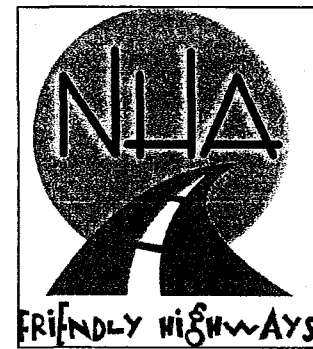


Lot-2
16 / 7 / 2020
4035/103/504/26/12255
16/07/2020

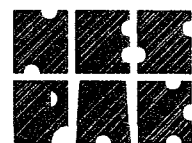
**GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY**



**RATODERO ~ RAJANPUR ROAD
PACKAGE - II
(KANDH KOT TO KASHMORE)
& KASHMORE BYPASS**

TENDER DRAWINGS

MARCH, 2018

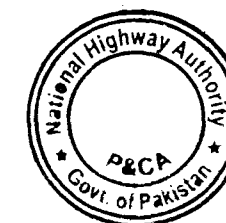


NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED.
NESPAK HOUSE 2nd Floor Attaturk Avenue, Sector G-5/2 Islamabad- Pakistan.

S H E E T I N D E X

SR. #	DRG. #	T I T L E
1	-	COVER SHEET
2	SI-01	SHEET INDEX
3	SA-01	SYMBOLS AND ABBREVIATIONS
4	GEN-01	GENERAL NOTES
5	KM-01	KEY MAP
6	RLP-01~35	ROUTE LOCATION PLAN
7	CS-01 TO CS-07	TYPICAL CROSS SECTIONS
8	TS-01	TYPICAL SUPERELEVATION DETAILS
9	MJ-01	TYPICAL DETAILS OF MINOR JUNCTION
10	D-01, 02, 03	DETAIL OF SERVICE DUCTS, CONCRETE CHUTE (1), (2)
11	GR-01	LIST AND DETAILS OF W-BEAM GUARD RAIL WITH STEEL POST
12	RW-01	TYPICAL PLUM CONCRETE RETAINING WALL
13	P&P 153 - 237	PLAN AND PROFILE INCLUDING KASHMORE BYPASS
14	U-TURN-01	TYPICAL U-TURN DETAIL
15	TS-01 TO TS-11	DETAILS OF ROAD SIGNS ARRANGEMENT OF OVERHEAD GANTRY SIGN
16	DR-01 AND DR-02	LIST AND DETAILS OF DRAINS
17	SCH-01 ~ SCH-03	LIST OF STRUCTURES
18	P2G000	STRUCTURES DRAWINGS

TENDER DRAWINGS



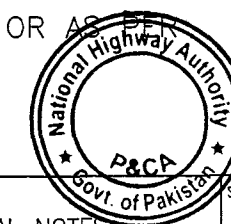
AWAD UL HAQ



Project Manager
M/S NESPAKNATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

04				DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE	SHEET INDEX	SCALE
03				SUBMITTED BY			DATE	DRAWING NO.	REV.
02				RECOMMENDED BY			MARCH 2018	3905/102/10/	SI-01
01				CHD./VER. BY					
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY					

GENERAL NOTES

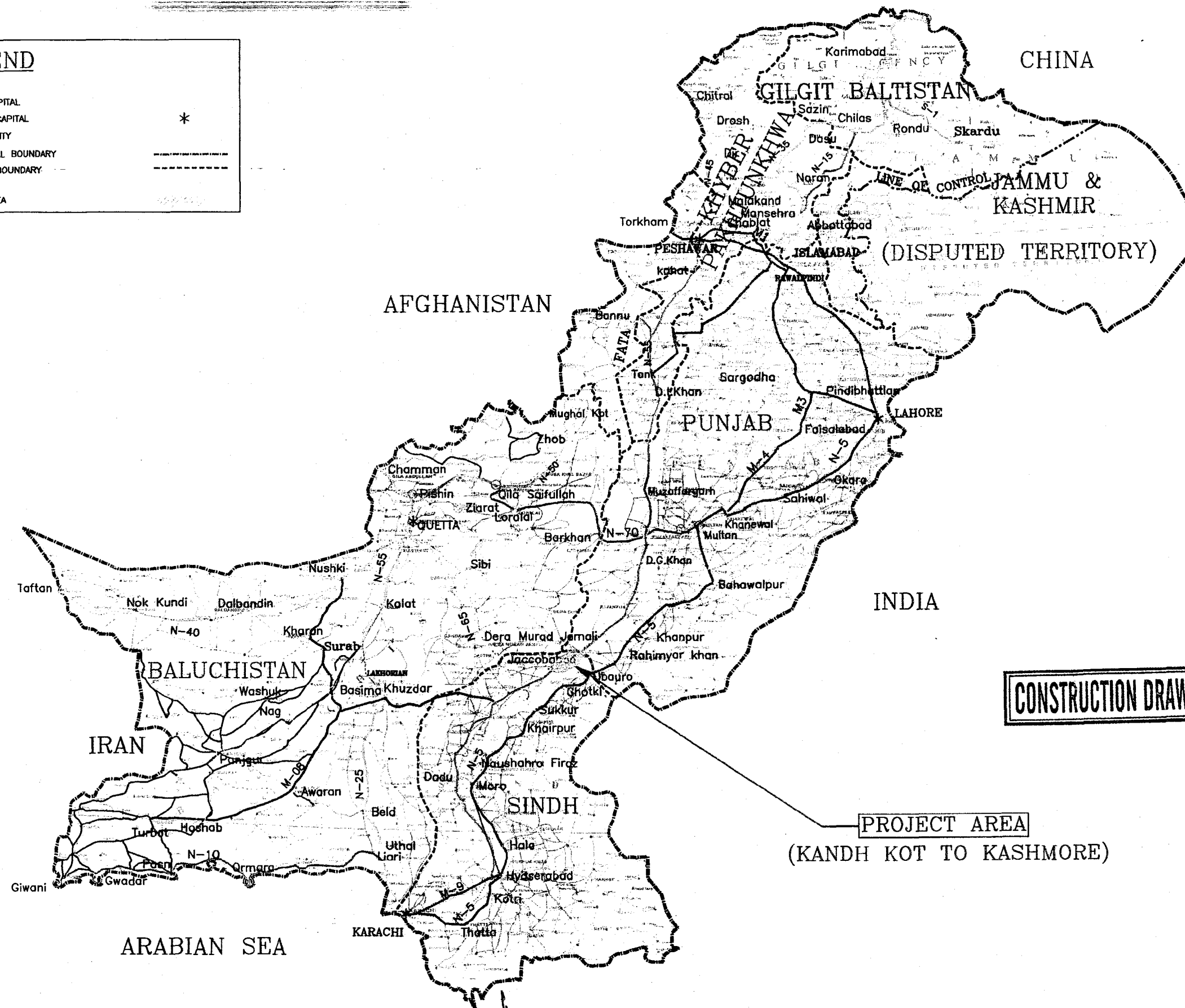
1. GRID COORDINATES & ELEVATIONS ARE BASED ON UNIVERSAL TRANSVERSE MERCATOR (UTM WGS84).
2. EACH DRAWING SHALL BE READ IN CONJUNCTION WITH OTHER DRAWINGS.
3. NOTES GIVEN ON DRAWINGS ADJACENT TO A SECTION OR DETAIL PERTAIN TO THAT PARTICULAR DETAIL ONLY.
4. IMPROVED SUBGRADE SHALL HAVE SOAKED CBR OF 25% AT 95% M.D.D, WHEREAS EMBANKMENT SHALL HAVE SOAKED CBR OF 5% AT 95% M.D.D
5. TENDER DRAWINGS ARE INDICATIVE ONLY. CONSTRUCTION DRAWINGS SHALL BE ISSUED IN DUE COURSE OF TIME, AS THE CONSTRUCTION PROCEEDS.
6. THE BIDDERS SHOULD CAREFULLY EXAMINE THE BOQ ITEMS AND RATES SHOULD BE QUOTED ACCORDINGLY.
7. LOCATION OF UNDERGROUND CABLES/UTILITIES SHOWN ON PLAN ARE APPROXIMATE. EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR AT NO EXTRA COST TO THE EMPLOYER.
8. THE CONTRACTOR SHALL ENDEAVOR MAXIMUM TO MAINTAIN UNINTERRUPTED FLOW OF TRAFFIC ON BOTH SIDES OF EXISTING ROAD AND ITS ADJOINING CROSS ROADS.
9. ANY DAMAGE CAUSED TO THE UTILITIES DURING EXCAVATION/EXECUTION OF WORK SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXTRA COST TO THE EMPLOYER.
10. PROFILE DRAWINGS SHALL BE FINALIZED AFTER TAKING JOINT X-SECTIONS WITH CONSULTANT BEFORE STARTING CONSTRUCTION ACTIVITIES.
11. CONTRACTOR SHALL PREPARE AND SUBMIT, SHOP DRAWINGS FOR STRUCTURES, PAVEMENT MARKINGS (LOCATION, TYPE AND SIZE), ROAD SIGNS ETC. FOR ENGINEER'S APPROVAL, BEFORE EXECUTION OF RELATED WORKS WITHOUT ANY EXTRA COST TO THE EMPLOYER.
12. SERVICE DUCTS SHALL BE PROVIDED AT JUNCTION LOCATIONS OR AT AN INTERVAL AS DIRECTED BY THE ENGINEER.
13. STRUCTURES SHOWN ON PLAN ARE SYMBOLIC. FOR DETAIL OF STRUCTURES SEE RELEVANT DRAWINGS.
14. THE LENGTHS, SIZES, SLOPE, INVERT LEVELS AND OTHERS DETAILS OF STRUCTURES AS SHOWN IN DRAWINGS ARE TENTATIVE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS OF EACH STRUCTURE LOCATIONS WITH THE REQUIRED SKEW ANGLE AS PER SITE REQUIREMENTS AND SHALL SUBMIT THE SAME TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION EXECUTION.
15. THE CONTRACTOR SHALL BE RESPONSIBLE TO CATER FOR ALL TEMPORARY TRAFFIC DIVERSION DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER INCLUDING DETOUR ROAD AND ITS MAINTENANCE, SPRINKLING OF WATER, GRADING AND COMPACTION WHEN AND WHERE REQUIRED WITHOUT ANY EXTRA COST TO EMPLOYER.
16. ROADWAY EXCAVATION MATERIAL SHALL BE UTILIZED IN MOST EFFECTIVE MANNER IN THE EMBANKMENT EVEN WITH BLENDING/ MIXING THE SUPERIOR MATERIALS (IF REQUIRED WITHOUT AT ANY EXTRA COST). ROADWAY EXCAVATION SHALL NOT BE DISPOSED OFF OUTSIDE RIGHT OF WAY WITHOUT WRITTEN APPROVAL OF THE EMPLOYER.
17. THE EXISTING UTILITIES SHALL BE SHIFTED AND RELOCATED OUTSIDE THE CONSTRUCTION LIMITS BY THE CONCERNED AGENCIES DURING EXECUTION OF THE WORK. THE CONTRACTOR SHALL ASSIST AND COORDINATE WITH THE RESPECTIVE AGENCIES FOR THIS PURPOSE.
18. RETAINING/ DRAINAGE STRUCTURES FOUNDATION SHALL BE PLACED ON FIRM/ HARD STRATA AS DIRECTED BY THE ENGINEER.
19. DRAINAGE CHUTES SHALL BE PROVIDED ON HIGH FILL (FILL>3M) AT 50m INTERVAL.
20. REACHES DEFINED FOR APPLICABILITY IN TYPICAL CROSS-SECTION ARE TENTATIVE AND SHALL BE ADJUSTED AS PER SITE CONDITIONS/ REQUIREMENT OR AS PER DIRECTIONS BY THE ENGINEER.

TENDER DRAWINGS

 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE GENERAL NOTES		SCALE
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		02		RECOMMENDED BY					
		01		CHD./VER. BY					
		REV		DATE	DESCRIPTION				
							MARCH 2018	3905/102/10/ GEN-01	

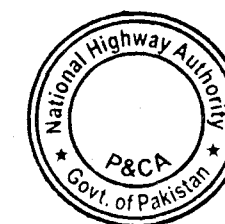
LEGEND



NATIONAL CAPITAL	*
PROVINCIAL CAPITAL	
IMPORTANT CITY	
INTERNATIONAL BOUNDARY	---
PROVINCIAL BOUNDARY	- - -
ROADS	---
PROJECT AREA	---



CONSTRUCTION DRAWINGS

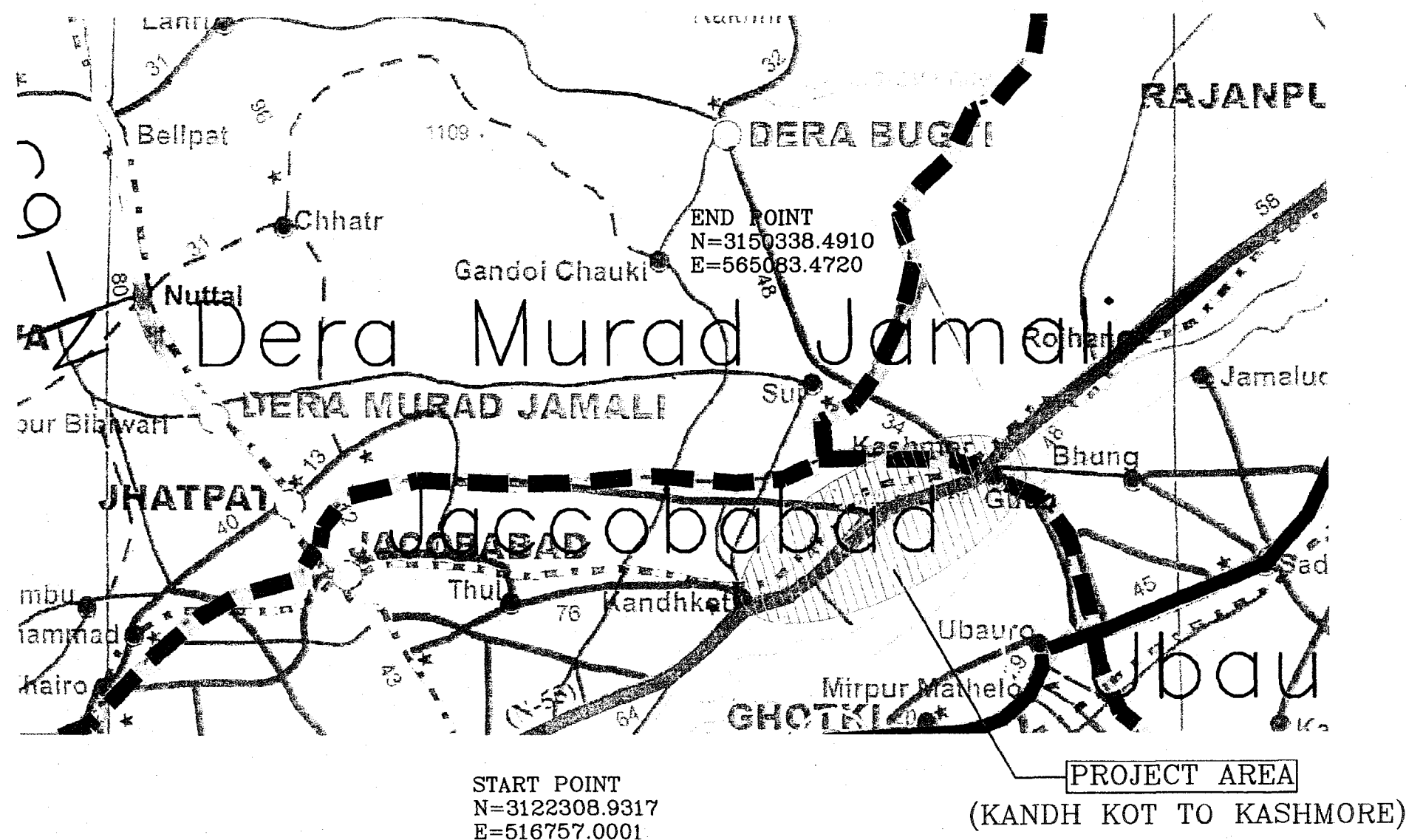
PROJECT AREA
(KANDH KOT TO KASHMORE)



 <div>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</div>	 <div>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</div>	04	JAWAD UL HAQ		DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE		KEY MAP	SCALE	
		03	Project Manager		SUBMITTED BY							
		02	M/S NESPAK		RECOMMENDED BY							
		01			CHD./VER. BY							
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY						
								DATE	MARCH 2018	DRAWING NO.	3905/102/TD/ KM-01	REV.

LEGEND

NATIONAL CAPITAL	
PROVINCIAL CAPITAL	*
IMPORTANT CITY	
INTERNATIONAL BOUNDARY	=====
PROVINCIAL BOUNDARY	=====
ROADS	
PROJECT AREA	

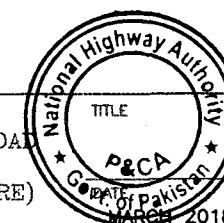


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)







KEY MAP

DRAWING NO.
3905/102/TD/ KM-02

SCALE

REV.



 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	 JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	 P&CA Govt. of Pakistan MARCH 2018	TITLE	ROUTE LOCATION PLAN	SCALE
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		02		RECOMMENDED BY						
		01		CHD./VER. BY						
		REV.		DATE	DESCRIPTION			APPROVED	APPROVED BY	
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						3905/102/TD/ RLP-01				

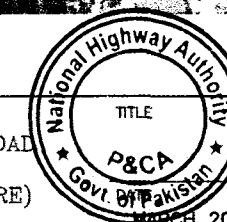


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

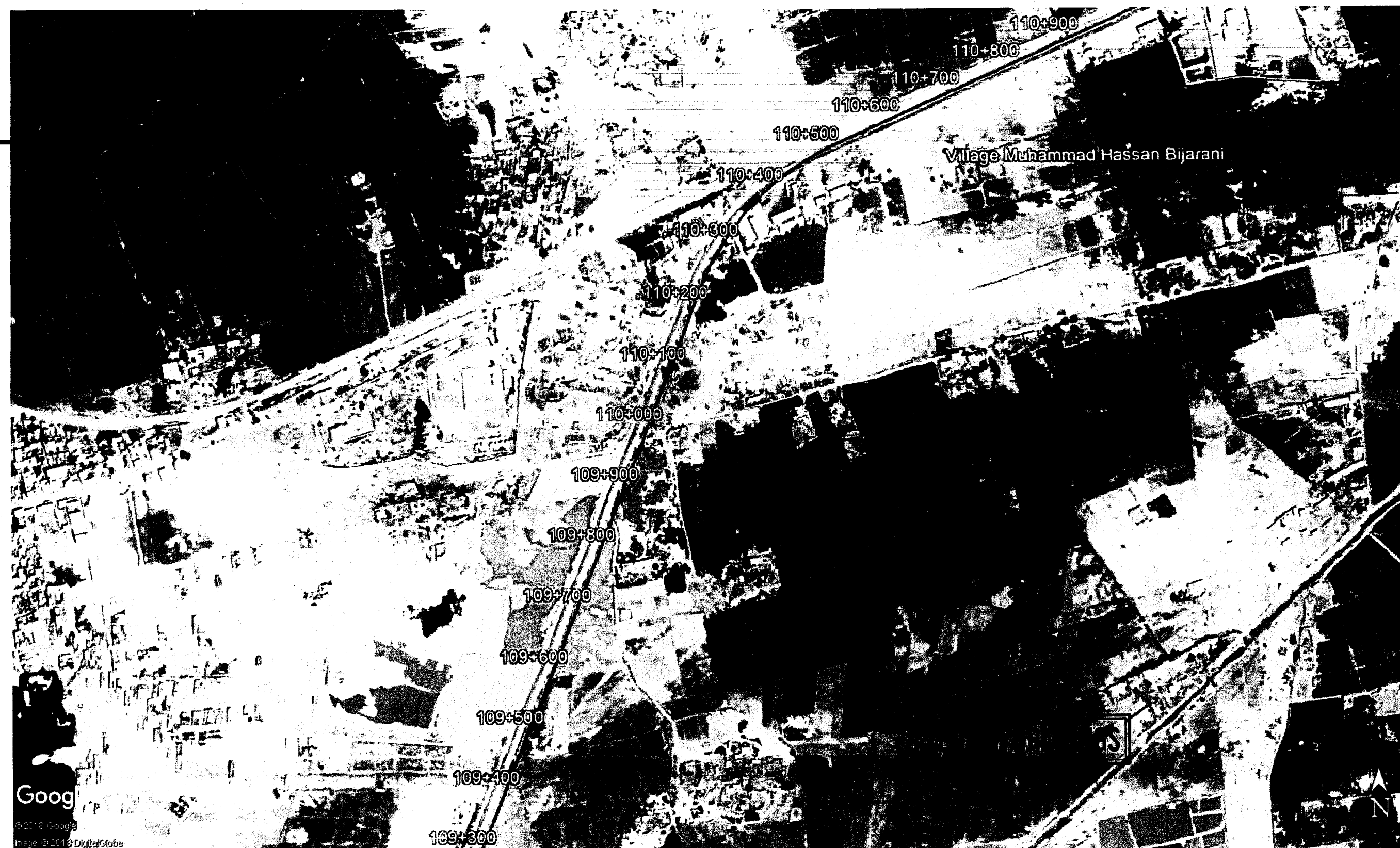


ROUTE LOCATION PLAN

DRAWING NO.
3905/102/TD/ RLP-02

SCALE

REV.

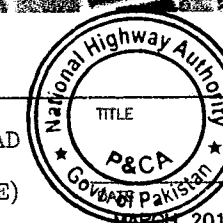


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN

DRAWING NO.
3905/102/TD/ RLP-03

SCALE

REV.



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN

DATE
MARCH 2018

DRAWING NO.
3905/102/TD/ RLP-04

SCALE
REV.

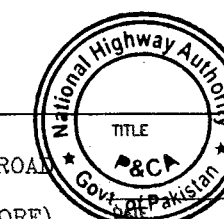


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

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03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
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REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



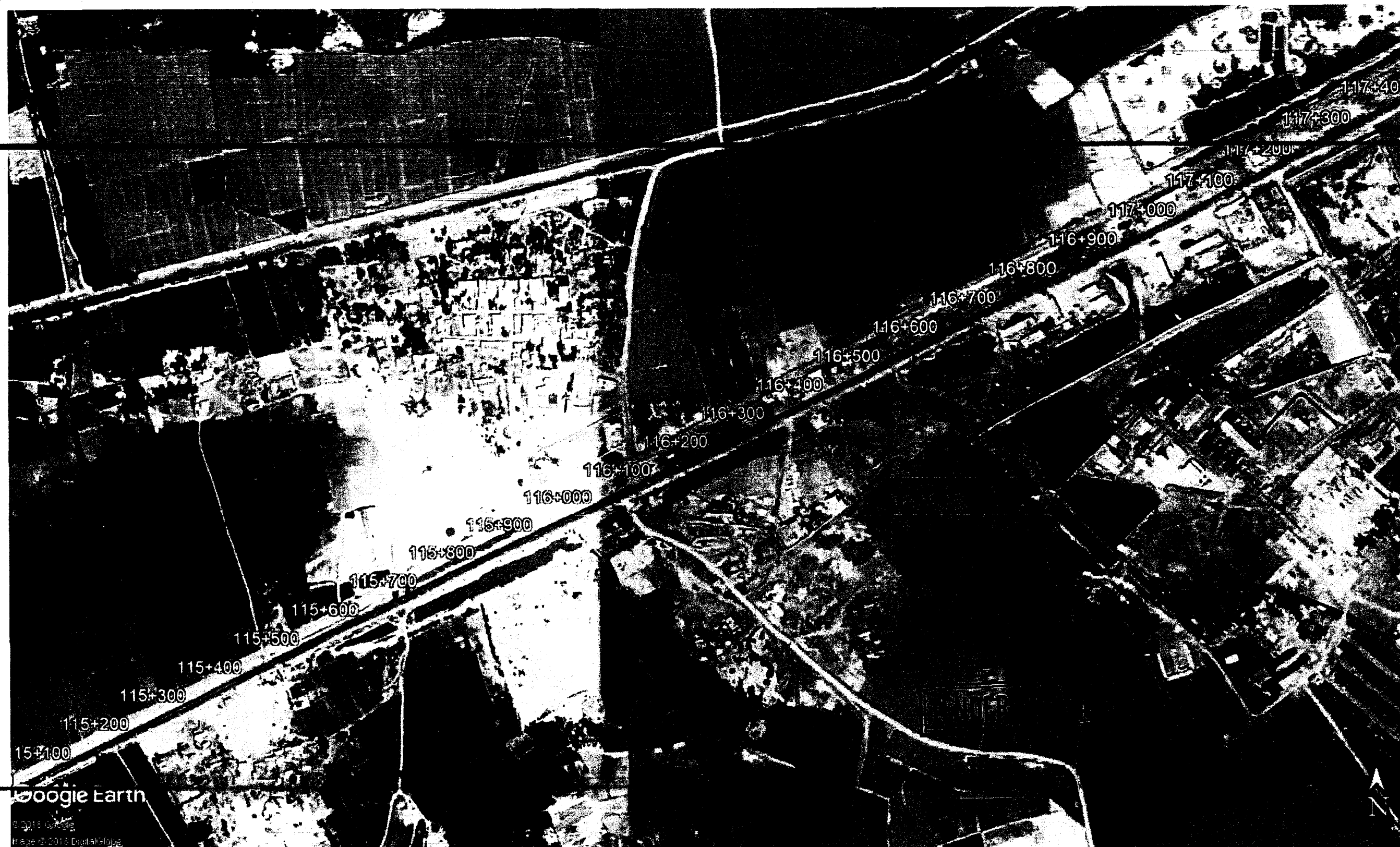
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MARCH 2018

DRAWING NO.
3905/102/TD/ RLP-05

SCALE

REV.

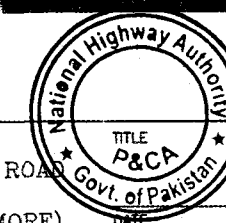


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN

MARCH 2018

DRAWING NO.
3905/102/TD/ RLP-06

SCALE

REV.

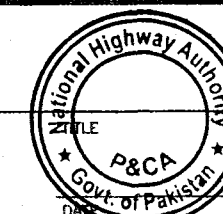


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)






MARCH 2018

DRAWING NO.
3905/102/TD/ RLP-07

SCALE
REV.



 <div>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</div>	 <div>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</div>	04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ	<div>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TC KASHMORE)</div> <div> TITLE P&CA Govt. of Pakistan ROUTE LOCATION PLAN DATE MARCH 2018</div>	SCALE		
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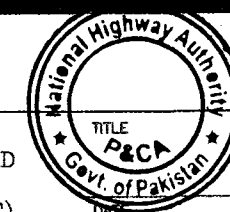


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

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03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
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REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



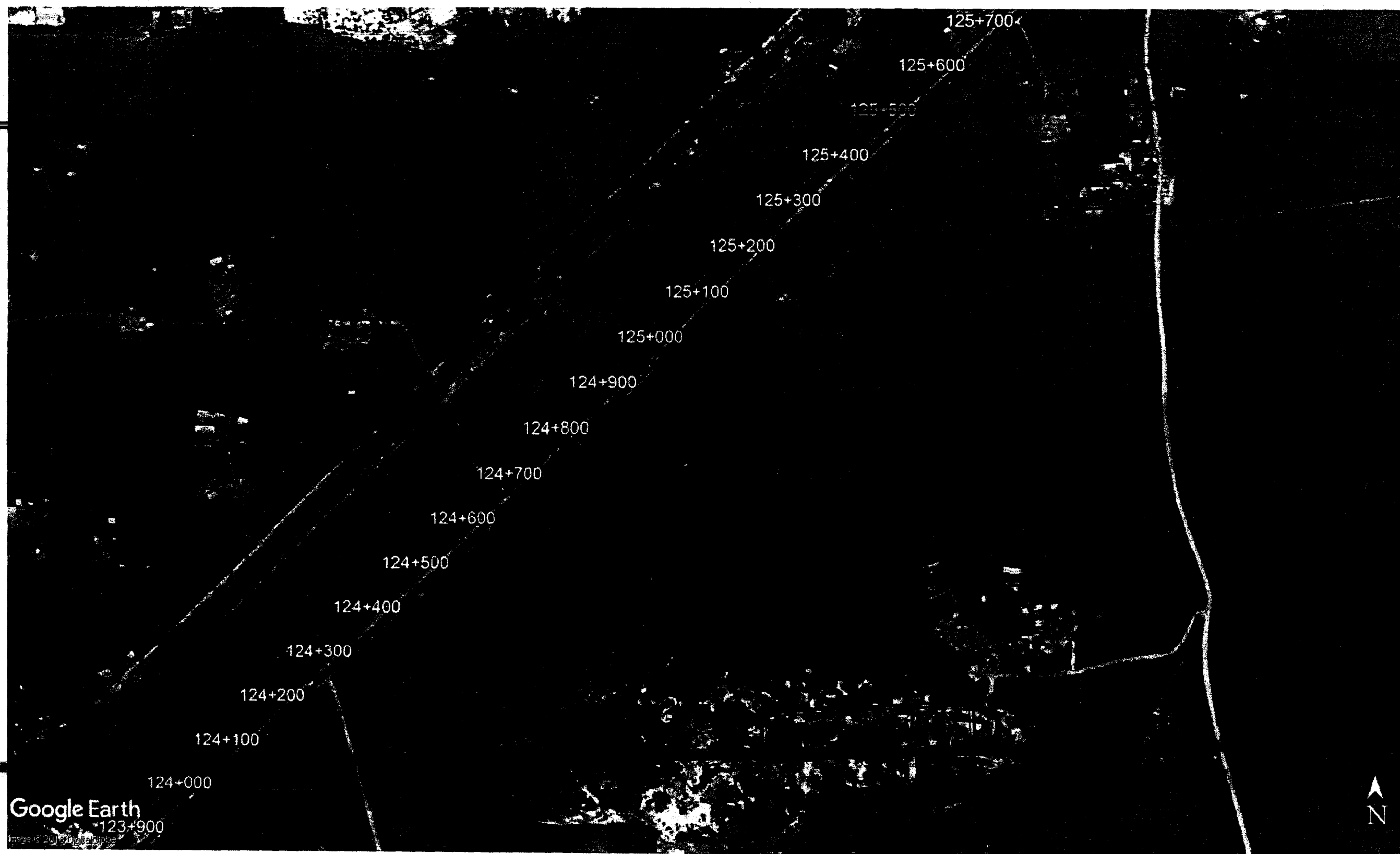
MARCH 2018

ROUTE LOCATION PLAN

DRAWING NO.
3905/102/TD/ RLP-09

SCALE

REV.



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

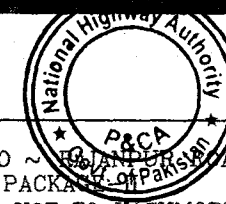
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

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REV. DATE DESCRIPTION APPROVED

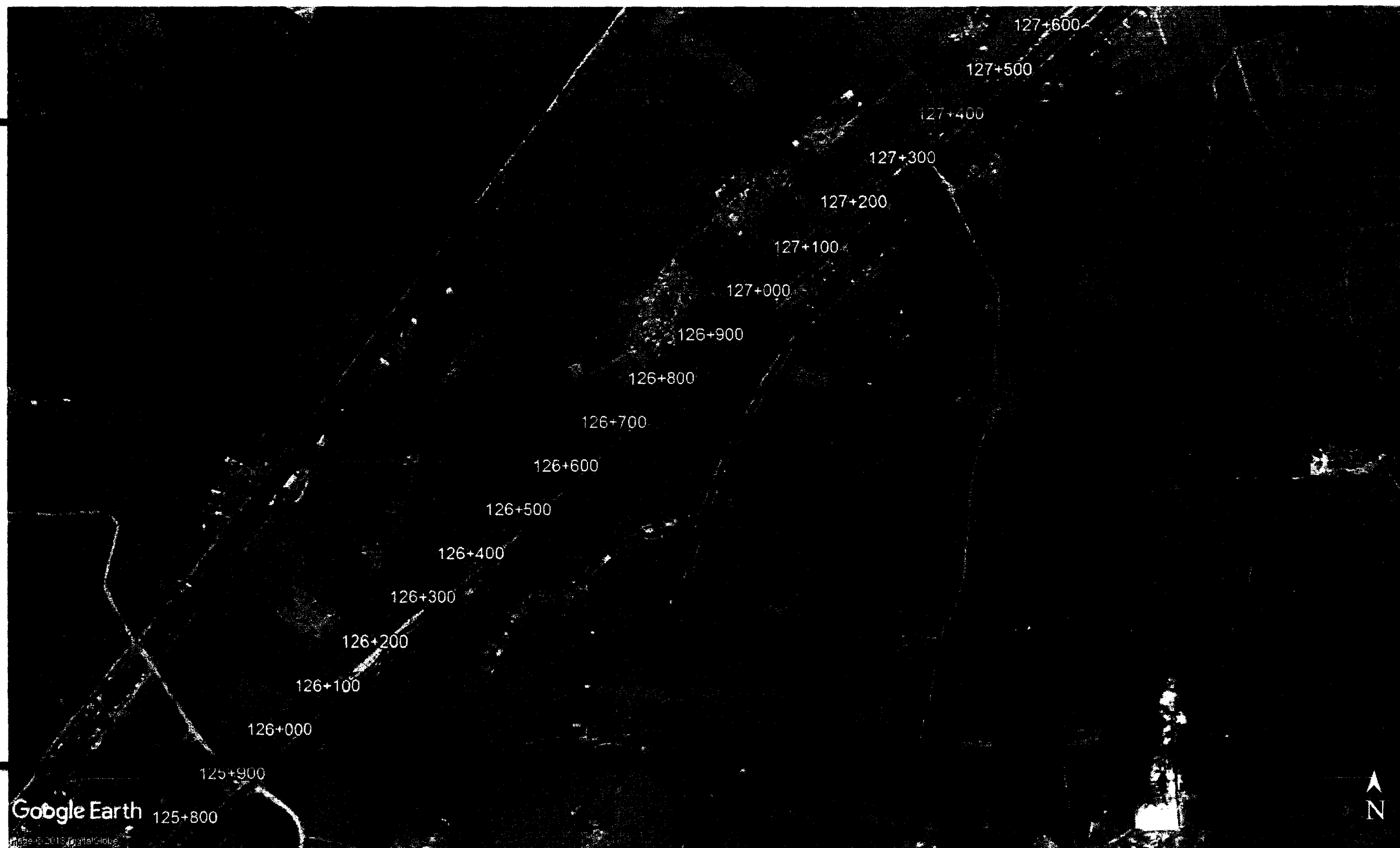
JAWAD UL HAQ
Project Manager
M/S NESPAK



DRAWN BY RAJA SHAFIQ
SUBMITTED BY
RECOMMENDED BY
CHD./VER. BY
APPROVED BY

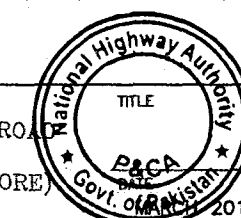
RATODERO
PACK
(KANDH KOT TO KASHMORE)






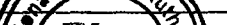
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DATE MARCH 2018 DRAWING NO. 3905/102/TD/ RLP-10 REV.



 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN BY SUBMITTED BY RECOMMENDED BY CHD./VER. BY APPROVED BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE ROUTE LOCATION PLAN	SCALE REV.
		REV. DATE DESCRIPTION	APPROVED		DRAWING NO. 3905/102/TD/ RLP-11	2018	








 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	 JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		ROUTE LOCATION PLAN	SCALE
		03		SUBMITTED BY					
		02		RECOMMENDED BY					
		01		CHD./VER. BY					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY			
							2018	3905/102/TD/ RLP-12	






Google Earth

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 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04			DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	 DATE MARCH 2018	ROUTE LOCATION PLAN	DRAWING NO. 3905/102/TD/ RLP-13	SCALE	
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		02		Project Manager	RECOMMENDED BY							
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		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY						






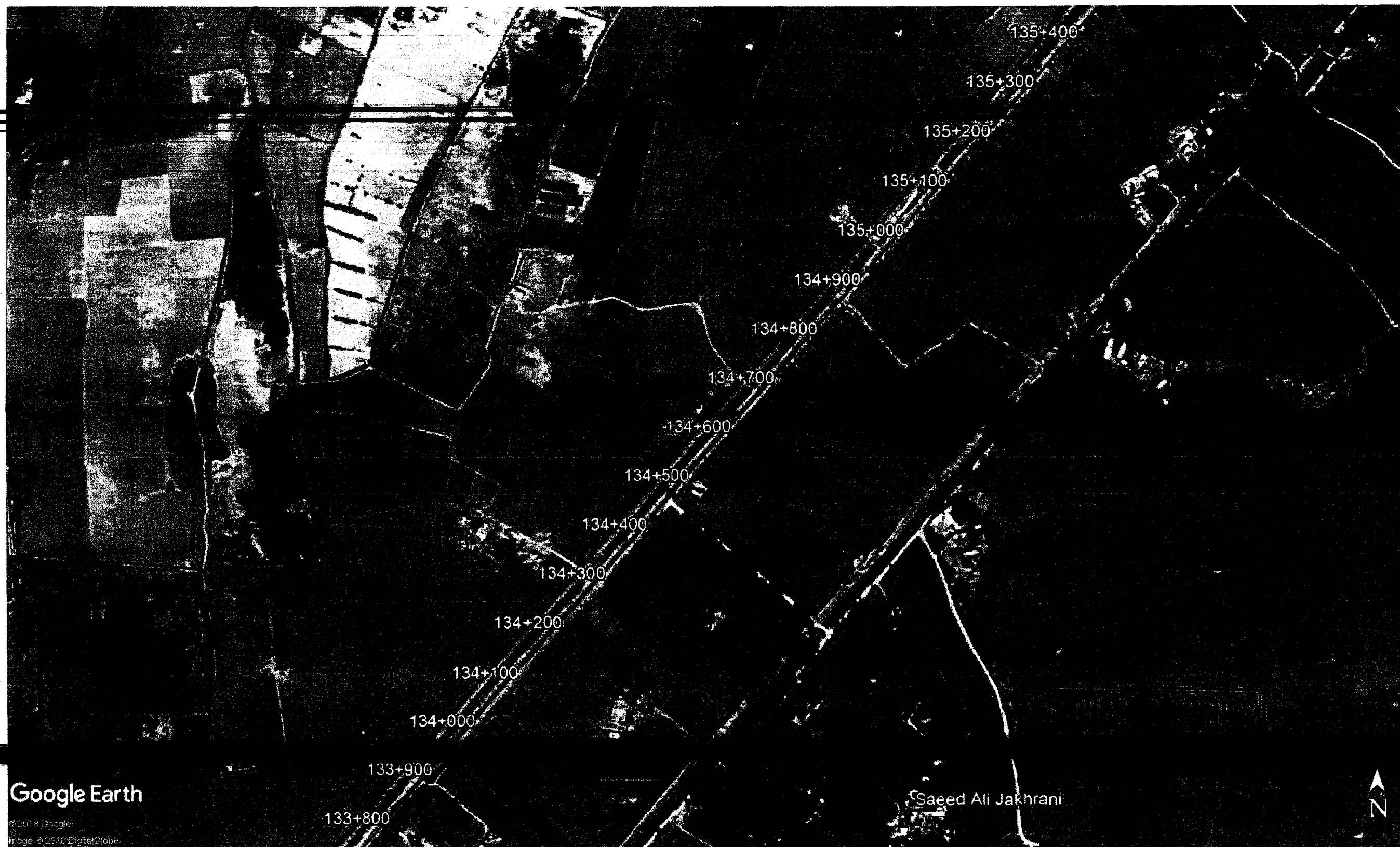
 <div>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</div>	 <div>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</div>	04	<div>JAWAD UL HAQ Project Manager M/S NESPAK</div>	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	 <div>TITLE ROUTE LOCATION PLAN</div>	SCALE
		03		SUBMITTED BY				
		02		RECOMMENDED BY				
		01		CHD./VER. BY				
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY		

TENDER DRAWING
NOT TO BE USED FOR CONSTRUCTION



Google Earth

 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWAD UL HAQ Project Manager M/S NESPAK		DRAWN BY	RAJA SHAFIQ	 P&CA National Highway Authority Government of Pakistan MARCH 2018	ROUTE LOCATION PLAN	SCALE
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		01			CHD./VER. BY				
		REV.		DATE	DESCRIPTION	APPROVED	APPROVED BY	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	
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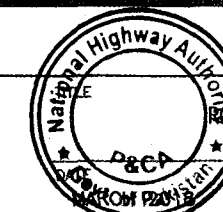


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN

DRAWING NO.
3905/102/TD/ RLP-16

SCALE
REV.

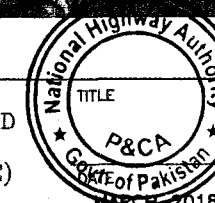


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

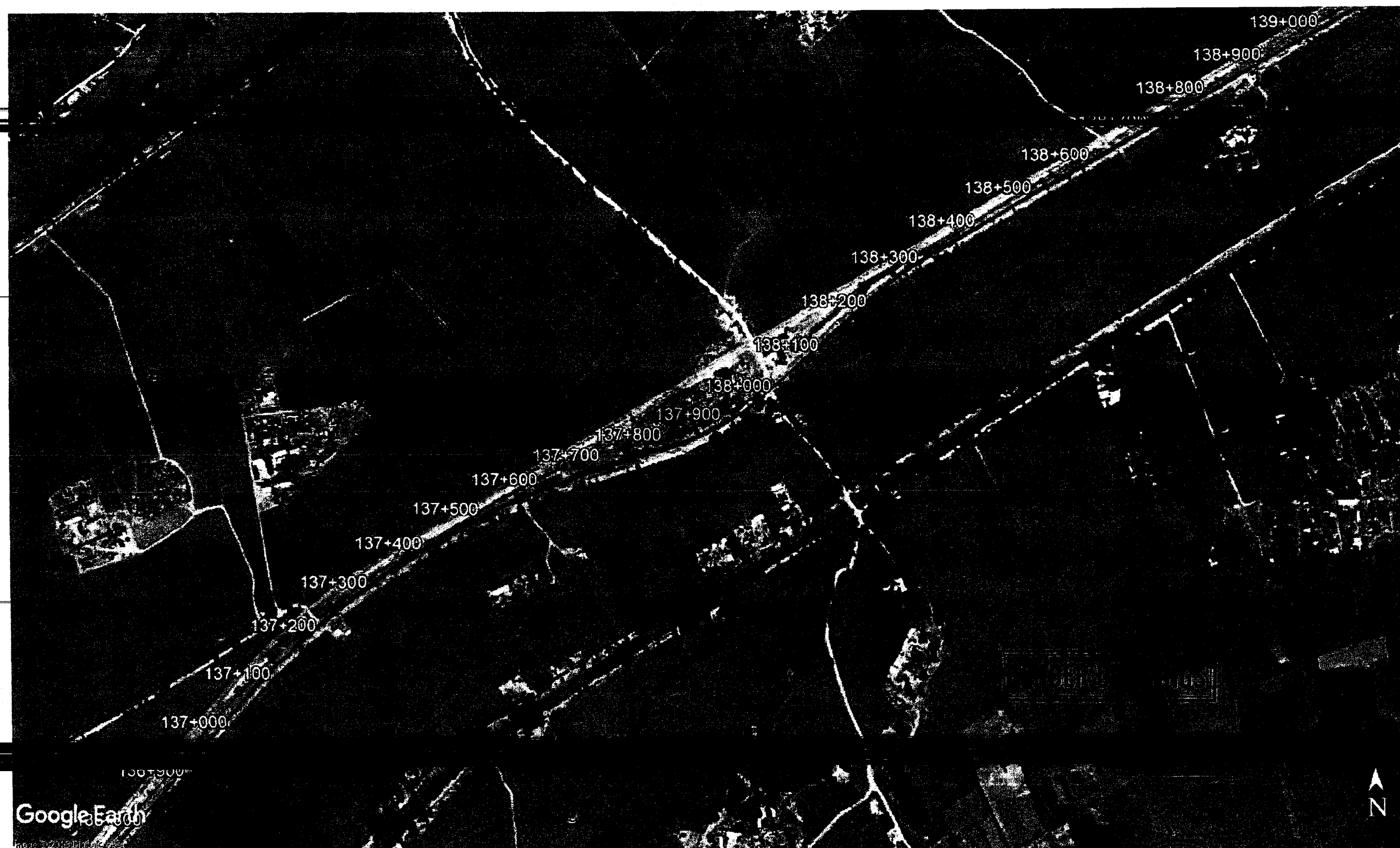
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03		Project Manager	SUBMITTED BY	
02		M/S NESPAK	RECOMMENDED BY	
01			CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN		SCALE
DRAWING NO.	3905/102/TD/ RLP-17	REV.

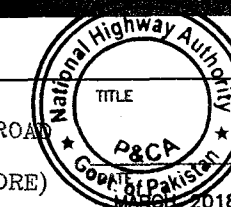


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN BY	RAJA SHAFIQ
03			SUBMITTED BY	
02			RECOMMENDED BY	
01			CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN

DRAWING NO.
3905/102/TD/ RLP-18

SCALE
REV.



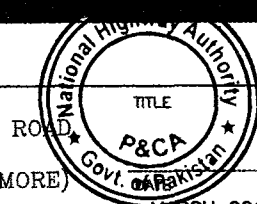
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04					
03					
02					
01					
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

DRAWN BY	RAJA SHAFIQ
SUBMITTED BY	
RECOMMENDED BY	
CHD./VER. BY	
APPROVED BY	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN
DRAWING NO. 3905/102/TD/ RLP-19

SCALE
REV.

TENDER DRAWING
NOT TO BE USED FOR CONSTRUCTION



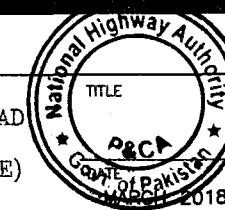
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04				DRAWN BY	RAJA SHAFIQ
03				SUBMITTED BY	
02				RECOMMENDED BY	
01				CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

JAWAD UL HAQ
Project Manager
M/S NESPAK

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



ROUTE LOCATION PLAN

DRAWING NO.
3905/102/TD/ RLP-20

SCALE
REV.

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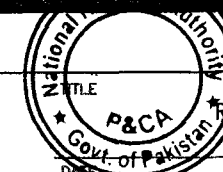
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04				DRAWN BY	RAJA SHAFIQ
03				SUBMITTED BY	
02				RECOMMENDED BY	
01				CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

JAWAD UL HAQ
Project Manager
M/S NESPAK

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



MARCH 2018

ROUTE LOCATION PLAN

DRAWING NO.
3905/102/TD/ RLP-21

SCALE


REV.


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
Google Earth

Image © 2015 DigitalGlobe
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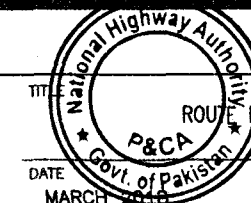
 GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

 NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04				DRAWN BY	RAJA SHAFIQ
03				SUBMITTED BY	
02				RECOMMENDED BY	
01				CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	


JAWAD UL HAQ
Project Manager
M/S NESPAK

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)



TITLE	ROUTE LOCATION PLAN	SCALE	
DATE	MARCH 2016	DRAWING NO.	3905/102/TD/ RLP-22
REV.			

TENDER DRAWING
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NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03		Project Manager	SUBMITTED BY	
02		M/S NESPAK	RECOMMENDED BY	
01			CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

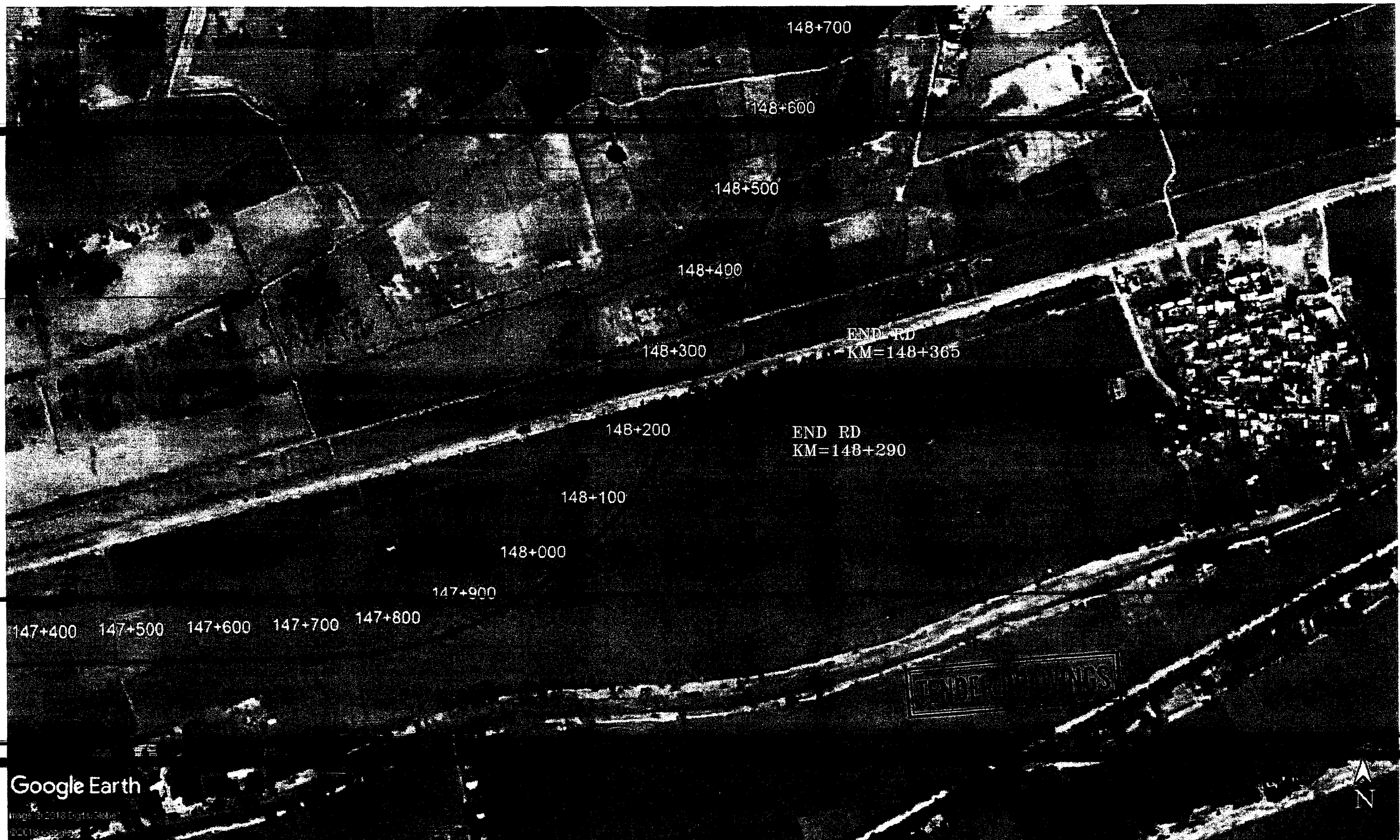
TITLE
LOCATION PLAN

DATE
MARCH 2018

DRAWING NO.
3905/102/TD/ RLP-23

SCALE

REV.



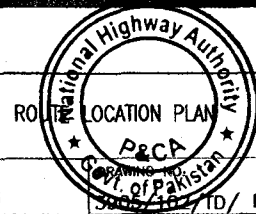
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ	DRAWN BY	RAJIA SHAFIQ
05		Project Manager	SUBMITTED BY	
02		M/S NESPAK	RECOMMENDED BY	
01			CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE
DATE
MARCH 2018



SCALE
REV.



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NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03		Project Manager	SUBMITTED BY	
02		M/S NESPAK	RECOMMENDED BY	
01			CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY

RATODF RG ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE
DATE
MARCH 2018



DRAWING NO.
3905/102/TD/ RLP-25

SCALE
REV.



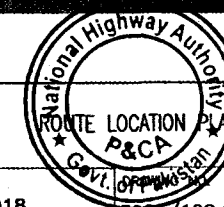
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

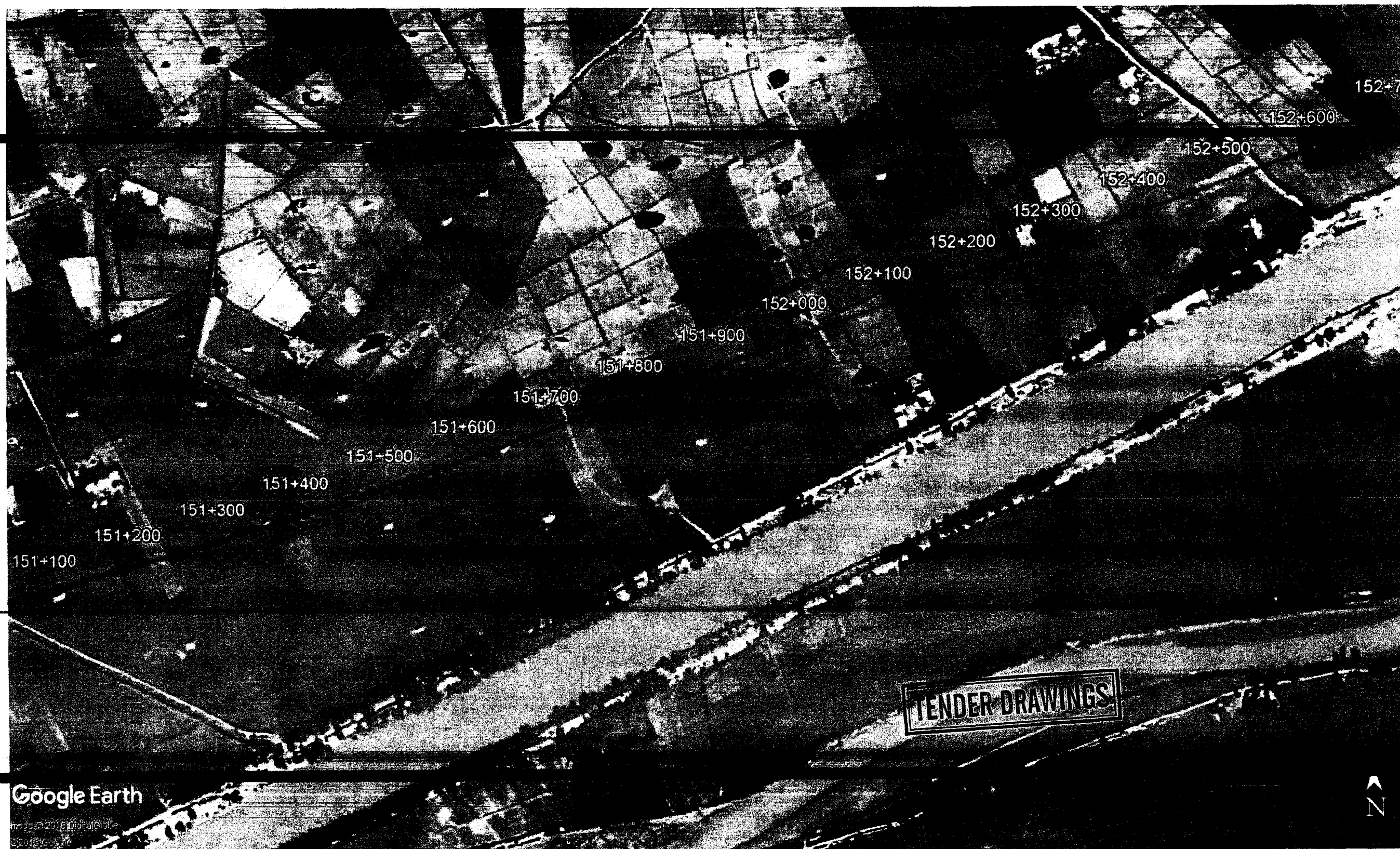
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.





04			DRAWN BY	RAJA SHAFIQ
03		JAWAD UL HAQ	SUBMITTED BY	
02		Project Manager	RECOMMENDED BY	
01		M/S NESPAK	CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	SCALE
DATE MARCH 2018	REV.
5905/102/TD/ RLP-26	





 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	 JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		TITLE	SCALE
		03		SUBMITTED BY					
		02		RECOMMENDED BY					
		01		CHD./VER. BY					
		REV.	DATE	DESCRIPTION	APPROVED			APPROVED BY	DATE
					MARCH 2018	3905/102/TD/ RLP-27			

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N

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MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

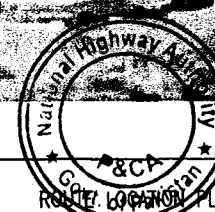
JAWAD UL HAQ
Project Manager
M/S NESPAK

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED BY

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE

DATE
MARCH 2018

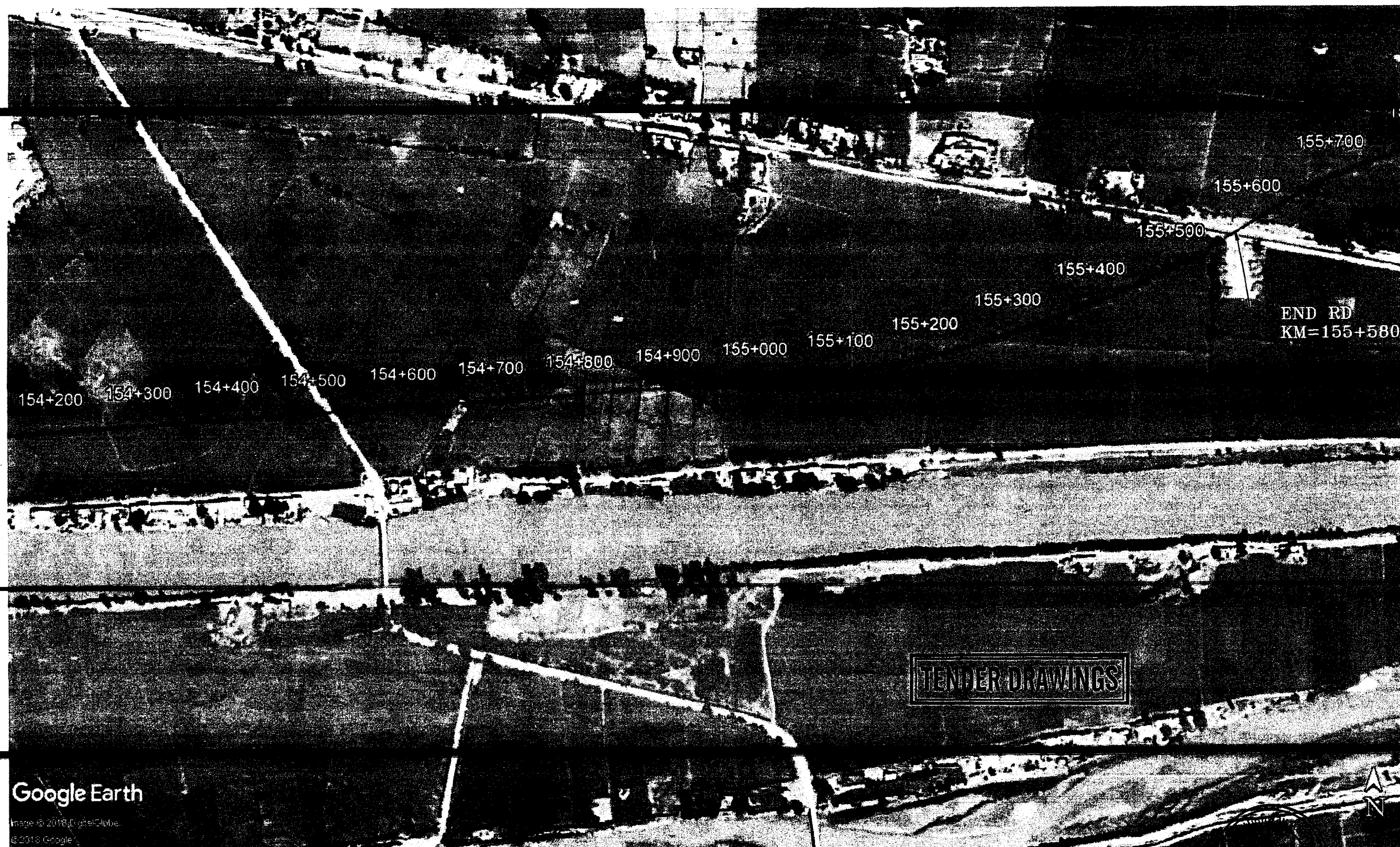


ROUTE LOCATION PLAN

DRAWING NO.
3905/102/1D/ RLP-26

SCALE

REV.



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NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED




RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	SCALE
DATE MARCH 2018	DRAWING NO. 3905/102/TD/ RLP-29
REV.	

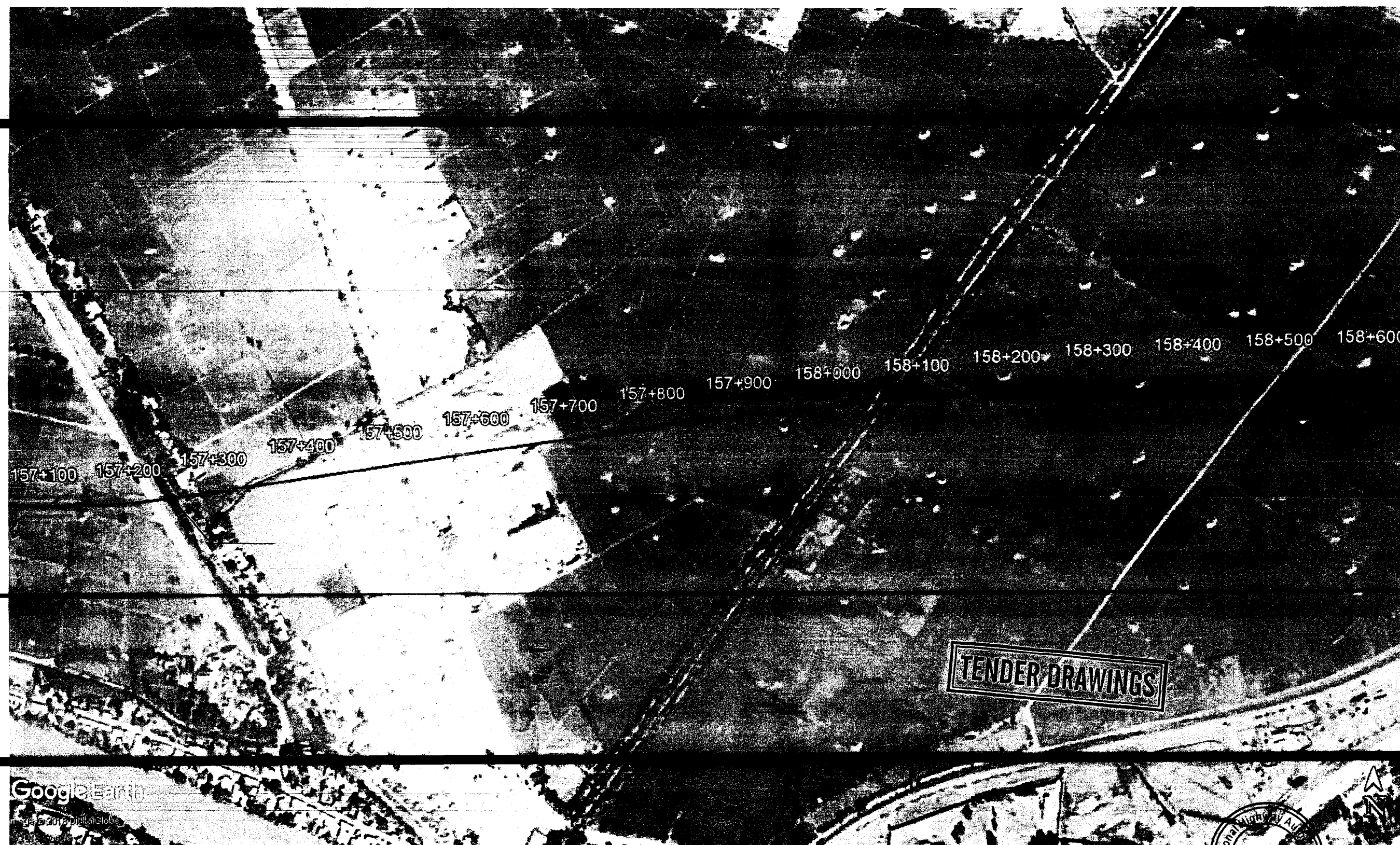


Google Earth



 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWAD UL HAO Project Manager M/S NESPAK	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE		 ROAD PLAN	SCALE
		03		SUBMITTED BY						
		02		RECOMMENDED BY						
		01		CHD./VER. BY						
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY		DATE	MARCH 2018	DRAWING NO.

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MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

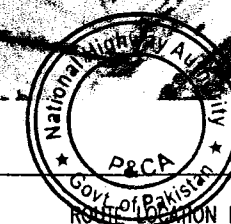
TITLE

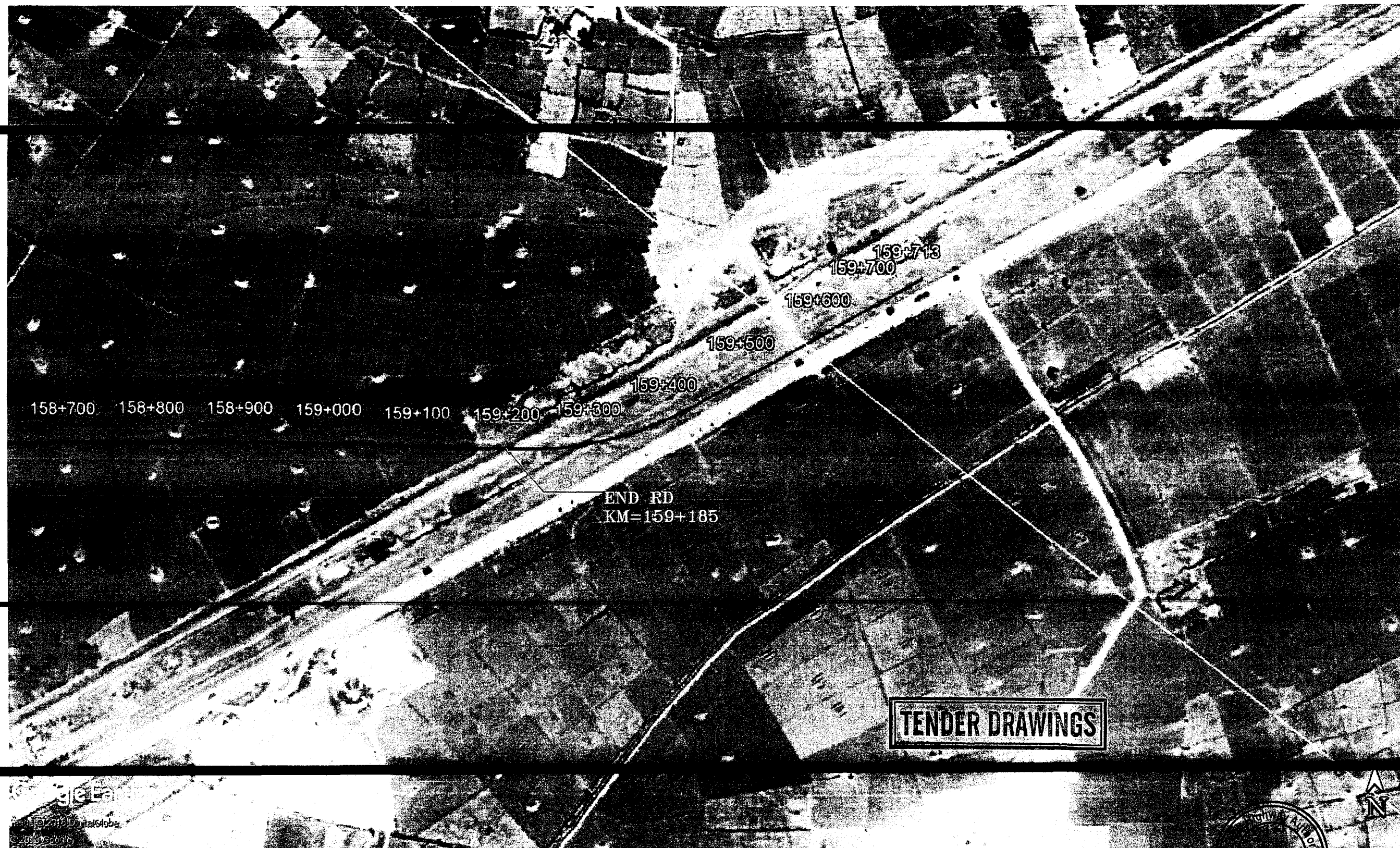
DATE
MARCH 2018

DRAWING NO.
3905/102/TD/ RLP-31

SCALE

REV.





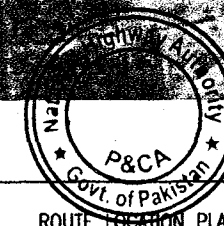
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

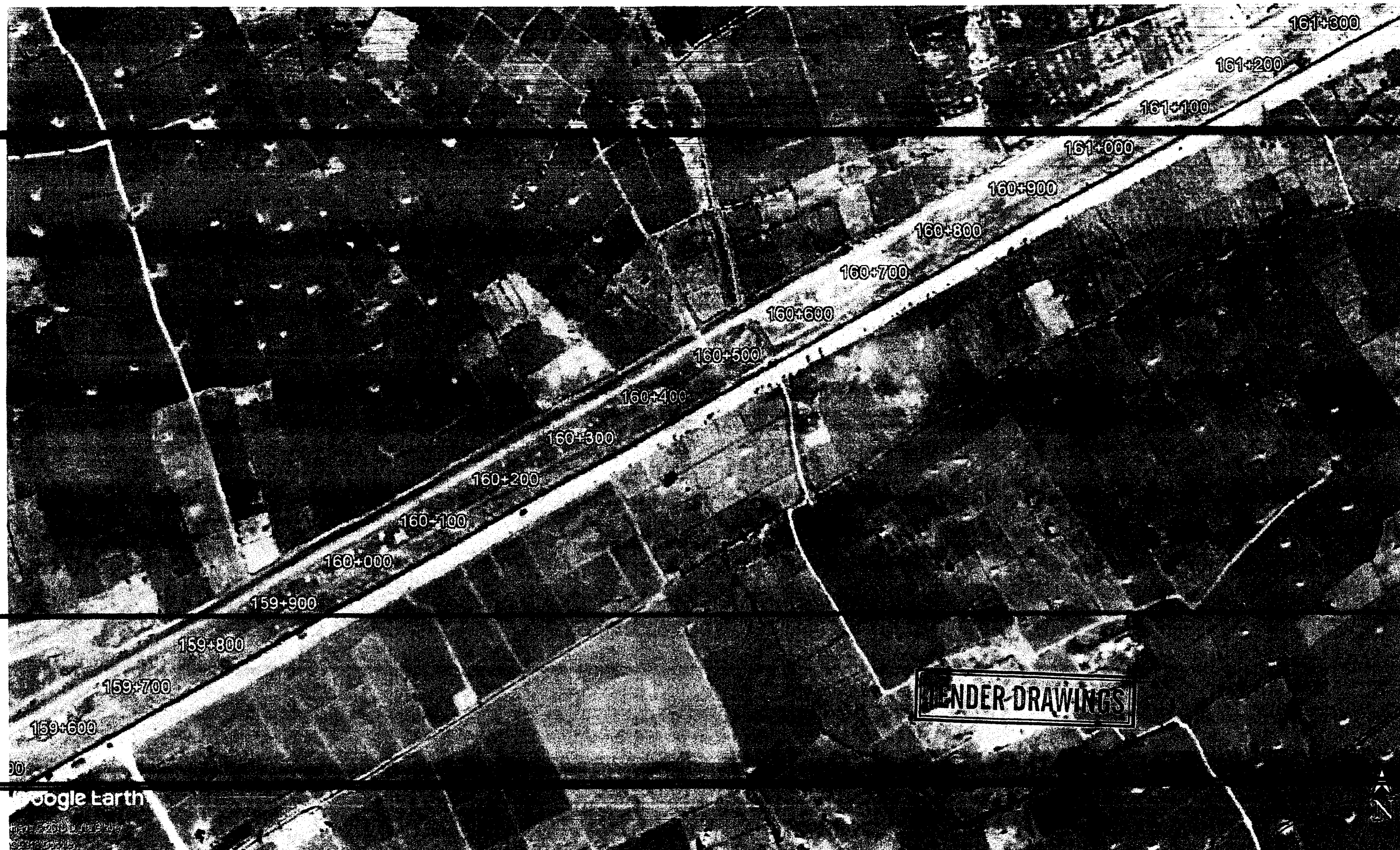
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03		Project Manager	SUBMITTED BY	
02		M/S NESPAK	RECOMMENDED BY	
01			CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY

RATODERO ~ RAJANPUR ROAD
SECTION-III
(KANDH KOT TO KASHMORE)

TITLE	ROUTE LOCATION PLAN	SCALE
DATE	DRAWING NO.	REV.
MARCH 2018	3905/102/TD/ RLP-32	





GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJIA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	ROUTE LOCATION	SCALE
DATE MARCH 2018	DRAWING NO. 3905/102/TD/ RLP-33	REV.



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MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

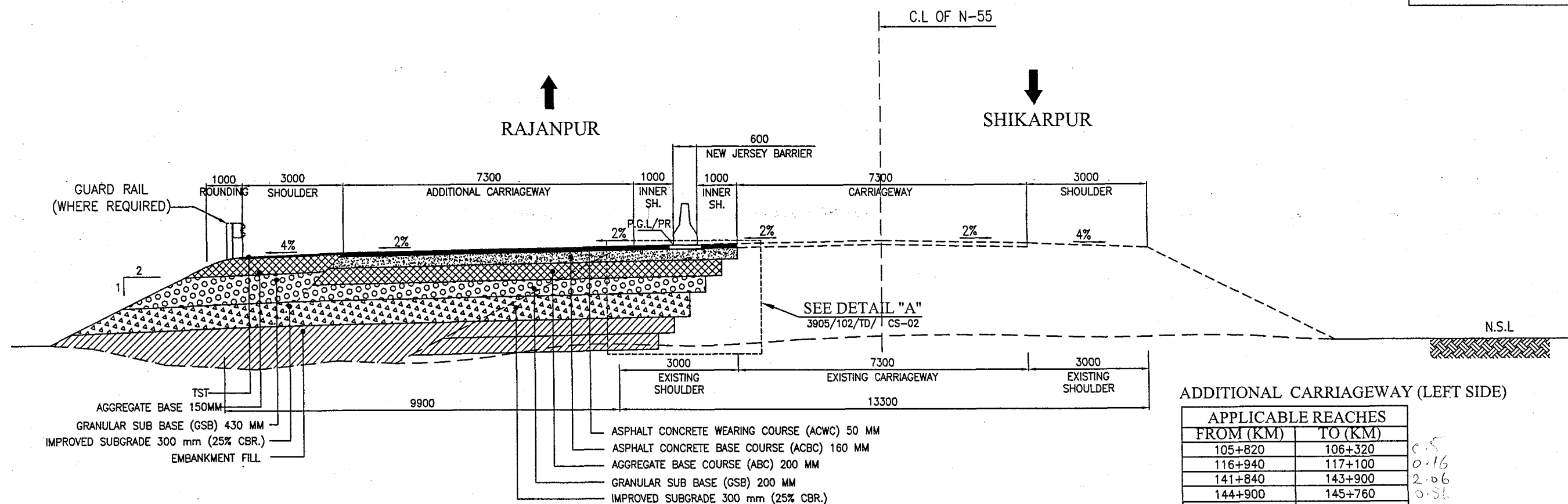
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE
DATE
MARCH 2018



DRAWING NO.
3905/102/TD/ RLP-34

SCALE
REV.

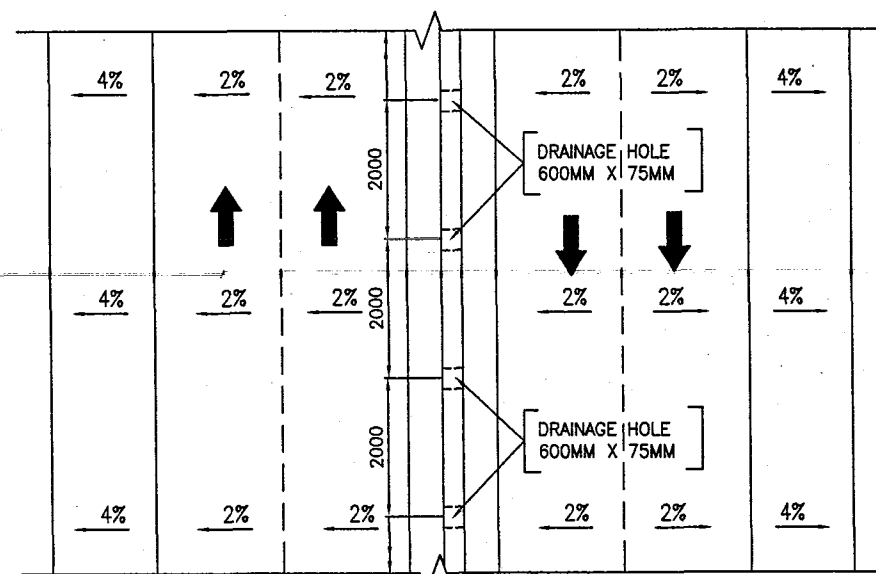


ADDITIONAL CARRIAGEWAY (LEFT SIDE)

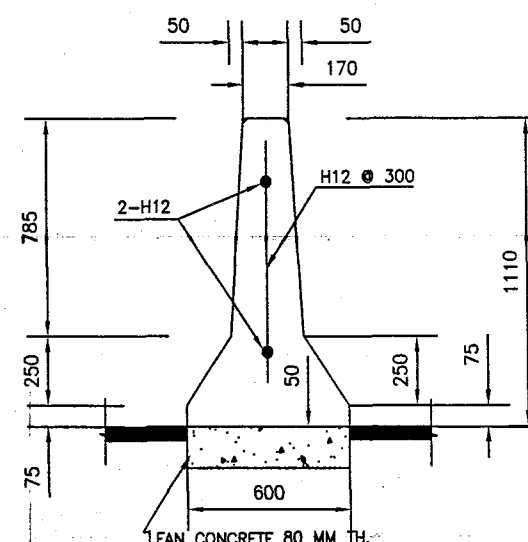
APPLICABLE REACHES	
FROM (KM)	TO (KM)
105+820	106+320
116+940	117+100
141+840	143+900
144+900	145+760
159+700	164+600

0.5
0.16
2.06
0.56
4.9
8.48

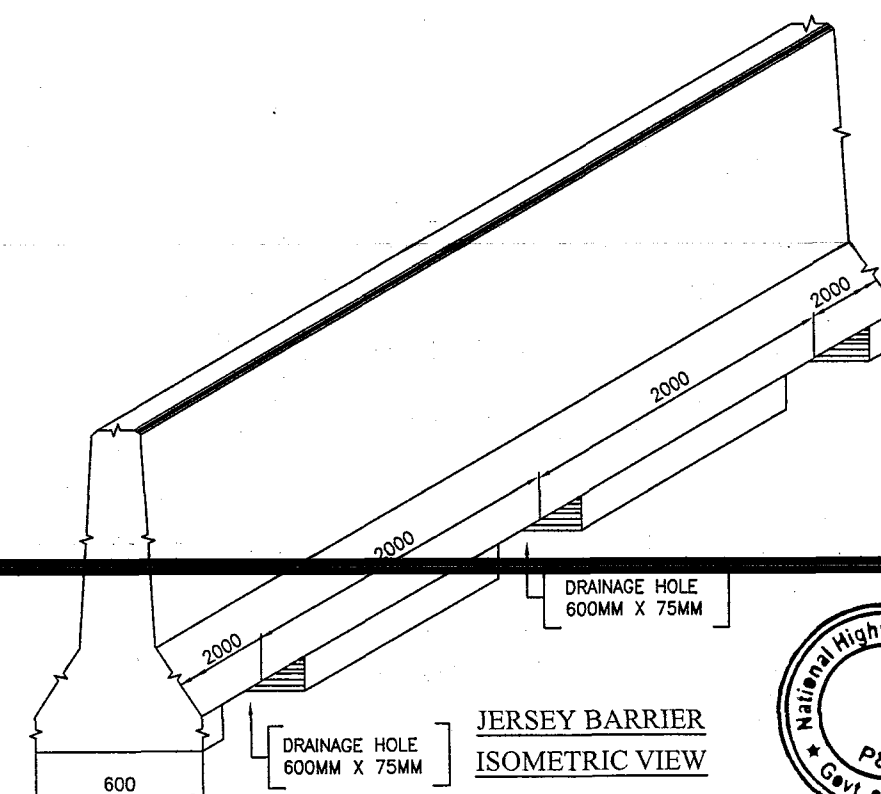
TYPICAL X-SECTION FOR ADDITIONAL CARRIAGEWAY ON LEFT SIDE



TYPICAL PLAN



DETAIL OF JERSEY BARRIER



JERSEY BARRIER
ISOMETRIC VIEW

NOTE.

- 1-ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- 2-FOR NOTES REFER DRAWING NO. CS-04.
- 3-GRANULAR PAVEMENT SHALL BE PAID 1H:1V AND ASPHALTIC LAYER SHALL BE PAID VERTICAL.

TENDER DRAWINGS

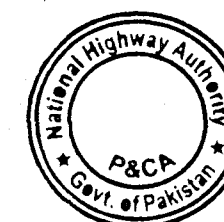
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

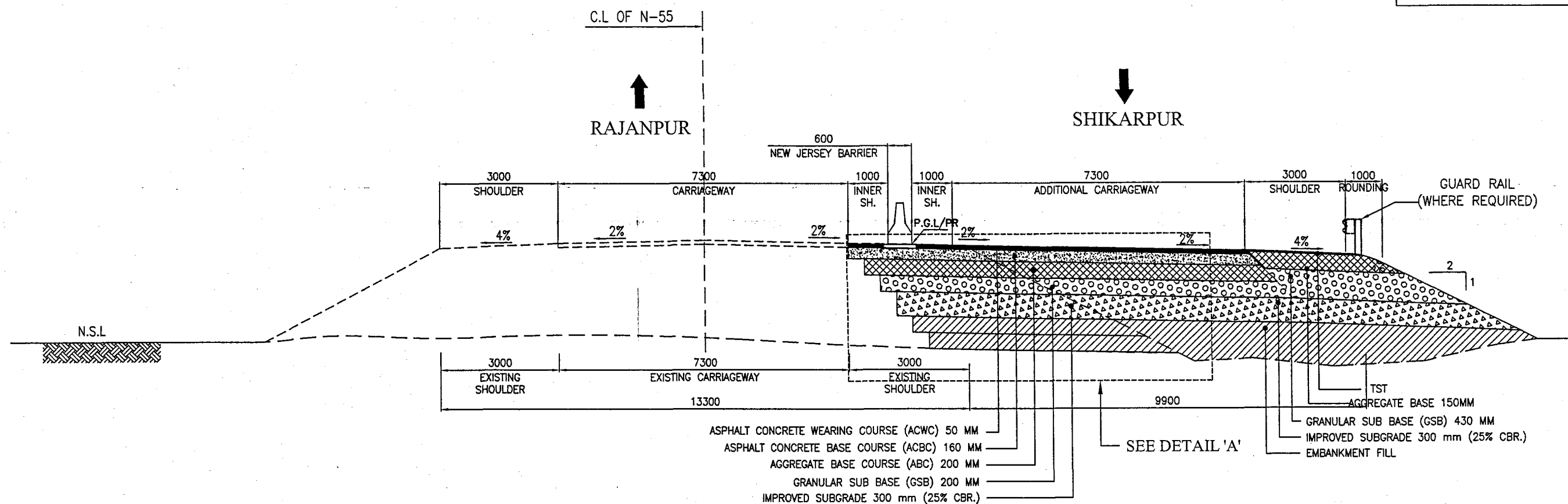
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04				DRAWN BY	RAJA SHAFIQ
03				SUBMITTED BY	
02				RECOMMENDED BY	
01				CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	TYPICAL CROSS SECTION	SCALE	
DATE	MARCH 2018	DRAWING NO.	3905/102/TD/ CS-01
REV.			



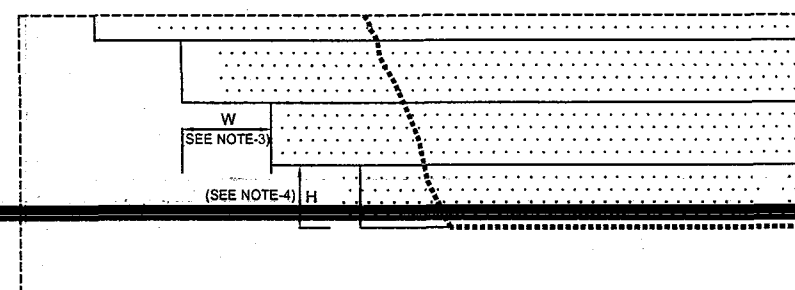


ADDITIONAL CARRIAGEWAY (RIGHT SIDE)

APPLICABLE REACHES	
FROM (KM)	TO (KM)
110+340	116+220
117+760	120+560
121+960	125+500
127+280	128+830
129+280	130+040
131+200	133+400
135+160	141+200

5.88
2.8
3.54
1.55
0.76
2.2
6.04
22.77

TYPICAL X-SECTION FOR ADDITIONAL CARRIAGEWAY ON RIGHT SIDE



DETAIL "A"

NOTES:

- 1- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- 2- FOR DETAILS REFER RELEVANT DRAWINGS.
- 3- MINIMUM DIMENSION "W" SHALL BE 300
- 4- "H" SHALL BE LIMITED TO A MAXIMUM OF 150.
- 5- BENCHES TO BE EXCAVATED ONE LEVEL AT A TIME AND THE COMPACTED FILL BROUGHT UP BEFORE THE NEXT LEVEL OF ENCHING IS EXCAVATED.
- 6- PROPER CONFINEMENT WITH A -4 MATERIAL SHALL BE CARRIED OUT IN CASE A-3 (SAND) OR NON-COHESIVE MATERIAL IS USED IN WIDENING PORTION.
- 7- NO SEPARATE PAYMENT SHALL BE MADE FOR CUTTING/BENCHING INTO EXISTING GROUND /SLOPE.
- 8- FOR OTHER NOTES REFER DRAWING # CS-04.

TENDER DRAWINGS

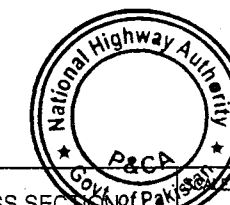
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

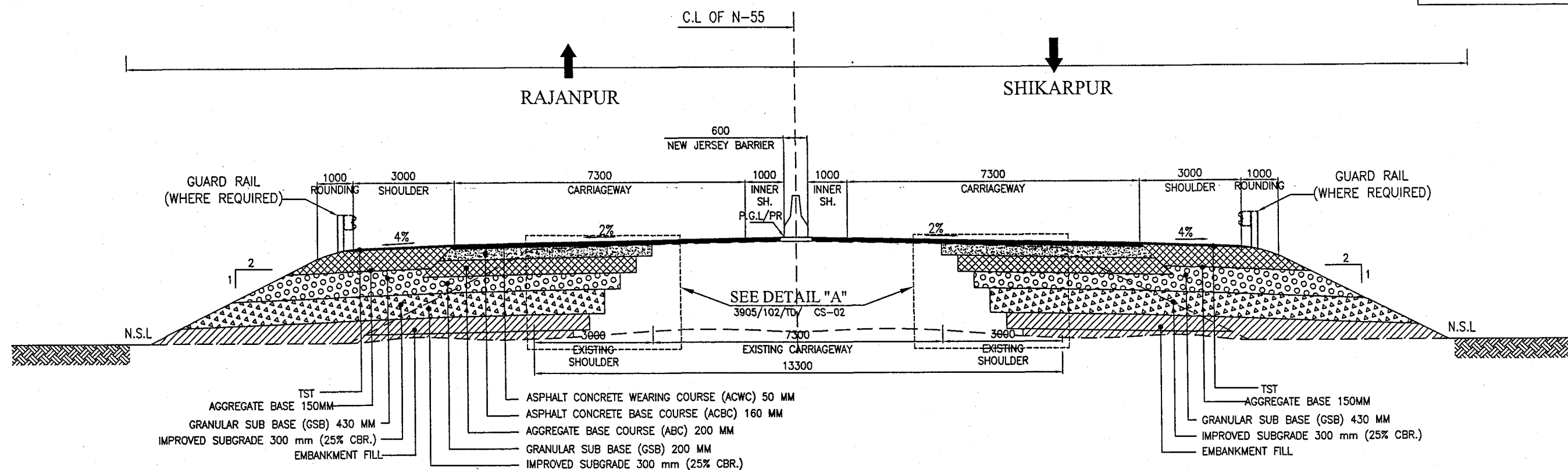
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	TYPICAL CROSS SECTION ADDITIONAL CARRIAGEWAY		
DATE	MARCH 2018	DRAWING NO.	3905/102/TD/
REV.		CS-02	





TYPICAL X-SECTION WITH BOTH SIDE WIDENING

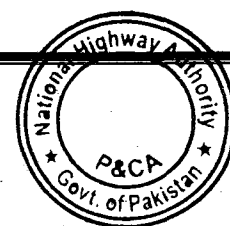
BOTH SIDE WIDENING	
APPLICABLE REACHES	
FROM (KM)	TO (KM)
106+320	110+340
116+220	116+940
117+100	117+760
120+560	121+960
125+500	127+280
128+830	129+280
130+040	130+740
133+400	135+160
141+200	141+840
143+900	144+900
145+760	146+100



4.02
0.72
0.66
1.4
1.78
0.45
0.7
1.76
0.64
1
0.34
<hr/> 13.47

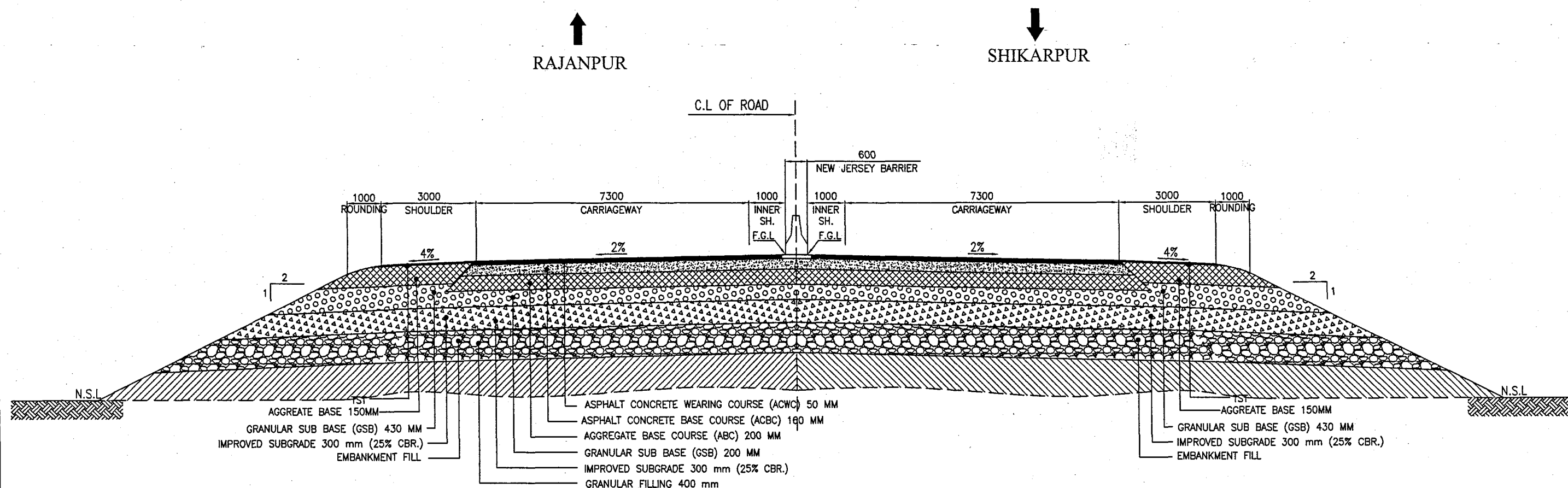
NOTE.

1-ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2-FOR NOTES REFER DRAWING NO. CS-04.

TENDER DRAWINGS



 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWAD UL HAQ Project Manager M/S NESPAK		DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE TYPICAL CROSS SECTION		SCALE
		03			SUBMITTED BY					
		02			RECOMMENDED BY					
		01			CHD./VER. BY					
		REV.		DATE	DESCRIPTION	APPROVED		APPROVED BY		
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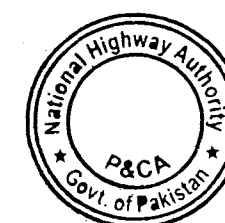




ADDITIONAL CARRIAGEWAY (NEW CONSTRUCTION)

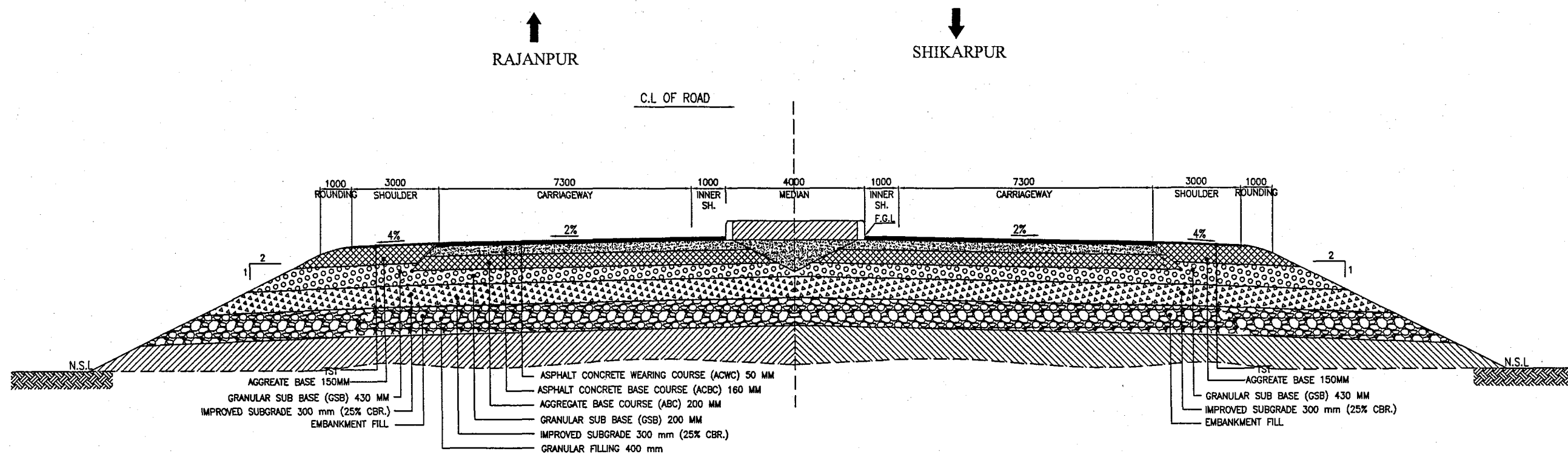
APPLICABLE REACHES	
FROM (KM)	TO (KM)
130+740	131+200

TYPICAL X-SECTION FOR NEW CONSTRUCTION

TENDER DRAWINGS



 <div>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</div>	 <div>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</div>	04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE TYPICAL CROSS SECTION		SCALE
		03	Project Manager	SUBMITTED BY					
		02	M/S NESPAK	RECOMMENDED BY					
		01		CHD./VER. BY					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY		DATE MARCH 2018	DRAWING NO. 3905/102/TD/



ADDITIONAL CARRIAGEWAY (NEW CONSTRUCTION)

APPLICABLE REACHES	
FROM (KM)	TO (KM)
146+100	159+700

13.6

TYPICAL X-SECTION FOR NEW CONSTRUCTION

TENDER DRAWINGS



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	IAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

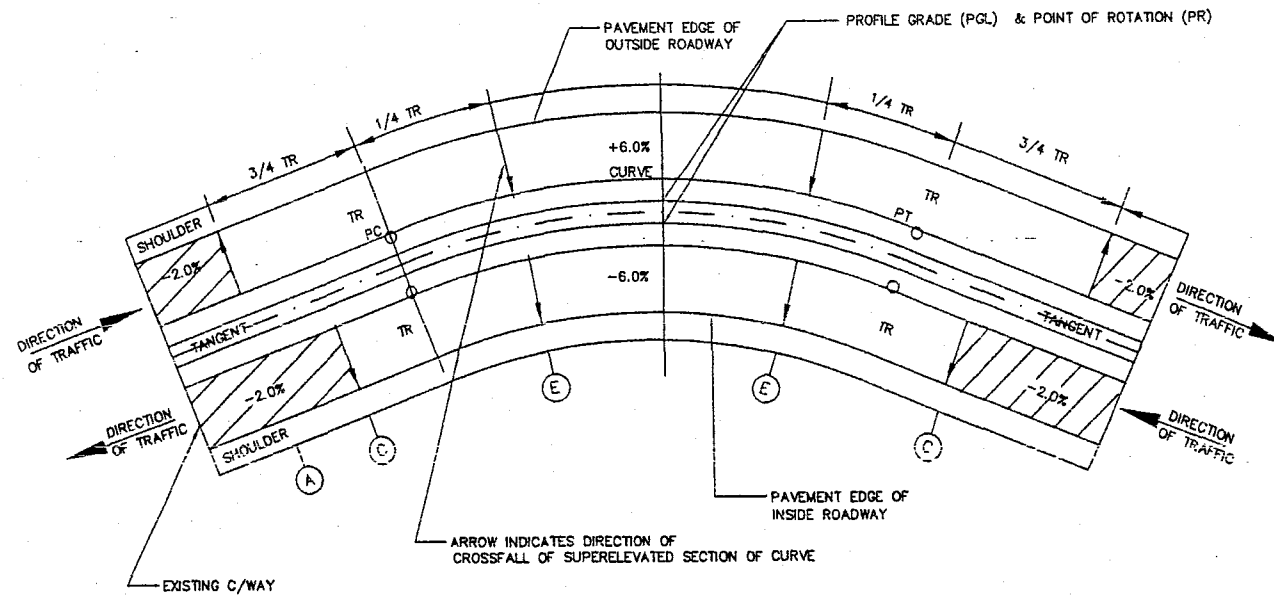
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE		SCALE
TYPICAL CROSS SECTION		
DATE	DRAWING NO.	REV.
MARCH 2018	3905/102/TD/	CS-07

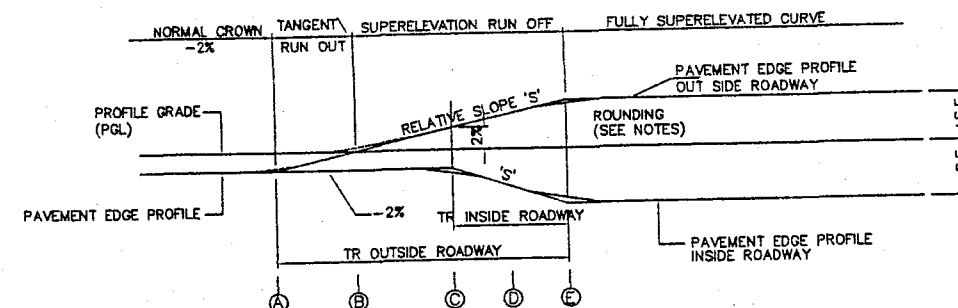
TABLE-I
RELATIVE SLOPE FOR SUPERELEVATED EDGE (%)

DESIGN SPEED Km / Hr	2 LANE ROAD	1 LANE RAMP	2 LANE RAMP
50	0.67	0.80	1.00
80	0.50		
100 *	0.45		
120	0.40		

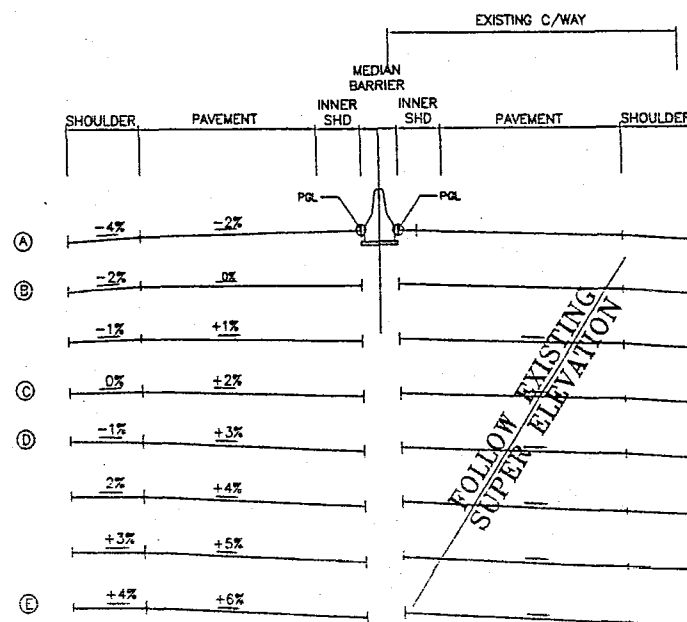
* VALUE TO BE ADOPTED FOR THIS PROJECT.



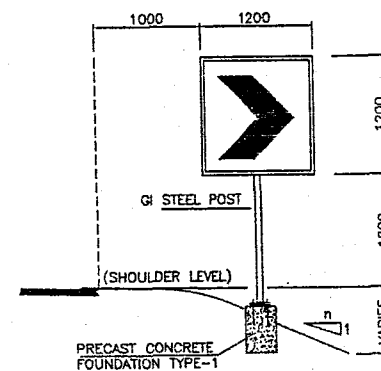
PLAN OF TYPICAL
SUPERELEVATION TRANSITION



PROFILE OF TYPICAL EDGE
SUPERELEVATION TRANSITIONS



SECTIONS OF TYPICAL
DISTRIBUTION OF SUPERELEVATION

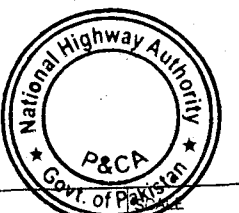




SHARP DEVIATION SIGN
(ON SHARP CURVES)

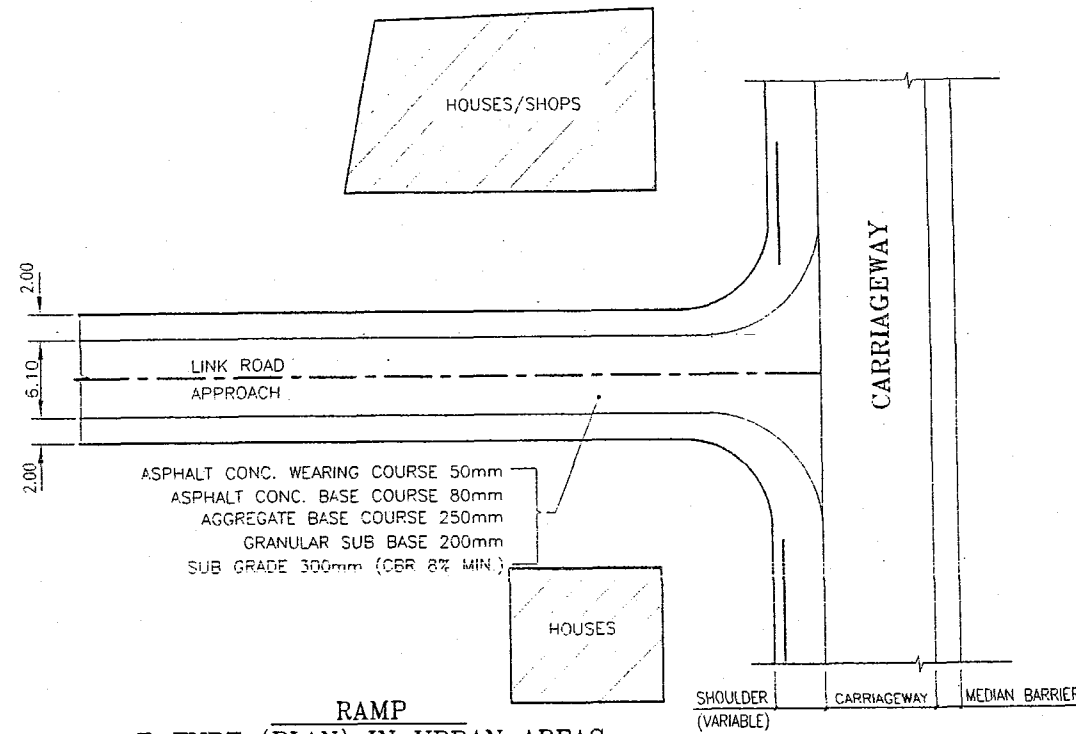
TENDER DRAWINGS

NOTES :-

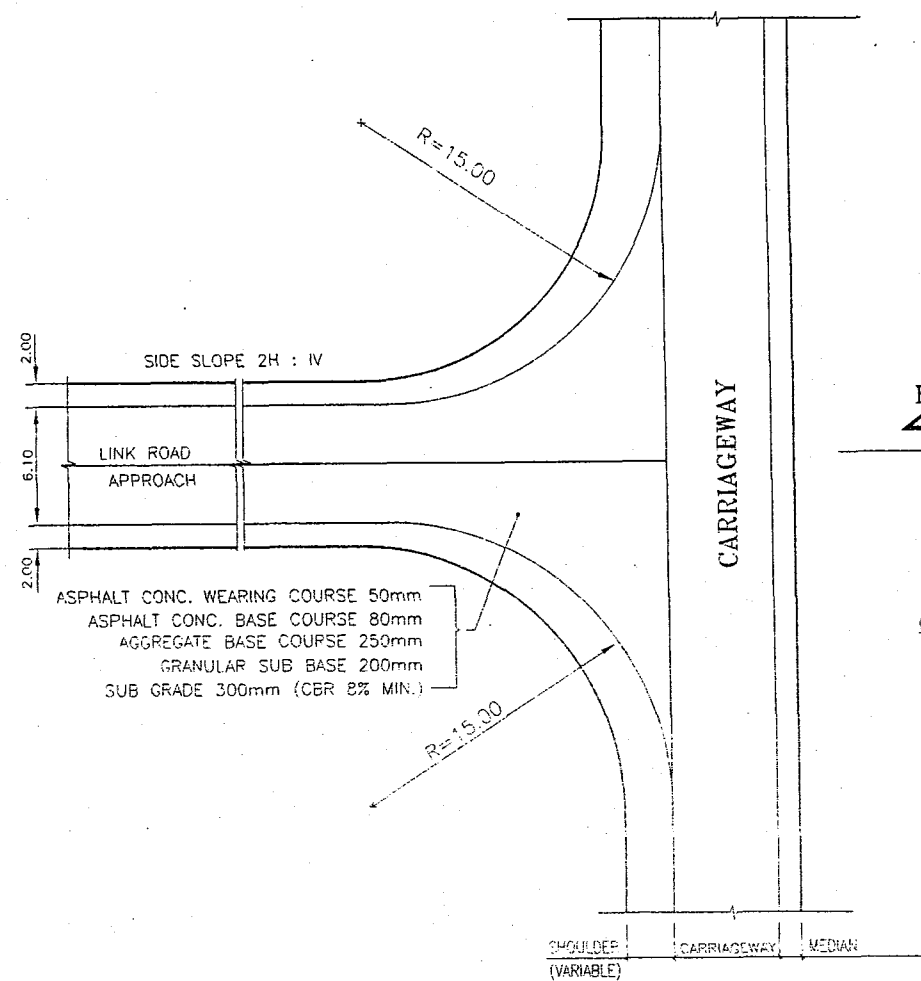
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
- ALL SUPERELEVATION RATES ARE EXPRESSED IN UNITS PER HUNDRED (%).
- PROFILE GRADE LINE (PGL) AND POINT OF ROTATION (PR) SHALL BE AS SHOWN IN THE TYPICAL CROSS SECTION.
- FOLLOWING SIGN CONVENTION FOR SUPERELEVATION RATE ARE APPLICABLE
(-) WHEN LEFT EDGE OF PAVEMENT OR SHOULDER, IN DIRECTION OF TRAFFIC IS LOWER THAN RIGHT EDGE.
(+) WHEN LEFT EDGE OF PAVEMENT OR SHOULDER, IN DIRECTION OF TRAFFIC, IS HIGHER THAN RIGHT EDGE.
- EDGE PROFILES OF SUPERELEVATED PAVEMENT AND SHOULDERS SHALL BE FREE FROM IRREGULARITIES, ROUNDING AT POINTS A, C & E SHALL BE ACHIEVED USING A 20 METER MINIMUM VERTICAL CURVE.
- THE FORMULAE USED FOR CALCULATION OF INNER & OUTER TRs ARE AS UNDER:-
(i). LENGTH OF TR = $\frac{\text{REQUIRED S.E.} \times \text{CROSS SLOPE}}{\text{S FACTOR}} \times \text{PAVEMENT WIDTH TO BE ROTATED}$
(ii). 'S' FACTOR IS TAKEN FROM TABLE-I. THE LENGTH OF TRs ARE INDICATED ON PLAN & PROFILE SHEETS, WHICH MAY BE ADJUSTED AS PER SITE CONDITIONS AND/OR AS APPROVED BY THE ENGINEER'S REPRESENTATIVE.
- THE RATE OF SUPERELEVATION (S.E) IS RESTRICTED TO A MAXIMUM OF 6%.



	GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWED UL HAQ Project Manager M/S NESTAK	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE TYPICAL SUPERELEVATION DETAILS		
			03		SUBMITTED BY	YAR				
			02		RECOMMENDED BY	YAR				
			01		CHD./VER. BY	YAR				
			REV.		DATE	APPROVED BY				
								DATE	DRAWING NO.	REV.
								MARCH 2016	3905/102/TD/ 15-01	



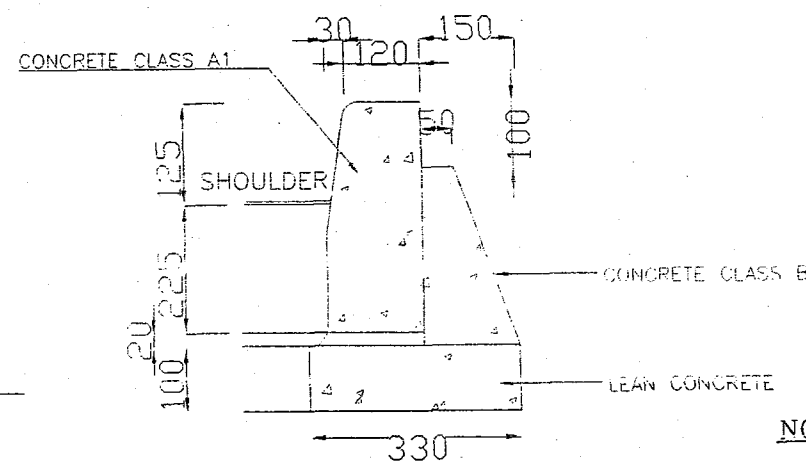
RAMP
T-TYPE (PLAN) IN URBAN AREAS



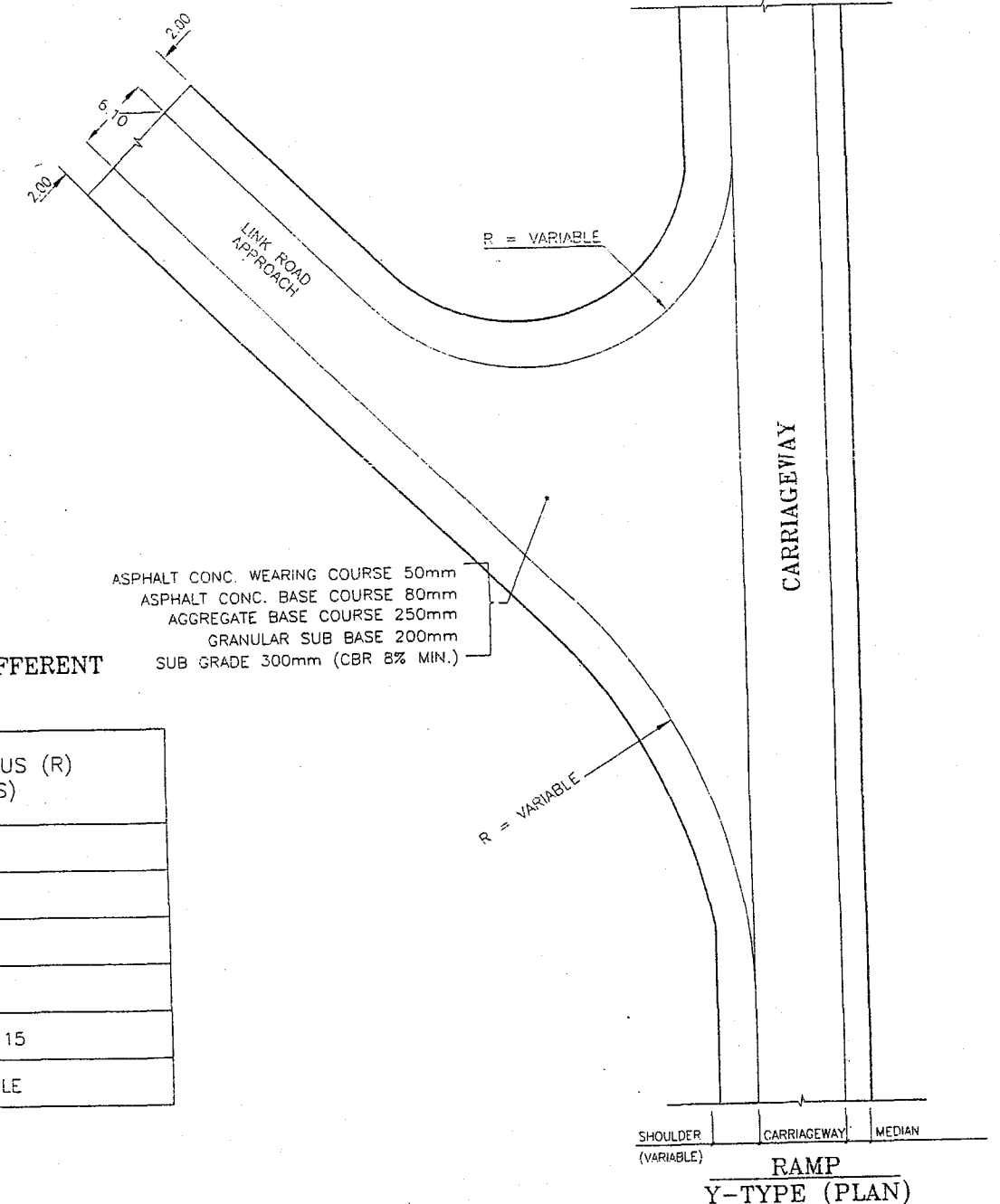
RAMP
T-TYPE (PLAN)

RECOMMENDED CURVE RADII FOR DIFFERENT
ANGLES OF TURN

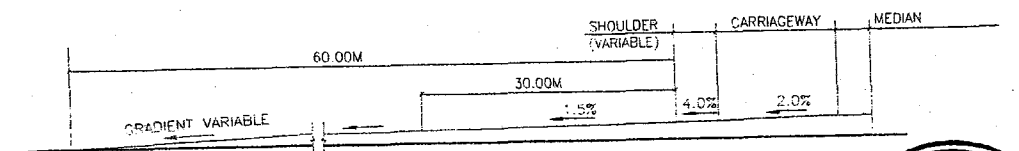
ANGLE OF TURN (DEGREES)	CURVE RADIUS (R) (METRES)
30	30
45	23
60	18
75	16
90	12 TO 15
>90	VARIABLE



CURB STONE

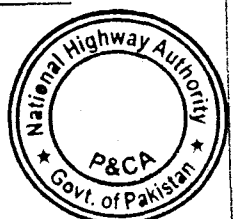


RAMP
Y-TYPE (PLAN)



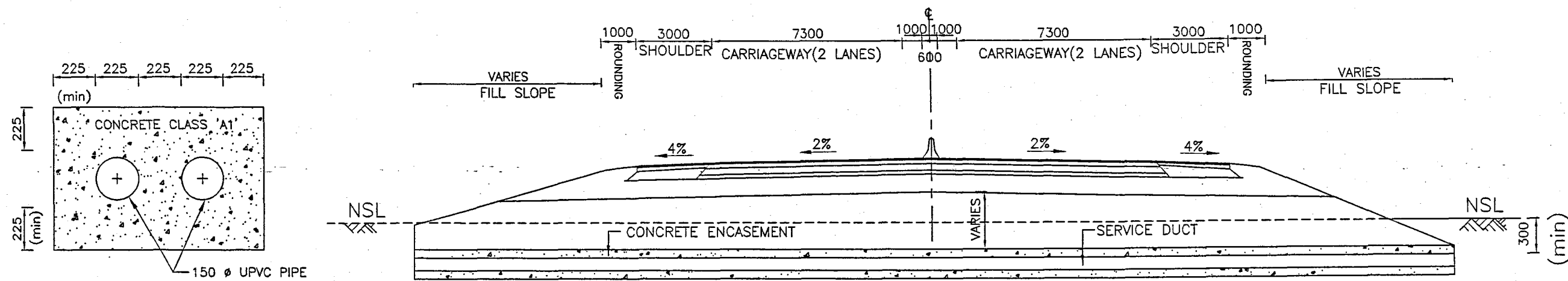
SECTION AT E-E

TENDER DRAWINGS



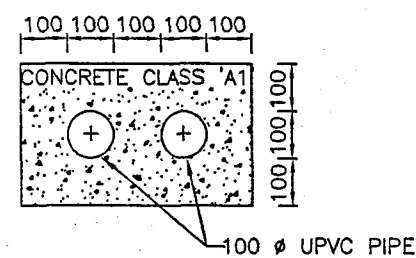
NOTES:

- 1- ALL DIMENSIONS ARE IN MILLIMETERS OTHERWISE MENTIONED.
- 2- RAMPS ARE TO BE MATCHED WITH DESIGN FINISHED ROAD LEVEL OF PROJECT ROAD.

