

Consultancy Services for Feasibility study and preparation of Detailed Project Report for improvement and up-gradation of in principle declared National Highway in State of Uttar Pradesh PKG-II. [Stretch from Agra (Junction on NH-509 near Islam Nagar-Jalesar-Etah (Junction on NH-34 near Police line]



DETAILED PROJECT REPORT

GAD OF BRIDGE

PKG-1: Stretch of NH 321 G [from Agra to Nuhkhas]

Existing Ch-0+000 to 52+525, Design Ch-0.000 to 51.600

L. N. MALVIYA INFRA PROJECTS PVT.LTD.



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New Delhi-110075

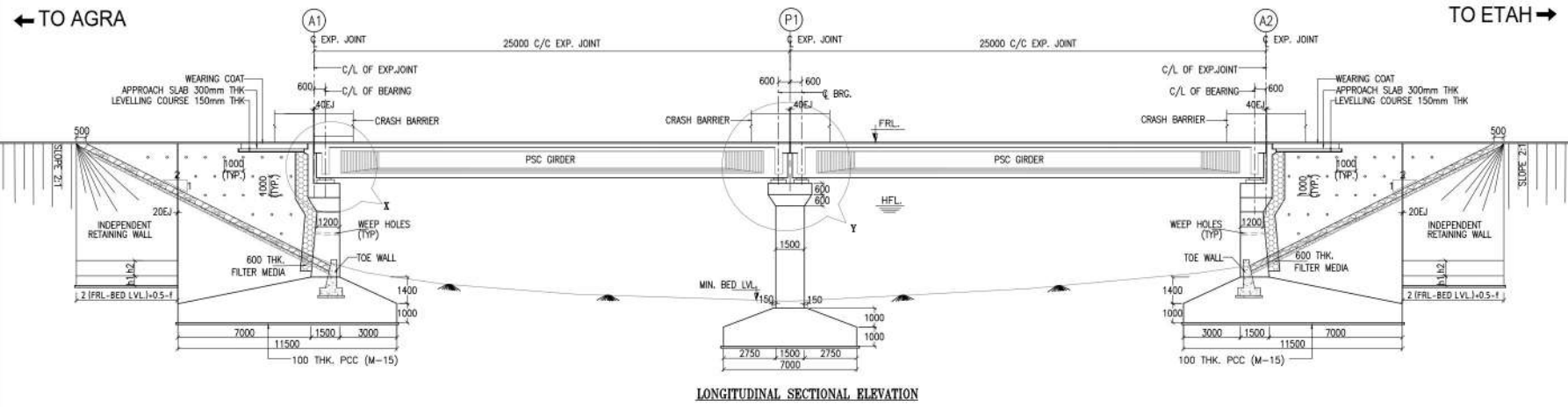
Email id:-delhilnm@gmail.com

AGRA TO JALESAR PKG-I				
S.NO.	TITAL	DRAWING NO	SHEET NO	PAGE NO
1	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-8+710 (2x25.0)	LNМ/DL/UP/A-J/8+710/01	01 OF 01	1
2	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-18+130 (1x8.40)	LNМ/DL/UP/A-J/18+140/01	01 OF 01	2
3	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-23+860 (1x4.0+1x3.0+1x4.0)	LNМ/DL/UP/A-J/23+860/01	01 OF 01	3
4	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-26+760 (2x8.00)	LNМ/DL/UP/A-J/26+760/01	01 OF 01	4
5	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-28+110 (1x20.00)	LNМ/DL/UP/A-J/28+110/01	01 OF 01	5
6	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-35+910 (3x10.00)	LNМ/DL/UP/A-J/35+910/01	01 OF 01	6
7	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-39+440 (3x15.00)	LNМ/DL/UP/A-J/39+440/01	01 OF 01	7
8	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-41+430 (1x20.00)	LNМ/DL/UP/A-J/41+430/01	01 OF 01	8
9	GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH.-47+350 (1x20.00)	LNМ/DL/UP/A-J/47+350/01	01 OF 01	9

REV	DATE	DISCRIPTION FOR REVISION	SCALE:- AS SHOWN	CLIENT:-  MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT :-  L.N. MALVIYA INFRA PROJECTS PVT. LTD. Head Office :- T-10 3rd Floor city center zone 1, M.P Nagar Bhopal 462011 Ph. 0755 - 4236317 Fax : 0755 - 4236317 E-mail:- lnmalviya@rediffmail.com Website: www.lninfra.com	NAME OF WORK CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR IMPROVEMENT AND UPGRADEATION OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN THE STATE OF UTTAR PRADESH PKG II - (STRETCH III) STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR -ETAH (JUNCTION ON NH -34NEAR POLICE LINE)	DRAWN BY BS	DESIGN BY SY	APPROVED BY RKP	REVISION - R0 SHEET-01 OF 01 DEC. - 2021 SIZE - A3	TITLE : INDEX DRG. NO.- LNМ/DL/UP/A-J/INDEX
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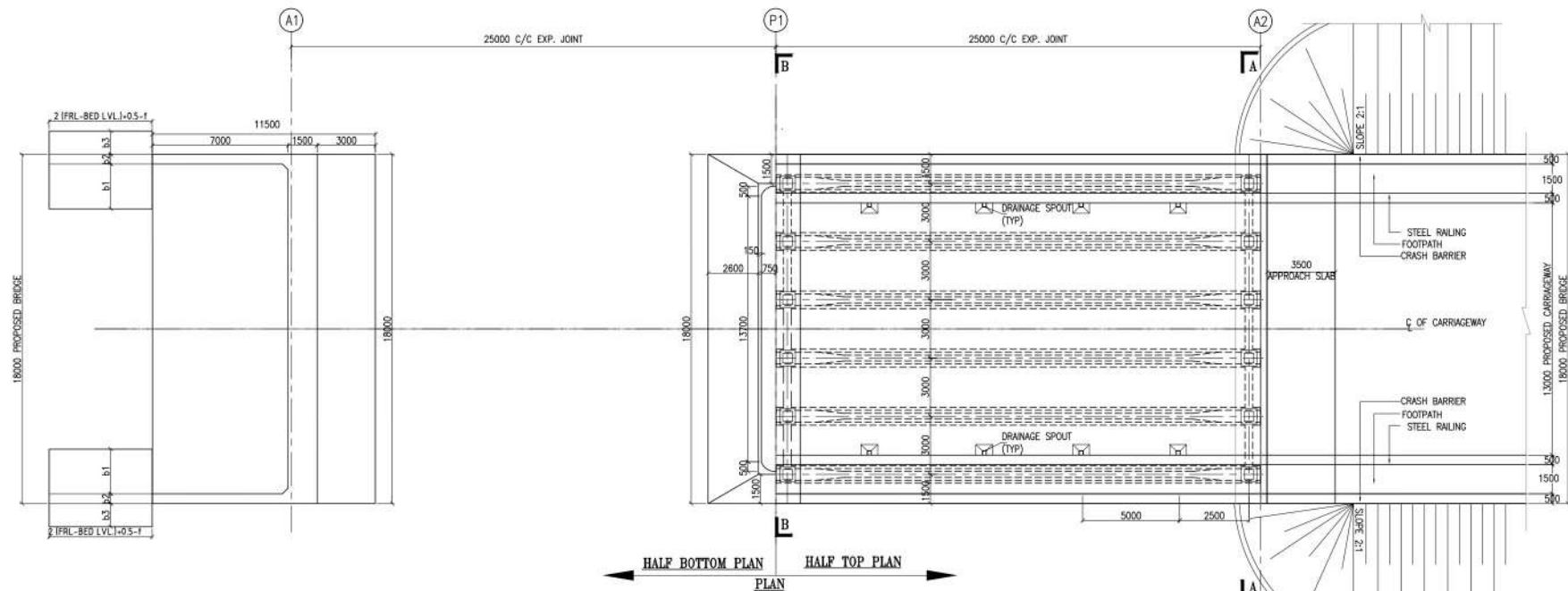
← TO AGRA

TO ETAH →

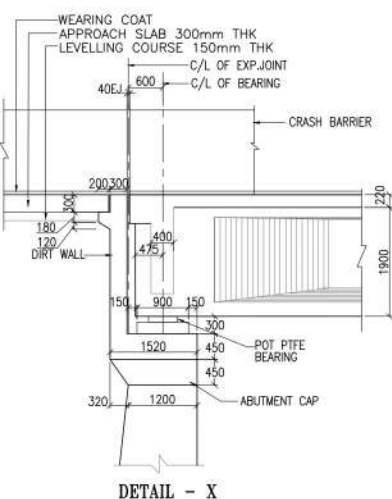


LONGITUDINAL SECTIONAL ELEVATION

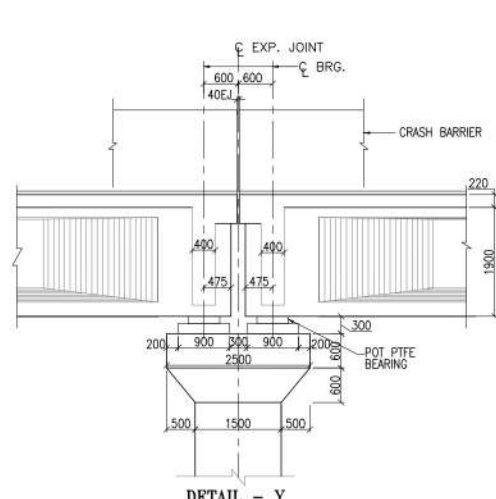
FRL	166.679	166.679	166.679
HFL	162.032	162.032	162.032
GROUND LEVEL	157.205	157.219	
FOUNDING LEVEL	153.905	153.905	153.905
PROPOSED CHAINAGE	-25.000	0.000	+25.000



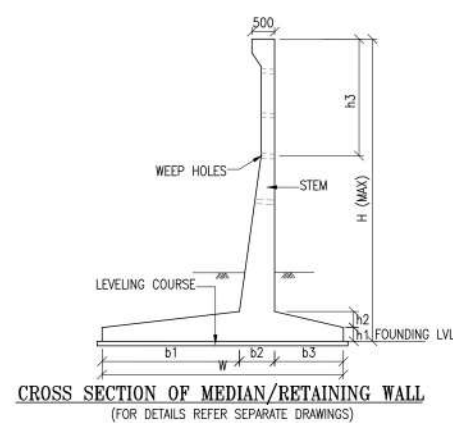
HALF BOTTOM PLAN HALF TOP PLAN



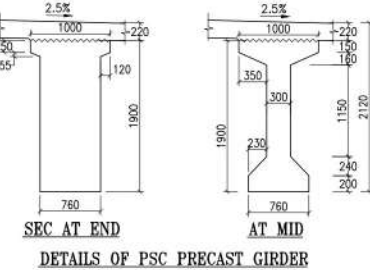
DETAIL - X



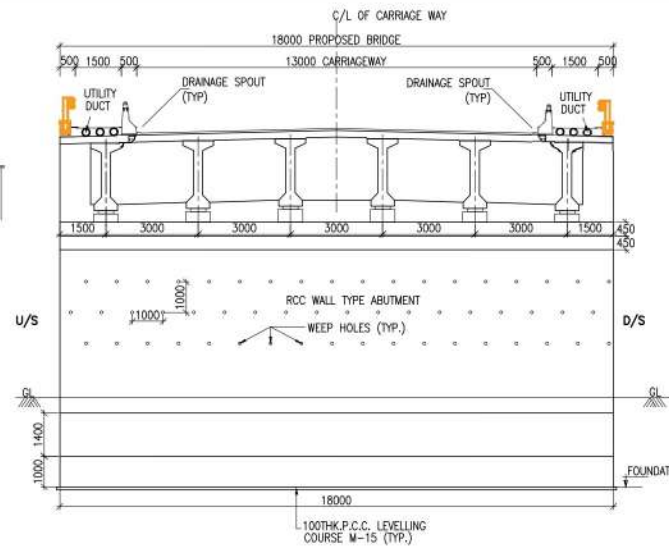
DETAIL - Y



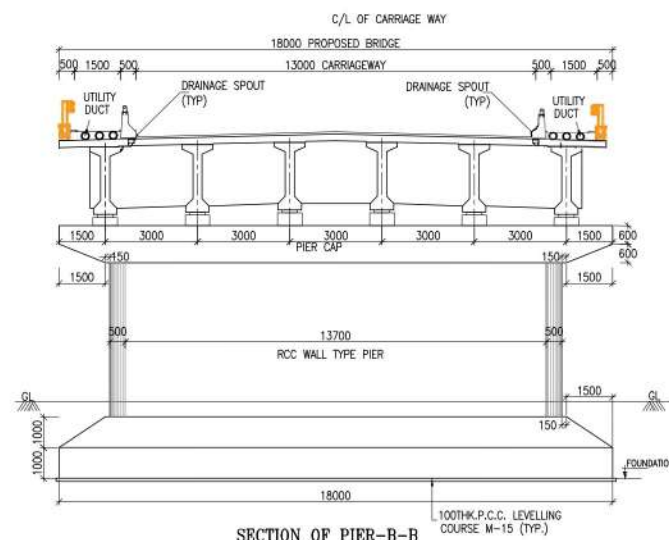
CROSS SECTION OF MEDIAN/RETAINING WALL (FOR DETAILS REFER SEPARATE DRAWINGS)



SEC AT END AT MID DETAILS OF PSC PRECAST GIRDER



SECTION OF ABUTMENT-A-A



SECTION OF PIER-B-B

NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. LEVELS ARE IN METERS.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- SAFE LOAD CARRYING CAPACITY AT FOUNDING LEVEL SHALL BE NOT BE LESS THAN 40T/M
- GRADE OF CONCRETE :
PCC LEVELING COURSE M-15 SLAB/GIRDER M-45
SUB STRUCTURE M-35 CRASH BARRIER M-40
ABUTMENT CAP M-35 RETURN WALL M-35
PIER CAP M-35 APPROACH SLAB M-30
PIER M-35
DIRT WALL M-35
- REINFORCEMENT H.Y.S.D. BARS CONFORMING TO IS:1786 GRADE Fe 500D.
- THE BRIDGE HAS BEEN DESIGNED FOR CLASS A-3 LANE OR CLASS 70R W/T CLASS A LOADING WHICH EVER PRODUCE WORST EFFECT.
- WEEP HOLES AT 1000 C/C BOTH HORIZONTALLY & VERTICALLY IN A STAGGERED MANNER IN ABUTMENT AND RETURN WALLS FROM BED LEVEL TO ABUTMENT CAP LEVEL.
- BACK FILL PARAMETERS, ASSUMED ARE C=0, $\phi > 30^\circ$, DRY DENSITY = 20kN/m³
- CLEAR COVER TO ANY REINFORCEMENT
IN FOUNDATION = 75mm
IN SUB STRUCTURE = 50mm
IN SUPERSTRUCTURE = 40mm
- WEARING COAT SHALL BE 65mm THK BITUMINOUS CONCRETE.
- FRL, CAMBER/ SUPERELEVATION & LAYOUT SHALL BE FOLLOWED AS PER LATEST PLAN & PROFILE DRAWING.
- THE 600 mm TH. FILTER MEDIA BEHIND ABUTMENT SHALL BE MINIMUM 500 mm BELOW EXISTING GROUND LEVEL.
- DRAINAGE SPOUT SHALL BE PROVIDED IN DECK SLAB AS PER MORTH.
- BACK FILLING BEHIND ABUTMENT SHALL BE COMPLETED BEFORE RESTING THE SUPERSTRUCTURE.
- DEPTH OF FOUNDATION SHALL BE VARY AS PER CONFIRMATIVE BORE LOG CONDUCTED BY EXECUTED AGENCY.
- DIMENSIONS SHOWN ARE TENTATIVE, MAY LIKELY TO CHANGE DURING DETAIL DESIGN.
- TAR PAPER BEARING SHALL BE PROVIDED BELOW APPROACH.
- BEARING TYPE : POT CUM PTFE BEARING.
- 20 mm THK FILLER JOINT SHALL BE PROVIDED IN BETWEEN APPROACH SLAB & DIRT WALL.
- FRL, BED, SHALL BE VERIFIED AS PER APPROVED PLAN AND PROFILE BEFORE CONSTRUCTION.
- ANGULAR FILLING SHOULD BE PROVIDED IF FOUNDATION REST IN HARD ROCK CUTTING.

