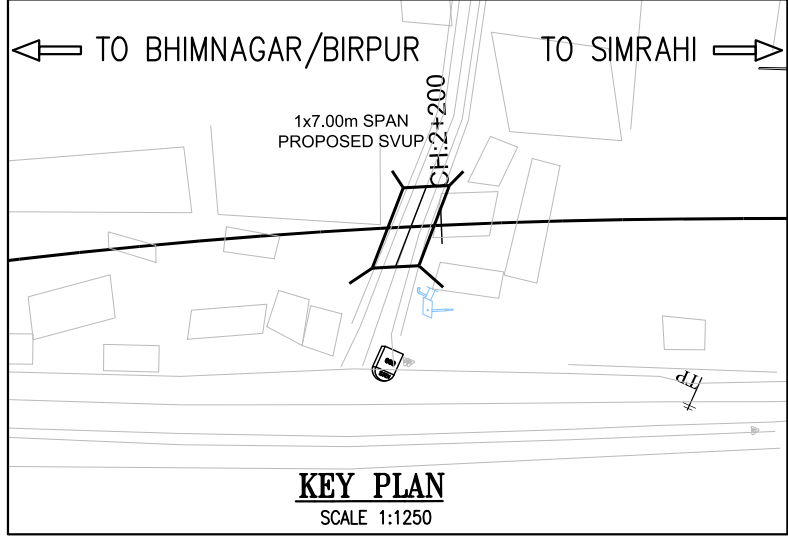
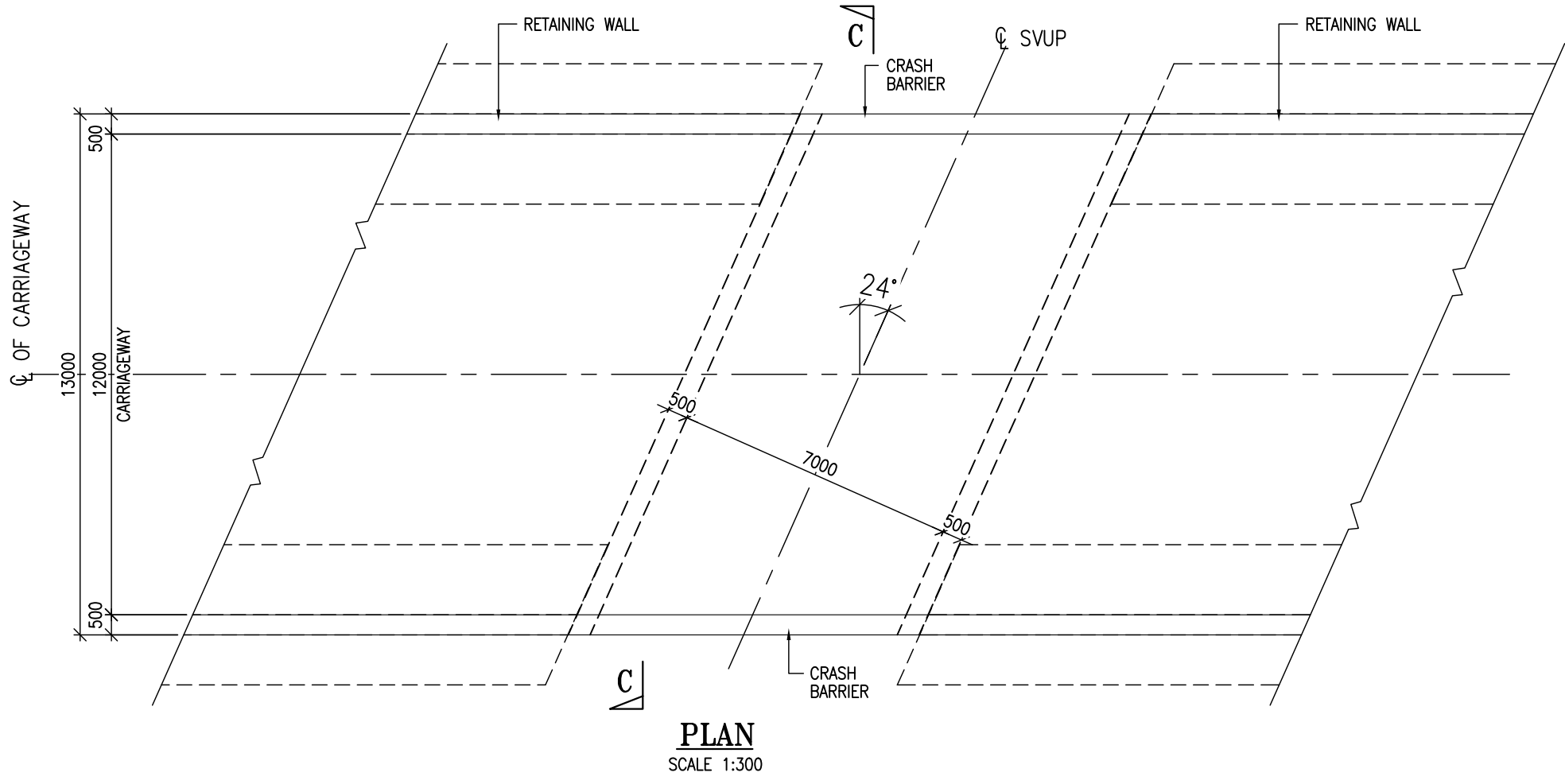
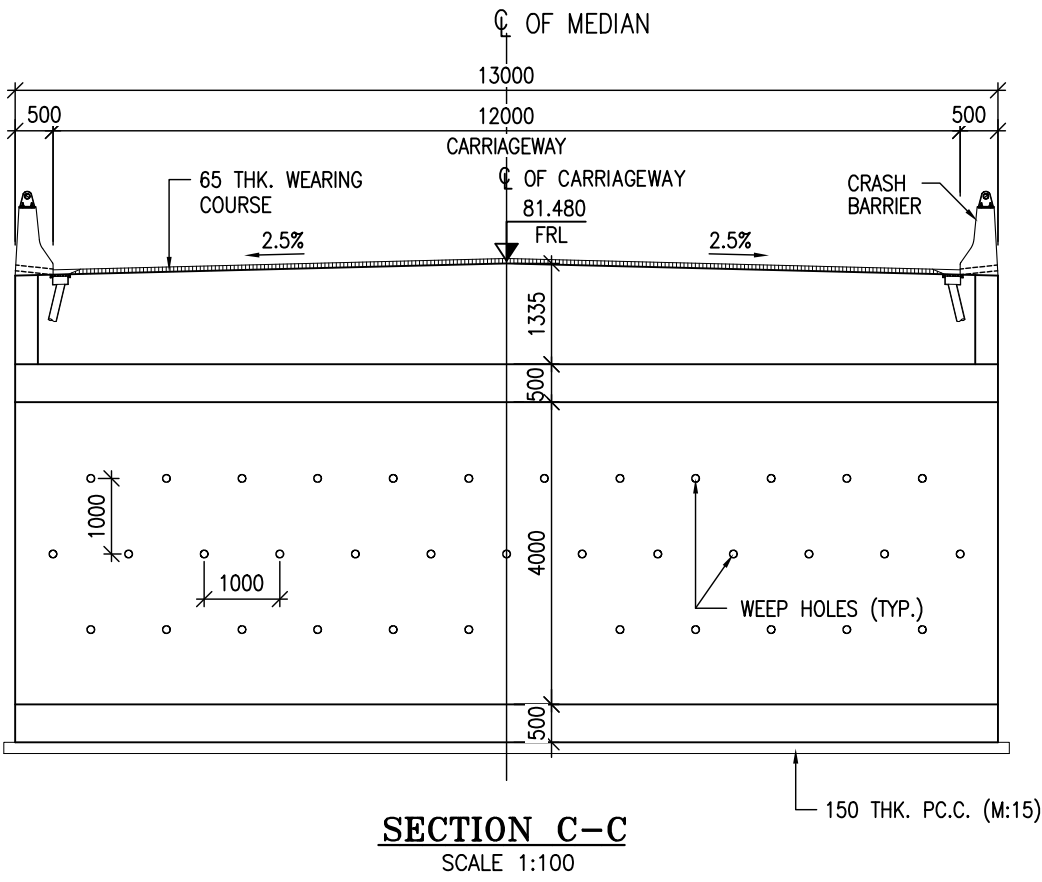
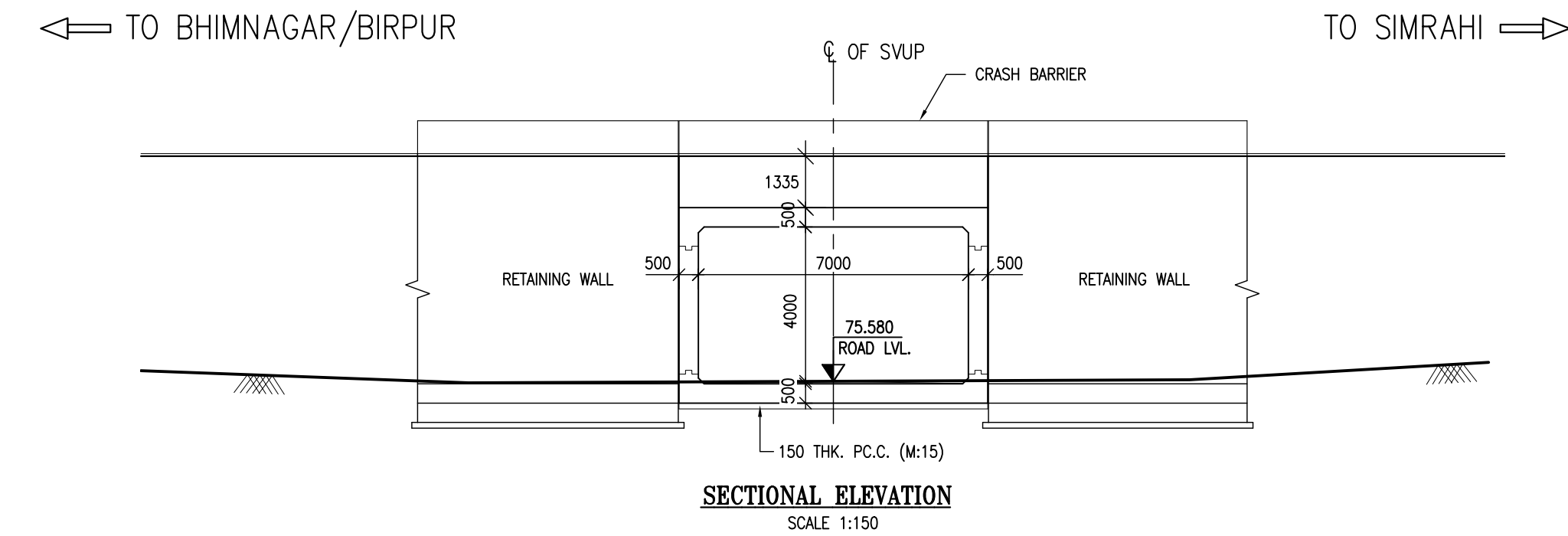