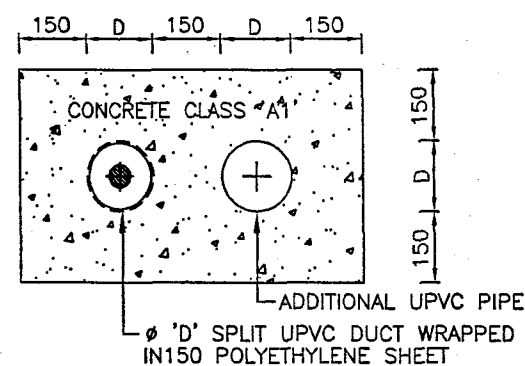


(FUTURE DUCTS FOR
ELECTRICAL CABLES)

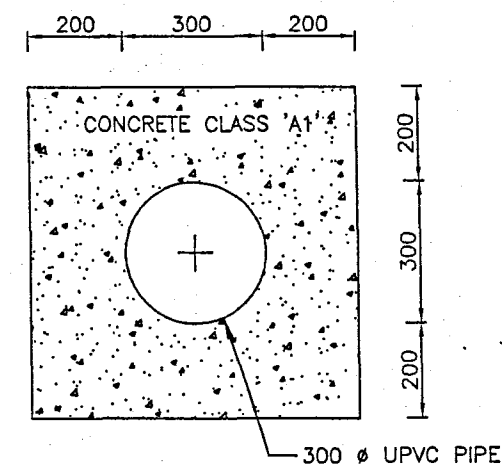
TYPICAL CROSS SECTION OF SERVICE DUCTS ACROSS



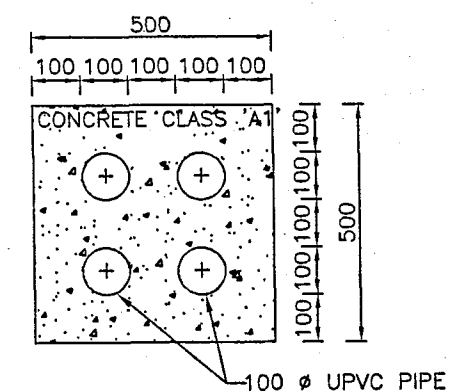
(FUTURE DUCTS FOR
TELEPHONE CABLES TWO WAY)



DUCT FOR PROTECTION OF EXISTING SERVICES



(FUTURE DUCTS FOR WATER LINES)

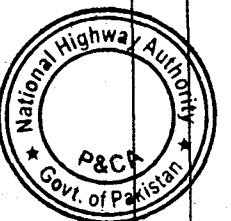


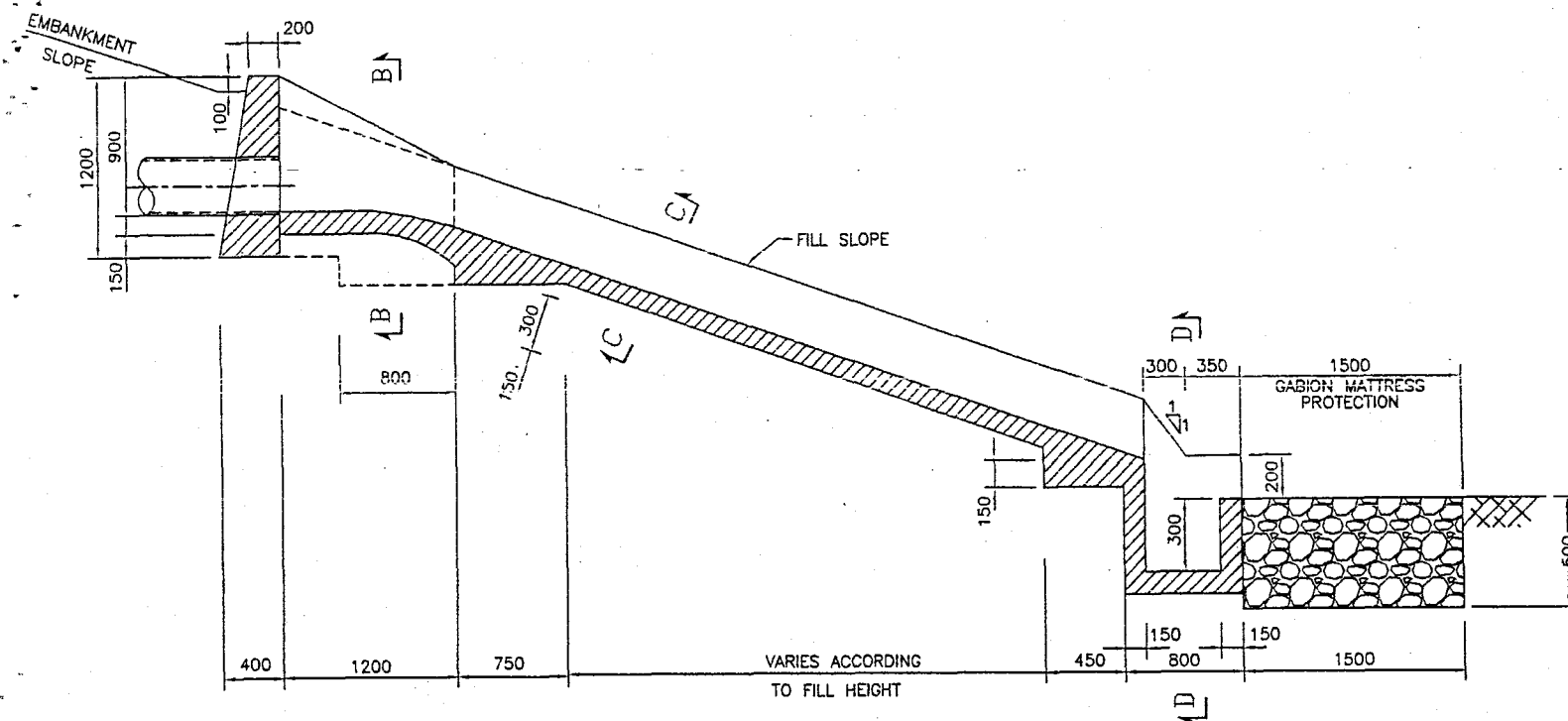
(FUTURE DUCTS FOR
TELEPHONE CABLES 4 WAY)

TENDER DRAWINGS

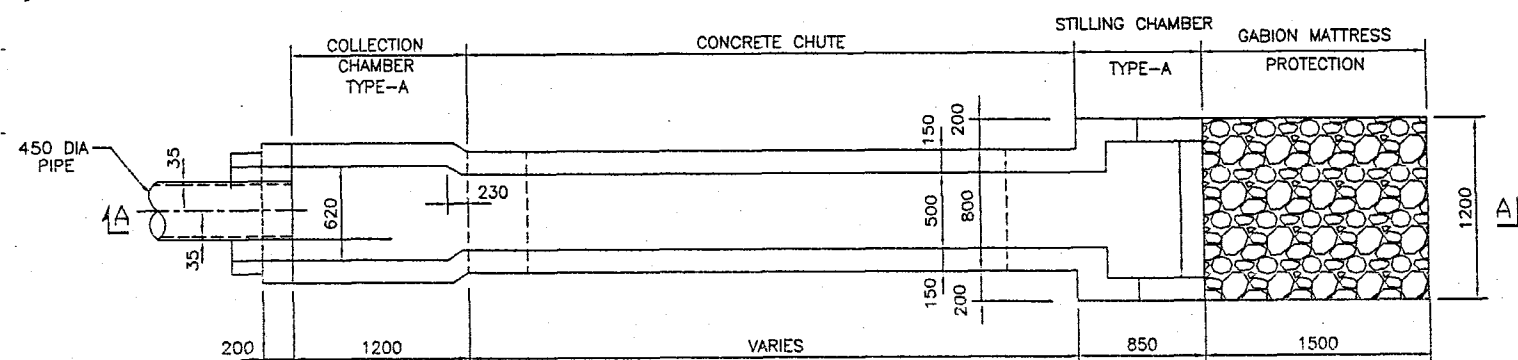
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.
2. SERVICE DUCTS WILL BE PROVIDED AFTER ONE KILOMETER INTERVAL OR REQUIREMENT, SPACING & POSITION OF SERVICE DUCTS SHALL BE COORDINATED BY THE CONTRACTOR WITH THE CONCERNED AUTHORITY DURING CONSTRUCTION WITH APPROVAL OF THE ENGINEER'S REPRESENTATIVE.
3. DIAMETER (D) OF SPLIT DUCT FOR PROTECTION OF EXISTING SERVICES AND THAT OF ADDITIONAL DUCT SHALL BE AS DIRECTED BY THE ENGINEER'S REPRESENTATIVE.
4. FLEXIBLE JOINTS SHALL BE PROVIDED AT MAXIMUM OF 5000 IN CONCRETE SURROUNDS.

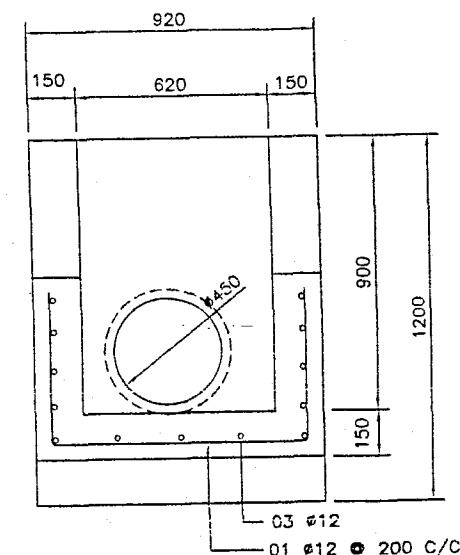




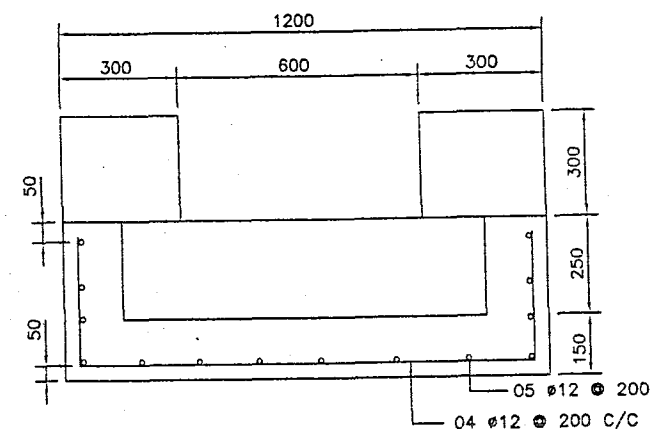
SECTION A-A



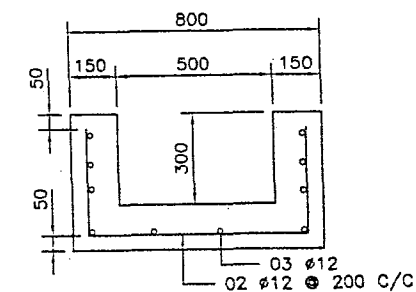
PLAN
CHUTE TYPE (A)



SECTION B-B



SECTION D-D

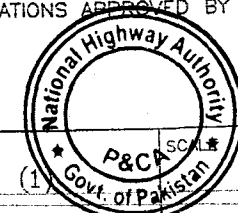


SECTION C-C

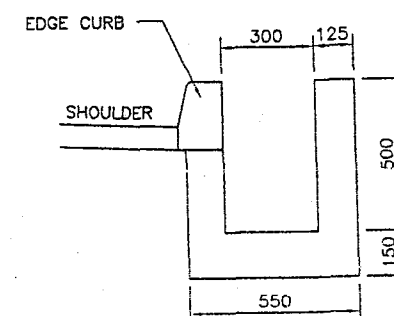
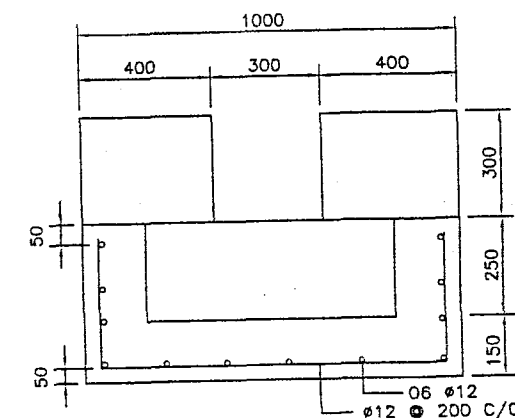
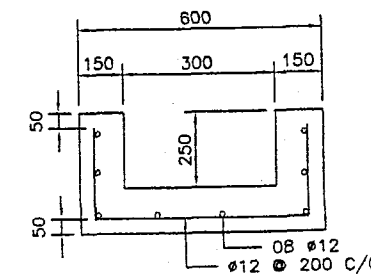
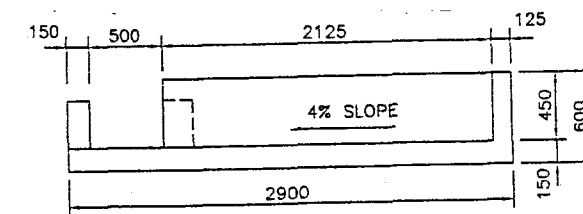
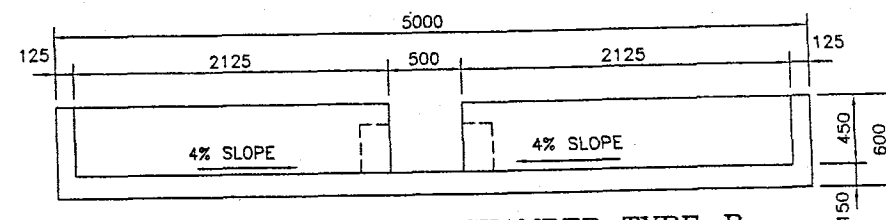
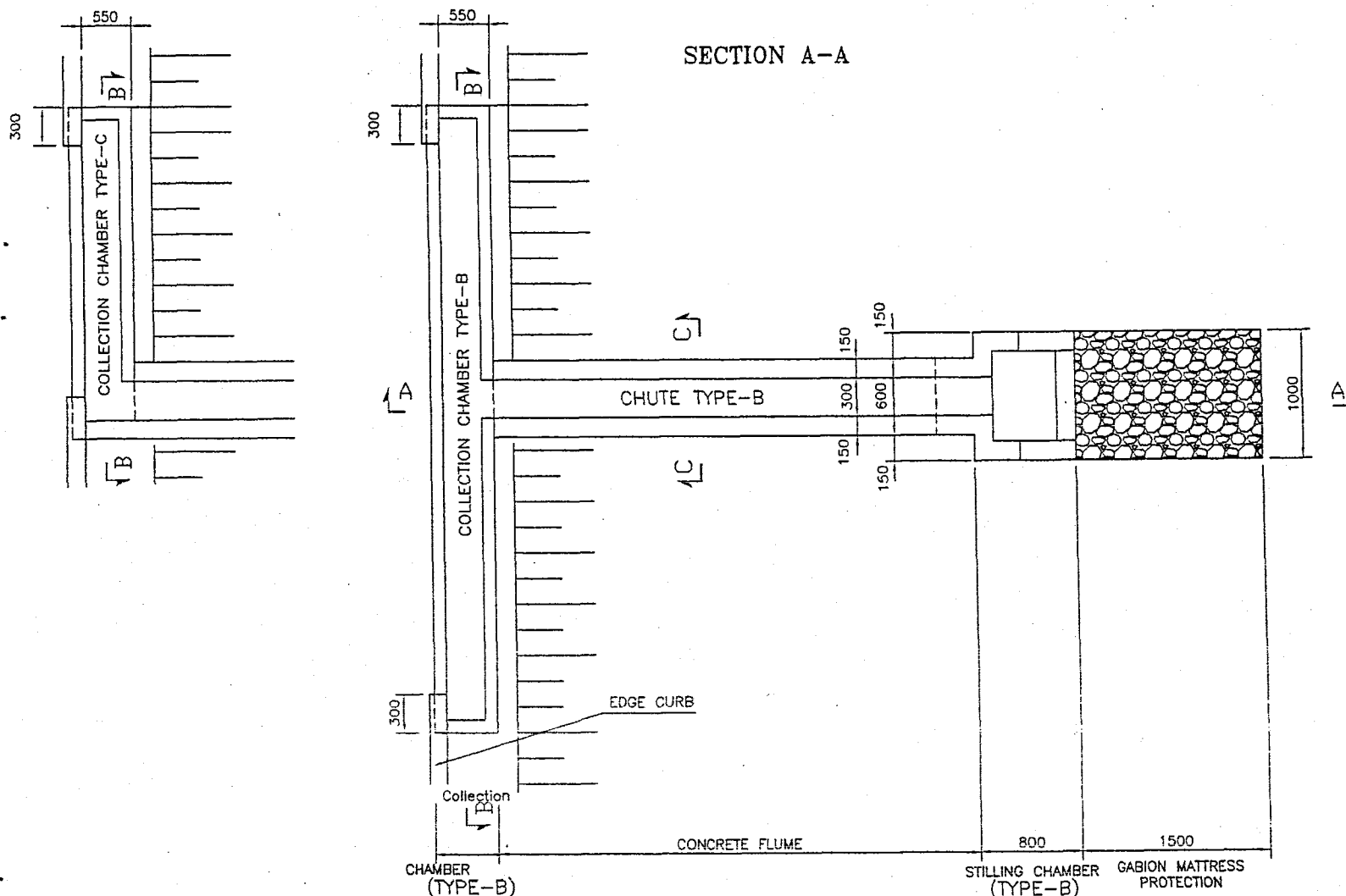
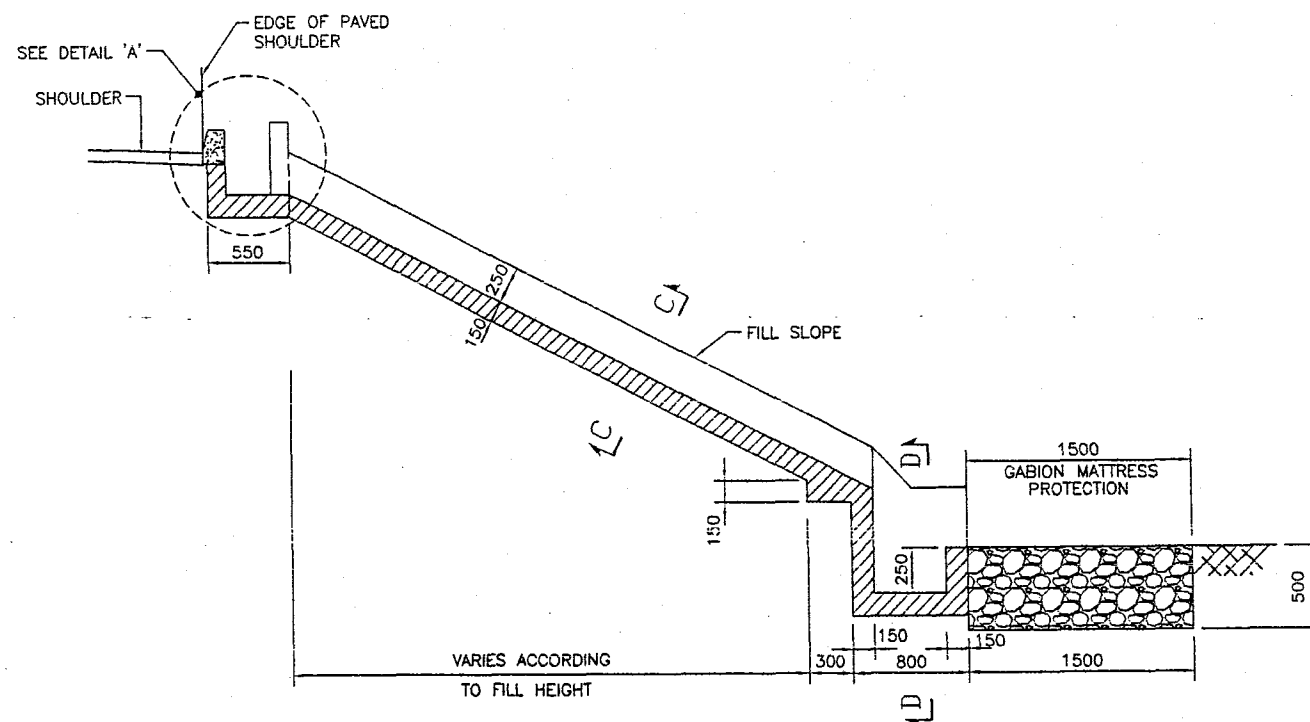
TENDER DRAWINGS

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. CONCRETE CHUTES SHALL BE PROVIDED AT AN INTERVAL OF 50M WHERE FILL HEIGHT IS MORE THAN 3M OR AS DIRECTED BY THE ENGINEER'S REPRESENTATIVE.
3. CONCRETE FOR CHUTES COLLECTION & STILLING CHAMBERS SHALL BE CLASS "A1".
4. RE-BAR SHALL BE GRADE 60 REINFORCEMENT STEEL.
5. CONCRETE CHUTE TYPE (A) SHALL BE USED AT OUTLETS OF MEDIAN OPENING AND AT OTHER LOCATIONS OR AS DIRECTED BY THE ENGINEER'S REPRESENTATIVE.
6. COLLECTION CHAMBER TYPE-C SHALL BE USED IN LIEU OF TYPE-B, WHEREVER LONGITUDINAL SLOPE OF ROAD EXCEEDS 1.0% AND/OR AT OTHER LOCATIONS APPROVED BY THE ENGINEER'S REPRESENTATIVE.



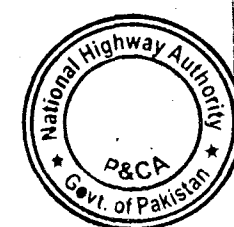
<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION APPROVED APPROVED BY</p> <p>JAWAD UL HAQ Project Manager M/S NE-PAK</p>	<p>DRAWN BY RAJA SHAFIQ SUBMITTED BY RECOMMENDED BY CHD./VER. BY</p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH ROT TO KASHMORE)</p>	<p>TITLE CONCRETE CHUTE (1) DATE MARCH 2018 DRAWING NO. 3905/102/10/ D-02</p>
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TENDER DRAWINGS

NOTES

1 - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

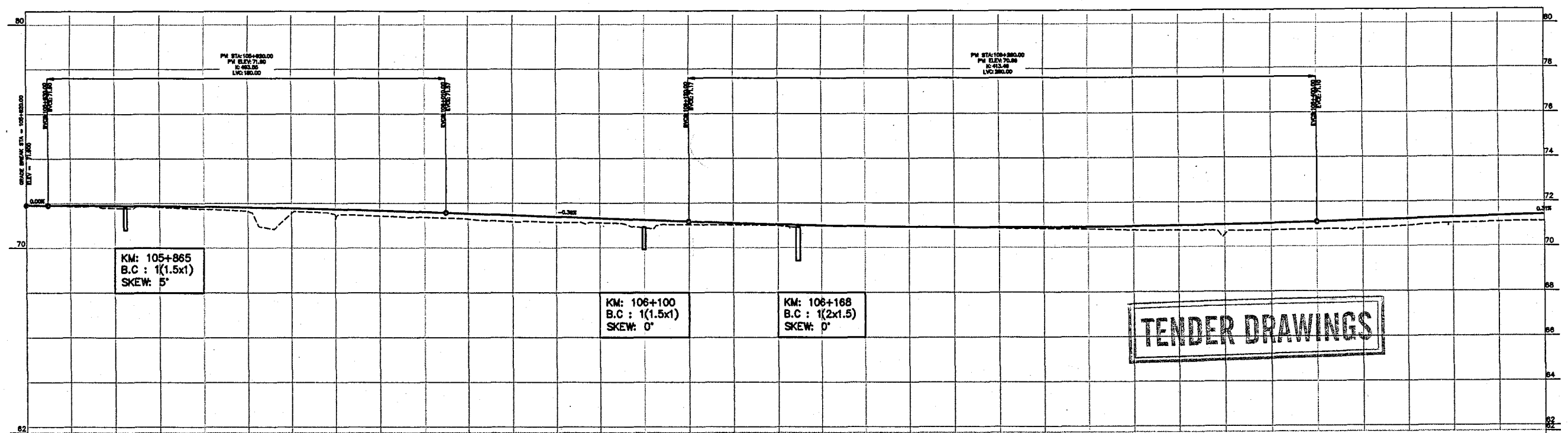
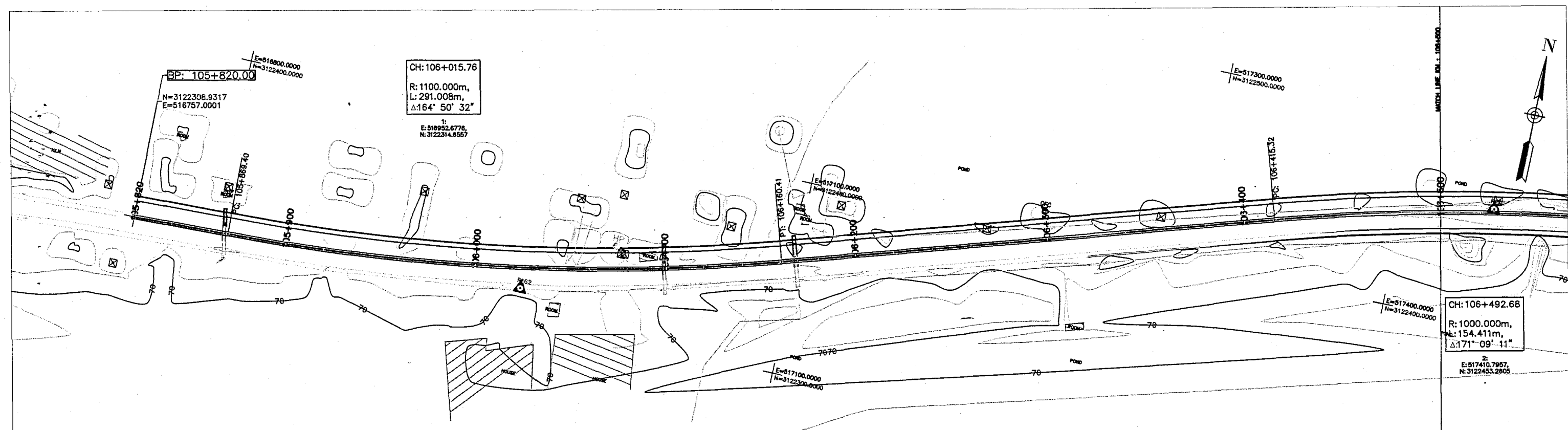
04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH ROT TO KASHMORE)

TITLE	CONCRETE CHUTE (2)	SCALE	
DATE	MARCH 2018	DRAWING NO.	3905/102/10/ U-03
REV.			

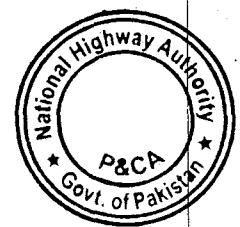
PLANS & PROFILES



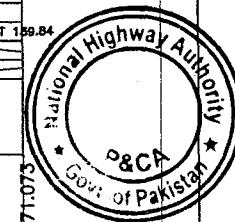
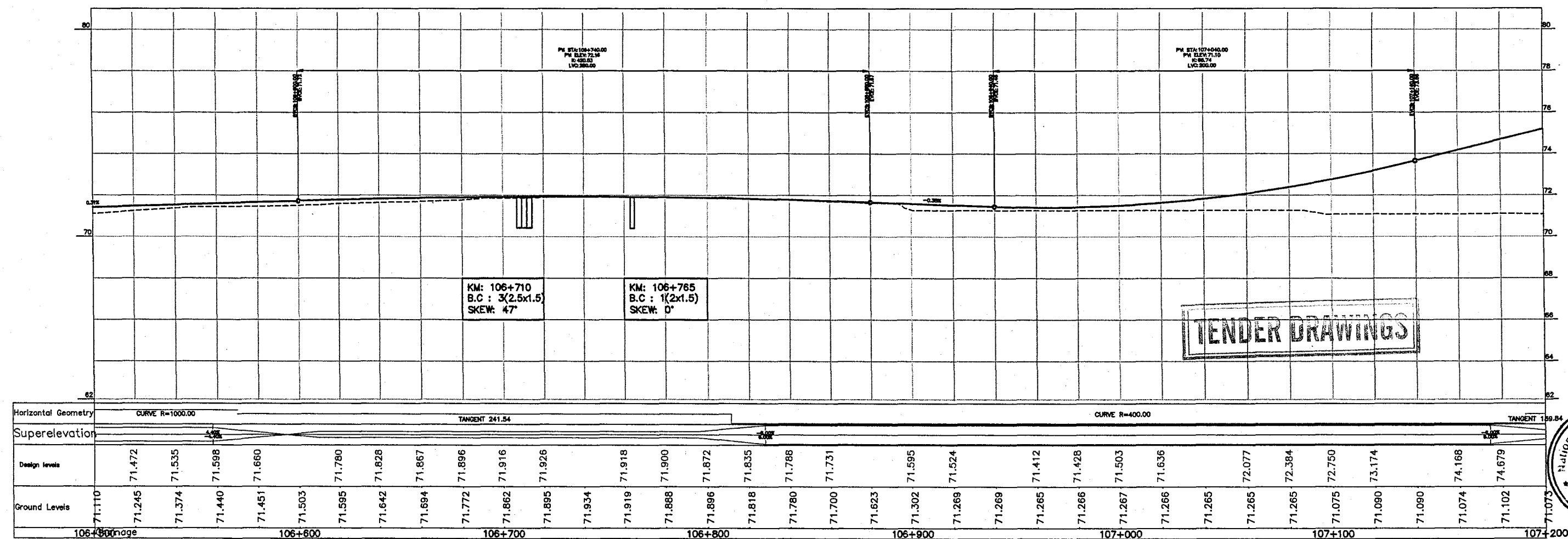
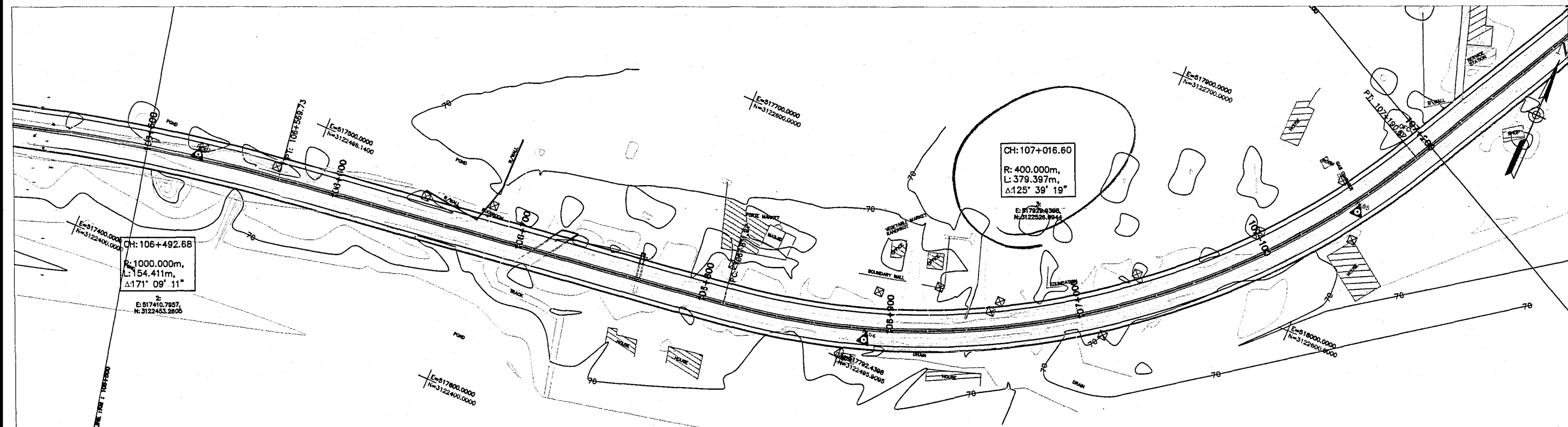


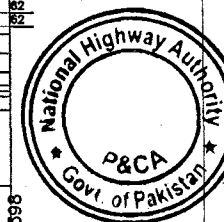
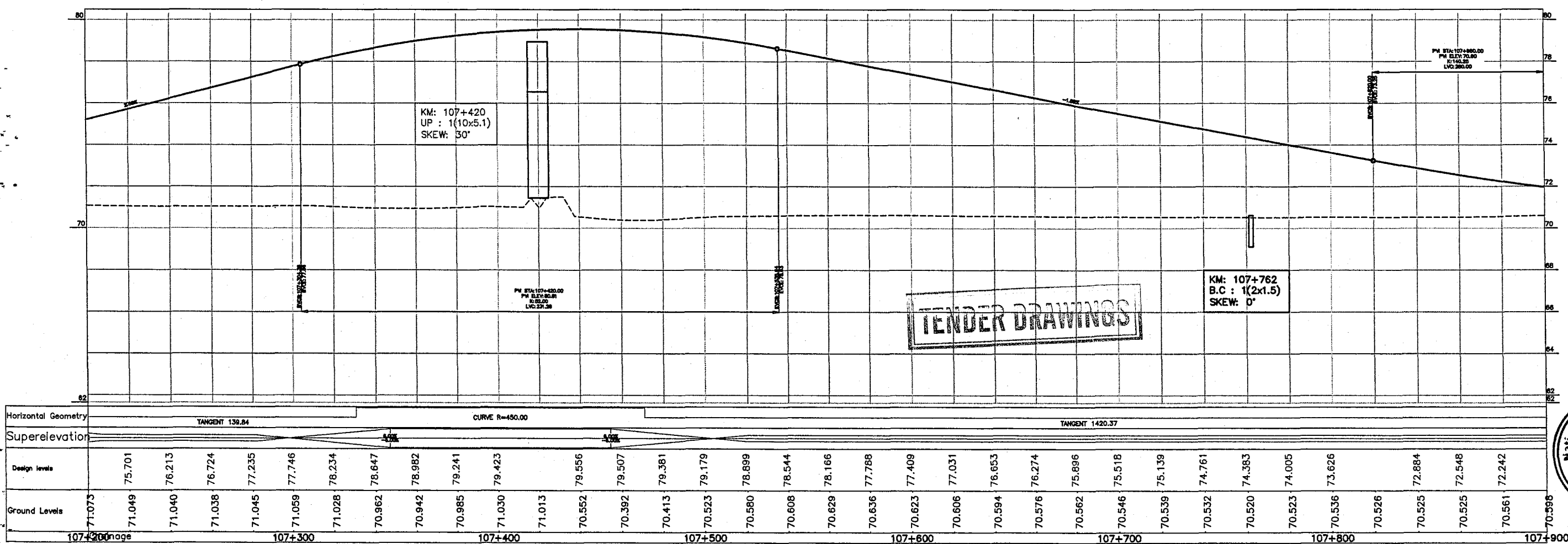
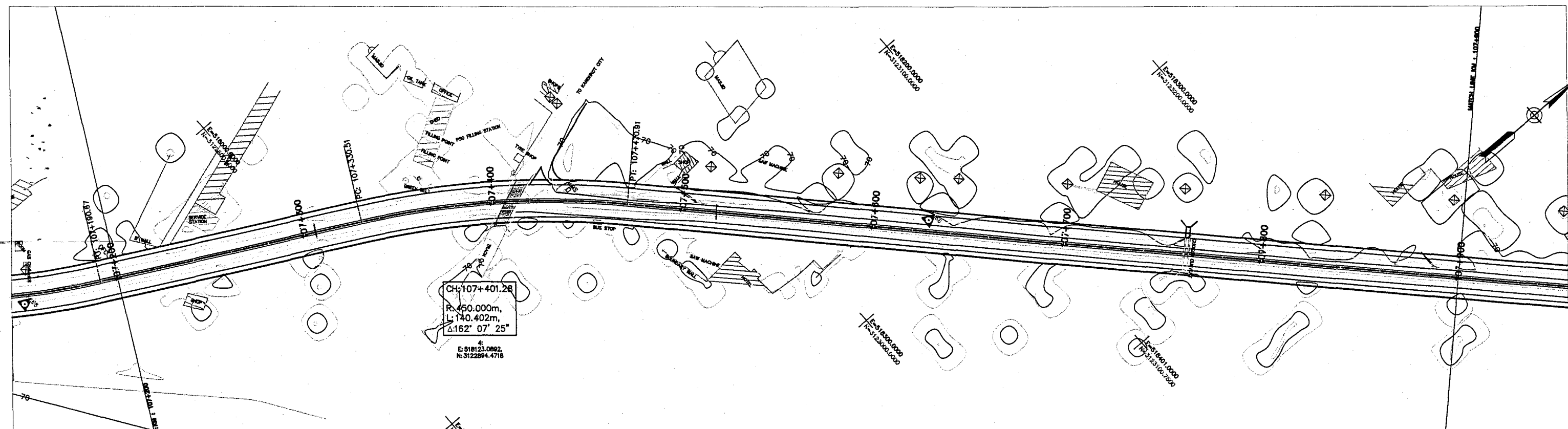
Horizontal Geometry	TANGENT 49.40															CURVE R=1100.00															TANGENT 254.91															CURVE R=1000.00									
Superelevation	0.0%															0.0%															0.0%															0.0%									
Design Levels	71.899	71.891	71.875	71.850			71.777	71.729	71.672	71.607	71.535	71.462	71.389	71.316	71.244	71.102	71.044	70.995	70.956	70.927	70.907	70.897	70.906	70.925	70.954	70.992	71.040	71.160	71.222	71.285	71.348																								
Ground Levels	71.935	71.856	71.783	71.821	71.740	71.655	71.538	71.361	71.431	71.364	71.291	71.171	71.144	71.120	70.892	71.030	71.017	70.986	71.044	70.995	70.956	70.927	70.907	70.865	70.839	70.808	70.755	70.740	70.559	71.040	70.769	70.795	71.160	70.913	71.028	71.076	71.110																		
	105+800			105+900			106+000			106+100			106+200			106+300			106+400			106+500																																	

TENDER DRAWINGS

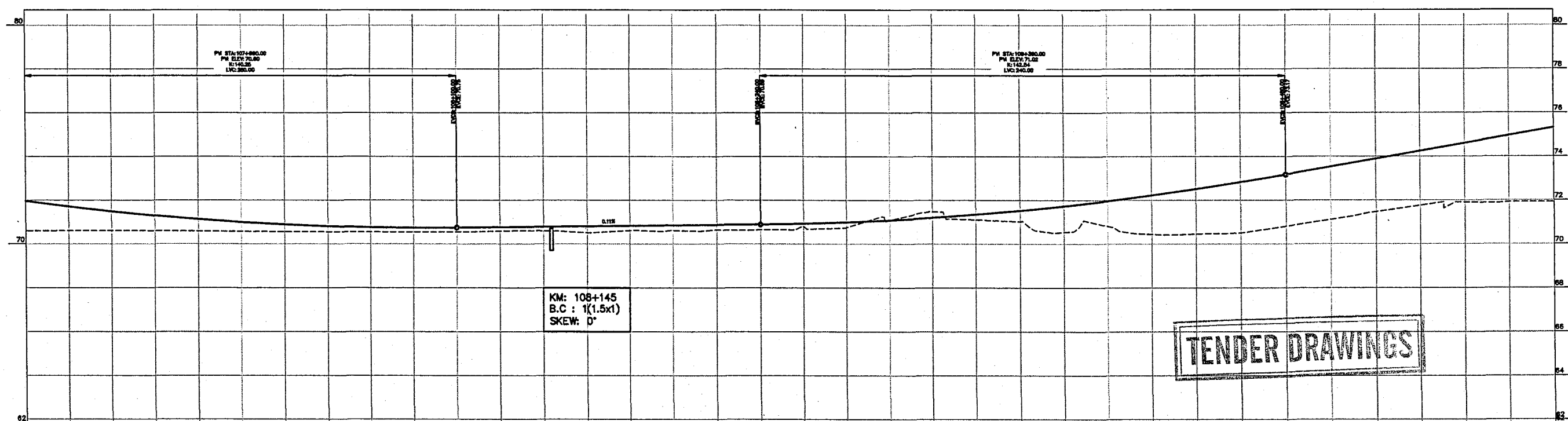
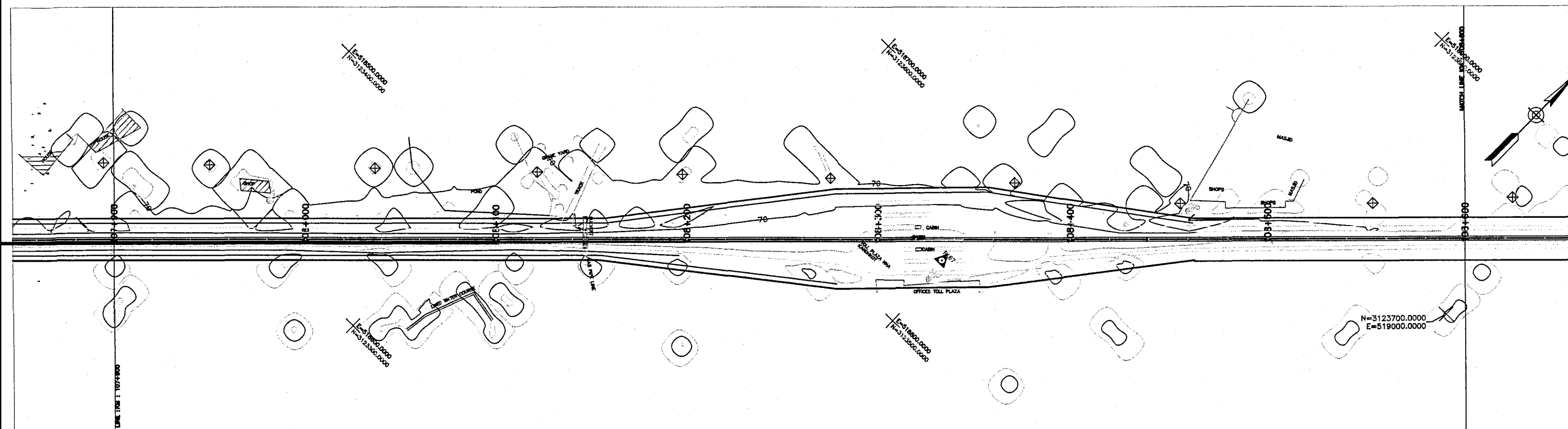


<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>JAWAD UL HAQ Project Manager M/S NESPAC</p>	DRAWN	M A NADEEM AWAN	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHIMORE)</p>	PLAN & PROFILE		<p>SCALE 1:2000</p>
			SUBMITTED			KM: 105+820 ~ 106+500		
			RECOMMENDED			DATE		
			CHD. AER.			DWG NO.		
			APPROVED			JUNE, 2018		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED		3005/402/70/P&P153		

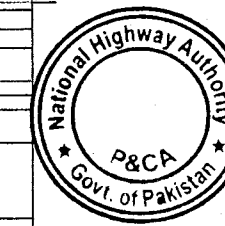




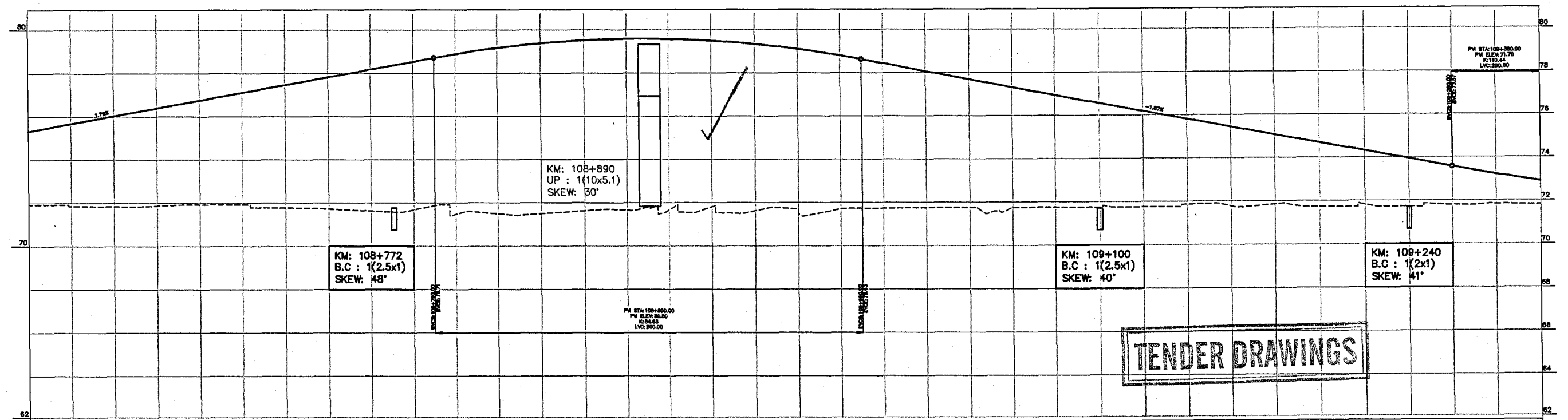
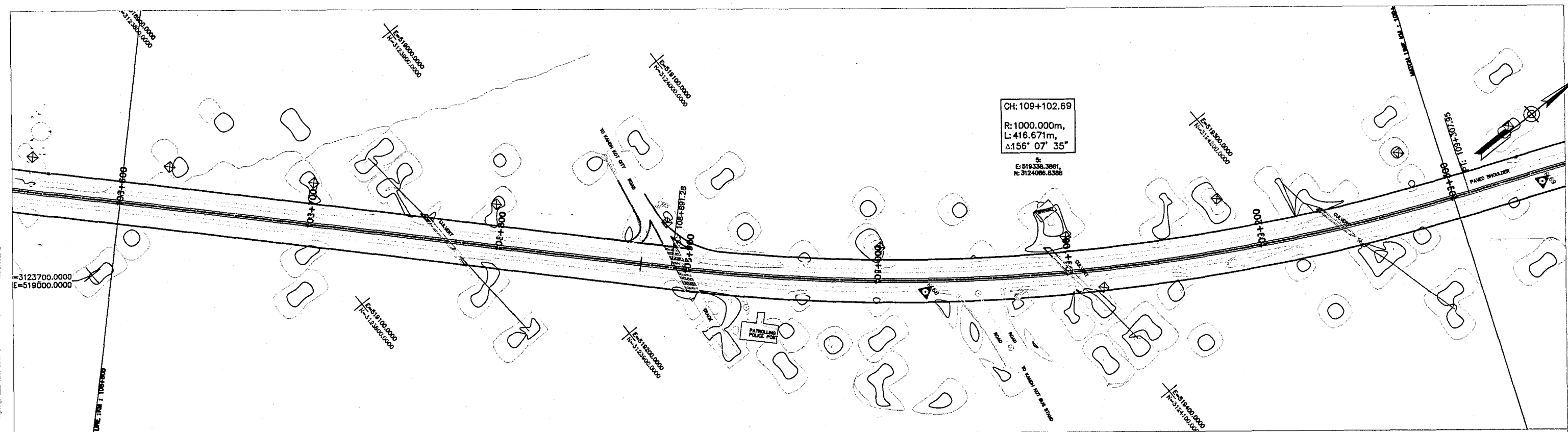
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 107+200 ~ 107+900		SCALE
			SUBMITTED					1:2000
			RECOMMENDED			DATE	DWG NO.	
			CHD./VER.			JUNE, 2018	3905/102/10/P&P155	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED				



Horizontal Geometry		TANGENT 1420.37	
Superelevation		TANGENT 1420.37	
Design Levels	Ground Levels	Design Levels	Ground Levels
71.713	70.595	71.713	70.595
71.492	70.606	71.492	70.606
71.134	70.610	71.134	70.610
70.999	70.603	70.999	70.603
70.891	70.588	70.891	70.588
70.812	70.574	70.812	70.574
70.762	70.561	70.762	70.561
70.740	70.554	70.740	70.554
70.768	70.548	70.768	70.548
70.789	70.545	70.789	70.545
70.810	70.552	70.810	70.552
70.831	70.568	70.831	70.568
70.852	70.596	70.852	70.596
70.873	70.810	70.873	70.810
70.894	70.831	70.894	70.831
70.929	70.852	70.929	70.852
70.992	70.873	70.992	70.873
71.083	70.894	71.083	70.894
71.202	70.929	71.202	70.929
71.350	70.992	71.350	70.992
71.021	71.083	71.021	71.083
71.479	71.202	71.479	71.202
71.109	71.350	71.109	71.350
71.729	71.021	71.729	71.021
71.960	71.479	71.960	71.479
72.219	71.109	72.219	71.109
72.507	71.729	72.507	71.729
72.823	71.960	72.823	71.960
73.166	72.219	73.166	72.219
73.524	72.507	73.524	72.507
73.882	72.823	73.882	72.823
74.240	73.166	74.240	73.166
74.597	73.524	74.597	73.524
74.955	73.882	74.955	73.882
75.313	74.240	75.313	74.240
75.671	74.597	75.671	74.597
76.029	74.955	76.029	74.955
76.387	75.313	76.387	75.313
76.745	75.671	76.745	75.671
77.103	76.029	77.103	76.029
77.461	76.387	77.461	76.387
77.819	76.745	77.819	76.745
78.177	77.103	78.177	77.103
78.535	77.461	78.535	77.461
78.893	77.819	78.893	77.819
79.251	78.177	79.251	78.177
79.609	78.535	79.609	78.535
79.967	78.893	79.967	78.893
80.325	79.251	80.325	79.251
80.683	79.609	80.683	79.609
81.041	79.967	81.041	79.967
81.399	80.325	81.399	80.325
81.757	80.683	81.757	80.683
82.115	81.041	82.115	81.041
82.473	81.399	82.473	81.399
82.831	81.757	82.831	81.757
83.189	82.115	83.189	82.115
83.547	82.473	83.547	82.473
83.905	82.831	83.905	82.831
84.263	83.189	84.263	83.189
84.621	83.547	84.621	83.547
84.979	83.905	84.979	83.905
85.337	84.263	85.337	84.263
85.695	84.621	85.695	84.621
86.053	84.979	86.053	84.979
86.411	85.337	86.411	85.337
86.769	85.695	86.769	85.695
87.127	86.053	87.127	86.053
87.485	86.411	87.485	86.411
87.843	86.769	87.843	86.769
88.201	87.127	88.201	87.127
88.559	87.485	88.559	87.485
88.917	87.843	88.917	87.843
89.275	88.201	89.275	88.201
89.633	88.559	89.633	88.559
89.991	88.917	89.991	88.917
90.349	89.275	90.349	89.275
90.707	89.633	90.707	89.633
91.065	89.991	91.065	89.991
91.423	90.349	91.423	90.349
91.781	90.707	91.781	90.707
92.139	91.065	92.139	91.065
92.497	91.423	92.497	91.423
92.855	91.781	92.855	91.781
93.213	92.139	93.213	92.139
93.571	92.497	93.571	92.497
93.929	92.855	93.929	92.855
94.287	93.213	94.287	93.213
94.645	93.571	94.645	93.571
95.003	93.929	95.003	93.929
95.361	94.287	95.361	94.287
95.719	94.645	95.719	94.645
96.077	95.003	96.077	95.003
96.435	95.361	96.435	95.361
96.793	95.719	96.793	95.719
97.151	96.077	97.151	96.077
97.509	96.435	97.509	96.435
97.867	96.793	97.867	96.793
98.225	97.151	98.225	97.151
98.583	97.509	98.583	97.509
98.941	97.867	98.941	97.867
99.299	98.225	99.299	98.225
99.657	98.583	99.657	98.583
100.015	98.941	100.015	98.941
100.373	99.299	100.373	99.299
100.731	99.657	100.731	99.657
101.089	100.015	101.089	100.015
101.447	100.373	101.447	100.373
101.805	100.731	101.805	100.731
102.163	101.089	102.163	101.089
102.521	101.447	102.521	101.447
102.879	101.805	102.879	101.805
103.237	102.163	103.237	102.163
103.595	102.521	103.595	102.521
103.953	102.879	103.953	102.879
104.311	103.237	104.311	103.237
104.669	103.595	104.669	103.595
105.027	103.953	105.027	103.953
105.385	104.311	105.385	104.311
105.743	104.669	105.743	104.669
106.101	105.027	106.101	105.027
106.459	105.385	106.459	105.385
106.817	105.743	106.817	105.743
107.175	106.101	107.175	106.101
107.533	106.459	107.533	106.459
107.891	106.817	107.891	106.817
108.249	107.175	108.249	107.175
108.607	107.533	108.607	107.533

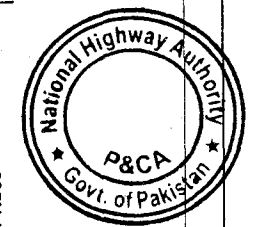


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAC	DRAWN M A NADEEM AWAN	PLAN & PROFILE KM: 107+900 ~ 108+600 SCALE 1:2000
			SUBMITTED RECOMMENDED CHD./VER.	
REV. DATE DESCRIPTION APPROVED APPROVED	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		DATE JUNE, 2018	DWG NO. 3905/102/TD/P&P156

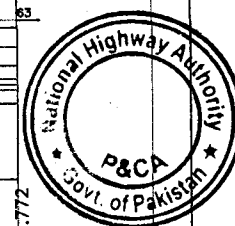
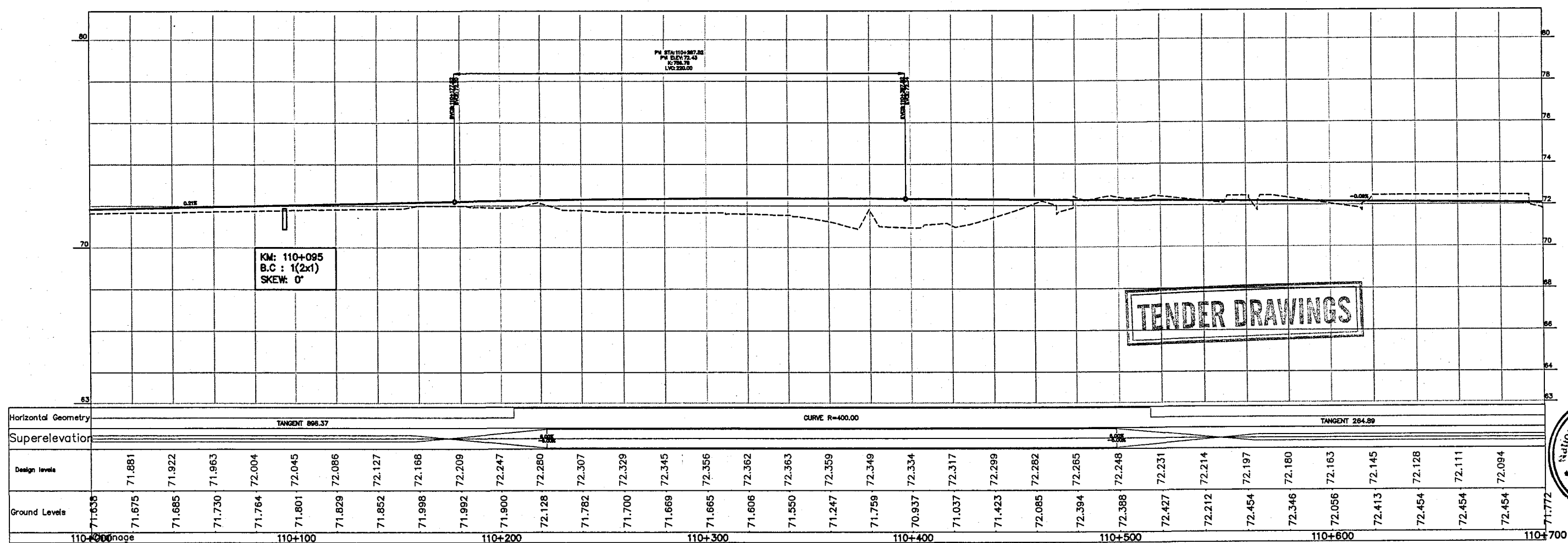
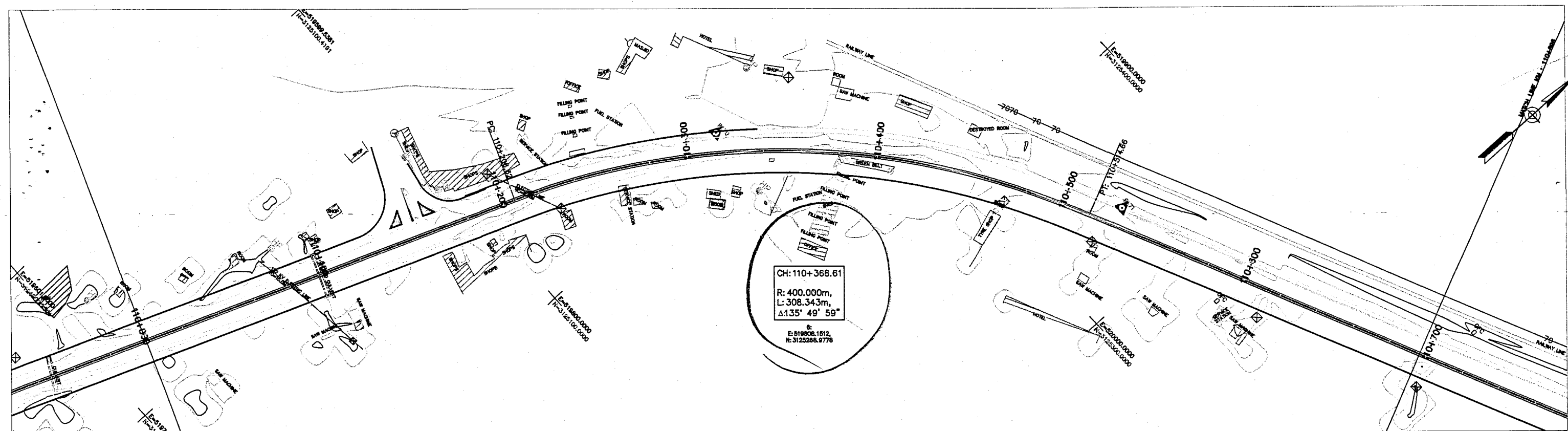


Horizontal Geometry	TANGENT 1420.37															CURVE R=1000.00																				
Superelevation																																				
Design levels	75.671	76.028	76.386	76.744	77.102	77.459	77.817	78.175	78.532	78.881	79.166	79.377	79.515	79.580	79.571	79.490	79.335	79.107	78.806	78.440	78.066	77.691	77.317	76.943	76.568	76.194	75.819	75.445	75.070	74.696	74.321	73.947	73.572			
Ground Levels	71.920	71.856	71.837	71.869	71.919	71.919	71.771	71.719	71.628	71.679	71.477	71.493	71.484	71.627	71.648	71.666	71.808	71.618	71.481	71.702	71.727	71.750	71.750	71.736	71.755	71.736	71.753	71.865	71.772	71.853	71.728	71.823	71.718	71.793	71.836	71.809
Stationing	108+600	108+650	108+700	108+750	108+800	108+850	108+900	108+950	109+000	109+050	109+100	109+150	109+200	109+250	109+300	109+350	109+400	109+450	109+500	109+550	109+600	109+650	109+700	109+750	109+800	109+850	109+900	109+950	109+1000	109+1050	109+1100	109+1150	109+1200	109+1250	109+1300	

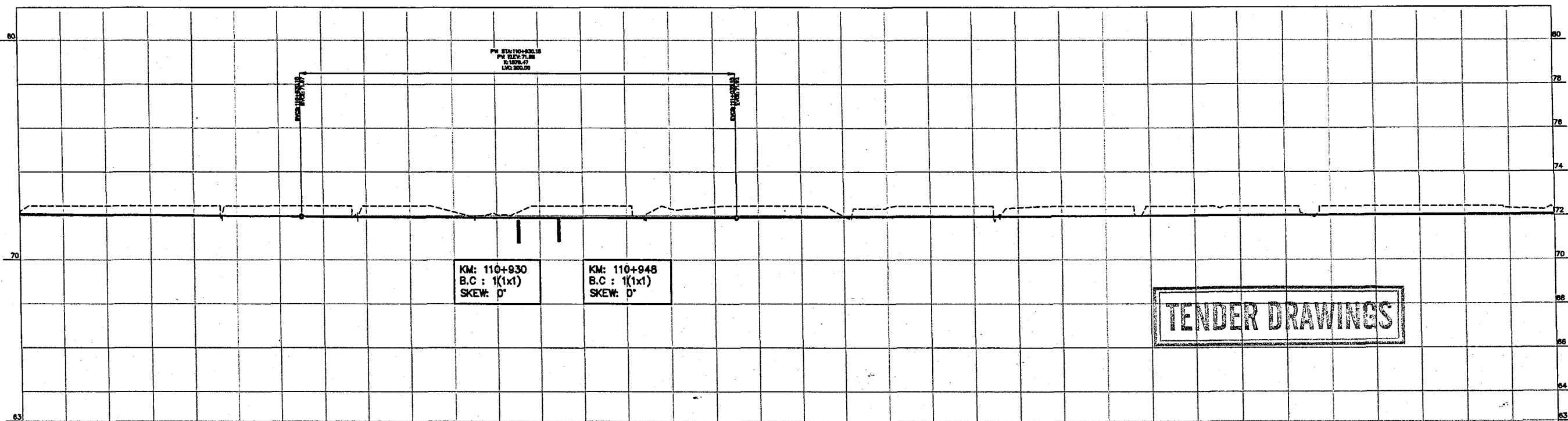
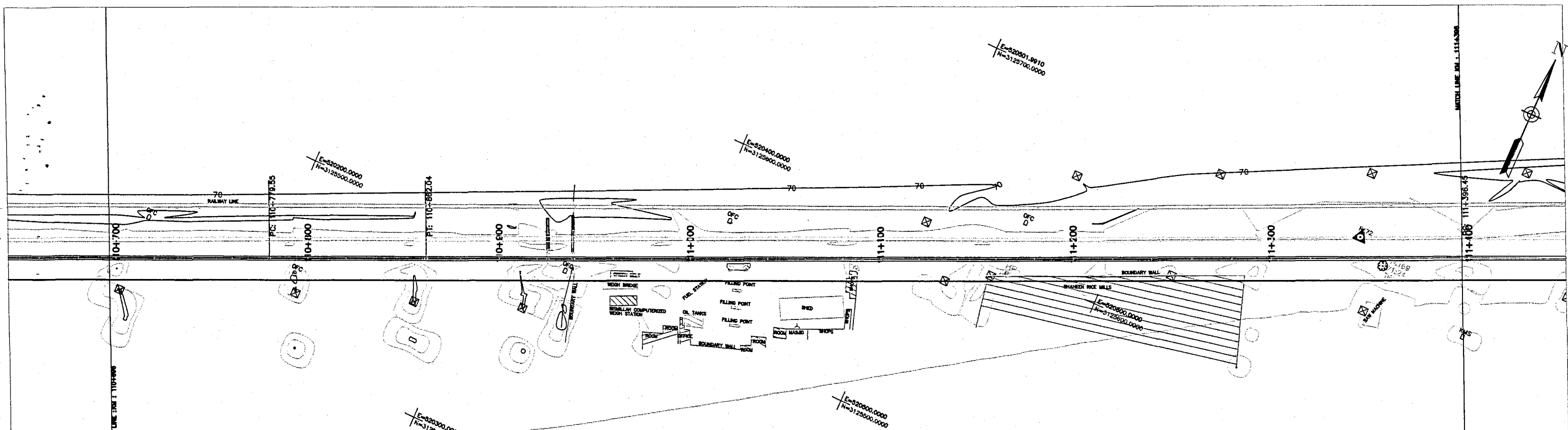
TENDER DRAWINGS



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 108+600 ~ 109+300		SCALE	
			SUBMITTED					1:2000	
			RECOMMENDED			DATE	DWG NO.		
			CHKD. / VER.			JUNE, 2010	3505/102/76/P&P157		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED					

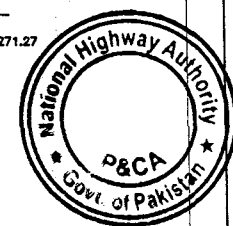


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	PLAN & PROFILE KM: 110+000 ~ 110+700 SCALE 1:2000
			SUBMITTED		
			RECOMMENDED		
			CHD./VER.		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	RATODERO ~ RAJANPUR ROAD PACKAGE II (KANDH KOT TO KASHMORE) DATE JUNE, 2018 DWG NO. 3905/102/TD/P&P159

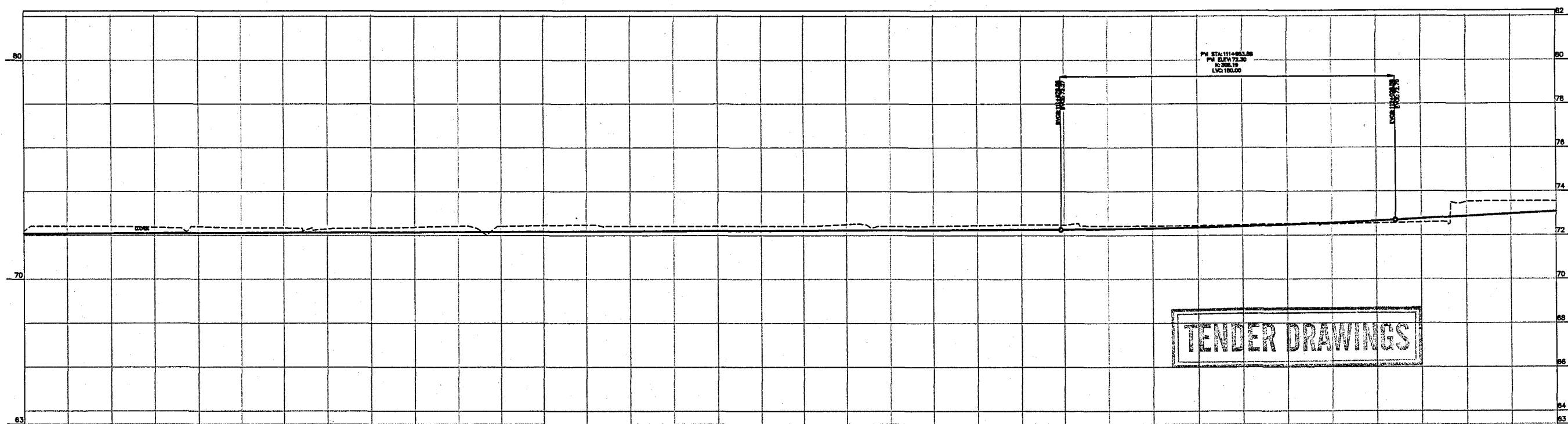
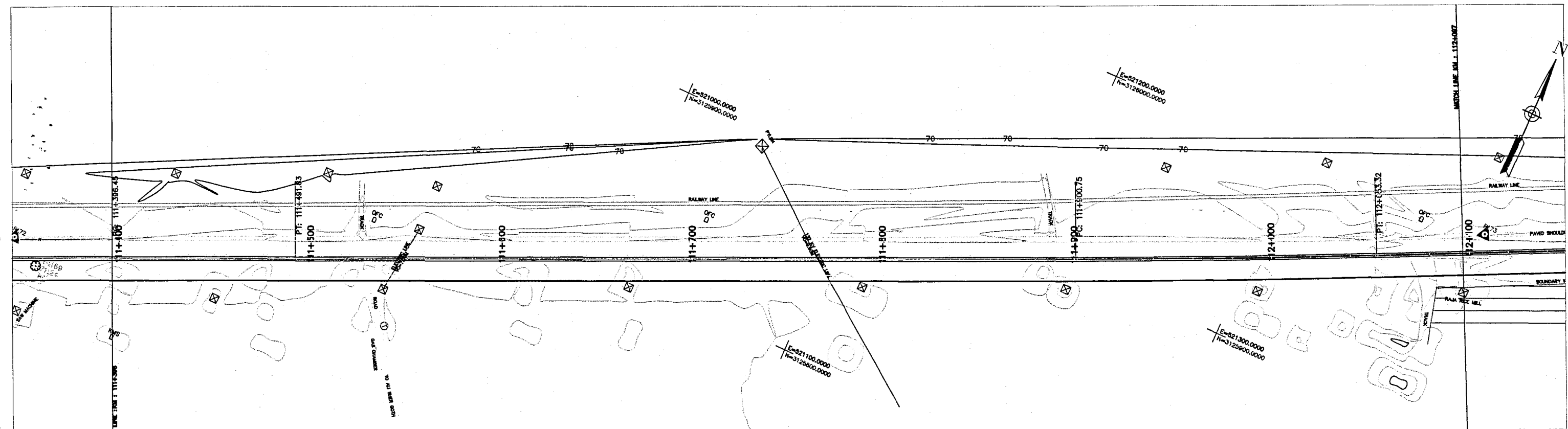


Horizontal Geometry	TANGENT 284.89		CURVE R=44392.11										TANGENT 534.41										CURVE R=44271.27											
Superelevation																																		
Design Levels	72.060	72.043	72.026	72.009	71.991	71.974	71.957	71.943	71.931	71.921	71.914	71.910	71.908	71.908	71.912	71.917	71.925	71.933	71.941	71.950	71.958	71.966	71.974	71.983	71.991	71.999	72.007	72.015	72.024	72.032	72.040	72.048	72.056	72.065
Ground Levels	71.772	72.454	72.453	72.453	72.453	72.452	72.452	72.452	72.451	72.186	72.065	72.451	72.451	72.450	72.329	72.416	72.446	72.443	71.989	72.367	72.434	72.435	72.367	72.424	72.425	72.425	72.425	72.425	72.425	72.425	72.423	72.422	72.343	
	110+700				110+800					110+900					111+000					111+100				111+200				111+300				111+400		

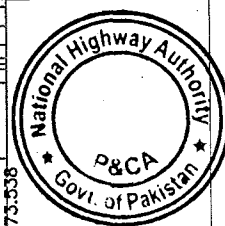
TENDER DRAWINGS



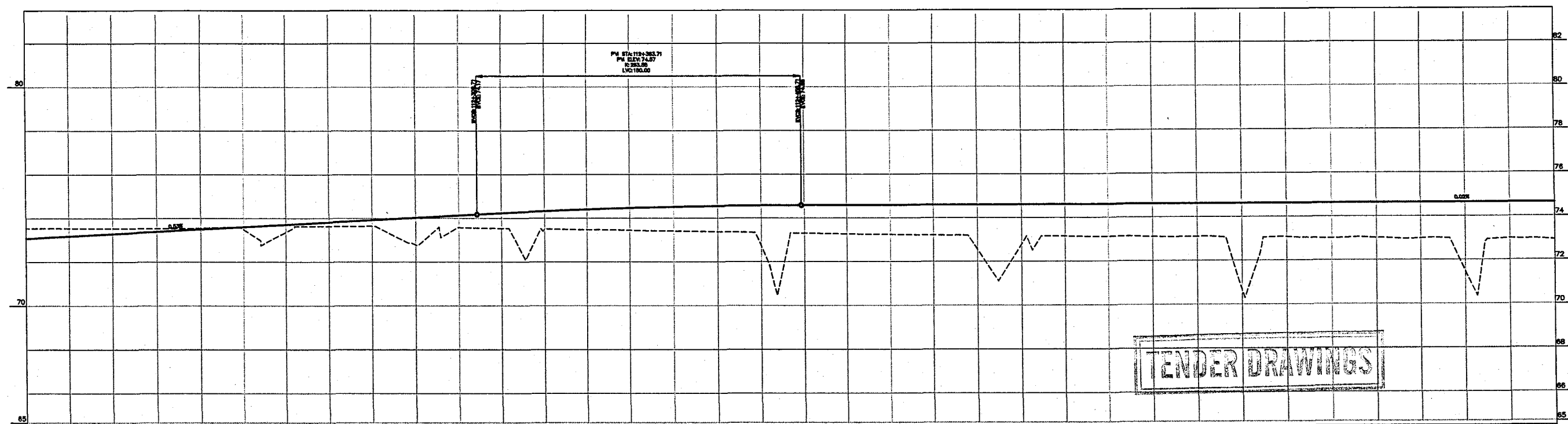
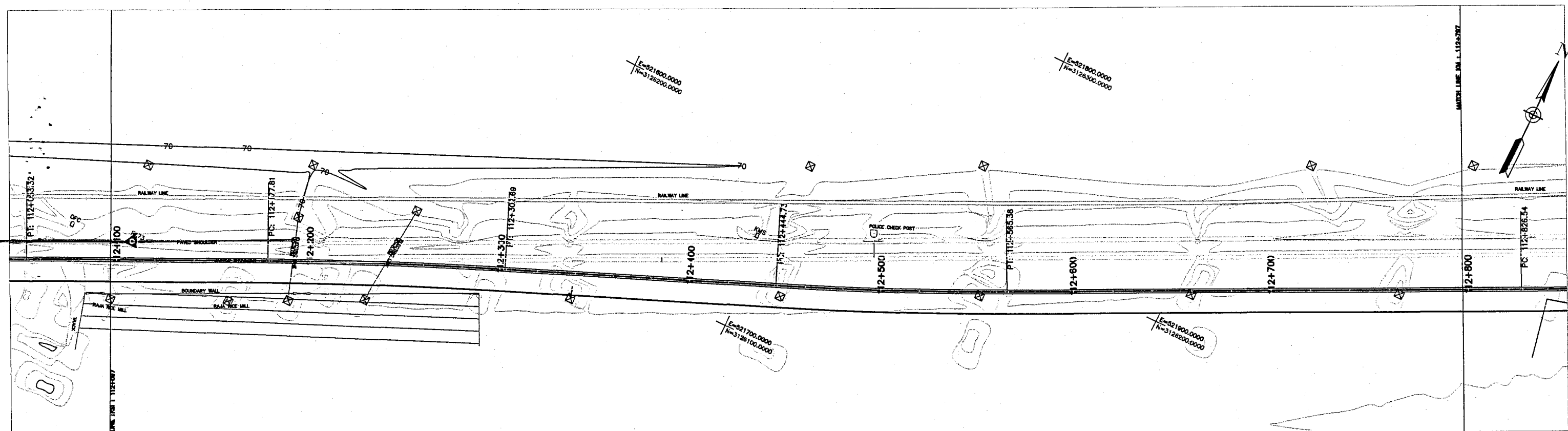
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAC	DRAWN M A NADEEM AWAN	PLAN & PROFILE KM: 110+700 ~ 111+400 SCALE 1:2000
			SUBMITTED RECOMMENDED CHD./VER.	
REV. DATE DESCRIPTION APPROVED APPROVED		RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		



Horizontal Geometry	CURVE R=44271.27															TANGENT 406.92															CURVE R=6896.34															TANGENT 124.49				
Superelevation																																																		
Design Levels		72.081	72.089	72.097	72.106	72.114	72.122	72.130	72.138	72.147	72.155	72.163	72.171	72.180	72.188	72.196	72.204	72.212	72.221	72.229	72.237	72.245	72.253	72.262	72.270	72.285	72.314	72.356	72.410	72.478	72.558	72.652	72.756	72.862	72.967															
Ground Levels	72.193	72.419	72.411	72.367	72.397	72.342	72.333	72.293	72.334	72.375	72.421	72.419	72.451	72.470	72.415	72.415	72.415	72.415	72.500	72.416	72.424	72.453	72.482	72.481	72.425	72.429	72.433	72.477	72.528	72.511	72.549	72.586	73.520	73.542	73.536															
	111+400					111+500							111+600						111+700																112+100															



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE		SCALE
			SUBMITTED			KM: 111+400 ~ 112+100		1:2000
			RECOMMENDED					
			CHD./VER.					
REV.	DATE	DESCRIPTION	APPROVED	APPROVED		DATE	DWG NO.	
						JUNE, 2018	3905/102/TD/P&P161	

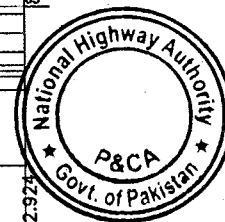


TENDER DRAWINGS

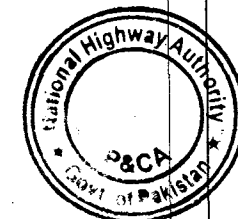
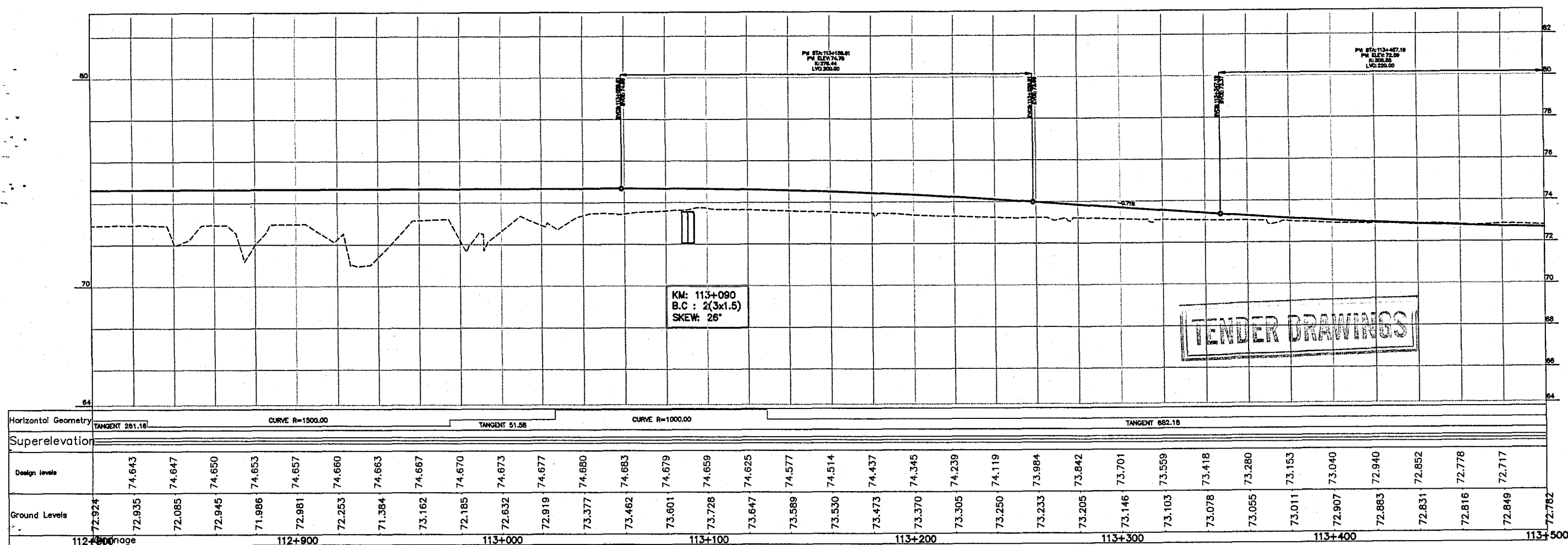
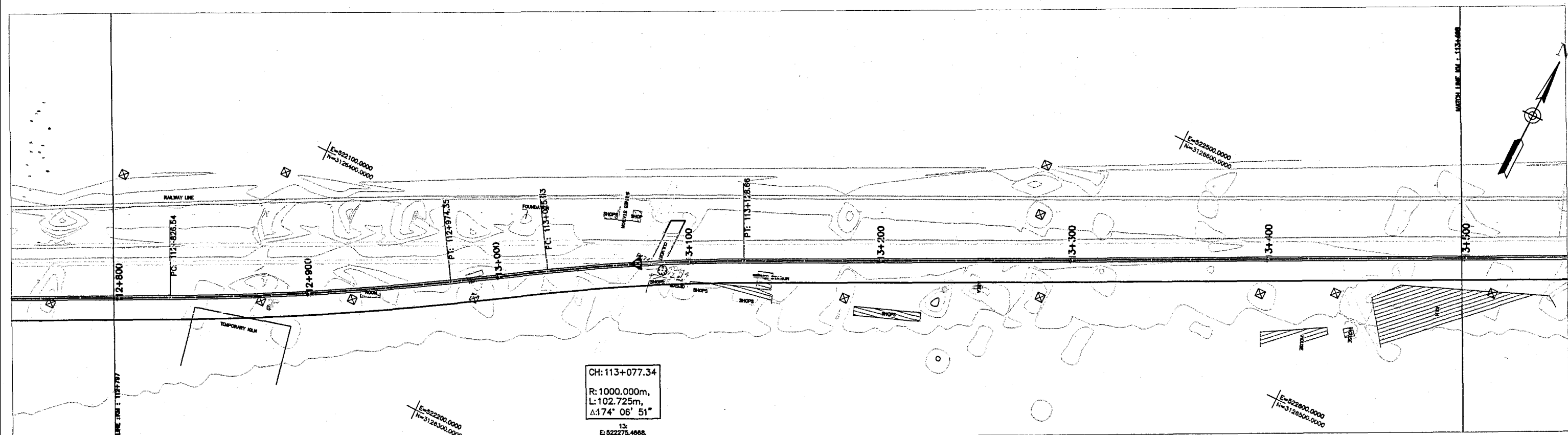
Horizontal Geometry	TANGENT 124.48				CURVE R=2500.00				TANGENT 142.04				CURVE R=2000.00				TANGENT 281.18																		
Superelevation																																			
Design Levels		73.178	73.284	73.389	73.495	73.600	73.706	73.812	73.917	74.023	74.128	74.232	74.323	74.400	74.484	74.514	74.551	74.573	74.583	74.586	74.590	74.593	74.596	74.600	74.603	74.606	74.610	74.613	74.616	74.620	74.623	74.626	74.630	74.633	74.636
Ground Levels	73.536	73.535	73.532	73.529	73.546	73.490	73.363	73.630	73.639	72.784	73.573	73.535	73.477	73.473	73.444	73.408	73.373	72.714	73.304	73.267	73.245	73.207	72.535	72.789	73.151	73.121	73.096	73.098	70.638	73.075	73.006	73.009	72.986	71.475	72.980
	112+100				112+200					112+300					112+400				112+500					112+600					112+700					112+800	

National

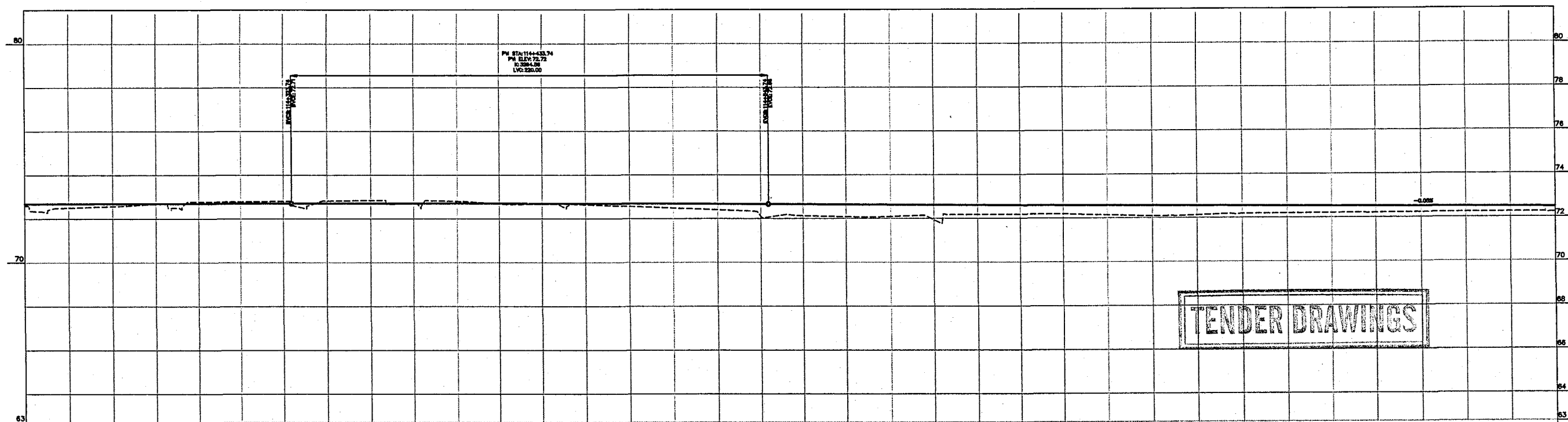
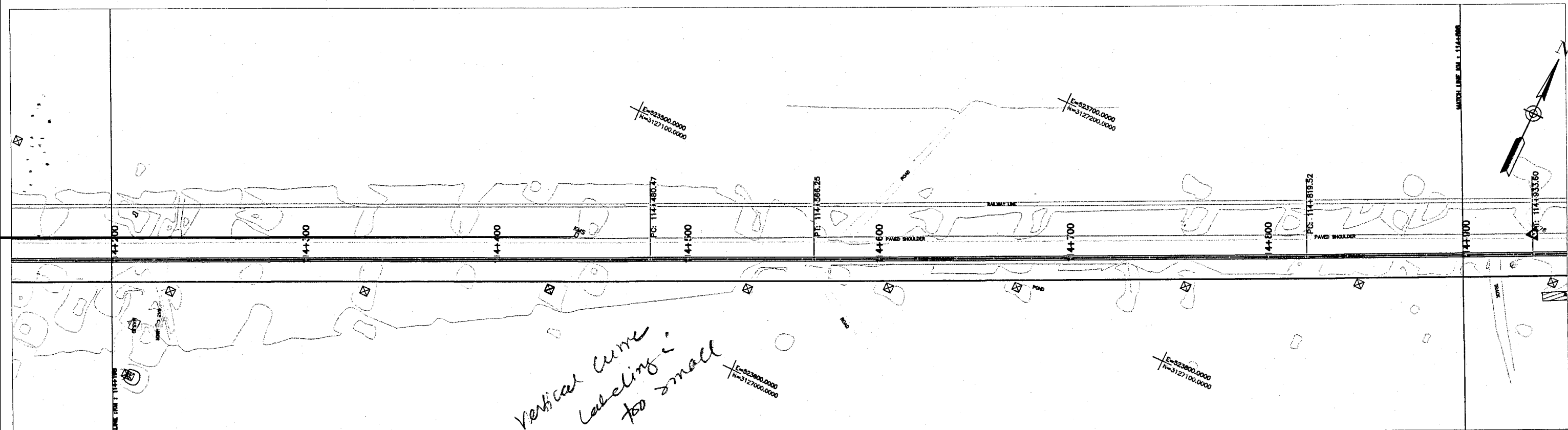
72.924



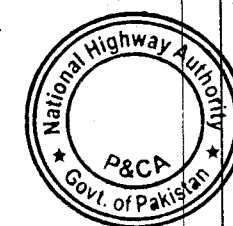
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAC	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 112+100 ~ 112+800 SCALE 1:2000	
			SUBMITTED			DATE	DWG NO.
REV. DATE DESCRIPTION APPROVED APPROVED			CHD. A/R		JUNE, 2018	3905/102/TD/P&P162	



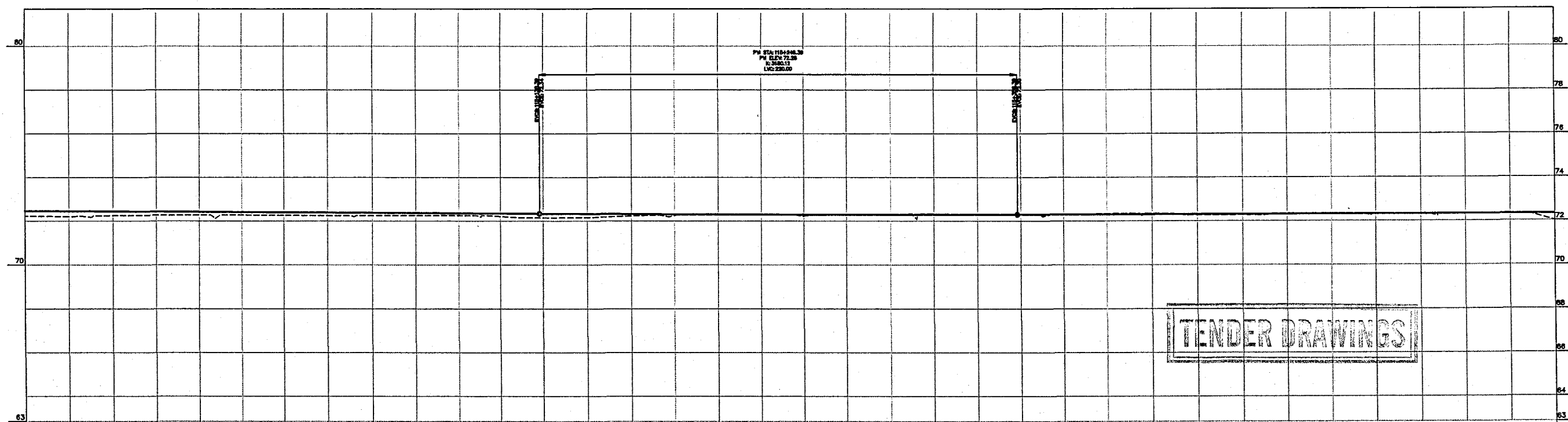
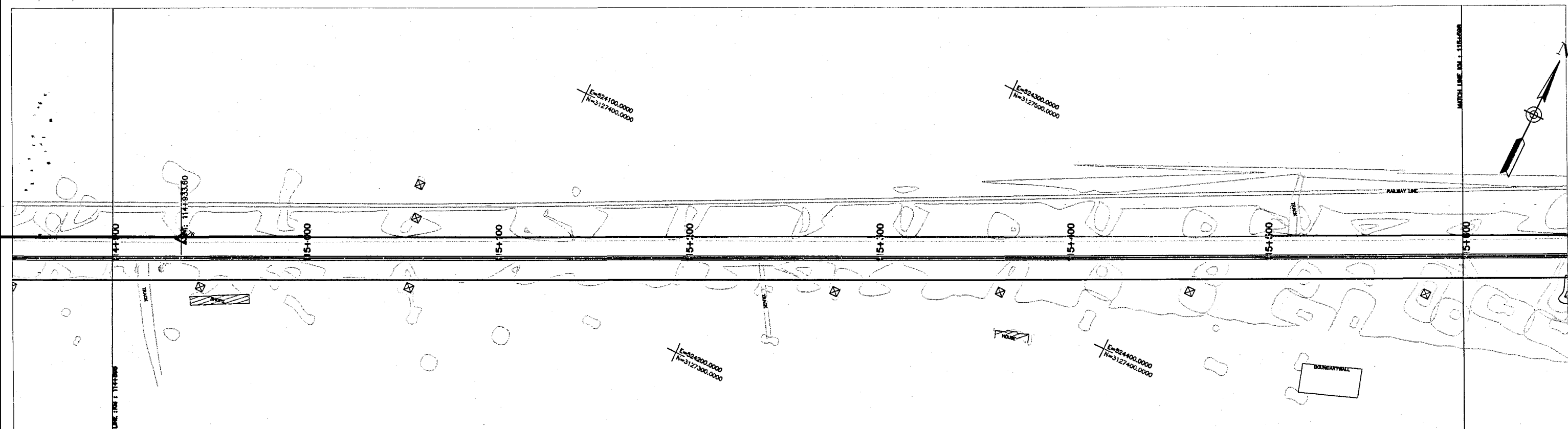
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE		SCALE
			SUBMITTED			KM: 112+800 ~ 113+500		1:2000
			RECOMMENDED			DATE	DWG NO.	
			CHD./VER.			JUNE, 2018	3905/102/TD/P&PT63	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED				



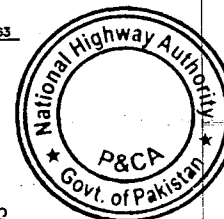
Horizontal Geometry	TANGENT 445.33															CURVE R=44918.33										TANGENT 253.27										CURVE R=15676.89				
Superelevation																																								
Design Levels		72.692	72.694	72.697	72.700	72.702	72.705	72.707	72.708	72.708	72.707	72.704	72.700	72.695	72.689	72.681	72.672	72.663	72.652	72.641	72.630	72.619	72.608	72.598	72.587	72.576	72.565	72.554	72.544	72.533	72.522	72.511	72.500	72.490	72.479					
Ground Levels	72.592	72.507	72.570	72.680	72.771	72.787	72.803	72.820	72.837	72.695	72.799	72.683	72.664	72.640	72.695	72.563	72.486	72.405	72.114	72.129	72.083	72.092	71.947	72.176	72.184	72.188	72.140	72.092	72.125	72.183	72.197	72.206	72.227	72.233	72.238	72.233				
Stationage	114+200	114+300					114+400					114+500					114+600					114+700					114+800					114+900								





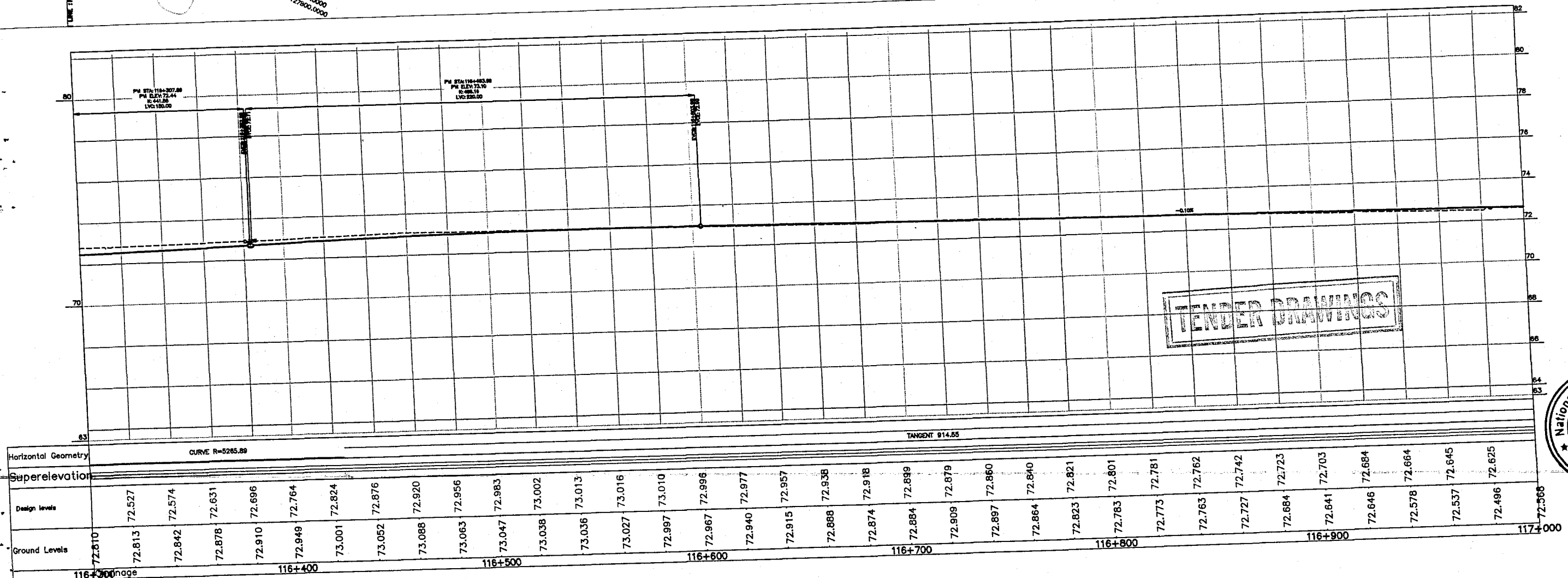
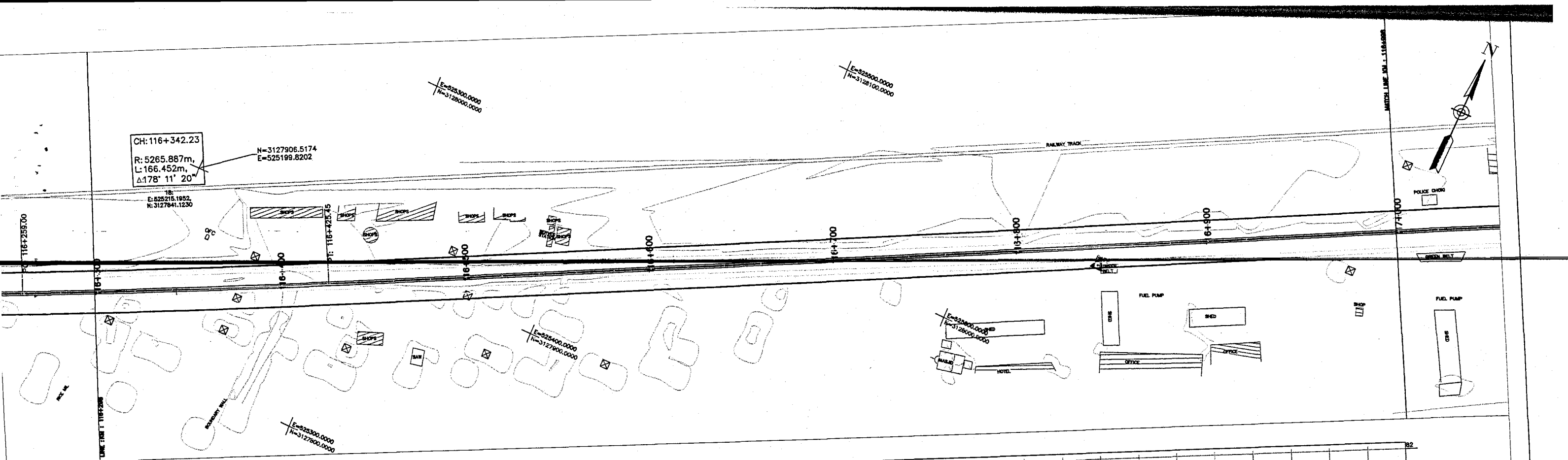
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAC	DRAWN	M. A. NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDHI KOT TO KASHIMORE)	PLAN & PROFILE KM: 114+200 ~ 114+900		SCALE
			SUBMITTED					1:2000
REV.			DATE	DESCRIPTION	APPROVED	APPROVED	DATE	DWG NO.
							JUNE, 2018	3905/102/10/P&P-105



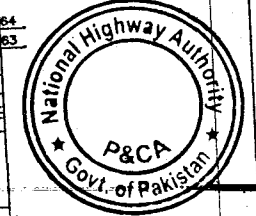
Horizontal Geometry	CURVE R=15876.89		TANGENT 726.89	
Superelevation				
Design Levels	72.457	72.446	72.435	72.425
Ground Levels	72.233	72.206	72.251	72.268
	114+000	115+000	115+100	115+200
	115+300	115+400	115+500	115+600

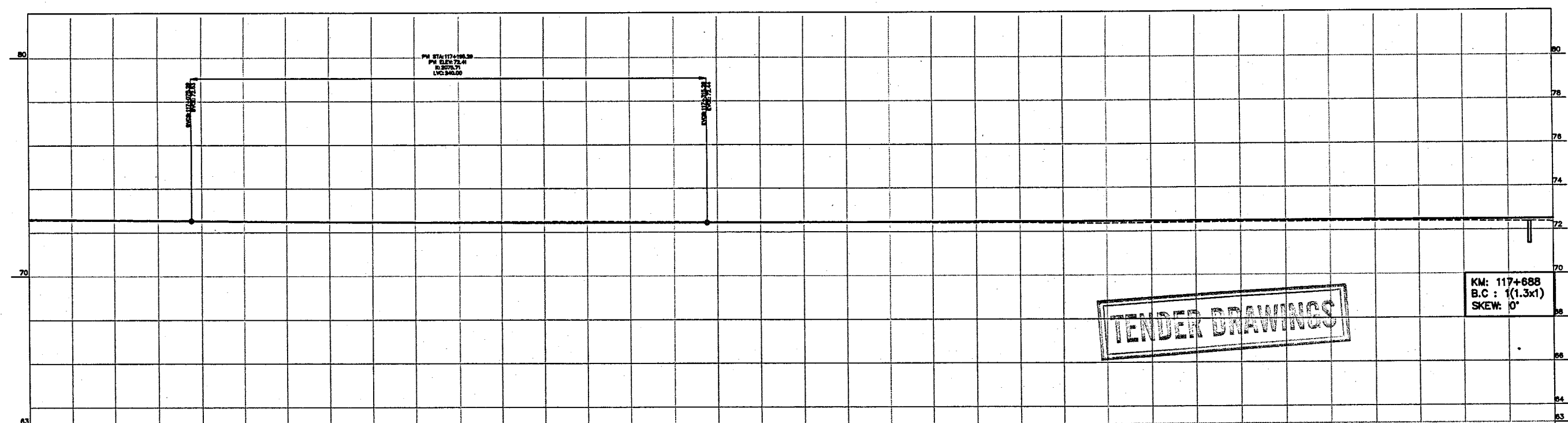
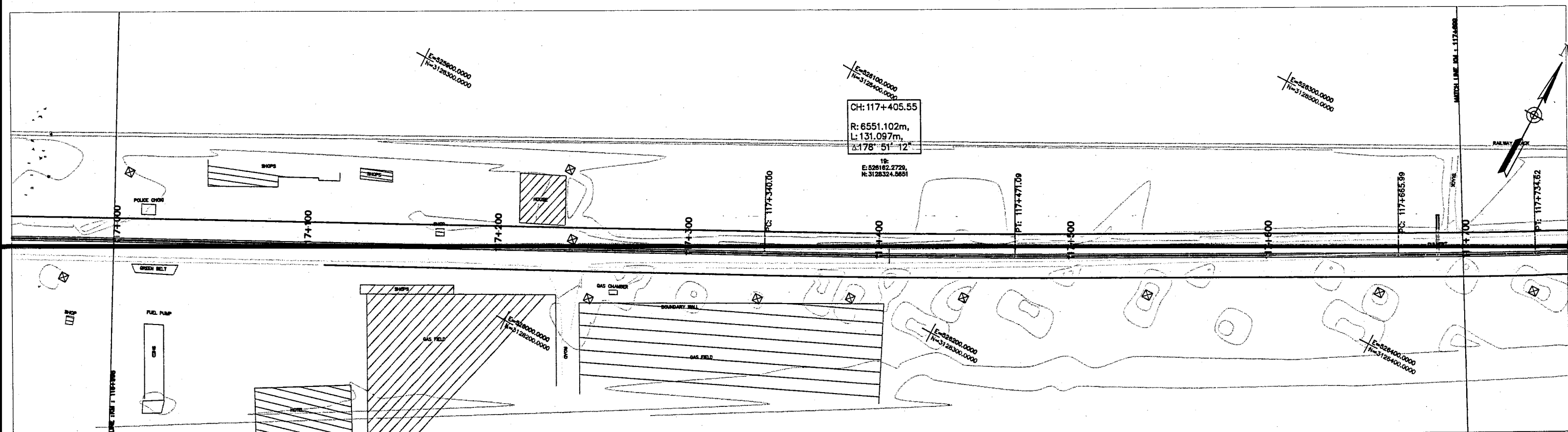


 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	REV.	DATE	DESCRIPTION	APPROVED	APPROVED	DRAWN SUBMITTED RECOMMENDED CHD./VER.	M. A. NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 114+900 ~ 115+600		SCALE 1:2000
											DATE	DWG NO.	JUNE, 2018



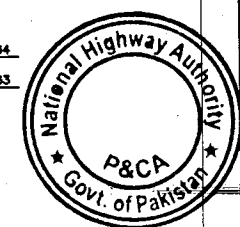
Horizontal Geometry		CURVE R=5265.89	
Superelevation	Design levels	Ground Levels	Stationing
	72.527	72.810	116+300
	72.574	72.813	116+310
	72.631	72.842	116+320
	72.696	72.878	116+330
	72.764	72.910	116+340
	72.824	72.949	116+350
	72.876	73.001	116+360
	72.920	73.052	116+370
	72.956	73.088	116+380
	72.983	73.063	116+390
	73.002	73.047	116+400
	73.013	73.038	116+410
	73.016	73.036	116+420
	73.010	73.027	116+430
	72.996	72.997	116+440
	72.977	72.967	116+450
	72.957	72.940	116+460
	72.938	72.915	116+470
	72.918	72.888	116+480
	72.899	72.874	116+490
	72.879	72.884	116+500
	72.860	72.909	116+510
	72.840	72.897	116+520
	72.821	72.864	116+530
	72.801	72.823	116+540
	72.781	72.783	116+550
	72.762	72.773	116+560
	72.742	72.763	116+570
	72.723	72.727	116+580
	72.703	72.684	116+590
	72.684	72.641	116+600
	72.664	72.646	116+610
	72.645	72.578	116+620
	72.625	72.537	116+630
	72.568	72.496	116+640
			117+000

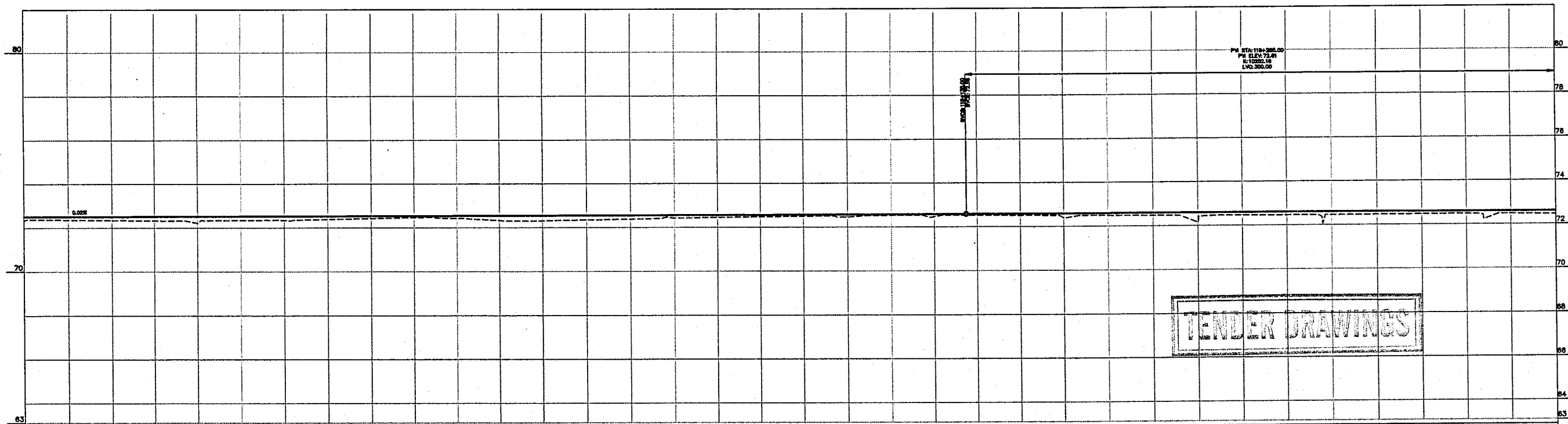
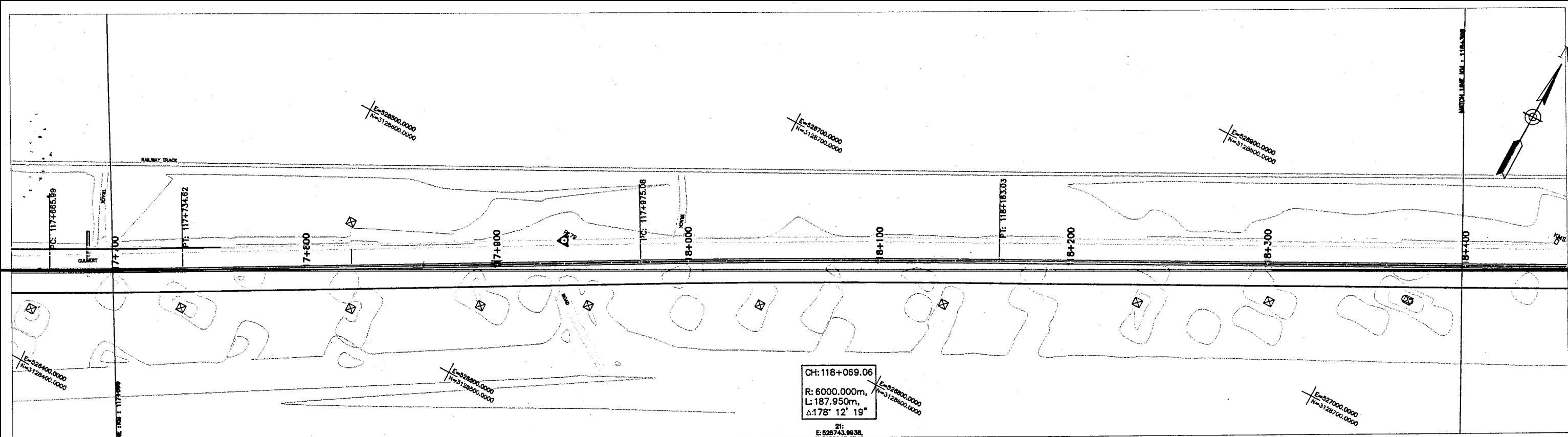




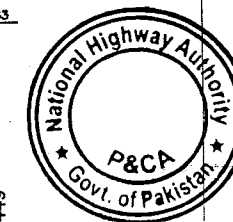
Horizontal Geometry	TANGENT 914.55										CURVE R=6551.10										TANGENT 184.90										CURVE R=3912.34									
Superelevation																																								
Design Levels	72.586	72.567	72.547	72.528	72.509	72.493	72.479	72.467	72.456	72.448	72.441	72.436	72.434	72.433	72.434	72.437	72.441	72.444	72.448	72.452	72.455	72.459	72.462	72.466	72.469	72.473	72.477	72.480	72.484	72.487	72.491	72.495	72.498	72.502						
Ground Levels	72.568	72.557	72.546	72.534	72.518	72.505	72.483	72.493	72.479	72.453	72.470	72.480	72.484	72.488	72.481	72.469	72.459	72.458	72.456	72.435	72.424	72.408	72.406	72.409	72.389	72.365	72.377	72.394	72.410	72.416	72.418	72.422	72.418	72.404	72.391	72.353				
Stationing	117+000	117+100				117+200				117+300				117+400				117+500				117+600				117+700														

KM: 117+688
B.C : 1(1.3x1)
SKEW: 0°





Horizontal Geometry	CURVE R=3912.34				TANGENT 240.46										CURVE R=6000.00										TANGENT 291.84											
Superelevation																																				
Design Levels	72.509	72.512	72.516	72.520	72.523	72.527	72.530	72.534	72.538	72.541	72.545	72.548	72.552	72.555	72.559	72.563	72.566	72.570	72.573	72.577	72.581	72.584	72.587	72.590	72.593	72.595	72.597	72.598	72.599	72.600	72.600	72.599	72.598			
Ground Levels	72.353	72.363	72.347	72.331	72.219	72.343	72.344	72.383	72.423	72.461	72.426	72.329	72.309	72.348	72.381	72.425	72.450	72.473	72.495	72.464	72.527	72.462	72.521	72.507	72.393	72.484	72.472	72.152	72.459	72.454	72.452	72.459	72.469	72.475	72.470	72.449
	117+000				117+800					117+900					118+000					118+100				118+200					118+300					118+400		



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

		JAWAD UL HAQ Project Manager M/S NESPAK		DRAWN	M A NADEEM AWAN
				SUBMITTED	
				RECOMMENDED	
				CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

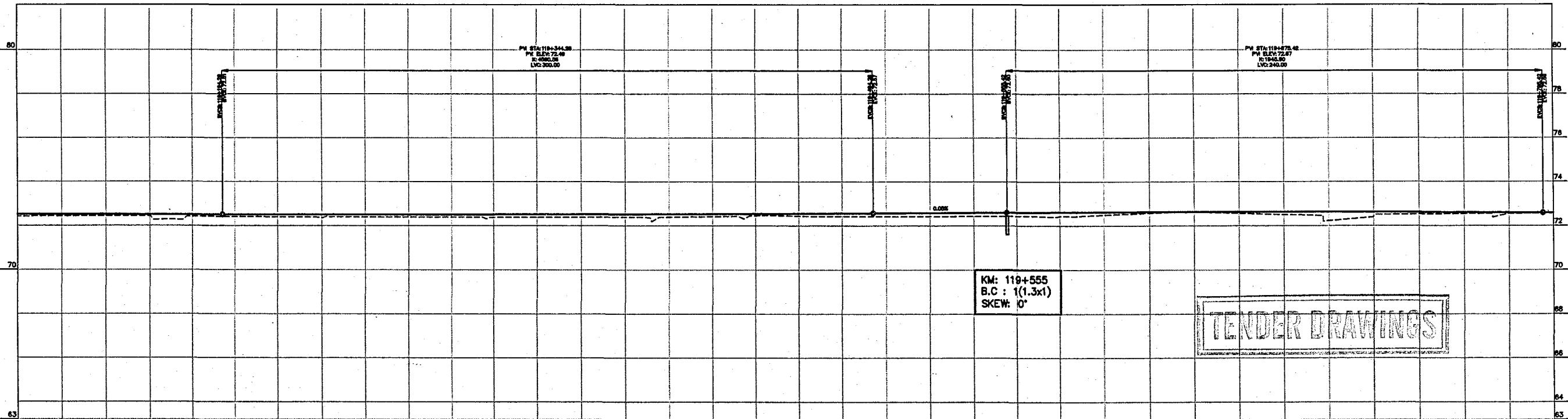
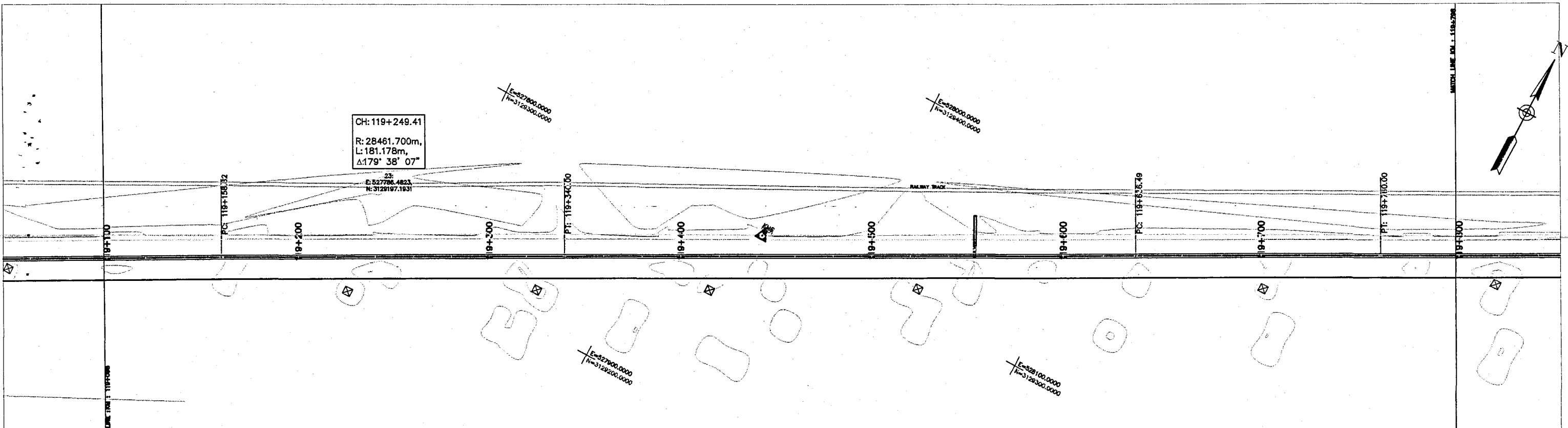
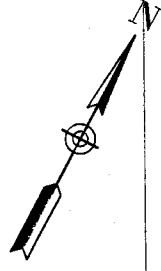
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE
KM: 117+700 ~ 118+400