LEGEND:-

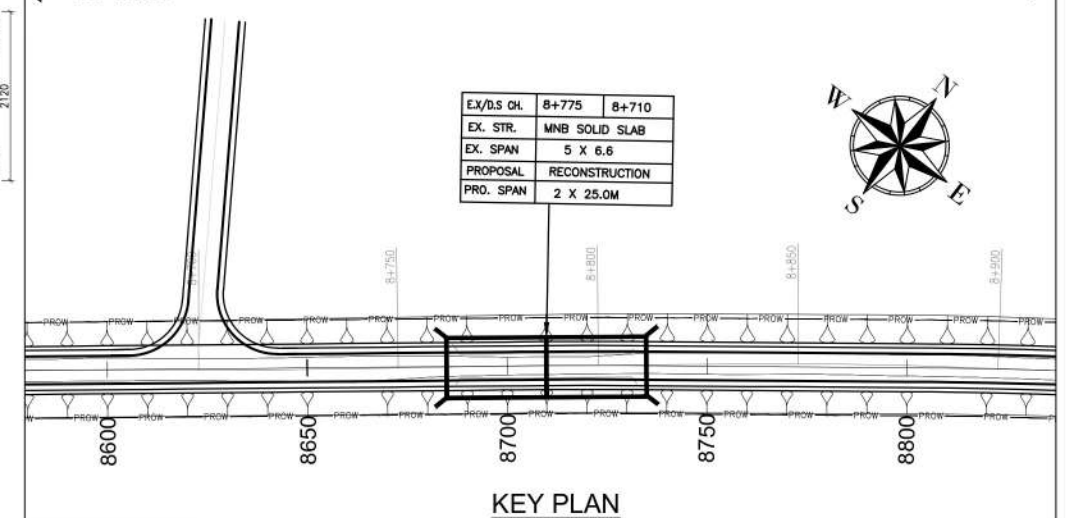
E.J.	EXPANSION JOINT
LVL.	LEVEL
FRL.	FINISHED ROAD LEVEL
THK.	THICK
GL.	GROUND LEVEL
C.J.	CONSTRUCTION JOINT
HFL.	HIGH FLOOD LEVEL
U/S	UP STREAM
D/S	DOWN STREAM

TABLE

PROPOSED CHAINAGE	8+710
EXISTING LOCATION (KM)	8+775
SPAN ARRANGEMENT	2x25.00M
EXISTING STRUCTURE	PSC GIRDER
PROPOSED STRUCTURE	RECONSTRUCTION
FRL.	166.679
HFL.	162.032
MIN. BED LVL.	157.179
FOUNDING LVL.	153.905

← TO AGRA

TO ETAH →



KEY PLAN

SCALE:-

AS SHOWN

CLIENT:-



MINISTRY OF ROAD TRANSPORT & HIGHWAYS

CONSULTANT:-



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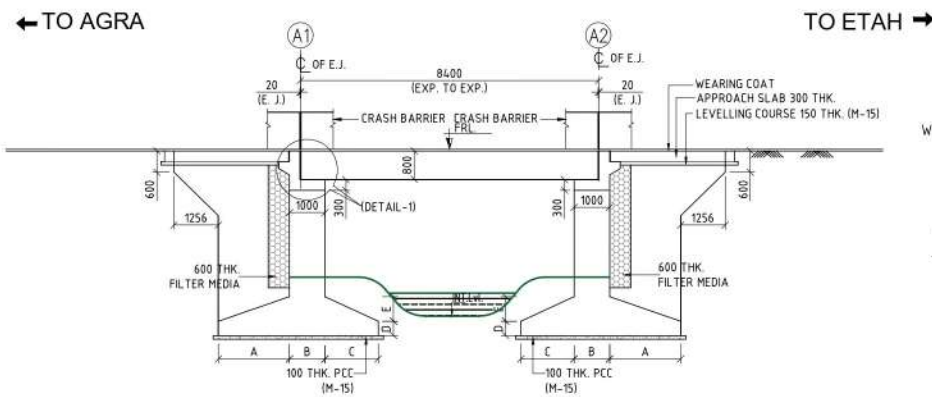
NAME OF WORK
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR
IMPROVEMENT AND UPGRADEMENT OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN
THE STATE OF UTTAR PRADESH
PKG II - (STRETCH III)
STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR - ETAH
(JUNCTION ON NH - 34 NEAR POLICE LINE)

DRAWN BY BS
DESIGN BY SY
APPROVED BY RKP

REVISION - R0
SHEET-01 of 01
DEC. - 2021
SIZE - A3

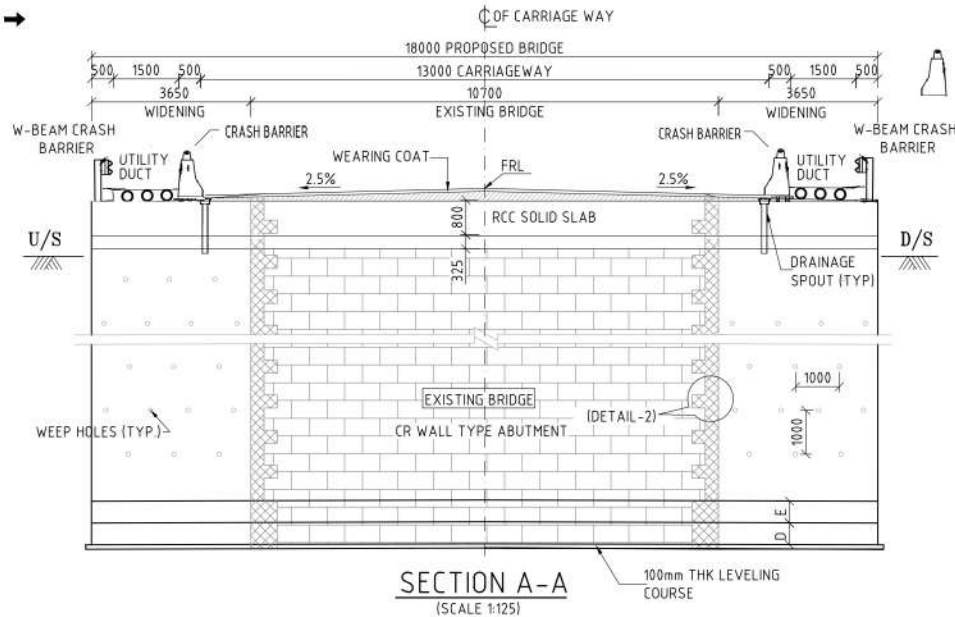
TITLE :
GENERAL ARRANGEMENT DRAWING FOR
DESIGN CH. 8+710 (2x25.00)

DRG. NO. - LNM/DL/UP/A-J/8+710/01



SECTION A-A
(SCALE 1:125)

PROPOSED FRL	174.031	174.031	174.031
GROUND LEVEL	170.831	170.231	170.935
FOUNDATION CHAINAGE	-4.200	0.000	+4.200



NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. LEVELS ARE IN METERS.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- SAFE LOAD CARRYING CAPACITY AT FOUNDING LEVEL SHALL BE NOT BE LESS THAN 35T/M
- GRADE OF CONCRETE :
PCC LEVELING COURSE M-15 SLAB M-40
SUB STRUCTURE M-35 CRASH BARRIER M-40
ABUTMENT CAP M-35 RETURN WALL M-35
PIER CAP M-35 APPROACH SLAB M-35
PIER M-35
DIRT WALL M-35
- REINFORCEMENT H.Y.S.D. BARS CONFORMING TO IS:1786 GRADE Fe 500.
- THE BRIDGE HAS BEEN DESIGNED FOR CLASS - A-3 LANE OR CLASS 70-R-CLASS A LOADING WHICH EVER PRODUCE WORST EFFECT.
- WEAP HOLES AT 1000 C/C BOTH HORIZONTALLY & VERTICALLY IN A STAGGERED MANNER IN ABUTMENT AND RETURN WALLS FROM BED LEVEL TO ABUTMENT CAP LEVEL.
- BACK FILL PARAMETERS ASSUMED ARE C=0, $\phi=30^\circ$. DRY DENSITY $\geq 20kN/m^3$
- CLEAR COVER TO ANY REINFORCEMENT
IN FOUNDATION = 75mm
IN SUB STRUCTURE = 50mm
IN SUPERSTRUCTURE = 40mm
- WEARING COAT SHALL BE 56mm THK BITUMINOUS CONCRETE.
- FRL, CAMBER/ SUPERELEVATION & LAYOUT SHALL BE FOLLOWED AS PER LATEST PLAN & PROFILE DRAWING.
- THE 600 mm TH. FILTER MEDIA BEHIND ABUTMENT SHALL BE MINIMUM 500 mm BELOW EXISTING GROUND LEVEL.
- DRAINAGE SPOUT SHALL BE PROVIDED IN DECK SLAB AS PER MORTH.
- BACK FILLING BEHIND ABUTMENT SHALL BE COMPLETED BEFORE RESTING THE SUPERSTRUCTURE.
- DEPTH OF FOUNDATION SHALL BE VARY AS PER CONFIRMATIVE BORE LOG CONDUCTED BY EXECUTED AGENCY OR DEPTH OF EXISTING BRIDGE FOUNDATION.
- DIMENSIONS SHOWN ARE TENTATIVE, MAY LIKELY TO CHANGE DURING DETAIL DESIGN.
- TAR PAPER BEARING SHALL BE PROVIDED BELOW APPROACH SLAB/MAIN SLAB RESTING ON BRACKET.
- 20 mm THK FILLER JOINT SHALL BE PROVIDED IN BETWEEN APPROACH SLAB & DIRT WALL.
- FRL, BED, SHALL BE VERIFIED AS PER APPROVED PLAN AND PROFILE BEFORE CONSTRUCTION.
- ANGULAR FILLING SHOULD BE PROVIDED IF FOUNDATION REST IN HARD ROCK CUTTING.
- DIEMION OF ABUTMENT & PIER WILL BE SAME AS EXISTING BRIDGE FOUNDATION.
- SPAN ARRANGEMENT, HEIGHT OF SUBSTRUCTURE & CROSS SECTION OF THE CANAL SHALL BE CONFIRMED FROM THE CONCERNED IRRIGATION DEPARTMENT BEFORE CONSTRUCTION.

LEGEND:-

E.J. - EXPANSION JOINT	AREA TO BE DISMANTLED
LVL - LEVEL	EXISTING STRUCTURE (CR MASONRY)
FRL - FINISHED ROAD LEVEL	EXISTING STRUCTURE (RCC)
THK - THK	
GL - GROUND LEVEL	
C.J. - CONSTRUCTION JOINT	
HFL - HIGH FLOOD LEVEL	
U/S - UP STREAM	
D/S - DOWN STREAM	

WIDENING METHODOLOGY OF SLAB:

FOR SUPERSTRUCTURE:

- EXISTING SUPER STRUCTURE SHALL BE WIDENED BY SOLID SLAB.
- DISMANTLE THE WIDENED SIDE 600mm MINIMUM OF EXISTING SLAB.
- SURFACE OF EXISTING CONCRETE SHALL BE CLEANED WITH MECHANICAL/HAND TOOLS. BEFORE FURTHER CONCRETE IS CAST, THE SURFACE SHOULD BE THOROUGHLY CLEANED TO REMOVE DEBRIS AND ACCUMULATED RUBBISH BY AIR JET. THE REINFORCEMENT PROTRUDING FROM OLD CONCRETE SHALL BE CLEANED OF RUST, LOOSE MORTAR OR ANY OTHER CONTAMINATION BEFORE PLACING OF FRESH CONCRETE. OLD SURFACE SHALL BE THOROUGHLY CLEANED.
- APPLY EPOXY COAT ON OLD CONCRETE.
- LAP & WELD THE REQUIRED REINFORCEMENT UP TO WIDENING PART OF SLAB AS PER SPACING & DIA OF EXISTING SLAB.
- PLACE THE REINFORCEMENT AS PER EXISTING BRIDGE DETAILS AND TIE IT WITH EXISTING EXPOSED REINFORCEMENT AND CAST THE WIDENED PORTION OF SLAB WITH SAME GRADE OF CONCRETE AS THAT OF EXISTING SLAB.
- EXISTING EXPANSION JOINT SHALL BE DISMANTLED & NEW EXPANSION JOINT SHALL BE LAID FOR ENTIRE WIDTH.

FOR ABUTMENT:

- DISMANTLE THE PARAPET/RAILING ON TOP OF WING WALL OF THE SIDE OF PROPOSED WIDENING.
- DISMANTLE 300mm EXISTING ABUTMENT ON WIDENED SIDE.
- MAKE GROOVE OF 300mmx300mm BY TAKING OUT ALTERNATE COARSE OF EXISTING CONCRET. AS SHOWN IN DRAWING.
- EXCAVATE THE SIDE OF ABUTMENT UP TO THE FOUNDING DEPTH TO EXPOSE THE FOUNDATION FACE ON WIDENED SIDE.
- THE ABUTMENT SHALL BE WIDENED (WITH RCC M30) WITH SAME SECTION OF EXISTING ABUTMENT TO THE REQUIRED WIDTH AS SHOWN UP TO THE SOFFIT OF THE ABUTMENT CAPS.
- APPLY EPOXY COAT ON OLD CONCRETE.
- LAP & WELD THE REQUIRED REINFORCEMENT UP TO WIDENING PART OF ABUT. AS PER SPACING & DIA OF EXISTING ABUTMENT.

FOR PIERS:

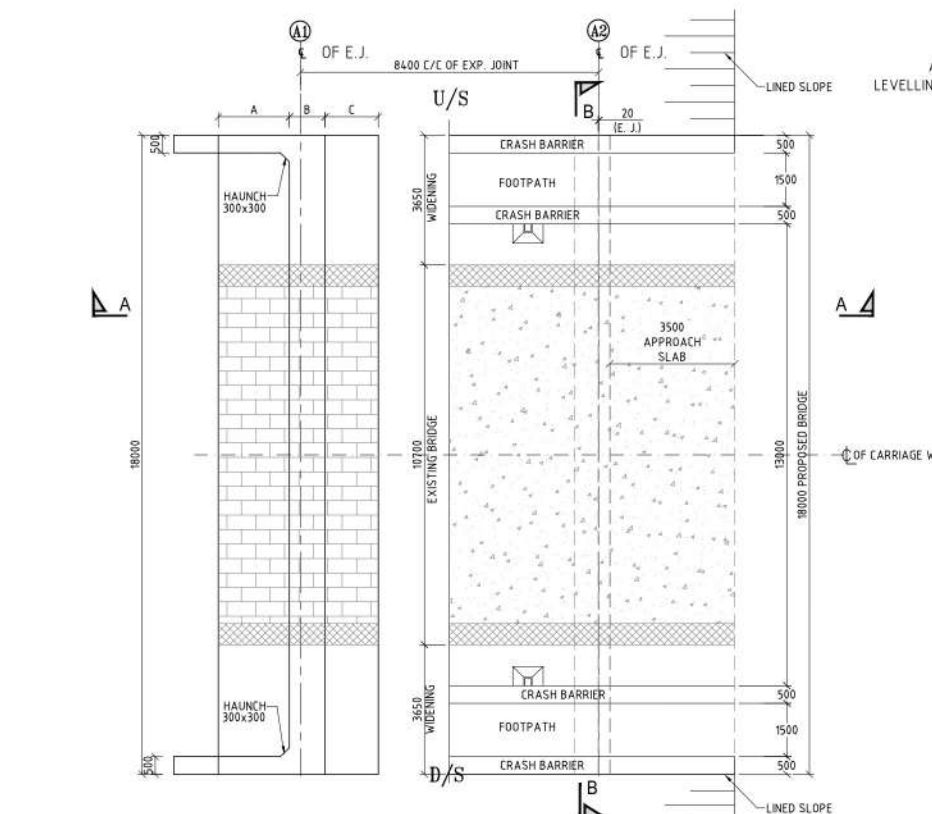
- DEMOLISH THE EXISTING NOSING OF THE PIER UP TO THE TOP OF FOOTING ON WIDENING SIDE.
- EXCAVATE AND EXPOSE PIER FOUNDATION ON THE WIDENING SIDE.
- MAKE GROOVE OF 300mmx300mm AS SHOWN IN THE DRAWING, KEEPING 500mm GAP IN BETWEEN.
- THE PIER & ITS FOOTING TOGETHER WITH NOSING SHALL BE EXTENDED/ WIDENED (WITH RCC M30) TO THE REQUIRED WIDTH UP TO THE SOFFIT OF PIER CAP WITH SAME SECTION OF EXISTING PIER.
- APPLY EPOXY COAT ON OLD CONCRETE.
- LAP & WELD THE REQUIRED REINFORCEMENT UP TO WIDENING PART OF PIER AS PER SPACING & DIA OF EXISTING PIER.

FOR ABUTMENT/PIER CAP:

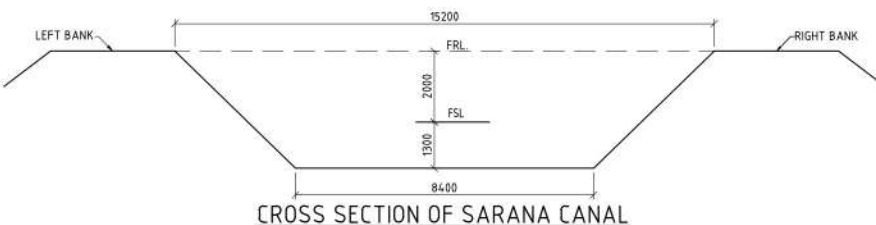
- DISMANTLE 600mm WIDTH OF EXISTING ABUTMENT/PIER CAP.
- SURFACE OF EXISTING CONCRETE SHALL BE CLEANED WITH MECHANICAL/HAND TOOLS. BEFORE FURTHER CONCRETE IS CAST, THE SURFACE SHOULD BE THOROUGHLY CLEANED TO REMOVE DEBRIS AND ACCUMULATED RUBBISH BY AIR JET. THE REINFORCEMENT PROTRUDING FROM OLD CONCRETE SHALL BE CLEANED OF RUST, LOOSE MORTAR OR ANY OTHER CONTAMINATION BEFORE PLACING OF FRESH CONCRETE. OLD SURFACE SHALL BE THOROUGHLY CLEANED AND SOAKED WITH WATER.
- APPLY EPOXY COAT ON OLD CONCRETE.
- PLACE THE REINFORCEMENT AS SHOWN AND TIE IT WITH EXISTING REINF.
- CAST THE WIDENED PORTION OF PIER/ABUTMENT CAP (WITH RCC M30) WITH CAMBER OF DECK SLAB.

