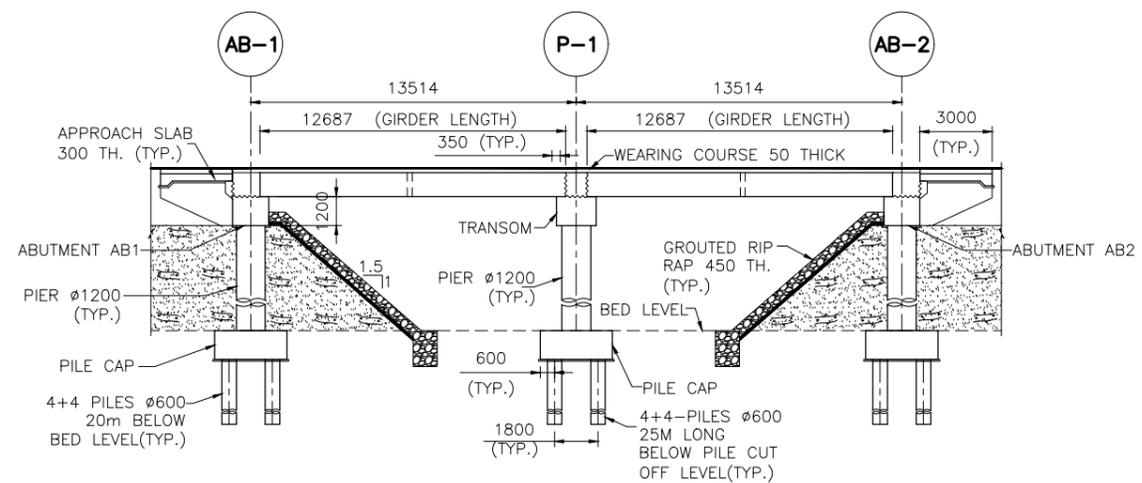
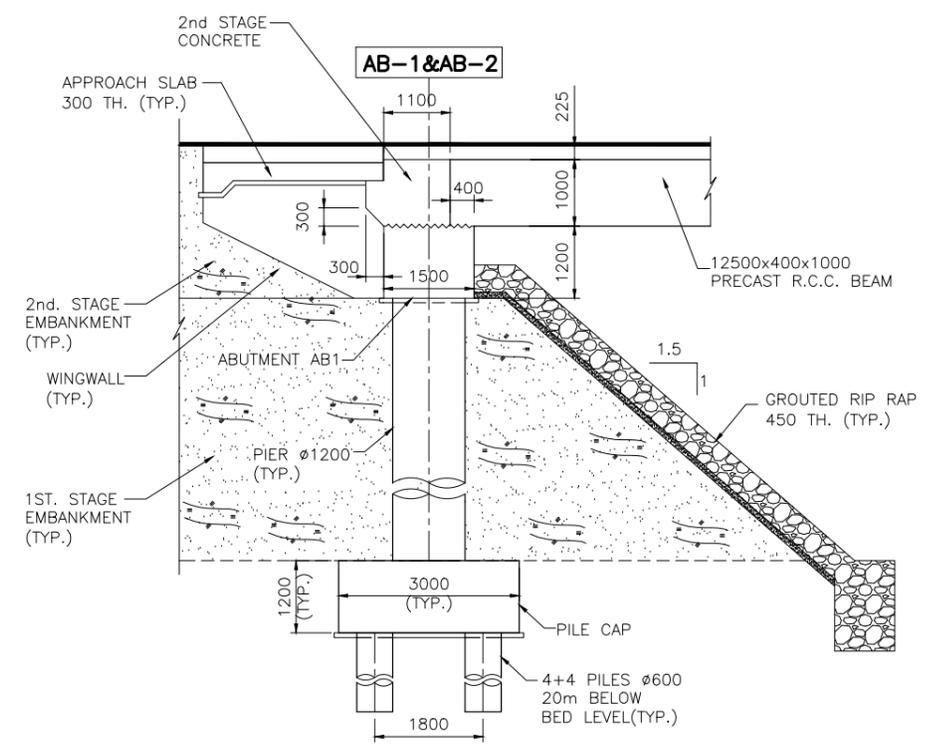
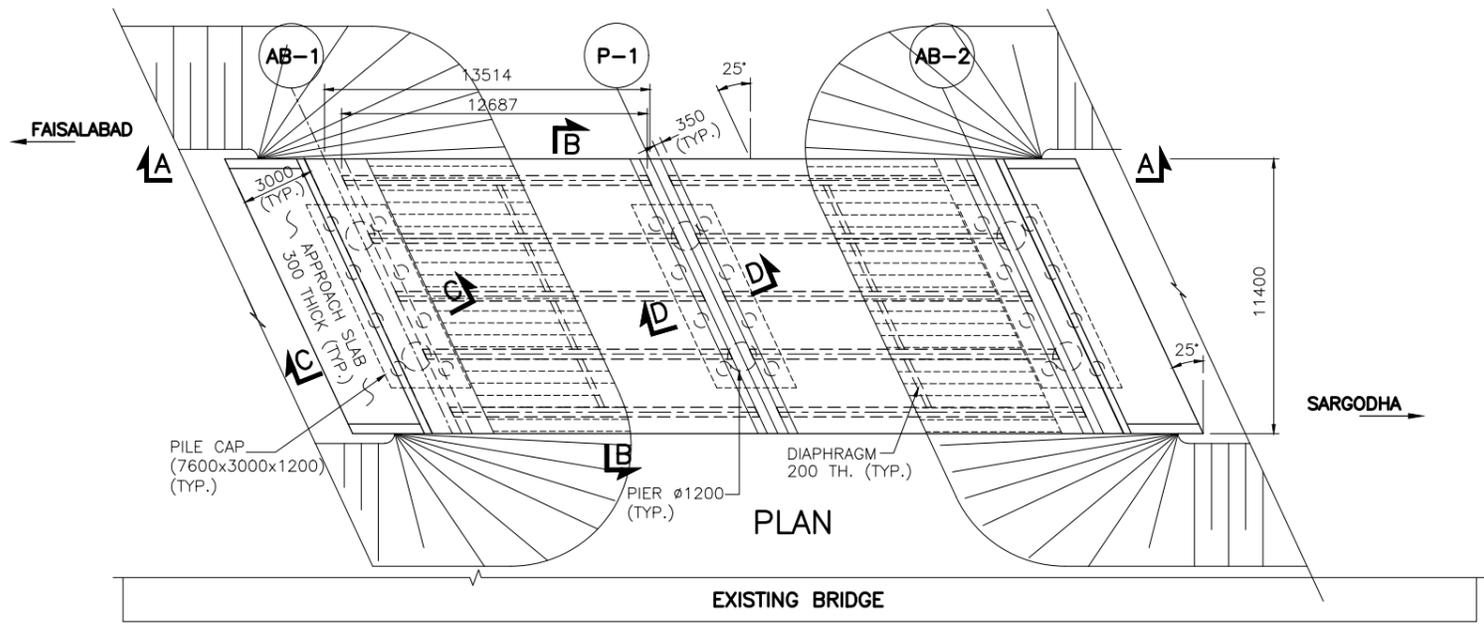


COMMUNICATION AND WORKS
DEPARTMENT (C&W) PUNJAB



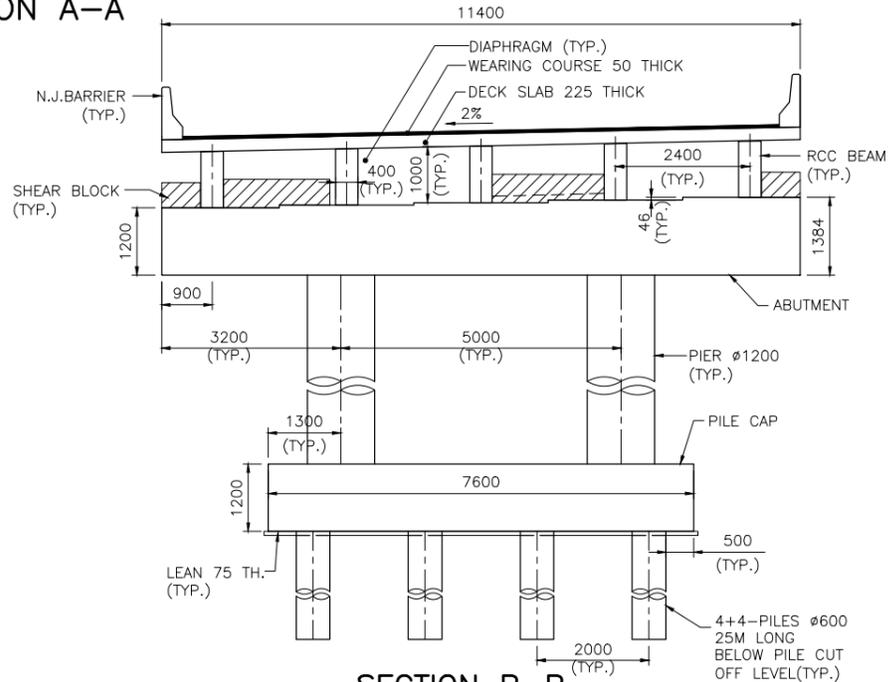
TRANSACTION ADVISORY SERVICES FOR
DUALIZATION AND REHABILITATION OF
FAISALABAD - CHINIOT - SARGODHA

PRELIMINARY STRUCTURAL DRAWINGS

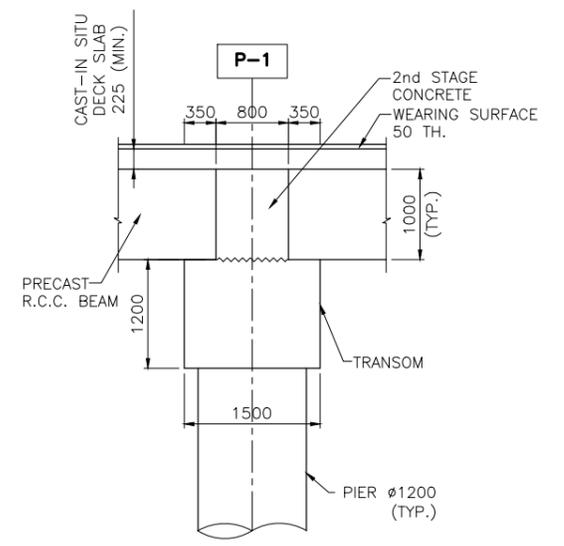


SECTION C-C
SCALE: 1:60

SECTION A-A



SECTION B-B
SCALE: 1:60



SECTION E-E
SCALE: 1:40

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. FOR DETAILS OF CONCRETE & REINFORCEMENT SEE GENERAL NOTES DWG.# P1G001.
3. PILE LENGTH SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL INVESTIGATIONS & PILE LOAD TEST REPORTS.

CLIENT

COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB

CONSULTANT

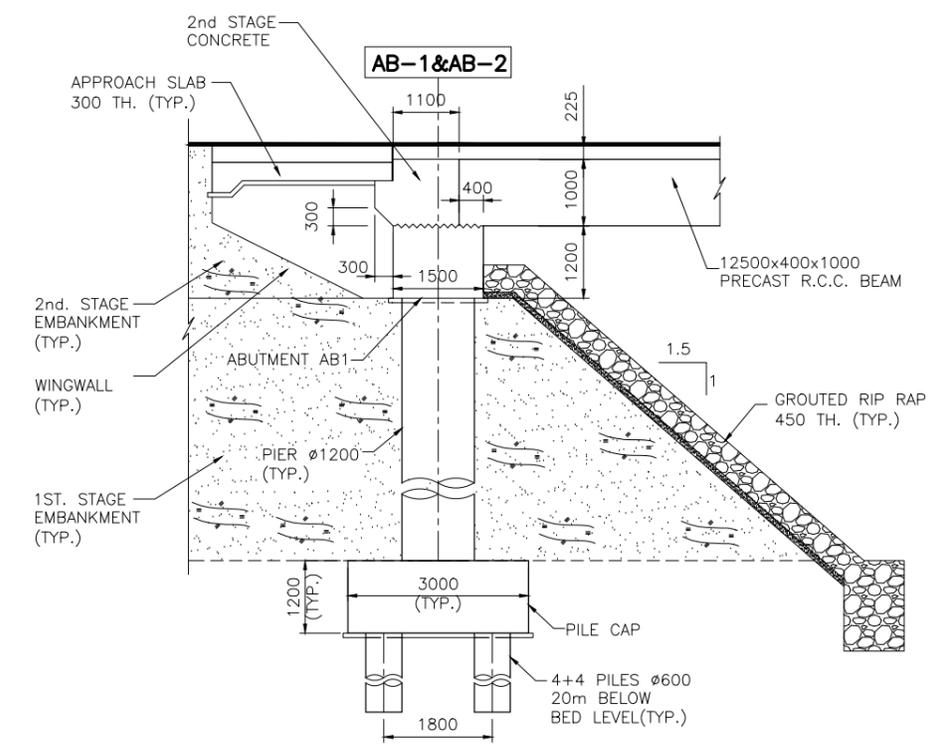
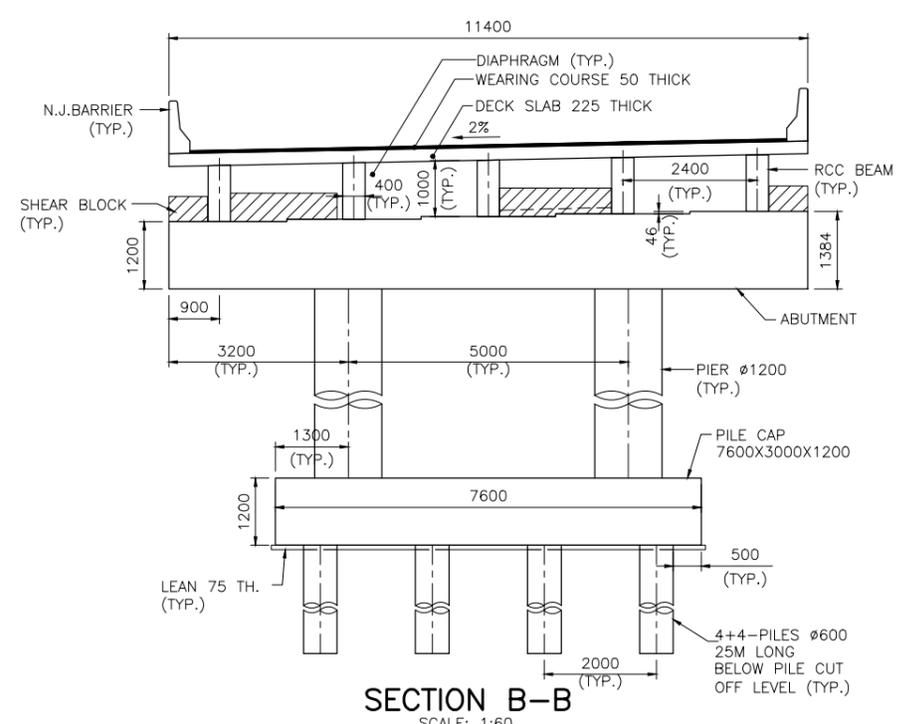
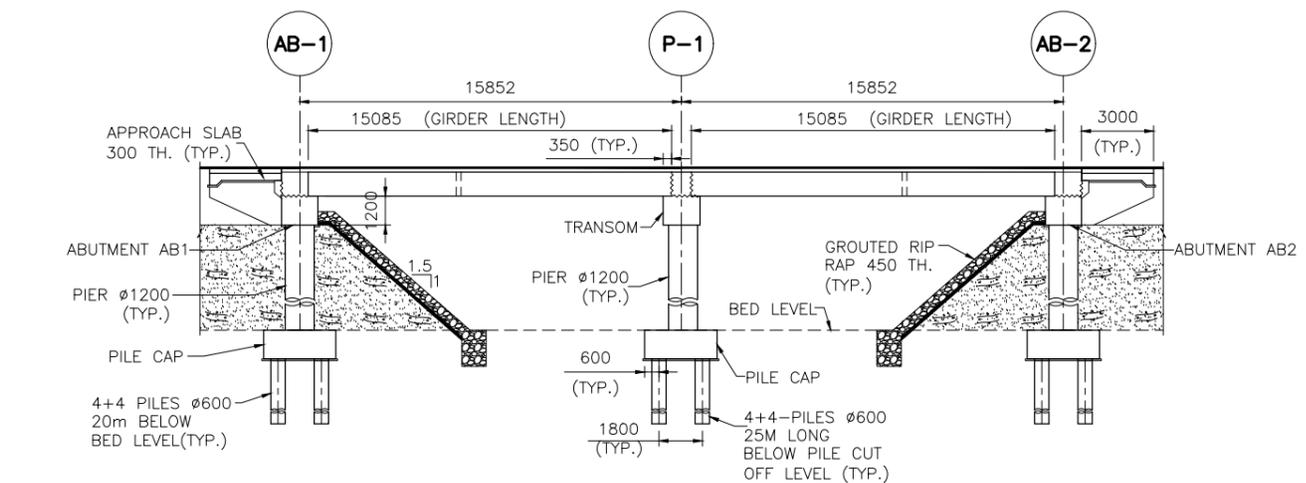
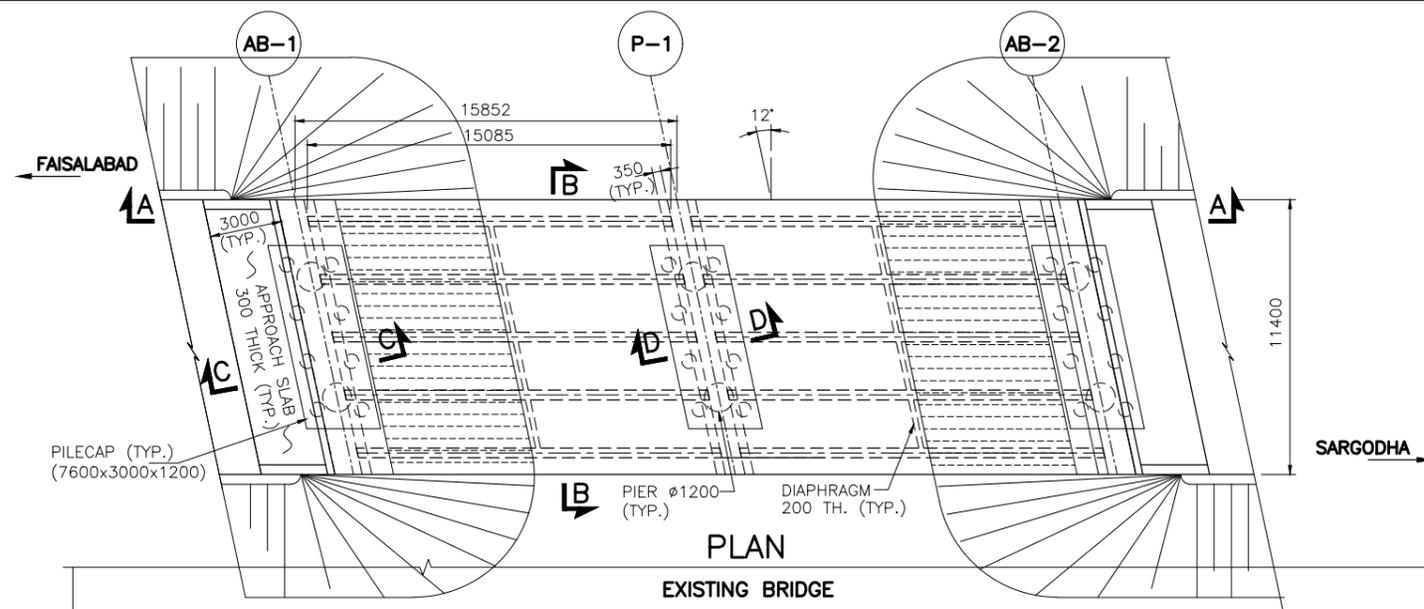
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
 HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				DRAWN	IFTIKHAR
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
				APPROVED	

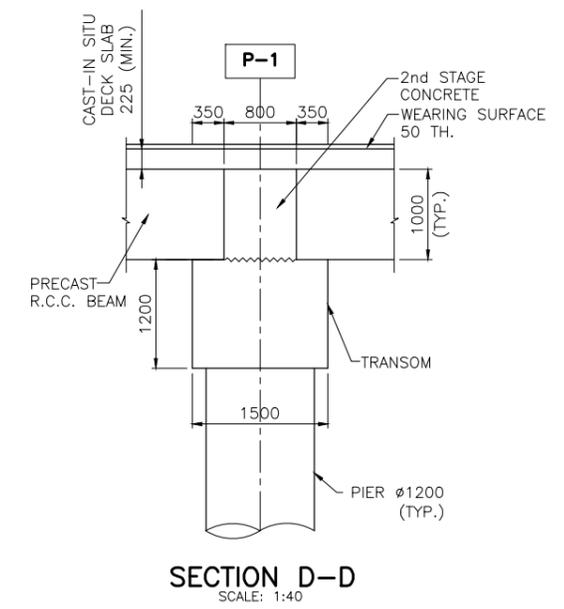
PROJECT
TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA

GENERAL ARRANGEMENT
 PLAN, ELEVATION AND SECTION
 BRIDGE AT CH. 18+750
 DATE: NOVEMBER 2020
 DRAWING No. SA-413/102/PD/P1G401

SCALE
 1:150
 REV. 



SECTION C-C
SCALE: 1:60

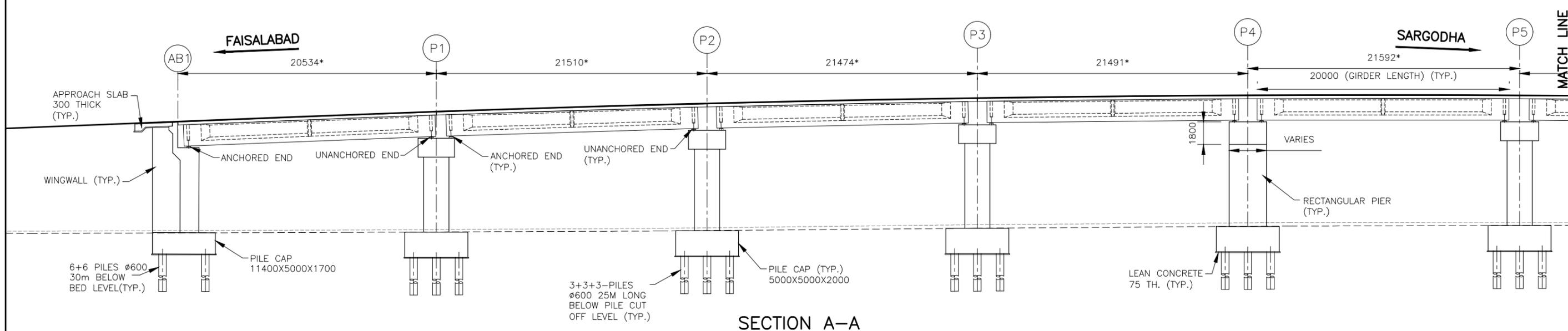


SECTION D-D
SCALE: 1:40

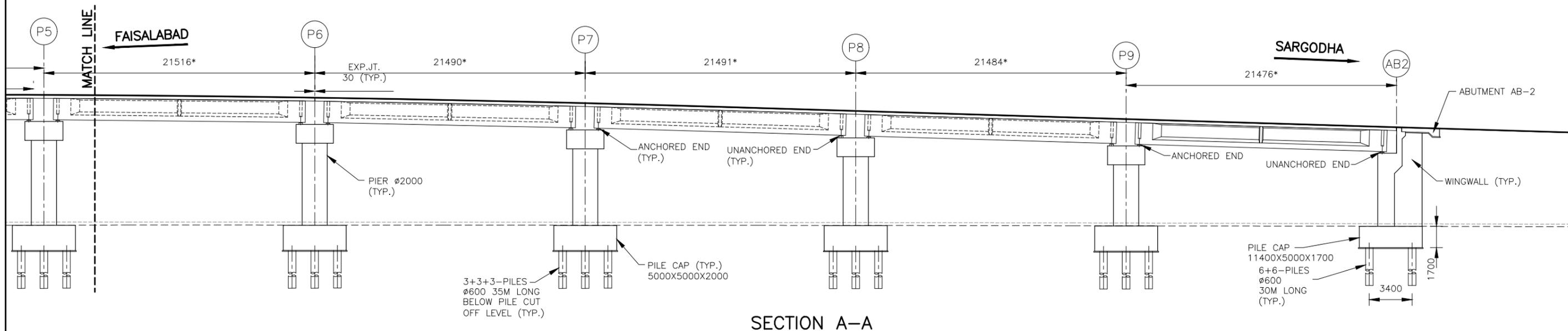
NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. FOR DETAILS OF CONCRETE & REINFORCEMENT SEE GENERAL NOTES DWG.# P1G001.
3. PILE LENGTH SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL INVESTIGATIONS & PILE LOAD TEST REPORTS.