SCALE
1:2000

DATE
JUNE, 2018

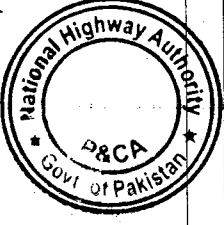
DWG NO.
3905/402/TB/P&P170



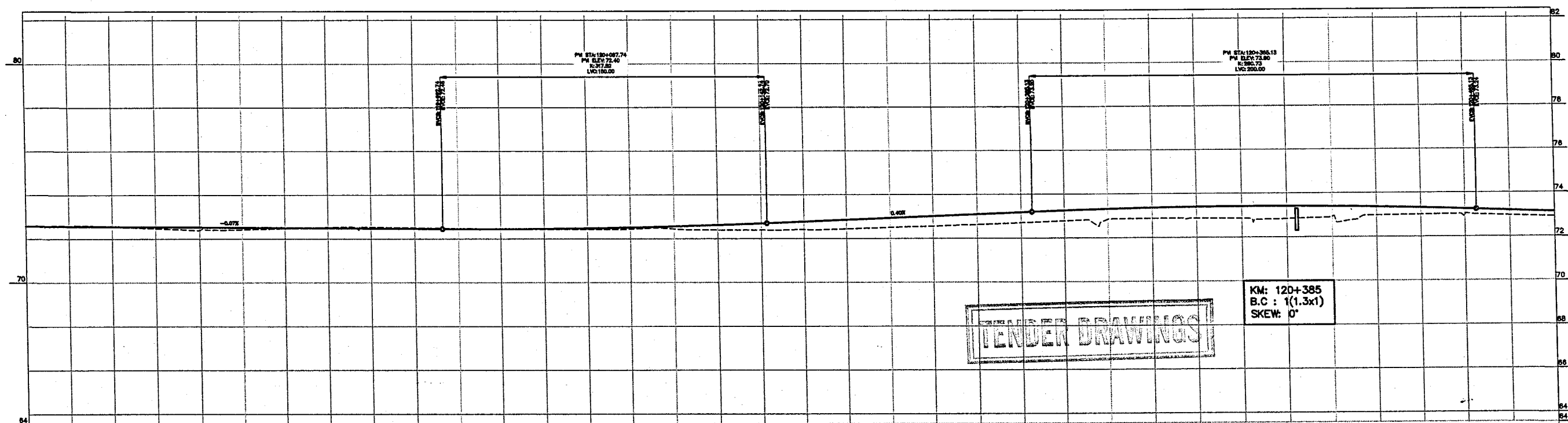
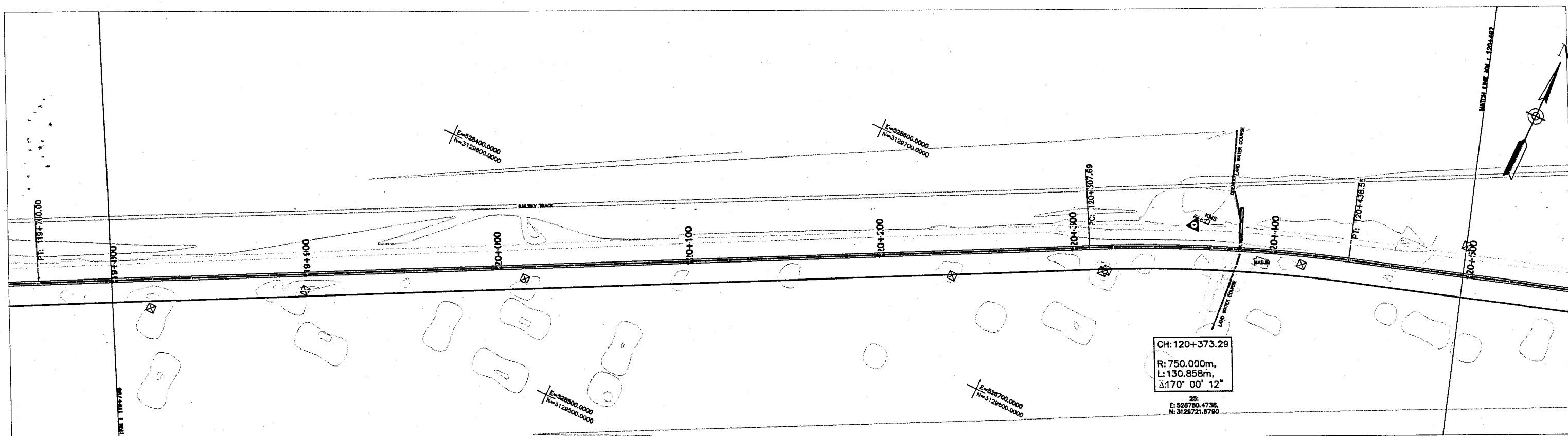
TENDER DRAWINGS

KM: 119+555
B.C : 1(1.3x1)
SKEW: 0°

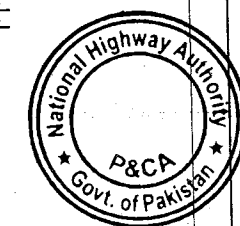
Horizontal Geometry	TANGENT 539.92										CURVE R=28461.70										TANGENT 296.50										CURVE R=27320.53										TANGENT 547.70									
Superelevation																																																		
Design Levels		72.515	72.513	72.511	72.509	72.508	72.505	72.504	72.504	72.505	72.507	72.510	72.514	72.518	72.524	72.530	72.537	72.545	72.554	72.564	72.575	72.586	72.597	72.607	72.617	72.624	72.629	72.633	72.634	72.633	72.630	72.625	72.618	72.609	72.598															
Ground Levels	72.421	72.433	72.438	72.442	72.415	72.410	72.401	72.362	72.395	72.391	72.388	72.379	72.384	72.386	72.388	72.392	72.417	72.463	72.441	72.424	72.422	72.424	72.432	72.441	72.432	72.490	72.573	72.616	72.566	72.504	72.226	72.421	72.523	72.539	72.550															
	119+100				119+200						119+300					119+400				119+500				119+600				119+700				119+800																		



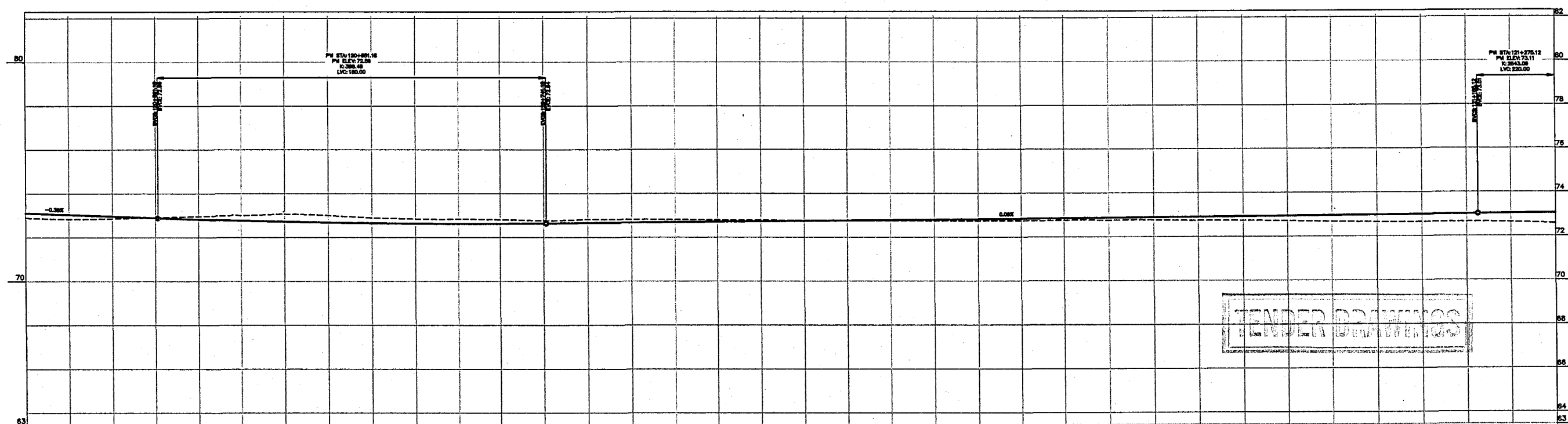
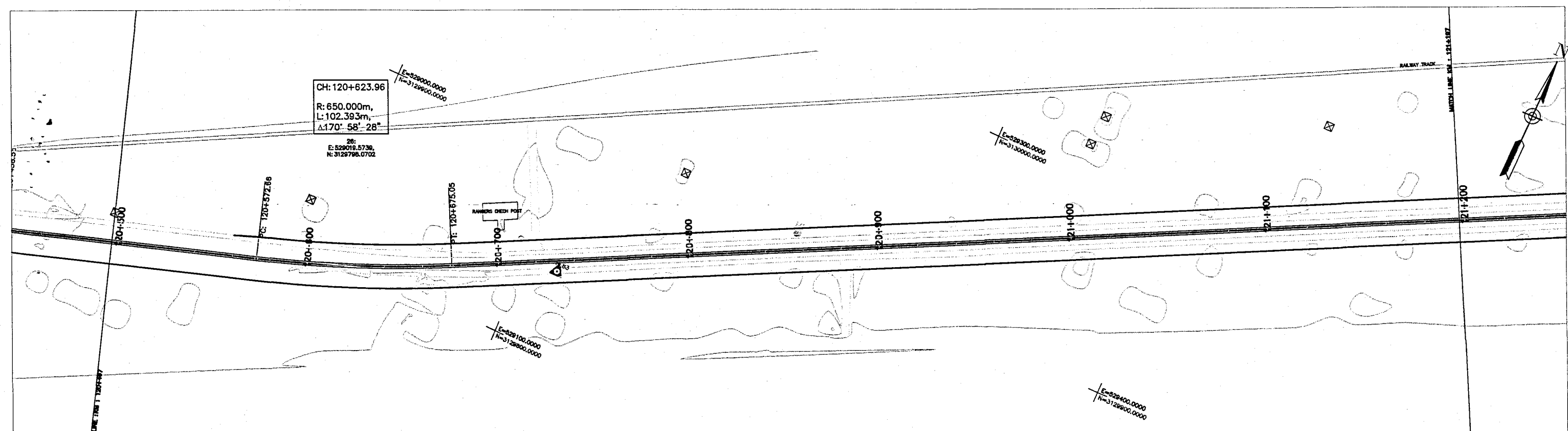
	GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY		NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAB UL HAQ Project Manager M/S NESPAC	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHIMORE)	PLAN & PROFILE		SCALE 1:2000
					SUBMITTED			KM: 119+100 ~ 119+800		
					RECOMMENDED			DATE	DWG NO.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED			JUNE, 2018	3905/102/TP/P&P172		



Horizontal Geometry	TANGENT 547.70																												CURVE R=750.00		TANGENT 134.11			
Superelevation																																		
Design Levels	72.571	72.557	72.543	72.529	72.516	72.502	72.488	72.474	72.460	72.447	72.445	72.454	72.477	72.511	72.559	72.619	72.692	72.772	72.853	72.934	73.014	73.095	73.176	73.252	73.314	73.360	73.391	73.407	73.407	73.392	73.361	73.316	73.255	73.182
Ground Levels	72.576	72.562	72.556	72.472	72.422	72.470	72.518	72.533	72.500	72.467	72.447	72.436	72.425	72.435	72.445	72.394	72.387	72.404	72.438	72.501	72.557	72.621	72.698	72.777	72.838	72.872	72.872	72.859	72.832	72.929	72.973	73.002	72.959	72.955
	119+800				119+900					120+000					120+100					120+200					120+300					120+400				120+500

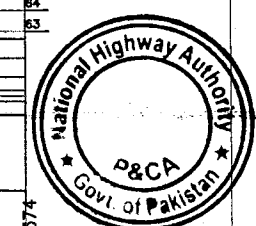


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 119+800 ~ 120+500		SCALE
			SUBMITTED				1:2000	
			RECOMMENDED			DATE	DWG NO.	
			CHD./VER.			JUNE 2018	3905/102/TD/P&P173	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED				

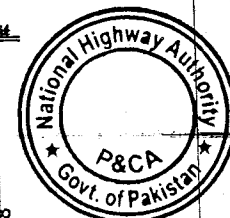
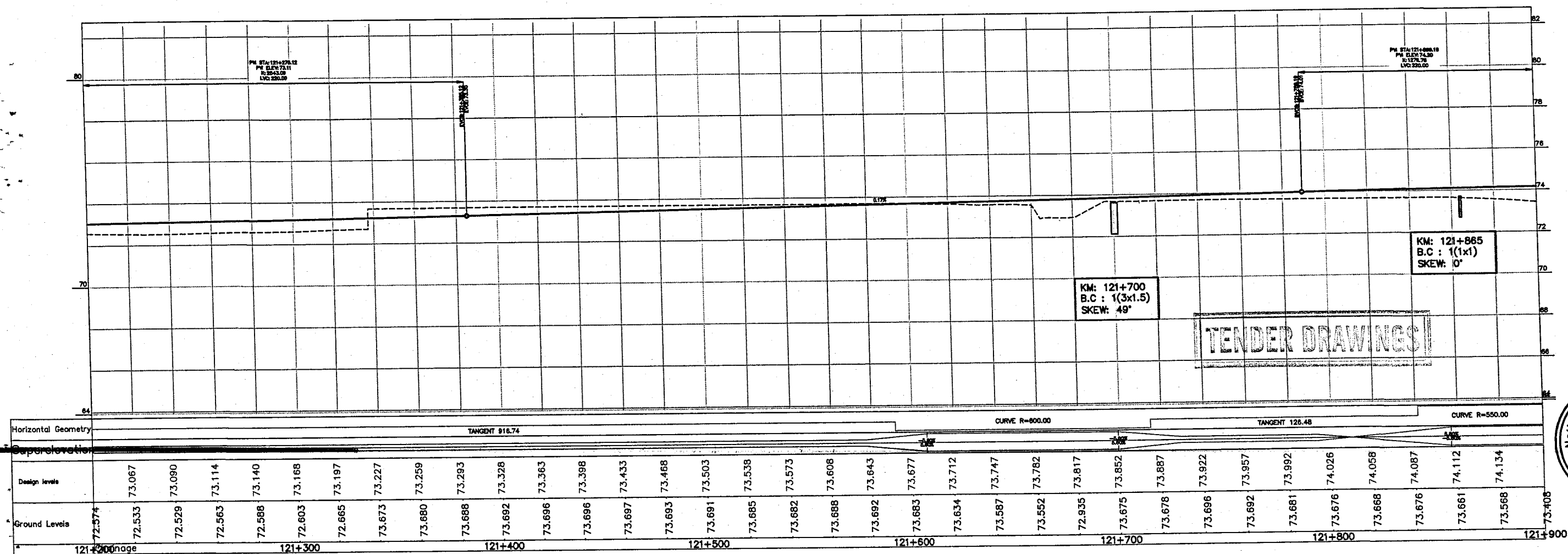
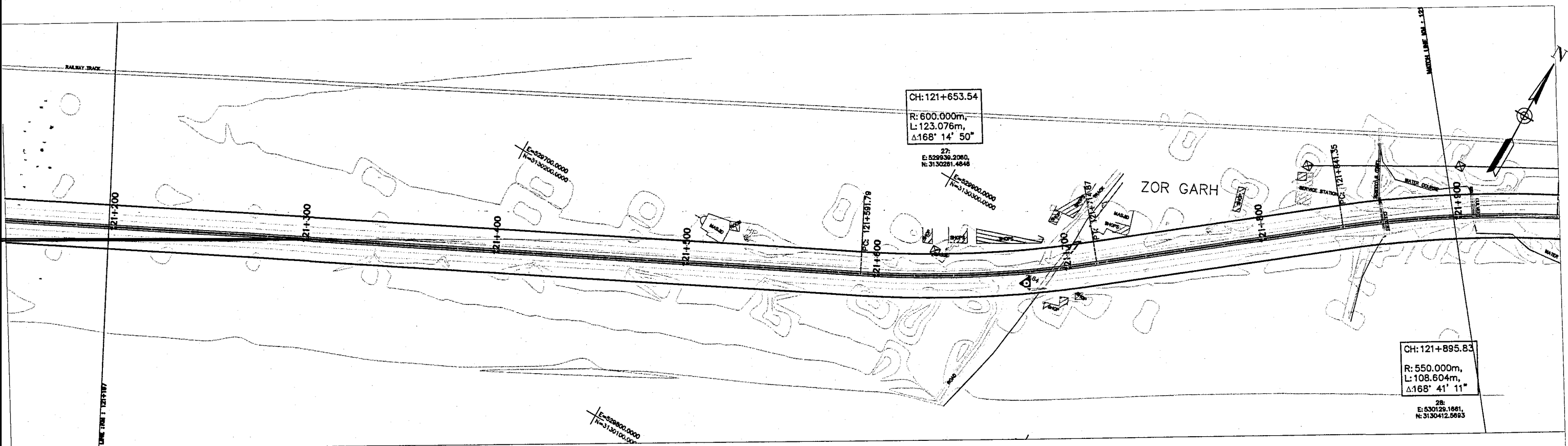


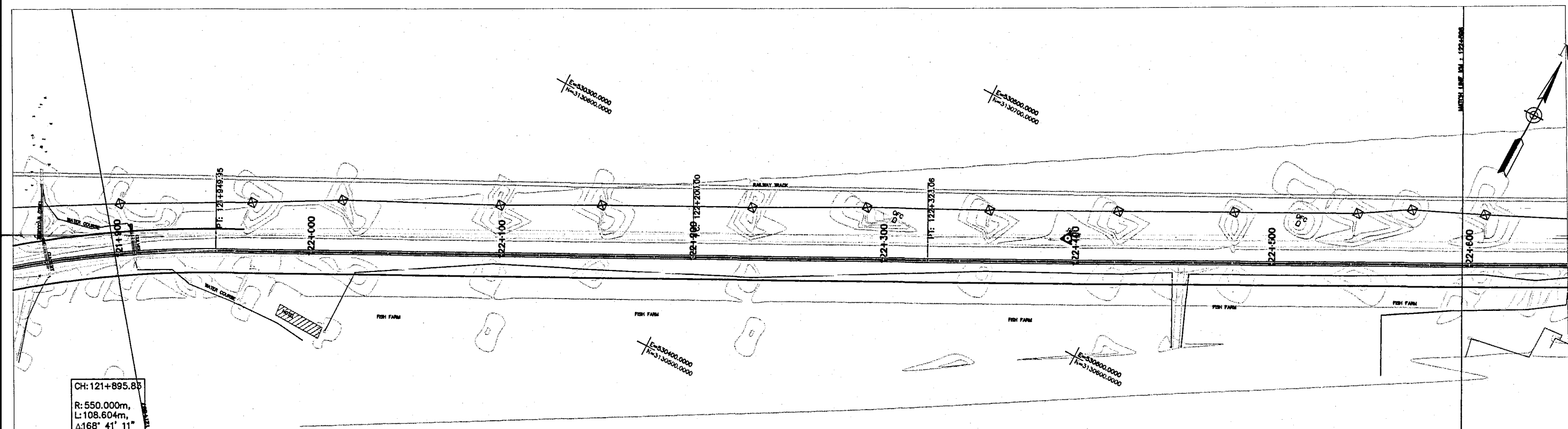
Horizontal Geometry	TANGENT 134.11		CURVE R=650.00										TANGENT 916.74																						
Superelevation																																			
Design Levels	73.037	72.964	72.892	72.823	72.765	72.717	72.679	72.650	72.632	72.624	72.626	72.638	72.656	72.674	72.691	72.709	72.726	72.744	72.762	72.779	72.797	72.815	72.832	72.850	72.867	72.885	72.903	72.920	72.938	72.956	72.973	72.991	73.009	73.027	
Ground Levels	72.890	72.829	72.860	72.910	72.961	73.000	73.063	73.001	72.889	72.843	72.837	72.807	72.768	72.809	72.819	72.812	72.793	72.778	72.768	72.758	72.749	72.739	72.730	72.739	72.756	72.747	72.758	72.739	72.732	72.710	72.672	72.645	72.646	72.648	72.633
	120+500				120+600					120+700					120+800					120+900					121+000				121+100				121+200		

TENDER DRAWING

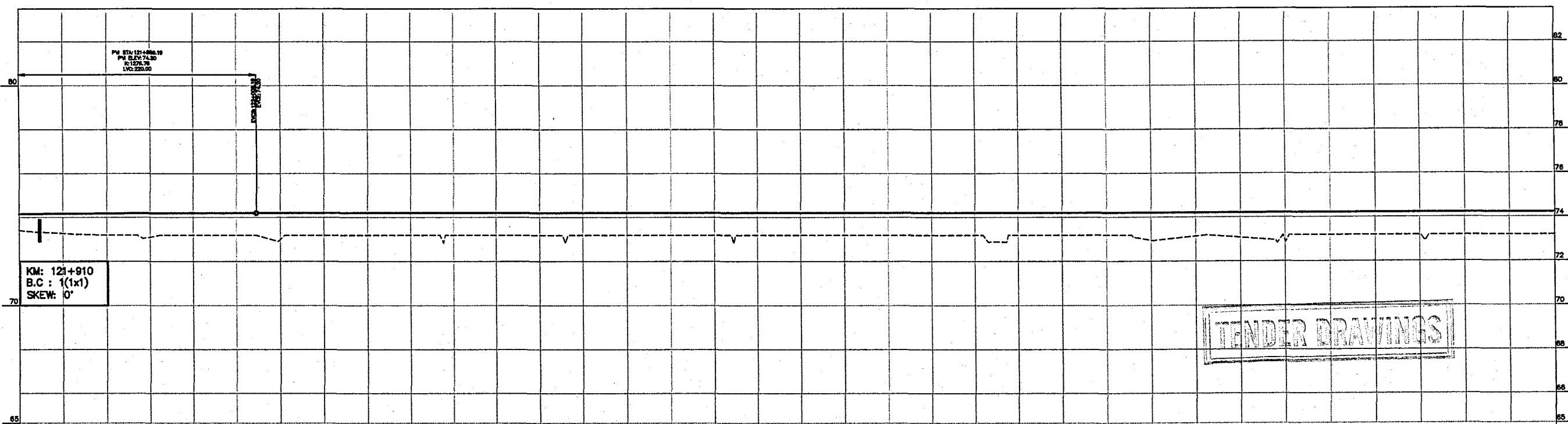


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	REV. DATE DESCRIPTION APPROVED	DRAWN M A NADEEM AWAN SUBMITTED RECOMMENDED CHD./VER. APPROVED	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 120+500 ~ 121+200 SCALE 1:2000	
					DATE JUNE, 2016	DWG. NO. 5905/102/10/P&P174

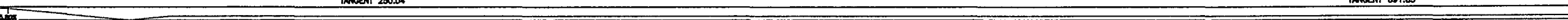


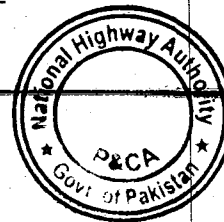


CH: 121+895.83
 R: 550.000m,
 L: 108.604m,
 Δ: 168° 41' 11"

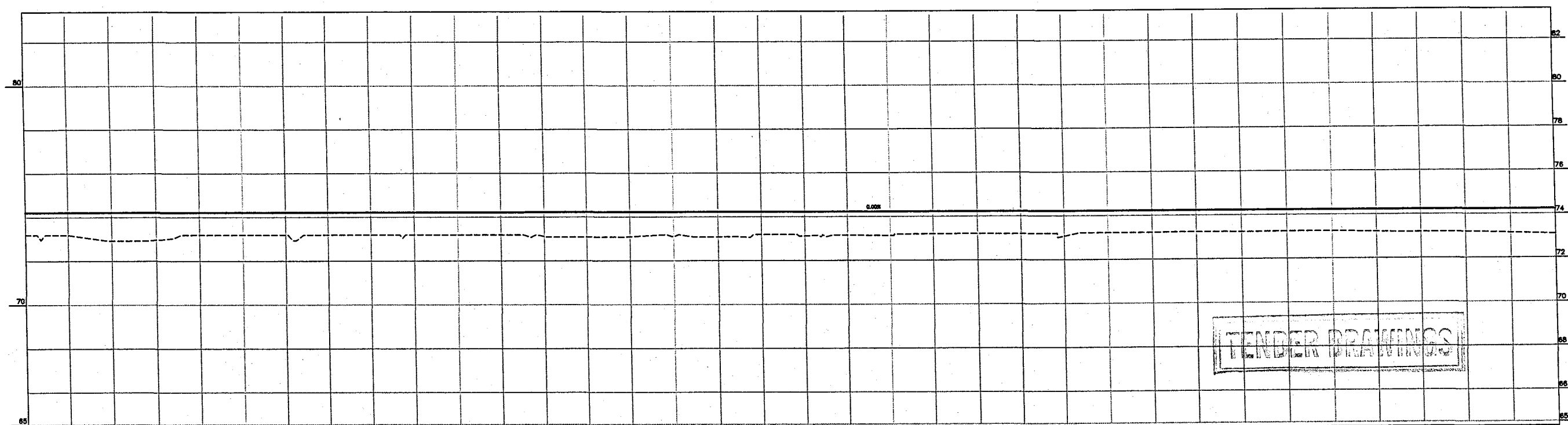
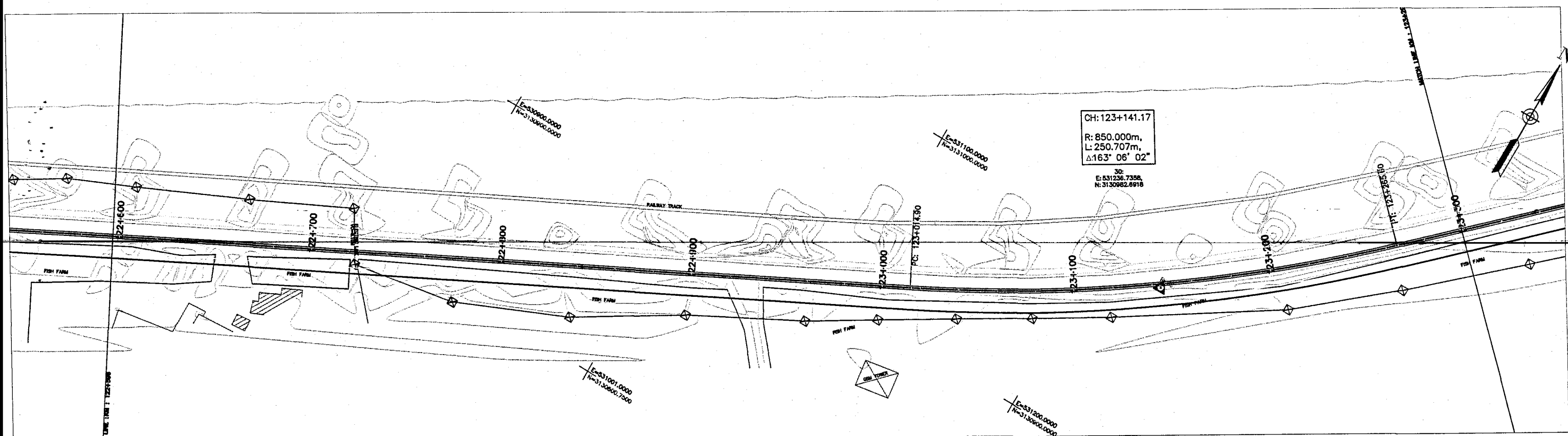


TENDER DRAWINGS

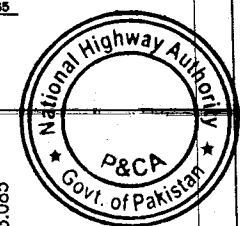
Horizontal Geometry	CURVE R=550.00										TANGENT 250.04										CURVE R=92306.52										TANGENT 891.83									
Superelevation																																								
Design Levels		74.169	74.182	74.192	74.199	74.202	74.203	74.203	74.204	74.204	74.205	74.205	74.206	74.207	74.207	74.208	74.208	74.208	74.209	74.209	74.210	74.210	74.211	74.211	74.212	74.212	74.213	74.213	74.214	74.214	74.215	74.215	74.216	74.216						
Ground Levels	73.406	73.272	73.195	73.100	73.190	73.189	72.991	73.188	73.187	73.187	73.187	73.187	73.187	73.187	73.186	73.186	73.185	73.185	73.185	73.185	73.185	73.185	73.185	73.185	73.186	72.949	73.132	73.074	72.940	73.186	73.187	73.187	73.187	73.186						
	121+900					122+000					122+100				122+200					122+300					122+400					122+500			122+600							



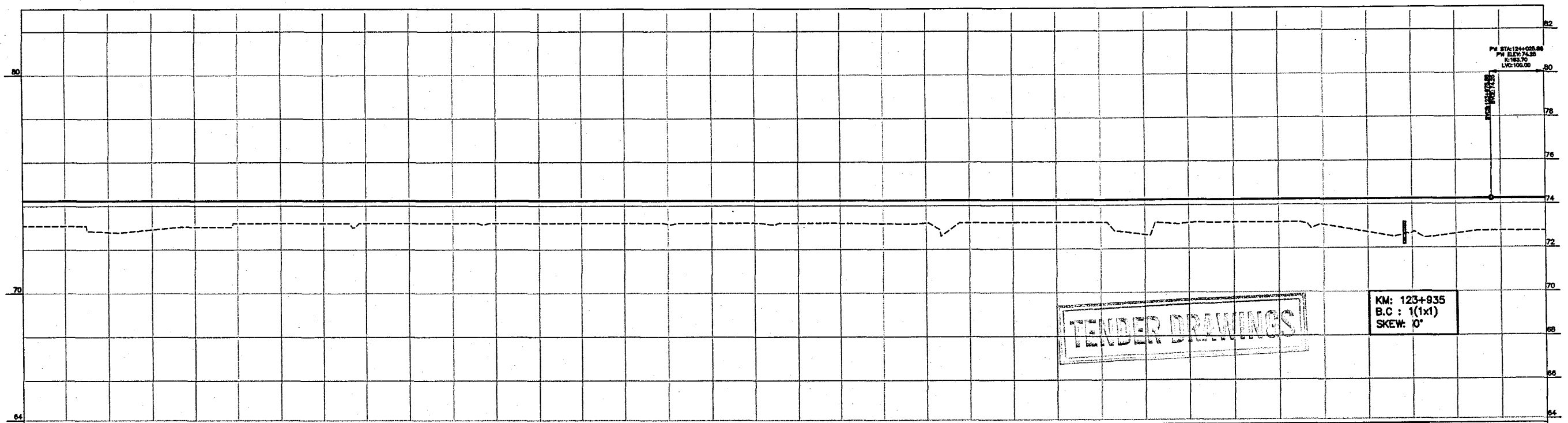
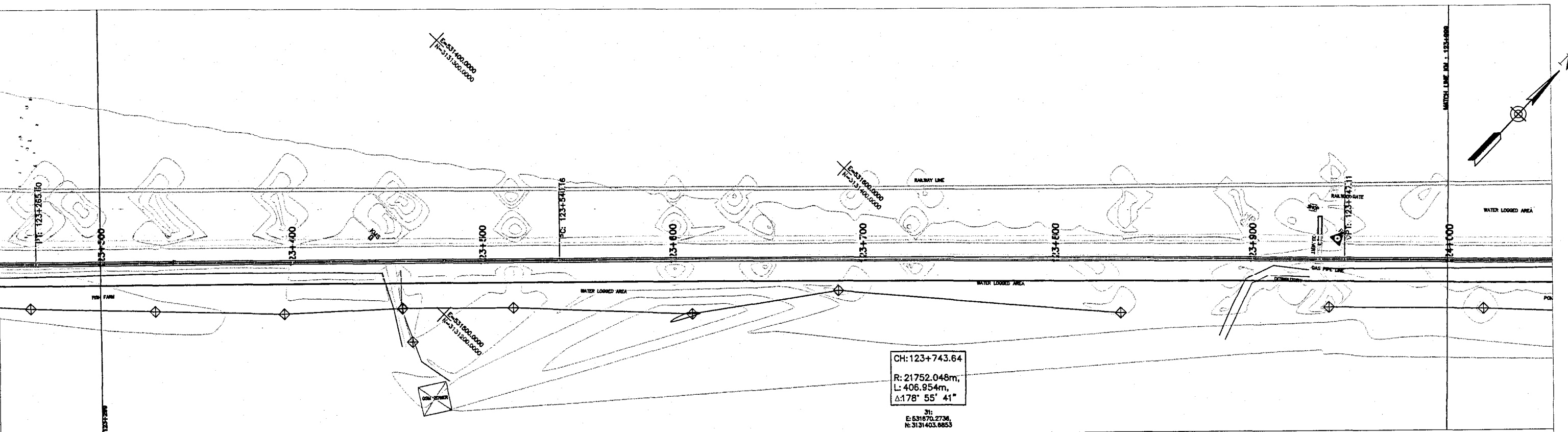
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK		DRAWN	M. A. NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 121+900 ~ 122+600		SCALE 1:2000		
				SUBMITTED						DATE	DWG NO.
				RECOMMENDED						JUNE, 2018	3905/102/TD/P&P176
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED					



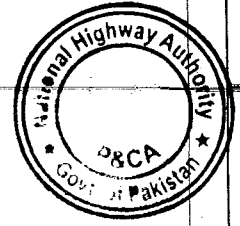
Horizontal Geometry	TANGENT 891.83																												CURVE R=850.00										TANGENT 274.56
Superelevation																																							
Design levels		74.217	74.217	74.218	74.218	74.219	74.219	74.220	74.220	74.221	74.221	74.222	74.222	74.223	74.223	74.224	74.224	74.225	74.225	74.226	74.227	74.227	74.228	74.228	74.229	74.229	74.230	74.230	74.231	74.231	74.232	74.232	74.232	74.232					
Ground Levels	73.186	73.186	72.923	72.958	73.187	73.187	73.187	73.187	73.187	73.187	73.188	73.111	73.082	73.093	73.090	73.083	73.186	73.119	73.150	73.125	73.200	73.209	73.194	73.067	73.223	73.220	73.238	73.227	73.241	73.240	73.212	73.186	73.187	73.139	73.085				
	122+600				122+700							122+800				122+900				123+000				123+100				123+200					123+300						

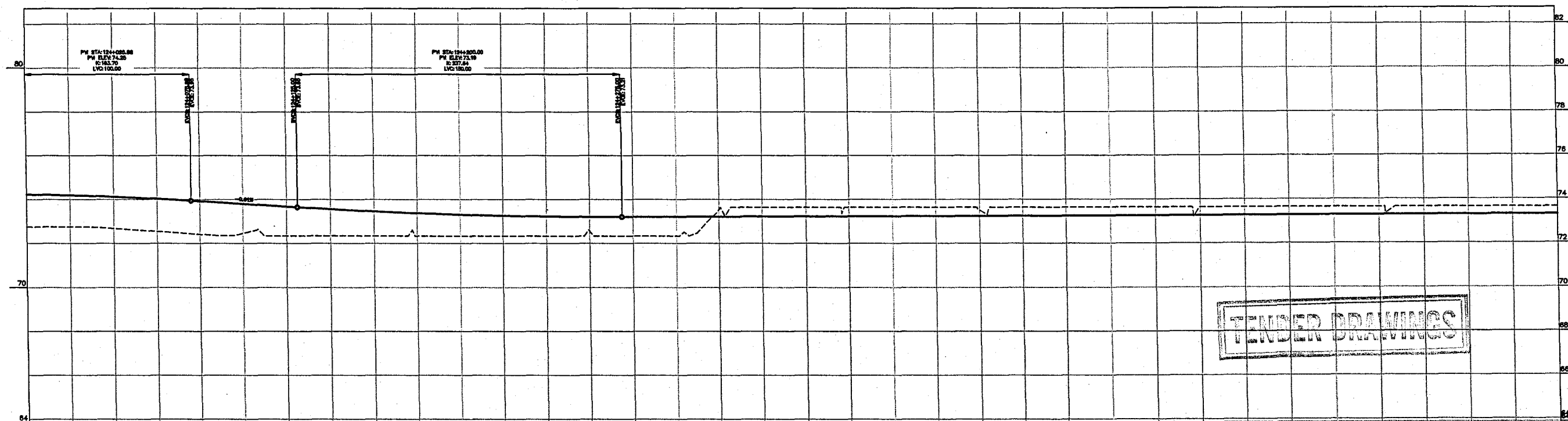
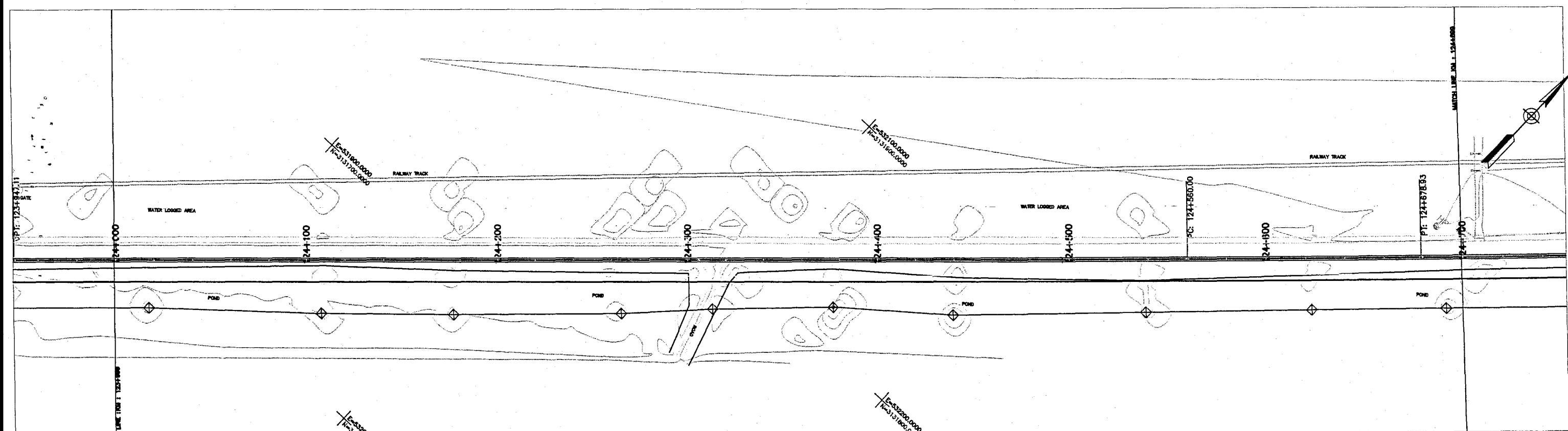


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWADUL HAQ Project Manager M/S NESPAC	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE		SCALE 1:2000
			SUBMITTED			DATE	DWG NO.	
			RECOMMENDED			JUNE, 2018	3905/102/TD/P&P177	
			CHD./VER.					
REV. DATE DESCRIPTION			APPROVED	APPROVED				



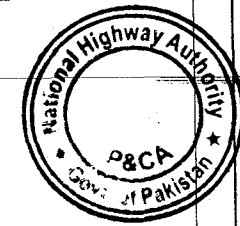
Horizontal Geometry	TANGENT 274.56															CURVE R=21752.05															TANGENT 612.88				
Superelevation																																			
Design Levels		74.233	74.234	74.234	74.235	74.235	74.236	74.236	74.237	74.237	74.238	74.238	74.239	74.239	74.240	74.240	74.240	74.241	74.241	74.242	74.242	74.243	74.243	74.244	74.244	74.245	74.245	74.246	74.246	74.247	74.247	74.248	74.248	74.248	74.248
Ground Levels	73.085	73.083	72.801	72.919	73.040	73.206	73.207	73.207	73.207	73.207	73.208	73.208	73.208	73.208	73.208	73.160	73.209	73.210	73.210	73.203	73.178	73.202	73.212	73.212	73.212	72.648	73.177	73.194	73.194	73.072	72.715	72.675	72.633	72.755	72.752
	123+300	123+400					123+500					123+600					123+700					123+800					123+900					124+000			



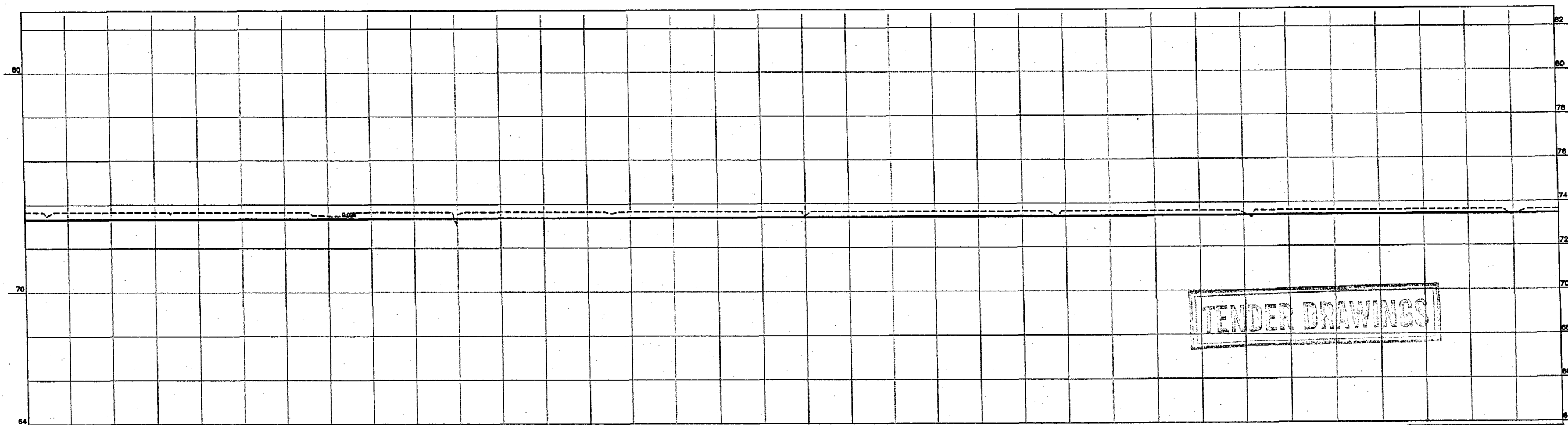
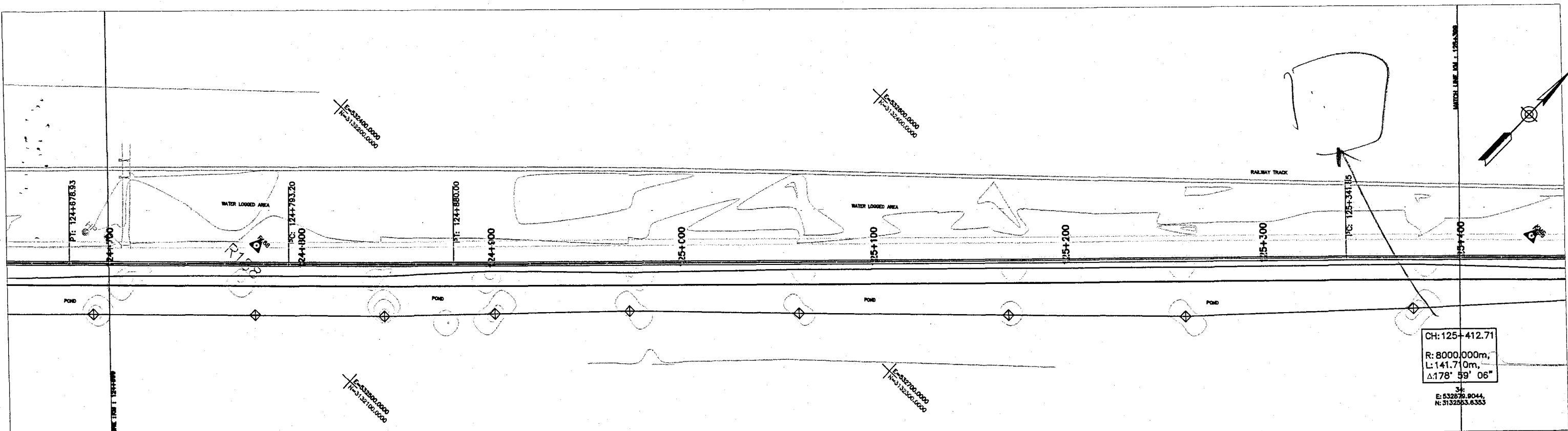


TENDER DRAWINGS

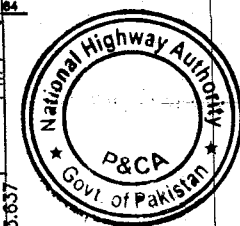
Horizontal Geometry	TANGENT 612.88																		CURVE R=12773.55										TANGENT 114.27							
Superelevation																																				
Design Levels		74.190	74.125	74.035	73.921	73.799	73.677	73.560	73.460	73.376	73.309	73.259	73.225	73.209	73.209	73.213	73.218	73.222	73.227	73.231	73.236	73.240	73.245	73.249	73.254	73.258	73.263	73.268	73.272	73.277	73.281	73.286	73.290	73.295	73.299	73.637
Ground Levels	72.752	72.750	72.680	72.547	72.414	72.458	72.340	72.341	72.335	72.332	72.332	72.332	72.554	72.332	72.332	73.527	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637
	124+000	124+100					124+200					124+300					124+400					124+500					124+600					124+700				



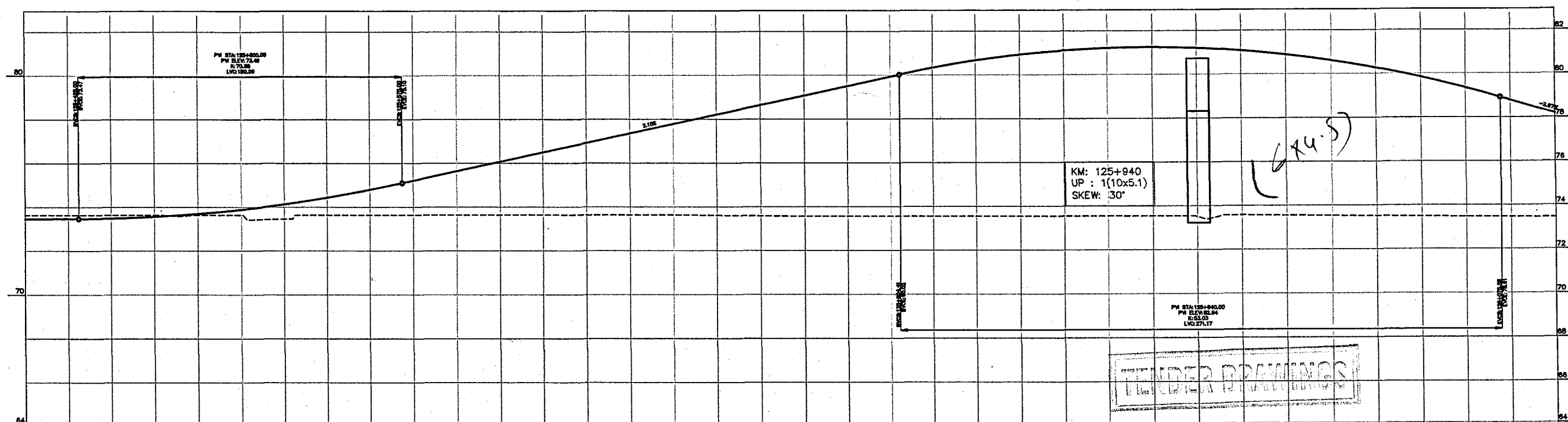
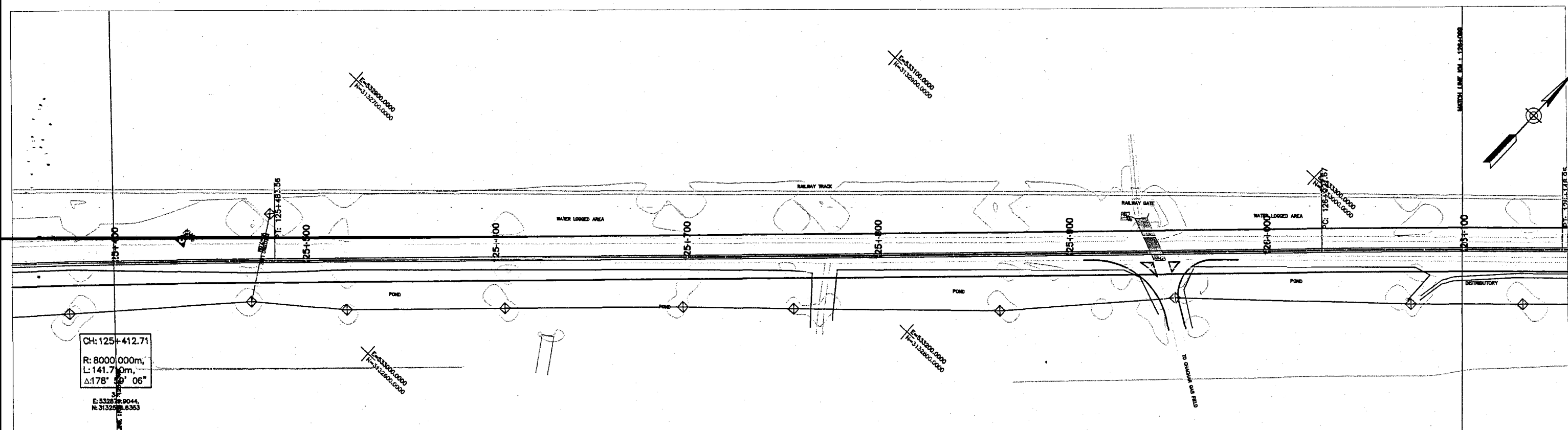
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN M A NADEEM AWAN	PLAN & PROFILE KM: 124+000 ~ 124+700 SCALE 1:2000
			SUBMITTED RECOMMENDED CHD./VER. APPROVED	
DATE JUNE, 2018	DWG NO. 3006/402/TD/P&P179	REV. DATE DESCRIPTION APPROVED		



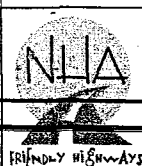
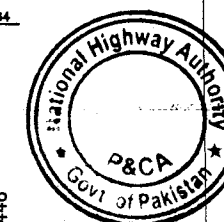
Horizontal Geometry	TANGENT 114.27										CURVE R=8152.58										TANGENT 481.85										CURVE R=8000.00									
Superelevation																																								
Design Levels	73.308	73.313	73.317	73.322	73.327	73.331	73.336	73.340	73.345	73.349	73.354	73.358	73.363	73.367	73.372	73.376	73.381	73.385	73.390	73.395	73.399	73.404	73.408	73.413	73.417	73.422	73.426	73.431	73.435	73.440	73.444	73.449	73.454	73.458						
Ground Levels	73.637	73.637	73.637	73.637	73.637	73.637	73.477	73.637	73.637	73.239	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.381	73.450	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.522	73.637	73.637	73.637	73.637	73.637	73.443						
	124+700				124+800					124+900					125+000					125+100					125+200					125+300				125+400						



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN SUBMITTED RECOMMENDED CHD./VER. APPROVED	M A NADEEM AWAN 	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 124+700 ~ 125+400 SCALE 1:2000	
			REV. DATE DESCRIPTION APPROVED APPROVED	DATE DWG NO. JUNE, 2018 3905/102/TD/P&P180			



Horizontal Geometry	CURVE R=8000.00															TANGENT 544.11															CURVE R=8482.87														
Superelevation																																													
Design Levels		73.467	73.488	73.563	73.695	73.884	74.129	74.431	74.790	75.204	75.633	76.063	76.492	76.922	77.351	77.781	78.211	78.640	79.070	79.499	79.929	80.335	80.669	80.926	81.108	81.215	81.246	81.202	81.083	80.888	80.617	80.272	79.650	79.354	78.783										
Ground Levels	73.637	73.637	73.637	73.637	73.637	73.637	73.455	73.637	73.637	73.637	73.637	73.638	73.639	73.636	73.632	73.629	73.610	73.587	73.568	73.566	73.562	73.558	73.555	73.551	73.549	73.545	73.542	73.513	73.572	73.553	73.531	73.510	73.489	73.473	73.460										
	125+400					125+500						125+600				125+700					125+800					125+900					126+000				126+100										



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD UL HAQ
Project Manager
M/S NESPAK

REV.	DATE	DESCRIPTION	APPROVED

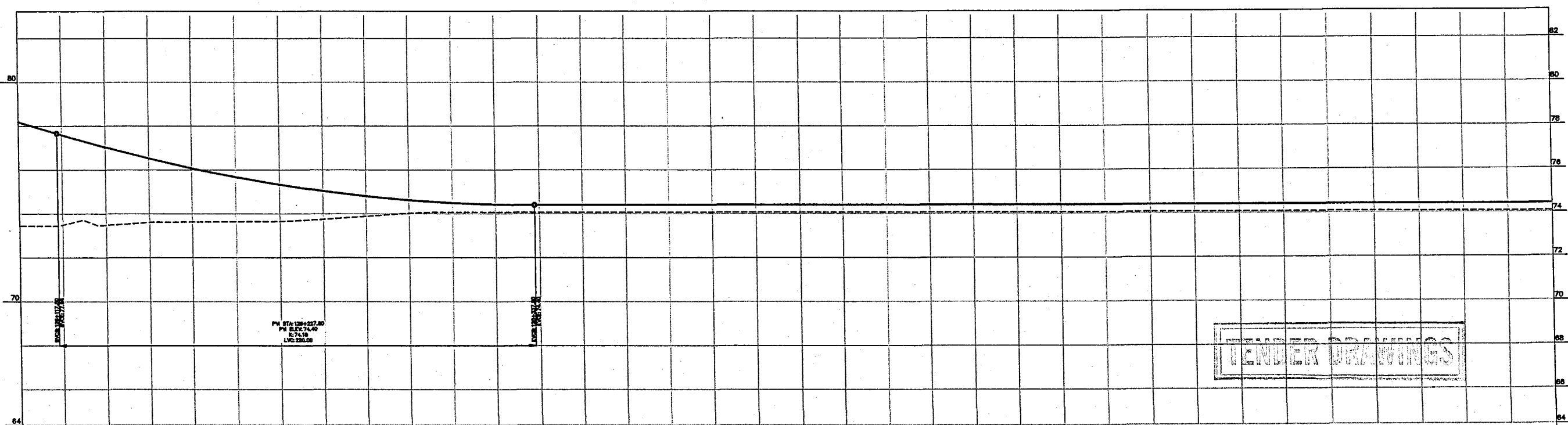
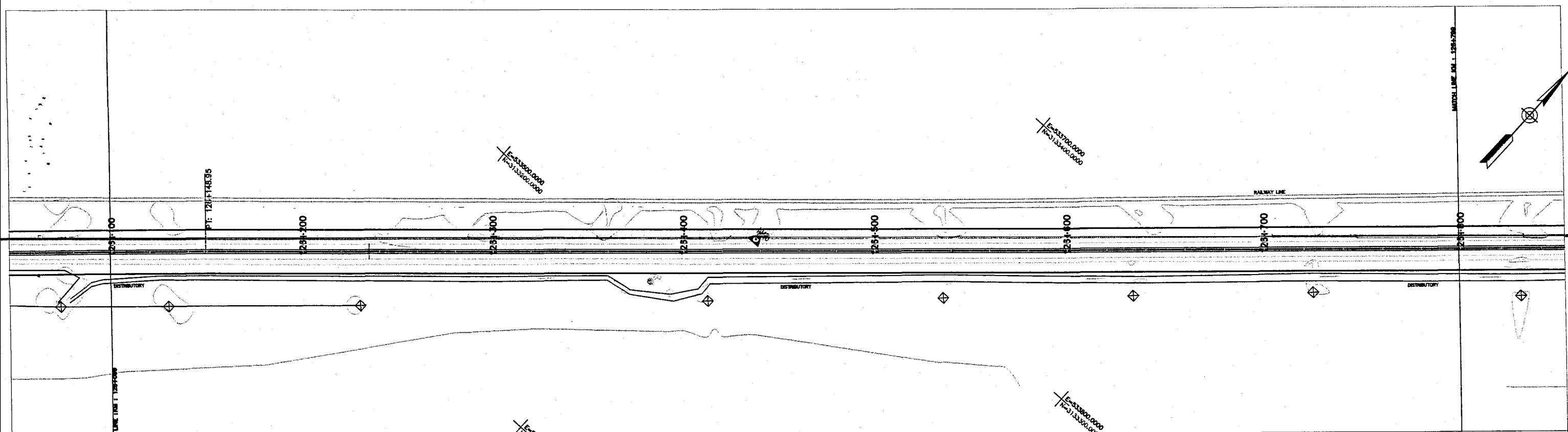
DRAWN	M A NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

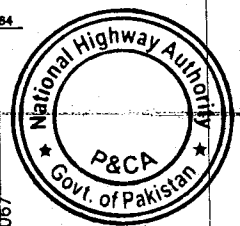
PLAN & PROFILE
KM: 125+400 ~ 126+100

SCALE
1:2000

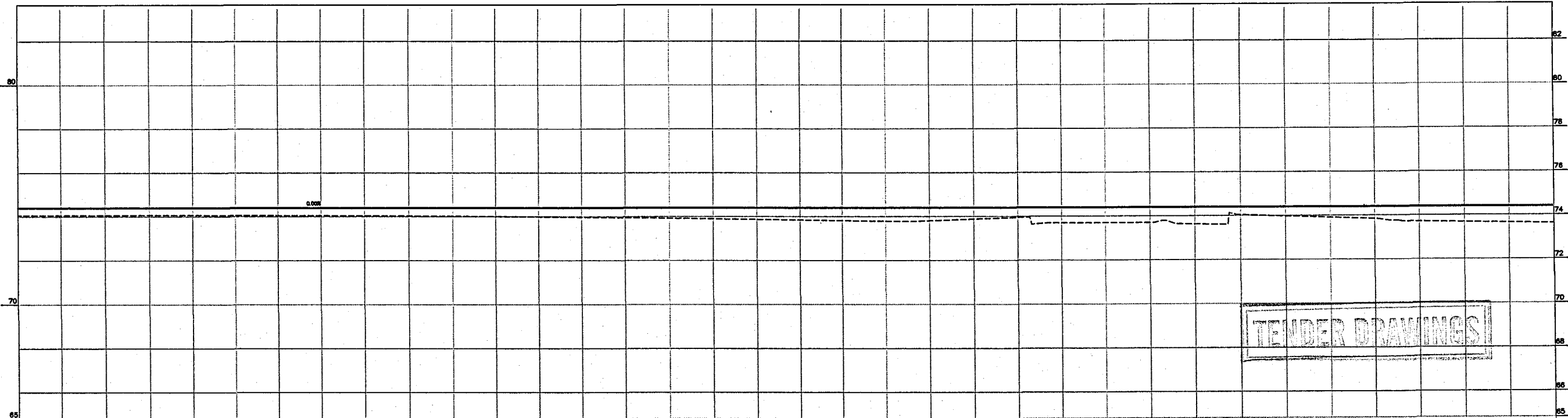
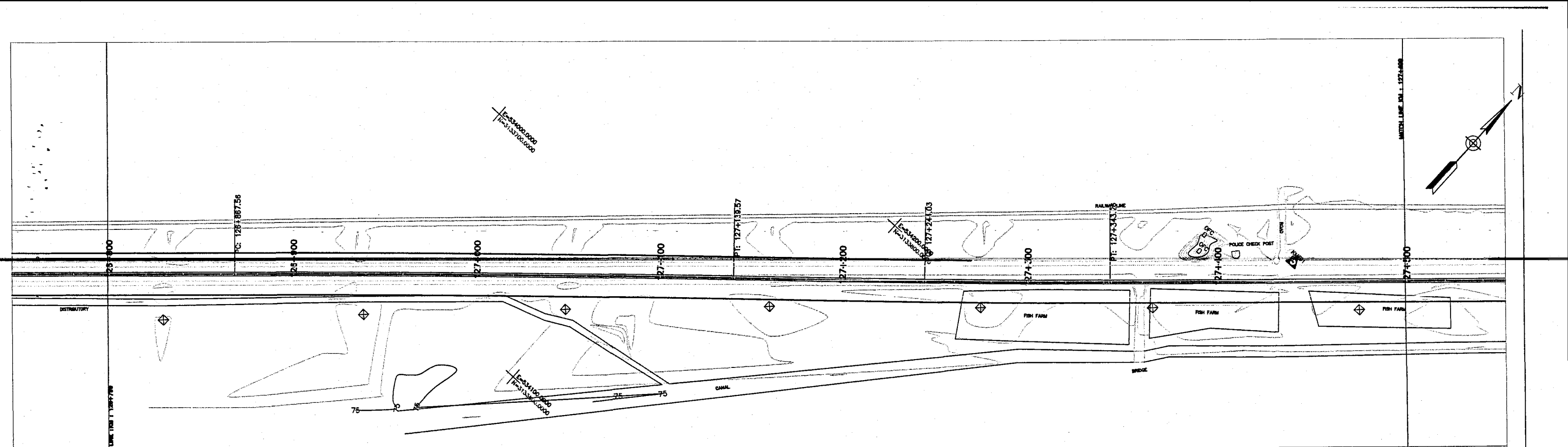
DATE	JUNE, 2018
DWG NO	3903/102/10/P&P181



Horizontal Geometry	CURVE R=6482.87																				TANGENT 718.81										
Superelevation																															
Design Levels		77.597	77.037	76.531	76.078	75.680	75.335	75.045	74.808	74.625	74.496	74.421	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400
Ground Levels	73.446	73.490	73.479	73.611	73.626	73.638	73.658	73.748	73.887	74.026	74.067	74.068	74.070	74.071	74.071	74.071	74.071	74.071	74.071	74.071	74.071	74.071	74.071	74.071	74.072	74.072	74.072	74.072	74.071	74.070	74.069
	126+300	126+200				126+300				126+400				126+500				126+600				126+700				126+800					





GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAC	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 126+100 ~ 126+800		SCALE
			SUBMITTED RECOMMENDED CHD./VER. APPROVED	APPROVED		DATE JUNE, 2018	DWG NO. 3905/102/TD/P&P182	1:2000

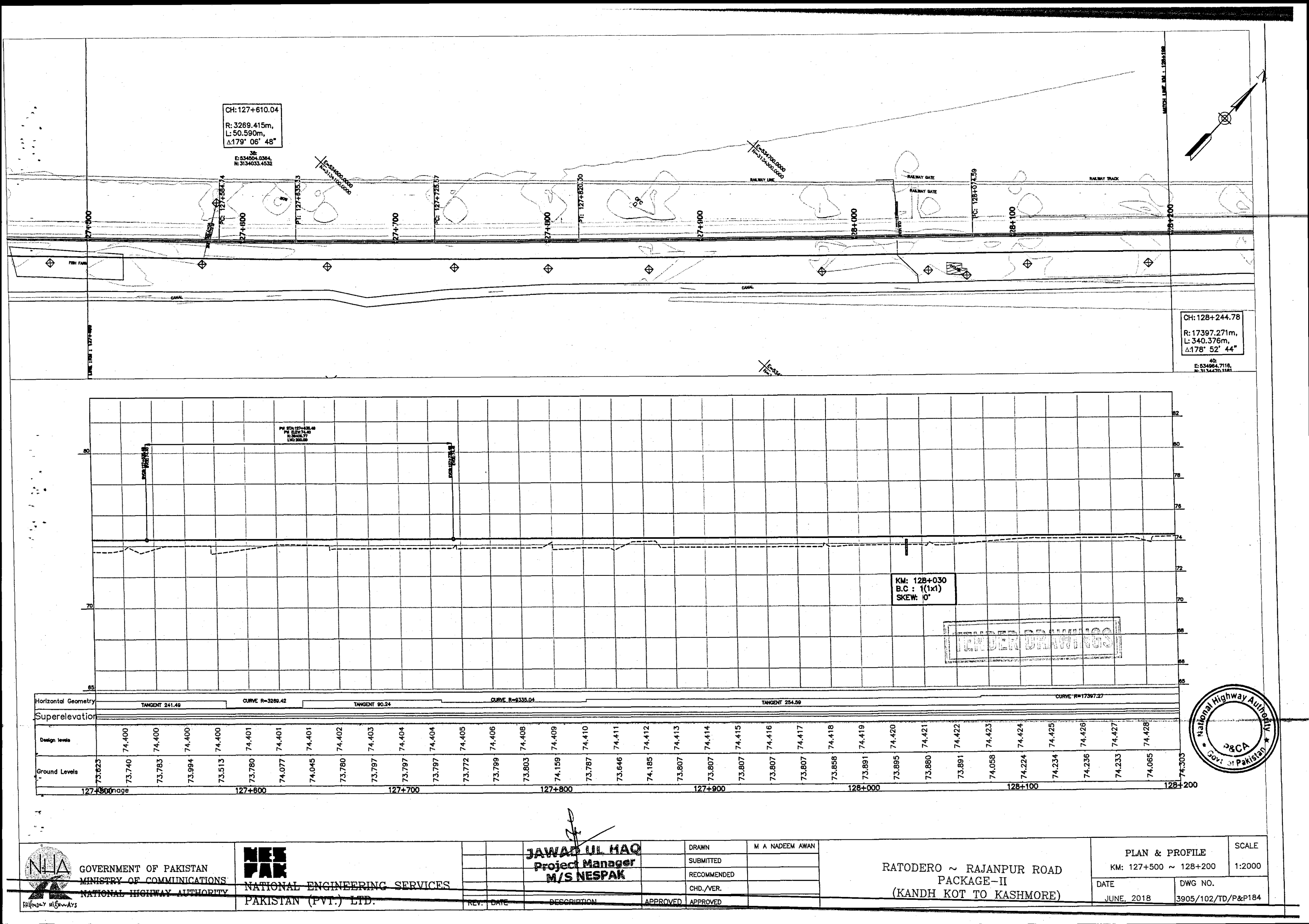


Horizontal Geometry	TANGENT 718.61										CURVE R=15113.71										TANGENT 104.46										CURVE R=5482.13										TANGENT 241.49									
Superelevation																																																		
Design Levels	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400	74.400				
Ground Levels	74.067	74.066	74.067	74.068	74.068	74.065	74.059	74.053	74.045	74.035	74.023	74.008	73.992	73.973	73.951	73.928	73.900	73.872	73.844	73.816	73.787	73.806	73.881	73.950	73.700	73.697	73.698	73.628	74.043	73.978	73.912	73.847	73.713	73.683	73.653	73.623														
	126+800					126+900						127+000					127+100						127+200						127+300					127+400						127+500										

TENDER DRAWINGS



 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	REV.	DATE	DESCRIPTION	APPROVED	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 126+800 ~ 127+500	SCALE 1:2000
						SUBMITTED				
						RECOMMENDED				
						CHD./VER.		DATE		DWG NO.
						APPROVED		JUNE 2018		3905/102/ID/P&P183



CH: 127+610.04
R: 3269.415m,
L: 50.590m,
Δ179° 06' 48"

38:
E: 534804.0364,
N: 3134033.4532

PC: 127+584.74
PI: 127+635.33
PT: 127+685.92
R: 3269.415m,
L: 50.590m,
Δ179° 06' 48"

PC: 127+700.000
PI: 127+820.30
PT: 127+940.60
R: 17397.271m,
L: 340.376m,
Δ178° 52' 44"

CH: 128+244.78
R: 17397.271m,
L: 340.376m,
Δ178° 52' 44"

40:
E: 534984.7116,
N: 3134470.1181

PC: 127+584.74
PI: 127+635.33
PT: 127+685.92
R: 3269.415m,
L: 50.590m,
Δ179° 06' 48"

KM: 128+030
B.C : 1(1x1)
SKEW: 0°

TENDER DRAWINGS

Horizontal Geometry	TANGENT 241.49	CURVE R=3269.42	TANGENT 90.24	CURVE R=9335.04	TANGENT 254.59	CURVE R=17397.27
Superelevation						
Design Levels	74.400	74.400	74.400	74.400	74.400	74.400
Ground Levels	73.825	73.740	73.783	73.994	73.513	73.780
	73.780	74.077	74.045	73.780	73.797	74.404
	73.797	74.404	74.405	73.772	73.799	74.408
	73.803	74.159	73.787	73.846	74.185	74.412
	73.807	74.413	73.807	74.414	73.807	74.415
	73.807	74.416	73.807	74.417	73.858	74.418
	73.891	74.419	73.895	74.420	73.880	74.421
	73.891	74.422	74.058	74.423	74.224	74.425
	74.234	74.426	74.236	74.427	74.233	74.428
	74.065	74.305				
	127+500	127+600	127+700	127+800	127+900	128+000
	128+100	128+200				



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



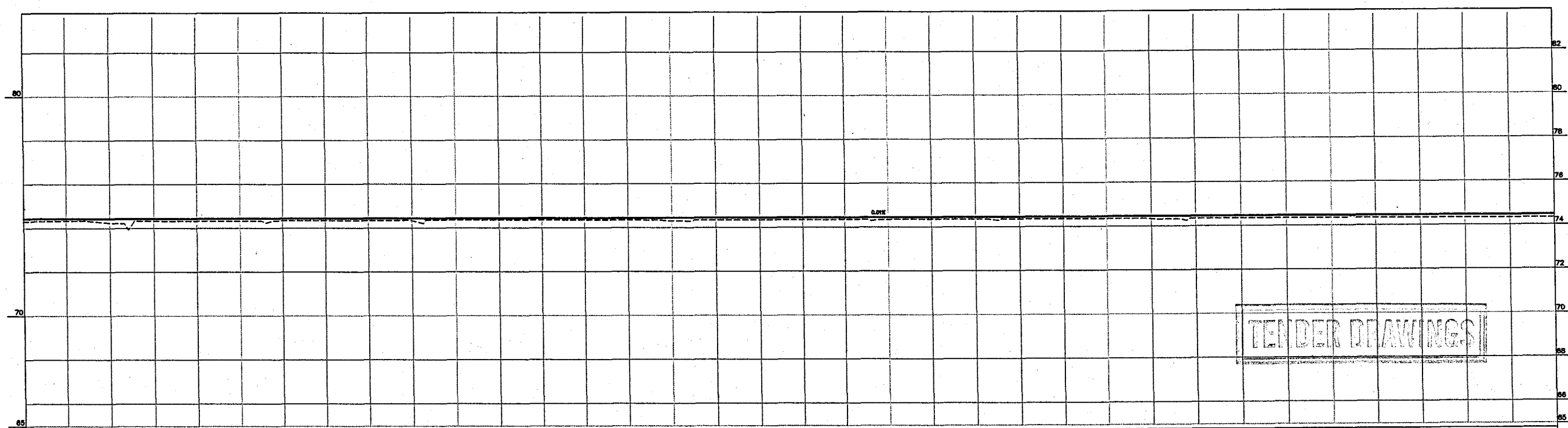
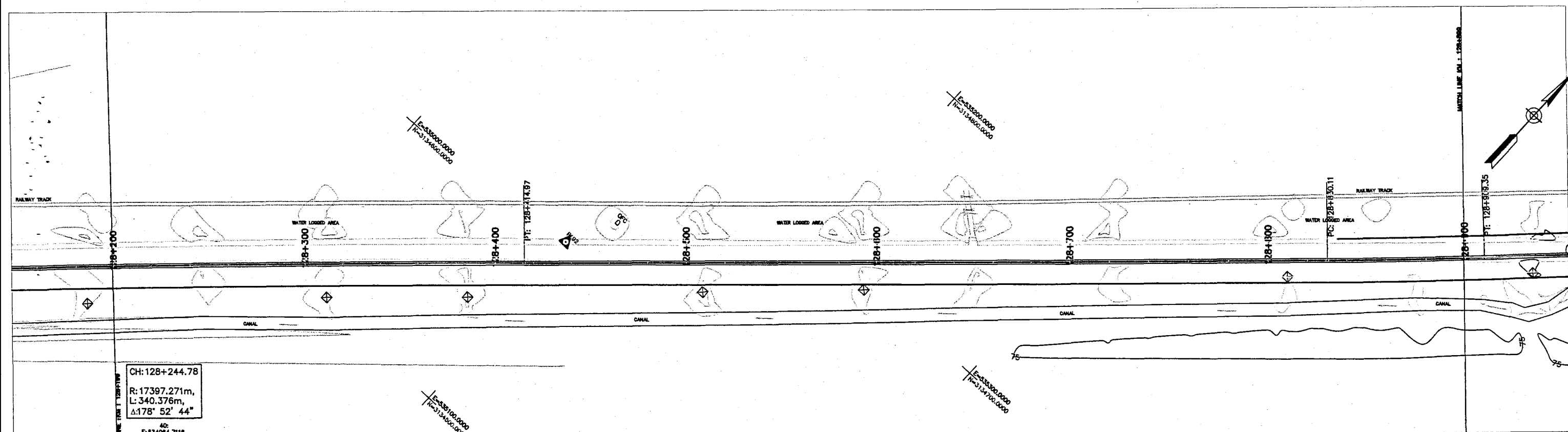
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD UL HAQ
Project Manager
M/S NESPAK

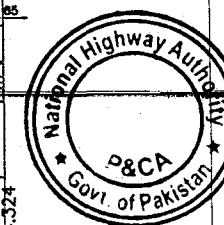
DRAWN	M. A. NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

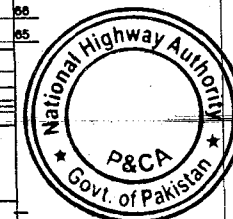
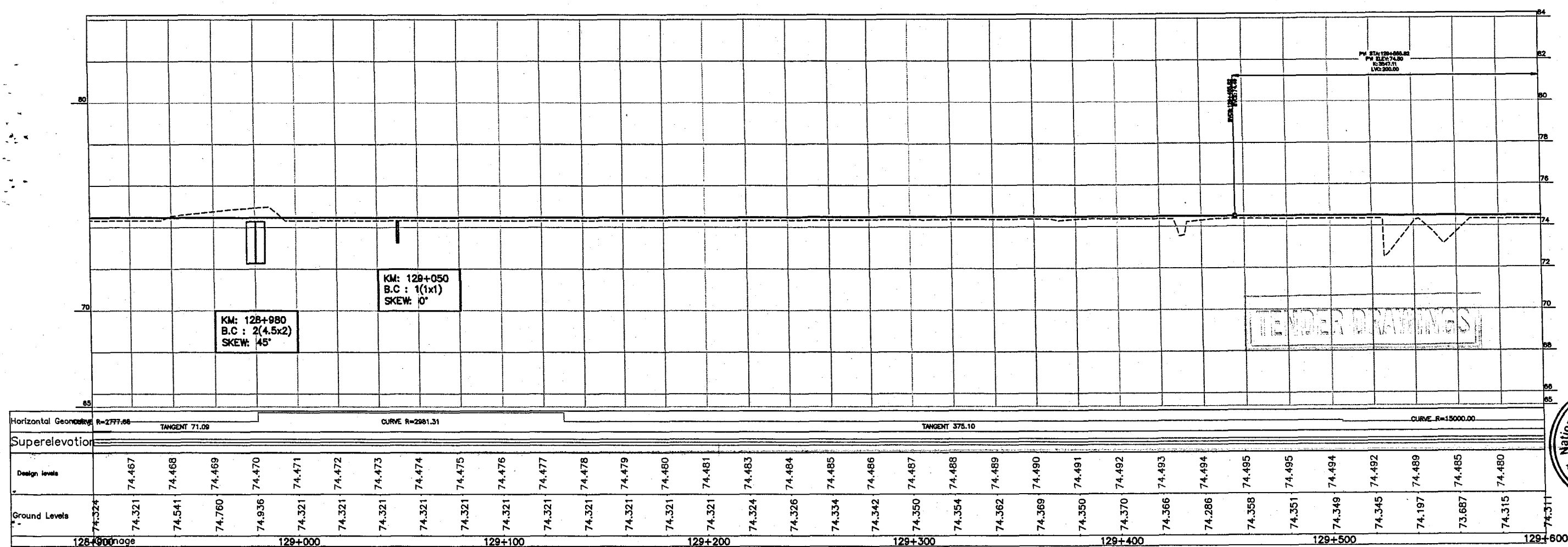
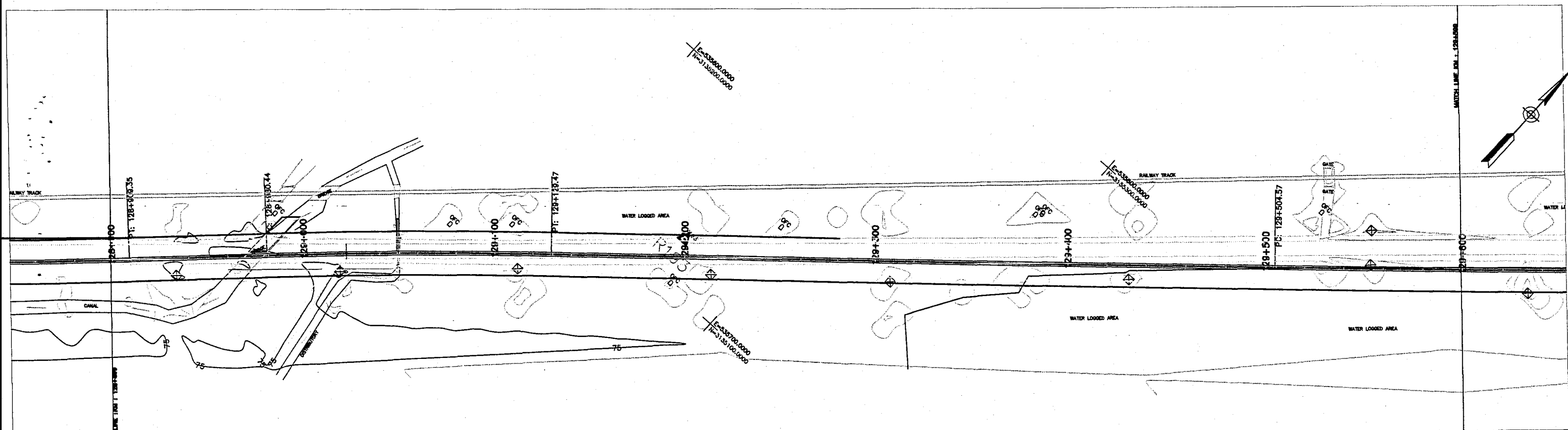
PLAN & PROFILE	SCALE
KM: 127+500 ~ 128+200	1:2000
DATE	DWG NO.
JUNE, 2018	3905/102/TD/P&P184



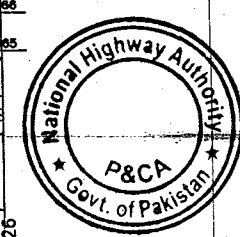
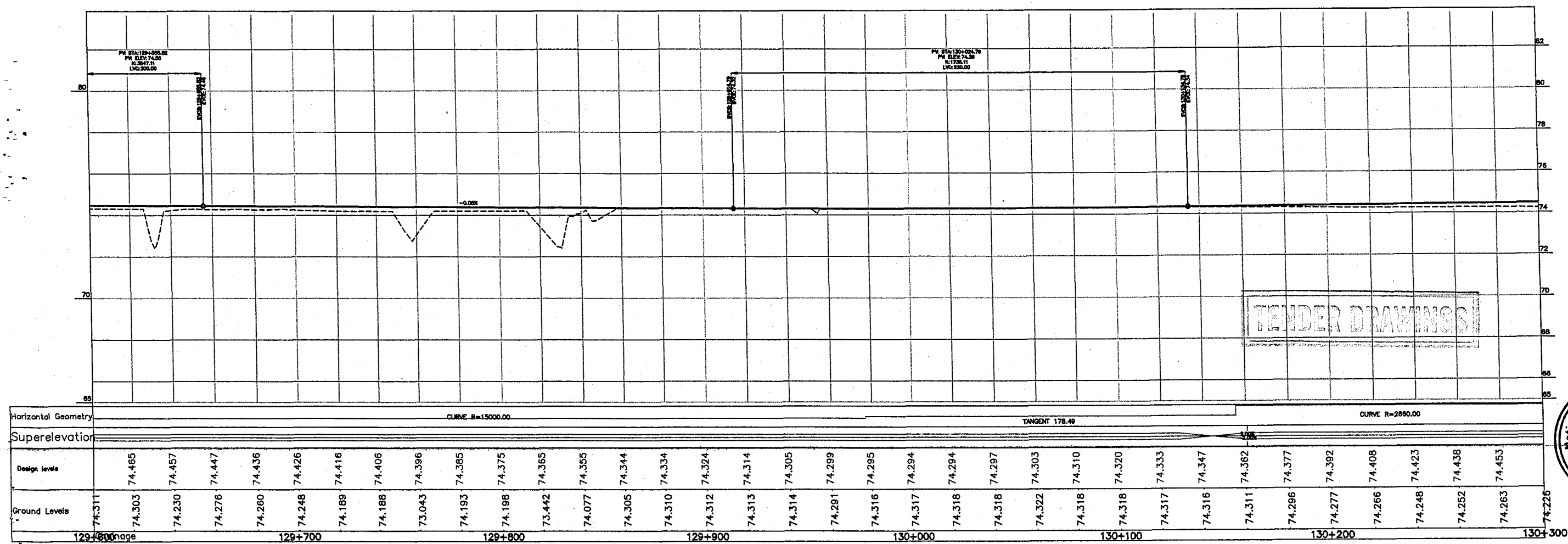
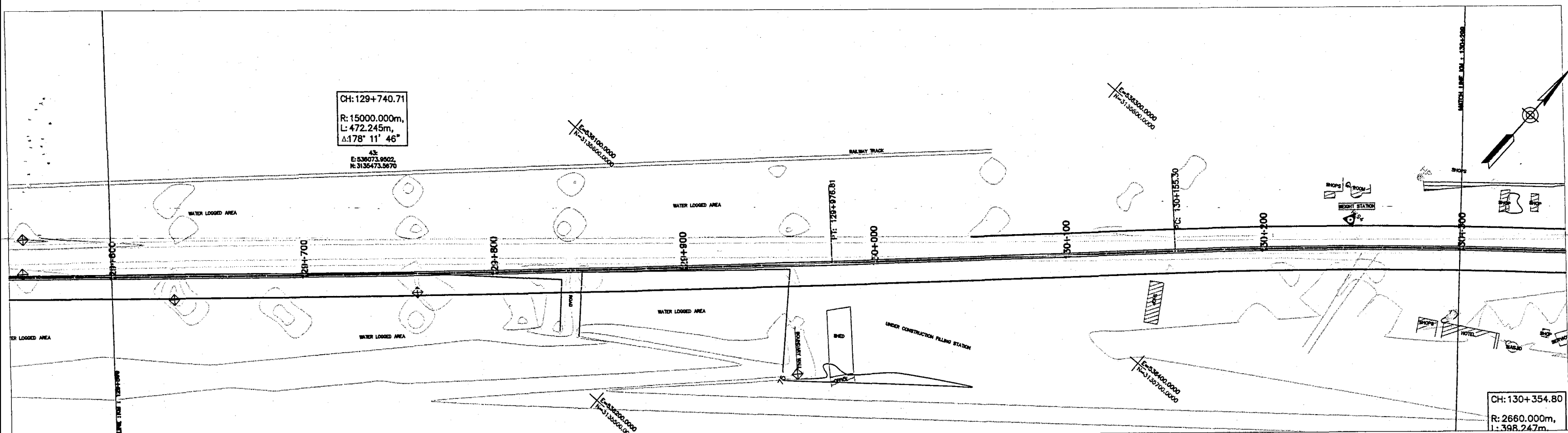
Horizontal Geometry	CURVE R=17397.27															TANGENT 415.14															CURVE R=2777.88									
Superelevation																																								
Design Levels	74.430	74.431	74.433	74.434	74.435	74.436	74.437	74.438	74.439	74.440	74.441	74.442	74.443	74.444	74.445	74.446	74.447	74.448	74.449	74.450	74.451	74.452	74.453	74.454	74.455	74.456	74.458	74.459	74.460	74.461	74.462	74.463	74.464	74.465						
Ground Levels	74.303	74.329	74.245	74.322	74.327	74.340	74.343	74.344	74.335	74.360	74.358	74.355	74.352	74.347	74.305	74.341	74.342	74.344	74.345	74.345	74.345	74.345	74.345	74.345	74.329	74.345	74.344	74.344	74.344	74.335	74.328	74.327	74.326							
	128+200				128+300					128+400					128+500					128+600					128+700				128+800				128+900							



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE		SCALE 1:2000	
			SUBMITTED			KM: 128+200 ~ 128+900			
			RECOMMENDED			DATE	DWG NO.		
			CRD./VER.			JUNE, 2018	3905/102/TD/P&P185		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED					

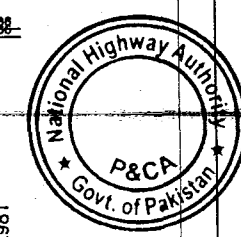
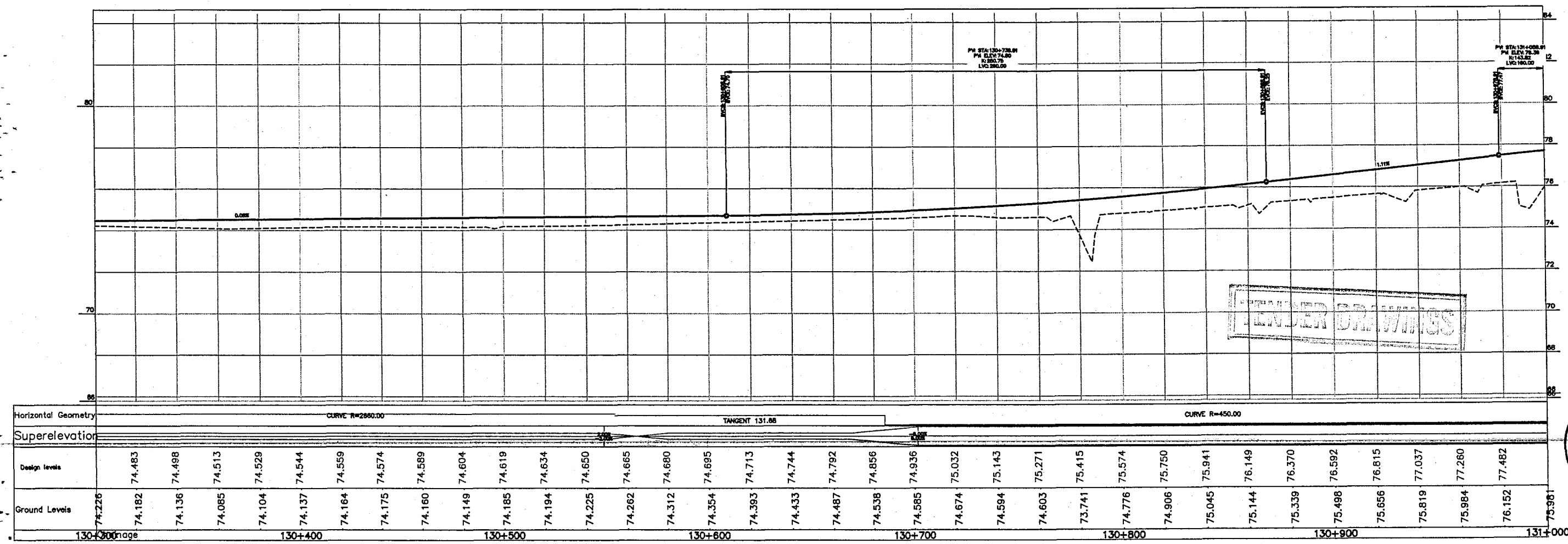
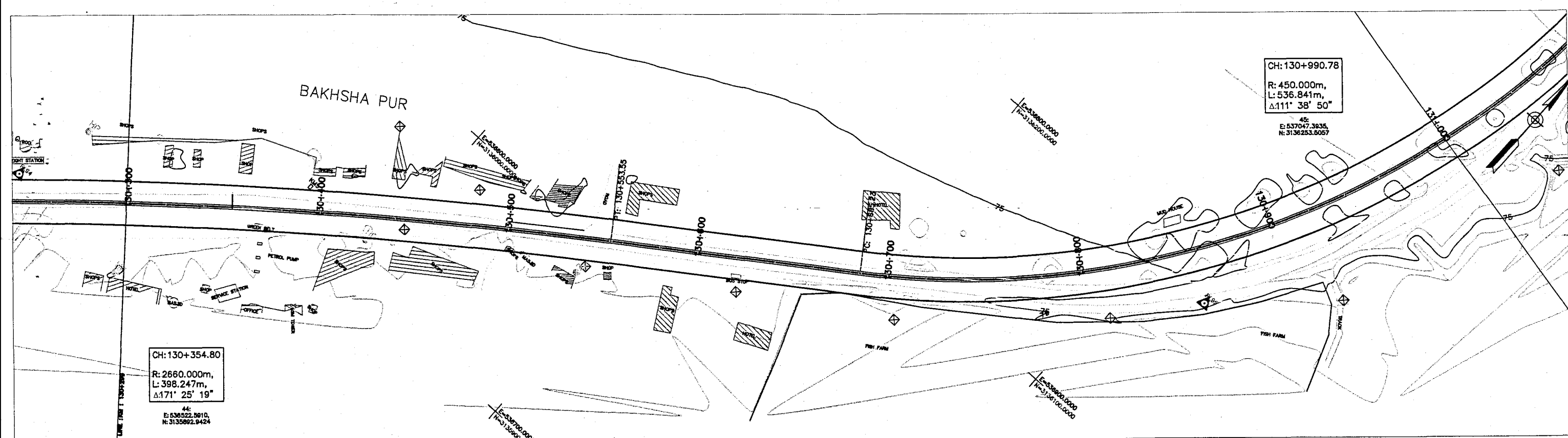


<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>JAWAD UL HAQ Project Manager M/S NESPAK</p>	DRAWN	M A NADEEM AWAN	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	PLAN & PROFILE		<p>SCALE 1:2000</p>	
			SUBMITTED			KM: 128+900 ~ 129+600			
			RECOMMENDED			DATE	DWG NO.		
			CHD./VER.			JUNE, 2018	3905/102/TD/P&P186		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED					



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M. A. NADEEM AWAN	PLAN & PROFILE KM: 129+600 ~ 130+300 SCALE 1:2000
			SUBMITTED		
			RECOMMENDED		DATE: JUNE 2018 DWG NO: 3905/102/TD/P&P187
			CHD./VER.		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

RATODERO ~ RAJANPUR ROAD
 PACKAGE-II
 (KANDH KOT TO KASHMORE)



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD (SECTION-III) (KANDH KOT TO KASHMORE)	PLAN & PROFILE		SCALE 1:2000
			SUBMITTED			KM: 130+300 ~ 131+000		
			RECOMMENDED			DATE	DWG NO.	
			CHD./VER.			JUNE, 2018	3885/102/TD/P&P188	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED				

CH: 130+990.78

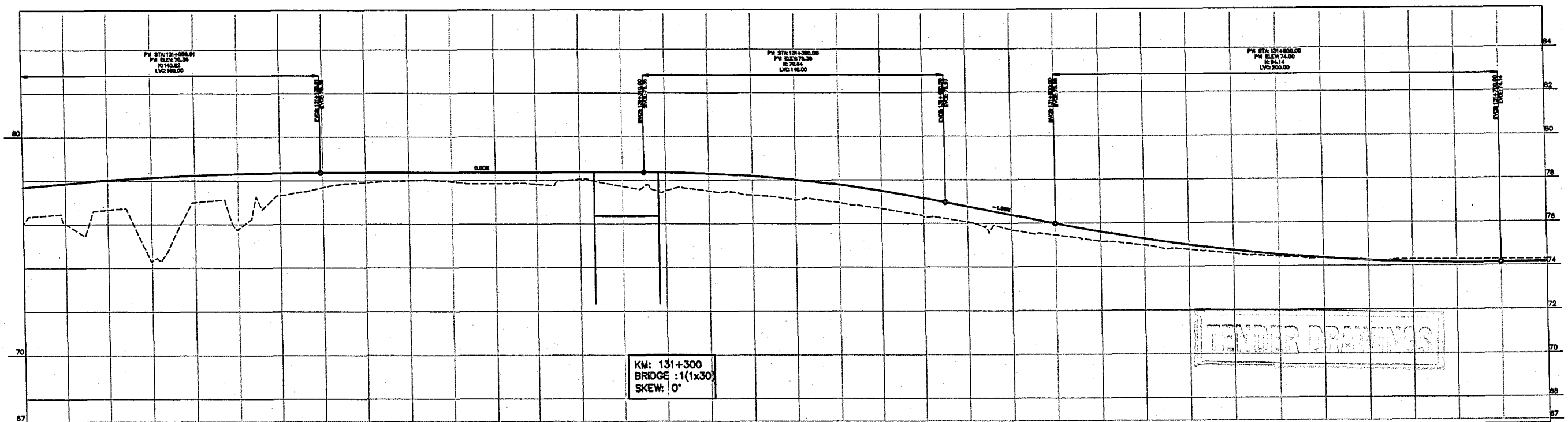
R: 450.000m,
L: 536.841m,
 $\Delta 111^\circ 38' 50''$

45:
E: 537047.3935,
N: 3136253.5057

CH: 131+437.56

R: 300.000m,
L: 218.738m,
 $\Delta 138^\circ 13' 27''$

46:
E: 538938.2483,
N: 3136740.9951



Horizontal Geometry	CURVE R=450.00																																		TANGENT 79.98										CURVE R=300.00										TANGENT 1003.16																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Design levels		77.868	78.020	78.143	78.239	78.307	78.348	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	78.360	7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GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



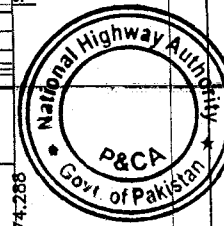
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

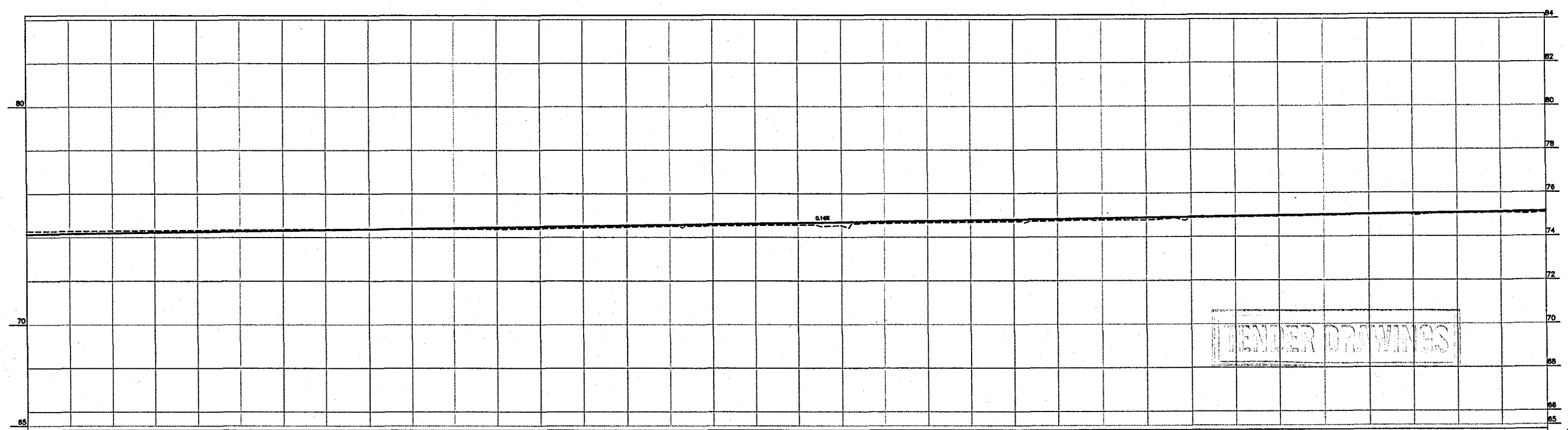
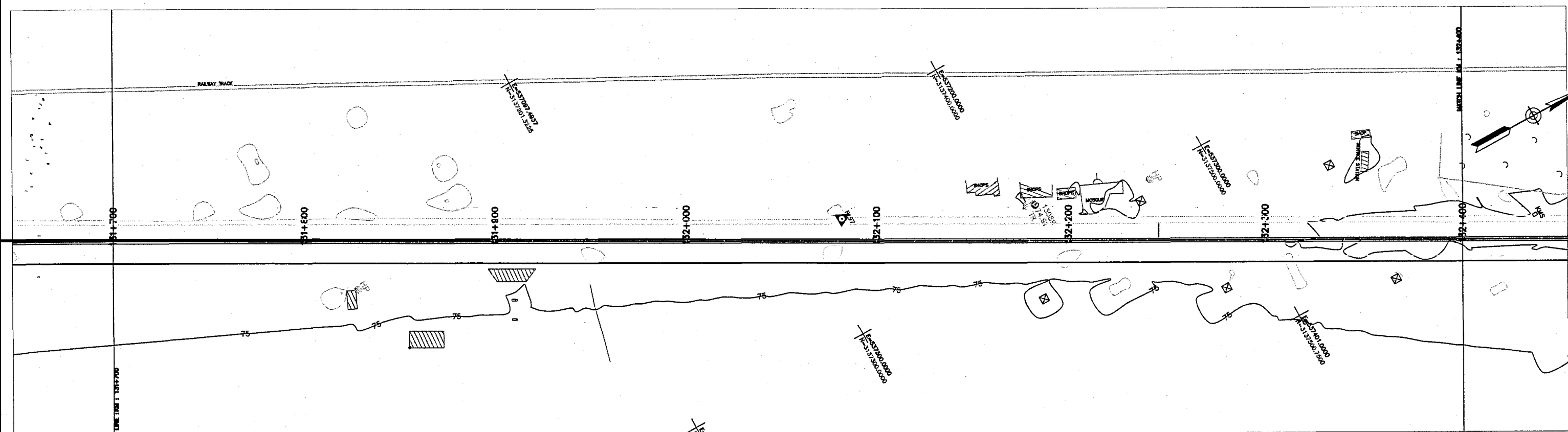
JAWAD UL HAQ
Project Manager
M/S NESPAK

DRAWN M A NADEEM AWAN
SUBMITTED
RECOMMENDED
CHD./VER.
APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

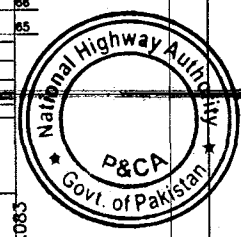
PLAN & PROFILE
KM: 131+000 ~ 131+700
DATE JUNE, 2018
DWG NO. 3005/102/TD/P&P189
SCALE 1:2000



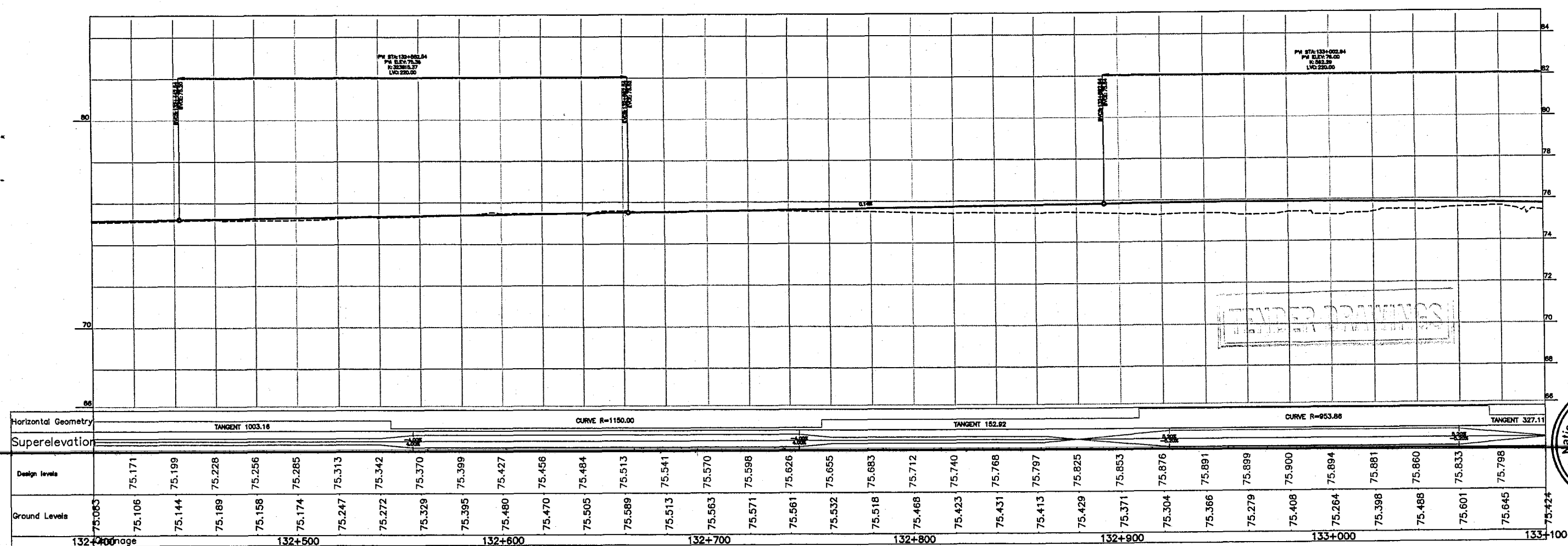
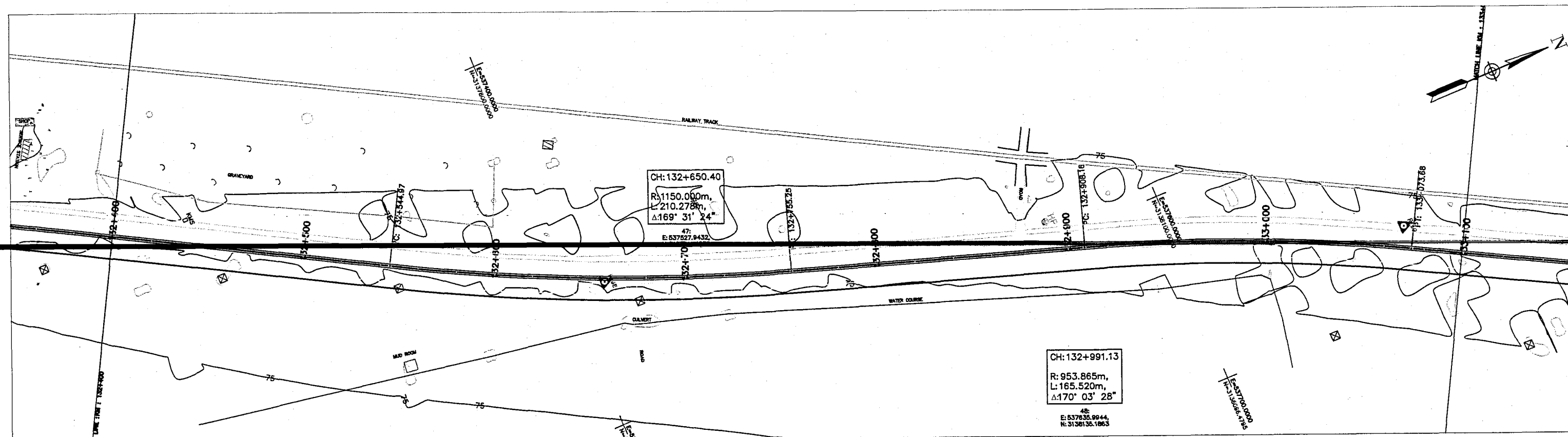


TENDER DRAWINGS

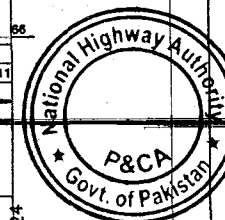
Horizontal Geometry		TANGENT 1003.16																					
Superelevation																							
Design Levels		74.171	74.200	74.228	74.257	74.286	74.314	74.343	74.371	74.400	74.428	74.457	74.485	74.514	74.543	74.571	74.600	74.628	74.657	74.685	74.714	74.742	74.771
Ground Levels		74.280	74.288	74.303	74.317	74.332	74.346	74.361	74.372	74.389	74.377	74.377	74.399	74.434	74.469	74.503	74.526	74.549	74.561	74.529	74.638	74.661	74.684
		131+700	131+800	131+900	132+000	132+100	132+200	132+300	132+400														



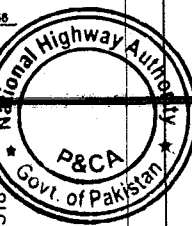
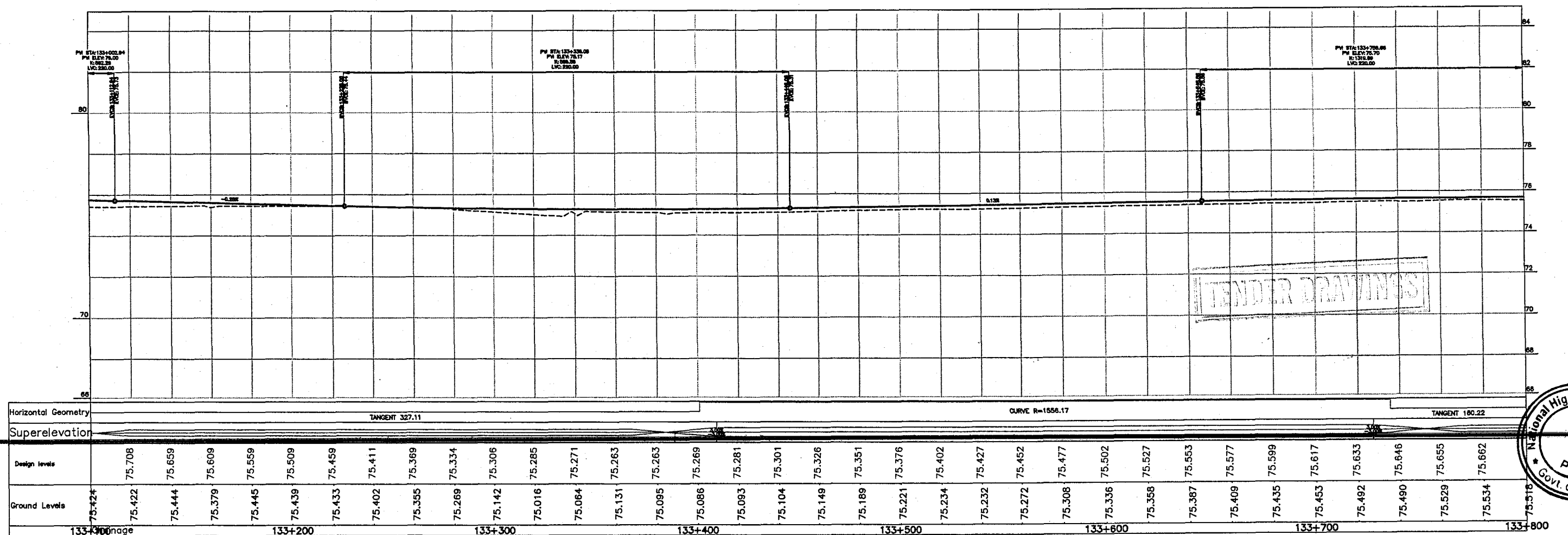
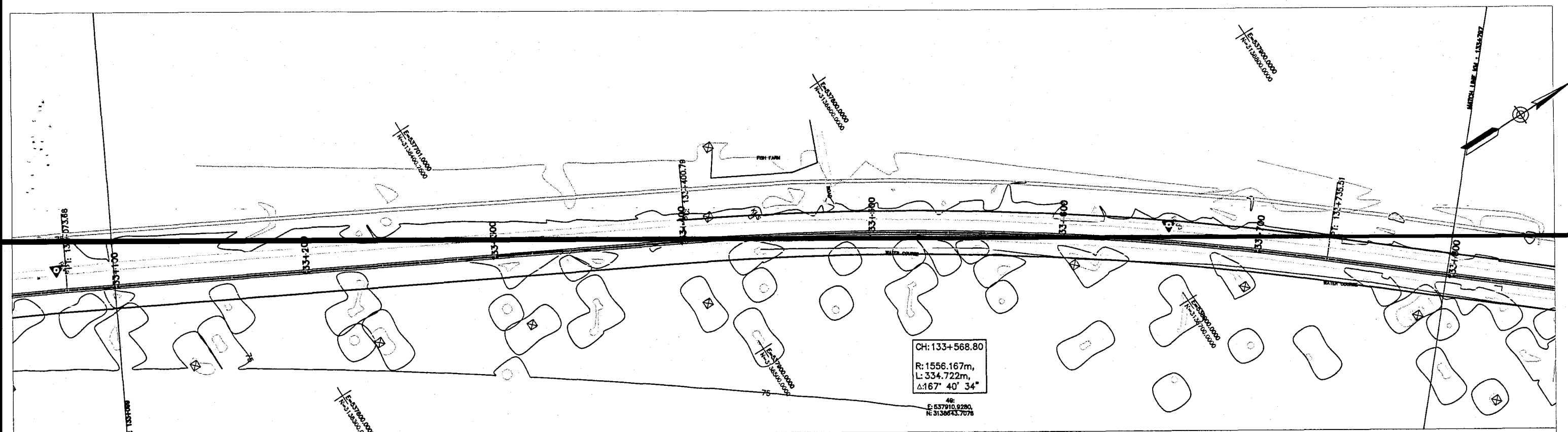
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE		SCALE 1:2000
			SUBMITTED			KM: 131+700 ~ 132+400		
			RECOMMENDED			DATE	DWG NO.	
			CHD. VER.			JUNE, 2018	3905/102/TD/P&P190	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED				



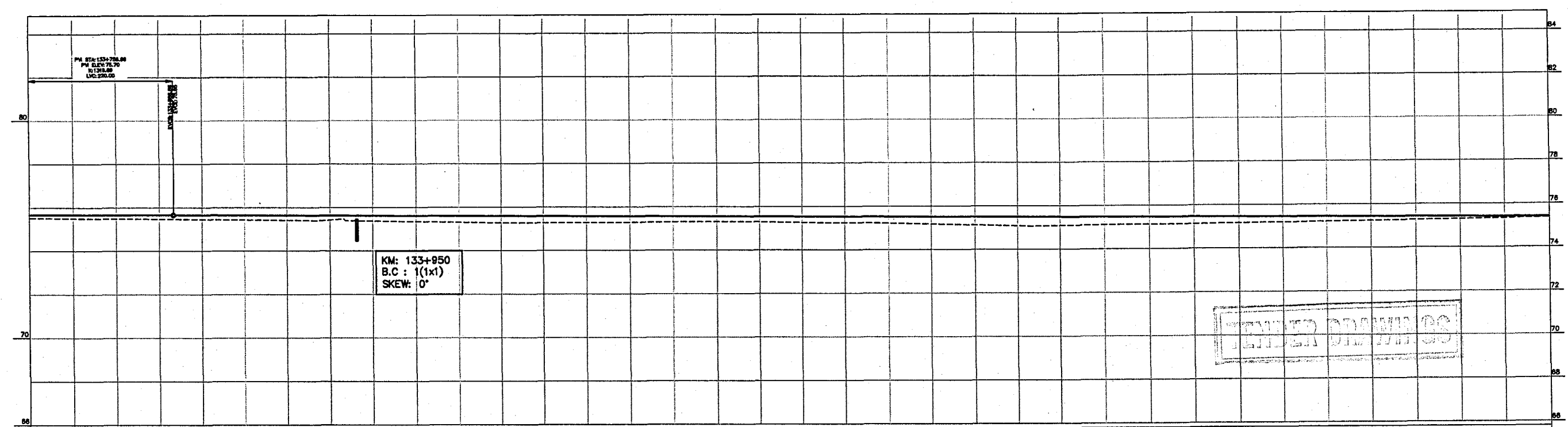
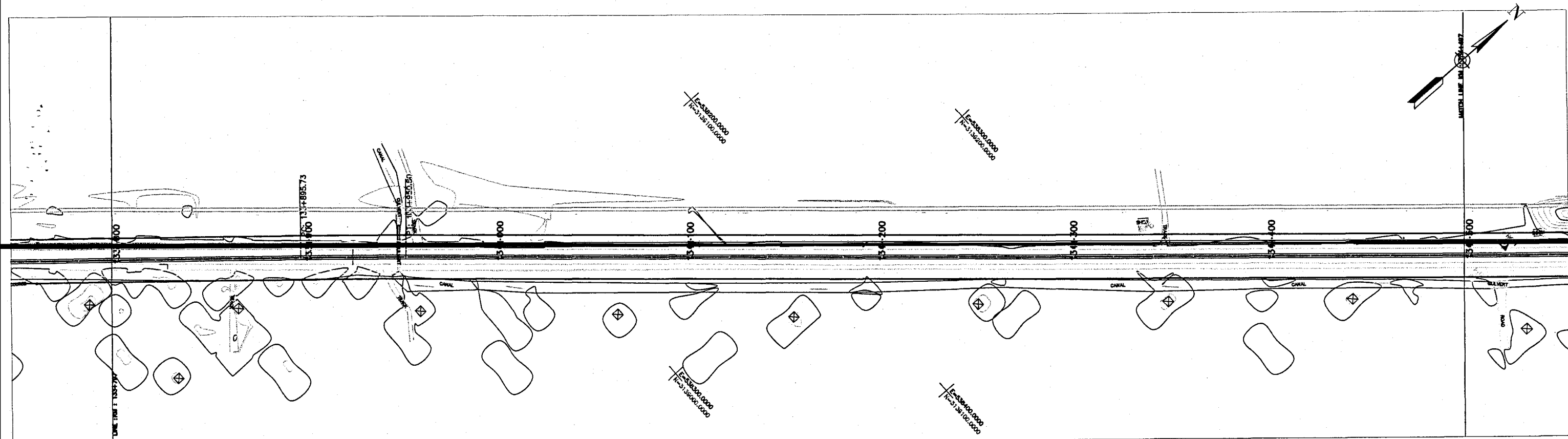
Horizontal Geometry	TANGENT 1003.16										CURVE R=1150.00										TANGENT 152.92										CURVE R=953.86										TANGENT 327.11									
Superelevation																																																		
Design Levels	75.063	75.106	75.144	75.189	75.228	75.256	75.285	75.313	75.342	75.370	75.399	75.427	75.456	75.484	75.513	75.541	75.570	75.598	75.626	75.655	75.683	75.712	75.740	75.768	75.797	75.825	75.853	75.876	75.891	75.899	75.900	75.894	75.881	75.860	75.833	75.798														
Ground Levels	75.063	75.106	75.144	75.189	75.228	75.256	75.285	75.313	75.342	75.370	75.399	75.427	75.456	75.484	75.513	75.541	75.570	75.598	75.626	75.655	75.683	75.712	75.740	75.768	75.797	75.825	75.853	75.876	75.891	75.899	75.900	75.894	75.881	75.860	75.833	75.798														
	132+400				132+500						132+600					132+700					132+800					132+900					133+000					133+100														



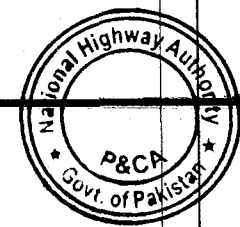
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAB UL HAQ Project Manager M/S NESPAC	DRAWN	M A NADEEM AWAN	PLAN & PROFILE KM: 132+400 ~ 133+100 SCALE 1:2000
			SUBMITTED		
REV. DATE DESCRIPTION APPROVED			RECOMMENDED		RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)
			CHD./VER.		
			APPROVED		DATE JUNE, 2018
					DWG NO. 3905/102/TD/P&P191



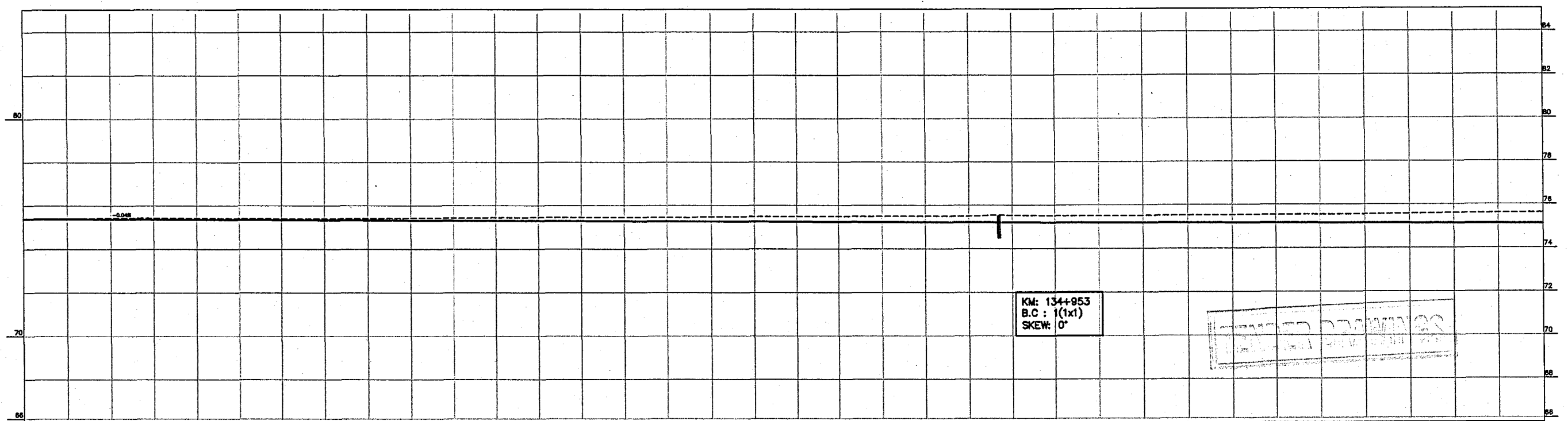
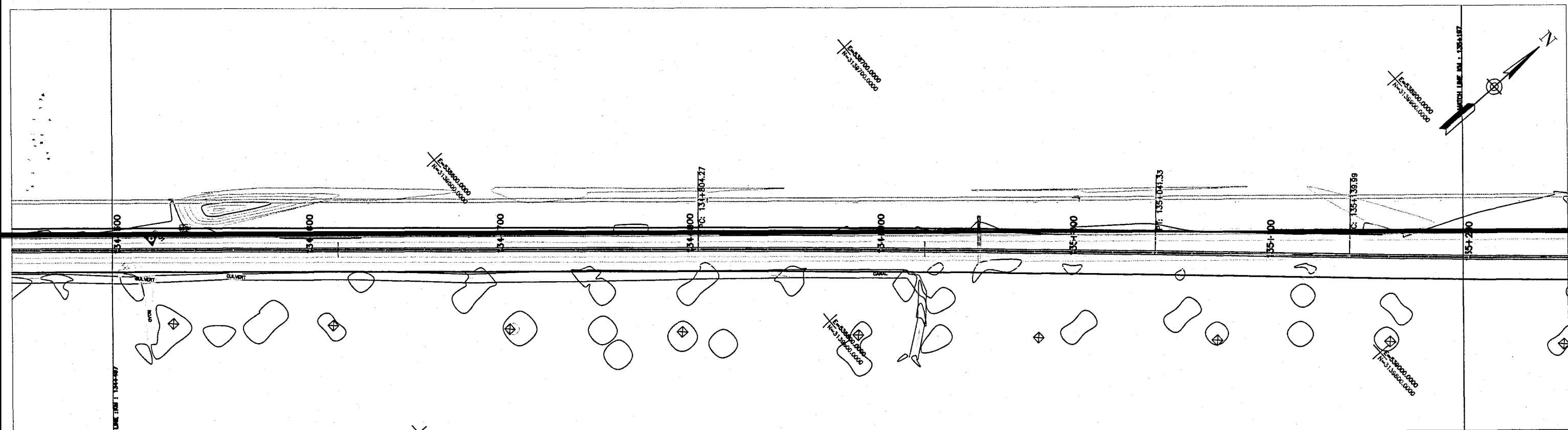
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			SUBMITTED			KM: 133+100 ~ 133+800		
			RECOMMENDED			DATE	DWG NO.	
			CHD. / VER.			JUNE, 2018	3905/102/TD/P&P192	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED				



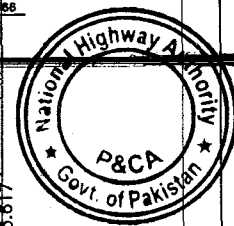
Horizontal Geometry	TANGENT 160.22			CURVE R=4074.37			TANGENT 853.47																													
Superelevation																																				
Design Levels	75.665	75.663	75.657	75.649	75.641	75.633	75.625	75.617	75.608	75.600	75.592	75.584	75.576	75.568	75.559	75.551	75.543	75.535	75.527	75.519	75.510	75.502	75.494	75.486	75.478	75.470	75.461	75.453	75.445	75.437	75.429	75.421	75.413	75.404		
Ground Levels	75.518	75.500	75.486	75.471	75.451	75.431	75.411	75.421	75.371	75.342	75.309	75.278	75.277	75.281	75.286	75.303	75.306	75.295	75.284	75.242	75.220	75.173	75.128	75.081	75.085	75.116	75.127	75.132	75.165	75.188	75.209	75.238	75.266	75.295	75.329	75.363
	133+800		133+900		134+000		134+100		134+200		134+300		134+400		134+500																					



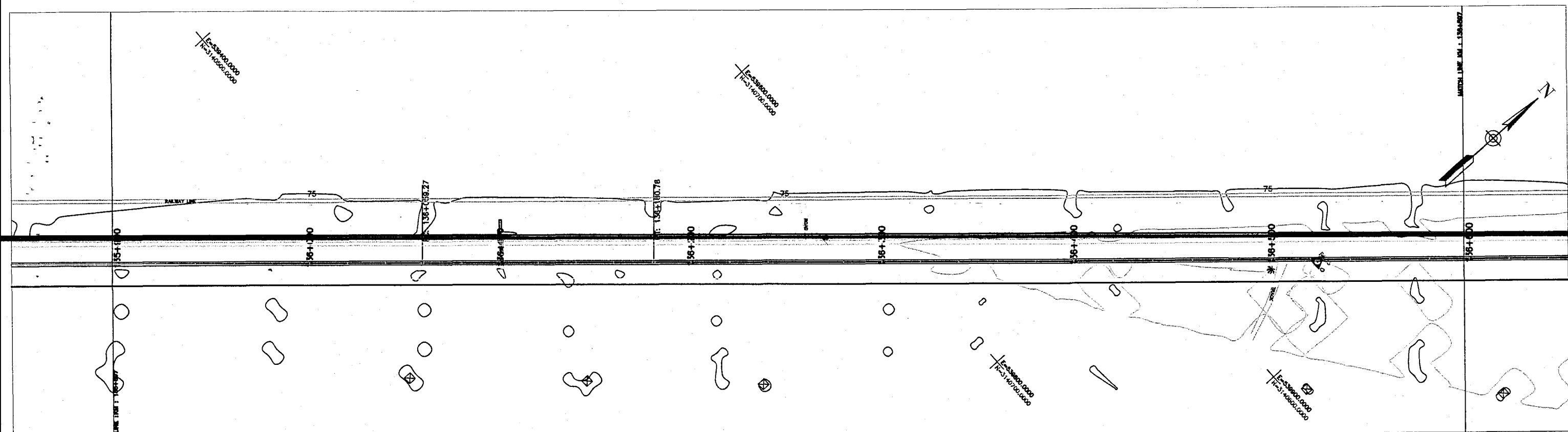
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	RATODERO - RAJANPUR ROAD PACKAGE II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM. 133+800 ~ 134+500		SCALE
			SUBMITTED					1:2000
REV. DATE DESCRIPTION APPROVED			RECOMMENDED		DATE JUNE, 2018	DWG NO. 3905/102/TD/P&P193		
			CHD./VER.					