FOR APPROACH SLAB:

- LAY THE P.C.C FOR THE NEW APPROACH SLAB.
- PROVIDE THE REINFORCEMENT FOR THE NEW APPROACH SLAB.
- CAST THE APPROACH SLAB LEAVING A LONGITUDINAL GAP OF 20mm WITH THE SUPERSTRUCTURE OF BRIDGE FOR FILLER TYPE EXPANSION JOINT.



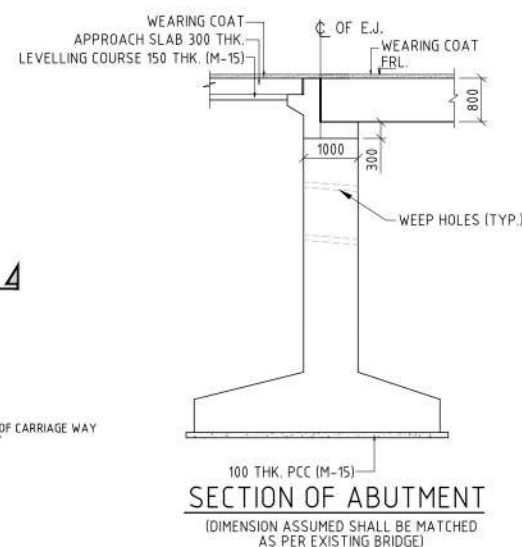
HALF BOTTOM PLAN **HALF TOP PLAN**
(SCALE 1:150)



CROSS SECTION OF SARANA CANAL

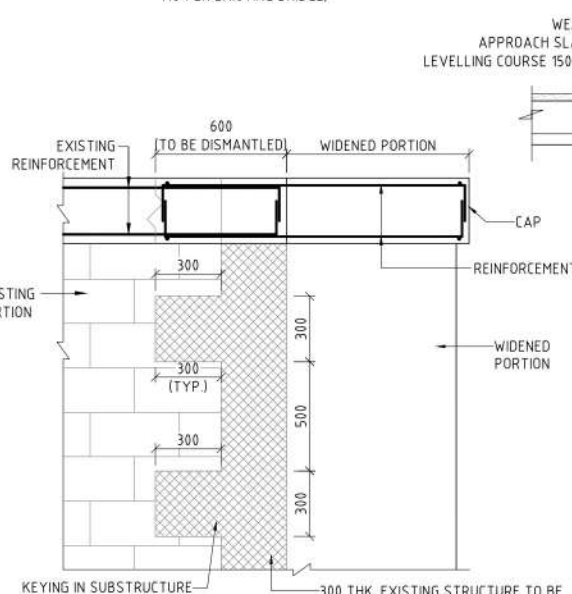
DESIGN DATA OF SUB DISTRIBUTORY CANAL AT 18+980

BED WIDTH OF CANAL	8.400m
FULL SUPPLY DEPTH	1.300m
DISCHARGE	- cusec



SECTION OF ABUTMENT
(DIMENSION ASSUMED SHALL BE MATCHED AS PER EXISTING BRIDGE)

DETAIL OF WIDENED ABUTMENT
(DIMENSION ASSUMED SHALL BE MATCHED AS PER EXISTING BRIDGE)

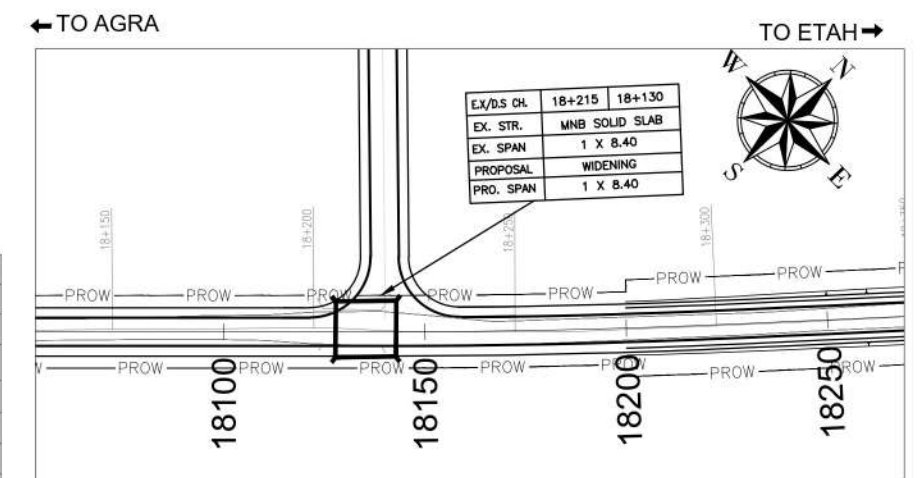


DETAIL-2
(SCALE 1:25)

DETAIL-1
(SCALE 1:50)

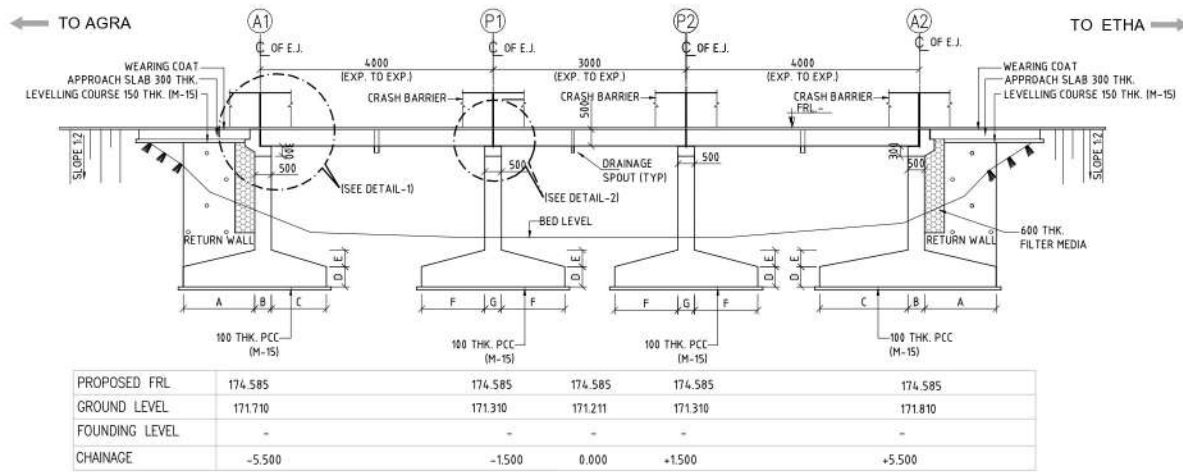
TABLE

PROPOSED CHAINAGE	18+130
EXISTING CHAINAGE	18+215
SPAN ARRANGEMENT	1x8.400
EXISTING STRUCTURE	SOLID SLAB
PROPOSED STRUCTURE	COCENTRIC WIDENING
FRL	174.031
MIN. BED LVL.	170.231
FOUNDATION LVL.	-

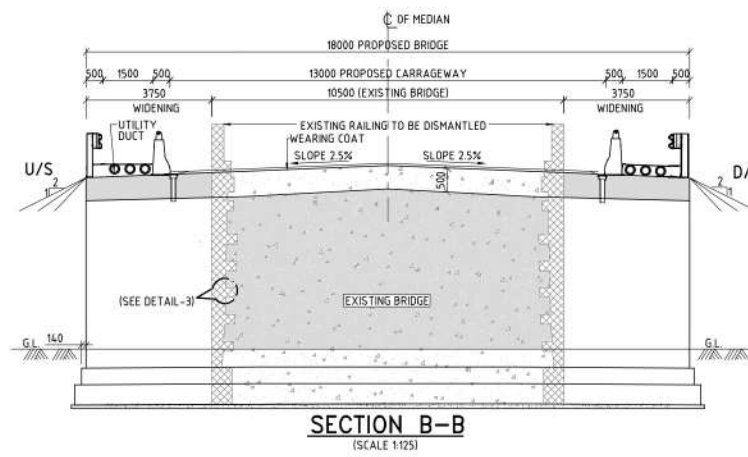


KEY PLAN

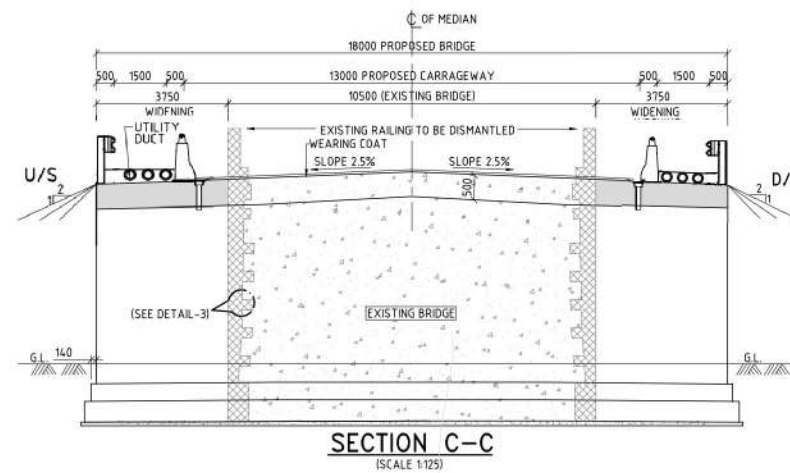
SCALE:- AS SHOWN	CLIENT:- MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT:- L.N. MALVIYA INFRA PROJECTS PVT. LTD. Head Office :- T-10 3rd Floor city center zone 1, M.P Nagar Bhopal 462011 Ph. 0755 - 4236317 Fax : 0755 - 4236317 E-mail: -lnmalviya@rediffmail.com Website: www.lninfra.com	NAME OF WORK CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR IMPROVEMENT AND UPGRADEATION OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN THE STATE OF UTTAR PRADESH PKG II - (STRETCH III) STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR -ETAH (JUNCTION ON NH -34NEAR POLICE LINE)	DRAWN BY BS	DESIGN BY SY	APPROVED BY RKP	REVISION - R0 SHEET-01 of 01 DEC. - 2021 SIZE - A3	TITLE : GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH-18+130 (1x8.400)
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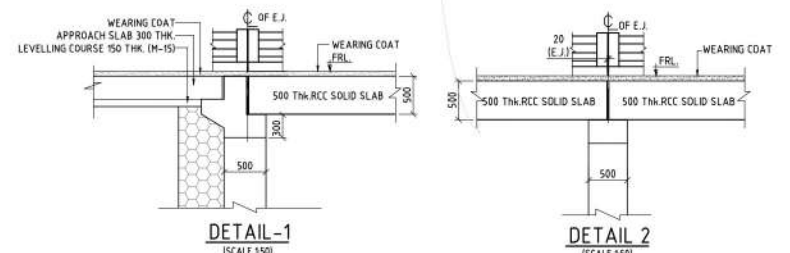
SECTION A-A
(SCALE 1:25)



SECTION B-B
(SCALE 1:25)

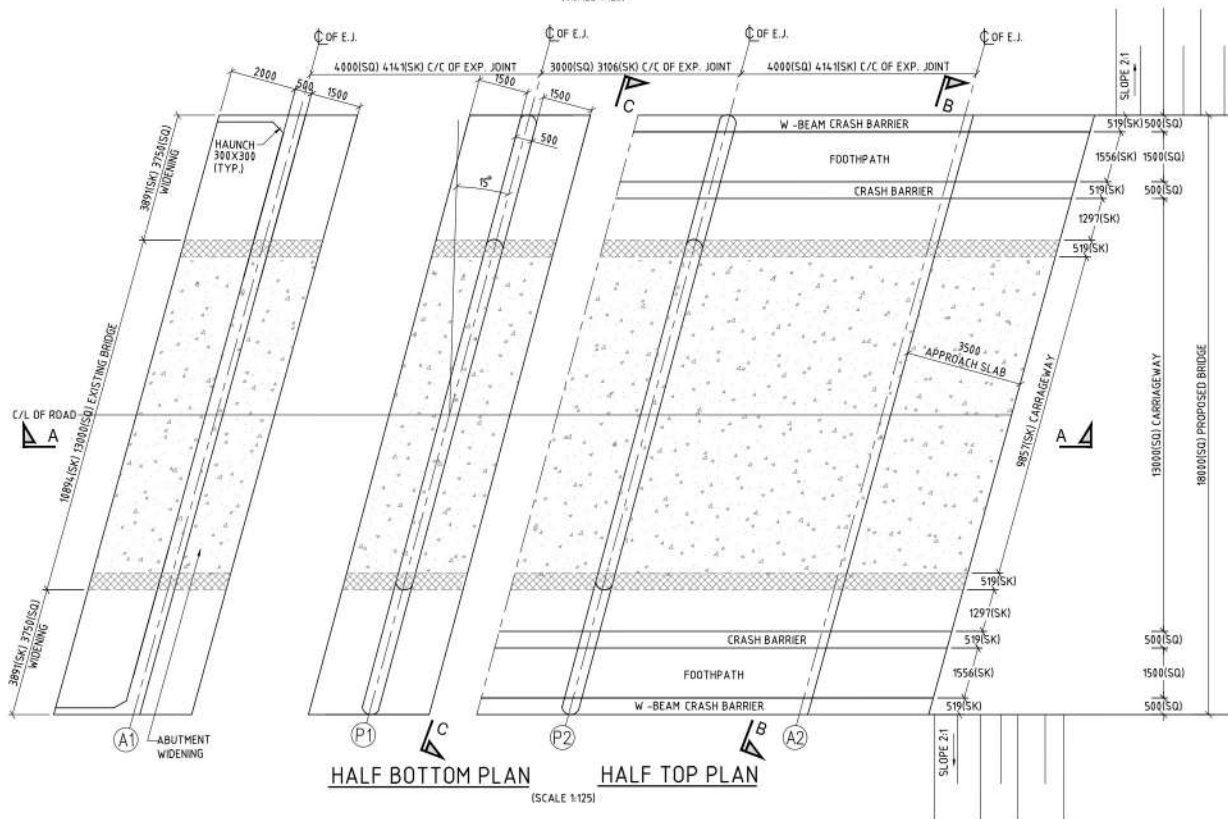


SECTION C-C
(SCALE 1:25)



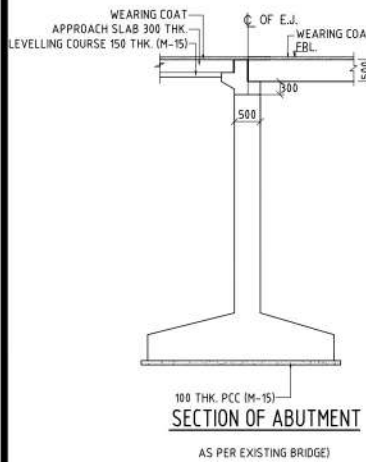
DETAIL-1
(SCALE 1:50)

DETAIL-2
(SCALE 1:50)

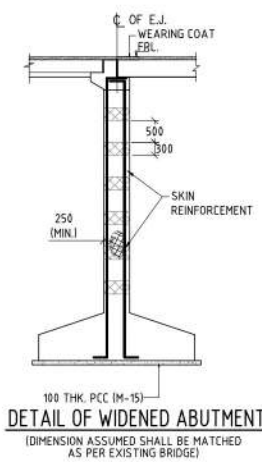


HALF BOTTOM PLAN
(SCALE 1:25)

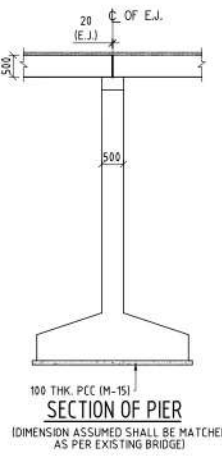
HALF TOP PLAN
(SCALE 1:25)



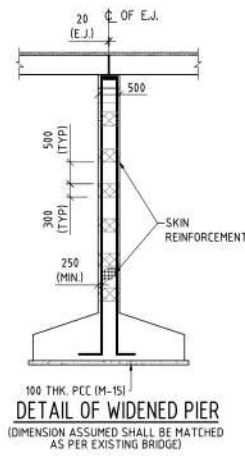
SECTION OF ABUTMENT
AS PER EXISTING BRIDGE



DETAIL OF WIDENED ABUTMENT
(DIMENSION ASSUMED SHALL BE MATCHED AS PER EXISTING BRIDGE)

