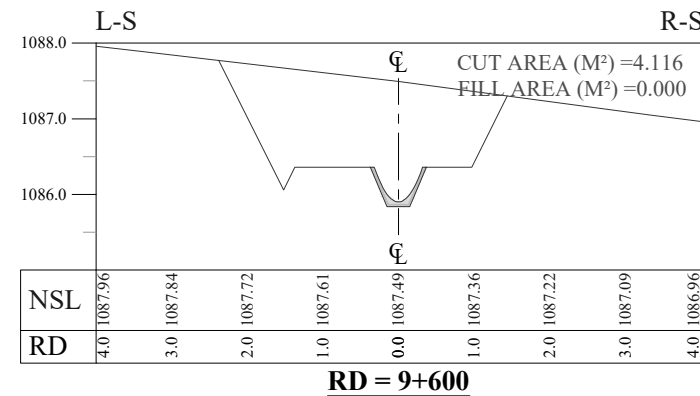
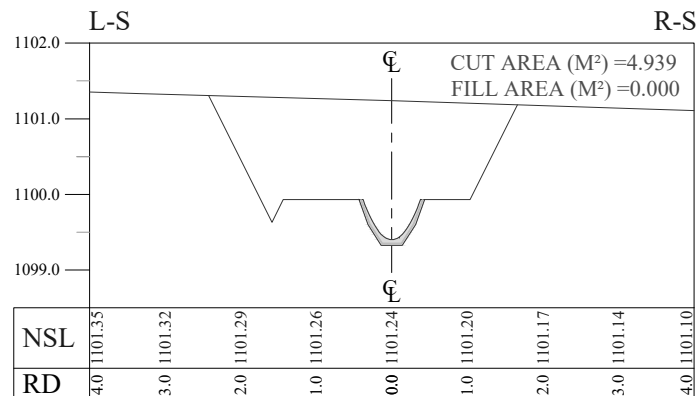
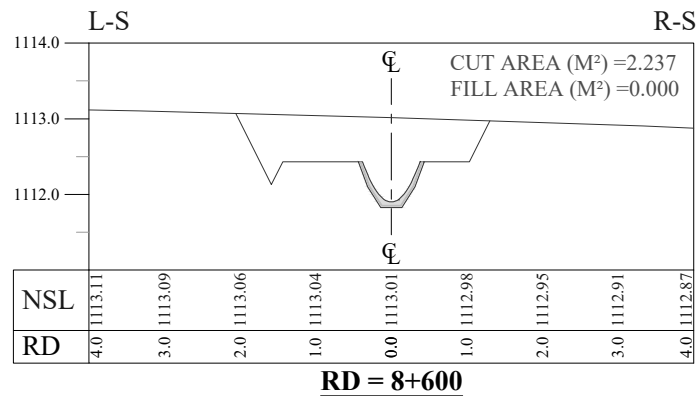
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
 DISTRICT KURRAM

TITLE: MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

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LEGENDS:

BED LEVEL —————
NATURAL SURFACE LEVEL - - - - -

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

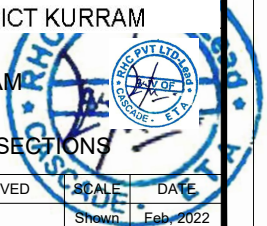
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
BAZ ALI DAM
DISTRICT KURRAM

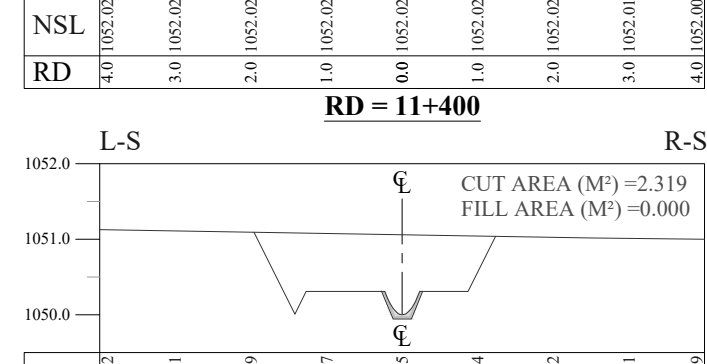
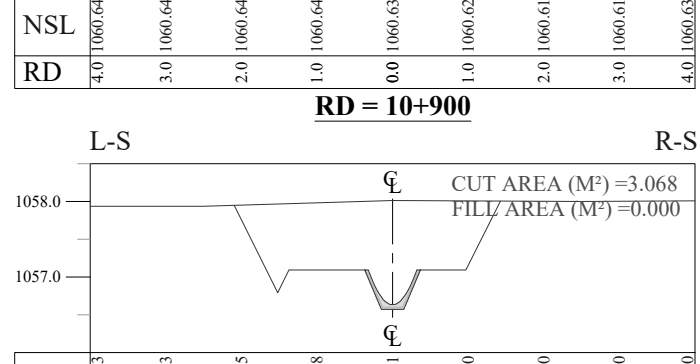
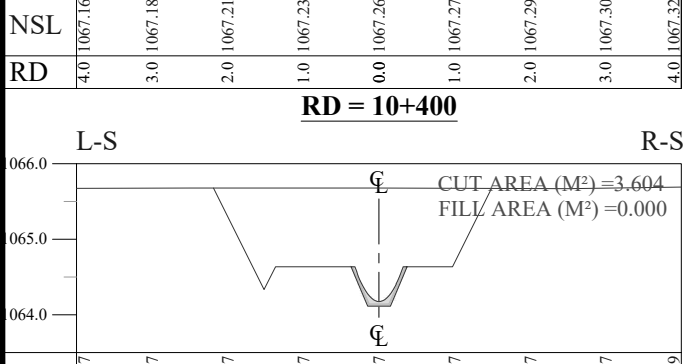
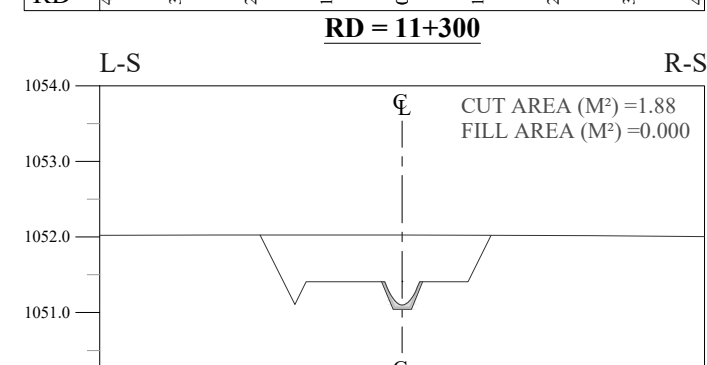
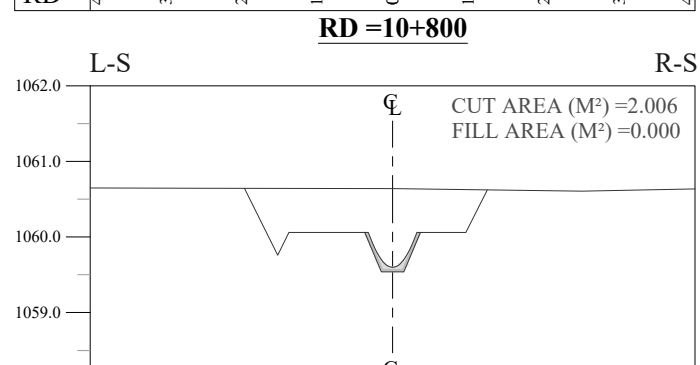
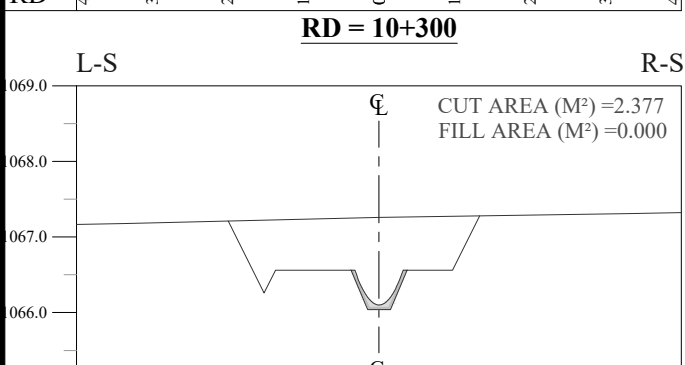
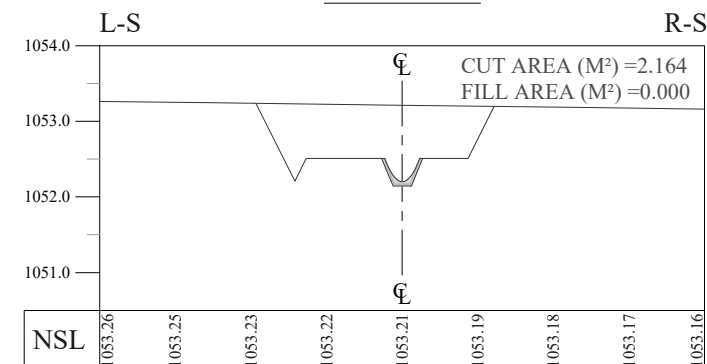
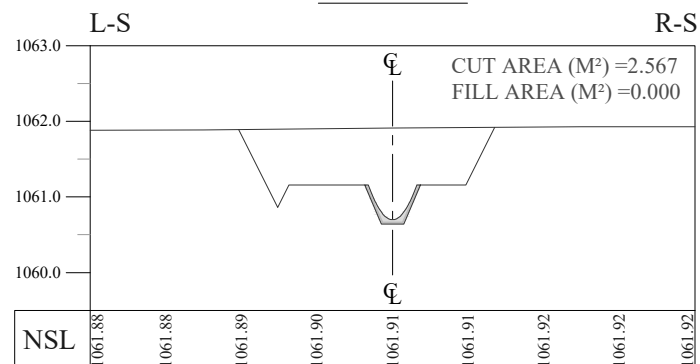
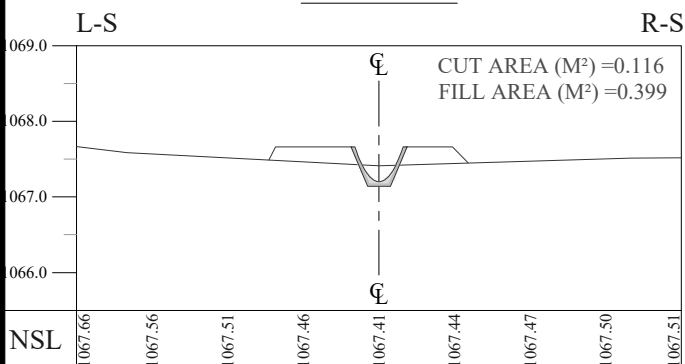
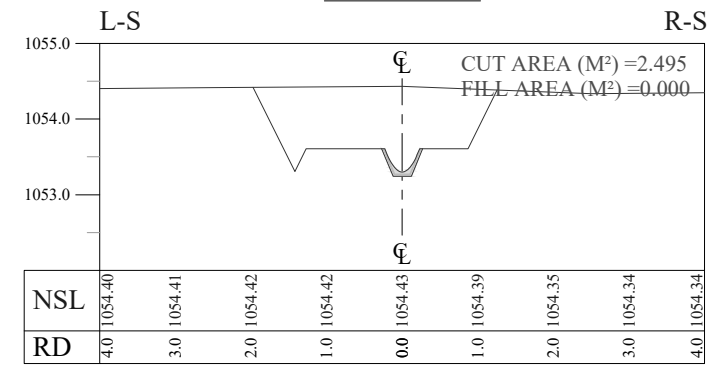
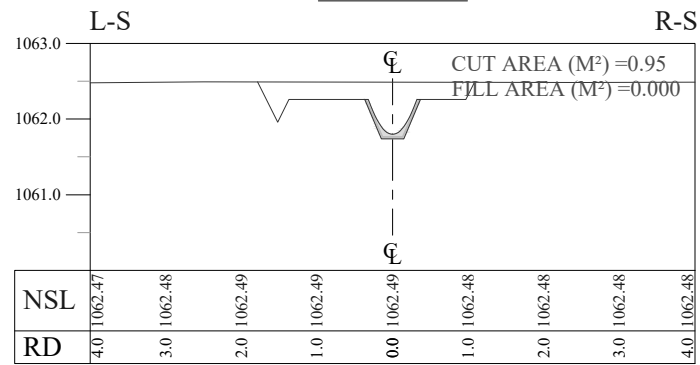
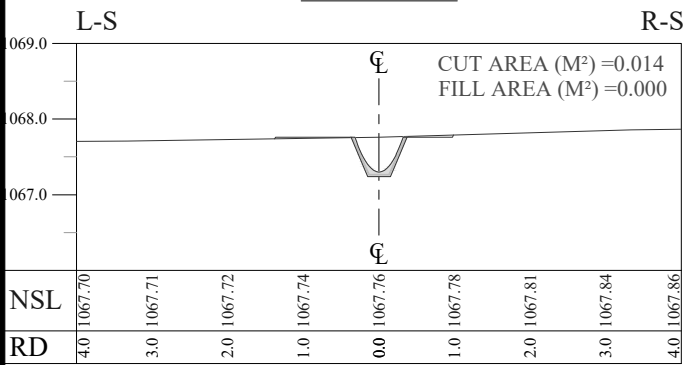
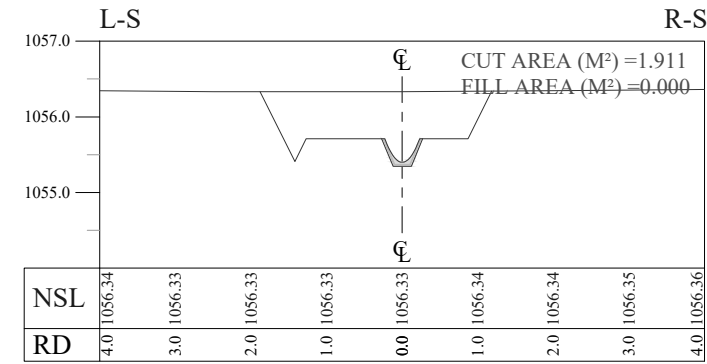
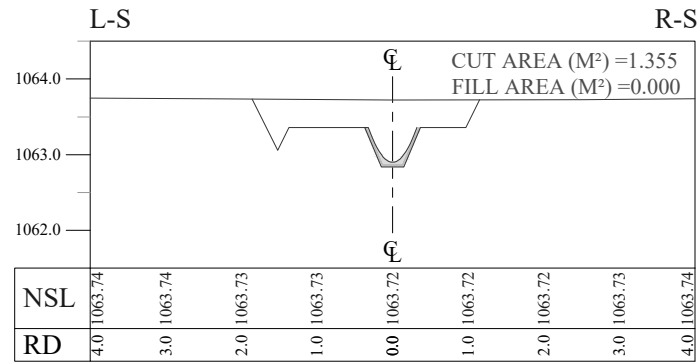
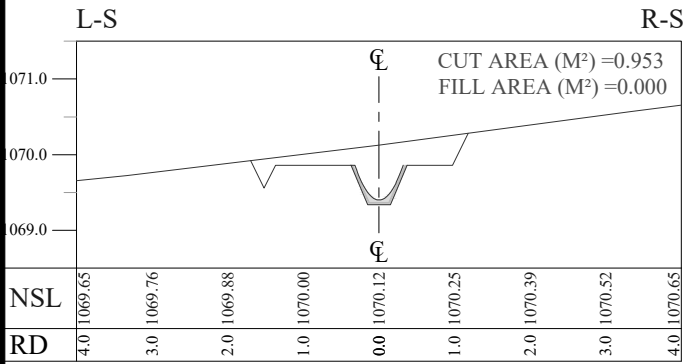
TITLE: MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

DRG.No:- BAD-BD-IR-04 SHEET:- 8 OF 10 SUB SH.- ----



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LEGENDS:

BED LEVEL —————
 NATURAL SURFACE LEVEL - - - - -

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
 IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCADE GROUP OF ENGINEERING & CONSULTANTS
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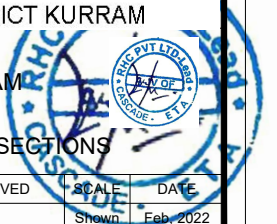
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
 DISTRICT KURRAM

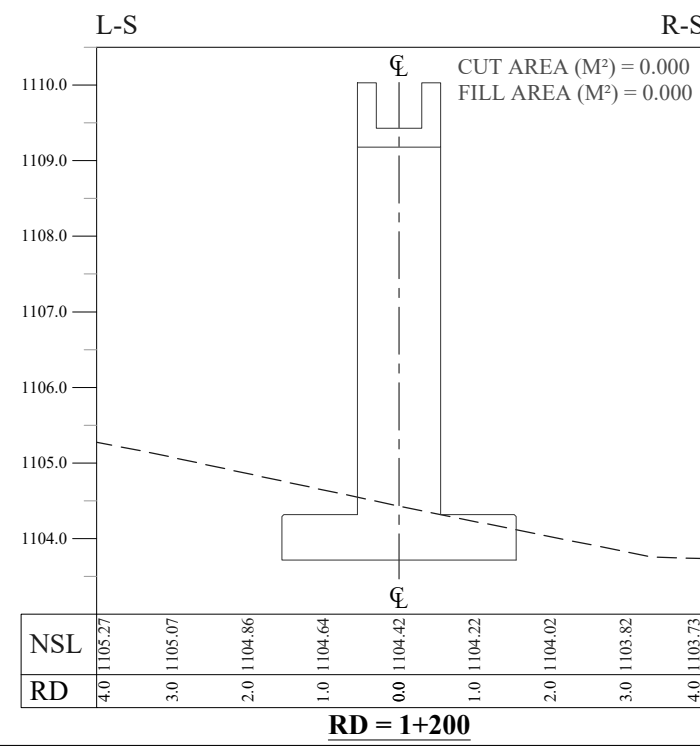
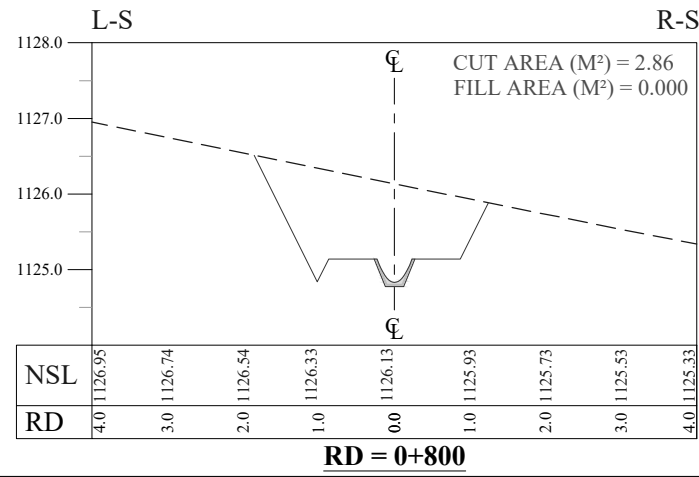
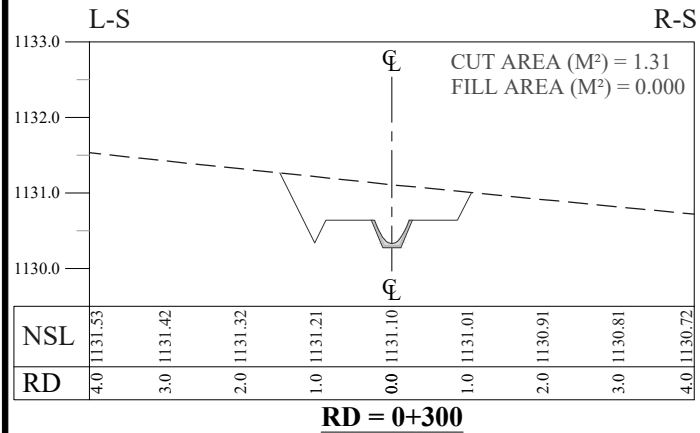
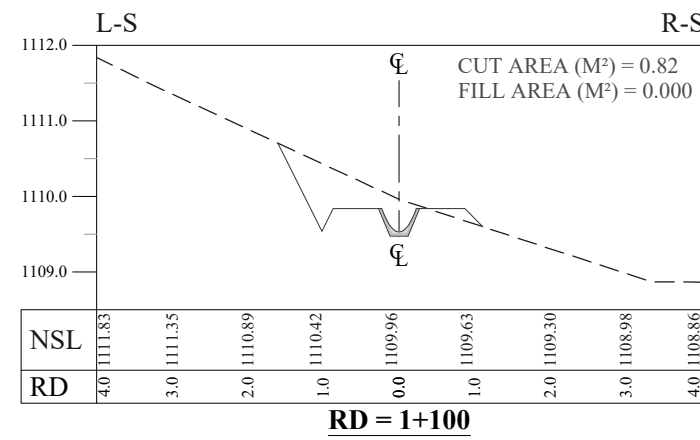
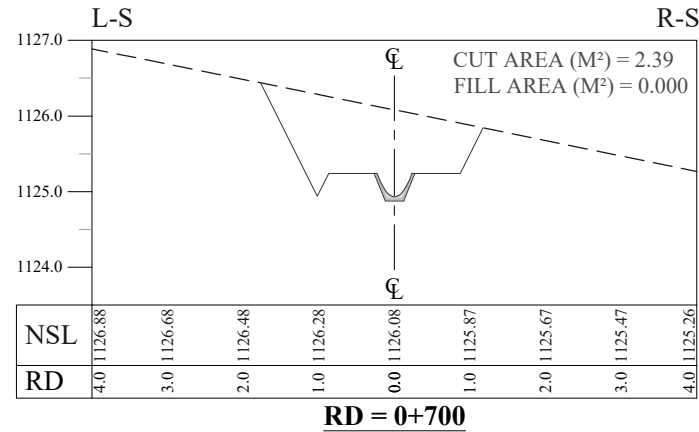
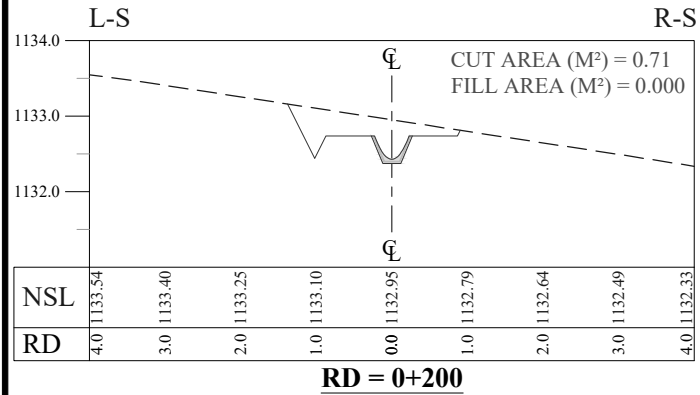
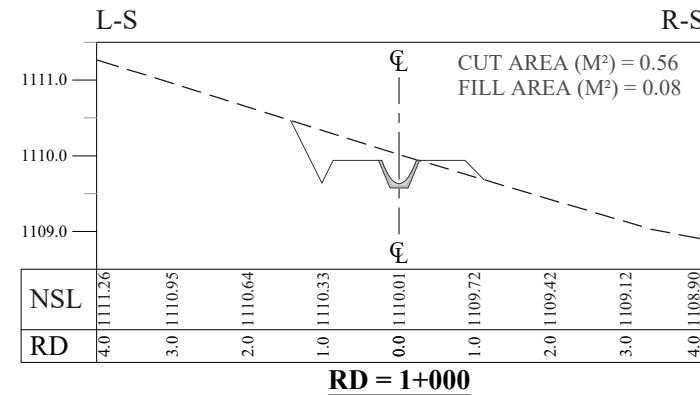
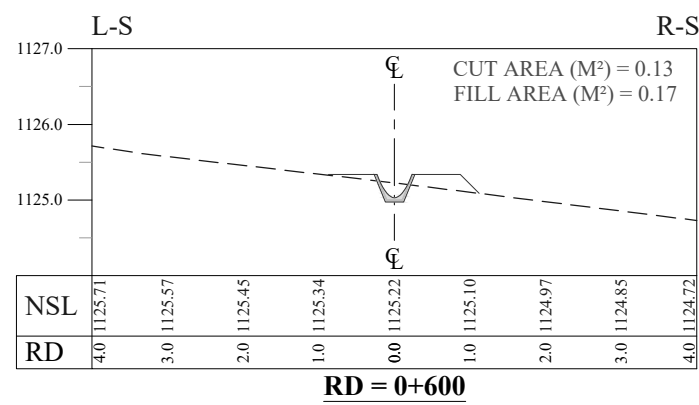
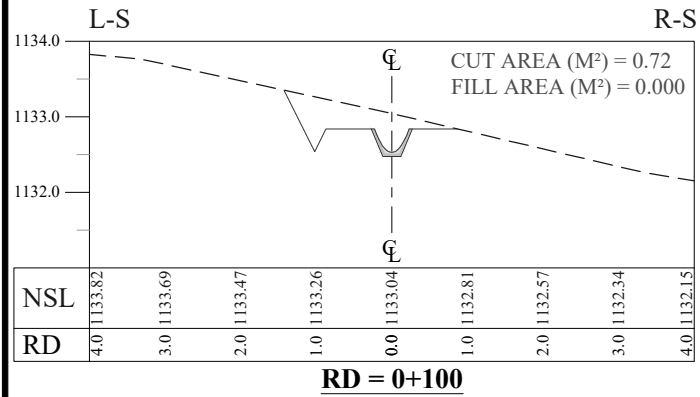
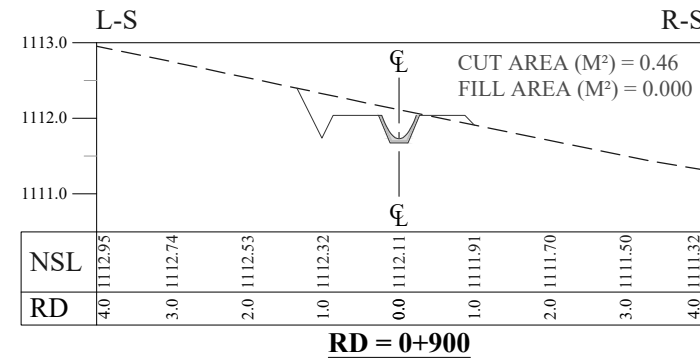
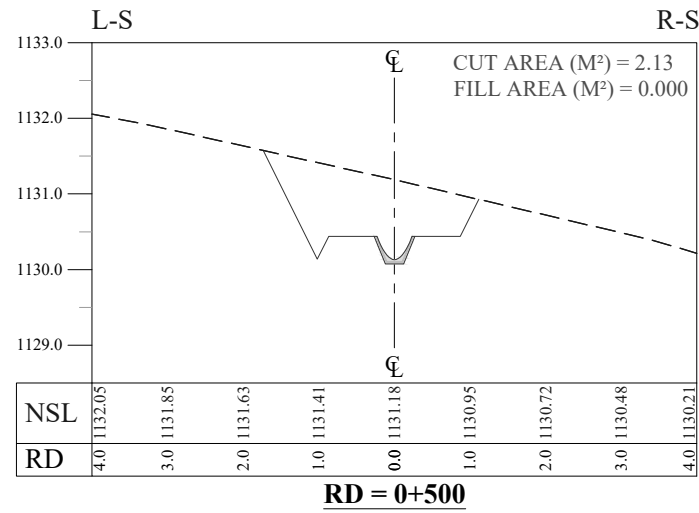
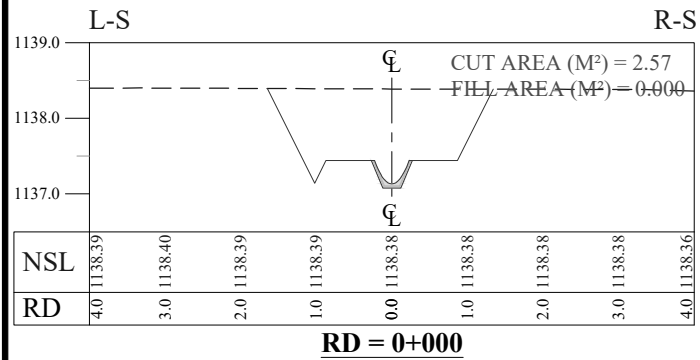
TITLE: MAIN CHANNEL DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	FEB 2022

DRG.No:- BAD-BD-IR-04 SHEET:- 9 OF 10 SUB SH.- ----



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LEGENDS:

BED LEVEL
 NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: **MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS: **A J.V OF
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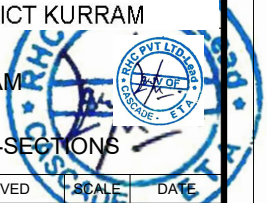
PROJECT: **CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM**

**BAZ ALI DAM
DISTRICT KURRAM**

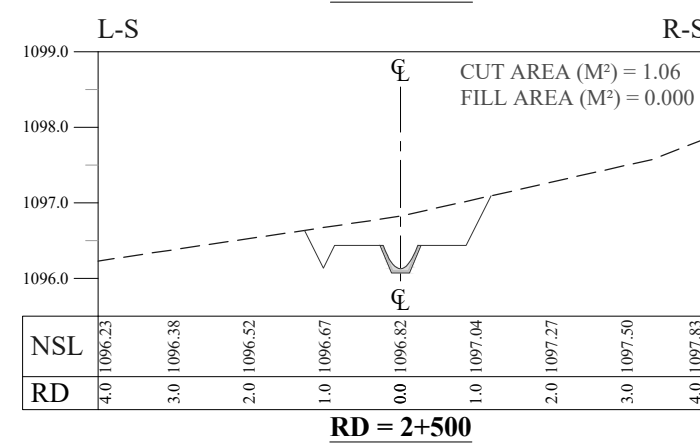
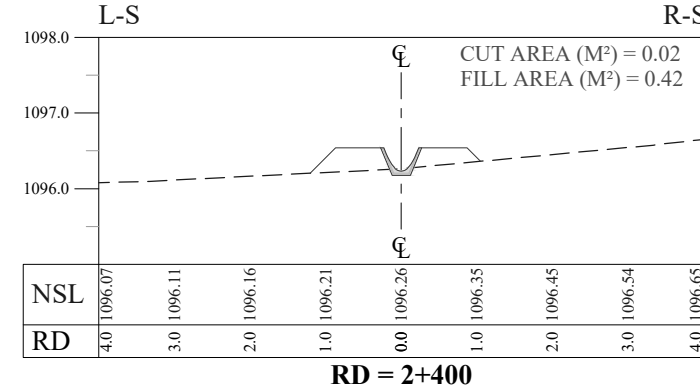
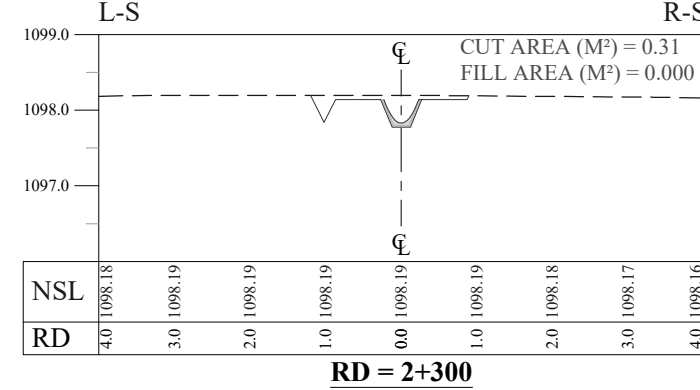
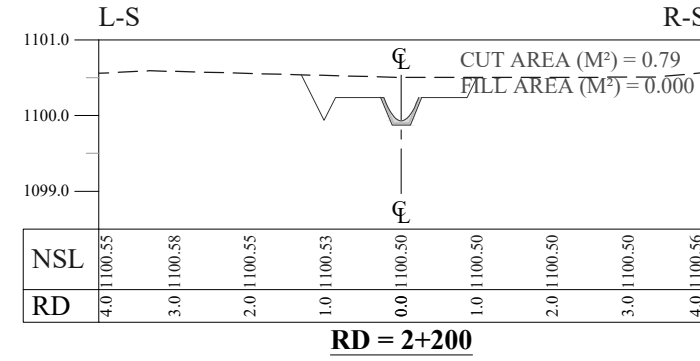
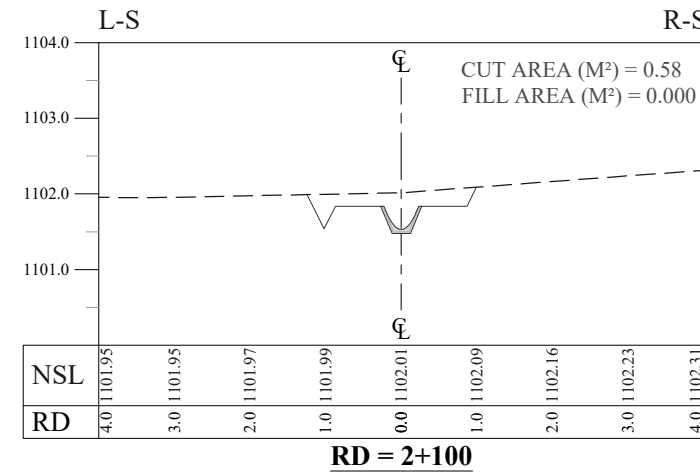
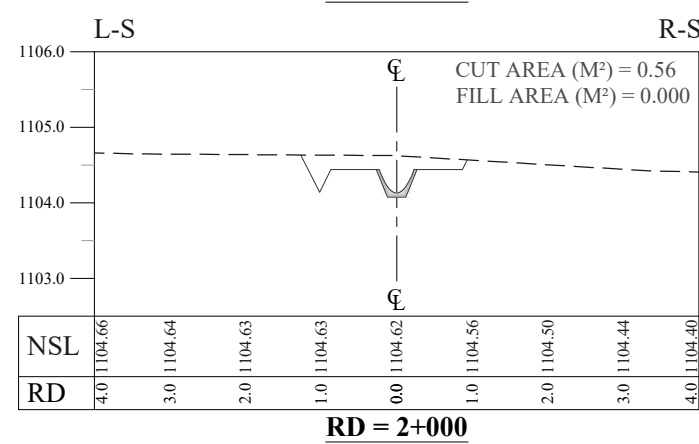
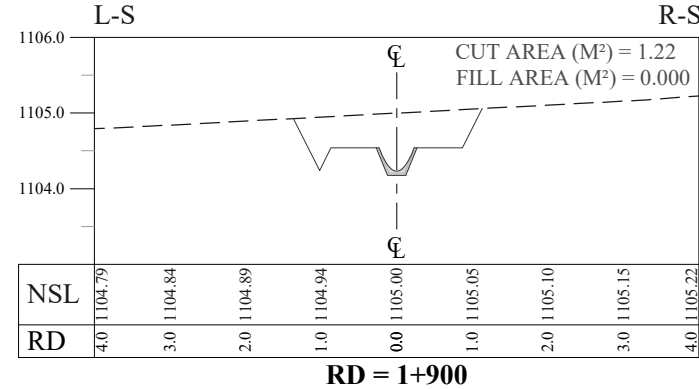
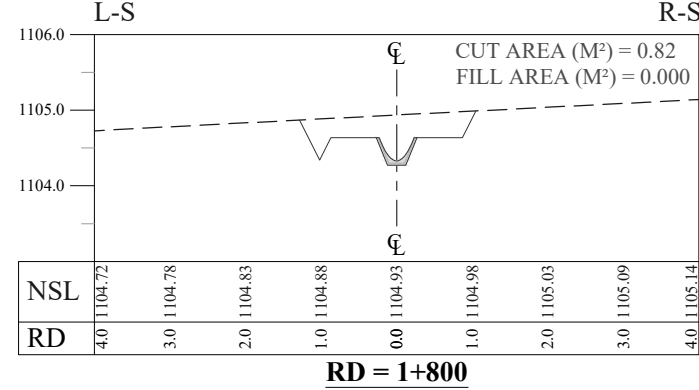
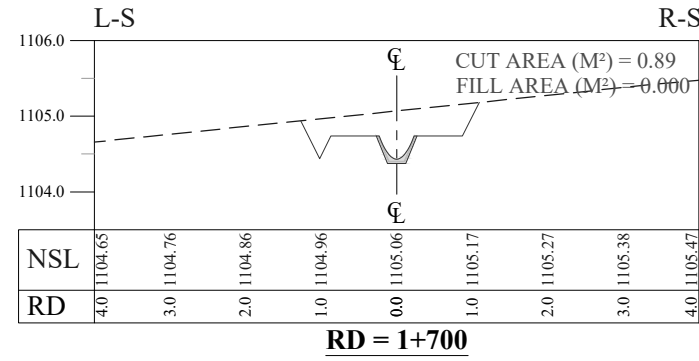
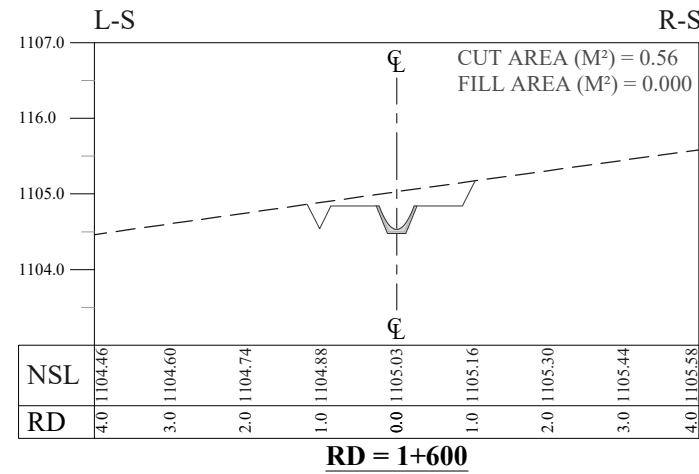
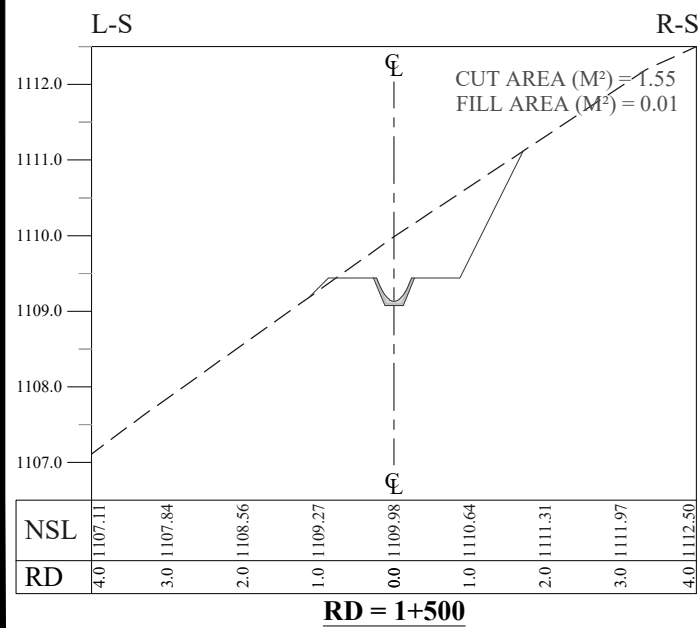
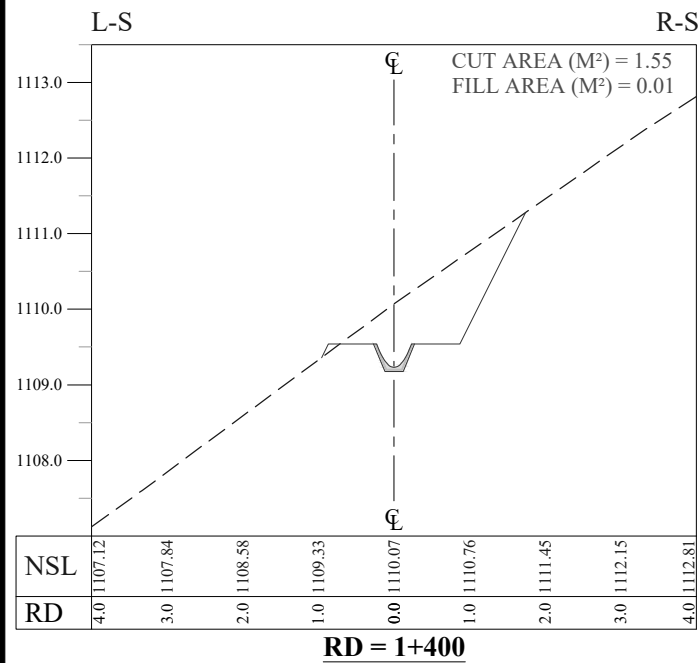
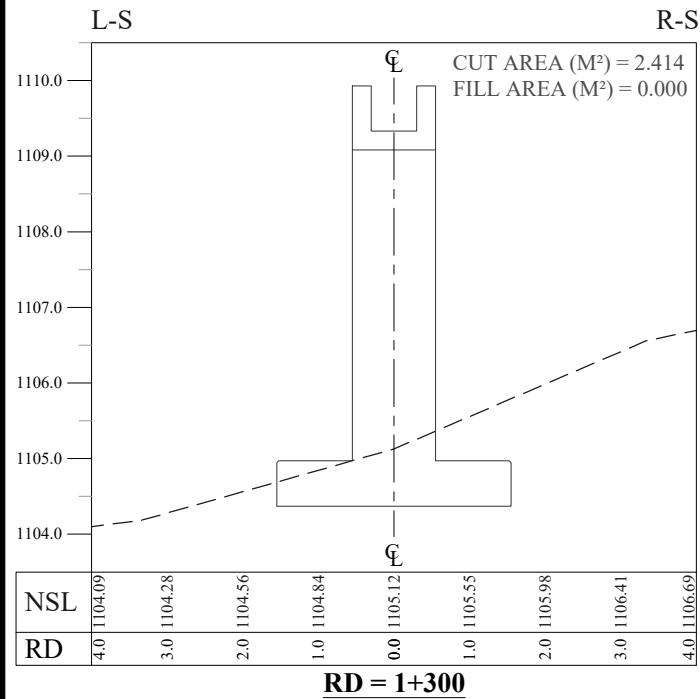
TITLE: **DISTRIBUTORY-1 DETAIL X-SECTIONS**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Shown Feb, 2022

