



**GOVERNMENT OF THE KHYBER PAKHTUNKHWA
IRRIGATION DEPARTMENT**

**REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS**

CONTRACT NO. RWCS-1

AUXILARY IRRIGATION TUNNEL AND ALLIED WORKS

VOLUME – II

TENDER DRAWINGS

APRIL 2021

AJOINT VENTURE OF



**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED**

IEEEP BUILDING, 17-C-1, CIVIC CENTRE,
FAISAL TOWN, LAHORE - PAKISTAN



ELECTRA CONSULTANTS

100, SECTOR N-3, STREET 6, PHASE IV
HAYATABAD, PESHAWAR - PAKISTAN



**INTEGRATED CONSULTING
SERVICES (PVT.) LIMITED**

219-A, NEW MUSLIM TOWN,
LAHORE - PAKISTAN

REMODELING OF WARSAK CANAL SYSTEM

CONTRACT RWCS-1

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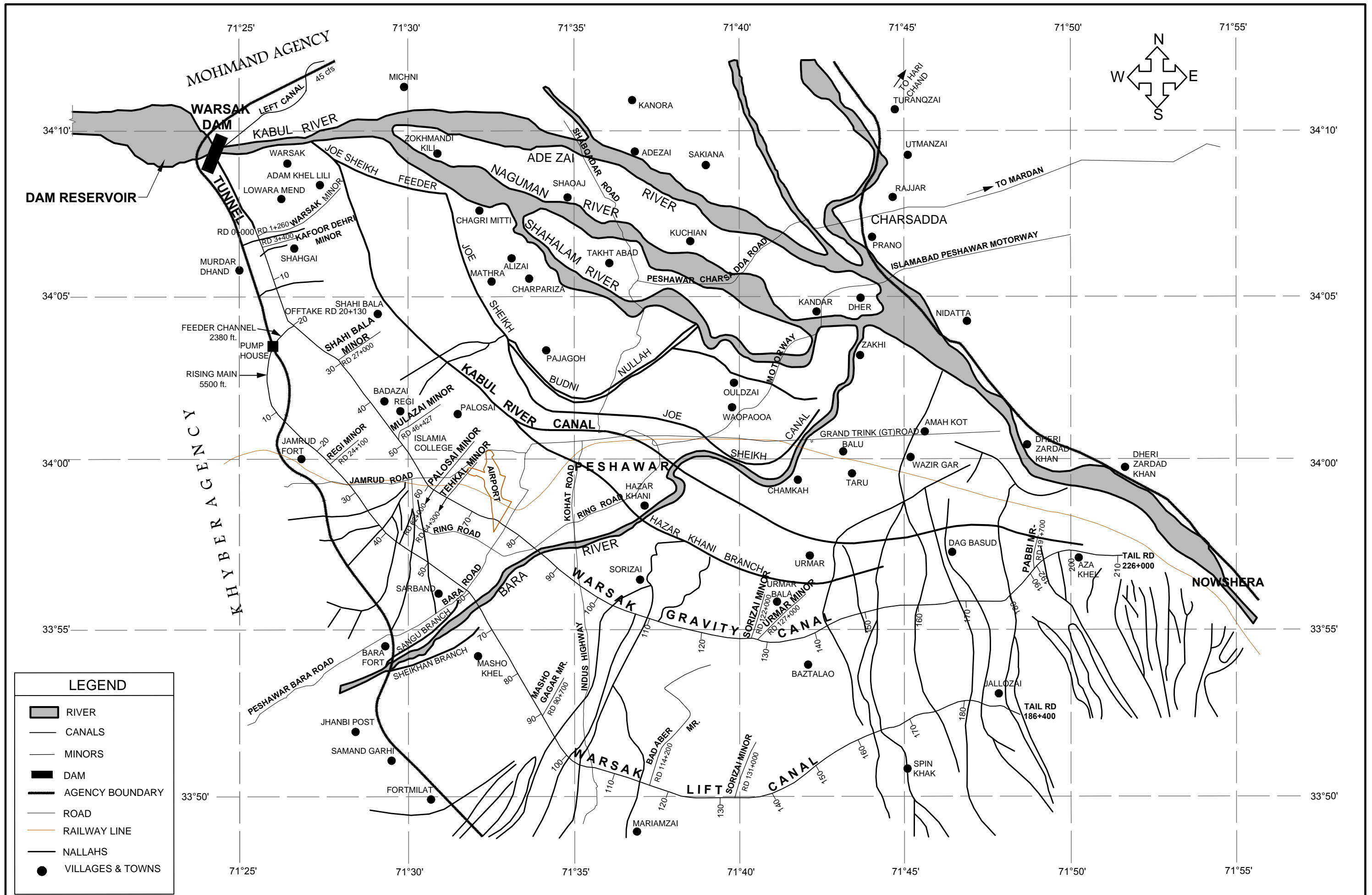
REMODELING OF WARSAK CANAL SYSTEM

CONTRACT RWCS-1

LIST OF DRAWINGS

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A. GENERAL DRAWINGS (GD)



LEGEND

- RIVER
- CANALS
- MINORS
- DAM
- AGENCY BOUNDARY
- ROAD
- RAILWAY LINE
- NALLAHS
- VILLAGES & TOWNS

CLIENT

IRRIGATION DEPARTMENT

GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELLING OF WARSAK
CANALS PROJECT
PESHAWAR

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PAKISTAN (PVT.) LIMITED LAHORE

E ELECTRA CONSULTANTS
PESHAWAR

ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	MAK

**REMODELING OF WARSAK CANAL SYSTEM
PROJECT AREA MAP**

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/GD/01	0

A B B R E V I A T I O N S A N D S Y M B O L S

ABBREVIATIONS

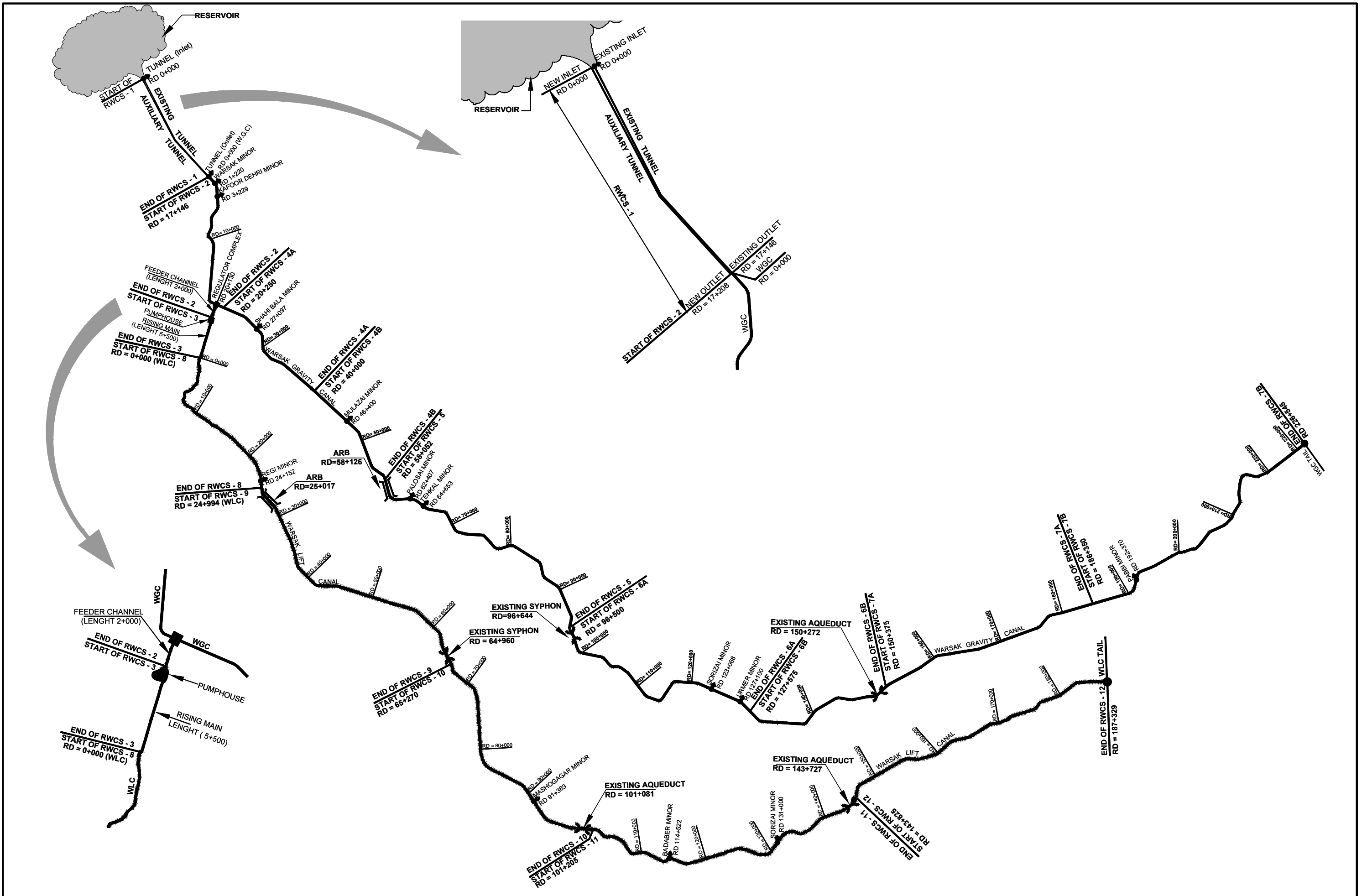
ADS	ANIMAL DRINKING STRUCTURE
BL	BED LEVEL
BM	BENCH MARK
BW	BED WIDTH
CC	CANAL CONDUIT
C. JT.	CONSTRUCTION JOINT
☉	CENTRE LINE
CONC.	CONCRETE
CONT. JT.	CONTRACTION JOINT
CR	CROSS REGULATOR
DISTY.	DISTRIBUTARY
D/S	DOWNSTREAM
EF	EACH FACE
EGT	ESCAPE STRUCTURE-MECHANICAL GATES
E.I.	ENAMELED IRON
EI.	ELEVATION
EMW	ELECTRO MECHANICAL WORKS
ES	ESCAPE
EXP. JT.	EXPANSION JOINT
FB	FREE BOARD
FTB	FOOT BRIDGE
FC	FEEDER CHANNEL
FCL	FULL CAPACITY LEVEL
FSD	FULL SUPPLY DEPTH
FSL	FULL SUPPLY LEVEL
GFS	GLACIS TYPE FALL STRUCTURE
HL	HEAD LOSS
HTC	HILL TORRENT CROSSING
HTC(AQ)	CANAL ACQUEDUCT
HTC(SYN)	CANAL SYPHON
HTC(SP)	SUPERPASSAGE
HTC(DC)	DRAINAGE CULVERT
IL	INVERT LEVEL
ILT	INLET
MR	MINOR
NSL	NATURAL SURFACE LEVEL
NTS	NOT TO SCALE

PCC	PLAIN CEMENT CONCRETE
PH	PUMP HOUSE
MR	MINOR
NSL	NATURAL SURFACE LEVEL
NTS	NOT TO SCALE
PCC	PLAIN CEMENT CONCRETE
PH	PUMP HOUSE
PI	POINT OF INTERSECTION
PC	POINT OF CURVATURE
PT	POINT OF TANGENT
RB	ROAD BRIDGE
RB(VRB)	VILLAGE ROAD BRIDGE
RB(DRB)	DISTRICT ROAD BRIDGE
RB(ARB)	ARTERIAL ROAD BRIDGE
RC	REINFORCED CONCRETE
RD	REDUCED DISTANCE
RL	REDUCED LEVEL
RM	RISING MAIN
RW	ROAD WIDTH
ROW	RIGHT OF WAY
SE	SILT EJECTOR
T&B	TOP AND BOTTOM
TOB	TOP OF BANK
TOL	TOP OF LINING
TYP.	TYPICAL
ULC	UTILITY LINE CROSSING(SAINRARY PIPE, GAS PIPE, CABLES ETC.)
U/S	UPSTREAM
VFS	VERTICAL TYPE FALL STRUCTURE
WC	WATERCOURSE (PRECAST)
WCO	WATERCOURSE OUTLET
WCC	WATERCOURSE CROSSING
WCT	WATERCOURSE CULVERT
WGT	WATERCOURSE OUTLET-MECHANICAL GATES
WL	WATER LEVEL
WS	WATERSTOP (PVC)
WCS	WATERCOURSE SUMP

SYMBOLS

FTB	
RB	
CC	
HTC	
CR	
HR	
ES/SE	
GFS	
VFS	
WCO	
WCC	
WCT	
WCS	
ULC	
ILT	
ADS	

 CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELLING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN	MAK	REMODELING OF WARSAK CANAL SYSTEM							
			CHECKED					GENERAL NOTES AND ABBREVIATIONS				
			RECOMMENDED		REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DATE
										MAR., 2021	RWCS-1/TD/GD/02	0



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REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS




REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

DRAWN		MAK	REMODELING OF WARSAK CANAL SYSTEM CONTRACT PACKAGES
CHECKED			
RECOMMENDED			
DATE	DWG. NO.	REV.	
MAR., 2021	RWCS-1/TD/GD/03	0	

B. AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES

B.1. INTAKE STRUCTURE AND COFFER DAM

**NOT FOR
CONSTRUCTION**

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS							DRAWN	ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES INTAKE STRUCTURE LIST OF REFERENCE DRAWINGS AND NOTES			
										CHECKED				DATE
			REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED			MAR., 2021	RWCS-1/TD/AIT/IS/01	0

GEOLOGICAL LEGEND

1. OVERBURDEN

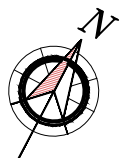
OB OVERBURDEN

2. ROCK

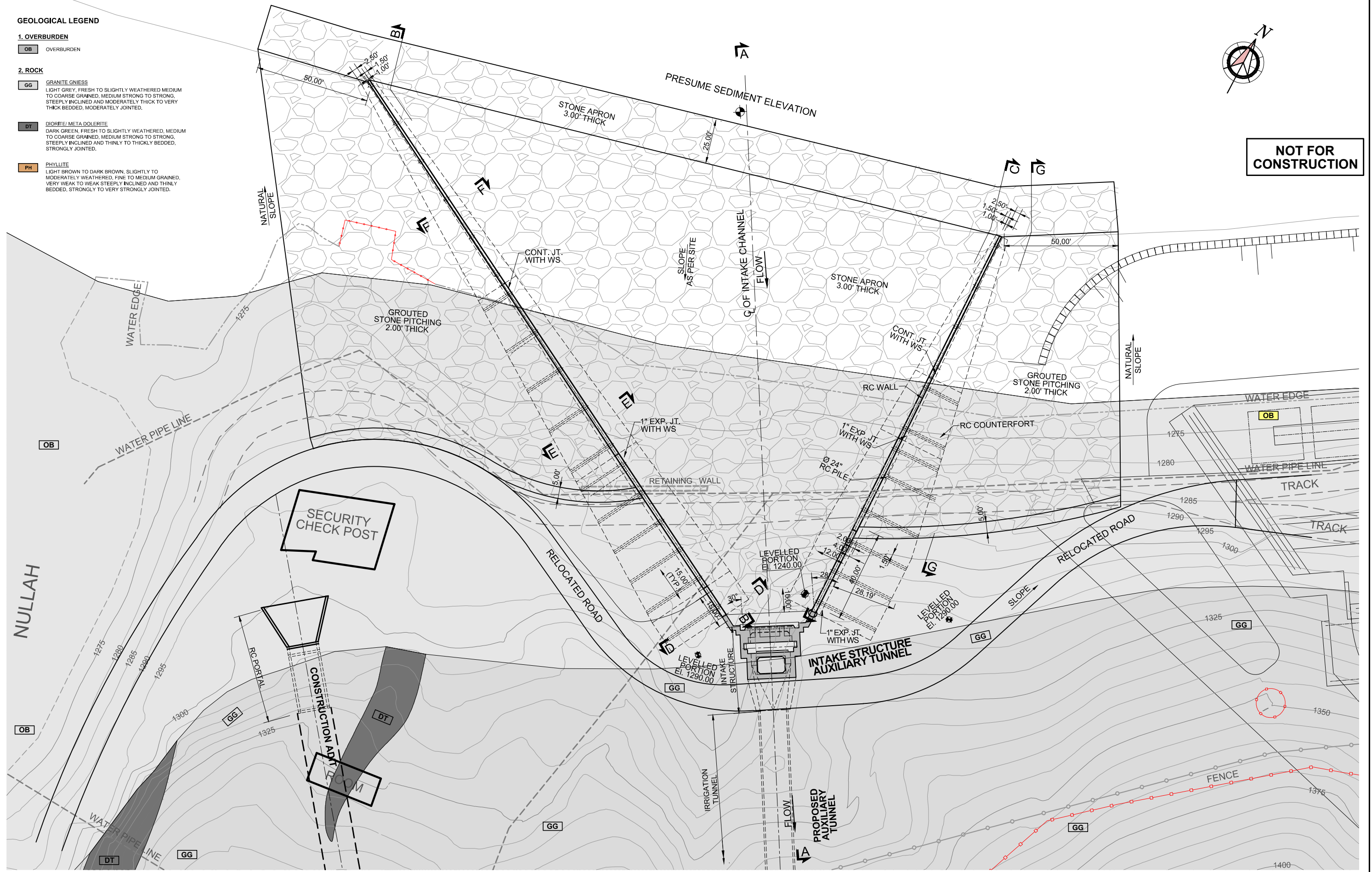
GG GRANITE GNEISS
LIGHT GREY, FRESH TO SLIGHTLY WEATHERED, MEDIUM TO COARSE GRAINED, MEDIUM STRONG TO STRONG, STEEPLY INCLINED AND MODERATELY THICK TO VERY THICK BEDDED, MODERATELY JOINTED.

DT DIORITE/META DOLERITE
DARK GREEN, FRESH TO SLIGHTLY WEATHERED, MEDIUM TO COARSE GRAINED, MEDIUM STRONG TO STRONG, STEEPLY INCLINED AND THINLY TO THICKLY BEDDED, STRONGLY JOINTED.

PH PHYLLITE
LIGHT BROWN TO DARK BROWN, SLIGHTLY TO MODERATELY WEATHERED, FINE TO MEDIUM GRAINED, VERY WEAK TO WEAK STEEPLY INCLINED AND THINLY BEDDED, STRONGLY TO VERY STRONGLY JOINTED.



NOT FOR CONSTRUCTION



NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.

0 10' 20' 30' 40'
SCALE

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PESHAWAR

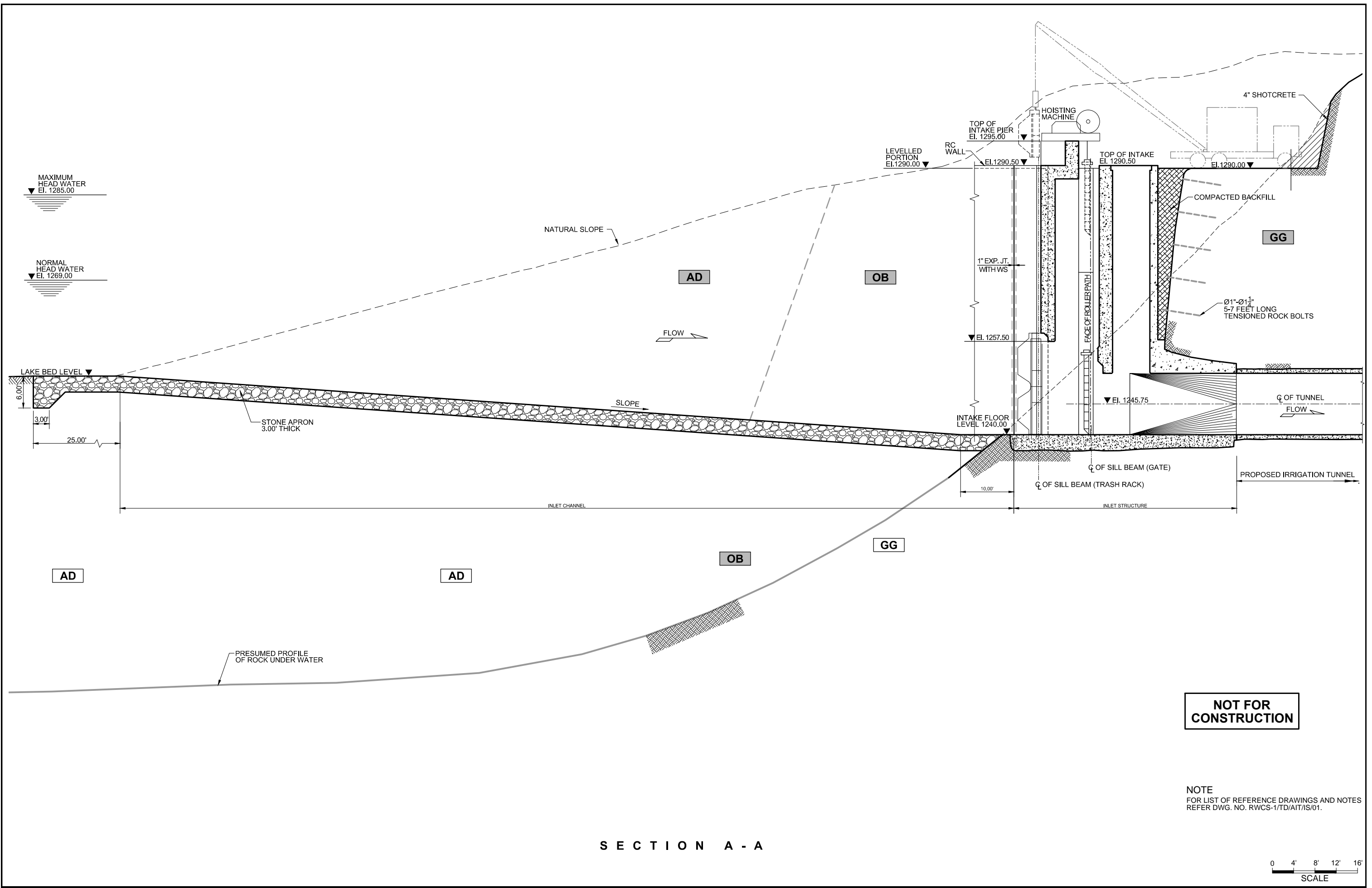
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NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES INTAKE STRUCTURE - APPROACH CHANNEL
GENERAL ARRANGEMENT PLAN

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/IS/02	0







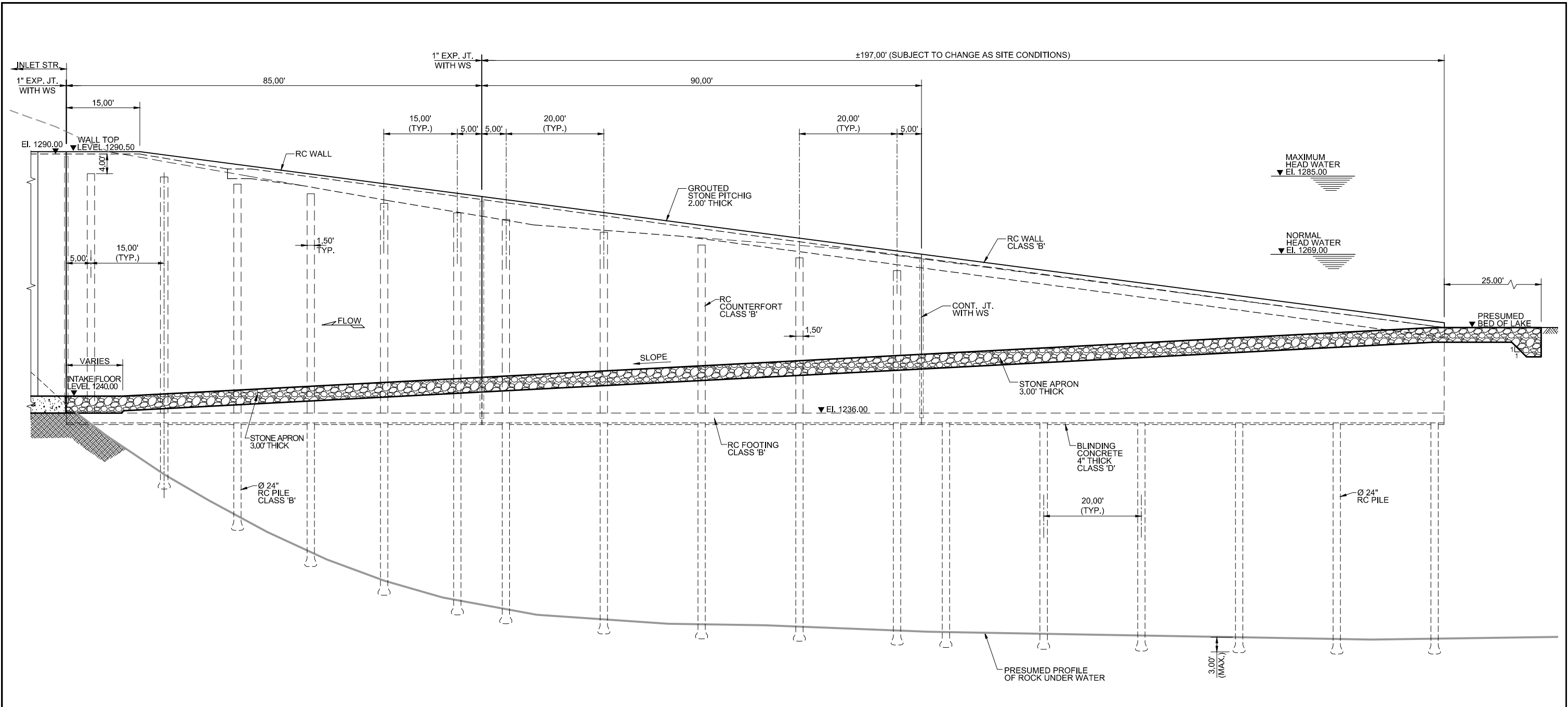
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NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/IS/01.

SECTION A - A

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SCALE

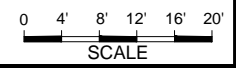
CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS										REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES INTAKE STRUCTURE - APPROACH CHANNEL SECTION
			REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED			
										MAR., 2021	RWCS-1/TD/AIT/IS/03	0



SECTION B - B

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NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
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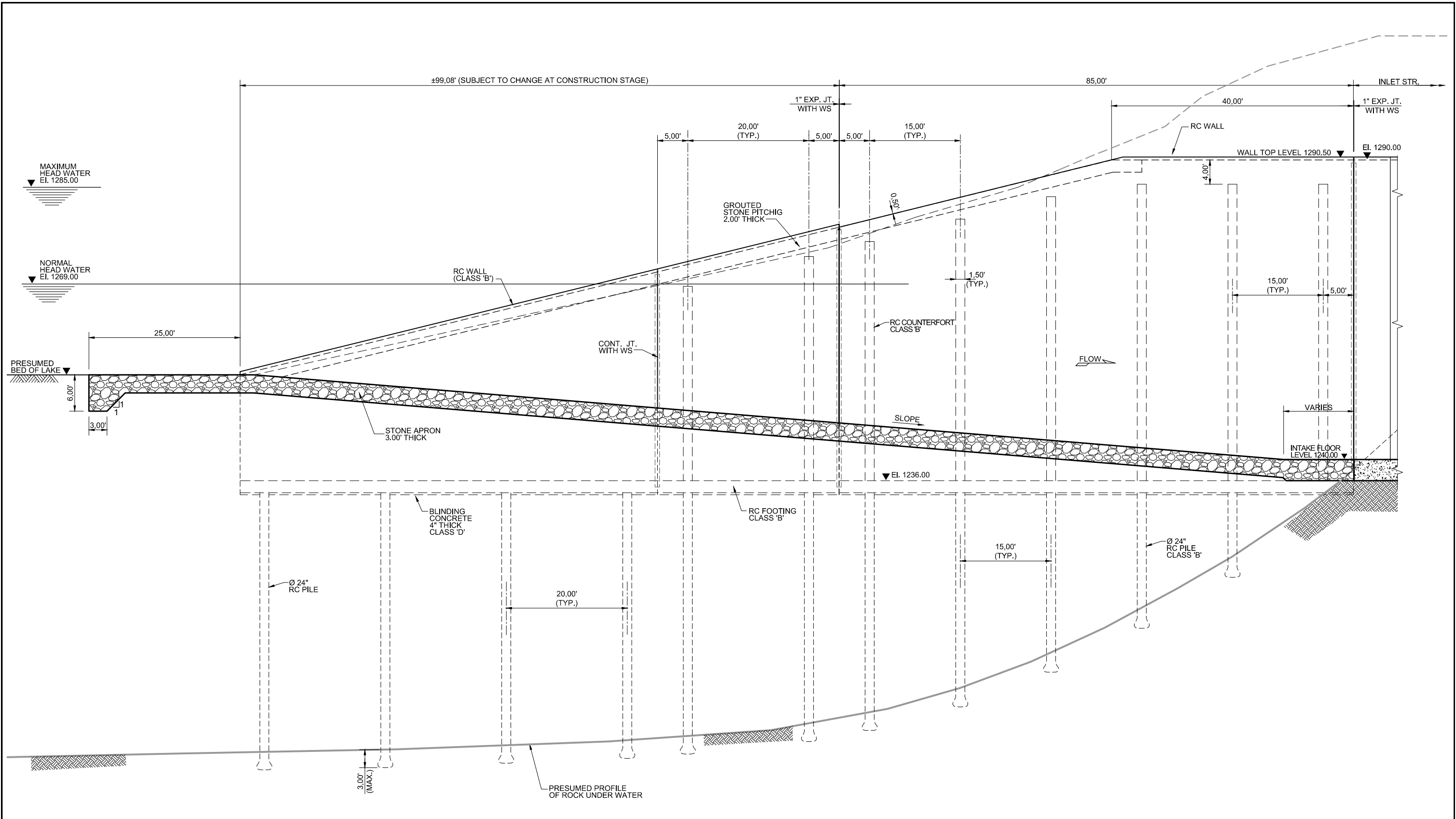
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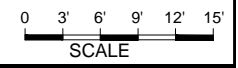
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE - APPROACH CHANNEL
SECTION
DATE: MAR., 2021
DWG. NO.: **RWCS-1/TD/AIT/IS/04**
REV. 0



S E C T I O N C - C

NOT FOR CONSTRUCTION

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FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



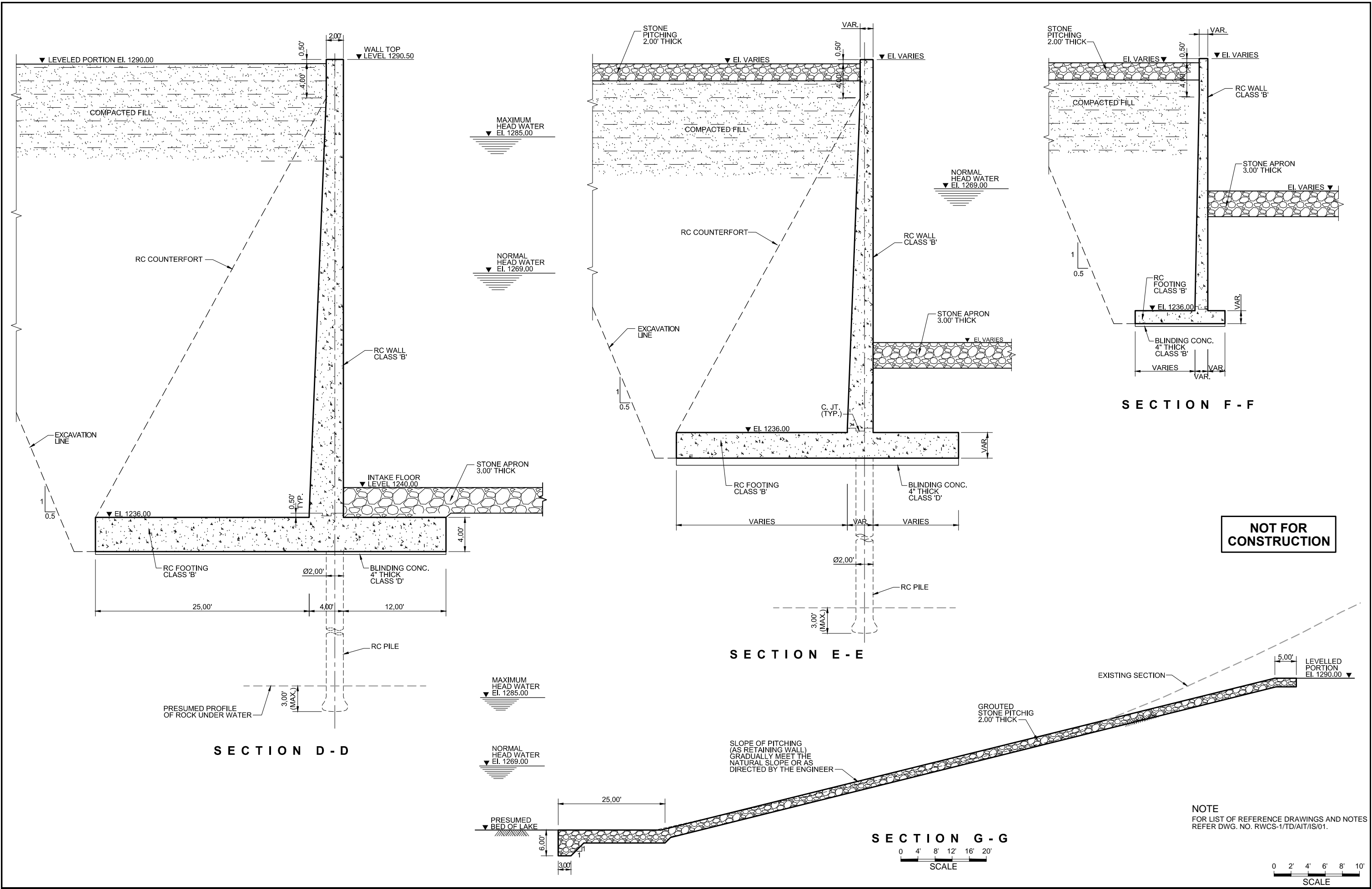
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REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE - APPROACH CHANNEL
S E C T I O N
DATE: MAR., 2021
DWG. NO.: RWCS-1/TD/AIT/IS/05
REV. 0



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IRRIGATION DEPARTMENT

GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

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ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT

DETAILED DESIGN AND CONSTRUCTION

SUPERVISION OF REMODELING OF

WARSAK CANAL SYSTEM

IN

PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM

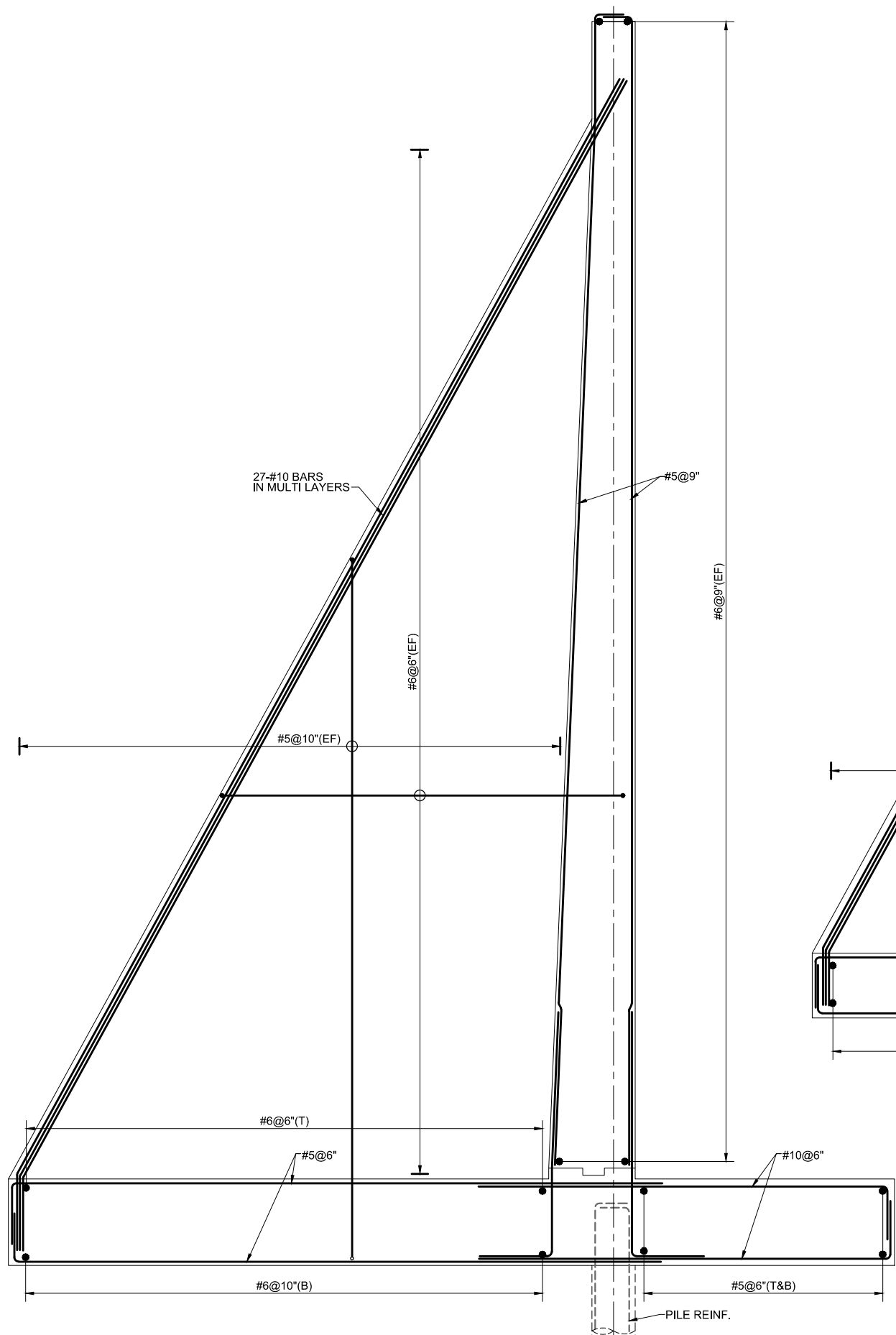
CONTRACT RWCS-1

AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE - APPROACH CHANNEL
SECTIONS

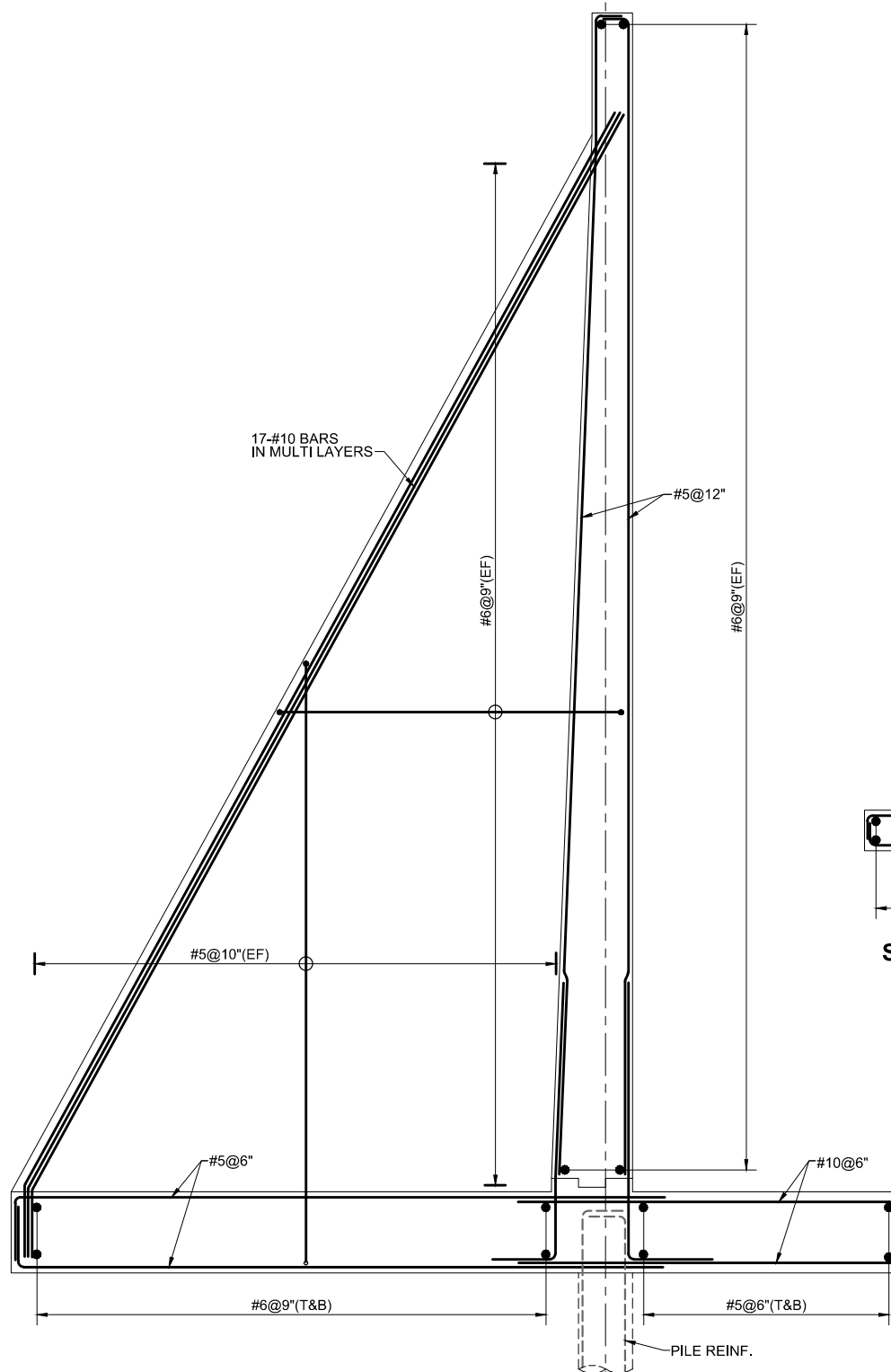
DATE: MAR., 2021

DWG. NO.: **RWCS-1/TD/AIT/IS/06**

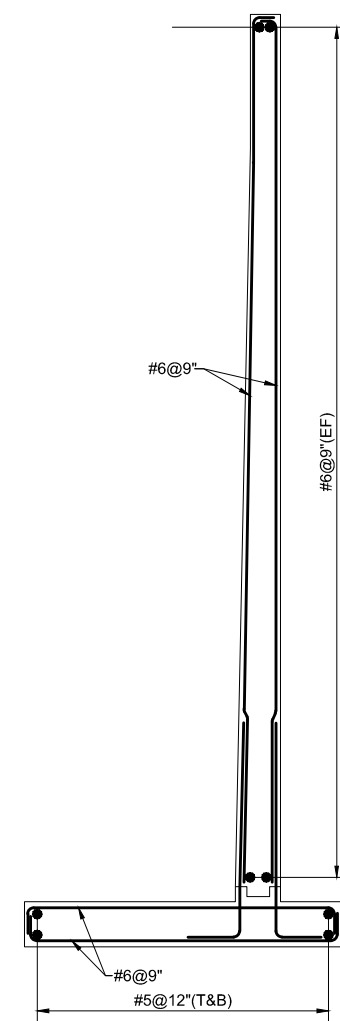
REV. 0



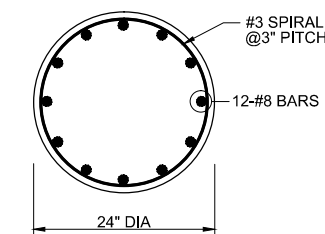
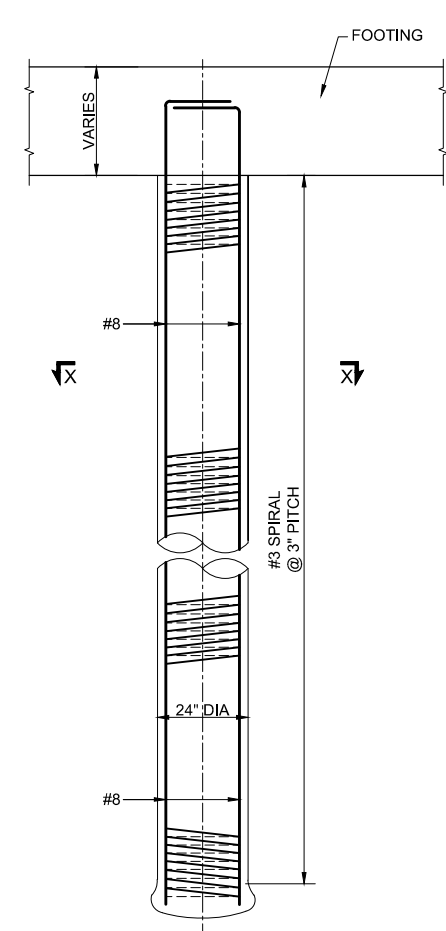
SECTION D - D



SECTION E - E



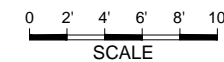
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SECTION X - X

NOT FOR CONSTRUCTION

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REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



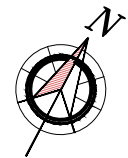
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

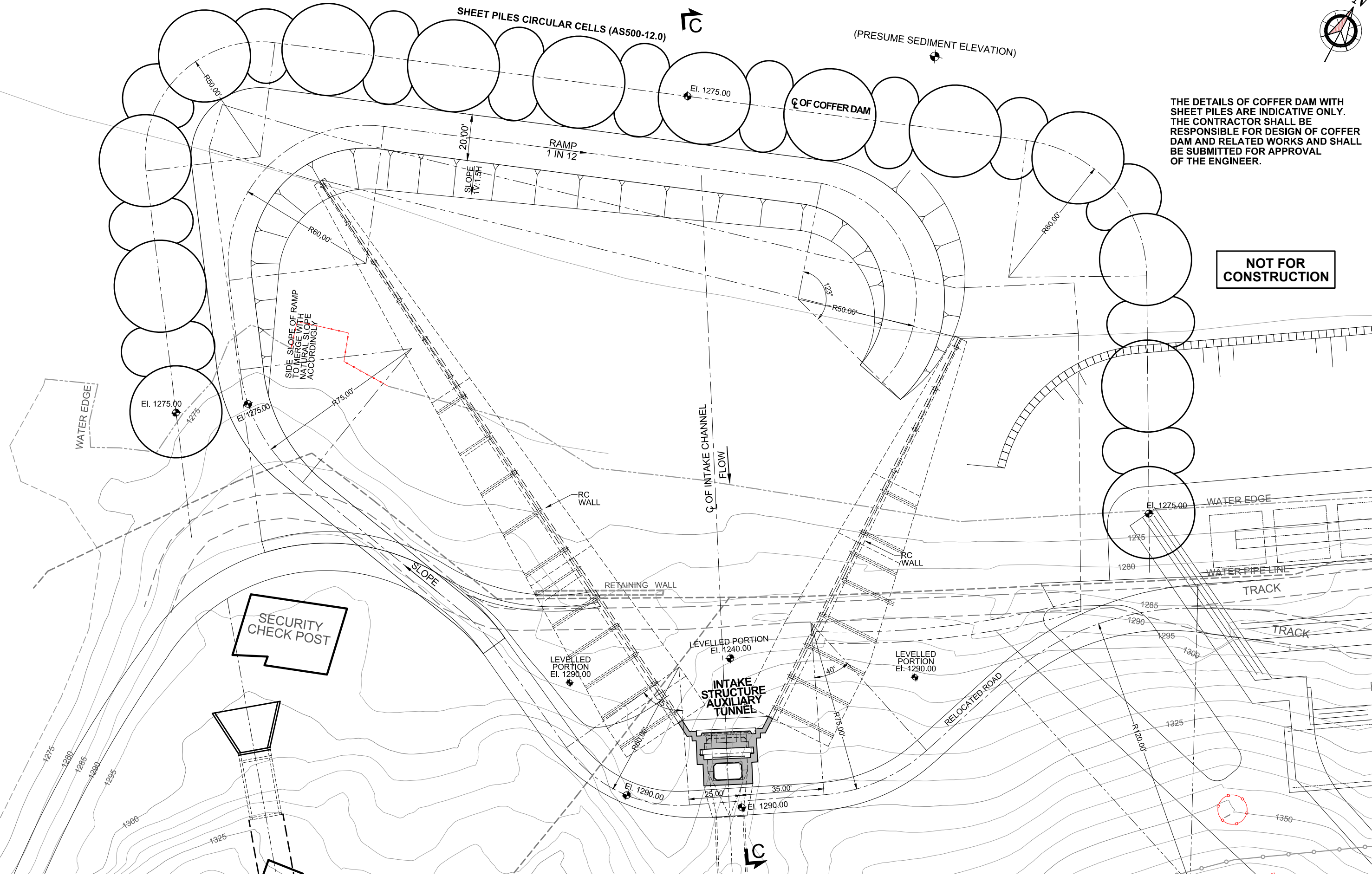
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE - APPROACH CHANNEL
REINFORCEMENT DETAILS
DATE: MAR., 2021
DWG. NO.: RWCS-1/TD/AIT/IS/07
REV. 0



THE DETAILS OF COFFER DAM WITH SHEET PILES ARE INDICATIVE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN OF COFFER DAM AND RELATED WORKS AND SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER.

NOT FOR CONSTRUCTION



NOTE FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



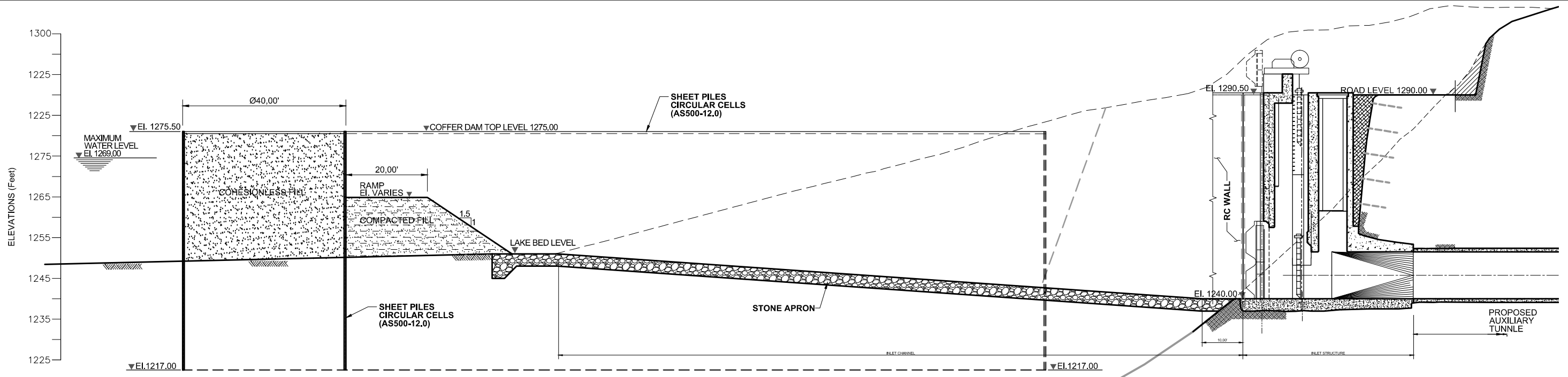
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
PMU - REMODELING OF WARSAK CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NEEP NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS PESHAWAR
ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

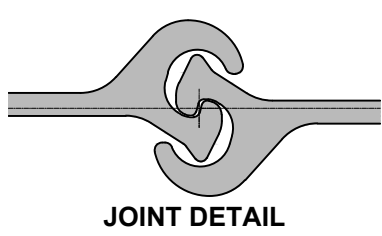
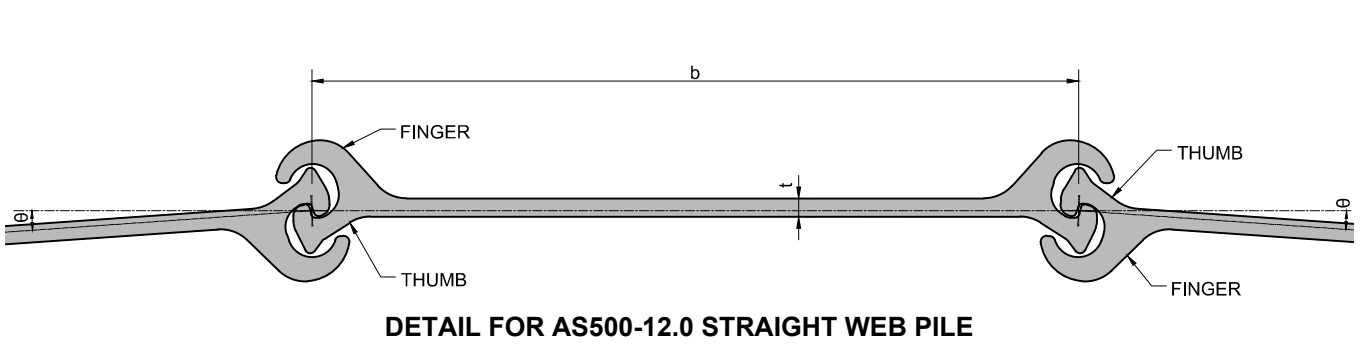
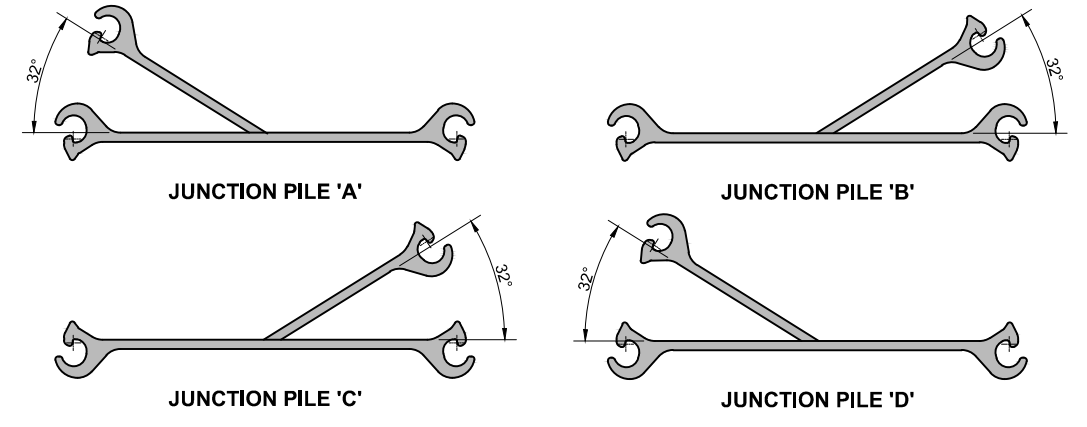
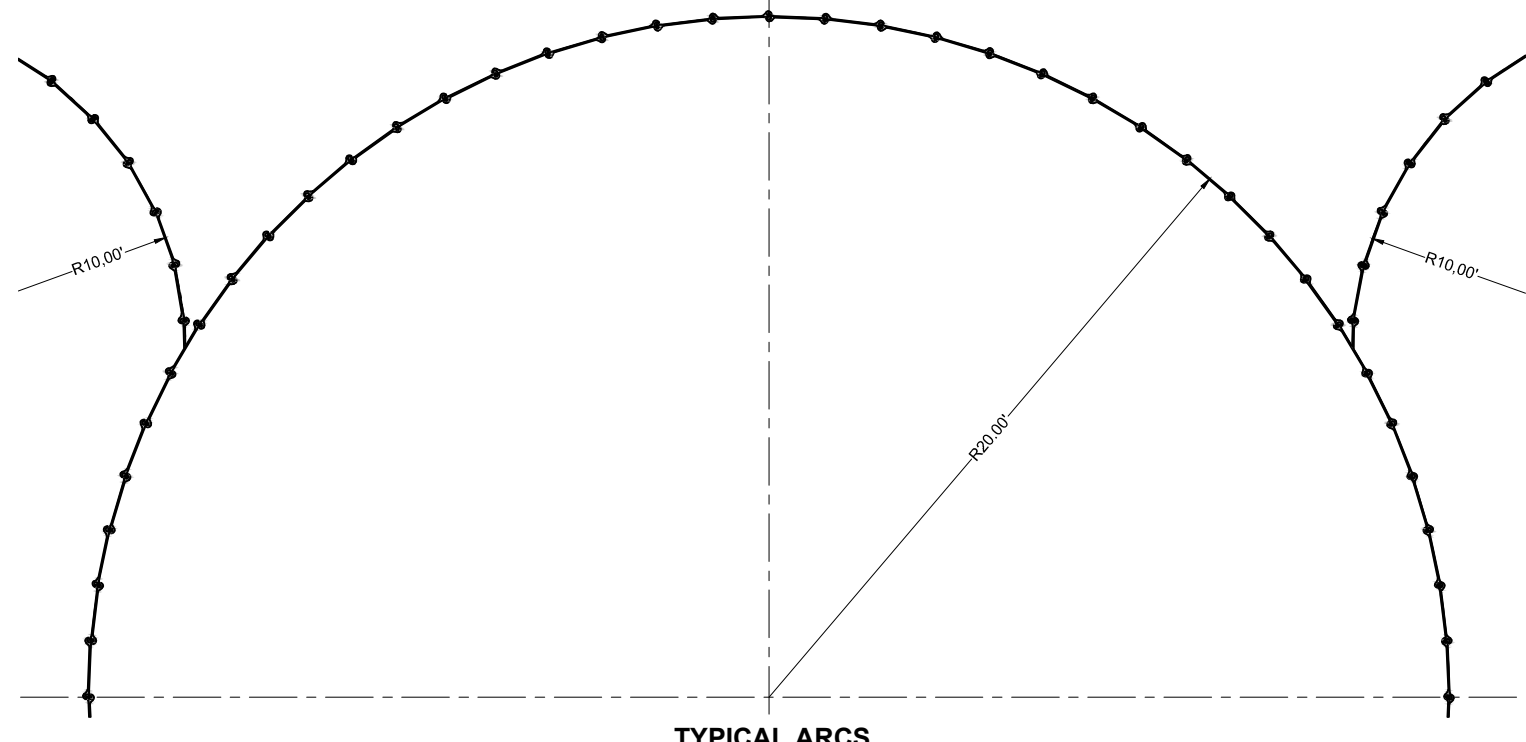
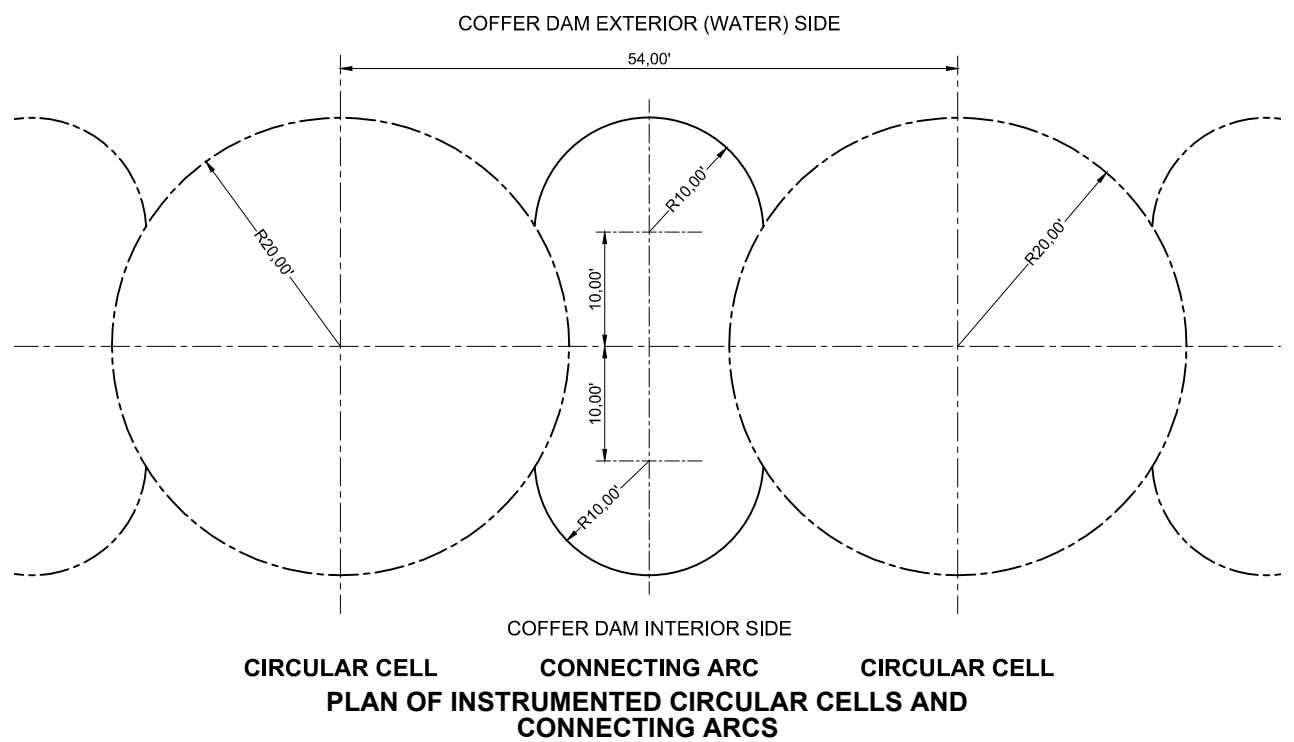
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

						DRAWN	ISH
						CHECKED	
						RECOMMENDED	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES INTAKE STRUCTURE-COFFER DAM
GENERAL ARRANGEMENT PLAN
DATE: MAR., 2021
DWG. NO.: RWCS-1/TD/AIT/IS/08
REV. 0



SECTION C - C



NOT FOR CONSTRUCTION

- NOTES**
- FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/IS/01.
 - THE DETAILS OF COFFER DAM WITH SHEET PILES ARE INDICATIVE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN OF COFFER DAM AND RELATED WORKS AND SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER.

CLIENT

IRRIGATION DEPARTMENT

GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF

NES PAE NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE

E ELECTRA CONSULTANTS
PESHAWAR

ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT

DETAILED DESIGN AND CONSTRUCTION

SUPERVISION OF REMODELING OF

WARSAK CANAL SYSTEM

IN

PESHAWAR AND NOWSHERA DISTRICTS

									DRAWN	ISH
									CHECKED	
									RECOMMENDED	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED				

REMODELING OF WARSAK CANAL SYSTEM

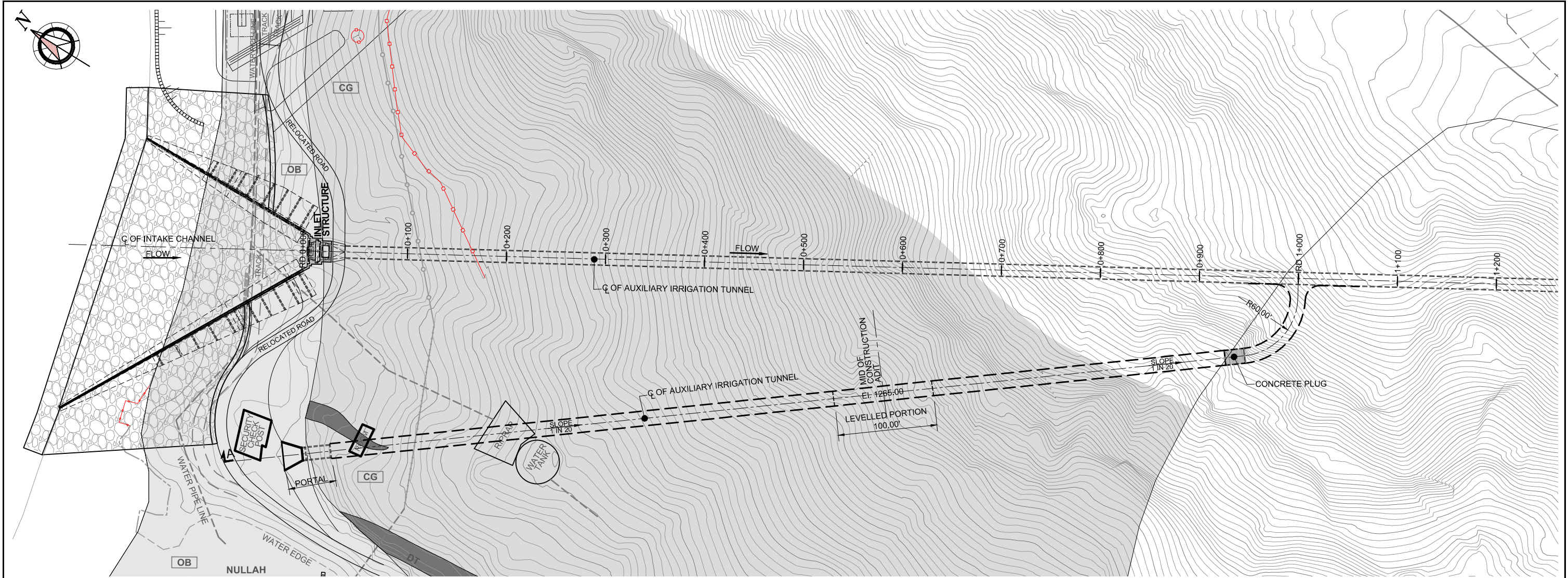
CONTRACT RWCS-1

AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE-COFFER DAM
COFFER DAM DETAILS

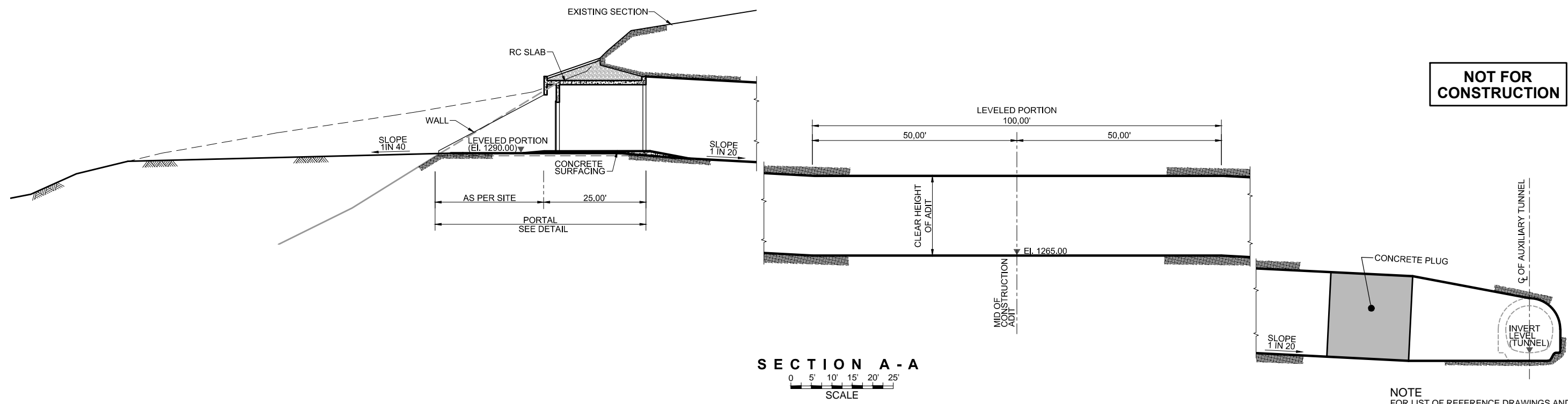
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DWG. NO.: **RWCS-1/TD/AIT/IS/09**

REV. $\frac{0}{1}$



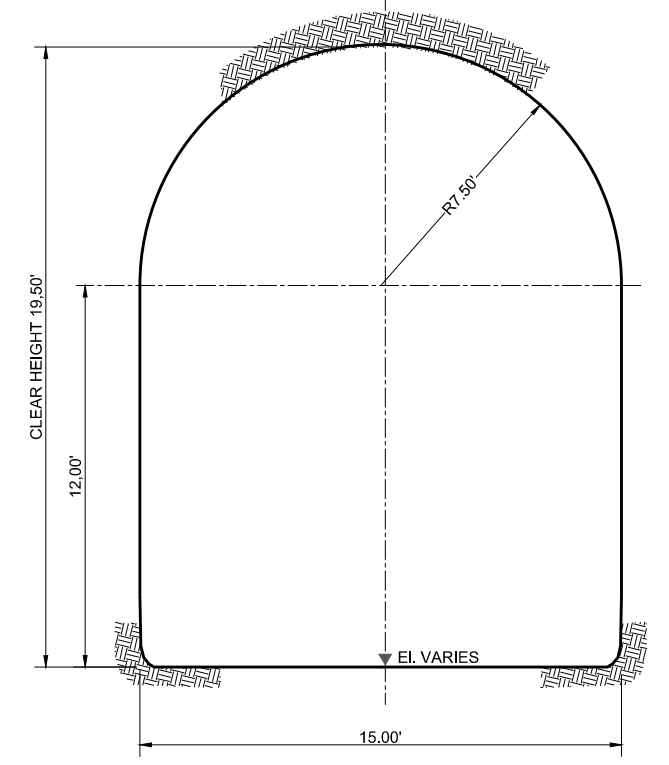
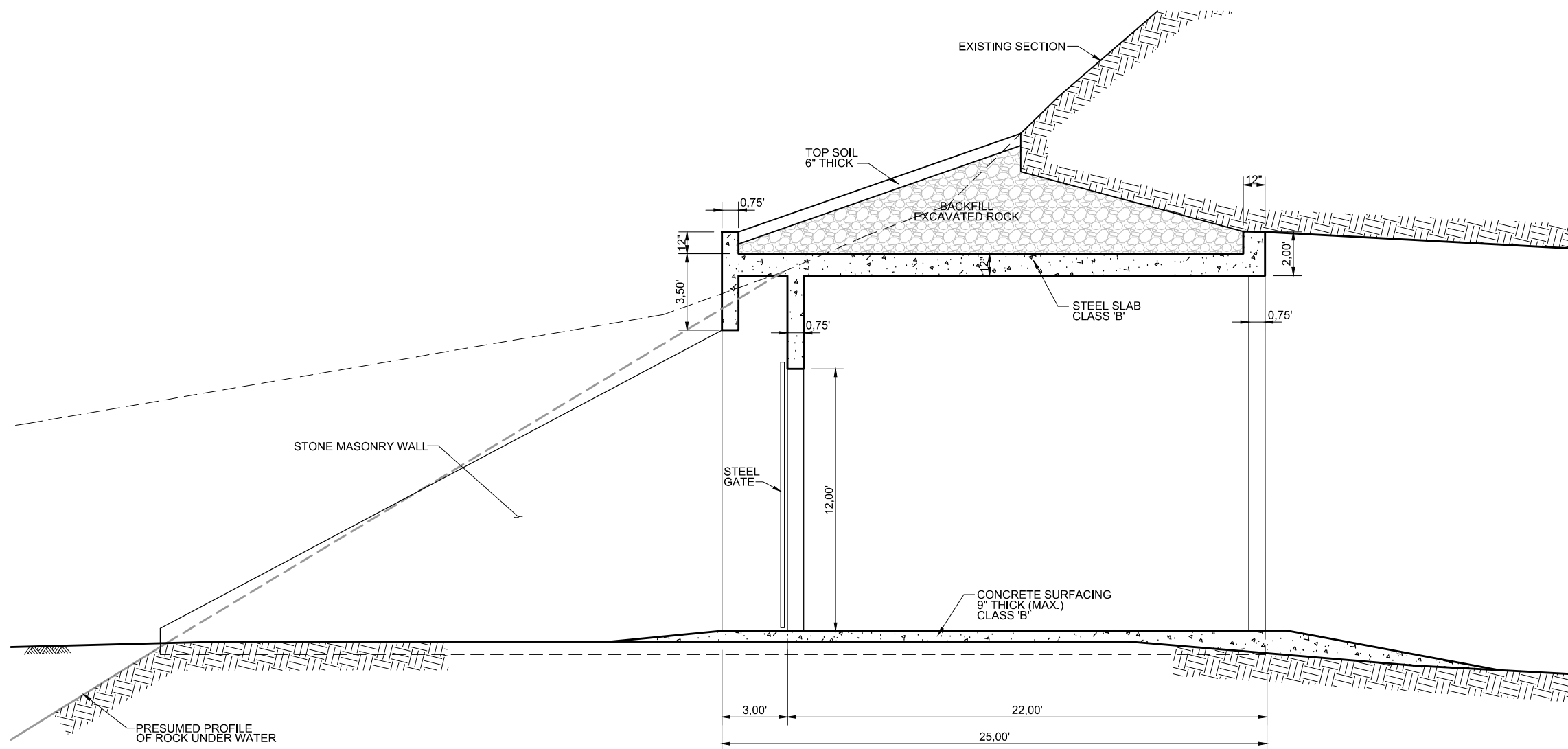
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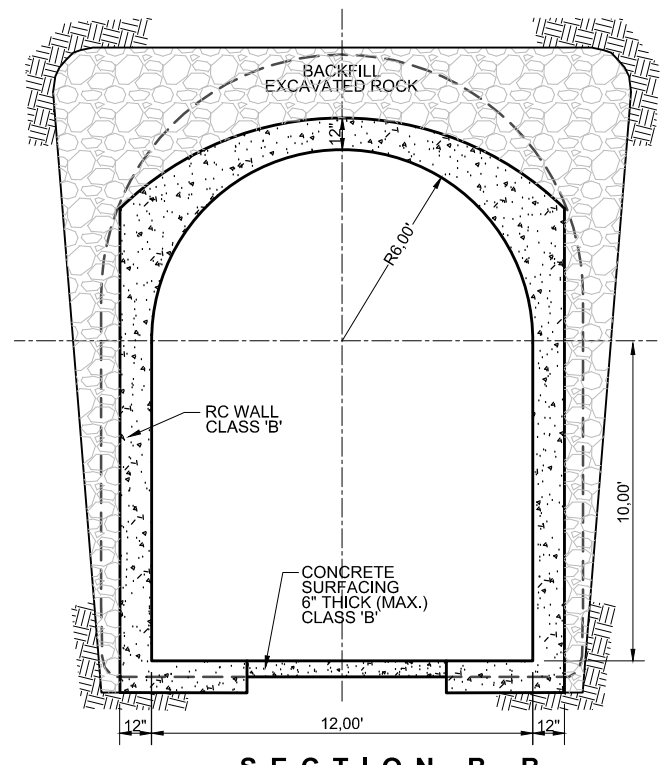
SECTION A-A
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FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.

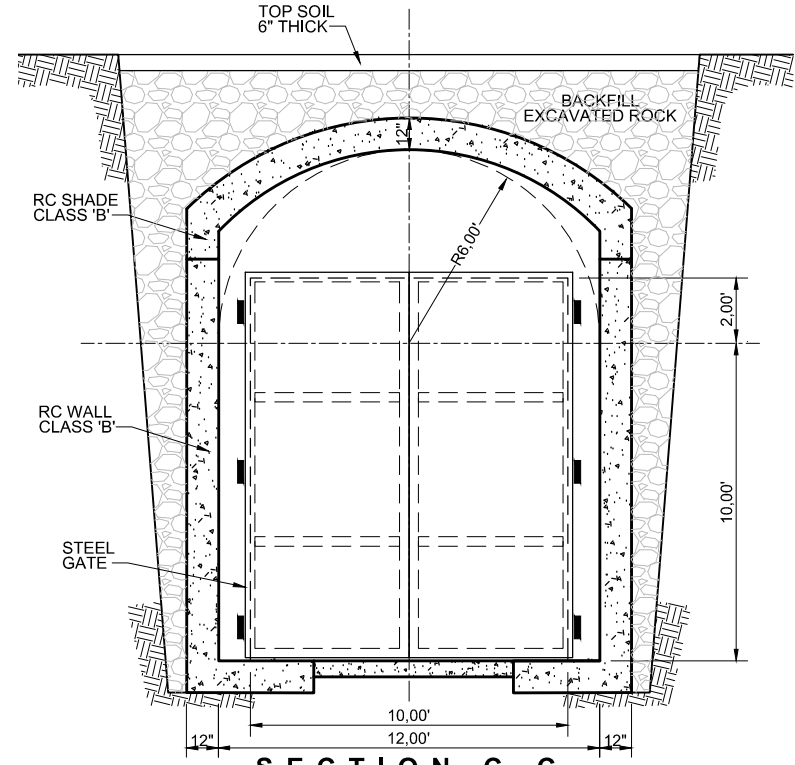
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NEEPA NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE E ELECTRA CONSULTANTS PESHAWAR ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES INTAKE STRUCTURE - CONSTRUCTION ADIT GENERAL ARRANGEMENT PLAN AND SECTIONS	
							CHECKED			DATE
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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED				



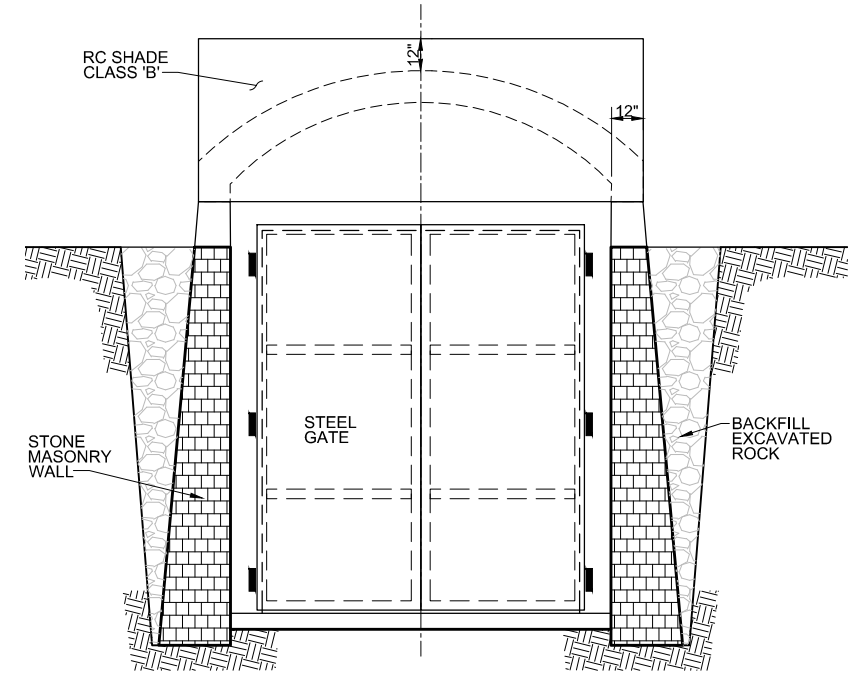
DETAIL FOR PORTAL (SECTION A-A)



SECTION B-B



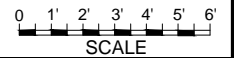
SECTION C-C



SECTION D-D

NOT FOR CONSTRUCTION

NOTE FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK CANALS PROJECT
 PESHAWAR

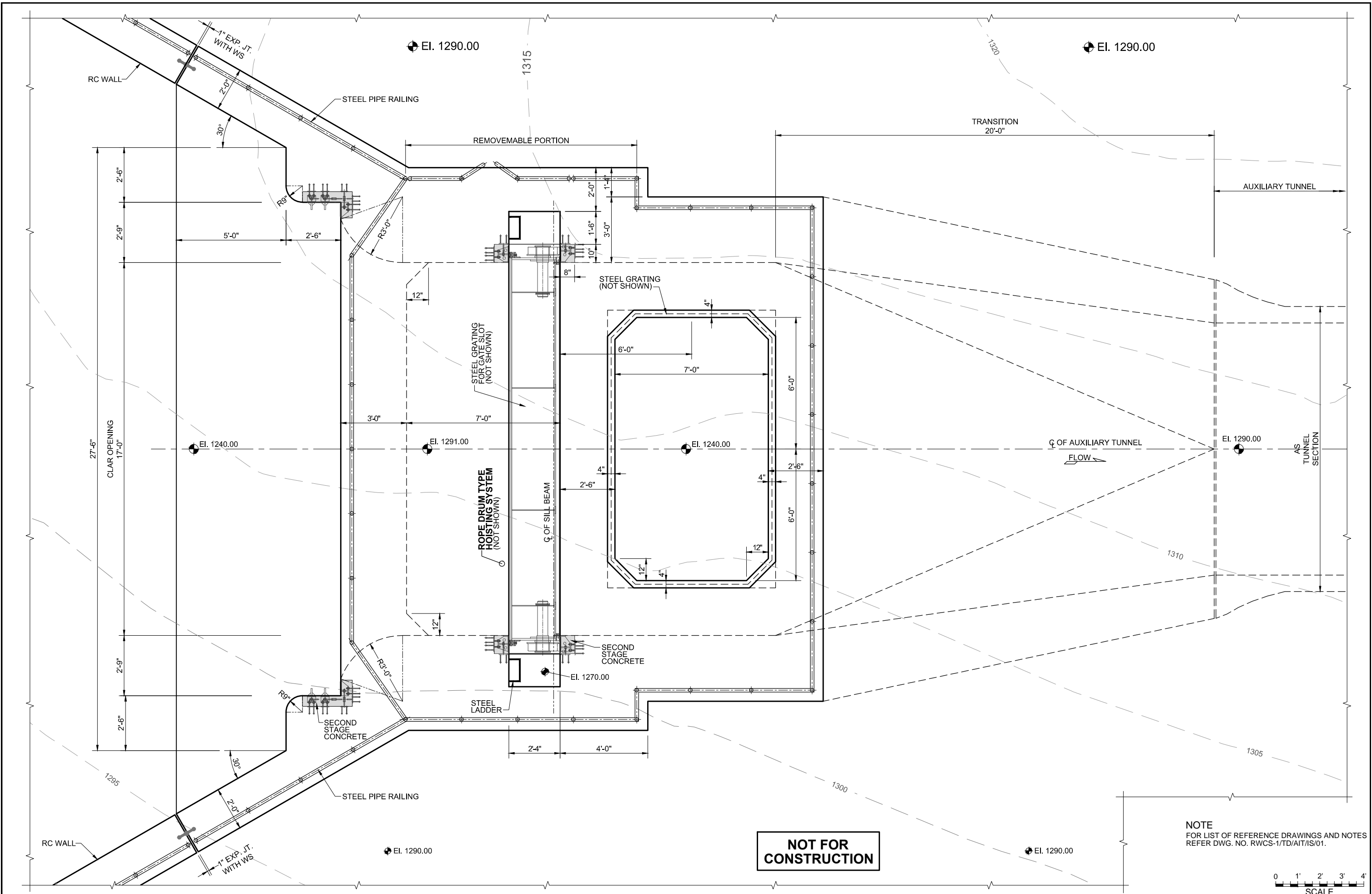
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

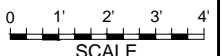
REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES INTAKE STRUCTURE - CONSTRUCTION ADIT SECTIONS

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/IS/11	0



**NOT FOR
CONSTRUCTION**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



CLIENT

IRRIGATION DEPARTMENT

GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF

**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**

**ELECTRA CONSULTANTS
PESHAWAR**

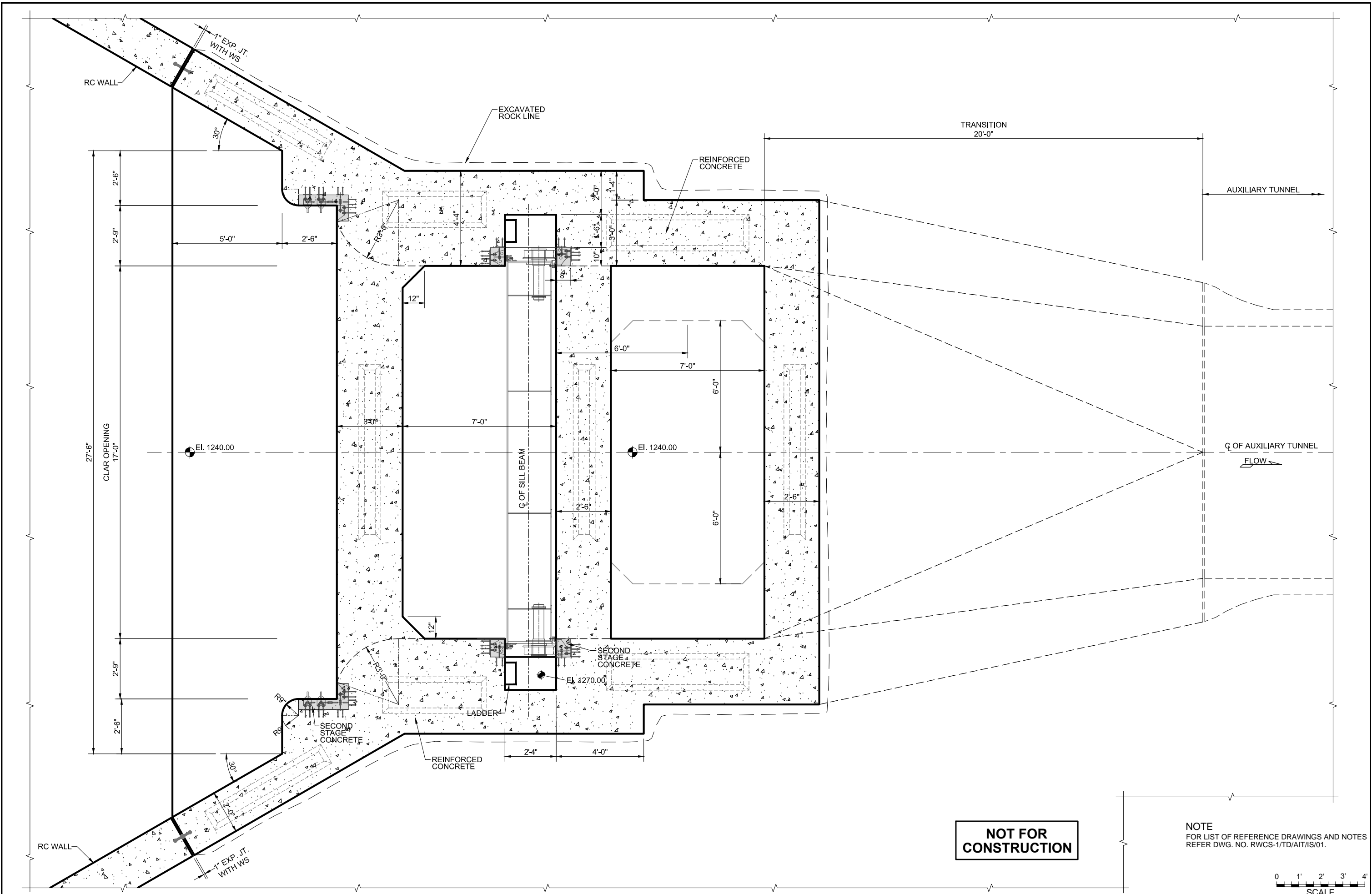
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(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

						DRAWN	Ishtiaq
						CHECKED	
						RECOMMENDED	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE
PLAN AT EL. 1295.00**

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/IS/12	0



**NOT FOR
CONSTRUCTION**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

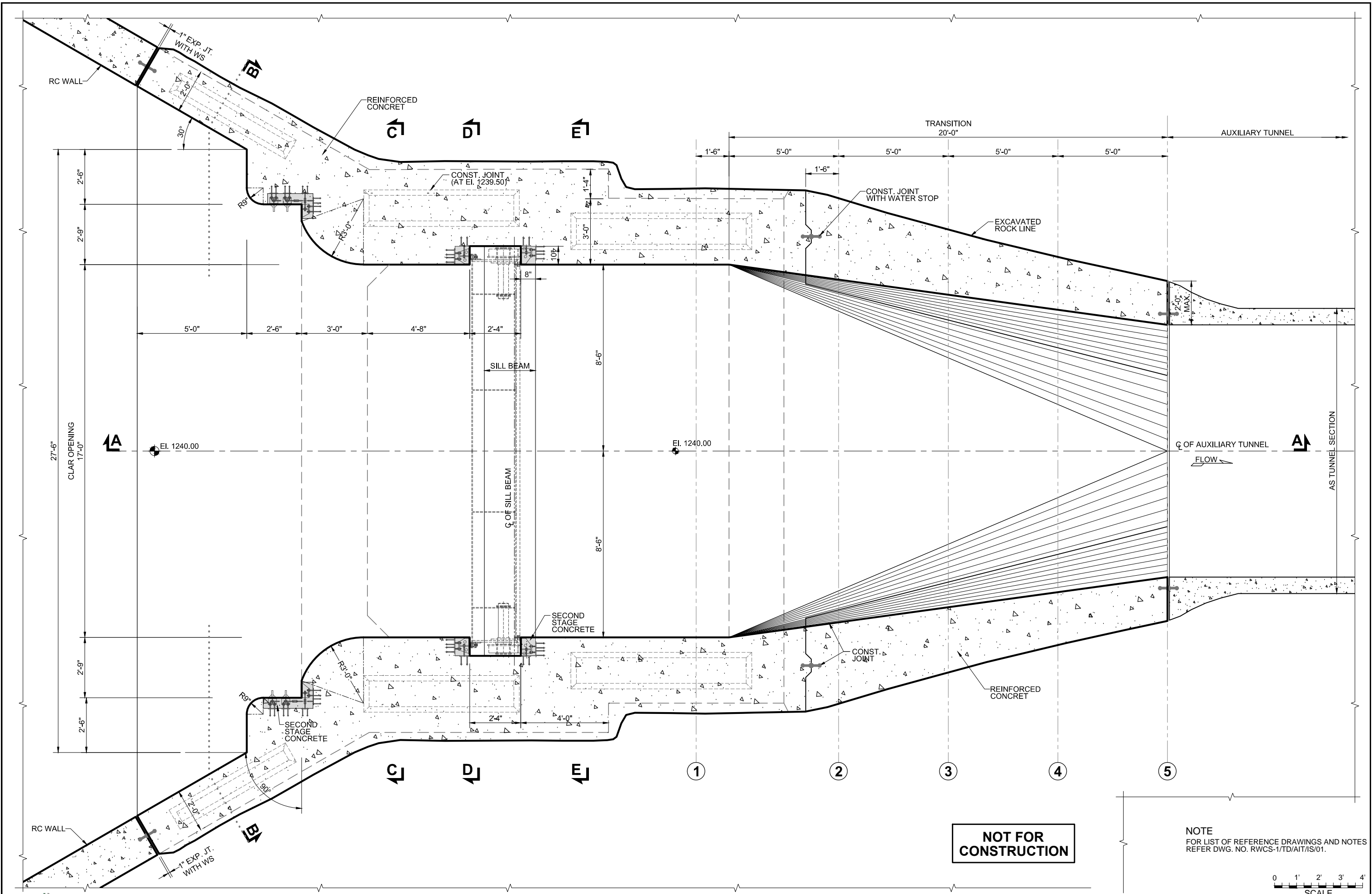
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 NATIONAL ENGINEERING SERVICES
 PAKISTAN (PVT.) LIMITED LAHORE
 ELECTRA CONSULTANTS
 PESHAWAR
 INTEGRATED CONSULTING SERVICES
 (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
 IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN Ishtiaq	CHECKED	RECOMMENDED

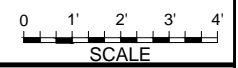
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
 INTAKE STRUCTURE
PLAN AT EI. 1272.00

DATE MAR., 2021	DWG. NO. RWCS-1/TD/AIT/IS/13	REV. 0
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NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



WATER SUPPLY DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
- REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

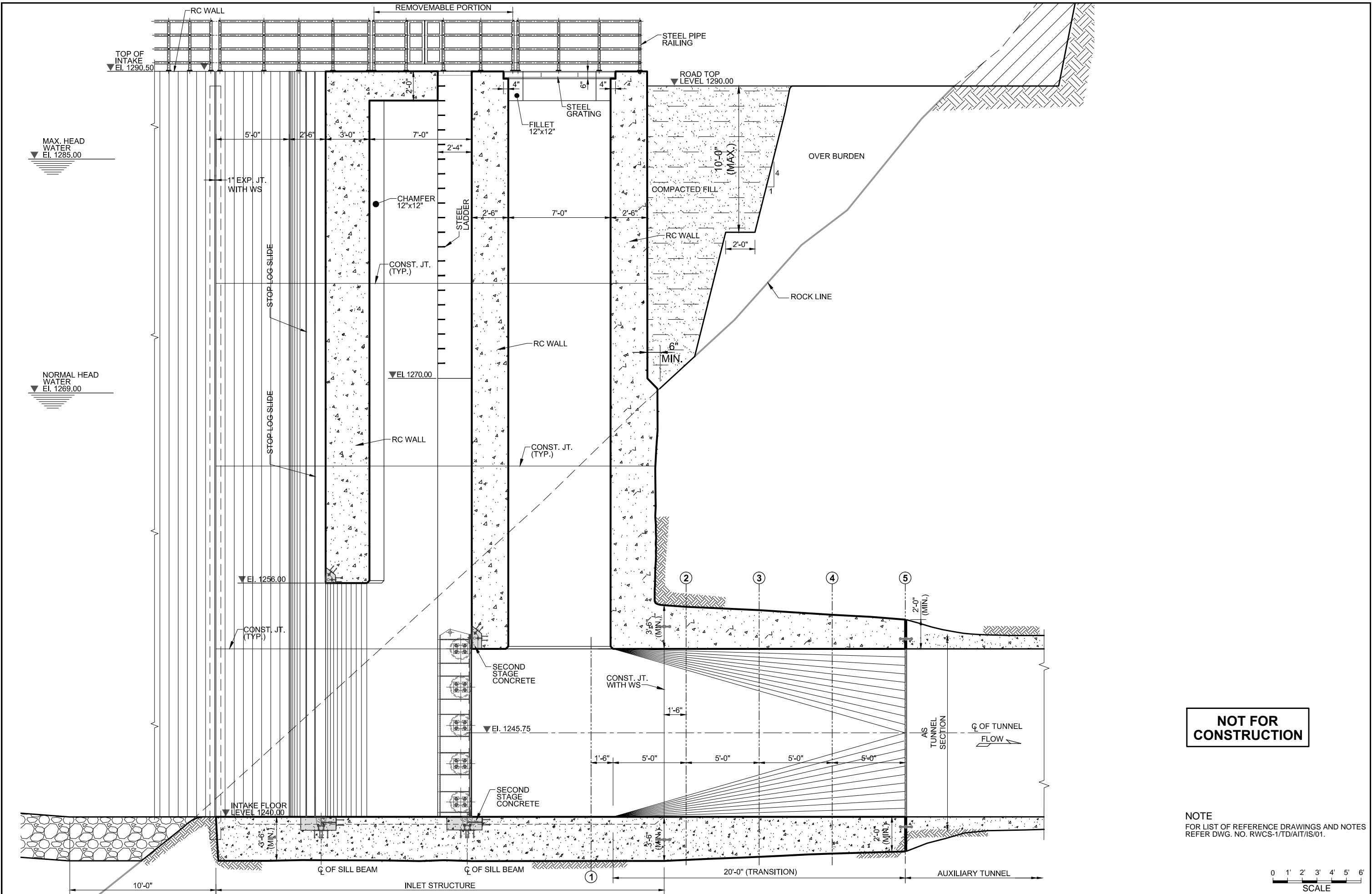
CONSULTANT - A JOINT VENTURE OF
 NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
 ELECTRA CONSULTANTS
PESHAWAR
 INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	Ishtiaq
							CHECKED	
							RECOMMENDED	

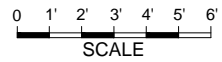
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE
PLAN AT EL. 1242.00

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/IS/14	0



NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

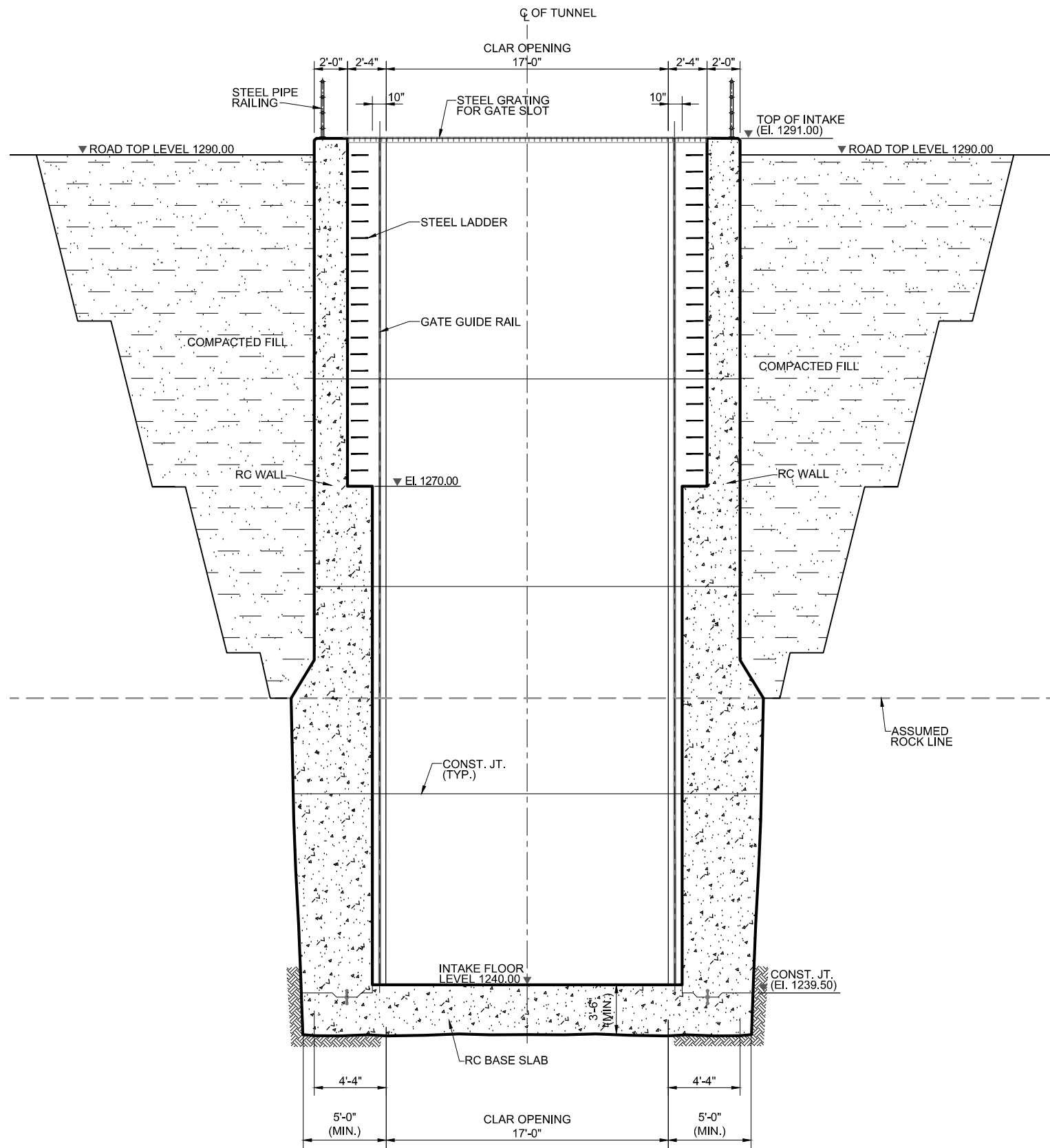
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**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

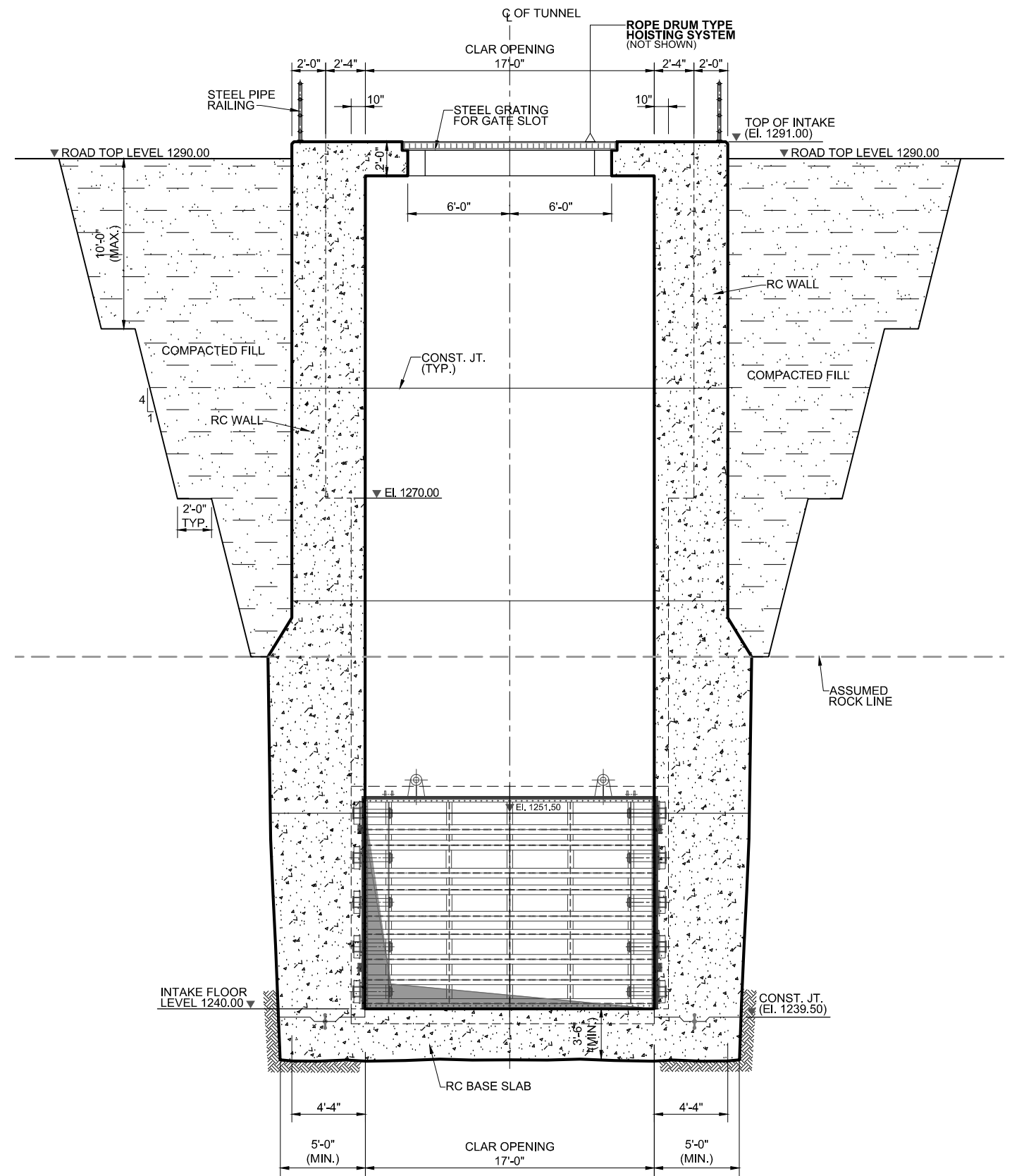
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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE
SECTION A-A**

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/IS/15	0



SECTION D-D



SECTION E-E

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



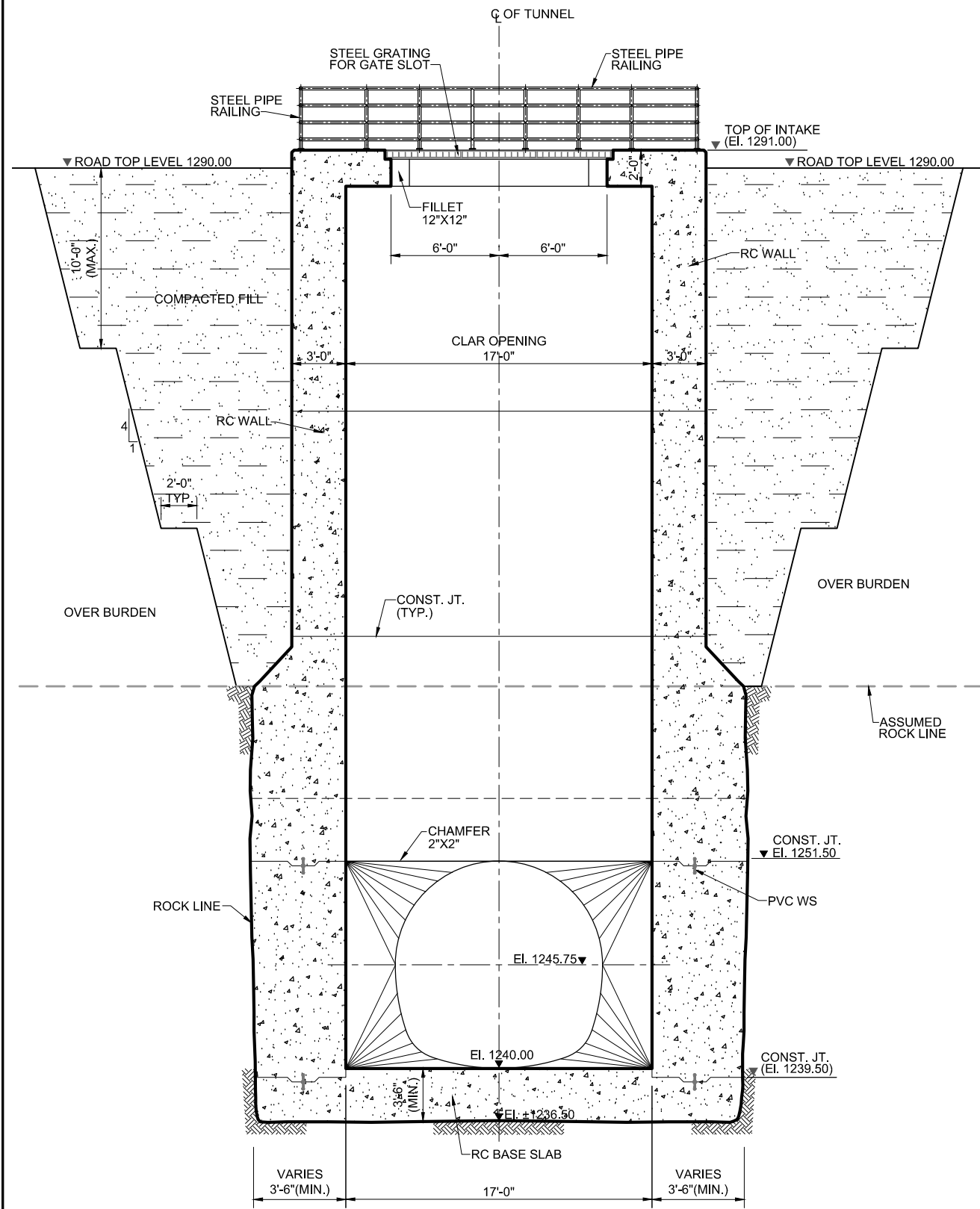
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

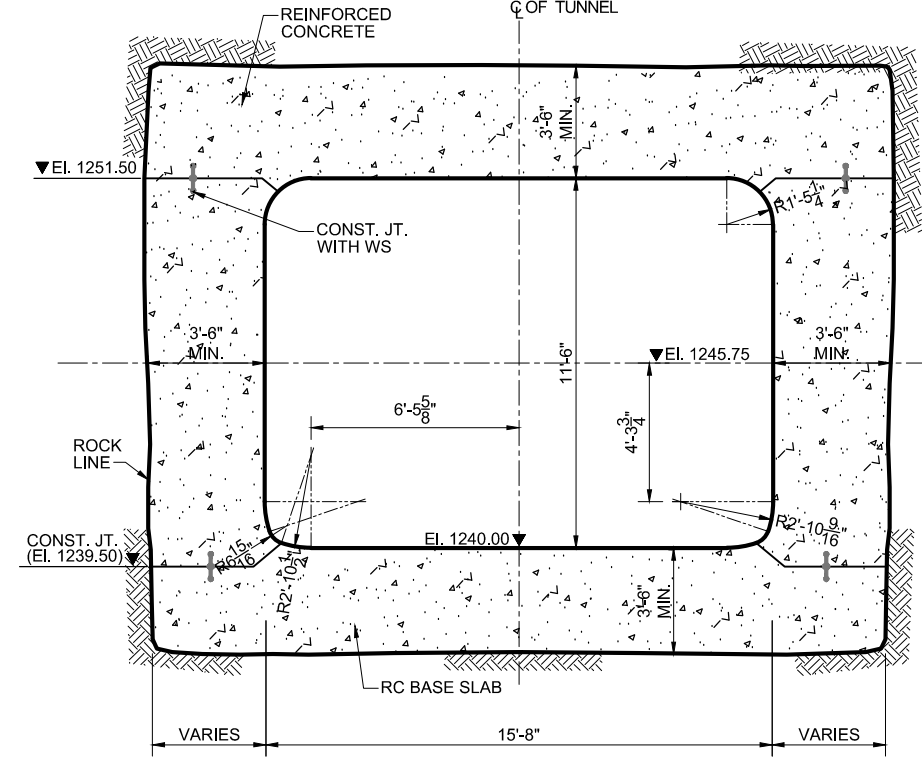
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

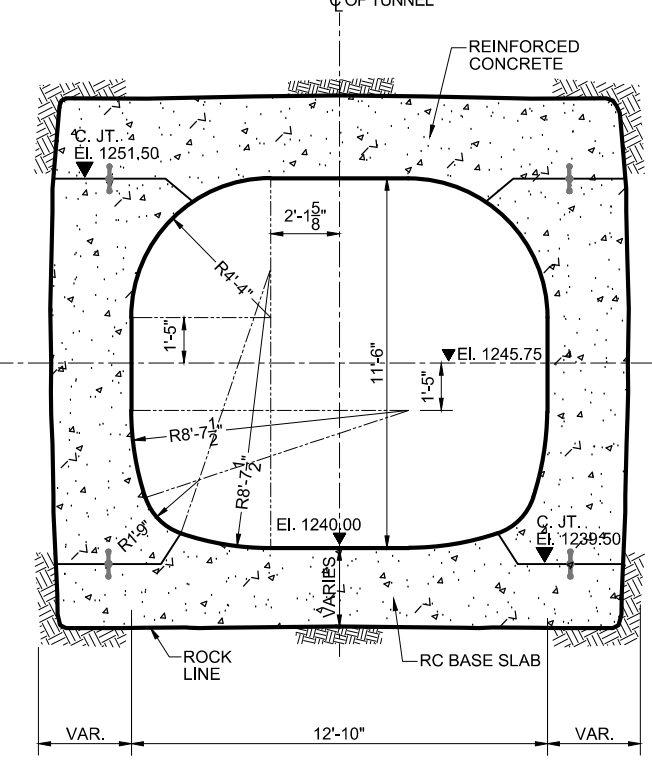
DRAWN Ishtiaq		REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES INTAKE STRUCTURE SECTIONS
CHECKED		
RECOMMENDED		
DATE MAR., 2021	DWG. NO. RWCS-1/TD/AIT/IS/16	REV. 0



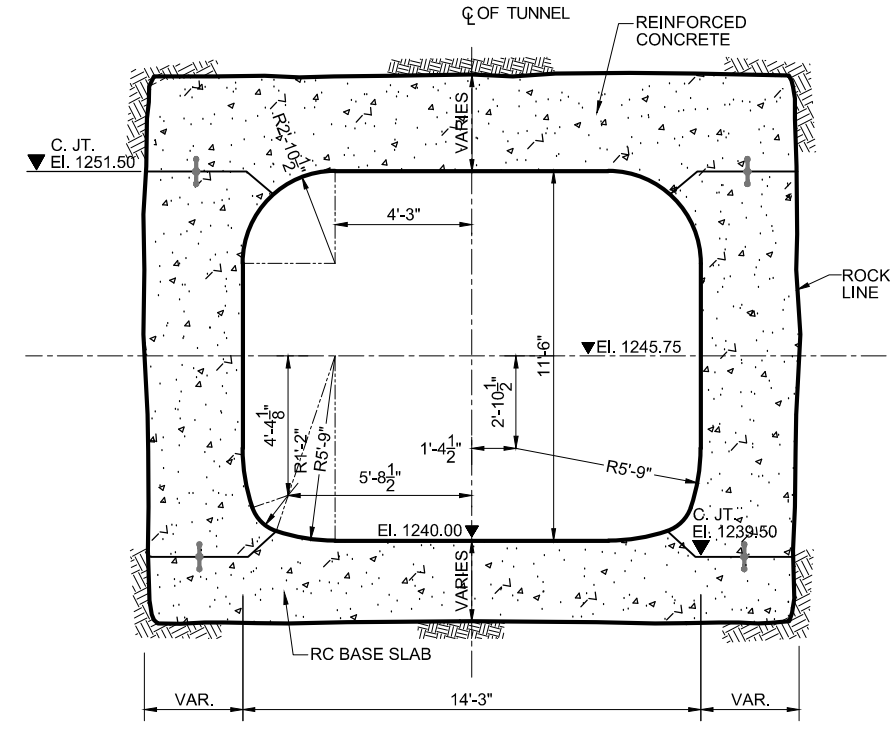
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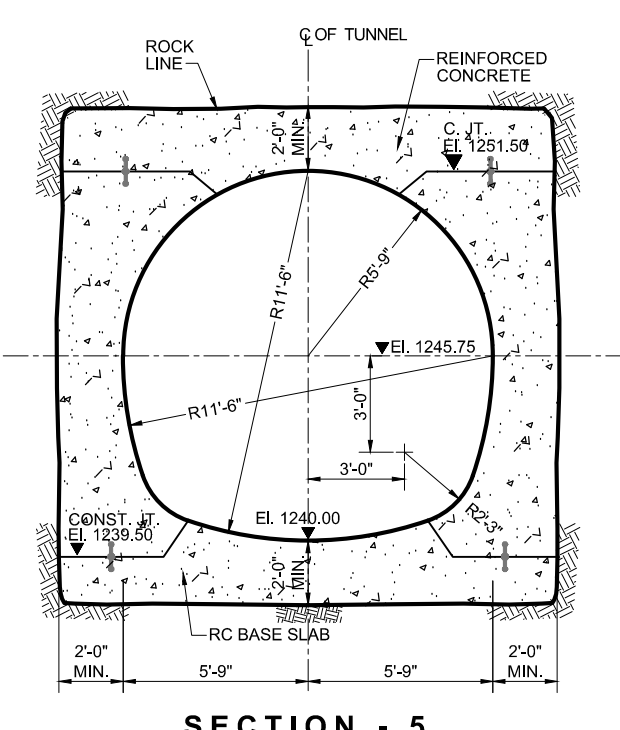
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SECTION - 4



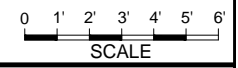
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SECTION - 5

NOT FOR CONSTRUCTION

NOTE
 FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/IS/01.



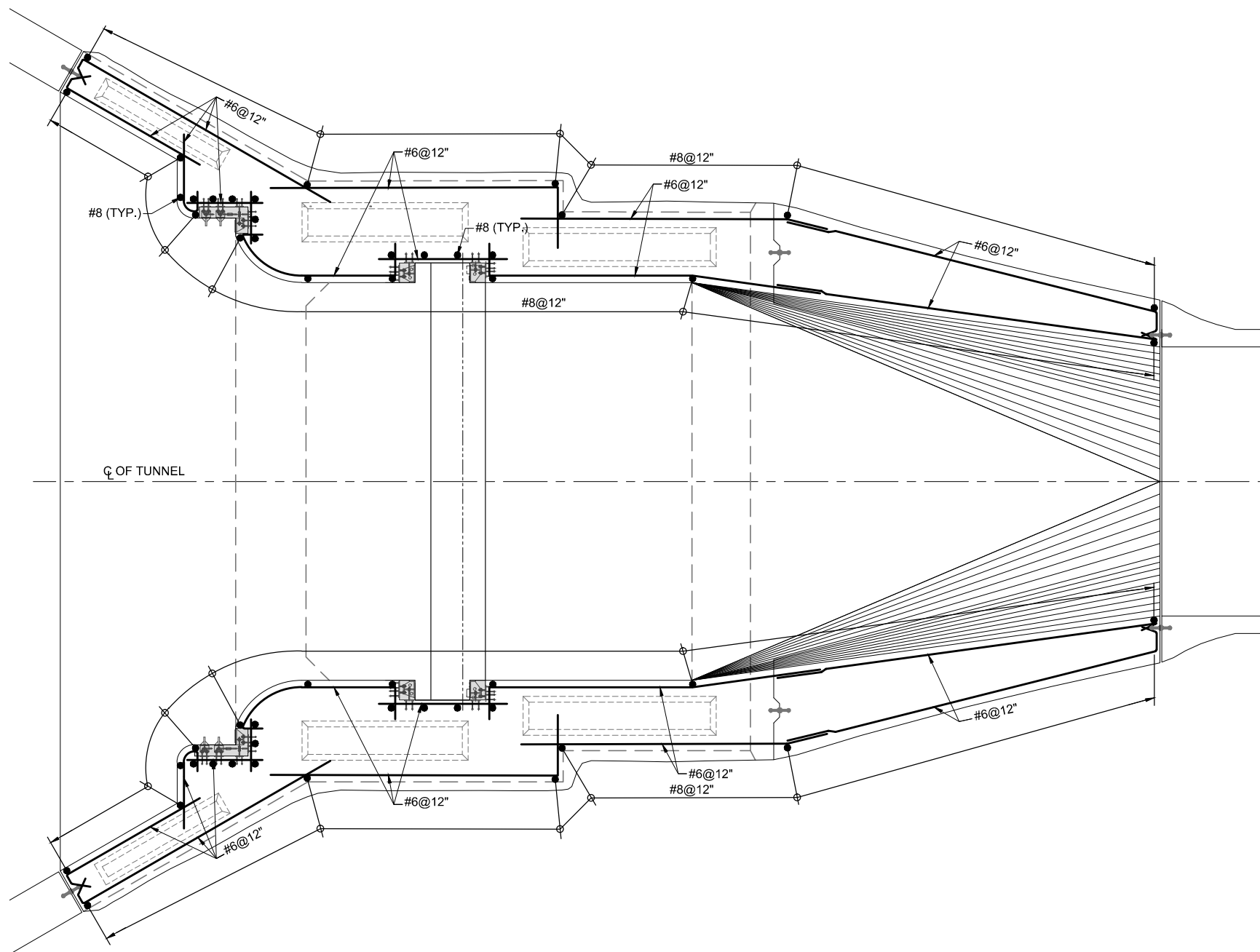
CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

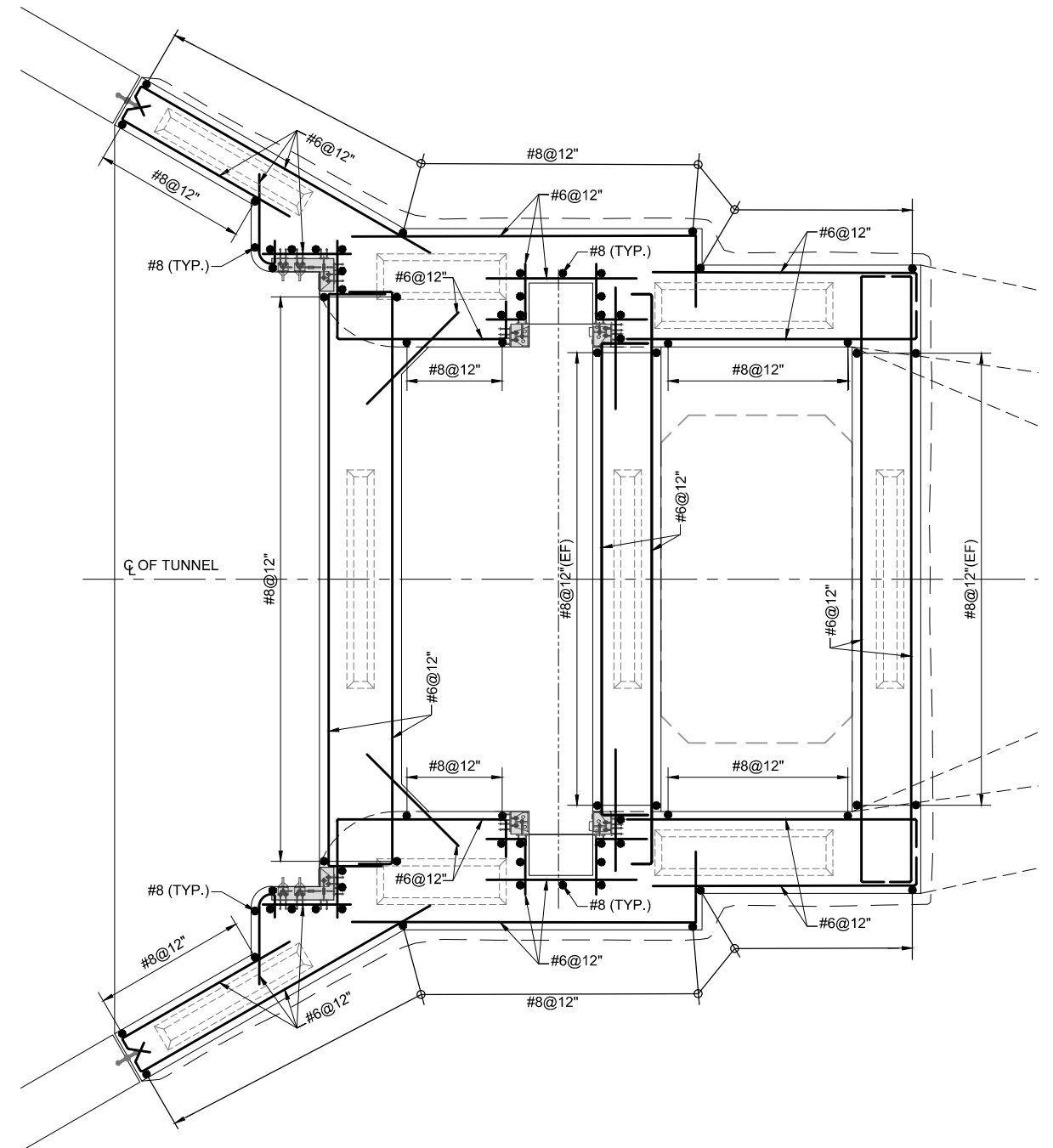
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DRAWN	Ishtiaq
CHECKED	
RECOMMENDED	
DATE	MAR., 2021
DWG. NO.	RWCS-1/TD/AIT/IS/17
REV.	0



PLAN AT EI. 1242.00



PLAN AT EI. 1272.00

**NOT FOR
CONSTRUCTION**

NOTE
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REFER DWG. NO. RWCS-1/TD/AIT/IS/01.

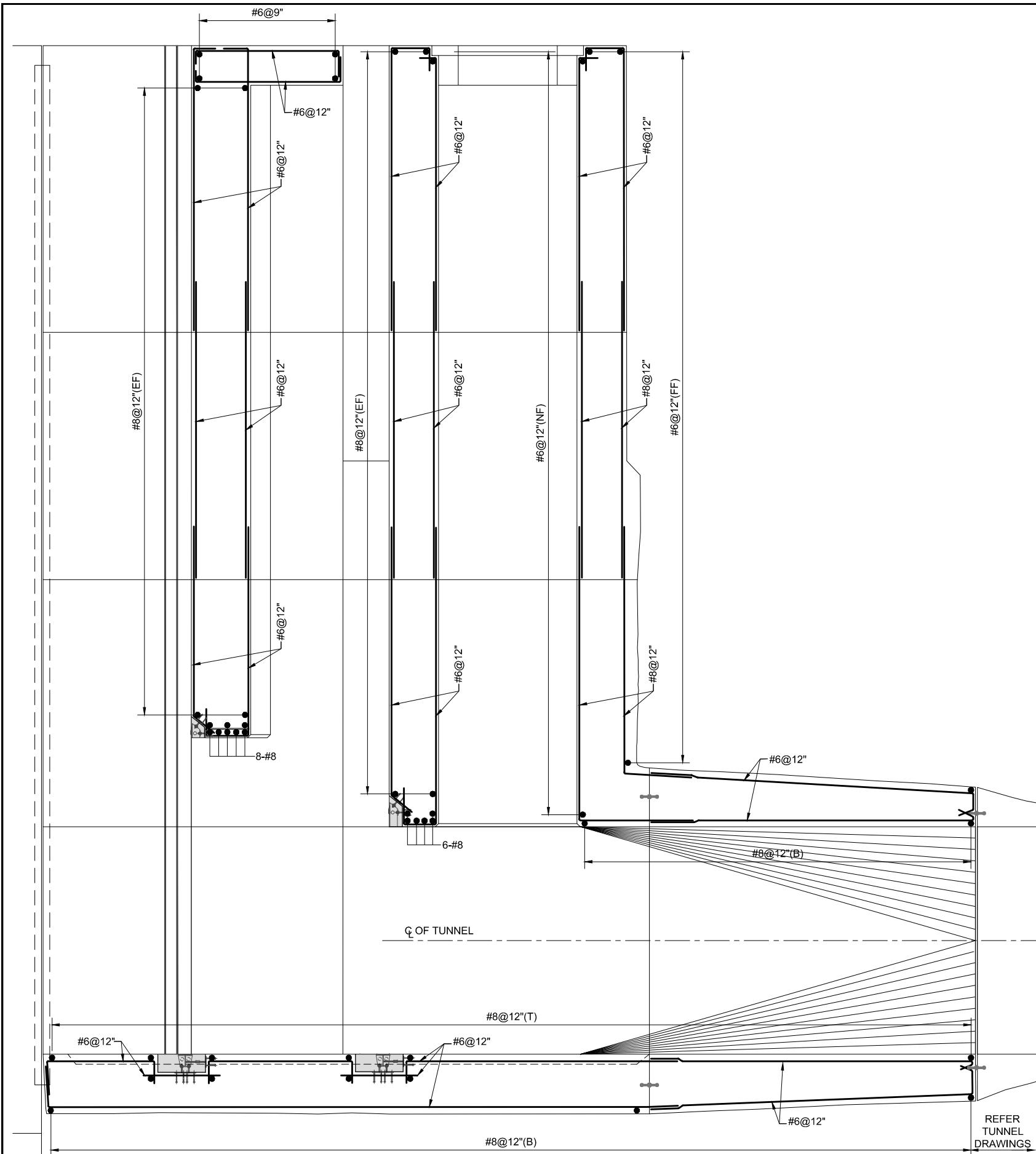
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

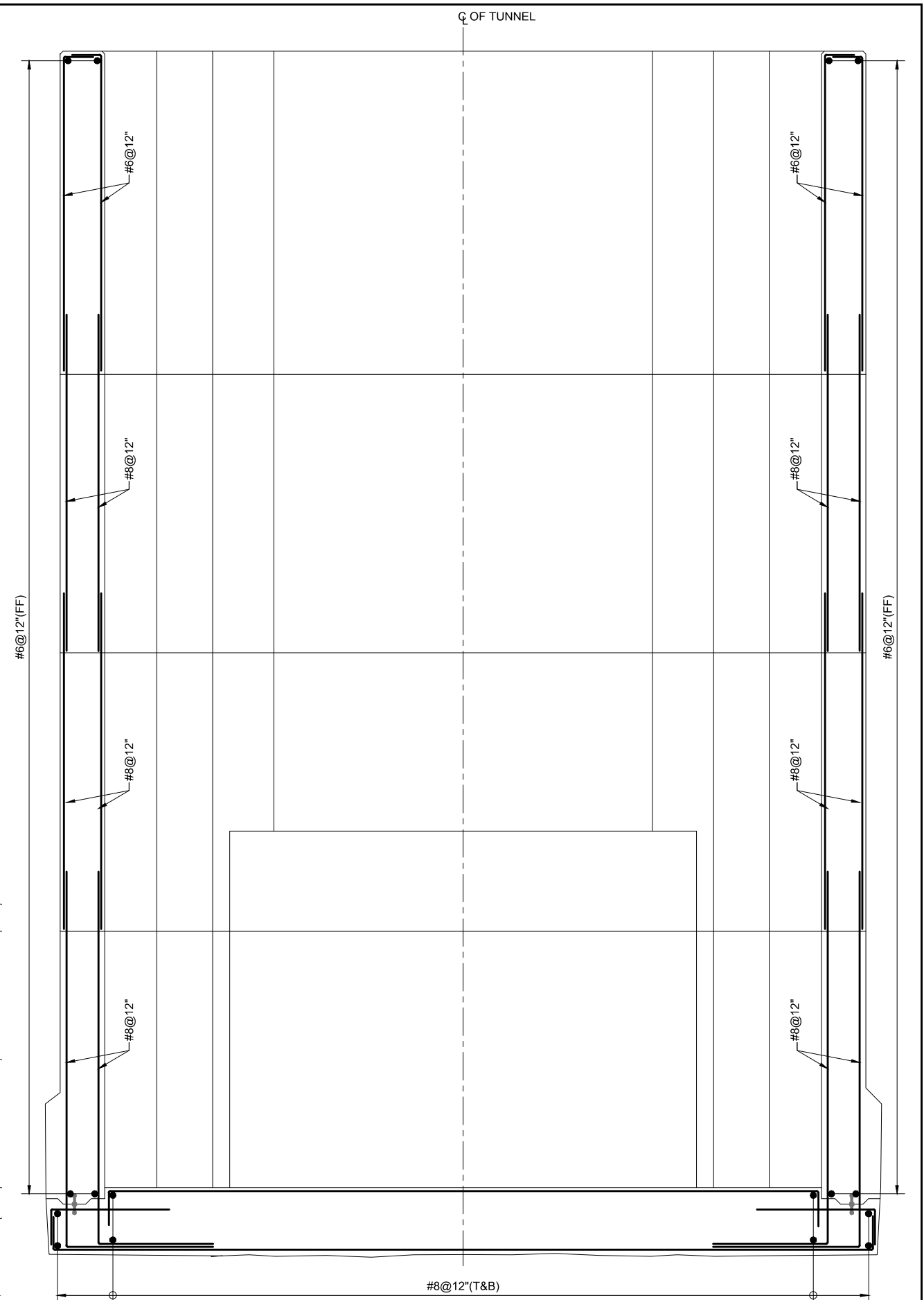
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE
REINFORCEMENT DETAILS
DATE: MAR., 2021
DWG. NO.: RWCS-1/TD/AIT/IS/18
REV. 0



SECTION A-A



NOT FOR CONSTRUCTION

SECTION B-B

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.

CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

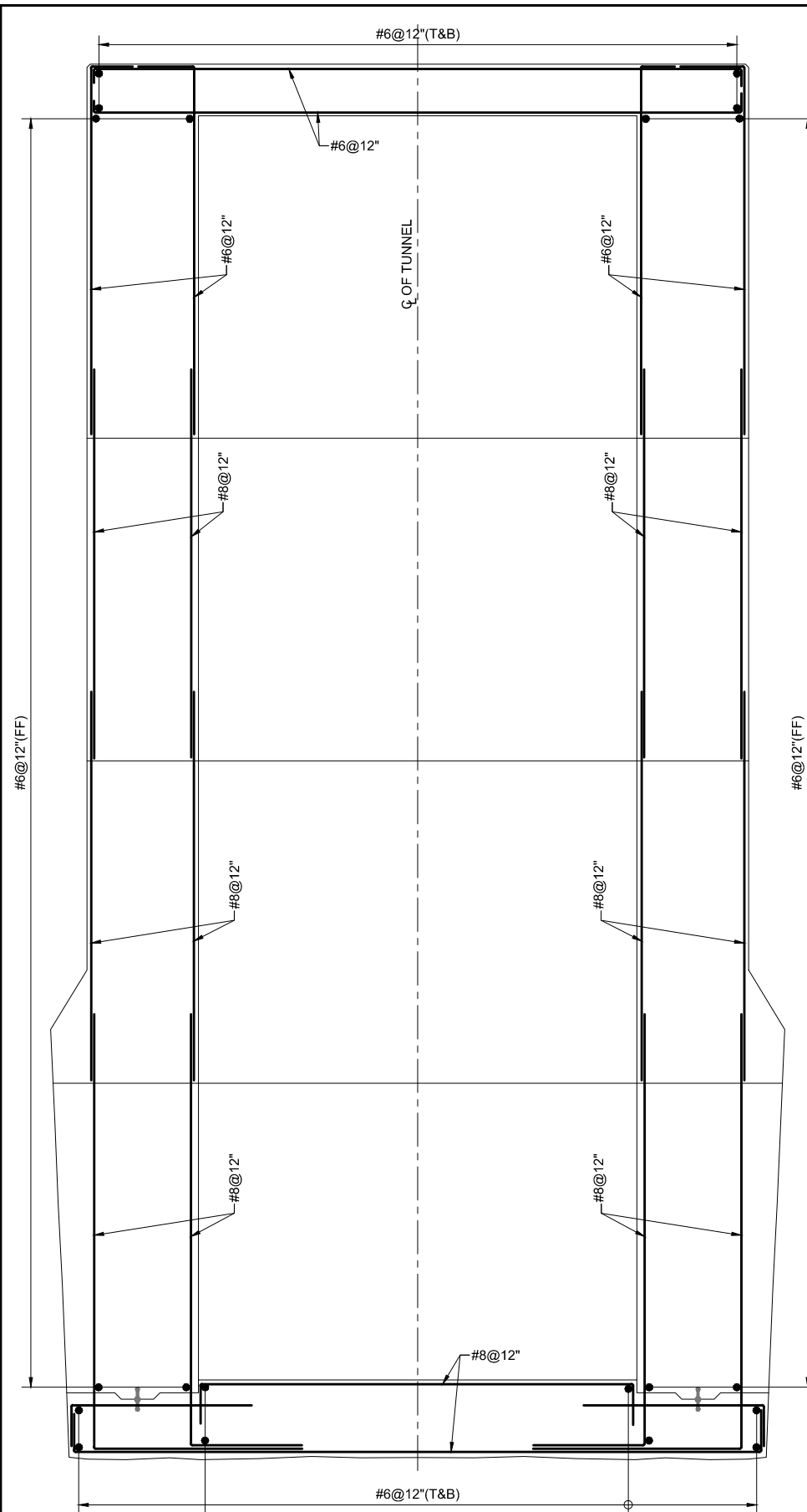
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

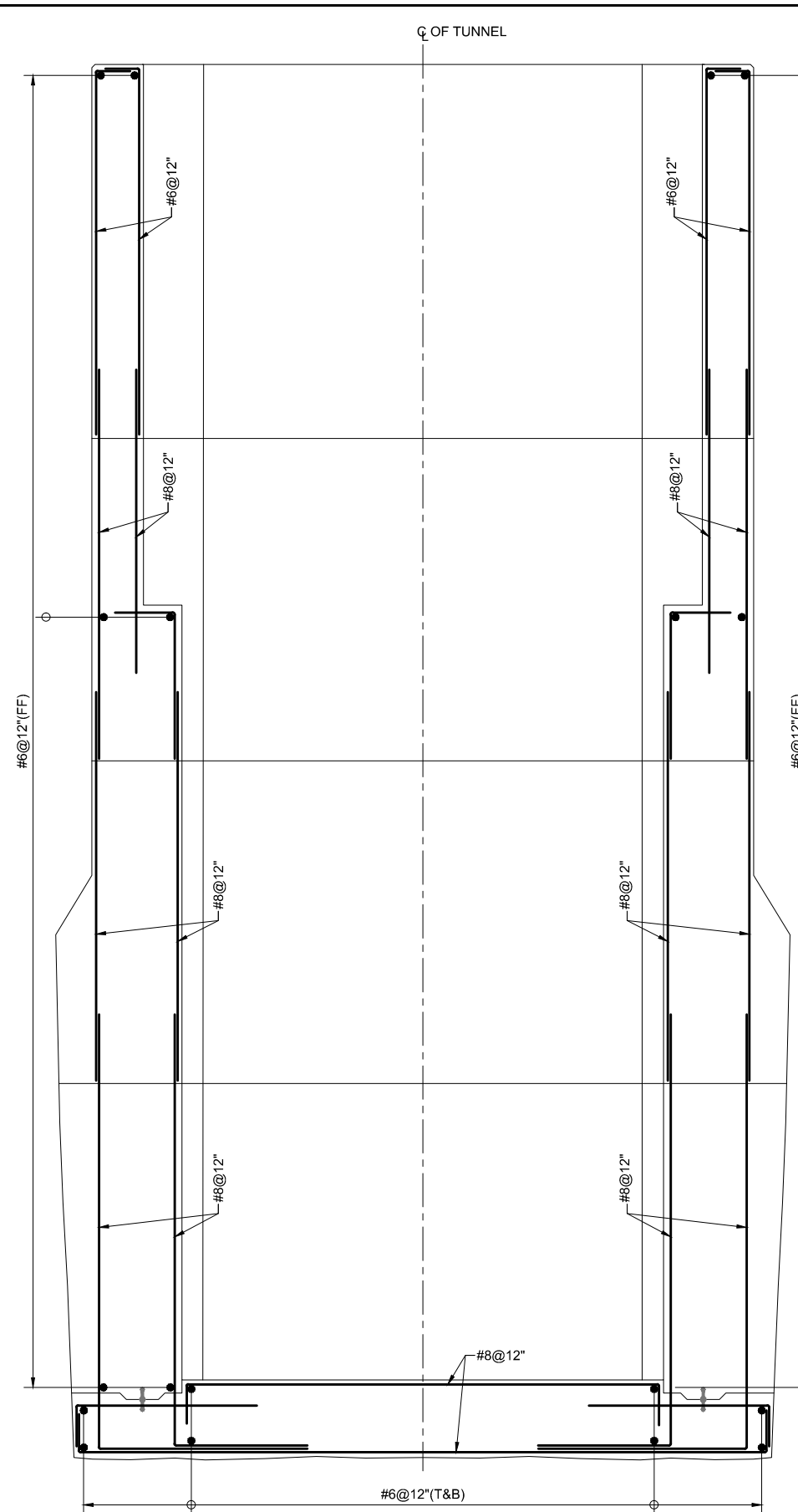
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE
REINFORCEMENT DETAILS

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/IS/19	0

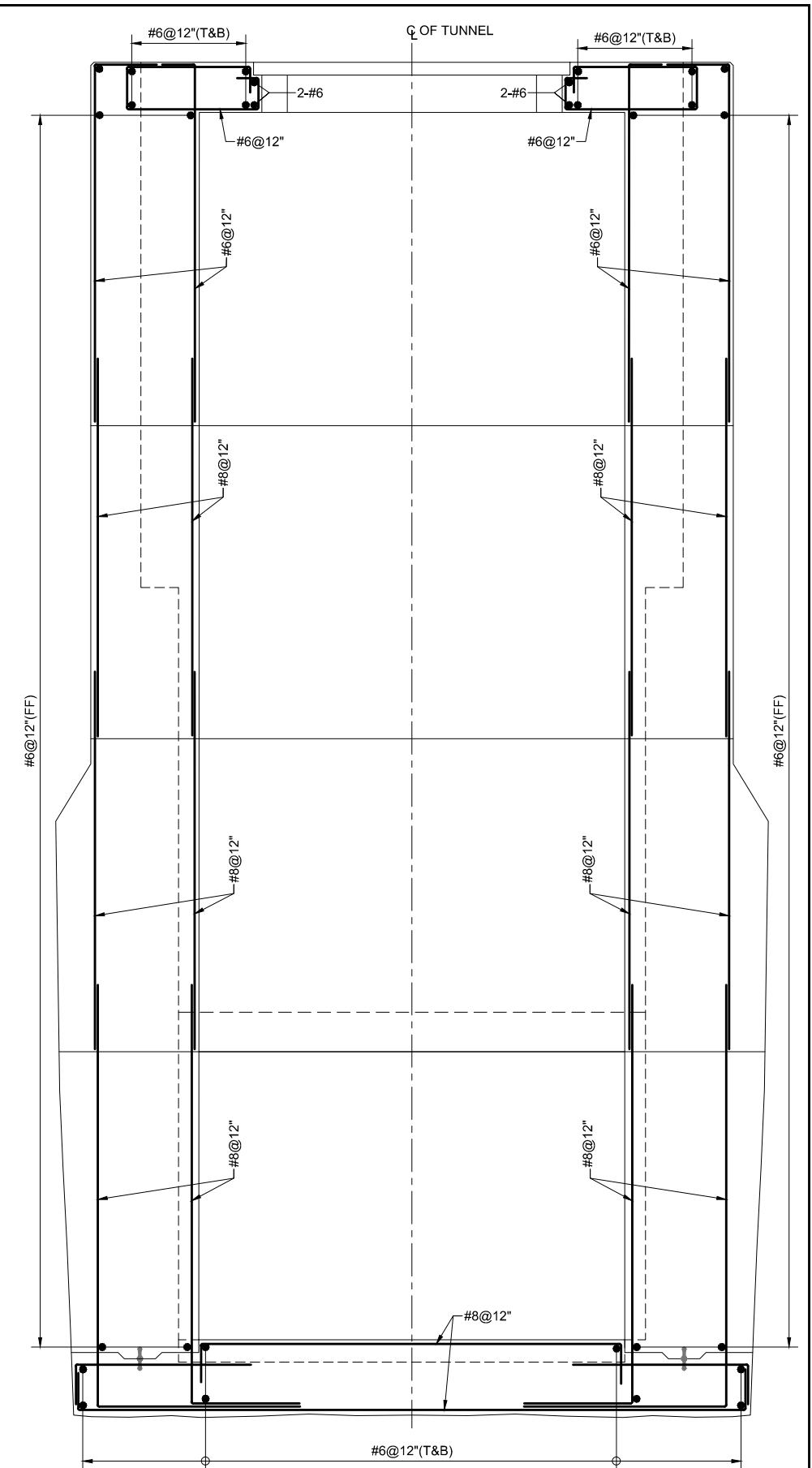




SECTION C-C



SECTION D-D



SECTION E-E

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

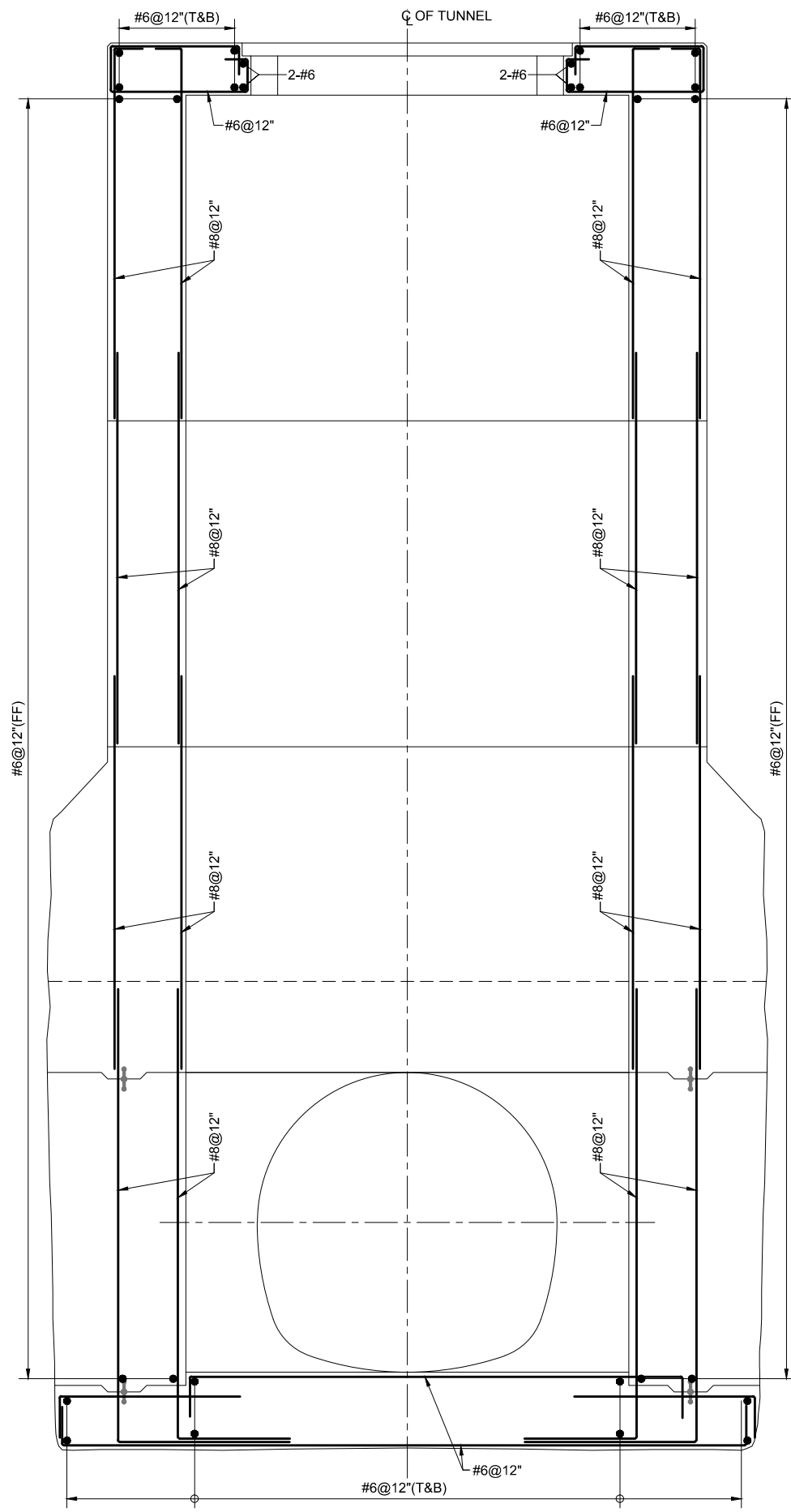
CONSULTANT - A JOINT VENTURE OF
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ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
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REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
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PESHAWAR AND NOWSHERA DISTRICTS

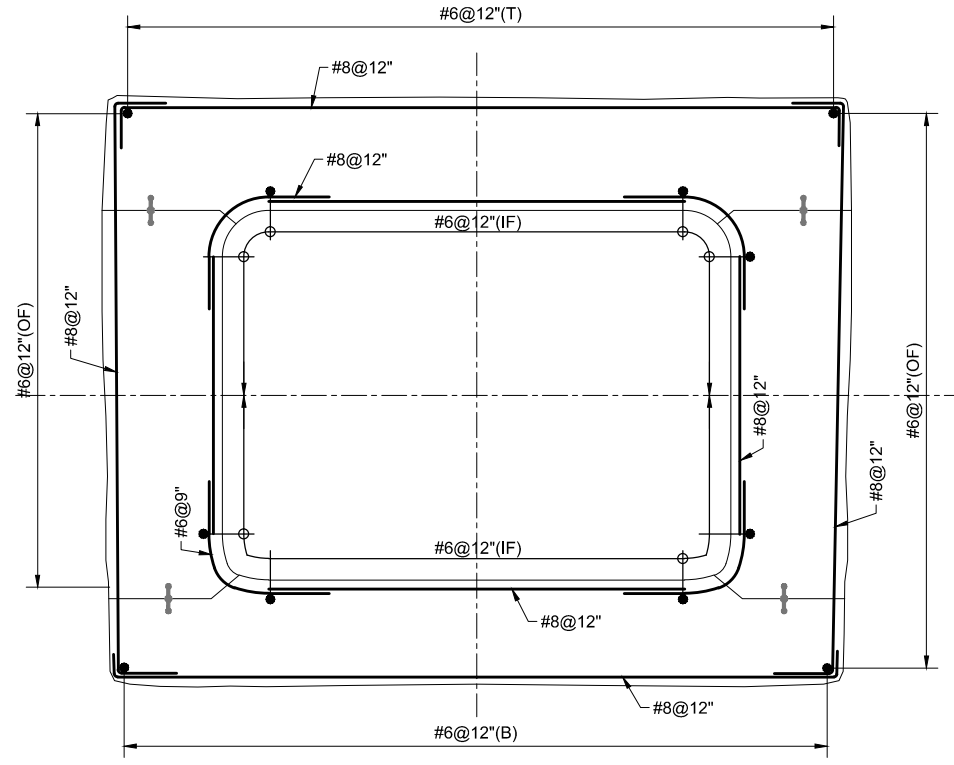
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DRAWN		Ishtiaq	
CHECKED			
RECOMMENDED			
APPROVED			
DATE	DWG. NO.	REV.	
MAR., 2021	RWCS-1/TD/AIT/IS/20	0	

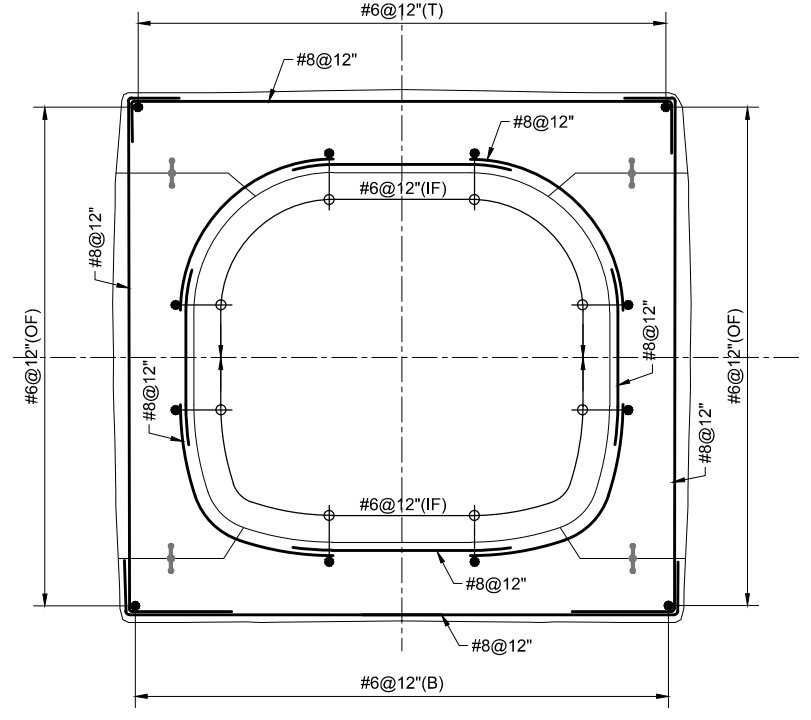
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE
REINFORCEMENT DETAILS



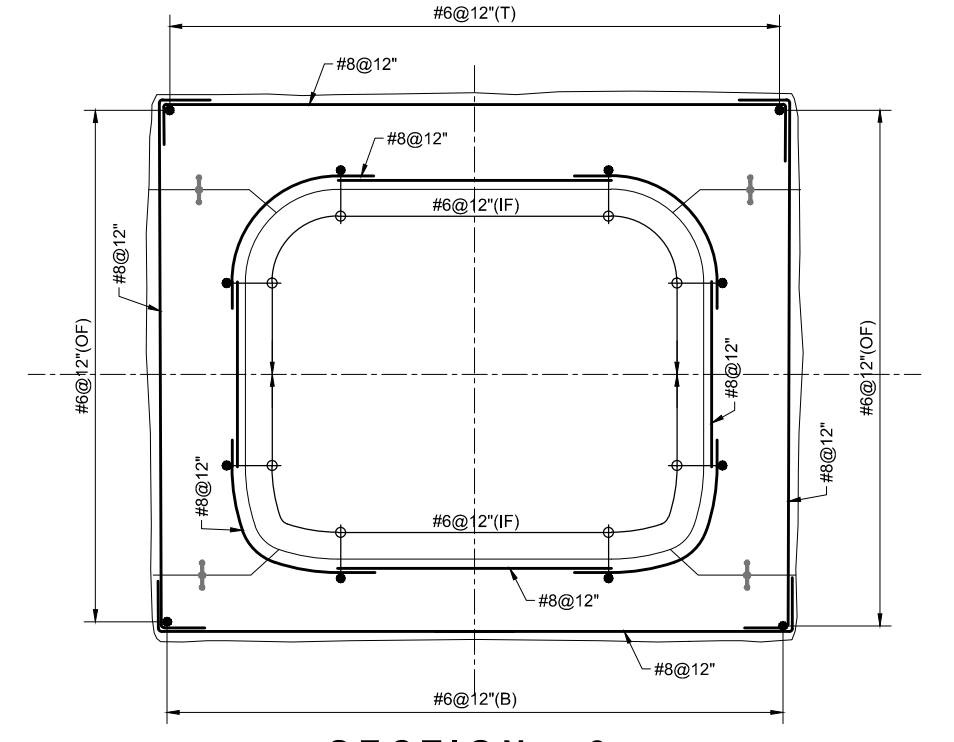
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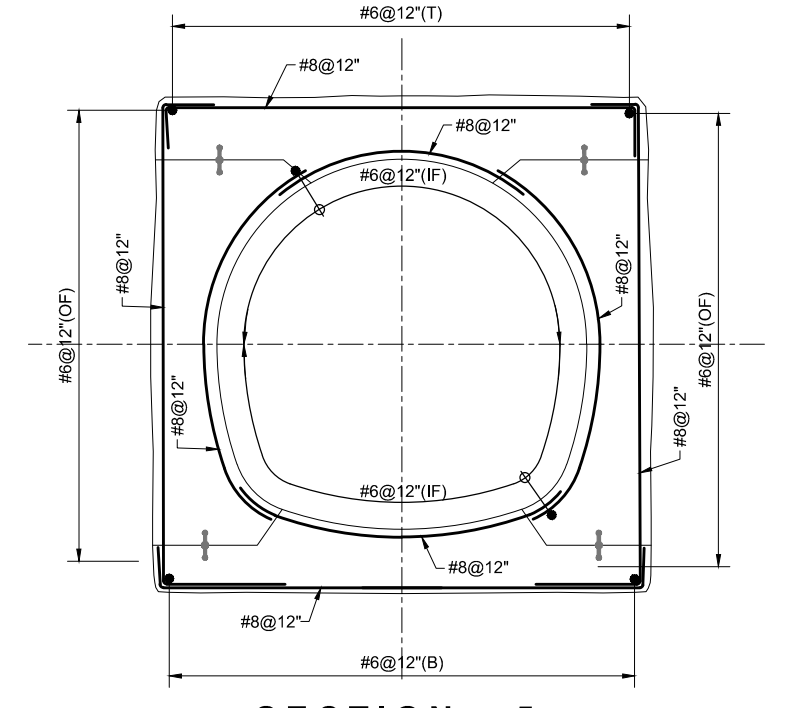
SECTION - 2



SECTION - 4



SECTION - 3



SECTION - 5

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/IS/01.