<p>COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB</p>	<p>CONSULTANT</p> <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p> <p>HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	04				DRAWN	IFTIKHAR	<p>PROJECT</p> <p>TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA</p>	<p>GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTION BRIDGE AT CH. 19+150</p>		SCALE		
						SUBMITTED				DATE	DRAWING No.	1:150	
							RECOMMENDED				NOVEMBER 2020	SA-413/102/PD/P1G501	REV.
							CHD./VER.						0
						APPROVED							

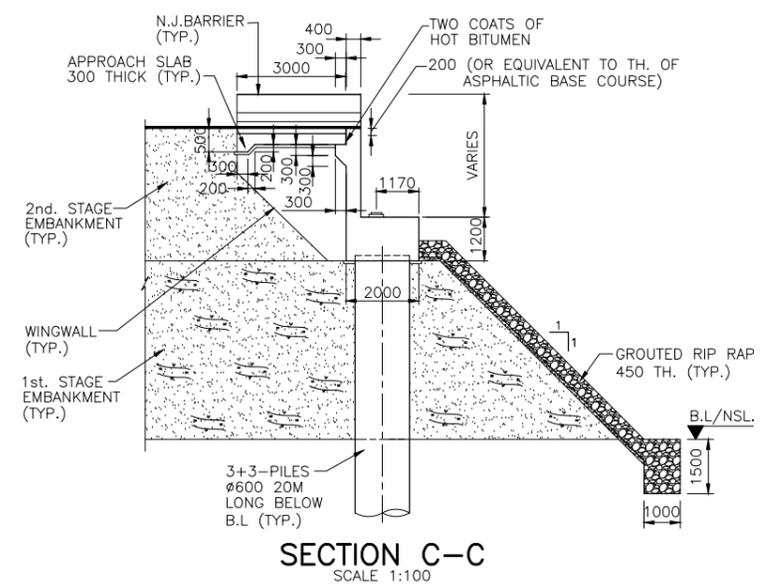
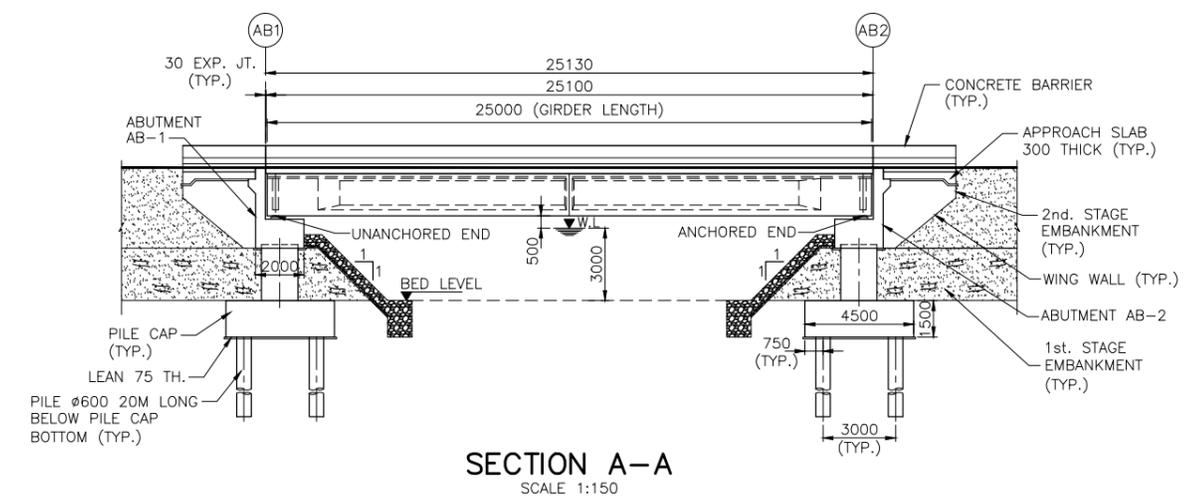
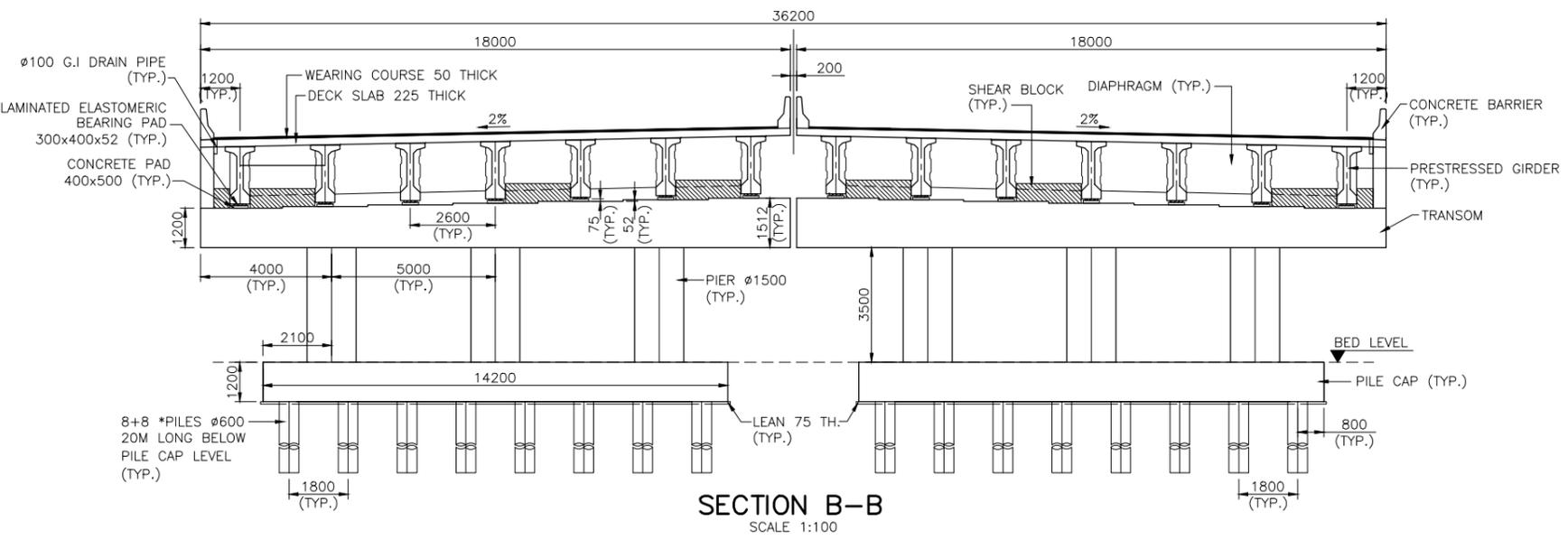
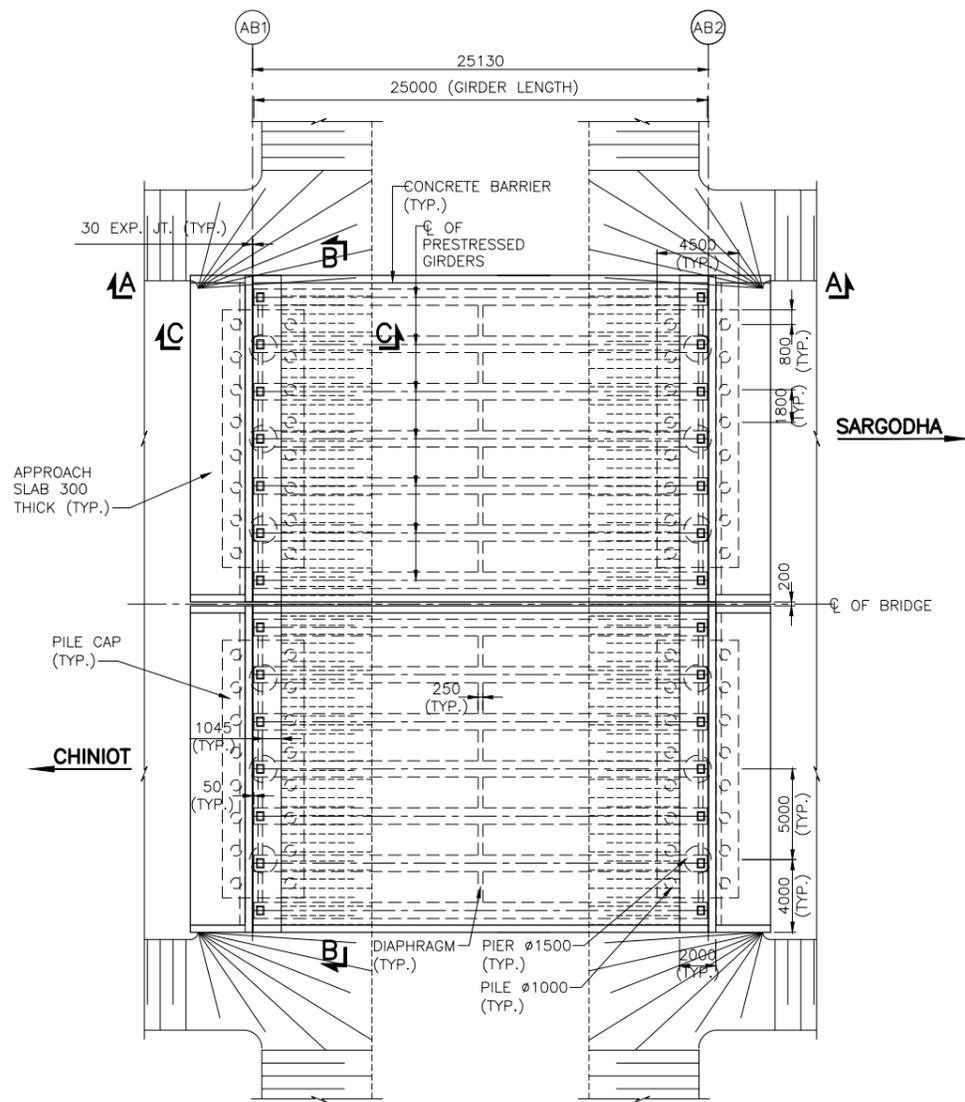


SECTION A-A



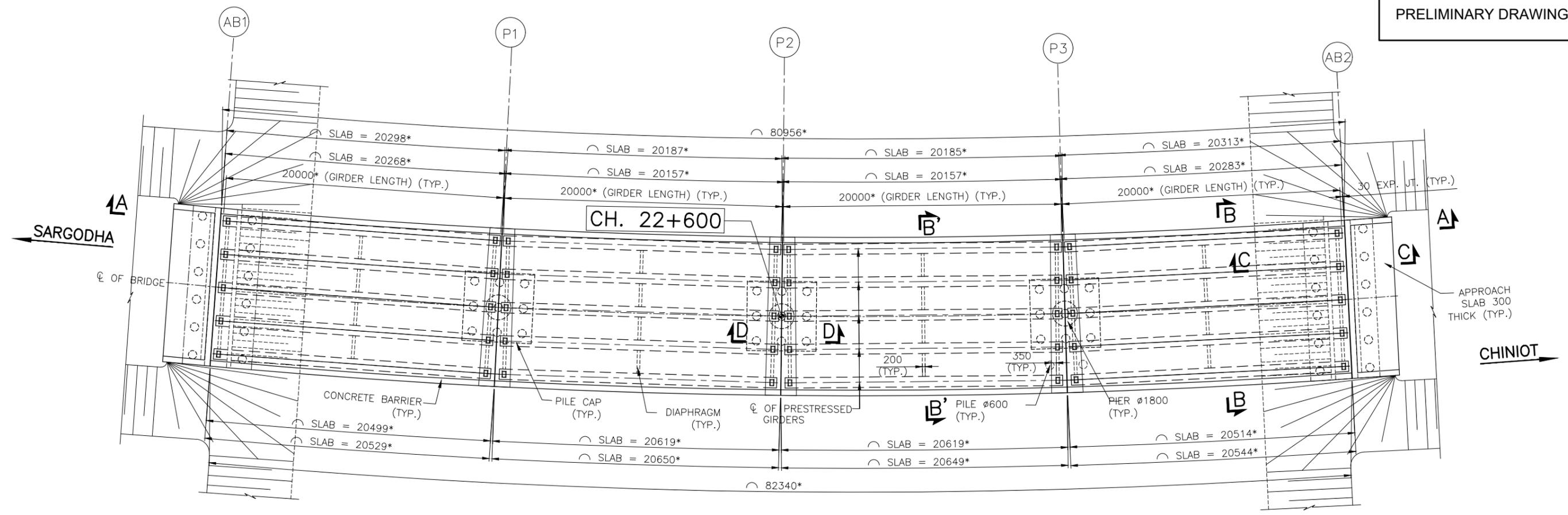
SECTION A-A

 <p>COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB</p>	CLIENT	 <p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	04				DRAWN	RASHID AZIZ	PROJECT TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA	GENERAL ARRANGEMENT ELEVATION BRIDGE AT CH. 19+200		SCALE		
			03					SUBMITTED					1:320	
			02							RECOMMENDED				
			01							CHD./VER.				
							APPROVED							
									DATE	NOVEMBER 2020	DRAWING No.	SA-413/102/PD/P1G601A	REV.	0

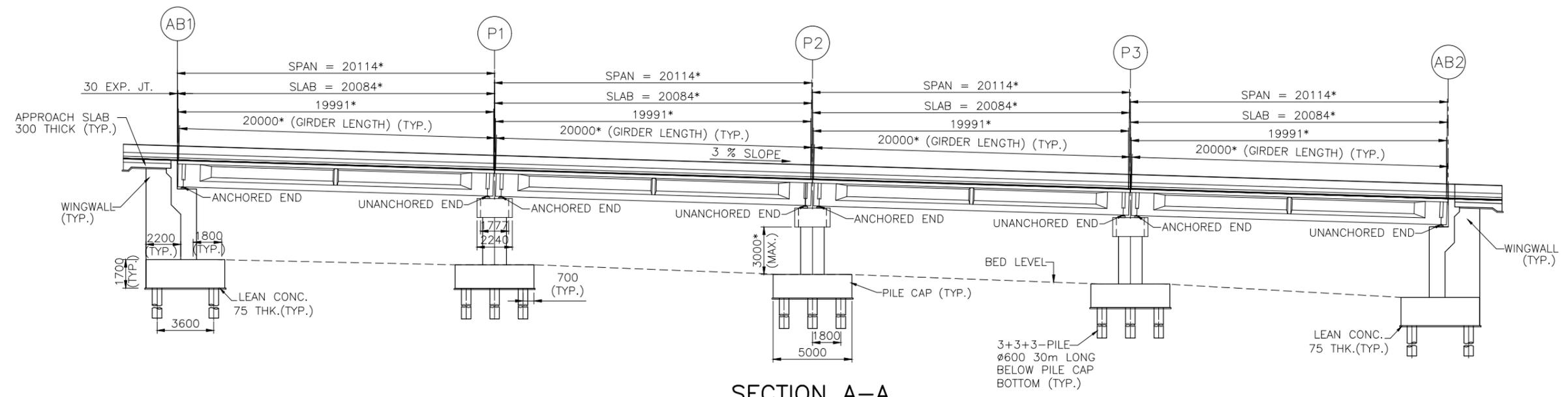


- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. FOR DETAILS OF CONCRETE & REINFORCEMENT SEE GENERAL NOTES DWG.# P1G001.
 3. PILE LENGTH SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL INVESTIGATIONS & PILE LOAD TEST REPORTS.

CLIENT COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB	CONSULTANT NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04			DRAWN	WARIS	PROJECT TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA	GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTION BRIDGE AT CH. 20+600		SCALE 1:200
		03			SUBMITTED				DATE NOVEMBER 2020	DRAWING No. SA-413/102/PD/P1G701
		02			RECOMMENDED					
		01			CHD./VER.					
					APPROVED					



P L A N

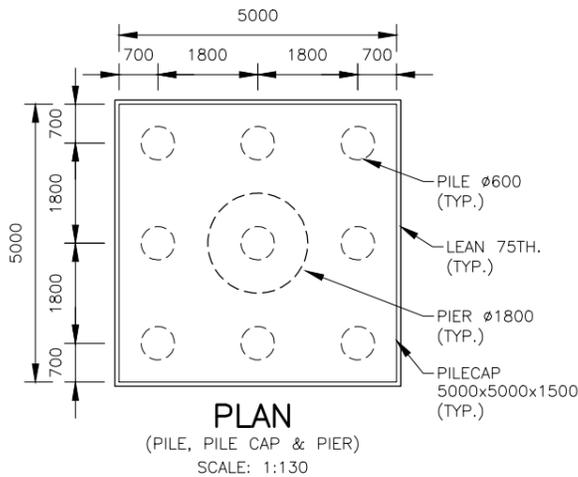
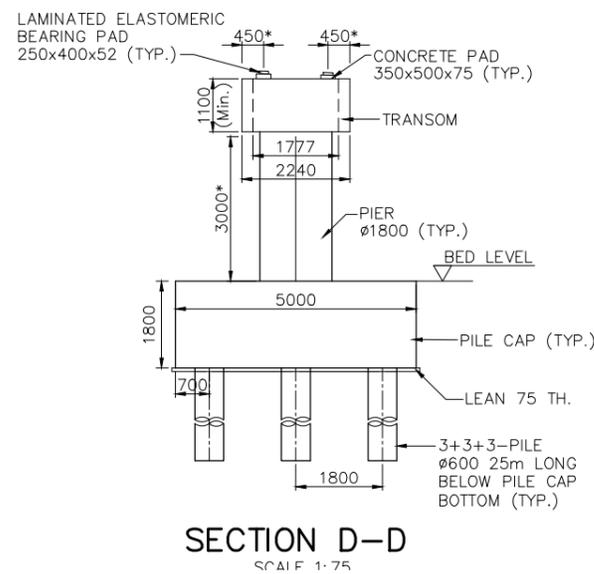
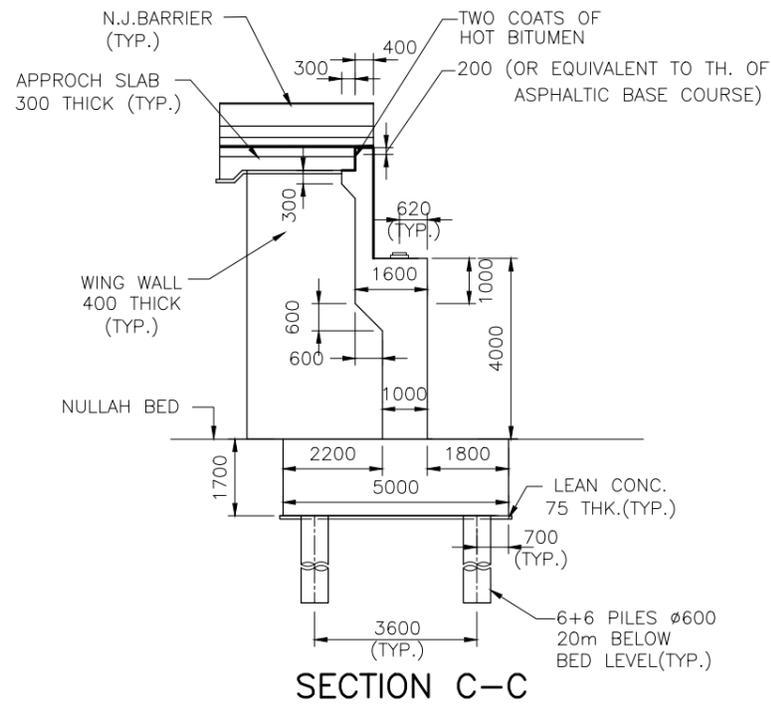
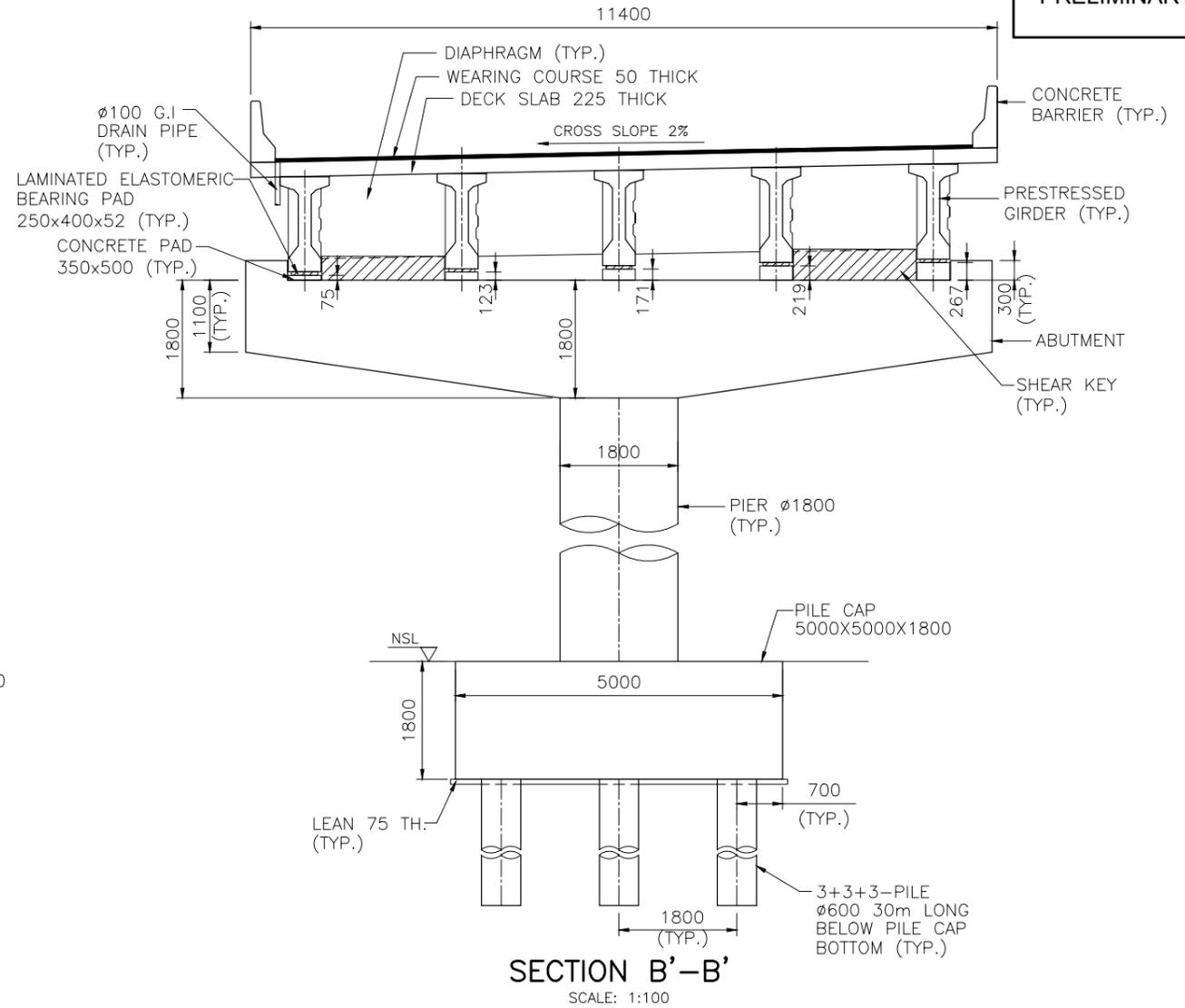
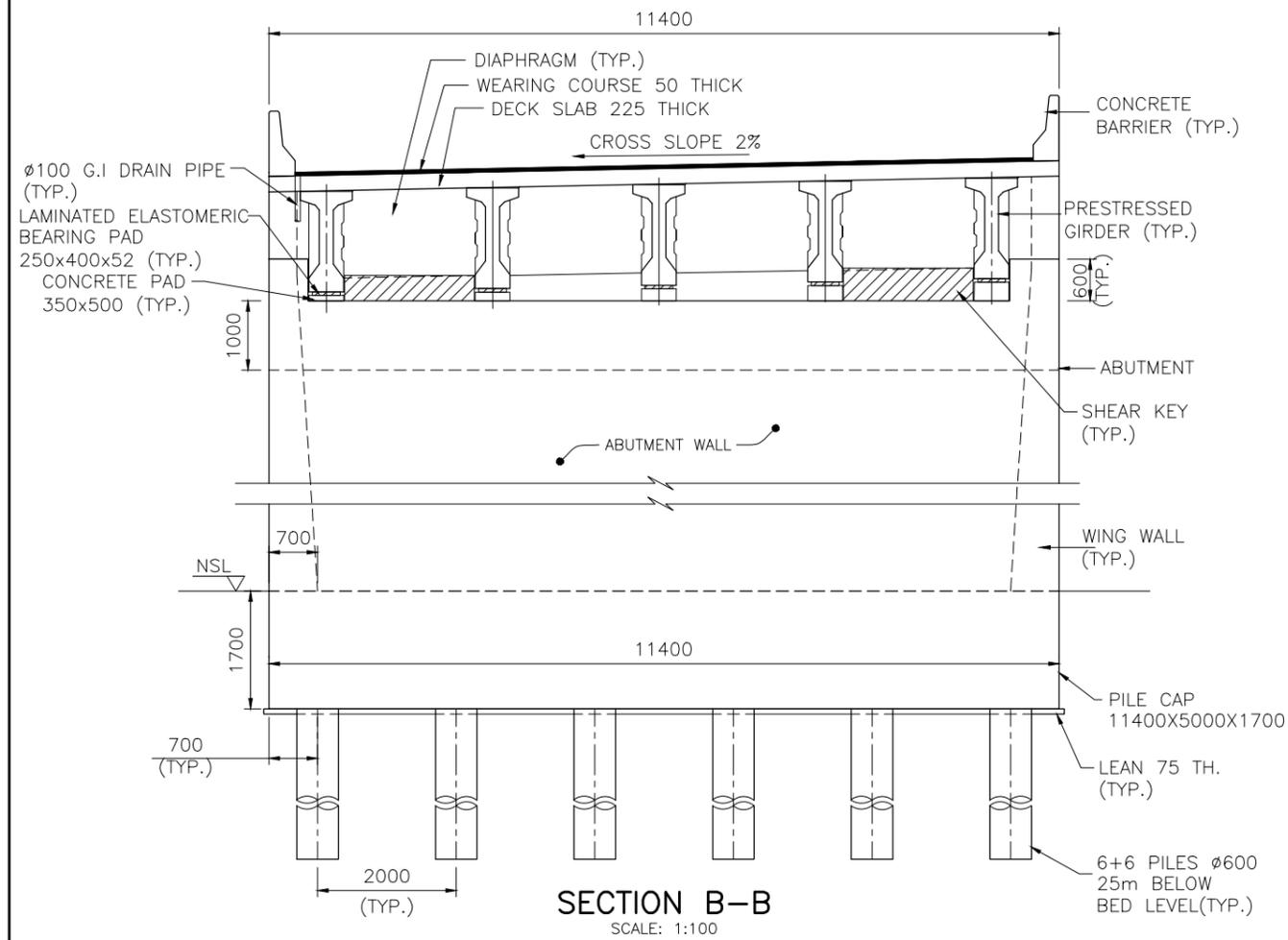


SECTION A-A

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. FOR DETAILS OF CONCRETE & REINFORCEMENT SEE GENERAL NOTES DWG.# P1G001.
3. PILE LENGTH SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL INVESTIGATIONS & PILE LOAD TEST REPORTS.