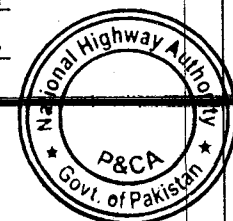
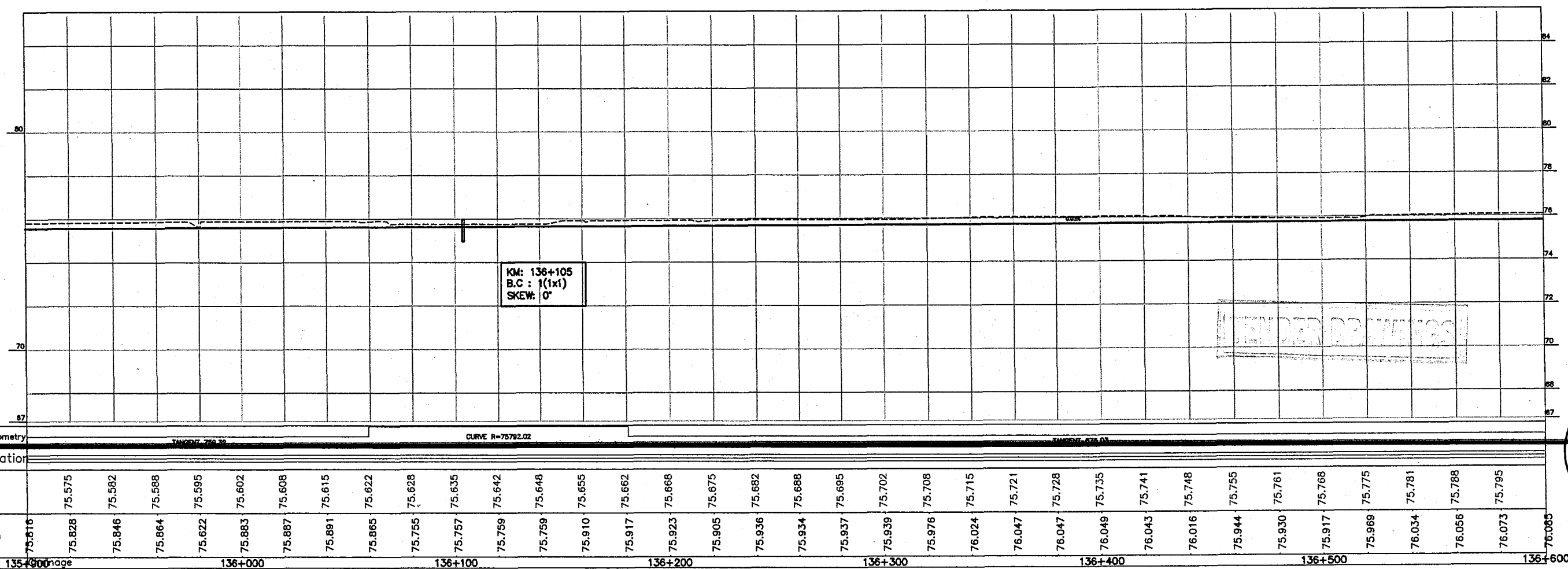
Horizontal Geometry	TANGENT 853.47																CURVE R=11471.13																TANGENT 88.86																CURVE R=7416.18																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Design Levels		75.388		75.380		75.372		75.364		75.355		75.347		75.339		75.331		75.323		75.315		75.306		75.298		75.290		75.282		75.274		75.266		75.257		75.249		75.241		75.233		75.225		75.217		75.208		75.200		75.192		75.184		75.176		75.168		75.160		75.151		75.143		75.135		75.127		75.119																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Ground Levels	75.363	75.400	75.431	75.438	75.425	75.412	75.399	75.403	75.414	75.428	75.436	75.445	75.454	75.456	75.455	75.453	75.477	75.489	75.487	75.481	75.491	75.495	75.500	75.502	75.502	75.533	75.514	75.504	75.511	75.520	75.527	75.534	75.540	75.539	75.572	75.596	75.606																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</



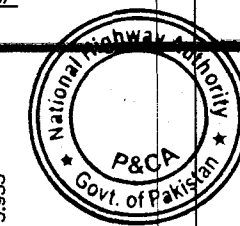
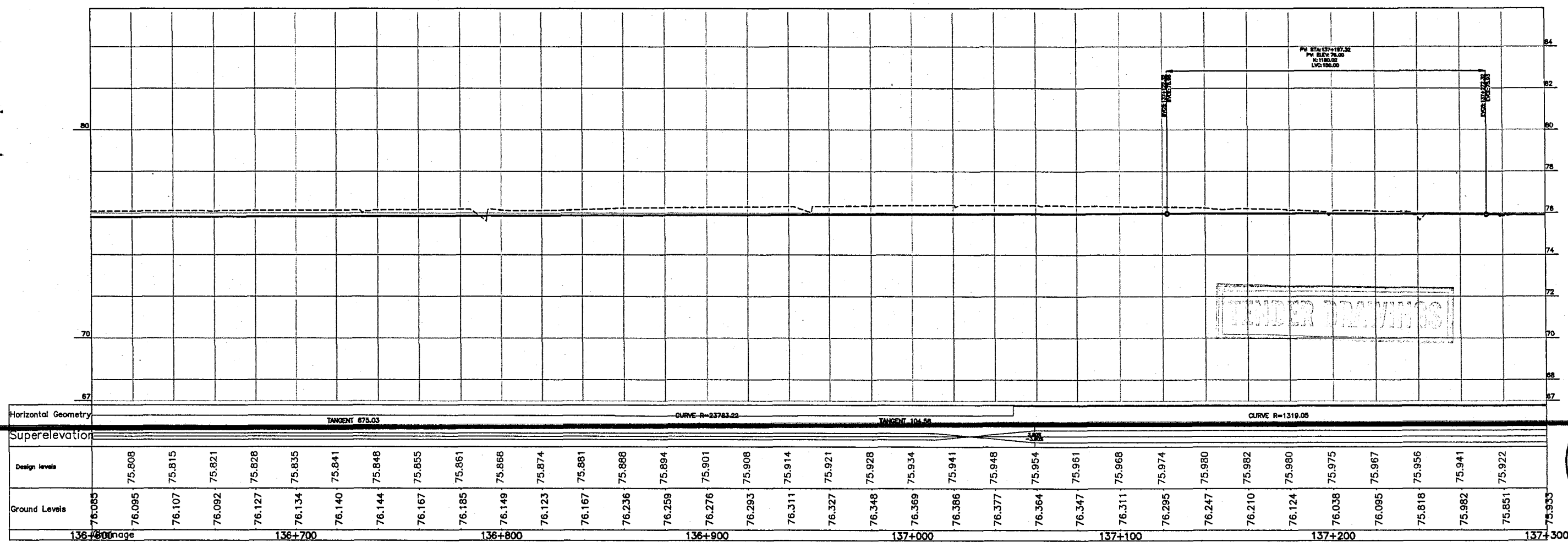
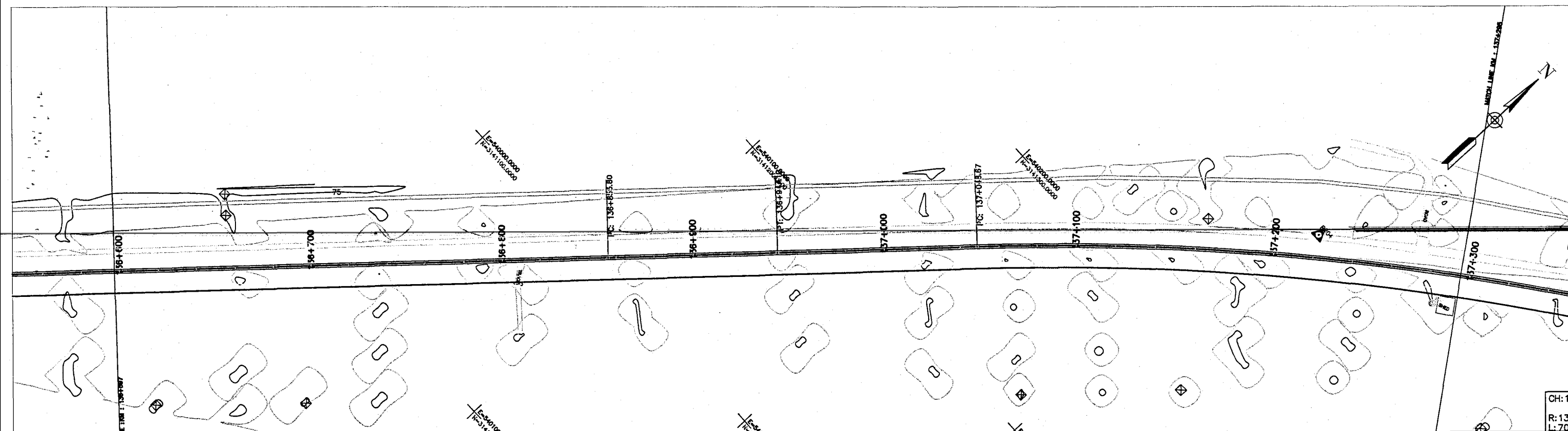
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		REV.	DATE	DESCRIPTION		APPROVED	APPROVED	DATE	DWG NO.
						JUNE, 2018 3905/102/TD/P&P194			



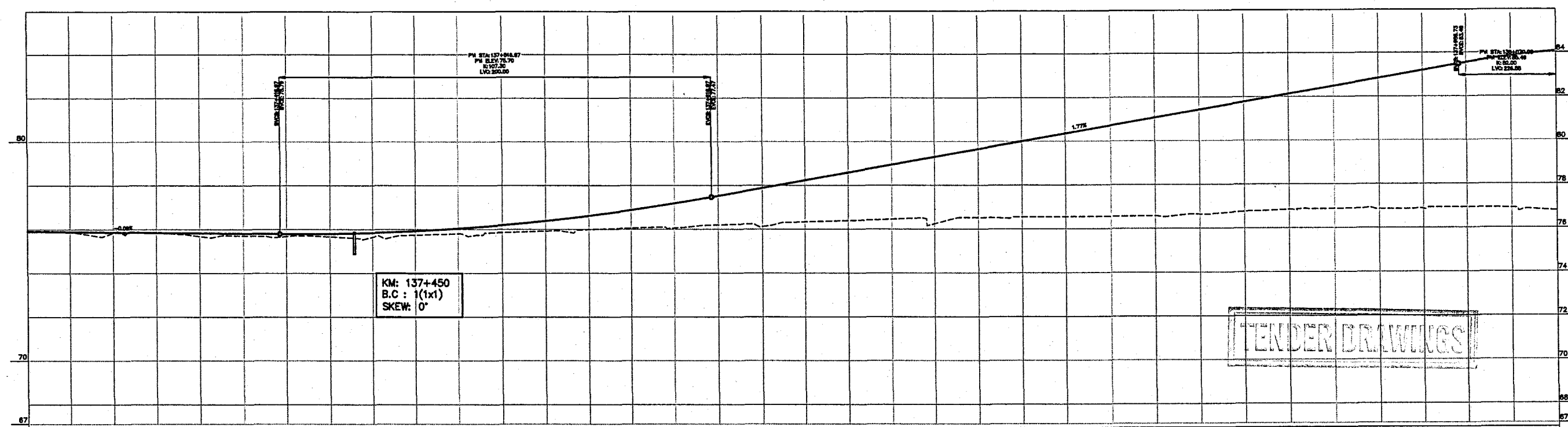
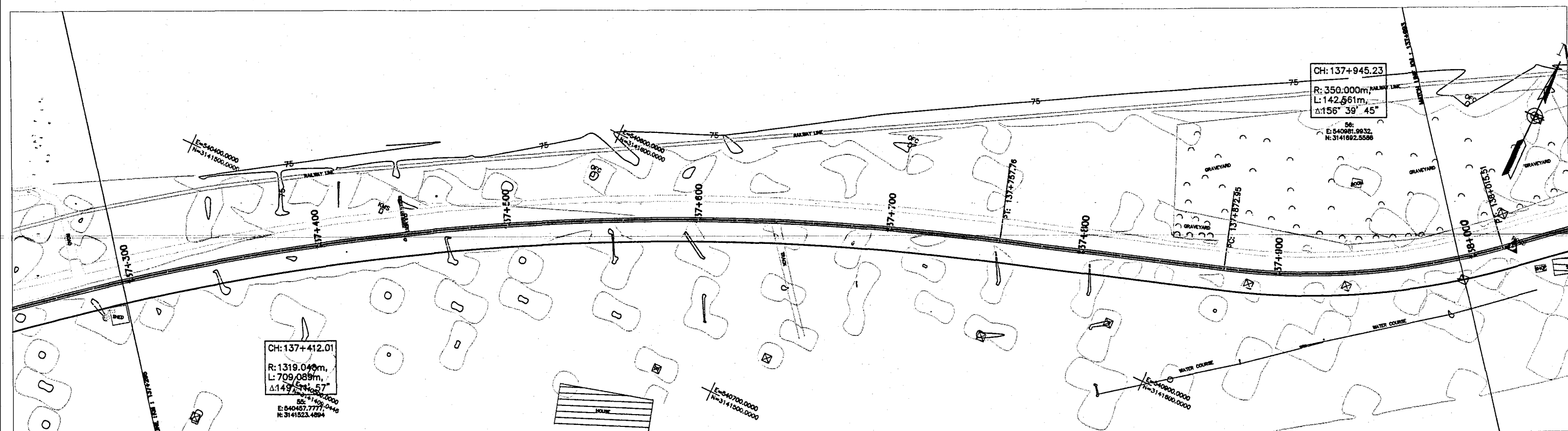
Ratodero ~ Rajanpur - Profile



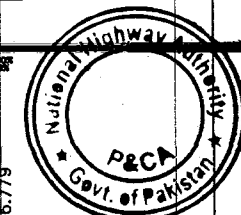
<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>JAWAD UL HAQ Project Manager M/S NESPAK</p>	<p>DRAWN</p> <p>M A NADEEM AWAN</p>	<p>PLAN & PROFILE KM: 135+900 ~ 136+600</p>	<p>SCALE 1:2000</p>
			<p>SUBMITTED</p> <p>RECOMMENDED</p> <p>CHD./VER.</p> <p>APPROVED</p>		
<p>REV.</p> <p>DATE</p>	<p>DESCRIPTION</p>	<p>APPROVED</p>	<p>DATE</p> <p>JUNE, 2016</p>	<p>DWG. NO.</p> <p>3905/102/10/P&P100</p>	



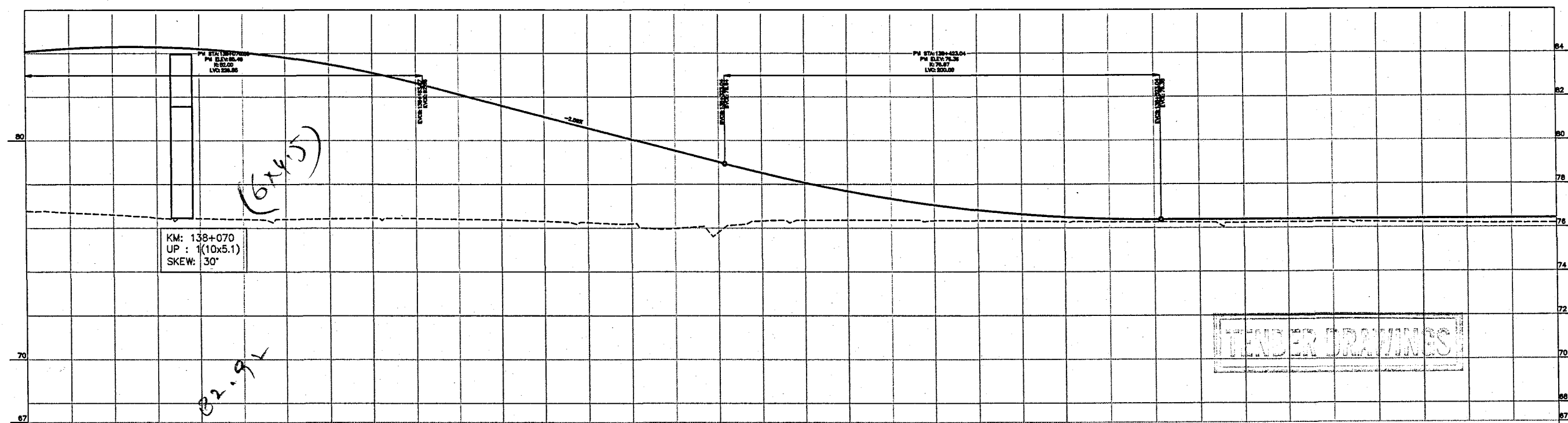
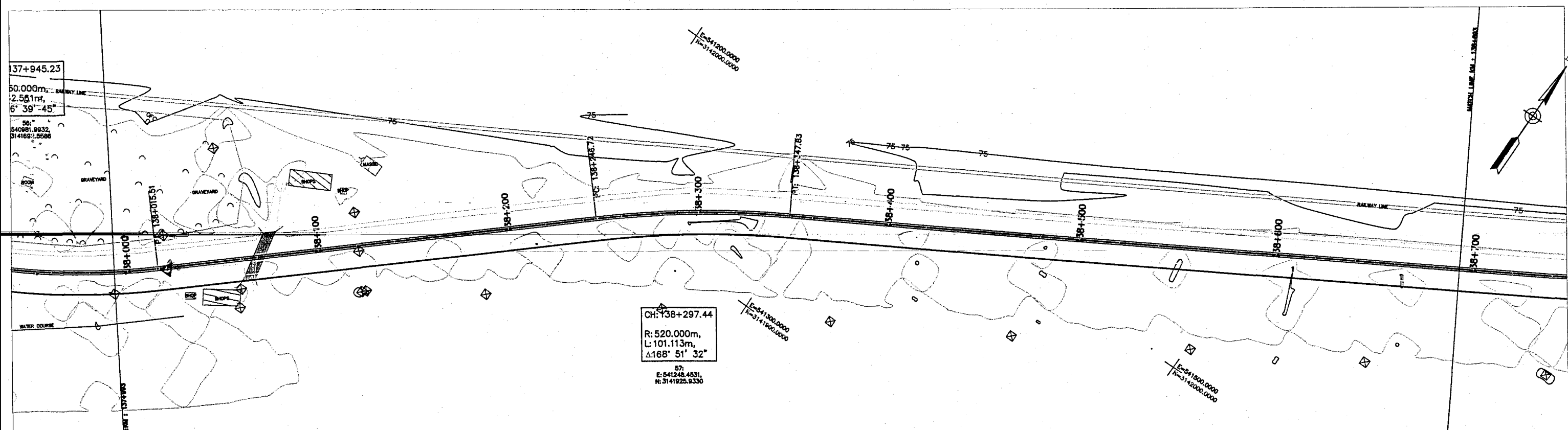
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			SUBMITTED			KM: 136+600 ~ 137+300		
REV.			DATE	DESCRIPTION	APPROVED	APPROVED	DATE	DWG. NO.
							JUNE, 2018	3905/102/TD/P&P197



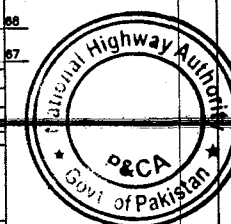
Horizontal Geometry		CURVE R=1319.05															TANGENT 115.19										CURVE R=350.00									
Superelevation																																				
Design Levels		75.885	75.866	75.847	75.829	75.810	75.791	75.797	75.840	75.920	76.037	76.192	76.384	76.613	76.879	77.183	77.524	77.878	78.232	78.586	78.940	79.294	79.648	80.002	80.356	80.710	81.064	81.418	81.772	82.126	82.480	82.834	83.188	83.541	83.844	
Ground Levels		75.933	75.888	75.832	75.838	75.685	75.702	75.675	75.661	75.645	75.739	75.800	75.856	75.920	76.055	76.054	76.196	76.120	76.333	76.391	76.455	76.244	76.519	76.547	76.550	76.557	76.579	76.645	76.761	76.845	76.876	76.861	76.866	76.926	76.906	76.779
		137+300	137+400					137+500					137+600					137+700					137+800					137+900					138+000			



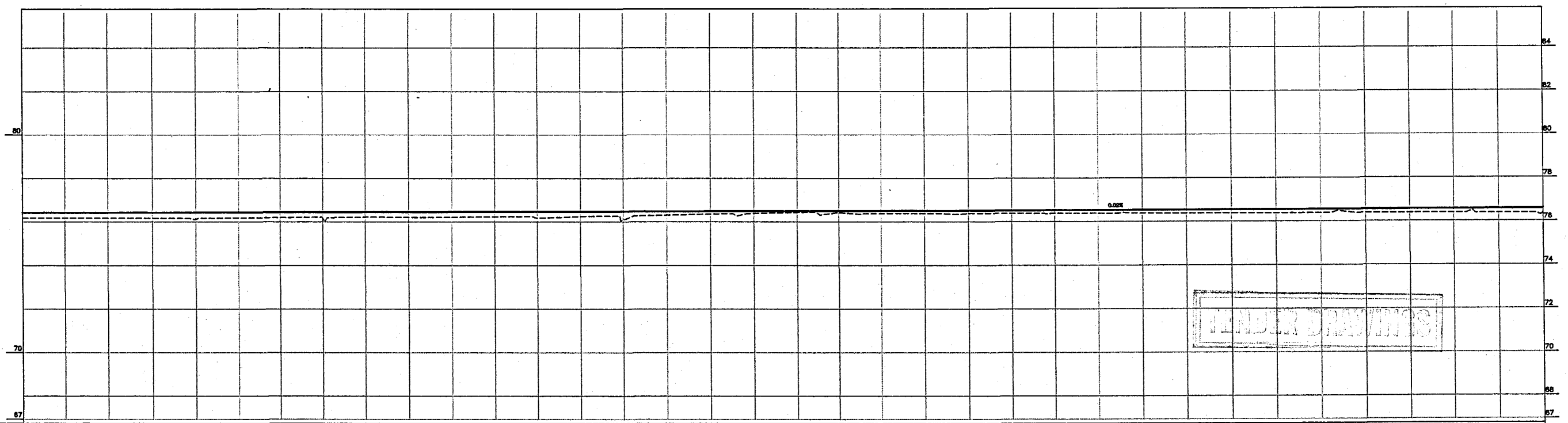
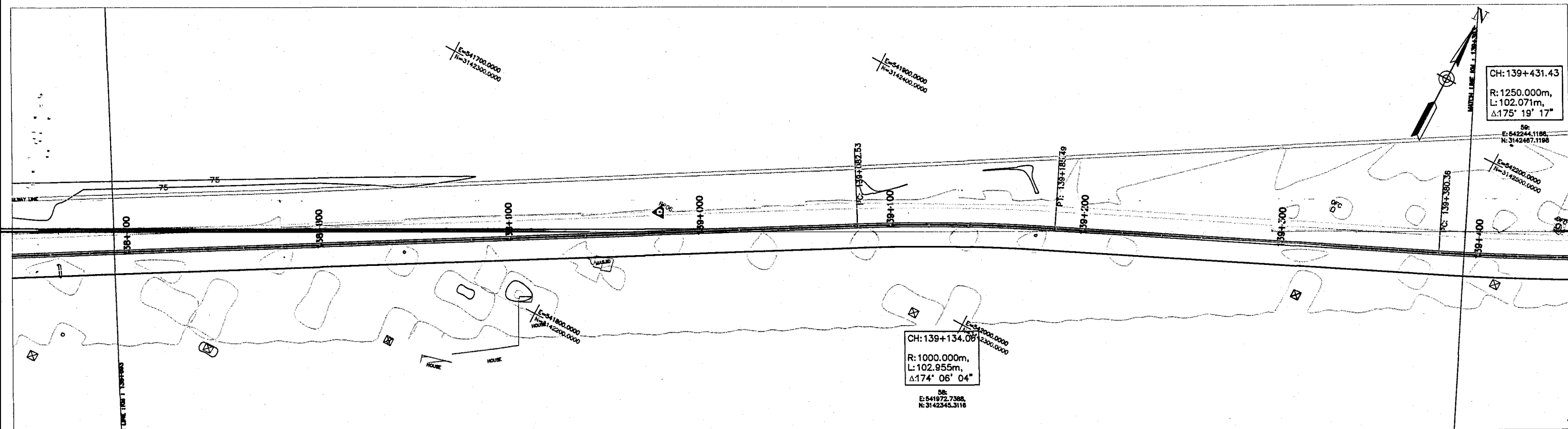
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAC	DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 137+300 ~ 138+000 SCALE: 1:2000	
			SUBMITTED			DATE	DWG NO.
REV.			DATE	DESCRIPTION	APPROVED	APPROVED	JUNE, 2018 3905/102/TD/P&P198



Station	138+000	138+100	138+200	138+300	138+400	138+500	138+600	138+700
Design Levels	84.219	84.291	84.286	84.205	84.046	83.811	83.498	83.109
Ground Levels	76.779	76.696	76.602	76.454	76.435	76.398	76.398	76.424

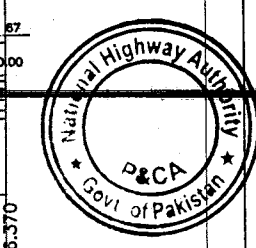


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M A NADEEM AWAN	PLAN & PROFILE KM: 138+000 ~ 138+700 SCALE 1:2000
			SUBMITTED		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHIMORE)

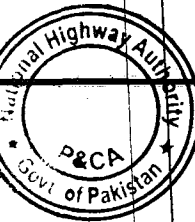
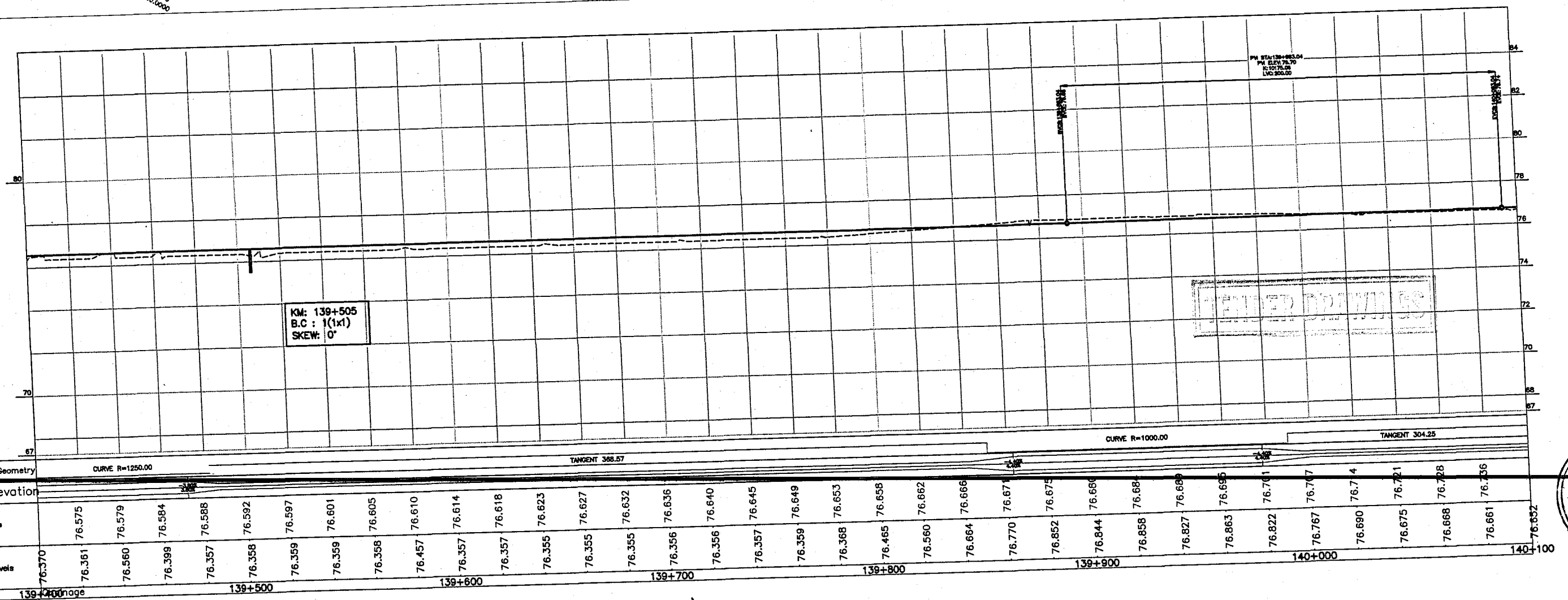
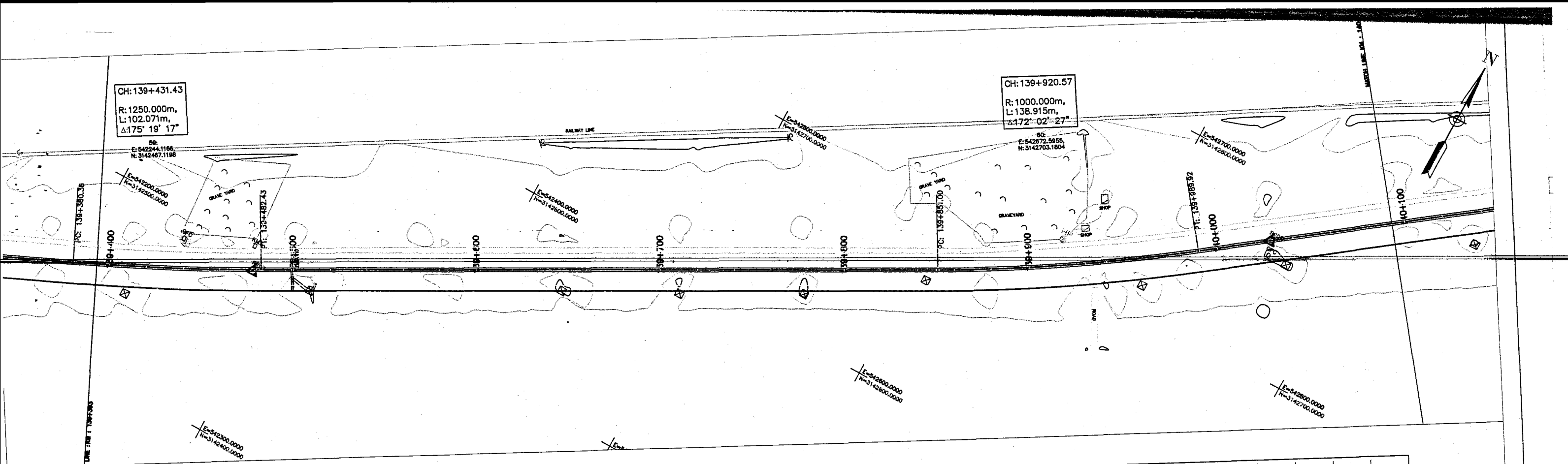


Horizontal Geometry	TANGENT 734.70															CURVE R=1000.00										TANGENT 194.87										CURVE R=1250.00									
Superelevation																																													
Design Levels	76.422	76.426	76.431	76.435	76.440	76.444	76.448	76.453	76.457	76.461	76.466	76.470	76.474	76.479	76.483	76.488	76.492	76.496	76.501	76.505	76.509	76.514	76.518	76.522	76.527	76.531	76.536	76.540	76.544	76.549	76.553	76.557	76.562	76.566											
Ground Levels	76.184	76.182	76.178	76.174	76.125	76.181	76.197	76.163	76.214	76.212	76.218	76.234	76.176	76.246	76.090	76.308	76.355	76.383	76.432	76.416	76.382	76.382	76.379	76.381	76.380	76.380	76.377	76.376	76.376	76.376	76.376	76.375	76.365	76.370											
	138+200				138+800					138+900					139+000					139+100					139+200				139+300				139+400												

LEADER DRAWING



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY FRIENDLY HIGHWAYS	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK		DRAWN	M A NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDHI KOT TO KASHIMORE)	PLAN & PROFILE KM: 138+700 ~ 139+400 SCALE 1:2000		
				SUBMITTED			DATE		DWG. NO.
				RECOMMENDED			JUNE, 2018		3905/102/ID/P&P200
				CHD./VER.					
REV.		DATE	DESCRIPTION	APPROVED	APPROVED				



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD UL HAQ
Project Manager
M/S NESPAK

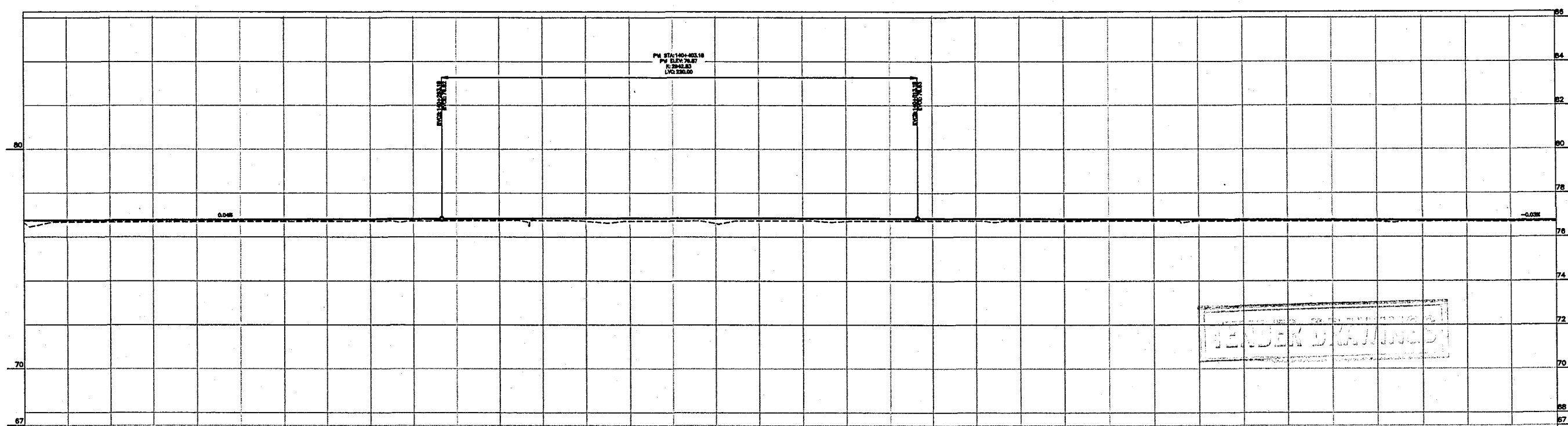
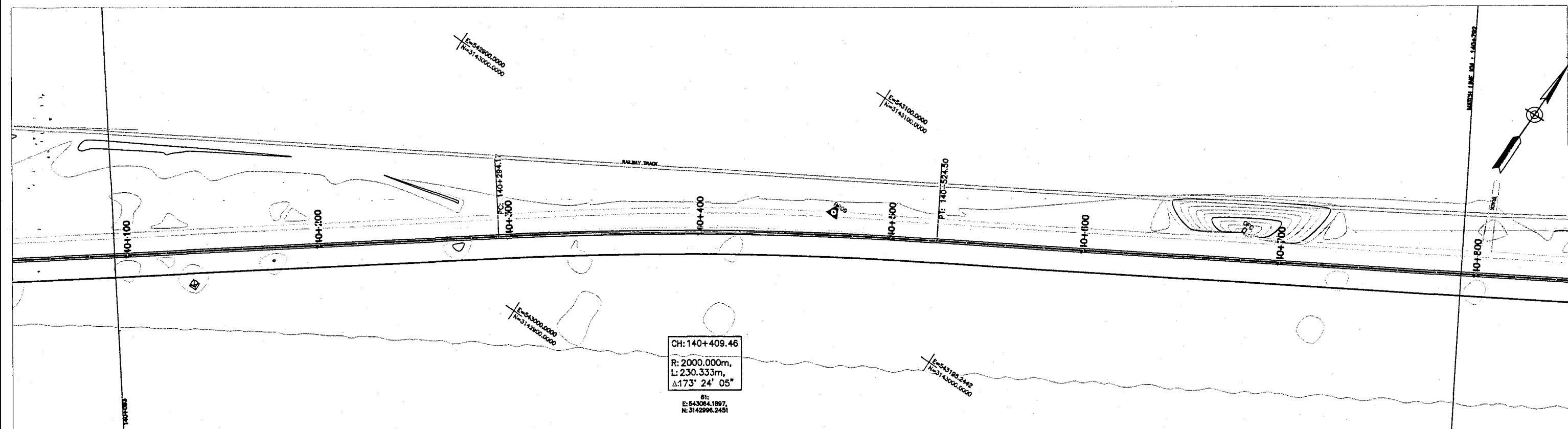
DRAWN	M A NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

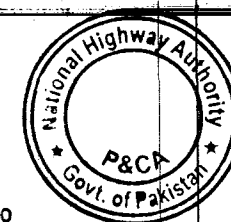
PLAN & PROFILE
KM: 139+400 ~ 140+100

SCALE
1:2000

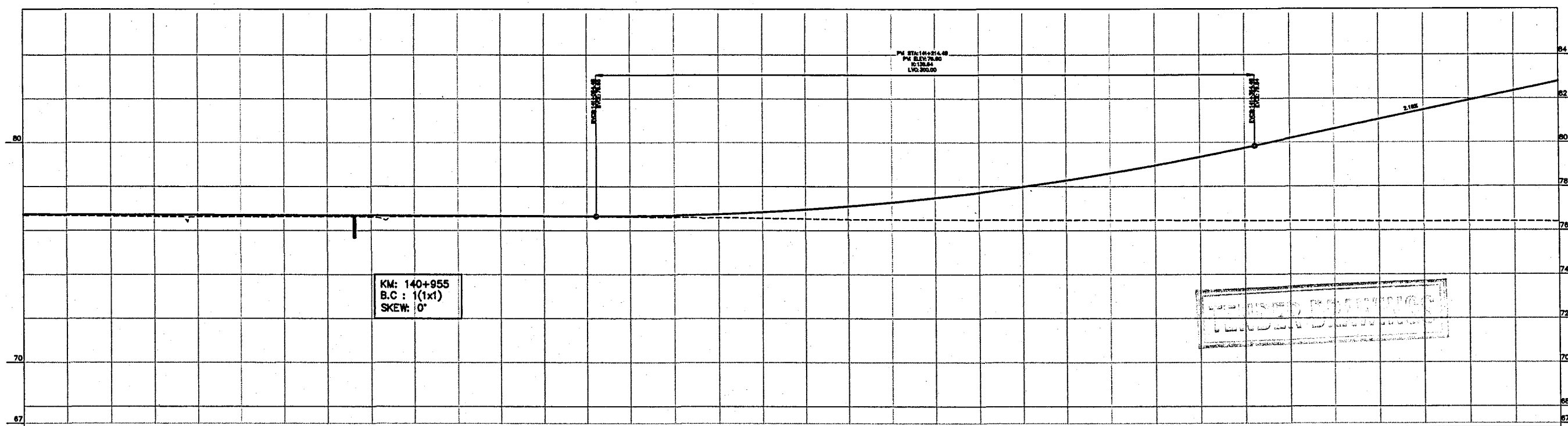
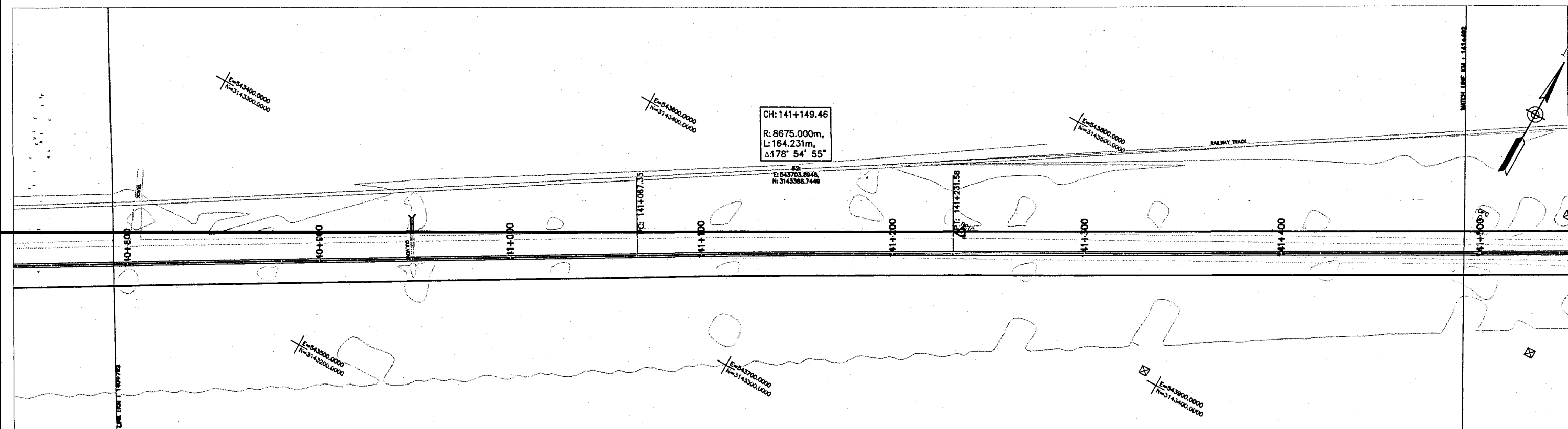
DATE	DWG NO.
JUNE, 2018	3905/102/TD/P&P201



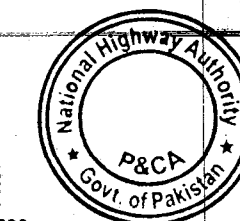
Horizontal Geometry		TANGENT 304.25										CURVE R=2000.00										TANGENT 542.84														
Superelevation																																				
Design Levels		76.753	76.761	76.769	76.777	76.786	76.794	76.802	76.811	76.819	76.827	76.834	76.840	76.845	76.848	76.849	76.850	76.849	76.846	76.843	76.837	76.831	76.824	76.818	76.811	76.804	76.798	76.791	76.785	76.778	76.771	76.765	76.758	76.751	76.745	
Ground Levels		76.652	76.667	76.675	76.683	76.690	76.696	76.703	76.710	76.718	76.727	76.737	76.747	76.748	76.716	76.711	76.726	76.620	76.732	76.733	76.710	76.729	76.727	76.724	76.722	76.722	76.722	76.720	76.716	76.712	76.707	76.701	76.697	76.698	76.691	76.684
Stationage		140+100			140+200			140+300			140+400			140+500			140+600			140+700			140+800													



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN M. A. NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 140+100 ~ 140+800		SCALE 1:2000	
			SUBMITTED RECOMMENDED CHD./VER. APPROVED		DATE JUNE, 2018	DWG NO. 3905/102/10/P&P202		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED				



Horizontal Geometry		TANGENT 542.84										CURVE R=8675.00										TANGENT 588.42																			
Superelevation																																									
Design levels		76.731	76.725	76.718	76.711	76.705	76.698	76.691	76.685	76.678	76.671	76.665	76.658	76.651	76.654	76.684	76.744	76.833	76.952	77.100	77.277	77.483	77.719	77.984	78.278	78.601	78.954	79.336	79.747	80.179	80.611	81.044	81.476	81.909	82.341						
Ground Levels	76.684	76.678	76.655	76.631	76.626	76.623	76.627	76.630	76.608	76.631	76.634	76.640	76.636	76.626	76.615	76.601	76.587	76.560	76.532	76.501	76.494	76.486	76.481	76.475	76.469	76.464	76.459	76.453	76.440	76.431	76.421	76.409	76.404	76.407	76.404						
		140+800					140+900					141+000					141+100					141+200					141+300					141+400					141+500				



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD UL HAQ
Project Manager
M/S NESPAK

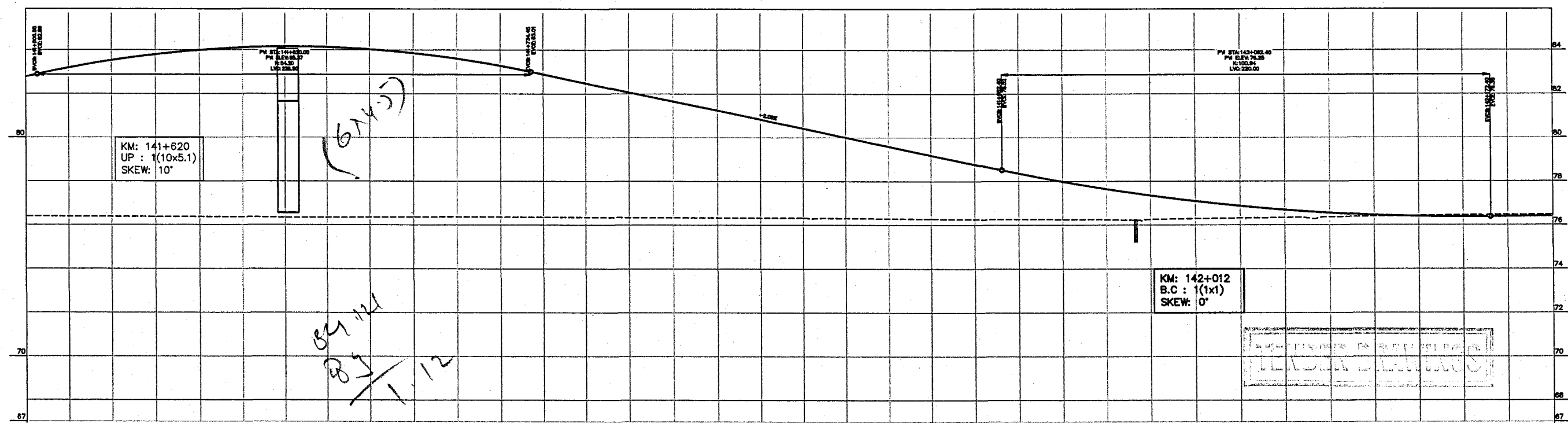
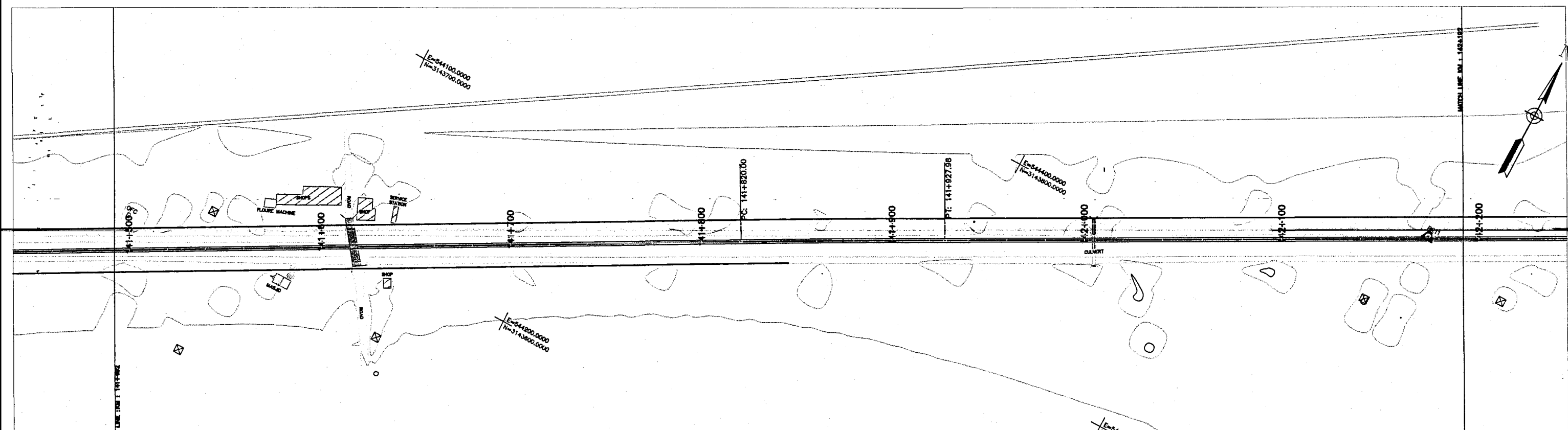
REV.	DATE	DESCRIPTION	APPROVED

DRAWN	M A NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

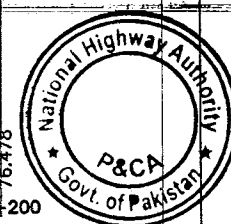
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE
KM: 140+800 ~ 141+500
DATE: JUNE, 2018

SCALE
1:2000
DWG NO.
3905/102/ID/P&P203



Horizontal Geometry	TANGENT 588.42															CURVE R=7502.57															TANGENT 1136.80														
Superelevation																																													
Design levels	83.187	83.529	83.798	83.992	84.113	84.133	84.033	83.858	83.610	83.288	82.895	82.483	82.071	81.658	80.834	80.422	80.010	79.597	79.185	78.773	78.363	77.986	77.648	77.350	77.092	76.873	76.694	76.554	76.454	76.394	76.373	76.389													
Ground Levels	76.395	76.386	76.377	76.372	76.367	76.360	76.340	76.346	76.351	76.359	76.366	76.366	76.356	76.347	76.338	76.333	76.330	76.325	76.321	76.308	76.291	76.274	76.261	76.255	76.253	76.242	76.257	76.288	76.315	76.342	76.366	76.393	76.423	76.453	76.471	76.478									
	141+500					141+600					141+700					141+800					141+900					142+000					142+100					142+200									



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



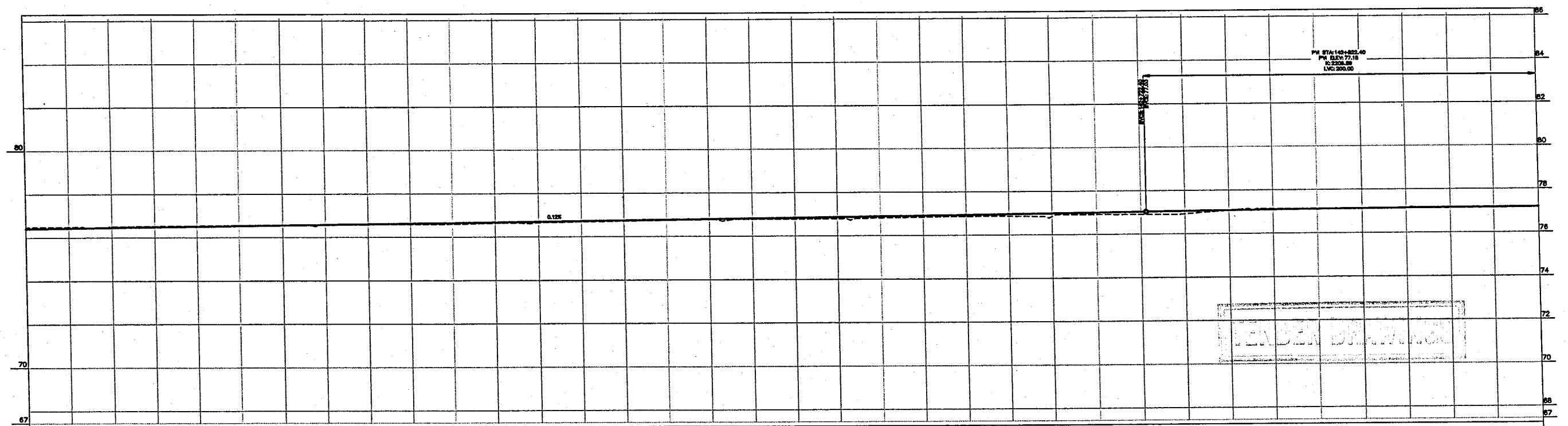
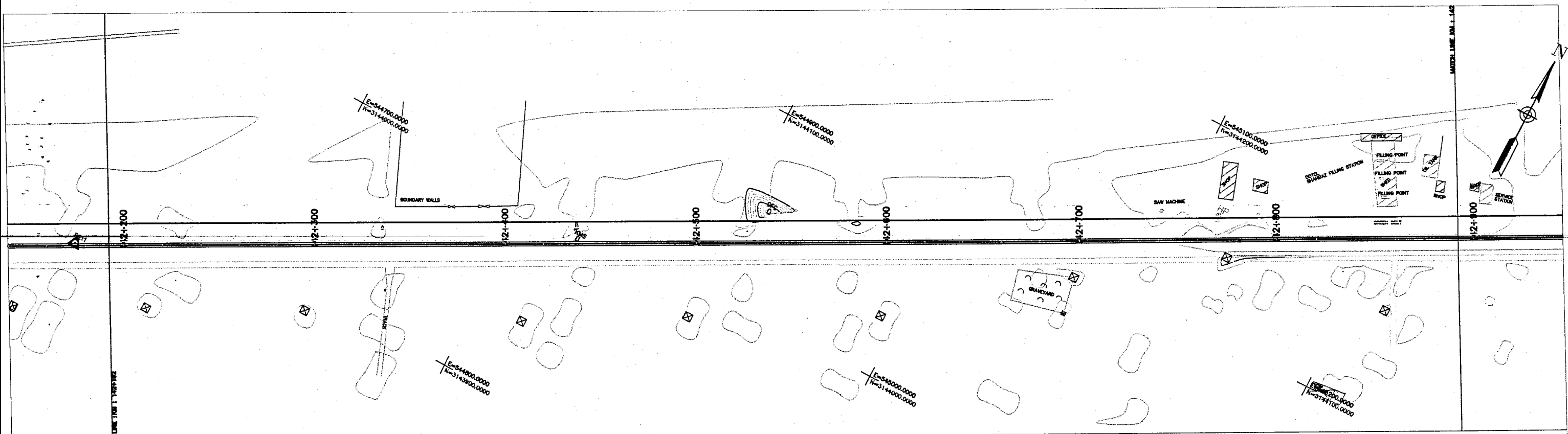
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD UL HAQ Project Manager M/S NESPAC		REV.	DATE	DESCRIPTION	APPROVED

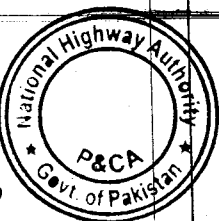
DRAWN	M. A. NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

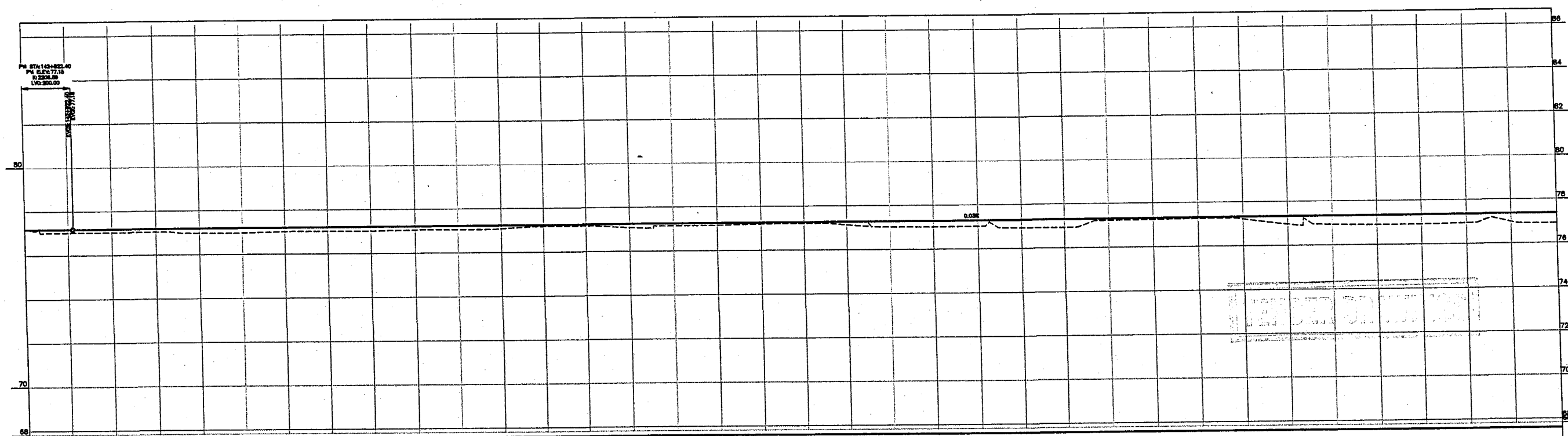
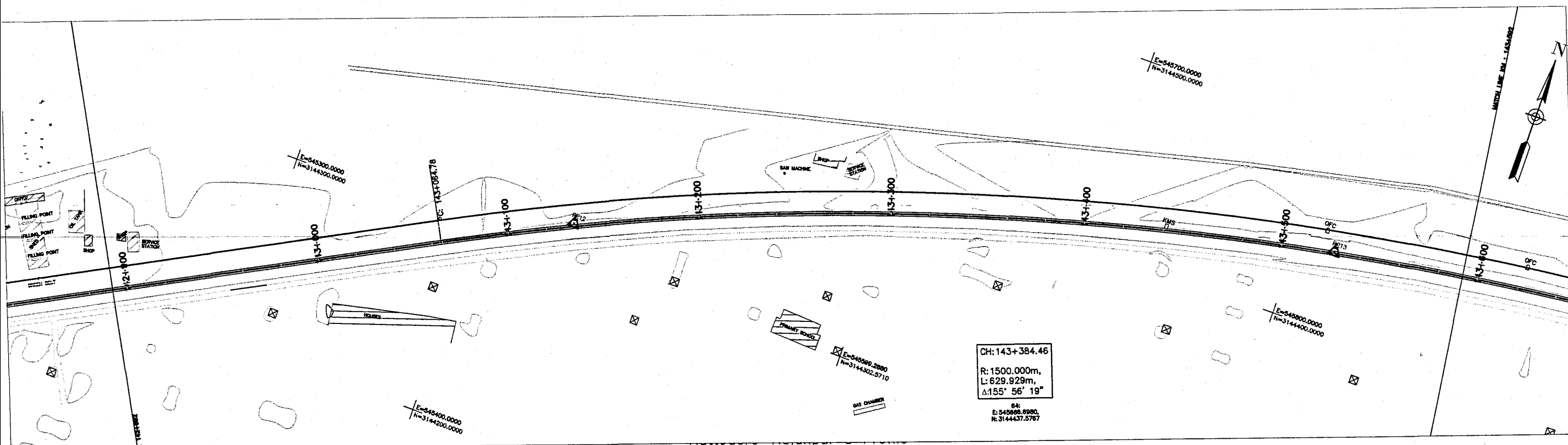
PLAN & PROFILE KM: 141+500 ~ 142+200		SCALE 1:2000
DATE JUNE, 2018	DWG NO. 3905/102/10/P&P204	



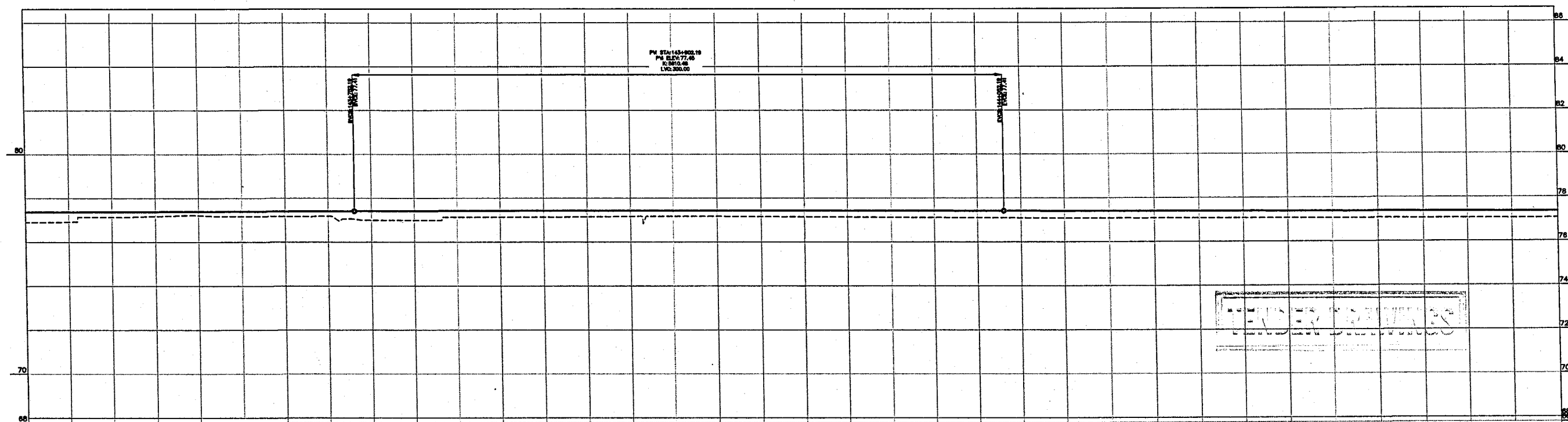
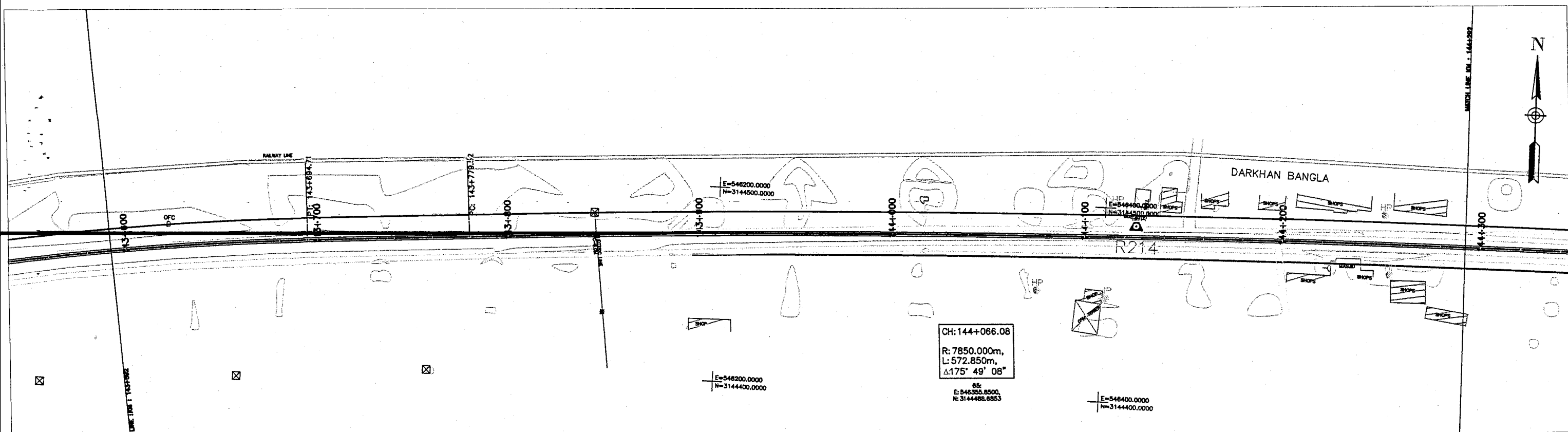
Horizontal Geometry		TANGENT 1136.80																																	
Superelevation																																			
Design Levels		76.437	76.460	76.484	76.508	76.531	76.555	76.579	76.602	76.626	76.650	76.673	76.697	76.721	76.745	76.768	76.792	76.816	76.839	76.863	76.887	76.910	76.934	76.958	76.981	77.005	77.029	77.052	77.073	77.092	77.110	77.126	77.140	77.152	77.162
Ground Levels		76.476	76.487	76.504	76.519	76.535	76.552	76.568	76.586	76.592	76.630	76.652	76.683	76.713	76.742	76.769	76.780	76.780	76.787	76.816	76.843	76.862	76.866	76.838	76.912	76.904	76.916	77.073	77.125	77.120	77.119	77.142	77.130	77.134	77.172
		142+200	142+300				142+400				142+500				142+600				142+700				142+800				142+900								



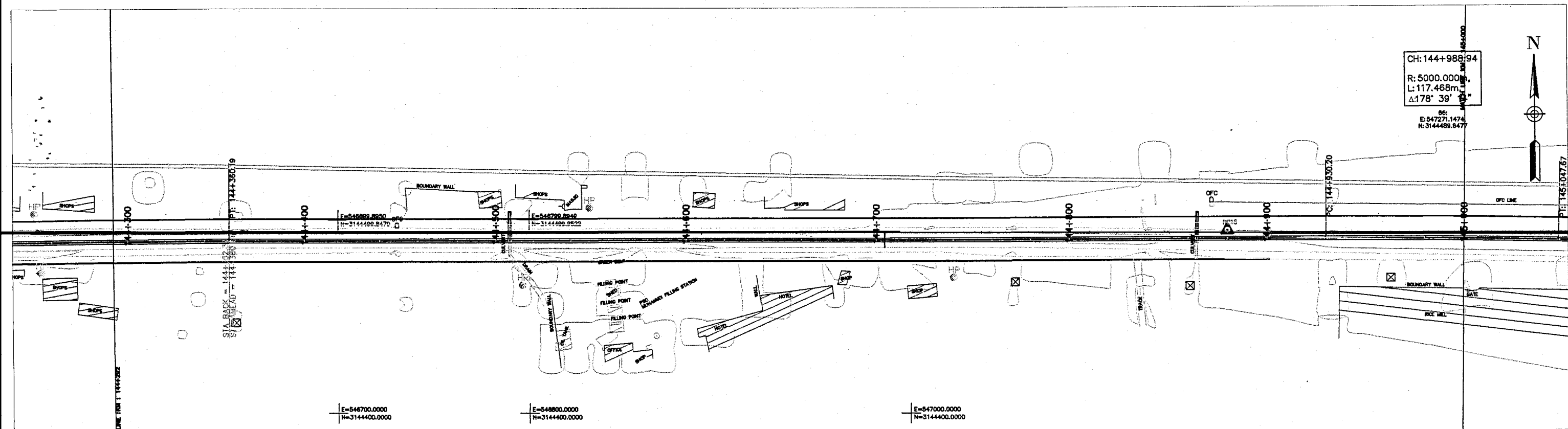
<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>JAWAD UL HAQ Project Manager M/S NESPAC</p>	<p>DRAWN</p> <p>M. A. NADEEM AWAN</p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>PLAN & PROFILE KM: 142+200 ~ 142+900 SCALE: 1:2000</p>
			<p>SUBMITTED</p>		
			<p>RECOMMENDED</p>		
			<p>CHD./VER.</p>		
<p>REV.</p>	<p>DATE</p>	<p>DESCRIPTION</p>	<p>APPROVED</p>	<p>APPROVED</p>	<p>DATE</p>



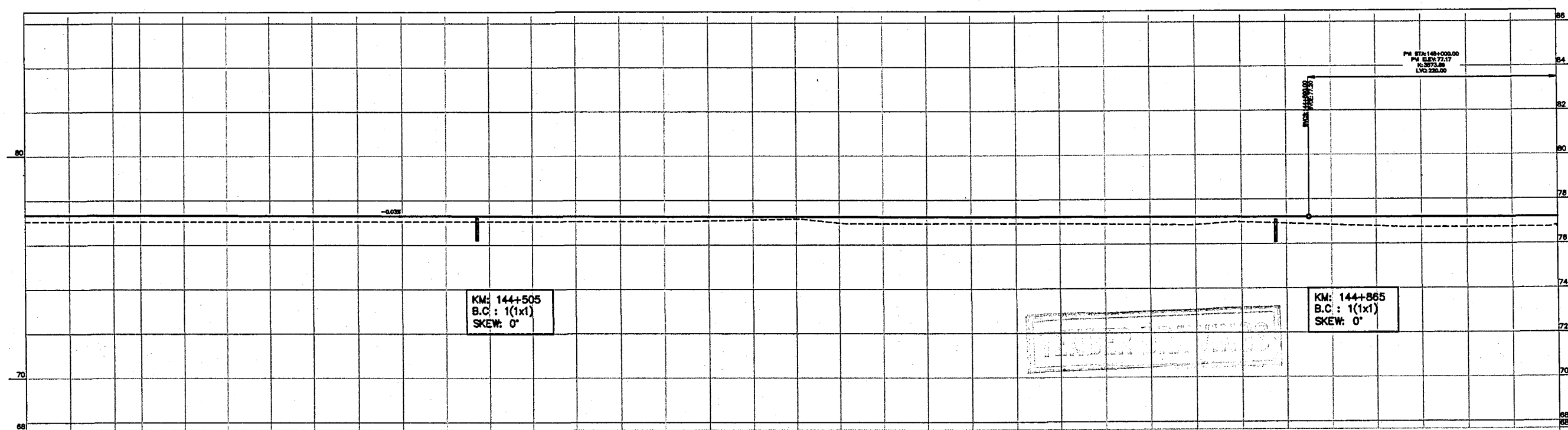
Horizontal Geometry										CURVE R=1500.00									
TANGENT 1136.80																			
Superelevation																			
Design Levels																			
77.177										77.177									
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77.188										77.188									
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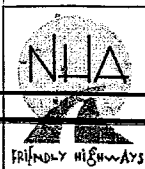
Horizontal Geometry	CURVE R=1500.00										TANGENT 84.82										CURVE R=7850.00														
Superelevation																																			
Design Levels		77.372	77.377	77.383	77.388	77.394	77.399	77.405	77.410	77.415	77.420	77.423	77.426	77.428	77.429	77.430	77.430	77.429	77.428	77.425	77.422	77.419	77.414	77.409	77.404	77.399	77.394	77.389	77.384	77.379	77.373	77.368	77.363	77.358	77.353
Ground Levels	76.900	76.915	77.134	77.174	77.211	77.171	77.173	76.992	76.986	77.128	77.130	77.135	77.147	77.165	77.167	77.166	77.154	77.142	77.132	77.120	77.107	77.099	77.088	77.078	77.074	77.072	77.072	77.067	77.064	77.059	77.057	77.053	77.050	77.045	77.040
	143+600age	143+700				143+800				143+900				144+000				144+100				144+200				144+300									



Rattodero~Rajanpur 3 Profile



Horizontal Geometry	TANGENT 570.01																			
Superelevation																				
Design Levels	77.343	77.338	77.330	77.329	77.324	77.319	77.314	77.309	77.304	77.298	77.293	77.288	77.283	77.278	77.273	77.268	77.262	77.257	77.252	77.247
Ground Levels	77.045	77.050	77.049	77.046	77.046	77.046	77.047	77.047	77.047	77.050	77.053	77.054	77.055	77.055	77.053	77.077	77.120	77.163	76.979	76.942
	144+300	144+350	144+400	144+450	144+500	144+550	144+600	144+650	144+700	144+750	144+800	144+850	144+900	144+950	145+000					



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



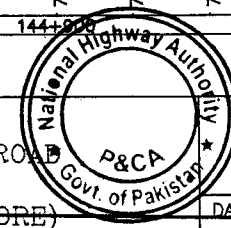
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD UL HAQ
Project Manager
M/S NESPAK

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	M A NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDHI KOT TO KASHIMORE)



PLAN & PROFILE
KM: 144+300 ~ 145+000

SCALE
1:2000

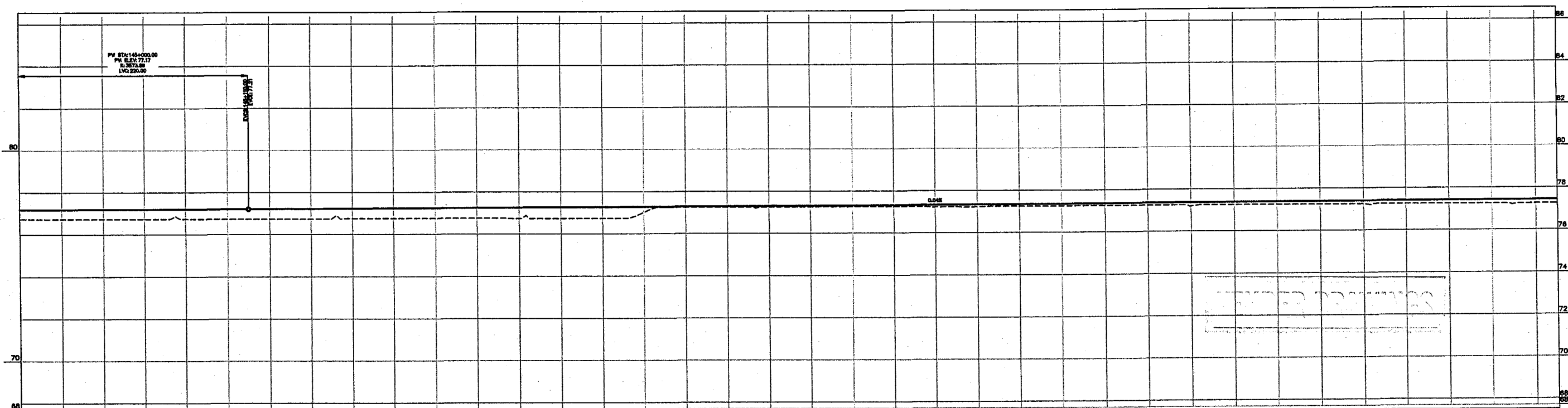
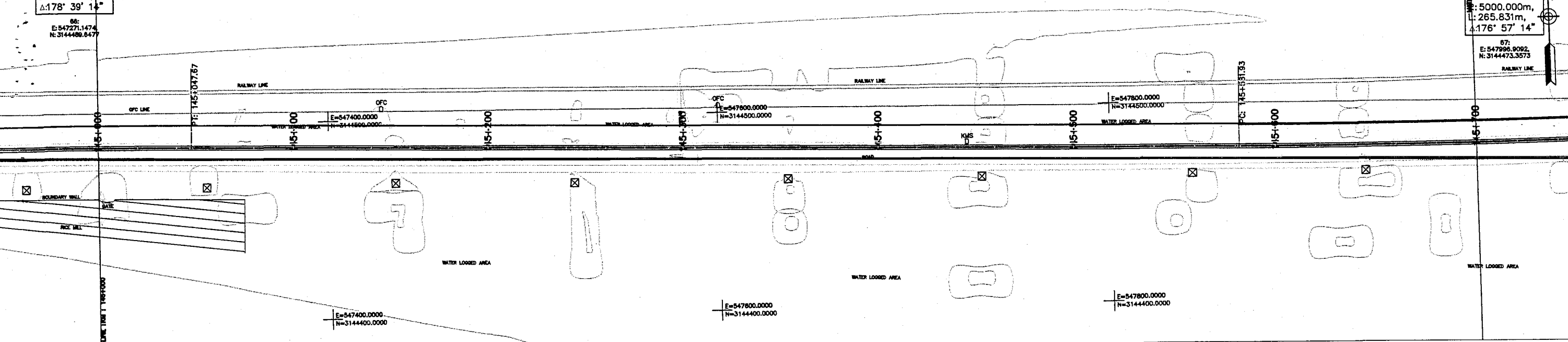
DATE	DWG NO.
JUNE, 2010	3905/102/TD/P&P208

CH: 144+988.94
R: 5000.000m,
L: 117.468m,
Δ: 178° 39' 14"


66:
E: 547271.1474
N: 3144499.6477

CH: 145+714.88
R: 5000.000m,
L: 265.831m,
Δ: 176° 57' 14"


67:
E: 547996.9092
N: 3144473.3573



Horizontal Geometry	CURVE R=5000.00															TANGENT 534.28															CURVE R=5000.00														
Superelevation																																													
Design levels		77.189	77.191	77.195	77.200	77.206	77.213	77.220	77.227	77.235	77.242	77.249	77.256	77.263	77.270	77.278	77.285	77.292	77.299	77.306	77.313	77.321	77.328	77.335	77.342	77.349	77.357	77.364	77.371	77.378	77.385	77.392	77.400	77.407	77.414	77.421	77.428								
Ground Levels	76.732	76.732	76.732	76.732	76.732	76.732	76.732	76.732	76.755	76.755	76.755	76.756	76.732	76.732	76.732	77.009	77.245	77.245	77.245	77.245	77.245	77.224	77.223	77.245	77.245	77.245	77.245	77.187	77.245	77.245	77.245	77.245	77.245	77.245	77.245	77.245	77.245	77.245							
	145+000				145+100					145+200					145+300					145+400					145+500				145+600					145+700	145+730										



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY




NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT) LTD

AWAZUL HAQ
Project Manager
M/S NESPAK

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	M A NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	



RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE
KM: 145+000 ~ 145+700
DATE: JUNE, 2018
DWG NO.: 3905/102/ID/P&P209

SCALE
1:2000

**PLANS
&
PROFILES
KASHMORE BYPASS**



E=548400.0000
N=3144600.0000

E=548600.0000
N=3144600.0000

E=548800.0000
N=3144600.0000

E=549000.0000
N=3144600.0000

BP: 146+100.00
N=3144485.1901
E=548381.9199

146+100

146+200

146+300

146+400

146+500

146+600

146+700

146+800

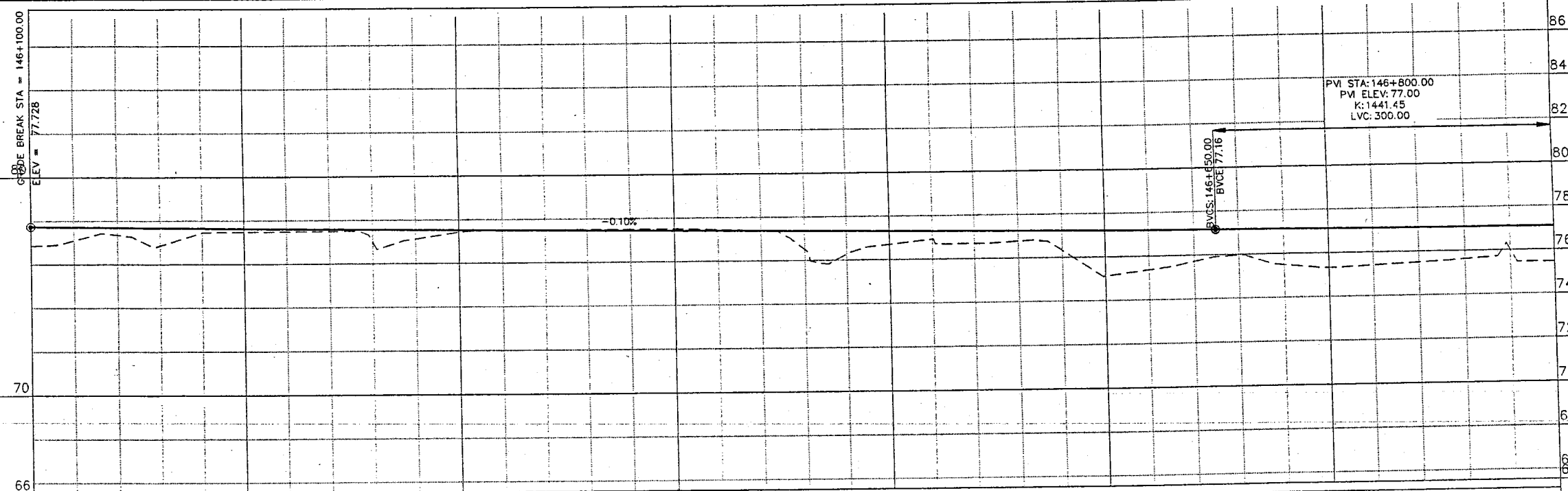
TENDER DRAWINGS

E=548400.0000
N=3144400.0000

E=548600.0000
N=3144400.0000

E=548800.0000
N=3144400.0000

E=549000.0000



Horizontal Geometry

TANGENT 1621.30

Superelevation

Design levels

Ground Levels

Chainage

146+100

146+200

146+300

146+400

146+500

146+600

146+700

146+800

77.707

77.686

77.665

77.645

77.624

77.603

77.582

77.561

77.541

77.520

77.499

77.478

77.457

77.437

77.416

77.395

77.374

77.353

77.333

77.312

77.291

77.270

77.249

77.229

77.208

77.187

77.166

77.146

77.128

77.113

77.100

77.090

77.084

77.079

76.857

77.097

77.346

76.848

77.435

77.470

77.479

77.488

77.007

77.122

77.426

77.501

77.500

77.506

77.507

77.506

77.451

77.389

76.505

76.262

76.692

76.912

76.693

76.774

76.330

75.116

75.372

75.710

75.956

75.488

75.323

75.401

75.501

75.615

76.027

75.446

NHA
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD KHAN
PROJECT ENGINEER
M/S. RESEARCH

DRAWN
SUBMITTED
RECOMMENDED
CHECKED
M. A. NADEEM AWAN

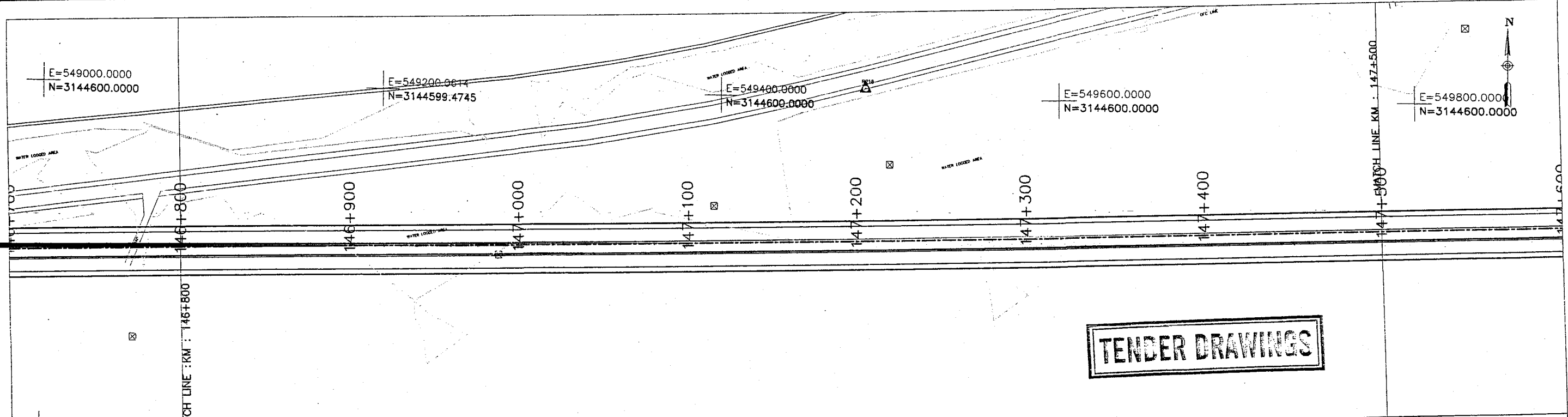
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE
KM: 146+100 ~ KM: 146+800

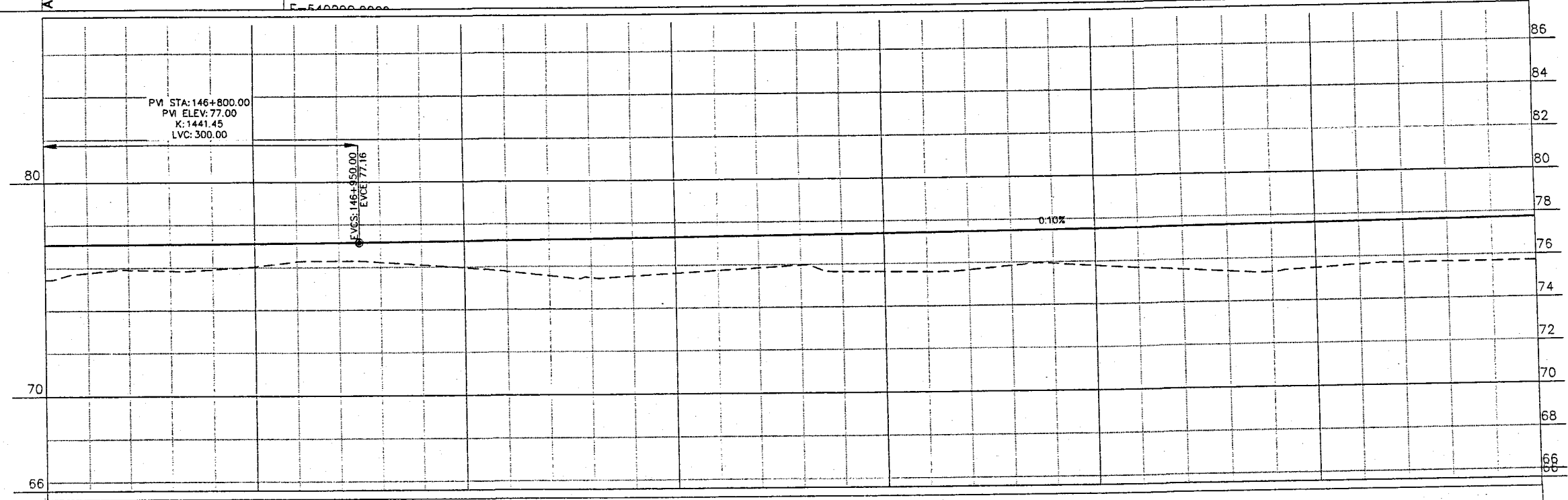
SCALE
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DATE
July, 2018

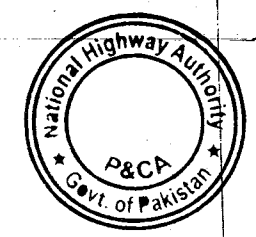
DWG NO.
3905/102/TD/P&P211



TENDER DRAWINGS



Horizontal Geometry	TANGENT 1621.30															
Superelevation																
Design Levels	77.079	77.084	77.091	77.100	77.113	77.128	77.146	77.167	77.188	77.208	77.229	77.250	77.271	77.292	77.312	77.333
Ground Levels	75.446	75.761	75.900	75.849	75.902	76.034	76.264	76.289	76.226	76.096	75.952	75.772	75.555	75.451	75.508	75.623
Chainage	146+800	146+900	147+000	147+100	147+200	147+300	147+400	147+500								



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

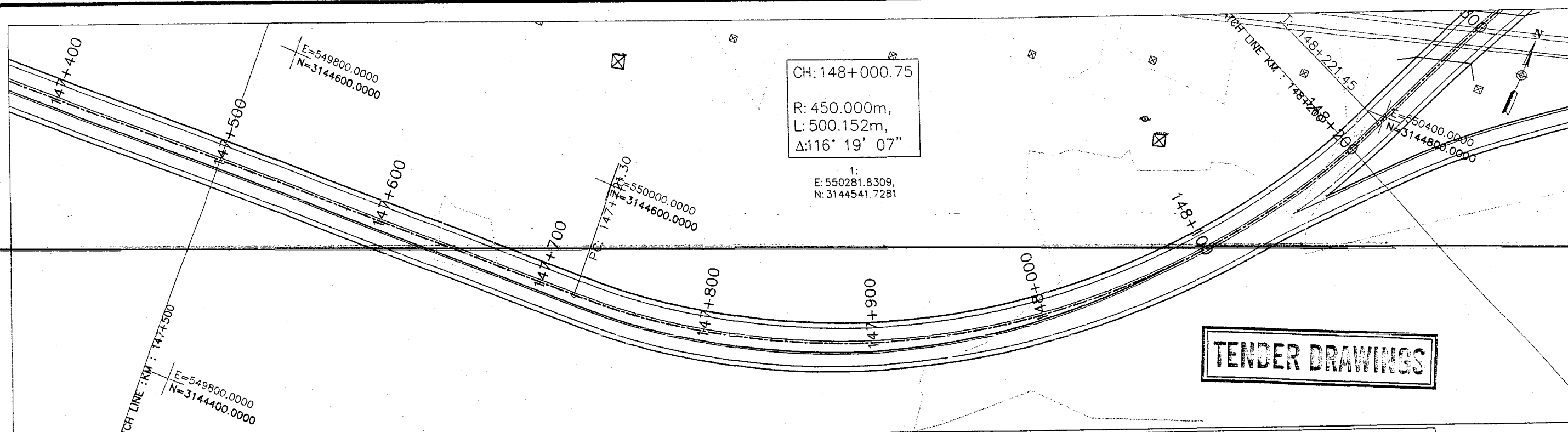
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD

JAWAD KHAN
Project Engineer
M/S. T. S. ENGINEERS

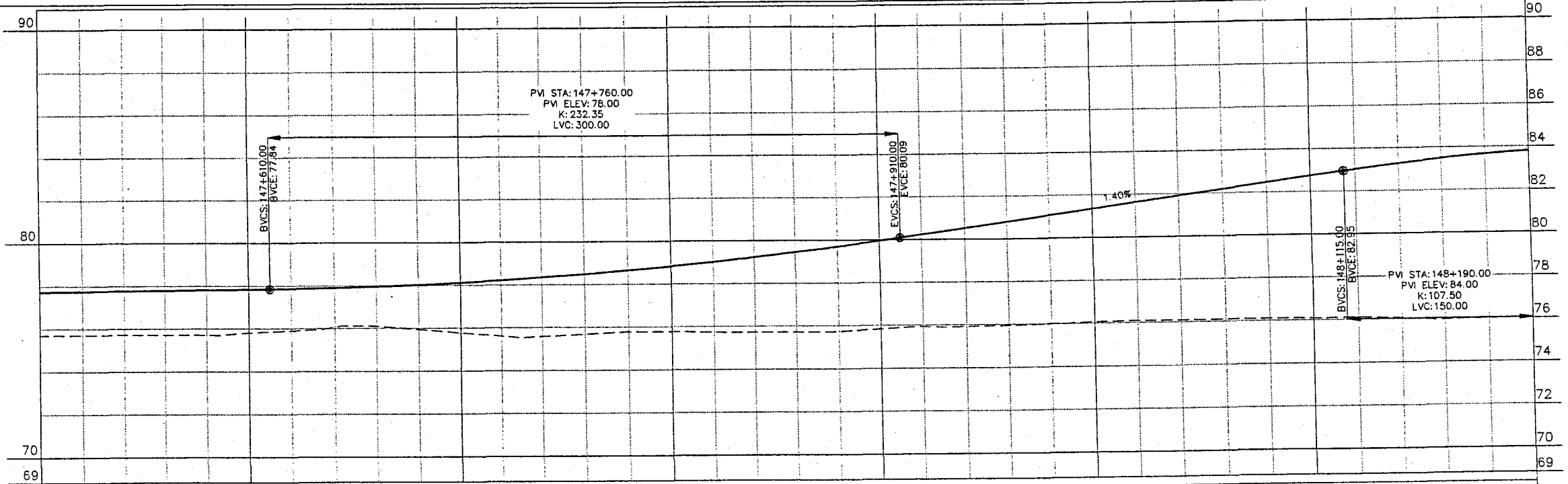
DRAWN	M. A. NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

**RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)**

PLAN & PROFILE KM: 146+800 ~ KM: 147+500		SCALE 1:2000
DATE July, 2018	DWG NO. 3905/102/TD/P&P212	



TENDER DRAWINGS



Horizontal Geometry	TANGENT 1621.30												CURVE R=450.00																						
Superelevation																																			
Design levels	77.750	77.771	77.792	77.812	77.833	77.856	77.894	77.950	78.022	78.112	78.219	78.343		78.643	78.819	79.012	79.222	79.449	79.694	79.956	80.233	80.512	80.791	81.070	81.349	81.628	81.907	82.186	82.465	82.744	83.022	83.273	83.487	83.664	
Ground Levels	75.699	75.710	75.720	75.717	75.706	75.809	75.893	76.061	76.108	75.943	75.778	75.613	75.580	75.674	75.772	75.769	75.738	75.725	75.720	75.733	75.838	75.937	75.913	75.942	76.001	76.056	76.096	76.092	76.101	76.103	76.091	76.122	76.046	75.965	76.006
Chainage	147+500			147+600			147+700			147+800			147+900			148+000			148+100			148+200													

NHA
 GOVERNMENT OF PAKISTAN
 MINISTRY OF COMMUNICATIONS
 NATIONAL HIGHWAY AUTHORITY

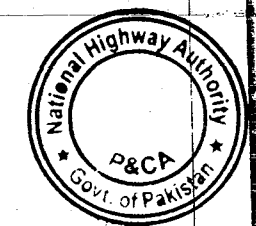
NATIONAL ENGINEERING SERVICES
 PAKISTAN (PVT.) LTD.

