



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
(सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार)
NATIONAL HIGHWAYS AUTHORITY OF INDIA

(Ministry of Road Transport & Highways, Government of India)

क्षेत्रीय कार्यालय - हैदराबाद

प्रथम तल, नया भवन, भारतीय प्रशासनिक स्टाफ कॉलेज, रोड नं-3, बंजारा हिल्स, हैदराबाद-500 034. तेलंगाना.

REGIONAL OFFICE - HYDERABAD

First Floor, New Building, Administrative Staff College of India (ASCI), Road No. 3, Banjara Hills, Hyderabad - 500 034, Telangana.

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NHAI/RO-HYD/25011/5/7/2022/Utility/ 1052

Dt. 14.07.2022

Sub: NHAI RO Hyderabad - PIU Warangal-Proposal for laying of Optical Fiber Cable for a total length of 67.785 Km from Km.31+000 to Km.34+650(LHS), from Km.34+650 to Km.35+730(RHS), from Km.35+730 to Km.40+000(LHS), from Km.40+000 to Km.44+150(LHS), from Km.49+200 to Km.49+615(LHS), from Km.51+150 to Km.56+900(LHS), from Km.56+900 to Km.58+100(LHS), from Km.60+600 to Km.66+420(LHS), from Km.77+000 to Km.81+000(LHS), from Km.87+400 to Km.90+130(LHS), from Km.90+550 to Km.91+650(RHS), from Km.91+650 to Km.106+000(RHS), from Km.106+000 to Km. 107+070(RHS), from Km.107+070 to Km.112+960(LHS), from Km.113+480 to Km.115+530(LHS), from Km.115+530 to Km.123+050(LHS), & from Km.125+300 to Km.126+720(LHS) along Hyderabad to Warangal section of NH-163 by open trench methodology and Highway crossings at Km.34+650, Km.35+730, Km.39+330, Km.44+560, Km.49+615, Km.55+220, Km.59+600, Km.62+820, Km.68+520, Km.72+550, Km.73+640, Km.90+550, Km.93+250, Km.97+800, Km.102+850, Km.107+070, Km.112+960, Km.113+480, Km.120+920, Km.113+480, Km.120+920, Km.122+050, Km.123+050, Km.130+840 by HDD methodology on Hyderabad to Warangal section of NH-163 in the State of Telangana- Reg..

Ref: 1. PIU Warangal Ir.no. NHAI/PIU-WGL/Permission/2022/907, Dt 06.07.2022

The Project Director, PIU, NHAI Warangal vide letter cited above has recommended the Proposal of M/s Telangana Fiber Grid Corporation Limited for laying of OFC cables for a total length of 67.785 Km between Km.31+000 to Km. 130+840 of Hyderabad to Warangal section of NH-163 in the State of Telangana.

2. As per para 4 of the Ministry's guidelines no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016, public comments is hereby invited on the above proposal seeking claims and objections (on grounds of public inconvenience, safety and general public interest) within 30 days on public portal i.e. website of Ministry of Road Transport and Highways (www.morth.nic.in) in Form-A (copy enclosed) for "Accommodation of Public and Industrial Utility Services along and across National Highways".

Comment Inviting Authority

The Regional Officer,
National Highways Authority of India,
Regional Office: Hyderabad,
First Floor, New Building,
Administrative Staff College of India(ASCI),
College Park Campus, Road No.3,
Banjara Hills, Hyderabad - 500 034,
Telangana State,
Phone: 040-29562147, 040-29562148,
Email: rohyderabad@nhai.org, nhairohyd@gmail.com

Yours faithfully,

Encls: Above Proposal

(G.V. Bheemasena Reddy)
Deputy General Manager (Tech)
For Regional Officer-cum-
Highway Administrator, Hyderabad

To:1. Senior Technical Director, NIC, Transport Bhawan, New Delhi- 110001 for uploading on Ministry's website.

2. Shri S.Manivasagam, Dy. GM (IT), NHAI HQs, New Delhi for uploading on NHAI website.

Copy to:-1. The Project Director, NHAI, PIU Warangal: for information

FORM-A

Form for seeking claims and objections (on grounds of public inconvenience, safety and general public interest) on the application for Accommodation of Public and Industrial Utility Services along and across National Highways

Sub: NHAI - RO Hyderabad - PIU Warangal-Proposal for laying of Optical Fiber Cable for a total length of 67.785 Km from Km.31+000 to Km.34+650(LHS), from Km.34+650 to Km.35+730(RHS), from Km.35+730 to Km.40+000(LHS), from Km.40+000 to Km.44+150(LHS), from Km.49+200 to Km.49+615(LHS), from Km.51+150 to Km.56+900(LHS), from Km.56+900 to Km.58+100(LHS), from Km.60+600 to Km.66+420(LHS), from Km.77+000 to Km.81+000(LHS), from Km.87+400 to Km.90+130(LHS), from Km.90+550 to Km.91+650(RHS), from Km.91+650 to Km.106+000(RHS), from Km.106+000 to Km. 107+070(RHS), from Km.107+070 to Km.112+960(LHS), from Km.113+480 to Km.115+530(LHS), from Km.115+530 to Km.123+050(LHS), & from Km.125+300 to Km.126+720(LHS) along Hyderabad to Warangal section of NH-163 by open trench methodology and Highway crossings at Km.34+650, Km.35+730, Km.39+330, Km.44+560, Km.49+615, Km.55+220, Km.59+600, Km.62+820, Km.68+520, Km.72+550, Km.73+640, Km.90+550, Km.93+250, Km.97+800, Km.102+850, Km.107+070, Km.112+960, Km.113+480, Km.120+920, Km.113+480, Km.120+920, Km.122+050, Km.123+050, Km.130+840 by HDD methodology on Hyderabad to Warangal section of NH-163 in the State of Telangana-**Reg.**

The claims and objections (on grounds of public inconvenience, safety and general public interest) by the general public needs to be given within 30 days of uploading the online application for comments

Sl. No	Item	Details
1	Name of the person who is desiring to give claims and objections (on grounds of public inconvenience, safety and general public interest)	
2	Address of the person	
3	Details of the application for Accommodation of Public and Industrial Utility Services along and across National Highways against which claims and objections are being given (name of applicant and other details like site address etc.)	
	a) Application No.	
	b) Name of applicant (who applied to Accommodation of Public and Industrial Utility Services along and across National Highways)	
	c) Details of Application	
4	The claims and objections (on grounds of public inconvenience, safety and general public interest)	

CHECK-LIST

Guidelines for Project Directors for processing the proposal of laying optical fiber cable by private parties in the land along National Highways vested with NHAI.

Relevant circulars

- 1) Ministry Circular No. RW/NH-33044/17/2000-S&R dated 29.09.2000
- 2) NHAI's circular No. NHAI/OEC/2k/Vol II dated 7.11.2000, which includes the comprehensive guideline and draft license agreement for laying of OFC cable by private party in the land along National Highway vested with NHAI.
- 3) Ministry's circular No. RW/NH-333044/27/2000-S&R (R) date 21.03.2016. It is regarding the modification of previous Ministry's circular enhancing the amount of Performance Bank Guarantee @ Rs. 100 per route meter and charges for granting license for use of highway land.

Check list for getting approval for laying of optical fiber cables on NH land

S. No.	Item	Information/Status	Remarks
1	General Information		
1.1	Name and Address of the Applicant	M/S Telangana Fiber Grid Corporation Limited. 7th Floor splendid Tower SP Road Begumpet. Hyderabad. Telangana- 500003	
1.2	National Highway Number	NHAI – 163	
1.3	State	Telangana	
1.4	Location	Hyderabad to Warangal Road of NH-163	
1.5	(Chainage in km)	NH-163, From Km 31/000 to Km 130/840 (As per Annexure-A)	
1.6	Length in Meters	67785 Meters	



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1.7	Width of available ROW		
	(a) Left side from center line towards increasing chainage/km direction	30 Mtrs	
	(b) Right side from center line towards increasing chainage/km direction	30 Mtrs	
1.8	Proposal to lay the cable		
	(a) Left side from center line towards increasing chainage/km direction	28 Mtrs	
	(b) Right side from center line towards increasing chainage/km direction	28 Mtrs	
1.9	Proposal to acquire land	NA	
	(a) Left side form center line	NA	
	(b) Right side from center line	NA	
1.10	Whether proposal is in the same side where land is not to be acquired	NA	
	If not then where to lay the cable		
1.11	Details of already laid services, if any, along the proposed route		
1.12	Number of lanes (2/4 / 6/8 lanes) existing		
1.13	Proposed Number of lanes (2 lane with paved shoulders/4/6/8 lanes)	4 Lane	
1.14	Service road existing or not	NA	
	If yes then which side		
	(a) Left side from center line		
	(b) Right side from center line		
1.15	Proposed Service Road	NA	
	(a) Left side from center Line		
	(b) Right side from center line		
1.16	Whether proposal to lay cable is after the service road or between the service road and main carriageway	beyond service road or in utility corridor,	



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1.17	The permission for laying OFC shall be considered for approval/rejection		
	(i) Where the ROW is more than 45 m then the duct cable shall be laid at the edge of right of way within the utility corridor of 2m width, duly keeping in view the future widening.	At the edge of ROW within utility corridor of 2 Mtrs width	
	(ii) where land is yet to be acquired for 4 laning and the position of new carriageway has been decided then the cable shall be laid at the edge of right of way within the utility corridor of 2m width, on that side of existing carriageway where extra land is not proposed to be acquired for 4-laning.		
	(iii) Where the widening plan for 4-laning is not yet decided and available ROW is around 30m or less, a judicious decision would need to be taken for permitting the laying of cable/duct. This could be within 1.5m to 2m of utility corridor at the edge of existing ROW, duly keeping in view the possible widening plans.		
	(iv) Where ROW is restricted and adequate only to accommodate the carriageway, central verge, shoulders and drains (e.g. highways in cutting through hilly/rolling terrain), the cable shall be laid clear of the drain.	NA	
	(v) Where land strip for utility corridor cannot be conveniently earmarked (available ROW restricted to the toe of the embankment) for laying of cable/ducts, the permission may be refused.		
1.18	No. of applicants on the same stretch		
1.19	Whether the case of multiple licenses	No	
1.20	If so furnish a joint implementation programmer to lay their respective ducts within stipulated time frame.	NA	
1.21	If crossings of the road involved If Yes it shall only be through trench-less technology		



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2.	Document/Drawings enclosed with the proposal		
2.1	Cross section showing the size of trench for open trenching method (Is it normal size of 1.65m deep x 0.5m wide) Should not be greater than 1.2m in width in multiple ducts.	Yes Standard Size	
2.2	Cross section showing the size of pit and location of cable for HDD method	NH-163, From Km 31/000 to Km 130/840 (As per Annexure-A)	
2.3	Strip plan/Route Plan showing the OFC, Chainage, width of ROW, distance of proposed, cable from the edge of ROW, important mile stone, intersections, cross drainage works etc.	Yes Attached	
2.4	Methodology for laying of OFC		
2.4.1	Open trenching method. If yes, Methodology of refilling of trench	Yes	
2.4.2	Horizontal Directional Drilling (HDD) Method		
2.4.3	Laying OFC Through CD Works And Method Of Laying (Whether to be hung outside parapet)	Yes	
3.	Draft license Agreement signed by two witnesses	Yes	
4.	Performance Bank Guarantee	Shall be submitted as soon as permission obtain/Informed by NHAI	
4.2	Confirmation of BG has been obtained as per NHAI guidelines		
5	Affidavit/ Undertaking from the Applicant for		
5.1	Not to Damage to other utility, if damaged then to pay the losses either to NHAI or to the concerned agency.	Yes ; Enclosed	
5.2	Renewal of Bank Guarantee		
5.3	Confirming all standard condition of NHAI's guideline	Yes ; Enclosed	
5.4	Shifting of OFC as and when required by NHAI	Yes ; Enclosed	
5.5	Shifting due to 4 lanning / widening of NH	Yes ; Enclosed	



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5.6	Indemnity against all damages and claims clause (xxiv)	Yes ; Enclosed	
5.7	Traffic movement during laying of OFC to be managed by the applicant	Yes, Traffic movement will be managed by the applicant	
5.8	If any claim is raised by the Concessionaries then the same has to be paid by the applicant	Yes ; Enclosed	
5.9	Certificate for 6-lanning from the applicant in following format "We do undertake that I will relocate service road/approach road/utilities at my own cost notwithstanding the permission granted within such time as will be stipulated by NHAI" for future six-lanning or any other development."	Yes ; Enclosed	
6.	Power of Attorney in favour of authorized signatory		
7.	Copy of DOT license		
8.	Certificate from the Project Director		
8.1	Certificate for confirming of all standard condition issued vide Ministry Circular No. RW/NH-33044/17/2000-S&R dated 29.9.2000 and NHAI's guidelines issued vide No. NHAI/OEC/2k/Vol II dated 7.11.2000 and Ministry's Circular No. RW/NH-33044/27/2000-S&R dated 21.3.2006.	Yes	
8.2	Certificate for 4-lanning from PD in the following format.	Yes	
	(a) Where feasibility is available "I do certify that there will be no hindrance to proposed six-laning based on the feasibility report considering proposed structures at the said location. (b) In case feasibility report is not available "I do certify that sufficient ROW is available at site for accommodating proposed six-laning".	NH-163, From Km 31/000 to Km 130/840 (As per Annexure-A)	
9.	The agreement fee of Rs. 1 shall be charged	Yes	



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10.	If NH section proposed to be taken up by NHAI on BOT basis - a clause in para 17 to be inserted in the agreement. <i>"The permitted Highway on which Licensee has been granted the right to lay cable/duct has also ben granted as a right of way to the concessionaire under the concession agreement for up=gradation of [..... section from Km ----- to km ----- of NMH No.- ----- on Build, Operate and Transfer Basis]</i> and therefore, the licensee shall honour the same."	NA	
11.	Who will supervise the work of laying OFC	M/S Telangana Fiber Grid Corporation Limited (Master system Integrator) BBNL Project for Government of Telangana	
12.	Who will ensure that the defects in road portion after laying of OFC are corrected and if not corrected then what action will be taken.	M/S Telangana Fiber Grid Corporation Limited (Master system Integrator) BBNL Project for Government of Telangana .	
13.	Who will pay the claims for damages done/disruption in working of Concessionaire if asked by the Concessionaire.	M/S Telangana Fiber Grid Corporation Limited (Master system Integrator) BBNL Project for Government of Telangana	
14.	A Certificate from PD that he will enter the proposed permission in the register of records of the permissions in the prescribed proforma (copy enclosed) issued vide Ministry Circular No. RW/NH/33044/17/2000/S&R dated 23.7.2003.	Yes	
15.	If any previous approval is accorded for laying of cable then Photocopy of register of records of permissions accorded as maintained by PD (as per Ministry Circular No. RW/NH/33044/17/2000/S&R dated 23.7.2003) as referred in para 13 above is enclosed or not.	No	



[Signature]
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Annexure-II

[Enclosure to Ministry Circular No. RW/NH-33044/17/2000-S&R dated 29.9.2000 and dt. 23.07.2003]

Format for Maintaining Records of Right-of-Way permission granted for laying OFC

(to be maintained separately for every NH and State)

1. Name of State : Telangana
2. Name of Agency (NHAI) : NHAI
3. NHAI Number : NHAI-163

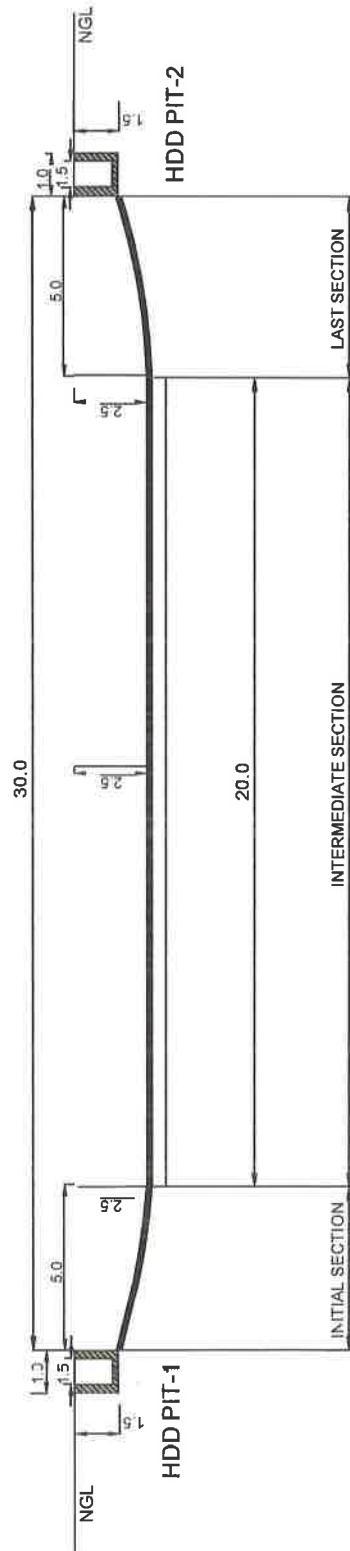
S.No.	Location (change in Km)	Left or right side of NH (towards increasing chainage/km direction)	Section and reach	Kind of service	Name of license and contact address	Date of signing of agreement	Date of validity of agreement	Date of last inspection of site	Any deviation from MOST standard norms	Remarks
1	NH-163, From Km 31/000 to Km 130/840 (As per Annexure-A)	LHS/RHS	NH-163, From Km 31/000 to Km 130/840 (As per Annexure-A)	Telangana Fiber	Telangana Fiber Grid Corporation Ltd. 7 th Floor splendid Tower SP Road Begumpet, Hyderabad. Telangana-500003				No	



[Signature]
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National Highways Authority of India, Warangal
National Highway Implementation Unit, Warangal

ANNEXURE-VII

Typical Cross Sectional For HDD



Bore Dia 100mm

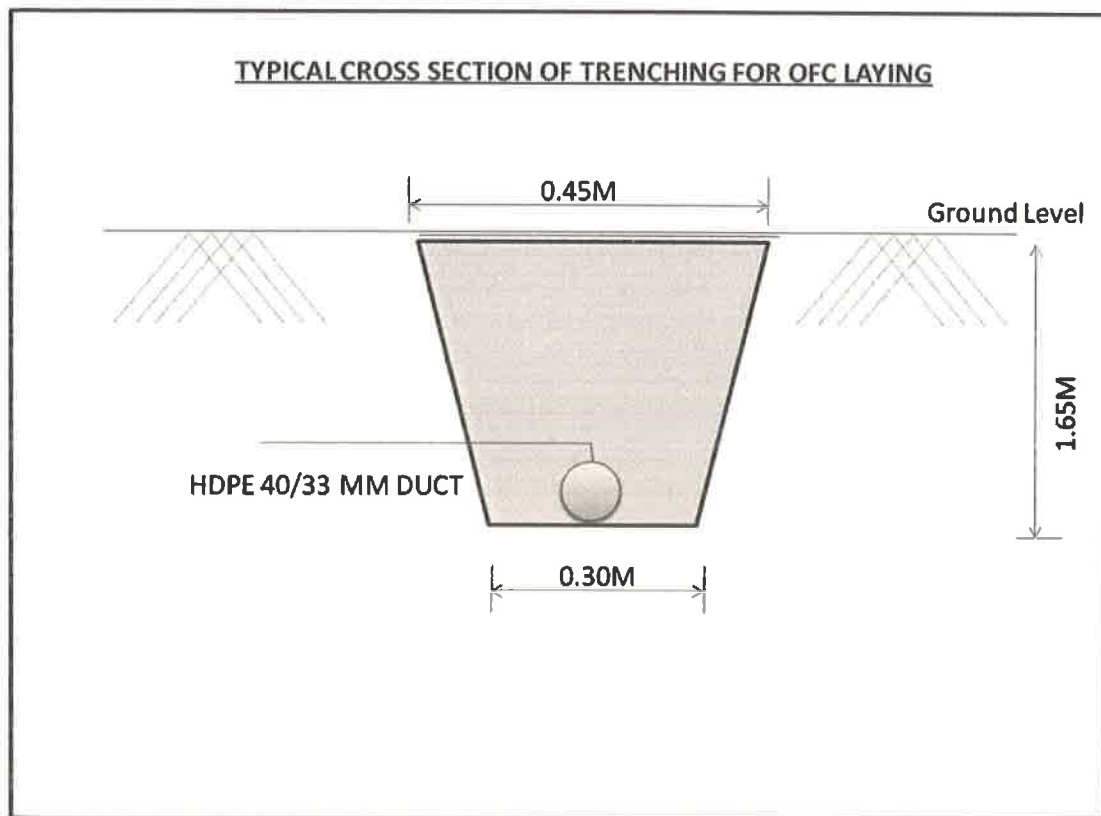
40mm HDPE Duct



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ANNEXURE NO-VIII

Along the road Cross Section



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Methodology of OFC Laying

Methods:

- Open Trench include Manual and Machine trenching
- Trench less technology a) Mauling b) HDD Machine
- Bridge crossings

Open Trench

There will be continuous digging following a single line in open trench. The depth of trench will be 1.65M in the normal soil condition. Open trench will be carried out manually and with machine. Cross section of the trench is attached herewith. Trench will be in RoW limits and will be marked with lime powder to keep it straight. Trench will be barricaded with the safety signs as shown in the annexure drawing. This method will be used wherever normal soil is available for open trench. **Trench will be laid clear of Drains, service roads, Truck Lay bays and Bus Bays where ever existing on the High ways.**

Trench Profile

Bottom of trench shall be uniform and shall follow ground contour/profile. In areas with steep slope, trench profile shall be such that bottom of trench shall not have more than 23 degree gradient with horizontal (i.e. difference between two adjacent depth readings at a distance of one meter shall not be more than 250 mm). Prior to installation of the duct, the trench shall be checked to ensure the minimum depth requirements.