CLIENT  COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04			DRAWN	WARIS	PROJECT TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA	GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTION BRIDGE AT CH. 22+600		SCALE
		03			SUBMITTED				DATE	DRAWING No.
		02			RECOMMENDED			NOVEMBER 2020	SA-413/102/PD/P1G801	⬆ ⬇ ⬆
		01			CHD./VER.					
					APPROVED					



NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. FOR DETAILS OF CONCRETE & REINFORCEMENT SEE GENERAL NOTES DWG.# P1G001.
3. PILE LENGTH SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL INVESTIGATIONS & PILE LOAD TEST REPORTS.

CLIENT
COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB

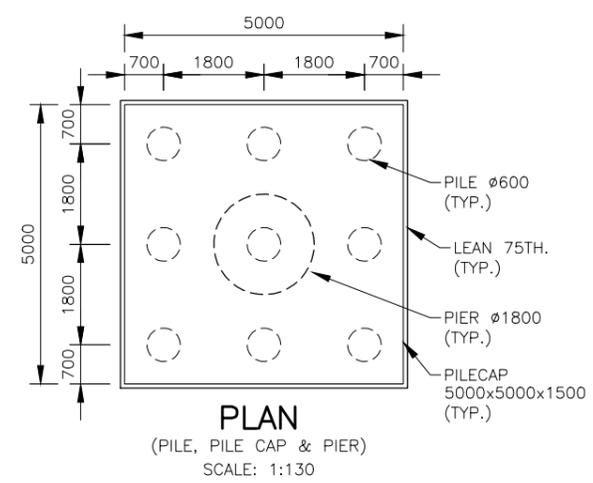
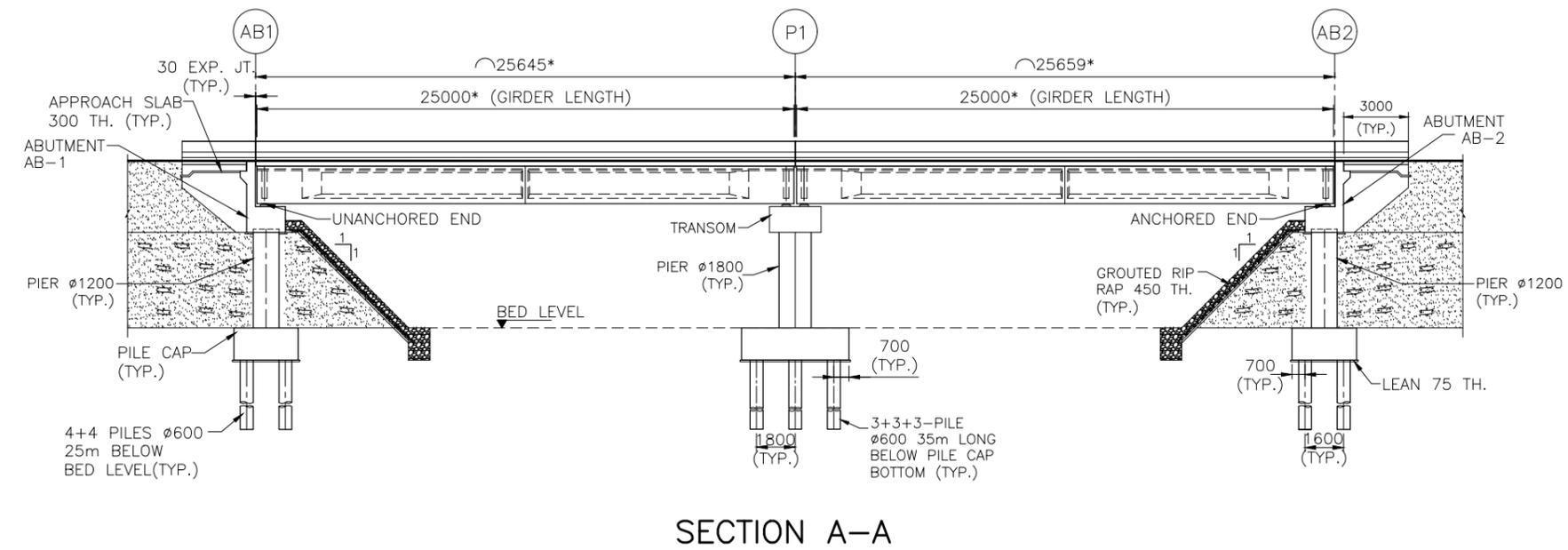
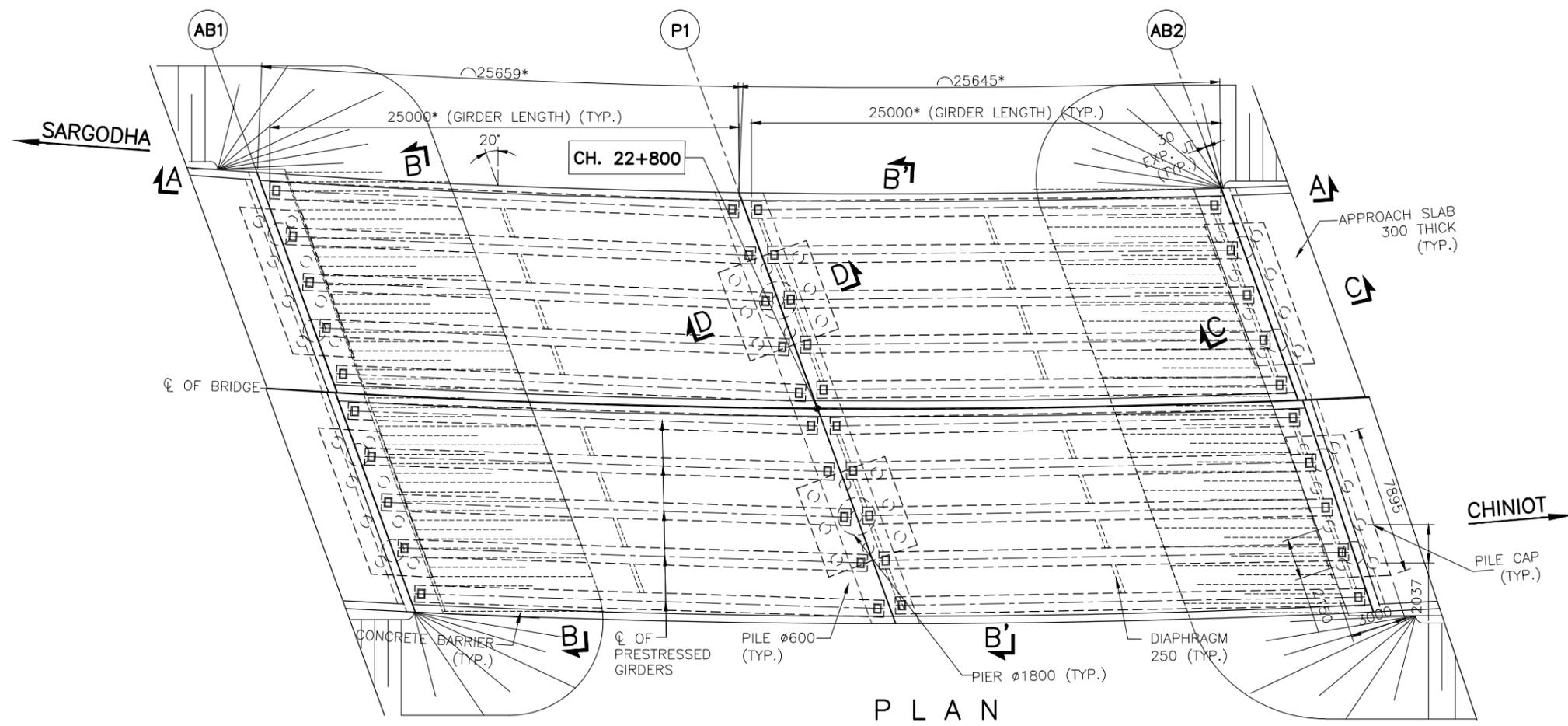
CONSULTANT
NESPAK NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				DRAWN	WARIS
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
				APPROVED	

PROJECT
TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA

GENERAL ARRANGEMENT
PLAN, ELEVATION AND SECTION
BRIDGE AT CH. 22+600
DATE: NOVEMBER 2020
DRAWING No. SA-413/102/PD/P1G801

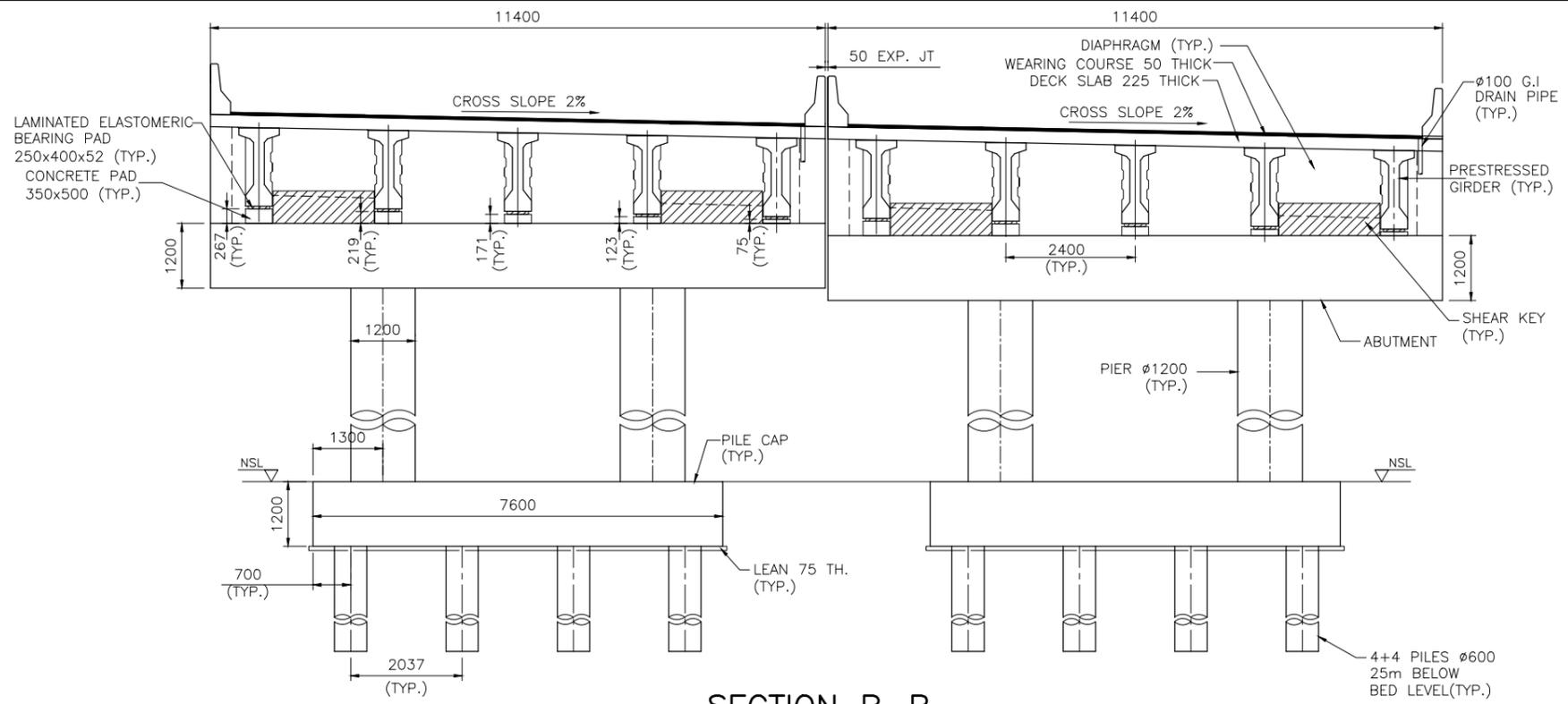
SCALE
1:200
REV.



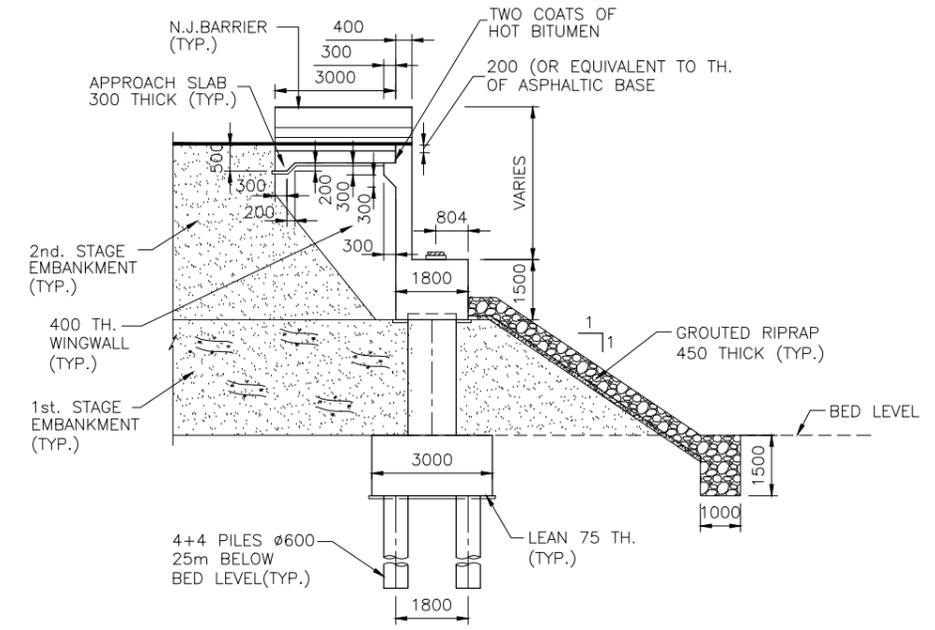
NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. FOR DETAILS OF CONCRETE & REINFORCEMENT SEE GENERAL NOTES DWG.# P1G001.
3. PILE LENGTH SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL INVESTIGATIONS & PILE LOAD TEST REPORTS.

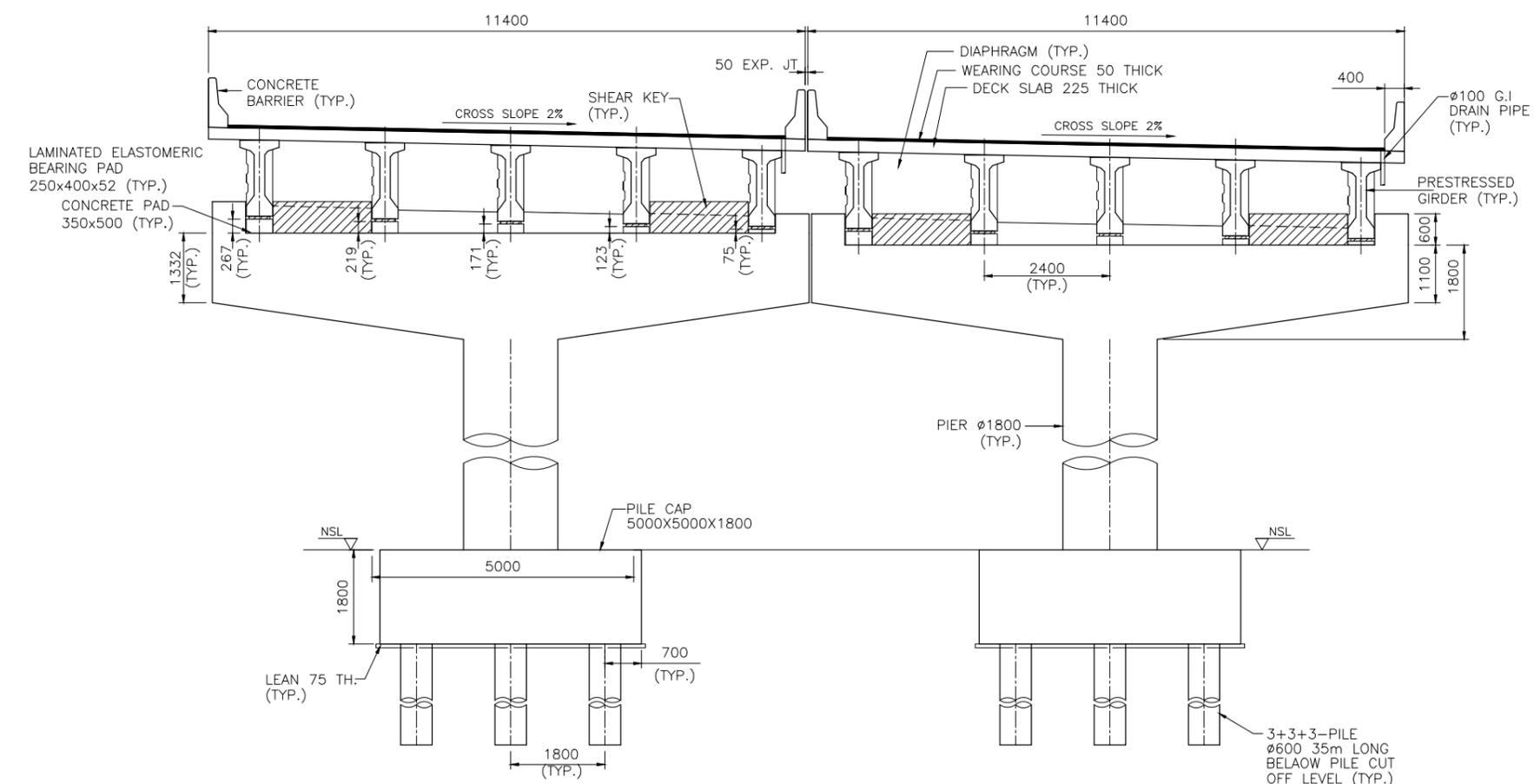
<p>COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB</p>	<p>CONSULTANT</p> <p>NESPAC NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p> <p>HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	04			DRAWN	WARIS	<p>PROJECT</p> <p>TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA</p>	<p>GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTION BRIDGE AT CH. 22+800</p>		SCALE
		03			SUBMITTED			NOVEMBER 2020	DRAWING No.	REV.
		02			RECOMMENDED			SA-413/102/PD/P1G901		
		01			CHD./VER.					
					APPROVED					