CLIENT
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CANALS PROJECT
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PESHAWAR
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(PVT.) LIMITED LAHORE

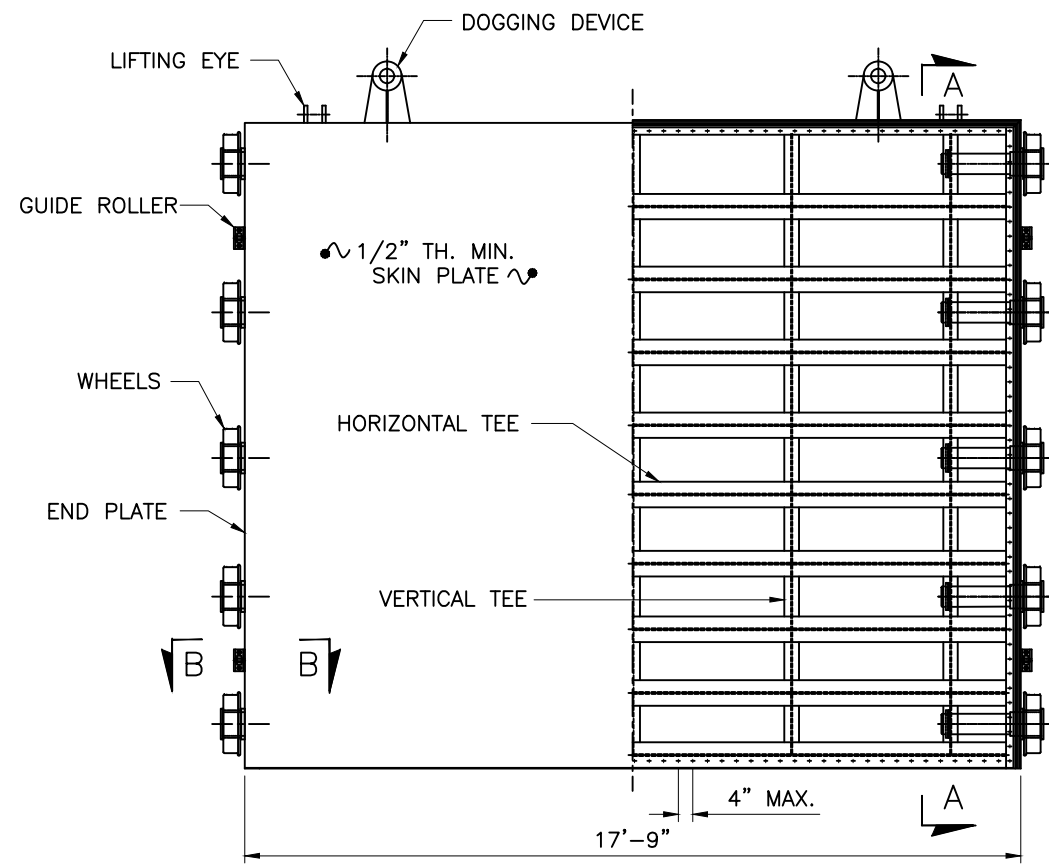
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

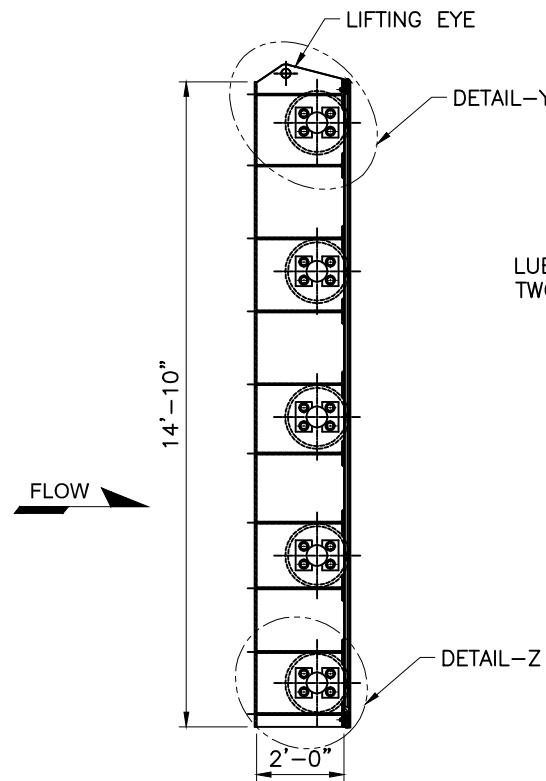
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INTAKE STRUCTURE
REINFORCEMENT DETAILS

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/IS/21	0

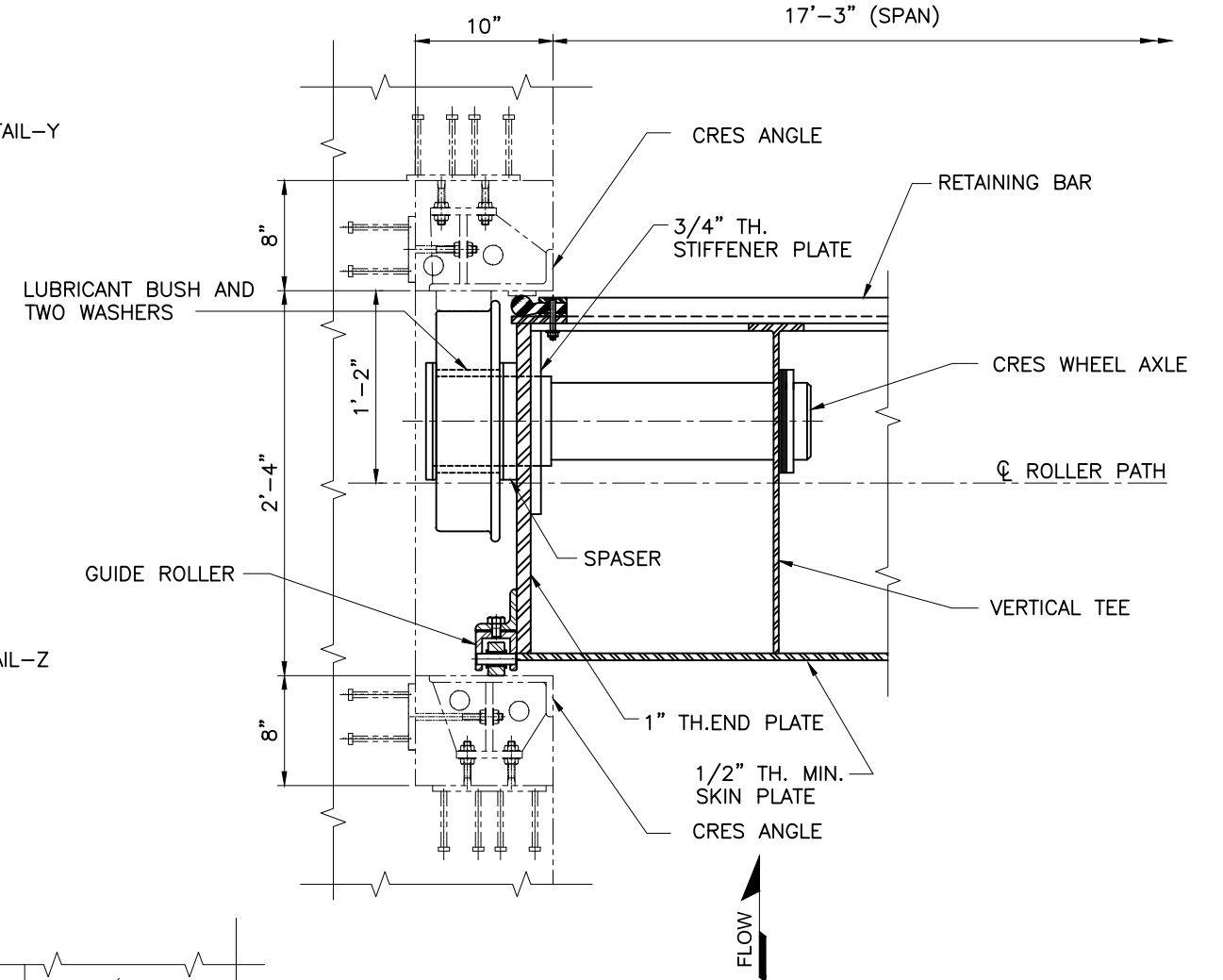
B.1.1 INTAKE AND OUTLET MECHANICAL DRAWINGS



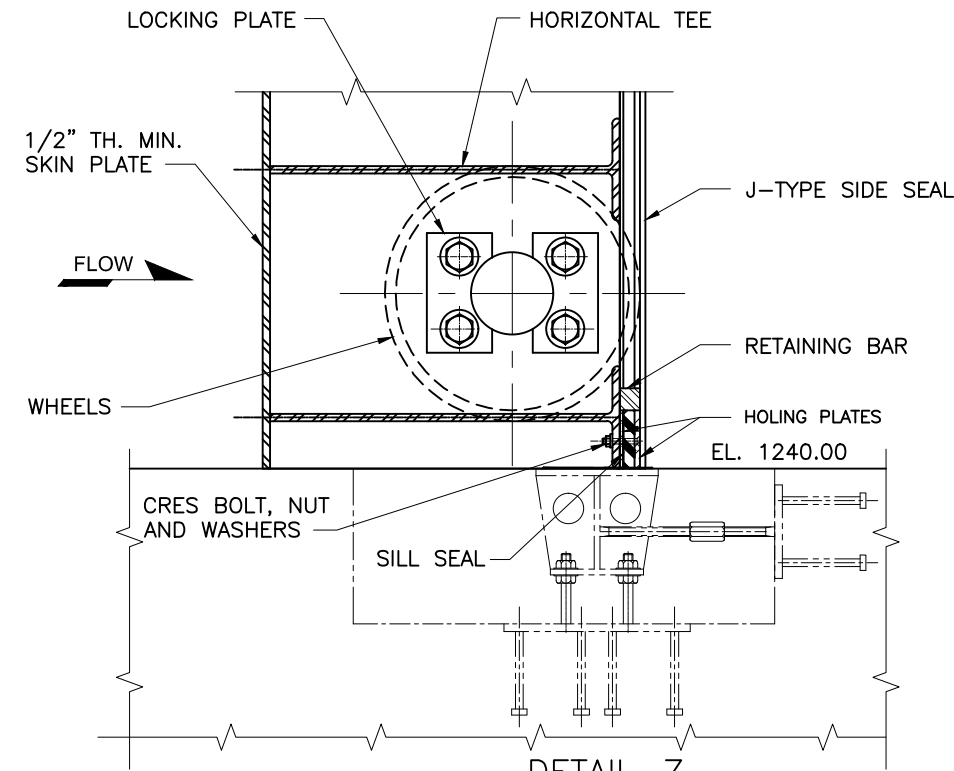
U/S ELEVATION D/S ELEVATION



SECTION A-A

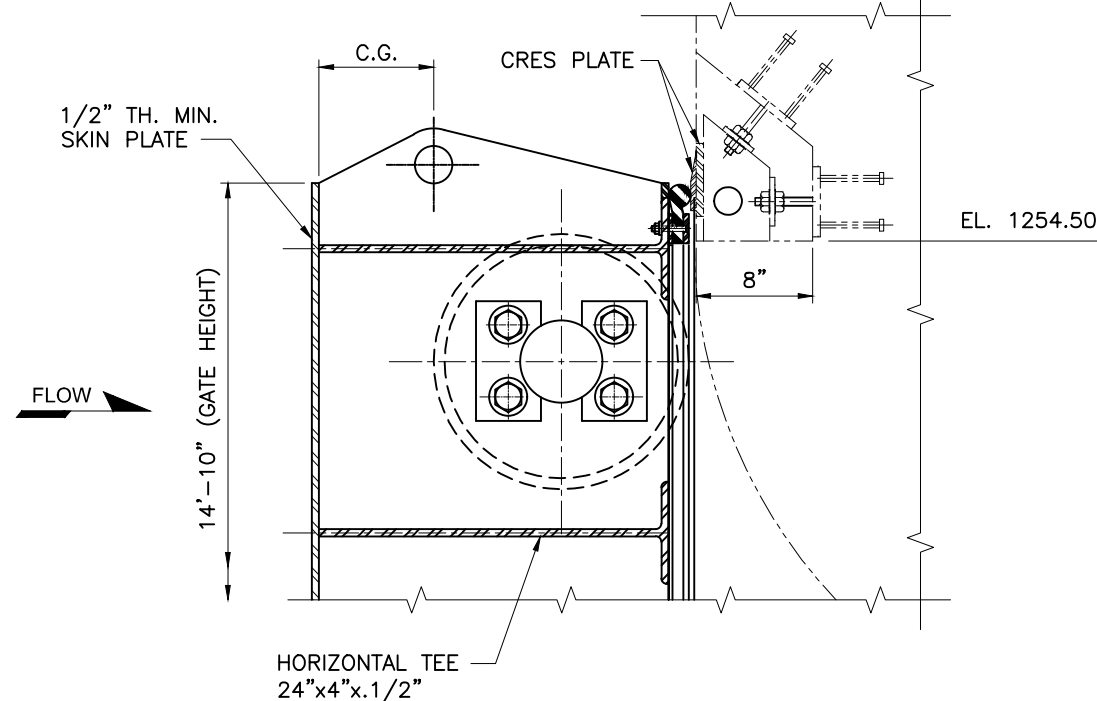


SECTION B-B



DETAIL-Z

0 3" 6"
SCALE



DETAIL-Y

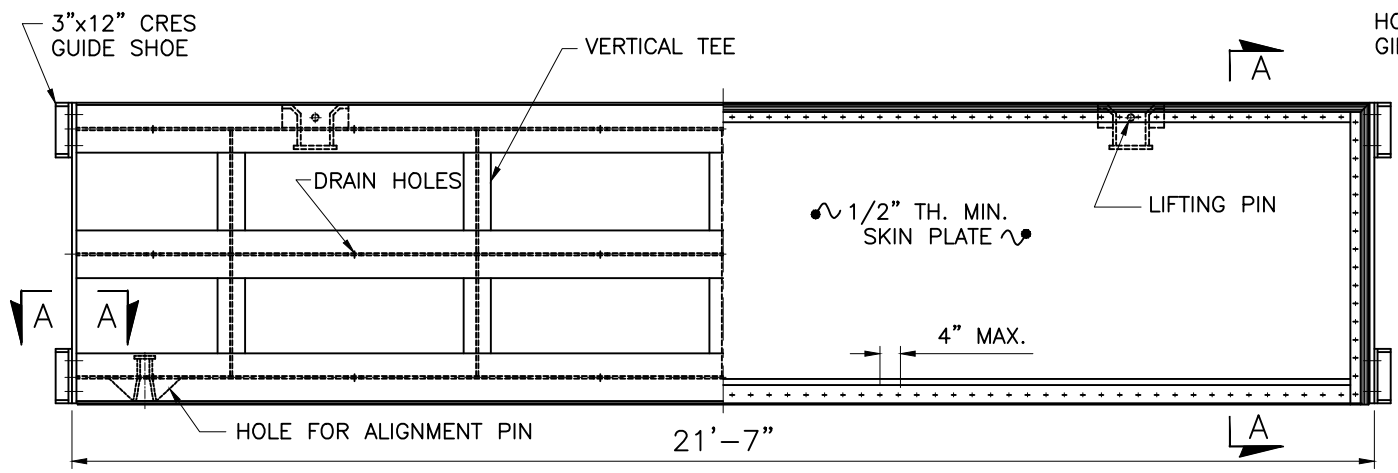
0 3" 6"
SCALE

NOT FOR CONSTRUCTION

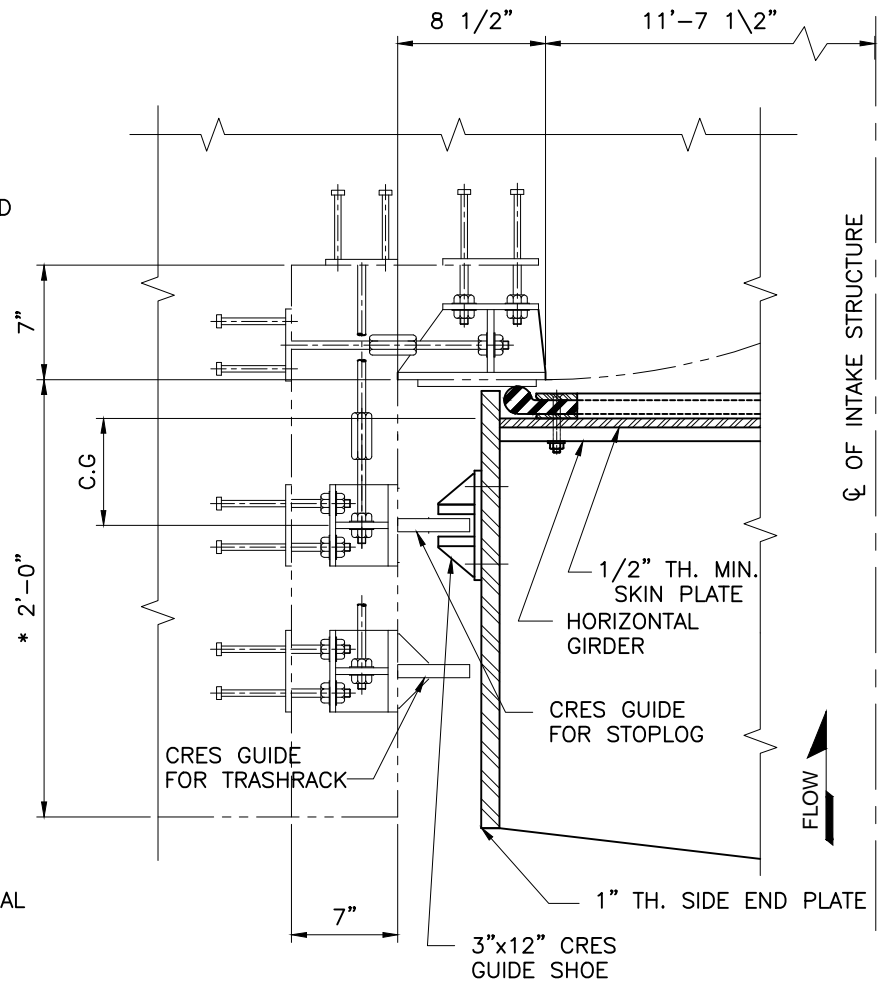
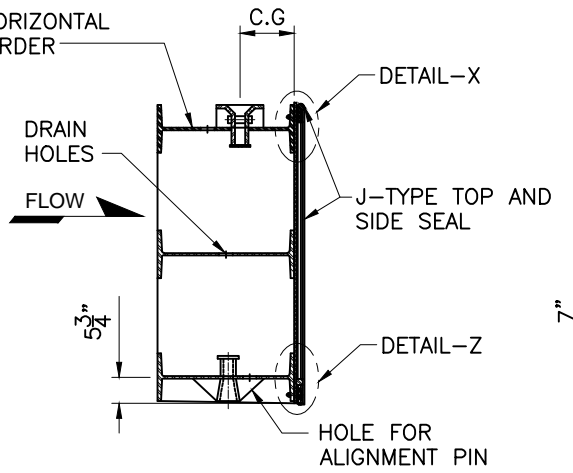
NOTES:-

1. ALL DIMENSIONS ARE IN INCHES.
2. FABRICATION SHALL COMMENCE AFTER CONTRACTOR'S DESIGN APPROVAL BY THE ENGINEER.
3. FABRICATION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC-SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
4. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS CODE D-1.1 WELDING IN BUILDING CONSTRUCTION STEEL. MIN. FILLET WELD SHALL BE 3/8 INCH.
5. ALL EXPOSED EMBEDDED PART SHALL BE CRES.
6. ALL EDGES IN CONTACT WITH RUBBER SEAL SHALL BE ROUNDED.
7. C.G. OF GATE SHALL BE DETERMINED IN SHOP AFTER FABRICATION.

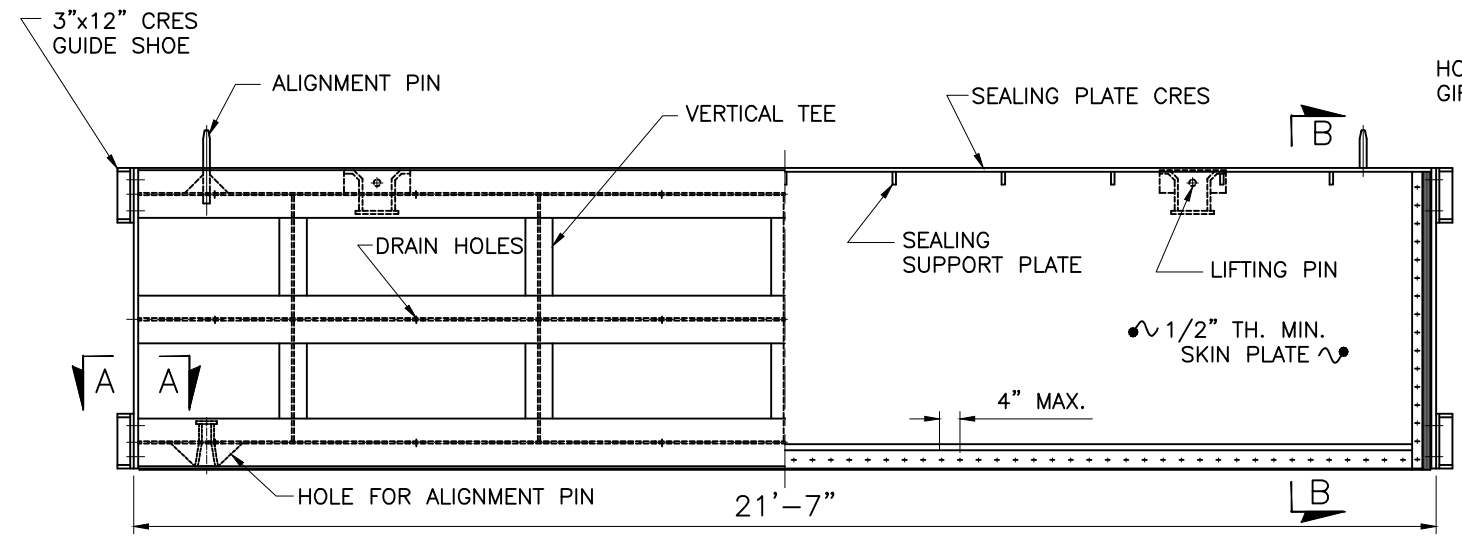
SCALE 0 1 2 3 4 5 6 FEET
UNLESS OTHERWISE INDICATED



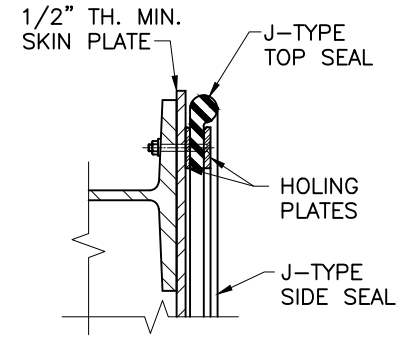
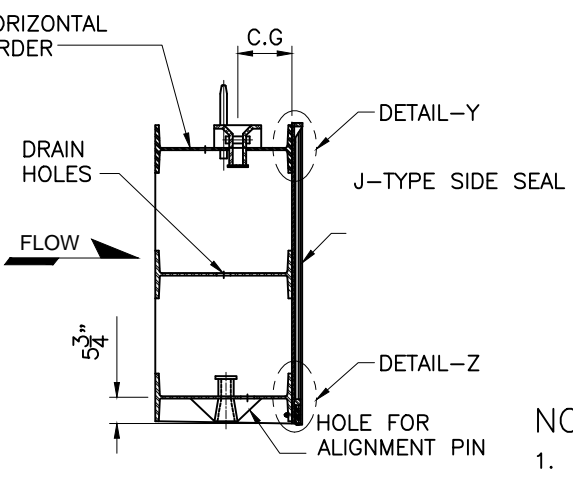
TOP STOPLOG SECTION
(4th SECTION FROM BOTTOM)



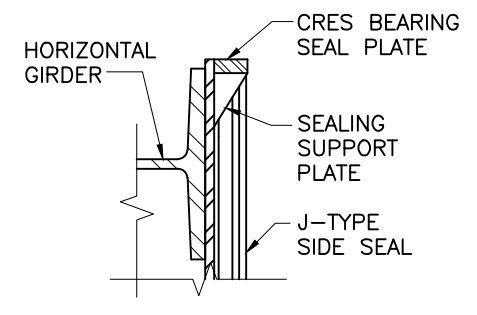
SECTION A-A
0 3" 6"
SCALE



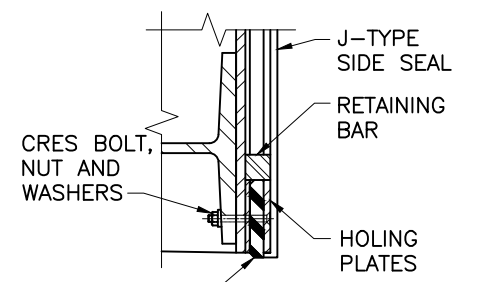
BOTTOM STOPLOG SECTION
(1st SECTION TO 4th)



DETAIL-X
0 3" 6"
SCALE



DETAIL-Y
0 3" 6"
SCALE



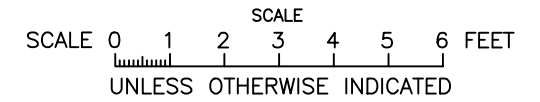
DETAIL-Z
0 3" 6"
SCALE

MAX. HEAD LEVEL 1285.00
NORMAL HEAD LEVEL 1269.00
TUNNEL DIA 7.85'

NOT FOR CONSTRUCTION

NOTES:-

1. ALL DIMENSIONS ARE IN INCHES.
2. FABRICATION SHALL COMMENCE AFTER CONTRACTOR'S DESIGN APPROVAL BY THE ENGINEER.
3. FABRICATION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC-SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
4. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS CODE D-1.1 WELDING IN BUILDING CONSTRUCTION STEEL. MIN. FILLET WELD SHALL BE 3/8 INCH.
5. ALL EXPOSED EMBEDDED PART SHALL BE CRES.
6. ALL EDGES IN CONTACT WITH RUBBER SEAL SHALL BE ROUNDED.
7. C.G. OF STOPLOG SECTIONS SHALL BE DETERMINED IN SHOP AFTER FABRICATION.
8. THE ARRANGEMENT OF THE LIFTING BEAM SHOWN IS INDICATIVE ONLY. THE STOPLOG MANUFACTURER SHALL SUBMIT HIS OWN ARRANGEMENT OF THE LIFTING BEAM CONSIDERING THE DESIGN OF DIFFERENT SECTIONS OF THE STOPLOGS HAVING VARYING C.G. POINTS.
- *9. THIS DIMENSION WILL BE FINALIZED DURING DETAIL DESIGN.



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PESHAWAR

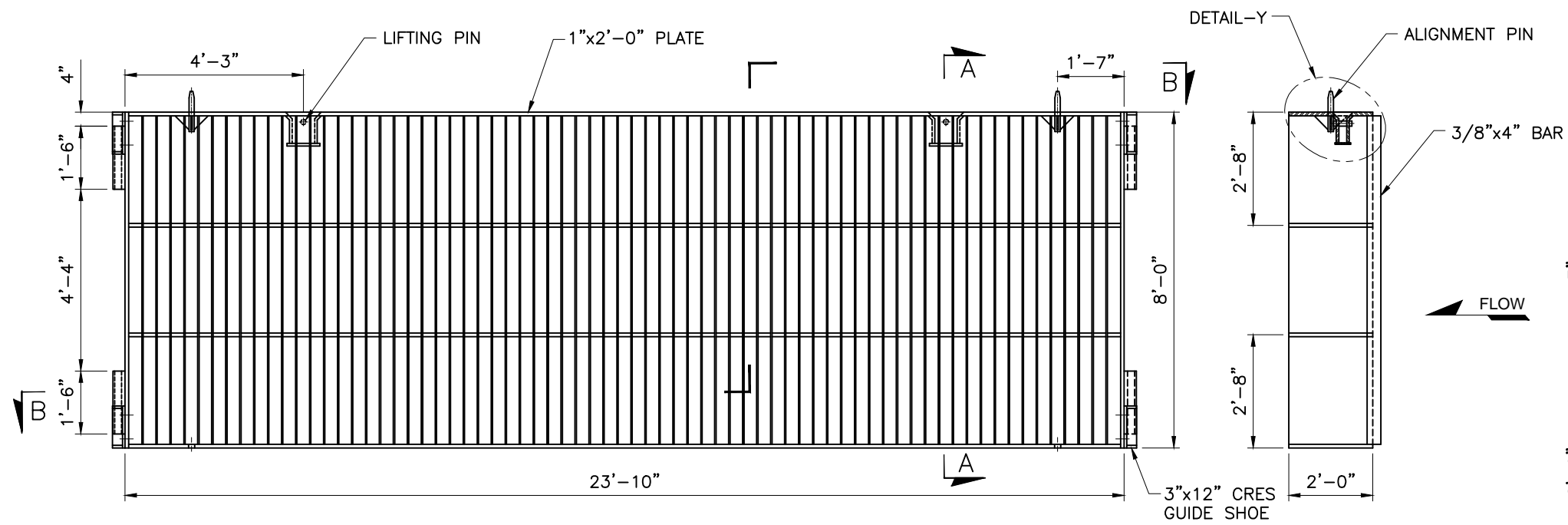
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
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REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

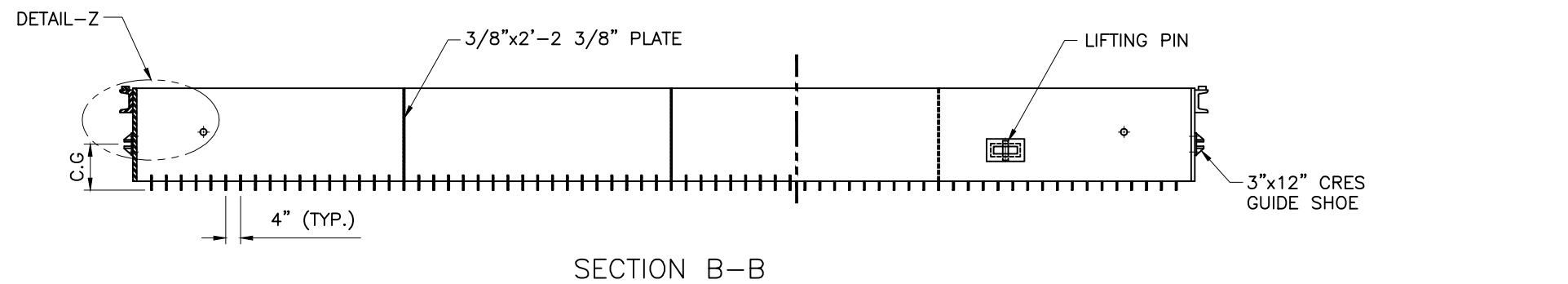
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
INLET STRUCTURES
STOPLOG SECTION AND DETAILS

DRAWN I. A. MALIK
CHECKED
RECOMMENDED
DATE MAR., 2021
DWG. NO. RWCS-1/TD/AIT/IOGT/02
REV. 0



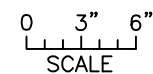
TRASHRACK SECTION

SECTION A-A

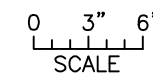


SECTION B-B

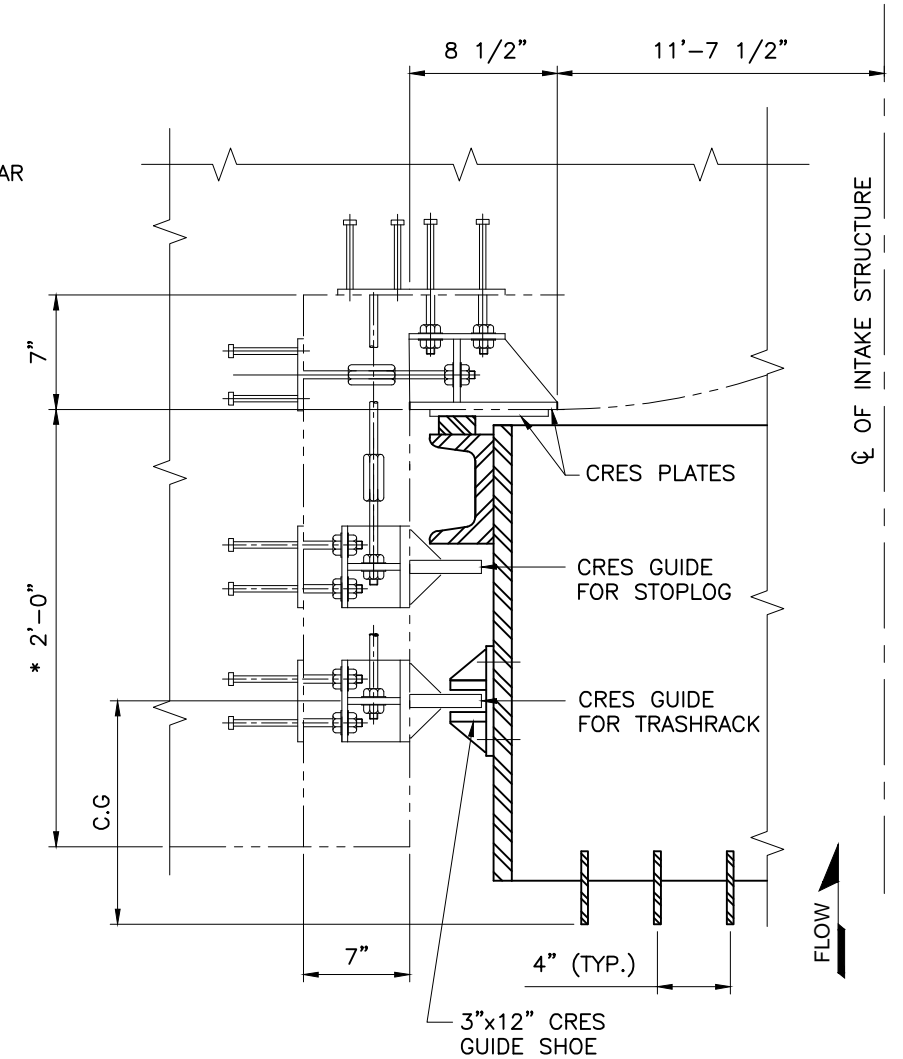
DETAIL-Y



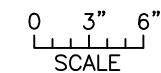
DETAIL-Z



NOT FOR CONSTRUCTION



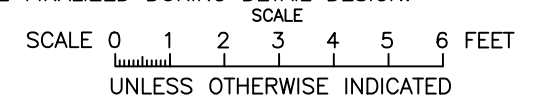
ARRANGEMENT OF TRASHRACK END SECTION



NOTES:-

1. ALL DIMENSIONS ARE IN INCHES AND LEVELS ARE IN FEET.
2. FABRICATION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC-SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING.
3. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS D 1.1, STRUCTURAL WELDING CODE-STEEL. MIN. FILLET WELD SHALL
4. ALL EXPOSED EMBEDDED PART SHALL BE CRES.
5. THE TRASHRACK ARE CONTAINING THREE (3) SECTIONS.
6. THE TRASHRACK STRUCTURE SHALL BE HOT DIPPED GALVANIZED.
7. FOR GENERAL ARRANGEMENT AND REFERENCE DRAWINGS SEE DRAWING NO 0000/162/TD/F000.

*8. THIS DIMENSION WILL BE FINALIZED DURING DETAIL DESIGN.



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**ELECTRA CONSULTANTS
 PESHAWAR**
**INTEGRATED CONSULTING SERVICES
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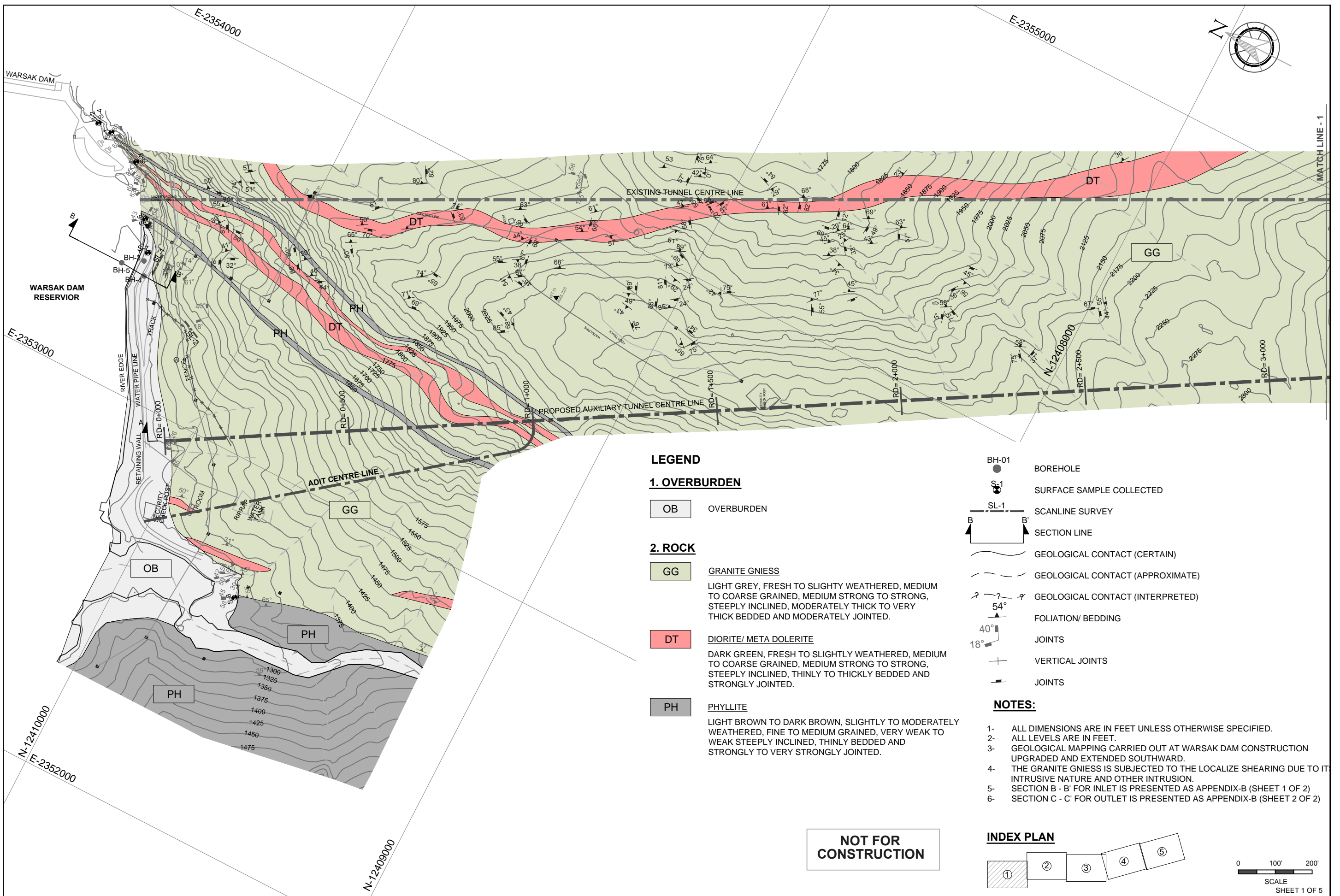
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
 DETAILED DESIGN AND CONSTRUCTION
 SUPERVISION OF REMODELING OF
 WARSAK CANAL SYSTEM
 IN
 PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
 CONTRACT RWCS-1
 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
 INLET STRUCTURES
 TRASHRACK SECTION AND DETAILS**

DATE: MAR., 2021
 DWG. NO.: RWCS-1/TD/AIT/IOGT/03
 REV. 0

B.2. SURFACE GEOLOGICAL SURVEY



LEGEND

1. OVERBURDEN

OB OVERBURDEN

2. ROCK

GG GRANITE GNISS
LIGHT GREY, FRESH TO SLIGHTLY WEATHERED, MEDIUM TO COARSE GRAINED, MEDIUM STRONG TO STRONG, STEEPLY INCLINED, MODERATELY THICK TO VERY THICK BEDDED AND MODERATELY JOINTED.

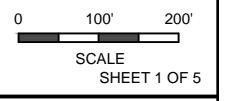
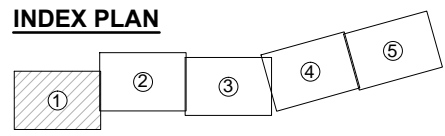
DT DIORITE/ META DOLERITE
DARK GREEN, FRESH TO SLIGHTLY WEATHERED, MEDIUM TO COARSE GRAINED, MEDIUM STRONG TO STRONG, STEEPLY INCLINED, THINLY TO THICKLY BEDDED AND STRONGLY JOINTED.

PH PHYLLITE
LIGHT BROWN TO DARK BROWN, SLIGHTLY TO MODERATELY WEATHERED, FINE TO MEDIUM GRAINED, VERY WEAK TO WEAK STEEPLY INCLINED, THINLY BEDDED AND STRONGLY TO VERY STRONGLY JOINTED.

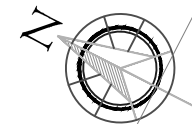
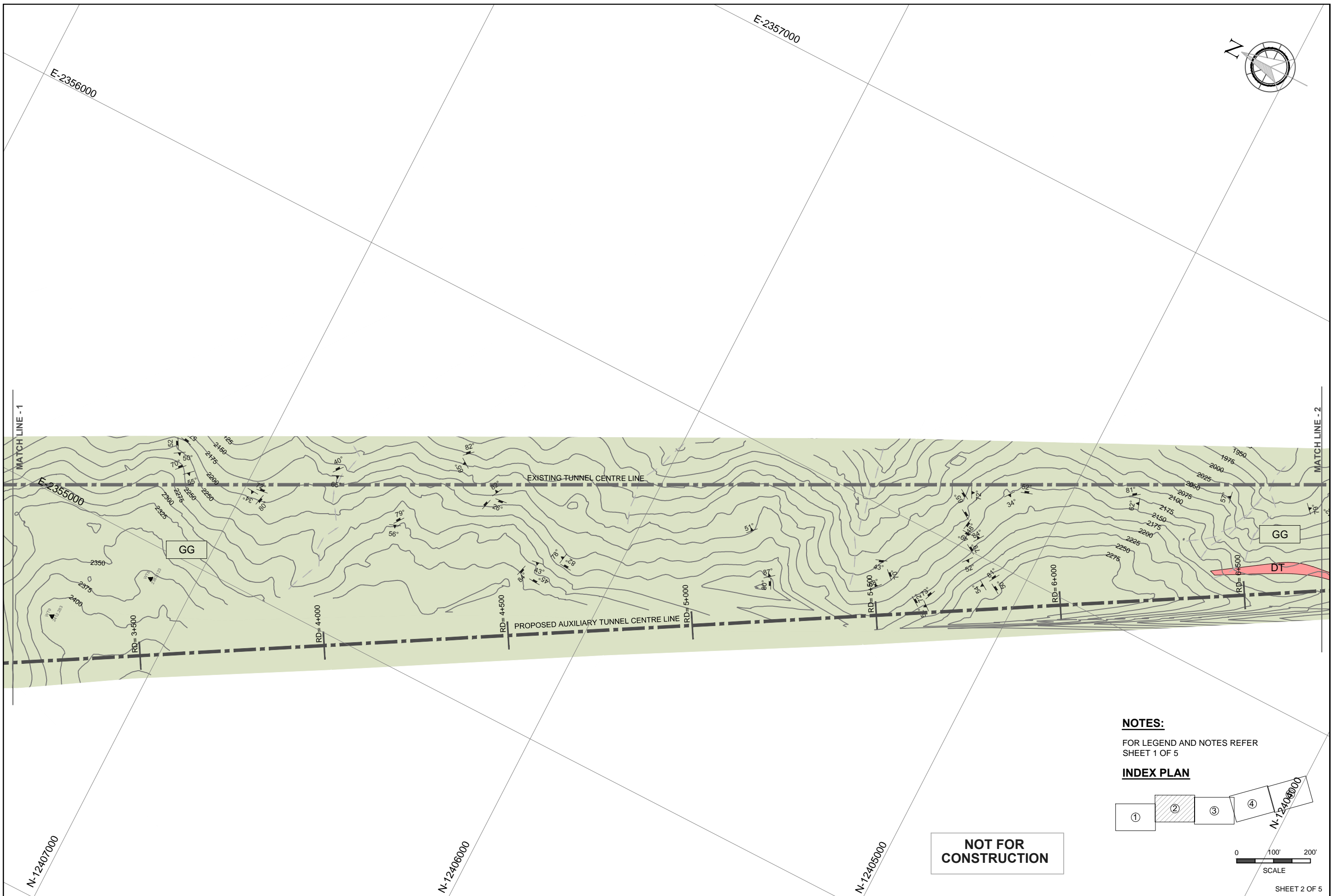
- BH-01 BOREHOLE
- SS-1 SURFACE SAMPLE COLLECTED
- SL-1 SCANLINE SURVEY
- SECTION LINE
- GEOLOGICAL CONTACT (CERTAIN)
- GEOLOGICAL CONTACT (APPROXIMATE)
- GEOLOGICAL CONTACT (INTERPRETED)
- FOLIATION/ BEDDING
- JOINTS
- VERTICAL JOINTS
- JOINTS

- NOTES:**
- 1- ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
 - 2- ALL LEVELS ARE IN FEET.
 - 3- GEOLOGICAL MAPPING CARRIED OUT AT WARSAK DAM CONSTRUCTION UPGRADED AND EXTENDED SOUTHWARD.
 - 4- THE GRANITE GNISS IS SUBJECT TO THE LOCALIZE SHEARING DUE TO ITS INTRUSIVE NATURE AND OTHER INTRUSION.
 - 5- SECTION B - B' FOR INLET IS PRESENTED AS APPENDIX-B (SHEET 1 OF 2)
 - 6- SECTION C - C' FOR OUTLET IS PRESENTED AS APPENDIX-B (SHEET 2 OF 2)

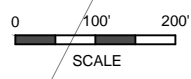
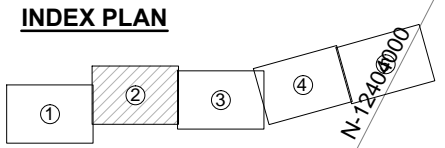
NOT FOR CONSTRUCTION



<p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELLING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> <p>NEP NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE</p> <p>E ELECTRA CONSULTANTS PESHAWAR</p> <p>ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>						<p>DRAWN</p> <p>MAK</p>	<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES SURFACE GEOLOGICAL SURVEY PLAN</p> <p>DATE: MAR., 2021</p> <p>DWG. NO: RWCS-1/TD/AIT/GS/01</p> <p>REV. 0</p>		
		<p>CHECKED</p>									
		<p>RECOMMENDED</p>									
		<p>APPROVED</p>									
REV.	DATE	DESCRIPTION	BY	CKD.	APP.	APPROVED					



NOTES:
FOR LEGEND AND NOTES REFER SHEET 1 OF 5



SHEET 2 OF 5

CLIENT
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PMU - REMODELLING OF WARSAK
CANALS PROJECT
PESHAWAR

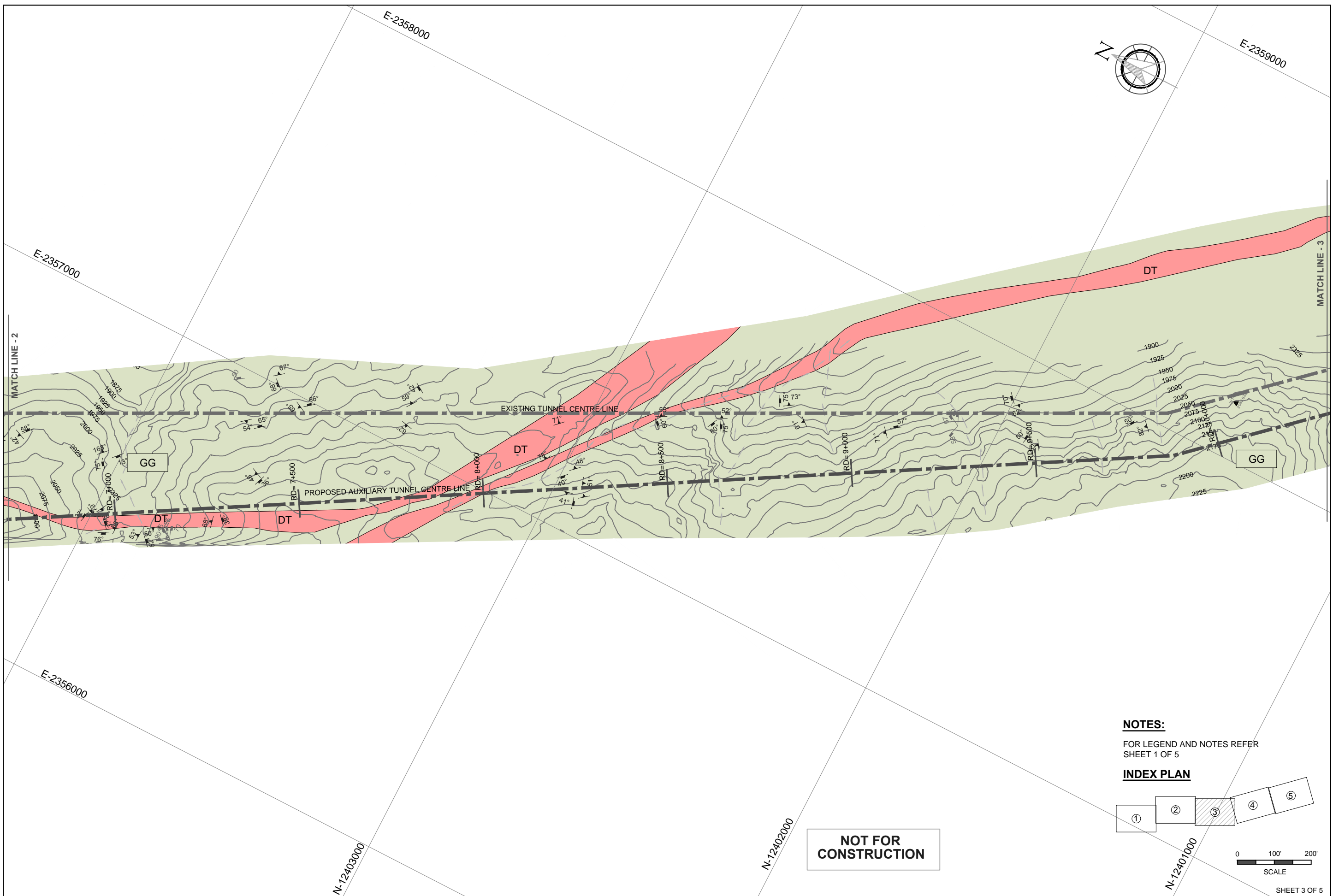
CONSULTANT - A JOINT VENTURE OF
NESPAK NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS
PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	MAK

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
SURFACE GEOLOGICAL SURVEY
PLAN**

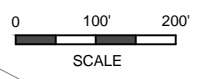
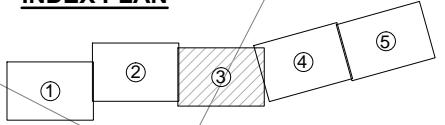
DATE: MAR., 2021
DWG. NO.: **RWCS-1/TD/AIT/GS/02**
REV. 0



NOT FOR CONSTRUCTION

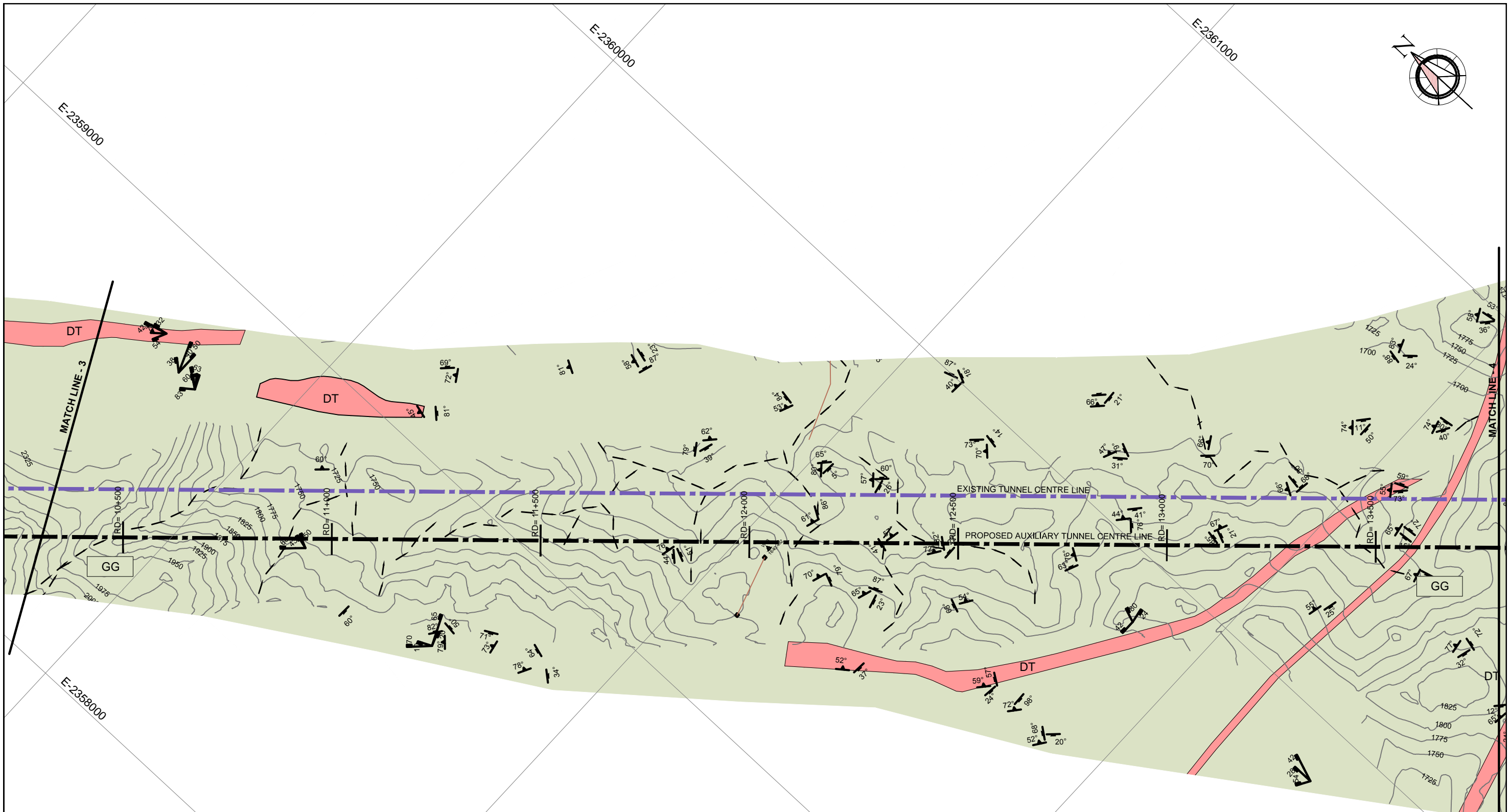
NOTES:
FOR LEGEND AND NOTES REFER SHEET 1 OF 5

INDEX PLAN

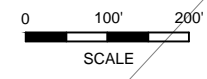
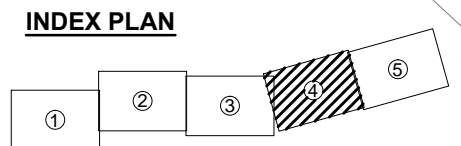


SHEET 3 OF 5

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELLING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NESPAK NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE E ELECTRA CONSULTANTS PESHAWAR ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN MAK	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES SURFACE GEOLOGICAL SURVEY PLAN
							CHECKED	
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NOTES:
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SHEET 4 OF 5

CLIENT
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GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELLING OF WARSAK
CANALS PROJECT
PESHAWAR

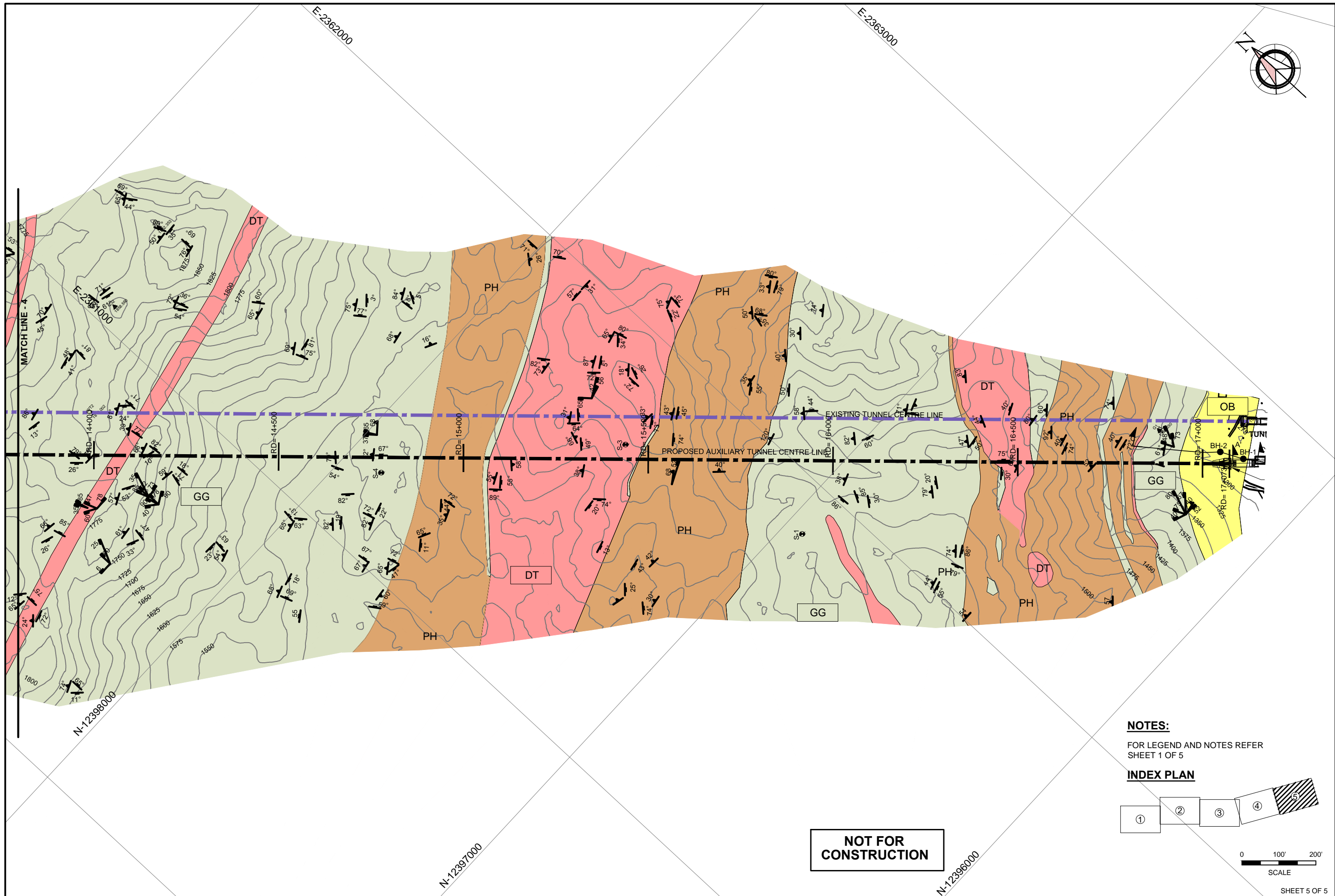
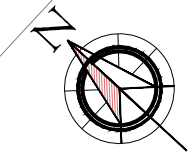
CONSULTANT - A JOINT VENTURE OF
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PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
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**REMODELING OF WARSAK CANAL SYSTEM PROJECT
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**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
SURFACE GEOLOGICAL SURVEY
PLAN**

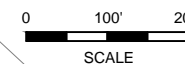
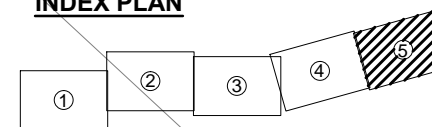
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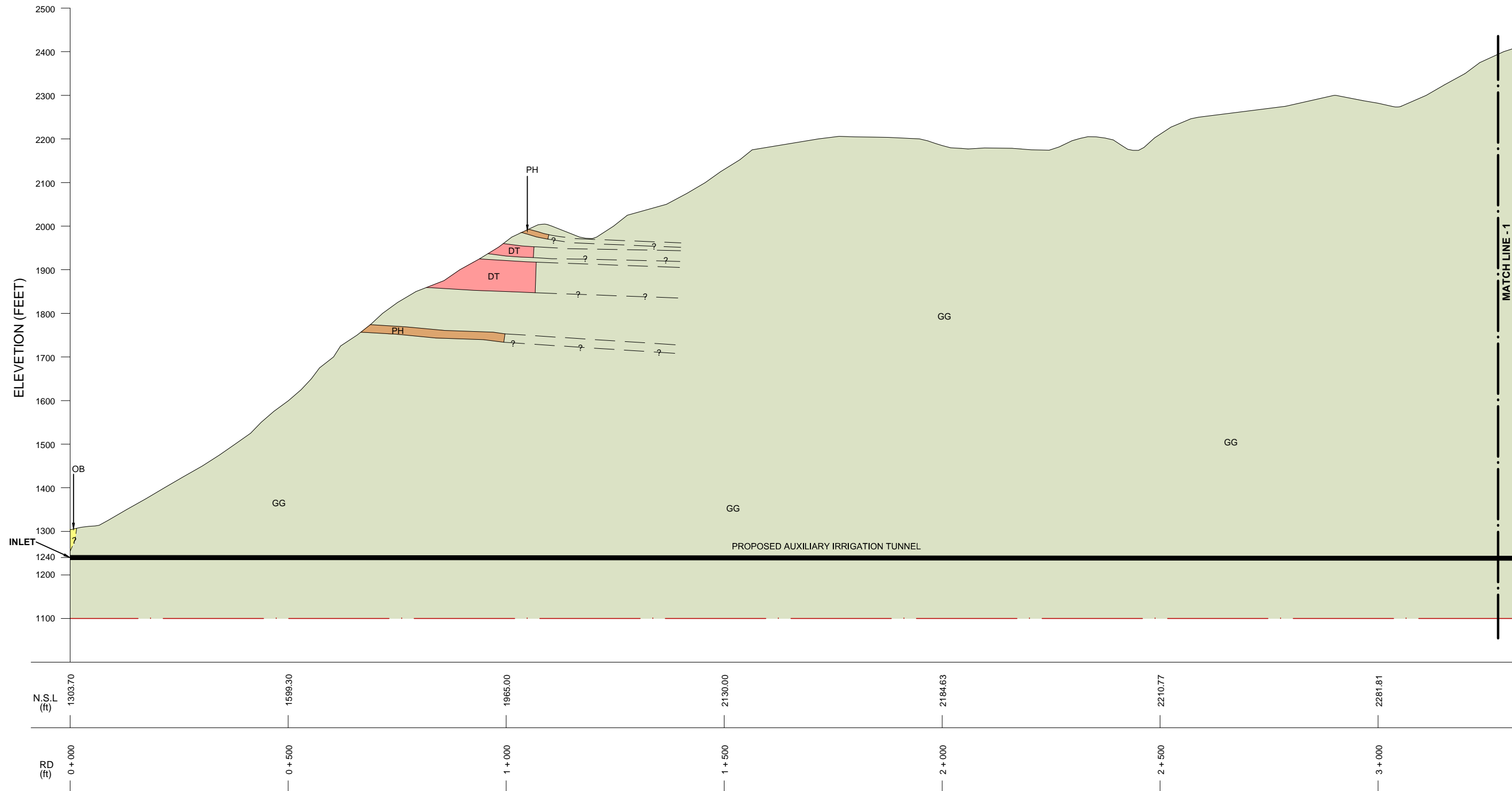
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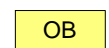
DATE	DWG. NO.	REV.
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GEOLOGICAL LEGEND

1. OVERBURDEN

2. ROCK



OVERBURDEN



GRANITE GNIESS

LIGHT GREY, FRESH TO SLIGHTLY WEATHERED MEDIUM TO COARSE GRAINED, MEDIUM STRONG TO STRONG, STEEPLY INCLUDING MODERTATELY THICK TO VERY THICK BEDDED, MODERTATELY JOINTED.



DIORITE/ META-DIORITE

DARK GREEN, FRESH TO SLIGHTLY WEATHERED, MEDIUM TO COARSE GRAINED, MEDIUM STRONG TO STRONG, STEEPLY INCLUDED AND THICKLY TO THICKLY BEDDED, STRONGLY JOINTED.



PHYLLITE

LIGHT BROWN TO DARK BROWN, SLIGHTLY TO MODERTELY WEATHERED FINE TO MEDIUM GRAINED, VERY WEAK TO WEAK , STEEPLY INCLUDING AND THINLY BEDDED, STRONGLY TO VERY STRONGLY JOINTED.

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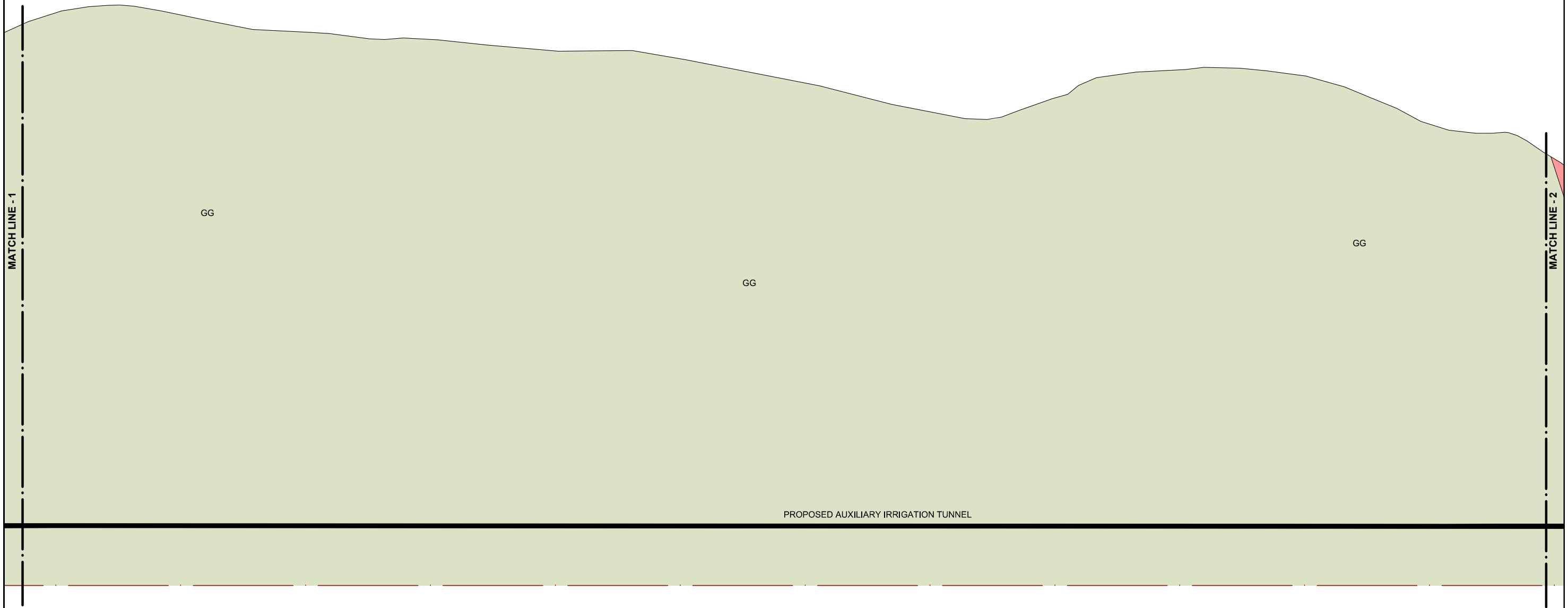
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REMODELING OF WARSAK CANAL SYSTEM
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 SURFACE GEOLOGICAL SURVEY
LONGITUDINAL SECTION

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PROPOSED AUXILIARY IRRIGATION TUNNEL

2436.43	2370.55	2332.83	2274.72	2174.34	2295.00	2170.23
3 + 500	4 + 000	4 + 500	5 + 000	5 + 500	6 + 000	6 + 500

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0 100' 200'
SCALE

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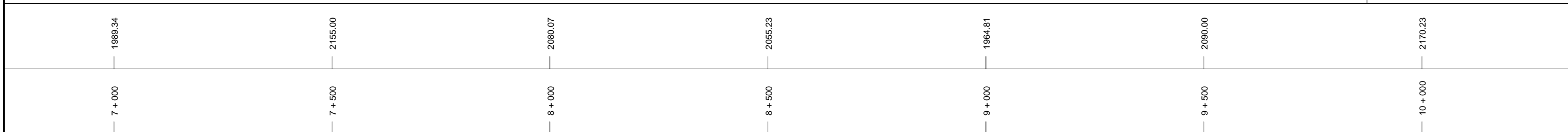
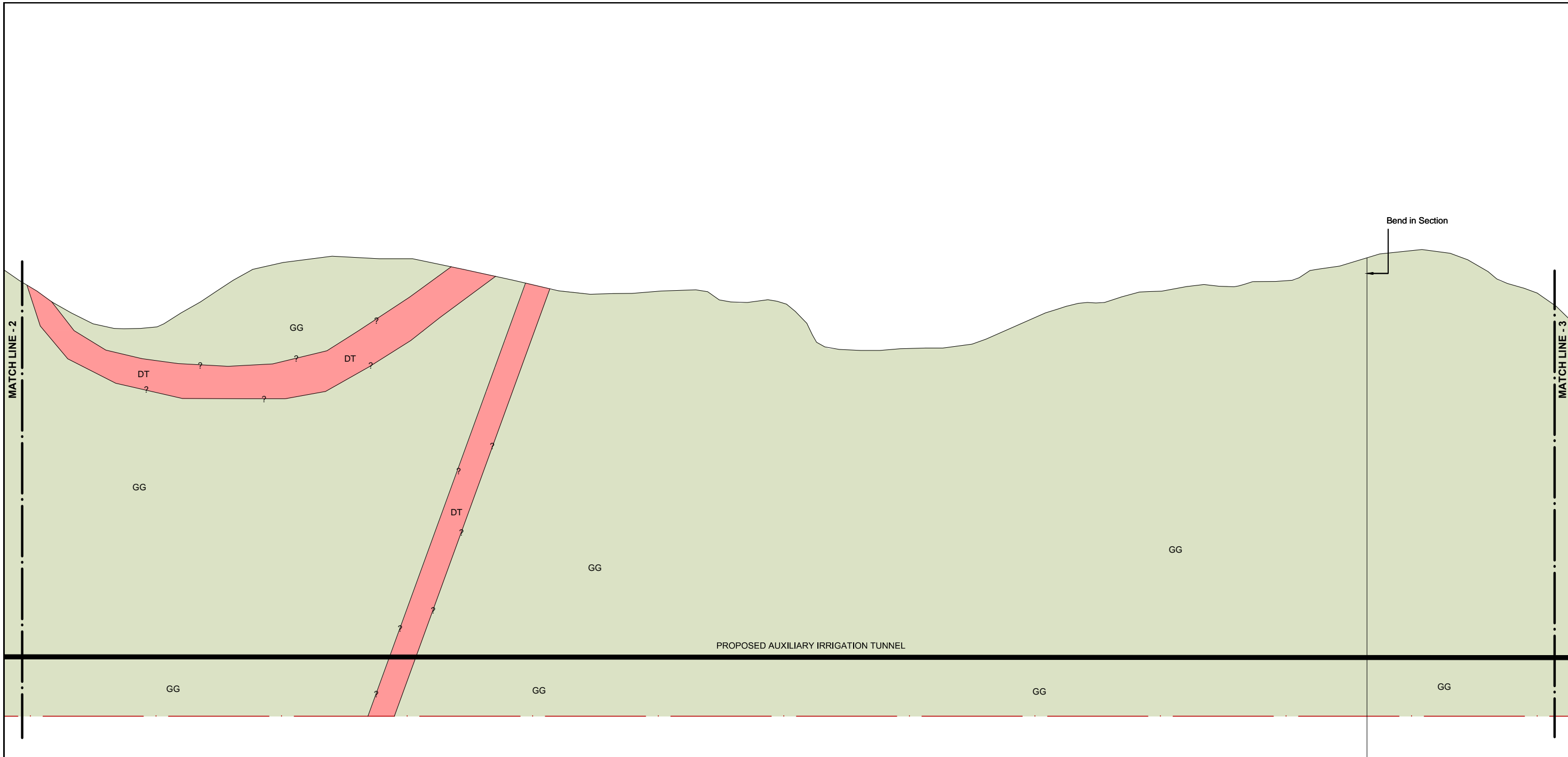
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SURFACE GEOLOGICAL SURVEY
LONGITUDINAL SECTION**

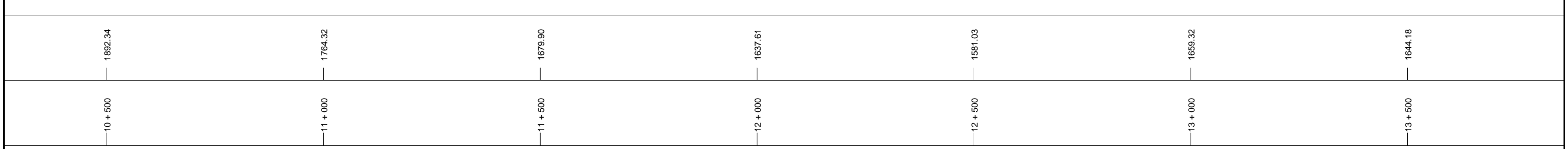
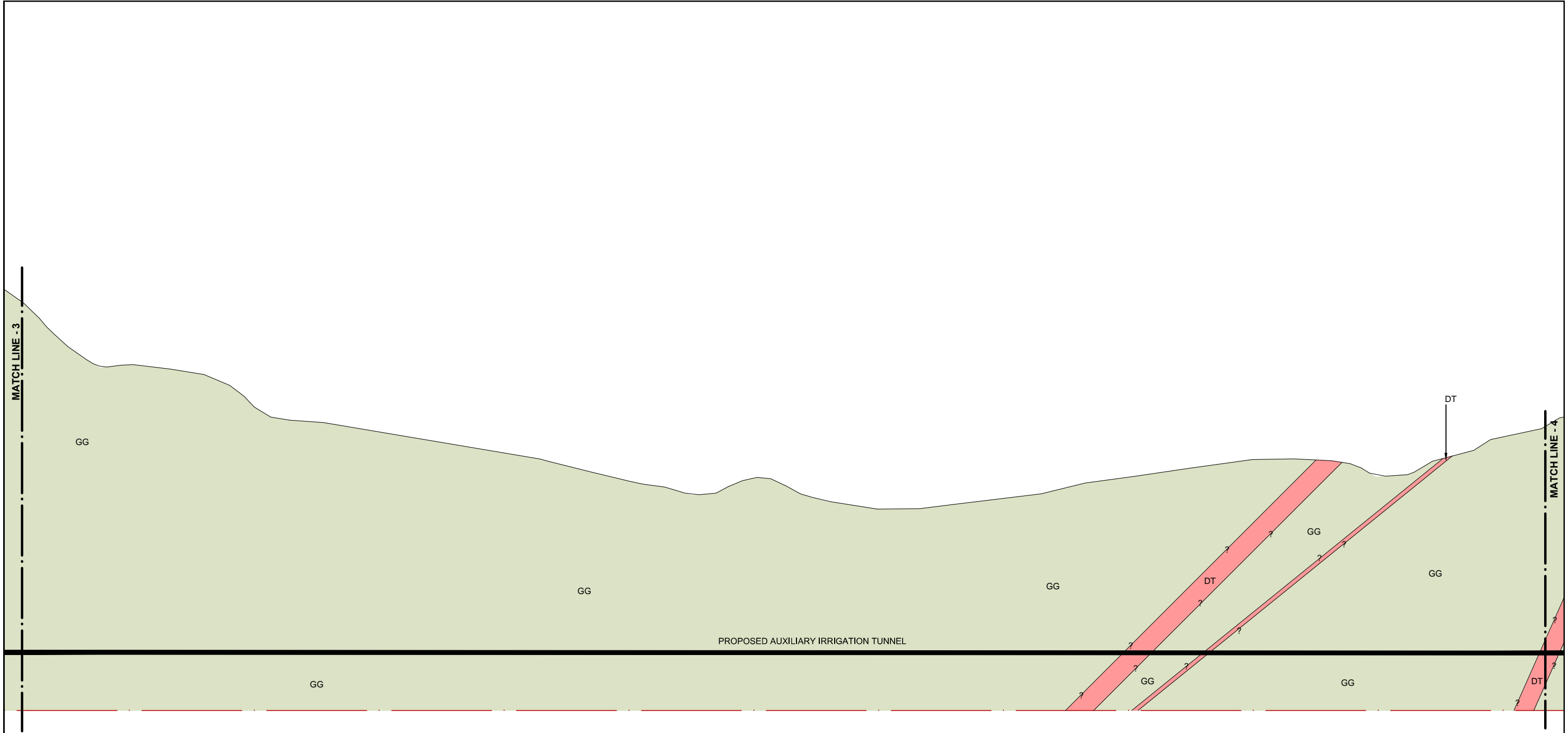
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 SCALE 0 100' 200'

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			CHECKED	
REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	REV. DATE DESCRIPTION BY CKD. APPR. APPROVED



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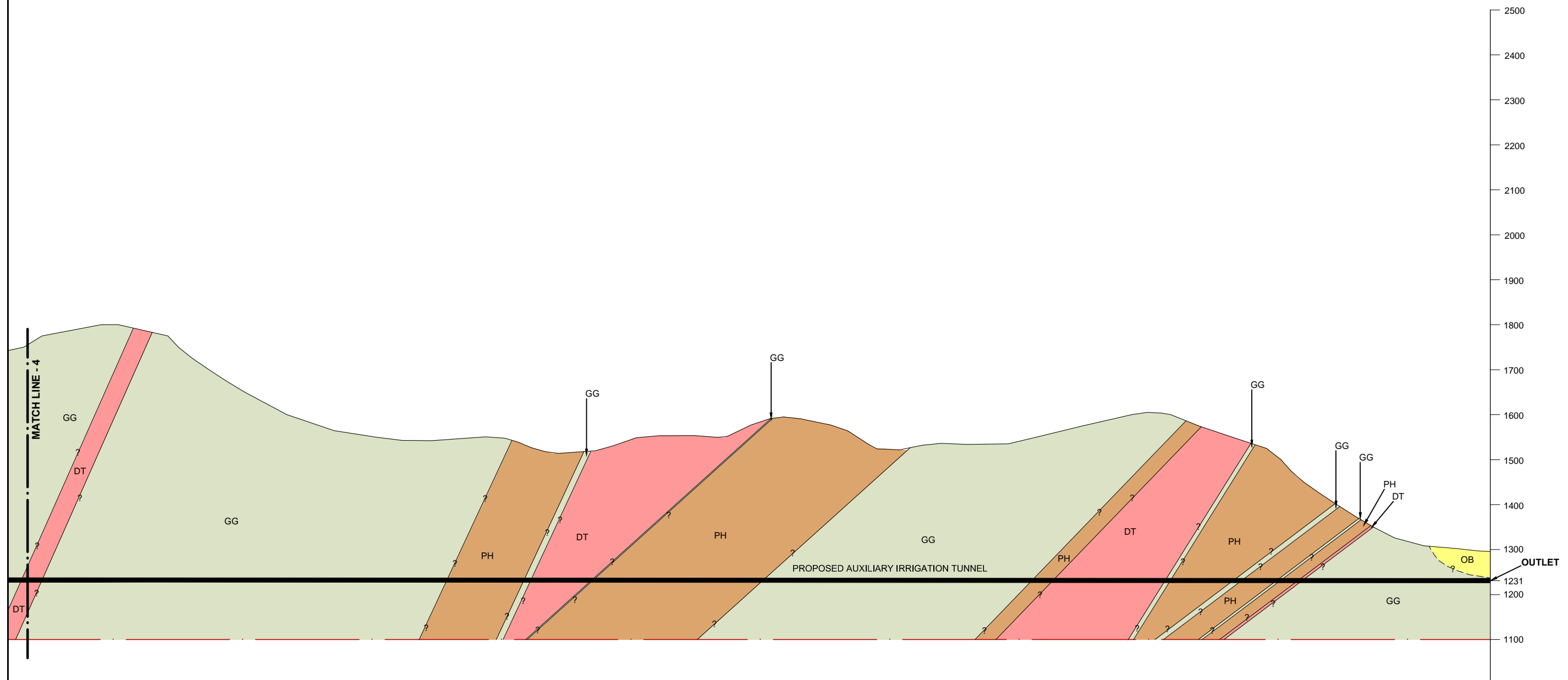
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										DRAWN	MAK
										CHECKED	
										RECOMMENDED	
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REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
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LONGITUDINAL SECTION

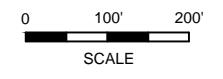
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14 + 000	14 + 500	15 + 000	15 + 500	16 + 000	16 + 500	17 + 000	17 + 073	RD

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AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
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LONGITUDINAL SECTION

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B.3 TUNNEL SECTIONS





LIST OF REFERENCE DRAWINGS AND NOTES

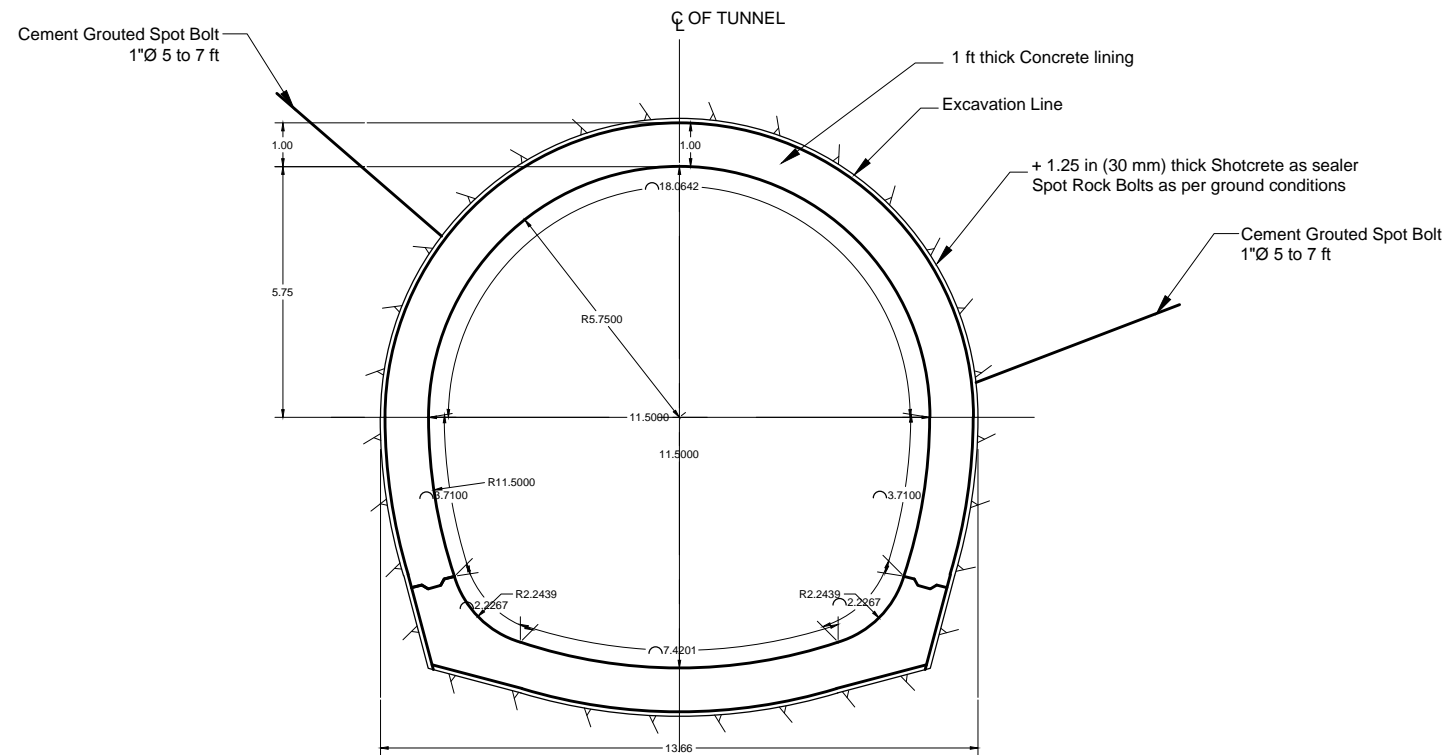
SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-1/TD/GD/01
2	GENERAL NOTES	RWCS-1/TD/GD/02
3	CONTRACT PACKAGES	RWCS-1/TD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-1/TD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-1/TD/MSD/01
6	INTAKE STRUCTURE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-1/TD/AIT/IS/01
7	SURFACE GEOLOGICAL SURVEY - PLAN (SHEET 1 OF 5)	RWCS-1/TD/AIT/GS/01
8	OUTLET AND REGULATOR STRUCTURE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-1/TD/AIT/ORS/01

SR.	TITLE	DRAWING NO.
TUNNEL SECTIONS		
1	AUXILIARY IRRIGATION TUNNEL - INITIAL ROCK SUPPORT DETAILS	RWCS-1/TD/AIT/TS/02
2	AUXILIARY IRRIGATION TUNNEL - INITIAL ROCK SUPPORT DETAILS	RWCS-1/TD/AIT/TS/03
3	AUXILIARY IRRIGATION TUNNEL - INITIAL ROCK SUPPORT DETAILS	RWCS-1/TD/AIT/TS/04
4	GRANITE ROCK SECTION - CONCRETE OUTLINE & REINFORCEMENT	RWCS-1/TD/AIT/TS/05
5	GRANITE ROCK SECTION - CONCRETE OUTLINE & REINFORCEMENT	RWCS-1/TD/AIT/TS/06
6	PHYLLITE ROCK SECTION - CONCRETE OUTLINE & REINFORCEMENT	RWCS-1/TD/AIT/TS/07
7	PHYLLITE ROCK SECTION - CONCRETE OUTLINE & REINFORCEMENT	RWCS-1/TD/AIT/TS/08

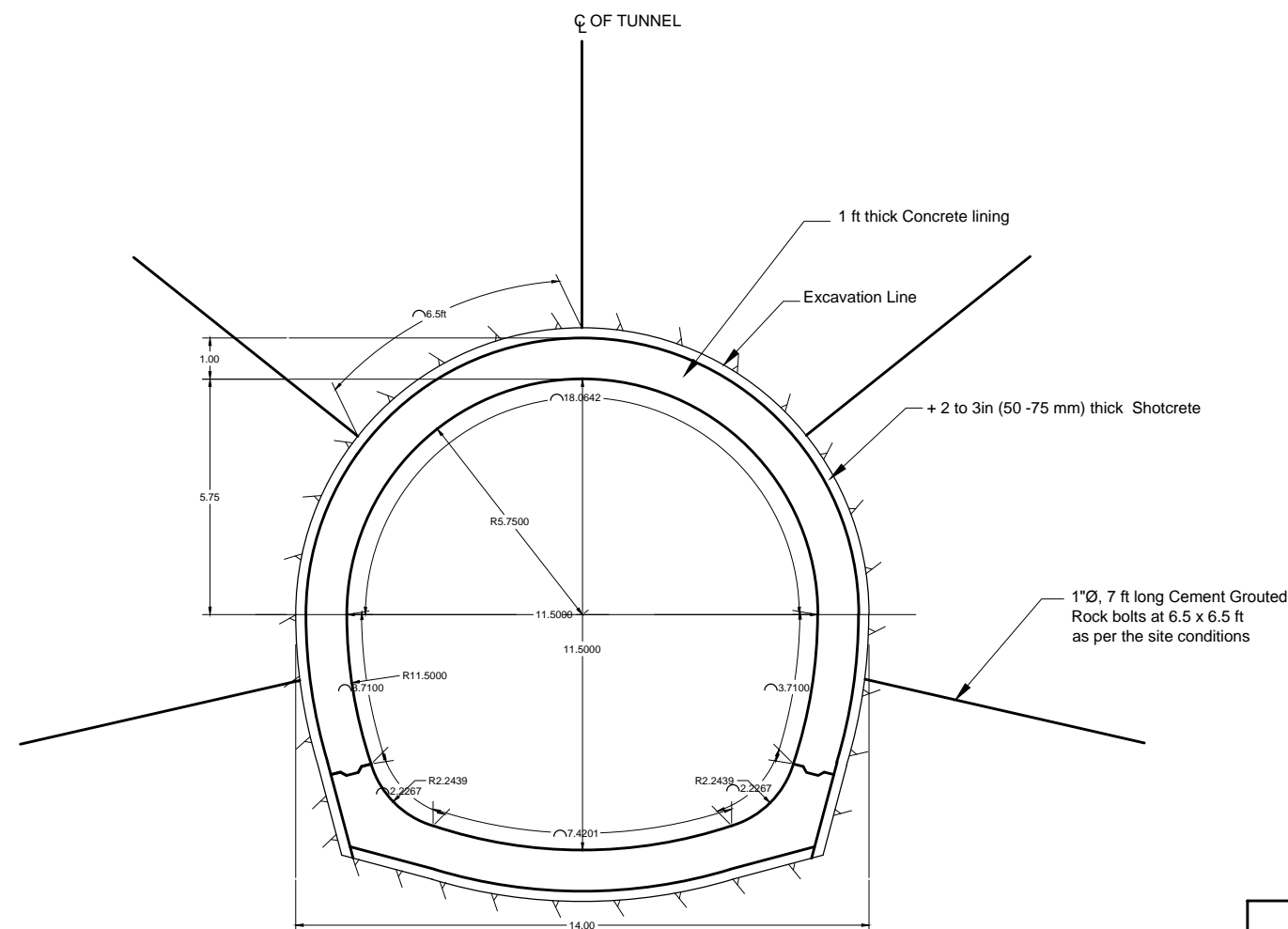
NOTES

- 1 LOCATION OF STRUCTURES IS TENTATIVE AND SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- 2 ALL THE DRAWINGS MUST BE READ IN CONJUNCTION WITH THE DRAWINGS REFERRED AND RELEVANT SPECIFICATIONS
- 3 EXCAVATED MATERIAL SUITABLE FOR EMBANKMENT FILL SHALL BE USED FOR COMPACTED EMBANKMENTS.
- 4 EARTH FILL IN EMBANKMENTS SHALL BE COMPACTED AS PER SPECIFICATIONS.
- 5 THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95 % OF DRY DENSITY.

 <p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p align="center">REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>	DRAWN Ishtiaq	<p align="center">REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES TUNNEL SECTIONS LIST OF REFERENCE DRAWINGS AND NOTES</p>			
			CHECKED		DATE MAR., 2021	DWG. NO. RWCS-1/TD/AIT/TS/01	REV. 0
			RECOMMENDED		REV. DATE DESCRIPTION BY CKD. APPR. APPROVED		



ROCK SUPPORT CLASS Q1



ROCK SUPPORT CLASS Q2

NOTES:

- 1). All dimensions are in feet unless otherwise stated.
- 2). No Rock shall protrude inside the Excavation Line.
- 3). All Shotcrete is steel fibre reinforced unless otherwise stated. Plain and steel mesh shotcrete shall be required in limited isolated tunnel sections as directed by the engineer.
- 4). Shotcrete characteristic strength (28 days) 30MPa.
- 5). Excavated profile varies between rock support classes.
- 6). Concrete placed for temporary roadways must be placed on undisturbed ground with all loose material removed and must be outside the nominal minimum liner profile.
- 7). The nominal Pay-line for overbreak measurement is 150 mm outside the dimensioned excavation lines shown. Unavoidable excavation outside this line caused by geological features will be measured for payment in accordance with the Specifications.
- 8). Concrete lining details with actual dimensions are furnished on separate drawings.
- 9). The tunnel cross section for class 4a and 4b may be varied behind the concrete liner than shown depending on the lattice girders dimensions/depth and required embedment in shotcrete.
- 10). Thickness of Shotcrete; length, type and inclination of rock bolts shall be adjusted to local rockmass conditions.
- 11). Deformation allowance for rocks of class 4a and 4b may be changed by the Engineer based on the Geological Conditions encountered during the excavation.
- 12). Individual support classes are for information only. Changes in Support Design may be adjusted with the actual ground conditions.
- 13). All rock support shall be installed as per specifications or as directed by the Engineer.
- 14). Consolidation and contact grouting holes are not shown but they shall be provided.
- 15). The portal section rock support has not been shown. However, the subsurface conditions show that rock class Q3 and Q4a shall be encountered. Rock support for this section shall be required after considering the portal factor.

TOTAL LENGTH	% Age of TUNNEL LENGTH				
	Q1	Q2	Q3	Q4a	Q4b
TUNNEL, L = 5.2 Km (17117 ft)	02	05	43	40	10

NOTES:

FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/TS/01

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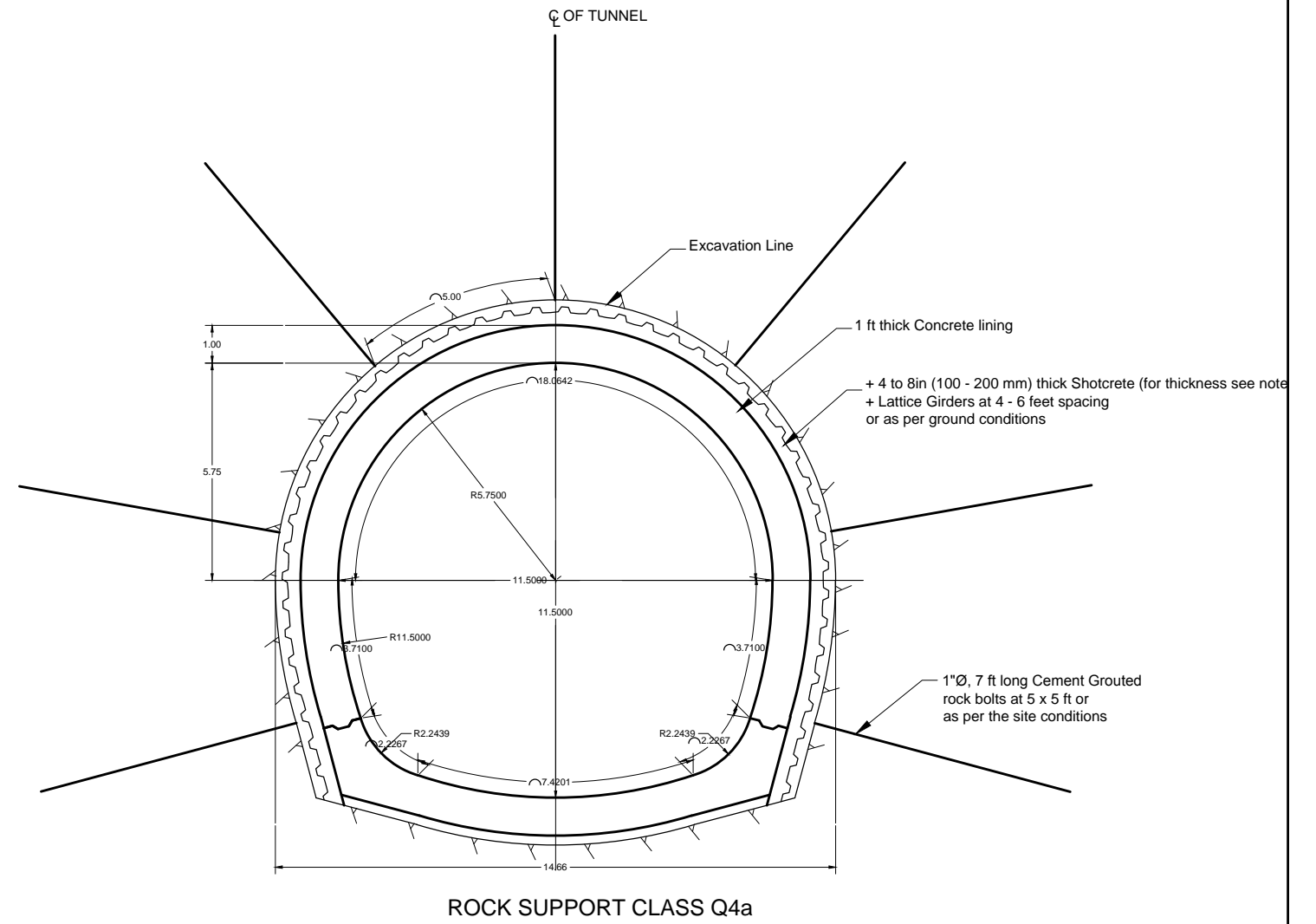
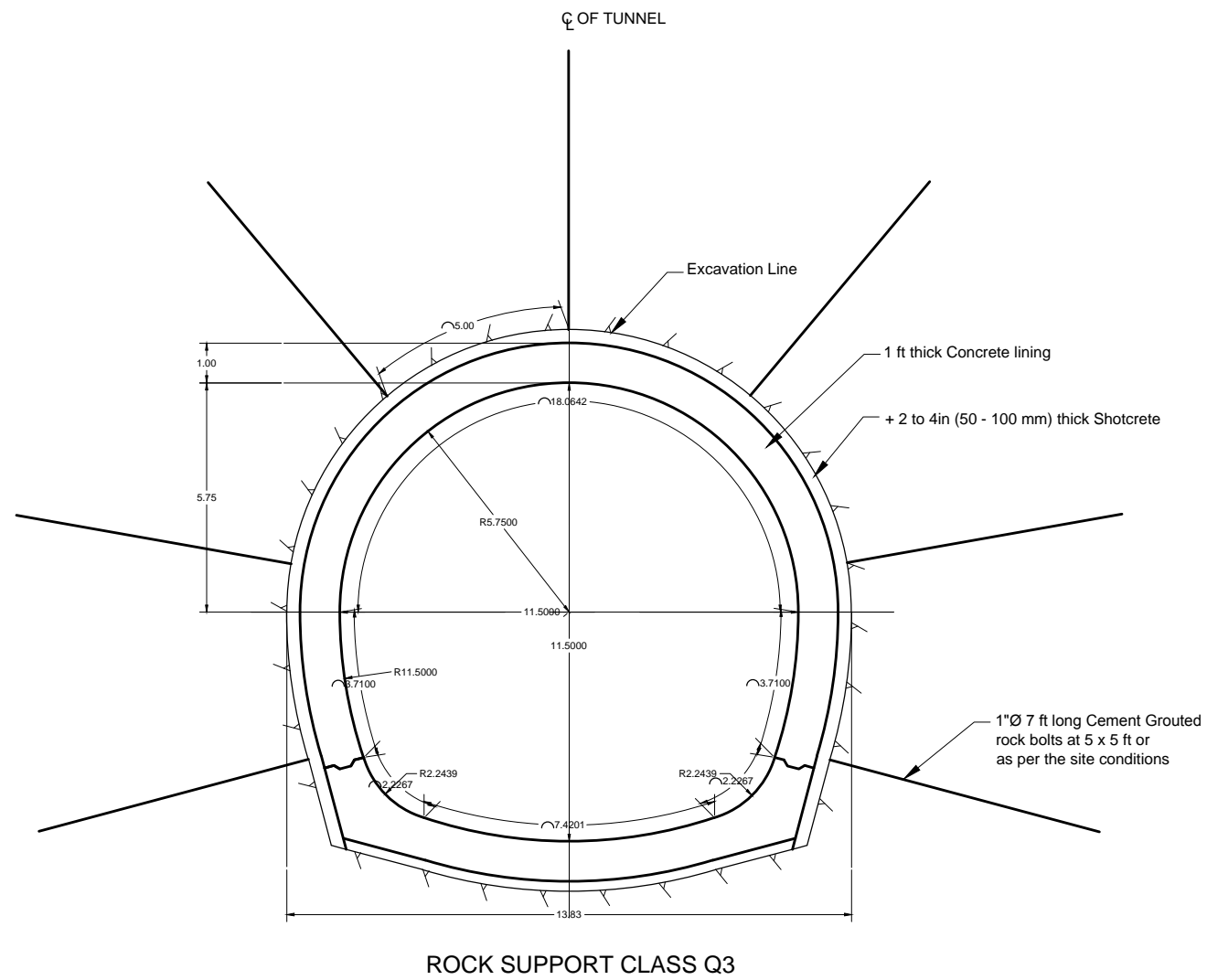
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 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
 AUXILIARY IRRIGATION TUNNEL
INITIAL ROCK SUPPORT DETAILS
 DATE: MAR., 2021
 DWG. NO.: RWCS-1/TD/AIT/TS/02
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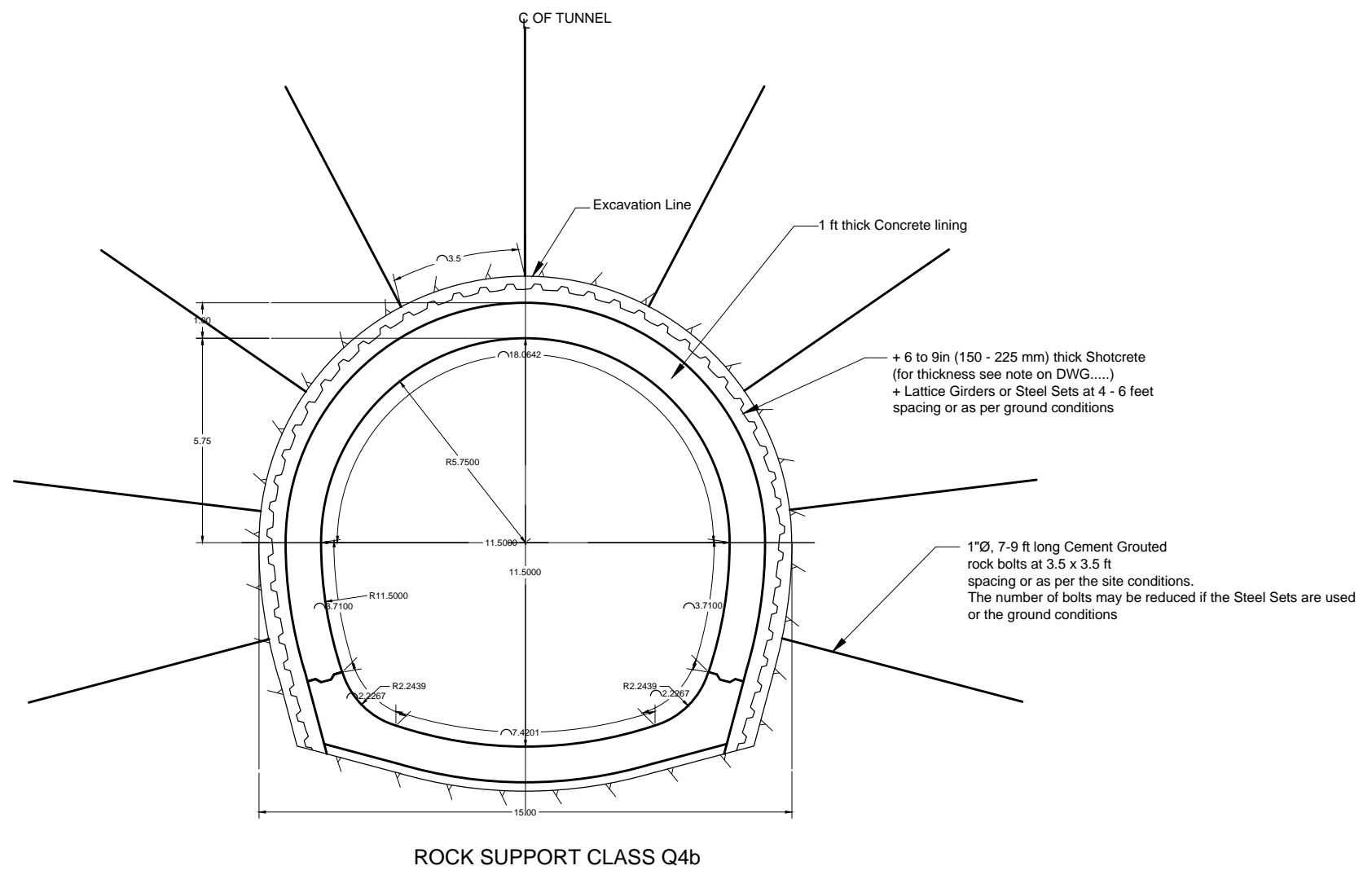
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AUXILIARY IRRIGATION TUNNEL
INITIAL ROCK SUPPORT DETAILS

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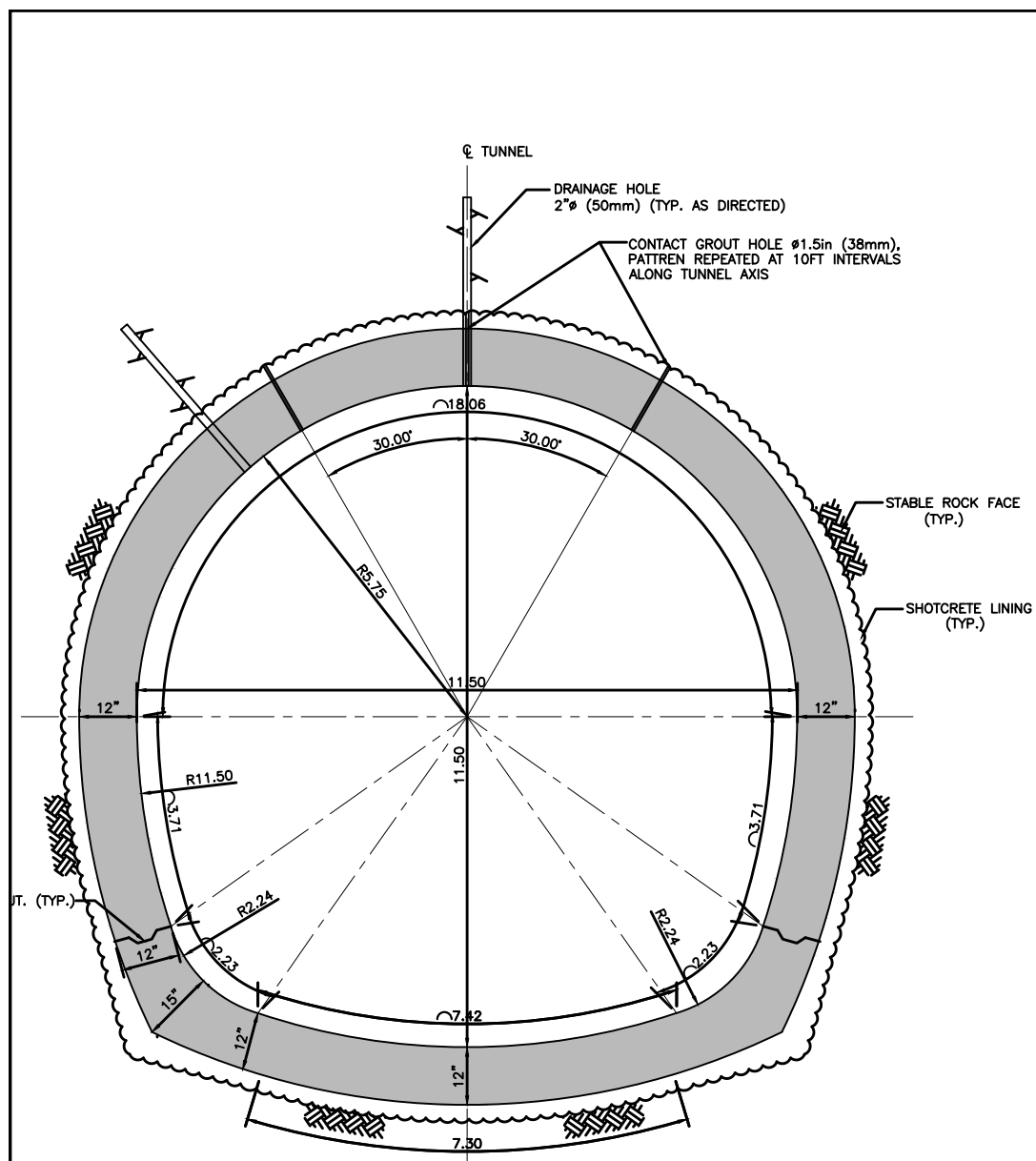


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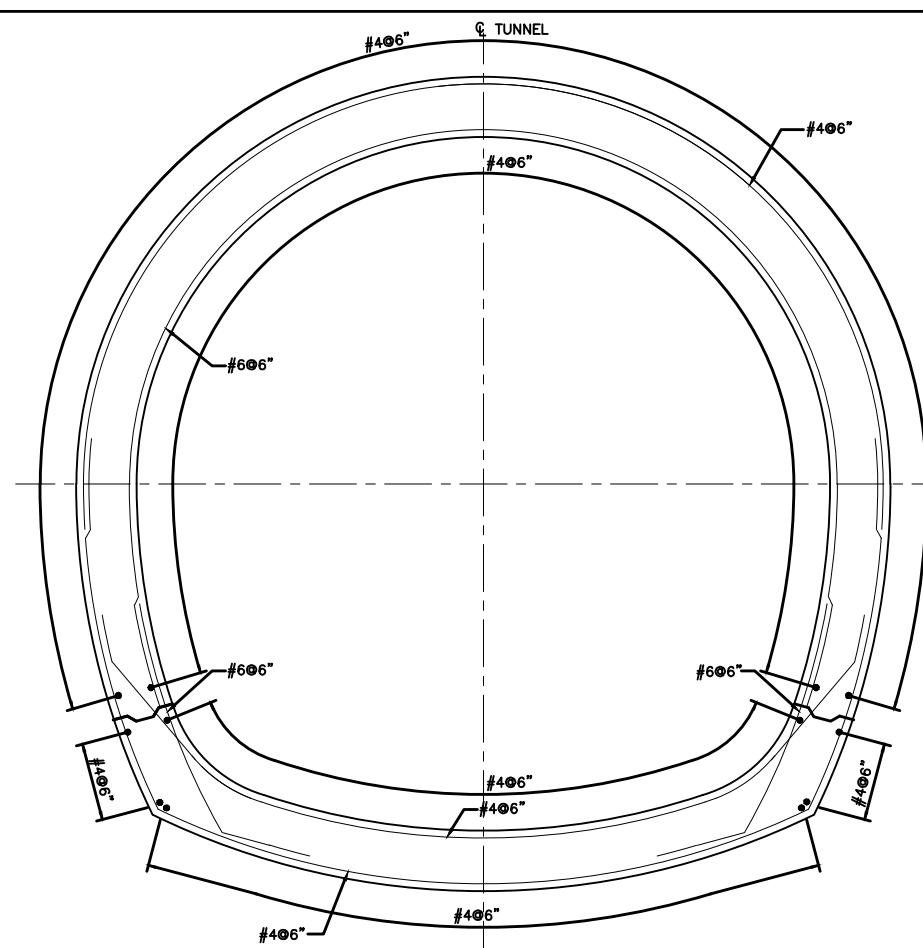
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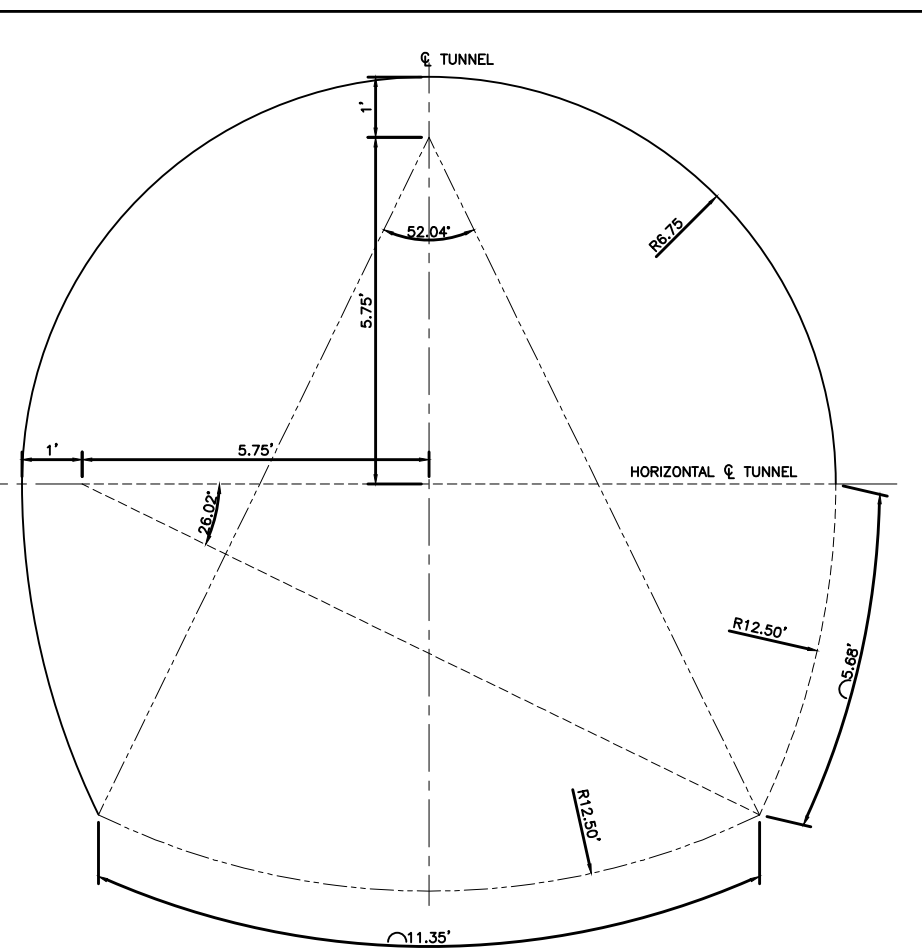
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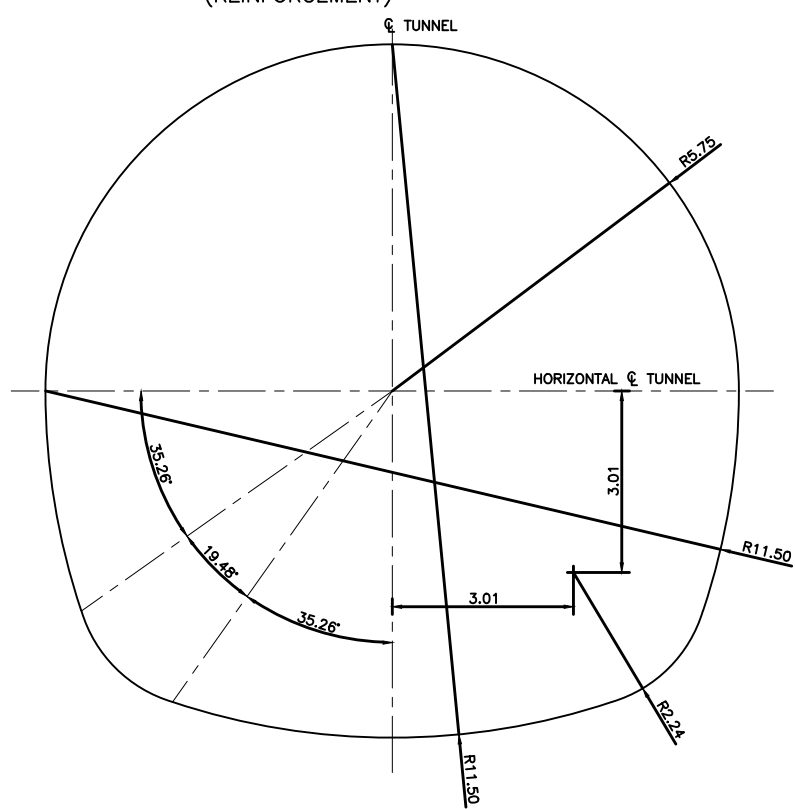
TYPICAL TUNNEL SECTION
(GRANITE ROCK-CLASS 1, 2 AND 3)
(CONCRETE OUTLINE)



TYPICAL TUNNEL SECTION
(GRANITE ROCK-CLASS 1, 2 AND 3)
(REINFORCEMENT)



TYPICAL TUNNEL SECTION (OUTER-LAYOUT)
(GRANITE ROCK-CLASS 1, 2, AND 3)



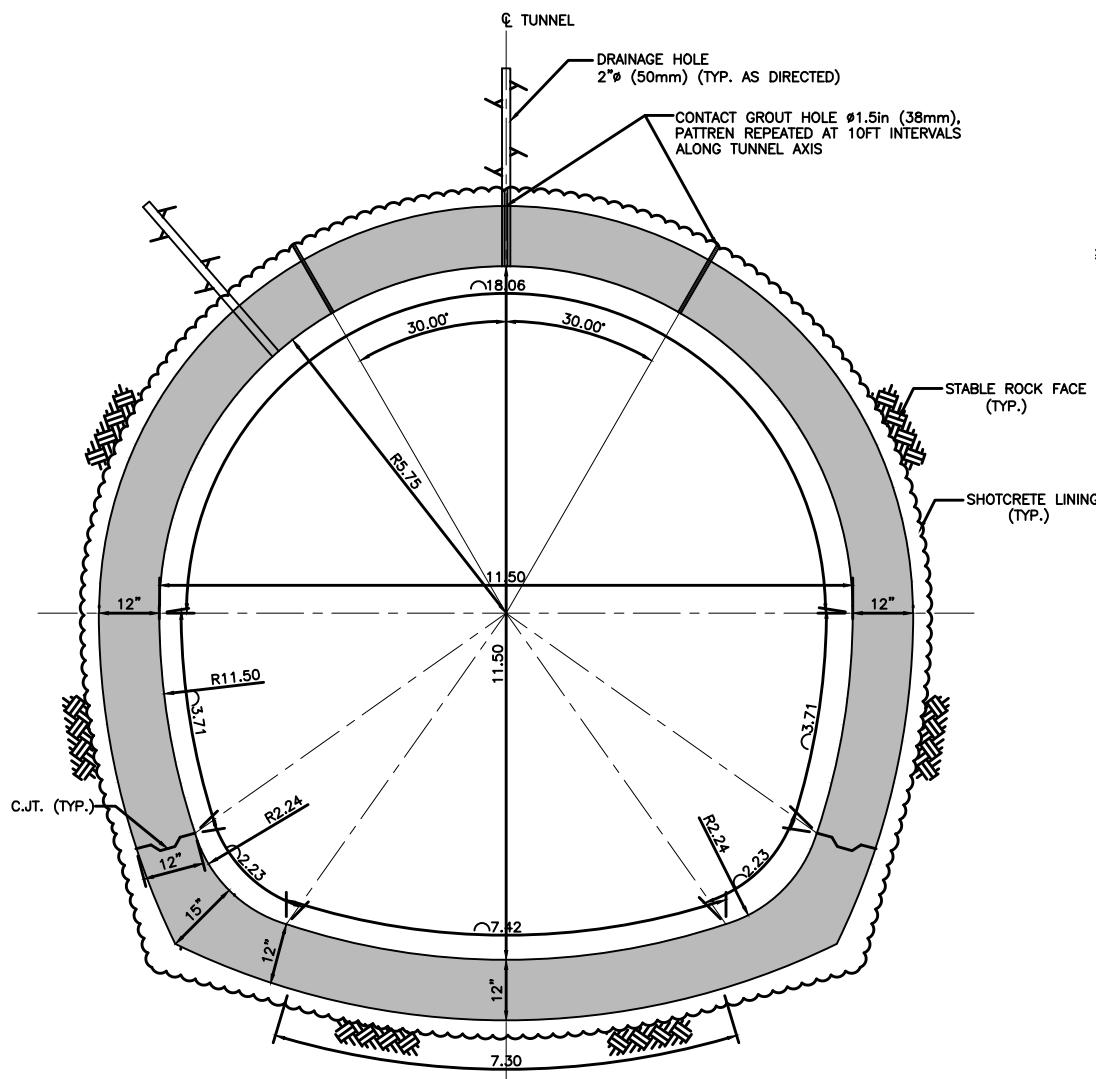
TYPICAL TUNNEL SECTION (INNER-LAYOUT)
(GRANITE ROCK-CLASS 1, 2, AND 3)

**NOT FOR
CONSTRUCTION**

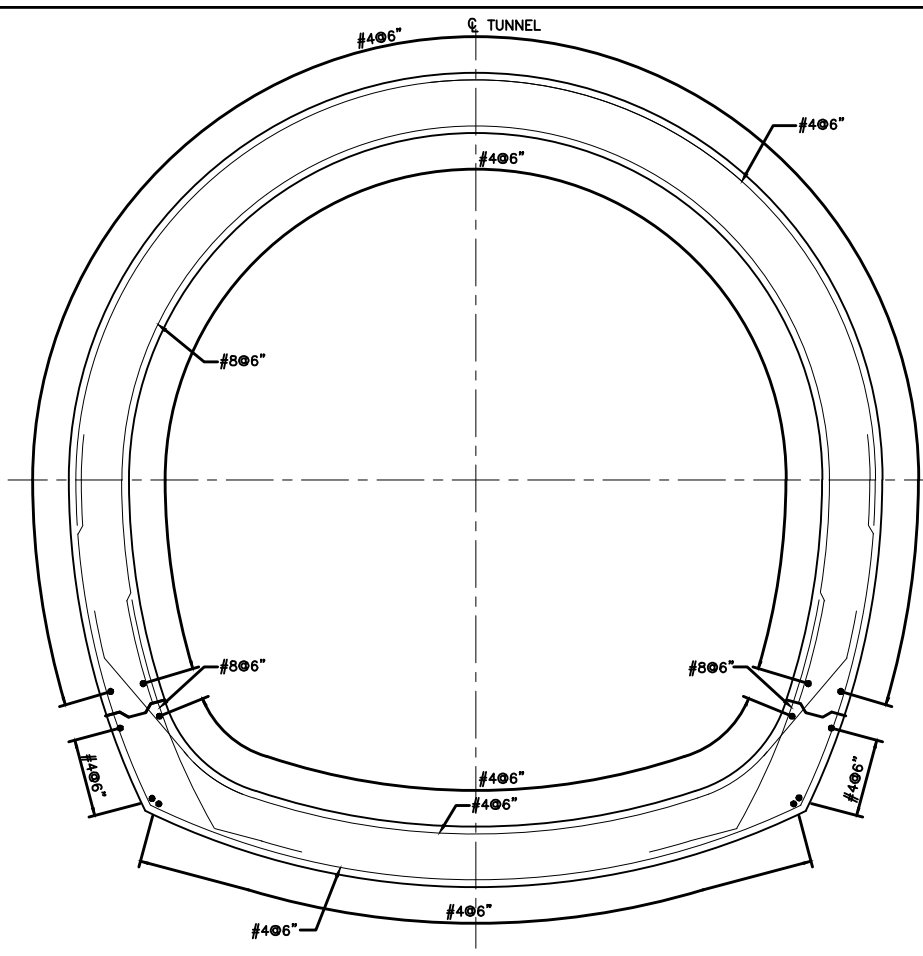
NOTES

1. FOR GENERAL NOTES REFER TO DWG. NO. RWCS-1/TD/AIT/TS/01.
2. ALL LENGTHS AND DIAMETERS ARE IN FEET AND THICKNESSES ARE IN INCHES.
3. PROVIDE LONGITUDINAL CONSTRUCTION JOINT ALONG LENGTH OF TUNNEL AT EVERY 35 FEET.
4. PROVIDE EXPANSION JOINT ALONG LENGTH OF TUNNEL AT EVERY 100 FEET.
5. THE INITIAL 15-20 FEET OF THE TUNNEL LENGTH AT INTAKE SHALL FORM THE TRANSITION SECTION. THE TUNNEL CROSS SECTION SHALL BE ENLARGED AS PER THE THICKNESS REQUIRED FOR CONCRETE LINER.

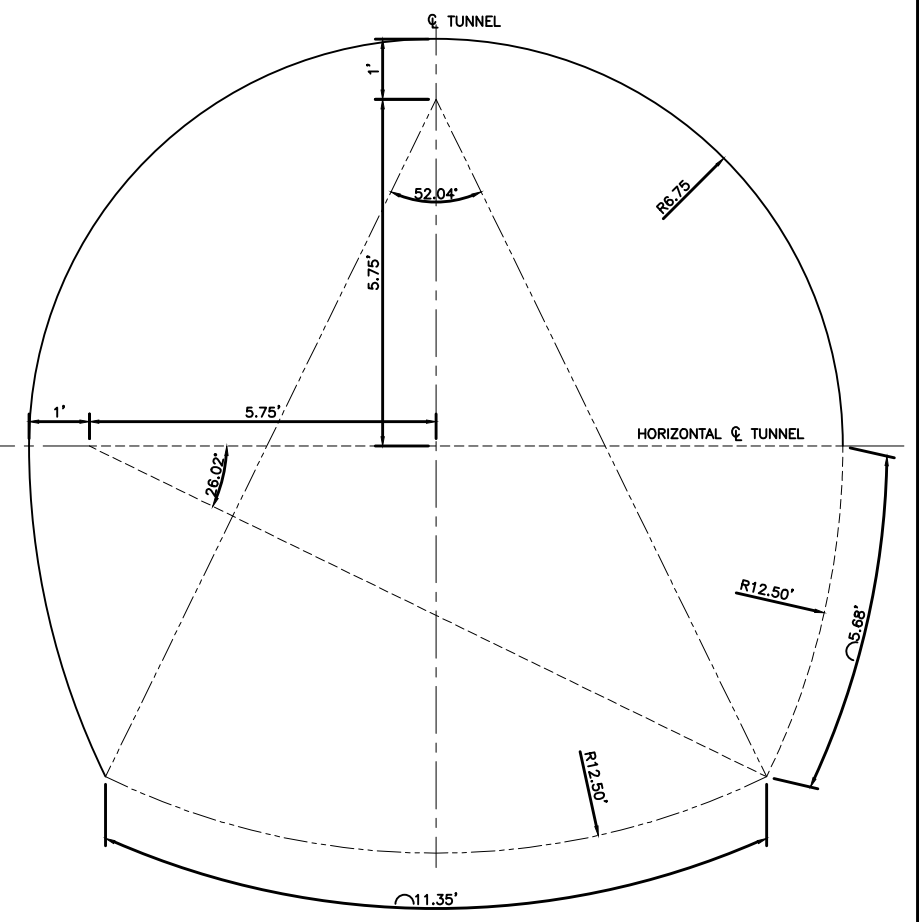
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS				DRAWN GHULAM M.	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES AUXILIARY IRRIGATION TUNNEL GRANITE ROCK SECTION CONCRETE OUTLINE & REINFORCEMENT		
		REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	SUBMITTED	RECOMMENDED	DATE MAR., 2021	DWG. NO. RWCS-1/TD/AIT/TS/05	REV. 0		



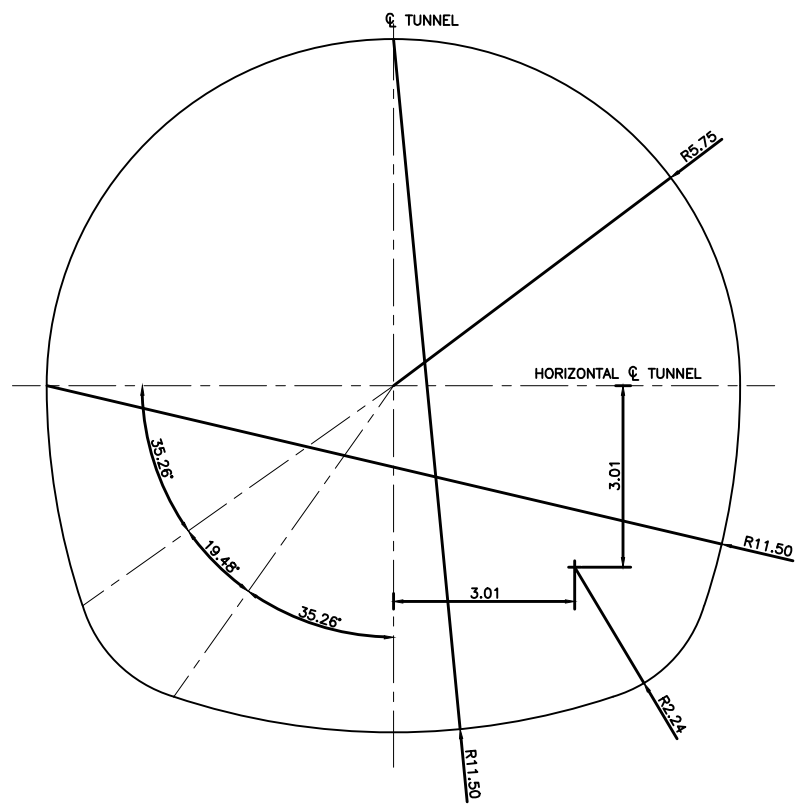
TYPICAL TUNNEL SECTION
(GRANITE ROCK-CLASS 4a AND 4b)
(CONCRETE OUTLINE)



TYPICAL TUNNEL SECTION
(GRANITE ROCK-CLASS 4a AND 4b)
(REINFORCEMENT)



TYPICAL TUNNEL SECTION (OUTER-LAYOUT)
(GRANITE ROCK-BCLASS 4a AND 4b)

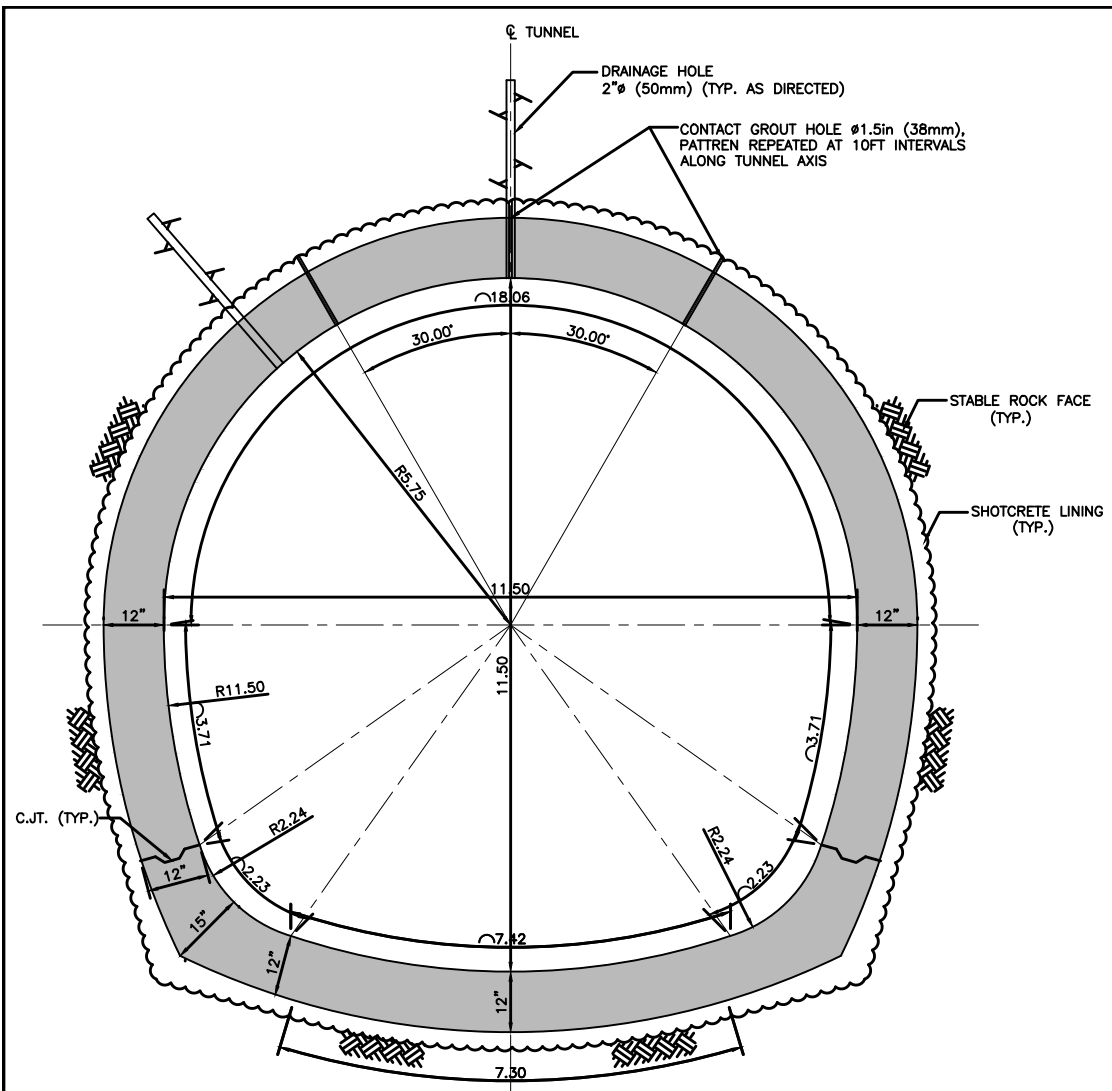


TYPICAL TUNNEL SECTION (INNER-LAYOUT)
(GRANITE ROCK-CLASS 4a AND 4b)

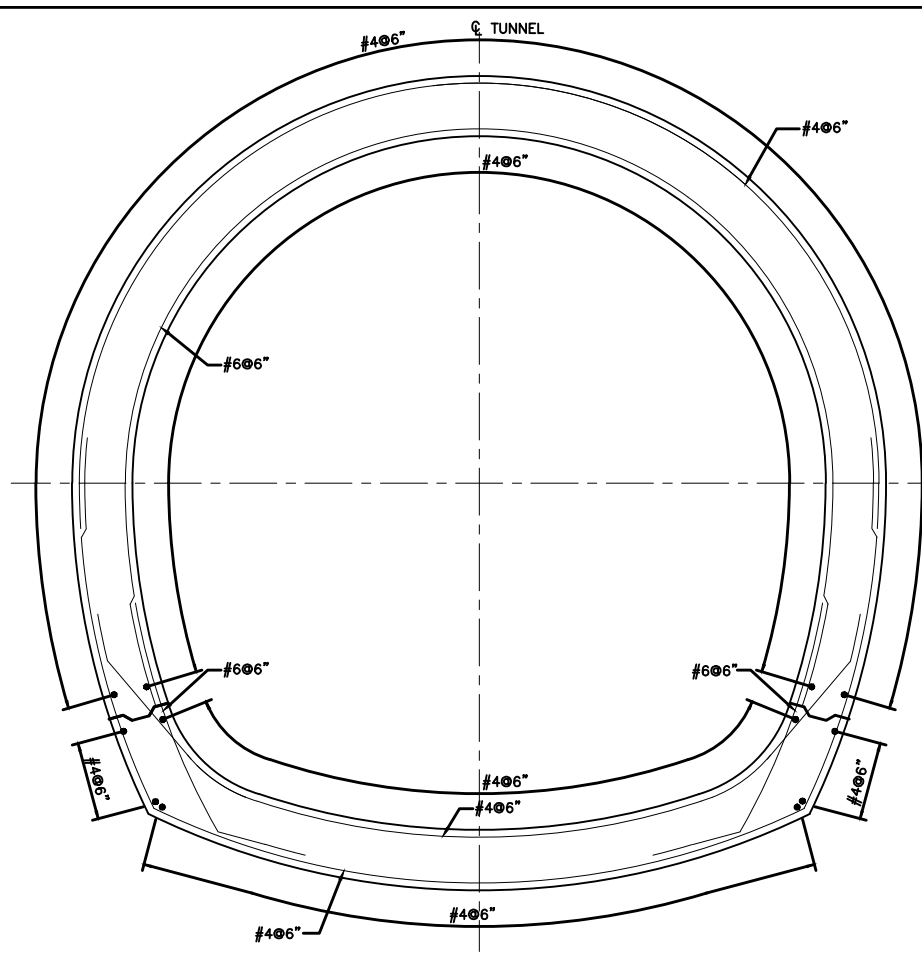
NOT FOR CONSTRUCTION

- NOTES
- FOR GENERAL NOTES REFER TO DWG. NO. RWCS-1/TD/AIT/TS/01.
 - ALL LENGTHS AND DIAMETERS ARE IN FEET AND THICKNESSES ARE IN INCHES.
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 - PROVIDE EXPANSION JOINT ALONG LENGTH OF TUNNEL AT EVERY 100 FEET.