DRG.No:- **BAD-BD-IR-05** SHEET:- **1 OF 3** SUB SH.- **----**



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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL
NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

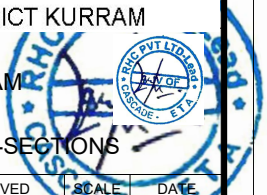
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

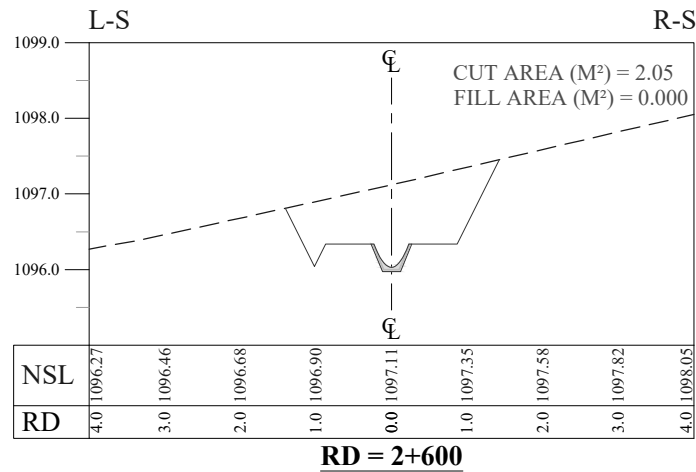
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DISTRIBUTORY-1 DETAIL X-SECTIONS

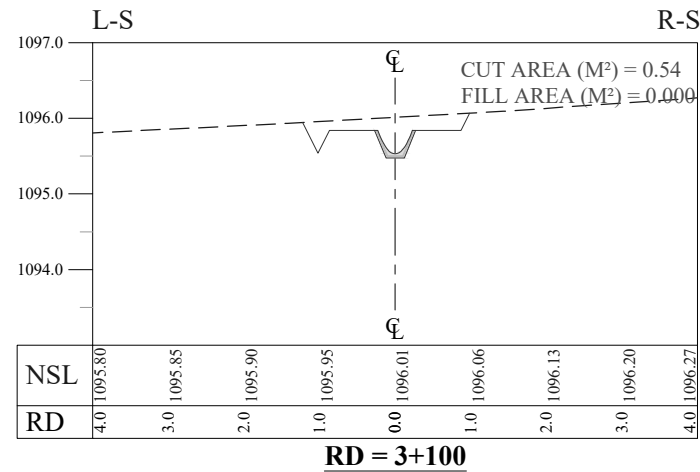
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	FEB 2022
DRG.No.:-	BAD-BD-IR-05	SHEET:-	2 OF 3	SUB SH.-	----



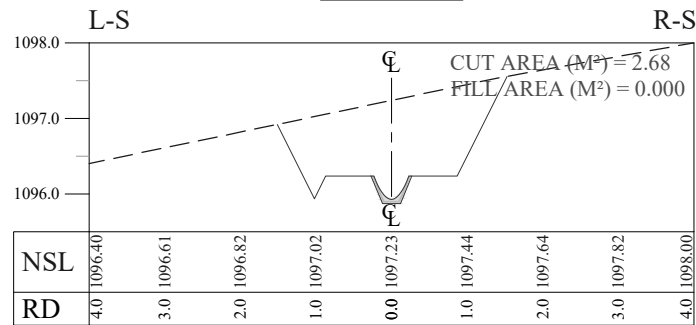
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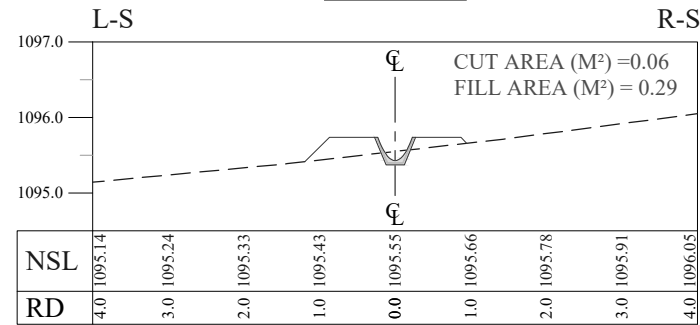
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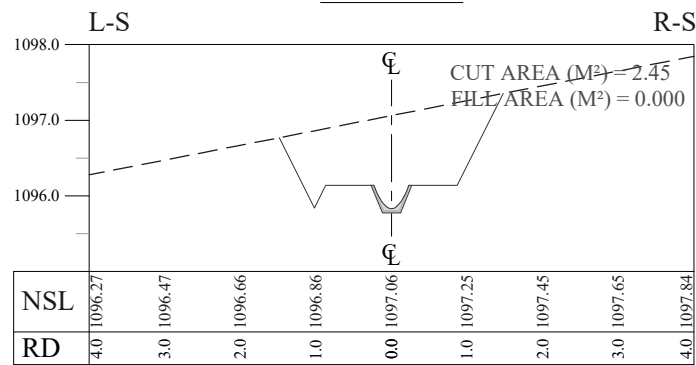
RD = 3+100



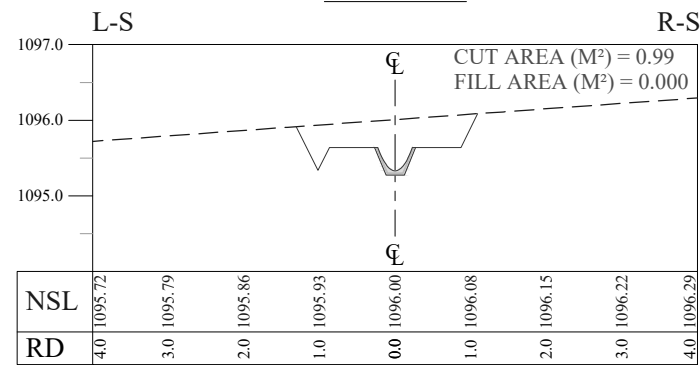
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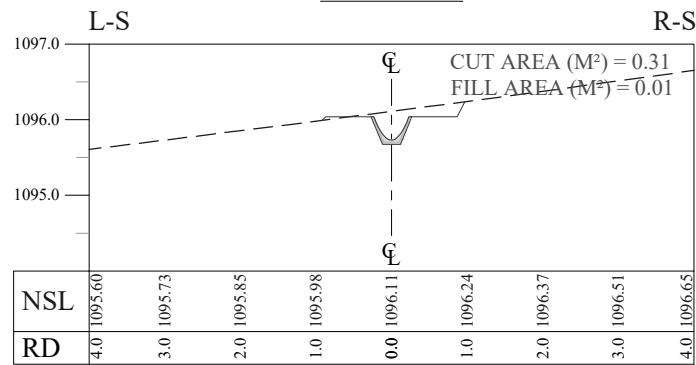
RD = 3+200



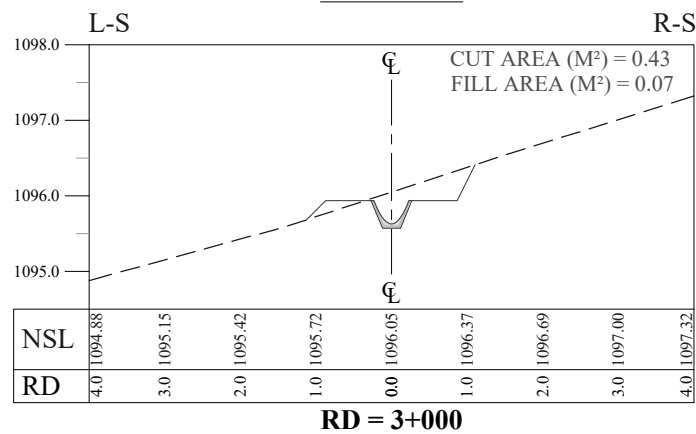
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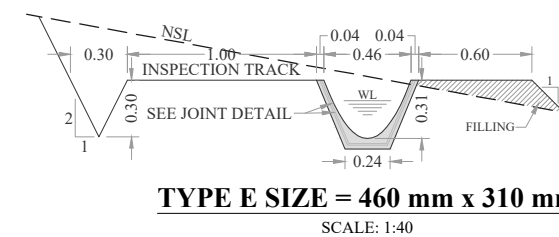
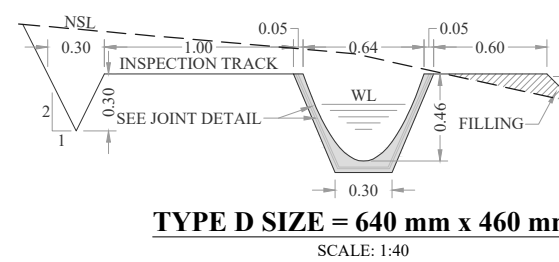
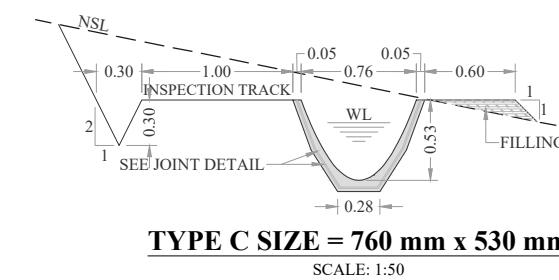
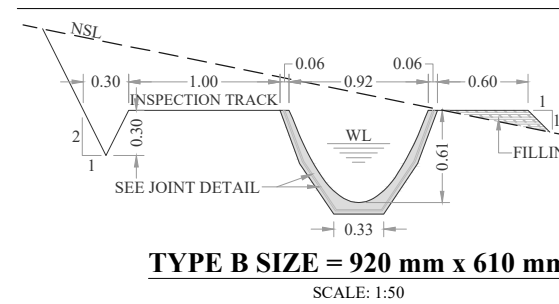
RD = 3+300



RD = 2+900



RD = 3+000



NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

- BED LEVEL —————
- NATURAL SURFACE LEVEL - - - - -

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

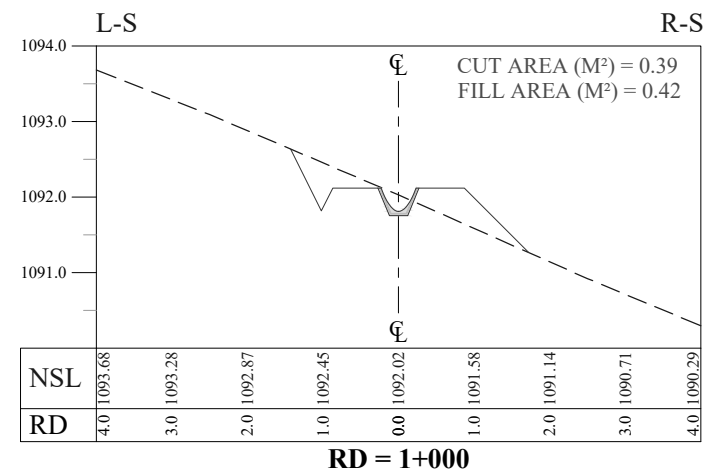
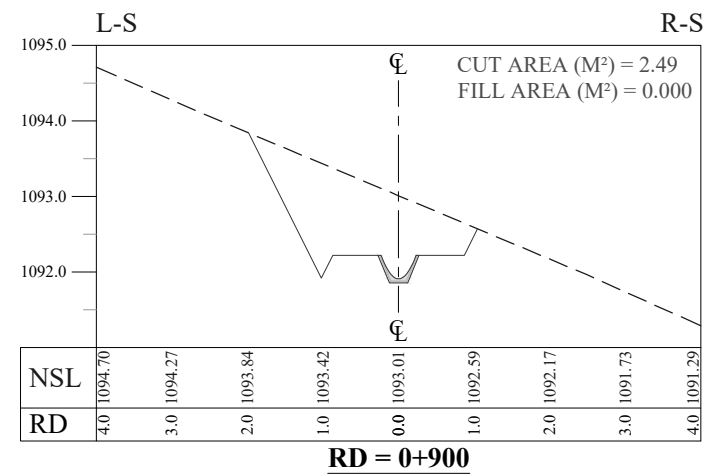
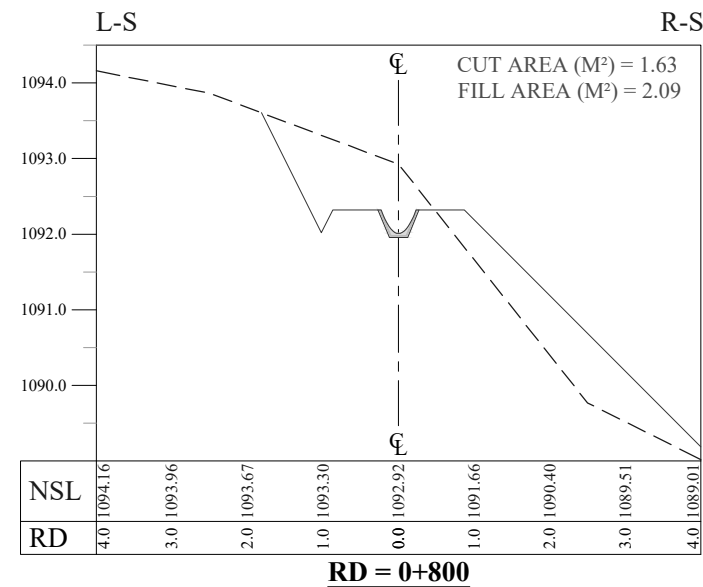
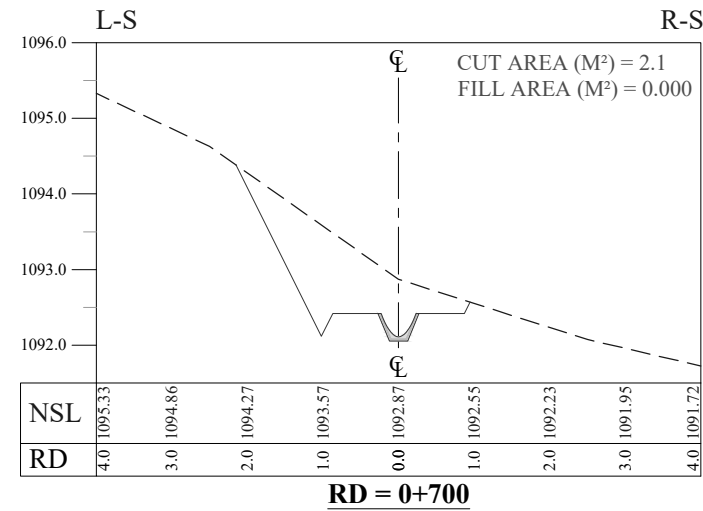
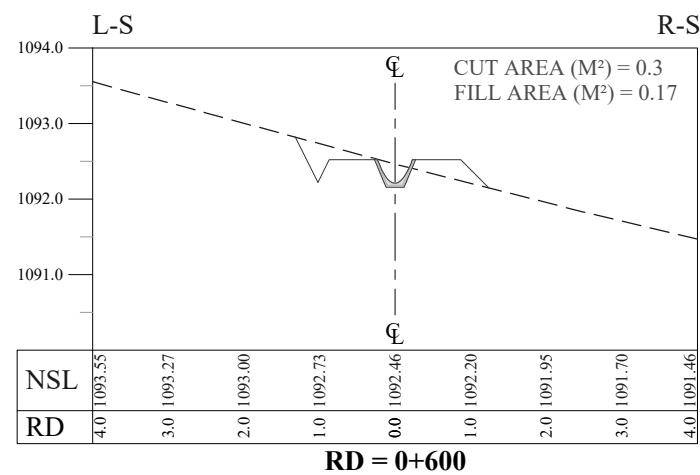
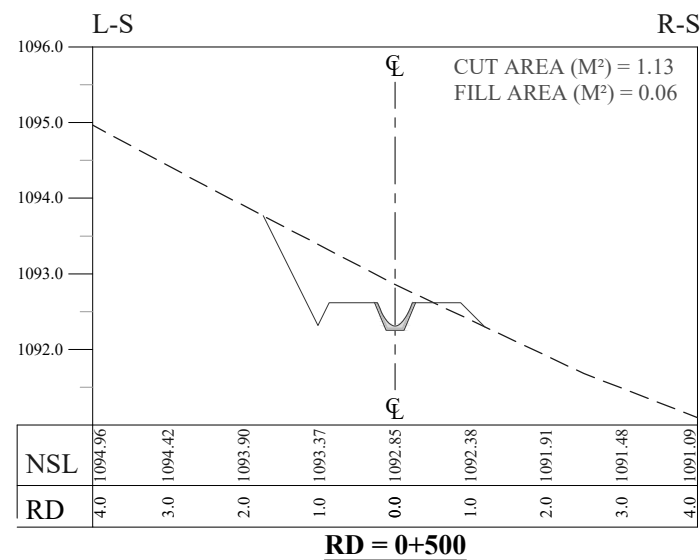
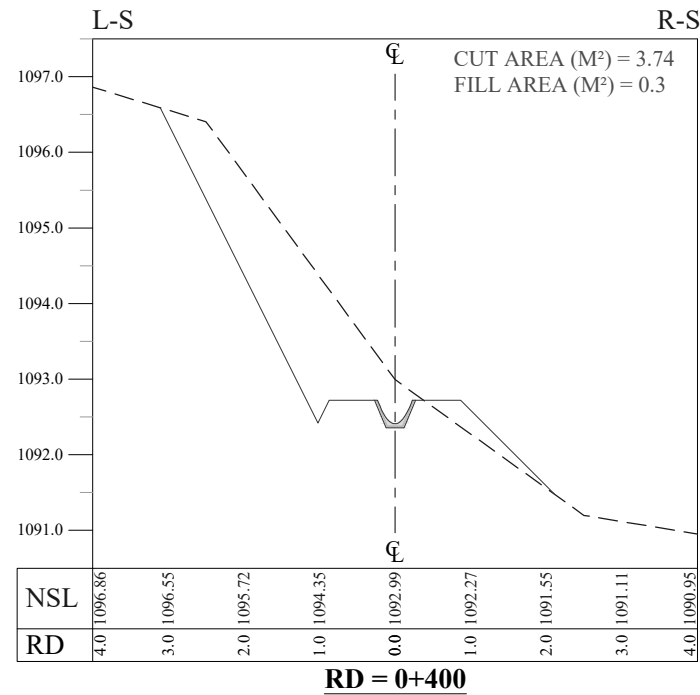
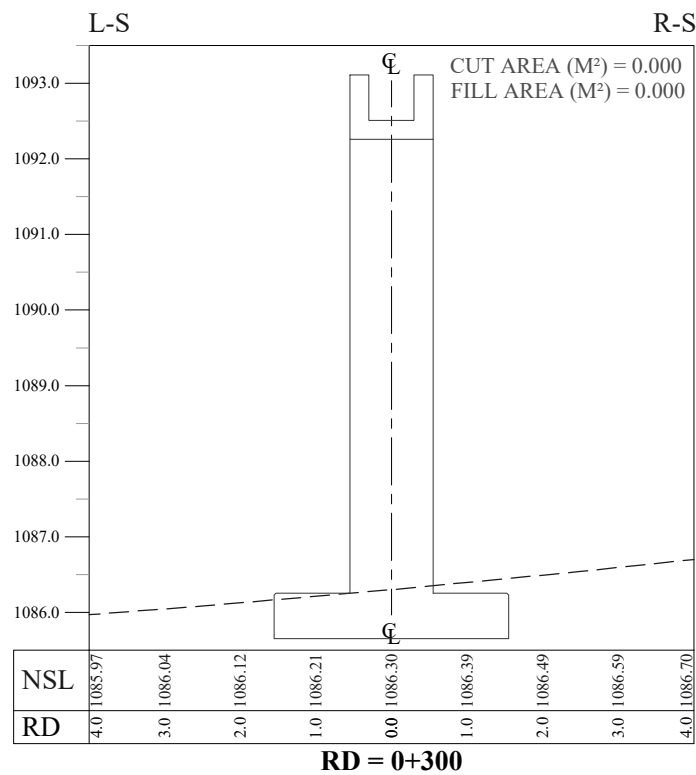
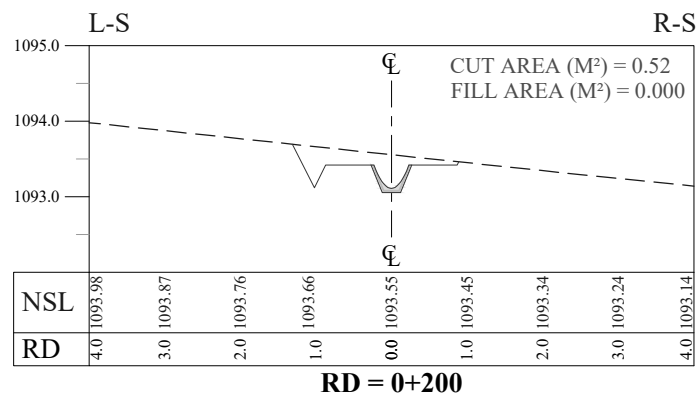
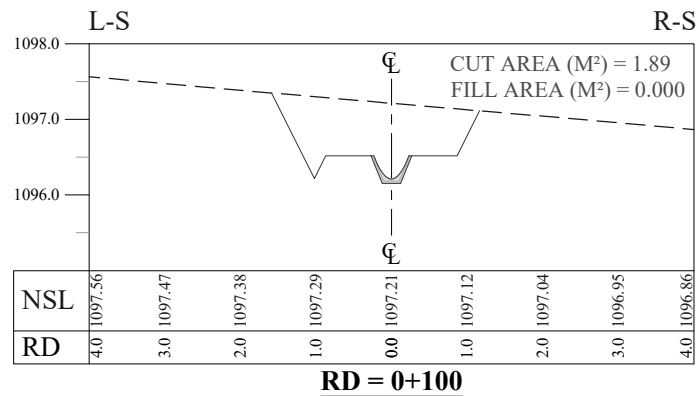
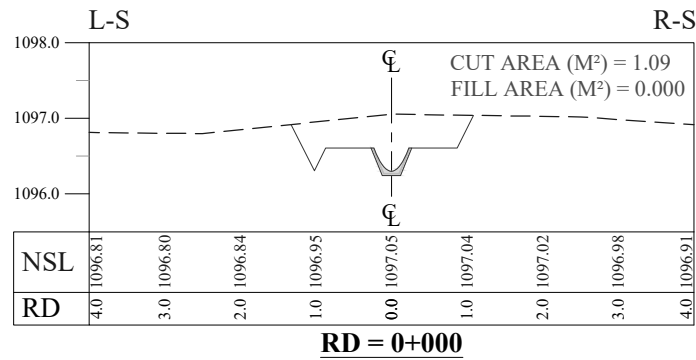
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI DAM, DISTRICT KURRAM
BAZ ALI DAM
DISTRICT KURRAM

TITLE: DISTRIBUTORY-1 DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	Feb, 2022

DRG.No:- BAD-BD-IR-05 SHEET:- 3 OF 3 SUB SH.- ----

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NOTES:

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LEGENDS:

BED LEVEL
NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

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CASCADE GROUP OF ENGINEERING & CONSULTANTS
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ETA ENGINEERING & TECHNICAL ASSOCIATES

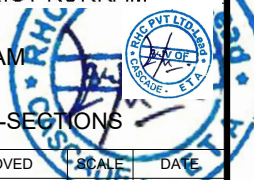
PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM
BAZ ALI DAM
DISTRICT KURRAM

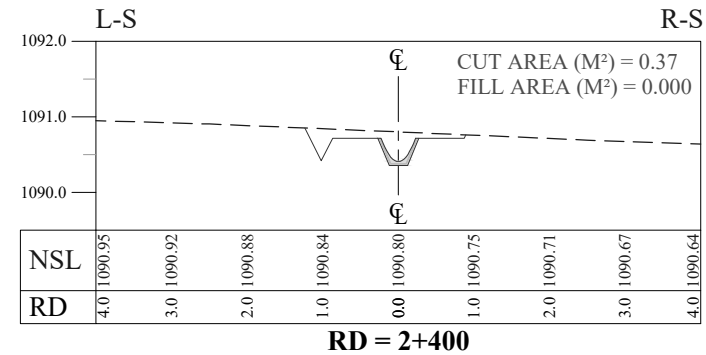
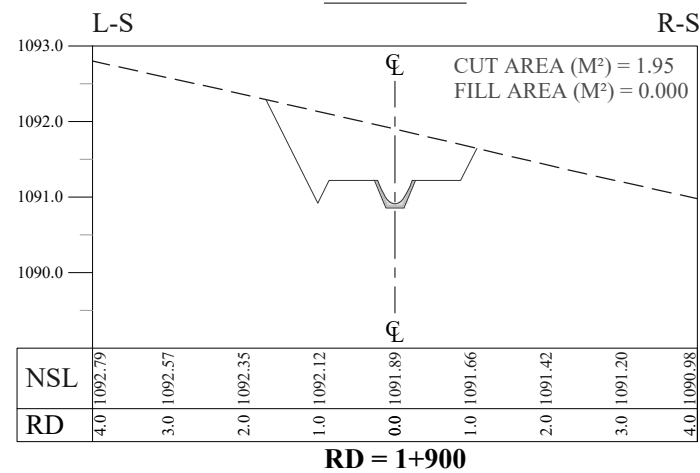
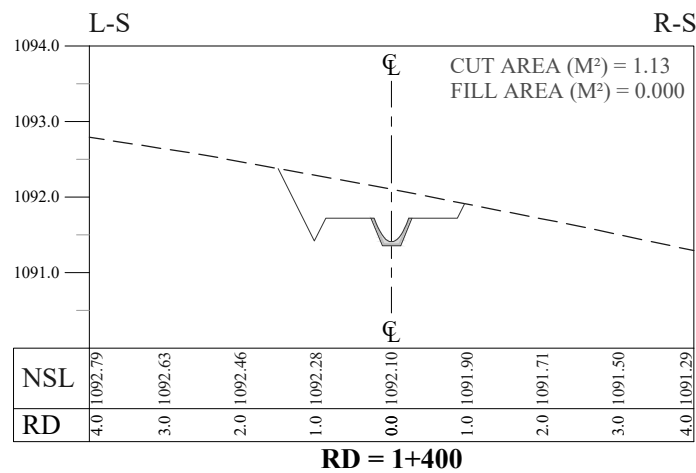
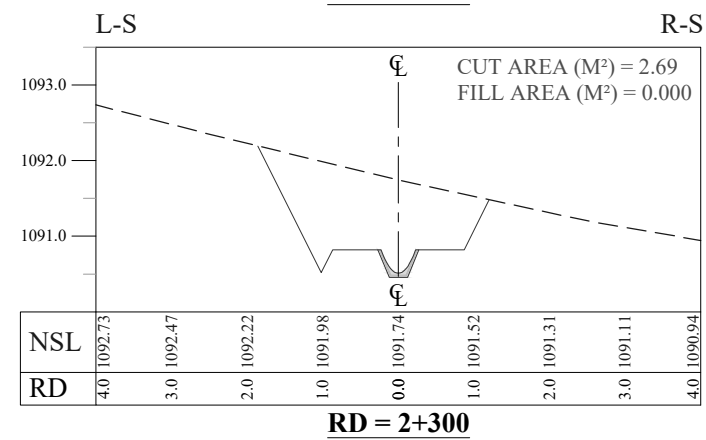
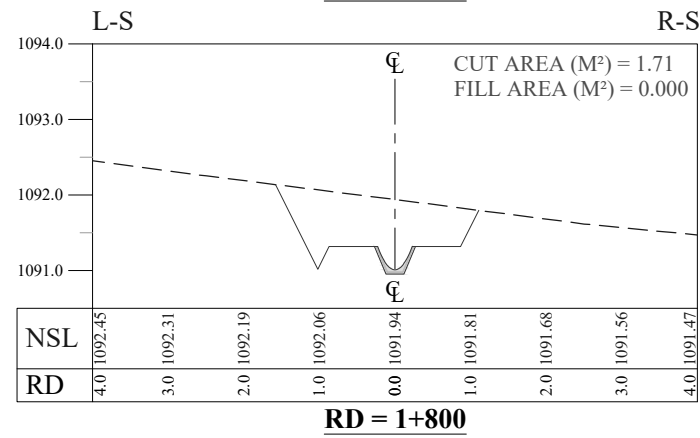
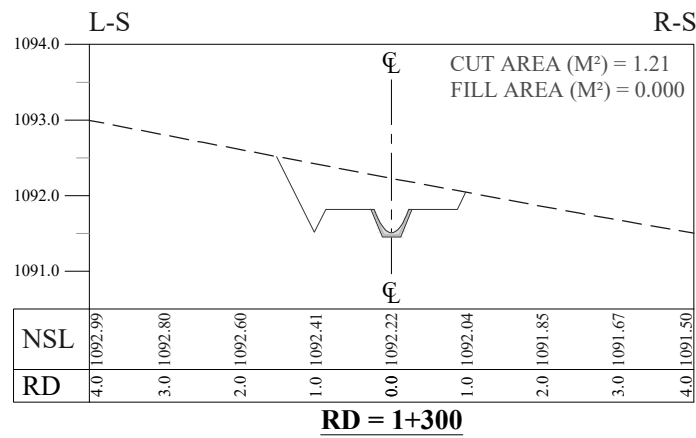
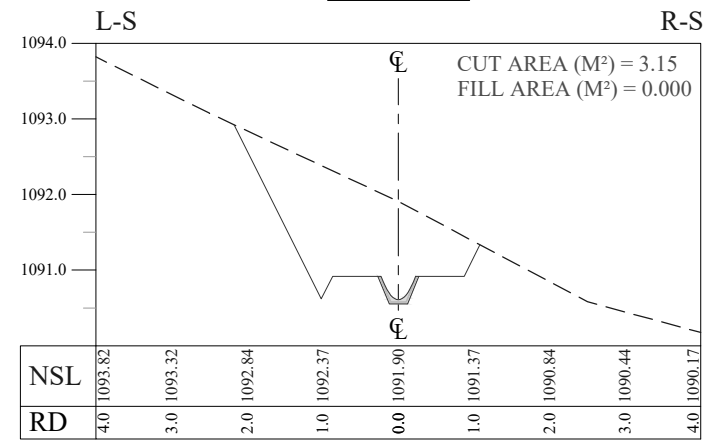
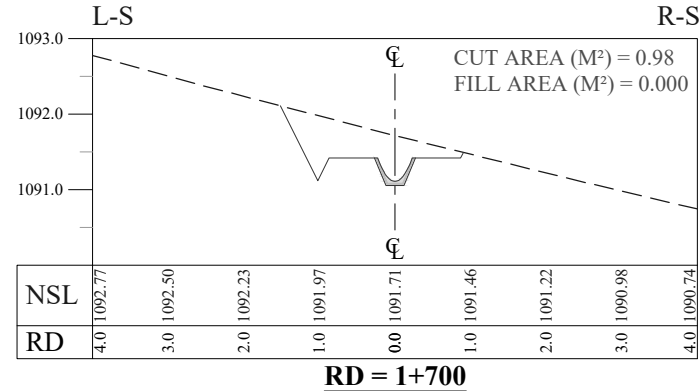
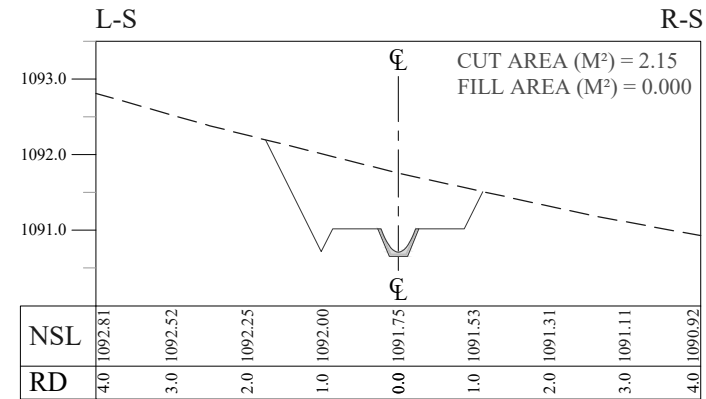
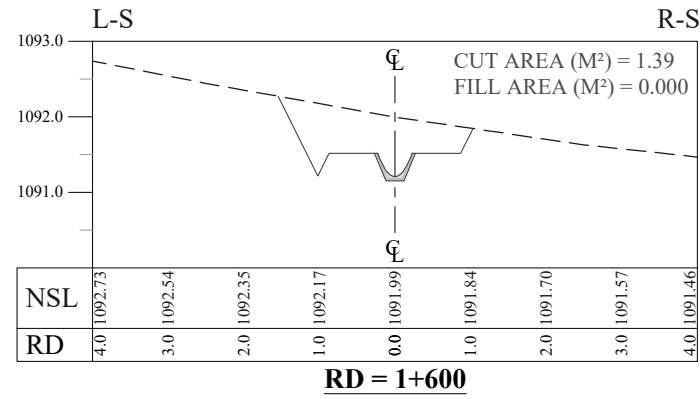
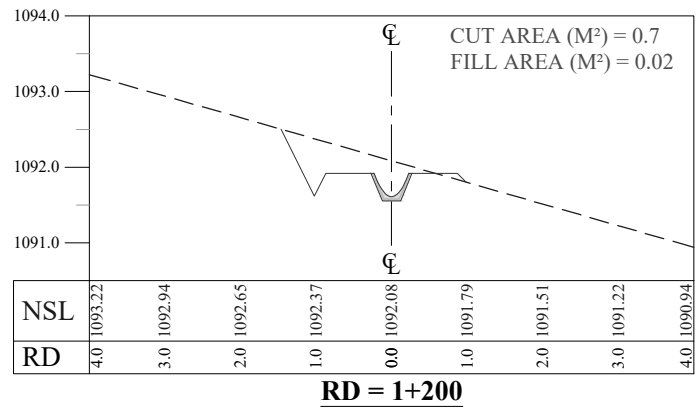
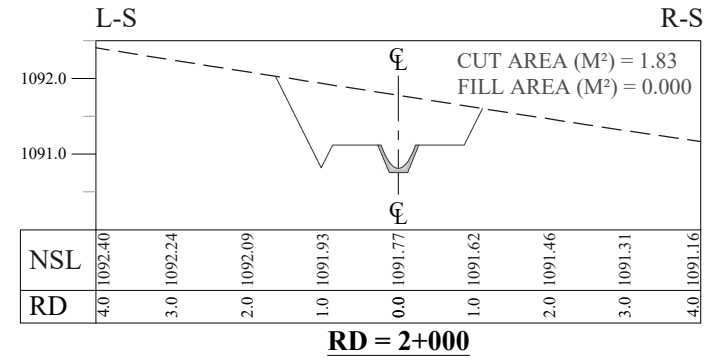
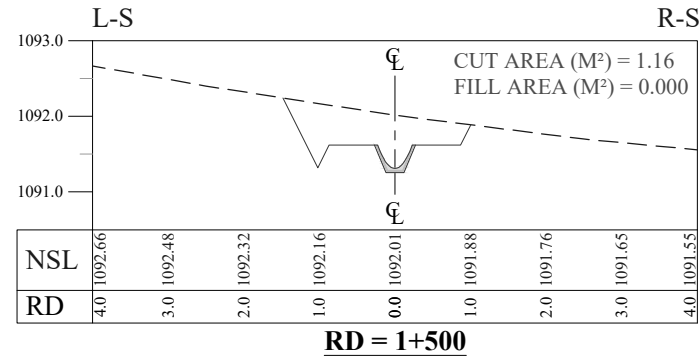
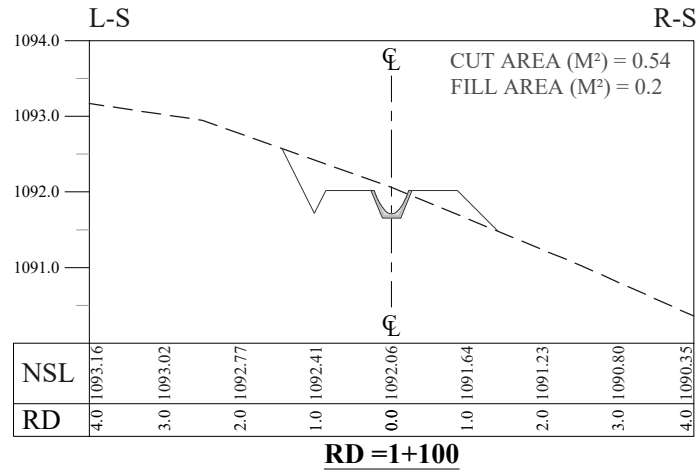
TITLE:

DISTRIBUTORY-2 DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022
DRG.No.:-	BAD-BD-IR-06	SHEET:-	1 OF 2	SUB SH.-	----



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NOTES:

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LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
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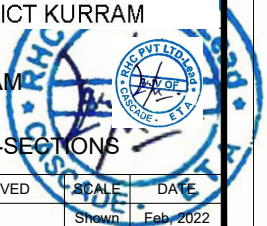
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

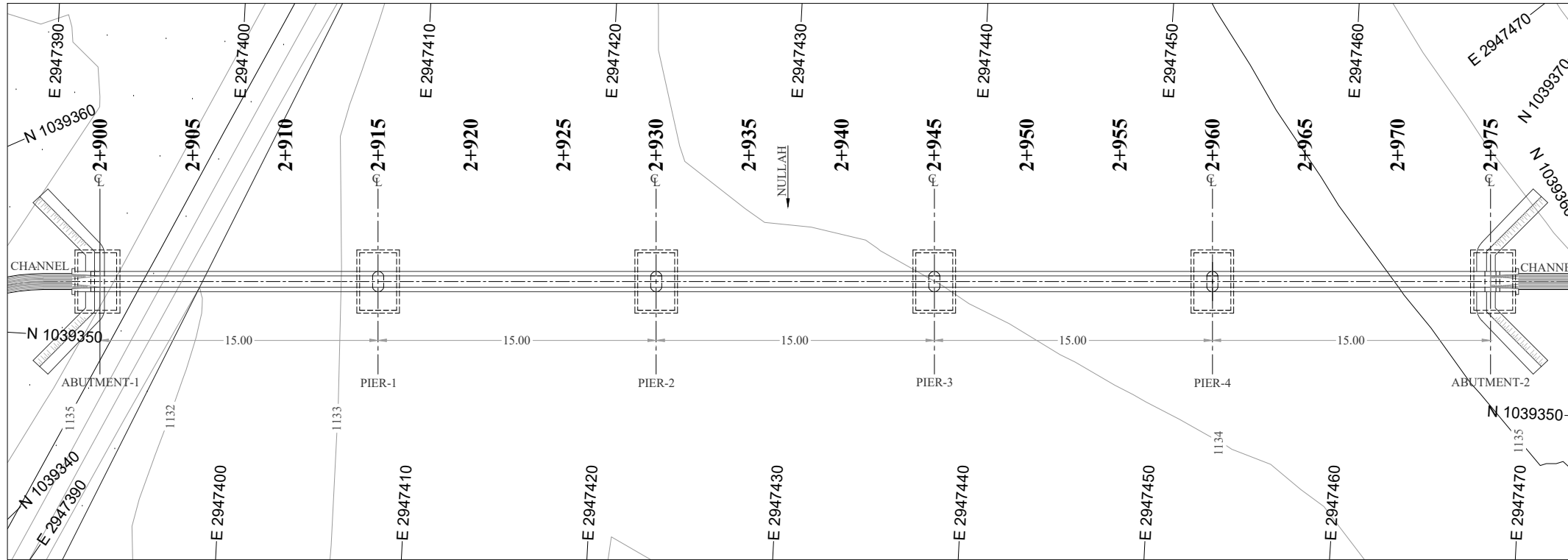
TITLE: DISTRIBUTORY-2 DETAIL X-SECTIONS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Shown Feb, 2022