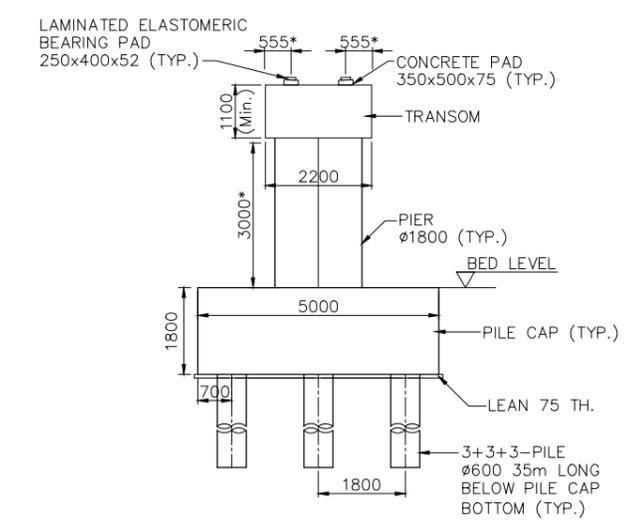
SECTION B-B
SCALE: 1:75



SECTION C-C
SCALE 1:200

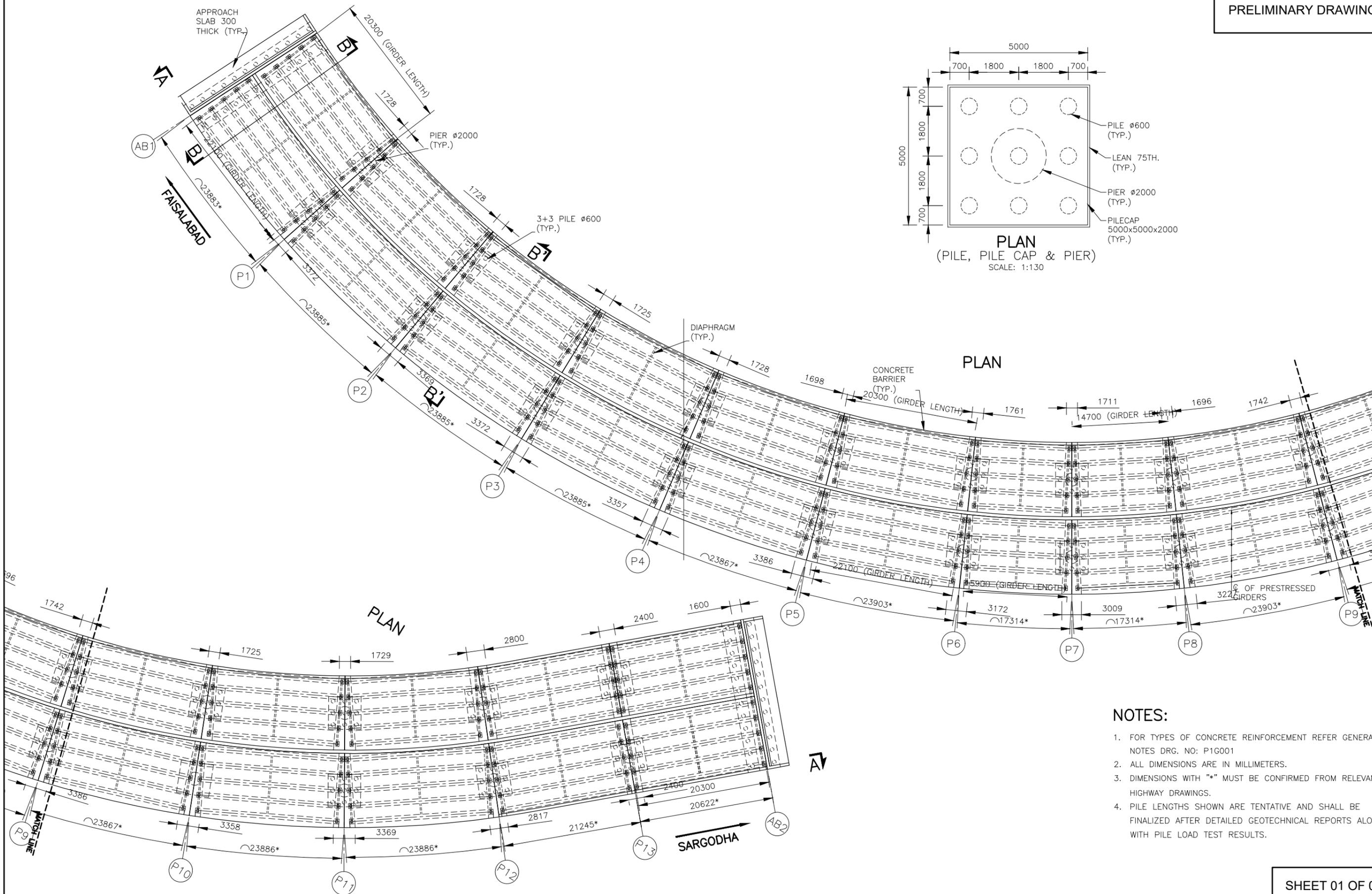


SECTION B'-B'
SCALE: 1:75



SECTION D-D
SCALE 1:75

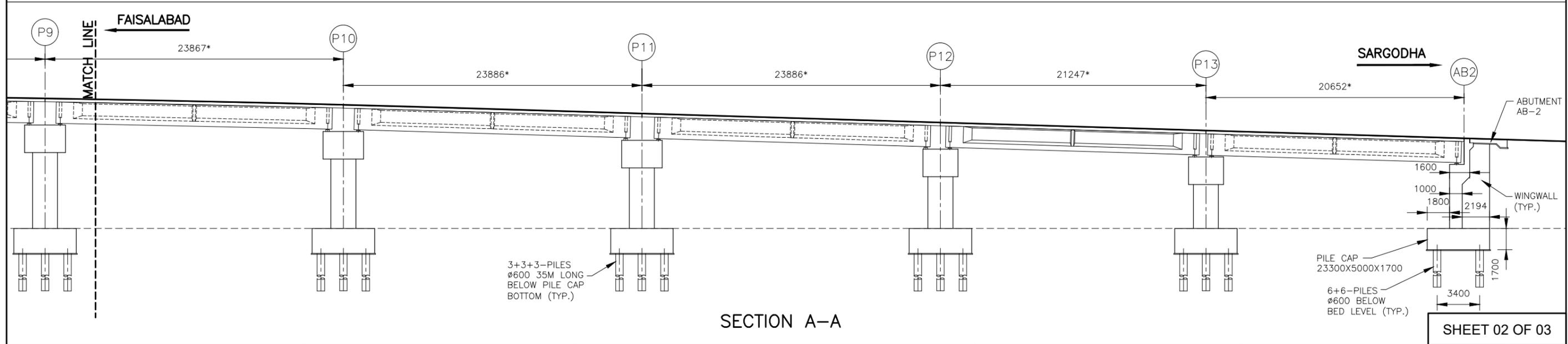
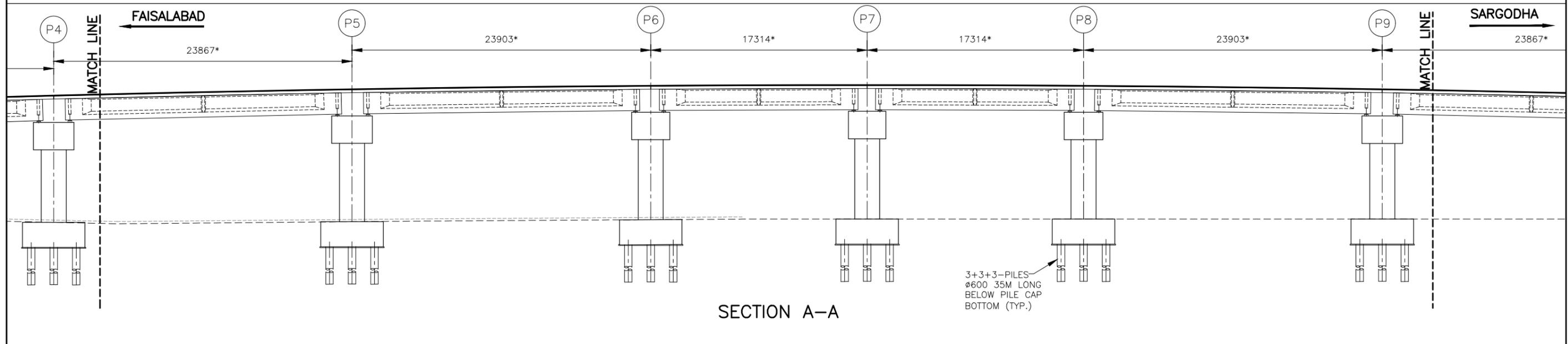
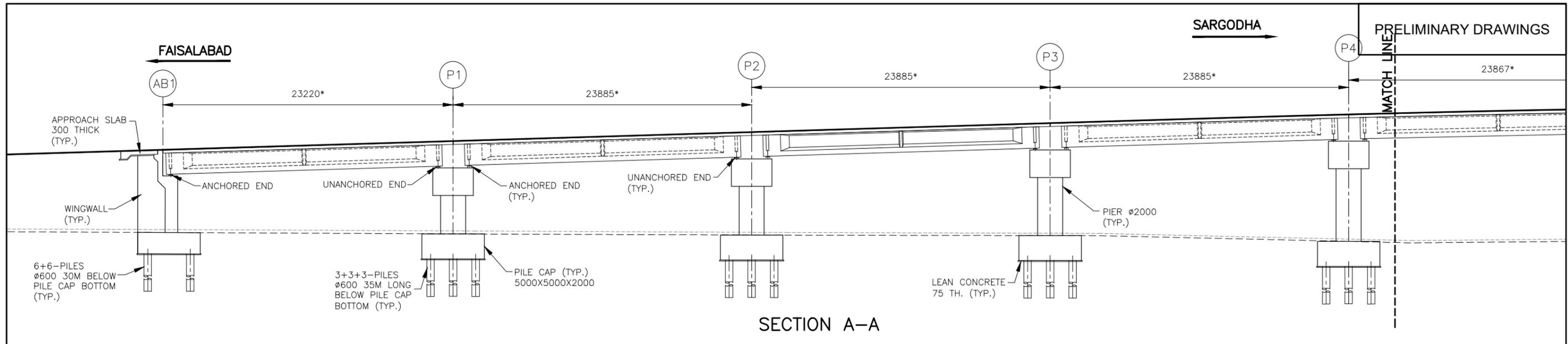
CLIENT  COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	WARIS	PROJECT TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA	GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTION BRIDGE AT CH. 22+800	SCALE	1:200		
		03				SUBMITTED				DATE	DRAWING No.	REV.	
		02				RECOMMENDED				NOVEMBER 2020	SA-413/102/PD/P1G901		
		01				CHD./VER.	APPROVED						



- NOTES:**
1. FOR TYPES OF CONCRETE REINFORCEMENT REFER GENERAL NOTES DRG. NO: P1G001
 2. ALL DIMENSIONS ARE IN MILLIMETERS.
 3. DIMENSIONS WITH "*" MUST BE CONFIRMED FROM RELEVANT HIGHWAY DRAWINGS.
 4. PILE LENGTHS SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL REPORTS ALONG WITH PILE LOAD TEST RESULTS.

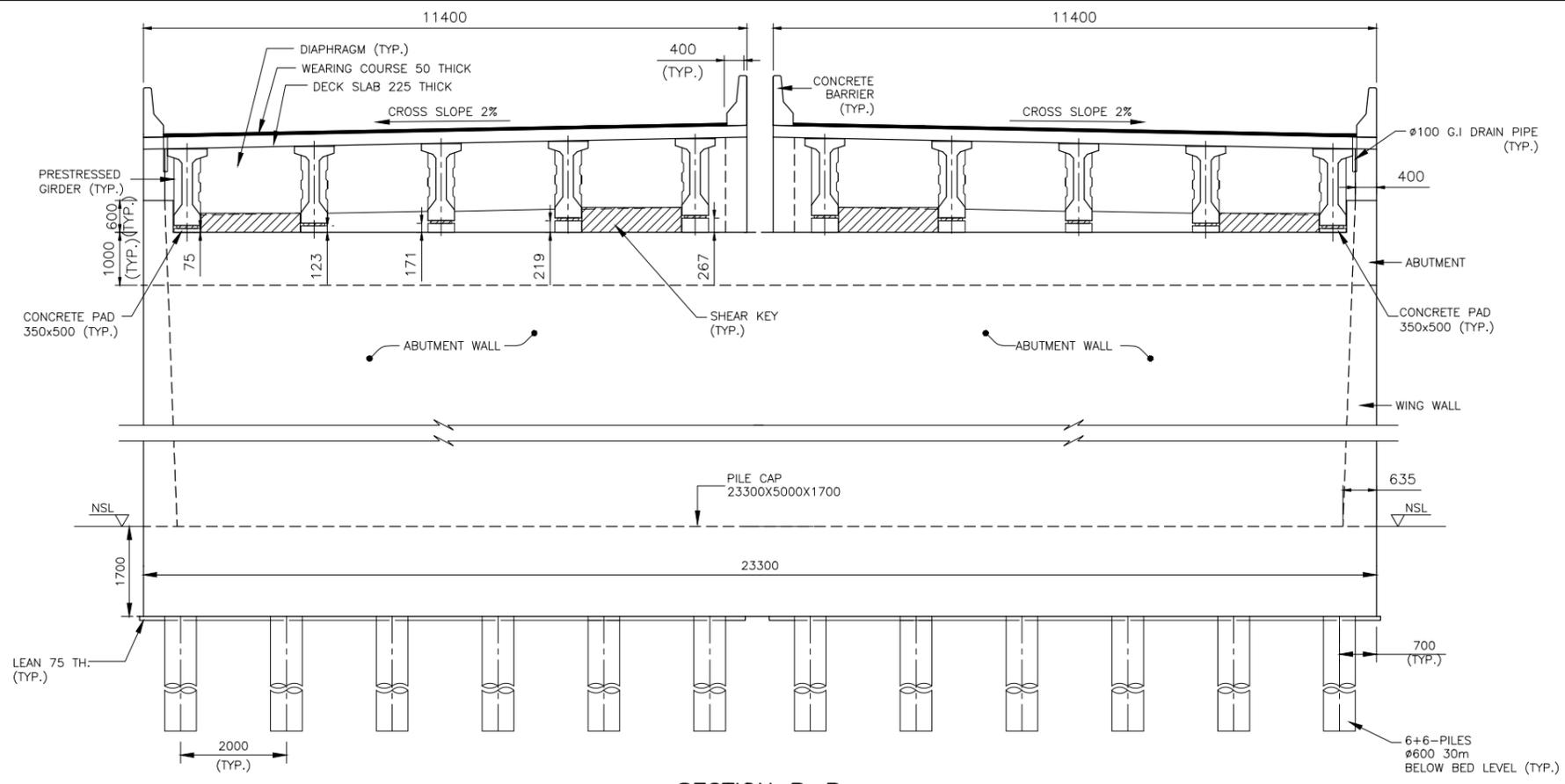
SHEET 01 OF 03

CLIENT  COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	RASHID AZIZ	PROJECT TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA	GENERAL ARRANGEMENT PLAN BRIDGE AT CH. 27+800		SCALE
		03				SUBMITTED			1:550		
		02				RECOMMENDED			DATE	DRAWING No.	REV.
		01				CHD/VER.			NOVEMBER 2020	SA-413/102/PD/P1G1001	⏴ ⏵
						APPROVED			MRA, J:\SA-413 FAISLABAD-CHINIOT-SARGODHA ROAD\FINAL 24-11-2020\Rashid\FLYOVER at 27+800 (Curved)\P1G1001 - 27+800.dwg 23/11/2020		

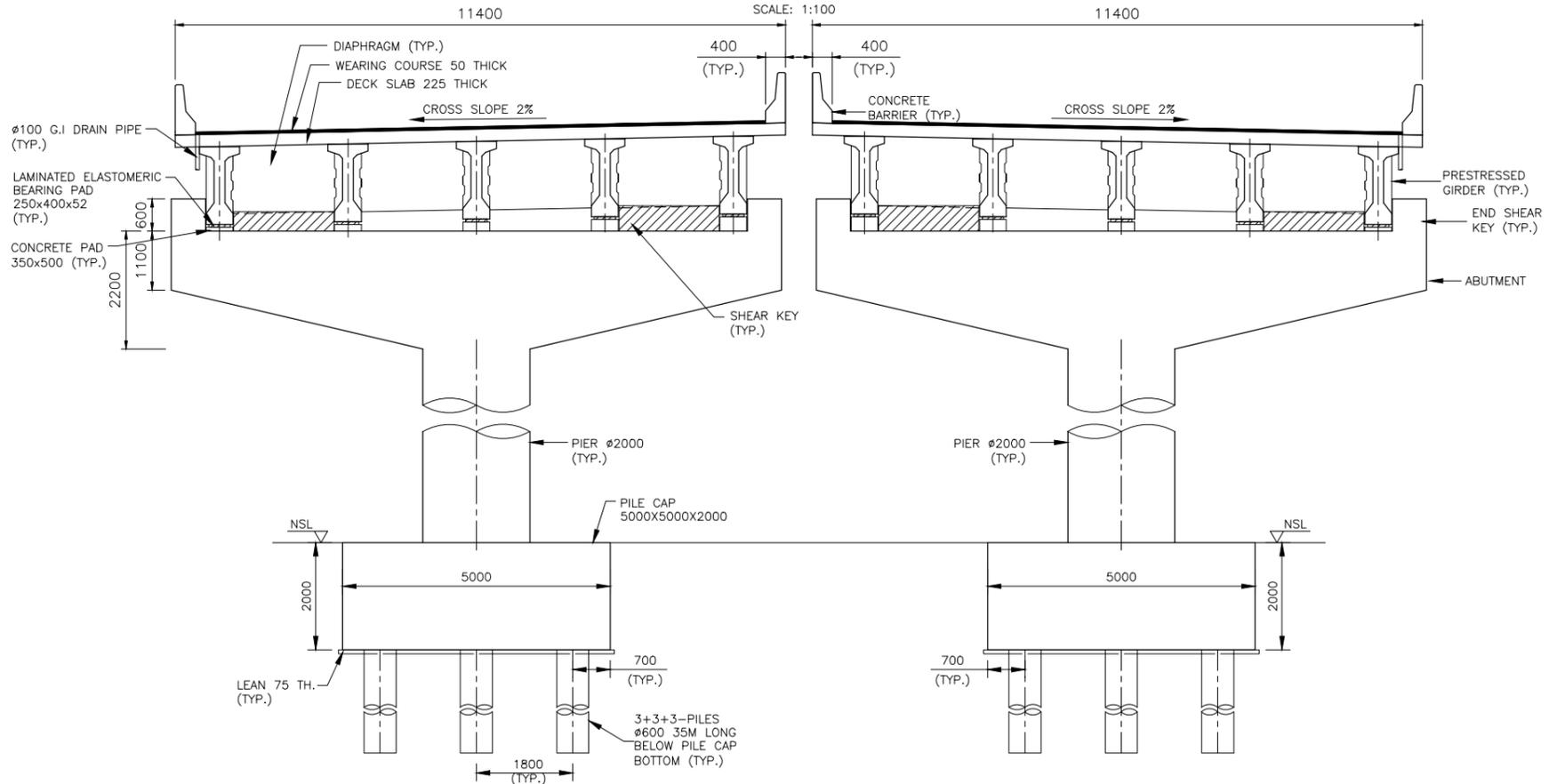


SHEET 02 OF 03

CLIENT COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB	CONSULTANT NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04			DRAWN	RASHID AZIZ	PROJECT TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA	GENERAL ARRANGEMENT ELEVATION BRIDGE AT CH. 27+800		SCALE
		03			SUBMITTED			NOVEMBER 2020	DRAWING No.	1:320
		02			RECOMMENDED			SA-413/102/PD/P1G1001A	REV.	0
		01			CHD./VER.					
					APPROVED					



SECTION B-B
SCALE: 1:100



SECTION B'-B'
SCALE: 1:100

CLIENT

COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB

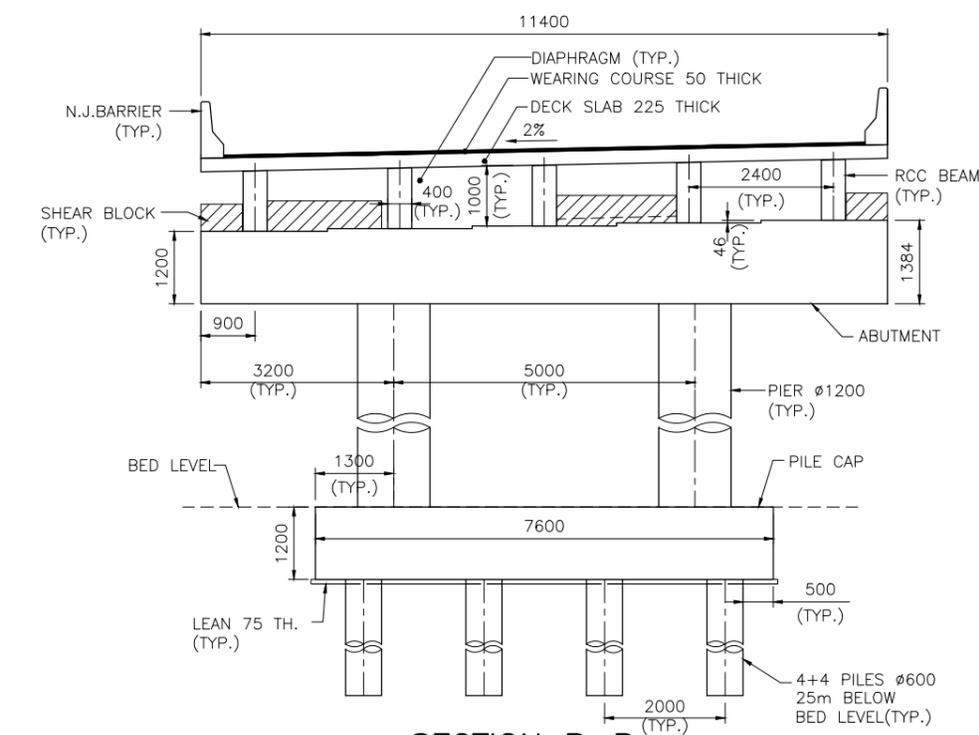
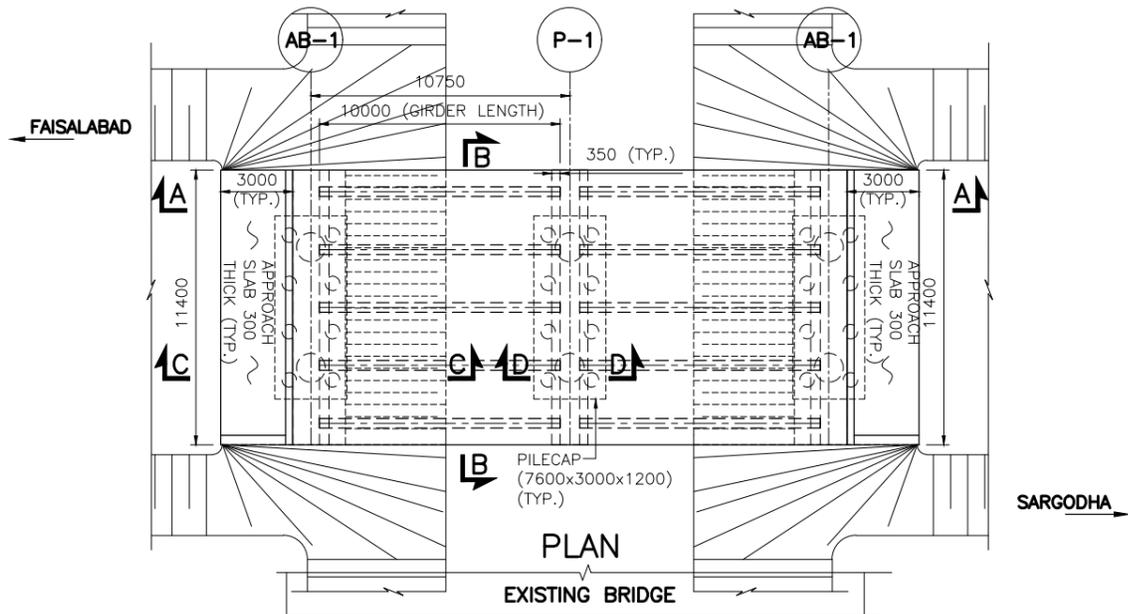
CONSULTANT

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
 HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

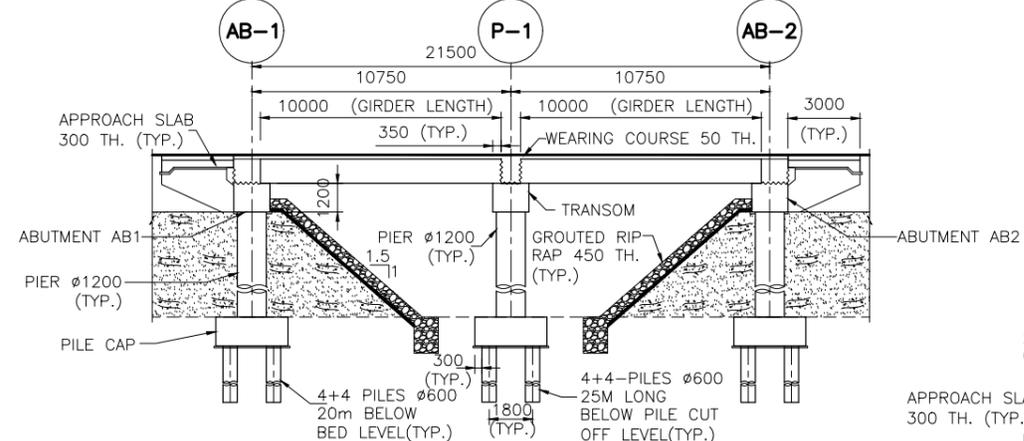
04				DRAWN	RASHID AZIZ
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
				APPROVED	

PROJECT
TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA

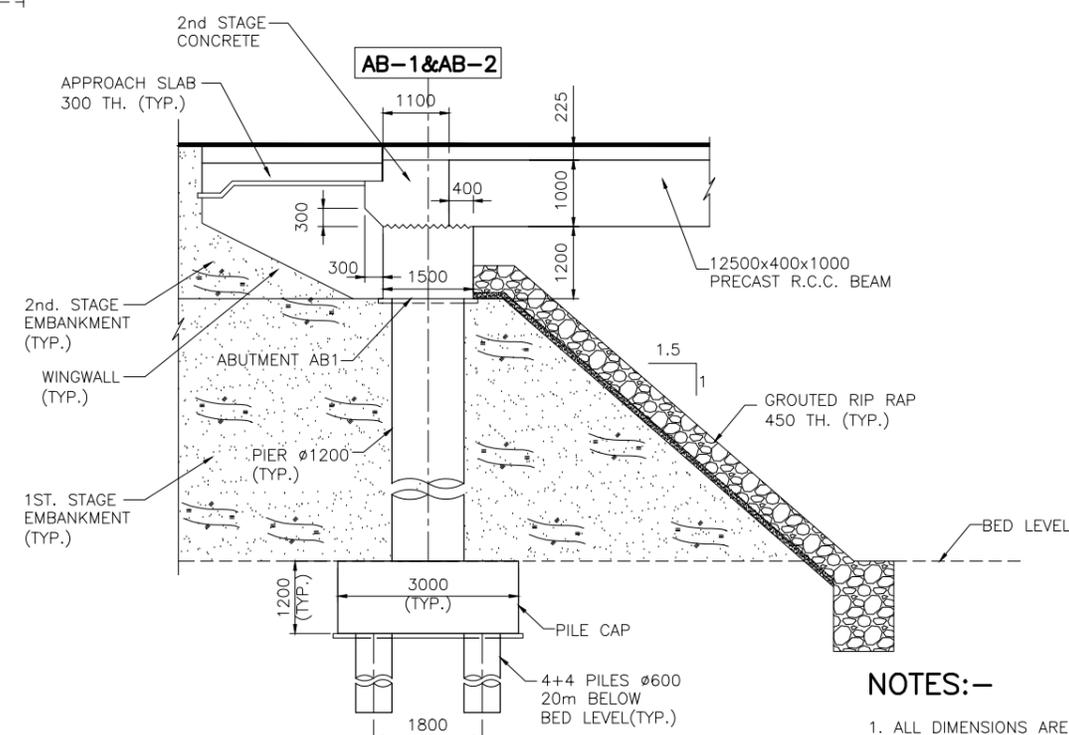
GENERAL ARRANGEMENT SECTION BRIDGE AT CH. 27+800		SCALE 1:100
DATE NOVEMBER 2020	DRAWING No. SA-413/102/PD/P1G1001B	REV. 0



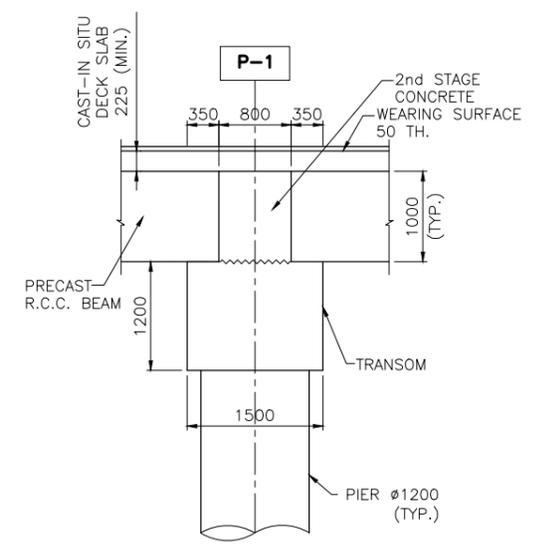
SECTION B-B
SCALE: 1:60



SECTION A-A



SECTION C-C
SCALE 1:60

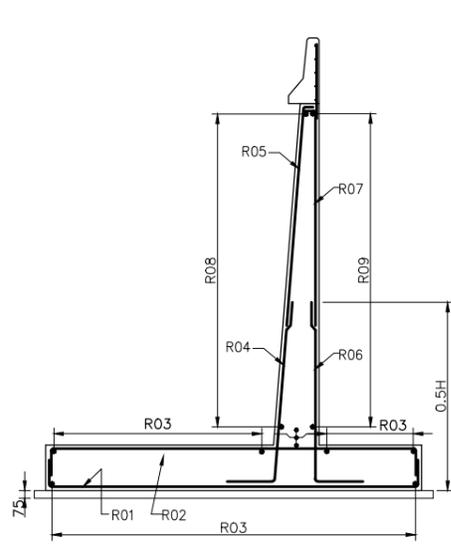


SECTION D-D
SCALE: 1:40

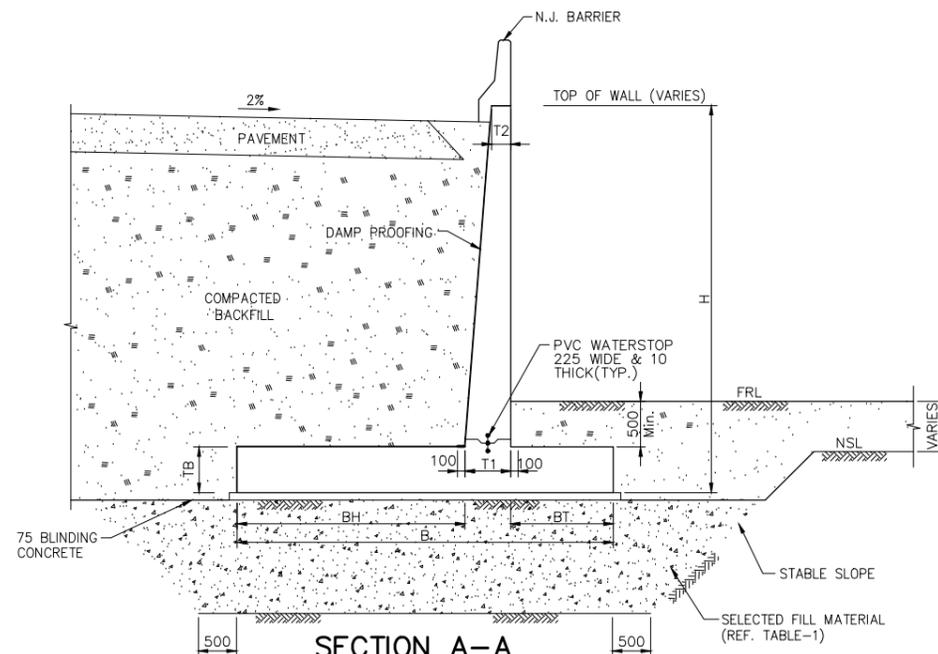
NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. FOR DETAILS OF CONCRETE & REINFORCEMENT SEE GENERAL NOTES DWG.# P1G001.
3. PILE LENGTH SHOWN ARE TENTATIVE AND SHALL BE FINALIZED AFTER DETAILED GEOTECHNICAL INVESTIGATIONS & PILE LOAD TEST REPORTS.