Backfilling

Backfilling shall be done with well compacted excavated material after ensuring soft material padding. Adequate dry compaction shall be done before Crowning. Compaction shall be done in layers of 50 cm each. The trench shall be filled up to the required height (Measured from top of ducts as per Trench cross- section drawing issued for construction) and a 0.2mm thick high density polyethylene warning tape shall be placed above the ducts prior to further backfilling. A crown of 250mm shall be made at the top of the backfilled trench to cater for soil settlement. No surplus soil shall be left outside trench. Entire area shall be restored and debris removed and disposed off in a safe manner and in line with requirements of the authority having jurisdiction over the area.




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Methodology of OFC Laying

Installation of OFC Ducts by Trenchless Techniques (e.g. by HDD)

For the process of HDD excavation of only 2 pits each of standard size 1.5X0.5X1.65M is required which is called Entry pit and exit pit. Pit size may vary based on the site condition. The first stage drills a pilot hole on the designed path, and the second stage (reaming) enlarges the hole by passing a larger cutting tool known as the reamer. The reamer's diameter depends on the size of the duct (HDPE duct in our case) to be pulled back through the bore hole. The driller increases the diameter according to the outer diameter or the conduit and to achieve optimal production. The third stage places the Duct (3 to 7 ducts of 40mm dia each) in the enlarged hole by way of the drill stem; It is pulled behind the reamer to allow cantering of the Duct in the newly reamed path. Pit size may vary based on site condition. Entry and exit pits shall be dug at both ends of the segment which shall later on become either a location for man-hole/hand-hole. The drilled hole profile between entry and exit pits (except transition areas) shall be as straight as possible.

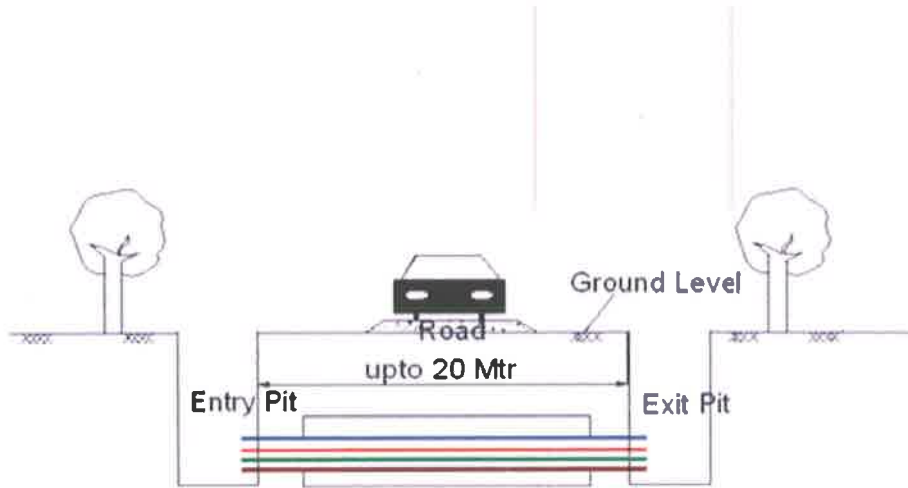
High Ways/Roads/Railway crossings

Highways /Roads/railway crossings may be crossed by open cut or trenchless technique (HDD/Mouling) appropriate / approved by the authorities (refer typical sketches at the end of this section). Moiling method is generally not suitable for crossing width of more than 20 meters. For such crossings only HDD should be used when trenchless technique only is approved by authorities. GI pipe shall be provided as additional protection to HDPE ducts at these crossing locations as a measure to prevent third party damage.




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Methodology of OFC Laying



SINGLE ROAD CROSSING BY MOILING / BORING

Water Body Crossing

Water bodies and other natural obstructions can be crossed by open-cut method, trenchless techniques or using existing infrastructures such as bridges and culverts depending upon the nature of water body (dry/stagnant/flowing) and availability of permissions from concerned authorities for using existing infrastructure. In all cases, installation technique shall be such that protection of HDPE ducts is ensured. Necessary protection should be provided.

Crossings using Existing Bridges/Culvert

- i) Existing infrastructure for crossings water bodies such as nalas /streams / rivers / canals, etc. shall be used wherever possible and permission to use the bridge or culvert is available.
- ii) Bridges where it is not possible to make trench, GI pipe / DWC pipe (selected as per criteria as given above) shall be installed at safe available place on the bridge designated for the utilities. The pipe shall be fixed in place firmly using clamps and/or encasing in M15 concrete. HDPE ducts then shall be pulled into this pipe



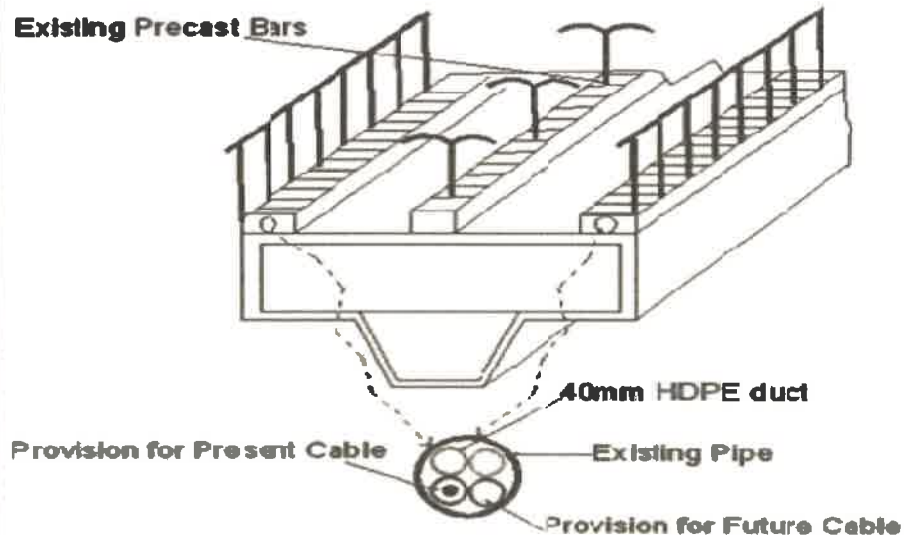
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Methodology of OFC Laying

iii) When GI pipe/duct is installed on the underside of bridge or culverts, additional measures shall be taken to prevent it getting washed out during flooding. The ducts laid on adjacent areas (banks of water body) shall also be protected against washout or settlement of backfilled area

iv) Before crossing bridge/culvert the engineer from concerned authority (PWD/NHAI) must be consulted for future plan of expansion or re-construction and to decide the alignment of trench.

Following pictures show typical installations on bridges for reference and guidance purpose.



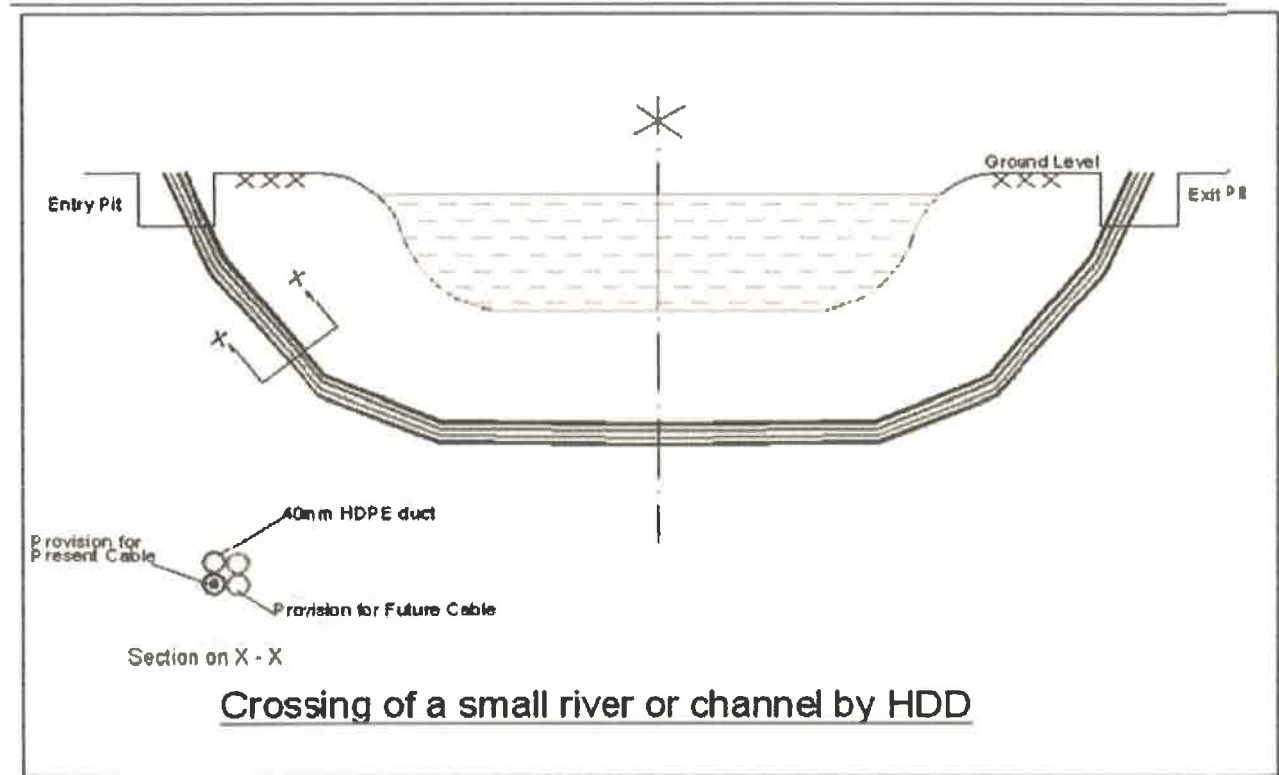
Typical Crossing on bridge with existing pipes available
at left / right side of the bridge



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Methodology of OFC Laying

Pit size of HDD will be 1.5X1.5X1.65m depth



Route Markers

Route markers made of RCC (1:2:4) shall be provided at a distance of every 250 meters or wherever there are crossings or major deviation in the route from being straight. Additionally route markers shall be installed on both sides of the crossing. Route markers shall also be put at duct coupler locations and man-hole and Handhole locations. Markers shall be of length 1250 mm with base of 100 mm x 250 mm tapering to 100 mm x 200 mm. Name/logo of Owner shall be engraved on the surface of marker. Aboveground surface of route marker shall be painted in Blue colour. Route Markers placed at coupler locations shall be painted yellow. Markers placed at the man-holes shall be painted red in colour. Owner name/logo shall be filled with fluorescent white.

Man Holes/Hand holes

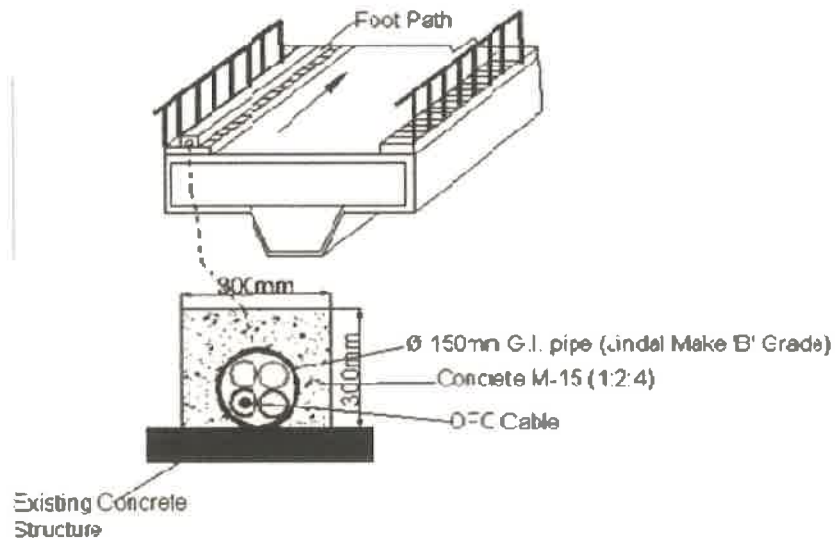
Size of Manholes made of RCC is 1.0m dia and depth 1.1m depth. They will be placed 500mm below GL and will be placed each at 1.0Km distance.



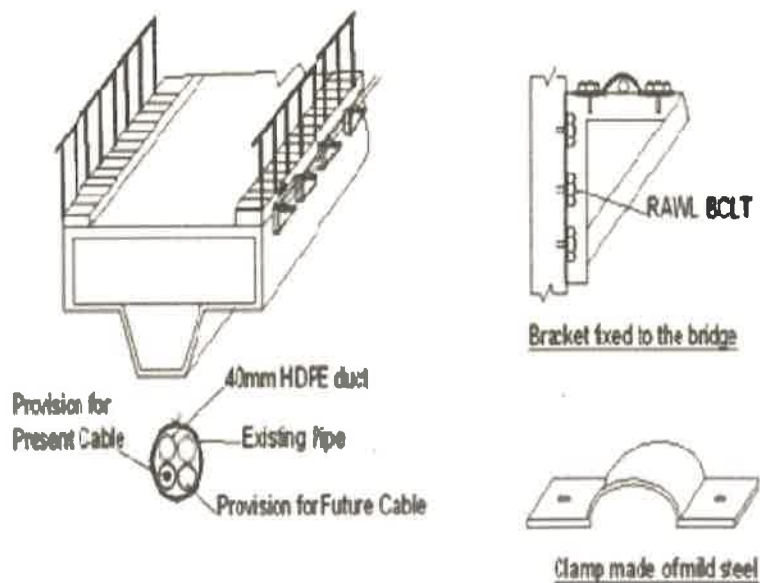
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Project Implementation Unit, Warangal

Methodology of OFC Laying

1e)



Laying of 150mm G.I. Pipe in Re-inforced concrete placing on existing concrete structure



Crossing of Bridge on one side with a G.I. Fixed on Brackets



Mee

Methodology of OFC Laying

Crossing by Open-cut method

- i) Open cut method is used when installation on bridge / culvert is not available. This method however is more suited to seasonal water bodies (prone to flowing water such as nala/ stream/ river/ canal etc.) which may be completely / partially dry during installation period. This method can also be used for small water bodies where it is possible to divert water for a short period of installation.
- ii In case there is only one Hume pipe up to 600mm dia used as a culvert to equalise the water level on both side of road. The duct can be laid at a min depth of 1.65 m without any protection for more than one 600mm dia and all sizes of Box-culverts, ducts shall be installed as clause iii) below
- iii In Case the water body bed is not rocky (i.e. normal soil is present), a trench 2.0 meter below the bottom of culvert bed shall be dug out and DWC pipe of suitable size shall be installed inside the trench. In case the bed is rocky then minimum depth of trench shall be 1.5 m. 50mm thick sand padding (covering highest point on the trench bottom surface) shall be provided before installing DWC pipe.

Note: Trenchless technology will be used (e.g.: HDD) where ever available ROW is restricted and utility corridors cannot be conveniently earmarked.



[Handwritten Signature]
Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

SUB: Laying Of Underground Cables Along The National Highway

DETAILS REGARDING UNDERGROUND CABLE LAYING.

1. (i) Name of company asking for Permission : M/s Telangana Fiber Grid Corporation Limited.
- (ii) Full Address (Registered) : Telangana Fiber Grid Corporation Limited..
7th Floor splendid Tower SP Road Begumpet
Hyderabad. Telangana-500003
- Corporate Address : Telangana Fiber Grid Corporation Limited.
7th Floor splendid Tower SP Road Begumpet
Hyderabad. Telangana-500003
- (iii) Details & purpose for laying the Cable : Providing high speed internet connectivity to
12751 Gram panchayats, 31 District and
584 Mandals, educational Institutes
- (iv) Any other details regarding laying
- (a) Distance of proposed site from the centre of the road at the Extreme edge within the road boundary or at extreme edge of Road boundary
- (b) Whether it is possible to lay the proposed lines or not, reasons : Yes, the proposed cable is to be laid at depth of 1.65 meters, which is far below any existing line.

2. Details regarding road alignment where UG is to be laid along the road :

- (i) Name of Road : NHAI - 163
- (ii) Category of road (to be ascertained) :

on NH-163, From Km 31.000 to Km 130.840 (as per Annexure-A) for the total length of Km 67.785 (67785 Meter)

(On Left side of the road of increasing chainage): on NH-163, From Km 31.000 to Km 130.840 (as per Annexure-A) for the total length of Km 67.785 (67785 Meter)

(On Right side of the road of increasing chainage): on NH-163, From Km 31.000 to Km 130.840 (as per Annexure-A) for the total length of Km 67.785 (67785 Meter)

- (iii) Width of the road :
- (a) Formation width measured from earthen bank :
- (b) Black top road carriageway width :



(c) Road boundary : 1) 60 Meters

(d) Location of cable laying along the roadside to be mentioned. : 1) 28 Mtrs from centre of road from Km

on NH-163, From Km 31.000 to Km 130.840 (as per Annexure-A) for the total length of Km 67.785 (67785 Meter)

3. Details to be supplied on lay out drawings. : 3 sets of proposed route drawings are enclosed.

4. GEOGRAPHICS OF THE CABLE ROUTE

(a) Dimension of the cable trench : Width 0.45 meter and Depth 1.65 meter

(b) Dimension of Cable/HDPE/ protection pipe. : 40 mm (outer dia)

(c) Size of Optical Fibre Telecom Transmission cable. : Light weight 48F Optical Fibre Cable of Outer dia of 18 mm.

(e) Right of way : Vested with the R&B, the proposed cable will be laid within the road boundary of NHAI – 163

5. (i) This is to certify that no Govt. Road land shall be occupied by M/s Telangana Fiber Grid Corporation Limited for (BBNL Project) for Government of Telangana except for the purpose of laying of UG cables.

(ii) This is to certify that the work shall be in accordance with the Govt. Rules and regulations in force from time to time and binding to M/s Sterlite Technologies Limited (Master system Integrator) for M/s Telangana Fiber Grid Corporation Limited (A BBNL Project) for Government of Telangana

(iii) This is to certify that all required Cost and fees as per rules and regulation of the Govt. will be deposited timely.