DRG.No:- BAD-BD-IR-06 SHEET:- 2 OF 2 SUB SH.- ----



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NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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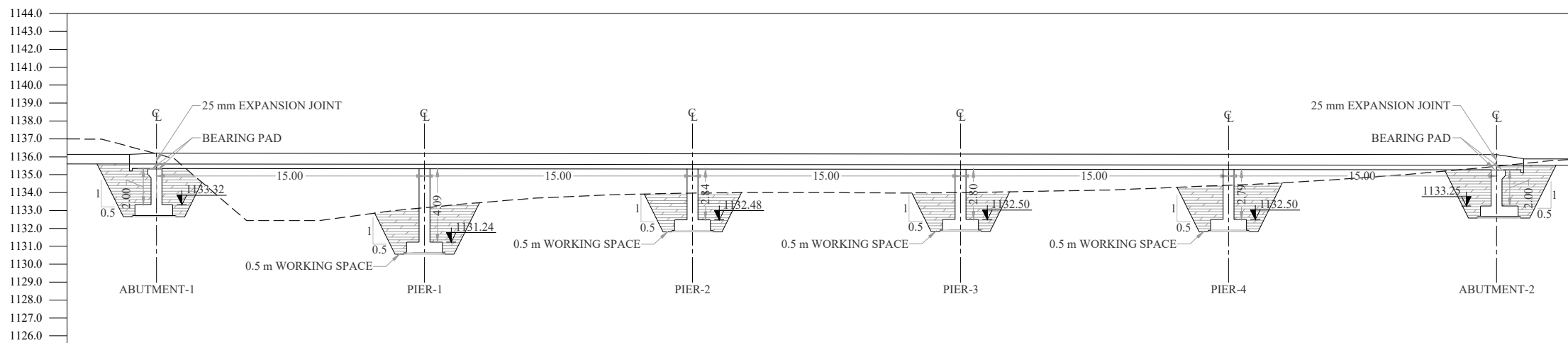
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

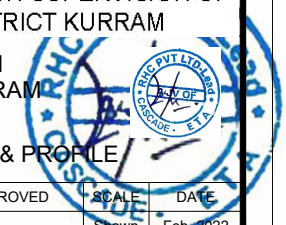
TITLE: MC AQUEDUCT-1 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	Feb, 2022

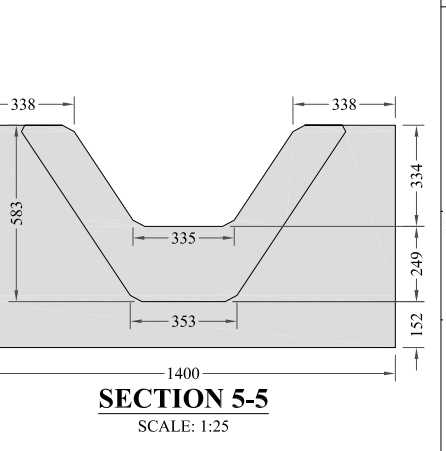
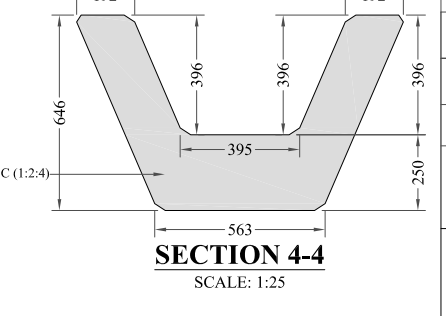
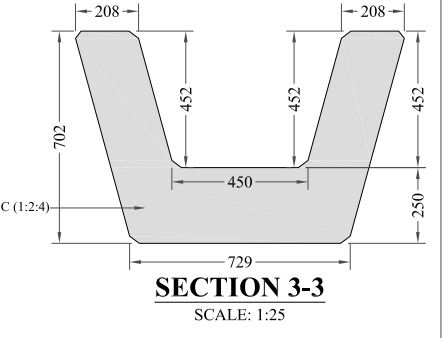
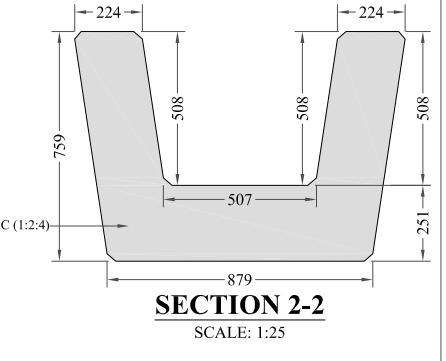
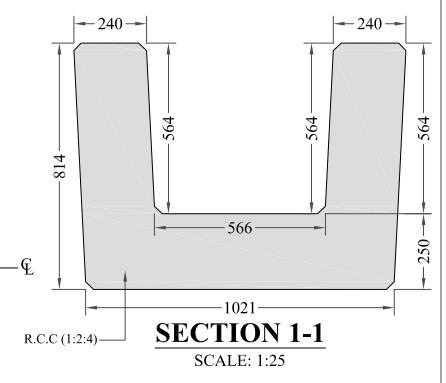
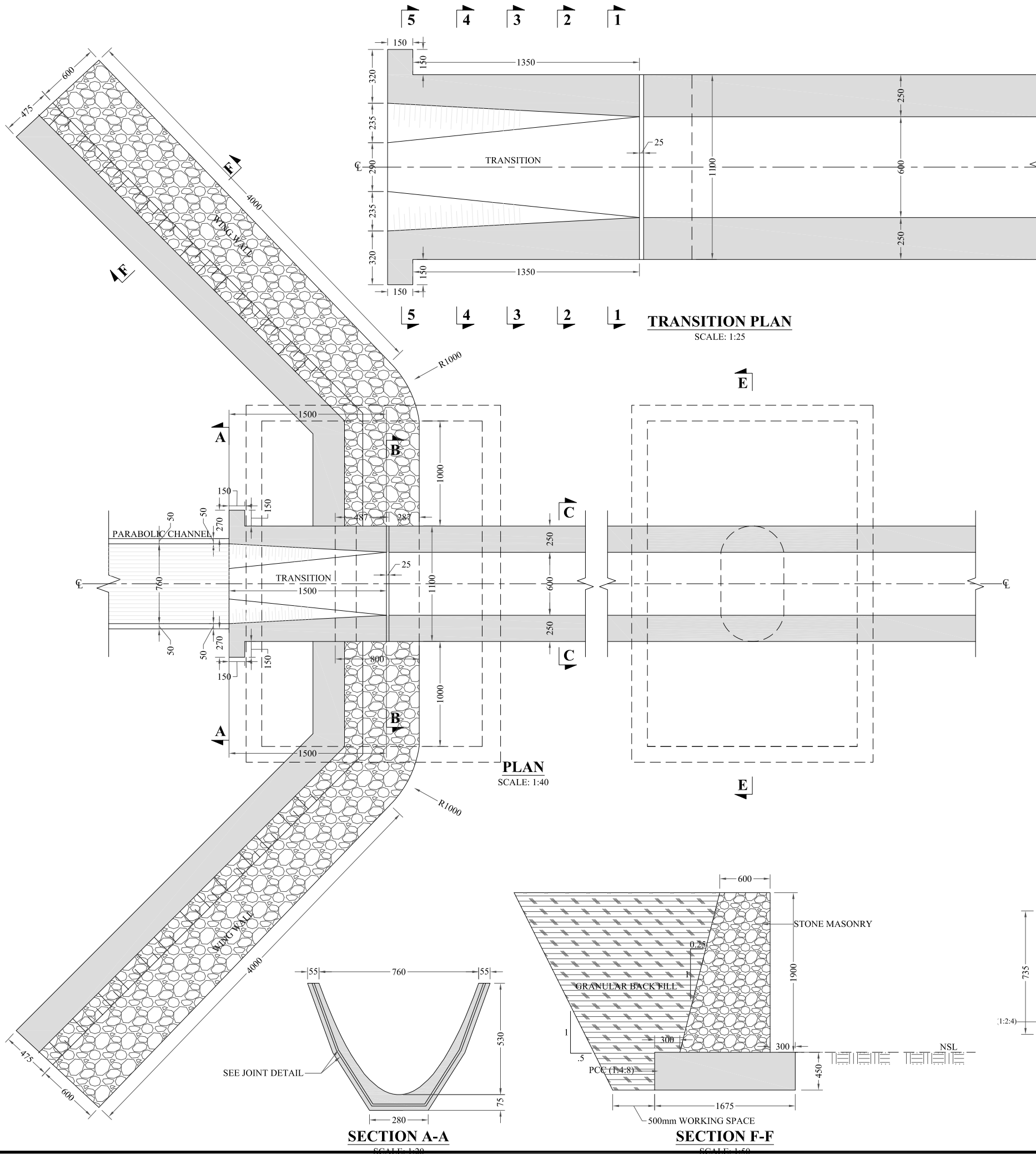
DRG.No:- BAD-BD-IR-07 SHEET:- 1 OF 6 SUB SH.- ----



DATUM EL	2+900	2+905	2+910	2+915	2+920	2+925	2+930	2+935	2+940	2+945	2+950	2+955	2+960	2+965	2+970	2+975
BL	1135.600	1135.595	1135.590	1135.585	1135.580	1135.575	1135.570	1135.565	1135.560	1135.555	1135.550	1135.545	1135.540	1135.535	1135.530	1135.525
NSL	1136.166	1132.475	1132.561	1133.156	1133.593	1133.864	1133.970	1134.003	1133.986	1134.002	1134.088	1134.208	1134.411	1134.662	1135.017	1135.470
RD	1136.166	1132.475	1132.561	1133.156	1133.593	1133.864	1133.970	1134.003	1133.986	1134.002	1134.088	1134.208	1134.411	1134.662	1135.017	1135.470



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- NOTES:**
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 3. MC STANDS FOR MAIN CHANNEL.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA ENGINEERING & TECHNICAL ASSOCIATES

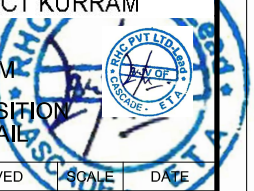
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

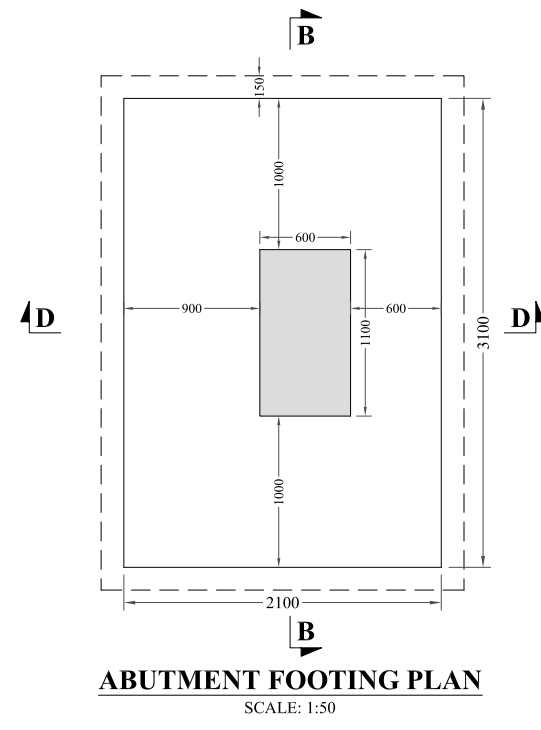
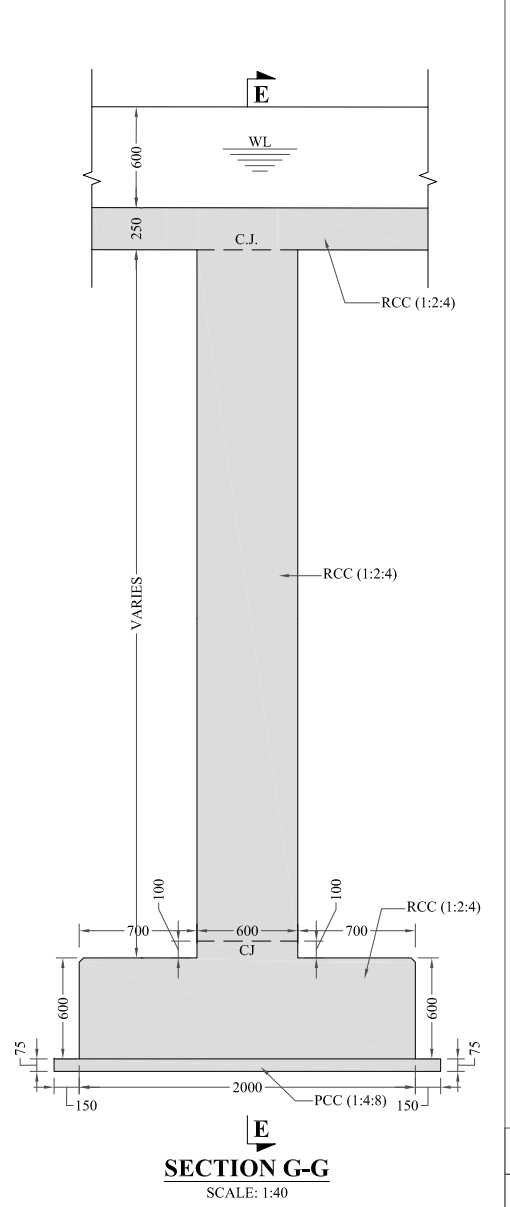
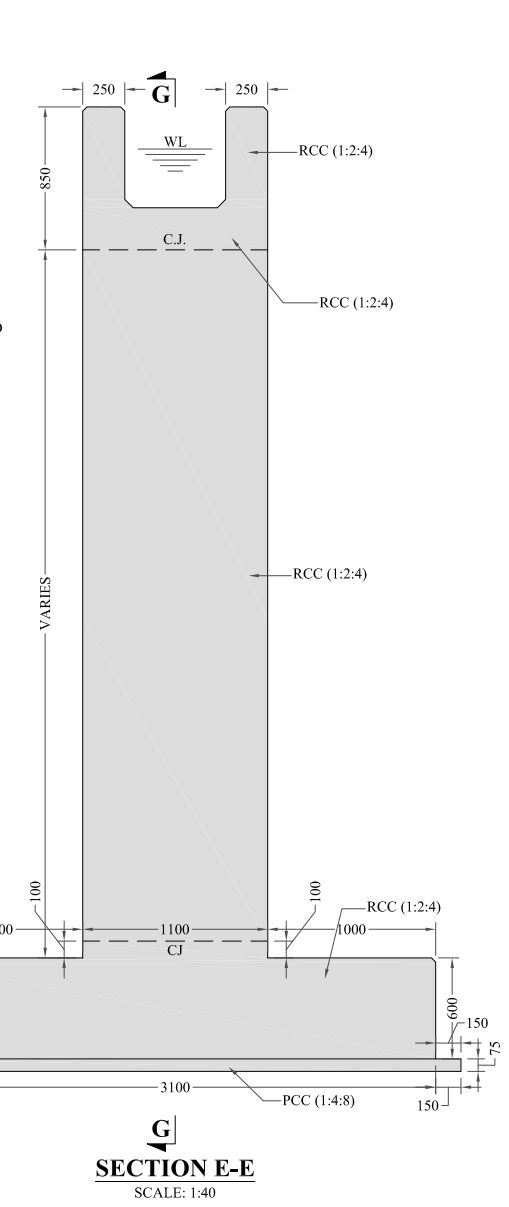
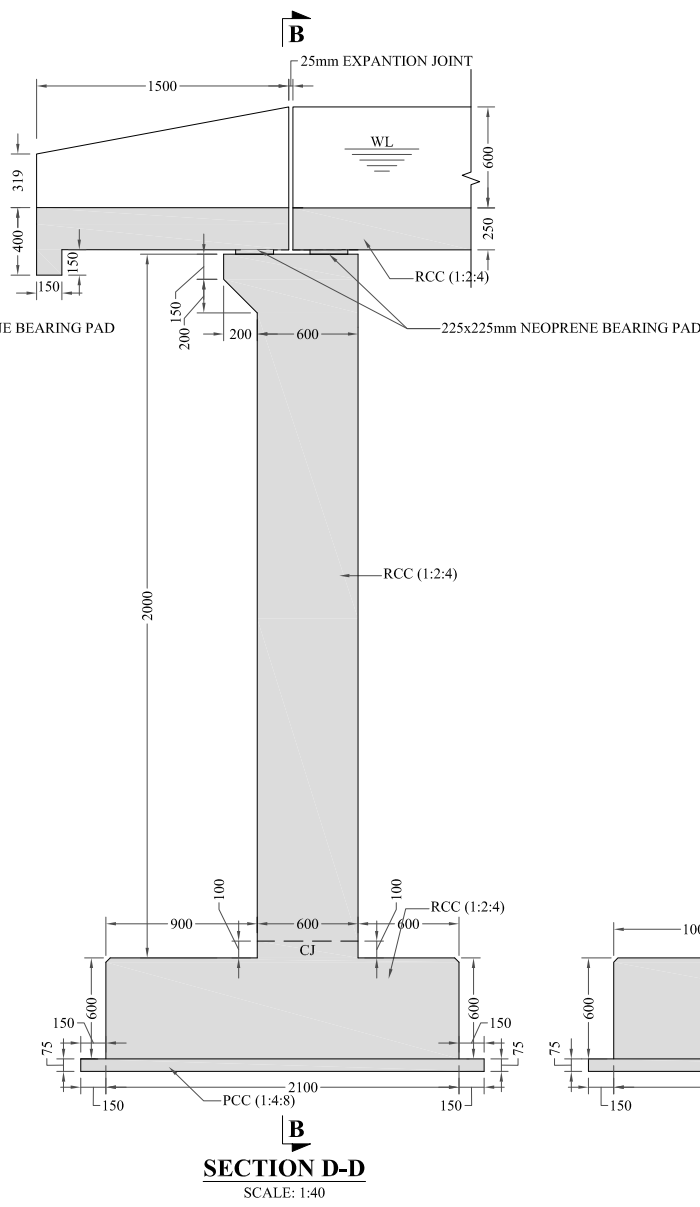
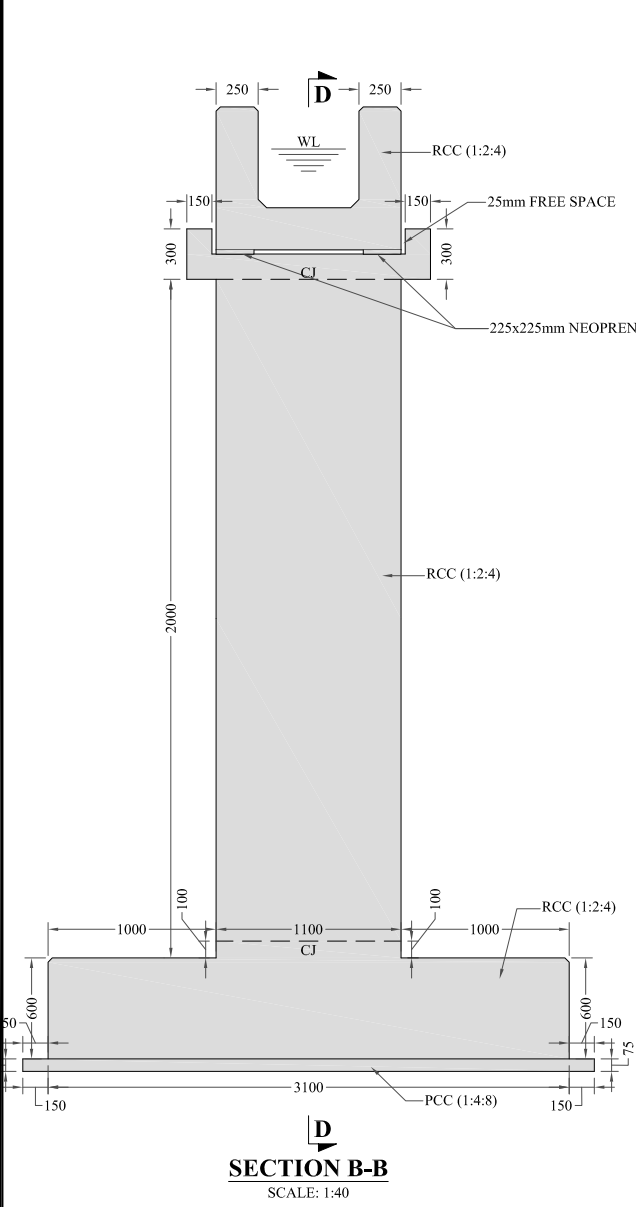
TITLE: MC AQUEDUCT-1 TRANSITION & WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

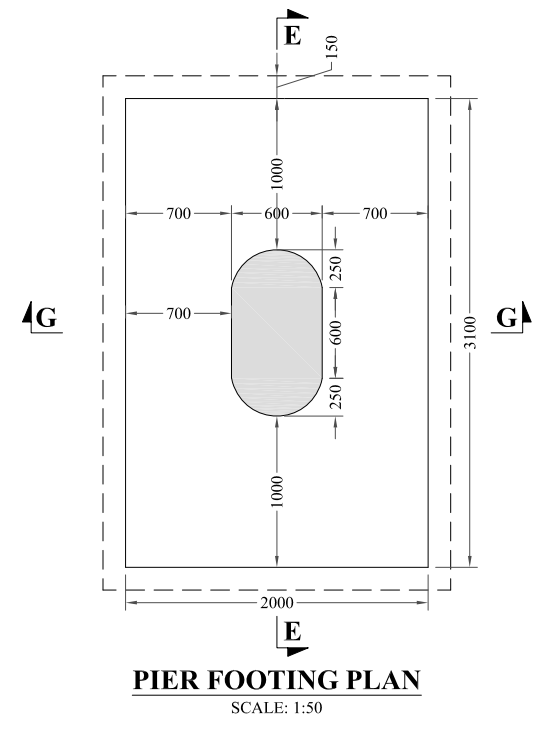
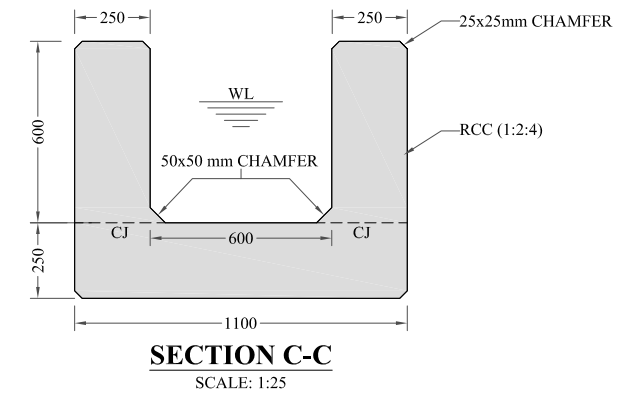
DRG.No:- BAD-BD-IR-07 SHEET:- 02 OF 06 SUB SH.- ----



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S.NO	DESCRIPTON	HEIGHT
1	PIER-1	4095
2	PIER-2	2840
3	PIER-3	2800
4	PIER-4	2790



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
2. C.J STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

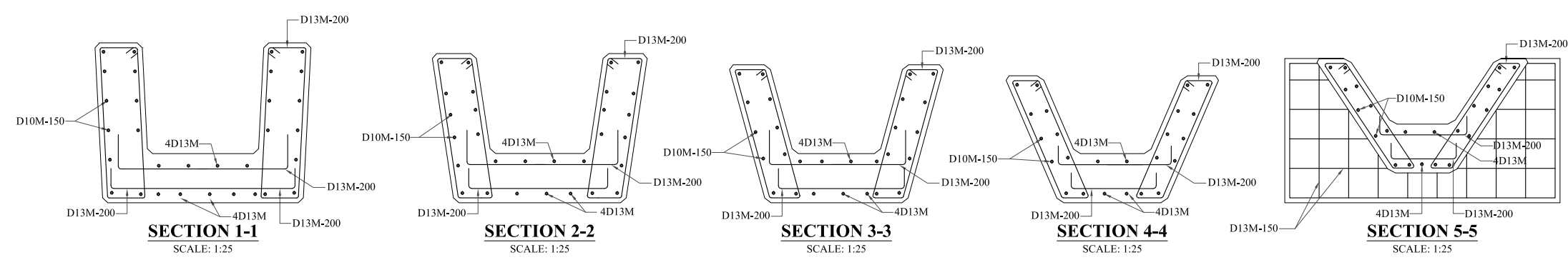
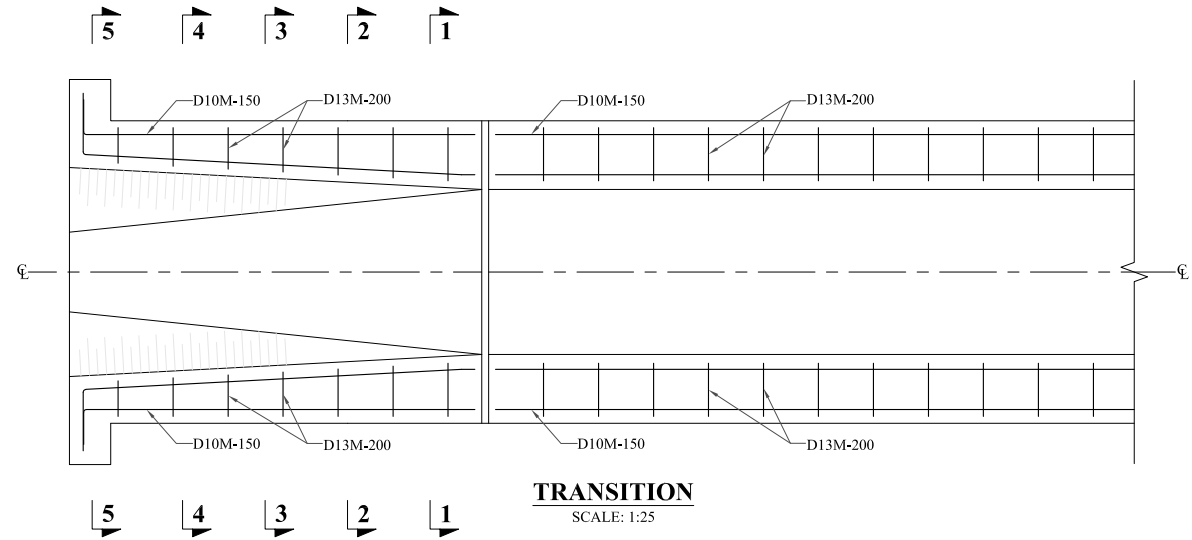
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MC AQUEDUCT-1 TRANSITION & WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-07 SHEET:- 03 OF 06 SUB SH.- ----

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NOTES:

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2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.
4. REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
5. 10D20M150 MEANS

10	NO. OF BARS
D	DEFORMERD BARS
20M	BAR DESIGNATION.(METRIC)
150	SPACING IN MM
6. COVER (DEFINED AS MINIMUM CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST BAR) SHALL BE 40MM UNLESS INDICATED OTHERWISE, EXCEPT THAT WHERE CONCRETE IS PLACED AGAINST EARTH OR ROCK THE MINIMUM CLEARS DISTANCE SHALL BE 75 MM.
7. BEND RADIUS SHALL BE 10 TIMES THE DIAMETER OF THE BAR.
8. ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED
9. IN THE FORM WORK AND HELD FIRMLY IN PLACE BEFORE PLACING OF CONCRETE, BY MEANS OF 16 GAUGE BLACK ANNEALED WIRES & ADEQUATELY DESIGNED SPACERS.
10. ALL REINFORCING BARS SHALL BE HOOKED OTHERWISE SPECIFIED IN THE DRAWING OR DIRECTED BY THE PROJECT MANAGER.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

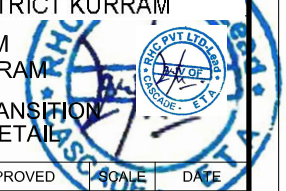
CLIENT:
 MERGED AREAS SMALL DAM SECTION
 IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

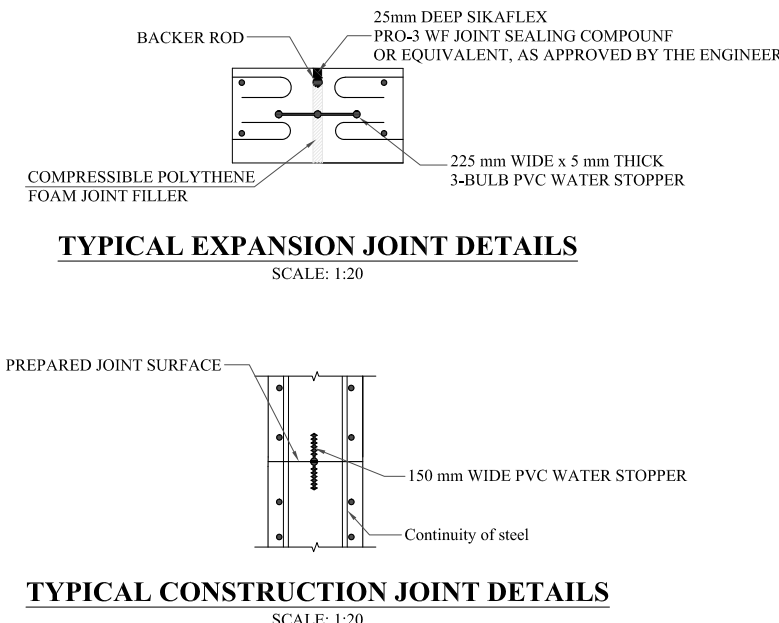
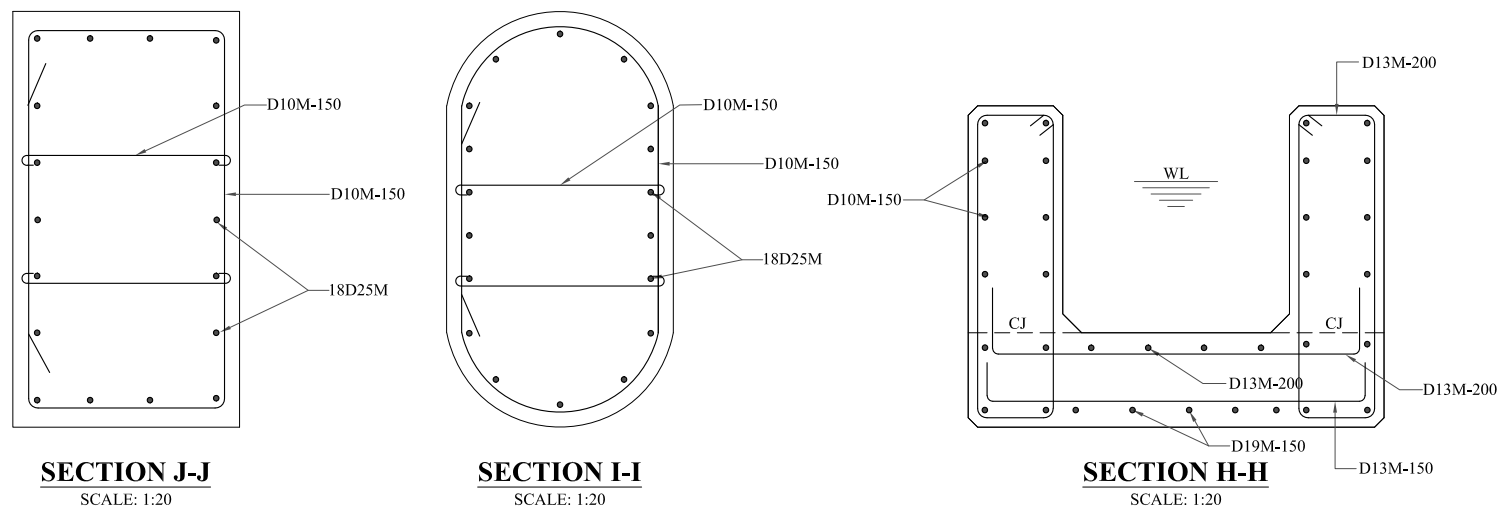
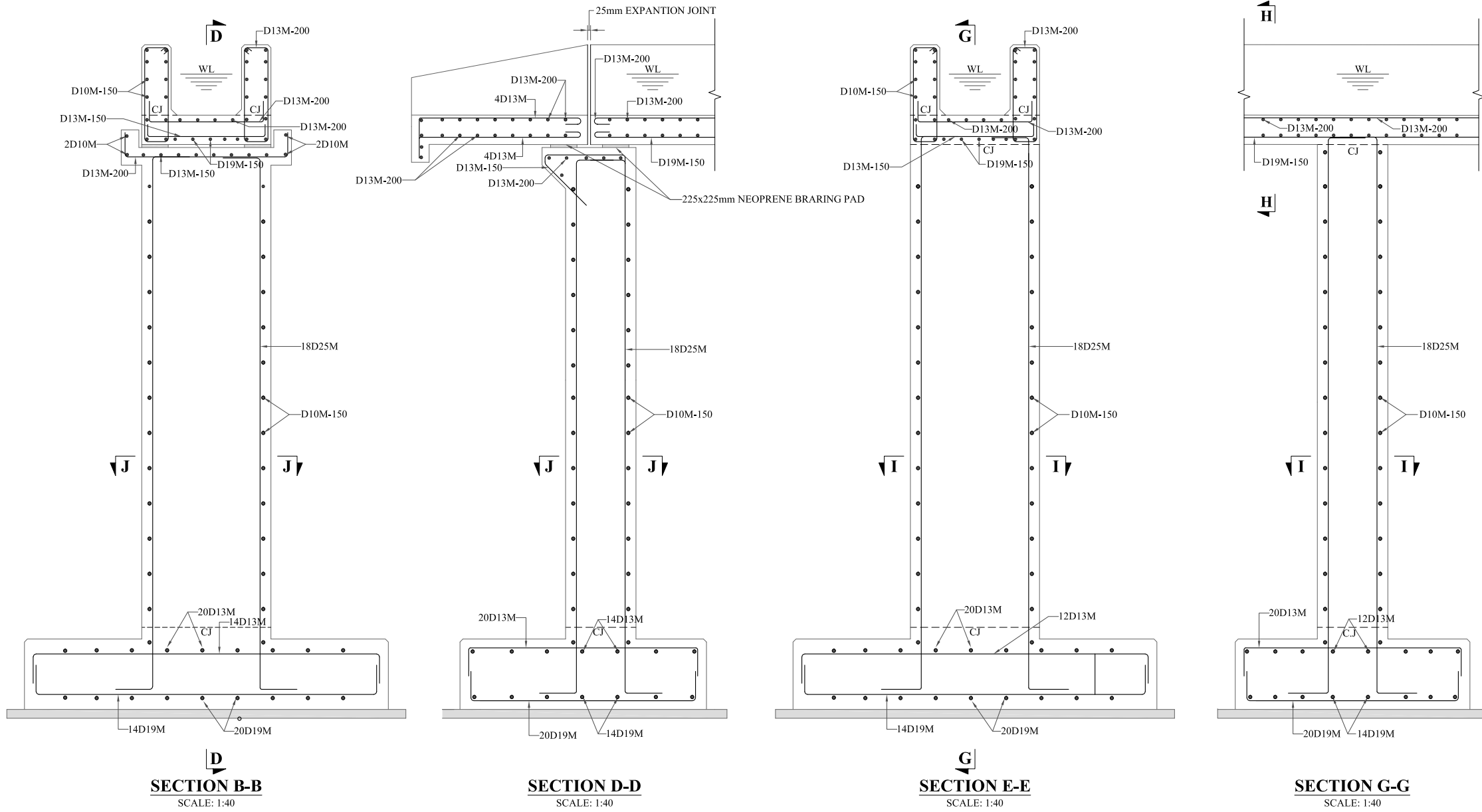
PROJECT:
 CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

TITLE:
 BAZ ALI DAM DISTRICT KURRAM
 MC AQUEDUCT-1 TRANSITION & WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-07		SHEET:- 04 OF 06		SUB SH.- ----	



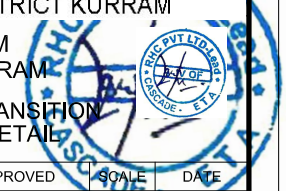
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REFERENCE DRAWINGS :-			
DRAWING IS RELEASED			
<input checked="" type="checkbox"/> FOR BIDDING ONLY			
CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.			
CONSULTANTS: A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD. CASCADE GROUP OF ENGINEERING & CONSULTANTS IN ASSOCIATION WITH: ETA ENGINEERING & TECHNICAL ASSOCIATES			
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM BAZ ALI DAM DISTRICT KURRAM			
TITLE: MC AQUEDUCT-1 TRANSITION & WING WALLS DETAIL			
DRAWN	DESIGNED	CHECKED	APPROVED
			SCALE DATE
			Shown FEB, 2022
DRG.No:- BAD-BD-IR-07		SHEET:- 05 OF 06 SUB SH.- ----	



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BAR BENDING SCHEDULE

Description/Location	S.No	Dia (mm)	Length (m)	Width (m)	Height (m)	Spacing (mm)	Cut bar length (m)	No. of bars	Total length of the bars (m)	Unit weight kg/m ³	Total weight (kg)	Total weight (tonnes)	Shape
ABUTMENT FOOTING	1	19					3.38	28	94.64	7850	210.64	0.211	
	2	19					2.42	40	96.8	7850	215.45	0.215	
	3	13					3.28	28	91.92	7850	95.78	0.096	
	4	13					2.27	40	90.84	7850	94.65	0.095	
ABUTMENT PIER	1	25					3.07	36	110.41	7850	425.46	0.425	
	2	10			2.0	150	3.83	28	107.24	7850	66.12	0.066	
	3	10			2.0	150	0.64	56	35.952	7850	22.17	0.022	
ABUTMENT CAP	1	13		0.80			1.72	10	17.15	7850	17.87	0.018	
	2	13		1.10			1.41	16	22.528	7850	23.47	0.023	
	3	10					0.68	8	5.456	7850	3.36	0.0034	
TROUGH/CHANNEL	1	13	75			150	1.19	500	595.5	7850	620.48	0.6205	
	2	13	75			200	1.29	375	483.0	7850	503.26	0.5033	
	3	10	75			150	2.09	500	1044.0	7850	643.67	0.6437	
	4	19	80.87	0.60		150	12.2	28	341.6	7850	760.30	0.7603	
	5	13	80.87	0.60		200	12.2	21	256.2	7850	266.95	0.2669	
	6	10	80.87		0.85	150	12.2	168	2049.6	7850	1263.66	1.2637	
PIER FOOTING	1	19					3.39	56	189.616	7850	422.03	0.4220	
	2	19					2.286	80	182.88	7850	407.04	0.4070	
	3	13					3.39	48	162.528	7850	169.35	0.1693	
	4	13					2.29	80	182.88	7850	190.55	0.1906	
PIER-1	1	25		4.10		5.18	18	93.32	7850	359.61	0.3596		
PIER-2	2	25		2.84		3.93	18	70.78	7850	272.73	0.2727		
PIER-3	3	25		2.80		3.89	18	70.06	7850	269.95	0.2700		
PIER-4	4	25		2.79		3.88	18	69.88	7850	269.26	0.2693		
TIES	1	10			13.0	150	3.28	84	275.69	7850	169.97	0.1700	
LATERAL TIES	1	10			13.0	150	0.642	168	107.86	7850	66.50	0.0665	
TRANSITION	1	13					1.68	16	26.88	7850	28.01	0.0280	
	2	10			0.85	150	1.692	48	81.22	7850	50.07	0.0501	
	3	13	1.50			200	2.088	32	66.82	7850	69.62	0.0696	
	4	13	1.35			200	1.191	28	33.35	7850	34.75	0.0347	
	5	13			0.735	200	1.35	8	10.80	7850	11.25	0.0113	
	6	13	1.40			200	0.685	14	9.59	7850	9.99	0.0100	
TOTAL												8.040	

- NOTES:**
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 - MC STANDS FOR MAIN CHANNEL.
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REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH:
 ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE: MC AQUEDUCT-1 TRANSITION & WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-07 SHEET:- 06 OF 06 SUB SH.- ----

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NOTES:

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2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP
OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