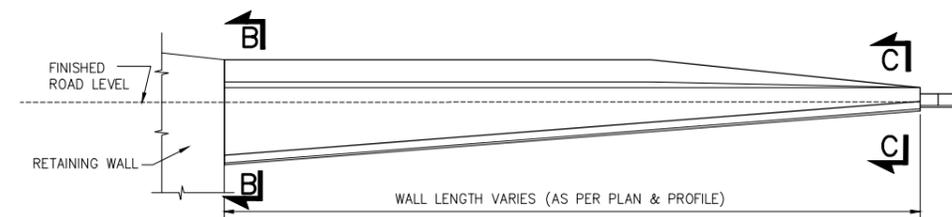
<p>COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB</p>	<p>CONSULTANT</p> <p>NESPAK NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p> <p>HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	04				DRAWN	IFTIKHAR	<p>PROJECT</p> <p>TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA</p>	<p>GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTION BRIDGE AT CH. 50+486</p>		SCALE	
		03				SUBMITTED				DATE	DRAWING No.	REV.
		02				RECOMMENDED				NOVEMBER 2020	SA-413/102/PD/P1G1101	0
		01				CHD./VER.						
						APPROVED						



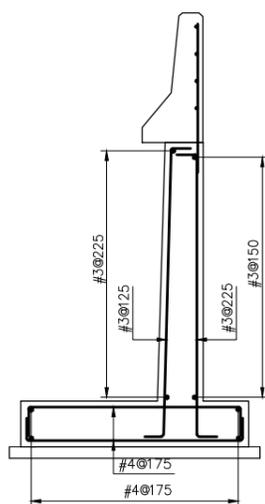
SECTION A-A
(REINFORCEMENT)
SCALE 1:50



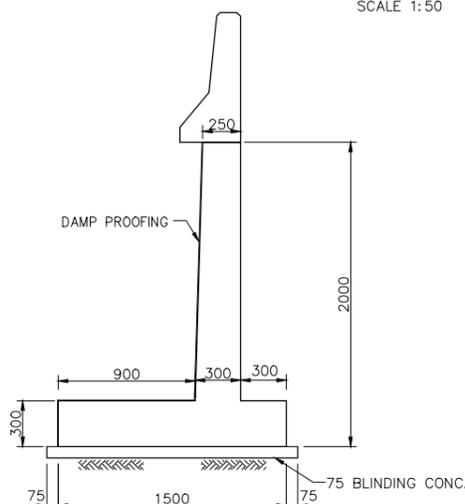
SECTION A-A
(CONCRETE OUTLINE)
SCALE 1:50



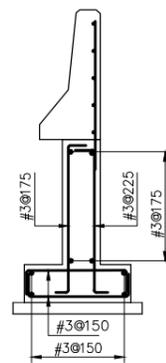
TOE WALL DETAIL-B



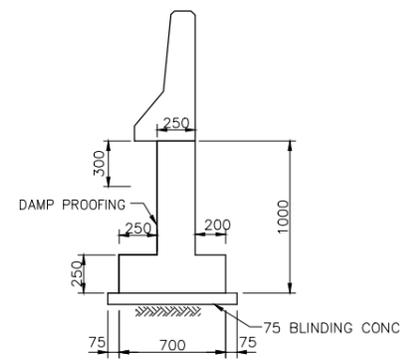
SECTION B-B
(REINFORCEMENT)
SCALE 1:25



SECTION B-B
(CONCRETE OUTLINE)
SCALE 1:25



SECTION C-C
(REINFORCEMENT)
SCALE 1:25



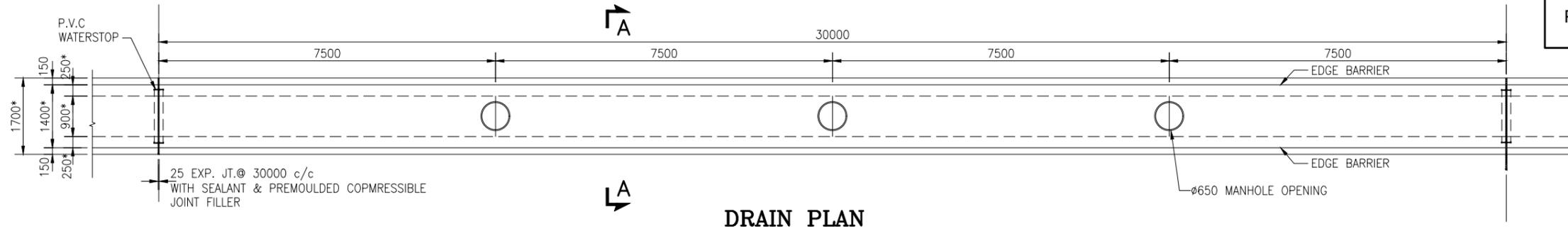
SECTION C-C
(CONCRETE OUTLINE)
SCALE 1:25

TABLE-1: SCHEDULE OF RETAINING WALLS

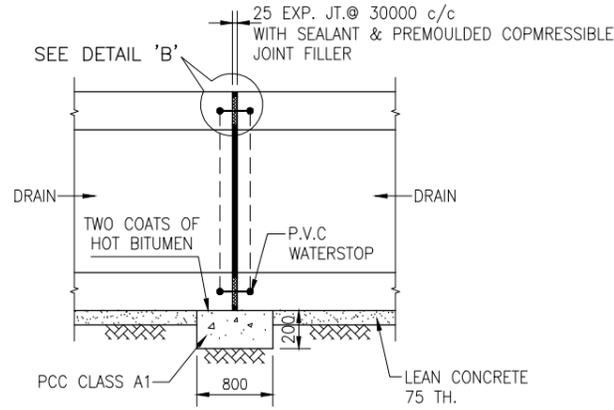
SR. NO.	WALL DESCRIPTION	DIMENSIONS							REINFORCEMENT									DEPTH OF SELECT FILL*
		H	B	BH	BT	TB1	T1	T2	R01	R02	R03	R04	R05	R06	R07	R08	R09	
01	"RETAINING WALL AT RAMP OF BRIDGES"	8500	6200	3700	1700	800	800	250	#6@125	#6@125	#4@100	#8@125	#8@250	#4@175	#4@350	#4@200	#6@300	2.0m
02		8000	5800	3500	1600	700	700	250										
03		7500	5500	3300	1500	700	700	250	#6@150	#6@150	#6@250	#8@150	#8@300	#3@100	#3@200	#4@250	#4@150	2.0m
04		7000	5000	3000	1400	600	600	250										
05		6500	4700	2800	1300	600	600	250	#6@175	#6@175	#6@275	#6@100	#6@200	#3@125	#3@250	#3@150	#4@175	1.5m
06		6000	4400	2700	1200	500	500	250										
07		5500	4000	2400	1100	500	500	250	#4@100	#4@100	#4@125	#6@125	#6@250	#3@150	#3@300	#3@175	#4@175	1.5m
08		5000	3600	2200	1000	400	400	250										
09		4000	3000	1950	700	350	350	250	#4@125	#4@125	#4@150	#6@200	#4@200	#3@175	#3@300	#3@175	#3@125	1.0m
10		3000	2200	1400	500	300	350	250										
11		2000	1500	800	400	300	300	250	#3@125	#3@125	#3@100	#3@125	#3@125	#3@200	#3@200	#3@250	#3@150	1.0m

NOTES: -

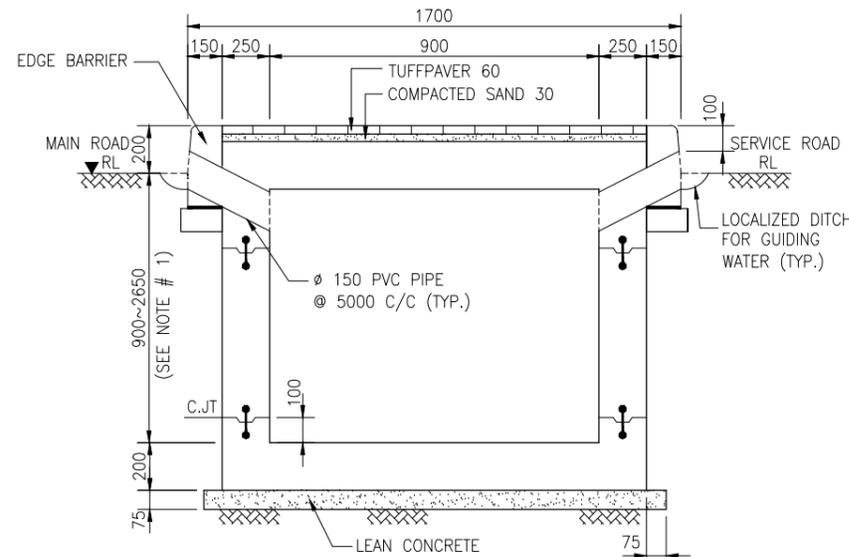
- FOR GENERAL NOTES REFER DRAWING NO. P1G001.
- READ THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
- ALL FACES OF CONCRETE IN CONTACT WITH SOIL MUST BE DAMPED PROOF WITH TWO COATS OF BITUMINOUS MATERIAL.
- DEPTH OF SELECT FILL SHALL BE DESIGNED AS PER SITE BEARING CAPACITY REQUIREMENTS. FOR TENTATIVE DEPTHS OF SELECT FILL REFER TABLE-1.



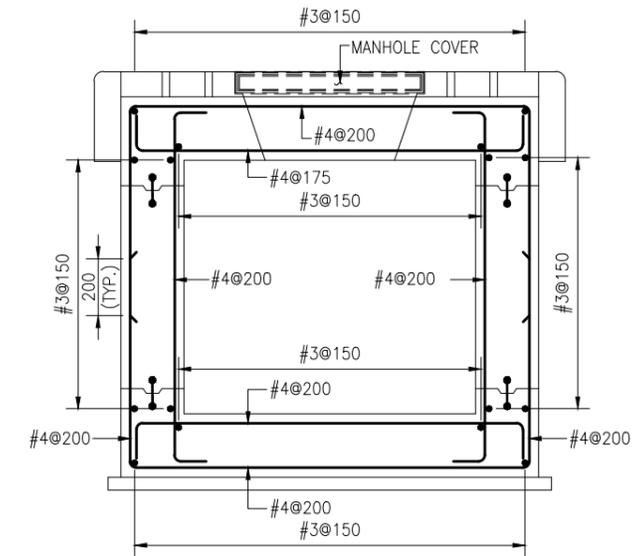
DRAIN PLAN



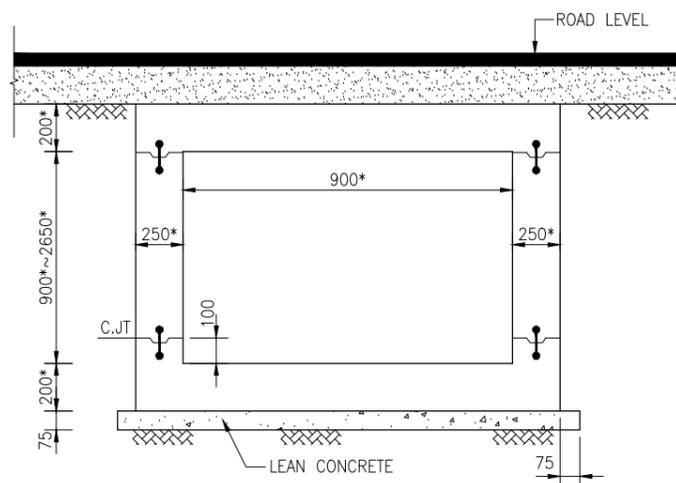
EXPANSION JOINT DETAIL
SCALE 1:30



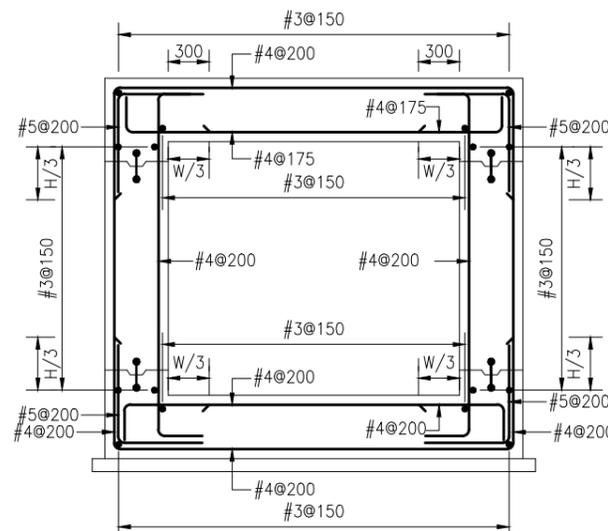
SECTION A-A UNDER WALKWAY
(CONCRETE OUTLINE)



TYPICAL SECTION OF DRAIN UNDER WALKWAY
(REINFORCEMENT DETAIL)



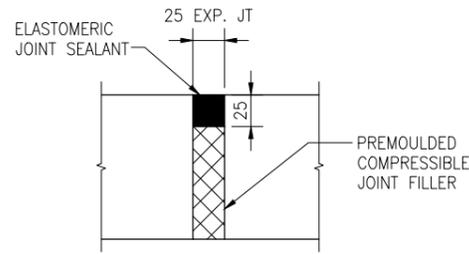
SECTION A-A UNDER ROADWAY
(CONCRETE OUTLINE)



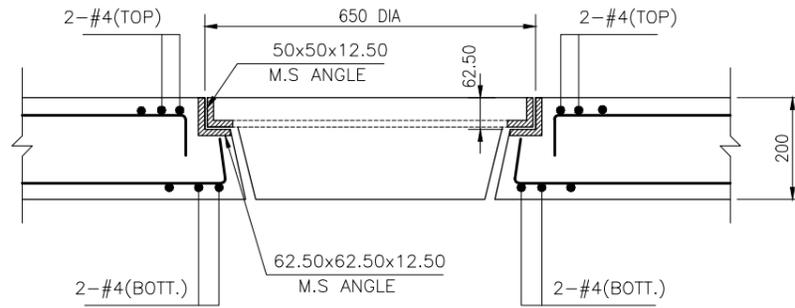
TYPICAL SECTION OF DRAIN UNDER ROADWAY
(REINFORCEMENT DETAIL)

NOTES:

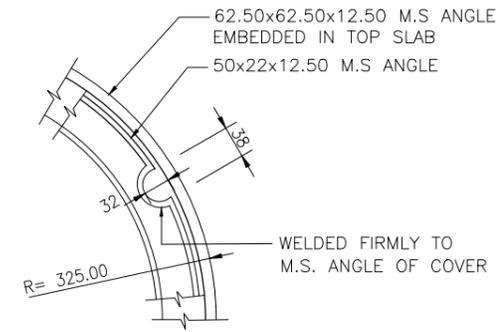
1. HEIGHT OF DRAIN MUST BE ADJUSTED AS PER SITE CONDITION.
2. FOR LOCATION OF DRAIN REFER PLAN & PROFILE DRAWINGS.
3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
4. READ THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
5. ALL FACES OF CONCRETE IN CONTACT WITH SOIL MUST BE DAMPEP PROOF WITH TWO COATS OF BITUMINOUS MATERIAL.
6. FOR ANY CHANGE IN DEPTH OR HEIGHT OF THE DRAIN SPECIFIED HERE CONSULT THE DESIGN OFFICE FOR THE REQUIRED DESIGN.



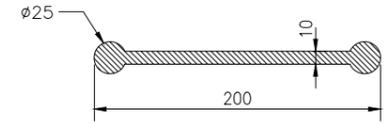
DETAIL 'B'
SCALE 1:10



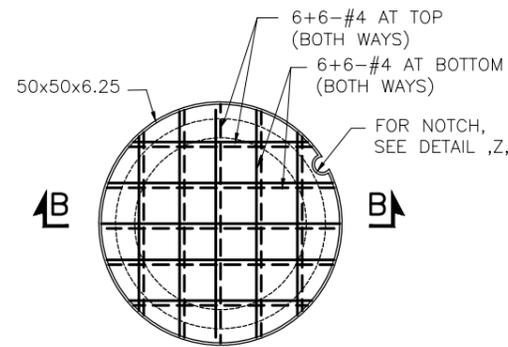
SECTION A-A



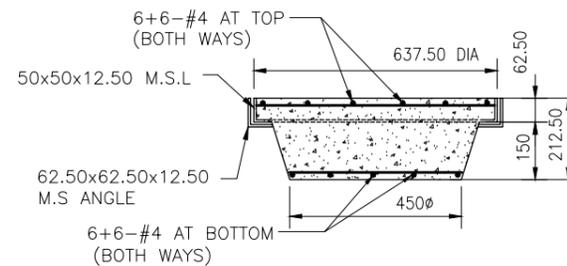
DETAIL-Z



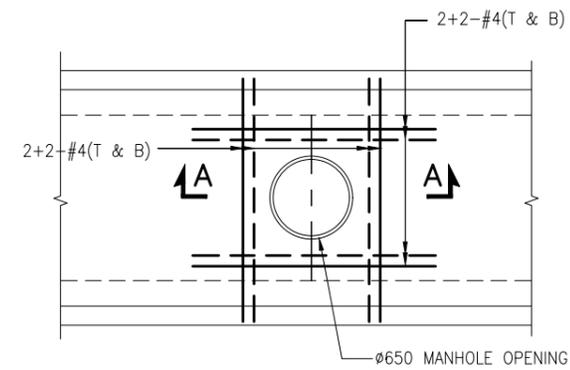
DETAIL OF WATERSTOP
SCALE 1:20



MANHOLE COVER PLAN



SECTION B-B



**TOP SLAB
MANHOLE OPENING DETAIL**

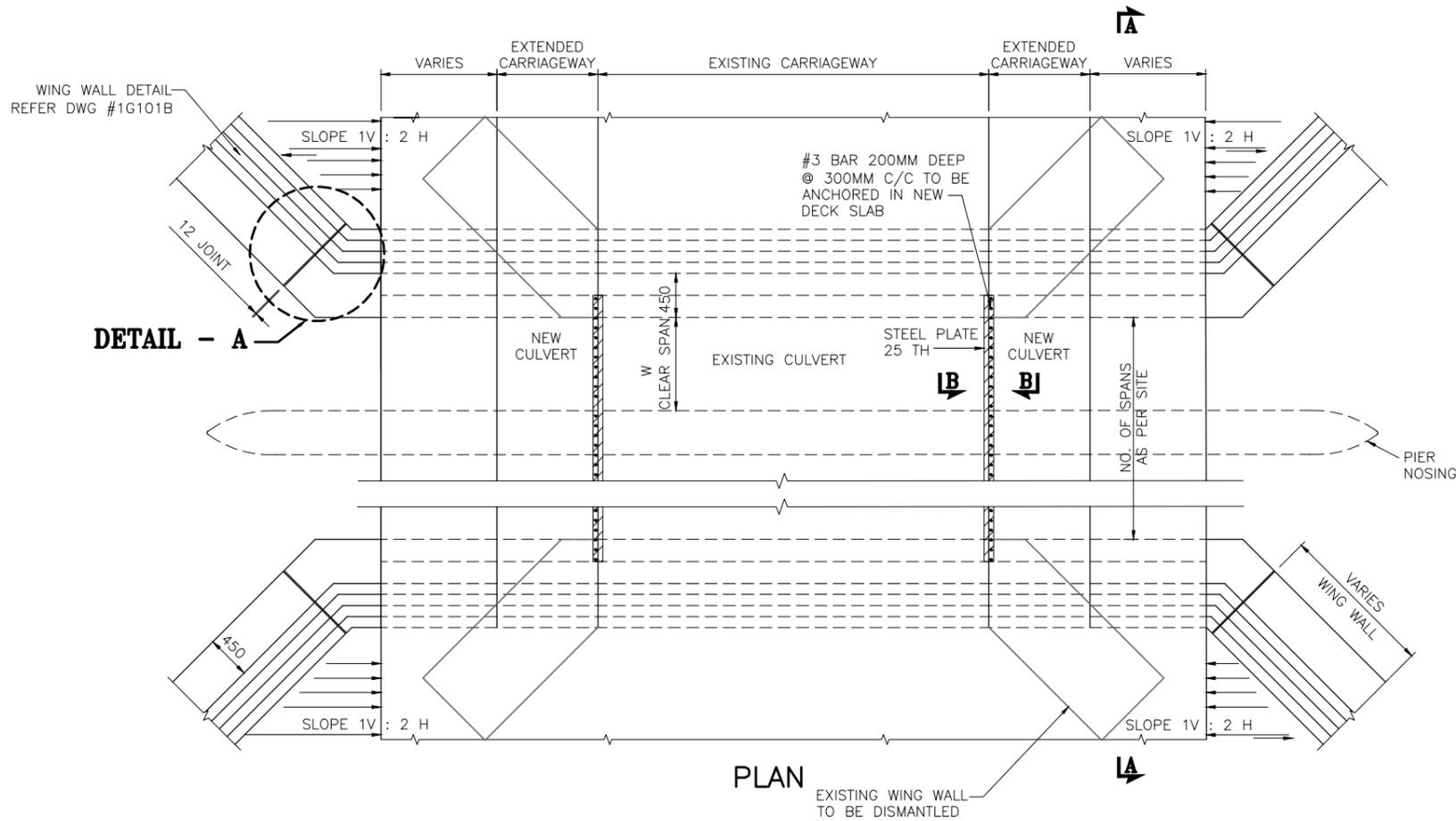
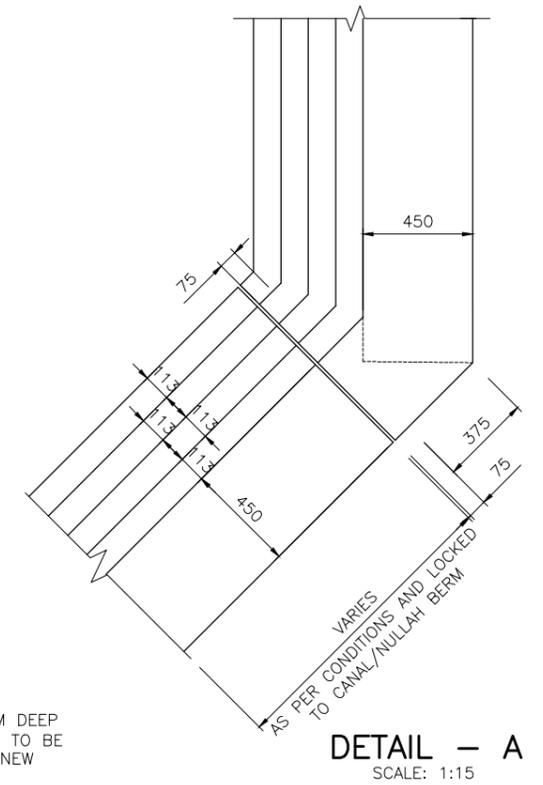
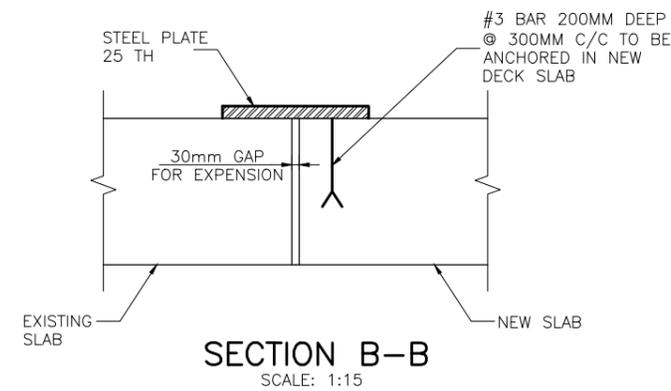


TABLE "1"