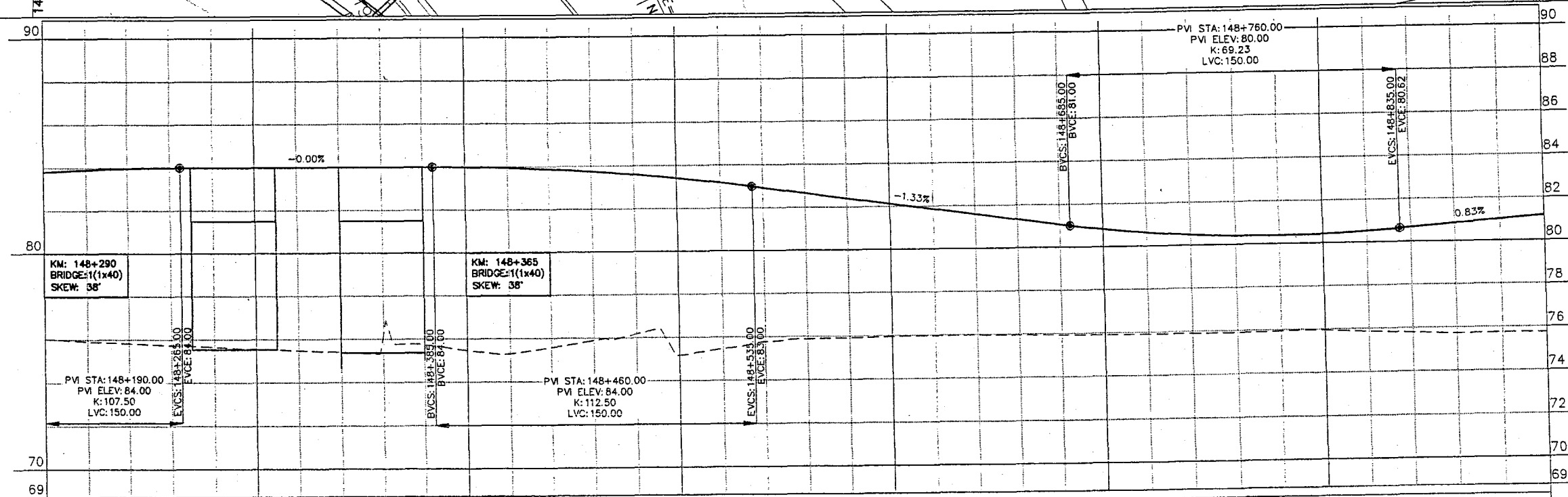
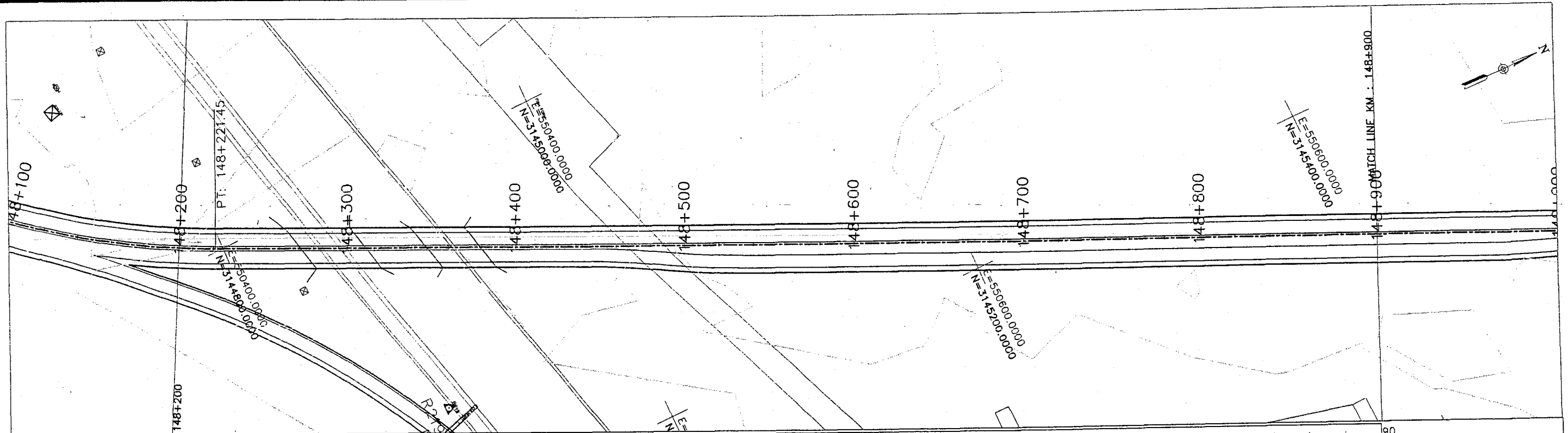
JAWAD UL HAQ
 Project Manager
 M/S M/S

REV. DATE DESCRIPTION APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE
 KM: 147+500 ~ KM: 148+200
 SCALE 1:2000
 DATE July 2018 DWG NO. 3805/102/TP/P&P213





Horizontal Geometry R=450.00		TANGENT 1233.57														
Superelevation																
Design Levels		83.906	83.971	83.999	84.000	84.000	84.000	84.000	84.000	84.000	83.990	83.946	83.866	83.599	83.412	83.190
Ground Levels		76.020	75.916	75.826	75.740	75.653	75.567	75.480	75.394	75.307	75.213	75.126	75.039	74.952	74.865	74.778
Chainage		148+200	148+300	148+400	148+500	148+600	148+700	148+800	148+900							

TENDER DRAWINGS



NHA
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

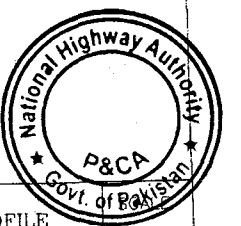
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

JAWAD UL HAQ PROJECT MANAGER M/S NHA		DRAWN	M A NADEEM AWAN
		SUBMITTED	
		RECOMMENDED	
		CHD. VER.	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE		SCALE
KM: 148+200 ~ KM: 148+900		1:2000
DATE	DWG NO.	
July, 2018	3905/102/TD/P&P214	

TENDER DRAWINGS



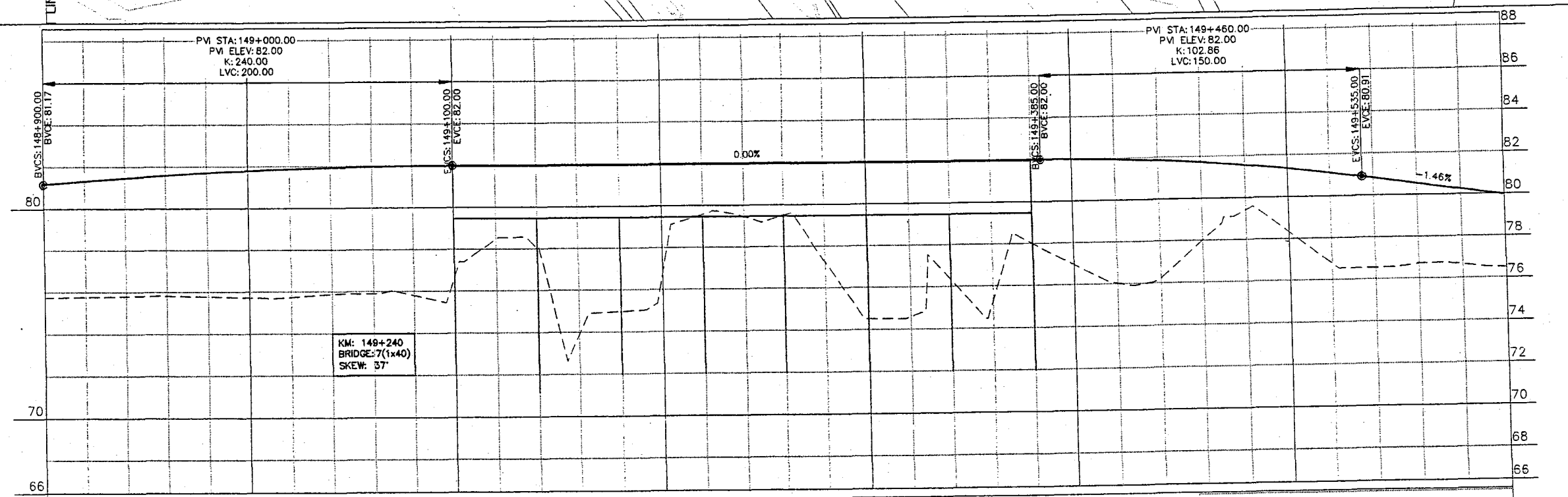
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GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

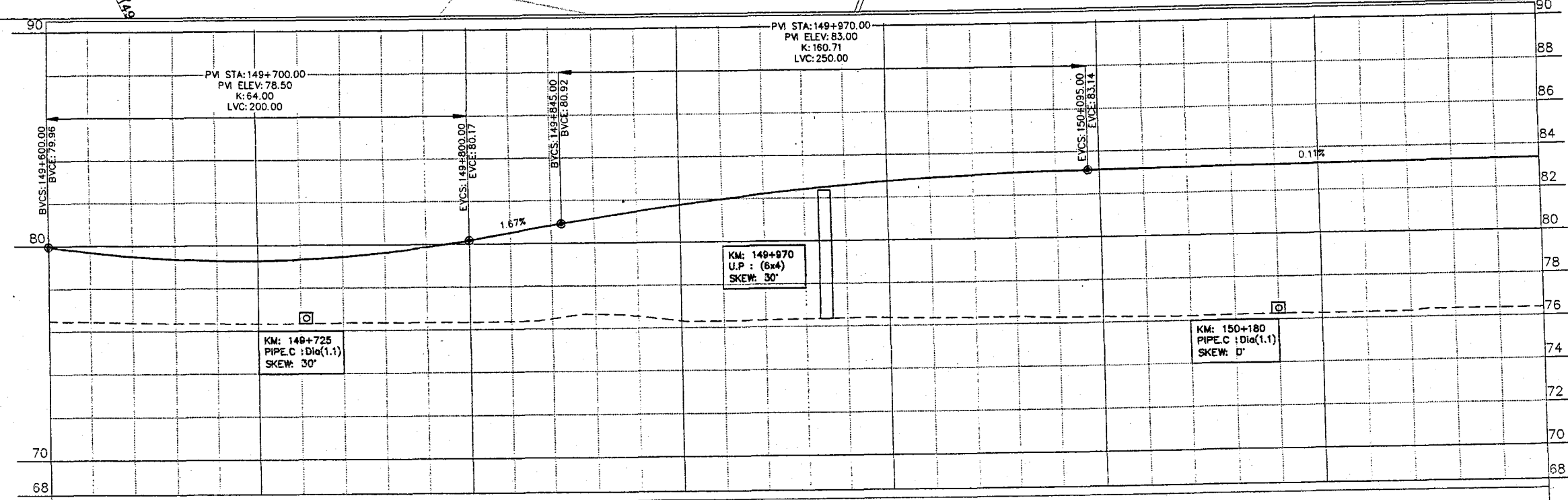
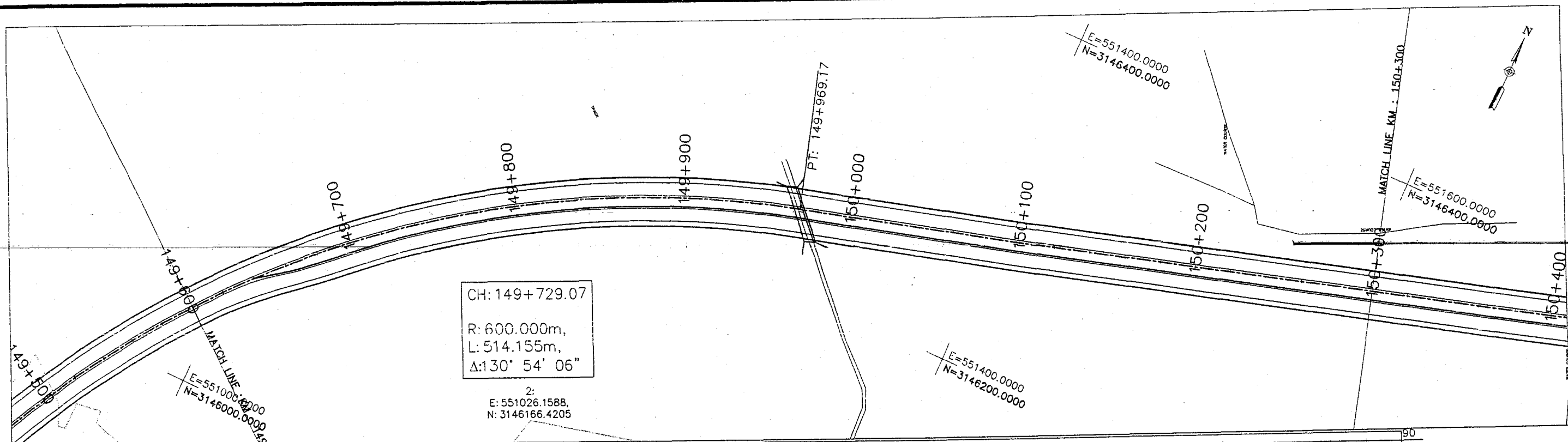
JAWAD UL HAQ Project Manager M/S INSEAN		DRAWN M A NADEEM AWAN
		SUBMITTED
		RECOMMENDED
		CHD./VER.
REV.	DATE	DESCRIPTION
APPROVED	APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE KM: 148+900 ~ KM:149+600		1:2000
DATE	DWG NO.	
July 2018	1905/102/ID/P&P215	



Horizontal Geometry		TANGENT 1233.57																CURVE R=600.00																			
Superelevation																																					
Design levels		81.325	81.467	81.592	81.700		81.867	81.925	81.967	81.992		82.000	82.000	82.000	82.000	82.000	82.000	82.000	82.000	82.000	82.000	82.000	81.989	81.940	81.853		81.561	81.357	81.114	80.833	80.542	80.250					
Ground Levels		75.744	75.773	75.804	75.825	75.777	75.729	75.734	75.869	75.891	75.806	76.697	78.472	78.098	73.870	74.977	76.813	79.569	79.462	79.490	77.246	74.513	74.590	76.320	75.294	77.999	76.954	76.035	76.244	78.007	79.416	78.325	76.784	76.550	76.720	76.659	76.491
Chainage		148+900				149+000				149+100				149+200				149+300				149+400				149+500				149+600							



Horizontal Geometry	CURVE R=600.00															TANGENT 1209.05																				
Superelevation																																				
Design levels	79.698	79.500	79.365	79.292		79.333	79.448	79.625	79.865		80.500	80.833	81.160	81.462	81.739	81.992	82.219	82.422	82.600	82.753	82.881	82.984	83.062	83.115	83.144	83.167	83.189	83.211	83.233	83.256	83.278	83.300	83.322	83.344		
Ground Levels	76.491	76.440	76.400	76.375	76.355	76.341	76.344	76.358	76.362	76.355	76.345	76.363	76.473	76.666	76.559	76.318	76.299	76.323	76.353	76.385	76.368	76.338	76.328	76.331	76.276	76.261	76.235	76.224	76.244	76.265	76.245	76.264	76.284	76.369	76.376	76.380
Chainage	149+600				149+700					149+800				149+900				150+000				150+100				150+200							150+300			

NHA
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

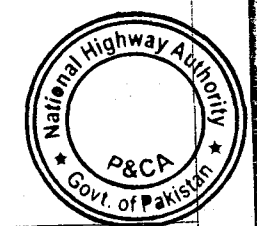
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

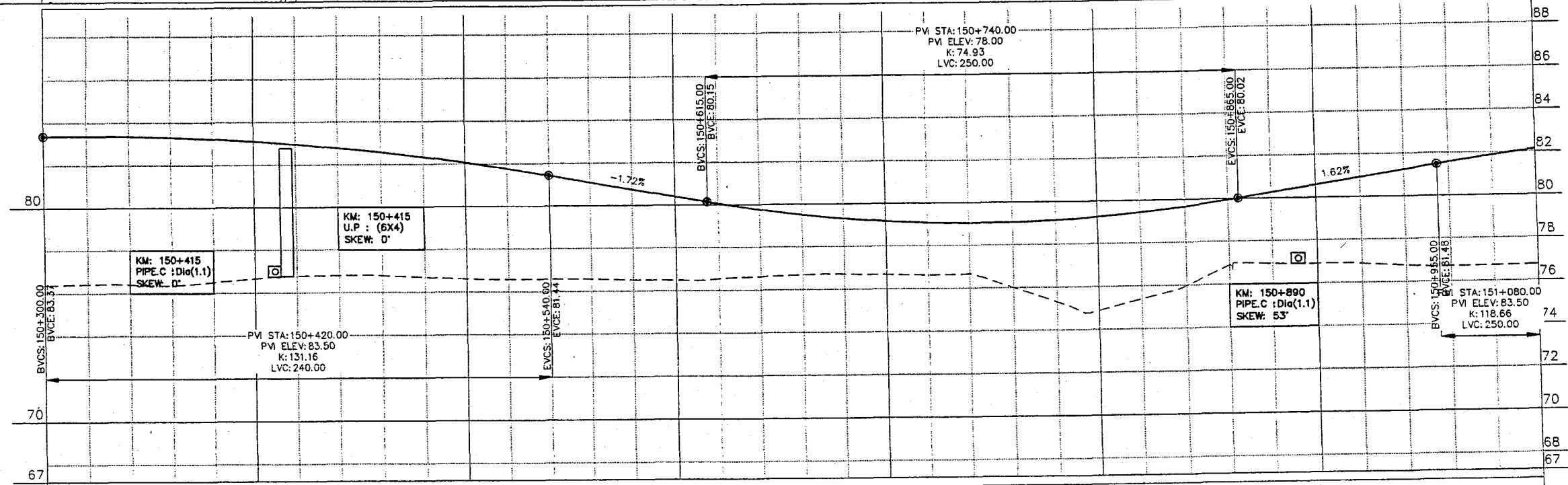
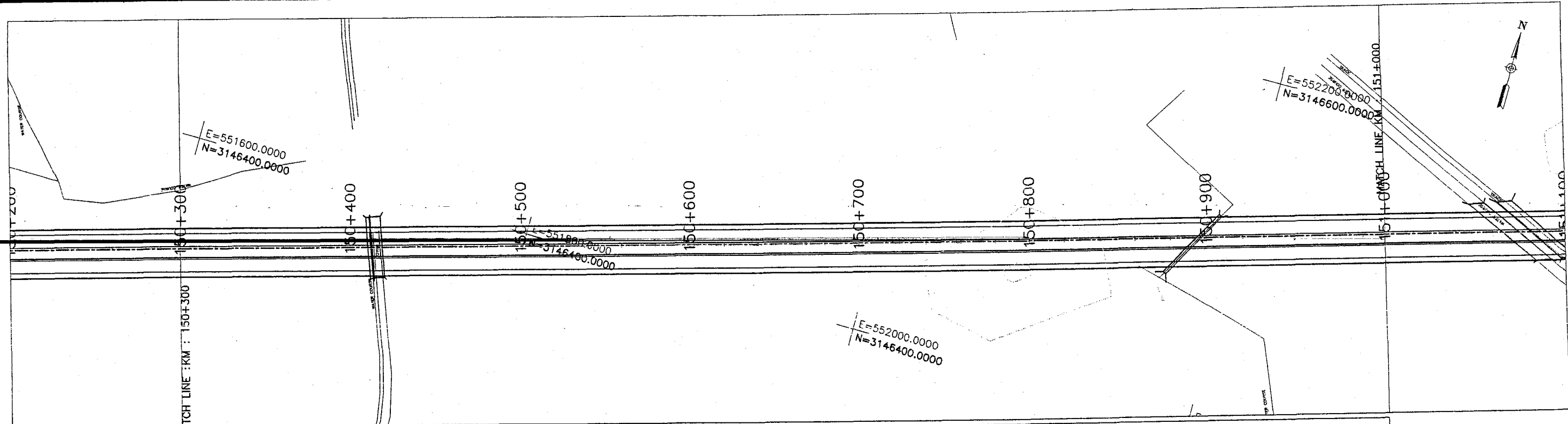
JAWAD UL HAQ
Project Manager
M/S NEDRA
REV. DATE DESCRIPTION APPROVED APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE
KM: 149+600 ~ KM: 150+300
SCALE 1:2000
DATE July, 2018
DWG NO. 3905/102/TD/P&P216

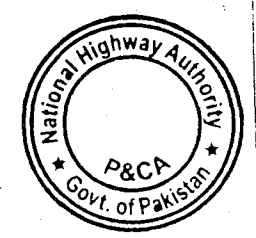
TENDER DRAWINGS



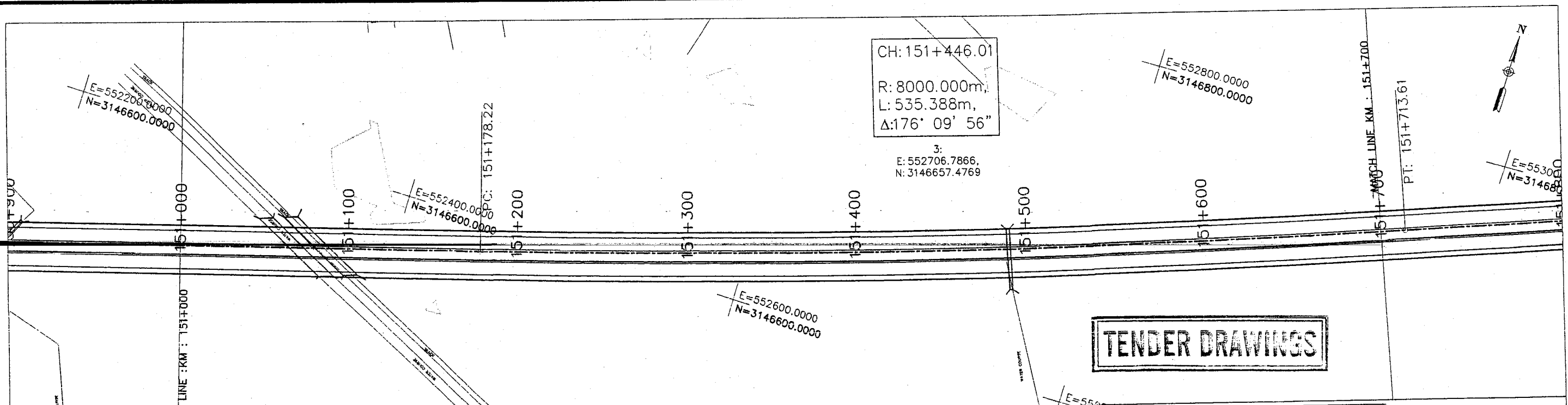


Horizontal Geometry	TANGENT 1209.05															
Superelevation																
Design levels	83.374	83.350	83.296	83.212	83.097		82.775	82.569	82.332	82.064	81.766		81.094	80.750	80.406	80.064
Ground Levels	76.380	76.425	76.405	76.357	76.507	76.667	76.787	76.796	76.781	76.691	76.601	76.568	76.577	76.563	76.508	76.479
Chainage	150+300				150+400					150+500				150+600		150+700
																150+800
																150+900
																151+000

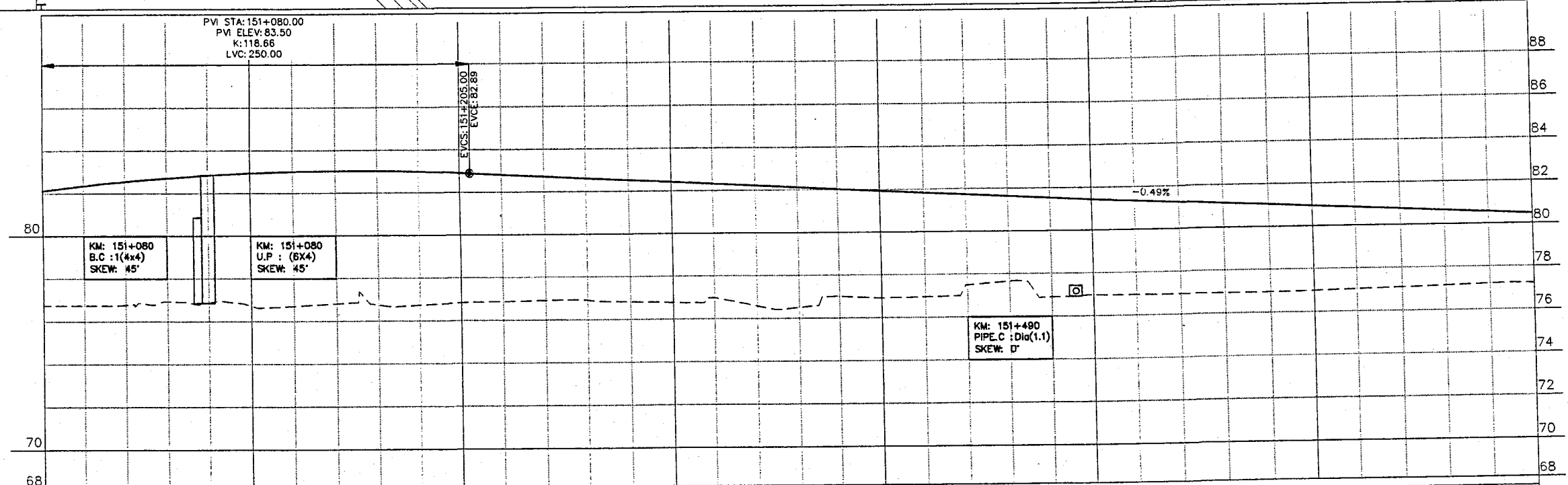
TENDER DRAWINGS



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	PROJECT MANAGER M/S. IREZAK	DRAWN SUBMITTED RECOMMENDED CHD./VER.	M. A. NADEEM AWAN 	PLAN & PROFILE KM: 150+300 ~ KM: 151+000 SCALE 1:2000
			RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		



TENDER DRAWINGS



Horizontal Geometry	TANGENT 1209.05										CURVE R=8000.00																								
Superelevation																																			
Design levels	82.351	82.549	82.712		82.938	83.000	83.028	83.023	82.985	82.912	82.815	82.717	82.620	82.522	82.424	82.326	82.228	82.130	82.033	81.935	81.837	81.739	81.641	81.543	81.446	81.348	81.250	81.152	81.054	80.957	80.859	80.761	80.663	80.565	
Ground Levels	76.736	76.737	76.766	76.920	76.865	76.709	76.697	76.806	76.747	76.721	76.828	76.869	76.903	76.899	76.813	76.771	76.976	76.584	76.499	77.008	76.915	76.953	77.492	77.644	76.888	76.984	76.947	76.944	76.941	76.946	76.978	77.027	77.076	77.134	77.195
Chainage	151+000			151+100				151+200							151+300					151+400						151+500				151+600				151+700	



2800.0000
46800.0000

PT: 151+713.61

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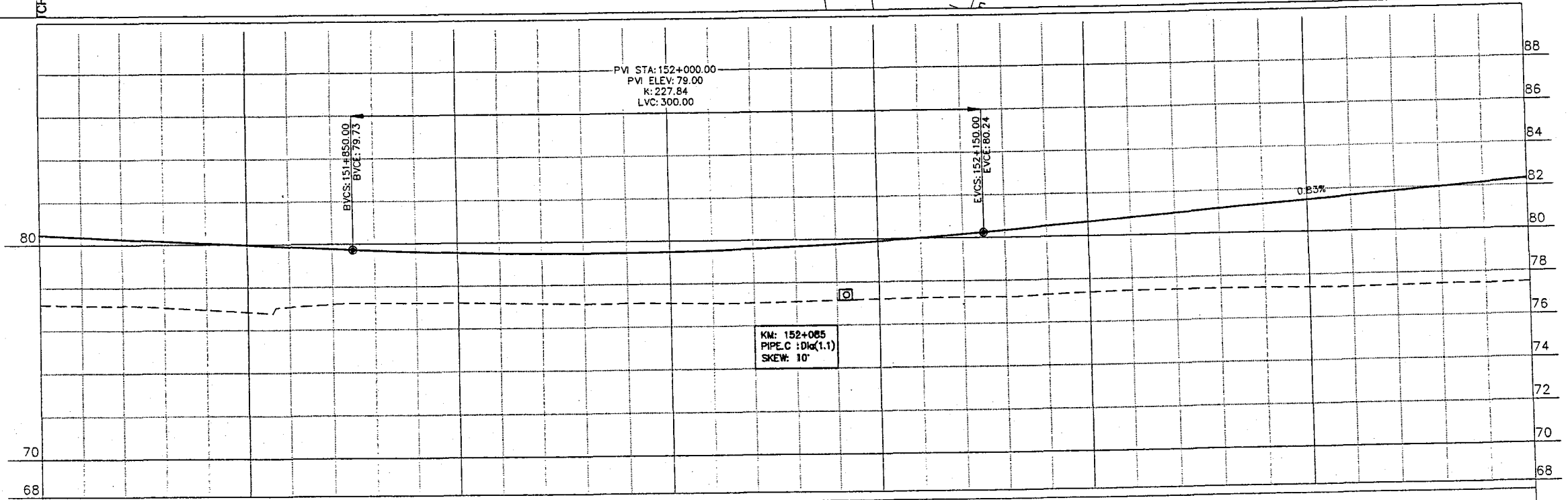
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ATCH LINE KM: 152+400

E=55300.0000
N=3147000.0000

E=553200.0000
N=3146800.0000

TENDER DRAWINGS



Horizontal Geometry	R=8000.00															TANGENT 987.81																				
Superelevation																																				
Design levels	80.370	80.272	80.174	80.076	79.978	79.880	79.783	79.687	79.607	79.544	79.499	79.471	79.461	79.469	79.536	79.597	79.674	79.770	79.882	80.013	80.161	80.324	80.490	80.655	80.821	80.986	81.152	81.317	81.483	81.648	81.814	81.979	82.145			
Ground Levels	77.205	77.170	77.139	77.071	76.958	76.845	77.070	77.190	77.225	77.213	77.198	77.177	77.142	77.107	77.120	77.096	77.072	77.069	77.107	77.149	77.191	77.214	77.238	77.225	77.288	77.371	77.417	77.423	77.423	77.422	77.400	77.380	77.420	77.457	77.456	77.491
Chainage	151+700	151+800			151+900			152+000			152+100			152+200			152+300			152+400																

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GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

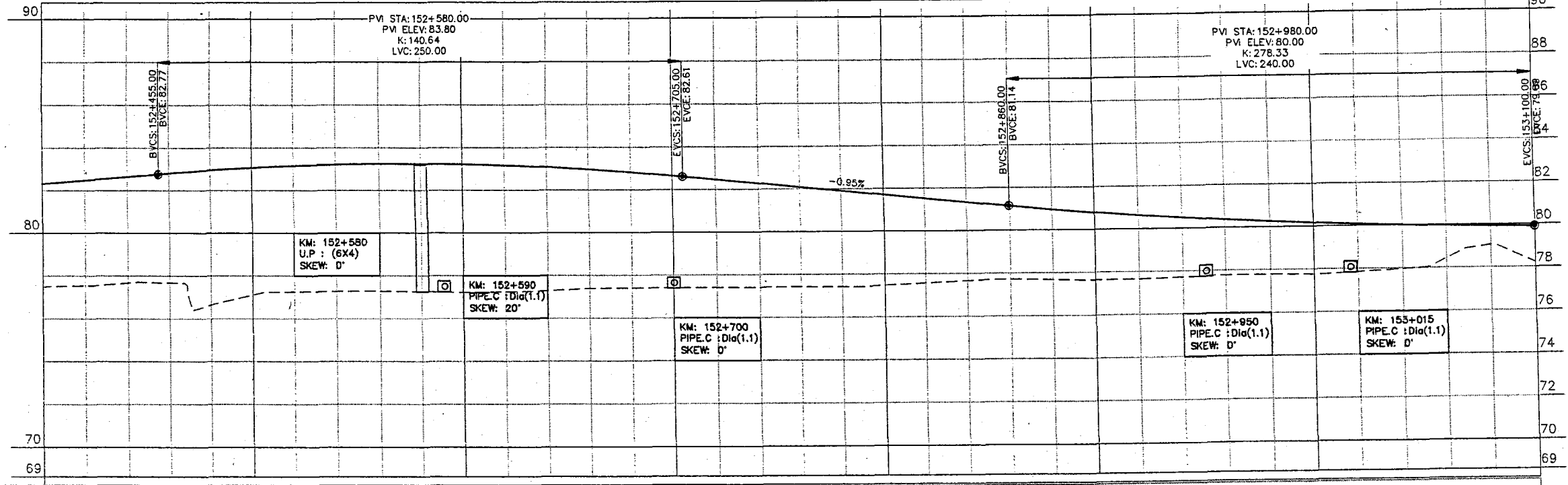
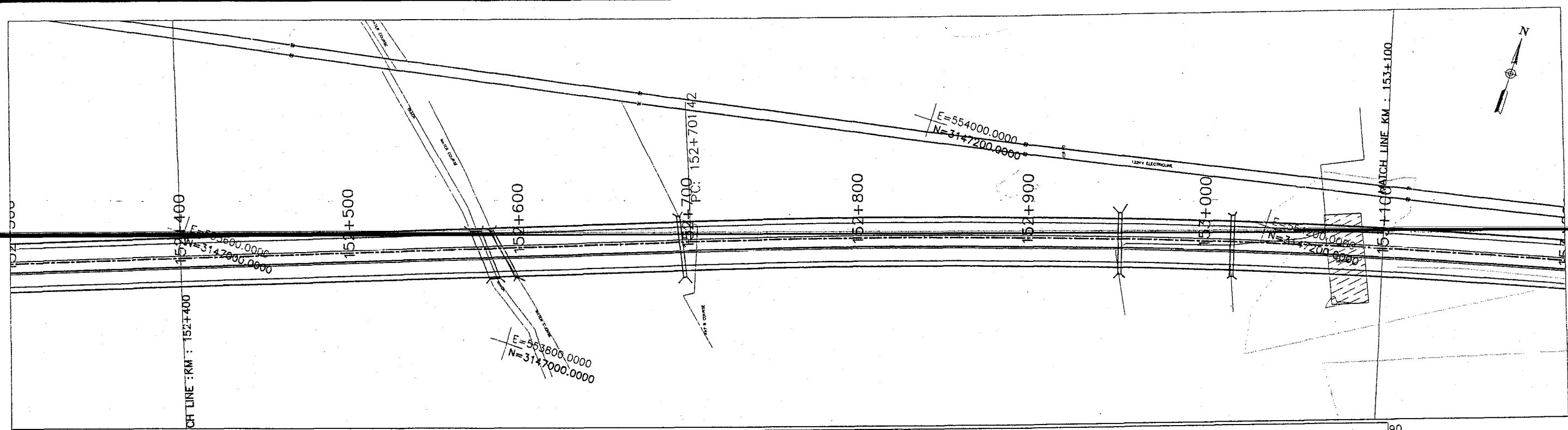
JAWAD UL HAQ
PROJECT MANAGER
M/S. JAWAD UL HAQ

DRAWN	M A NADEEM AWAN
SUBMITTED	9/2/13
RECOMMENDED	9/2/13
CHD./VER.	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE		SCALE
KM: 151+700 ~ KM: 152+400		1:2000
DATE	DWG NO.	
July, 2013	3905/102/TD/P&P219	



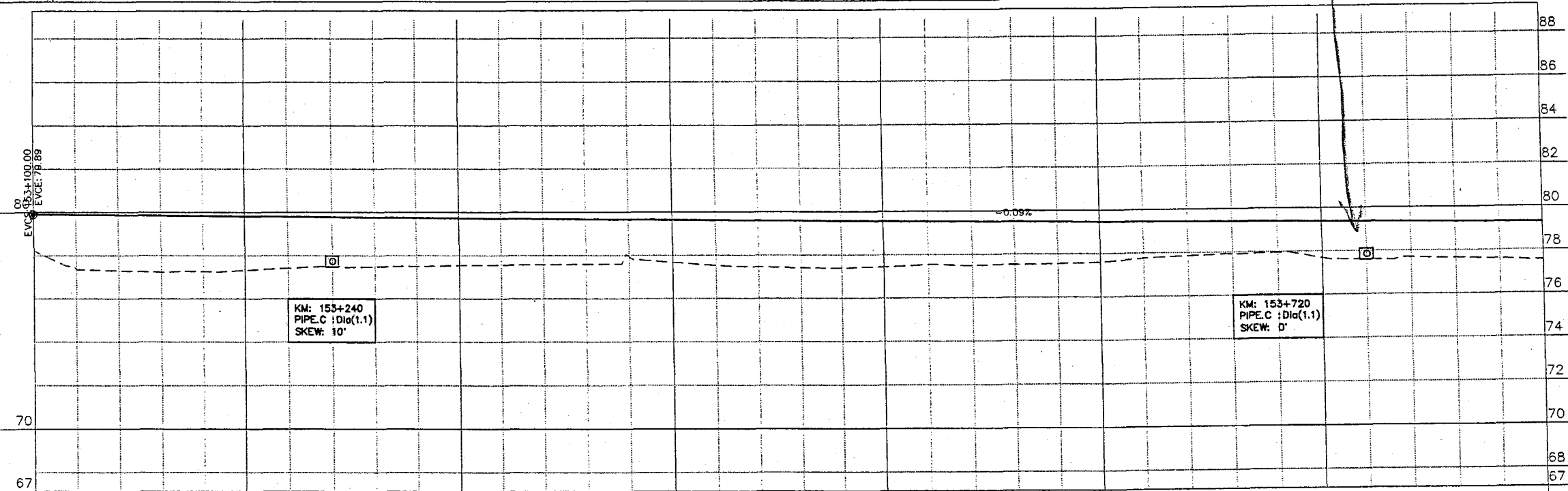
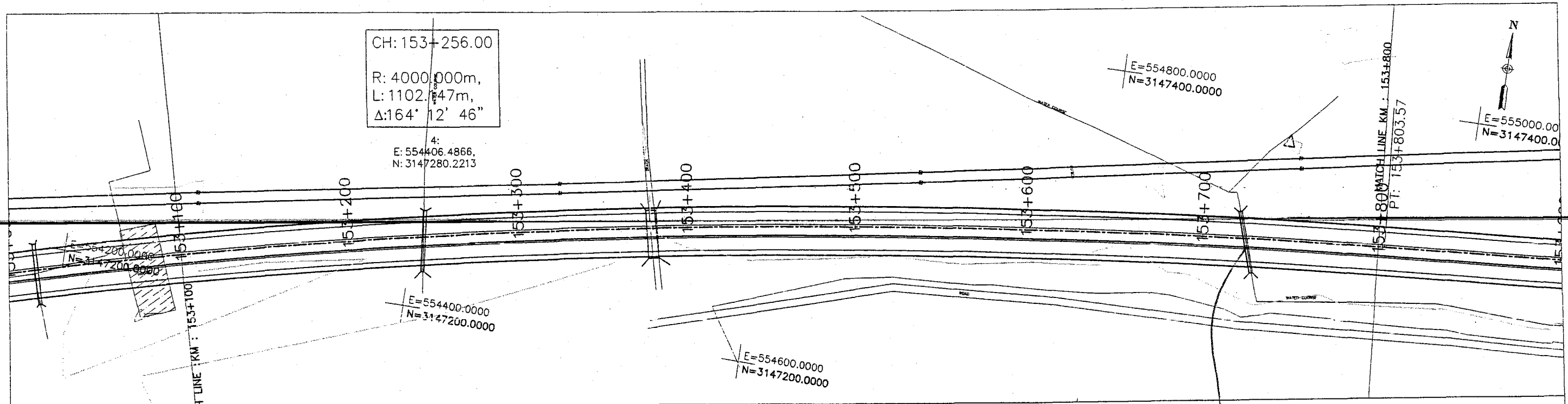


Horizontal Geometry	TANGENT 987.81															CURVE R=4000.00																				
Superelevation																																				
Design levels	82.476	82.641	82.806	82.950	83.066	83.153	83.212	83.243		83.218	83.163	83.080	82.968	82.828	82.659	82.470	82.280	82.090	81.900	81.710	81.520	81.330		80.957	80.789	80.635	80.495	80.370		80.162	80.080	80.012	79.959	79.919		
Ground Levels	77.491	77.534	77.666	77.671	76.633	77.105	77.246	77.274	77.281	77.249	77.217	77.246	77.287	77.386	77.400	77.408	77.404	77.409	77.424	77.412	77.472	77.562	77.653	77.706	77.678	77.642	77.649	77.707	77.771	77.778	77.762	77.845	77.960	78.431	79.038	78.216
Chainage	152+400	152+500			152+600			152+700			152+800			152+900			153+000			153+100																

TENDER DRAWINGS



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN M. A. NADEEM AWAN	SUBMITTED RECOMMENDED CHD./VER. APPROVED	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN & PROFILE KM: 152+400 ~ KM: 153+100 SCALE: 1:2000
			DATE: July 2018			DWG. NO.: 3005/102/TP/P&P220



Horizontal Geometry	TANGENT 1102.15																
Superelevation																	
Design levels	79.877	79.860	79.842	79.825	79.807	79.789	79.772	79.754	79.737	79.719	79.702	79.684	79.667	79.649	79.632	79.614	79.596
Ground Levels	78.216	77.360	77.290	77.231	77.255	77.308	77.411	77.479	77.471	77.501	77.532	77.556	77.571	77.585	77.938	77.670	77.522
Chainage	153+100	153+200			153+300			153+400			153+500			153+600			153+800

TENDER DRAWINGS



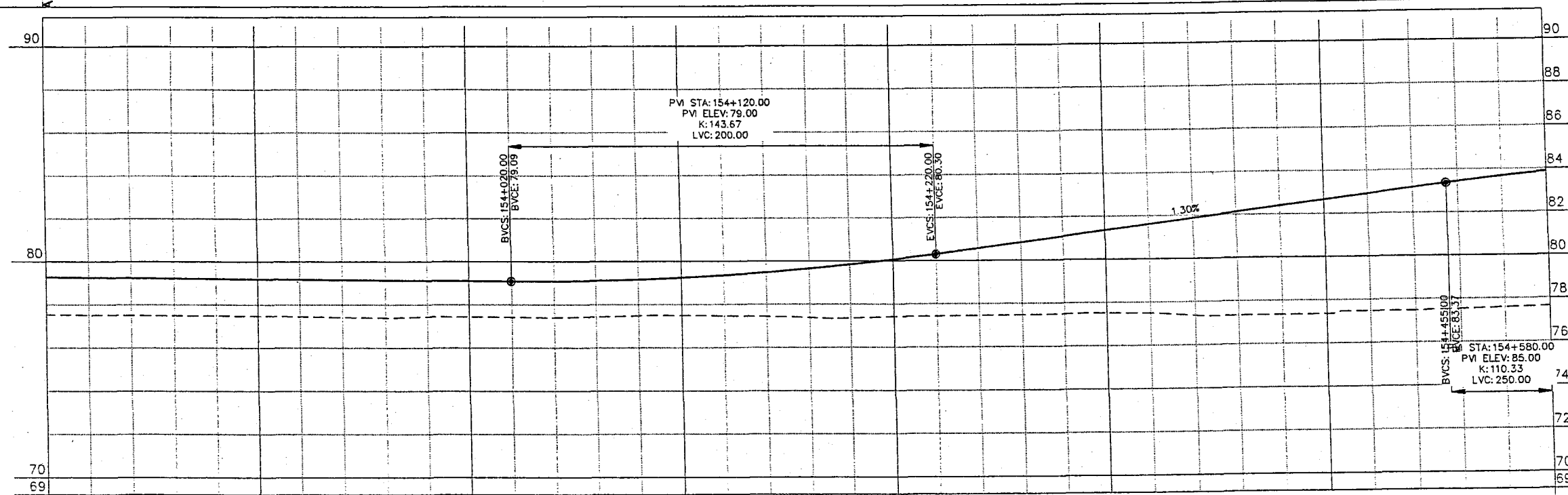
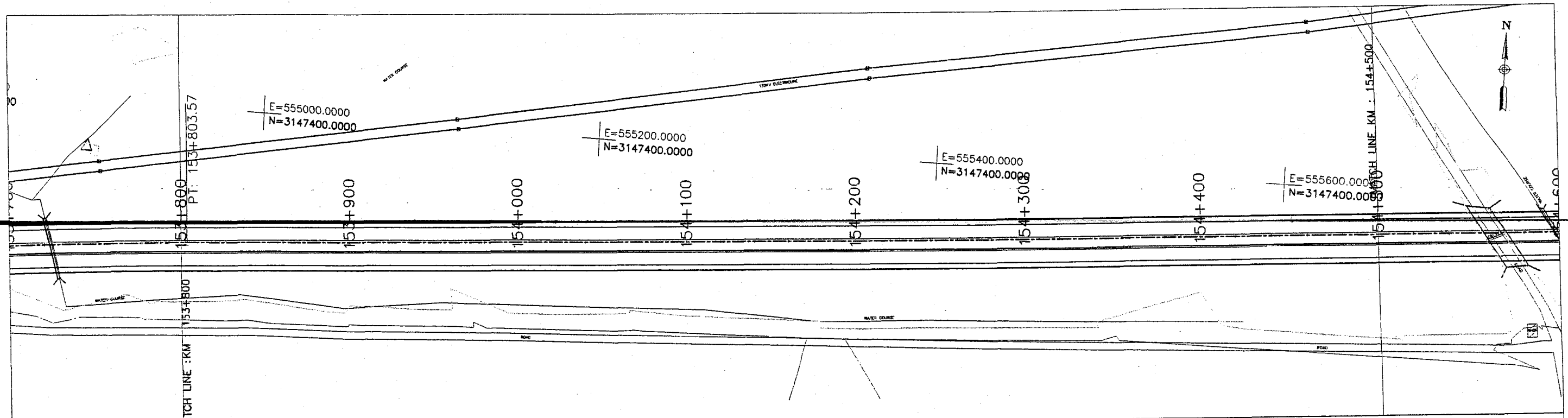
NHA GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NESPAK NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD

JAWAD UL HAQ Project Manager		DRAWN	M. A. NADEEM AWAN
M/S NESPAK		SUBMITTED	<i>[Signature]</i>
		RECOMMENDED	<i>[Signature]</i>
		CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE		SCALE
KM: 153+100 ~ KM: 153+800		1:2000
DATE	DWG. NO.	
JULY 2018	3005/102/TP/P&C221	



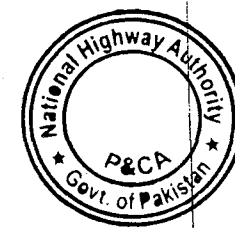
Horizontal Geometry $R=4000.00$

TANGENT 1213.06

Superelevation

Design levels	79.263	79.246	79.228	79.211	79.193	79.175	79.158	79.140	79.123	79.105	79.084	79.108	79.160	79.240	79.484	79.647	79.838	80.057	80.565	80.826	81.087	81.348	81.609	81.870	82.130	82.391	82.652	82.913	83.174	83.434	83.667					
Ground Levels	77.536	77.522	77.510	77.495	77.487	77.477	77.451	77.421	77.391	77.436	77.442	77.424	77.402	77.434	77.482	77.489	77.471	77.438	77.384	77.355	77.414	77.434	77.453	77.465	77.493	77.511	77.488	77.360	77.333	77.345	77.358	77.466	77.470	77.526	77.581	77.624
Chainage	153+800	153+900	154+000	154+100	154+200	154+300	154+400	154+500																												

TENDER DRAWINGS



NHA GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

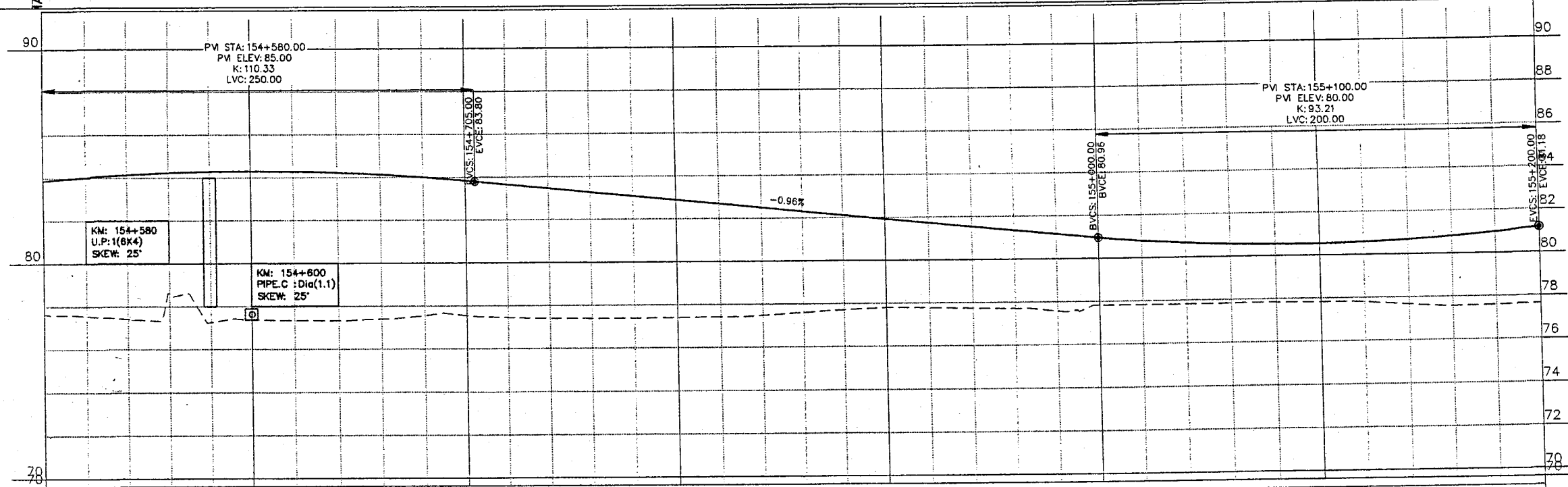
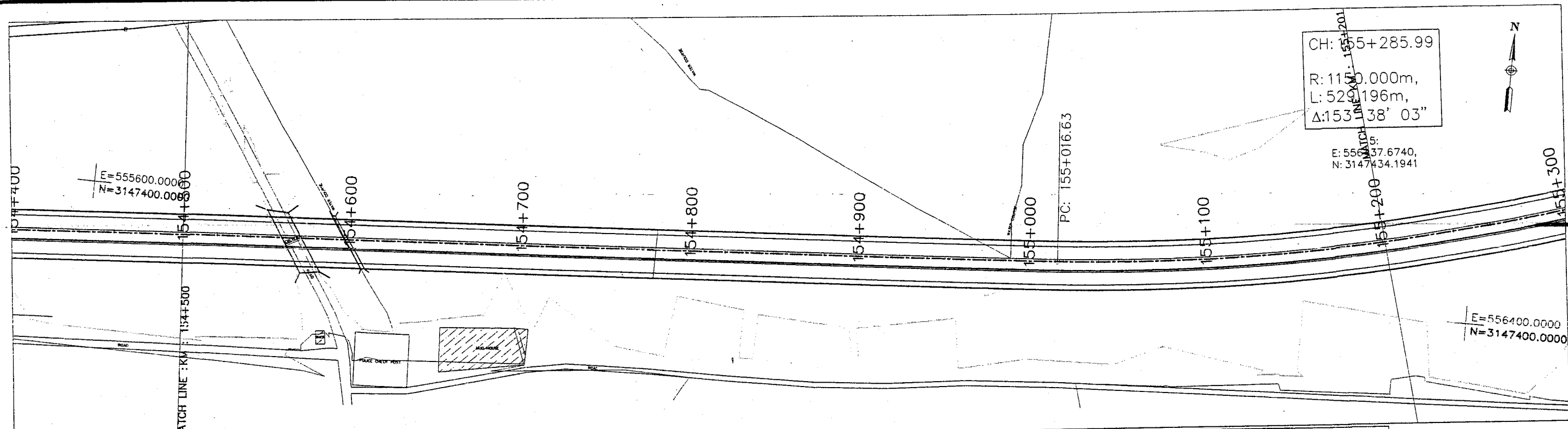
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT) LTD

JAWAD UL HAQ
Project Manager
M/S NESPAK

DRAWN M A NADEEM AWAN
SUBMITTED
RECOMMENDED
CHD./VER.

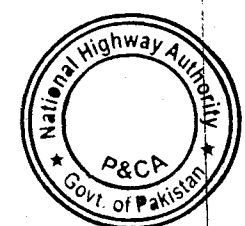
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE
KM: 153+800 ~ KM: 154+500
SCALE 1:2000
DATE July, 2018
DWG NO. 3905/102/TD/P&P222

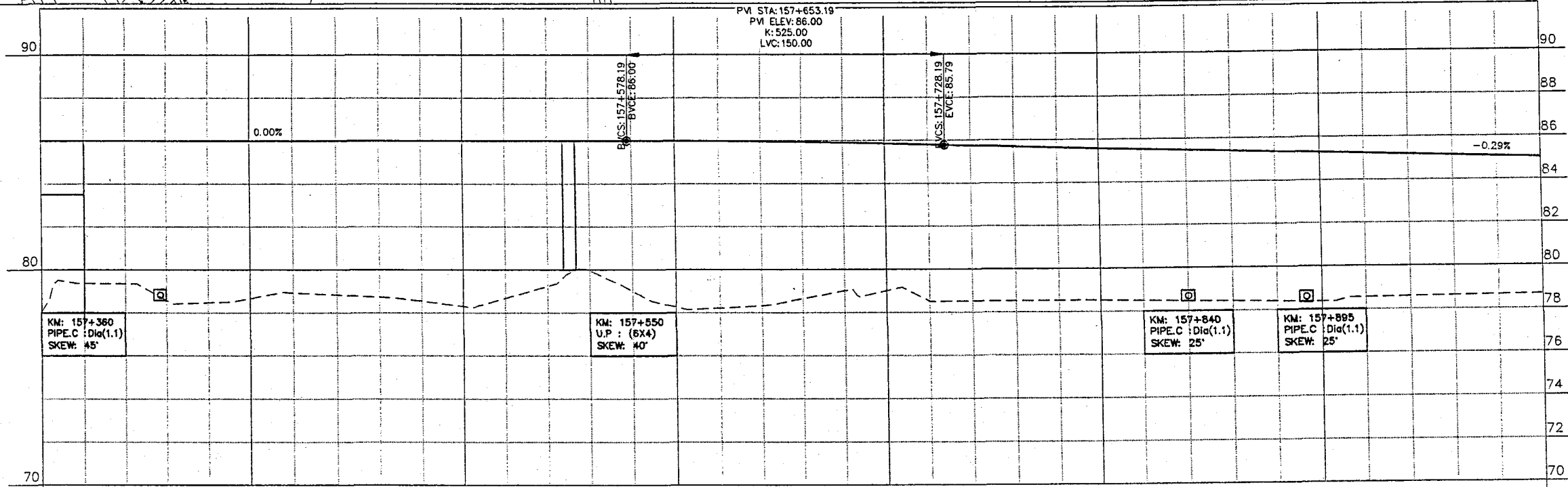
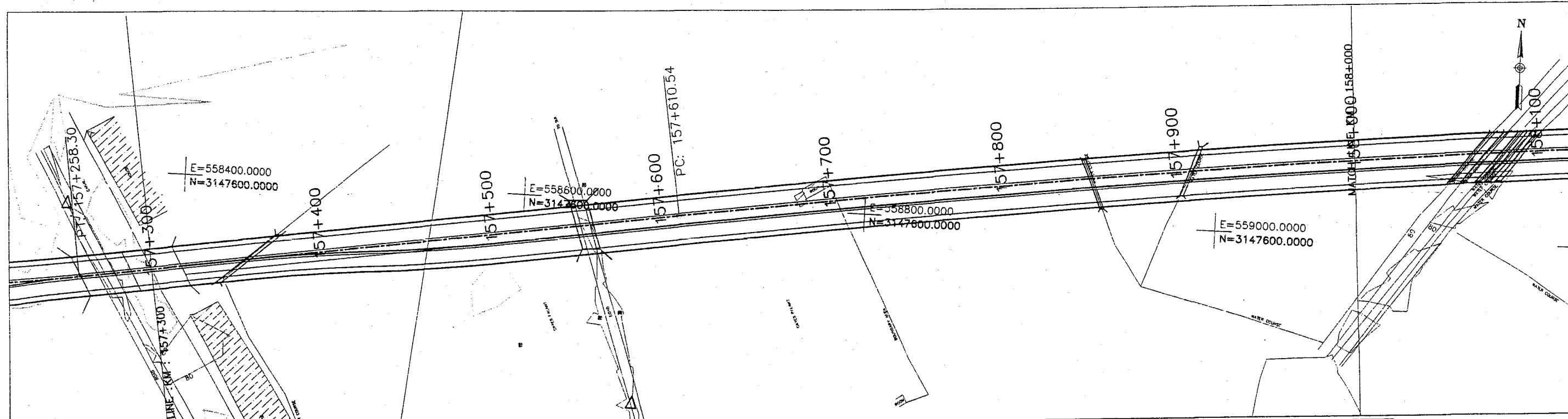


Horizontal Geometry	TANGENT 1213.06															CURVE R=1150.00																				
Superelevation																																				
Design levels	84.026	84.151	84.240		84.308	84.288	84.232	84.139	84.010	83.845	83.654	83.462	83.269	83.077	82.885	82.692	82.500	82.308	82.115	81.923	81.731	81.538	81.346	81.154		80.791	80.663	80.578	80.536		80.580	80.667	80.796	80.969		
Ground Levels	77.624	77.548	77.414	78.606	77.248	77.380	77.338	77.322	77.398	77.539	77.546	77.446	77.399	77.389	77.384	77.398	77.414	77.471	77.594	77.705	77.793	77.770	77.735	77.699	77.565	77.817	77.809	77.811	77.823	77.832	77.818	77.792	77.665	77.558	77.594	77.630
Chainage	154+500			154+600			154+700			154+800			154+900			155+000			155+100			155+200														

TENDER DRAWINGS



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S NESPAK	DRAWN	M. A. NADEEM AWAN	PLAN & PROFILE KM: 154+500 ~ KM: 155+200 SCALE 1:2000
			SUBMITTED		
		REV. 1	DATE	DESCRIPTION	APPROVED
		RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)			DWG. NO. 3905/102/10/P&P223

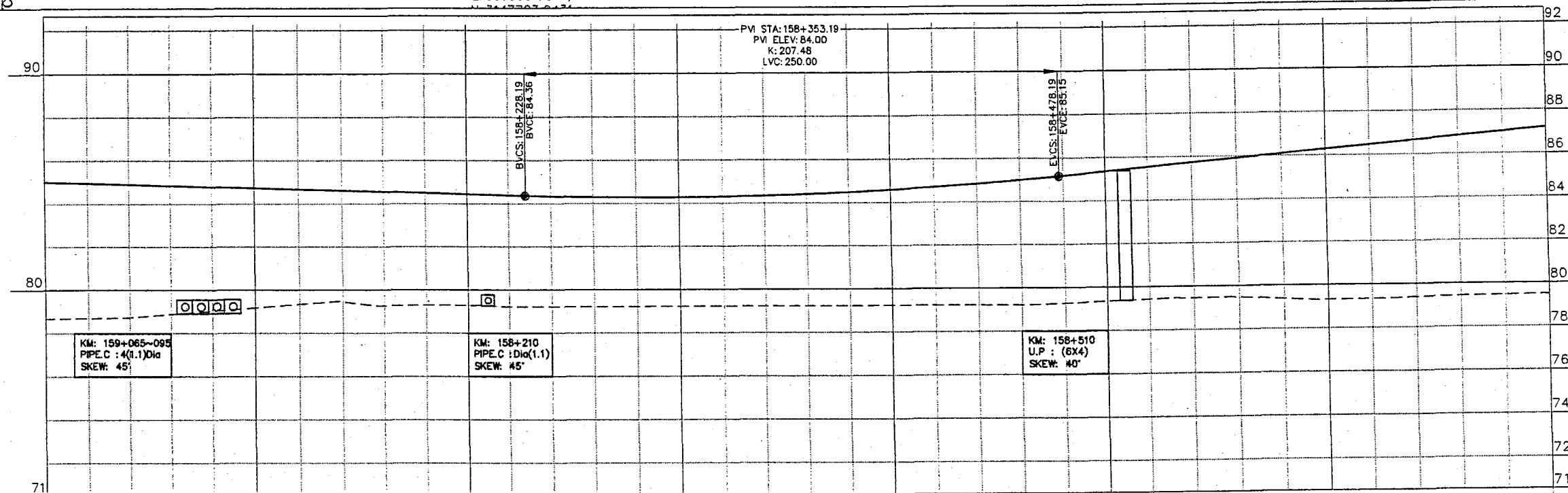
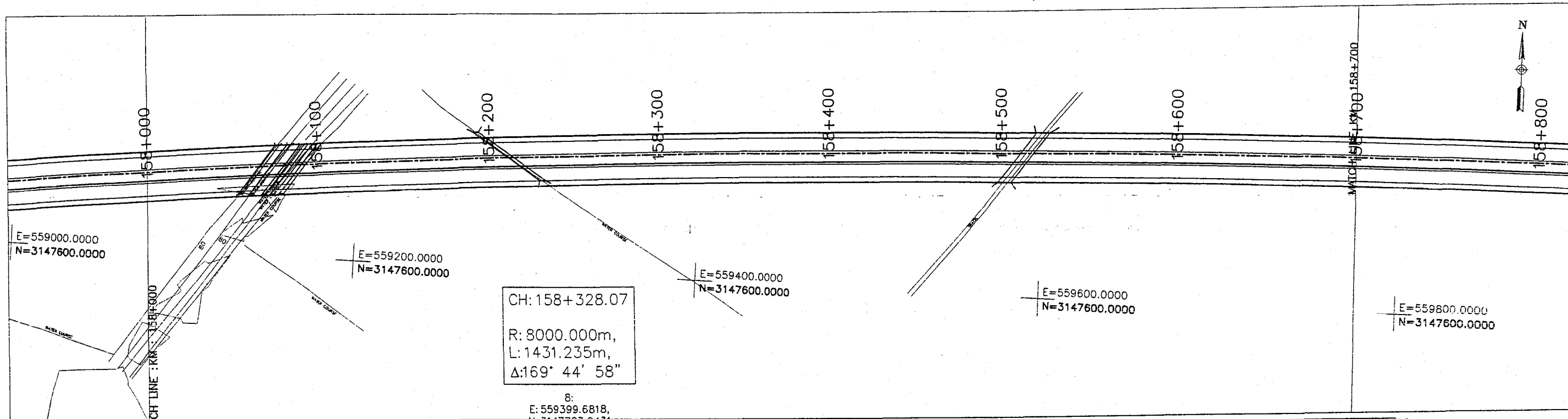


Horizontal Geometry	TANGENT 352.23										CURVE R=8000.00									
Superelevation																				
Design levels	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000	86.000
Ground Levels	78.036	79.365	79.346	78.579	78.466	78.658	78.927	78.828	78.729	78.537	78.301	78.667	79.228	79.953	79.002	78.260	78.211	78.311	78.640	79.002
Chainage	157+300				157+400					157+500				157+600				157+700		

TENDER DRAWINGS

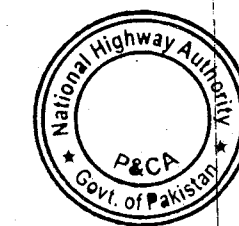


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD UL HAQ Project Manager M/S. PAKISTAN	DRAWN	M. A. NADEEM AWAN	PLAN & PROFILE KM: 157+300 ~ KM: 158+000 SCALE 1:2000
			SUBMITTED	RECOMMENDED	
REV. DATE DESCRIPTION APPROVED			RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		DATE 2018 3005/102/TE/PA/222



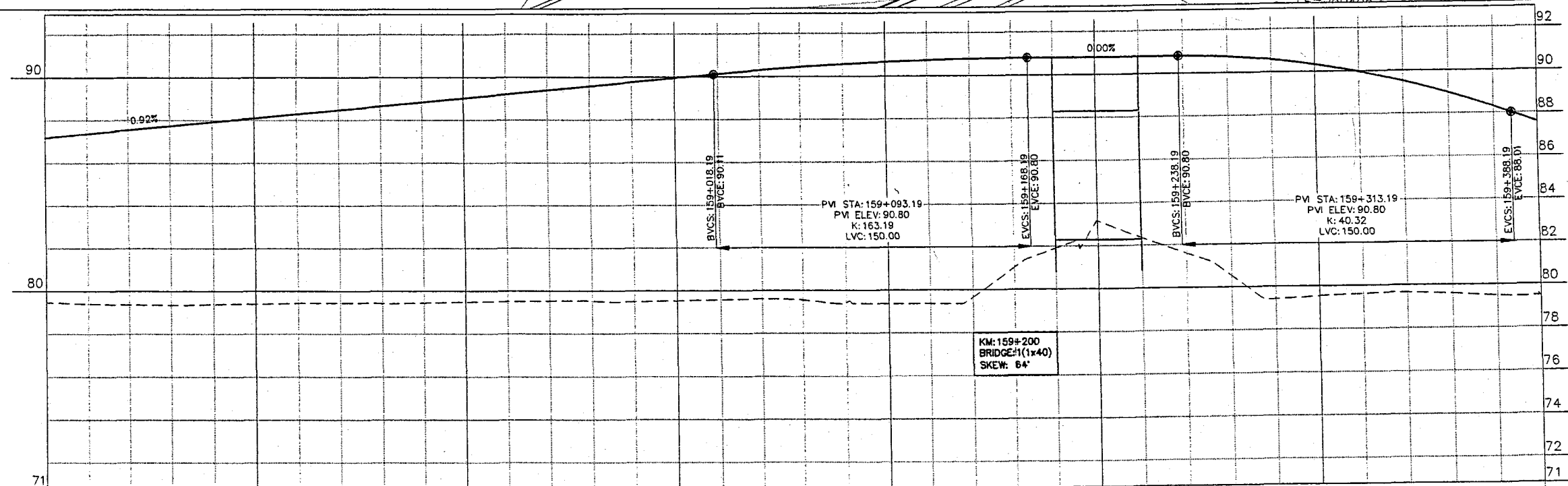
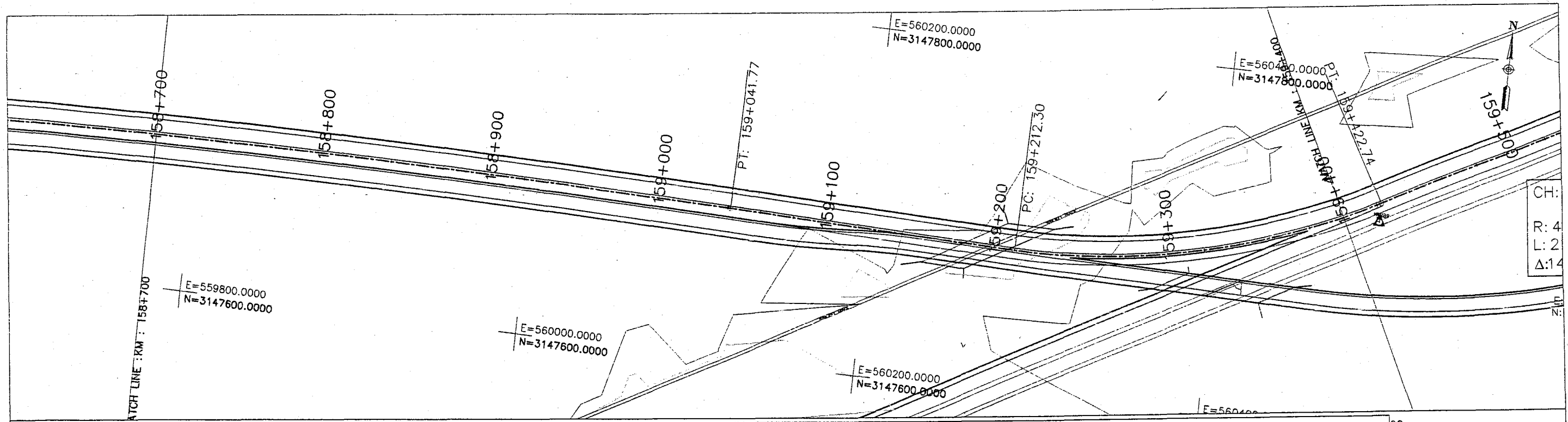
Horizontal Geometry	TANGENT 1431.24															
Superelevation																
Design levels	84.952	84.895	84.838	84.781	84.723	84.666	84.609	84.552	84.495	84.438	84.381	84.327	84.291	84.274	84.276	84.298
Ground Levels	78.670	78.695	78.732	78.877	79.025	79.177	79.332	79.451	79.265	79.295	79.280	79.212	79.214	79.217	79.219	79.222
Chainage	158+000	158+100	158+200	158+300	158+400	158+500	158+600	158+700								

TENDER DRAWINGS



NHA GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWAD HUSSAIN Project Manager M/S NESPAK	DRAWN M. A. NADEEM AWAN	PLAN & PROFILE KM: 158+000 ~ KM: 158+700 1:2000 DATE: July, 2018 DWG. NO: 3805/162/10/P&P223	SCALE
			SUBMITTED RECOMMENDED DTD: 2018		

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDHI KOT TO KASHMIRE)



Horizontal Geometry	CURVE R=8000.00															TANGENT 170.52					CURVE R=400.00														
Superelevation																																			
Design levels	87.372	87.556	87.739	87.923	88.107	88.291	88.475	88.659	88.842	89.026	89.210	89.394	89.578	89.762	89.945	90.129	90.299	90.443	90.564	90.660	90.731	90.778	90.800	90.802	90.802	90.802	90.802	90.743	90.585	90.328	89.972	89.517	88.962	88.308	
Ground Levels	79.472	79.405	79.371	79.348	79.380	79.404	79.437	79.450	79.431	79.450	79.488	79.515	79.530	79.525	79.495	79.533	79.573	79.614	79.558	79.413	79.371	79.362	79.653	81.027	81.904	83.170	82.355	81.597	80.526	79.416	79.539	79.613	79.652	79.593	79.485
Chainage	158+700	158+800					158+900					159+000					159+100					159+200					159+300					159+400			

TENDER DRAWINGS



NHA GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

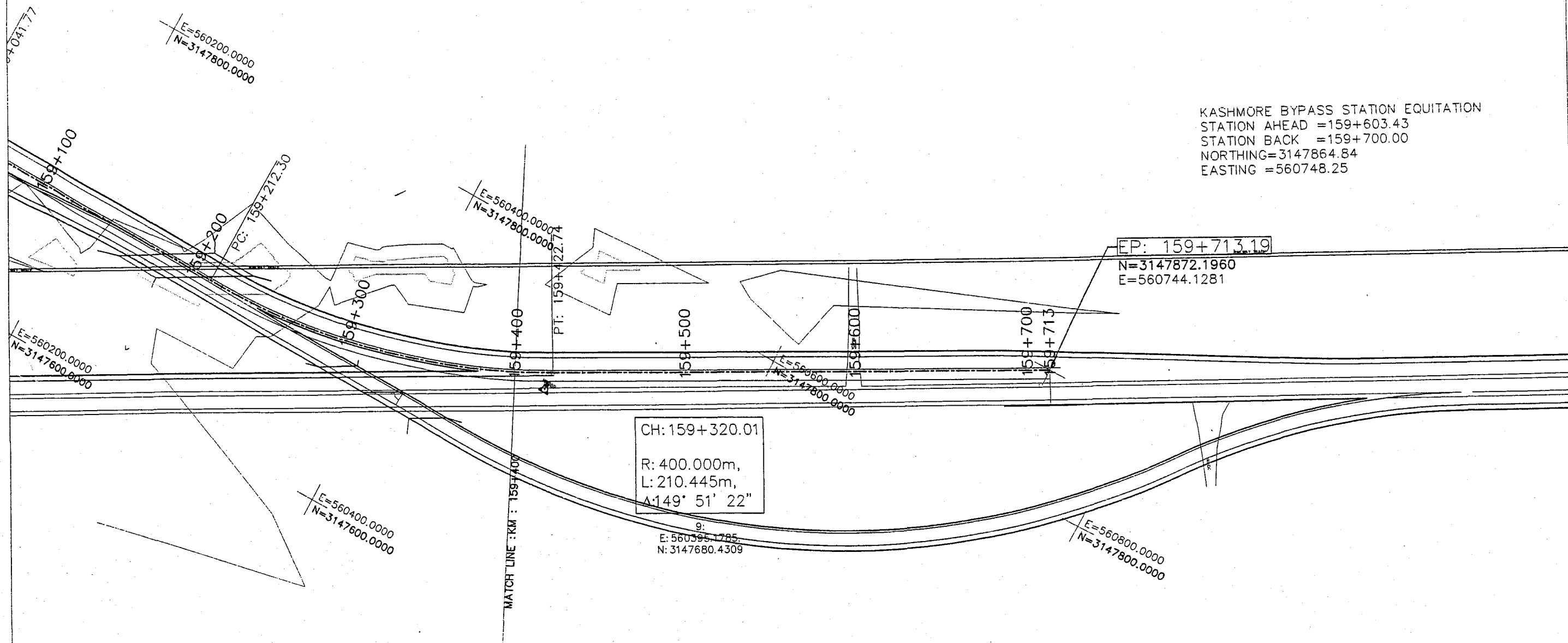
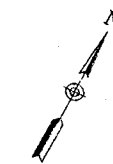
AWAD UL HAQ
PROJECT MANAGER
M/S N.E.P.A.K.

DRAWN: M A NADEEM AWAN
SUBMITTED: [Signature]
RECOMMENDED: [Signature]
APPROVED: [Signature]

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDHI KOT TO KASHIMORE)

PLAN & PROFILE
KM: 158+700 ~ KM: 159+400
SCALE: 1:2000

DATE: July 2018
DWG NO: 3305/162/TD/P&P229

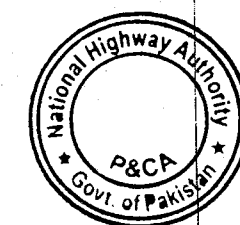


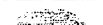



KASHMORE BYPASS STATION EQUITATION
STATION AHEAD =159+603.43
STATION BACK =159+700.00
NORTHING=3147864.84
EASTING =560748.25

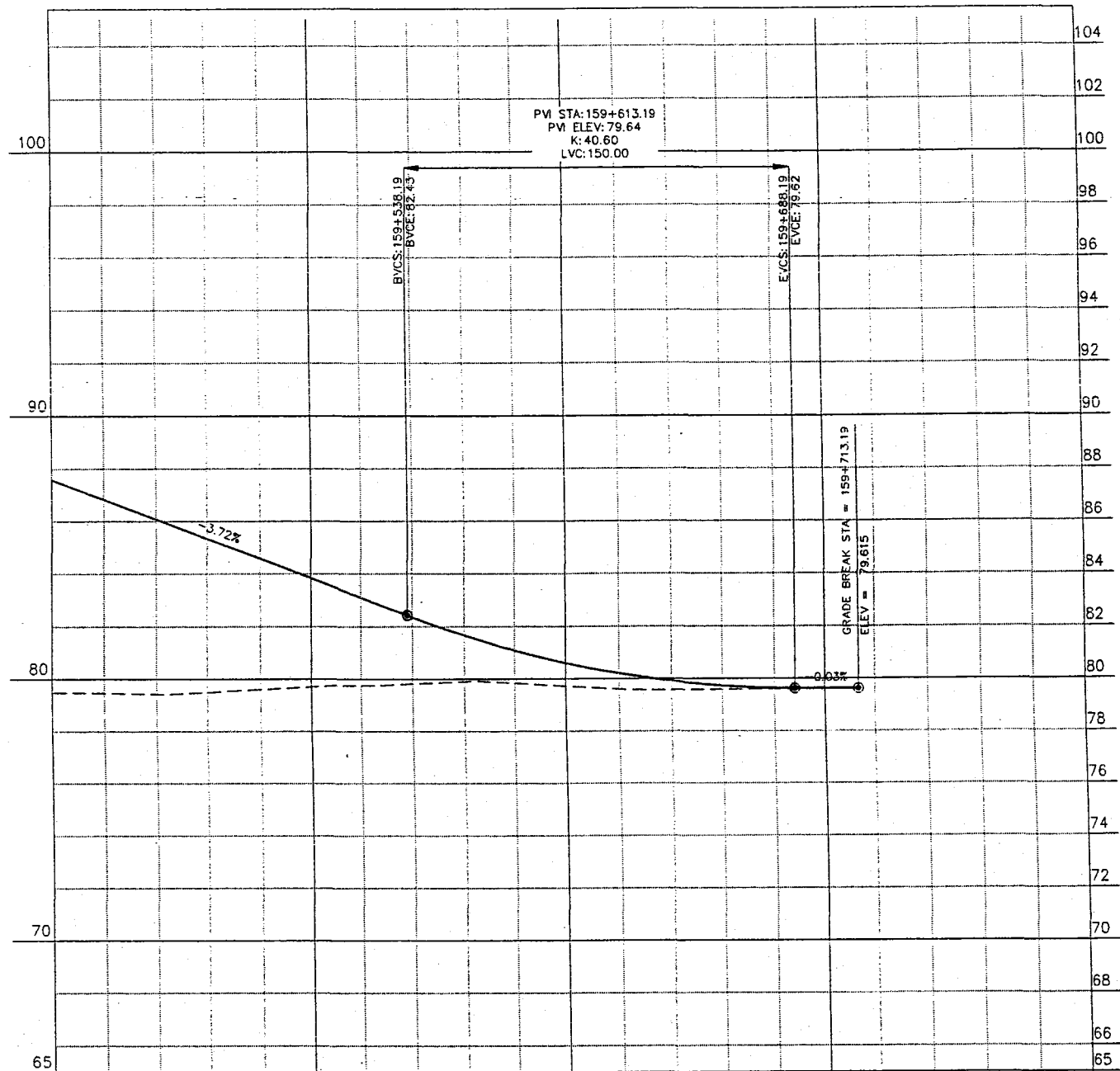
EP: 159+713.19
N=3147872.1960
E=560744.1281

CH: 159+320.01
R: 400.000m,
L: 210.445m,
Δ: 149° 51' 22"
9:
E: 560395.1785,
N: 3147680.4309

TENDER DRAWINGS



 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	 JAWADUL HAQ Project Manager M/S REEEM	DRAWN SUBMITTED RECOMMENDED CHK / VER	M A NADEEM AWAN 	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PLAN KM: 13+300 ~ KM: 13+320		SCALE 1:2000
						DATE	DWG NO.	
						JULY 2018	3905/102/TP&P230A	
REV. DATE DESCRIPTION APPROVED APPROVED								

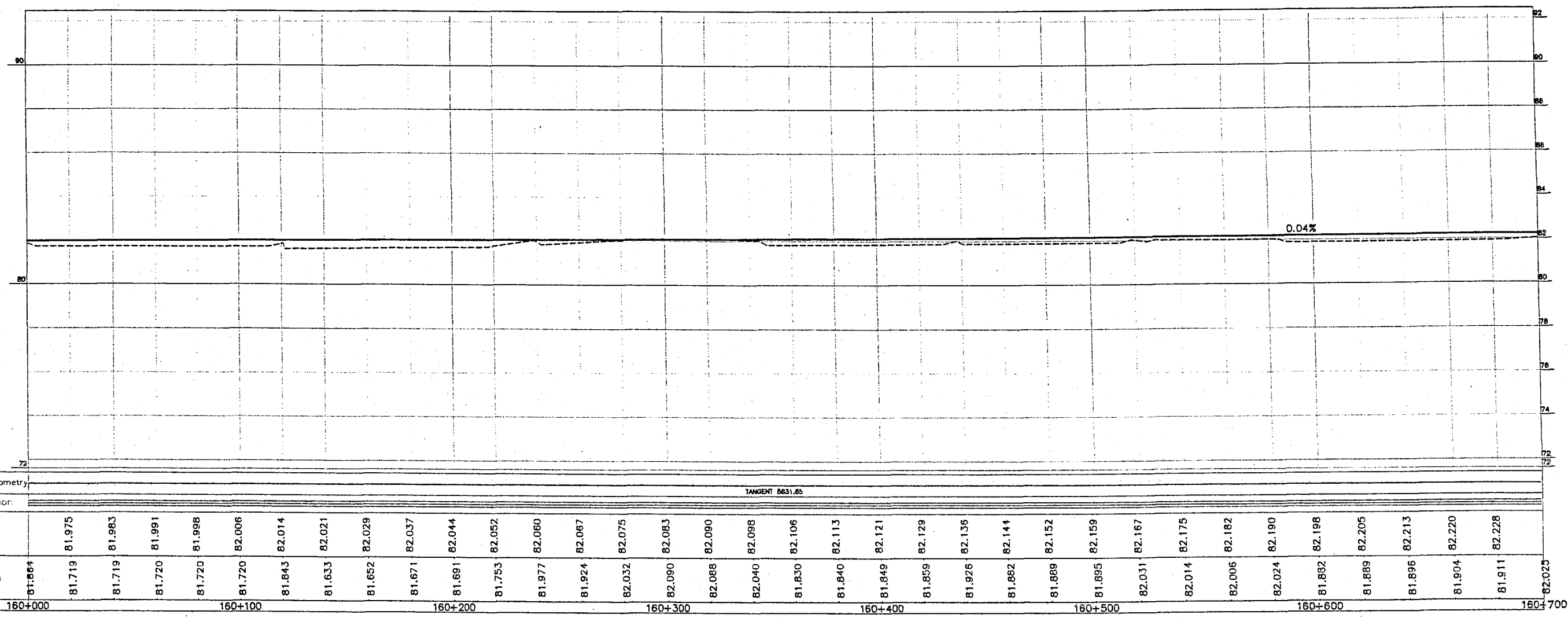
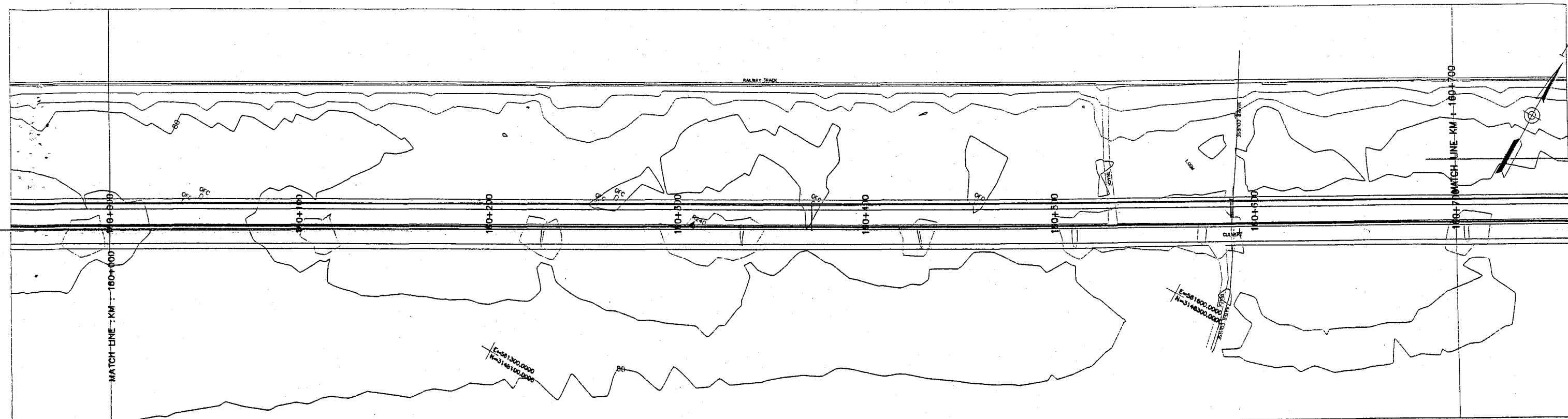


Horizontal Geometry	TANGENT 290.45									
Superelevation										
Design levels	86.829	86.084	85.340	84.596	83.852	83.108	82.365	81.679	81.091	80.603
Ground Levels	79.475	79.459	79.426	79.491	79.596	79.702	79.748	79.812	79.898	79.920
Chainage	159+400	159+500	159+600	159+700	159+800					

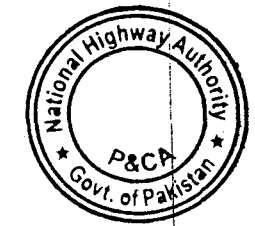
TENDER DRAWINGS



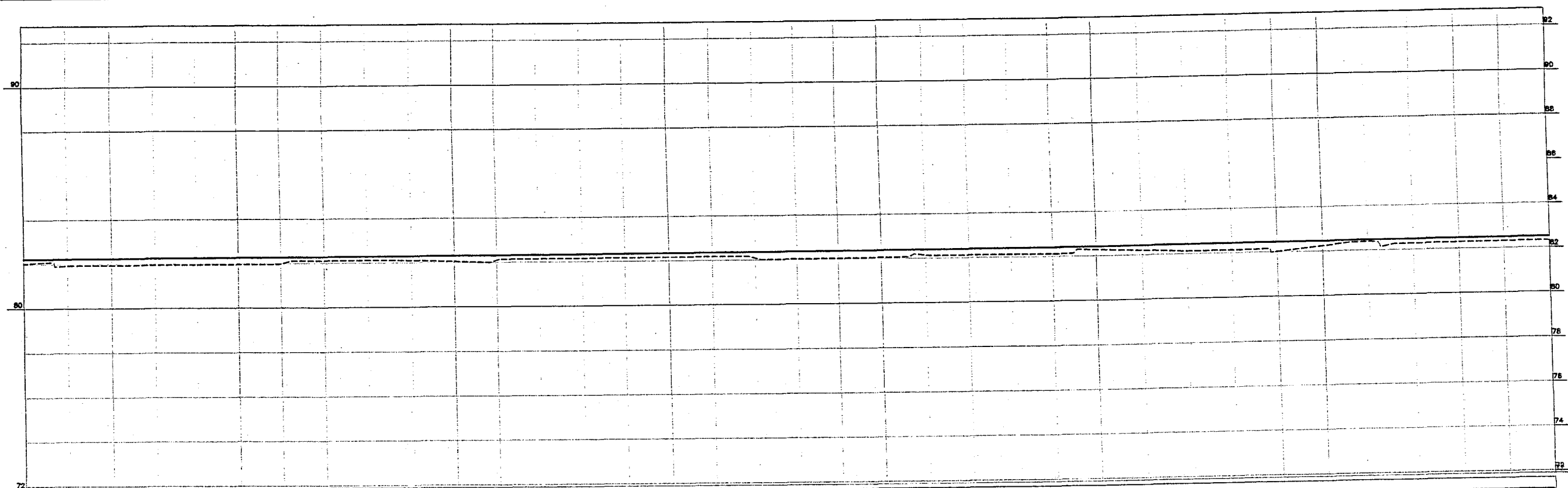
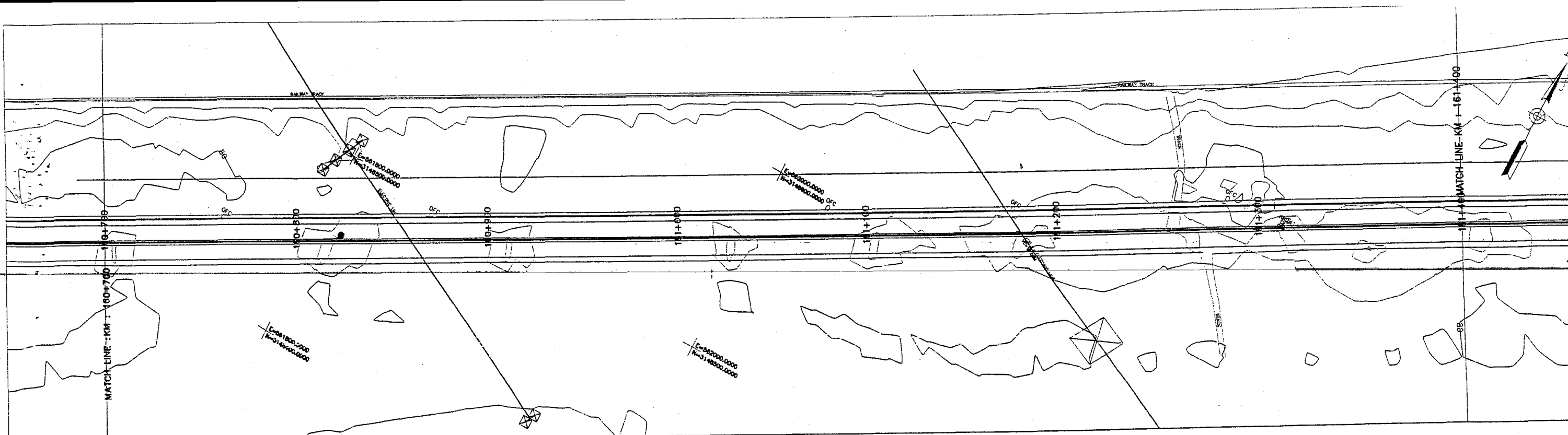
GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAVED UL HAQ PROJECT MANAGER	DRAWN	M. A. NADEEM AWAN	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	PROFILE KM: 159+400 ~ KM: 159+800	SCALE 1:2000
			SUBMITTED			DATE	DWG NO.
REV. DATE DESCRIPTION APPROVED APPROVED			July, 2018 3905/102/TO/P&P229A				



TENDER DRAWINGS

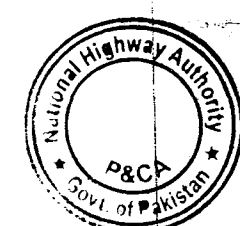


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	JAWED UL HAQ PROJECT MANAGER M/P N.E.S. PAK		DRAWN SUBMITTED RECOMMENDED ONE/AVEP	M. A. NADEEM AWAN 	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDHI KOT TO KASHMORE)		PLAN & PROFILE KM. 160+000 ~ KM. 160+700 SCALE 1:2000	
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED	DATE	BWC NO.	
						JUNE, 2018	3905/102/10/P&P201		



Horizontal Geometry		TANGENT 5631.65																																			
Superelevation																																					
Design levels		82.243	82.251	82.259	82.266	82.274	82.282	82.289	82.297	82.305	82.312	82.320	82.328	82.335	82.343	82.351	82.358	82.366	82.374	82.381	82.389	82.397	82.404	82.412	82.420	82.427	82.435	82.442	82.450	82.458	82.465	82.473	82.481	82.488	82.496		
Ground Levels		82.025	81.935	81.946	81.951	81.957	81.962	81.980	82.115	82.119	82.105	82.048	82.090	82.144	82.152	82.158	82.165	82.172	82.096	82.027	82.041	82.055	82.144	82.121	82.124	82.126	82.277	82.203	82.129	82.132	82.013	82.231	82.382	82.275	82.290	82.306	82.321
Chainage		160+700	160+800					160+900					161+000					161+100					161+200					161+300					161+400				

TENDER DRAWINGS



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

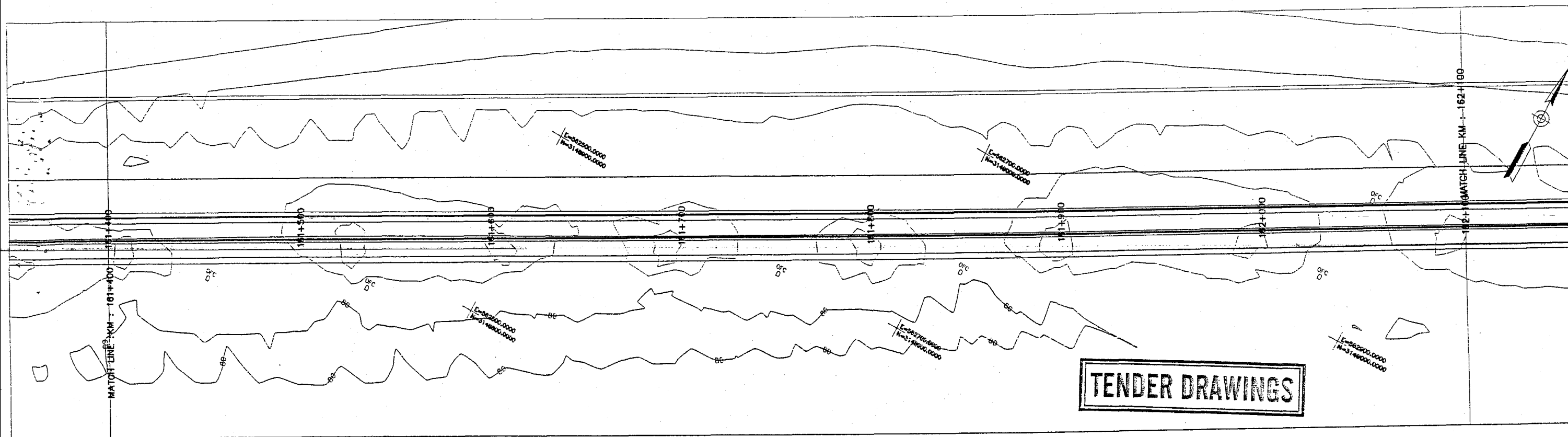


NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

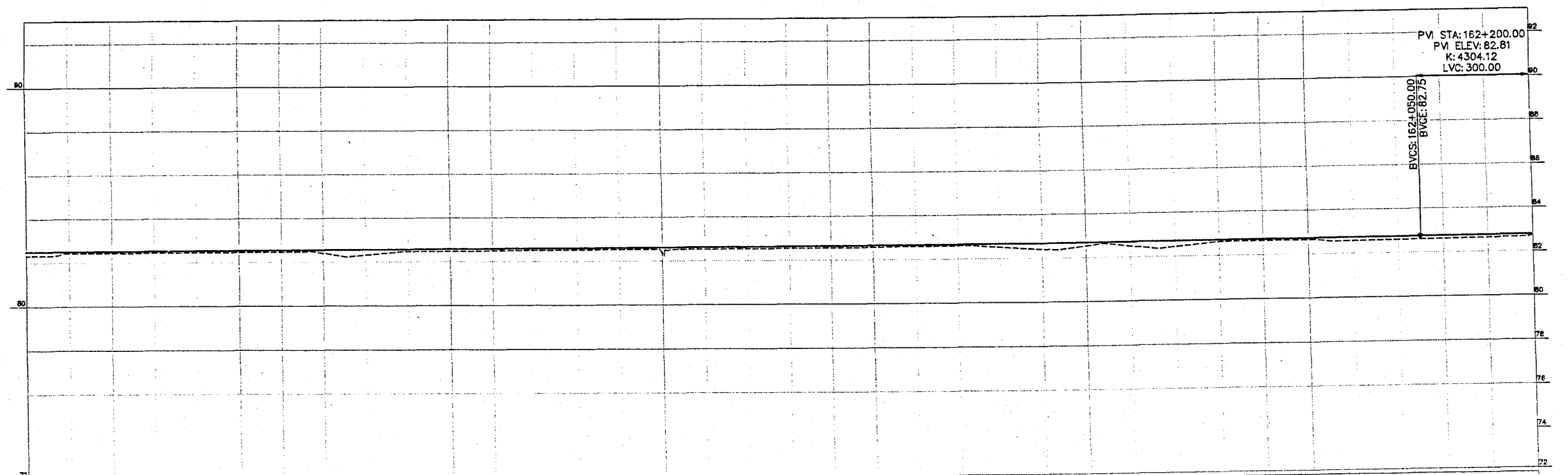
 JAWAD UL HAQ PROJECT MANAGER M/S NESPAC		REV.	DATE	DESCRIPTION	APPROVED	APPROVED
DRAWN		M. A. NADEEM AWAN				
SUBMITTED						
RECOMMENDED						
CHD./VER.						

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

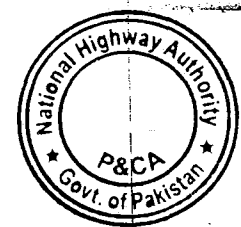
PLAN & PROFILE		SCALE
KM: 160+700 ~ KM: 161+400		1:2000
DATE	DWG NO.	
JUNE, 2018	3905/102/TD/P&P252	



TENDER DRAWINGS



Horizontal Geometry		TANGENT 6831.85																																	
Superelevation																																			
Design Levels		82.511	82.519	82.527	82.534	82.542	82.550	82.557	82.565	82.573	82.580	82.588	82.596	82.603	82.611	82.619	82.626	82.634	82.642	82.649	82.657	82.665	82.672	82.680	82.688	82.695	82.703	82.710	82.718	82.726	82.733	82.741	82.749	82.757	82.765
Ground Levels	82.321	82.432	82.437	82.444	82.451	82.458	82.465	82.471	82.473	82.492	82.502	82.513	82.524	82.537	82.545	82.553	82.561	82.568	82.573	82.577	82.582	82.586	82.590	82.594	82.597	82.600	82.603	82.606	82.609	82.612	82.615	82.618	82.621	82.624	
Chainage	161+400	161+500					161+600					161+700					161+800					161+900					162+000					162+100			

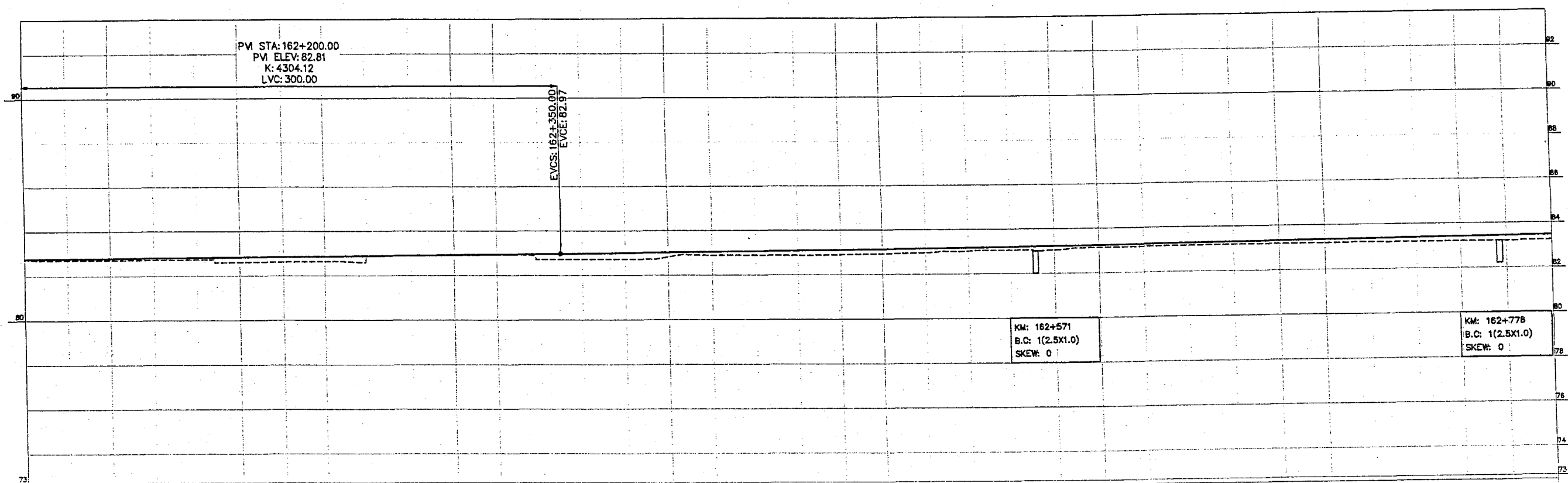
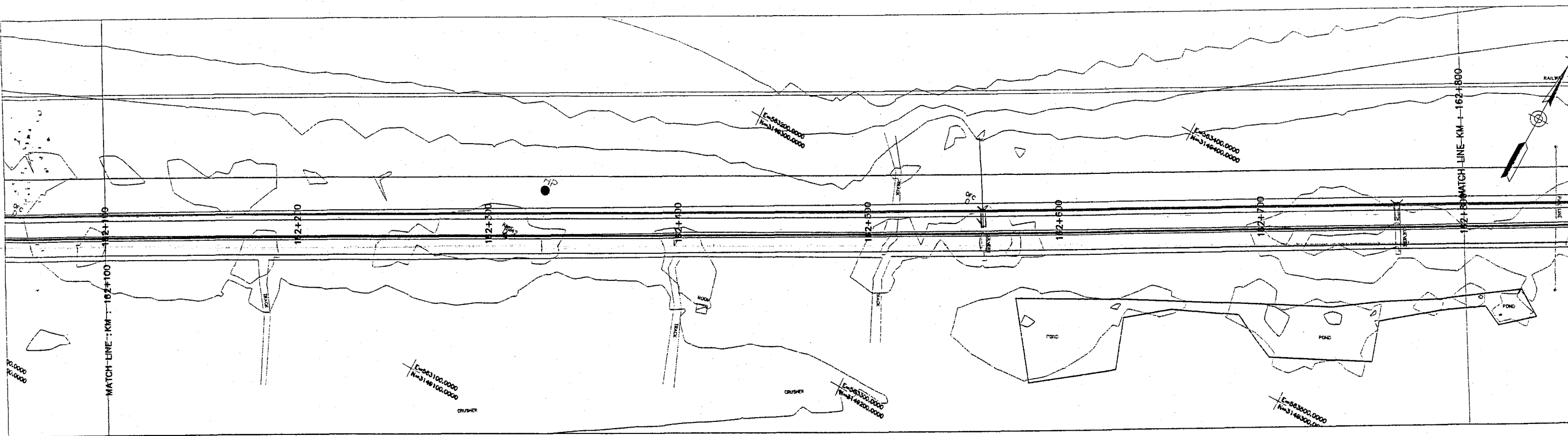


GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

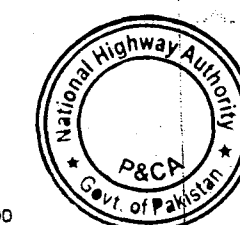
NESPAK
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

PROJECT MANAGER		M. A. NADEEM AWAN	
DRAWN		SUBMITTED	
RECOMMENDED		CHG./VER.	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDHI KOT TO KASHMORE)		PLAN & PROFILE KM: 161+400 ~ KM: 162+100 SCALE: 1:2000	
DATE: JUNE 2015		DWG NO.: 2005/162-TP/PA&P233	

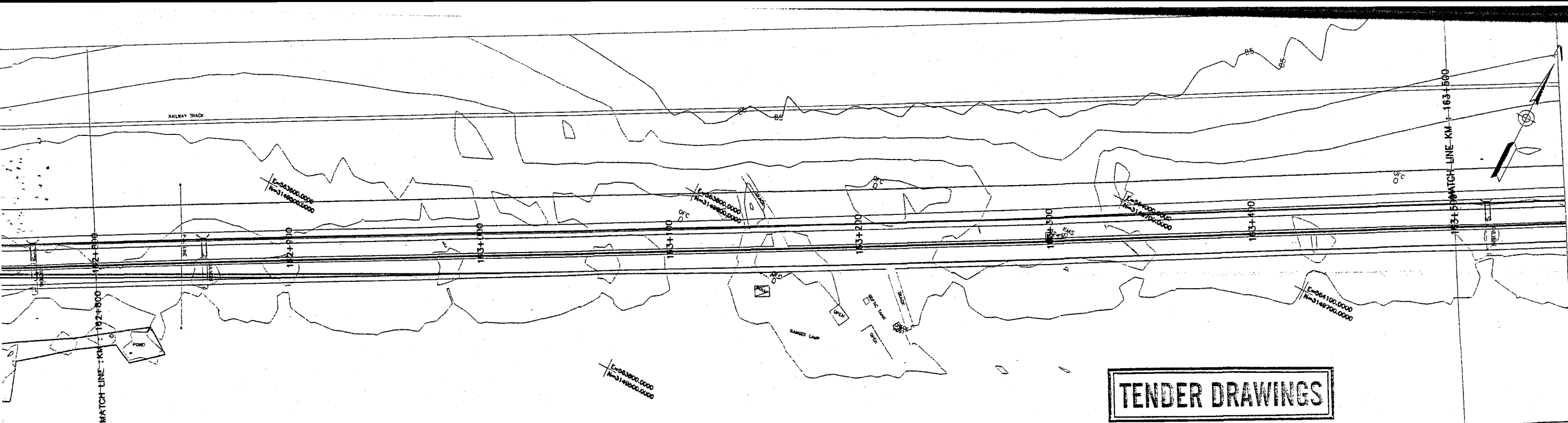


TENDER DRAWINGS

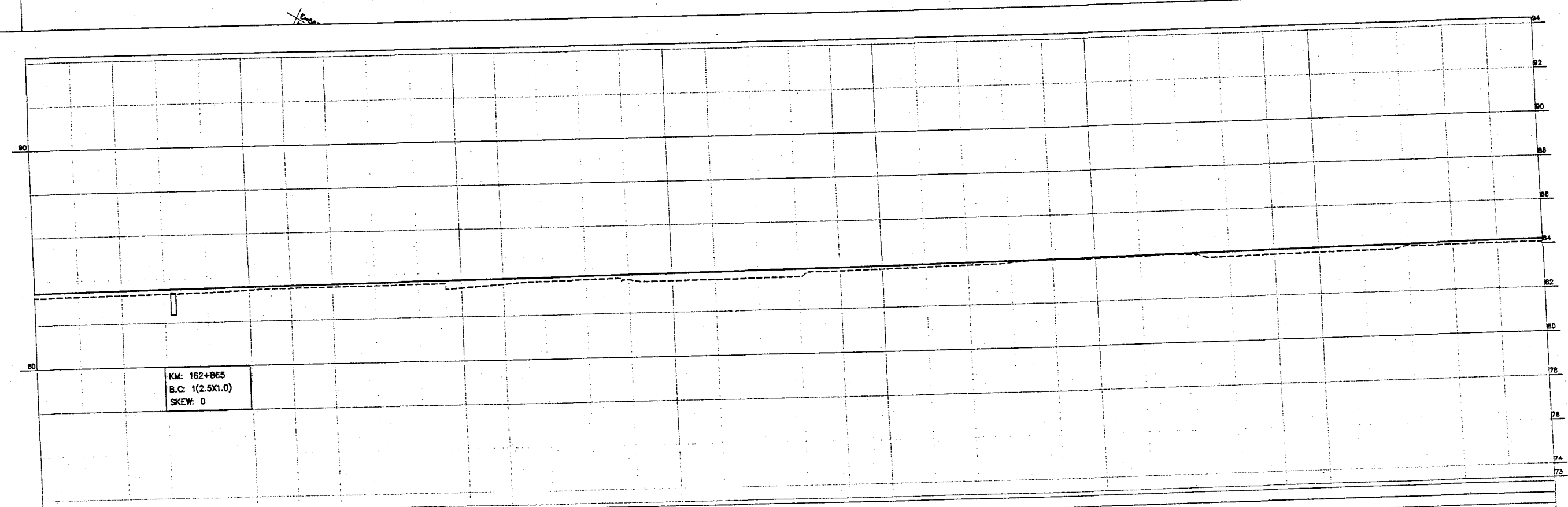


Horizontal Geometry		TANGENT 5631.85	
Superelevation			
Design Levels			
82.785	82.796		
82.809	82.822		
82.851	82.867		
82.884	82.902		
82.921	82.941		
82.961	82.983		
83.004	83.026		
83.048	83.069		
83.091	83.112		
83.134	83.156		
83.177	83.199		
83.220	83.242		
83.264	83.285		
83.307	83.328		
83.350	83.372		
83.393	83.415		
83.436	83.456		
Ground Levels			
82.722	82.707		
82.714	82.721		
82.728	82.728		
82.605	82.622		
82.640	82.666		
82.899	82.933		
82.953	82.972		
82.986	82.996		
83.013	83.026		
83.048	83.069		
83.091	83.112		
83.134	83.156		
83.177	83.199		
83.220	83.242		
83.264	83.285		
83.307	83.328		
83.350	83.372		
83.393	83.415		
83.436	83.456		
Chainage			
162+100	162+200	162+300	162+400
162+500	162+600	162+700	162+800

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>JAWAD UL HAQ Project Manager M/S NESPAK</p>	DRAWN	M. A. NADEEM AWAN	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	PLAN & PROFILE	SCALE
			SUBMITTED			KM: 162+100 ~ KM: 162+800	1:2000
REV.	DATE	DESCRIPTION	APPROVED	APPROVED		DATE	DWG NO.
						JUNE, 2018	3803/102/76/P&P234



TENDER DRAWINGS

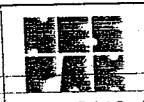


KM: 162+865
B.C: 1(2.5X1.0)
SKEW: 0

Horizontal Geometry										TANGENT 5631.0E									
Subelevation	Design levels	Ground Levels	Chainage	162+800	162+900	163+000	163+100	163+200	163+300	163+400	163+500	84.075	84.192	84.063	84.171	84.077	84.127	84.106	84.084
83.237	83.479	83.263	162+800	83.501	83.523	83.544	83.566	83.587	83.609	83.631	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825
83.287	83.501	83.287	162+800	83.523	83.544	83.566	83.587	83.609	83.631	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847
83.312	83.523	83.312	162+800	83.544	83.566	83.587	83.609	83.631	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868
83.350	83.544	83.350	162+800	83.566	83.587	83.609	83.631	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890
83.410	83.566	83.410	162+800	83.587	83.609	83.631	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890	83.911
83.464	83.587	83.464	162+800	83.609	83.631	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890	83.911	83.933
83.484	83.609	83.484	162+800	83.631	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890	83.911	83.933	83.955
83.498	83.631	83.498	162+800	83.652	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890	83.911	83.933	83.955	83.976
83.510	83.652	83.510	162+800	83.674	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890	83.911	83.933	83.955	83.976	83.998
83.530	83.674	83.530	162+800	83.695	83.717	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890	83.911	83.933	83.955	83.976	83.998	84.019
83.570	83.717	83.570	162+800	83.739	83.760	83.782	83.803	83.825	83.847	83.868	83.890	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063
83.532	83.760	83.532	162+800	83.782	83.803	83.825	83.847	83.868	83.890	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106
83.437	83.782	83.437	162+800	83.803	83.825	83.847	83.868	83.890	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127
83.454	83.803	83.454	162+800	83.825	83.847	83.868	83.890	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149
83.472	83.825	83.472	162+800	83.847	83.868	83.890	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171
83.489	83.847	83.489	162+800	83.868	83.890	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192
83.710	83.868	83.710	162+800	83.890	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213
83.744	83.890	83.744	162+800	83.911	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234
83.778	83.911	83.778	162+800	83.933	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255
83.812	83.933	83.812	162+800	83.955	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276
83.881	83.955	83.881	162+800	83.976	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297
84.008	83.976	84.008	162+800	83.998	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318
83.944	83.998	83.944	162+800	84.019	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339
83.961	84.019	83.961	162+800	84.041	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360
83.996	84.041	83.996	162+800	84.063	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381
83.838	84.063	83.838	162+800	84.084	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381	84.402
83.863	84.084	83.863	162+800	84.106	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381	84.402	84.423
83.888	84.106	83.888	162+800	84.127	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381	84.402	84.423	84.444
83.913	84.127	83.913	162+800	84.149	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381	84.402	84.423	84.444	84.465
84.077	84.149	84.077	162+800	84.171	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381	84.402	84.423	84.444	84.465	84.486
84.051	84.171	84.051	162+800	84.192	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381	84.402	84.423	84.444	84.465	84.486	84.507
84.063	84.192	84.063	162+800	84.213	84.234	84.255	84.276	84.297	84.318	84.339	84.360	84.381	84.402	84.423	84.444	84.465	84.486	84.507	84.528



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

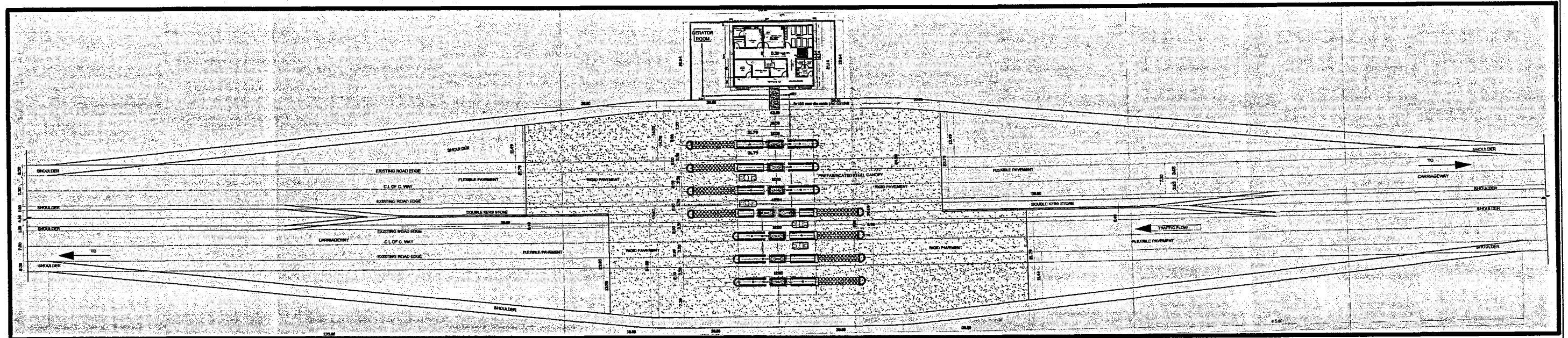
JAWAD UL HAQ
Project Manager
M/S NESP

REV	DATE	DESCRIPTION	APPROVED

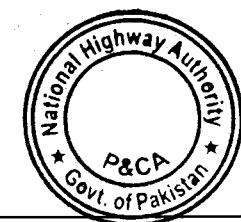
DRAWN	M A NADEEM AWAN
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PLAN & PROFILE		SCALE
KM: 162+800 ~ KM: 163+500		1:2000
DATE	DWG NO.	
JUNE 2018	3905/102/TD/P&P235	



TENDER DRAWINGS



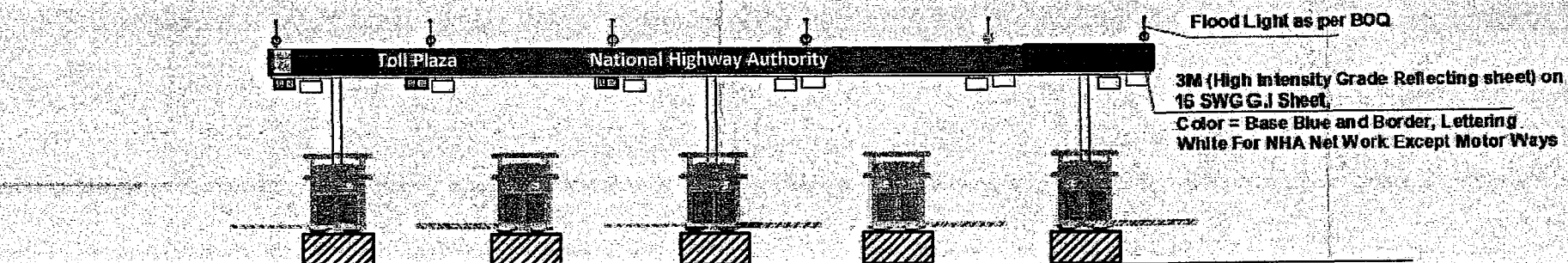
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ			RAJA SHAFIQ
03		Project Manager		SUBMITTED BY	
02		M/S NESPAK		RECOMMENDED BY	
01				CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

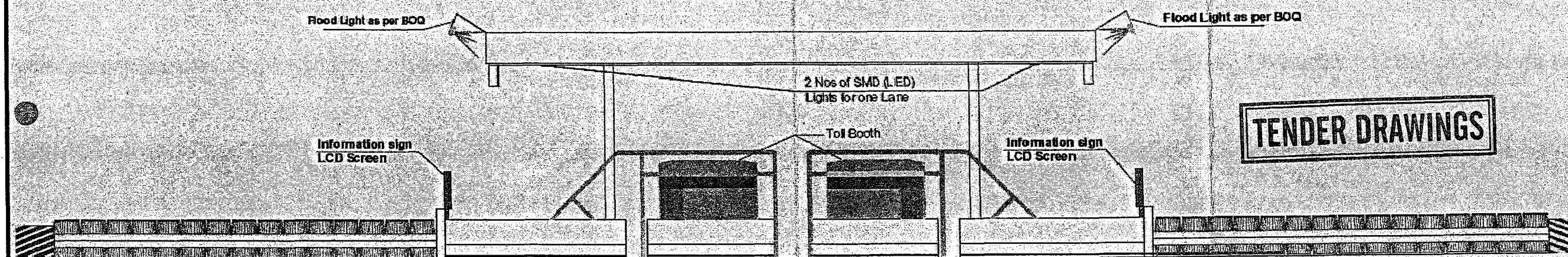
TITLE	PLAN	SCALE
DATE	DRAWING NO.	REV.
MARCH 2018	3905/102/TD/ TP-01	



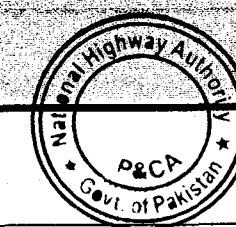
ELEVATION NO. 1 STANDARD COLOR FOR NHA NET WORK EXCEPT MOTOR WAYS



ELEVATION NO. 1 STANDARD COLOR FOR MOTOR WAYS



ELEVATION NO. 2



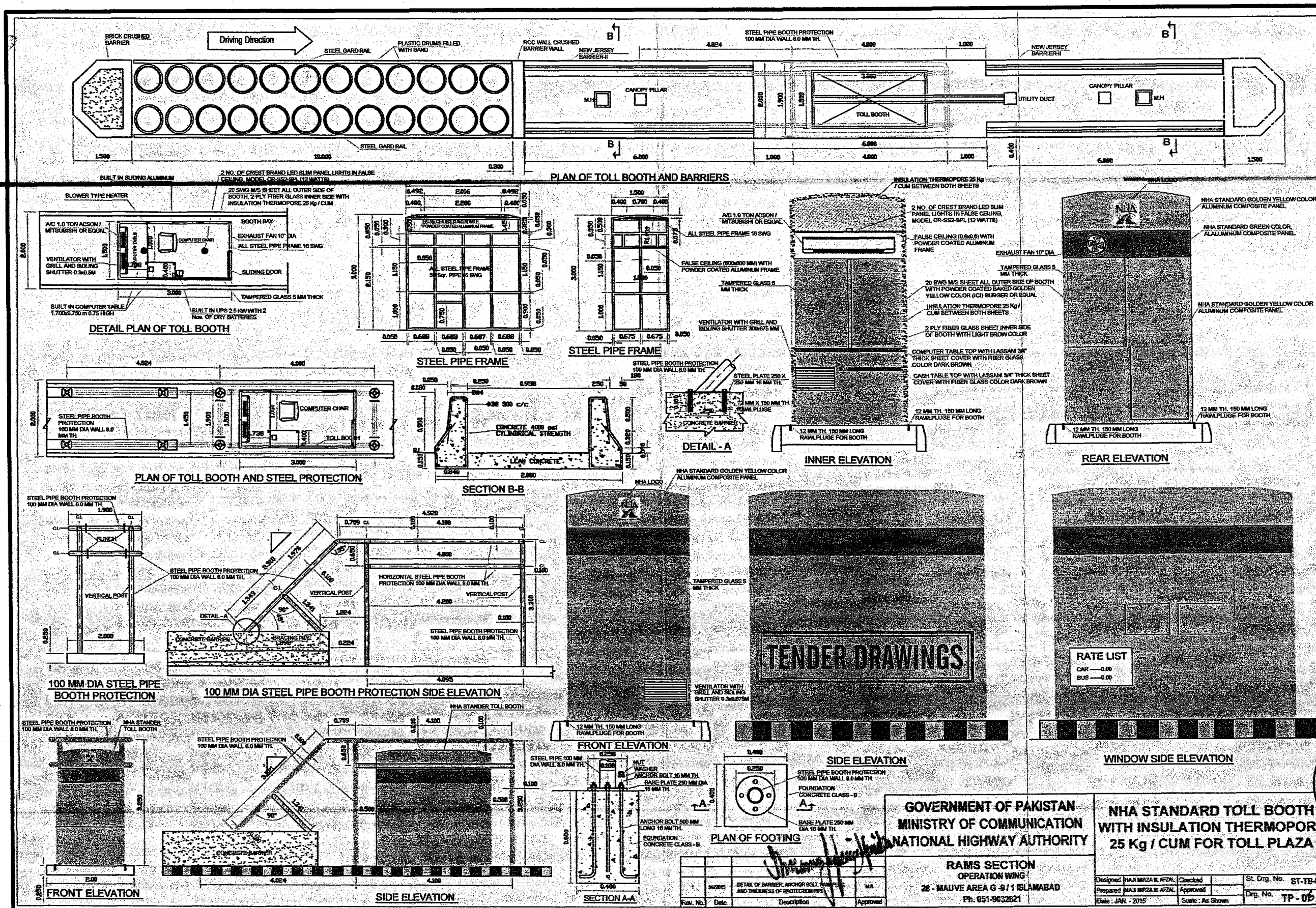
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ		RAJA SHAFIQ
03	Project Manager	SUBMITTED BY	
02	M/S NESPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	8 LANE TOLL PLAZA	SCALE
DATE	MARCH 2018	REV.
DRAWING NO.	3905/102/TD/ TP-02	



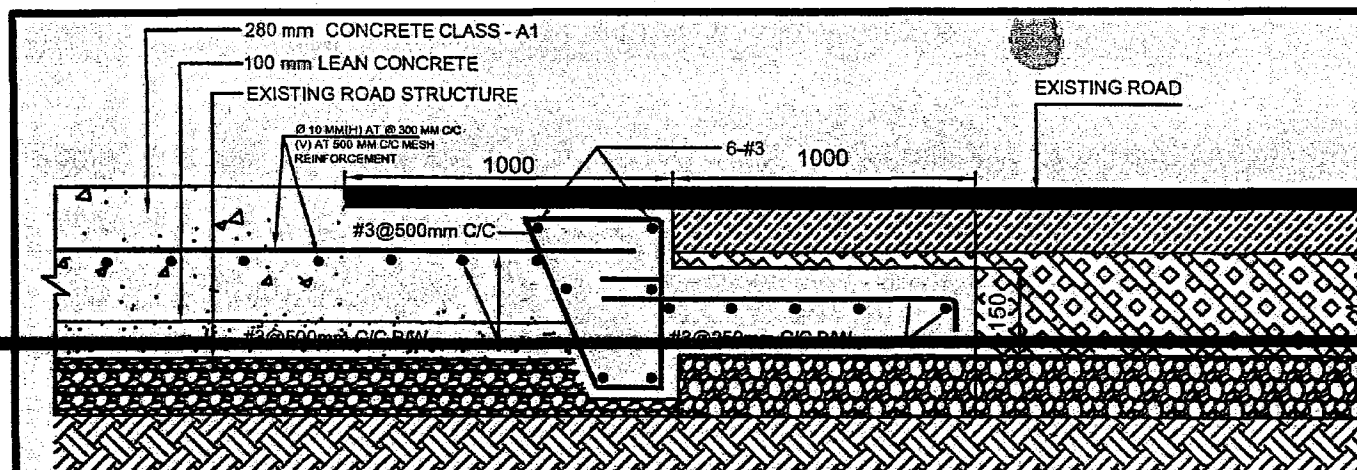
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NES NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

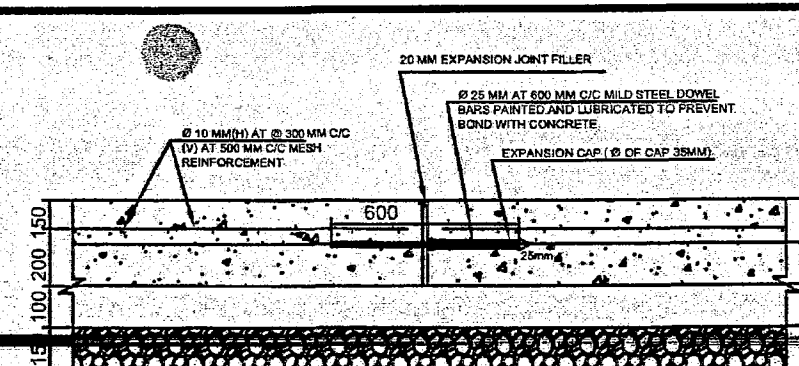
04	JAWAD UL HAQ	RAJA SHAFIQ
03	Project Manager	SUBMITTED BY
02	M/S NESPAK	RECOMMENDED BY
01		CHD./VER. BY
REV.	DATE	DESCRIPTION
		APPROVED
		APPROVED BY

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

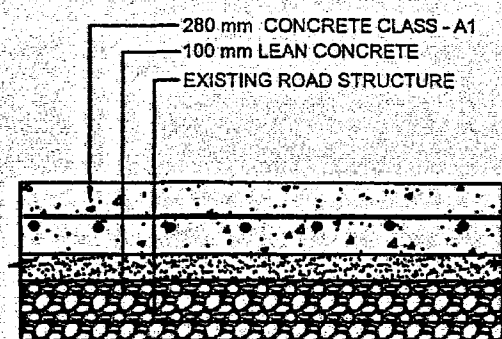
TITLE	NHA STANDER TOLL BOOTH WITH INSULATION THERMOPORE 25kg/ CUM FOR TOLL PLAZA	SCALE
DATE	MARCH 2018	REV.
DRAWING NO.	3905/102/TD/ TP-03	



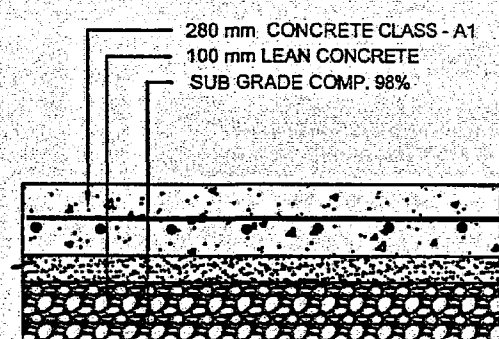
TYP. JOINT AT JUNCTION OF RIGID AND EXISTING ASPHALT PAVEMENTS



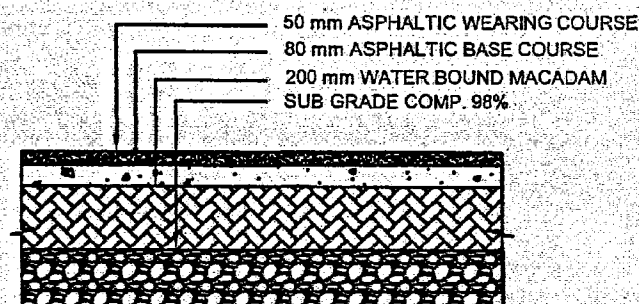
TYPICAL DETAIL OF REINFORCEMENT FOR RIGID PAVEMENT (EXPANSION JOINT AT EVERY 10 M)



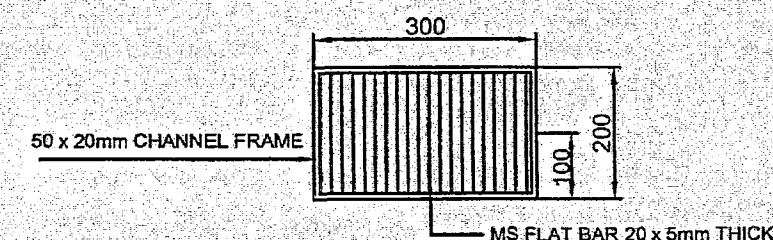
TYPICAL CROSS SECTION OF (RIGID) PAVEMENT ON EXISTING PAVEMENT STRUCTURE



TYPICAL CROSS SECTION OF (RIGID) PAVEMENT IN WINDING PORTION

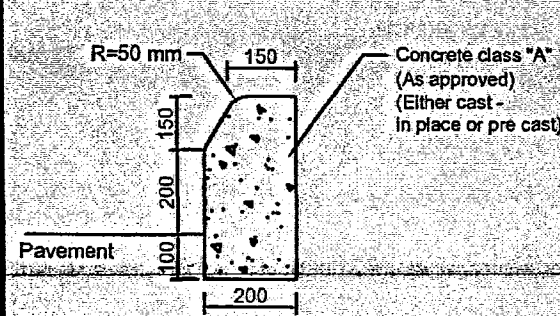


TYPICAL CROSS SECTION OF FLEXIBLE PAVEMENT IN WINDING PORTION

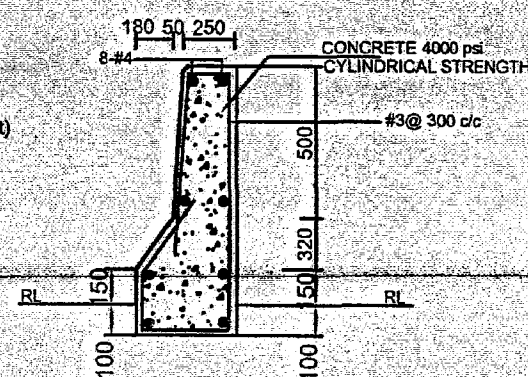


PLAN OF GRATING FOR RAIN WATER INLET

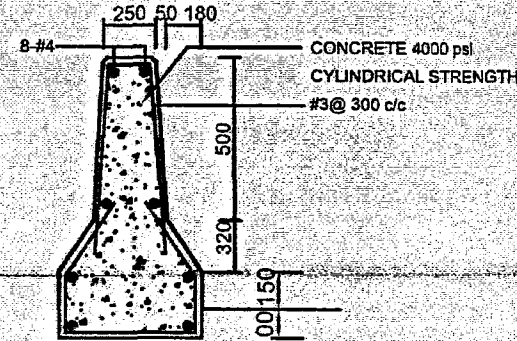
TENDER DRAWINGS



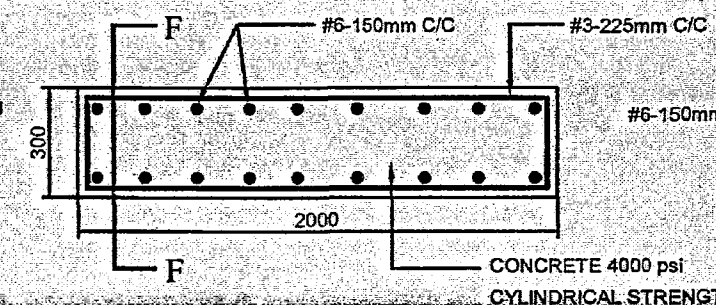
DETAIL OF KERB STONE



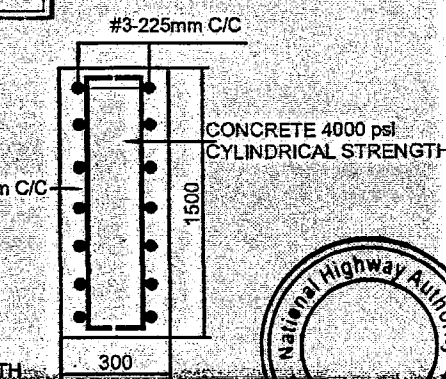
DETAIL OF MODIFIED JERSEY BARRIER



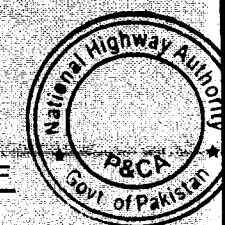
DETAIL OF STANDARD JERSEY BARRIER



DETAIL OF RCC WALL



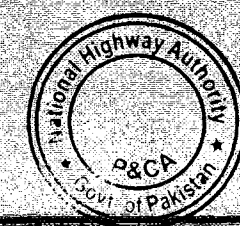
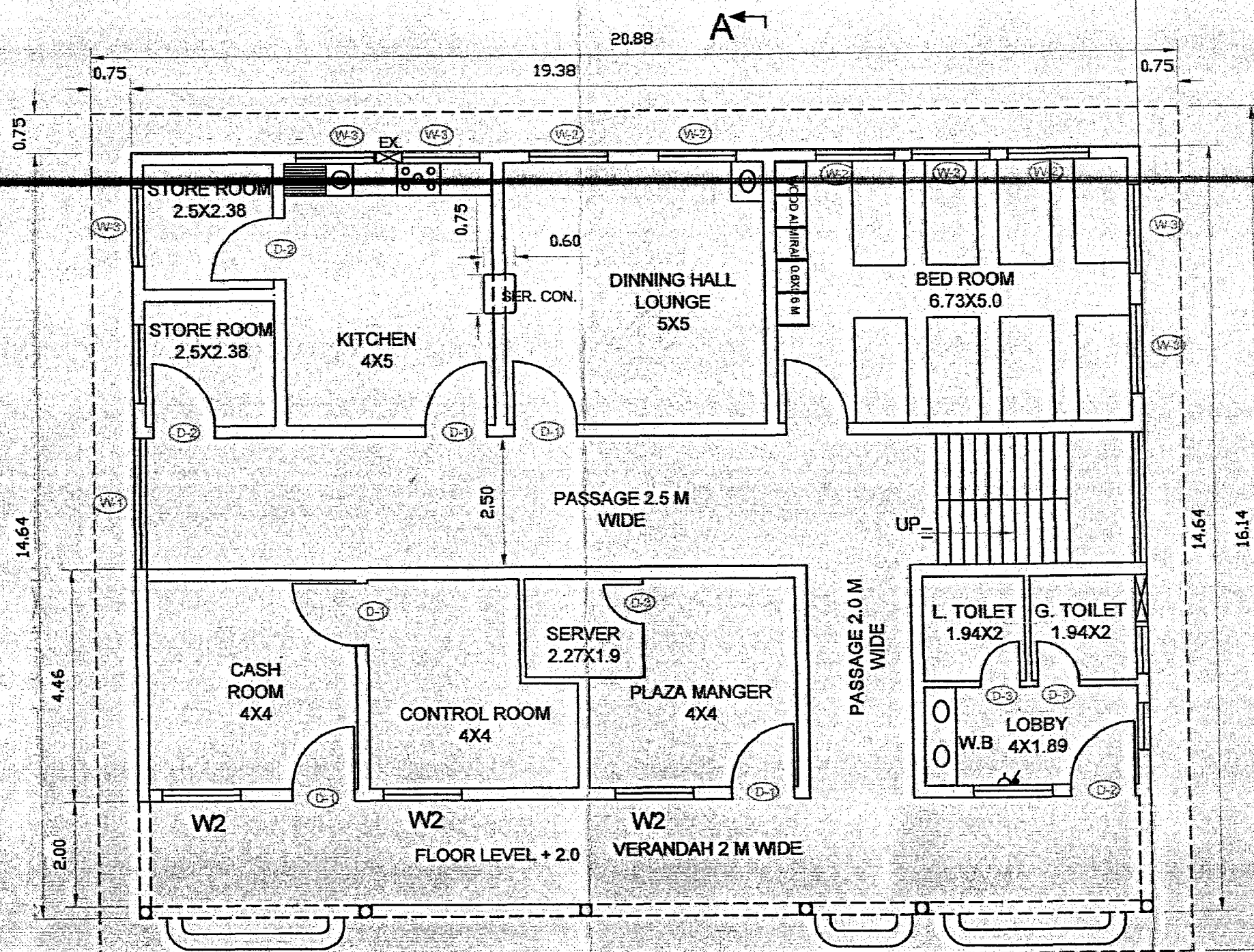
SECTION AT F-F



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATION

8 LANE TOLL PLAZA

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>04 JAWAD UL HAQ 03 Project Manager 02 M/S NESPAK 01 REV. DATE DESCRIPTION APPROVED APPROVED BY</p>	<p>SUBMITTED BY RAJA SHAFIQ RECOMMENDED BY CHD./VER. BY APPROVED BY</p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>TITLE DATE MARCH 2018 DRAWING NO. 3905/102/TD/ TP-04 REV.</p>	<p>SCALE</p>
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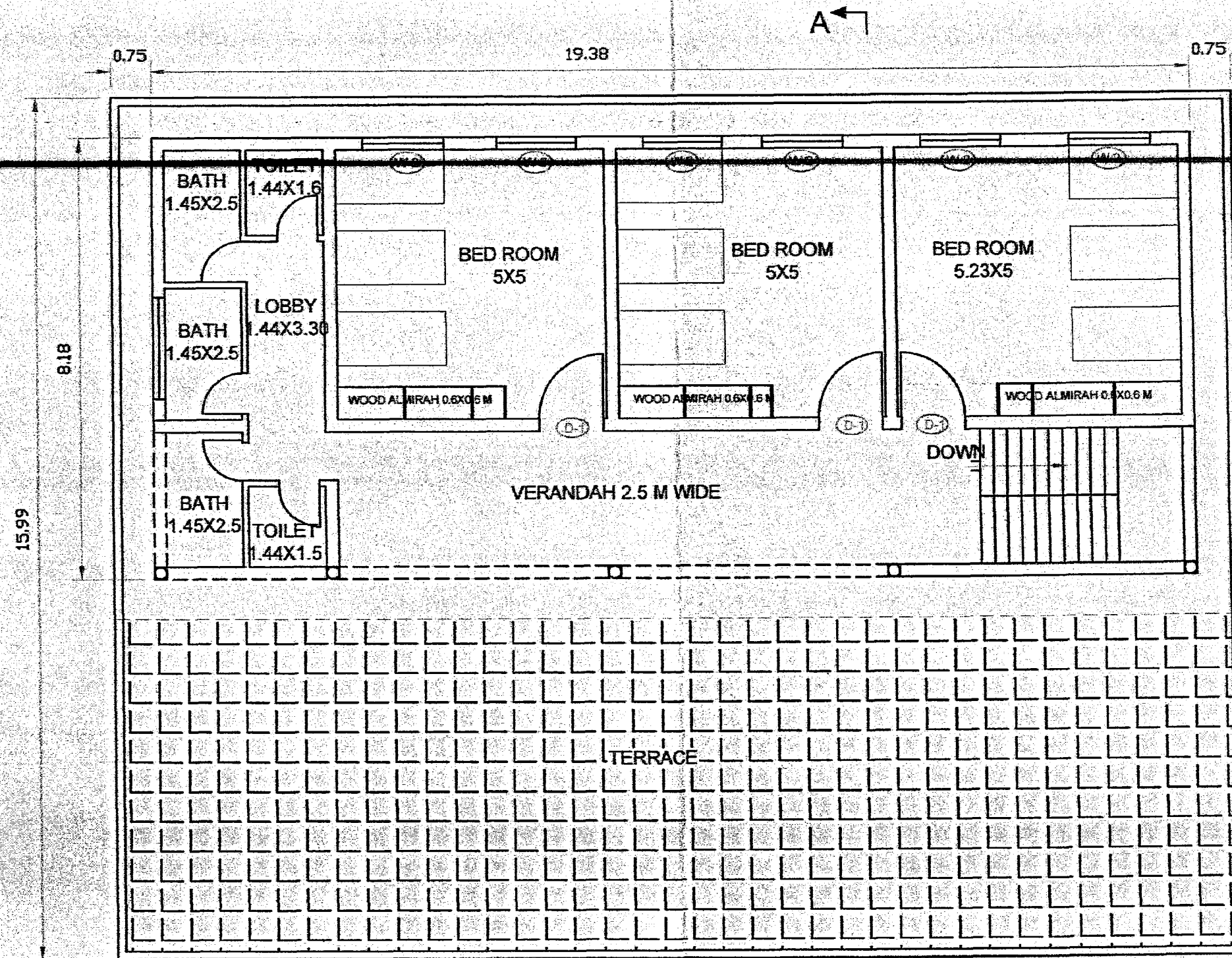


TENDER DRAWINGS

DOOR & WINDOW	
CILL	DESCRIPTION
FL	ALUMINUM+GLASS
	STEEL FRAM+WOOD

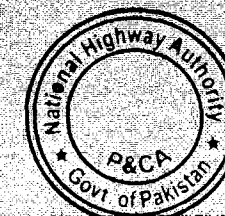
**OFFICE & RESIDENTIAL BUILDING
GROUND FLOOR PLAN**

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	04			RAJA SHAFIQ	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>TITLE OFFICE & RESIDENTIAL BUILDING G/F PLAN</p>	<p>SCALE</p>
		03	JAWAD UL HAQ		SUBMITTED BY			
		02	Project Manager		RECOMMENDED BY			
		01	M/S NESPAK		CHD./VER. BY			
REV.	DATE	DESCRIPTION		APPROVED	APPROVED BY	<p>DATE MARCH 2018</p>	<p>DRAWING NO. 3905/102/TD/ TP-05</p>	<p>REV.</p>



FIRST FLOOR OFFICE & RESIDENTIAL BUILDING PLAN

TENDER DRAWINGS



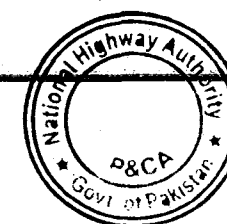
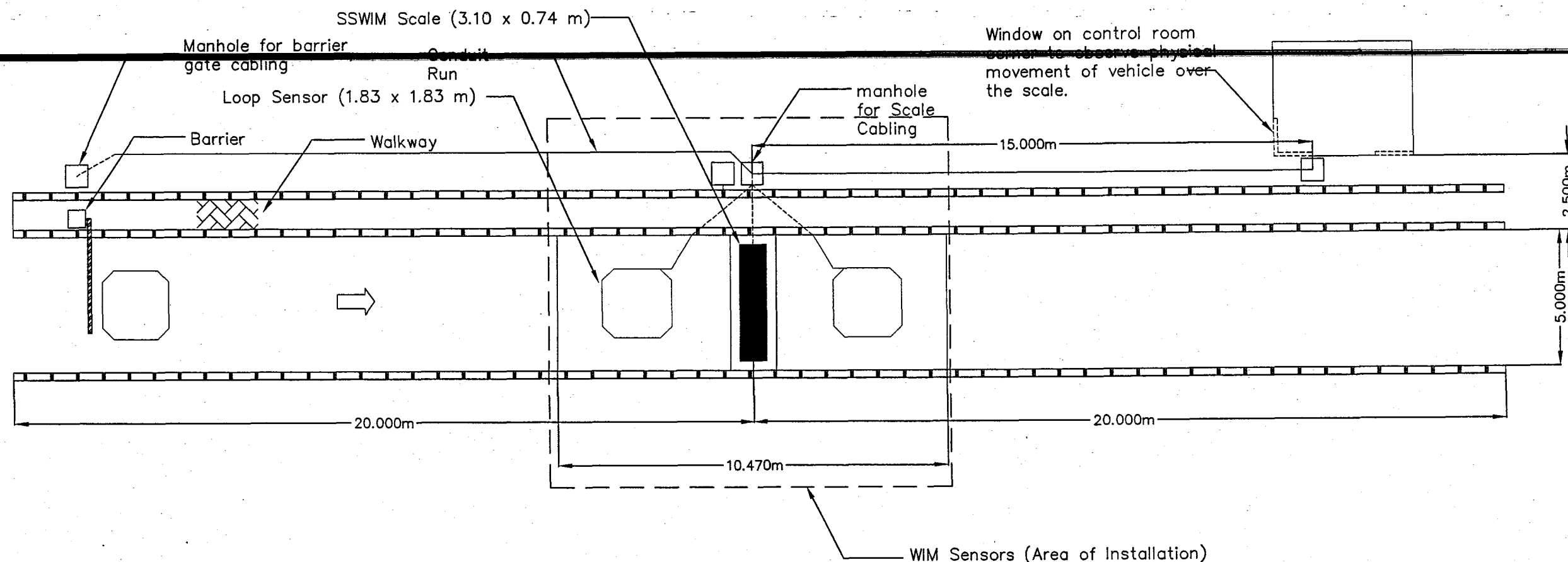
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04		JAWAD UL HAQ			RAJA SHAFIQ
03		Project Manager		SUBMITTED BY	
02		M/S NESPAK		RECOMMENDED BY	
01				CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	STANDARD TOLL PLAZA OFFICE & RESIDENTIAL BUILDING 1st/F PLAN	SCALE
DATE	MARCH 2018	REV.
DRAWING NO.	3905/102/TD/ TP-06	



TENDER DRAWINGS

NOTE:
1- ALL THE DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.



