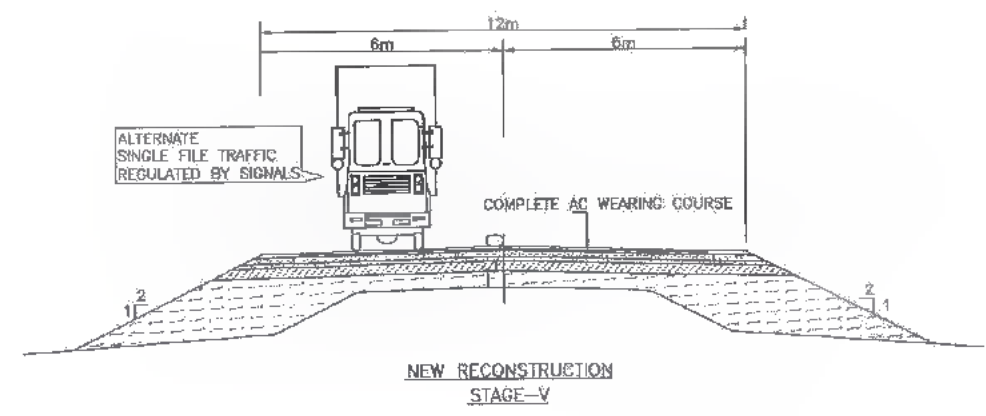
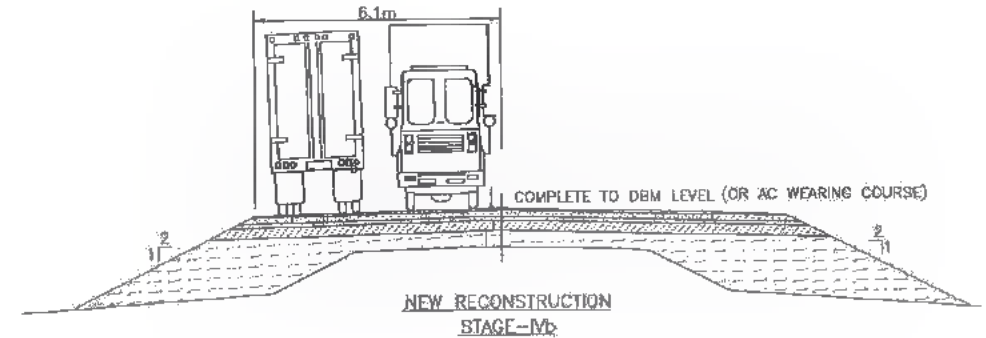
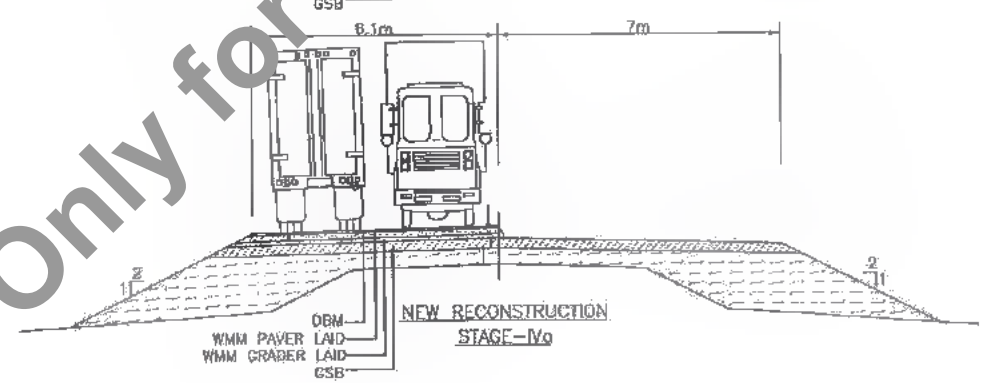
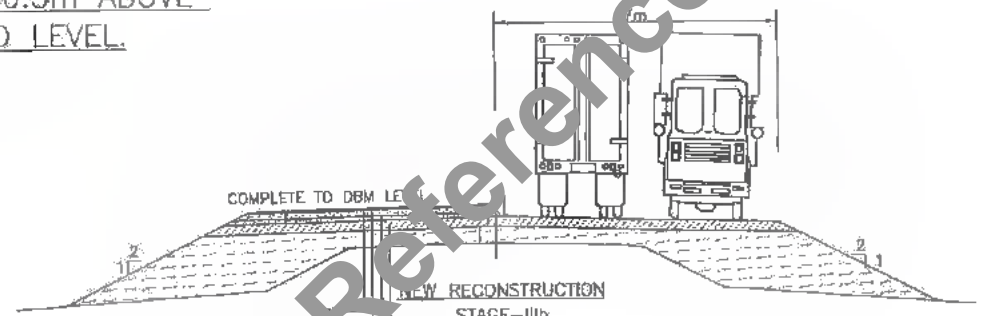
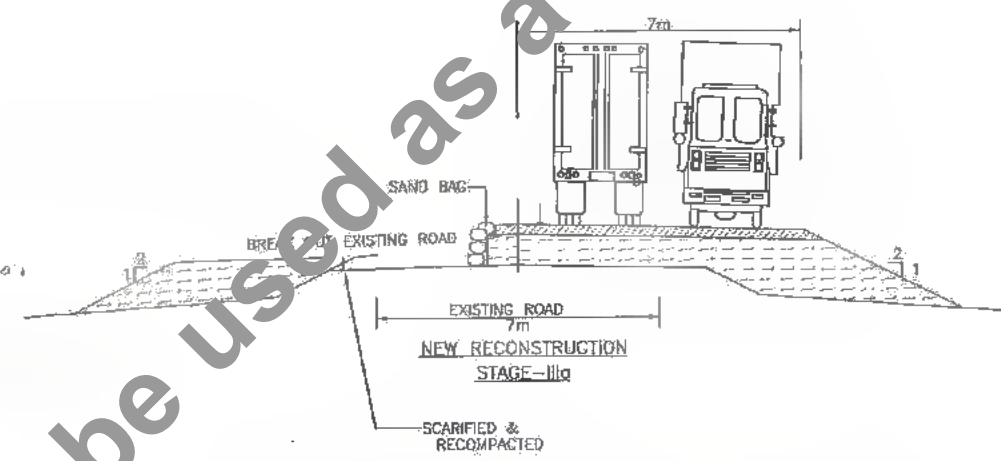
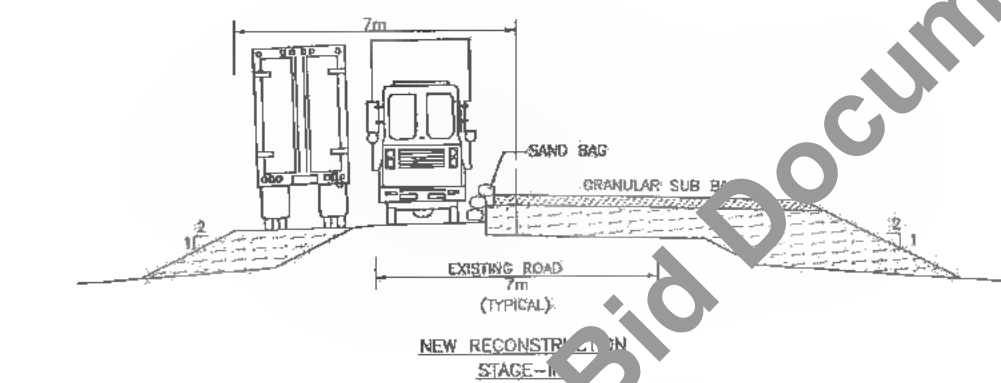
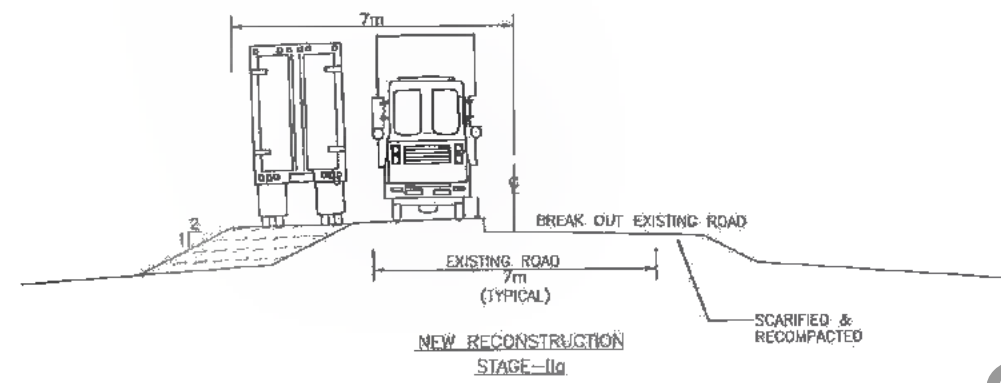
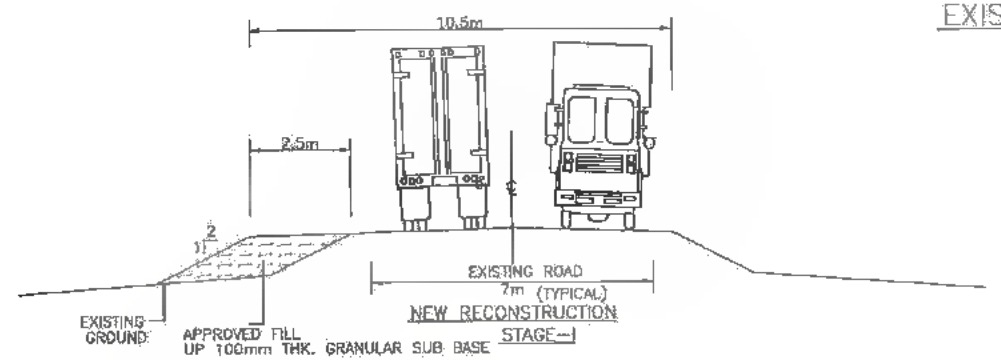


PROPOSED FRL $\geq 0.5m$ ABOVE EXISTING ROAD LEVEL



NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING TM-01 TO TM-07
2. THESE DRAWINGS SHOW TYPICAL TRAFFIC MANAGEMENT STAGING DURING CONSTRUCTION. FOR COMPLETE TECHNICAL DETAILS OF THE PAVEMENT WORKS REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS.
3. DIMENSIONS SHOWN ACROSS THE WIDTH ARE INDICATIVE OF THE PARTICULAR CONSTRUCTION STAGE. AT INTERMEDIATE STAGES THE WIDTHS SHALL BE THE MINIMUM REQUIRED TO SUSTAIN TWO-WAY TRAFFIC.
4. TEMPORARILY EXPOSED EARTHEN/GRANULAR CONSTRUCTION JOINTS ARE TO BE PRIMED AS DIRECTED BY THE ENGINEER TO PREVENT LOSS OF MATERIAL.

DATE: 2019/06/06am; PATH: T:\CAD\2019\201907 BIHAR\REVISED DPR\CMVTP TRAFFIC MANAGEMENT PLAN\PACKAGE-1\06-TRAFFIC-MANAGEMENT CASE-3.dwg

CLIENT:



Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

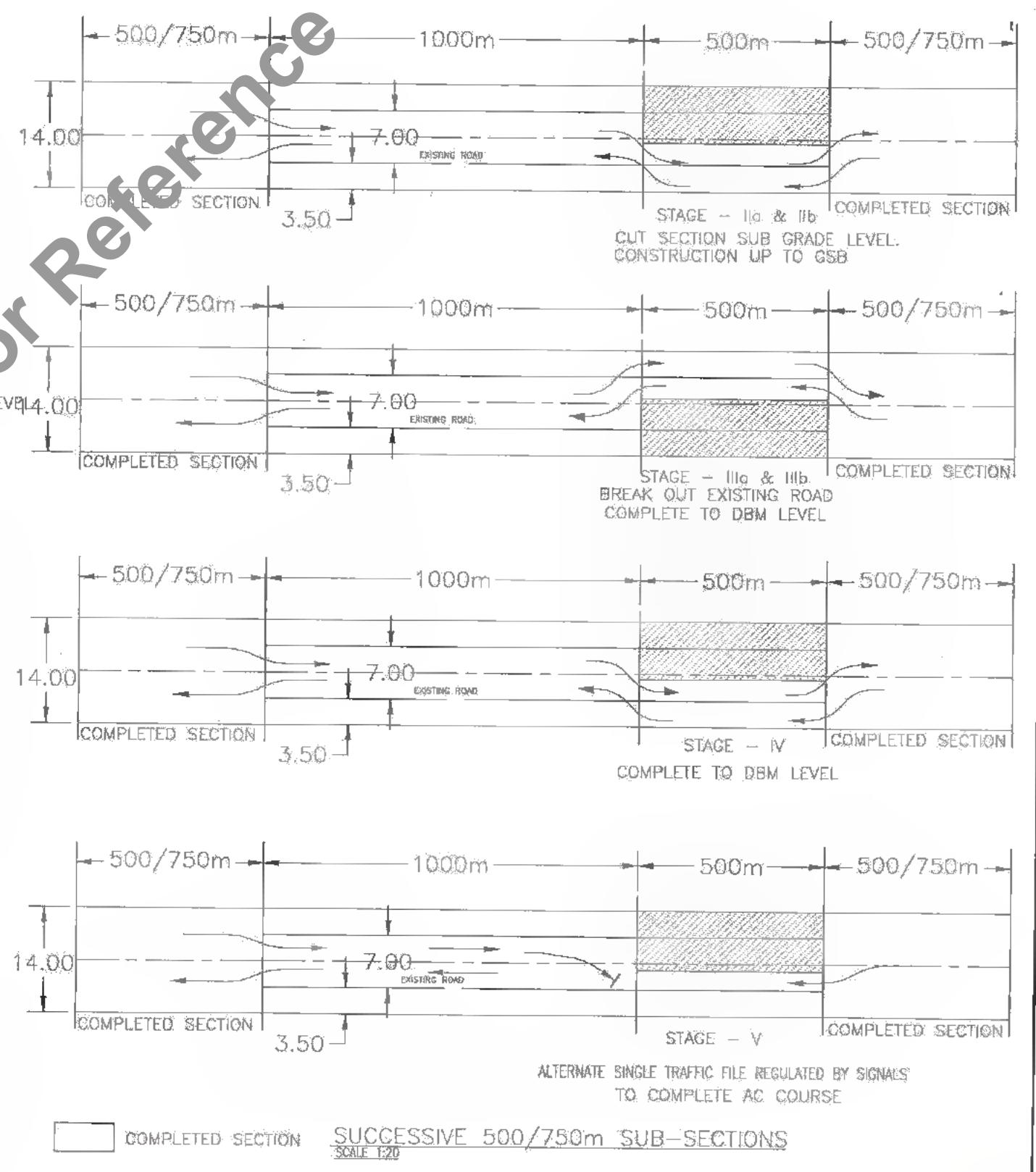
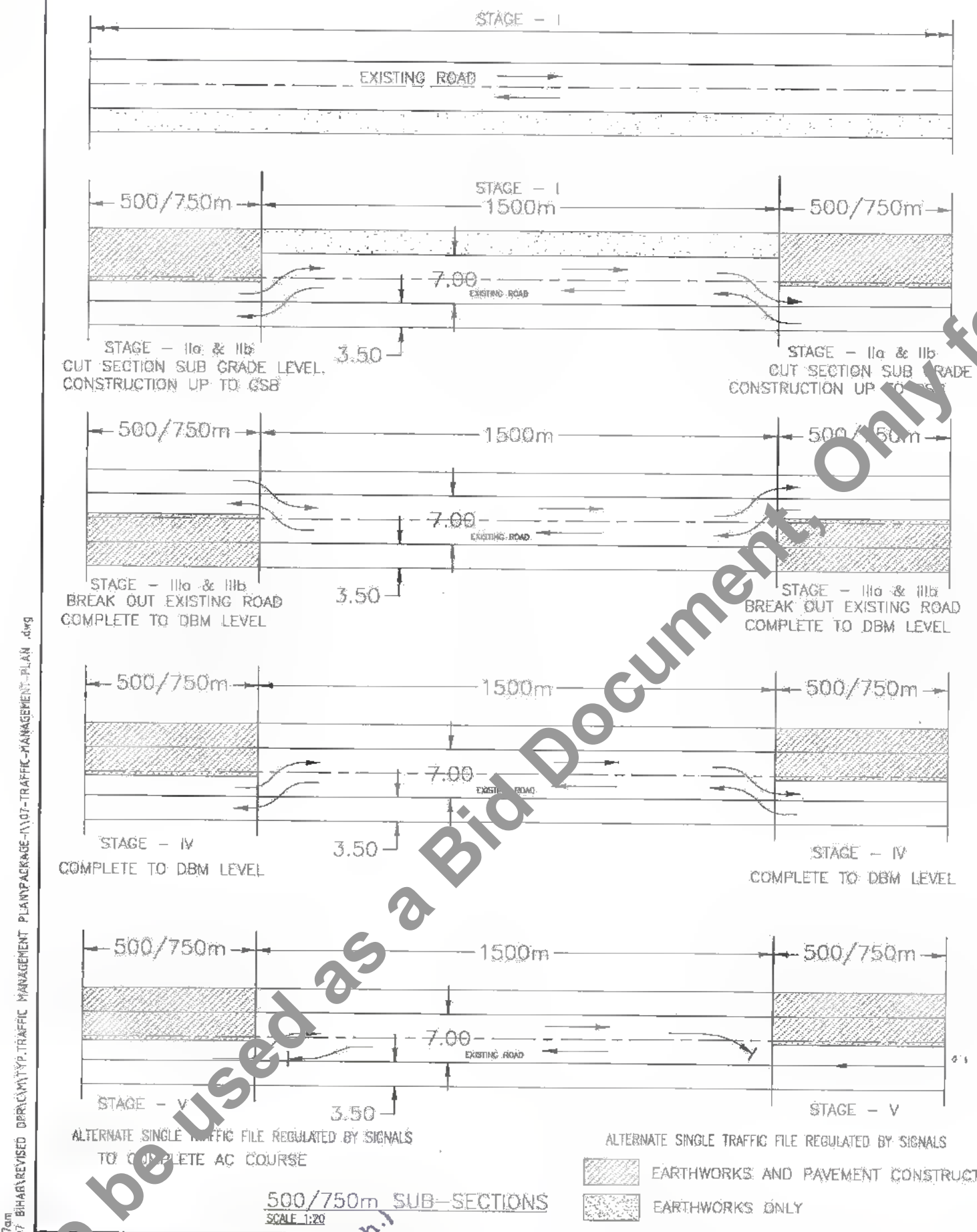
CONSULTANTS:



SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Max-A "SAI House", Sakinagar Exports Square, B-8, Sakinaka
Ind. Area, Patna-800015, Bihar
Phone : +91-91-6563880/710; Fax : +91-91-6563880
Email : saic@saiconsulting.com

PE	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : R.M.	TITLE : BAYSI - RAUTA (PACKAGE-I)
PD	28/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : G.S.	TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE - 3
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.D.	
FB	20/02/14	ISSUED WITH FINAL GCPR		ISSUED BY : B.S.	
PA	13/11/13	ISSUED WITH DPR			
REV.	DATE	DESCRIPTION	SIGN.	ISSUED BY :	DRG. NO. :
					SAI-213007/DPR/CMVTP/PI. TM-06
					REVISION : PE





ALTERNATE SINGLE TRAFFIC FILE REGULATED BY SIGNALS TO COMPLETE AC COURSE
 SUCCESSIVE 500/750m SUB-SECTIONS
 SCALE 1:20

ALTERNATE SINGLE TRAFFIC FILE REGULATED BY SIGNALS
 EARTHWORKS AND PAVEMENT CONSTRUCTION
 EARTHWORKS ONLY

500/750m SUB-SECTIONS
 SCALE 1:20

DATE: 10/07/19
 PATH: C:\Users\rajad\OneDrive\Documents\BHSRDC\TRAFFIC MANAGEMENT PLAN\PACKAGE-1\107-TRAFFIC-MANAGEMENT-PLAN.dwg

Bihar State Road Development Corporation Limited (BSRDCL)
 (A Government of Bihar Undertaking)

PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

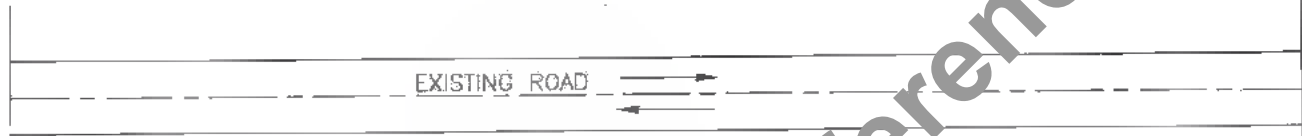
CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A "SAI House" Sanyal Corporate Square, 8th Buzhat
 Gurgaon, Haryana - 122009, India
 Phone: +91-120-4252011/1190741, +91-74-434 8900
 Email: sai@saiindia.com

PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		
PD	20/12/18	GOOD FOR CONSTRUCTION (DPR)		
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
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PA	13/11/13	ISSUED WITH DPR		
REV.	DATE	DESCRIPTION	SIGN	ISSUED BY

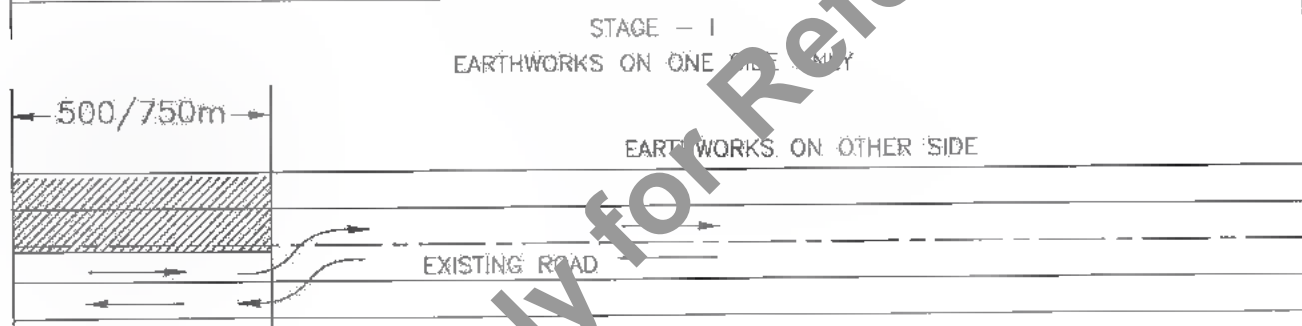
TITLE: BAYSI - RAJITA (PACKAGE-B)
 TYPICAL PLAN FOR TRAFFIC MANAGEMENT SEQUENCE DURING CONSTRUCTION
DRG. NO.: SAI-213007/OPR/MTYP/ TM-07
REVISION: PE



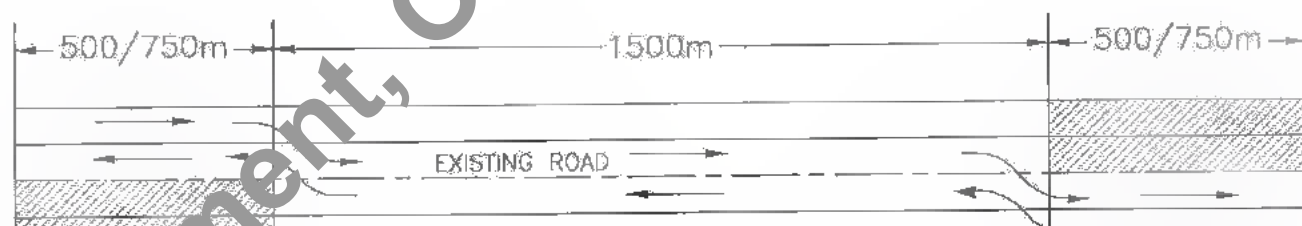
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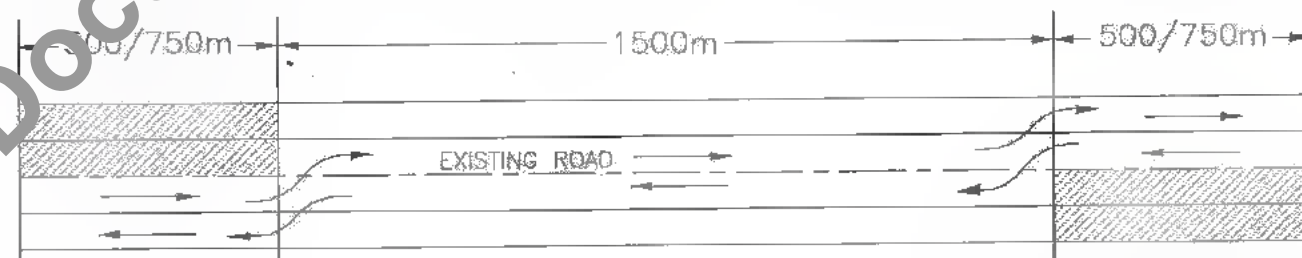
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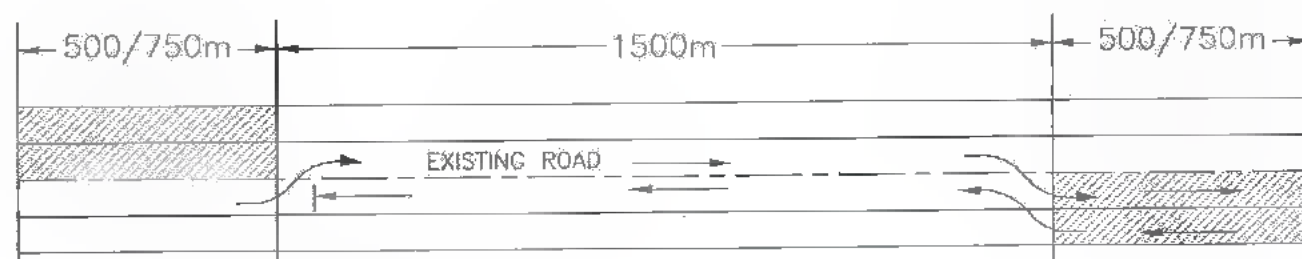
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④



⑤



SCALE 1:20

EARTHWORKS AND PAVEMENT CONSTRUCTION
 EARTHWORKS ONLY

DATE: 2019/07/10 10:22 AM BISHAR/REVISED: DPR/CIVIL/TYP. TRAFFIC MANAGEMENT PLAN/PACKAGE-1/108-TRAFFIC-MANAGEMENT-PLAN.dwg

Not to be used as a Bid Document, Only for Reference

CLIENT :



Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

D. B. Singh (Tech.)
PIU, Patihari

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS :



SAL Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Bhup-A "Sal House" Salgram Corporate Square, Bih Bagicha
Dist. Buxar, Bihar (Pin-800006) Bihar, India
Phone : +91-79-4616280/700, Fax : +91-79-4616285
Email : info@salindia.com

PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)
RD	28/12/18	GOOD FOR CONSTRUCTION (DPR)
PC	10/01/19	GOOD FOR CONSTRUCTION (DPR)
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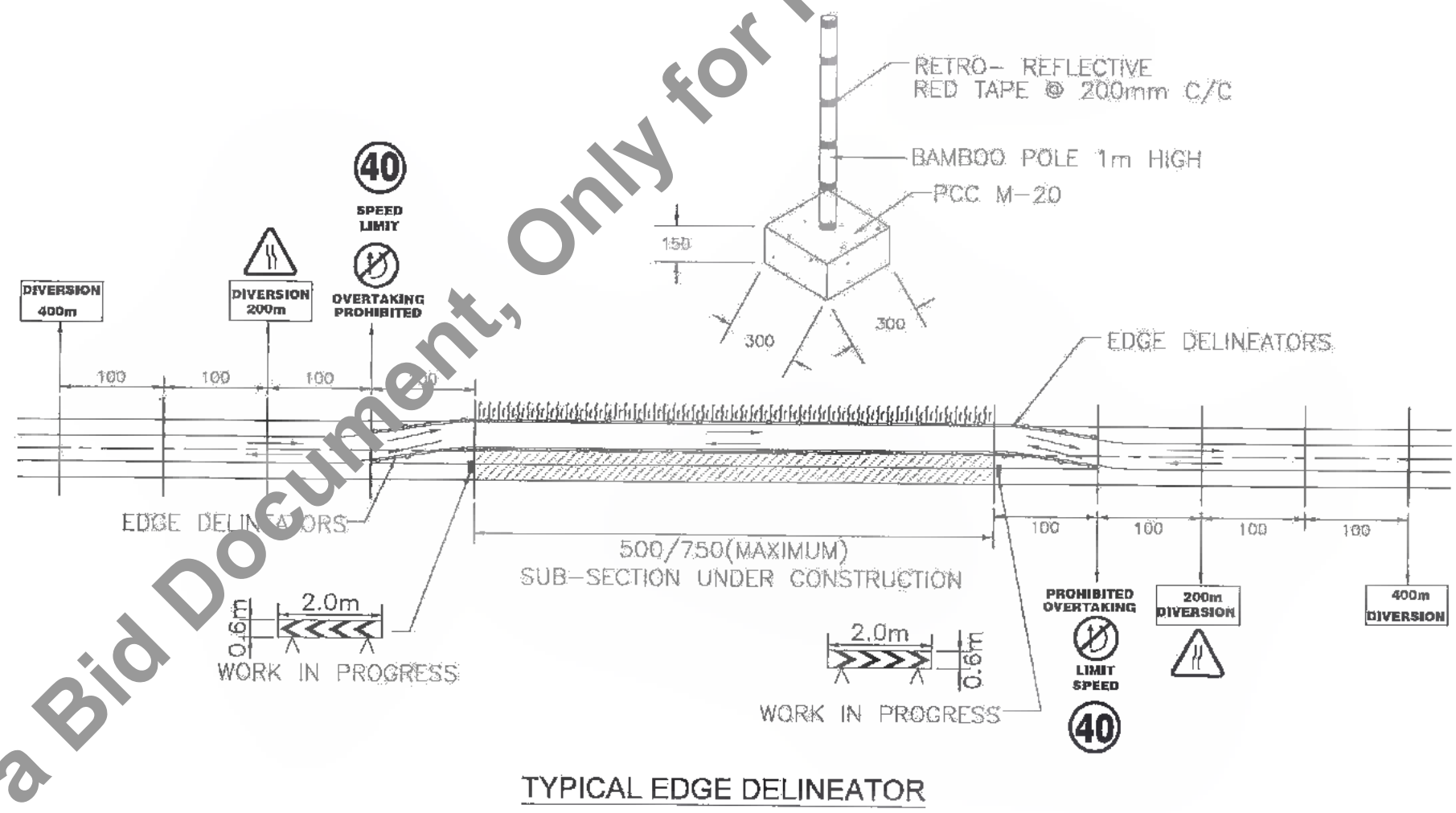
DRAWN BY : R.N.
CHECKED BY : C.S.
APPROVED BY : J.D.
ISSUED BY : B.S.

TITLE: BAYSI - RAUTA (PACKAGE-I) SCHEMATIC PLAN FOR TRAFFIC MANAGEMENT BETWEEN SUB-SECTION AT DIFFERENT STAGES
DRG. NO. : SAL-213007/DPR/TYP/ TM-08
REVISION : PE



135
642

DATE: 13/07/19 TIME: 16:08am
PATH: T:\CADD\23007 BIHAR\REVISED DPR\CONTRACT\TRAFFIC MANAGEMENT PLAN\PACKAGE-11\09-TYP_EDGE DELINEATOR.dwg



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CLIENT:
 Bihar State Road Development Corporation
 (A Government of Bihar Undertaking)

PROJECT:
 Consultancy Services for Preparation of Detailed Project
 Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
 SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A "SAI House" Sanyam Corporate Square, 4th Floor
 Plot 3, Sector 4, Kirti Nagar, New Delhi 110015
 Phone: +91-11-2646887/8/9 Fax: +91-11-2646890
 Email: info@saiindia.com

PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.M.
PD	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.O.
PA	28/02/14	ISSUED WITH FINAL DPR	ISSUED BY : S.S.
PA	13/11/13	ISSUED WITH DPR	

TITLE: BAYSI - RAUTA
 (PACKAGE-3)
 TYPICAL ARRANGEMENT OF
 TRAFFIC CONTROL DEVICES FOR
 500M SUB-SECTION

DRG. NO.: SAI-213D07/DPR/MTYP/ TM-09
 REVISION: PE

SCALE: N.T.S.

LIST OF DRAWINGS (PACKAGE - II)

TITLE	DRAWING NO.	TITLE	DRAWING NO.
01. LEGEND	SAI-213007/DPR/M/TYP-LEG	23. TYPICAL DETAILS OF LANE MARKINGS	SAI-213007/DPR/M/TYP-06
02. SCHEMATIC DIAGRAM (LINER PLAN)	SAI-213007/DPR/CI/H/LP - 01 TO 05	24. TYPICAL DETAILS OF LANE MARKINGS	SAI-213007/DPR/M/TYP-07
03. TYPICAL CROSS SECTION	SAI-213007/DPR/M/TYP/CS - 01	25. TYPICAL DETAILS OF CRASH BARRIER	SAI-213007/DPR/M/TYP-08
04. HORIZONTAL ALIGNMENT DETAILS FOR Km. 22+005 TO Km. 45+405	SAI-213007/DPR/CI/H/HD - 01	26. DISTANCE STONES	SAI-213007/DPR/M/TYP-09
05. VERTICAL ALIGNMENT DETAILS FOR Km. 22+005 TO Km. 45+405	SAI-213007/DPR/CI/H/VAD - 01	27. TYPICAL DETAILS OF INDICATORS	SAI-213007/DPR/M/TYP-10
06. ALIGNMENT PLAN & PROFILE FOR Km. 22+005 TO Km. 45+405	SAI-213007/DPR/CI/H/PP - 23 TO 48	28. DETAILS OF UTILITY DUCTS	SAI-213007/DPR/M/TYP-11
07. ROAD FURNITURE TABLES FOR Km. 22+005 TO Km. 45+405	SAI-213007/DPR/CI/H/RFT - 01 TO 02	29. TYPICAL PLANTATION LAYOUT WITH PAVED SHOULDER	SAI-213007/DPR/M/TYP-12
08. ROAD FURNITURE PLAN FOR Km. 22+005 TO Km. 45+405	SAI-213007/DPR/CI/H/RF - 01 TO 12	30. DRAIN DETAILS FOR RURAL SECTIONS	SAI-213007/DPR/M/TYP-14
09. MAJOR JUNCTION AT CH. 44+970	SAI-213007/DPR/CI/H/MJ - 01	31. DRAIN DETAILS FOR HIGH EMBANKMENT	SAI-213007/DPR/M/TYP-15
10. TYPICAL LAYOUT OF FOUR LEGGED CHANNELISED JUNCTION WITH PAVED SHOULDER	SAI-213007/DPR/M/TYP/JUNC - 01	32. DETAILS FOR COVERED BOX DRAIN SECTIONS	SAI-213007/DPR/M/TYP-16 (SHEET 1 OF 2 & 2 OF 2)
11. TYPICAL LAYOUT OF THREE LEGGED CHANNELISED JUNCTION WITH PAVED SHOULDER	SAI-213007/DPR/M/TYP/JUNC - 02	33. TYPICAL DETAILS FOR RIGID PAVEMENT	SAI-213007/DPR/M/TYP-17
12. TYPICAL LAYOUT OF LEFT-IN LEFT-OUT FOUR LEGGED JUNCTION WITH PAVED SHOULDER	SAI-213007/DPR/M/TYP/JUNC - 03	34. OFFICE CUM RESIDENTIAL COMPLEX FOR PIU	SAI-213007/DPR/M/TYP-18
13. TYPICAL LAYOUT OF LEFT-IN LEFT-OUT THREE LEGGED JUNCTION WITH PAVED SHOULDER	SAI-213007/DPR/M/TYP/JUNC - 04	35. TYPICAL DETAILS OF RUMBLE STRIPS	SAI-213007/DPR/M/TYP-19
14. TYPICAL LAYOUT OF THREE LEGGED CHANNELISED Y JUNCTION WITH PAVED SHOULDER	SAI-213007/DPR/M/TYP/JUNC - 05	36. TRAFFIC SAFETY DURING CONSTRUCTION	SAI-213007/DPR/M/TYP/TM-01
15. GENERAL ARRANGEMENT DRAWING FOR BUS SHELTER	SAI-213007/DPR/M/TYP-01	37. TRAFFIC MANAGEMENT REQUIREMENTS AND CONSTRUCTION METHODOLOGY	SAI-213007/DPR/M/TYP/TM-02
16. STRUCTURAL DETAILS FOR BUS SHELTER	SAI-213007/DPR/M/TYP-01A	38. TRAFFIC MANAGEMENT REQUIREMENTS AND CONSTRUCTION METHODOLOGY	SAI-213007/DPR/M/TYP/TM-03
17. TYPICAL DETAILS OF OVER HEAD SIGNS	SAI-213007/DPR/M/TYP-02	39. TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE - 1	SAI-213007/DPR/M/TYP/TM-04
18. FOOTING DETAILS FOR OVER HEAD/GANTRY SIGNS	SAI-213007/DPR/M/TYP-03	40. TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE - 2	SAI-213007/DPR/M/TYP/TM-05
19. TYPICAL DETAILS OF REGULATORY MANDATORY TRAFFIC SIGNS	SAI-213007/DPR/M/TYP-04	41. TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE - 3	SAI-213007/DPR/M/TYP/TM-06
20. SCHEDULE OF TRAFFIC SIGNS	SAI-213007/DPR/M/TYP-04A	42. TYPICAL PLAN FOR TRAFFIC MANAGEMENT SEQUENCE DURING CONSTRUCTION	SAI-213007/DPR/M/TYP/TM-07
21. TYPICAL DETAILS TRAFFIC SIGNS	SAI-213007/DPR/M/TYP-04B	43. SCHEMATIC PLAN FOR TRAFFIC MANAGEMENT BETWEEN SUB-SECTION AT DIFFERENT STAGES	SAI-213007/DPR/M/TYP/TM-08
22. PEDESTRIAN GUARD DETAILS	SAI-213007/DPR/M/TYP-05	44. TYPICAL ARRANGEMENT OF TRAFFIC CONTROL DEVICES FOR 500M SUB-SECTION	SAI-213007/DPR/M/TYP/TM-09

J. G. M. (Tech.)
BSRDCL
PIU-Katihar

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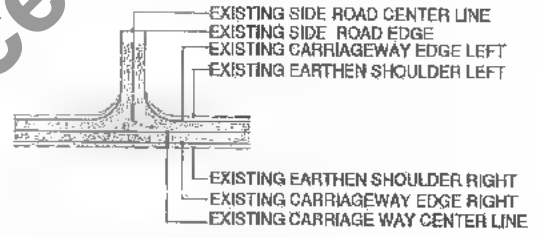
137
640

EXISTING FEATURES

	ELECTRIC POLE		WATER TAP
	OPTICAL FIBER CABLE STONE		GATE
	TREE		RIVER / STREAM
	ELECTRIC TRANSFORMER		RETAINING WALL
	TELEPHONE POLE		OPEN/HILL/VALLEY
	NAME BOARD		LAND TYPE
	TEMPLE / MOSQUE / CHURCH		LEVEL CROSSING MANUAL
	HAND PUMP		LEVEL CROSSING AUTOMATIC
	WELL		FENCING
	PETROL PUMP		RAILWAY LINE
	MOBILE / BSF TOWER		COMPOUND WALL
	STRUCTURE / BUILDING		ELECTRIC LINE / TOWER LINE
	PAGGA RESIDENTIAL		TELEPHONE LINE
	PAGGA COMMERCIAL		HIGH TENSION LINE
	SEMI RESIDENTIAL		EXISTING RIGHT OF WAY
	SEMI COMMERCIAL		TBM MARKING
	G+1 FLOOR		P.B.M. MARKING
	G+2 FLOOR		EXISTING KILOMETER STONE
	KACHHA RESIDENTIAL		HECTOMETER STONE MARKING
	KACHHA COMMERCIAL		TRAVERSE REFERENCE POINT
	WATER SUPPLY VALVE		BORE HOLE LOCATION
	TELEPHONE JUNCTION BOX		POND / WATER LOGGED AREA
	TRAFFIC SIGNAL		EXISTING BRIDGE/CULVERT TEXT/ PROPOSED BRIDGE/CULVERT TEXT
	GAS PIPE STONE		CULVERT & BRIDGE
	BOUNDARY STONE		
	MANHOLE		
	HIGH TENSION TOWER		
	ELECTRIC POLE MOUNTED TRANSFORMER		
	ELECTRIC BOX		
	TELEPHONE BOOTH		
	ROAD SIGN ONE POST (WOOD OR TELSPAN)		
	BUS/BUS STOP		
	GPS BENCH MARK		
	WATER TANK		
	TUBE WELL		
	FIRE HYDRANT		
	TRAFFIC SIGNAL CONTROL BOX		
	TRAFFIC SIGN BOARD		

DESCRIPTION	EXISTING	PROPOSED
TYPE OF STR.		
STR. NO.		
DIMENSION		
SIZE		

EXISTING FEATURES

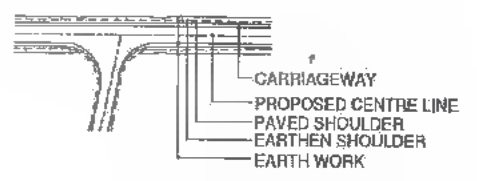


EXISTING DETAILS FOR 2-L CARRIAGEWAY

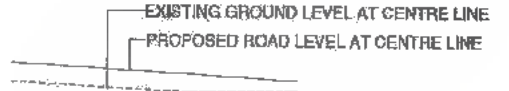
PROPOSED FEATURES

UTILITY RELOCATION

- ELECTRIC POST TO BE RELOCATED
- OPTICAL FIBER CABLE TO BE RELOCATED
- TELEPHONE POST TO BE RELOCATED
- ELECTRIC TRANSFORMER TO BE RELOCATED
- TELEPHONE JUNCTION BOX TO BE RELOCATED
- TREE TO BE CUT
- SIGN BOARD TO BE DISMANTLED
- NAME BOARD TO BE DISMANTLED
- TEMPLE TO BE DEMOLISHED
- MOSQUE TO BE DEMOLISHED
- CHURCH TO BE DEMOLISHED
- HAND PUMP TO BE DISMANTLED
- WELL TO BE FILL
- WATER TANK TO BE FILL
- TUBE WELL TO FILL
- HIGH TENSION TOWER TO BE RELOCATED
- ELECTRIC POLE MOUNTED TRANSFORMER TO BE RELOCATED
- STRUCTURE TO BE ACQUIRED



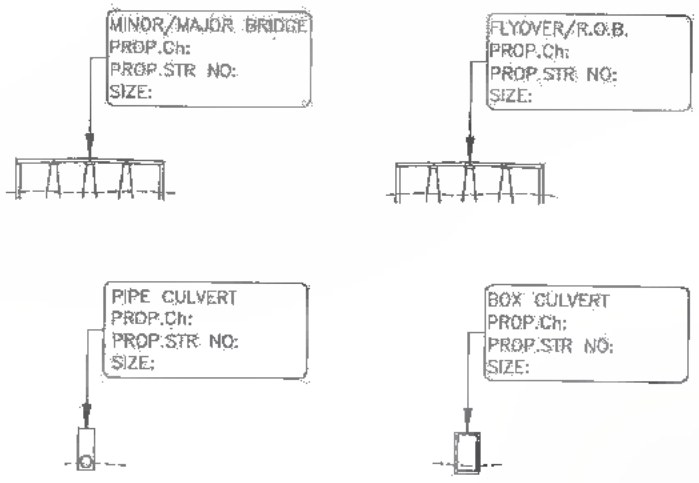
PROPOSED DETAILS FOR 2-L PAVED CARRIAGEWAY



PROPOSED DETAILS FOR L-SECTION (2-L PAVED CARRIAGEWAY)



PROPOSED RIGHT OF WAY



PROPOSED DETAILS OF CULVERT/BRIDGE FOR L-SECTION



Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT: **Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)**

CONSULTANTS: **SAI Consulting Engineers Pvt. Ltd.**
An ISO 9001 Certified Company
Block-A "Sai Heera" Sanyam Corporate Square, 6th Floor, Dighalbank, Ahmedabad-380059, Gujarat, India
Phone: +91-79-6612509/708, Fax: +91-79-6642280
Email: sae@saiconsulting.com

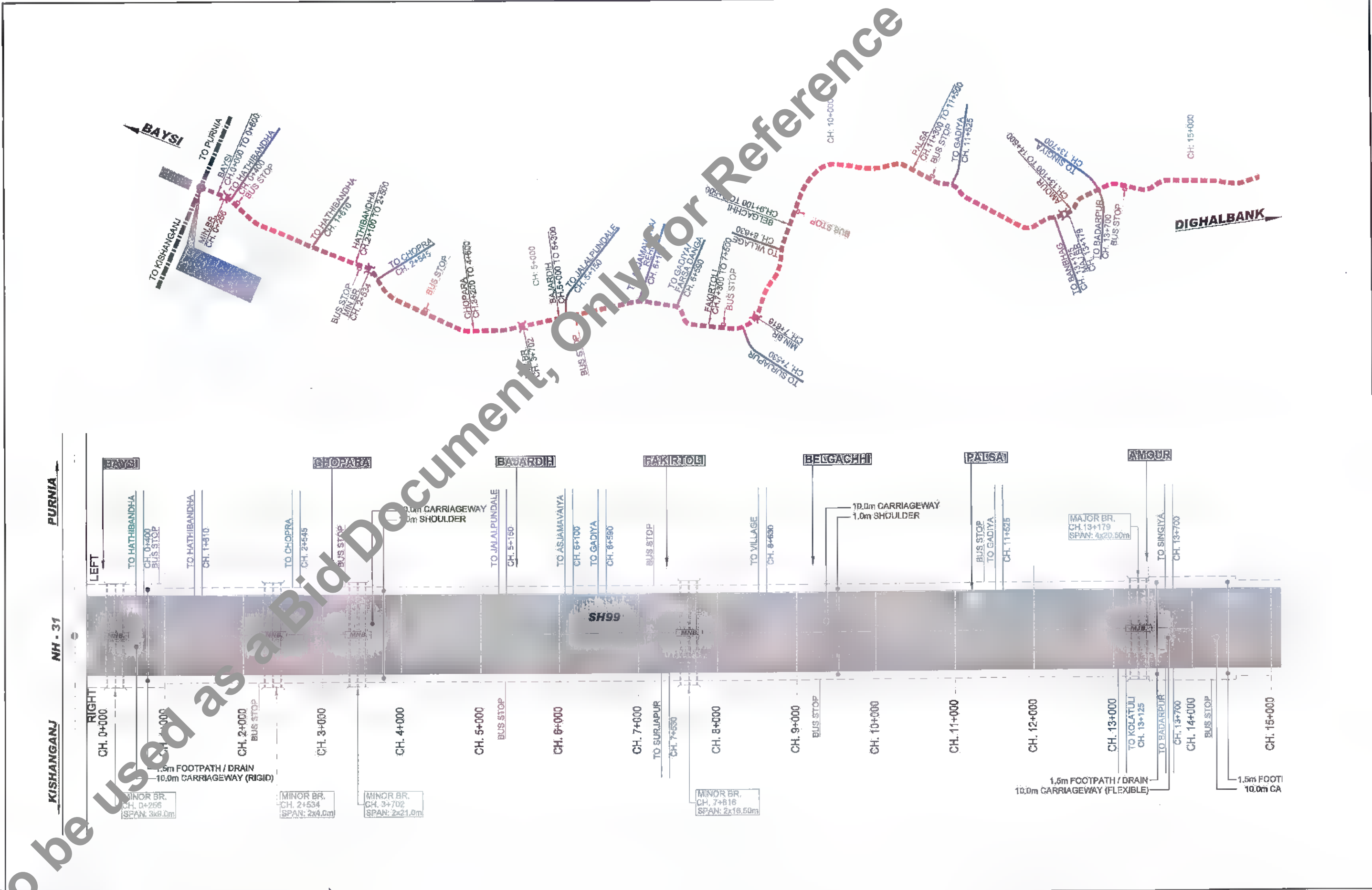
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PF	21/03/17	GOOD FOR CONSTRUCTION (DPR)
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)
PD	26/02/14	ISSUED WITH FINAL DOPR
PC	13/11/13	ISSUED WITH DDPR
PP	29/08/13	ISSUED WITH FFR

DRAWN BY : R.M.	TITLE : RAJTA-MAHADEV DIGHI GHORAK (PACKAGE-II)
CHECKED BY : C.S.	LEGEND
APPROVED BY : V.D.	DRG. NO. : SAI-243007/DPR/M/TYP - LEG
ISSUED BY : B.S.	REVISION : PH

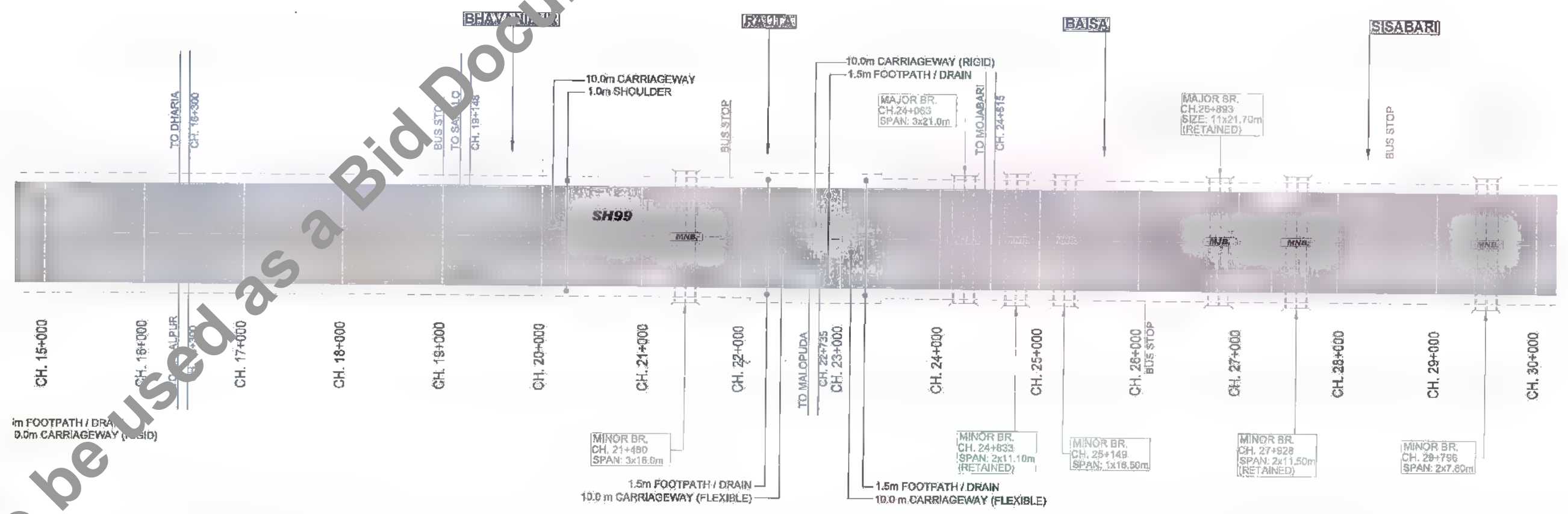
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DATE: 20/07/19 12:18pm
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CLIENT :  Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)		PROJECT : Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)		CONSULTANTS :  SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company Block-A "SAI House", Patna Corporate Square, 8th Bypass Club, Park Road, Alambagh-789299, Guwahati, Assam Phone : +91-361-8162000/700; Fax : +91-361-8162000 Email : saic@saiconsult.com		<table border="1"> <tr> <th>REV.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>SIGN</th> <th>ISSUED BY</th> </tr> <tr> <td>PO</td> <td>31/07/19</td> <td>GOOD FOR CONSTRUCTION (REVISED DPR)</td> <td></td> <td></td> </tr> <tr> <td>PE</td> <td>28/12/18</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> <td></td> </tr> <tr> <td>TE</td> <td>10/04/14</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> <td></td> </tr> <tr> <td>PD</td> <td>24/02/14</td> <td>ISSUED WITH FINAL DPR</td> <td></td> <td></td> </tr> <tr> <td>PO</td> <td>13/11/13</td> <td>ISSUED WITH DPR</td> <td></td> <td></td> </tr> <tr> <td>PE</td> <td>15/06/13</td> <td>ISSUED WITH PFR</td> <td></td> <td></td> </tr> </table>		REV.	DATE	DESCRIPTION	SIGN	ISSUED BY	PO	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)			PE	28/12/18	GOOD FOR CONSTRUCTION (DPR)			TE	10/04/14	GOOD FOR CONSTRUCTION (DPR)			PD	24/02/14	ISSUED WITH FINAL DPR			PO	13/11/13	ISSUED WITH DPR			PE	15/06/13	ISSUED WITH PFR			<table border="1"> <tr> <td>DRAWN BY : V.L.S.</td> <td rowspan="3"> TITLE : BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN) </td> </tr> <tr> <td>CHECKED BY : H.M.</td> </tr> <tr> <td>APPROVED BY : C.S.</td> </tr> <tr> <td>ISSUED BY : R.N.</td> <td> DRG. NO. : SAI-213007/DPR/CH/MLP - 01 REVISION : PG </td> </tr> </table>		DRAWN BY : V.L.S.	TITLE : BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN)	CHECKED BY : H.M.	APPROVED BY : C.S.	ISSUED BY : R.N.	DRG. NO. : SAI-213007/DPR/CH/MLP - 01 REVISION : PG
REV.	DATE	DESCRIPTION	SIGN	ISSUED BY																																														
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ISSUED BY : R.N.	DRG. NO. : SAI-213007/DPR/CH/MLP - 01 REVISION : PG																																																	



DATE: 12/07/19 12:18pm
PATH: C:\Users\rajagovind\appdata\local\temp\1a2p\sh_290a\SCHEMATIC (LINEAR PLAN).dwg

Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

D. G. M. (Tech.)
BSRDC
PIU-Kaifhar

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:

SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

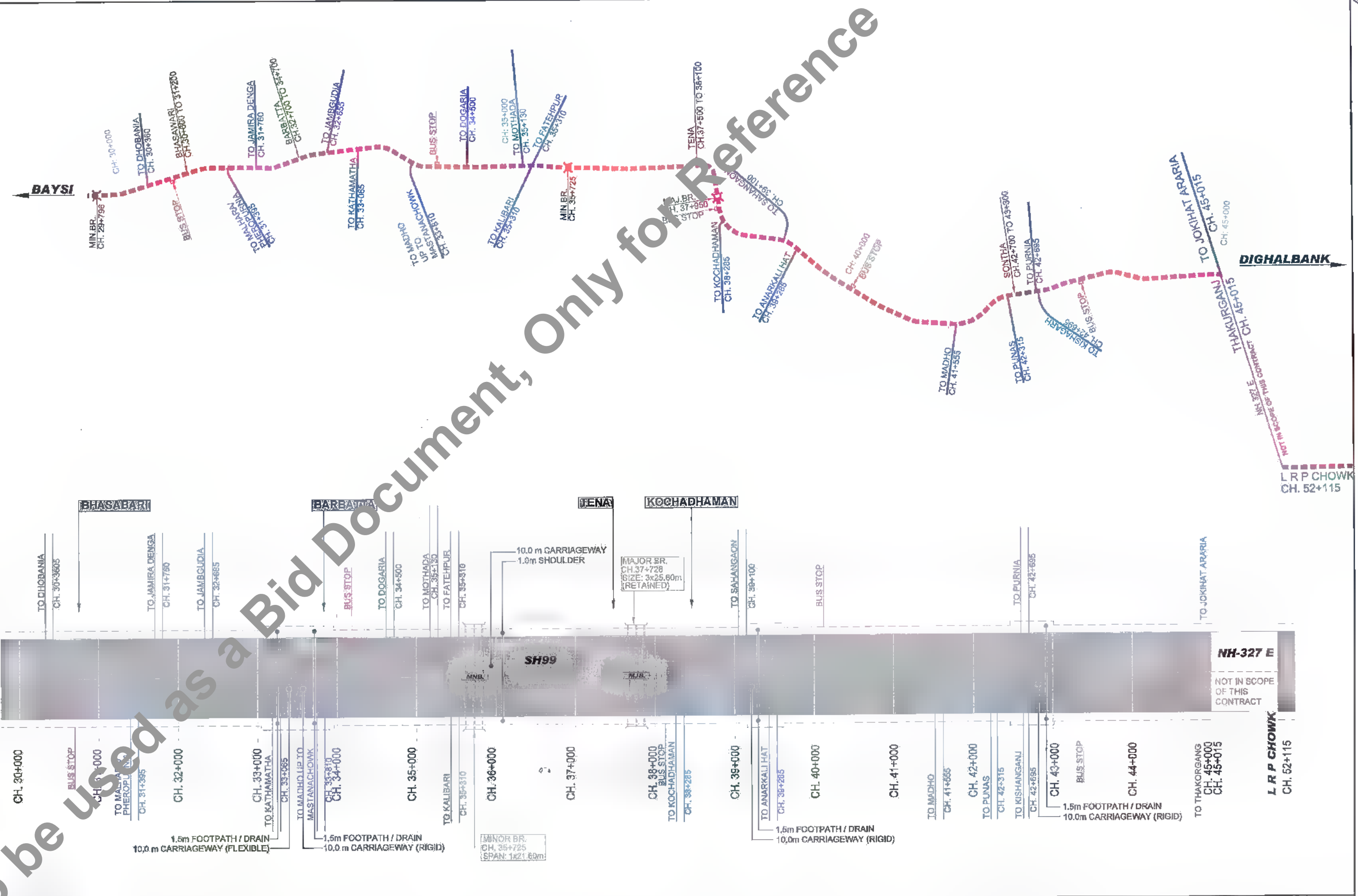
Block-A "SAI House" Sanyal Corporate Square, 8th Floor,
Chak Bahadurganj, Bahadurganj - 800029, Bihar, India
Phone: +91-74-463-2507/202/203 Fax: +91-74-46112000
Email: mail@saiconsulting.com

REV.	DATE	DESCRIPTION	ENGR.
PF	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	
PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)	
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)	
PD	24/02/14	ISSUED WITH FINAL DPR	
PD	13/11/13	ISSUED WITH DPR	
PS	12/08/13	ISSUED WITH FFR	