GAD of BRIDGE AND SVUP



- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
 - THE STRUCTURE IS DESIGNED FOR LIVE LOAD COMBINATION AS PER TABLE 6A OF IRC-6:2017 OR SPECIAL VEHICLE LOADING, WHICHEVER GOVERNS.
 - CONCRETE SHALL BE DESIGN MIX AND SHALL HAVE MINIMUM 28 DAYS CHARACTERISTIC STRENGTH ON 150mm CUBES FOR ALL ELEMENTS OF STRUCTURES AS INDICATED BELOW:
 - i) RCC CRASH BARRIER -----M40
 - ii) RCC BOX -----M35
 - iii) PCC LEVELLING COURSE -----M15
 - REINFORCING STEEL SHALL BE OF THERMO MECHANICALLY TREATED (TMT) BARS. (GRADE DESIGNATION Fe 500D) CONFORMING TO IS:1786.
 - 65mm THK. WEARING COAT COMPRISING OF UNDERLAYER OF 40mm THK. BITUMINOUS CONCRETE OVERLAID WITH 25mm THK. MASTIC ASPHALT
 - MINIMUM CONCRETE COVER, GRADE OF CONCRETE, MINIMUM CEMENT CONTENT AND MAXIMUM W/C RATIO SHALL BE AS PER SEVERE CONDITION OF EXPOSURE AS PER PROVISION OF IRC:112
 - REQUIRED SAFE BEARING CAPACITY AT FOUNDING LEVEL SHALL BE 10T/m². THIS SHALL BE VERIFIED AT SITE BEFORE EXECUTION OF WORK. IF SBC IS NOT ACHIEVED, NECESSARY GROUND IMPROVEMENT SHALL BE CARRIED OUT TO ENSURE THAT SBC IS NOT LESS THAN 10T/m².
 - FILLER TYPE EXPANSION JOINTS OF PROVEN QUALITY SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 2605 OF MORTH SPECIFICATIONS FOR ROAD AND BRIDGE WORKS, FOURTH REVISION.
 - 600 THICK FILTER MEDIA SHALL BE PROVIDED BEHIND WALLS, AS PER IRC: 78
 - BACK FILLING BEHIND VERTICAL WALLS SHALL SHALL CONSIST OF SELECTED EARTH CONFORMING TO IRC:78

Revision Details	By	Chk	Date	Suffix

Project Title :

Consultancy services for Preparation of Detailed Project Report including LA and Other clearances for Construction of Bridges over KataiyaHydel tail race & canal on NH-131(106) in the State of Bihar

Client :



सड़क परिवहन और राजमार्ग मंत्रालय
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
भारत सरकार
Government of India

MORT&H THROUGH CHIEF ENGINEER
(NORTH) N.H,WING,ROAD CONSTRUCTION
DEPARTMENT, GOVT. OF BIHAR, PATNA

Drawing Title :
GENERAL ARRANGEMENT DRAWING OF SVUP
AT CH. 2+195 Km (1x7.0m SPAN)