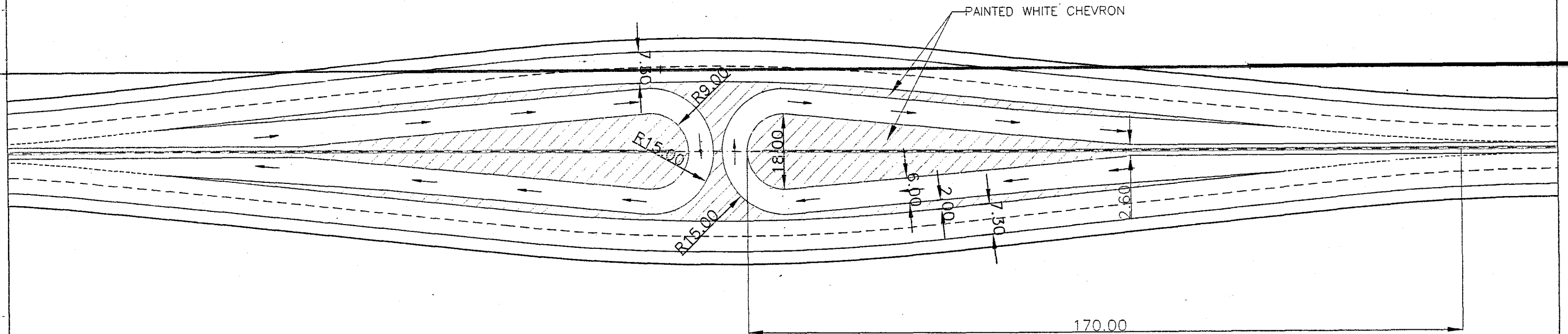
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NES NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ				RAJA SHAFIQ
03	Project Manager				
02	M/S NESPAK				
01					
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	SSWIM SCALE (Typical Layout Plan)	SCALE
DATE	MARCH 2018	REV.
DRAWING NO.	3905/102/TD/ TP-07	



LIST OF U-TURN

CHAINAGE	
1	111+800
2	117+600
3	129+700
4	142+000
5	151+200
6	162+000



TENDER DRAWINGS

NOTE -

- * ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- * U-TURN LOCATION ARE TENTATIVE ANY CHANGE IN LOCATION CAN BE DONE BY THE ENGINEERS REPRESENTATIVE KEEPING IN VIEW THE SITE REQUIREMENT.

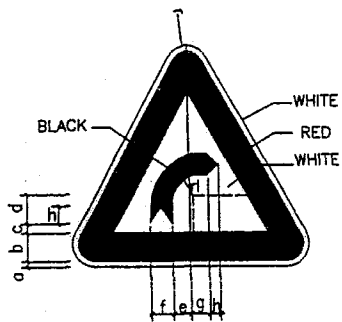
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

DESIGNED BY	JAWED ILL HAO
CHECKED BY	Project Manager
RECOMMENDED BY	M/S M/S PAK
DATE	
APPROVED BY	

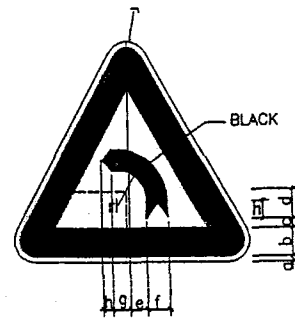
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	SCALE
TYPICAL U-TURN DETAIL	
DATE MARCH 2018	DRAWING NO. 3905/102/TD/U-TURN-01



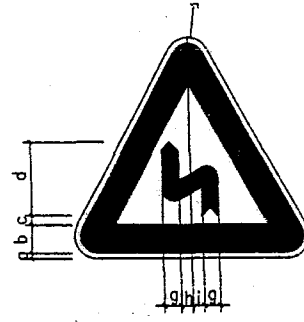
(W-1)
CURVE TOWARDS RIGHT

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	4.0	5.3
d	11.5	15.3
e	8.5	11.3
f	7.0	9.3
g	6.0	8.0
h	3.5	4.7
ri	12.5	16.7



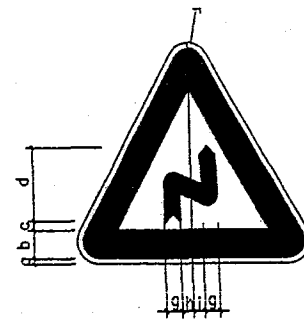
(W-2)
CURVE TOWARDS LEFT

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	4.0	5.3
d	11.5	15.3
e	8.5	11.3
f	7.0	9.3
g	6.0	8.0
h	3.5	4.7
ri	12.5	16.7



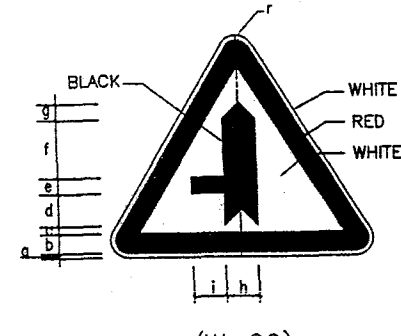
(W-3)
LEFT REVERSE CURVE

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	33.0	44.0
e	14.0	18.7
f	8.0	10.7
g	7.0	9.3
h	2.0	2.7
i	3.5	4.7
ri	4.5	6.0



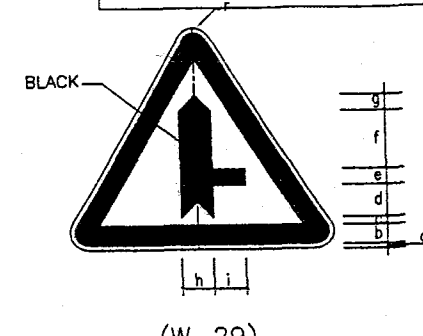
(W-4)
RIGHT REVERSE CURVE

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	33.0	44.0
e	14.0	18.7
f	8.0	10.7
g	7.0	9.3
h	2.0	2.7
i	3.5	4.7
ri	4.5	6.0



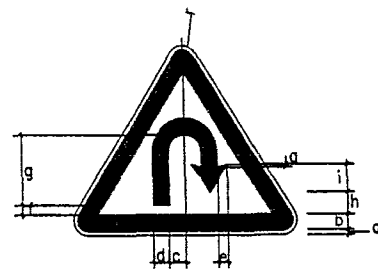
(W-29)
MINOR ROAD FROM LEFT

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	13.5	18.0
e	5.5	7.3
f	15.0	20.0
g	7.0	9.3
h	14.0	18.7
i	10.5	14.0



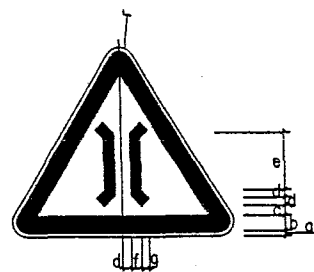
(W-29)
MINOR ROAD FROM RIGHT

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	13.5	18.0
e	5.5	7.3
f	15.0	20.0
g	7.0	9.3
h	14.0	18.7
i	10.5	14.0



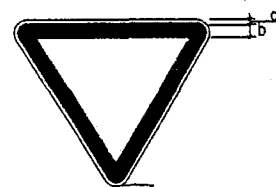
W - 34
U-TURN SIGN

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	5.5	7.3
d	7.0	9.3
e	5.0	6.7
f	2.5	3.3
g	23.0	30.7
h	7.5	10.0
i	12.0	16.0



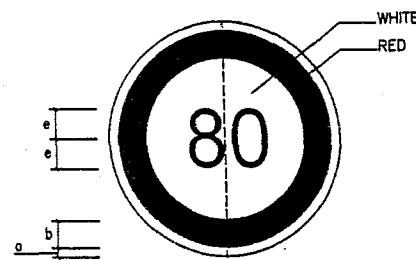
W - 35
NARROW BRIDGE

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.1
a	1.0	1.2
b	6.5	7.6
c	6.0	7.0
d	2.5	2.9
e	15.0	17.5
f	4.0	4.7
g	3.0	3.5



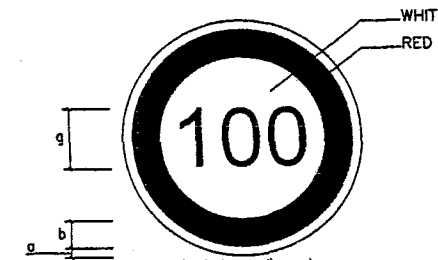
R - 2
GIVEWAY SIGN

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7



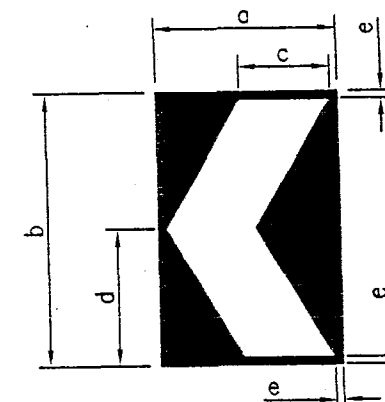
HTV
R-25a
MAXIMUM SPEED LIMIT (110)

PARTS	SIGN SIZE	
	90cm	120cm
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	23.0	30.7
e	20.0	26.7



LTV
R-25b
MAXIMUM SPEED LIMIT (120)

PARTS	SIGN SIZE	
	90cm	120cm
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	5.0	6.5
e	11.25	15.38
g	40.0	53.5



DETAILS "X"

a	b	c	d	e
300	450	150	225	12
450	600	225	300	18

* BACKGROUND REFLECTORISED YELLOW
* CHEVRON REFLECTORISED BLACK



TENDER DRAWINGS

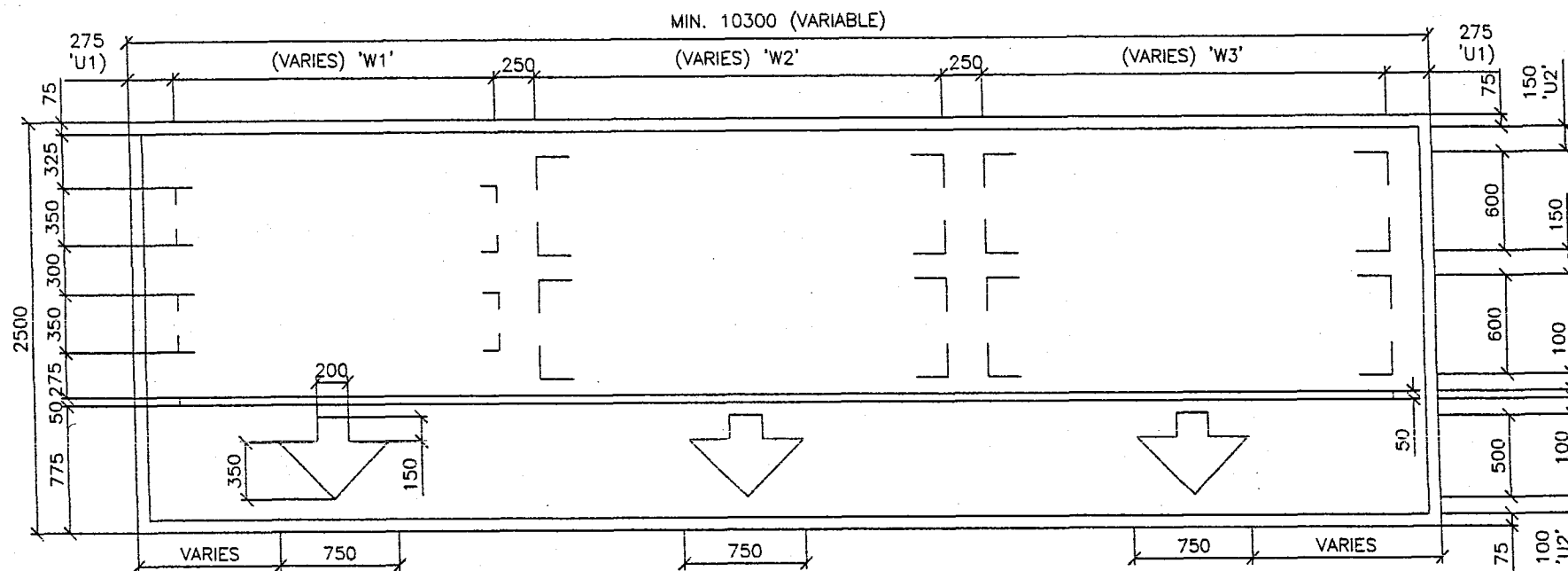
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

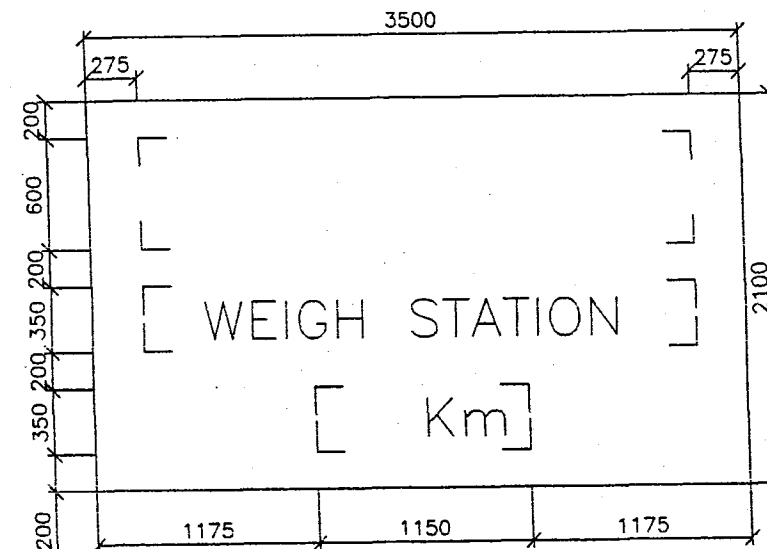
04	SAJID UL HAQ	DRAWN BY	RAJA SHAFIQ
03	PROJ. ENGINEER	SUBMITTED BY	
02	M/S. SILESAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR RC.
PACKAGE-II
(KANDH KOT TO KASHMORE)

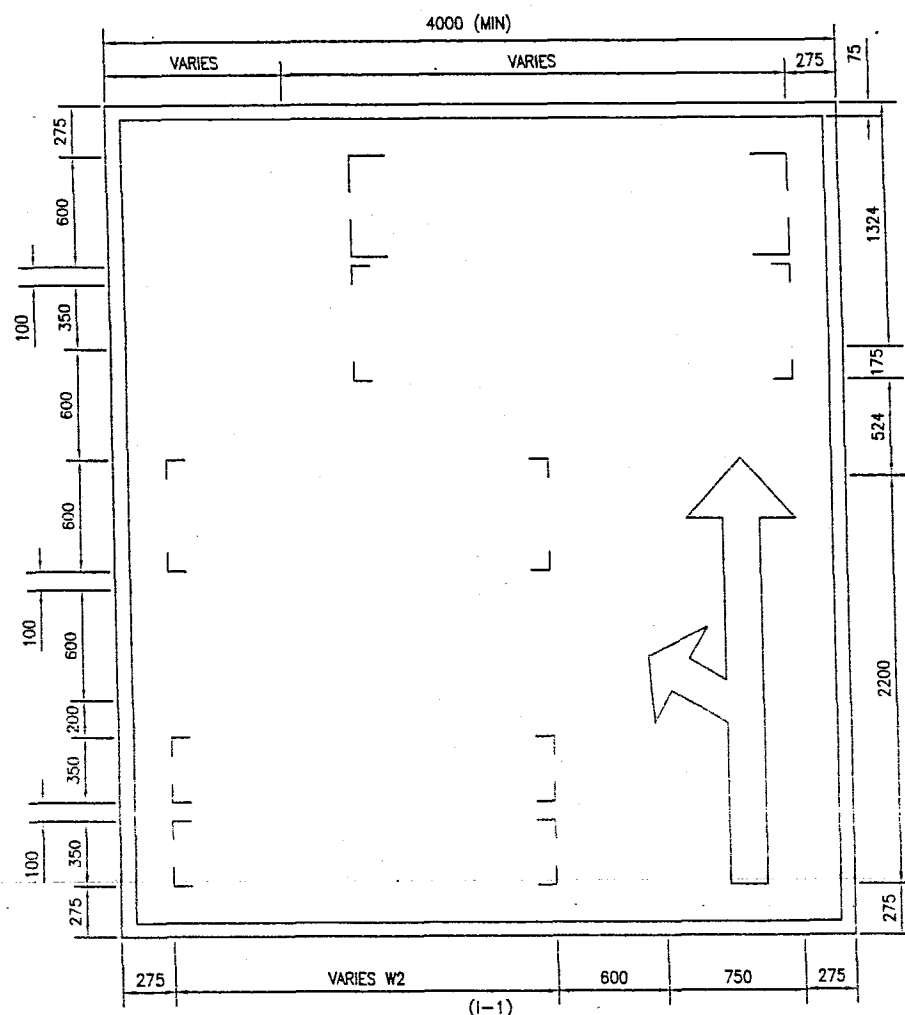
TITLE	SCALE
DETAILS OF ROAD SIGNS	
DATE	REV
MARCH 2018	3905/102/TD/ 15-01



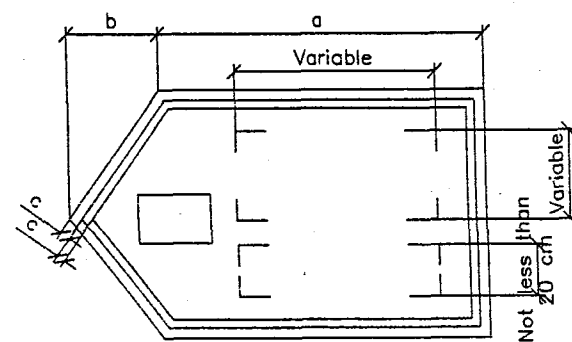
OVER HEAD DESTINATION SIGN AT GANTRY
(TYPE FOR 2 LANES)



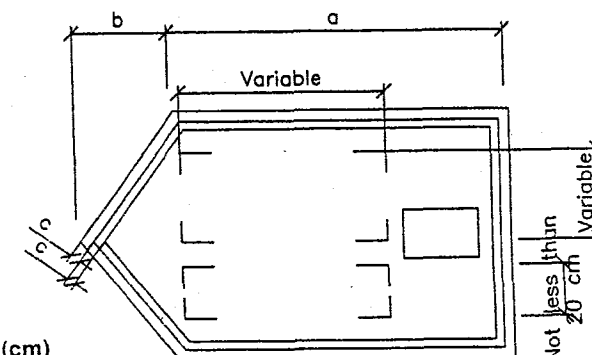
(I-28)
WEIGH STATION SIGN



DESTINATION SIGN
(500 SHORT OF EXIT RAMP)

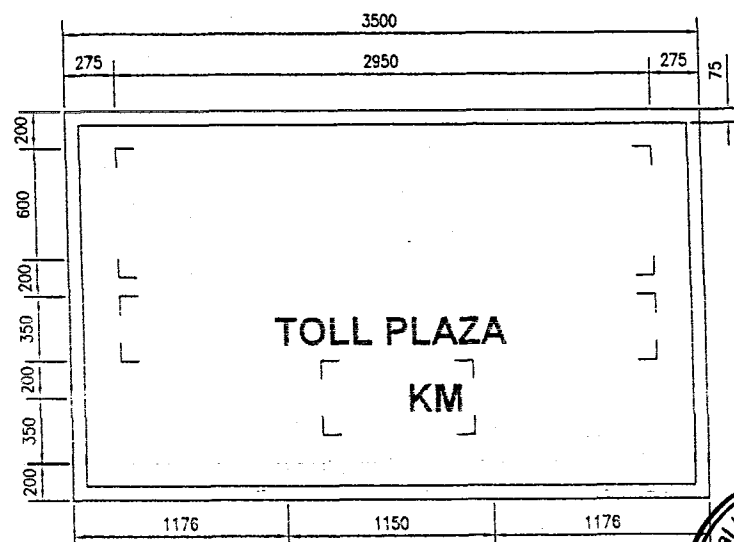


(I-3)
DIRECTION SIGN



(I-4)
DIRECTION SIGN

PARTS	SIGN SIZE	
	90cm	120cm
a	180.0	240.0
b	45.0	60.0
c	1.8	2.40



TOLL PLAZA SIGN
(2 KM/1 KM SHORT OF TOLL PLAZA)

TENDER DRAWINGS

NOTES:-

1. ALL DIMENSION ARE IN MILLIMETER UNLESS NOTED OTHERWISE.
2. WHERE ENGLISH WRITING OF DIMENSION NAMES APPEAR BELOW URDU WRITING, THE LEARN EXTENTS OF THE TWO SHOULD PREFERABLE COINCIDE.
3. EDGE CLEARANCES U1 & U2 MAY BE ADJUSTED TO ACHIEVE THE MINIMUM DIMENSIONS AS SHOWN.
4. THE LANE ARROWS SHOWN ON THE OVERHEAD SIGN SHALL COINCIDE WITH THE CENTER OF RESPECTIVE LANE.
5. NHA ROUTE NUMBERS SHALL BE MARKED AT ALL DIRECTIONAL SIGNS FOR MAJOR ROADS.
6. UPPER CASE LETTER SHALL BE USED FOR ALL OVERHEAD SIGN HOWEVER LOWER CASE LETTER MAY BE USED FOR DESTINATION NAMES WITH THE WIDTH EXCEEDING 4000 MM. WITH APPROVAL OF THE ENGINEER.
7. NAME OF THE FARTHEST DESTINATION SHALL APPEAR AT THE TOP OF THE SIGN, WHERE AS REST OF THE NAMES SHALL BE PLACED IN DESCENDING DISTANCE ORDER.
8. THE SIGN PLACEMENT DISTANCE AS SHOWN IN THE DRAWING ARE TYPICAL, ACTUAL LOCATION SHALL BE APPROVED BY THE ENGINEER.



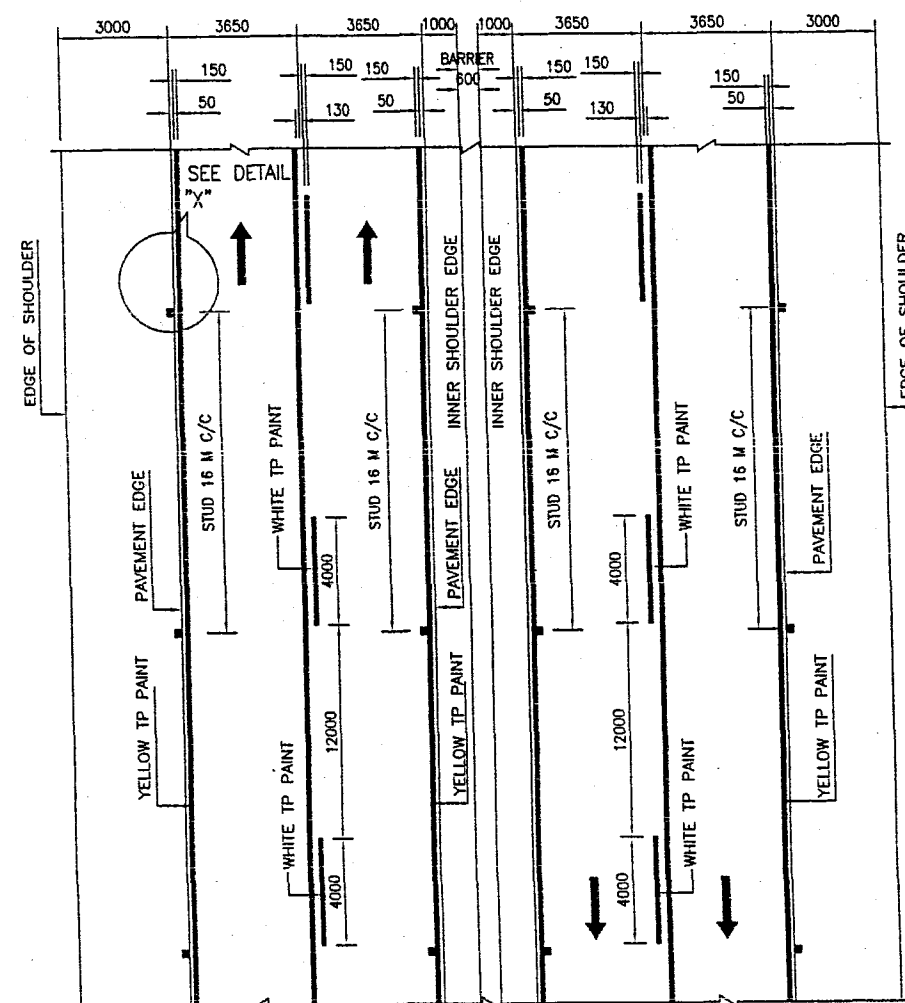
GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

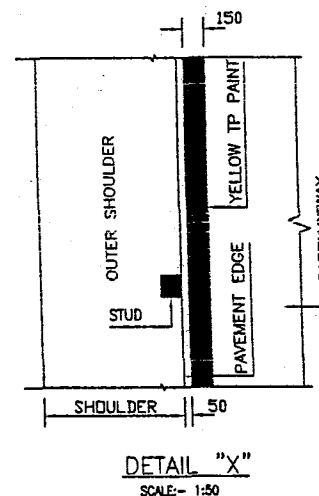
04	DATE	DESCRIPTION	APPROVED	DRAWN BY	RAJA SHAFIQ
03				SUBMITTED BY	
02				RECOMMENDED BY	
01				CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

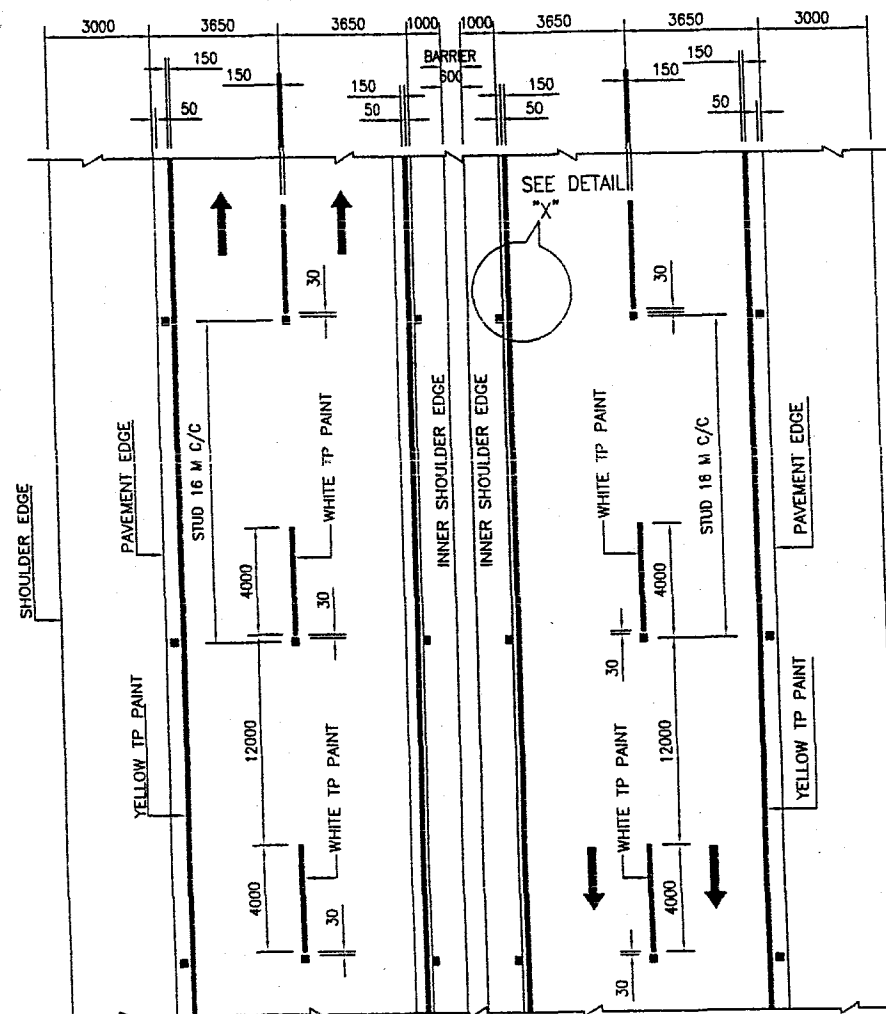
TITLE	ROAD SIGNS DETAIL	SCALE	
DATE	MARCH 2018	DRAWING NO.	3905/102/TD/
REV.		TS-02	



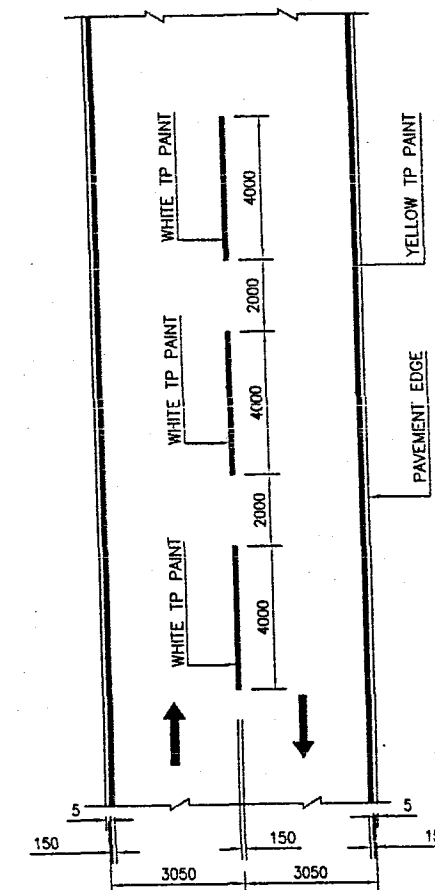
NO OVER TAKING DOUBLE LINE MARKINGS
SCALE:- 1:200



DETAIL "X"
SCALE:- 1:50

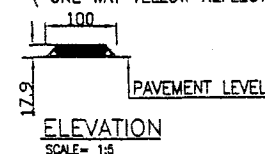


PAVEMENT MARKING PLAN ON
STRAIGHT PORTION
SCALE:- 1:200



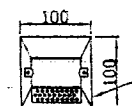
LINK ROADS
PAVEMENT MARKING PLAN

ROAD STUD 100 x 100 x 17.9 THICK
(ONE WAY YELLOW REFLECTIVE)



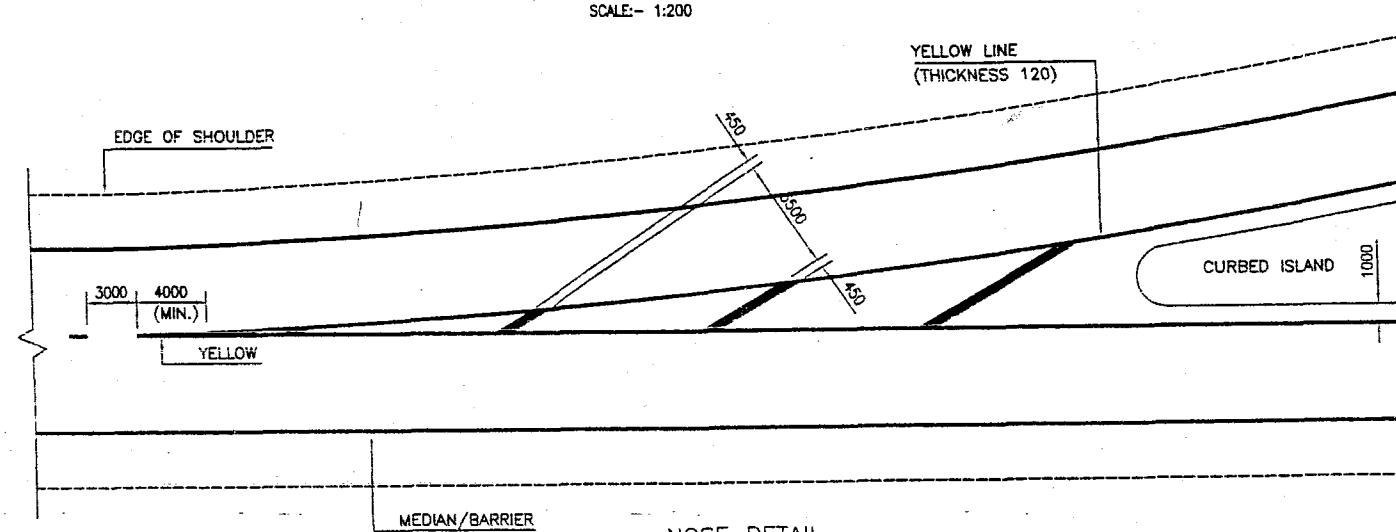
ELEVATION
SCALE:- 1:5

ONE-WAY REFLECTIVE
45 GLASS ELEMENTS PER SIDE (3 ROWS)
19° TILTED FOR MAXIMUM REFLECTION
DIMENSIONS: 100 X 100 X 17.9 MM



PLAN OF STUD
SCALE:- 1:5

ROAD STUD 100 x 100 x 17.9 THICK
(ONE WAY YELLOW REFLECTIVE)



MEDIAN/BARRIER

NOSE DETAIL
SCALE:- 1:200

NOTE

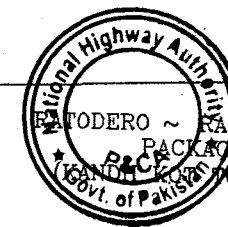
- * ONLY WRITTEN DIMENSIONS TO BE FOLLOWED
- * ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

TENDER DRAWINGS

GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ
03	PROJECT MANAGER	SUBMITTED BY	
02	M/S NEEPAK	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED



TITLE	DETAILS OF ROAD PAVEMENT MARKING & STUDS	SCALE	
DATE	MARCH 2018	DRAWING NO.	3905/102/TD/
REV.		TS-03	

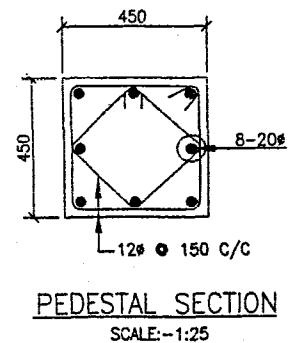
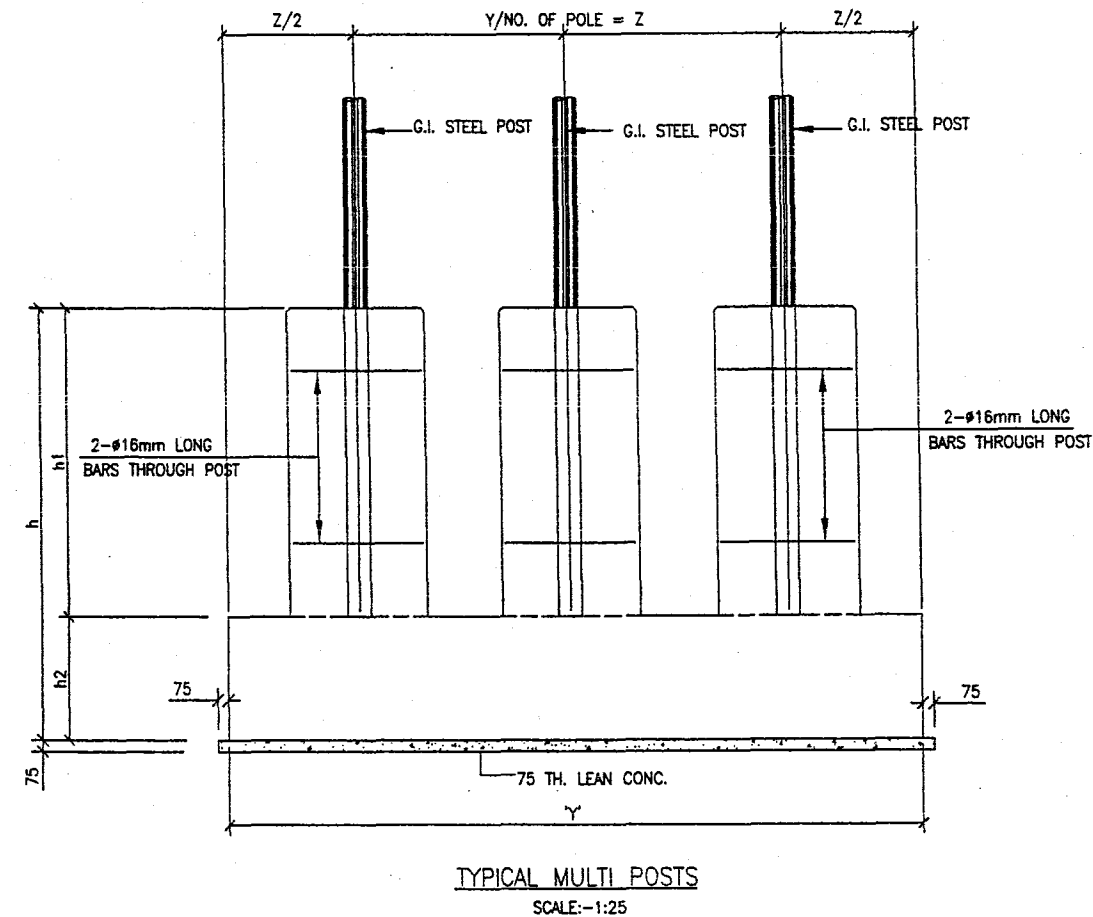
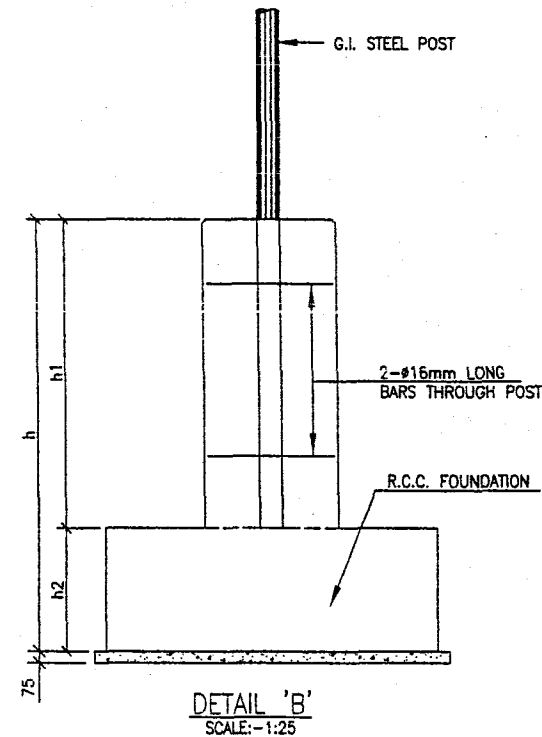
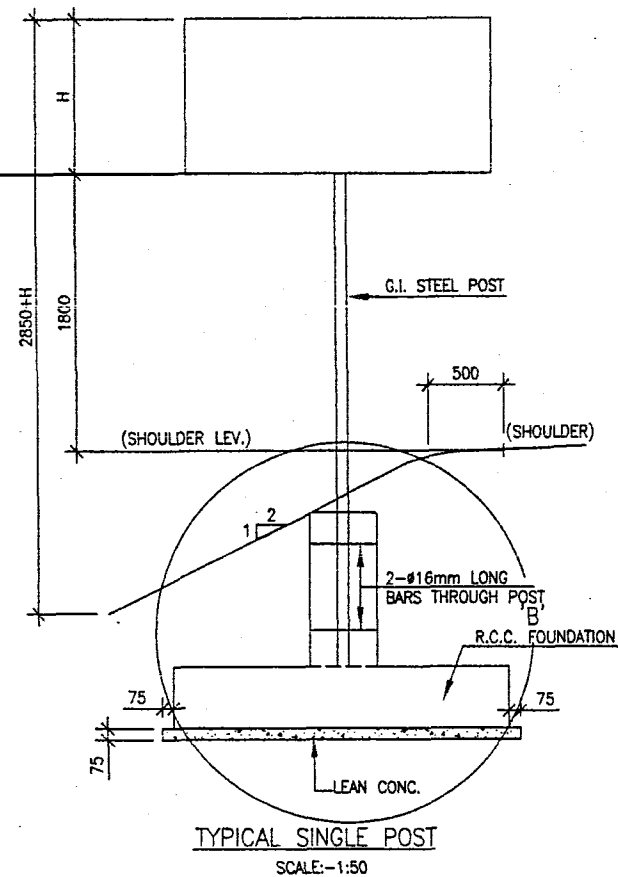


TABLE - 2
FOOTING AREA & REINFORCEMENT SCHEDULE

AREA M ²	REINFORCEMENT IN 'X'	REINFORCEMENT IN 'Y'
1.5	12# @ 200 C/C (T & B)	12# @ 200 C/C (T & B)
1.5 < A < 3	12# @ 175 C/C (T & B)	12# @ 175 C/C (T & B)
3 < A < 5	12# @ 175 C/C (T & B)	12# @ 175 C/C (T & B)

TABLE - 1
LIST OF FOUNDATION SIZE

AREA OF SIGN BOARD (M ²)	PEDESTAL SIZE (MM)	WIDTH OF FOOTING 'X' (MM)	LENGTH OF FOOTING 'Y' (MM)	h1 (MM)	h2 (MM)	h (MM)	NUMBER OF POLES	TYPE OF POLES
1.5	450	950	950	600	400	1000	1-#150	ISOLATED
1.5 < A < 3	450	1250	1700	600	400	1000	2-#150	COMBINED
3 < A < 5	450	1350	2250	800	400	1200	3-#150	-

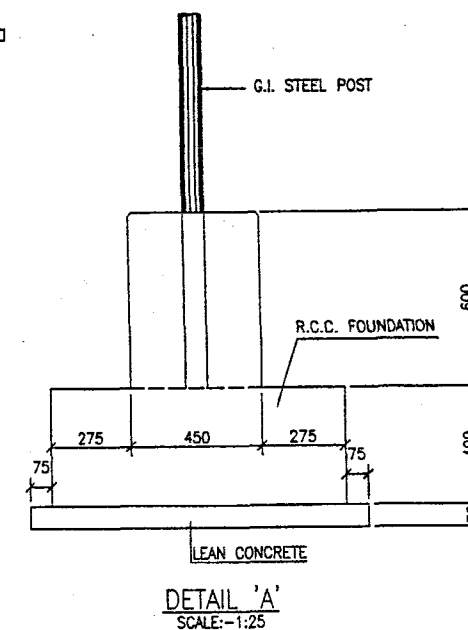
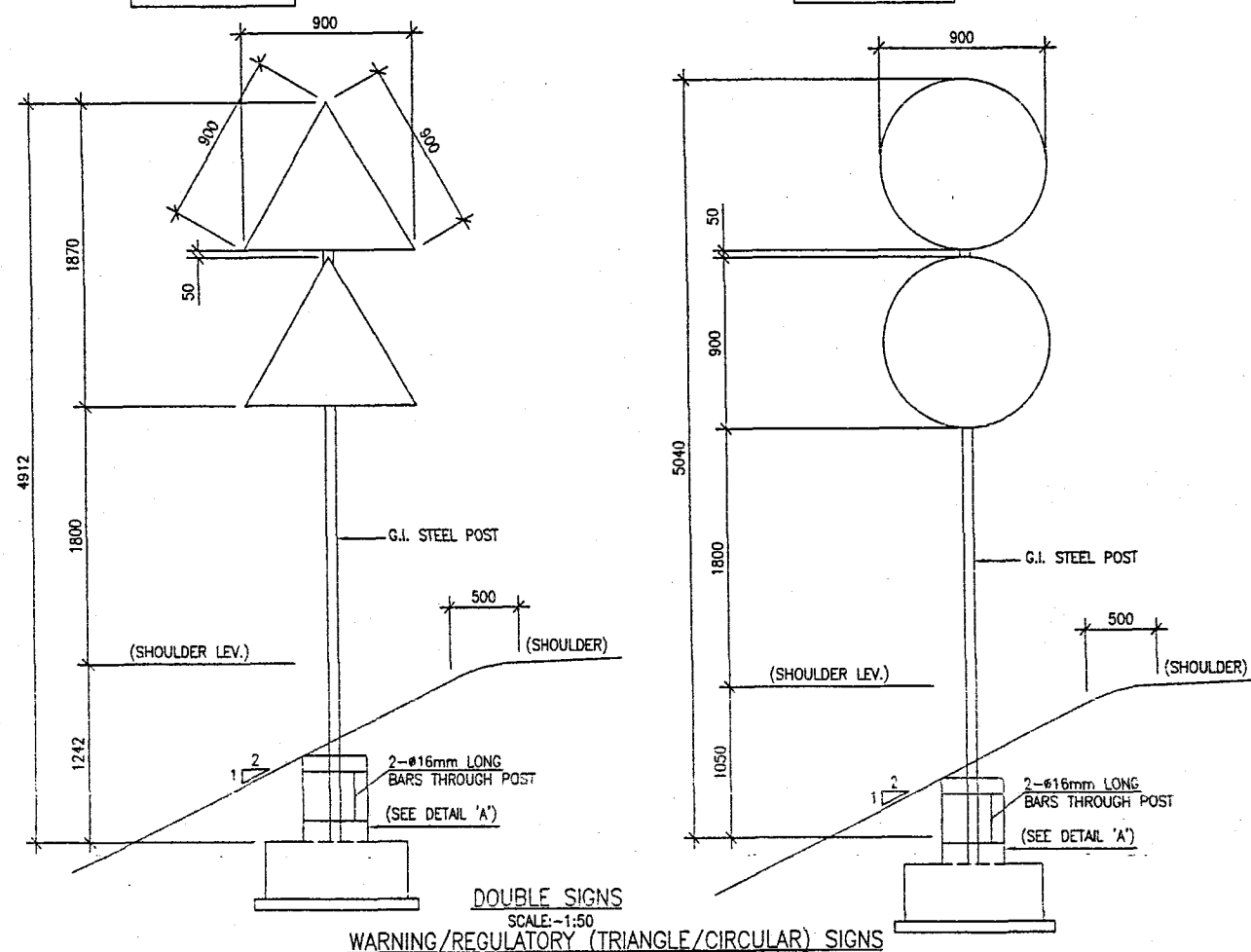
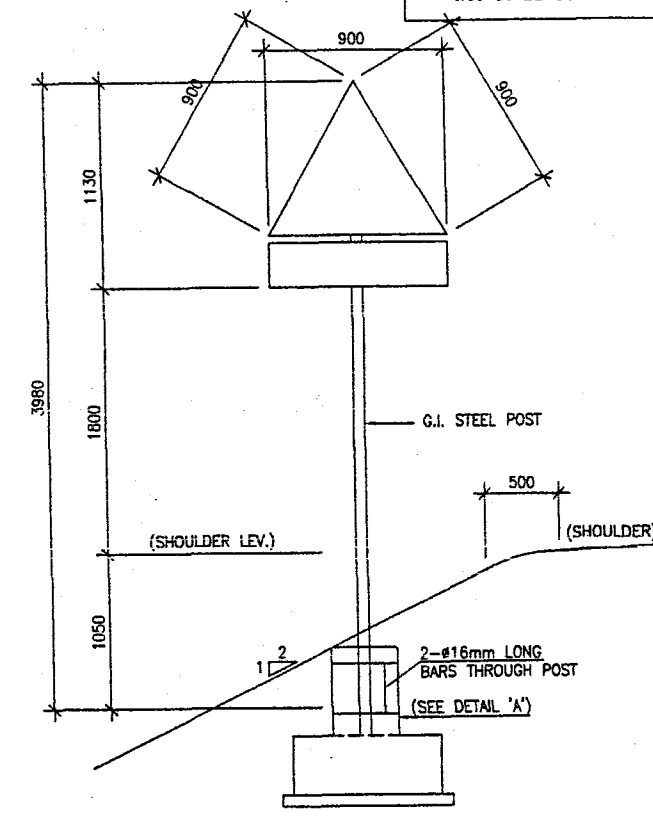
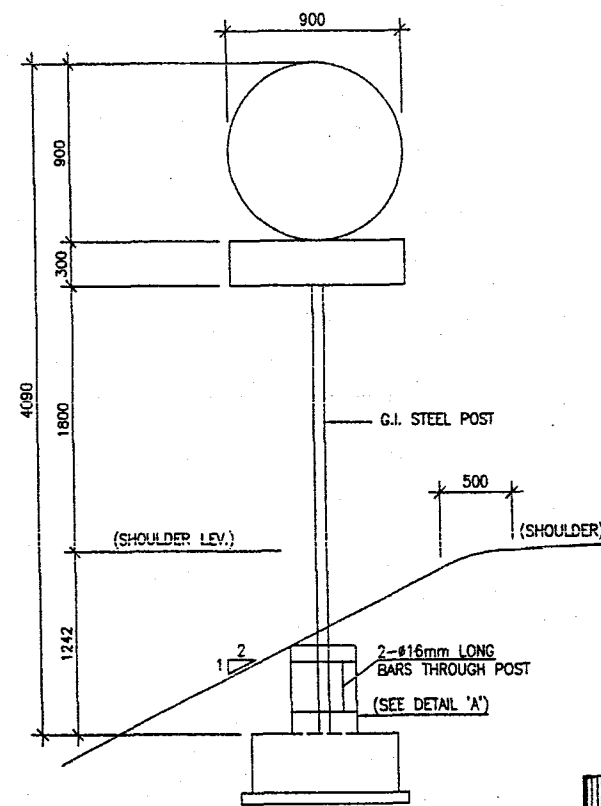
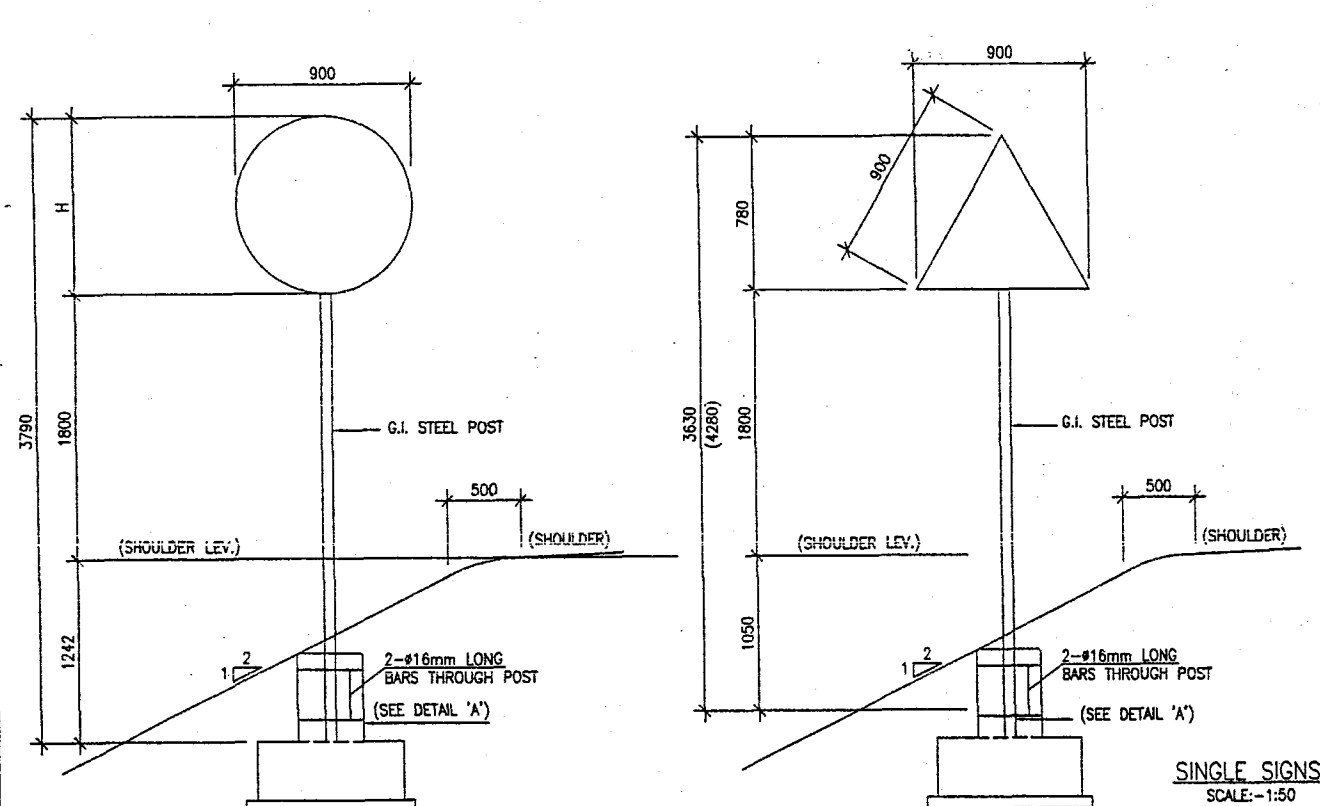
TENDER DRAWINGS

NOTES

- * ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- * POST LENGTH AS SHOWN FOR MOTORWAY SIGNS OF 1200mm NOMINAL SIZE FOR RAMP, POST LENGTH SHALL BE ADJUSTED ACCORDINGLY.
- * CONCRETE FOUNDATION SHALL BE CAST USING CLASS 'A' CONCRETE.
- * SIGN PANELS SHALL BE MADE OF ALUMINUM ALLOY PLATES OF MINIMUM 3mm THICKNESS.
- * ALL SIGN POSTS SHALL BE PAINTED WITH NON-REFLECTORISED BLACK AND WHITE PAINT STRIPES 300mm WIDE.
- * ALL SIGN BACK PANELS SHALL BE PAINTED WITH GRAY ENAMEL PAINT.
- * ALL POSTS SHALL BE 300mm SHORT OF SIGN TOP.
- * CONCRETE SHALL HAVE A MINIMUM CYLINDRICAL STRENGTH OF 3,000 PSI.



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWAD UL HAQ	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE FOUNDATION DETAILS OF ROAD SIGNS		SCALE
		03	Project Manager	SUBMITTED BY					
		02	M/S. HANAFI	RECOMMENDED BY					
		01		CHD./VER. BY			DATE	DRAWING NO.	REV.
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY	MARCH 2018	3905/102/TD/	TS-04



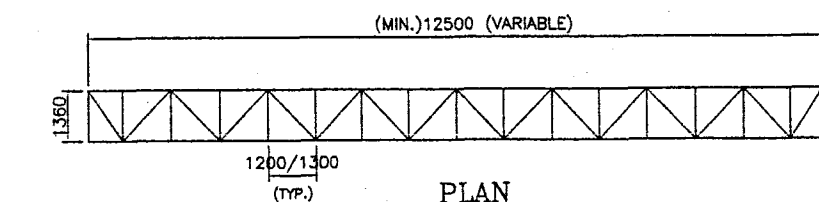
TENDER DRAWINGS

FOUNDATION SIZE & REINFORCEMENT DETAIL						
PEDESTAL SIZE (MM)	WIDTH OF FOOTING 'X' (MM)	LENGTH OF FOOTING 'Y' (MM)	NUMBER OF POLES	TYPE OF POLES	REINFORCEMENT IN 'X'	REINFORCEMENT IN 'Y'
450	1000	1000	1-#150	ISOLATED	12# • 200 C/C (T & B)	12# • 200 C/C (T & B)

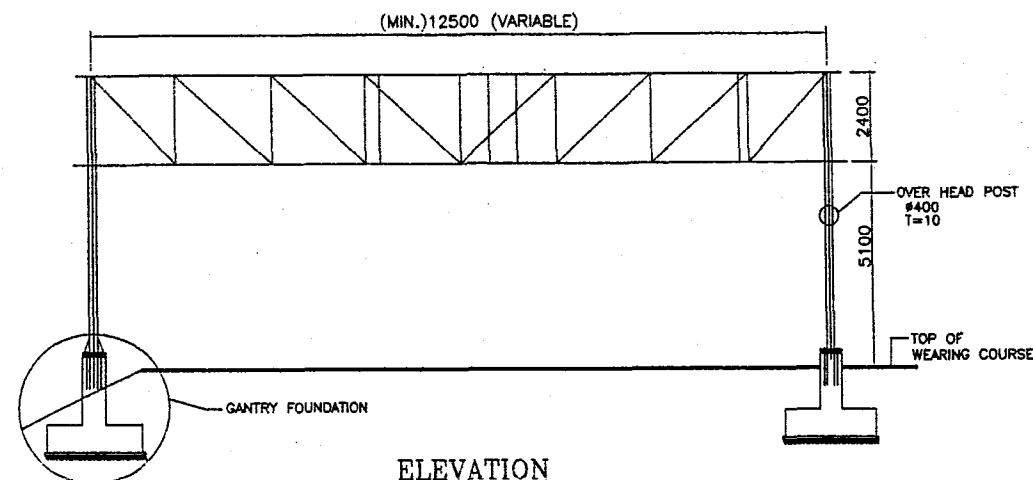
- NOTES
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - FOR NOTES REFER DRG. NO. TS-06
 - CONCRETE SHALL HAVE A MINIMUM CYLINDRICAL STRENGTH OF 3,000 PSI.



GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY		NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		JAWAD UL HAQ Project Manager M/S HAZRA		DRAWN BY RAJA SHAFIQ SUBMITTED BY RECOMMENDED BY CHD./VER. BY APPROVED BY		RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		TITLE FOUNDATION DETAILS OF ROAD SIGNS		SCALE
REV.		DATE		DESCRIPTION		APPROVED		DATE		DRAWING NO.		REV.
								MARCH 2018		3905/102/TD/		TS-05

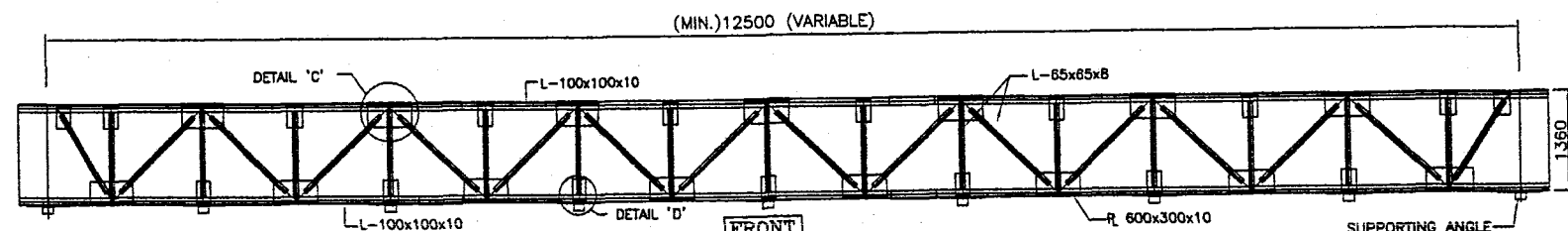


PLAN

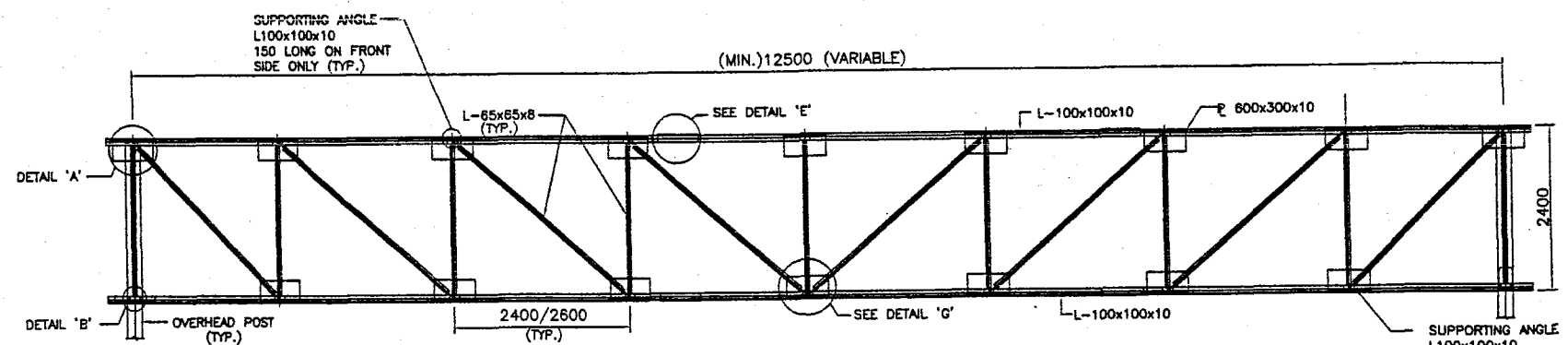


ELEVATION
OVERHEAD INFORMATION SIGN

* TYPICAL ARRANGEMENT FOR GANTRY SIGN. ACTUAL WIDTH IS TO BE DECIDED AS PER ACTUAL LOCATION OF THE ROAD.



TOP & BOTTOM TRUSS - PLAN
SCALE 1:50



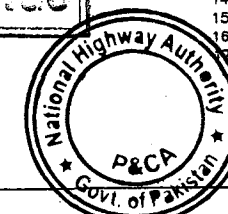
FRONT & REAR TRUSS - ELEVATION
SCALE 1:50

LOCATIONS OF GANTRY SIGN	
SR. NO.	CHAINAGE (KM)
1	109+000
2	121+000
3	134+100
4	153+900

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
- LOCATION OF GANTRY SHALL BE FIXED BY THE ENGINEER AT SITE.
- GANTRY BEAM AND COLUMNS SHALL BE HATCH - PAINTED WITH LUMINOUS PAINT UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- UNLESS OTHERWISE NOTED, CONCRETE SHALL BE CLASSIFIED AS FOLLOWS.
CONCRETE CLASS 28 DAYS (15x30 CM) CYLINDER STRENGTH Kg/sq. Cm
REINFORCED A 210 (3000 psi)
- ALL STRUCTURAL STEEL (PLATES, SHEET, CHANNELS AND ANGLES etc. SHALL CONFORM TO ASTM A-36 OR EQUIVALENT WITH MINIMUM YIELD STRENGTH OF 248 Kg./Sq. CM. (36,000 psi)
- ALL WELDING SHALL CONFORM TO THE APPLICABLE PROVISIONS OF A.W.S (AMERICAN WELDING SOCIETY) CODE. ALL WELDING ELECTRODES SHALL CONFORM TO ASTM NO. E 70XX.
- MINIMUM SIZE OF FILLET WELD SHALL BE 7mm. EXCEPT OTHERWISE NOTED.
- ALL INACCESSIBLE STRUCTURAL STEEL SECTIONS SHALL BE GIVEN TWO COATS OF RED-OXIDE PAINT BEFORE FABRICATION. ALL EXTERIOR FACES SHALL BE PAINTED WITH TWO COATS OF REDOXIDE PAINT AFTER FABRICATION AND ERECTION, AS PER DIRECTION OF THE ENGINEER.
- CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FABRICATION DRAWING WITH COMPLETE DETAILS OF MATERIAL ALONG WITH WEIGHT AND SIZES FOR APPROVAL, BEFORE PROCEEDING WITH CONSTRUCTION.
- THE MINIMUM CONCRETE COVER OF 75mm SHALL BE PROVIDED FOR STEEL IN FOOTING.
- THE BASE PLATE OF THE COLUMN SHALL BE LEVELED AND THEN GROUTED WITH NON SHRINK GROUT USING STANDARD APPROVED PROCEDURE.
- ALL ANCHOR BOLTS SHALL BE HOT DIPPED GALVANIZED.
- JOINT IN THE MAIN STEEL PIPE MAY BE OF FLANGE TYPE SUBJECT TO THE ENGINEERS APPROVAL.
- CONTRACTOR MAY USE ALUMINIUM PLATE (3mm THICK) FOR SIGN FACE.
- THE SIGN PLATE SHOULD BE RIVETED TO STEEL MEMBER OF SUPPORTING FRAME.
- NUTS & BOLTS FOR CLAMPS SHALL BE SPOT WELDED AFTER TIGHTENING.
- FOR DETAILS REF. DRG. NO. TS-07 & TS-08

TENDER DRAWINGS



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

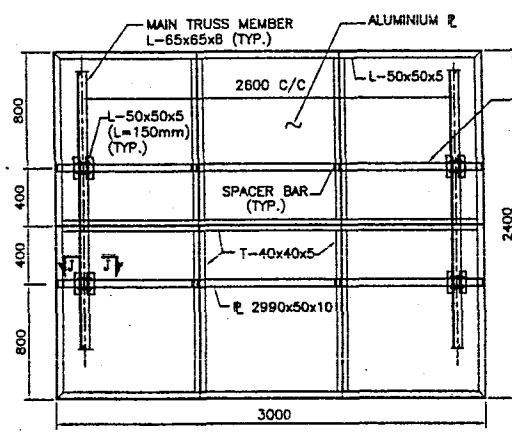
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03	PROJ. ENGINEER	SUBMITTED BY	
02	M. S. HANIF	RECOMMENDED BY	
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

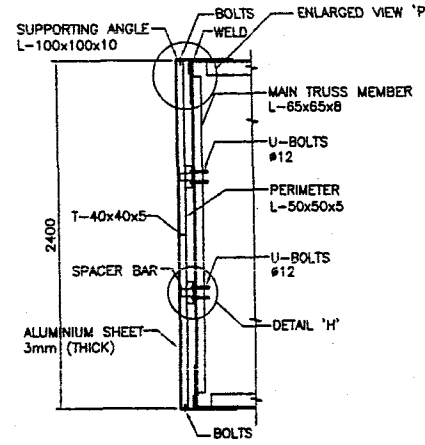
TITLE GENERAL ARRANGEMENT
OF OVERHEAD GANTRY SIGN

SCALE

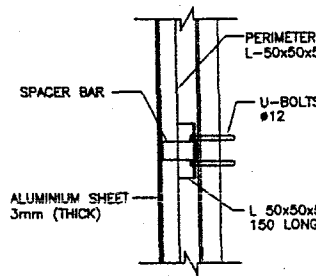
DATE MARCH 2018
DRAWING NO. 3905/102/TD/
REV. TS-06



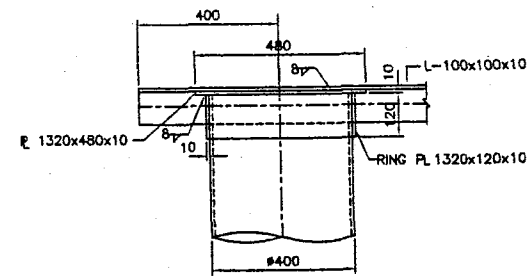
SIGN DETAIL-REAR VIEW
SCALE = 1:25



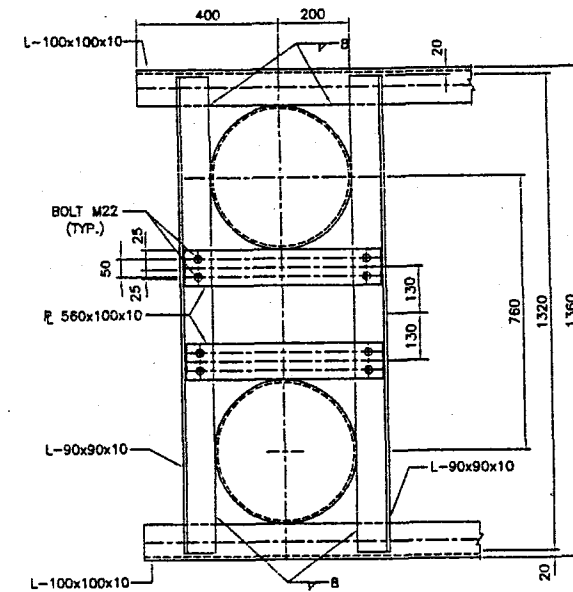
SIGN DETAIL-SECTION
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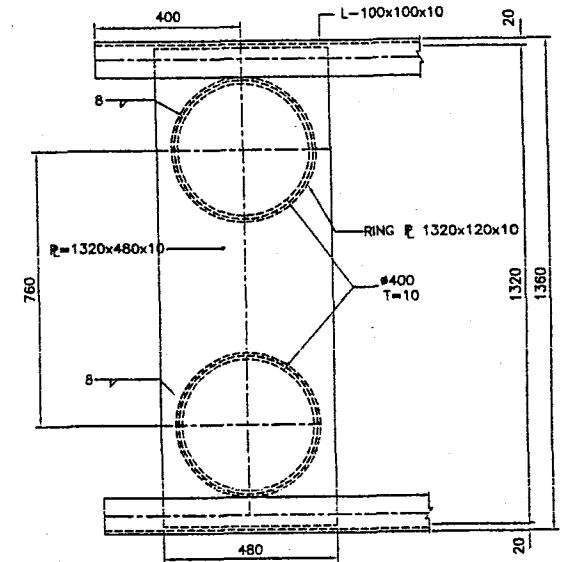
DETAIL 'H'
SCALE = 1:10



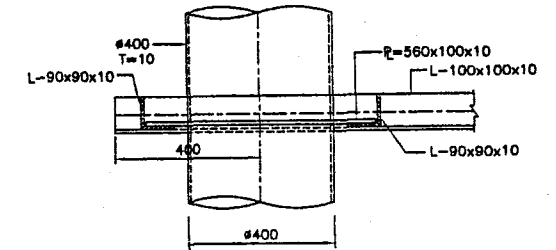
DETAIL 'A' ELEV.
(GUSSET PLATE NOT SHOWN)
SCALE = 1:10



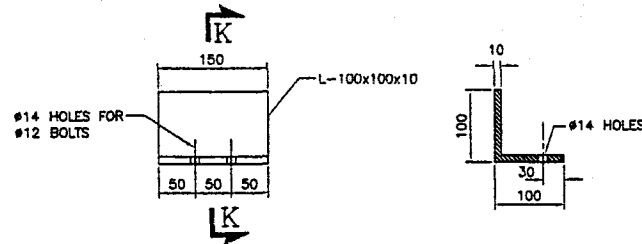
DETAIL 'B'-PLAN
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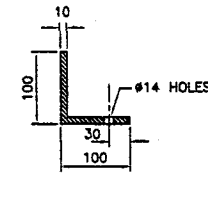
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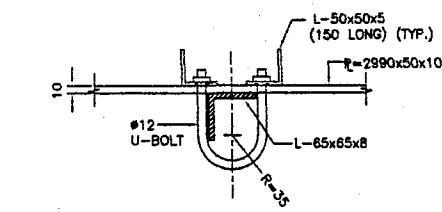
DETAIL 'B'-ELEVATION
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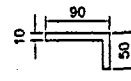
SUPPORTING ANGLE
SCALE = 1:5



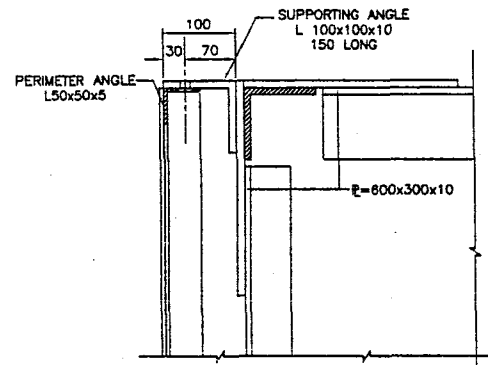
SEC. K-K
SCALE = 1:5



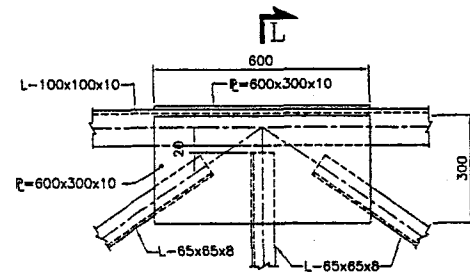
SECTIONAL PLAN J-J
(Ø12 U-BOLTS ARRANGEMENT)
SCALE = 1:5



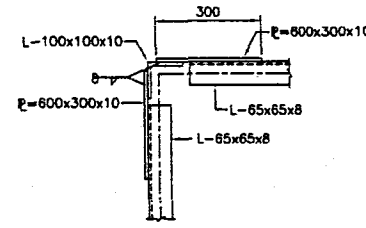
SPACER BAR
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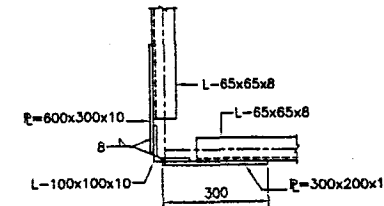
ENLARGED VIEW-'P'
SCALE = 1:5



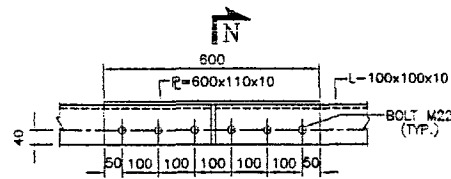
DETAIL 'C'-PLAN
SCALE = 1:10



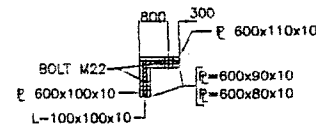
SECTION L-L
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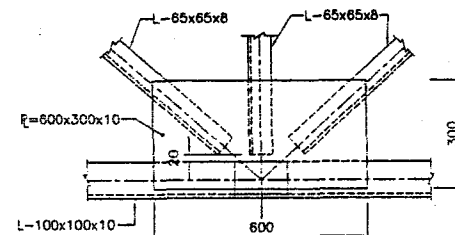
SECTION M-M
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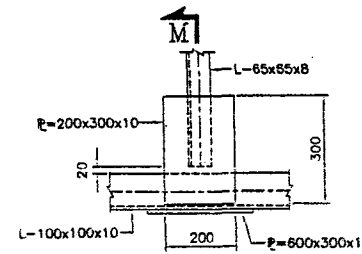
DETAIL 'E'-ELEVATION
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SECTION N-N
SCALE = 1:10



DETAIL 'G'
SCALE = 1:10



DETAIL 'D'-PLAN
SCALE = 1:10

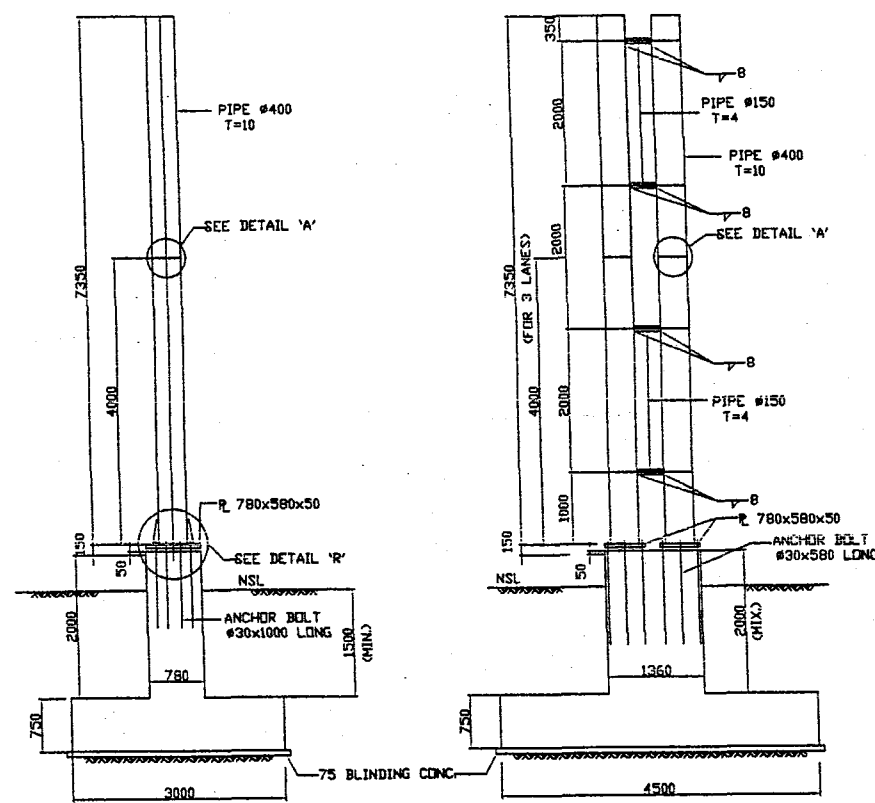
TENDER DRAWINGS

NOTES:

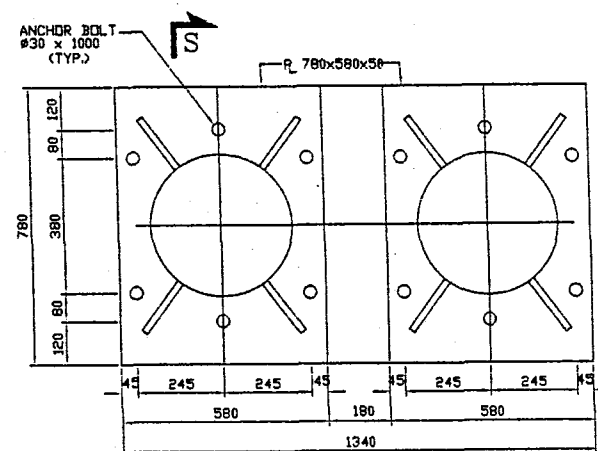
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- FOR GENERAL NOTES AND DETAILS REFER DWG. NO. TS-06 & TS-08.



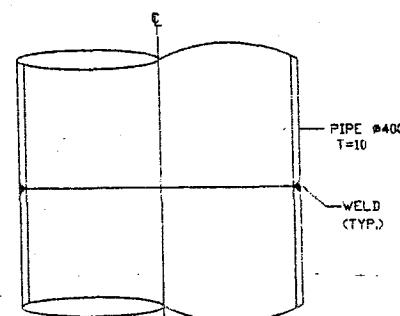
<div>NHA</div> <div>GOVERNMENT OF PAKISTAN</div> <div>MINISTRY OF COMMUNICATIONS</div> <div>NATIONAL HIGHWAY AUTHORITY</div>	<div>NES</div> <div>NATIONAL ENGINEERING SERVICES</div> <div>PAKISTAN (PVT.) LTD.</div>	04	1	1	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE		GANTRY SIGN COLUMN DETAILS	SCALE
		03	1	1	SUBMITTED BY	RA					
		02	1	1	RECOMMENDED BY	RA					
		01	1	1	CHD./VER. BY						
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY					
								DATE	DRAWING NO.	REV.	
								MARCH 2018	3905/102/TD/	TS-07	



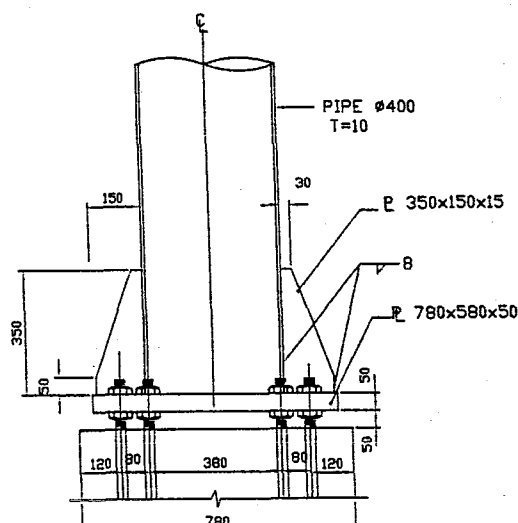
FRONT VIEW
OVER HEAD POST (IG706)



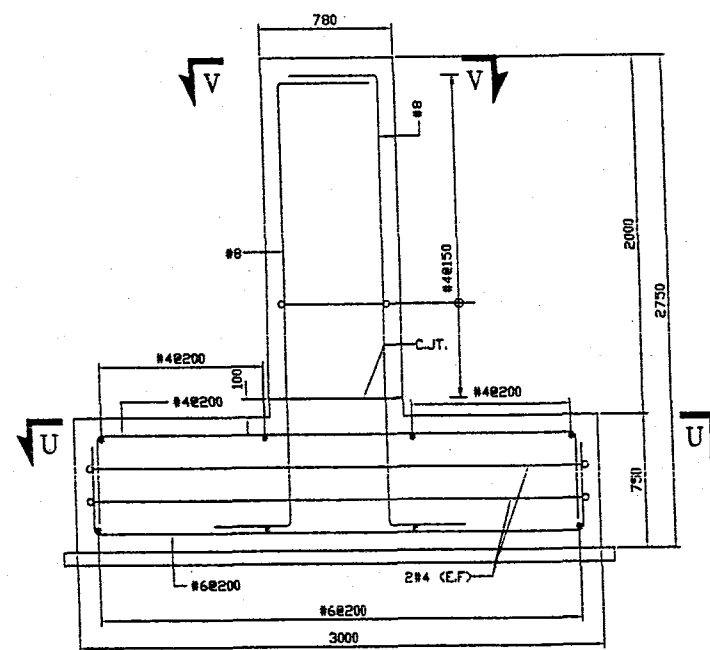
DETAIL 'R' - PLAN
SCALE = 1/10



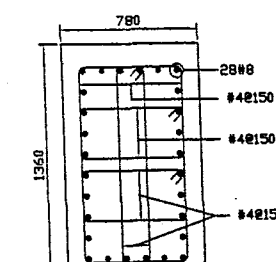
DETAIL 'A'
SCALE = 1/5



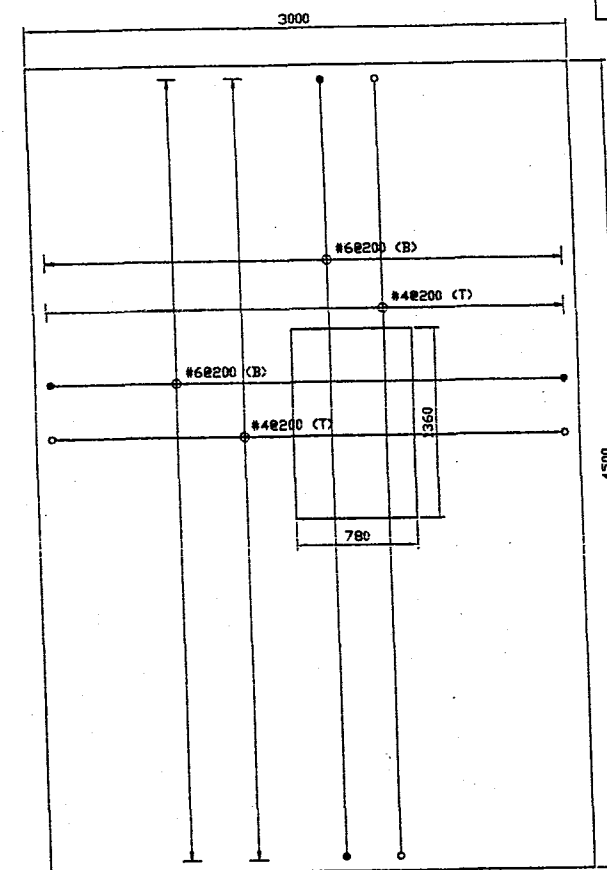
SECTION S-S
SCALE = 1/10



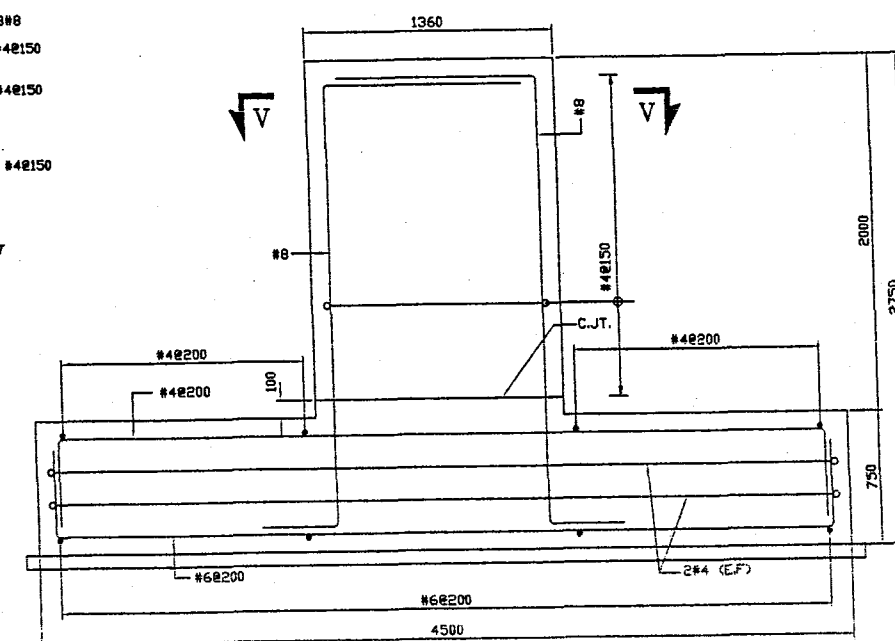
FRONT VIEW
SCALE = 1/20



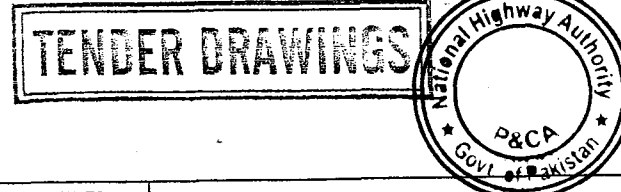
SEC. PLAN V-V
SCALE = 1/20





SEC. PLAN U-U
SCALE = 1/20

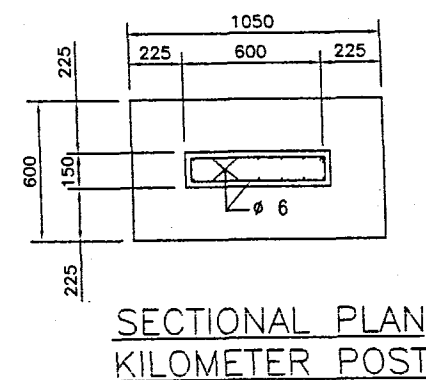
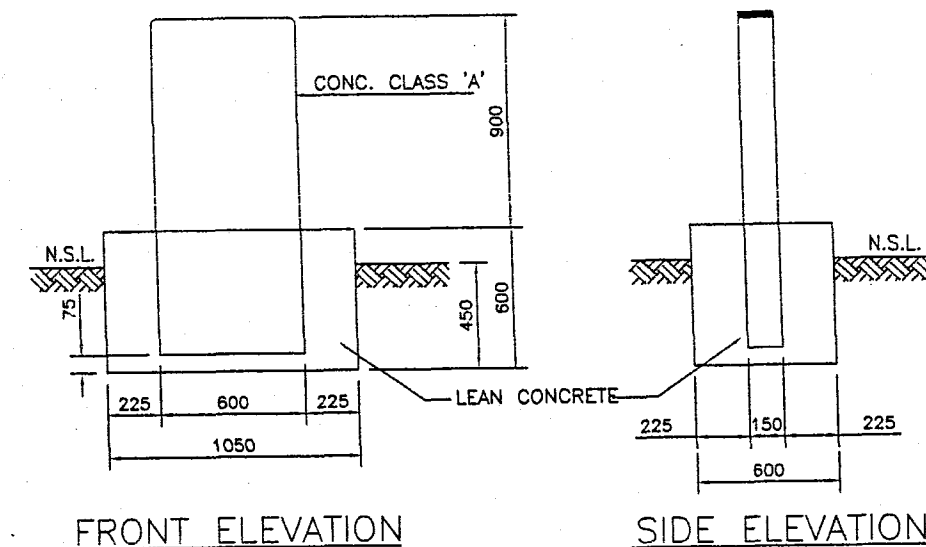
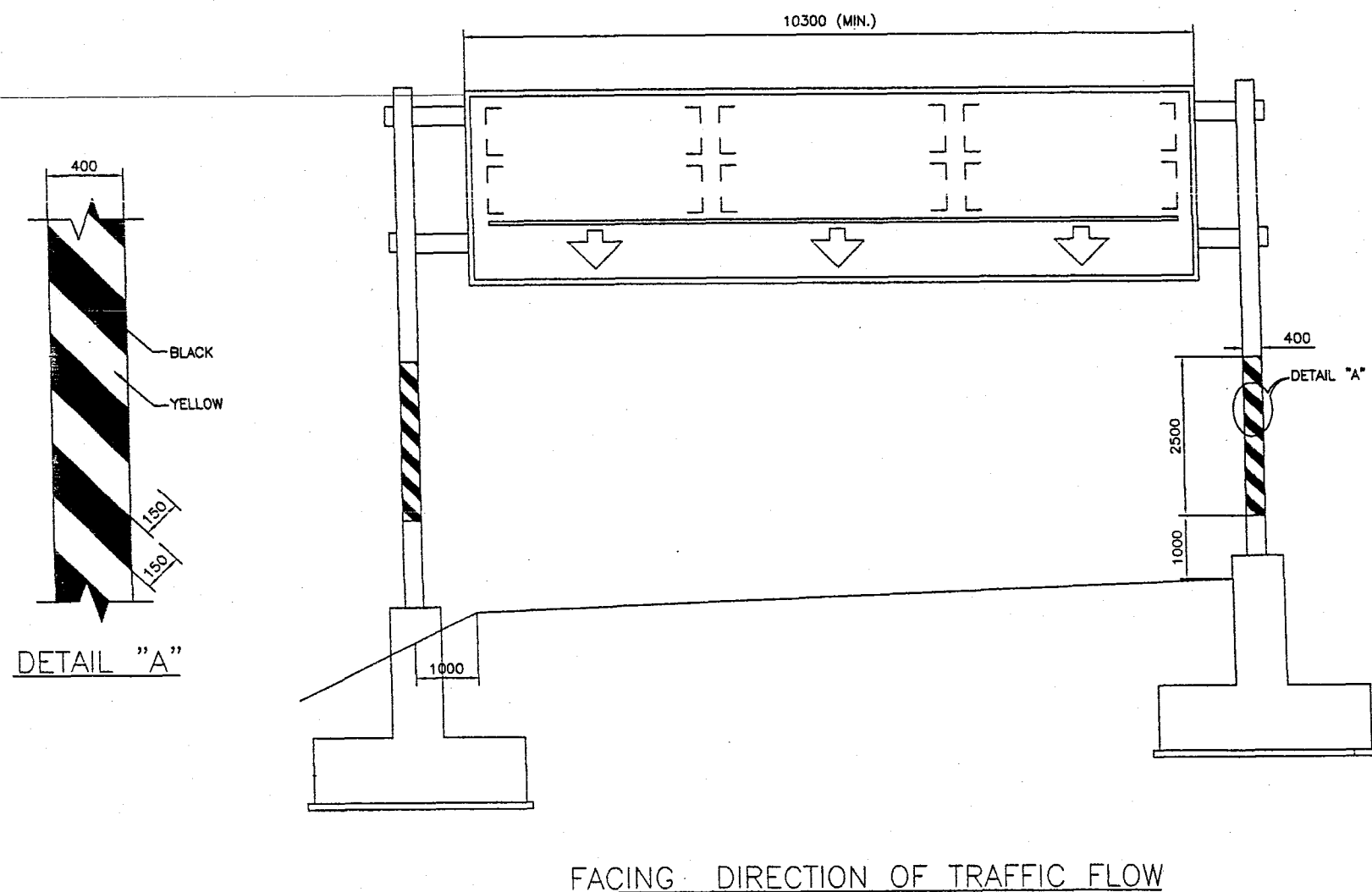


SIDE VIEW
SCALE = 1/20



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

 <div>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</div>	 <div>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</div>	04	JAWED UL HAQ	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE		GANTRY SIGN FOUNDATION DETAIL		SCALE	
		03	Project Manager	SUBMITTED BY			DATE		DRAWING NO.			REV.
		02	M/S NESPAK	RECOMMENDED BY			MARCH 2018		3905/102/TD/ TS-08			
		01		CHK./VER. BY								
		REV.	DATE	DESCRIPTION	APPROVED		APPROVED BY					





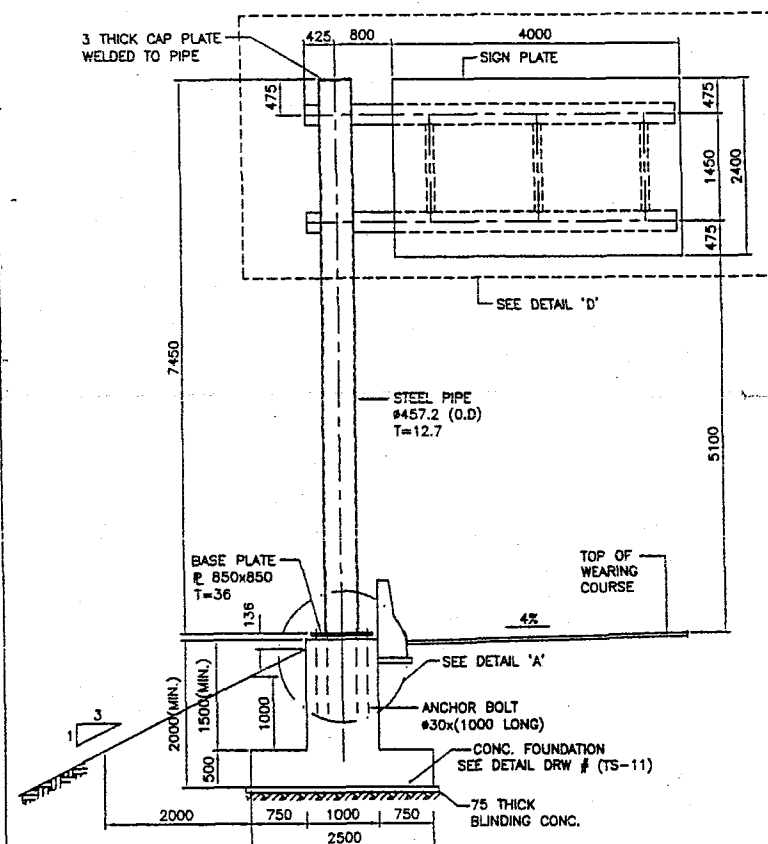
TENDER DRAWINGS

NOTES:-

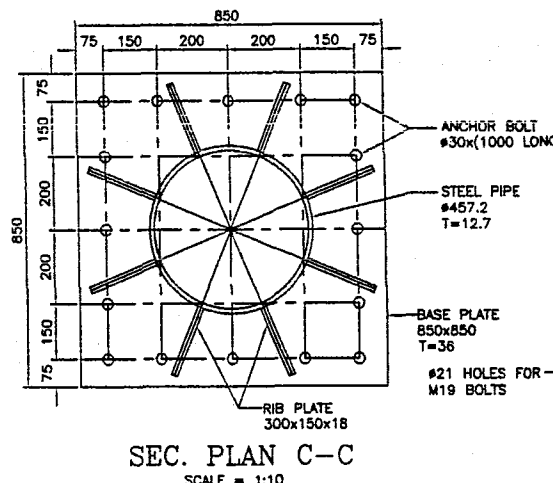
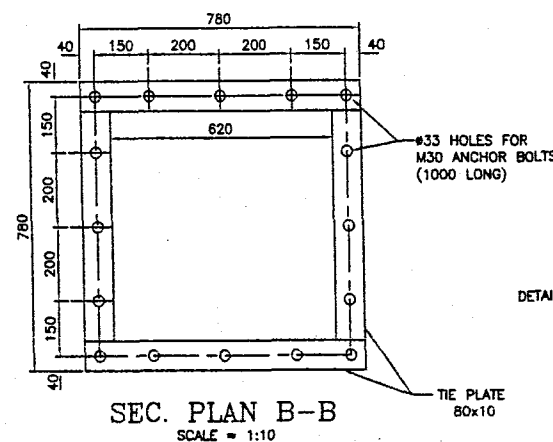
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. REFLECTIVE MARKING IS OF TP PAINT.
3. STICK YELLOW REFLECTIVE SHEETING BEFORE STICKING BLACK REFLECTIVE SHEETING.



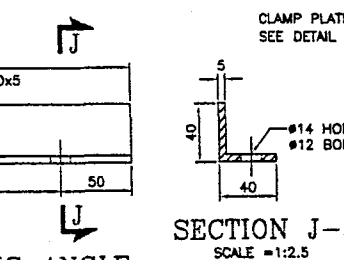
 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWID UL HAQ	DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE MARKING DESIGN DRAWING AND KILOMETER POST		SCALE
		03	Project Manager	SUBMITTED BY					
		02	M/S. HAFIZ	RECOMMENDED BY					
		01		CHD./VER. BY					
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							DATE MARCH 2018	DRAWING NO. 3905/102/TD/	REV. TS-09



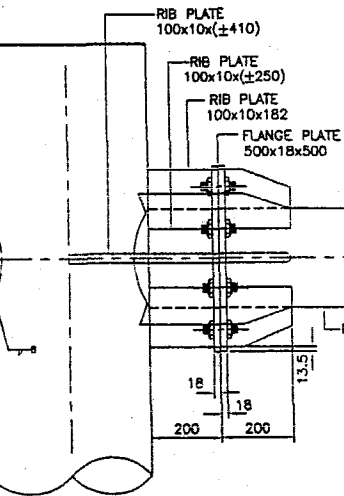
OVER HANGER INFORMATION SIGN



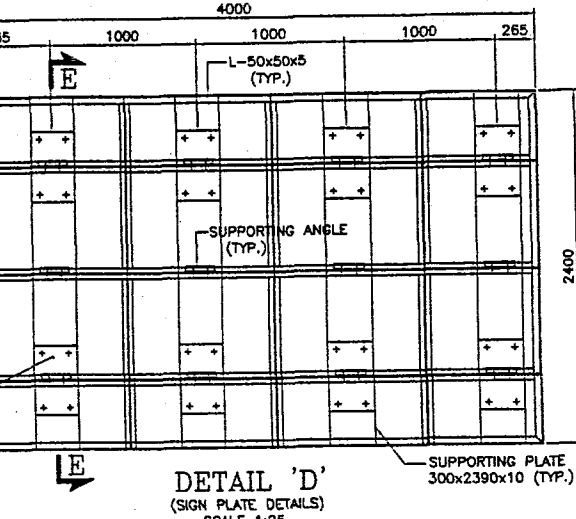
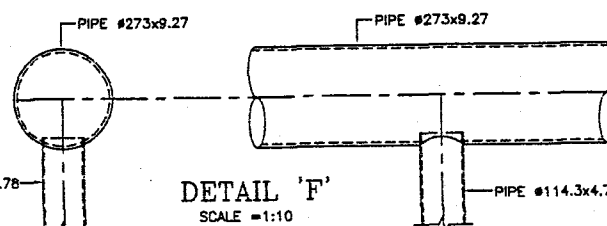
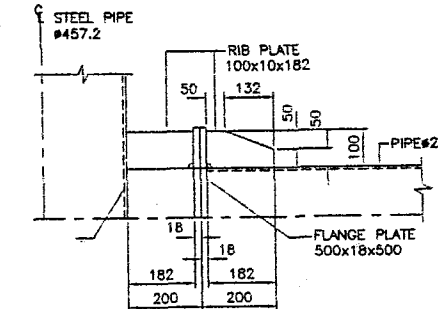
DETAIL 'X' (CLAMP PLATE DETAIL)
SCALE = 1:5
* TO BE ADJUSTED AT SITE



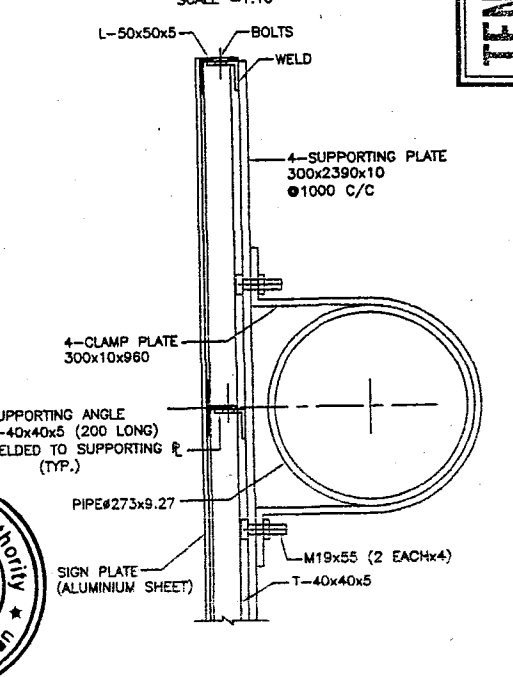
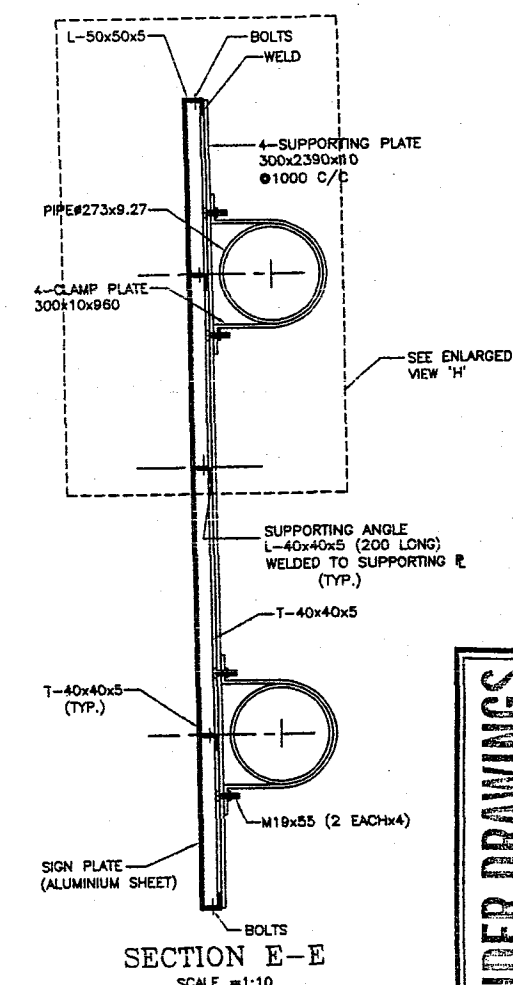
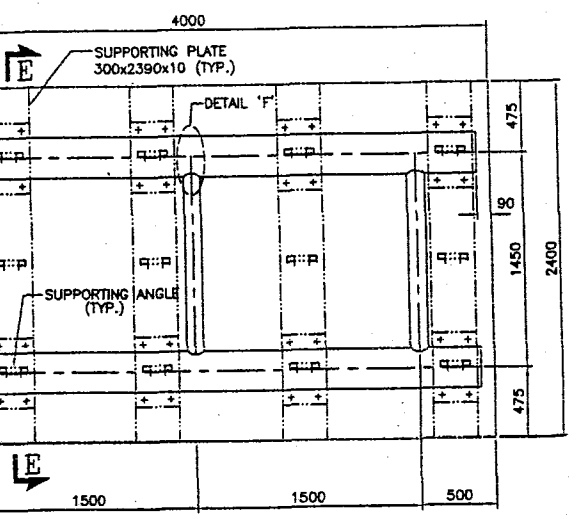
SUPPORTING ANGLE
SCALE = 1:2.5



RIB DETAIL (OF DETAIL 'G')
SCALE = 1:10

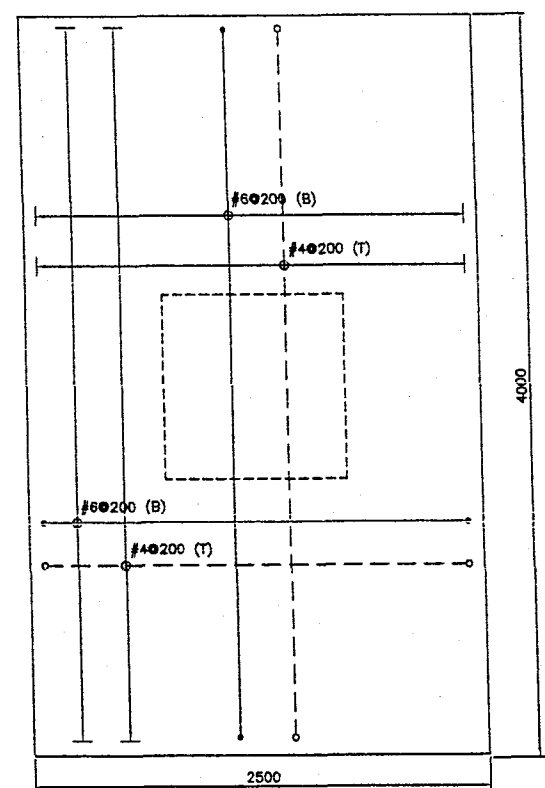


DETAIL 'D' (SIGN PLATE NOT SHOWN)
SCALE = 1:25

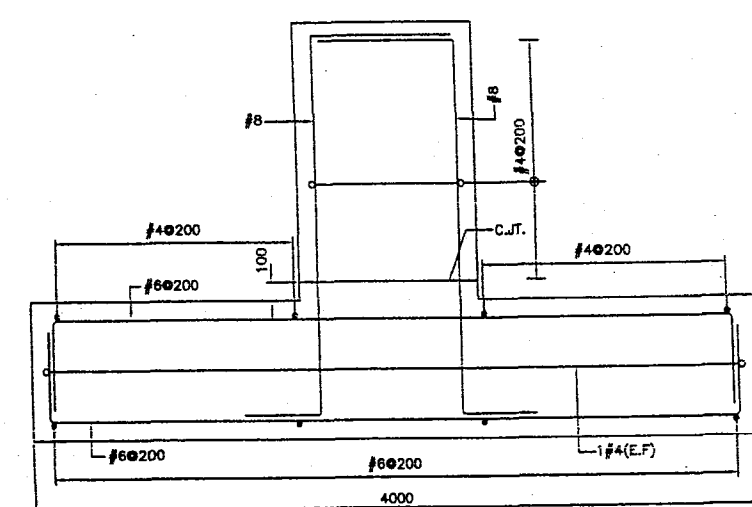


- NOTES:
- FOR GENERAL NOTES REFER DWG. No. TS-07.
 - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 - ALL STRUCTURAL STEEL AND ANCHOR BOLTS SHALL BE HOT DIPPED GALVANIZED UNLESS OTHERWISE DIRECTED BY THE ENGINEER'S REPRESENTATIVE.
 - UNLESS OTHERWISE SHOWN, THE WELD SHOULD BE 8 THICK CONTINUOUS FILLET WELD.
 - THE SIGN PLATE SHOULD BE RIVETED TO STEEL MEMBER OF SUPPORTING FRAME.