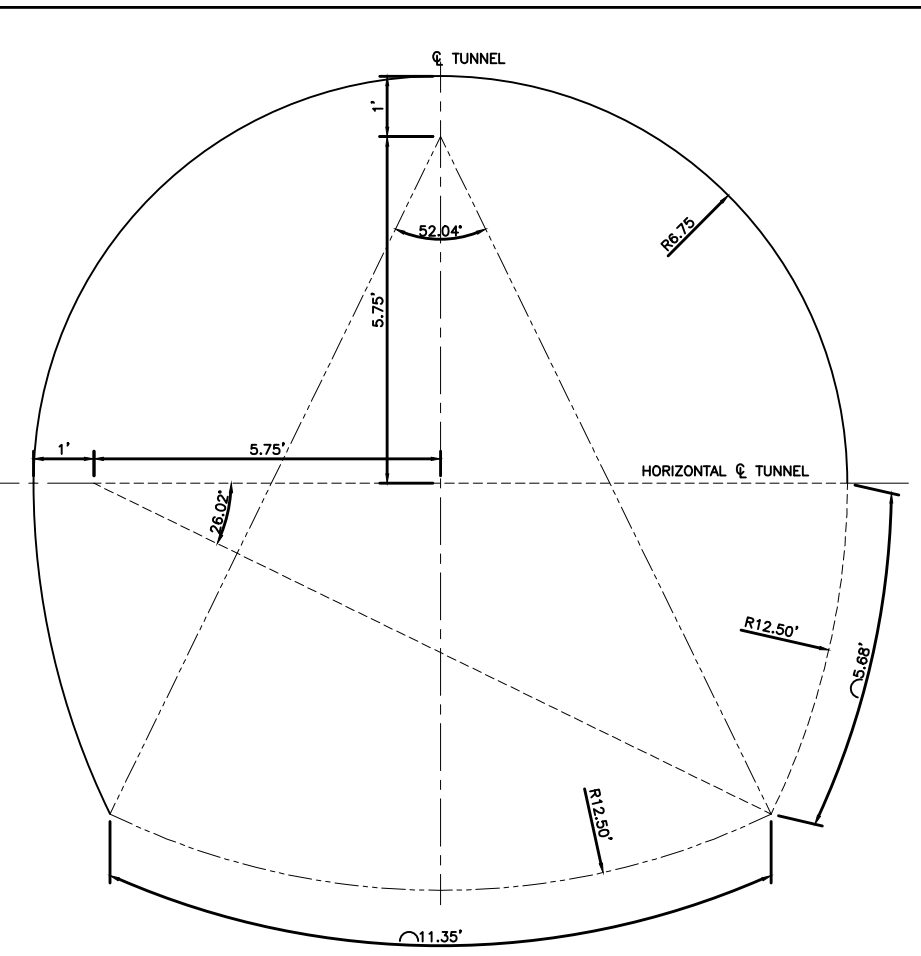
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	GHULAM M.	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES AUXILIARY IRRIGATION TUNNEL GRANITE ROCK SECTION CONCRETE OUTLINE & REINFORCEMENT			
							SUBMITTED				DATE	DWG. NO.
		REV.		DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	MAR., 2021	RWCS-1/TD/AIT/TS/06	0



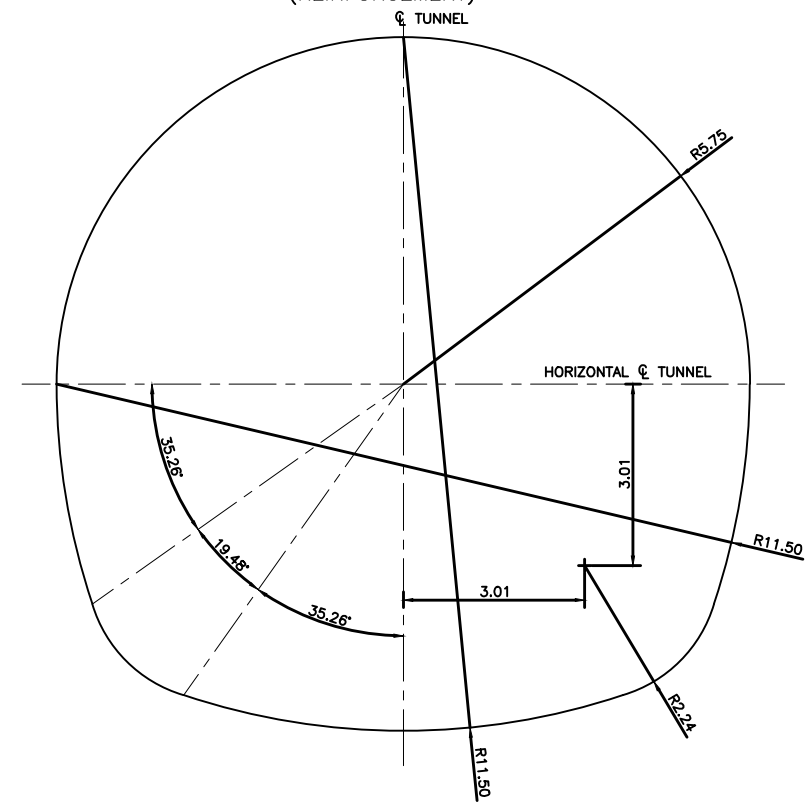
TYPICAL TUNNEL SECTION
(PHYLLITE ROCK-CLASS 1, 2 AND 3)
(CONCRETE OUTLINE)



TYPICAL TUNNEL SECTION
(PHYLLITE ROCK- CLASS 1,2 and 3)
(REINFORCEMENT)



TYPICAL TUNNEL SECTION (OUTER-LAYOUT)
(PHYLLITE ROCK- CLASS 1, 2 and 3)



TYPICAL TUNNEL SECTION (INNER-LAYOUT)
(PHYLLITE ROCK- CLASS 1, 2 AND 3)

NOT FOR
CONSTRUCTION

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CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

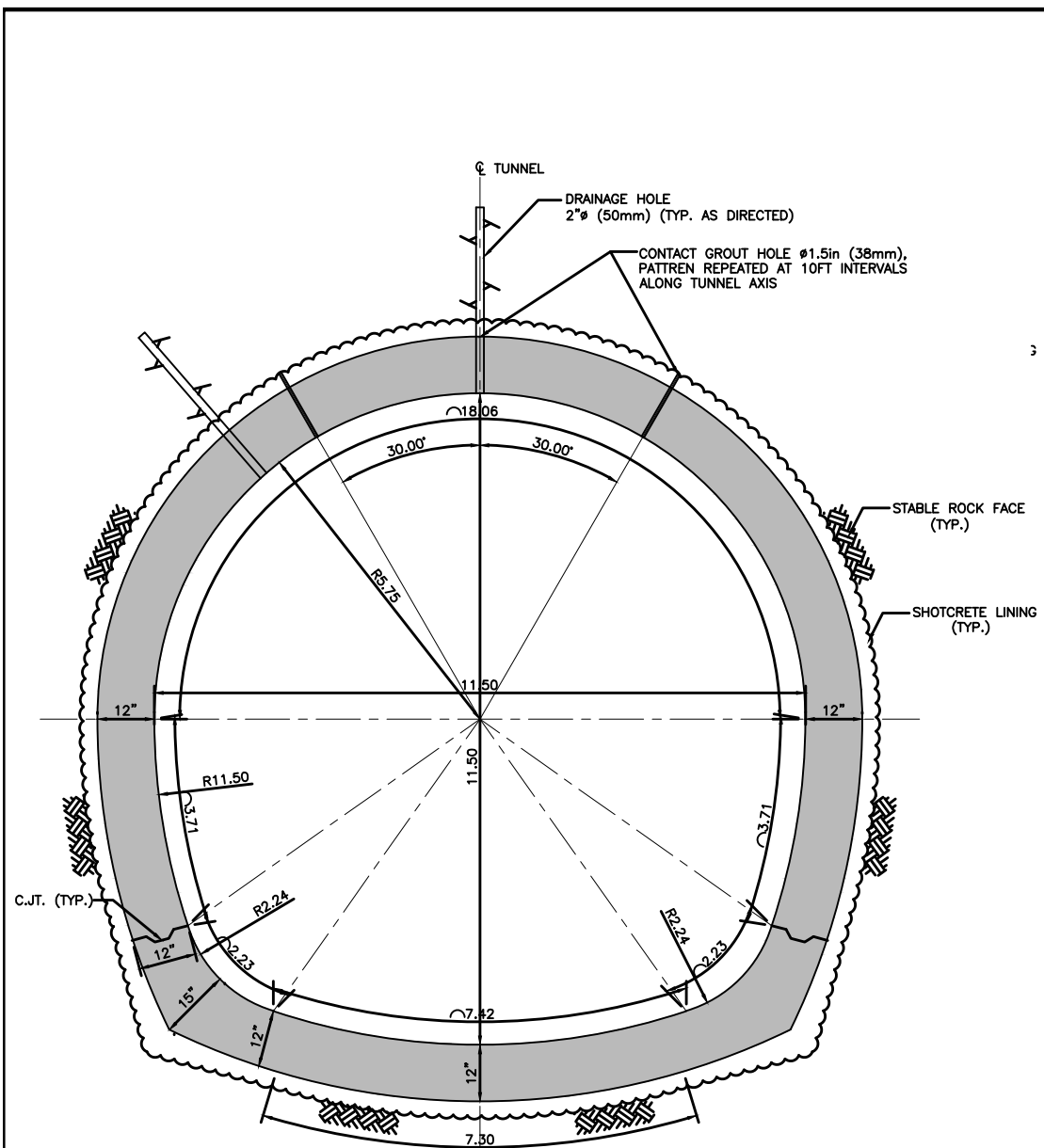
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

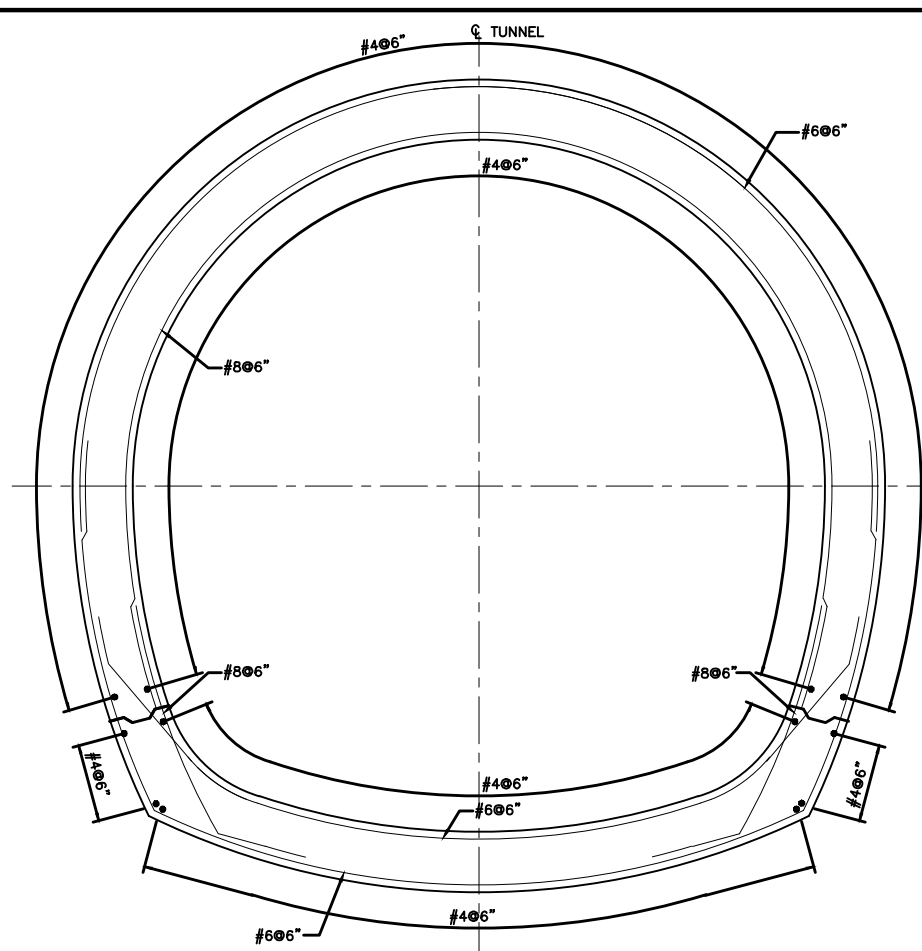
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
AUXILIARY IRRIGATION TUNNEL
PHYLLITE ROCK SECTION
CONCRETE OUTLINE & REINFORCEMENT

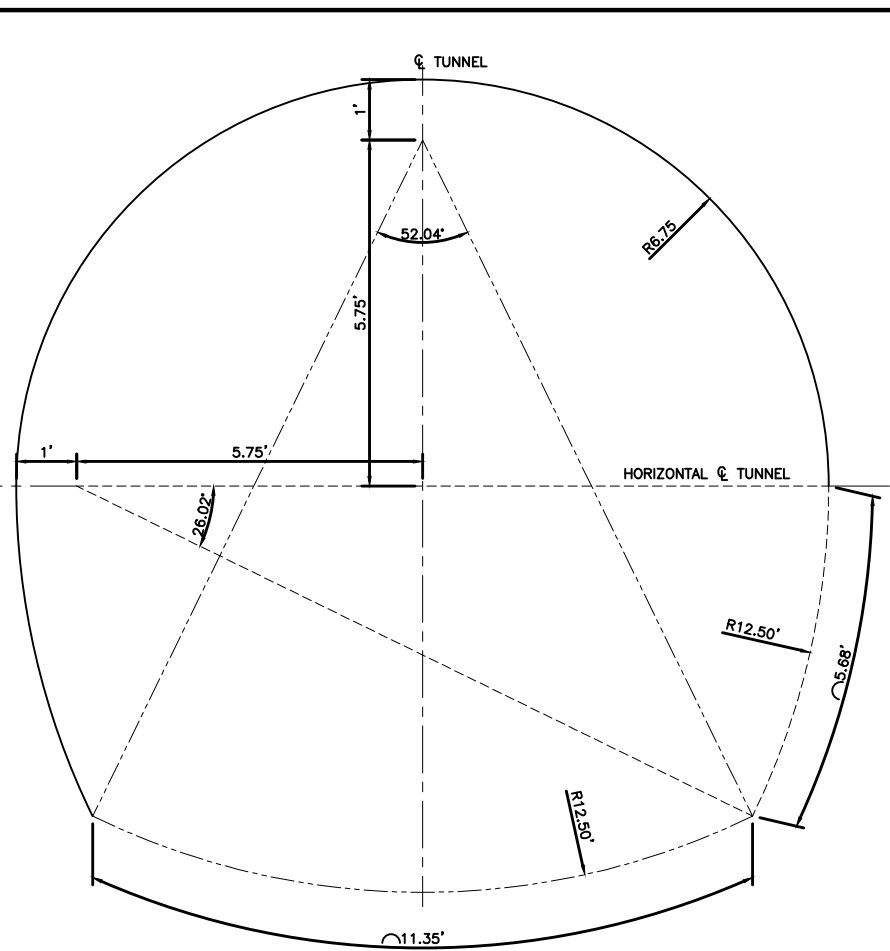
DRAWN GHULAM M.
SUBMITTED
RECOMMENDED
DATE MAR., 2021
DWG. NO. RWCS-1/TD/AIT/TS/07
REV. 0



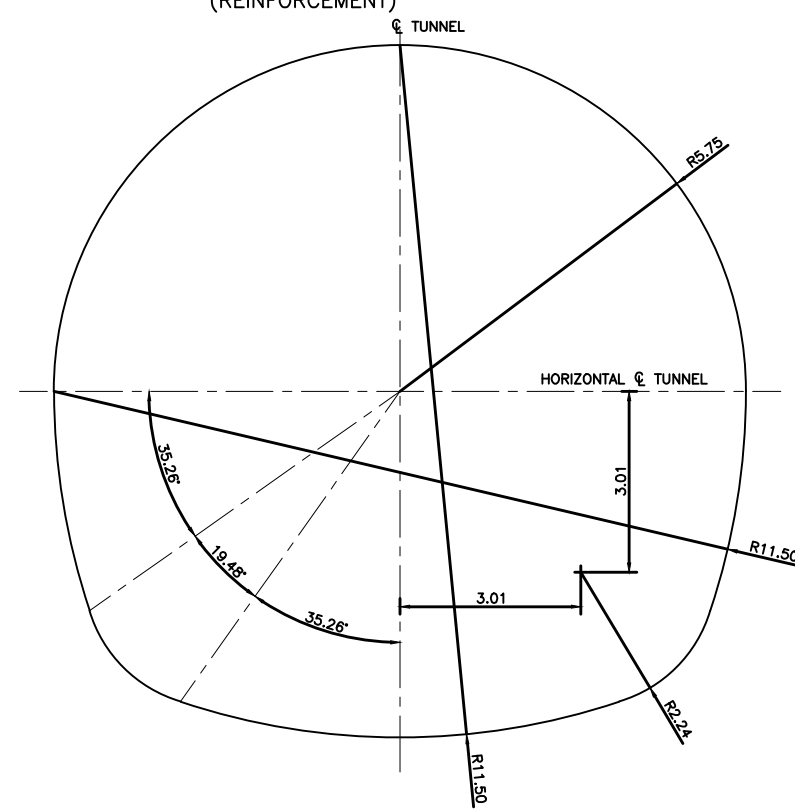
TYPICAL TUNNEL SECTION
(PHYLLITE ROCK-CLASS 4a And 4b)
(CONCRETE OUTLINE)



TYPICAL TUNNEL SECTION
(PHYLLITE ROCK- CLASS 4a AND 4b)
(REINFORCEMENT)



TYPICAL TUNNEL SECTION (OUTER-LAYOUT)
(PHYLLITE ROCK-CLASS 4a AND 4b)



TYPICAL TUNNEL SECTION (INNER-LAYOUT)
(PHYLLITE ROCK-BCLASS 4a AND 4b)

**NOT FOR
CONSTRUCTION**

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CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	GHULAM M.	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES AUXILIARY IRRIGATION TUNNEL PHYLLITE ROCK SECTION CONCRETE OUTLINE & REINFORCEMENT			
							SUBMITTED					DATE
						RECOMMENDED		MAR., 2021	RWCS-1/TD/AIT/TS/08	0		
						REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

B.4. OUTLET AND REGULATOR STRUCTURE

LIST OF REFERENCE DRAWINGS

SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-1/TD/GD/01
2	GENERAL NOTES	RWCS-1/TD/GD/02
3	CONTRACT PACKAGES	RWCS-1/TD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-1/TD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-1/TD/MSD/01
6	SURFACE GEOLOGICAL SURVEY - PLAN (SHEET 1 OF 5)	RWCS-1/TD/AIT/GS/01
7	INTAKE STRUCTURE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-1/TD/AIT/IS/01
8	TUNNEL SECTIONS - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-1/TD/AIT/TS/01
B. INTAKE STRUCTURE - REFERENCE DRAWINGS		
1	OUTLET AND REGULATOR STRUCTURE - GENERAL ARRANGEMENT PLAN	RWCS-1/TD/AIT/ORS/02
2	OUTLET AND REGULATOR STRUCTURE - GENERAL ARRANGEMENT SECTIONS	RWCS-1/TD/AIT/ORS/03
3	OUTLET AND REGULATOR STRUCTURE - PLANS	RWCS-1/TD/AIT/ORS/04
4	OUTLET AND REGULATOR STRUCTURE - PLANS	RWCS-1/TD/AIT/ORS/05
5	OUTLET AND REGULATOR STRUCTURE - SECTION A-A	RWCS-1/TD/AIT/ORS/06
6	OUTLET AND REGULATOR STRUCTURE - SECTION	RWCS-1/TD/AIT/ORS/07
7	OUTLET AND REGULATOR STRUCTURE - SECTION	RWCS-1/TD/AIT/ORS/08
8	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/09
9	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/10
10	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/11

SR.	TITLE	DRAWING NO.
11	OUTLET AND REGULATOR STRUCTURE - GENERAL ARRANGEMENT PLAN	RWCS-1/TD/AIT/ORS/12
12	OUTLET AND REGULATOR STRUCTURE - PLAN-A AND SECTION	RWCS-1/TD/AIT/ORS/13
13	OUTLET AND REGULATOR STRUCTURE - PLAN-B AND SECTION	RWCS-1/TD/AIT/ORS/14
14	OUTLET AND REGULATOR STRUCTURE - PLAN-C AND SECTION	RWCS-1/TD/AIT/ORS/15
15	OUTLET AND REGULATOR STRUCTURE - PLAN-D	RWCS-1/TD/AIT/ORS/16
16	OUTLET AND REGULATOR STRUCTURE - SECTIONS	RWCS-1/TD/AIT/ORS/17
17	OUTLET AND REGULATOR STRUCTURE - SECTIONS	RWCS-1/TD/AIT/ORS/18
18	OUTLET AND REGULATOR STRUCTURE - SECTIONS	RWCS-1/TD/AIT/ORS/19
19	OUTLET AND REGULATOR STRUCTURE - SECTIONS	RWCS-1/TD/AIT/ORS/20
20	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/21
21	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/22
22	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/23
23	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/24
24	OUTLET AND REGULATOR STRUCTURE - REINFORCEMENT DETAILS	RWCS-1/TD/AIT/ORS/25
REGULATOR STRUCTURE - MECHANICAL DRAWINGS		
25	OUTLET AND REGULATOR STRUCTURES - GATE AND DETAILS	RWCS-1/TD/AIT/ORG/01
26	OUTLET AND REGULATOR STRUCTURES - GATE AND DETAILS	RWCS-1/TD/AIT/ORG/02
27	OUTLET AND REGULATOR STRUCTURES - TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-1/TD/AIT/ORG/03
28	OUTLET AND REGULATOR STRUCTURES - WOODEN STOPLOG DETAILS	RWCS-1/TD/AIT/ORG/03

NOTES

- LOCATION OF STRUCTURES IS TENTATIVE AND SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- ALL THE DRAWINGS MUST BE READ IN CONJUNCTION WITH THE DRAWINGS REFERRED AND RELEVANT SPECIFICATIONS
- EXCAVATED MATERIAL SUITABLE FOR EMBANKMENT FILL SHALL BE USED FOR COMPACTED EMBANKMENTS.
- EARTH FILL IN EMBANKMENTS SHALL BE COMPACTED AS PER SPECIFICATIONS.
- THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95 % OF DRY DENSITY.

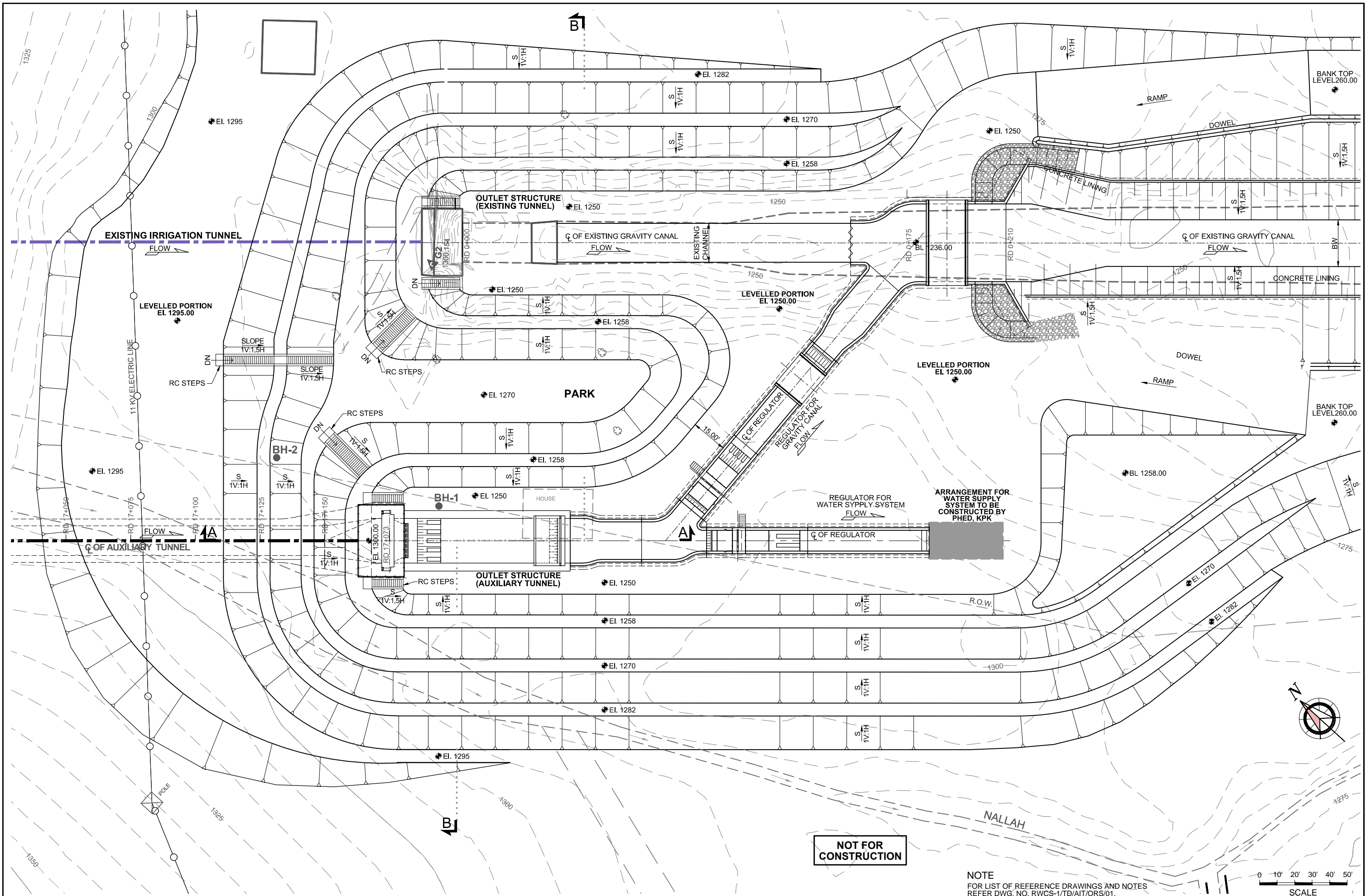
MECHANICAL NOTES

- ALL MATERIALS / PAINTINGS AND THEIR THICKNESSES SHALL BE ACCORDING TO THE SPECIFICATIONS AND THE DRAWINGS AND SUBJECT TO PRIOR APPROVAL OF THE ENGINEER.
- MATERIALS TEST CERTIFICATES SHALL BE SUBMITTED FOR APPROVAL BEFORE START OF FABRICATION.
- FABRICATION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC - SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING.

- ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS CODE D-1.1 WELDING IN BUILDING CONSTRUCTION.
- DIMENSIONS / SIZES PROVIDED ON THE DRAWINGS ARE THE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL DESIGN AND SUBMIT THE SHOP DRAWINGS / CALCULATIONS FOR APPROVAL BEFORE START OF MANUFACTURING. NO MANUFACTURING SHALL BE DONE WITHOUT APPROVAL BY THE ENGINEER.
- ALL RELEVANT STANDARDS, CATALOGS ETC. SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS / CALCULATIONS.
- THE PIPES SHALL NOT BE TRANSPORTED TO SITE BEFORE SHOP INSPECTION BY THE ENGINEER'S REPRESENTATIVE.
- ALL INSTALLATION WORK SHALL BE CARRIED OUT ACCORDING TO APPROVED SCHEDULE AND IN THE PRESENCE OF ENGINEER'S REPRESENTATIVE.
- COMPLETE BOQ SHALL BE PROVIDED ON EACH SHOP DRAWING INCLUDING ITEM NOS., DESCRIPTION, DIMENSIONS, QUANTITIES, MATERIALS ALONG WITH STANDARDS AND TOTAL WEIGHT OF EACH ITEM.
- ALL BUTT WELDS SHALL BE RT ACCORDING TO THE REQUIREMENTS OF SPECIFICATIONS.
- THE CONTRACTOR SHALL SUBMIT FINAL PROFILE OF THE PIPELINE/RIZING/MAIN ALONG WITH ENROUTE FACILITIES /CROSSING ETC.

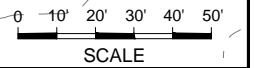
NOT FOR CONSTRUCTION

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN Ishtiaq CHECKED RECOMMENDED APPROVED	DATE MAR., 2021	DWG. NO. RWCS-1/TD/AIT/ORS/01	REV. 0
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NOTE
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CLIENT
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CANALS PROJECT
PESHAWAR

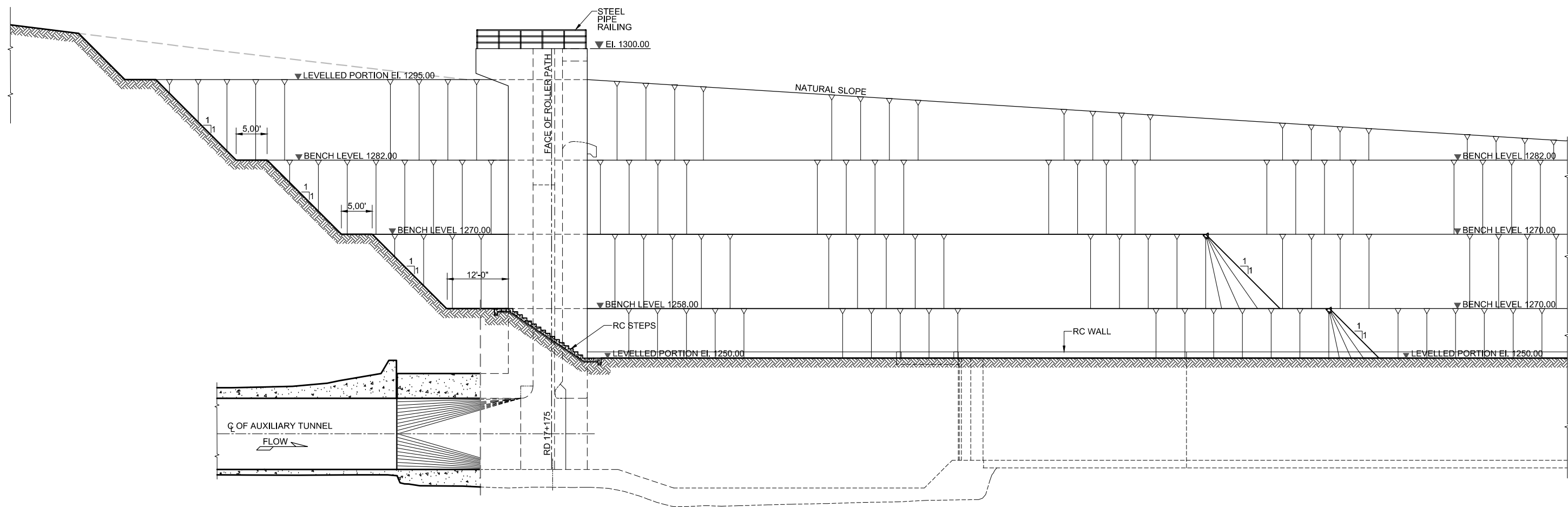
CONSULTANT - A JOINT VENTURE OF
NEP NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS
PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

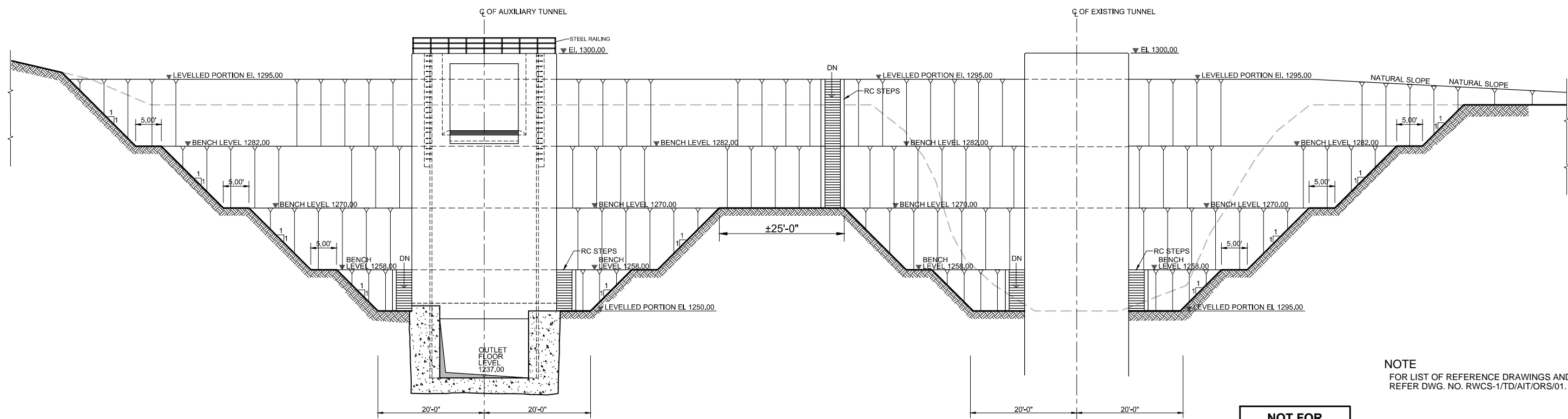
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
GENERAL ARRANGEMENT PLAN

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/02	0



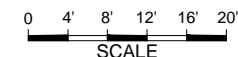
SECTION A-A
SAME ARRANGEMENT FOR EXISTING OUTLET SIDE



SECTION B-B

NOTE
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NEEP NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS
PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

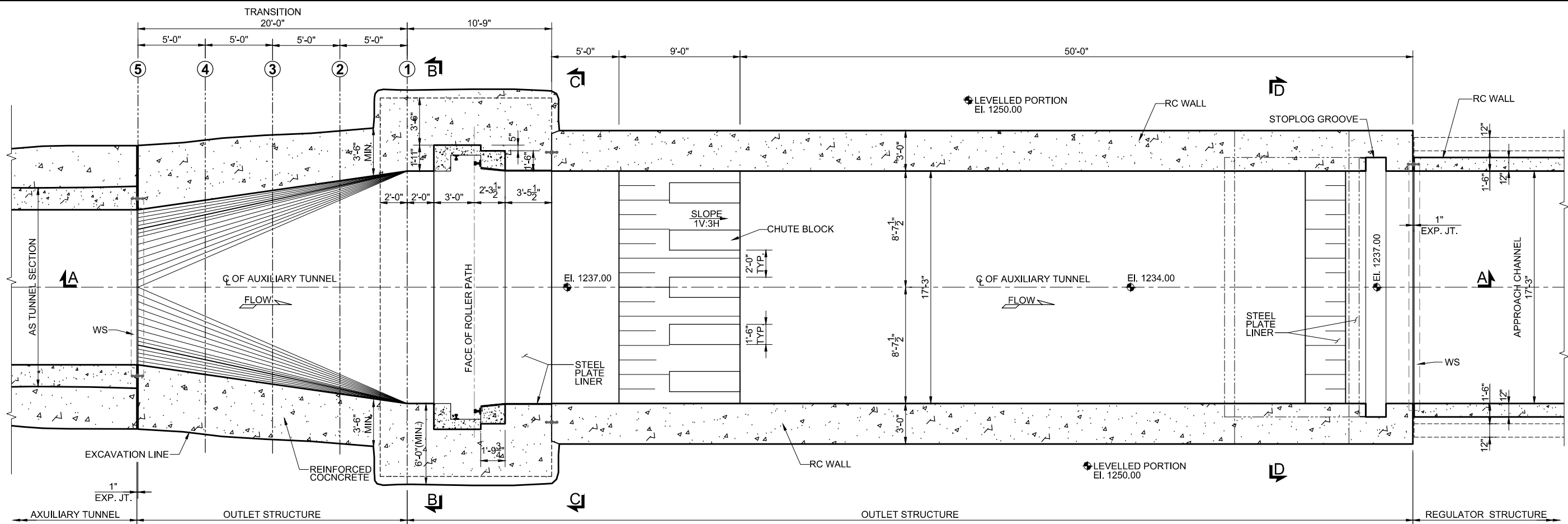
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

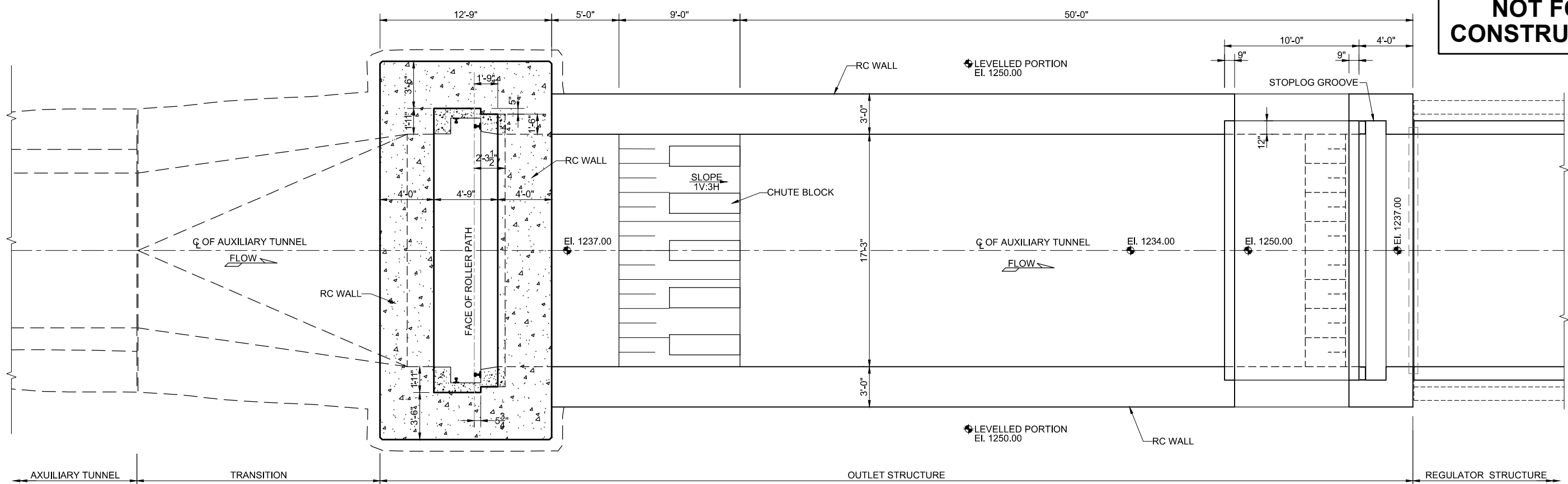
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
GENERAL ARRANGEMENT SECTIONS

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/03	0

DRAWN Ishtiaq
CHECKED
RECOMMENDED



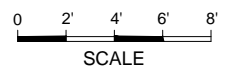
PLAN AT EI. 1242.00



PLAN AT EI. 1260.00

NOT FOR CONSTRUCTION

NOTE
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REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



CLIENT
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GOVERNMENT OF THE KHYBER
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PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

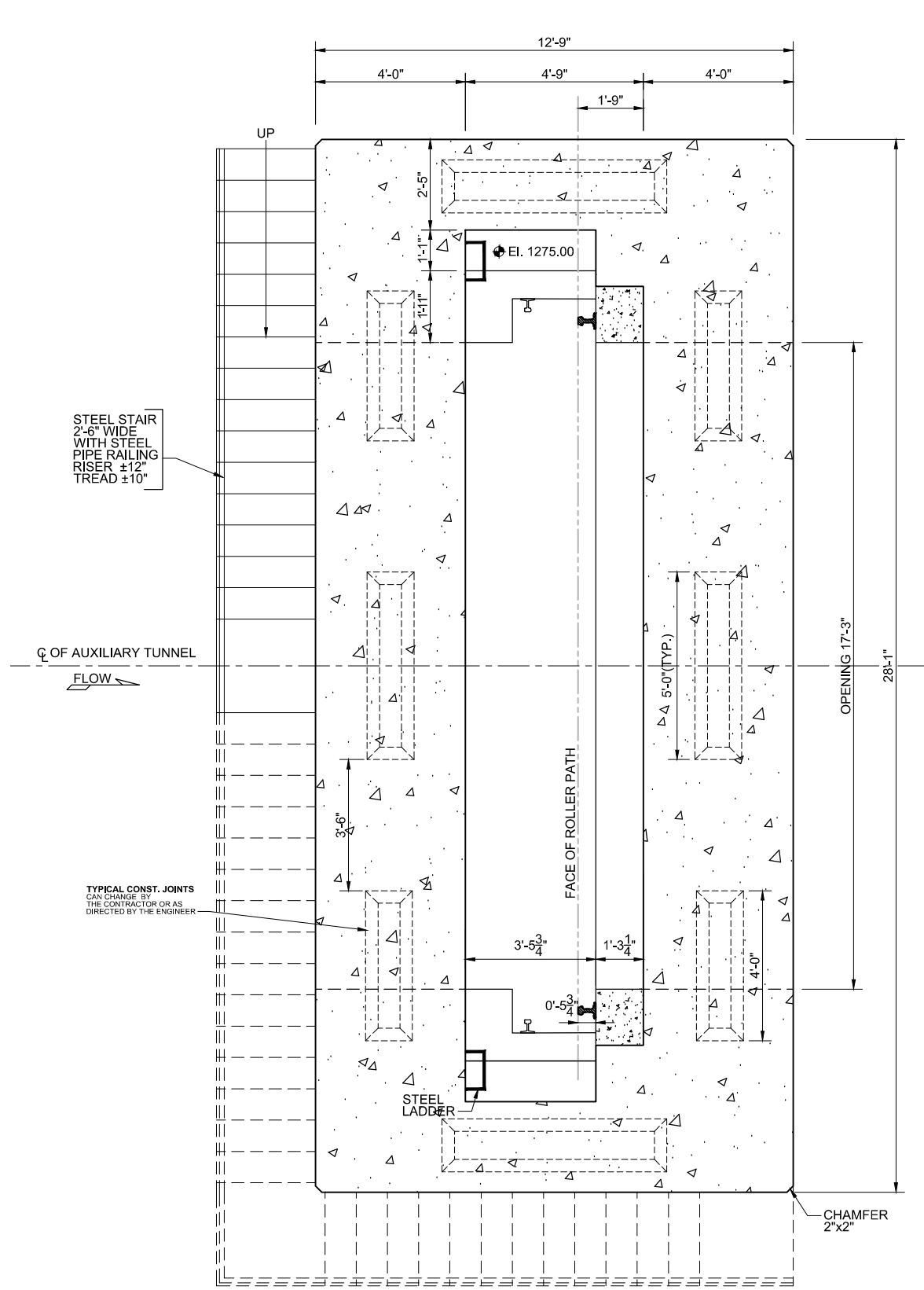
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

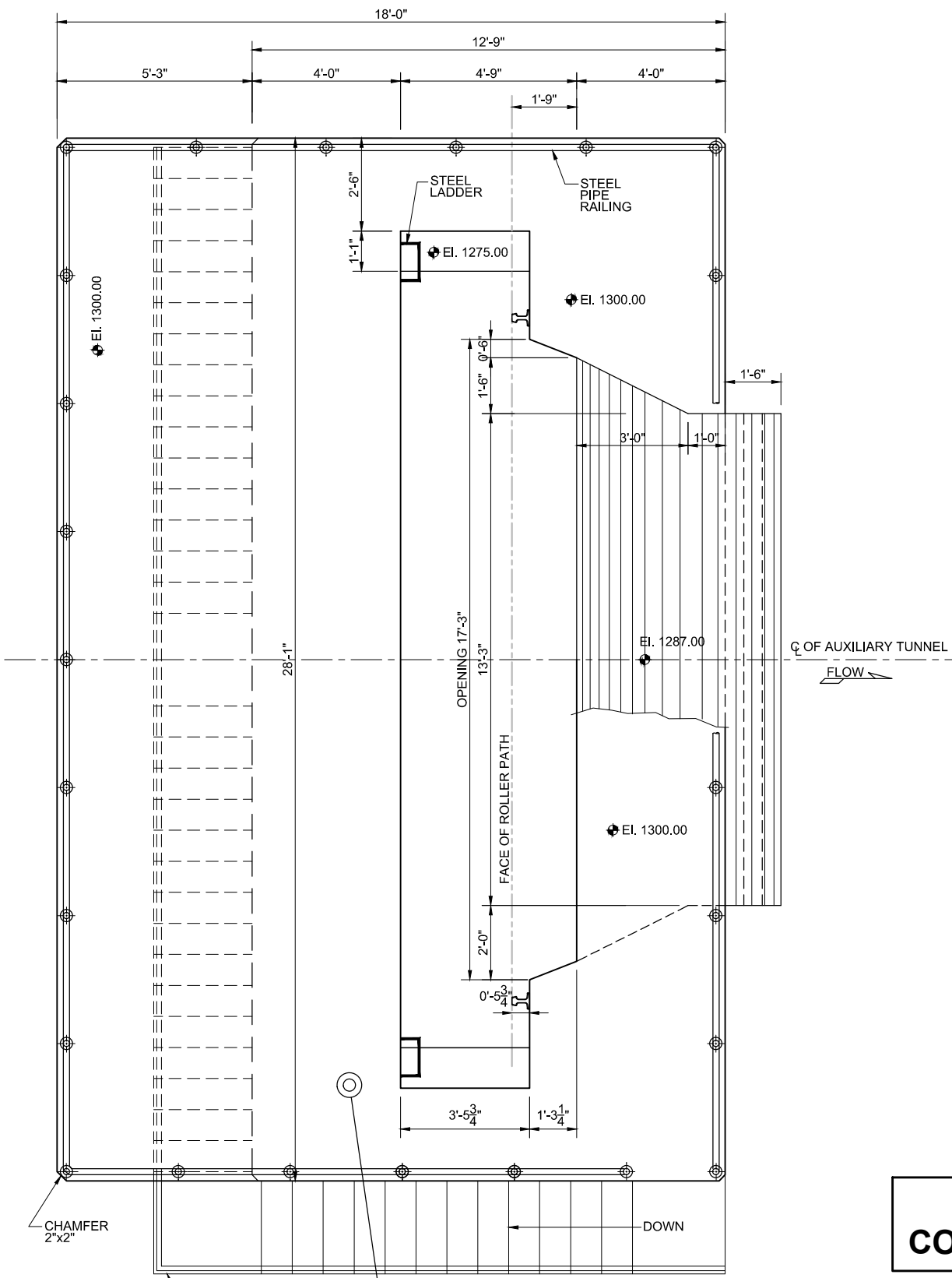
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
PLANS

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/04	0



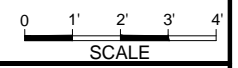
PLAN AT EI. 1277.00



PLAN AT EI. 1300.00

NOT FOR CONSTRUCTION

NOTE
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REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
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ELECTRA CONSULTANTS
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INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

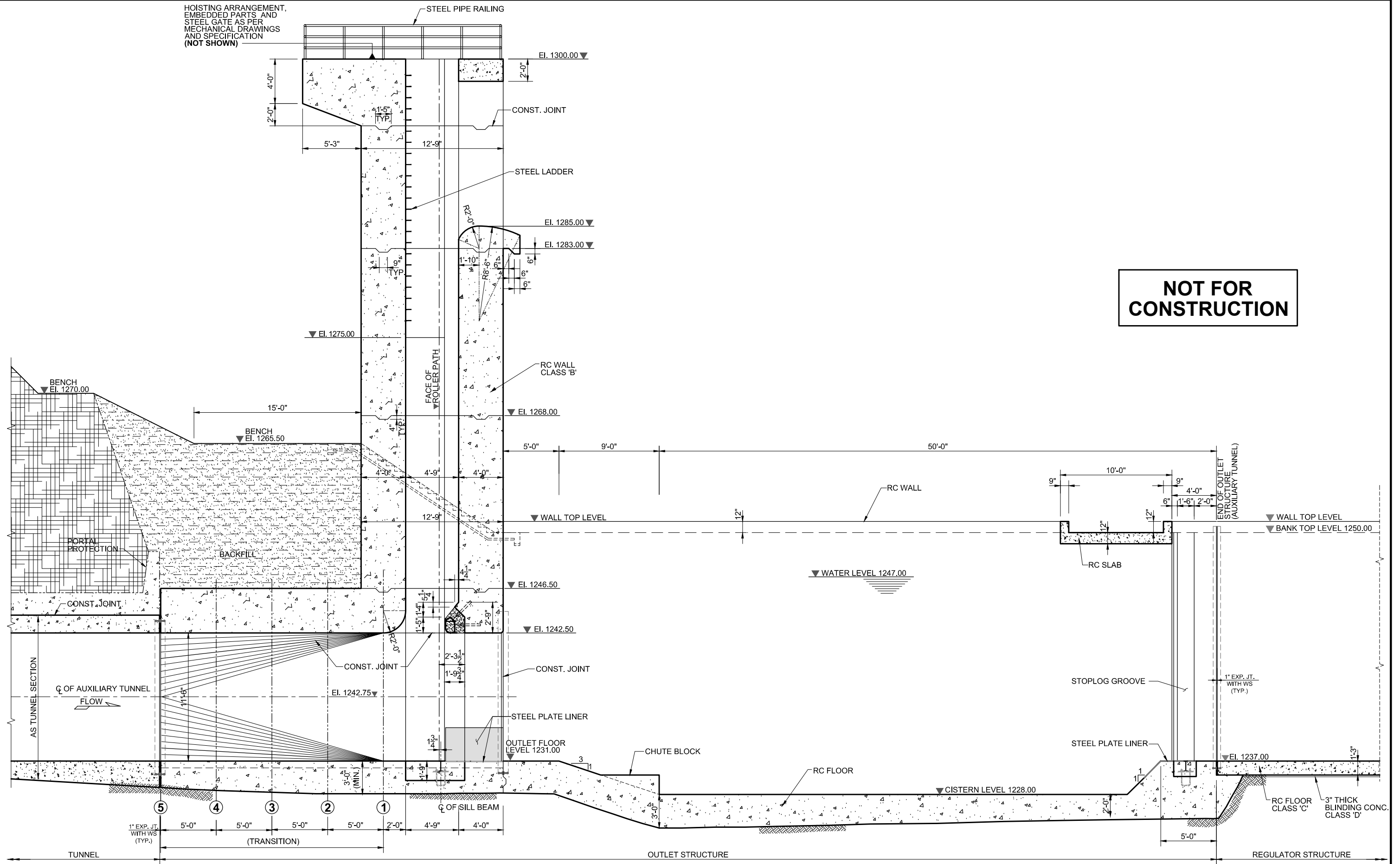
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

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REMODELING OF WARSAK CANAL SYSTEM
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AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
PLANS

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ROS/05	0

HOISTING ARRANGEMENT, EMBEDDED PARTS AND STEEL GATE AS PER MECHANICAL DRAWINGS AND SPECIFICATION (NOT SHOWN)



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NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



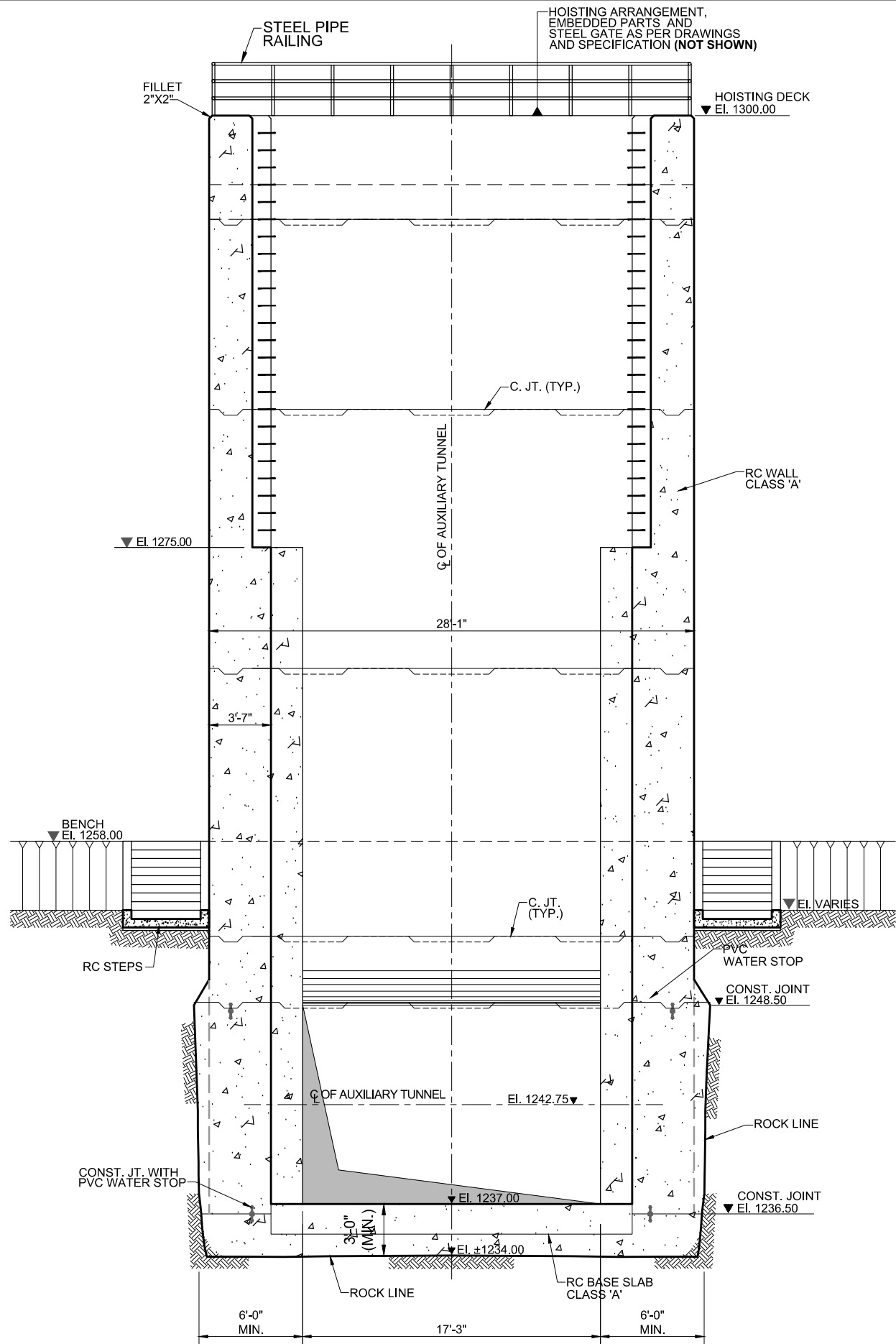
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

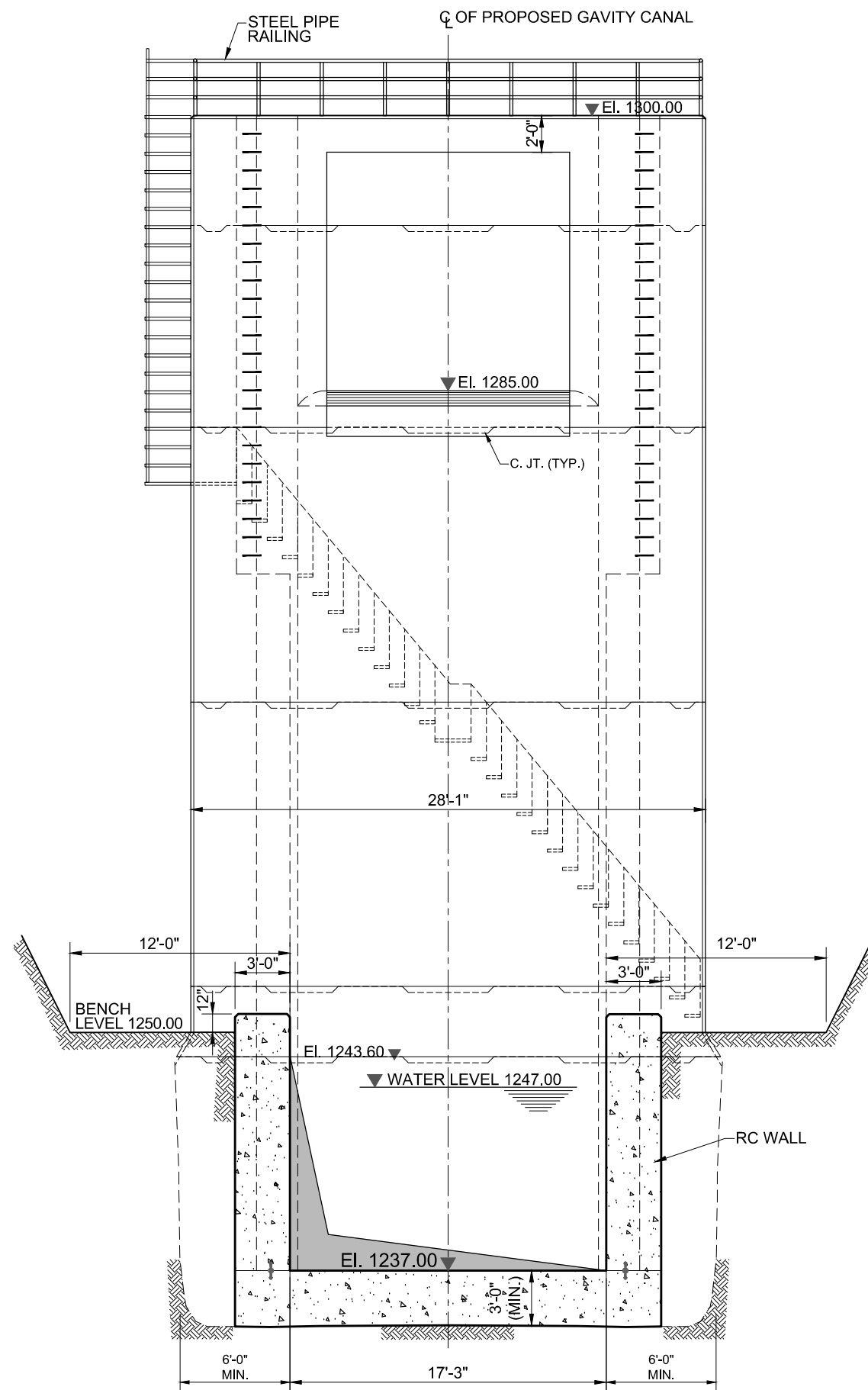
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
SECTION A-A
DATE: MAR., 2021
DWG. NO.: RWCS-1/TD/AIT/ORS/06
REV. 0



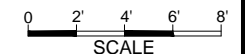
SECTION B-B



SECTION C-C

**NOT FOR
CONSTRUCTION**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

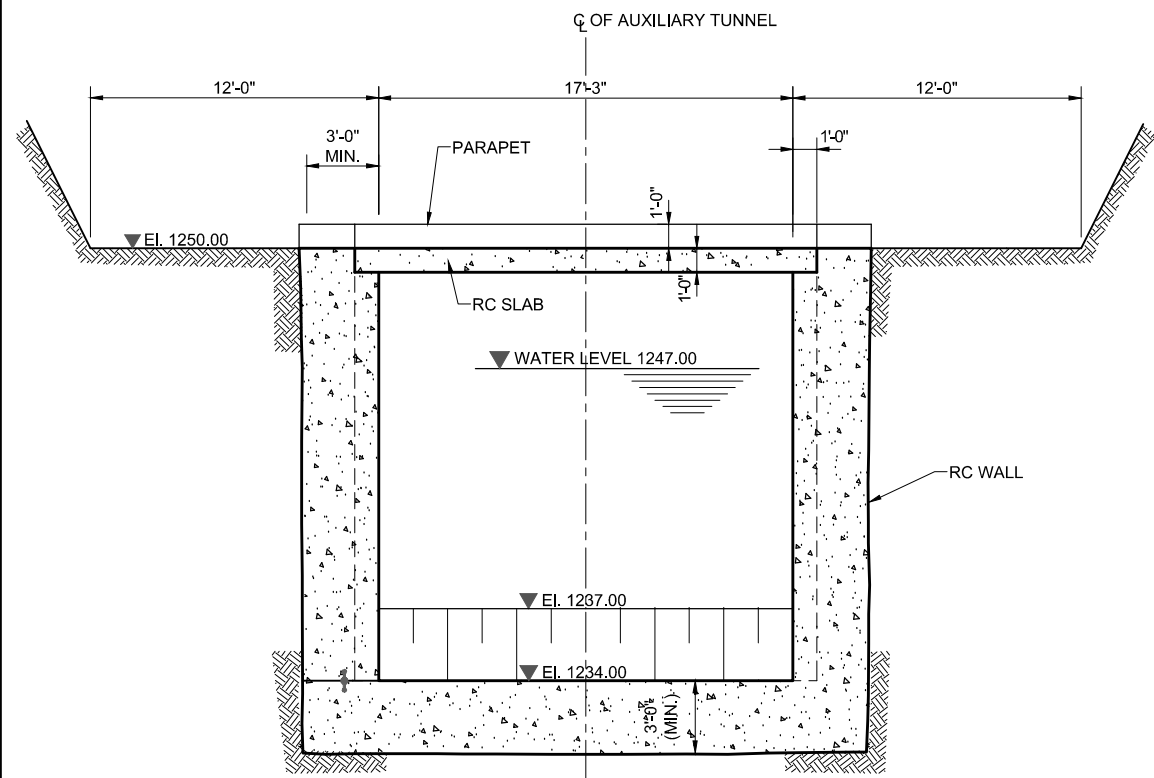
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**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

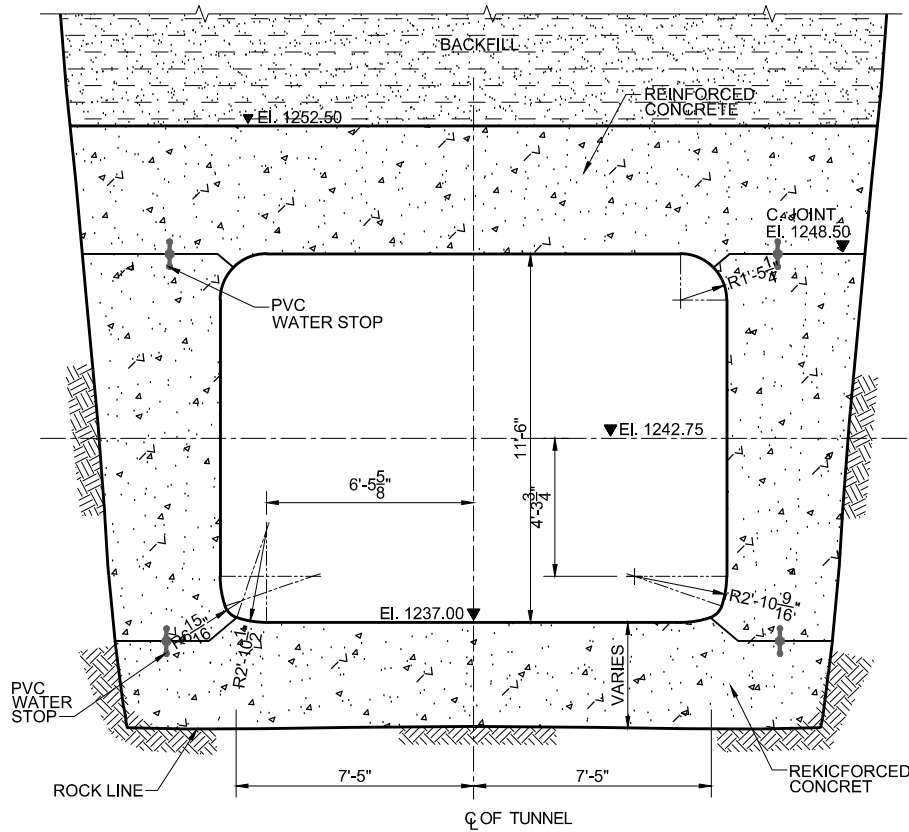
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**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
SECTION**

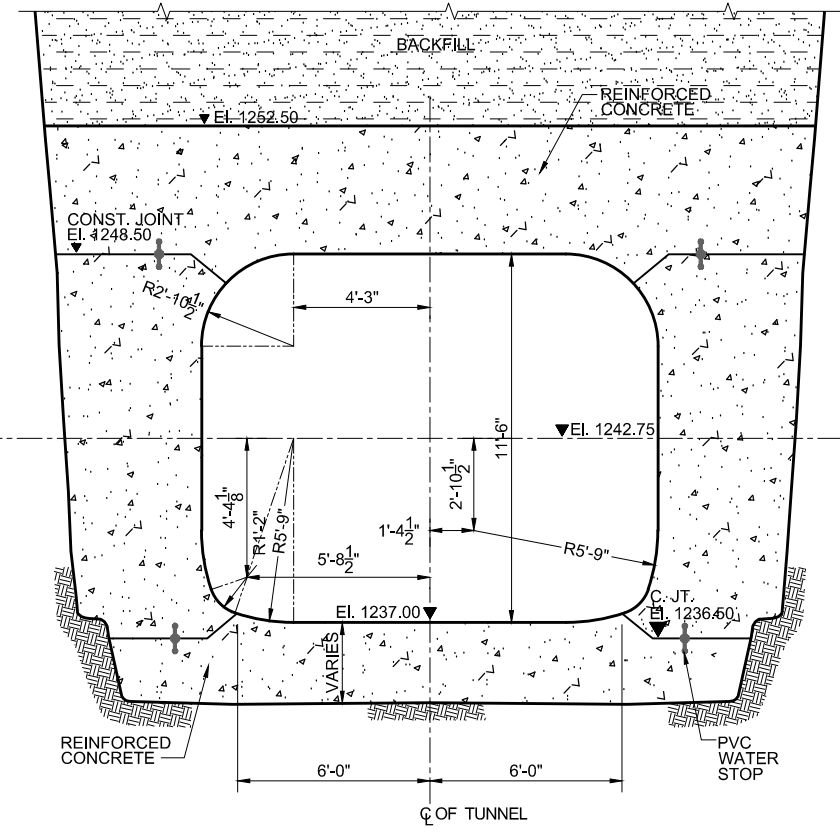
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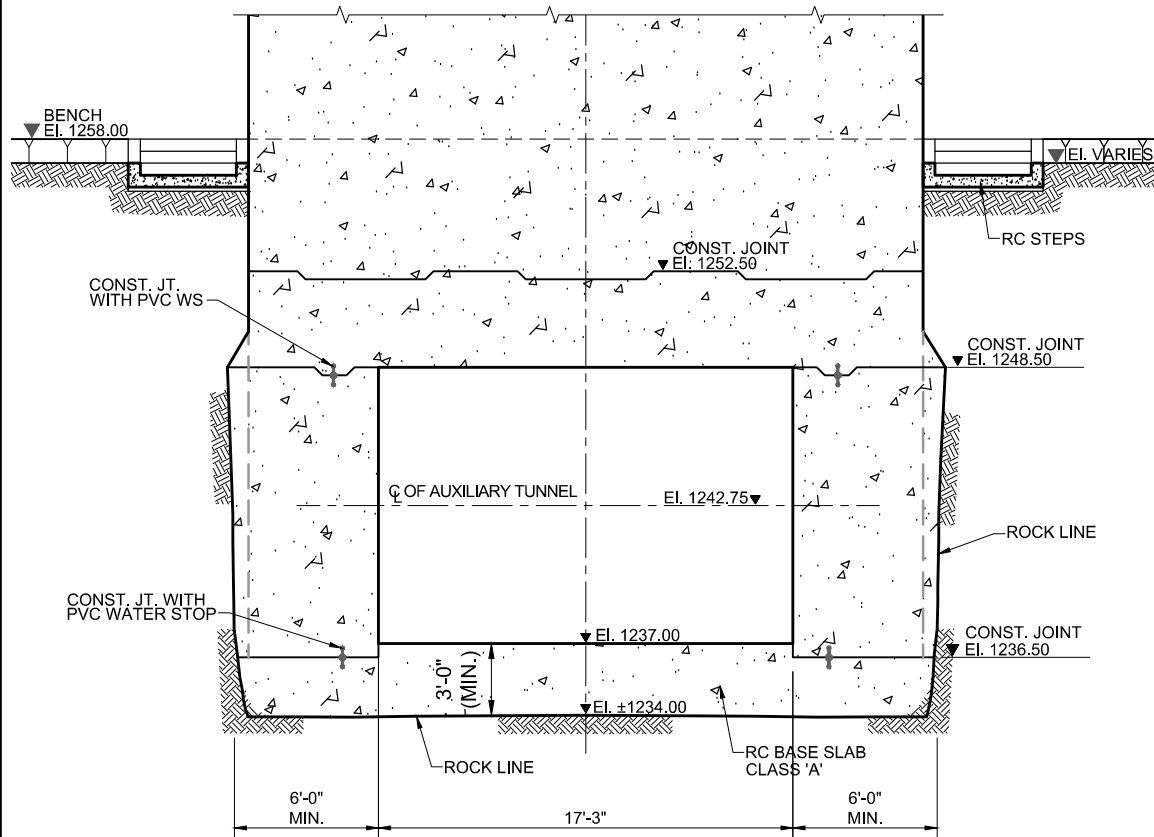
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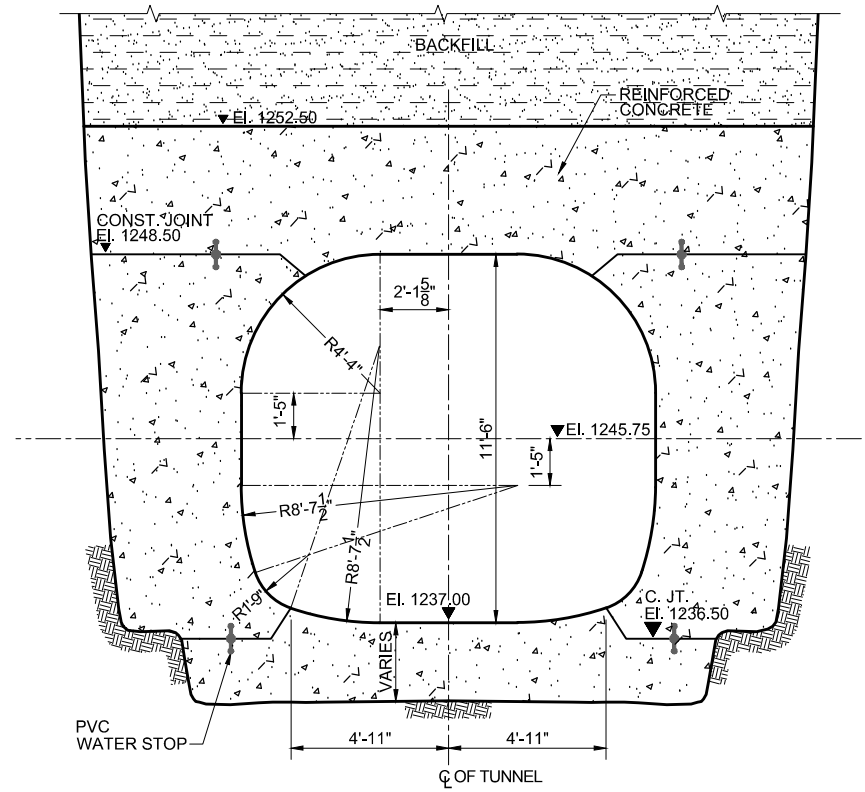
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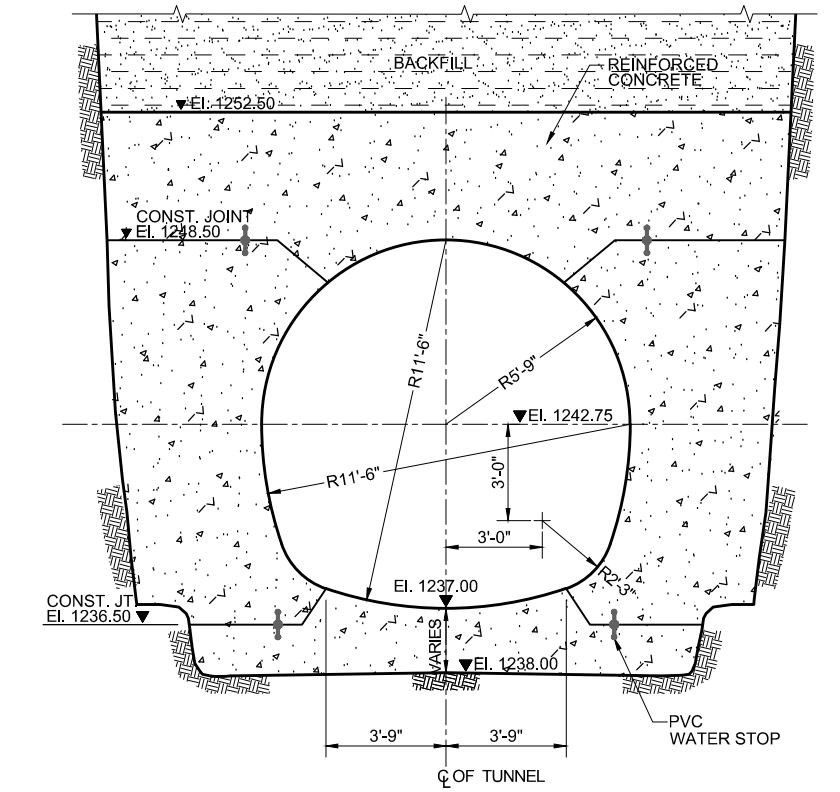
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SECTION-1



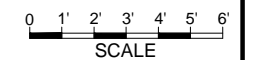
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SECTION-5

NOT FOR CONSTRUCTION

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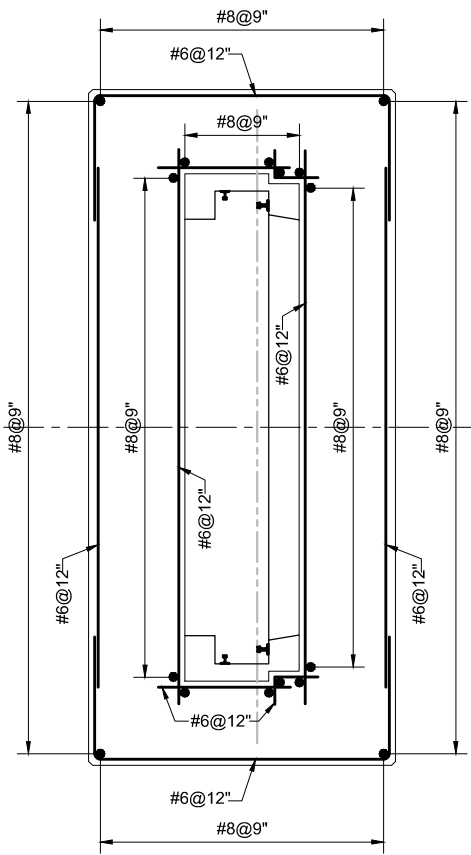
CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
 ELECTRA CONSULTANTS PESHAWAR
 INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

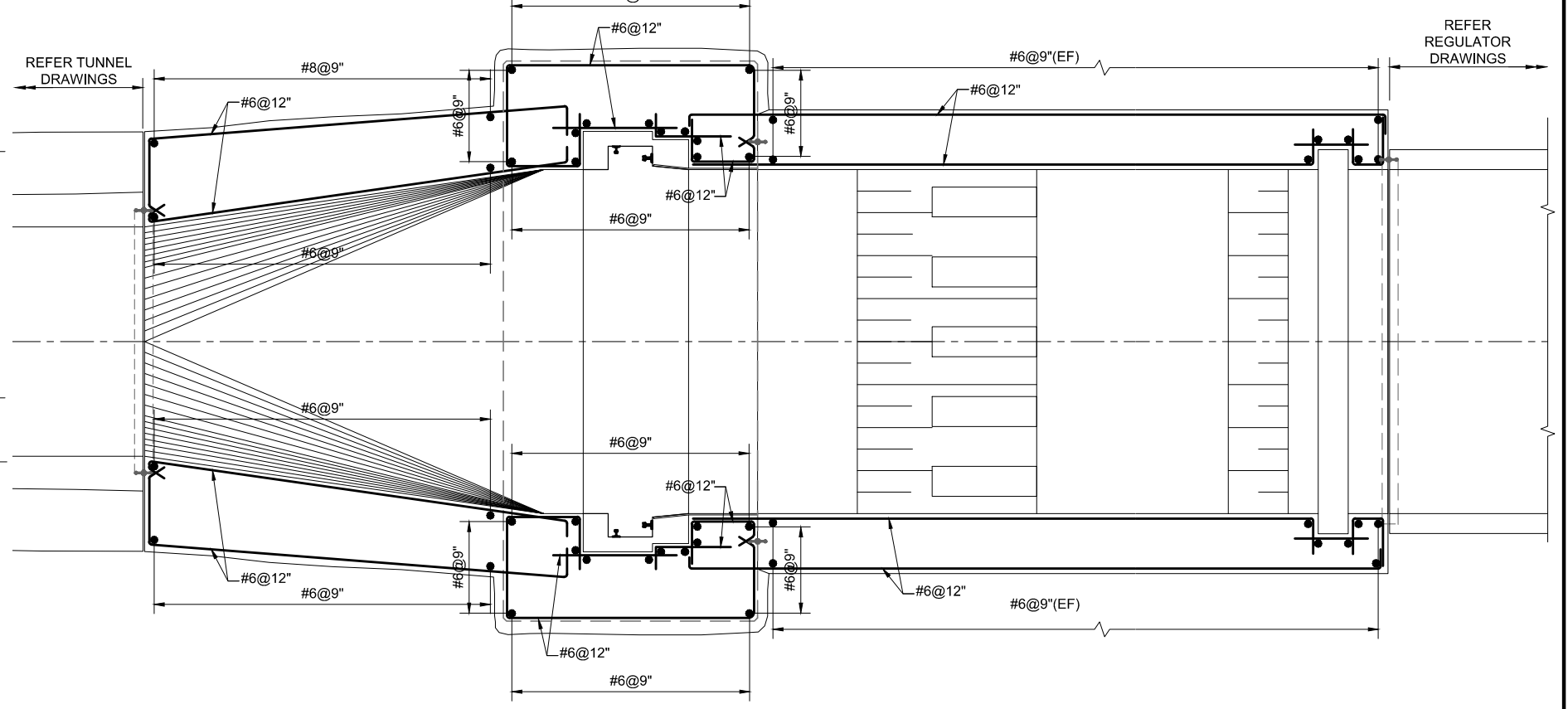
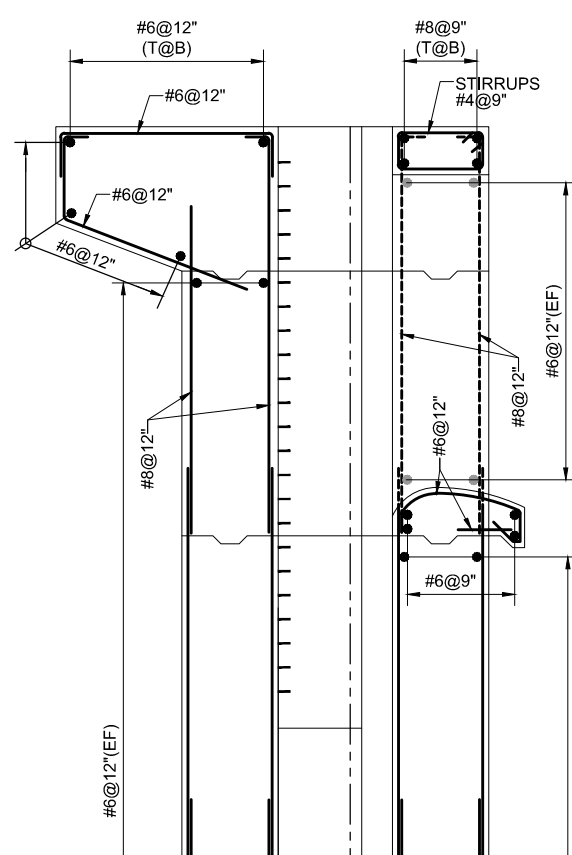
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
 OUTLET AND REGULATOR STRUCTURE
SECTION
 DATE: MAR., 2021
 DWG. NO.: RWCS-1/TD/AIT/ORS/08
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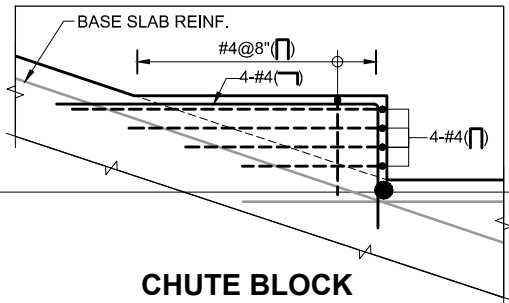


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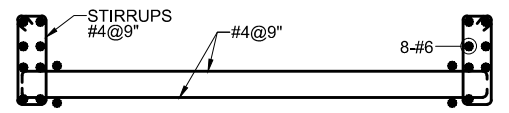
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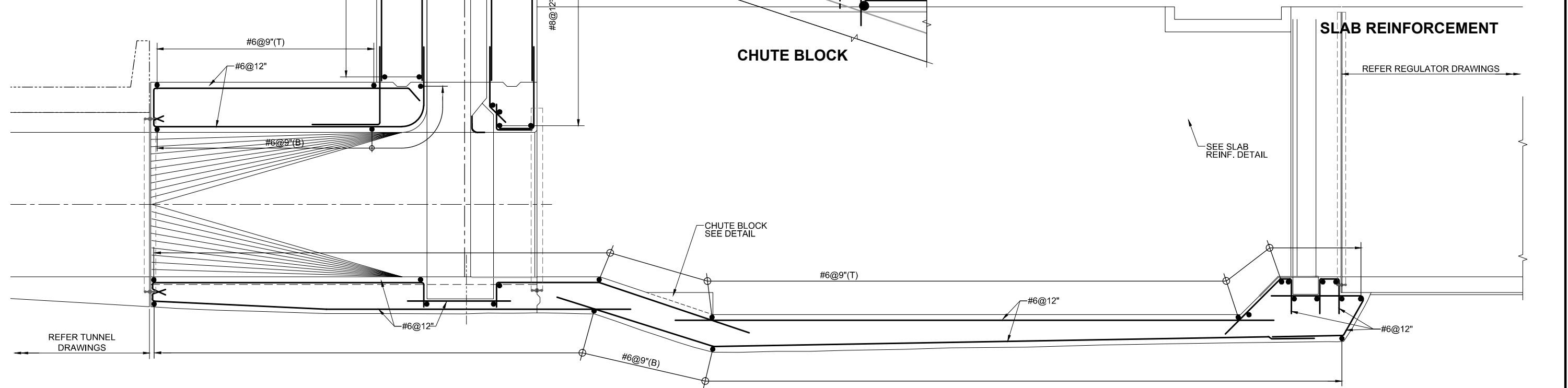
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CHUTE BLOCK



SLAB REINFORCEMENT



SECTION A-A

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.

CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

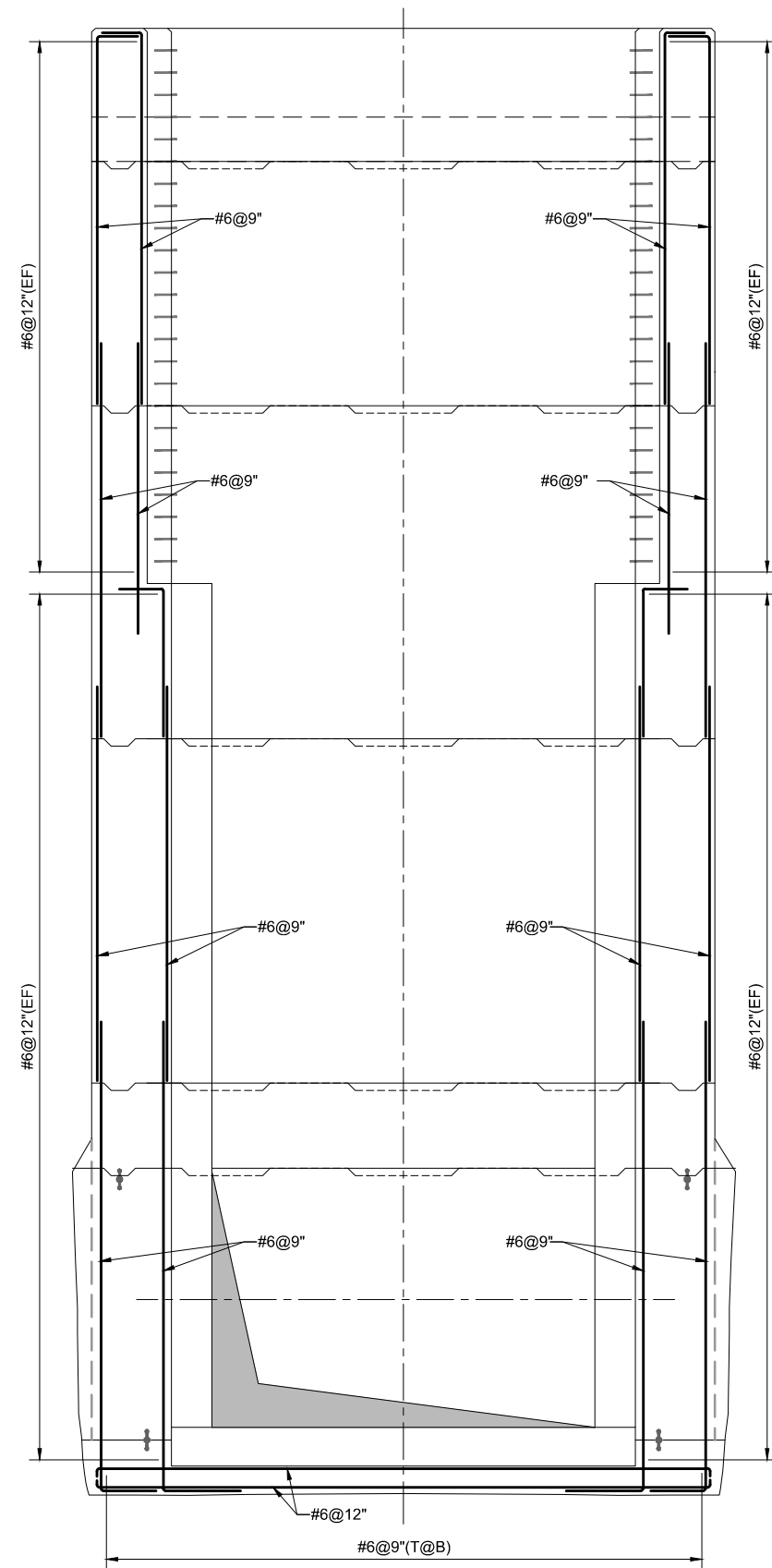
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

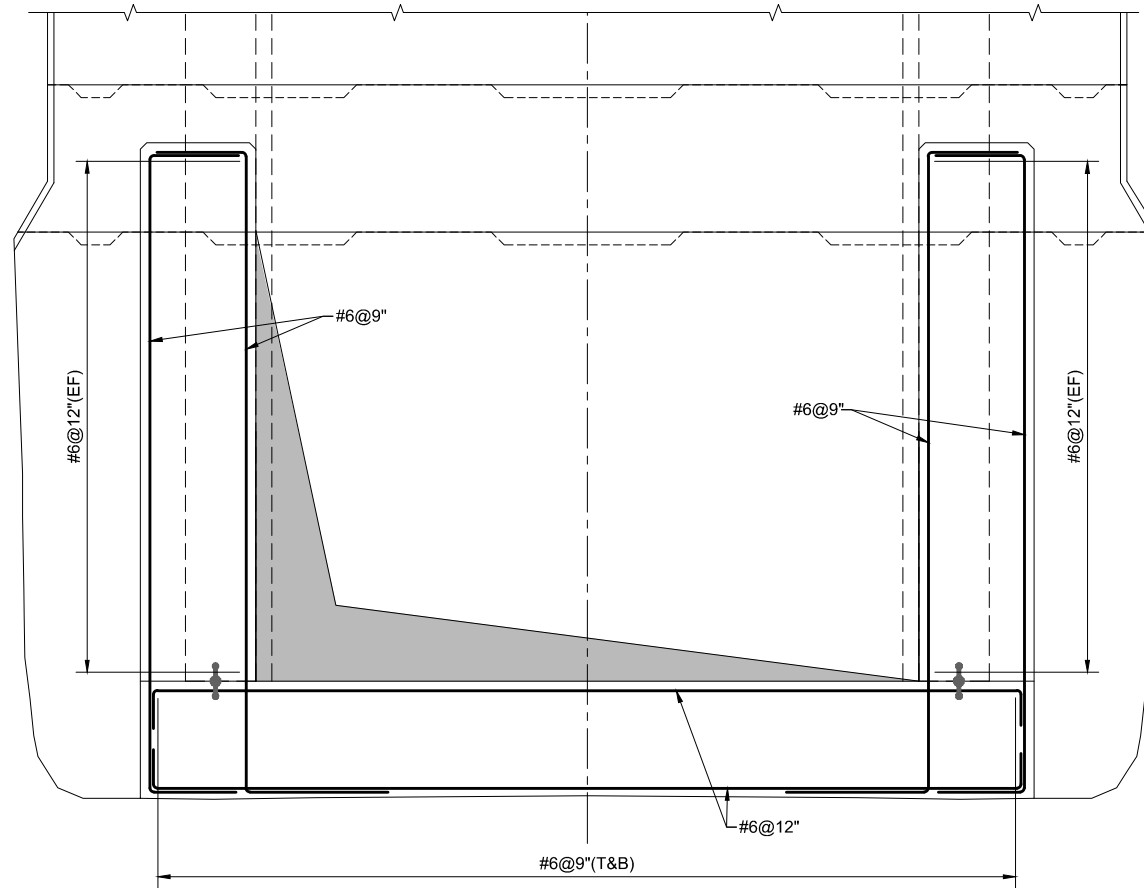
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CONTRACT RWCS-1
 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
 OUTLET AND REGULATOR STRUCTURE
REINFORCEMENT DETAILS

DRAWN Ishtiaq
 CHECKED
 RECOMMENDED

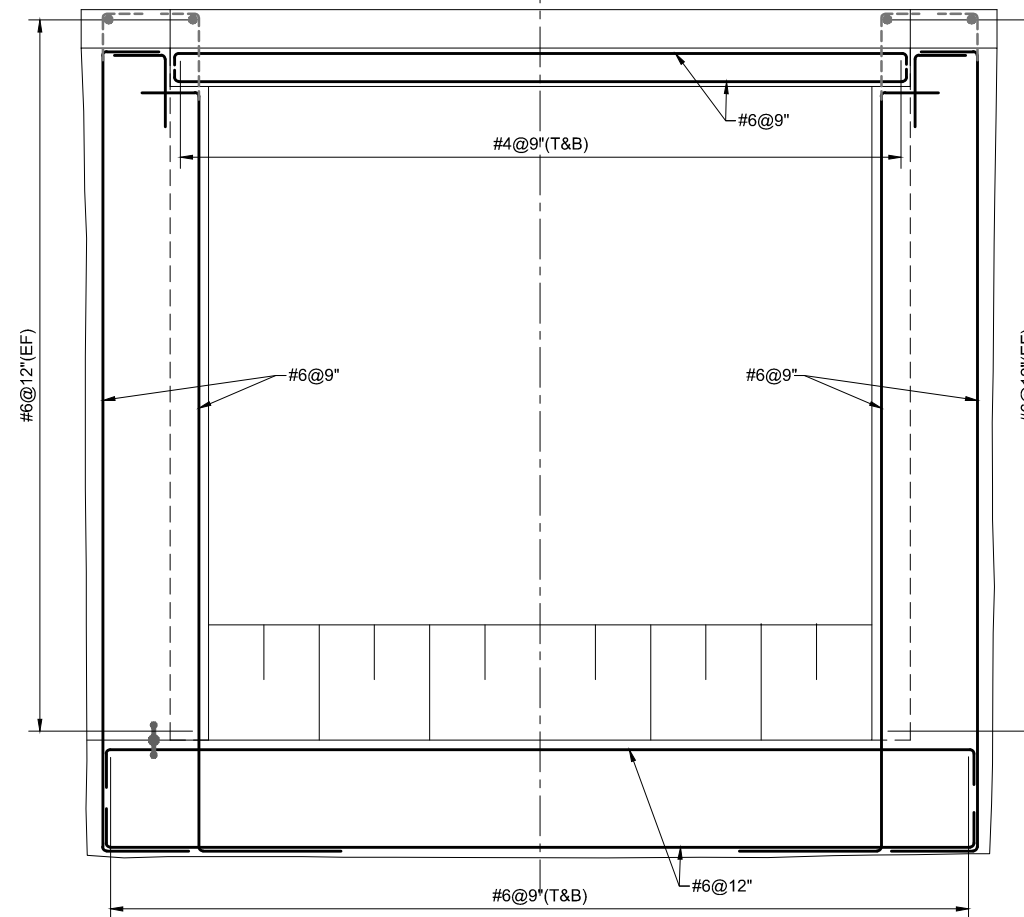
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 REV. 0



SECTION B-B



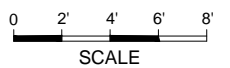
SECTION C-C



SECTION D-D

**NOT FOR
CONSTRUCTION**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

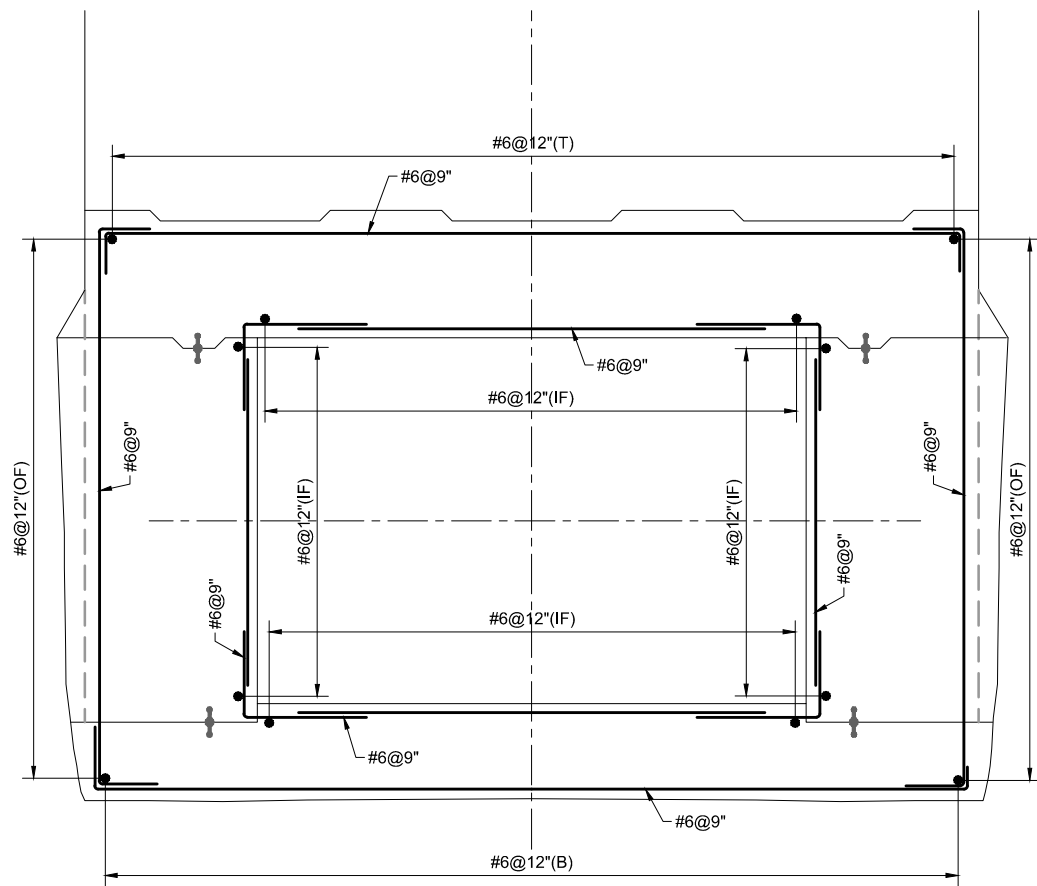
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

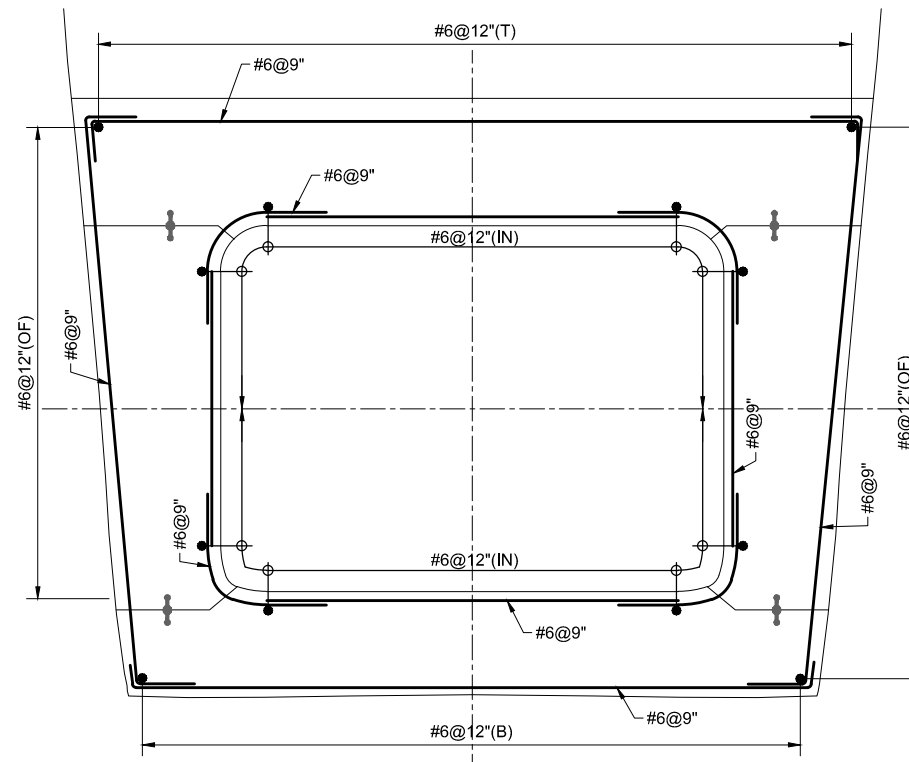
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							RECOMMENDED	

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
REINFORCEMENT DETAILS**

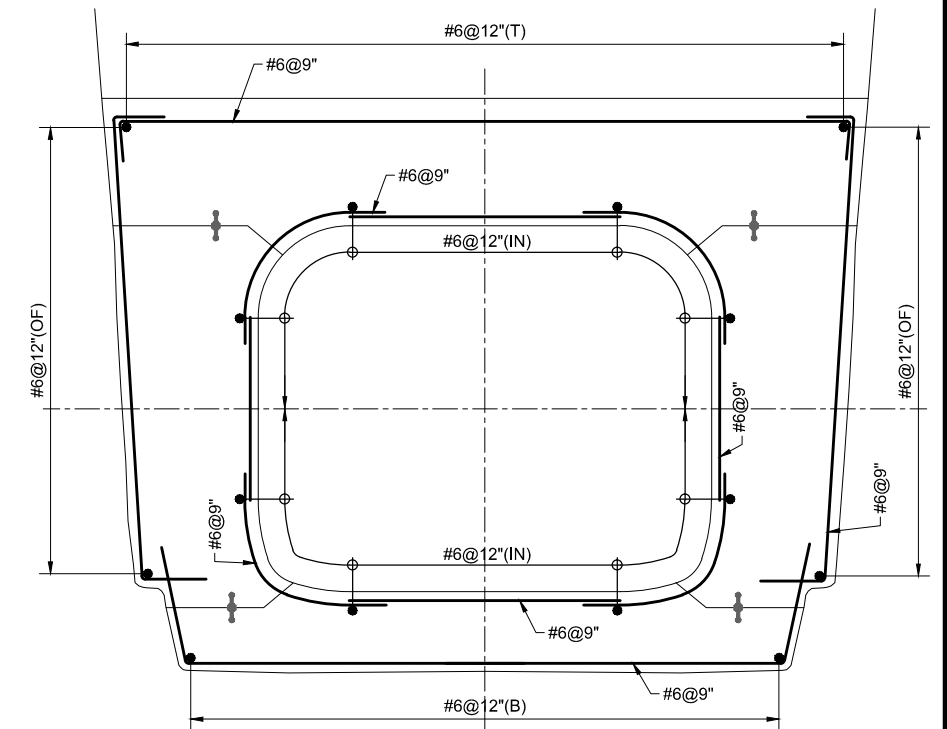
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MAR., 2021	RWCS-1/TD/AIT/ORS/10	0



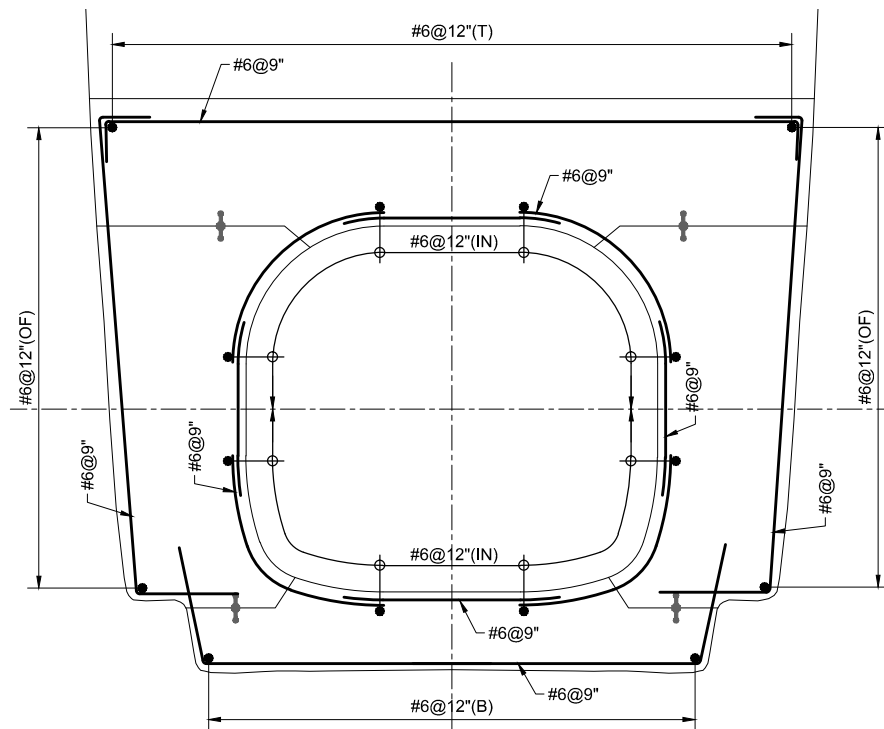
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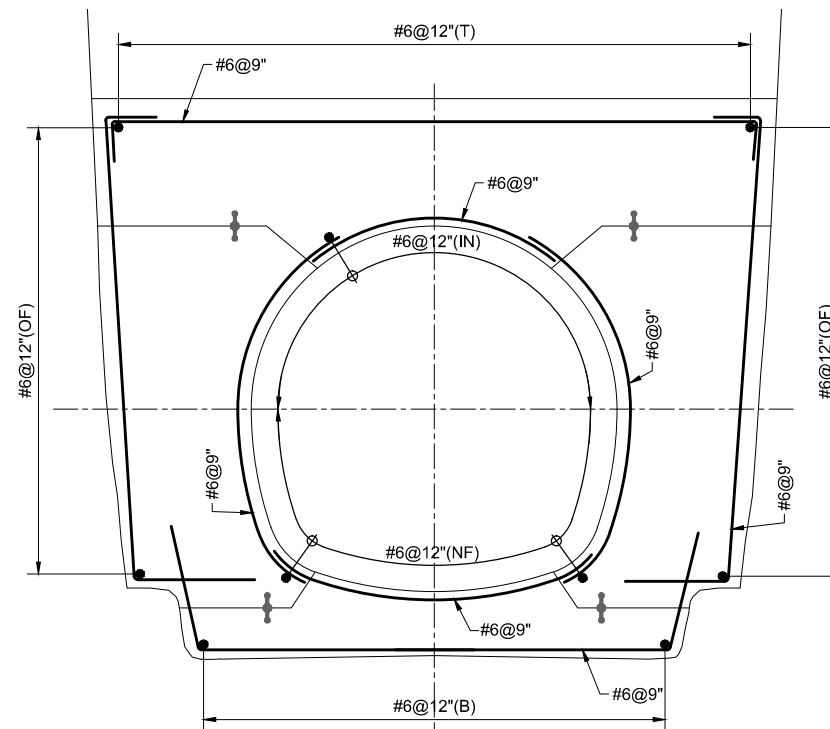
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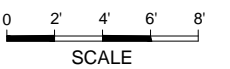
SECTION 4-4



SECTION 5-5

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CONSTRUCTION**

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FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



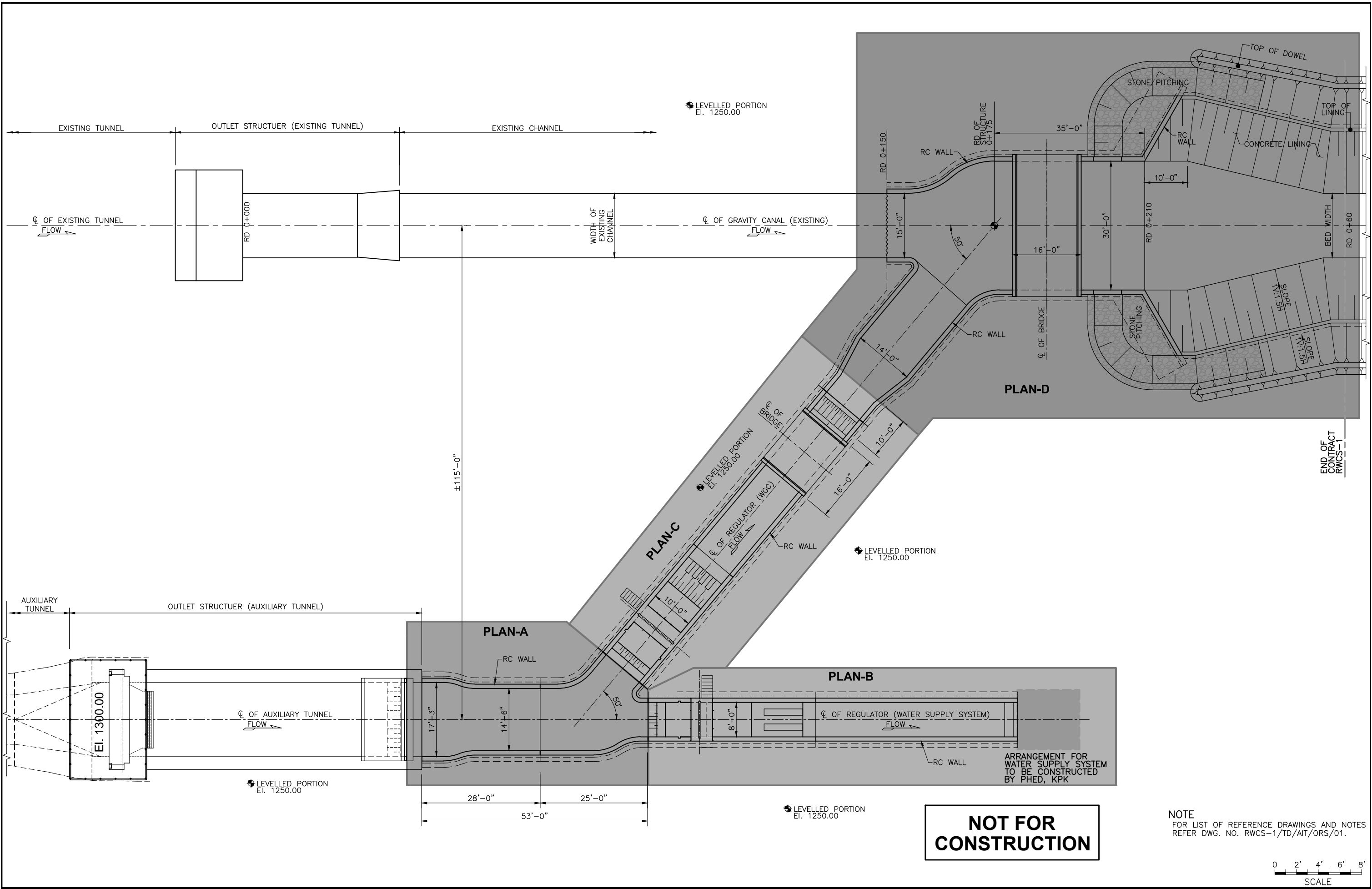
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
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PAKISTAN (PVT.) LIMITED LAHORE
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PESHAWAR
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(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
REINFORCEMENT DETAILS
DRAWN Ishtiaq
CHECKED
RECOMMENDED
DATE MAR., 2021
DWG. NO. RWCS-1/TD/AIT/ORS/11
REV. 0



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NOTE
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CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

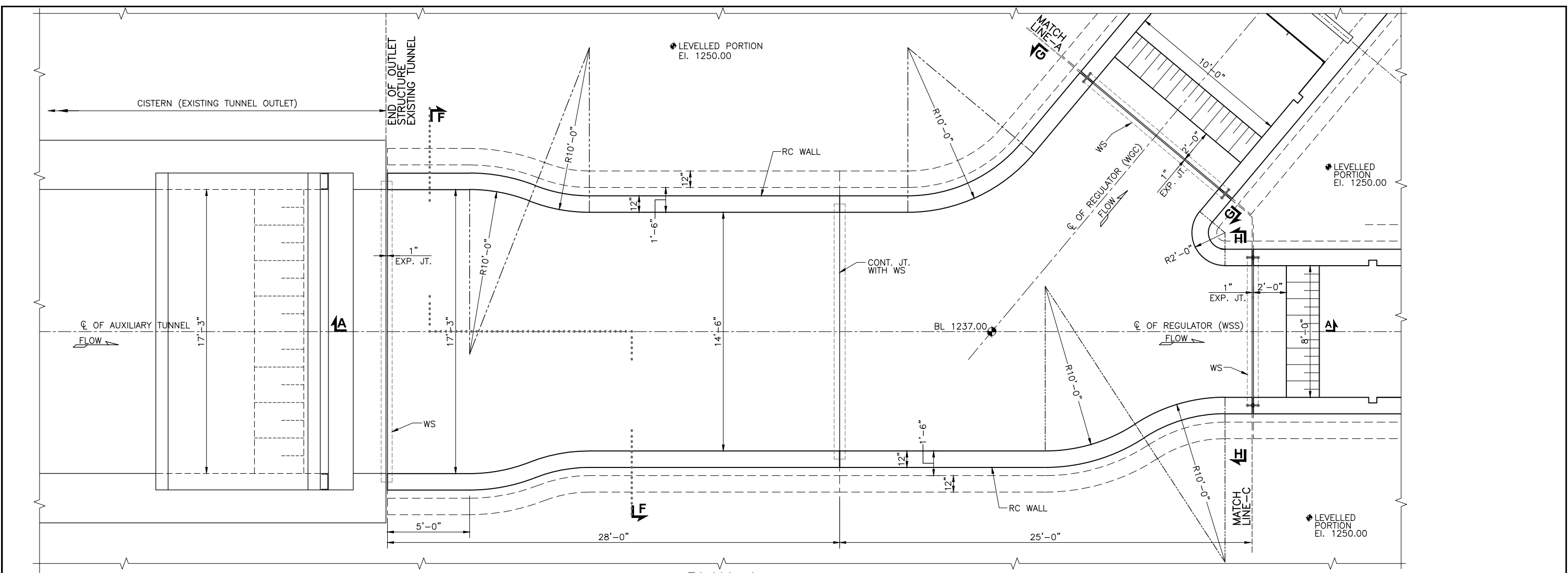
CONSULTANT - A JOINT VENTURE OF
NESPAK NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
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PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

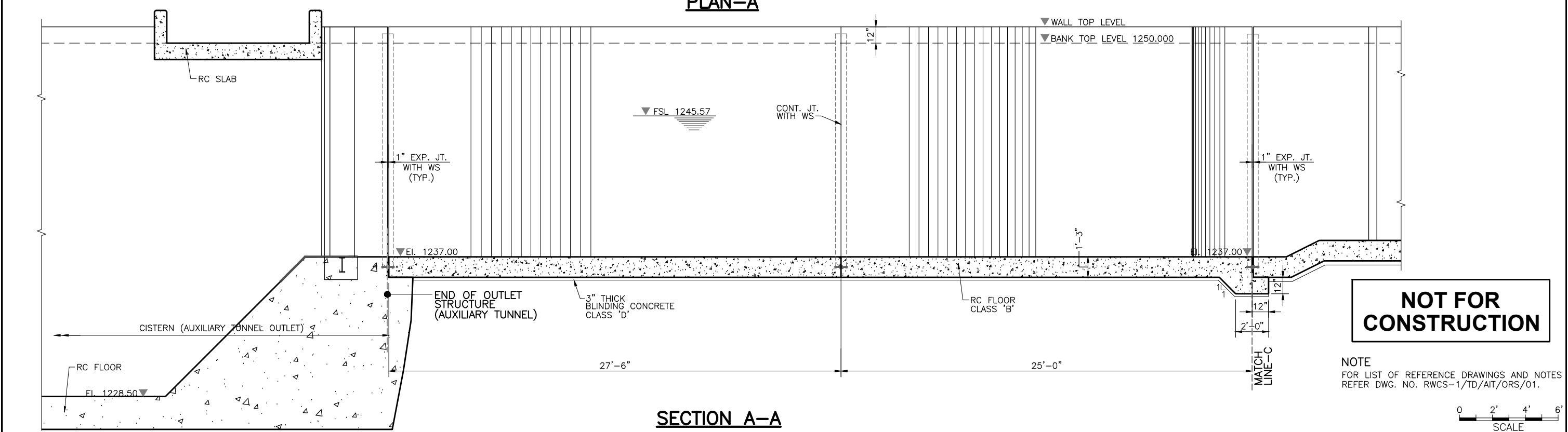
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REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
GENERAL ARRANGEMENT PLAN

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/12	0



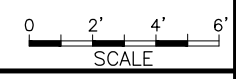
PLAN-A



SECTION A-A

NOT FOR CONSTRUCTION

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CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

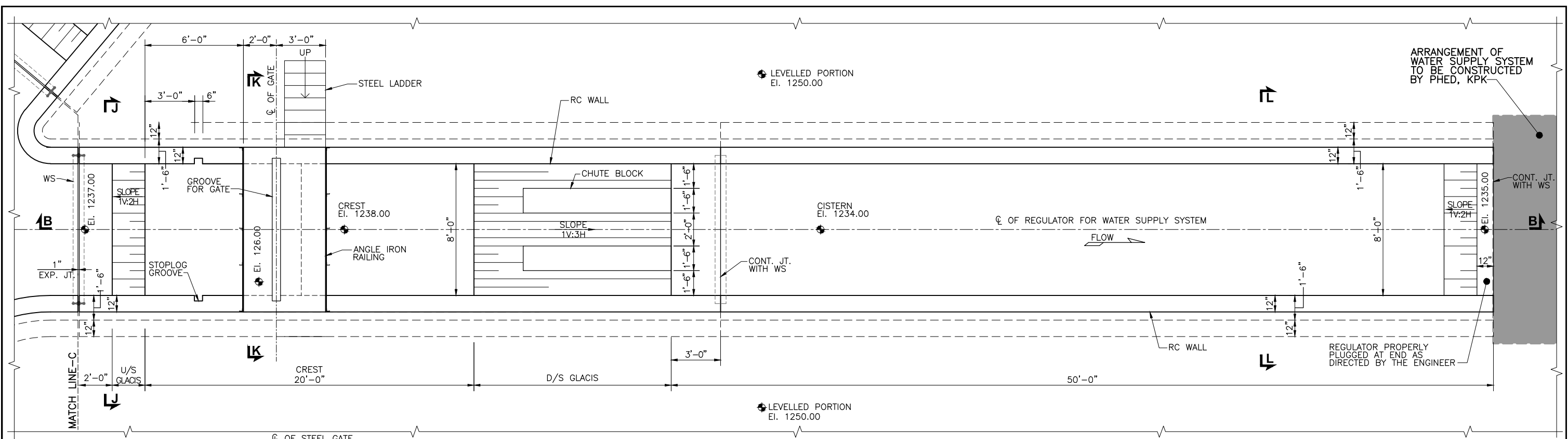
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**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

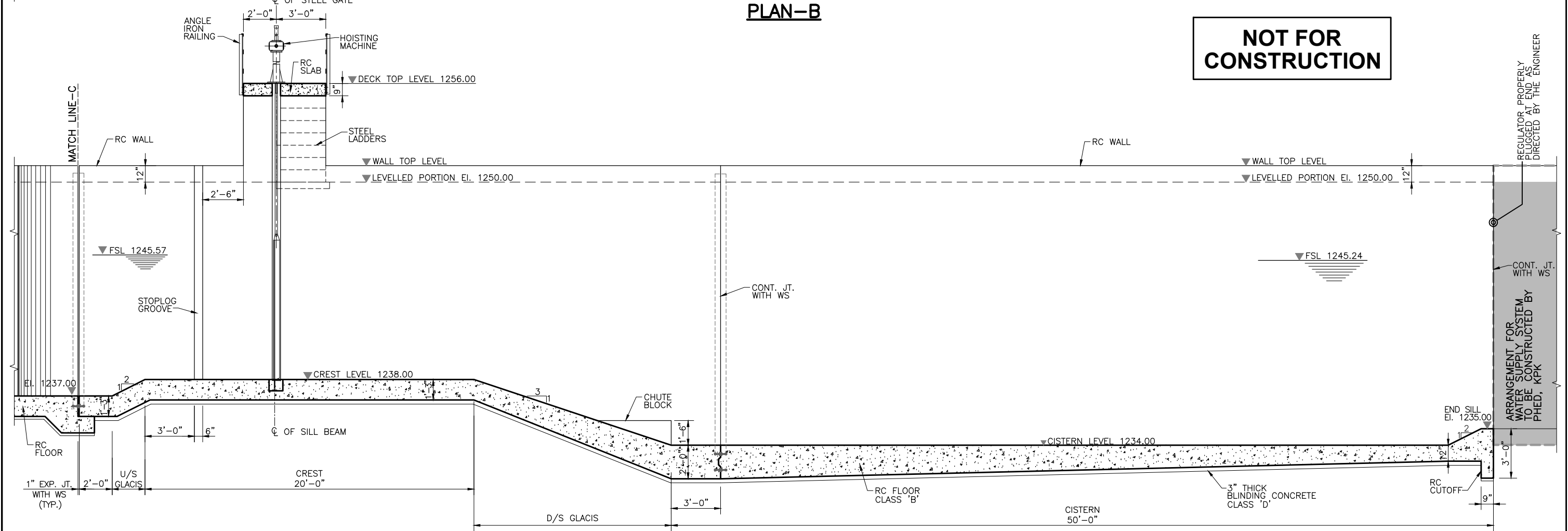
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CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
PLAN-A AND SECTION**

DATE: MAR., 2021
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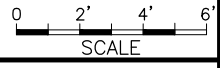
PLAN-B

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SECTION B-B

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

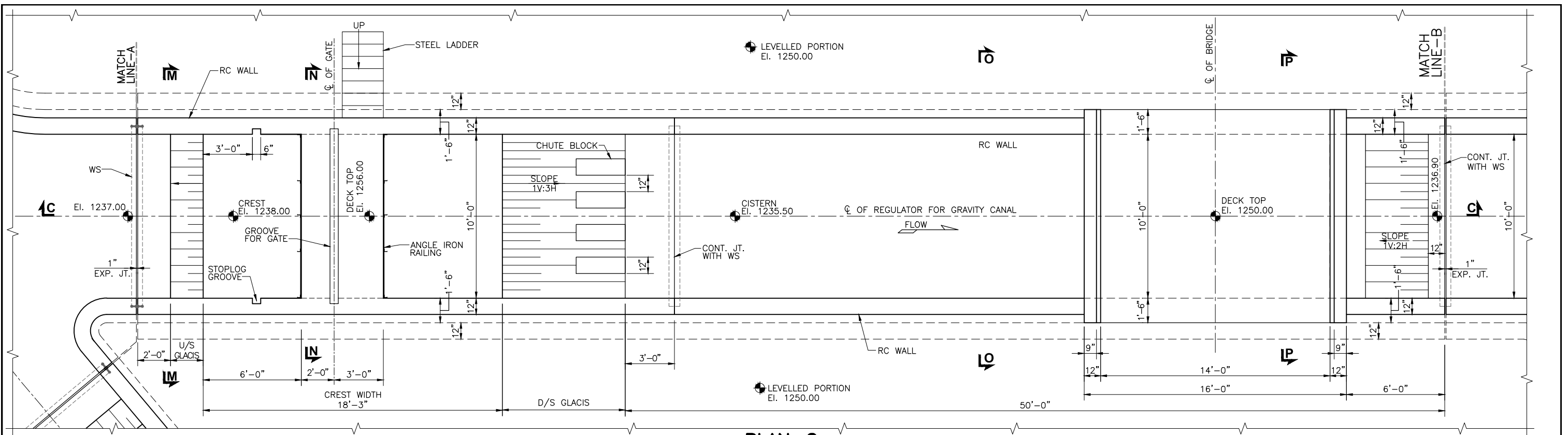
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

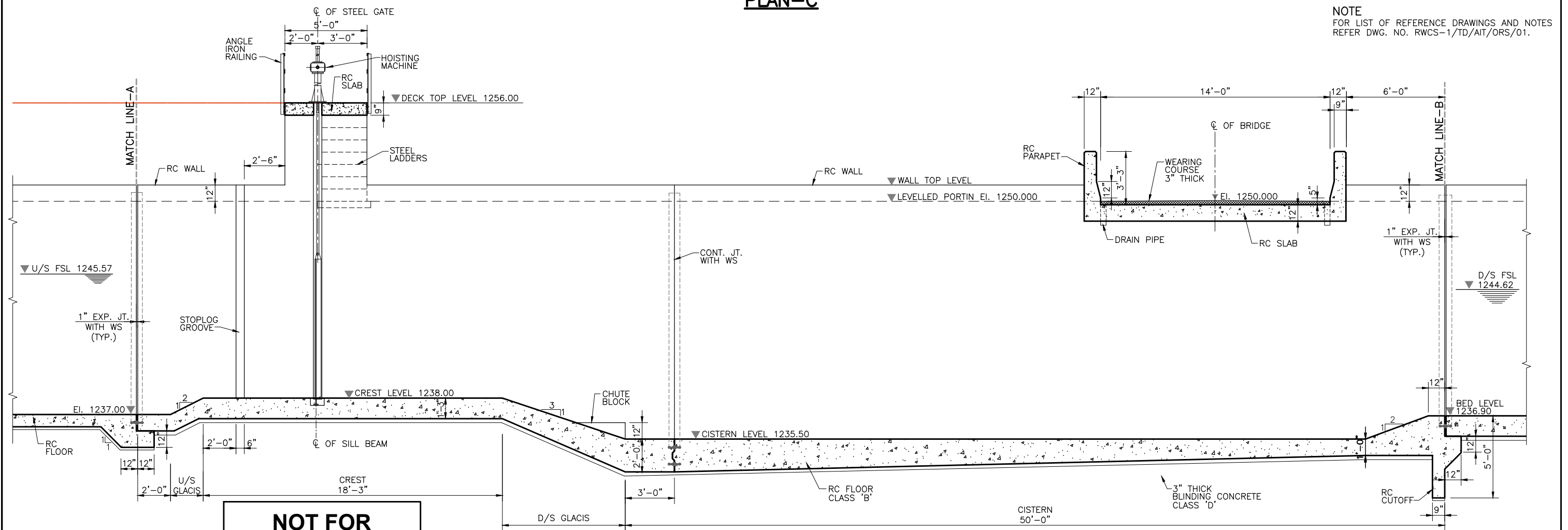
**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
PLAN-B AND SECTION**

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/14	0



PLAN-C

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



SECTION C-C

NOT FOR CONSTRUCTION



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

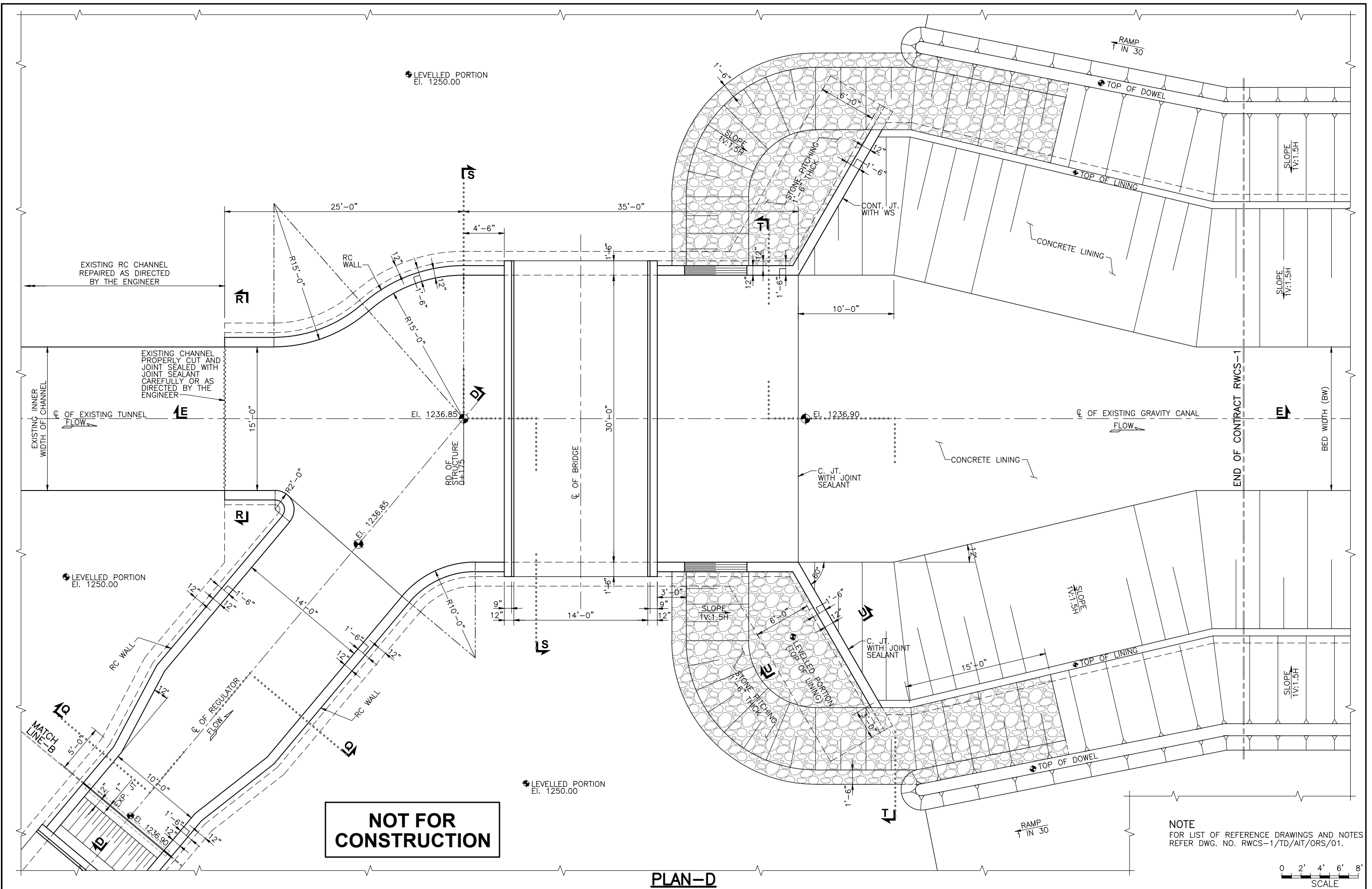
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
PLAN-C AND SECTION**

DATE: MAR., 2021
DWG. NO.: RWCS-1/TD/AIT/ORS/15
REV. 0



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NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



PLAN-D

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

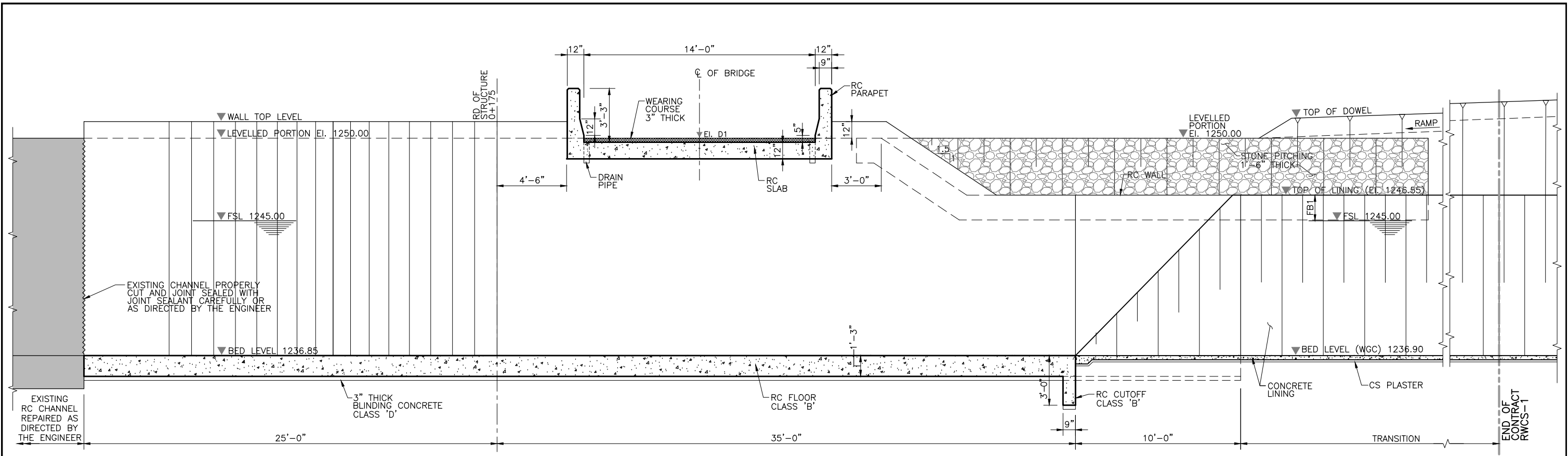
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PAKISTAN (PVT.) LIMITED LAHORE
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PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

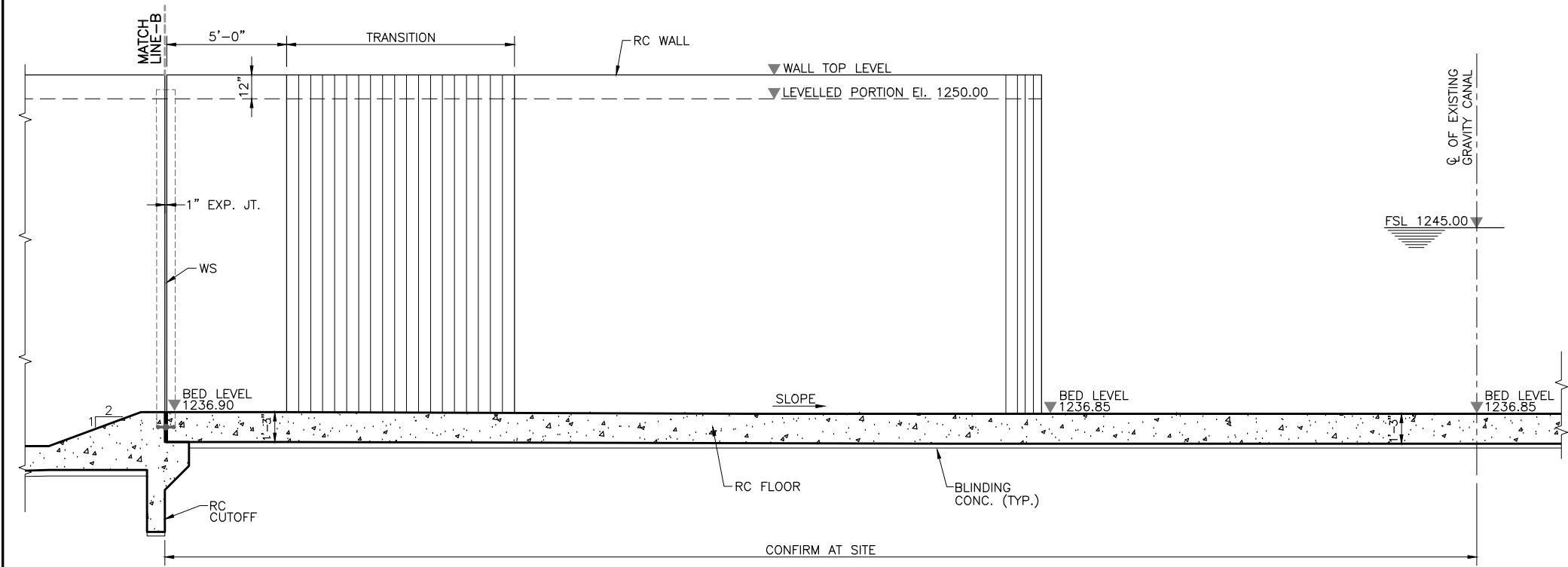
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REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
PLAN - D

DATE: MAR., 2021
DWG. NO.: **RWCS-1/TD/AIT/ORS/16**
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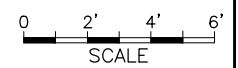
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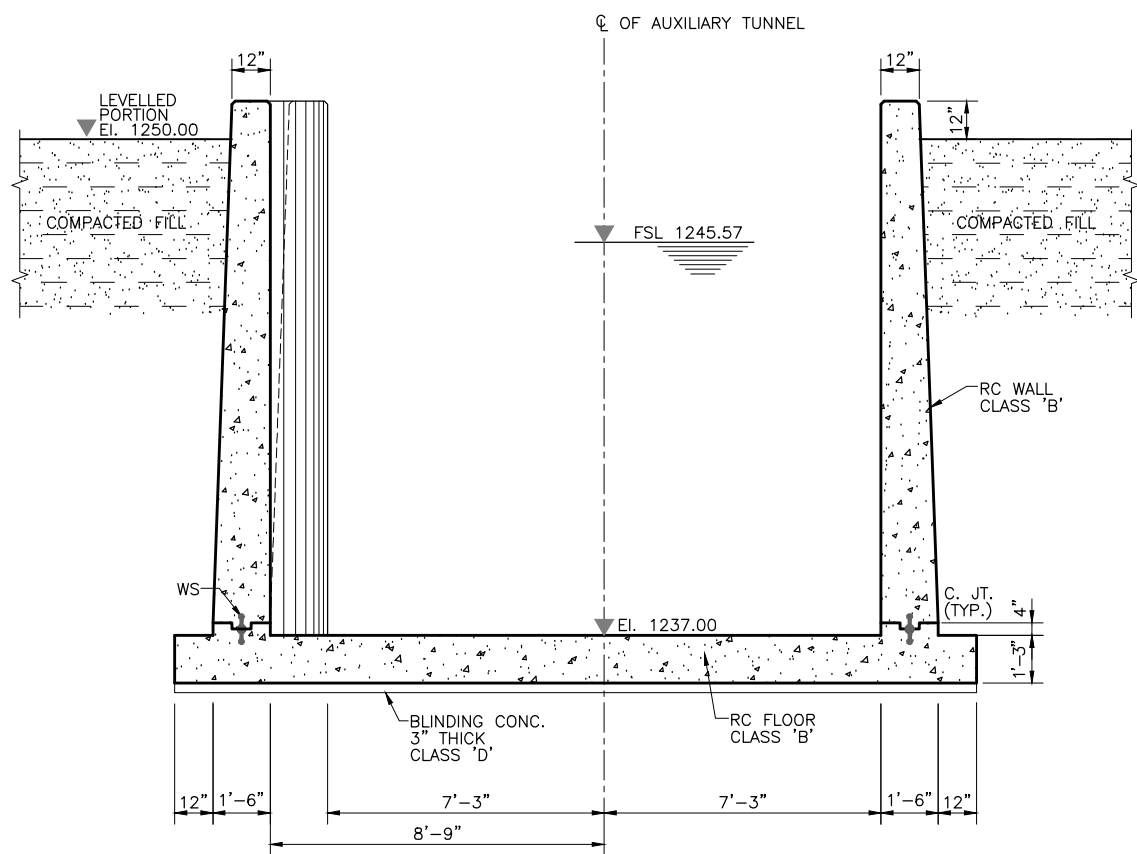
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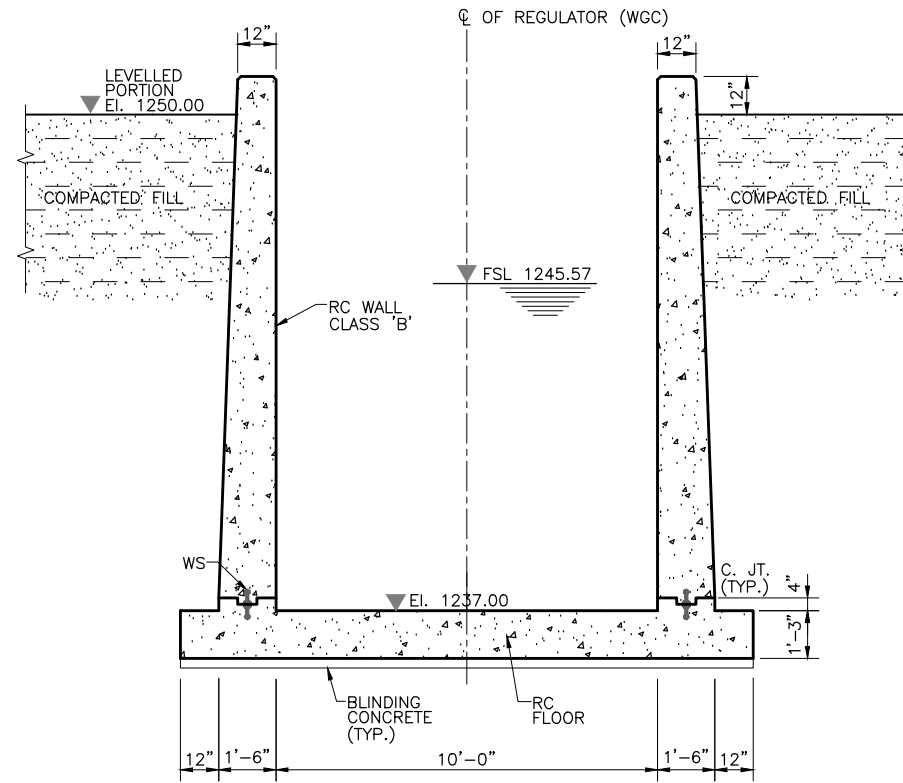
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REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



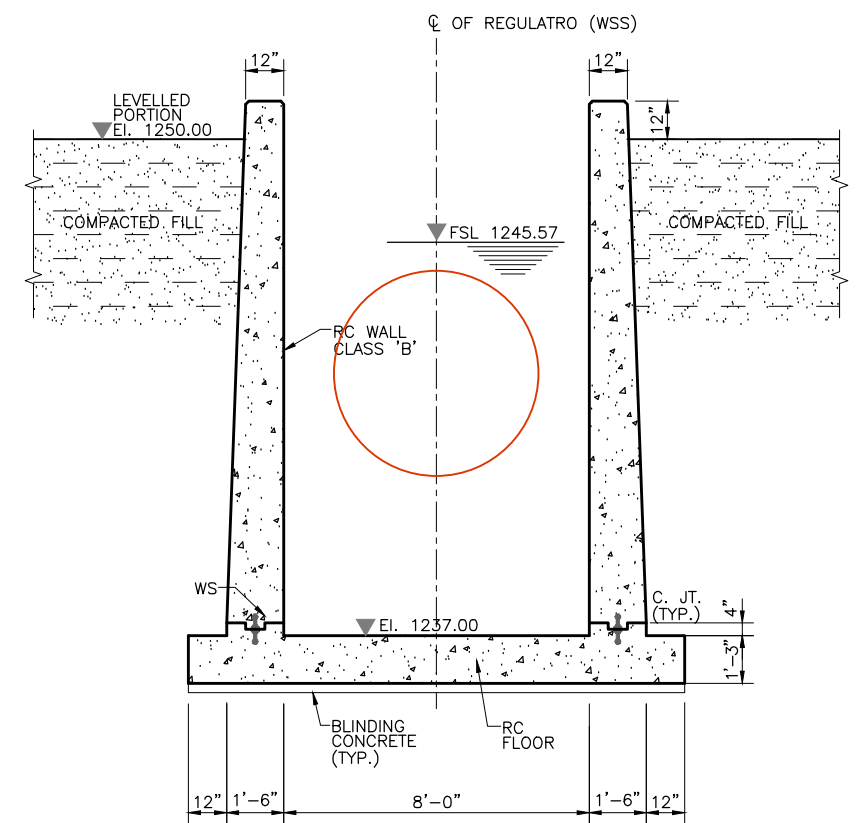
	IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS				DRAWN Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES OUTLET AND REGULATOR STRUCTURE SECTIONS		
							CHECKED			
RECOMMENDED	DATE MAR., 2021	DWG. NO. RWCS-1/TD/AIT/ORS/17	REV. 0							
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED				