Drawing Number :
VKSIMPL/P-147/KATAIYA HYDEL/BR/SVUP/01

Scale :
AS SHOWN

Drawn By :	Designed By :	Checked By :	Date :
SKG	PMY	ARK	May, 2025

Design Consultant :



VKS INFRATECH MANAGEMENT PVT. LTD.
Consulting Engineers, Planners & Managers
Raghunath Bhawan, B-17/882, Block-B, Opp Prachin Shiv Mandir, New Ashok Nagar, Delhi - 110096
(Ph: 011-45061563)



PLAN
SCALE 1:200



Consultancy services for Preparation of Detailed Project Report including LA and Other clearances for Construction of Bridges over KataiyaHydel tail race & canal on NH-131(106) in the State of Bihar


सड़क परिवहन और राजमार्ग मंत्रालय
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
 भारत सरकार Government of India

Drawing Title : GENERAL ARRANGEMENT DRAWING AT CHL. 2+317 Km (1X100.00m SPAN)			
Drawing Number : VKSIMPL-P-147/KATAIYA HYDEL/BR/MJB-2/01			
Scale : AS SHOWN SH. 1 OF 2			
Drawn By : SKG	Designed By : PMY	Checked By : ARK	Date : May, 2025



VKS INFRATECH MANAGEMENT PVT. LTD.
Consulting Engineers, Planners & Managers
Raghunath Bhawan, B-17/882, Block-B, Opp Prachin
Shiv Mandir, New Ashok Nagar, Delhi - 110096
(Ph: 011-45061563)



- ## NOTES:
1. ALL DIMENSIONS ARE IN mm AND LEVELS ARE IN METRES UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS SHALL BE SCALED.
 2. THE STRUCTURE IS DESIGNED FOR LIVE LOAD COMBINATION AS PER TABLE 6A OF IRC-6:2017 OR SPECIAL VEHICLE LOADING, WHICHEVER GOVERNS.
 3. CONCRETE:

RCC DECK SLAB	-	M40
RCC CRASH BARRIER	-	M40
PEDESTAL	-	M40
SUBSTRUCTURE & FOUNDATION	-	M35
APPROACH SLAB	-	M30
LEVELLING COURSE (PCC)	-	M15
 4. REINFORCEMENT STEEL SHALL BE HYSD BARS OF GRADE DESIGNATION Fe-500D CONFORMING TO IS:1786.
 5. ALL STEEL PLATES SHALL BE OF GRADE E350 FE490 (B0) AND ALL ROLLED SECTIONS SHALL BE OF GRADE E250 FE 410 (B0)
 6. ALL STUDS SHALL HAVE A CHARACTERISTIC YIELD STRENGTH OF 385 MPa ELONGATION 18% AND CHARACTERISTIC ULTIMATE TENSILE STRENGTH OF 495 MPa AS PER IRC:22
 7. MINIMUM CONCRETE COVER, MINIMUM CEMENT CONTENT AND MAXIMUM W/C RATIO SHALL BE AS PER SEVERE CONDITION OF EXPOSURE AS PER PROVISION OF IRC:112
 8. STRIP SEAL TYPE EXPANSION SHALL BE PROVIDED AS PER IRC:SP:69.
 9. 65mm TH. WEARING COURSE COMPRISING OF UNDER LAYER OF 40mm THK. BITUMINOUS CONCRETE OVERLAID WITH 25mm THK. MASTIC ASPHALT.
 10. BACK FILLING BEHIND VERTICAL WALLS SHALL CONSIST OF SELECTED EARTH CONFORMING TO IRC:78
 11. 600 THK FILTER MEDIA BEHIND ABUTMENT/RETAINING WALL SHALL BE PROVIDED AS PER IRC:78
 12. WEEP HOLES, SPACED AT 1000 c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUTMENT & RETURN WALL.

Revision Details	By chk	Date	Suffix

Project Title :

Consultancy services for Preparation of Detailed Project Report including LA and Other clearances for Construction of Bridges over KataiyaHydel tail race & canal on NH-131(106) in the State of Bihar

Client :



सड़क परिवहन और राजमार्ग मंत्रालय
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
भारत सरकार
Government of India

**MORT&H THROUGH CHIEF ENGINEER
(NORTH) N.H,WING,ROAD CONSTRUCTION
DEPARTMENT, GOVT. OF BIHAR, PATNA**

Drawing Title : GENERAL ARRANGEMENT DRAWING AT CH. 2+317 Km (1X100.00m SPAN)			
Drawing Number : VKSIMPL-P/147/KATAIYA HYDEL/BR/MJB-2/01			
Scale :		SH. 2 OF 2	
AS SHOWN			
Drawn By : SKG	Designed By : PMY	Checked By : ARK	Date : May, 2025

Design Consultant :



VKS INFRATECH MANAGEMENT PVT. LTD.
Consulting Engineers, Planners & Managers
**Raghunath Bhawan, B-17/882, Block-B, Opp Prachin
Shiv Mandir, New Ashok Nagar, Delhi - 110096
(Ph: 011-45061563)**

TO SIMRAHI ➡



FORMATION LVL. (IN m)	81.480	81.480	81.480
GROUND LVL. (IN m)	74.297	70.036	74.334
CHAINAGE (IN km)	2+454	2+484	2+514



Project Title :