Yours Sincerely,


M/s Telangana Fiber Grid Corporation Limited

Authorised Signatory

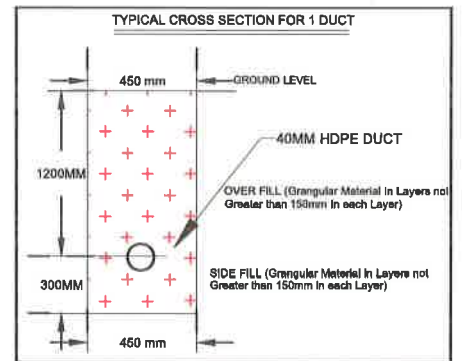
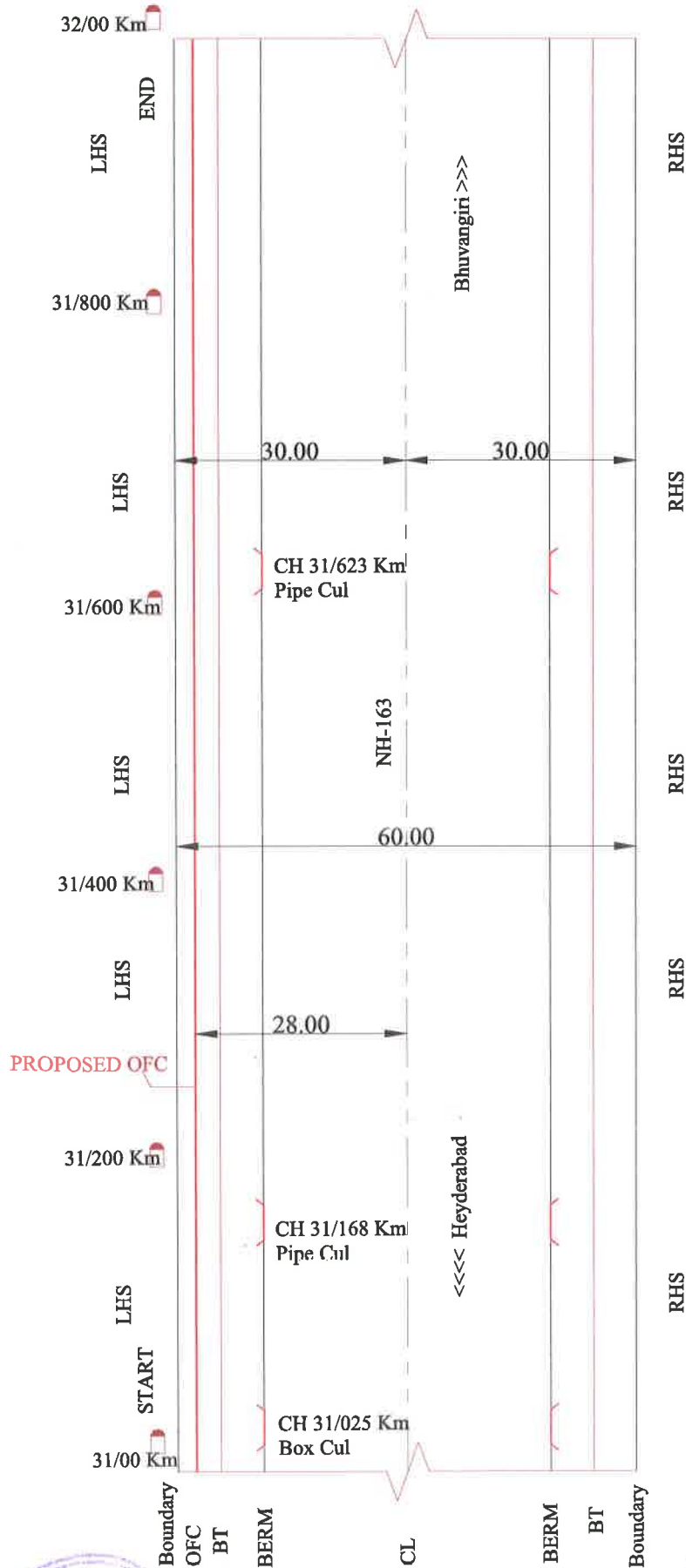
Date:

Place:

Encl: Route Drawing.

Bibi Nagar Mandal

NH- 163 - 31/000 km to 32/000 km



SECTION LENGTH=1000 M

LEGEND

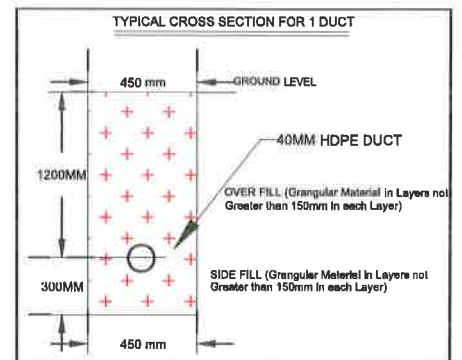
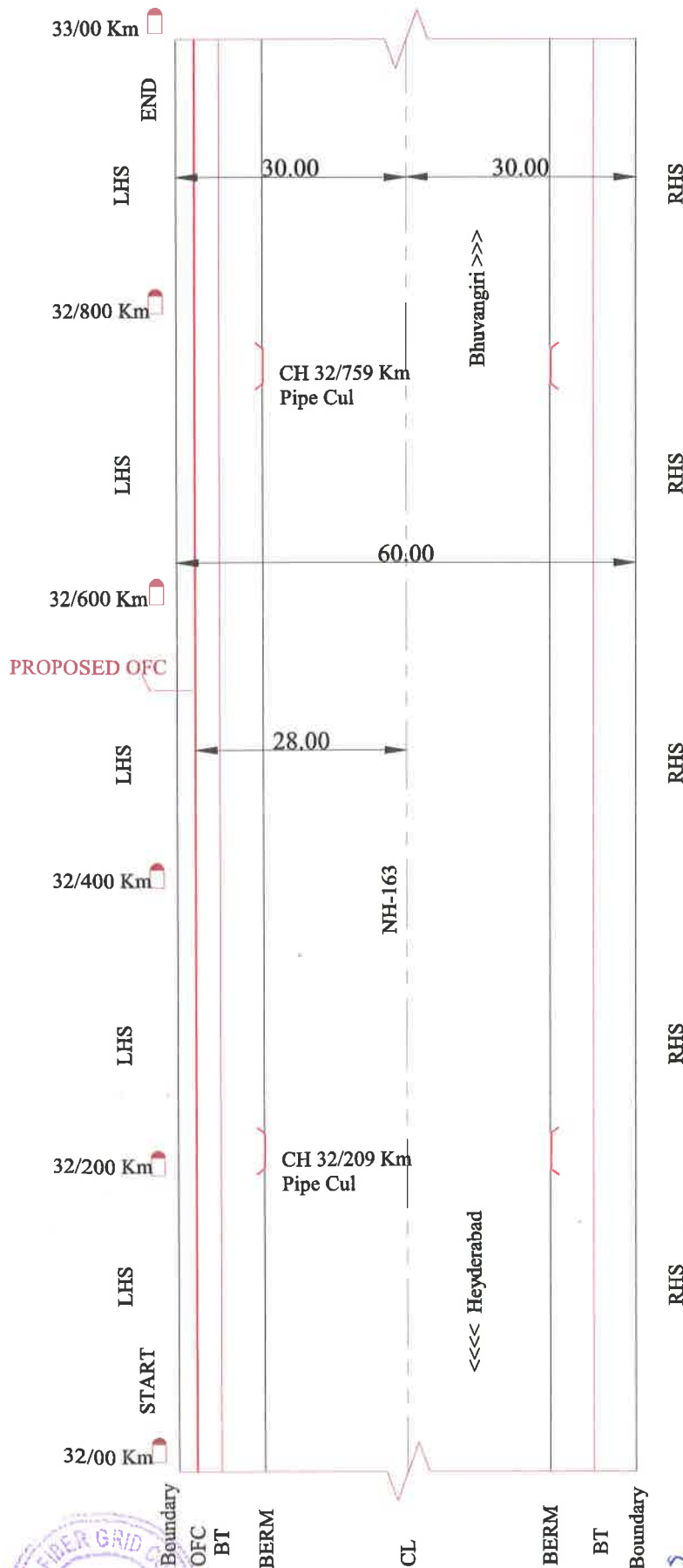
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
	SCALE
	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Bibi Nagar Mandal

NH- 163 - 32/000 km to 33/000 km



SECTION LENGTH=1000 M

LEGEND

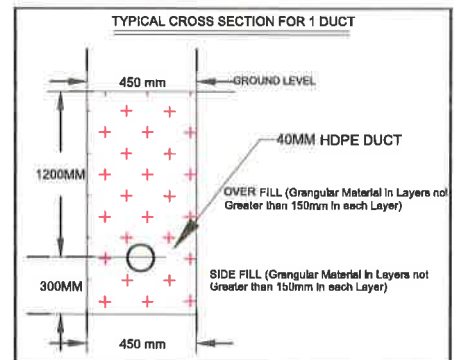
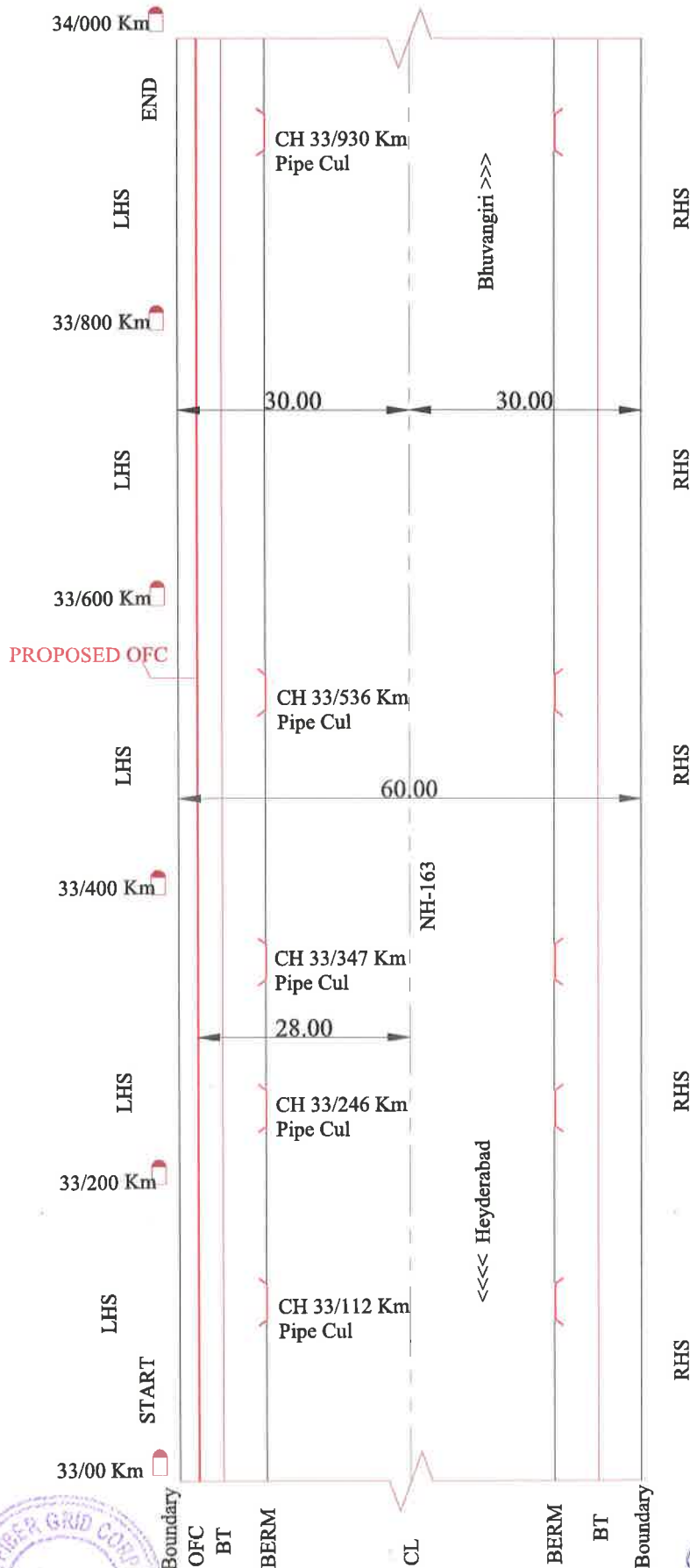
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Bibi Nagar Mandal

NH- 163 - 33/000 km to 34/000 km



SECTION LENGTH=1000 M

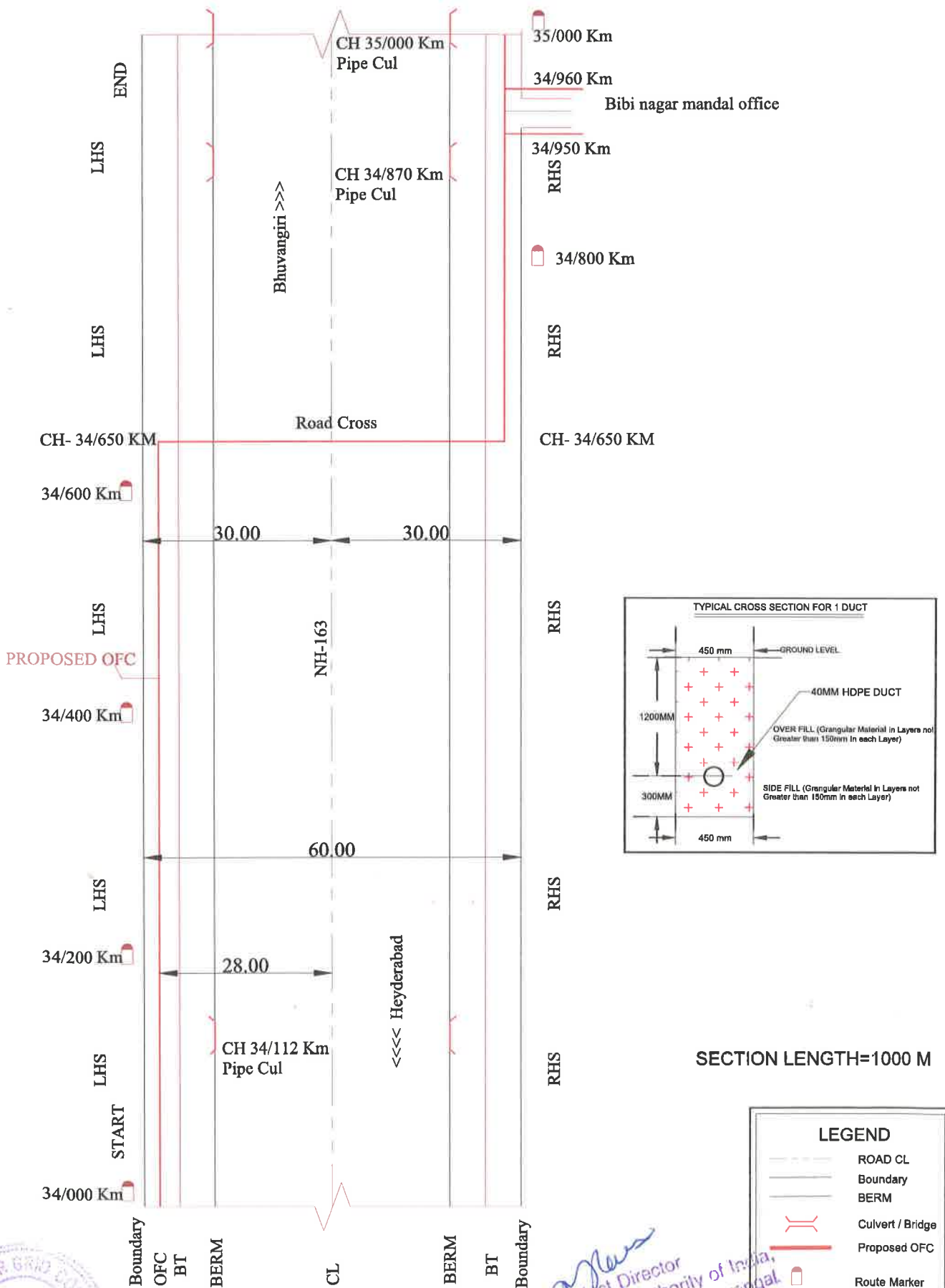
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
 National Highways Authority of India
 Project Implementation Unit, Warangal