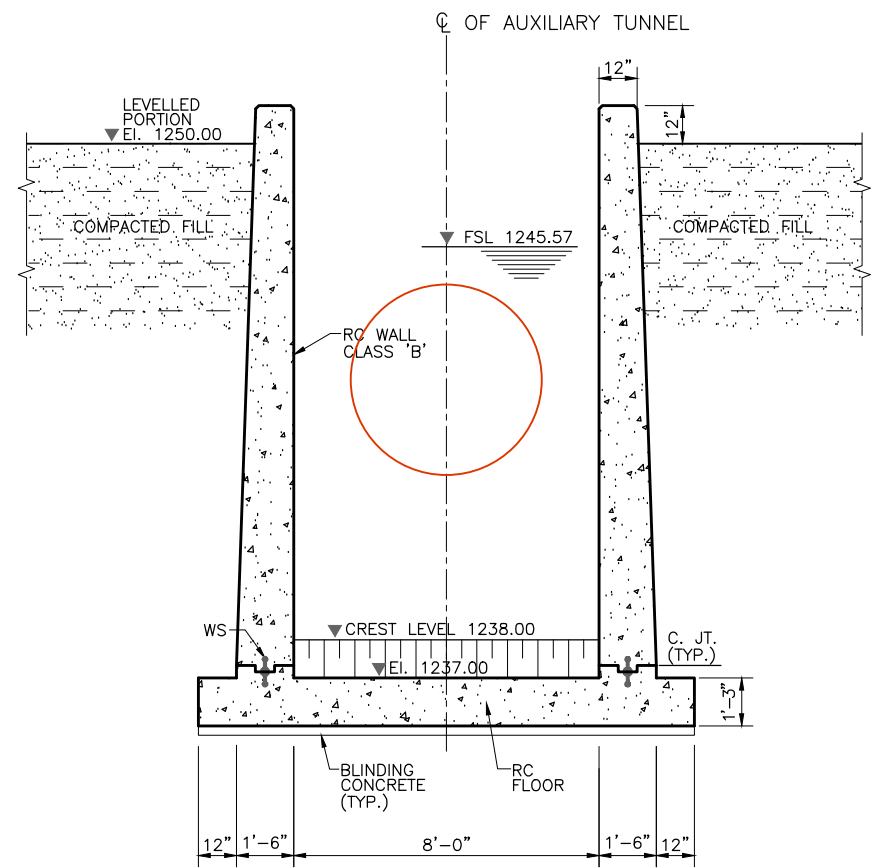
SECTION F-F



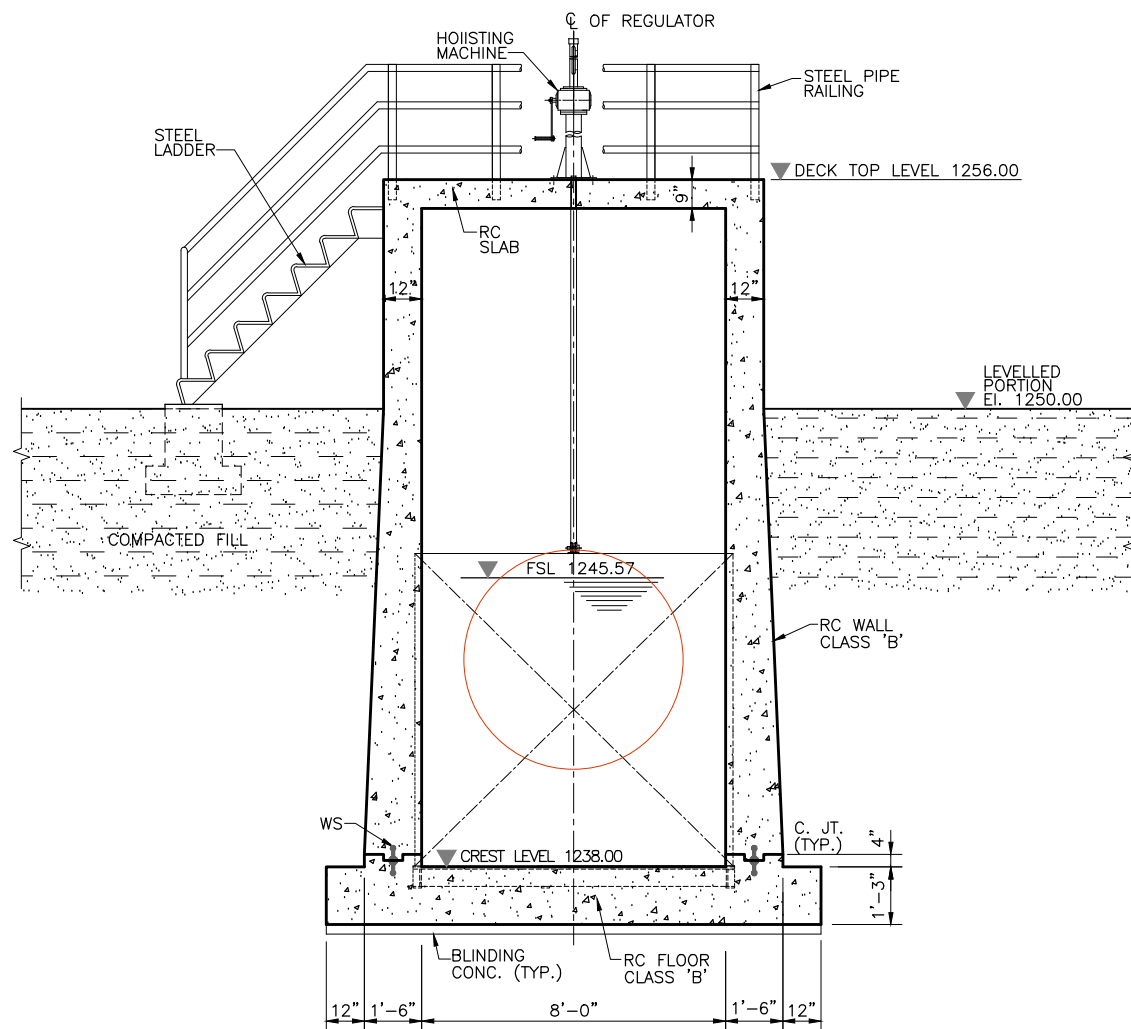
SECTION G-G



SECTION H-H



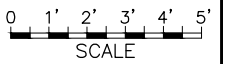
SECTION J-J



SECTION K-K

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



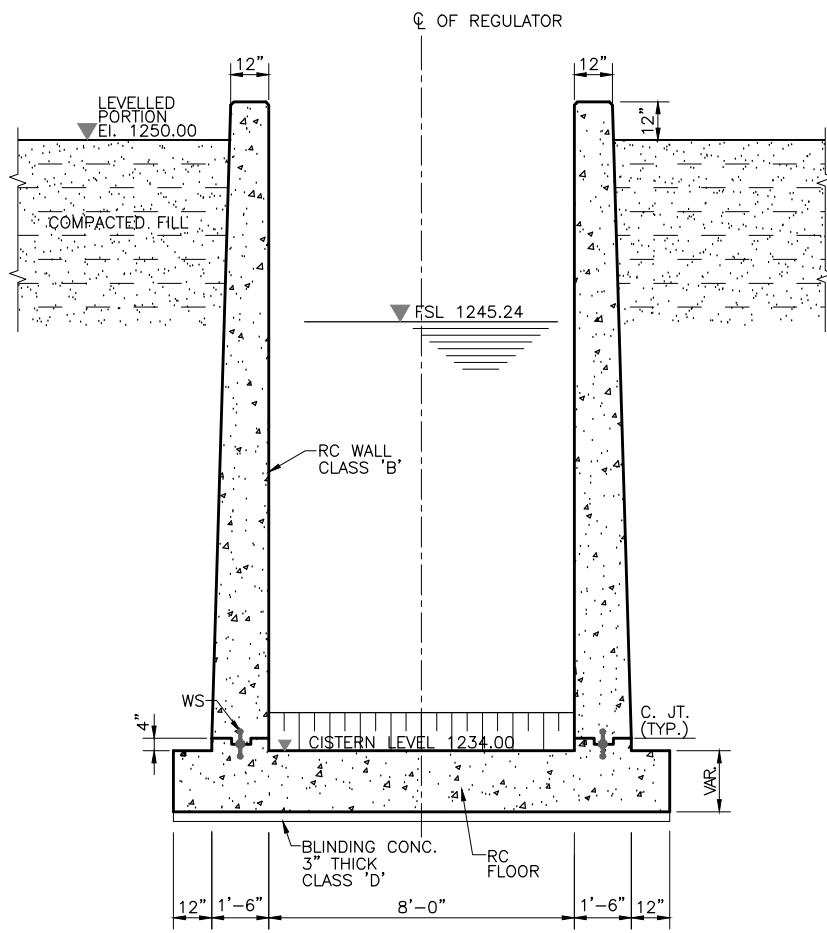
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

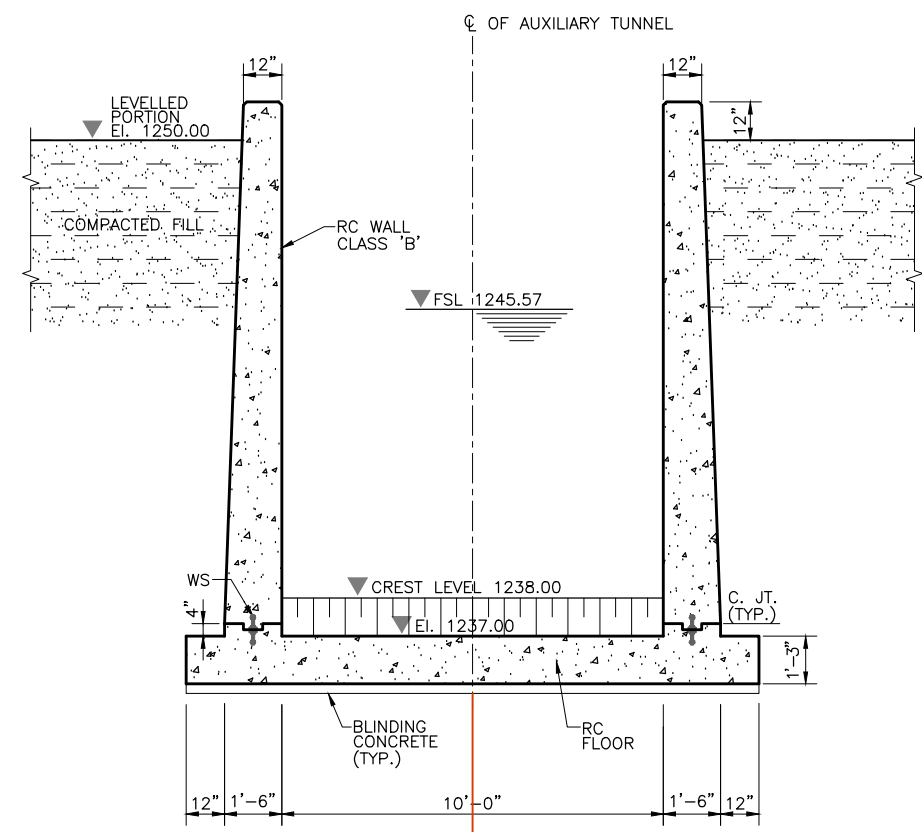
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

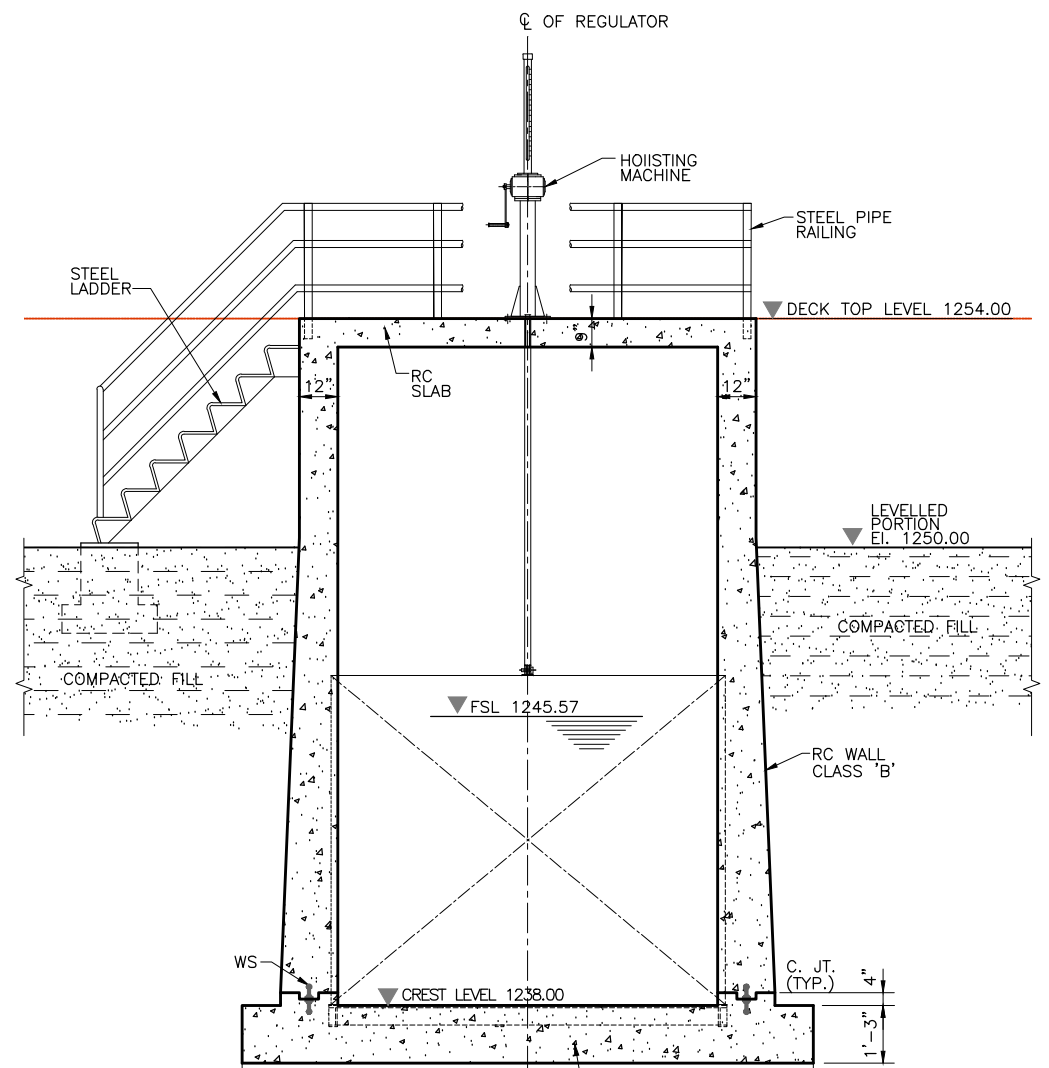
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
SECTIONS
DATE: MAR., 2021
DWG. NO.: RWCS-1/TD/AIT/ORS/18
REV. 0



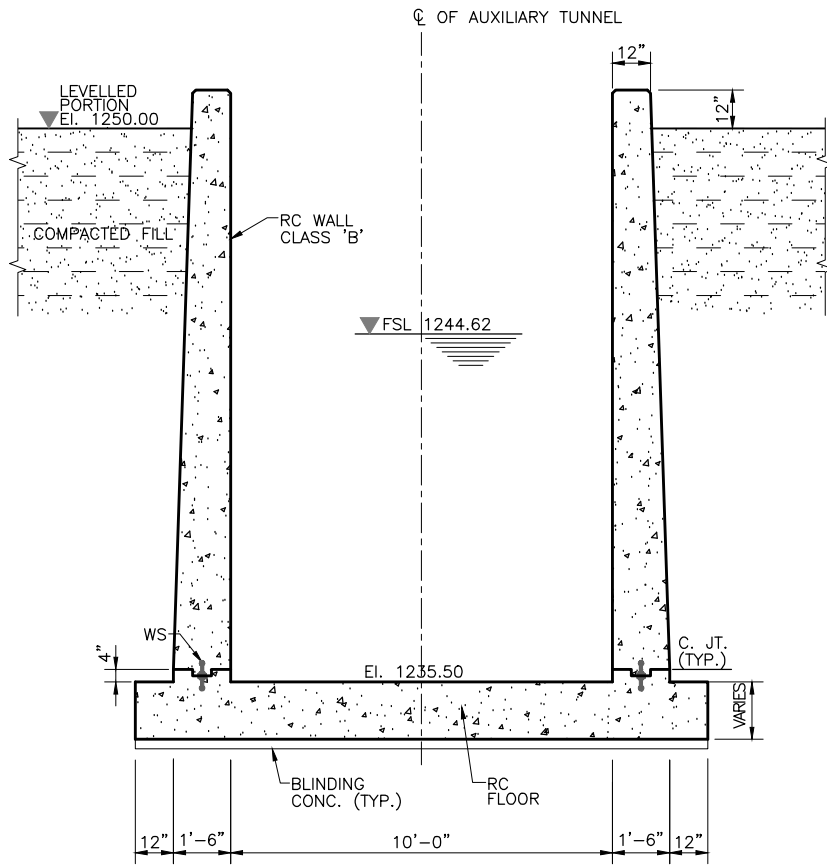
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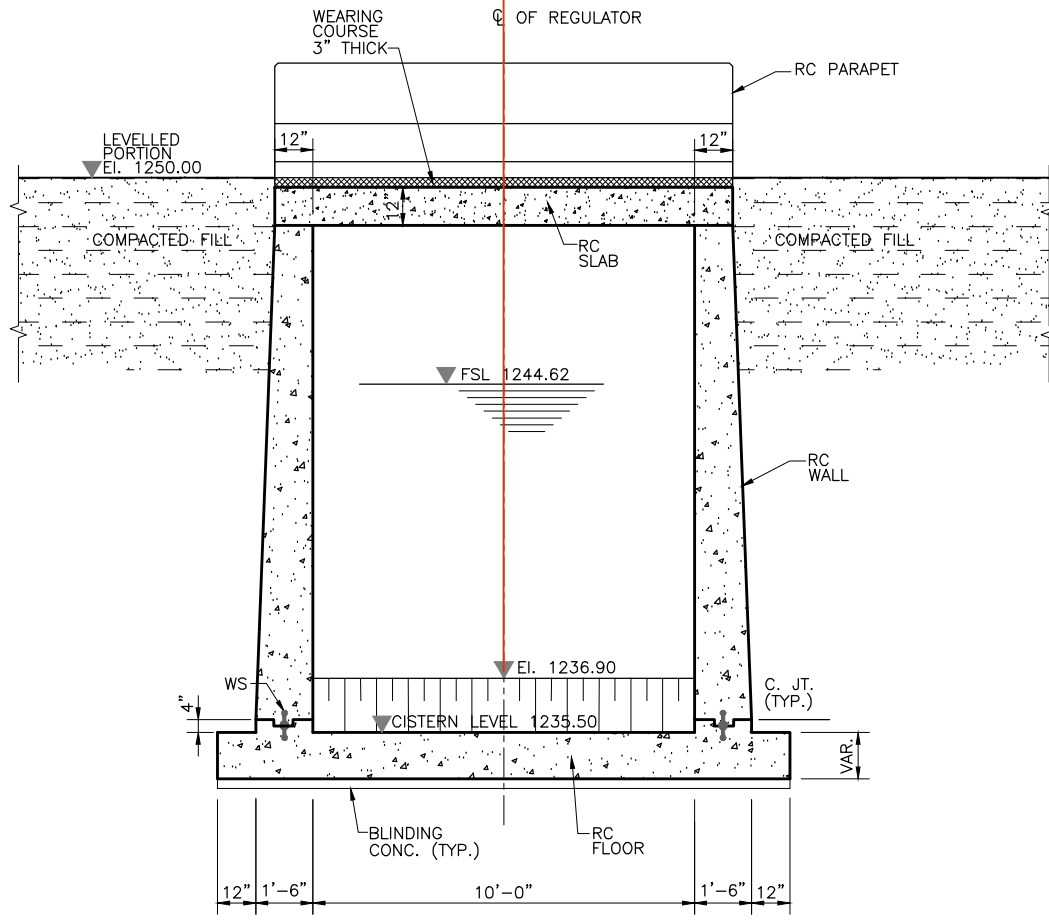
SECTION M-M



SECTION N-N



SECTION O-O



SECTION P-P

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

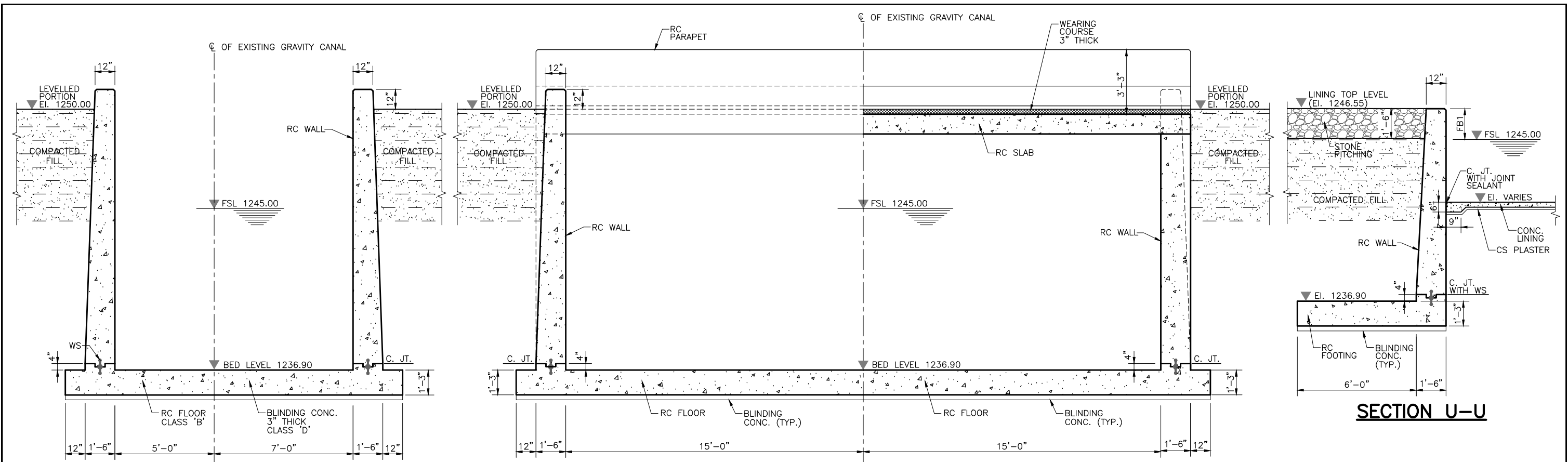
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

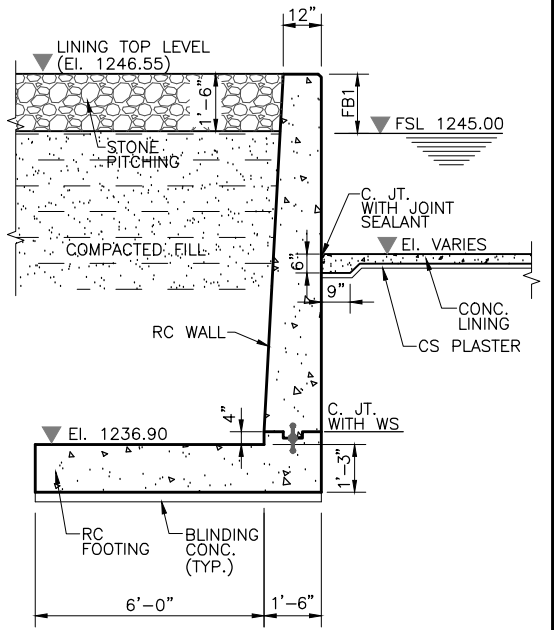
**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
SECTIONS**

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/19	0

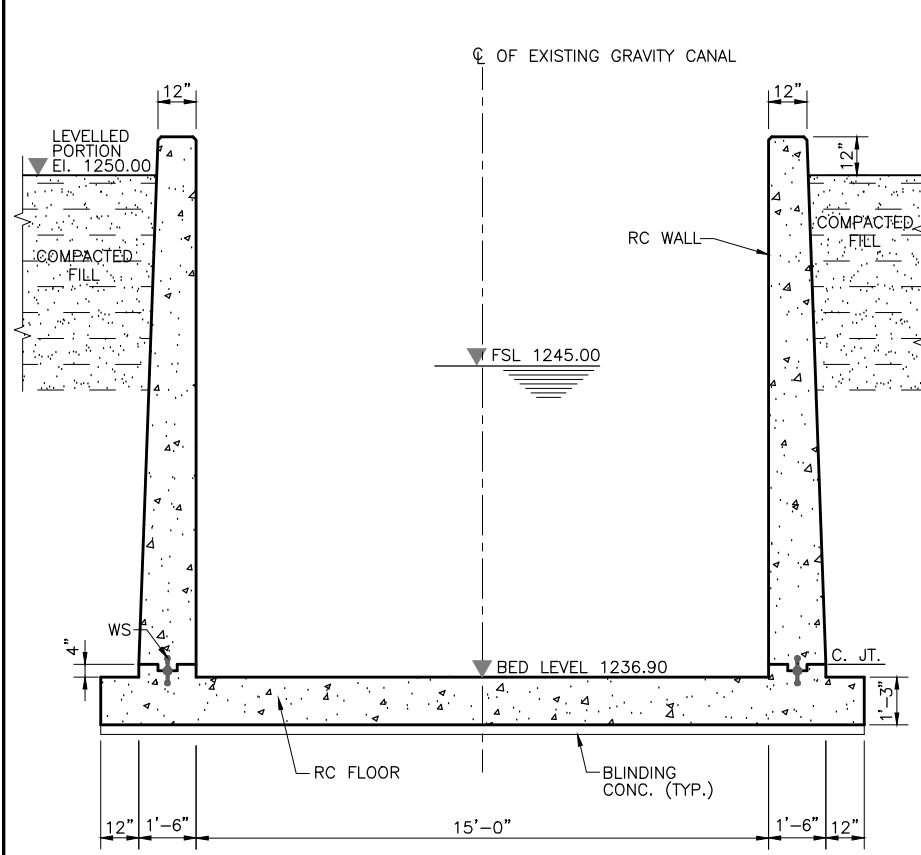


SECTION Q-Q

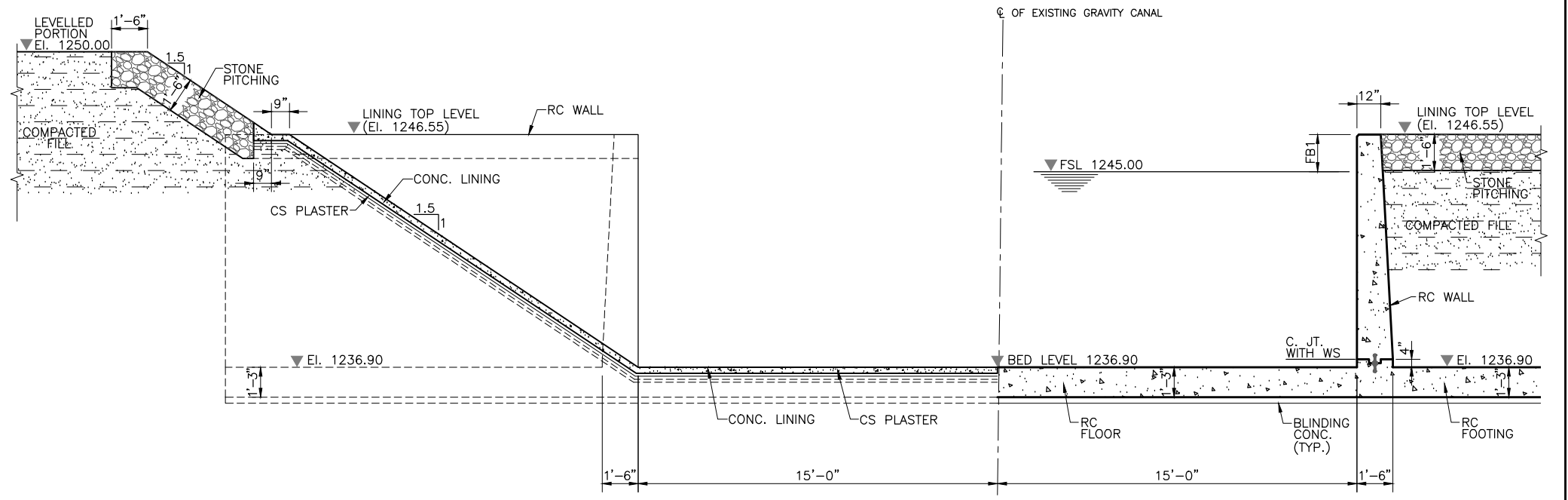
SECTION S-S



SECTION U-U



SECTION R-R



SECTION T-T

0 2' 4' 6'
SCALE

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.

0 1' 2' 3' 4' 5'
SCALE

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
PMU - REMODELING OF WARSAK CANALS PROJECT
PESHAWAR

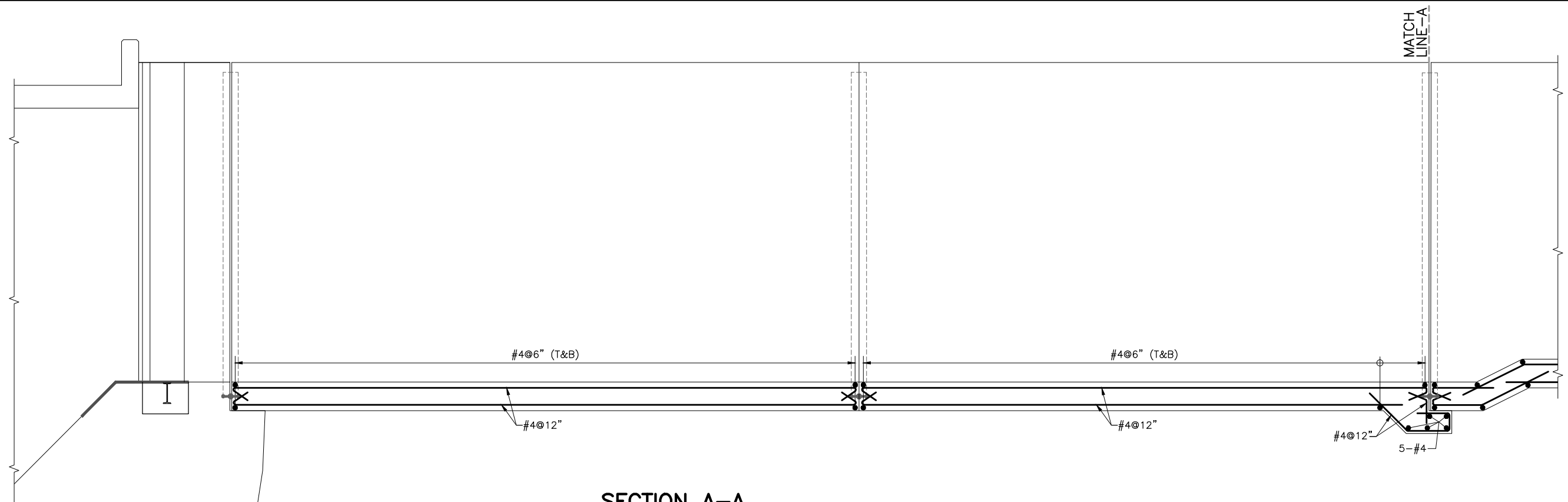
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

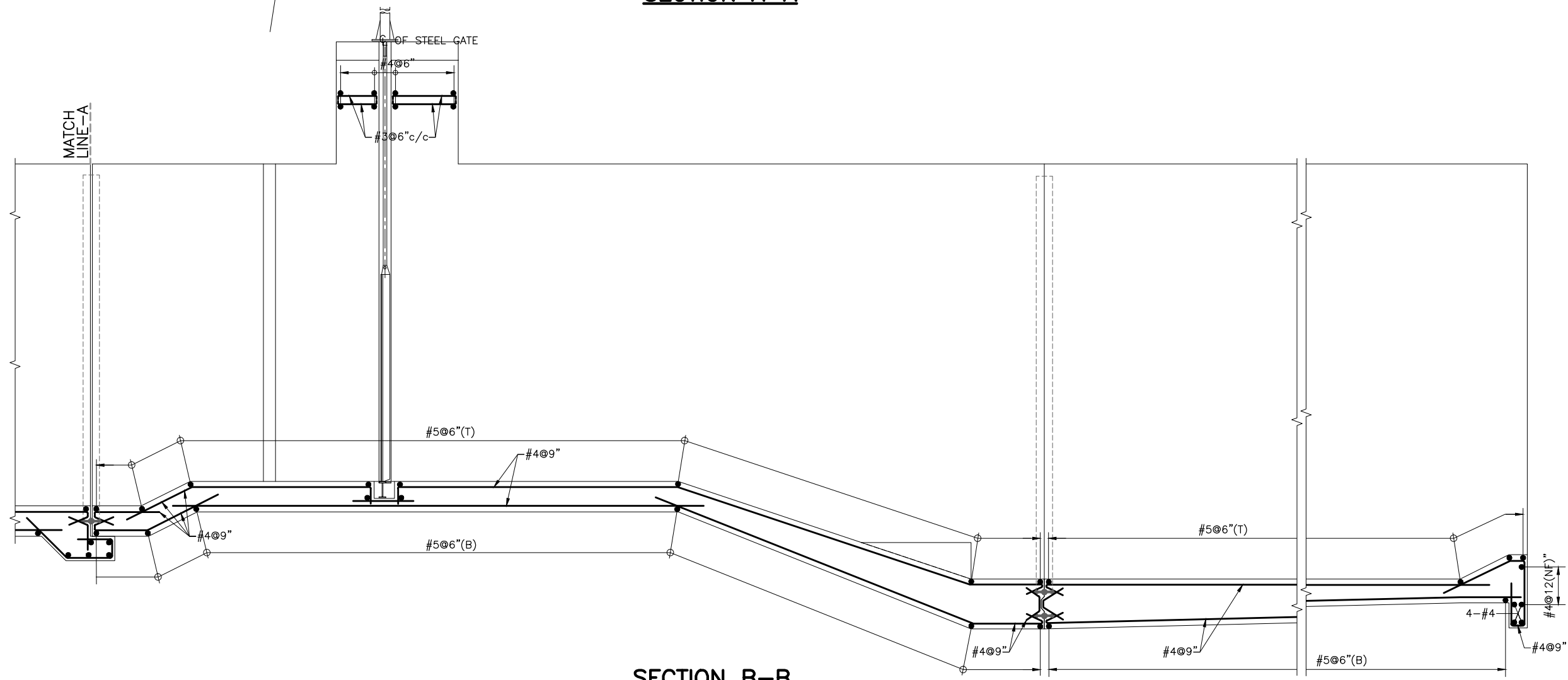
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES OUTLET AND REGULATOR STRUCTURE SECTIONS

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/20	0



SECTION A-A



SECTION B-B

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

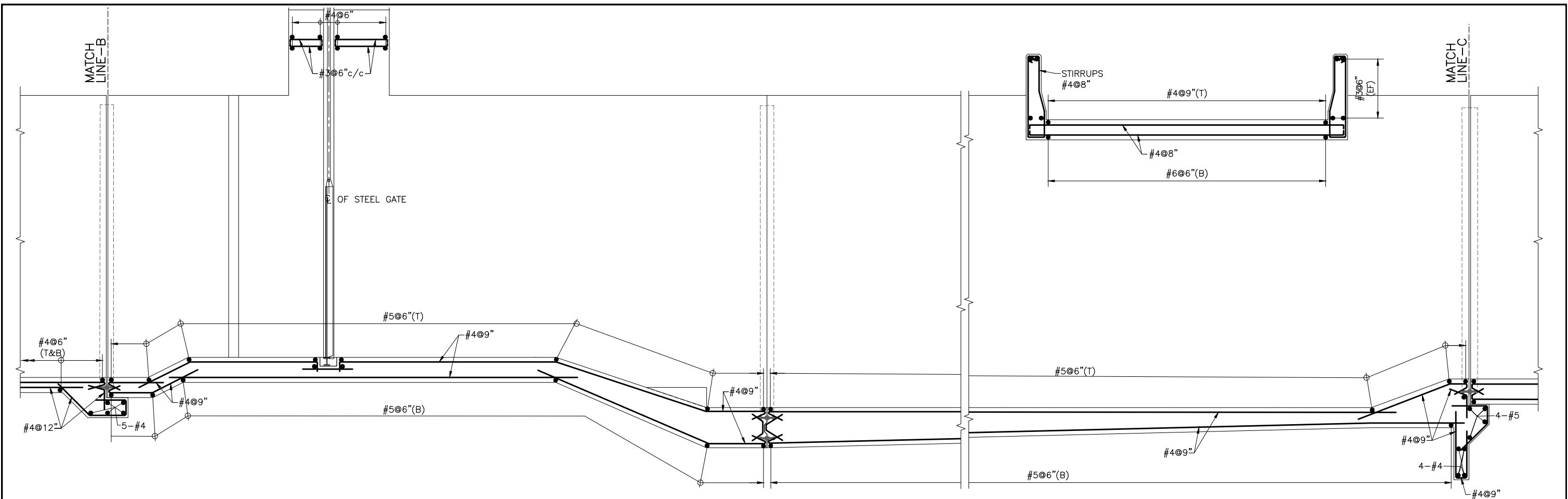
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

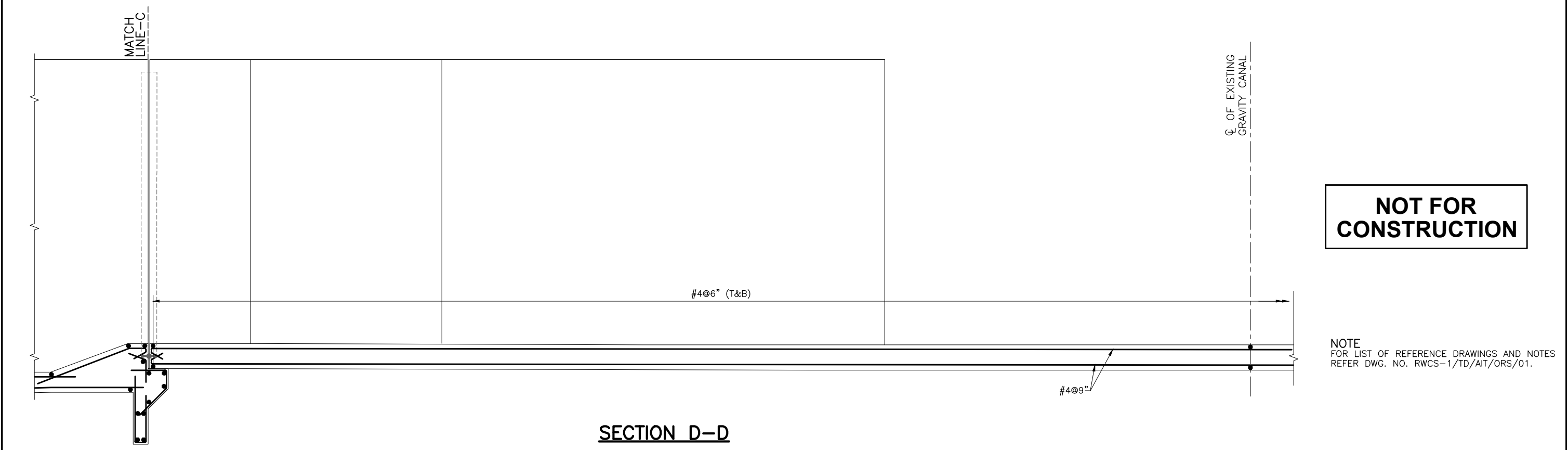
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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES
OUTLET AND REGULATOR STRUCTURE
REINFORCEMENT DETAILS**

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/21	0



SECTION C-C

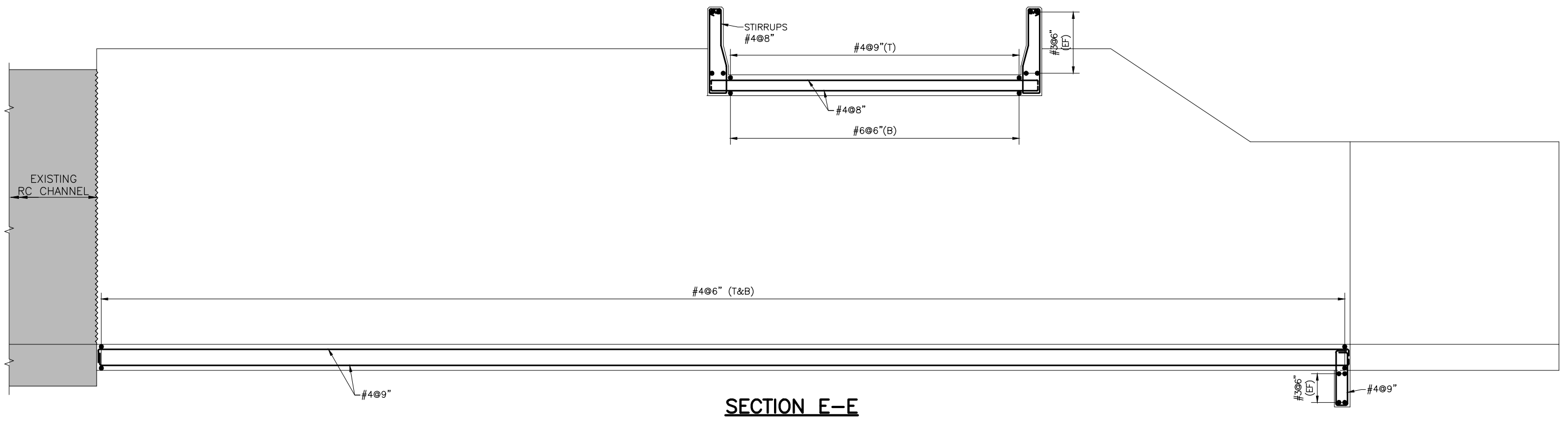


SECTION D-D

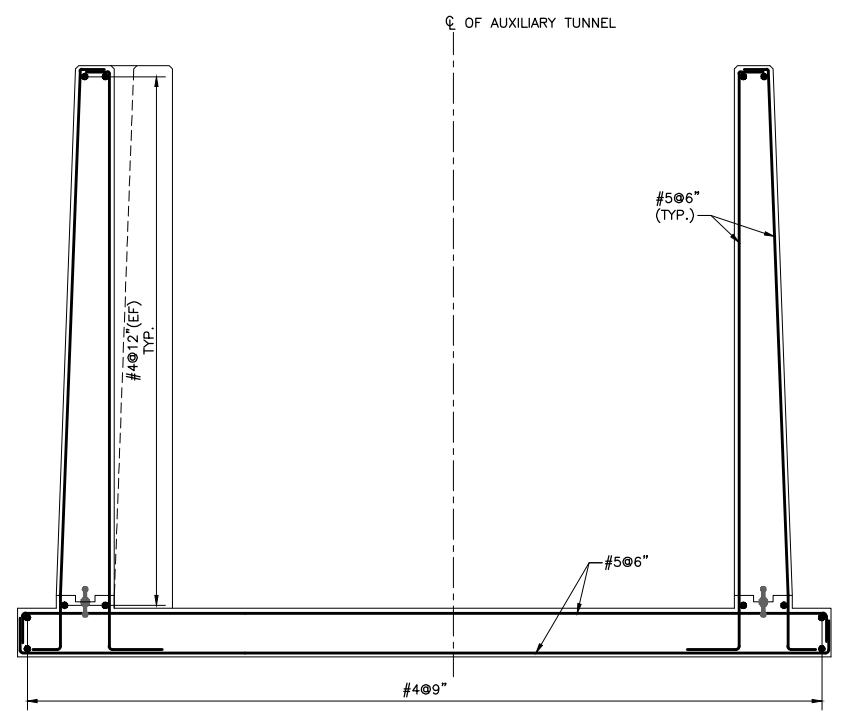
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NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.

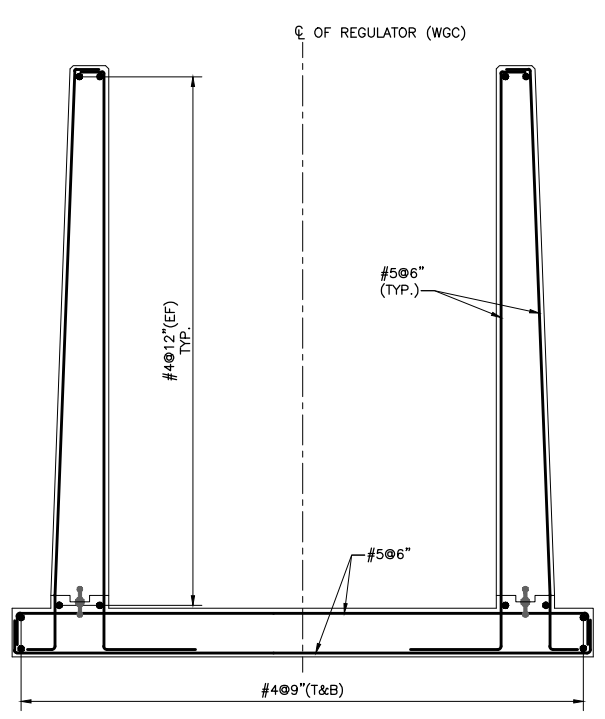
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NESPAK NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ECS ELECTRA CONSULTANTS PESHAWAR ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES OUTLET AND REGULATOR STRUCTURE REINFORCEMENT DETAILS		
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						RECOMMENDED		DATE	DWG. NO.	REV.	
						APPROVED		MAR., 2021	RWCS-1/TD/AIT/ORS/22	0	



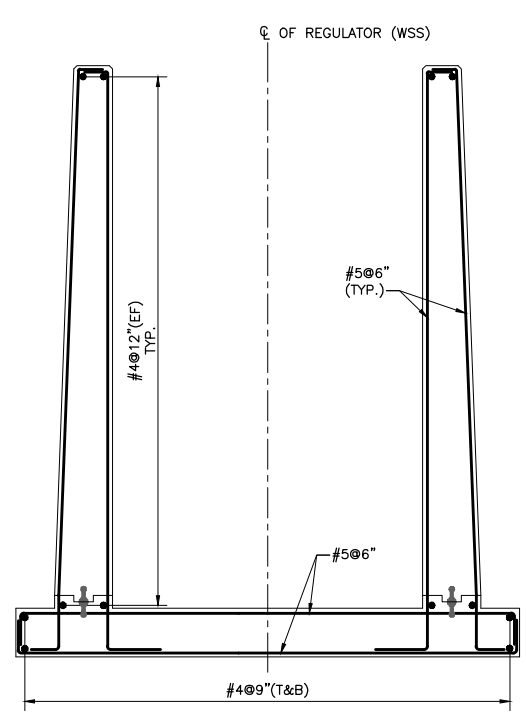
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.

**NOT FOR
CONSTRUCTION**

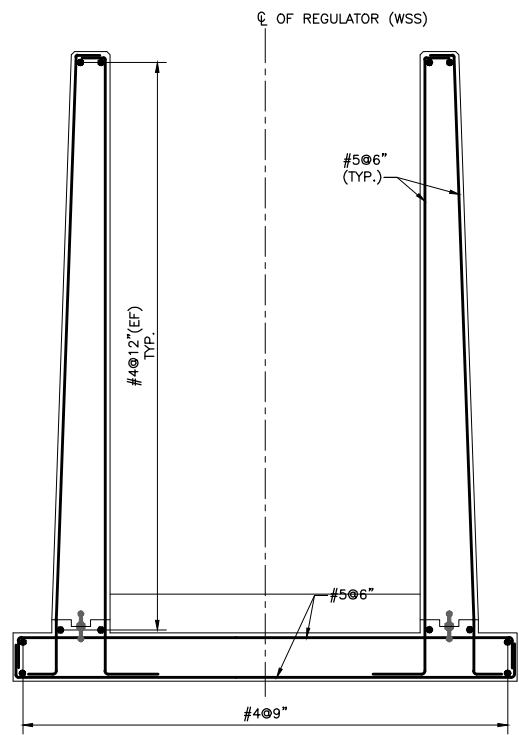
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

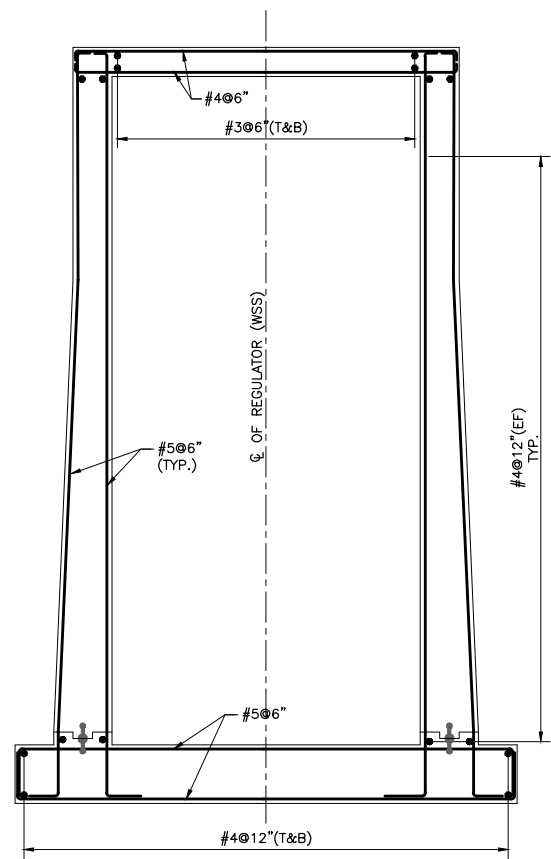
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

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						CHECKED	
						RECOMMENDED	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

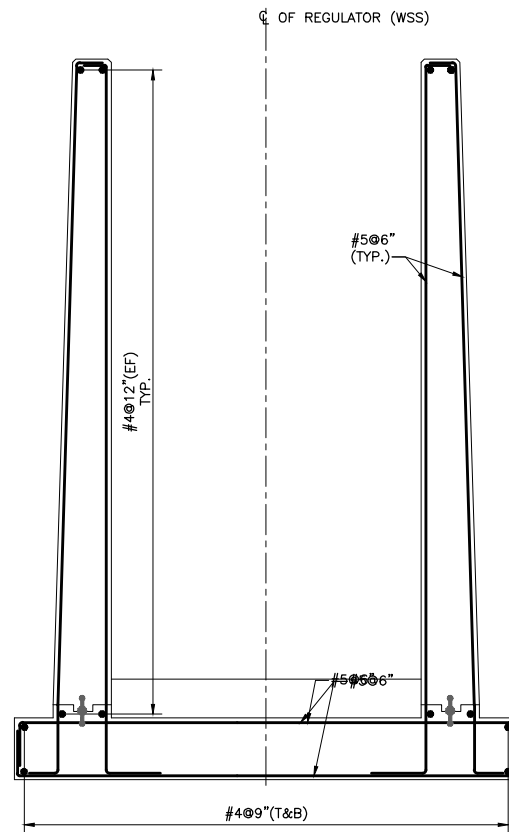
REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES OUTLET AND REGULATOR STRUCTURE REINFORCEMENT DETAILS		
DATE	DWG. NO.	REV.
MAR., 2021	RWCS-1/TD/AIT/ORS/23	0



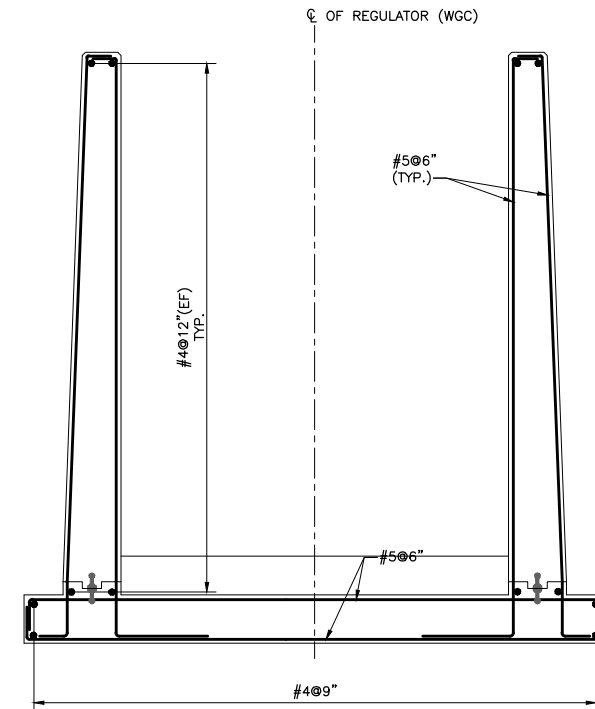
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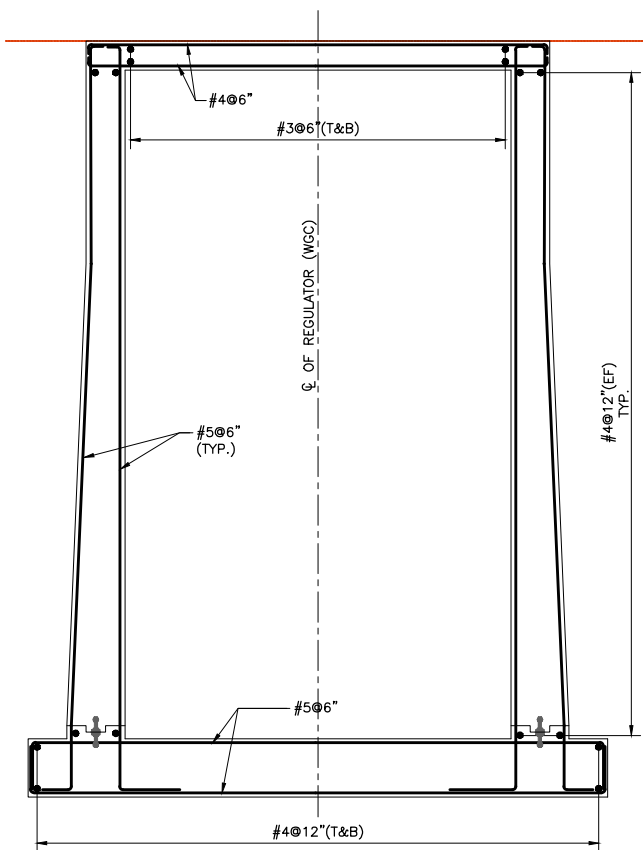
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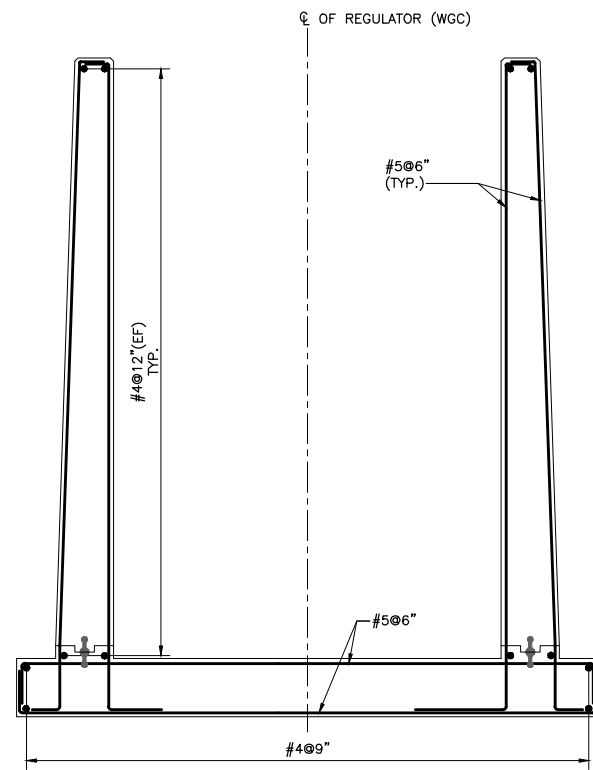
SECTION L-L



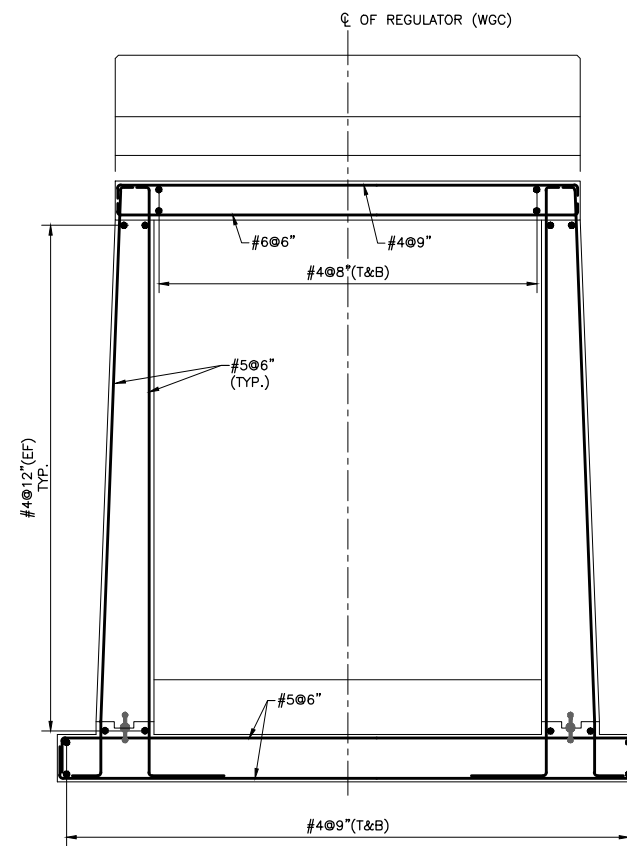
SECTION M-M



SECTION M-M



SECTION O-O

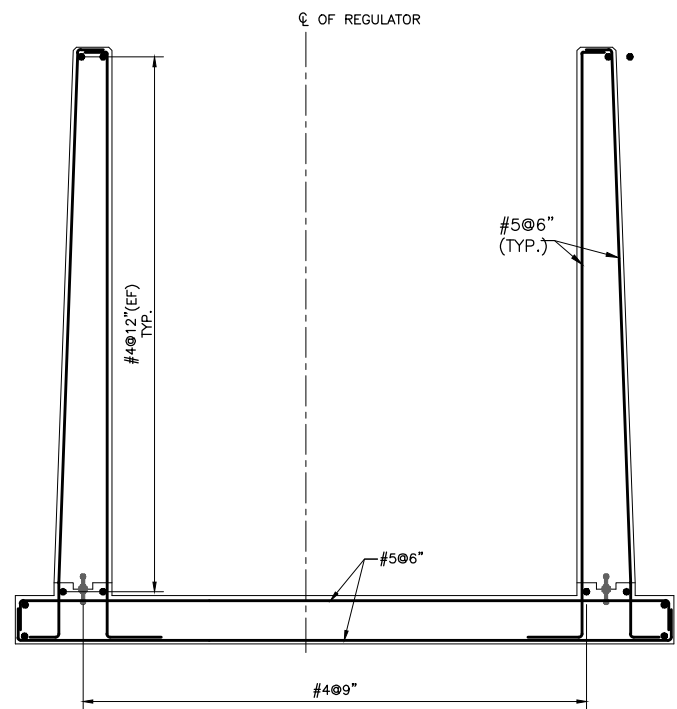


SECTION P-P

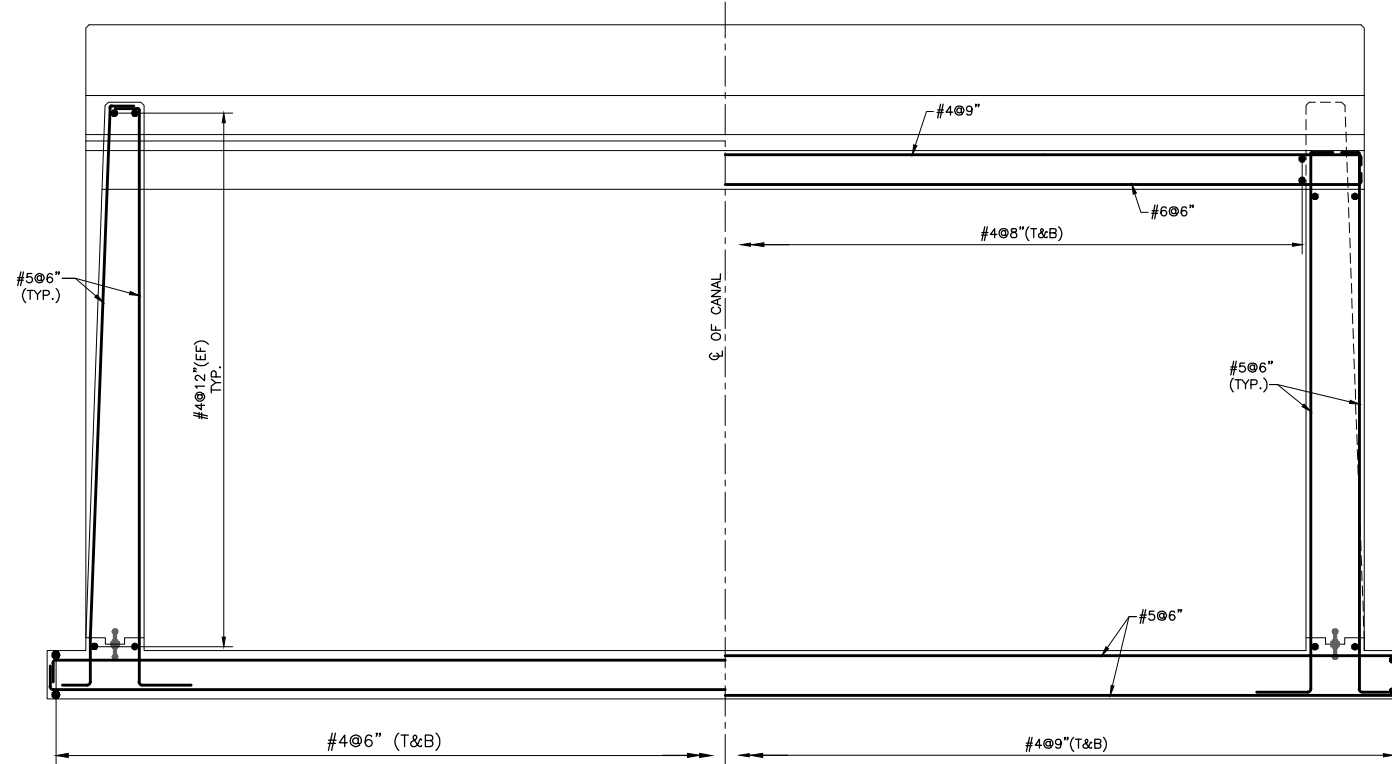
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CONSTRUCTION**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
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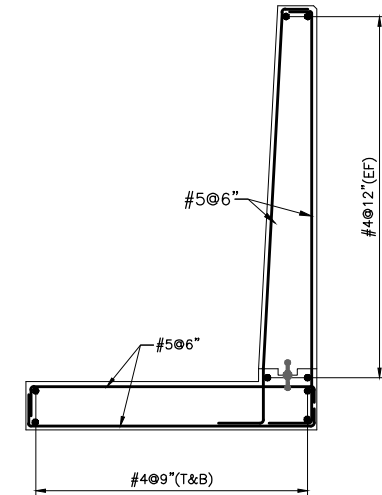
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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	



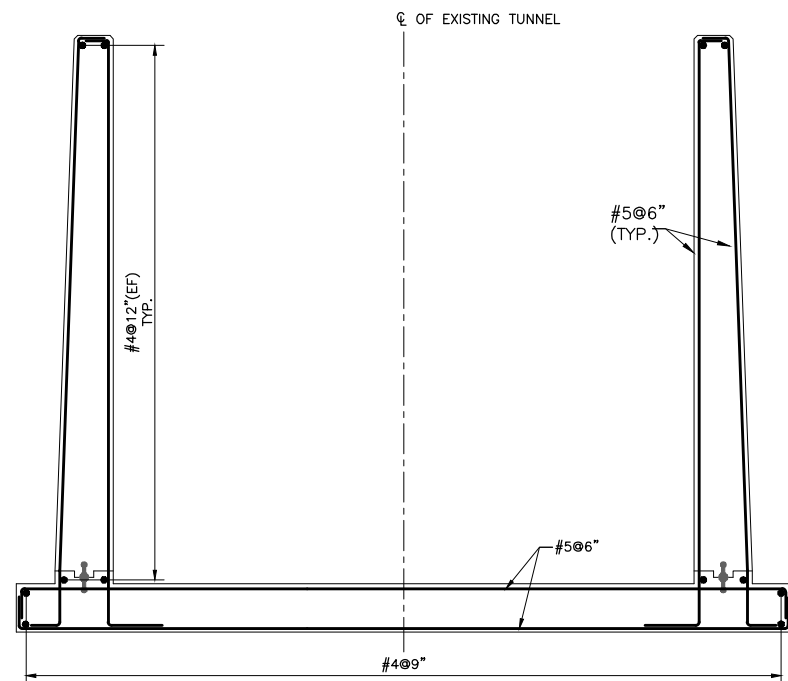
SECTION Q-Q



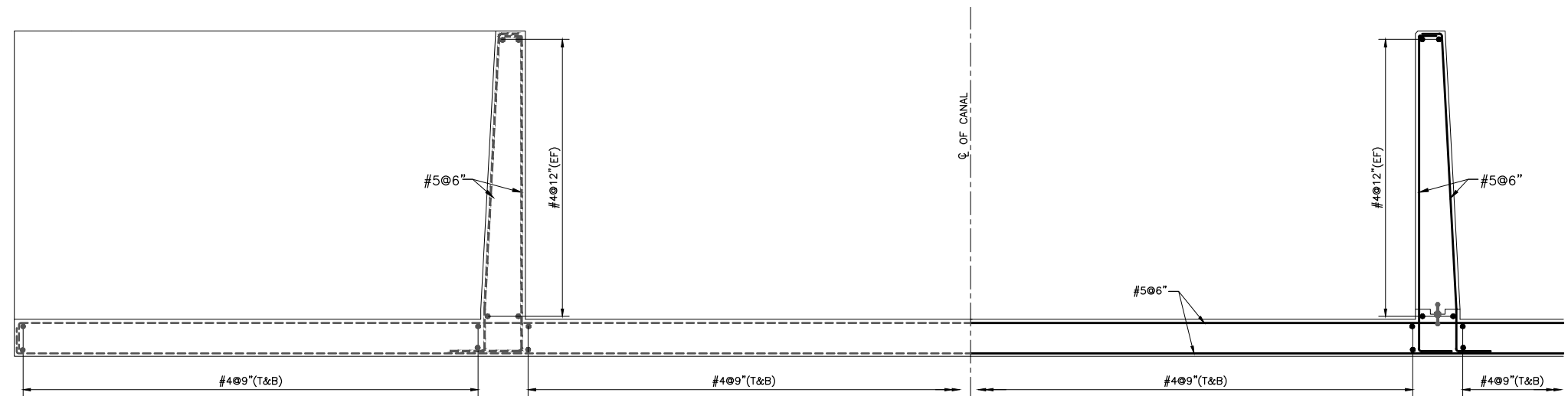
SECTION S-S



SECTION U-U



SECTION R-R



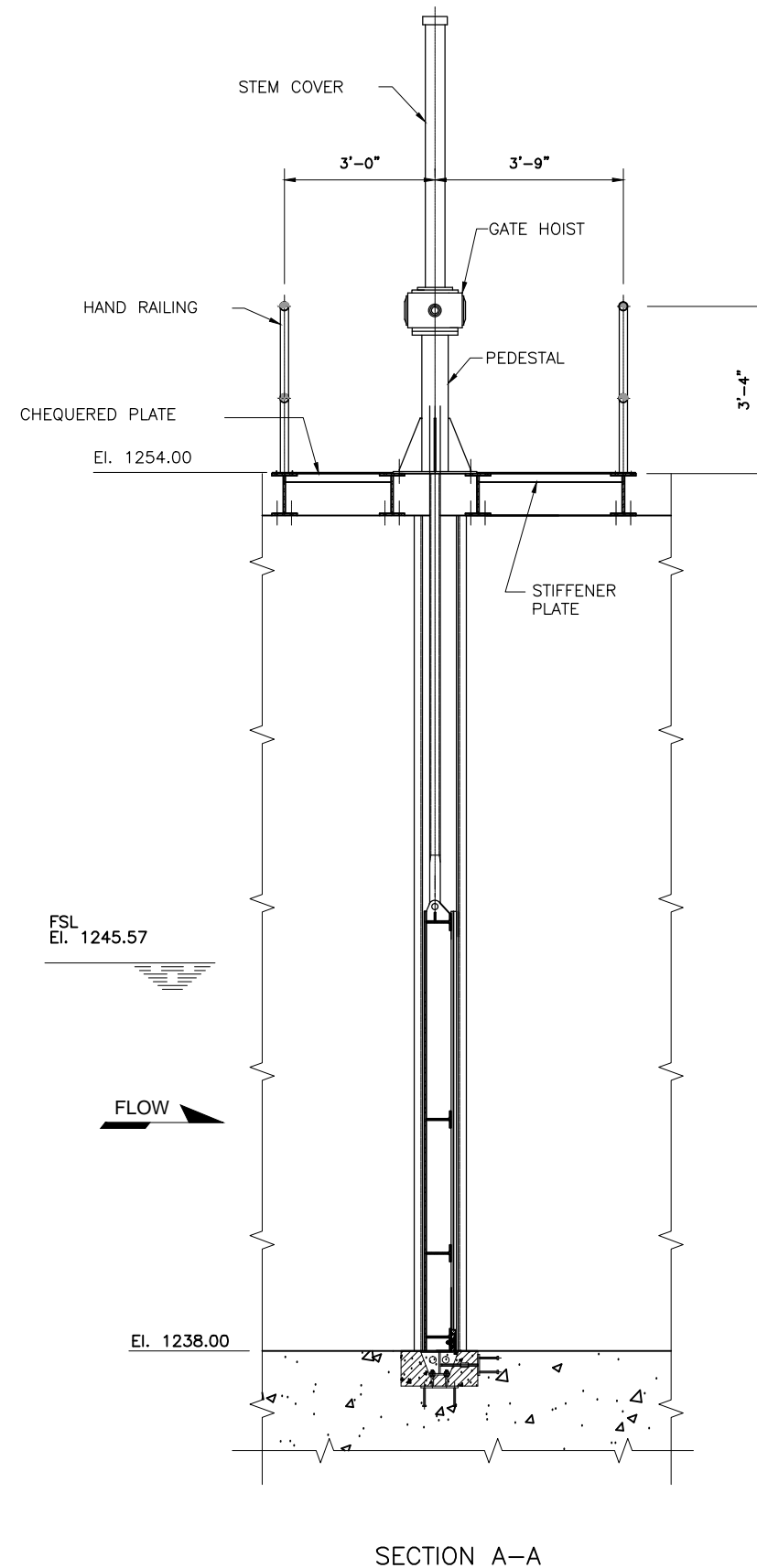
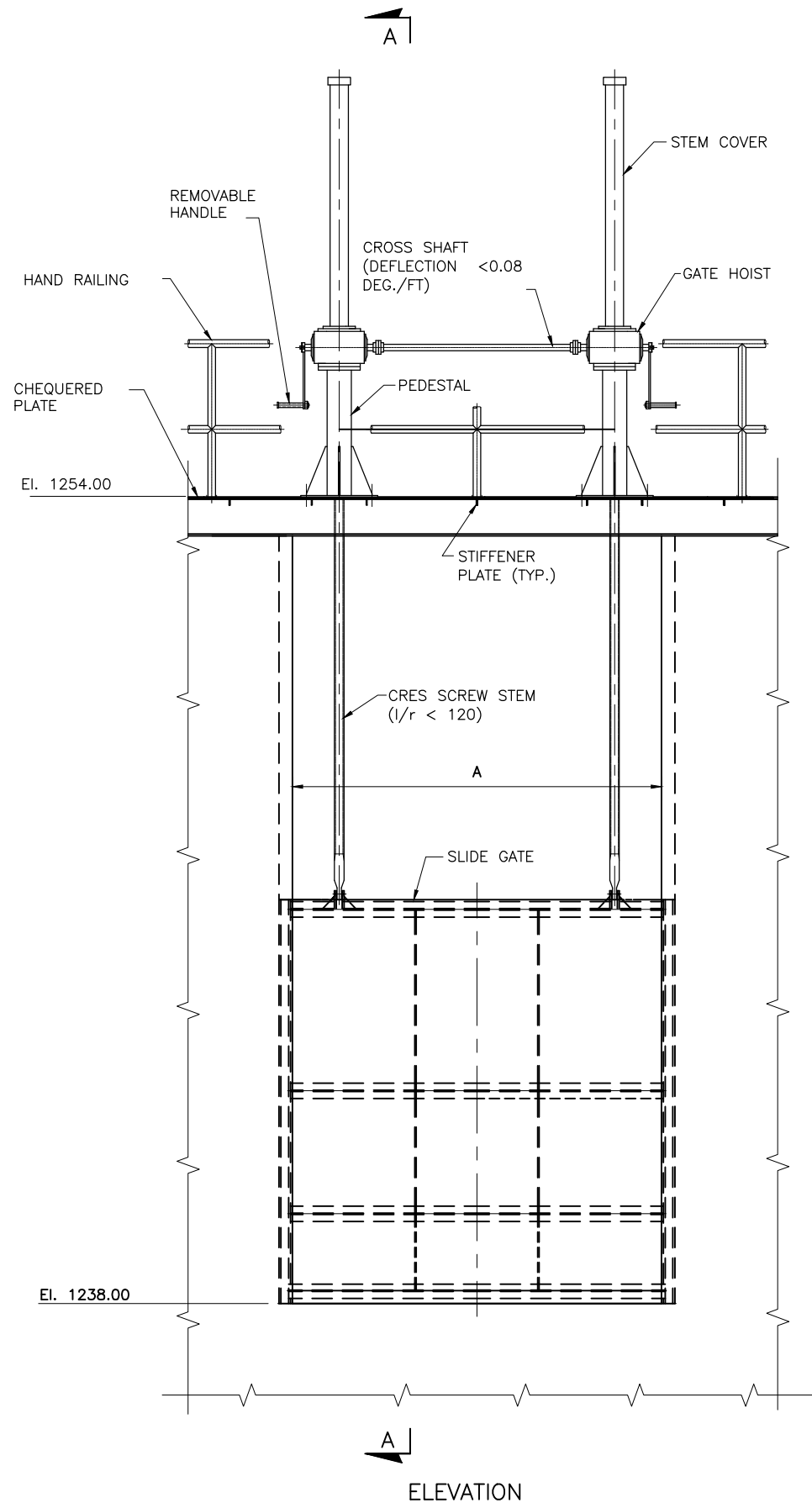
SECTION T-T

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED			

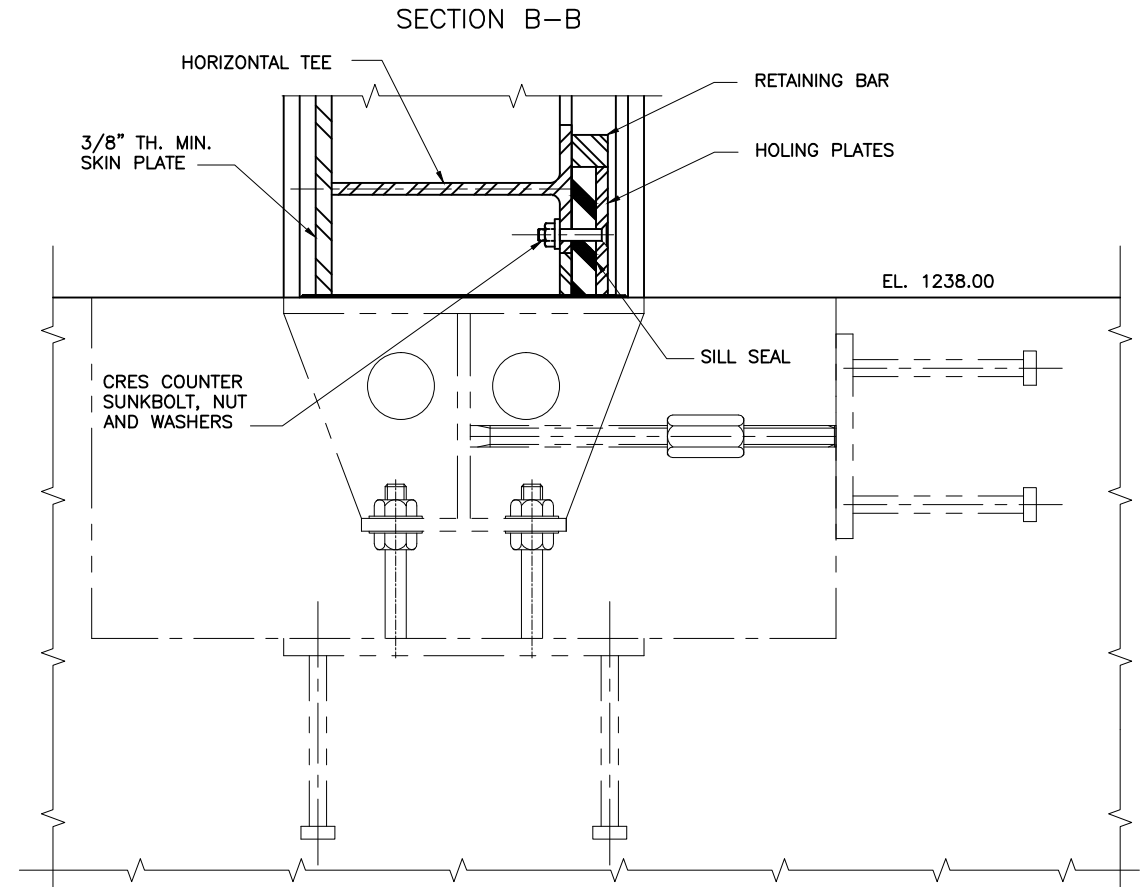
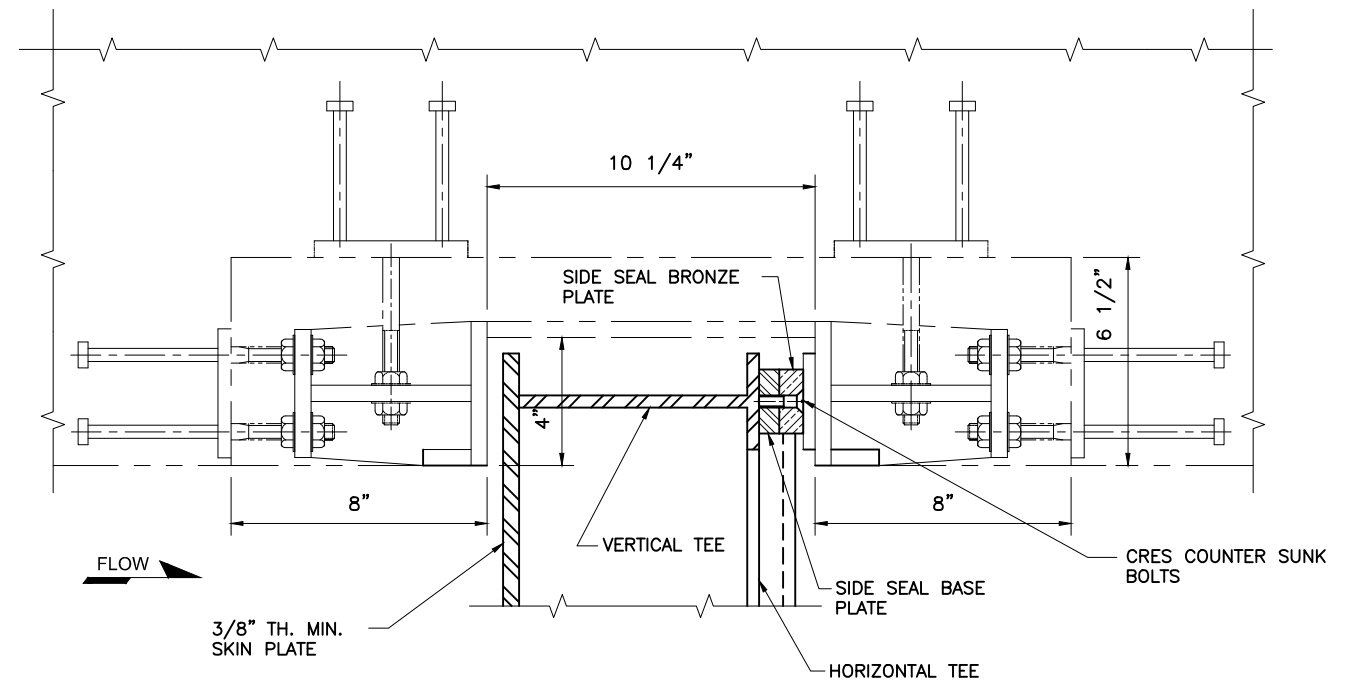
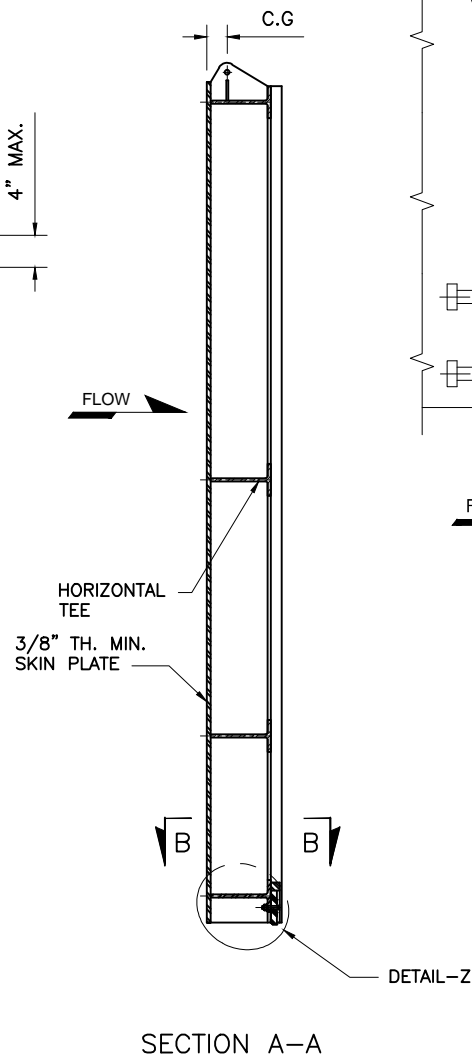
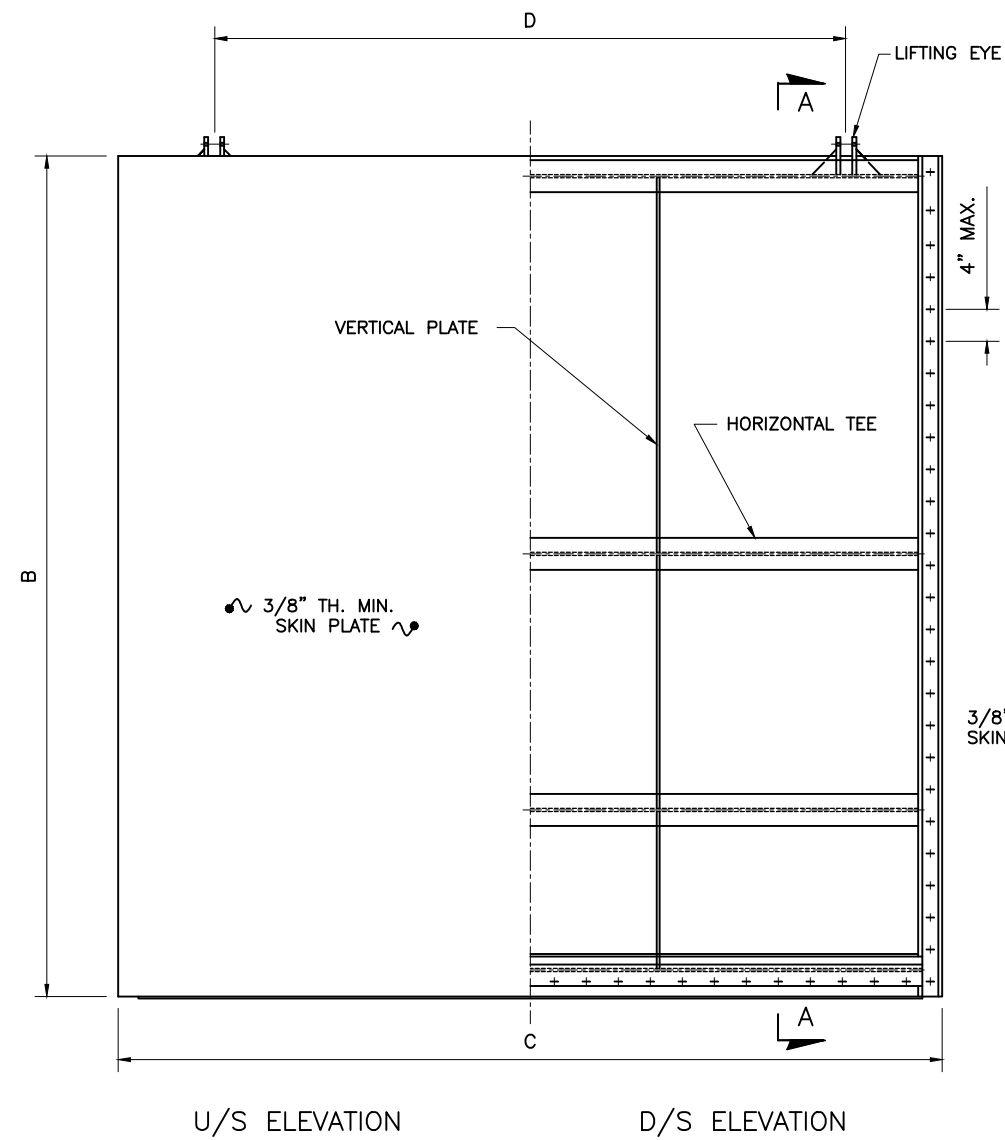
B.4.1 REGULATOR STRUCTURE MECHANICAL DRAWINGS



NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01

**NOT FOR
CONSTRUCTION**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED



NOTES:

1. FABRICATION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC-SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING.
2. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS CODE D-1. WELDING IN BUILDING CONSTRUCTION. MIN. FILLET WELD SHALL BE 1/4".
3. ALL EXPOSED EMBEDDED PART SHALL BE CRES.
4. C.G. OF GATE SHALL BE DETERMINED IN SHOP AFTER FABRICATION.
5. ALL ELEVATIONS ARE IN FEET.
6. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-1/TD/AIT/ORS/01





NOT FOR CONSTRUCTION

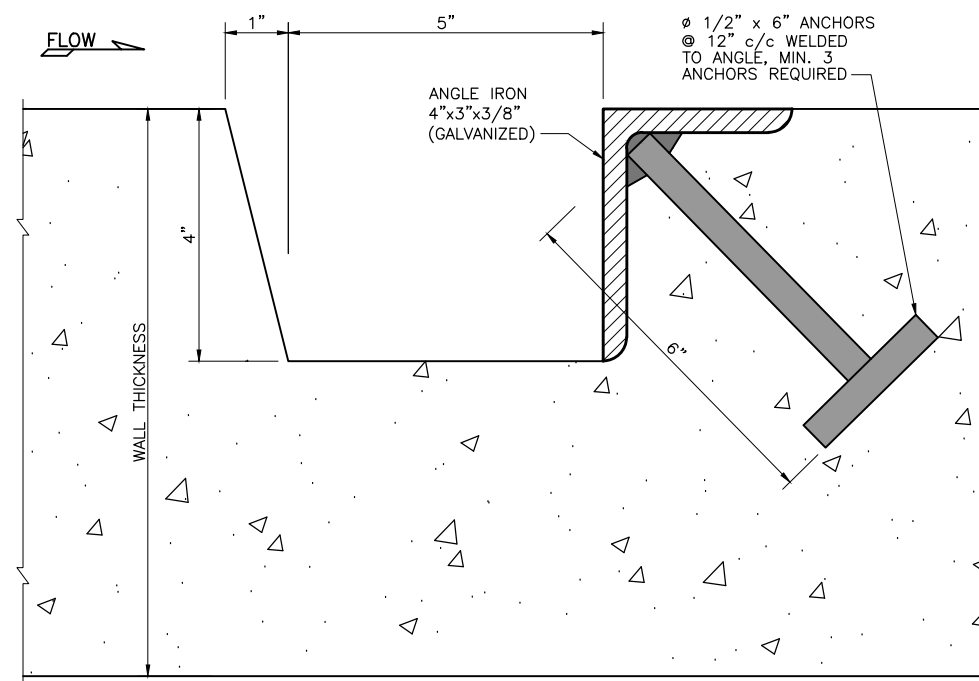
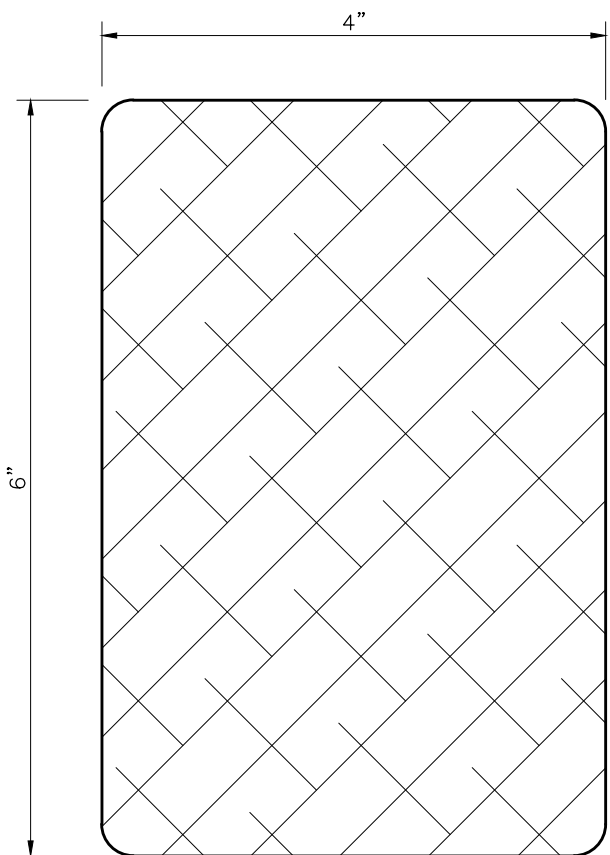
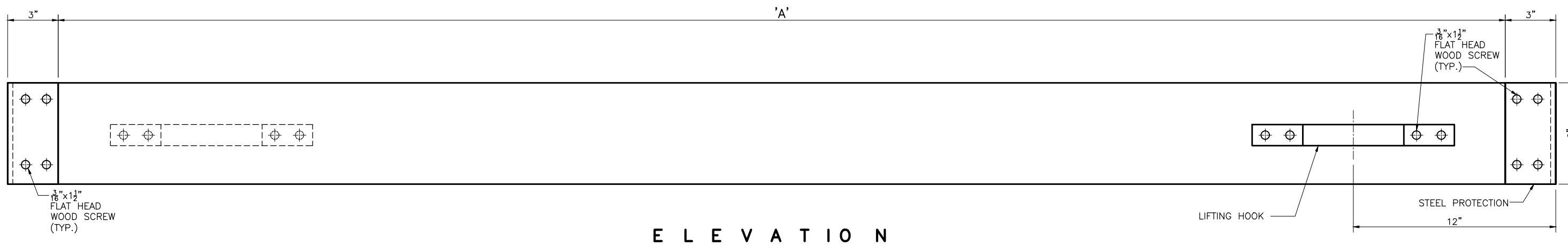
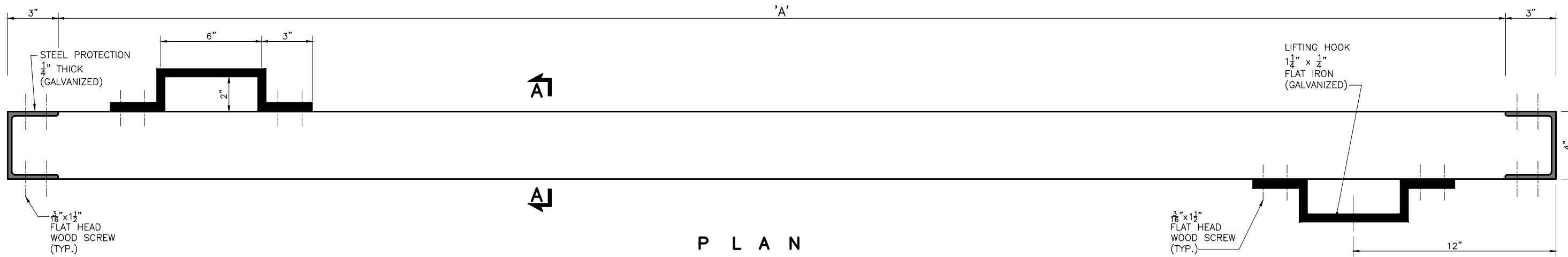
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**OUTLET REGULATOR STRUCTURE
SLIDE GATE EQUIPMENT
TABLE OF ELEVATIONS AND DIMENSIONS**

SR.	NAME	NO. OF BAYS / GATES	DIMENSIONS				CREST LEVEL EI. AA (ft)	ROAD / BANK TOP LEVEL (ft)	DECK LEVEL EI. BB (ft)	U/S FSL EI. CC (ft)	DESIGN HEAD (ft)	HORIZONTAL GIRDERS / PLATES OF GATES		VERTICAL GIRDERS / PLATES OF GATES		HOIST TYPE
			A	B	C	D						NO.	SIZE (inch)	NO.	SIZE (inch)	
			(ft)	(ft)	(ft)	(ft)										
1	PESHAWAR WATER SUPPLY REGULATOR	1	8.00	12.25	8.50	6.50	1237.75	1260.25	1247.00	9.25	3	3/8" x 3"	2	3/8" x 3"	DOUBLE STEM	
2	REGULATOR STRUCTURE - WGC	1	10.00	12.00	10.50	8.50	1238.00			1260.00	9.00	4	3/8" x 7"	5	3/8" x 7"	DOUBLE STEM

**NOT FOR
CONSTRUCTION**

 CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS							DRAWN	ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES OUTLET AND REGULATOR STRUCTURES TABLE OF ELEVATIONS AND DIMENSIONS			
												CHECKED		
													RECOMMENDED	
			REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED			DATE	DWG. NO.	REV.
								MAR., 2021	RWCS-1/TD/AIT/RGT/03	0				







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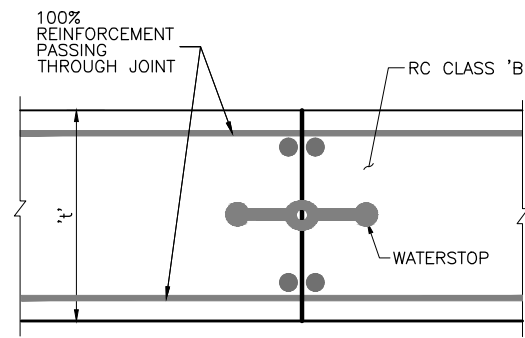
NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-1/TD/AIT/ORS/01.

P L A N
STOPLOG GROOVE DETAIL
SCALE 0 1 2

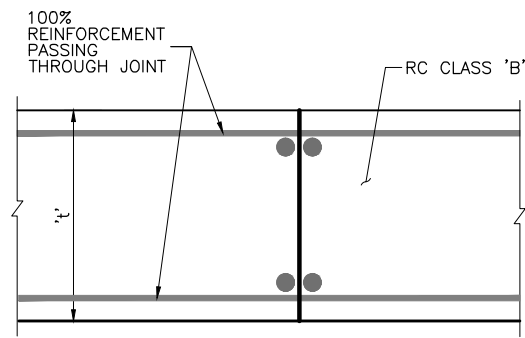
S E C T I O N A - A

CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS				DRAWN	ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-1 AUXILIARY IRRIGATION TUNNEL AND ALLIED STRUCTURES OUTLET AND REGULATOR STRUCTURE WOODEN STOPLOG DETAILS	
						CHECKED			DATE
							MAR., 2021	RWCS-1/TD/AIT/RGT/04	0

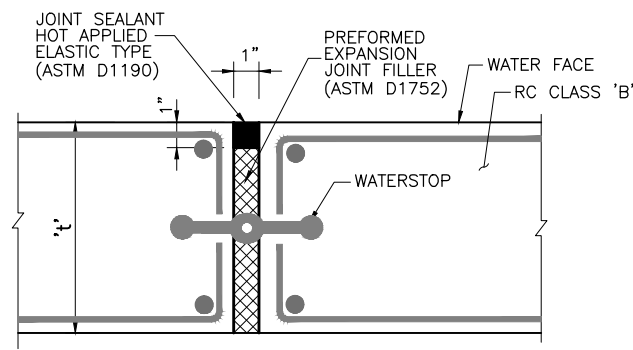
C. MISCELLANEOUS DRAWINGS



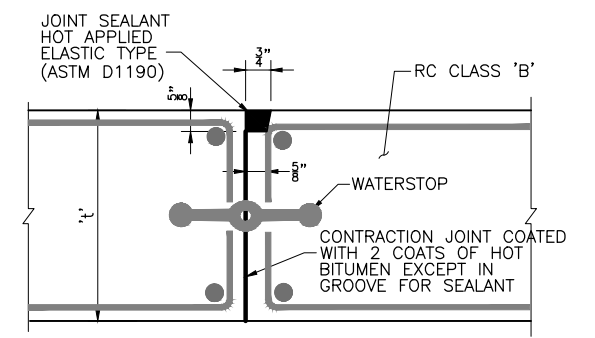
WITH WATERSTOP



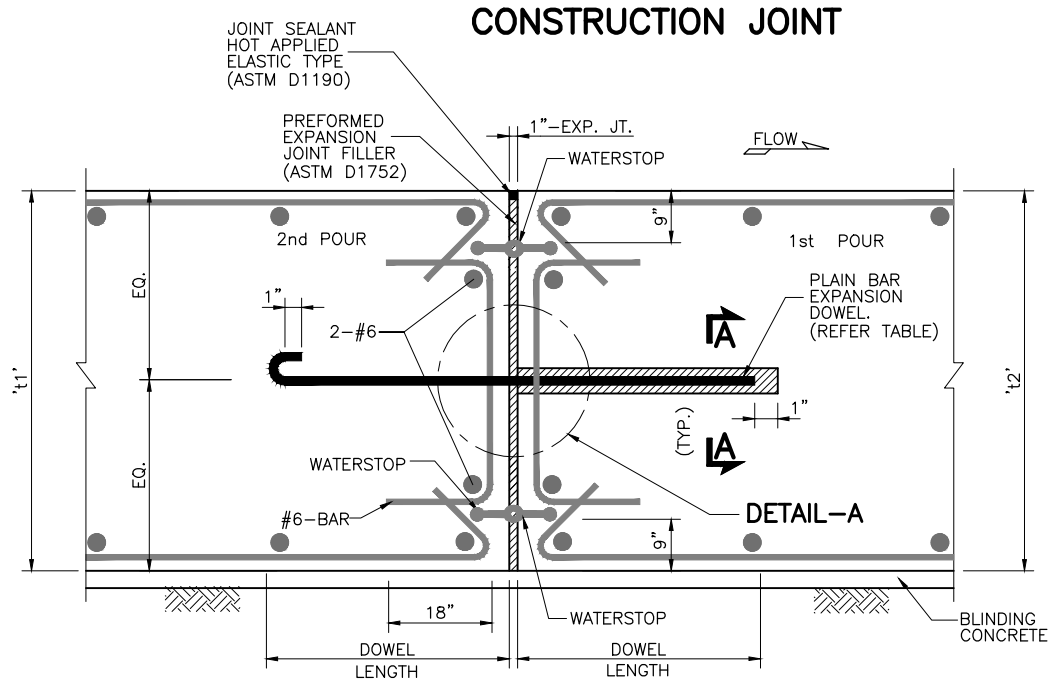
WITHOUT WATERSTOP



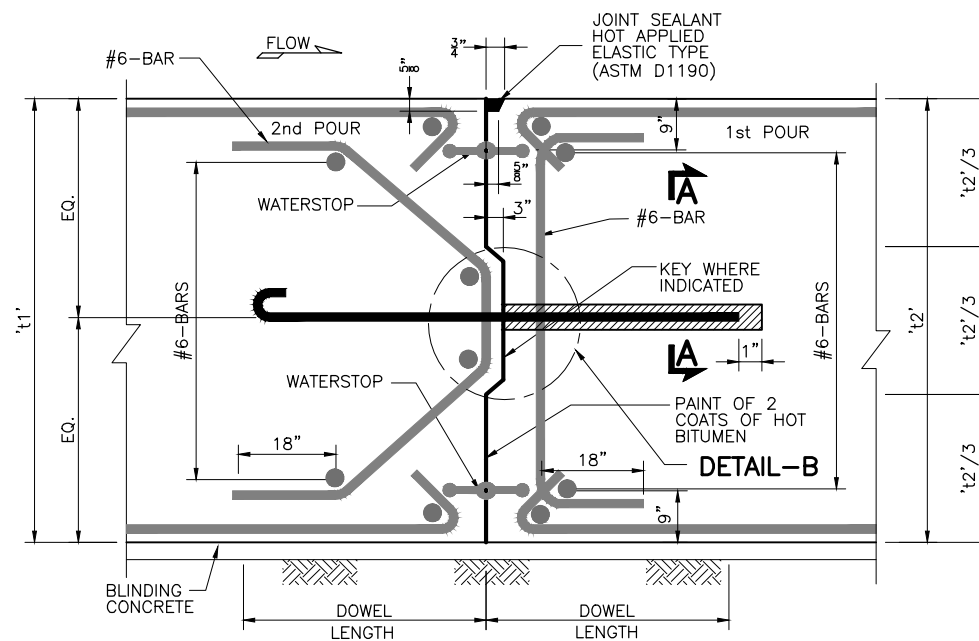
EXPANSION JOINT



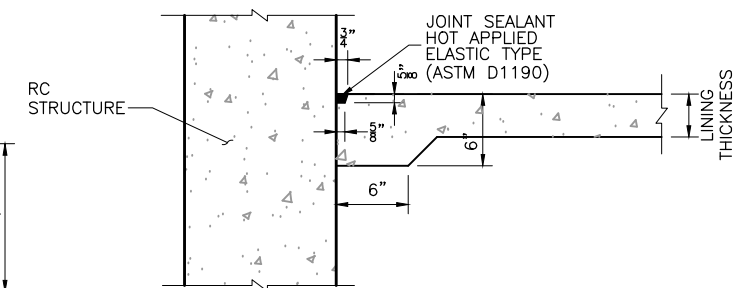
CONTRACTION JOINT



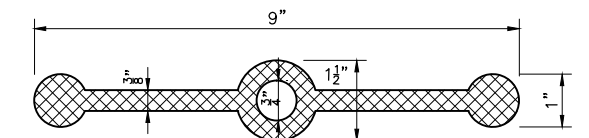
EXPANSION JOINT WITH DOWEL



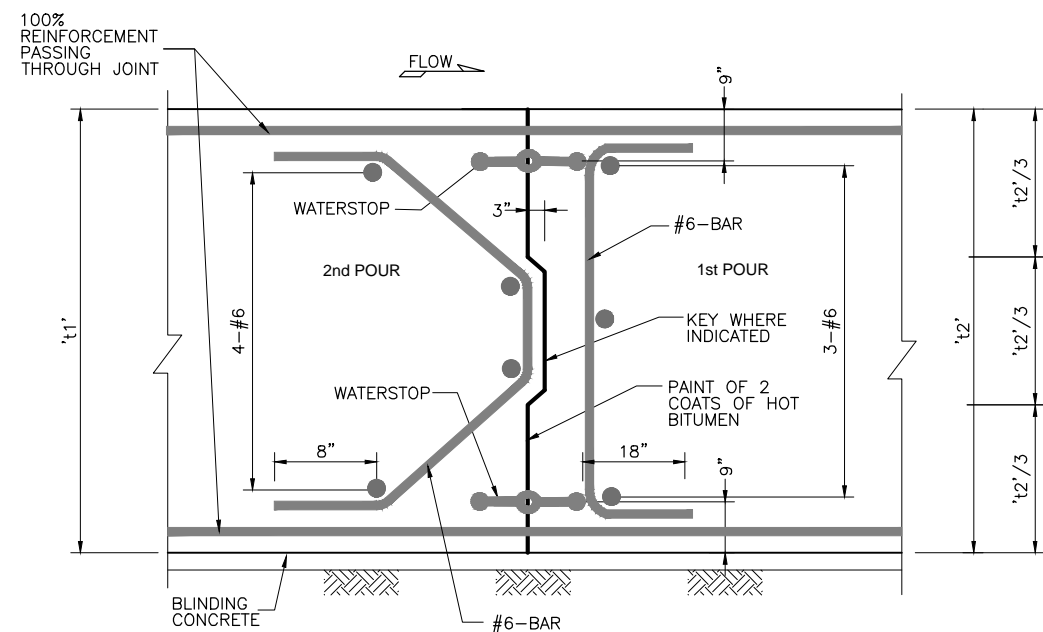
CONTRACTION JOINT WITH KEY & DOWEL



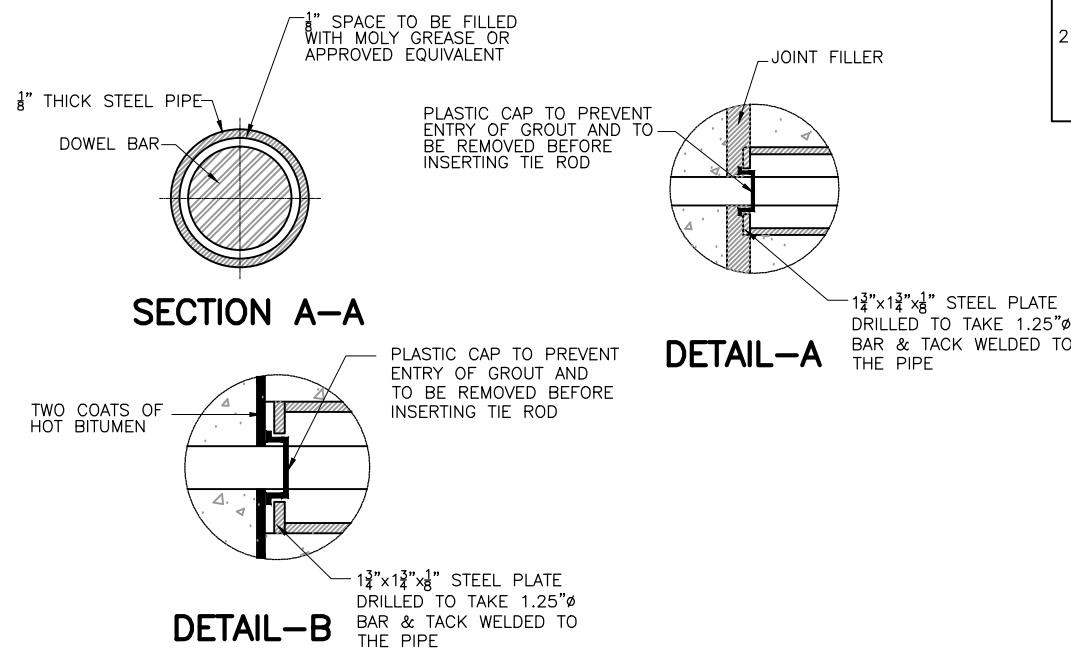
CONTRACTION JOINT IN PCC CANAL LINING



DETAIL OF PVC WATERSTOP



CONSTRUCTION JOINT WITH KEY



THICKNESS, 't1'	CASES FOR THICKNESS 't2'					
	CASE - I; t2 = t1			CASE - II; t2 < t1		
	DOWEL PLACEMENT FROM TOP OF FLOOR	SIZE & SPACING	DOWEL LENGTH	DOWEL PLACEMENT FROM TOP OF FLOOR	SIZE & SPACING	DOWEL LENGTH
t1 = 2'-6"	't1'/2	#6@12"	1'-6"	't2'/2	#6@12"	1'-6"
2'-6" < t1 < 5'-0"	't1'/2	#8@12"	2'-6"	't2'/2	#8@12"	2'-6"
t1 ≥ 5'-0"	't1'/2	#10@12"	3'-6"	't2'/2	#10@12"	3'-6"

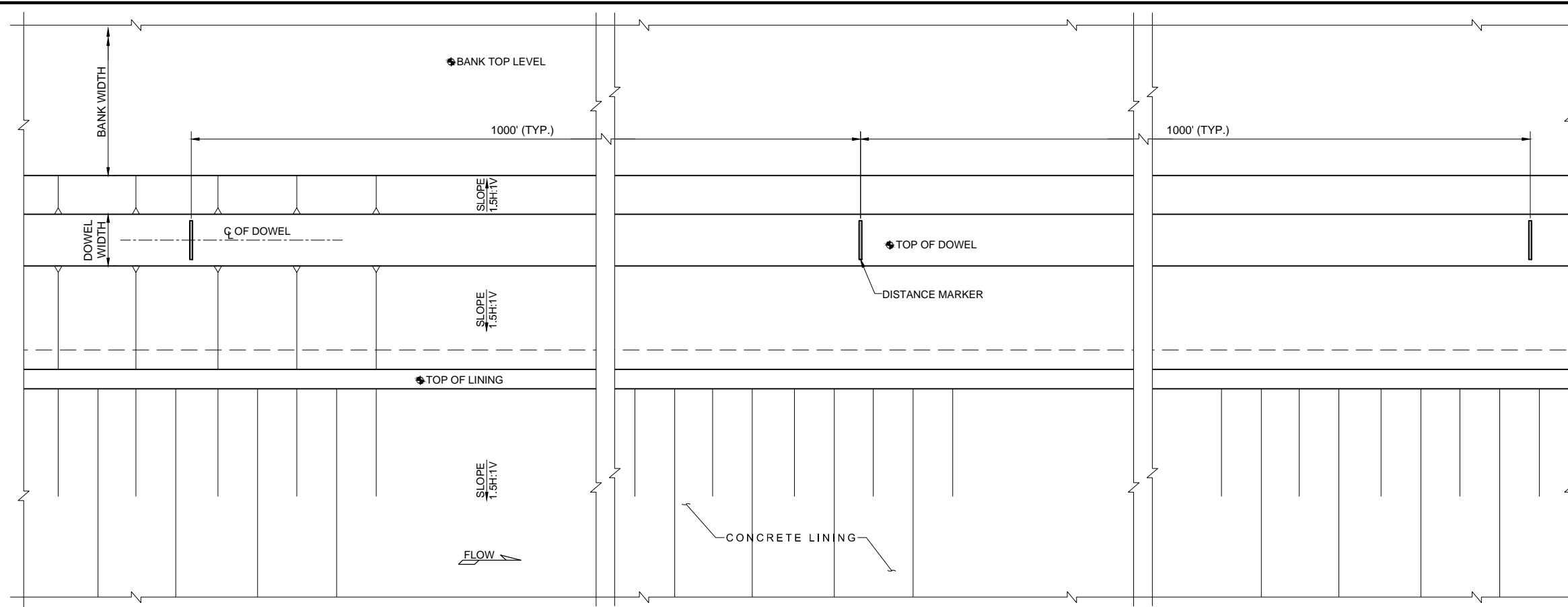
LEGEND:

- 1. EXPANSION JOINT = EXP. JT.
- 2. CONTRACTION JOINT = CONT. JT.
- 3. CONSTRUCTION JOINT = C. JT.

NOTES

1. PROVIDE TWO WATERSTOPS AT EXPANSION, CONTRACTION, AND CONSTRUCTION JOINTS WHERE THICKNESS OF FLOOR IS EQUAL TO OR GREATER THAN 2'-6".
2. WATERSTOP SHOULD BE POSITIONED AT 9" FROM FACE OF FLOOR IF THE THICKNESS OF FLOOR IS MORE THAN 1'-6"; OTHERWISE IT SHOULD BE POSITIONED AT THE CENTER OF THE FLOOR.
3. WATERSTOP SHOULD BE POSITIONED AT 9" FROM FACE OF WALL IF THE THICKNESS OF WALL IS MORE THAN 1'-6"; OTHERWISE IT SHOULD BE POSITIONED AT THE CENTER OF THE WALL.
4. THE DRAWING SHALL BE READ IN CONJUNCTION WITH THE DRAWING IT IS REFERRED FROM.

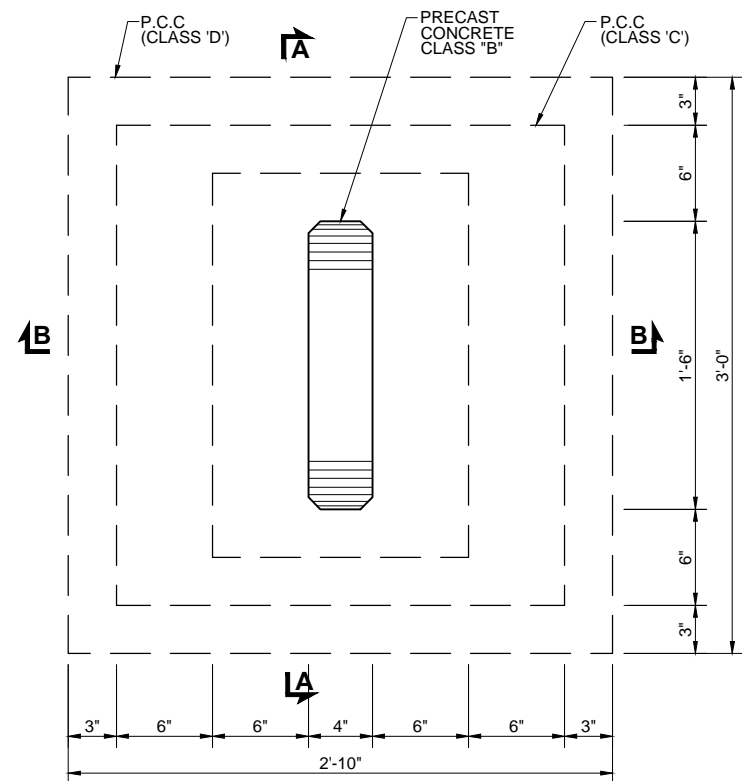
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	ISH
							CHECKED	
							RECOMMENDED	



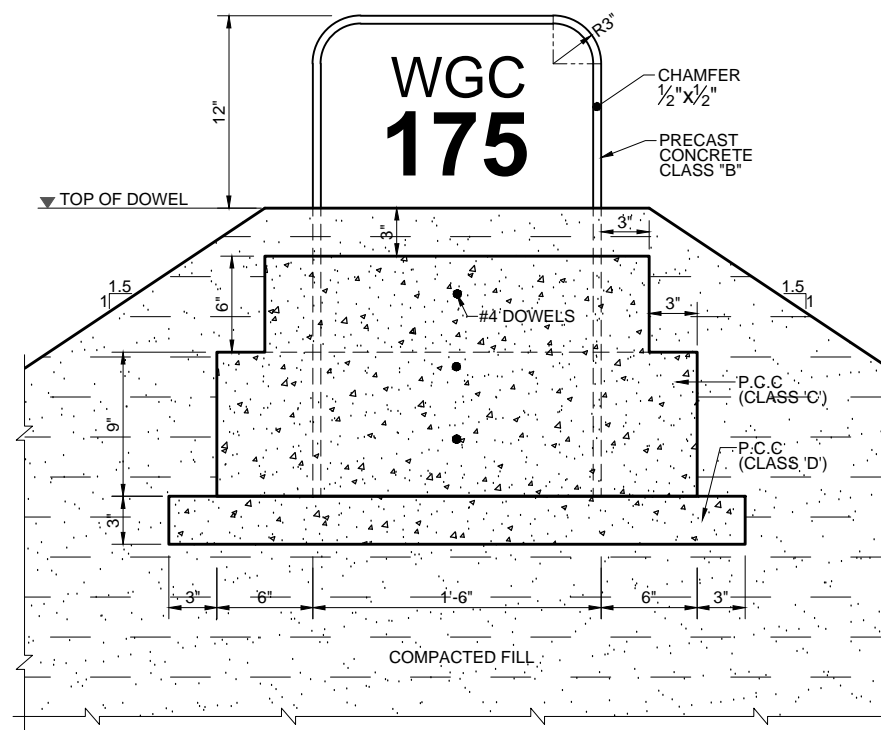
PART PLAN OF MAIN CANAL

NOTES

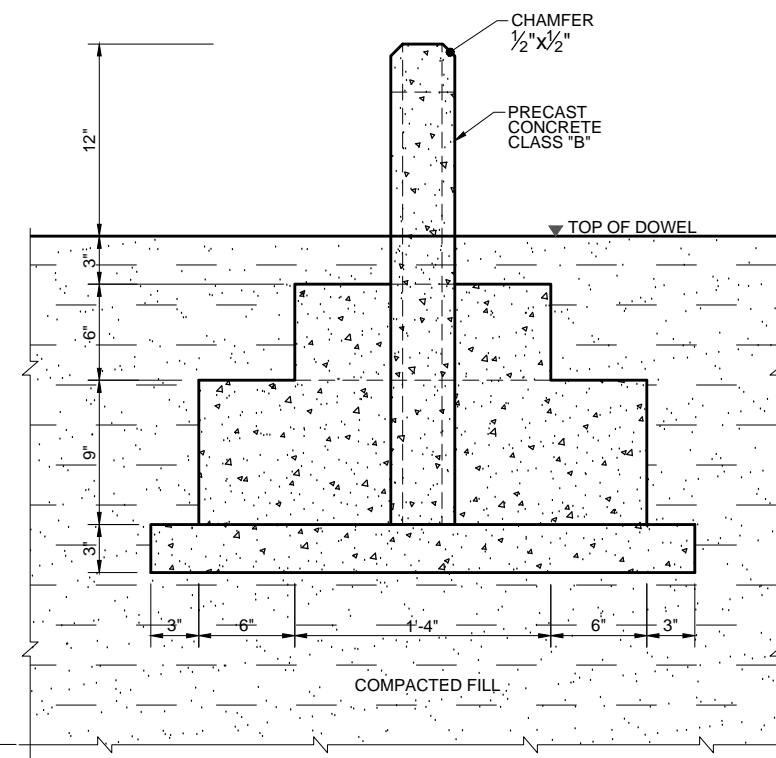
1. ALL DIMENSIONS ARE IN FEET AND INCHES.
2. DISTANCE MARKERS SHALL BE INSTALLED AT 1000 FT. INTERVAL IN DOWEL ON RIGHT EDGE OF SERVICE ROAD.
3. RD SHALL APPEAR ON BOTH SIDES OF THE DISTANCE MARKER.
4. DISTANCE MARKER SHALL BE PAINTED WITH TWO COATS OF EMULSION PAINT IN WHITE COLOUR ON ITS BOTH SIDES AND EDGES.
5. THE NUMBERS/LETTERS SHALL BE PAINTED IN BLACK COLOUR AND LETTER SIZE SHALL BE AS DIRECTED BY THE ENGINEER.



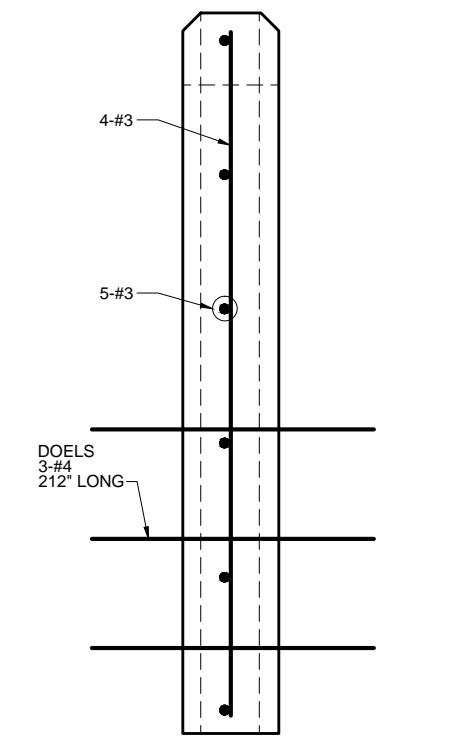
PLAN



SECTION A-A



SECTION B-B



REINFORCEMENT DETAIL



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 PESHAWAR

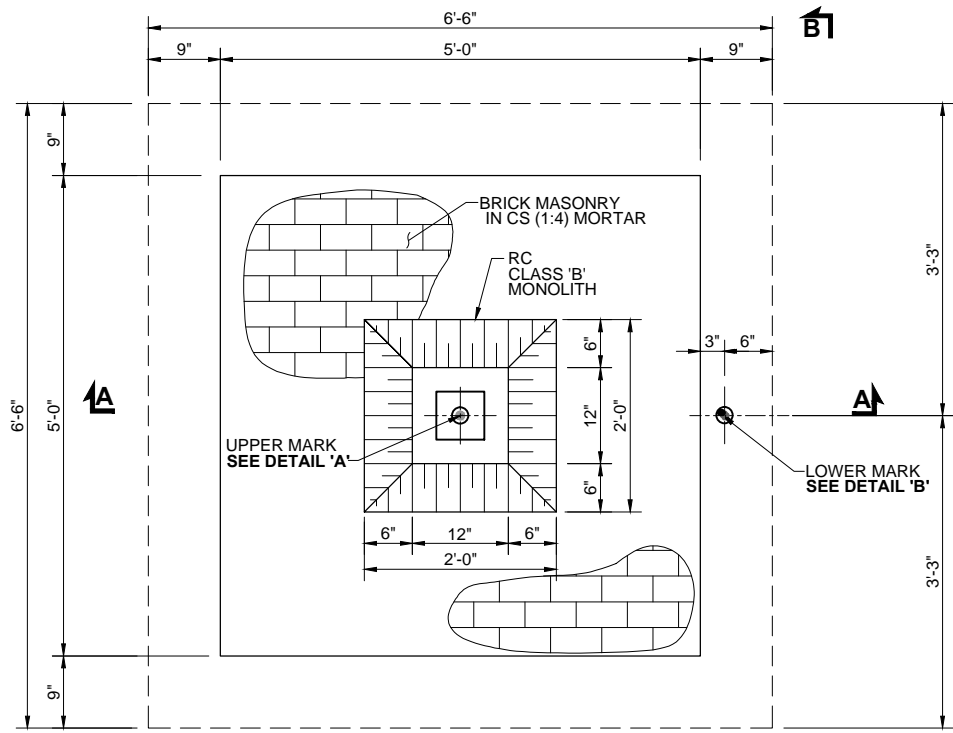
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

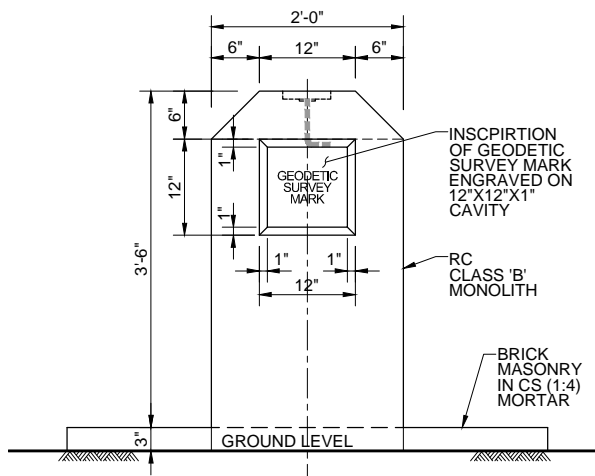
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
MISCELLANEOUS DRAWINGS
DISTANCE MARKER
PLANS AND SECTIONS

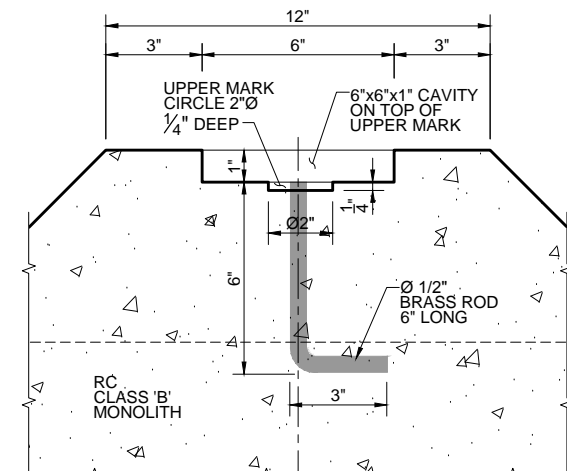
DATE: MAR., 2021
 DWG. NO.: RWCS-1/TD/MSC/02
 REV. 0



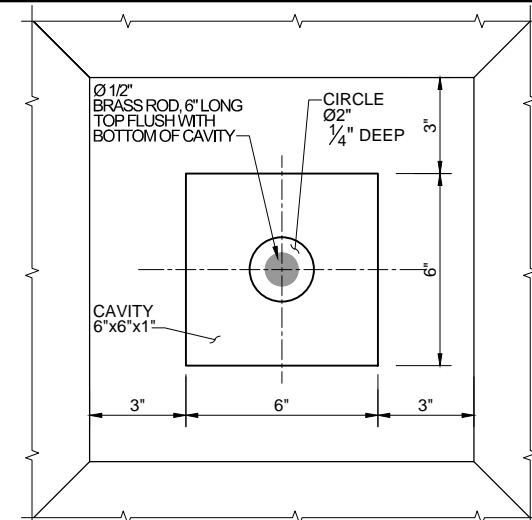
PLAN



SECTION B-B

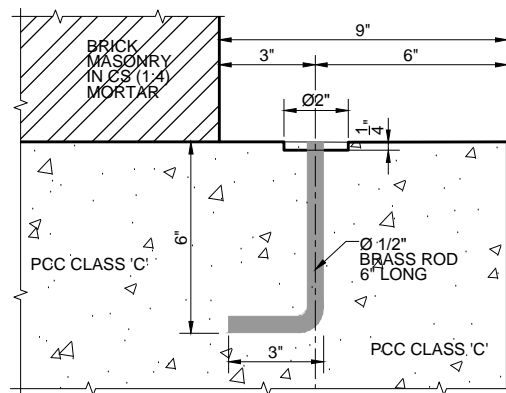


DETAIL 'A'

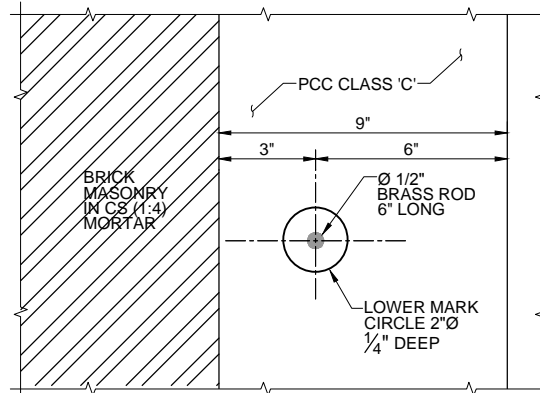


PLAN

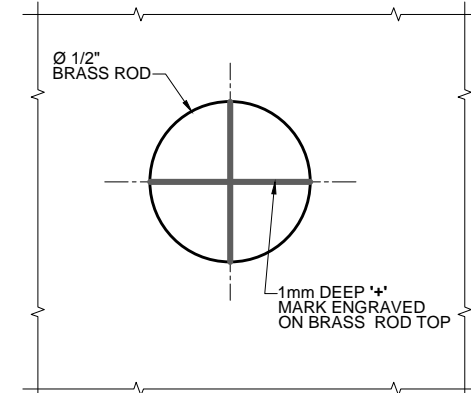
UPPER MARK



DETAIL 'A'

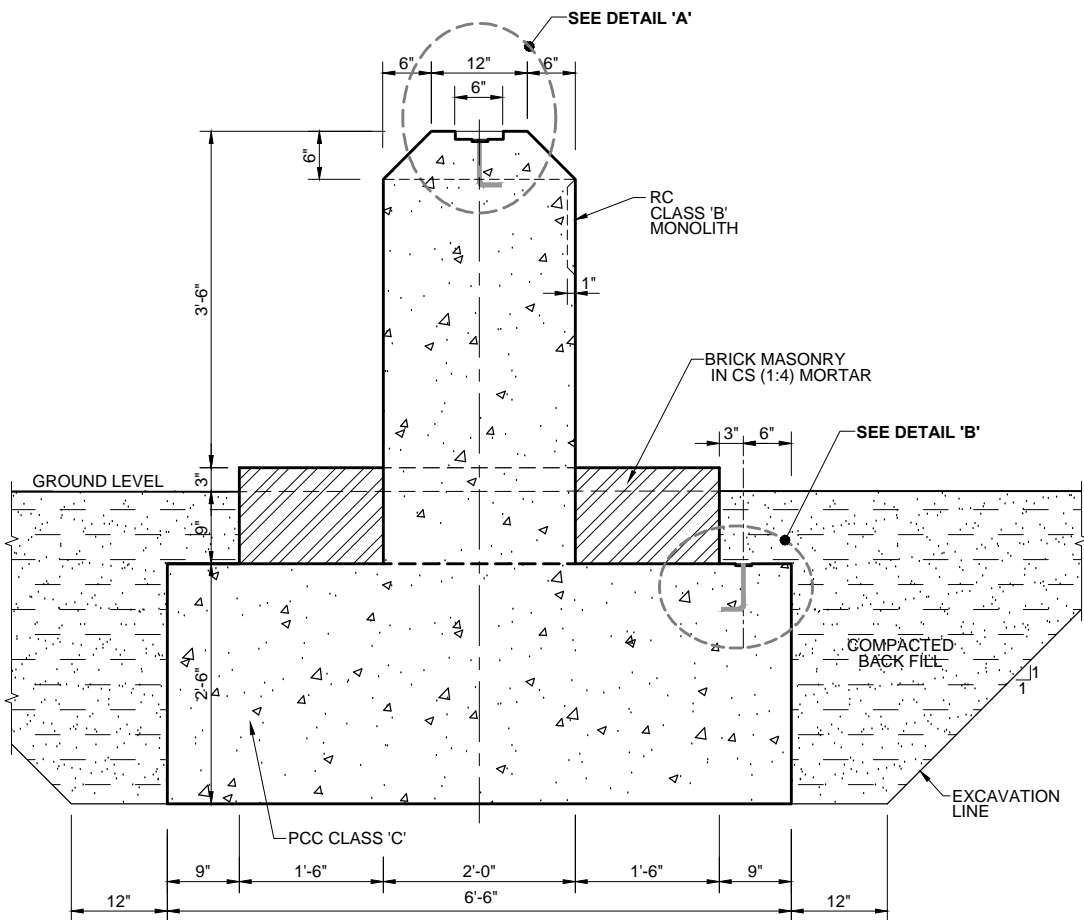
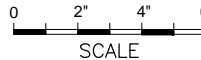


PLAN

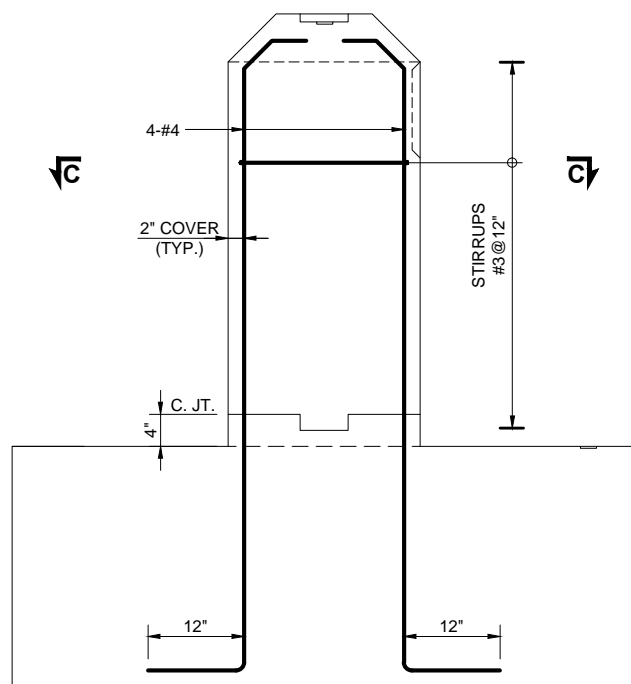


VIEW AT TOP OF BRASS RODS

LOWER MARK

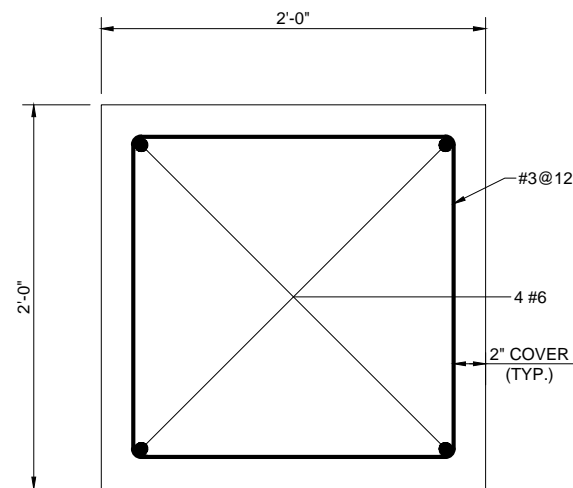


SECTION A-A



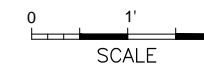
SECTION A-A

REINFORCEMENT DETAILS



SECTION C-C

NOTE
PERMANENT BENCH MARKS SHOULD BE CONSTRUCTED AT THE INTERVAL OF 5 RDS' PREFERABLY NEAR STRUCTURE OR AS DIRECTED BY THE ENGINEER.



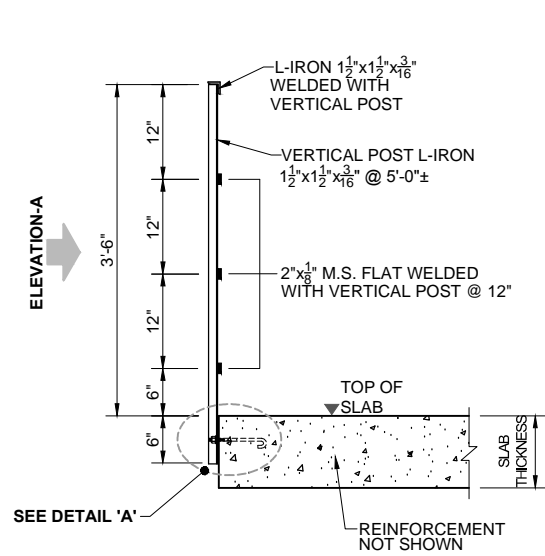
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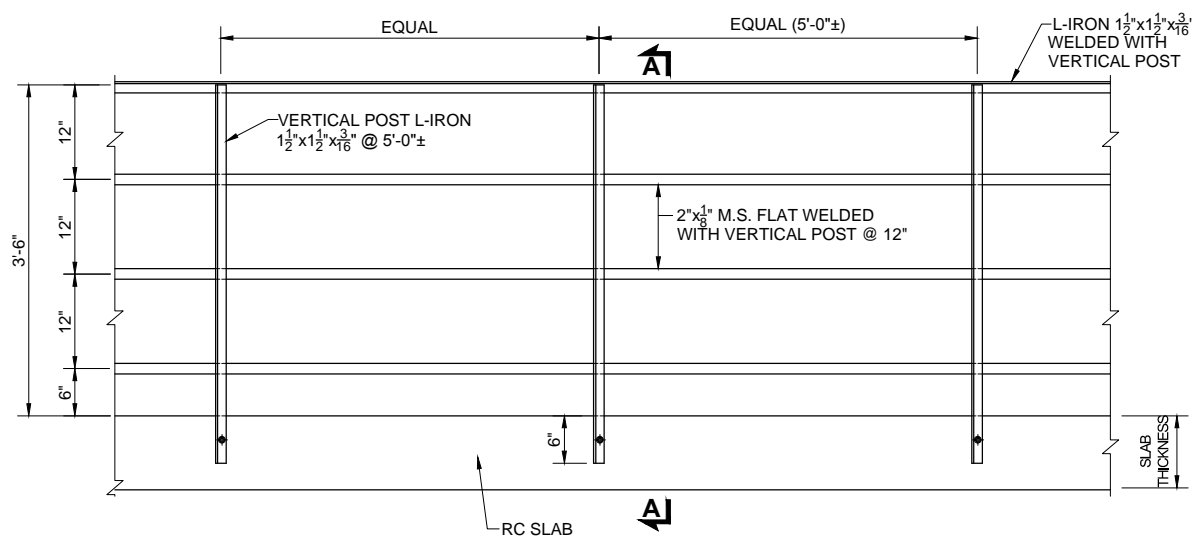
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
MISCELLANEOUS DRAWINGS
PERMANENT BENCH MARK
PLANS, SECTIONS AND DETAILS
DATE: MAR., 2021
DWG. NO.: **RWCS-1/TD/MSC/03**
REV. 0

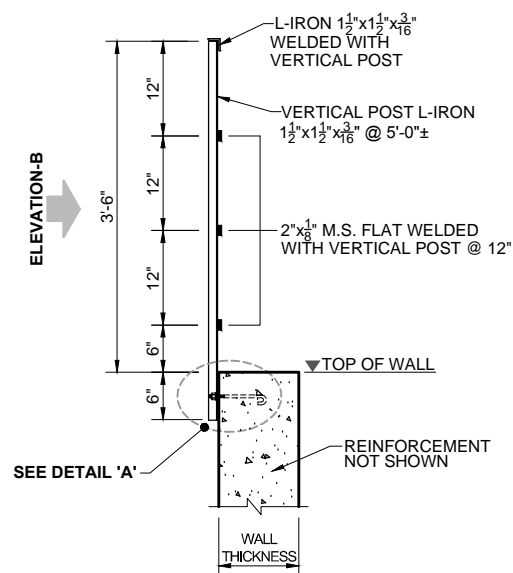


SECTION A-A

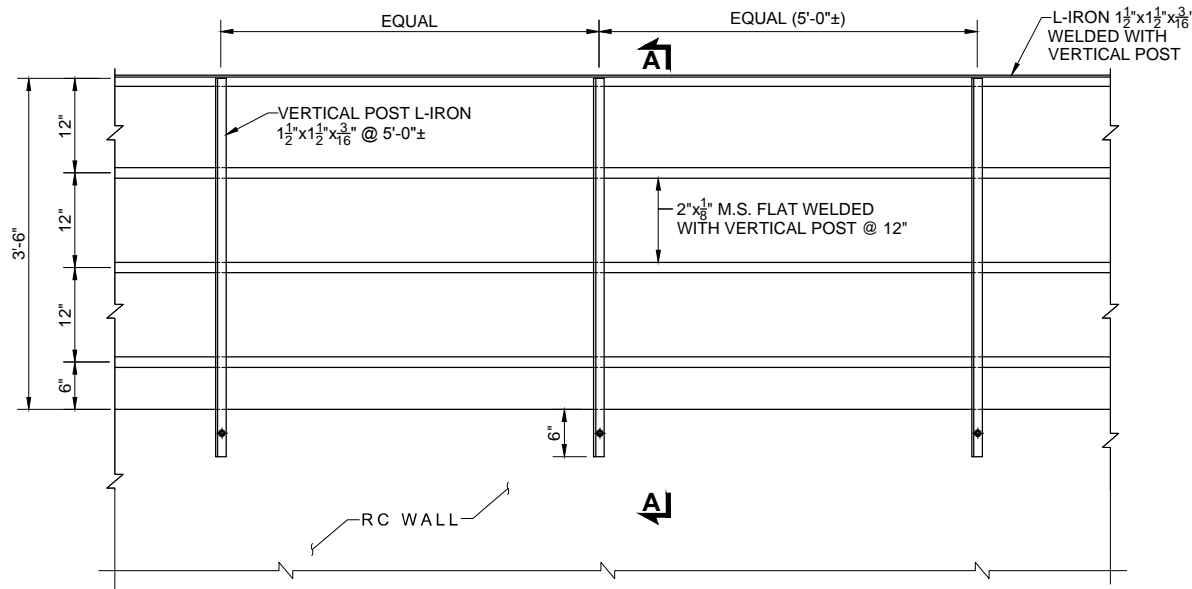


ELEVATION A

ANGLE IRON RAILING FOR SLAB

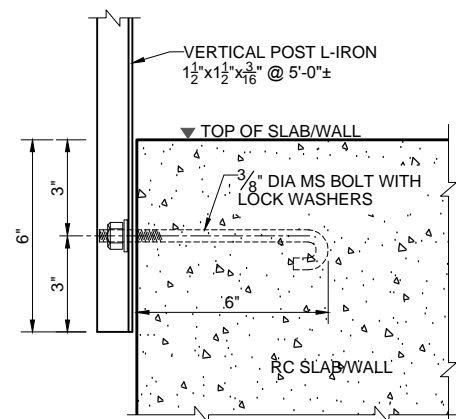


SECTION A-A

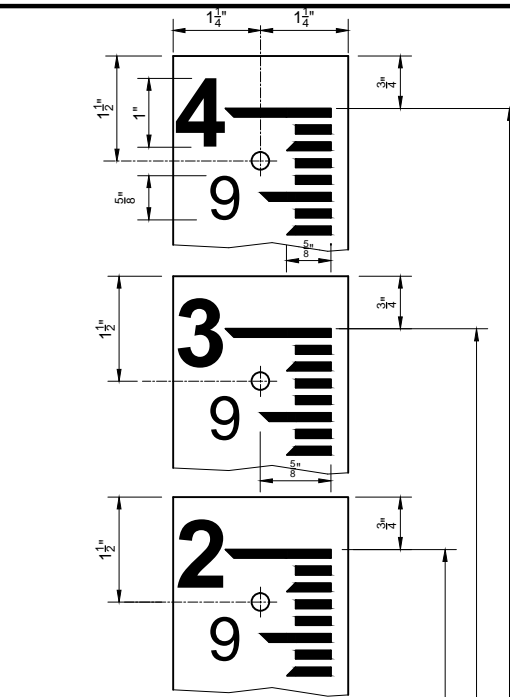


ELEVATION B

ANGLE IRON RAILING FOR WALL



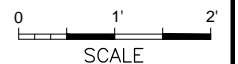
DETAIL - A



ELEVATION ENAMELLED IRON GAUGE

NOTES

- GAUGES TO BE MADE OF 18 GAUGE MILD STEEL PLATE AND TO BE COVERED WITH VITREOUS ENAMEL WITH A MINIMUM THICKNESS OF 12 MILS ON NUMERAL SIDE AND 3 MILS ON THE REVERSE SIDE AND ON EDGES WHERE PLATE HAS BEEN CUT, PUNCHED OR DRILLED.
 - ALL CUTTING, DRILLING AND PUNCHING OF THE PLATES SHALL BE COMPLETED BEFORE THE VITREOUS ENAMEL IS APPLIED.
 - THE FACE OF THE GAUGE SHALL BE WHITE AND ALL NUMERALS AND GRADUATIONS SHALL BE BLACK.
 - GRADUATIONS SHALL BE SHARP AND ACCURATE TO THE DIMENSIONS SHOWN.
 - IN CASE A GREATER LENGTH THAN 4'-0" IS REQUIRED THE DETAILS SHALL BE SIMILAR TO DETAILS SHOWN FOR SHORTER LENGTHS.
- THE DRAWING SHALL BE READ IN CONJUNCTION WITH THE OTHER REFERENCE DRAWINGS.