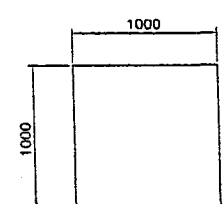
<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>04 03 02 01</p> <p>REV. DATE DESCRIPTION APPROVED</p>	<p>DRAWN BY RAJA SHAFIQ SUBMITTED BY RECOMMENDED BY CHG./VER. BY APPROVED BY</p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>TITLE CANTILEVER GANTRY SIGN TYPE -II TYPICAL DETAILS</p> <p>DATE MARCH 2018 DRAWING NO. 3905/102/TD/ TS-10 SCALE REV.</p>
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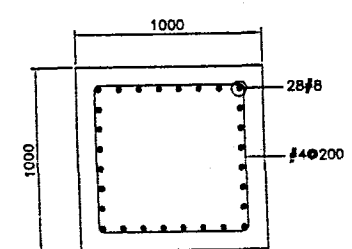
SEC. PLAN N-N
SCALE = 1:20



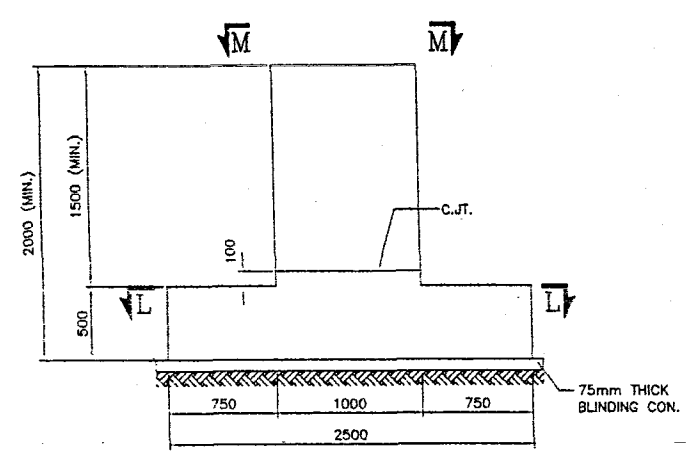
SIDE VIEW
SCALE = 1:20



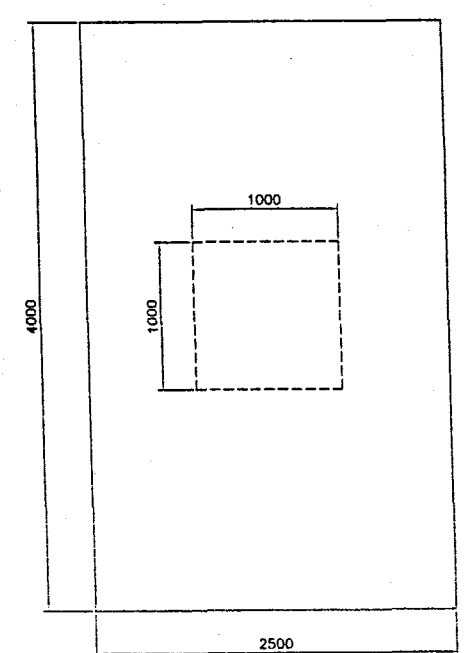
SEC. PLAN M-M
SCALE = 1:25



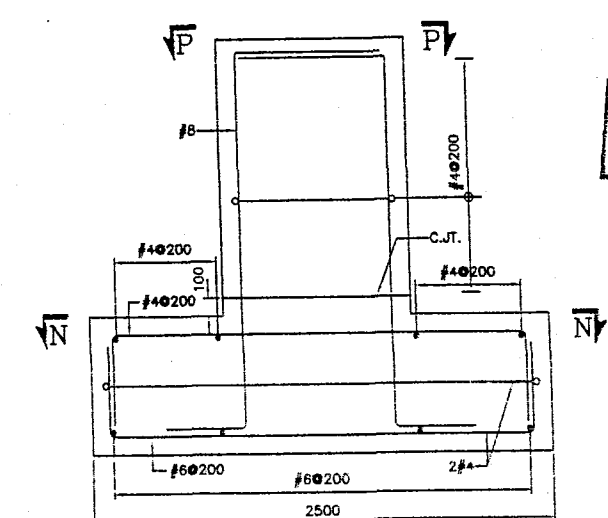
SEC. PLAN P-P
SCALE = 1:20



FRONT VIEW
FOUNDATION DETAIL-1' (RS016)
(CONC. OUTLINE)
SCALE = 1:25



SEC. PLAN L-L
SCALE = 1:25



FRONT VIEW
FOUNDATION DETAIL-1' (REINFORCEMENT)
SCALE = 1:20

TENDER DRAWINGS



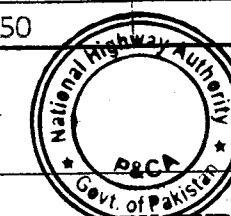
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 2. FOR GENERAL NOTES REFER DWG. NO. TS-07.
 3. FOR GANTRY DETAILS REFER TO RELEVANT GANTRY DRAWINGS.

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION</p>	<p>DRAWN BY SUBMITTED BY RECOMMENDED BY CHD./VER. BY APPROVED BY</p>	<p>RAJAWAL HAQ PROJECT MANAGER M/S HUSTAR</p>	<p>TITLE CANTILEVER GANTRY SIGN TYPICAL FOUNDATION DETAILS DATE MARCH 2018 DRAWING NO. 3905/102/TD/ TS-11 SCALE REV.</p>
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RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

Sr No.	Chainage	Structure Type	No. of Spans/Pipes	Clear Span Width/Dia. (m)	Clear Hieght	Skew	Ts & Tb (mm)	Tw1 (mm)	Tw2 (mm)	T1 (mm)	L1 (mm)
1	105+865	Box Culvert	1	1.5 ✓	1 ✓	5	250	250	250	150	150
2	106+100	Box Culvert	1	1.5 ✓	1 ✓	0	250	250	250	150	150
3	106+168	Box Culvert	1	2	1.5 ✓	0	250	250	250	150	300
4	106+710	Box Culvert	3	2.5	1.5 ✓	47	300	300	300	150	300
5	106+765	Box Culvert	1	2	1.5 ✓	0	250	250	250	150	300
6	107+762	Box Culvert	1	2	1.5 ✓	0	250	250	250	150	300
7	108+145	Box Culvert	1	1.5 ✓	1 ✓	0	250	250	250	150	150
8	108+772	Box Culvert	1	2.5 ✓	1 ✓	48	275	275	275	150	150
9	109+100	Box Culvert	1	2.5 ✓	1 ✓	40	275	275	275	150	150
10	109+240	Box Culvert	1	2	1 ✓	41	250	250	250	150	300
11	109+410	Box Culvert	1	2	1 ✓	23	250	250	250	150	300
12	109+ 670	Box Culvert	1	1.5 ✓	1 ✓	0	250	250	250	150	150
13	109+950	Box Culvert	1	1.5 ✓	1 ✓	7	250	250	250	150	150
14	110+095	Box Culvert	1	2	1 ✓	0	250	250	250	150	300
15	110+930	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
16	110+948	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
17	117+688	Box Culvert	1	1.3	1 ✓	0	250	250	250	150	150
18	119+555	Box Culvert	1	1.3	1 ✓	0	250	250	250	150	150
19	120+385	Box Culvert	1	1.3	1 ✓	0	250	250	250	150	150
20	121+700	Box Culvert	1	3	1.5 ✓	49	250	250	250	150	150
21	121+865	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
22	121+910	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
23	123+935	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
24	128+030	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
25	128+980	Box Culvert	2	4.5	2 ✓	45	475	350	350	150	300
26	129+050	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
27	133+950	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
28	134+953	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
29	136+105	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
30	137+450	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
31	139+505	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
32	140+955	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
33	142+012	Box Culvert	1	1	1 ✓	0	200	200	200	150	150

TENDER DRAWINGS



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWED UL HAQ	DRAWN BY	RAJA SHAFIQ
03	PROJECT ENGINEER	SUBMITTED BY	YAK
02	M/S HESTAK	RECOMMENDED BY	Q
01		CHK./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	SCHEDULE OF STRUCTURES	SCALE
DATE	MARCH 2016	DRAWING NO.
		3905/102/TD/SCH-01
		REV.

Sr No.	Chainage	Structure Type	No. of Spans/Pipes	Clear Span Width/Dia. (m)	Clear Hieght	Skew	Ts & Tb (mm)	Tw1 (mm)	Tw2 (mm)	T1 (mm)	L1 (mm)
34	144+505	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
35	144+865	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
36	146+692	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
37	148+310	Box Culvert	1	2	1.5 ✓	0	250	250	250	150	300
38	150+470	Box Culvert	1	2	1.5 ✓	0	250	250	250	150	300
39	150+840	Box Culvert	1	1.5	1 ✓	5	250	250	250	150	150
40	151+812	Box Culvert	1	2	1.5 ✓	0	250	250	250	150	300
41	158+280	Box Culvert	2	2.5	1.5 ✓	0	300	300	300	150	300
42	158+674	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
43	160+60	Box Culvert	1	1	1 ✓	0	200	200	200	150	150
44	162+571	Box Culvert	1	2.5	1 ✓	0	275	275	275	150	150
45	162+778	Box Culvert	1	2.5	1 ✓	0	275	275	275	150	150
46	162+865	Box Culvert	1	2.5	1 ✓	0	275	275	275	150	150
47	164+115	Box Culvert	1	2.5	1 ✓	0	275	275	275	150	150
48	164+337	Box Culvert	1	2.5	1 ✓	0	275	275	275	150	150

Sr No.	Chainage	Structure Type	No. of Spans	Clear Span Width (m)	Clear Hieght	Skew
1	131+295	Bridge	1	30 ✓	-	0
2	157+130(BRIDGE-1)	Bridge	2	25 ✓	-	9
3	157+898(BRIDGE-2)	Bridge	5	22.5 ✓	-	0
4	148+290	Bridge	1	40 ✓	-	38
5	148+365	Bridge	1	40 ✓	-	38
6	149+240	Bridge	7	40 ✓	-	37
7	149+970	Underpass	1	6 ✓	4	30
8	150+415	Underpass	1	6 ✓	4	0
9	151+080	Underpass	1	6 ✓	4	45
10	152+580	Underpass	1	6 ✓	4	0
11	154+580	Underpass	1	6 ✓	4	25
12	155+592	Bridge	1	30 ✓	-	48
13	157+290	Bridge	2	30 ✓	-	20
14	157+550	Underpass	1	6 ✓	4	40
15	158+510	Underpass	1	6 ✓	4	40
16	159+200	Bridge	1	40 ✓	-	64



TENDER DRAWINGS



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

04	JAWED UL HAQ	DRAWN BY	RAJA SHAFIQ
03	PROJECT MANAGER	SUBMITTED BY	gus
02	M/S P&CA	RECOMMENDED BY	Q
01		CHD./VER. BY	
REV.	DATE	DESCRIPTION	APPROVED

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

TITLE	SCHEDULE OF STRUCTURES	SCALE
DATE	MARCH 2018	DRAWING NO.
		3905/102/TD/SCH-02
		REV.

Sr. No	Chainage	Structure Type	No. of Spans/Pipes	Clear Span Width/Dia. (m)	Clear Hieght	Skew
1	149+725	Pipe Culvert	1	1.1	-	30
2	150+180	Pipe Culvert	1	1.1	-	0
3	150+415	Pipe Culvert	1	1.1	-	0
4	150+890	Pipe Culvert	1	1.1	-	53
5	151+490	Pipe Culvert	1	1.1	-	0
6	152+085	Pipe Culvert	1	1.1	-	10
7	152+590	Pipe Culvert	1	1.1	-	20
8	152+700	Pipe Culvert	1	1.1	-	0
9	152+950	Pipe Culvert	1	1.1	-	0
10	153+015	Pipe Culvert	1	1.1	-	0
11	153+240	Pipe Culvert	1	1.1	-	10
12	153+720	Pipe Culvert	1	1.1	-	0
13	154+600	Pipe Culvert	1	1.1	-	25
14	156+895	Pipe Culvert	1	1.1	-	0
15	157+360	Pipe Culvert	1	1.1	-	45
16	157+840	Pipe Culvert	1	1.1	-	25
17	157+895	Pipe Culvert	1	1.1	-	25
18	158+065-095	Pipe Culvert	4	1.1	-	45
19	158+210	Pipe Culvert	1	1.1	-	45



TENDER DRAWING

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p>	04	<p>RAJA SHAFIQ</p>	DRAWN BY	<p>RATODERC ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	TITLE		<p>SCHEDULE OF STRUCTURES</p>	SCALE
		03		SUBMITTED BY		<p>DATE MARCH 2018</p>	<p>DRAWING NO. 3905/102/TD/SCH-03</p>		
		02		RECOMMENDED BY					
		01		CHD./VER. BY					
		REV.		DATE					

LIST OF DRAWINGS

RATODERO TO RAJANPUR ROAD

(SECTION-II)

KANDH KOT TO KASHMORE

(Km. 105+820 - Km. 164+600)

Sr.No.	DESCRIPTION	DWG. Nos.
01	LIST OF DRAWINGS	3905/102/TD/P2G000
02	GENERAL NOTES	3905/102/TD/P2G001
03	LIST OF BRIDGES & UNDERPASS	3905/102/TD/P2B001
	BRIDGES	
04	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE AT 131+295	3905/102/TD/P2G101
05	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE AT 148+290	3905/102/TD/P2G102
06	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE AT 148+365	3905/102/TD/P2G103
07	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE AT 149+240	3905/102/TD/P2G104
08	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE AT 155+680	3905/102/TD/P2G105
09	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE AT 157+275	3905/102/TD/P2G106
10	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE AT 159+185	3905/102/TD/P2G107
11	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE-1	3905/102/TD/P2GB1
12	GENERAL ARRANGEMENT PLAN & ELEVATION BRIDGE-2	3905/102/TD/P2GB2 & P2GB2A
13	25M PRESTRESSED GIRDER CONCRETE OUTLINE & PRESTRESSING DETAILS	3905/102/TD/P2G108
14	25M PRESTRESSED GIRDER REINFORCEMENT DETAILS	3905/102/TD/P2G109
15	30M PRESTRESSED GIRDER CONCRETE OUTLINE & PRESTRESSING DETAILS	3905/102/TD/P2G110
16	30M PRESTRESSED GIRDER REINFORCEMENT DETAILS	3905/102/TD/P2G111
17	40M PRESTRESSED GIRDER CONCRETE OUTLINE & PRESTRESSING DETAILS	3905/102/TD/P2G112
18	40M PRESTRESSED GIRDER REINFORCEMENT DETAILS	3905/102/TD/P2G113
19	ABUTMENT AB1,AB2 & PIER REINFORCEMENT DETAILS	3905/102/TD/P2G114
20	MISCELLANEOUS DETAILS	3905/102/TD/P2G115
	UNDERPASSES & CULVERTS	
21	GENERAL ARRANGEMENT CONCRETE OUTLINE ROAD UNDERPASS (6000x4000)	3905/102/TD/P2UP116
22	GENERAL ARRANGEMENT CONCRETE OUTLINE ROAD UNDERPASS (10000x5100)	3905/102/TD/P2UP117
23	GENERAL ARRANGEMENT CONCRETE OUTLINE ROAD UNDERPASS (10000x5100)	3905/102/TD/P2UP118
24	BOX CULVERT GENERAL ARRANGEMENT	3905/102/TD/P2G119
25	PIPE CULVERT-TRENCHING AND INLET/OUTLET DETAILS	3905/102/TD/P2PC120





TENDER DRAWINGS

GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04	JAWABDAR M/S NESPAK		DRAWN	AZIZ SAEED	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	LIST OF DRAWINGS		SCALE
		03			SUBMITTED	QWY				
		02			RECOMMENDED	W				
		01			CHD./VER.					
				REV.	DATE	DESCRIPTION		APPROVED	APPROVED	
							DATE	DWG. NO.	REV.	
							JULY 2018	3905/102/TD/P2G000		

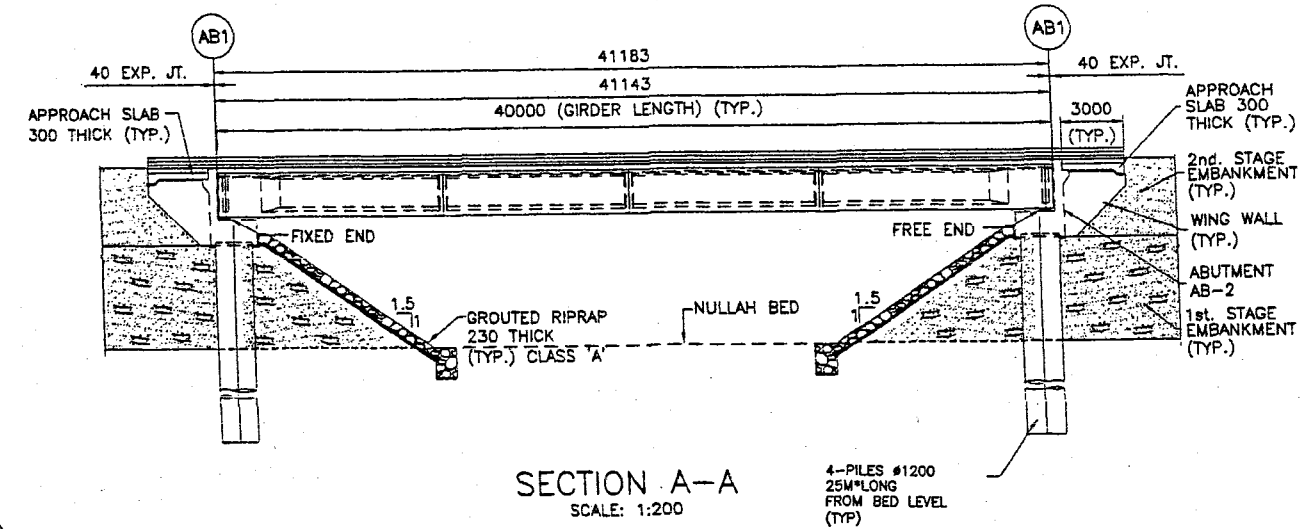
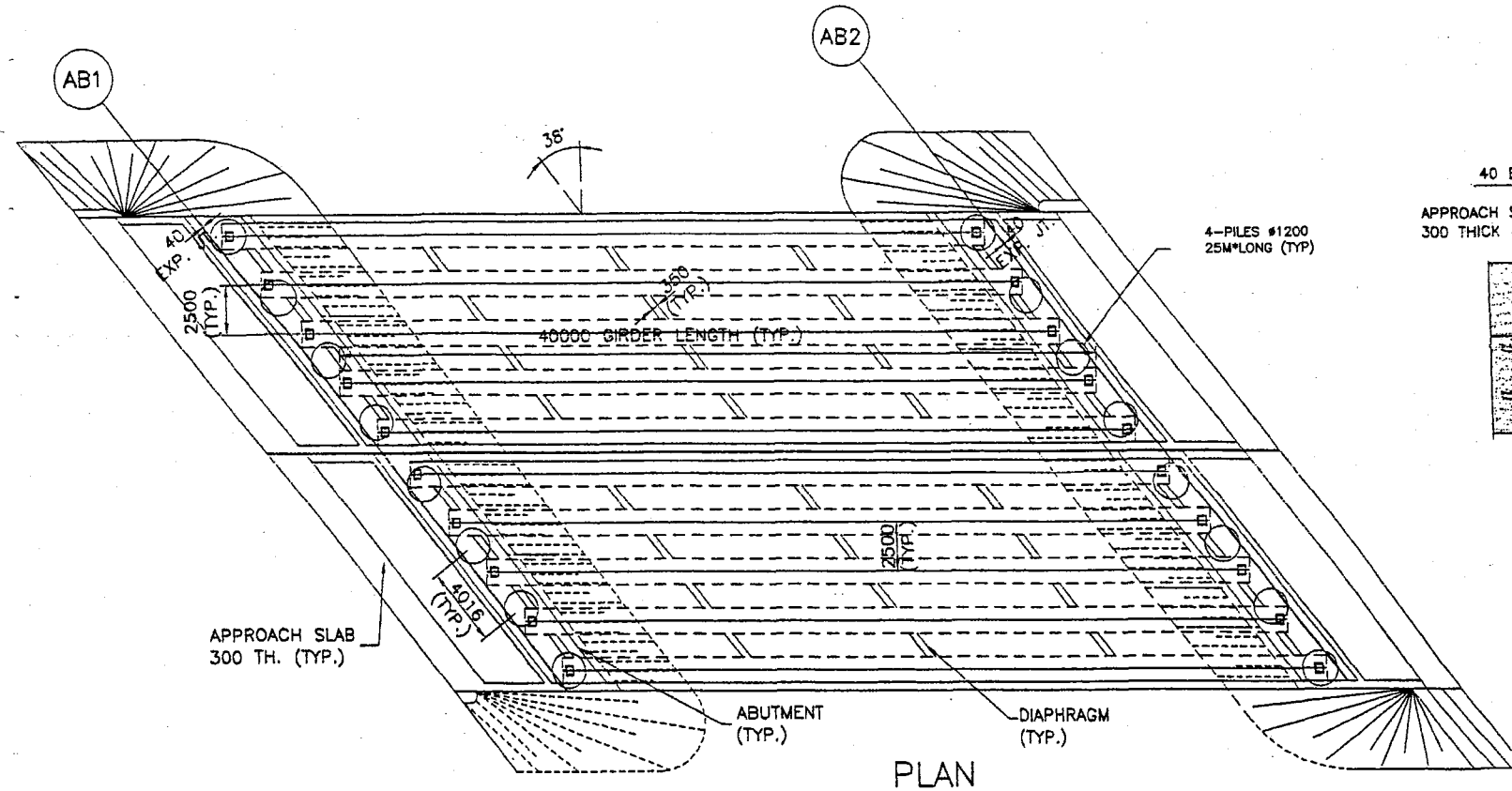
LIST OF BRIDGES AND UNDERPASS

PACKAGE III						
KAND KOT TO KASHMORE						
Sr No.	Chainage	Structure Type	No. of Spans	Clear Span Width (m)	Clear Hieght	Skew
1	107+420	Underpass	1	10	5.1	30
2	108+890	Underpass	1	10	5.1	30
3	125+940	Underpass	1	6	4.5	30
4	131+295	Bridge	1	30	-	0
5	138+070	Underpass	1	6	4.5	30
6	141+620	Underpass	1	6	4.5	10
7	148+290	Bridge	1	40	-	38
8	148+365	Bridge	1	40	-	38
9	149+240	Bridge	7	40	-	37
10	149+970	Underpass	1	6	4.5	30
11	150+415	Underpass	1	6	4.5	0
12	151+080	Underpass	1	6	4.5	45
13	152+580	Underpass	1	6	4.5	0
14	154+580	Underpass	1	6	4.5	25
15	155+680	Bridge	1	30	-	48
16	157+130	Bridge	2	25	-	9
17	157+275	Bridge	2	30	-	20
18	157+540	Underpass	1	6	4.5	40
19	157+898	Bridge	5	22.5		0
20	158+500	Underpass	1	6	4.5	40
21	159+200	Bridge	1	40	-	64

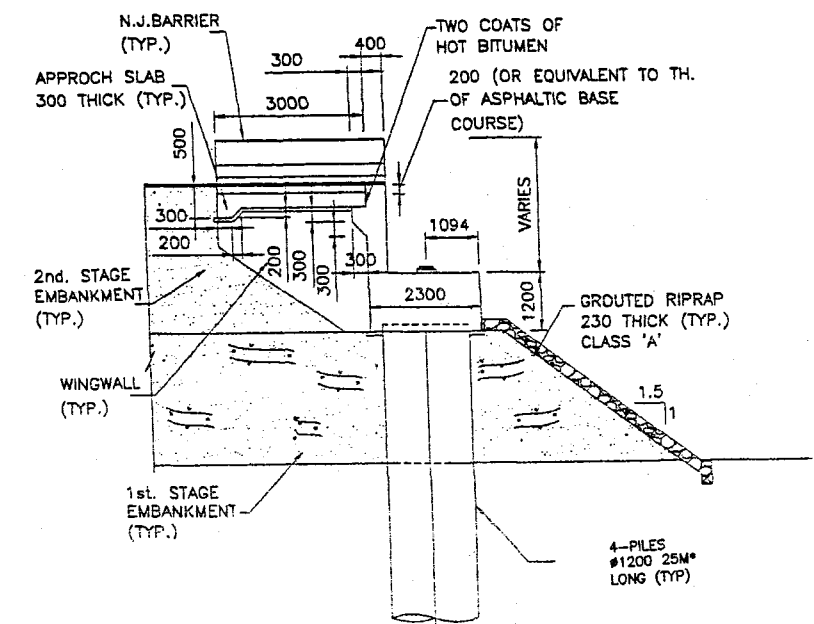
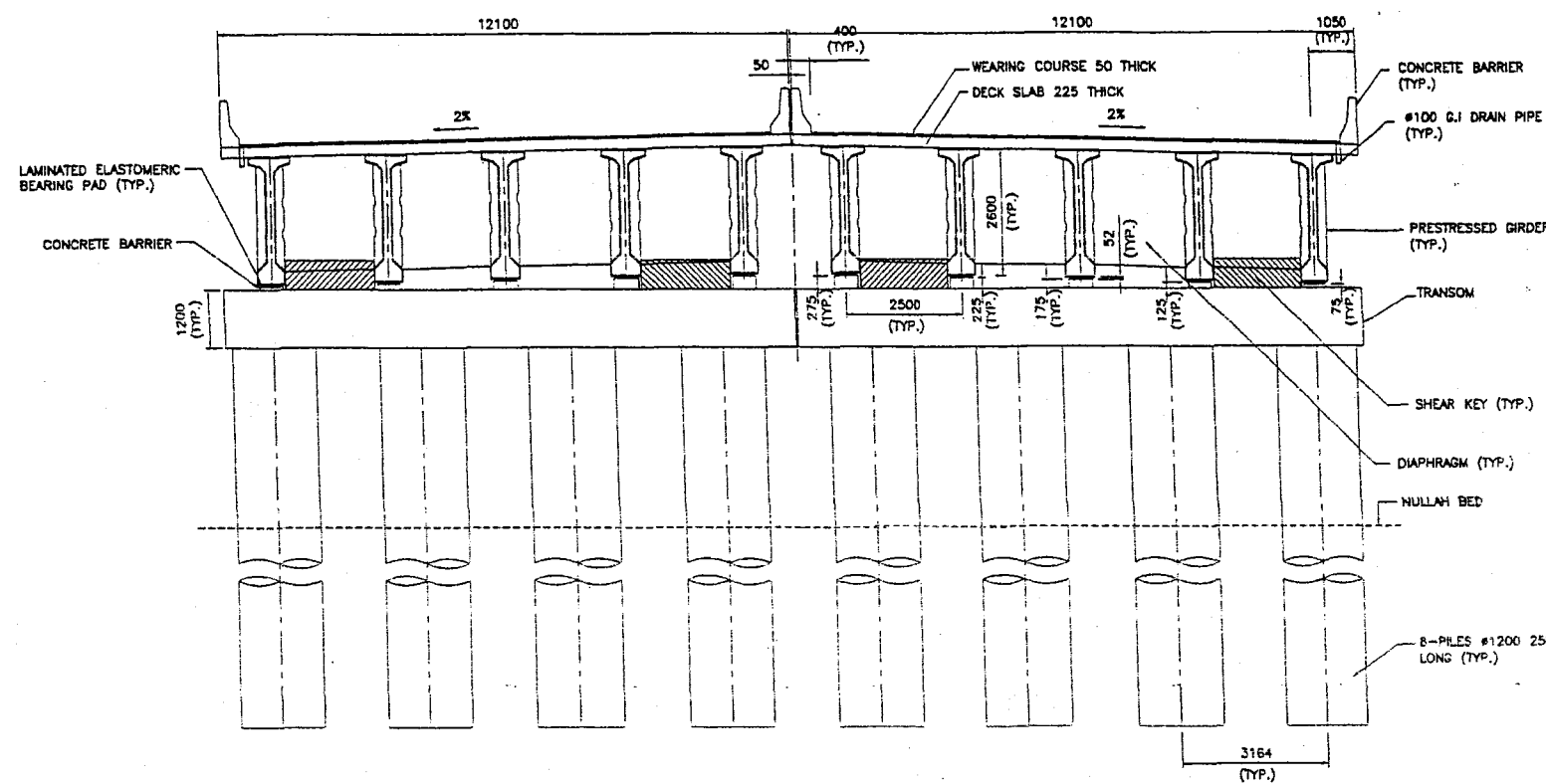


 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04				DRAWN BY	RAJA SHAFIQ	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	TITLE LIST OF BRIDGES AND UNDERPASS	SCALE
		03				SUBMITTED BY				
		02				RECOMMENDED BY				
		01				CHD./VER. BY				
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY				
								DATE	DRAWING NO.	REV.
								MARCH 2018	3905/102/TD/P2B001	

TENDER DRAWINGS
NOT FOR CONSTRUCTION



TENDER DRAWINGS



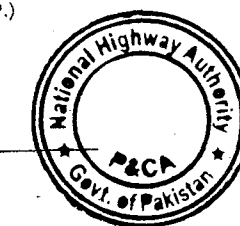
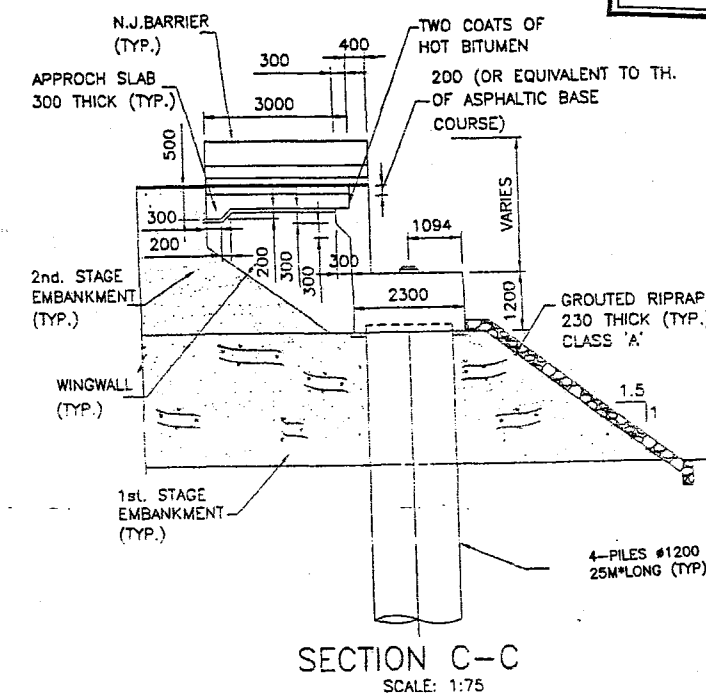
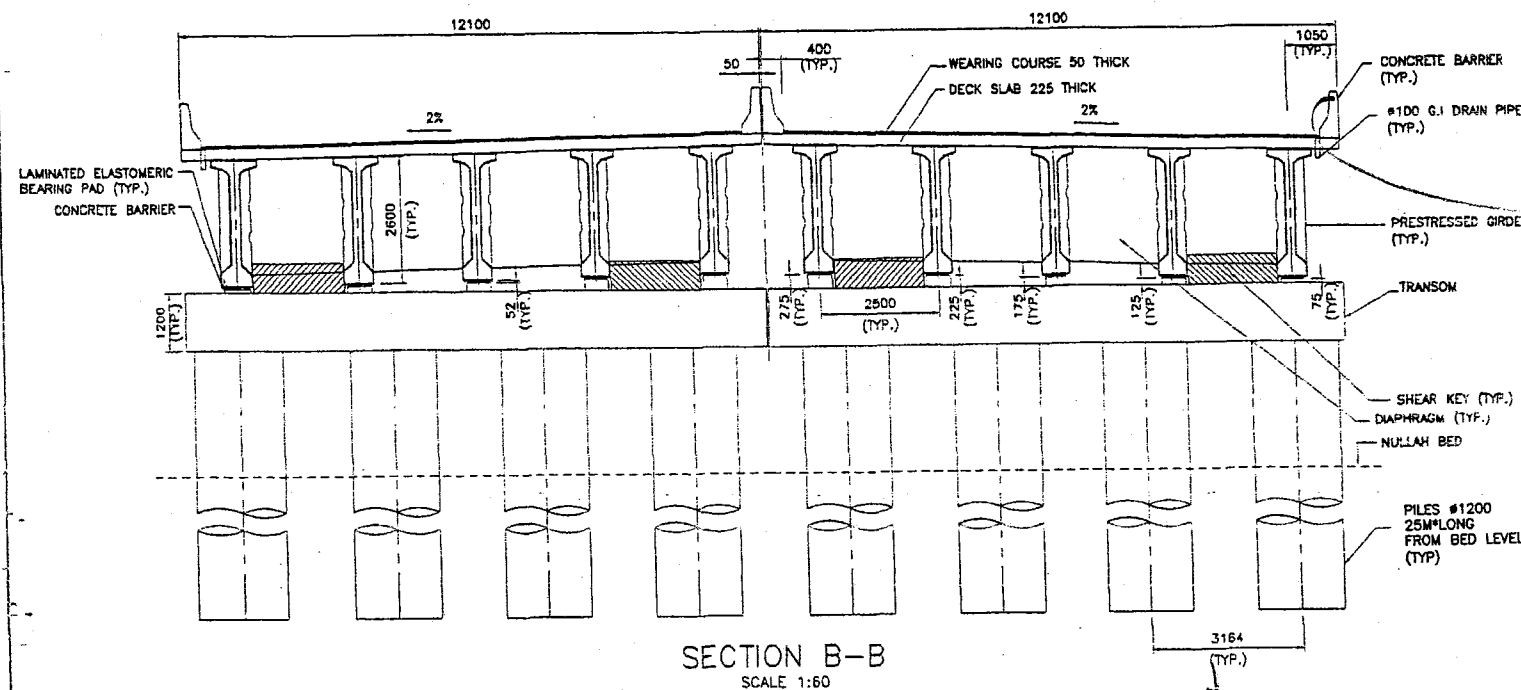
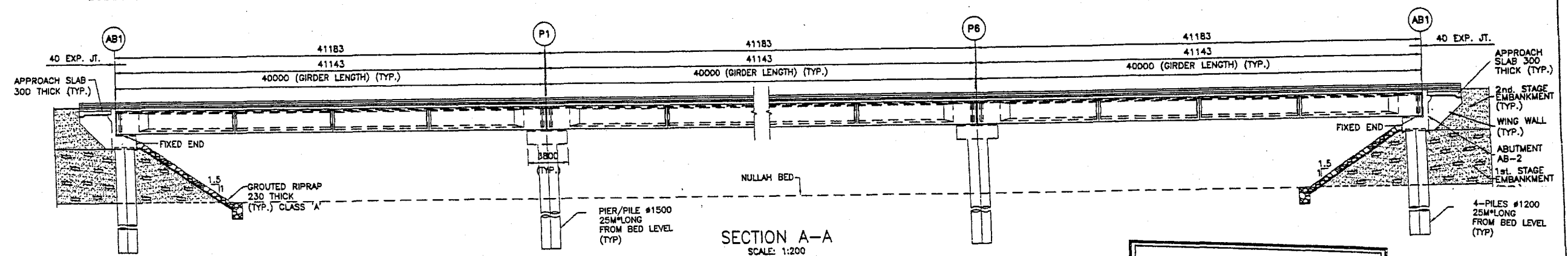
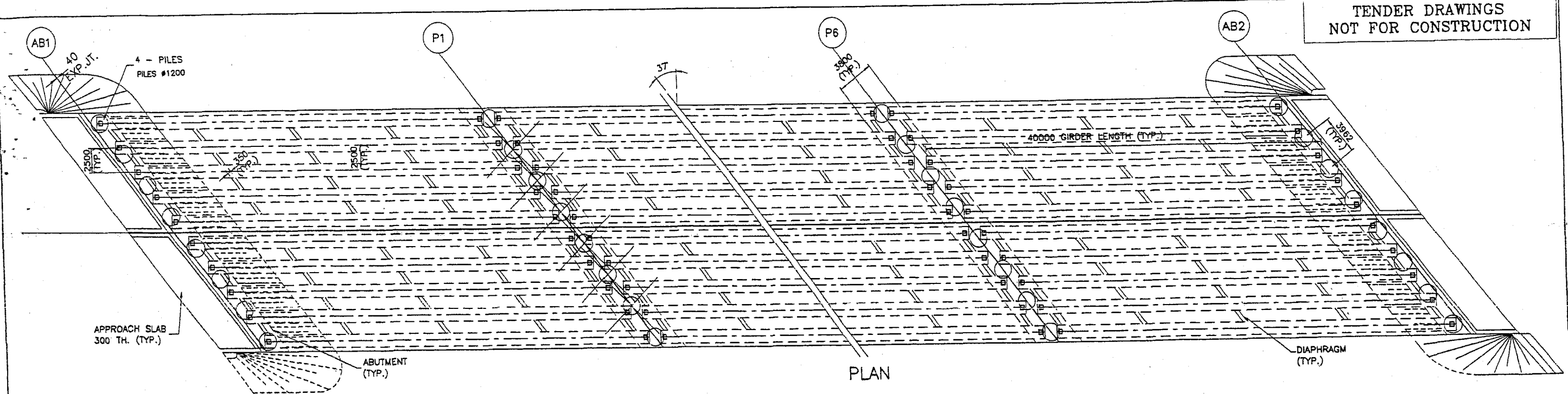
NOTES:

1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.



<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>D4 D3 D2 D1 REV. DATE DESCRIPTION APPROVED</p>	<p>DRAWN SUBMITTED RECOMMENDED CHD./VER. APPROVED</p>	<p>ATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTIONS BRIDGE AT CH. 148+365 JULY 2018 DWG NO. 3905/102/TD/P2G103 SCALE 1:200 REV.</p>
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TENDER DRAWINGS
NOT FOR CONSTRUCTION



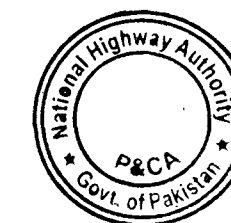
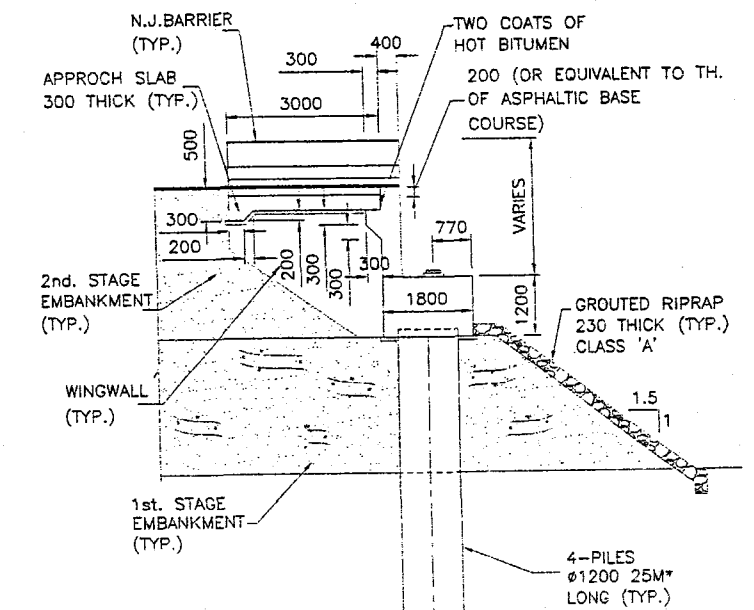
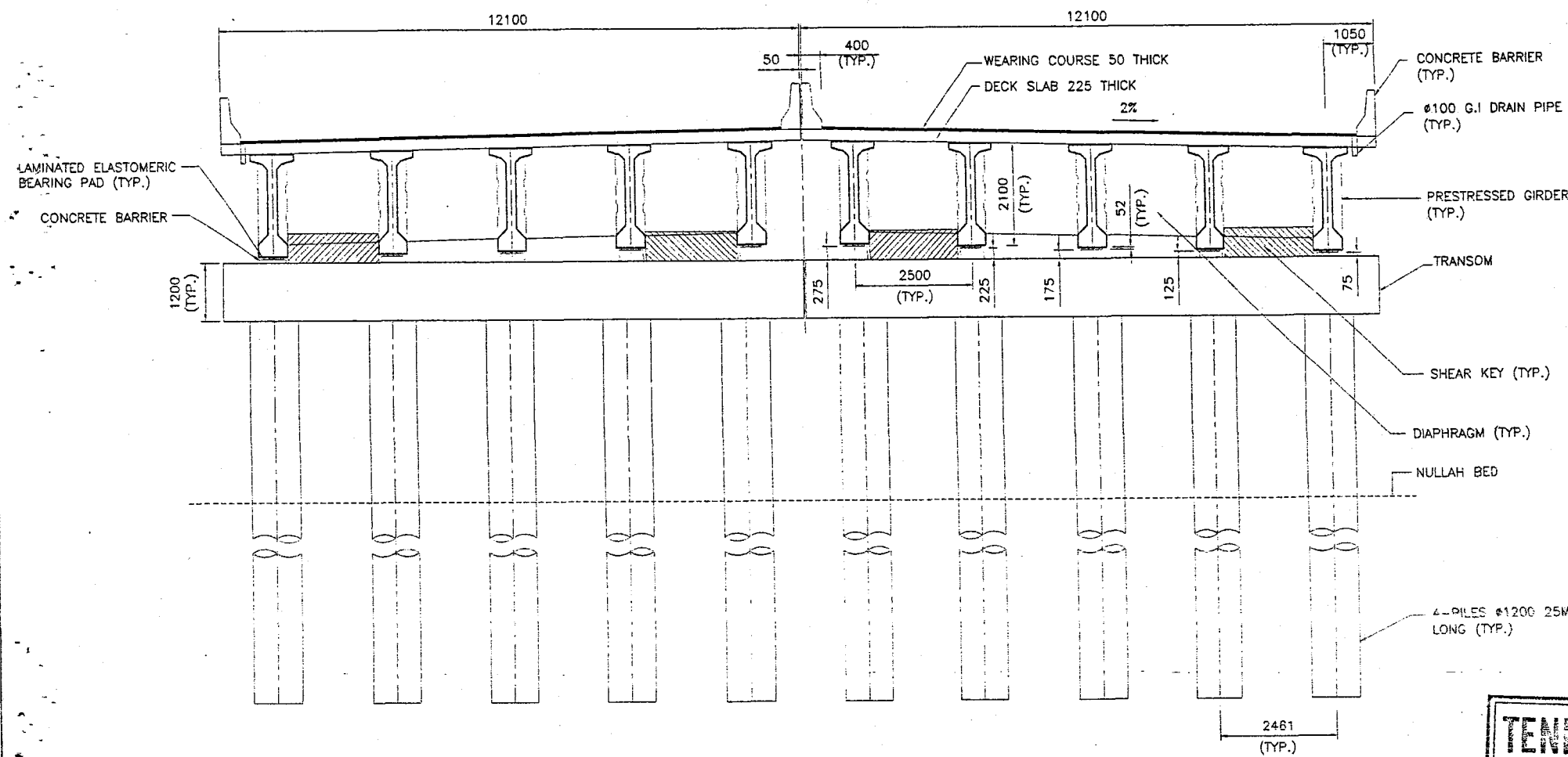
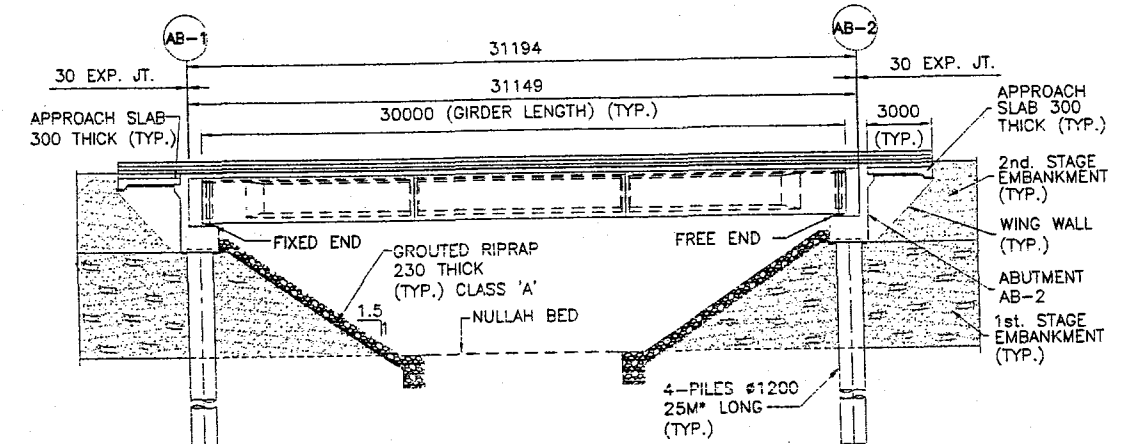
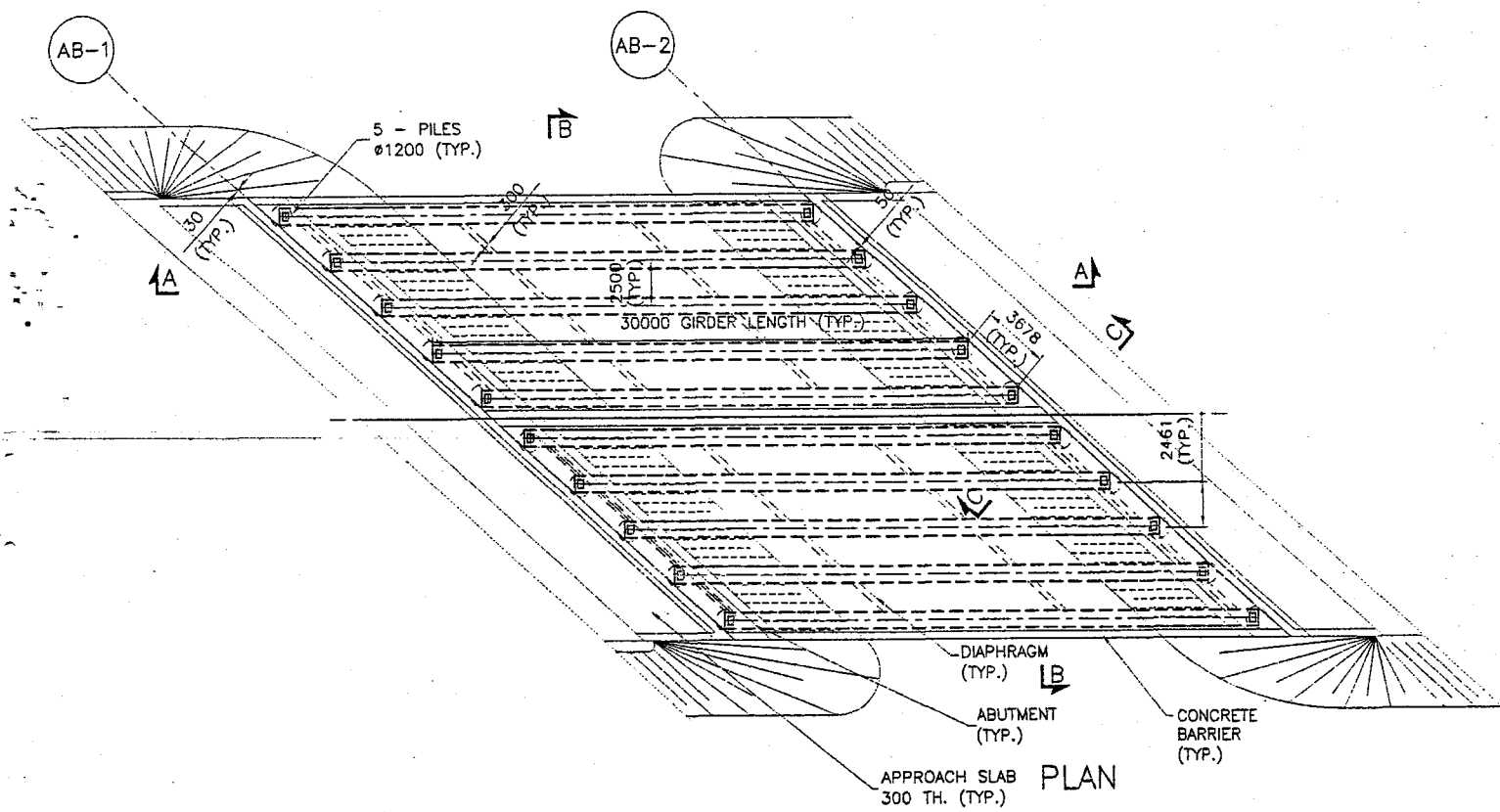
SECTION D-D
SCALE 1:75

NOTES:

1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NES NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>D4 D3 D2 D1 REV. DATE DESCRIPTION APPROVED</p> <p><i>JAWAD UL HAQ</i> <i>M/3</i></p>	<p>DRAWN SUBMITTED RECOMMENDED CHD./VER. APPROVED</p> <p>AZIZ SAEED <i>MAX</i> <i>W</i></p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTIONS BRIDGE AT CH. 149+240 SCALE 1:200</p> <p>DATE: JULY 2018 DWG NO.: 3905/102/TD/P2G104 REV.</p>
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BRIDGE AT CH. 149+240 (40m-37d-7 Span)\P2G104.dwg. 25.06.2018

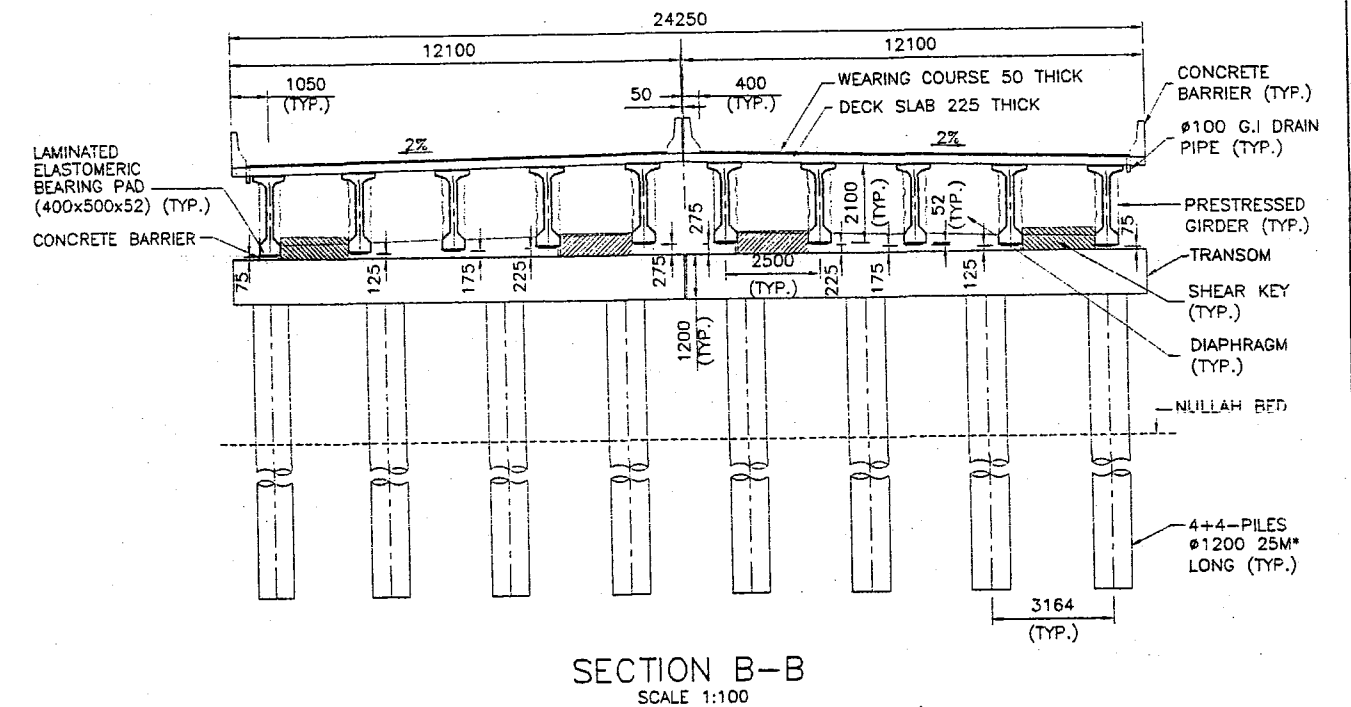
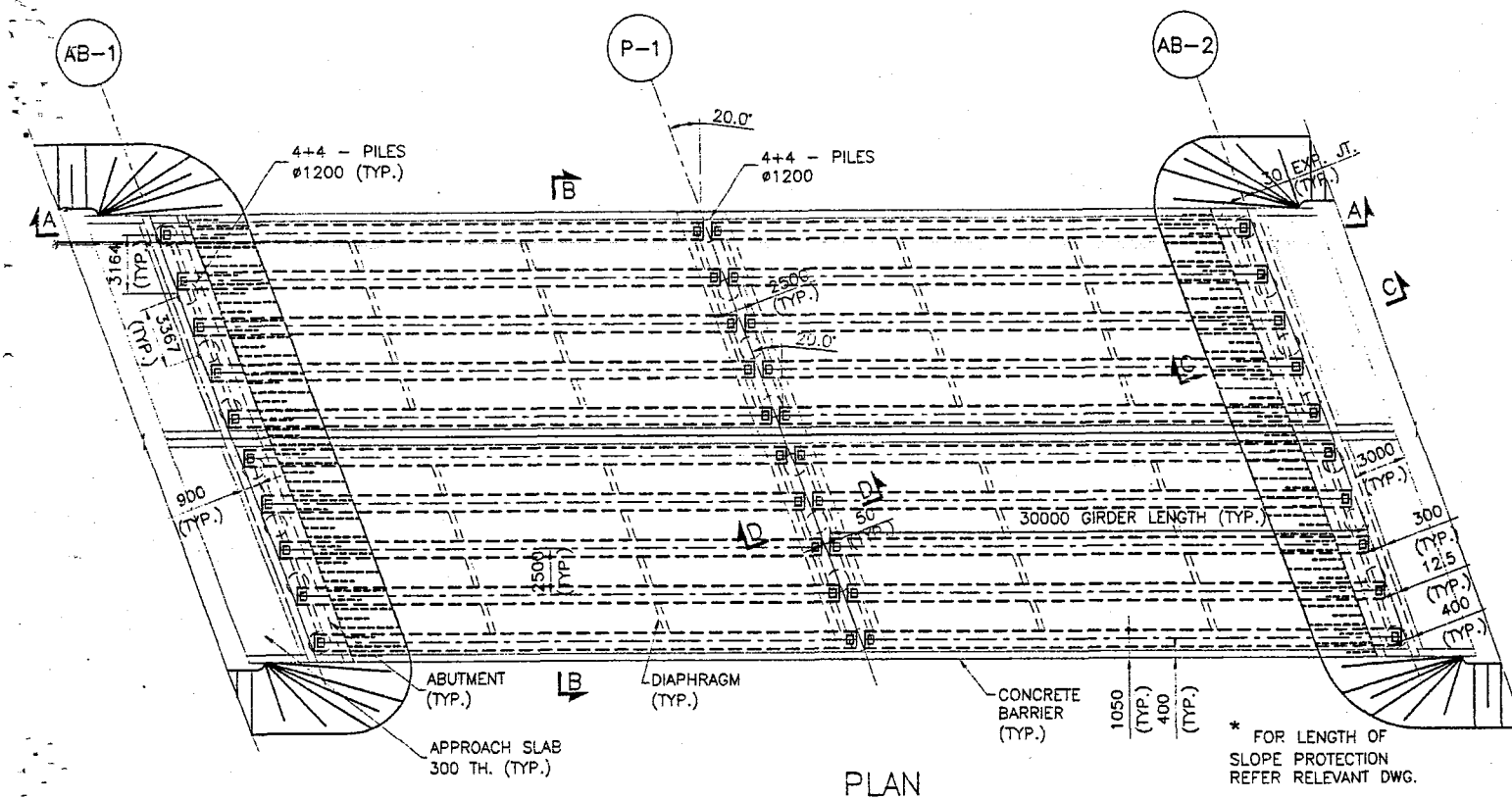


TENDER DRAWINGS

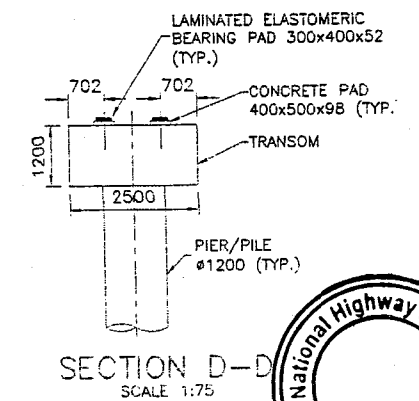
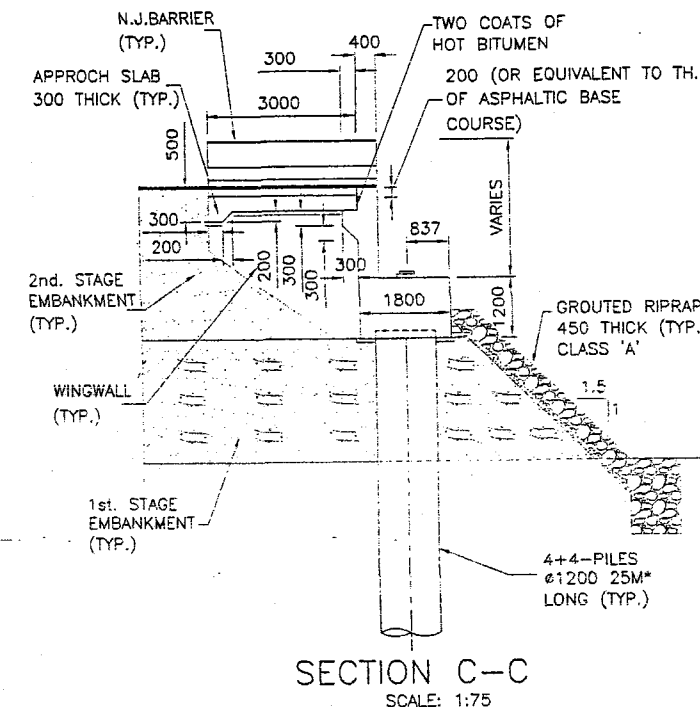
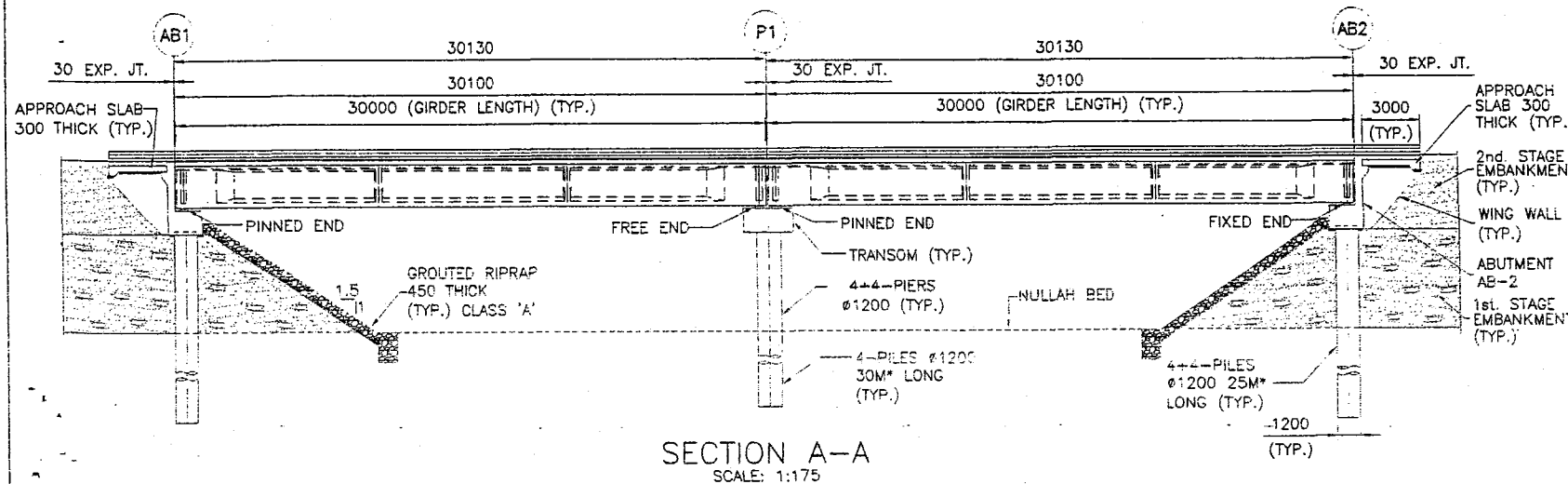
NOTES:

- FOR GENERAL NOTES REFER DWG NO. P2G001.
- WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION APPROVED</p>	<p>DRAWN A2:2 SAEED SUBMITTED RECOMMENDED CHD./VER. APPROVED</p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTIONS BRIDGE AT CH. 155+680 DWG NO. 3905/102/TD/P2G105 JULY 2018</p>	<p>SCALE 1:200 REV.</p>
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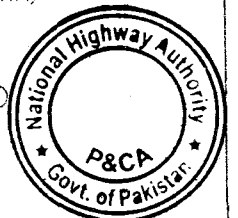
TENDER DRAWINGS



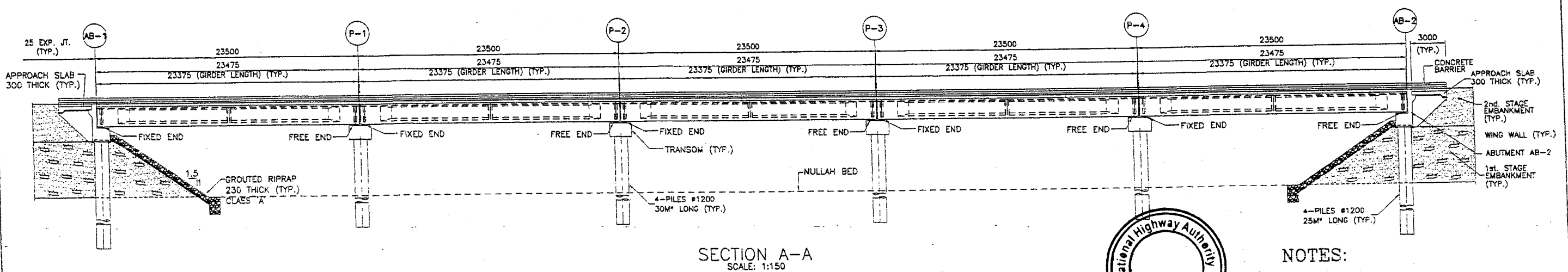
NOTES:

1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NES NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION APPROVED</p> <p>JAWAD UL HAQ Project Manager M/S NESPAK</p>	<p>DRAWN AZIZ SAEED SUBMITTED RECOMMENDED CHD./VER. APPROVED</p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTIONS BRIDGE AT CH. 157+275 DATE JULY 2018 DWG NO. 3905/102/TD/P2G106 SCALE 1:200 REV.</p>
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TENDER DRAWINGS



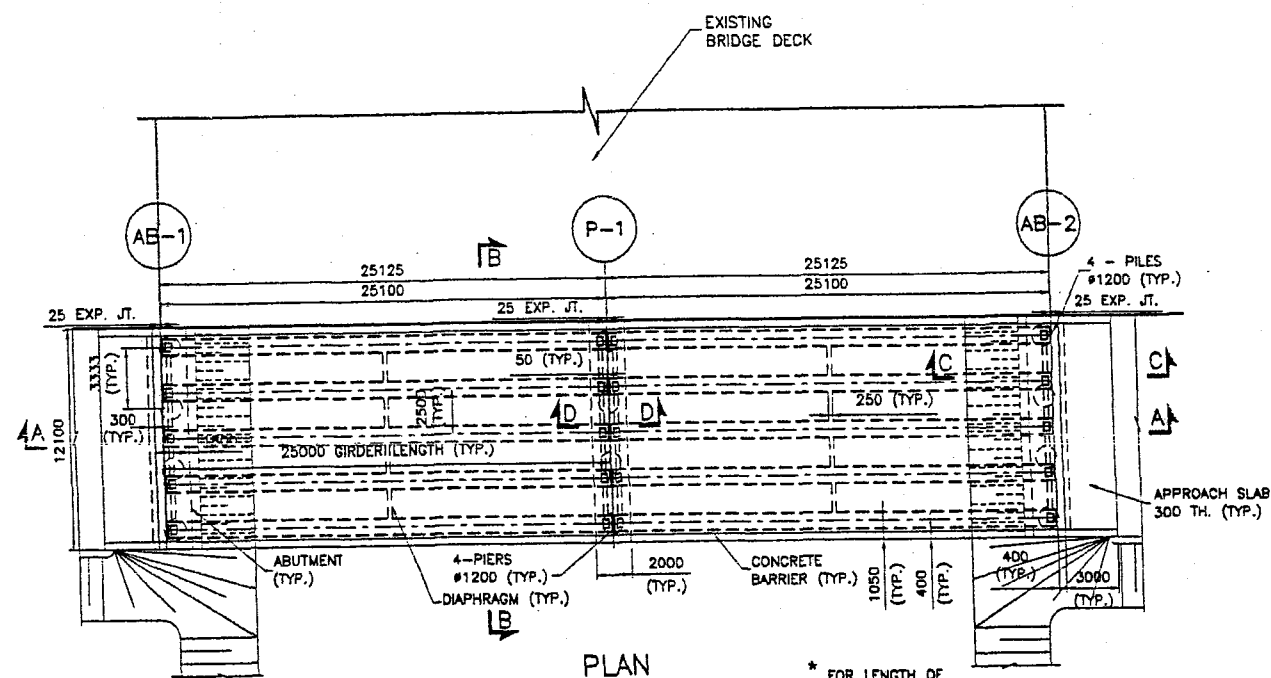
1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.



GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTIONS BRIDGE — 2		SCALE 1:200
DATE JULY 2018	DWG NO. 3905/102/TD/P2GB2	REV.

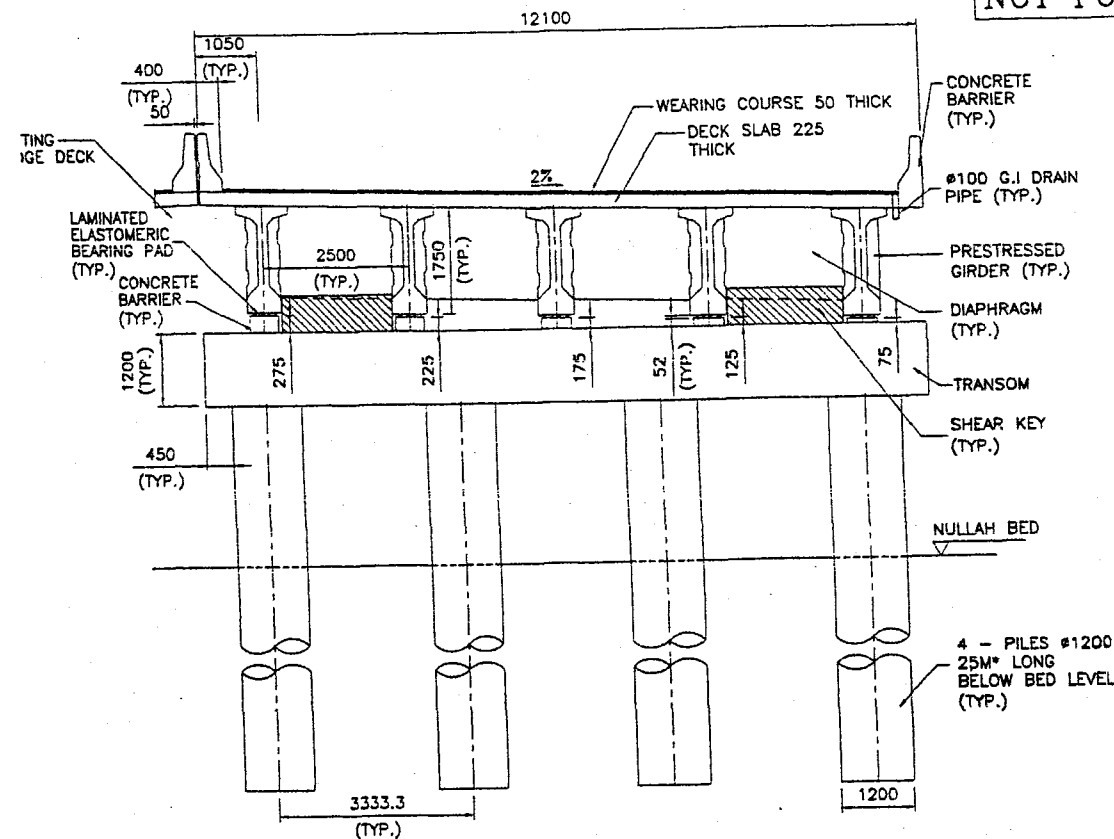
AZ. 0A 3905-TENDER\SECTION-#1\BRIDGE -2 at CH. 157+898 (23.375M-00-5 Spoon)\P2G103.dwg. 25.06.2018

TENDER DRAWINGS
NOT FOR CONSTRUCTION



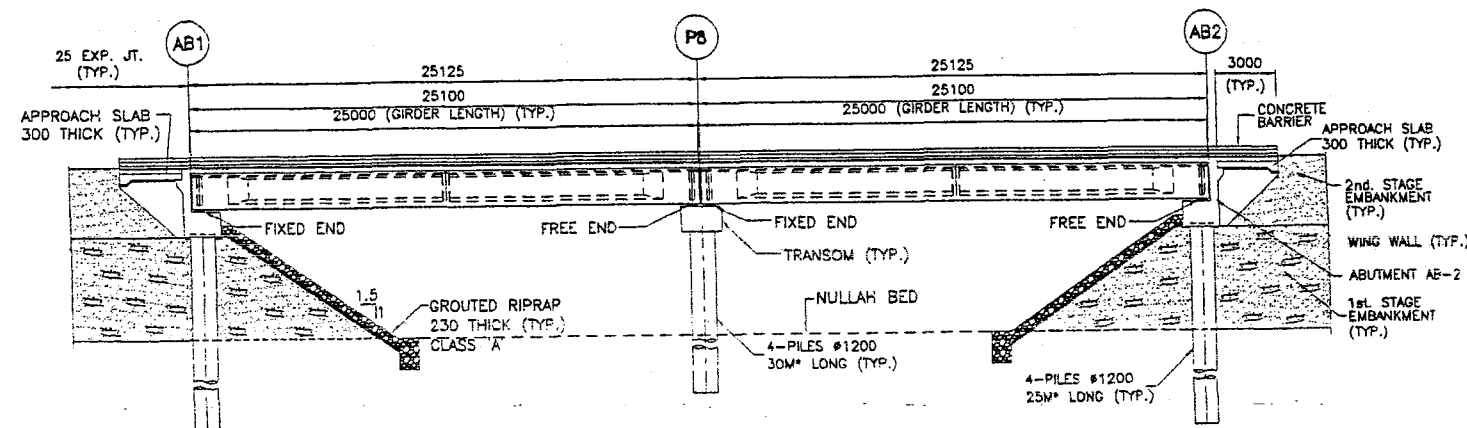
PLAN

* FOR LENGTH OF
SLOPE PROTECTION
REFER RELEVANT DWG.

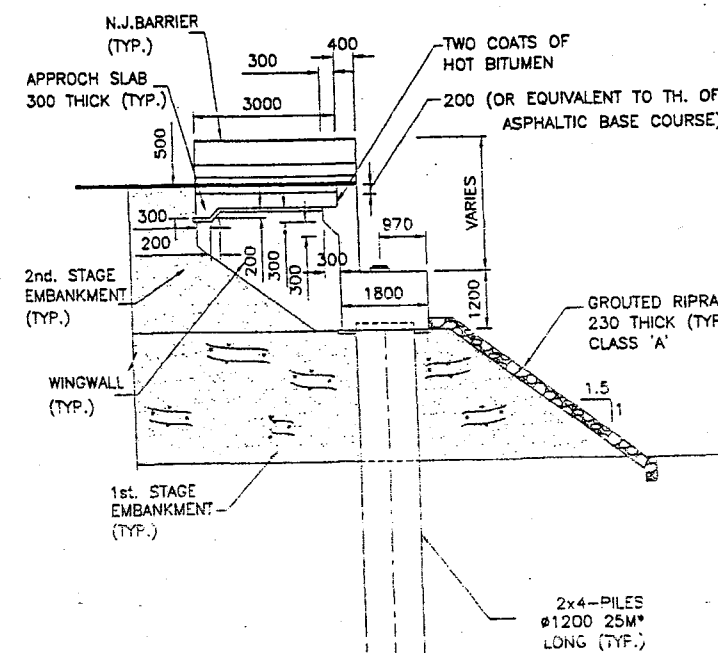


SECTION B-B

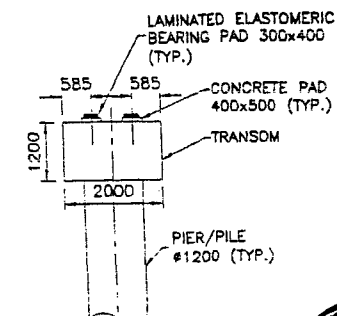
TENDER DRAWINGS



SECTION A-A
SCALE: 1:150



SECTION C-C
SCALE: 1:75



SECTION D-D
SCALE: 1:75

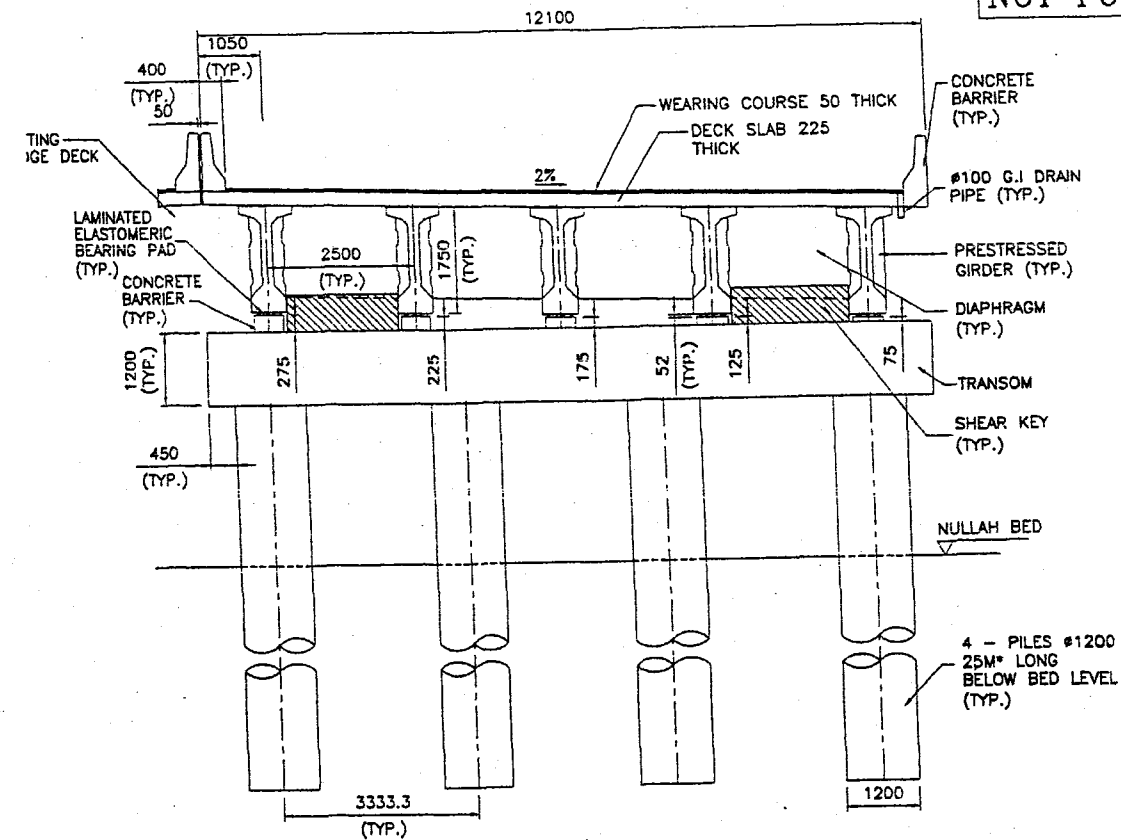
NOTES:

1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

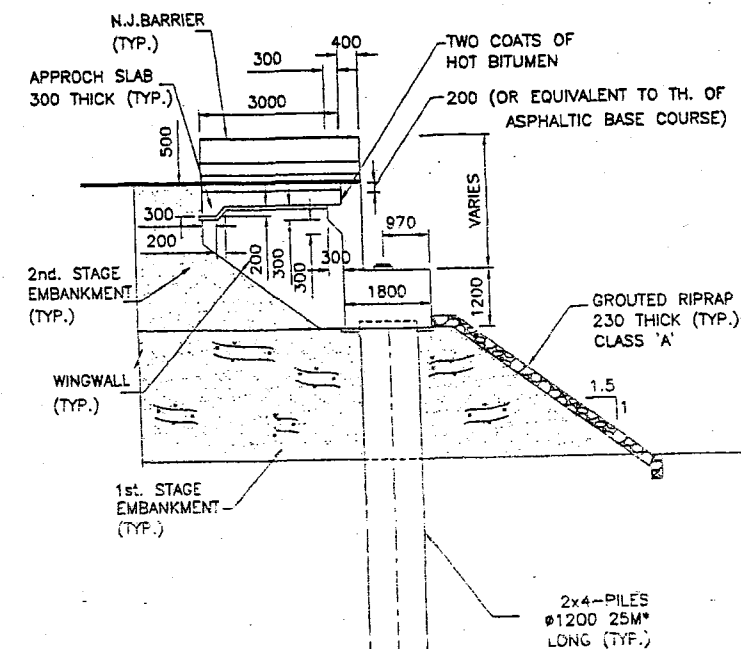
<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NES NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION APPROVED APPROVED</p>	<p>DRAWN A21Z SAEED SUBMITTED RECOMMENDED CHD./VER. APPROVED</p>	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>GENERAL ARRANGEMENT LAN, ELEVATION AND SECTIONS BRIDGE - 1 JULY 2018 3905/102/TD/P2GB1 SCALE 1:200 REV.</p>
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AZ, D:\3905-TENDER\SECTION-11\ORIGINAL -1 of CH. 157-130 (25m-0d-2 Span)\P2G102.dwg 25.06.2018

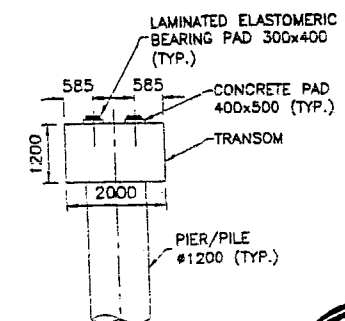
TENDER DRAWINGS



SECTION C-C
SCALE: 1:75



SECTION D-D
SCALE 1:75

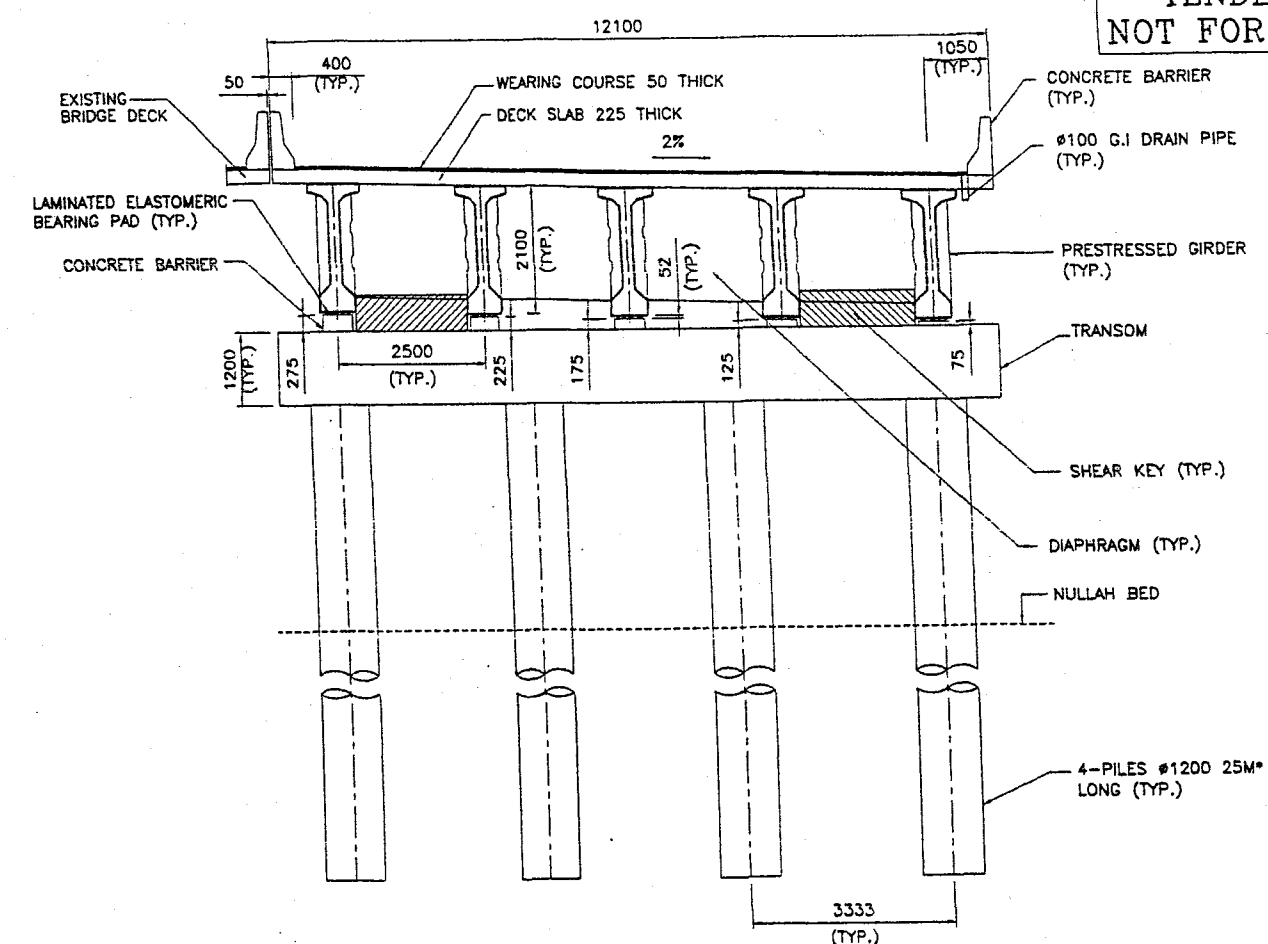
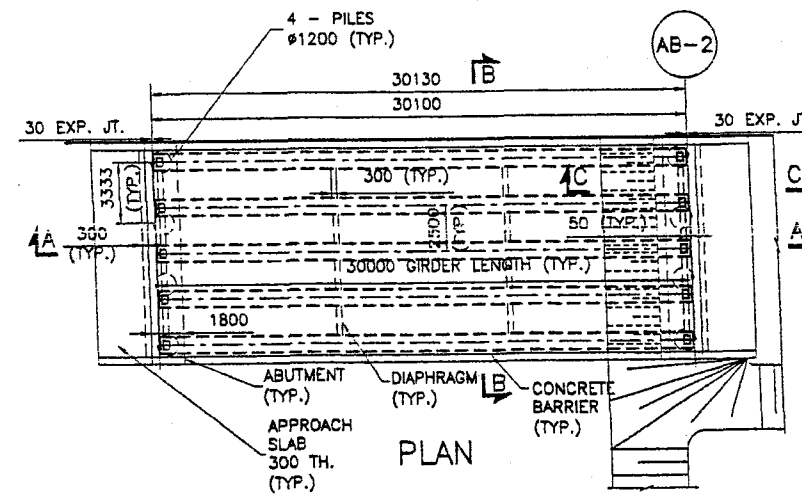


1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

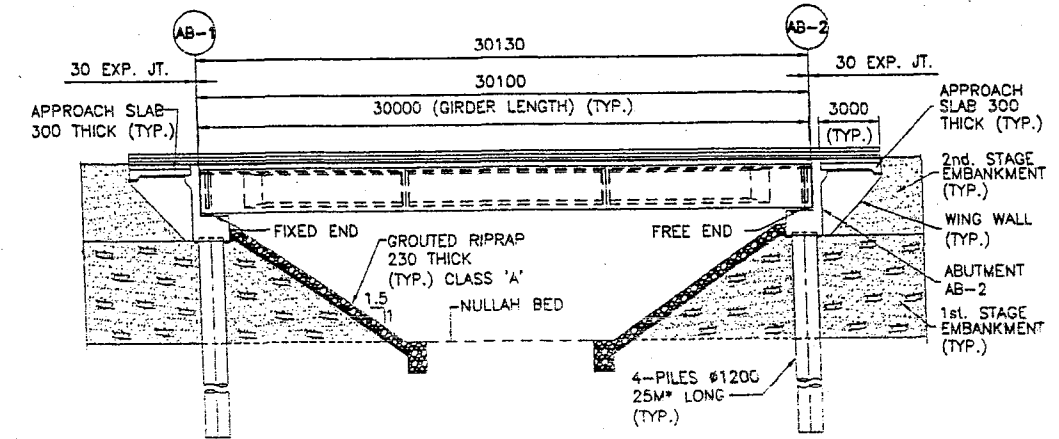


AZ. D. 3905-TENDER SECTION-BRIDGE -1 of CH. 157+130 (25m-0d-2 Span)\P2G102.dwg. 25.06.2018

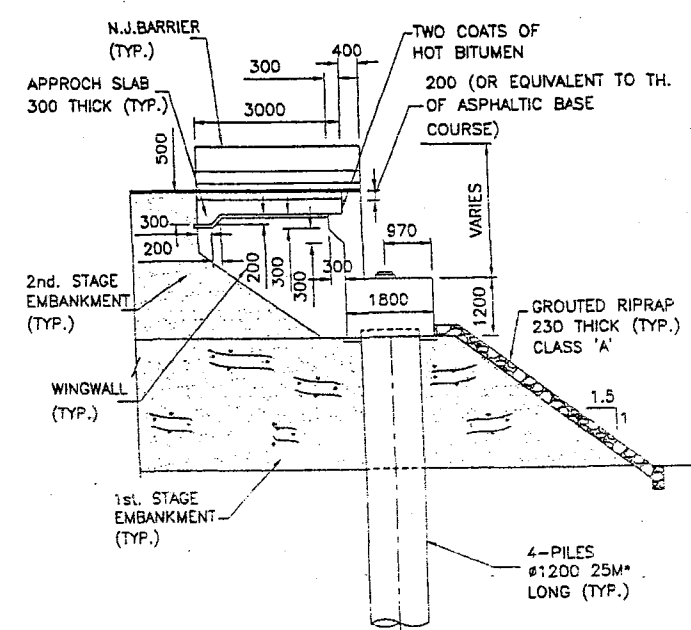
TENDER DRAWINGS
NOT FOR CONSTRUCTION



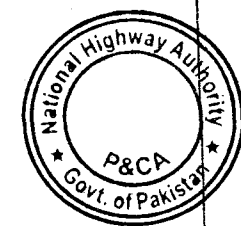
SECTION B-B
SCALE 1:60



SECTION A-A
SCALE: 1:175



SECTION C-C
SCALE: 1:75

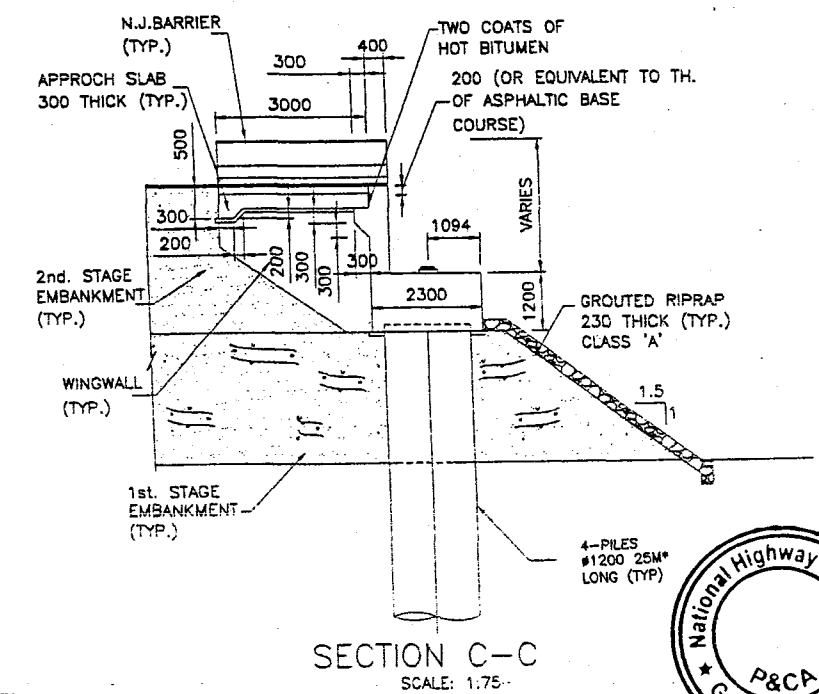
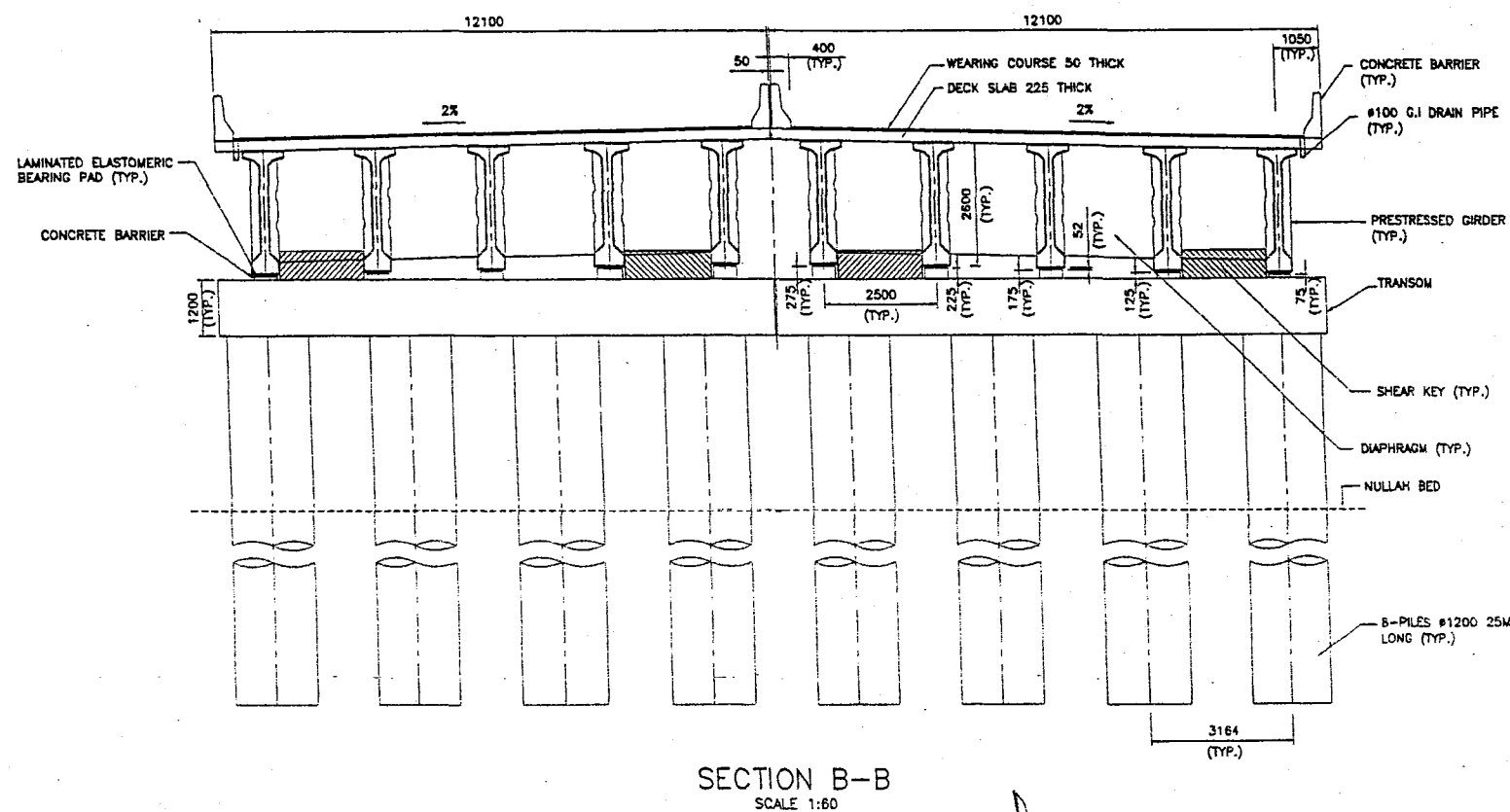
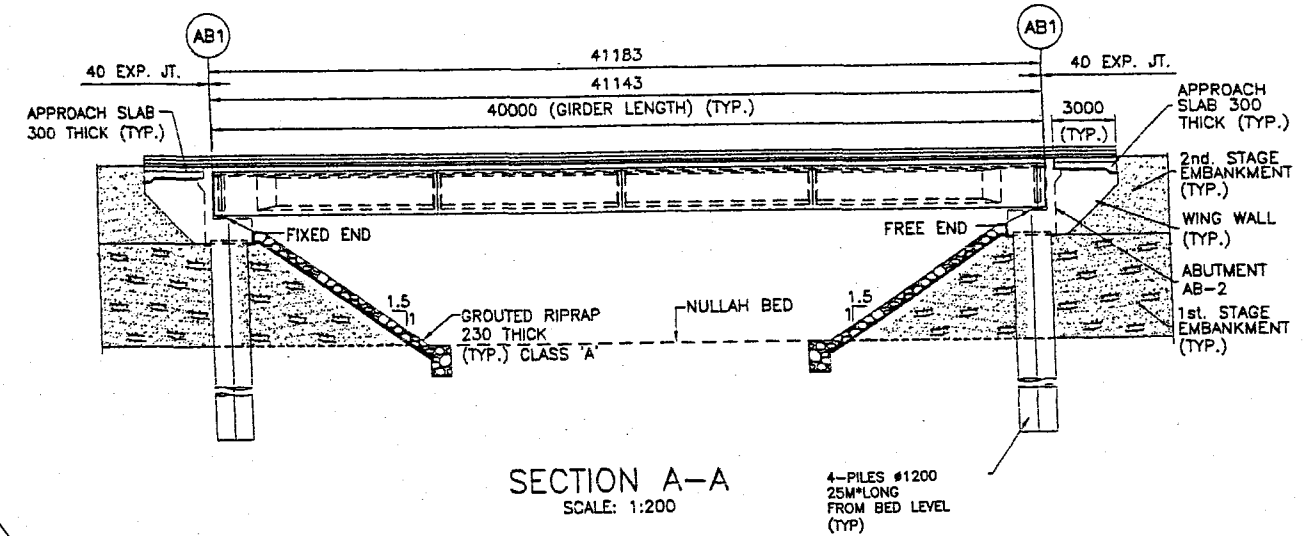
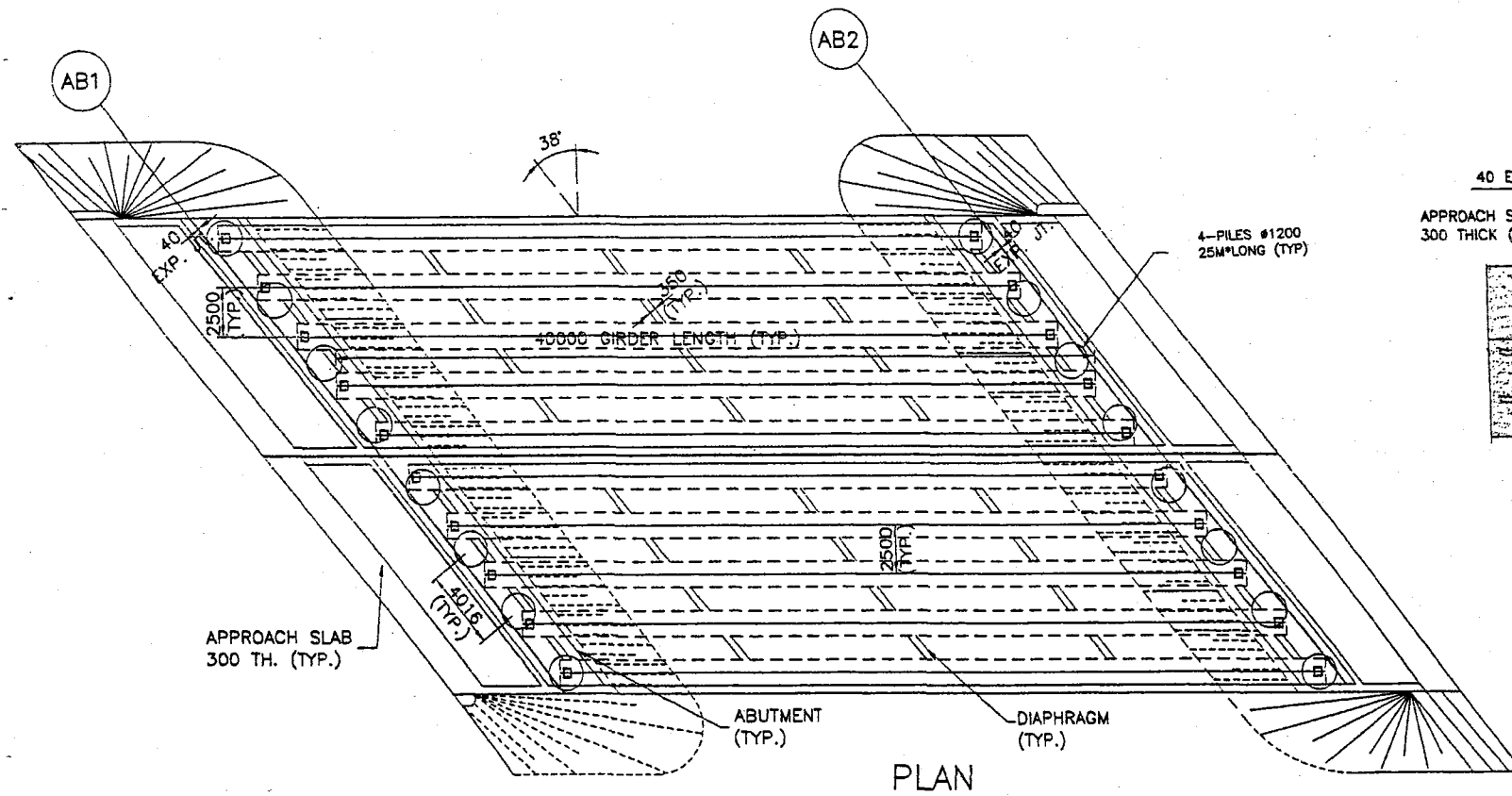


TENDER DRAWINGS

NOTES:

1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.


GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04			DRAWN	AZIZ SAEED	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTIONS BRIDGE AT CH. 131+295		SCALE 1:200
		03			SUBMITTED			DATE JUNE 2018	DWG NO. 3905/102/TD/P2G101	REV.
		02			RECOMMENDED					
		01			CHD./VER.					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED				



SECTION C-C
SCALE: 1:75

NOTES:

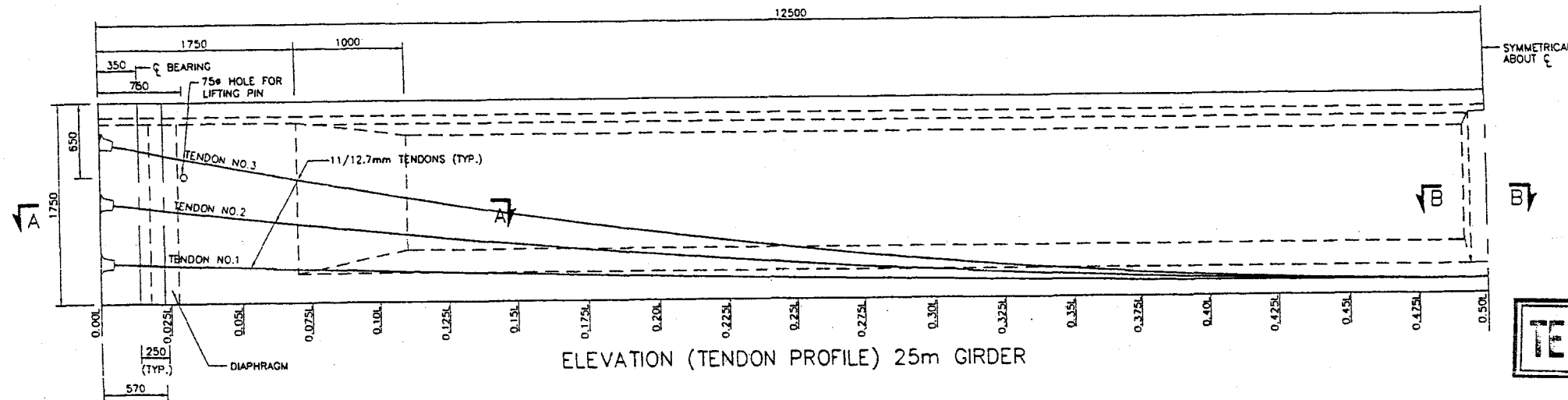
1. FOR GENERAL NOTES REFER DWG NO. P2G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	 JAVED IQBAL HAQ PROJECT MANAGER M/S NESPAK		DRAWN	AZIZ SAEED
		03			SUBMITTED	hmv
		02			RECOMMENDED	10
		01			CHD./VER.	
		REV. DATE DESCRIPTION APPROVED				

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

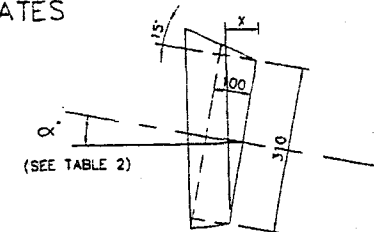
GENERAL ARRANGEMENT PLAN, ELEVATION AND SECTIONS BRIDGE AT CH. 148+290		SCALE 1:200
DATE JULY 2018	DWG NO. 3905/102/TD/P2G102	REV.

TENDER DRAWINGS
NOT FOR CONSTRUCTION

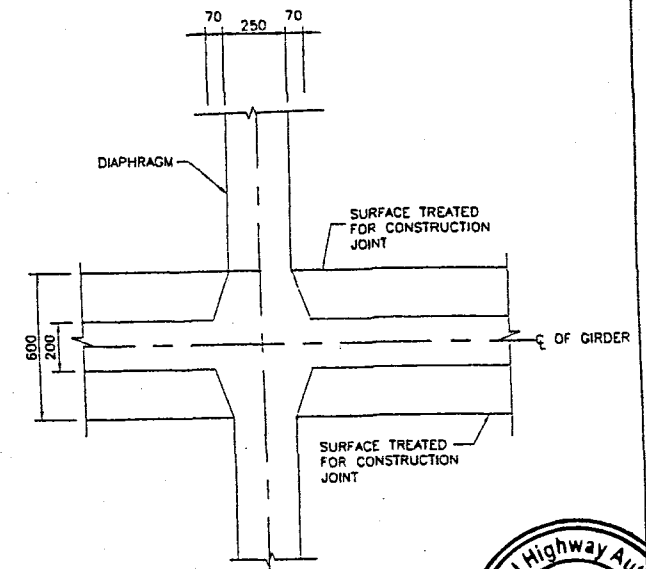


REFERENCE CO-ORDINATES

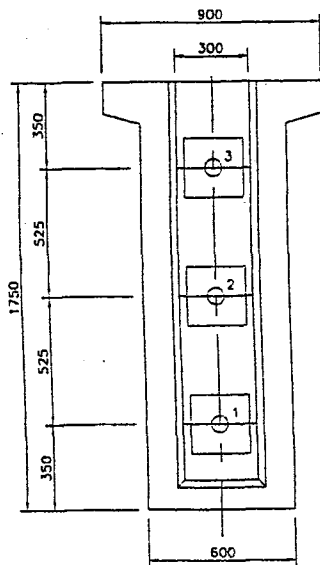
TENDER DRAWINGS



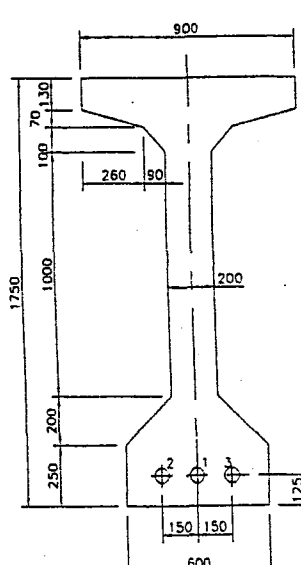
ANCHORAGE
RECESS DETAILS



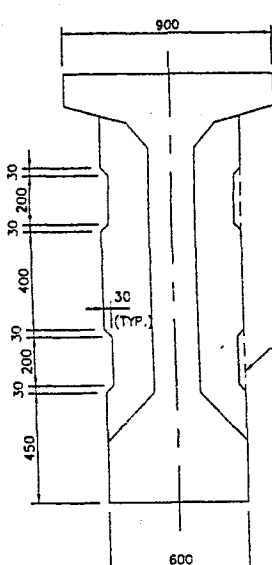
SECTIONAL PLAN B-B
SCALE 1:15



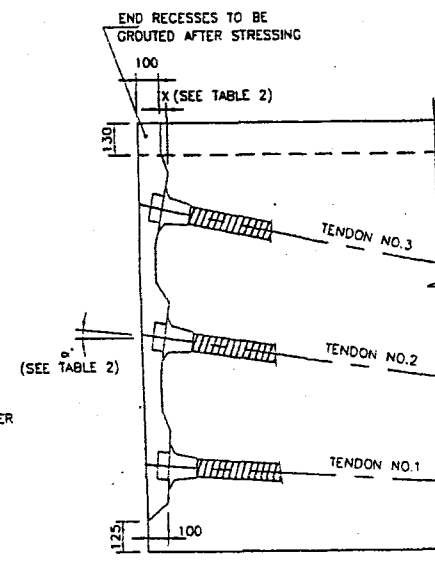
END VIEW OF GIRDER
SCALE 1:15



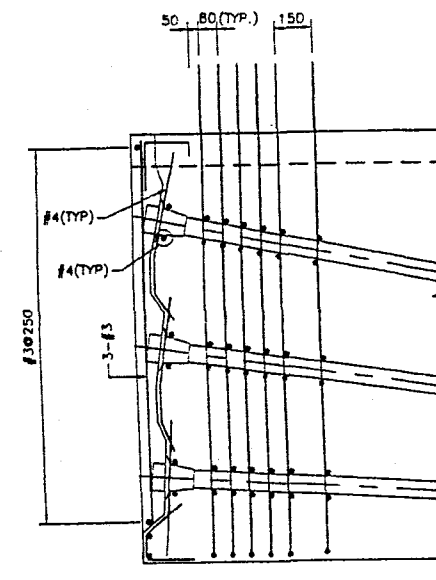
SECTION AT MIDSPAN
SCALE 1:15



SECTION AT DIAPHRAGM
SCALE 1:15



DETAIL OF ANCHORAGE RECESSES
SCALE 1:15



BURSTING REINF. DETAIL
SCALE 1:15

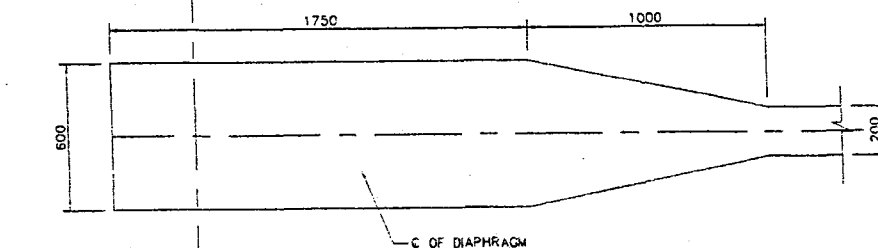
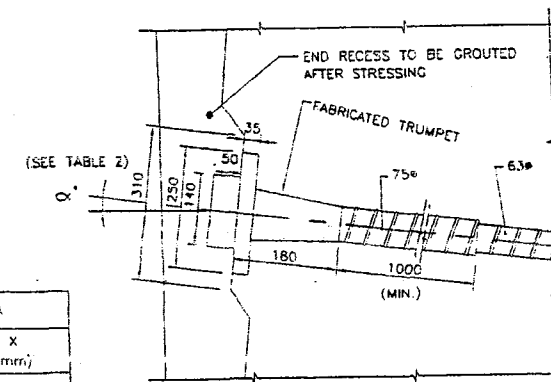


TABLE 1
SECTIONAL PLAN A-A
SCALE 1:15

TENDON NO.		DATA FOR GIRDER																				EXTENSION AT EACH END (MM)	SEQUENCE OF STRESSING	
		END 0.00	0.025L	0.05L	0.075L	0.10L	0.125L	0.15L	0.175L	0.20L	0.225L	0.25L	0.275L	0.30L	0.325L	0.35L	0.375L	0.40L	0.425L	0.45L	0.475L			0.50L
1	Z	350	328	307	288	269	252	235	220	206	193	181	171	161	153	145	139	134	130	127	126	125	86	A
	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2	Z	875	802	733	667	605	547	493	442	395	352	313	277	245	217	193	172	155	142	133	127	125	84	C
	Y	0	0	0	0	0	0	0	0	0	0	0	-20	-40	-55	-75	-85	-105	-125	-145	-148	-150		
3	Z	1100	1005	915	829	749	673	603	537	476	420	369	322	281	244	213	186	164	147	135	127	125	82	B
	Y	0	0	0	0	0	0	0	0	0	0	0	-20	-40	-55	-70	-85	-100	-115	-123	-128	-130		

TABLE 2

ANCHORAGE RECESS DATA		
TENDON NO.	ANGLE α°	X (mm)
1	2° 03' 43"	11
2	6° 52' 22"	37
3	11° 41' 01"	64



TYPICAL DETAIL
(ANCHORAGE RECESS)
SCALE 1:15

NOTES:

- FOR GENERAL NOTES REFER DRAWING No. P2G001.
- THE FOLLOWING VALUES HAVE BEEN ASSUMED IN THE CALCULATION OF THEORETICAL ELONGATION/EXTENSION (A₀) OF TENDONS:
MODULUS OF ELASTICITY, E=1,968,700 Kg/Sq.Cm (28,000 ksi)
COEFFICIENT OF CURVATURE FRICTION=0.25 PER RADIAN
WOBBLE FRICTION COEFFICIENT=0.0033 PER METER
ANY DEVIATION FROM THE ABOVE VALUES SHALL BE REPORTED TO THE ENGINEER.
- STRESSING SHALL BE STOPPED AS SOON AS ONE OF THE FOLLOWING CONDITIONS IS FULFILLED:
-STRESS REACHES 0.75 TIMES GUARANTEED ULTIMATE TENSILE STRENGTH (GUTS)
-ACTUAL ELONGATION/EXTENSION REACHES 1.10 A₀
-IF AT 0.75 GUTS ACTUAL ELONGATION IS STILL BELOW 0.95 A₀
STRESSING SHALL BE PROCEEDED UPTO MAXIMUM OF 0.80 GUTS.
-IN THE EVENT OF NON-CONFORMANCE OF ABOVE, THE CABLE MAY BE REPLACED.
- TENDON EXTENSION GIVEN IN TABLE IS FOR THE JACKING END.
- STRESSING OF GIRDERS SHOULD BE DONE FROM BOTH ENDS.

GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.
HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN
EXTENSION, LAHORE, PAKISTAN.