Bibi Nagar Mandal

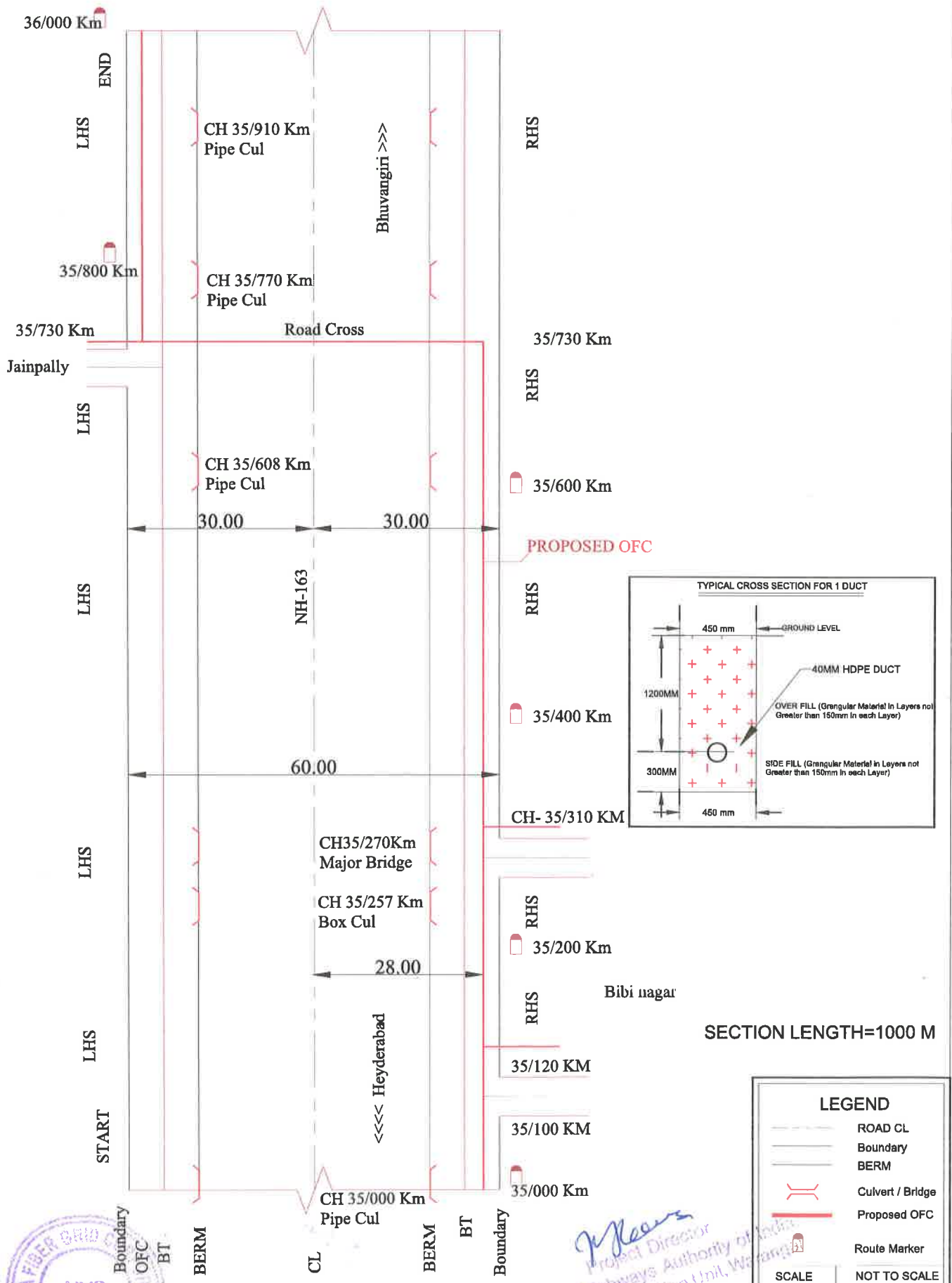
NH- 163 - 34/000 km to 35/000 km



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Bibi Nagar Mandal

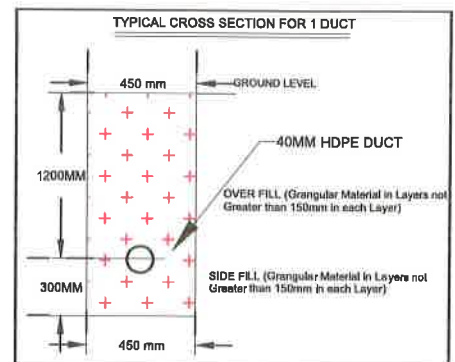
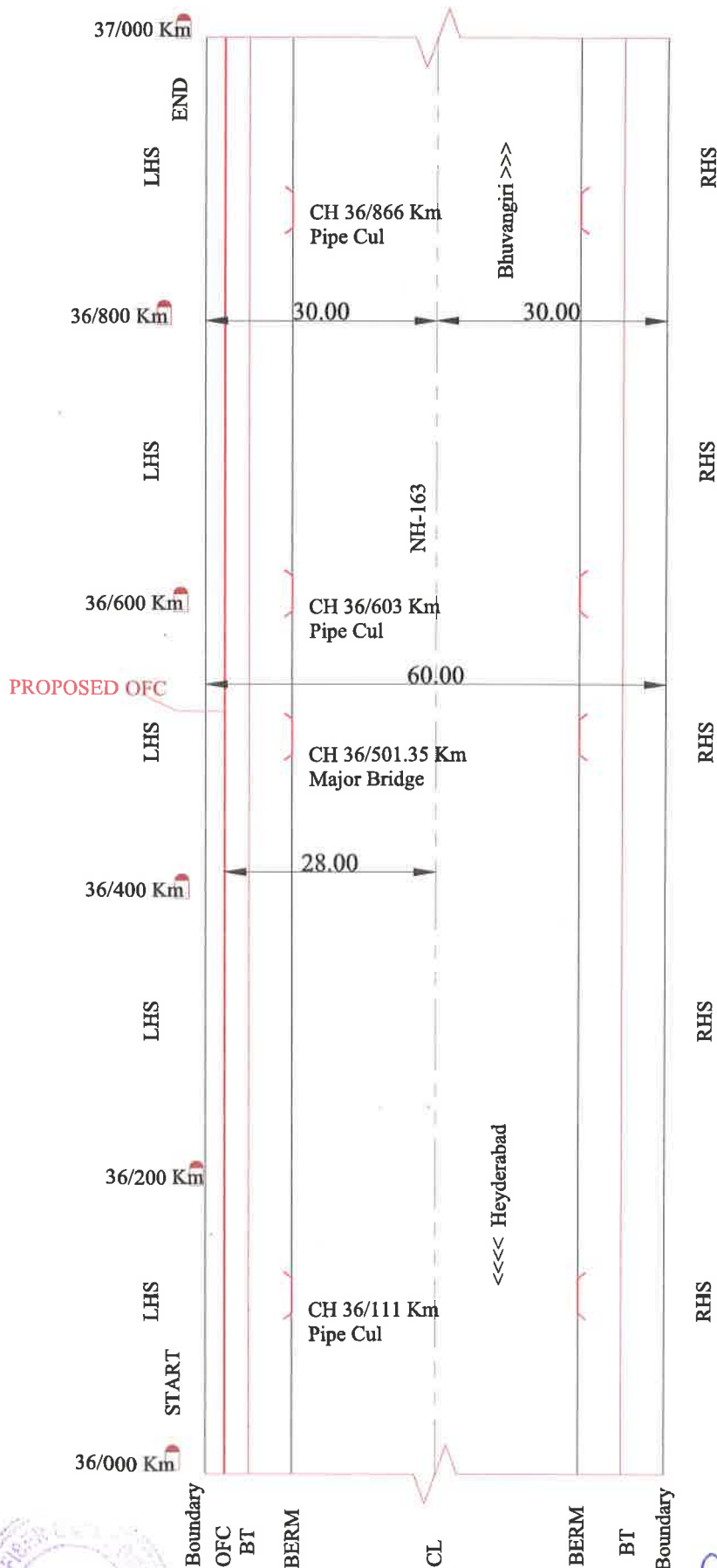
NH- 163 - 35/000 km to 36/000 km



[Signature]
Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Bibi Nagar Mandal

NH- 163 - 36/000 Km to 37/000 km



SECTION LENGTH=1000 M

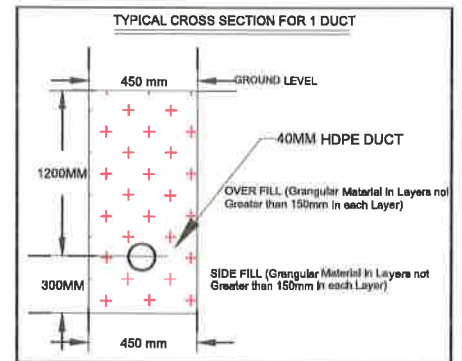
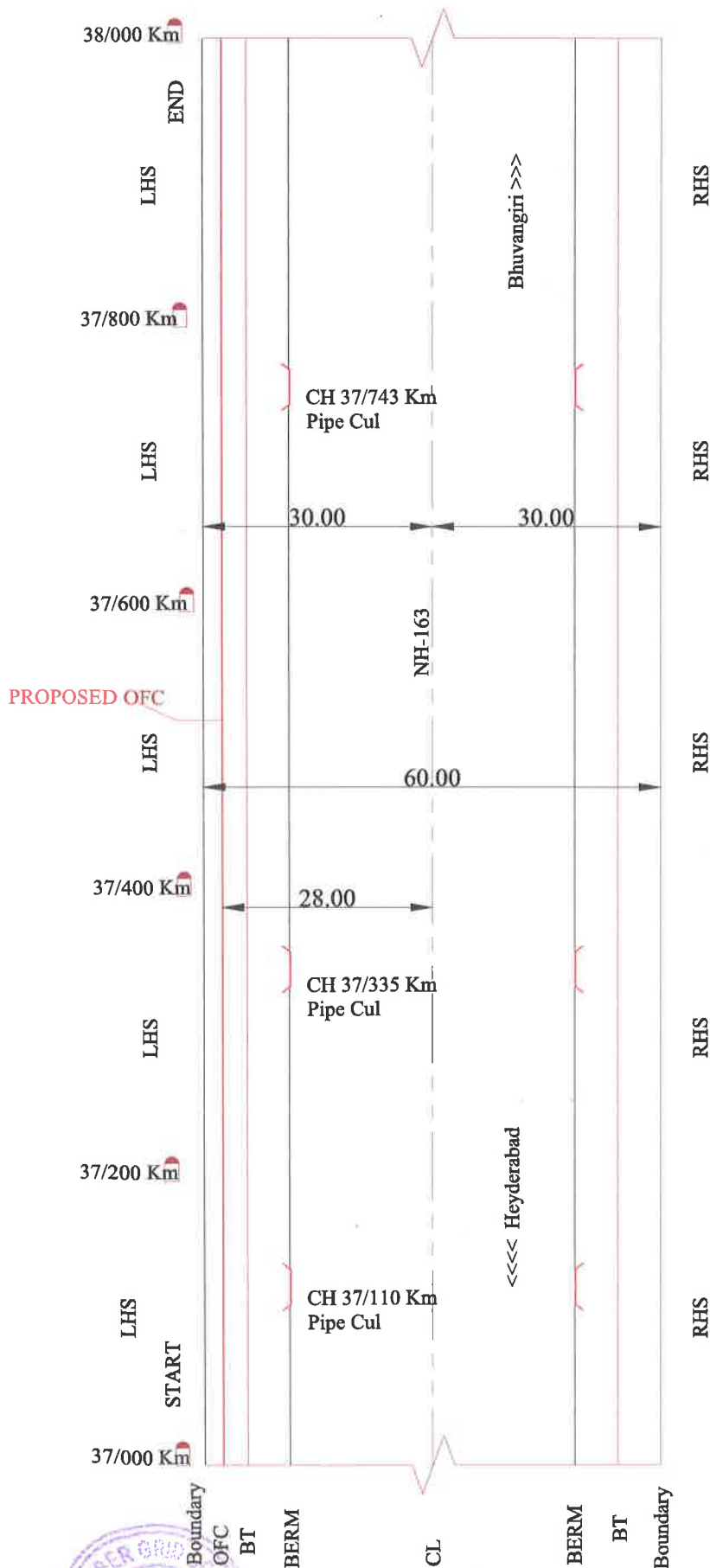
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
 National Highways Authority of India
 Project Implementation Unit, Warangal

Bibi Nagar Mandal

NH- 163 - 37/000 km to 38/000 km



SECTION LENGTH=1000 M

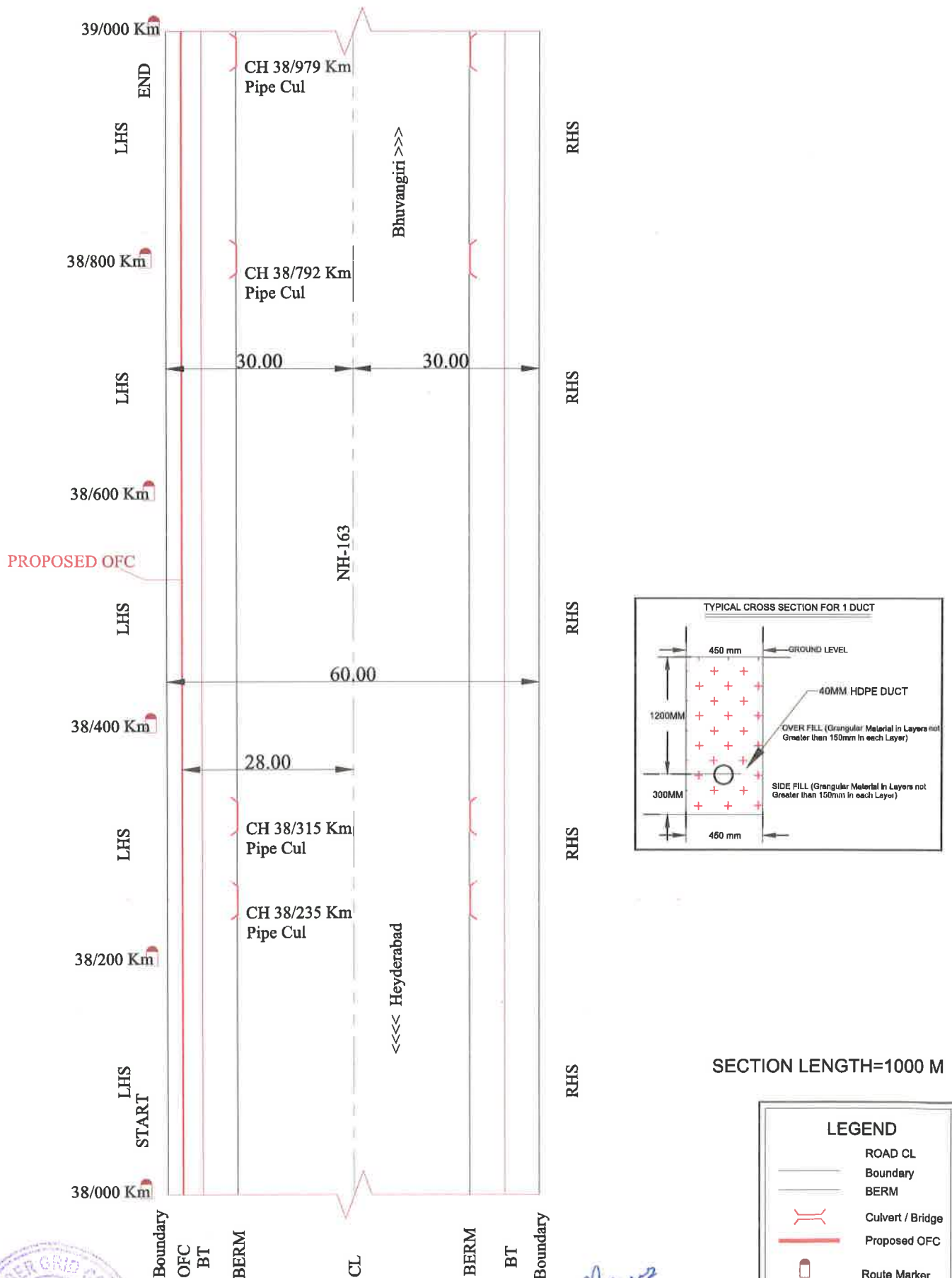
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Bibi Nagar Mandal

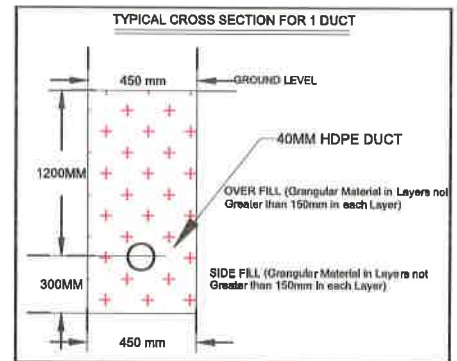
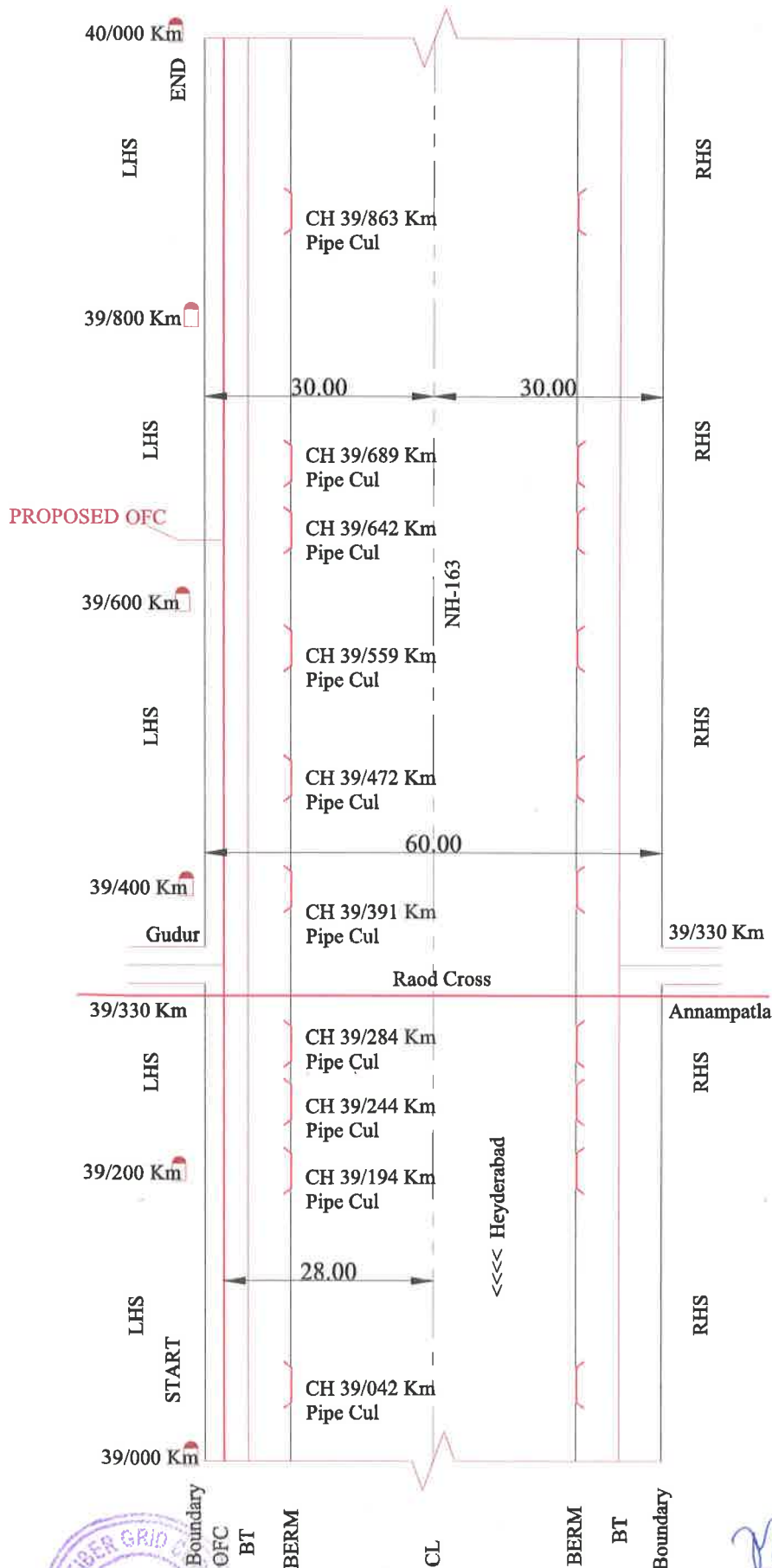
NH- 163 - 38/000 km to 39/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Bibi Nagar Mandal

NH- 163 - 39/000 km to 40/000 km



SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
	SCALE
	NOT TO SCALE

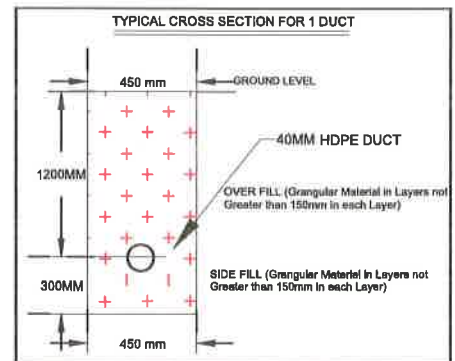
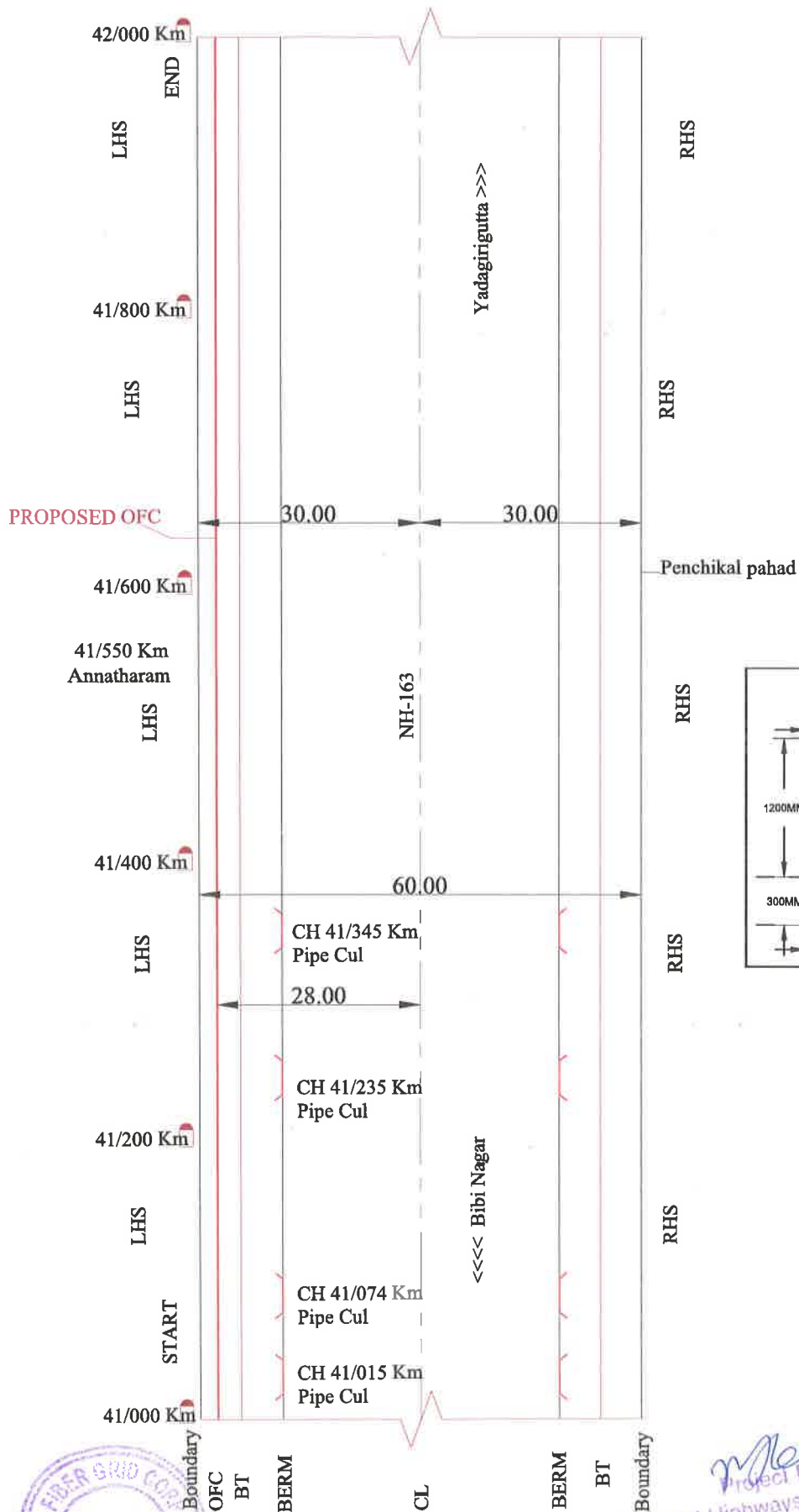
Project Director
 National Highways Authority of India,
 Project Implementation Unit, Warangal