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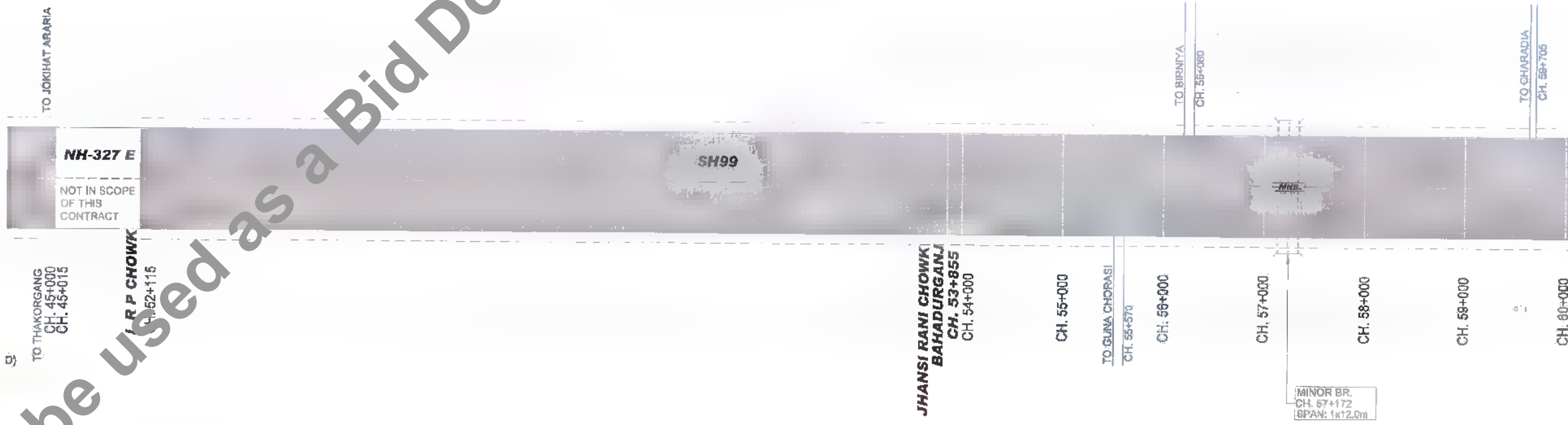
DRAWN BY : V.L.S.	TITLE:
CHECKED BY : H.M.	BAYSI TO DIGHALBANK ROAD
APPROVED BY : G.S.	SCHEMATIC DIAGRAM
ISSUED BY : J.R.I.	(LINEAR PLAN)
	DRG. NO.:
	SAI-218007/DPR/CH/ILP-02
	REVISION: PG

DATE: 2019/07/27 - 12:38 PM
 PATH: C:\Users\ngoswami\AppData\Local\Temp\AcPub\sh_2594\SCHEMATIC LINEAR PLAN.dwg



CLIENT : Bihar State Road Development Corporation Limited (BSRD) (A Government of Bihar Undertaking)	PROJECT : Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)	CONSULTANTS : SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company Block-A "SAI House" Salween Corporate Square, 8th Rajpath DUB, Bahadurganj, Patna - 801005, Bihar, India Phone : +91-76-6646100/702, Fax : +91-76-6646200 Email : mail@saiindia.com	REV. DATE DESCRIPTION SIGN PP 31/07/19 GOOD FOR CONSTRUCTION (REVISED DPR) PF 28/12/18 GOOD FOR CONSTRUCTION (DPR) PD 19/04/18 GOOD FOR CONSTRUCTION (DPR) PC 24/02/14 ISSUED WITH FINAL DPR PS 13/11/13 ISSUED WITH DPR PB 15/08/13 ISSUED WITH ITR	DRAWN BY : W.L.S. CHECKED BY : H.M. APPROVED BY : C.S. ISSUED BY : R.M.	TITLE : BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN)
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636

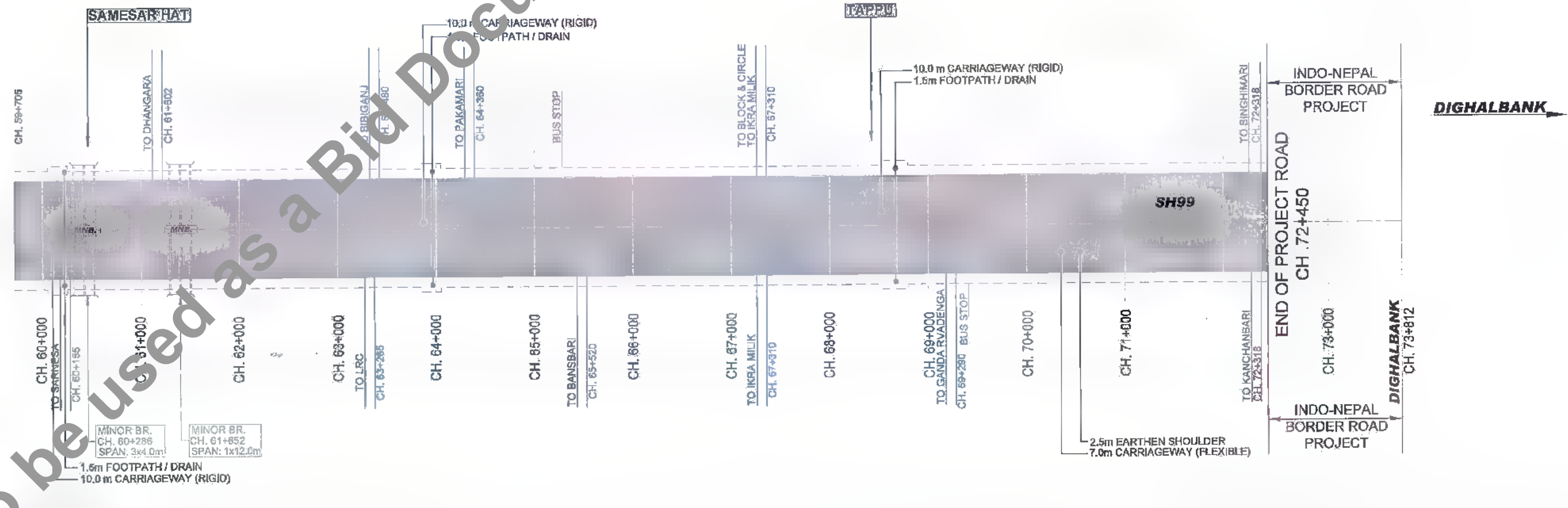
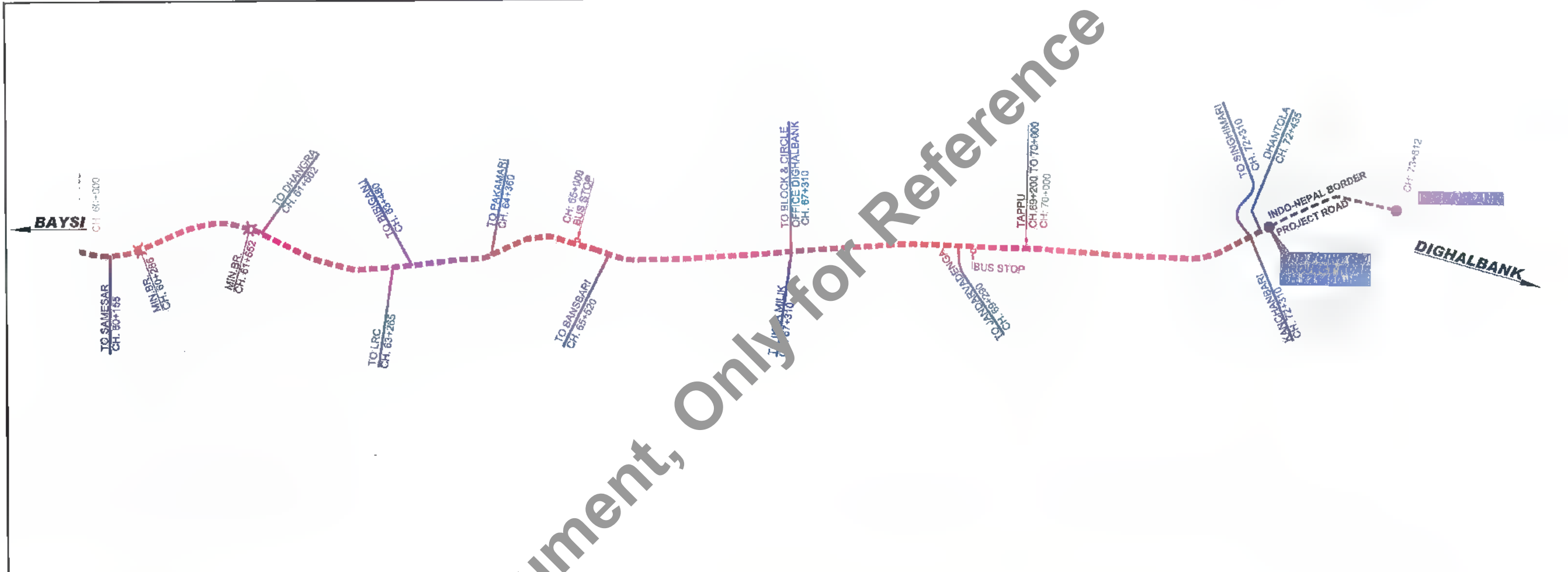


DATE: 12/11/18
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Not to be used as a Bid Document, Only for Reference

	Bihar State Road Development Corporation Limited (BSRDCL) (A Government of Bihar Undertaking)	PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar <i>Baysi - Bahadurganj - Dighalbank (SH-99)</i>	CONSULTANTS : SAL Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company <small>Block-A "Sai House", Sakinaka Corporate Square, 8th Floor (E), Bhubaneswar, Odisha-751005, Gujarat, India Phone : +91-78-683 2000/765 Fax : +91-78-6612836 Email : mail@saiinfo.com</small>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>PH</td> <td>31/07/18</td> <td>GOOD FOR CONSTRUCTION (REVISED DPR)</td> <td>DRAWN BY : V.L.S.</td> <td rowspan="4" style="vertical-align: top;"> TITLE : BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN) </td> </tr> <tr> <td>PC</td> <td>28/12/18</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td>CHECKED BY : R.M.</td> </tr> <tr> <td>PE</td> <td>31/03/17</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td>APPROVED BY : C.S.</td> </tr> <tr> <td>PD</td> <td>24/02/14</td> <td>ISSUED WITH FINAL DPR</td> <td>ISSUED BY : R/L</td> </tr> <tr> <td>REV.</td> <td>DATE</td> <td>DESCRIPTION</td> <td>SIGN</td> <td>DRG. NO. :</td> </tr> </table>	PH	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : V.L.S.	TITLE : BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN)	PC	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : R.M.	PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : C.S.	PD	24/02/14	ISSUED WITH FINAL DPR	ISSUED BY : R/L	REV.	DATE	DESCRIPTION	SIGN	DRG. NO. :
	PH	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : V.L.S.	TITLE : BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN)																					
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REV.	DATE	DESCRIPTION	SIGN	DRG. NO. :																						
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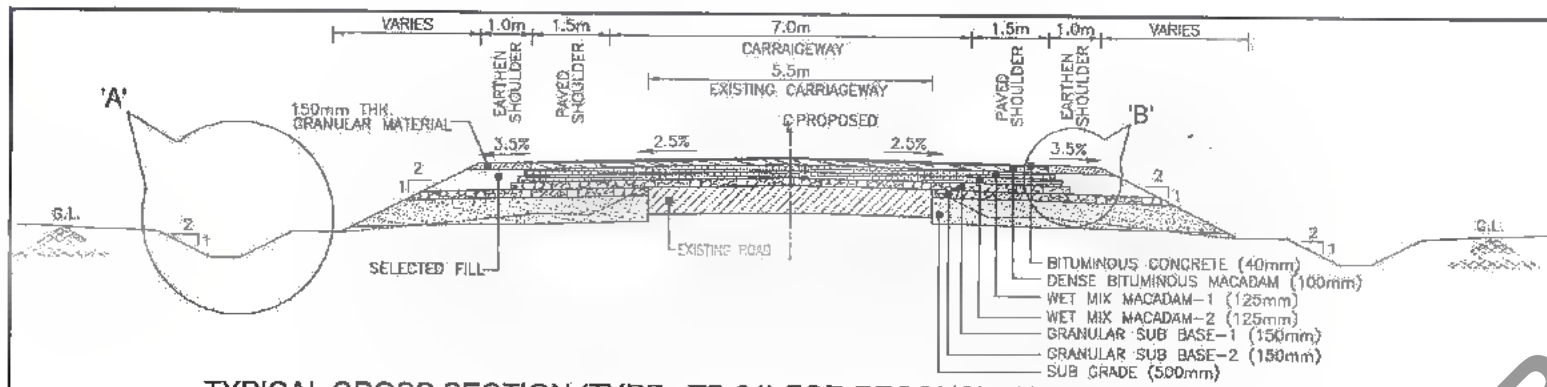
D. G. M. Mech.
 P. BSRDCL
 PU-Katihar



DATE: 2019/07/17 12:18pm
PATH: C:\Users\ngoswami\AppData\Local\Temp\AcP\d\1\2904\SCHEMATIC LINEAR PLAN.dwg

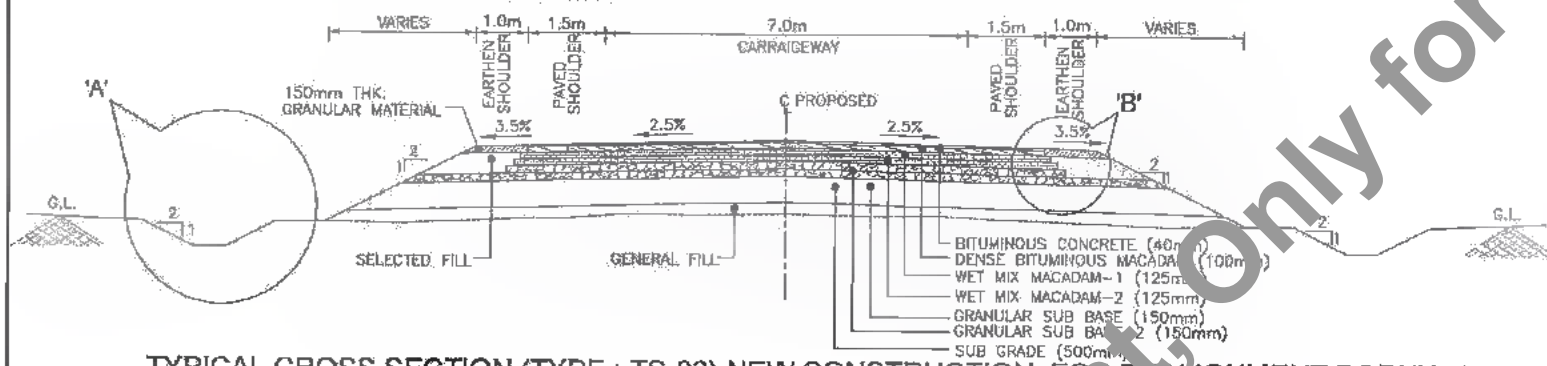
<p>CLIENT :</p> <p>Bihar State Road Development Corporation Limited (BSRDCL) (A Government of Bihar Undertaking)</p>	<p>PROJECT :</p> <p>Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar <i>Baysi - Bahadurganj - Dighalbank (SH-99)</i></p>	<p>CONSULTANTS :</p> <p>SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company Block-A "SAI House" 50/yan Corporate Square, 8th Bypass Gurgaon, Haryana - 122002 Phone : +91-172-6612698/700 Fax : +91-172-6612700 Email : saiconsai@gmail.com</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>REV.</td> <td>DATE</td> <td>DESCRIPTION</td> <td>SIGN</td> </tr> <tr> <td>PH</td> <td>31/07/19</td> <td>GOOD FOR CONSTRUCTION (REVISED DPR)</td> <td></td> </tr> <tr> <td>PG</td> <td>28/12/19</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> </tr> <tr> <td>PT</td> <td>31/03/17</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> </tr> <tr> <td>PD</td> <td>16/04/14</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> </tr> <tr> <td>PD</td> <td>24/02/14</td> <td>ISSUED WITH FINAL DPR</td> <td></td> </tr> <tr> <td>PC</td> <td>15/11/13</td> <td>ISSUED WITH DPR</td> <td></td> </tr> </table>	REV.	DATE	DESCRIPTION	SIGN	PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		PG	28/12/19	GOOD FOR CONSTRUCTION (DPR)		PT	31/03/17	GOOD FOR CONSTRUCTION (DPR)		PD	16/04/14	GOOD FOR CONSTRUCTION (DPR)		PD	24/02/14	ISSUED WITH FINAL DPR		PC	15/11/13	ISSUED WITH DPR		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DRAWN BY : V.L.S.</td> <td>TITLE :</td> </tr> <tr> <td>CHECKED BY : N.M.</td> <td>BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN)</td> </tr> <tr> <td>APPROVED BY : C.S.</td> <td></td> </tr> <tr> <td>ISSUED BY : R.M.</td> <td></td> </tr> </table>	DRAWN BY : V.L.S.	TITLE :	CHECKED BY : N.M.	BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN)	APPROVED BY : C.S.		ISSUED BY : R.M.	
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DRAWN BY : V.L.S.	TITLE :																																							
CHECKED BY : N.M.	BAYSI TO DIGHALBANK ROAD SCHEMATIC DIAGRAM (LINEAR PLAN)																																							
APPROVED BY : C.S.																																								
ISSUED BY : R.M.																																								
			<p>DRG. NO. :</p> <p>SAI-213007/DPR/CHLP - 05</p>	<p>REVISION : PH</p>																																				

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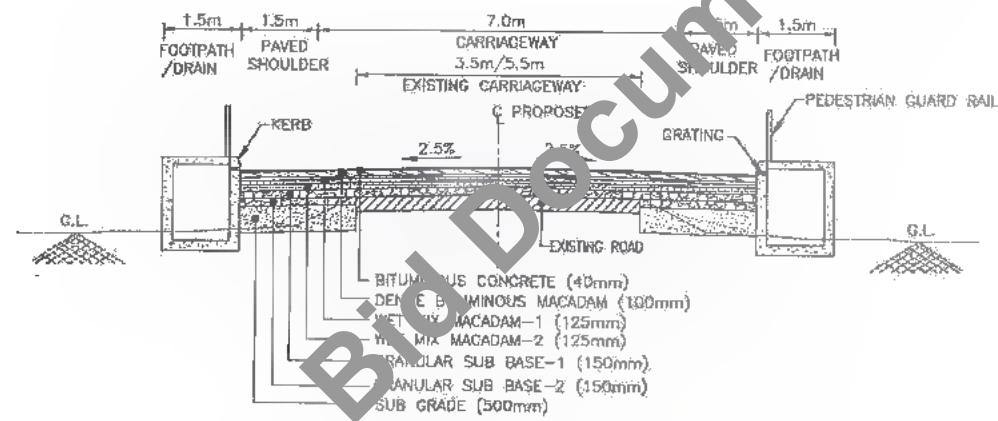
**TYPICAL CROSS SECTION (TYPE : TS-01) FOR RECONSTRUCTION FROM GSB
TWO-LANE WITH PAVED SHOULDER**

SCALE-1:100



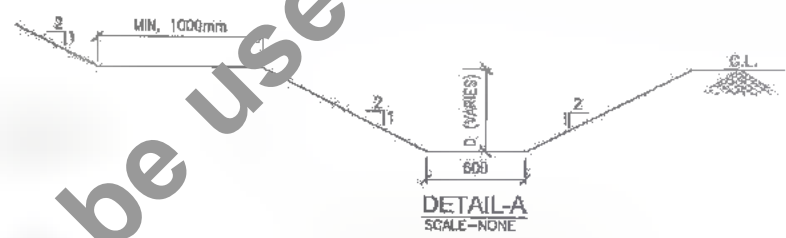
**TYPICAL CROSS SECTION (TYPE : TS-03) NEW CONSTRUCTION FOR REALIGNMENT PORTION
TWO-LANE WITH PAVED SHOULDER**

SCALE-1:100



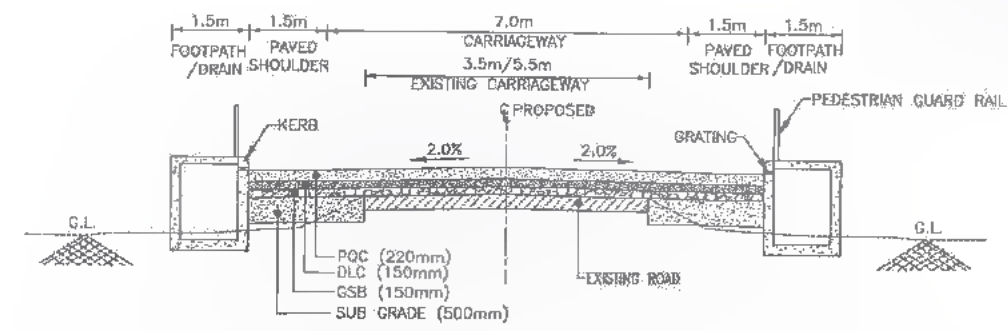
**TYPICAL CROSS SECTION (TYPE : TS-04) FOR RECONSTRUCTION FROM GSB IN URBAN SECTION - FLEXIBLE
TWO-LANE PAVED SHOULDER WITH LINED DRAIN**

SCALE-1:100



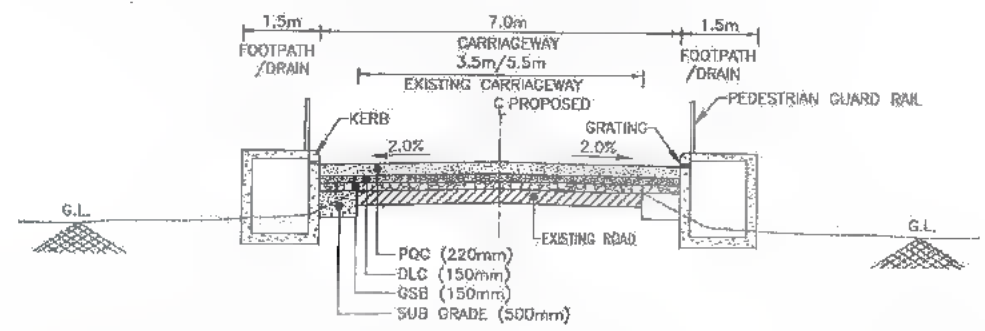
DETAIL-A

SCALE-NONE



**TYPICAL CROSS SECTION (TYPE : TS-05) FOR RECONSTRUCTION FROM GSB IN URBAN SECTION - RIGID
TWO-LANE PAVED SHOULDER WITH LINED DRAIN**

SCALE-1:100

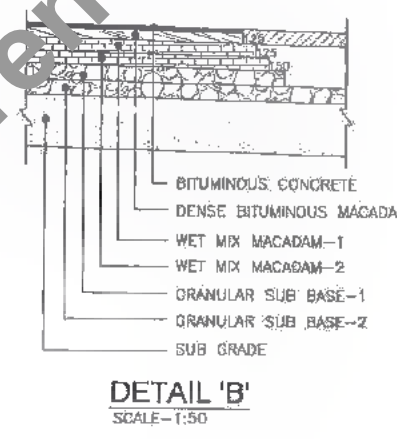


TYPICAL CROSS SECTION (TYPE : TS-06) FOR RECONSTRUCTION FROM GSB IN URBAN SECTION WITH RESTRICTED 10.0m FORMATION WIDTH RIGID TWO-LANE WITH LINED DRAIN

(Note:- Applicable if required during execution in Urban Section)

SCALE-1:100

Sr. No.	Existing Km		Design Chainage		Length	Cross Section Type
	From	To	From	To		
1	23/525	26/415	23+405	26+290	2.885	TCS-1
2	26/515	26/625	26+390	26+510	0.120	TCS-1
3	26/515	28/450	26+700	28+190	1.490	TCS-1
4	28/540	28/300	28+280	29+040	0.760	TCS-1
5	29/300	28/650	29+040	29+390	0.350	TCS-1
6	29/650	30/300	29+390	30+040	0.650	TCS-1
7	30/300	30/600	30+040	30+340	0.300	TCS-1
8	30/600	33/055	30+340	32+790	2.450	TCS-1
9	33/055	33/205	32+790	32+940	0.150	TCS-1
10	33/205	33/340	32+940	33+075	0.135	TCS-1
11	34/255	35/280	33+990	35+040	1.050	TCS-1
12	35/290	36/700	35+040	36+440	1.400	TCS-1
13	36/700	37/050	36+440	36+790	0.350	TCS-1
14	37/050	37/250	36+790	36+990	0.200	TCS-1
15	37/250	38/375	36+990	38+140	1.150	TCS-1
16	38/375	39/450	38+315	39+190	0.875	TCS-1
17	39/450	42/760	39+490	42+490	3.000	TCS-1
18	43/310	45/280	43+040	45+015	1.975	TCS-1
19	26/415	26/515	26+290	26+390	0.100	TCS-3
20	28/825	28/815	26+510	26+700	0.190	TCS-3
21	28/450	28/540	28+190	28+280	0.090	TCS-3
22	38/375	38/550	38+140	38+315	0.175	TCS-3
23	22/115	22/675	22+005	22+555	0.550	TCS-4
24	23/175	23/525	23+055	23+405	0.350	TCS-4
25	33/340	33/805	33+075	33+540	0.465	TCS-4
26	22/675	23/175	22+555	23+055	0.500	TCS-5
27	33/805	34/255	33+540	33+990	0.450	TCS-5
28	39/450	39/750	39+190	39+490	0.300	TCS-5
29	42/760	43/310	42+490	43+040	0.550	TCS-5



DETAIL 'B'

SCALE-1:50

DATE: 20/07/2017 16:33:44 PATH: C:\P\REVISED DPR\17/07/2017\TYP CROSS SECTION\TYP_IS PACKAGE-2.dwg

Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PIU-Katihar

PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS: SAI Consulting Engineers. Pvt. Ltd.
An ISO 9001 Certified Company

SAI SYSTRA GROUP

PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : R.K.	TITLE: RAUTA-MAHADEV DIGHI CHDK
PD	17/02/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : A.S.	TYPICAL CROSS SECTION (PACKAGE - II)
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.D.	
PF	10/04/14	GOOD FOR CONSTRUCTION (DPR)		ISSUED BY : D.S.	
PG	28/02/14	ISSUED WITH FINAL DPR			
PH	13/11/13	ISSUED WITH DPR			
PH	07/07/13	ISSUED WITH DPR			

SCALE : AS SHOWN

DRG. NO. : SAI-213007/DPR/HTYP/CS - 01

REVISION : PG



Horizontal Curve Details

Table with 22 columns: Br. No., HIP No., HIP Chainage, Easing, Northing, Radius, Transition Length, Transition Start, Circular Start, Circular End, Transition End, Speed, Delta, Lc, Dc, Shift(S), Theta_s, Es, k, Ts(m), e. It lists 58 curve details for various road segments.

Reference

DATE: 20/07/23 - 23/07/23
PATH: T:\CAD\TAD - 23\07\BHSR\REVISED DPR\HPP PACKAGE-II\HORIZONTAL DETAILS PACKAGE-16.rvt

CLIENT: Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Enterprise) Patna, Bihar (Tech. & Contracting)

PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS: SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company SYSTRA GROUP

Revision table with columns: REV., DATE, DESCRIPTION, SIGN. Includes dates from 31/07/19 to 25/08/23 and descriptions like 'GOOD FOR CONSTRUCTION (REVISED DPR)'.

TITLE: RAJTA-MAHADEV DIGH CHOWK (PACKAGE-II) HORIZONTAL ALIGNMENT DETAIL. DRG. NO.: SAI-213007DPR/CHMAD - 01. REVISION: PG




Not to be used as a reference

145
632

VERTICAL CURVE DETAILS							
Sl. No.	VIP Chainage	Level (m)	Gradient (%)	% Change In grade	Type of Curve	Curve Length (m)	K Value
1	22048.664	34.486	-0.214	-0.312	Valley	60	192.04
2	22311.675	34.745	0.099	0.199	Summit	100	503.64
3	22528.298	34.529	-0.100	-1.680	Valley	60	35.71
4	22634.701	36.210	1.580	2.274	Summit	75	32.98
5	22866.366	34.602	-0.694	-0.594	Valley	60	101.04
6	22985.124	34.483	-0.100	-0.388	Valley	60	154.51
7	23127.981	34.895	0.288	0.567	Summit	60	105.80
8	23252.583	34.547	-0.279	-0.533	Valley	60	112.57
9	23409.805	34.947	0.254	0.354	Summit	60	169.49
10	23605.480	34.751	-0.100	-0.285	Valley	60	210.83
11	23865.676	35.231	0.185	-1.261	Valley	60	47.57
12	24008.744	37.300	1.446	1.446	Summit	60	41.49
13	24151.322	37.300	0.000	1.513	Summit	60	39.11
14	24325.124	34.671	-1.513	-1.613	Valley	60	37.20
15	24639.509	34.986	0.100	-1.045	Valley	60	57.41
16	24861.841	37.532	1.145	1.868	Summit	80	42.84
17	25022.551	36.371	-0.722	-1.522	Valley	60	39.41
18	25177.427	37.610	0.800	1.600	Summit	100	62.50
19	25369.069	36.077	-0.800	-0.630	Valley	60	158.67
20	25752.909	35.425	-0.170	-0.069	Valley	60	874.96
21	26081.275	35.093	-0.101	-0.232	Valley	100	430.32
22	26274.841	35.347	0.131	0.449	Summit	60	133.65
23	26497.808	34.639	-0.318	-1.718	Valley	200	116.43
24	26742.341	38.062	1.400	1.400	Summit	60	42.86
25	27084.841	38.062	0.000	1.400	Summit	60	42.86
26	27259.841	35.612	-1.400	-1.300	Valley	60	46.15
27	27414.827	35.457	-0.100	-0.200	Valley	60	299.99
28	27776.915	35.819	0.100	-1.100	Valley	60	54.51
29	27957.699	37.990	1.201	2.400	Summit	100	41.67
30	28199.311	35.093	-1.199	-1.457	Valley	60	41.19
31	28710.994	36.411	0.258	0.105	Summit	100	690.30
32	28948.954	36.679	0.113	0.220	Summit	60	272.26

VERTICAL CURVE DETAILS							
Sl. No.	VIP Chainage	Level (m)	Gradient (%)	% Change In grade	Type of Curve	Curve Length (m)	K Value
33	29545.773	36.036	-0.108	-0.608	Valley	60	98.74
34	29824.898	37.432	0.500	1.000	Summit	60	60.00
35	29992.797	36.593	-0.500	-0.681	Valley	60	88.11
36	30288.123	37.127	0.181	0.338	Summit	100	295.82
37	30680.754	36.510	-0.157	-0.732	Valley	60	81.96
38	30880.632	37.660	0.575	0.675	Summit	60	88.89
39	31300.324	37.240	-0.100	-0.200	Valley	60	300.00
40	31588.256	37.528	0.100	0.384	Summit	100	260.42
41	31917.131	36.594	-0.284	-0.574	Valley	60	104.53
42	32088.676	37.091	0.290	0.190	Summit	60	315.79
43	32910.673	37.913	0.100	0.204	Summit	100	491.27
44	33404.929	37.401	-0.104	-0.226	Valley	60	264.97
45	33740.951	37.814	0.123	-0.648	Valley	60	92.65
46	33841.547	38.589	0.770	1.692	Summit	60	35.46
47	33949.373	37.596	-0.922	-1.109	Valley	60	54.09
48	34363.060	38.373	0.188	0.352	Summit	60	170.43
49	34785.855	37.678	-0.164	-0.778	Valley	100	128.53
50	34982.635	38.886	0.614	0.711	Summit	75	105.56
51	35345.584	38.534	-0.100	-0.572	Valley	60	104.89
52	35602.684	39.756	0.475	-1.525	Valley	70	45.91
53	35755.223	42.807	2.000	4.000	Summit	150	37.50
54	35939.695	39.118	-2.000	-2.101	Valley	100	47.60
55	36180.223	39.361	0.101	0.902	Summit	60	66.49
56	36311.472	38.310	-0.801	-1.231	Valley	60	48.75
57	36478.889	39.029	0.430	0.329	Summit	60	182.57
58	36616.522	39.168	0.101	-0.038	Valley	15	380.54
59	36990.000	39.689	0.139	0.239	Summit	36	148.68
60	37207.052	39.472	-0.100	0.157	Summit	60	382.17
61	37435.359	38.885	-0.257	-2.007	Valley	100	49.83
62	37674.504	43.070	1.750	1.750	Summit	60	34.29
63	37827.723	43.070	0.000	1.000	Summit	60	60.00
64	38251.053	38.837	-1.000	-1.178	Valley	100	84.88
65	38962.133	40.103	0.178	0.278	Summit	100	359.60
66	39103.198	39.952	-0.100	0.138	Summit	60	434.78
67	39260.786	39.587	-0.238	-0.338	Valley	60	177.61
68	39514.313	39.840	0.100	-0.323	Valley	60	185.61
69	39690.168	40.584	0.423	0.528	Summit	60	113.54
70	39857.228	40.408	-0.105	-0.204	Valley	60	294.84
71	40724.978	41.260	0.100	0.198	Summit	100	504.67
72	41035.000	40.950	-0.100	-0.197	Valley	94	476.19
73	41740.000	41.631	0.100	0.221	Summit	114	515.23
74	42270.846	40.973	-0.124	-0.266	Valley	49	185.87
75	42938.589	41.920	0.142	0.431	Summit	100	232.26
76	43133.794	41.356	-0.289	-0.826	Valley	100	121.13
77	43300.817	42.252	0.537	0.434	Summit	75	172.45
78	43696.671	42.660	0.103	0.259	Summit	45	174.30
79	43986.083	42.210	-0.155	-0.628	Valley	150	238.77
80	44155.583	43.012	0.473	0.574	Summit	100	174.30
81	44627.89035	42.534574	-0.101	-0.159	Valley	60	377.46
82	45405.05622	42.985	0.058	0.058	Summit	0	0.00

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Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

*D. C. Singh, Tech. I
BSPDC
PIU - Bahadur*


PROJECT: **Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)**

CONSULTANTS: **SAI Consulting Engineers Pvt. Ltd.**
An ISO 9001 Certified Company

SAI
SYSTRA GROUP

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Email: mail@saiindia.com

PG	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.K.	TITLE: RAUTA-MAHADEV DEGH CHOWK (PACKAGE-II) VERTICAL ALIGNMENT DETAIL
PF	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : A.S.	
PO	10/04/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	
PI	26/02/14	ISSUED WITH FINAL DPR		
PC	01/01/14	ADDENDUM OF DPR		
PII	15/11/13	ISSUED WITH DPR		
REV.	DATE	DESCRIPTION	ISSUED BY : R.K.	DRG. NO. : SAI-213007/DPR/CH/VAD-01
				REVISION : PG



SCALE: NONE

147
230

For Reference

SCHEDULE OF TRAFFIC SIGN				
Sr. No.	Design Chainage	Traffic Sign	Type of Sign	Side
281	44+828	TA-1	Object marker	Central median
282	44+850	S-4	Compulsory keep left	Left
283	44+450	TA-1	Object marker	Left
284	44+966	TA-1	Object marker	Central median
285	44+974	TA-1	Object marker	Central median
286	44+987	TA-1	Object marker	Central median
287	44+987	S-1	Stop sign	Central median
288	44+987	TA-1	Object marker	Central median
289	45+049	TA-1	Object marker	Right
290	45+052	TA-1	Object marker	Right
291	45+052	S-1	Stop sign	Right
292	45+057	TA-1	Object marker	Central median
293	45+054	S-58	Chevron sign	Left
294	45+078	TA-1	Object marker	Right
295	45+084	S-4	Compulsory keep left	Right
296	45+084	TA-1	Object marker	Right
297	45+104	S-4	Compulsory keep left	Central median
298	45+104	TA-1	Object marker	Central median
299	45+117	S-58	Chevron sign	Left
300	45+153	S-48	Advance direction sign	Right
301	45+153	S-52	Reassurance sign	Left
302	45+211	S-48	Advance direction sign	Right
303	45+240	S-88	SH route marker	Right
304	45+395	S-58	Chevron sign	Right

W-beam Metal Crash Barrier Locations- Package 2						
Sr. no.	Left Side Crash Barrier			Right Side Crash Barrier		
	Design Chainage	Length	Design Chainage	Length	Design Chainage	
	From	To	m	From	To	
1	23+920	24+058	138	23+930	24+058	128
2	24+123	24+185	62	24+185	24+185	62
3	24+816	24+845	30	24+900	24+900	42
4	24+880	24+910	30	24+910	25+170	79
5	24+950	24+975	25	24+975	25+264	74
6	25+092	25+171	79	25+266	25+305	39
7	25+191	25+261	70	25+774	26+804	30
8	26+774	26+804	30	27+042	27+072	30
9	27+042	27+072	30	27+985	28+024	39
10	27+055	27+100	45	27+975	28+005	30
11	27+905	27+940	35	29+788	29+818	30
12	27+977	28+007	30	29+834	29+864	30
13	29+434	29+481	47	35+630	35+740	110
14	29+834	29+864	30	35+772	35+910	138
15	35+910	35+940	30	37+590	37+610	20
16	37+610	37+630	20	37+700	37+790	90
17	37+630	37+710	80	37+830	37+850	20
18	37+795	37+825	30	37+900	37+920	20
19	37+900	37+920	20	-	-	-
20	38+000	38+040	40	-	-	-

Pedestrian Guard Rail Locations (Built-up area) - Package 2					
Sr. No.	Existing Chainage	Design Chainage	Length (mt.)	Cross section Type	
1	22+116	22+576	460	TCS-5	
2	22+575	23+175	600	TCS-5	
3	23+175	23+025	150	TCS-5	
4	33+340	33+805	465	TCS-5	
5	33+805	34+255	450	TCS-5	
6	38+450	38+750	300	TCS-6	
7	42+760	43+310	550	TCS-6	

Road studs locations (Curves) - Package 2					
Sr. No.	Transition start	Transition end	Length (mt.)	Radius of curve (mt.)	Nos. of studs
1	23729.648	23889.883	160.235	120	23
2	23874.336	24040.408	166.072	150	34
3	24111.337	24214.815	103.478	110	22
4	28251.971	28422.273	170.302	200	35
5	28509.926	28784.272	274.346	200	66
6	27799.903	27853.941	54.038	200	12
7	27882.539	27923.692	41.153	250	8
8	31803.322	32041.730	238.408	200	29
9	33280.265	33547.098	266.833	325	55
10	33783.856	34014.376	230.519	250	45
11	37470.229	37693.612	223.383	115	48
12	40980.001	41126.783	146.782	350	34
13	42085.555	42350.386	264.831	350	54
14	42793.218	42914.638	121.418	350	25
15	43547.189	43801.398	254.210	350	62
16	43882.518	44198.688	316.170	350	38

Road Studs (Built-up Area) - Package 2				
Sr. No.	Design Chainage	Length of section (mt.)	Nos. of studs	
1	22+005	22+555	550	111
2	22+555	23+055	500	101
3	23+055	23+405	350	71
4	33+075	33+540	465	94
5	33+540	33+990	450	91
6	39+190	39+490	300	61
7	42+490	43+040	550	111

D. G. M. (Tech.)
BSRDCL
PIU-Katihar

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Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAL Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SAR" Road, Saligan, Compound, Revenue: BH, Baganj, (L), Bahadurganj, Bahadurganj-383013, Gujarat, India
Phone: +91-79-8942097/98, Fax: +91-79-8942060
Email: mail@salindia.com

REV. DATE DESCRIPTION SIGN ISSUED BY: P.H.

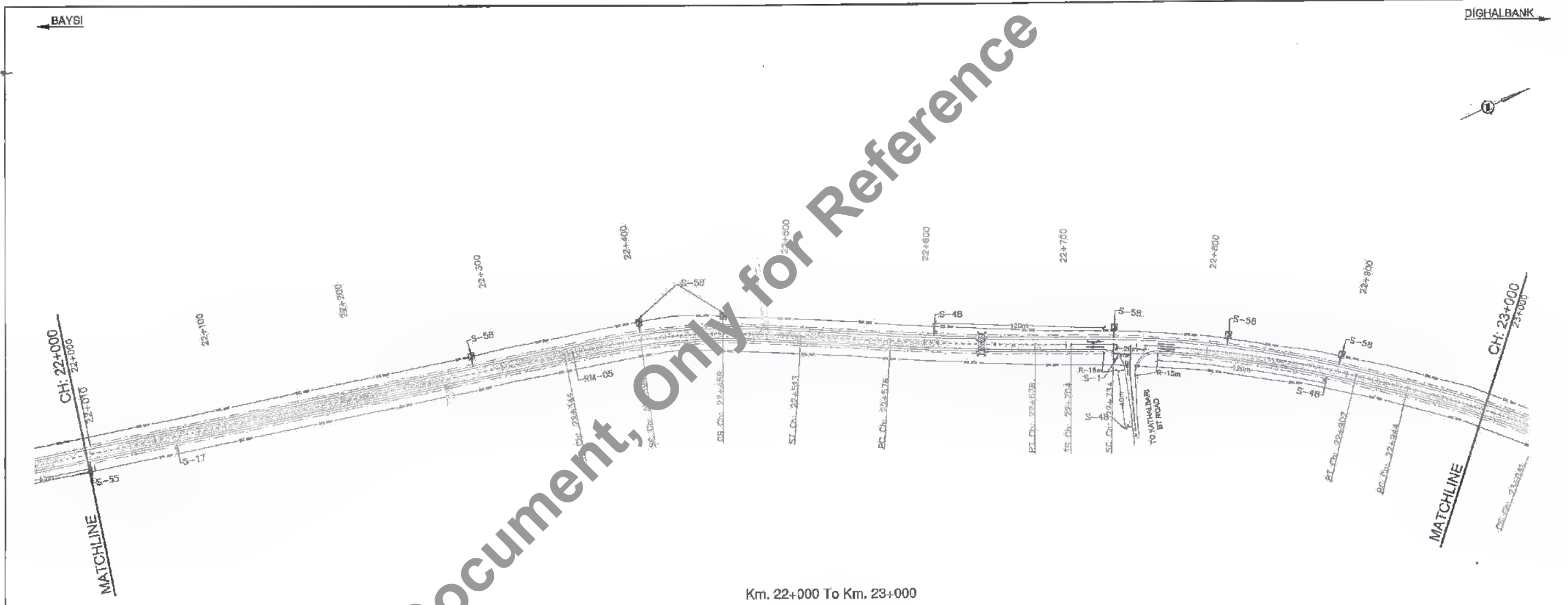
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28/12/18 GOOD FOR CONSTRUCTION (REVISED DPR)
10/04/19 GOOD FOR CONSTRUCTION (DPR)
28/02/19 ISSUED WITH FINAL DPR
16/12/19 ISSUED WITH DPR

DRAWN BY: V.L.S.
CHECKED BY: H.M.
APPROVED BY: C.S.

TITLE: RAUTA-MAHADEVI DIGHI CHOWK (PACKAGE-II)
ROAD FURNITURE TABLES

DRG. NO.:
SAL-213007/DPR/CH/RF-02
REVISION: PE





Km. 22+000 To Km. 23+000


LEGEND
 CHEVRON SIGN
 CRASH BARRIER
 PEDESTRIAN GUARD RAIL
 STU

NOTES
 1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DP/RC/MTYP-01 FOR BUS SHELTER DETAILS
 3. REFER DRAWING NO. SAI-213007/DP/RC/MTYP-04, 05A, & 04B FOR ROAD SIGN
 4. REFER DRAWING NO. SAI-213007/DP/RC/MTYP-05 FOR PROVIDE FOR IN BUSWAY & BUS STOP
 5. REFER DRAWING NO. SAI-213007/DP/RC/MTYP-06 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DP/RC/MTYP-08 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DP/RC/MTYP-10 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DP/RC/MTYP/LUNC-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS



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CLIENT:



Bihar State Road Development Corporation Limited (BSRDCL)
 (A Government of Bihar Undertaking)

PROJECT:

D. G. M. (Tech.)
BSRDCL
P. G. Karmali

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

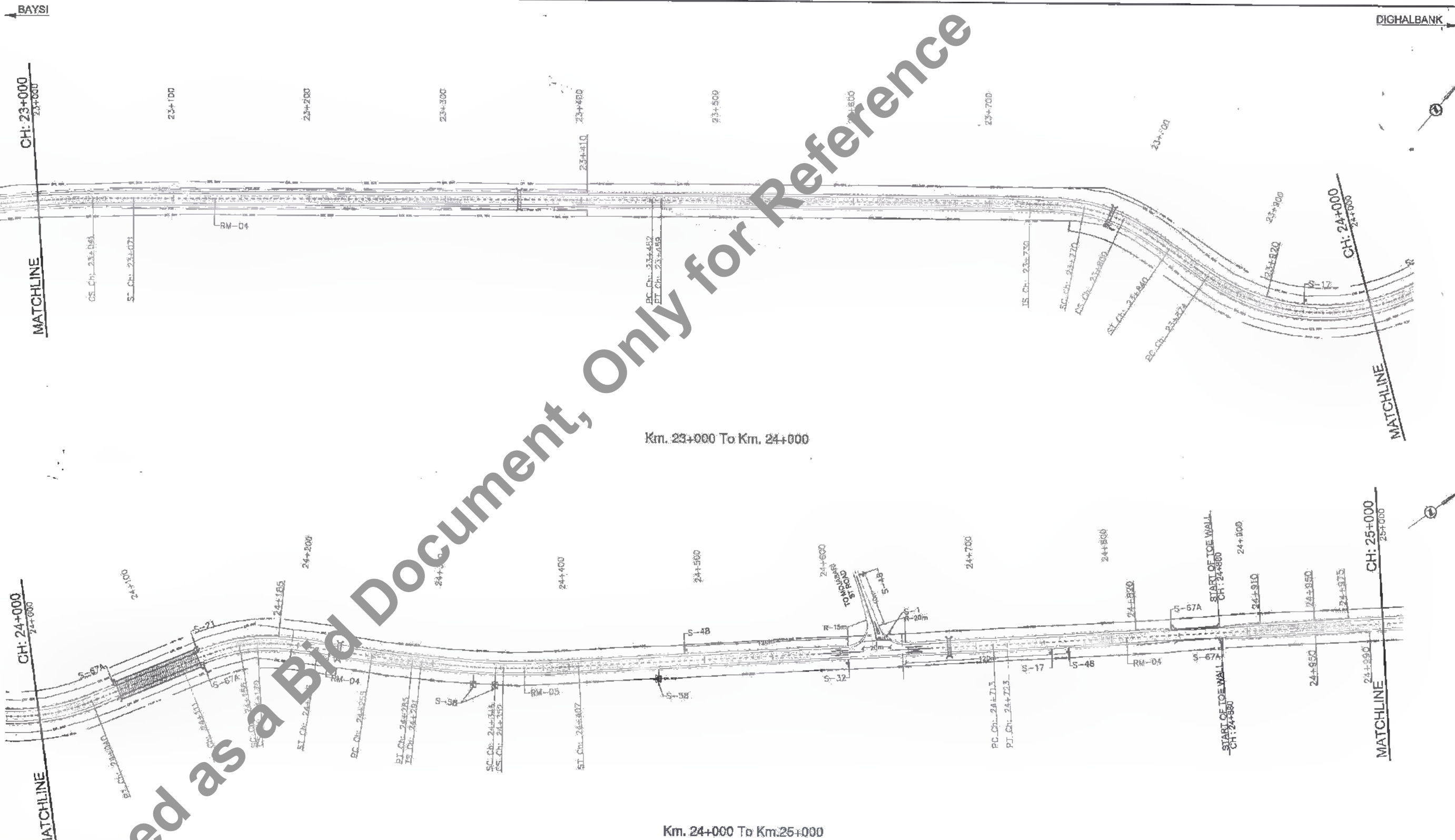
CONSULTANTS:



SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A "SAI House" Seifam Corporate Square, Bih. Rajbati
 (Ind. Roadside, Ahmednagar-430057, Dist. Solapur)
 Phone : +91-20-2662810/11 Fax : +91-20-2662800
 Email : mail@saiconsulting.com

PC	31/07/19	GOOD FOR CONSTRUCTION (REVISED DRR)	DRAWN BY : V.L.S.	TITLE : RAJITA-MAHADEV DIGHI CHOWK (PACKAGE-II) ROAD FURNITURE PLAN KM. 22+005 TO KM. 23+000 DRG. NO. : SAI-213007/DP/RC/HRF - 01 REVISION : PG
PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : H.M.	
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : C.S.	
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : B.S.	
PC	26/02/14	ISSUED WITH FINAL DOPR		
PE	04/01/14	ADDENDUM OF DOPR		
REV.	DATE	DESCRIPTION	SIGN	






Km. 23+000 To Km. 24+000

Km. 24+000 To Km. 25+000

- LEGEND**
- CHEVRON SIGN
 - CRASH BARRIER
 - PEDESTRIAN GUARD STUDS

- NOTES:-**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DP/PC/WTYP-01 FOR BUS SHELTER DETAILS
 3. REFER DRAWING NO. SAI-213007/DP/PC/WTYP-04, 04A, & 04B FOR ROAD SIGN
 4. REFER DRAWING NO. SAI-213007/DP/PC/WTYP-06 FOR PROVIDE PGR IN BUSSAY & BUS STOP
 5. REFER DRAWING NO. SAI-213007/DP/PC/WTYP-06 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DP/PC/WTYP-08 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DP/PC/WTYP-19 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DP/PC/WTYP/JUNC-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS


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Bihar State Road Development Corporation Limited (BSRDIC)
(A Government of Bihar Undertaking)

PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:



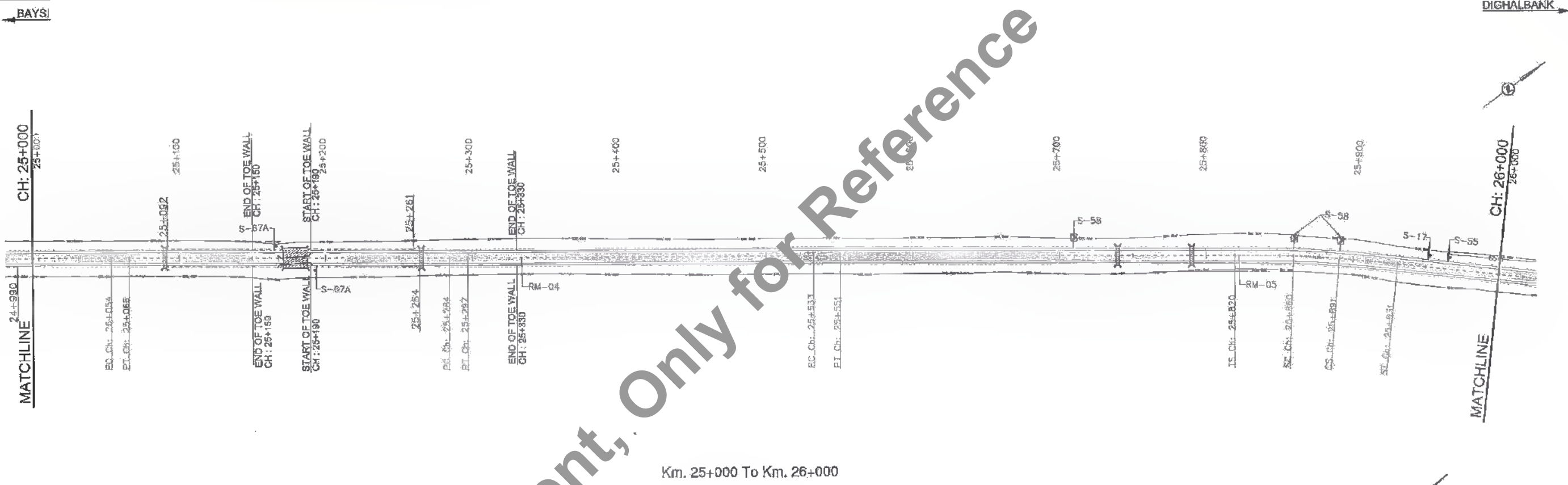
SAI Consulting Engineers. Pvt. Ltd.
 An ISO 9001 Certified Company

Block-A "SAI House" Solapur Corporate Square, 3th Rajbath
 Clap, Badli, New Alwar Road, 380059, Gurgaon, India
 Phone : +91-77-6611000/100, Fax : +91-77-6611000
 Email : sai@saiconsulting.com

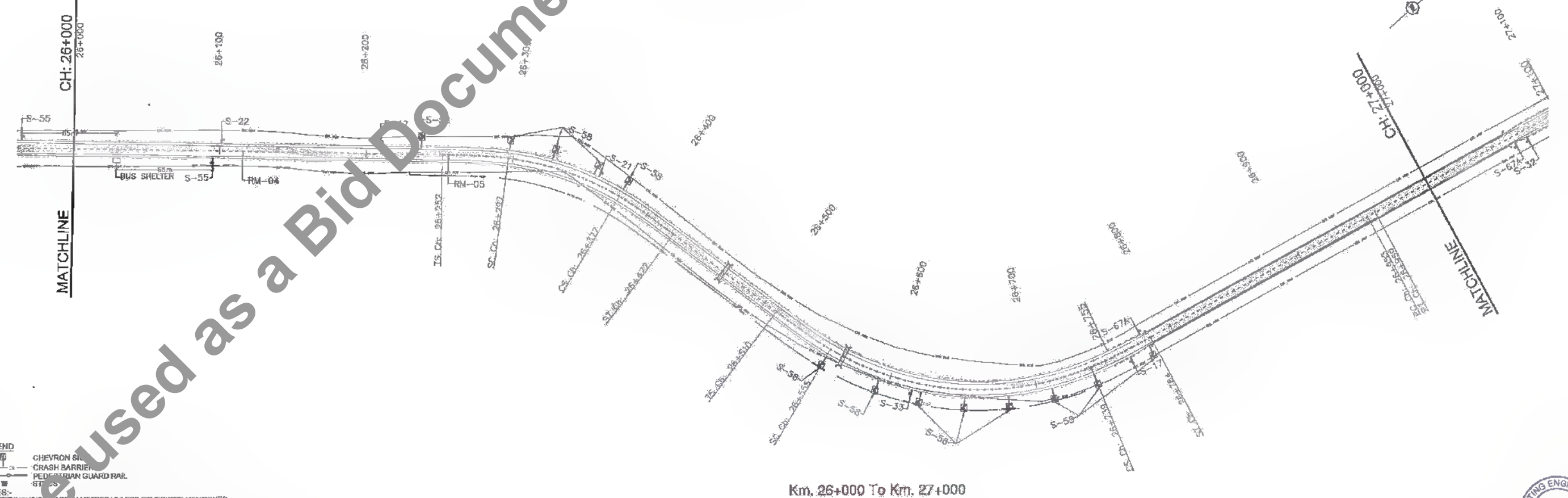
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RE	26/12/18	GOOD FOR CONSTRUCTION (DPR)		
RE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PC	26/02/14	ISSUED WITH FINAL DPR		
PR	03/01/14	ADDENDUM OF DPR		

BRAIN BY : V.L.S.	TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) ROAD FURNITURE PLAN KM. 23+000 TO KM. 25+000 DRG. NO.: SAI-213007/DP/PC/HRF - 02 REVISION : PG
CHECKED BY : H.M.	
APPROVED BY : G.S.	
ISSUED BY : B.S.	