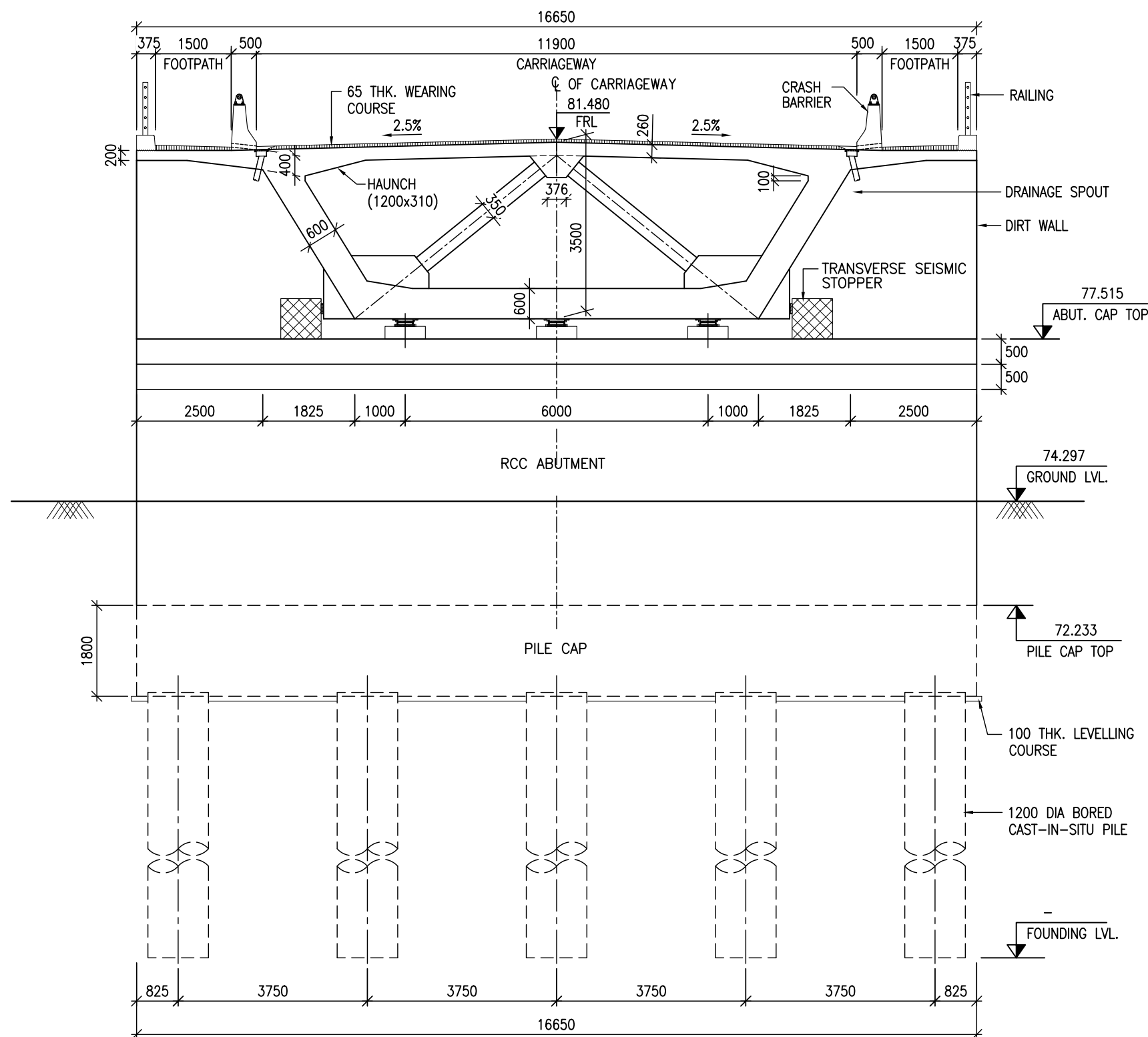
Consultancy services for Preparation of Detailed Project Report including LA and Other clearances for Construction of Bridges over Kataiyahydel tail race & canal on NH-131(106) in the State of Bihar

Client :  सड़क परिवहन और राजमार्ग मंत्रालय
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
 भारत सरकार Government of India

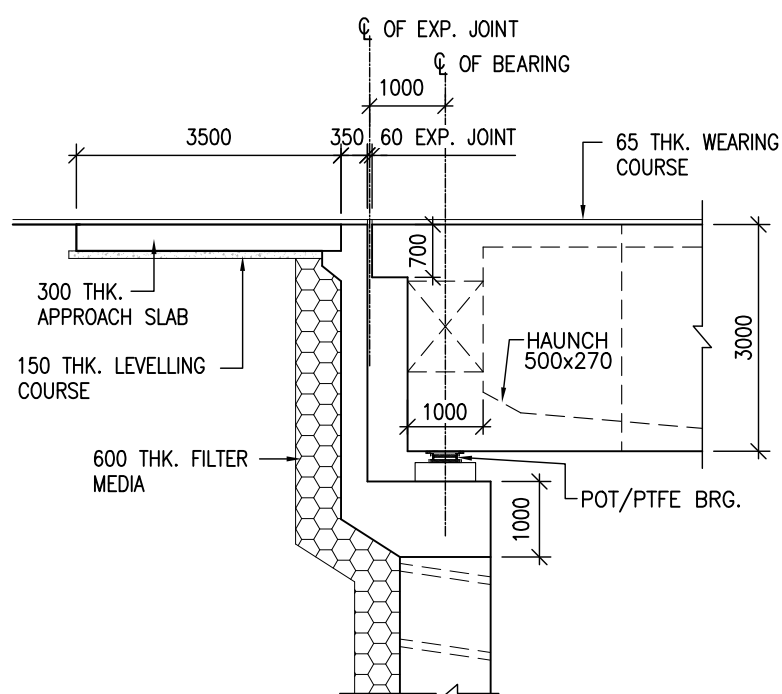
**MORT&H THROUGH CHIEF ENGINEER
 (NORTH) N.H,WING,ROAD CONSTRUCTION
 DEPARTMENT, GOVT. OF BIHAR, PATNA**

	Drawing Title : GENERAL ARRANGEMENT DRAWING AT CH. 2+484 Km (1x60.00m SPAN) & SVUP AT CH. 2+528			
	Drawing Number : VKSIMPL/P-147/KATAIYA HYDEL/BR/MJB-2/01			
	Scale : AS SHOWN SH. 1 OF 2			
	Drawn By : SKG	Designed By : PMY	Checked By : ARK	Date : May, 2025

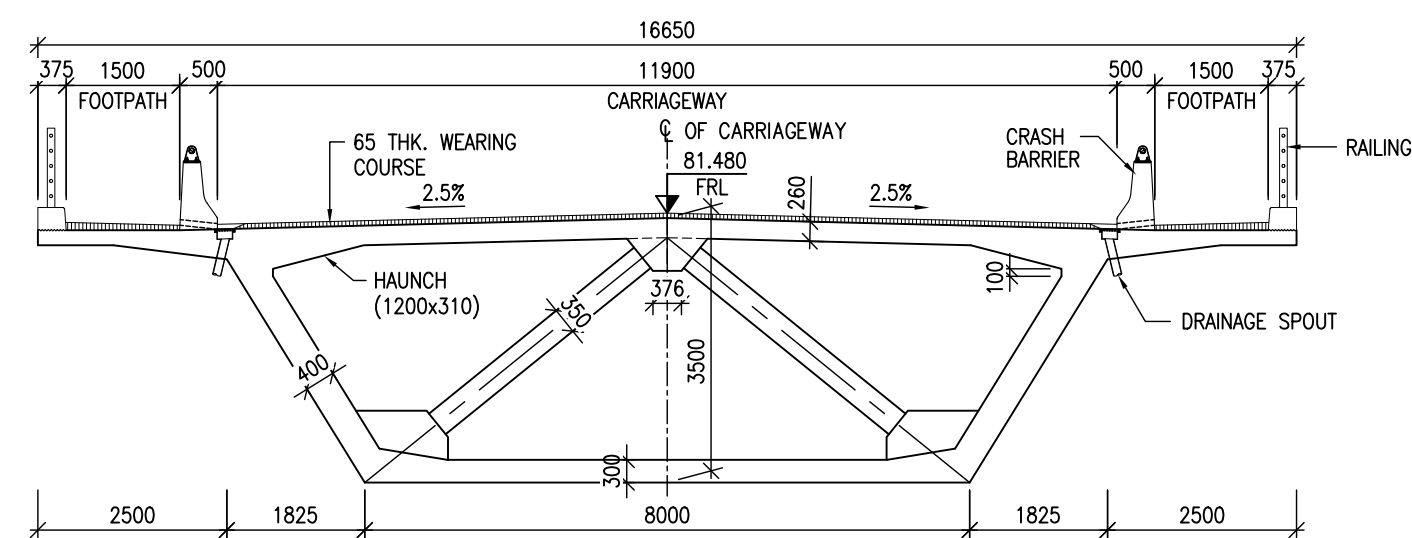
Design Consultant :  **VKS INFRATECH MANAGEMENT PVT. LTD.**
Consulting Engineers, Planners & Managers
Raghunath Bhawan, B-17/882, Block-B, Opp Prachin Shiv Mandir, New Ashok Nagar, Delhi - 110096
(Ph: 011-45061563)