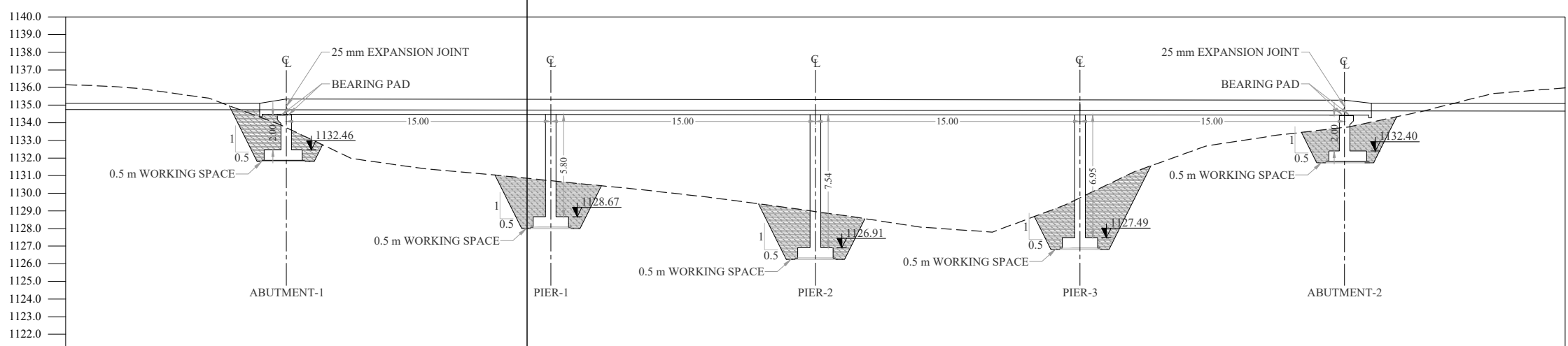
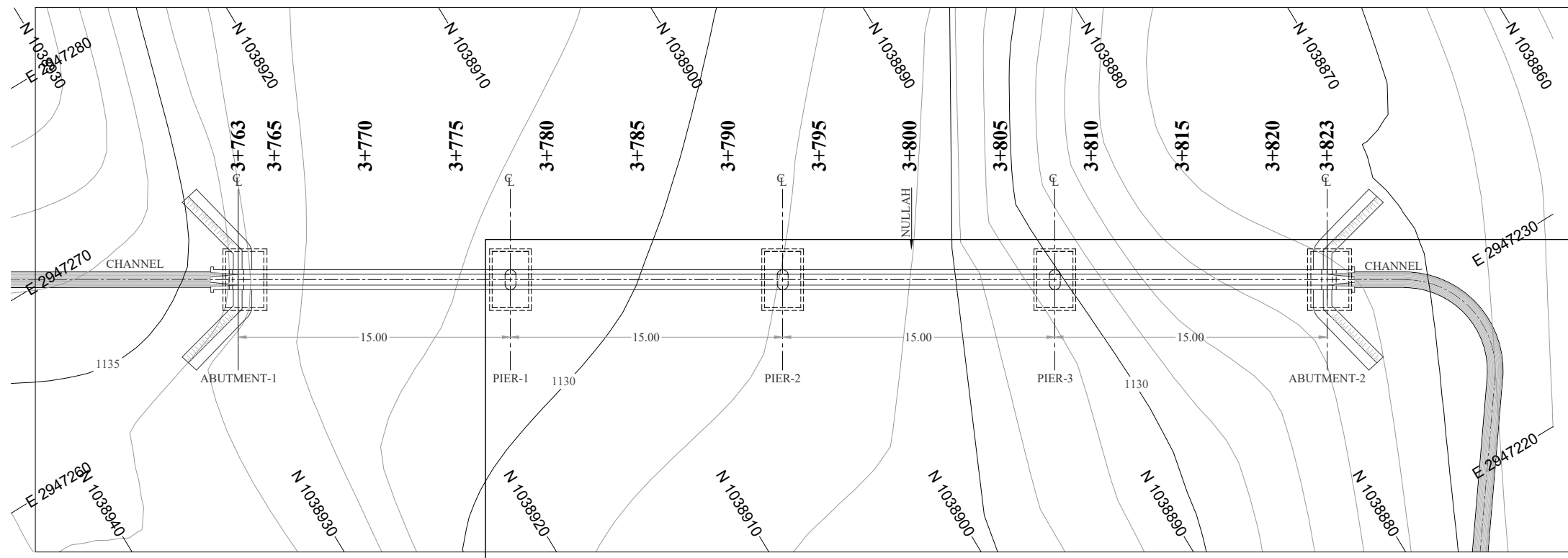
BAZ ALI DAM
DISTRICT KURRAM

TITLE:

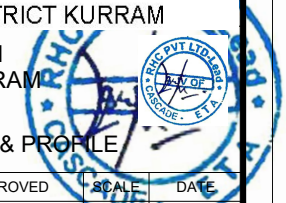
MC AQUEDUCT-2 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	Feb, 2022

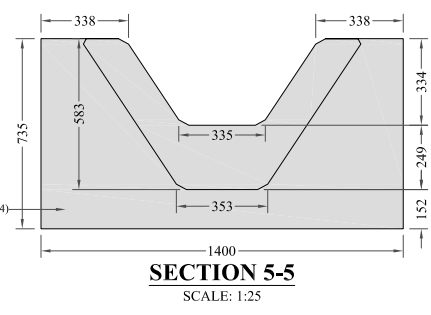
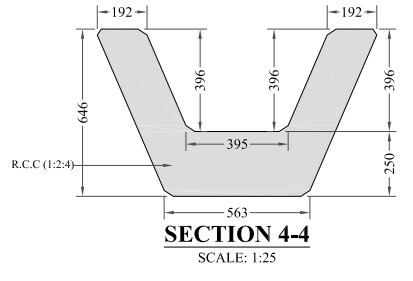
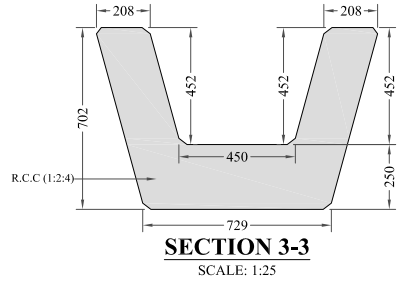
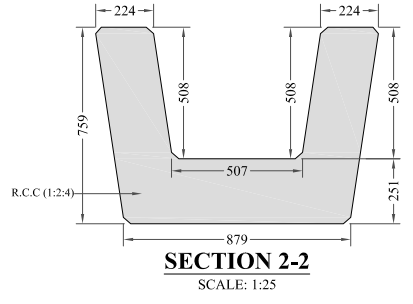
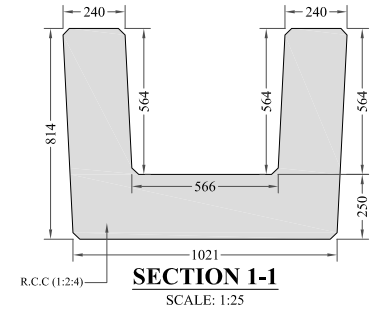
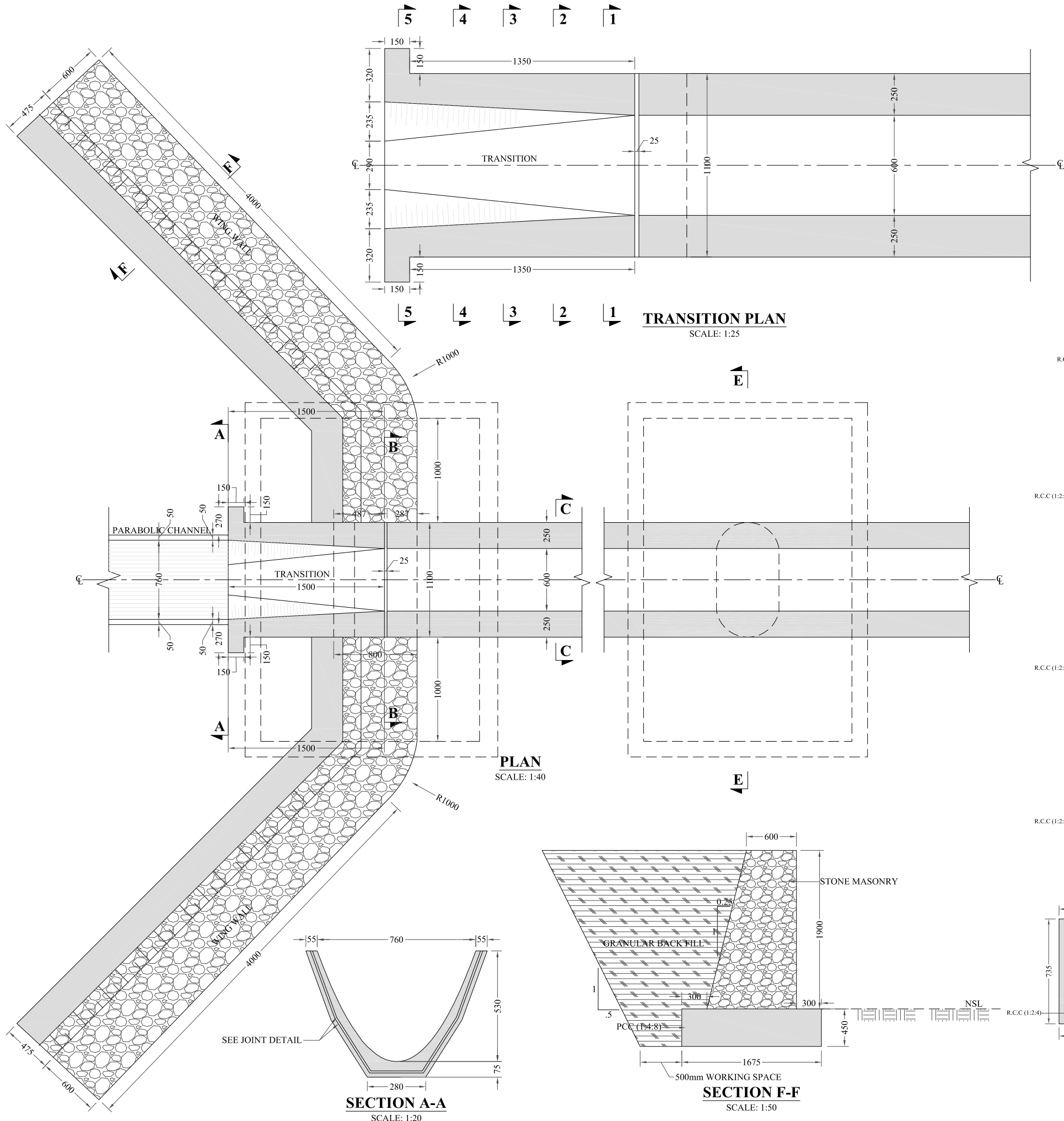
DRG.No:- BAD-BD-IR-08 SHEET:- 1 OF 6 SUB SH.- ----



DATUM EL	3+763	3+765	3+770	3+775	3+780	3+785	3+790	3+795	3+800	3+805	3+810	3+815	2+820	2+823
BL														
NSL	1133.727	1134.737	1134.730	1134.725	1134.720	1134.715	1134.710	1134.705	1134.700	1134.695	1134.690	1134.685	1134.680	1134.677
RD														



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NOTES:

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2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCADE GROUP
OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

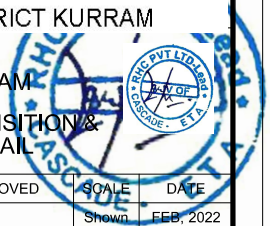
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

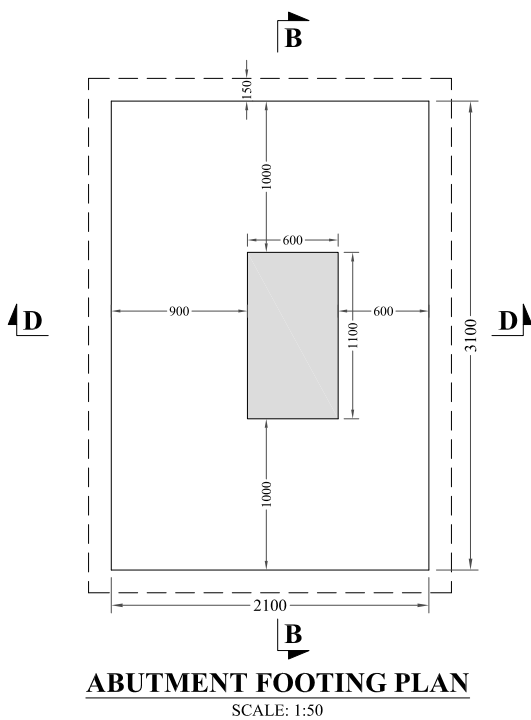
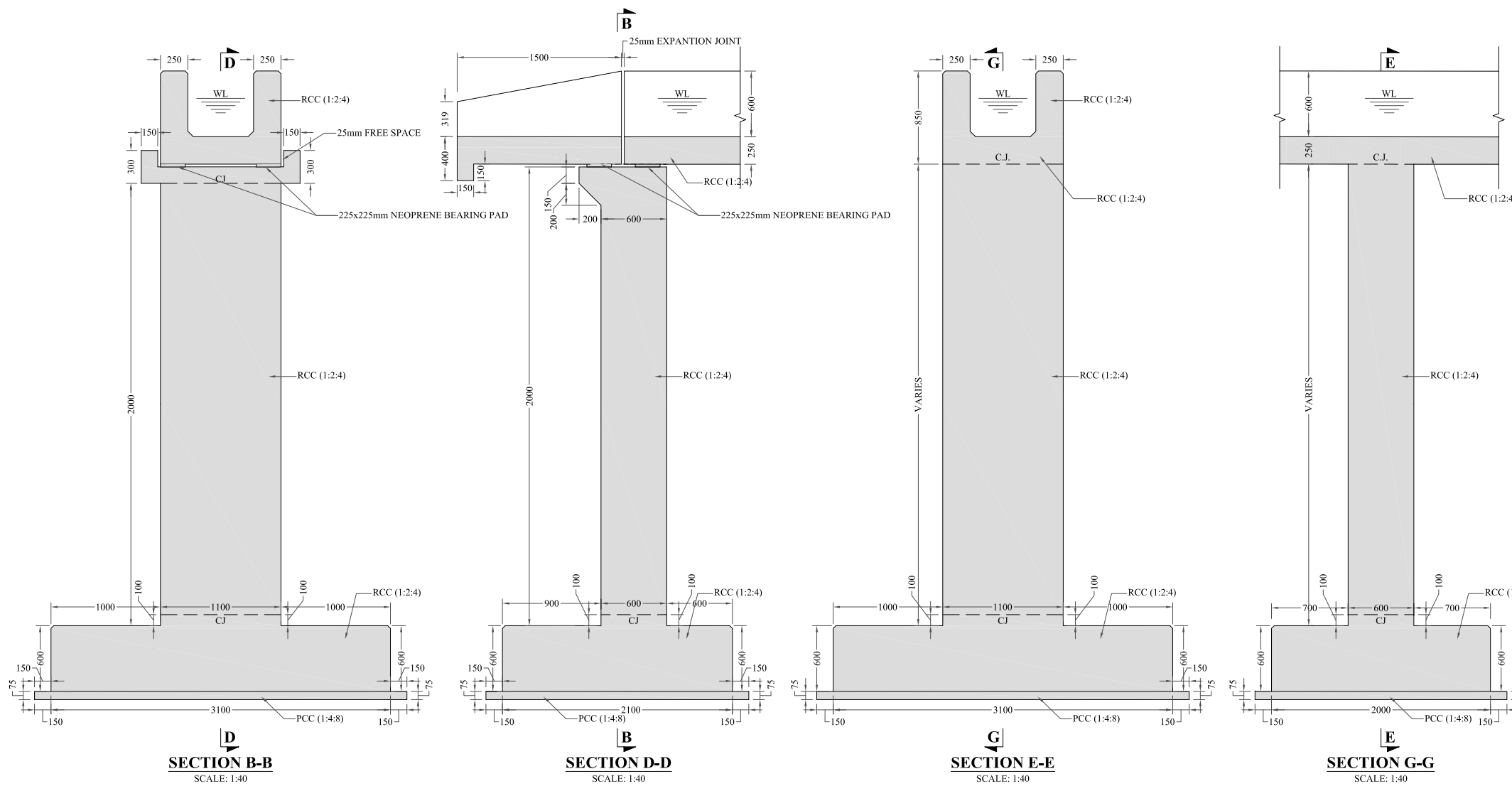
TITLE:
MC AQUEDUCT-2 TRANSITION &
WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As Shown	FEB, 2022

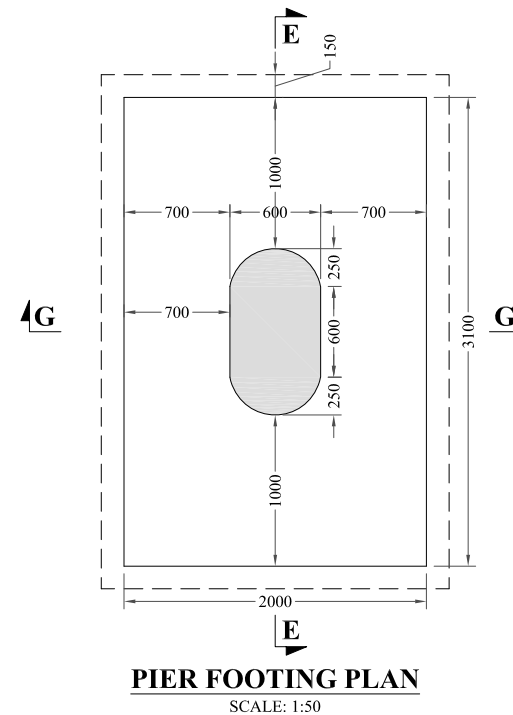
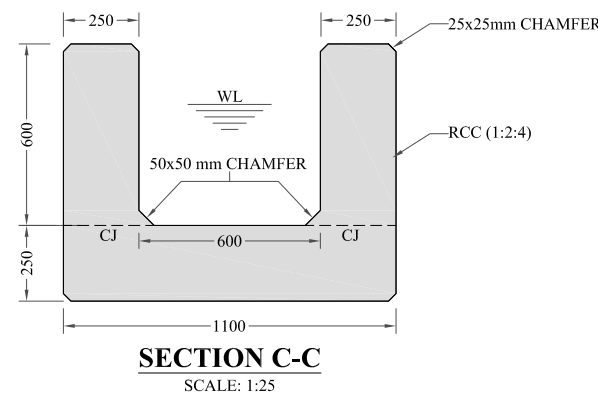
DRG.No:- BAD-BD-IR-08 SHEET:- 02 OF 06 SUB SH.- ----



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MC AQUEDUCT-2	S.NO	DESCRIPTION	HEIGHT
	1	PIER-1	5800
	2	PIER-2	7540
	3	PIER-3	6950



NOTES:

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3. MC STANDS FOR MAIN CHANNEL.

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
BAZ ALI DAM
DISTRICT KURRAM

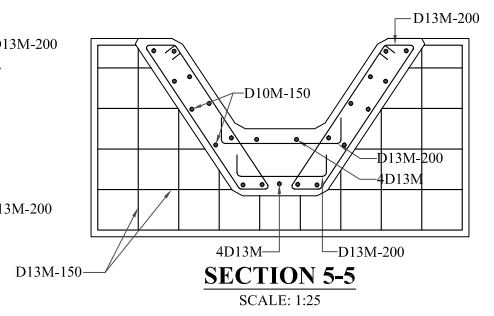
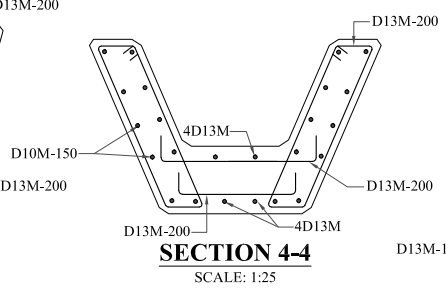
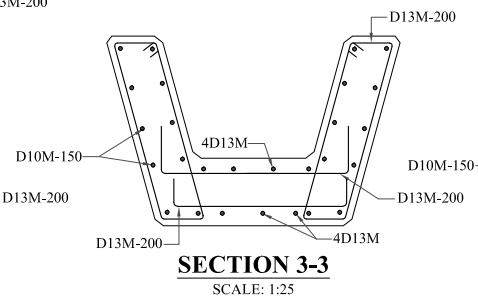
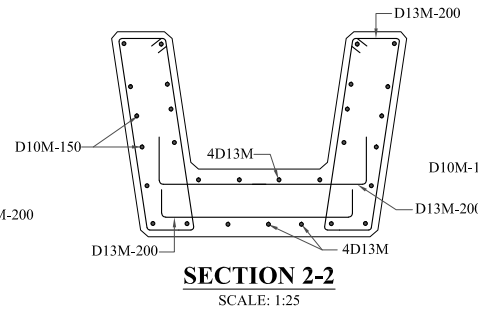
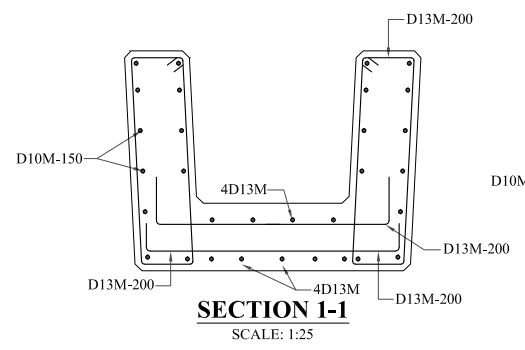
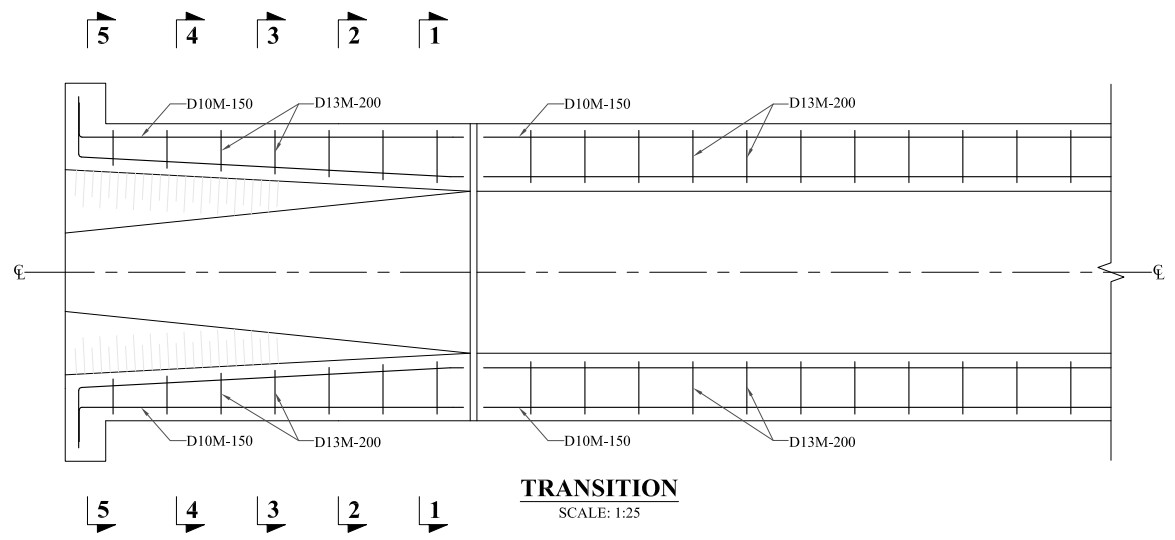
TITLE: MC AQUEDUCT-2 GEOMETRIC DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-08 SHEET:- 03 OF 06 SUB SH.- ----



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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METER UNLESS OTHERWISE SPECIFIED.
2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.
4. REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
5. 10D20M150 MEANS

10	NO. OF BARS
D	DEFORMERD BARS
20M	BAR DESIGNATION.(METRIC)
150	SPACING IN MM
6. COVER (DEFINED AS MINIMUM CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST BAR) SHALL BE 40MM UNLESS INDICATED OTHERWISE, EXCEPT THAT WHERE CONCRETE IS PLACED AGAINST EARTH OR ROCK THE MINIMUM CLEARS DISTANCE SHALL BE 75 MM.
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REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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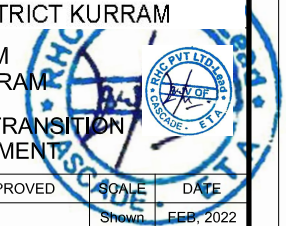
CLIENT:
 MERGED AREAS SMALL DAM SECTION
 IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

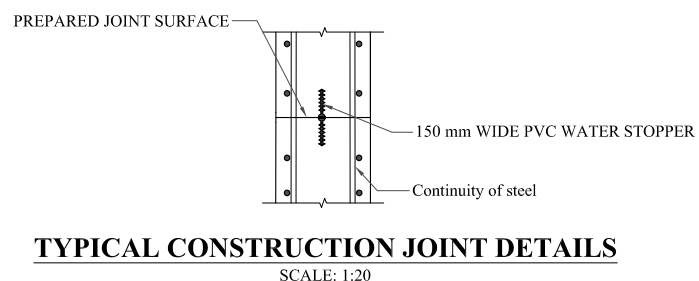
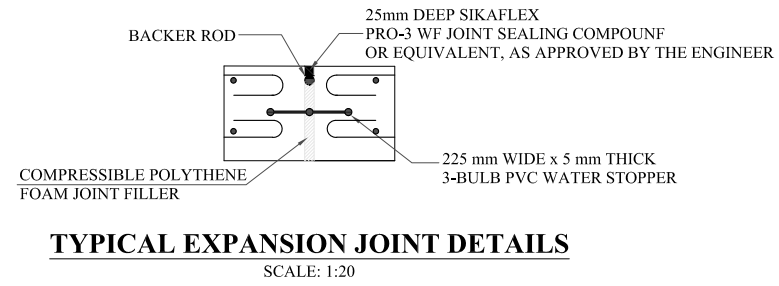
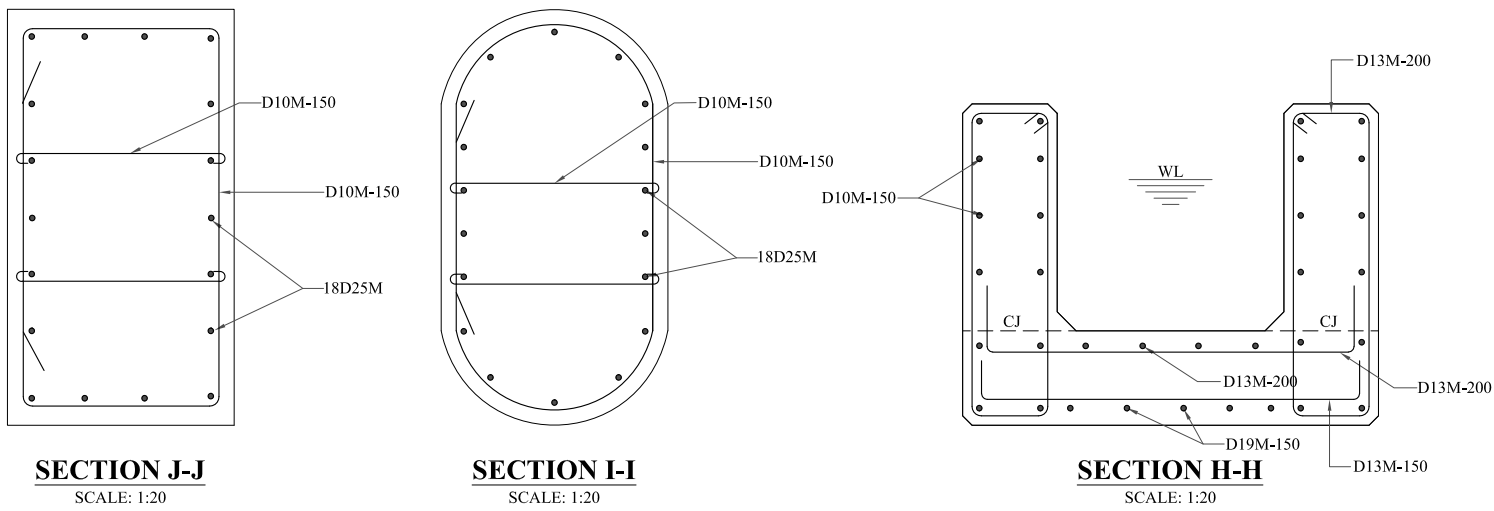
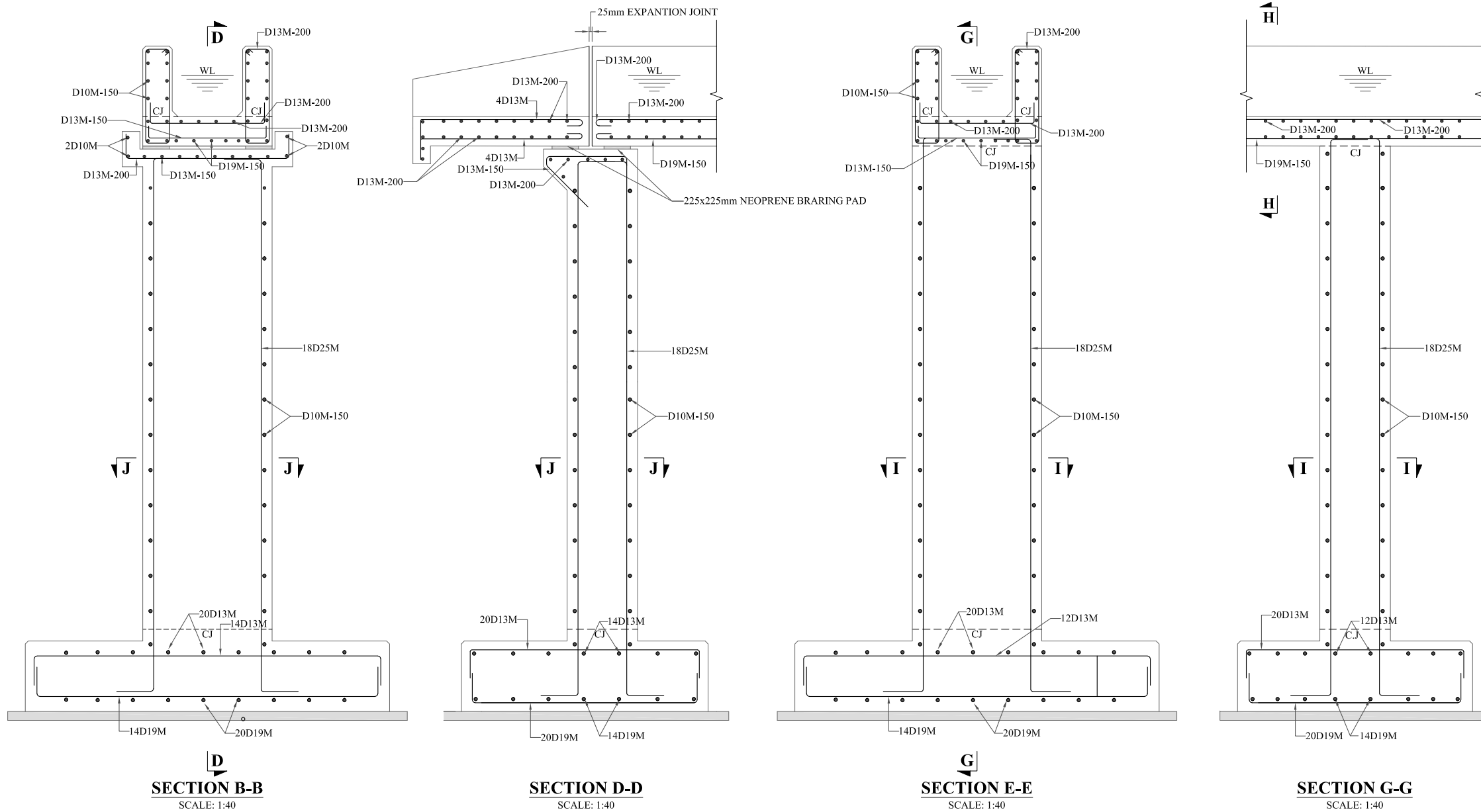
PROJECT:
 CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
 DISTRICT KURRAM
 TITLE: MC AQUEDUCT-2 TRANSITION REINFORCEMENT

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-08		SHEET:- 04 OF 06		SUB SH.- ----	



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REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: **MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS: **A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD. CASCADE GROUP OF ENGINEERING & CONSULTANTS IN ASSOCIATION WITH: ETA ENGINEERING & TECHNICAL ASSOCIATES**

PROJECT: **CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM**

BAZ ALI DAM DISTRICT KURRAM

TITLE: **MC AQUEDUCT-2 REINFORCEMENT DETAIL**

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shows	FEB, 2022

DRG.No:- BAD-BD-IR-08 SHEET:- 05 OF 06 SUB SH.- ----

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BAR BENDING SCHEDULE

Description/Location	S.No	Dia (mm)	Length (m)	Width (m)	Height (m)	Spacing (mm)	Cut bar length (m)	No. of bars	Total length of the bars (m)	Unit weight kg/m ³	Total weight (kg)	Total weight (tonnes)	Shape	
ABUTMENT FOOTING	1	19					3.38	28	94.64	7850	210.64	0.211		
	2	19					2.42	40	96.8	7850	215.45	0.215		
	3	13					3.28	28	91.92	7850	95.78	0.096		
	4	13					2.27	40	90.84	7850	94.65	0.095		
ABUTMENT PIER	1	25					3.07	36	110.41	7850	425.46	0.425		
	2	10			2.0	150	3.83	28	107.24	7850	66.12	0.066		
	3	10			2.0	150	0.64	56	35.952	7850	22.17	0.022		
ABUTMENT CAP	1	13		0.80		200	1.72	10	17.15	7850	17.87	0.018		
	2	13		1.10		150	1.41	16	22.528	7850	23.47	0.023		
	3	10					0.68	8	5.456	7850	3.36	0.0034		
TROUGH/CHANNEL	1	13	60			150	1.19	400	476.4	7850	496.38	0.4964		
	2	13	60			200	1.29	300	386.4	7850	402.61	0.4026		
	3	10	60			150	2.09	400	835.2	7850	514.93	0.5149		
	4	19	64.19	0.60		150	12.2	24	292.8	7850	651.69	0.6517		
	5	13	64.19	0.60		200	12.2	18	219.6	7850	228.81	0.2288		
	6	10	64.19		0.85	150	12.2	144	1756.8	7850	1083.13	1.0831		
PIER FOOTING	1	19					3.39	42	142.212	7850	316.52	0.3165		
	2	19					2.286	60	137.16	7850	305.28	0.3053		
	3	13					3.39	36	121.896	7850	127.01	0.1270		
	4	13					2.29	60	137.16	7850	142.91	0.1429		
PIER-1	1	25		5.80			6.89	18	124.06	7850	478.03	0.4780		
PIER-2	2	25		7.54			8.63	18	155.38	7850	598.72	0.5987		
PIER-3	3	25		6.95			3.89	18	70.06	7850	269.95	0.2700		
TIES	1	10			20.0	150	3.28	136	446.35	7850	275.19	0.2752		
LATERAL TIES	1	10			20.0	150	0.642	272	174.62	7850	107.66	0.1077		
TRANSITION	1	13					1.68	16	26.88	7850	28.01	0.0280		
	2	10			0.85	150	1.692	48	81.22	7850	50.07	0.0501		
	3	13	1.50			200	2.088	32	66.82	7850	69.62	0.0696		
	4	13	1.35			200	1.191	28	33.35	7850	34.75	0.0347		
	5	13			0.735	200	1.35	8	10.80	7850	11.25	0.0113		
	6	13	1.40			200	0.685	14	9.59	7850	9.99	0.0100		
TOTAL											7.377			

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REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
**MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
**IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES**

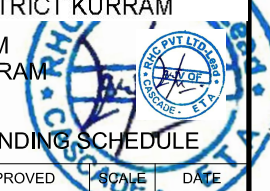
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

**BAZ ALI DAM
DISTRICT KURRAM**

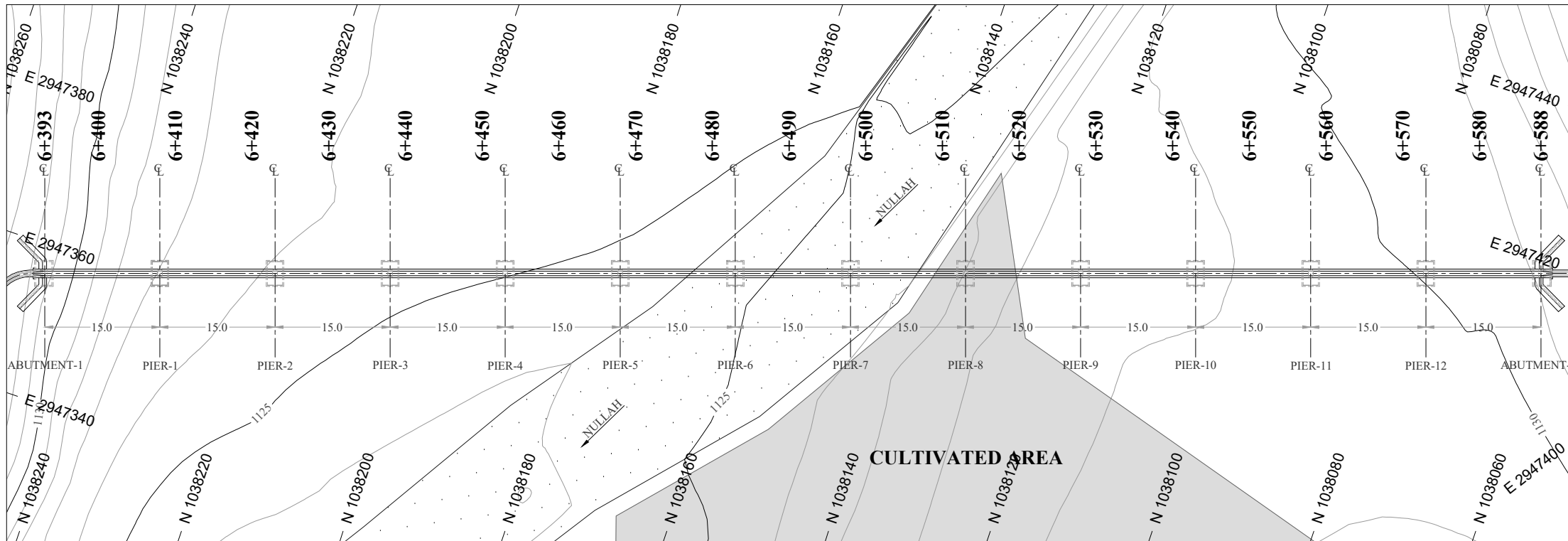
TITLE:
MC AQUEDUCT-2 BAR BENDING SCHEDULE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
					Shows FEB, 2022

DRG.No:- BAD-BD-IR-08 SHEET:- 06 OF 06 SUB SH.- ----



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NOTES:

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3. MC STANDS FOR MAIN CHANNEL.