Km. 25+000 To Km. 26+000




Km. 26+000 To Km. 27+000

- LEGEND**
- CHEVRON SIGN
 - CRASH BARRIER
 - PEDESTRIAN GUARD RAIL
 - STRIP

- NOTES:**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-01 FOR BUS SHELTER DETAILS
 3. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-04, 04A, & 04B FOR ROAD SIGN
 4. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-05 FOR PROVIDE PGR IN BUSBAY & BUS-STOP
 5. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-06 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-08 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-19 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DPR/CM/TYP/JUNC-01 TO 05 & 01A TO 05A FOR TYPE OF JUNCTION DETAILS

CLIENT :




Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS :



SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Block-A "SAI House" Solapur Corporate Estate, 8th Stage
Civil, Badalpur, Ahmednagar-430002, Gujarat, India
Phone : +91-79-5402407/08/09, +91-79-5314200
Email : mail@saiindia.com

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY
PG	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : V.L.K.
PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : N.M.
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : G.S.
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PC	25/02/14	ISSUED WITH FINAL DPR		
PB	04/01/14	ADDENDUM OF DPR		

TITLE : RAUTA-MAHADEV DIGHE CHOWK (PACKAGE-II)
ROAD FURNITURE PLAN
KM. 25+000 TO KM. 27+000
DRG. NO. : SAI-213007/DPR/CM/RF-05
REVISION : PG

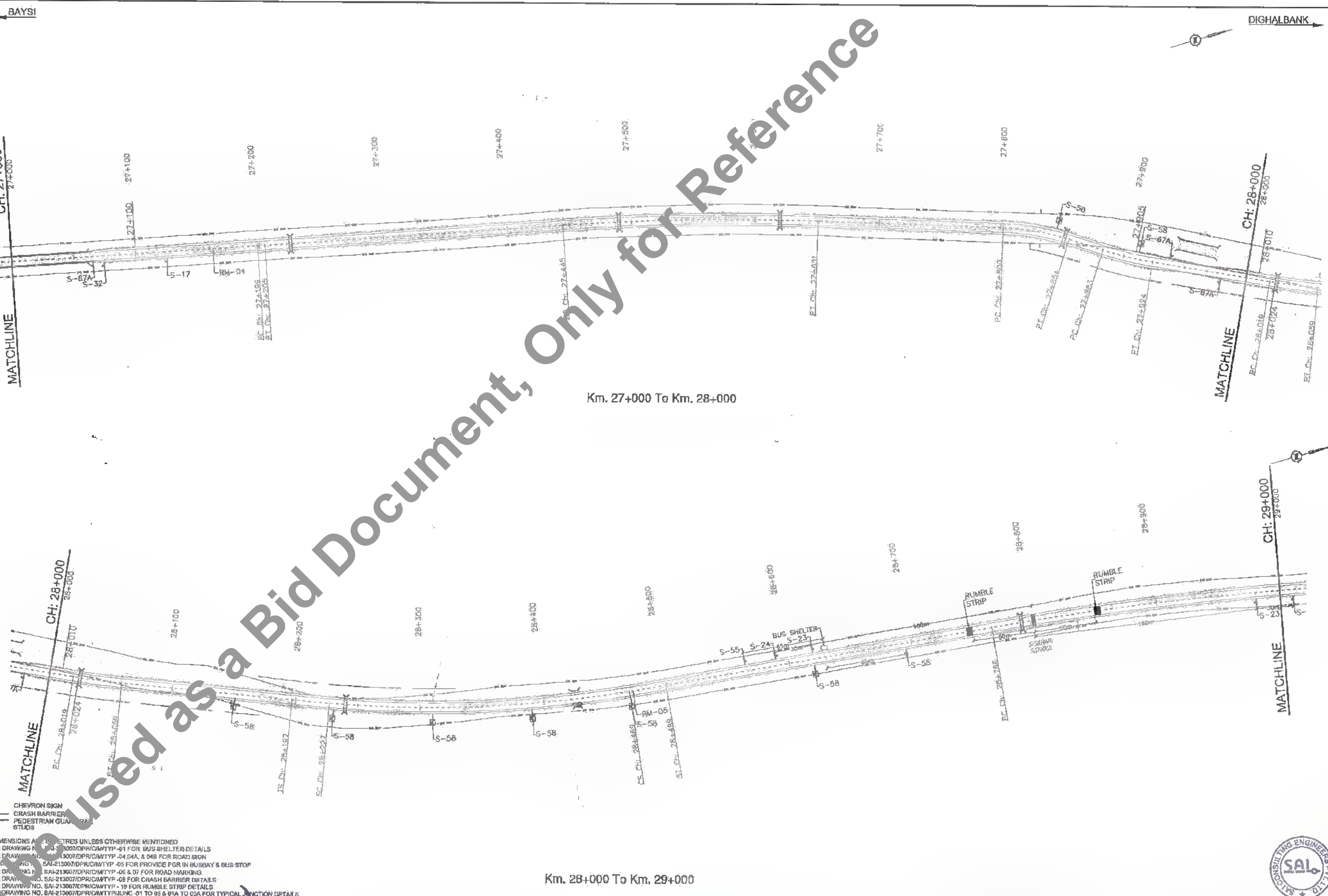


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- LEGEND**
- CHEVRON SIGN
 - CRASH BARRIER
 - PEDESTRIAN GUARD
 - STUDS
- NOTES:**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DP/CM/TYP -01 FOR BUS SHELTER DETAILS
 3. REFER DRAWING NO. SAI-213007/DP/CM/TYP -04,04A, & 04B FOR ROAD SIGN
 4. REFER DRAWING NO. SAI-213007/DP/CM/TYP -05 FOR PROVIDE PGR IN BUSBAY & BUS STOP
 5. REFER DRAWING NO. SAI-213007/DP/CM/TYP -06 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DP/CM/TYP -08 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DP/CM/TYP -10 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DP/CM/TYP/PLING -01 TO 05 & 07A TO 07C FOR TYPICAL JUNCTION DETAILS

CLIENT

Bihar State Road Development Corporation Limited (BSRDC)
 (A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:

SAL Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company

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 Phone : +91-91-8512490100 Fax : +91-91-8512490100
 Email : sal@salengg.com

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY :
PQ	31/02/19	GOOD FOR CONSTRUCTION (REVISED DPR)		ISSUED BY : V.L.S.
PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : H.M.
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : G.S.
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PC	28/02/14	ISSUED WITH FINAL DPR		
PB	04/01/14	ASSEMBLY OF DPR		

TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
ROAD FURNITURE PLAN
 KM. 27+000 TO KM. 28+000

DRG. NO.:
 SAI-213007/DP/CM/HRF - 04

REVISION: PG

SCALE: 1:2500

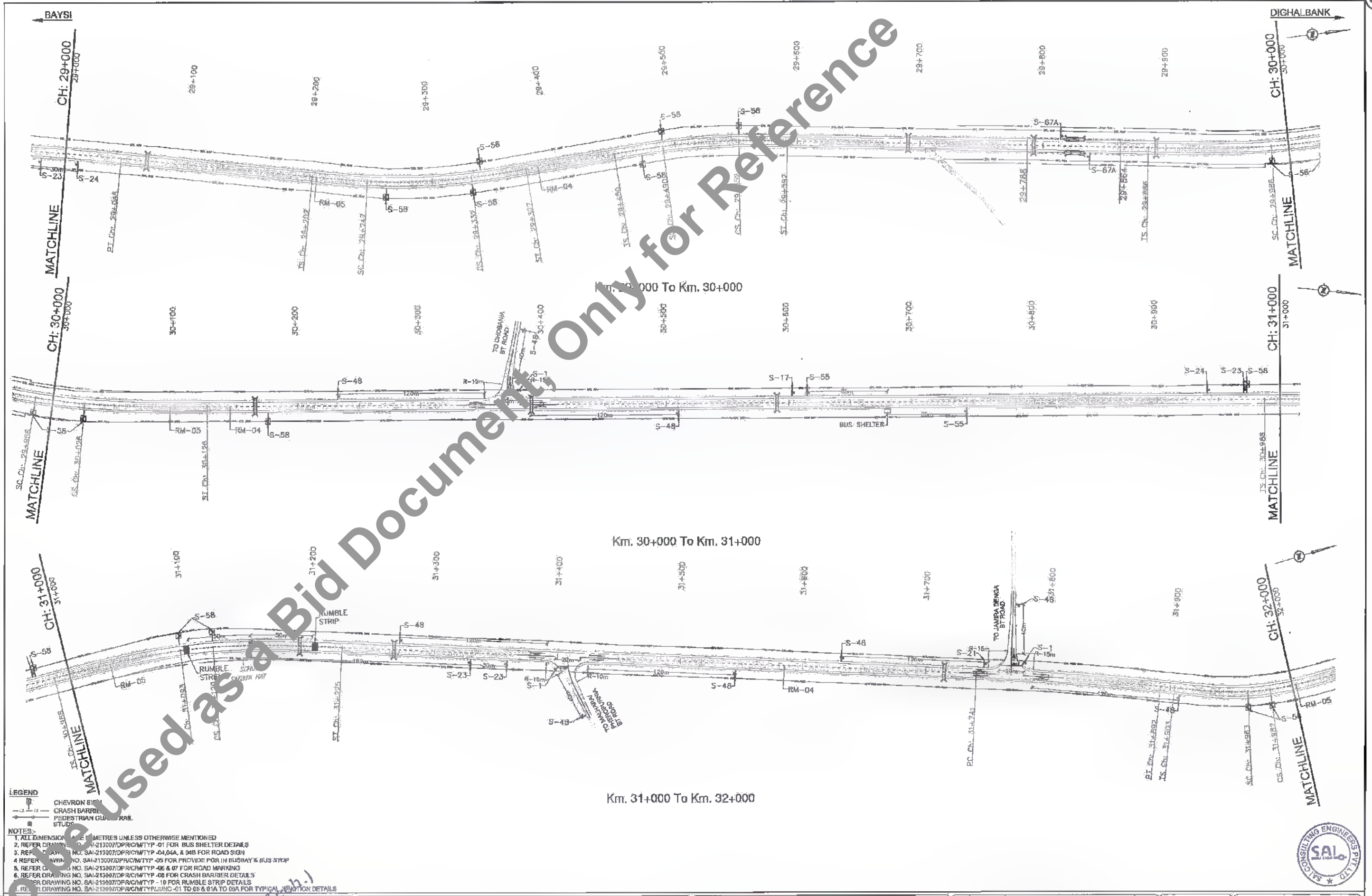
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Not to be used as a Bid Document, Only for Reference





LEGEND

- CHEVRON SIGN
- CRASH BARRIER
- PEDESTRIAN GUARD RAIL
- STUDS

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
2. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-01 FOR BUS SHELTER DETAILS
3. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-04, 04A, & 04B FOR ROAD SIGN
4. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-05 FOR PROVIDE FOR IN BUSWAY & BUS STOP
5. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-06 & 07 FOR ROAD MARKING
6. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-08 FOR CRASH BARRIER DETAILS
7. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-10 FOR RUMBLE STRIP DETAILS
8. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP/JUNG-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS



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CLIENT:

Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

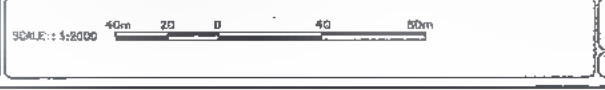
PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

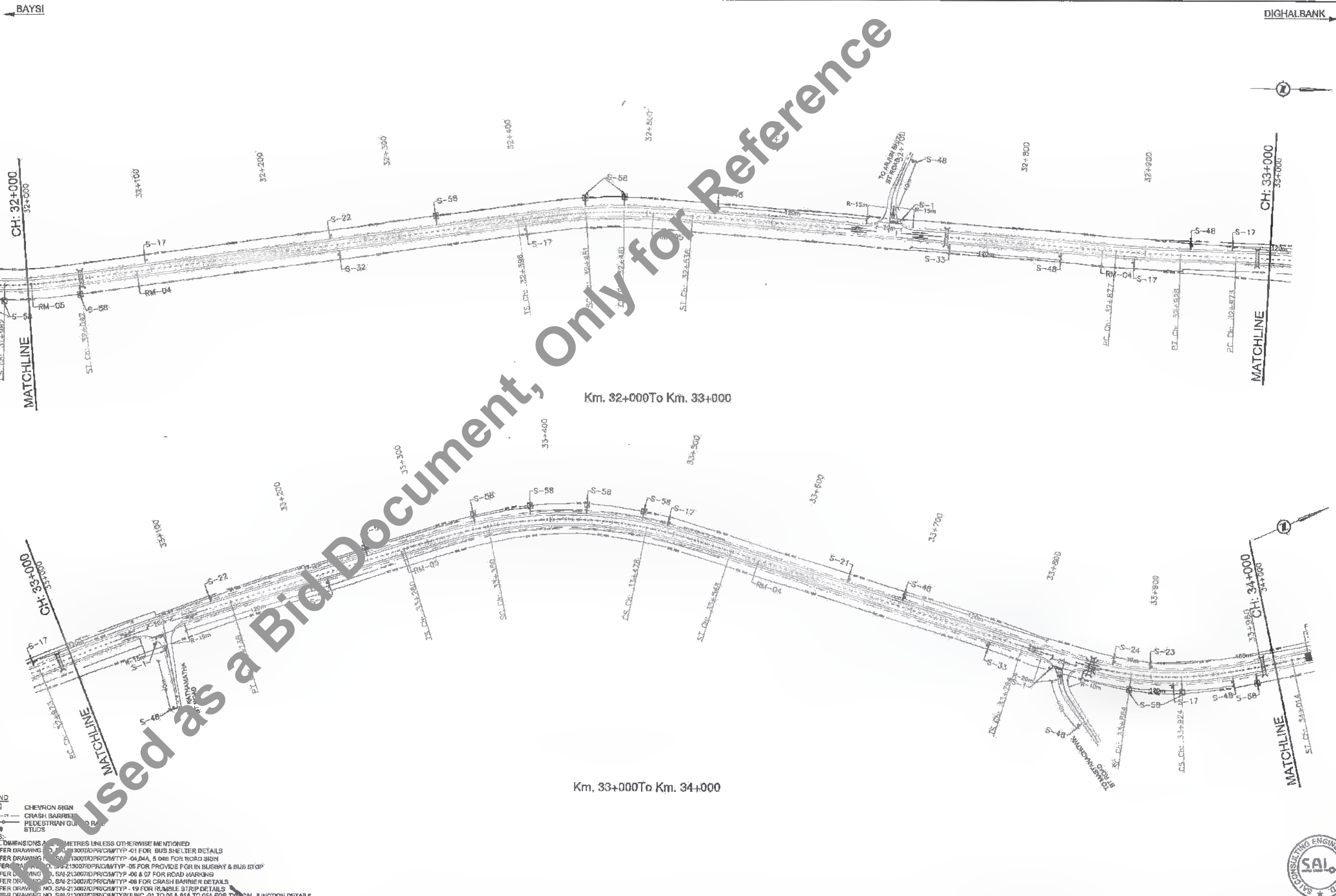
CONSULTANTS:

SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "Sai House" Gulam Corporate Square, Bih Rajgoh
Dist. Baleshwar, Ahmedabad-380059 Gujarat, India
Phone: +91-79-4514800/748, Fax: +91-79-6613000
Email: mail@saiinfo.com

PD	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : V.L.S.	TITLE: RAJITA-MAHADEV DIGHI CHOWK (PACKAGE-4) ROAD FURNITURE PLAN KM. 29+000 TO KM. 32+000 DRG. NO.: SAI-213007/DP/RC/M/RF-05 REVISION: PG
PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : H.M.	
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : C.S.	
PD	10/01/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : S.S.	
PC	25/02/14	ISSUED WITH FINAL DDPW		
PR	04/01/14	APPENDUM OF DDPW		



53
624



LEGEND

- CHEVRON SIGN
- CRASH BARRIER
- PEDESTRIAN GUIDANCE STUDS

NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
- REFER DRAWING NO. SAI-213007/DP/PC/MTYP-01 FOR BUS SHELTER DETAILS
- REFER DRAWING NO. SAI-13007/DP/PC/MTYP-04, 04A, & 04B FOR ROAD SIGN
- REFER DRAWING NO. SAI-213007/DP/PC/MTYP-05 FOR PROVIDE FOR IN BUSBAY & BUS STOP
- REFER DRAWING NO. SAI-213007/DP/PC/MTYP-06 & 07 FOR ROAD MARKING
- REFER DRAWING NO. SAI-213007/DP/PC/MTYP-08 FOR CRASH BARRIER DETAILS
- REFER DRAWING NO. SAI-213007/DP/PC/MTYP-19 FOR RUMBLE STRIP DETAILS
- REFER DRAWING NO. SAI-213007/DP/PC/MTYP/JUNC-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS

CLIENT:
Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Head-A "SAI House" Sanyam Corporate Square, 8th Bujpaha, Clark Road, Patna, Bihar - 800005, India
Phone : +91-91-5612602/180, Fax : +91-91-4616208
E-mail : mail@saiconsulting.com

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY	: R.S.
PG	21/07/18	GOOD FOR CONSTRUCTION (REVISED DRG)			
PF	26/12/18	GOOD FOR CONSTRUCTION (GFC)			
PE	31/05/17	GOOD FOR CONSTRUCTION (GFC)			
PD	10/04/14	GOOD FOR CONSTRUCTION (GFC)			
PC	26/02/14	ISSUED WITH FINAL DPR			
PB	04/01/14	ADDENDUM OF DPR			

SCALE: 1:1200

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ROAD FURNITURE PLAN
KM. 32+000 TO KM. 34+000

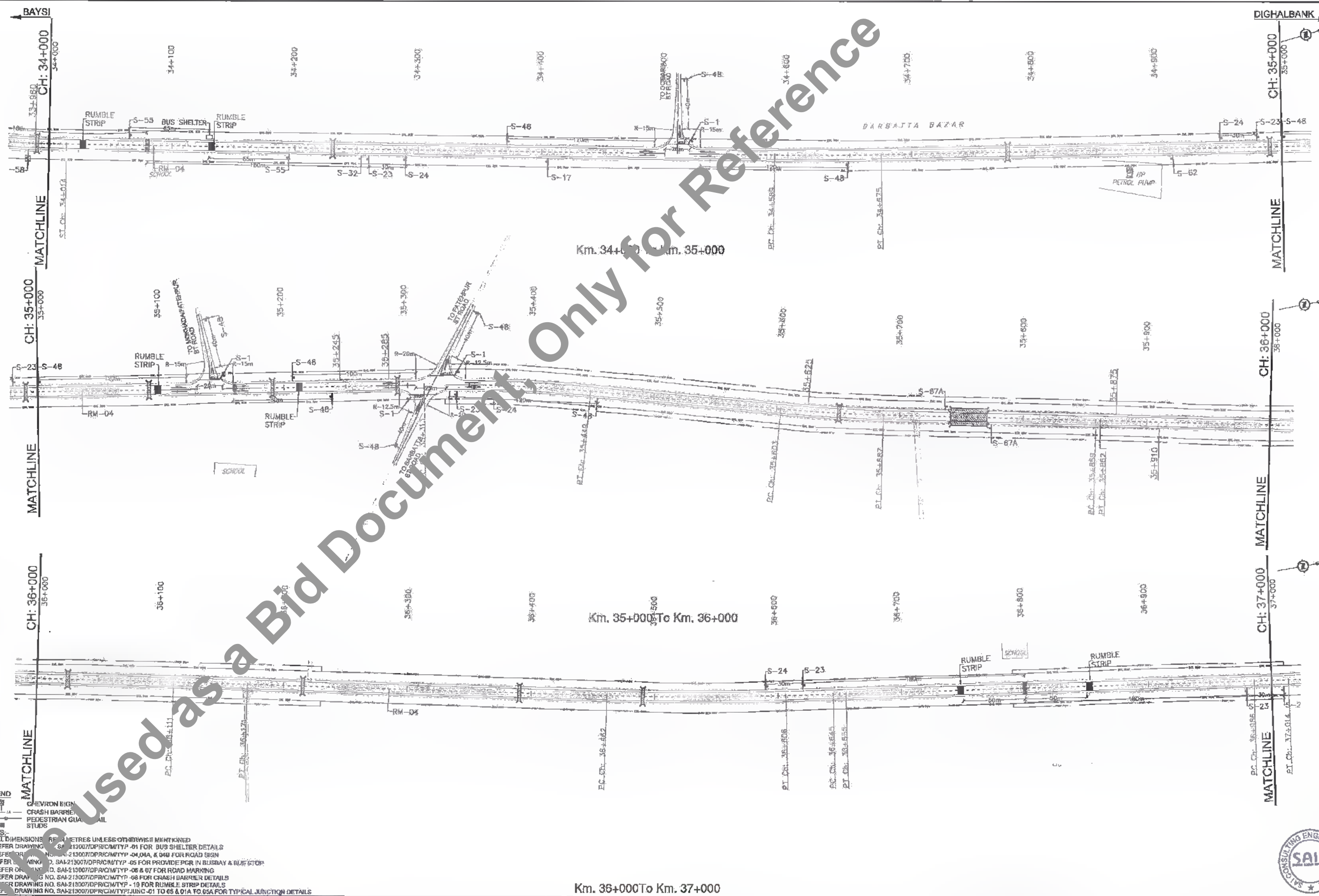
DRWN BY : Y.L.S.
CHECKED BY : M.M.
APPROVED BY : P.S.

ORG. NO. :
SAI-213007/DP/PC/H/RF-08
REVISION: PG

DATE: 21-07-2018 11:36am
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D. G. B. Tech
PIU-Katihar

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LEGEND


- CHEVRON SIGN
- CRASH BARRIER
- PEDESTRIAN GUARDRAIL
- STUDS

NOTES:

1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE MENTIONED
2. REFER DRAWING NO. SAI-213007/DPR/CI/TYP-01 FOR BUS SHELTER DETAILS
3. REFER DRAWING NO. SAI-213007/DPR/CI/TYP-04, 04A, & 04B FOR ROAD SIGN
4. REFER DRAWING NO. SAI-213007/DPR/CI/TYP-05 FOR PROVIDE PCR IN BUSBAY & BUS STOP
5. REFER DRAWING NO. SAI-213007/DPR/CI/TYP-06 & 07 FOR ROAD MARKING
6. REFER DRAWING NO. SAI-213007/DPR/CI/TYP-08 FOR CRASH BARRIER DETAILS
7. REFER DRAWING NO. SAI-213007/DPR/CI/TYP-19 FOR RUMBLE STRIP DETAILS
8. REFER DRAWING NO. SAI-213007/DPR/CI/TYP/JUNC-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS

DATE: 24/07/2014 11:36am
PATH: C:\Users\gagan\appdata\local\temp\AcPublish_2904\101_TMP_Km 0+000 To Km 45+000.dwg

CLIENT:



Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:





SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Block-A "SAI House", Setya Corporate Square, 8th Rajpatti
Chak Bahadur, At Bahadur - 200057, Gajrauli, India
Phone : +91-75-4674310/705, Fax : +91-75-4614300
Email : mail@saiindia.com

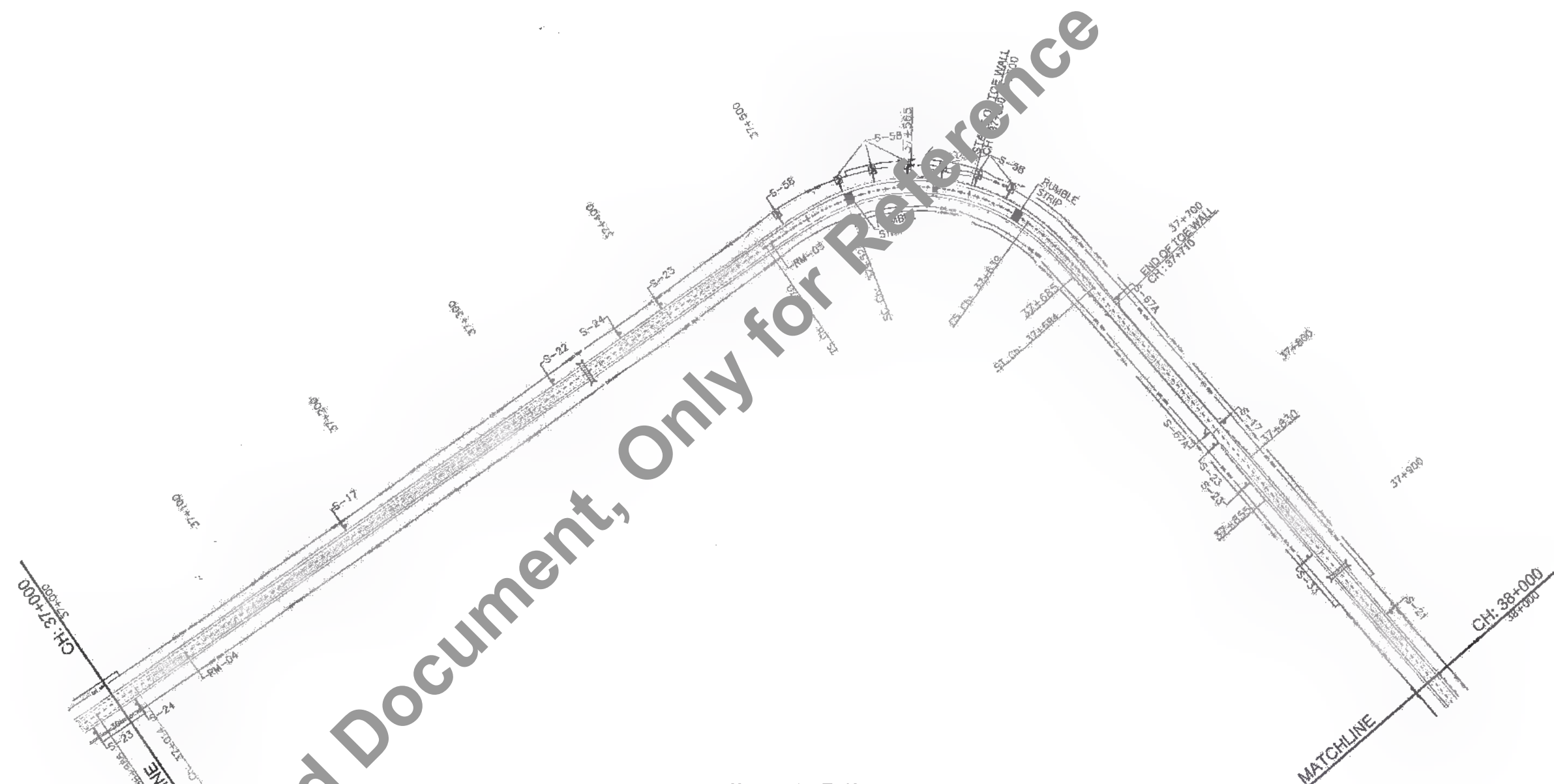
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PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : N.M.	ROAD FURNITURE PLAN
PE	31/05/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : G.S.	KM. 34+000 TO KM. 37+000
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : W.S.	DRG. NO. :
PC	28/02/14	ISSUED WITH FINAL DPR		SAI-213007/DPR/CI/VRF-07
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SCALE : 1:2000

155
622

BAYSI ← DIGHALBANK →



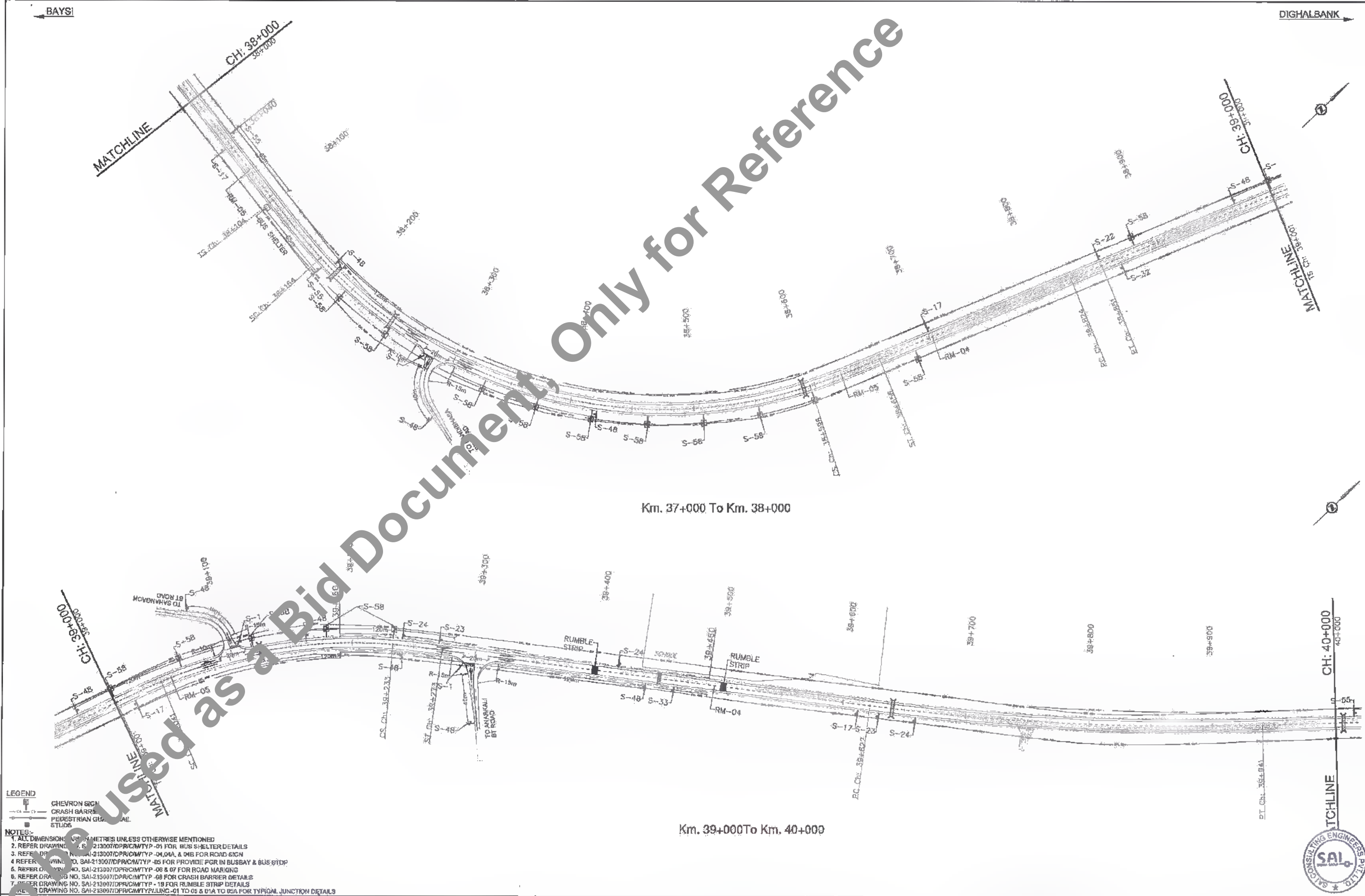
Km. 37+000 To Km. 38+000

- LEGEND**
- CHEVRON SIGN
 - CRASH BARRIER
 - PEDESTRIAN GUARD RAIL
 - STUDS

- NOTES:-**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-01 FOR BUS SHELTER DETAILS
 3. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-04, 04A, & 04B FOR ROAD SIGN
 4. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-05 FOR PROVIDE PER IN BUSBAY & BUS STOP
 5. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-06 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-08 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-19 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP/JUNC-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS



<p>DATE: 11/25/2014 PATH: C:\Users\gokul\Documents\Local\Temp\AC\publish_2994\1\01_IHP_Km 0+000 To Km 45+000.dwg</p>	<p>Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)</p>	<p>PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar <i>Baysi - Bahadurganj - Dighalbank (SH-99)</i></p>	<p>CONSULTANTS:</p> <p>SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company</p> <p><small>Block-A "SAI House" Solgan Corporate Square, 6th Rajgels City, Bhubaneswar, Ahmedabad-751019, Gujarat, India Phone : +91-76-6616288/700 Fax : +91-76-6662808 E-mail : mail@saiconsulting.com</small></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>PD</td><td>31/07/18</td><td>GOOD FOR CONSTRUCTION (REVISED DPR)</td></tr> <tr><td>PF</td><td>08/12/18</td><td>GOOD FOR CONSTRUCTION (DPR)</td></tr> <tr><td>PE</td><td>31/03/17</td><td>GOOD FOR CONSTRUCTION (DPR)</td></tr> <tr><td>PD</td><td>10/04/14</td><td>GOOD FOR CONSTRUCTION (DPR)</td></tr> <tr><td>PC</td><td>20/02/14</td><td>ISSUED WITH FINAL DPR</td></tr> <tr><td>PS</td><td>04/01/14</td><td>ADDENDUM OF DPR</td></tr> </table>	PD	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)	PF	08/12/18	GOOD FOR CONSTRUCTION (DPR)	PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)	PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)	PC	20/02/14	ISSUED WITH FINAL DPR	PS	04/01/14	ADDENDUM OF DPR	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>BRWBY BY :</td><td>V.A.S.</td></tr> <tr><td>CHECKED BY :</td><td>K.M.</td></tr> <tr><td>APPROVED BY :</td><td>G.S.</td></tr> <tr><td>ISSUED BY :</td><td>B.S.</td></tr> </table>	BRWBY BY :	V.A.S.	CHECKED BY :	K.M.	APPROVED BY :	G.S.	ISSUED BY :	B.S.	<p>TITLE : RAUTA-MAHADEV DIHI CHOWK (PACKAGE-B) ROAD FURNITURE PLAN KM. 37+000 TO KM. 39+000</p> <p>DRG. NO. : SAI-213007/DPR/C/HRF - 08</p> <p>REVISION : PS</p>
PD	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)																														
PF	08/12/18	GOOD FOR CONSTRUCTION (DPR)																														
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)																														
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)																														
PC	20/02/14	ISSUED WITH FINAL DPR																														
PS	04/01/14	ADDENDUM OF DPR																														
BRWBY BY :	V.A.S.																															
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APPROVED BY :	G.S.																															
ISSUED BY :	B.S.																															
				<p>SCALE : 1:2000</p>																												



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LEGEND

- CHEVRON SIGN
- CRASH BARRIER
- PEDESTRIAN GULLY
- RUMBLE STRIP
- BUS SHELTER

NOTES:

1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE MENTIONED
2. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-01 FOR BUS SHELTER DETAILS
3. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-04, 04A, & 04B FOR ROAD SIGN
4. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-05 FOR PROVIDE PGR IN BUSBAY & BUS STOP
5. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-06 & 07 FOR ROAD MARKING
6. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-08 FOR CRASH BARRIER DETAILS
7. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-19 FOR RUMBLE STRIP DETAILS
8. REFER DRAWING NO. SAI-213007/DPR/CM/TYP/JL/JC-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS

CLIENT:



Bihar State Road Development Corporation Limited
(A Government of Bihar Undertaking)

*S.M. (Tech.)
BSRIDC
PIO, Patna*

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:





SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Block-A "SAI House" Sanyam Corporate Square, 2nd Floor,
11th Road, Kalyani Nagar, Ahmedabad-380015, Gujarat, India
Phone : +91-79-4613380/190702, +91-79-46842800
Email : mail@saiindia.com

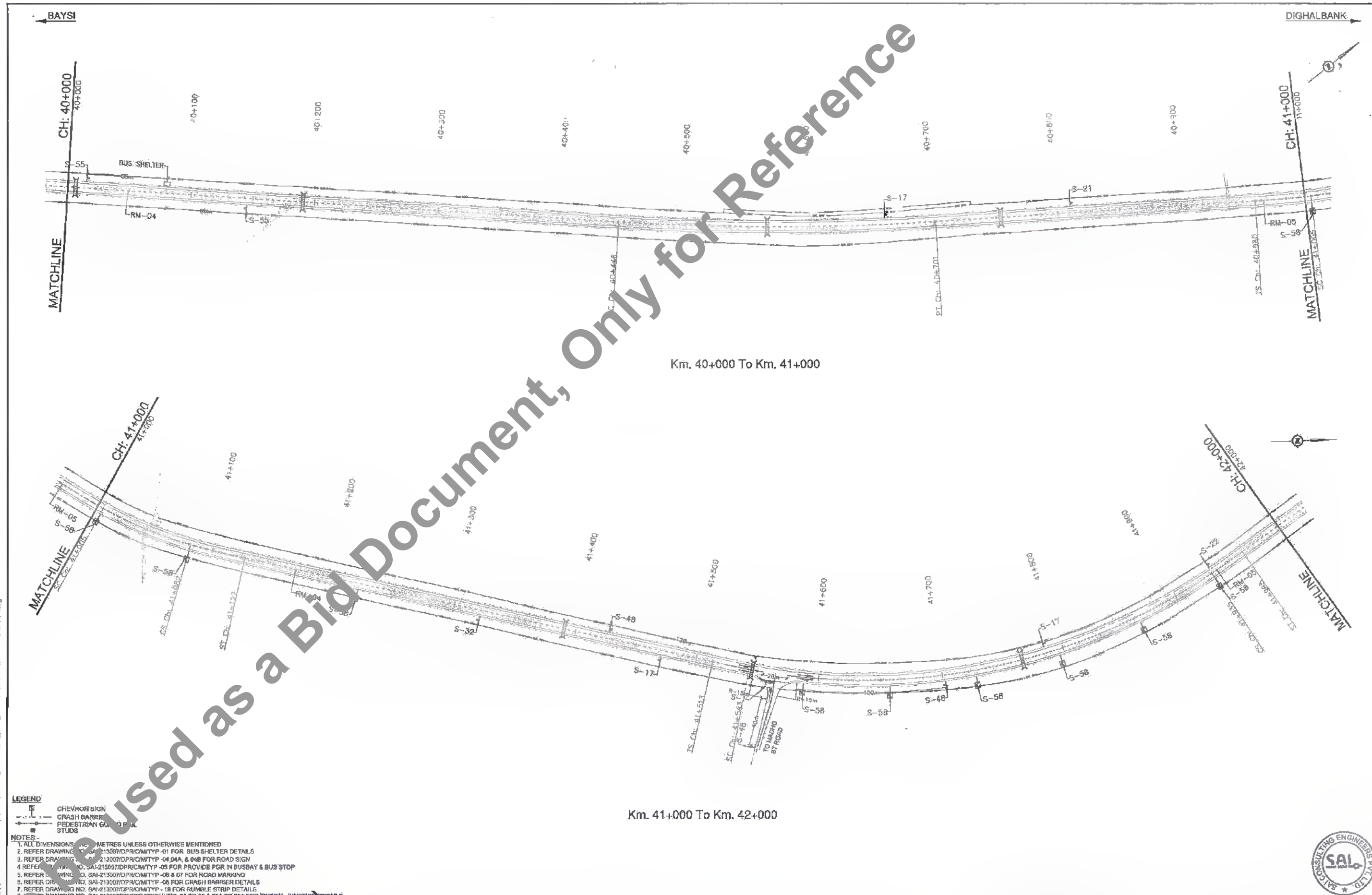
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PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : H.M.	
PE	21/03/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : G.S.	
PD	10/06/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : G.S.	
PC	26/02/14	ISSUED WITH FINAL DPR		
PA	04/01/14	APPROVAL OF DPR		
REV.	DATE	DESCRIPTION	SKIN	

SCALE : 1:2000

SAI CONSULTING ENGINEERS PVT. LTD.

DATE: 20/07/2019 - 11:59am
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Km. 40+000 To Km. 41+000

Km. 41+000 To Km. 42+000

LEGEND

	CHEVRON SIGN
	CRASH BARRIER
	PEDESTRIAN GUARD POST
	STUDS

- NOTES:**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-01 FOR BUS SHELTER DETAILS
 3. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-04, 04A, & 04B FOR ROAD SIGN
 4. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-05 FOR PROVIDE FOR IN BUSBAY & BUS STOP
 5. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-08 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-08 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP-18 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DP/RC/M/TYP/JUNC-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS

CLIENT:



Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)


CONSULTANTS:



SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SRI House", Saijiv Corporate Square, 5th Bejpath
Club Road, Alkhandi - 390019, Gujarat, India
Phone : +91-79-8942607/700, Fax : +91-79-8942600
Email : saicons@saicons.com

PO	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : Y.L.S.	
PP	28/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : H.M.	
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : G.S.	
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)			
PC	26/02/14	ISSUED WITH FINAL DPR			
PS	09/01/14	AGREEMENT OF DDP			

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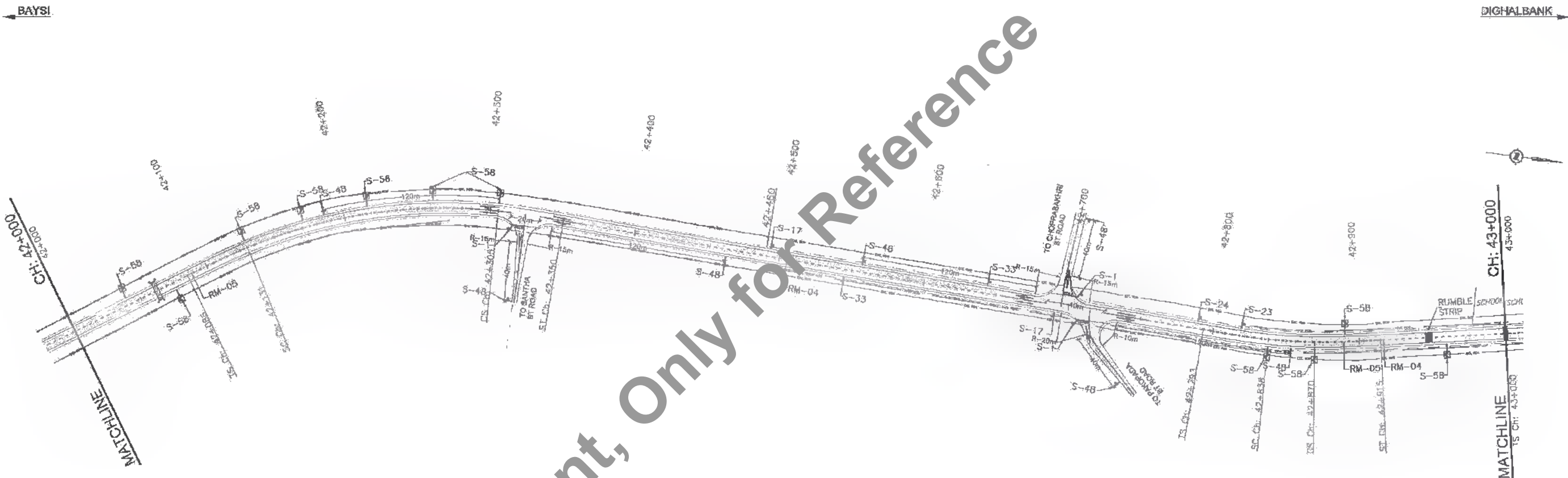
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ROAD FURNITURE PLAN
KM. 41+000 TO KM. 43+000

DRG. NO.:
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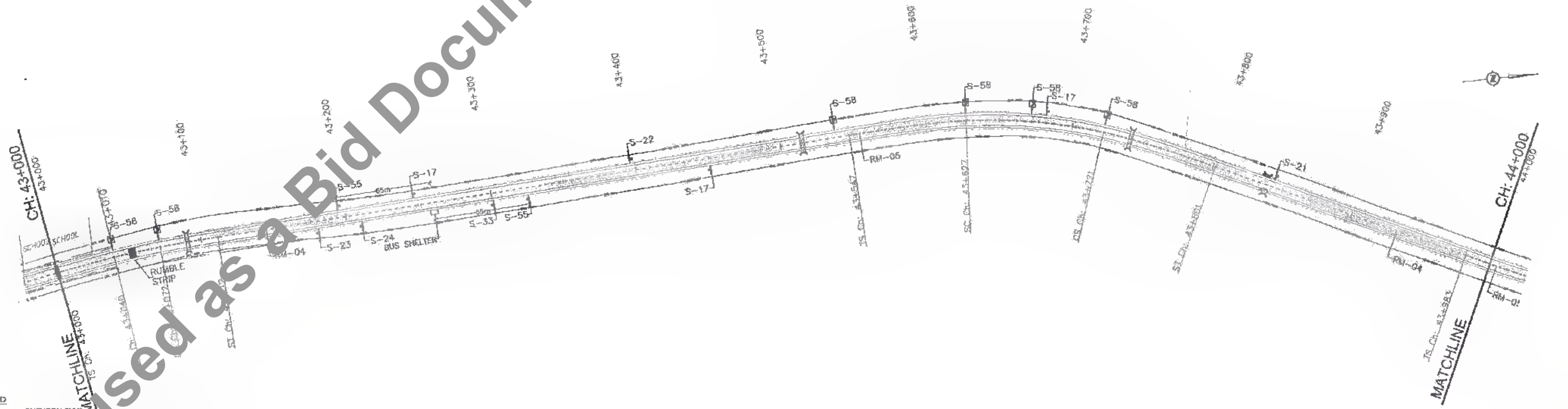
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DATE: 11/03/2019 11:39am
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Km. 42+000 To Km. 43+000



Km. 43+000 To Km. 44+000

- LEGEND**
- CHEVRON SIGN
 - CRASH BARRIER
 - PEDESTRIAN GUARD RAIL
 - STUDS

- NOTES:-**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-01 FOR BUS SHELTER DETAILS
 3. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-04, 05A, & 05B FOR ROAD SIGN
 4. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-05 FOR PROVIDE FOR IN BUSBAY & BUS STOP
 5. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-06 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-08 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-10 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DPR/CM/TYP/JUNC-01 TO 06 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS

DATE: 20/09/17 TIME: 11:39am
PATH: C:\Users\gaganeswari\AppData\Local\Temp\AcPublish_29024\101_TMP_Km 0+000 To Km 45+000.dwg

CLIENT:




Bihar State Road Development Corporation (Tech.) Limited (BSRDCL)
(A Government of Bihar, Under Ministry of Transport)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:



SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

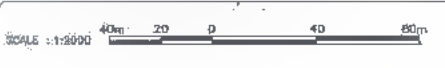
Block-A "SAI House" Solapur Corporate Square, Bijn Rajpatti
E-4, Bada Bazar, Ahmedabad-380009, Gujarat, India
Phone : +91-79-64126021/20, Fax : +91-79-6642880
Email : mail@saiengineers.com

REV.	DATE	DESCRIPTION	ISSN	ISSUED BY
PC	31/07/19	GOOD FOR CONSTRUCTION (REVISED WPK)		V.L.S.
PD	30/12/18	GOOD FOR CONSTRUCTION (DPR)		H.M.
PE	31/05/17	GOOD FOR CONSTRUCTION (DPR)		G.S.
PF	10/04/14	GOOD FOR CONSTRUCTION (DPR)		G.S.
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	04/01/14	ADDITIONAL OF DOPR		G.S.

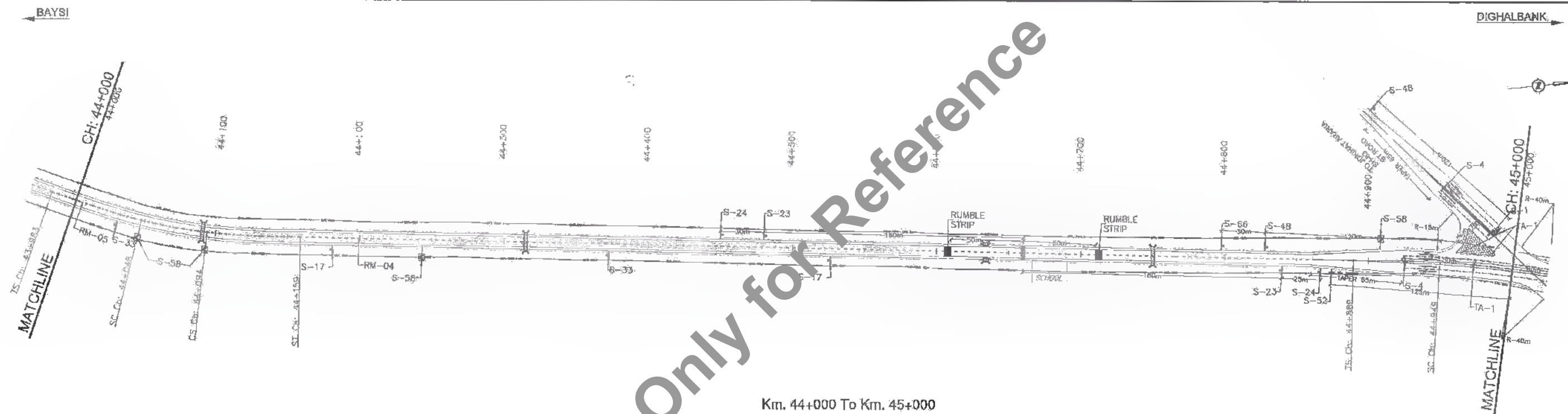
TITLE: RAJYA-MAMADEV DIGHI CHOKK (PACKAGE-II)
ROAD FURNITURE PLAN
KM. 43+000 TO KM. 45+000

DRG. NO.:
SAI-213007/DPR/CM/HRF - 11

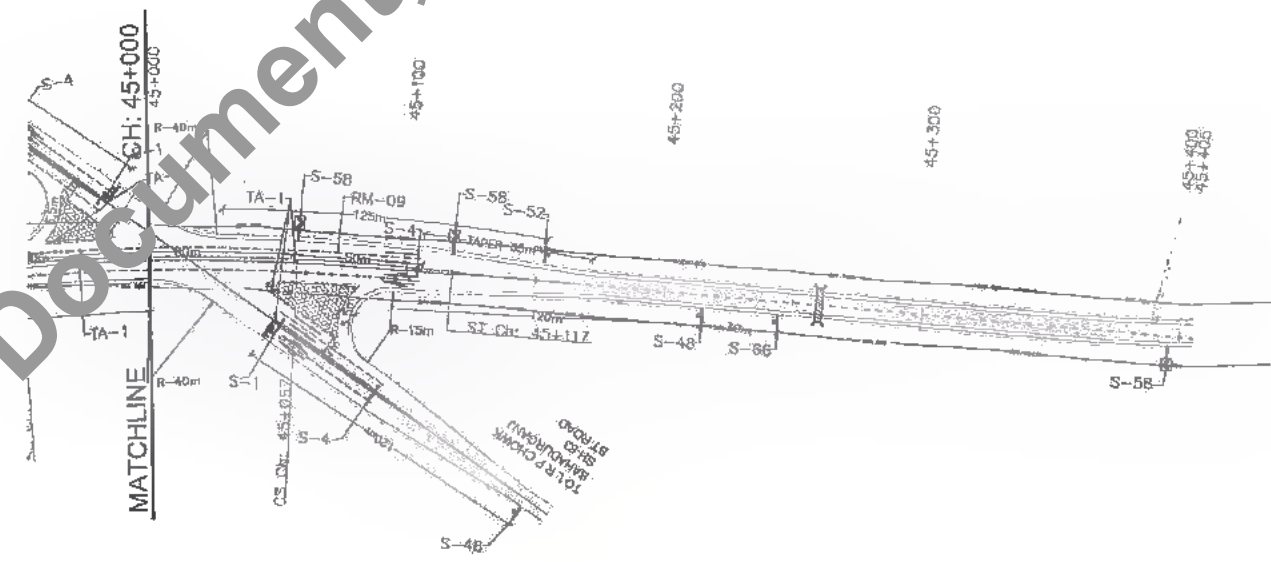
REVISION: PG



159
618



Km. 44+000 To Km. 45+000



Km. 45+000 To Km. 45+405

- LEGEND**
- CHEVRON SIGN
 - CRASH BARRIER
 - PEDESTRIAN GUARD RAIL
 - STUDS

- NOTES:**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED
 2. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-01 FOR BUS SHELTER DETAILS
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 4. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-06 FOR PROVIDE PGS IN BUSBAY & BUS STOP
 5. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-08 & 07 FOR ROAD MARKING
 6. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-09 FOR CRASH BARRIER DETAILS
 7. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP-19 FOR RUMBLE STRIP DETAILS
 8. REFER DRAWING NO. SAI-213007/DPR/C/M/TYP/JUNC.-01 TO 05 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS

CLIENT:
 Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)
 P.O. Katihar

PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

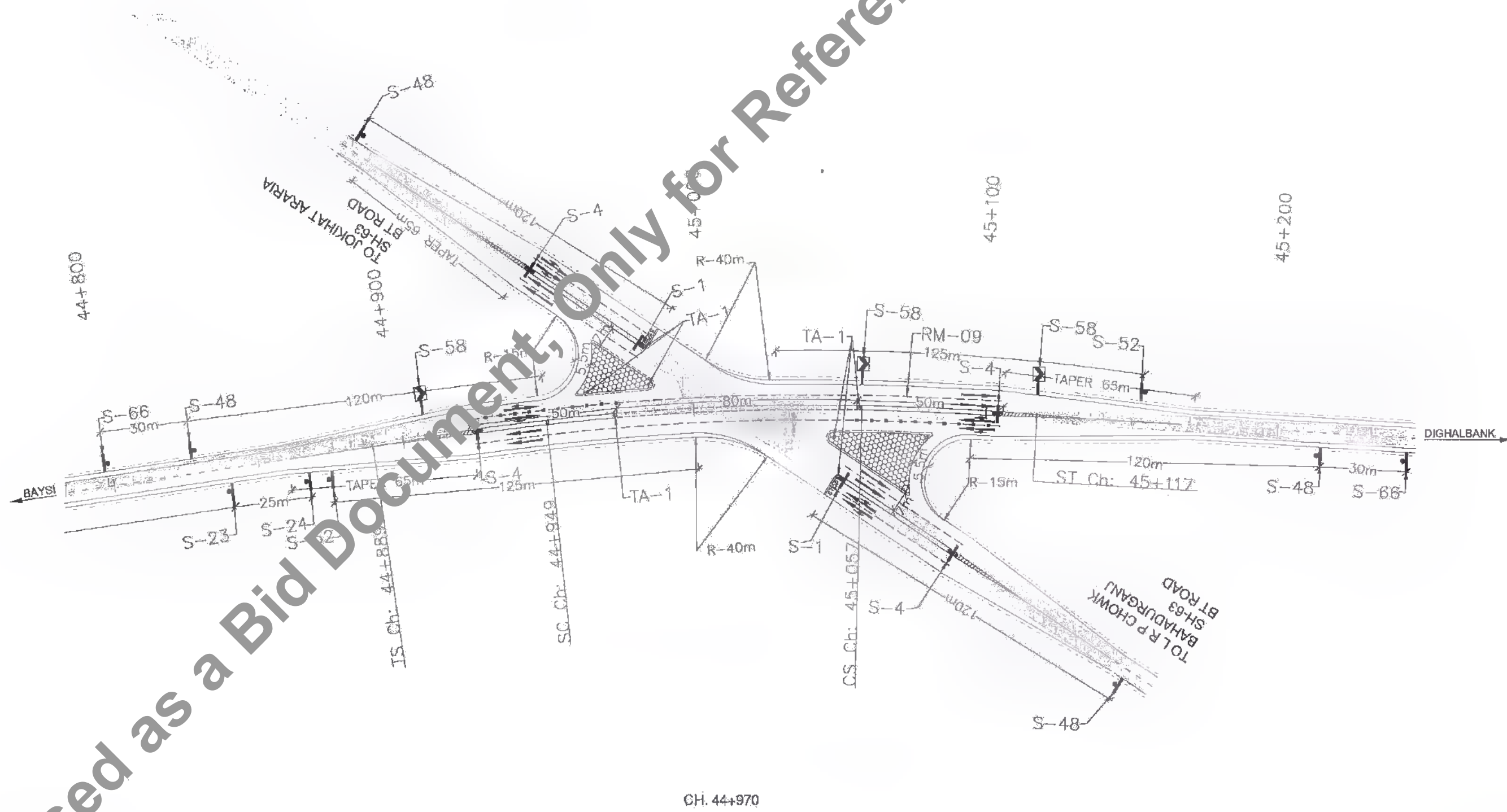
CONSULTANTS:
 SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A 'Sai House', Sakinagar Corporate Square, 8th Floor, 13th Road, Akhara Road, Patna - 800 008
 Phone : +91-91-8516280/200, Fax : +91-91-4514280
 Email : mail@saiconsulting.com

PC	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : V.L.S.	TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) ROAD FURNITURE PLAN KM. 45+000 TO KM. 45+405
PF	29/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : H.M.	
PE	15/03/17	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : G.S.	
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)		ISSUED BY : B.S.	
PC	28/02/14	ISSUED WITH FINAL DPR			DRG. NO.: SAI-213007/DPR/C/H/WF- 12
PB	04/01/14	ADDENDUM OF DPR			



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Not to be Used as a Bid Document, Only for Reference



DATE: 20/07/14 3:52pm PATH: T:\CAD\712007 BIHAR\REVISED DPR\CH\MAJOR JUNCTION\PACKAGE-J\1\01\MAJ.Jm 0-000 To Km. 45 +000.dwg

Not to be used as a Bid Document, Only for Reference

LEGEND
 CHEVRON SIGN
 CRASH BARRIER
 PRESTRESSED GUARD RAIL

NOTES:-
 1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED.
 2. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-06 & 07 FOR ROAD MARKING.
 3. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-04, 04A & 04B FOR ROAD SIGN.
 4. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-06 FOR CRASH BARRIER DETAILS
 5. REFER DRAWING NO. SAI-213007/DPR/CM/TYP-05 FOR PROVIDE PGR IN BUSSAY & BUS STOP
 6. REFER DRAWING NO. SAI-213007/DPR/CM/TYP/JUNC-01 TO 06 & 01A TO 05A FOR TYPICAL JUNCTION DETAILS

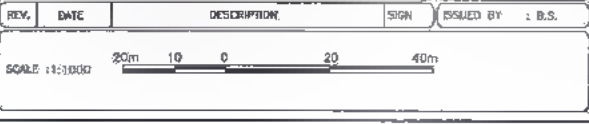
PROJECT:
 Bihar State Road Development Corporation Limited (BSRDCL)
 (A Government of Bihar Undertaking)

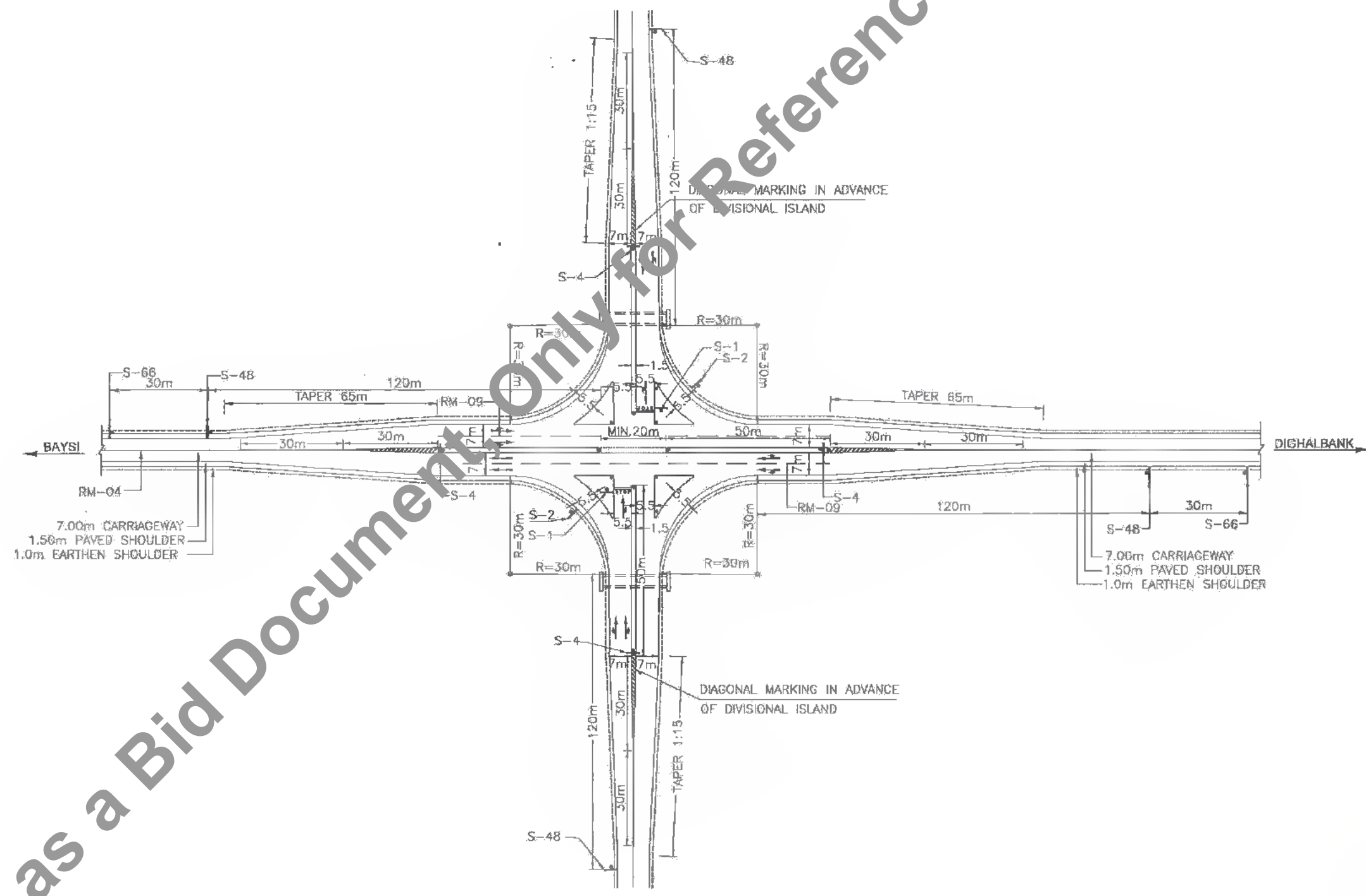
CONSULTANTS:
 SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Head Office: 'SAI House', 3rd Floor, Ganga Ghat, Patna, Bihar 800001
 Phone: +91-91-431320/30/30/30/30 Fax: +91-91-4313200
 Email: mail@saiconsulting.com

PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAI
 SYSTRA GROUP

PF	31/07/10	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : V.L.S.	TITLE: RAUTA-MAHADEY DIGHI CROSSING (PACKAGE-I)
PE	28/12/10	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : H.M.	MAJOR JUNCTION AT Km. 44+970
PD	31/03/11	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : C.S.	DRG. NO. : SAI-213007/DPR/CM/MJ-01
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : B.S.	REVISION : PF
PA	26/02/14	ISSUED WITH FINAL DOPR		
PA	13/11/13	ISSUED WITH DOPR		





NOTES :-

1. ALL DIMENSIONS ARE AS NOTED.
2. CROSS MAIN PIPE CULVERT OF NP4 1200 mm ϕ SHALL BE PROVIDED AS PER THE SITE CONDITION AT DITCH LOCATION AS DIRECTED BY THE ENGINEER.
3. LEFT HAND RADIUS SHOULD NOT BE LESS THEN 15m.
4. FOR DETAILS SIGN BOARD DWG. REFER DWG.NO.SAI-213007/DPR/M/TYP-04,04A & 04B
5. FOR PAVEMENT MARKING DETAILS REFER DWG.NO.SAI-213007/DPR/M/TYP-07 & 08
6. 'RM' REPRESENT ROAD MARKING.
7. 'R' REPRESENT RADIUS.



Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

*D. G. Mishra (Tech.)
B.S.K. Mishra
PTU-Kathar*

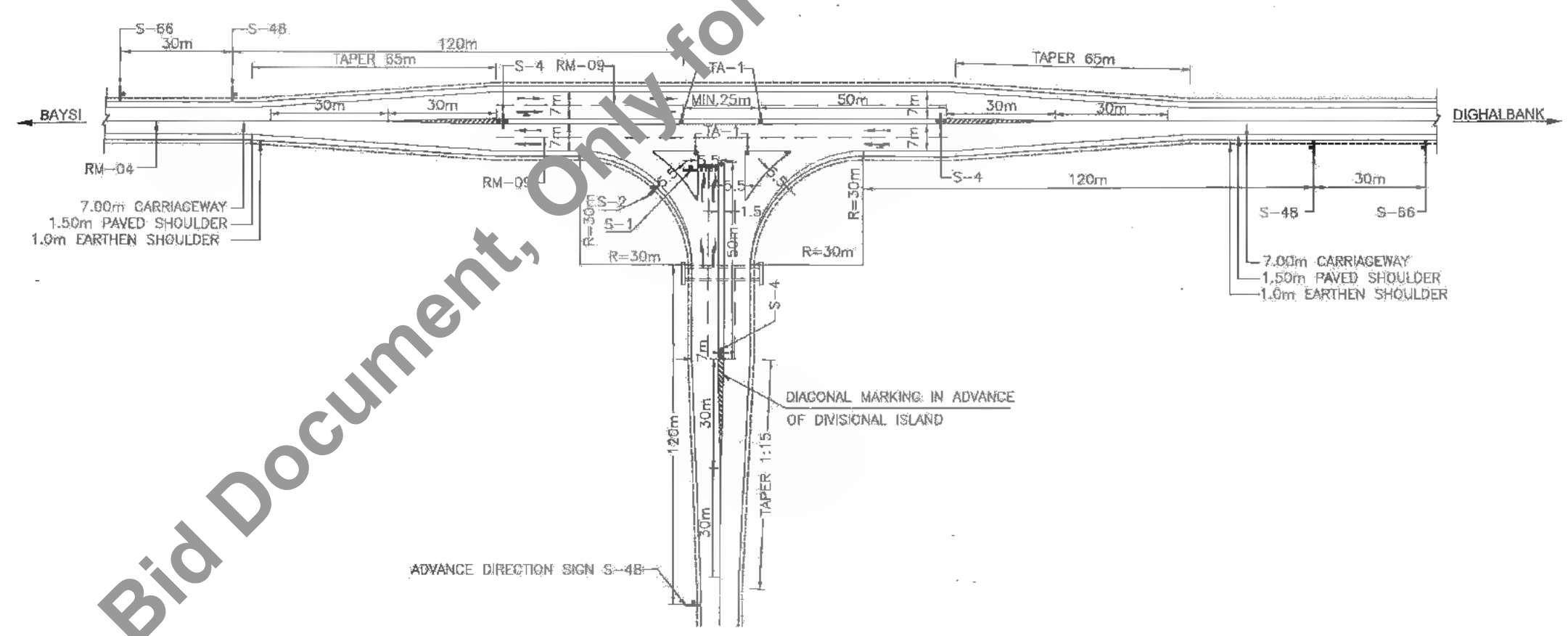
PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS :
SAI SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SAI House", Sanyam Corporate Square, Bih Bahadur
Dist. Bahadur, Ahmednagar-380059 Gujarat, India
Phone : +91-79-6612600/700, Fax : +91-79-6612600
Email : mail@saiengineers.com

PA	21/07/13	GOOD FOR CONSTRUCTION (REVISED DPR)		
PF	28/12/13	GOOD FOR CONSTRUCTION (DPR)		
PE	10/06/14	GOOD FOR CONSTRUCTION (DPR)		
PD	26/02/14	ISSUED WITH FINAL DPR		
PC	15/11/13	ISSUED WITH DPR		
PB	15/07/13	ISSUED WITH PFR		

DRAWN BY : N.M.	TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-4)
CHECKED BY : B.S.	TYPICAL LAYOUT OF FOUR LEGGED CHANNELISED JUNCTION WITH PAVED SHOULDER
APPROVED BY : J.D.	
ISSUED BY : B.S.	
SCALE: NONE	DRG. NO.: SAI-213007/DPR/M/TYP/JUNC - 01
	REVISION: PG

DATE: 10/07/13
 PATH: C:\Users\jppadga\Documents\locat\temp\locat\publish\j1728\JUNCTION-PACKAGE-11.dwg



NOTES :-

1. ALL DIMENSIONS ARE AS NOTED.
2. CROSS MAIN PIPE CULVERT OF NP4 1200 mm ϕ SHALL BE PROVIDED AS PER THE SITE CONDITION AT DITCH LOCATION AS DIRECTED BY THE ENGINEER.
3. LATERAL TURN RADIUS SHOULD NOT BE LESS THEN 15m.
4. FOR DETAILS SIGN BOARD DWG. REFER DWG.NO.SAI-213007/DPR/M/TYP-04,04A & 04B
5. FOR PAVEMENT MARKING DETAILS REFER DWG.NO.SAI-213007/DPR/M/TYP-07 & 08
6. 'RM' REPRESENT ROAD MARKING.
7. 'R' REPRESENT RADIUS.



CLIENT :

Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT :

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS :

SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

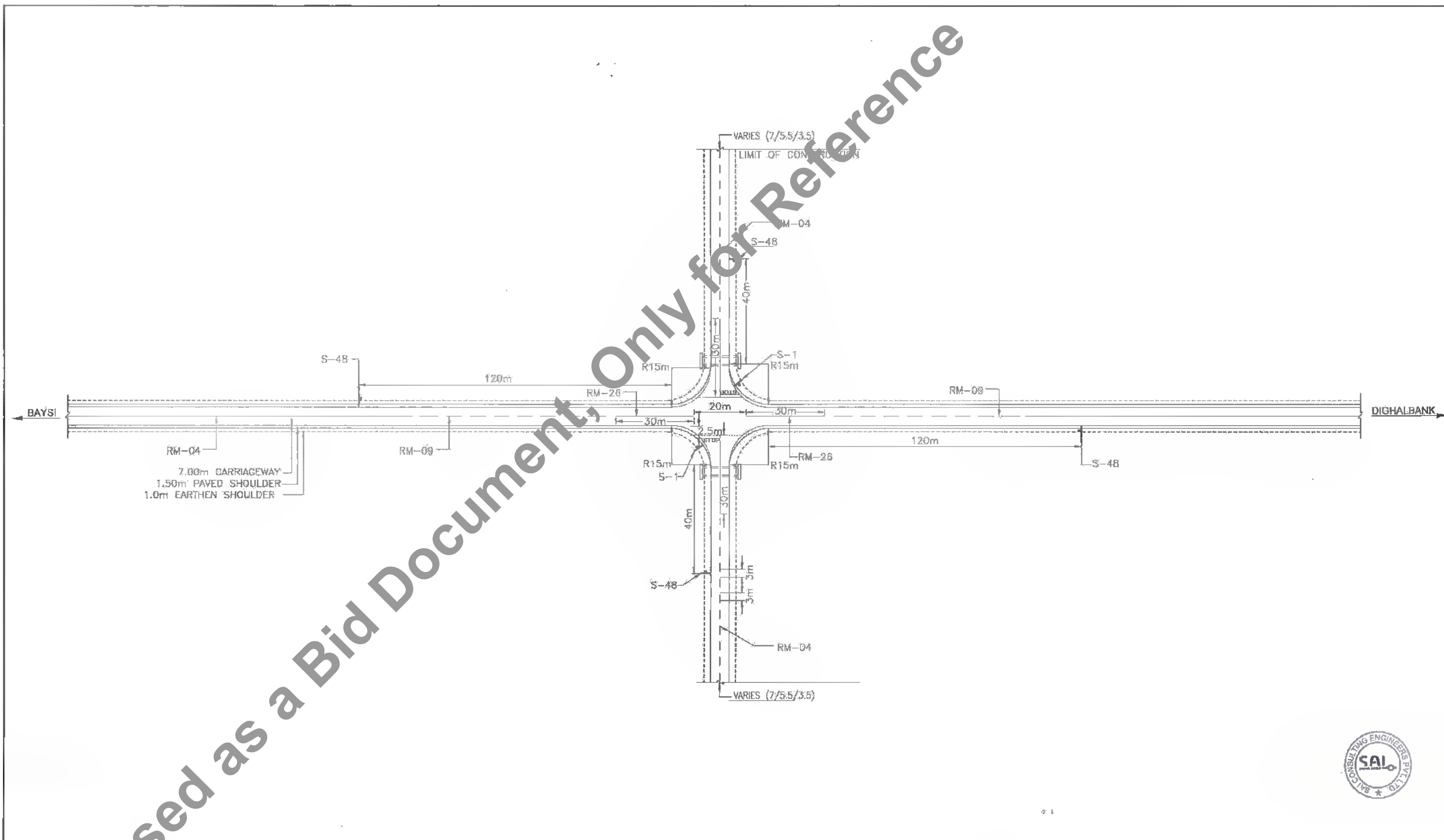
Block-A, "SAI House", Sanyal Corporate Square, 8th, Rajpath
Chh. Badli, New Delhi-110067, Gujarat, India
Phone : +91-79-66926970 Fax : +91-79-4456280
Email : mail@saiindia.com

PF	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.	TITLE : RAUTA MAHADEV DIGHI CHOWK (PACKAGE-B)
PP	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : G.B.	TYPICAL LAYOUT OF THREE LEGGED CHANNELLED JUNCTION WITH PAVED SHOULDER
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	
PD	26/02/14	ISSUED WITH FINAL DPR	ISSUED BY : B.S.	
PI	13/11/13	ISSUED WITH DPR		
PII	15/07/13	ISSUED WITH FTR		DRG. NO. : SAI-213007/DPR/M/TYP/JUNC - 02
SCALE : NONE			REVISION : PG	

DATE: 20/07/2018 10:37am
PATH: C:\Users\rajsan\appdata\local\temp\AcP\delish_37726\1\JUNCTION-PACKAGE-1\ldwg

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163
614

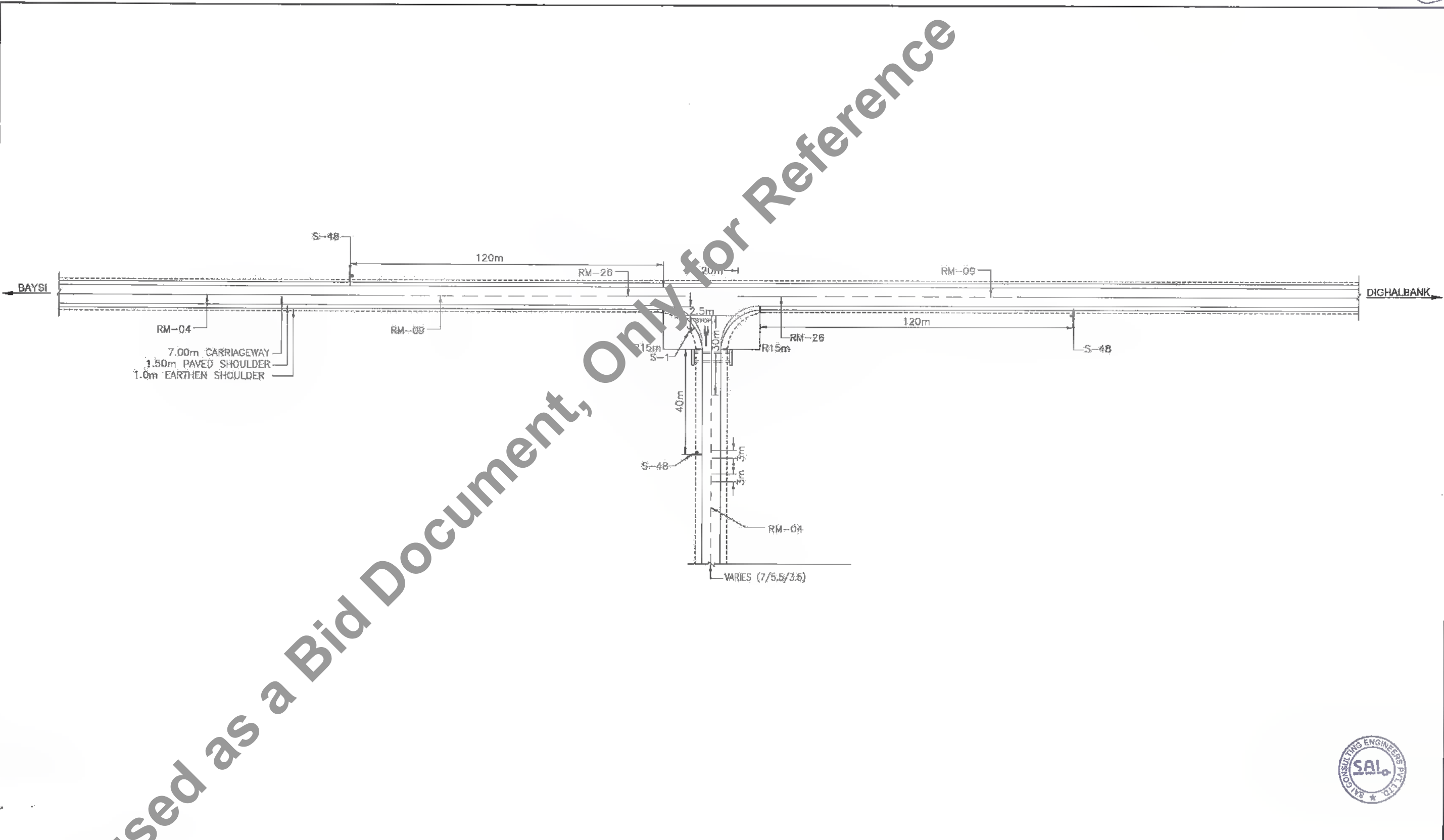


NOTES :-

1. ALL DIMENSIONS ARE AS NOTED.
2. CROSS MAIN PIPE CULVERT OF NP4 1200 mm ϕ SHALL BE PROVIDED AS PER THE SITE CONDITION AT DITCH LOCATION AS DIRECTED BY THE ENGINEER.
3. LEFT IN RADIUS SHOULD NOT BE LESS THEN 15m.
4. FOR DETAILS SIGN BOARD DWG. REFER DWG.NO.SAI-213007/DPR/M/TYP-04,04A & 04B.
5. FOR PAVEMENT MARKING DETAILS REFER DWG.NO.SAI-213007/DPR/M/TYP-07 & 08.
6. 'RM' REPRESENT ROAD MARKING.
7. 'R' REPRESENT RADIUS.

DATE: 10/07/19 10:31am
PATH: C:\Users\saipr\Documents\Local\Temp\AcPub\ish_317281\UNCTION-PAKAGE-11.dwg

 <p>Bihar State Road Development Corporation Limited (A Government of Bihar Undertaking)</p>	<p>PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)</p>	<p>CONSULTANTS: SAI SYSTRA GROUP SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company Block-4 'SAI House' Sanyal Corporate Square, 8th Rajpath E-4, Indira Park, New Delhi-110067, India Phone : +91-11-46141602/180 Fax : +91-11-46141600 Email : mail@saiindia.com</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>REV</td> <td>DATE</td> <td>DESCRIPTION</td> <td>SIGN</td> <td>ISSUED BY</td> <td>REVISION</td> </tr> <tr> <td>PG</td> <td>31/07/19</td> <td>GOOD FOR CONSTRUCTION (REVISED DWG)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PF</td> <td>28/12/18</td> <td>GOOD FOR CONSTRUCTION (DWG)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PE</td> <td>10/04/14</td> <td>GOOD FOR CONSTRUCTION (DWG)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PD</td> <td>26/02/14</td> <td>ISSUED WITH FINAL DPR</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PC</td> <td>13/11/13</td> <td>ISSUED WITH DPR</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PB</td> <td>16/07/13</td> <td>ISSUED WITH PFR</td> <td></td> <td></td> <td></td> </tr> </table> <p>SCALE : NONE</p>	REV	DATE	DESCRIPTION	SIGN	ISSUED BY	REVISION	PG	31/07/19	GOOD FOR CONSTRUCTION (REVISED DWG)				PF	28/12/18	GOOD FOR CONSTRUCTION (DWG)				PE	10/04/14	GOOD FOR CONSTRUCTION (DWG)				PD	26/02/14	ISSUED WITH FINAL DPR				PC	13/11/13	ISSUED WITH DPR				PB	16/07/13	ISSUED WITH PFR			
REV	DATE	DESCRIPTION	SIGN	ISSUED BY	REVISION																																								
PG	31/07/19	GOOD FOR CONSTRUCTION (REVISED DWG)																																											
PF	28/12/18	GOOD FOR CONSTRUCTION (DWG)																																											
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PC	13/11/13	ISSUED WITH DPR																																											
PB	16/07/13	ISSUED WITH PFR																																											
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DRAWN BY : R.M.</td> <td rowspan="3" style="text-align: center; vertical-align: middle;"> <p>TITLE : RAVITA-MAHADEV DIGH CR04WK (PACKAGE-II) TYPICAL LAYOUT OF LEFT-IN LEFT-OUT FOUR LEGGED JUNCTION WITH PAVED SHOULDER</p> </td> </tr> <tr> <td>CHECKED BY : C.S.</td> </tr> <tr> <td>APPROVED BY : AD.</td> </tr> <tr> <td>ISSUED BY : S.S.</td> <td></td> </tr> </table>	DRAWN BY : R.M.	<p>TITLE : RAVITA-MAHADEV DIGH CR04WK (PACKAGE-II) TYPICAL LAYOUT OF LEFT-IN LEFT-OUT FOUR LEGGED JUNCTION WITH PAVED SHOULDER</p>	CHECKED BY : C.S.	APPROVED BY : AD.	ISSUED BY : S.S.																																					
DRAWN BY : R.M.	<p>TITLE : RAVITA-MAHADEV DIGH CR04WK (PACKAGE-II) TYPICAL LAYOUT OF LEFT-IN LEFT-OUT FOUR LEGGED JUNCTION WITH PAVED SHOULDER</p>																																												
CHECKED BY : C.S.																																													
APPROVED BY : AD.																																													
ISSUED BY : S.S.																																													
			<p>DRG. NO. : SAI-213007/DPR/MTY/JUNC - 03</p> <p>REVISION : PG</p>																																										



NOTES :-

1. ALL DIMENSIONS ARE AS NOTED.
2. CROSS DRAIN PIPE CULVERT OF NP4 1200 mm ϕ SHALL BE PROVIDED AS PER THE SITE CONDITION AT DITCH LOCATION AS DIRECTED BY THE ENGINEER.
3. LEFT TURN RADIUS SHOULD NOT BE LESS THEN 15m.
4. FOR DETAILS SIGN BOARD DWG. REFER DWG.NO.SAI-213007/DPR/M/TYP-04,04A & 04B
5. FOR PAVEMENT MARKING DETAILS REFER DWG.NO.SAI-213007/DPR/M/TYP-07 & 08
6. 'RM' REPRESENT ROAD MARKING.
7. 'R' REPRESENT RADIUS.

CLIENT:

Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:

SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Block-A "SAI House" Salma Corporate Square, 4th-6th floor
C-10, Sector-10, Gurgaon-122009, Haryana, India
Phone : 91-11-6642690/700, Fax : 91-11-6642600
Email : saiconsulting@gmail.com

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY : B.S.
PG	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		
PF	28/12/18	GOOD FOR CONSTRUCTION (DPR)		
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PD	26/02/14	ISSUED WITH FINAL DPR		
PC	15/11/13	ISSUED WITH ODPR		
PB	15/07/13	ISSUED WITH PFR		

SCALE : NONE

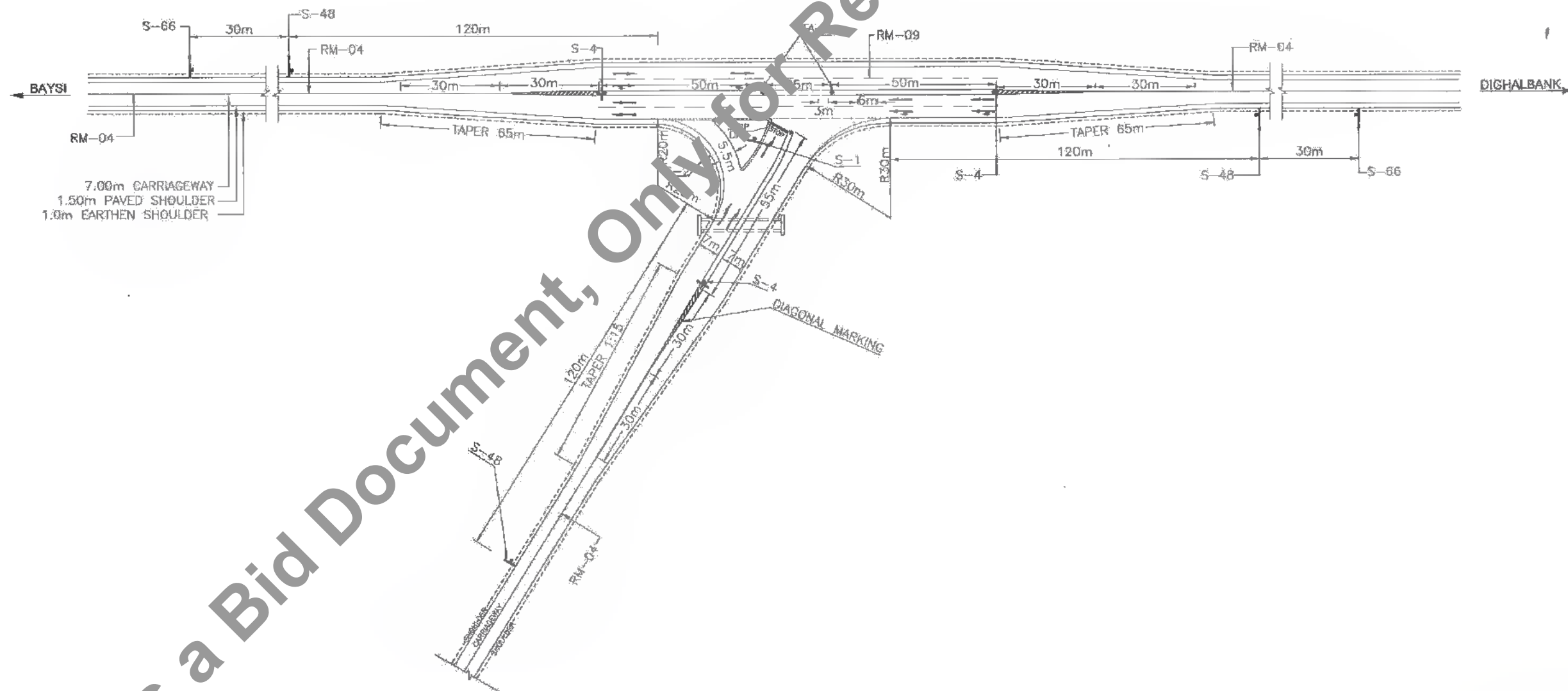
TITLE : RAJTA-MAHADEV DICHE CHOWK (PACKAGE-II)
TYPICAL LAYOUT OF LEFT-IN LEFT-OUT THREE LEGGED JUNCTION WITH PAVED SHOULDER

DRG. NO. : SAI-213007/DPR/M/TYP/JUNC - 04

REVISION : PG

DATE: 10/07/2019 10:37am
PATH: C:\Users\kumar\Documents\Temp\Acad\1728\JUNCTION-PACKAGE-II.dwg

165
612



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NOTES :-

1. ALL DIMENSIONS ARE AS NOTED.
2. CROSS MAIN PIPE CULVERT OF NP4 1200 mm ϕ SHALL BE PROVIDED AS PER THE SITE CONDITION AT DITCH LOCATION AS DIRECTED BY THE ENGINEER.
3. LATERAL RADIUS SHOULD NOT BE LESS THEN 15m.
4. FOR DETAILS SIGN BOARD DWG. REFER DWG.NO.SAI-213007/DPR/M/TYP-04,04A & 04B
5. FOR PAVEMENT MARKING DETAILS REFER DWG.NO.SAI-213007/DPR/M/TYP-07 & 08
6. 'RM' REPRESENT ROAD MARKING.
7. 'R' REPRESENT RADIUS.

DATE: 10/07/19 TIME: 10:37am PATH: C:\Users\...\AppData\Local\Temp\AcadPublish_1172811\JUNCTION-PACKAGE-II.dwg

Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SAI House", Sarjan Corporate Square, 4th Floor, 6th Cross, Bahadurganj, Bahadurganj - 800019, Bihar, India.
Phone: +91-79-4912600/788 Fax: +91-79-4912605
Email: saic@saiconsulting.com

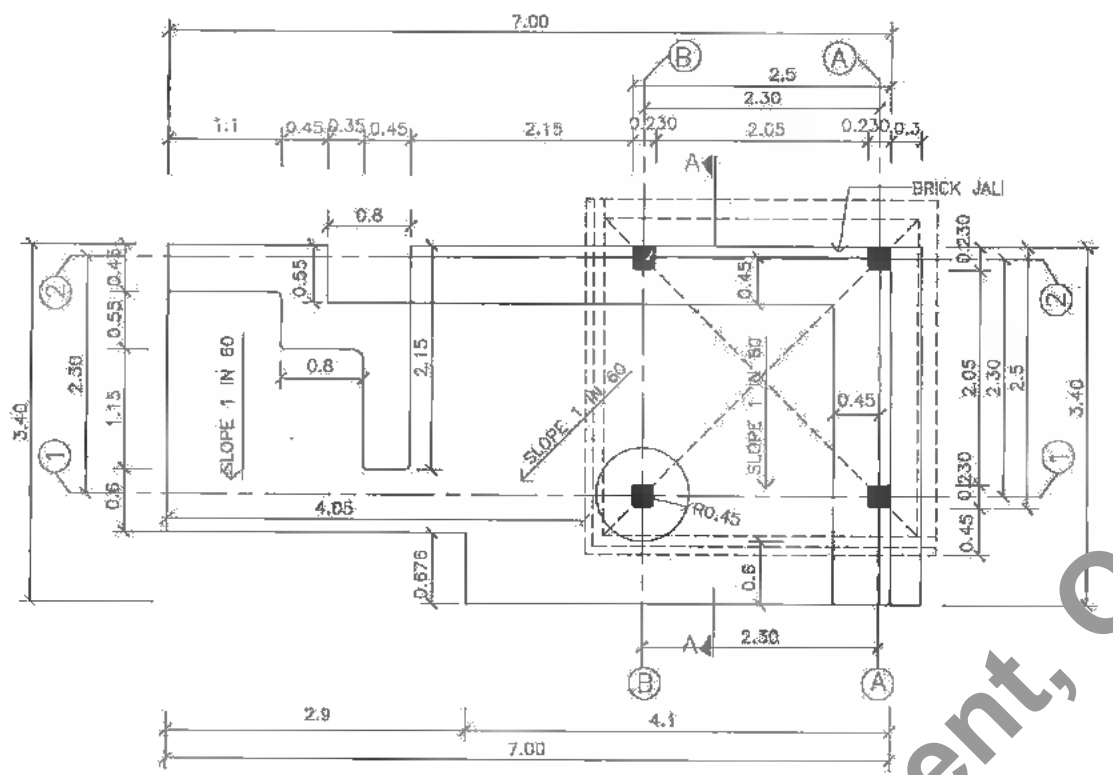
PG	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : R.M.
RF	28/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : C.S.
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.D.
PC	26/02/14	ISSUED WITH FINAL DPR		ISSUED BY : B.S.
PD	13/11/13	ISSUED WITH DPR		
PB	15/07/13	ISSUED WITH FFR		
REV.	DATE	DESCRIPTION	SIGN	ISSUED BY : B.S.

TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
TYPICAL LAYOUT OF THREE LEGGED CHANNELISED Y JUNCTION WITH PAVED SHOULDER.

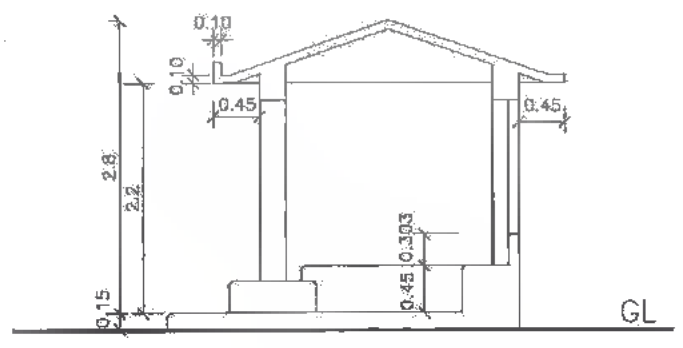
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REVISION: PG

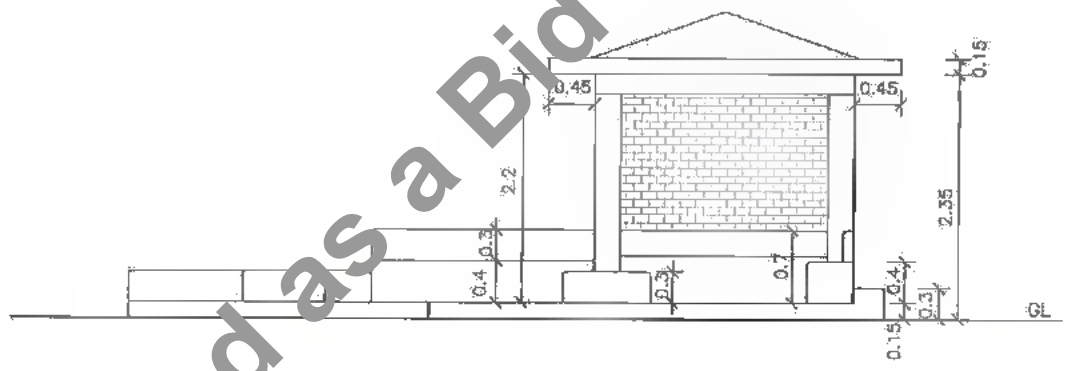
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FLOOR PLAN
SCALE 1:50

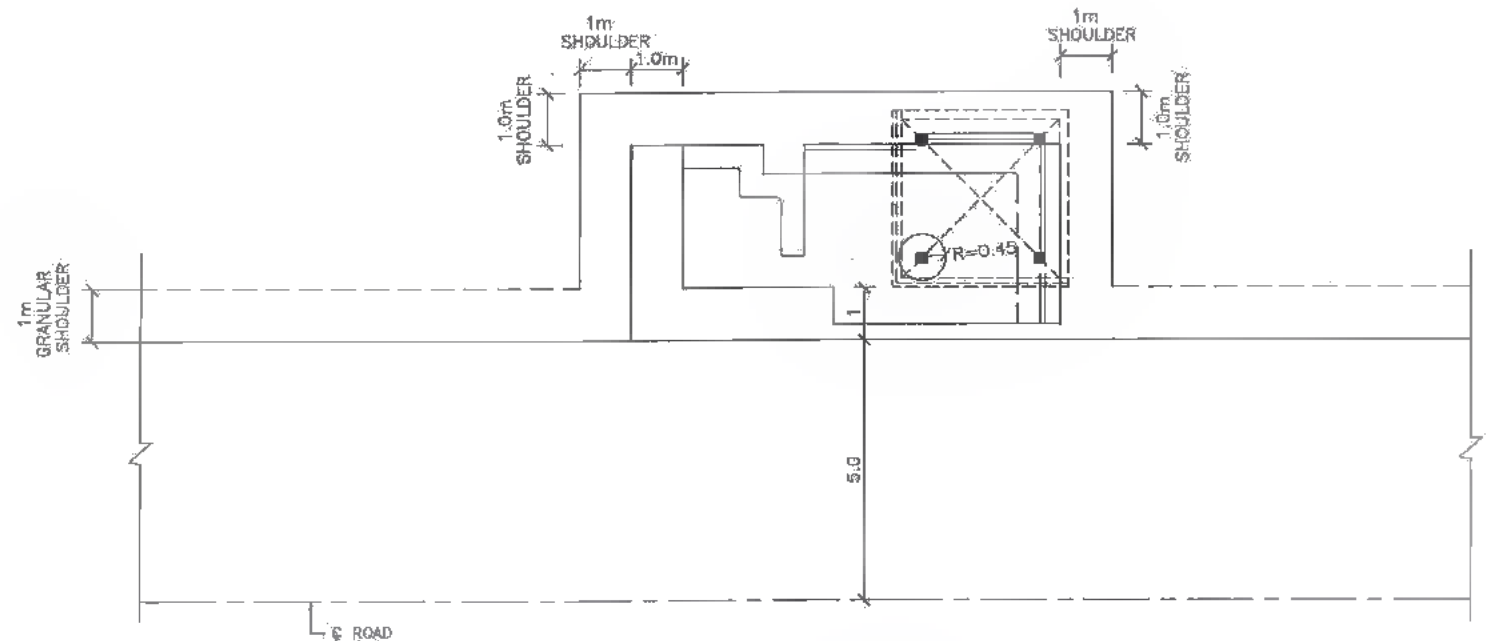


SECTION AA
SCALE 1:50



FRONT ELEVATION
SCALE 1:50

NOTE:
BRICK WORK SHOULD BE EXPOSED WITH POINTED JOINTS AS PER MOST TECHNICAL SPECIFICATION CLAUSE 1003 AND 1300




SITE PLAN
SCALE 1:100

- NOTES:-
1. REFER DRAWING NO. SAI-213007/DPR/M/TYP-01A FOR STRUCTURAL DETAILS.
 2. HONEY-COMBED BRICK WALL TO BE CONSTRUCTED ON WEST OR SOUTH SIDE OF THE STRUCTURE EXCEPT WHERE BUS-STOP FACES WEST. THE SIZE AND PATTERN OF OPENINGS TO BE DECIDED BY THE ENGINEER AS PER AVAILABLE BRICK SIZE.
 3. ALL CONCRETE SURFACES SHOULD BE FINISHED AS PER MOST TECHNICAL SPECIFICATION CLAUSE 1714.



DATE: 26/07/19
PROJECT: BSRDC
DRAWN BY: S. M. (Tech.)
CHECKED BY: C.S.
APPROVED BY: J.D.
ISSUED WITH: DPR
ISSUED WITH: FEB

CLIENT :



Bihar State Road Development Corporation
Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS :

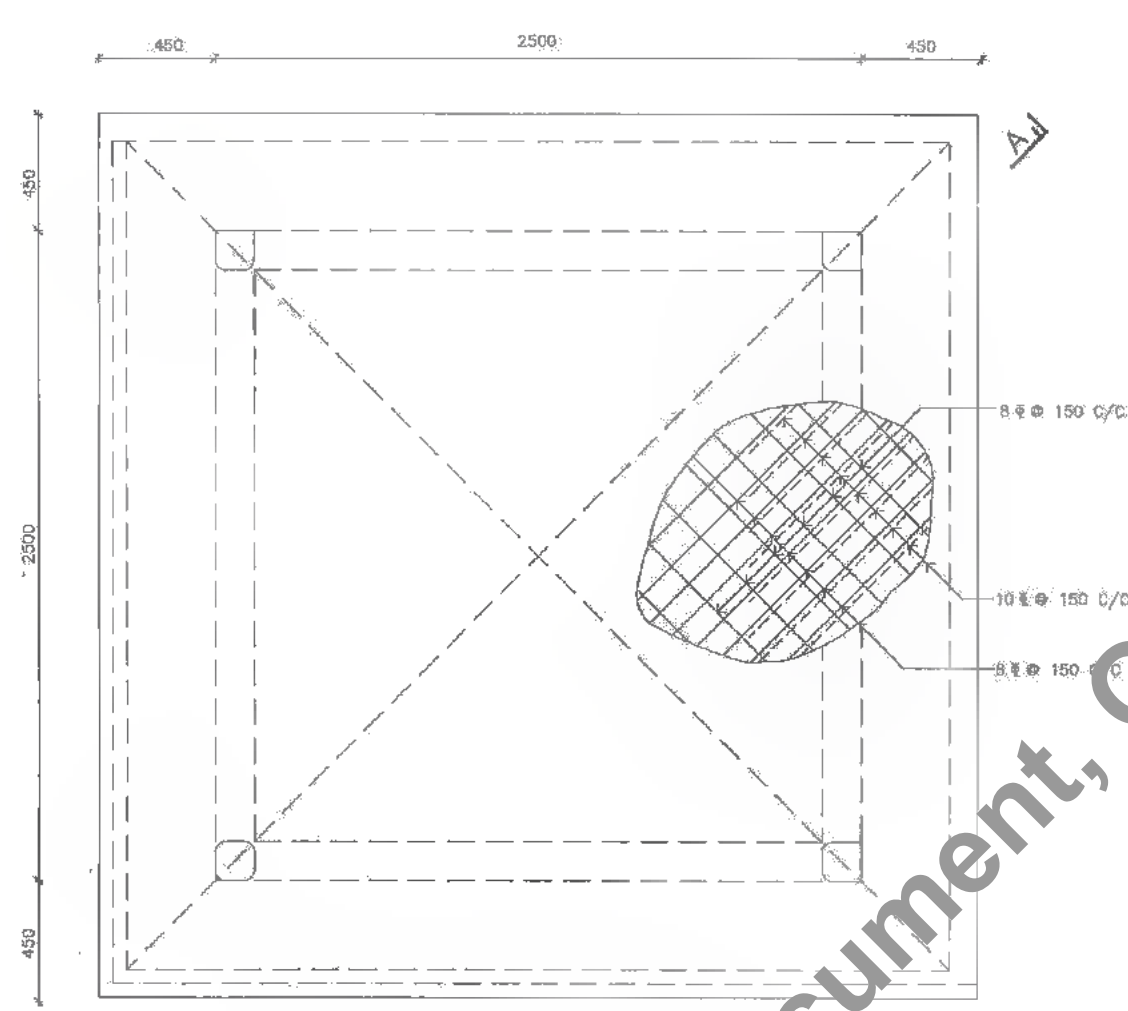


SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SM House", Satyam Corporate Square, 8th Rajesh
City, Gandhinagar, Patna-800009, Bihar, India
Phone : +91-91-6692440/2900 Fax : +91-91-6610386
Email : mail@saiconsulting.com

PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.M.	TITLE : RAJTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
PE	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.	GENERAL ARRANGEMENT DRAWING FOR BUS SHELTER
PF	31/05/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	ORG. NO. : SAI-213007/DPR/M/TYP-01
PD	18/09/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : S.S.	REVISION : PH
PI	26/02/14	ISSUED WITH FINAL DPR		
PO	15/11/13	ISSUED WITH DPR		
PP	25/08/13	ISSUED WITH FEB		

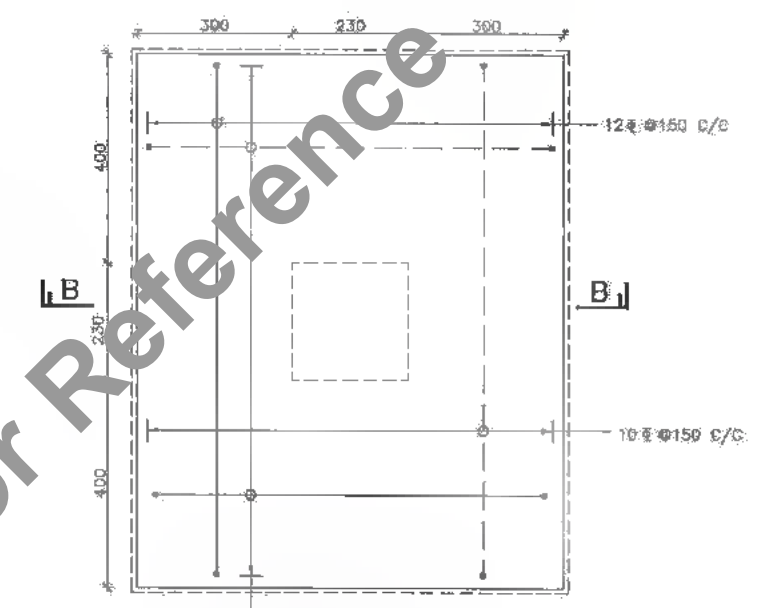
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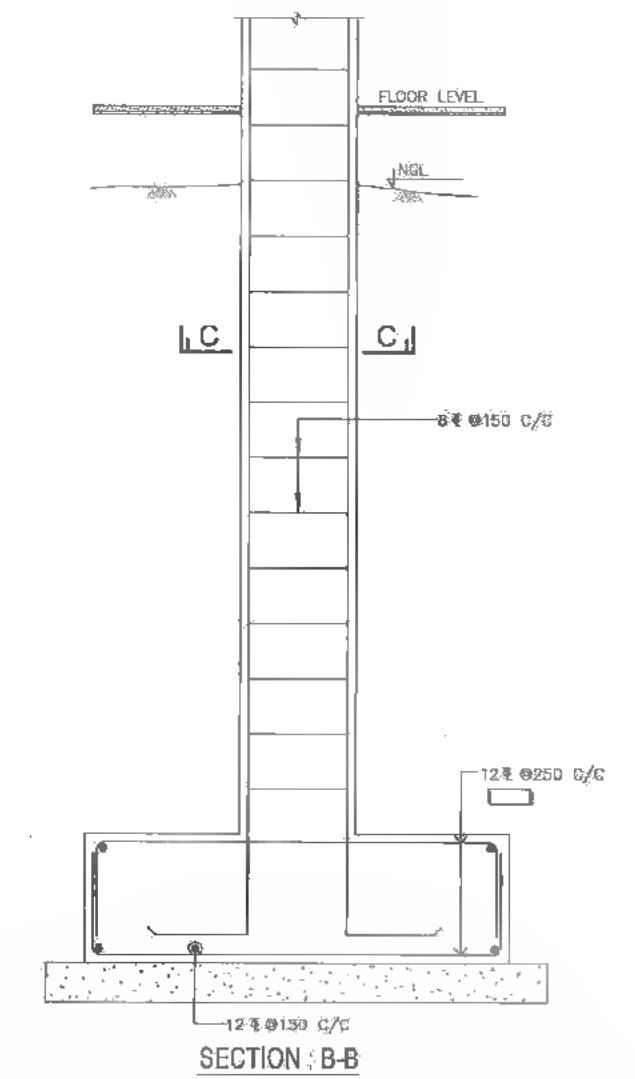
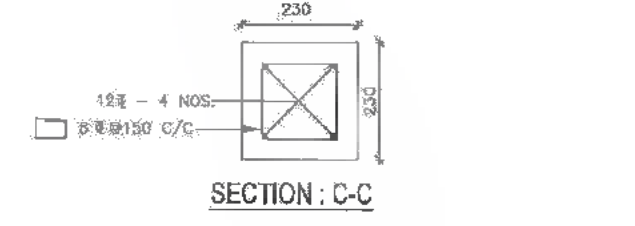


REINFORCEMENT DETAILS FOR SLAB
SCALE 1:10

DIRECTION OF PREDOMINANT WIND

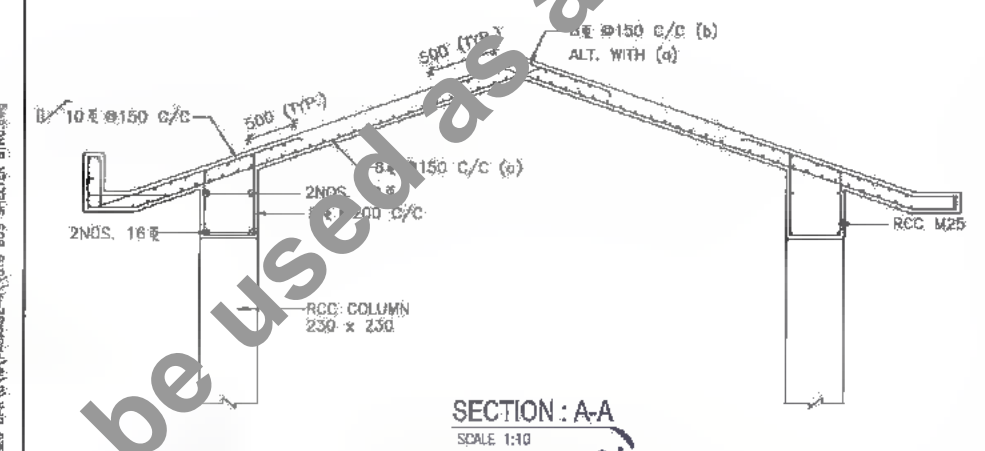


FOOTING FOR RCC COLUMN
REIN. DETAILS
SCALE 1:10

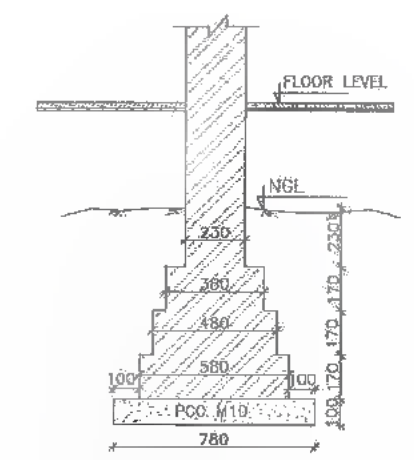


- NOTES:
1. ALL DIMENSIONS ARE IN mm AND ALL LEVELS ARE IN m. UNLESS OTHERWISE MENTIONED.
 2. DIMENSIONS SHOULD NOT BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
 3. THIS DRAWING HAS TO BE READ IN CONJUNCTION WITH SAI-213007/OPR/M/TYP-01
 4. GRADE OF CONCRETE IS M25 FOR ALL R.C.C WORKS.
 5. THE MIX SHALL BE DESIGN MIX CONFORMING TO THE REQUIREMENTS OF IS 456-2000.
 6. CLEAR COVER TO REINFORCEMENTS SHALL BE AS GIVEN BELOW.
 SLAB = 20mm
 COLUMN = 40mm
 BEAM = 25mm
 OTHER R.C.C MEMBERS = 25mm
 7. ONLY HYSD BARS OF GRADE Fe415/Fe500 SHALL BE USED FOR REINFORCEMENT.
 8. LAP LENGTH, HOOK, ETC., WHEREVER NECESSARY SHALL BE PROVIDED AS PER IS 456-2000 AND AS DIRECTED BY THE ENGINEER.
 9. DESIGN HAS BEEN CARRIED OUT AS PER IS 456-2000. FOR DESIGN OF FOOTING SAFE BEARING CAPACITY OF SOIL HAS BEEN CONSIDERED 75 KN/m².
 10. AT THE TIME OF CONSTRUCTION CONTRACTOR SHOULD PLACE THE LONGER SIDE OF THE FOOTING PARALLEL TO THE PREDOMINANT DIRECTION OF WIND.

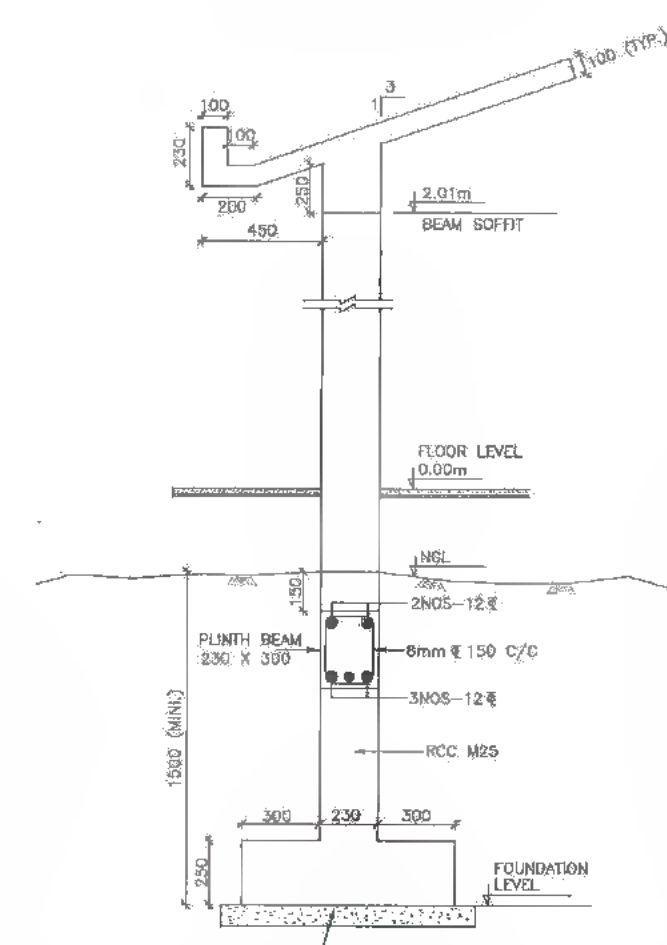
- LEGEND:
1. TOP REINFORCEMENT SHOWN THUS: _____
 2. BOTTOM REINFORCEMENT SHOWN THUS: _____



SECTION : A-A
SCALE 1:10



FOUNDATION DETAILS
FOR 230 THK. BRICK MASONRY
SCALE 1:10



FOUNDATION DETAILS FOR RCC
COLUMN 230 x 230
SCALE 1:10

DATE: 20/07/18
 BY: PH
 CHECKED BY: PH
 APPROVED BY: PH
 PROJECT: Baysi - Bahadurganj - Dighalbank (SH-99)

CLIENT:

Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:

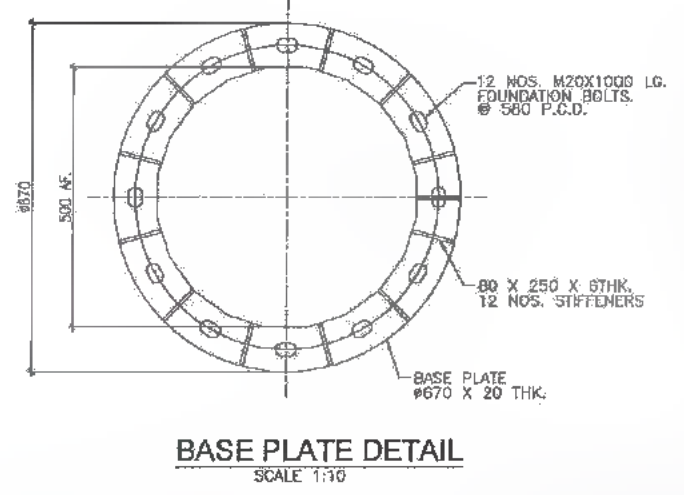
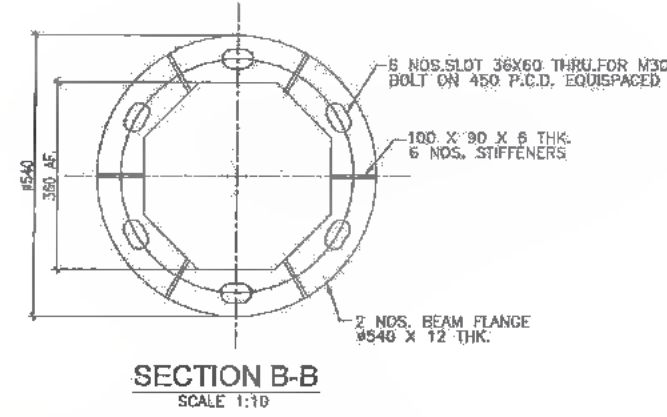
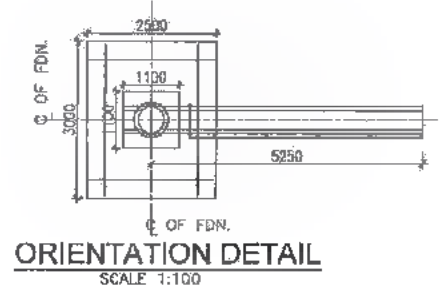
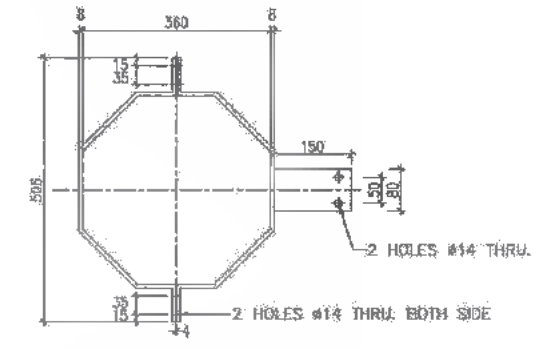
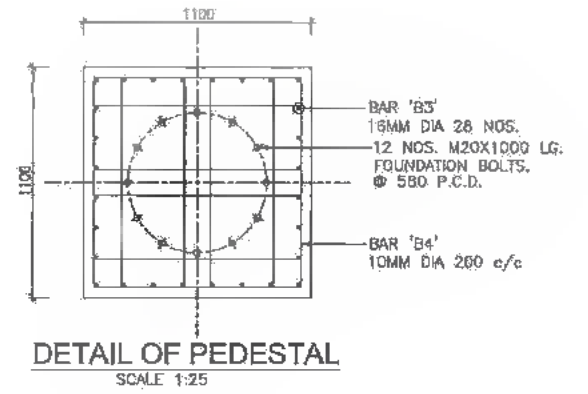
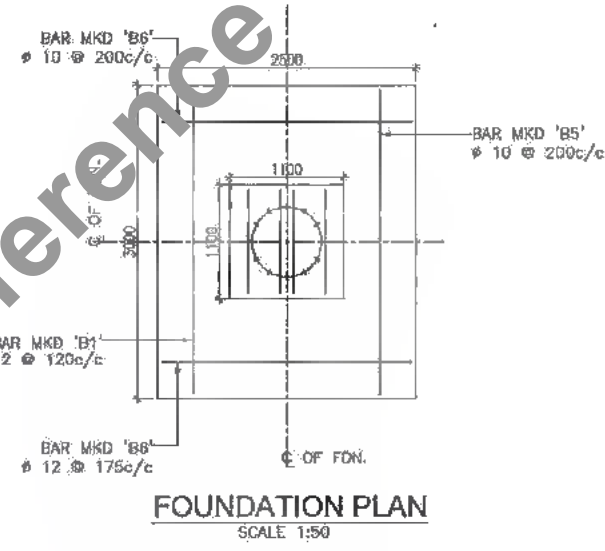
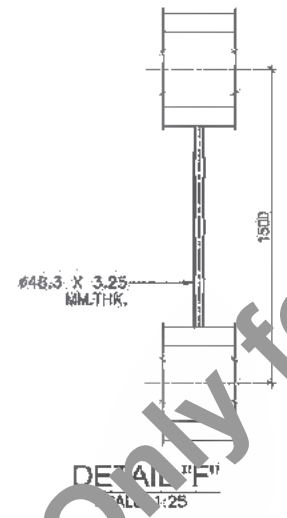
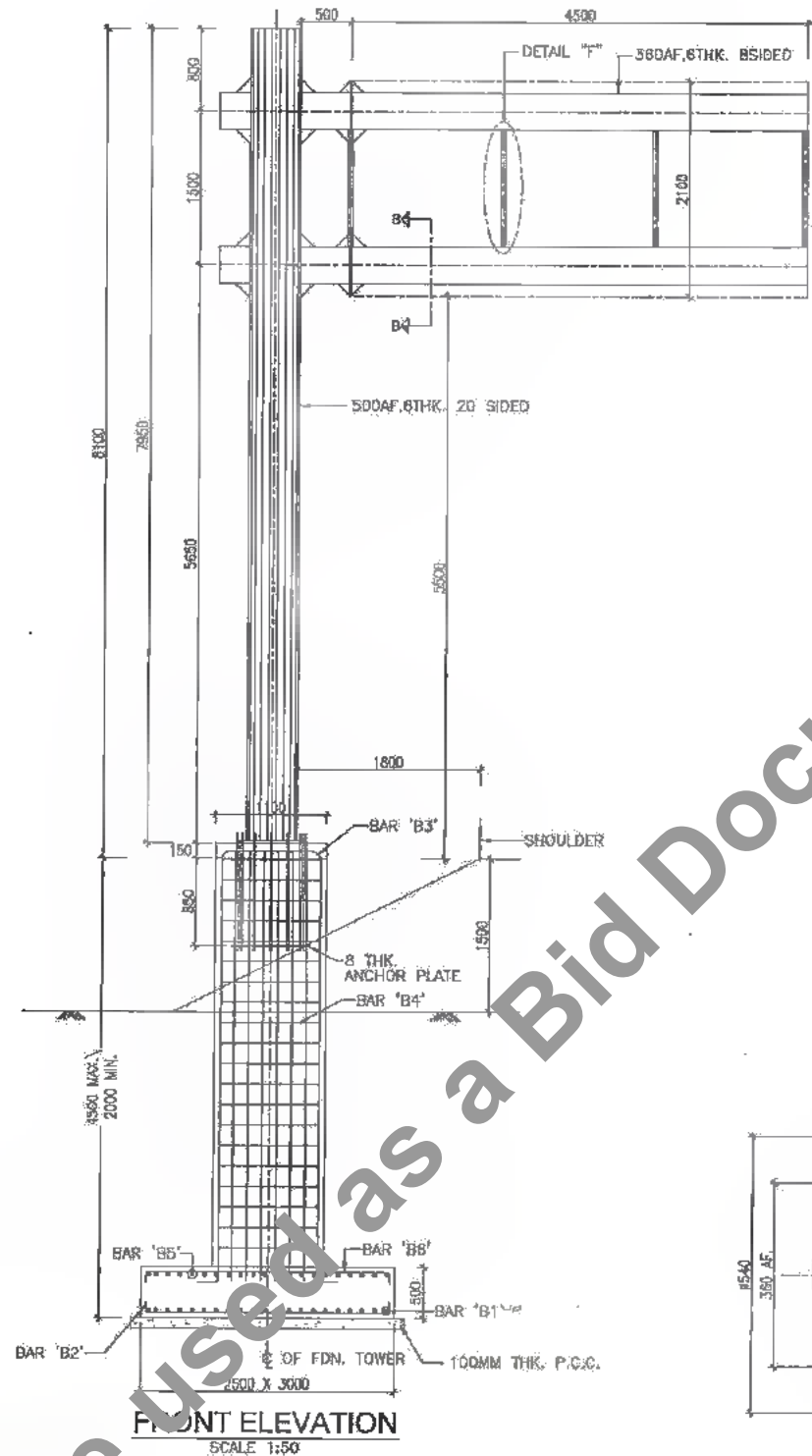
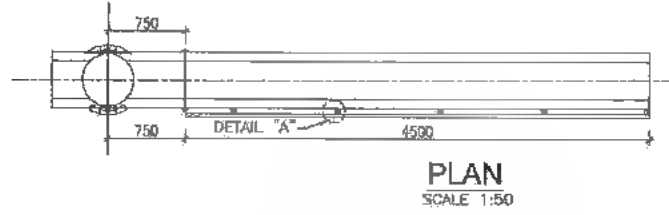
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:

SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Work-A "SAI House" Solapur Corporate Square, 5th Rajpeth
Club Road Solapur, Maharashtra - 413009 Solapur, India
Phone : +91-20-2684287/287103; Fax : +91-20-2684290
Email : saic@saiconsulting.com

PH	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)		
PH	17/12/18	GOOD FOR CONSTRUCTION (DPR)		
PH	31/05/17	GOOD FOR CONSTRUCTION (DPR)		
PH	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PH	26/02/14	ISSUED WITH FINAL DPR		
PH	13/11/13	ISSUED WITH DPR		
PH	22/08/13	ISSUED WITH DPR		

TITLE: RAJITA-MAHADEV DIGHI CHOWK (PACKAGE-R)	STRUCTURAL DETAIL FOR BUS SHELTER
DRG. NO.:	SAI-218007/DPR/M/TYP - 01A
REVISION:	PH



- GENERAL NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES
 2. MATERIAL OF CONSTRUCTION: CONCRETE-M-20 REINFORCEMENT-Fe-415 P.C.C.-1:4:8 POLYGONAL SECTION-S355/D AS PER BSEN 10025 OR EQUI OTHER-Fe410 OR EQU AS PER 2062
 3. COVER TO ALL REINFORCEMENT-50MM
 4. MINIMUM LAP LENGTH OF BARS SHALL BE 90 X DIA.
 5. FOUNDATION SHOULD REST ON VIRGIN SOIL. IF SAND S.B.G IS NOT AVAILABLE AT SPECIFIED FOUNDATION LEVEL IT SHOULD BE TAKEN DEEPER.
 6. WAST FLANGE SHOULD REMAIN UNGRADED FOR DRAINAGE & VENTILATION.
 7. IF WAST FLANGE IS GROUTED MIN-4 NOS OF 25MM DIA DUCTS SHALL BE PLACED AROUND IT TO ALLOW DRAINAGE & VENTILATION.
 8. FOUNDATION IS DESIGNED CONSIDERING NET SAFE BEARING CAPACITY AS 127/50.3MM
 9. PLEASE VERIFY THE BOLT DETAILS BEFORE CASTING THE FOUNDATION.
 10. FINISH-HOT DIP GALVANIZED AS PER BSEN 1481.
 11. HARDWARE : ALL THE HARDWARE SHALL BE HOT DIP GALVANIZED.