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INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-1
MISCELLANEOUS DRAWINGS
TYPICAL ANGLE IRON RAILING
AND E. I. GAUGE DETAILS
 DATE: MAR., 2021
 DWG. NO.: RWCS-1/TD/MSC/04
 REV. 0



**GOVERNMENT OF THE KHYBER PAKHTUNKHWA
IRRIGATION DEPARTMENT**

**REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS**

**CONTRACT NO. RWCS-1
DISTRIBUTION SYSTEM**

VOLUME – II

TENDER DRAWINGS

APRIL 2021

AJOINT VENTURE OF



**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED**

IEEEP BUILDING, 17-C-1, CIVIC CENTRE,
FAISAL TOWN, LAHORE - PAKISTAN



ELECTRA CONSULTANTS

100, SECTOR N-3, STREET 6, PHASE IV
HAYATABAD, PESHAWAR - PAKISTAN



**INTEGRATED CONSULTING
SERVICES (PVT.) LIMITED**

219-A, NEW MUSLIM TOWN,
LAHORE - PAKISTAN

REMODELING OF WARSAK CANAL SYSTEM

CONTRACT RWCS-01

LIST OF DRAWINGS

SR.	TITLE	DRAWING NO.	SR.	TITLE	DRAWING NO.
PART-II: DISTRIBUTION SYSTEM			30	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/WCO/05
D.	DISTRIBUTION SYSTEM		D.6	GLACIS FALL STRUCTURE	
D.1	PLAN & PROFILES (PP)		31	LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/GFS/01
1	DISTRIBUTION SYSTEM -PLAN AND PROFILE- LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/PP/01	32	PLAN	RWCS-01/TD/WGC/DS/GFS/02
2	PLAN - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 1+700 (SHEET 1 OF 3)	RWCS-01/TD/WGC/DS/PP/02	33	SECTIONS AND DETAILS	RWCS-01/TD/WGC/DS/GFS/03
3	PLAN - KAFOOR DEHRI MINOR - FROM RD 1+700 TO RD 3+400 (SHEET 2 OF 3)	RWCS-01/TD/WGC/DS/PP/03	34	SECTIONS	RWCS-01/TD/WGC/DS/GFS/04
4	PLAN - KAFOOR DEHRI MINOR - FROM RD 3+400 TO RD 3+783 (SHEET 2 OF 3)	RWCS-01/TD/WGC/DS/PP/04	35	TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-01/TD/WGC/DS/GFS/05
5	PLAN - KAFOOR DEHRI MINOR - CURVE DATA TABLE	RWCS-01/TD/WGC/DS/PP/05	36	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/GFS/06
6	PROFILE - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 3+783 (SHEET 1 OF 2)	RWCS-01/TD/WGC/DS/PP/06	D.7	BIFURCATOR	
7	PROFILE - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 3+783 (SHEET 2 OF 2)	RWCS-01/TD/WGC/DS/PP/07	37	LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/BF/01
D.2	CROSS SECTIONS		38	BIFURCATOR - PLAN	RWCS-01/TD/WGC/DS/BF/02
8	DISTRIBUTION SYSTEM -TYPICAL CROSS SECTIONS LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/XS/01	38	BIFURCATOR - SECTIONS	RWCS-01/TD/WGC/DS/BF/03
9	TYPICAL CROSS SECTIONS (XS) - DISTRIBUTION SYSTEM	RWCS-01/TD/WGC/DS/XS/02	39	BIFURCATOR - SECTIONS AND DETAIL	RWCS-01/TD/WGC/DS/BF/04
10	TYPICAL LINING DETAIL FOR FOR MINOR -PLAN AND SECTIONS	RWCS-01/TD/WGC/DS/XS/03	39	BIFURCATOR - TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-01/TD/WGC/DS/BF/05
11	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 1 OF 3)	RWCS-01/TD/WGC/DS/XS/04	40	BIFURCATOR - REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/BF/06
12	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 2 OF 3)	RWCS-01/TD/WGC/DS/XS/05			
13	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 3 OF 3)	RWCS-01/TD/WGC/DS/XS/06			
D.3	HEAD REGULATOR				
14	HEAD REGULATOR - PLAN	RWCS-01/TD/WGC/DS/HRM/01			
15	HEAD REGULATOR - SECTION A-A	RWCS-01/TD/WGC/DS/HRM/02			
16	HEAD REGULATOR - SECTIONS	RWCS-01/TD/WGC/DS/HRM/03			
17	HEAD REGULATOR - REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/HRM/04			
D.4	VILLAGE ROAD BRIDGE				
18	TYPICAL VILLAGE ROAD BRIDGE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/VRB/01			
19	GENERAL LAYOUT PLAN	RWCS-01/TD/WGC/DS/VRB/02			
20	TYPICAL GENERAL ARRANGEMENT PLAN	RWCS-01/TD/WGC/DS/DRB/03			
21	SECTIONS	RWCS-01/TD/WGC/DS/DRB/04			
22	SECTIONS AND DETAILS	RWCS-01/TD/WGC/DS/DRB/05			
23	TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-01/TD/WGC/DS/DRB/06			
24	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/DRB/07			
25	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/DRB/08			
D.5	WATERCOURSE OUTLET				
26	WATERCOURSE OUTLET - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/WCO/01			
27	WATERCOURSE OUTLET- PLAN AND SECTION	RWCS-01/TD/WGC/DS/WCO/02			
28	WATERCOURSE OUTLET- SECTIONS	RWCS-01/TD/WGC/DS/WCO/03			
29	TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-01/TD/WGC/DS/WCO/04			

D. DISTRIBUTION SYSTEM

D.1 PLAN AND PROFILE

LIST OF REFERENCE DRAWINGS

SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-01/TD/GD/01
2	GENERAL NOTES (2 SHEETS)	RWCS-01/TD/GD/02
3	CONTRACT PACKAGES	RWCS-01/TD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-01/TD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-01/TD/MSD/01
B. PLAN & PROFILES (PP) - REFERENCE DRAWINGS		
6	PLAN - KAFOOR DEHRIMNOR - FROM RD 0+000 TO RD 1+700 (SHEET 1 OF 3)	RWCS-01/TD/WGC/DS/PP/02
7	PLAN - KAFOOR DEHRIMNOR - FROM RD 1+700 TO RD 3+400 (SHEET 2 OF 3)	RWCS-01/TD/WGC/DS/PP/03
8	PLAN - KAFOOR DEHRIMNOR - FROM RD 3+400 TO RD 3+783 (SHEET 3 OF 3)	RWCS-01/TD/WGC/DS/PP/04
9	PLAN - KAFOOR DEHRIMNOR - CURVE DATA TABLE	RWCS-01/TD/WGC/DS/PP/05

SR.	TITLE	DRAWING NO.
10	PROFILE - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 3+783 (SHEET 1 OF 2)	RWCS-01/TD/WGC/DS/PP/06
11	PROFILE - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 3+783 (SHEET 2 OF 2)	RWCS-01/TD/WGC/DS/PP/07

STRUCTURE CATEGORY LEGEND

CATEGORY-1: DISMANTLED AND RECONSTRUCT THE SAME

RB(VRB)-DR => ROAD BRIDGE FOR VILLAGE ROAD, DISMANTLED AND RECONSTRUCTED

RB(DRB)-DR => ROAD BRIDGE FOR DISTRICT ROAD, DISMANTLED AND RECONSTRUCTED

FTB-DR => FOOT BRIDGE, DISMANTLED AND RECONSTRUCTED

HTC(DC-I)-DR => HILL TORRENT CROSSING-DRAINAGE CULVERT (TYPE-I), DISMANTLED AND RECONSTRUCTED

CATEGORY-2: DISMANTLED ONLY

RB(VRB)-D => ROAD BRIDGE FOR VILLAGE ROAD, DISMANTLED

WCC-D => WATER COURSE CROSSING, DISMANTLED

HTC(DC-I)-D => HILL TORRENT CROSSING-DRAINAGE CULVERT (TYPE-I), DISMANTLED

CATEGORY-3: DISMANTLED AND RECONSTRUCT THE NEW TYPE

FTB-D, RB(VRB)-R => FOOT BRIDGE DISMANTLED AND ROAD BRIDGE FOR VILLAGE ROAD RECONSTRUCTED

RB(VRB)-DR => ROAD BRIDGE FOR VILLAGE ROAD, DISMANTLED AND RECONSTRUCTED

HTC(AQ)-D, HTC(DC-II)-R => HILL TORRENT CROSSING (AQUEDUCT) DISMANTLED AND DRAINAGE CULVERT (TYPE-II) RECONSTRUCTED

CATEGORY-4: RETAINED

FTB-RET. => FOOT BRIDGE RETAINED

RB(VRB)-RET. => ROAD BRIDGE FOR VILLAGE ROAD RETAINED

HTC(SYN)-RET. => HILL TORRENT CROSSING (SYPHON) RETAINED

CATEGORY-5: REPAIRS

FTB-REP. => FOOT BRIDGE REPAIRED

RB(VRB)-REP. => ROAD BRIDGE FOR VILLAGE ROAD REPAIRED





HTC(DC-I)-REP. => HILL TORRENT CROSSING (DRAINAGE CULVERT) REPAIRED

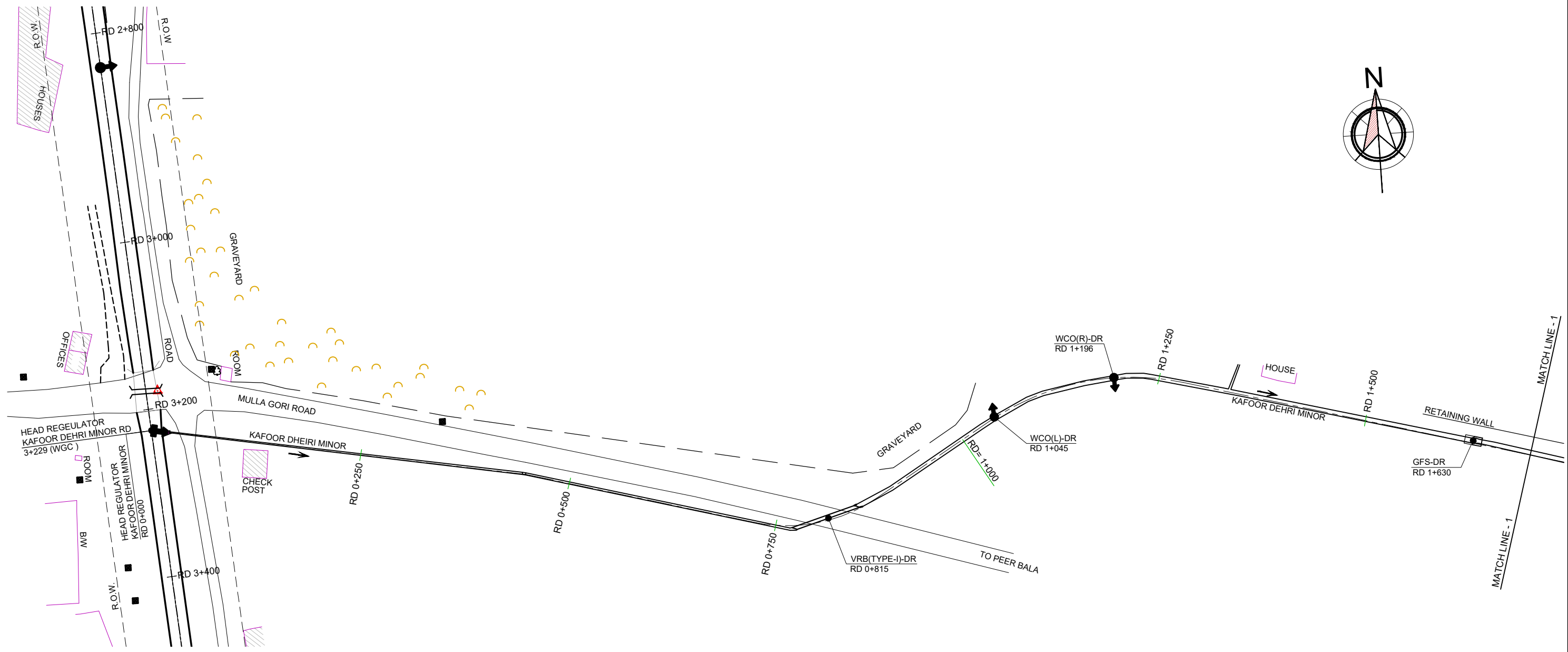
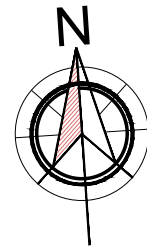
* DRAINAGE CULVERT (DC-I), EXCEPT THOSE ISSUED AS TENDER DRAWINGS, MENTIONED ON PLAN & PROFILE (P&P)

REQUIRE MISCELLANEOUS REPAIR WORKS, MEASUREMENT AND PAYMENTS SHALL BE MADE AS PER SITE CONDITIONS

OR AS DIRECTED BY THE ENGINEER.

**NOT FOR
CONSTRUCTION**

CLIENT 	IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN CHECKED RECOMMENDED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/PP/01	REV. 0
REMODELING OF WARSAK CANAL SYSTEM DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS				REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM PLAN AND PROFILE (PP) LIST OF REFERENCE DRAWINGS AND NOTES		



**NOT FOR
CONSTRUCTION**

NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-01/TD/WGC/DS/PP/01.
2. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS REFER DWG. RWCS-01/TD/GD/02.

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	



SCALE

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

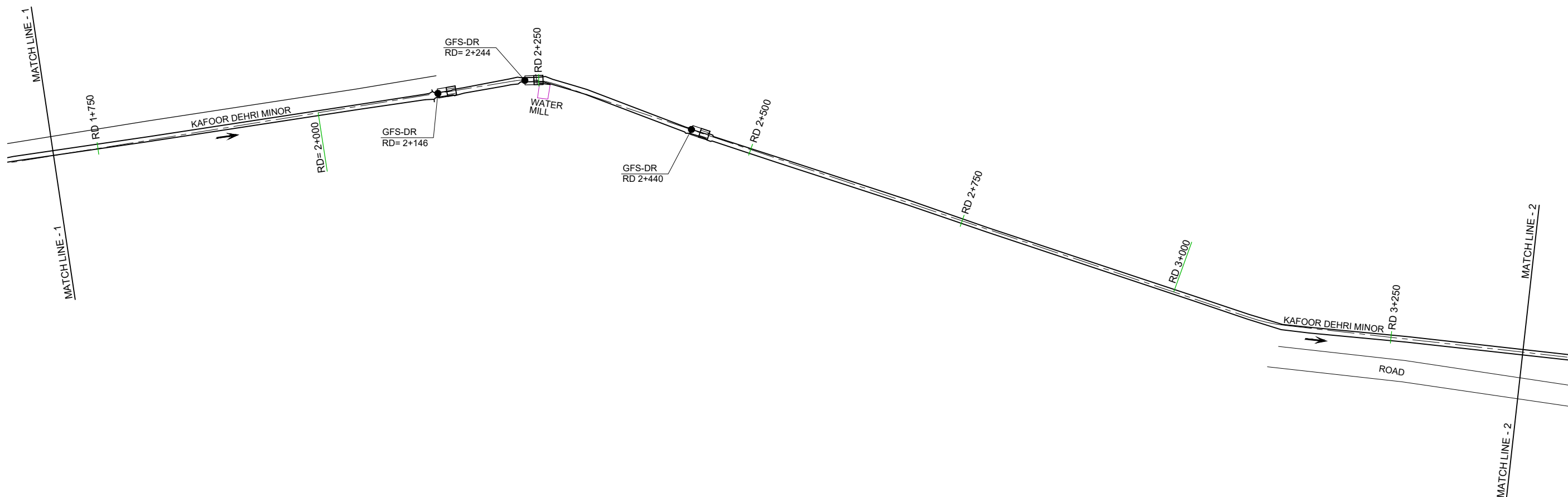
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

										DRAWN	MN
										CHECKED	
										RECOMMENDED	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED					

REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS - 01 DISTRIBUTION SYSTEM PLAN - KAFOOR DEHRI MINOR FROM RD 0+000 TO RD 1+700		
DATE	DWG. NO.	REV.
MAR., 2021	RWCS-01/TD/WGC/DS/PP/02	0

SHEET 1 OF 3



NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/PP/01.

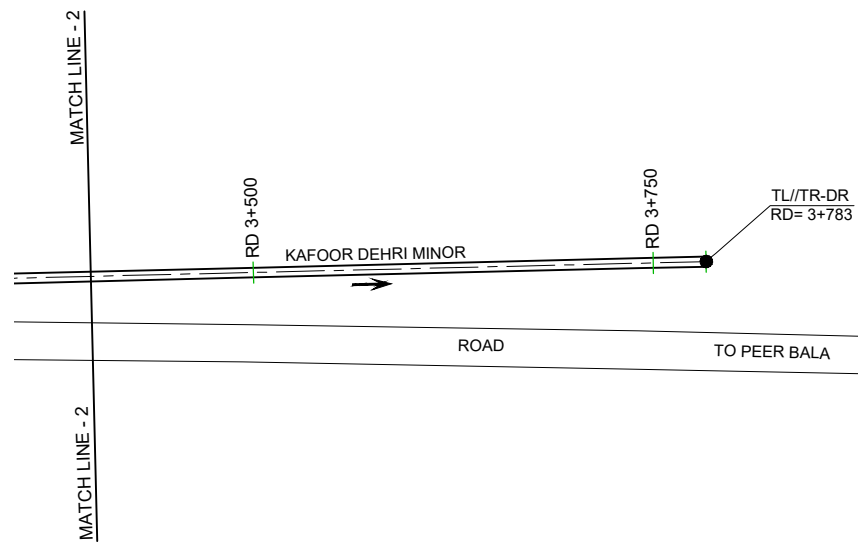
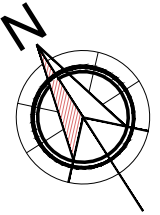
LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	



SHEET 2 OF 3


CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS							DRAWN MN CHECKED RECOMMENDED	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS - 01 DISTRIBUTION SYSTEM PLAN - KAFOOR DEHRI MINOR FROM RD 1+700 TO RD 3+400		
								DATE	DWG. NO.	REV.		
								MAR., 2021	RWCS-01/TD/WGC/DS/PP/03	0		
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED						



**NOT FOR
CONSTRUCTION**



NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/PP/01.

LEGEND

- | | | | |
|--|--|--|---|
| TRAVERSE POINT  | GRAVEYARD  | MANHOLE  | WATER PIPE LINE  |
| BUILDING  | LIGHT POLE  | TELEPHONE POLE  | TRANSFORMER  |
| TREE  | PYLON  | GAS PIPE LINE  | TRACK  |
| ELECTRIC POLE  | TUBE WELL  | TELEPHONE LINE  | ROAD  |



CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
 **NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE**
 **ELECTRA CONSULTANTS PESHAWAR**
 **INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE**

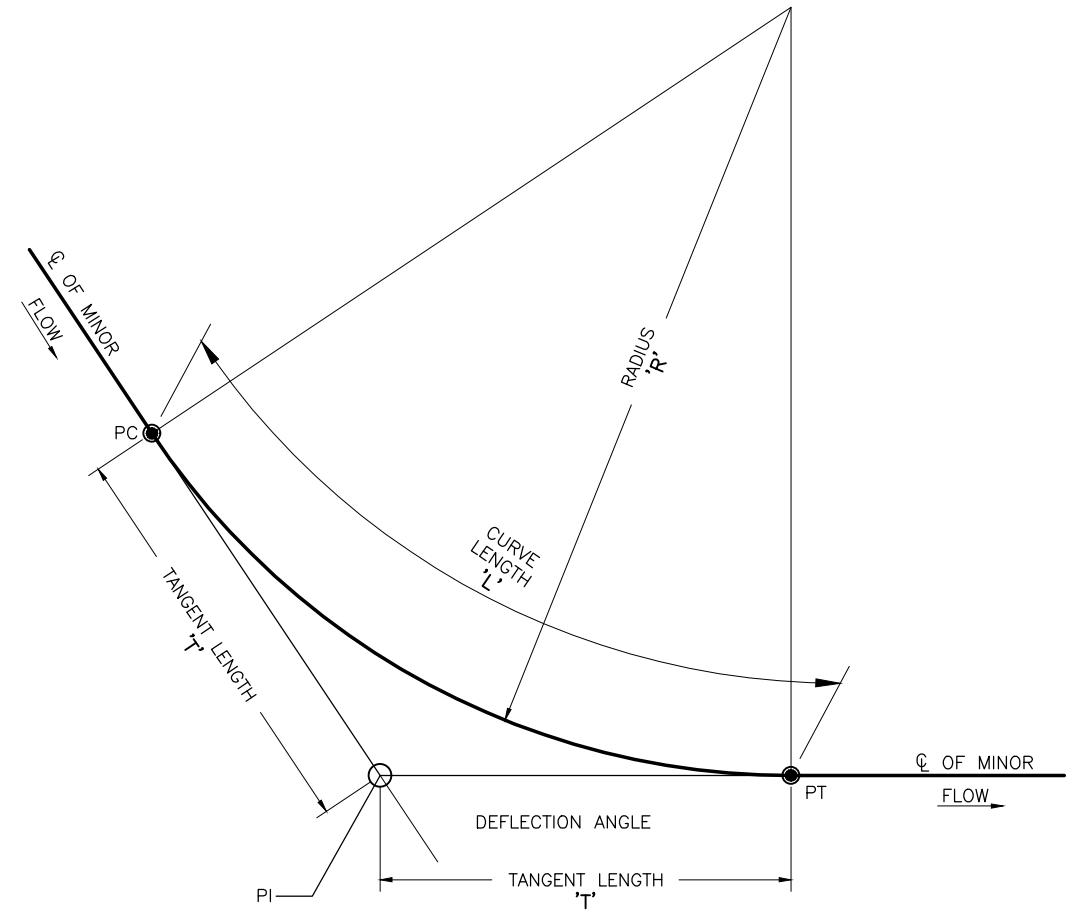
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
 DETAILED DESIGN AND CONSTRUCTION
 SUPERVISION OF REMODELING OF
 WARSAK CANAL SYSTEM
 IN
 PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DRAWN	MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS - 01 DISTRIBUTION SYSTEM PLAN - KAFOOR DEHRI MINOR FROM RD 3+400 TO RD 3+783
CHECKED		
RECOMMENDED		
DATE	DWG. NO.	REV.
MAR., 2021	RWCS-01/TD/WGC/DS/PP/04	0

CURVE DATA

PI No.	PI Station (RD)	PI Coordinates		Radius, R (ft)	Deflection Angle, θ (DMS)	Tangent Length, T (ft)	Curve Length, L (ft)	PC Station (RD)	PT Station (RD)
		N	E						
		(ft)	(ft)						
C-1	0+814.72	12393277.6185	2364927.7846	190	46 ° 4 ' 14 "	80.79	152.78	0+733.93	0+886.71
C-2	1+854.32	12393171.8076	2366301.7556	100	27 ° 47 ' 30 "	24.74	48.51	1+829.58	1+878.09
C-3	2+717.09	12392578.5454	2366930.4424	200	12 ° 11 ' 25 "	21.36	42.55	2+695.73	2+738.28

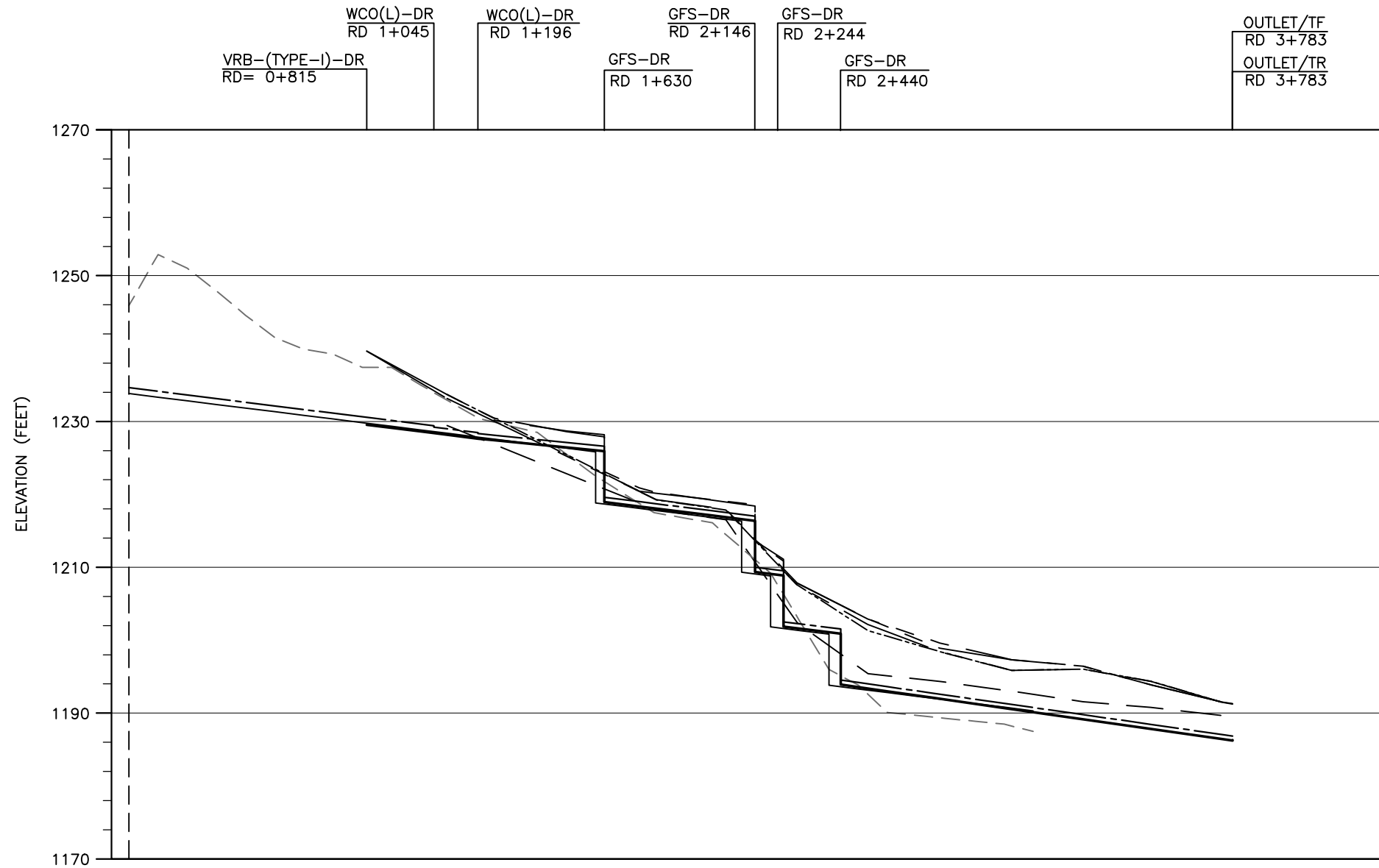


CURVE LAYOUT DETAIL

**NOT FOR
CONSTRUCTION**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/PP/01.

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN	MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS - 01 DISTRIBUTION SYSTEM KAFOOR DEHRI MINOR CURVE DATA TABLE				
			CHECKED						
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DATE	DWG. NO.	REV.
							MAR.,2021	RWCS-01/TD/WGC/DS/PP/05	0



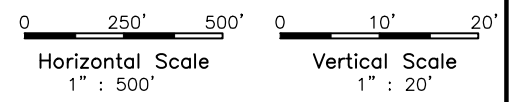
**NOT FOR
CONSTRUCTION**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/PP/01.

REDUCED DISTANCE (RD) (ft)	0+000	0+250	0+500	0+750	0+815	0+878	1+000	1+045	1+089	1+196	1+218	1+250	1+500	1+630	1+750	2+000	2+146	2+244	2+250	2+440	2+500	2+600	2+750	3+000	3+122	3+250	3+500	3+750	3+783
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LEGEND

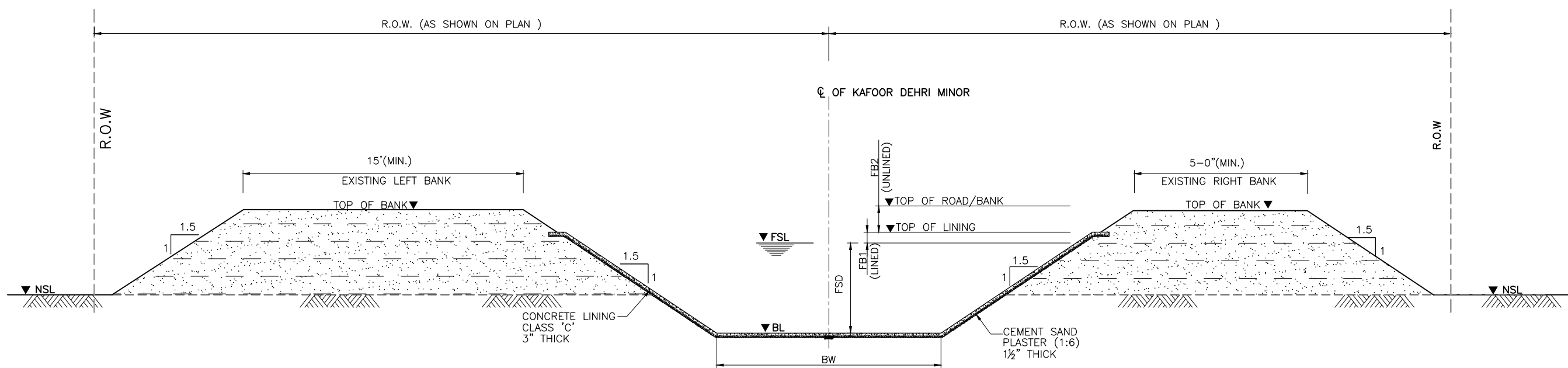
DESIGNED BANK LEVEL (RIGHT)		BED LEVEL (EXISTING)	
DESIGNED BANK LEVEL (LEFT)		BED LEVEL (AS BUILT)	
TOP OF LINING		EXISTING BANK LEVEL (RIGHT)	
DESIGNED FSL		EXISTING BANK LEVEL (LEFT)	
DESIGNED BL			
NSL (PRE BUILT)			



SHEET 2 OF 2

 CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	MA	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS -01 DISTRIBUTION SYSTEM PROFILE - KAFOOR DEHRI MINOR FROM RD 0+000 TO RD 3+783			
		REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED		DATE	DWG. NO.	REV.
										MAR., 2021	RWCS-01/TD/WGC/DS/PP/07	0

D.2 CROSS SECTION



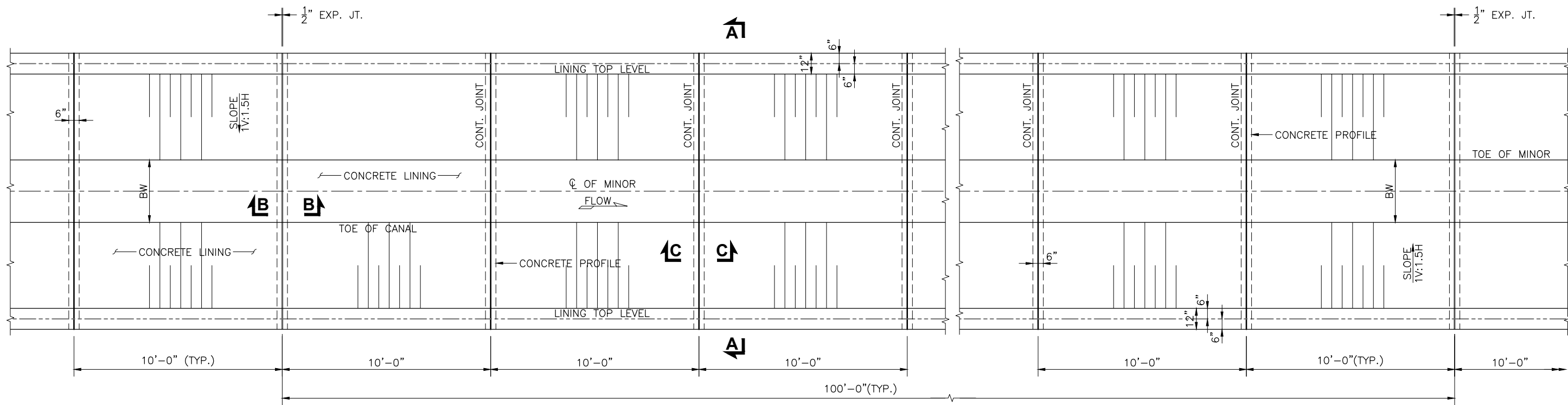
TYPICAL CROSS SECTION

**NOT FOR
CONSTRUCTION**

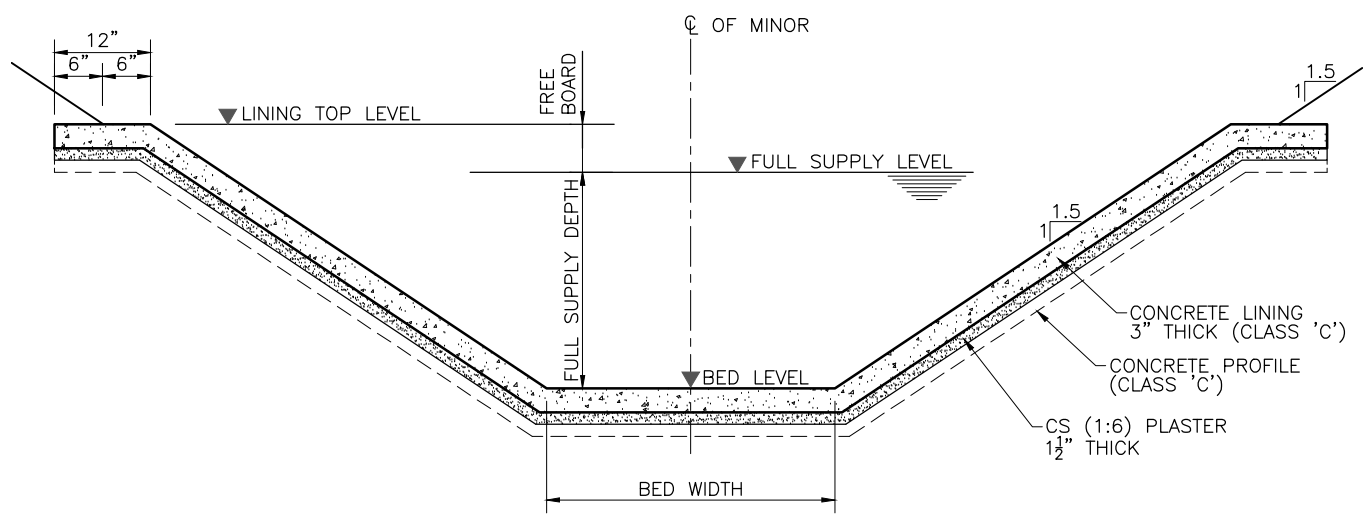
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FOR LIST OF REFERENCE DRAWINGS & NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/XS/01.

0 5' 10'
Scale

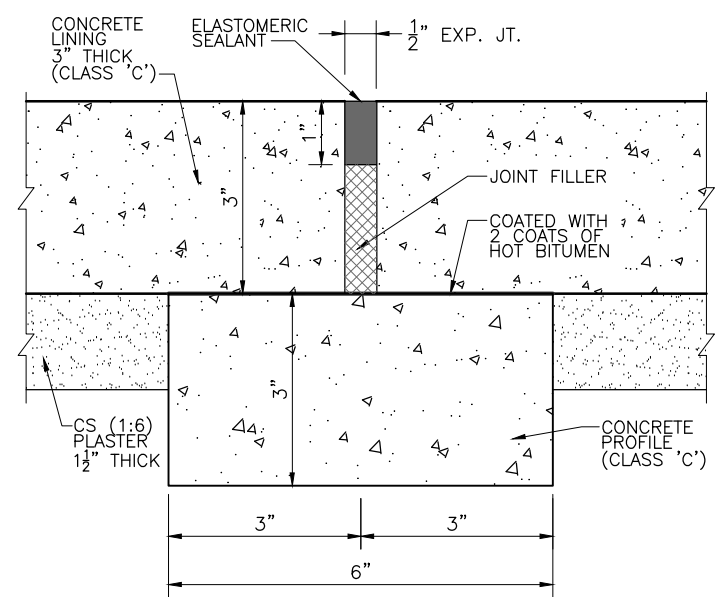
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELLING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NES NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM TYPICAL CROSS SECTIONS		
							CHECKED			
						RECOMMENDED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/XS/02	REV. 0	
						REV. DATE DESCRIPTION BY CKD. APPR. APPROVED				



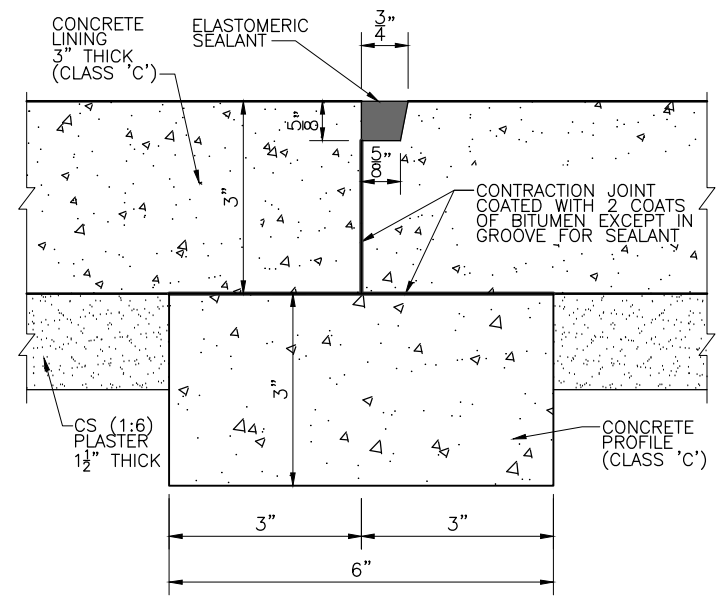
PLAN
SCALE: 1"=5'-0"



SECTION A-A
SCALE: 1"=2'-0"



SECTION B-B
EXPANSION JOINT DETAIL
SCALE: 1"=0'-3"



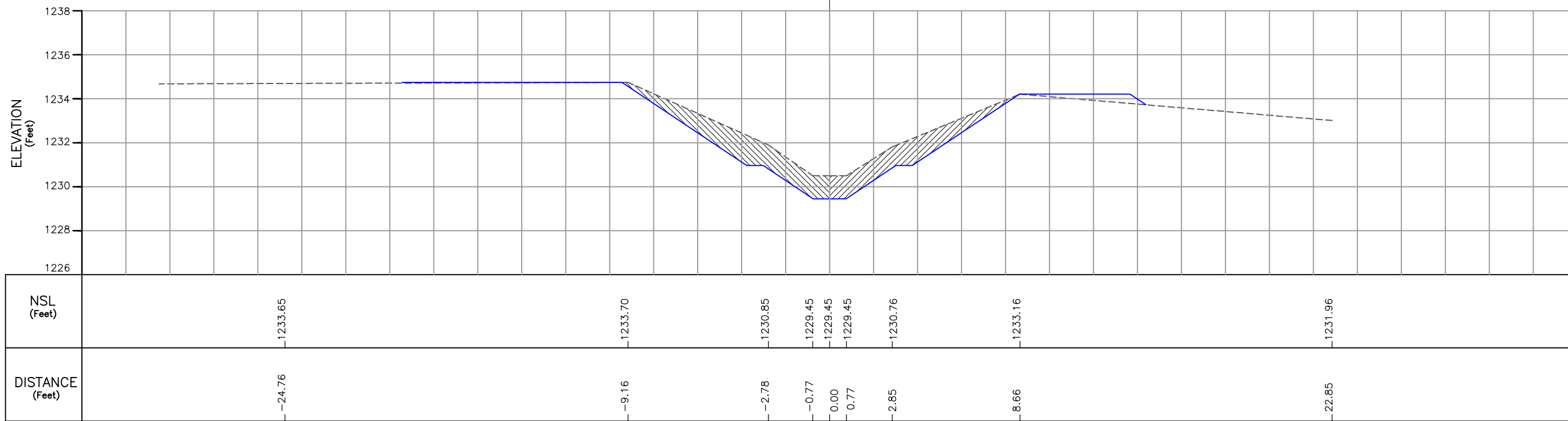
SECTION C-C
CONTRACTION JOINT DETAIL
SCALE: 1"=0'-3"

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/XS/01.

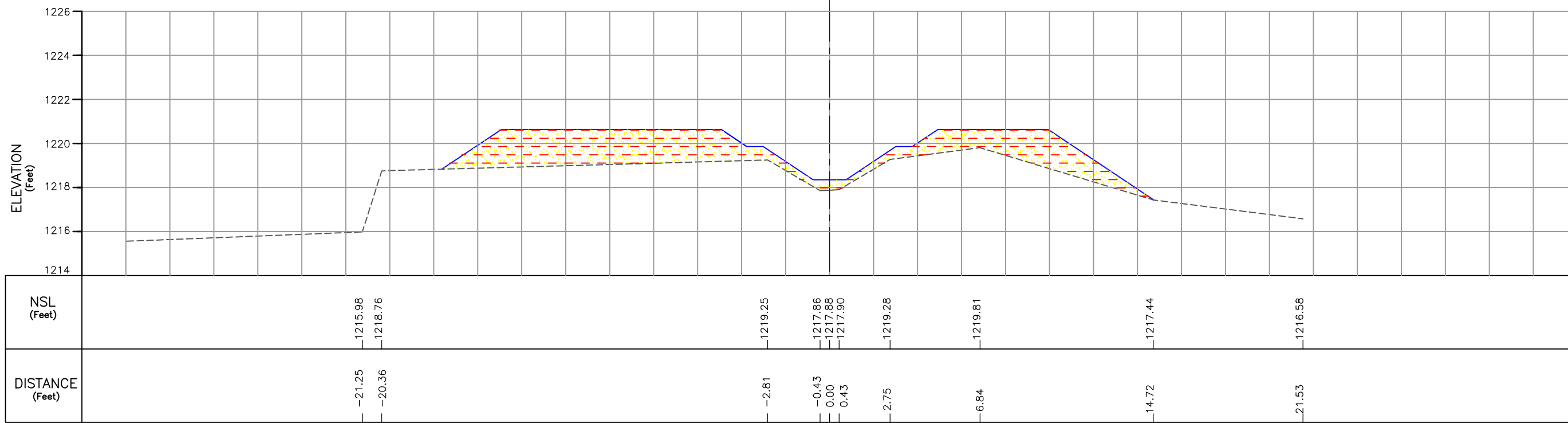
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN ND	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 TYPICAL LINING DETAILS FOR MINOR PLAN AND SECTIONS (BW<4ft)		
							CHECKED			
						RECOMMENDED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/XS/03	REV. 0	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED				

☉ OF KAFOOR DEHRI MINOR



CROSS SECTION AT RD 1+090

☉ OF KAFOOR DEHRI MINOR



CROSS SECTION AT RD 1+808

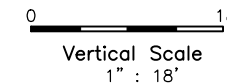
LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

**NOT FOR
CONSTRUCTION**

NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-01/TD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

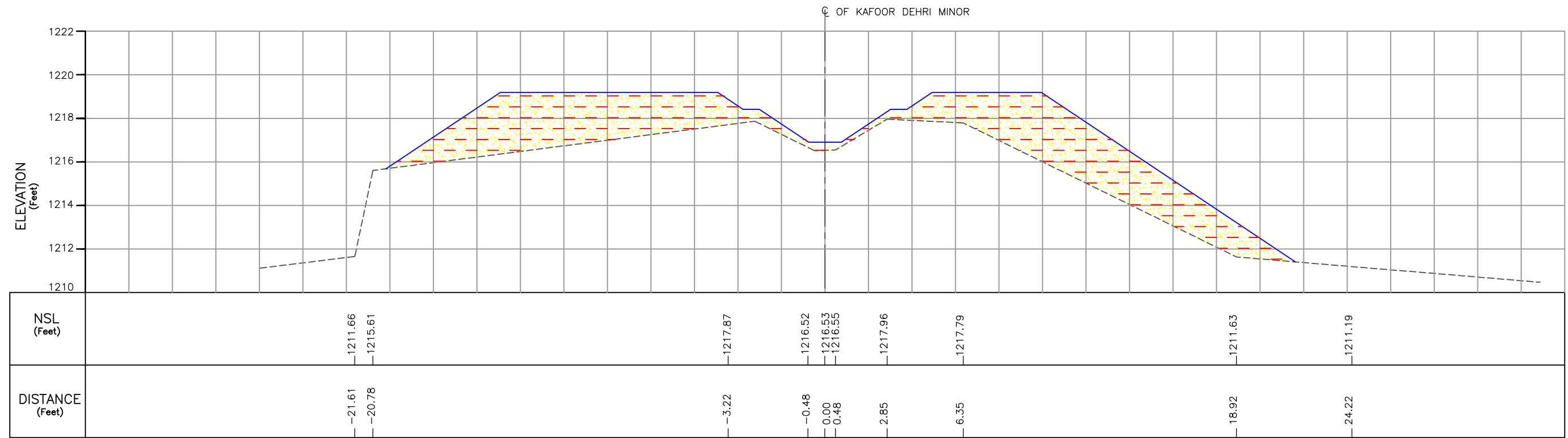
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

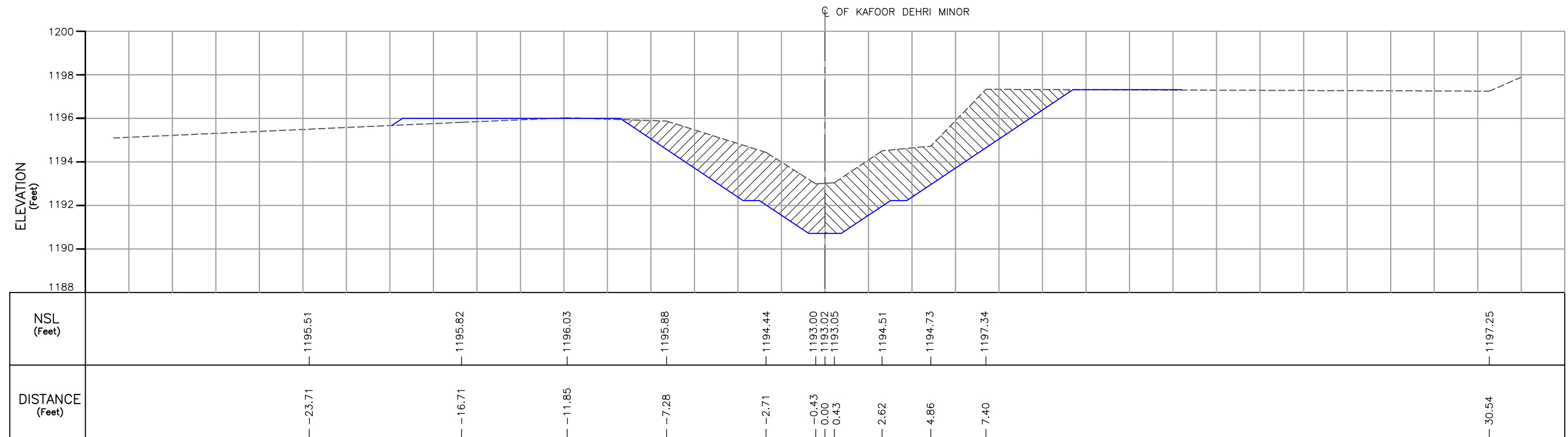
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM
DESIGNED SECTIONS SUPERIMPOSED ON
EXISTING SECTIONS-KAFOOR DEHRI MINOR

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-01/TD/WGC/DS/XS/04	0



CROSS SECTION AT RD 2+046



CROSS SECTION AT RD 3+026

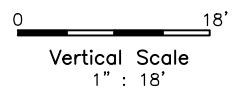
LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

NOT FOR
CONSTRUCTION

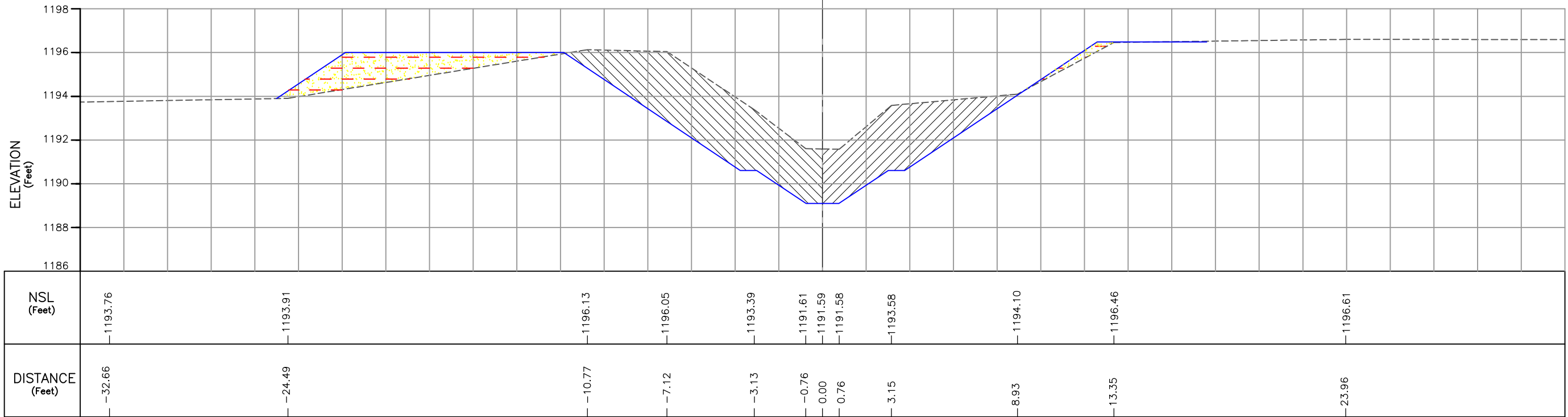
NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-01/TD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.



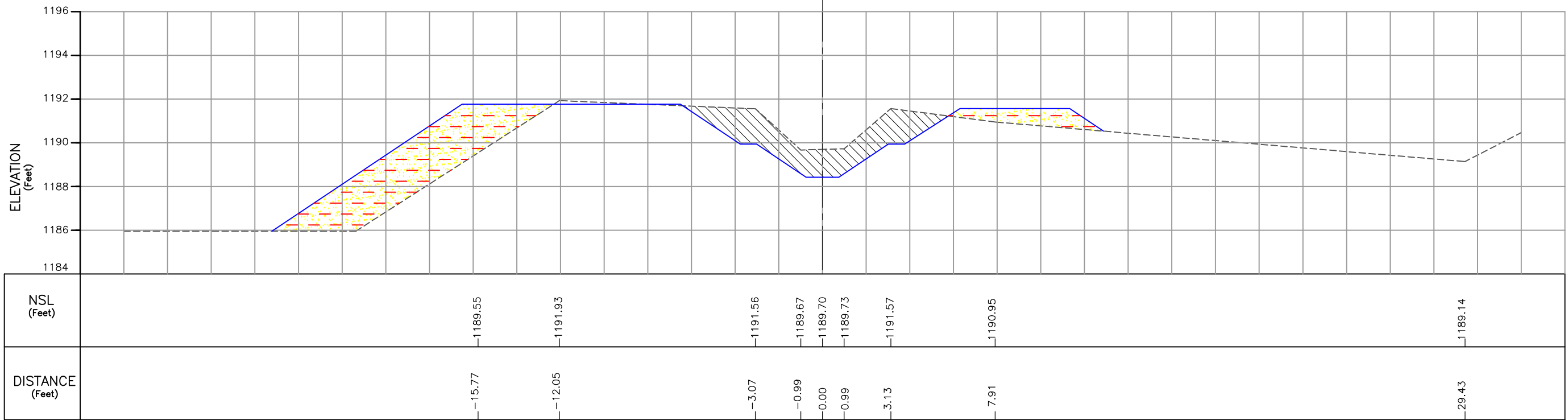
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	MA

CL OF KAFOOR DEHRI MINOR



CROSS SECTION AT RD 3+269

CL OF KAFOOR DEHRI MINOR



CROSS SECTION AT RD 3+742

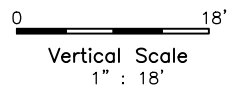
LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

**NOT FOR
CONSTRUCTION**

NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-01/TD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.



SHEET 3 OF 3

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

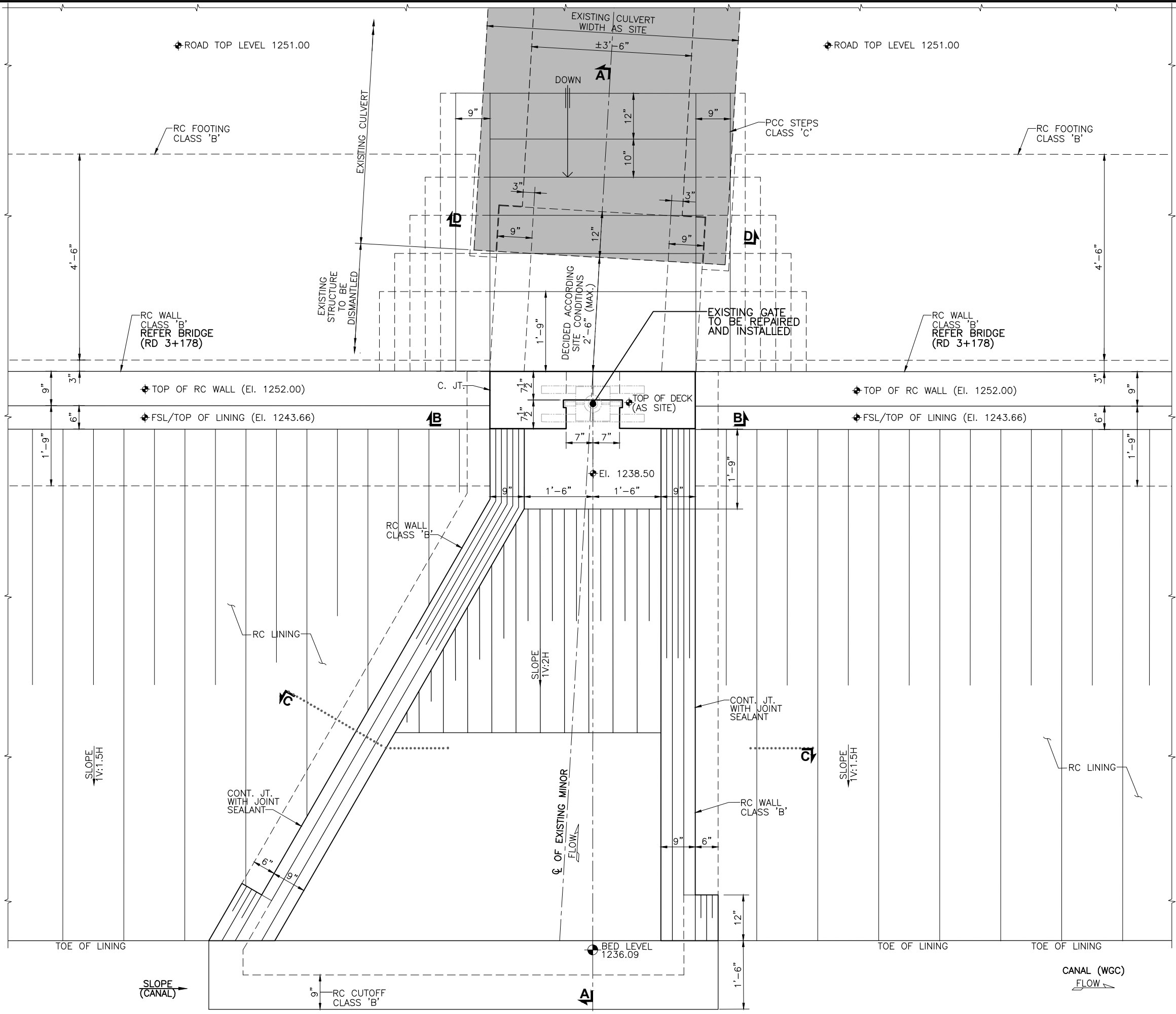
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	MA

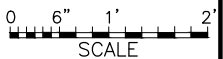
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM
DESIGNED SECTIONS SUPERIMPOSED ON
EXISTING SECTIONS-KAFOOR DEHRI MINOR

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-01/TD/WGC/DS/XS/06	0

D.3 HEAD REGULATOR



NOT FOR CONSTRUCTION



CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK CANALS PROJECT
 PESHAWAR

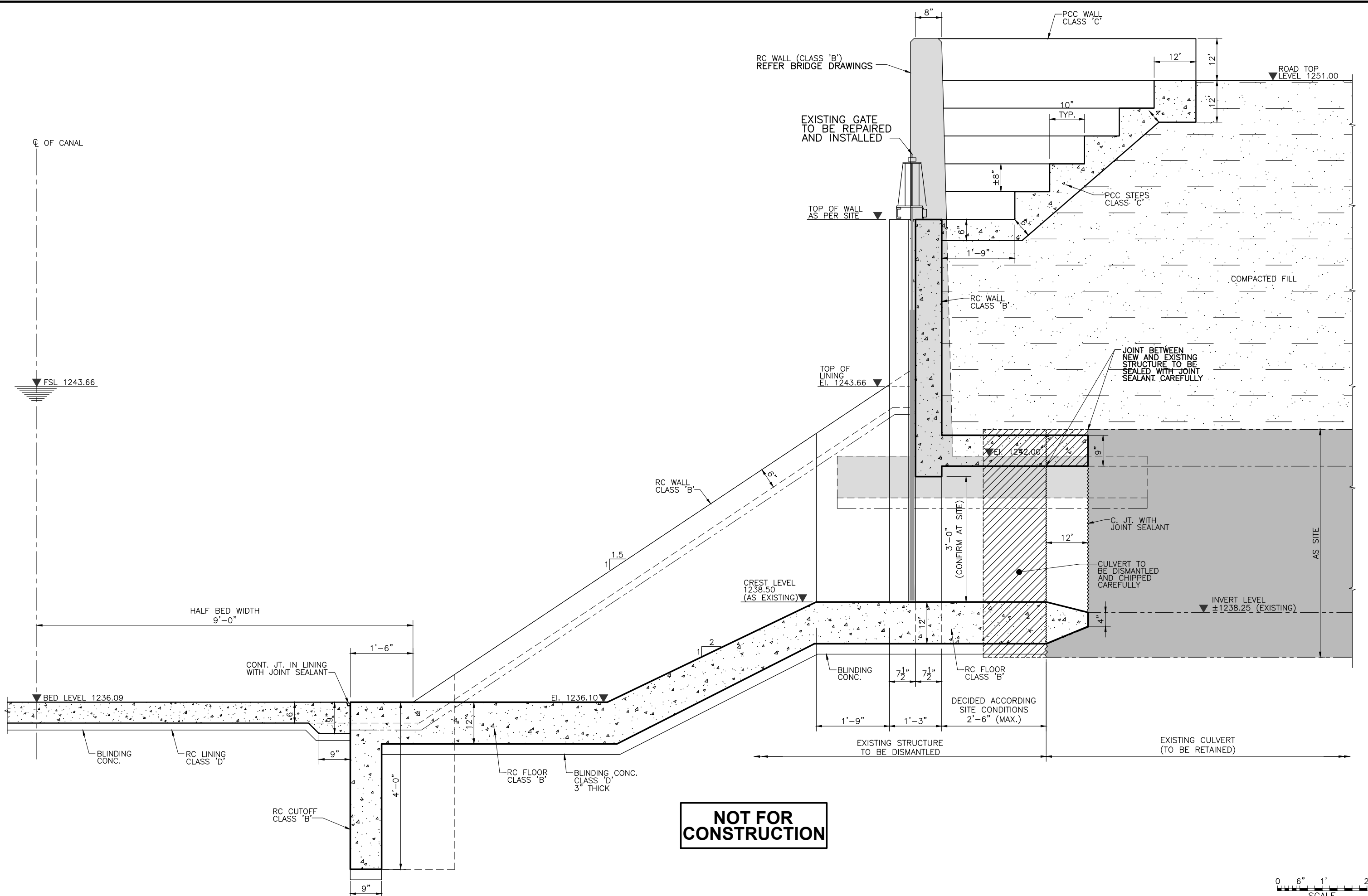
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
 WARSAK GRAVITY CANAL
 HEAD REGULATOR
 KAFOOR DHERI MINOR AT RD 3+229
PLAN

DATE: MAR., 2021
 DWG. NO.: RWCS-01/TD/WGC/DS/HRM/01
 REV. 0



NOT FOR CONSTRUCTION



CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

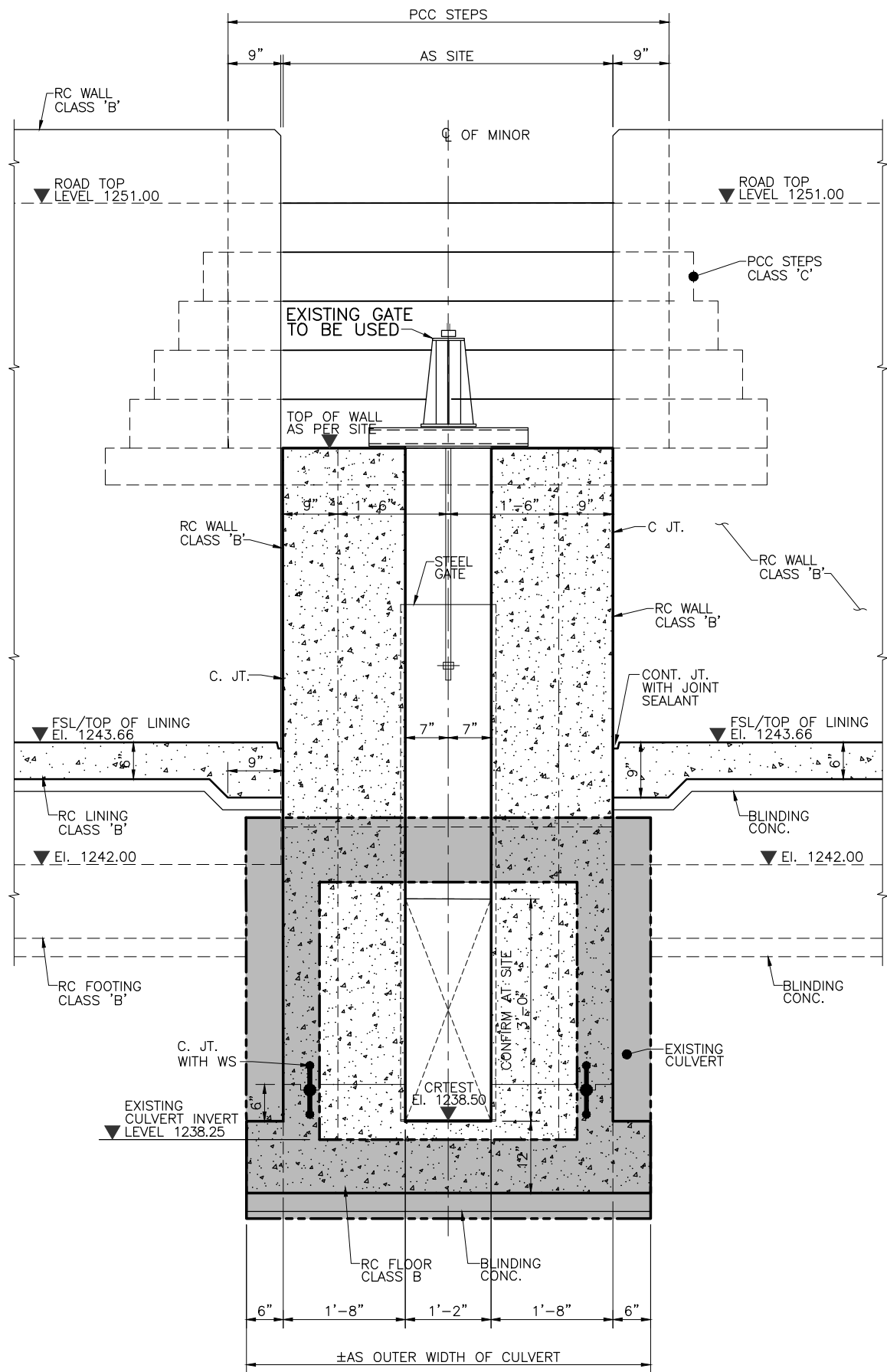
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

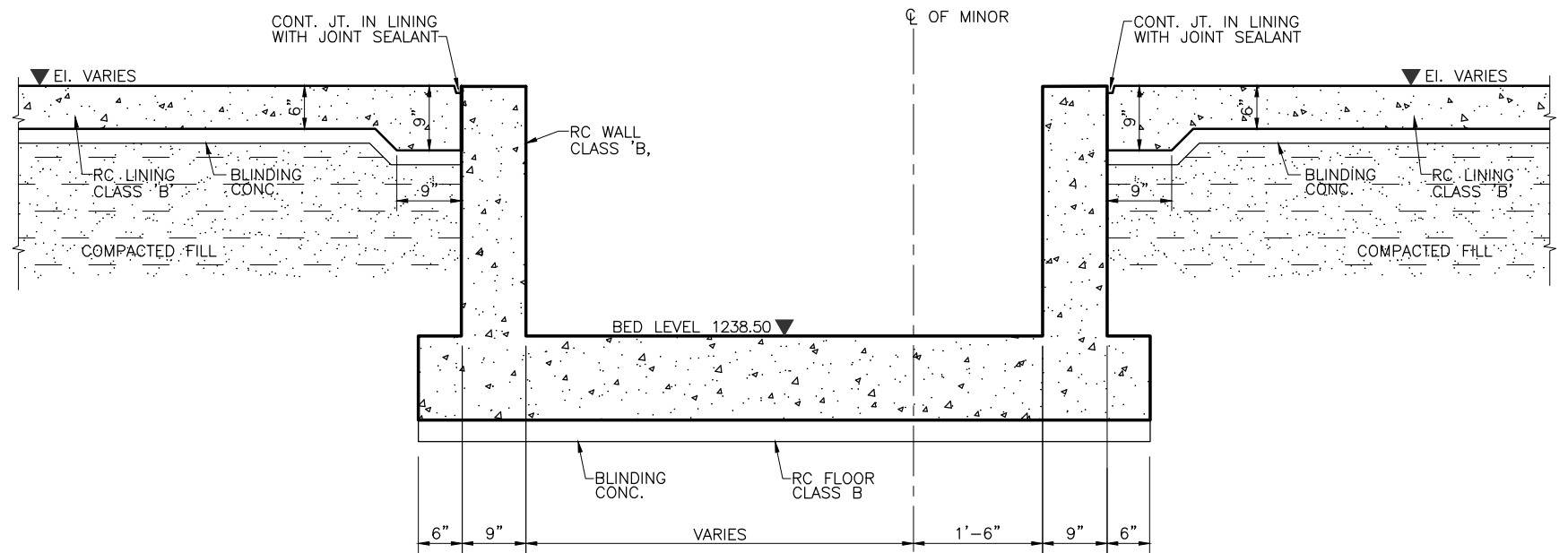
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
 WARSAK GRAVITY CANAL
 HEAD REGULATOR
 KAFOOR DHERI MINOR AT RD 3+229
SECTION A-A

DATE	DWG. NO.	REV.
MAR., 2021	RWCS-01/TD/WGC/DS/HRM/02	0

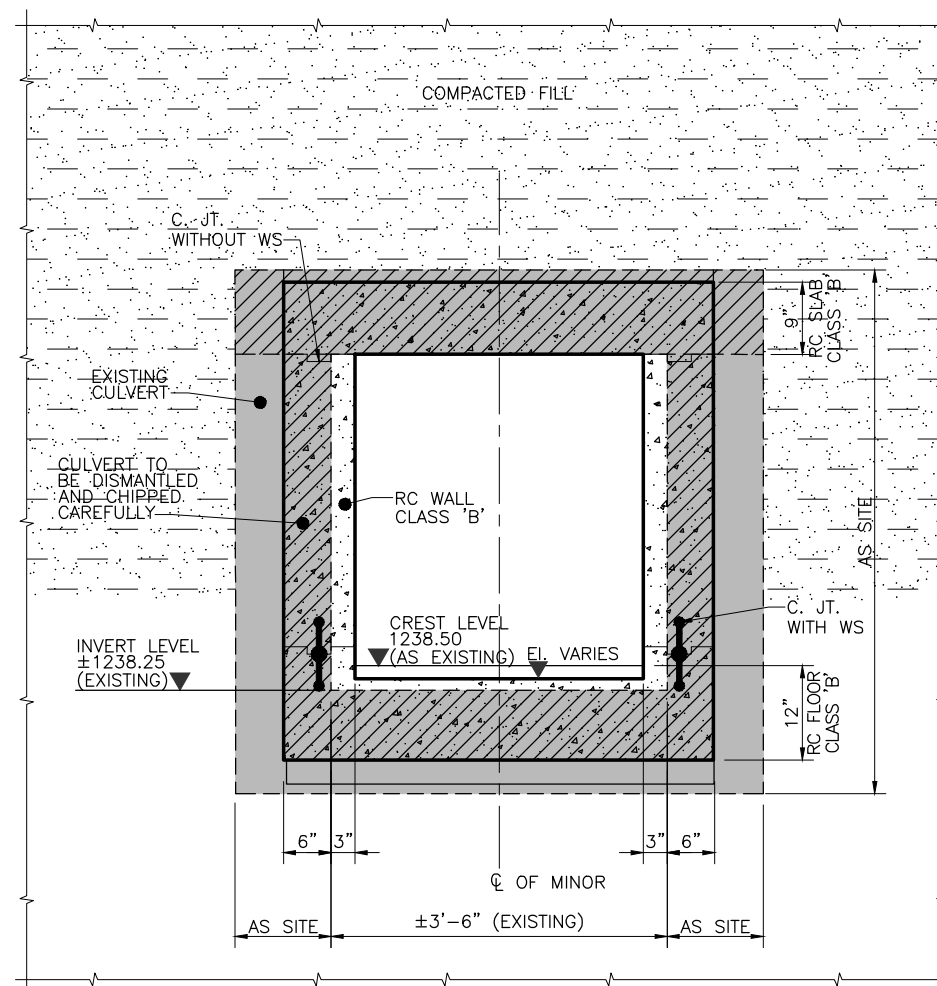
DRAWN	Ishtiaq
CHECKED	
RECOMMENDED	



SECTION B - B

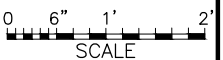


SECTION C - C

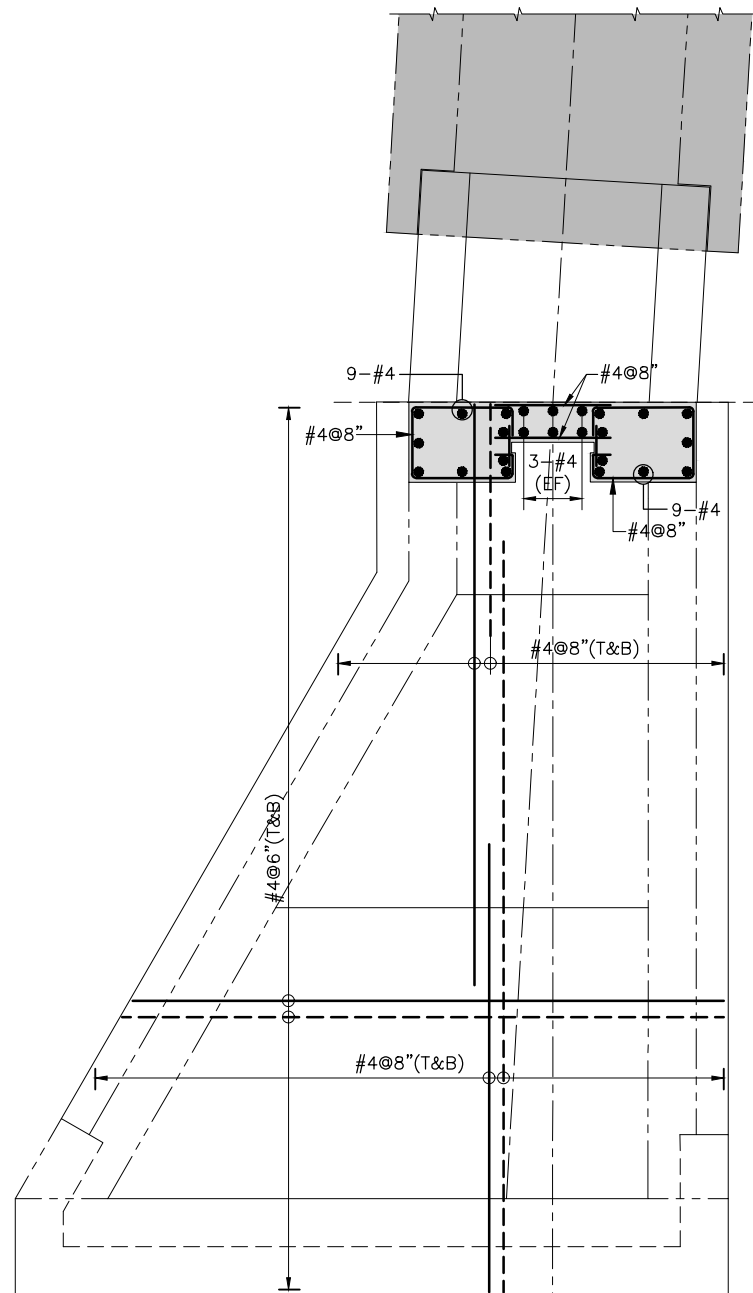


SECTION D - D

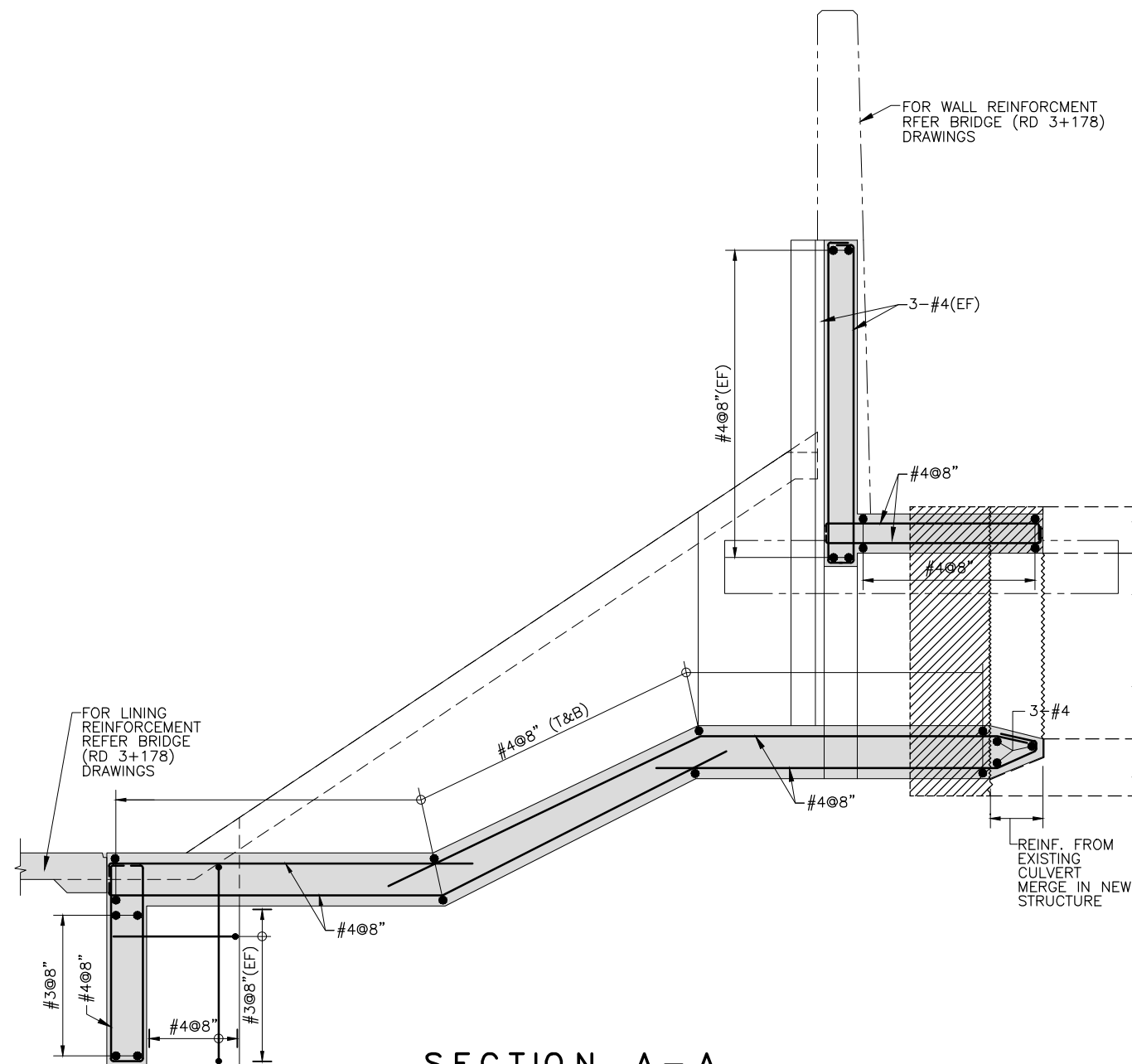
NOT FOR CONSTRUCTION



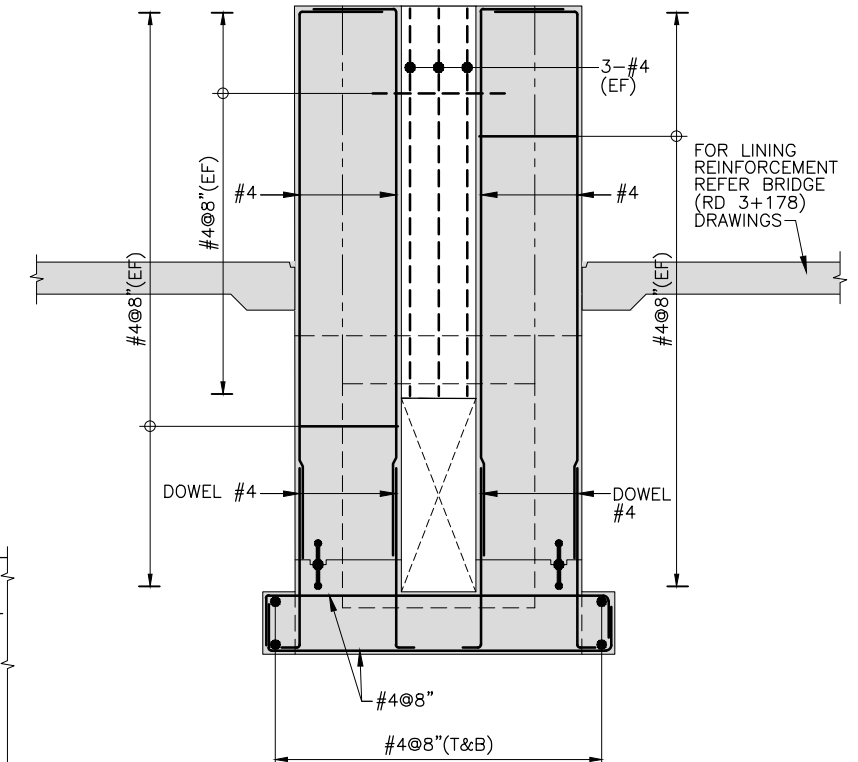
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED



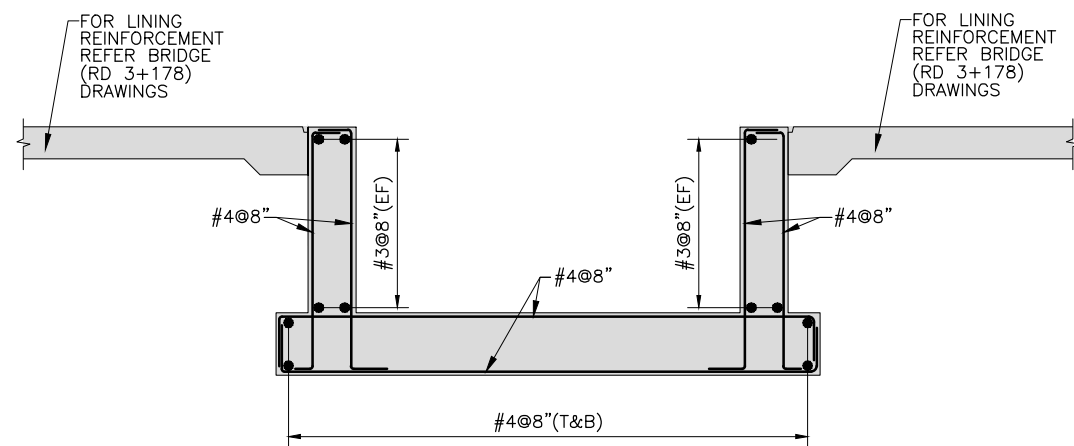
PLAN



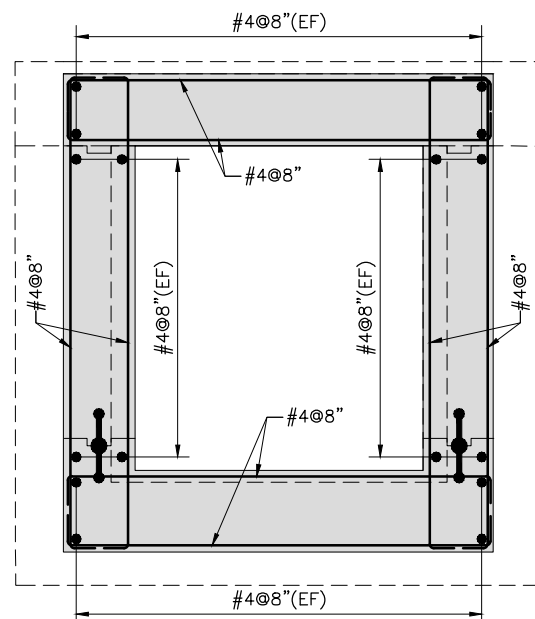
SECTION A - A



SECTION B - B



SECTION C - C



SECTION D - D

NOT FOR CONSTRUCTION



CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
 PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
 PESHAWAR**
**ICCS INTEGRATED CONSULTING SERVICES
 (PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	Ishtiaq
							CHECKED	
							RECOMMENDED	

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
 WARSAK GRAVITY CANAL
 HEAD REGULATOR
 KAFOOR DHERI MINOR AT RD 3+229
REINFORCEMENT DETAILS
 DATE: MAR., 2021
 DWG. NO.: RWCS-01/TD/WGC/DS/HRM/04
 REV: 0

D.4 VILLAGE ROAD BRIDGE

LIST OF REFERENCE DRAWINGS





SR.	TITLE	DRAWING NO.
A.	GENERAL REFERENCES	
1	PROJECT AREA MAP	RWCS-01/TD/GD/01
2	GENERAL NOTES	RWCS-01/TD/GD/02
3	CONTRACT PACKAGES	RWCS-01/TD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-01/TD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-01/TD/MSD/01
6	WARSAK GRAVITY CANAL - DISTRIBUTION SYSTEM - PLAN & PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/PP/01
7	WARSAK GRAVITY CANAL - TYPICAL CROSS SECTIONS - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/DS/XS/01

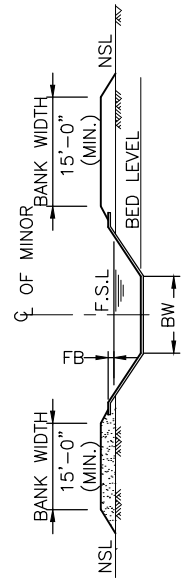
SR.	TITLE	DRAWING NO.
B.	DISTRIBUTION SYSTEM - VILLAGE ROAD BRIDGE - REFERENCE DRAWINGS	
1	GENERAL LAYOUT PLAN	RWCS-01/TD/WGC/DS/VRB/02
2	TYPICAL GENERAL ARRANGEMENT PLAN	RWCS-01/TD/WGC/DS/VRB/03
3	SECTIONS	RWCS-01/TD/WGC/DS/VRB/04
4	SECTIONS AND DETAILS	RWCS-01/TD/WGC/DS/VRB/05
5	TABLE OF DIMENSIONS AND ELEVATIONS	RWCS-01/TD/WGC/DS/VRB/06
6	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/VRB/07
7	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/VRB/08

NOTES

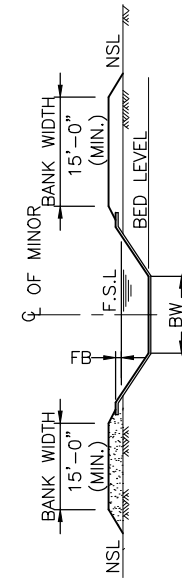
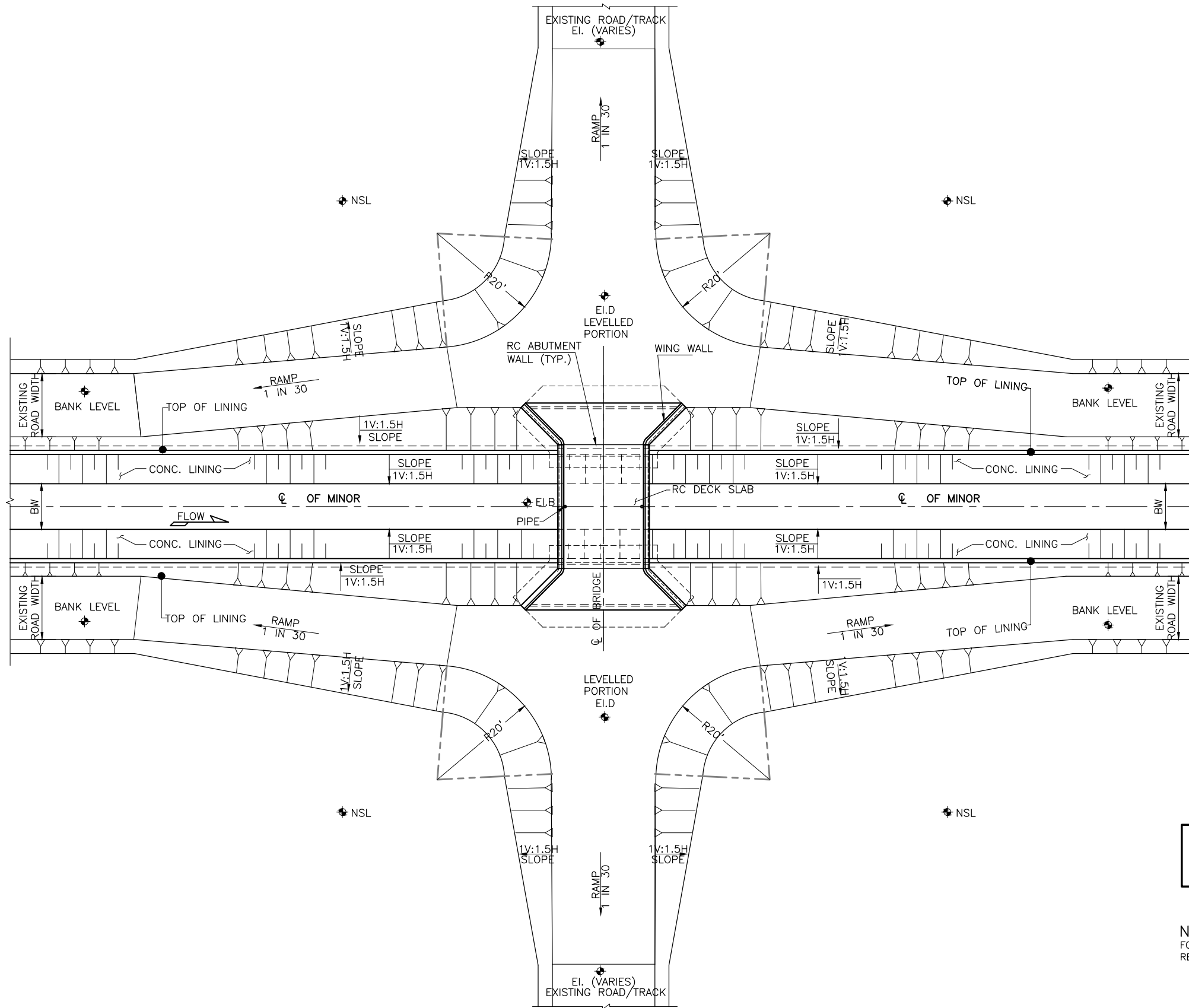
- 1 LOCATION OF STRUCTURES IS TENTATIVE AND SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- 2 FOR ELEVATIONS AND DIMENSIONS SHOWN ON DRAWINGS, REFER TO TABLE OF ELEVATIONS AND DIMENSIONS.
- 3 EXCAVATED MATERIAL SUITABLE FOR EMBANKMENT FILL SHALL BE USED FOR COMPACTED EMBANKMENTS.
- 4 EARTH FILL IN EMBANKMENTS SHALL BE COMPACTED AS PER SPECIFICATIONS.
- 5 THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95 % OF DRY DENSITY.
- 6 THE EARTHEN RAMPS AROUND THE STRUCTURE SHALL HAVE SLOPE OF 1:30.
- 7 OFF TAKING ANGLE OF WATERCOURSE IS 90 DEGREE EXCEPT OTHERWISE MENTIONED.

**NOT FOR
CONSTRUCTION**

	CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN	CHECKED	RECOMMENDED	APPROVED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/VRB/01	REV. 0
	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM VILLAGE ROAD BRIDGE LIST OF REFERENCE DRAWINGS AND NOTES								REV.	



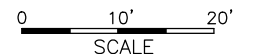
TYPICAL CROSS SECTION OF MINOR



TYPICAL CROSS SECTION OF MINOR

NOT FOR CONSTRUCTION

NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/VRB/01.



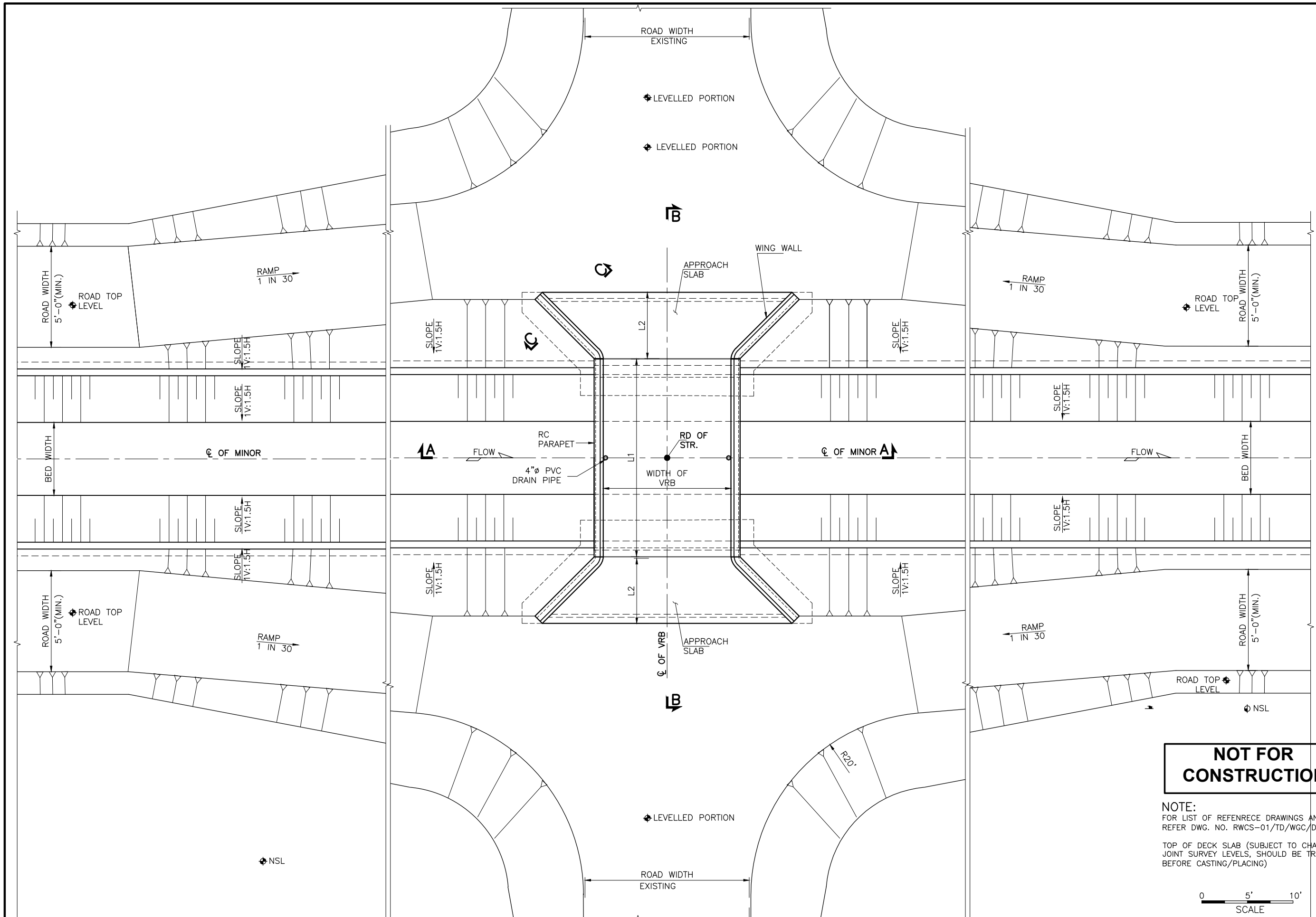
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

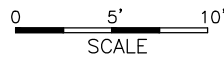
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM
VILLAGE ROAD BRIDGE
GENERAL LAYOUT PLAN
DATE: MAR., 2021
DWG. NO. RWCS-01/TD/WGC/DS/VRB/02
REV. 0



**NOT FOR
CONSTRUCTION**

NOTE:
FOR LIST OF REFERRECE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/VRB/01.
TOP OF DECK SLAB (SUBJECT TO CHANGE WIDE
JOINT SURVEY LEVELS, SHOULD BE TRANSMITTED
BEFORE CASTING/PLACING)



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

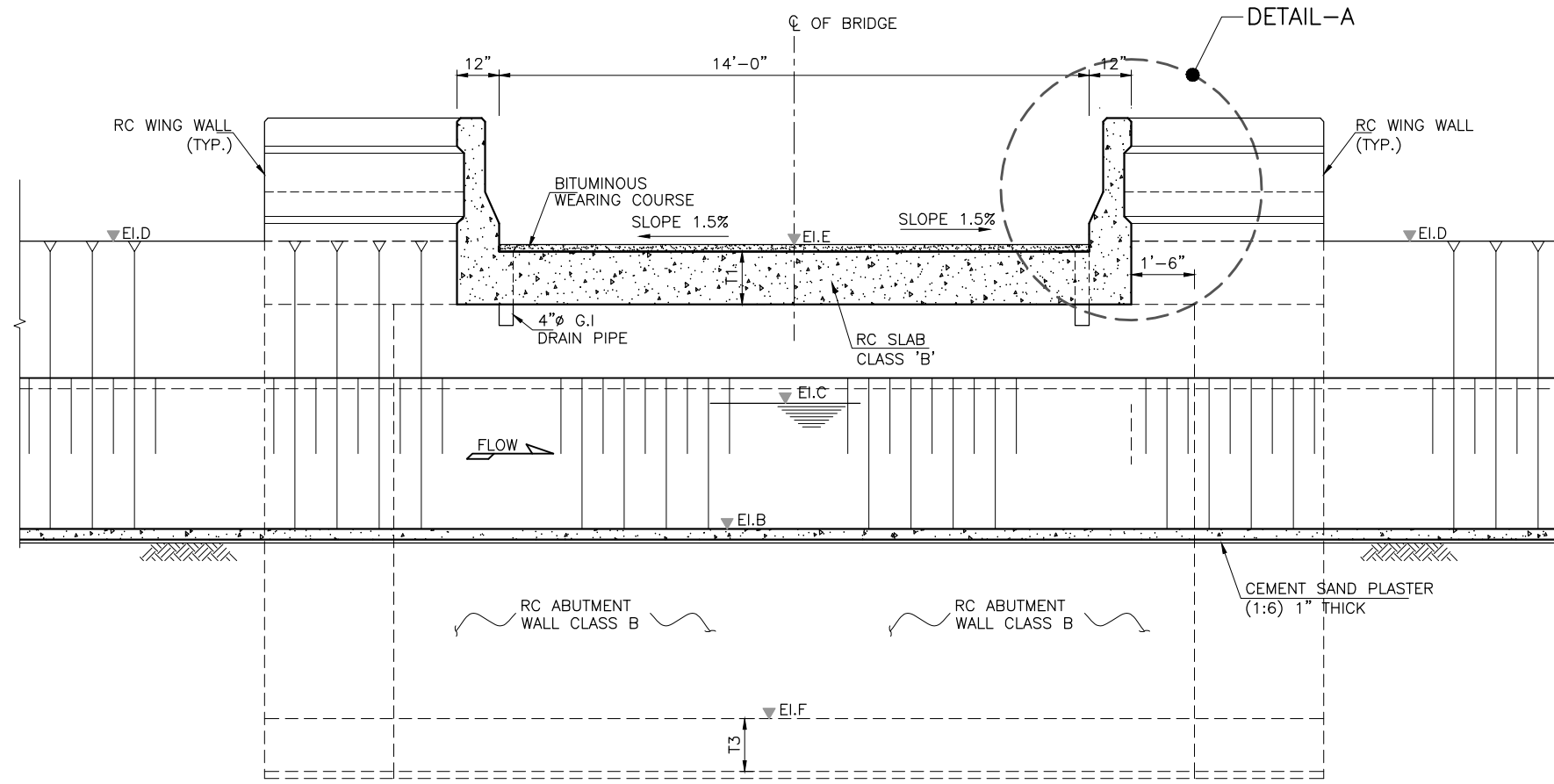
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM
VILLAGE ROAD BRIDGE
TYPICAL GENERAL ARRANGEMENT PLAN**

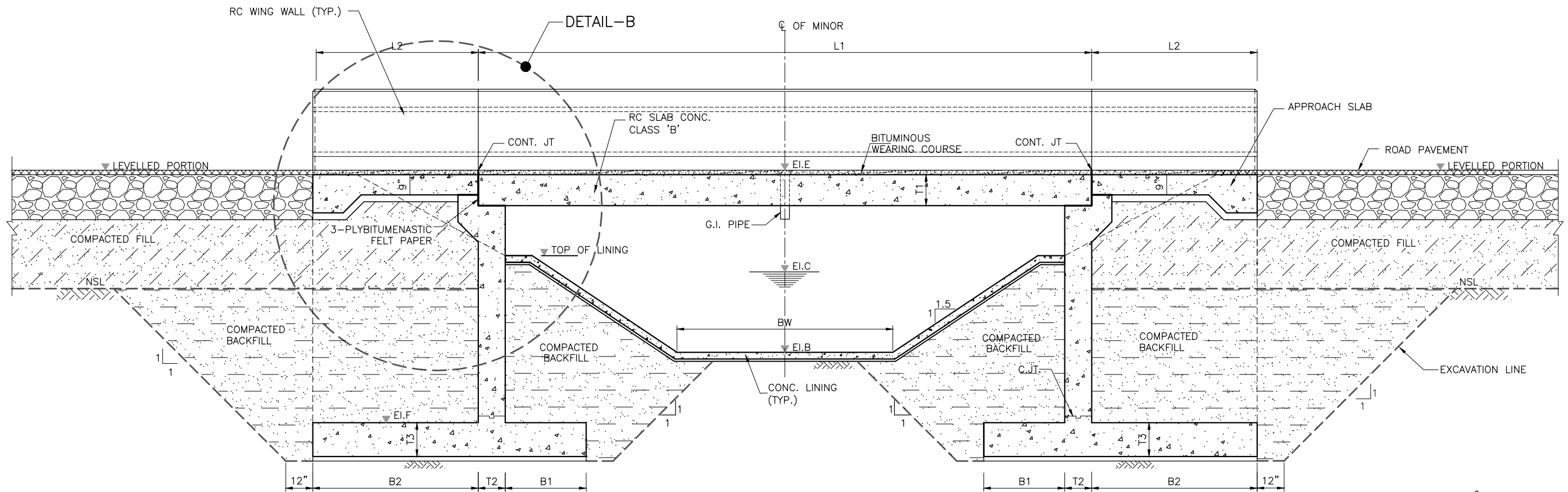
DATE	DWG. NO.	REV.
MAR., 2021	RWCS-01/TD/WGC/DS/VRB/03	0



**NOT FOR
CONSTRUCTION**

NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/VRB/01.
TOP OF DECK SLAB (SUBJECT TO CHANGE WIDE JOINT
SURVEY LEVELS, SHOULD BE TRANSMITTED BEFORE
CASTING/PLACING)

SECTION A - A



SECTION B - B



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

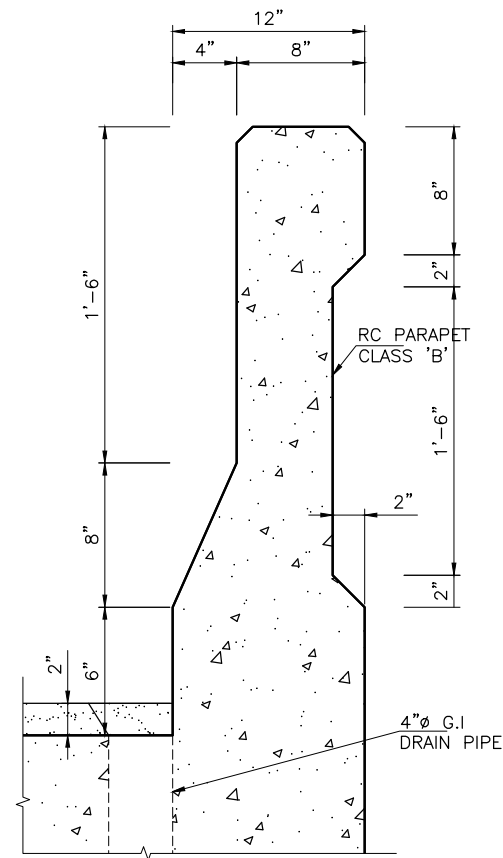
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

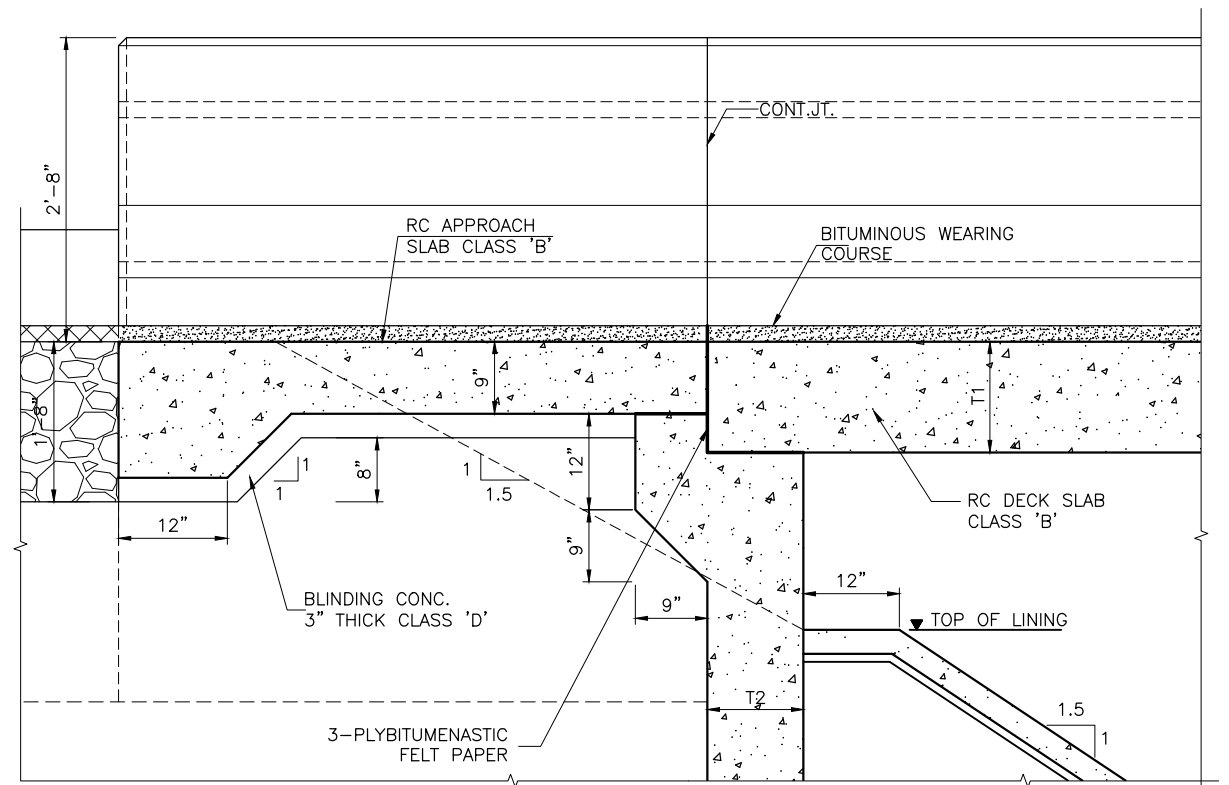
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										CHECKED	
										RECOMMENDED	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED					

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM
VILLAGE ROAD BRIDGE
SECTIONS

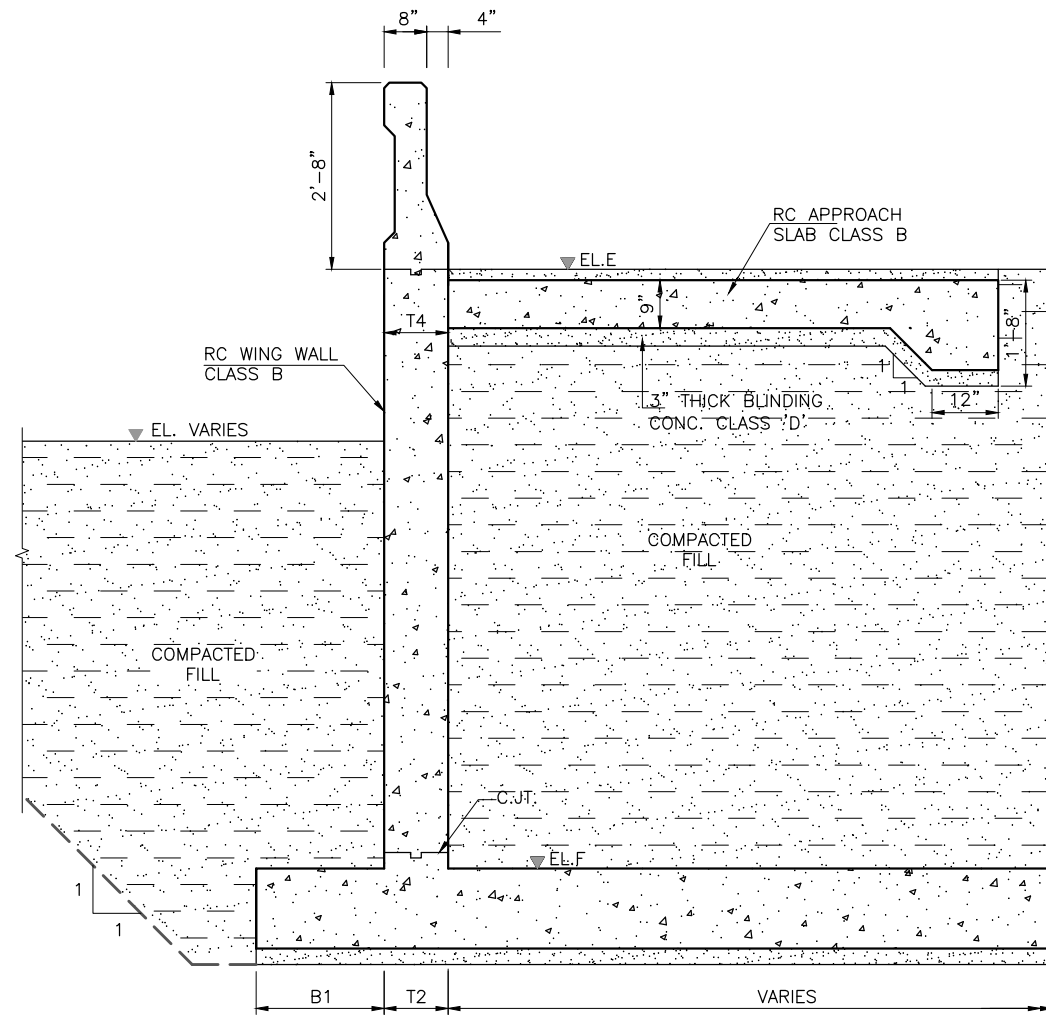
DATE	DWG. NO.	REV.	
MAR., 2021	RWCS-01/TD/WGC/DS/VRB/04	0	



DETAIL - A



DETAIL - B



SECTION C - C

NOT FOR CONSTRUCTION

NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/VRB/01.

TOP OF DECK SLAB (SUBJECT TO CHANGE WIDE
JOINT SURVEY LEVELS, SHOULD BE TRANSMITTED
BEFORE CASTING/PLACING)



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DRAWN			MN			
CHECKED						
RECOMMENDED						
APPROVED						
DATE	DWG. NO.	REV.				
MAR., 2021	RWCS-01/TD/WGC/DS/VRB/05	0				





REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM
VILLAGE ROAD BRIDGE
SECTIONS AND DETAILS

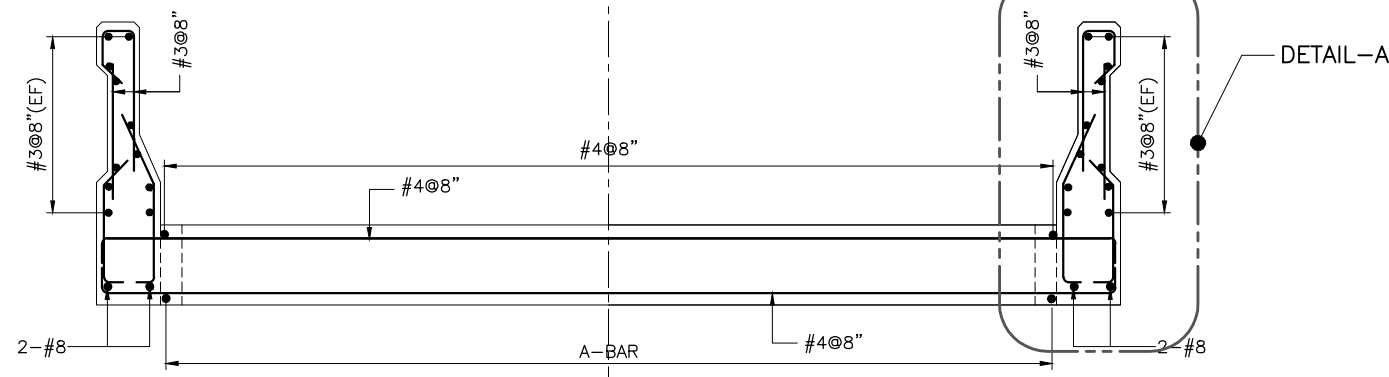
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CONSTRUCTION**

NOTE:

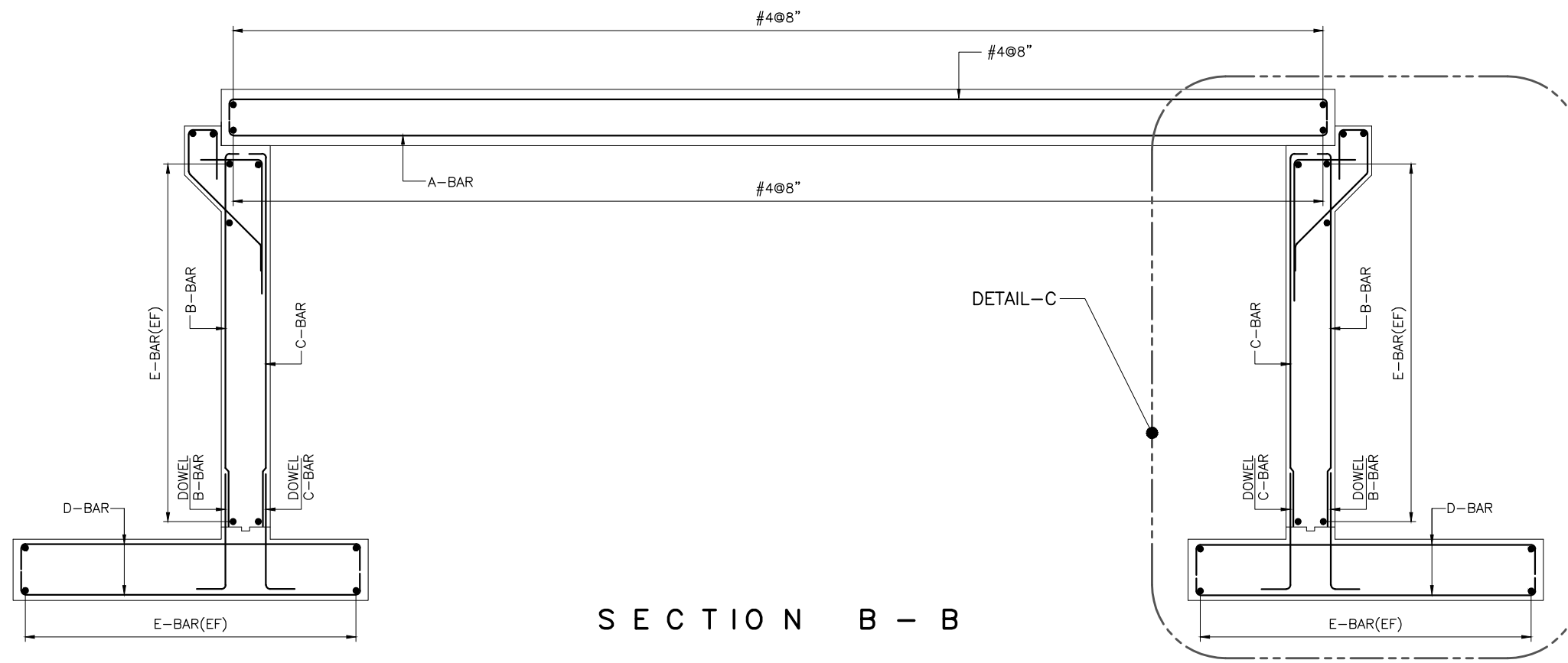
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/VRB/01.

* TOP OF DECK SLAB E.I.E (SUBJECT TO CHANGE WIDE
JOINT SURVEY LEVELS, SHOULD BE TRANSMITTED BEFORE
CASTING/PLACING)

CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN	MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM VILLAGE ROAD BRIDGE TABLE OF ELEVATIONS AND DIMENSIONS DATE MAR., 2021	CHECKED	DWG. NO. RWCS-01/TD/WGC/DS/VRB/06	RECOMMENDED	REV.
REV.	DATE	DESCRIPTION	BY	CKD.		APPR.		APPROVED	0



SECTION A - A



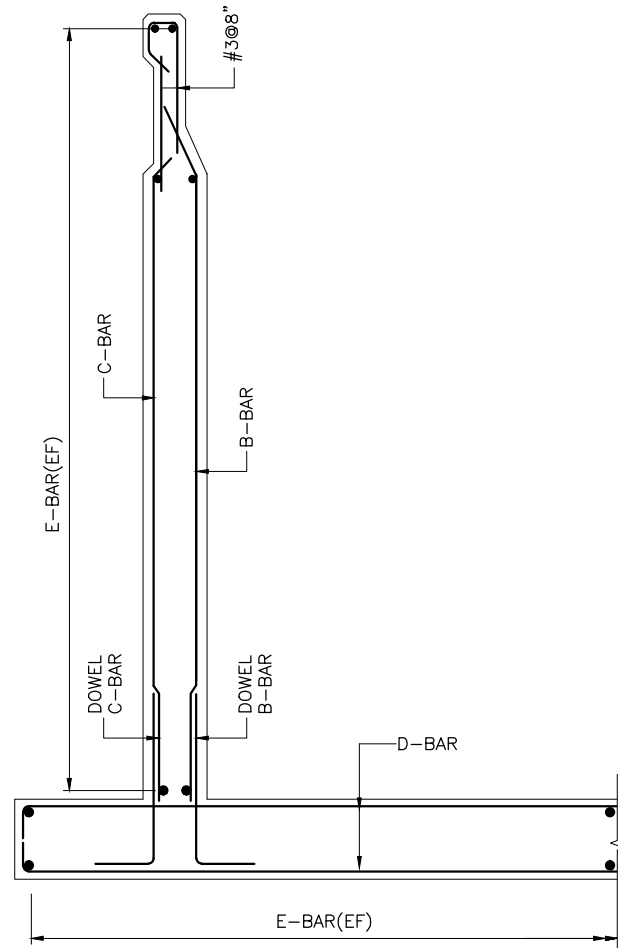
SECTION B - B

NOT FOR CONSTRUCTION

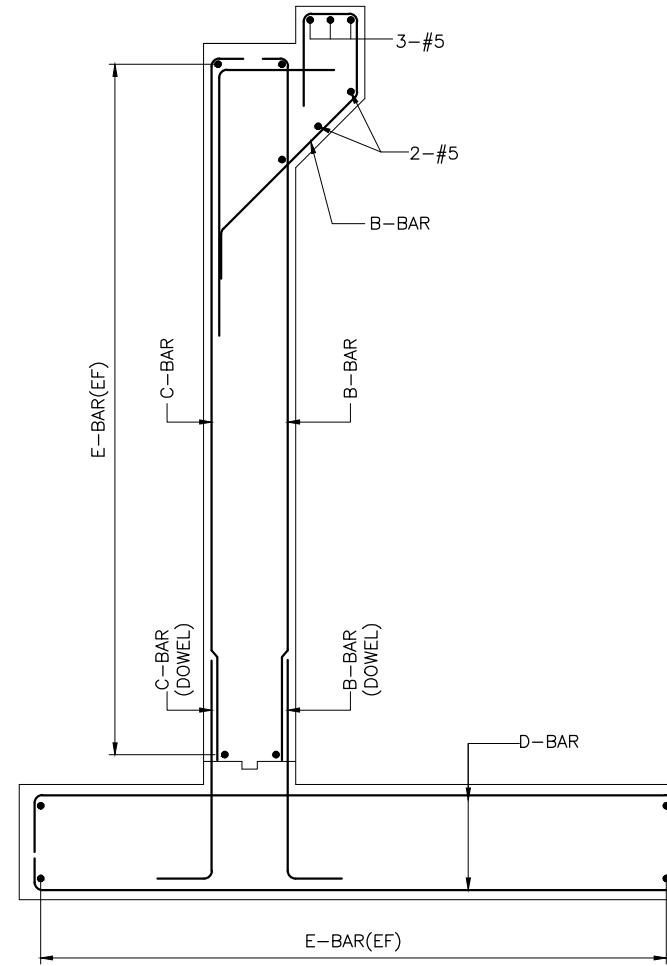
NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-01/TD/WGC/DS/VRB/01.



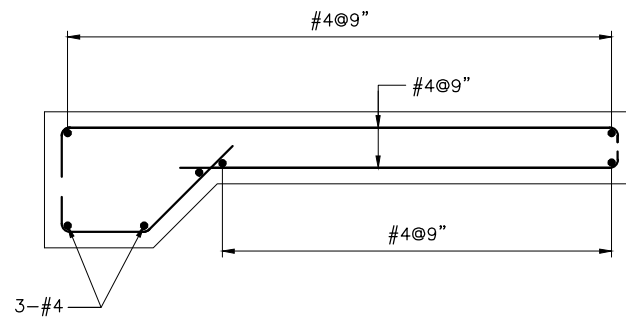
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS				DRAWN MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM VILLAGE ROAD BRIDGE REINFORCEMENT DETAILS	
		CHECKED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/VRB/07	REV. 0			
		RECOMMENDED APPROVED	REV. DATE DESCRIPTION BY CKD. APPR.	APPROVED	APPROVED			



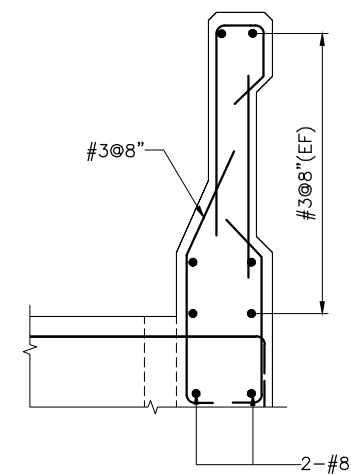
SECTION C - C



DETAIL - C



APPROACH SLAB DETAIL



DETAIL - A

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/VRB/01.

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM VILLAGE ROAD BRIDGE REINFORCEMENT DETAILS
			CHECKED RECOMMENDED	
REV. DATE DESCRIPTION BY CKD. APPR. APPROVED				REV. 0

D.5 WATERCOURSE OUTLETS

LIST OF REFERENCE DRAWINGS

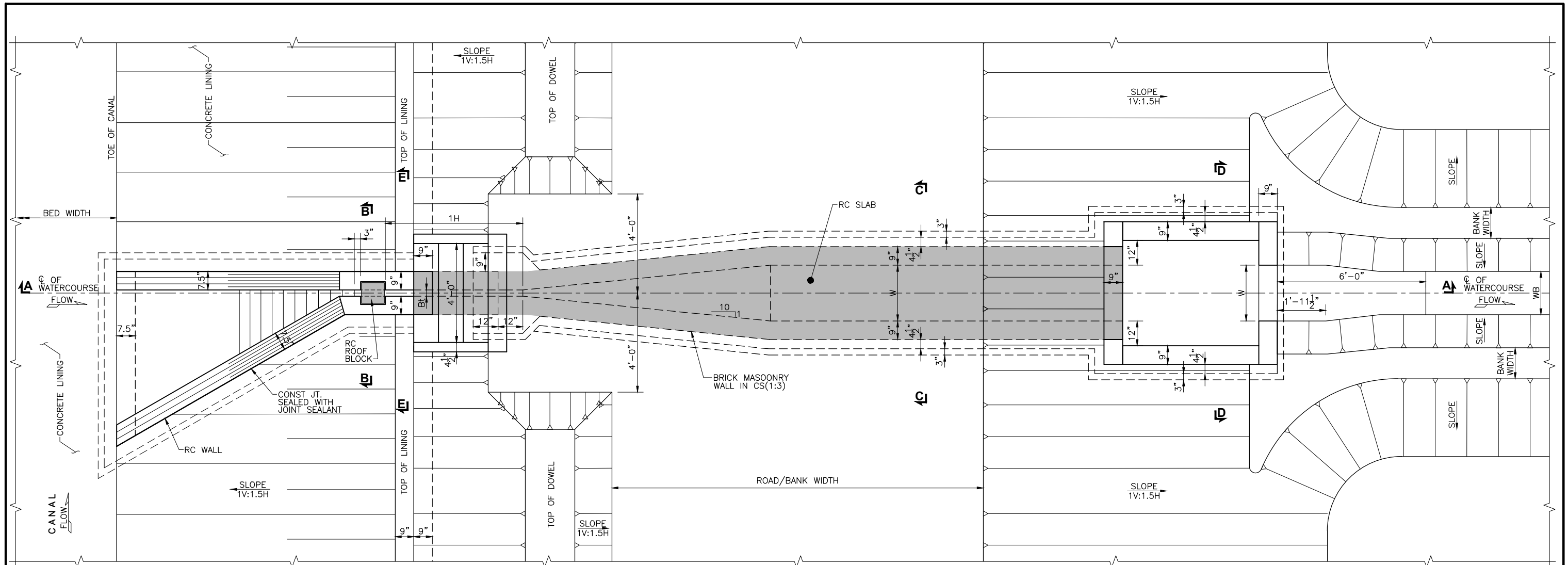
SR.	TITLE	DRAWING NO.
A.	GENERAL REFERENCES	
1	PROJECT AREA MAP	RWCS-01/TD/GD/01
2	GENERAL NOTES	RWCS-01/TD/GD/02
3	CONTRACT PACKAGES	RWCS-01/TD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-01/TD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-01/TD/MSD/01

SR.	TITLE	DRAWING NO.
B.	APM OUTLET - KAFOOR DEHRI MINOR - REFERENCE DRAWINGS	
1	TYPICAL APM OUTLET - PLAN AND SECTION	RWCS-01/TD/WGC/DS/WCO/02
2	SECTIONS	RWCS-01/TD/WGC/DS/WCO/03
3	TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-01/TD/WGC/DS/WCO/04
4	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/WCO/05

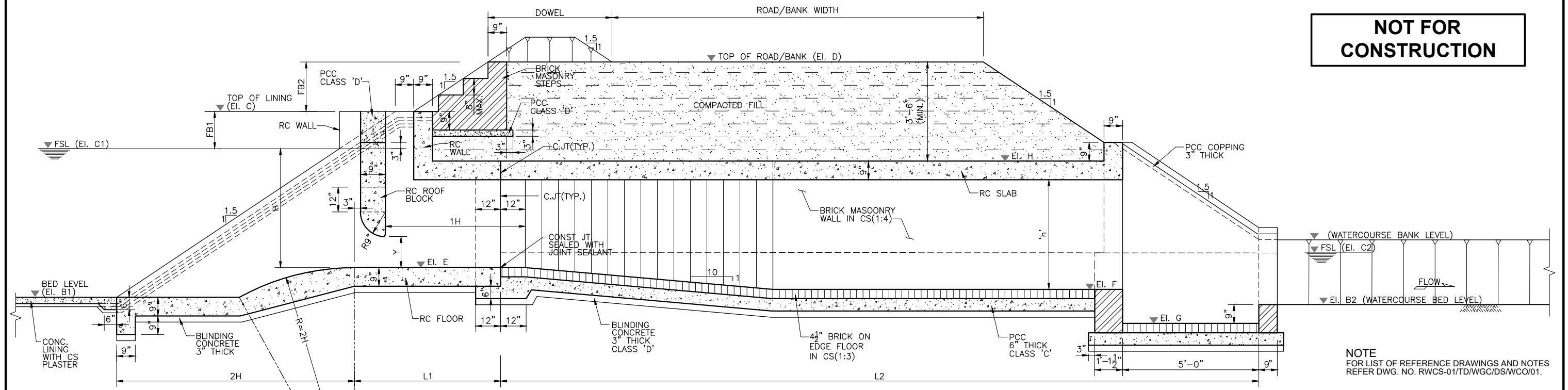
NOTES

- 1 LOCATION OF STRUCTURES IS TENTATIVE AND SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- 2 FOR ELEVATIONS AND DIMENSIONS SHOWN ON DRAWINGS, REFER TO TABLE OF ELEVATIONS AND DIMENSIONS.
- 3 EXCAVATED MATERIAL SUITABLE FOR EMBANKMENT FILL SHALL BE USED FOR COMPACTED EMBANKMENTS.
- 4 EARTH FILL IN EMBANKMENTS SHALL BE COMPACTED AS PER SPECIFICATIONS.
- 5 THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95 % OF DRY DENSITY.
- 6 THE EARTHEN RAMPS AROUND THE STRUCTURE SHALL HAVE SLOPE OF 1:30.
- 7 OFFTAKING ANGLE OF WATERCOURSE IS 90 DEGREE EXCEPT OTHERWISE MENTIONED.

**NOT FOR
CONSTRUCTION**



PLAN



SECTION A-A

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/WCO/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

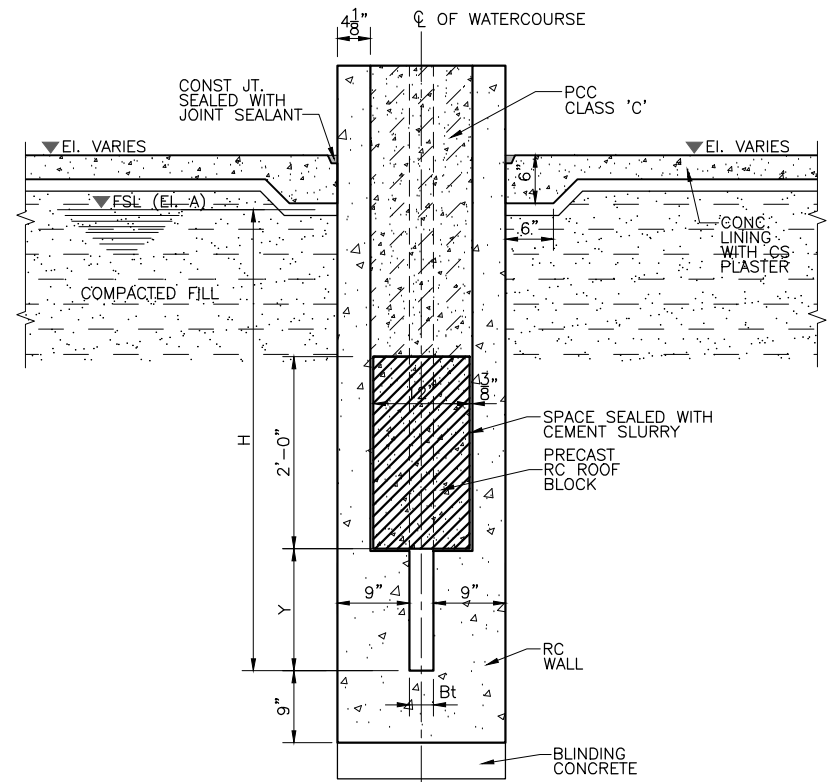
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

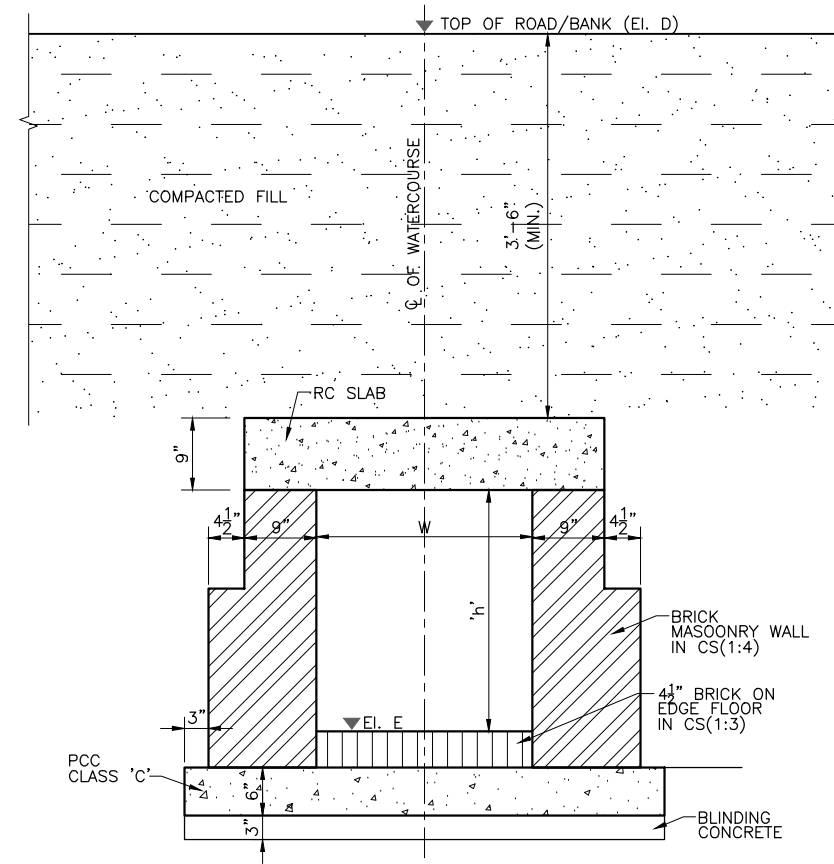
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM-KAFOOR DEHRI MINOR
WATERCOURSE OUTLET
PLAN AND SECTION

DRAWN Ishtiaq
CHECKED
RECOMMENDED

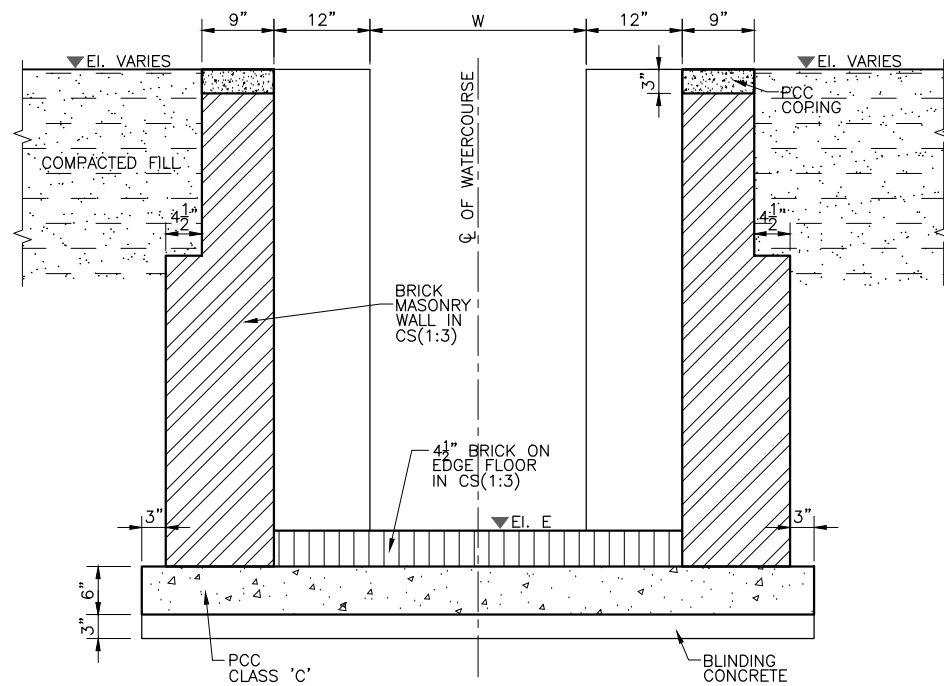
DATE MAR., 2021
DWG. NO. RWCS-01/TD/WGC/DS/WCO/02
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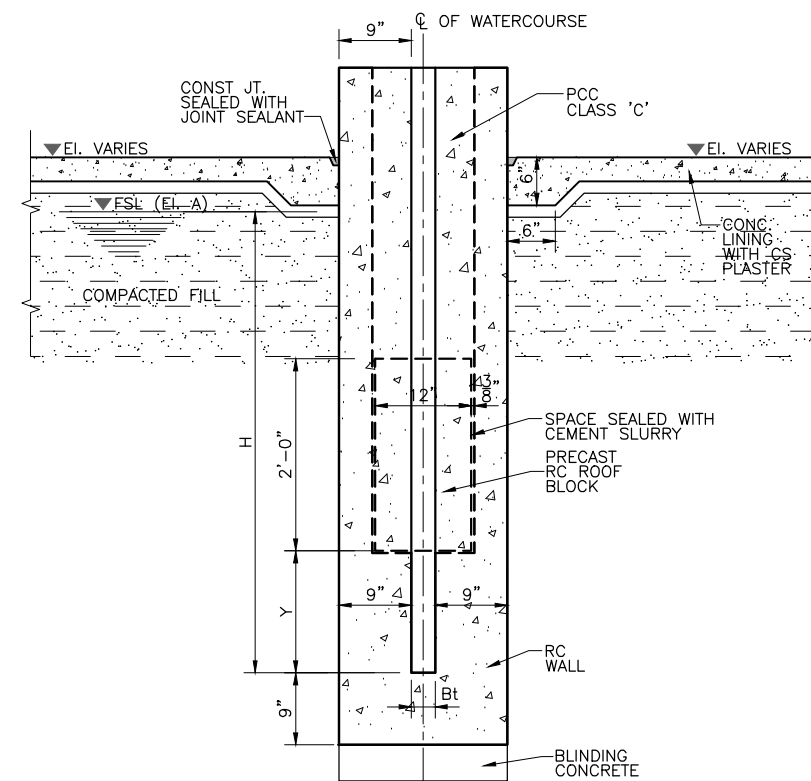
SECTION B-B



SECTION C-C



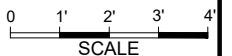
SECTION D-D



SECTION E-E

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/WCO/01.



REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

APM WATERCOURSE OUTLET (KAFOOR DEHRI)
TABLE OF ELEVATIONS AND DIMENSIONS

SR	MINOR RD	Q ₁	Q ₂	Q ₃	EL. B1	EL. B2	EL. C1	EL. C2	EL. D1	EL. D2	EL. E	EL. F	EL. G	EL. H	Bw	T	Bt	W	H	L1	L2	h	Y	S1	S2	S3
	(ft)	(cfs)	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/ft)	(ft/ft)
1	1+045	12.66	8.28	4.37	1228.40	1228.05	1229.41	1228.56	1230.82	1229.06	1228.40	1228.11	1227.30	1231.36	1.50	6.03	1.75	3.00	2.50	2.05	29.20	1.01	0.49	1 in 200	1 in 200	1 in 100
2	1+196	8.28	5.22	3.06	1227.65	1227.11	1228.47	1227.56	1230.07	1228.06	1227.65	1227.36	1226.36	1230.11	1.50	5.46	1.75	2.00	2.00	1.85	29.45	0.82	0.39	1 in 200	1 in 250	1 in 100

ELEVATIONS

- EL. B1 BED LEVEL OF MINOR
- EL. B2 BED LEVEL OF WATERCOURSE
- EL. C1 FULL SUPPLY LEVEL OF MINOR
- EL. C2 FULL SUPPLY LEVEL OF WATERCOURSE
- EL. D1 BANK LEVEL OF MINOR
- EL. D2 BANK LEVEL OF WATERCOURSE
- EL. E CREST LEVEL
- EL. F CONDUIT BED LEVEL AT END
- EL. G SUMP BED LEVEL
- EL. H CONDUIT SLAB LEVEL

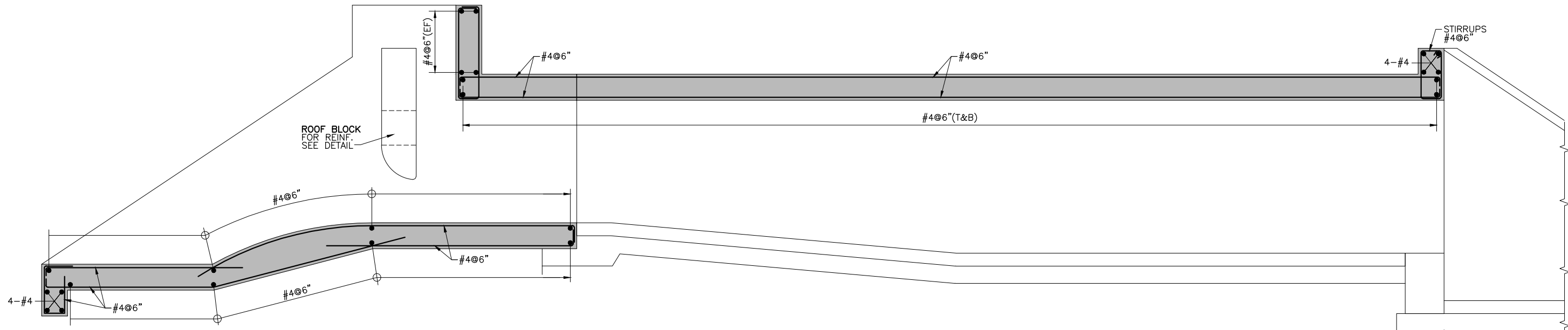
DIMENSIONS

- Q1 DISCHARGE OF MINOR U/S OF WCO
- Q2 DISCHARGE OF MINOR D/S OF WCO
- Q3 DISCHARGE OF WATERCOURSE OUTLET
- Bw BED WIDTH OF MINOR
- T1 TOP WIDTH OF MINOR
- T2 TOP WIDTH OF WATERCOURSE
- W WIDTH OF CONDUIT
- H HEIGHT OF CONDUIT
- L1 LENGTH OF CREST
- L2 LENGTH OF CONDUIT

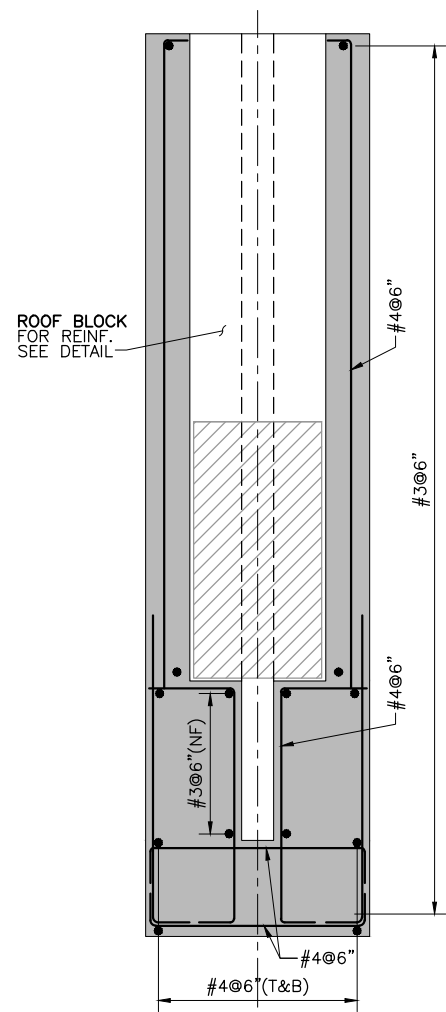
- S1 U/S MINOR BED SLOPE
- S2 D/S MINOR BED SLOPE
- S3 CONDUIT BED SLOPE
- h HEAD ABOVE CREST
- Y THROAT HEIGHT

**NOT FOR
CONSTRUCTION**

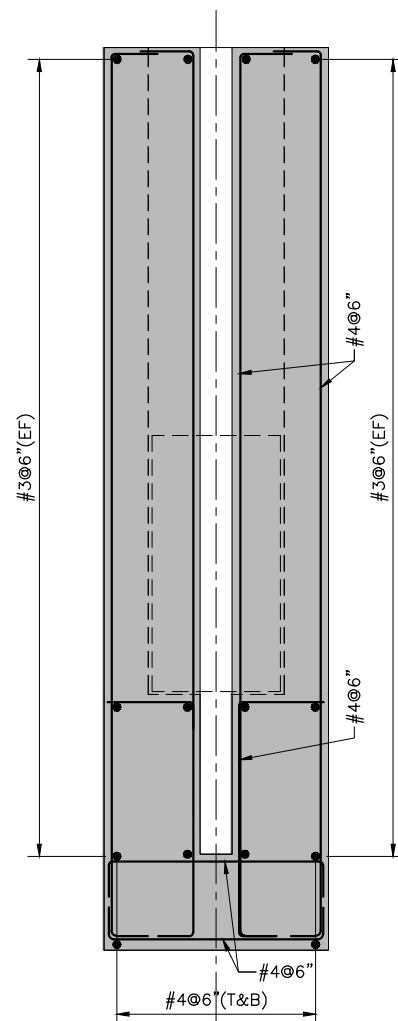
NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DS/WCO/01.