LEGENDS:

- BED LEVEL
- NATURAL SURFACE LEVEL
- EXISTING ROAD
- KACHA TRACK
- NULLAH
- MINOR NULLAH
- BUILDING + ROOM
- GRAVE YARD
- VILLAGE
- CULTIVATED AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- EXISTING CULVERT
- ELECTRIC POLE
- MOUNTAIN
- BENCH MARK

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

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CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP
OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

CONSULTANCY SERVICES FOR REVIEW / UPDATION
OF DESIGN AND CONSTRUCTION SUPERVISION OF
BAZ ALI SMALL DAM, DISTRICT KURRAM

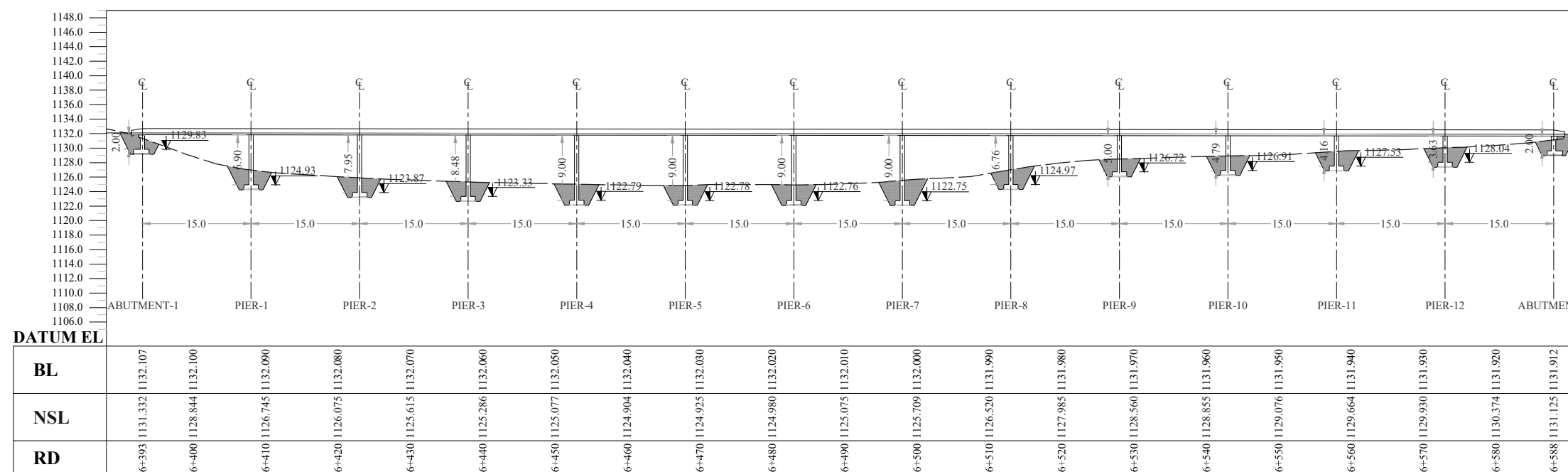
BAZ ALI DAM
DISTRICT KURRAM

TITLE:

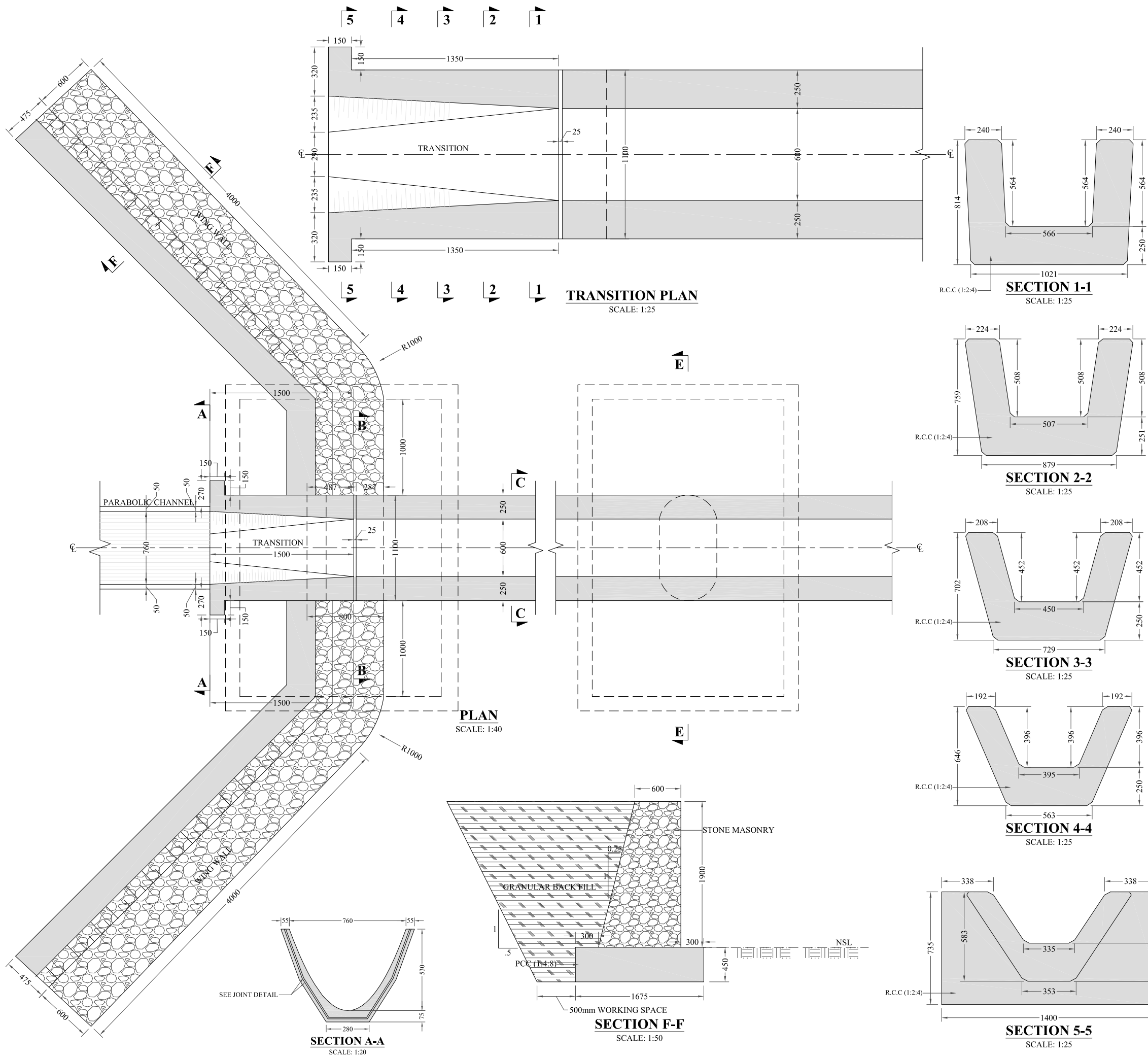
MC AQUEDUCT-3 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	Feb, 2022

DRG.No:- BAD-BD-IR-09 SHEET:- 1 OF 6 SUB SH.- ----



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REFERENCE DRAWINGS :-

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.

CASCAD GROUP OF ENGINEERING & CONSULTANTS

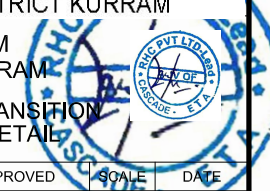
IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

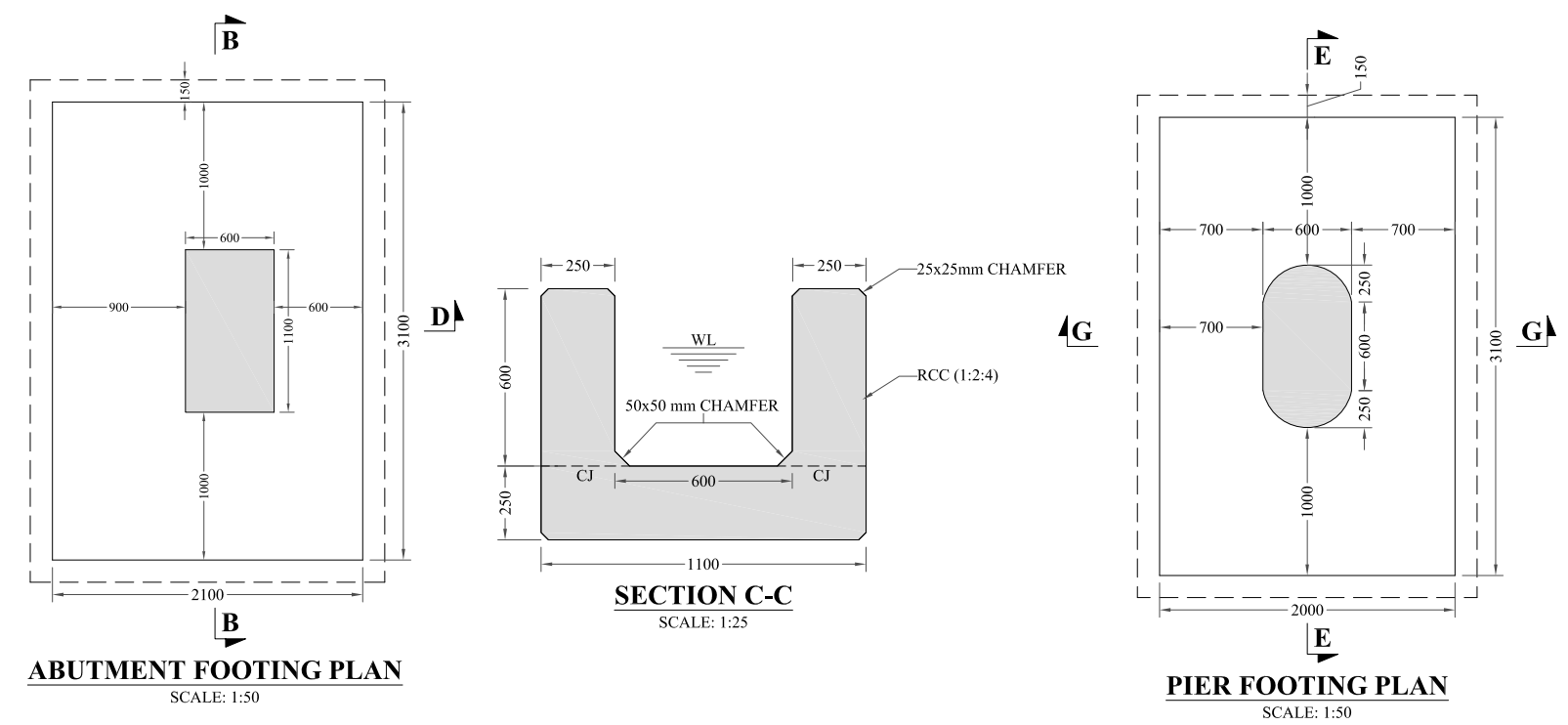
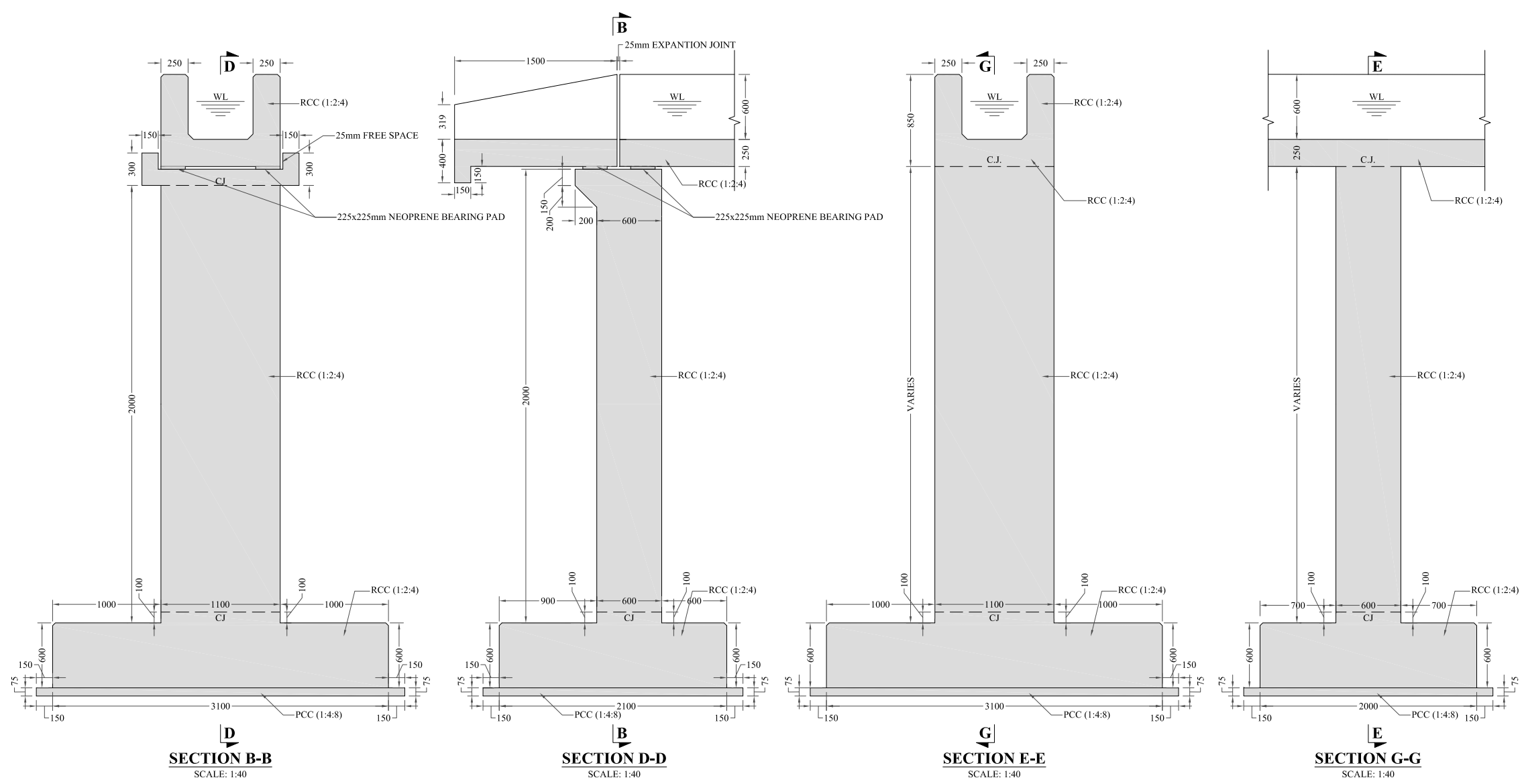
BAZ ALI DAM
DISTRICT KURRAM

TITLE: MC AQUEDUCT-3 TRANSITION & WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-09		SHEET:- 02 OF 06		SUB SH.- ----	



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S.NO	DESCRIPTION	HEIGHT
1	PIER-1	6900
2	PIER-2	7950
3	PIER-3	8480
4	PIER-4	9000
5	PIER-5	9000
6	PIER-6	9000
7	PIER-7	9000
8	PIER-8	6760
9	PIER-9	5000
10	PIER-10	4790
11	PIER-11	4160
12	PIER-12	3630

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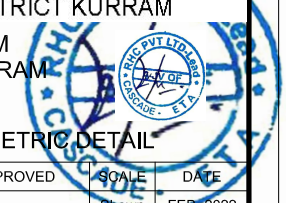
CONSULTANTS: A J.V OF
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PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
 BAZ ALI DAM
 DISTRICT KURRAM

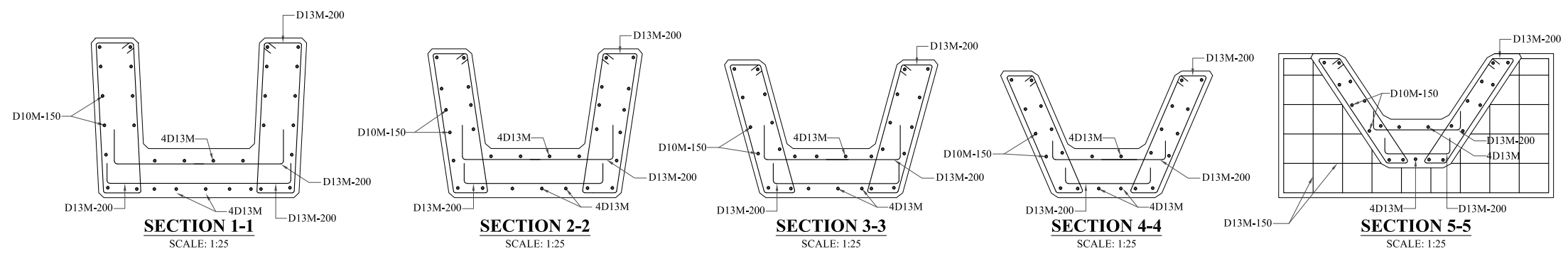
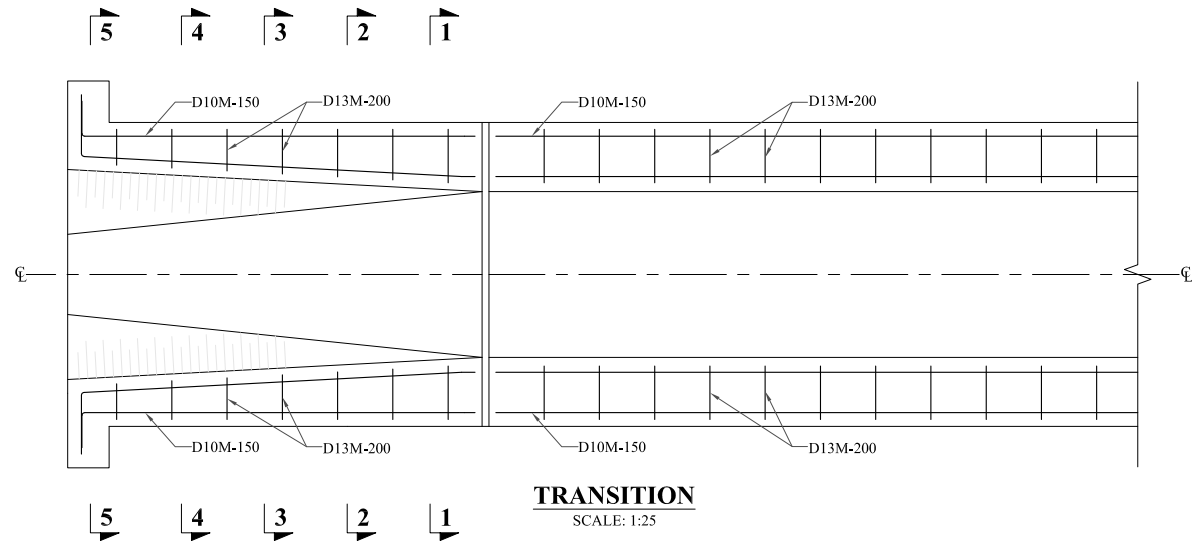
TITLE:
MC AQUEDUCT-3 GEOMETRIC DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-09 SHEET:- 03 OF 06 SUB SH.- ----



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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

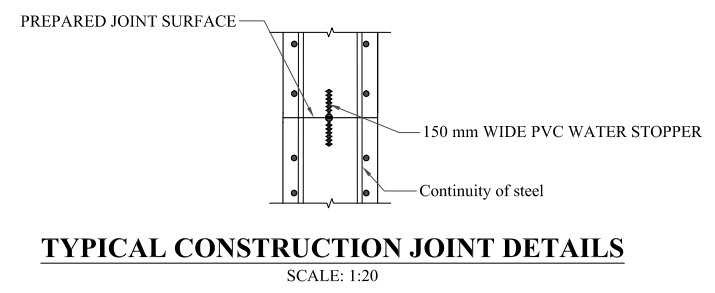
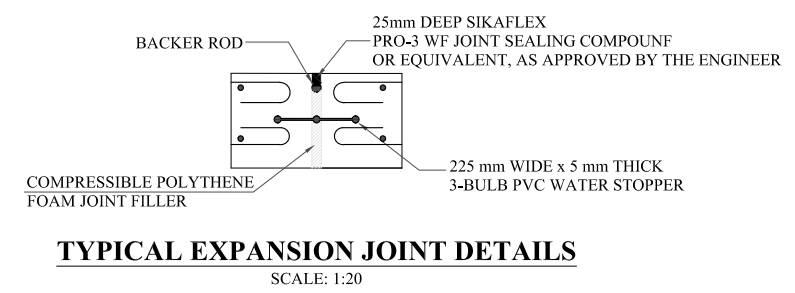
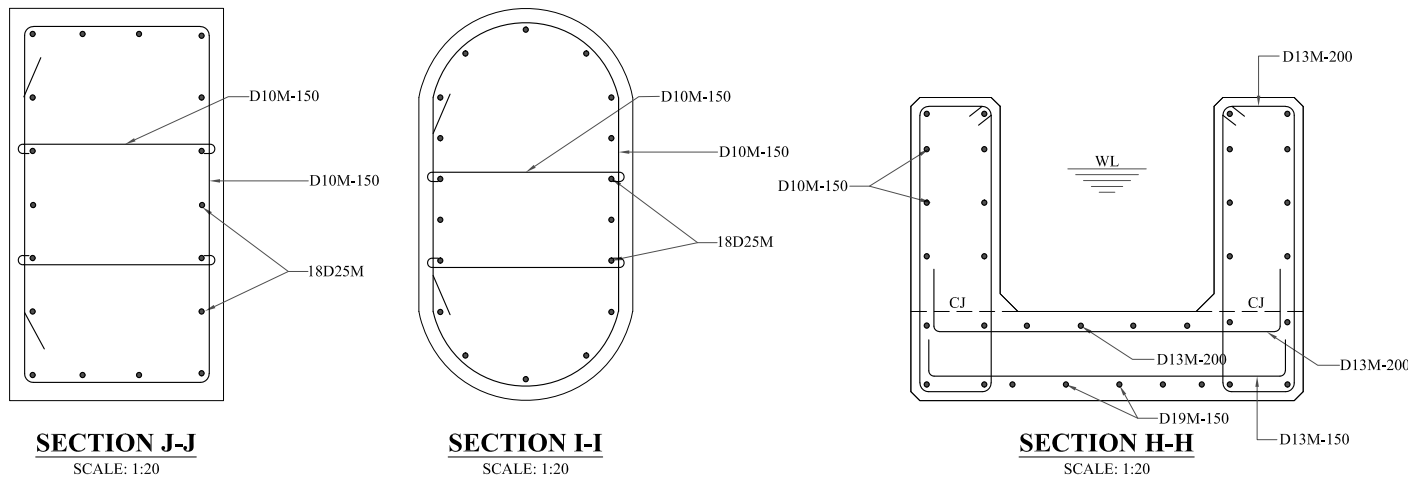
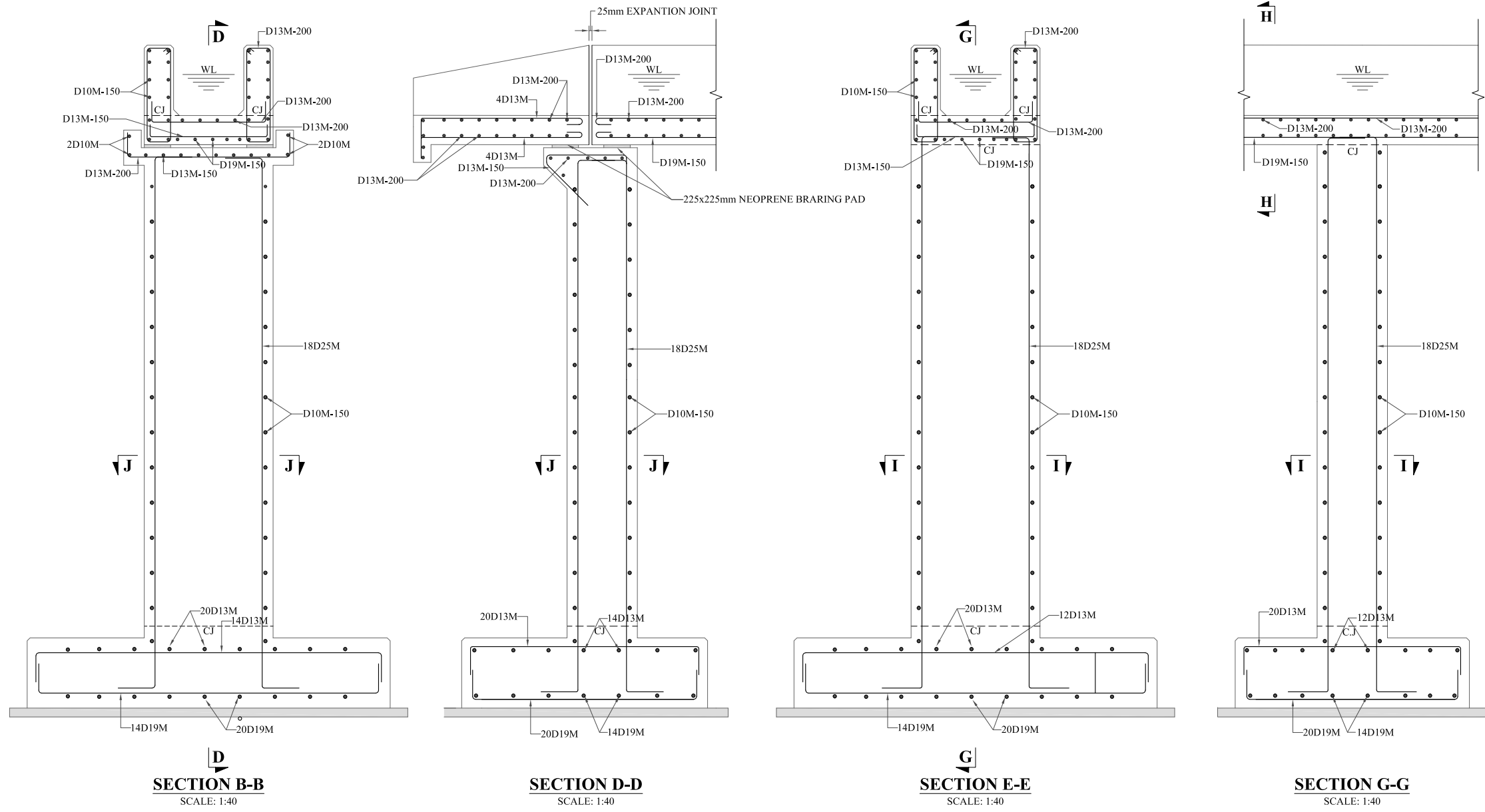
BAZ ALI DAM
DISTRICT KURRAM

TITLE:
MC AQUEDUCT-3 TRANSITION REINFORCEMENT

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-09		SHEET:- 04 OF 06		SUB SH.- ----	



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 - 10D20M150 MEANS

10	NO. OF BARS
D	DEFORMED BARS
20M	BAR DESIGNATION (METRIC)
150	SPACING IN MM
 - COVER (DEFINED AS MINIMUM CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST BAR) SHALL BE 40MM UNLESS INDICATED OTHERWISE, EXCEPT THAT WHERE CONCRETE IS PLACED AGAINST EARTH OR ROCK THE MINIMUM CLEAR DISTANCE SHALL BE 75 MM.
 - BEND RADIUS SHALL BE 10 TIMES THE DIAMETER OF THE BAR.
 - ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED
 - IN THE FORM WORK AND HELD FIRMLY IN PLACE BEFORE PLACING OF CONCRETE, BY MEANS OF 16 GAUGE BLACK ANNEALED WIRES & ADEQUATELY DESIGNED SPACERS.
 - ALL REINFORCING BARS SHALL BE HOOKED OTHERWISE SPECIFIED IN THE DRAWING OR DIRECTED BY THE PROJECT MANAGER.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
**MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS:
**A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES**

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

**BAZ ALI DAM
DISTRICT KURRAM**

TITLE:
MC AQUEDUCT-3 REINFORCEMENT DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-09 SHEET:- 05 OF 06 SUB SH.- ----

BAR BENDING SCHEDULE

Description/Location	S.No	Dia (mm)	Length (m)	Width (m)	Height (m)	Spacing (mm)	Cut bar length (m)	No. of bars	Total length of the bars (m)	Unit weight kg/m ³	Total weight (kg)	Total weight (tonnes)	Shape
ABUTMENT FOOTING	1	19					3.38	28	94.64	7850	210.64	0.211	
	2	19					2.42	40	96.8	7850	215.45	0.215	
	3	13					3.28	28	91.92	7850	95.78	0.096	
	4	13					2.27	40	90.84	7850	94.65	0.095	
ABUTMENT PIER	1	25					3.07	36	110.41	7850	425.46	0.425	
	2	10			2.0	150	3.83	28	107.24	7850	66.12	0.066	
	3	10			2.0	150	0.64	56	35.952	7850	22.17	0.022	
ABUTMENT CAP	1	13		0.80			1.72	10	17.15	7850	17.87	0.018	
	2	13		1.10			1.41	16	22.528	7850	23.47	0.023	
	3	10					0.68	8	5.456	7850	3.36	0.0034	
TROUGH/CHANNEL	1	13	195			150	1.19	1300	1548.3	7850	1613.25	1.6132	
	2	13	195			200	1.29	975	1255.8	7850	1308.48	1.3085	
	3	10	195			150	2.09	1300	2714.4	7850	1673.53	1.6735	
	4	19	208.41	0.60		150	12.2	72	878.4	7850	1955.06	1.9551	
	5	13	208.41	0.60		200	12.2	54	658.8	7850	686.44	0.6864	
	6	10	208.41		0.85	150	12.2	432	5270.4	7850	3249.40	3.2494	
PIER FOOTING	1	19					3.39	168	568.848	7850	1266.09	1.2661	
	2	19					2.286	240	548.64	7850	1221.11	1.2211	
	3	13					3.39	144	487.584	7850	508.04	0.5080	
	4	13					2.29	240	548.64	7850	571.65	0.5717	
PIER-1	1	25			6.90	7.99	18	143.86	7850	554.33	0.5543		
PIER-2	2	25			7.95	9.04	18	162.76	7850	627.16	0.6272		
PIER-3	3	25			8.48	9.57	18	172.3	7850	663.92	0.6639		
PIER-4	4	25			9.00	10.09	18	181.66	7850	699.99	0.699		
PIER-5	5	25			9.00	10.09	18	181.66	7850	699.99	0.699		
PIER-6	6	25			9.00	10.09	18	181.66	7850	699.99	0.699		
PIER-7	7	25			9.00	10.09	18	181.66	7850	699.99	0.699		
PIER-8	8	25			6.76	7.85	18	141.34	7850	544.62	0.5446		
PIER-9	9	25			5.00	6.09	18	109.66	7850	422.54	0.4225		
PIER-10	10	25			4.79	5.88	18	105.88	7850	407.98	0.4080		
PIER-11	11	25			4.16	5.25	18	94.54	7850	364.28	0.3643		
PIER-12	12	25			3.63	4.72	18	85.0	7850	327.52	0.3275		
TIES	1	10			84.0	150	3.28	558	1831.36	7850	1129.10	1.1291	
LATERAL TIES	1	10			84.0	150	0.642	1116	716.47	7850	441.73	0.4417	
TRANSITION	1	13					1.68	16	26.88	7850	28.01	0.0280	
	2	10			0.85	150	1.692	48	81.22	7850	50.07	0.0501	
	3	13	1.50			200	2.088	32	66.82	7850	69.62	0.0696	
	4	13	1.35			200	1.191	28	33.35	7850	34.75	0.0347	
	5	13			0.735	200	1.35	8	10.80	7850	11.25	0.0113	
	6	13	1.40			200	0.685	14	9.59	7850	9.99	0.0100	
TOTAL											23.715		

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METER UNLESS OTHERWISE SPECIFIED.
2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.
4. REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
5. 10D20M150 MEANS
 10 NO. OF BARS
 D DEFORMERD BARS
 20M BAR DESIGNATION.(METRIC)
 150 SPACING IN MM
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REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
 MERGED AREAS SMALL DAM SECTION
 IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

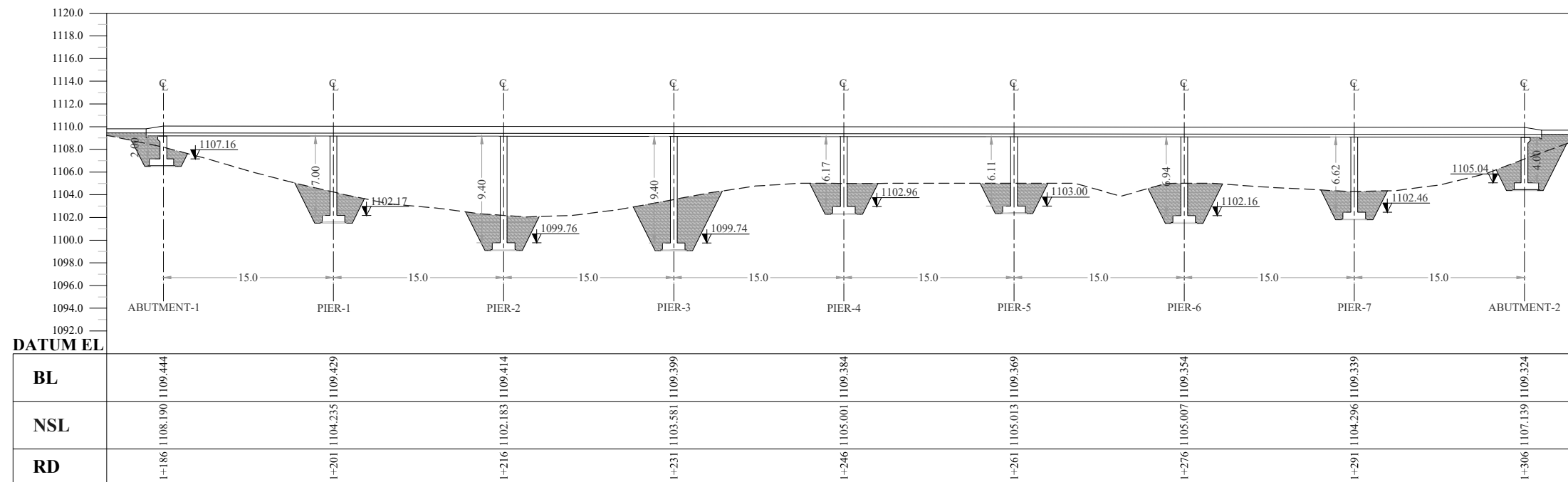
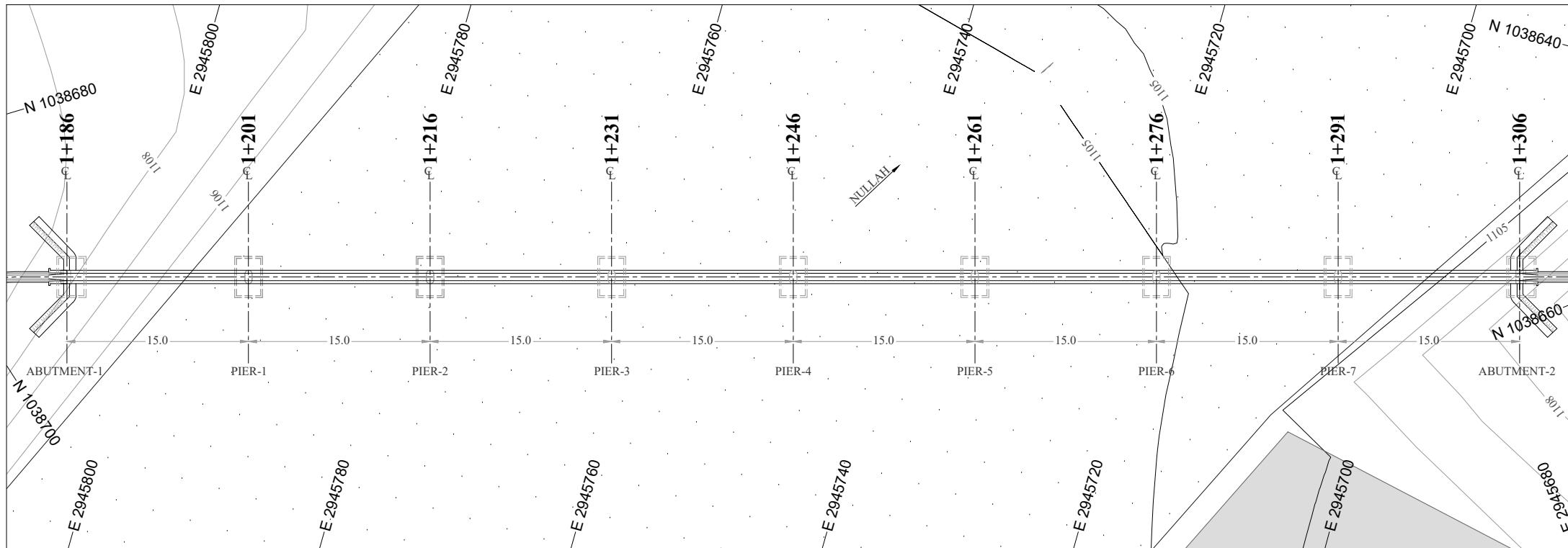
PROJECT:
 CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
 BAZ ALI DAM
 DISTRICT KURRAM

TITLE:
 MC AQUEDUCT-3 BAR BENDING SCHEDULE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-09		SHEET:- 06 OF 06		SUB SH.- ----	



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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

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CLIENT:

MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS:

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IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:

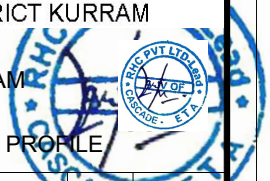
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

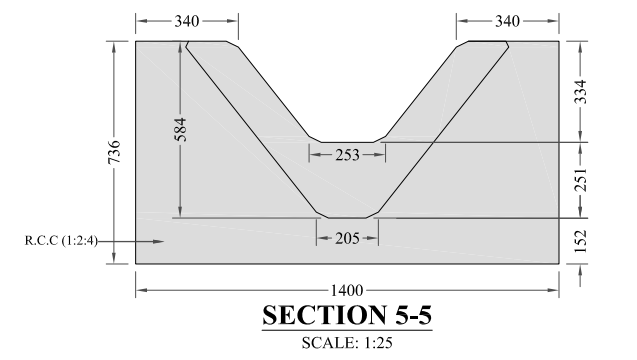
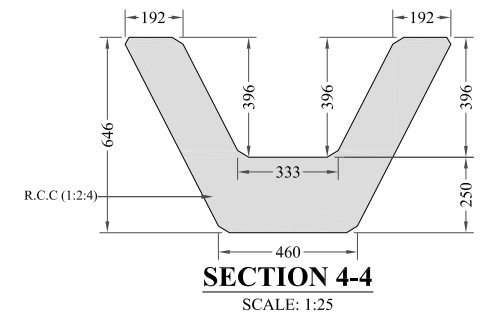
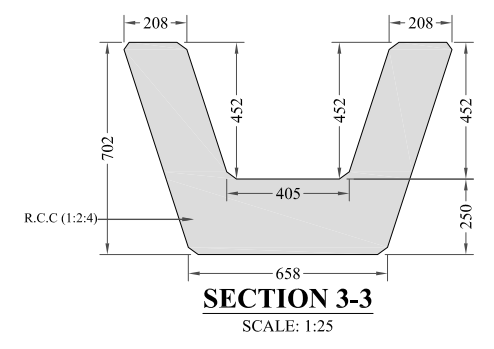
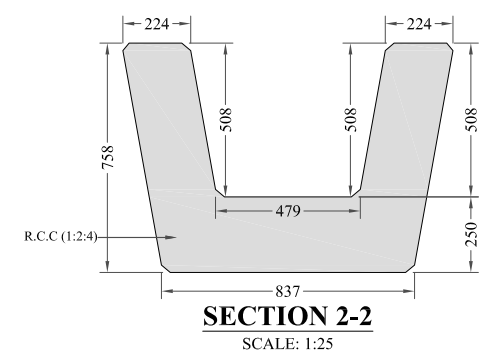
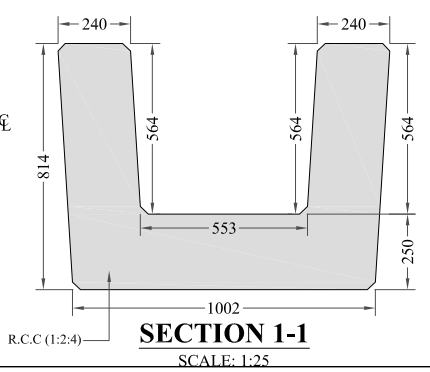
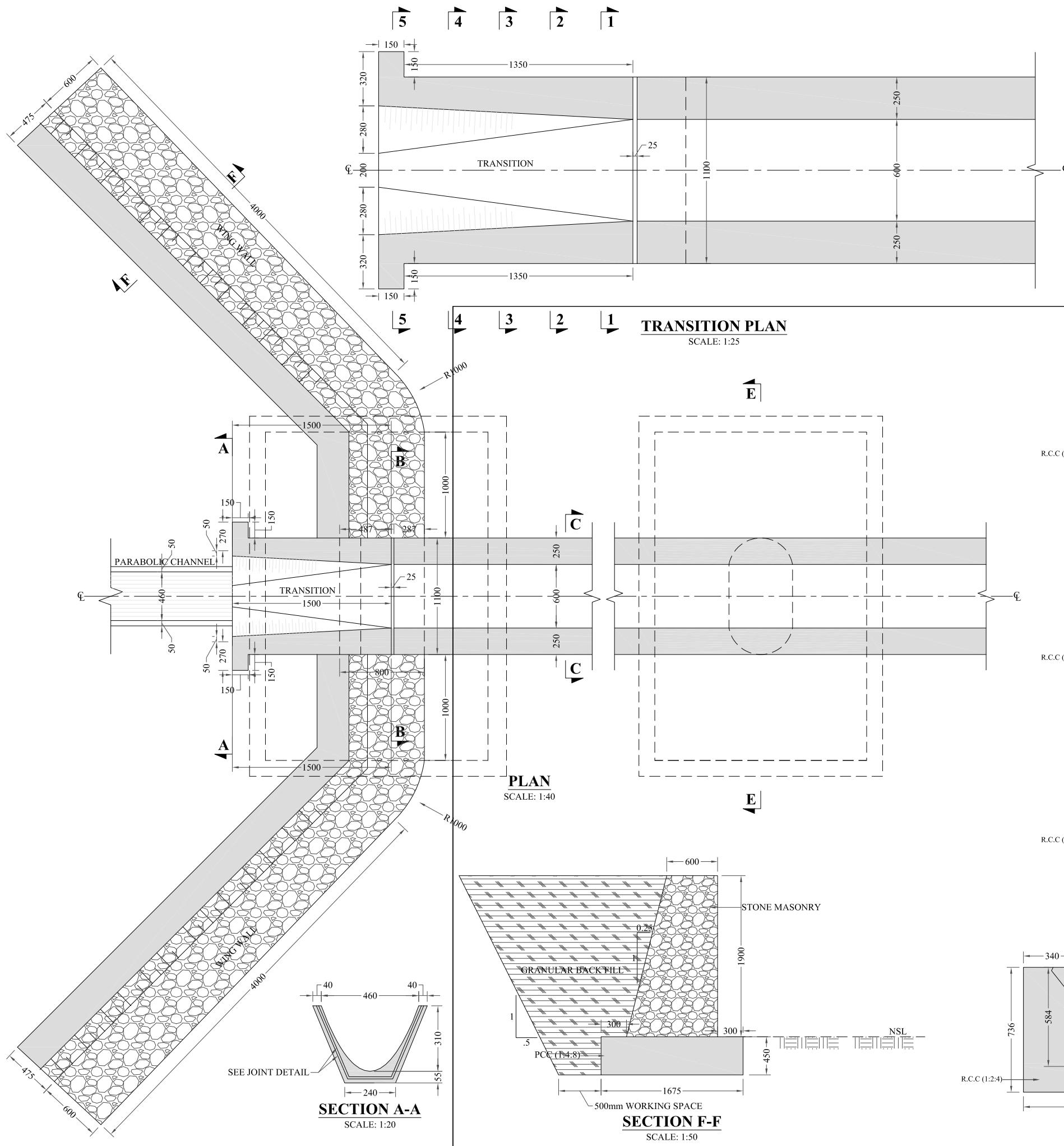
TITLE:

D-1 AQUEDUCT-1 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				As per	Feb, 2022
DRG.No:-	BAD-BD-IR-10	SHEET:-	1 OF 6	SUB SH.-	----



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- NOTES:**
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 2. CJ STANDS FOR CONSTRUCTION JOINT.
 3. MC STANDS FOR MAIN CHANNEL.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

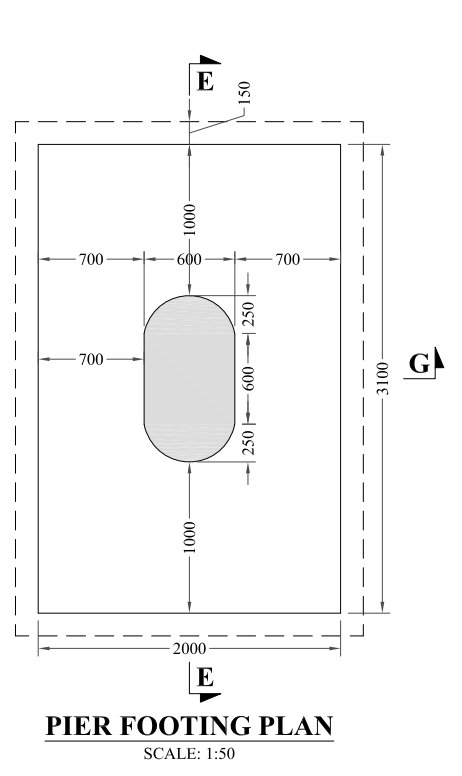
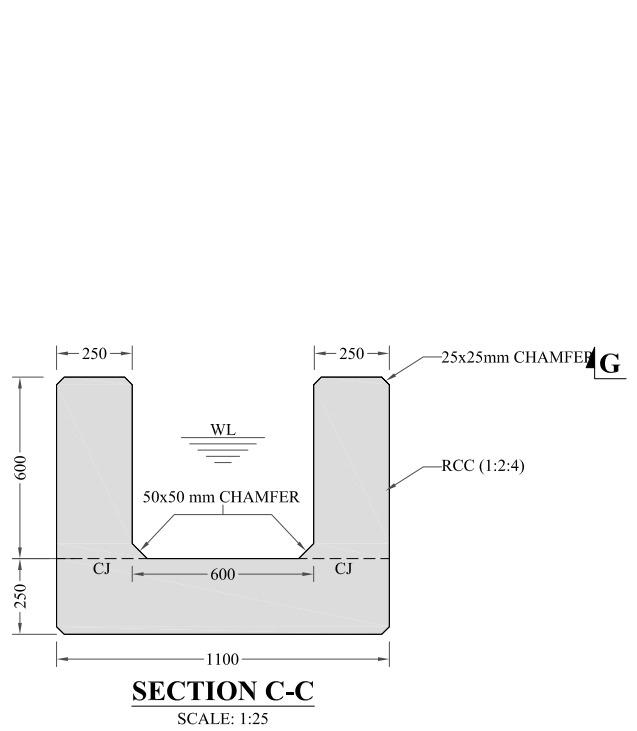
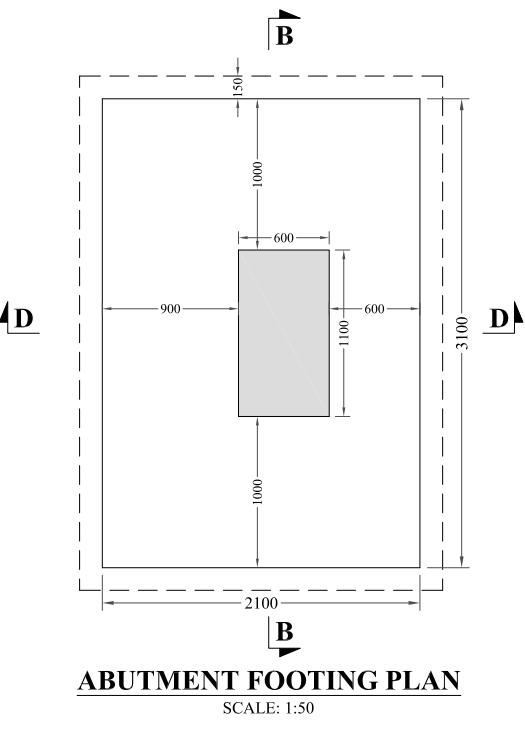
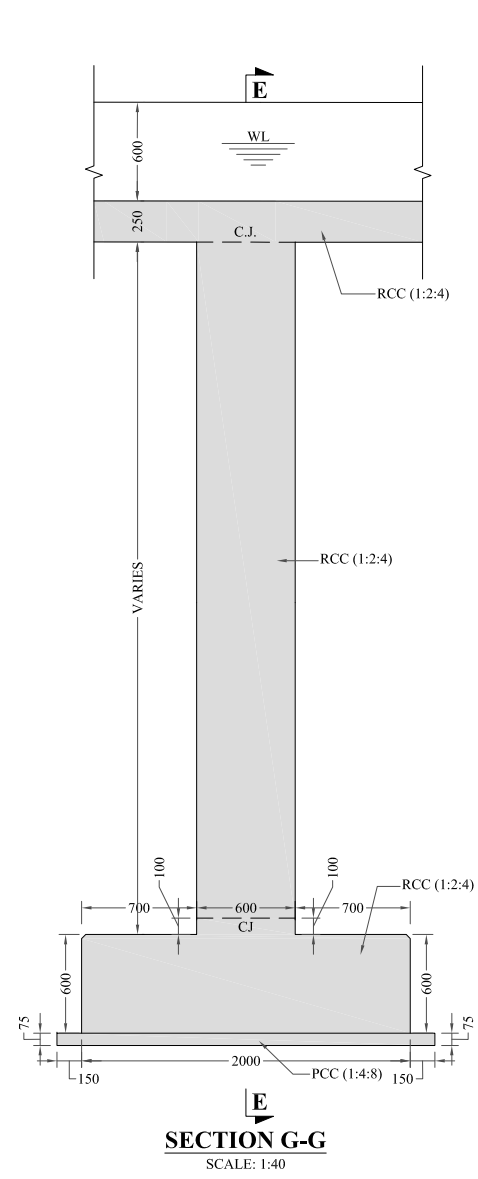
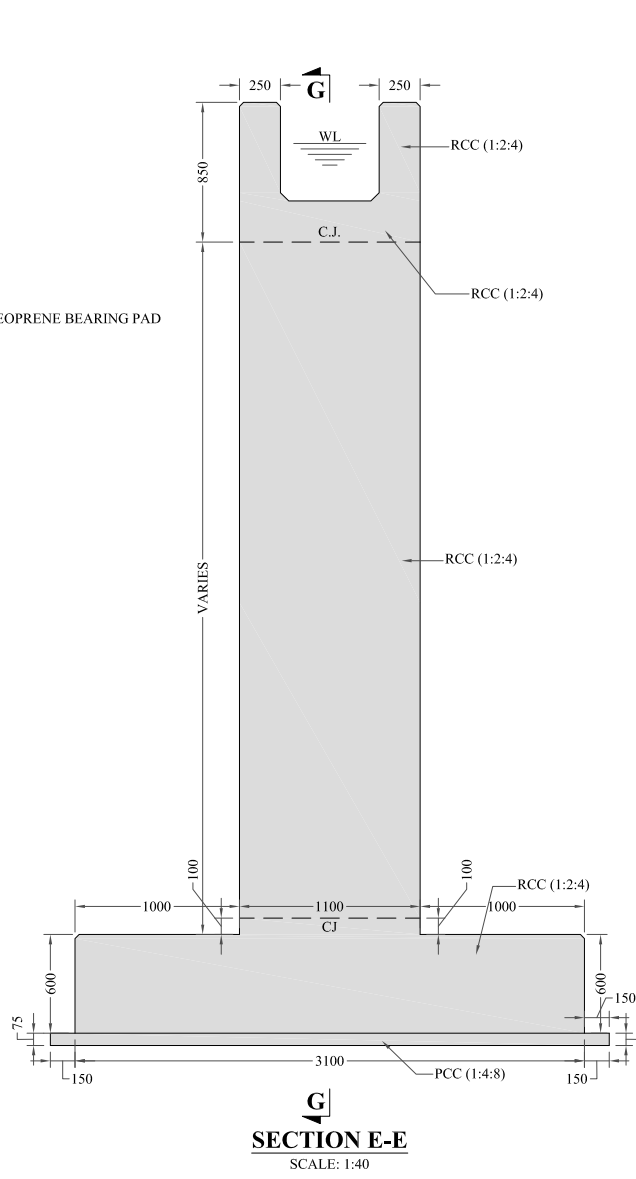
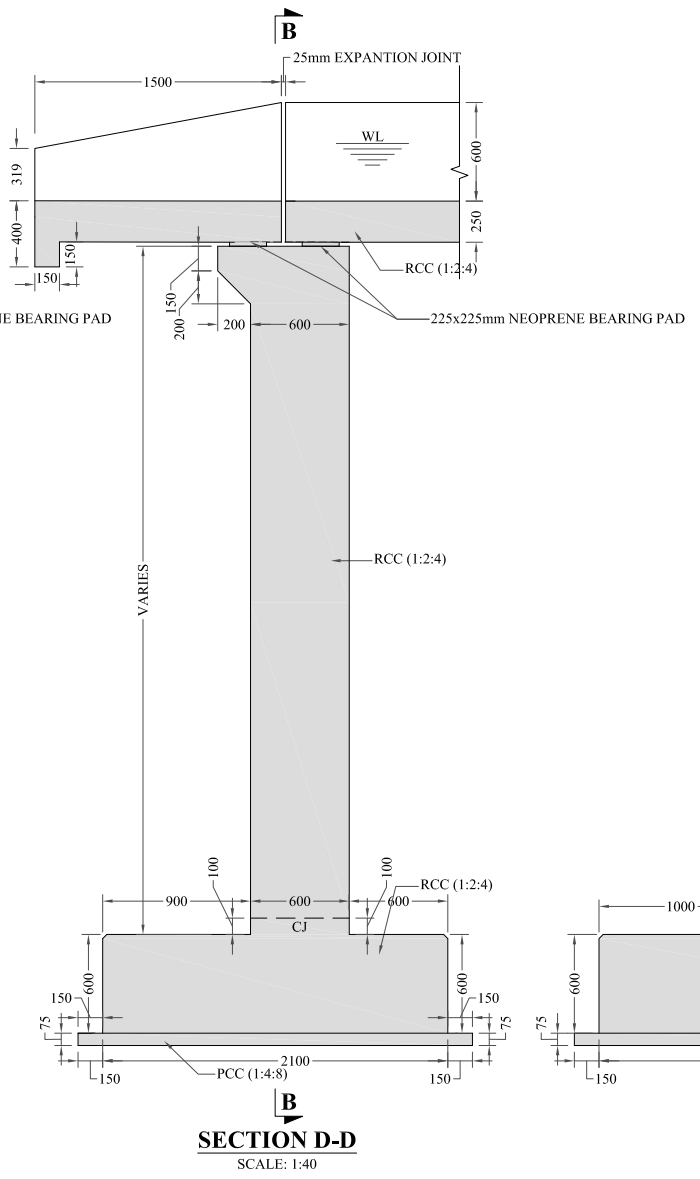
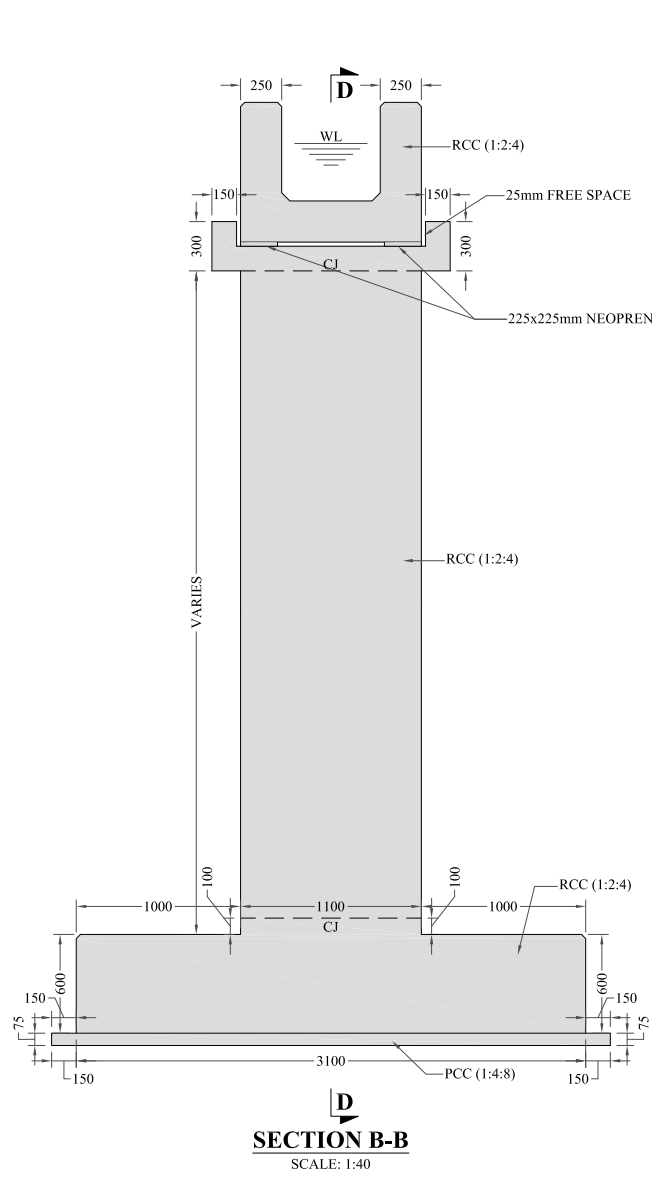
BAZ ALI DAM
DISTRICT KURRAM

TITLE: D-1 AQUEDUCT-1 TRANSITION & WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-10 SHEET:- 02 OF 06 SUB SH.- ----

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D-1 AQUEDUCT-1

S.NO	DESCRIPTON	HEIGHT
1	ABUTMENT-1	2000
2	ABUTMENT-2	4000
3	PIER-1	7000
4	PIER-2	9400
5	PIER-3	9400
6	PIER-4	6170
7	PIER-5	6110
8	PIER-6	6940
9	PIER-7	6620

- NOTES:**
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 - MC STANDS FOR MAIN CHANNEL.

REFERENCE DRAWINGS :-

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IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

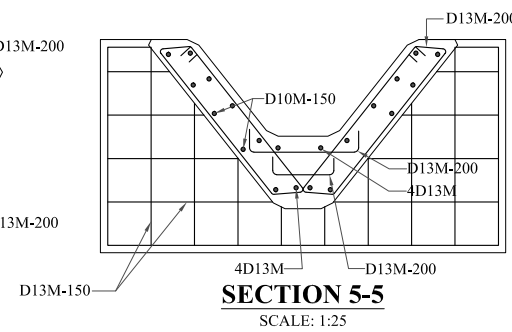
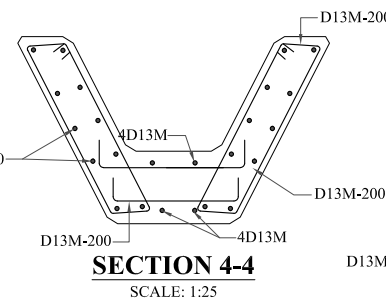
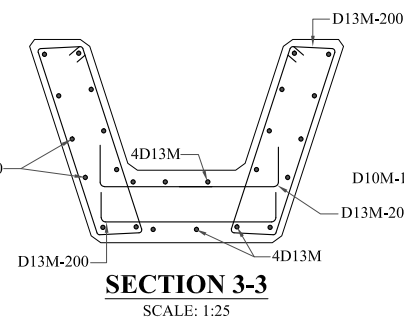
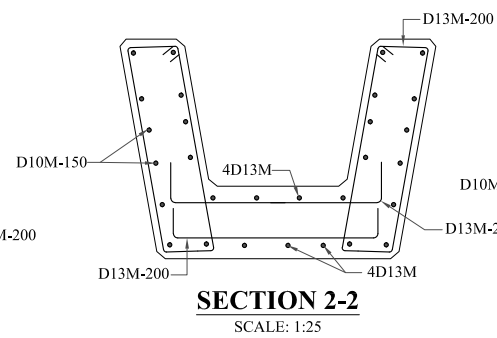
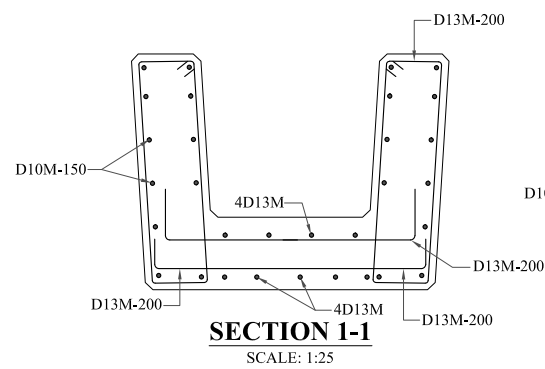
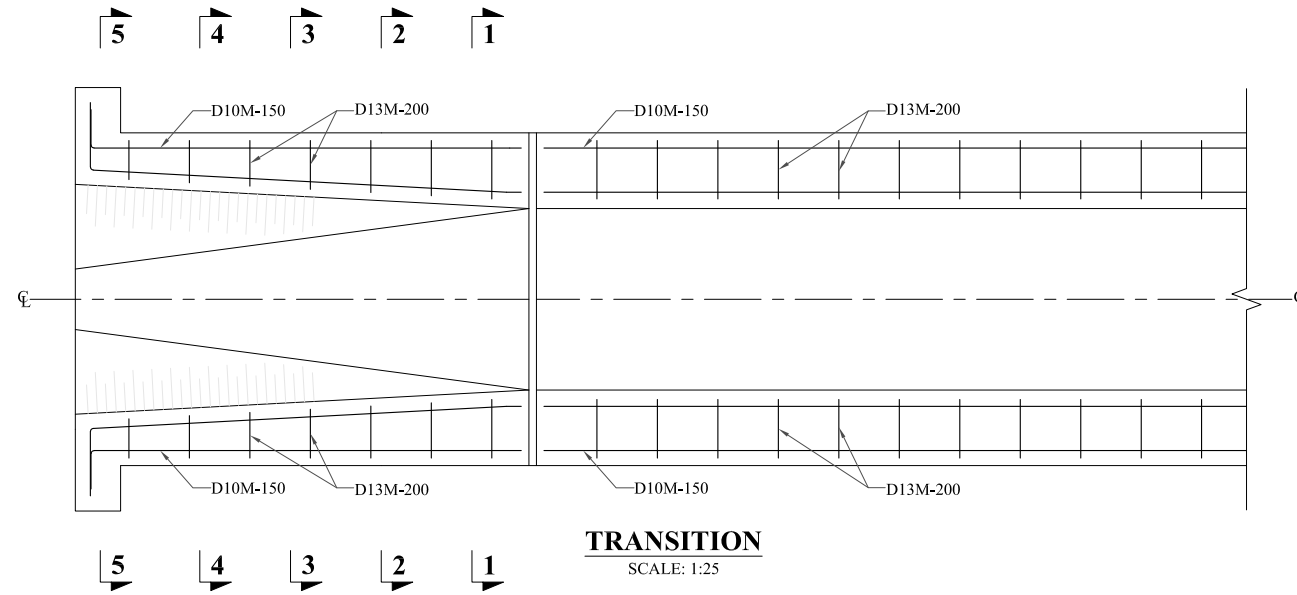
BAZ ALI DAM
DISTRICT KURRAM

TITLE: D-1 AQUEDUCT-1 GEOMETRIC DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-10 SHEET:- 03 OF 06 SUB SH.- ----

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NOTES:

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3. MC STANDS FOR MAIN CHANNEL.
4. REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
5. 10D20M150 MEANS

10	NO. OF BARS
D	DEFORMED BARS
20M	BAR DESIGNATION (METRIC)
150	SPACING IN MM
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REFERENCE DRAWINGS :-

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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 CASCADE GROUP OF ENGINEERING & CONSULTANTS
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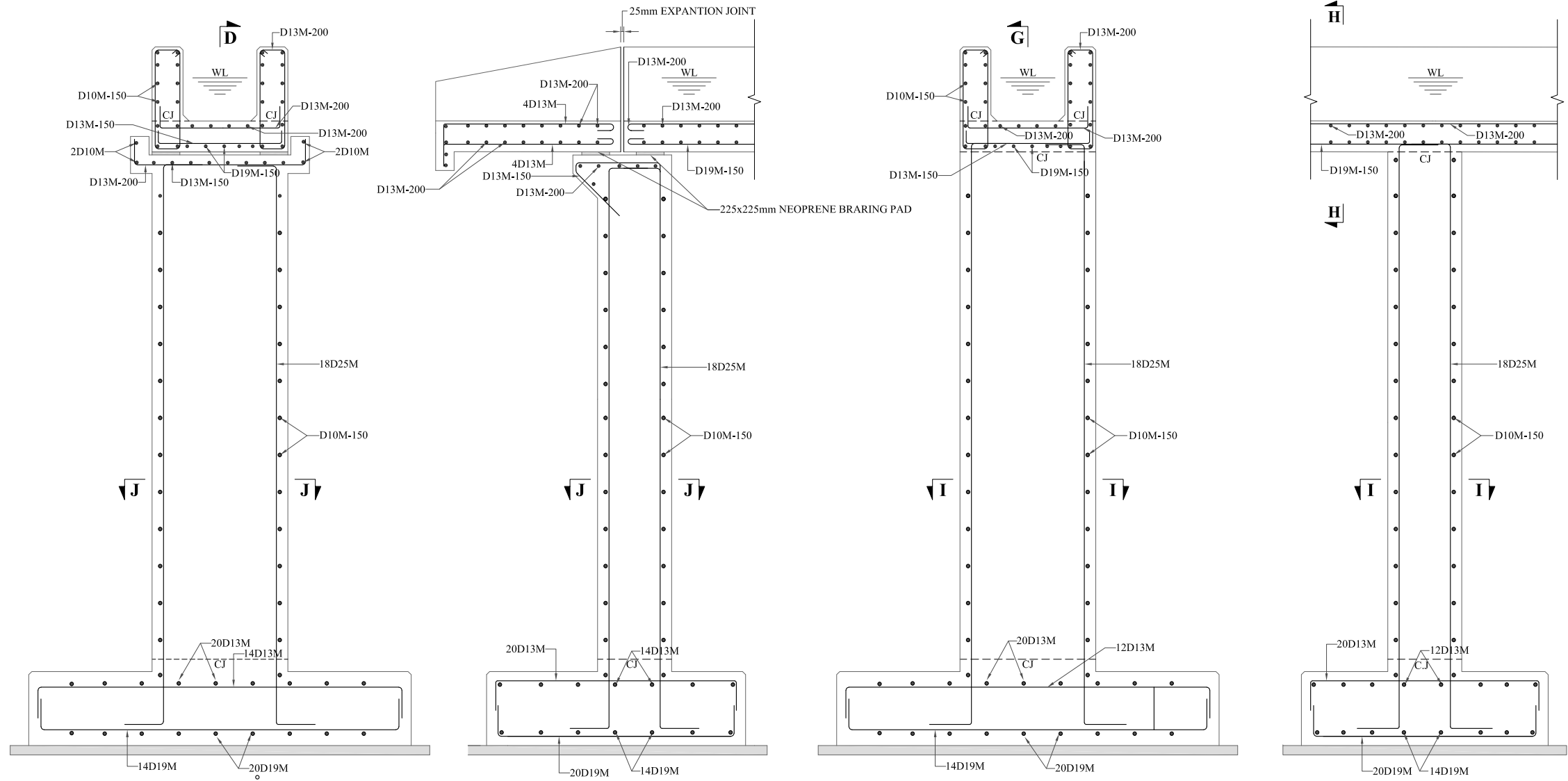
PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
 BAZ ALI DAM
 DISTRICT KURRAM

TITLE:
D-1 AQUEDUCT-1 TRANSITION REINFORCEMENT

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-10			SHEET:- 04 OF 06		SUB SH.- ----



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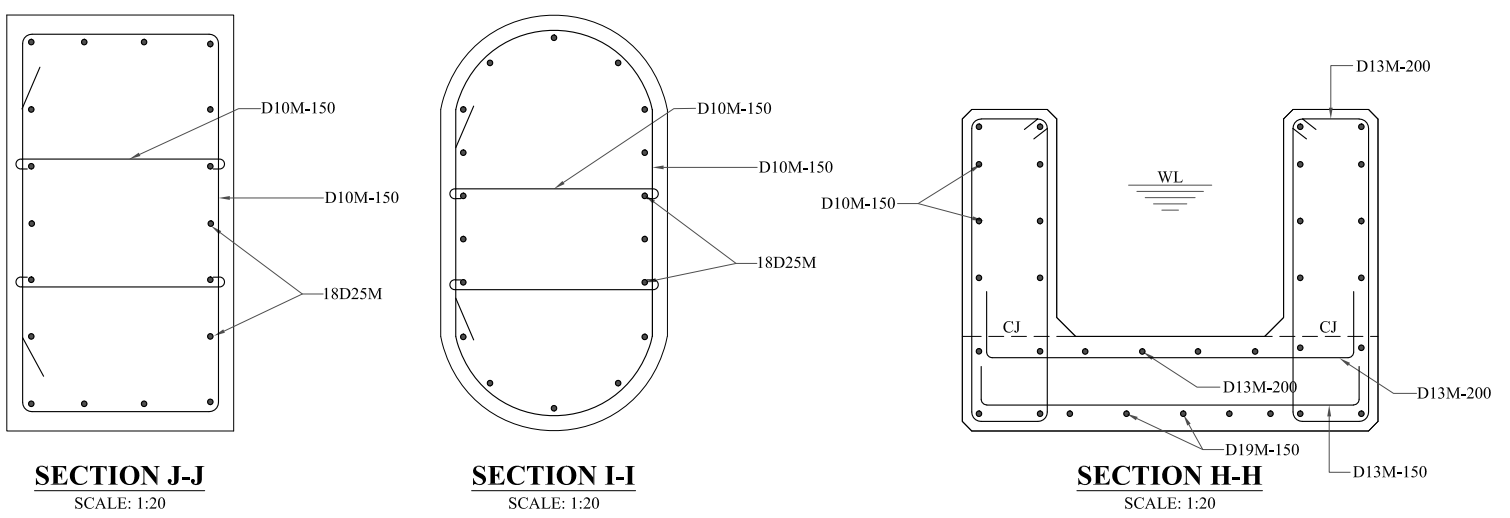


SECTION B-B
SCALE: 1:40

SECTION D-D
SCALE: 1:40

SECTION E-E
SCALE: 1:40

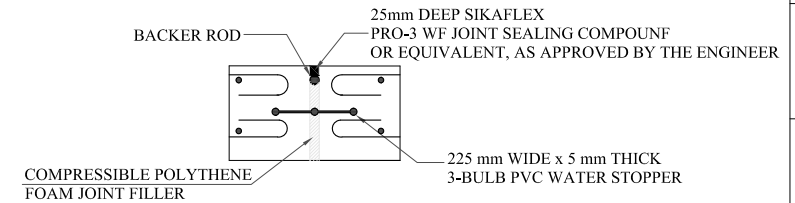
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SCALE: 1:40



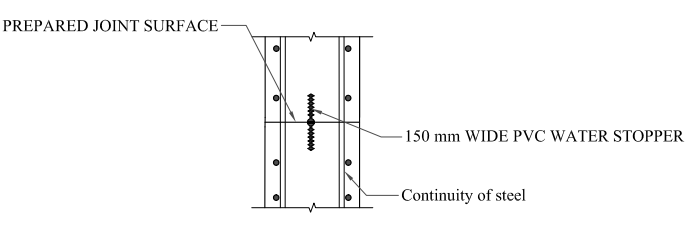
SECTION J-J
SCALE: 1:20

SECTION I-I
SCALE: 1:20

SECTION H-H
SCALE: 1:20



TYPICAL EXPANSION JOINT DETAILS
SCALE: 1:20



TYPICAL CONSTRUCTION JOINT DETAILS
SCALE: 1:20

- NOTES:**
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CONSULTANTS: A J.V OF
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CASCADE GROUP OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

**BAZ ALI DAM
DISTRICT KURRAM**

TITLE:
D-1 AQUEDUCT-1 REINFORCEMENT DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-10		SHEET:- 05 OF 06		SUB SH.- ----	



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BAR BENDING SCHEDULE

Description/Location	S.No	Dia (mm)	Length (m)	Width (m)	Height (m)	Spacing (mm)	Cut bar length (m)	No. of bars	Total length of the bars (m)	Unit weight kg/m ³	Total weight (kg)	Total weight (tonnes)	Shape
ABUTMENT FOOTING U/S	1	19					3.38	14	47.32	7850	105.32	0.1053	
	2	19					2.42	20	48.4	7850	107.72	0.1077	
	3	13					3.28	14	45.96	7850	47.89	0.0478	
	4	13					2.27	20	45.42	7850	47.33	0.0473	
ABUTMENT PIER U/S	1	25					3.07	18	55.21	7850	212.73	0.2127	
	2	10			2	150	3.83	14	53.62	7850	33.06	0.0330	
	3	10			2	150	0.64	28	17.976	7850	11.08	0.0110	
ABUTMENT CAP U/S	1	13		0.8		200	1.72	5	8.575	7850	8.93	0.0089	
	2	13		1.1		150	1.41	8	11.264	7850	11.74	0.0117	
	3	10					0.68	4	2.728	7850	1.68	0.0016	
ABUTMENT FOOTING D/S	1	19					3.48	14	48.72	7850	108.44	0.1084	
	2	19					2.42	20	48.4	7850	107.72	0.1077	
	3	13					3.43	14	48.01	7850	50.02	0.0500	
	4	13					2.42	20	48.34	7850	50.37	0.0503	
ABUTMENT PIER D/S	1	25					5.09	18	91.66	7850	353.18	0.3531	
	2	10			4	150	3.83	27	103.41	7850	63.76	0.0637	
	3	10			4	150	0.64	54	34.668	7850	21.37	0.0213	
ABUTMENT CAP D/S	1	13		0.8		200	1.78	5	8.895	7850	9.27	0.0092	
	2	13		1.1		150	1.41	8	11.264	7850	11.74	0.0117	
	3	10					0.68	4	2.728	7850	1.68	0.0016	
TROUGH/CHANNEL	1	13	120			150	1.19	800	952.8	7850	992.77	0.9927	
	2	13	120			200	1.29	600	772.8	7850	805.22	0.8052	
	3	10	120			150	2.09	800	1670.4	7850	1029.86	1.0298	
	4	19	128.38	0.6		150	12.2	44	536.8	7850	1194.76	1.1947	
	5	13	128.38	0.6		200	12.2	33	402.6	7850	419.49	0.4194	
	6	10	128.38		0.85	150	12.2	264	3220.8	7850	1985.74	1.9857	
PIER FOOTING	1	19					3.39	98	331.828	7850	738.55	0.7385	
	2	19					2.286	140	320.04	7850	712.31	0.7123	
	3	13					3.39	84	284.424	7850	296.36	0.2963	
	4	13					2.29	140	320.04	7850	333.47	0.3334	
PIER-1	1	25			7.0	8.09	18	145.66	7850	561.26	0.5612		
PIER-2	2	25			9.4	10.49	18	188.86	7850	727.73	0.7277		
PIER-3	3	25			9.4	10.49	18	188.86	7850	727.73	0.7277		
PIER-4	4	25			6.17	7.26	18	130.72	7850	503.70	0.5037		
PIER-5	5	25			6.11	7.20	18	129.64	7850	499.53	0.4995		
PIER-6	6	25			6.94	7.70	18	138.64	7850	534.21	0.5342		
PIER-7	7	25			6.62	7.71	18	138.82	7850	534.91	0.5349		
TIES	1	10			52.0	150	3.28	345	1132.29	7850	698.10	0.6981	
LATERAL TIES	1	10			52.0	150	0.642	690	442.98	7850	273.11	0.2731	
TRANSITION	1	13					1.68	16	26.88	7850	28.01	0.0280	
	2	10			0.85	150	1.692	48	81.22	7850	50.07	0.0500	
	3	13	1.5			200	2.088	32	66.82	7850	69.62	0.0696	
	4	13	1.35			200	1.191	28	33.35	7850	34.75	0.0347	
	5	13			0.735	200	1.35	8	10.80	7850	11.25	0.0112	
	6	13	1.4			200	0.685	14	9.59	7850	9.99	0.0099	
TOTAL											15.138		

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METER UNLESS OTHERWISE SPECIFIED.
 - CJ STANDS FOR CONSTRUCTION JOINT.
 - MC STANDS FOR MAIN CHANNEL.
 - REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
 - 10D20M150 MEANS
10 NO. OF BARS
D DEFORMED BARS
20M BAR DESIGNATION, (METRIC)
150 SPACING IN MM
 - COVER (DEFINED AS MINIMUM CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST BAR) SHALL BE 40MM UNLESS INDICATED OTHERWISE, EXCEPT THAT WHERE CONCRETE IS PLACED AGAINST EARTH OR ROCK THE MINIMUM CLEAR DISTANCE SHALL BE 75 MM.
 - BEND RADIUS SHALL BE 10 TIMES THE DIAMETER OF THE BAR.
 - ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED IN THE FORM WORK AND HELD FIRMLY IN PLACE BEFORE PLACING OF CONCRETE, BY MEANS OF 16 GAUGE BLACK ANNEALED WIRES & ADEQUATELY DESIGNED SPACERS.
 - ALL REINFORCING BARS SHALL BE HOOKED OTHERWISE SPECIFIED IN THE DRAWING OR DIRECTED BY THE PROJECT MANAGER.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

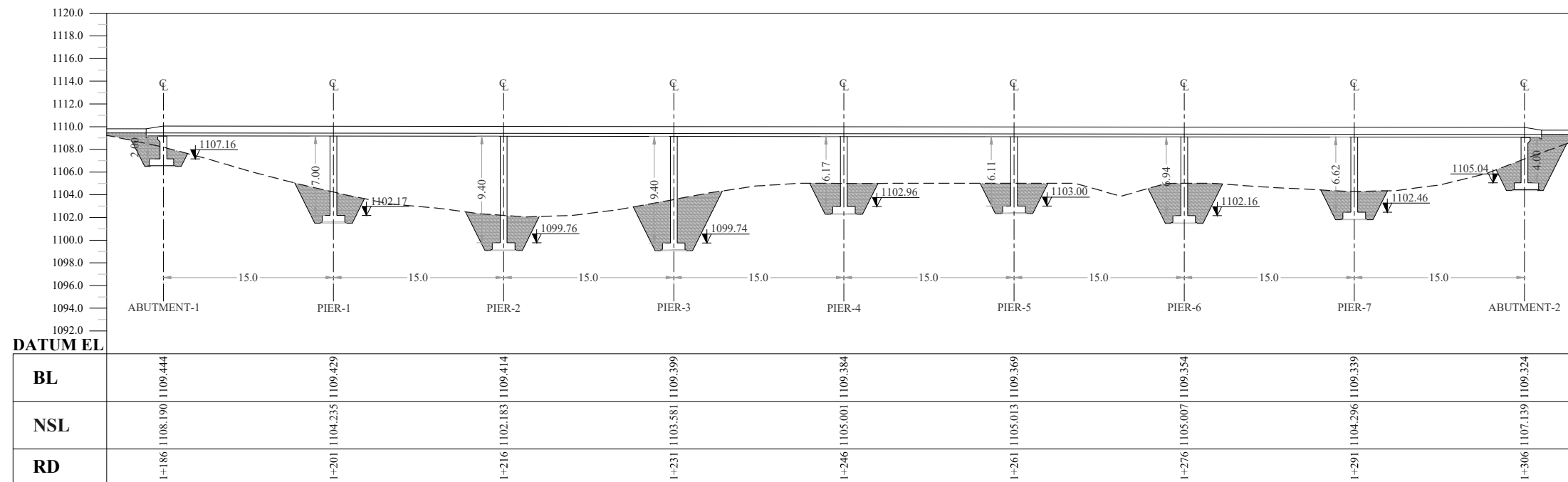
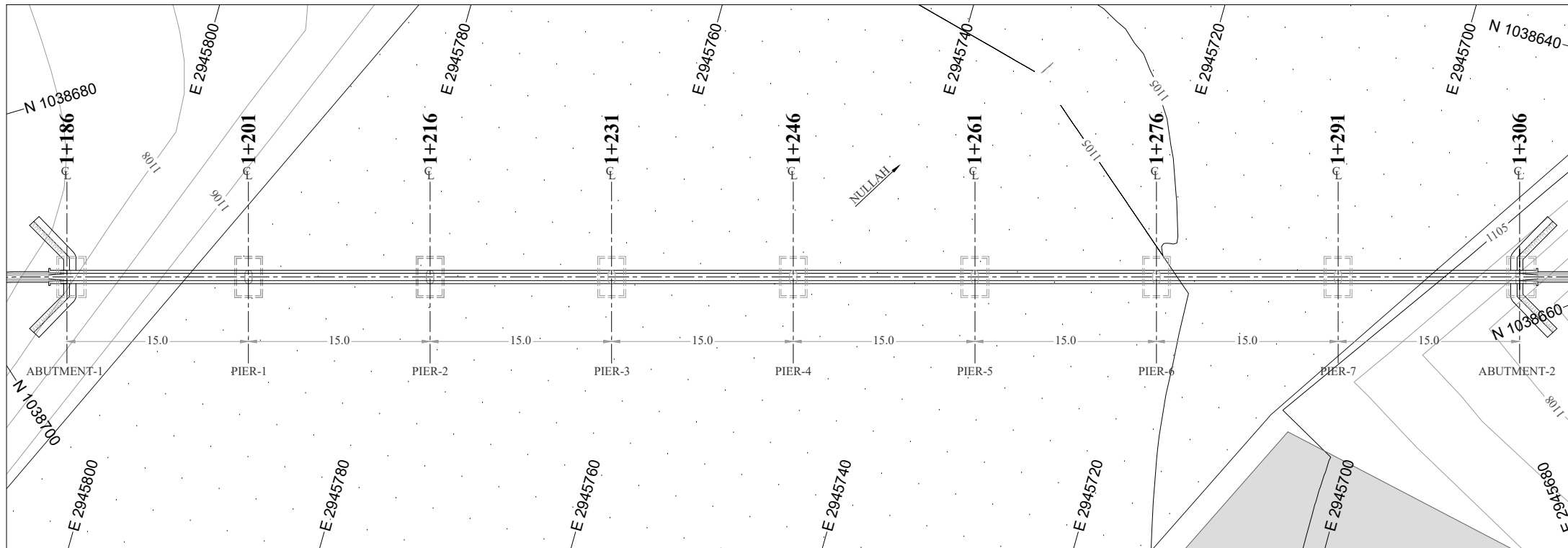
BAZ ALI DAM
DISTRICT KURRAM

TITLE: D-1 AQUEDUCT-1 BAR BENDING SCHEDULE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-10		SHEET:- 06 OF 06		SUB SH.- ----	



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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

LEGENDS:

BED LEVEL	
NATURAL SURFACE LEVEL	
EXISTING ROAD	
KACHA TRACK	
NULLAH	
MINOR NULLAH	
BUILDING + ROOM	
GRAVE YARD	
VILLAGE	
CULTIVATED AREA	
INDEX CONTOUR	
INTERMEDIATE CONTOUR	
EXISTING CULVERT	
ELECTRIC POLE	
MOUNTAIN	
BENCH MARK	

ABBREVIATIONS OF DRAWING

COEFFICIENT	n
DISCHARGE	Q
VELOCITY	V
WATER LEVEL	WL
FREE BOARD	FB
WIDTH OF CHANNEL	W
DEPTH OF CHANNEL	D
SLOPE	S
BED LEVEL	BL
NATURAL SURFACE LEVEL	NSL
REDUCED LEVEL	RD
METER	m
MAIN CHANNEL	MC
DISTRIBUTORY-1	D-1
DISTRIBUTORY-2	D-2

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT: MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

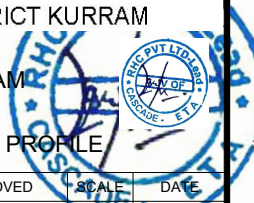
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCAD GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
 BAZ ALI DAM
 DISTRICT KURRAM