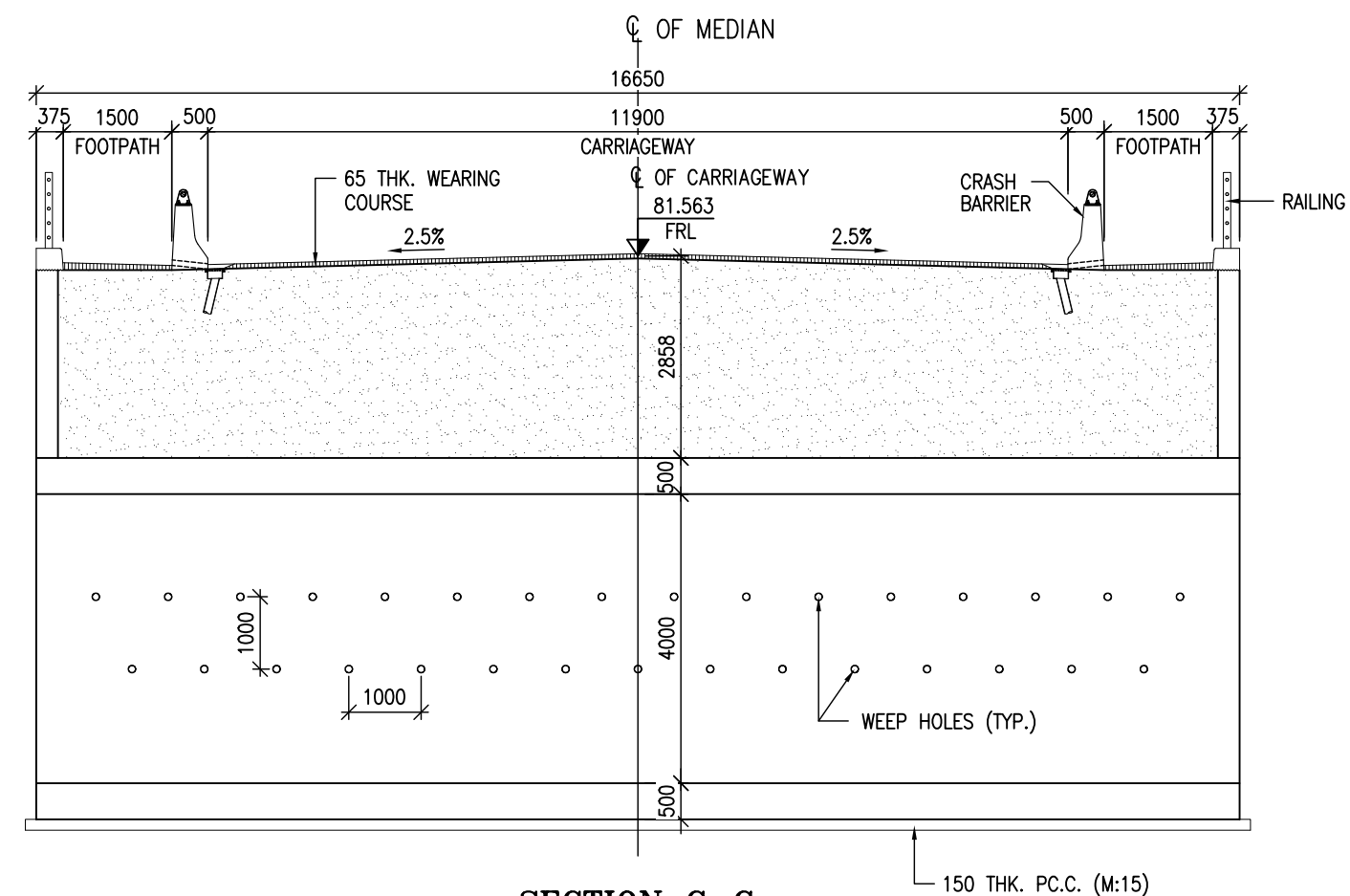
SECTION A-A
SCALE 1:100



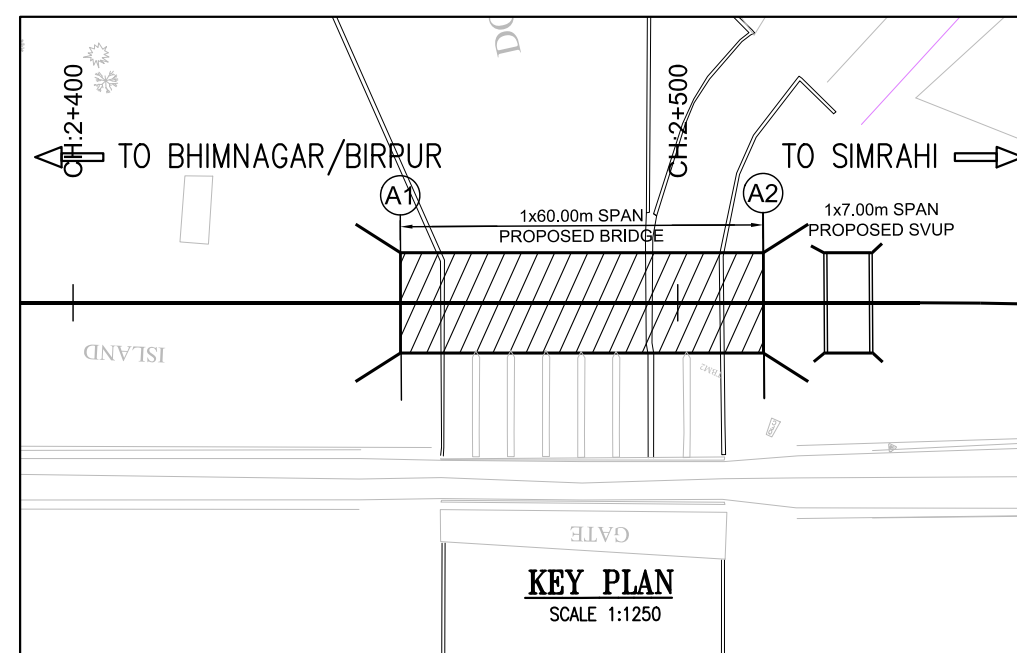
DETAIL 'X'
(SCALE 1:100)