Bhuvangiri Mandal

NH- 163 - 41/000 km to 42/000 km



SECTION LENGTH=1000 M

LEGEND

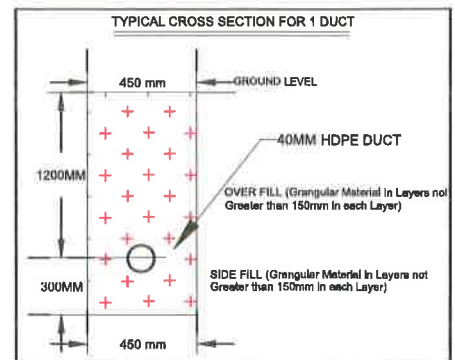
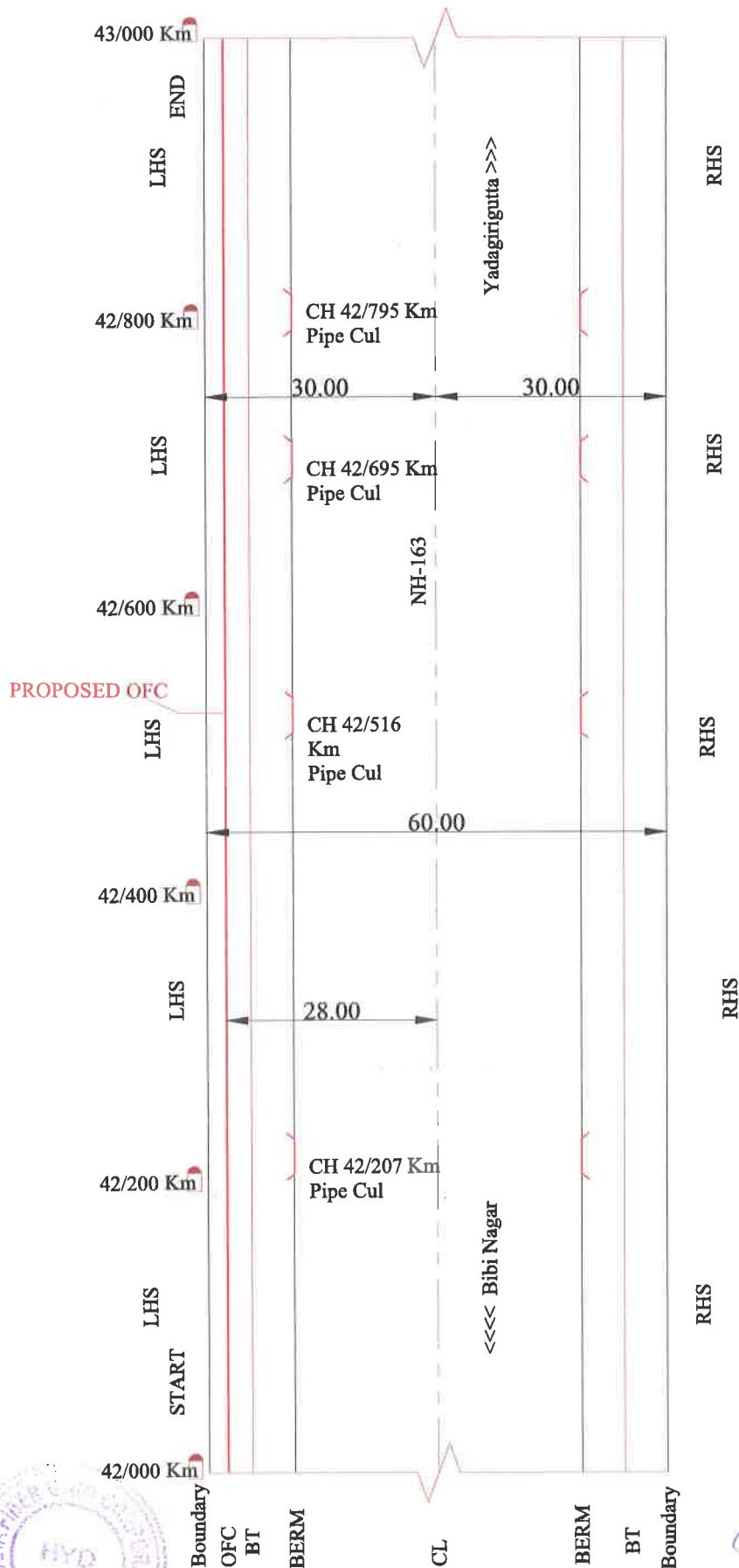
- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker
- NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit

Bhuvangiri Mandal

NH- 163 - 42/000 km to 43/000 km



SECTION LENGTH=1000 M

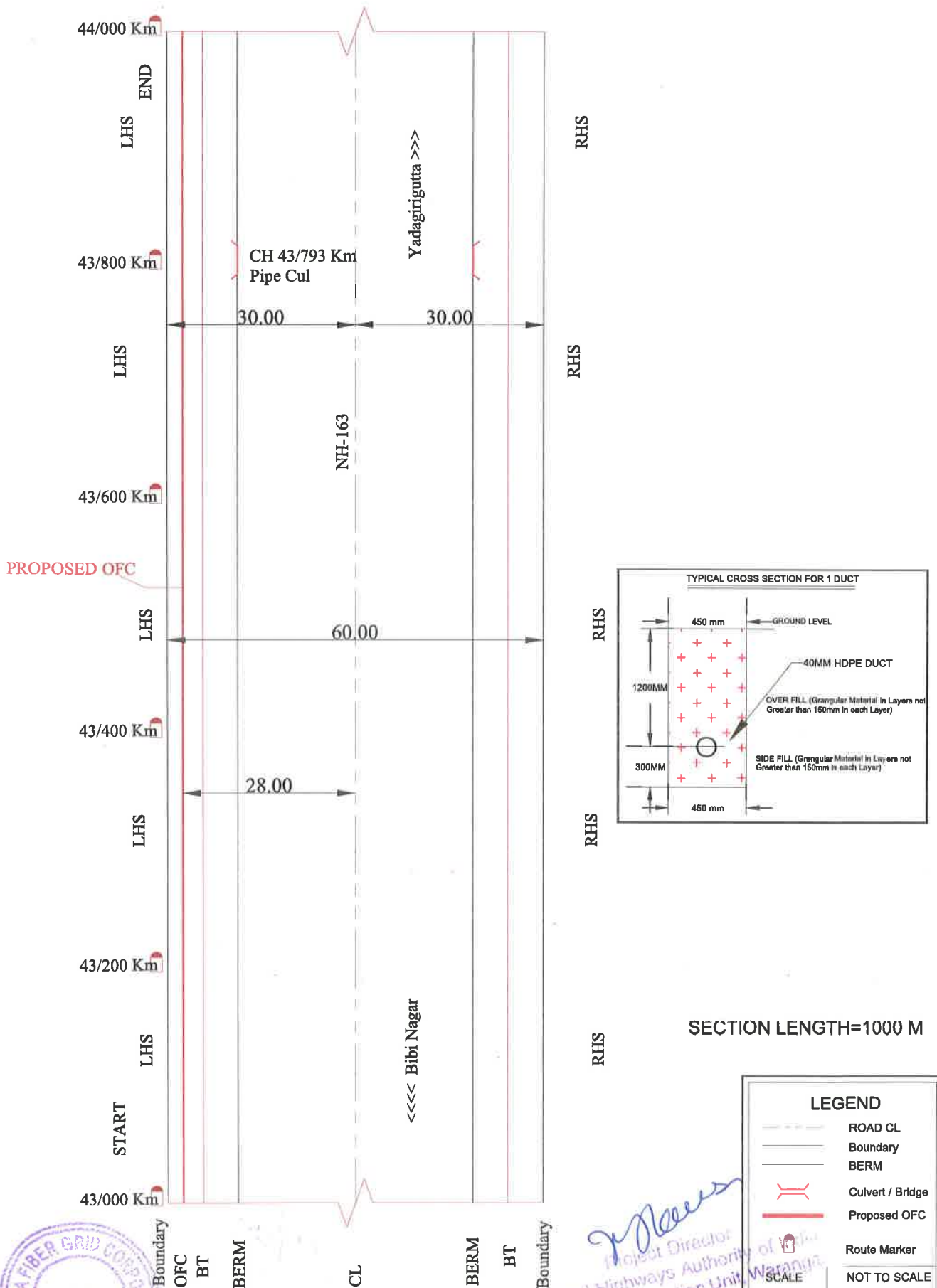
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
 National Highways Authority of India
 Project Implementation Unit, Hyderabad

Bhuvangiri Mandal

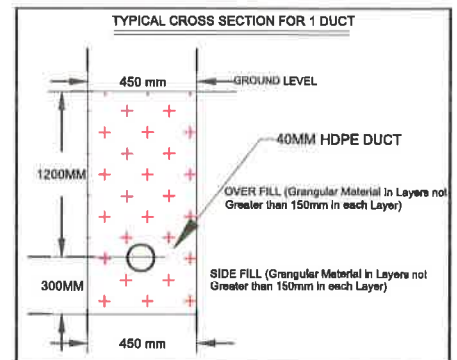
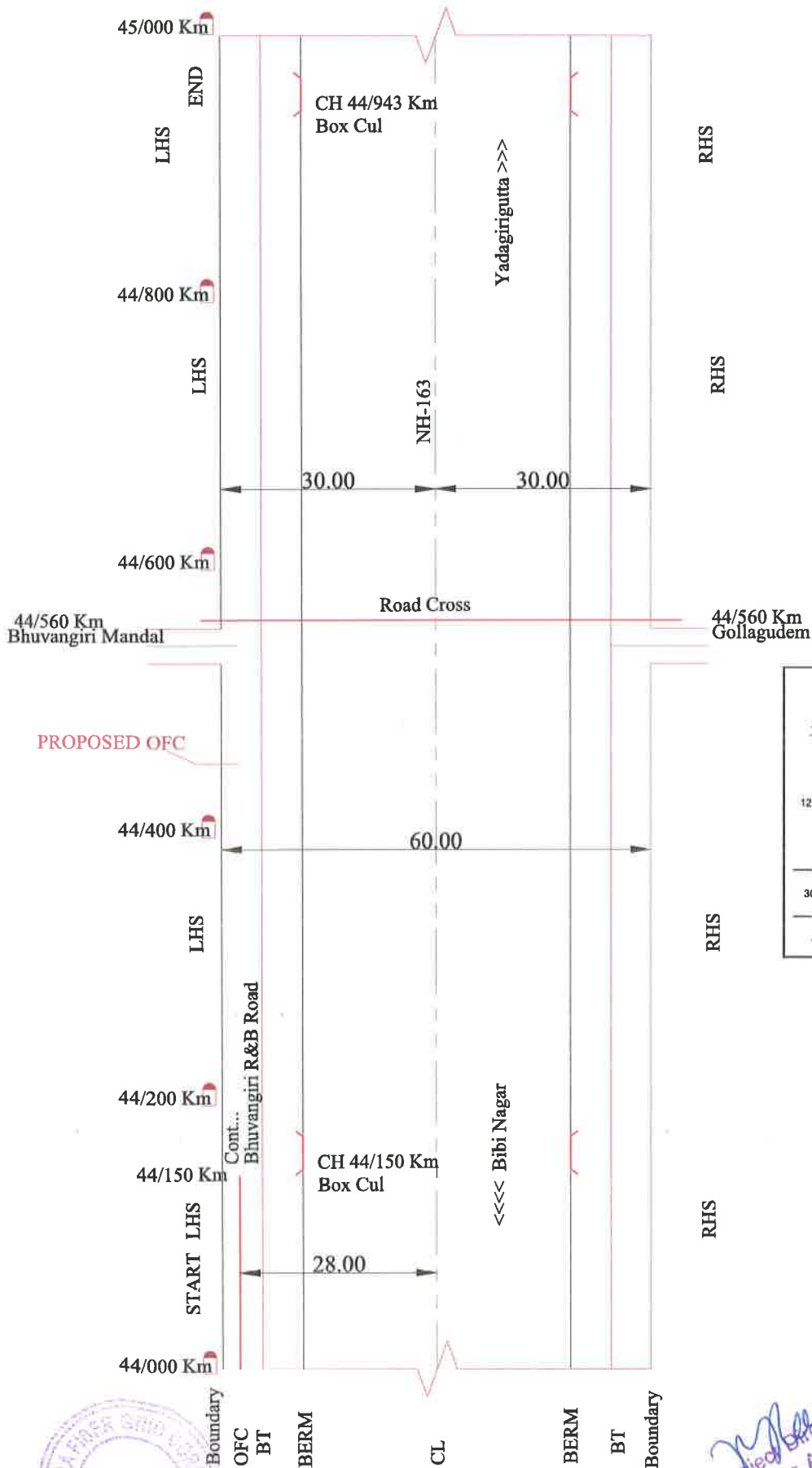
NH- 163 - 43/000 km to 44/000 km



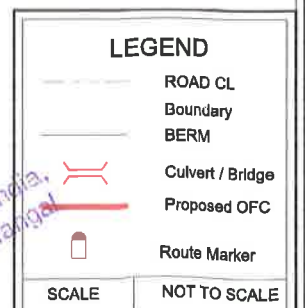
Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 44/000 km to 45/000 km



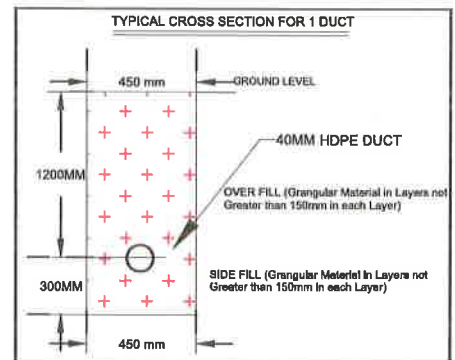
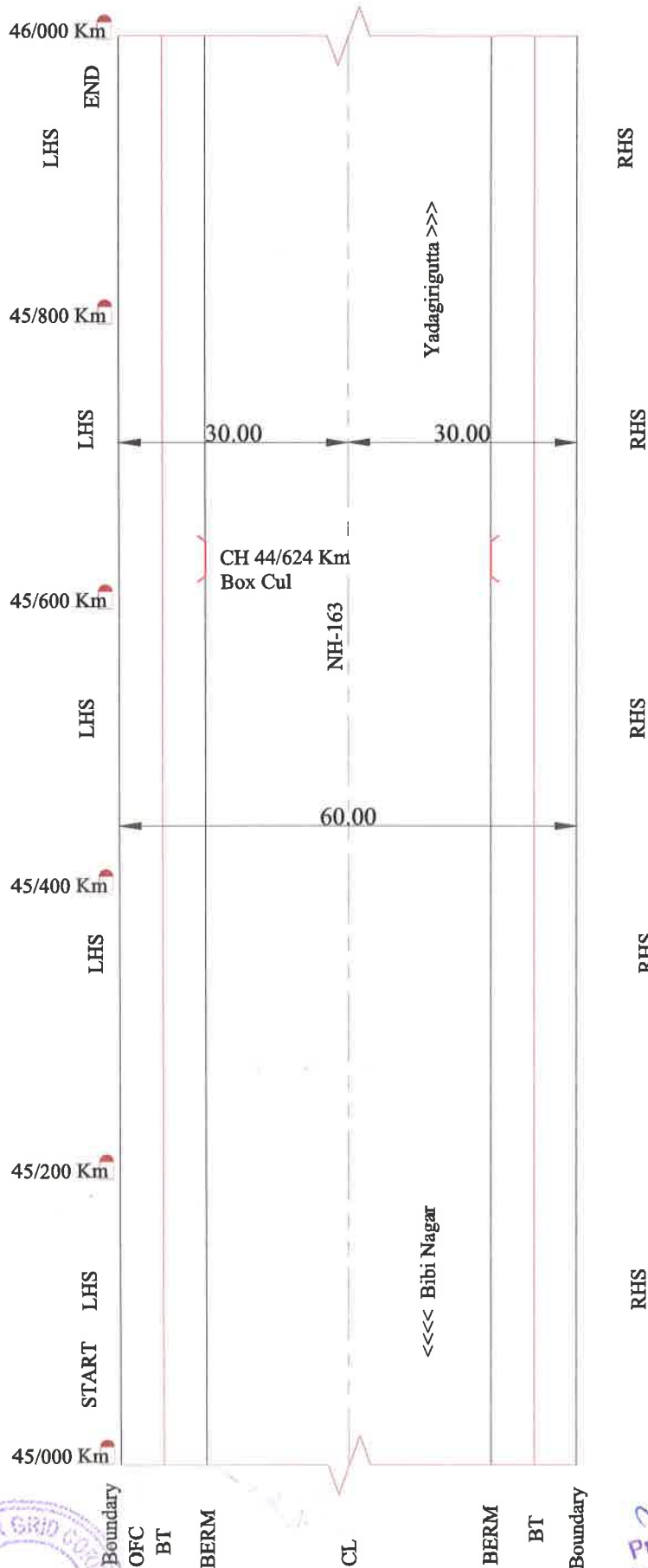
SECTION LENGTH=1000 M



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 45/000 km to 46/000 km



SECTION LENGTH=1000 M

LEGEND

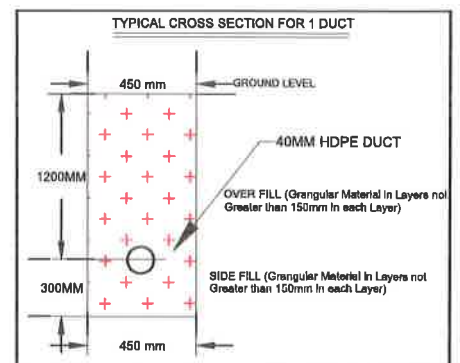
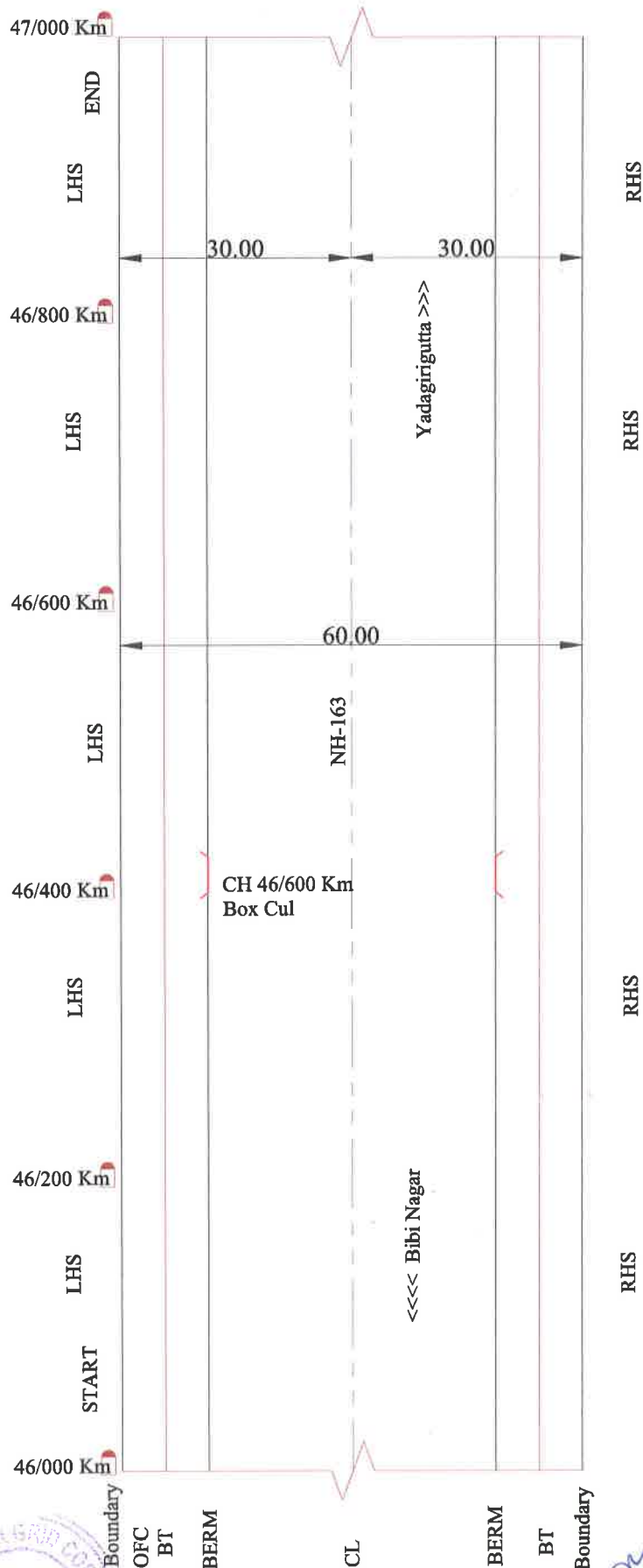
---	ROAD CL
---	Boundary
---	BERM
(X)	Culvert / Bridge
---	Proposed OFC
●	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 46/000 km to 47/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