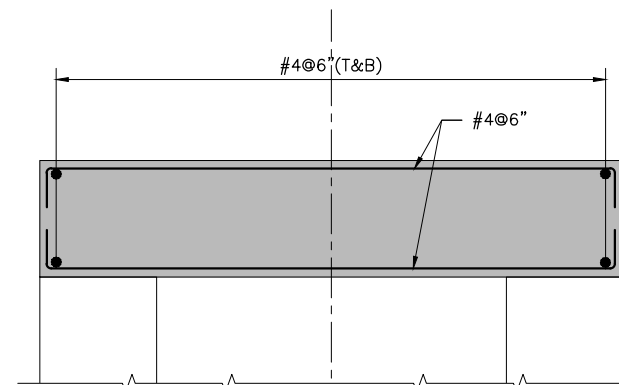
SECTION A-A



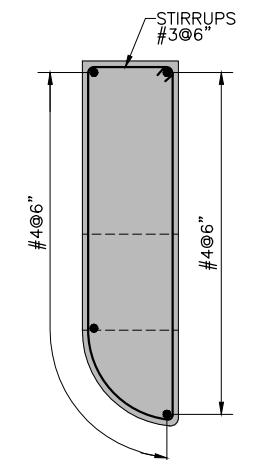
SECTION B-B



SECTION E-E



SECTION C-C



ROOF BLOCK

NOT FOR CONSTRUCTION

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-01/TD/WGC/DSWCO/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	Ishtiaq
							CHECKED	
							RECOMMENDED	

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-01
DISTRIBUTION SYSTEM-KAFOOR DEHRI MINOR
WATERCOURSE OUTLET
REINFORCEMENT DETAILS
DATE: MAR., 2021
DWG. NO.: **RWCS-01/TD/WGC/DSWCO/05**
REV. 0

D.6 GLACIS FALL STRUCTURES

LIST OF REFERENCE DRAWINGS





SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-01/TD/GD/01
2	GENERAL NOTES	RWCS-01/TD/GD/02
3	CONTRACT PACKAGES	RWCS-01/TD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-01/TD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-01/TD/MSC/01

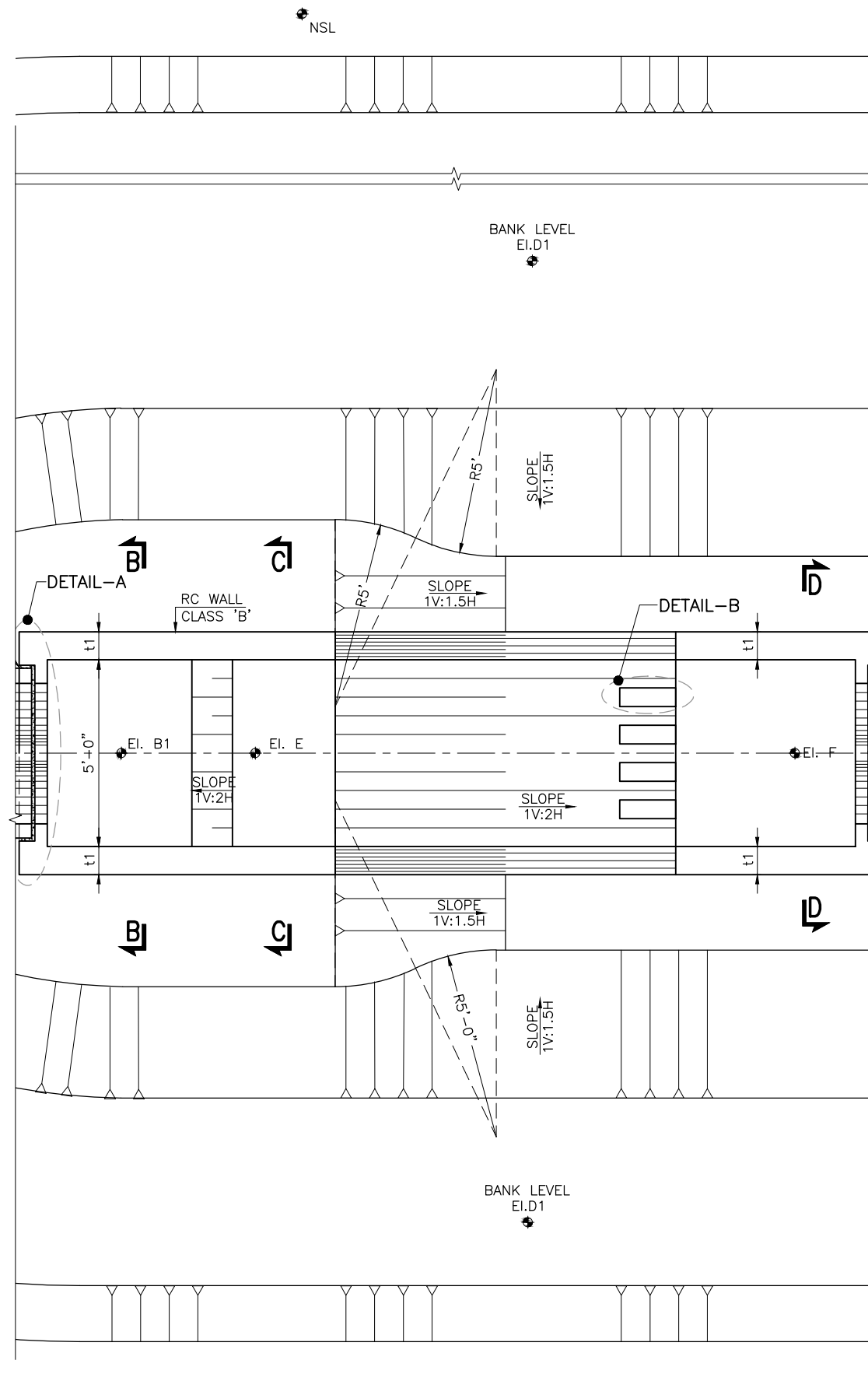
SR.	TITLE	DRAWING NO.
B. GLACIS FALL STRUCTURE - REFERENCE DRAWINGS		
1	PLAN	RWCS-01/TD/WGC/DS/GFS/02
2	SECTIONS	RWCS-01/TD/WGC/DS/GFS/03
3	SECTIONS AND DETAILS	RWCS-01/TD/WGC/DS/GFS/04
4	TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-01/TD/WGC/DS/GFS/05
5	REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/GFS/06

NOTES

- 1 LOCATION OF STRUCTURES IS TENTATIVE AND SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- 2 FOR ELEVATIONS AND DIMENSIONS SHOWN ON DRAWINGS, REFER TO TABLE OF ELEVATIONS AND DIMENSIONS.
- 3 EXCAVATED MATERIAL SUITABLE FOR EMBANKMENT FILL SHALL BE USED FOR COMPACTED EMBANKMENTS.
- 4 EARTHFILL IN EMBANKMENTS SHALL BE COMPACTED AS PER SPECIFICATIONS.
- 5 THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95 % OF DRY DENSITY.
- 6 THE EARTHEN RAMPS AROUND THE STRUCTURE SHALL HAVE SLOPE OF 1:30.
- 7 OFFTAKING ANGLE OF WATERCOURSE IS 90 DEGREE EXCEPT OTHERWISE MENTIONED.

**NOT FOR
CONSTRUCTION**





	CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN	CHECKED	RECOMMENDED	APPROVED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/GFS/01	REV. 0
	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM GLACIS FALL STRUCTURE LIST OF REFERENCE DRAWINGS									

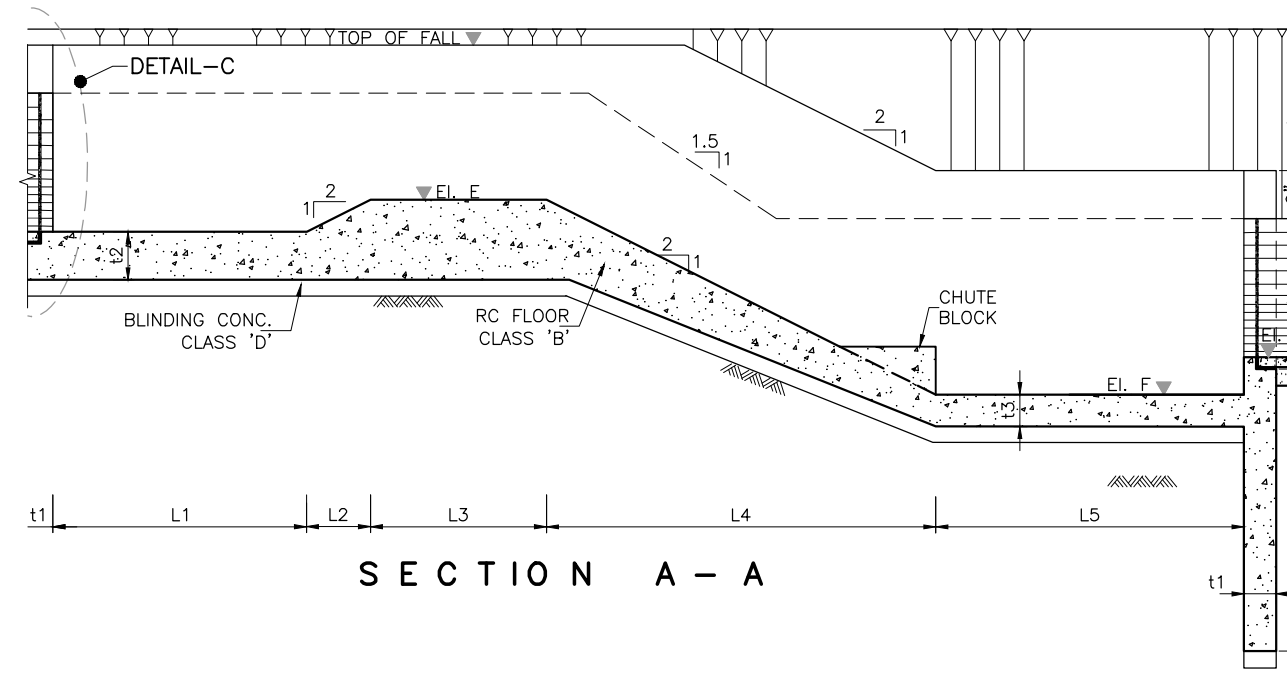


**NOT FOR
CONSTRUCTION**

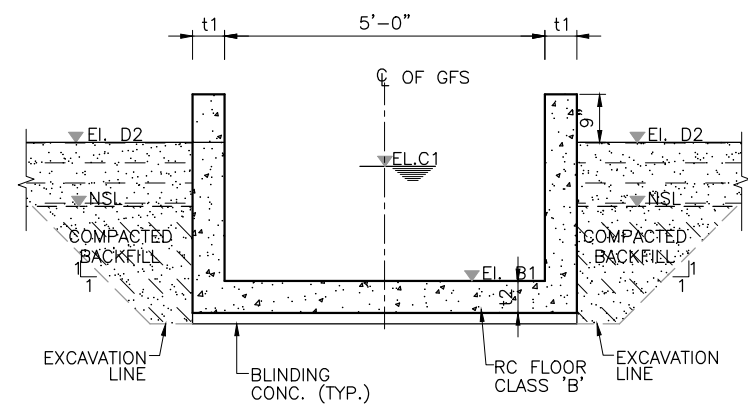
NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/GFS/01.



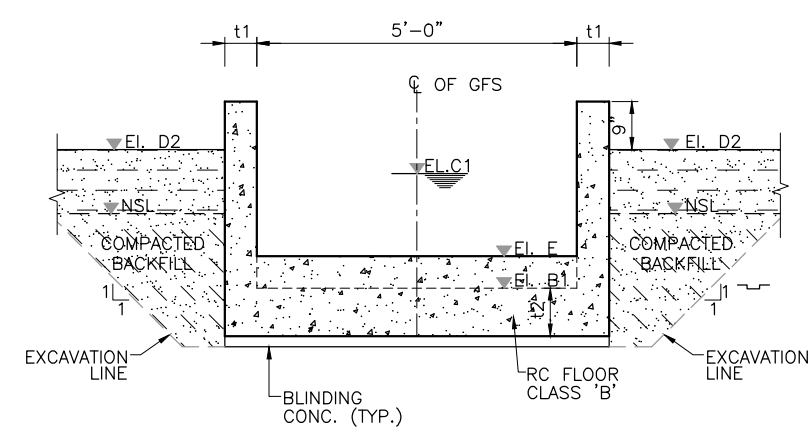
CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM GLACIS FALL STRUCTURE PLAN
			CHECKED	
			RECOMMENDED	
REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/GFS/02	REV. 0	



SECTION A - A



SECTION B - B







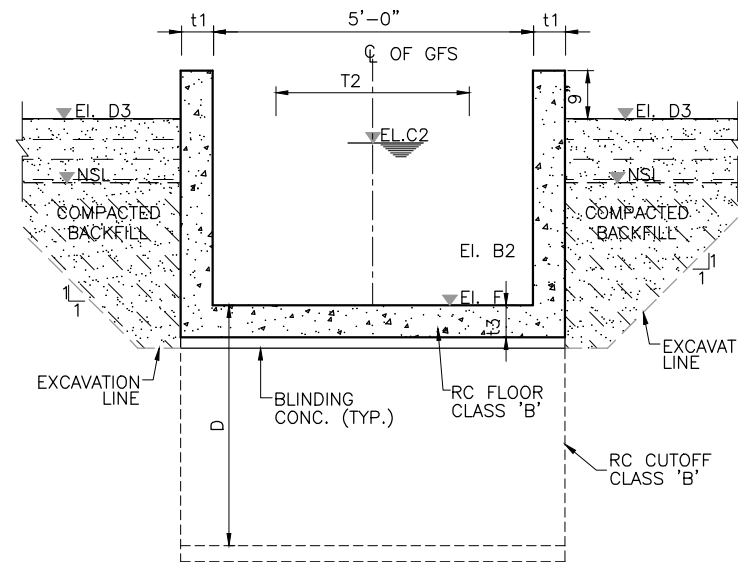
SECTION C - C

NOT FOR CONSTRUCTION

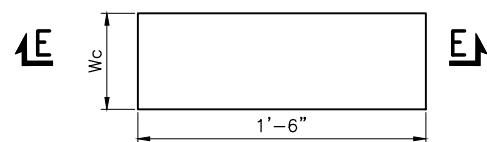
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FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/GFS/01.



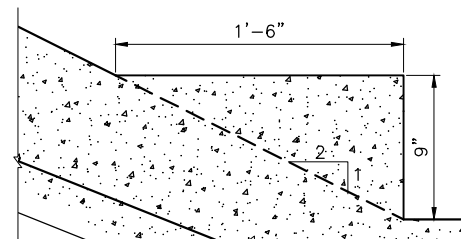
CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM GLACIS FALL STRUCTURE SECTIONS
			CHECKED RECOMMENDED	
REV. DATE DESCRIPTION BY CKD. APPR. APPROVED				



SECTION D - D



DETAIL - B







SECTION E - E



NOT FOR CONSTRUCTION

NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/GFS/01.



CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM GLACIS FALL STRUCTURE SECTIONS AND DETAILS
			CHECKED RECOMMENDED	
REV. DATE DESCRIPTION BY CKD. APPR.	APPROVED	APPROVED	APPROVED	APPROVED

GLACIS FALL STRUCTURE (GFS)
TABLE OF ELEVATIONS AND DIMENSIONS

SR. NO.	Canal	RD	DISCHARGE	PARABOLIC SEC. TYPE		EL. B1	EL. B2	EL. C1	EL. C2	EL. D1	EL. D2	EL. D3	EL. E	EL. F	W	S1	S2
		(ft)	(cfs)	U/S	D/S	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/ft)
1	KAFOOR DEHRI MINOR	1+630	5.22	SEC. 5	SEC. 5	1225.65	1218.60	1226.64	1219.64	1228.17	1227.23	1220.18	1226.15	1218.00	5.00	1 in 180	1 in 215
2		2+146	5.22	SEC. 5	SEC. 5	1216.20	1209.20	1217.24	1210.24	1218.53	1217.78	1210.78	1216.70	1208.50	5.00	1 in 215	1 in 215
3		2+244	5.22	SEC. 5	SEC. 5	1208.74	1201.74	1209.78	1202.78	1211.07	1210.32	1203.32	1209.24	1201.25	5.00	1 in 215	1 in 215
4		2+440	5.22	SEC. 5	SEC. 5	1200.83	1193.85	1201.87	1194.87	1204.24	1202.41	1195.43	1201.33	1193.25	5.00	1 in 215	1 in 200

SR. NO.	RD	FB1	FB2	FB3	L1	L2	L3	L4	L5	T1	T2	t1	t2	t3	D	WC	HC	SC
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(in)	(in)	(in)
1	1+630	0.59	0.54	0.94	5.00	1.00	1.00	16.30	9.00	2.25	2.25	0.50	0.50	0.75	5.25	9.00	9.00	9.00
2	2+146	0.54	0.54	0.75	5.00	1.00	1.25	16.40	9.00	2.25	2.25	0.50	0.50	0.75	6.50	9.00	9.00	9.00
3	2+244	0.54	0.54	0.75	5.00	1.00	1.25	15.98	8.00	2.25	2.25	0.50	0.50	0.75	6.50	9.00	9.00	9.00
4	2+440	0.54	0.56	1.83	5.00	1.00	1.25	16.16	9.00	2.25	2.25	0.50	0.50	0.75	6.50	9.00	9.00	9.00

ELEVATIONS

- EL. B1 U/S BED LEVEL
- EL. B2 D/S BED LEVEL
- EL. C1 U/S FULL SUPPLY LEVEL
- EL. C2 D/S FULL SUPPLY LEVEL
- EL. D1 U/S BANK LEVEL / ROAD TOP LEVEL
- EL. D2 U/S BERM LEVEL
- EL. D3 D/S BERM LEVEL
- EL. E CREST LEVEL
- EL. F CISTERN LEVEL OF STILLING BASIN

DIMENSIONS





- S1 U/S SLOPE OF CANAL
- S2 D/S SLOPE OF CANAL
- W WIDTH OF CREST / STRUCTURE
- FB1 U/S LINED FREE BOARD OF CANAL
- FB2 D/S LINED FREE BOARD OF CANAL
- FB3 U/S EARTHEN FREE BOARD OF CANAL
- L1 U/S FLOOR LENGTH
- L2 U/S GLACIS LENGTH
- L3 LENGTH OF CREST

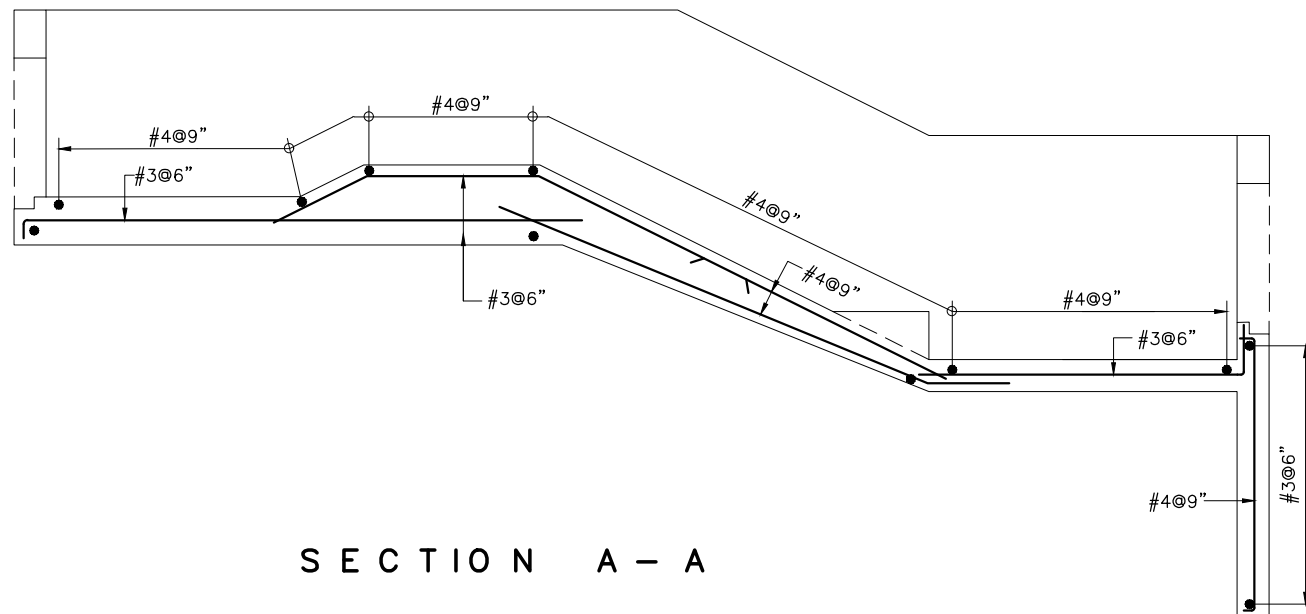
- L4 D/S GLACIS LENGTH
- L5 LENGTH OF STILLING BASIN
- T1 U/S LINED TOP WIDTH OF CANAL
- T2 D/S LINED TOP WIDTH OF CANAL
- t1 THICKNESS OF WALL
- t2 U/S FLOOR THICKNESS
- t3 THICKNESS OF STILLING BASIN FLOOR
- D DEPTH OF D/S CUTT OF WALL
- WC WIDTH OF CHUTE BLOCK
- HC HEIGHT OF CHUTE BLOCK
- SC SPACING OF CHUTE BLOCK

NOT FOR CONSTRUCTION

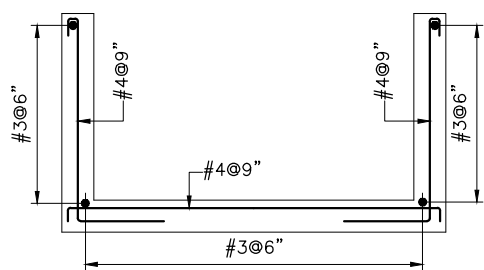
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FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/GFS/01.



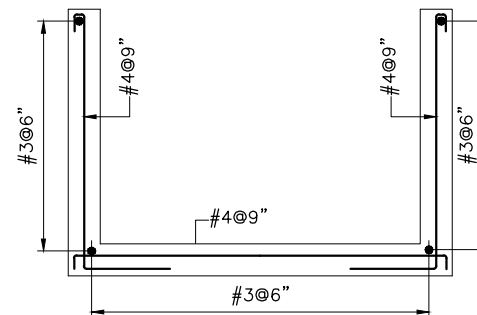
CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM GLACIS FALL STRUCTURE TABLE OF ELEVATIONS AND DIMENSIONS
			CHECKED RECOMMENDED	
REV. DATE DESCRIPTION BY CKD. APPR. APPROVED				



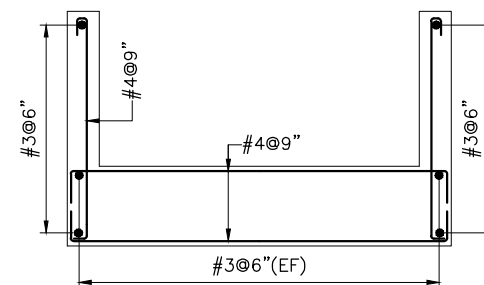
SECTION A - A



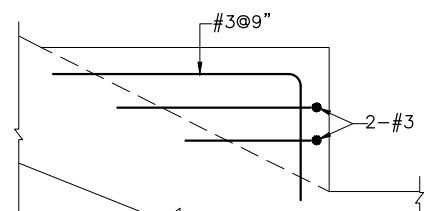
SECTION B - B



SECTION D - D



SECTION C - C



SECTION E - E

**NOT FOR
CONSTRUCTION**

NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/GFS/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

							DRAWN	MN
							CHECKED	
							RECOMMENDED	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED		

REMODELING OF WARSAK CANAL SYSTEM		REV. 0
CONTRACT RWCS-01		
DISTRIBUTION SYSTEM		
GLACIS FALL STRUCTURE		
REINFORCEMENT DETAILS		
DATE	DWG. NO.	
MAR., 2021	RWCS-01/TD/WGC/DS/GFS/06	

D.7 BIFURCATOR

LIST OF REFERENCE DRAWINGS

SR.	TITLE	DRAWING NO.
A.	GENERAL REFERENCES	
1	PROJECT AREA MAP	RWCS-01/TD/GD/01
2	GENERAL NOTES (2-SHEETS)	RWCS-01/TD/GD/02
3	CONTRACT PACKAGES	RWCS-01/TD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-01/TD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-01/TD/MSD/01
6	DISTRIBUTION SYSTEM - PLAN & PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-01/TD/WGC/WGC/PP/01

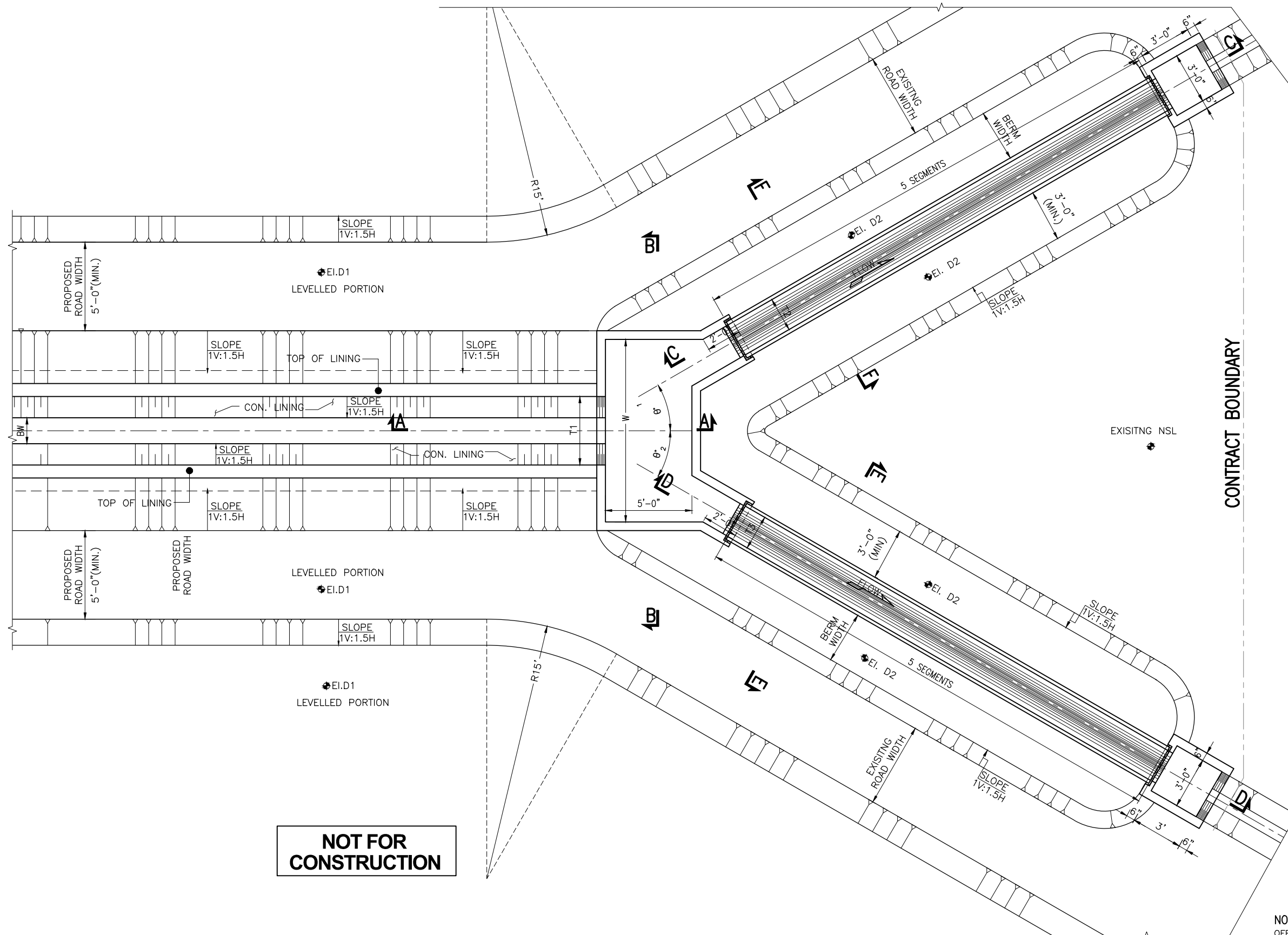
SR.	TITLE	DRAWING NO.
B.	BIFURCATOR	
1	BIFURCATOR - PLAN	RWCS-01/TD/WGC/DS/BF/02
2	BIFURCATOR - SECTIONS	RWCS-01/TD/WGC/DS/BF/03
3	BIFURCATOR - SECTIONS	RWCS-01/TD/WGC/DS/BF/04
4	BIFURCATOR - TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-01/TD/WGC/DS/BF/05
5	BIFURCATOR - REINFORCEMENT DETAILS	RWCS-01/TD/WGC/DS/BF/06

NOTES

- 1 LOCATION OF STRUCTURE IS SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- 2 FOR ELEVATIONS AND DIMENSIONS SHOWN ON DAWINGS, REFER TO TABLE OF ELEVATIONS AND DIMENSIONS.
- 3 RADIUS OF THE ROAD CURVES MAY BE ADJUSTED AS PER SITE REQUIREMENTS.
- 4 THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95% OF DRY DENSITY.

**NOT FOR
CONSTRUCTION**

CLIENT	IRRIGATION DEPARTMENT	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM BIFURCATOR LIST OF REFERENCE DRAWINGS AND NOTES		
	GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR							DATE	DWG. NO.			
			REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	MAR., 2021	RWCS-01/TD/WGC/DS/BF/01	0

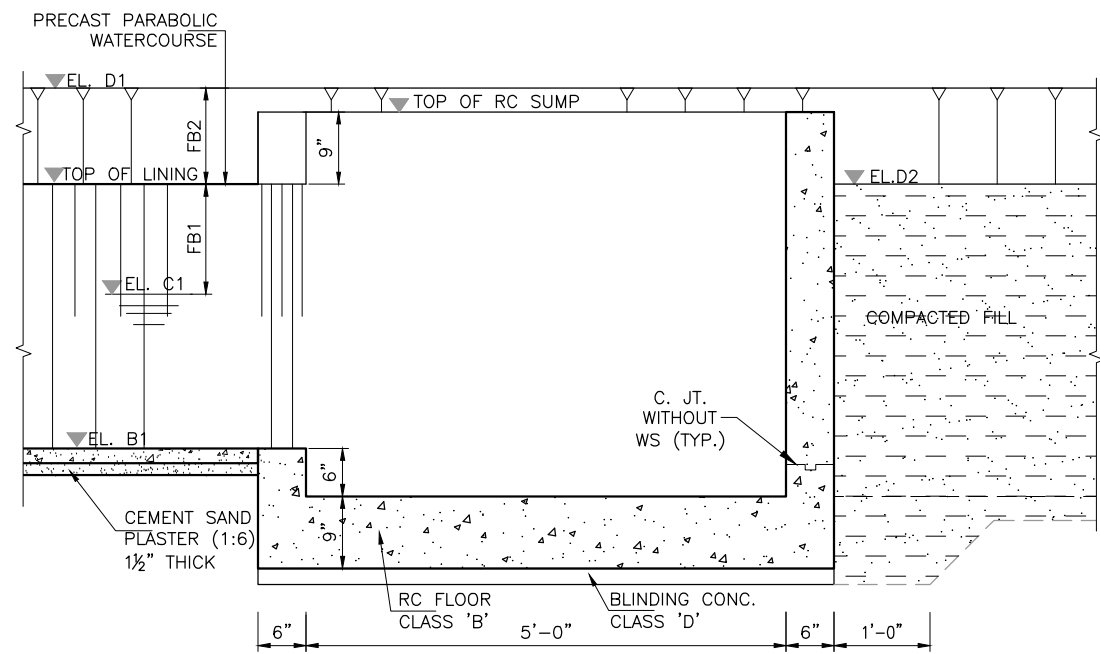


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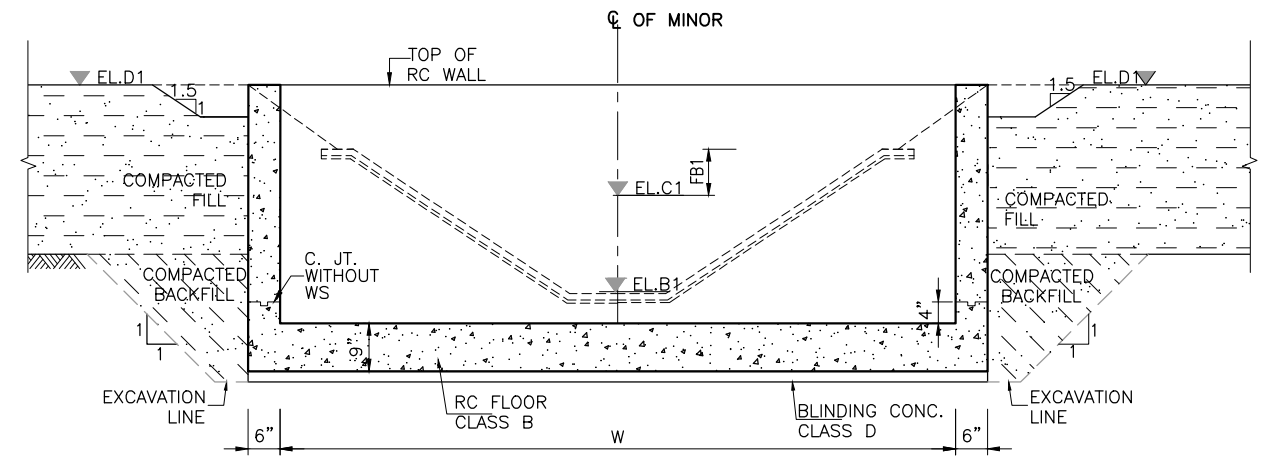
NOTE:
OFFTAKING ANGLES θ_1 & θ_2 MUST BE VERIFIED AS PER SITE OR AS DIRECTED BY THE ENGINEER.



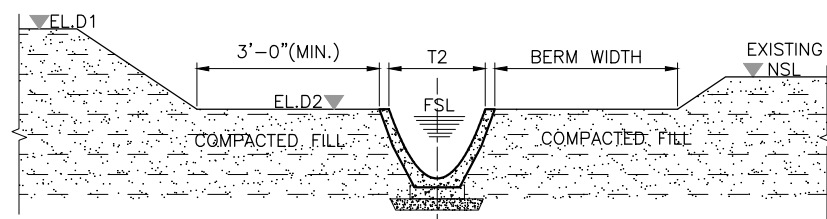
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM BIFURCATOR PLAN		
							CHECKED			
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED				



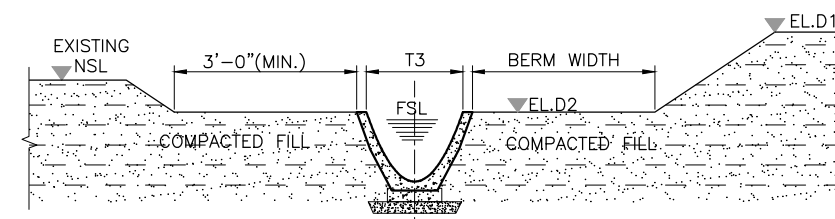
SECTION A - A



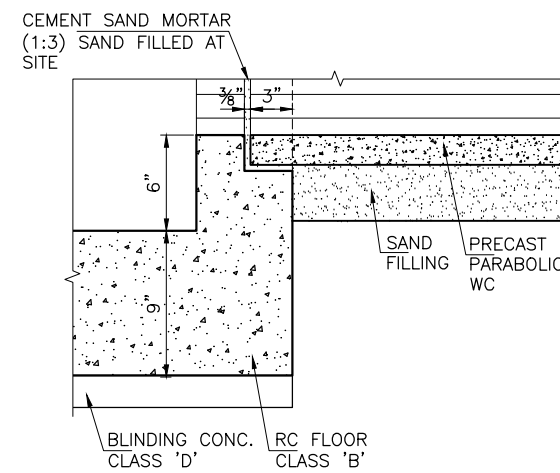
SECTION B - B



SECTION F - F



SECTION E - E



DETAIL - A

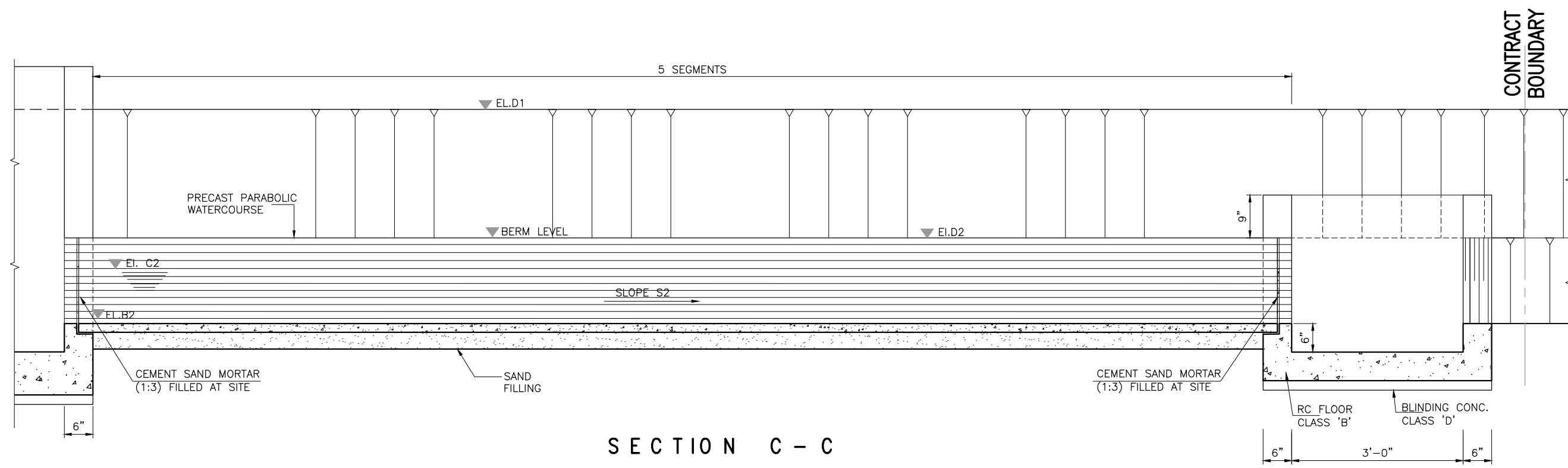


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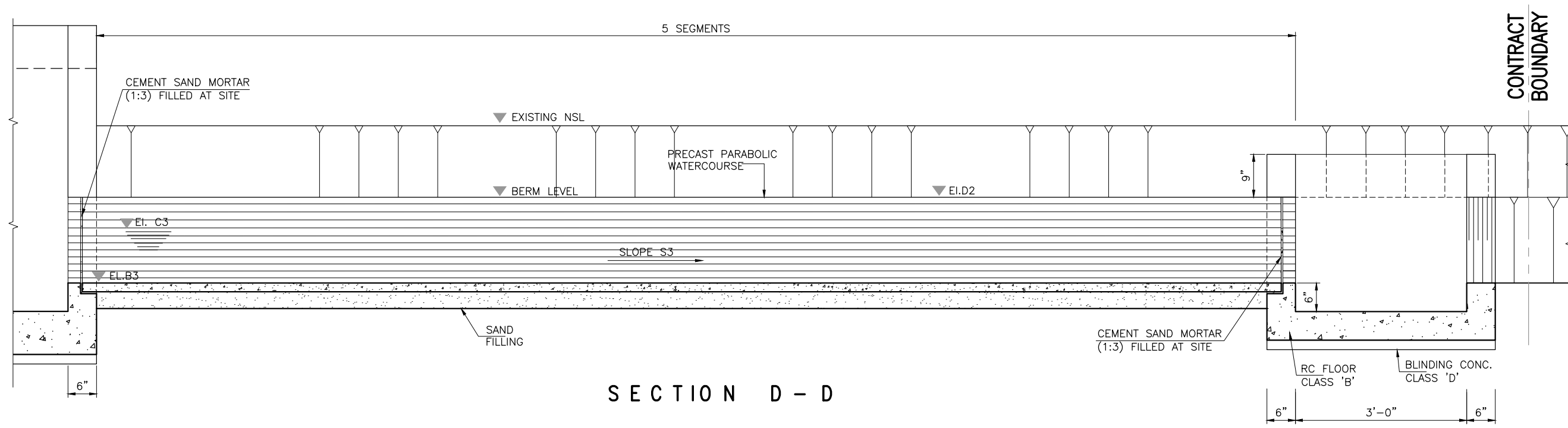
NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/BF/01.



CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NES NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM BIFURCATOR SECTIONS	
							CHECKED		
						RECOMMENDED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/BF/03	REV. 0
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED			



SECTION C - C



SECTION D - D

NOT FOR CONSTRUCTION

NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/BF/01.

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM BIFURCATOR SECTIONS		
							CHECKED				
						RECOMMENDED		MAR., 2021	RWCS-01/TD/WGC/DS/BF/04	0	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED					

**BIFURCATOR
TABLE OF ELEVATIONS AND DIMENSIONS**

SR. NO.	PARENT CHANNEL	RD (ft)	Q1 (cfs)	Q2 (cfs)	Q3 (cfs)	EI. B1 (ft)	EI. B2 (ft)	EI. B3 (ft)	EI. C1 (ft)	EI. C2 (ft)	EI. C3 (ft)	EI. D1 (ft)	EI. D2 (ft)	EI. D3 (ft)	S1 (ft/ft)	S2 (ft/ft)	S3 (ft/ft)	T1 (ft)	Sec 1	Sec 5	W (ft)
																			T2 (ft)	T3 (ft)	
1	MINOR	3+783	5.22	0.86	4.35	1186.25	1185.77	1185.05	1186.88	1186.88	1186.88	1191.31	1189.75	1189.75	1 in 175	1 in 175	1 in 550	5.63	0.93	1.96	9.75

ELEVATIONS

EI. B1	BED LEVEL OF MINOR
EI. B2	D/S BED LEVEL OF LEFT WATERCOURSE
EI. B3	D/S BED LEVEL OF FRONT WATERCOURSE
EI. C1	FSL OF MINOR
EI. C2	D/S FSL OF LEFT WATERCOURSE
EI. C3	D/S FSL OF FRONT WATERCOURSE
EI. D1	TOP OF BANK OF MINOR
EI. D2	BERM LEVEL OF LEFT WATERCOURSE
EI. D3	BERM LEVEL OF FRONTWATERCOURSE

DIMENSIONS

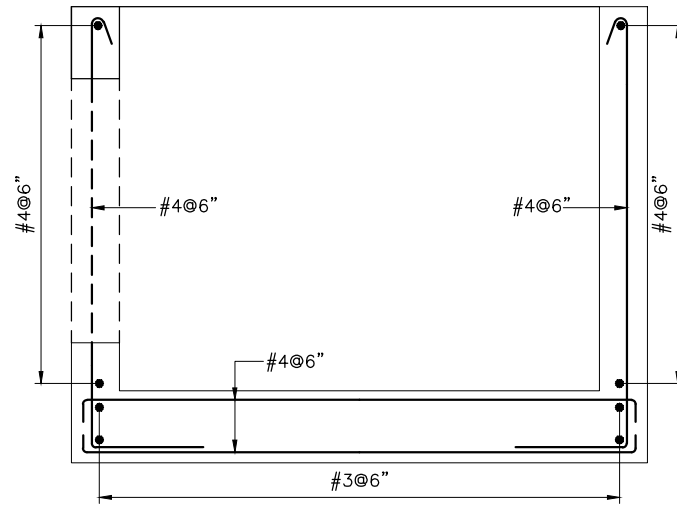
Q1	DESIGN DISCHARGE OF MINOR	T3	TOP WIDTH OF FRONT WATERCOURSE SECTION
Q2	DESIGN DISCHARGE OF LEFT WATERCOURSE	W	WIDTH OF SUMP
Q3	DESIGN DISCHARGE OF FRONT WATERCOURSE		
S1	SLOPE OF MINOR		
S2	SLOPE OF LEFT WATERCOURSE		
S3	SLOPE OF FRONT WATERCOURSE		
T1	TOP WIDTH OF MINOR		
T2	TOP WIDTH OF LEFT WATERCOURSE SECTION		

**NOT FOR
CONSTRUCTION**

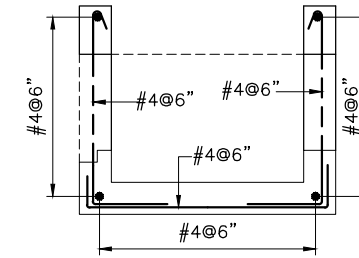
NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/BF/01.



CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM BIFURCATOR TABLE OF DIMENSIONS AND ELEVATIONS		
		CHECKED	DATE MAR., 2021	DWG. NO. RWCS-01/TD/WGC/DS/BF/05	REV. NO. 0					
		RECOMMENDED	REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	APPROVED	0					

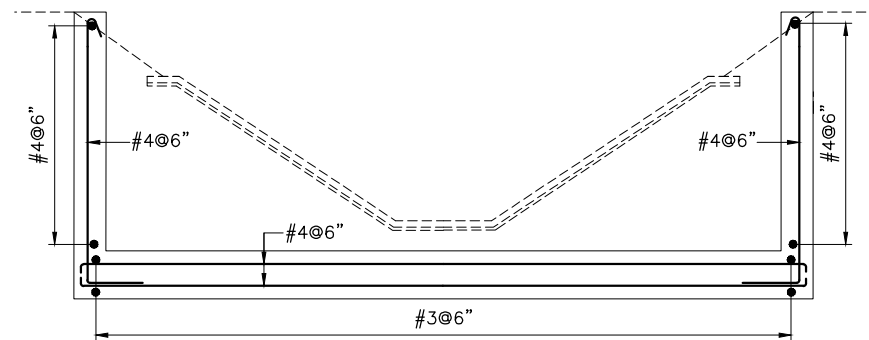


SECTION A - A



SECTION C - C & D - D

**NOT FOR
CONSTRUCTION**



SECTION B - B

NOTE:
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG NO. RWCS-01/TD/WGC/DS/BF/01.



CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-01 DISTRIBUTION SYSTEM BIFURCATOR REINFORCEMENT DETAILS	
							CHECKED			
						RECOMMENDED		DATE	DWG. NO.	REV.
						APPROVED		MAR., 2021	RWCS-01/TD/WGC/DS/BF/06	0

LIST OF REFERENCE DRAWINGS

SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-2/CD/GD/01
2	GENERAL NOTES (2 SHEETS)	RWCS-2/CD/GD/02
3	CONTRACT PACKAGES	RWCS-2/CD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-2/CD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-2/CD/MSD/01
6	WARSAK GRAVITY CANAL - TYPICAL CROSS SECTIONS - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/XS/01
B. PLAN & PROFILES (PP) - REFERENCE DRAWINGS		
7	PLAN - WARSAK MINOR - FROM RD 0+000 TO RD 1+700 (SHEET 1 OF 12)	RWCS-2/CD/WGC/DS/PP/02
8	PLAN - WARSAK MINOR - FROM RD 1+700 TO RD 3+400 (SHEET 2 OF 12)	RWCS-2/CD/WGC/DS/PP/03
9	PLAN - WARSAK MINOR - FROM RD 3+400 TO RD 5+100 (SHEET 3 OF 12)	RWCS-2/CD/WGC/DS/PP/04
10	PLAN - WARSAK MINOR - FROM RD 5+100 TO RD 6+800 (SHEET 4 OF 12)	RWCS-2/CD/WGC/DS/PP/05
11	PLAN - WARSAK MINOR - FROM RD 6+800 TO RD 8+500 (SHEET 5 OF 12)	RWCS-2/CD/WGC/DS/PP/06
12	PLAN - WARSAK MINOR - FROM RD 8+500 TO RD 10+200 (SHEET 6 OF 12)	RWCS-2/CD/WGC/DS/PP/07
13	PLAN - WARSAK MINOR - FROM RD 10+200 TO RD 11+900 (SHEET 7 OF 12)	RWCS-2/CD/WGC/DS/PP/08
14	PLAN - WARSAK MINOR - FROM RD 11+900 TO RD 13+600 (SHEET 8 OF 12)	RWCS-2/CD/WGC/DS/PP/09
15	PLAN - WARSAK MINOR - FROM RD 13+600 TO RD 15+300 (SHEET 9 OF 12)	RWCS-2/CD/WGC/DS/PP/10
16	PLAN - WARSAK MINOR - FROM RD 15+300 TO RD 17+000 (SHEET 10 OF 12)	RWCS-2/CD/WGC/DS/PP/11
17	PLAN - WARSAK MINOR - FROM RD 17+000 TO RD 18+680 (SHEET 11 OF 12)	RWCS-2/CD/WGC/DS/PP/12

SR.	TITLE	DRAWING NO.
18	PLAN - WARSAK MINOR - FROM RD 18+680 TO RD 19+200 (SHEET 12 OF 12)	RWCS-2/CD/WGC/DS/PP/13
19	PLAN - WARSAK MINOR - CURVE DATA TABLE	RWCS-2/CD/WGC/DS/PP/14
20	PLAN - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 1+700 (SHEET 1 OF 3)	RWCS-2/CD/WGC/DS/PP/15
21	PLAN - KAFOOR DEHRI MINOR - FROM RD 1+700 TO RD 3+400 (SHEET 2 OF 3)	RWCS-2/CD/WGC/DS/PP/16
22	PLAN - KAFOOR DEHRI MINOR - FROM RD 3+400 TO RD 3+783 (SHEET 3 OF 3)	RWCS-2/CD/WGC/DS/PP/17
23	PLAN - KAFOOR DEHRI MINOR - CURVE DATA TABLE	RWCS-2/CD/WGC/DS/PP/18
24	PROFILE - WARSAK MINOR - FROM RD 0+000 TO RD 5+000 (SHEET 1 OF 6)	RWCS-2/CD/WGC/DS/PP/19A
25	PROFILE - WARSAK MINOR - FROM RD 0+000 TO RD 5+000 (SHEET 2 OF 6)	RWCS-2/CD/WGC/DS/PP/19B
26	PROFILE - WARSAK MINOR - FROM RD 5+000 TO RD 10+000 (SHEET 3 OF 6)	RWCS-2/CD/WGC/DS/PP/20A
27	PROFILE - WARSAK MINOR - FROM RD 5+000 TO RD 10+000 (SHEET 4 OF 6)	RWCS-2/CD/WGC/DS/PP/20B
28	PROFILE - WARSAK MINOR - FROM RD 10+000 TO RD 15+000 (SHEET 5 OF 6)	RWCS-2/CD/WGC/DS/PP/21
29	PROFILE - WARSAK MINOR - FROM RD 15+000 TO RD 19+200 (SHEET 6 OF 6)	RWCS-2/CD/WGC/DS/PP/22
30	PROFILE - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 3+783 (SHEET 1 OF 2)	RWCS-2/CD/WGC/DS/PP/23A
31	PROFILE - KAFOOR DEHRI MINOR - FROM RD 0+000 TO RD 3+783 (SHEET 2 OF 2)	RWCS-2/CD/WGC/DS/PP/23B

STRUCTURE CATEGORY LEGEND

CATEGORY-1: DISMANTLED AND RECONSTRUCT THE SAME

RB(VRB)-DR => ROAD BRIDGE FOR VILLAGE ROAD, DISMANTLED AND RECONSTRUCTED

RB(DRB)-DR => ROAD BRIDGE FOR DISTRICT ROAD, DISMANTLED AND RECONSTRUCTED

FTB-DR => FOOT BRIDGE, DISMANTLED AND RECONSTRUCTED

HTC(DC-I)-DR => HILL TORRENT CROSSING-DRAINAGE CULVERT (TYPE-I), DISMANTLED AND RECONSTRUCTED

CATEGORY-2: DISMANTLED ONLY

RB(VRB)-D => ROAD BRIDGE FOR VILLAGE ROAD, DISMANTLED

WCC-D => WATER COURSE CROSSING, DISMANTLED

HTC(DC-I)-D => HILL TORRENT CROSSING-DRAINAGE CULVERT (TYPE-I), DISMANTLED

CATEGORY-3: DISMANTLED AND RECONSTRUCT THE NEW TYPE

FTB-D, RB(VRB)-R => FOOT BRIDGE DISMANTLED AND ROAD BRIDGE FOR VILLAGE ROAD RECONSTRUCTED

RB(VRB)-DR => ROAD BRIDGE FOR VILLAGE ROAD, DISMANTLED AND RECONSTRUCTED

HTC(AQ)-D, HTC(DC-II)-R => HILL TORRENT CROSSING (AQUEDUCT) DISMANTLED AND DRAINAGE CULVERT (TYPE-II) RECONSTRUCTED

CATEGORY-4: RETAINED

FTB-RET. => FOOT BRIDGE RETAINED

RB(VRB)-RET. => ROAD BRIDGE FOR VILLAGE ROAD RETAINED

HTC(SYN)-RET. => HILL TORRENT CROSSING (SYPHON) RETAINED

CATEGORY-5: REPAIRS

FTB-REP. => FOOT BRIDGE REPAIRED

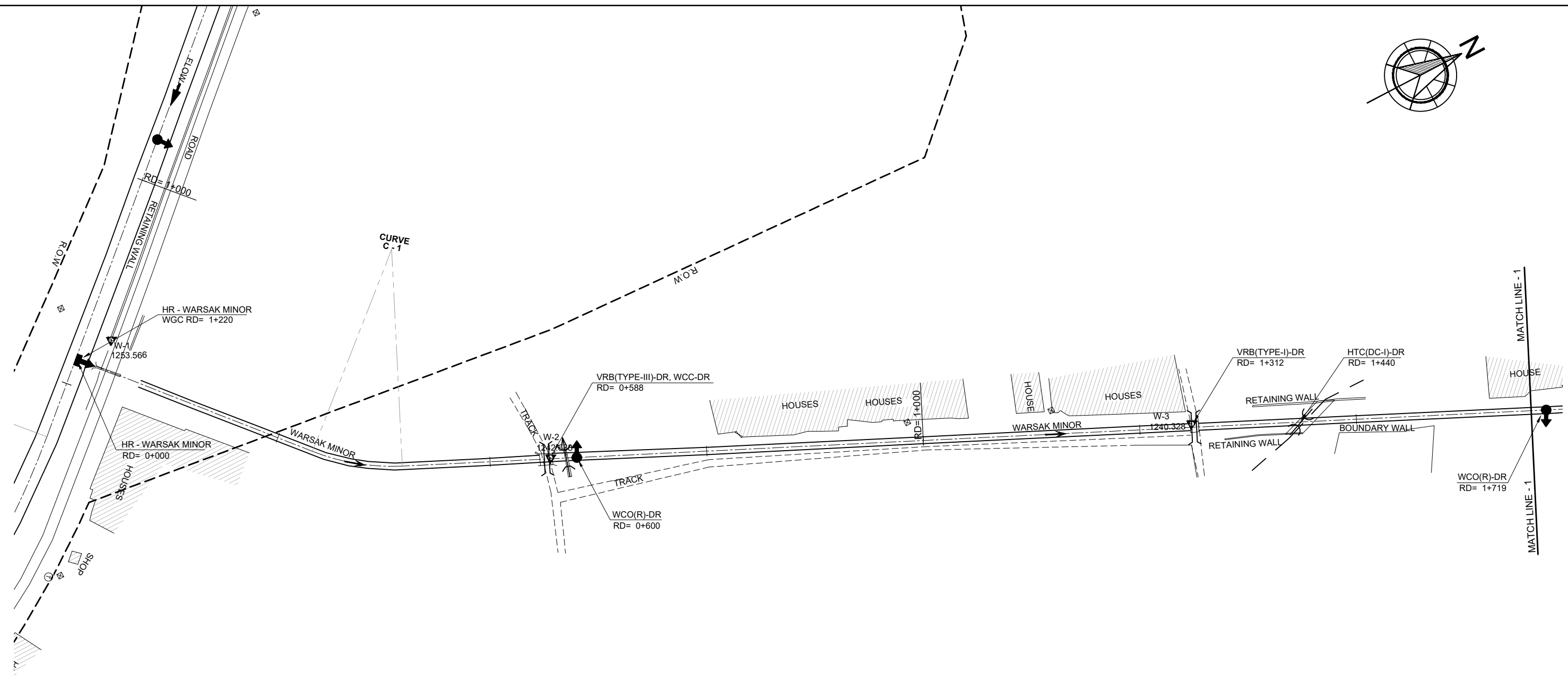
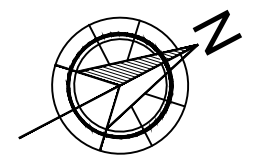
RB(VRB)-REP. => ROAD BRIDGE FOR VILLAGE ROAD REPAIRED

HTC(DC-I)-REP. => HILL TORRENT CROSSING (DRAINAGE CULVERT) REPAIRED

* DRAINAGE CULVERT (DC-I), EXCEPT THOSE ISSUED AS TENDER DRAWINGS, MENTIONED ON PLAN & PROFILE (P&P) REQUIRE MISCELLANEOUS REPAIR WORKS, MEASUREMENT AND PAYMENTS SHALL BE MADE AS PER SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER.

**CONSTRUCTION
DRAWING**

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MN CHECKED RECOMMENDED APPROVED	DATE JAN., 2017	DWG. NO. RWCS-2/CD/WGC/DS/PP/01 REV. 0
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**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTES

- FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.
- FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS REFER DWG. RWCS-2/CD/GD/02.



SHEET 1 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

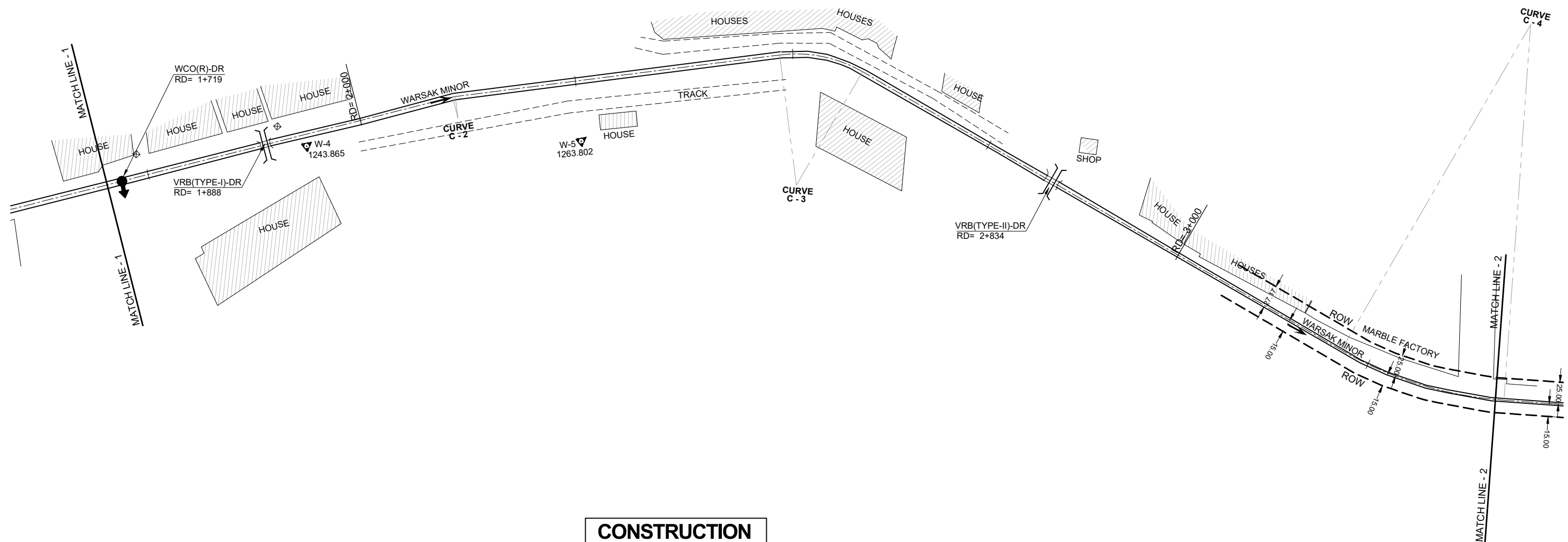
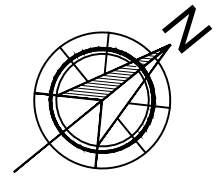
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 0+000 TO RD 1+700**

DRAWN: MN
CHECKED: [Signature]
RECOMMENDED: [Signature]

DATE: JAN., 2019
DWG. NO.: RWCS-2/CD/WGC/DS/PP/02
REV.: 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 2 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

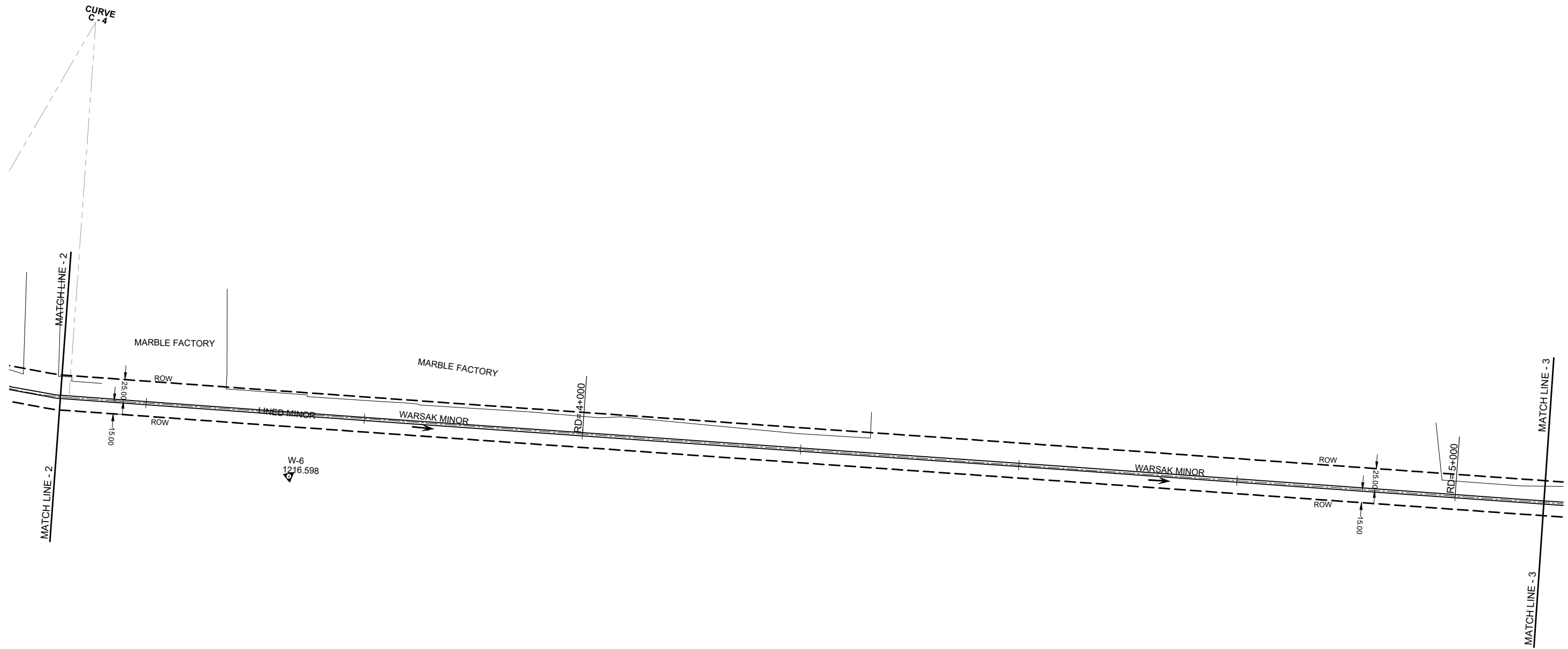
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 1+700 TO RD 3+400**

DATE: JAN., 2019
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/03**
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 3 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

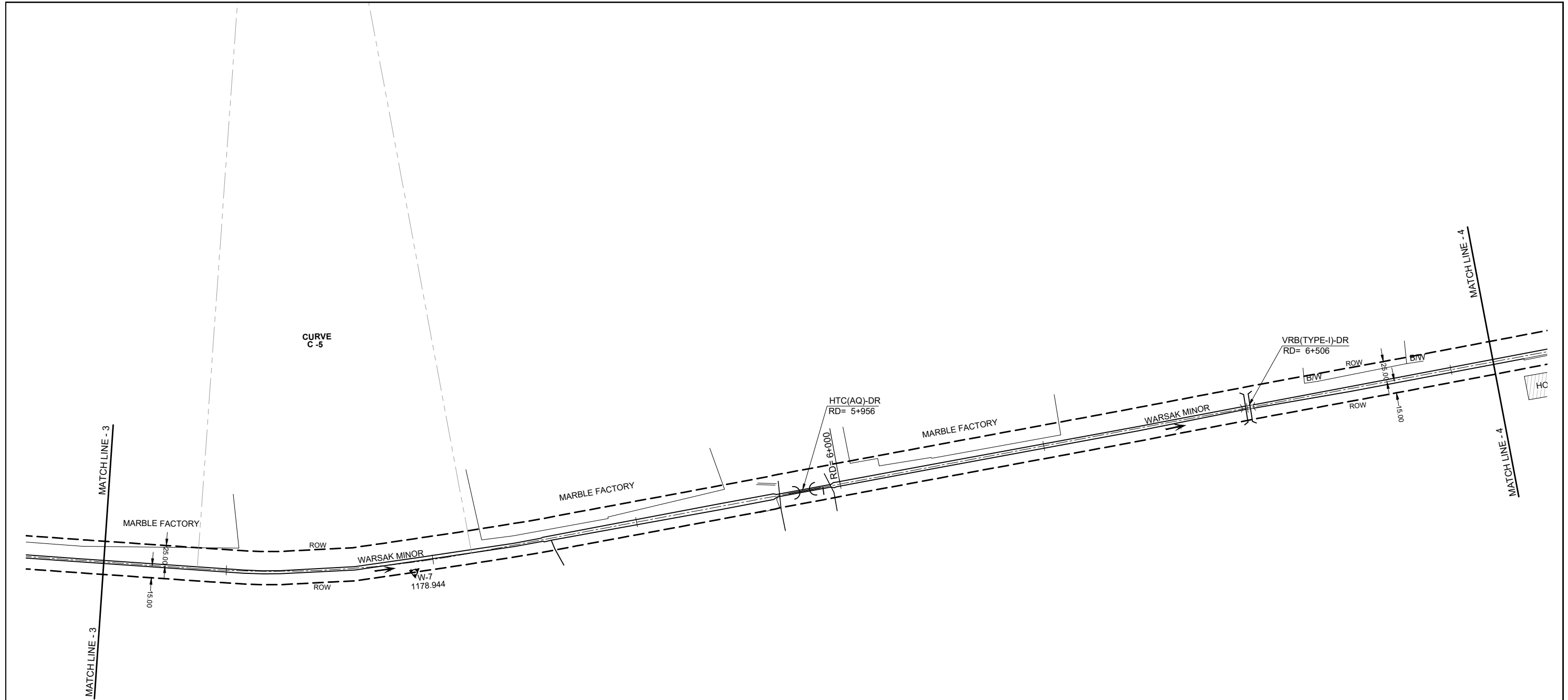
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	MN

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 3+400 TO RD 5+100**

DATE: JAN., 2019
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/04**
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT	▲	GRAVEYARD	⌒	MANHOLE	⊠	WATER PIPE LINE	---
BUILDING	▨	LIGHT POLE	⊙	TELEPHONE POLE	⊕	TRANSFORMER	●●
TREE	🌳	PYLON	⊠	GAS PIPE LINE	—	TRACK	----
ELECTRIC POLE	⊠	TUBE WELL	☀	TELEPHONE LINE	----	ROAD	—

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

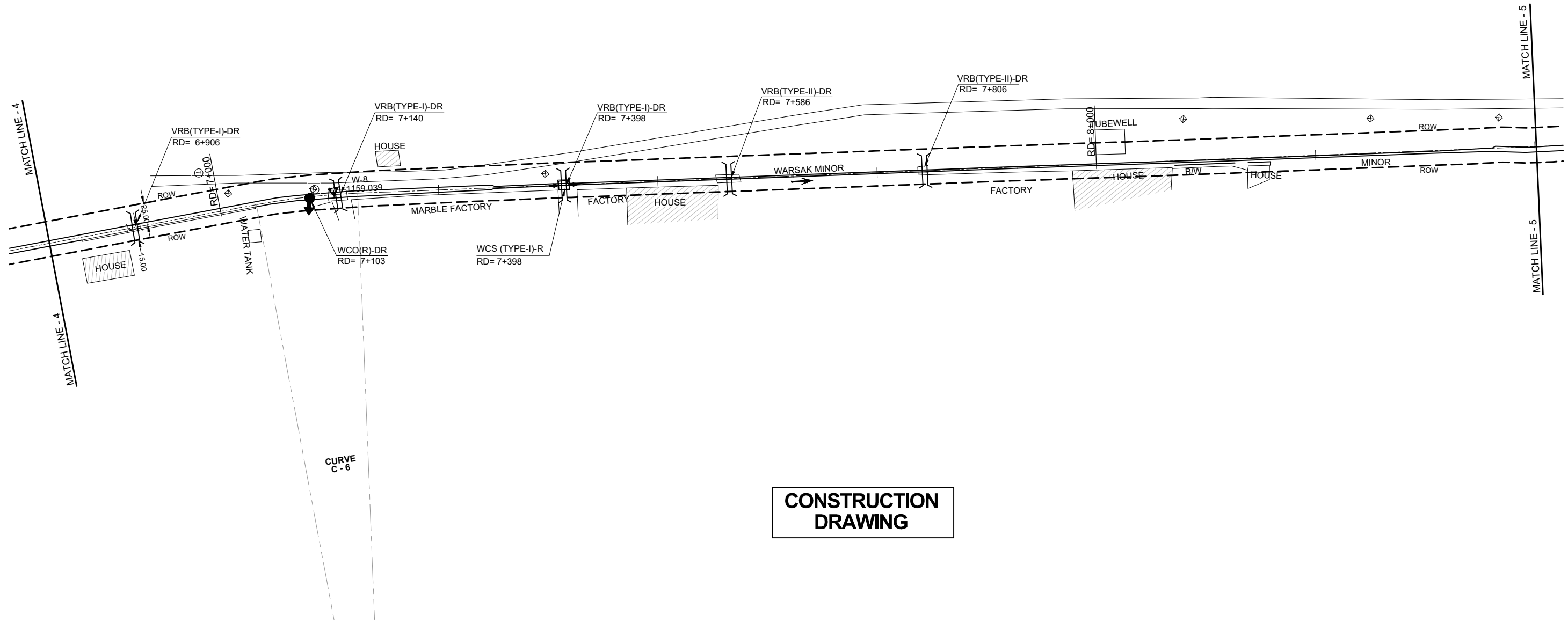
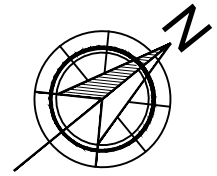
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 5+100 TO RD 6+800**

DRAWN	MN	DATE	DWG. NO.	REV.
CHECKED	<i>[Signature]</i>	JAN., 2019	RWCS-2/CD/WGC/DS/PP/05	0
RECOMMENDED	<i>[Signature]</i>			



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 5 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

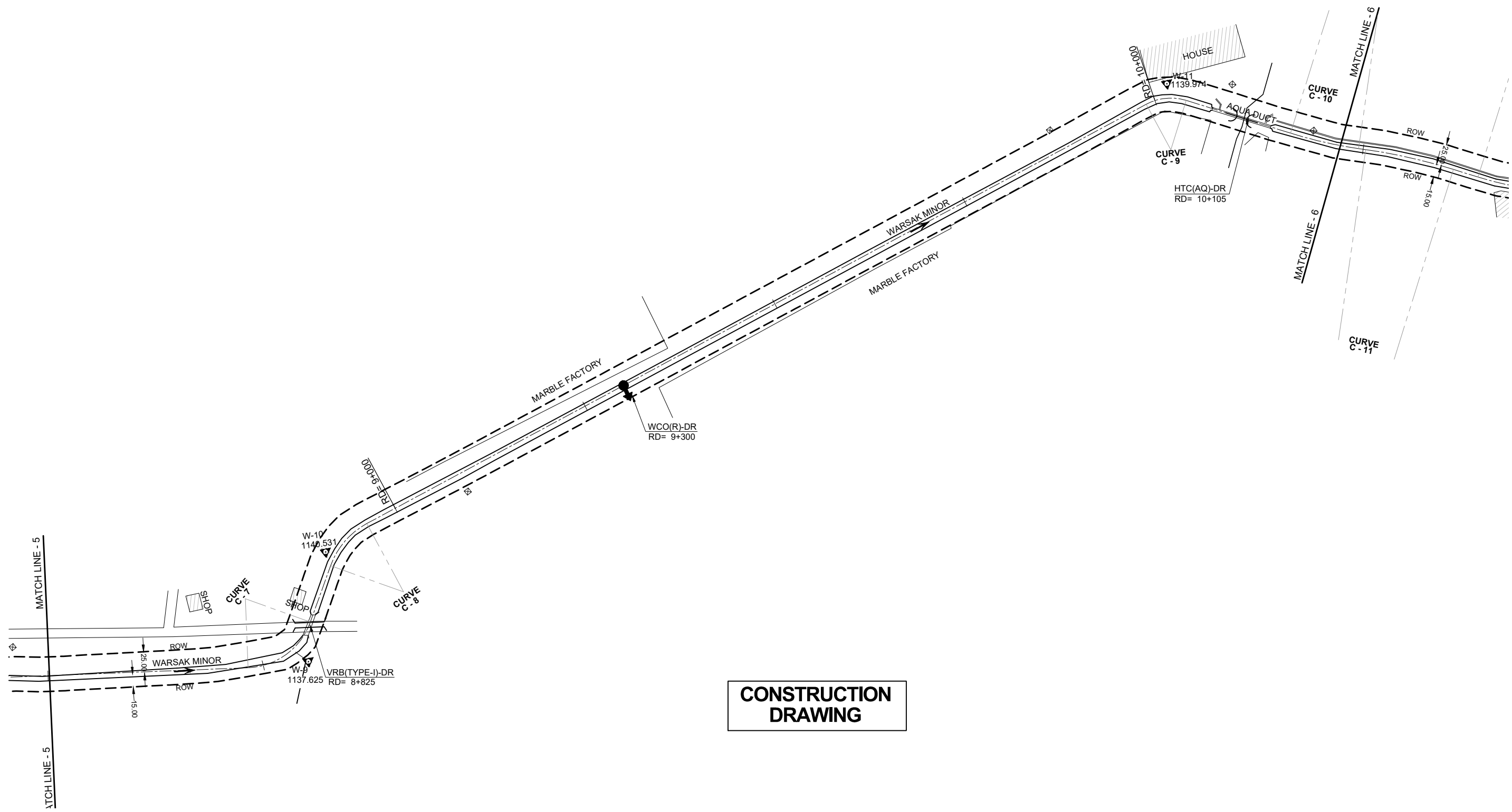
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 6+800 TO RD 8+500**

DRAWN: MN
CHECKED:
RECOMMENDED:

DATE: JAN., 2019
DWG. NO.: RWCS-2/CD/WGC/DS/PP/06
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT	▲	GRAVEYARD	⌒	MANHOLE	⊠	WATER PIPE LINE	---
BUILDING	▨	LIGHT POLE	⊙	TELEPHONE POLE	⊕	TRANSFORMER	●●
TREE	⊗	PYLON	⊠	GAS PIPE LINE	—	TRACK	----
ELECTRIC POLE	⊠	TUBE WELL	☀	TELEPHONE LINE	----	ROAD	—

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 6 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

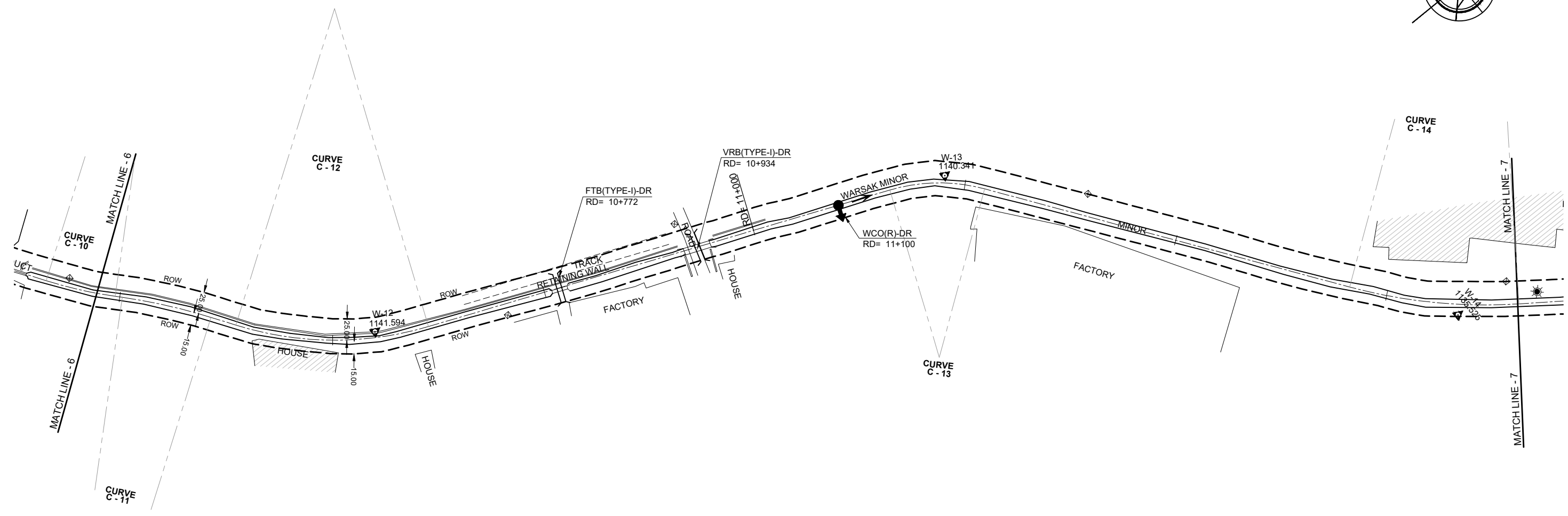
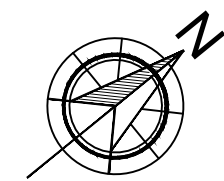
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 8+500 TO RD 10+200**

DRAWN: MN
CHECKED: [Signature]
RECOMMENDED: [Signature]

DATE: JAN., 2019
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/07**
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT	GRAVEYARD	MANHOLE	WATER PIPE LINE
BUILDING	LIGHT POLE	TELEPHONE POLE	TRANSFORMER
TREE	PYLON	GAS PIPE LINE	TRACK
ELECTRIC POLE	TUBE WELL	TELEPHONE LINE	ROAD

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

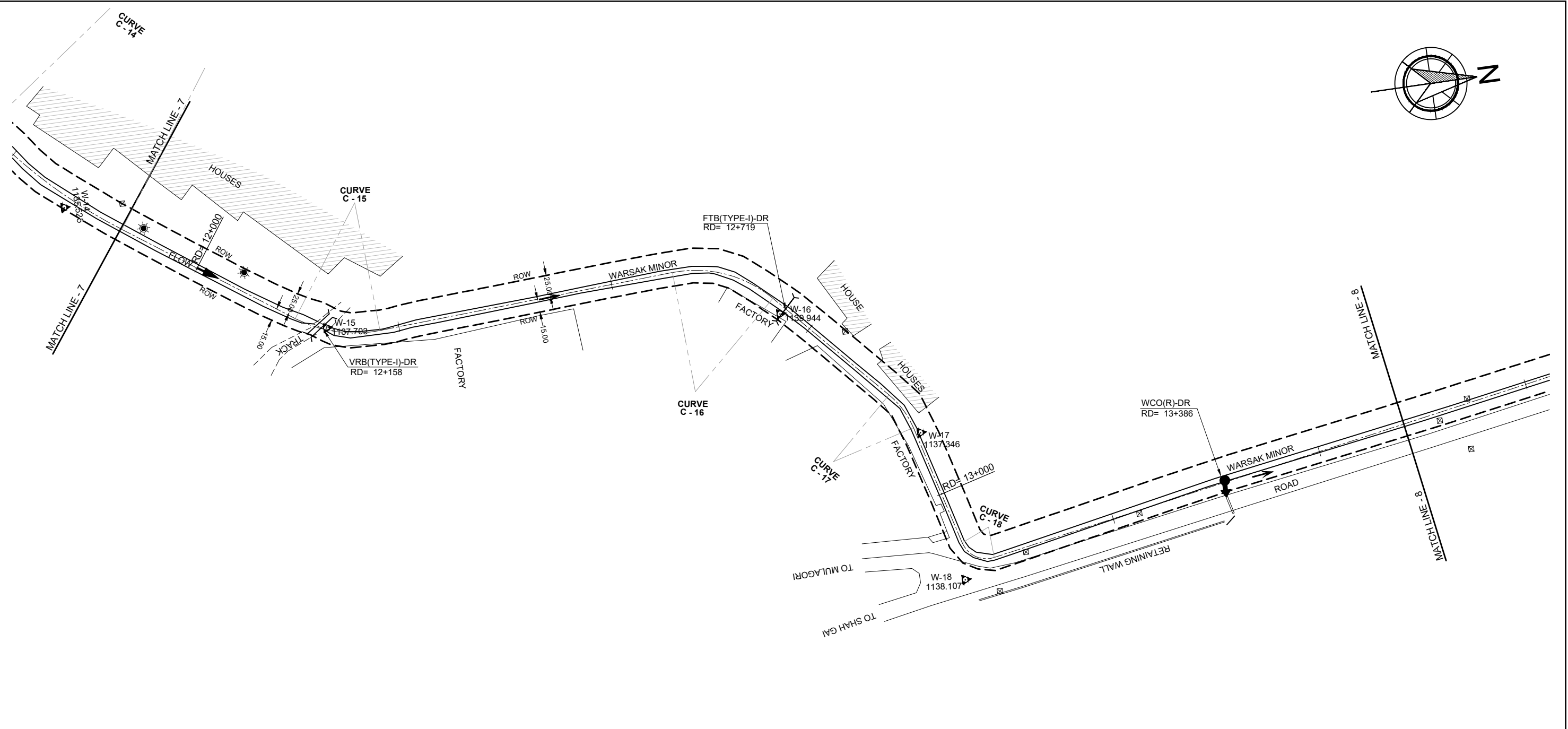
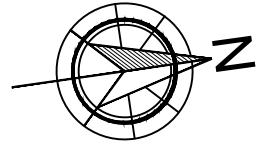
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
 DETAILED DESIGN AND CONSTRUCTION
 SUPERVISION OF REMODELING OF
 WARSAK CANAL SYSTEM
 IN
 PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
 CONTRACT RWCS - 2
 DISTRIBUTION SYSTEM
 PLAN - WARSAK MINOR
 FROM RD 10+200 TO RD 11+900**

DATE	DWG. NO.	REV.
JAN., 2019	RWCS-2/CD/WGC/DS/PP/08	0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 8 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

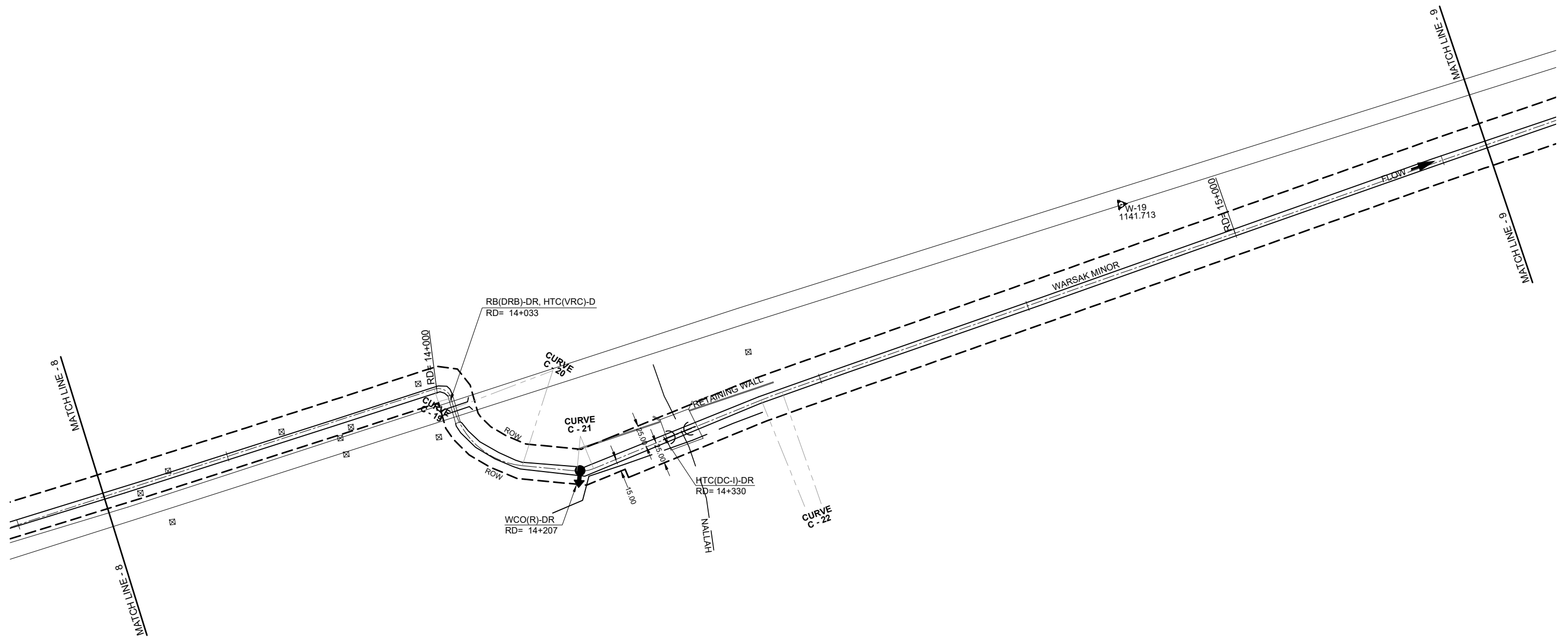
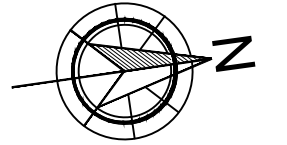
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 11+900 TO RD 13+600**

DRAWN: MN
CHECKED: [Signature]
RECOMMENDED: [Signature]

DATE: JAN., 2019
DWG. NO.: RWCS-2/CD/WGC/DS/PP/09
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 9 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

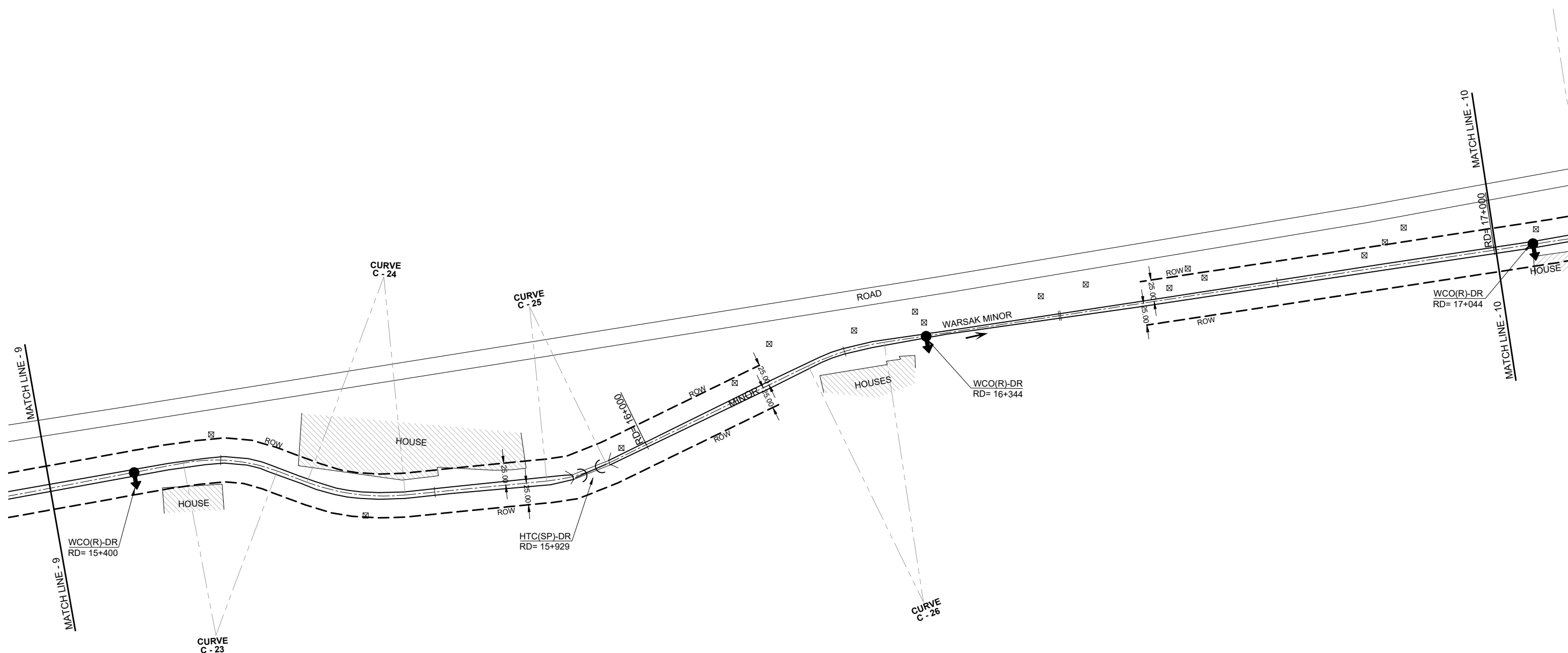
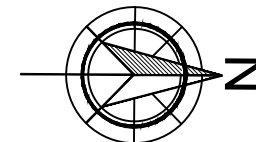
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 13+600 TO RD 15+300

DRAWN: MN
CHECKED: [Signature]
RECOMMENDED: [Signature]

DATE: JAN., 2019
DWG. NO.: RWCS-2/CD/WGC/DS/PP/10
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 10 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

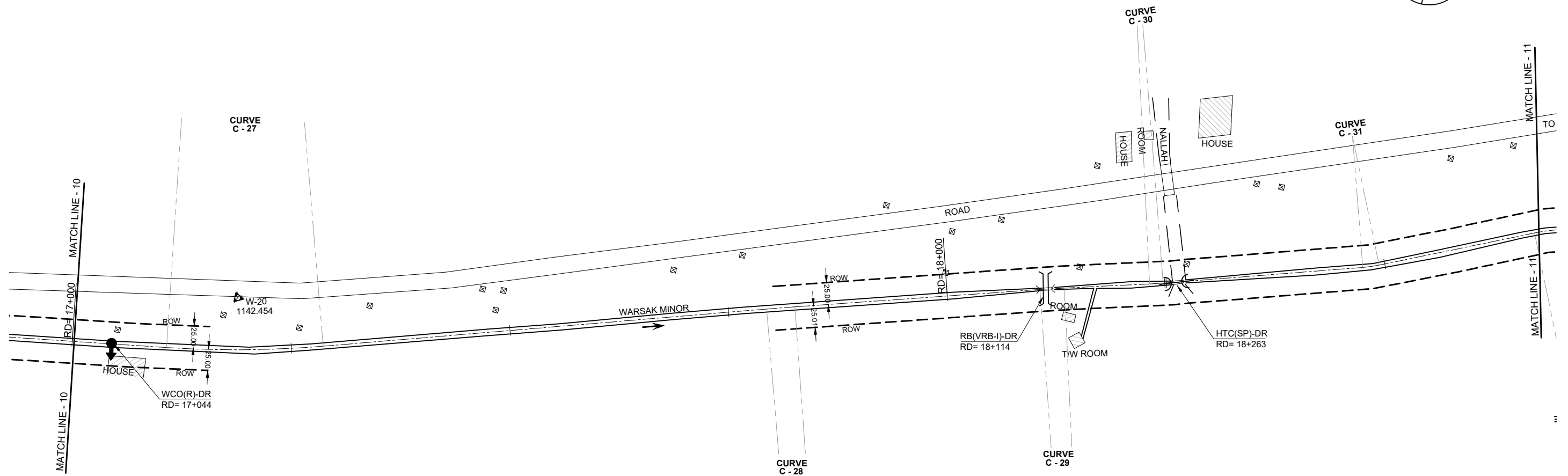
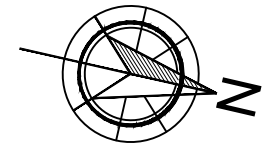
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	MN

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 15+300 TO RD 17+000**

DATE: JAN., 2019
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/11**
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 11 OF 12

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

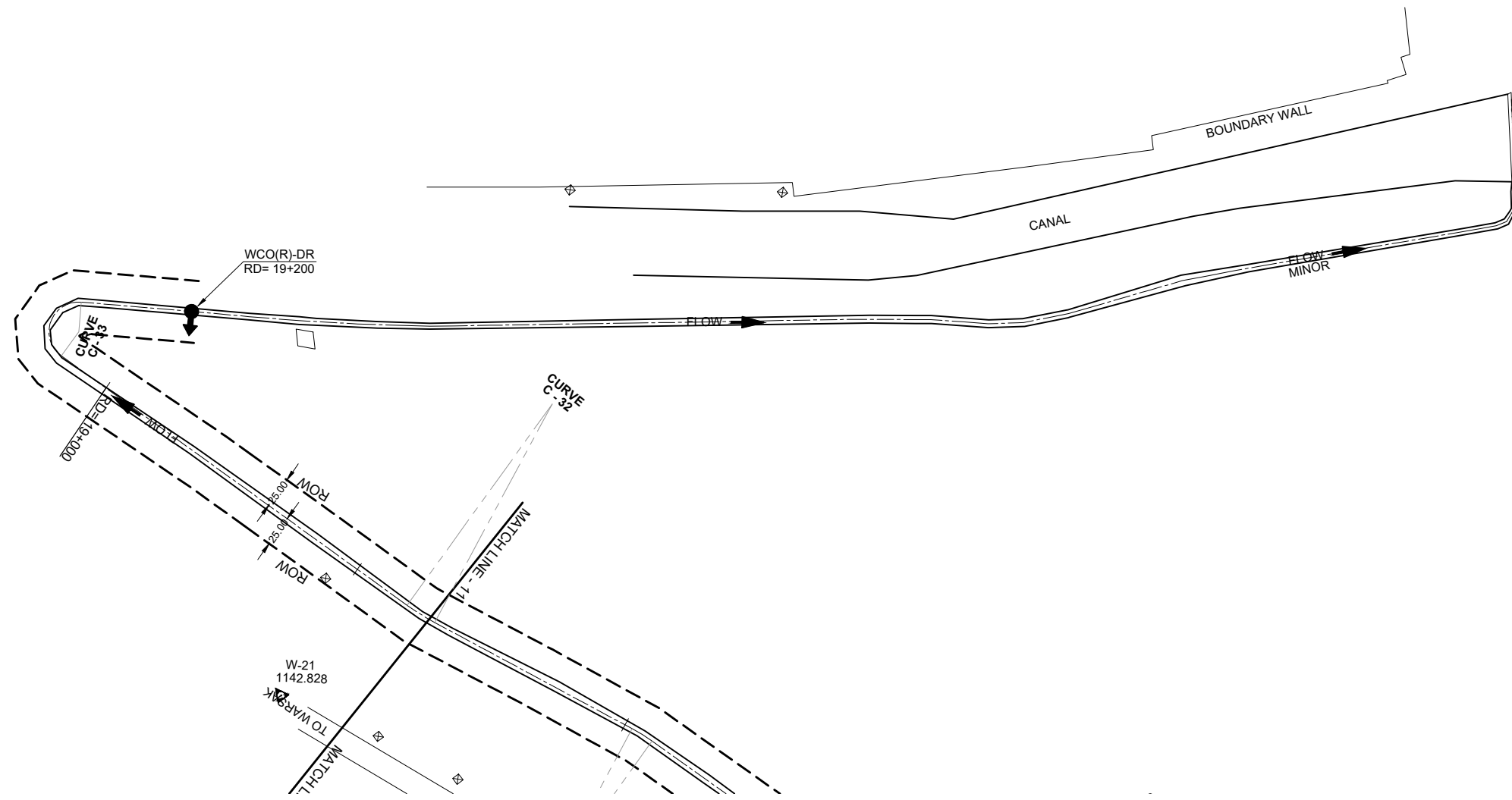
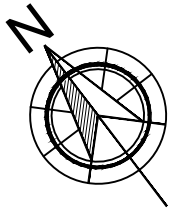
CONSULTANT - A JOINT VENTURE OF
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PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 17+000 TO RD 18+680**

DATE: JAN., 2019
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/12**
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

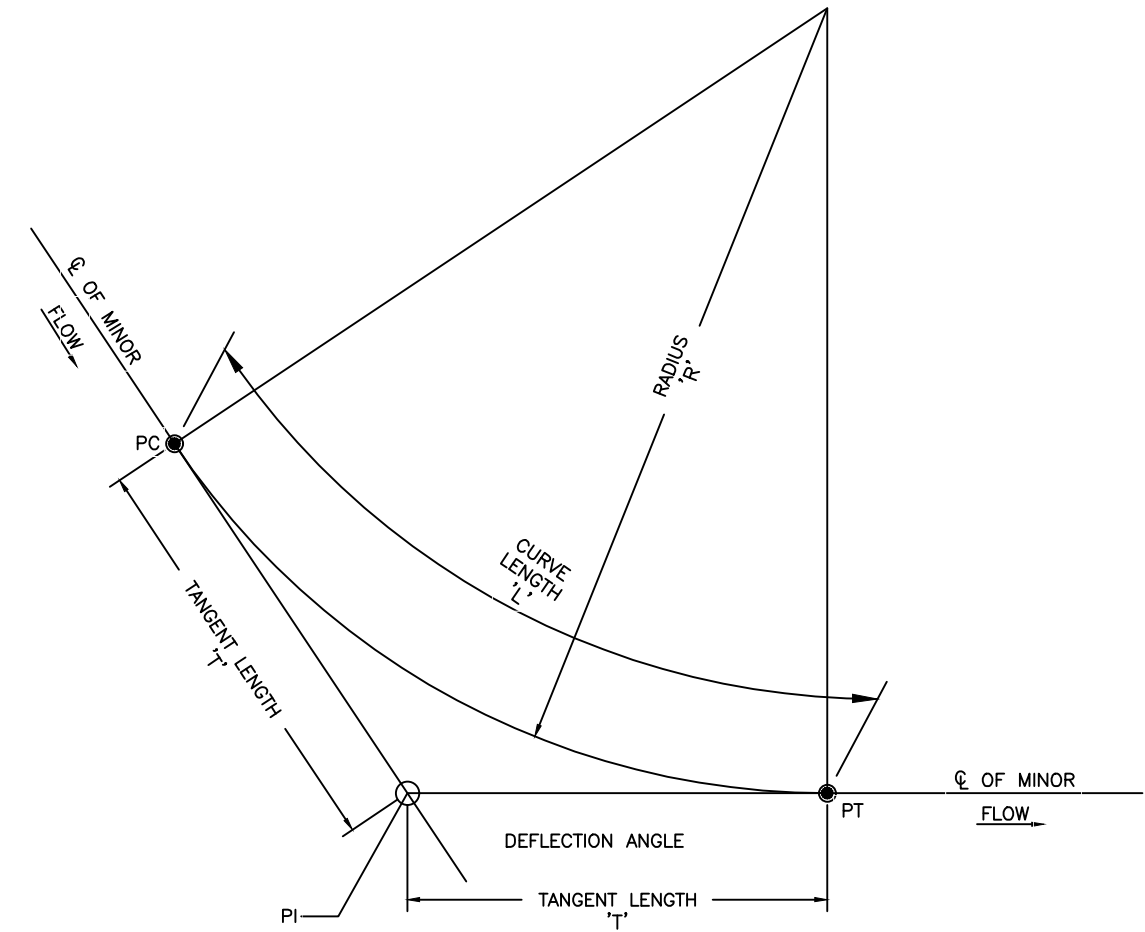
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - WARSAK MINOR
FROM RD 18+680 TO RD 19+200**

DATE	DWG. NO.	REV.
JAN., 2019	RWCS-2/CD/WGC/DS/PP/13	0

CURVE DATA

PI No.	PI Station (RD)	PI Coordinates		Radius, R (ft)	Deflection Angle, θ (DMS)	Tangent Length, T (ft)	Curve Length, L (ft)	PC Station (RD)	PT Station (RD)
		N (ft)	E (ft)						
C-1	0+346.62	12395594.9425	2363990.0335	250	24 ° 13 ' 54 "	53.67	105.73	0+292.95	0+398.68
C-2	2+110.11	12397197.7173	2364729.4106	25	6 ° 58 ' 19 "	1.52	3.04	2+108.59	2+111.63
C-3	2+535.98	12397559.9142	2364953.4259	150	37 ° 28 ' 49 "	50.89	98.12	2+485.09	2+583.21
C-4	3+315.30	12397837.7436	2365685.4603	430	26 ° 6 ' 49 "	99.72	195.98	3+215.58	3+411.56
C-5	5+382.04	12399349.2530	2367100.0545	1300	14 ° 39 ' 35 "	167.22	332.62	5+214.82	5+547.44
C-6	7+099.75	12400861.2202	2367919.0458	800	8 ° 19 ' 29 "	58.22	116.24	7+041.53	7+157.77
C-7	8+786.19	12402212.3282	2368928.6205	80	68 ° 0 ' 39 "	53.97	94.96	8+732.22	8+827.18
C-8	8+931.66	12402347.3953	2368846.6826	90	41 ° 59 ' 47 "	34.54	65.97	8+897.12	8+963.09
C-9	10+014.78	12403414.5560	2369049.3585	60	45 ° 42 ' 24 "	25.29	47.86	9+989.49	10+037.35
C-10	10+204.64	12403520.9591	2369209.8744	500	9 ° 18 ' 6 "	40.68	81.17	10+163.96	10+245.13
C-11	10+305.69	12403589.7980	2369284.1058	650	9 ° 11 ' 55 "	52.29	104.35	10+253.40	10+357.75
C-12	10+503.10	12403699.2918	2369448.6399	380	33 ° 47 ' 51 "	115.44	224.15	10+387.66	10+611.81
C-13	11+219.90	12404367.4626	2369726.2191	200	31 ° 31 ' 25 "	56.45	110.04	11+163.45	11+273.49
C-14	11+805.84	12404712.8611	2370203.0727	600	18 ° 43 ' 58 "	98.97	196.17	11+706.87	11+903.04
C-15	12+180.03	12405019.5005	2370420.5905	150	38 ° 24 ' 24 "	52.25	100.55	12+127.78	12+228.33
C-16	12+637.87	12405480.6298	2370395.9686	140	50 ° 56 ' 7 "	66.68	124.46	12+571.19	12+695.65
C-17	12+894.06	12405658.4271	2370592.5949	100	27 ° 17 ' 31 "	24.28	47.63	12+869.78	12+917.41
C-18	13+089.08	12405708.5773	2370782.0138	30	85 ° 2 ' 34 "	27.51	44.53	13+061.57	13+106.10
C-19	14+013.21	12406629.3551	2370621.7759	15	92 ° 9 ' 48 "	15.58	24.13	13+997.63	14+021.76
C-20	14+083.08	12406641.3199	2370710.1698	90	68 ° 32 ' 16 "	61.32	107.66	14+021.76	14+129.42
C-21	14+201.60	12406770.9974	2370741.9102	40	27 ° 49 ' 58 "	9.91	19.43	14+191.69	14+211.12
C-22	14+429.74	12406992.6612	2370686.3180	500	2 ° 54 ' 28 "	12.69	25.38	14+417.05	14+442.43
C-23	15+501.01	12408043.6294	2370478.7686	200	31 ° 10 ' 22 "	55.79	108.81	15+445.22	15+554.03
C-24	15+648.42	12408184.7495	2370530.1363	250	26 ° 4 ' 20 "	57.88	113.76	15+590.54	15+704.30
C-25	15+902.37	12408439.2712	2370503.0678	200	20 ° 21 ' 39 "	35.92	71.07	15+866.45	15+937.52
C-26	16+239.42	12408741.7766	2370352.6949	300	17 ° 23 ' 8 "	45.87	91.03	16+193.55	16+284.58
C-27	17+185.73	12409676.9412	2370203.8076	1200	8 ° 34 ' 8 "	89.9	179.47	17+095.83	17+275.30
C-28	17+798.70	12410260.7546	2370018.4434	2500	0 ° 44 ' 33 "	16.2	32.40	17+782.50	17+814.90
C-29	18+108.23	12410557.4408	2369928.4589	1200	1 ° 19 ' 49 "	13.93	27.86	18+094.30	18+122.16
C-30	18+227.17	12410672.0304	2369896.5895	500	1 ° 46 ' 56 "	7.78	15.55	18+219.39	18+234.94
C-31	18+472.59	12410906.3243	2369823.5057	150	7 ° 10 ' 0 "	9.39	18.76	18+463.20	18+481.96
C-32	18+675.94	12411091.3979	2369739.1973	200	7 ° 30 ' 17 "	13.12	26.20	18+662.82	18+689.02
C-33	19+119.55	12411515.6878	2369609.5889	24	149 ° 3 ' 32 "	86.71	62.44	19+032.84	19+095.28



CURVE LAYOUT DETAIL

**CONSTRUCTION
DRAWING**

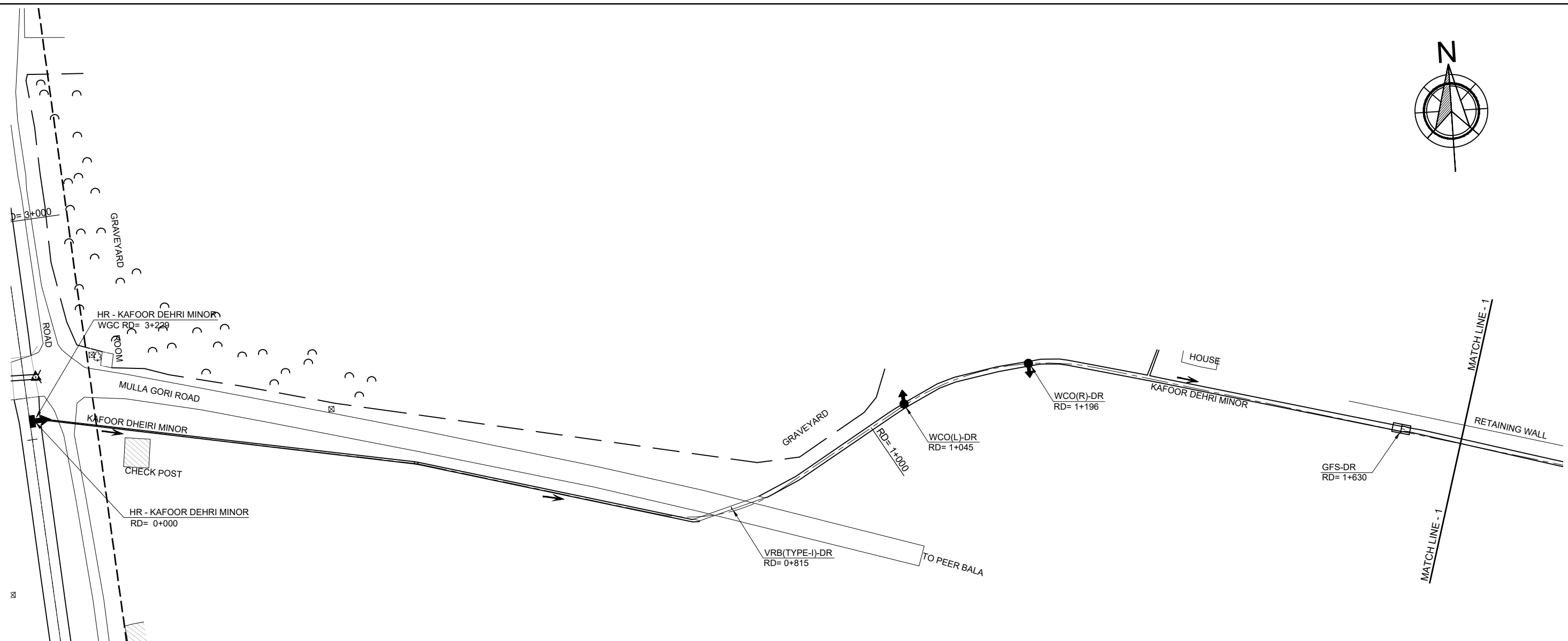
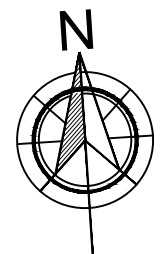
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
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PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DRAWN: MN
CHECKED: *[Signature]*
RECOMMENDED: *[Signature]*
DATE: JAN., 2019
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/14**
REV. 0



**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTES

- FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.
- FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS REFER DWG. RWCS-2/CD/GD/02.



SHEET 1 OF 3

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

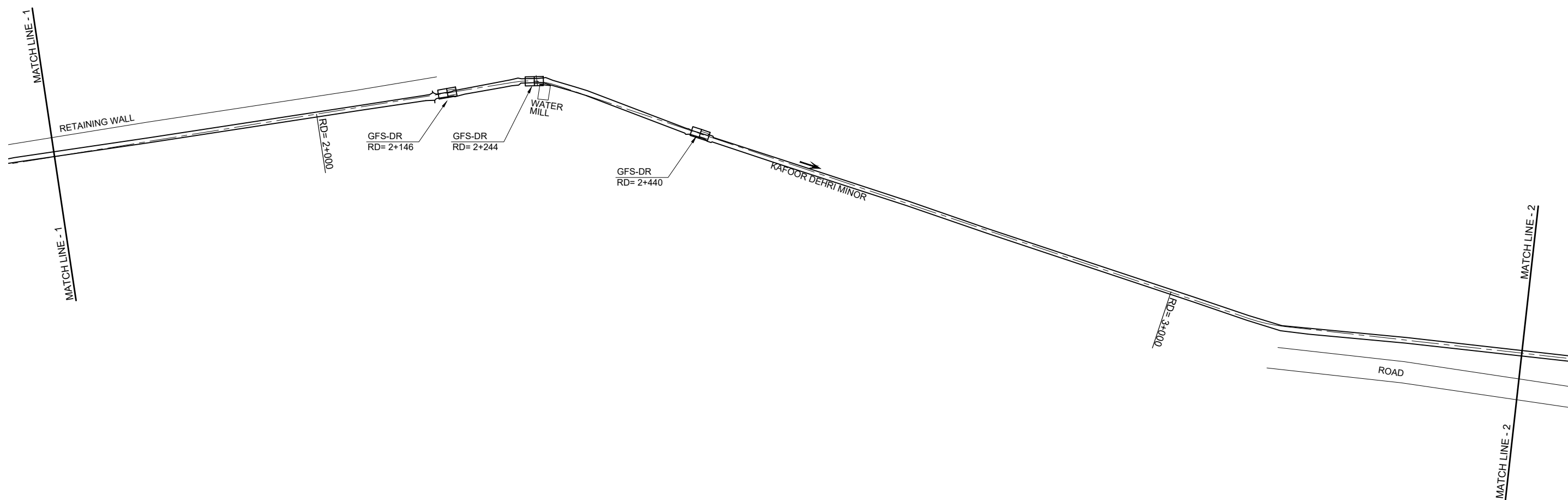
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
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PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - KAFOOR DEHRI MINOR
FROM RD 0+000 TO RD 1+700

DATE: JAN., 2017
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/15**
REV. 0



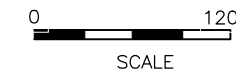
**CONSTRUCTION
DRAWING**

LEGEND

TRAVERSE POINT		GRAVEYARD		MANHOLE		WATER PIPE LINE	
BUILDING		LIGHT POLE		TELEPHONE POLE		TRANSFORMER	
TREE		PYLON		GAS PIPE LINE		TRACK	
ELECTRIC POLE		TUBE WELL		TELEPHONE LINE		ROAD	

NOTE

FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SCALE
SHEET 2 OF 3

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

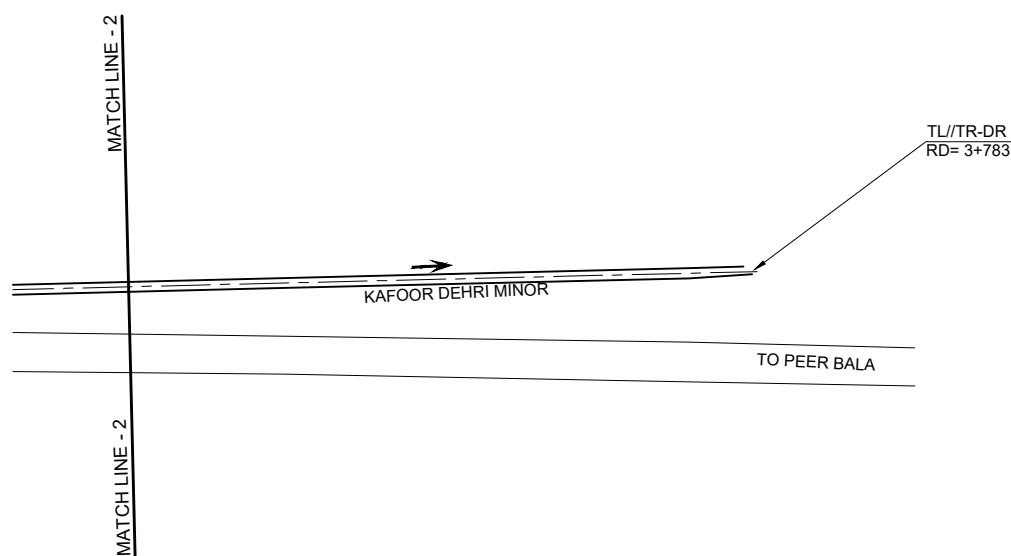
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PLAN - KAFOOR DEHRI MINOR
FROM RD 1+700 TO RD 3+400

DRAWN: MN
CHECKED: *[Signature]*
RECOMMENDED: *[Signature]*
DATE: JAN., 2017
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/16**
REV. 0



CONSTRUCTION DRAWING

LEGEND

TRAVERSE POINT	GRAVEYARD	MANHOLE	WATER PIPE LINE
BUILDING	LIGHT POLE	TELEPHONE POLE	TRANSFORMER
TREE	PYLON	GAS PIPE LINE	TRACK
ELECTRIC POLE	TUBE WELL	TELEPHONE LINE	ROAD

NOTE

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SHEET 3 OF 3

CLIENT
IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

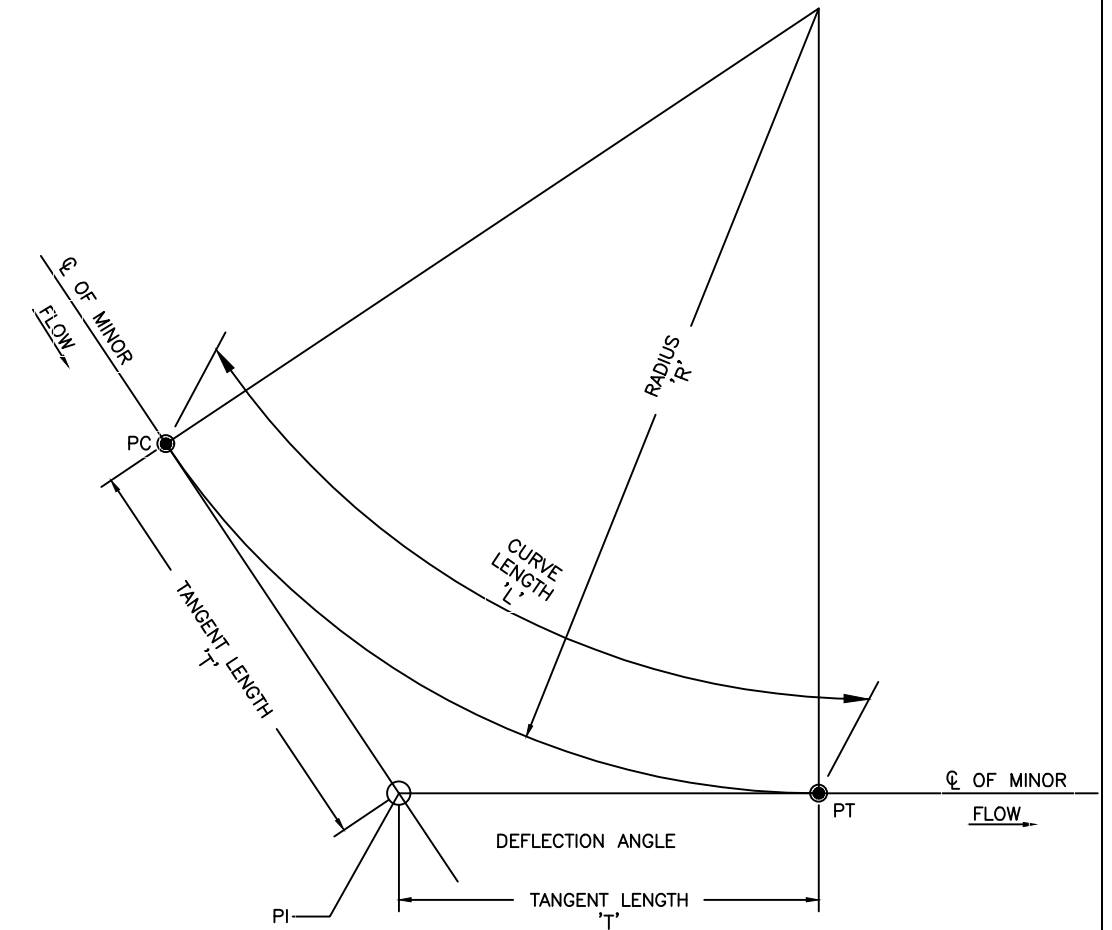
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN MN	CHECKED <i>[Signature]</i>	RECOMMENDED <i>[Signature]</i>
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REMODELING OF WARSAK CANAL SYSTEM
 CONTRACT RWCS - 2
 DISTRIBUTION SYSTEM
 PLAN - KAFOOR DEHRI MINOR
 FROM RD 3+400 TO RD 3+783

DATE: JAN., 2017
 DWG. NO.: RWCS-2/CD/WGC/DS/PP/17
 REV. 0

CURVE DATA

PI No.	PI Station (RD)	PI Coordinates		Radius, R (ft)	Deflection Angle, θ (DMS)	Tangent Length, T (ft)	Curve Length, L (ft)	PC Station (RD)	PT Station (RD)
		N	E						
		(ft)	(ft)						
C-1	0+814.72	12393277.6185	2364927.7846	190	46 ° 4 ' 14 "	80.79	152.78	0+733.93	0+886.71
C-2	1+854.32	12393171.8076	2366301.7556	100	27 ° 47 ' 30 "	24.74	48.51	1+829.58	1+878.09
C-3	2+717.09	12392578.5454	2366930.4424	200	12 ° 11 ' 25 "	21.36	42.55	2+695.73	2+738.28



CURVE LAYOUT DETAIL

**CONSTRUCTION
DRAWING**

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
KAFOOR DEHRI MINOR
CURVE DATA TABLE

DATE: JAN., 2017
DWG. NO.: **RWCS-2/CD/WGC/DS/PP/18**
REV. 0

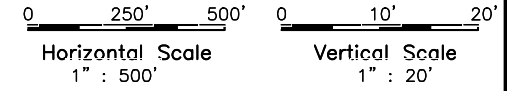
DESIGN DISCHARGE (Cusecs)	34.95		31.35		29.84	
FREE BOARD (LINED) (ft)	0.75					
F S D (ft)	2.55		2.42		2.37	
BED WIDTH (ft)	2.25					
LONG. SLOPE (ft/ft)	1 IN 2000					
VELOCITY (ft/Sec.)	2.26		2.20		2.17	
DESIGN DATA	BANK LEVEL (RIGHT) (ft)	1250.69	1249.41	1242.23	1242.93	1248.41
	BANK LEVEL (LEFT) (ft)	1250.63	1244.34	1242.15	1242.98	1248.41
	F S L (ft)	1239.00	1238.88	1238.75	1238.50	1237.62
	BED LEVEL (ft)	1236.45	1236.33	1236.20	1236.08	1235.25
BED LEVEL (AS BUILT) (ft)	1236.44	1236.39	1236.34	1236.29	1236.04	1235.99
EXISTING DATA (SURVEYED)	BANK LEVEL (RIGHT) (ft)	1251.11	1248.57	1242.16	1241.38	1244.30
	BANK LEVEL (LEFT) (ft)	1251.58	1240.19	1242.05	1243.15	1245.89
	BED LEVEL (CENTER) (ft)	1237.96	1237.92	1238.80	1238.38	1237.08
NSL (PRE BUILT) (ft)	1237.44	1239.85	1238.96	1239.46	1242.17	1249.90
REDUCED DISTANCE (RD) (ft)	0+000	0+250	0+500	0+588	0+600	0+750

LEGEND

DESIGNED BANK LEVEL (RIGHT)	—————	BED LEVEL (EXISTING)	—————
DESIGNED BANK LEVEL (LEFT)	—————	BED LEVEL (AS BUILT)	—————
TOP OF LINING	—————	EXISTING BANK LEVEL (RIGHT)	—————
DESIGNED FSL	—————	EXISTING BANK LEVEL (LEFT)	—————
DESIGNED BL	—————		
NSL (PRE BUILT)	—————		

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



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IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
PMU - REMODELING OF WARSAK CANALS PROJECT
PESHAWAR

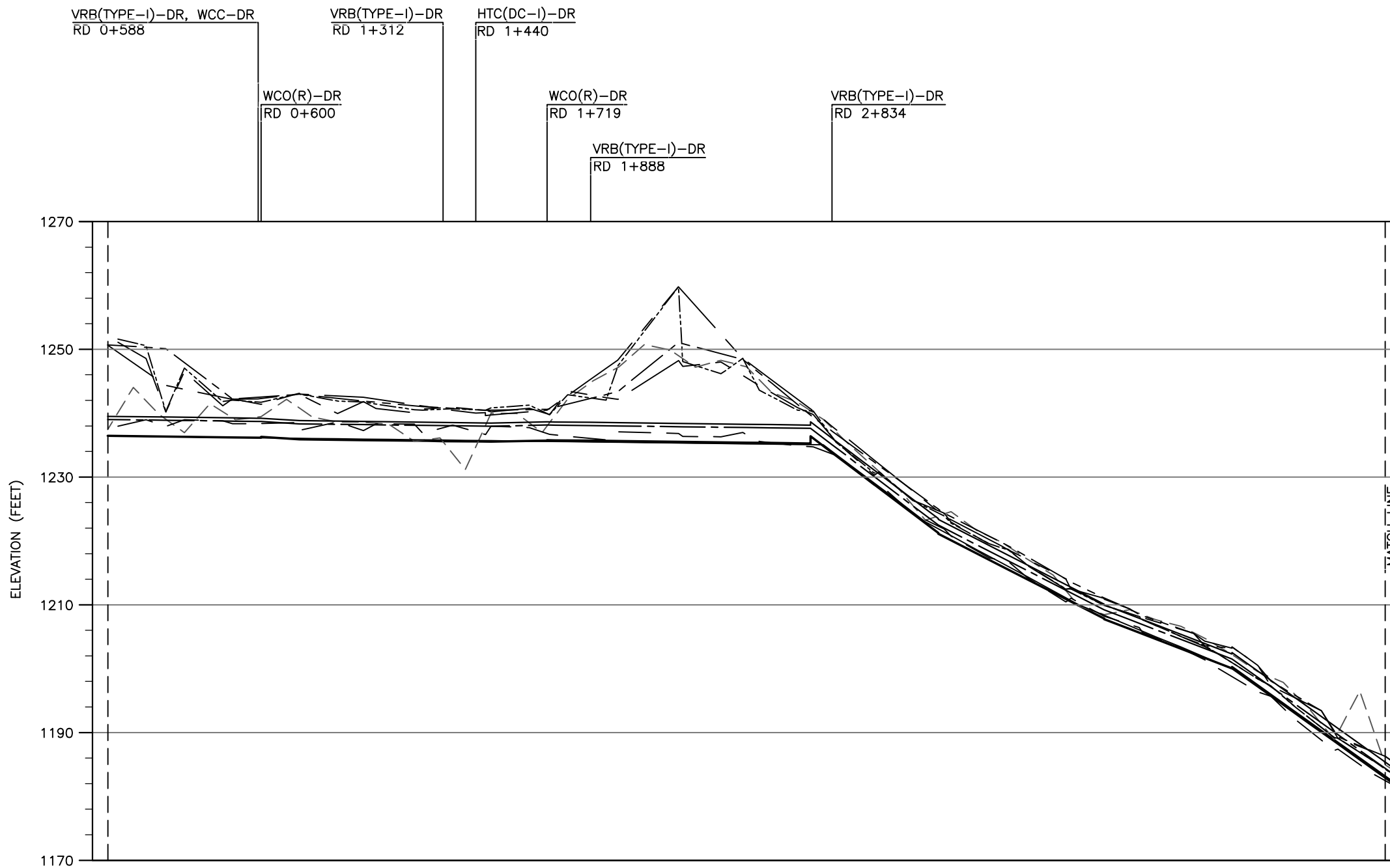
CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PROFILE - WARSAK MINOR
FROM RD 0+000 TO RD 5+000

DATE: JAN., 2019
DWG. NO.: RWCS-2/CD/WGC/DS/PP/19A
REV. 0



REDUCED DISTANCE (RD)	(ft)
0+000	0
0+250	250
0+500	500
0+588	588
0+600	600
0+750	750
1+000	1000
1+250	1250
1+312	1312
1+440	1440
1+500	1500
1+719	1719
1+758	1758
1+888	1888
2+000	2000
2+250	2250
2+500	2500
2+600	2600
2+750	2750
2+834	2834
3+000	3000
3+250	3250
3+315	3315
3+500	3500
3+750	3750
3+900	3900
4+000	4000
4+250	4250
4+400	4400
4+500	4500
4+750	4750
5+000	5000

LEGEND

DESIGNED BANK LEVEL (RIGHT)	-----	BED LEVEL (EXISTING)	-----
DESIGNED BANK LEVEL (LEFT)	-----	BED LEVEL (AS BUILT)	-----
TOP OF LINING	=====	EXISTING BANK LEVEL (RIGHT)	-----
DESIGNED FSL	-----	EXISTING BANK LEVEL (LEFT)	-----
DESIGNED BL	-----		
NSL (PRE BUILT)	-----		

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.

Horizontal Scale 1" : 500'
Vertical Scale 1" : 20'

SHEET 2 OF 6

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

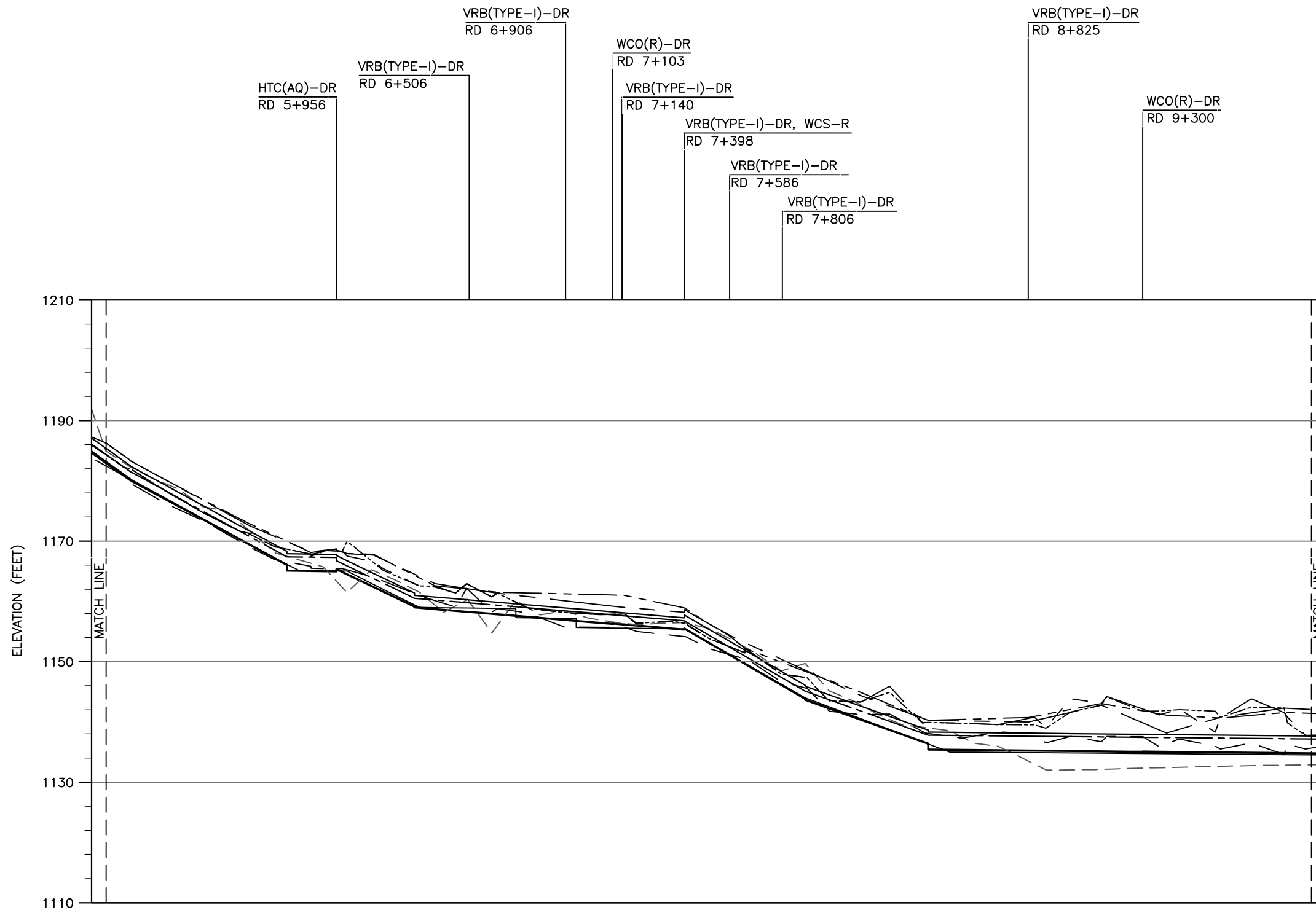
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PROFILE - WARSAK MINOR
FROM RD 0+000 TO RD 5+000

DRAWN MA
CHECKED
RECOMMENDED
DATE JAN., 2016
DWG. NO. RWCS-2/CD/WGC/DS/PP/19B
REV. 0



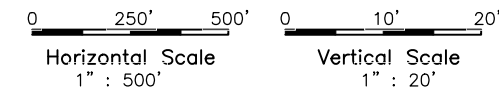
REDUCED DISTANCE (RD)	(ft)
5+000	5+100
5+250	5+385
5+500	5+750
5+956	6+000
6+250	6+280
6+500	6+750
6+800	6+906
7+000	7+103
7+140	7+275
7+275	7+398
7+500	7+586
7+825	7+900
8+000	8+250
8+410	8+500
8+750	8+825
9+000	9+250
9+500	9+750
10+000	

LEGEND

DESIGNED BANK LEVEL (RIGHT)	—————	BED LEVEL (EXISTING)	—————
DESIGNED BANK LEVEL (LEFT)	—————	BED LEVEL (AS BUILT)	—————
TOP OF LINING	—————	EXISTING BANK LEVEL (RIGHT)	—————
DESIGNED FSL	—————	EXISTING BANK LEVEL (LEFT)	—————
DESIGNED BL	—————		
NSL (PRE BUILT)	—————		

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



SHEET 4 OF 6

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

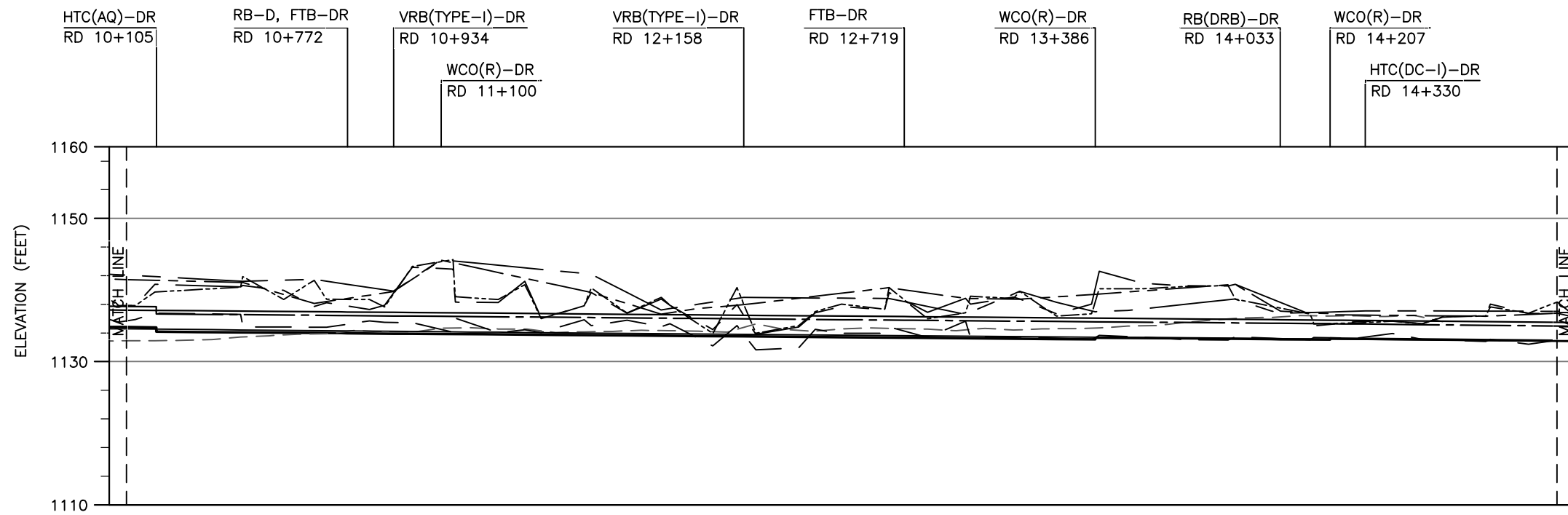
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PROFILE - WARSAK MINOR
FROM RD 5+000 TO RD10+000**

DATE: JAN., 2017
DWG. NO.: RWCS-2/CD/WGC/DS/PP/20B
REV. 0



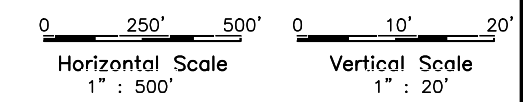
DESIGN DISCHARGE (Cusecs)	26.67										26.26										21.19										19.98									
FREE BOARD (LINED) (ft)	0.75										0.75										0.75										0.75									
F S D (ft)	2.37										2.45										2.22										2.06									
BED WIDTH (ft)	2.5										2.5										2.5										2.5									
LONG. SLOPE (ft/ft)	1 IN 2500										1 IN 3000										1 IN 2450										1 IN 2450									
VELOCITY (ft/Sec.)	1.94										1.81										1.71										1.82									
DESIGN DATA	BANK LEVEL (RIGHT) (ft)	1141.44	1141.34	1141.19	1139.95	1138.12	1138.67	1138.80	1137.41	1137.93	1138.36	1138.74	1139.03	1139.38	1139.71	1137.71	1138.43	1140.79	1137.80	1137.02	1136.53	1136.68	1136.51	1136.48	1136.41	1137.04	1136.33	1137.04	1137.01	1136.74	1136.74									
	BANK LEVEL (LEFT) (ft)	1142.06	1141.84	1141.53	1141.03	1141.46	1140.91	1140.78	1141.57	1141.50	1141.57	1141.57	1141.57	1137.21	1136.62	1136.00	1137.41	1138.80	1138.81	1137.80	1137.80	1136.60	1136.90	1136.68	1136.48	1137.06	1137.04	1137.04	1137.01	1136.74	1136.74									
	F S L (ft)	1137.32	1137.28	1136.73	1136.65	1136.50	1136.57	1136.56	1136.48	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45	1136.45									
	BED LEVEL (ft)	1134.95	1134.91	1134.26	1134.18	1134.03	1134.03	1134.01	1134.01	1133.98	1134.00	1133.95	1133.87	1133.78	1133.78	1133.70	1133.65	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62	1133.62									
BED LEVEL (AS BUILT) (ft)	1134.55	1134.52	1134.48	1134.41	1134.37	1134.33	1134.30	1134.27	1134.23	1134.20	1134.16	1134.12	1134.09	1134.08	1134.04	1134.00	1133.98	1133.95	1133.91	1133.88	1133.84	1133.81	1133.78	1133.75	1133.71	1133.68	1133.65	1133.61	1133.58	1133.55										
EXISTING DATA (SURVEYED)	BANK LEVEL (RIGHT) (ft)	1135.32	1137.78	1137.81	1140.78	1140.41	1140.80	1139.93	1137.26	1137.84	1143.17	1142.90	1138.25	1134.45	1137.93	1133.80	1133.80	1133.75	1133.82	1133.84	1133.81	1133.78	1133.75	1133.71	1133.68	1133.65	1133.61	1133.58	1133.55	1133.52	1133.48									
	BANK LEVEL (LEFT) (ft)	1135.87	1137.81	1139.70	1140.78	1140.39	1140.89	1138.66	1137.62	1137.84	1143.27	1142.01	1138.25	1134.45	1137.93	1133.80	1133.80	1133.75	1133.82	1133.84	1133.81	1133.78	1133.75	1133.71	1133.68	1133.65	1133.61	1133.58	1133.55	1133.52	1133.48									
	BED LEVEL (CENTER) (ft)	1135.32	1137.78	1139.70	1140.78	1140.39	1140.89	1138.66	1137.62	1137.84	1143.27	1142.01	1138.25	1134.45	1137.93	1133.80	1133.80	1133.75	1133.82	1133.84	1133.81	1133.78	1133.75	1133.71	1133.68	1133.65	1133.61	1133.58	1133.55	1133.52	1133.48									
NSL (PRE BUILT) (ft)	1132.90	1132.91	1132.95	1133.05	1133.24	1133.43	1133.60	1133.82	1134.11	1134.09	1134.64	1134.72	1134.54	1134.52	1134.52	1134.04	1134.15	1134.21	1134.35	1134.31	1134.22	1134.10	1135.26	1134.49	1134.21	1134.54	1134.69	1134.58	1134.52	1134.49	1134.49									
REDUCED DISTANCE (RD) (ft)	10+000	10+105	10+250	10+500	10+750	10+772	10+934	11+000	11+000	11+100	11+250	11+500	11+750	12+000	12+158	12+250	12+500	12+719	12+750	13+000	13+250	13+386	13+473	13+500	13+750	14+000	14+033	14+207	14+250	14+330	14+500	14+750	15+000							

LEGEND

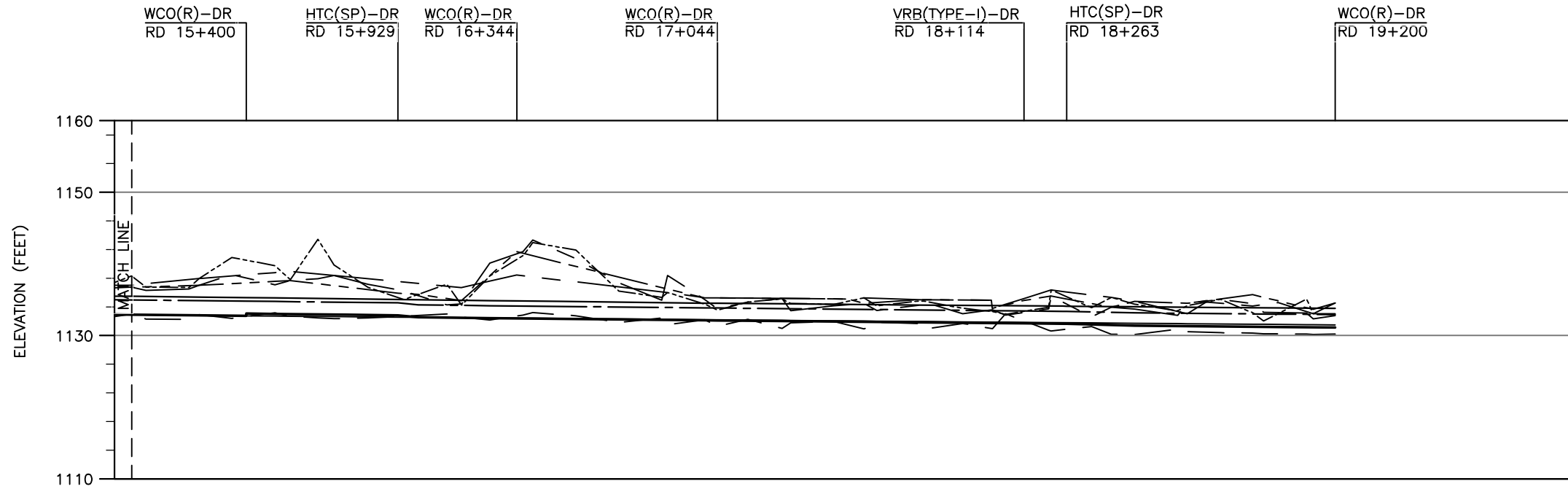
- DESIGNED BANK LEVEL (RIGHT)
- DESIGNED BANK LEVEL (LEFT)
- TOP OF LINING
- DESIGNED FSL
- DESIGNED BL
- NSL (PRE BUILT)
- BED LEVEL (EXISTING)
- BED LEVEL (AS BUILT)
- EXISTING BANK LEVEL (RIGHT)
- EXISTING BANK LEVEL (LEFT)

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



<p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>	REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	<p>MA </p>	<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS - 2 DISTRIBUTION SYSTEM PROFILE - WARSAK MINOR FROM RD 10+000 TO RD 15+000</p>	DATE	DWG. NO.	REV.
			JAN., 2019	RWCS-2/CD/WGC/DS/PP/21	0									



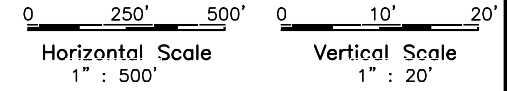
DESIGN DISCHARGE	(Cusecs)	19.98	12.80	12.11	11.75									
FREE BOARD (LINED)	(ft)	0.75												
F S D	(ft)	1.68												
BED WIDTH	(ft)	2.00												
LONG. SLOPE	(ft/ft)	1 IN 2635												
VELOCITY	(ft/Sec.)	1.55												
DESIGN DATA	BANK LEVEL (RIGHT)	1136.74				1135.00								
	BANK LEVEL (LEFT)	1137.01	1137.94	1137.99	1137.02									
	F S L	1134.71	1134.60	1134.54	1134.54	1134.20	1138.77	1137.55	1138.94	1137.66				
	BED LEVEL	1132.65	1132.54	1132.48	1132.48	1134.11	1138.20	1136.74	1132.35	1134.11	1132.29	1134.05	1134.05	1134.05
EXISTING DATA (SURVEYED)	BANK LEVEL (RIGHT)	1132.87	1136.74	1136.30	1132.86									
	BANK LEVEL (LEFT)	1132.29	1136.75	1136.69	1132.80	1132.98	1137.91	1132.64	1132.88	1137.77	1137.66	1132.68	1132.45	1143.42
	BED LEVEL (CENTER)	1132.34	1137.94	1136.98	1132.79	1132.38	1140.88	1132.74	1132.38	1139.84	1138.38	1132.62	1132.46	1136.72
	NSL (PRE BUILT)													
REDUCED DISTANCE (RD)	15+000													
	15+250													
	15+400													
	15+500													
15+750														
15+929														
16+000														
16+200														
16+250														
16+344														
16+500														
16+750														
17+000														
17+044														
17+250														
17+500														
17+750														
18+000														
18+114														
18+250														
18+263														
18+500														
18+750														
19+000														
19+200														

LEGEND

- DESIGNED BANK LEVEL (RIGHT)
- DESIGNED BANK LEVEL (LEFT)
- TOP OF LINING
- DESIGNED FSL
- DESIGNED BL
- NSL (PRE BUILT)
- BED LEVEL (EXISTING)
- BED LEVEL (AS BUILT)
- EXISTING BANK LEVEL (RIGHT)
- EXISTING BANK LEVEL (LEFT)

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.



CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN CHECKED RECOMMENDED APPROVED	MA 	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS - 2 DISTRIBUTION SYSTEM PROFILE - WARSAK MINOR FROM RD 15+000 TO RD 19+200 DATE JAN., 2019 DWG. NO. RWCS-2/CD/WGC/DS/PP/22 REV. 0	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DESIGN DISCHARGE (Cusecs)	12.66		8.28		5.22																											
FREE BOARD (LINED) (ft)	0.00		0.50		0.50																											
F S D (ft)	0.00		-1.01		-0.63																											
BED WIDTH (ft)	0.00		1.50		1.50																											
LONG. SLOPE (ft/ft)	1 IN 200		1 IN 250		1 IN 175																											
VELOCITY (ft/Sec.)	0.00		4.13		3.42																											
DESIGN DATA	BANK LEVEL (RIGHT) (ft)	0.00	0.00	0.00	1239.63	1235.27	1234.21	1233.15	1231.18	1230.18	1228.69	1228.17	1227.11	1226.88	1226.27	1219.20	1218.94	1218.39	1213.71	1210.85	1209.72	1207.84										
	BANK LEVEL (LEFT) (ft)	0.00	0.00	0.00	1239.63	1235.27	1234.21	1233.15	1231.18	1230.18	1228.69	1228.17	1227.11	1226.88	1226.27	1219.20	1218.94	1218.39	1213.71	1210.85	1209.72	1207.84										
	F S L (ft)	1234.63	1233.58	1232.13	1230.88	1229.64	1229.41	1229.22	1228.47	1228.34	1227.65	1227.12	1226.60	1226.33	1225.91	1217.75	1217.02	1216.37	1210.02	1208.83	1208.53	1207.50	1207.55									
	BED LEVEL (ft)	1233.83	1232.58	1231.33	1230.08	1228.83	1228.40	1228.22	1227.65	1227.65	1227.43	1226.43	1226.33	1225.91	1225.91	1217.10	1216.37	1216.37	1210.02	1208.83	1208.88	1207.84	1207.84									
BED LEVEL (AS BUILT) (ft)	1233.83	1233.33	1232.83	1232.33	1231.83	1231.33	1230.83	1230.33	1229.83	1229.33	1228.83	1228.33	1227.83	1227.33	1226.83	1226.33	1225.83	1225.33	1216.83	1216.33	1215.83	1215.33	1214.83									
EXISTING DATA (SURVEYED)	BANK LEVEL (RIGHT) (ft)																															
	BANK LEVEL (LEFT) (ft)																															
	BED LEVEL (CENTER) (ft)																															
NSL (PRE BUILT) (ft)	1245.89	1252.89	1251.00	1247.91	1244.56	1241.51	1239.91	1239.21	1237.41	1237.42	1235.00	1232.70	1230.40	1229.45	1228.50	1225.50	1222.50	1220.00	1217.50	1216.80	1216.10	1212.65	1209.20	1202.60	1196.00	1193.86	1190.10	1189.70	1189.30	1188.90	1188.50	1187.52
REDUCED DISTANCE (RD) (ft)	0+000	0+250	0+500	0+750	0+815	0+878	1+000	1+045	1+089	1+196	1+219	1+250	1+500	1+630	1+750	2+000	2+146	2+244	2+250	2+440	2+500	2+600	2+750	3+000	3+122	3+250	3+500	3+750	3+783			

LEGEND

DESIGNED BANK LEVEL (RIGHT)	—————	BED LEVEL (EXISTING)	—————
DESIGNED BANK LEVEL (LEFT)	—————	BED LEVEL (AS BUILT)	—————
TOP OF LINING	—————	EXISTING BANK LEVEL (RIGHT)	—————
DESIGNED FSL	—————	EXISTING BANK LEVEL (LEFT)	—————
DESIGNED BL	—————		
NSL (PRE BUILT)	—————		

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.

Horizontal Scale 1" = 500'
Vertical Scale 1" = 20'

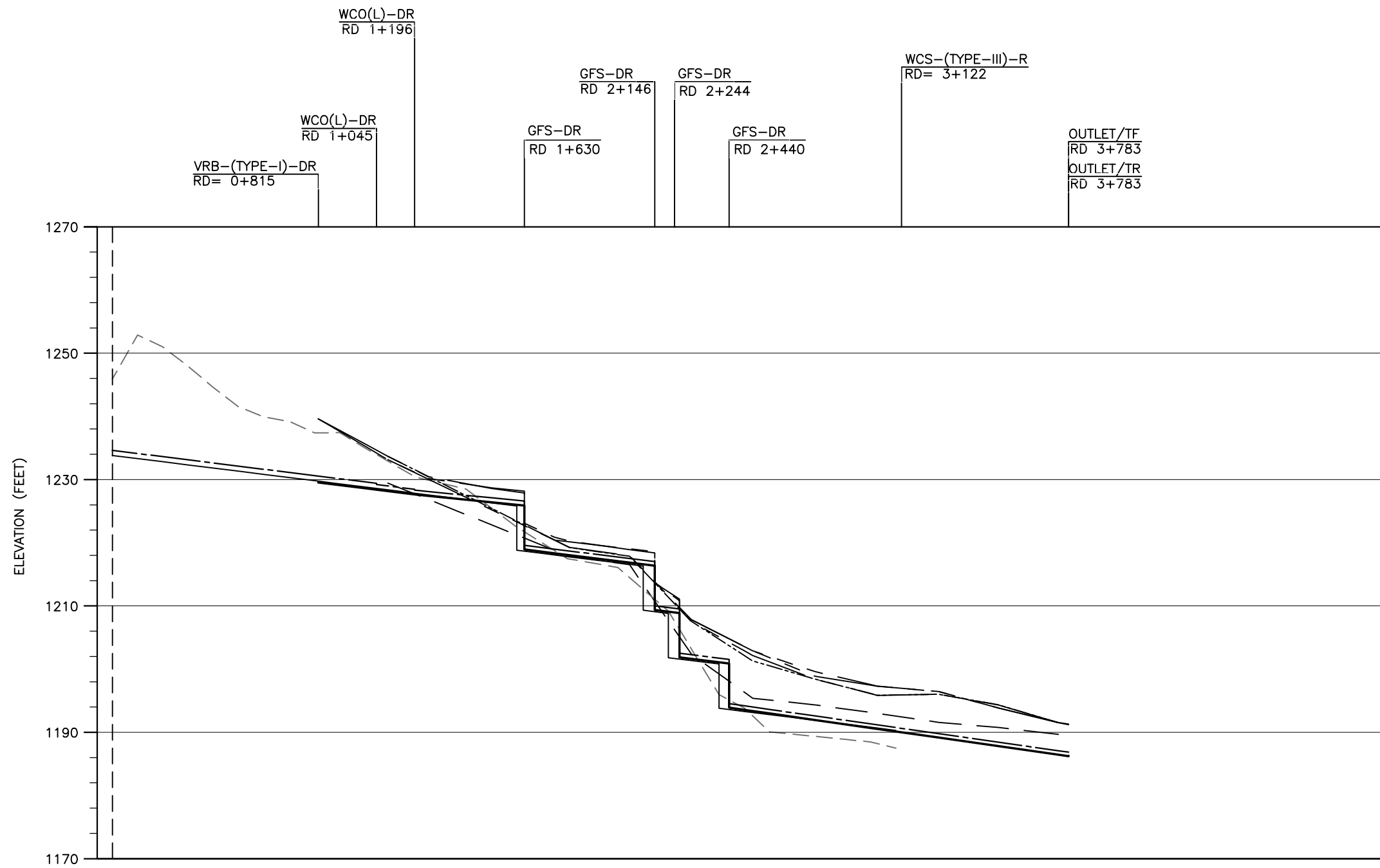
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
PMU - REMODELING OF WARSAK CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
ELECTRA CONSULTANTS PESHAWAR
INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM
IN PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DRAWN MA
CHECKED
RECOMMENDED
DATE DEC., 2016
DWG. NO. RWCS-2/CD/WGC/DS/PP/23A
REV. 0



REDUCED DISTANCE (RD) (ft)	0+000	0+250	0+500	0+750	0+815	0+878	1+000	1+045	1+089	1+196	1+250	1+500	1+630	1+750	2+000	2+146	2+244	2+250	2+440	2+500	2+600	2+750	3+000	3+122	3+250	3+500	3+750	3+783
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LEGEND

DESIGNED BANK LEVEL (RIGHT)	-----	BED LEVEL (EXISTING)	-----
DESIGNED BANK LEVEL (LEFT)	-----	BED LEVEL (AS BUILT)	-----
TOP OF LINING	-----	EXISTING BANK LEVEL (RIGHT)	-----
DESIGNED FSL	-----	EXISTING BANK LEVEL (LEFT)	-----
DESIGNED BL	-----		
NSL (PRE BUILT)	-----		

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/PP/01.

Horizontal Scale 1" : 500'
Vertical Scale 1" : 20'

SHEET 2 OF 2

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS - 2
DISTRIBUTION SYSTEM
PROFILE - KAFOOR DEHRI MINOR
FROM RD 0+000 TO RD 3+783

DATE DEC., 2016
DWG. NO. RWCS-2/CD/WGC/DS/PP/23B
REV. 0

LIST OF REFERENCE DRAWINGS

SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-2/CD/GD/01
2	GENERAL NOTES	RWCS-2/CD/GD/02
3	CONTRACT PACKAGES	RWCS-2/CD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-2/CD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-2/CD/MSC/01
6	WARSAK GRAVITY CANAL - PLAN & PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/PP/01
7	DISTRIBUTION SYSTEM - PLAN & PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/DS/PP/01
8	TYPICAL PRECAST PARABOLIC WATERCOURSE	RWCS-2/CD/WGC/DS/MC/01
9	TYPICAL CROSS SECTIONS (XS) - WARSAK GRAVITY CANAL	RWCS-2/CD/WGC/XS/01
B. TYPICAL CROSS SECTIONS (XS) - DISTRIBUTION SYSTEM - REFERENCE DRAWINGS		
9	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 1 OF 10)	RWCS-2/CD/WGC/DS/XS/02
10	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 2 OF 10)	RWCS-2/CD/WGC/DS/XS/03
11	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 3 OF 10)	RWCS-2/CD/WGC/DS/XS/04
12	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 4 OF 10)	RWCS-2/CD/WGC/DS/XS/05

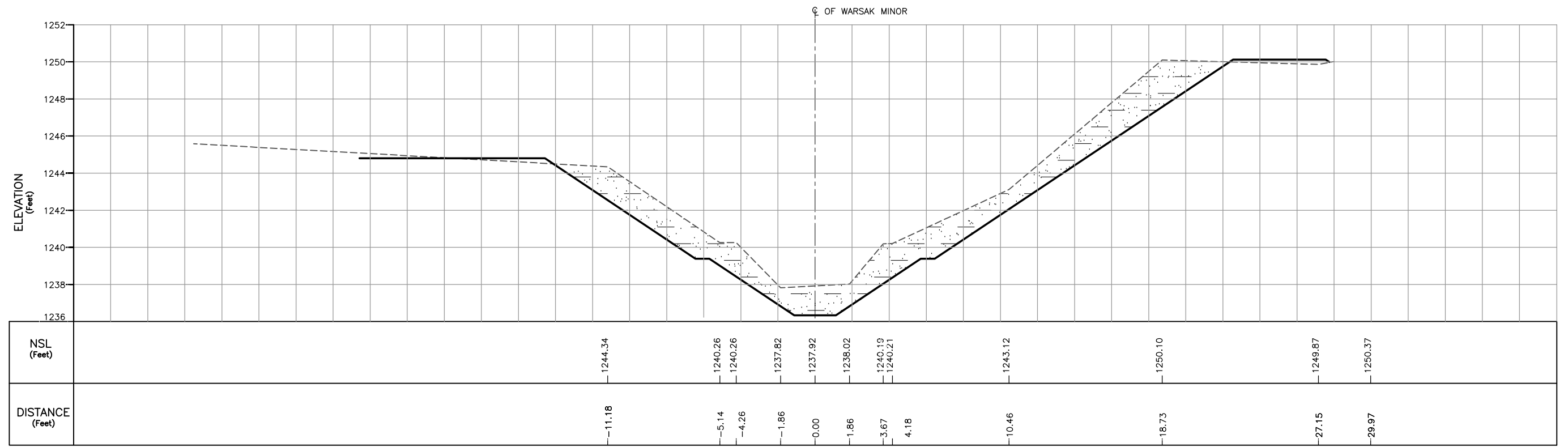
SR.	TITLE	DRAWING NO.
13	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 5 OF 10)	RWCS-2/CD/WGC/DS/XS/06
14	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 6 OF 10)	RWCS-2/CD/WGC/DS/XS/07
15	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 7 OF 10)	RWCS-2/CD/WGC/DS/XS/08
16	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 8 OF 10)	RWCS-2/CD/WGC/DS/XS/09
17	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 9 OF 10)	RWCS-2/CD/WGC/DS/XS/10
18	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 10 OF 10)	RWCS-2/CD/WGC/DS/XS/11
19	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 1 OF 3)	RWCS-2/CD/WGC/DS/XS/12
20	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 2 OF 3)	RWCS-2/CD/WGC/DS/XS/13
21	DISTRIBUTION SYSTEM - DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS (SHEET 3 OF 3)	RWCS-2/CD/WGC/DS/XS/14

NOTES:

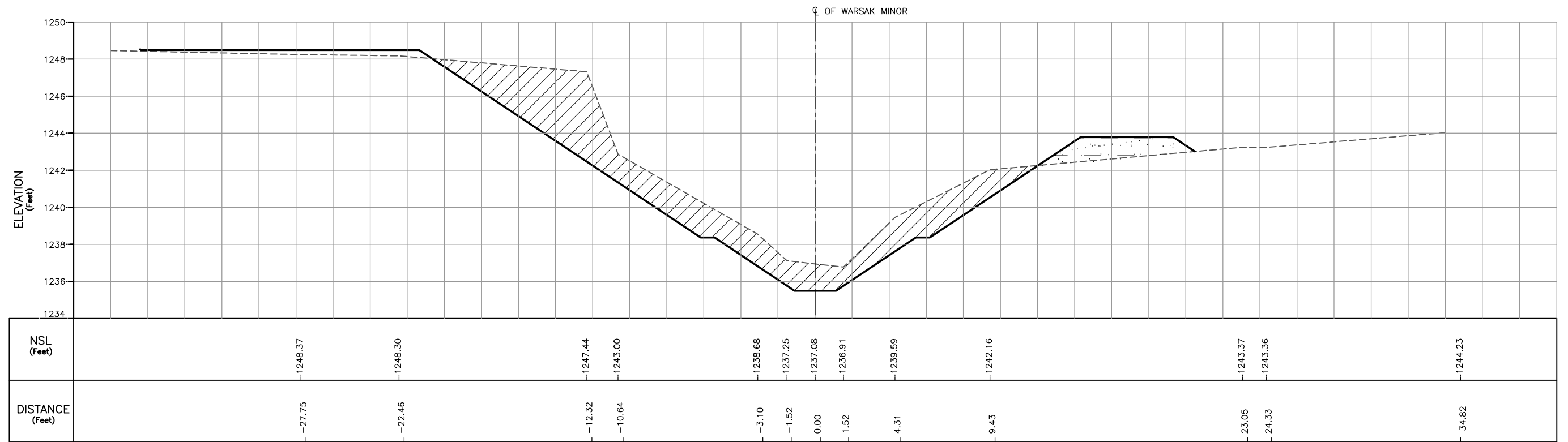
1. TYPICALLY IN MAIN CANAL & MINOR(S), DOWEL IS PROVIDED AS WHEEL GUARD ALONG PATROL ROAD. THE PROVISION OF DOWEL MAY BE AVOIDED TO SUIT SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER.
2. IN TYPICAL CROSS SECTION OF MAIN CANAL & MINOR(S), SIDE SLOPE OF EARTHEN PART ABOVE LINING TOP IS FIXED AS 1.5H:1.0V, WHICH MAY VARY AS PER AVAILABLE SPACE ON SITE TO SUIT SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER.
3. FILL UNDERNEATH THE CANAL BED LINING (HORIZONTAL PART) MAY BE OF SUITABLE COMPACTED FILL BUT FILL BEHIND THE CANAL LINING ON SLOPE PART MAY BE OF LEAN CONCRETE (RATIO 1:7:20) OR AS DIRECTED BY THE ENGINEER.
4. CEMENT SAND PLASTER (RATIO 1:6) USED FOR STABILIZING LAYER UNDER THE CANAL LINING SHOULD NOT BE PROVIDED WHERE LEAN CONCRETE FILL (RATIO 1:7:20) IS RECOMMENDED.

**CONSTRUCTION
DRAWING**

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN CHECKED RECOMMENDED APPROVED	MN 	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM TYPICAL CROSS SECTIONS LIST OF REFERENCE DRAWINGS DATE DEC., 2016	DWG. NO. RWCS-2/CD/WGC/DS/XS/01	REV. 0	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED		



CROSS SECTION AT RD 0+227



CROSS SECTION AT RD 1+996

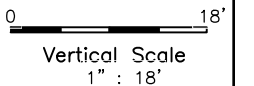
LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

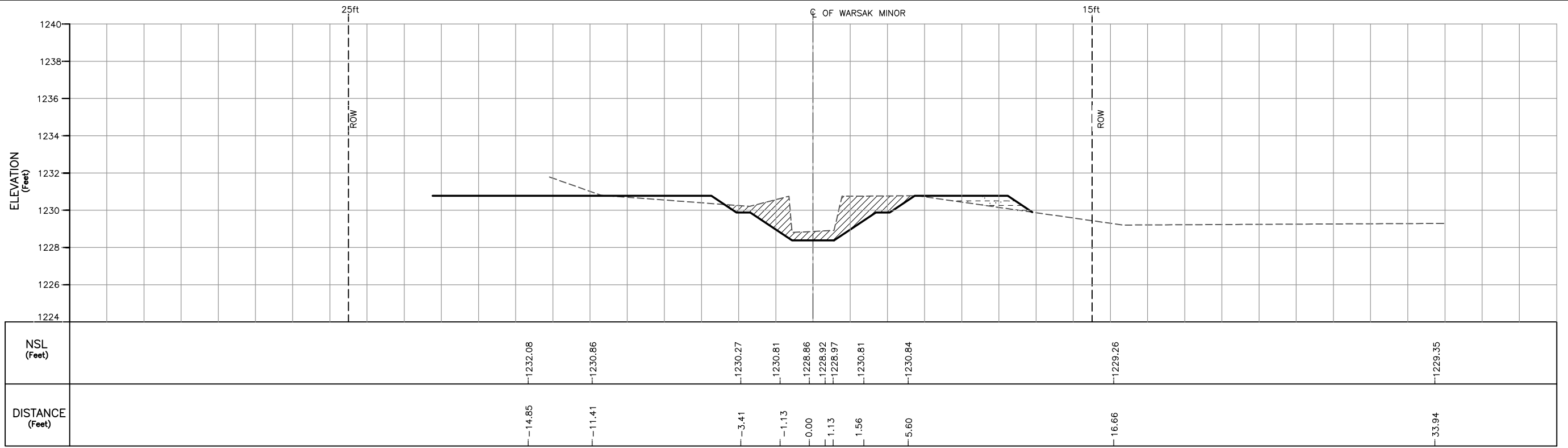
NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.

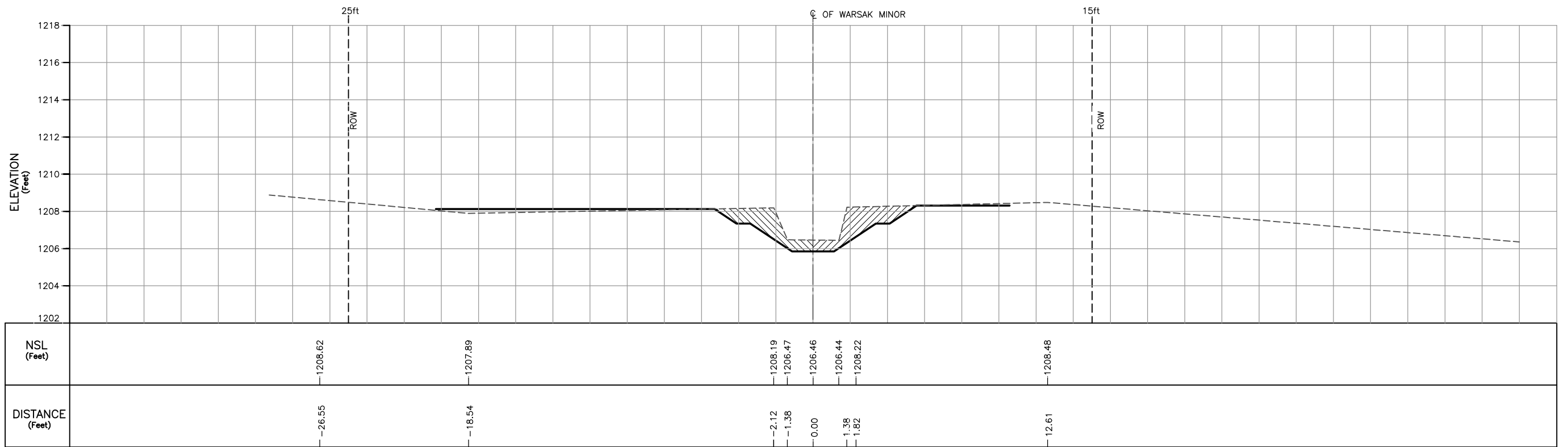
CONSTRUCTION DRAWING



<p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>				DRAWN	MA	<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-WARSAK MINOR</p>					
						CHECKED					DATE	DWG. NO.	REV.
		REV.	DATE	DESCRIPTION	BY	CKD.	APPR.				APPROVED	JAN., 2019	RWCS-2/CD/WGC/DS/XS/02



CROSS SECTION AT RD 3+018



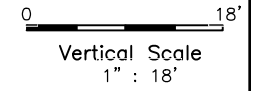
CROSS SECTION AT RD 4+036

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

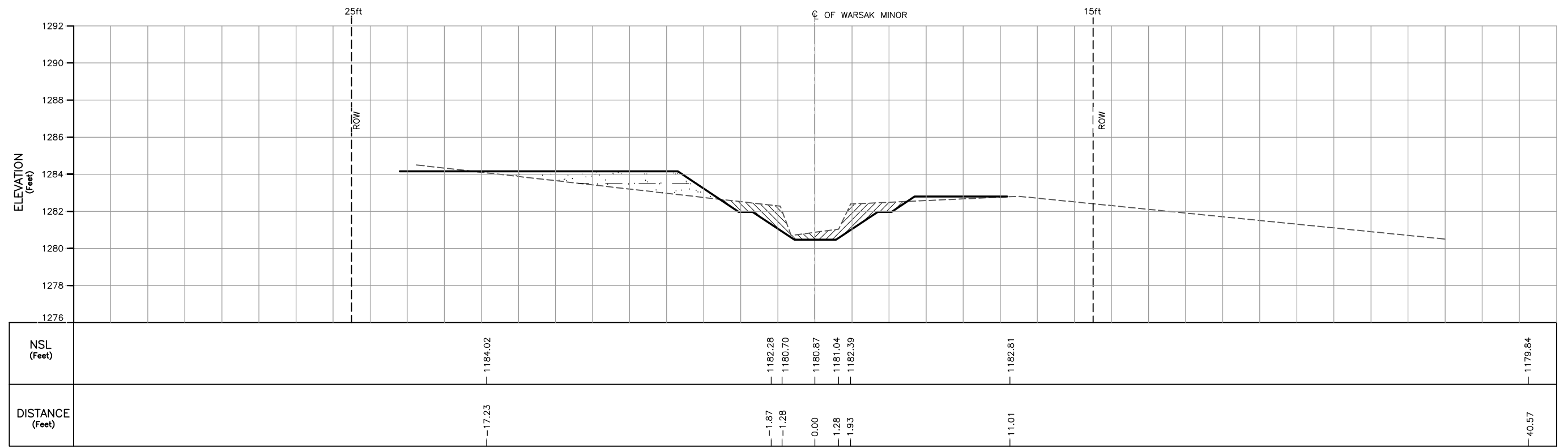
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2. CANAL LINING DETAILS NOT SHOWN.

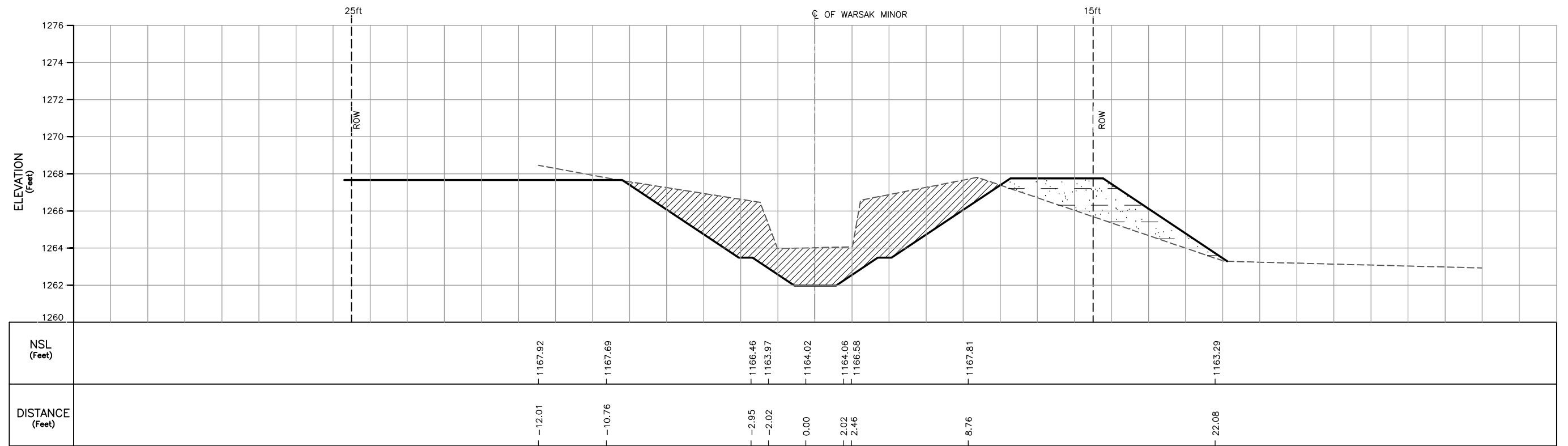


CONSTRUCTION DRAWING

<p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>	DRAWN	MA	<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-WARSAK MINOR</p>	DATE	DWG. NO.	REV.														
			CHECKED			JAN., 2019	RWCS-2/CD/WGC/DS/XS/03		0													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">REV.</th> <th style="width: 10%;">DATE</th> <th style="width: 40%;">DESCRIPTION</th> <th style="width: 10%;">BY</th> <th style="width: 10%;">CKD.</th> <th style="width: 10%;">APPR.</th> <th style="width: 10%;">APPROVED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED															
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED																



CROSS SECTION AT RD 5+072



CROSS SECTION AT RD 6+109

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

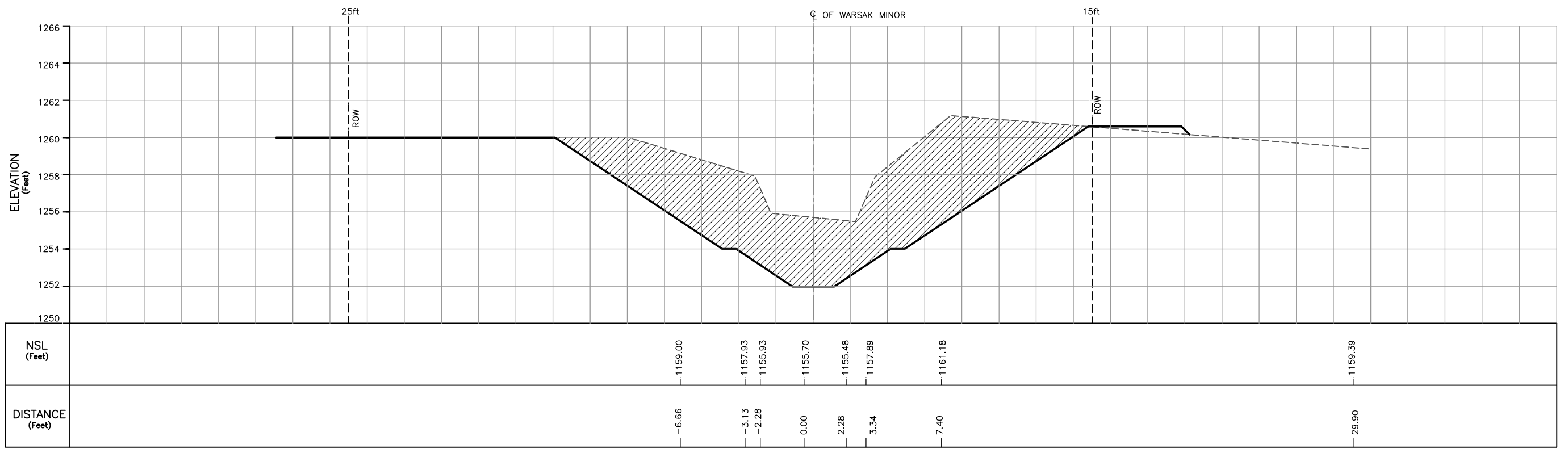
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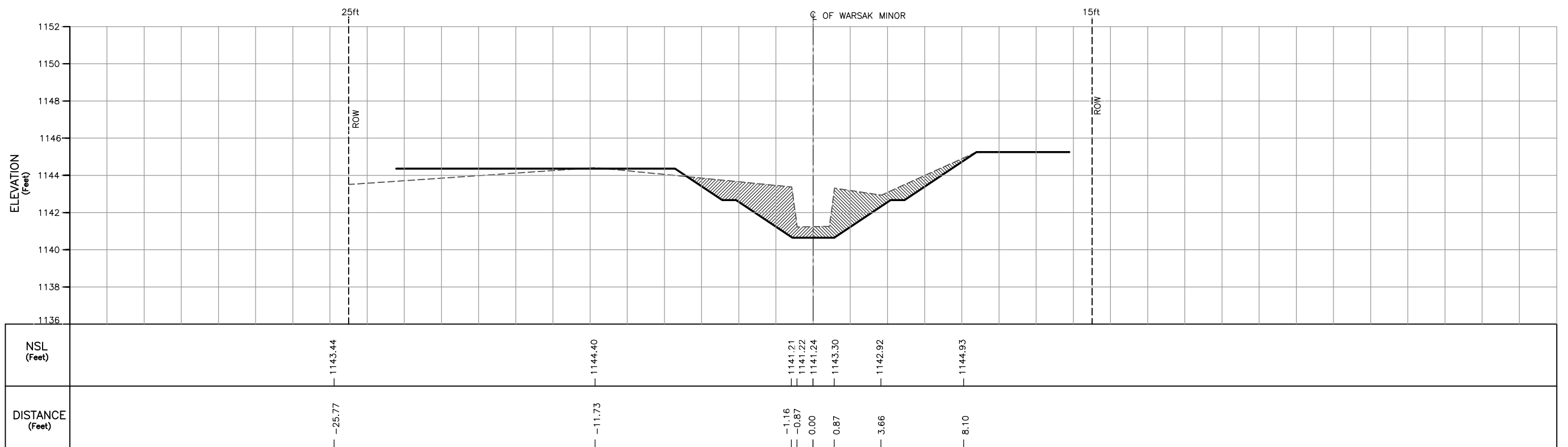
CONSTRUCTION DRAWING

0 18'
Vertical Scale
1" : 18'

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MA CHECKED RECOMMENDED 	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-WARSAK MINOR
			REV. DATE DESCRIPTION BY CKD. APPR. APPROVED	DATE DWG. NO. JAN., 2019 RWCS-2/CD/WGC/DS/XS/04



CROSS SECTION AT RD 7+150



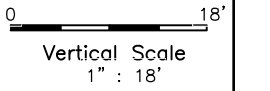
CROSS SECTION AT RD 8+130

NOTES
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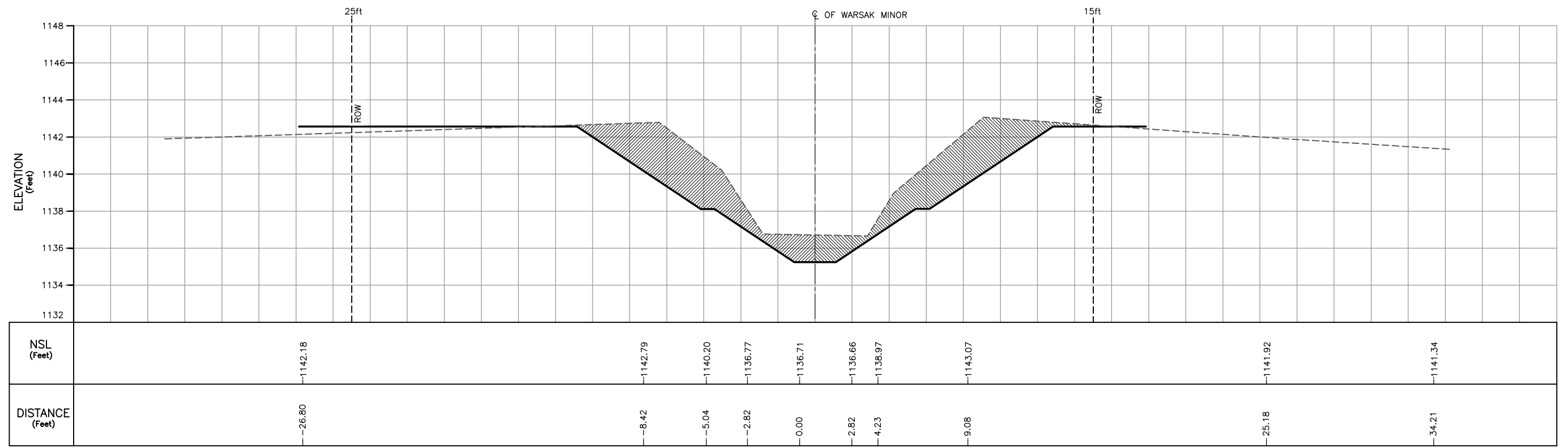
LEGEND

EXISTING CROSS SECTION/NSL	-----
DESIGNED CROSS SECTION	-----
COMPACTED FILL	
CUTTING	

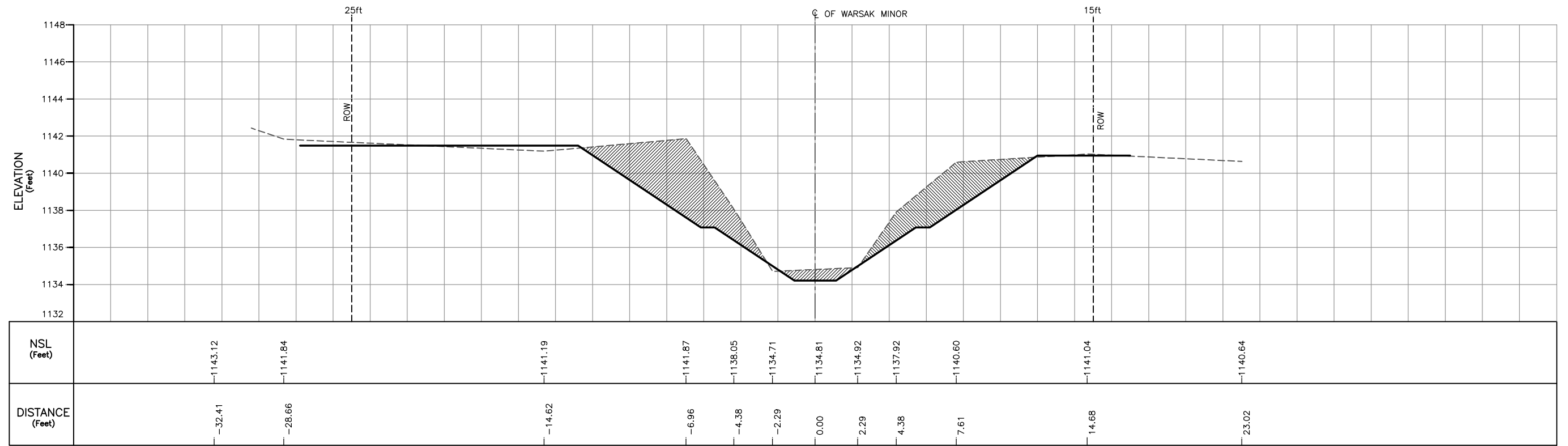
**CONSTRUCTION
DRAWING**



 CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT					DRAWN	MA	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-WARSAK MINOR		
		DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					CHECKED				
						RECOMMENDED			JAN., 2019	RWCS-2/CD/WGC/DS/XS/05	0



CROSS SECTION AT RD 9+128



CROSS SECTION AT RD 10+407

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

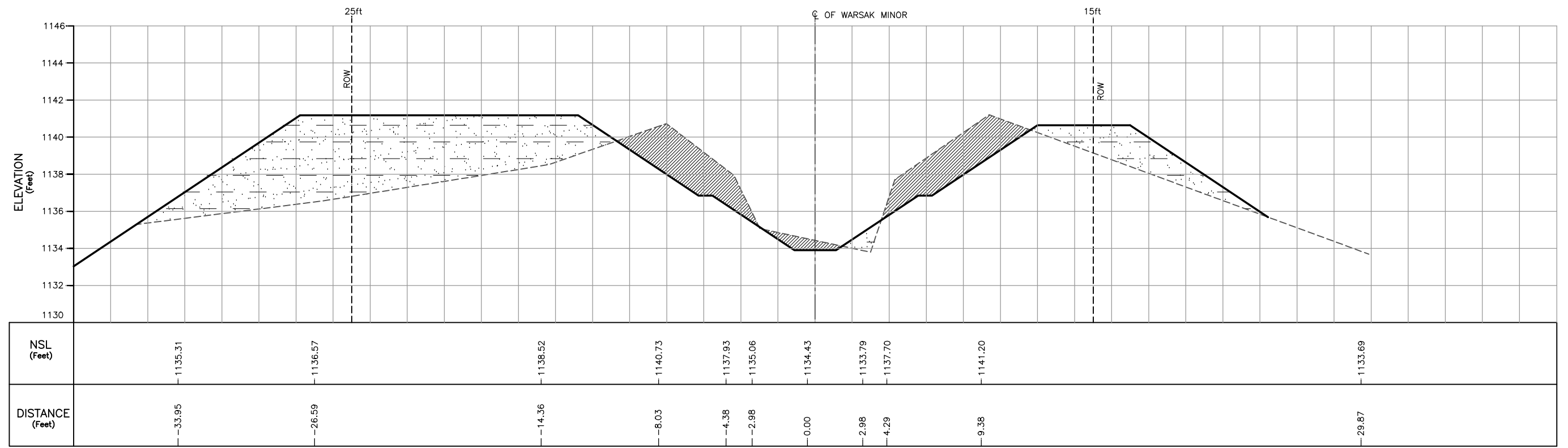
NOTES

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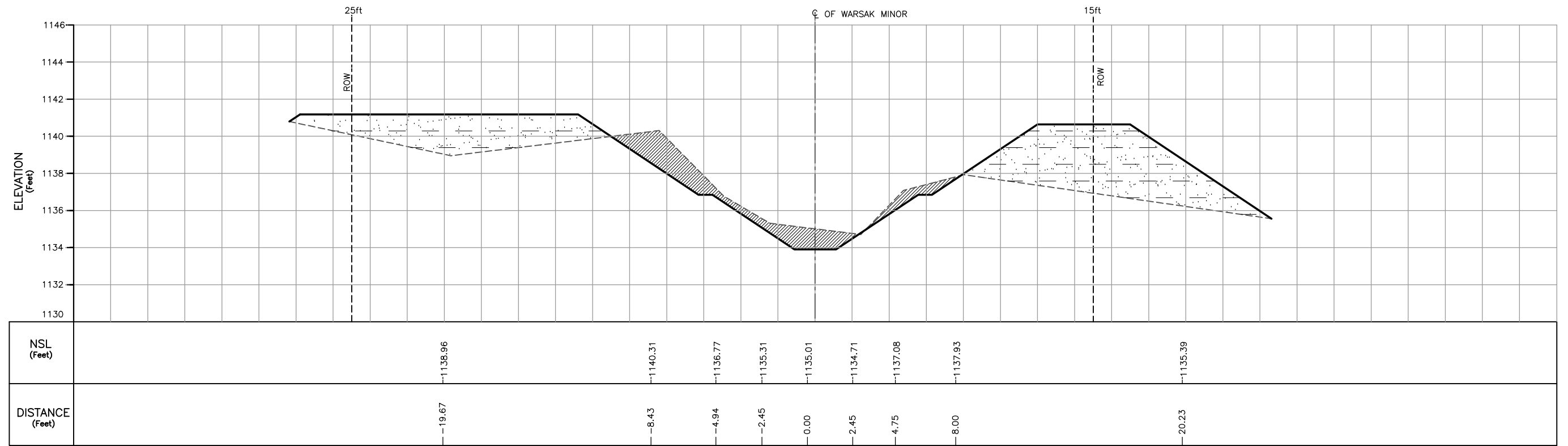
CONSTRUCTION DRAWING

0 18'
Vertical Scale
1" : 18'

<p>CLIENT</p> <p>IRRIGATION DEPARTMENT</p> <p>GOVERNMENT OF THE KHYBER PAKHTUNKHWA PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE</p> <p>ELECTRA CONSULTANTS PESHAWAR</p> <p>INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT</p> <p>DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM</p> <p>IN PESHAWAR AND NOWSHERA DISTRICTS</p>	<p>DRAWN MA</p> <p>CHECKED <i>[Signature]</i></p> <p>RECOMMENDED <i>[Signature]</i></p>	<p>DATE</p> <p>JAN., 2019</p>	<p>DWG. NO.</p> <p>RWCS-2/CD/WGC/DS/XS/06</p>	<p>REV.</p> <p>0</p>														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>CKD.</th> <th>APPR.</th> <th>APPROVED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED								<p style="text-align: right;">APPROVED <i>[Signature]</i></p>			
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED														



CROSS SECTION AT RD 11+392



CROSS SECTION AT RD 12+133

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

NOTES

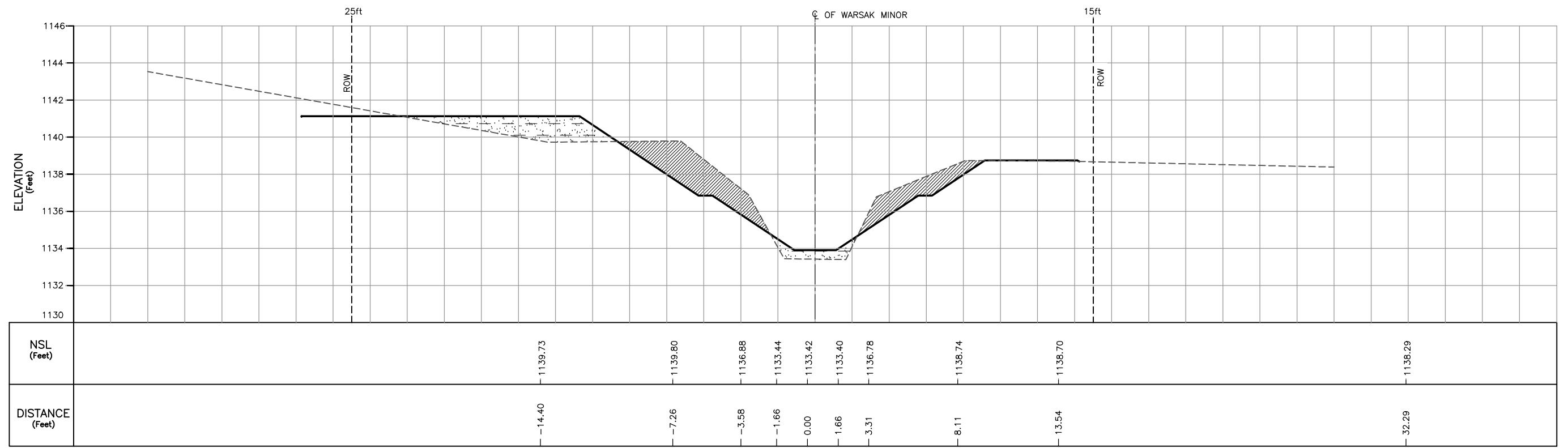
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2. CANAL LINING DETAILS NOT SHOWN.

CONSTRUCTION DRAWING

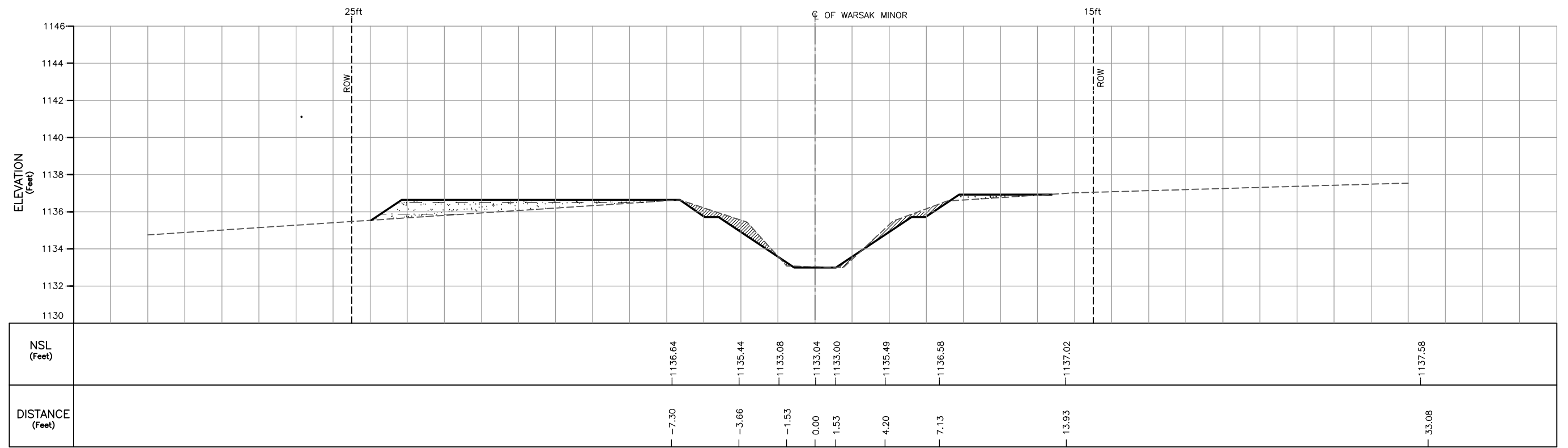
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1" : 18'

SHEET 6 OF 10

<p>CLIENT</p> <p>IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>	<p>DRAWN MA</p> <p>CHECKED </p> <p>RECOMMENDED </p>	<p>DATE</p> <p>JAN., 2019</p>
<p>REV. DATE DESCRIPTION BY CKD. APPR. APPROVED</p>			<p>DATE</p> <p>JAN., 2019</p>	<p>DWG. NO.</p> <p>RWCS-2/CD/WGC/DS/XS/07</p>



CROSS SECTION AT RD 13+122



CROSS SECTION AT RD 14+136

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

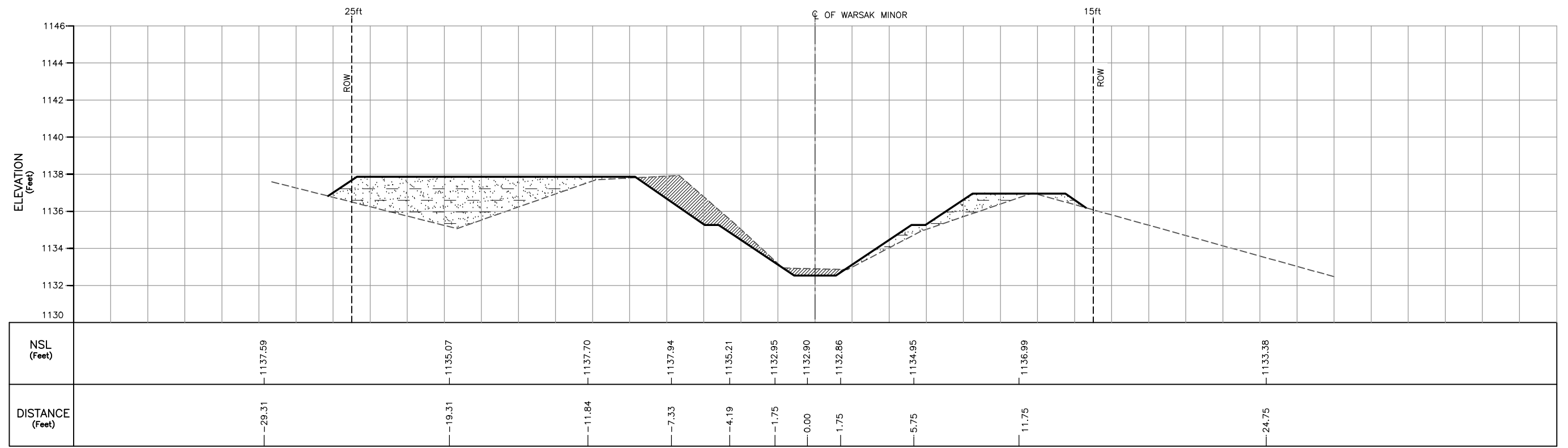
NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.

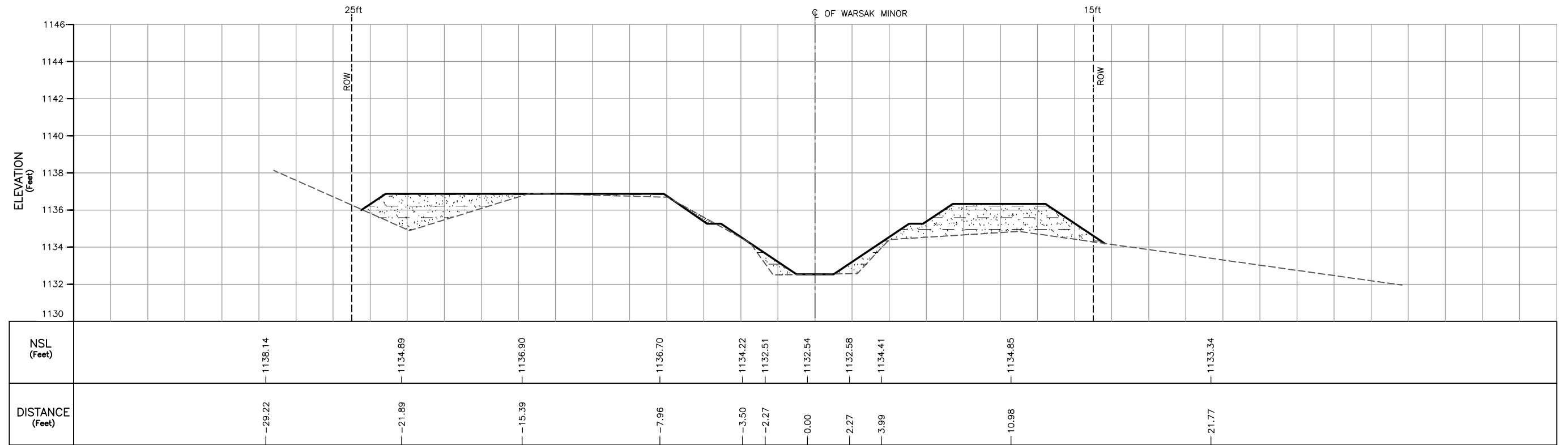
CONSTRUCTION DRAWING

0 18'
Vertical Scale
1" : 18'

<p>CLIENT</p> <p>IRRIGATION DEPARTMENT</p> <p>GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE</p> <p>ELECTRA CONSULTANTS PESHAWAR</p> <p>INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT</p> <p>DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM</p> <p>IN PESHAWAR AND NOWSHERA DISTRICTS</p>	<p>DRAWN</p> <p>CHECKED</p> <p>RECOMMENDED</p>	<p>MA</p> <p><i>[Signature]</i></p>	<p>DATE</p> <p>JAN., 2019</p>	<p>DWG. NO.</p> <p>RWCS-2/CD/WGC/DS/XS/08</p>	<p>REV.</p> <p>0</p>					
			REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED			



CROSS SECTION AT RD 15+235



CROSS SECTION AT RD 16+151

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.

CONSTRUCTION DRAWING

0 18'
Vertical Scale
1" : 18'

SHEET 8 OF 10

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

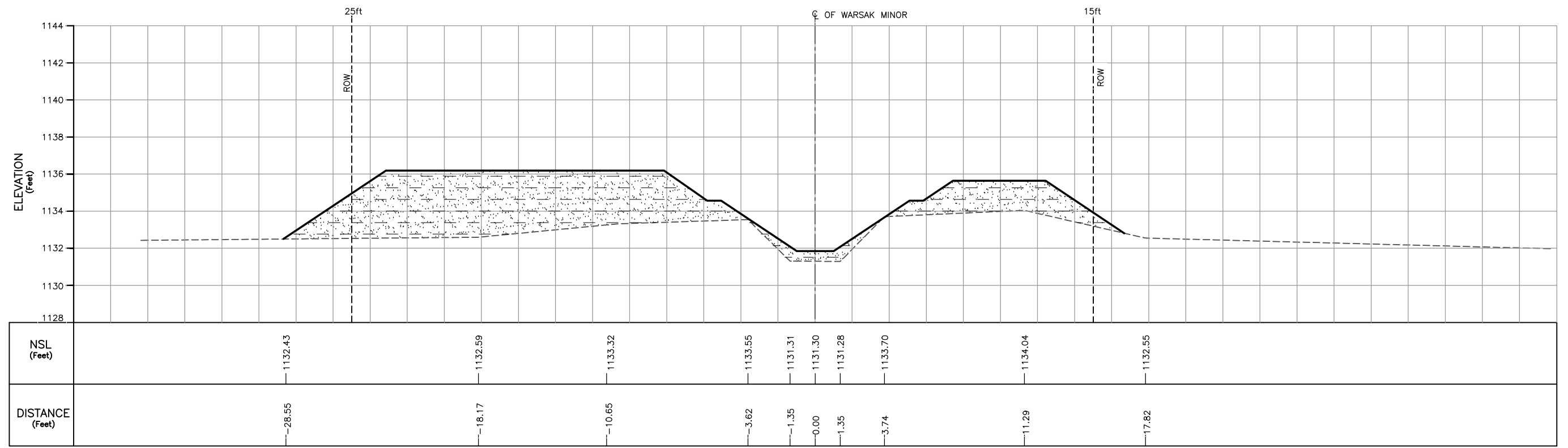
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

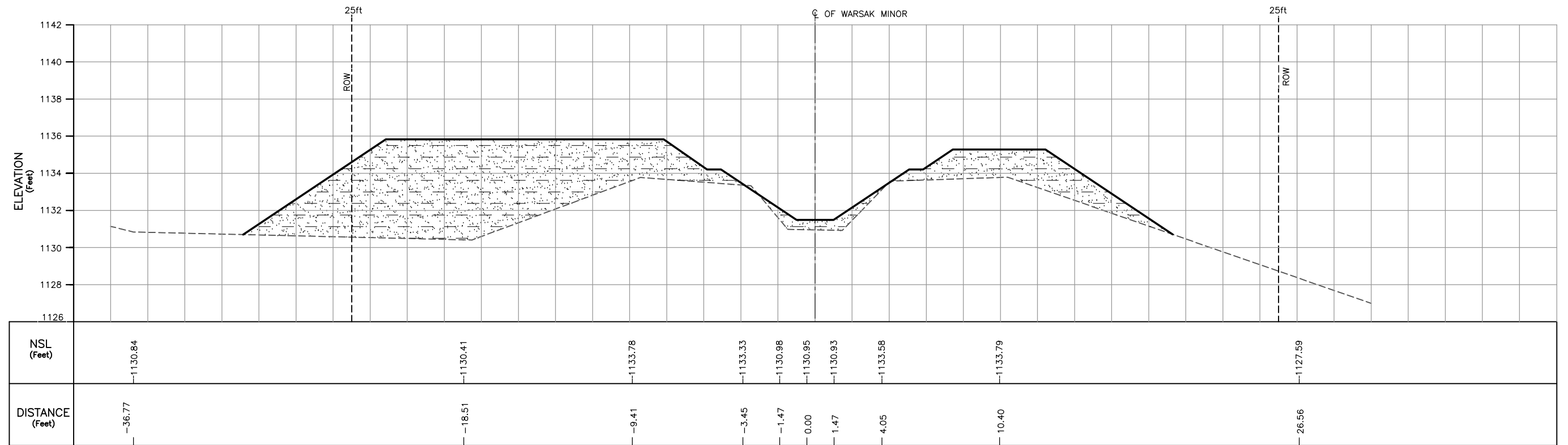
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	MA

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
DISTRIBUTION SYSTEM
DESIGNED SECTIONS SUPERIMPOSED ON
EXISTING SECTIONS-WARSAK MINOR

DATE	DWG. NO.	REV.
JAN., 2019	RWCS-2/CD/WGC/DS/XS/09	0



CROSS SECTION AT RD 17+044



CROSS SECTION AT RD 18+000

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

NOTES

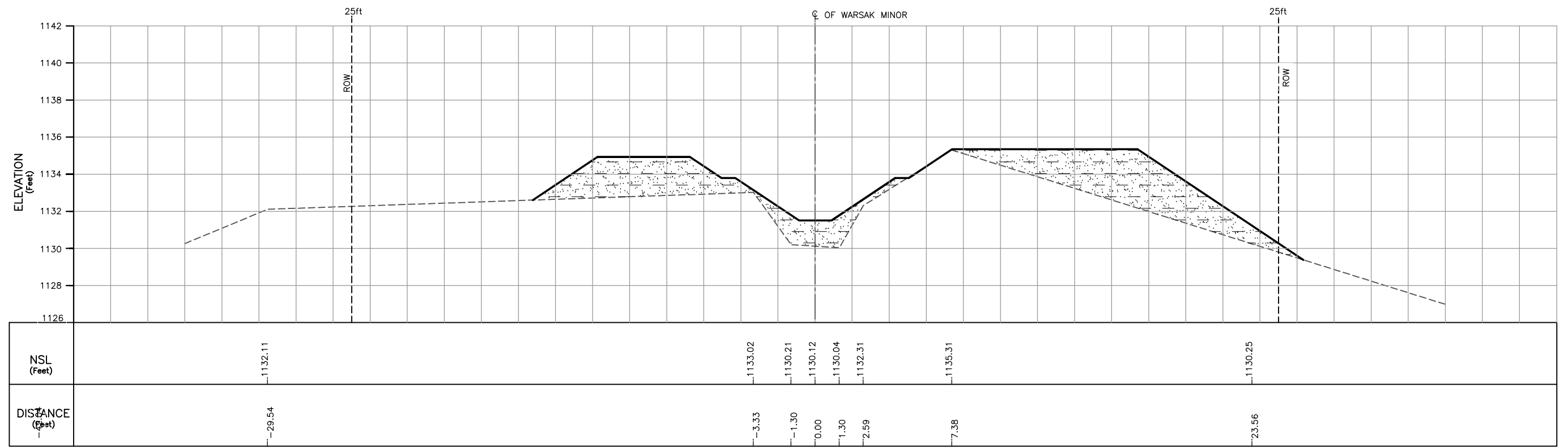
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2. CANAL LINING DETAILS NOT SHOWN.

CONSTRUCTION DRAWING

0 18'
Vertical Scale
1" : 18'

SHEET 9 OF 10

<p>CLIENT</p> <p>IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE</p> <p>ELECTRA CONSULTANTS PESHAWAR</p> <p>INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>	<p>DRAWN MA</p> <p>CHECKED </p> <p>RECOMMENDED </p>	<p>DATE</p> <p>JAN., 2019</p>	<p>REV. <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="width: 20px;"> </td><td style="width: 20px;"> </td></tr></table></p>		
<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-WARSAK MINOR</p>			<p>DWG. NO.</p> <p>RWCS-2/CD/WGC/DS/XS/10</p>	<p>APPROVED</p> <p></p>			



CROSS SECTION AT RD 19+123

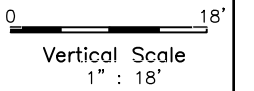
CONSTRUCTION DRAWING

LEGEND

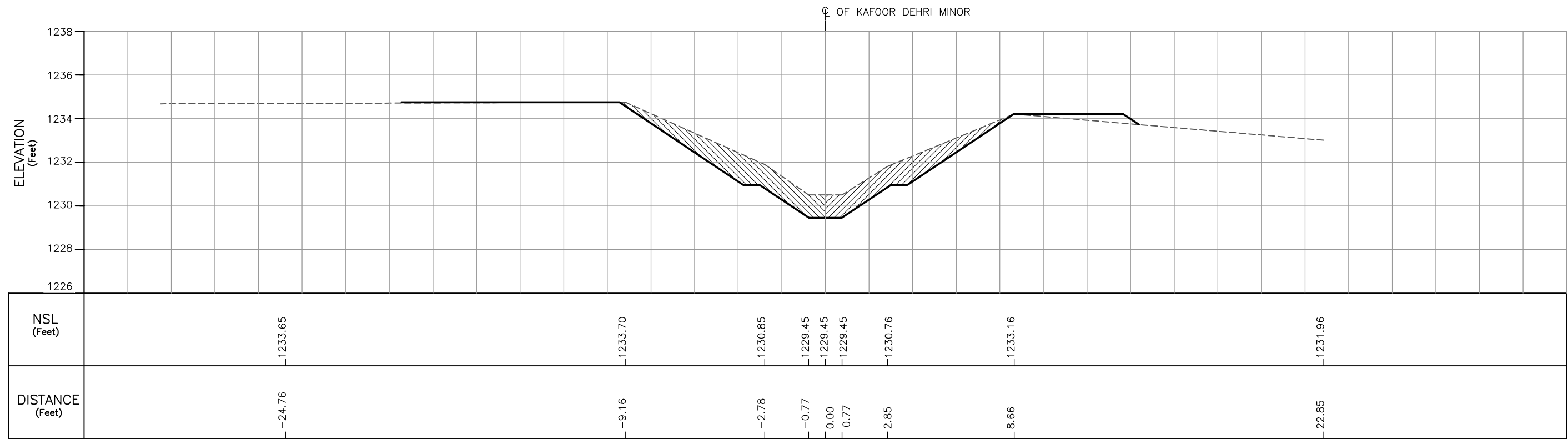
- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

NOTES

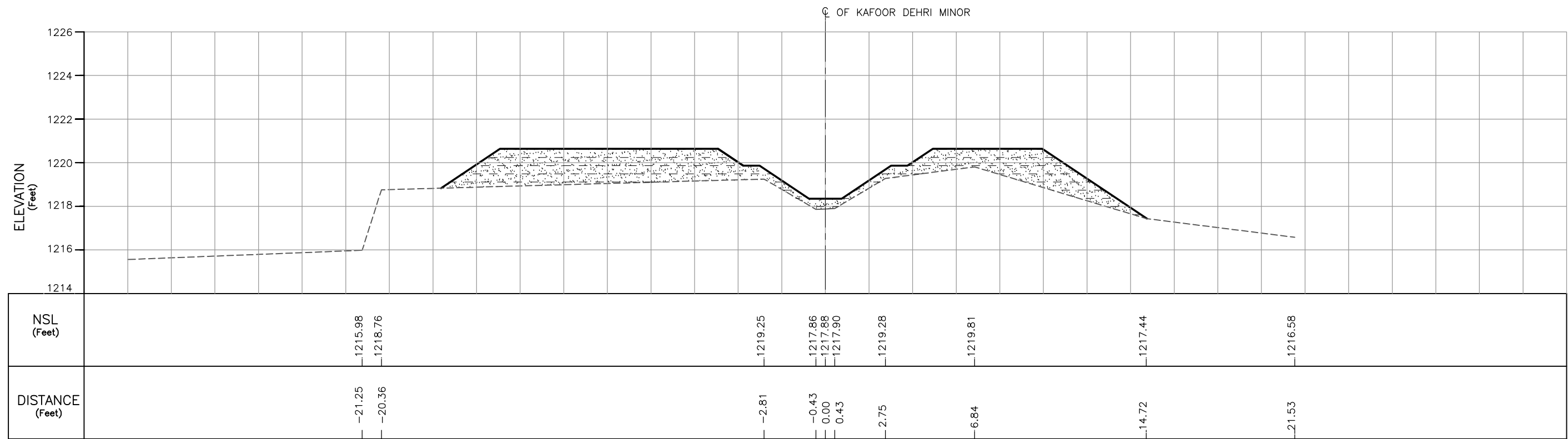
1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.



CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN	MA	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-WARSAK MINOR			
			CHECKED			DATE	JAN., 2019	
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DWG. NO.	REV.
							RWCS-2/CD/WGC/DS/XS/11	0



CROSS SECTION AT RD 1+090



CROSS SECTION AT RD 1+808

LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.

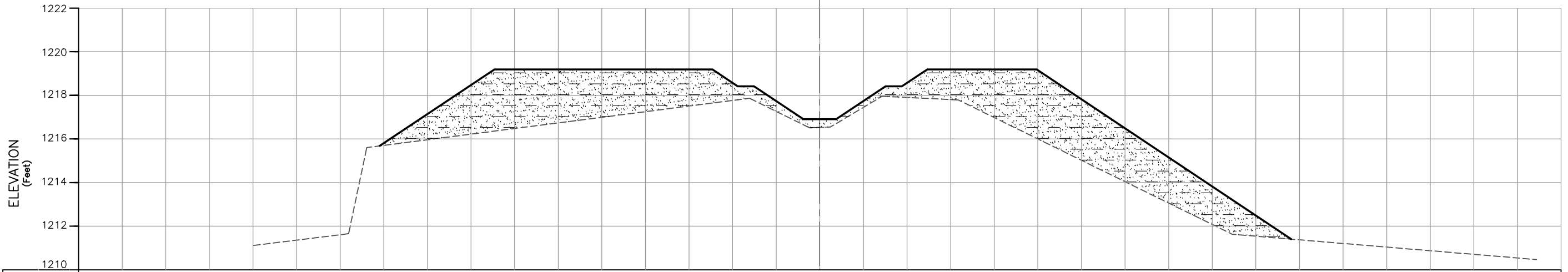
CONSTRUCTION DRAWING

0 18'
Vertical Scale
1" : 18'

SHEET 1 OF 3

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN MA CHECKED RECOMMENDED APPROVED	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-KAFOOR DEHRI MINOR DATE JAN., 2017 DWG. NO. RWCS-2/CD/WGC/DS/XS/12	REV. 0				
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DATE	DWG. NO.	REV.

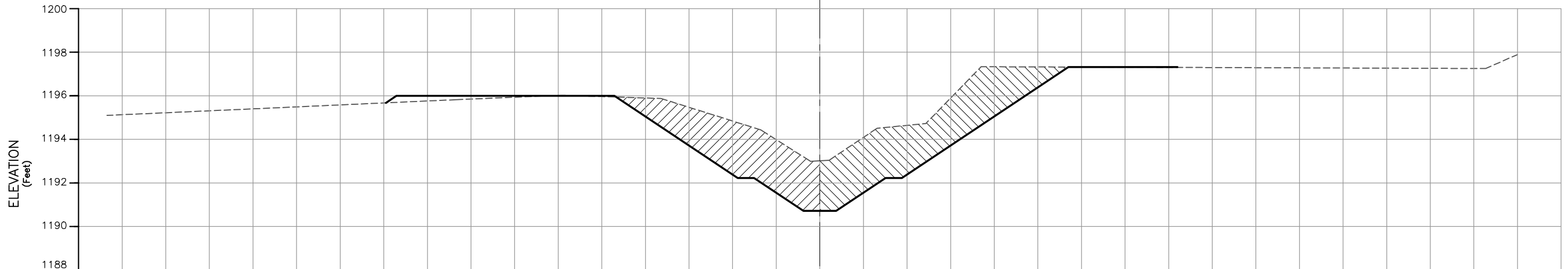
☉ OF KAFOOR DEHRI MINOR



NSL (Feet)	-1211.66	-1215.61	-1217.87	-1216.52	-1216.53	-1216.55	-1217.96	-1217.79	-1211.63	-1211.19
DISTANCE (Feet)	-21.61	-20.78	-3.22	-0.48	0.00	0.48	2.85	6.35	18.92	24.22

CROSS SECTION AT RD 2+046

☉ OF KAFOOR DEHRI MINOR



NSL (Feet)	-1195.51	-1195.82	-1196.03	-1195.88	-1194.44	-1193.00	-1193.02	-1193.05	-1194.51	-1194.73	-1197.34	-1197.25
DISTANCE (Feet)	-23.71	-16.71	-11.85	-7.28	-2.71	-0.43	0.00	0.43	2.62	4.86	7.40	30.54

CROSS SECTION AT RD 3+026

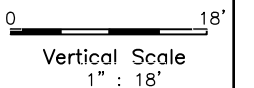
LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

**CONSTRUCTION
DRAWING**

NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

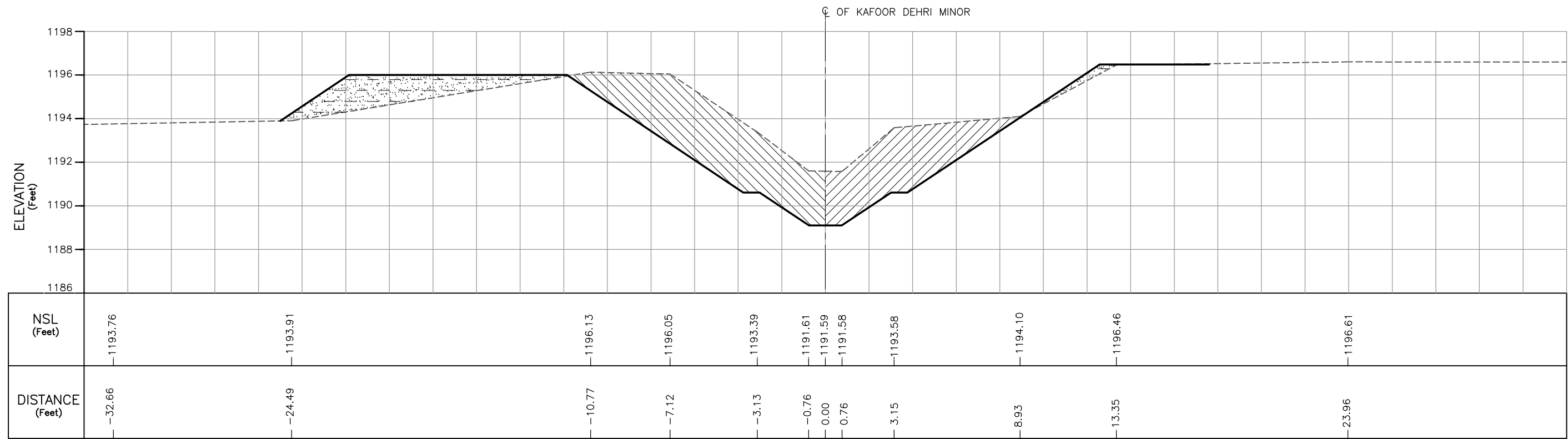
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

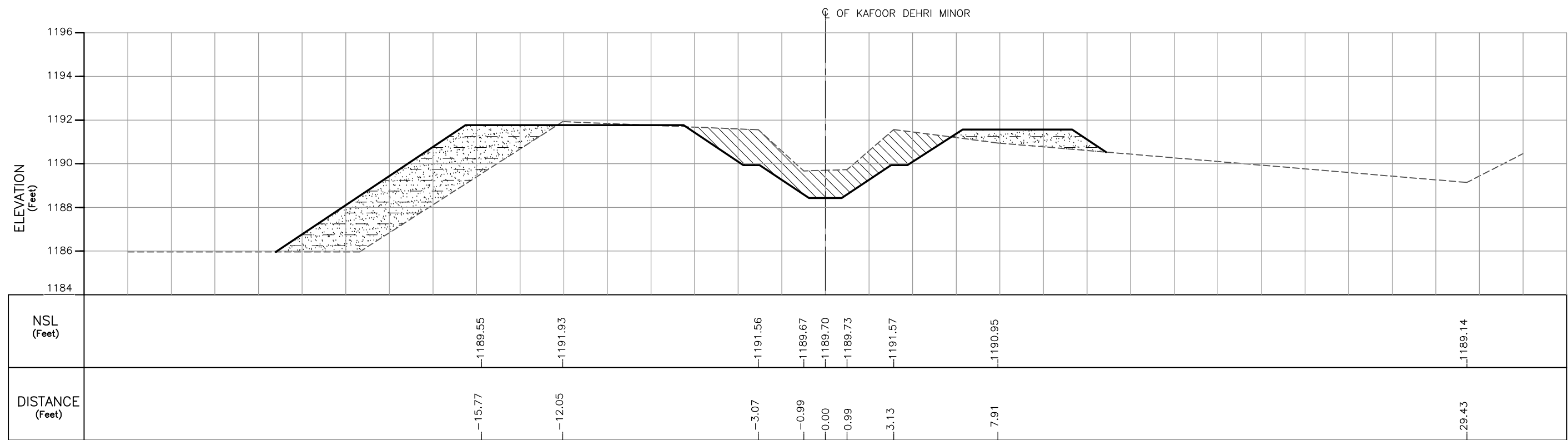
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
DISTRIBUTION SYSTEM
DESIGNED SECTIONS SUPERIMPOSED ON
EXISTING SECTIONS-KAFOOR DEHRI MINOR

DRAWN	MA	DATE	DWG. NO.	REV.
CHECKED		JAN., 2017	RWCS-2/CD/WGC/DS/XS/13	0
RECOMMENDED				



CROSS SECTION AT RD 3+269



CROSS SECTION AT RD 3+742

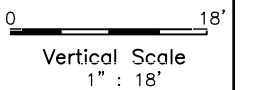
LEGEND

- EXISTING CROSS SECTION/NSL
- DESIGNED CROSS SECTION
- COMPACTED FILL
- CUTTING

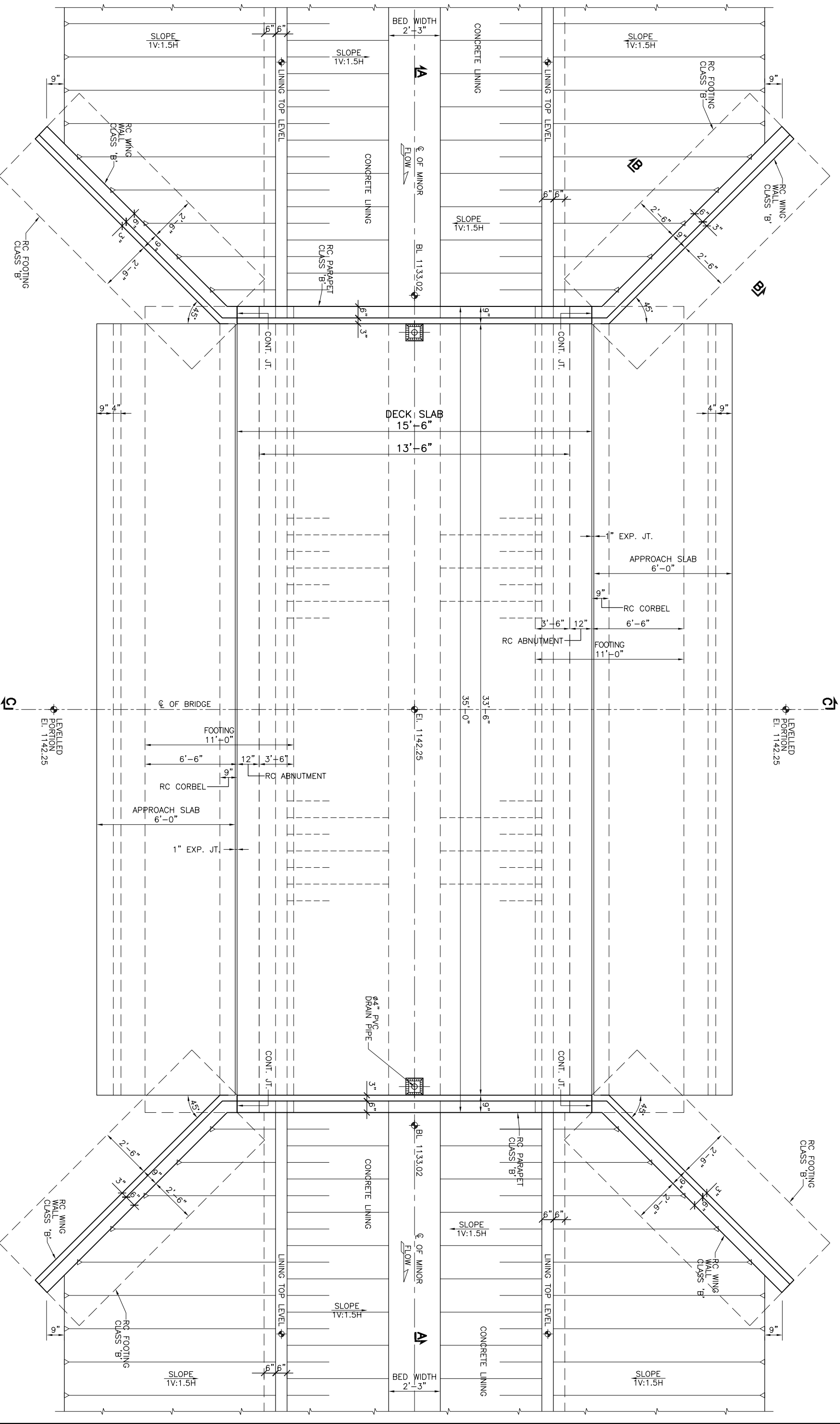
CONSTRUCTION
DRAWING

NOTES

1. FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/DS/XS/01.
2. CANAL LINING DETAILS NOT SHOWN.

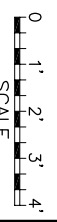


<p>CLIENT</p> <p>IRRIGATION DEPARTMENT</p> <p>GOVERNMENT OF THE KHYBER PAKHTUNKHWA PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>	<p>CONSULTANT - A JOINT VENTURE OF</p> <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE</p> <p>ELECTRA CONSULTANTS PESHAWAR</p> <p>INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE</p>	<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT</p> <p>DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM</p> <p>IN PESHAWAR AND NOWSHERA DISTRICTS</p>	<p>DRAWN</p> <p>CHECKED</p> <p>RECOMMENDED</p> <p>APPROVED</p>	<p>MA</p> <p><i>[Signature]</i></p>	<p>REMODELING OF WARSAK CANAL SYSTEM</p> <p>CONTRACT RWCS-2</p> <p>DISTRIBUTION SYSTEM</p> <p>DESIGNED SECTIONS SUPERIMPOSED ON EXISTING SECTIONS-KAFOOR DEHRI MINOR</p> <p>DATE: JAN., 2017</p> <p>DWG. NO. RWCS-2/CD/WGC/DS/XS/14</p>	<p>REV.</p> <p>0</p>
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**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/DRB/01.



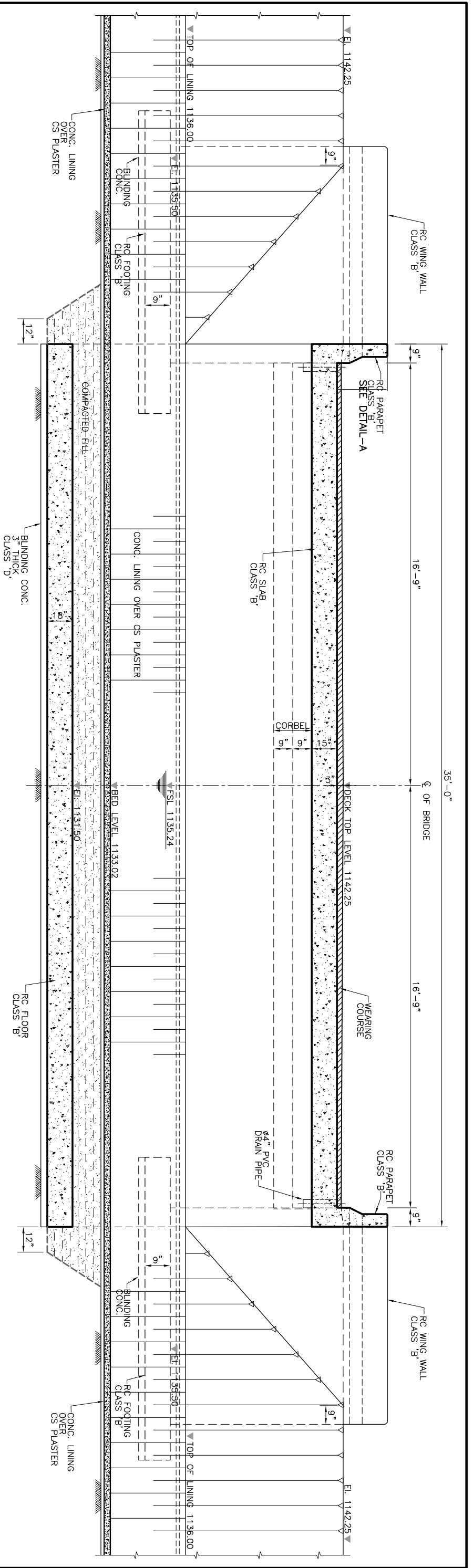
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
PAK NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.), LIMITED LAHORE
ELECTRA CONSULTANTS
PESHAWAR
INTEGRATED CONSULTING SERVICES
(PVT.), LIMITED LAHORE

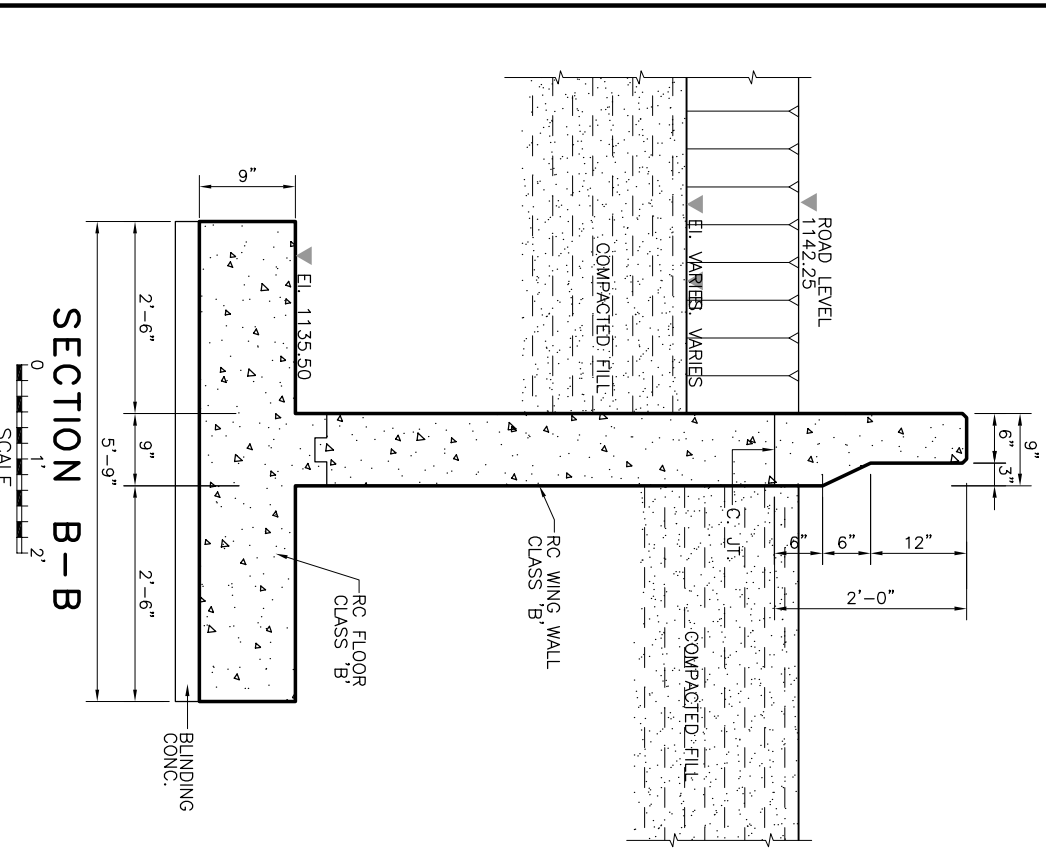
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

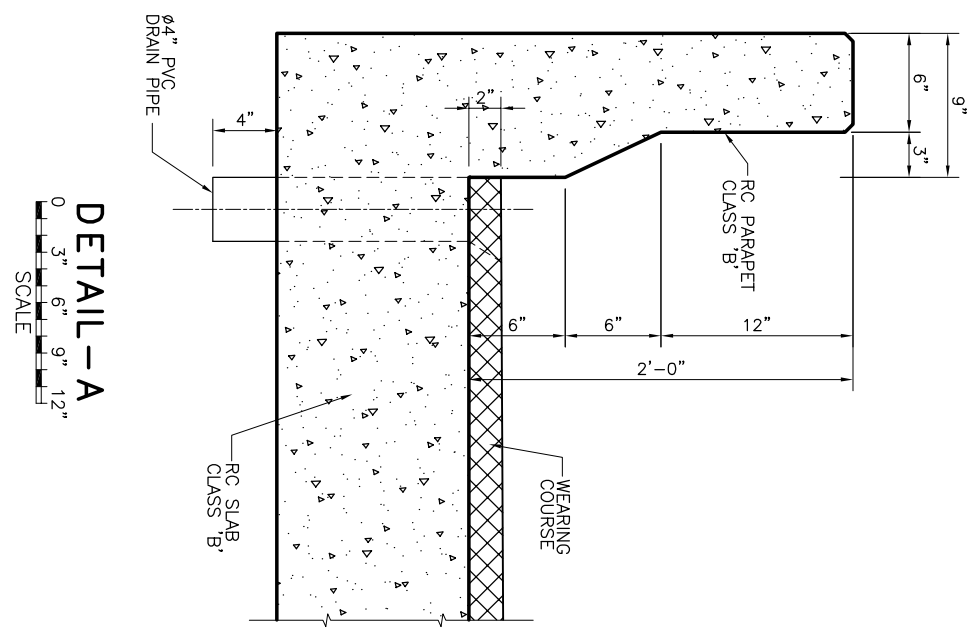
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
DISTRIBUTION SYSTEM
DISTRICT ROAD BRIDGE AT RD 14+033
(WARSAK MINOR)
PLAN
DATE: JUNE, 2020
DWG. NO. RWCS-2/CD/WGC/DS/DRB/01



SECTION A-A



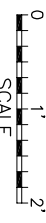
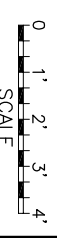
SECTION B-B







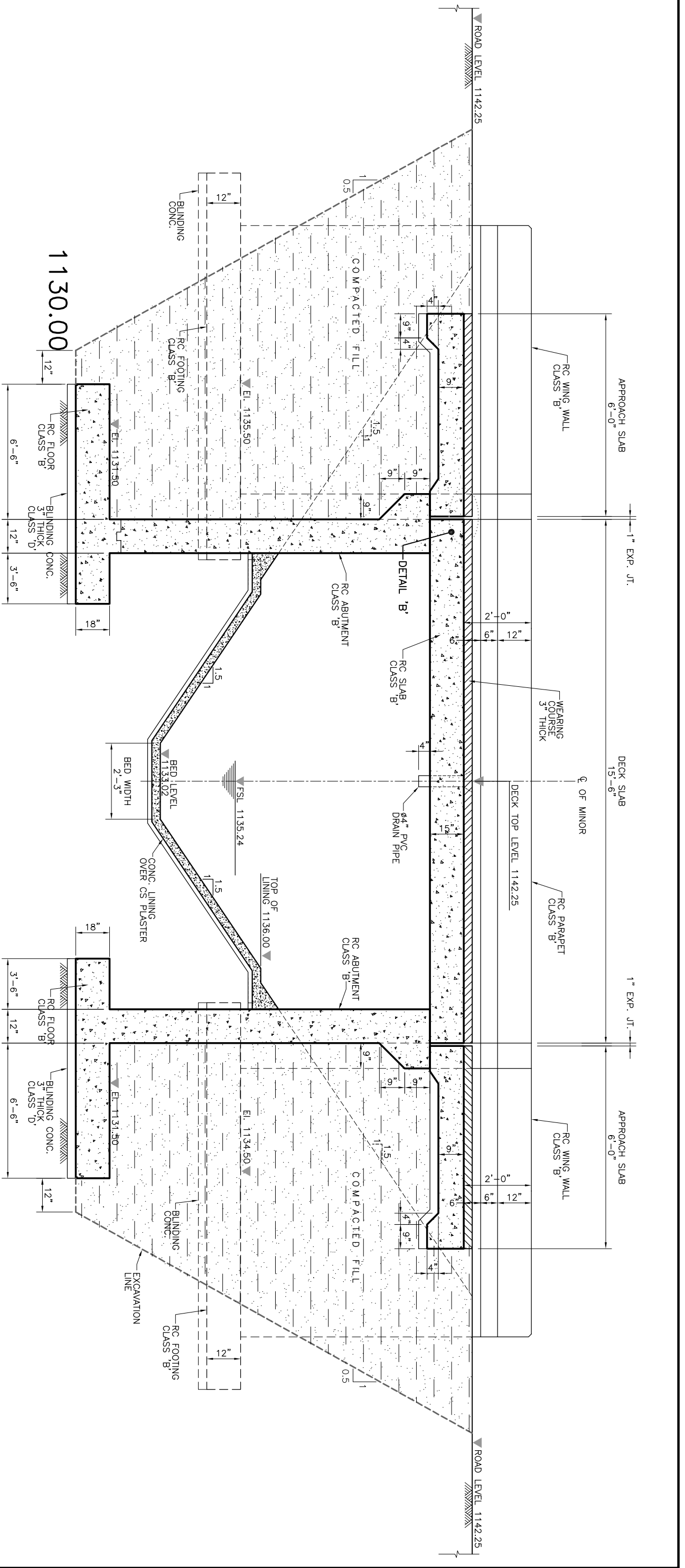
DETAIL-A

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/DRB/01.

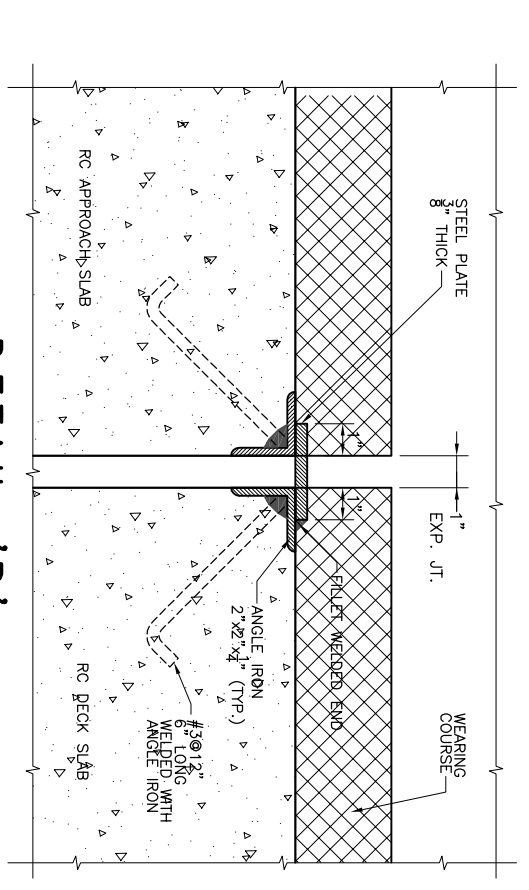
**CONSTRUCTION
DRAWING**



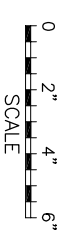
 <p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>		<p>CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES  ELECTRA CONSULTANTS  INTEGRATED CONSULTING SERVICES PAKHTUNKHWA, PESHAWAR (PVT.), LIMITED LAHORE</p>		<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>		<p>REV.</p>	<p>DATE</p>	<p>DESCRIPTION</p>	<p>BY</p>	<p>CKD.</p>	<p>APPR.</p>	<p>APPROVED</p>	<p>DRAWN</p>	<p>CHECKED</p>	<p>RECOMMENDED</p>	<p>ISHTIAQ</p>	<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DISTRICT ROAD BRIDGE AT RD 14+033 (WARSAK MINOR) SECTIONS AND DETAIL</p>	<p>DATE JUNE, 2020</p>	<p>DWG. NO. RWCS-2/CD/WGC/DS/DRB/02</p>	<p>REV.</p>
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SECTION C - C

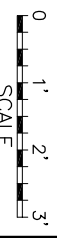


DETAIL 'B'

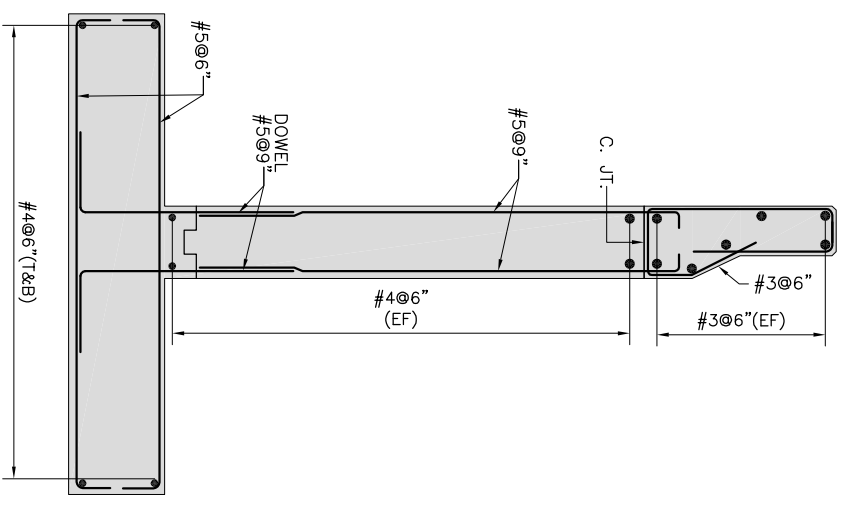
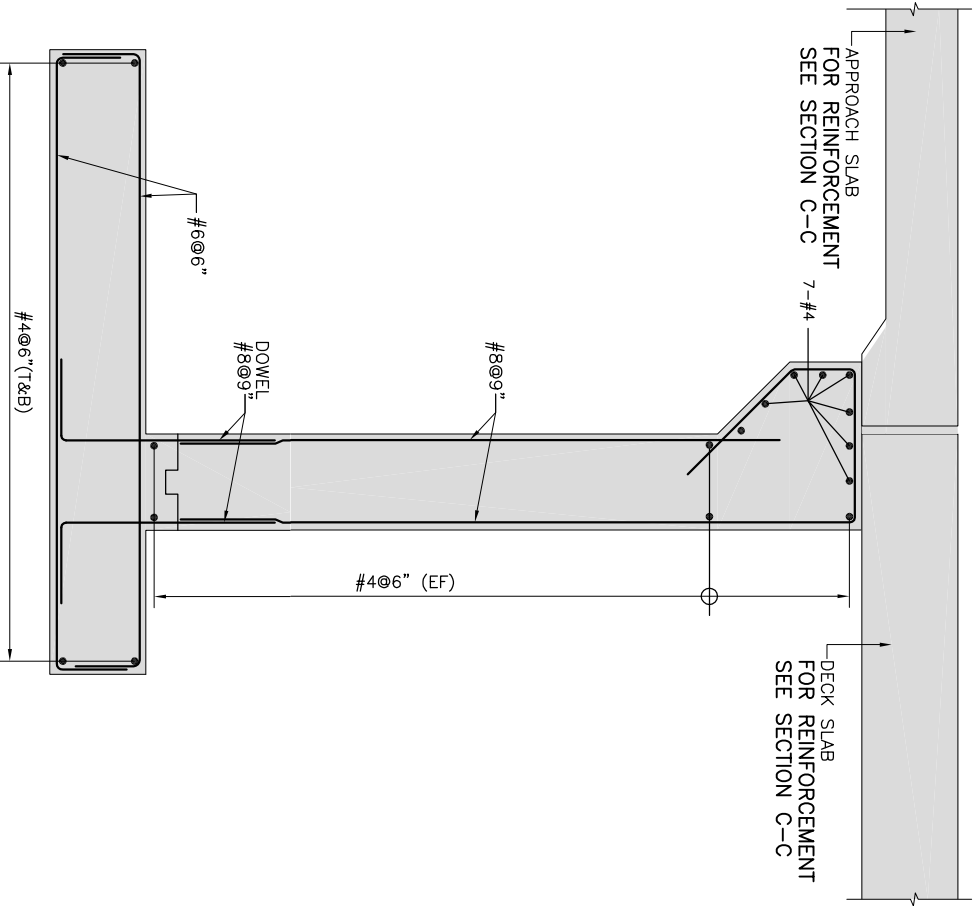
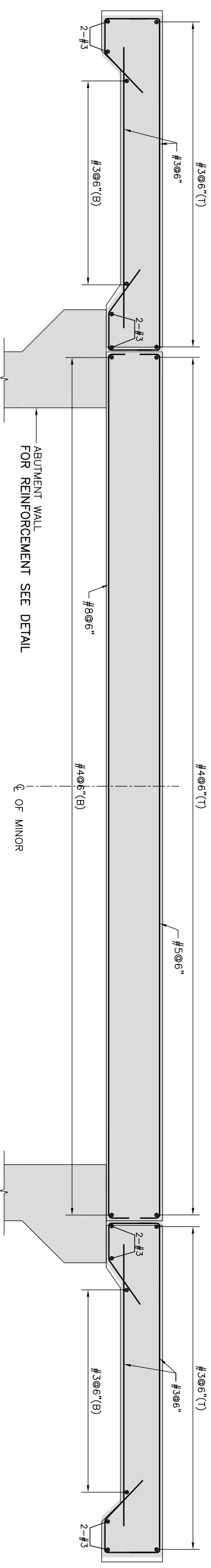
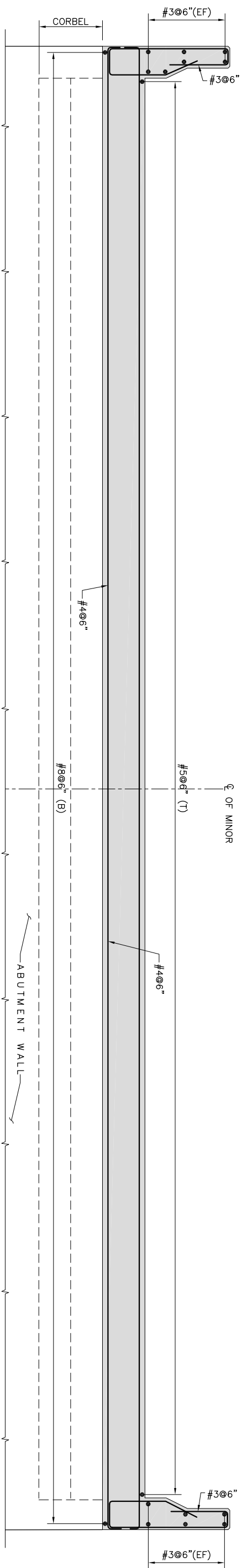


CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/DRB/01.



<p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>		<p>CONSULTANT - A JOINT VENTURE OF PAKISTAN NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.), LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.), LIMITED LAHORE</p>		<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>			
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	DRAWN	ISHTIAQ
						CHECKED	
						RECOMMENDED	
						APPROVED	
DATE	JUNE, 2020	DWG. NO.	RWCS-2/CD/WGC/DS/DRB/03	REV.	0	<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DISTRICT ROAD BRIDGE AT RD 14+033 SECTION AND DETAIL</p>	







SECTION C-C WALL

SECTION B-B

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/DRB/01.

 <p>CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR</p>		<p>CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES  ELECTRA CONSULTANTS  INTEGRATED CONSULTING SERVICES PAKISTAN (PVT.), LIMITED LAHORE PESHAWAR</p>		<p>REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS</p>			
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	DRAWN	ISHTIAQ
						CHECKED	
						RECOMMENDED	
						APPROVED	
<p>REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM DISTRICT ROAD BRIDGE AT RD 14+033 WARSAK MINOR</p>		<p>DATE JUNE, 2020</p>		<p>DWG. NO. RWCS-2/CD/WGC/DS/DRB/04</p>		<p>REV.</p>	

**RWCS-2
DISTRIBUTION SYSTEM
WARSAK MINOR AQUEDUCT
AT
RD 10+105**

LIST OF REFERENCE DRAWINGS







SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-2/CD/GD/01
2	GENERAL NOTES	RWCS-2/CD/GD/02
3	CONTRACT PACKAGES	RWCS-2/CD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-2/CD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-2/CD/MS/01
6	WARSAK GRAVITY CANAL - PLAN AND PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/DS/PP/01
7	WARSAK GRAVITY CANAL - TYPICAL CROSS SECTIONS - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/DS/XS/01
8	DISTRIBUTION SYSTEM - PLAN AND PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/DS/PP/01
9	DISTRIBUTION SYSTEM - TYPICAL CROSS SECTIONS - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/DS/XS/01

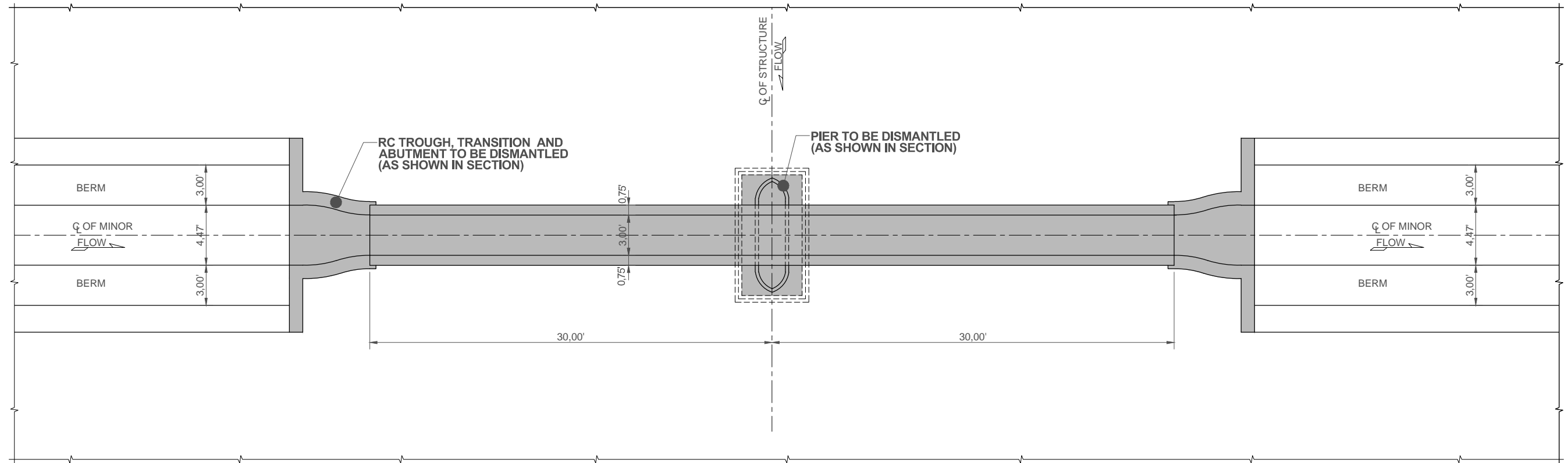
SR.	TITLE	DRAWING NO.
B. AQUEDUCT AT RD 10+105		
1	EXISTING AQUEDUCT AT RD 10+105 - DISMANTLING OF STRUCTURE - PLAN AND SECTION	RWCS-2/CD/WGC/DS/AQ/22
2	AQUEDUCT AT RD 10+105 - PLAN	RWCS-2/CD/WGC/DS/AQ/23
3	AQUEDUCT AT RD 10+105 - SECTION A-A	RWCS-2/CD/WGC/DS/AQ/24
4	AQUEDUCT AT RD 10+105 - SECTION B-B	RWCS-2/CD/WGC/DS/AQ/25
5	AQUEDUCT AT RD 10+105 - SECTION C-C	RWCS-2/CD/WGC/DS/AQ/26
6	AQUEDUCT AT RD 10+105 - SECTION AND DETAIL	RWCS-2/CD/WGC/DS/AQ/27
7	AQUEDUCT AT RD 10+105 - DETAILS	RWCS-2/CD/WGC/DS/AQ/28
8	AQUEDUCT AT RD 10+105 - DETAILS	RWCS-2/CD/WGC/DS/AQ/29
9	AQUEDUCT AT RD 10+105 - REINFORCEMENT DETAILS	RWCS-2/CD/WGC/DS/AQ/30
10	AQUEDUCT AT RD 10+105 - REINFORCEMENT DETAILS	RWCS-2/CD/WGC/DS/AQ/31
11	AQUEDUCT AT RD 10+105 - REINFORCEMENT DETAILS	RWCS-2/CD/WGC/DS/AQ/32

NOTES

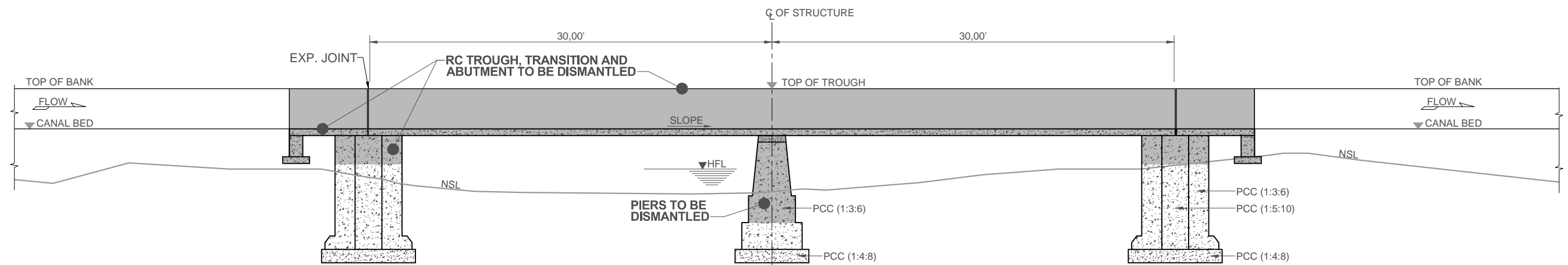
- 1 LOCATION OF STRUCTURES IS TENTATIVE AND SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- 2 EXCAVATED MATERIAL SUITABLE FOR EMBANKMENT FILL SHALL BE USED FOR COMPACTED EMBANKMENTS.
- 3 EARTH FILL IN EMBANKMENTS SHALL BE COMPACTED AS PER SPECIFICATIONS.
- 4 THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95 % OF DRY DENSITY.
- 5 THE EARTHEN RAMPS AROUND THE STRUCTURE SHALL HAVE SLOPE OF 1:30.

**CONSTRUCTION
DRAWING**

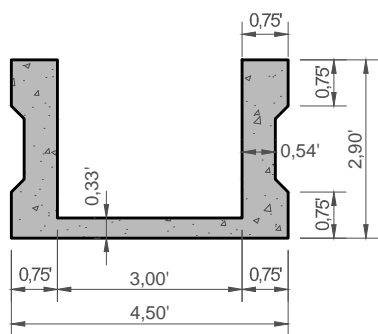
 CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN CHECKED RECOMMENDED APPROVED	Ishtiaq  	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM AQUEDUCT AT RD 10+105 LIST OF REFERENCE DRAWINGS AND NOTES	DATE NOV., 2020	DWG. NO. RWCS-2/CD/WGC/DS/AQ/21	REV. 0
			REV. DATE DESCRIPTION BY CKD. APPR. APPROVED					



PLAN
SCALE 1"=8'-0"



LONGITUDINAL SECTION
SCALE 1"=8'-0"



EXISTING RCC TROUGH
SCALE 1"=3'-0"

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

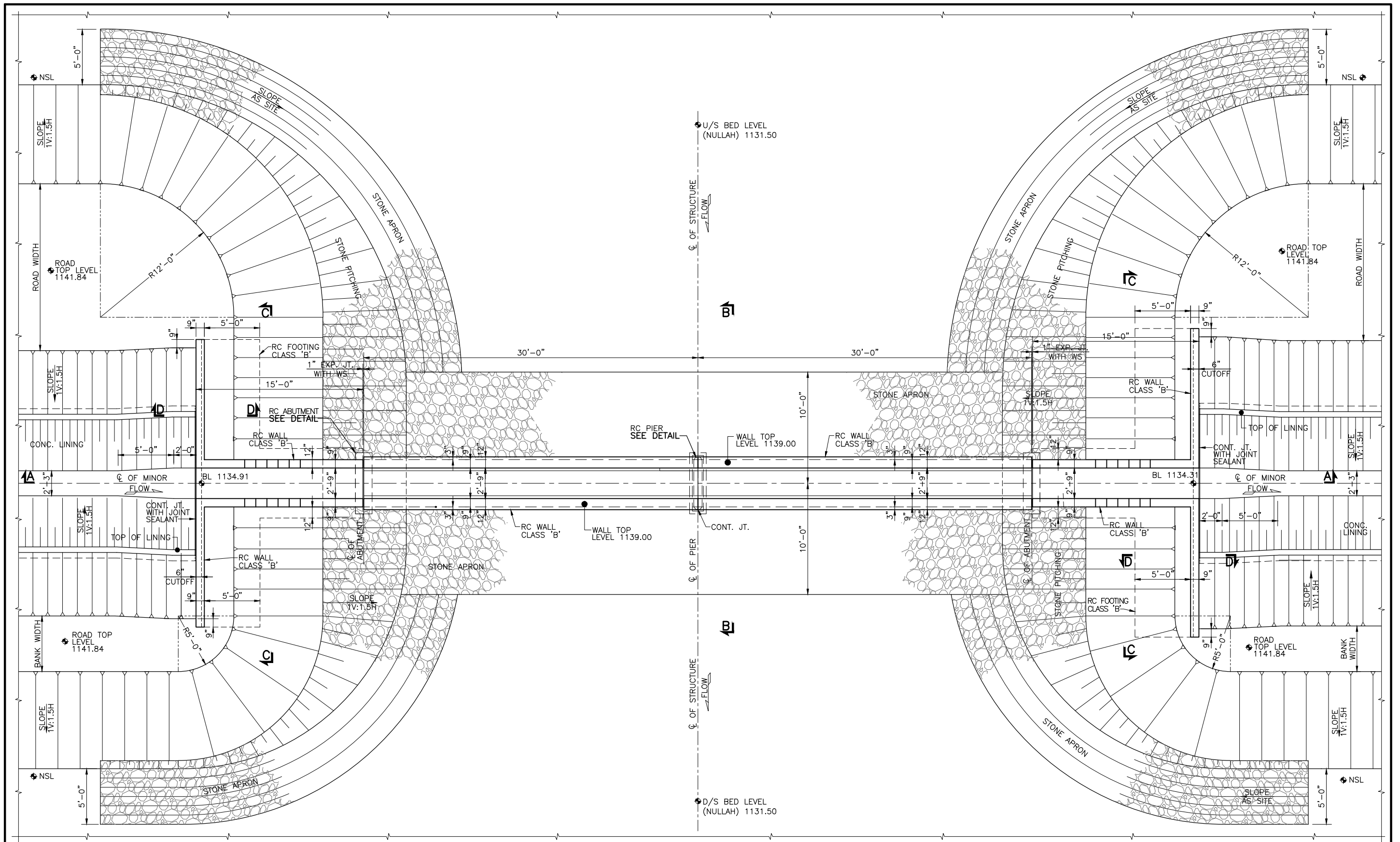
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

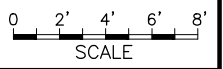
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
DISTRIBUTION SYSTEM
EXISTING AQUEDUCT AT RD 10+105
DISMANTLING OF STRUCTURE
PLAN AND SECTION

DATE: NOV., 2020
DWG. NO.: RWCS-2/CD/WGC/DS/AQ/22
REV. 0



**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

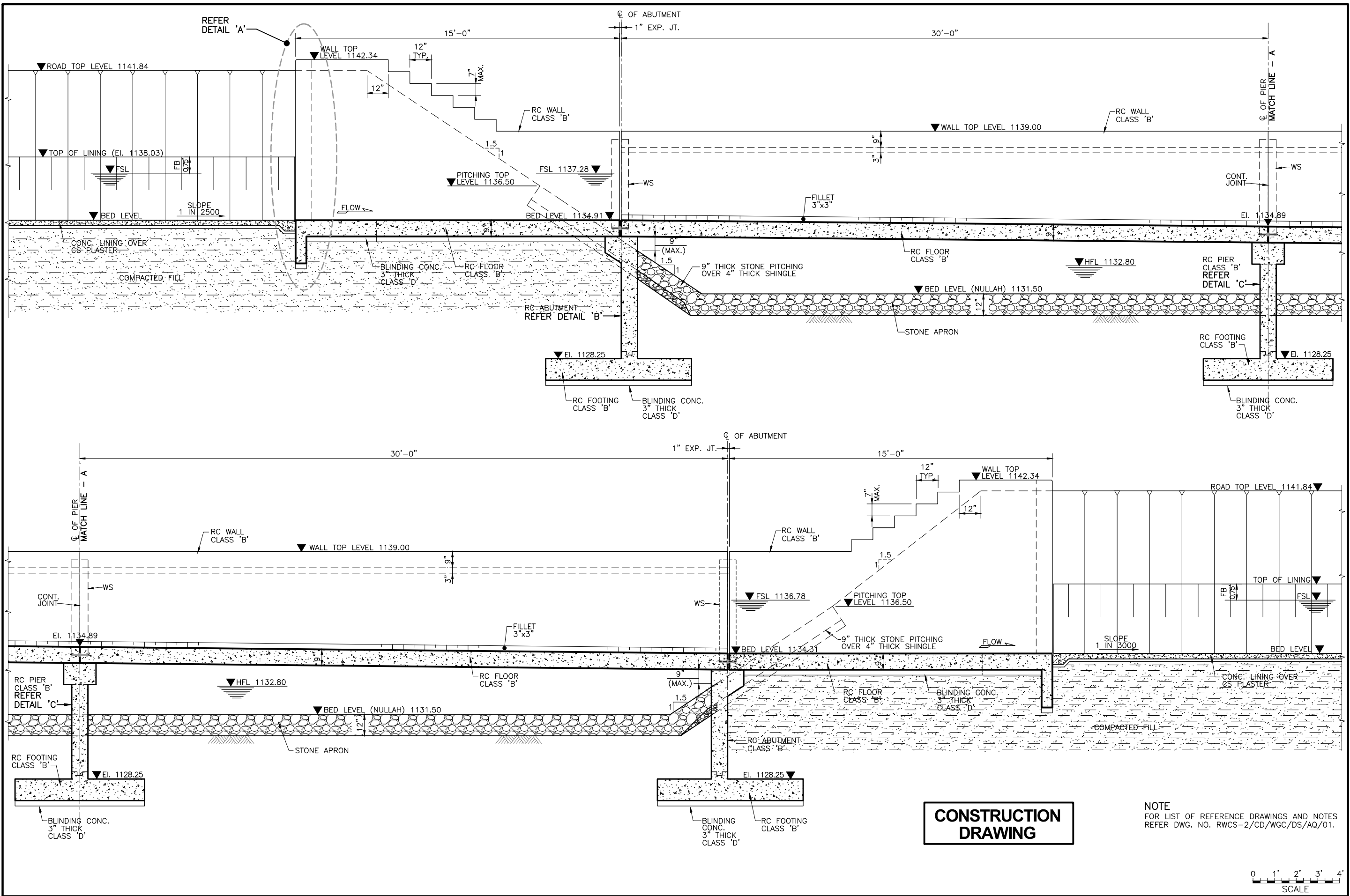
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

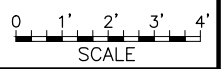
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CONTRACT RWCS-2
DISTRIBUTION SYSTEM
AQUEDUCT AT RD 10+105
PLAN**

DATE: NOV., 2020
DWG. NO.: RWCS-2/CD/WGC/DS/AQ/23
REV. 0



CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

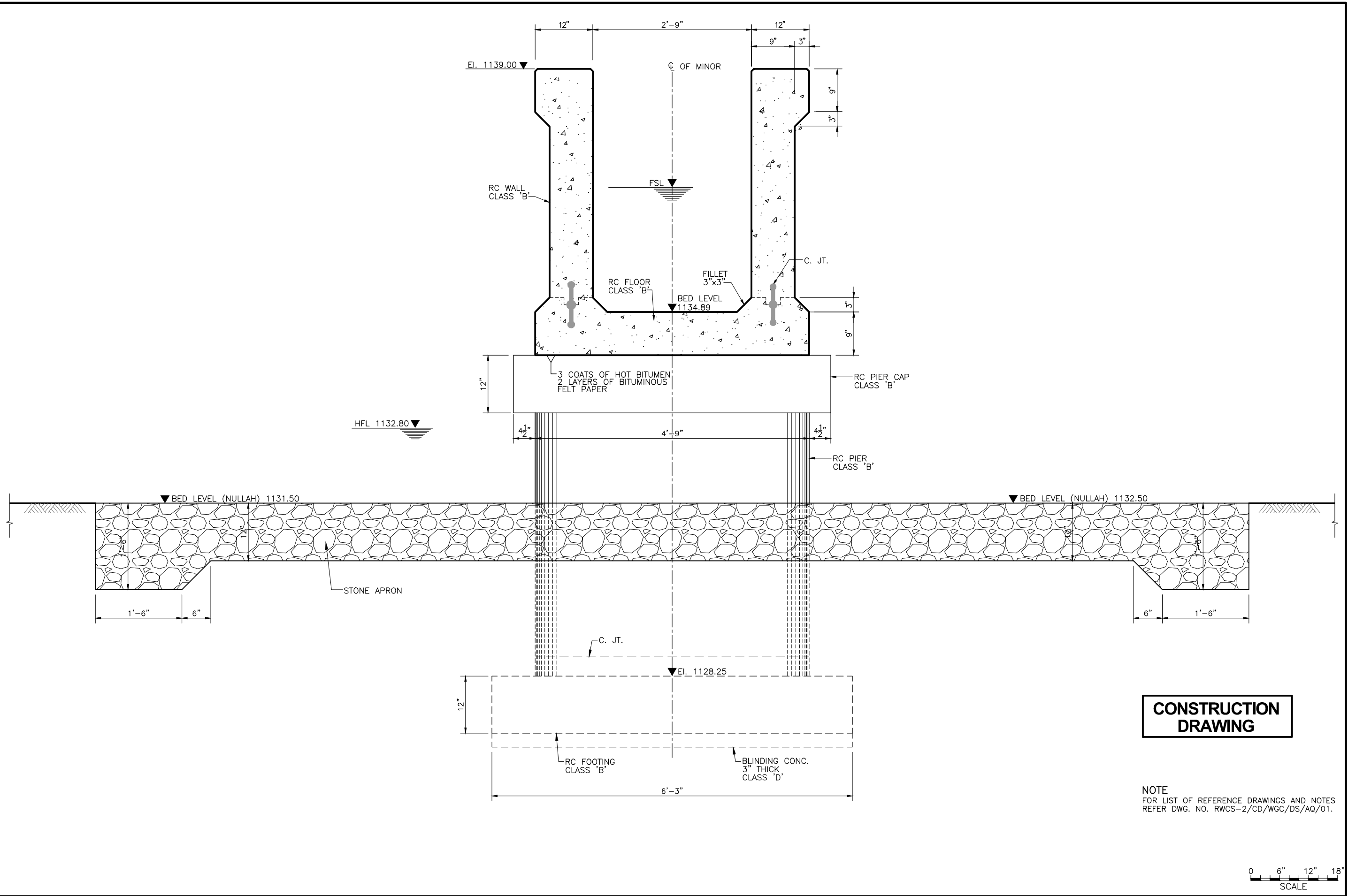
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
DISTRIBUTION SYSTEM
AQUEDUCT AT RD 10+105
SECTION A-A**

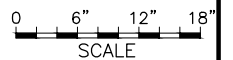
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RECOMMENDED: [Signature]

DATE: NOV., 2020
DWG. NO.: RWCS-2/CD/WGC/DS/AQ/24
REV. 0



CONSTRUCTION DRAWING

NOTE
 FOR LIST OF REFERENCE DRAWINGS AND NOTES
 REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.



CLIENT
 IRRIGATION DEPARTMENT
 GOVERNMENT OF THE KHYBER
 PAKHTUNKHWA,
 PMU - REMODELING OF WARSAK
 CANALS PROJECT
 PESHAWAR

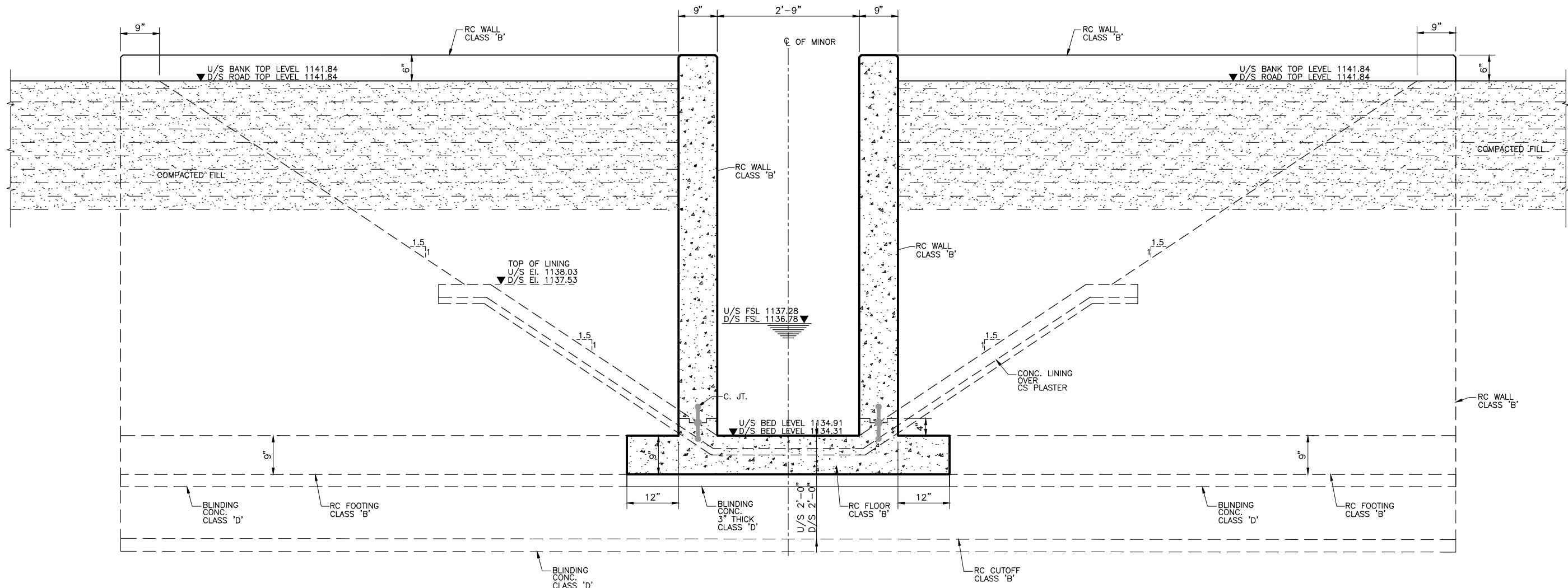
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
 PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
 PESHAWAR**
**INTEGRATED CONSULTING SERVICES
 (PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
 DETAILED DESIGN AND CONSTRUCTION
 SUPERVISION OF REMODELING OF
 WARSAK CANAL SYSTEM
 IN
 PESHAWAR AND NOWSHERA DISTRICTS**

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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED		

**REMODELING OF WARSAK CANAL SYSTEM
 CONTRACT RWCS-2
 DISTRIBUTION SYSTEM
 AQUEDUCT AT RD 10+105
 SECTION B-B**

DATE	DWG. NO.	REV.
NOV., 2020	RWCS-2/CD/WGC/DS/AQ/25	0



SECTION C - C

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.