DATE: 28/07/19 DRAWN BY: R.N.J. CHECKED BY: G.S. APPROVED BY: J.D. ISSUED BY: B.S. SCALE: AS SHOWN

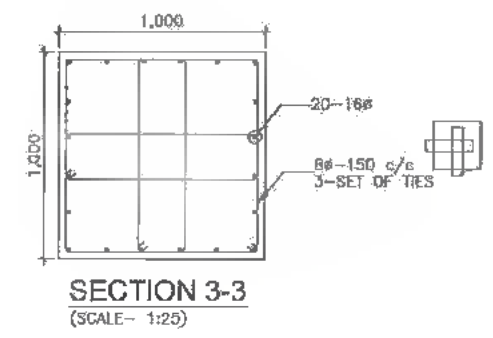
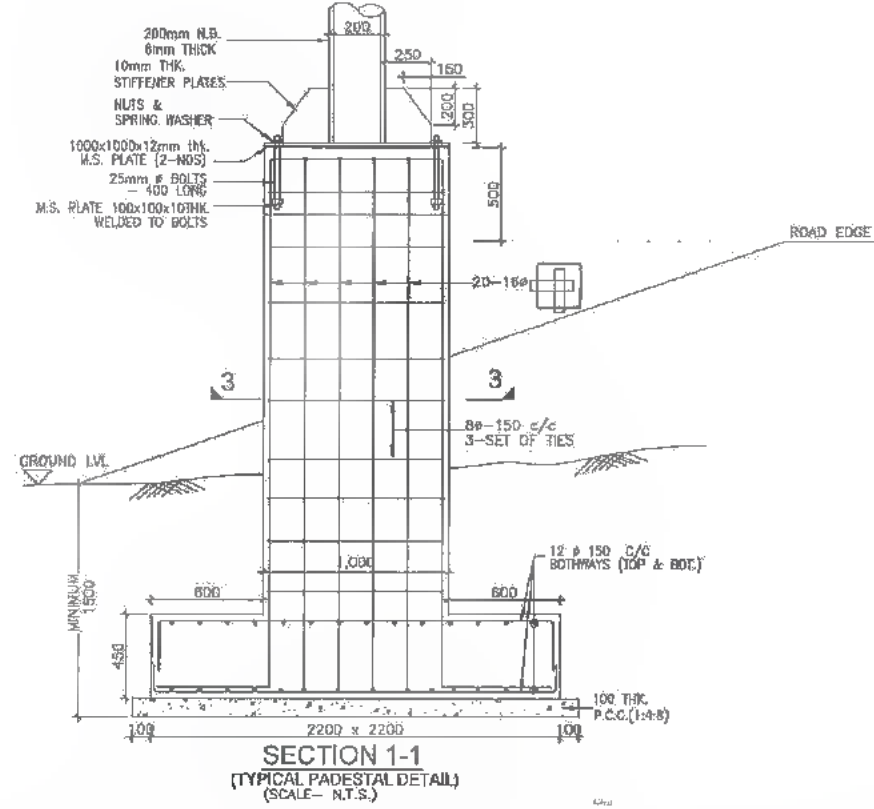
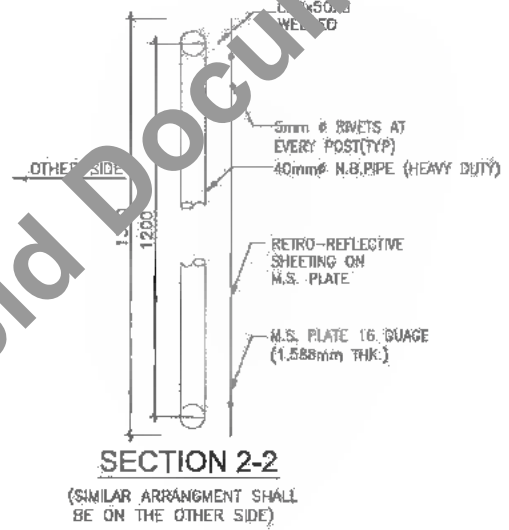
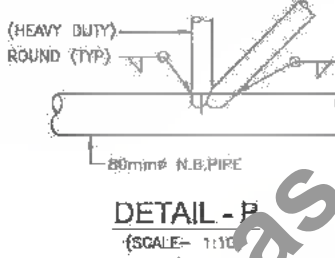
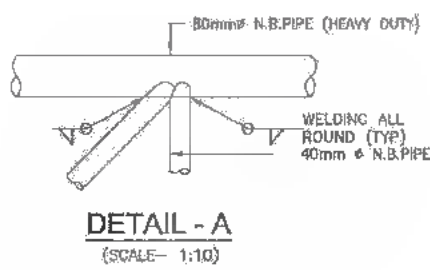
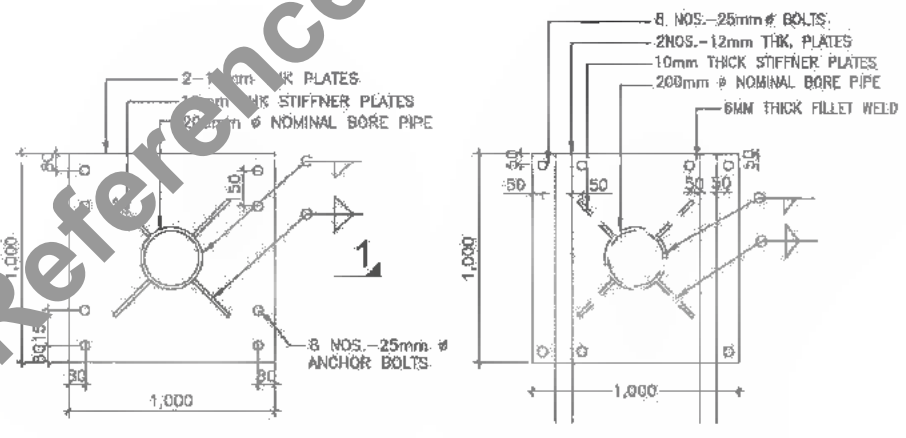
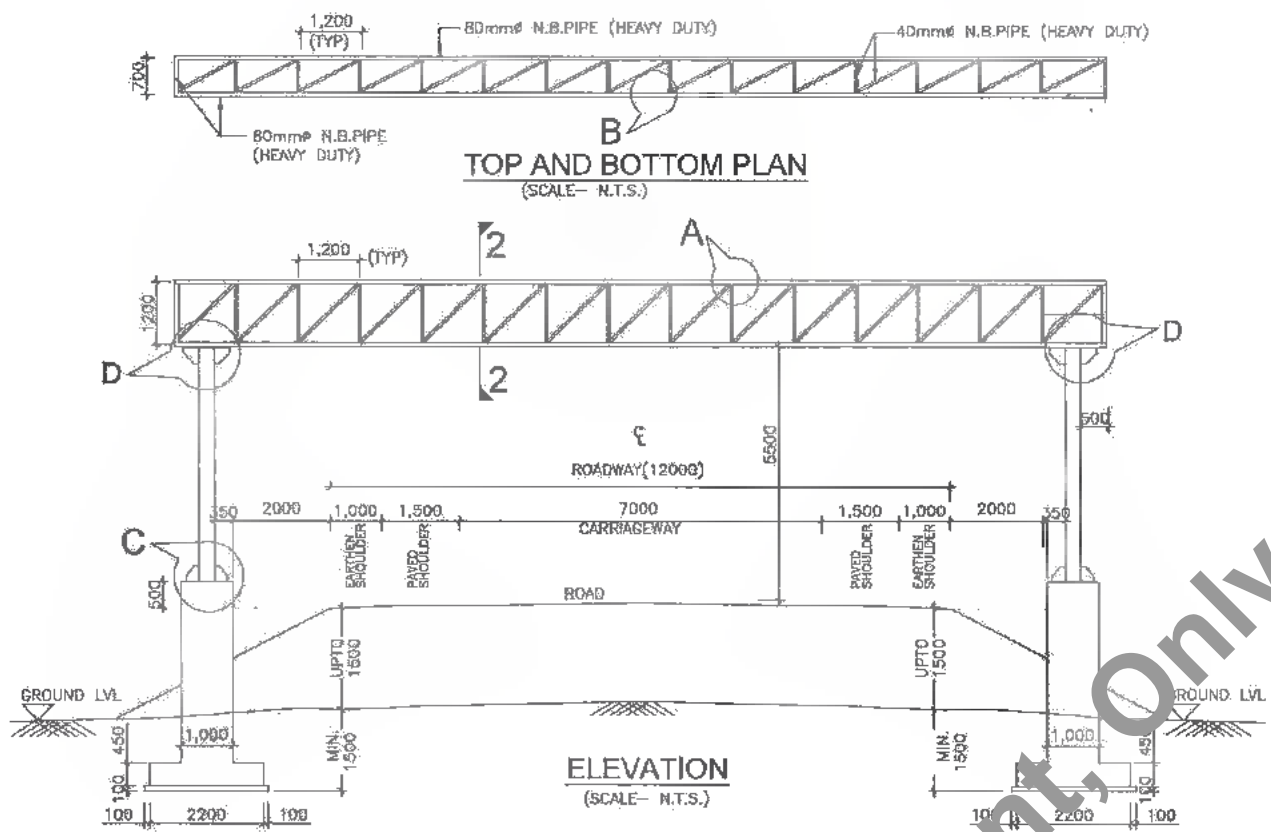
Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS: SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DWR)
PG	17/12/18	GOOD FOR CONSTRUCTION (DPR)
PE	31/05/17	GOOD FOR CONSTRUCTION (DPR)
PE	17/04/14	GOOD FOR CONSTRUCTION (DPR)
PC	26/02/14	ISSUED WITH FINAL DWR
PC	13/11/13	ISSUED WITH DWR
PC	26/08/13	ISSUED WITH DPR

DRAWN BY : R.N.J.	TITLE : RAUTA-MAHADEV DIGHI CHOKH (PACKAGE-II)
CHECKED BY : G.S.	TYPICAL DETAILS OF OVER HEAD SIGNS.
APPROVED BY : J.D.	DRG. NO. : SAI-213007/DPR/M/TYP-02
ISSUED BY : B.S.	REVISION : PH



Notes:

1. ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED AND NO DIMENSIONS SHALL BE SCALED.
3. SAFE BEARING CAPACITY HAS BEEN TAKEN AS 10 TONS/Sq.m.
4. THE CONCRETE GRADE SHALL BE M-25.
5. CLEAR COVER TO THE OUTER MOST STEEL SHALL BE:
 - i) PROTECTIVE - 40mm
 - ii) FOUNDATION - 50mm
6. STEEL TUBES ARE DESIGNATED BY THEIR NOMINAL BORES INDICATED ON DRAWING.
7. STEEL TUBE USED ARE CLASSIFIED (HEAVY DUTY) TYPE STEEL TUBES.
8. STEEL TUBE SHALL CONFORM TO GRADE Yst 210.
9. STEEL TUBE USED SHALL BE CONFORMING TO IS:1161-1998.
10. TUBER MEMBERS SHALL HAVE ANNULAR CUT HEAD SMOOTH FINISHED SO AS TO HAVE PROPER SEAT OVER THE SUPPORTING TUBE.
11. ELECTRODE USED SHALL CONFORM RELEVANT I.S. SPECIFICATIONS AND THE CHEMICAL COMPOSITION OF ELECTROD AND THE TUBE SHOULD MATCH.
12. SLAG SHALL BE REMOVED BEFORE MEASURING THE DIMENSIONS OF FILLET WELD.
13. WELDING SHALL BE DONE BY ARC WELDING.
14. 4.5mm SIZE WELD SHALL BE MADE WITH A SINGLE PASS.
15. WELD SIZE SHALL BE 4.5mm UNLESS OTHERWISE MENTIONED & SHALL BE DONE ALL ROUND ON THE CONTACT LENGTH OF MEMBERS.
16. HIGH STRENGTH BOLTS SHALL CONFORM TO IS:1367-1364.
17. DIA. OF HOLES IN MS PLATE SHALL BE MACHINE MADE AND AS FOLLOWS SIA OF BOLTS DIA OF HOLES.
 - i) 20mm, 21.5mm.
 - ii) 25mm, 26.5mm.
18. SIZE OF LETTERS AND COLOUR OF PAINT SHALL CONFORM:
 - i) IRC : 67-2012
 - ii) IRC : 30-1988
19. SHADE OF ANTICORROSIIVE PAINT FOR PIPES SHALL BE DECIDED BY ENGINEER INCHARGE.
20. RETRO - REFLECTIVE SHEETING SHALL BE AS PER MORT & H SPECIFICATIONS SECTION 800.
21. METALLIC CRASH BARRIER SHALL BE PROVIDED ON EARTHEN SHOULDER 50m. EITHER SIDE OF CENTER LINE OF COLUMN OF PORTAL AS PER DRAWING & MORT&H SPECIFICATIONS.
22. ALL STRUCTURAL STEEL CONFORM TO IS:2082-1999.
23. THE OVERHEAD SIGNBOARD IS DESIGNED TO WITHSTAND A WIND LOAD OF 150KG/M2 FOR NORMAL FACE AND 30KG/M2 FOR TRANSVERSE FACE OF THE SIGN.

CLIENT:
Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

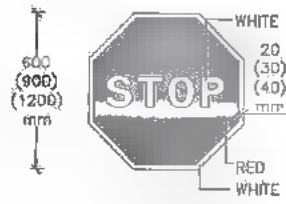
CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.	TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
PF	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.	FOOTING DETAILS FOR OVER HEAD/COUNTRY SIGNS
PI	10/04/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	DRG. NO. : SAI-213007/DPR/M/TYP-03
PD	26/02/14	ISSUED WITH FINAL DOPR	ISSUED BY : B.S.	REVISION : PH
PC	13/11/13	ISSUED WITH DOPR		
CD	29/04/13	ISSUED WITH FTR		

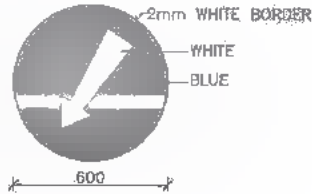
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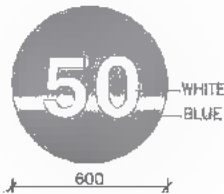
Not to be used as a Bid Document. Only for Reference
 D. C. B. (Tech.)
 PIU-1, Patna



S-1 STOP SIGN
SCALE-1:20



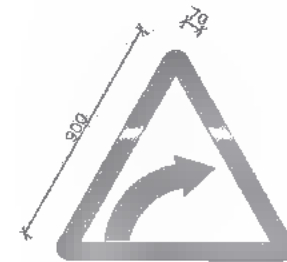
S-4 COMPULSORY KEEP LEFT
SCALE 1:20



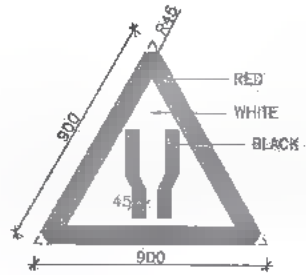
S-17 SPEED LIMIT
SCALE 1:20



S-21/33 LEFT HAND CURVE
SCALE-1:20



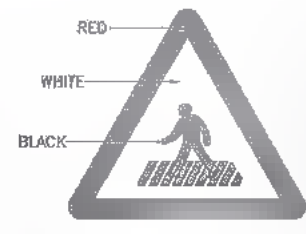
S-22/32 RIGHT HAND CURVE
SCALE-1:20



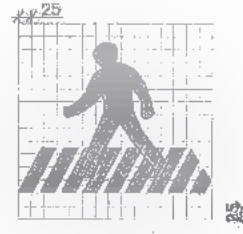
S-35 ROAD WIDENS AHEAD
SCALE 1:20



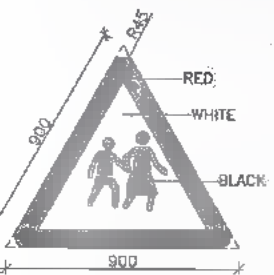
S-36 NARROW ROAD AHEAD
SCALE-1:20



S-23 PEDESTRIAN CROSSING
SCALE-1:20



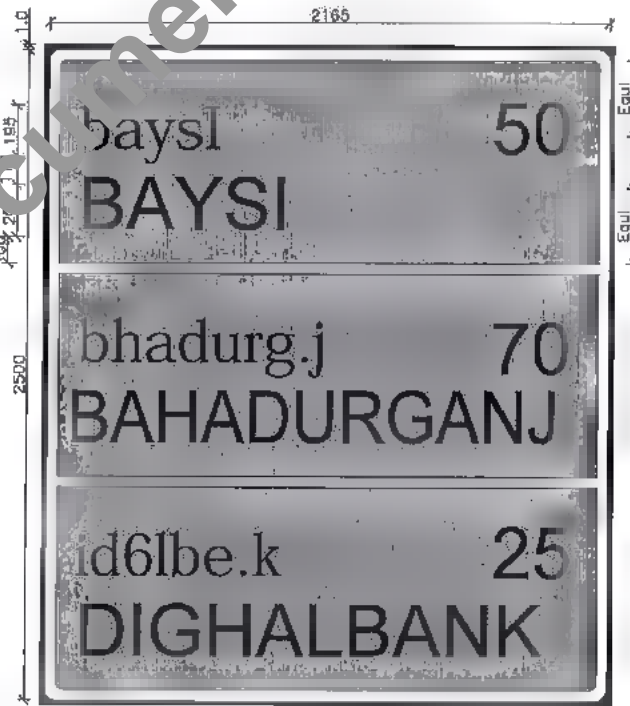
S-62 FILLING STATION
(Fuel Pump)
SCALE 1:10



S-24 SCHOOL AHEAD
SCALE 1:20



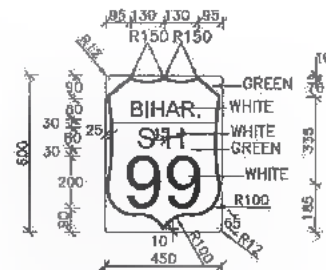
S-48 ADVANCE DIRECTION/DESTINATION SIGN
SCALE-1:20



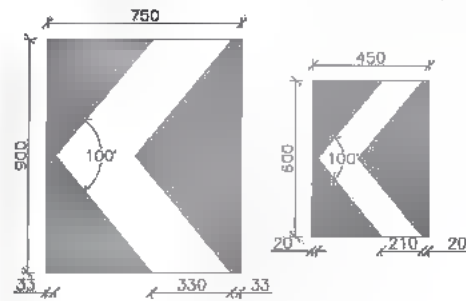
S-52 REASSURANCE SIGN
SCALE-1:20



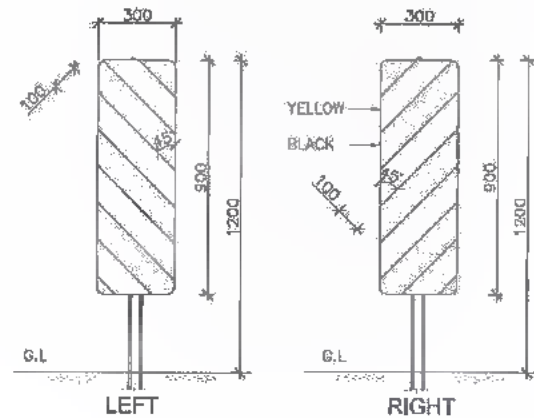
S-55 BUS STOP
SCALE 1:20



S-66 STATE HIGHWAY
ROUTE MARKER SIGN
SCALE 1:20



S-58 CHEVRON
SCALE 1:20



S-67A OBJECT HAZARD MARKERS
SCALE 1:20

GENERAL NOTES:-

- 1) ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED
- 2) MATERIAL AND COLOUR FOR ROAD SIGNS SHALL BE AS PER IRC : 67-2012
- 3) SIZES OF ARROWS, LETTERS AND NUMERALS FOR ROAD SIGNS SHALL BE AS PER IRC : 67-2012 AND IRC : 35-1997

CLIENT:

Bihar State Road Development Corporation Limited (BSRDC)
 (A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:

SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company

PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
PO	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.	TYPICAL DETAILS OF REGULATORY / MANDATORY TRAFFIC SIGNS
PT	11/03/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.O.	
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : B.S.	
PD	25/02/14	ISSUED WITH FINAL DPR		
PC	13/11/13	ISSUED WITH DPR		
PE	29/09/13	ISSUED WITH DPR		

SCALE : AS SHOWN

DRG. NO. : SAI-213007/DPRM/TYP - 04

REVISION : PH



Not to be used as a reference document.

SIZES AND DIMENSIONS OF 'STOP' SIGNS

APPROACH SPEED ON MINOR ROAD	SIZE	HEIGHT (mm)	BORDER (mm)	FONT SIZE (mm)
Up to 50 kmph	Small	750	25	125
51 - 65 kmph	Normal	900	30	150
> 65 kmph	Large	1200	40	225

SIZES AND DIMENSIONS OF 'GIVE WAY' SIGNS

APPROACH SPEED ON MINOR ROAD	SIZE	SIDE (mm)	BORDER (mm)
Up to 50 kmph	Small	600	45
51 - 80 kmph	Normal	900	70
> 80 kmph	Large	1200	90

SIZES AND DIMENSIONS OF MANDATORY AND REGULATORY SIGNS

DESIGN SPEED	SIZE	REGULATORY (mm)	MANDATORY SIGNS			
		DIAMETER (mm)	DIAMETER (mm)	BORDER (mm)	OBLIQUE BAR (mm)	FONT SIZE (mm)
Up to 65 kmph	In conjunction with traffic light signal		300	35	35	75
	Small	800	600	50	50	100
66 - 80 kmph	Medium	750	750	60	60	125
81 - 100 kmph	Normal	900	900	75	75	150
> 100 kmph	Large	1200	1200	100	100	225

SIZES AND DIMENSIONS OF CAUTIONARY AND THEIR SITING DISTANCES

DESIGN SPEED	SIZE	SIDE (mm)	BORDER (mm)	CLEAR VISIBILITY DISTANCES (mm)	DISTANCE OF SIGN FROM HAZARD (m)
Up to 50 kmph	Small	600	45	45	10
51 - 65 kmph	Medium	750	60	60	10-15
66 - 80 kmph	Normal	900	70	60	10-180
> 80 kmph	Large	1200	90	90	180-245

COLOUR PATTERN FOR DIRECTION INFORMATION SIGNS

ROAD TYPE	BACKGROUND	ARROWS, BORDER/LETTERS
Expressway	Blue	White
National Highway (NH)	Green	White
State Highway (SH)	Green	White
Major District Road (MDR)	Green	White
Village Road (ODR & VR)	White	Black
Urban/City Road	Blue	White

SPACING OF SIGNAL CHEVRON SIGNS

CURVE RADIUS (m)	DISTANCE BETWEEN CHEVRON (m)	
	ON CURVE	BEFORE CURVE
50	15	30
100	20	40
200	30	60
300	45	90
400	60	120
500	70	150
> 500	80	150

LETTER SIZE AND SITING OF INFORMATION SIGNS (SHOULDER & GANTRY MOUNTED)


DESIGN SPEED	ADVANCE DIRECTION SIGNS (SHOULDER MOUNTED)					FLAG TYPE DIRECTION SIGNS REASSURANCE SIGNS PLACE IDENTIFICATION SIGNS			GANTRY MOUNTED SIGNS			
	1	2	3	4	5	6	7	8	9	10	11	12
Up to 30 kmph	"x" height (mm) Lower case	"x" height (mm) upper case	Minimum clear visibility to the sign (m)	ONE sign distance from junction (m)	TWO sign distance between 1st and 2nd sign (m)	"x" height (mm) Lower case	"x" height (mm) upper case	Minimum clear visibility to the sign (m)	"x" height (mm) Lower case	"x" height (mm) upper case	Minimum clear visibility to the sign (m)	
31-50 km/h	75 (60)*	105 (84)	50 (35)	20	-	60 (50)	84 (70)	35 (30)				
51-65 km/h	100 (75)*	140 (105)	75 (45)	45	45	75 (60)	105 (84)	45 (35)	200 (175)	280 (245)	150	
66-80 km/h	125 (100)	175 (140)	100 (60)	80	50	100 (75)	140 (105)	60 (45)				
81-100 km/h	150 (125)	210 (175)	135	90-150	70	125 (100)	175 (140)	75 (60)				
101-110 km/h	200 (150)	280 (210)	185	150-225	100	150 (125)	210 (175)	105 (75)				
111-120 km/h	250 (200)	350 (280)	225	225-300. See also Note 1	100	200 (150)	280 (210)	135 (105)				
	300 (250)	420 (350)	260	See Note 1	See Note 1	300 (250)	420 (350)	180 (150)				

*Note:- The values in brackets are the minimum values to be adopted when there are site/space constraints.

GENERAL NOTES:-

- SCHEDULE OF TRAFFIC SIGNS SHALL BE AS PER IRC : 67-2012

CLIENT: Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)



PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)


CONSULTANTS: SAL SYSTRA GROUP
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company



REV.	DATE	DESCRIPTION	ISSN	ISSUED BY	ISS.
PH	15/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)			
PG	17/12/18	GOOD FOR CONSTRUCTION (DPR)			
PE	15/03/17	GOOD FOR CONSTRUCTION (DPR)			
PF	10/02/14	GOOD FOR CONSTRUCTION (DPR)			
PD	28/02/14	ISSUED WITH FINAL DPR			
PC	15/11/13	ISSUED WITH DPR			
PB	23/02/13	ISSUED WITH DPR			

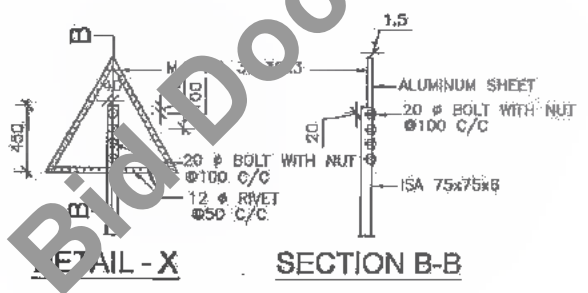
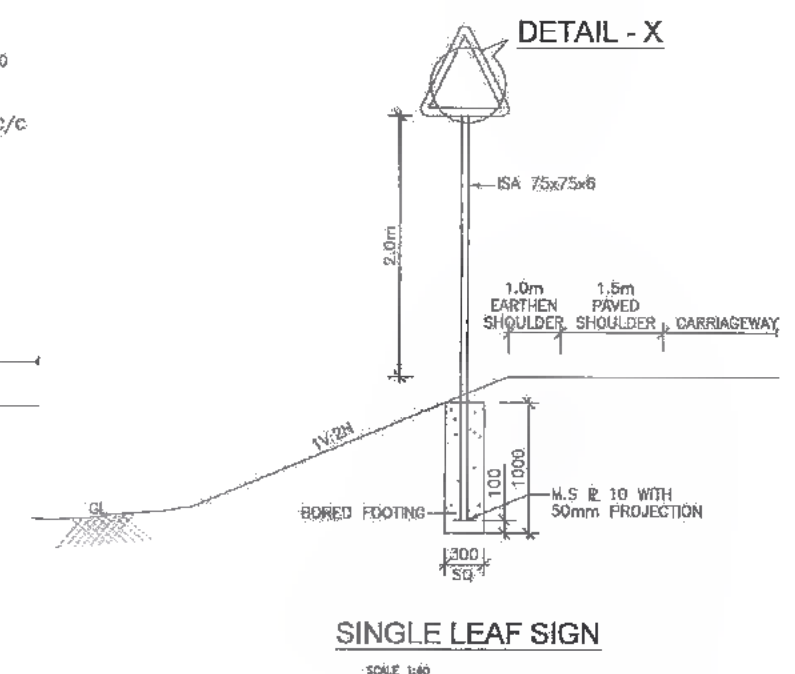
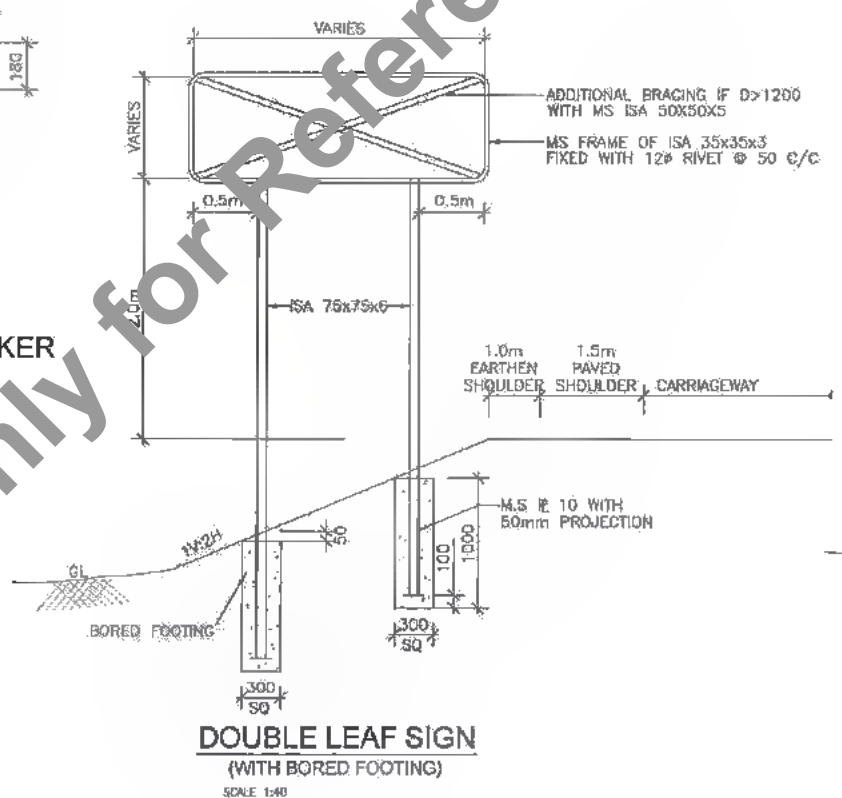
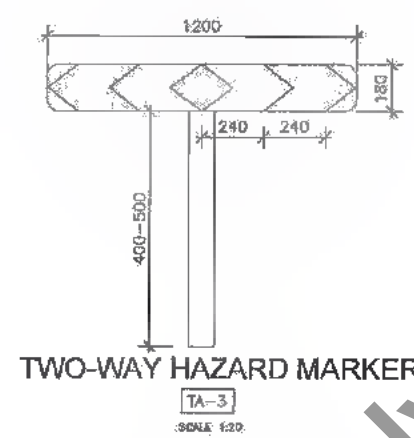
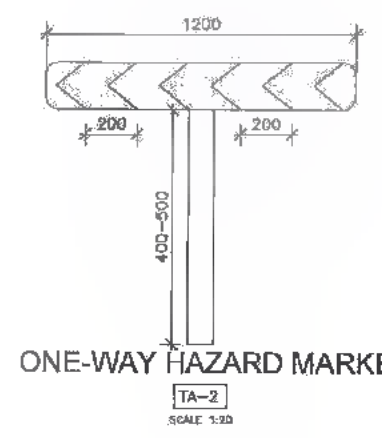
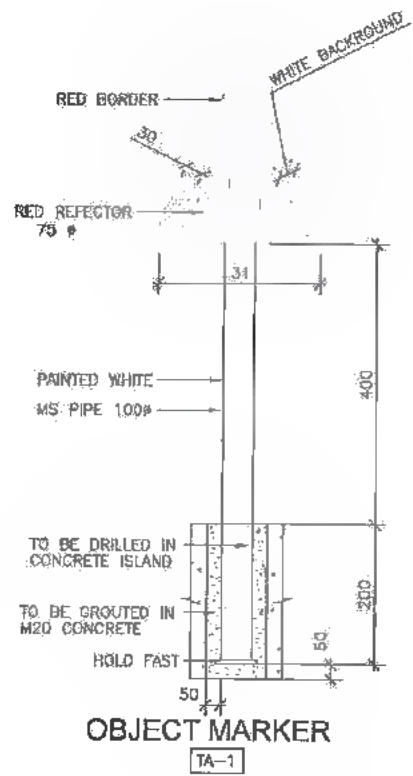
TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-4)
SCHEDULE OF TRAFFIC SIGNS

DRG. NO.: SAI-213007/DPR/M/TYP - 04A
REVISION: PH



DATE: 29/07/19 - 15:30pm, PATH: C:\CAR\213007\REVISED DPR\CONTRACTOR\TRAFFIC SIGNS.dwg

Not to be used as a Bid Document, Only for Reference



Notes :

- ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
- RETROREFLECTORISED SHEETING SHALL BE CONFIRMING TO ASTM D-4956-01, TYPE II OR TYPE IX.
- SHEETING SHALL BE SECURELY BOLTED TO THE POST, THE REMAINING PORTION OF THE BOLT AFTER TIGHTENING THE NUT SHALL BE HAMMERED TO FORM RIVETING.
- IN CASE OF ROAD SIGNS, IRON POST SHALL BE PAINTED WITH ONE COAT OF EPOXY PRIMER AND TWO COATS OF EPOXY FINISH PAINT HAVING BLACK AND WHITE BANDS OF 250MM WIDTH.
- OBJECT MARKER SHALL BE SETBACK BY 500MM FROM THE FACE OF THE KERB. IT SHALL BE DRILLED INTO CONCRETE KERBS UP TO 800 MM DEPTH.
- ALL FOUNDATIONS SHALL BE IN M20 GRADE CEMENT CONCRETE.
- HAZARD MARKERS SHALL BE PRESSED INTO GROUND.
- BACK SIDE OF SIGN BOARD SHALL BE PAINTED WITH TWO COATS OF GRAY EPOXY PAINT.
- ALUMINUM SHEET SHALL BE 2mm THICK.(min.)
- ALL BLACK NUTS & BOLTS SHALL CONFIRM TO IS:1353-1992
- RETRO REFLECTIVE SHEETING OF HIGH INTENSITY GRADE ENCAPSULATED TYPE SHALL BE AFFIXED TO ALUMINIUM SHEET BY PERSURE SENSITIVE ADHESIVE.
- STEEL SECTION SHALL CONFORM TO IS:1977-1996 & SHALL BE SUITABLY PAINTED...

Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAL Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

REV.	DATE	DESCRIPTION	ISSN.	ISSUED BY	RES.
PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)			
PG	17/12/18	GOOD FOR CONSTRUCTION (DPR)			
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)			
PE	18/05/14	GOOD FOR CONSTRUCTION (DPR)			
PE	25/02/14	ISSUED WITH FINAL DPR			
PE	13/11/13	ISSUED WITH DPR			
PE	29/08/13	ISSUED WITH DPR			

TITLE: RAJTA-MANHADEV DIGI-CHOWK (PACKAGE-II)
TYPICAL DETAILS OF TRAFFIC SIGNS

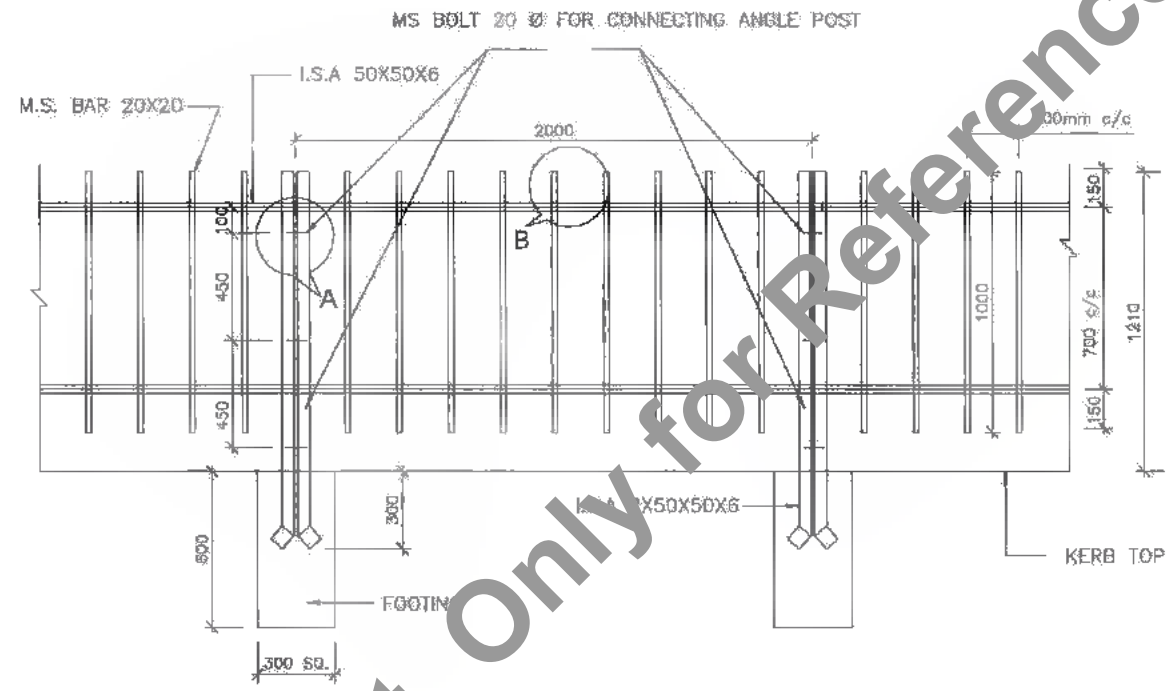
DRG. NO.:
SAL-213007(DPR)M/TYP-48

REVISION : PH

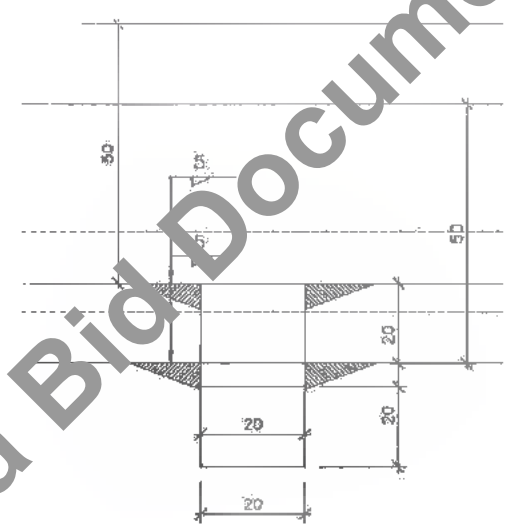


DATE: 15/07/2019, Location: Varni, Patna, Bihar, India. Project: BSRDCL, Baysi - Bahadurganj - Dighalbank (SH-99) Road Traffic Signage.

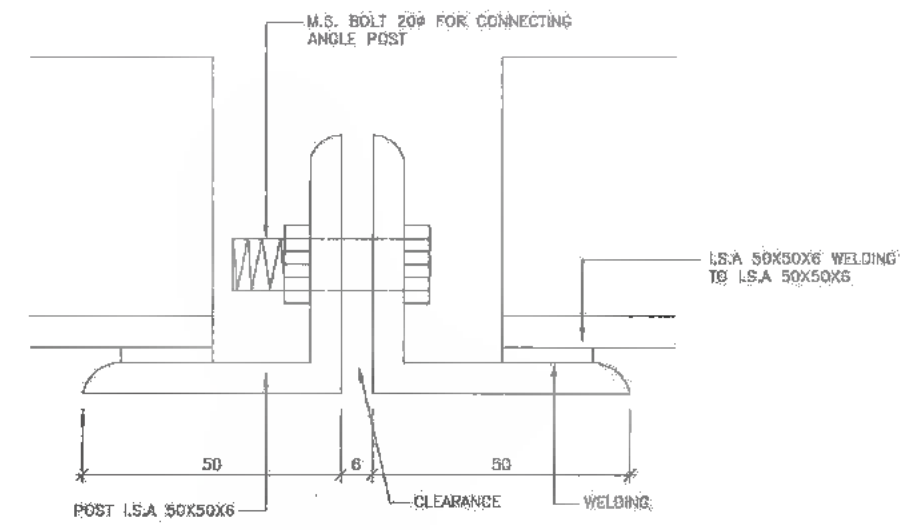
13
604



PEDESTRIAN GUARD RAIL
(SCALE 1:20)



DETAIL - B
(SCALE 1:1)



DETAIL - A
(SCALE 1:1)

NOTES:

1. ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. FOOTING SHALL BE IN PLAN CEMENT CONCRETE OF M20 GRADE.
3. HIGH STRENGTH BOLT SHALL CONFORM TO IS:4000-1992
4. WELD SHALL BE MADE WITH SINGLE PASS.
5. WELDING SHALL BE DONE BY ARC WELDING.
6. ELECTRODE USED SHALL CONFORM TO RELEVANT IS SPECIFICATIONS.
7. THE CHEMICAL COMPOSITION OF ELECTRODE & THE MS BAR SHOULD MATCH.
8. SLAG SHALL BE REMOVED BEFORE MEASURING THE DIMENSIONS OF FILLET WELD.
9. STRUCTURAL STEEL SHALL CONFORM TO IS: 1977-1998
10. SHADE OF ANTI CORROSION PAINT SHALL BE DECIDED BY ENGINEER-IN-CHARGE.
10. POST ENDS IN CONCRETE FOOTING SHALL BE BENDED TO SERVE THE PURPOSE OF HOLD FAST.



Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)

PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

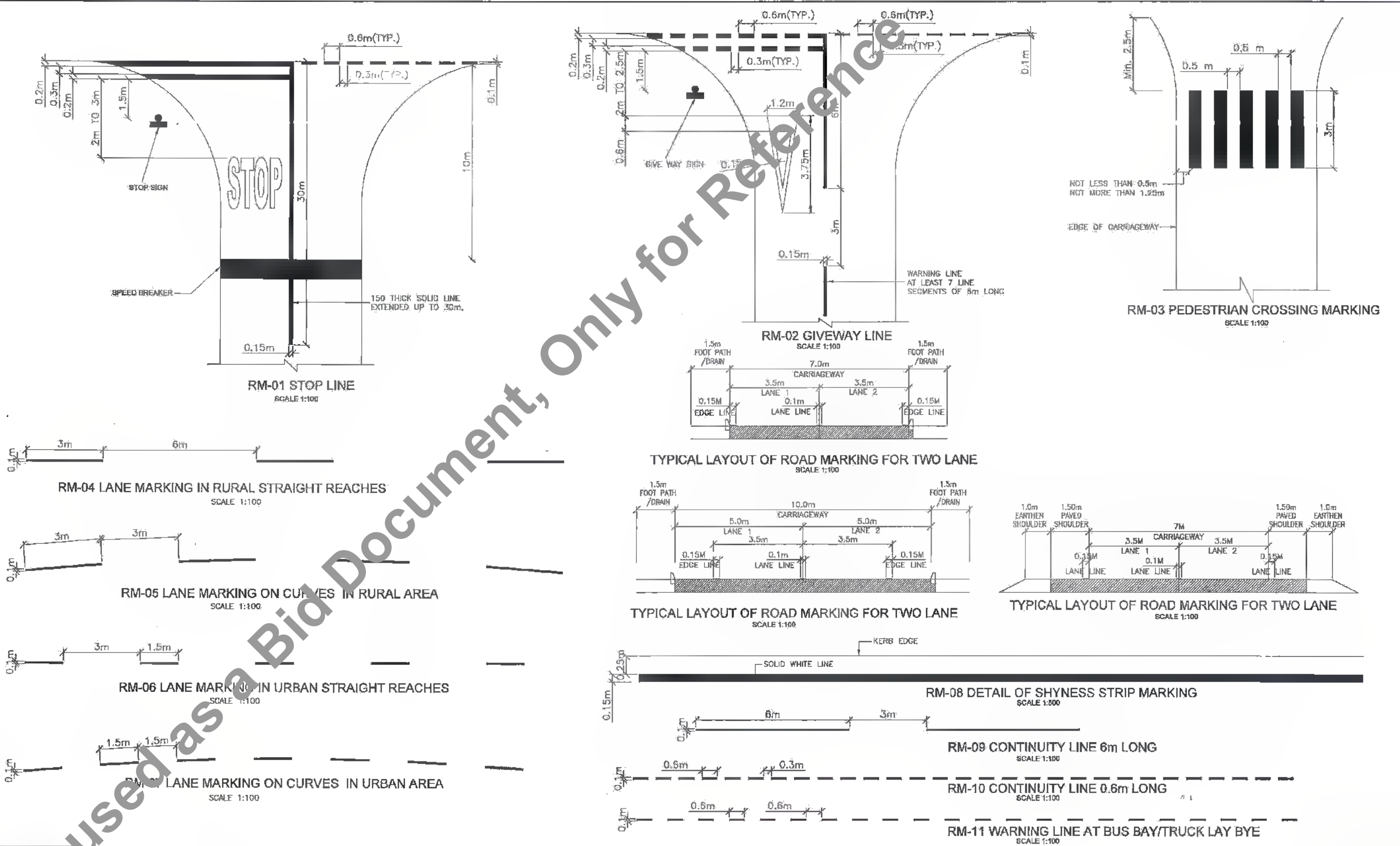
CONSULTANTS: SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company. Block-A "SAI House", Sofyan Corporate Square, IInd Rajpath, Club Road, Alhambra - 380059, Buzaroi, India. Phone: +91-79-6632898/700, Fax: +91-79-6614280. Email: saic@saiconsulting.com

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY : B.S.
PH	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)		
PD	17/12/18	GOOD FOR CONSTRUCTION (DPR)		
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PD	26/02/14	ISSUED WITH FINAL DPR		
PC	13/11/13	ISSUED WITH DPR		
PE	29/08/13	ISSUED WITH DPR		

DRAWN BY : R.N.
CHECKED BY : C.S.
APPROVED BY : J.S.
TITLE: RAUTA-MAHADEY DIGHI CHOWK (PACKAGE-4) PEDESTRIAN GUARD DETAILS
DRG. NO.: SAI-218007/DPR/M/TYP-05
REVISION: PH

NOT TO BE USED as a Bid Document Only for Reference

DATE: 18/07/2018, 10:56 AM, Location: Noida, Path: T:\240\218007\DRAWING\REVISED DPR\CONSTRUCTION\RAUTA-MAHADEY DIGHI CHOWK_RAIL_01_PDF.dwg



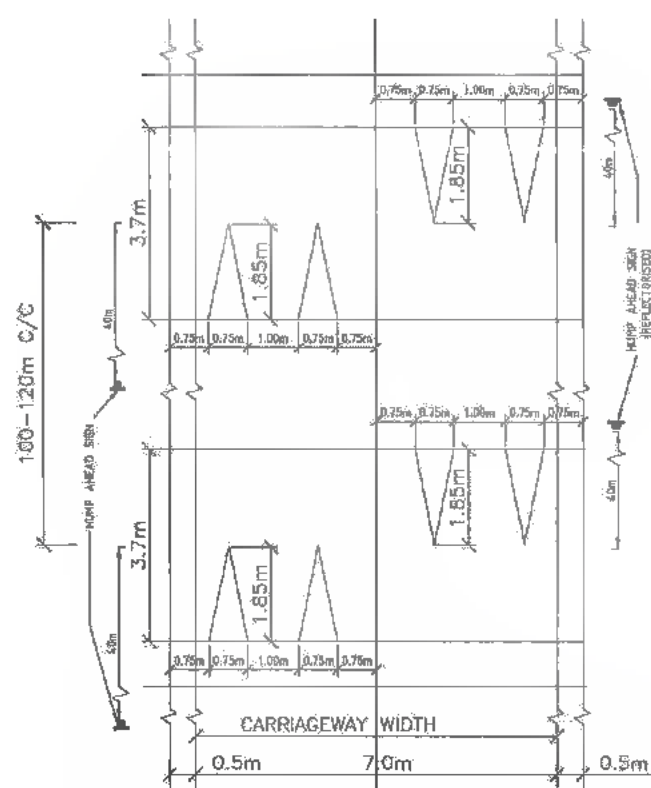
NOTES
1. ROAD MARKING SHALL BE OF HOT APPLIED THERMOPLASTIC MATERIALS WITH GLASS REFLECTORISING BEADS OF TYPE 2 AS PER CLAUSES OF SECTION 803 OF MOSRTH SPECIFICATIONS.



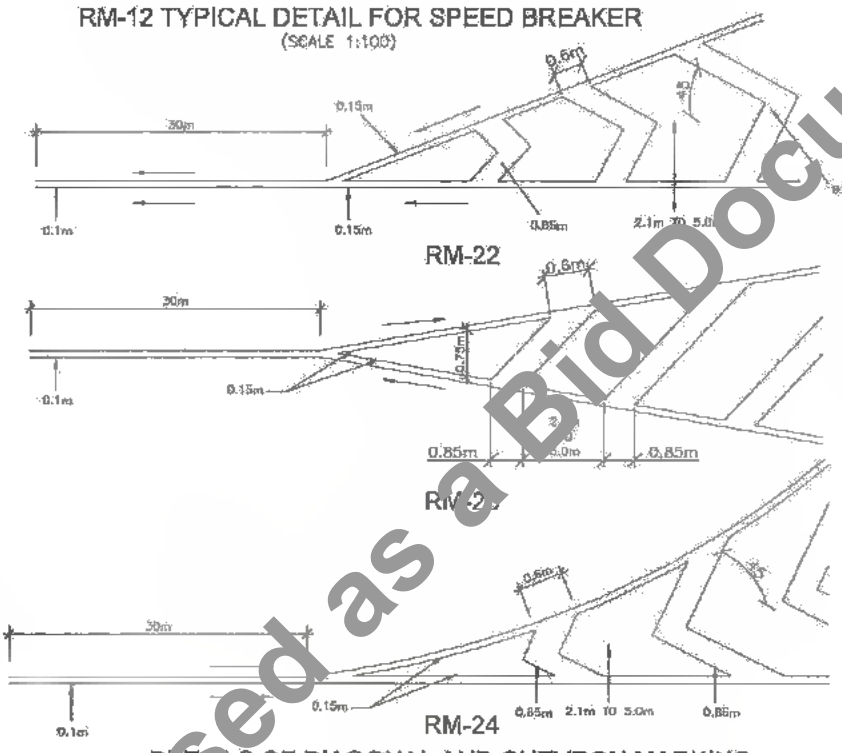
<p>CLIENT : Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)</p>	<p>PROJECT : Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar <i>Baysi - Bahadurganj - Dighalbank (SH-99)</i></p>	<p>CONSULTANTS : SAL CONSULTING ENGINEERS PVT. LTD. An ISO 9001 Certified Company</p>	<table border="1"> <tr> <td>REV.</td> <td>DATE</td> <td>DESCRIPTION</td> <td>SIGN</td> <td>ISSUED BY</td> <td>BY</td> </tr> <tr> <td>PH</td> <td>31/07/19</td> <td>GOOD FOR CONSTRUCTION (REVISED DPR)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PO</td> <td>17/12/18</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PE</td> <td>31/03/19</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PE</td> <td>10/04/14</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PD</td> <td>28/02/14</td> <td>ISSUED WITH FINAL DOPR</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PC</td> <td>13/11/13</td> <td>ISSUED WITH DOPR</td> <td></td> <td></td> <td></td> </tr> <tr> <td>EB</td> <td>28/09/12</td> <td>ISSUED WITH EPR</td> <td></td> <td></td> <td></td> </tr> </table>	REV.	DATE	DESCRIPTION	SIGN	ISSUED BY	BY	PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)				PO	17/12/18	GOOD FOR CONSTRUCTION (DPR)				PE	31/03/19	GOOD FOR CONSTRUCTION (DPR)				PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)				PD	28/02/14	ISSUED WITH FINAL DOPR				PC	13/11/13	ISSUED WITH DOPR				EB	28/09/12	ISSUED WITH EPR				<p>TITLE : RAJITA-MAHADEV DIGHI GHOUK (PACKAGE-4)</p> <p>TYPICAL DETAILS OF LANE MARKINGS</p> <p>DRG. NO. : SAI-213007/DPR/TYP-08</p> <p>REVISION : PH</p>
REV.	DATE	DESCRIPTION	SIGN	ISSUED BY	BY																																															
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PC	13/11/13	ISSUED WITH DOPR																																																		
EB	28/09/12	ISSUED WITH EPR																																																		

DATE: 07/07/2019
 PLOT: 15, GANDHI ST, BOBBI, PATNA
 DRAWN BY: R.K.
 CHECKED BY: C.S.
 APPROVED BY: J.D.
 ISSUED BY: P.S.

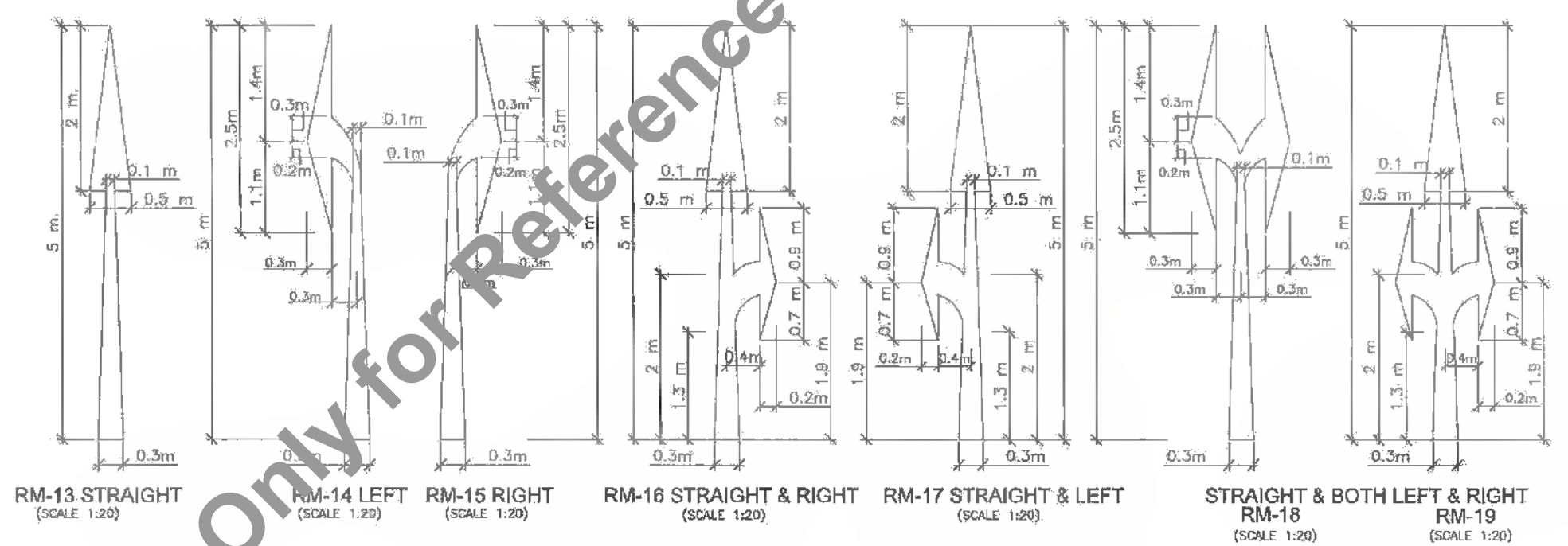
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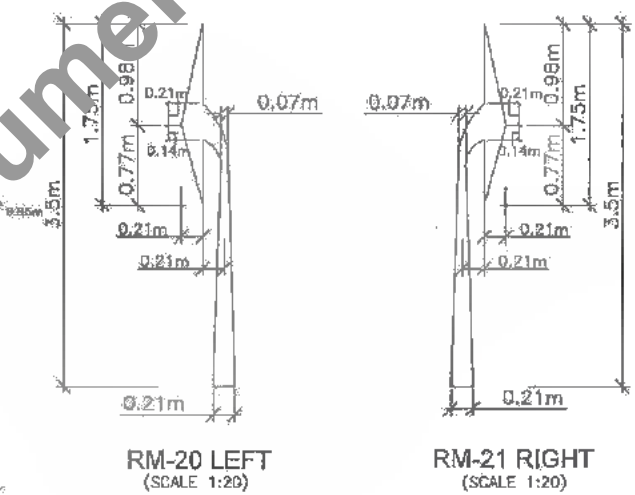
RM-12 TYPICAL DETAIL FOR SPEED BREAKER
(SCALE 1:100)



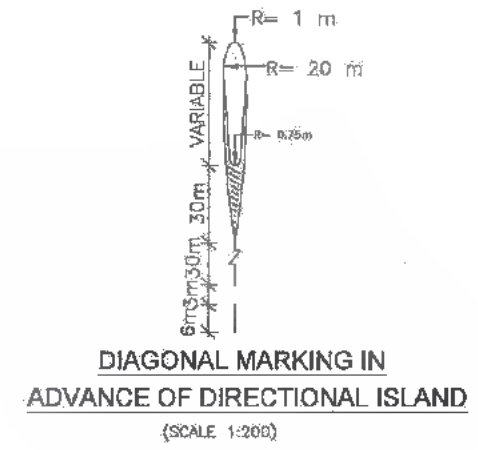
DETAILS OF DIAGONAL AND CHEVRON MARKING



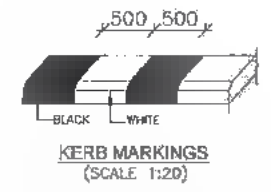
ARROW MARKING FOR ROUTE DIRECTION



RM-20 LEFT (SCALE 1:20)
RM-21 RIGHT (SCALE 1:20)



DIAGONAL MARKING IN
ADVANCE OF DIRECTIONAL ISLAND
(SCALE 1:200)



TOTAL LENGTH OF MARKING (M)	SPACING BETWEEN BARS OR CHEVRONS (MM)	
	LOW SPEED (75 KM/H)	HIGH SPEED (75 KM/H)
< 5.7	2100	--
5.7 to 22.5	3500	--
>22.5	5000	--
< 10:5	--	4000
> 10:5	--	6000



RM-26 DETAIL OF EDGE LING MARKING
SCALE 1:100

NOTES:
1. ROAD MARKING SHALL BE OF HOT APPLIED THERMOPLASTIC MATERIALS WITH GLASS REFLECTORISING BEADS AS PER CLAUSES OF SECTION 803 OF MDSRTH SPECIFICATIONS.