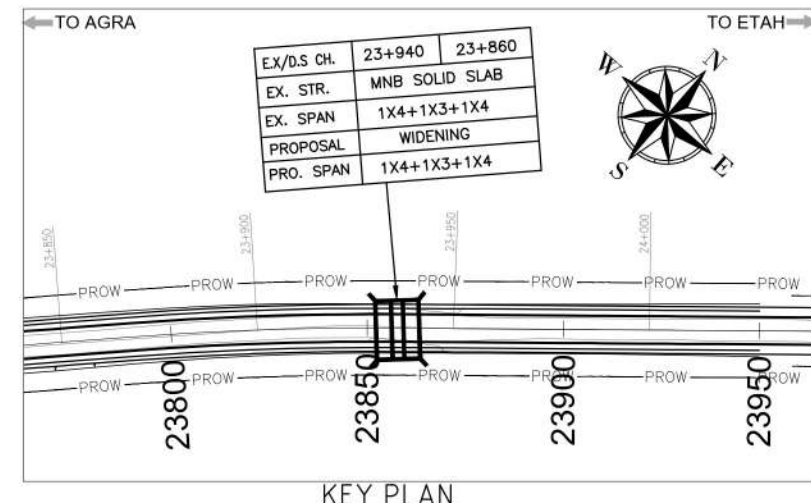


SECTION OF PIER
(DIMENSION ASSUMED SHALL BE MATCHED AS PER EXISTING BRIDGE)



DETAIL OF WIDENED PIER
(DIMENSION ASSUMED SHALL BE MATCHED AS PER EXISTING BRIDGE)

TABLE	
PROPOSED CHAINAGE	23+860
EXISTING LOCATION (KM)	23+940
SPAN ARRANGEMENT	1X4.0+1X3.0+1X4.0
EXISTING STRUCTURE	SOLID SLAB
PROPOSED STRUCTURE	COCENTRIC WIDENING
FRL	174.585
MIN. BED LVL.	171.211
FOUNDING LVL.	-



KEY PLAN

WIDENING METHODOLOGY OF SLAB:

FOR SUPERSTRUCTURE:

- EXISTING SUPER STRUCTURE SHALL BE WIDENED BY SOLID SLAB.
- DISMANTLE THE WIDENED SIDE 600mm MINIMUM OF EXISTING SLAB.
- SURFACE OF EXISTING CONCRETE SHALL BE CLEANED WITH MECHANICAL/HAND TOOLS, BEFORE FURTHER CONCRETE IS CAST, THE SURFACE SHOULD BE THOROUGHLY CLEANED TO REMOVE DEBRIS AND ACCUMULATED RUBBISH BY AIR JET. THE REINFORCEMENT PROTRUDING FROM OLD CONCRETE SHALL BE CLEANED OF RUST, LOOSE MORTAR OR ANY OTHER CONTAMINATION BEFORE PLACING OF FRESH CONCRETE, OLD SURFACE SHALL BE THOROUGHLY CLEANED.
- APPLY EPOXY COAT ON OLD CONCRETE.
- LAP & WELD THE REQUIRED REINFORCEMENT UP TO WIDENING PART OF SLAB AS PER SPACING & DIA OF EXISTING SLAB.
- PLACE THE REINFORCEMENT AS PER EXISTING BRIDGE DETAILS AND TIE IT WITH EXISTING EXPOSED REINFORCEMENT AND CAST THE WIDENED PORTION OF SLAB WITH SAME GRADE OF CONCRETE AS THAT OF EXISTING SLAB.
- EXISTING EXPANSION JOINT SHALL BE DISMANTLED & NEW EXPANSION JOINT SHALL BE LAID FOR ENTIRE WIDTH.

FOR ABUTMENT:

- DISMANTLE THE PARAPET/RAILING ON TOP OF WING/RETURN WALL OF THE SIDE OF PROPOSED WIDENING.
- DISMANTLE 300mm EXISTING ABUTMENT ON WIDENED SIDE.
- MAKE GROOVE OF 300mmx300mm BY TAKING OUT ALTERNATE COARSE OF EXISTING CONCRET. AS SHOWN IN DRAWING.
- EXCAVATE THE SIDE OF ABUTMENT UP TO THE FOUNDING DEPTH TO EXPOSE THE FOUNDATION FACE ON WIDENED SIDE.
- THE ABUTMENT SHALL BE WIDENED (WITH RCC M30) WITH SAME SECTION OF EXISTING ABUTMENT TO THE REQUIRED WIDTH AS SHOWN UP TO THE SOFFIT OF THE ABUTMENT CAPS.
- APPLY EPOXY COAT ON OLD CONCRETE.
- LAP & WELD THE REQUIRED REINFORCEMENT UP TO WIDENING PART OF ABUT. AS PER SPACING & DIA OF EXISTING ABUTMENT.

FOR PIERS:

- DEMOLISH THE EXISTING NOSING OF THE PIER UP TO THE TOP OF FOOTING ON WIDENING SIDE.
- EXCAVATE AND EXPOSE PIER FOUNDATION ON THE WIDENING SIDE.
- MAKE GROOVE OF 300mmx300mm AS SHOWN IN THE DRAWING, KEEPING 500mm GAP IN BETWEEN.
- THE PIER & ITS FOOTING TOGETHER WITH NOSING SHALL BE EXTENDED/ WIDENED (WITH RCC M30) TO THE REQUIRED WIDTH UP TO THE SOFFIT OF PIER CAP WITH SAME SECTION OF EXISTING PIER.
- APPLY EPOXY COAT ON OLD CONCRETE.
- LAP & WELD THE REQUIRED REINFORCEMENT UP TO WIDENING PART OF PIER AS PER SPACING & DIA OF EXISTING PIER.

FOR ABUTMENT/PIER CAP:

- DISMANTLE 600mm WIDTH OF EXISTING ABUTMENT/PIER CAP.
- SURFACE OF EXISTING CONCRETE SHALL BE CLEANED WITH MECHANICAL/HAND TOOLS, BEFORE FURTHER CONCRETE IS CAST, THE SURFACE SHOULD BE THOROUGHLY CLEANED TO REMOVE DEBRIS AND ACCUMULATED RUBBISH BY AIR JET. THE REINFORCEMENT PROTRUDING FROM OLD CONCRETE SHALL BE CLEANED OF RUST, LOOSE MORTAR OR ANY OTHER CONTAMINATION BEFORE PLACING OF FRESH CONCRETE, OLD SURFACE SHALL BE THOROUGHLY CLEANED AND SOAKED WITH WATER.
- APPLY EPOXY COAT ON OLD CONCRETE.
- PLACE THE REINFORCEMENT AS SHOWN AND TIE IT WITH EXISTING REINF.
- CAST THE WIDENED PORTION OF PIER/ABUTMENT CAP (WITH RCC M30) WITH CAMBER OF DECK SLAB.

FOR APPROACH SLAB:

- LAY THE P.C.C FOR THE NEW APPROACH SLAB.
- PROVIDE THE REINFORCEMENT FOR THE NEW APPROACH SLAB.
- CAST THE APPROACH SLAB LEAVING A LONGITUDINAL GAP OF 20mm WITH THE SUPERSTRUCTURE OF BRIDGE FOR FILLER TYPE EXPANSION JOINT.

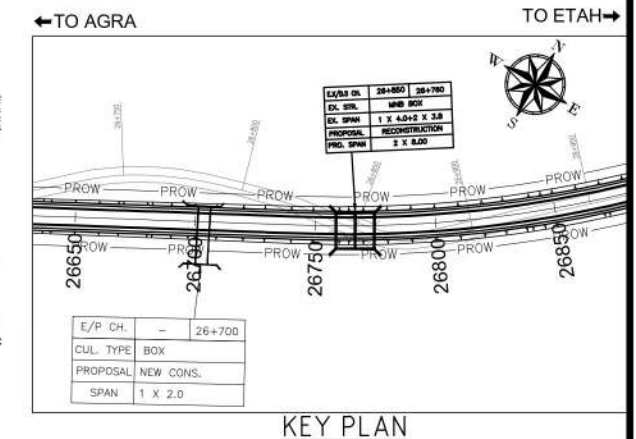
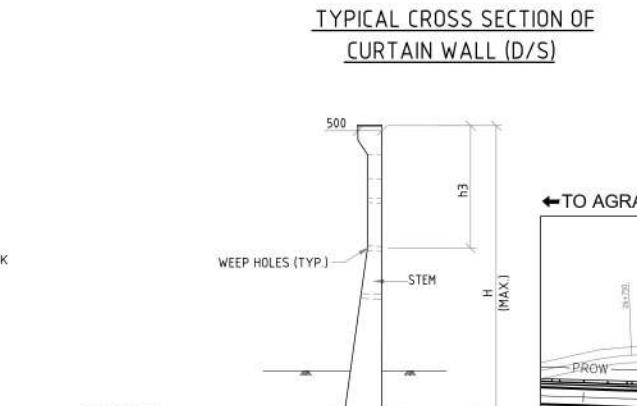
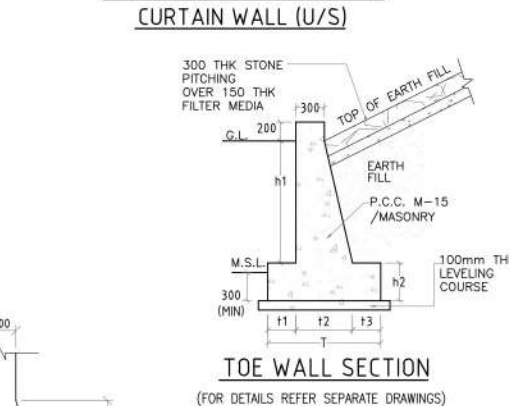
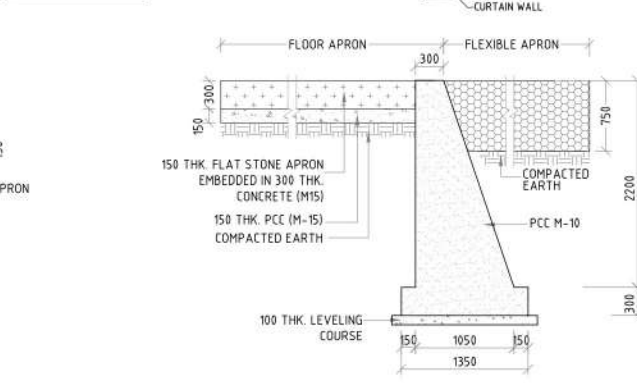
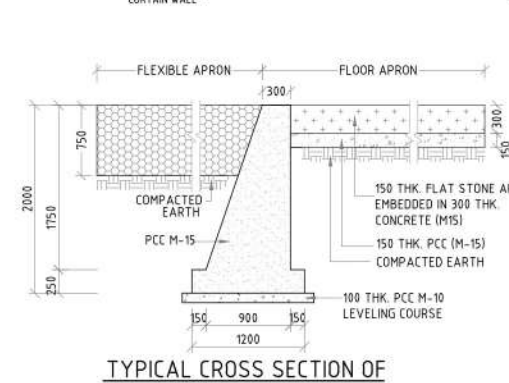
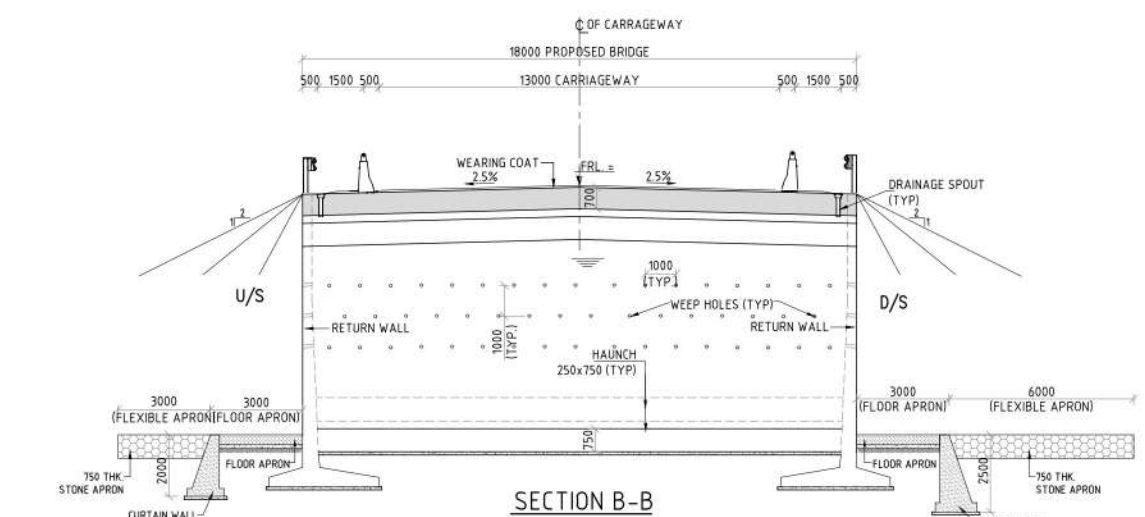
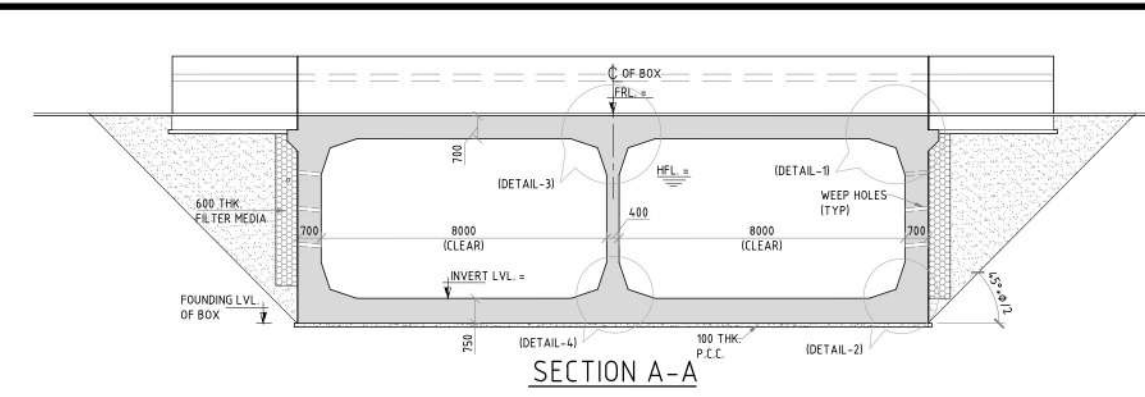
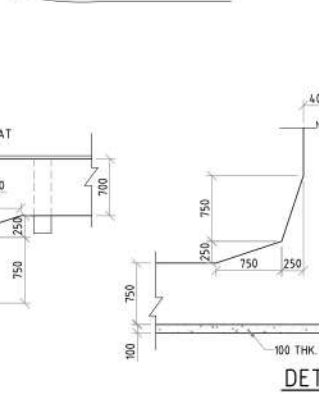
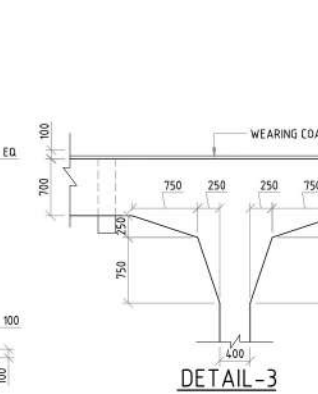
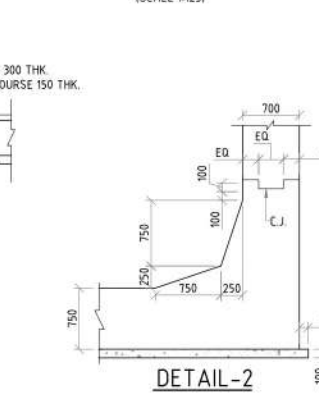
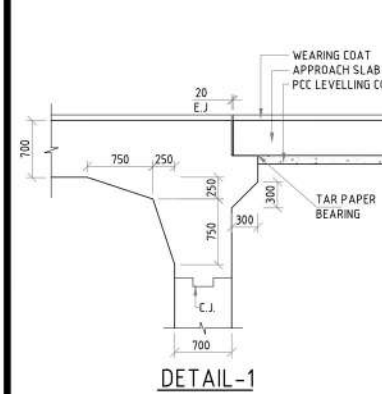
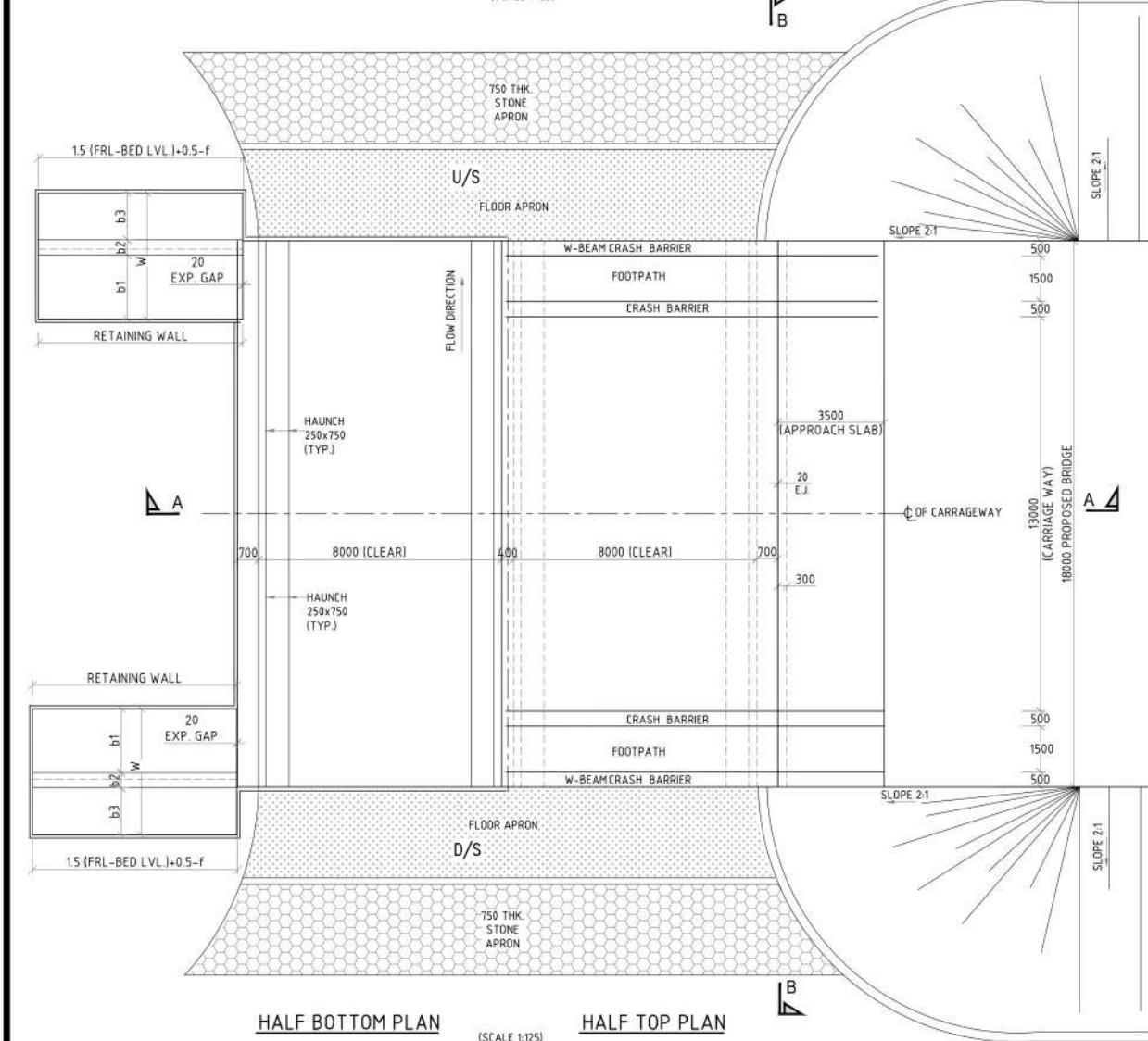
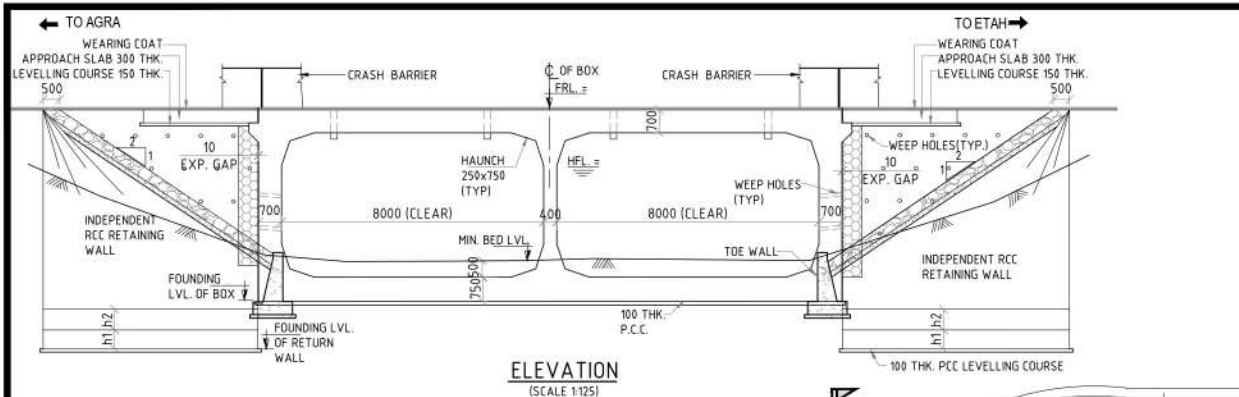
NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. LEVELS ARE IN METERS.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- SAFE LOAD CARRYING CAPACITY AT FOUNDING LEVEL SHALL BE NOT BE LESS THAN 35T/M.
- GRADE OF CONCRETE :
PCC LEVELING COURSE M-15 SLAB M-35
SUB STRUCTURE M-30 CRASH BARRIER M-40
ABUTMENT CAP M-30 RETURN WALL M-30
PIER CAP M-30 APPROACH SLAB M-30
PIER M-30
DIRT WALL M-30
- REINFORCEMENT H.V.S.D. BARS CONFORMING TO IS:1786 GRADE Fe 500.
- THE BRIDGE HAS BEEN DESIGNED FOR CLASS A-3 LANE OR CLASS 70-R CLASS A LOADING WHICH EVER PRODUCE WORST EFFECT.
- WEED HOLES AT 1000 C/C BOTH HORIZONTALLY & VERTICALLY IN A STAGGERED MANNER IN ABUTMENT AND RETURN WALLS FROM BED LEVEL TO ABUTMENT CAP LEVEL.
- BACK FILL PARAMETERS ASSUMED ARE C=0, $\phi=30^\circ$, DRY DENSITY = 20kN/m³.
- CLEAR COVER TO ANY REINFORCEMENT IN FOUNDATION = 75mm
IN SUB STRUCTURE = 50mm
IN SUPERSTRUCTURE = 40mm
- WEARING COAT SHALL BE 50mm THK BITUMINOUS CONCRETE AS PER MORTH.
- FRL, CAMBER/ SUPERELEVATION & LAYOUT SHALL BE FOLLOWED AS PER LATEST PLAN & PROFILE DRAWING.
- THE 600 mm TH. FILTER MEDIA BEHIND ABUTMENT SHALL BE MINIMUM 500 mm BELOW EXISTING GROUND LEVEL.
- DRAINAGE SPOUT SHALL BE PROVIDED IN DECK SLAB AS PER MORTH.
- BACK FILLING BEHIND ABUTMENT SHALL BE COMPLETED BEFORE RESTING THE SUPERSTRUCTURE.
- DEPTH OF FOUNDATION SHALL BE VARY AS PER COMPERMETIVE BORE LOG CONDUCTED BY EXECUTED AGENCY.
- DIMENSIONS SHOWN ARE TENTATIVE, MAY LIKELY TO CHANGE DURING DETAIL DESIGN.
- TAR PAPER BEARING SHALL BE PROVIDED BELOW APPROACH SLAB/MAIN SLAB RESTING ON BRACKET.
- 20 mm THK FILLER JOINT SHALL BE PROVIDED IN BETWEEN APPROACH SLAB & DIRT WALL.
- FRL, BED, SHALL BE VERIFIED AS PER APPROVED PLAN AND PROFILE BEFORE CONSTRUCTION.
- ANGULAR FILLING SHOULD BE PROVIDED IF FOUNDATION REST IN HARD ROCK CUTTING.
- OMISSION OF ABUTMENT & PIER WILL BE SAME AS EXISTING BRIDGE.
- DEPTH OF FOUNDATION WILL BE SAME AS EXISTING BRIDGE.