SCALE

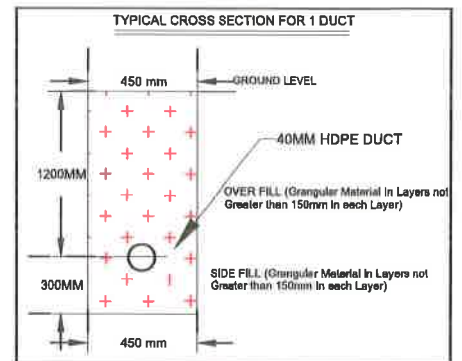
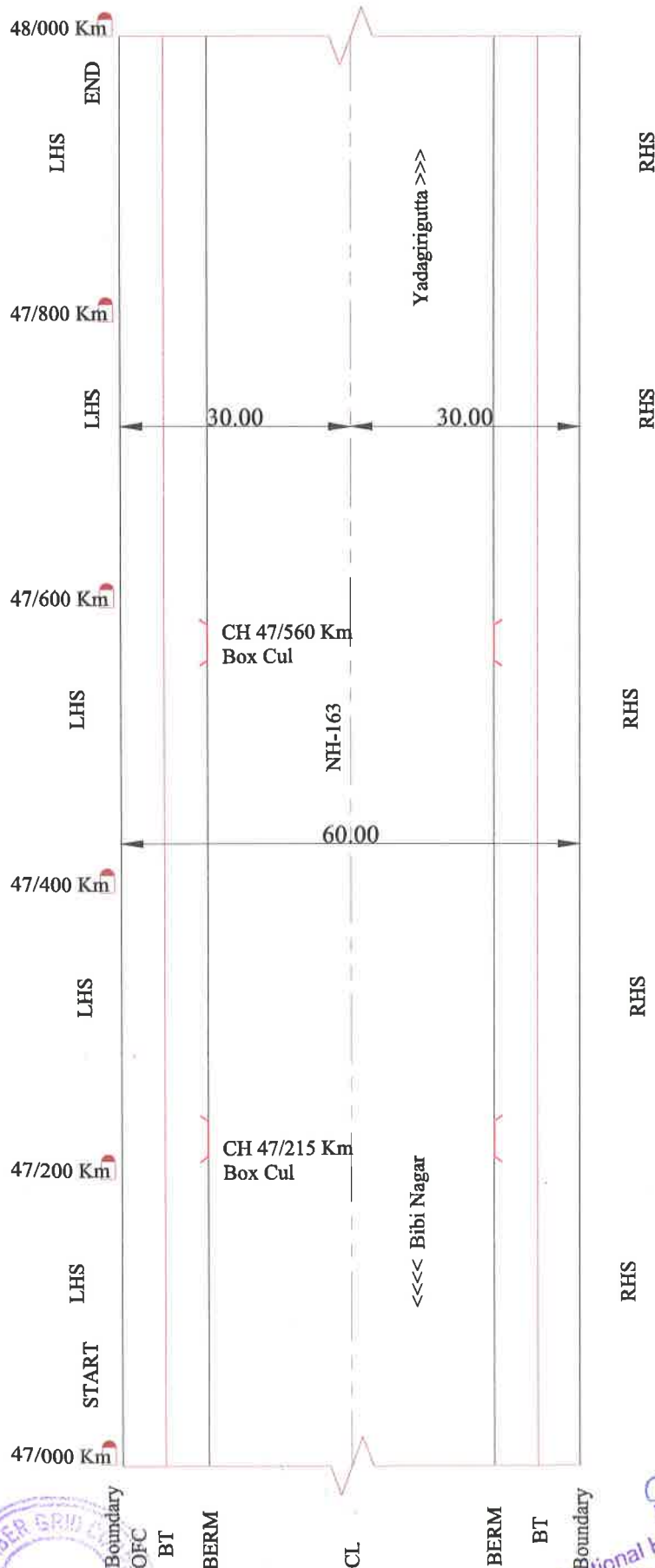
NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 47000 km to 48000 km



SECTION LENGTH=1000 M

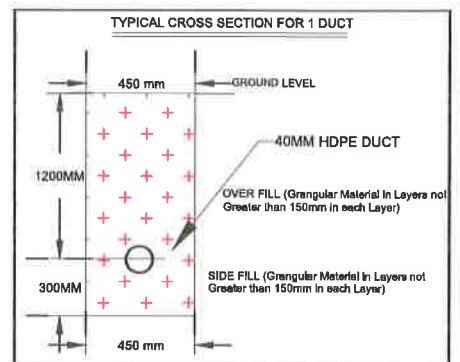
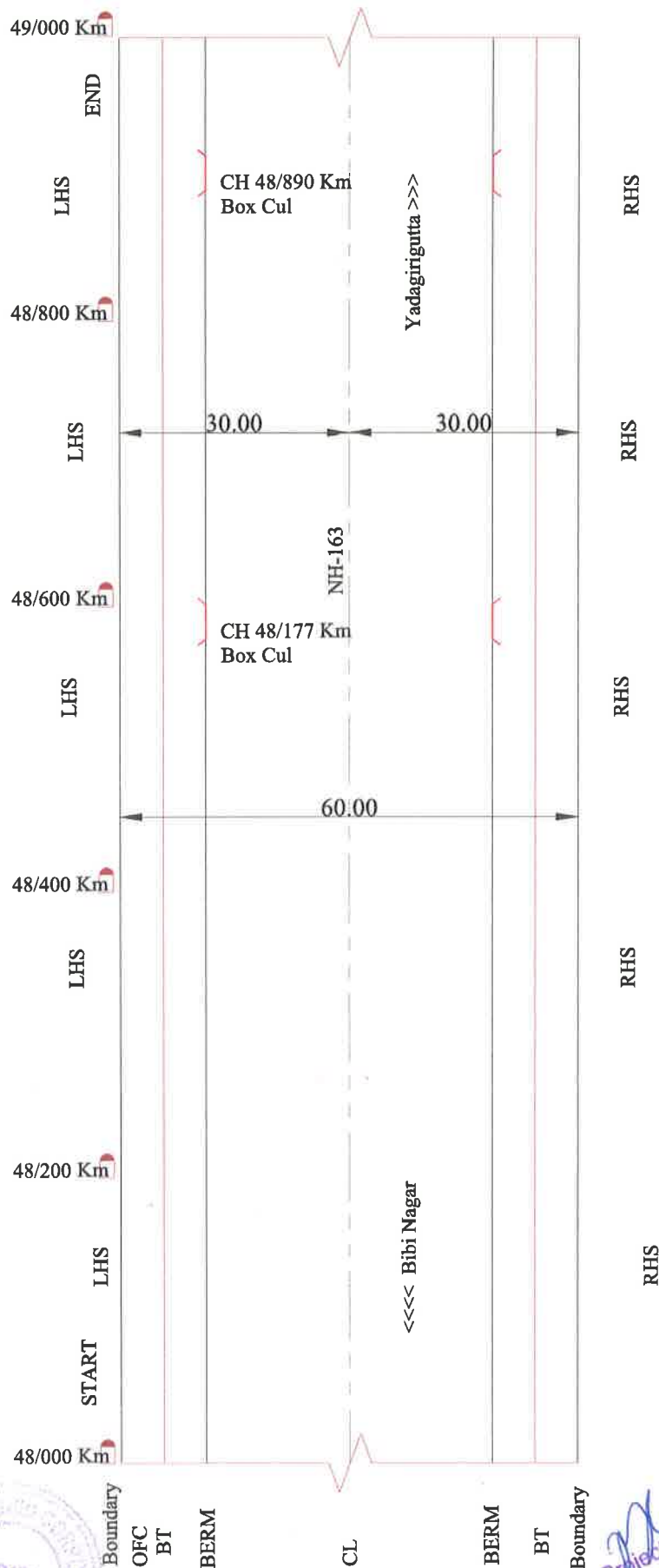
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
 National Highways Authority of India,
 Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 48/000 km to 49/000 km



SECTION LENGTH=1000 M

LEGEND

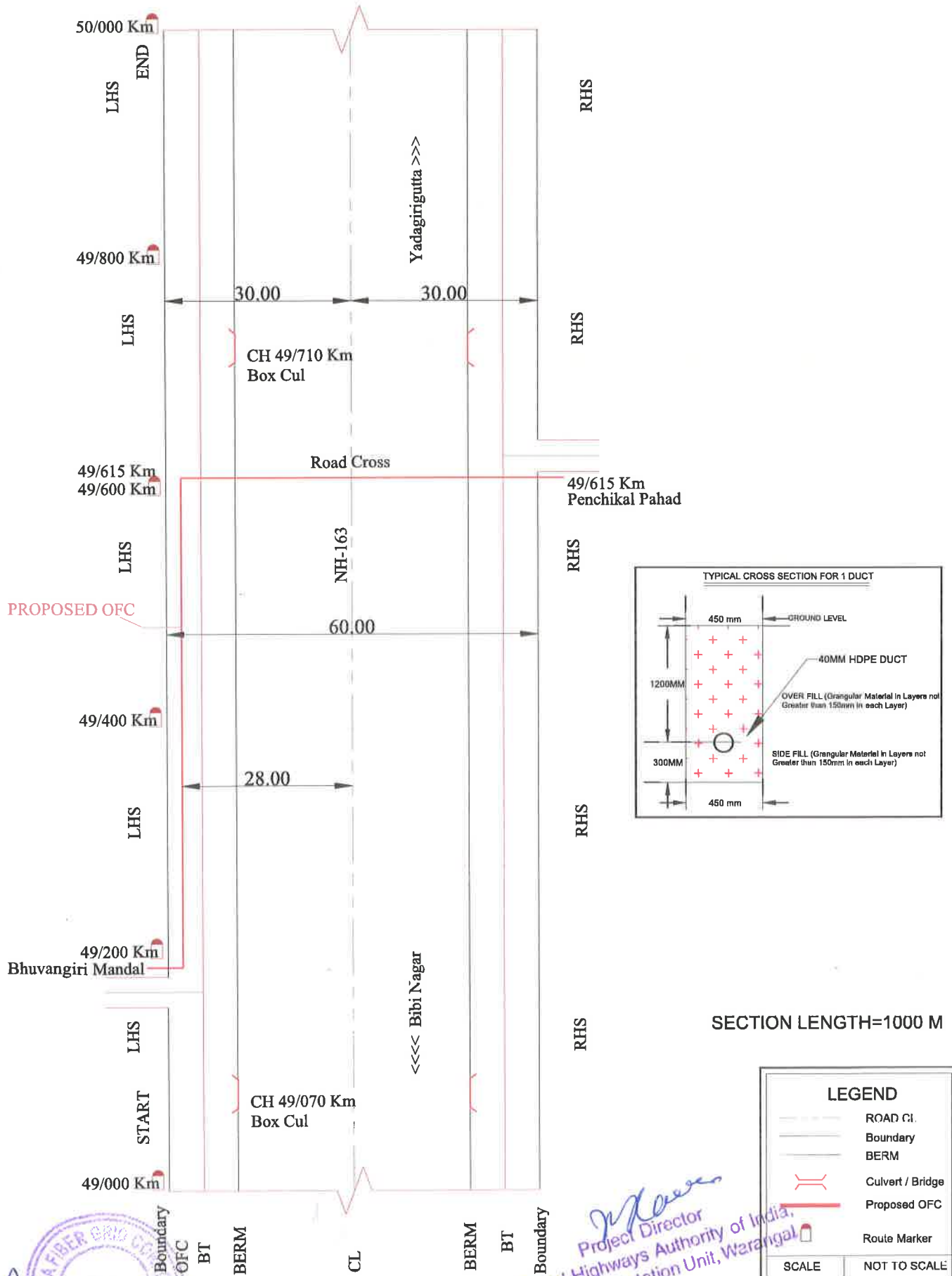
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Bhuvangiri Mandal

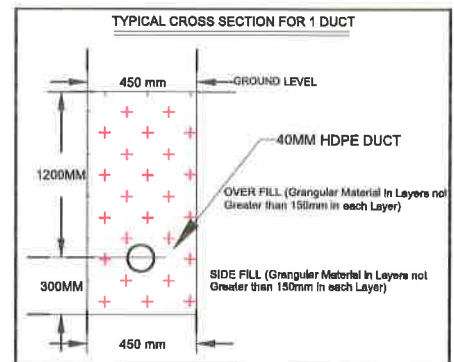
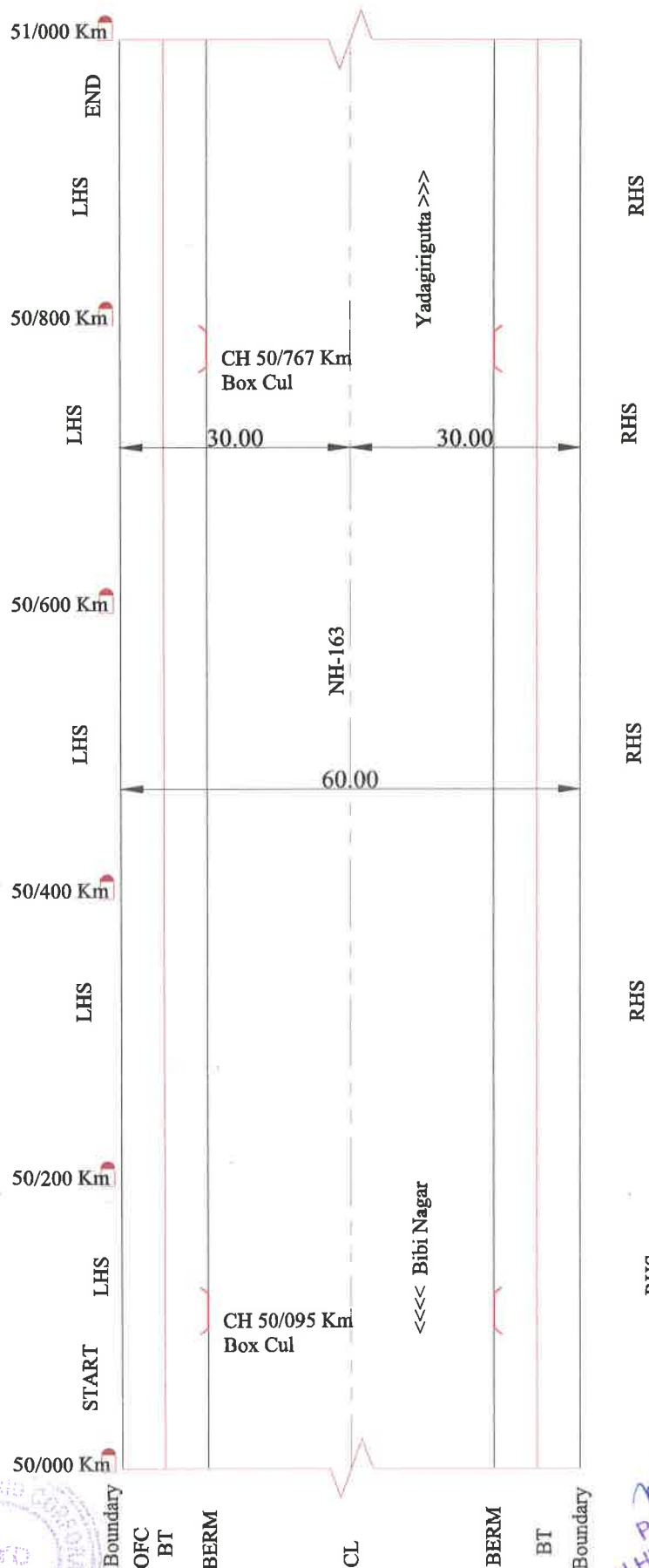
NH- 163 - 49/000 km to 50/000 km



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 50/000 km to 51/000 km



SECTION LENGTH=1000 M

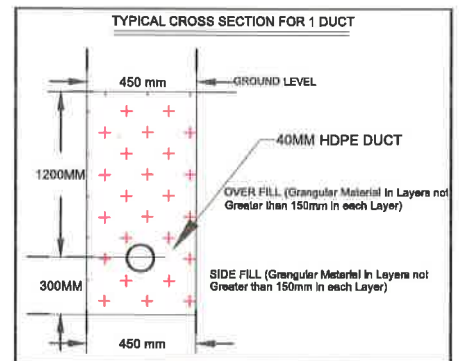
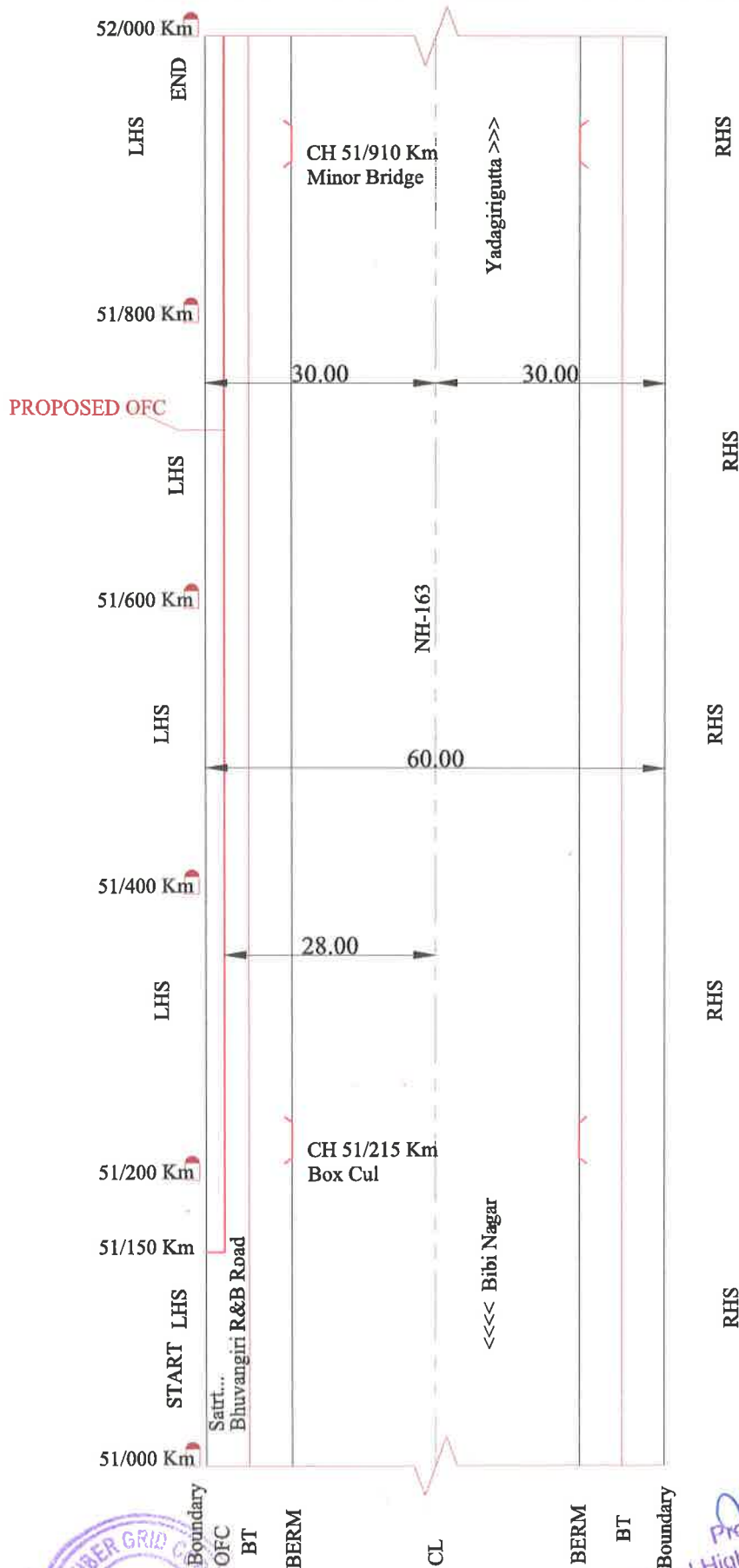
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
 National Highways Authority of India,
 Project Implementation Unit, Warangal