CLIENT:
Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SAI House", Surya Corporate Square, 8th Rajpath, Old Indraprastha, New Delhi-110028
Phone: +91-11-26108600/8601/8602 Fax: +91-11-26108600
Email: sai@saiengg.com

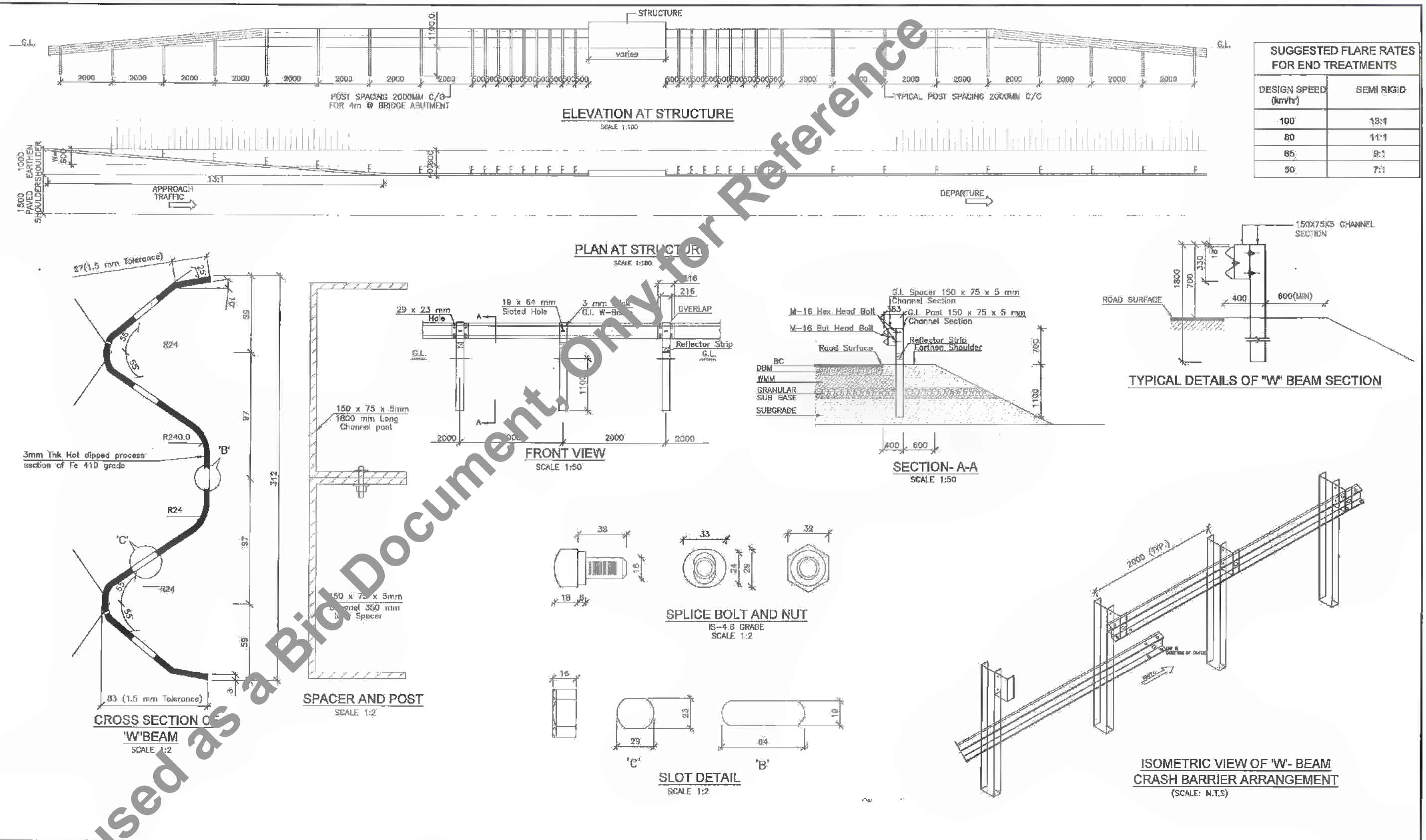
REV.	DATE	DESCRIPTION	SIGN	ISSUED BY
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PH	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PH	28/02/14	ISSUED WITH FINAL DPR		
PH	13/11/13	ISSUED WITH DDPR		
PH	20/08/13	ISSUED WITH DPR		

SCALE: AS SHOWN

TITLE: **RAJITA-MAHADEVI BIGHI CH/DWK (PACKAGE-II)**
TYPICAL DETAILS OF LANE MARKINGS
DRG. NO.: **SAI-213007/DPR/M/TYP-07**
REVISION: PH





DATE: 28/07/2018 - 5:03 PM
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CHECKED BY: SAI
DATE: 28/07/2018 - 5:03 PM
DRAWN BY: SAI
CHECKED BY: SAI



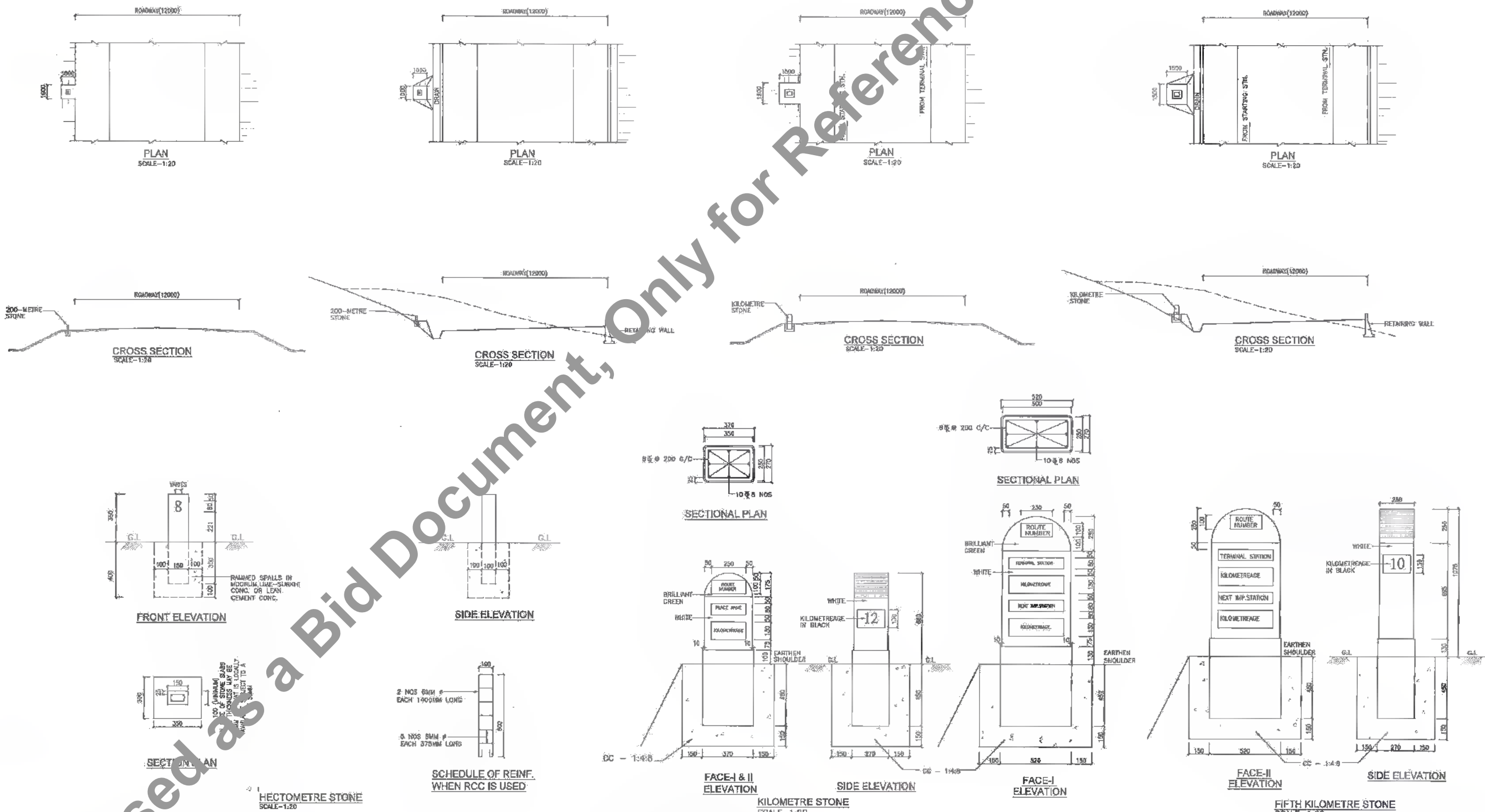
Notes:

1. ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. CORRUGATED METAL BEAM SHALL BE 3MM THICK.
3. CHANNEL BEAM SHALL BE COLD ROLL FORMED SECTION.
4. ALL THE MATERIAL SHALL CONFORM TO IS 5986 (Gr.Fe 410:ST-42) HOT DIP GALVANISED TO 550 gsm/Sqm.
5. SPACERS SHALL BE AS PER IS :2052-1992
6. EVERY CHANNEL POST SHALL BE 500MM C/C APART EXCEPT STRUCTURE LOCATIONS.
7. THE ENDS OF FASTNERS ARE TO BE FLARED BY PNEUMATIC OPERATION TO ENSURE THAT THE BOLTS ARE NOT REMOVABLE

<p>CLIENT:</p>  <p>Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)</p>	<p>PROJECT:</p> <p>Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar <i>Baysi - Bahadurganj - Dighalbank (SH-99)</i></p>	<p>CONSULTANTS:</p>  <p>SAL Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company</p>	<table border="1"> <tr> <td>PH</td> <td>31/07/19</td> <td>GOOD FOR CONSTRUCTION (REVISED DPR)</td> <td>DRAWN BY : R.N.</td> <td rowspan="4">TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) TYPICAL DETAILS OF CRASH BARRIER</td> </tr> <tr> <td>PE</td> <td>17/12/18</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td>CHECKED BY : C.S.</td> </tr> <tr> <td>PI</td> <td>31/05/17</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td>APPROVED BY : J.D.</td> </tr> <tr> <td>PD</td> <td>10/05/14</td> <td>GOOD FOR CONSTRUCTION (DPR)</td> <td>ISSUED BY : S.S.</td> </tr> <tr> <td>PP</td> <td>26/02/14</td> <td>ISSUED WITH FINAL DPR</td> <td></td> <td></td> </tr> <tr> <td>PC</td> <td>15/11/13</td> <td>ISSUED WITH DPR</td> <td></td> <td></td> </tr> <tr> <td>PB</td> <td>28/08/13</td> <td>ISSUED WITH ETR</td> <td></td> <td></td> </tr> </table>	PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) TYPICAL DETAILS OF CRASH BARRIER	PE	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.	PI	31/05/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	PD	10/05/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : S.S.	PP	26/02/14	ISSUED WITH FINAL DPR			PC	15/11/13	ISSUED WITH DPR			PB	28/08/13	ISSUED WITH ETR			<p>DRG. NO. : SAI-21907/DPR/M/TYP-06</p> <p>REVISION : PH</p>
PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) TYPICAL DETAILS OF CRASH BARRIER																																
PE	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.																																	
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PB	28/08/13	ISSUED WITH ETR																																		


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 Date: 26/07/2019
 Page: 15/20

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NOTES:

- 1). ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE MENTIONED.
- 2). KILOMETRE STONE / HECTOMETRE STONE / FIFTH KILOMETRE STONE SHALL BE CONSTRUCTED IN RCC @20 GRADE.
- 3). FOUNDATION OF KILOMETRE STONE / HECTOMETRE STONE / FIFTH KILOMETRE STONE SHALL BE IN POS M:20 GRADE.
- 4). THE BOUNDARY STONES SHALL BE PROVIDED ON LEFT SIDE OF THE ROAD AS SHOWN INDEPENDENT OF DIRECTION OF TRAFFIC FLOW.
- 5). ALL NUMERALS SHALL BE PAINTED BLACK.
- 6). SIZE OF LETTERS AND NUMERALS SHALL BE AS PER IRC: 6-1988.
- 7). STEEL REINFORCEMENT SHALL BE MILD STEEL Fe. 415.
- 8). BOUNDARY STONES SHALL BE FIXED AT THE EDGE OF ROW STAGGERED ON EACH SIDE AT INTERVAL OF 100 METRE.
- 9). NO PAINTING SHALL BE CARRIED OUT ON BOUNDARY STONES.
- 10). HECTOMETRE STONE SHALL BE PAINTED WHITE.
- 11). KILOMETRE STONE AND FIFTH KILOMETRE STONE SHALL BE PAINTED AS SHOWN.

CLIENT:
 Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)
 D. G. Mishra (Tech.)
 BSRDC, Lucknow
 P. N. Khatkar

PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
 SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A, "SAI House", Softron Corporate Square, 8th Floor
 Gurgaon, Haryana-122002, India
 Phone: +91-120-562200/190714, +91-70-5016200
 Email: saiconsulting@gmail.com

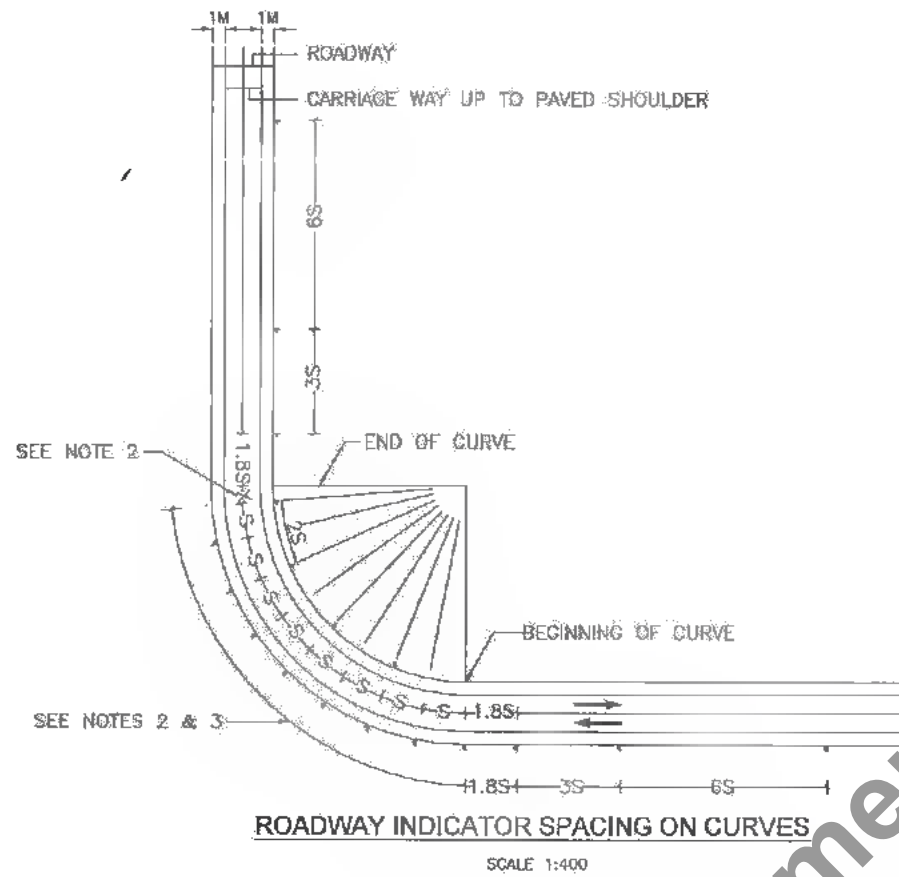
REV.	DATE	DESCRIPTION	SIGN.	ISSUED BY
PC	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		
PE	17/12/18	GOOD FOR CONSTRUCTION (DPR)		
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PE	25/02/14	ISSUED WITH FINAL DPR		
PC	13/11/13	ISSUED WITH DPR		
PE	26/08/13	ISSUED WITH FTR		

SCALE: AS SHOWN

TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
 DISTANCE STONES
 DRG. NO.: SAI-213007/DPR/M/TYP-09
 REVISION: PH



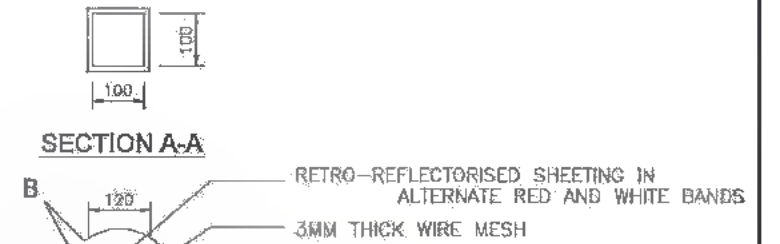
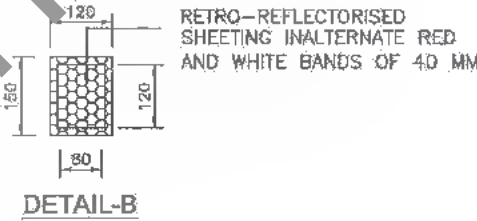
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ROADWAY INDICATOR SPACING ON CURVES
SCALE 1:400

TABLE FOR RECOMMENDED SPACING FOR ROADWAY DELINEATORS ON HORIZONTAL CURVES

RADIUS OF CURVE (METERS)	SPACING ON CURVE, S (METERS)
300	25
400	30
500	35
600	38
700	42
800	45
900	48
1000	50



WHITE
BLACK

DETAILS OF INDICATOR
SCALE 1:10

Notes :

- ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
- ADJUST DISTANCE 'S' SUITABLY SO THAT THE LAST ROADWAY DELINEATOR IS AT THE END OF THE CURVE.
- INSTALL DELINEATORS PERPENDICULAR TO THE ONCOMING TRAFFIC.
- SEE TABLE FOR VALUE OF 'S' I.E. SPACING OF DELINEATORS ON THE CURVE.
- THE SPACING OF FIRST, SECOND & THIRD DELINEATORS ON THE APPROACHES SHALL BE 1.85S, 3S & 6S RESPECTIVELY BUT NOT EXCEEDING 50m.
- INDICATORS SHALL BE DIE CAST IN ALUMINUM, RESISTANT TO CORROSIVE EFFECT OF SILT AND GRIT, FITTED WITH LENS REFLECTORS.
- STEEL REINFORCEMENT SHALL BE OF HYSD Fe 415 GRADE.



Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

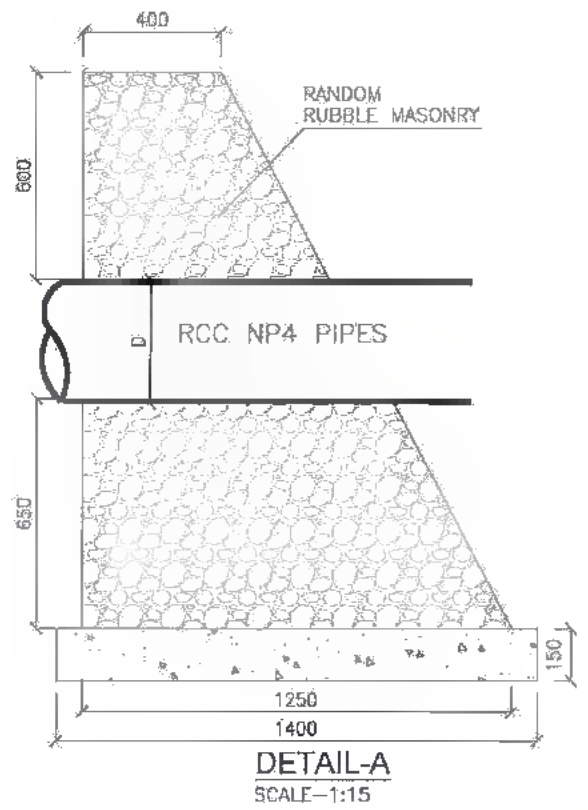
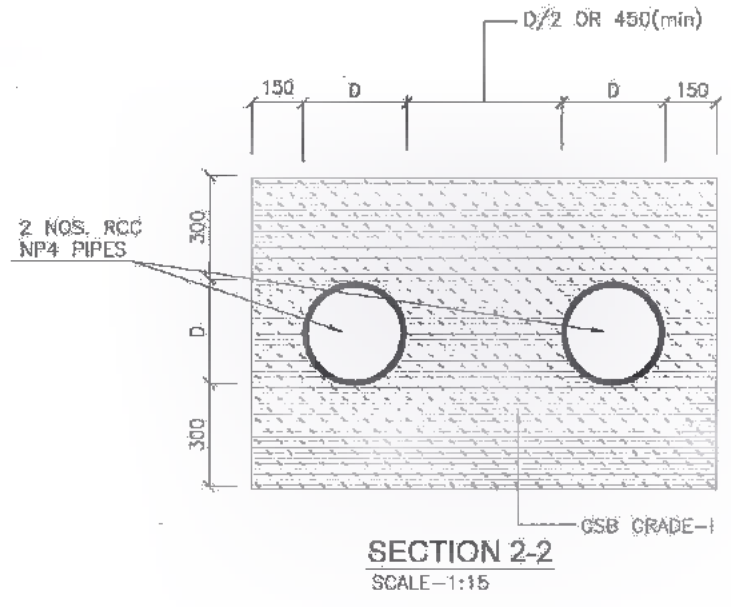
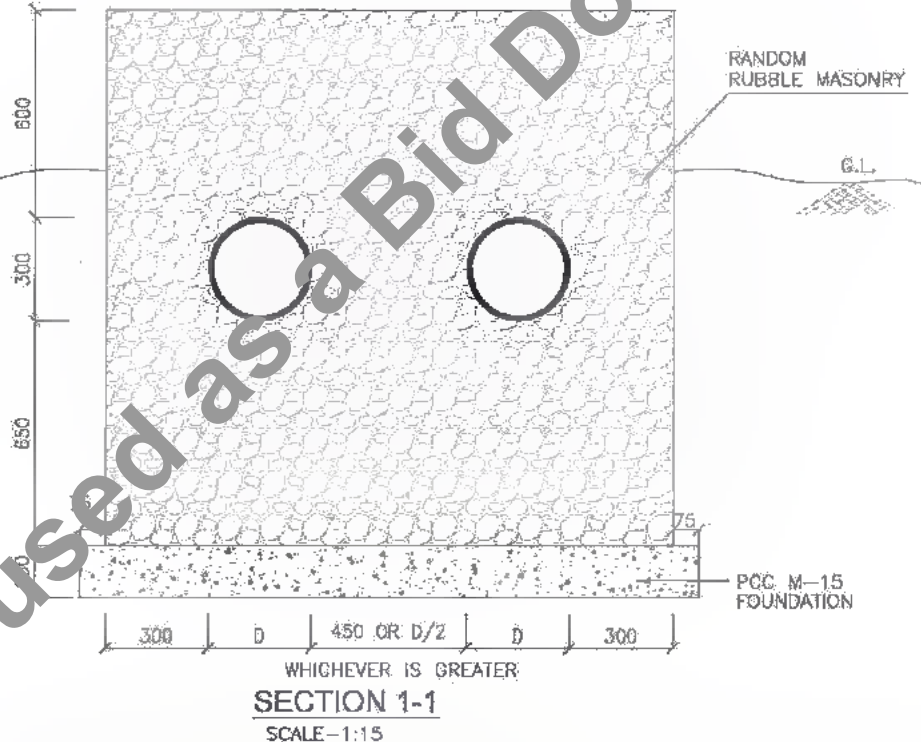
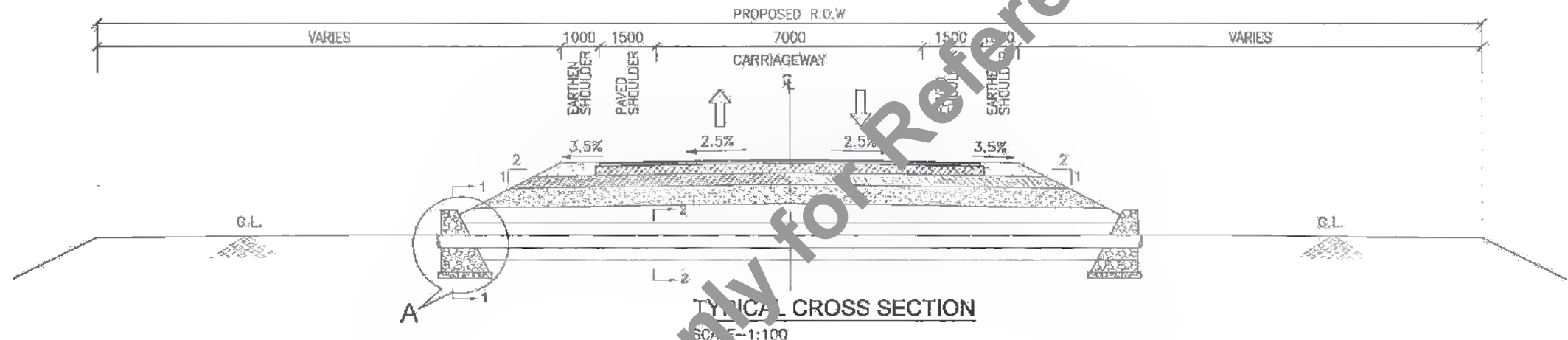
PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAL Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "Sai House" Sahyodra Corporate Estate, 6th Floor, C-16, Sector-16, Gurgaon, Haryana
Phone : +91-78-4833608/78959 Fax : +91-78-4833609
Email : sai@saiengs.com

PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
PC	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : G.S.	TYPICAL DETAILS OF INDICATORS
PE	11/03/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	DRG. NO. : SAI-213007/DPR/M/TYP - 10
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : B.S.	REVISION : PH
PC	25/02/14	ISSUED WITH FINAL DOPR		
PE	13/11/13	ISSUED WITH DOPR		
PD	29/05/13	ISSUED WITH RFR		

SCALE : AS SHOWN


179
598



DATE: 29/07/19 BY: Sushant Singh PATH: T:\CADD\213007_PRRM\REVISED\PRM\SAI\Package-111 UTILITY DRAWINGS

CLIENT:
 Bihar State Road Development Corporation Limited (BSRDCL)
 (A Government of Bihar Undertaking)
 D. C. W. D. C. (Tech.)
 BSRDCL
 PIU-Katihar

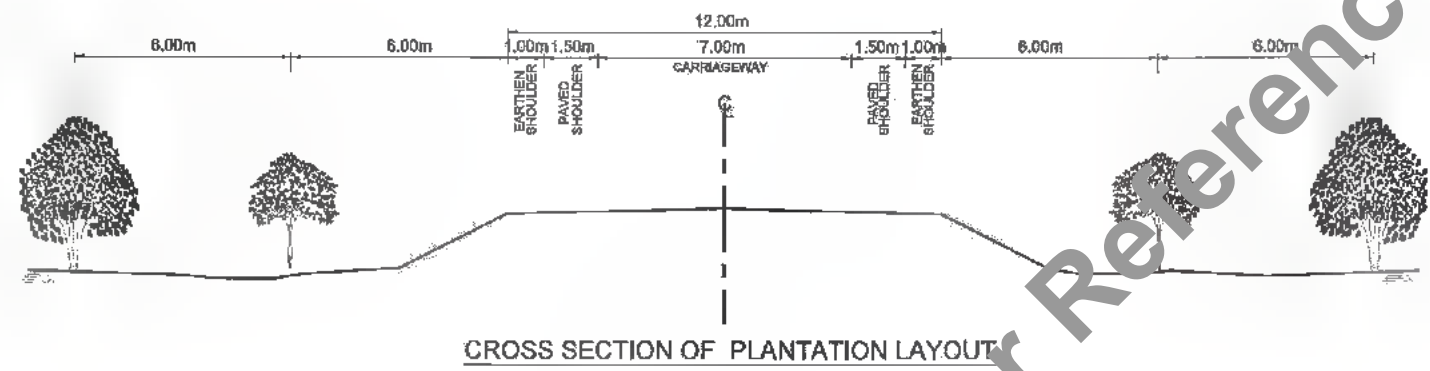
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 Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
 SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A "SAI House", Satyan Corporate Square, 8th Floor,
 Lakshminagar, Patna-800059, Bihar, India
 Phone: +91-91-6562887302, Fax: +91-91-65628868
 Email: mail@saiengg.com

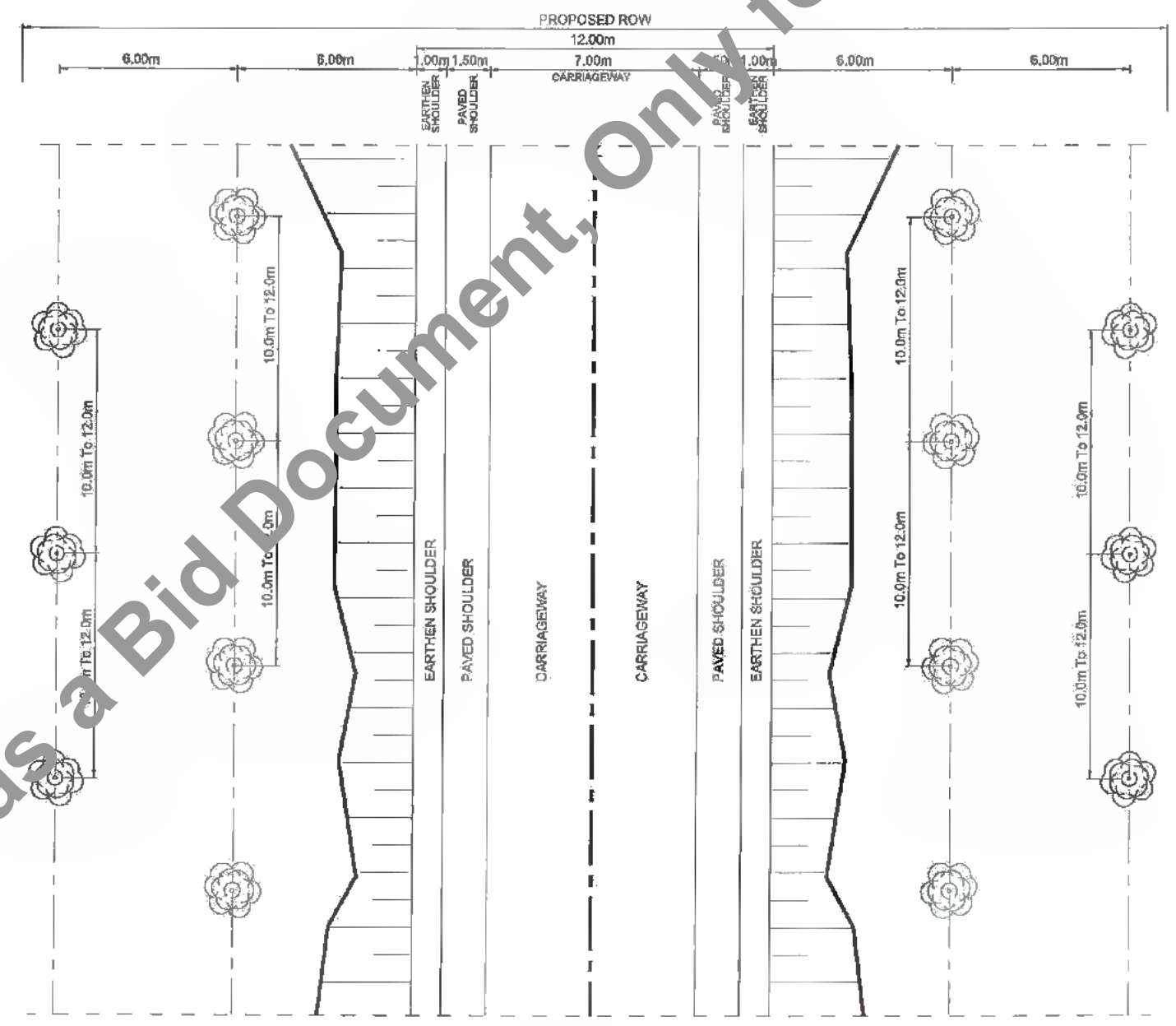
PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : R.N.	TITLE : RAUTA-MAHADEV DIGHI GHOWK (PACKAGE-II)
EX	17/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : C.S.	DETAILS OF UTILITY DUCTS
FE	17/03/17	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.D.	CRG. NO. :
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)		ISSUED BY : B.S.	SAI-213007(OPR)M/TYP - 11
PD	26/02/14	ISSUED WITH FINAL DPR			REVISION : PH
PC	13/11/13	ISSUED WITH DPR			
PP	29/08/13	ISSUED WITH DPR			

SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	SIGN.	ISSUED BY : B.S.
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CROSS SECTION OF PLANTATION LAYOUT



TYPICAL PLANTATION LAYOUT

SYMBOL	TYPE OF TREE
	KACHNAR (BAUHINIA VARIEGATE)
	AMALTUS (CASSIA FISTULA)
	PEEPAL (ALBIZZIA LEBECK) for water logged condition & alkaline soil
	ADNLA (EMBLIC MYROBALAN)
	SILVER OAK (GREVILLEA ROBUSTA)



DATE: 20/07/2014 11:42:00 AM; PATH: T:\CAVAT\213007\BAYSI\REVISED_DRAFT\INSTRUMENTATION\12_LANDSCAPING_TPO_LAYOUT.dwg

Bihar State Road Development Corporation Limited (A Government Undertaking)

BSRDC

PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

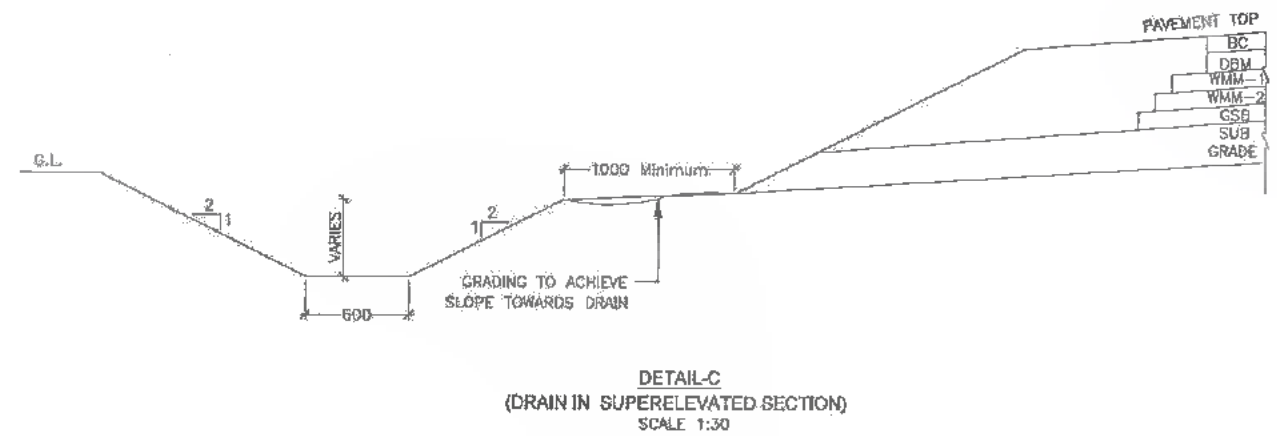
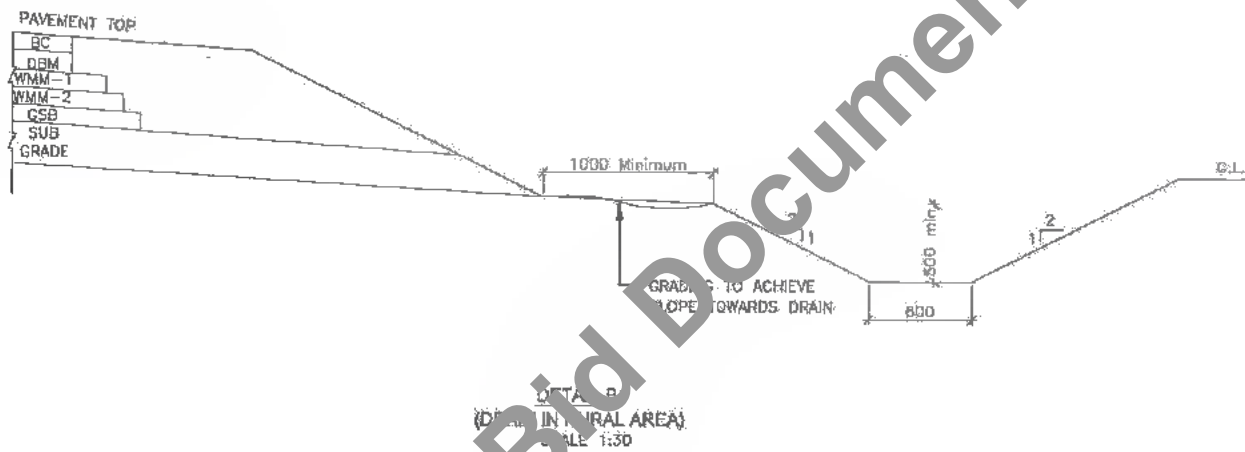
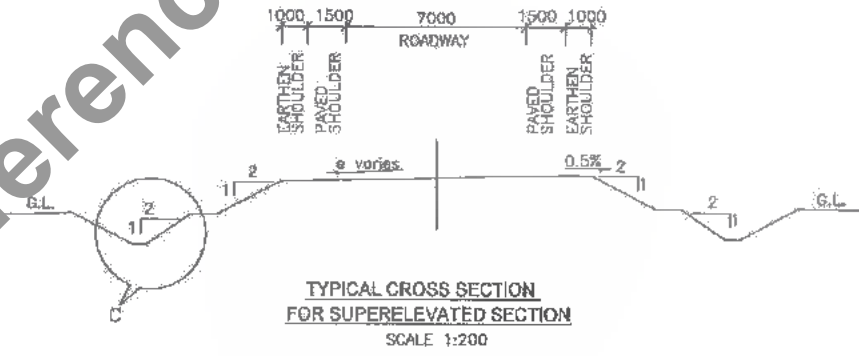
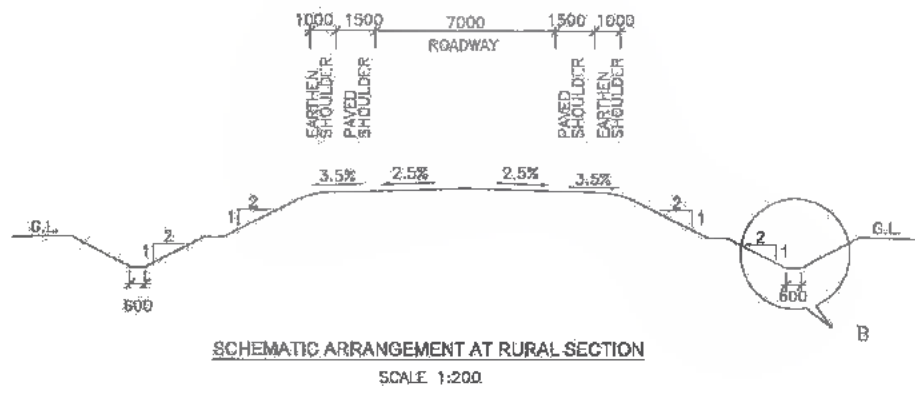
CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company

Head-A "SAI House" Sanyal Corporate Towers, 116-B, Rajpath, Club, Badli, New Delhi-110028, India
 Phone : +91-79-4214300/719, Fax : +91-79-4214300
 Email : sai@saiindia.com

PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : R.M.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) TYPICAL PLANTATION LAYOUT WITH PAVED SHOULDER
PC	17/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : C.S.	
PF	11/03/17	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.B.	
PE	10/04/14	GOOD FOR CONSTRUCTION (DPR)		ISSUED BY : B.S.	
PD	28/02/14	ISSUED WITH FINAL DPR			
PC	13/11/13	ISSUED WITH DPR			
PD	20/08/13	ISSUED WITH DPR			

DRG. NO.:	SAI-21300/03PRM/TYP - 12
REVISION :	PH

SCALE : AS SHOWN




CONSTRUCTION NOTES

- 1). FOUNDATION OF LINED DRAIN SHALL BE CAST IN PCC OF CONCRETE GRADE M20.
- 2). BASE AND SIDE WALLS OF LINED DRAIN AND CATCH PIT SHALL BE CAST IN M20 GRADE.
- 3). CATCH PIT TO BE PROVIDED AT DESIGNATED LOCATION OF OUTFALL.
- 4). SITE SPECIFIC ADJUSTMENTS TO BE MADE IN HILLY TERRAINS. CONCRETE LINED DRAIN SHOULD BE PROVIDED IN PLACE OF EARTHEN DRAIN.




Bihar State Road Development Corporation Limited (BSRDCL)
 (A Government of Bihar Undertaking)

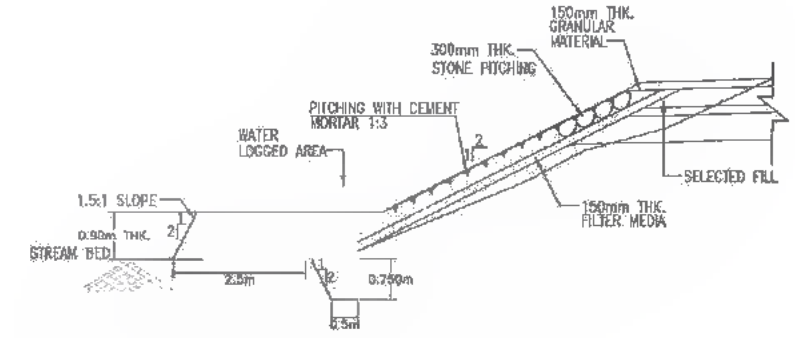
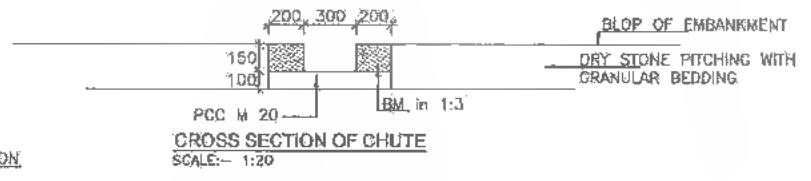
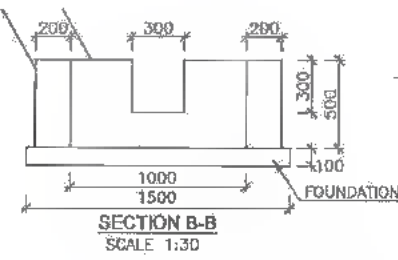
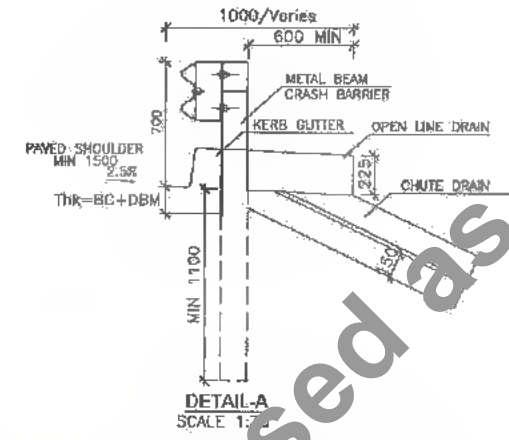
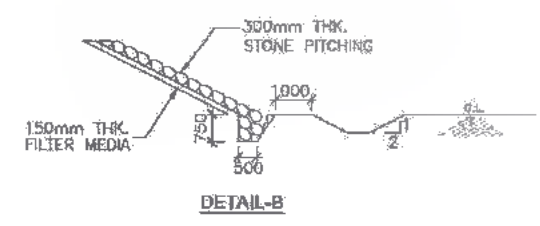
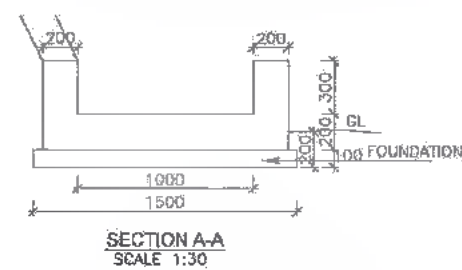
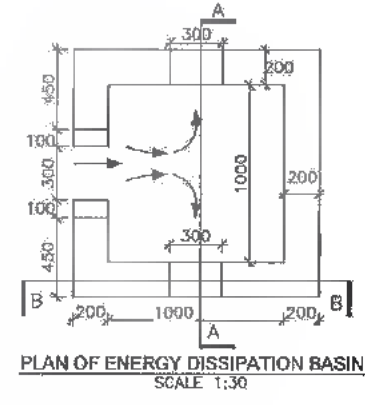
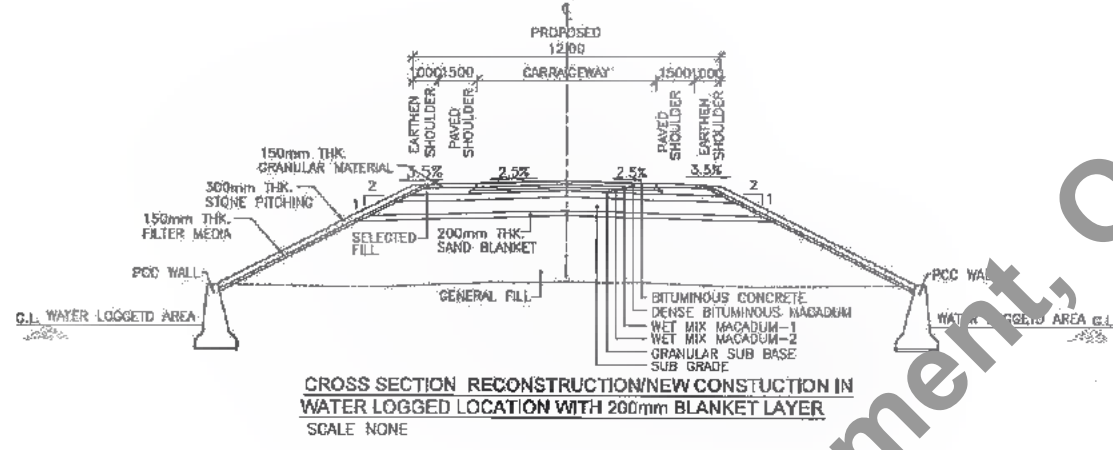
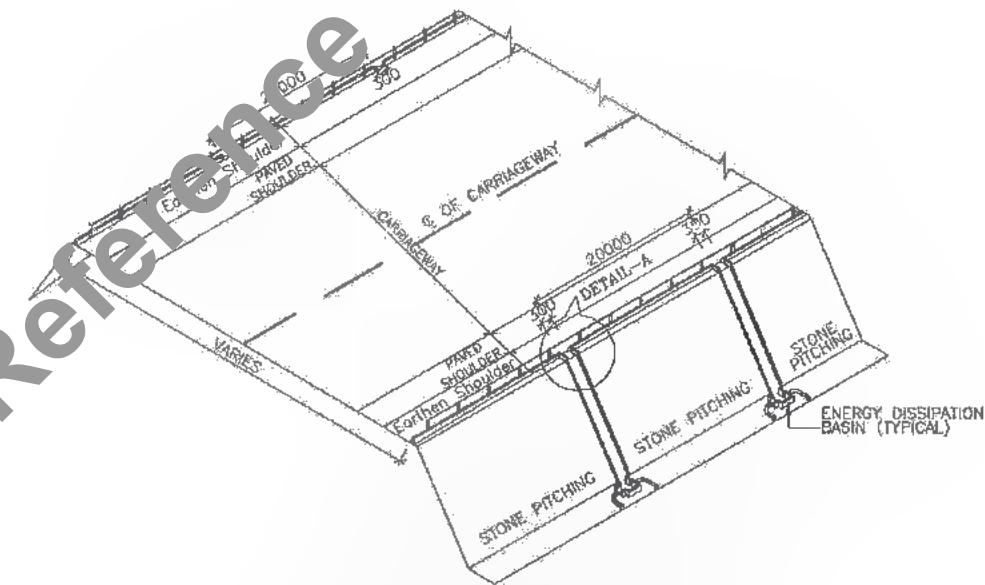
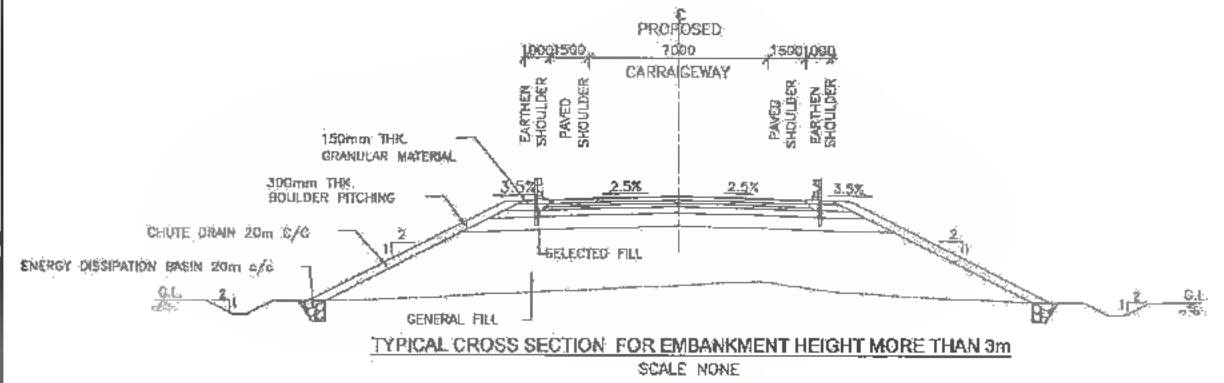
PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:

SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A "SAI House" Sector Corporate Square, 8th Rajpath
 Con. 26/Chandea, New Delhi-110029, New Delhi, India
 Phone : +91-79-66962606/7010, Fax : +91-79-66102898
 Email : epi@saiconsulting.com

PH	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)	DESIGNED BY : R.N.
PG	17/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.
PF	31/03/17	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : A.B.
PE	16/04/14	GOOD FOR CONSTRUCTION (DPR)	ISSUED BY : B.S.
PD	28/02/14	ISSUED WITH FINAL DPR	
PC	13/11/13	ISSUED WITH DPR	
PP	22/08/13	ISSUED WITH DPR	

TITLE : RAUTA-MAHADEY DIGHI CHOWK (PACKAGE-8)
 DRAIN DETAILS FOR RURAL SECTIONS
DRG. NO.: SAI-21SD07/DPR/M/TYP-14
REVISION : PH

DATE: 28/07/18 11:54:06am \msd
 PATH: T:\CAD\213007 BIRD\REVISED DPR\CONSTRUCTION\14_25A.dwg



- CONSTRUCTION NOTES:**
- 1). SPACING FOR CHUTES SHALL BE 20M.
 - 2). METAL BEAM OR CONCRETE CRASH BARRIER SHALL BE PROVIDED FOR EMBANKMENT HEIGHT OF 3M.
 - 3). IF EMBANKMENT IS SUBJECTED TO DIRECT FRONTAL ATTACK OF RIVER, SPECIAL PROTECTION MEASURES AS INDICATED IN ALIGNMENT PLAN DRAWINGS SHALL BE ADOPTED.
 - 4). STONE PITCHING SHALL BE PROVIDED FOR HEIGHT OF EMBANKMENT IS MORE THAN 3M.

- 5). STONE PITCHING 300MM SHALL BE PROVIDED TO PROTECT EMBANKMENT AGAINST SOIL EROSION AS DIRECTED BY THE ENGINEER.
- 6). ENERGY DISSIPATION BASIN SHALL BE CONSTRUCTED IN PCC M20 GRADE AND LEVELLING COURSE IN PCC M15 GRADE.
- 7). METAL BEAM CRASH BARRIER EITHER TO BE INSERTED IN GROUND DIRECTLY
- 8). THE SOIL TO BE USED IN EMBANKMENT MORE THAN 6.0M HEIGHT SHOULD HAVE DENSITY MORE THAN 1.79 gm/cc.
- 9). HIGH EMBANKMENT SHALL BE DESIGNED IN ACCORDANCE WITH IRC-75, AND BORROW SOIL SHALL HAVE ANGLE OF INTERNAL FRICTION(ϕ) NOT LESS THAN 26°

CLIENT: **Bihar State Road Development Corporation Limited (BSRDCL)**
(A Government of Bihar Undertaking)

PROJECT: **Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)**

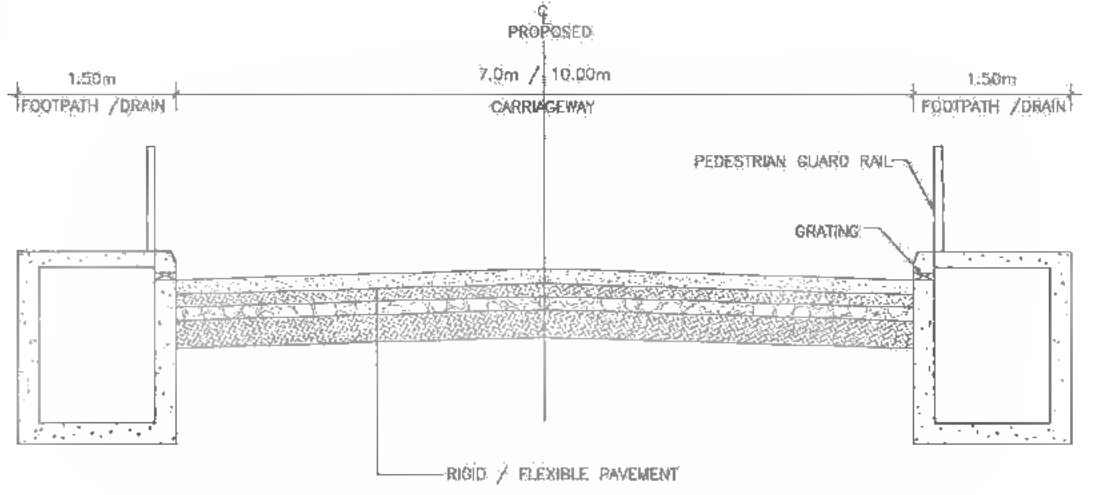
CONSULTANTS: **SAL Consulting Engineers Pvt. Ltd.**
An ISO 9001 Certified Company
Block-A "Sal House", Sujan Corporate Square, B-8, Baginaj
Lal Bahadur Shastri Road-200057, Gupura, Patna
Phone : +91-77-6692480/700, Fax : +91-77-6611200
Email : mail@salsal.com

REV.	DATE	DESCRIPTION	SIGN.	ISSUED BY :
PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		
PP	17/12/18	GOOD FOR CONSTRUCTION (DPR)		
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		
PF	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PD	26/02/14	ISSUED WITH FINAL DOPR		
PC	13/11/13	ISSUED WITH DOPR		
PB	26/08/13	ISSUED WITH DPR		

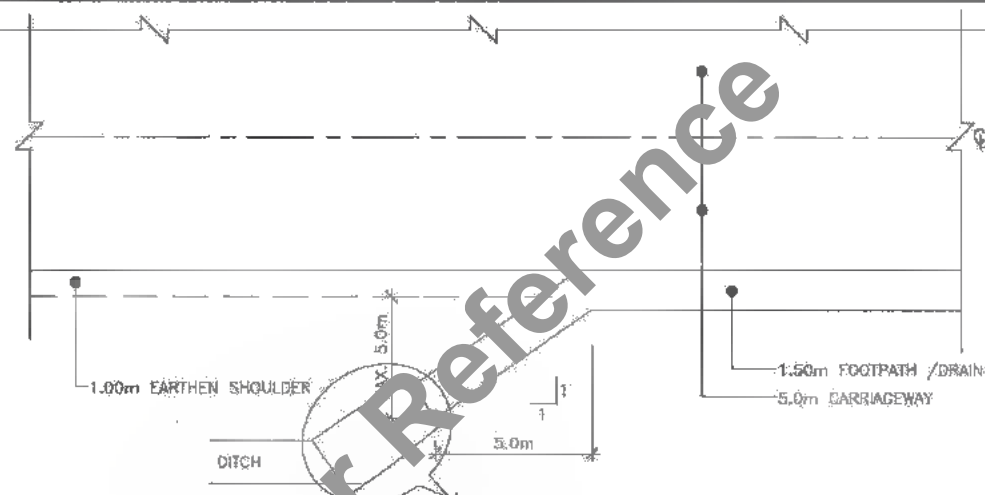
DRAWN BY : RAL	TITLE : PAUTA-MAHADEVI DIGHALBANK (PACKAGE-10)
CHECKED BY : C.S.	DRAIN DETAILS FOR HIGH EMBANKMENT
APPROVED BY : J.S.	DRG. NO. : SAI-213007/DPR/MTYP-15
ISSUED BY : B.S.	REVISION : PH



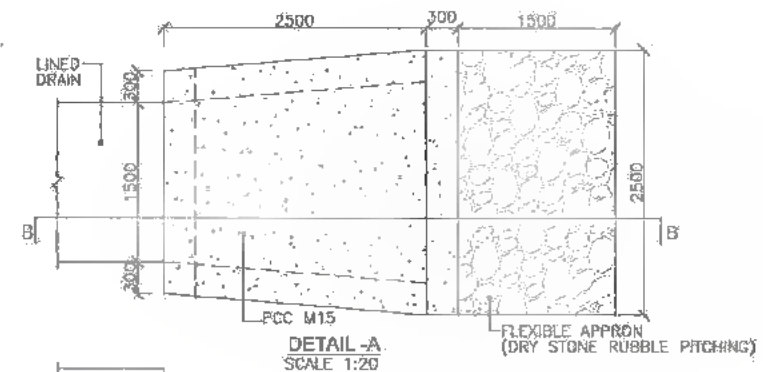
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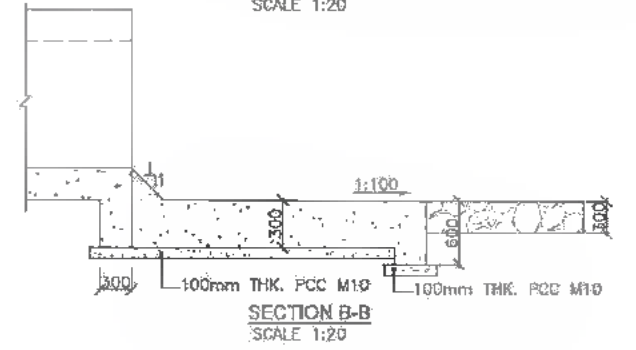
TWO-LANE WITH LINED DRAIN
(SCALE 1:20)



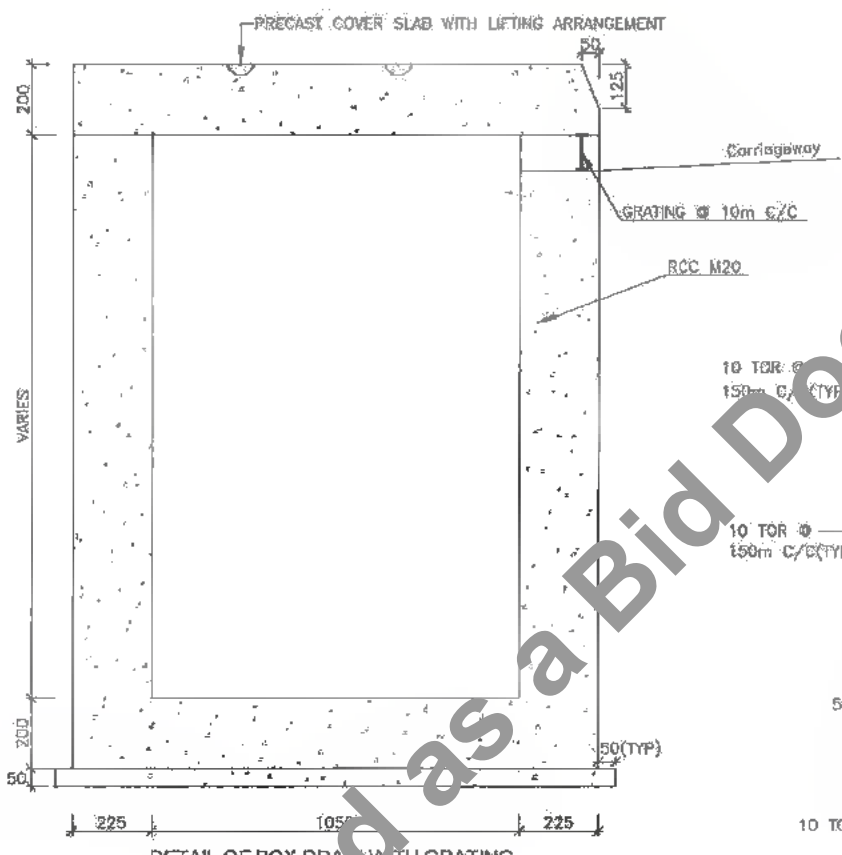
LINED DRAIN OUTFALL DETAILS
SCALE 1:50



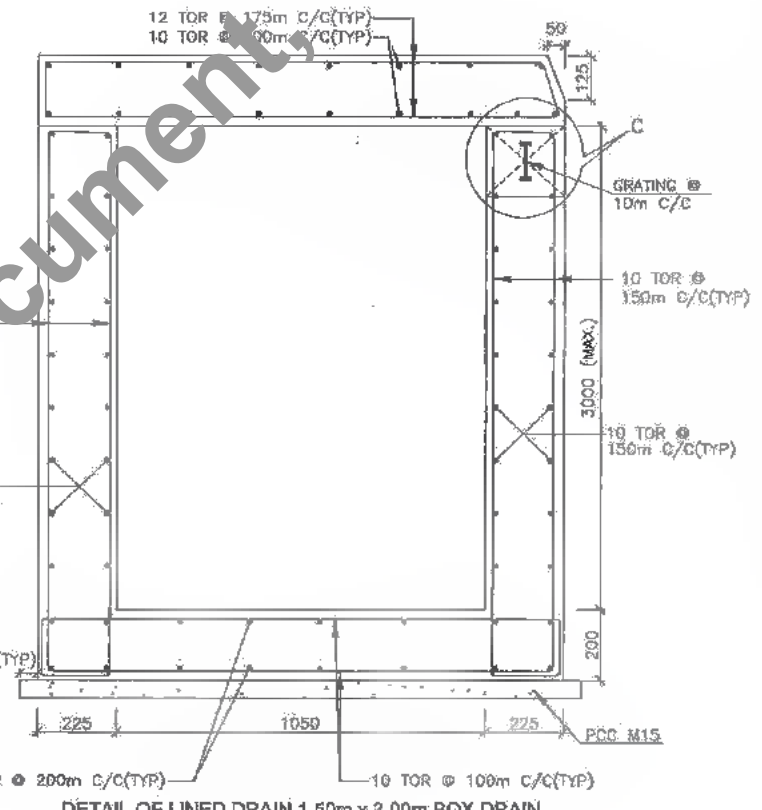
DETAIL-A
SCALE 1:20



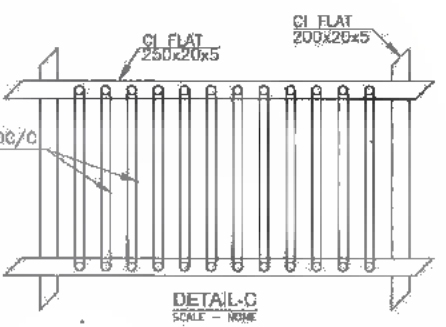
SECTION B-B
SCALE 1:20



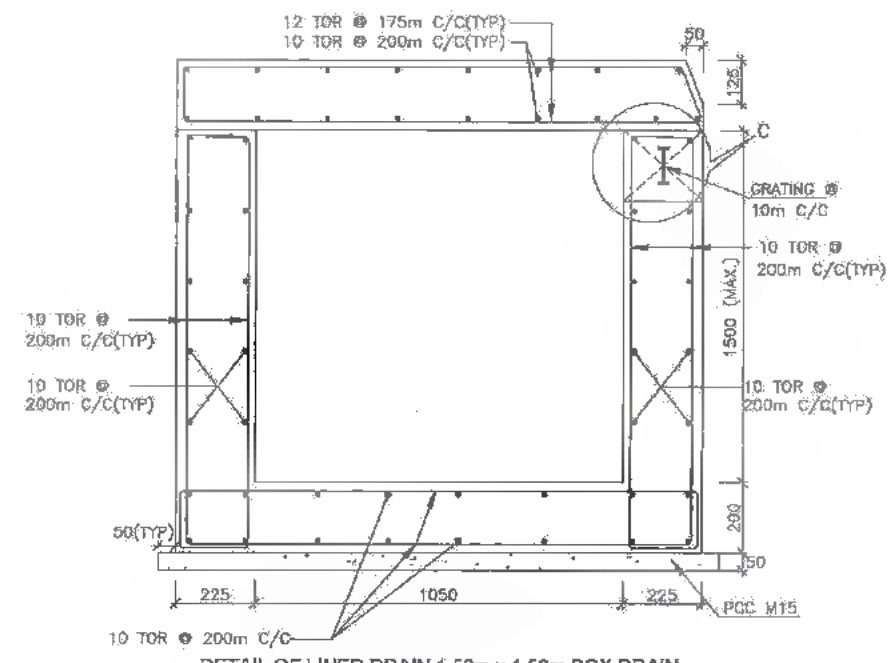
DETAIL OF BOX DRAIN WITH GRATING
(SCALE 1:15)



DETAIL OF LINED DRAIN 1.50m x 3.00m BOX DRAIN
GRADE OF CONC. - M-20, REIF. Fe-500
CLEAR COVER - 40mm
NONE



DETAIL-C
SCALE - NONE



DETAIL OF LINED DRAIN 1.50m x 1.50m BOX DRAIN
GRADE OF CONC. - M-20, REIF. Fe-500
CLEAR COVER - 40mm
NONE

- CONSTRUCTION NOTES:**
- 1). ALL FOUNDATIONS OF COVERED DRAIN SHALL BE CONSTRUCTED IN PCC M15 GRADE.
 - 2). SLAB OVER COVERED DRAIN SHALL BE RCC M20 GRADE.
 - 3). REINFORCEMENT SHALL BE TMT Fe415 AS PER SECTION 1600, UNLESS OTHERWISE SPECIFIED.
 - 4). ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.



Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
SYSTRA GROUP

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY
PH	31/07/18	GOOD FOR CONSTRUCTION (REVISED DPR)		
PF	17/12/18	GOOD FOR CONSTRUCTION (DPR)		
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		
PD	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PC	26/02/14	ISSUED WITH FINAL DOPR		
PI	13/11/13	ISSUED WITH DOPR		
PM	29/08/13	ISSUED WITH DPR		

TITLE: RAJUA-MAHADEV DIGH-CHOWK (PACKAGE-II)
DETAILS FOR COVERED BOX DRAIN SECTIONS

DRG. NO.: (SHEET-1 OF 2)
SAI-213007/DPR/MTYP-16

REVISION: PH

DATE: 28/07/2018 TIME: 11:00 AM FILE: C:\Users\manish\Desktop\Bids\118 TYPICAL Urban drain\Box\Box.dwg

Table with 7 columns: Design Chaining (M), FRL at CL (M), FRL at CW Edge (M), DRAIN BED LEVEL at RHS (M), DRAIN BED LEVEL at LHS (M), Wall HEIGHT at RHS (M), Wall HEIGHT at LHS (M). Rows 22005 to 28000.

Table with 7 columns: Design Chaining (M), FRL at CL (M), FRL at CW Edge (M), DRAIN BED LEVEL at RHS (M), DRAIN BED LEVEL at LHS (M), Wall HEIGHT at RHS (M), Wall HEIGHT at LHS (M). Rows 28005 to 33990.

Table with 7 columns: Design Chaining (M), FRL at CL (M), FRL at CW Edge (M), DRAIN BED LEVEL at RHS (M), DRAIN BED LEVEL at LHS (M), Wall HEIGHT at RHS (M), Wall HEIGHT at LHS (M). Rows 33995 to 43000.

NOT to be used as a Bid Document. Only Reference

Logo of Bihar State Road Development Corporation Limited (BSRIDC) with address in Patna, Bihar.

PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

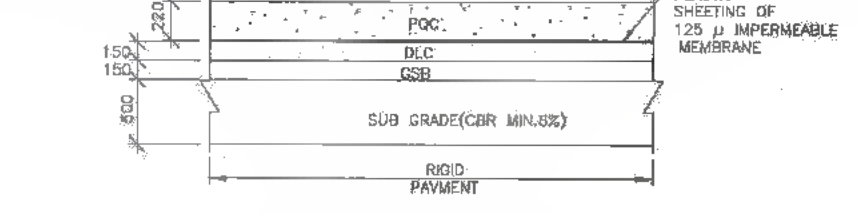
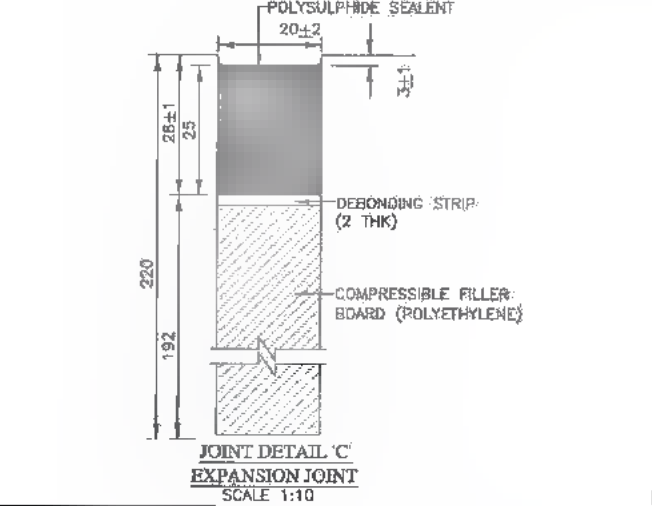
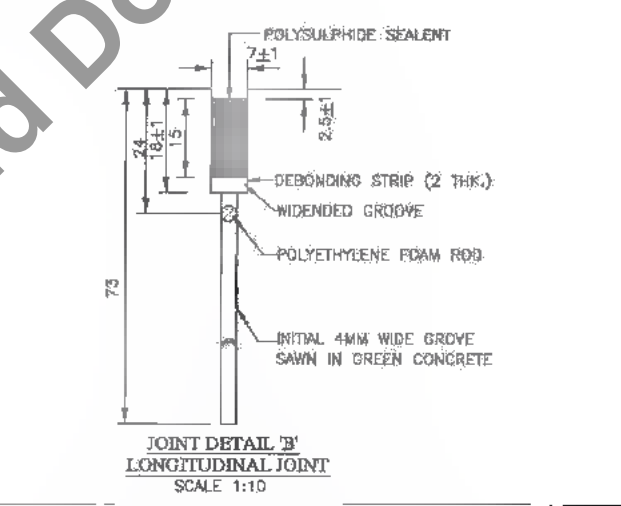
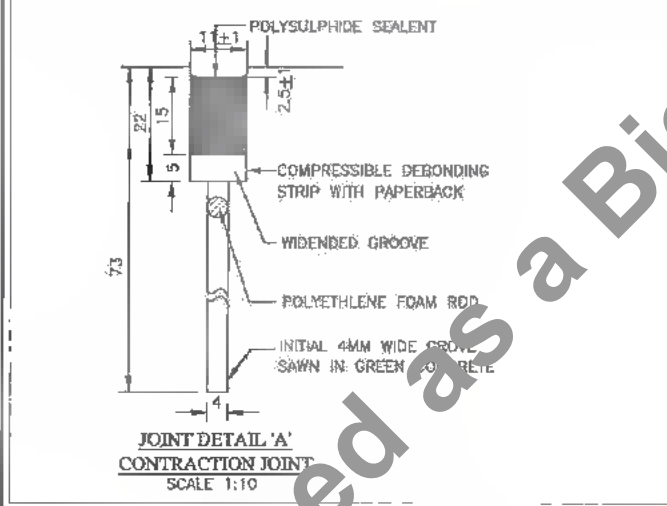
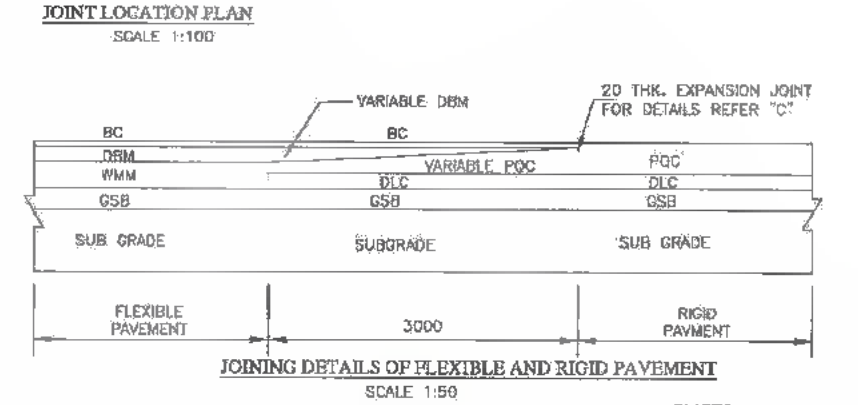
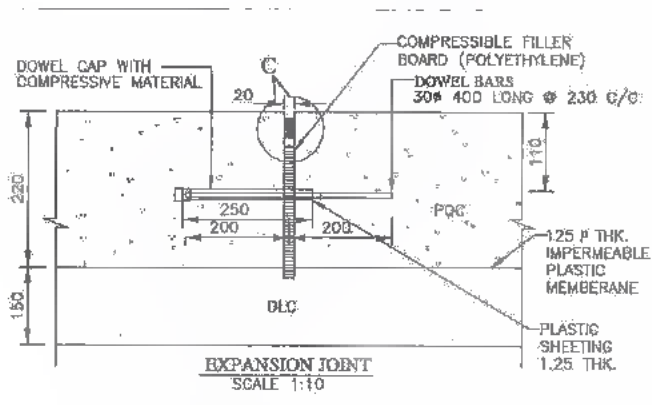
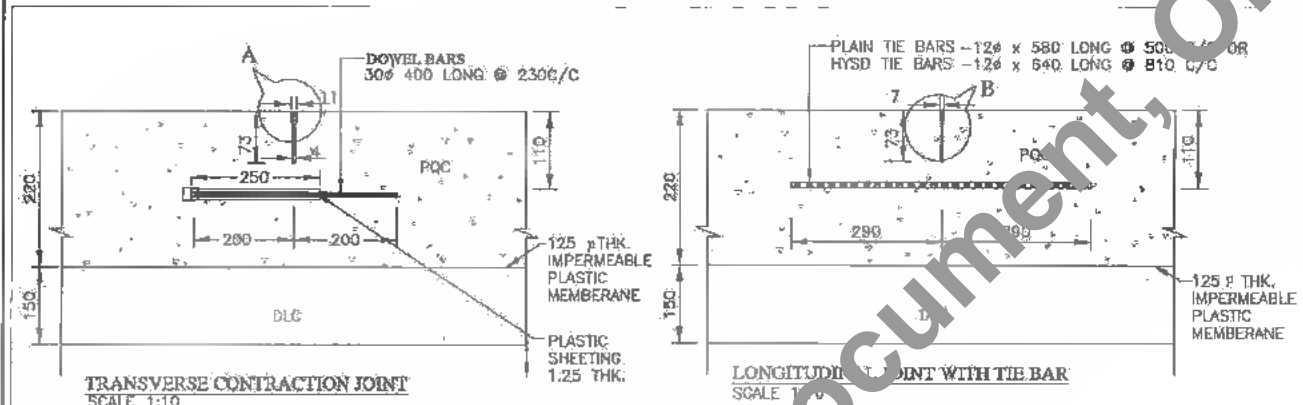
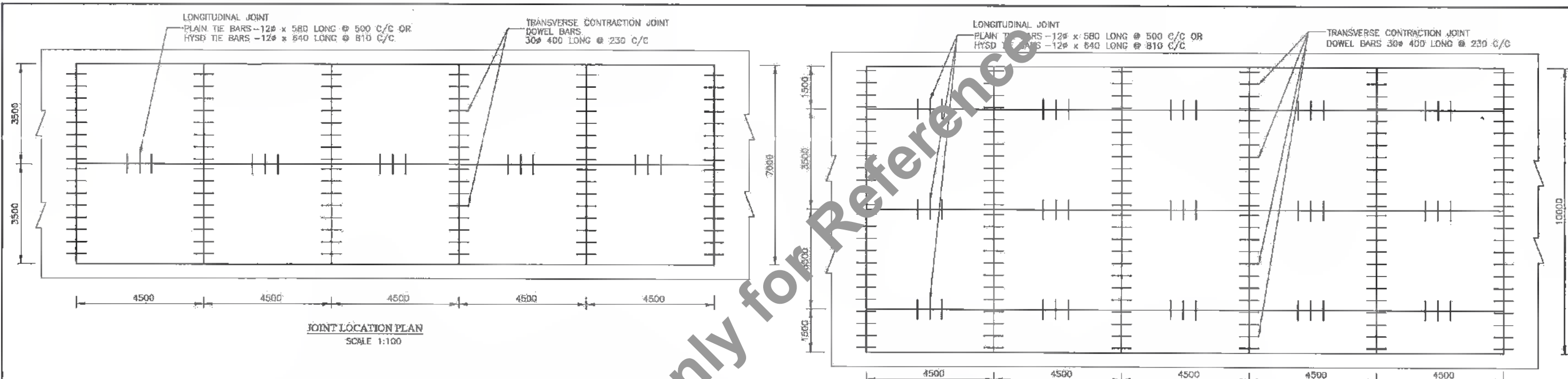
CONSULTANTS: SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company

Table with 4 columns: REV, DATE, DESCRIPTION, SIGN. Contains revision history for the document.

Approval section with fields: DRAWN BY, CHECKED BY, APPROVED BY, ISSUED BY. Includes project title and drawing details.



185
592



DETAILS OF DOWEL & TIE BAR

DOWEL BAR (MILD STEEL) DETAILS			TIE BAR DETAILS				
Dia. (mm)	Length (mm)	Spacing (mm)	Dia. (mm)	Length (mm)	Spacing (mm)		
				Plain	HYSD	Plain	HYSD
30	400	230	12	580	640	500	810

CONSTRUCTION NOTES

- ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE MENTIONED.
- 30 MM MILD STEEL DOWEL BARS SHALL BE OF GRADE S240.
- 12 MM LA STEEL TIE BARS SHALL BE OF GRADE Fe250/12mm HYSD TIE BARS SHALL BE OF GRADE Fe500.
- WATER REDUCER @ 0.5 PERCENT BY WEIGHT OF CEMENT IS PERMITTED.
- SUB GRADE SHOULD HAVE 'K' VALUE MIN. 80.33 Mpa/m.
- PCC SHALL BE OF MIN. FLEXURAL STRENGTH OF 4.50 Mpa.
- SEPARATION MEMBRANE SHALL BE IMPERMEABLE PLASTIC SHEETING 125 MICRONS THICK LAID FLAT WITHOUT CREASES. BEFORE PLACING THE SEPARATION MEMBRANE, THE SUB-BASE SHALL BE SWEEP CLEAN OF ALL THE EXTRANEUS MATERIALS USING AIR COMPRESSOR. WHEREVER OVERLAP OF PLASTIC SHEETS IS NECESSARY, IT SHOULD BE AT LEAST 300 MM.
- THE SEPARATION MEMBRANE MAY BE NAILED TO THE LOWER LAYER WITH CONCRETE NAILS.

Client: Bihar State Road Development Corporation Limited (BSRDCL) (A Government of Bihar Undertaking)

Project: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

Consultants: SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY
PH	31/07/10	GOOD FOR CONSTRUCTION (REVISED DPR)		
PC	17/12/10	GOOD FOR CONSTRUCTION (DPR)		
PE	31/03/17	GOOD FOR CONSTRUCTION (DPR)		
PF	19/02/14	GOOD FOR CONSTRUCTION (DPR)		
PD	25/02/14	ISSUED WITH FINAL DPR		
PE	13/11/13	ISSUED WITH DPR		
PF	28/08/13	ISSUED WITH DPR		

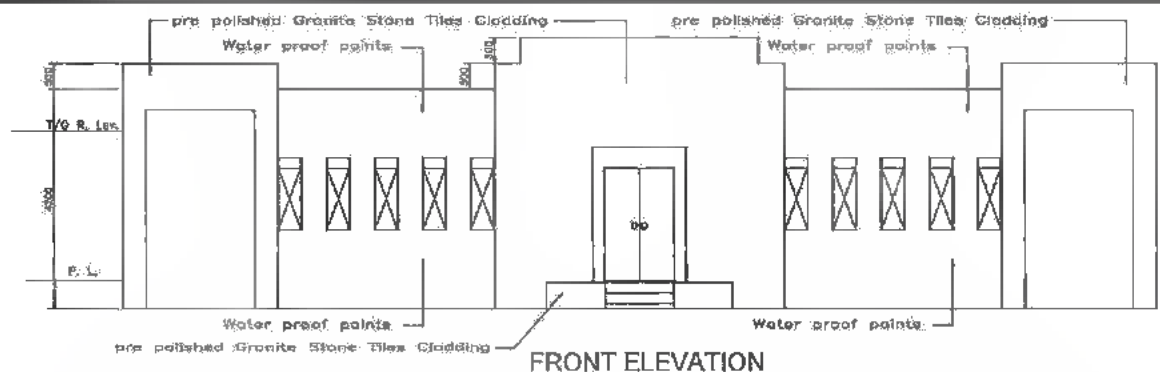
Drawn by: R.N. Checked by: C.S. Approved by: J.O. Issued by: B.S.

Title: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) TYPICAL DETAILS FOR RIGID PAVEMENT

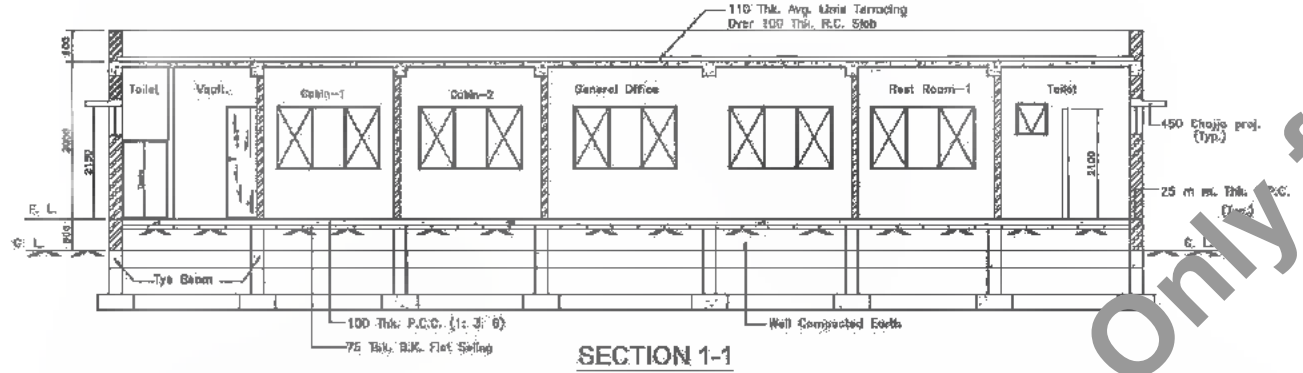
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REVISION: PH

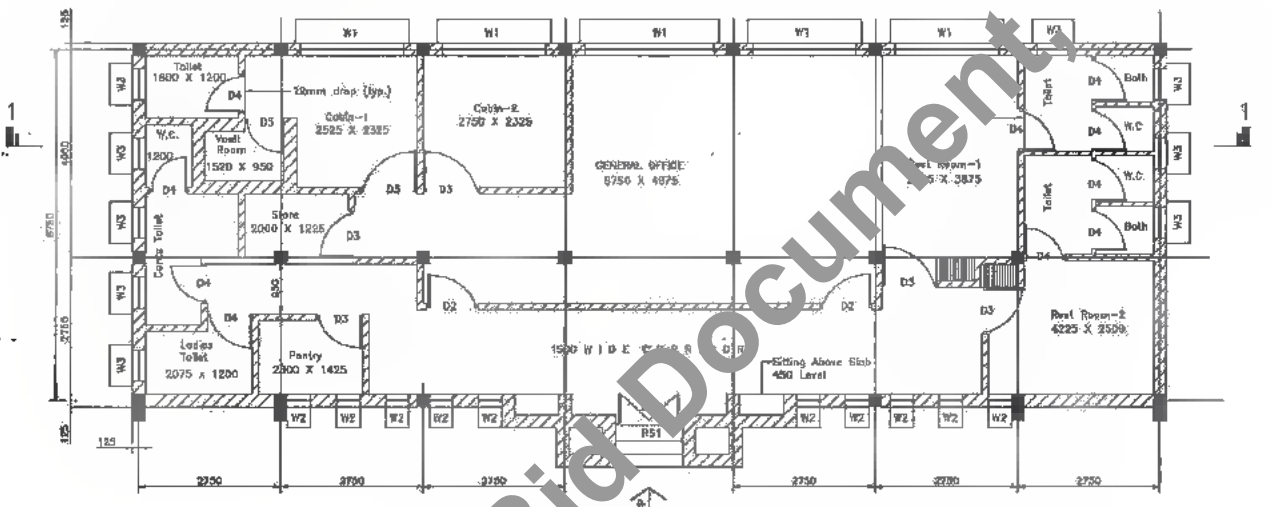
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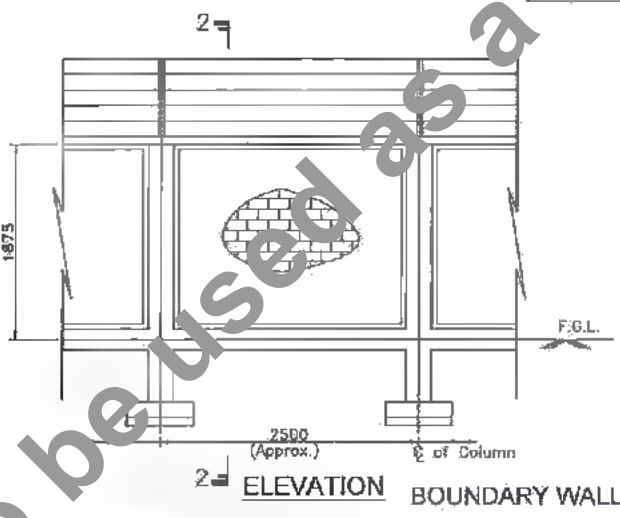
FRONT ELEVATION



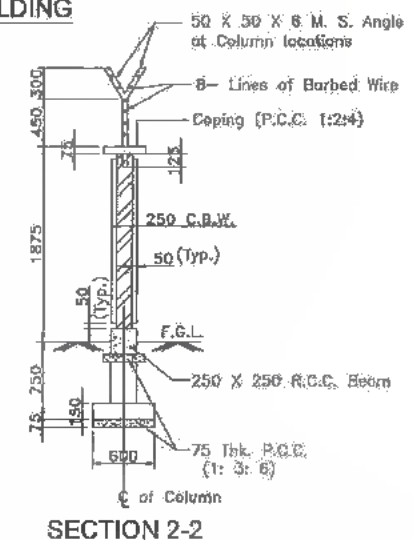
SECTION 1-1



PLAN ADMINISTRATIVE BUILDING



ELEVATION BOUNDARY WALL



SECTION 2-2

SCHEDULE OF OPENINGS FOR DOOR

SL. NO.	TYPE	SIZE	NOS.	DESCRIPTION
1.	D1	1500 X 2100	1	Wooden Glazed Frame With Double-Leaf Wooden Glazed Panel Door
2.	D2	1000 X 2100	2	35 m.m. Wooden Flush Door
3.	D3	900 X 2100	5	35 m.m. Wooden Flush Door
4.	D4	750 X 2100	10	Sintex or Eq. PVC Door
5.	D5	750 X 2100	4	M. S. Door
5.	RS1	1500 X 2100	1	Profile type rolling Shutter

All Doors to be Provided With Locks.

SCHEDULE OF OPENINGS FOR WINDOW

SL. NO.	TYPE	SIZE	NOS.	DESCRIPTION
1.	W1	2000 X 2100	5	MS Glazed Window With Side Hung Outside Opening Shutters.
2.	W2	450 X 1200	10	MS Glazed Window With Side Hung Outside Opening Shutters.
3.	W3	600 X 600	10	MS Glazed Window With Bottom Half Fixed & Top Hung
4.	W4	1000 X 300	2	MS Fixed Glazing With 150 x 150 Sq. Panel

SCHEDULE OF FINISHES

AREA	FLOOR/TREAD	SKIRTING / DADO	WALL	CEILING	REMARKS
Entry Lobby / Corridor / Rest Room / Office / Canteen	Terrazzo Floor Cast-in-Situ	150 mm. High Terrazzo	12 mm. Thk. Cement Plaster & White Washing	6 mm. Thk. Cement Plaster & White Washing	
Kitchen / Store / Vault	Terrazzo Floor Cast-in-Situ	For Kitchen Only White Glazed Tile Dado Upto 2100 For Others 150 high Terrazzo Skirting	12 mm. Thk. Cement Plaster & White Washing	6 mm. Thk. Cement Plaster & White Washing	
Toilet	300 X300 Silk Ceramic Tile	White Glazed Tiles Dado Upto 2100 m.m.	12 mm. Thk. Cement Plaster & White Washing	6 mm. Thk. Cement Plaster & White Washing	

NOTE:
1. All Dimensions Are in Millimetre Unless Stated Otherwise.

DATE: 23/07/2018 - 544777/18/18
PATH: T:\CAD\TAU\213007\REVISED DPR\PACKAGE-IV\B OFFICE CUM RESIDENTIAL COMPLEX FOR BUILDING

CLIENT:
Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SAI House" Sahyog Corporate Square, 8th Bypass, Ghatampur, Agra-202002, U.P.
Phone: +91-522-2656700/701 Fax: +91-522-2656700
Email: mail@saiindia.com

REV.	DATE	DESCRIPTION	ISSN	ISSUED BY	S.S.
PH	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)			
PE	17/12/18	GOOD FOR CONSTRUCTION (DPR)			
PF	31/03/17	GOOD FOR CONSTRUCTION (DPR)			
PG	16/04/14	GOOD FOR CONSTRUCTION (DPR)			
PH	28/02/14	ISSUED WITH FINAL DPR			
PC	13/11/13	ISSUED WITH DPR			
PD	29/08/13	ISSUED WITH ETR			

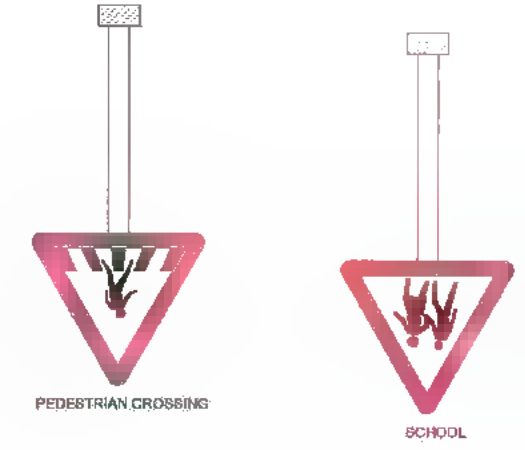
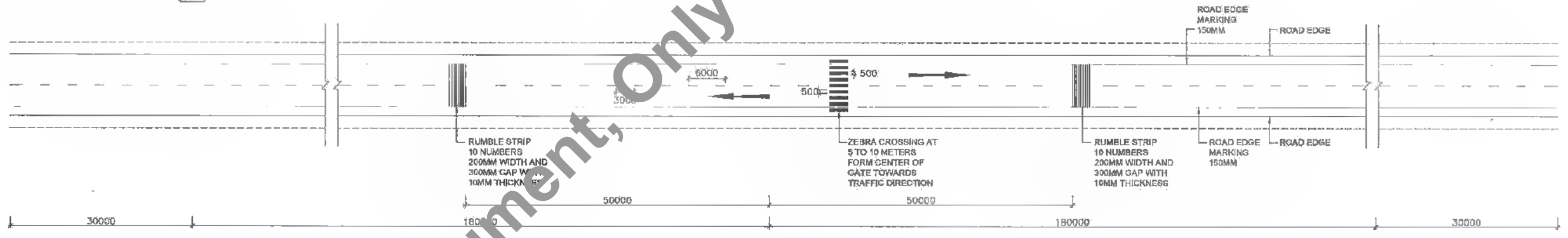
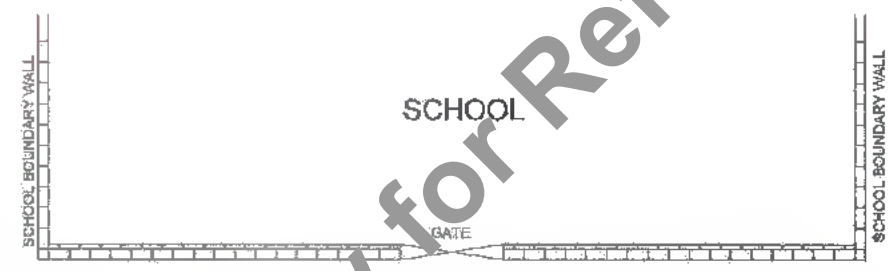
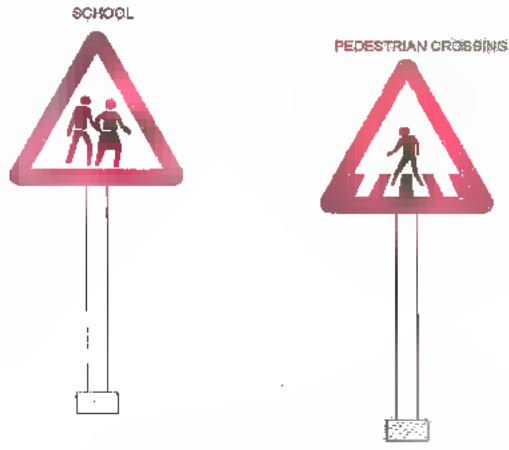
TITLE: RAUTA-MAHADEV DIGHI GHORAK (PACKAGE-II)
OFFICE CUM RESIDENTIAL COMPLEX FOR PIU
DRG. NO.: SAI-213007/DPR/NTYP-16
REVISION: PH



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BAYSI ←

→ DIGHALBANK



TYPICAL DRAWING OF RUMBLE STRIPS
SCALE 1:500

NOTE
1. ALL DIMENSIONS ARE IN MILLIMETRE UNLESS STATED OTHERWISE.
2. MATERIAL AND COLOUR FOR ROAD SIGNS SHALL BE AS PER IRC : 87-2012

CLIENT:
Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 certified Company
Block-A "SAI House", Sanyam Corporate Square, 6/5 Rajpath Club, Bodoland, Ahmedabad-380059 Gujarat, India
Phone : +91-79-85142000/760, Fax : +91-79-85142000-82901 : mail@saiindia.com

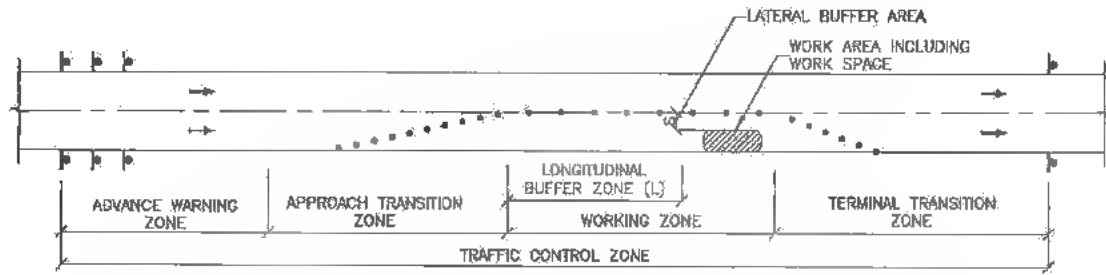
REV.	DATE	DESCRIPTION	SIGN	ISSUED BY : B.S.
PA	17/12/18	DRSD FOR CONSTRUCTION (DPR)		

SCALE :

DRAWN BY : R.N.	FILE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) TYPICAL DETAILS OF RUMBLE STRIPS
CHECKED BY : O.S.	
APPROVED BY : J.D.	
DRG. NO. :	SAI-213007/DPR/MTYP-19
REVISION : PA	



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ELEMENTS OF TRAFFIC CONTROL ZONE

GENERAL NOTES

- THE RECOMMENDED LENGTHS FOR EACH COMPONENT OF TRAFFIC CONTROL ZONES FOR A WELL LOCATED SITE ARE GIVEN IN THE FOLLOWING TABLE. IT MAY BE NECESSARY TO EXTEND THE ADVANCED WARNING ZONE WHERE APPROACH VISIBILITY IS POOR. HOWEVER, THE ZONE LENGTH SHOULD NOT BE LESS THAN THE VALUES SPECIFIED IN THE FOLLOWING TABLE.

AVERAGE APPROACH SPEED (km/h)	LENGTH OF ADVANCE WARNING ZONE (m)	LENGTH OF APPROACH TRANSITION ZONE (m)	LENGTH OF WORKING ZONE (m)
50 or less	100	50	VARIES
51-80	100-300	50-100	VARIES
81-100	300-500	100-200	VARIES
Over 100	1000	200-300	VARIES

- PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE.
- ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS AND ANY OTHER TRAFFIC CONTROL DEVICES WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE COVERED, REMOVED OR RELOCATED.
- MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE DONE IN ACCORDANCE WITH IRC:SP:55:2001, "GUIDELINES ON SAFETY IN ROAD CONSTRUCTION ZONES." THE SIZE, COLOURS AND PLACEMENT OF SIGNS SHALL BE AS PER IRC:67 AND IRC:SP:55:2001, UNLESS OTHERWISE NOTED IN THE PLANS.
- THE CONTRACTOR SHALL PREPARE A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PREVENT THE USE OF LANE CLOSURES.
- ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY SHALL BE BACKFILLED AND PLACED ON A MINIMUM 1V:6H SLOPE PRIOR TO THE END OF EACH WORK DAY. OTHER EXCAVATED AREAS WITHIN THE CLEAR ZONE ARE TO BE EITHER BACKFILLED OR A TYPE III BARRICADE SET TEMPORARILY IN PLACE TO STOP VEHICULAR AND PEDESTRIAN TRAFFIC. IF THE EXCAVATIONS ARE DEEPER THAN 1.2 M, STRONG BARRICADES WILL BE REQUIRED.
- BITUMINOUS LAYERS PLACED DURING THE VARIOUS CONSTRUCTION STAGES SHALL BE TRANSITIONED ON A MINIMUM 1V:20H SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION.
- CONSTRUCTION ZONE SPEED LIMIT TO BE DECIDED ON SITE BY INDEPENDENT RESIDENT ENGINEER. A REDUCED SPEED AHEAD SIGN SHOULD BE LOCATED IN ADVANCE OF THE SPEED LIMIT SIGN WHICH WILL REDUCE THE NORMAL POSTED SPEED LIMIT SIGN THROUGH THE CONSTRUCTION ZONE.
- TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, BARRICADES ETC. SHALL BE PLACED AS SHOWN IN IRC:SP:55:2001. SIGNS SHALL NOT BE PLACED WITHOUT ACTUAL LANE CLOSURES AND SHALL BE IMMEDIATELY REMOVED UPON REMOVAL OF THE CLOSURES.
- GAPS IN WORK AREA MAY BE AVOIDED AS THESE MAY FAULTLY GIVE AN IMPRESSION TO THE ROAD USERS THAT THEY HAVE PASSED THE WORK AREA. THE GUIDELINES IN THIS REGARD SHOULD BE INSTALLED AT APPROPRIATE LOCATIONS.
- AS FAR AS POSSIBLE, ROAD WORKS IN URBAN AREA SHOULD BE CARRIED OUT AT NIGHT. WHENEVER NIGHT TIME ROAD REPAIRS ARE NOT POSSIBLE, THEN ONLY DAY TIME REPAIRS SHOULD BE CARRIED OUT. REPAIRS DURING PEAK HOURS SHOULD ALSO BE AVOIDED. ADEQUATE MEASURES FOR PEDESTRIAN SAFETY SHOULD BE TAKEN IN URBAN AREAS.
- DEFINITION/SUPPLEMENTARY PLATES SHALL BE PLACED (BELOW) 150 MM FROM THE BOTTOM OF WARNING SIGNS.
- THE ROAD WIDTH THROUGH THE CONSTRUCTION ZONE MUST BE AT LEAST AS TRAFFIC MANAGEMENT PLAN FOR TWO WAY TRAFFIC TO ENSURE THAT THE PROBLEMS FOR BUSES AND LORRIES ARE MINIMIZED, A GREATER WIDTH IS DESIRED IF THERE ARE A HIGH PROPORTION OF VULNERABLE ROAD USERS.
- ON THE ROADS WITH HIGH TRUCKS OR GOODS VEHICLES AND LOW FLOWS OF VULNERABLE USERS, WIDTH OF 5.5 M COULD BE ACCEPTABLE BUT TWO-WAY WORKING WOULD NOT BE POSSIBLE. IN THIS CASE THE CONES SHOULD BE USED TO REDUCE THE CARRIAGEWAY TO NOT MORE THAN 3.7 M AND TRAFFIC SHOULD BE CONTROLLED BY GUIDELINE CONES IN IRC:SP:55:2001.
- THE MINIMUM WIDTH OF ONE-WAY TRAFFIC IS 3.25M WITH AN ABSOLUTE MINIMUM OF 3 M.
- IN CASES WHERE A TRAFFIC CONTROL ZONE MAY AFFECT AN ADJACENT RAILWAY CROSSING AND THERE IS A CHANCE THAT TRAFFIC MAY BLOCK BACK ACROSS THE RAILWAY LINE, THE RAILWAY AUTHORITIES SHOULD BE INFORMED. ADEQUATE MEASURES SHOULD BE TAKEN TO MONITOR SUCH SITUATIONS AND TO ENSURE THAT THE TRAFFIC DOES NOT WAIT ON THE CROSSING ITSELF.

LENGTH OF THE DOWNSTREAM OR CLOSING TAPER, PLACED IN THE TERMINAL TRANSITION ZONE, MAY BE 25-30 m.

SIZE AND SITING DISTANCE DETAIL OF SIGNS AND CONES

Type of Road	Minimum and Normal maximum siting distance "D" (m) (visibility to first sign in advance of transition zone)	Minimum clear visibility to first sign (m)	Minimum size of signs (mm)	Minimum height of cones (or equivalent delineator) (mm)	Details of lead-in cone tapers (note 2)	Width of Hazard (m)						
						1	2	3	4	5	6	7
All purpose single carriageway road, urban, restricted to 50 km/h or less	25 to 50	80	800	500	Length of Transition Zone "T" (m)	13	25	38	52	65	78	91
					Minimum number of cones	4	4	6	7	9	10	12
					Minimum number of lamps at night	3	3	5	6	8	9	11
All purpose single carriageway road, restricted to 60 km/h or less	50 to 110	80	750	500	Length of Transition Zone "T" (m)	20	40	60	80	100	120	140
					Minimum number of cones	4	6	8	10	13	15	17
					Minimum number of lamps at night	3	5	7	9	12	14	16
All purpose divided carriageway road, restricted to 60 km/h or less	110 to 275	80	750	500	Length of Transition Zone "T" (m)	25	50	75	100	125	150	175
					Minimum number of cones	4	7	10	13	15	18	21
					Minimum number of lamps at night	3	6	9	12	14	17	20
All purpose single carriageway road, with speed limit 80 km/h or less	275 to 450	75	50	500	Length of Transition Zone "T" (m)	25	50	75	100	125	150	175
					Minimum number of cones	4	7	10	13	15	18	21
					Minimum number of lamps at night	3	6	9	12	14	17	20
All purpose divided carriageway road, with speed limit 80 km/h or more	725 to 1600	105	1200	750	Length of Transition Zone "T" (m)	32	64	96	128	160	192	224
					Minimum number of cones	5	8	11	15	18	23	26
					Minimum number of lamps at night	4	6	11	15	18	22	25

NOTES

- ON ROADS WITH SPEED LIMITS OF 80 KM/H OR MORE, ALL ADVANCE SIGNS SHOULD HAVE PLATES GIVING THE DISTANCE TO THE WORKS IN m OR km.
- LEAD-IN TAPERS USED WITH TRAFFIC CONTROL, AND ALL EXIT TAPERS, SHALL BE ABOUT 45° TO THE KERB LINE WITH CONES SPACED 1.2 m APART.
- THE MAXIMUM SPACING DISTANCE OF CONES IN LONGITUDINAL LENGTHS OF CONING SHALL BE 9 m, BUT NOT LESS THAN 2 CONES SHALL BE USED IN ANY LENGTH BETWEEN TAPERS.
- THE RANGE OF SITING DISTANCE (D) IS GIVEN TO ALLOW THE SIGN TO BE PLACED IN THE MOST CONVENIENT POSITION BEARING IN MIND AVAILABLE SPACE AND VISIBILITY FOR DRIVERS.
- IT MAY BE APPROPRIATE TO USE THE NEXT LARGER SIZE OF CONE IN LEAD-IN TAPERS i.e. 750 mm CONES IN TAPERS WHERE 450 mm CONES ARE INDICATED IN THE TABLE. IF 1.0 m HIGH CONES ARE AVAILABLE, THESE ARE RECOMMENDED FOR EXPRESSWAYS AND HIGH SPEED ROADS.

BUFFER ZONE SAFETY CLEARANCES

Speed Restriction (km/h)	Minimum Longitudinal Buffer Zone (L) (m)	Minimum Lateral Buffer Zone (S) (m)
50 or Less	5	0.5
60	15	0.5
80	30	1.2
100	60	1.2
120	120	1.2

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<p>Bihar State Road Development Corporation Limited (BSRDC) (A Government of Bihar Undertaking)</p>	<p>PROJECT: Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar Baysi - Bahadurganj - Dighalbank (SH-99)</p>	<p>CONSULTANTS: SAI Consulting Engineers Pvt. Ltd. An ISO 9001 Certified Company</p>	<p>PE: 31/07/19 PD: 28/12/18 PC: 19/04/14 PI: 25/02/14 PA: 13/11/13</p>	<p>GOOD FOR CONSTRUCTION (REVISED DPR) GOOD FOR CONSTRUCTION (DPR) GOOD FOR CONSTRUCTION (DPR) ISSUED WITH FINAL DPR ISSUED WITH DPR</p>	<p>BROWN BY : R.M. CHECKED BY : C.S. APPROVED BY : J.D.</p>	<p>TITLE: RAUTA-MAHADEV DIGHE CHOWK (PACKAGE-I) TRAFFIC SAFETY DURING CONSTRUCTION</p>
			<p>REV. DATE DESCRIPTION SIGN ISSUED BY : B.S.</p>	<p>DRG. NO.: SAI-213007/CPR/M/TYP/TM-01 REVISION: PE</p>		



Traffic Management Requirements and Construction Methodology

Contractor's Submission

The Contractor shall submit, for the Engineer's approval, Traffic Management Plans and associated method statements at least 7 working days prior to commencement of the works. The Traffic Management Plans and method statements shall include the following minimum information and details:

- 1) Proposed location and sequence of sub-sections for construction.
- 2) Proposed staging of "half-width" by "half-width" road construction and traffic safety and control.
- 3) Details of transitions to maintain safe traffic flow between various road construction stages.
- 4) Details of temporary diversions in accordance with Specification Clause 112.3.
- 5) Typical details of arrangements for construction under traffic including details of traffic arrangements after the cessation of work each day.

Special consideration shall be given in the Traffic Management Plans to the safety of pedestrians and workers, both by day and at night.

Temporary diversions will be constructed only with the approval of the Engineer.

In general the contractor must plan his works in consideration of the following basic principles:

1. Partial pavement construction over long lengths shall not be permitted. The contractor should concentrate his activities over sections such that he can complete continuous fronts of up to a maximum of say 10km before starting the adjacent front. (10km is taken as a reasonable guide.) The contractor may open more than one continuous 10km front provided that he has the separate resources to do so. The resources working on a 10km front may not be shifted to another front until no longer required on that front. It is acknowledged that as one front nears completion plant will become available to work on a successive front. This implies some inevitable overlap between one front and its successor, which is acceptable.
2. The construction activities should be staggered over sub-sections to the extent that the use of plant and equipment is optimized to maximum efficiency and to avoid idling. For road widening operations, excavation adjacent to the existing road shall not be permitted on both sides simultaneously. Earthworks must be completed to the level of the existing road before excavation work on the opposite side will be permitted.
3. The construction operations taking place on a particular front must be managed efficiently such that delays between successive pavement layers are minimized.
4. Before the start of the monsoon season (June) the contractor shall ensure that the pavement over any front is complete, full depth, at least to DBM level, but preferably with AC wearing course. The contractor should not start any sections of pavement that he cannot complete by the start of the monsoon season.
5. In the absence of permanent facilities, temporary drainage and erosion control measures, as required by the Specifications, are to be implemented prior to the onset of the monsoon.
6. Project road has its own unique conditions and therefore the above traffic management concept should be modified to suit, but respecting the basic principle of completion of discrete sections.
7. Works on CD structures requiring diversions should be sequenced in with the overall traffic management plan, but can be treated independently of the established 10km working fronts where separate resources are available.
8. When separate traffic diversions are required for CD works and other situations that demand them, the minimum requirements of Spec Clause 112.3 should be equalled or bettered. Such diversions should have smooth connections to the road with well established and clear signage to give all required information to the road user. Such diversions should be maintained throughout their required duration.
9. In general traffic management and safety measures implemented should be inspected regularly (day and night) to rectify problem areas before giving cause for complaint.
10. The Employer is highly concerned about the quality of traffic management and safety is an integral part of the project and will not compromise on this aspect.

Separate traffic diversions as per Spec. Clause 112.3 shall in general be required for the following construction situations as determined by the Engineer:

- 1) For CD reconstruction
- 2) For CD widening if considered necessary by the Engineer
- 3) For new road works when the FRL is substantially above existing RL
- 4) For new road works when the FRL is substantially below the existing RL such that a separate diversion is required in the judgment of the engineer

The above criteria may be adjusted as decided by the Engineer if alternative methodology is possible and cost-effective as per actual site conditions. The above criteria may also be adjusted when the design centreline is significantly offset with respect to the existing.

In cases where separate traffic diversions are not essential or cost effective the construction methodology should be in accordance with the guidelines following:

The contractor working a 10km section on the pavement construction (except new alignments) should be limited to 500m sub-sections with a minimum of 1 to 1.5 km between successive sub-sections to ease traffic management and safety issues. The earthworks in the widening portions are not limited in this respect. Excavation on both sides of the existing road over the same sub-section simultaneously shall not be permitted for reasons of safety to the traffic, particularly at night. Sub-sections longer than 500m may be authorized by the Engineer if two-way traffic flow can be comfortably managed and the Contractor can demonstrate his ability to maintain dust control, proper road edge delineation, proper signage and traffic control. The number of sub-sections open for construction shall suit the contractor's needs to meet his approved clause 14 Programme.

Where single file traffic is permitted (only applicable to final wearing course operations), the sub-sections shall be reduced to a maximum length whereby safe traffic regulation can be physically managed. Single file traffic may not be permitted at certain locations or times of the day when traffic volumes are such that excessive congestion shall occur.

Three typical traffic management scenarios for which separate traffic diversions are not required are illustrated on the attached drawings and described as follows:

Case 1: Proposed FRL at Approximately the same level as the existing RL (Refer to drawing TM-03) Overlay Sections

Stage 1

1. Traffic running normally on the existing road.
2. Install proper edge delineation and temporary road signs on existing carriageway edge.
3. Construct the earthworks on one side only with proper benching into the existing embankment as appropriate and as per Pavement Crust design upto Selected fill of Earthen Shoulder. Temporary additional widening by 2.50m would be required. This shall later form part of permanent works, hence should be constructed as per contract specification.
4. Construct temporary overfilling to match the level of the adjacent existing pavement.

Stage 2

1. Divert traffic on new partial construction and half width of existing road.
2. Install proper edge delineation and temporary road signs to suit next stage. Earth running surface to be kept watered periodically to control dust.
3. Breakout / excavate earthen shoulder of existing road on the other side. Reuse salvaged materials elsewhere or dispose as appropriate.
4. Prepare cut formation as per Spec Clause 301.6 or as otherwise directed by the Engineer.
5. Construct earthworks to the design levels including the use of salvaged materials from the existing road where possible.
6. Scarify the bituminous surface of existing carriageway if required for overlay. Construct BM/ DBM /BC including Profile correction and Earthen Shoulder with Granular top to the design levels.
7. BC and earthen shoulder completed to half width. Adjust temporary delineation and signs ready for next stage.

Stage 3

1. Divert traffic onto the new prepared carriageway and work on the other side.
2. Scarify temporary earthworks and break out remaining portion of the earthen shoulder of existing road, which is not part of permanent works, (salvage materials for reuse in earthworks of adjacent section)
3. Construct earthworks / granular earthen shoulder to the design levels including use of salvaged materials from the existing road where possible.
4. Scarify the bituminous surface of existing carriageway if required for overlay. Construct BM/ DBM /BC including Profile correction and Earthen Shoulder with Granular top to the design levels.
5. Construct BC wearing course complete half width.

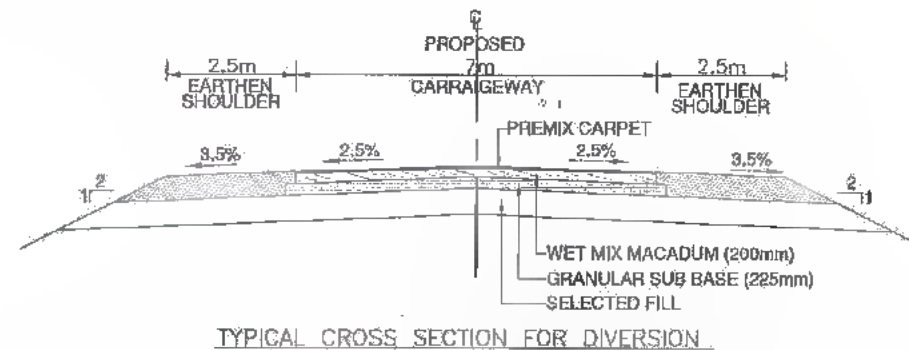
(The Engineer may allow the full road width to be open for traffic after completion of DBM (Stage 3) provided that wearing course operations follow without undue delay.)

Stage 4

1. Regulate traffic to single file flow properly controlled by signalmen while the BC wearing course is completed on the other side to complete the full width, if Stage 2 completed with DBM only.
2. Shoulders and side slopes made good and finished during this stage.
3. This stage with single file traffic flow should be limited to the shortest duration possible to minimize disruption to traffic flow.

Move to the next 500m and repeat the process. The bituminous paving works should be planned in conjunction with the staging of the road base works to give a continuity of operations in accordance with the contractor's materials production and paving rate. The bituminous paving works must take place as soon as practicable

During paving operations short stretches of alternating single file traffic may be permitted during off-peak times. Traffic control for single file traffic must meet the approval of the Engineer and be diligently controlled throughout its implementation.



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CLIENT:
Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
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An ISO 9001 Certified Company
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Phone: +91-78-8191250/1188, Fax: +91-78-81913180
Email: mail@saiconsulting.com

PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.
PD	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.B.
PC	18/04/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.S.
PB	26/02/14	ISSUED WITH FINAL DPR	ISSUED BY : J.S.
PA	13/11/13	ISSUED WITH DPR	
REV.	DATE	DESCRIPTION	SIGN.
SCALE : N/S			

TITLE: **PAUTA-MAHADEVI DIGHI CHOWK (PACKAGE-II)**
TRAFFIC MANAGEMENT REQUIREMENTS AND CONSTRUCTION METHODOLOGY
DRG. NO.: **SAI-213007/DPR/INTYPTM - 02**
REVISION: PE

Case 2: Proposed FRL upto 0.5m above the existing RL (Refer to drawings TM-04)
Reconstruction Sections

Stage 1

1. Traffic running normally on the existing road.
2. Install proper edge delineation and temporary road signs on existing carriageway edge.
3. Construct the earthworks on one side only with proper benching into the existing embankment as appropriate with approved material. Temporary additional widening by 3.00m (min.) would be required.
4. Construct temporary overfilling to match the level of the adjacent existing pavement.

Stage 2

1. Install proper edge delineation and temporary road signs.
2. Divert traffic on new partial construction and half width of existing road. Earth running surface to be kept watered periodically to control dust.
3. Breakout half width of the existing road on the other side. Reuse salvaged materials elsewhere or dispose as appropriate.
4. Prepare cut formation as per Spec Clause 301.6 or as otherwise directed by the Engineer.
5. Construct earthworks to the design levels including the use of salvaged materials from the existing road where possible.
6. Construct GSB to the design levels.
7. Adjust temporary delineation and signs ready for next stage.

Stage 3

1. Divert traffic onto the new GSB and work on the other side.
2. Break out remaining portion of the existing road (save materials for reuse in earthworks of adjacent section,) and trim adjacent earthworks to the required level.
3. Prepare cut formation as per Spec Clause 301.6.
4. Construct earthworks to the design levels including use of salvaged materials from the existing road where possible.
5. Construct GSB and WMM layers to the design levels.
6. Construct DBM and earthen shoulder for complete half width. (or BC, if approved by The Engineer)
7. Adjust temporary delineation and signs ready for next stage.

Stage 4

1. Divert traffic onto the new DBM and work on the other side.
2. Prepare surface of GSB, repair any traffic damage.
3. Construct WMM and DBM. (DBM now complete to full width.)

Stage 5

1. Regulate traffic to single file flow properly controlled by signalmen while the BC wearing course is completed on each side to complete the full width.
2. Shoulders and side slopes made good and finished during this stage.
3. This stage with single file traffic flow should be limited to the shortest duration possible to minimize disruption to traffic flow.

Case 3: Proposed FRL >0.5m above the existing RL (Refer to drawings TM-05) Reconstruction Sections

Stage 1

1. Traffic running normally on the existing road.
2. Install proper edge delineation and temporary road signs on existing carriageway edge.
3. Construct the earthworks on one side only with proper benching into the existing embankment as appropriate with approved material. Temporary additional widening by 3.50m (min.) would be required.
4. Construct temporary overfilling to match the level of the adjacent existing pavement.

Stage 2

1. Install proper edge delineation and temporary road signs.
2. Divert traffic on new partial construction and half width of existing road. Earth running surface to be kept watered periodically to control dust.
3. Breakout half width of the existing road on the other side. Reuse salvaged materials elsewhere or dispose as appropriate.
4. Prepare cut formation as per Spec Clause 301.6 or as otherwise directed by the Engineer.
5. Construct earthworks to the design levels including the use of salvaged materials from the existing road where possible.
6. Construct GSB to the design levels.
7. Protect half width construction edge with sandbags or other approved method.
8. Adjust temporary delineation and signs ready for next stage.

Stage 3

1. Divert traffic onto the new GSB and work on the other side.
2. Break out remaining portion of the existing road (save materials for reuse in earthworks of adjacent section,) and trim adjacent earthworks to the required level.
3. Prepare cut formation as per Spec Clause 301.6.
4. Construct earthworks to the design levels including use of salvaged materials from the existing road where possible.
5. Construct GSB and WMM layers to the design levels.
6. Construct DBM and earthen shoulder for complete half width. (or BC if approved by The Engineer)
7. Adjust temporary delineation and signs ready for next stage.