04					
03					
02					
01					
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

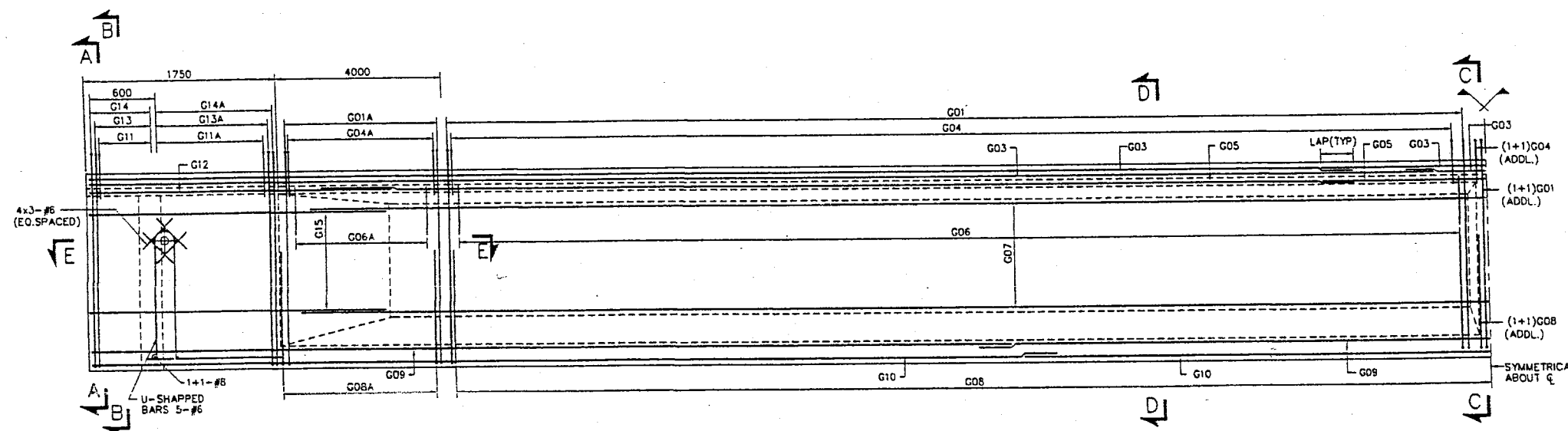
25m PRESTRESSED GIRDER
VC. OUTLINE & PRESTRESSING DETAILS
JULY 2018
DWG NO. 3905/102/TD/P2108

SCALE
1 : 25
REV.

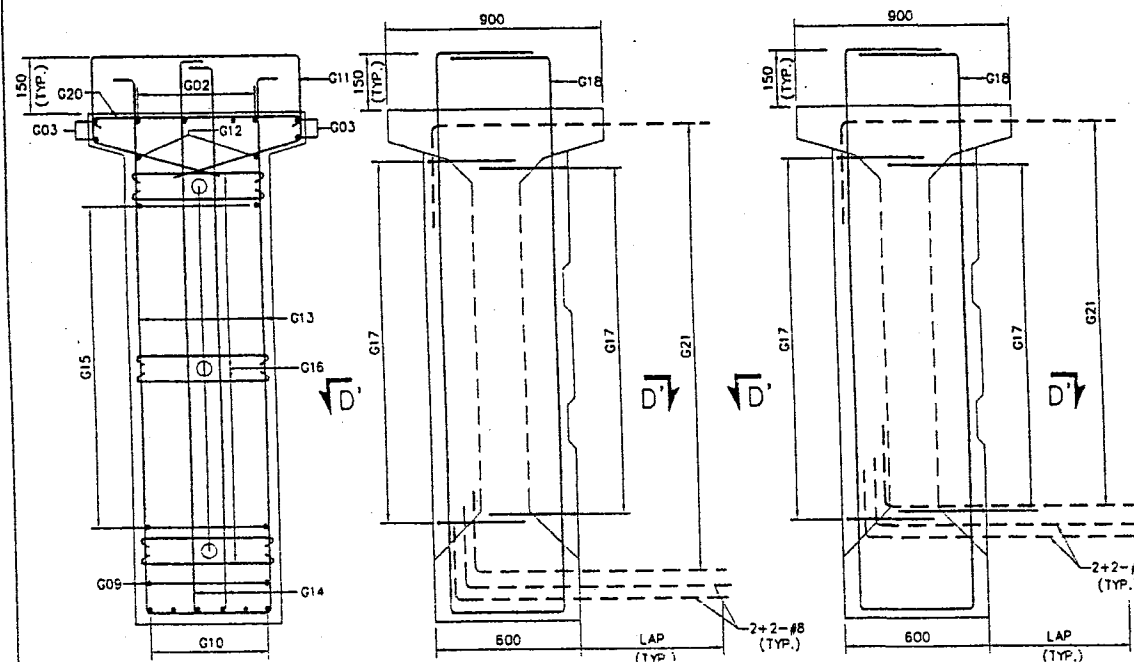
TENDER DRAWINGS
NOT FOR CONSTRUCTION

REINFORCEMENT
SCHEDULE

MARK	BAR DIA. @ SPACING
G01	#4@300
G01A	#4@175
G02	4-#4
G03	2#4(E.F)
G04	#4@300
G04A	#4@175
G05	#4(E.F)
G06	#4@300
G06A	#4@175
G07	4-#4(E.F)
G08	#4@300
G08A	#4@175
G09	#4(E.F)
G10	6-#6
G11	#4@300
G11A	#4@150
G12	#4(E.F)
G13	#4@300
G13A	#4@150
G14	#4@300
G14A	#4@150
G15	4-#4(E.F)
G16	6x6-#4
G16A	6x6-#4
G17	#4@150
G18	8-#4
G19	#4@300
G20	#4@80/150
G21	#4@250



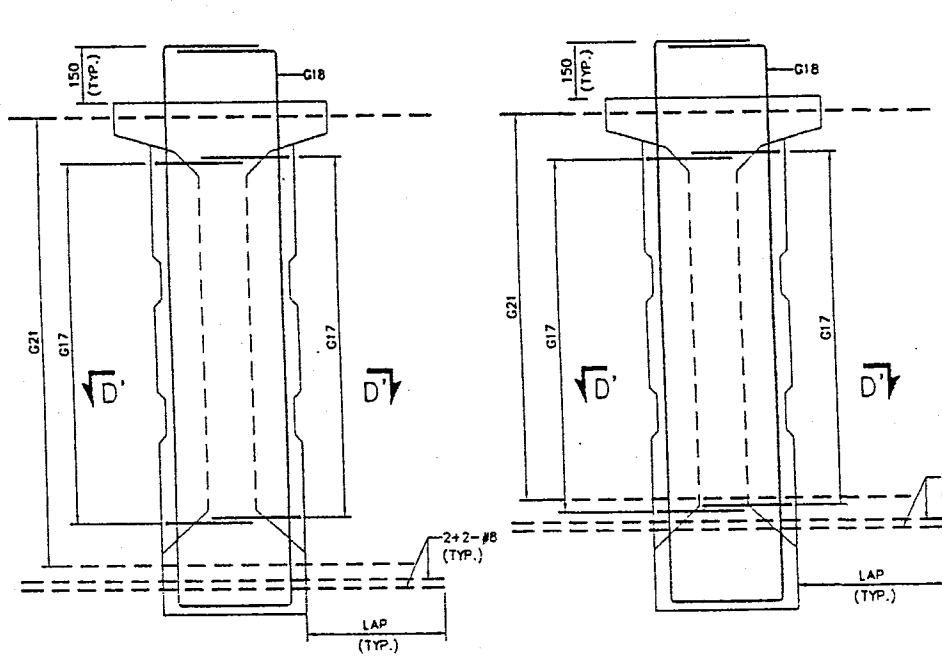
LONGITUDINAL SECTION



SECTION A-A
SCALE 1:15

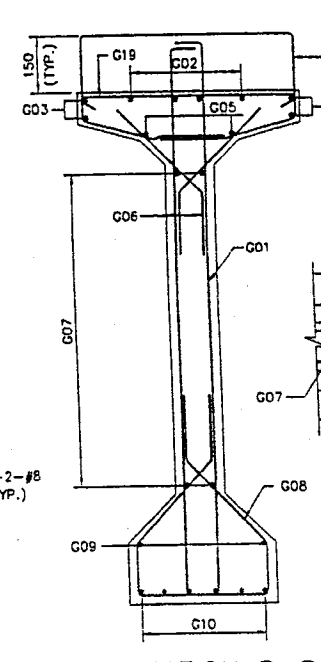
SECTION B-B
(FOR EXTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15

SECTION C-C
(FOR EXTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15

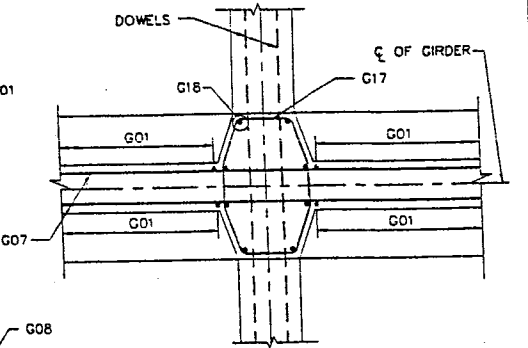


SECTION B-B
(FOR INTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15

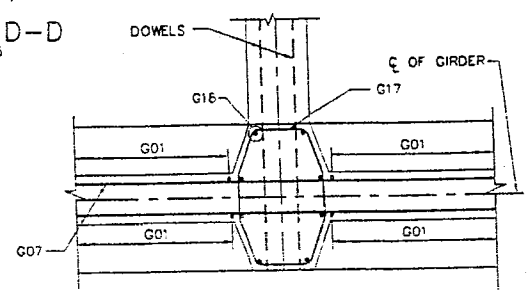
SECTION C-C
(FOR INTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15



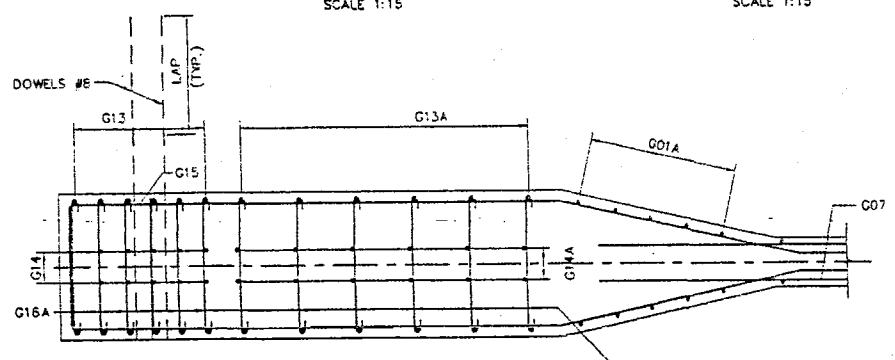
SECTION D-D
SCALE 1:15



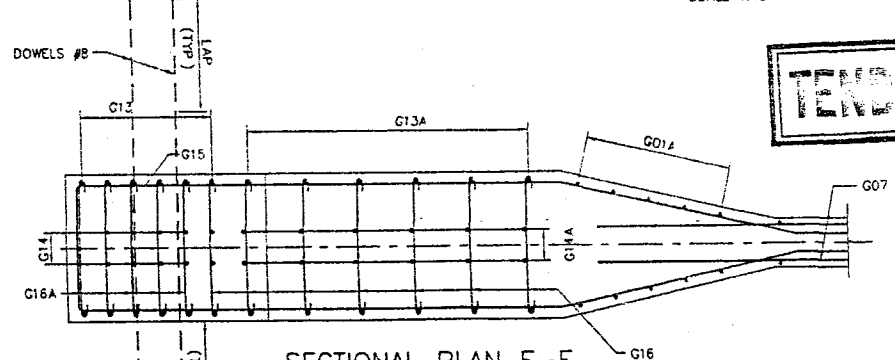
SECTIONAL PLAN D'-D'
(FOR INTERIOR GIRDER)
SCALE 1:15



SECTIONAL PLAN D'-D'
(FOR EXTERIOR GIRDER)
SCALE 1:15



SECTIONAL PLAN E-E
(FOR EXTERIOR GIRDER)
SCALE 1:15



SECTIONAL PLAN E-E
(FOR INTERIOR GIRDER)
SCALE 1:15

TENDER DRAWINGS



NOTES:

1. FOR GENERAL NOTES REFER DWG. NO. P2G001.
2. ALL PRESTRESSED CONCRETE SHALL BE CLASS D1.
3. REINFORCEMENT CONCRETE SHALL BE DEFORMED ROUND BARS OF (GRADE 60) CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4200 Kg/Sq.Cm (60,000psi).

GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

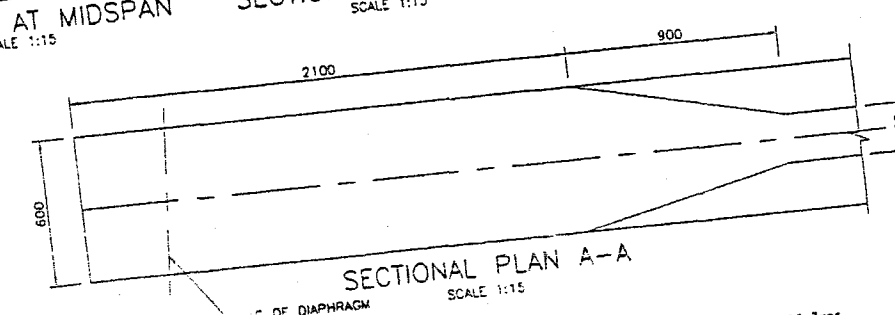
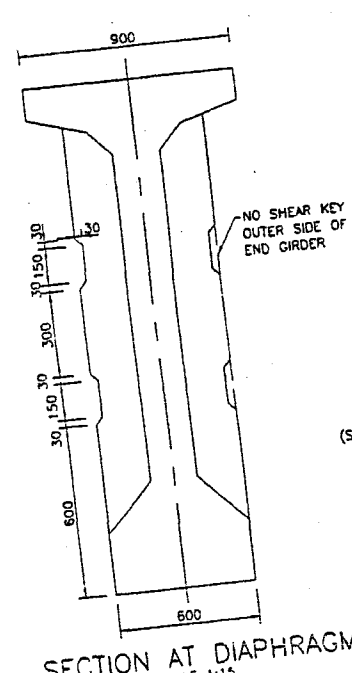
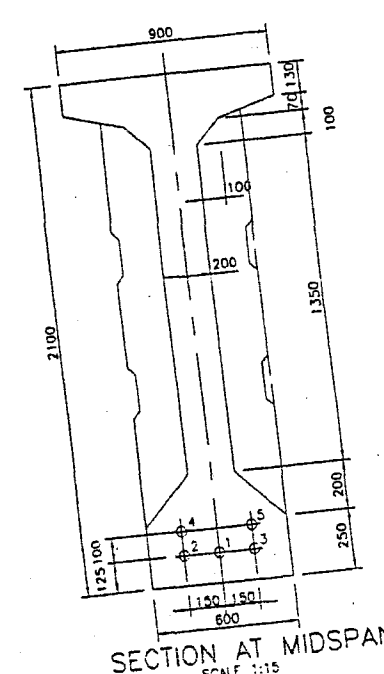
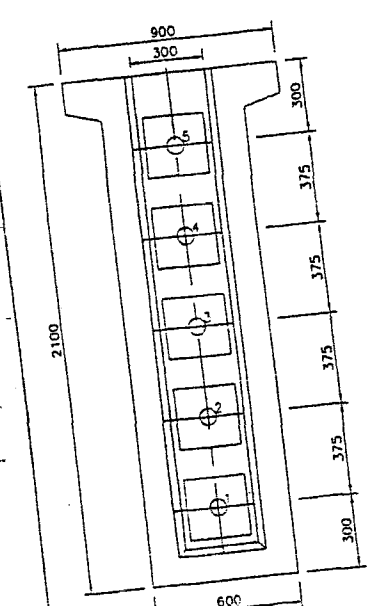
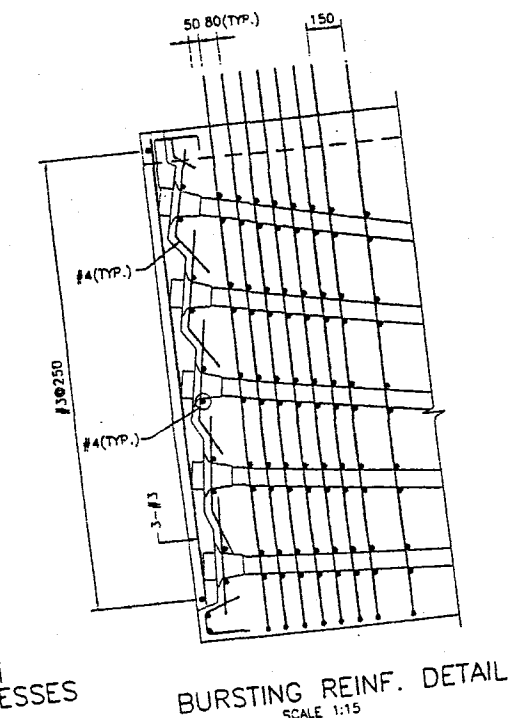
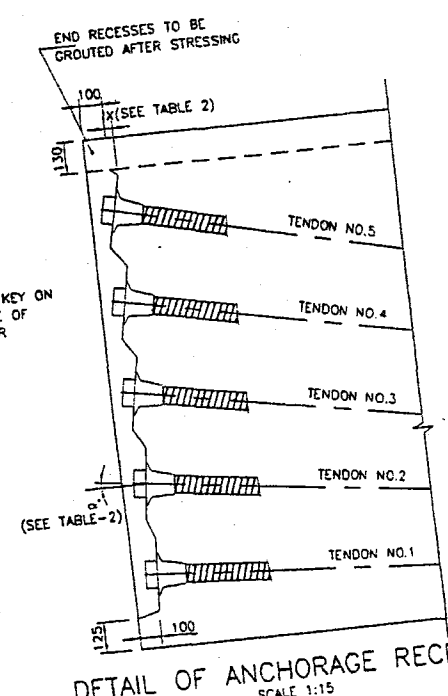
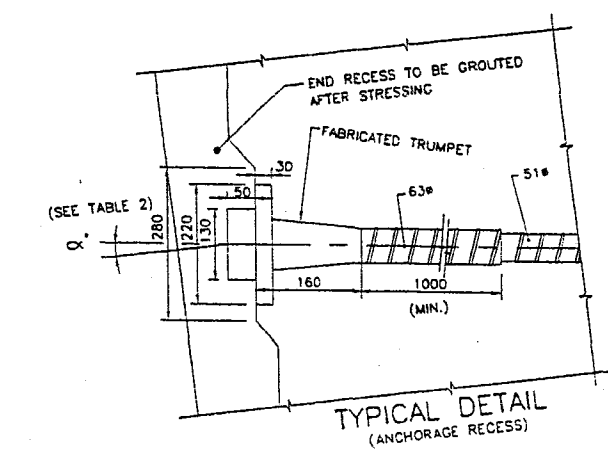
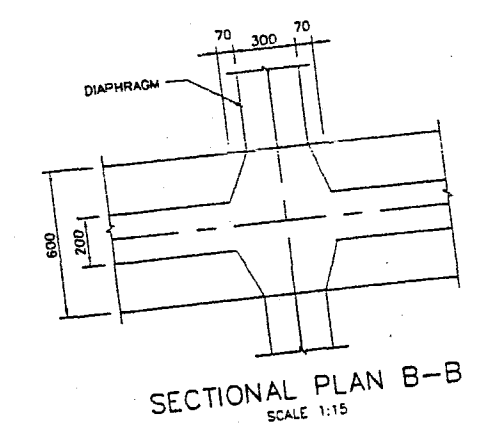
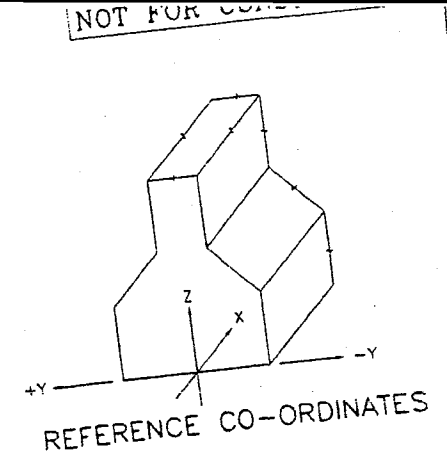
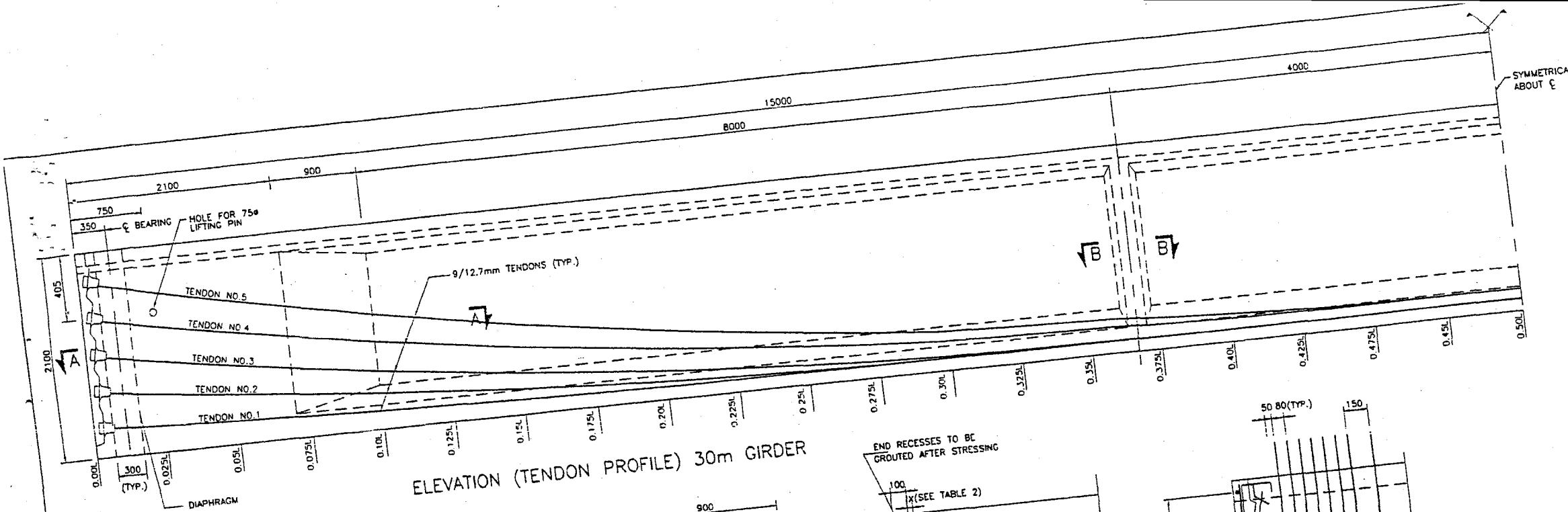
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.
HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN
EXTENSION, LAHORE, PAKISTAN.

04					
03					
02					
01					
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

25m PRESTRESSED GIRDER
REINFORCEMENT
DWG. NO.
3905/102/TD/P2G109

SCALE
1 : 25
REV.



TENDER DRAWINGS

- NOTES:
- FOR GENERAL NOTES REFER DRAWING No. P2G001.
 - THE FOLLOWING VALUES HAVE BEEN ASSUMED IN THE CALCULATION OF THEORETICAL ELONGATION/EXTENSION (A_0) OF TENDONS:
 MODULUS OF ELASTICITY, $E = 1,968,700 \text{ Kg/Sq.Cm (28,000 ksi)}$
 COEFFICIENT OF CURVATURE FRICTION $= 0.25 \text{ PER RADIANT}$
 WOBBLE FRICTION COEFFICIENT $= 0.0033 \text{ PER METER}$
 ANY DEVIATION FROM THE ABOVE VALUES SHALL BE REPORTED TO THE ENGINEER.
 - STRESSING SHALL BE STOPPED AS SOON AS ONE OF THE FOLLOWING CONDITIONS IS FULFILLED:
 -STRESS REACHES 0.75 TIMES GUARANTEED ULTIMATE TENSILE STRENGTH (GUTS)
 -ACTUAL ELONGATION/EXTENSION REACHES 1.10 A_0
 -IF AT 0.75 GUTS ACTUAL ELONGATION IS STILL BELOW 0.95 A_0
 -IF AT 0.75 GUTS ACTUAL ELONGATION IS STILL BELOW 0.80 GUTS.
 STRESSING SHALL BE PROCEEDED UP TO MAXIMUM OF 0.80 GUTS.
 -IN THE EVENT OF NON-CONFORMANCE OF ABOVE, THE CABLE MAY BE REPLACED.
 - TENDON EXTENSION GIVEN IN TABLE IS FOR THE JACKING END.
 - STRESSING OF GIRDERS SHOULD BE DONE FROM BOTH ENDS.

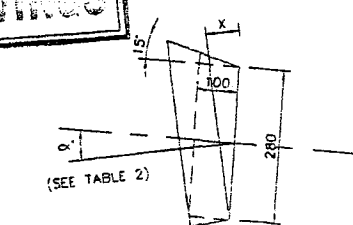


TABLE-1

DATA FOR GIRDER

TENDON NO.	END 0.00	0.025L	0.05L	0.075L	0.10L	0.125L	0.15L	0.175L	0.20L	0.225L	0.25L	0.275L	0.30L	0.325L	0.35L	0.375L	0.40L	0.425L	0.45L	0.475L	0.50L
1	300	283	267	251	237	223	211	198	188	178	169	160	153	146	141	136	132	129	127	125	125
2	675	621	571	522	477	434	395	357	323	291	263	236	213	192	175	159	147	137	131	126	125
3	1050	960	874	793	717	645	578	516	458	405	356	312	273	238	208	183	162	146	134	127	125
4	1425	1308	1197	1092	993	900	813	732	657	588	525	468	417	372	333	300	273	252	237	228	225
5	1800	1648	1501	1363	1233	1111	997	890	792	701	619	544	477	418	367	323	288	260	241	229	225

JACKING FORCE = 126 Tons.

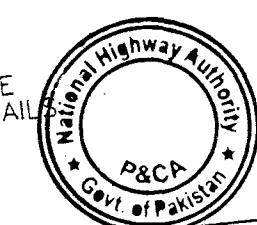
EXTENSION AT EACH END (mm)

SEQUENCE OF STRESSING

TABLE-2

ANCHORAGE RECESS DATA

TENDON NO.	ANGLE α°	X (mm)
1	1' 20' 11"	7
2	4' 12' 00"	21
3	7' 03' 49"	35
4	9' 09' 49"	45
5	12' 01' 38"	60



RATODERO ~ RAJANPUR ROAD
 PACKAGE-II
 (KANDH KOT TO KASHMORE)

30m PRESTRESSED GIRDER ONC. OUTLINE & PRESTRESSING DETAILS		SCALE 1 : 2'
DATE JULY 2018	DWG NO. 3905/102/TD/P2G110	REV. 25.06

GOVERNMENT OF PAKISTAN
 MINISTRY OF COMMUNICATIONS

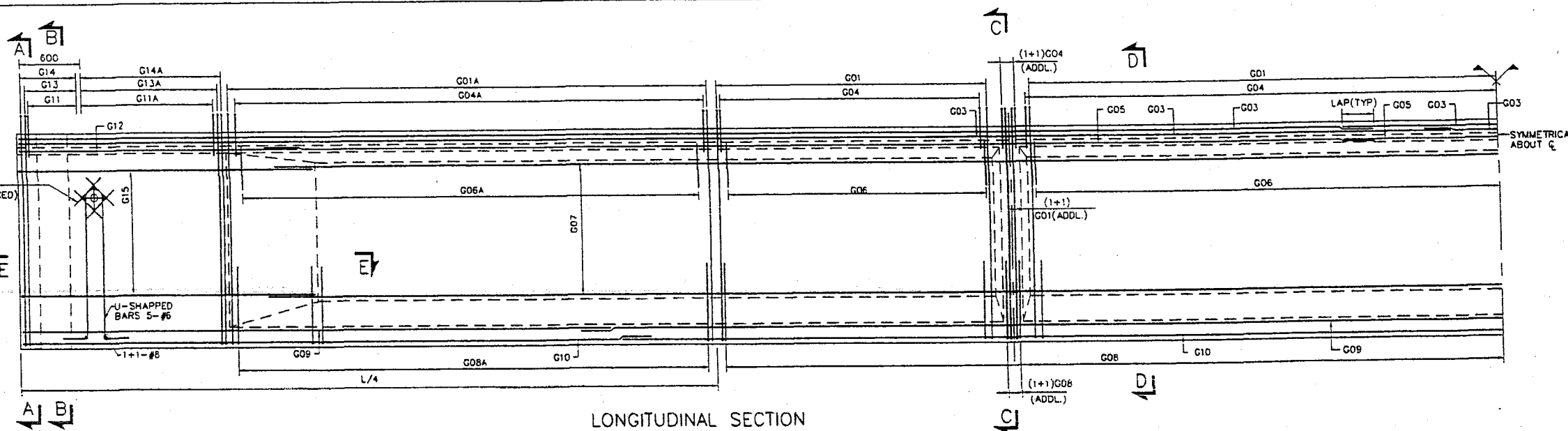
NATIONAL ENGINEERING SERVICES
 PAKISTAN (PVT.) LTD.
 HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN
 EXTENSION, LAHORE, PAKISTAN.

REV.	DATE	DESCRIPTION	DRAWN	APPROVED
04			AZIZ SAEED	
03				
02				
01				

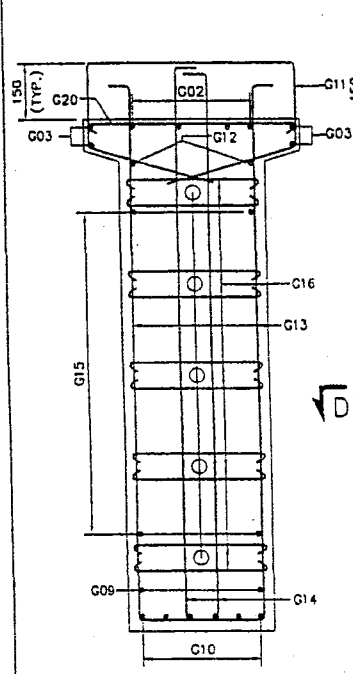
TENDER DRAWINGS
NOT FOR CONSTRUCTION

REINFORCEMENT
SCHEDULE

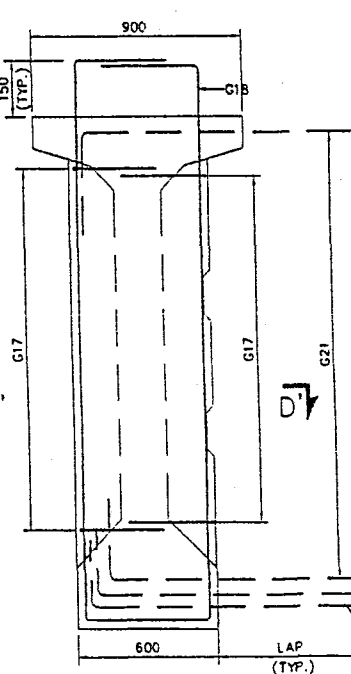
MARK	BAR DIA. @ SPACING
G01	#4@300
G01A	#4@175
G02	4-#4
G03	2#4(E.F)
G04	#4@300
G04A	#4@175
G05	#4(E.F)
G06	#4@300
G06A	#4@175
G07	4-#4(E.F)
G08	#4@300
G08A	#4@175
G09	#4(E.F)
G10	6-#6
G11	#4@80
G11A	#4@150
G12	#4(E.F)
G13	#4@80
G13A	#4@150
G14	#4@80
G14A	#4@150
G15	4-#4(E.F)
G16	10x10-#4
G16A	10x7-#4
G17	#4@150
G18	8-#4
G19	#4@300
G20	#4@80/150
G21	#4@250



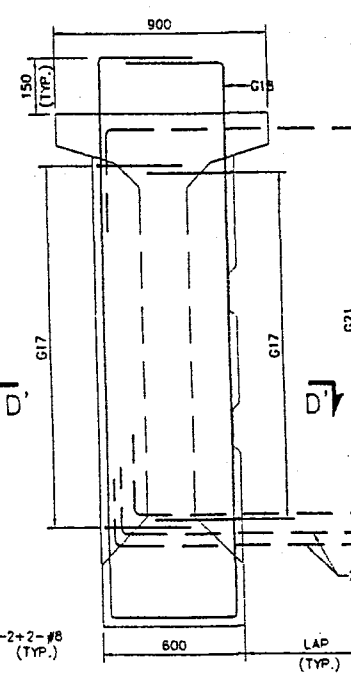
LONGITUDINAL SECTION



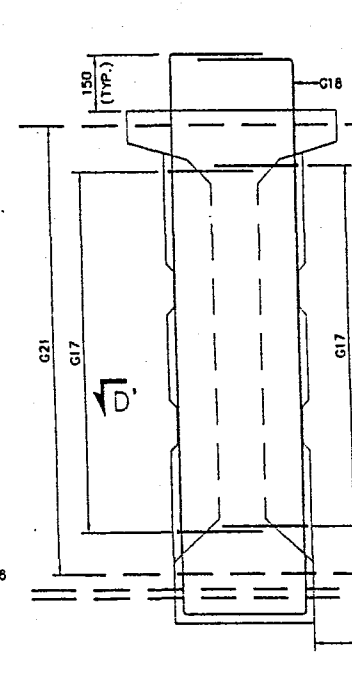
SECTION A-A
SCALE 1:15



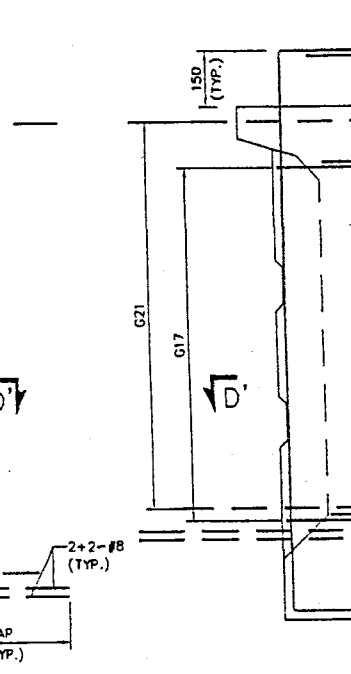
SECTION B-B
(FOR EXTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15



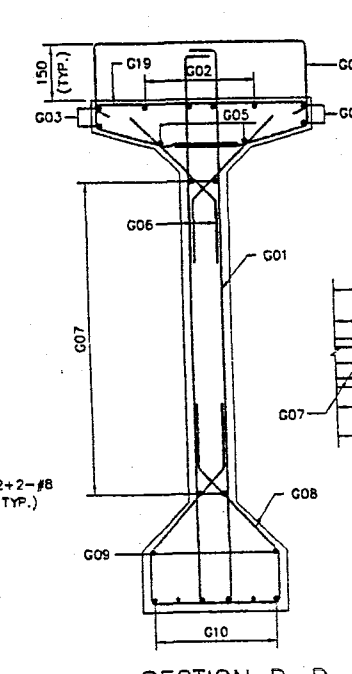
SECTION C-C
(FOR EXTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15



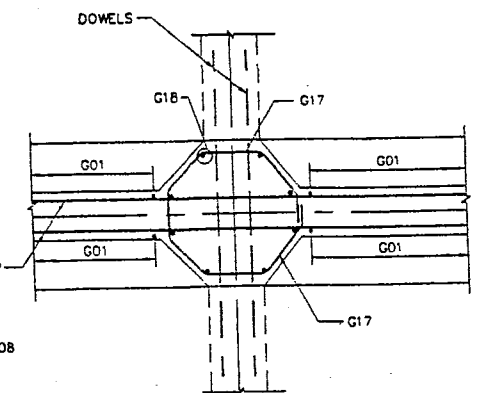
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(FOR INTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15



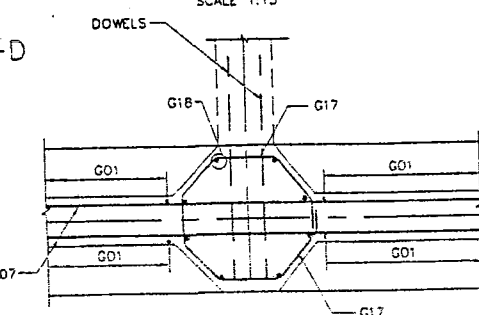
SECTION C-C
(FOR INTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15



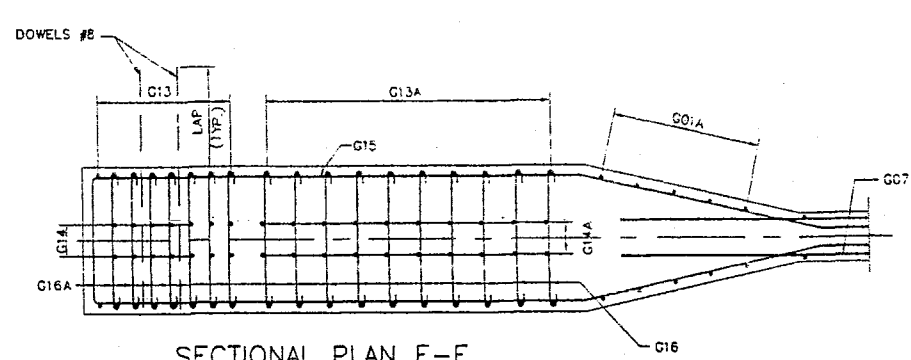
SECTION D-D
SCALE 1:15



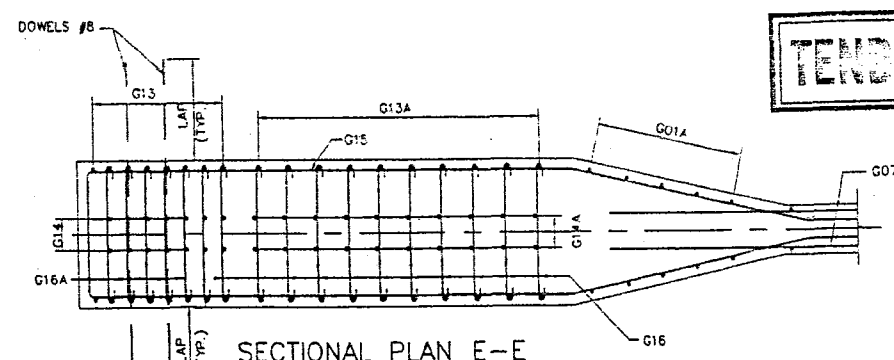
SECTIONAL PLAN D'-D'
(FOR INTERIOR GIRDER)
SCALE 1:15



SECTIONAL PLAN D'-D'
(FOR EXTERIOR GIRDER)
SCALE 1:15



SECTIONAL PLAN E-E
(FOR EXTERIOR GIRDER)
SCALE 1:15

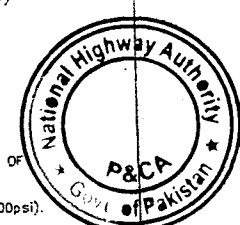





SECTIONAL PLAN E-E
(FOR INTERIOR GIRDER)
SCALE 1:15

TENDER DRAWINGS

NOTES:

- FOR GENERAL NOTES REFER DWG. NO. P2G001.
- ALL PRESTRESSED CONCRETE SHALL BE CLASS D1.
- REINFORCED CONCRETE SHALL BE DEFORMED ROUND BARS OF (GRADE 60) CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4200 Kg/Sq.Cm (60,000psi).

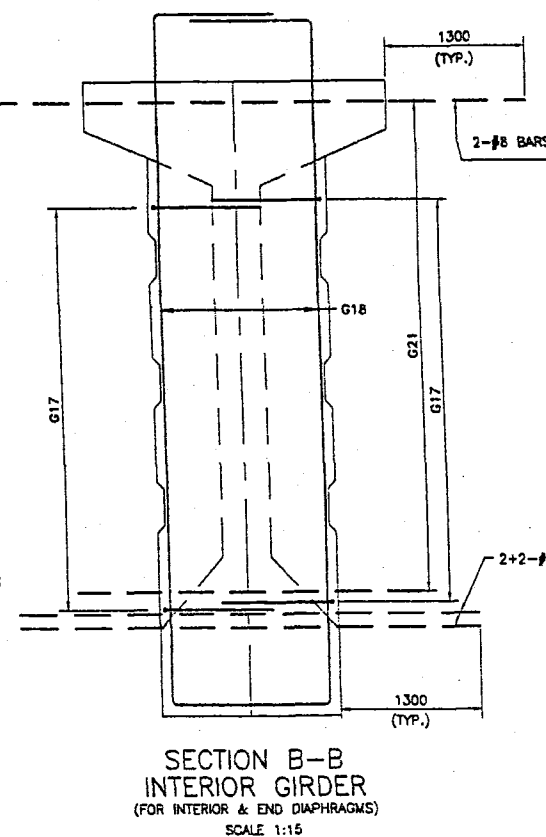
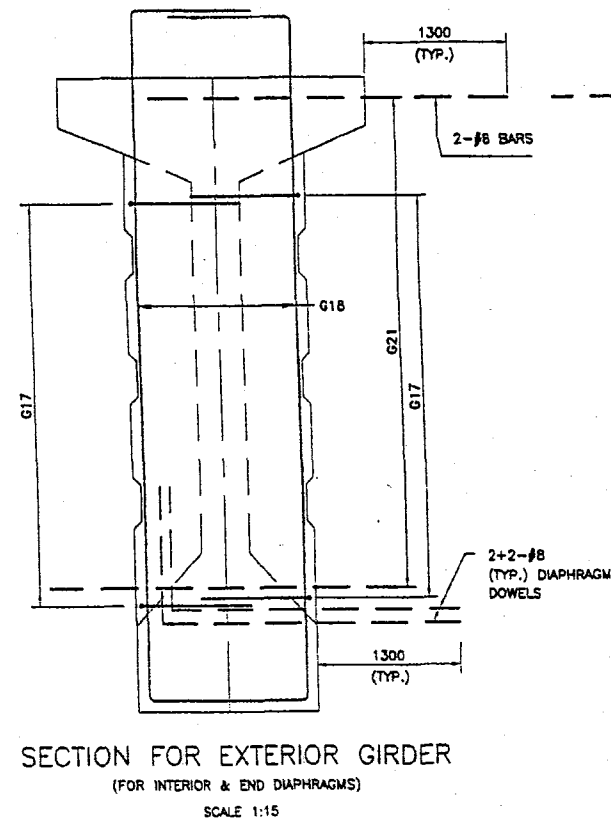
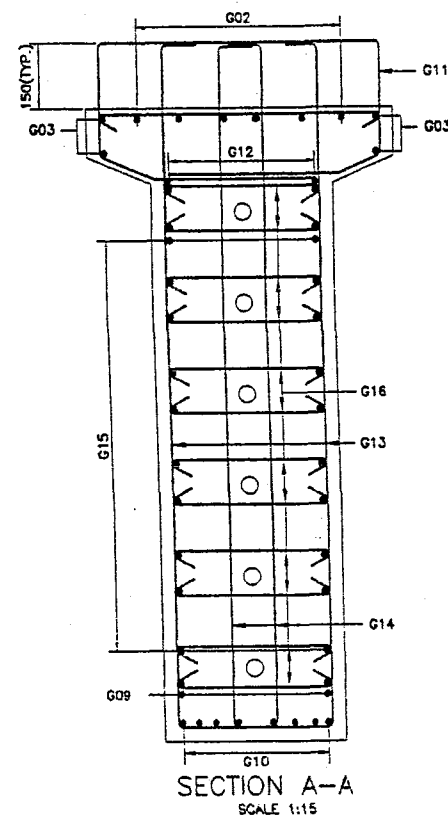
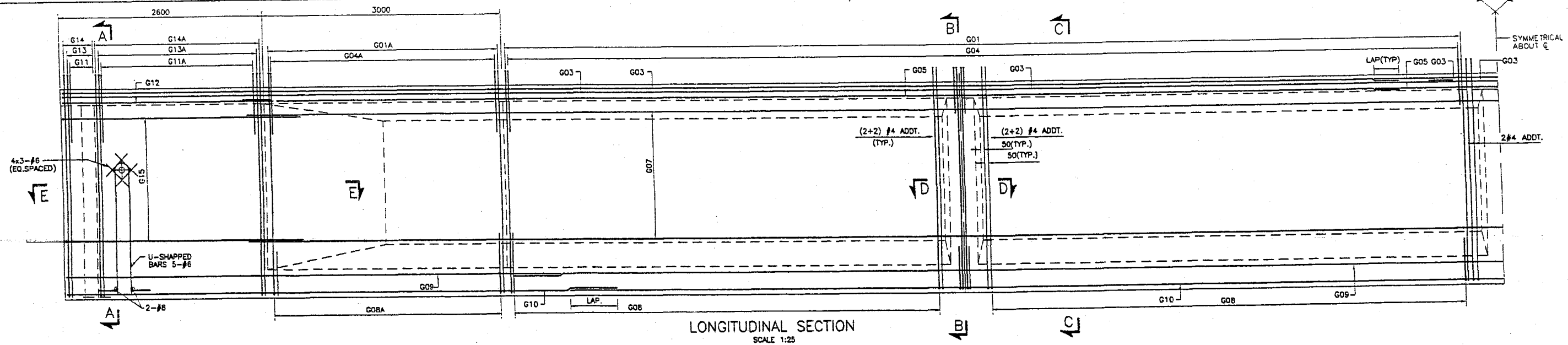


	GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	JAWED UL HAQ	DRAWN	AZIZ SAEED
			03	PROJECT MANAGER	SUBMITTED	
			02	M/S S. S. S. S. S.	RECOMMENDED	
			01		CHD./VER.	
			REV.	DATE	DESCRIPTION	APPROVED

30m PRESTRESSED GIRDER REINFORCEMENT		SCALE 1 : 25
RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)		
FE JULY 2018	DWG NO. 3905/102/TD/P2G111	REV.
AZ: D:\3905-TENDER\SECTION-II\GRIDERS\30m-Girder\P2G111.dwg		25.06.2018

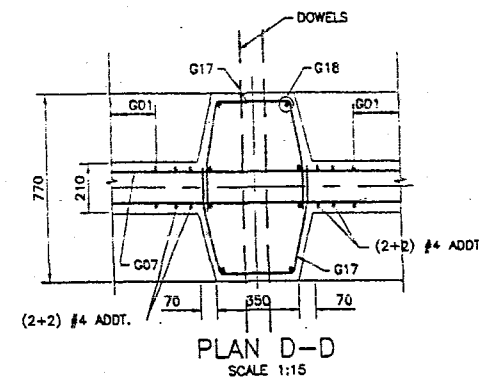
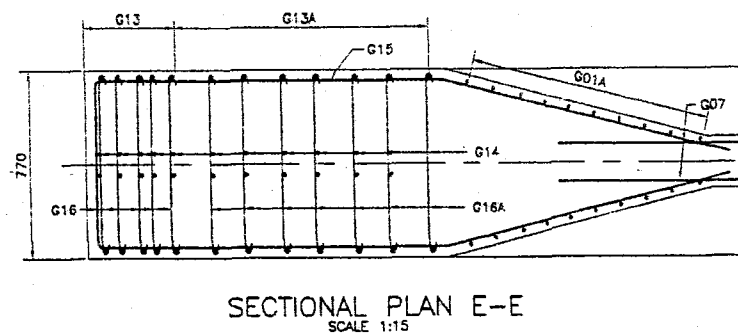
RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

30m PRESTRESSED GIRDER REINFORCEMENT		SCALE 1 : 25
FE JULY 2018	DWG NO. 3905/102/TD/P2G111	REV.



REINFORCEMENT SCHEDULE

MARK	BAR DIA. @ SPACING
G01	#4@250
G01A	#4@150
G02	6-#4
G03	2-#4 (E.F.)
G04	#4@250
G04A	#4@150
G05	#4 (E.F.)
G07	7#4(E.F.)
G08	#4@250
G08A	#4@150
G09	#4 (E.F.)
G10	8-#8
G11	#4@80
G11A	#4@150
G12	#4 (E.F.)
G13	#4@80
G13A	#4@150
G14	#4@80
G14A	#5@150
G15	8#4(E.F.)
G16,G16A	12x5-#4,10x13-#4
G17	#4@150
G18	4-#4
G19	#4@300
G20	#4@80/150
G21	#4@250



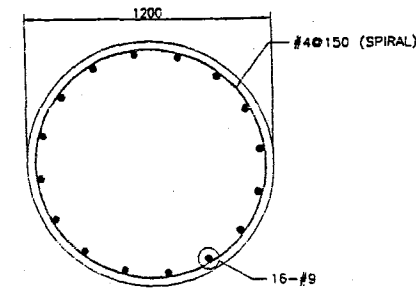
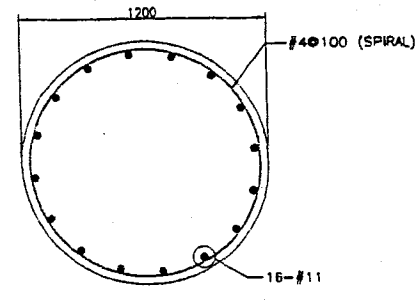
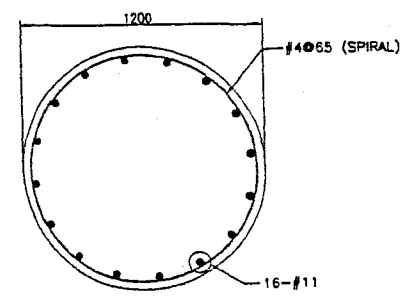
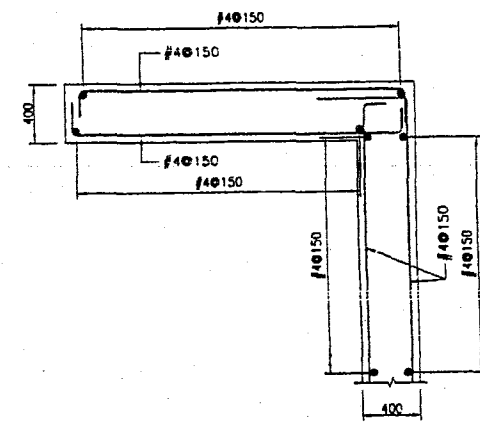
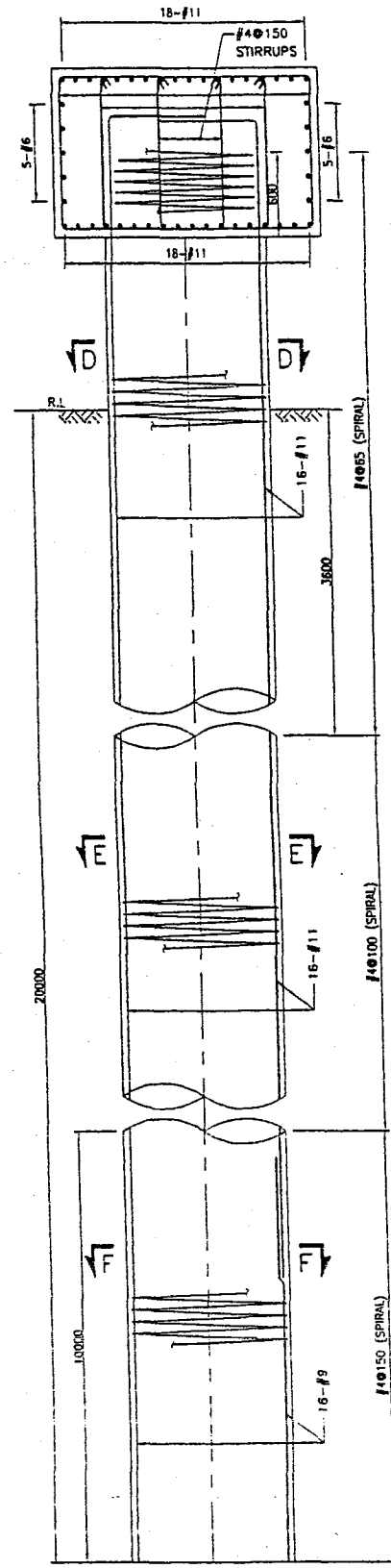
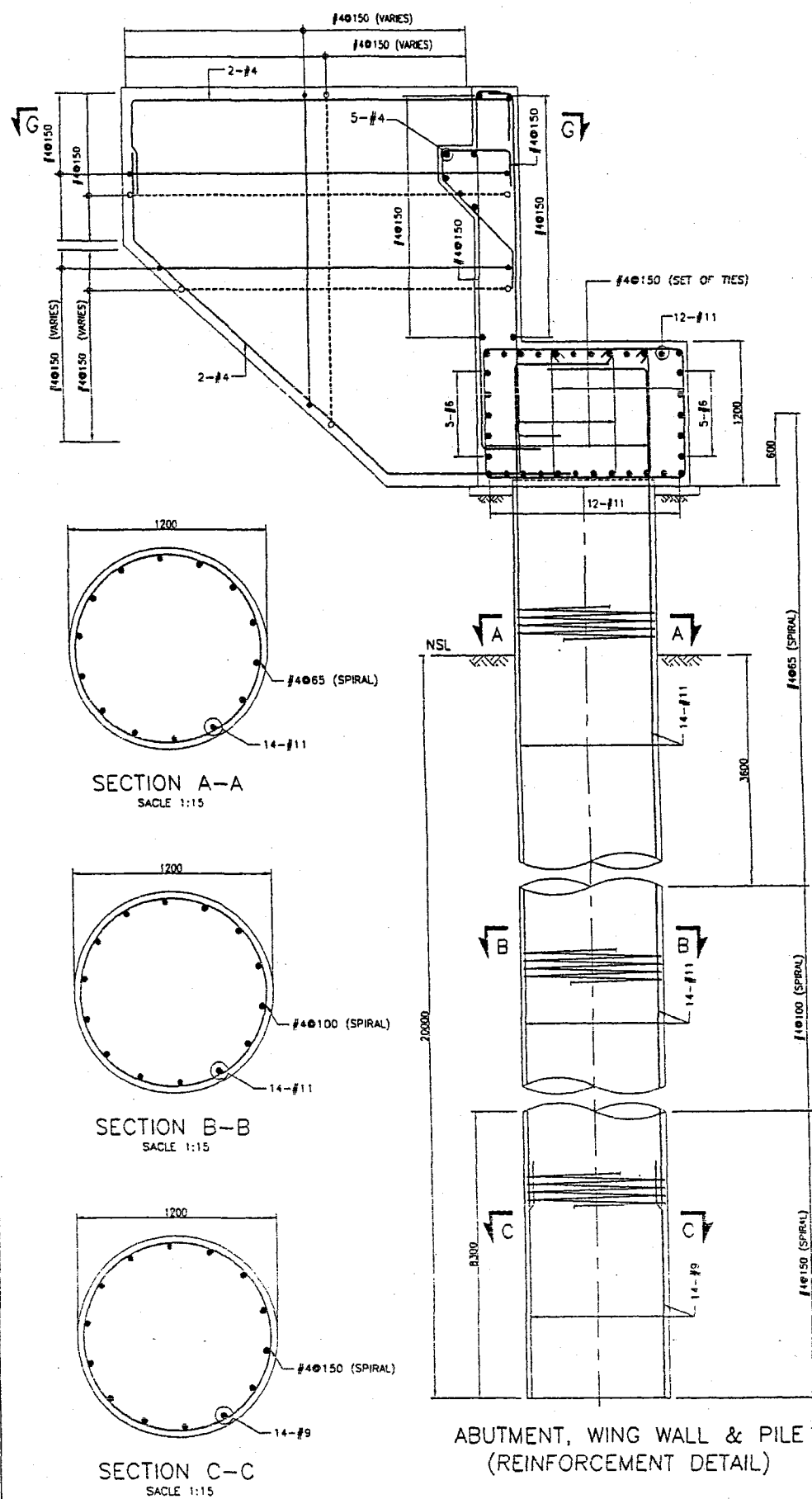
TENDER DRAWINGS

NOTES:

- FOR GENERAL NOTES REFER DWG. NO. P2G001.
- READ THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
- ALL PRESTRESSED CONCRETE SHALL BE CLASS 'D1'.
- REINFORCEMENT FOR REINFORCED CONCRETE SHALL BE DEFORMED ROUND BARS OF (GRADE 60) CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4200 Kg/cm (60,000psi).
- SPLICE LENGTH MUST BE AS PER DRG. NO. P2G001.



<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NES NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.</p> <p>HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	04	<p>JAWED UL HAQ PROJECT MANAGER M/S NESPAK</p>	DRAWN	AZIZ SAEED	<p>RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	PRESTRESSED GIRDER 40M SPAN (REINFORCEMENT DETAILS)		SCALE 1 : 25
		03		SUBMITTED			DATE	DWG NO.	REV.
		02		RECOMMENDED			JULY 2018	3905/102/TD/P2G113	
		01		CHD./VER.					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED			







NOTES:-

- FOR GENERAL NOTES REFER DWG. NO. P2G001.
- READ THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DWGS.
- PROVIDE ONE AND HALF (1 1/2) EXTRA TURNS OF SPIRAL AT THE TOP AND BOTTOM OF EACH PILE & AT EACH SEGMENT OF REINFORCEMENT CAGE OR SPLICE OF MAIN REINFORCEMENT.

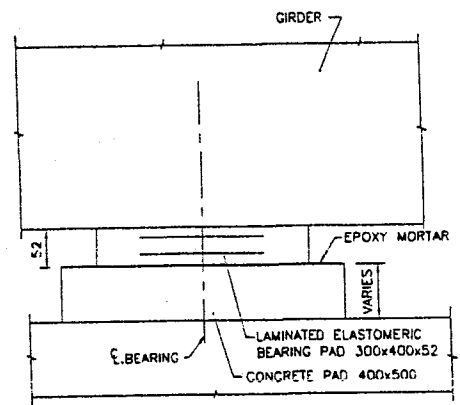
TENDER DRAWINGS



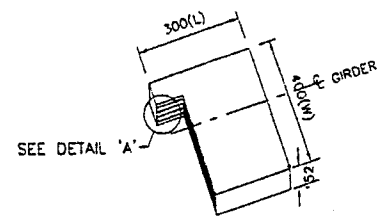
	GOVERNMENT OF PAKISTAN	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04	 JAWAD ULLAH PROJECT ENGINEER M/S. NESPAK	DRAWN	AZIZ SAEED
	MINISTRY OF COMMUNICATIONS		03		SUBMITTED	
	NATIONAL HIGHWAY AUTHORITY		02		RECOMMENDED	
			01		CHD./VER.	
			HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		REV.	DATE

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

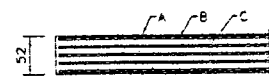
ABUTMENT AB1, AB2 AND PIER P1 REINFORCEMENT DETAILS		SCALE
		1:25
DATE	DWG NO.	REV.
JULY 2018	3905/102/TD/P2G114	



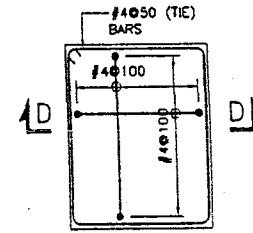
BEARING PAD & CONCRETE PAD
DETAIL
SCALE 1:5



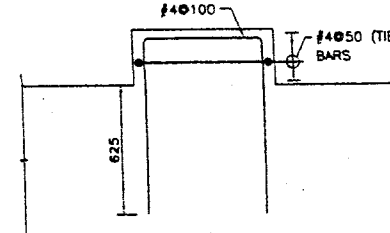
LAMINATED ELASTOMERIC
BEARING PAD
SCALE 1:10



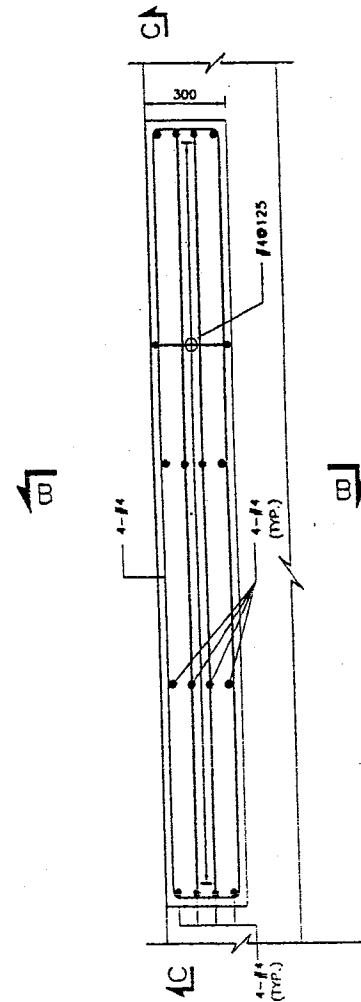
DETAIL 'A'
SCALE 1:20



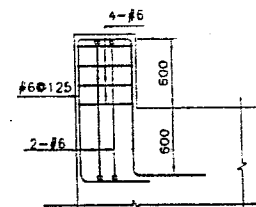
CONCRETE PAD
REINFORCEMENT
SCALE 1:10



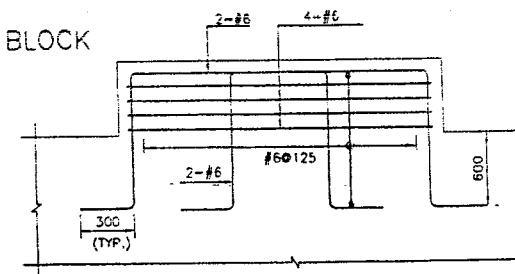
SECTION D-D
SCALE 1:10



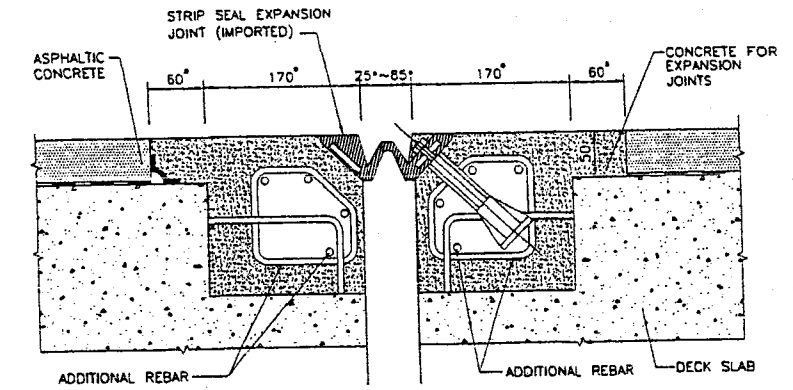
PLAN OF SHEAR BLOCK
SCALE 1:20



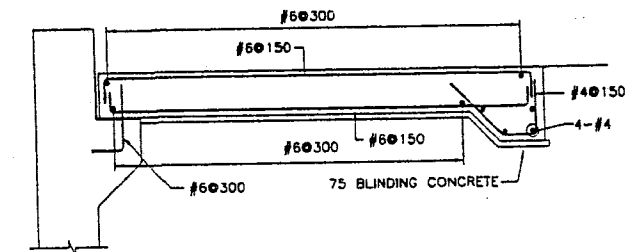
SECTION B-B
SCALE 1:20



SECTION C-C
SCALE 1:20



EXPANSION JOINT
SCALE 1:4

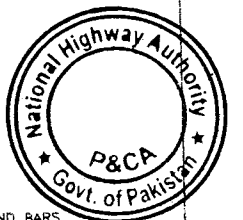


REINFORCEMENT - APPROACH SLAB
SCALE 1:25

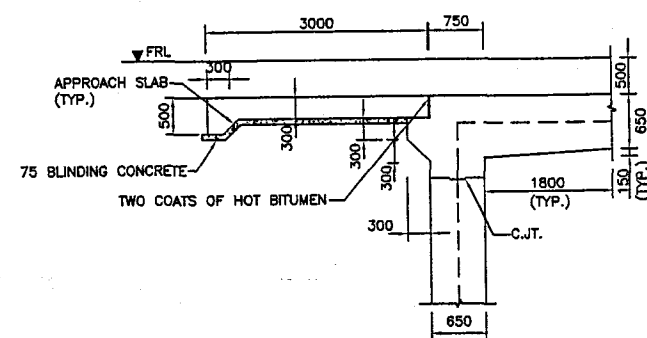
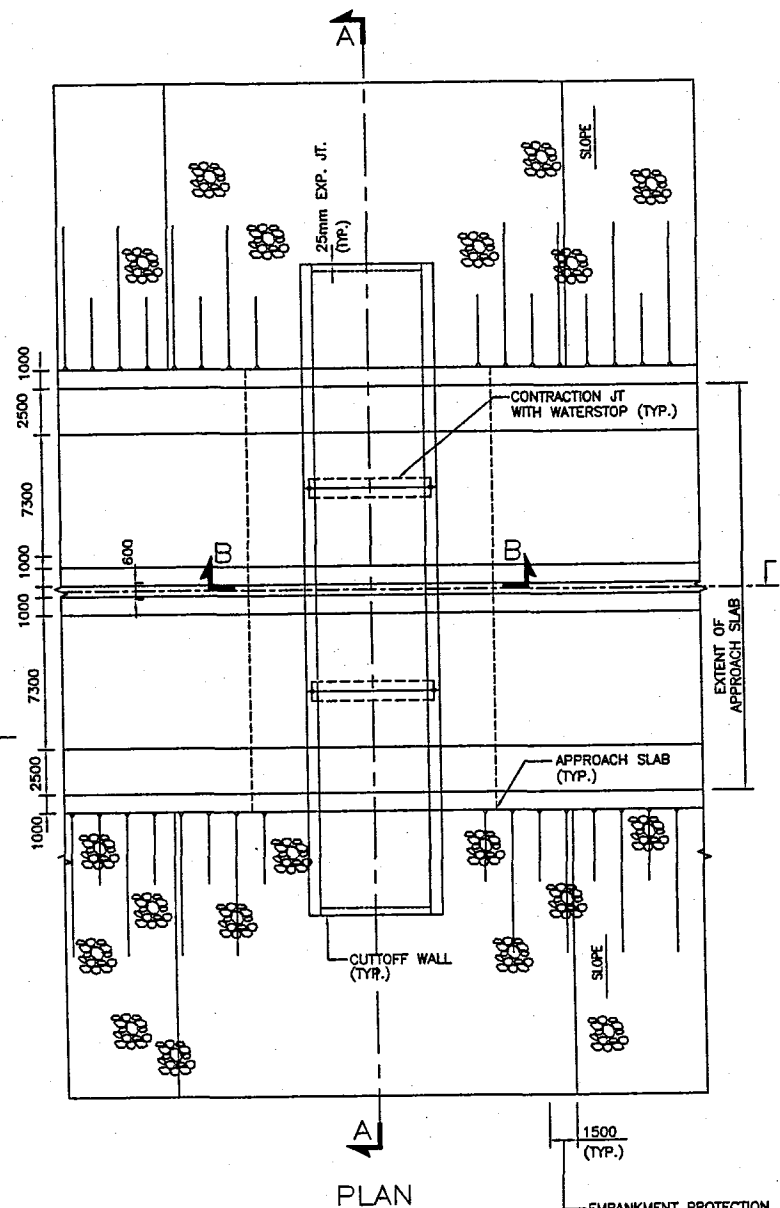
TENDER DRAWINGS

NOTES: -

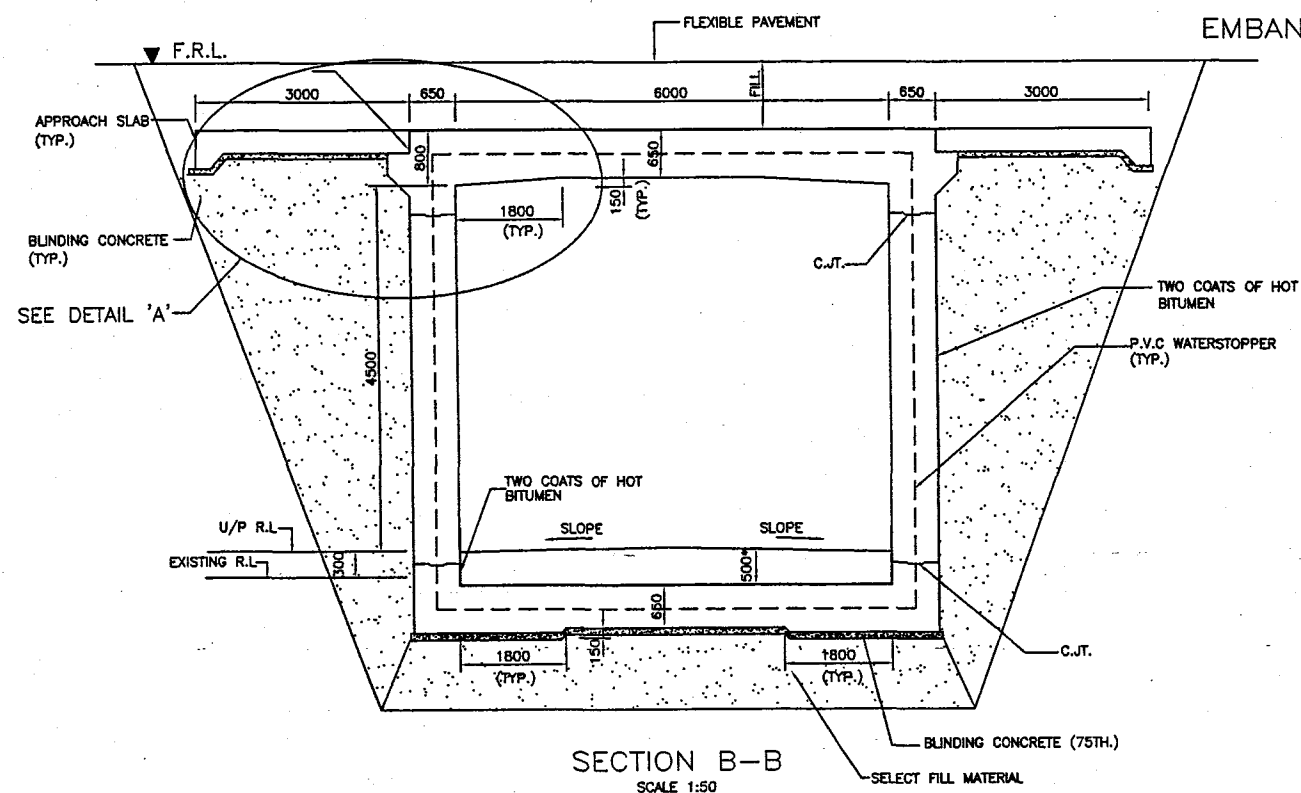
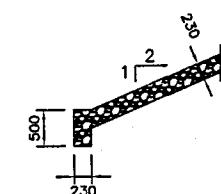
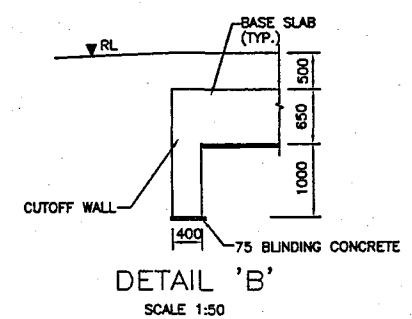
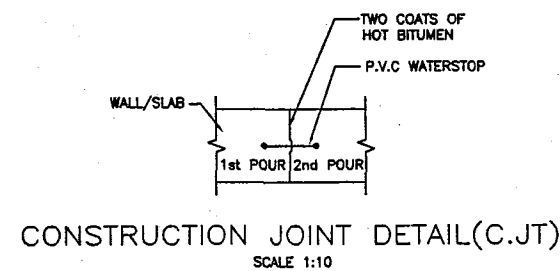
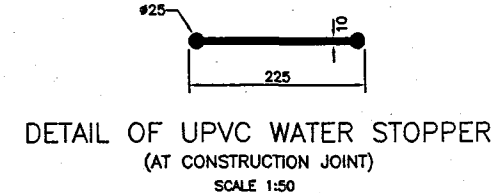
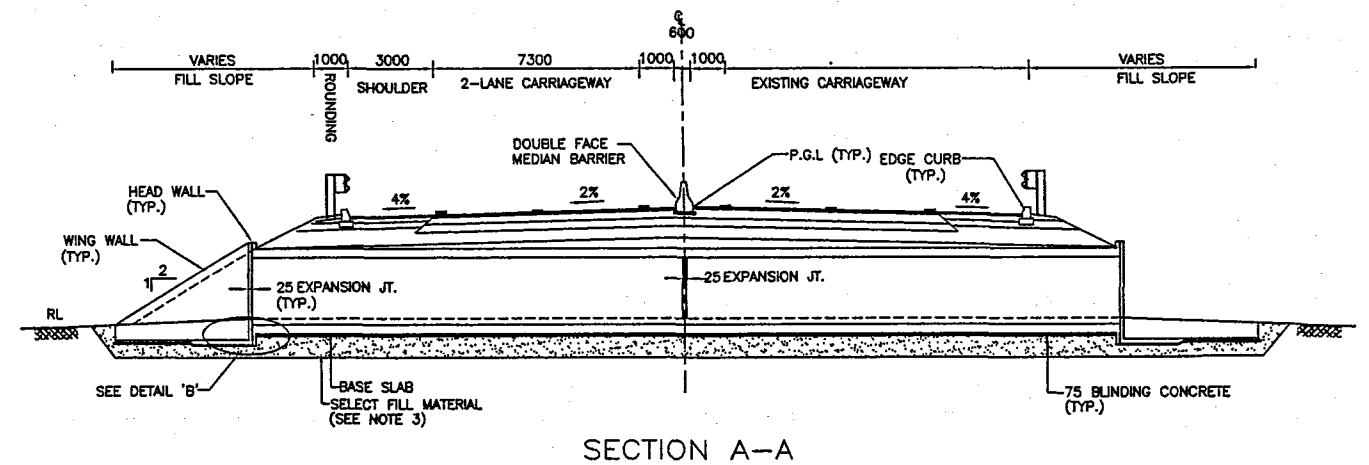
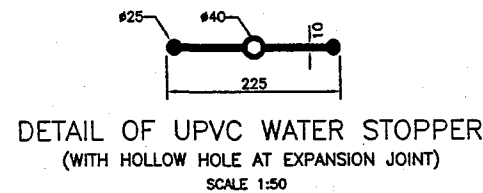
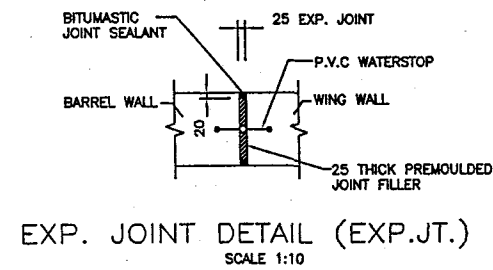
- FOR GENERAL NOTES REFER DWG. NO. P2G001.
- WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
- ALL REINFORCING STEEL SHALL BE DEFORMED ROUND BARS AND CONFORMING TO AASHTO M-31 OR ASTM A-615 GRADE 60 WITH MINIMUM YIELD STRENGTH OF 4,200 Kg/Sq.Cm (60,000 Psi).
- THE DIMENSIONS OF EXPANSION JOINT ARE TENTATIVE AND WILL BE FINALIZED ON RECEIPT OF VENDOR'S DRAWINGS.





<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION APPROVED</p>	<p>DRAWN SUBMITTED RECOMMENDED CHD./VER. APPROVED</p>	<p>ATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>MISCELLANEOUS DETAILS APPROACH SLAB, BEARING PAD, SHEAR BLOCK, AND EXPANSION JOINT DETAILS ATE DWG NO. JULY 2018 3905/102/C/P2G115</p>	<p>SCALE 1 : 50 REV.</p>
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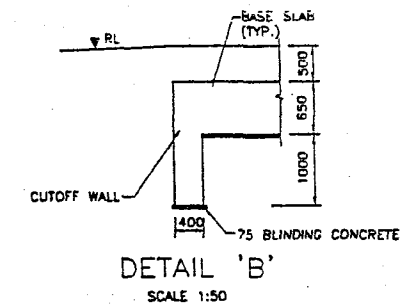
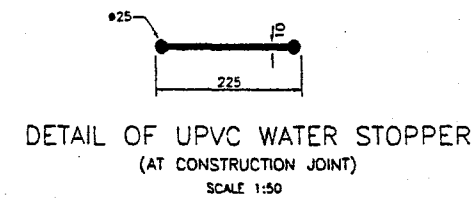
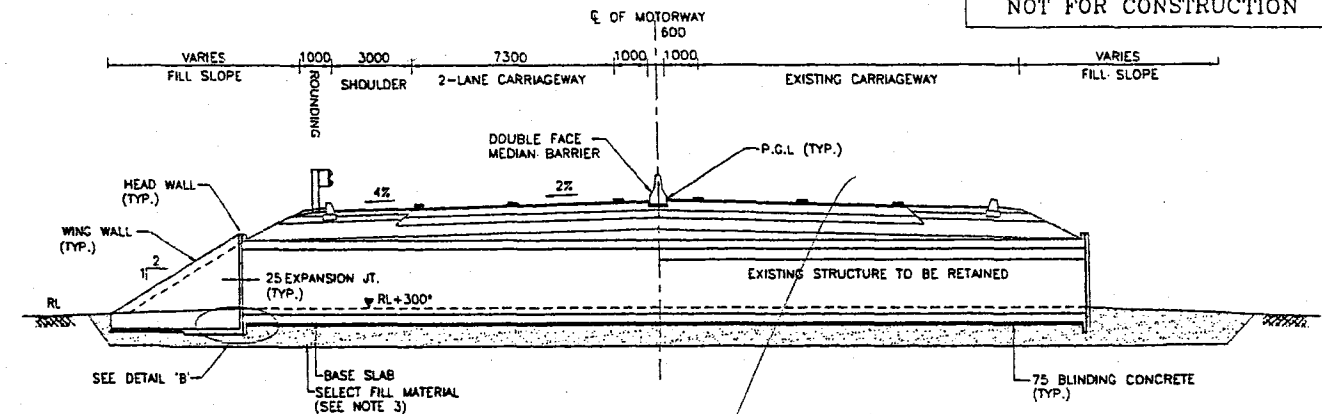
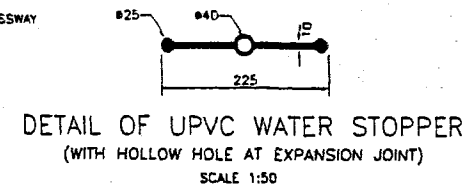
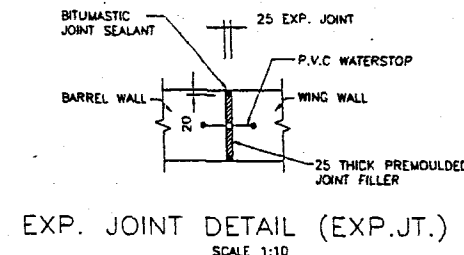
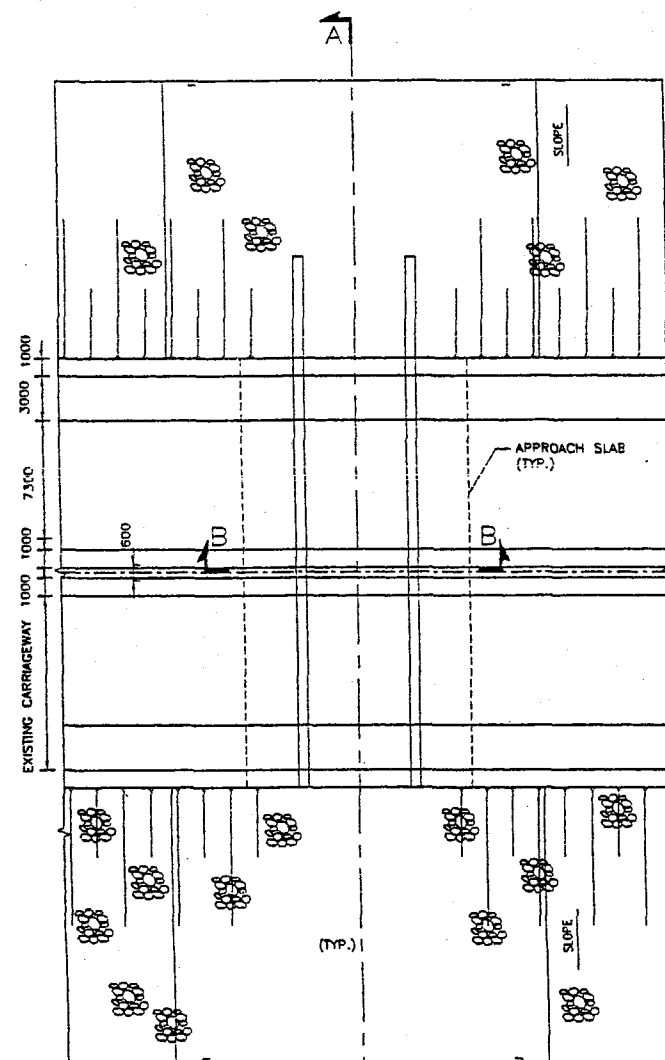
EMBANKMENT PROTECTION SHALL BE EXTENDED UPTO 1500 Min. FROM WINGWALL



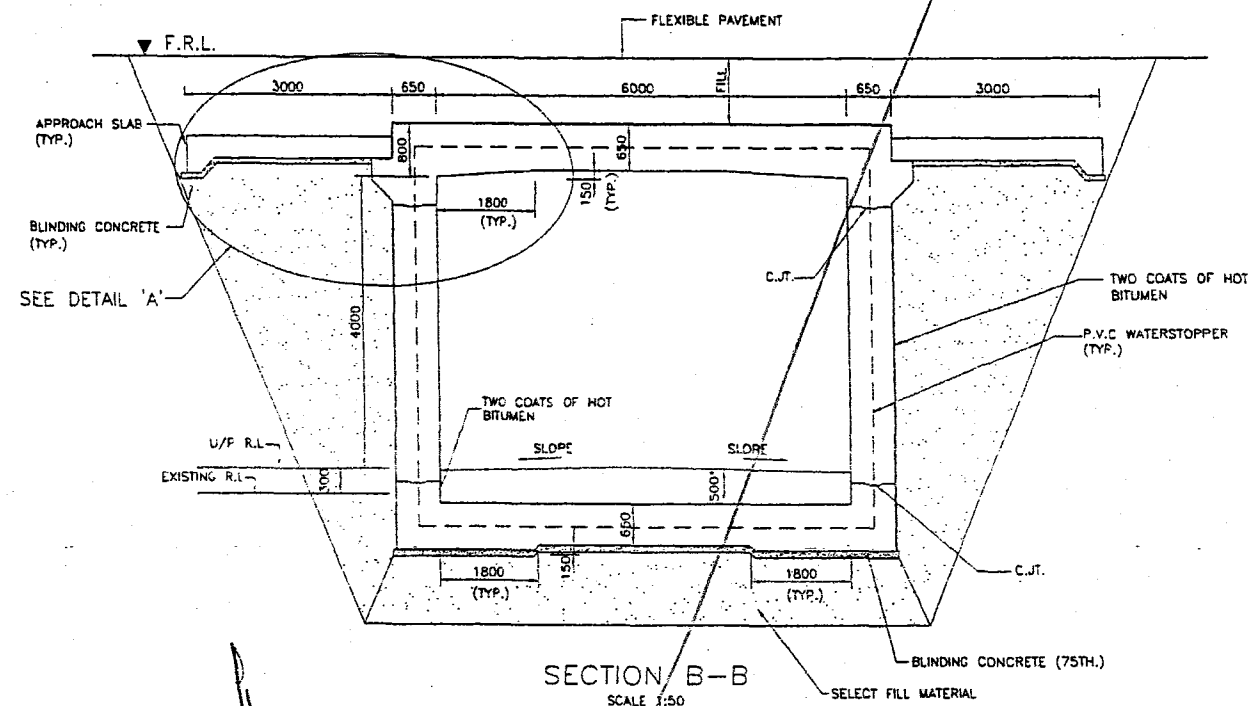
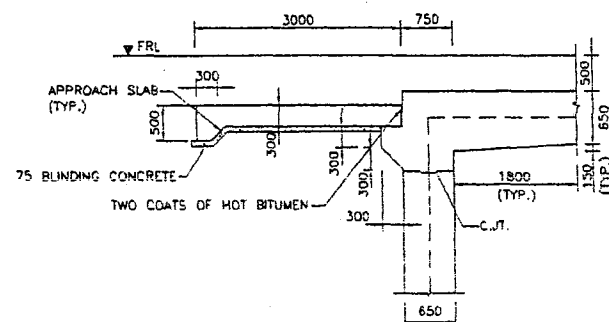
- NOTES:-
- 1-FOR GENERAL NOTES REFER DWG. NO. 3605/102/TD/P1GNS001
 - 2-READ THIS DRAWINGS WITH OTHER RELEVANT DRAWINGS
 - 3-THE DEPTH OF SELECT FILL SHALL BE DECIDED BY THE GEOTECH ENGINEER AT SITE IF REQUIRED.
 - 4-ALL FACES OF CONCRETE IN CONTACT WITH SOIL SHALL BE DAMP PROOFED WITH 2 COATS OF BITUMINOUS MATERIAL.
 - 5-FOR LOCATION OF UNDERPASSES REFER PLAN & PROFILE DRAWINGS.
 - 6-THE APPROACH SLAB ALONG WITH SUPPORT KEY IN WALL WILL BE PROVIDED ONLY IF THE FILL ABOVE THE CULVERT IS LESS THAN 1000.
 - 7-UNDERPASS SHALL BE CONSTRUCTED WITH 1% (MIN.) LONGITUDINAL SLOPE TOWARDS ADDITIONAL CARRIAGEWAY FOR DRAINAGE PURPOSE.

 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04				DRAWN BY	IFTIKHAR	RATODERO ~ RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)	E GENERAL ARRANGEMENT CONCRETE OUTLINE ROAD UNDERPASS (6000 X 4500)	SCALE
		03				SUBMITTED BY				
		02				RECOMMENDED BY				
		01				CHD./VER. BY				
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED BY				
MARCH 2018								DRAWING NO. 3605/102/TD/P2UP116	REV.	

TENDER DRAWINGS
NOT FOR CONSTRUCTION







EMBANKMENT PROTECTION DETAIL
SCALE 1:50



TENDER DRAWINGS

- NOTES:-
- 1-FOR GENERAL NOTES REFER DWG. NO. 3905/102/TD/P2G001
 - 2-READ THIS DRAWINGS WITH OTHER RELEVANT DRAWINGS
 - 3-THE DEPTH OF SELECT FILL SHALL BE DECIDED BY THE GEOTECH ENGINEER AT SITE IF REQUIRED.
 - 4-ALL FACES OF CONCRETE IN CONTACT WITH SOIL SHALL BE DAMP PROOFED WITH 2 COATS OF BITUMINOUS MATERIAL.
 - 5-FOR LOCATION OF UNDERPASSES REFER PLAN & PROFILE DRAWINGS.
 - 6-THE APPROACH SLAB ALONG WITH SUPPORT KEY IN WALL WILL BE PROVIDED ONLY IF THE FILL ABOVE THE CULVERT IS LESS THAN 1000.



 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04	 TAWAB ULLAH	DRAWN	LIJAZ AHMAD
		03		SUBMITTED	
		02		RECOMMENDED	
		01		CHD./VER.	
		REV.		DATE	DESCRIPTION

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

GENERAL ARRANGEMENT
CONCRETE OUTLINE
ROAD UNDERPASS (6000x4000)

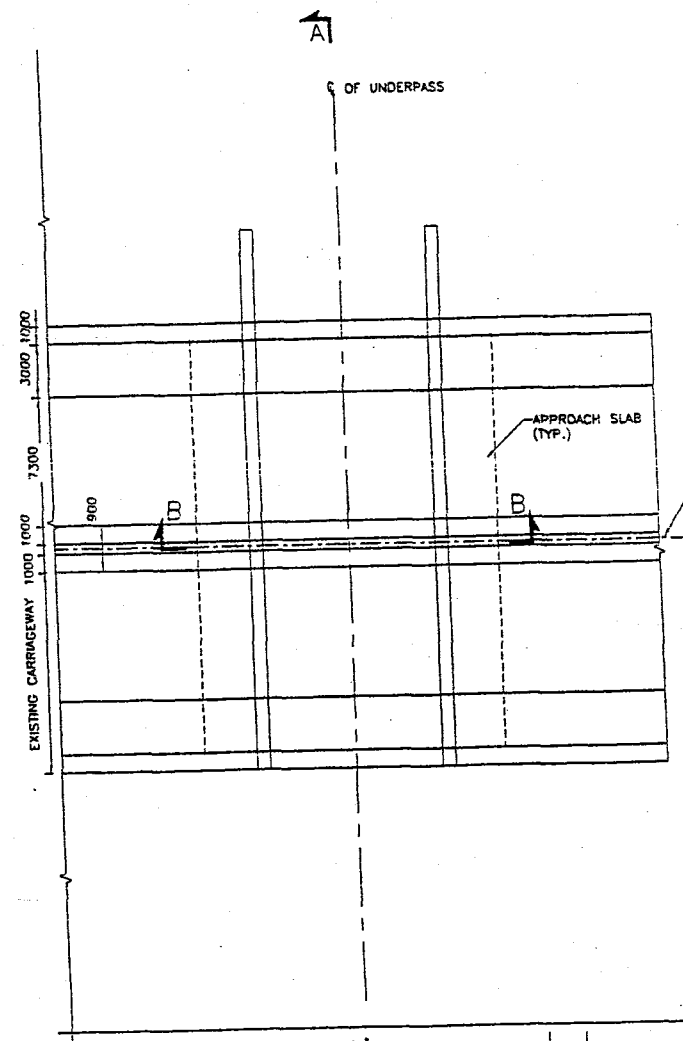
SCALE
1:300

JULY 2016

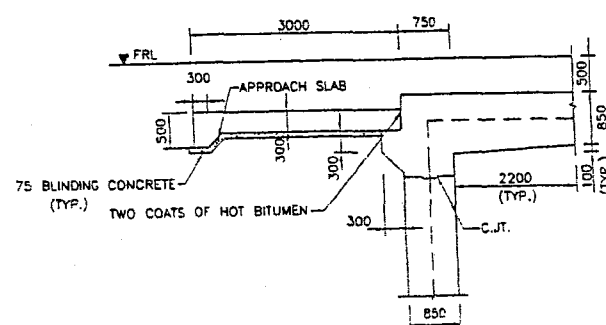
3905/102/TD/P2UP116

REV.

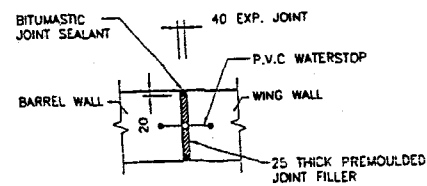
RAJANPUR ROAD/UNDERPASS/SECTION - II/EX-410 SKEW/P2UP112.dwg. 07.05.2016



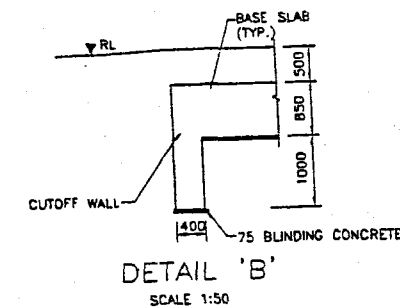
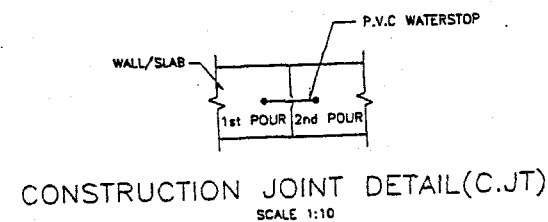
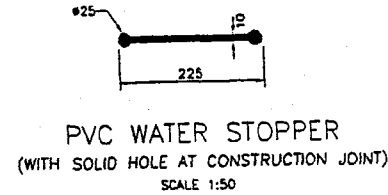
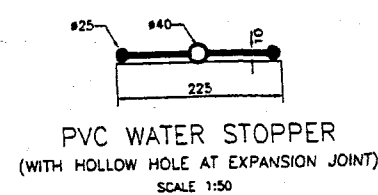
PLAN
SCALE 1:200



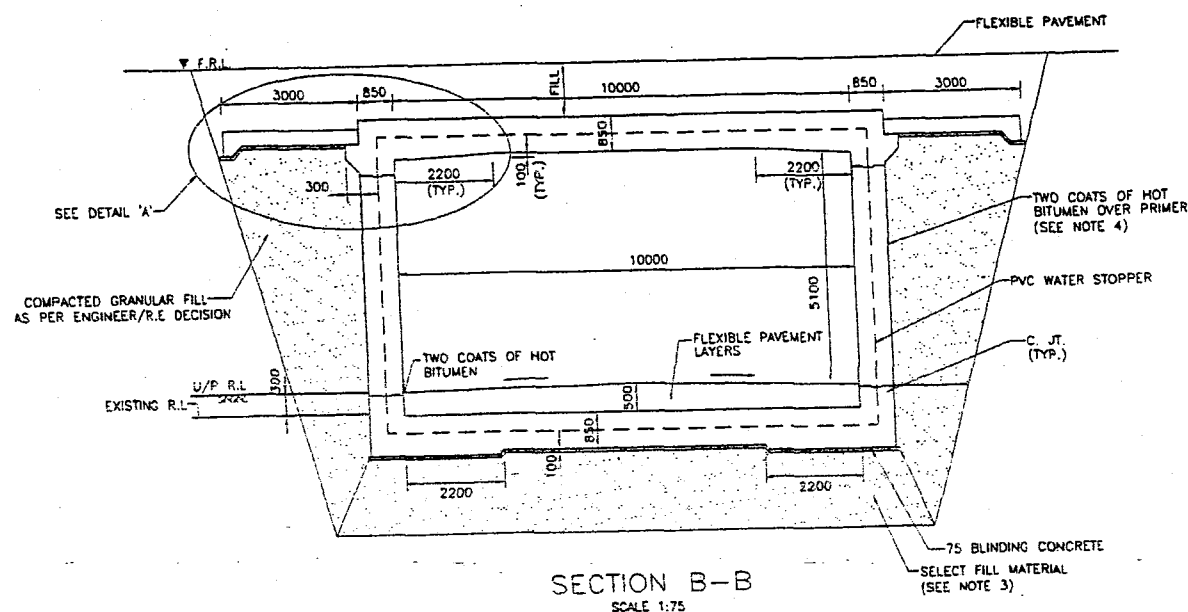
DETAIL 'A'
SCALE 1:50



EXP. JOINT DETAIL
SCALE 1:10



EMBANKMENT PROTECTION DETAIL
SCALE 1:50

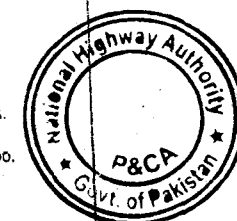


SECTION B-B
SCALE 1:75

TENDER DRAWINGS

NOTES:-

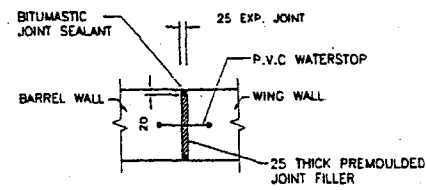
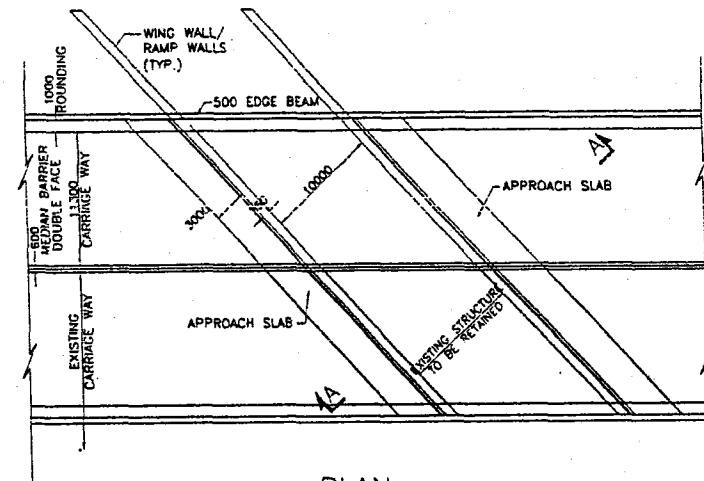
- 1-FOR GENERAL NOTES REFER DWG. NO. 3905/102/TD/P20001.
- 2-READ THIS DRAWINGS WITH OTHER RELEVANT DRAWINGS
- 3-THE DEPTH OF SELECT FILL SHALL BE DECIDED BY THE GEOTECH ENGINEER AT SITE IF REQUIRED.
- 4-ALL FACES OF CONCRETE IN CONTACT WITH SOIL SHALL BE DAMP PROOFED WITH 2 COATS OF BITUMINOUS MATERIAL.
- 5-FOR LOCATION OF UNDERPASSES REFER PLAN & PROFILE DRAWINGS.
- 6-THE APPROACH SLAB ALONG WITH SUPPORT KEY IN WALL WILL BE PROVIDED ONLY IF THE FILL ABOVE THE CULVERT IS LESS THAN 600.



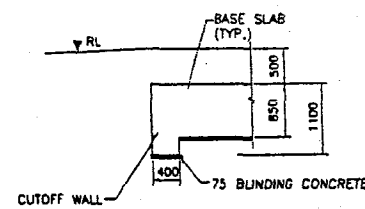
<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION</p>	<p>DRAWN SUBMITTED RECOMMENDED CHD./VER. APPROVED</p>	<p>WAZ AHMAD WAZ AHMAD WAZ AHMAD WAZ AHMAD WAZ AHMAD</p>	<p>GENERAL ARRANGEMENT CONCRETE OUTLINE ROAD UNDERPASS (10000x5100) DATE: JULY 2018 DWG. NO. 3905/102/TD/P2UP117 SCALE 1:300 REV.</p>
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RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

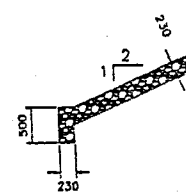
WAZ, D:\RATODERO TO RAJANPUR ROAD\UNDERPASS\SECTION - II\10X5.1 SKEW\P2UP113.dwg. 07.05.2018



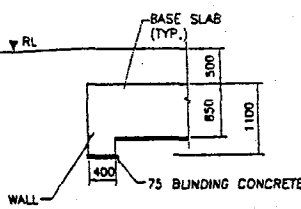
DETAIL OF WATERSTOP
SCALE 1:50



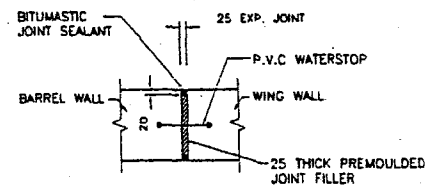
EMBANKMENT PROTECTION DETAIL
SCALE 1:50



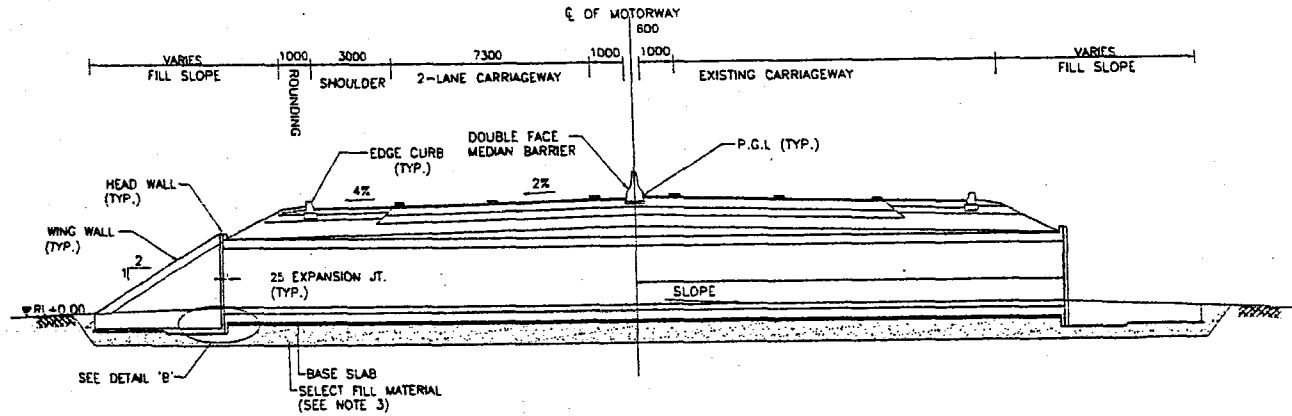
DETAIL 'B'
SCALE 1:50



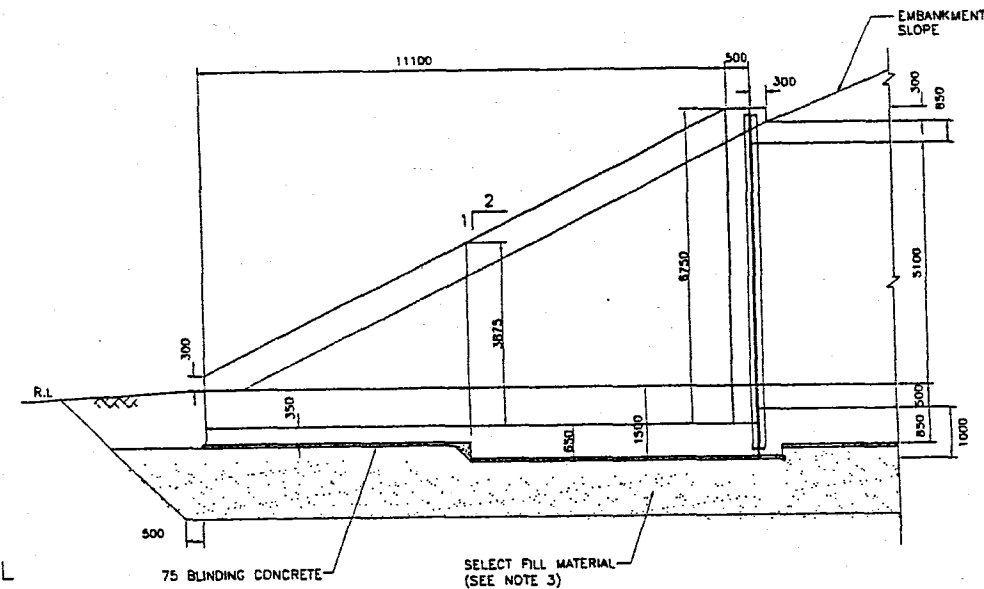
DETAIL OF WATERSTOP
SCALE 1:50



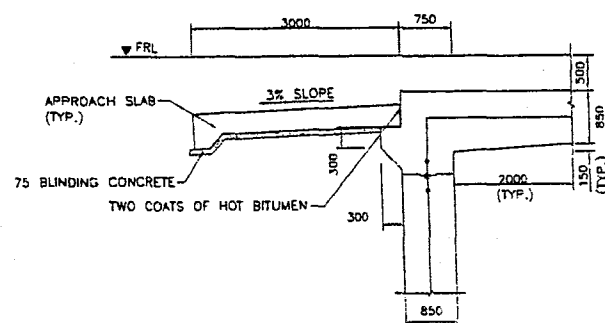
EXP. JOINT DETAIL
SCALE 1:10



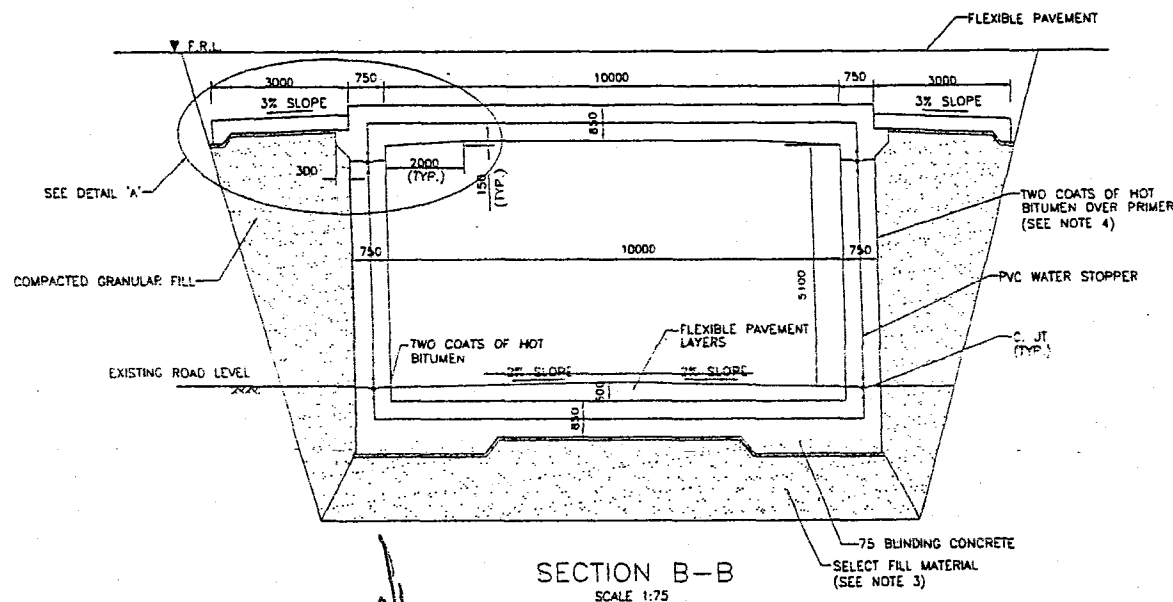
SECTION A-A



WING WALL ELEVATION
SCALE 1:75



DETAIL 'A'
SCALE 1:50



SECTION B-B
SCALE 1:75

TENDER DRAWINGS

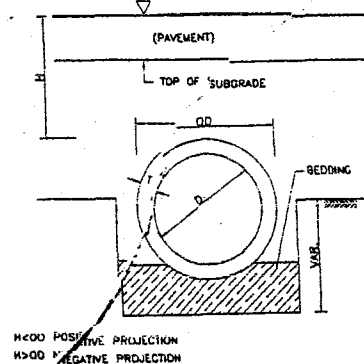
NOTES:-

- 1-FOR GENERAL NOTES REFER DWG. NO. 3905/102/TD/P2G001
- 2-THE DEPTH OF SELECT FILL SHALL BE DECIDED BY THE GEOTECH ENGINEER AT SITE.
- 3-ALL FACES OF CONCRETE IN CONTACT WITH SOIL SHALL BE DAMP PROOFED WITH 2 COATS OF BITUMINOUS MATERIAL.
- 4-FOR LOCATION OF UNDERPASSES REFER PLAN & PROFILE DRAWINGS.

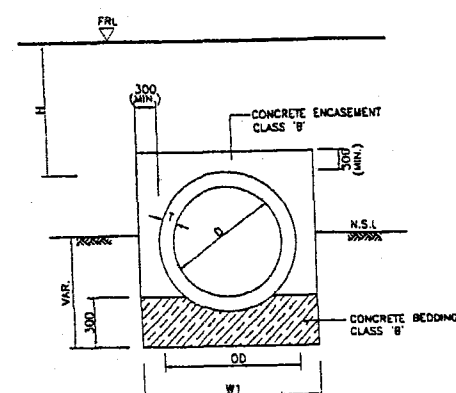


<p>GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY</p>	<p>NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.</p>	<p>04 03 02 01 REV. DATE DESCRIPTION APPROVED</p>	<p>DRAWN SUBMITTED RECOMMENDED CHD./VER. APPROVED</p>	<p>UJAZ AHMAD RAJANPUR ROAD PACKAGE-II (KANDH KOT TO KASHMORE)</p>	<p>GENERAL ARRANGEMENT CONCRETE OUTLINE ROAD UNDERPASS (10000x5100) ATE JULY 2018 DWG. NO. 3905/102/TD/P2UF118 SCALE 1:300 REV.</p>
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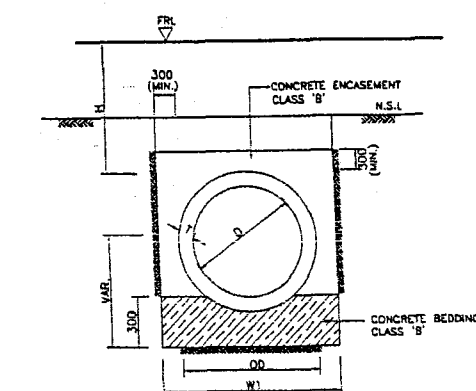
GENERAL DEFINITIONS



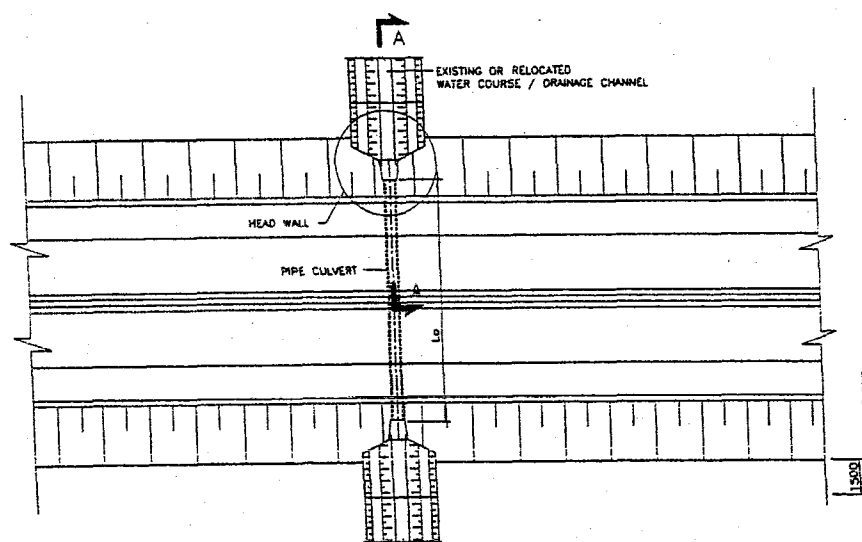
SINGLE PIPE CULVERT



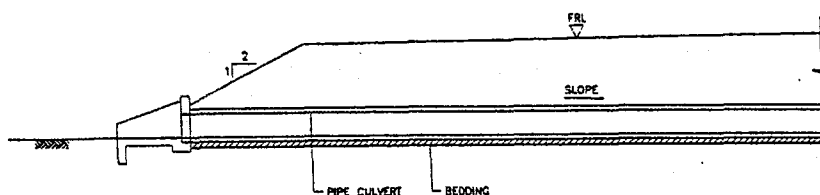
TRENCH DETAILS
SINGLE PIPE CULVERT
POSITIVE PROJECTION



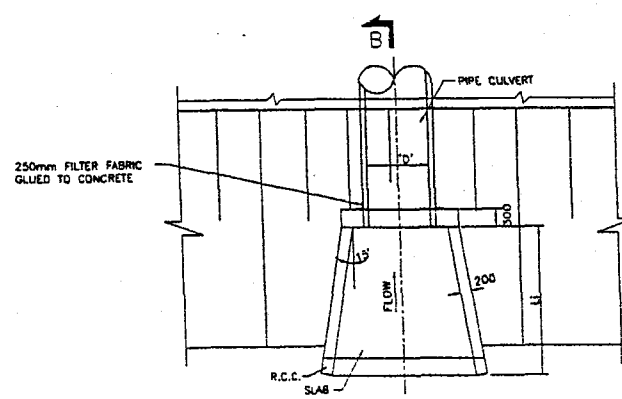
TRENCH DETAILS
SINGLE PIPE CULVERT
NEGATIVE PROJECTION



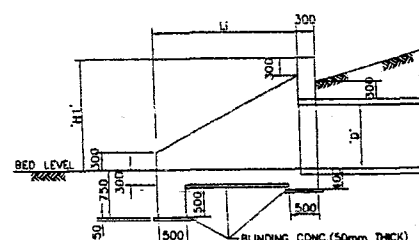
PLAN



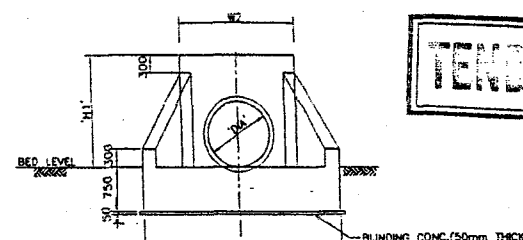
SECTION A-A
SCALE 1:100



HEAD WALL PLAN
SCALE 1:50



SECTION B-B
SCALE 1:50



ELEVATION
SCALE 1:50

PIPE SCHEDULE AND INLET / OUTLET DIMENSIONS

BEDDING TYPE	DIA. D	THICKNESS T	OUTSIDE DIA. O D	H1	L1	POSITIVE PROJECTION			NEGATIVE PROJECTION			POSITIVE PROJECTION/NEGATIVE PROJECTION	
						W1	W2	W3	W1	W2	W3	CONCRETE ENCASEMENT	CONCRETE BEDDING
CONCRETE	760	90	940	1450	2150	1540	2000	3000	1710	2000	3000	CLASS 'B' CONCRETE	CLASS 'B' CONCRETE
CONCRETE	900	100	1100	1600	2400	1700	2000	3000	1700	2000	3000	CLASS 'B' CONCRETE	CLASS 'B' CONCRETE
CONCRETE	1200	125	1450	1925	3000	2050	2000	3000	1710	2000	3000	CLASS 'B' CONCRETE	CLASS 'B' CONCRETE

LIST OF PIPE CULVERTS

SECTION-II

KANDH KOT TO KASHMORE

KM. 105+820 TO KM. 164+600

Sr. No	Chainage	Structure Type	No. of Spans/Pipes	Clear Span Width/Dia. (m)	Clear Height	Skew
1	149+725	Pipe Culvert	1	1.1	-	30
2	150+180	Pipe Culvert	1	1.1	-	0
3	150+415	Pipe Culvert	1	1.1	-	0
4	150+890	Pipe Culvert	1	1.1	-	53
5	151+490	Pipe Culvert	1	1.1	-	0
6	152+085	Pipe Culvert	1	1.1	-	10
7	152+590	Pipe Culvert	1	1.1	-	20
8	152+700	Pipe Culvert	1	1.1	-	0
9	152+950	Pipe Culvert	1	1.1	-	0
10	153+015	Pipe Culvert	1	1.1	-	0
11	153+240	Pipe Culvert	1	1.1	-	10
12	153+720	Pipe Culvert	1	1.1	-	0
13	154+600	Pipe Culvert	1	1.1	-	25
14	156+895	Pipe Culvert	1	1.1	-	0
15	157+360	Pipe Culvert	1	1.1	-	45
16	157+840	Pipe Culvert	1	1.1	-	25
17	157+895	Pipe Culvert	1	1.1	-	25
18	58+065-09	Pipe Culvert	4	1.1	-	45
19	158+210	Pipe Culvert	1	1.1	-	45

NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETER UNLESS NOTED OTHERWISE.
- FOR GENERAL NOTES REFER DWG. NO. 3905/102/TD/P3GDD1.
- FOR LOCATIONS AND INVERT LEVELS OF PIPE CULVERTS REFER PLAN AND PROFILE DRAWINGS.
- CULVERTS SHALL BE PROTECTED BY THE MINIMUM OF 0.9m OF COVER BEFORE PERMITTING HEAVY CONSTRUCTION EQUIPMENTS TO PASS OVER.
- CLASS 'B' CONCRETE SHALL BE USED FOR CONCRETE BEDDING AND CONCRETE ENCASEMENT.
- CONCRETE CLASS 'A1' SHALL BE USED FOR INLET/OUTLET STRUCTURES.
- DIMENSIONS OF CONCRETE PIPE CAN BE CHANGED UNDER THE RESIDENT ENGINEER'S APPROVAL, HOWEVER - REINFORCED CONCRETE PIPES SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASHTO DESIGNATION ASTM DESIGNATION C 76 M WALL TYPE 'B'.
- FOR NEGATIVE PROJECTION INSTALLATION TRENCH WIDTHS MUST NOT EXCEED DIMENSIONS INDICATED.

TENDER DRAWINGS



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL HIGHWAY AUTHORITY

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

HEAD OFFICE: NESPAK HOUSE, 1-C, BLOCK N, MODEL TOWN
EXTENSION, LAHORE, PAKISTAN.

REV.	DATE	DESCRIPTION	APPROVED	APPROVED
04				
03				
02				
01				

RATODERO ~ RAJANPUR ROAD
PACKAGE-II
(KANDH KOT TO KASHMORE)

PIPE CULVERT-TRENCHING
AND INLET/OUTLET DETAILS

DATE: JULY 2018
DWG NO.: 3905/102/TD/P1PC120

SCALE
1:300
REV.