SECTION B-B
SCALE 1:100



SECTION C-C
SCALE 1:100



KEY PLAN
SCALE 1:1250

NOTES:

- ALL DIMENSIONS ARE IN mm AND LEVELS ARE IN METRES UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS SHALL BE SCALED.
- THE STRUCTURE IS DESIGNED FOR LIVE LOAD COMBINATION AS PER TABLE 6A OF IRC-6:2017 OR SPECIAL VEHICLE LOADING, WHICHEVER GOVERNS.
- CONCRETE:
PSC BOX GIRDER - M60
PEDESTAL - M40
SUBSTRUCTURE & FOUNDATION - M35
VUP - M35
APPROACH SLAB - M30
LEVELLING COURSE (PCC) - M15
- REINFORCEMENT STEEL SHALL BE HYSD BARS OF GRADE DESIGNATION Fe-500D CONFORMING TO IS:1786.
- MINIMUM CONCRETE COVER, MINIMUM CEMENT CONTENT AND MAXIMUM W/C RATIO SHALL BE AS PER SEVERE CONDITION OF EXPOSURE AS PER PROVISION OF IRC:112
- STRIP SEAL TYPE EXPANSION SHALL BE PROVIDED AS PER IRC:SP:69.
- 65mm TH. WEARING COURSE COMPRISING OF UNDER LAYER OF 40mm THK. BITUMINOUS CONCRETE OVERLAID WITH 25mm THK. MASTIC ASPHALT.
- BACK FILLING BEHIND VERTICAL WALLS SHALL CONSIST OF SELECTED EARTH CONFORMING TO IRC:78
- 600 THK FILTER MEDIA BEHIND ABUTMENT/RETAINING WALL SHALL BE PROVIDED AS PER IRC:78
- WEEP HOLES, SPACED AT 1000 c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUTMENT, RETURN WALL & RETAINING WALL.

Project Title :

Consultancy services for Preparation of Detailed Project Report including LA and Other clearances for Construction of Bridges over KataiyaHydel tail race & canal on NH-131(106) in the State of Bihar

Client :



MORT&H THROUGH CHIEF ENGINEER
(NORTH) N.H.WING, ROAD CONSTRUCTION
DEPARTMENT, GOVT. OF BIHAR, PATNA

Drawing Title :

GENERAL ARRANGEMENT DRAWING
AT CH. 2+484 Km (1x60.00m SPAN) & SVUP AT CH. 2+528

Drawing Number :

VKSIMPL/P-147/KATAIYA HYDEL/BR/MJB-2/01

Scale :

AS SHOWN

SH. 2 OF 2

Drawn By :

SKG

Designed By :

PMY

Checked By :

ARK

Date :

May, 2025

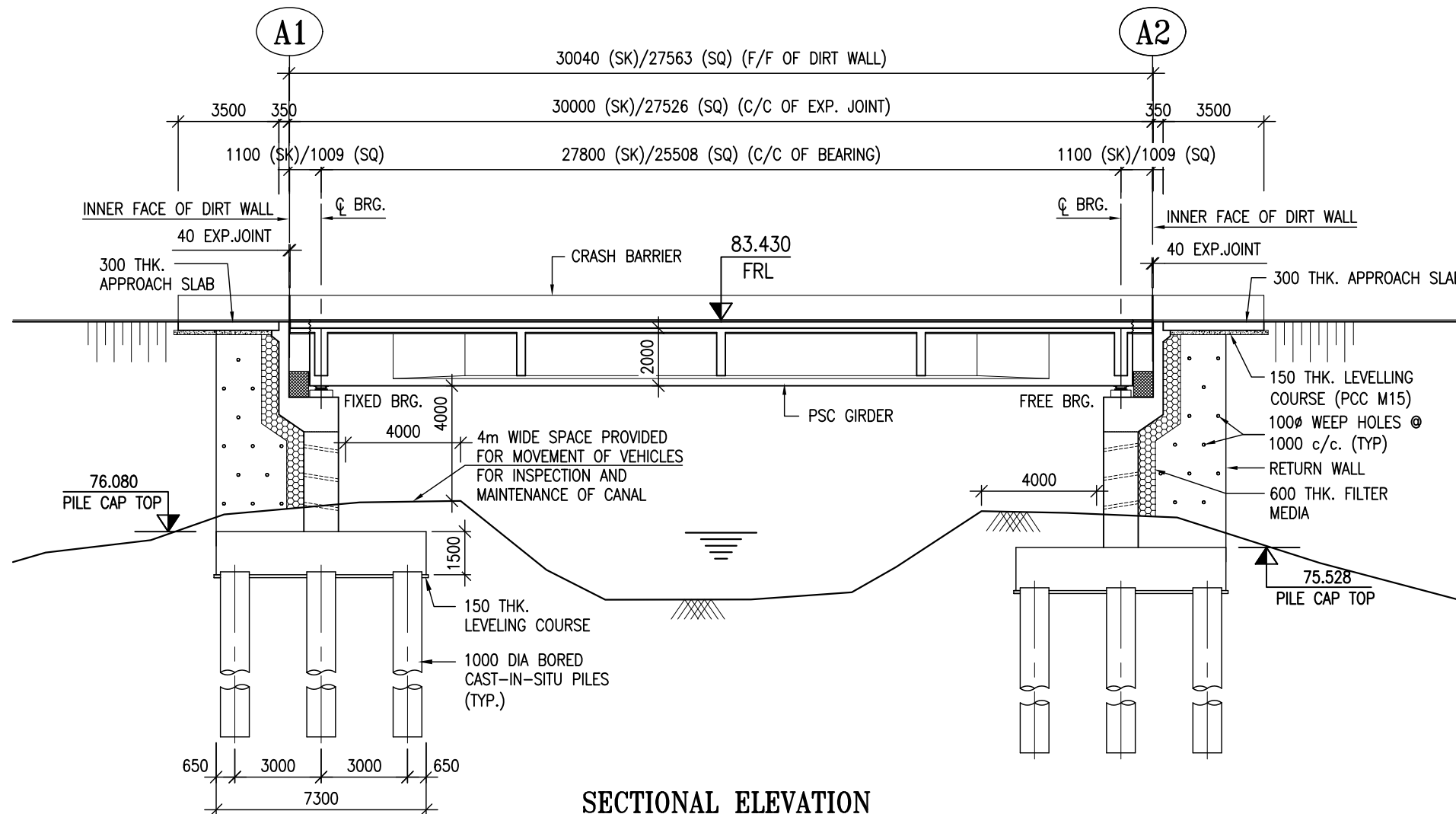
Design Consultant :



VKS INFRATECH MANAGEMENT PVT. LTD.
Consulting Engineers, Planners & Managers
Raghunath Bhawan, B-17/882, Block-B, Opp Prachin Shiv Mandir, New Ashok Nagar, Delhi - 110096
(Ph: 011-45061563)