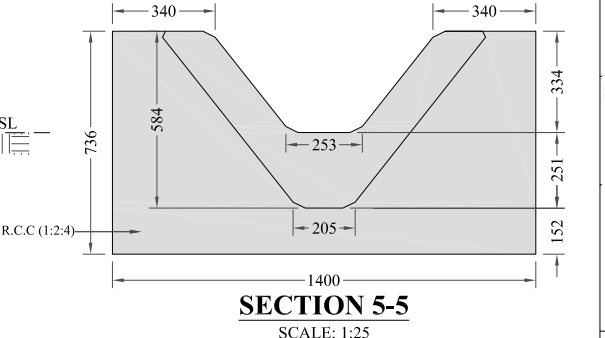
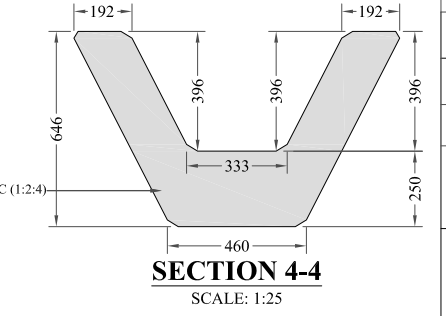
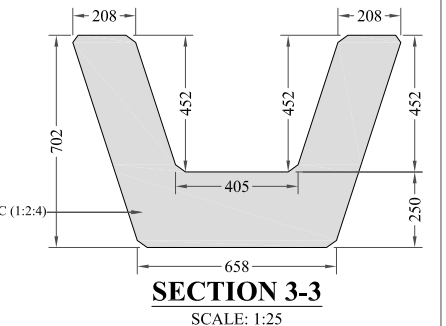
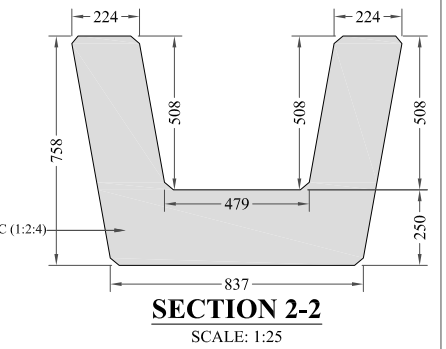
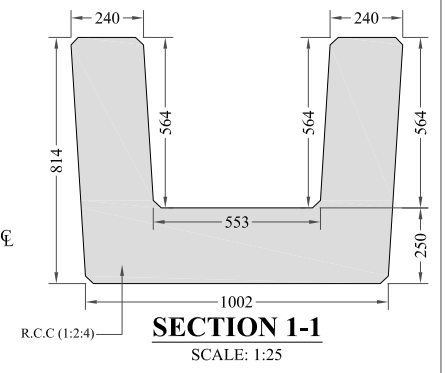
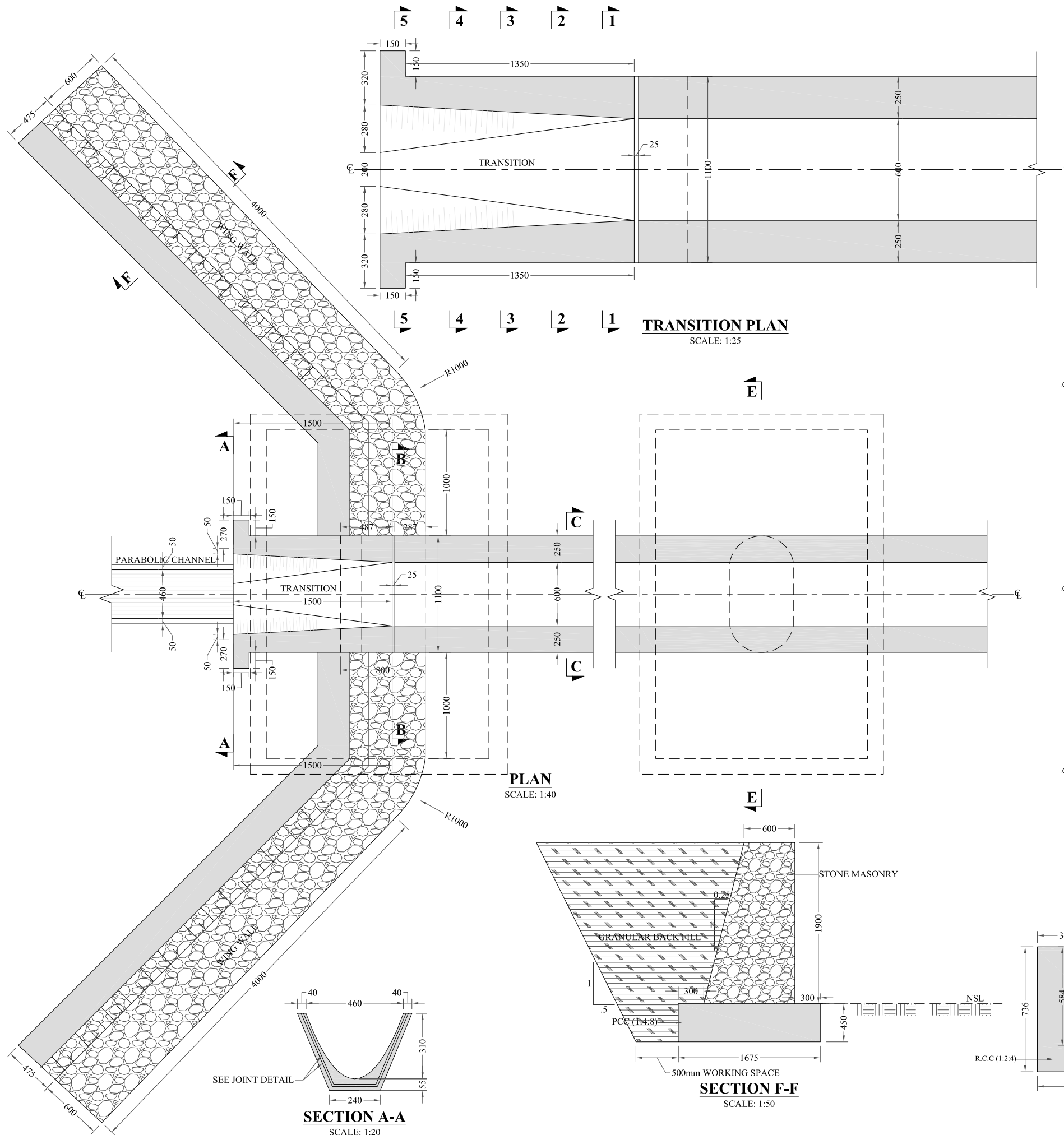
TITLE: D-1 AQUEDUCT-1 PLAN & PROFILE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				AS SHOWN	Feb, 2022

DRG.No:- BAD-BD-IR-10 SHEET:- 1 OF 6 SUB SH.- ----



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- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
 2. CJ STANDS FOR CONSTRUCTION JOINT.
 3. MC STANDS FOR MAIN CHANNEL.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

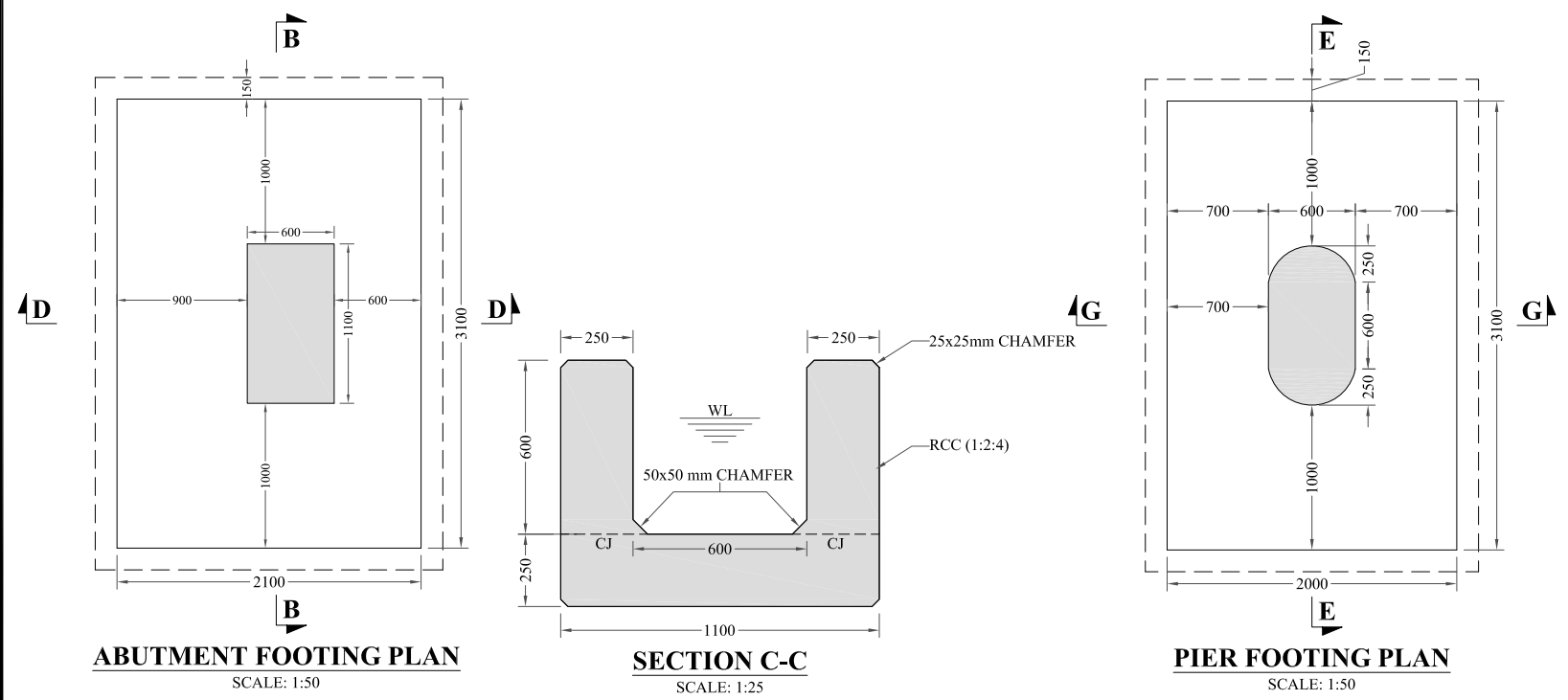
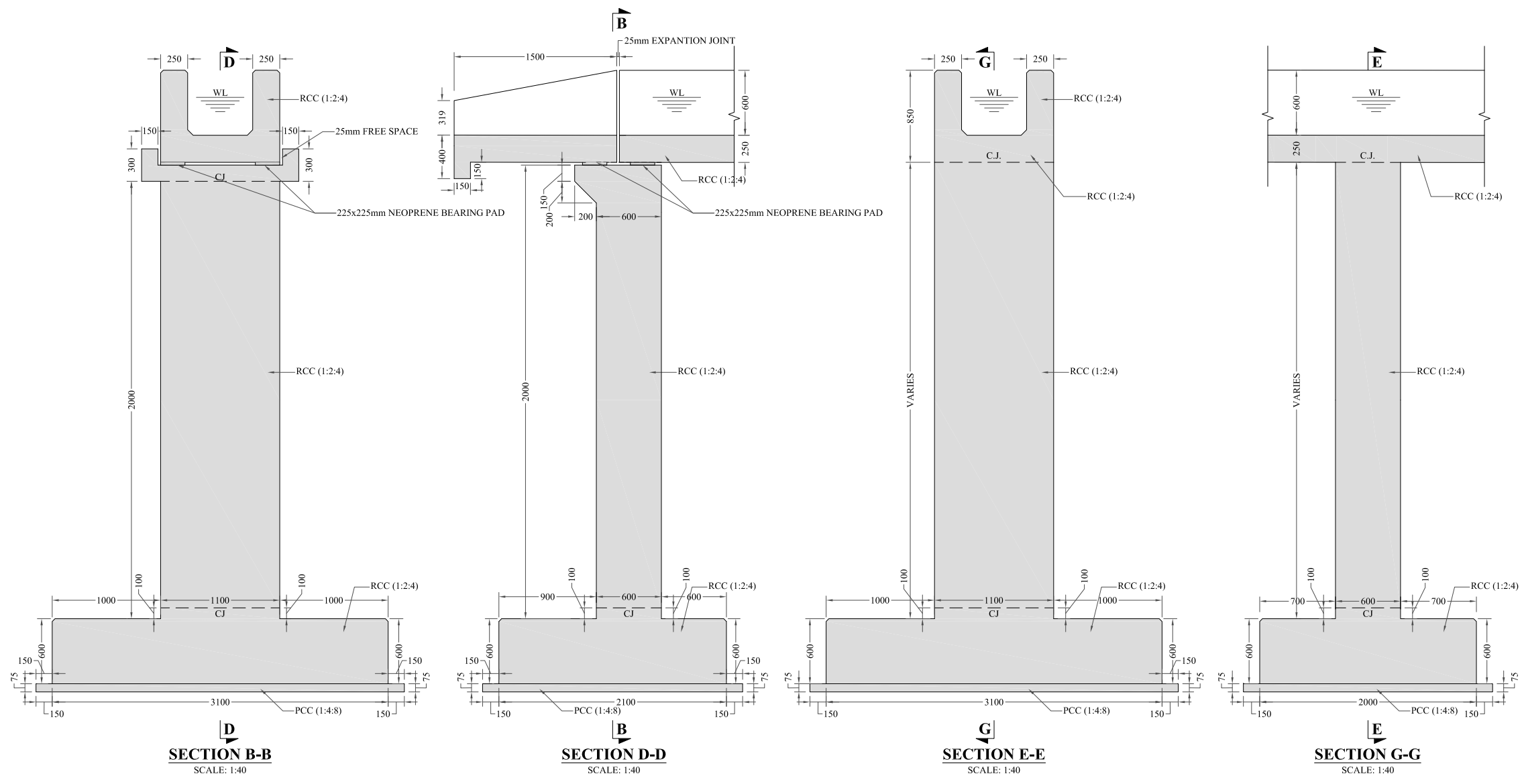
BAZ ALI DAM
DISTRICT KURRAM

TITLE: D-2 AQUEDUCT-1 TRANSITION & WING WALLS DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-11 SHEET:- 02 OF 06 SUB SH.- ----

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S.NO	DESCRIPTON	HEIGHT
1	PIER-1	6550
2	PIER-2	9400
3	PIER-3	9400
4	PIER-4	7730
5	PIER-5	6440
6	PIER-6	6110

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
 2. C.J STANDS FOR CONSTRUCTION JOINT.
 3. MC STANDS FOR MAIN CHANNEL.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
BAZ ALI DAM
DISTRICT KURRAM

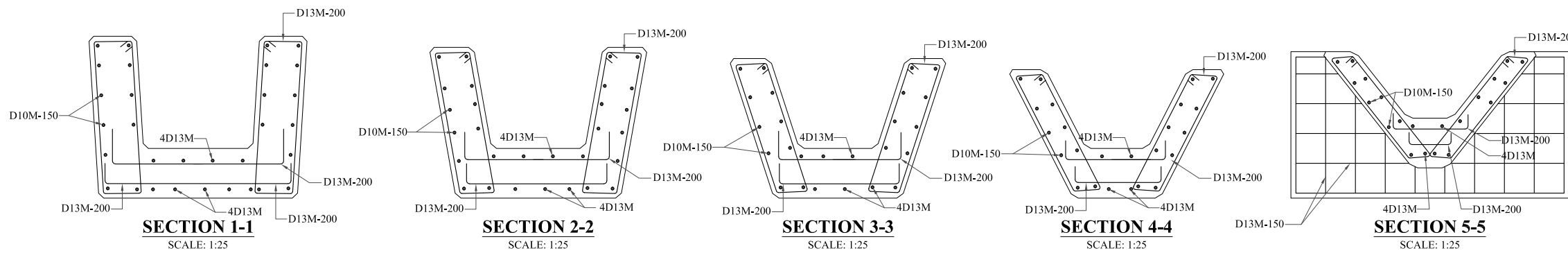
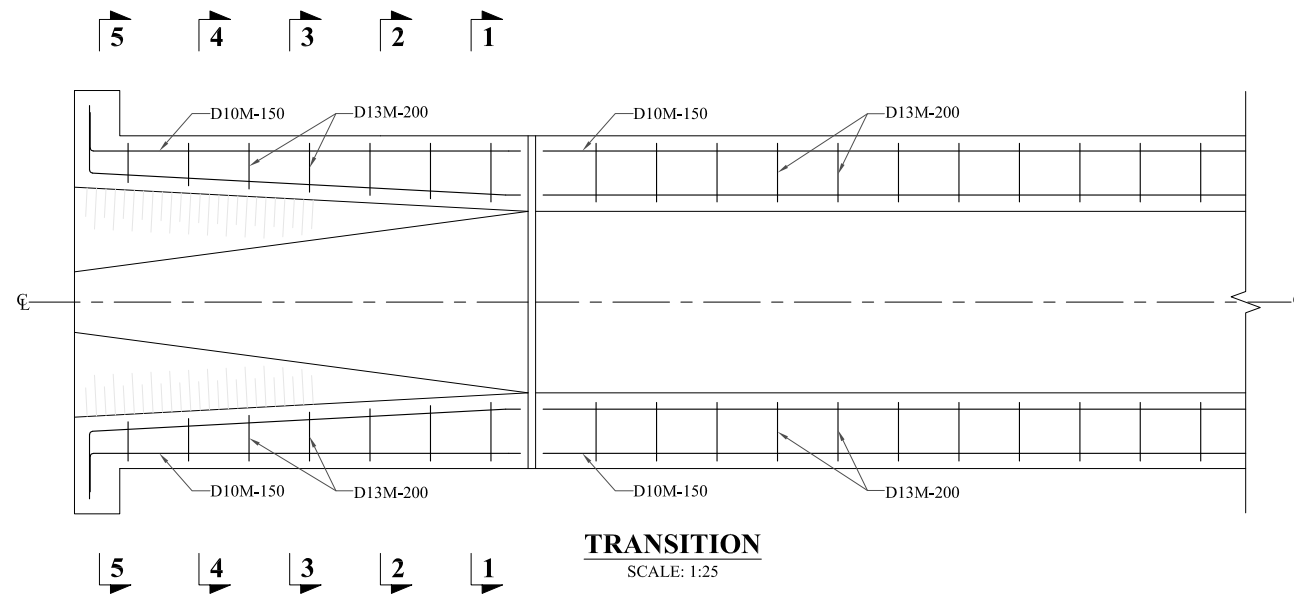
TITLE: D-2 AQUEDUCT-1 GEOMETRIC DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IR-11 SHEET:- 03 OF 06 SUB SH.- ----



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NOTES:

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2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.
4. REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
5. 10D20M150 MEANS



10	NO. OF BARS
D	DEFORMED BARS
20M	BAR DESIGNATION.(METRIC)
150	SPACING IN MM
6. COVER (DEFINED AS MINIMUM CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST BAR) SHALL BE 40MM UNLESS INDICATED OTHERWISE, EXCEPT THAT WHERE CONCRETE IS PLACED AGAINST EARTH OR ROCK THE MINIMUM CLEAR DISTANCE SHALL BE 75 MM.
7. BEND RADIUS SHALL BE 10 TIMES THE DIAMETER OF THE BAR.
8. ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED
9. IN THE FORM WORK AND HELD FIRMLY IN PLACE BEFORE PLACING OF CONCRETE, BY MEANS OF 16 GAUGE BLACK ANNEALED WIRES & ADEQUATELY DESIGNED SPACERS.
10. ALL REINFORCING BARS SHALL BE HOOKED OTHERWISE SPECIFIED IN THE DRAWING OR DIRECTED BY THE PROJECT MANAGER.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

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CLIENT:
**MERGED AREAS SMALL DAM SECTION
 IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 **CASCADE GROUP
 OF ENGINEERING & CONSULTANTS**
 **IN ASSOCIATION WITH:
 ENGINEERING & TECHNICAL ASSOCIATES**

PROJECT:
**CONSULTANCY SERVICES FOR REVIEW / UPDATION
 OF DESIGN AND CONSTRUCTION SUPERVISION OF
 BAZ ALI SMALL DAM, DISTRICT KURRAM**

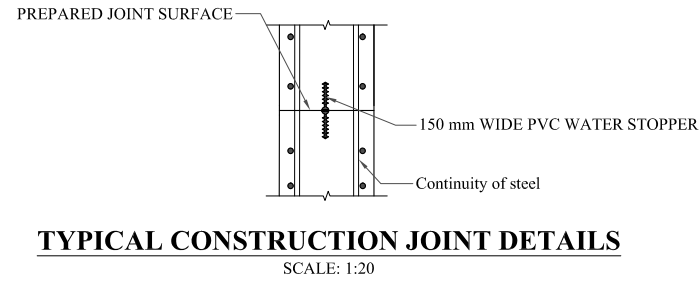
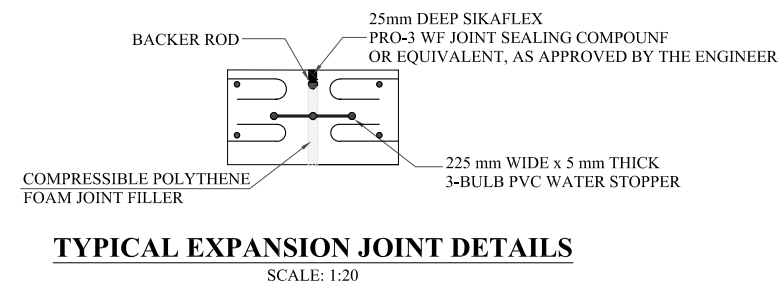
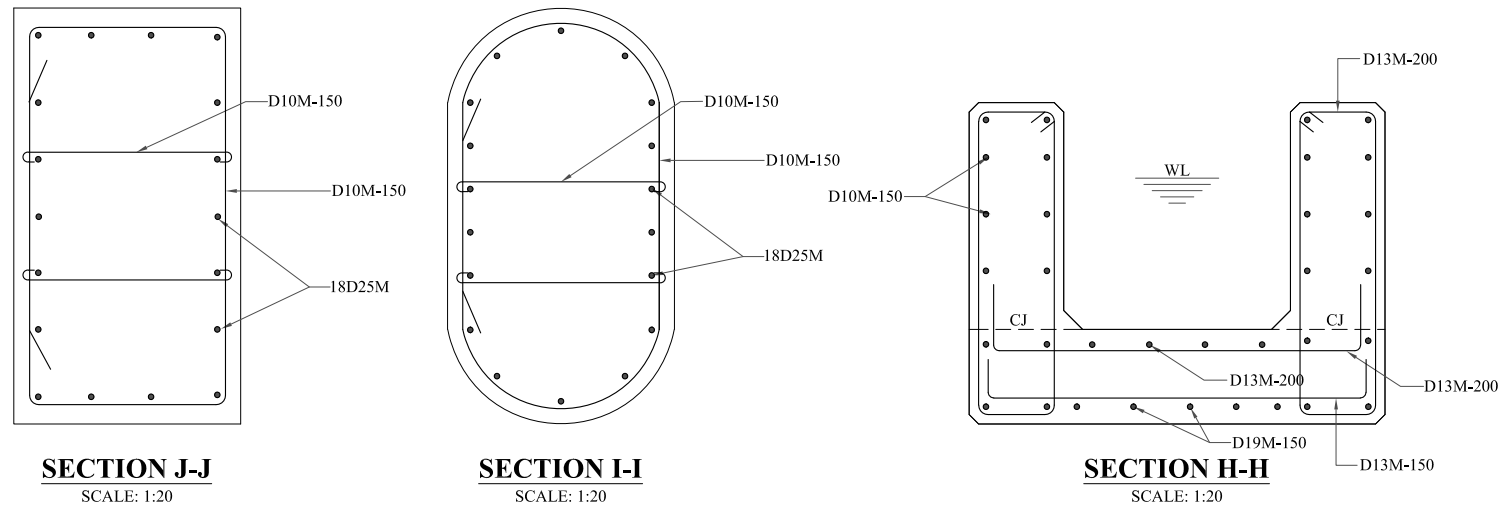
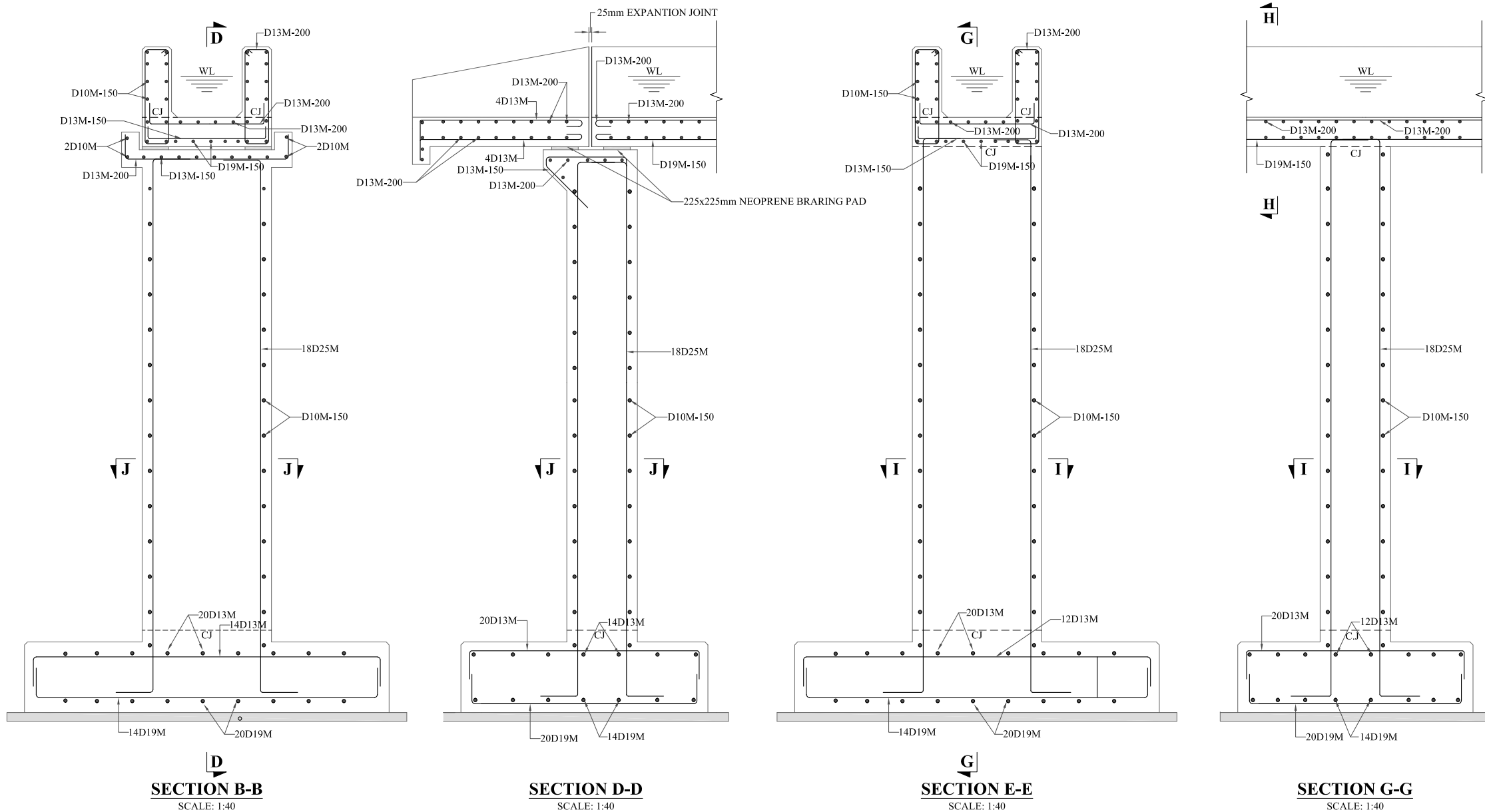
**BAZ ALI DAM
 DISTRICT KURRAM**

TITLE:
D-2 AQUEDUCT-1 TRANSITION REINFORCEMENT

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-11		SHEET:- 04 OF 06		SUB SH.- ----	



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- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METER UNLESS OTHERWISE SPECIFIED.
 - CJ STANDS FOR CONSTRUCTION JOINT.
 - MC STANDS FOR MAIN CHANNEL.
 - REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
 - 10D20M150 MEANS
10 NO. OF BARS
D DEFORMERD BARS
20M BAR DESIGNATION.(METRIC)
150 SPACING IN MM
 - COVER (DEFINED AS MINIMUM CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST BAR) SHALL BE 40MM UNLESS INDICATED OTHERWISE, EXCEPT THAT WHERE CONCRETE IS PLACED AGAINST EARTH OR ROCK THE MINIMUM CLEARS DISTANCE SHALL BE 75 MM.
 - BEND RADIUS SHALL BE 10 TIMES THE DIAMETER OF THE BAR.
 - ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED IN THE FORM WORK AND HELD FIRMLY IN PLACE BEFORE PLACING OF CONCRETE, BY MEANS OF 16 GAUGE BLACK ANNEALED WIRES & ADEQUATELY DESIGNED SPACERS.
 - ALL REINFORCING BARS SHALL BE HOOKED OTHERWISE SPECIFIED IN THE DRAWING OR DIRECTED BY THE PROJECT MANAGER.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS

IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE:
D-2 AQUEDUCT-1 REINFORCEMENT DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				1:40	FEB, 2022
DRG.No:- BAD-BD-IR-11		SHEET:- 05 OF 06		SUB SH.- ----	



BAR BENDING SCHEDULE

Description/Location	S.No	Dia (mm)	Length (m)	Width (m)	Height (m)	Spacing (mm)	Cut bar length (m)	No. of bars	Total length of the bars (m)	Unit weight kg/m ³	Total weight (kg)	Total weight (tonnes)	Shape	
ABUTMENT FOOTING	1	19					3.38	28	94.64	7850	210.64	0.2106		
	2	19					2.42	40	96.8	7850	215.45	0.2154		
	3	13					3.28	28	91.92	7850	95.78	0.0958		
	4	13					2.27	40	90.84	7850	94.65	0.0947		
ABUTMENT PIER	1	25					3.07	36	110.41	7850	425.46	0.4255		
	2	10			2.0	150	3.83	28	107.24	7850	66.12	0.0661		
	3	10			2.0	150	0.64	56	35.952	7850	22.17	0.0222		
ABUTMENT CAP	1	13		0.80		200	1.72	10	17.15	7850	17.87	0.0179		
	2	13		1.10		150	1.41	16	22.528	7850	23.47	0.0235		
	3	10					0.68	8	5.46	7850	3.36	0.0034		
TROUGH/CHANNEL	1	13	105.00			150	1.19	700	833.70	7850	868.67	0.8687		
	2	13	105.00			200	1.29	525	676.20	7850	704.57	0.7046		
	3	10	105.00			150	2.09	700	1461.60	7850	901.13	0.9011		
	4	19	112.54	0.60		150	12.20	40	488.00	7850	1086.14	1.0861		
	5	13	112.54	0.60		200	12.20	30	366.00	7850	381.35	0.3814		
	6	10	112.54		0.85	150	12.20	240	2928.00	7850	1805.22	1.8052		
PIER FOOTING	1	19					3.39	84	284.42	7850	633.04	0.6330		
	2	19					2.286	120	274.32	7850	610.55	0.6106		
	3	13					3.39	72	243.79	7850	254.02	0.2540		
	4	13					2.29	120	274.32	7850	285.83	0.2858		
PIER-1	1	25			6.55		7.64	18	137.56	7850	530.05	0.5301		
PIER-2	2	25			9.40		10.49	18	188.86	7850	727.73	0.7277		
PIER-3	3	25			9.40		10.49	18	188.86	7850	727.73	0.7277		
PIER-4	4	25			7.73		8.82	18	158.80	7850	611.90	0.6119		
PIER-5	5	25			6.44		7.53	18	135.58	7850	522.42	0.5224		
PIER-6	6	25			6.11		7.20	18	129.64	7850	499.53	0.4995		
TIES	1	10			46.00	150	3.28	305	1001.01	7850	617.16	0.6172		
LATERAL TIES	1	10			46.00	150	0.642	610	391.62	7850	241.45	0.2414		
TRANSITION	1	13					1.68	16	26.88	7850	28.01	0.0280		
	2	10			0.85	150	1.69	48	81.22	7850	50.07	0.0501		
	3	13	1.50			200	2.09	32	66.82	7850	69.62	0.0696		
	4	13	1.35			200	1.19	28	33.35	7850	34.75	0.0347		
	5	13			0.735	200	1.35	8	10.80	7850	11.25	0.0113		
	6	13	1.40			200	0.685	14	9.59	7850	9.99	0.0100		
TOTAL											13.387			

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS IN METER UNLESS OTHERWISE SPECIFIED.
2. CJ STANDS FOR CONSTRUCTION JOINT.
3. MC STANDS FOR MAIN CHANNEL.
4. REINFORCEMENT SHALL CONFORM TO ASTM-A 615M (YIELD STRENGTH 410 N/MM²) DEFORMED BARS.
5. 10D20M150 MEANS
10 NO. OF BARS
D DEFORMERD BARS
20M BAR DESIGNATION.(METRIC)
150 SPACING IN MM
6. COVER (DEFINED AS MINIMUM CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST BAR) SHALL BE 40MM UNLESS INDICATED OTHERWISE, EXCEPT THAT WHERE CONCRETE IS PLACED AGAINST EARTH OR ROCK THE MINIMUM CLEARS DISTANCE SHALL BE 75 MM.
7. BEND RADIUS SHALL BE 10 TIMES THE DIAMETER OF THE BAR.
8. ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED
9. IN THE FORM WORK AND HELD FIRMLY IN PLACE BEFORE PLACING OF CONCRETE, BY MEANS OF 16 GAUGE BLACK ANNEALED WIRES & ADEQUATELY DESIGNED SPACERS.
10. ALL REINFORCING BARS SHALL BE HOOKED OTHERWISE SPECIFIED IN THE DRAWING OR DIRECTED BY THE PROJECT MANAGER.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

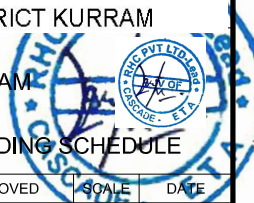
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

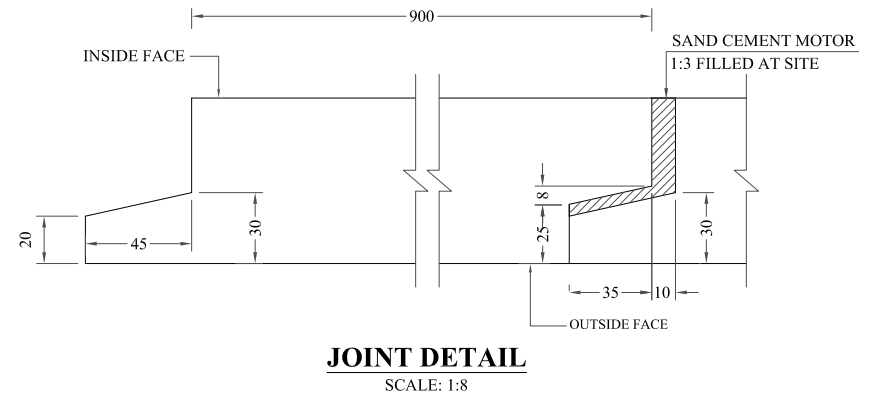
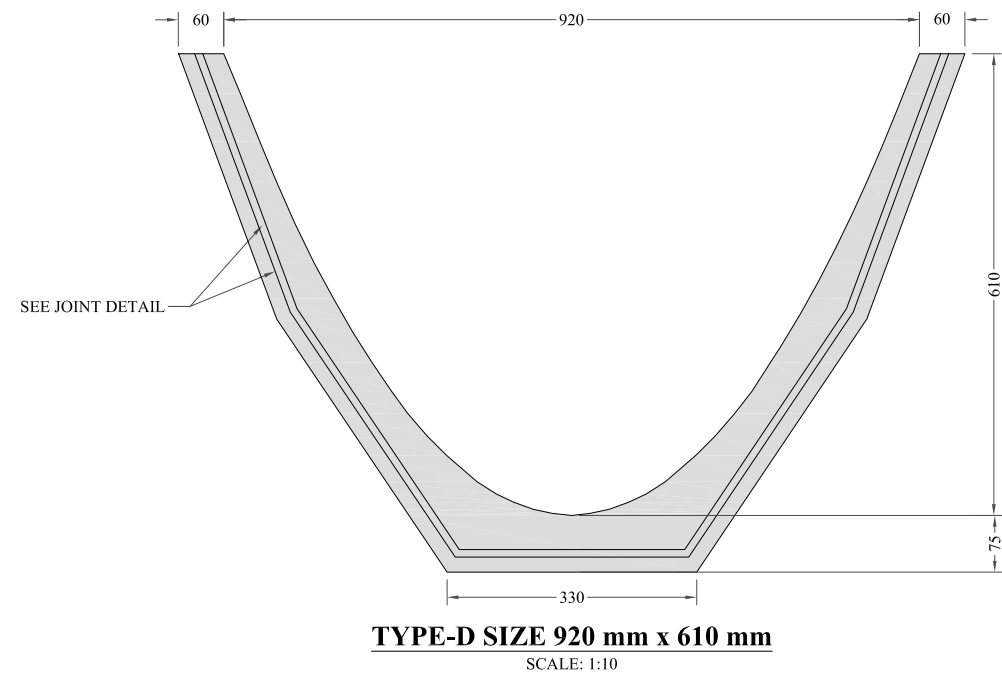
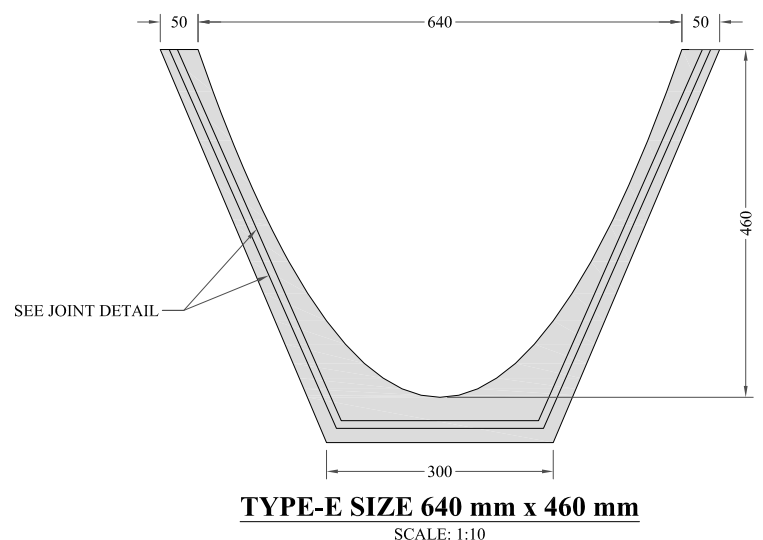
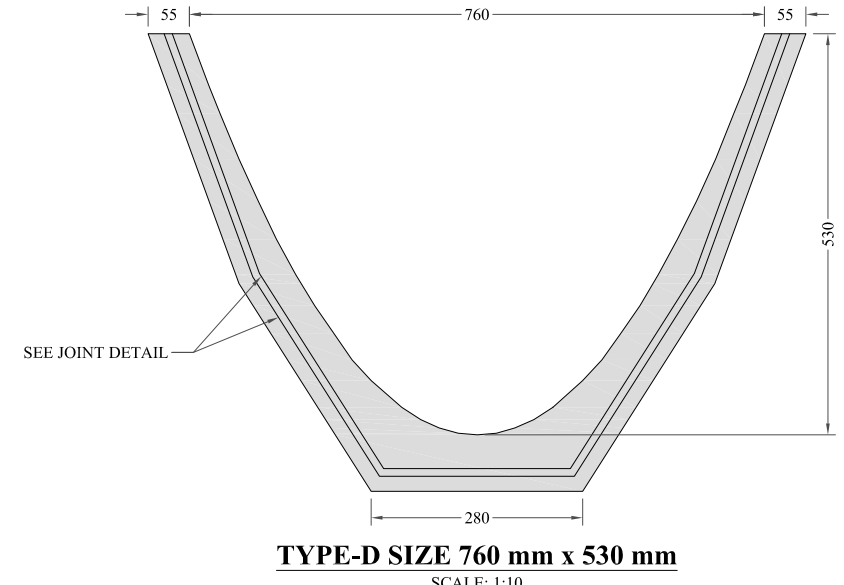
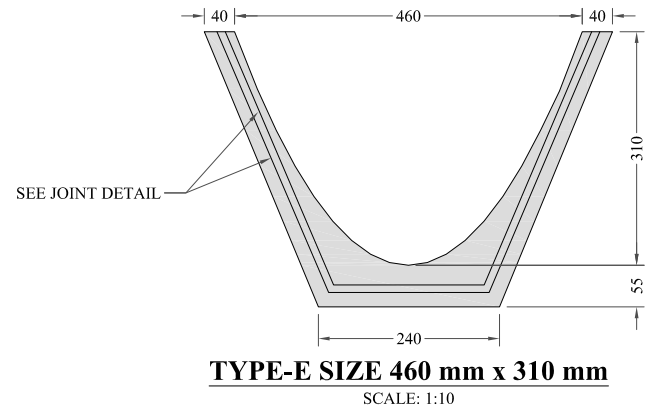
BAZ ALI DAM
DISTRICT KURRAM