LEGEND:-

- E.J. - EXPANSION JOINT
- LVL. - LEVEL
- FRL. - FINISHED ROAD LEVEL
- THK. - THICK
- C.J. - GROUND LEVEL
- C.J. - CONSTRUCTION JOINT
- HFL. - HIGH FLOOD LEVEL
- U/S - UP STREAM
- D/S - DOWN STREAM
- AREA TO BE DISMANTLED
- EXISTING STRUCTURE (OR MASONRY)
- EXISTING STRUCTURE (RCC)

SCALE:- AS SHOWN		CLIENT:- MINISTRY OF ROAD TRANSPORT & HIGHWAYS		CONSULTANT:- L.N. MALVIYA INFRA PROJECTS PVT. LTD. Head Office :- T-10 3rd Floor city center zone 1, M.P Nagar Bhopal 462011 Ph. 0755 - 4236317 Fax : 0755 - 4236317 E-mail:- lnmalviya@rediffmail.com Website: www.lninfra.com		NAME OF WORK CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR IMPROVEMENT AND UPGRADEATION OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN THE STATE OF UTTAR PRADESH PKG II - (STRETCH III) STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR -ETAH (JUNCTION ON NH -34 NEAR POLICE LINE)		DRAWN BY BS DESIGN BY SY APPROVED BY RKP		REVISION - R0 SHEET- 01 of 01 DEC. - 2021 SIZE - A3 DRG. NO. - LNM/DL/UP/A-J/23+860/01		TITLE : GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT DESIGN CH-23+860 (1X4.0+1X3.0+1X4.0)	
REV	DATE	DISCRIPTION FOR REVISION											



- NOTES:-**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. LEVELS ARE IN METRES.
 - DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
 - GRADE OF CONCRETE SHALL BE AS BELOW:
APPROACH SLAB - M-30
CRASH BARRIER - M-40
RCC BOX - M-35
PCC - M-15
RCC RETURN WALL - M-30
 - DESIGN CRITERIA:
I. THE DESIGN IS ACCORDING TO THE LATEST IRC CODES.
II. THE BOX DESIGN FOR ONE LANE OF IRC CLASS 70R (CLASS-A OR THREE LANES OF IRC CLASS A LOADING WHICHEVER GOVERNS).
 - 600mm THICK FILTER MEDIA SHALL BE PROVIDED AT BACK SIDE OF ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
 - MINIMUM CLEAR COVER TO TOP SLAB & INNER WEBS SHALL BE 50mm AND CLEAR COVER TO BOTTOM SLAB AND OUTER WEBS SHALL BE 75mm FOR RCC BOX.
 - ALL H.Y.S.D. BARS SHALL CONFORM TO IS:1786 GRADE Fe 500.
 - 100 DIA WEEP HOLES TO BE PROVIDED 1000C/C BOTH HORIZONTALLY AND VERTICALLY IN A STAGGERED MANNER IN ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
 - 20mm FILLER TYPE EXPANSION JOINT SHALL BE PROVIDED BETWEEN APPROACH SLAB & TOP SLAB.
 - 10mm EXPANSION GAP FILLED WITH COMPRESSIBLE FIBER BOARD SHALL BE PROVIDED BETWEEN RETAINING WALL & RCC BOX.
 - TAR PAPER BEARING SHALL BE PROVIDED BETWEEN APPROACH SLAB AND BRACKET.
 - WEARING COURSE SHALL BE 40mm THK BITUMINOUS CONCRETE OVER 25mm THK BITUMEN MASTIC LAYER AS PER CLASS :2702 OF MORT&H SPECIFICATIONS.
 - BACK FILLING BEHIND BOX SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC:78-2000 HAVING PROPERTIES $C=0, \phi=30^\circ, \sigma_{vd}=18 \text{ KN/M}^2$.
 - FORMATION LEVEL, BED LEVEL, CAMBER/SUPER ELEVATION AND LAYOUT SHALL BE VERIFIED AT SITE AND SHALL BE PROVIDED AS PER APPROVED PLAN & PROFILE DRAWING.
 - THE DESIGN BEARING PRESSURE AT FOUNDING LEVEL SHALL NOT BE LESS THAN 15 t/m^2 .
 - CURTAIN WALL/FLEXIBLE APRON SHALL BE PROVIDED ONLY IN SOIL STRATA AND WHERE STRATA IS ROCKY IT IS NOT REQUIRED.
 - DIMENSIONS SHOWN ARE TENTATIVE AND MAY CHANGE DURING DETAIL DESIGN.
- LEGEND:-**
- E.J. - EXPANSION JOINT
 - LVL. - LEVEL
 - FRL. - FINISHED ROAD LEVEL
 - THK. - THICK
 - GL. - GROUND LEVEL
 - C.J. - CONSTRUCTION JOINT
 - HFL. - HIGH FLOOD LEVEL
 - U/S - UP STREAM
 - D/S - DOWN STREAM
 - MCW - MAIN CARRIAGE WAY

TABLE	
PROPOSED CHAINAGE	26+760
EXISTING LOCATION (KM)	26+850
PROPOSED STRUCTURE	RCC BOX
SPAN ARRANGEMENT	2 x 8.0
FRL.	173.809
HFL.	172.045
MIN. BED LVL.	168.936
FOUNDING LVL. OF BOX	167.686

REV	DATE	DISCRIPTION FOR REVISION
R0		

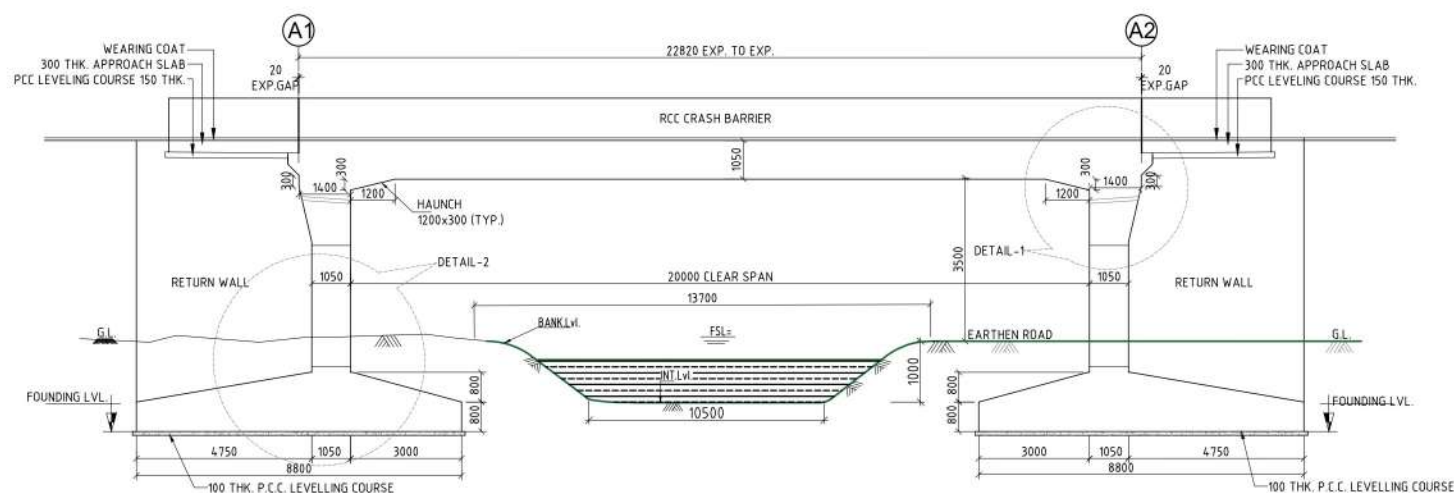
SCALE:-	AS SHOWN
CLIENT:-	MINISTRY OF ROAD TRANSPORT & HIGHWAYS