← TO BHIMNAGAR/BIRPUR

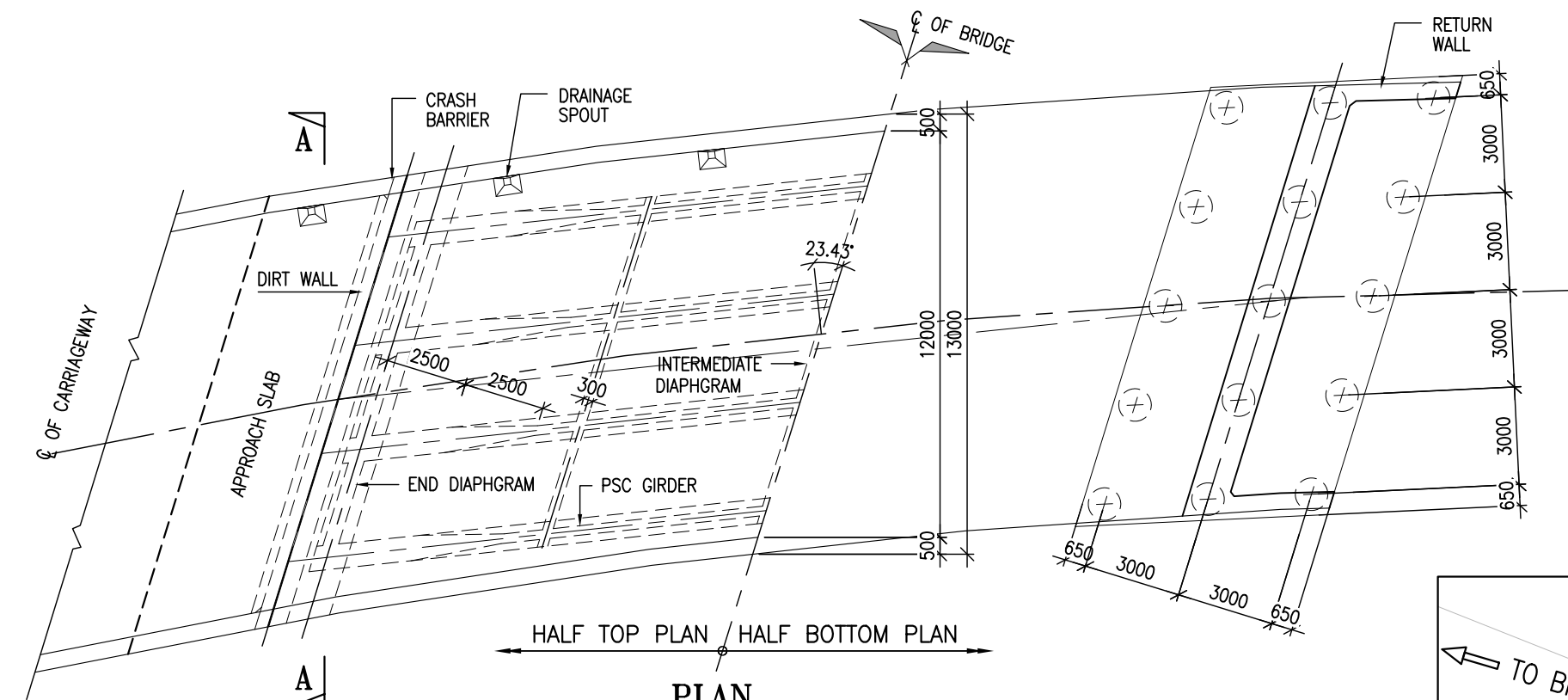
TO SIMRAHI →



SECTIONAL ELEVATION

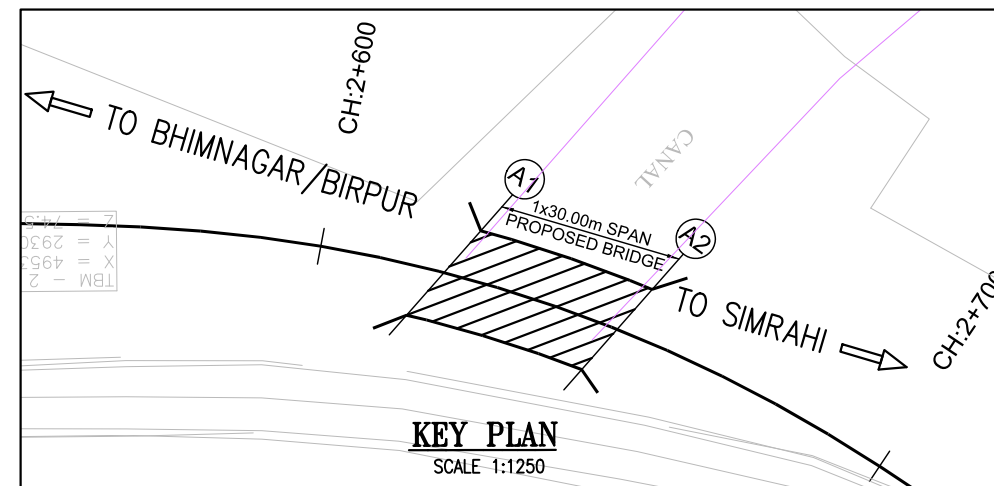
SCALE 1:200

FORMATION LVL. (IN m)	83.430	83.430	83.430
GROUND LVL. (IN m)	76.879	73.720	76.806
CHAINAGE (IN km)	2+621	2+636	2+651



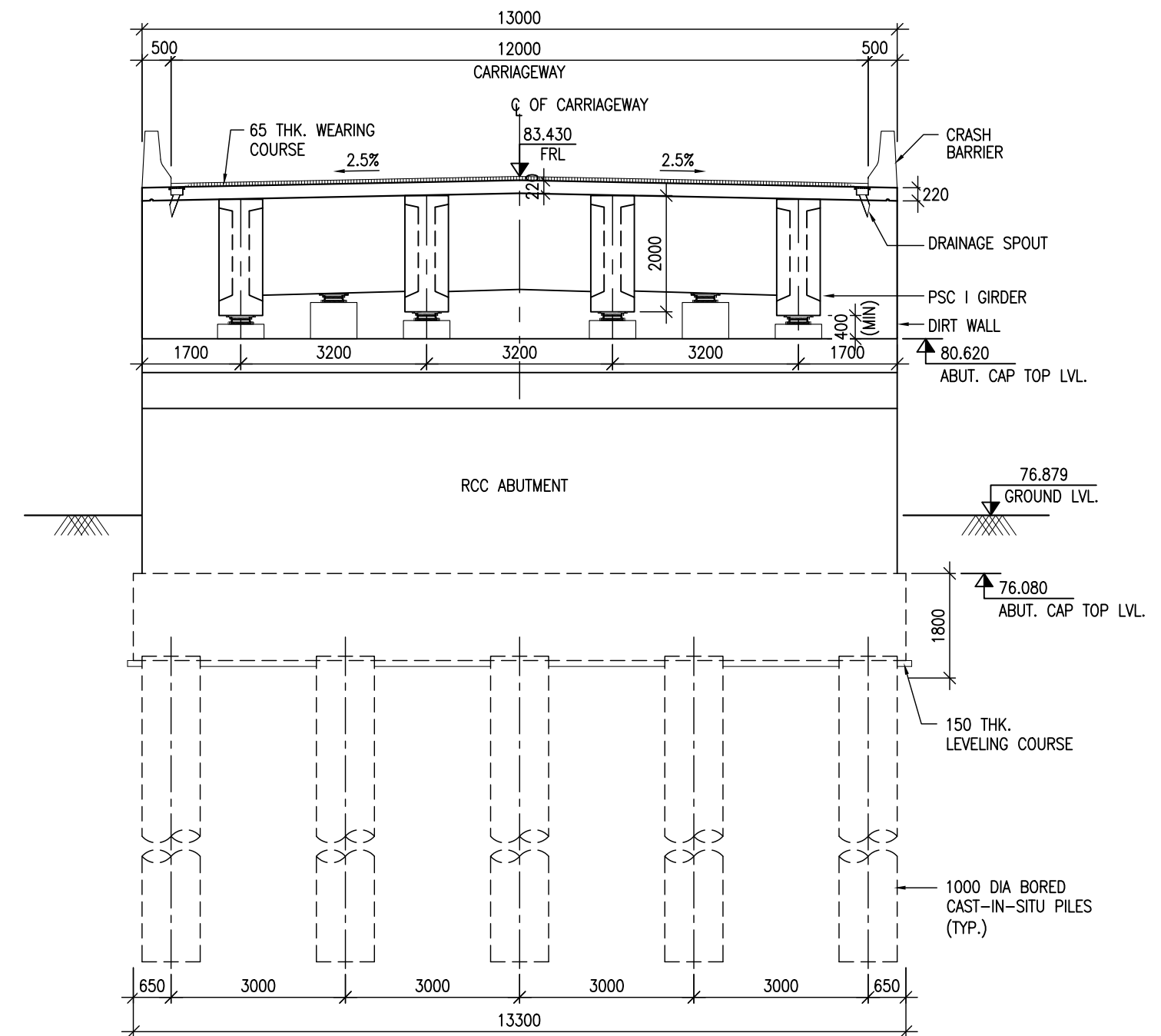
PLAN

SCALE 1:200



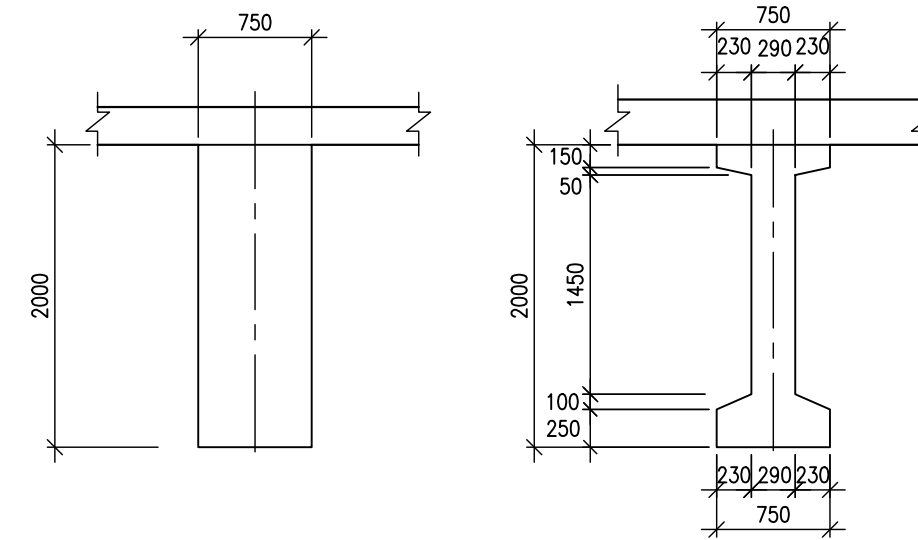
KEY PLAN

SCALE 1:1250



SECTION A-A

SCALE 1:100



SECTION AT SUPPORT

SECTION AT MID

TYPICAL X-SECTION OF LONG GIRDER

SCALE 1:50

NOTES:

- ALL DIMENSIONS ARE IN mm AND LEVELS ARE IN METRES UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS SHALL BE SCALED.
- THE STRUCTURE IS DESIGNED FOR LIVE LOAD COMBINATION AS PER TABLE 6A OF IRC-6:2017 OR SPECIAL VEHICLE LOADING, WHICHEVER GOVERNS.
- CONCRETE:
 - PSC GIRDER - M45
 - RCC DECK SLAB - M40
 - CROSS GIRDERS - M40
 - PEDESTAL - M40
 - SUBSTRUCTURE & FOUNDATION - M35
 - APPROACH SLAB - M30
 - LEVELLING COURSE (PCC) - M15
- REINFORCEMENT STEEL SHALL BE HYSD BARS OF GRADE DESIGNATION Fe-500D CONFORMING TO IS:1786.
- MINIMUM CONCRETE COVER, MINIMUM CEMENT CONTENT AND MAXIMUM W/C RATIO SHALL BE AS PER SEVERE CONDITION OF EXPOSURE AS PER PROVISION OF IRC:112
- STRIP SEAL TYPE EXPANSION SHALL BE PROVIDED AS PER IRC:SP:69.