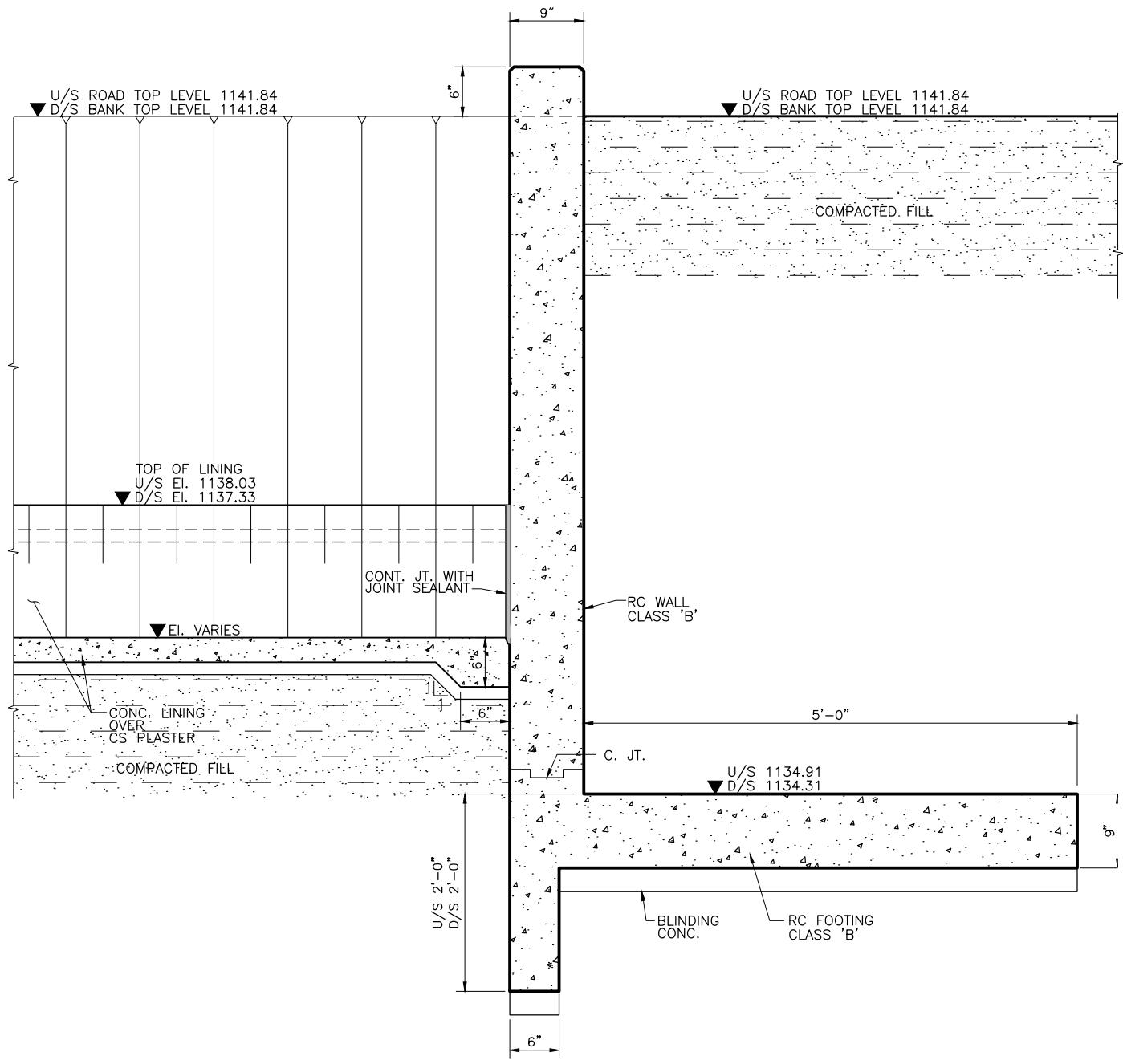
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

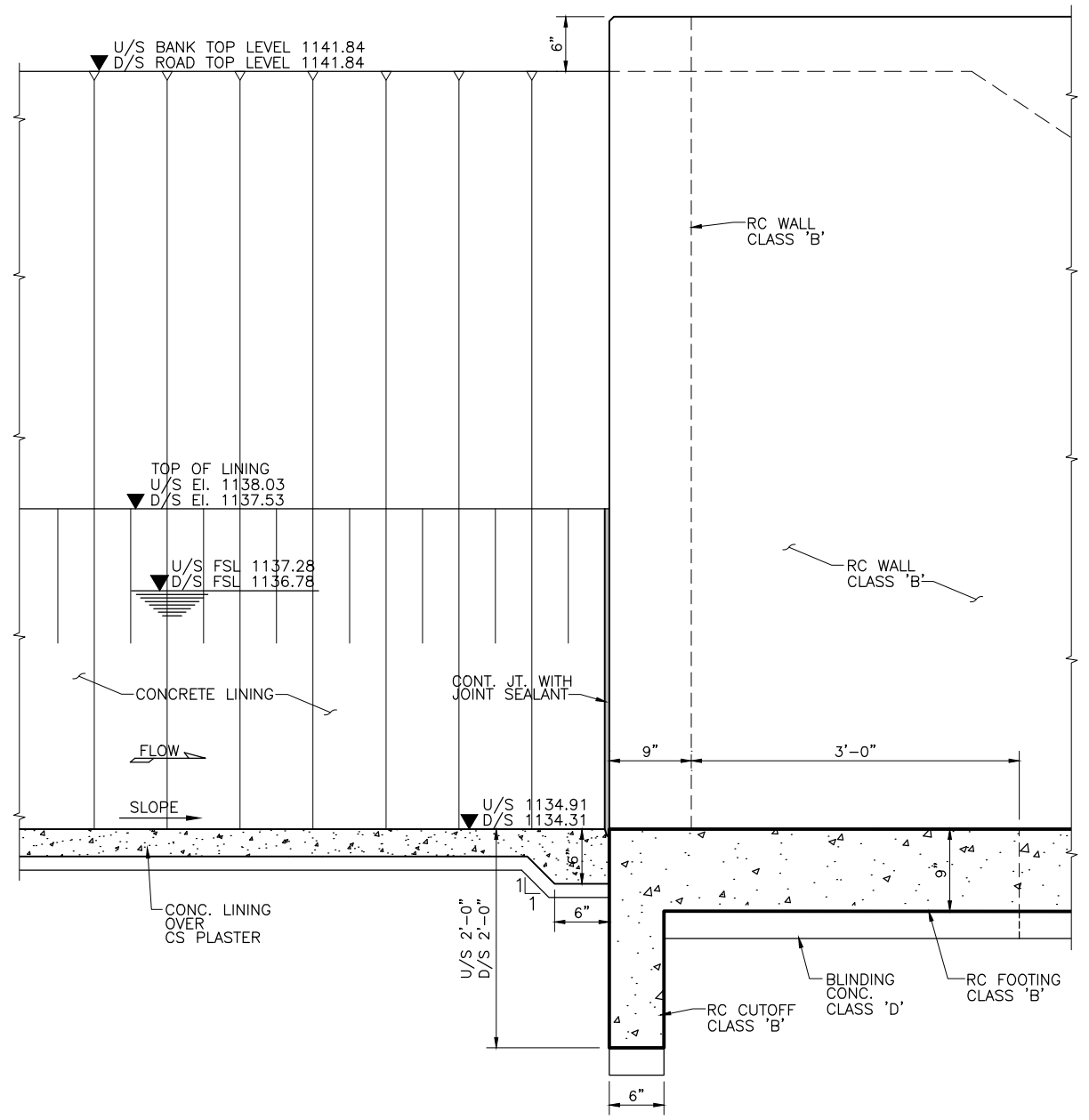
REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
DISTRIBUTION SYSTEM
AQUEDUCT AT RD 10+105
SECTION C - C
DATE NOV., 2020
DWG. NO. **RWCS-2/CD/WGC/DS/AQ/26**
REV. 0



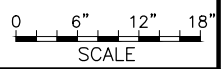
SECTION D - D



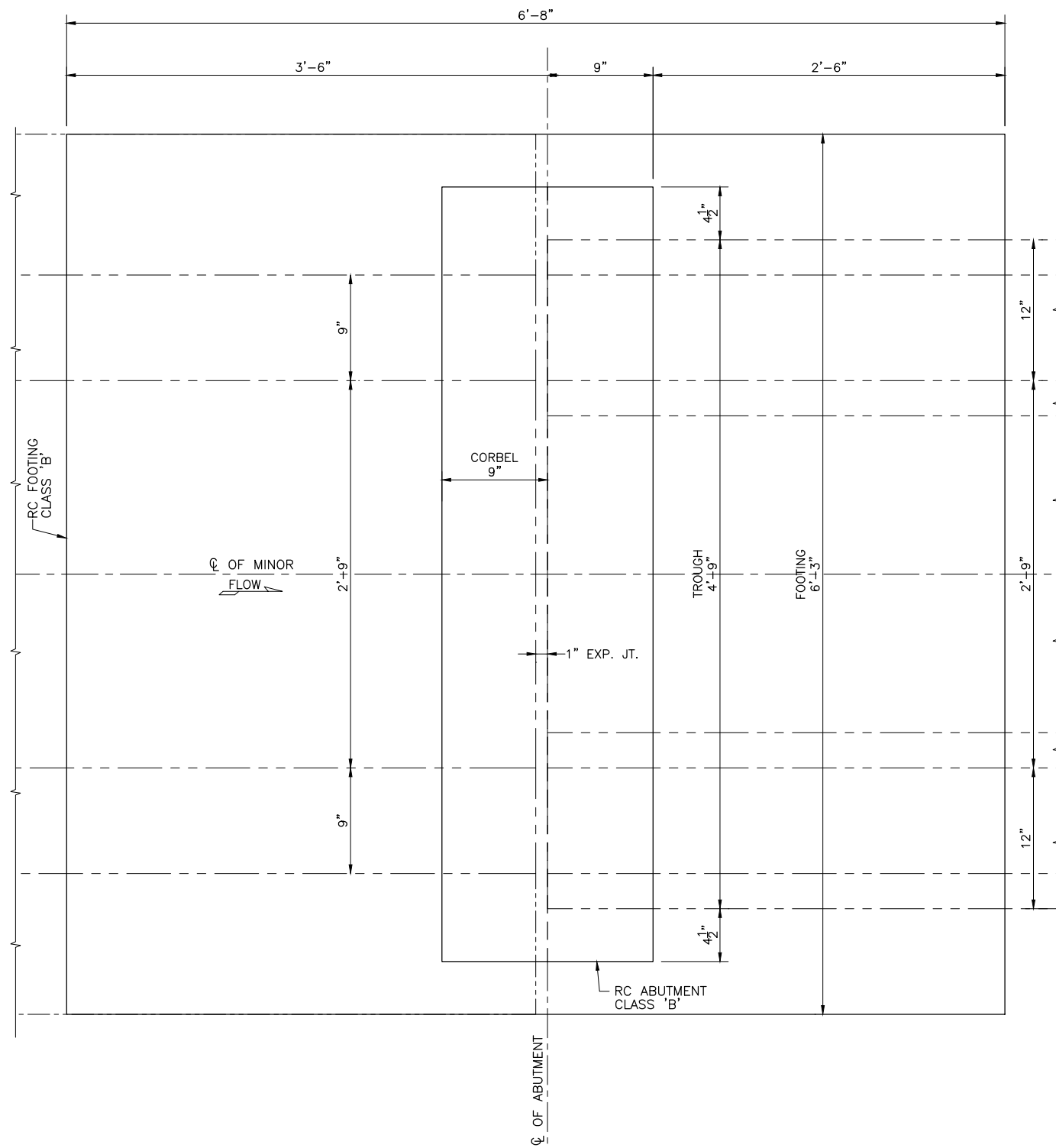
DETAIL 'A'

**CONSTRUCTION
DRAWING**

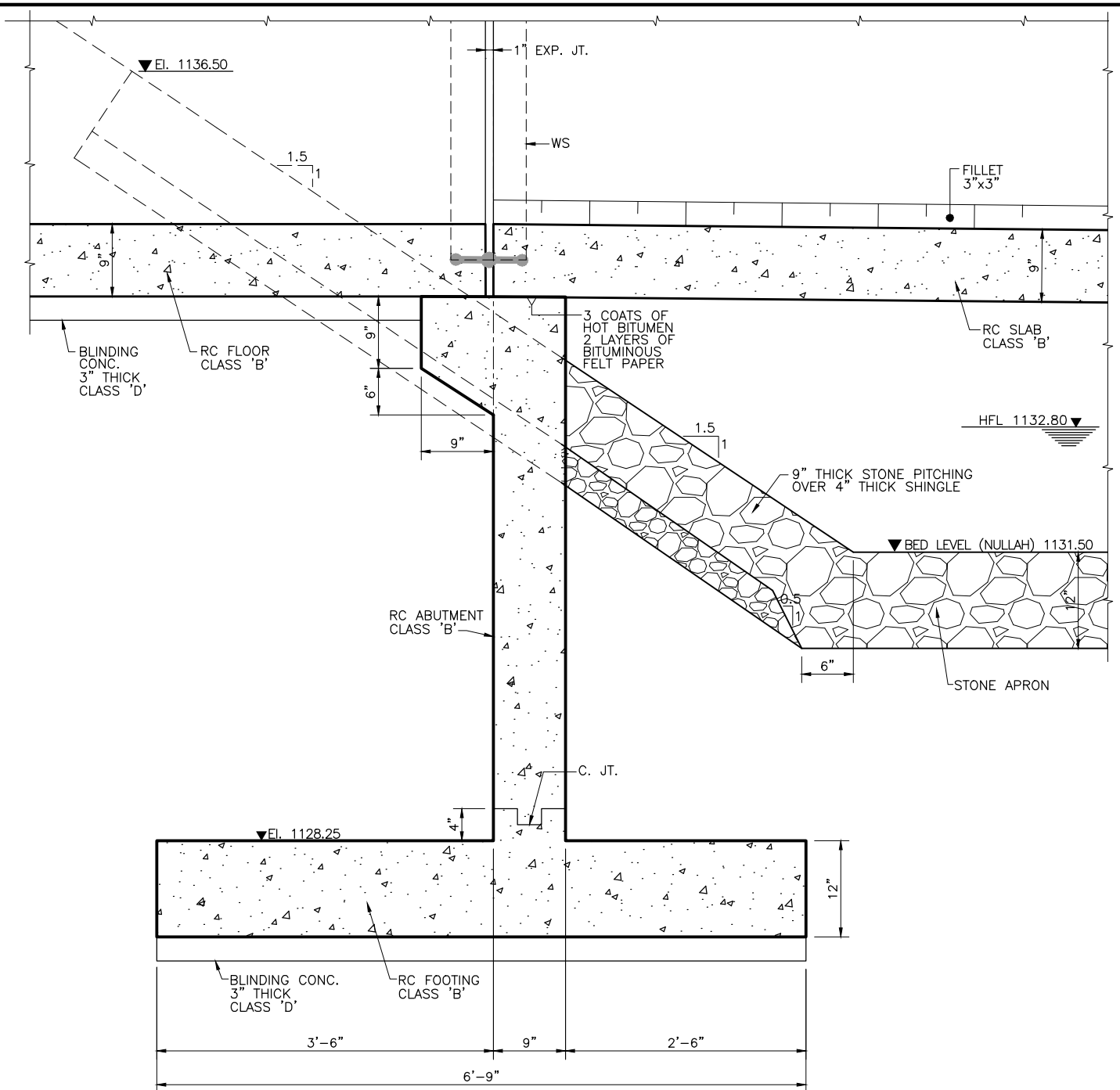
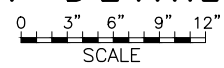
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FOR LIST OF REFERENCE DRAWINGS AND NOTES
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CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM AQUEDUCT AT RD 10+105 SECTION AND DETAIL			
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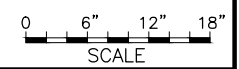
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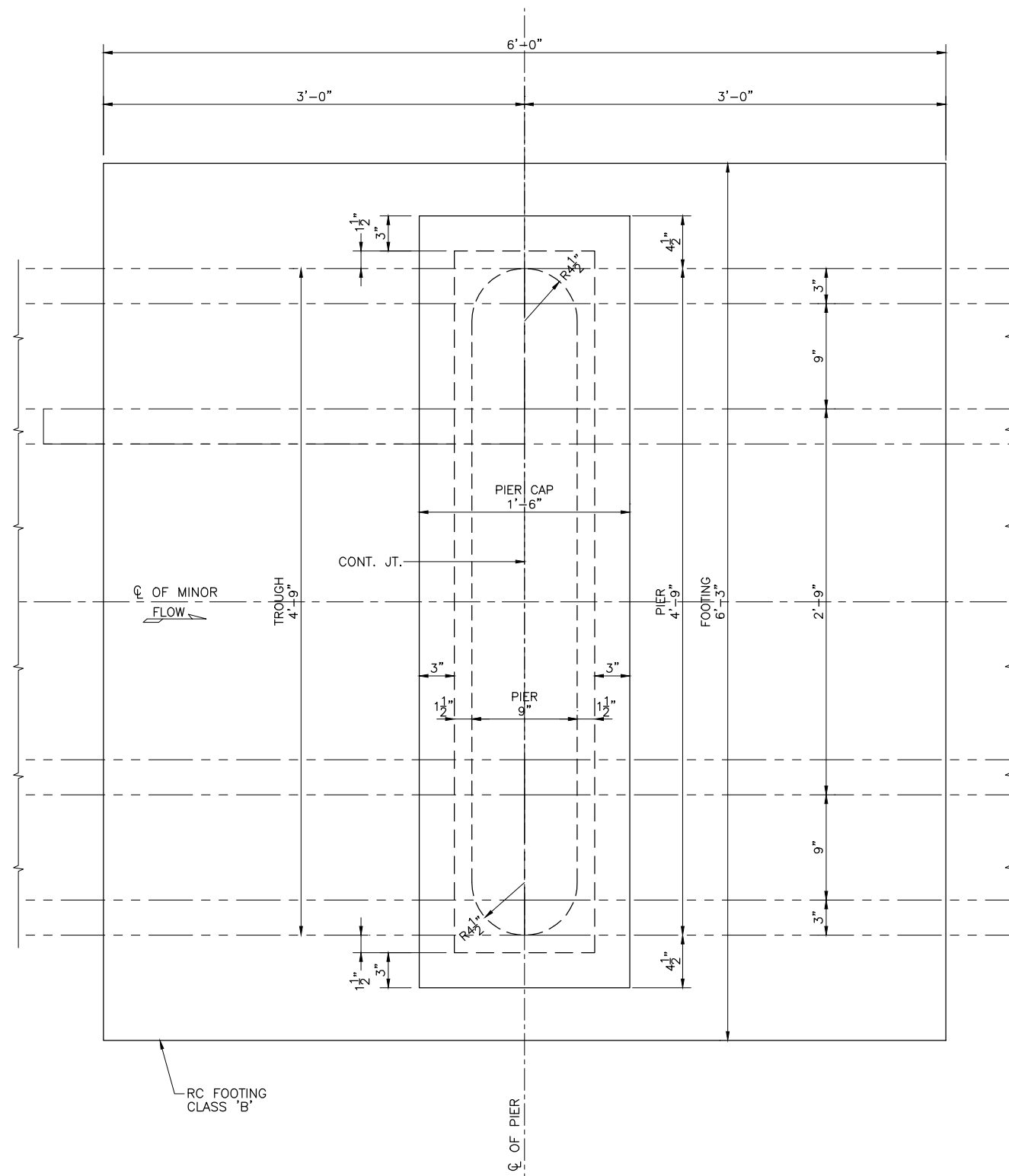
DETAIL 'B' SECTION A-A

CONSTRUCTION DRAWING

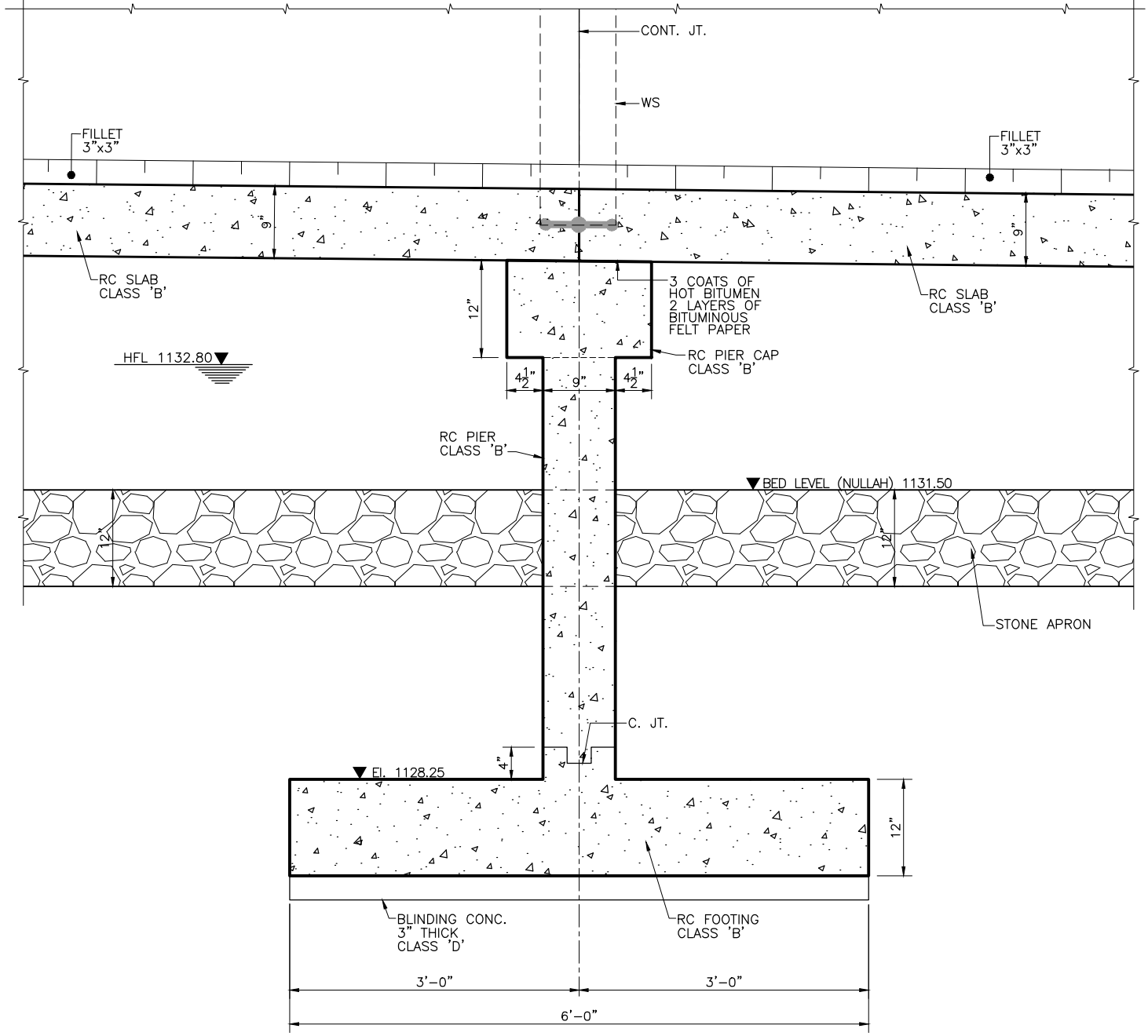
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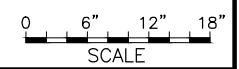
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM AQUEDUCT AT RD 10+105 DETAILS			
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						REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED



PIER DETAIL SECTION A-A



DETAIL 'C' SECTION A-A



CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

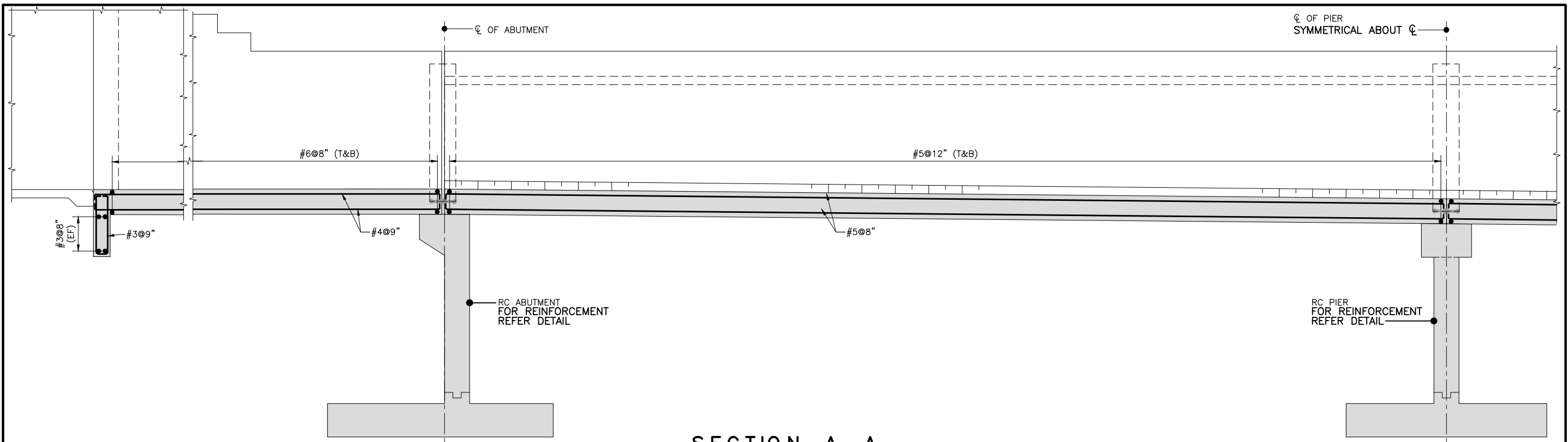
CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

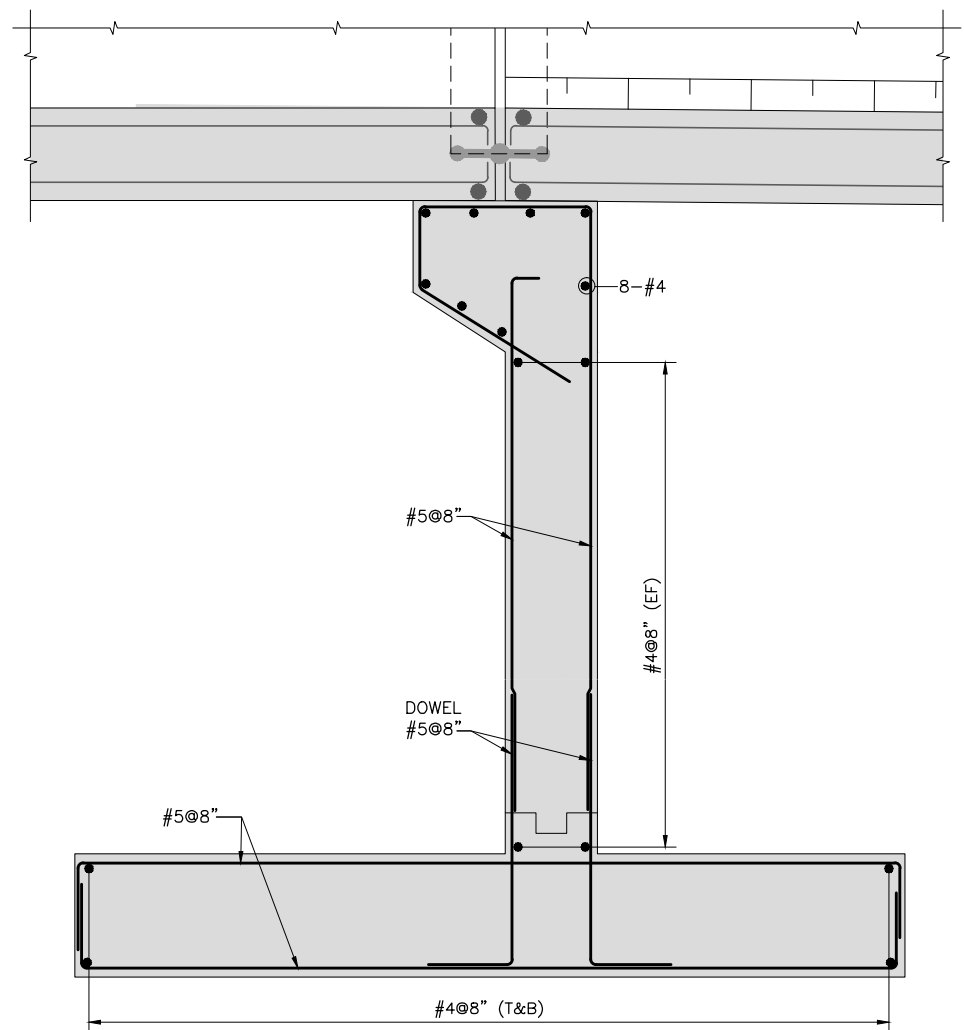
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REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
DISTRIBUTION SYSTEM
AQUEDUCT AT RD 10+105
DETAILS

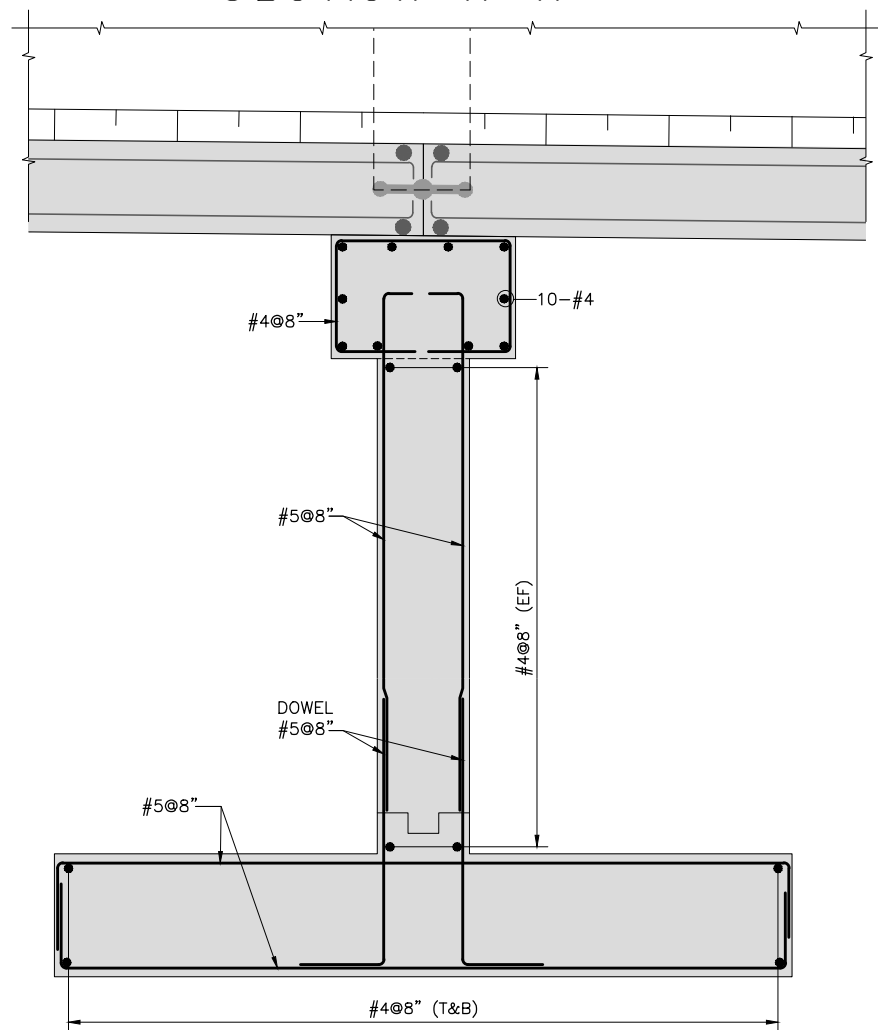
DATE	DWG. NO.	REV.
NOV., 2020	RWCS-2/CD/WGC/DS/AQ/29	0



SECTION A-A









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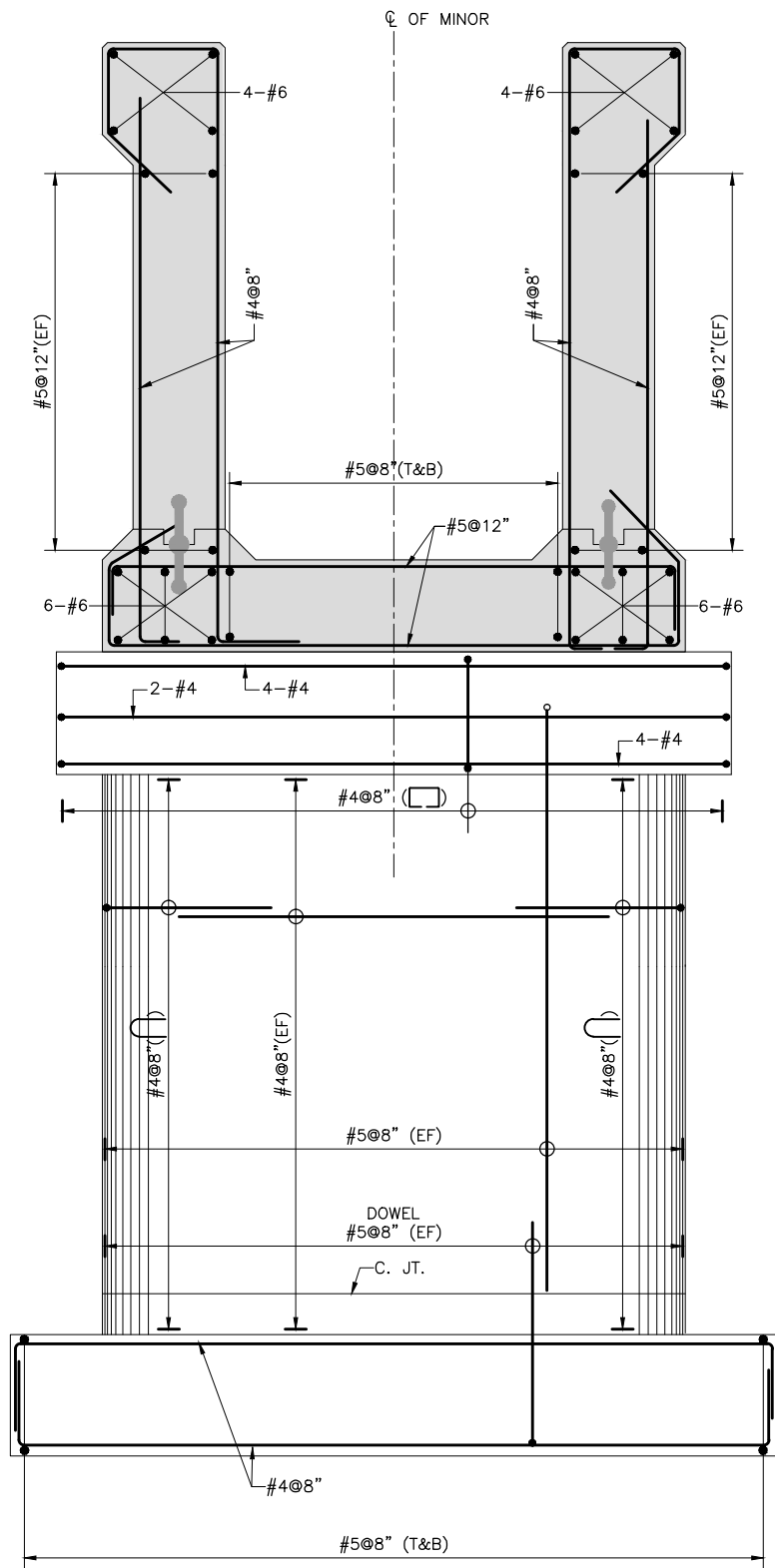


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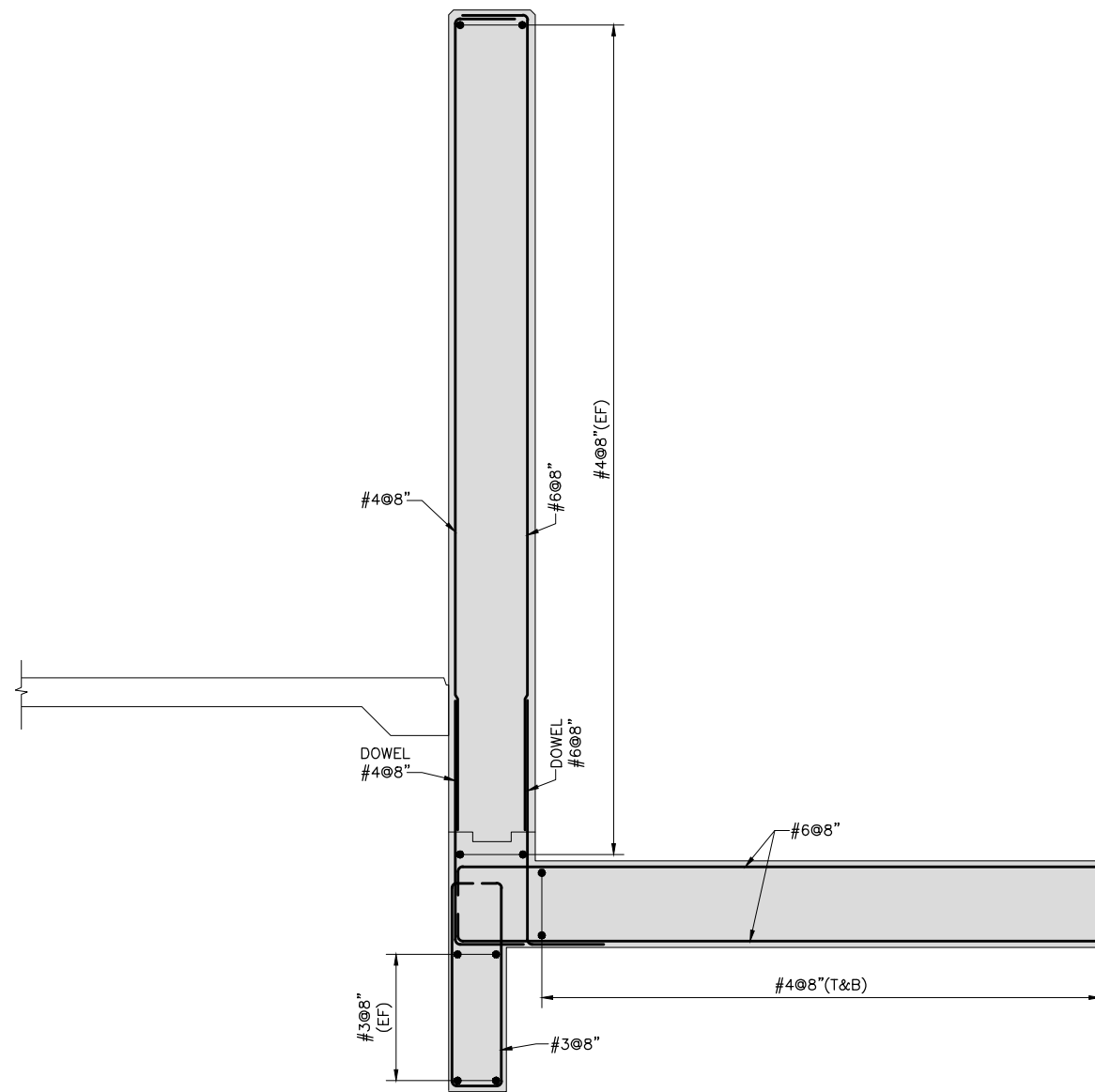
**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.

CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN	Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM AQUEDUCT AT RD 10+105 REINFORCEMENT DETAILS			
							CHECKED			DATE	DWG. NO.	REV.
						RECOMMENDED		NOV., 2020	RWCS-2/CD/WGC/DS/AQ/30	0		
						REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED



SECTION B - B



SECTION D - D

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.

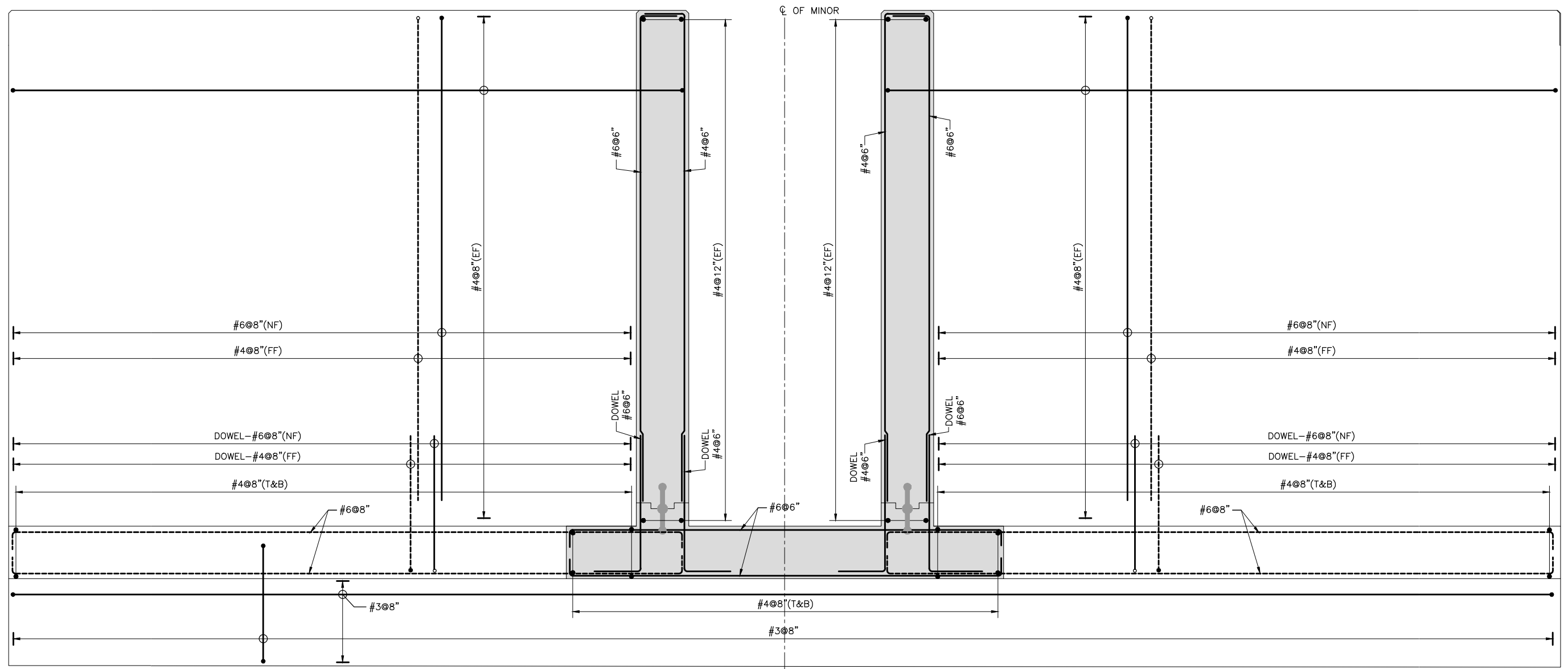
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**IGS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

							DRAWN	Ishtiaq
							CHECKED	[Signature]
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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED		

REMODELING OF WARSAK CANAL SYSTEM		
CONTRACT RWCS-2		
DISTRIBUTION SYSTEM		
AQUEDUCT AT RD 10+105		
REINFORCEMENT DETAILS		
DATE	DWG. NO.	REV.
NOV., 2020	RWCS-2/CD/WGC/DS/AQ/31	0



SECTION C - C

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/DS/AQ/01.

CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE ELECTRA CONSULTANTS PESHAWAR INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN	Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 DISTRIBUTION SYSTEM AQUEDUCT AT RD 10+105 REINFORCEMENT DETAILS		
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			RECOMMENDED	<i>[Signature]</i>	NOV., 2020	RWCS-2/CD/WGC/DS/AQ/32	0
REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	

RWCS-2
WARSAK MINOR HEAD REGULATOR
AT
RD 1+220

LIST OF REFERENCE DRAWINGS

SR.	TITLE	DRAWING NO.
A. GENERAL REFERENCES		
1	PROJECT AREA MAP	RWCS-2/CD/GD/01
2	GENERAL NOTES	RWCS-2/CD/GD/02
3	CONTRACT PACKAGES	RWCS-2/CD/GD/03
4	SURVEY CONTROL POINTS - DATA TABLE	RWCS-2/CD/GD/04
5	MISCELLANEOUS DRAWINGS	RWCS-2/CD/MS/01
6	WARSAK GRAVITY CANAL - PLAN & PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/PP/01
7	WARSAK GRAVITY CANAL - TYPICAL CROSS SECTIONS - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/XS/01
8	DISTRIBUTION SYSTEM - PLAN & PROFILE - LIST OF REFERENCE DRAWINGS AND NOTES	RWCS-2/CD/WGC/DS/PP/01
9	TYPICAL PRECAST PARABOLIC WATERCOURSE	RWCS-2/CD/WGC/DS/WC/01
B. HEAD REGULATOR-WARSAK MINOR (RD 1+220) - REFERENCE DRAWINGS		
1	GENERAL ARRANGEMENT PLAN	RWCS-2/CD/WGC/HRM/02
2	DETAIL PLAN	RWCS-2/CD/WGC/HRM/03

SR.	TITLE	DRAWING NO.
3	SECTION A-A	RWCS-2/CD/WGC/HRM/04
4	SECTIONS	RWCS-2/CD/WGC/HRM/05
5	SECTIONS	RWCS-2/CD/WGC/HRM/06
6	SECTIONS	RWCS-2/CD/WGC/HRM/07
7	DETAILS AND SECTION	RWCS-2/CD/WGC/HRM/08
8	REINFORCEMENT DETAILS	RWCS-2/CD/WGC/HRM/09
9	REINFORCEMENT DETAILS	RWCS-2/CD/WGC/HRM/10
C. HEAD REGULATOR-WARSAK MINOR (RD 1+220) - MECHANICAL DRAWINGS - REFERENCE DRAWINGS		
1	GENERAL AND HOISTING ARRANGEMENT	RWCS-2/CD/WGC/HGT/01
2	SLIDE GATE AND GATE DETAILS	RWCS-2/CD/WGC/HGT/02
3	SLIDE GATE GUIDE AND EMBEDDED PARTS DETAILS	RWCS-2/CD/WGC/HGT/03
4	TABLE OF ELEVATIONS AND DIMENSIONS	RWCS-2/CD/WGC/HGT/04
5	WOODEN STOPLOG DETAILS	RWCS-2/CD/WGC/HGT/05

NOTES





- LOCATION OF STRUCTURES IS TENTATIVE AND SUBJECT TO VERIFICATION BY THE ENGINEER AT SITE.
- FOR ELEVATIONS AND DIMENSIONS SHOWN ON DRAWINGS, REFER TO TABLE OF ELEVATIONS AND DIMENSIONS.
- EXCAVATED MATERIAL SUITABLE FOR EMBANKMENT FILL SHALL BE USED FOR COMPACTED EMBANKMENTS.
- EARTH FILL IN EMBANKMENTS SHALL BE COMPACTED AS PER SPECIFICATIONS.
- THE STRUCTURES TO BE CONSTRUCTED ON FILL, SHALL BE PLACED ON FILL COMPACTED TO 95 % OF DRY DENSITY.
- THE EARTHEN RAMPS AROUND THE STRUCTURE SHALL HAVE SLOPE OF 1:30.
- OFFTAKING ANGLE OF WATERCOURSE IS 90 DEGREE EXCEPT OTHERWISE MENTIONED.

MECHANICAL NOTES

- ALL MATERIALS / PAINTINGS AND THEIR THICKNESSES SHALL BE ACCORDING TO THE SPECIFICATIONS AND THE DRAWINGS AND SUBJECT TO PRIOR APPROVAL.
- MATERIALS TEST CERTIFICATES SHALL BE SUBMITTED FOR APPROVAL BEFORE START OF FABRICATION.
- FABRICATION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC - SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING.

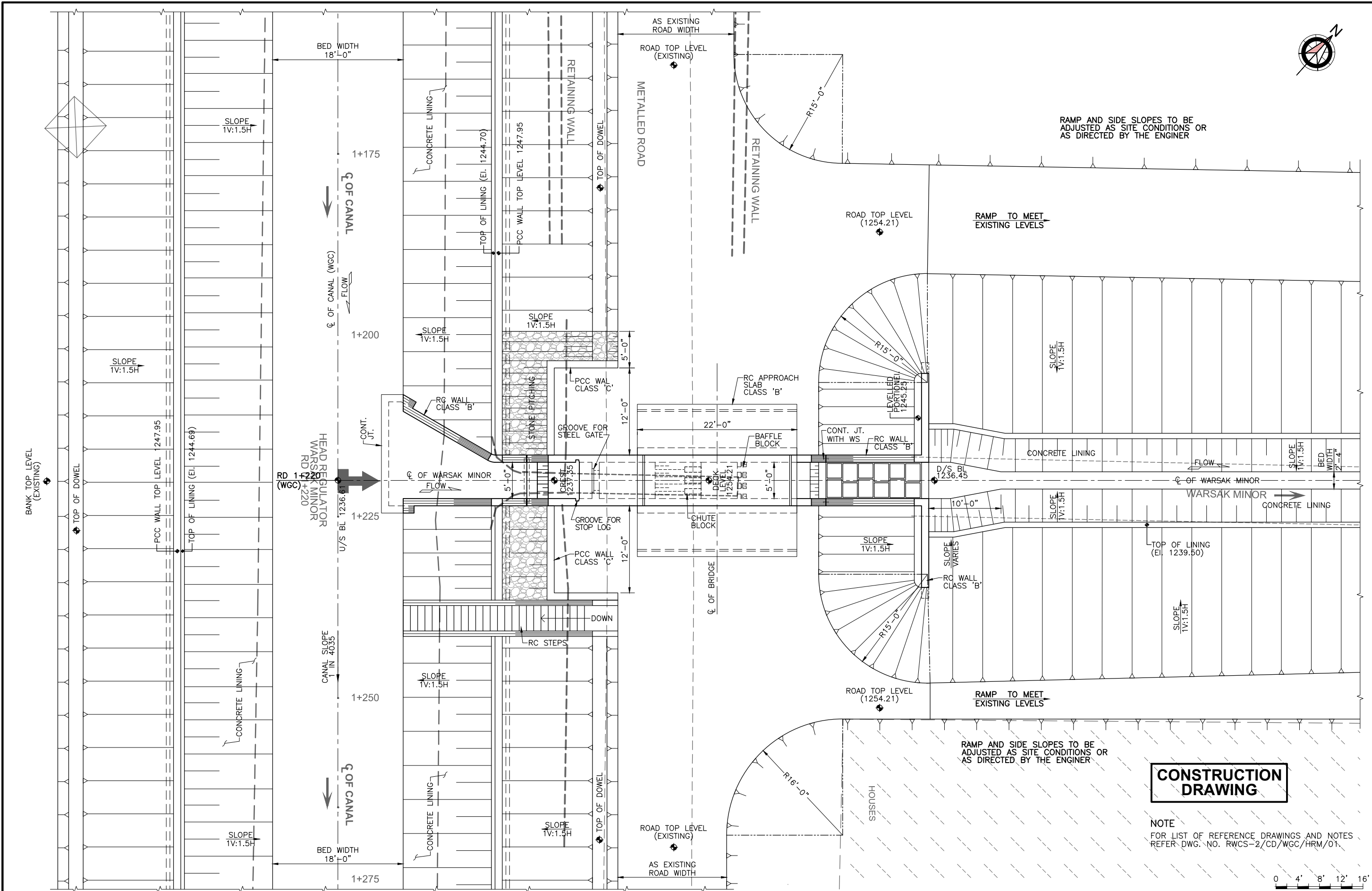
- ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS CODE D-1.1 WELDING IN BUILDING CONSTRUCTION, MINIMUM FILLET WELD SHALL BE 1/4 inch.
- ALL EDGES IN CONTACT WITH RUBBER SHALL BE ROUNDED.
- CENTER OF GRAVITY (C.G.) OF GATE SHALL BE DETERMINED IN SHOP AFTER FABRICATION.
- DIMENSIONS / SIZES PROVIDED ON THE DRAWINGS ARE THE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL DESIGN AND SUBMIT THE SHOP DRAWINGS / CALCULATIONS FOR APPROVAL BEFORE START OF MANUFACTURING. NO MANUFACTURING SHALL BE DONE WITHOUT APPROVAL BY THE ENGINEER.
- ALL RELEVANT STANDARDS, CATALOGS ETC. SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS / CALCULATIONS.
- THE GATE EQUIPMENT SHALL NOT BE TRANSPORTED TO SITE BEFORE SHOP INSPECTION BY THE ENGINEER'S REPRESENTATIVE.
- ALL INSTALLATION WORK SHALL BE CARRIED OUT ACCORDING TO APPROVED SCHEDULE AND IN THE PRESENCE OF ENGINEER'S REPRESENTATIVE.
- GROOVE FOR LEVEL INDICATOR SHALL BE PROTECTED BY SOME SUITABLE MEANS TO STOP INGRESS OF DUST AND RAIN WATER ETC.
- COMPLETE BOQ SHALL BE PROVIDED ON EACH SHOP DRAWING INCLUDING ITEM NOS., DESCRIPTION, DIMENSIONS, QUANTITIES, MATERIALS ALONG WITH STANDARDS AND TOTAL WEIGHT OF EACH ITEM.

**CONSTRUCTION
DRAWING**

CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN Ishtiaq CHECKED [Signature] RECOMMENDED [Signature]	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 WARSAK GRAVITY CANAL HEAD REGULATOR-WARSAK MINOR (RD 1+220) LIST OF REFERENCE DRAWINGS AND NOTES	DATE NOV., 2020	DWG. NO. RWCS-2/CD/WGC/HRM/01	REV. 0
			REV. DATE DESCRIPTION BY CKD. APPR. APPROVED				

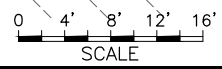


RAMP AND SIDE SLOPES TO BE ADJUSTED AS SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER



CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.



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CANALS PROJECT
PESHAWAR

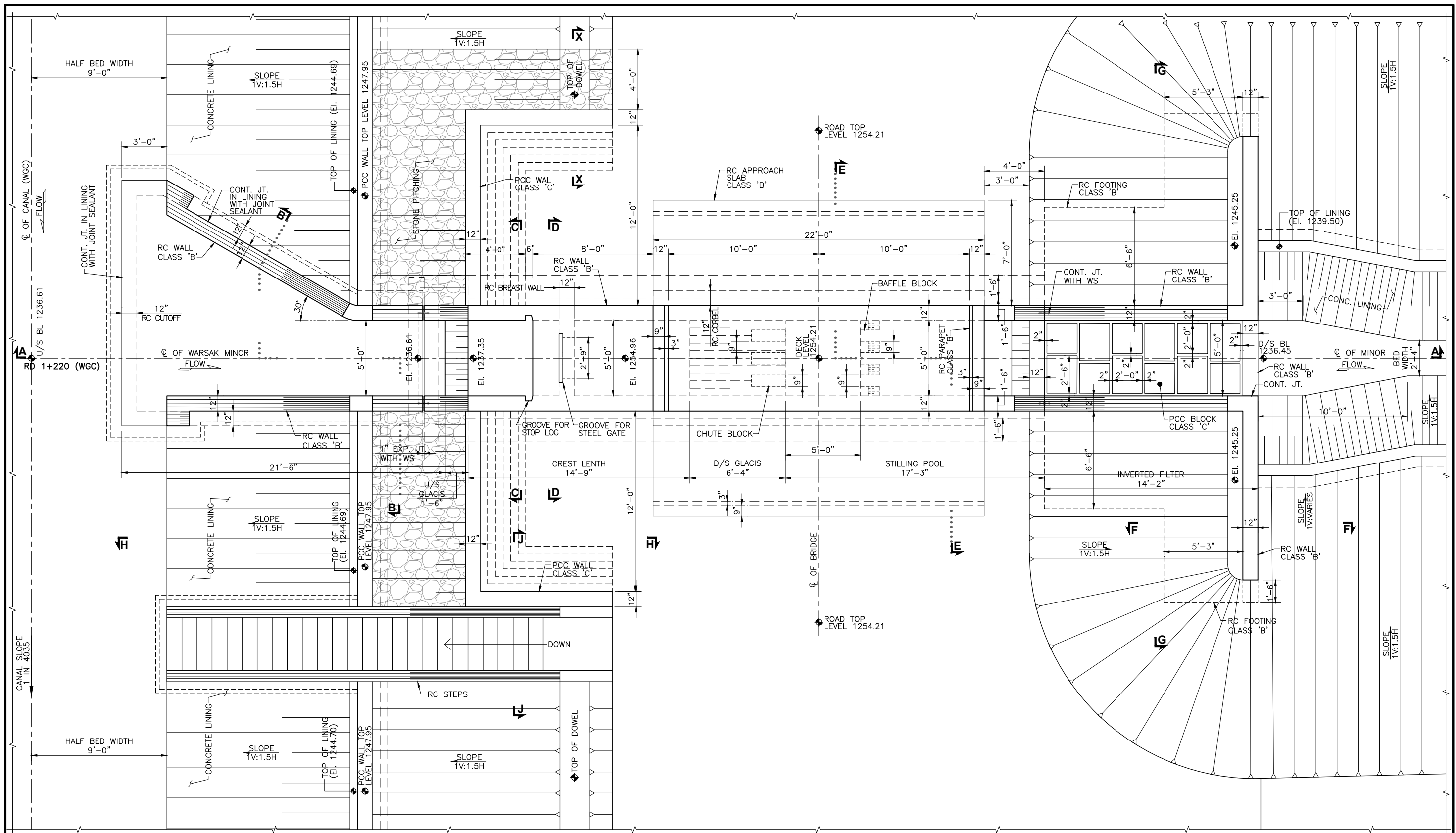
CONSULTANT - A JOINT VENTURE OF
NEP NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS
PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	Ishtiaq
							CHECKED	[Signature]
							RECOMMENDED	[Signature]

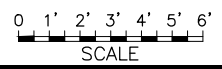
REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
HEAD REGULATOR-WARSAK MINOR (RD 1+220)
GENERAL ARRANGEMENT PLAN

DATE	DWG. NO.	REV.
NOV., 2020	RWCS-2/CD/WGC/HRM/02	0



CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.



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IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER PAKHTUNKHWA,
PMU - REMODELING OF WARSAK CANALS PROJECT
PESHAWAR

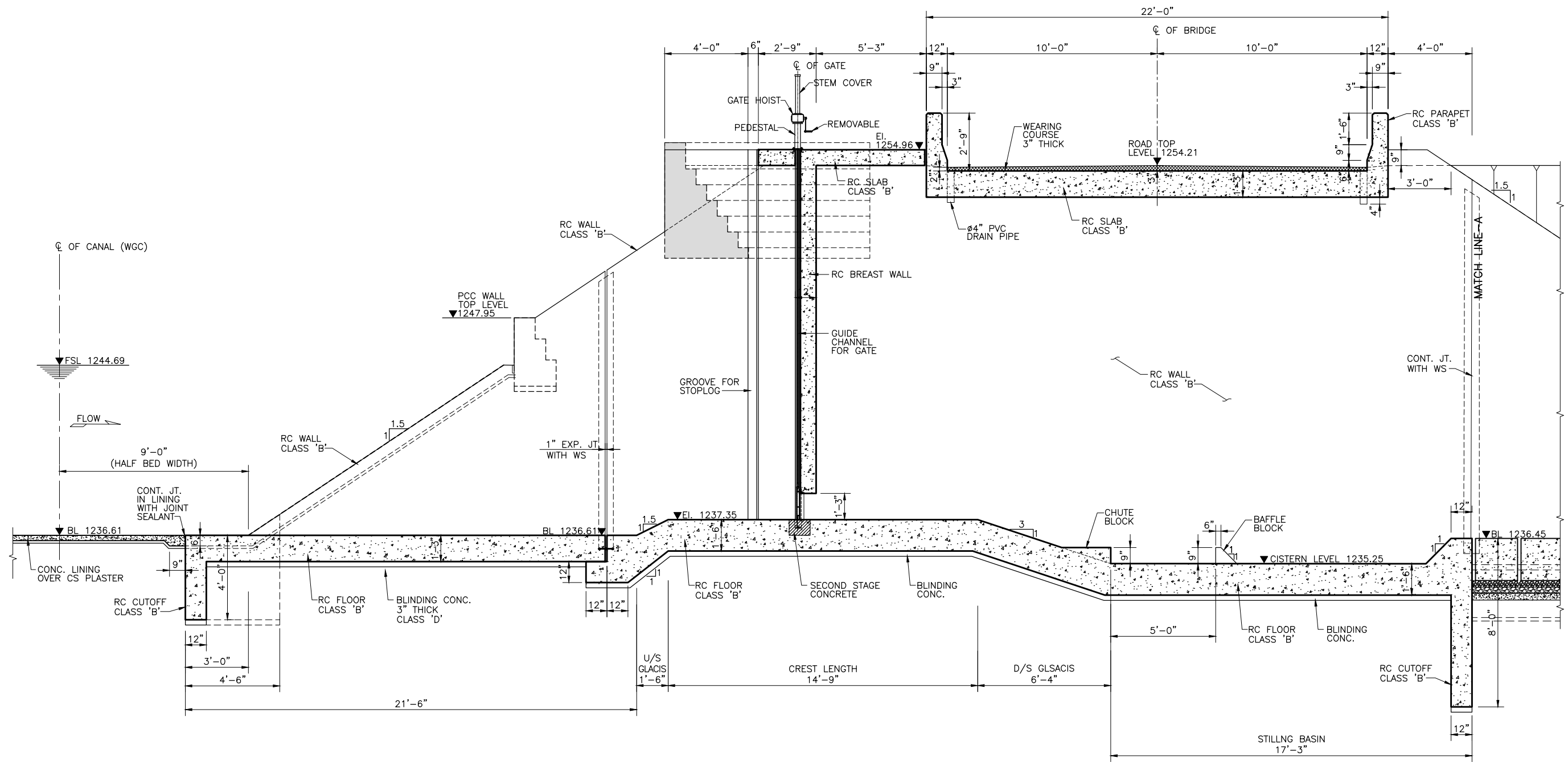
CONSULTANT - A JOINT VENTURE OF
NESPAK NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS PESHAWAR
ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	DRAWN	Ishtiaq
							CHECKED	<i>[Signature]</i>
							RECOMMENDED	<i>[Signature]</i>

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
HEAD REGULATOR-WARSAK MINOR (RD 1+220)
DETAIL PLAN**

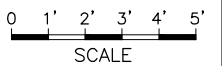
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NOV., 2020	RWCS-2/CD/WGC/HRM/03	0








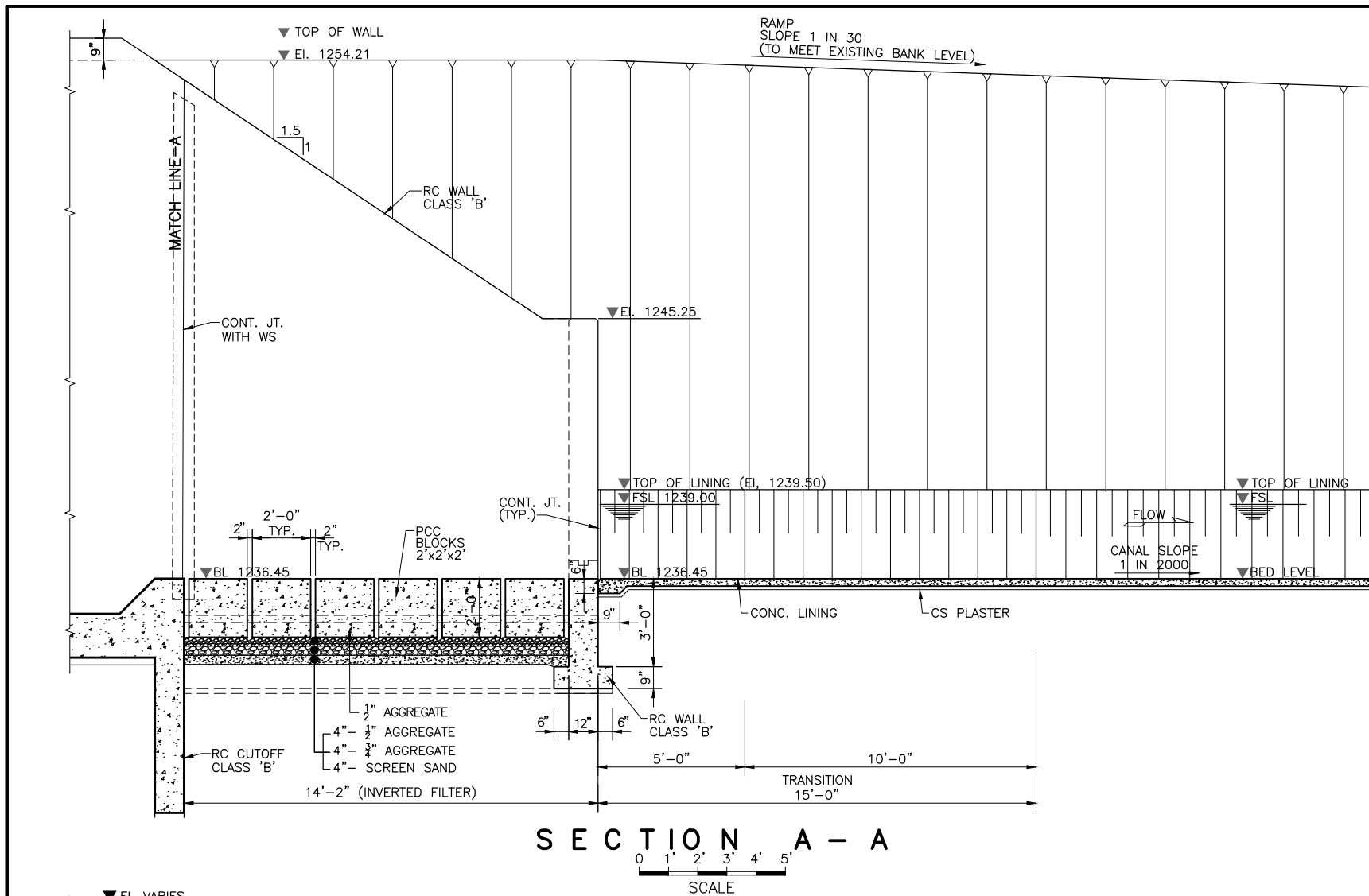
SECTION A - A

**CONSTRUCTION
DRAWING**

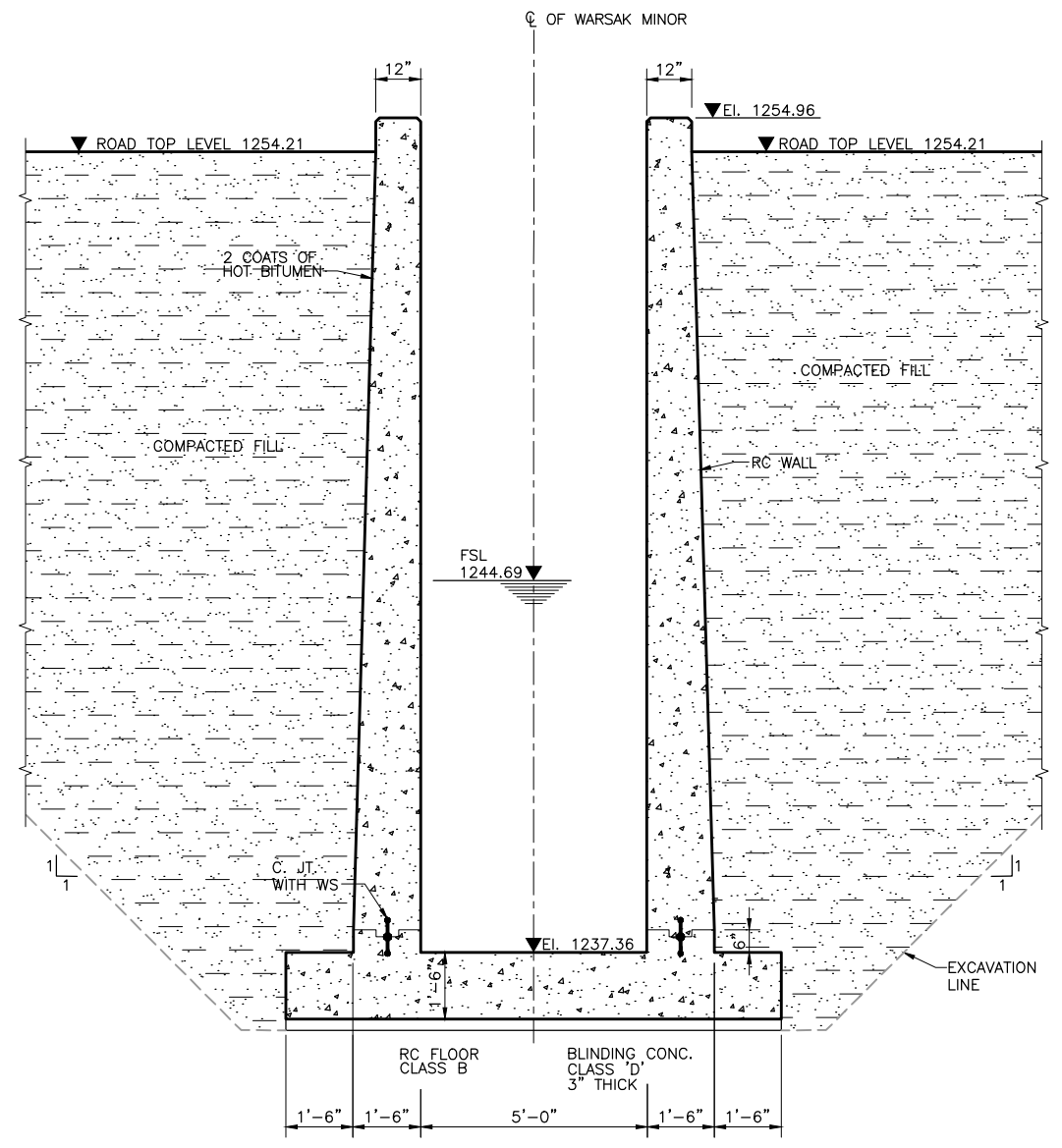
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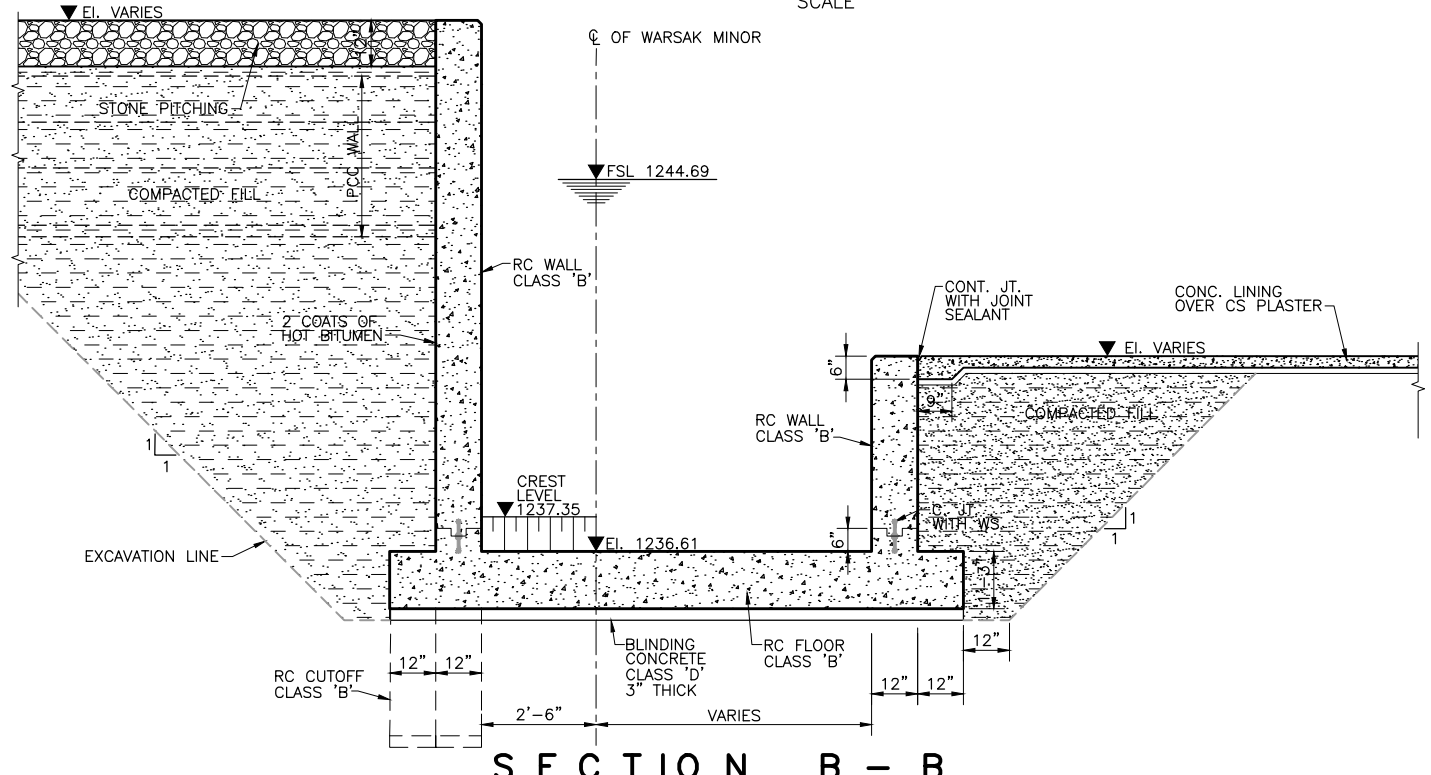
CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS					DRAWN Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 WARSAK GRAVITY CANAL HEAD REGULATOR-WARSAK MINOR (RD 1+220) SECTION A-A
							CHECKED 	
REV. DATE DESCRIPTION BY CKD. APPR. APPROVED								



SECTION A - A
SCALE: 0 1' 2' 3' 4' 5'



SECTION C - C



SECTION B - B

CONSTRUCTION DRAWING

NOTE
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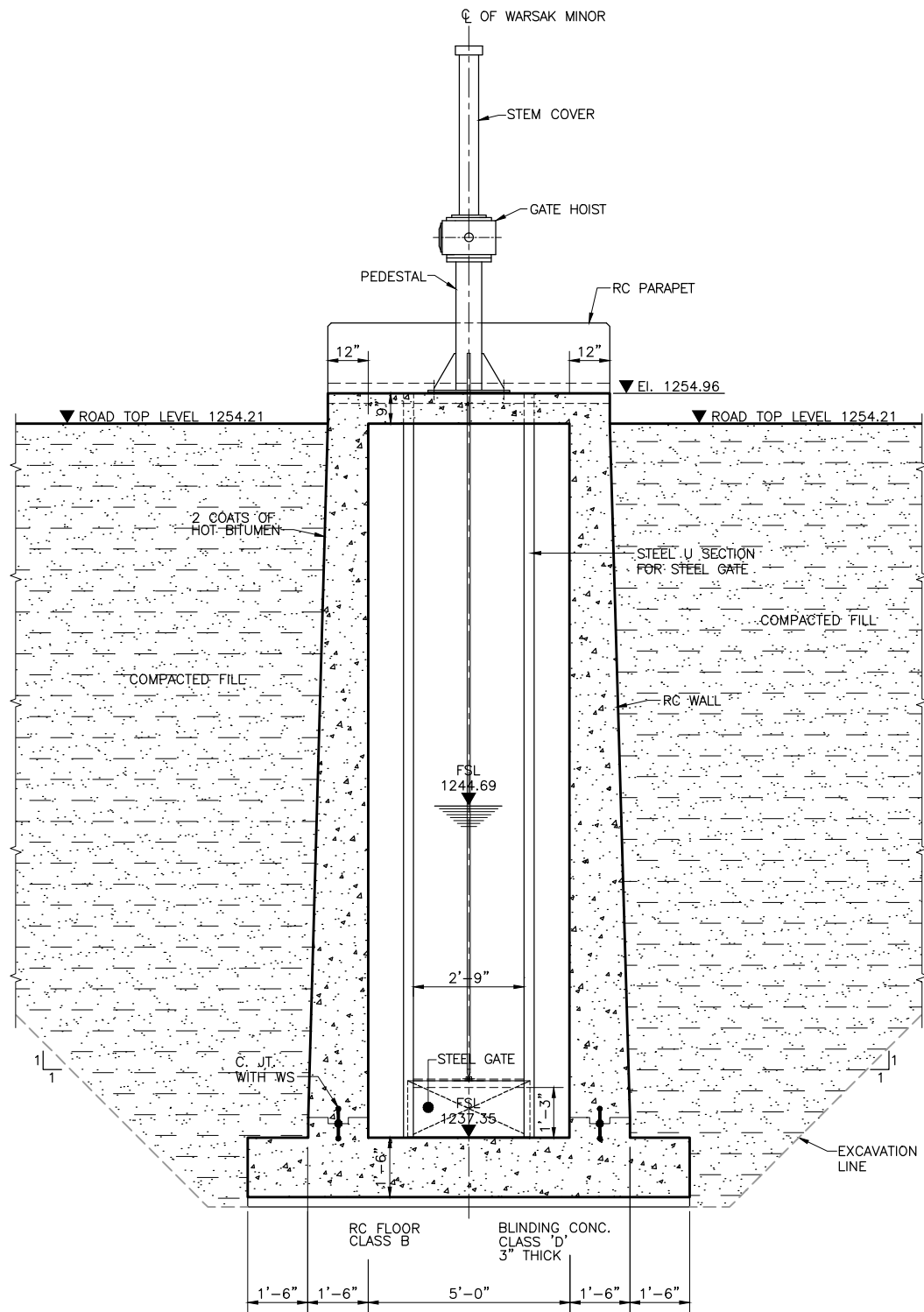
CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

CONSULTANT - A JOINT VENTURE OF
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE**
**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

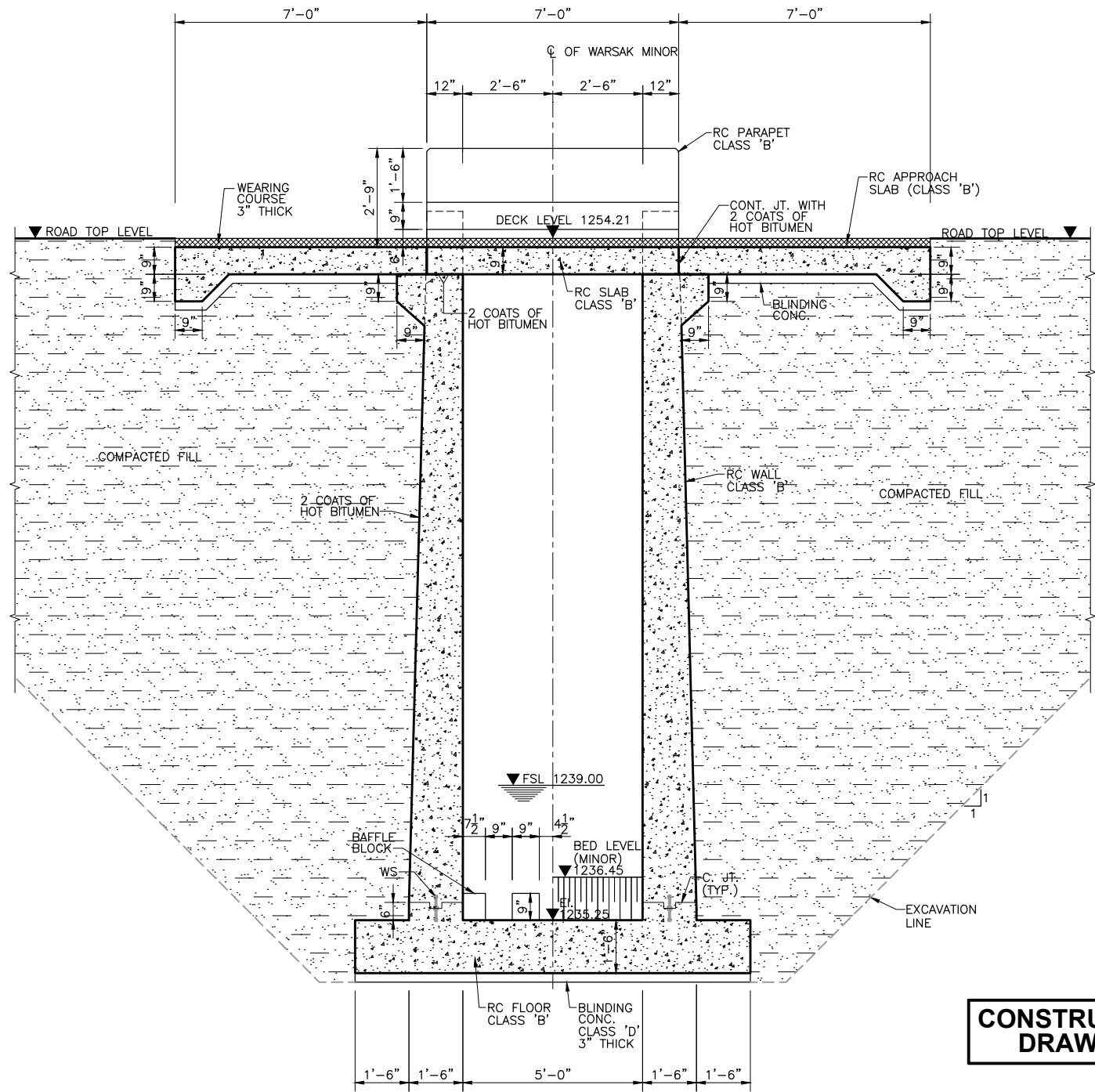
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
HEAD REGULATOR-WARSAK MINOR (RD 1+220)
SECTIONS**
DRAWN: Ishtiaq
CHECKED: [Signature]
RECOMMENDED: [Signature]
DATE: NOV., 2020
DWG. NO. **RWCS-2/CD/WGC/HRM/05**
REV. 0



SECTION D - D



SECTION E - E

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.



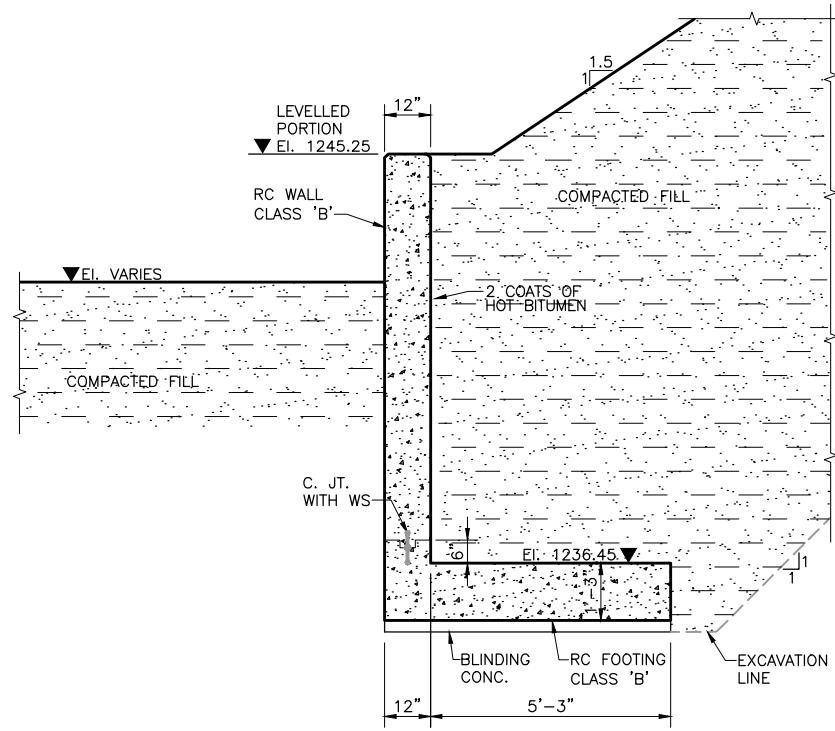
CLIENT
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CANALS PROJECT
PESHAWAR

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**ELECTRA CONSULTANTS
PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

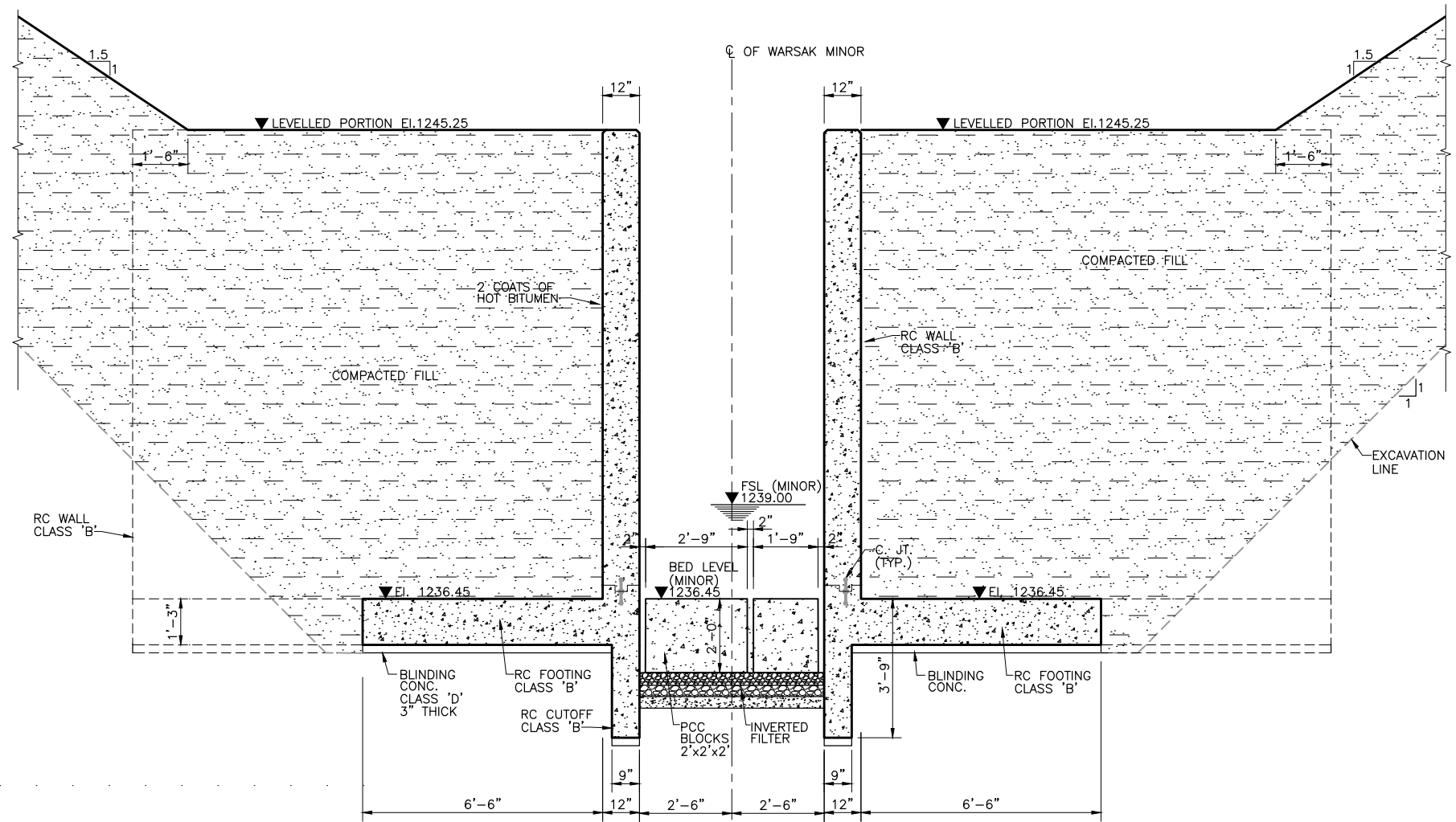
**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
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IN
PESHAWAR AND NOWSHERA DISTRICTS**

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

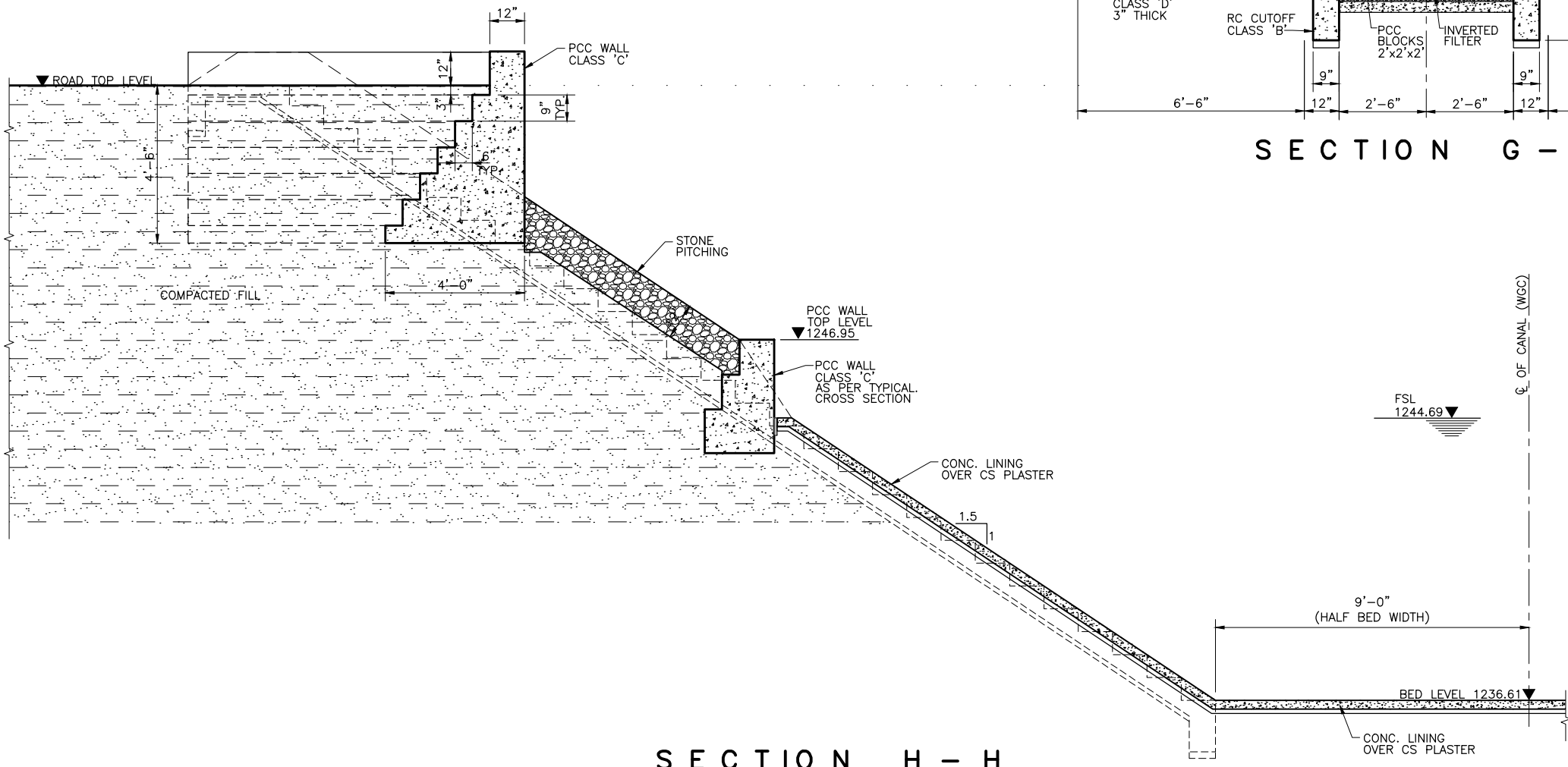
**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
HEAD REGULATOR-WARSAK MINOR (RD 1+220)
SECTIONS**
DRAWN: Ishtiaq
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DATE: NOV., 2020
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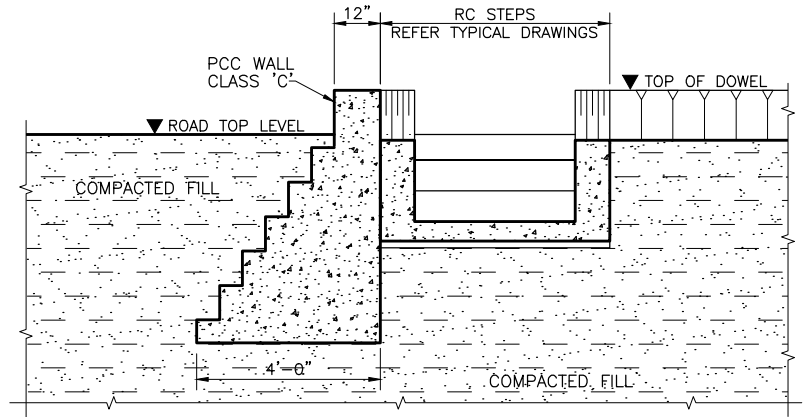
SECTION F - F



SECTION G - G



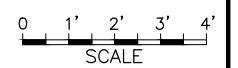
SECTION H - H



SECTION J - J

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
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CANALS PROJECT
PESHAWAR

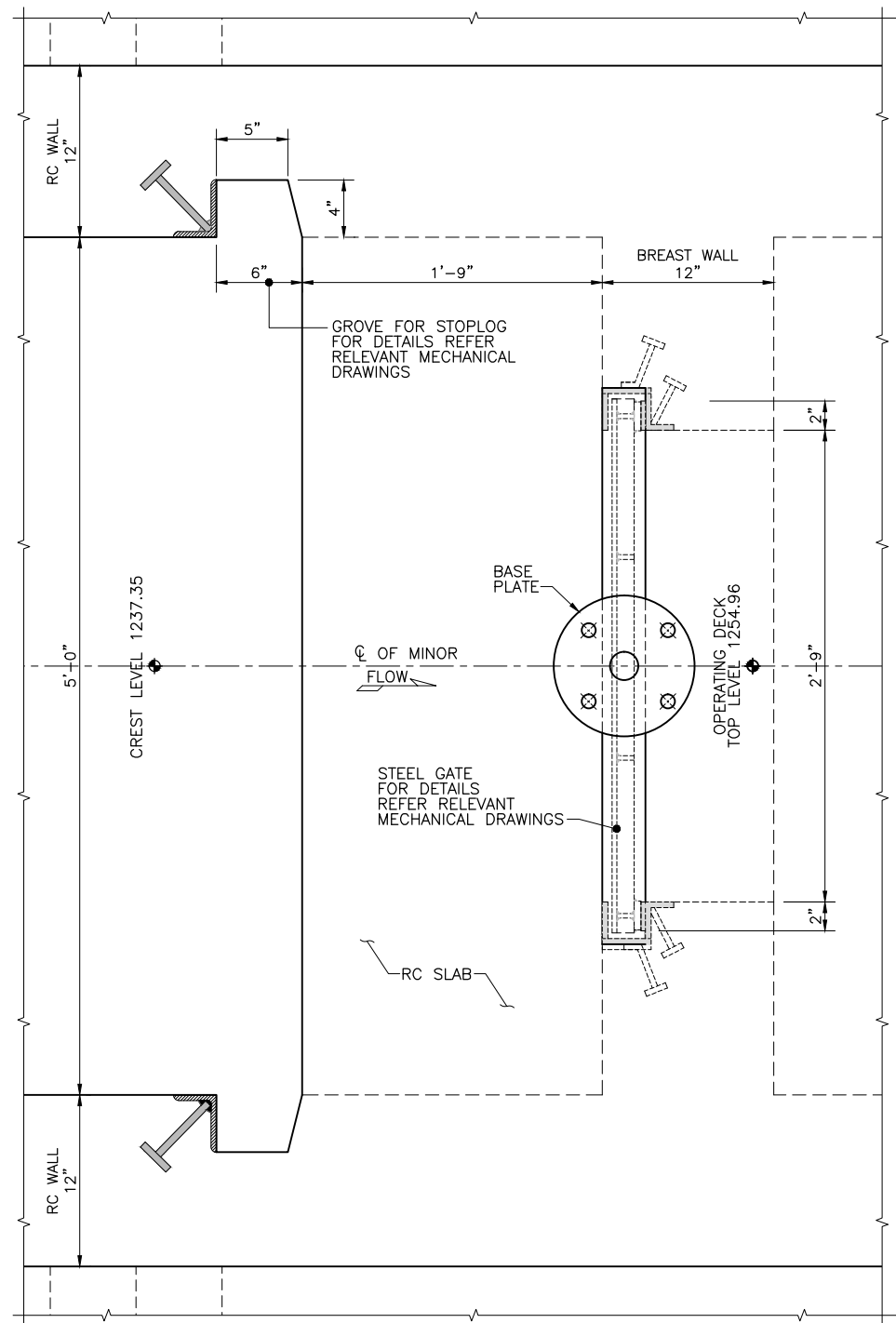
CONSULTANT - A JOINT VENTURE OF
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PESHAWAR**
**INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE**

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

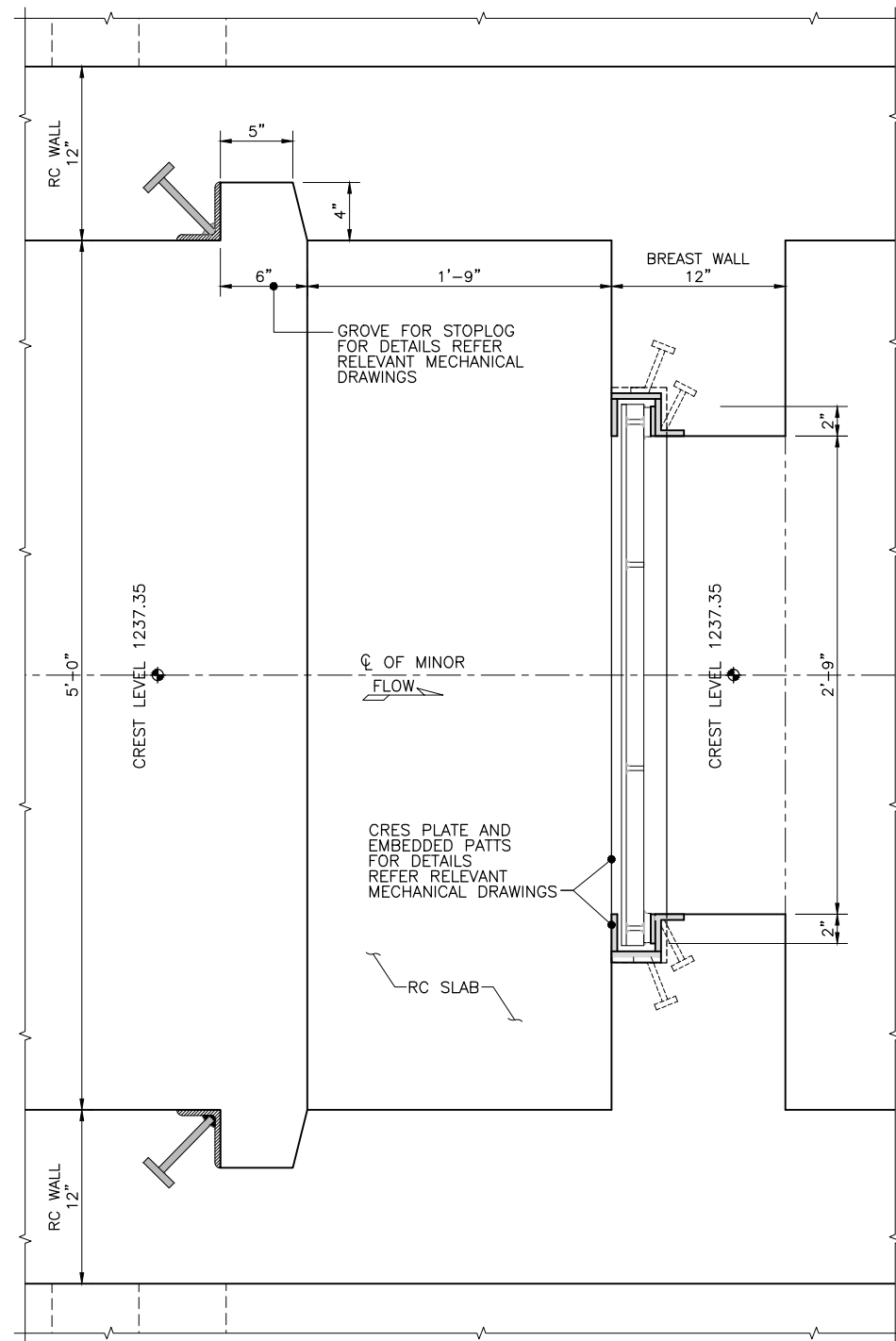
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**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
HEAD REGULATOR-WARSAK MINOR (RD 1+220)
SECTIONS**

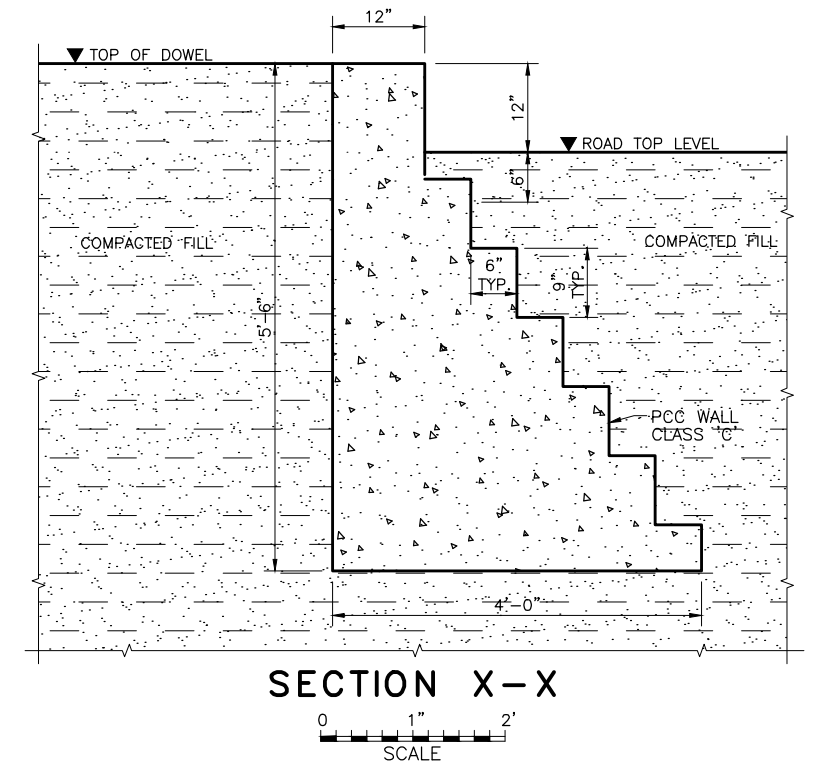
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RECOMMENDED: [Signature]
DATE: NOV., 2020
DWG. NO.: **RWCS-2/CD/WGC/HRM/07**
REV. 0



GATE DETAIL AT DECK TOP LEVEL



GRES PLATE AND EMBEDDED PARTS DETAIL AT CREST LEVEL



SECTION X-X
SCALE

CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.

0 2" 4" 6" 8" 10" 12"
SCALE

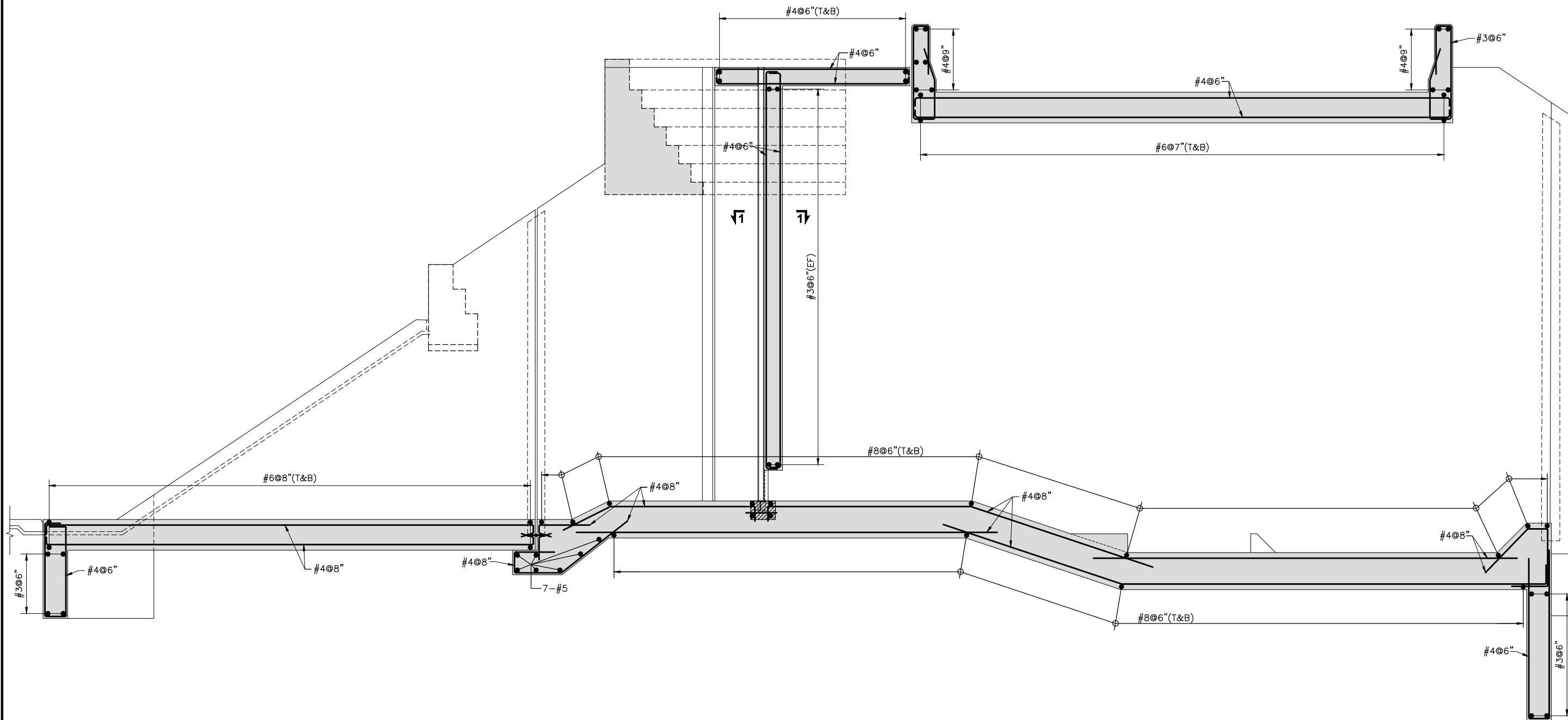
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CANALS PROJECT
PESHAWAR

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(PVT.) LIMITED LAHORE

REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS

REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED

DRAWN Ishtiaq
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DATE NOV., 2020
DWG. NO. RWCS-2/CD/WGC/HRM/08
REV. 0

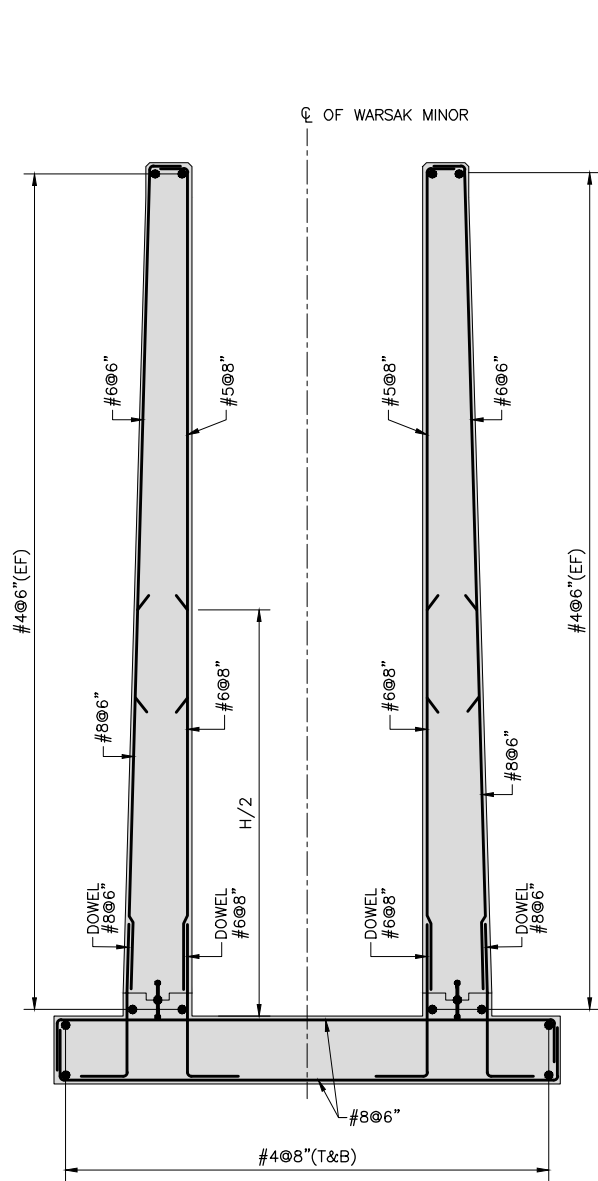


SECTION A - A

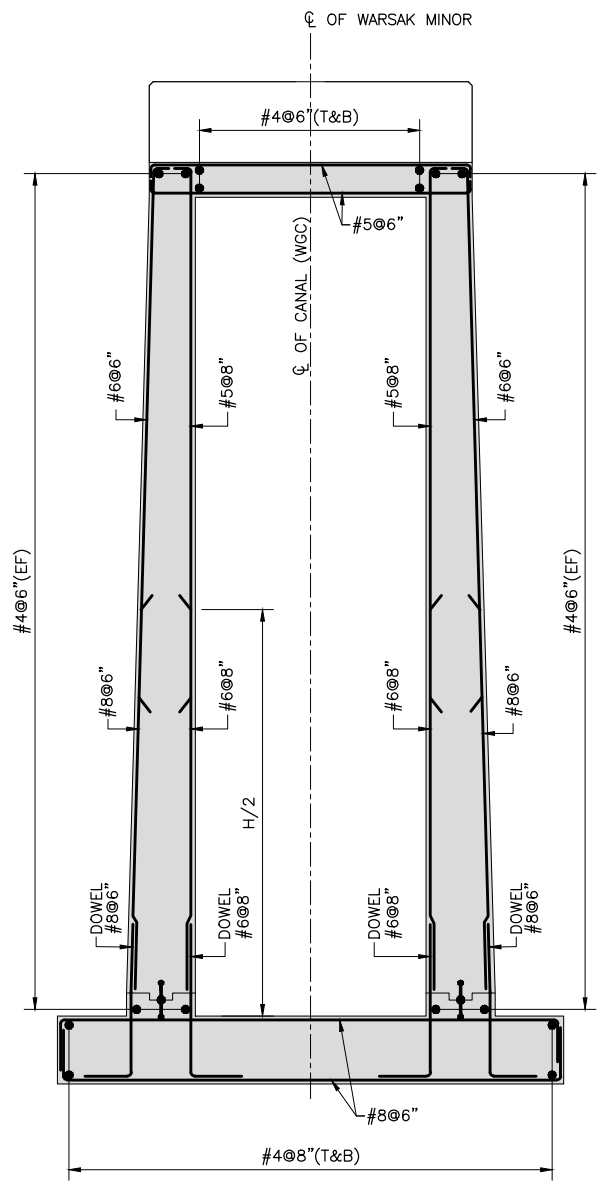
**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.

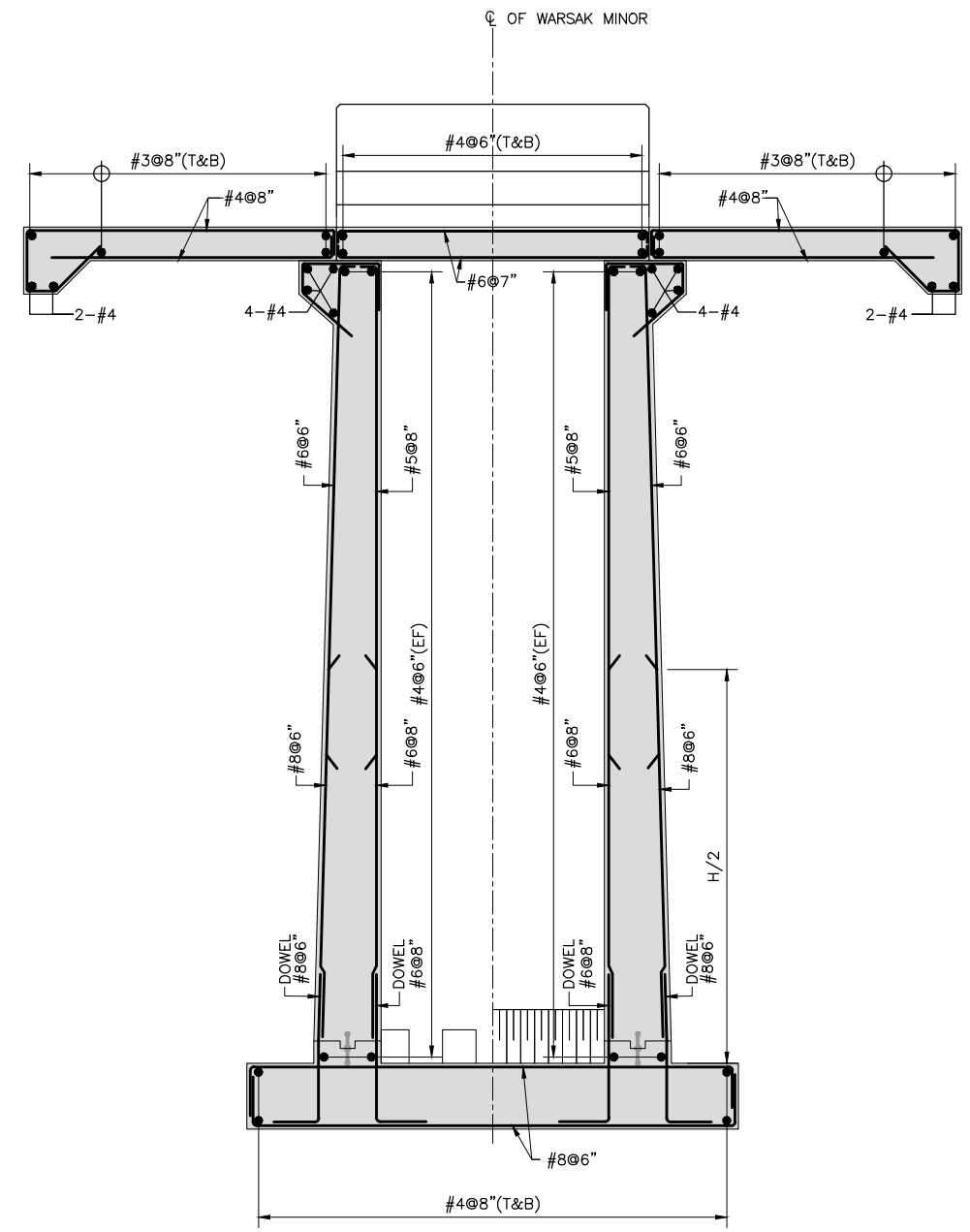
CLIENT IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF NESPAK NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE E ELECTRA CONSULTANTS PESHAWAR ICS INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELLING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN Ishtiaq	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 WARSAK GRAVITY CANAL HEAD REGULATOR-WARSAK MINOR (RD 1+220) REINFORCEMENT DETAILS	DATE NOV., 2020	DWG. NO. RWCS-2/CD/WGC/HRM/09	REV. 0
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REV.	DATE	DESCRIPTION	BY	CKD.	APPR.	APPROVED	



SECTION C - C



SECTION D - D



SECTION E - E

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.

CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

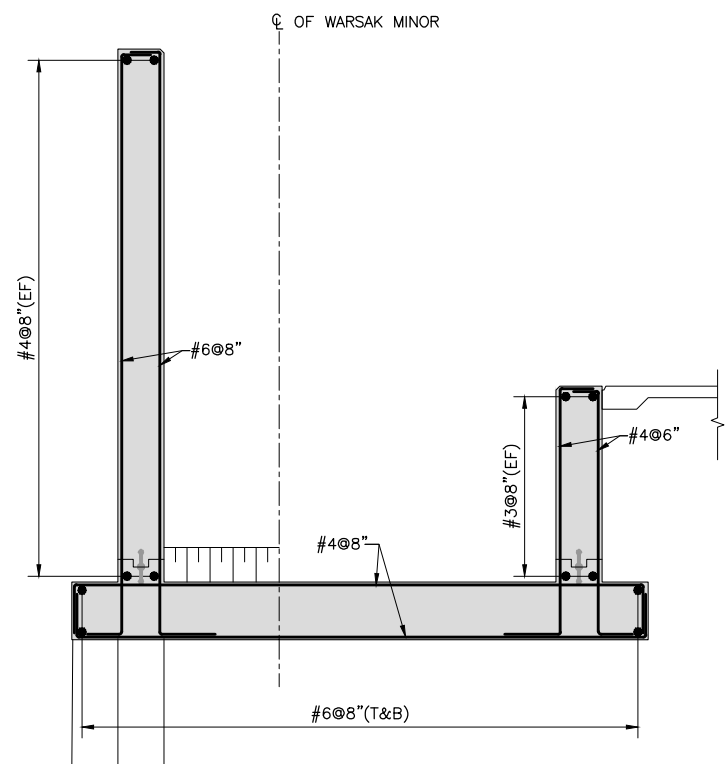
CONSULTANT - A JOINT VENTURE OF
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PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS
PESHAWAR
CS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

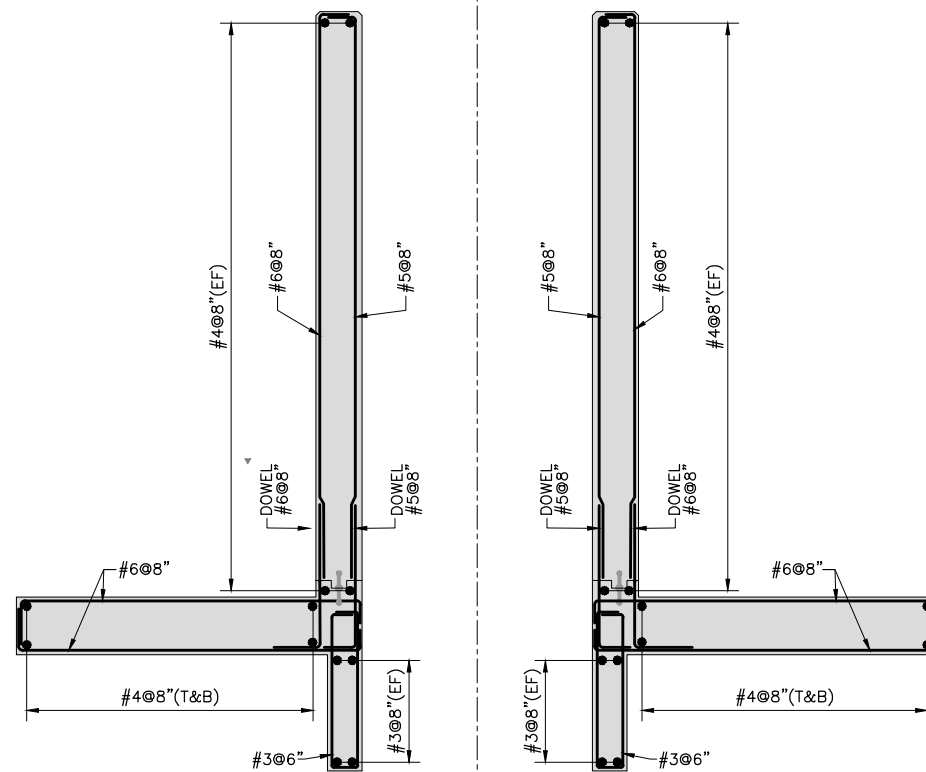
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**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
HEAD REGULATOR-WARSAK MINOR (RD 1+220)
REINFORCEMENT DETAILS**

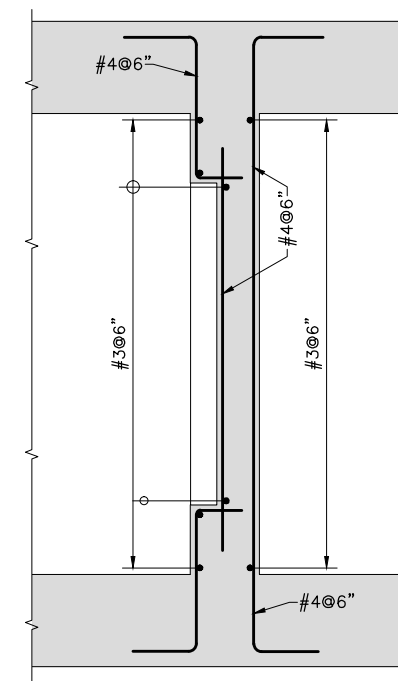
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NOV., 2020	RWCS-2/CD/WGC/HRM/10	0



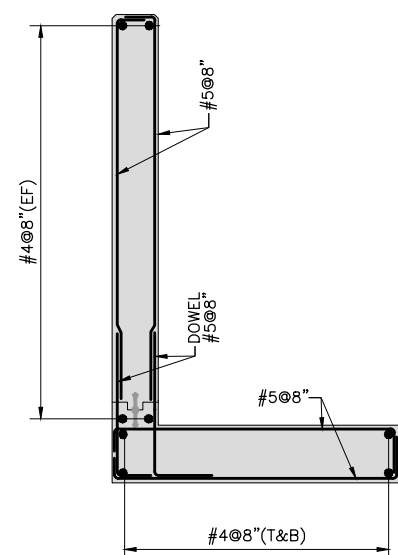
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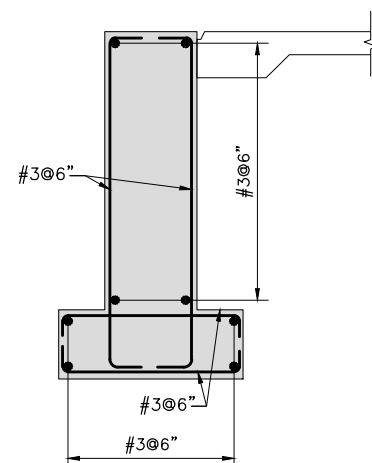
SECTION G - G



SECTION 1-1
BREAST WALL DETAIL



SECTION F - F



SECTION A - A
END WALL

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
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CLIENT
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CANALS PROJECT
PESHAWAR

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PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS
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**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELLING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

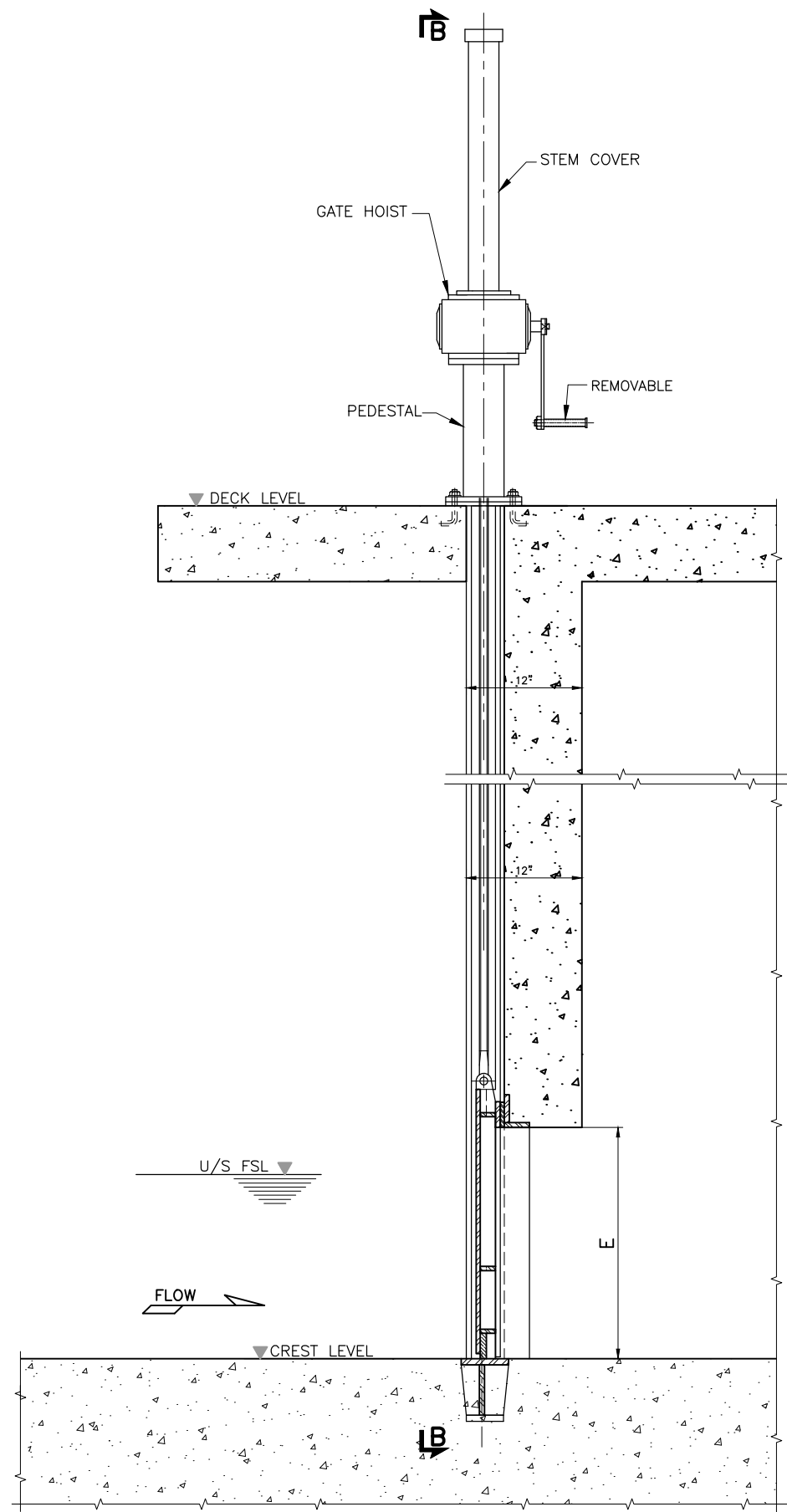
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**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
HEAD REGULATOR-WARSAK MINOR (RD 1+220)
REINFORCEMENT ETAILS**

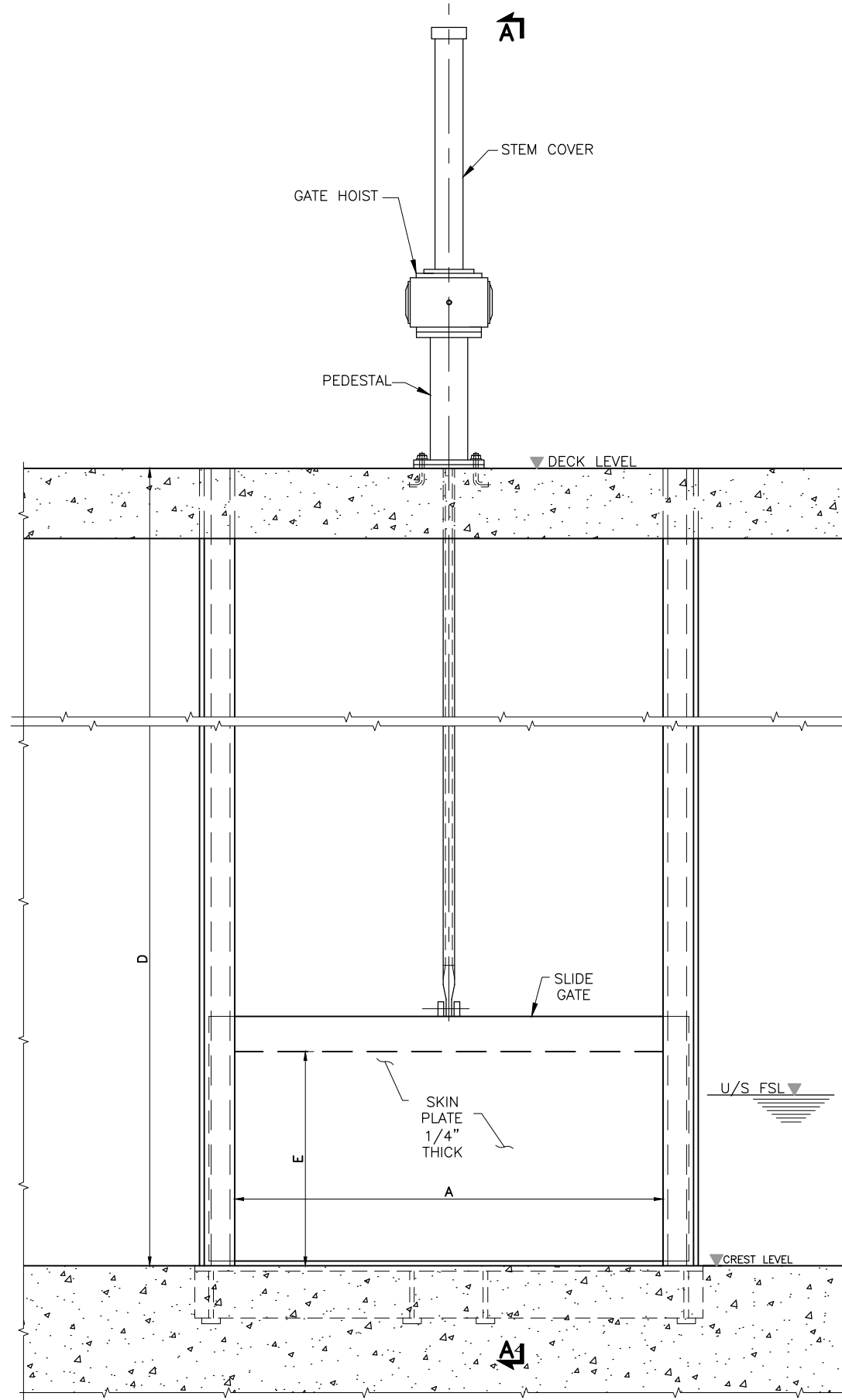
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NOV., 2020	RWCS-2/CD/WGC/HRM/11	0

RWCS-2
WARSAK MINOR HEAD REGULATOR
AT
RD 1+220

(MECHANICAL DRAWINGS)



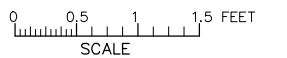
SECTION A-A



SECTION B-B

**CONSTRUCTION
DRAWING**

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

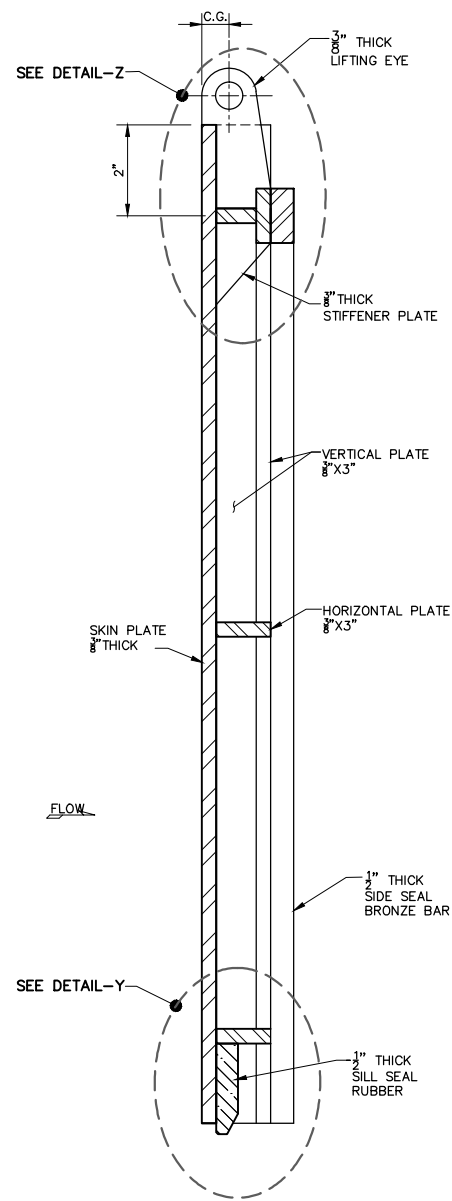
CONSULTANT - A JOINT VENTURE OF
NEE NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
E ELECTRA CONSULTANTS
PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

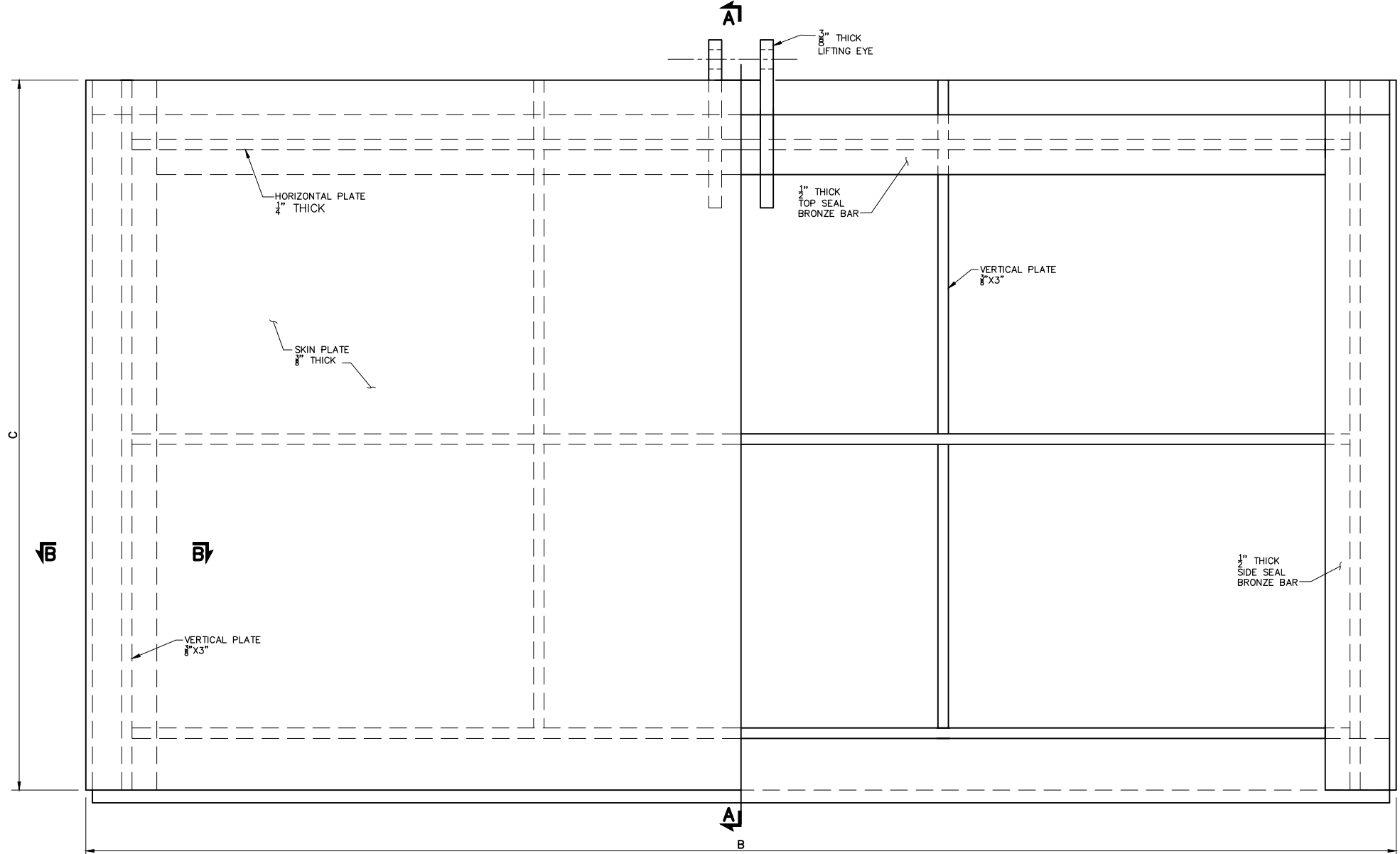
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DRAWN	ISH
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REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 TYPICAL MINOR HEAD REGULATOR GENERAL AND HOISTING ARRANGEMENT	
DATE NOV., 2020	DWG. NO. RWCS-2/CD/WGC/HGT/01
REV. 0	

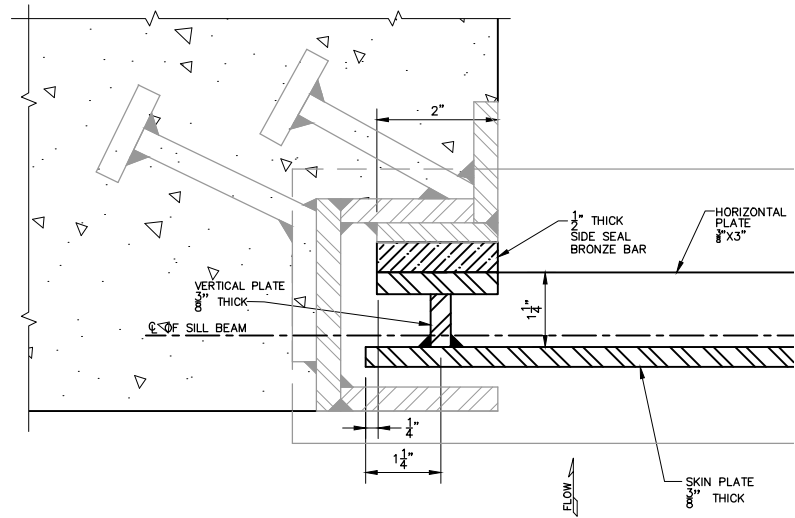


SECTION A-A

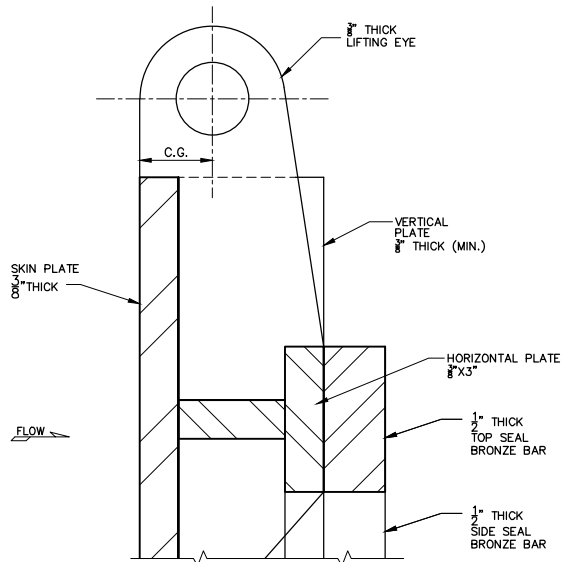


U/S ELEVATION

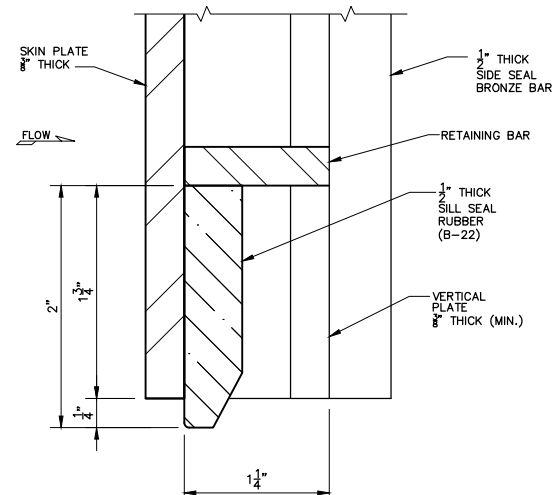
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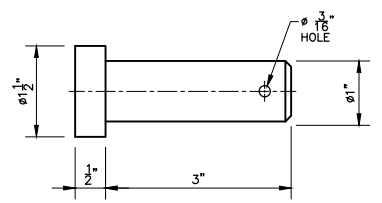
SECTION B-B



DETAIL-Z



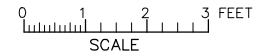
DETAIL-Y



LIFTING PIN

NOTE
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**CONSTRUCTION
DRAWING**



CLIENT
IRRIGATION DEPARTMENT
GOVERNMENT OF THE KHYBER
PAKHTUNKHWA,
PMU - REMODELING OF WARSAK
CANALS PROJECT
PESHAWAR

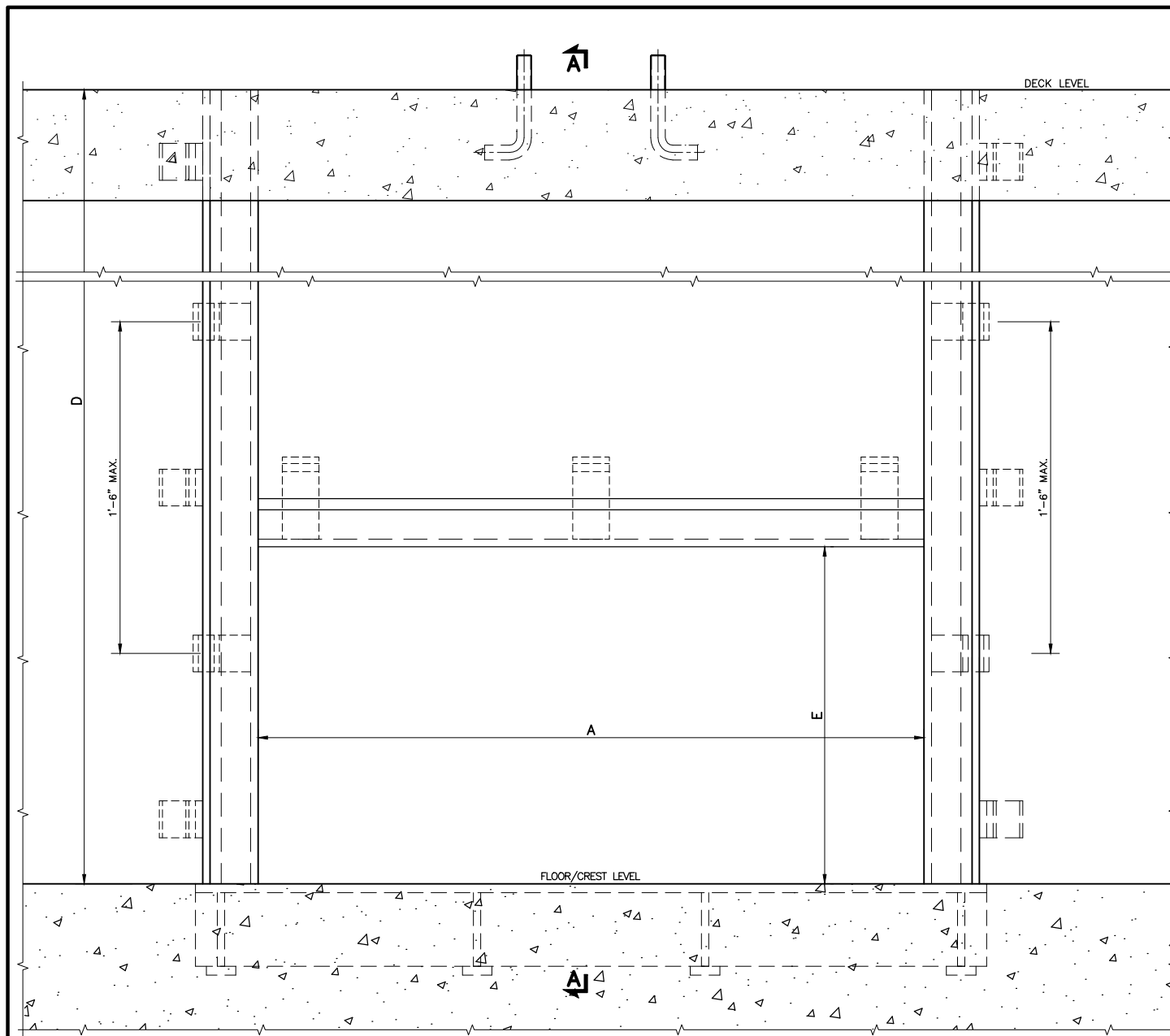
CONSULTANT - A JOINT VENTURE OF
NEEP NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED LAHORE
ECS ELECTRA CONSULTANTS
PESHAWAR
ICS INTEGRATED CONSULTING SERVICES
(PVT.) LIMITED LAHORE

**REMODELING OF WARSAK CANAL SYSTEM PROJECT
DETAILED DESIGN AND CONSTRUCTION
SUPERVISION OF REMODELING OF
WARSAK CANAL SYSTEM
IN
PESHAWAR AND NOWSHERA DISTRICTS**

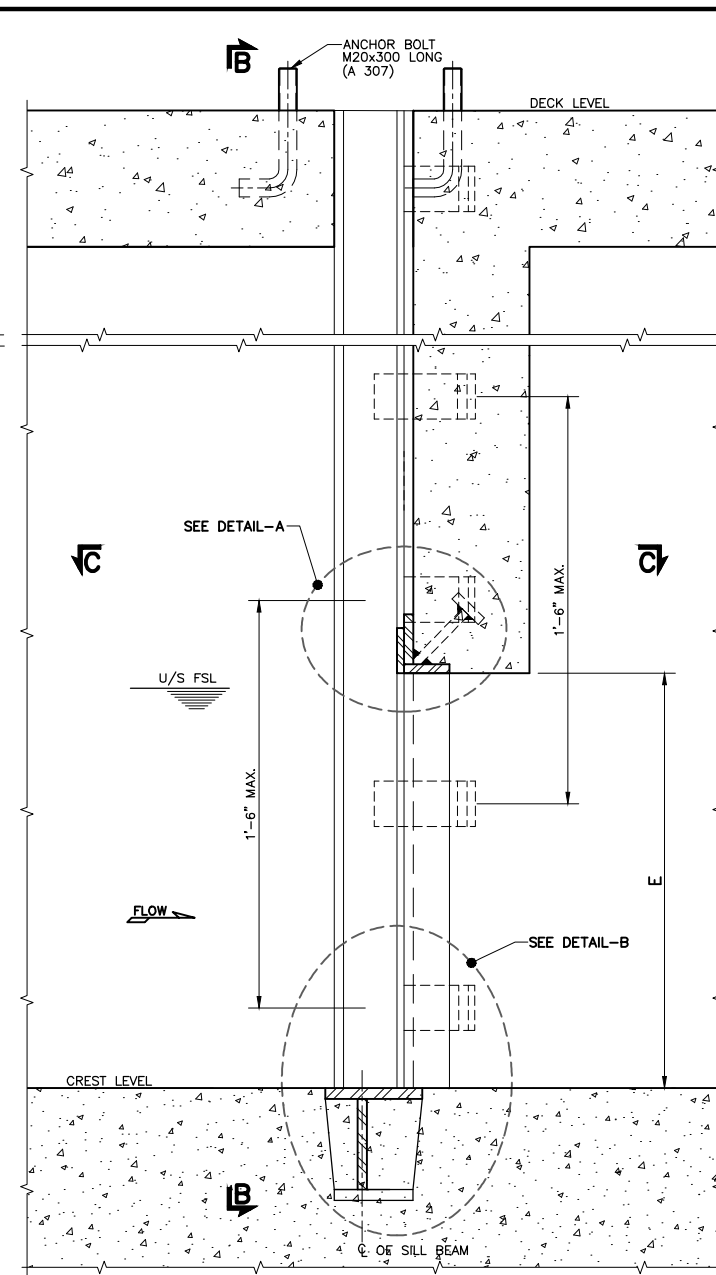
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**REMODELING OF WARSAK CANAL SYSTEM
CONTRACT RWCS-2
WARSAK GRAVITY CANAL
TYPICAL MINOR HEAD REGULATOR
SLIDE GATE AND GATE DETAILS**

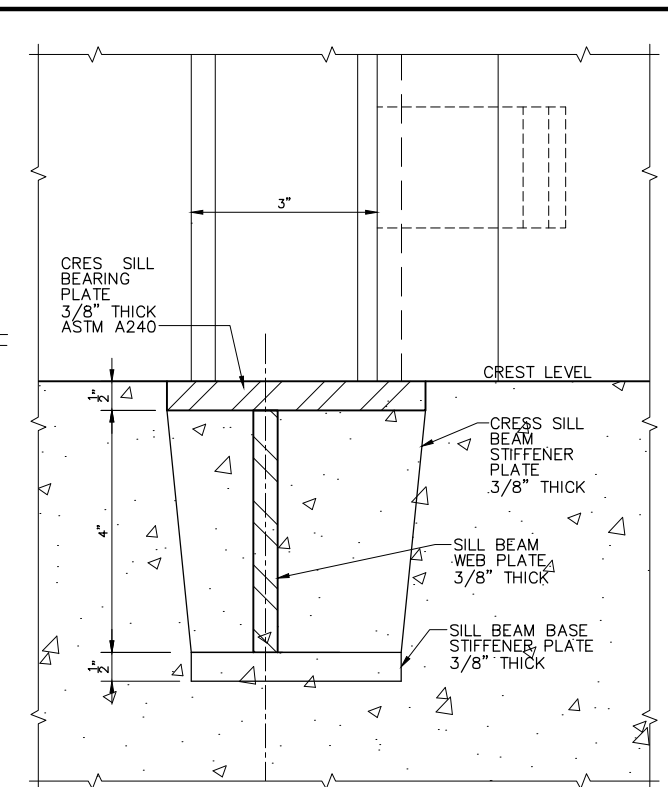
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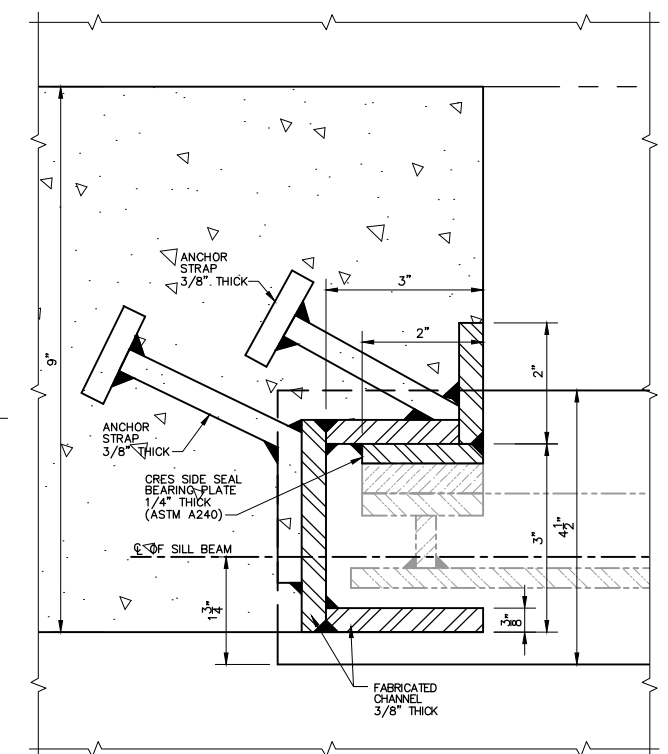
SECTION B-B



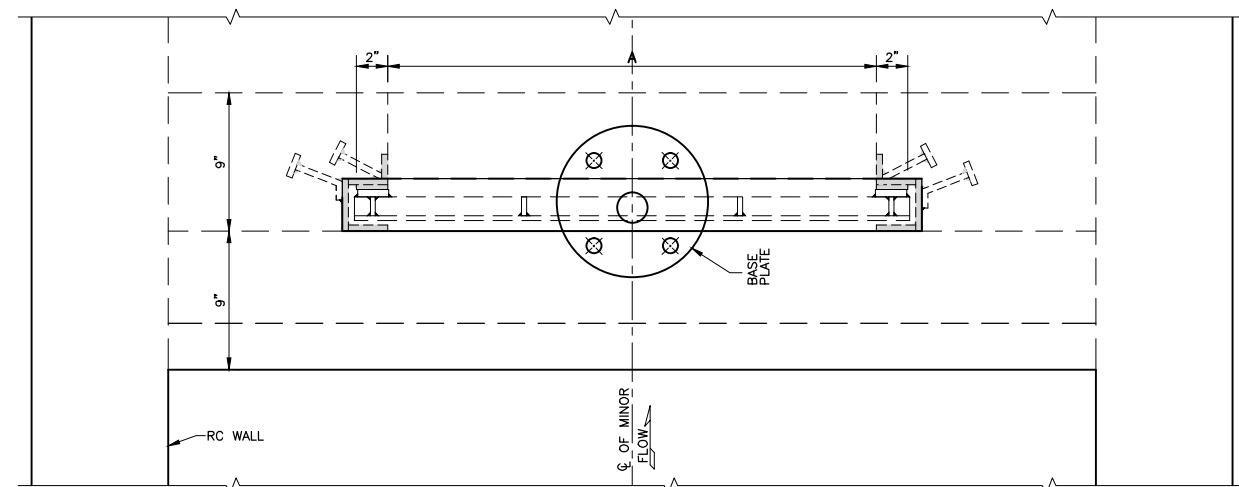
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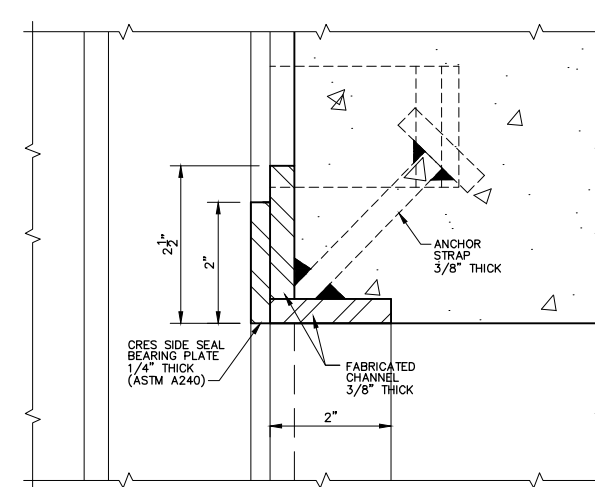
DETAIL-B



SECTION C-C










HOISTING PLATFORM-PLAN

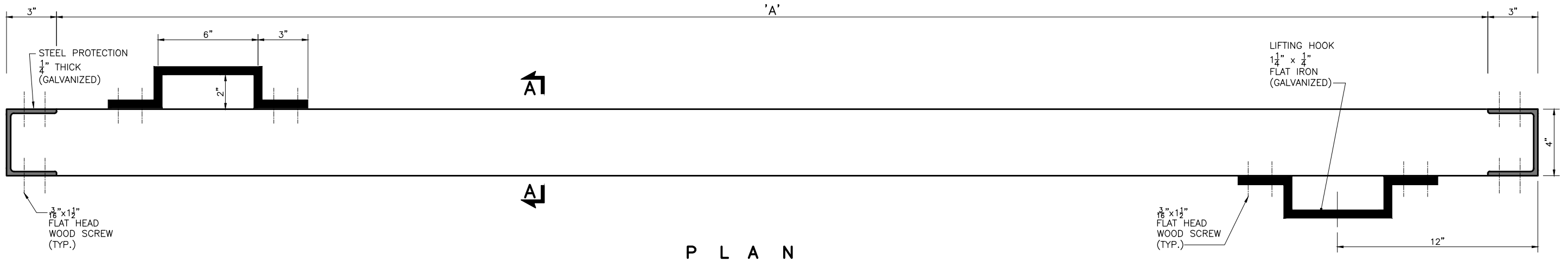


DETAIL-A

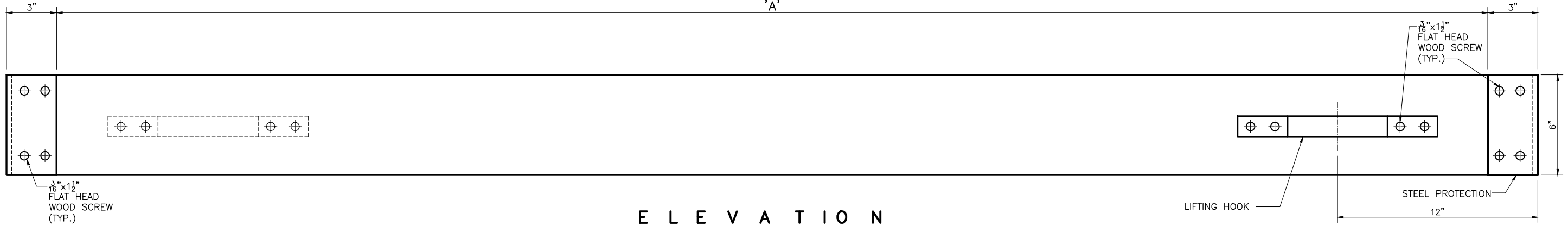
CONSTRUCTION DRAWING

NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
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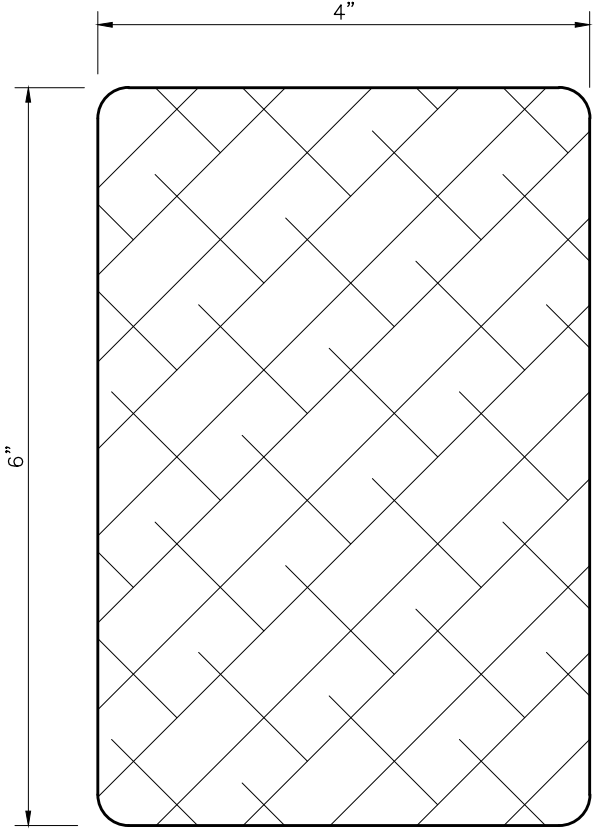
CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN PESHAWAR AND NOWSHERA DISTRICTS	DRAWN ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 TYPICAL MINOR HEAD REGULATOR SLIDE GATE GUIDE AND EMBEDDED PARTS DETAILS	DATE NOV., 2020	DWG. NO. RWCS-2/CD/WGC/HGT/03	REV. 0
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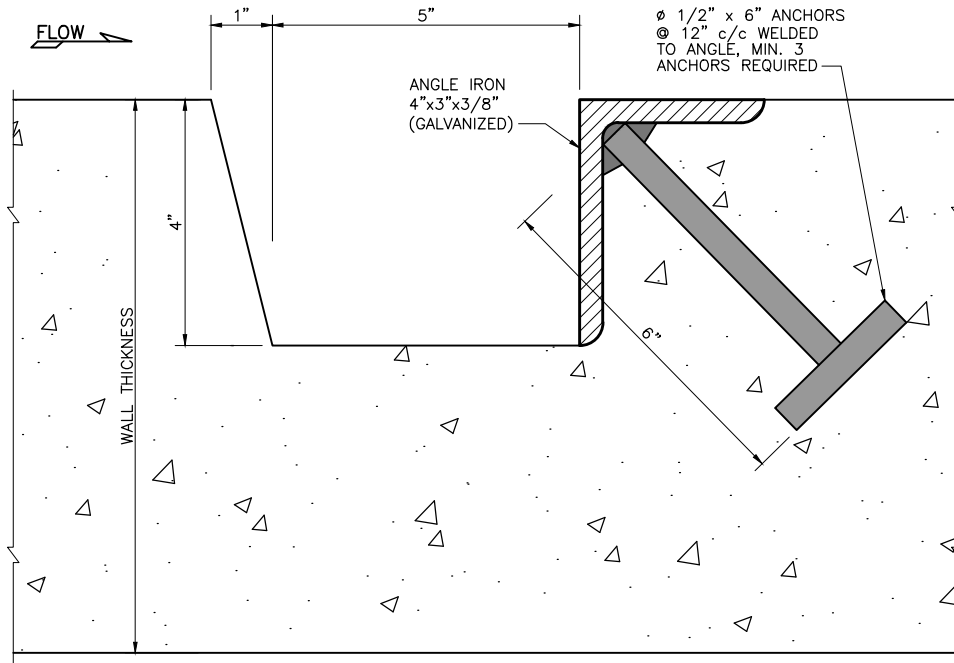
P L A N



E L E V A T I O N

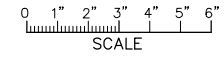


S E C T I O N A - A







P L A N
STOPLOG GROOVE DETAIL

**CONSTRUCTION
DRAWING**



NOTE
FOR LIST OF REFERENCE DRAWINGS AND NOTES
REFER DWG. NO. RWCS-2/CD/WGC/HRM/01.

CLIENT  IRRIGATION DEPARTMENT GOVERNMENT OF THE KHYBER PAKHTUNKHWA, PMU - REMODELING OF WARSAK CANALS PROJECT PESHAWAR	CONSULTANT - A JOINT VENTURE OF  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED LAHORE  ELECTRA CONSULTANTS PESHAWAR  INTEGRATED CONSULTING SERVICES (PVT.) LIMITED LAHORE	REMODELING OF WARSAK CANAL SYSTEM PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION OF REMODELING OF WARSAK CANAL SYSTEM IN SCALE PESHAWAR AND NOWSHERA DISTRICTS	DRAWN ISH	REMODELING OF WARSAK CANAL SYSTEM CONTRACT RWCS-2 WARSAK GRAVITY CANAL TYPICAL MINOR HEAD REGULATOR WOODEN STOPLOG DETAILS	DATE NOV., 2020	DWG. NO. RWCS-2/CD/WGC/HGT/05	REV. 0
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