CONSULTANT:-	L.N. MALVIYA INFRA PROJECTS PVT. LTD.
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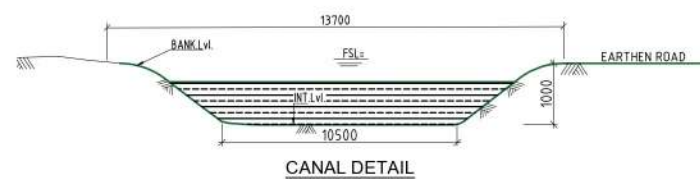
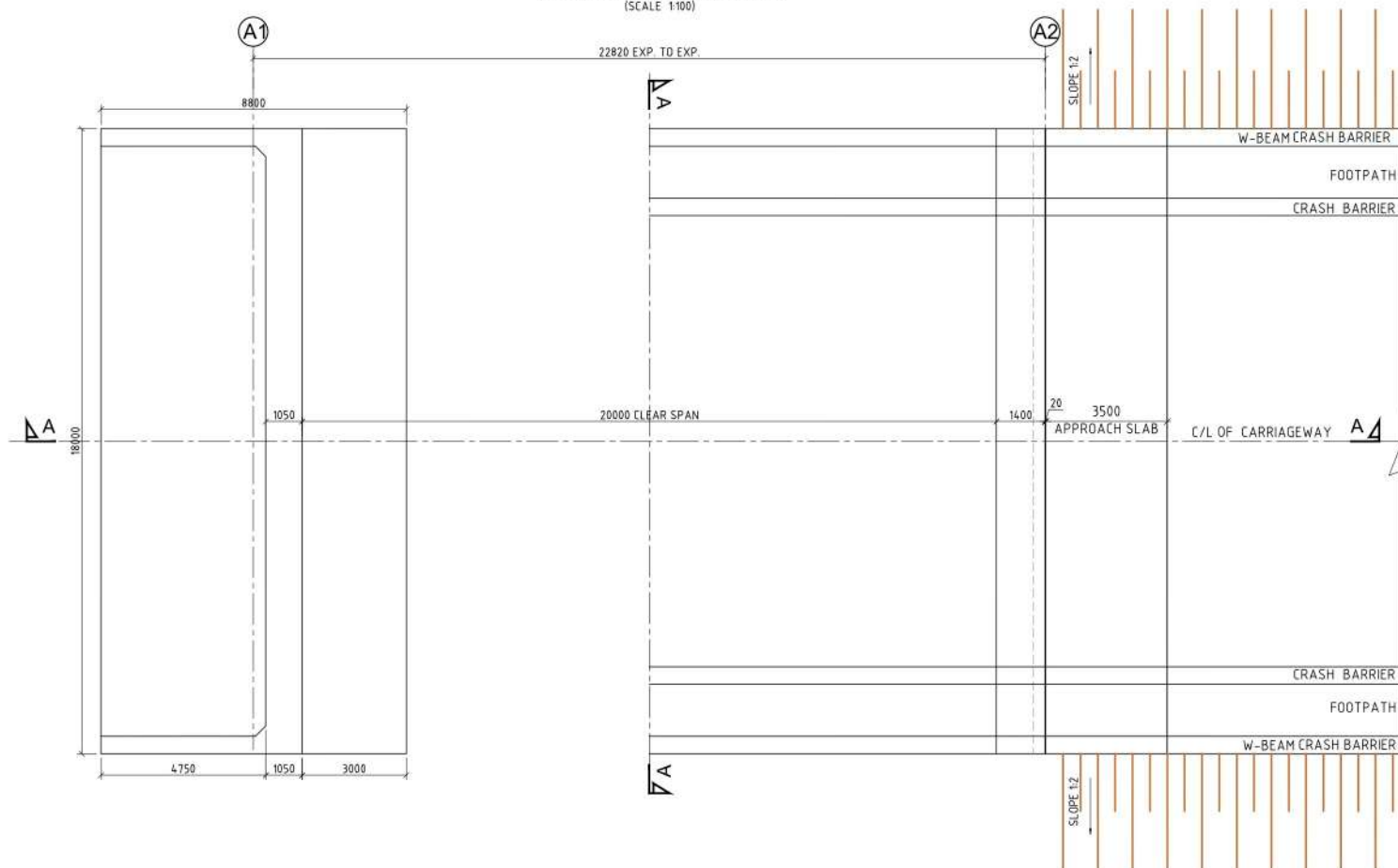
NAME OF WORK	CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR IMPROVEMENT AND UPGRADEATION OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN THE STATE OF UTTAR PRADESH
PKG II - (STRETCH III)	STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR -ETAH (JUNCTION ON NH -34 NEAR POLICE LINE)

DRAWN BY	BS
DESIGN BY	SY
APPROVED BY	RKP

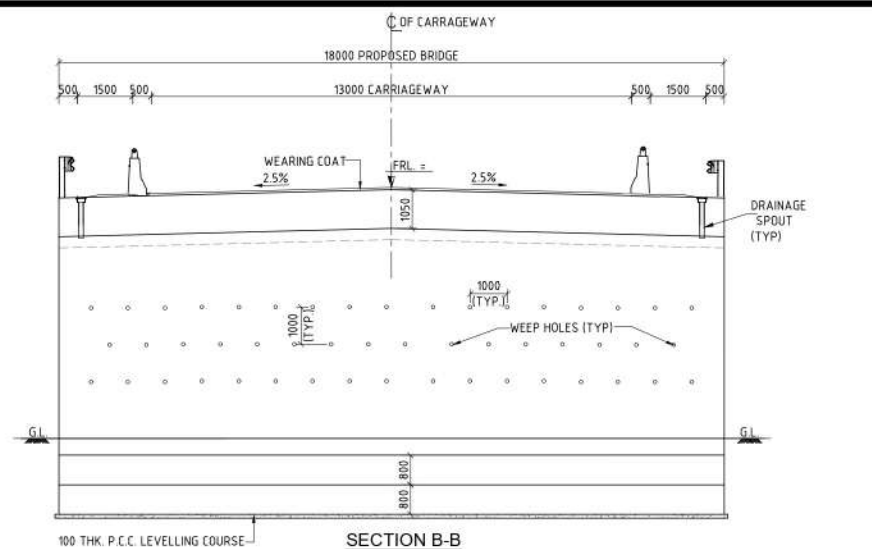
REVISION - R0	TITLE :
SHEET- 01 of 01	GENERAL ARRANGEMENT DRAWING OF MNB AT CH- 26+760
DEC. - 2021	SPAN ARRANGEMENT- 2X8.00 M
SIZE - A3	
DRG. NO. - LNM/DL/UP/A-J26+760/1	



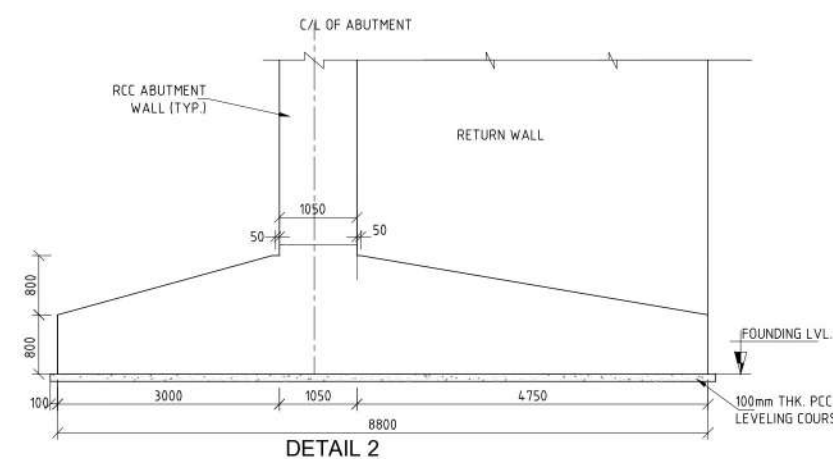
SECTIONAL ELEVATION (A-A)
(SCALE 1:100)



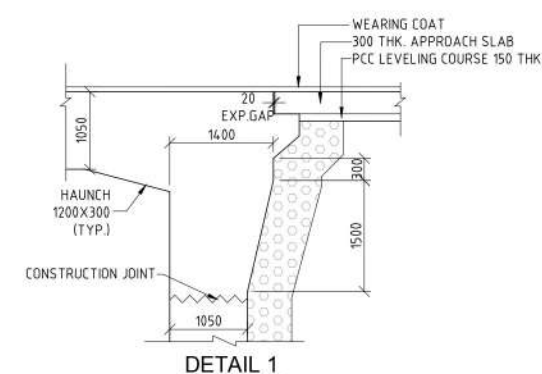
CANAL DETAIL



SECTION B-B



DETAIL 2



DETAIL 1

NOTES:-

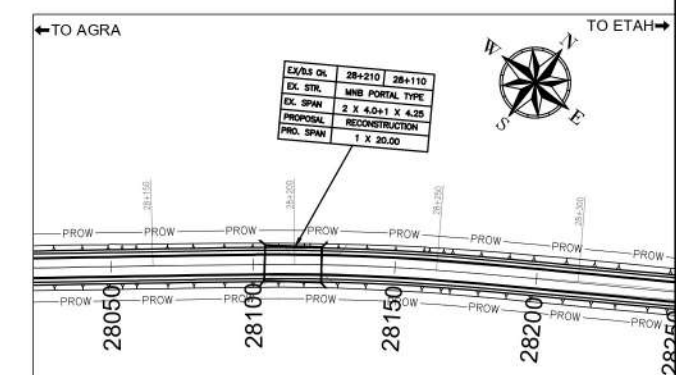
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. LEVELS ARE IN METRES.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- GRADE OF CONCRETE SHALL BE AS BELOW:
APPROACH SLAB - M-30
CRASH BARRIER - M-40
RCC BOX - M-35
PCC - M-15
RCC RETURN WALL - M-30
- DESIGN CRITERIA:
I. THE DESIGN IS ACCORDING TO THE LATEST IRC CODES.
II. THE BOX DESIGN FOR ONE LANE OF IRC CLASS 70R < CLASS-A OR THREE LANES OF IRC CLASS A LOADING WHICHEVER GOVERNS
- 600mm THICK FILTER MEDIA SHALL BE PROVIDED AT BACK SIDE OF ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
- MINIMUM CLEAR COVER TO TOP SLAB & INNER WEBS SHALL BE 50mm AND CLEAR COVER TO BOTTOM SLAB AND OUTER WEBS SHALL BE 75mm FOR RCC BOX. ALL H.Y.S.D. BARS SHALL CONFORM TO IS 1786 GRADE Fe 500.
- 100 DIA WEEP HOLES TO BE PROVIDED 1000/C BOTH HORIZONTALLY AND VERTICALLY IN A STAGGERED MANNER IN ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
- 20mm FILLER TYPE EXPANSION JOINT SHALL BE PROVIDED BETWEEN APPROACH SLAB & TOP SLAB.
- 10mm EXPANSION GAP FILLED WITH COMPRESSIBLE FIBER BOARD SHALL BE PROVIDED BETWEEN RETAINING WALL & RCC BOX.
- TAR PAPER BEARING SHALL BE PROVIDED BETWEEN APPROACH SLAB AND BRACKET.
- WEARING COURSE SHALL BE 40mm THK BITUMINOUS CONCRETE OVER 25mm THK BITUMEN MASTIC LAYER AS PER CLASS :2702 OF MORT&H SPECIFICATIONS.
- BACK FILLING BEHIND BOX SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX 4 OF IRC-78-2000 HAVING PROPERTIES $C=0$, $\phi=30^\circ$, $\gamma_d=20^\circ$ & $\gamma_d=18 \text{ KN/M}^3$.
- FORMATION LEVEL, BED LEVEL, CAMBER/SUPER ELEVATION AND LAYOUT SHALL BE VERIFIED AT SITE AND SHALL BE PROVIDED AS PER APPROVED PLAN & PROFILE DRAWING.
- THE DESIGN BEARING PRESSURE AT FOUNDING LEVEL SHALL NOT BE LESS THAN 15 t/m^2 .
- CURTAIN WALL/FLEXIBLE APRON SHALL BE PROVIDED ONLY IN SOIL STRATA AND WHERE STRATA IS ROCKY IT IS NOT REQUIRED.
- DIMENSIONS SHOWN ARE TENTATIVE AND MAY CHANGE DURING DETAIL DESIGN.

LEGEND:-

E.J.	-	EXPANSION JOINT
LVL.	-	LEVEL
FRL.	-	FINISHED ROAD LEVEL
THK.	-	THICK
GL.	-	GROUND LEVEL
C.J.	-	CONSTRUCTION JOINT
HFL.	-	HIGH FLOOD LEVEL
U/S.	-	UP STREAM
D/S.	-	DOWN STREAM
MCW.	-	MAIN CARRIAGE WAY

TABLE

PROPOSED CHAINAGE	28+110
PROPOSED STRUCTURE	MNB
SPAN ARRANGEMENT	1 x 20.00 m
TYPE OF STRUCTURE	RCC PORTAL STRUCTURE
FORMATION LVL.	175.092
MIN.BED LVL.	171.145
FOUNDING LVL.	169.045



KEY PLAN

REV	DATE	DISCRIPTION FOR REVISION
R0		

SCALE:-
AS SHOWN

CLIENT:-
MINISTRY OF ROAD TRANSPORT & HIGHWAYS

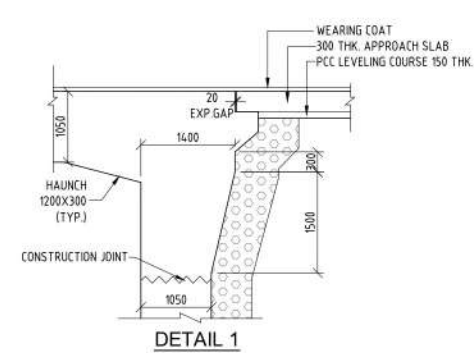
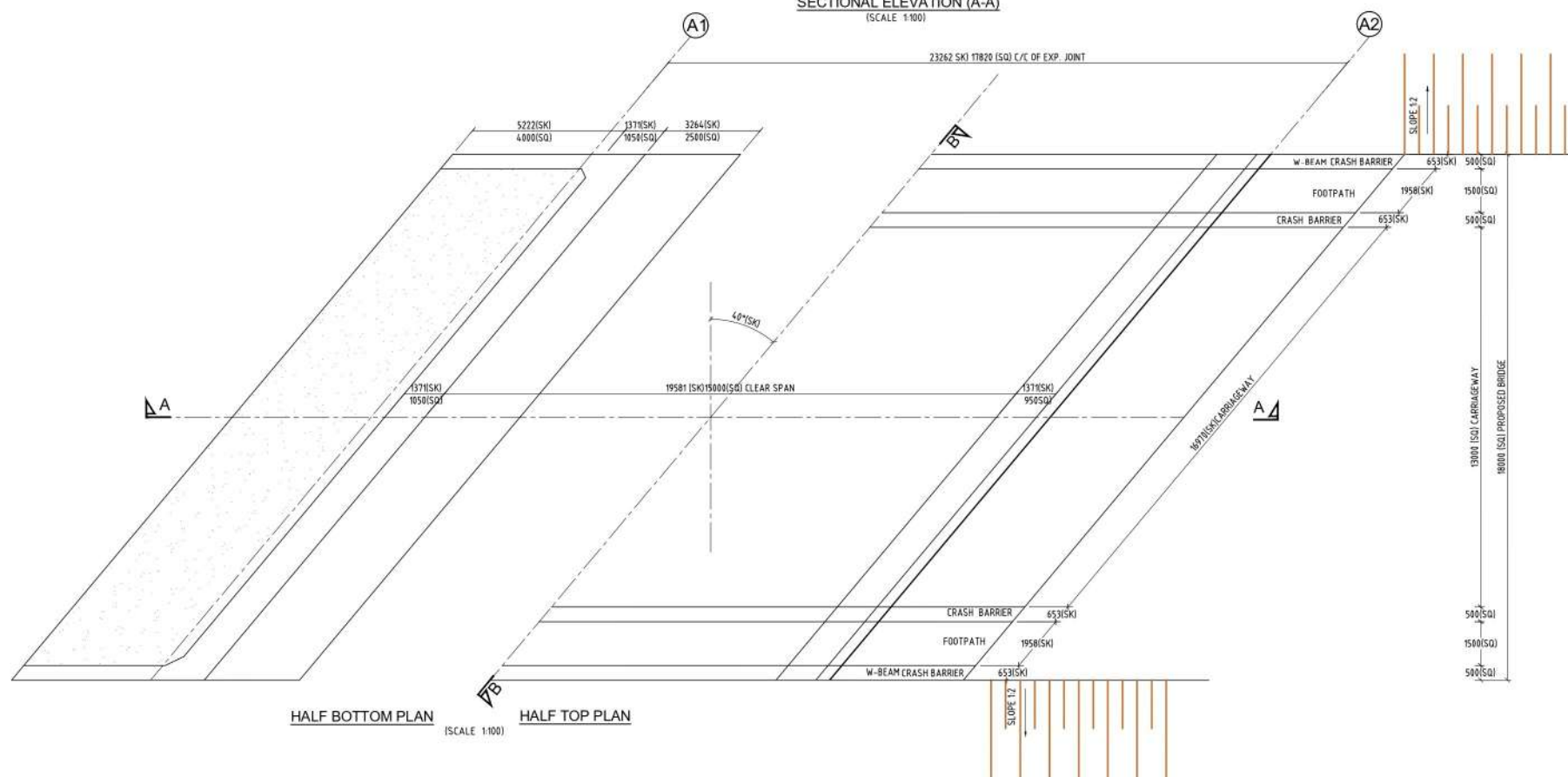
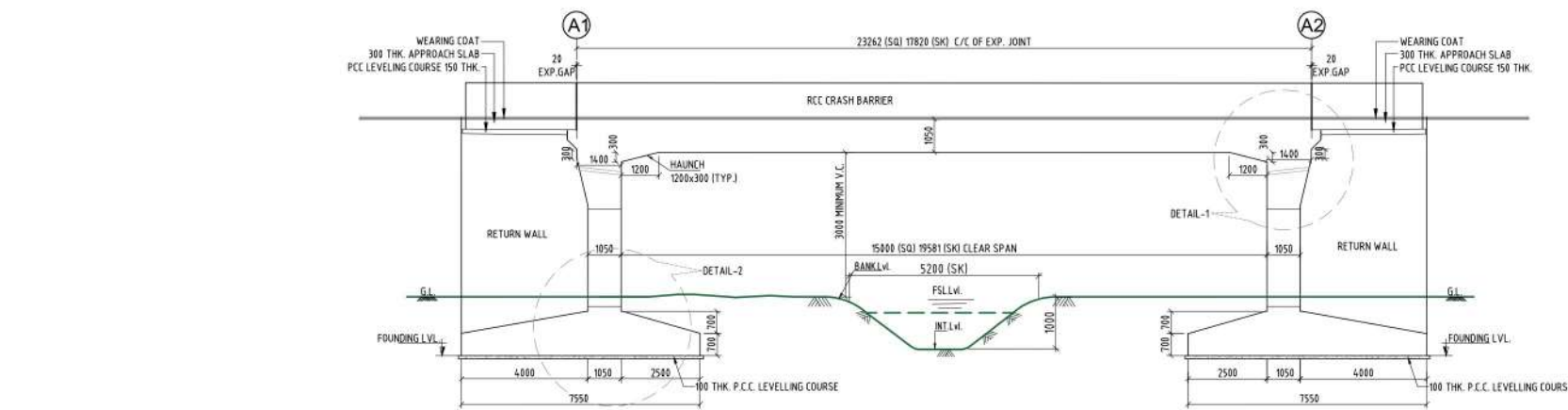
CONSULTANT :-
L.N. MALVIYA INFRA PROJECTS PVT. LTD.
Head Office :- T-10 3rd Floor city center zone 1, M.P. Nagar Bhopal 462011 Ph. 0755 - 4236317 Fax : 0755 - 4236317 E-mail :- lnmalviya@rediffmail.com Website :- www.lninfra.com