- 65mm TH. WEARING COURSE COMPRISING OF UNDER LAYER OF 40mm THK. BITUMINOUS CONCRETE OVERLAID WITH 25mm THK. MASTIC ASPHALT.
- BACK FILLING BEHIND VERTICAL WALLS SHALL CONSIST OF SELECTED EARTH CONFORMING TO IRC:78
- 600 THK FILTER MEDIA BEHIND ABUTMENT/RETAINING WALL SHALL BE PROVIDED AS PER IRC:78
- WEEP HOLES, SPACED AT 1000 c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUTMENT & RETURN WALL.

Project Title :

Consultancy services for Preparation of Detailed Project Report including LA and Other clearances for Construction of Bridges over KataiyaHydel tail race & canal on NH-131(106) in the State of Bihar

Client :



MORT&H THROUGH CHIEF ENGINEER
(NORTH) N.H.WING, ROAD CONSTRUCTION
DEPARTMENT, GOVT. OF BIHAR, PATNA

Drawing Title :

GENERAL ARRANGEMENT DRAWING
AT CH. 2+636 Km (1x30.0m SPAN)

Drawing Number :

VKSIMPL/P-147/KATAIYA HYDEL/BR/MNB-01/01

Scale :

AS SHOWN

Drawn By :

Designed By :

Checked By :

Date :

SKG

PMY

ARK

May, 2025

Design Consultant :



VKS INFRATECH MANAGEMENT PVT. LTD.

Consulting Engineers, Planners & Managers

Raghunath Bhawan, B-17/882, Block-B, Opp Prachin

Shiv Mandir, New Ashok Nagar, Delhi - 110096

(Ph: 011-45061563)

Revision Details By Date Suffix