Bhuvangiri Mandal

NH- 163 - 51/000 km to 52/000 km



SECTION LENGTH=1000 M

LEGEND

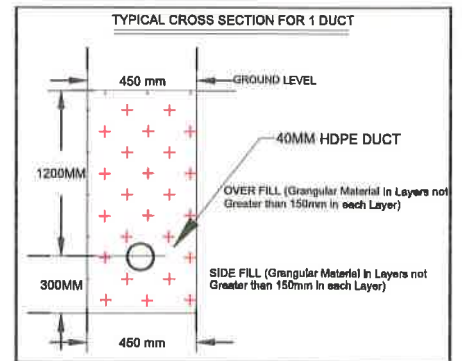
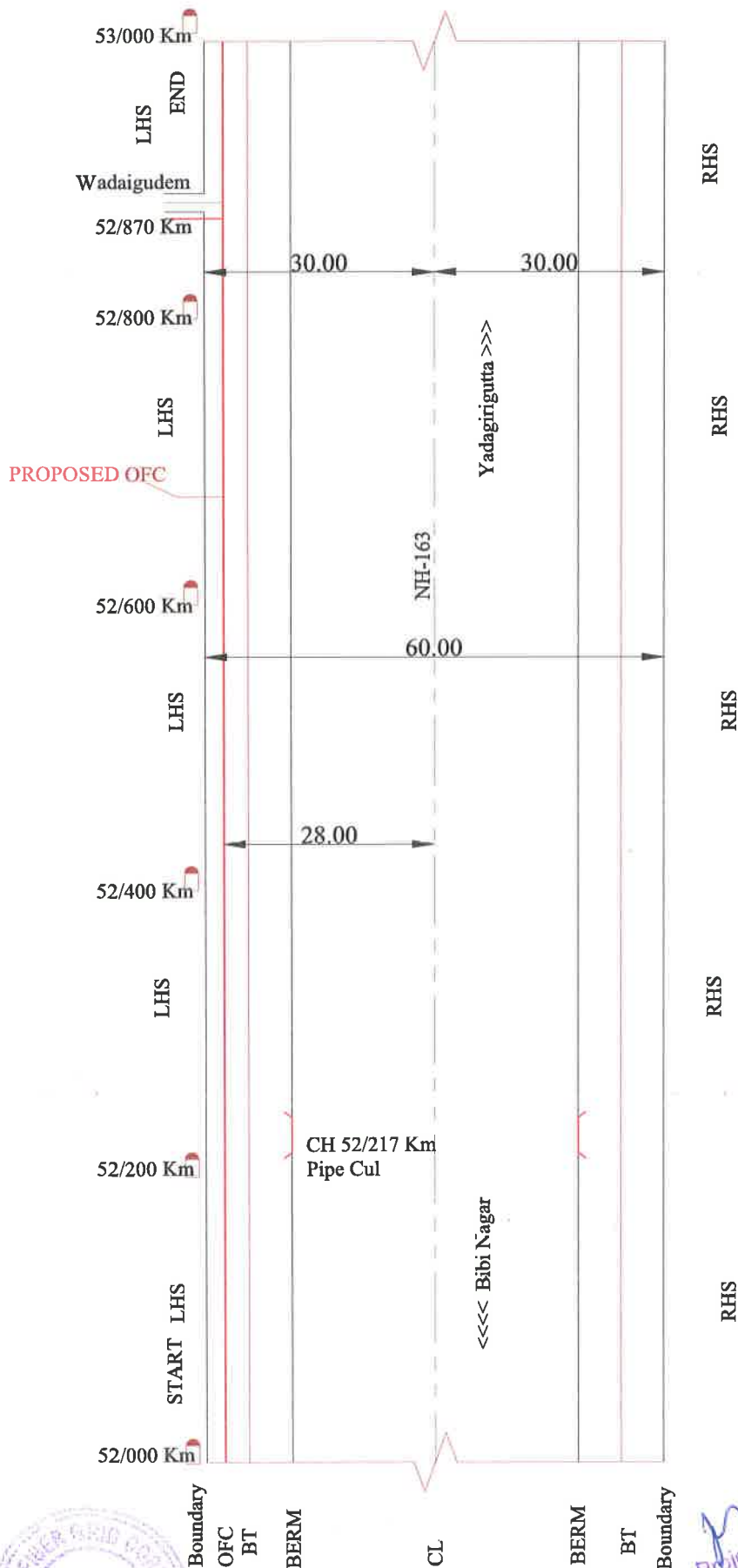
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 52/000 km to 53/000 km



SECTION LENGTH=1000 M

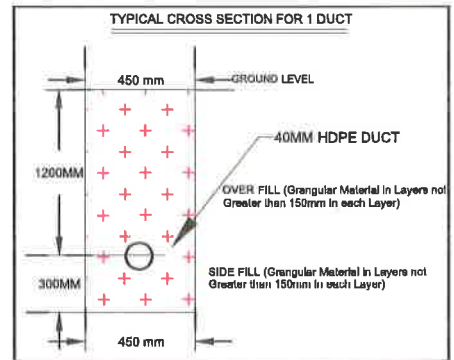
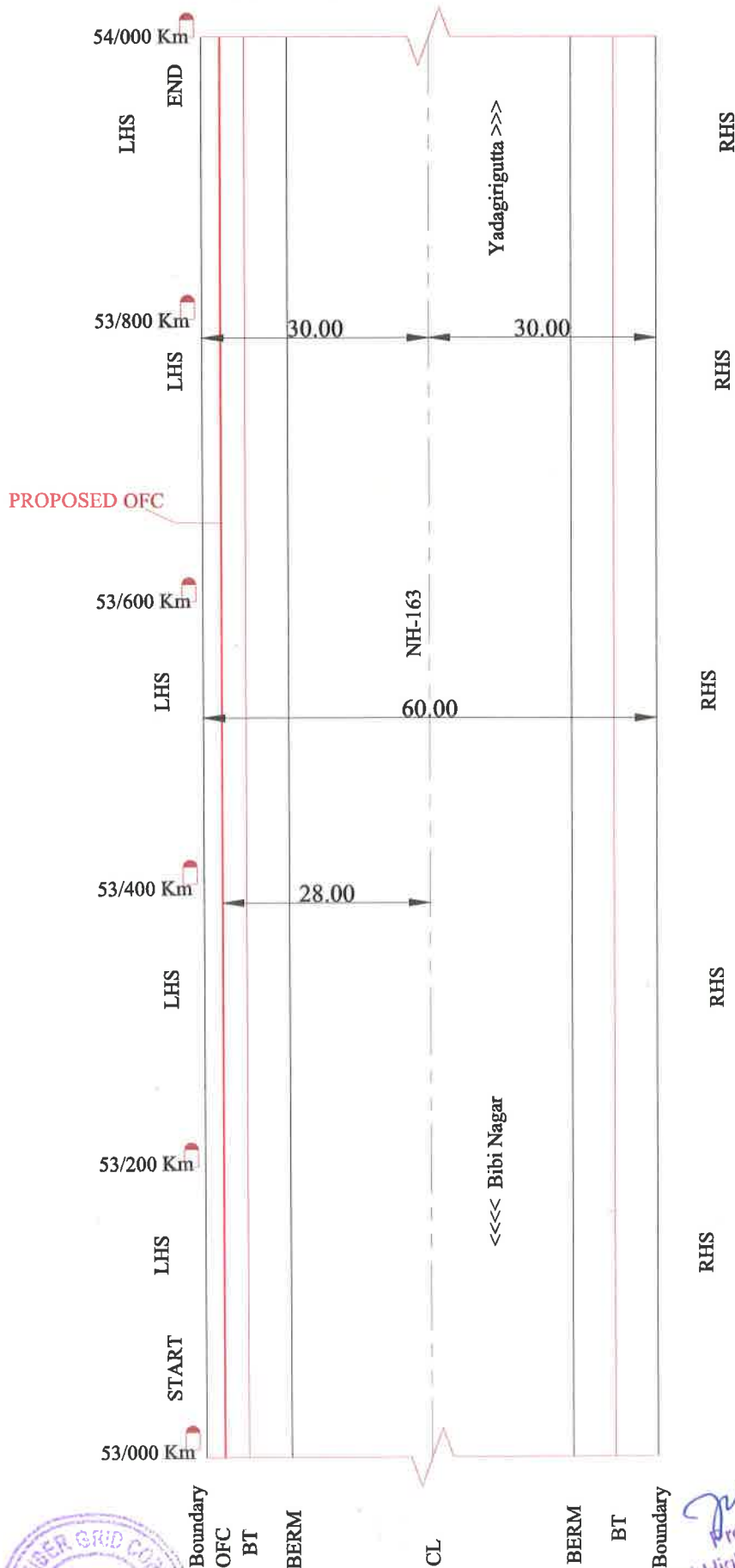
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Plan
Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal



Bhuvangiri Mandal

NH- 163 - 53/000 km to 54/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

SCALE

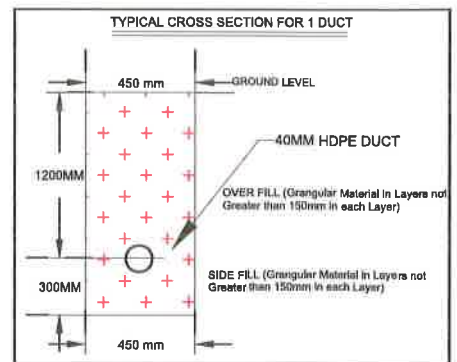
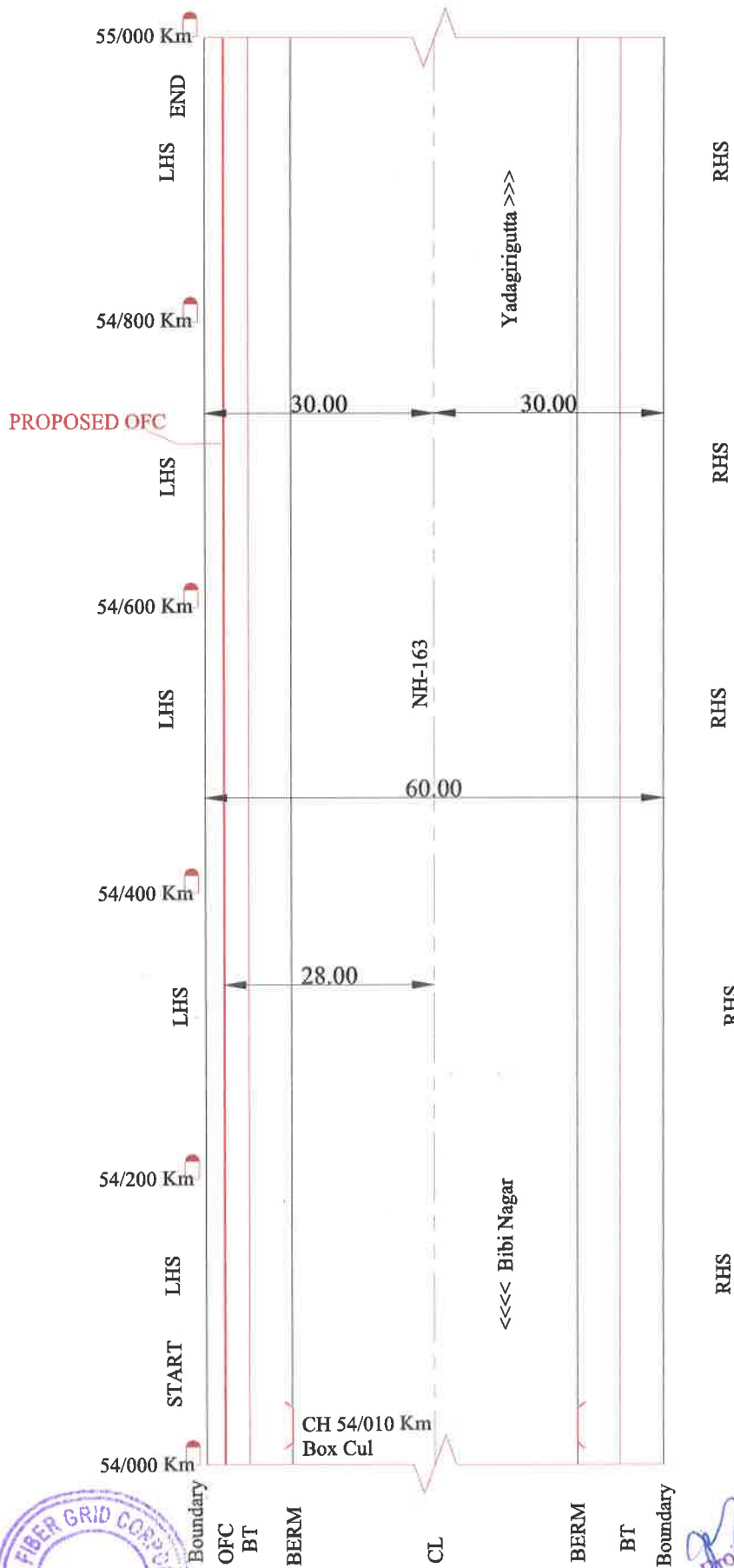
NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal



Bhuvangiri Mandal

NH- 163 - 54/000 km to 55/000 km



SECTION LENGTH=1000 M

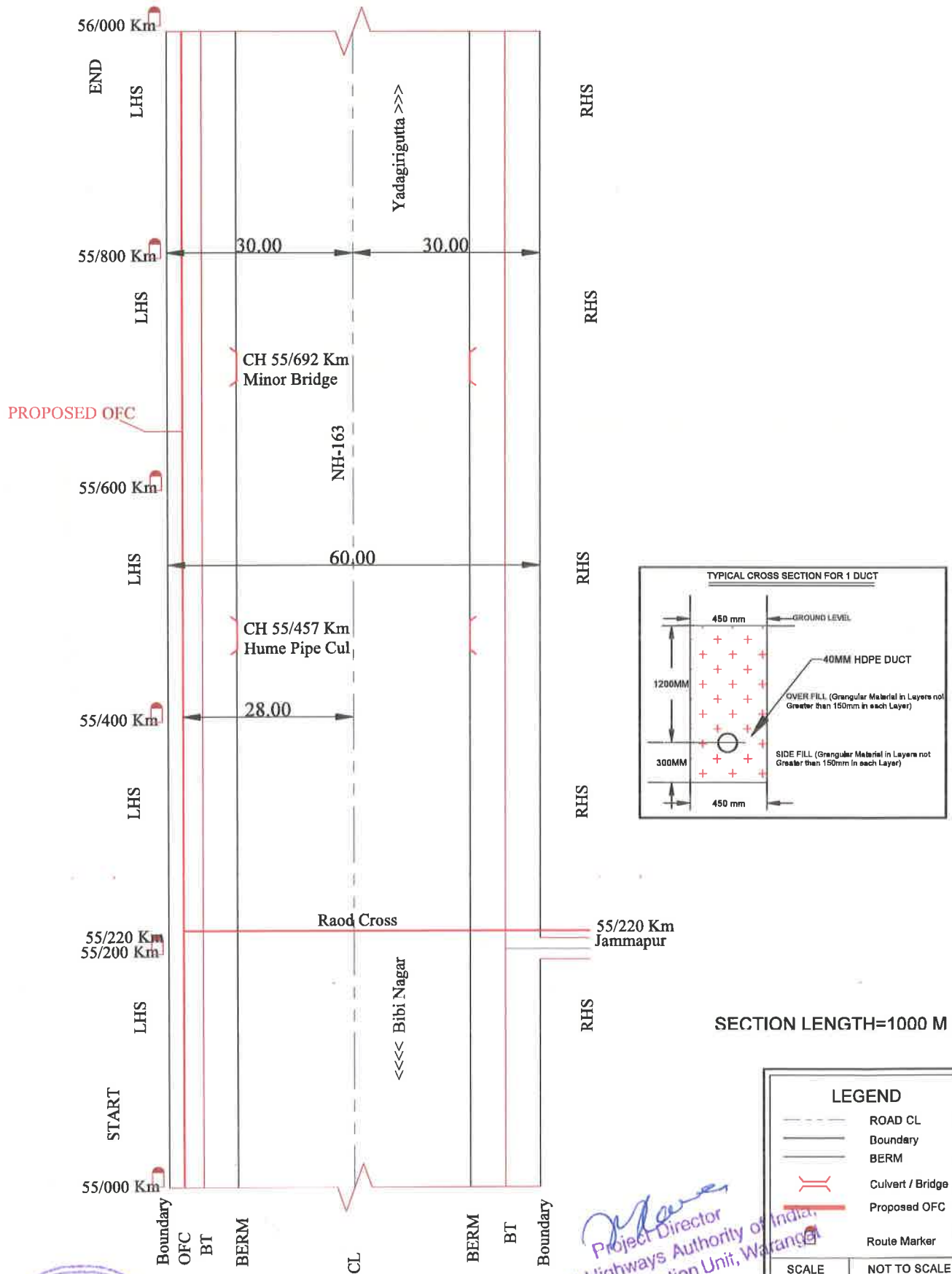
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
 National Highways Authority of India,
 Project Implementation Unit, Warangal