NAME OF WORK
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR IMPROVEMENT AND UPGRADEATION OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN THE STATE OF UTTAR PRADESH
PKG II - (STRETCH III)
STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR -ETAH (JUNCTION ON NH -34 NEAR POLICE LINE)

DRAWN BY	BS
DESIGN BY	SY
APPROVED BY	RKP

REVISION - R0
SHEET- 01 of 01
DEC. - 2021
SIZE - A3

TITLE :
GENERAL ARRANGEMENT DRAWING OF MNB AT CH- 28+110
SPAN ARRANGEMENT - 1X20.00 M
DRG. NO. - LNM/DL/UP/A-J/28+110/01



TABLE

PROPOSED CHAINAGE	39+440
PROPOSED STRUCTURE	MNB
SPAN ARRANGEMENT	1 x 15.00 m
TYPE OF STRUCTURE	RCC PORTAL STRUCTURE
FORMATION LVL.	180.909
MIN BED LVL.	177.210
FOUNDING LVL.	175.310

NOTES:-

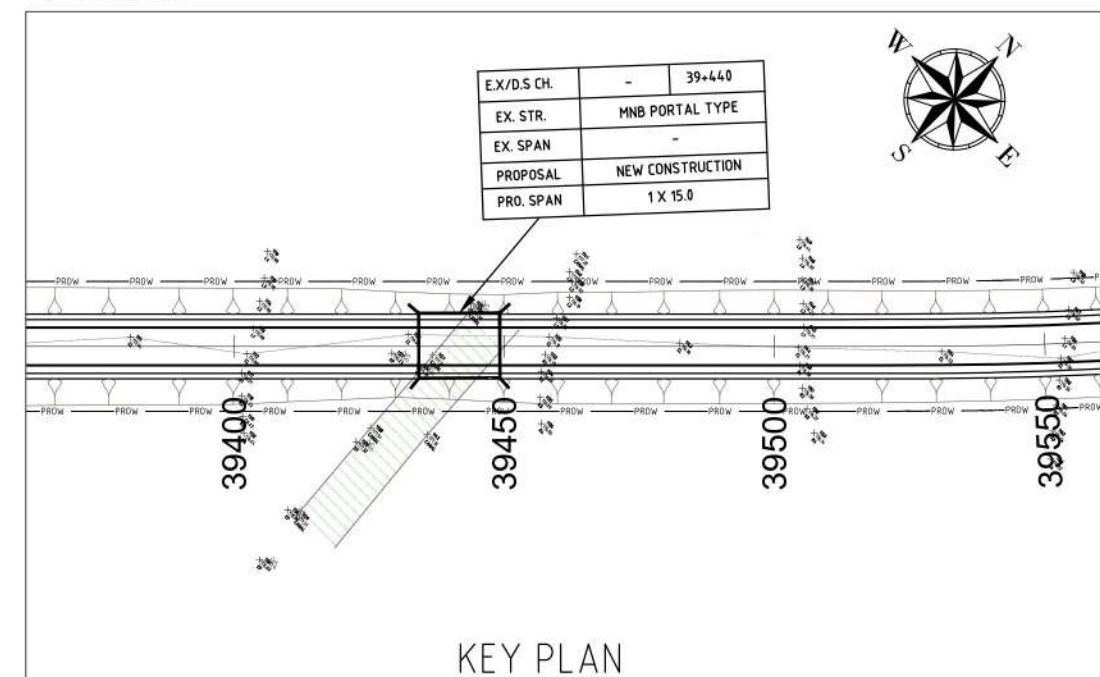
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. LEVELS ARE IN METRES.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- GRADE OF CONCRETE SHALL BE AS BELOW:
APPROACH SLAB - M-30
CRASH BARRIER - M-40
RCC BOX - M-35
PCC - M-15
RCC RETURN WALL - M-30
- DESIGN CRITERIA:
I. THE DESIGN IS ACCORDING TO THE LATEST IRC CODES.
II. THE BOX DESIGN FOR ONE LANE OF IRC CLASS 70R + CLASS-A OR THREE LANES OF IRC CLASS A LOADING WHICHEVER GOVERNS.
- 600mm THICK FILTER MEDIA SHALL BE PROVIDED AT BACK SIDE OF ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
- MINIMUM CLEAR COVER TO TOP SLAB & INNER WEBS SHALL BE 50mm AND CLEAR COVER TO BOTTOM SLAB AND OUTER WEBS SHALL BE 75mm FOR RCC BOX.
- ALL H.Y.S.D. BARS SHALL CONFORM TO IS-1786 GRADE Fe 500.
- 100 DIA WEEP HOLES TO BE PROVIDED 1000C/C BOTH HORIZONTALLY AND VERTICALLY IN A STAGGERED MANNER IN ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
- 20mm FILLER TYPE EXPANSION JOINT SHALL BE PROVIDED BETWEEN APPROACH SLAB & TOP SLAB.
- 10mm EXPANSION GAP FILLED WITH COMPRESSIBLE FIBER BOARD SHALL BE PROVIDED BETWEEN RETAINING WALL & RCC BOX.
- TAR PAPER BEARING SHALL BE PROVIDED BETWEEN APPROACH SLAB AND BRACKET.
- WEARING COURSE SHALL BE 40mm THK BITUMINOUS CONCRETE OVER 25mm THK BITUMEN MASTIC LAYER AS PER CLASS -2702 OF MORT&H SPECIFICATIONS.
- BACK FILLING BEHIND BOX SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX -6 OF IRC-78-2000 HAVING PROPERTIES $C=0$, $\phi=30^\circ$, $\gamma_d=20^\circ$ & $\gamma_d=18$ KN/M³.
- FORMATION LEVEL, BED LEVEL, CAMBER/SUPER ELEVATION AND LAYOUT SHALL BE VERIFIED AT SITE AND SHALL BE PROVIDED AS PER APPROVED PLAN & PROFILE DRAWING.
- THE DESIGN BEARING PRESSURE AT FOUNDING LEVEL SHALL NOT BE LESS THAN 151/m².
- CURTAIN WALL/FLEXIBLE APRON SHALL BE PROVIDED ONLY IN SOIL STRATA AND WHERE STRATA IS ROCKY IT IS NOT REQUIRED.
- DIMENSIONS SHOWN ARE TENTATIVE AND MAY CHANGE DURING DETAIL DESIGN.

LEGEND:-

- E.J. - EXPANSION JOINT
- LVL. - LEVEL
- FRL. - FINISHED ROAD LEVEL
- THK. - THICK
- GL. - GROUND LEVEL
- C.J. - CONSTRUCTION JOINT
- HFL. - HIGH FLOOD LEVEL
- U/S - UP STREAM
- D/S - DOWN STREAM
- M/W - MAIN CARRIAGE WAY

← TO AGRA

TO ETAH →



KEY PLAN

REV	DATE	DISCRIPTION FOR REVISION
R0		

SCALE:-
AS SHOWN

CLIENT:-



MINISTRY OF ROAD TRANSPORT & HIGHWAYS



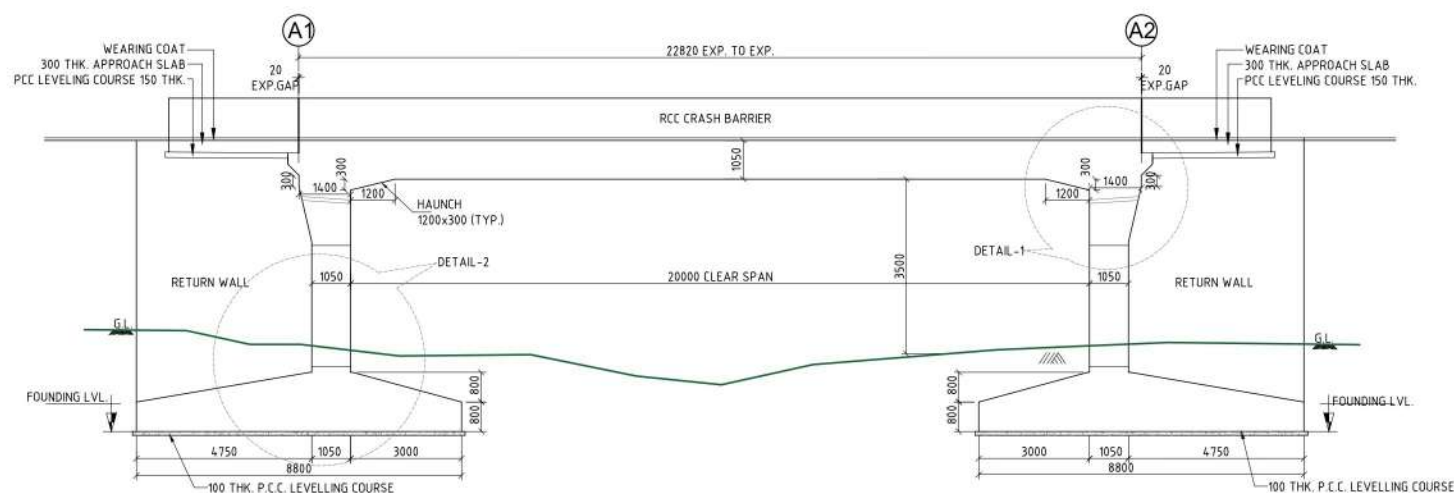
CONSULTANT :-
L.N. MALVIYA INFRA PROJECTS PVT. LTD.
Head Office :- T-10 3rd Floor city center zone 1,
M.P. Nagar Bhopal 462011
Ph. 0755 - 4236317
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E-mail :- lnmalviya@rediffmail.com
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NAME OF WORK
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR
IMPROVEMENT AND UPGRADEATION OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN
THE STATE OF UTTAR PRADESH
PKG II - (STRETCH III)
STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR - ETAH
(JUNCTION ON NH -34 NEAR POLICE LINE)

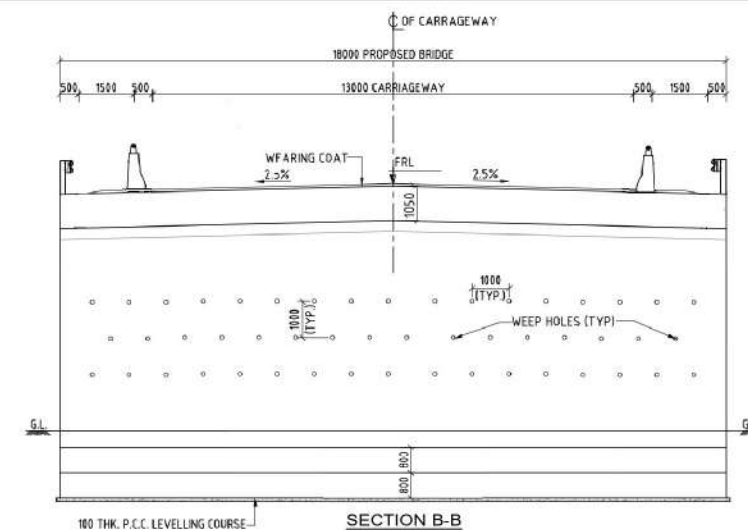
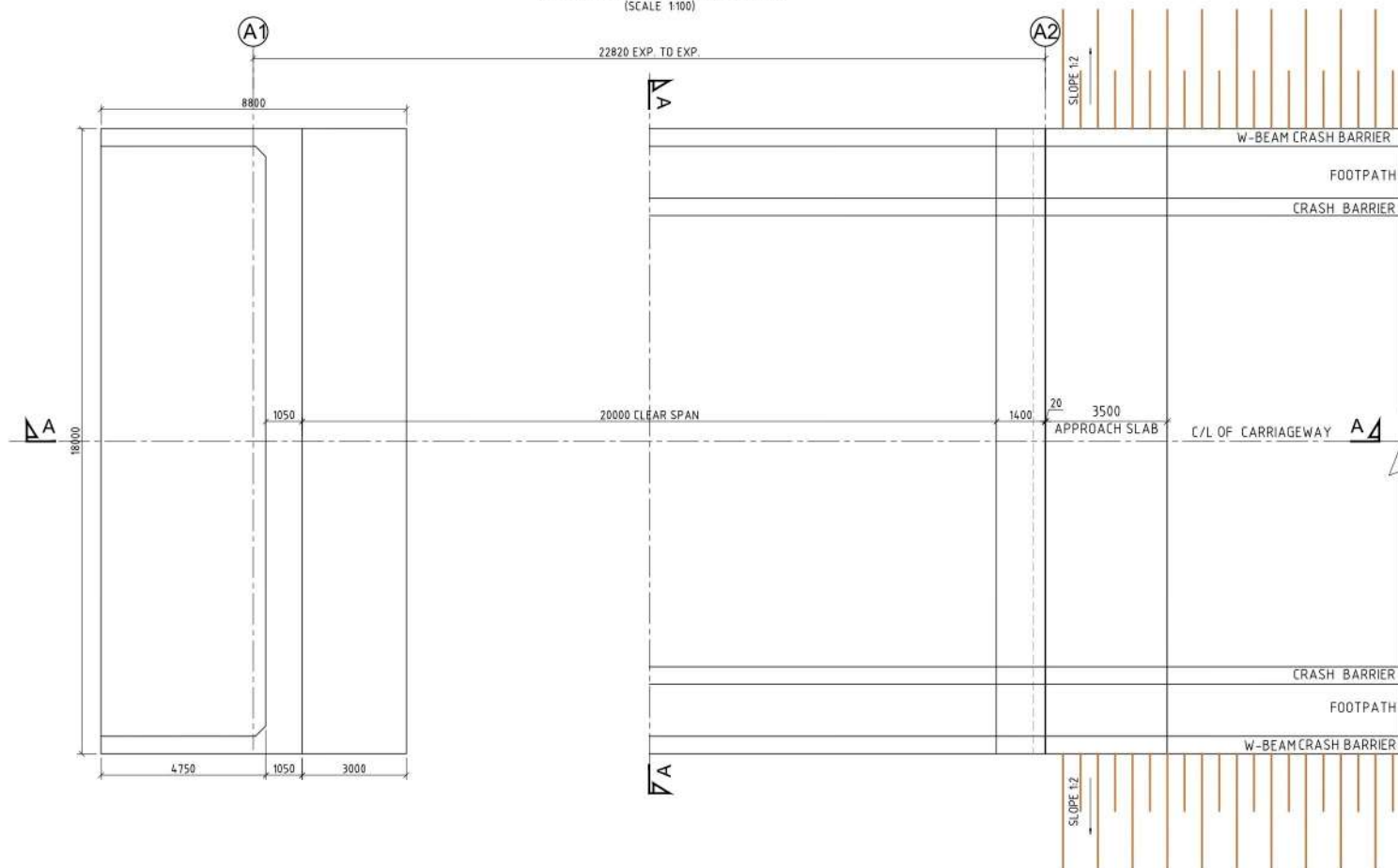
DRAWN BY	BS
DESIGN BY	SY
APPROVED BY	RKP

REVISION - R0	TITLE :
SHEET- 01 of 01	GENERAL ARRANGEMENT DRAWING
DEC. - 2021	MNB AT CH. - 39+440
SIZE - A3	SPAN ARRANGEMENT - 1X15.00 M