Stage 4

1. Divert traffic onto the new DBM and work on the other side.
2. Construct WMM and DBM and earthen shoulder. (DBM now complete to full width)

Stage 5

1. Regulate traffic to single file flow properly controlled by signal men while the BC wearing course is completed on each side to complete the full width.
2. Shoulders and side slopes made good and finished during this stage.
3. This stage with single file traffic flow should be limited to the shortest duration possible to minimize disruption to traffic flow.

For all the above construction scenarios there shall be a need for a considerable input into planning and implementing the different stages in a practical and safe manner. There shall correspondingly be a need for clear and explicit signage correctly positioned to give adequate warning and guidance to road users. The contractor shall pay particular attention to the control of dust during the trafficking of earthen or granular surfaces and proper delineation of the edges of the travelled way. Watering to control dust should be carried out at least three times per day. If the Contractor fails to control dust from the trafficking of earthen or granular surfaces the Engineer will instruct the Contractor to apply a temporary bituminous surface treatment at the Contractor's cost. The Contractor is responsible for maintaining and making-good any surface under trafficking to the approval of the Engineer and at no additional cost to the Employer.

The contractor may propose alternative traffic management systems provided that the concept of sectional completion and contained working sub-section are respected.

Other Traffic Management Consideration during Construction

During any particular stage of traffic management, the Contractor shall make sure that adjoining properties and access roads are not cut off unless there are viable alternatives available. Where required, the Contractor shall construct and maintain temporary access respecting all necessary safety requirements.

Bus stops shall be preserved and adjusted to suit the traffic management staging with proper and safe accessibility for pedestrians.

The Contractor must train his personnel who are assigned for the purpose of traffic control and safety. These personnel must understand the importance of their role and have a proper awareness of the concept of safe traffic management. Such personnel should themselves be road users to understand safe traffic control procedures

Safety Requirements

The importance of proper safety measures cannot be over-emphasized. It is the sole responsibility of the Contractor to implement and maintain all necessary safety measures during the course of the works. The Contractor shall adhere to the requirements of the MOST Specifications and the latest IRC codes, particularly IRC:SP:55-2001 concerning safety in road construction zones. The Engineer shall strictly monitor the Contractor's performance in the execution of his duties with respect to safety and The Engineer shall exercise his authority under the Contract to have any deficiencies remedied.

REFERENCE DRAWINGS

- 1.) TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE-1 DWG.NO. TM-04
- 2.) TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE-2 DWG.NO. TM-05
- 3.) TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE-3 DWG.NO. TM-06
- 4.) TYPICAL PLAN FOR TRAFFIC MANAGEMENT SEQUENCE DURING CONSTRUCTION DWG.NO. TM-07
- 5.) SCHEMATIC PLAN FOR TRAFFIC MANAGEMENT BETWEEN SUB-SECTION AT DIFFERENT STAGES DWG.NO. TM-08
- 6.) TYPICAL ARRANGEMENT OF TRAFFIC CONTROL DEVICES FOR 500M SUB-SECTION DWG.NO. TM-09



DATE: 2014/07/10 10:14am PATH: T:\CADD\13007 BIHAR REVISD DPR\CM\TYR. TRAFFIC MANAGEMENT PLAN\PACKAGE-II\03-TRAFFIC-MANAGEMENT-NOTES - 2.dwg

CLIENT :

Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

(Signature: M. (Tech.))

PROJECT :

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS :

SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Block-A "5th Floor", Sector Corporate Square, B/1, Rajghat
Club, Baysi, Bahadurganj, Bhojpur - 801005 (U.P.) India
Phone : +91-78-6512987/900, Fax : +91-78-6512990
Email : saiconsulting@rediffmail.com

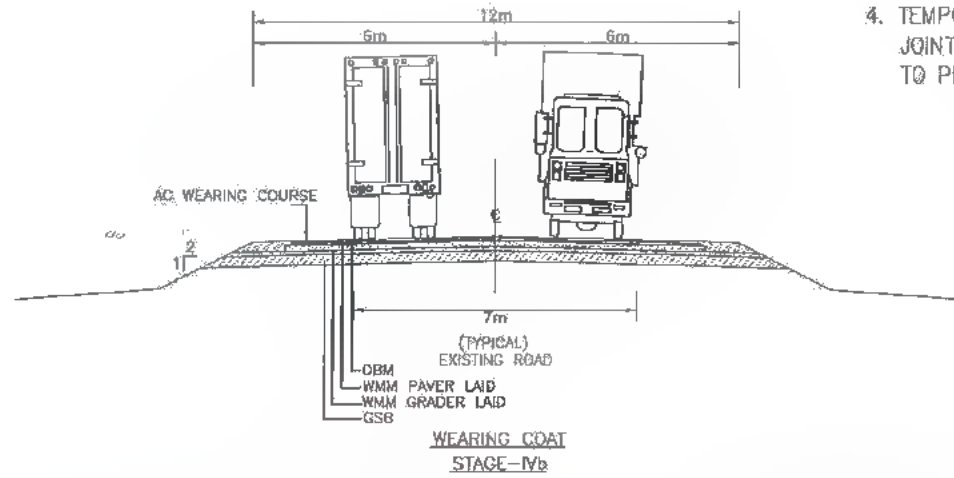
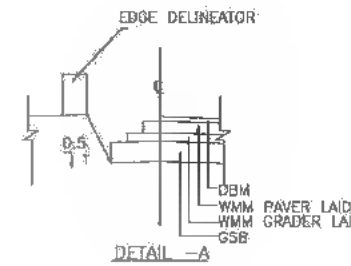
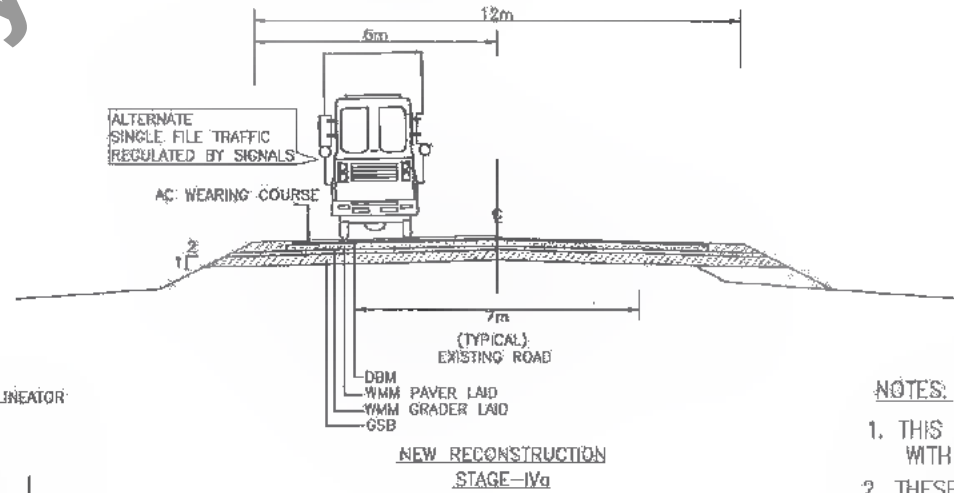
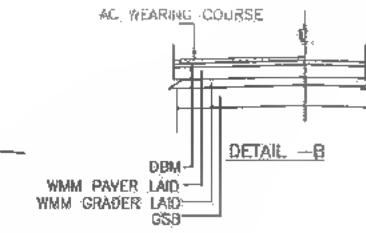
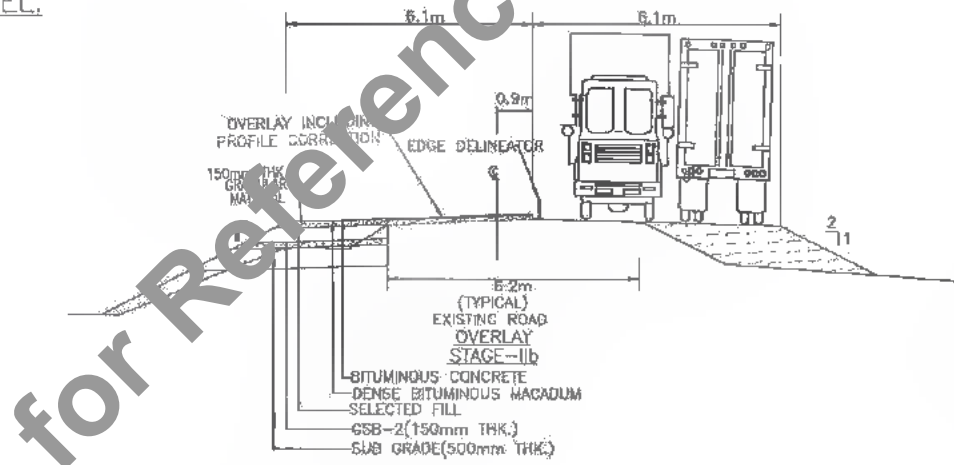
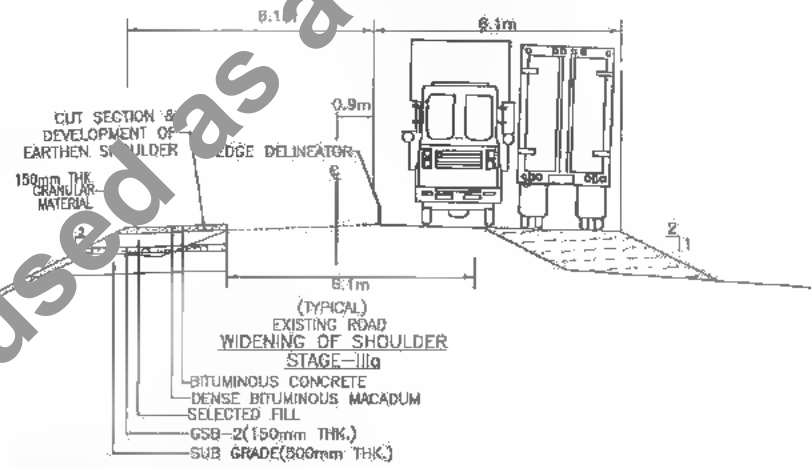
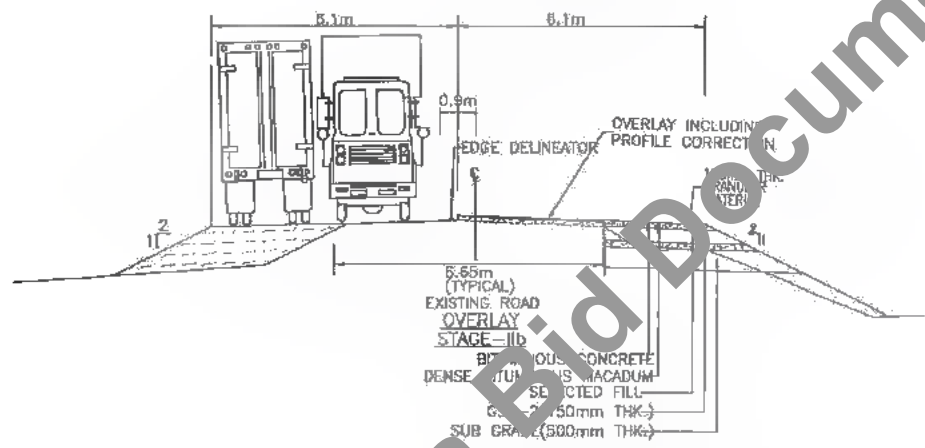
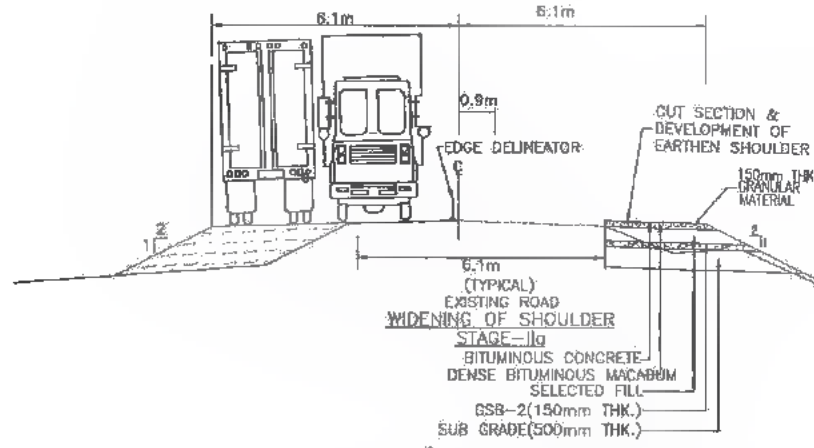
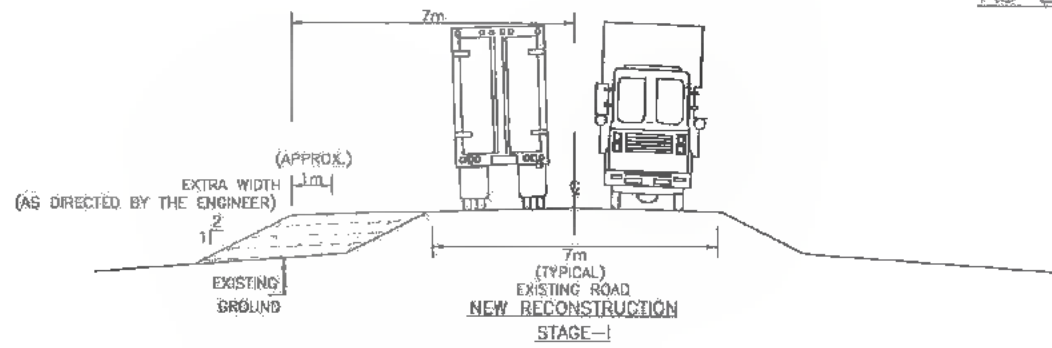
PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : R.N.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
PD	26/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : J.S.	TRAFFIC MANAGEMENT REQUIREMENTS AND CONSTRUCTION METHODOLOGY
PC	10/06/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	DRG. NO. :
PB	25/02/14	ISSUED WITH FINAL DPR	ISSUED BY : J.S.	SAI-213007/DPR/JM/TYP/ TM - 03
PK	13/11/13	ISSUED WITH DPR		REVISION : PE
REV.	DATE	DESCRIPTION	SIGN	

SCALE : N.T.S.

REVISION : PE

131
586

PROPOSED FRL. AT APPROXIMATELY THE SAME LEVEL
AS EXISTING ROAD LEVEL.



NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING TM-01 TO TM-07
2. THESE DRAWINGS SHOW TYPICAL TRAFFIC MANAGEMENT STAGING DURING CONSTRUCTION. FOR COMPLETE TECHNICAL DETAILS OF THE PAVEMENT WORKS REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS.
3. DIMENSIONS SHOWN ACROSS THE WIDTH ARE INDICATIVE OF THE PARTICULAR CONSTRUCTION STAGE. AT INTERMEDIATE STAGES THE WIDTHS SHALL BE THE MINIMUM REQUIRED TO SUSTAIN TWO-WAY TRAFFIC.
4. TEMPORARILY EXPOSED EARTHEN/GANULAR CONSTRUCTION JOINTS ARE TO BE PRIMED AS DIRECTED BY THE ENGINEER TO PREVENT LOSS OF MATERIAL.

DATE: 21/09/2010 10:14:40 AM
PATH: T:\CAP\2010\2007 BIHAR\REVISED DPR\CM\TYP. TRAFFIC MANAGEMENT PLAN\PACKAGE-II\304-TRAFFIC-MANAGEMENT CASE-1.dwg

CLIENT:
 Bihar State Road Development Corporation Limited (BSRDCL) (A Government of Bihar Undertaking)

PROJECT:
 Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
 Baysi - Bahadurganj - Dighalbank (SH-99)

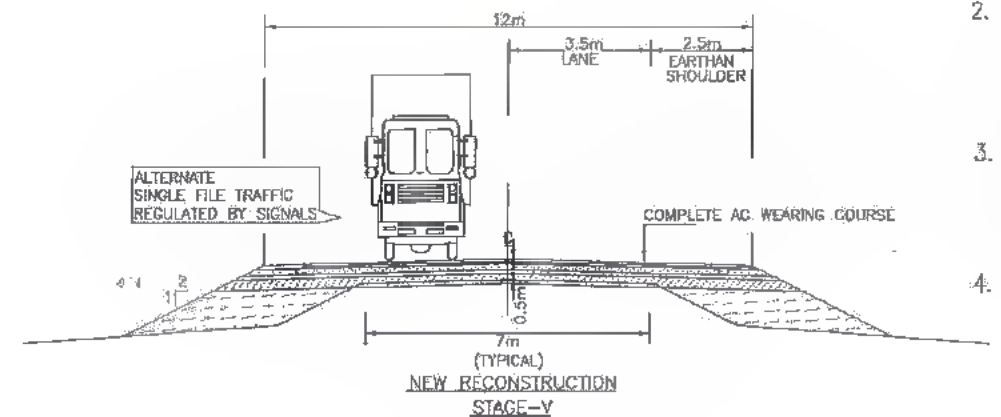
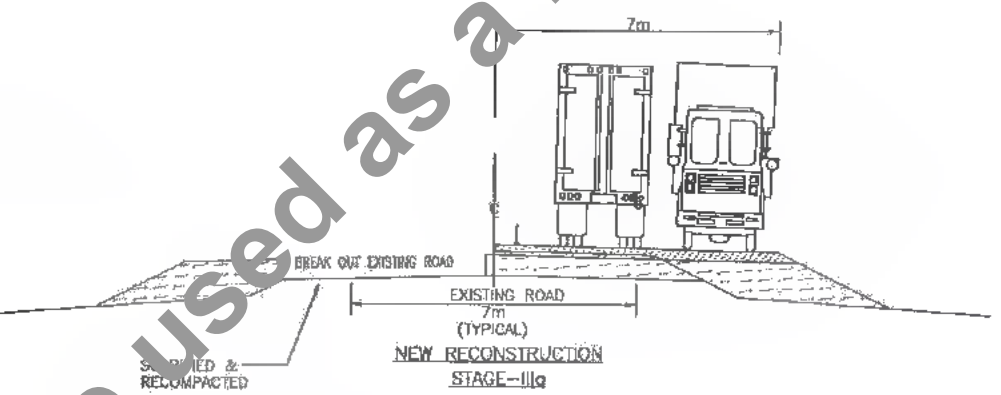
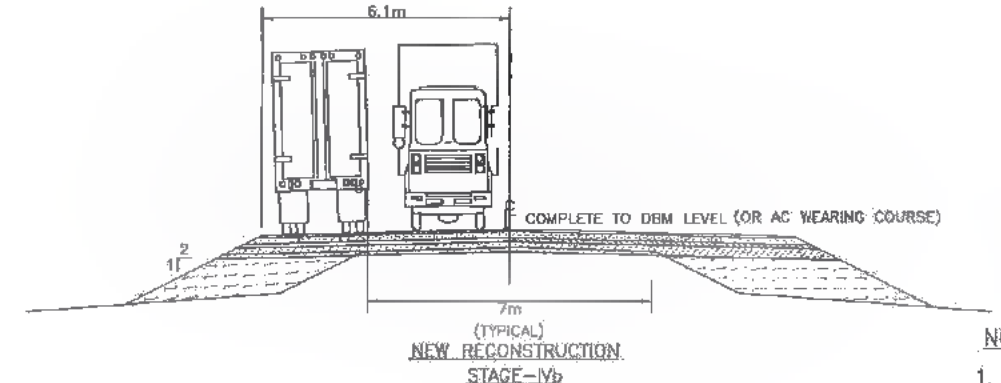
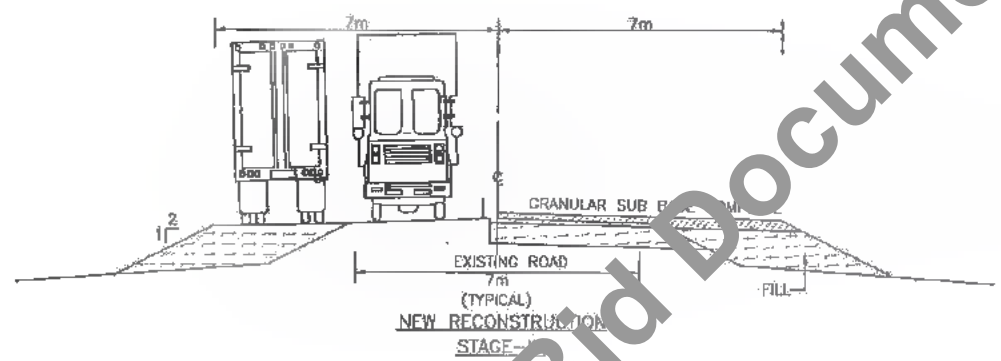
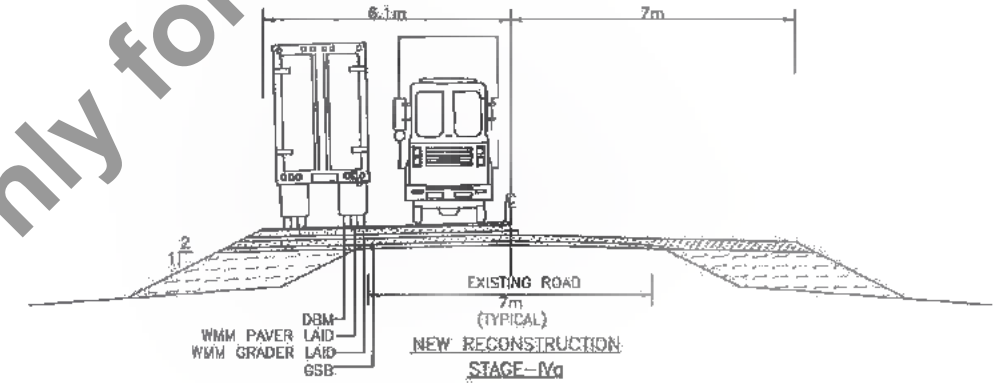
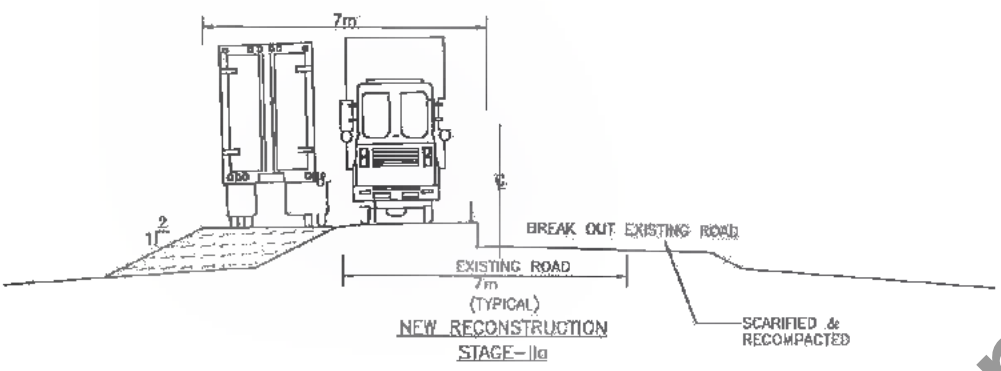
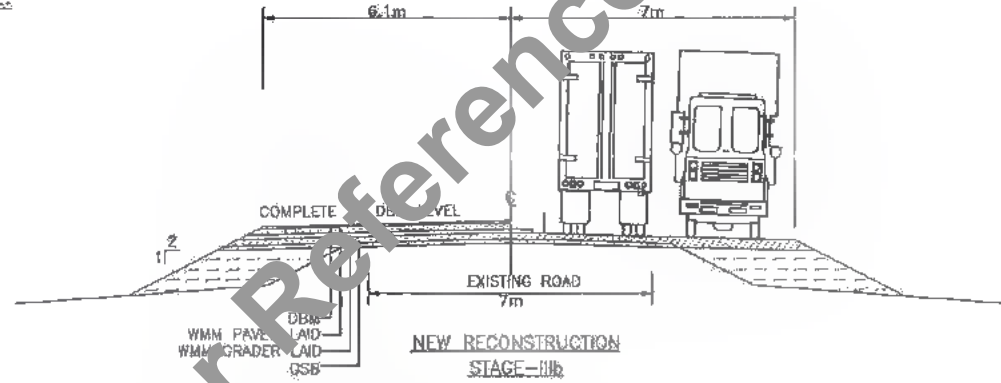
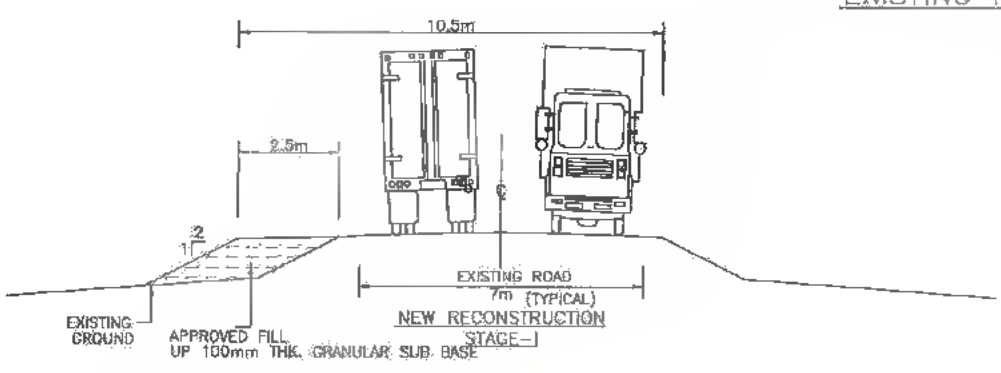
CONSULTANTS:
 SAI Consulting Engineers Pvt. Ltd.
 An ISO 9001 Certified Company
 Block-A "SAI House", Sanyal Corporate Square, 8th Rajpath
 Club, Gode Road, Ahmedabad-380015, Gujarat, India
 Phone : +91-79-4422650/700 Fax : +91-79-4422650
 Email : mail@saiconsulting.com

REV.	DATE	DESCRIPTION	SIGN	ISSUED BY
PE	31/07/10	GOOD FOR CONSTRUCTION (REVISED DPR)		
PD	28/12/10	GOOD FOR CONSTRUCTION (DPR)		
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)		
PB	26/02/14	ISSUED WITH FINAL DPR		
PA	15/11/13	ISSUED WITH DPR		

DRAWN BY : R.M.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II) TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE - 1
CHECKED BY : C.S.	
APPROVED BY : J.D.	
ISSUED BY : B.S.	
DRG. NO. :	SAI-218007/DPR/TYP/ TM - 04
REVISION : PE	



PROPOSED FRL UP TO 0.5m ABOVE EXISTING ROAD LEVEL.



- NOTES:**
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING TM-01 TO TM-07
 2. THESE DRAWINGS SHOW TYPICAL TRAFFIC MANAGEMENT STAGING DURING CONSTRUCTION. FOR COMPLETE TECHNICAL DETAILS OF THE PAVEMENT WORKS REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS.
 3. DIMENSIONS SHOWN ACROSS THE WIDTH ARE INDICATIVE OF THE PARTICULAR CONSTRUCTION STAGE. AT INTERMEDIATE STAGES THE WIDTHS SHALL BE THE MINIMUM REQUIRED TO SUSTAIN TWO-WAY TRAFFIC.
 4. TEMPORARILY EXPOSED EARTHEN/GRANULAR CONSTRUCTION JOINTS ARE TO BE PRIMED AS DIRECTED BY THE ENGINEER TO PREVENT LOSS OF MATERIAL.

DATE: 20/07/19 10:13am: PATH: \\SAR... \BID\REVISED_DPR\TYPP\TRAFFIC MANAGEMENT PLAN\PACKAGE-1\105-TRAFFIC-MANAGEMENT CASE-2.dwg

CLIENT:



Bihar State Road Development Corporation Limited (BSRD)
(A Government of Bihar Undertaking)

PIU, Bihar

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)


CONSULTANTS:



SaI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

Block-A 'Sai House', Sahjanpur Corporate Square, B-10, Sahjanpur, Patna-800014, Bihar, India
Phone : +91-91-6582462790, Fax : +91-91-65824625
Email : sai@saiconsulting.com

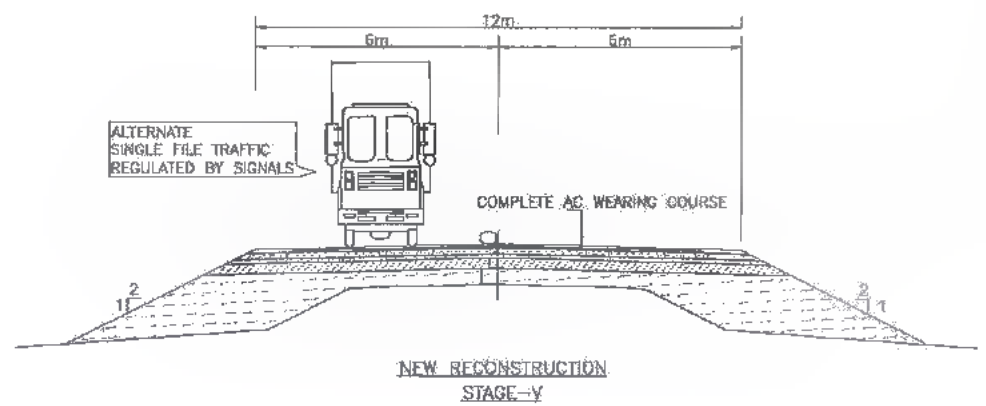
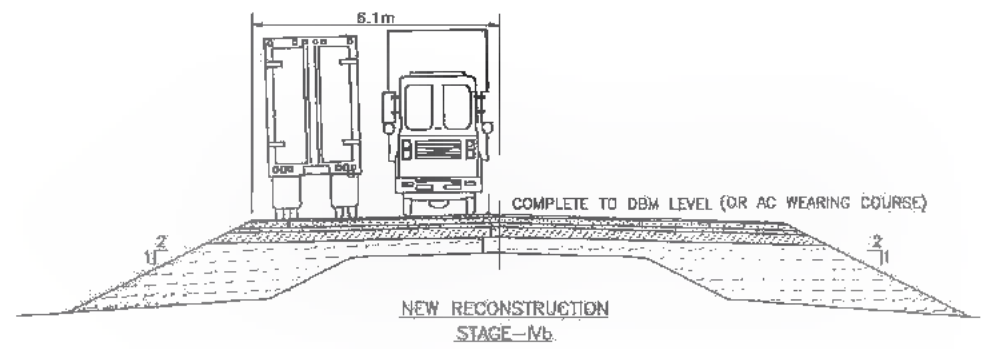
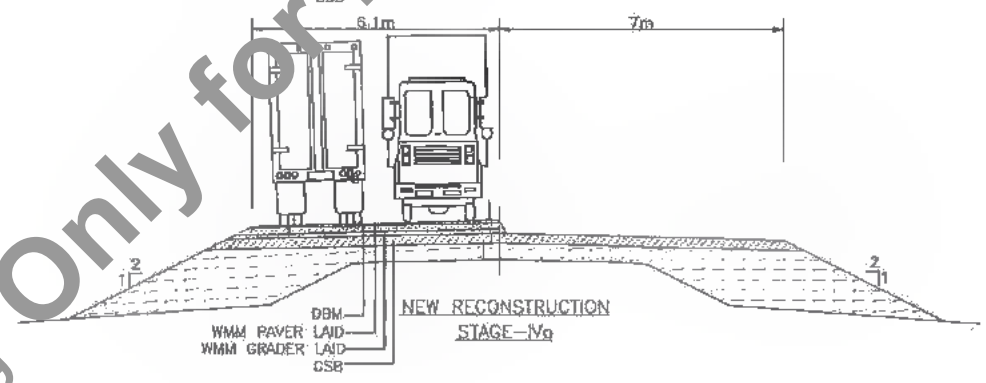
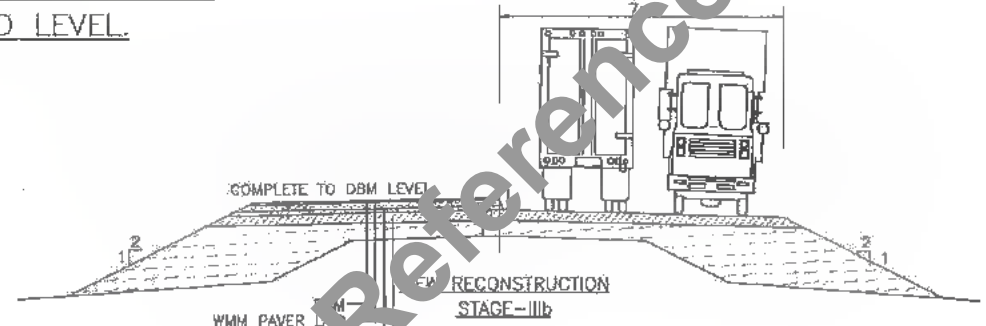
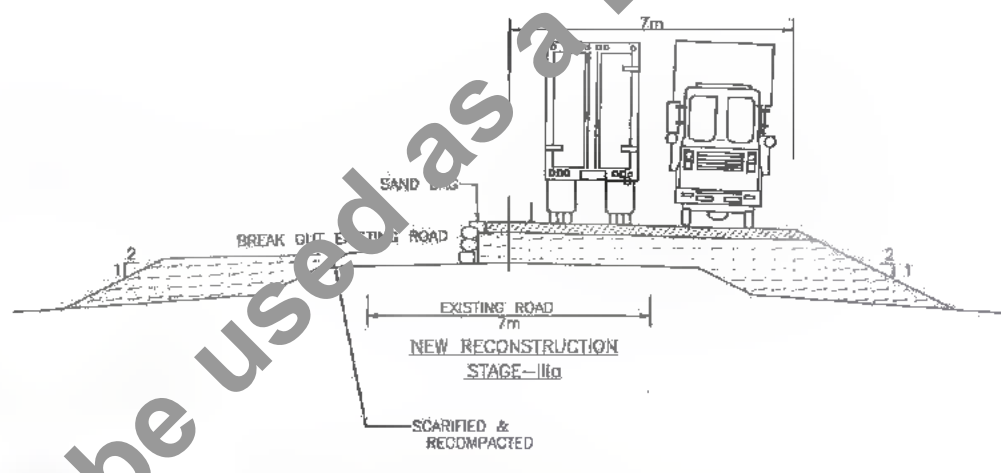
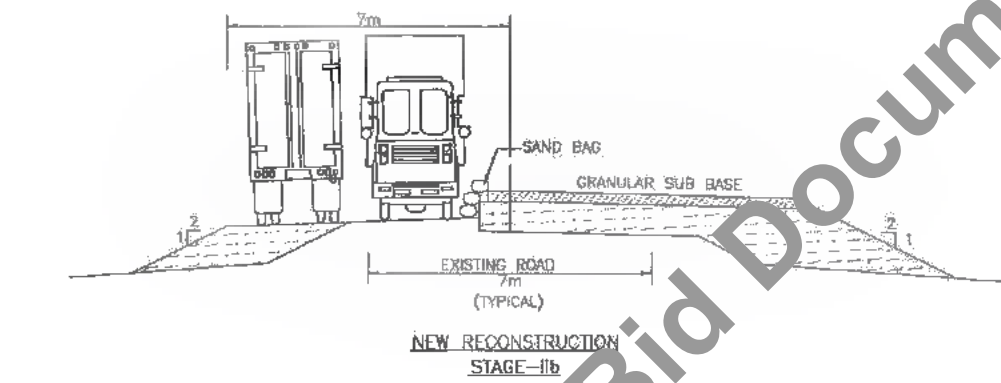
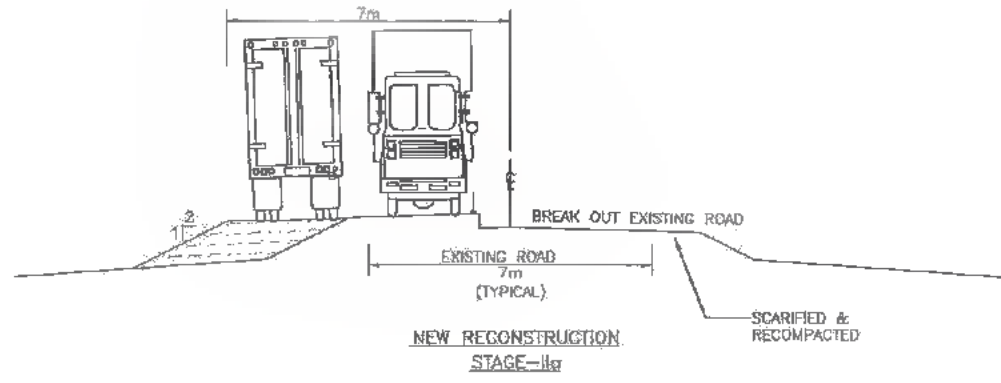
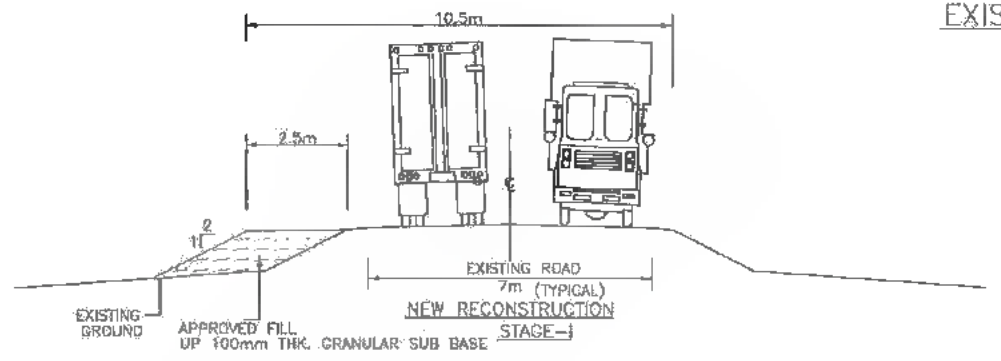
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PD	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : C.S.	TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE-2
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.	DRG. NO. : SAI-213007/DPR/TYP/TM-05
PB	26/02/14	ISSUED WITH FINAL DPR	ISSUED BY : B.S.	REVISION : PE
PA	13/11/13	ISSUED WITH DPR		



SCALE : N.T.S.

193
584

PROPOSED FRL > 0.5m ABOVE
EXISTING ROAD LEVEL.



- NOTES:**
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING TM-01 TO TM-07
 2. THESE DRAWINGS SHOW TYPICAL TRAFFIC MANAGEMENT STAGING DURING CONSTRUCTION. FOR COMPLETE TECHNICAL DETAILS OF THE PAVEMENT WORKS REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS.
 3. DIMENSIONS SHOWN ACROSS THE WIDTH ARE INDICATIVE OF THE PARTICULAR CONSTRUCTION STAGE. AT INTERMEDIATE STAGES THE WIDTHS SHALL BE THE MINIMUM REQUIRED TO SUSTAIN TWO-WAY TRAFFIC.
 4. TEMPORARILY EXPOSED EARTHEN/GRANULAR CONSTRUCTION JOINTS ARE TO BE PRIMED AS DIRECTED BY THE ENGINEER TO PREVENT LOSS OF MATERIAL.

DATE: 21/03/20 - 10:30m
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Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

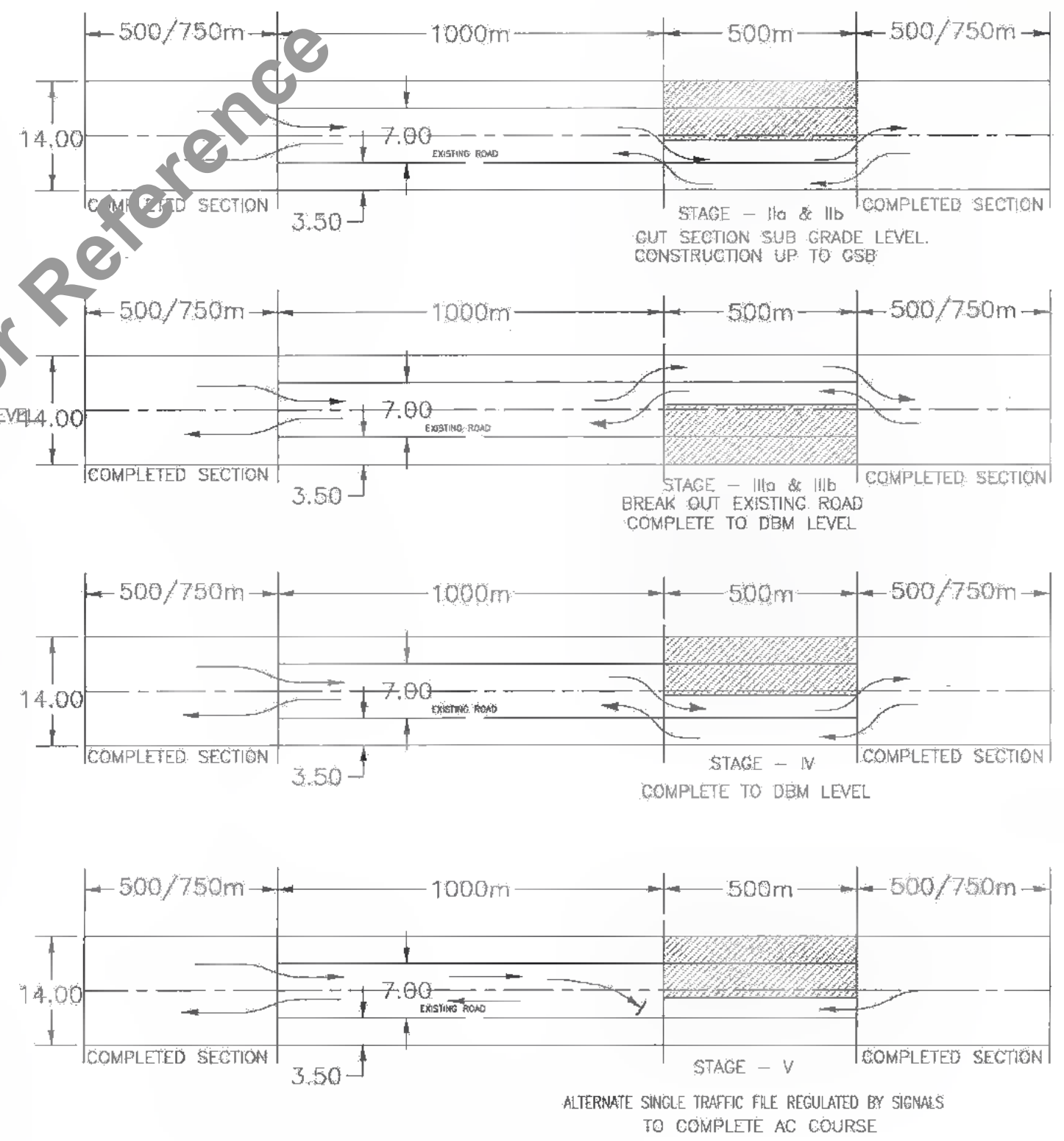
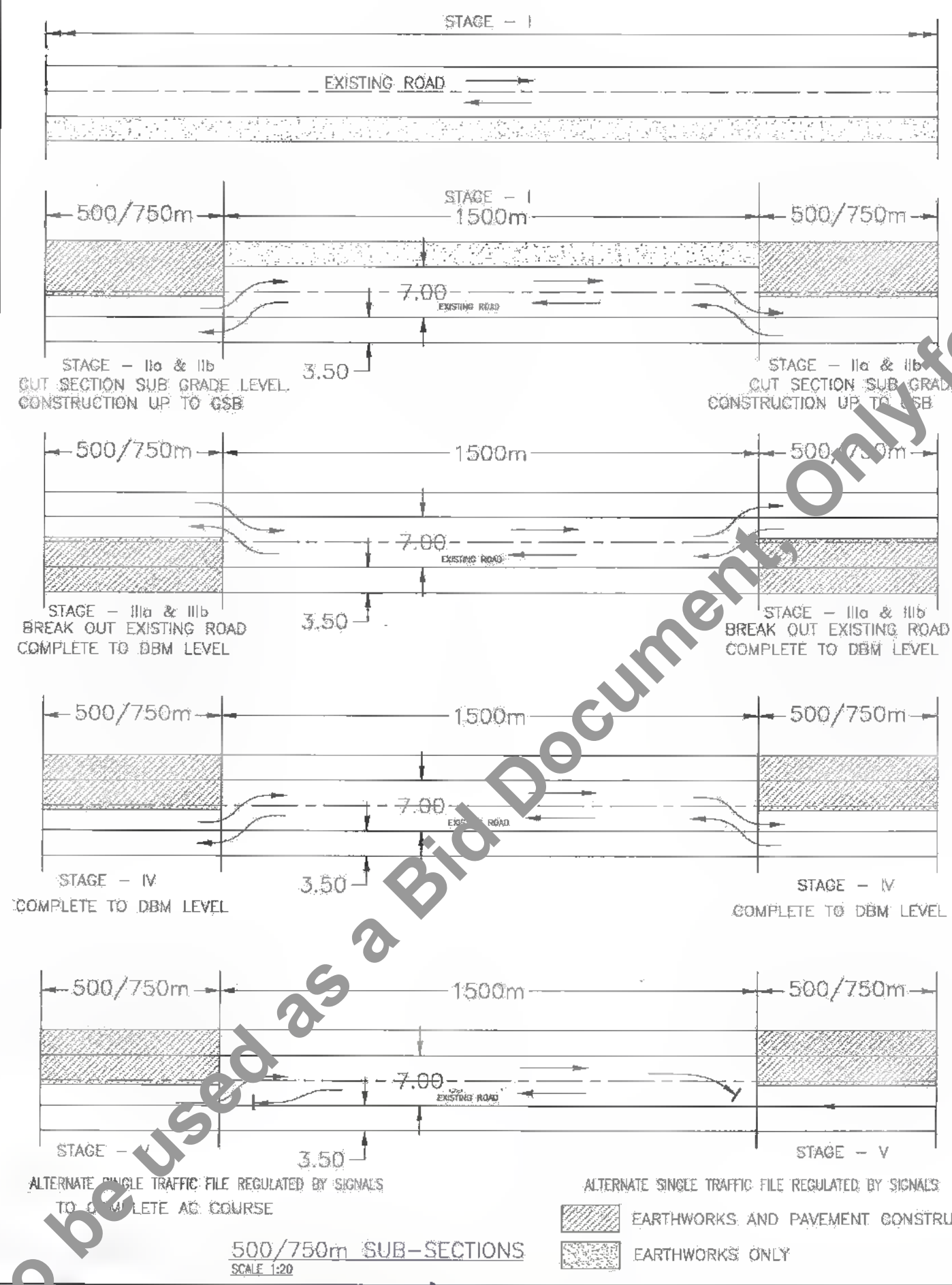
PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAL Consulting Engineers, Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "SAI House", Sakinagar Corporate Square, 6th Floor
C/4, Sakinagar, Ahmedabad-380015 (Gujarat) India
Phone: +91-79-4592601/460299 Fax: +91-79-4592600
Email: info@salindia.com

PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : R.N.	TITLE : RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-B)
PD	26/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : C.S.	TYPICAL CROSS SECTIONS FOR TRAFFIC MANAGEMENT CASE - 3
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.D.	
PB	26/02/14	ISSUED WITH FINAL DPR		ISSUED BY : J.S.	
PA	15/11/13	ISSUED WITH DOPR			
REV.	DATE	DESCRIPTION	SIGN		

SCALE : N.S.	DRG. NO. : SAI-213007/DPR/MTYP/TM-06
	REVISION : PE





COMPLETED SECTION
 EARTHWORKS AND PAVEMENT CONSTRUCTION
 EARTHWORKS ONLY

ALTERNATE SINGLE TRAFFIC FILE REGULATED BY SIGNALS TO COMPLETE AC COURSE

500/750m SUB-SECTIONS
SCALE 1:20

ALTERNATE SINGLE TRAFFIC FILE REGULATED BY SIGNALS

DATE: 10/12/2017
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CLIENT:



Bihar State Road Development Corporation Limited (BSRDC)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:



SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A 'SAI House' Saltram Corporate Square, BP Bypass, Club Road, New Alhambra - 700099, Guwahati, India
Phone: +91-361-6692802/700, Fax: +91-361-6614800
Email: mail@saiindia.com

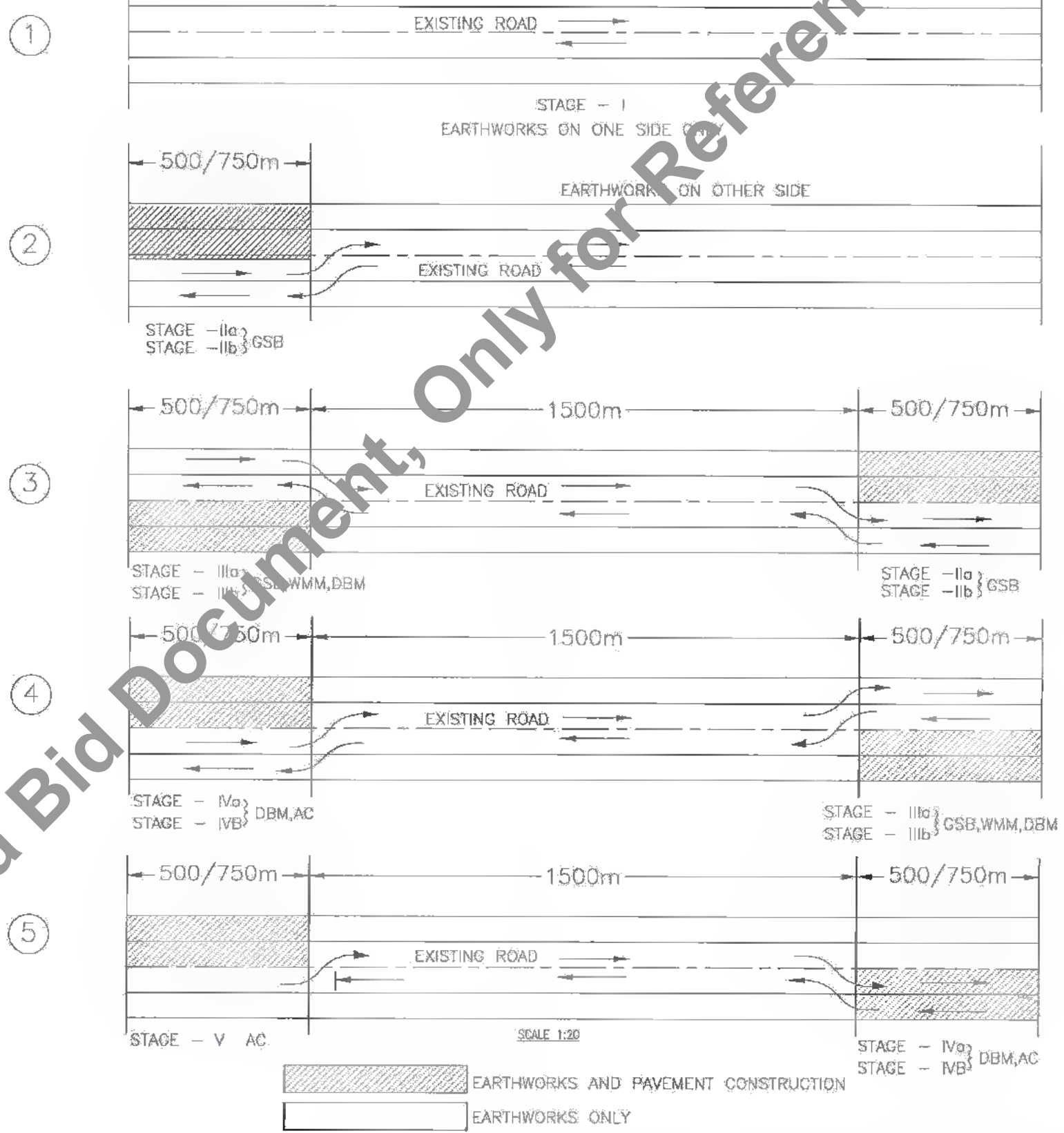
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PD	28/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : G.S.
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.P.
PB	28/02/14	ISSUED WITH FINAL DPR		ISSUED BY : B.S.
PA	13/11/13	ISSUED WITH DPR		

SAI CONSULTING ENGINEERS PVT. LTD.

TITLE: RAUTA-MAHADEV DIGHI CHOWK (PACKAGE-II)
TYPICAL PLAN FOR TRAFFIC MANAGEMENT SEQUENCE DURING CONSTRUCTION

DRG. NO.: SAI-213007DPR/INTYP/ TM-07
REVISION: PE

DATE: 19/03/2010 10:42am
PATH: C:\213007\Bihar\REVISED DPR\CAM\TR. TRAFFIC MANAGEMENT PLAN\PACKAGE-IV\08-TRAFFIC-MANAGEMENT-PLAN.dwg



Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:
Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:
SAL Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
Block-A "Sai House", Salween Corporate Square, BA, Rajpath
110, 2nd Floor, Saket, New Delhi - 110017, India
Phone : +91-20-4833240/241/242, Fax : +91-71-56542800
Email : mail@saiindia.com

PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)	DRAWN BY : S.M.
PD	28/12/18	GOOD FOR CONSTRUCTION (DPR)	CHECKED BY : G.S.
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)	APPROVED BY : J.D.
PB	26/02/14	ISSUED WITH FINAL DPR	ISSUED BY : B.S.
PA	13/11/13	ISSUED WITH DDPR	
REV.	DATE	DESCRIPTION	SIGN
SCALE : AS SHOWN			

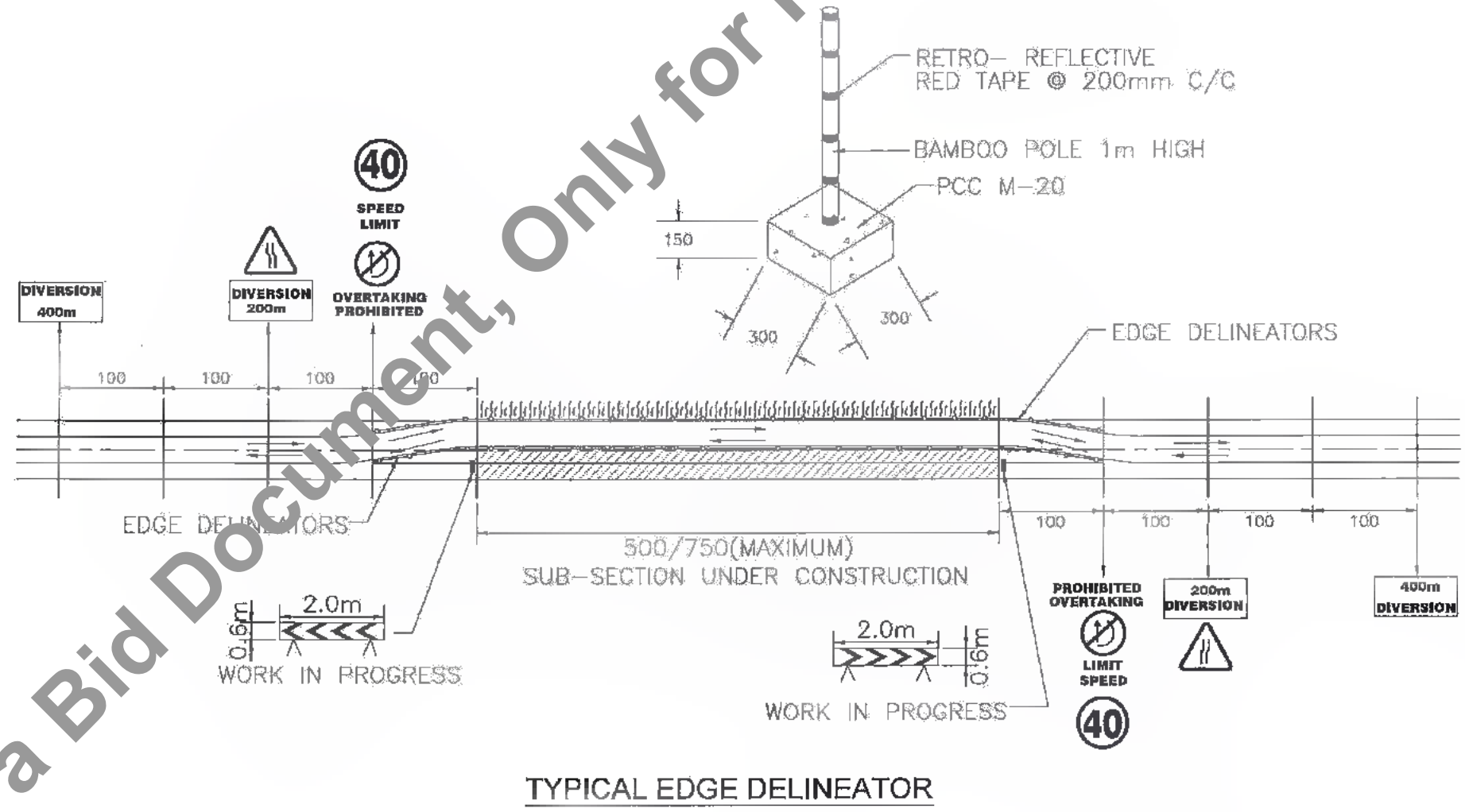
TITLE: RAUTA-MAHADEV GICHI CHOKK (PACKAGE-II)
SCHEMATIC PLAN FOR TRAFFIC MANAGEMENT BETWEEN SUB-SECTION AT DIFFERENT STAGES
DRG. NO.:
SAI-213007/DPR/MTYP/ TM-08
REVISION: PE



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DATE: 26/07/19 10:41am PATH: T:\CAUTION\213007_BIHAR\REVISED_DPR\W\TYP_TRAFFIC_MANAGEMENT_PLAN\PACKAGE-II\US-TYP_EDGE_DELINEATOR.dwg

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TYPICAL EDGE DELINEATOR



CLIENT:



Bihar State Road Development Corporation Limited (BSRDCL)
(A Government of Bihar Undertaking)

PROJECT:

Consultancy Services for Preparation of Detailed Project Report of different State Highway in Bihar
Baysi - Bahadurganj - Dighalbank (SH-99)

CONSULTANTS:



SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company
SYSTRA GROUP

Block-A 'SAI House', Sanyal Kapatli, Sector, 47A, Rohtak, Haryana, India
Phone: +91-99-86162582/700/700 Fax: +91-99-86162508
Email: mail@saiengineers.com

PE	31/07/19	GOOD FOR CONSTRUCTION (REVISED DPR)		DRAWN BY : R.M.	TITLE : RAUTA-MAHADEV DIGH CHOWK (PACKAGE-II)
PD	24/12/18	GOOD FOR CONSTRUCTION (DPR)		CHECKED BY : C.S.	TYPICAL ARRANGEMENT OF TRAFFIC CONTROL DEVICES FOR 500M SUB-SECTION
PC	10/04/14	GOOD FOR CONSTRUCTION (DPR)		APPROVED BY : J.R.	
PR	26/02/14	ISSUED WITH FINAL DPR		ISSUED BY : B.S.	
PA	13/11/13	ISSUED WITH DPR			
REV.	DATE.	DESCRIPTION	SIGN		
SCALE : N.T.S.					

DRG. NO.:	SAI-213007IDPR/MTYP/ TM-09
REVISION :	PE