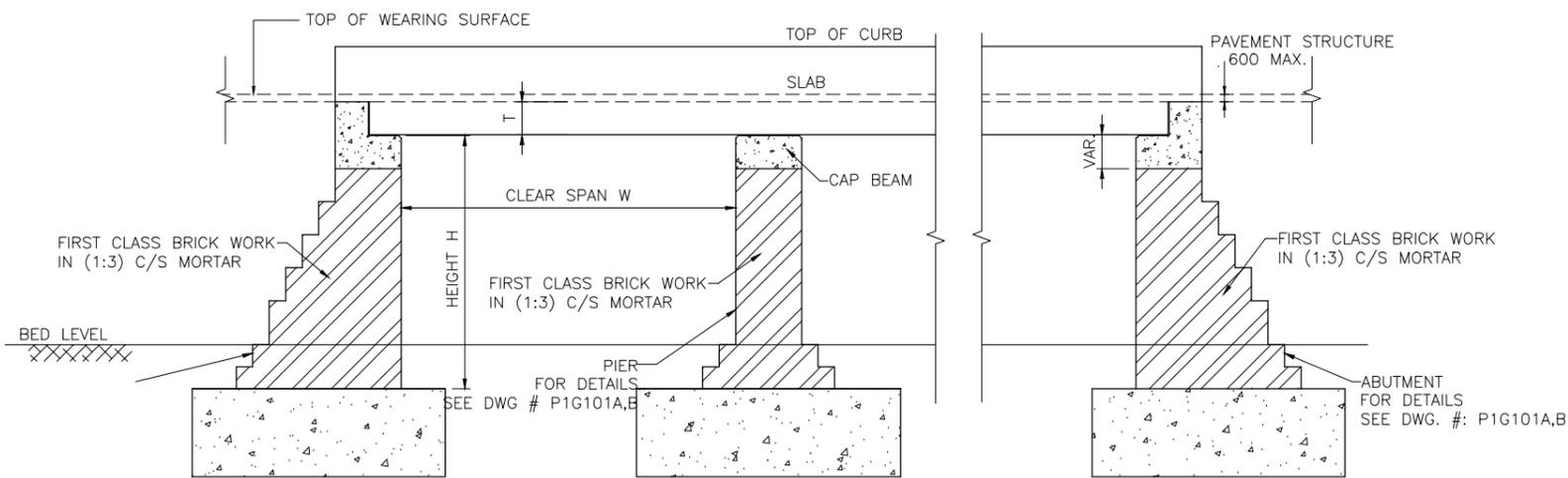
RCC SLAB CULVERT DIMENSIONS		
SPAN (mm)	HEIGHT (mm)	SLAB (mm)
W	H	T
1000	1000	300
1500	1500	350
2000	2000	400
2500	2500	400
3000	2000	400
4000	2000	450



DETAIL - A
SCALE: 1:15



SECTION B-B
SCALE: 1:15



SECTION A-A
SCALE: 1:25

1. NOTES:-

- ALL MASONRY SHALL BE EXECUTED WITH FIRST CLASS APPROVED BRICKS AND SHALL BE LAID IN (1 : 3) CEMENT SAND MORTAR.
- ALL BRICKS SHALL BE SOUND, HARD, WELL BURNT AND OF UNIFORM SIZE, COLOUR AND TEXTURE. DIMENSIONAL VARIATION IN SIZES SHALL NOT EXCEED 3mm.
- ALL BRICK WORK SHALL BE ERECTED PLUMB AND TRUE TO LINE AND LEVEL. THE MAXIMUM VARIATION IN ANY STOREY HEIGHT OR ANY LENGTH OF WALL SHALL BE 3mm IN 3000, OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.
- TESTING OF COMPRESSIVE STRENGTH OF MASONRY SHALL BE DONE, IF SO DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH ASTM C67 OR PAKISTAN STANDARD-208.
- BRICK SHALL BE LAID "FROG" UPWARD WITH MORTAR JOINT AND IN ENGLISH AND FLEMISH BOND OR AS DIRECTED BY THE ENGINEER.
- MORTAR USED IN MASONRY CONSTRUCTION SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF NOT LESS THAN 12.5Mpa (1800Psi) AND SHALL CONFORM TO ASTM C270, COMPRESSIVE STRENGTH OF MASONRY AT 28 DAYS SHALL NOT BE LESS THAN 8Mpa (1150 psi.)
- PCC PAD UNDER BRICK PEIR AND ABUTMENT SHALL HAVE MINIMUM CYLINDER STRENGTH OF 1500 Psi.
- REINFORCING STEEL SHALL BE DEFORMED ROUND BARS OF INTERMEDIATE GRADE (GRADE 60) CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4,200 Kg/Sq.Cm (60,000 Psi).

CLIENT
COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB

CONSULTANT
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

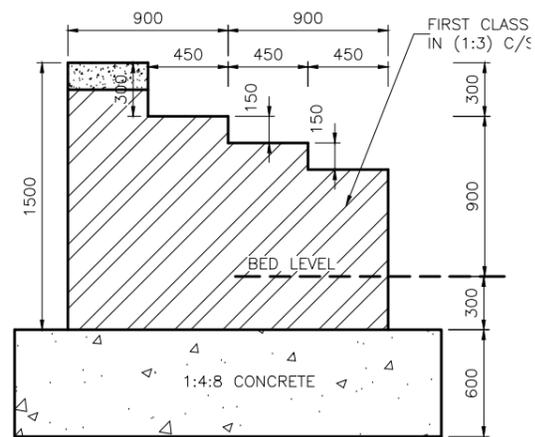
04			DRAWN	RASHID AZIZ
03			SUBMITTED	
02			RECOMMENDED	
01			CHD./VER.	
			APPROVED	

PROJECT
TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD-CHINIOT-SARGODHA ROAD

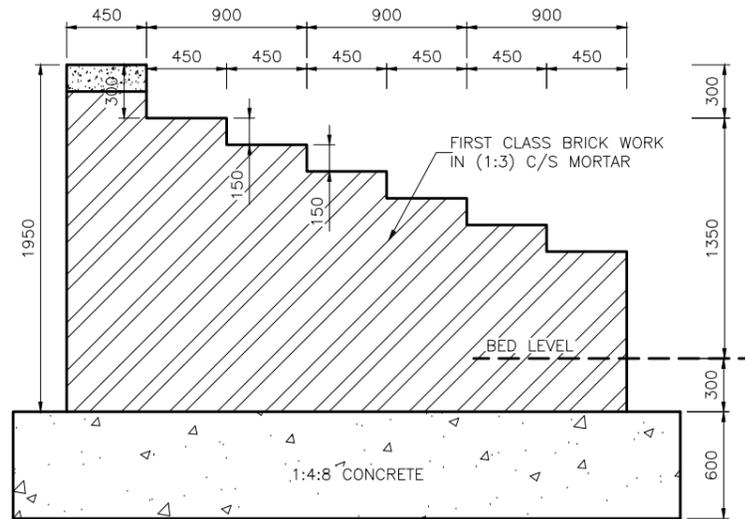
GENERAL ARRANGEMENT & CROSS SECTION TYPICAL R.C.C. SLAB CULVERT (MULTIPLE SPAN) (NEW CULVERT)

DATE: NOVEMBER 2020
DRAWING No. SA-413102/PD/P1G101

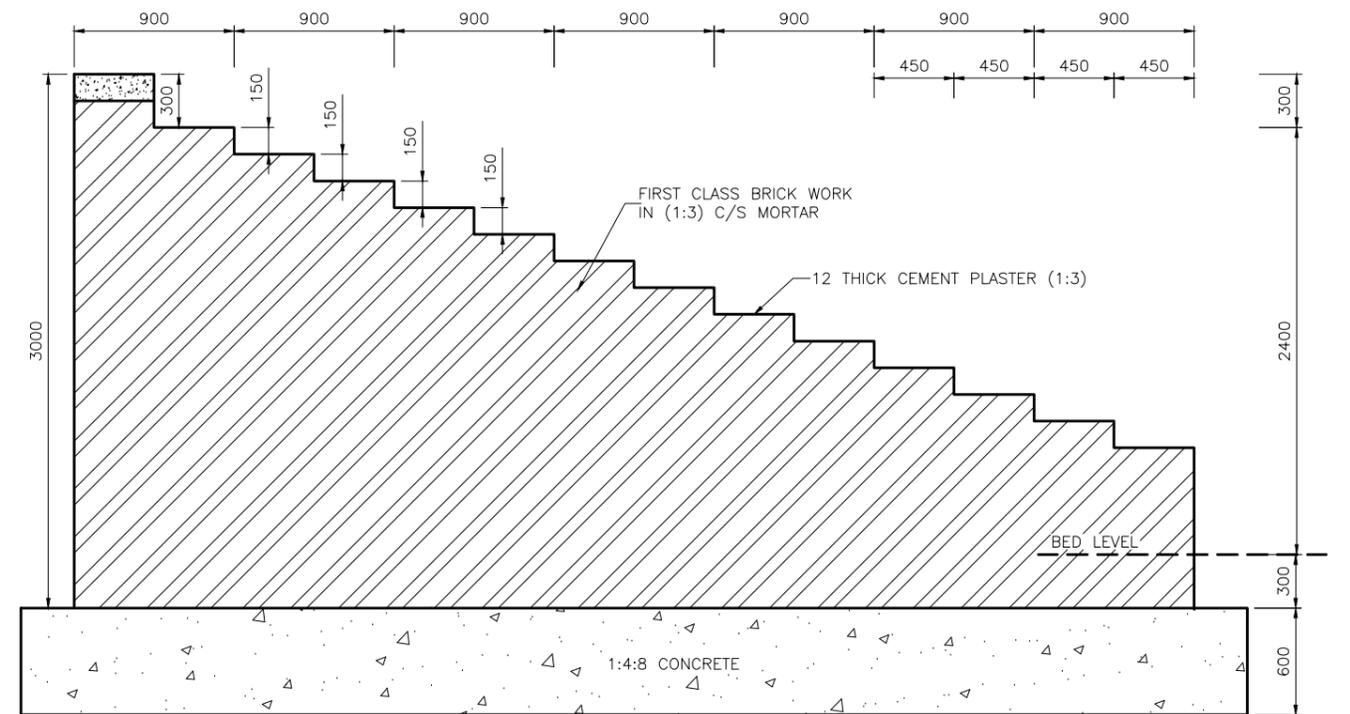
SCALE: 1:100
REV. 0



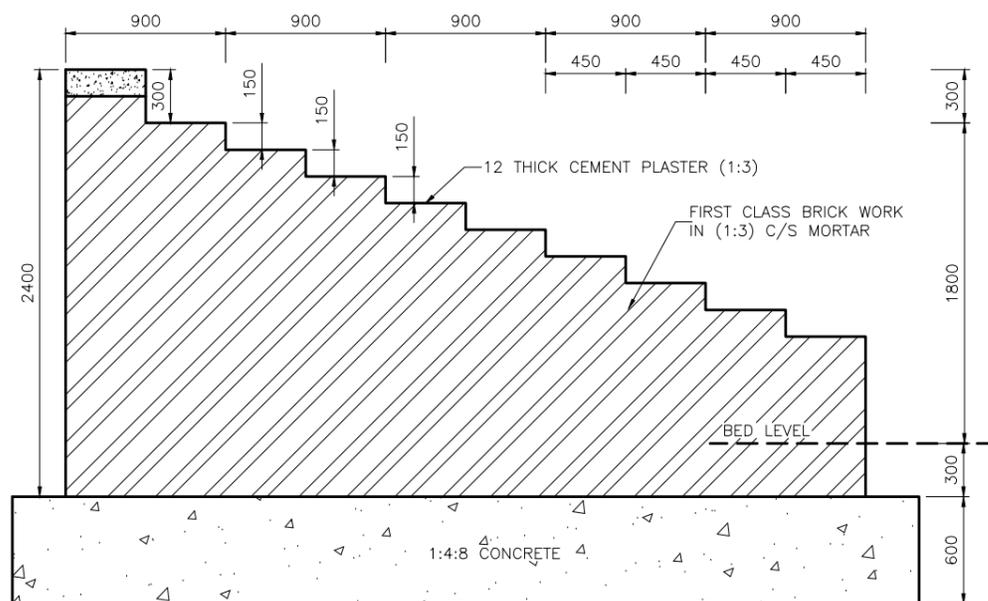
WING WALL
(CLEAR HEIGHT 900mm)



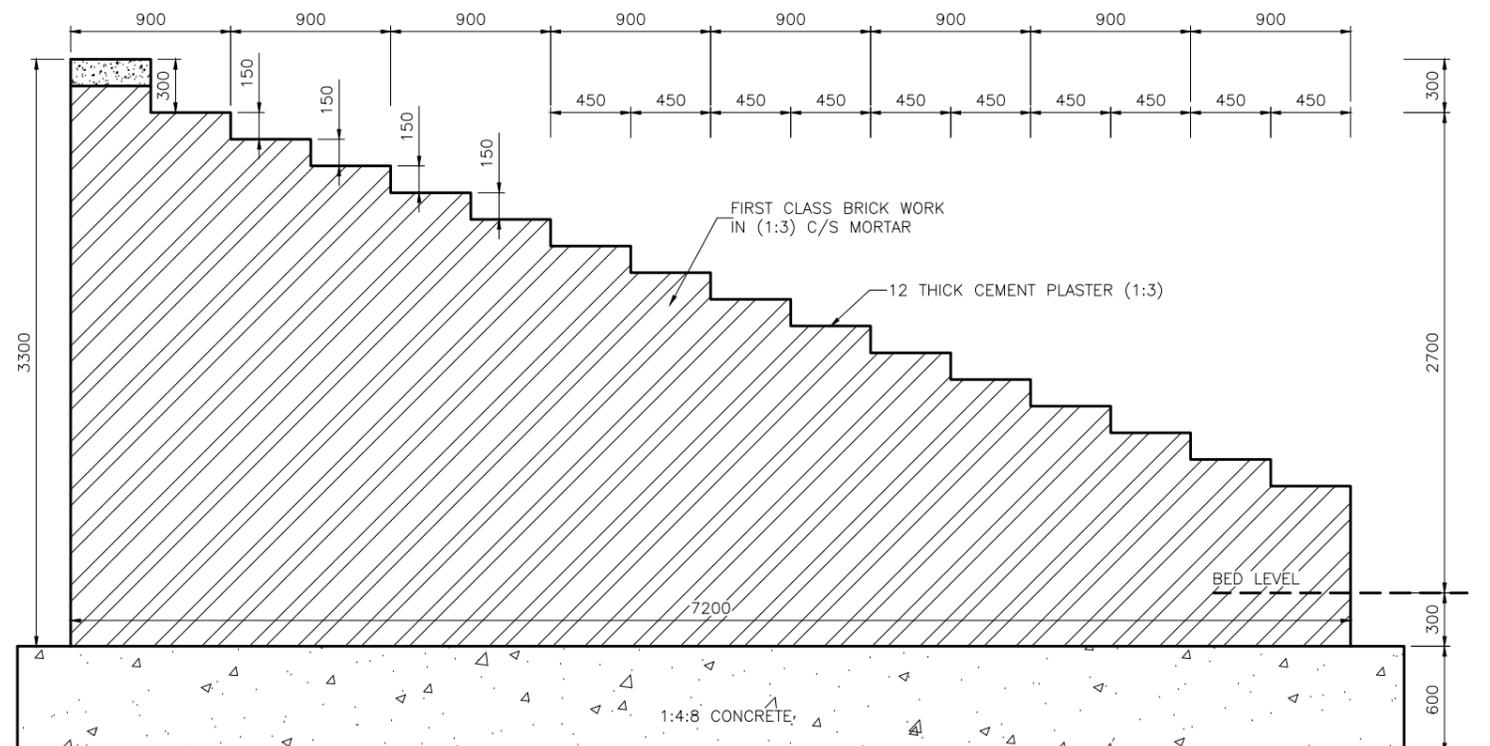
WING WALL
(CLEAR HEIGHT 1350mm)



WING WALL
(CLEAR HEIGHT 2400mm)

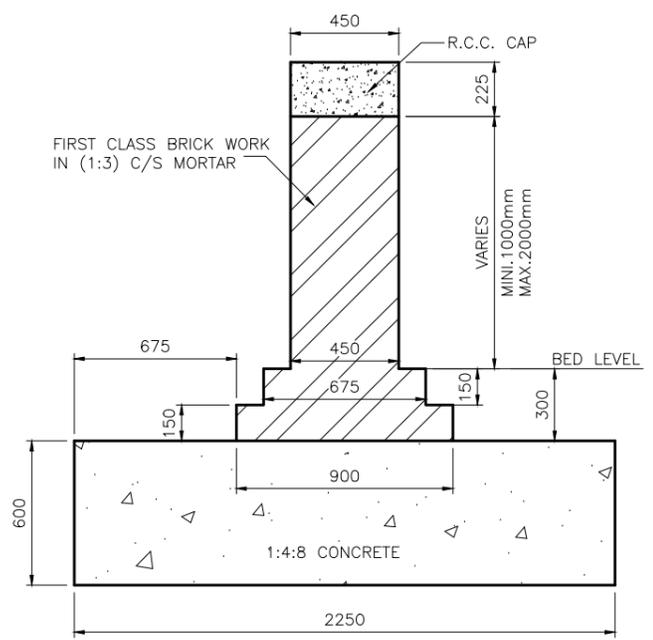


WING WALL
(CLEAR HEIGHT 1800mm)

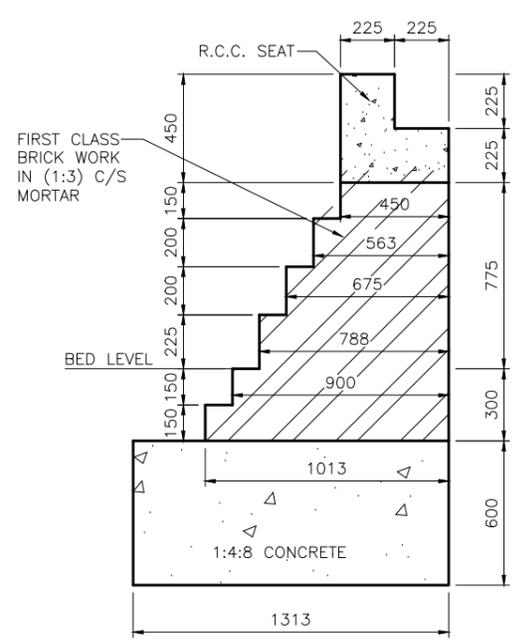


WING WALL
(CLEAR HEIGHT 2700mm)

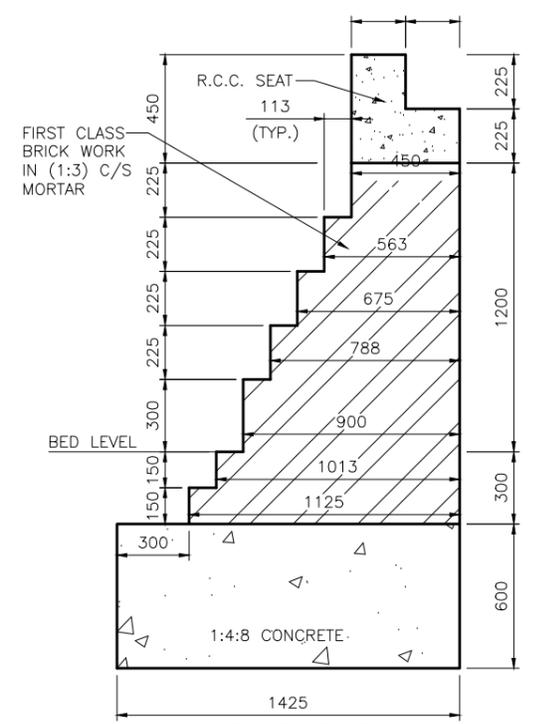
CLIENT  COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04			DRAWN	RASHID AZIZ	PROJECT TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD-CHINIOT-SARGODHA ROAD	TYPICAL WING WALL DETAILS		SCALE	
		03			SUBMITTED						1:15
		02			RECOMMENDED				DATE	DRAWING No.	REV.
		01			CHD./VER.				NOVEMBER 2020	SA-413/102/PD/P1G201B	0
					APPROVED						



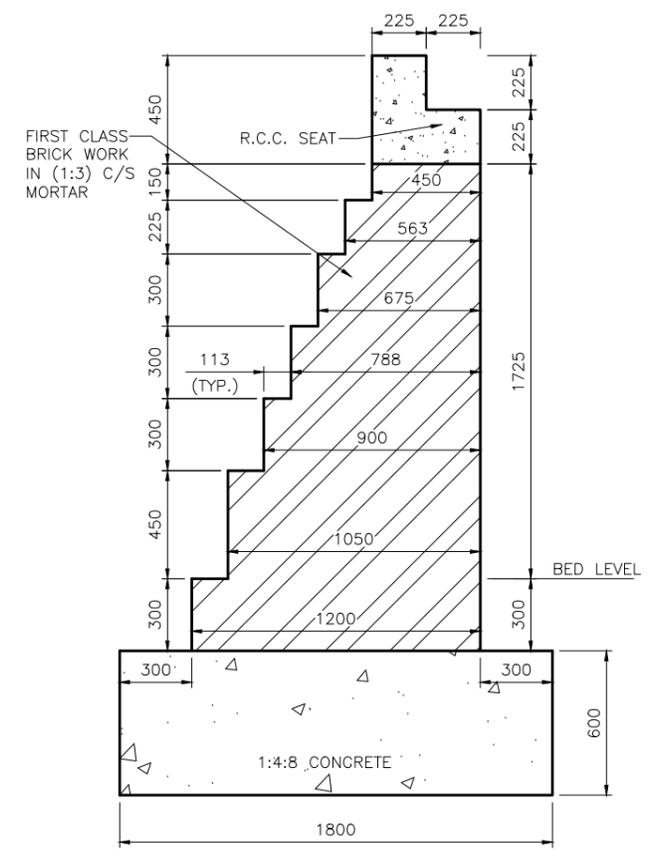
PIER
(CLEAR HEIGHT 1000mm~2000mm)



ABUTMENT
(CLEAR HEIGHT 1000mm)



ABUTMENT
(CLEAR HEIGHT 1500mm)



ABUTMENT
(CLEAR HEIGHT 2000mm)

CLIENT
COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB

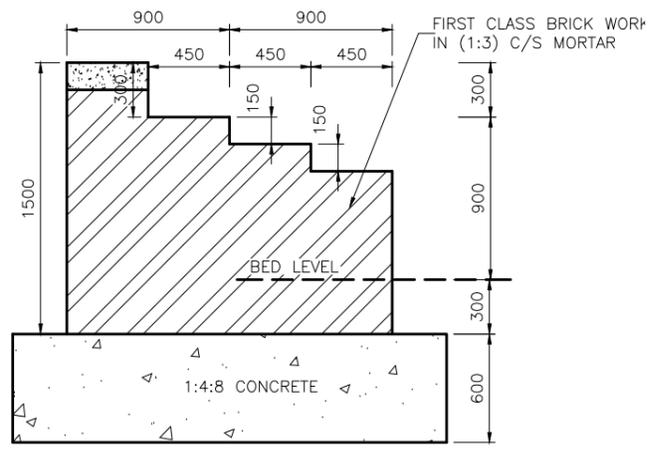
CONSULTANT
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
 HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				DRAWN	RASHID AZIZ
03				SUBMITTED	
02				RECOMMENDED	
01				CHD. VER.	
				APPROVED	

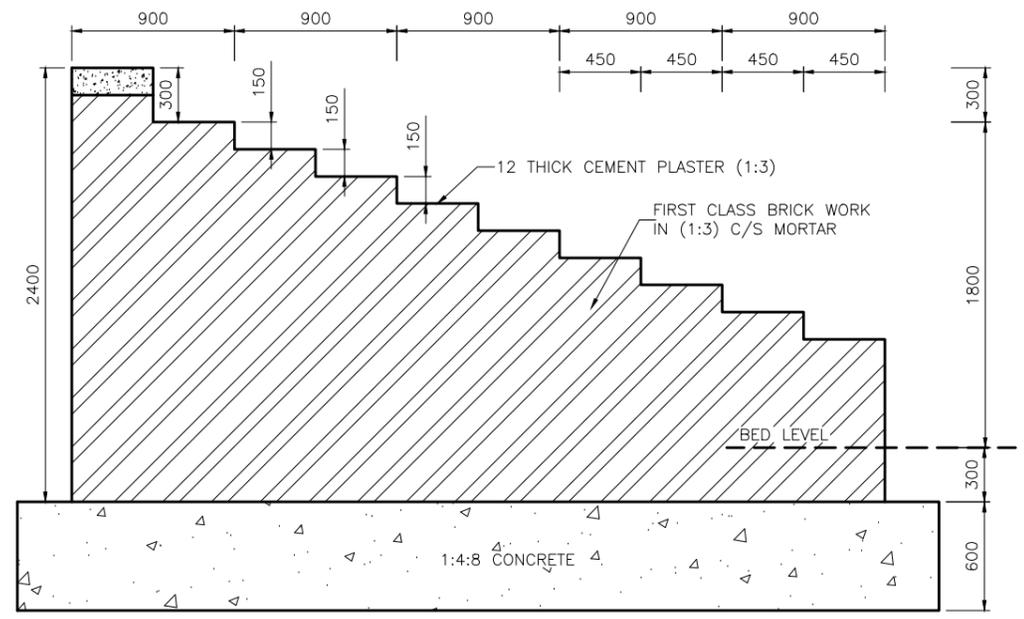
PROJECT
TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD-CHINIOT-SARGODHA ROAD

TYPICAL PIERS / ABUTMENT DETAILS
 DATE: NOVEMBER 2020
 DRAWING No. SA-413/102/PD/P1G101A

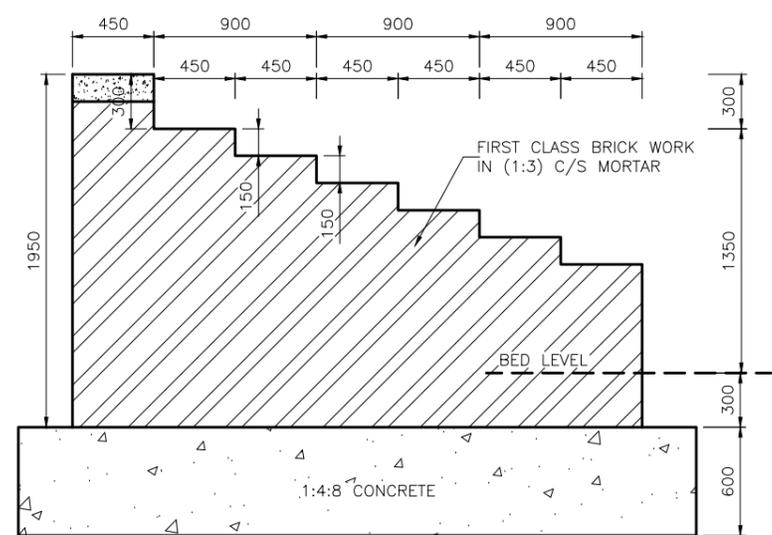
SCALE
 1:15
 REV.