TITLE: D-2 AQUEDUCT-1 BAR BENDING SCHEDULE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-IR-11		SHEET:- 06 OF 06		SUB SH.- ----	



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NOTES:

- ALL DIMENSIONS & LEVELS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

PROFILE COORDINATES

TYPE 1 0.46m x 0.31m		TYPE 2 0.64m x 0.46m	
X mm	Y1 mm	X mm	Y1 mm
-270	309	-370	460
-230	309	-345	460
-220	282	-320	460
-200	233	-300	404
-180	189	-275	340
-160	149	-250	281
-140	114	-225	227
-120	84	-200	180
-100	58	-175	138
-80	37	-150	101
-60	21	-125	70
-40	9	-100	45
-20	2	-75	25
0	0	-50	11
20	2	-25	3
40	9	0	0
60	21	25	3
80	37	50	11
100	58	75	25
120	84	100	45
140	114	125	70
160	149	150	101
180	189	175	138
200	233	200	180
220	282	225	227
230	309	250	281
270	309	275	340
		300	404
		320	460
		345	460
		370	460

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

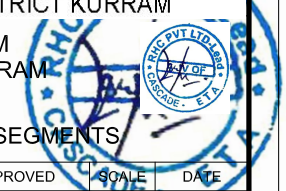
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
 CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

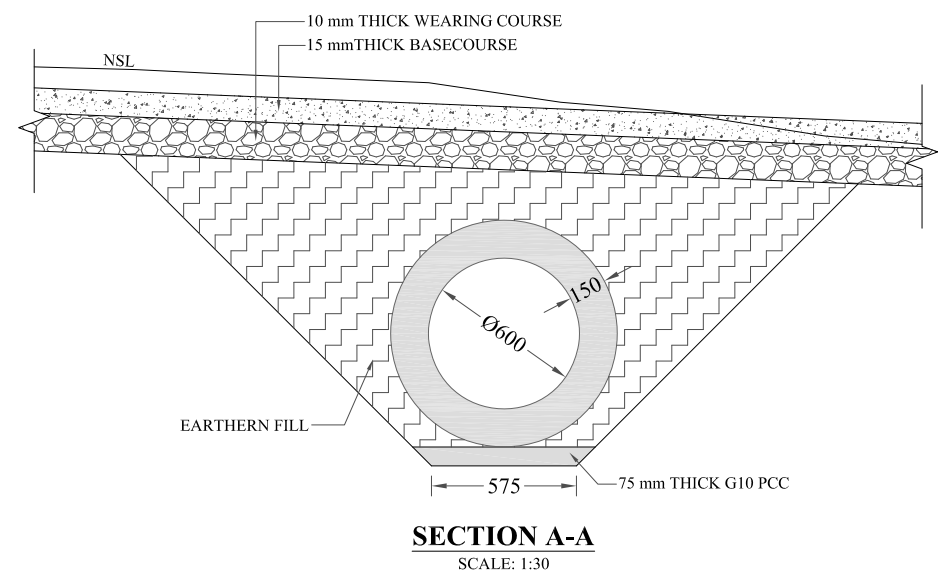
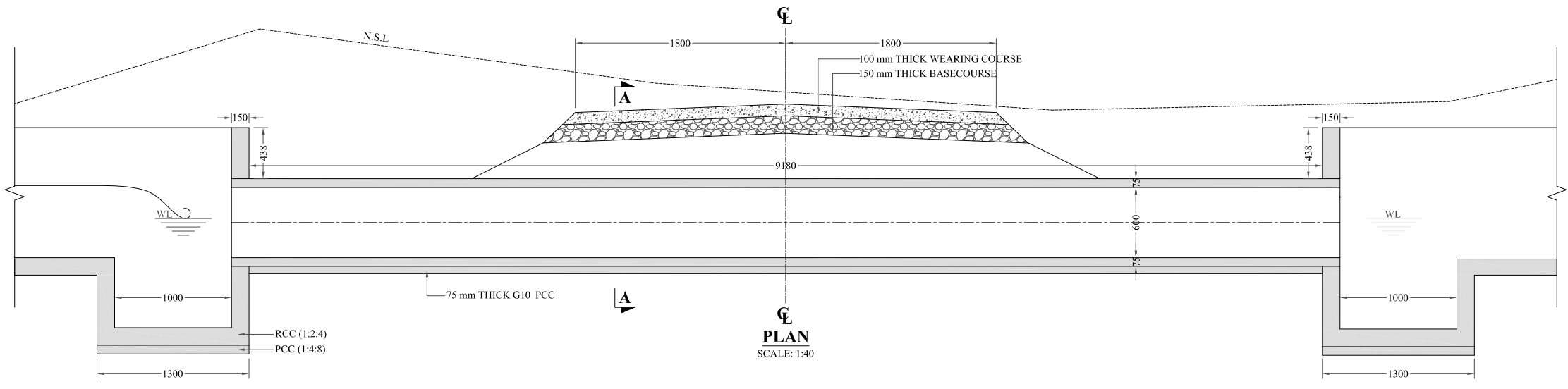
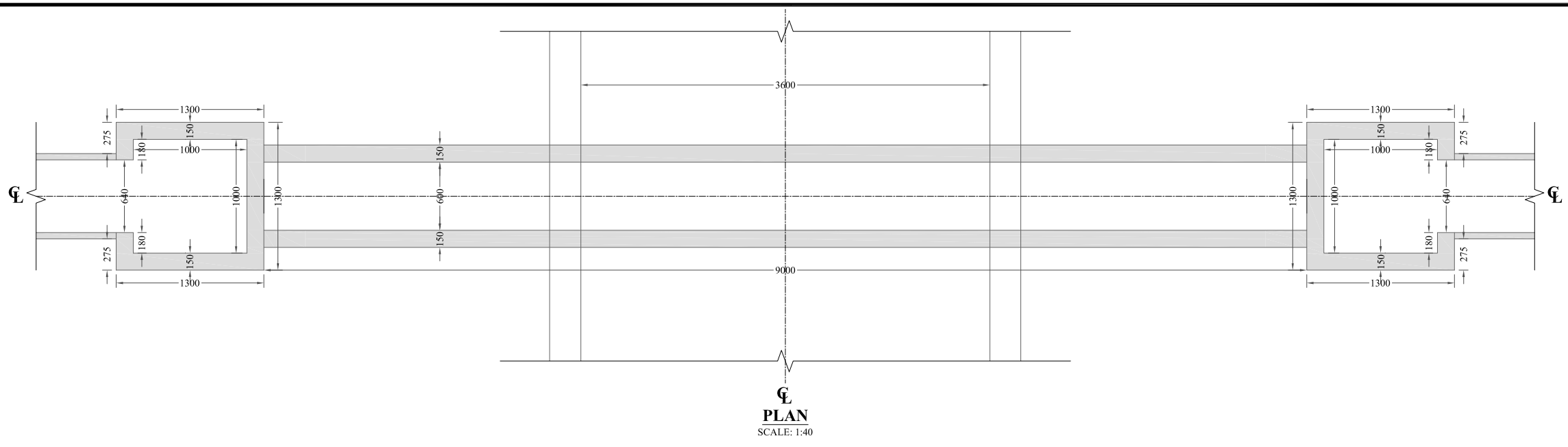
BAZ ALI DAM
DISTRICT KURRAM

TITLE:
PRECAST PARABOLIC SEGMENTS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:- BAD-BD-STR-01		SHEET:- 01 OF 07		SUB SH.- ----	



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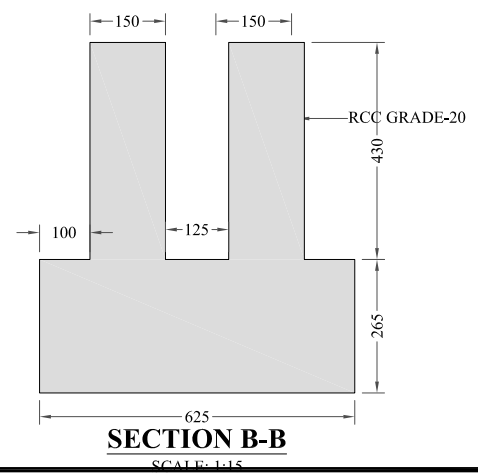
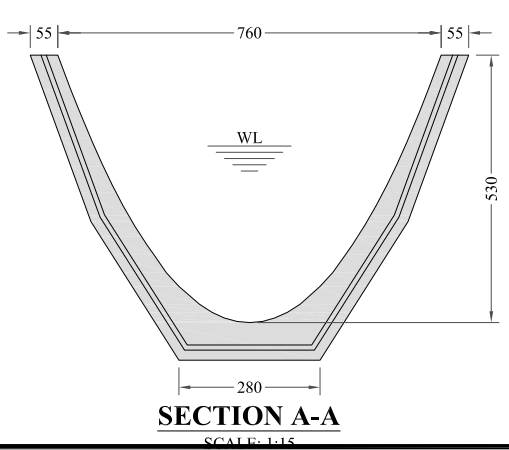
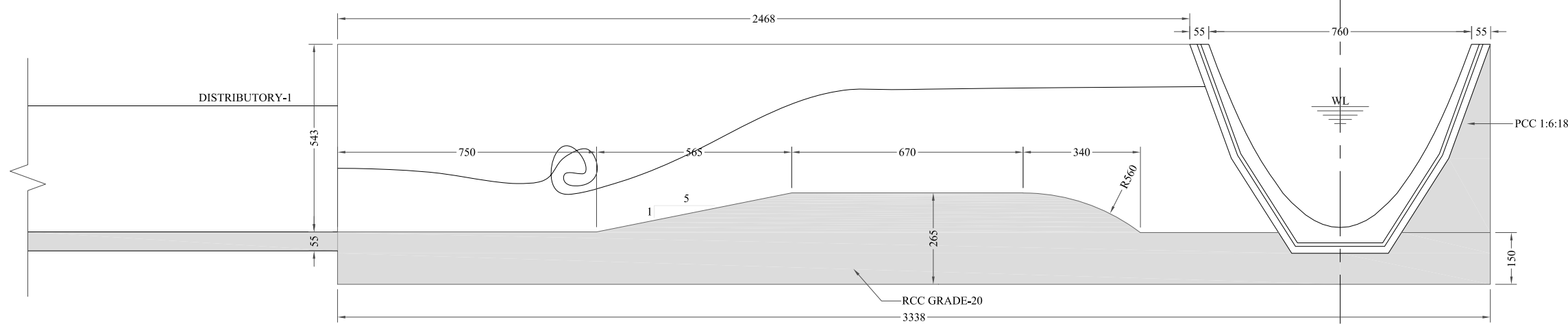
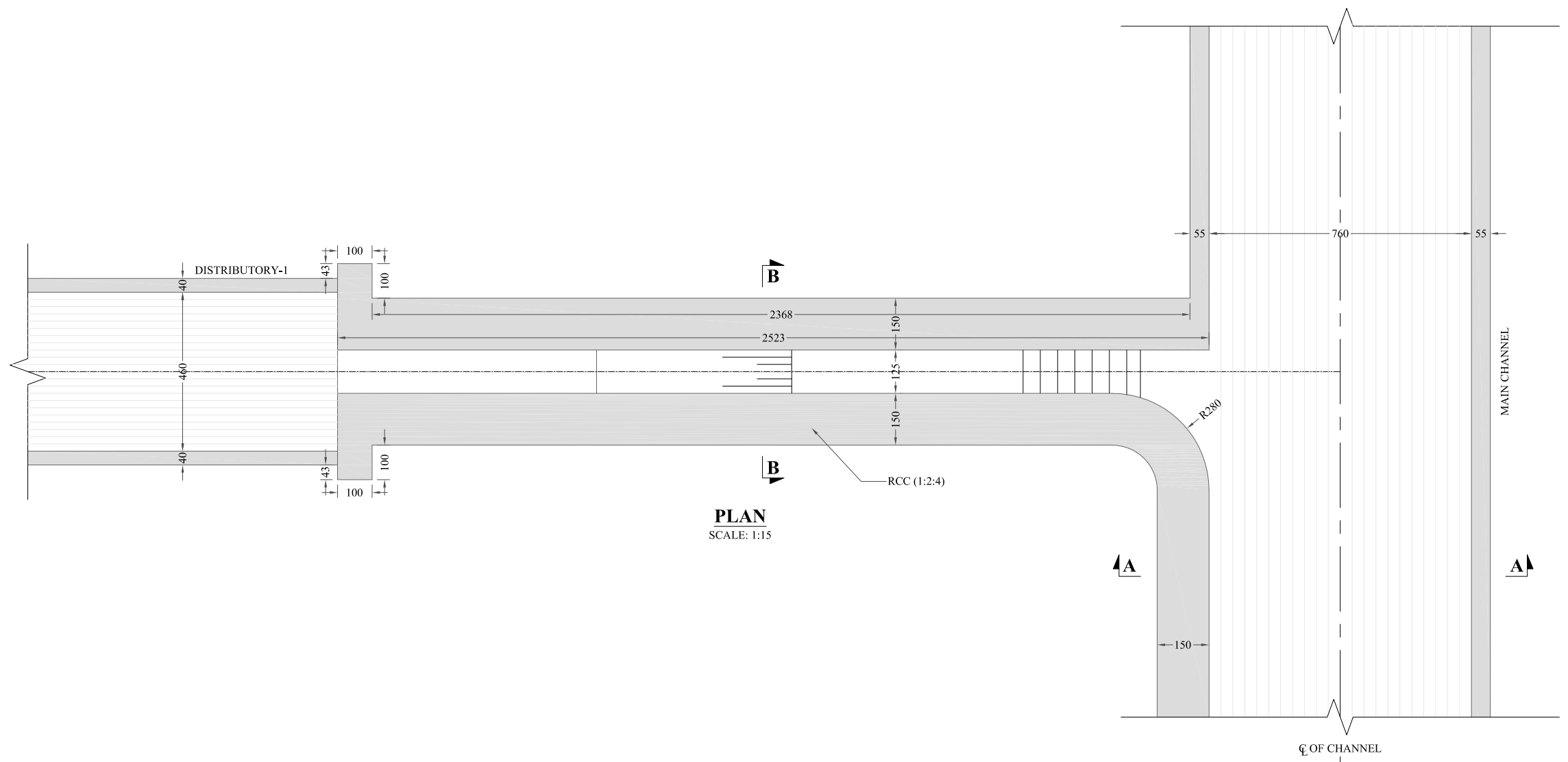
NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
<input checked="" type="checkbox"/> FOR BIDDING ONLY					
CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.					
CONSULTANTS: A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD. CASCADE GROUP OF ENGINEERING & CONSULTANTS IN ASSOCIATION WITH: ETA ENGINEERING & TECHNICAL ASSOCIATES					
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM BAZ ALI DAM DISTRICT KURRAM					
TITLE: PRECAST PARABOLIC SEGMENTS					
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022
DRG.No:-BAD-BD-STR-01		SHEET:- 02 OF 07		SUB SH.- ----	



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REFERENCE DRAWINGS :-

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

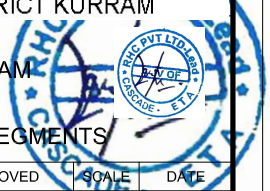
CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM
BAZ ALI DAM
DISTRICT KURRAM

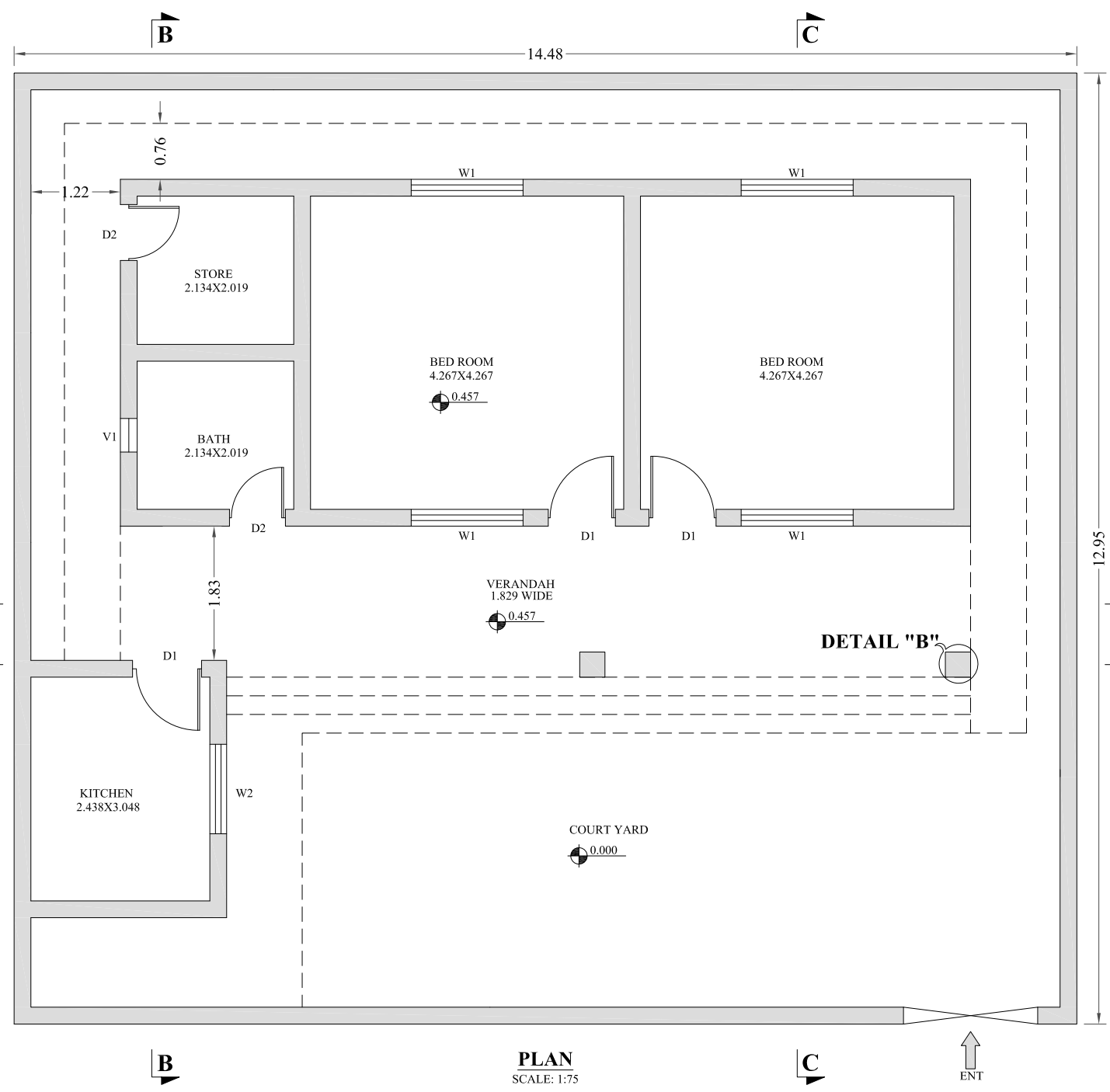
TITLE: PRECAST PARABOLIC SEGMENTS

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

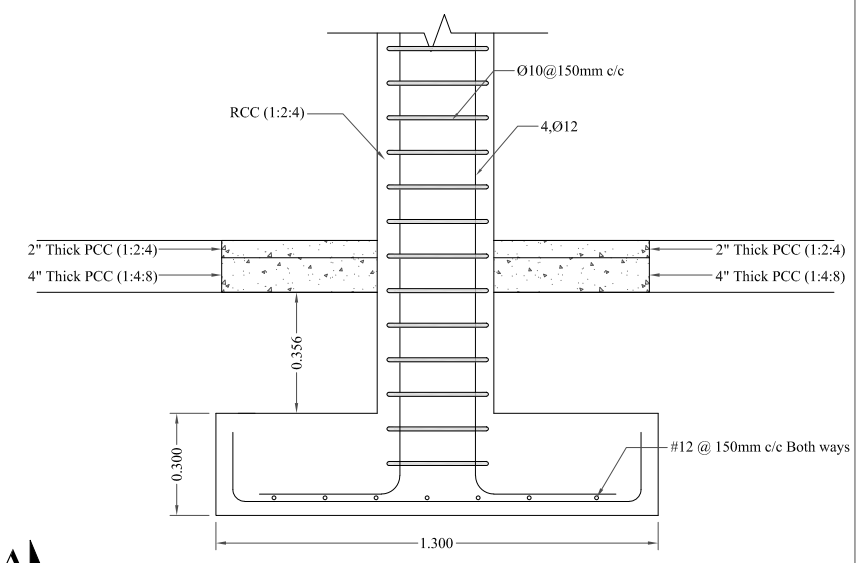
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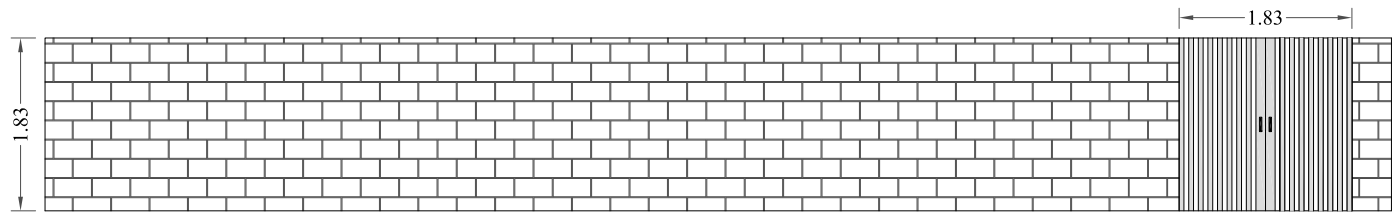
PLAN
SCALE: 1:75



DETAIL "B"
SCALE: 1:20

SCHEDULE OF DOORS AND WINDOWS				
TYPE	SIZE	SILL	NO'S	DESCRIPTIONS
MD-1	1.829x1.829	0.00		STEEL DOOR
D-1	0.914x2.134	0.00		-
D-2	0.762x2.134	0.00		-
W-1	1.524x1.676	0.914		STEEL WINDOW
W-2	1.219x1.219	0.914		-
V-1	0.457x0.304	2.743		STEEL VENTILATOR

SCHEDULE OF AREA	
TOTAL PLOT AREA	= 187,548 M ² (7,415 M)
TOTAL COVERED AREA	= 125,088 M ²



BOUNDRY WALL FRONT ELEVATION
SCALE: 1:75

NOTES:
1. ALL DIMENSIONS & LEVELS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

REFERENCE DRAWINGS :-

DRAWING IS RELEASED

FOR BIDDING ONLY

CLIENT:
**MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.**

CONSULTANTS: A J.V OF
RHC REHMAN HABIB CONSULTANTS (PVT) LTD.
CASCADE GROUP OF ENGINEERING & CONSULTANTS
 IN ASSOCIATION WITH:
ETA ENGINEERING & TECHNICAL ASSOCIATES

PROJECT:
CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

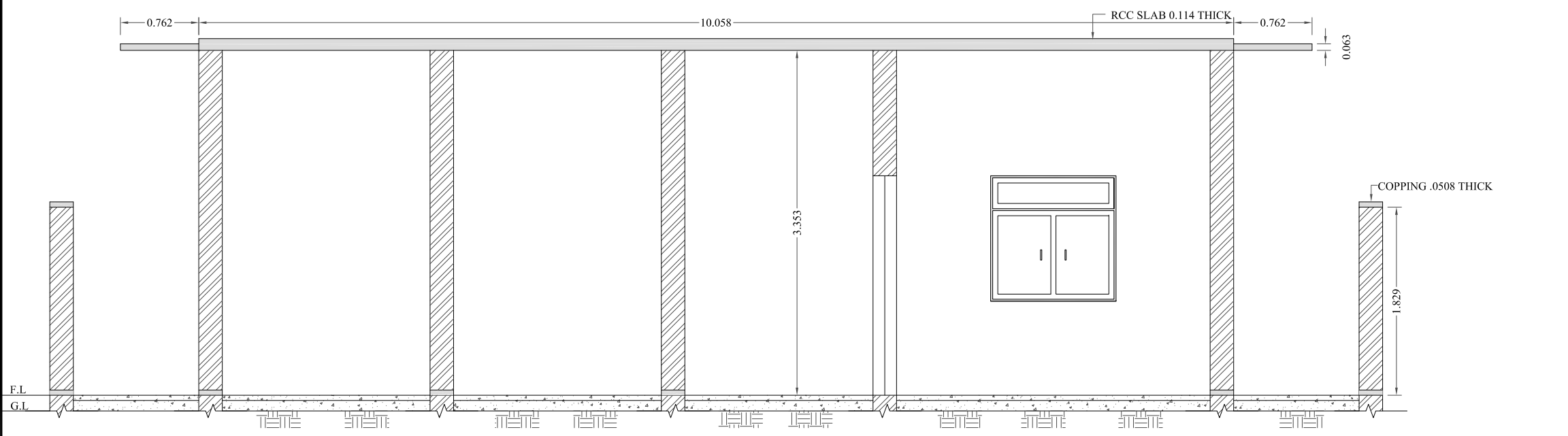
**BAZ ALI DAM
DISTRICT KURRAM**

TITLE: **INSPECTION HUT & SITE OFFICE**

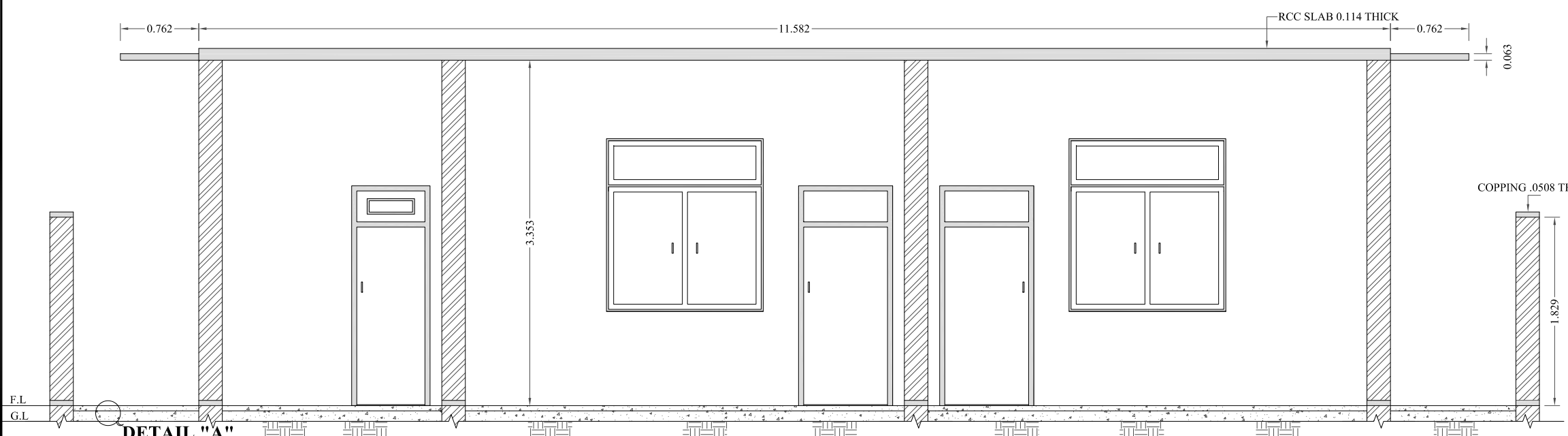
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
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SECTION B-B
SCALE: 1:50

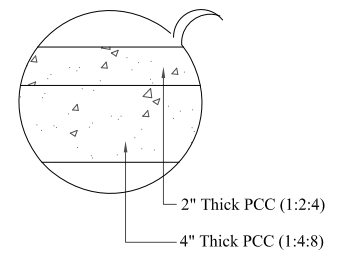


SECTIONAL ELEVATION A-A
SCALE: 1:50

DETAIL "A"

NOTES:

1. ALL DIMENSIONS & LEVELS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

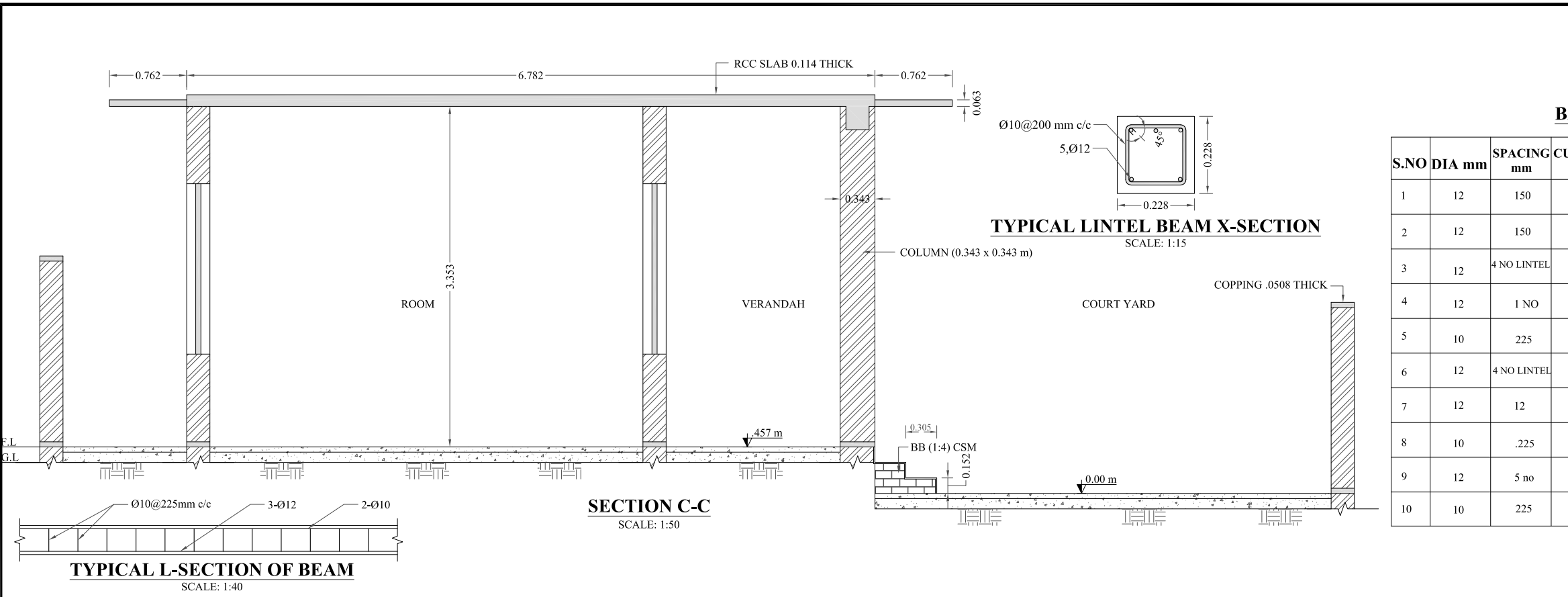


FLOOR DETAIL "A"
SCALE: 1:10

REFERENCE DRAWINGS :-					
DRAWING IS RELEASED					
<input checked="" type="checkbox"/> FOR BIDDING ONLY					
CLIENT: MERGED AREAS SMALL DAM SECTION IRRIGATION DEPARTMENT . KPK.					
CONSULTANTS: A J.V OF RHC REHMAN HABIB CONSULTANTS (PVT) LTD. CASCAD CASCADE GROUP OF ENGINEERING & CONSULTANTS ETA IN ASSOCIATION WITH: ENGINEERING & TECHNICAL ASSOCIATES					
PROJECT: CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM BAZ ALI DAM DISTRICT KURRAM					
TITLE: INSPECTION HUT & SITE OFFICE					
DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shows	FEB, 2022
DRG.No:- BAD-BD-IH-01			SHEET:- 02 OF 04		SUB SH.- ----



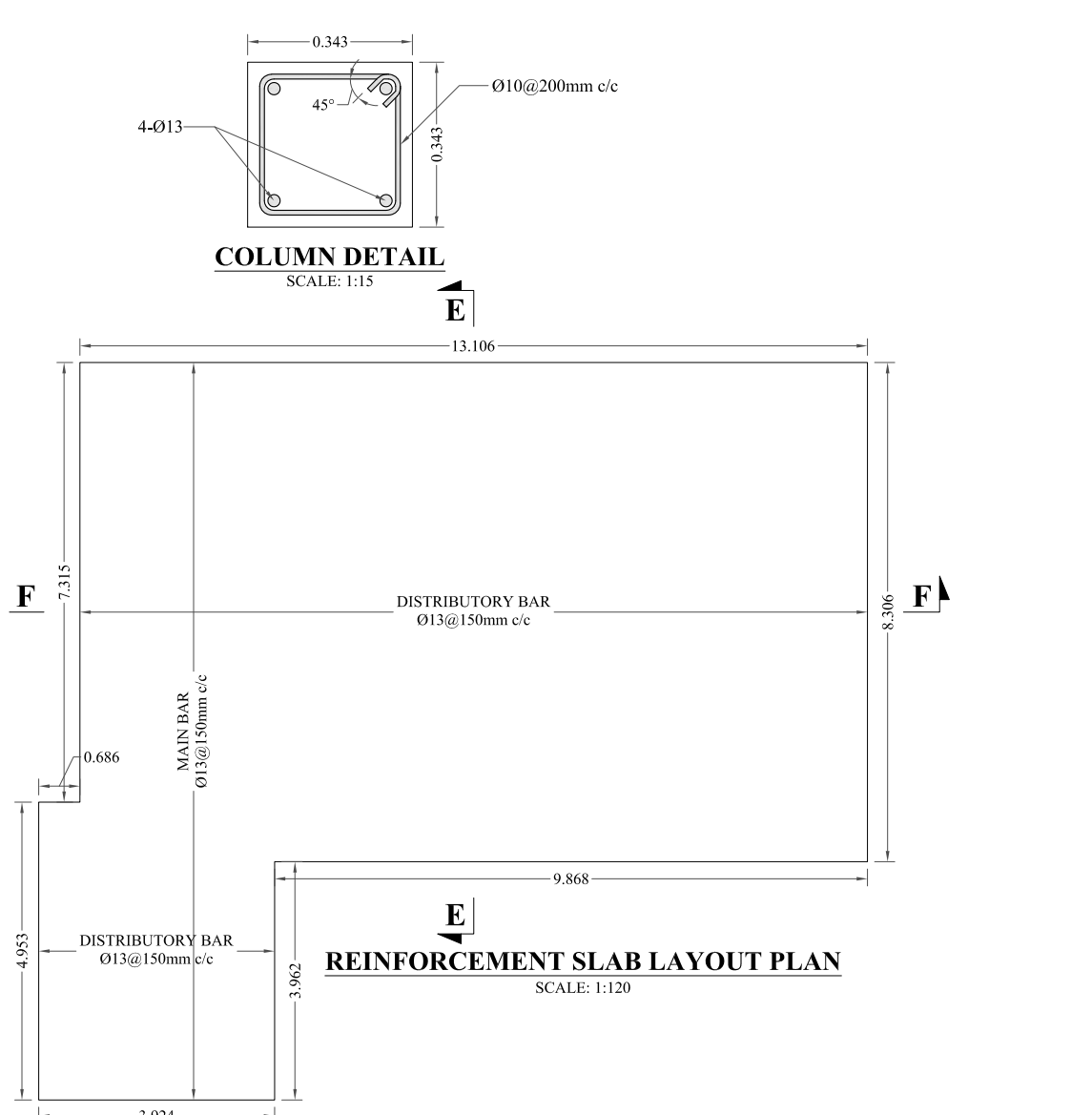
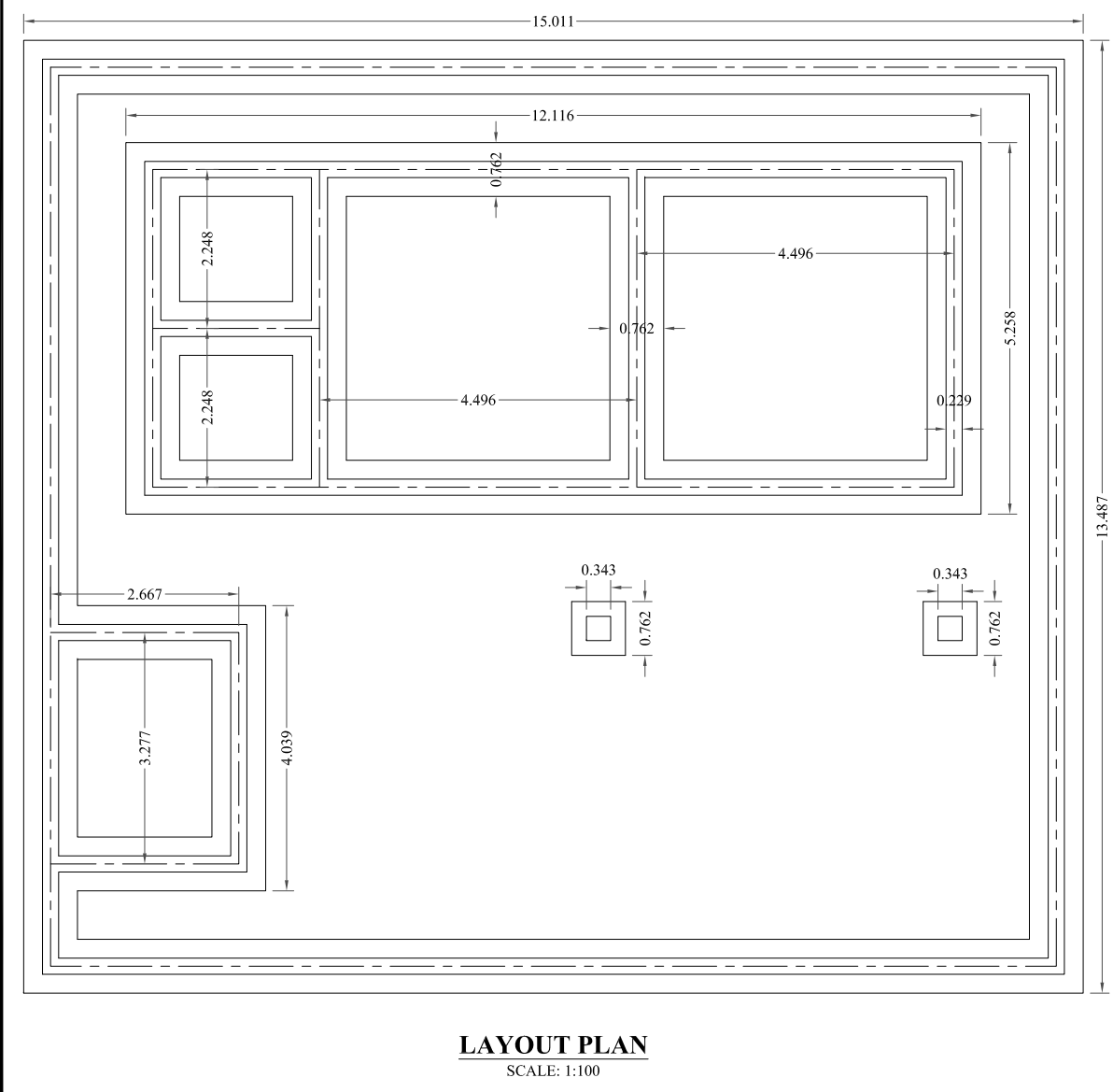
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NOTES:
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BARBENDING SCHEDULE

S.NO	DIA mm	SPACING mm	CUT BAR M	NO OF BARS	T-CUT BARS m	WEIGHT KG P/M	T-WEIGHT KG	SHAPE	
1	12	150	13.564	52	705.328	.888	626.33	13.564	
2	12	150	8.295	84	696.78	.888	618.74	8.295	
3	12	4 NO LINTEL	12	4	48	.888	42.62	12	
4	12	1 NO	12.6	1	12.6	.888	11.18	3/3 6	
5	10	225	1.003	54	54.162	.888	33.39	275 275	
6	12	4 NO LINTEL	16.558	4	66.232	.888	58.814	16.558	
7	12	12	18.358	2	36.716	.888	32.603	1.00 1.00	
8	10	.225	1.003	74	74.222	.616	45.72	250 250	
9	12	5 no	2.10	10	21	.888	18.648	2.10	
10	10	225	1.003	20	20.06	.616	12.35	250 250	
TOTAL							1500.395		



REFERENCE DRAWINGS :-

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CLIENT:
MERGED AREAS SMALL DAM SECTION
IRRIGATION DEPARTMENT . KPK.

CONSULTANTS: A J.V OF
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CONSULTANCY SERVICES FOR REVIEW / UPDATION OF DESIGN AND CONSTRUCTION SUPERVISION OF BAZ ALI SMALL DAM, DISTRICT KURRAM

BAZ ALI DAM
DISTRICT KURRAM

TITLE:
INSPECTION HUT & SITE OFFICE

DRAWN	DESIGNED	CHECKED	APPROVED	SCALE	DATE
				Shown	FEB, 2022

DRG.No:- BAD-BD-IH-01 SHEET:- 03 OF 04 SUB SH.- ----