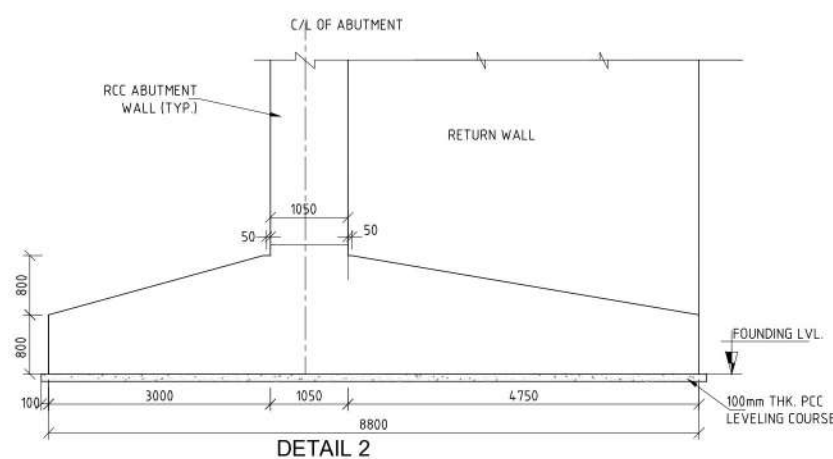
DRG. NO. - LNM/DL/UP/A-J/39+440



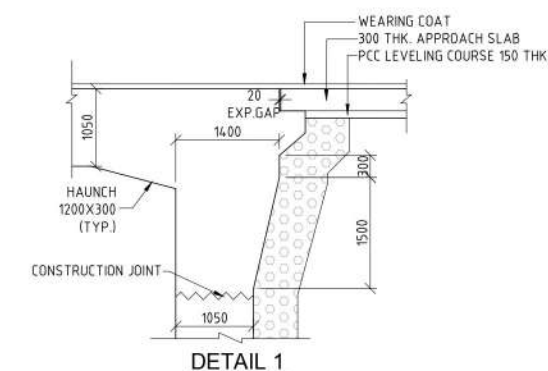
SECTIONAL ELEVATION (A-A)
(SCALE 1:100)



SECTION B-B



DETAIL 2



DETAIL 1

NOTES:-

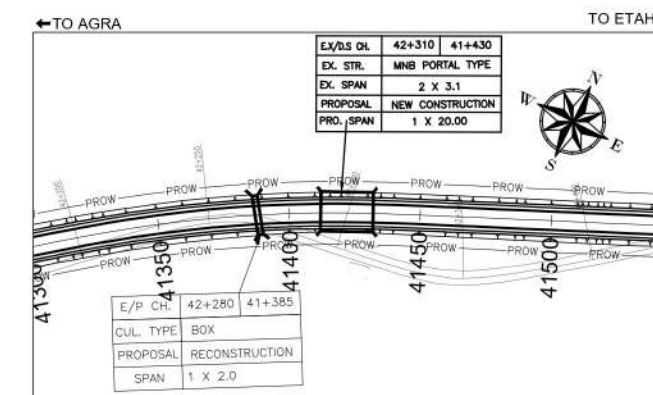
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. LEVELS ARE IN METRES.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- GRADE OF CONCRETE SHALL BE AS BELOW:
APPROACH SLAB - M-30
CRASH BARRIER - M-40
RCC BOX - M-35
PCC - M-15
RCC RETURN WALL - M-30
- DESIGN CRITERIA:
I. THE DESIGN IS ACCORDING TO THE LATEST IRC CODES.
II. THE BOX DESIGN FOR ONE LANE OF IRC CLASS 70R - CLASS-A OR THREE LANES OF IRC CLASS A LOADING WHICHEVER GOVERNS.
- 600mm THICK FILTER MEDIA SHALL BE PROVIDED AT BACK SIDE OF ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
- MINIMUM CLEAR COVER TO TOP SLAB & INNER WEBS SHALL BE 50mm AND CLEAR COVER TO BOTTOM SLAB AND OUTER WEBS SHALL BE 75mm FOR RCC BOX. ALL H.Y.S.D. BARS SHALL CONFORM TO IS 1786 GRADE Fe 500.
- 100 DIA WEEP HOLES TO BE PROVIDED 1000C/C BOTH HORIZONTALLY AND VERTICALLY IN A STAGGERED MANNER IN ABUTMENT/RETAINING WALL/SIDE WALLS OF RCC BOX.
- 20mm FILLER TYPE EXPANSION JOINT SHALL BE PROVIDED BETWEEN APPROACH SLAB & TOP SLAB.
- 10mm EXPANSION GAP FILLED WITH COMPRESSIBLE FIBER BOARD SHALL BE PROVIDED BETWEEN RETAINING WALL & RCC BOX.
- TAR PAPER BEARING SHALL BE PROVIDED BETWEEN APPROACH SLAB AND BRACKET.
- WEARING COURSE SHALL BE 40mm THK BITUMINOUS CONCRETE OVER 25mm THK BITUMEN MASTIC LAYER AS PER CLASS :2702 OF MORT&H SPECIFICATIONS. BACK FILLING BEHIND BOX SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX 4 OF IRC 78-2000 HAVING PROPERTIES $C=0$, $\phi=30^\circ$, $\gamma_d=18 \text{ KN/M}^3$.
- FORMATION LEVEL, BED LEVEL, CAMBER/SUPER ELEVATION AND LAYOUT SHALL BE VERIFIED AT SITE AND SHALL BE PROVIDED AS PER APPROVED PLAN & PROFILE DRAWING.
- THE DESIGN BEARING PRESSURE AT FOUNDING LEVEL SHALL NOT BE LESS THAN 15 t/m^2 .
- CURTAIN WALL/FLEXIBLE APRON SHALL BE PROVIDED ONLY IN SOIL STRATA AND WHERE STRATA IS ROCKY IT IS NOT REQUIRED.
- DIMENSIONS SHOWN ARE TENTATIVE AND MAY CHANGE DURING DETAIL DESIGN.

LEGEND:-

E.J.	-	EXPANSION JOINT
LVL.	-	LEVEL
FRL.	-	FINISHED ROAD LEVEL
THK.	-	THICK
GL.	-	GROUND LEVEL
C.J.	-	CONSTRUCTION JOINT
HFL.	-	HIGH FLOOD LEVEL
U/S.	-	UP STREAM
D/S.	-	DOWN STREAM
MCW.	-	MAIN CARRIAGE WAY

TABLE

PROPOSED CHAINAGE	41+430
PROPOSED STRUCTURE	MNB
SPAN ARRANGEMENT	1 x 20.00 m
TYPE OF STRUCTURE	RCC PORTAL STRUCTURE
FORMATION LVL.	173.109
MIN.BED LVL.	168.362
FOUNDING LVL.	166.262



KEY PLAN

REV	DATE	DISCRIPTION FOR REVISION
R0		

SCALE:-
AS SHOWN

CLIENT:-



MINISTRY OF ROAD TRANSPORT & HIGHWAYS



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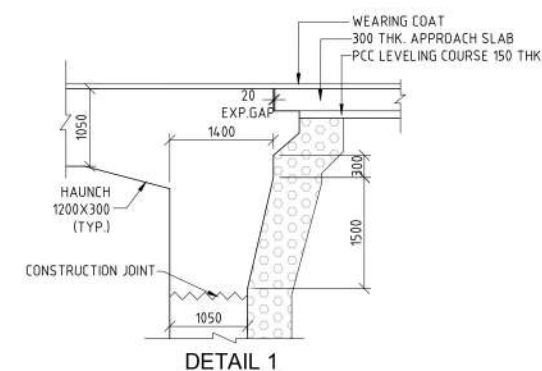
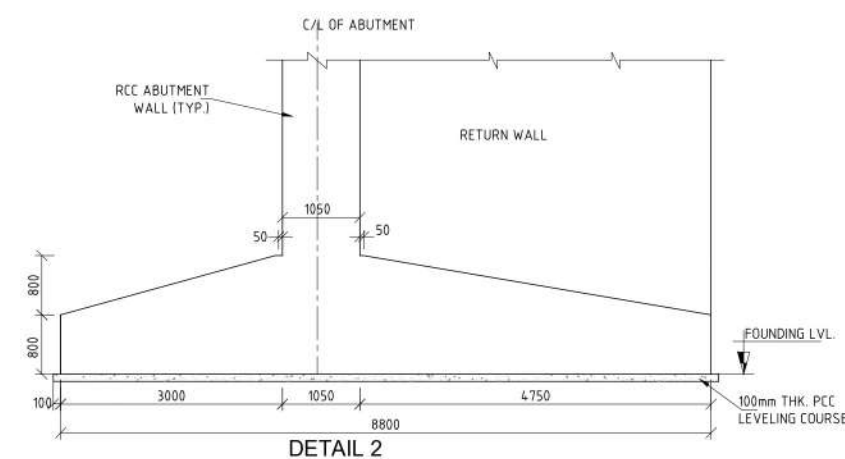
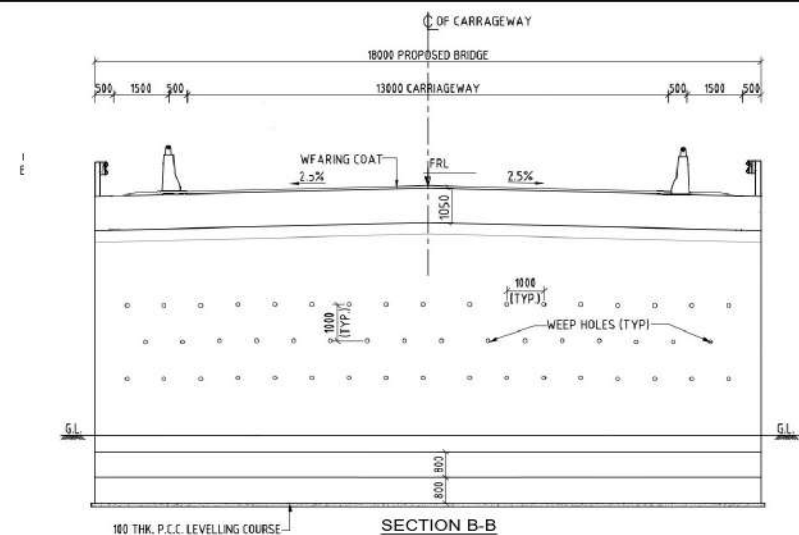
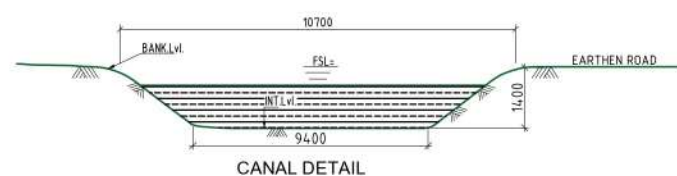
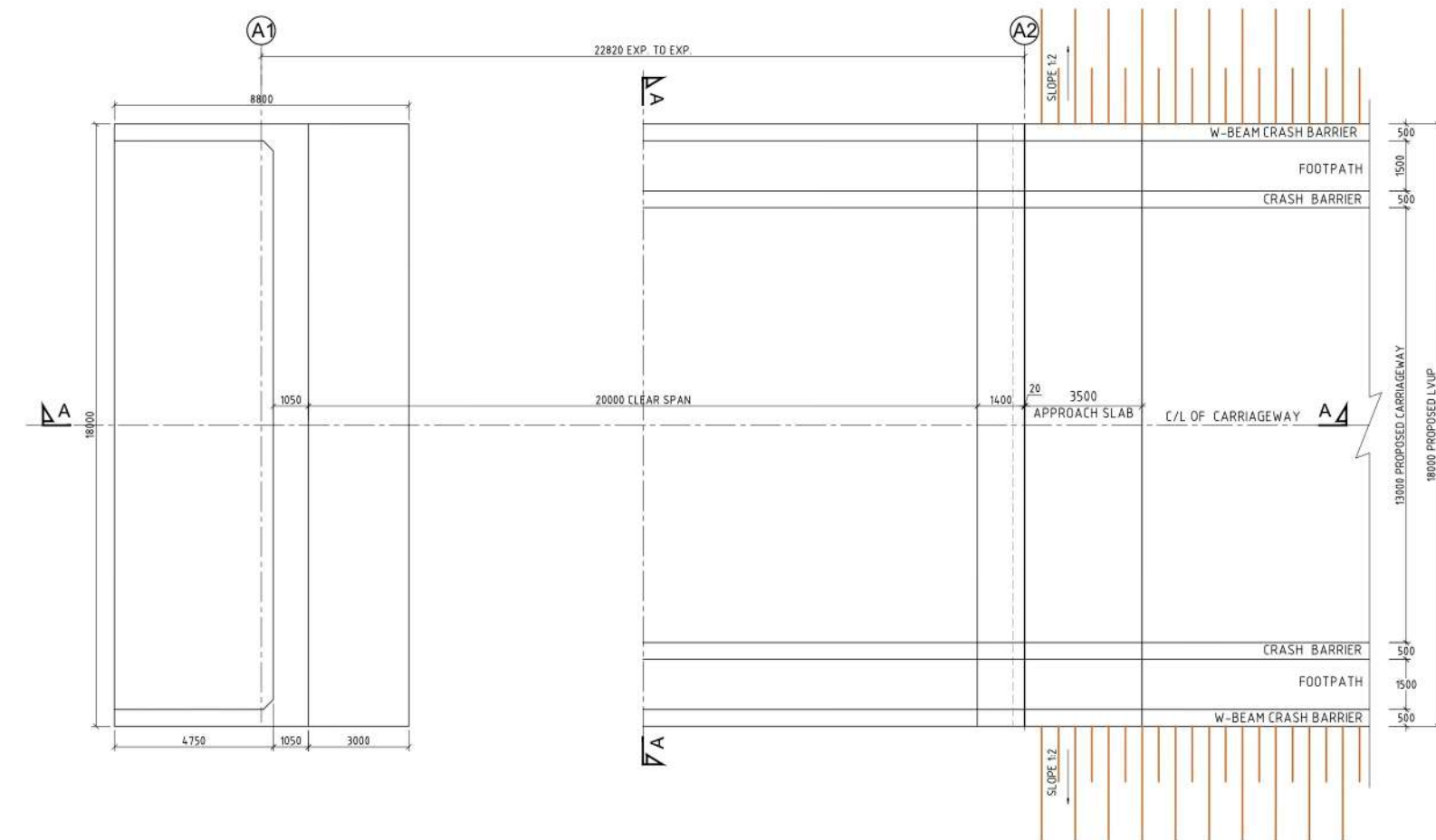
NAME OF WORK
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND PREPARATION OF DPR FOR IMPROVEMENT AND UPGRADEATION OF IN PRINCIPLE DECLARED NATIONAL HIGHWAYS IN THE STATE OF UTTAR PRADESH
PKG II - (STRETCH III)
STRETCH FROM AGRA (JUNCTION ON NH - 509) NEAR ISLAM NAGAR - JALESAR -ETAH (JUNCTION ON NH -34 NEAR POLICE LINE)

DRAWN BY BS
DESIGN BY SY
APPROVED BY RKP

REVISION - R0
SHEET- 01 of 01
DEC. - 2021
SIZE - A3

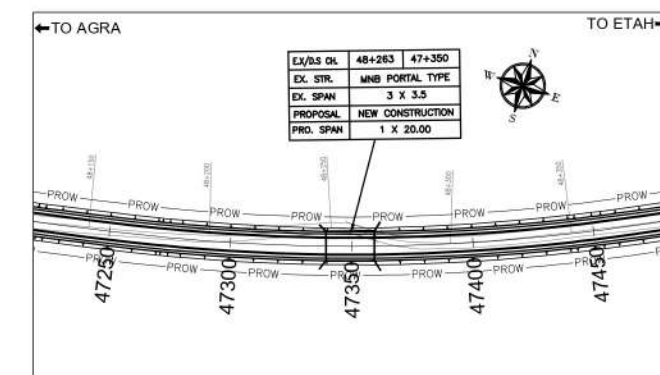
TITLE :
GENERAL ARRANGEMENT DRAWING OF
MNB AT CH- 41+430
SPAN ARRANGEMENT - 1X20.00 M

DRG. NO. - LNM/DL/UP/A-J28+110/1



- | | | |
|------|---|---------------------|
| E.J. | - | EXPANSION JOINT |
| LVL. | - | LEVEL |
| FRL. | - | FINISHED ROAD LEVEL |
| THK. | - | THICK |
| GL | - | GROUND LEVEL |
| C.J. | - | CONSTRUCTION JOINT |
| HFL. | - | HIGH FLOOD LEVEL |
| U/S | - | UP STREAM |
| D/S | - | DOWN STREAM |
| MCW | - | MAIN CARRIAGE WAY |

PROPOSED CHAINAGE	47-350
PROPOSED STRUCTURE	MNB
SPAN ARRANGEMENT	1 x 20.00 m
TYPE OF STRUCTURE	RCC PORTAL STRUCTURE
FORMATION LVL.	175.701
MIN.BED LVL.	170.890
FOUNDING LVL.	168.790



TITLE :
GENERAL ARRANGEMENT DRAWING OF
MNB AT CH:- 47+350
SPAN ARRANGEMENT- 1X20.00 M

R0		
REV	DATE	DISCRPTION FOR REVISION

AS SHOWN



MINISTRY OF ROAD TRANSPORT & HIGHWAYS

CONSULTANT :-



L.N. MALVIYA INFRA PROJECTS PVT. LTD. BHOHAL

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DRAWN BY	BS
DESIGN BY	SY
APPROVED BY	RKP

REVISION - R0
SHEET- 01 of 01
DEC. - 2021
SIZE - A3
DRG. NO.- LNM/D

DRG. NO.- LNM/DL/UP/A-J/47+350/01