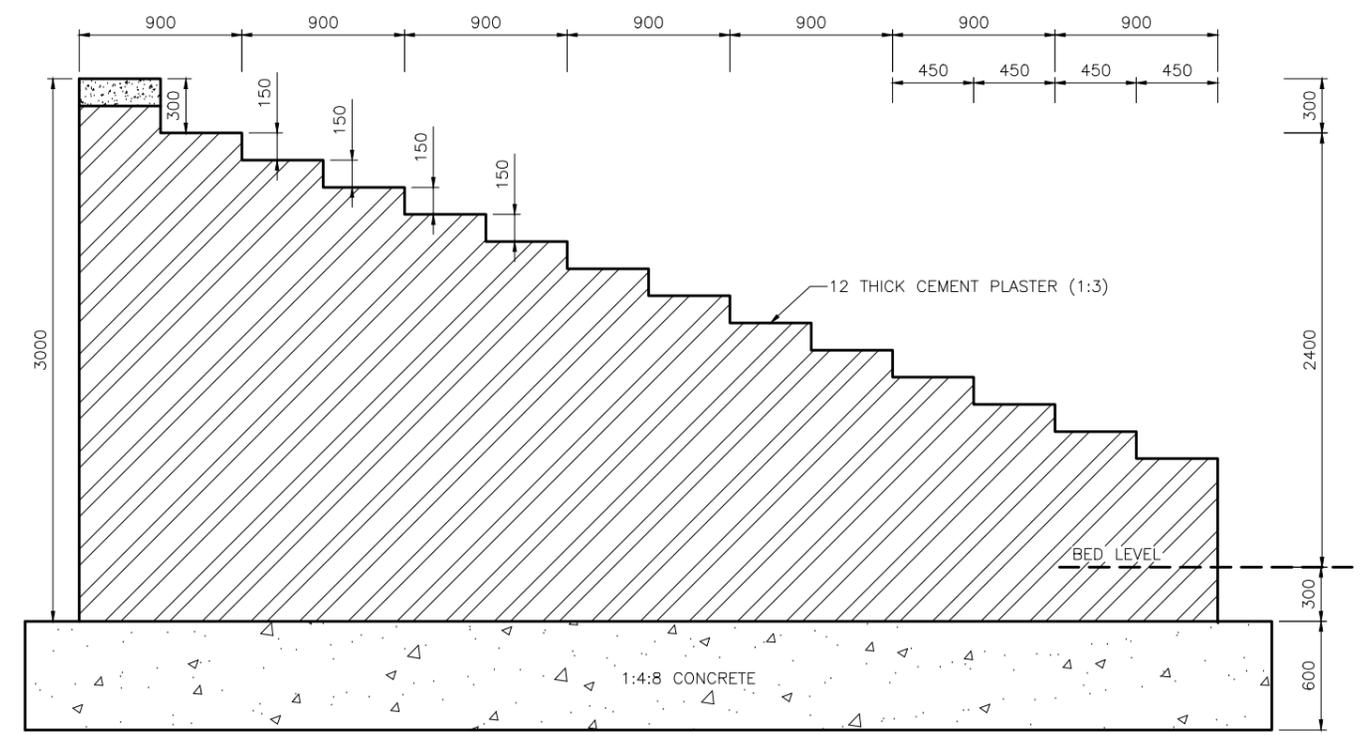
WING WALL
(CLEAR HEIGHT 900mm)



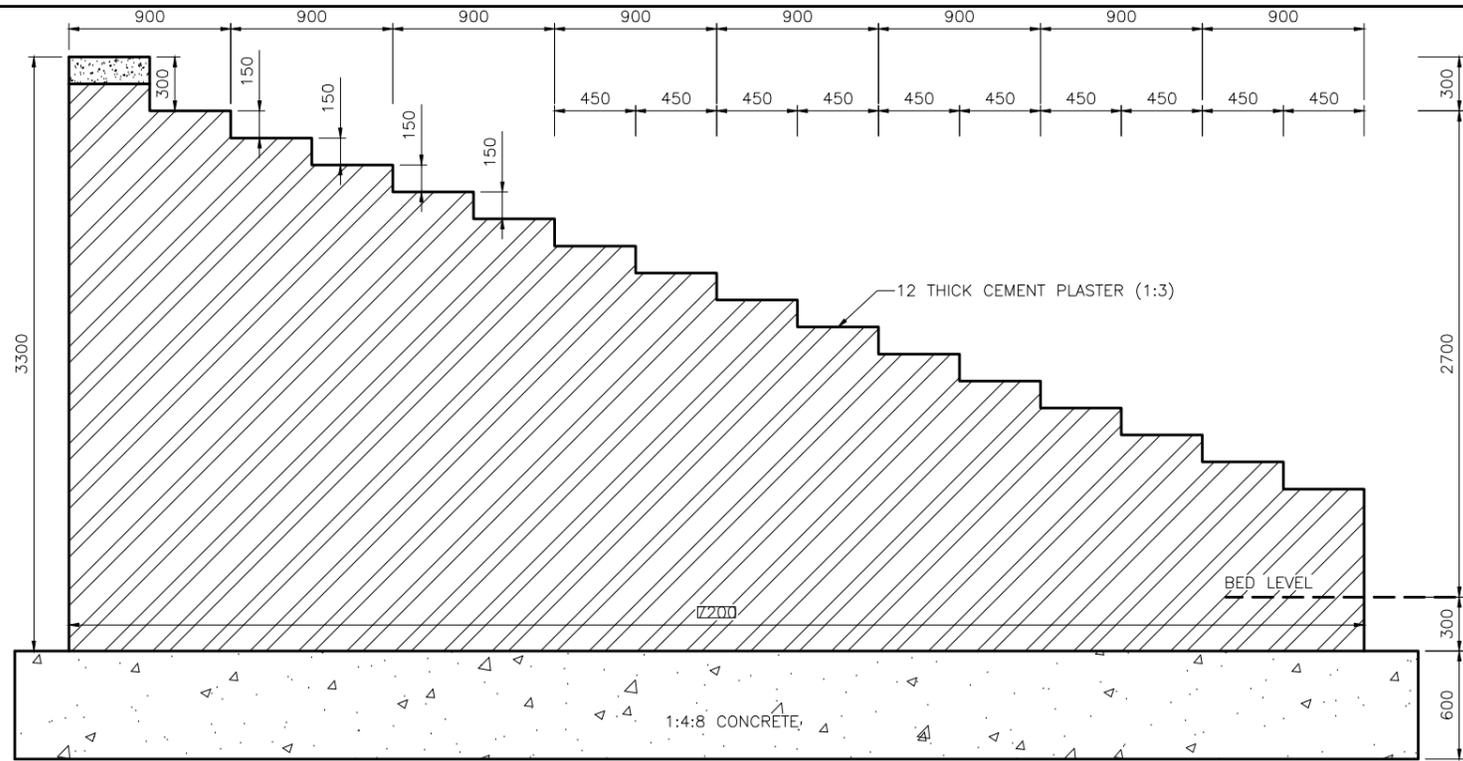
WING WALL
(CLEAR HEIGHT 1800mm)



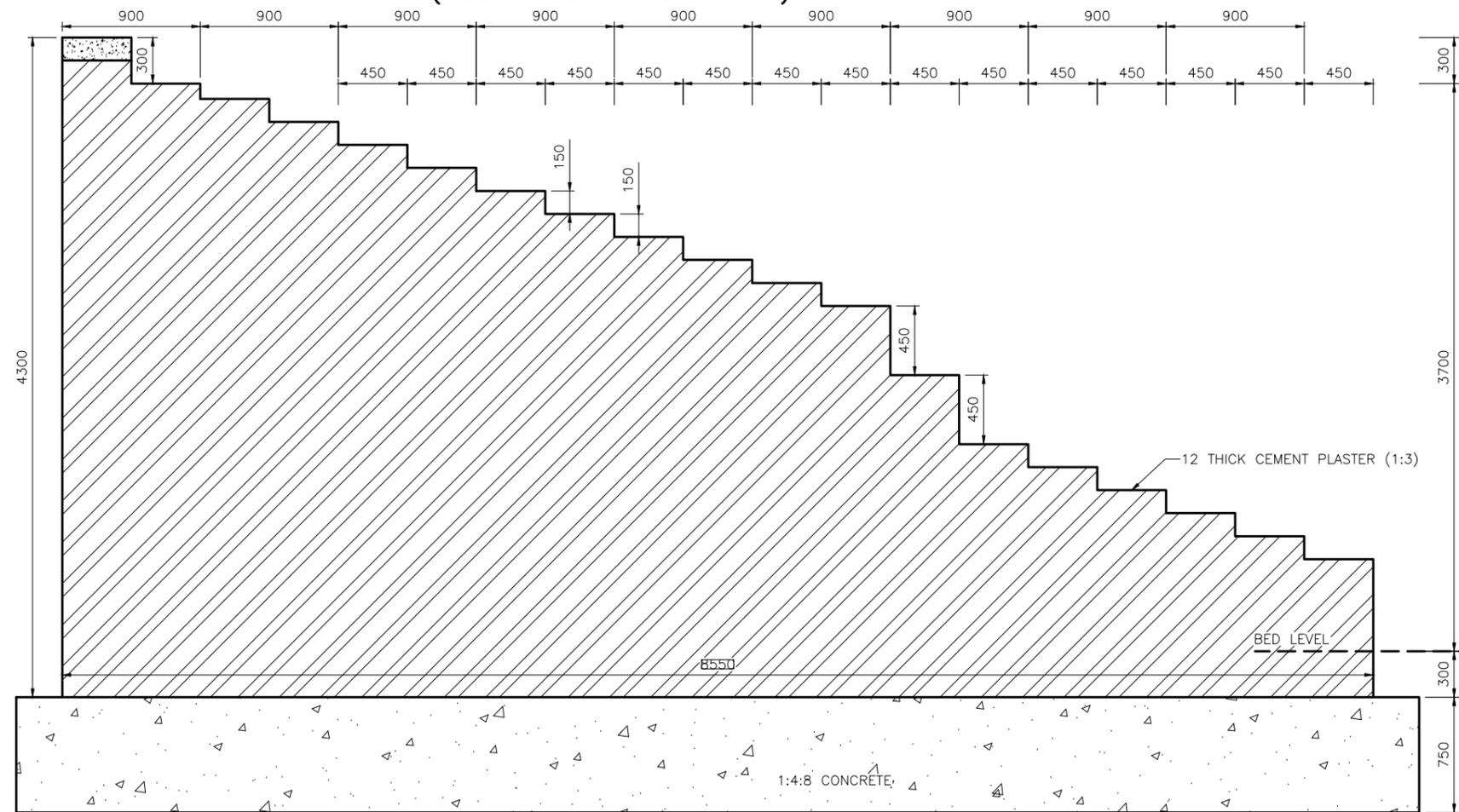
WING WALL
(CLEAR HEIGHT 1350mm)



WING WALL
(CLEAR HEIGHT 2400mm)



WING WALL
(CLEAR HEIGHT 2700mm)



WING WALL
(CLEAR HEIGHT 3700mm)

CLIENT
COMMUNICATION AND WORKS
DEPARTMENT (C&W) PUNJAB

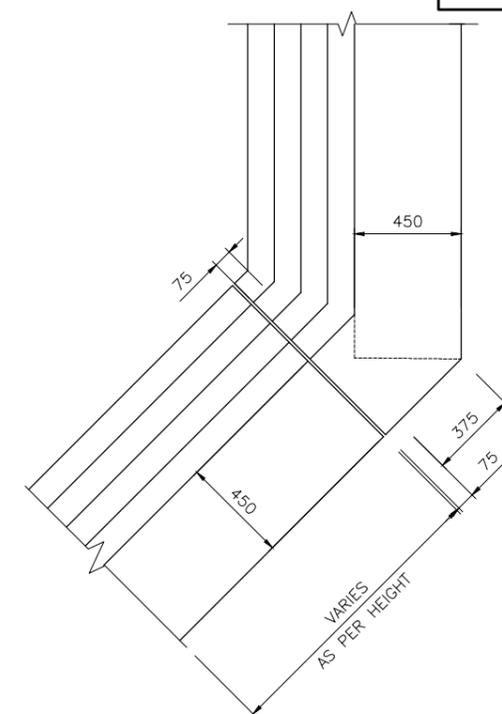
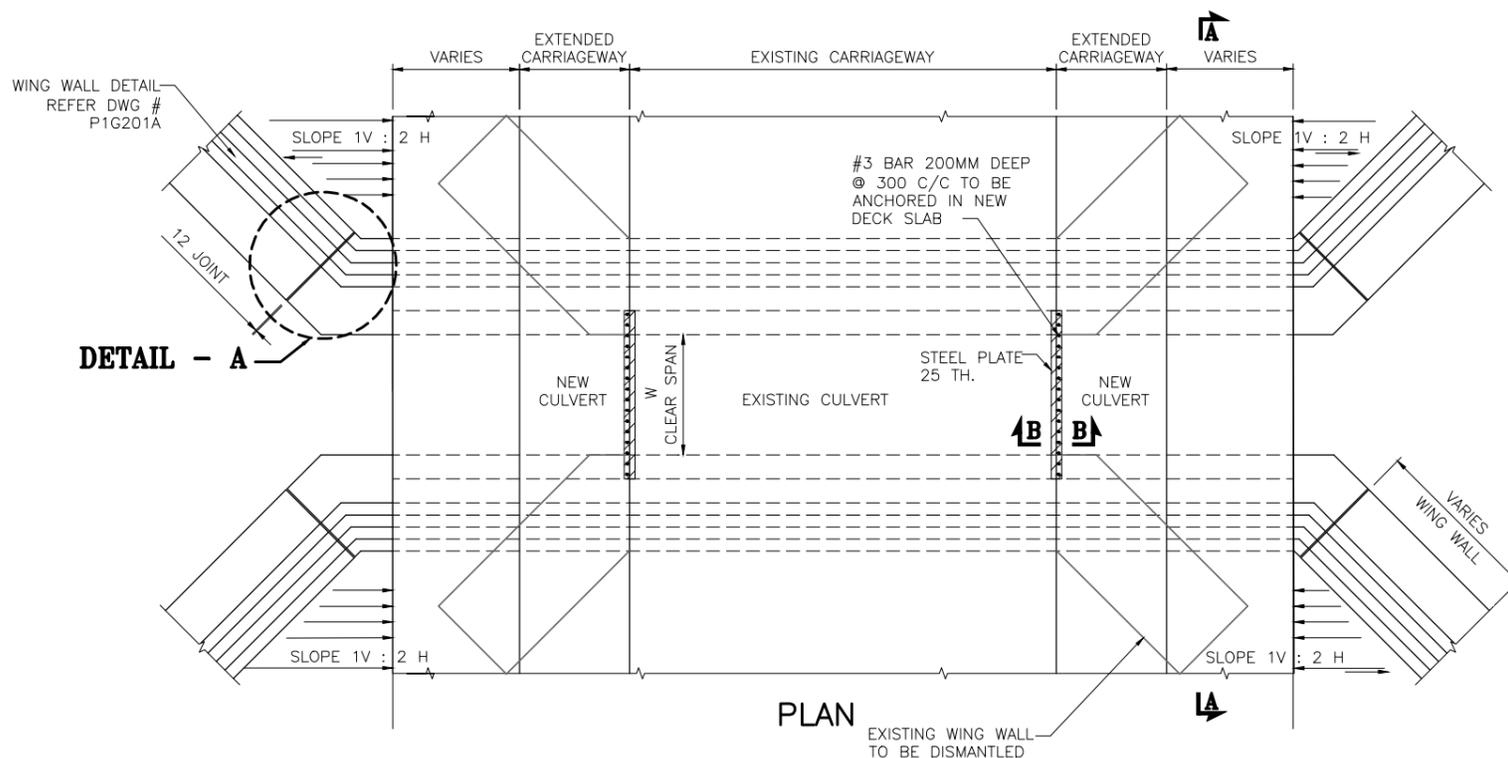
CONSULTANT
NEE NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				DRAWN	RASHID AZIZ
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
				APPROVED	

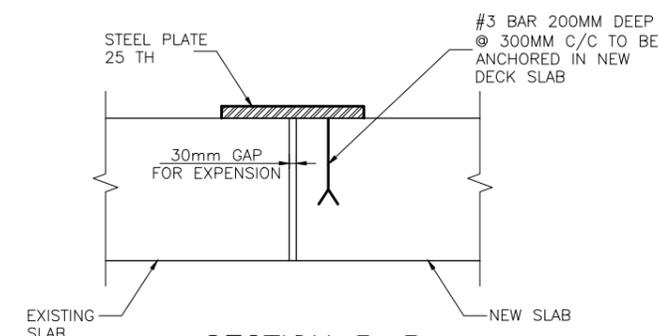
PROJECT
**TRANSACTION ADVISORY SERVICES FOR
DUALIZATION AND REHABILITATION OF
FAISALABAD-CHINIOT-SARGODHA ROAD**

TYPICAL WING WALL DETAILS
DATE: NOVEMBER 2020
DRAWING No. SA-413/102/PD/P1G101D

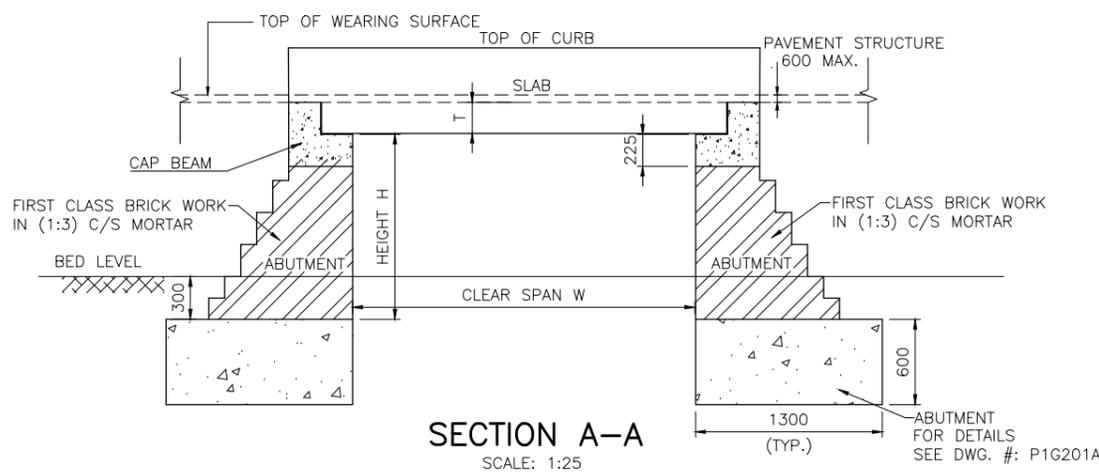
SCALE
1:15
REV. 0



DETAIL - A
SCALE: 1:15



SECTION B-B
SCALE: 1:15



SECTION A-A
SCALE: 1:25

TABLE "1"

RCC SLAB CULVERT DIMENSIONS (FOR HEIGHT H=0.5M~2.0)	
SPAN (mm)	SLAB (mm)
W	T
500	300
800	300
1000	300
1500	350
2000	400
2500	400
3000	400

1. NOTES:-

- ALL MASONRY SHALL BE EXECUTED WITH FIRST CLASS APPROVED BRICKS AND SHALL BE LAID IN (1 : 3) CEMENT SAND MORTAR.
- ALL BRICKS SHALL BE SOUND, HARD, WELL BURNT AND OF UNIFORM SIZE, COLOUR AND TEXTURE. DIMENSIONAL VARIATION IN SIZES SHALL NOT EXCEED 3mm.
- ALL BRICK WORK SHALL BE ERECTED PLUMB AND TRUE TO LINE AND LEVEL. THE MAXIMUM VARIATION IN ANY STOREY HEIGHT OR ANY LENGTH OF WALL SHALL BE 3mm IN 3000, OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.
- TESTING OF COMPRESSIVE STRENGTH OF MASONRY SHALL BE DONE, IF SO DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH ASTM C67 OR PAKISTAN STANDARD-208.
- BRICK SHALL BE LAID "FROG" UPWARD WITH MORTAR JOINT AND IN ENGLISH AND FLEMISH BOND OR AS DIRECTED BY THE ENGINEER.
- MORTAR USED IN MASONRY CONSTRUCTION SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF NOT LESS THAN 12.5Mpa (1800Psi) AND SHALL CONFORM TO ASTM C270, COMPRESSIVE STRENGTH OF MASONRY AT 28 DAYS SHALL NOT BE LESS THAN 8Mpa (1150 psi.)
- PCC PAD UNDER BRICK PEIR AND ABUTMENT SHALL HAVE MINIMUM CYLINDER STRENGTH OF 1500 Psi.
- REINFORCING STEEL SHALL BE DEFORMED ROUND BARS OF INTERMEDIATE GRADE (GRADE 60) CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4,200 Kg/Sq.Cm (60,000 Psi).

CLIENT

COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB

CONSULTANT

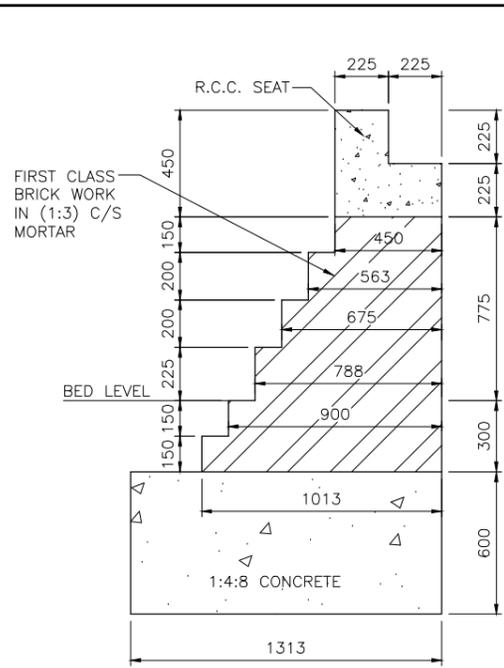
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
 HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04					DRAWN	RASHID AZIZ
03					SUBMITTED	
02					RECOMMENDED	
01					CHD./VER.	
					APPROVED	

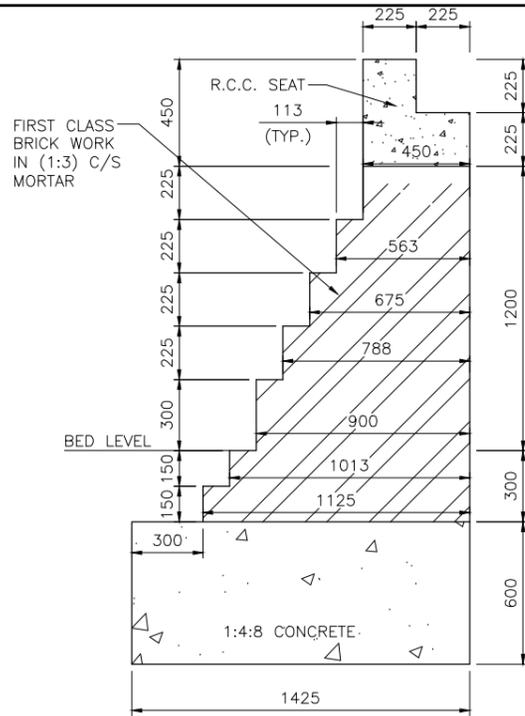
PROJECT
TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD-CHINIOT-SARGODHA ROAD

GENERAL ARRANGEMENT & CROSS SECTION TYPICAL R.C.C. SLAB CULVERT (SINGLE SPAN) (NEW CULVERT)
 DATE: NOVEMBER 2020
 DRAWING No.: SA-413/102/PD/P1G201

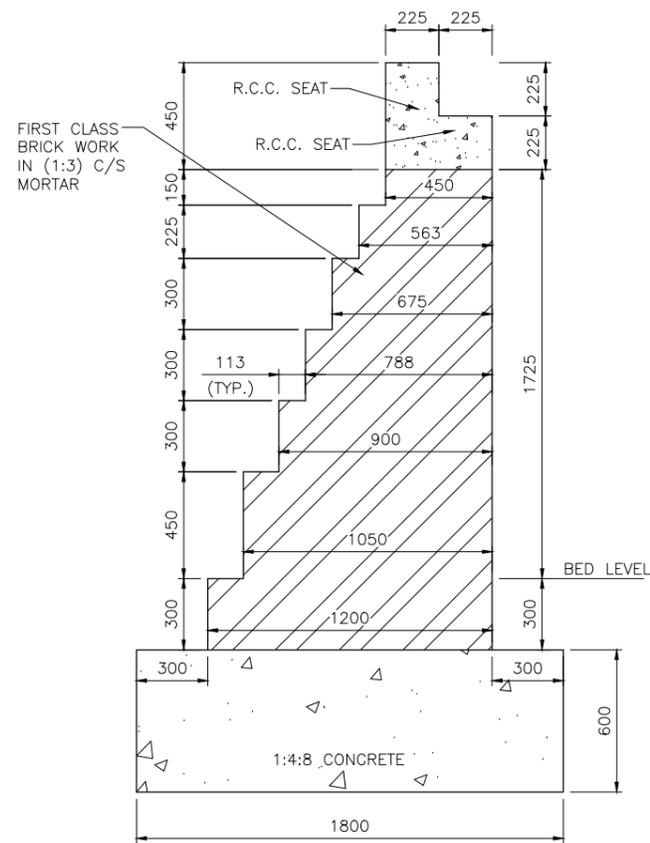
SCALE: 1:100
 REV. 



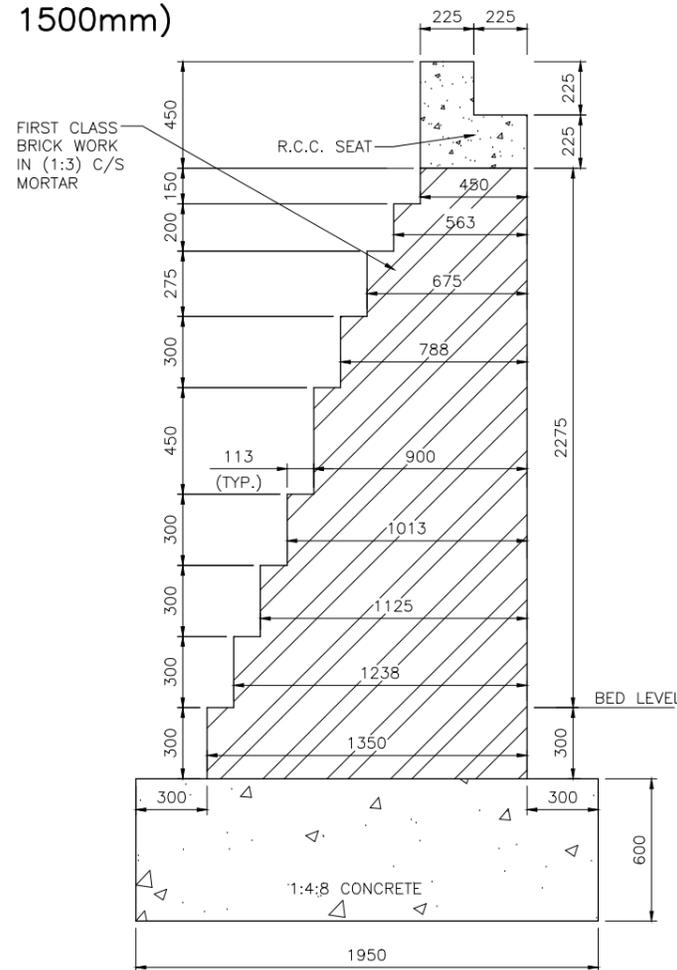
ABUTMENT
(CLEAR HEIGHT 1000mm)



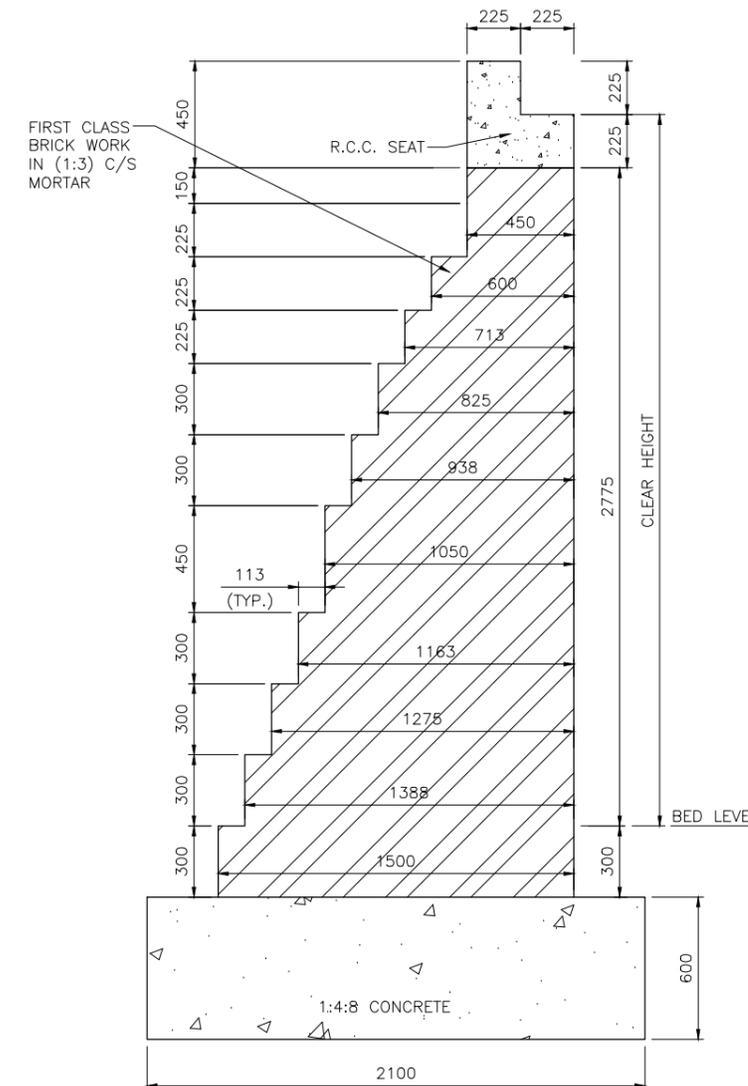
ABUTMENT
(CLEAR HEIGHT 1500mm)



ABUTMENT
(CLEAR HEIGHT 2000mm)



ABUTMENT
(CLEAR HEIGHT 2500mm)



ABUTMENT
(CLEAR HEIGHT 3000mm)

CLIENT
COMMUNICATION AND WORKS DEPARTMENT (C&W) PUNJAB

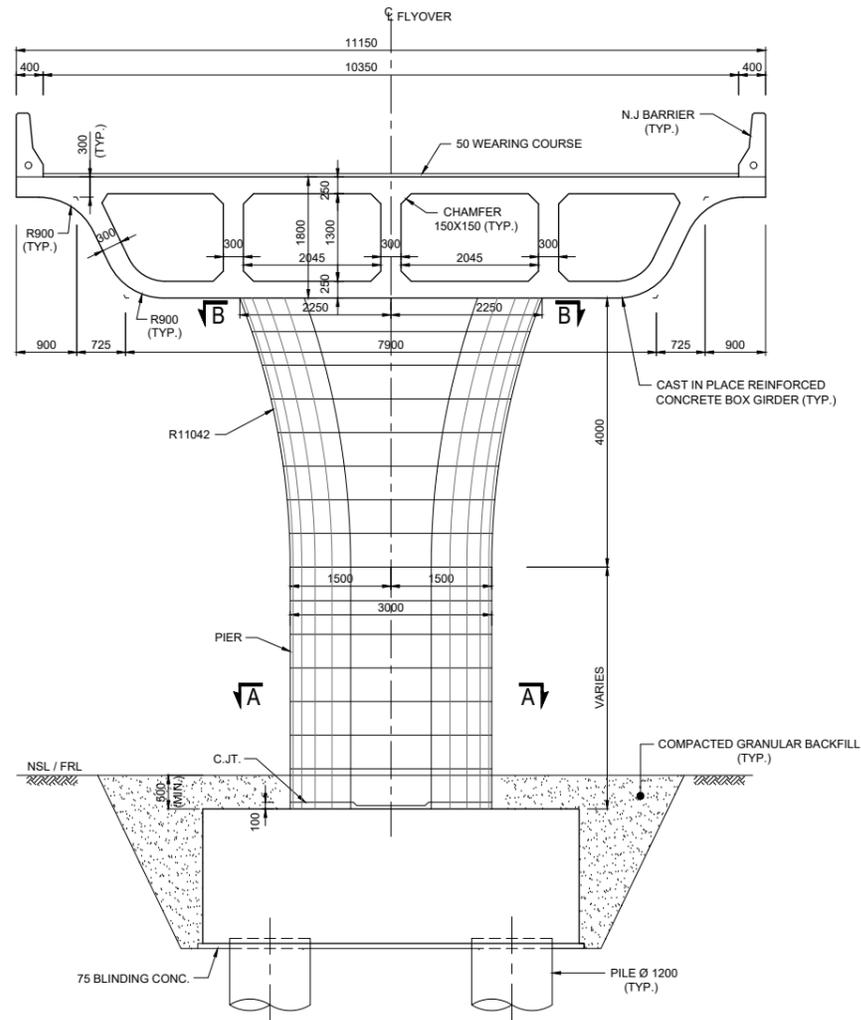
CONSULTANT
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				
03				
02				
01				

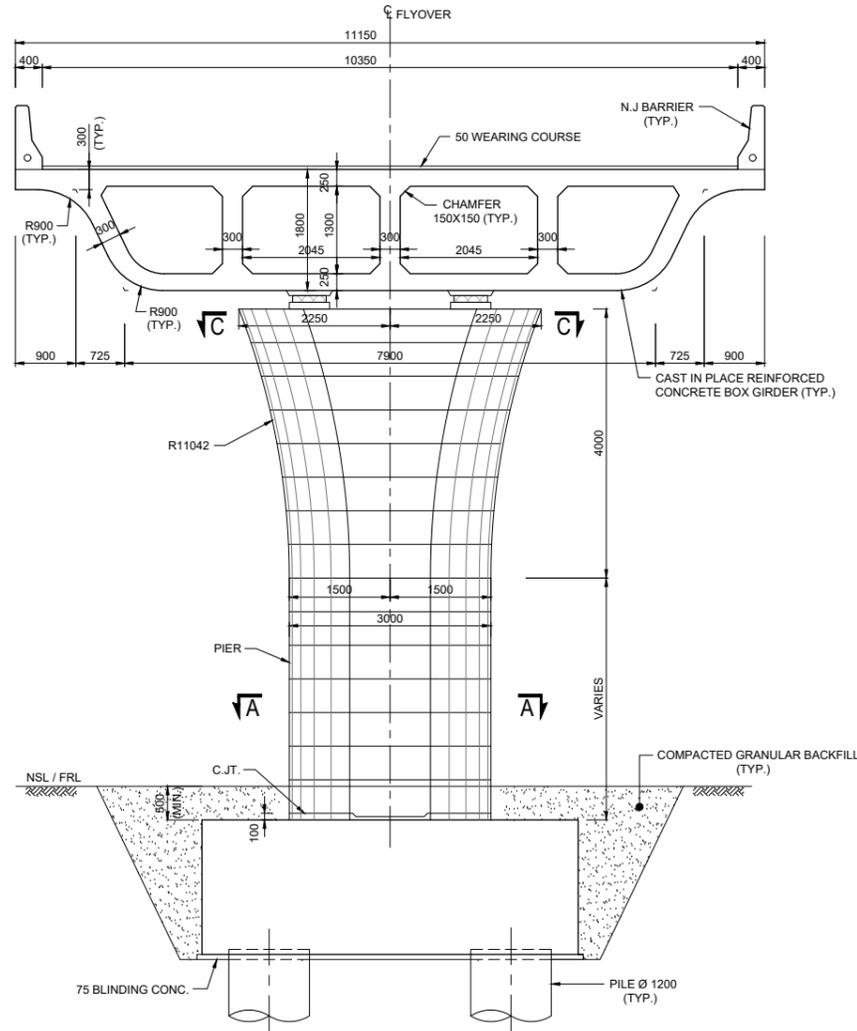
DRAWN	RASHID AZIZ
SUBMITTED	
RECOMMENDED	
CHD.VER.	
APPROVED	

PROJECT
TRANSACTION ADVISORY SERVICES FOR DUALIZATION AND REHABILITATION OF FAISALABAD-CHINIOT-SARGODHA ROAD

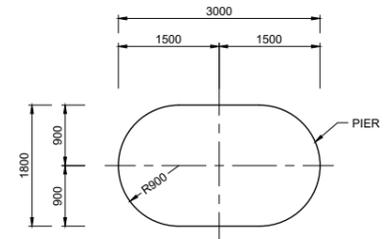
TYPICAL ABUTMENT DETAILS		SCALE
		1:15
DATE	DRAWING No.	REV.
NOVEMBER 2020	SA-413/102/PD/P1G201A	0



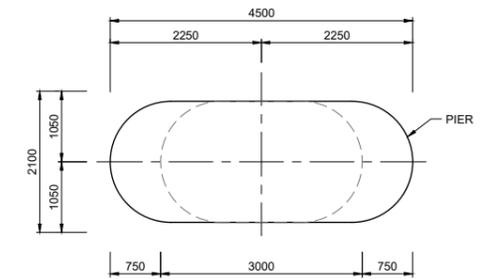
TYPICAL CROSS SECTION AT CONTINUITY



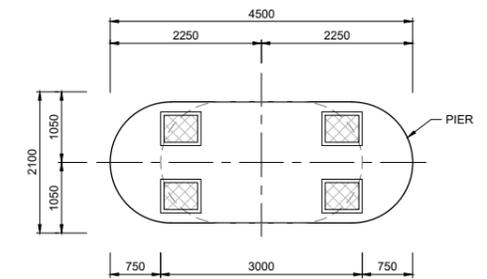
TYPICAL CROSS SECTION AT EXPANSION JOINT



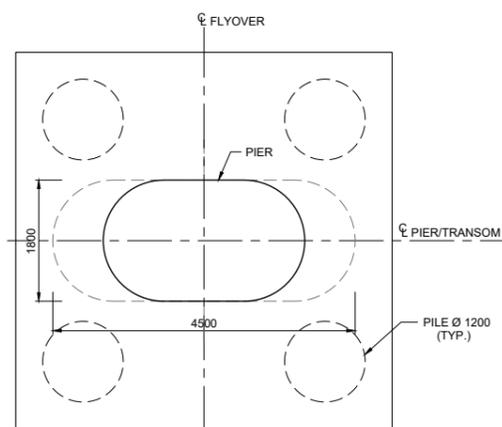
SECTION A-A



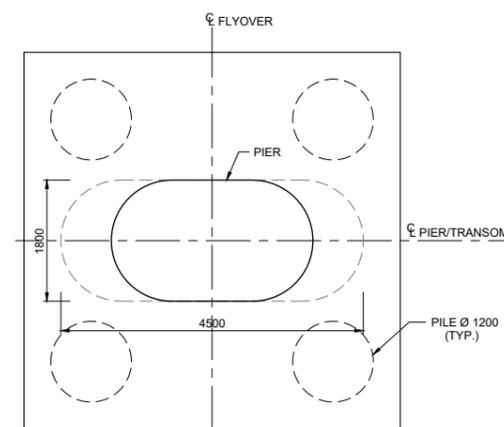
SECTION B-B



SECTION C-C



PILE CAP PLAN



PILE CAP PLAN

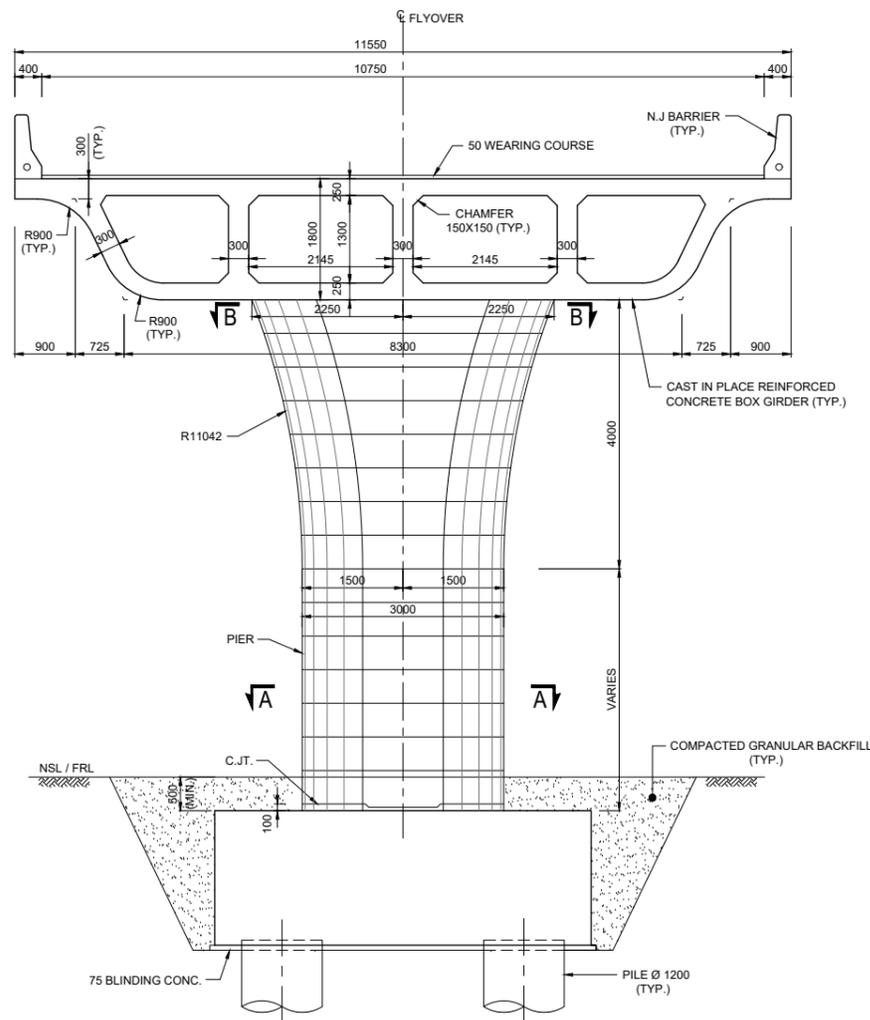
CLIENT
 COMMUNICATION AND WORKS
 DEPARTMENT GOVT. OF PUNJAB

CONSULTANT
 NATIONAL ENGINEERING SERVICES
 PAKISTAN (PVT.) LTD.
 HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
 MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

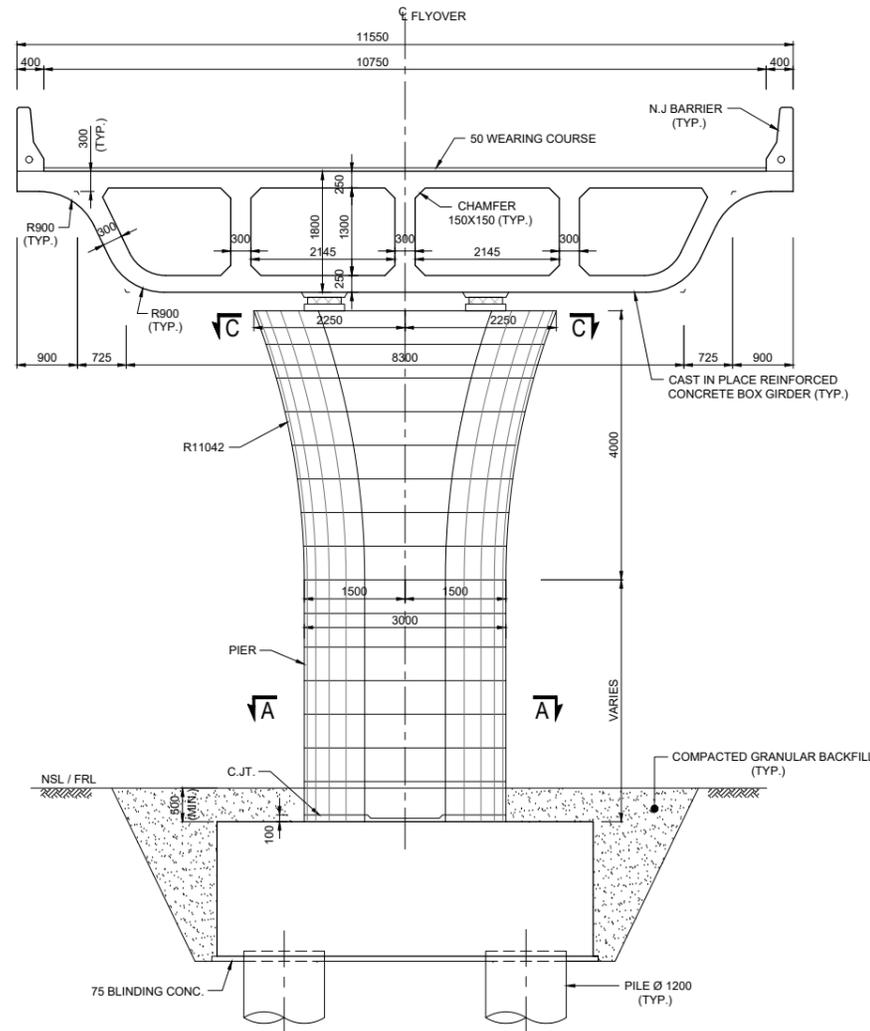
04					DRAWN	M.A
03					SUBMITTED	
02					RECOMMENDED	
01					CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED		

PROJECT
 DUALIZATION AND REHABILITATION OF
 FAISALABAD - CHINIOT - SARGODHA
 (LENGTH = 66.3 Km)

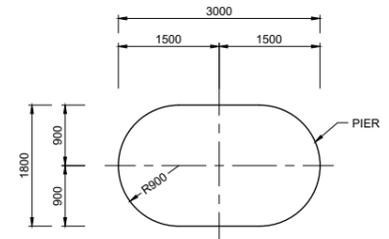
FLYOVER AT RD 19+100 TYPICAL CROSS SECTION CONCRETE OUTLINE		SCALE 1:50
DATE JAN. 2026	DRAWING No. SA-413/037/C/1G01	REV. 0



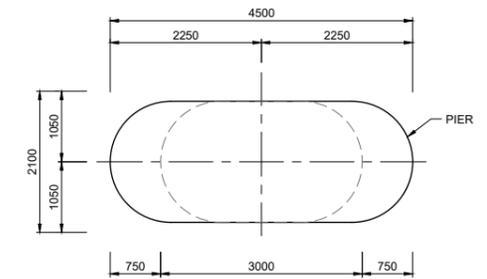
TYPICAL CROSS SECTION AT CONTINUITY



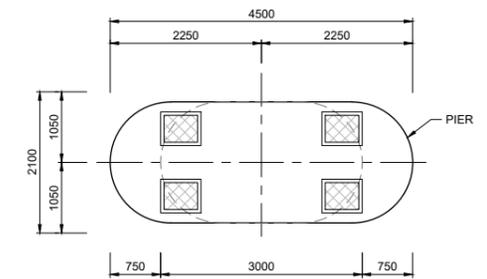
TYPICAL CROSS SECTION AT EXPANSION JOINT



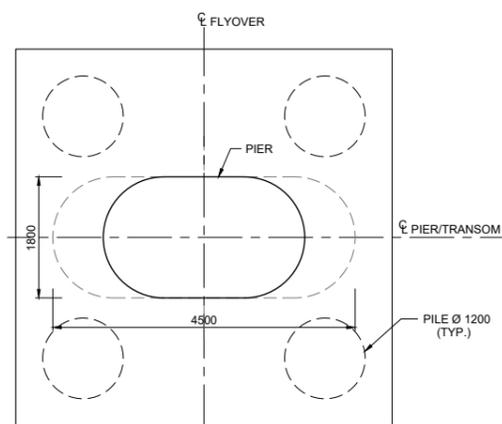
SECTION A-A



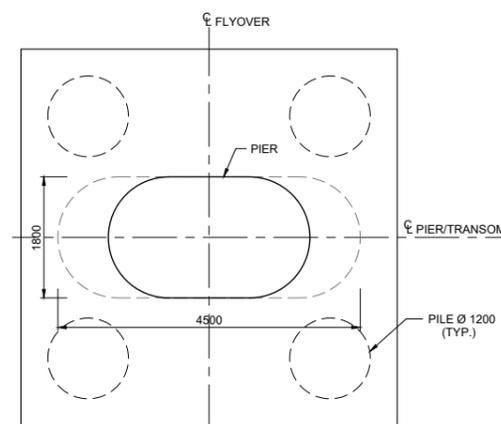
SECTION B-B



SECTION C-C



PILE CAP PLAN



PILE CAP PLAN

CLIENT
 COMMUNICATION AND WORKS
 DEPARTMENT GOVT. OF PUNJAB

CONSULTANT
 NATIONAL ENGINEERING SERVICES
 PAKISTAN (PVT.) LTD.
 HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
 MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04					DRAWN	M.A
03					SUBMITTED	
02					RECOMMENDED	
01					CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED		

PROJECT
 DUALIZATION AND REHABILITATION OF
 FAISALABAD - CHINIOT - SARGODHA
 (LENGTH = 66.3 Km)

FLYOVER AT RD 27+700 TYPICAL CROSS SECTION CONCRETE OUTLINE		SCALE 1:50
DATE JAN. 2026	DRAWING No. SA-413/037/C/2G01	REV. 0