Bhuvangiri Mandal

NH- 163 - 55/000 km to 56/000 km

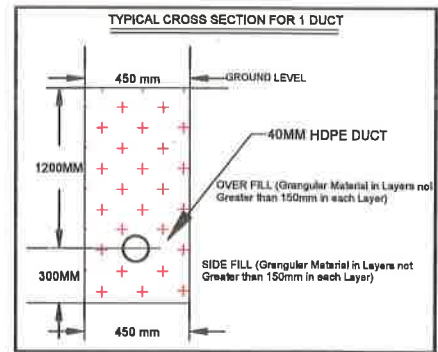
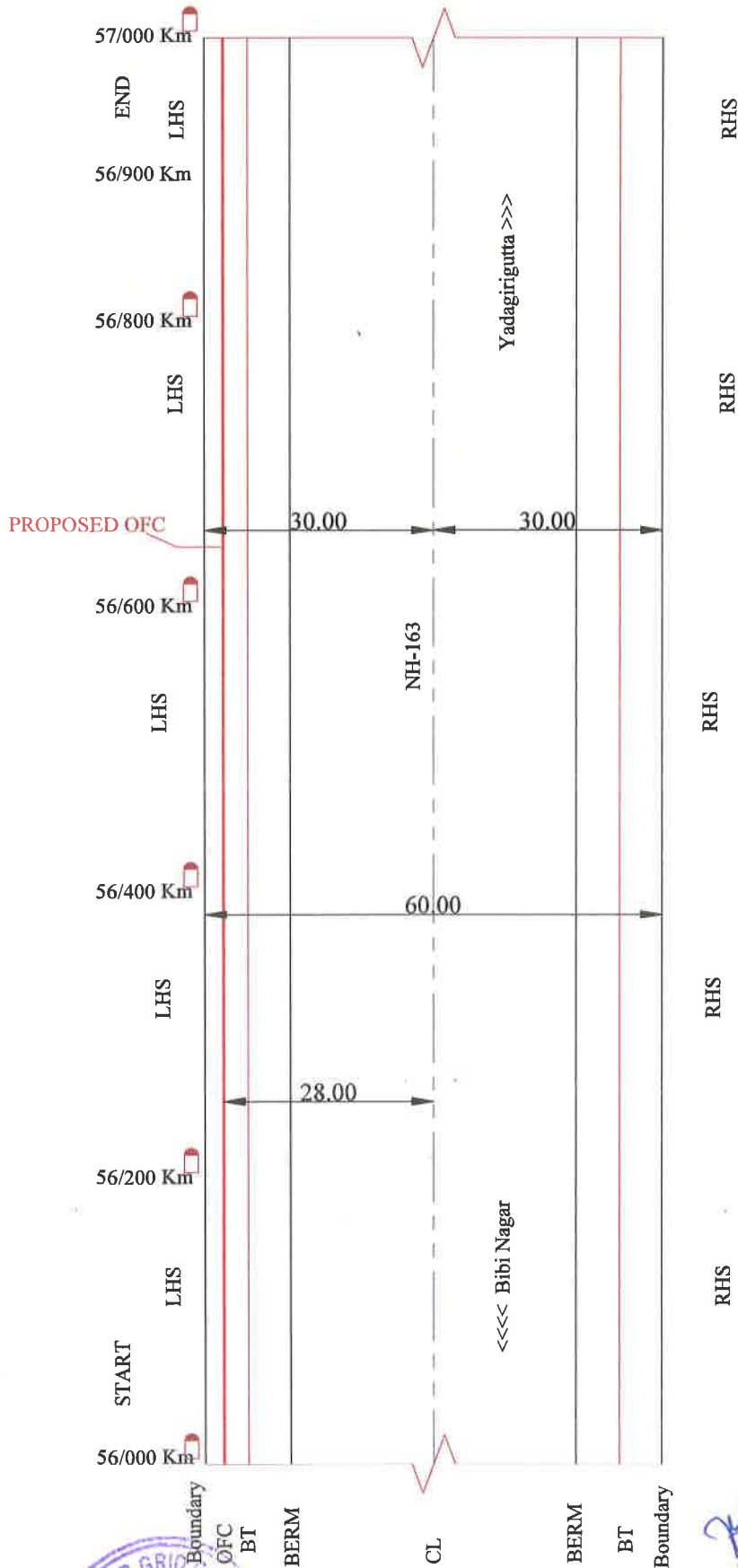


Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal



Bhuvangiri Mandal

NH- 163 - 56/000 km to 57/000 km



SECTION LENGTH=1000 M

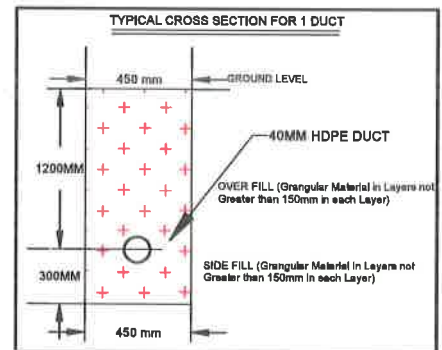
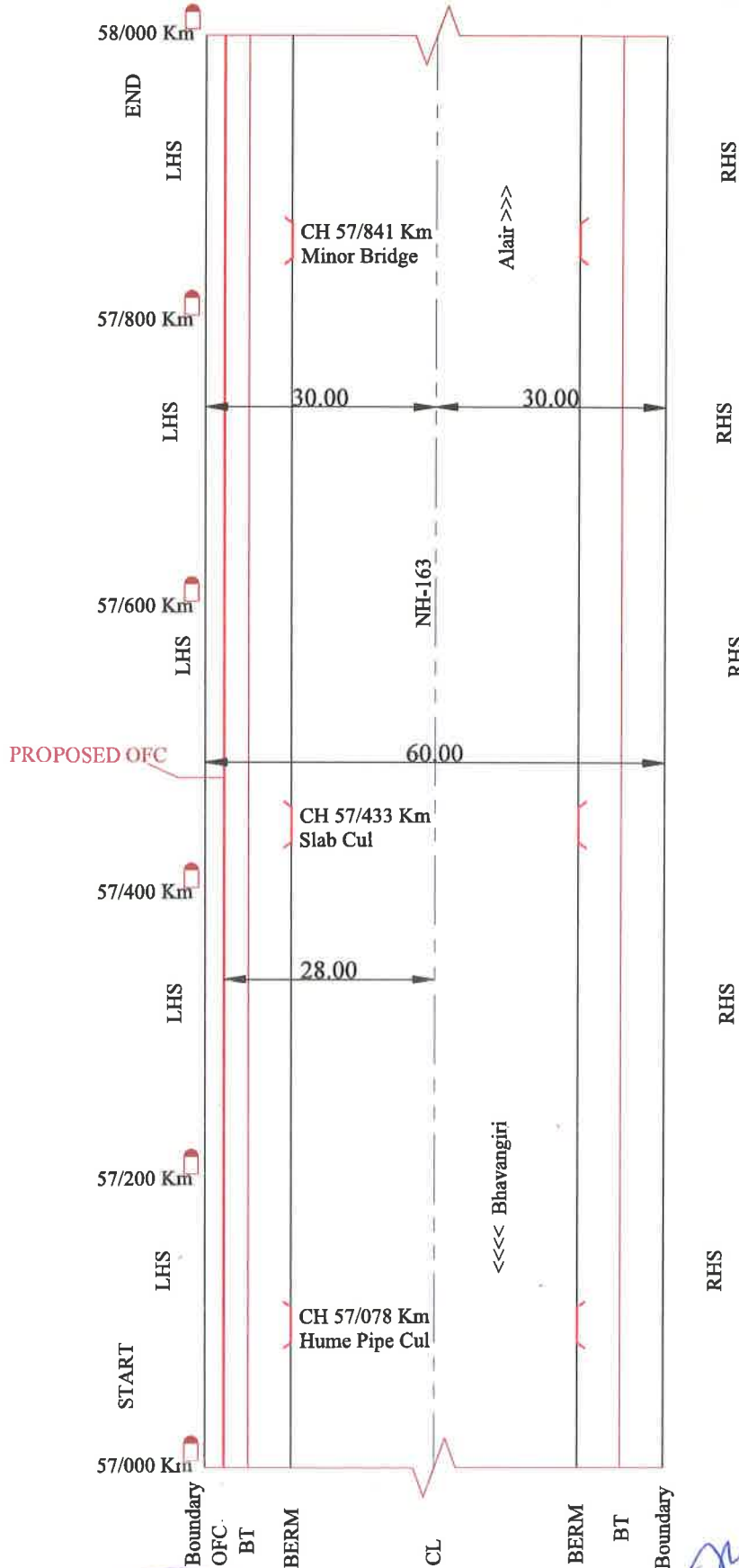
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



M. S. Rao
Project Director
National Highways Authority of India,
Project Implementation Unit, Hyderabad

Yadagirigutta Mandal

NH- 163.- 57/000 km to 58/000 km



SECTION LENGTH=1000 M

LEGEND

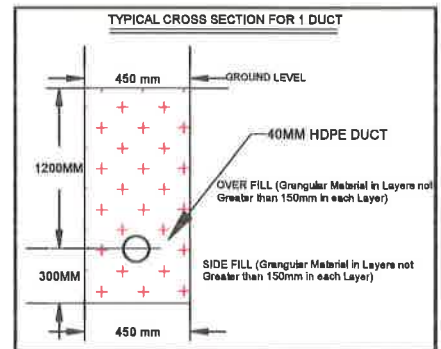
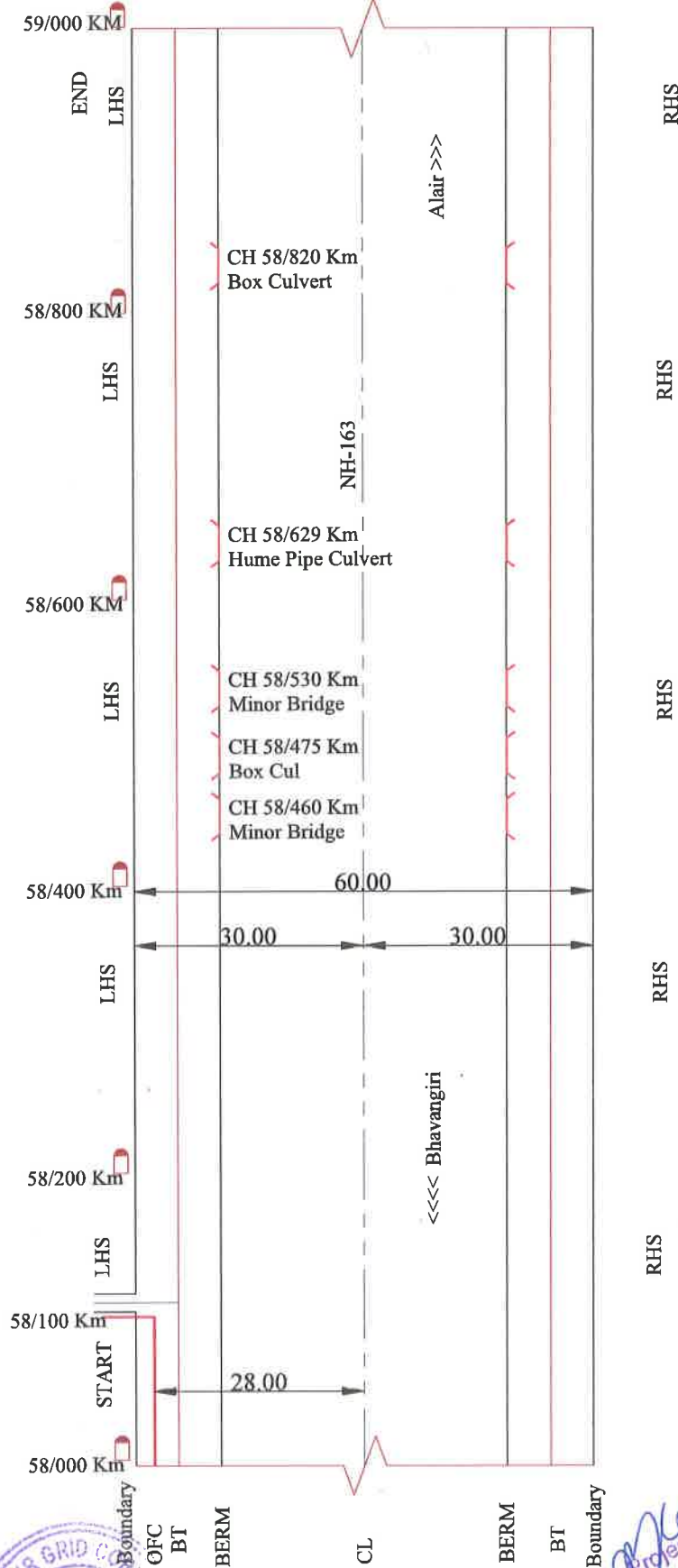
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Yadagirigutta Mandal

NH- 163 - 58/000 km to 59/000 km



SECTION LENGTH=1000 M

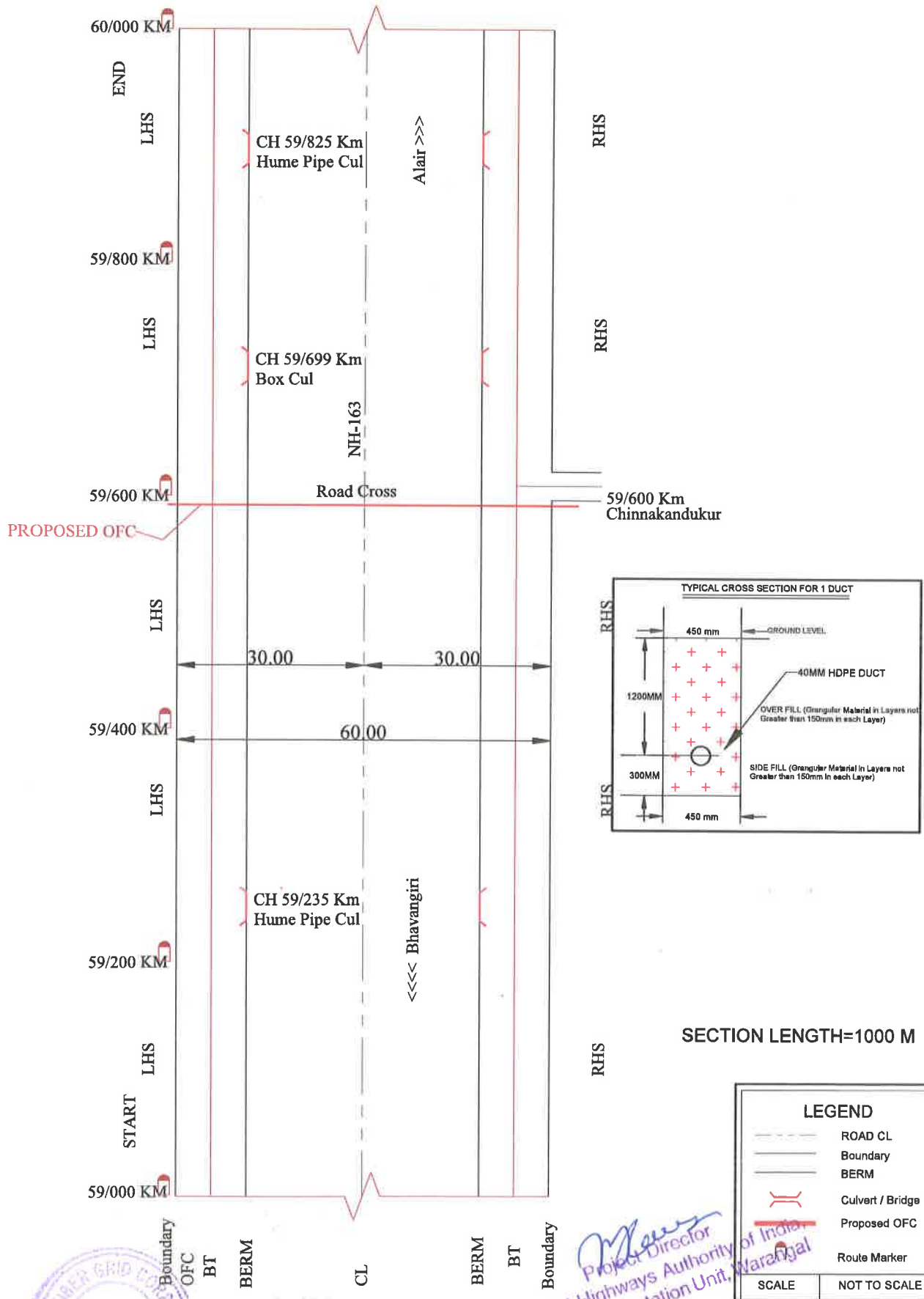
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Yadagirigutta Mandal

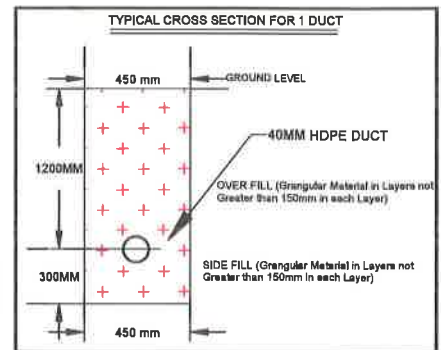
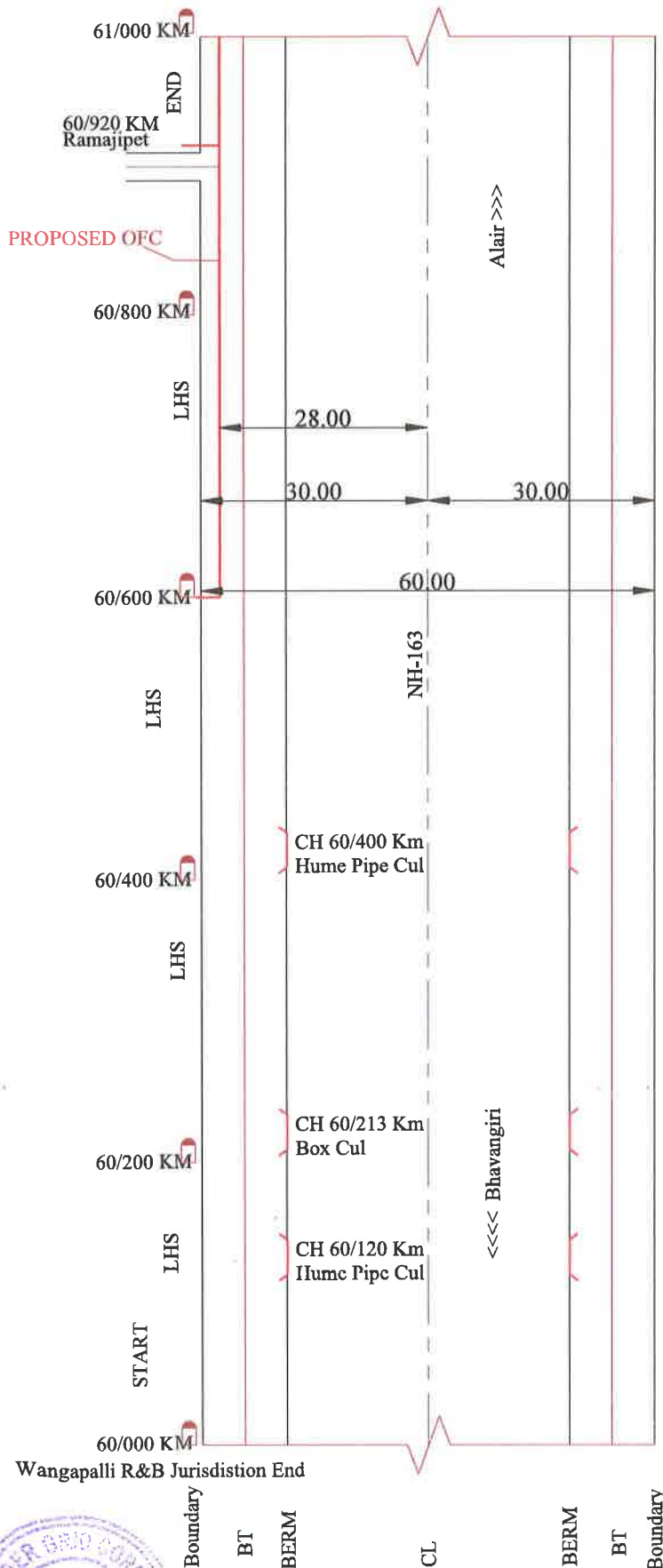
NH- 163 - 59/000 km to 60/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

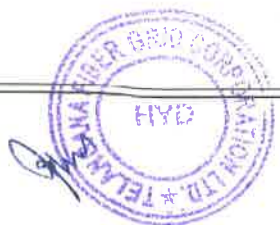
Yadagirigutta Mandal

NH- 163 - 60/000 km to 61/000 km



SECTION LENGTH=1000 M

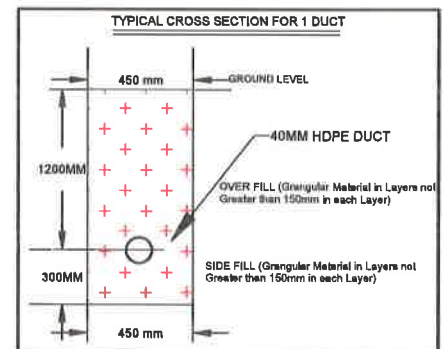
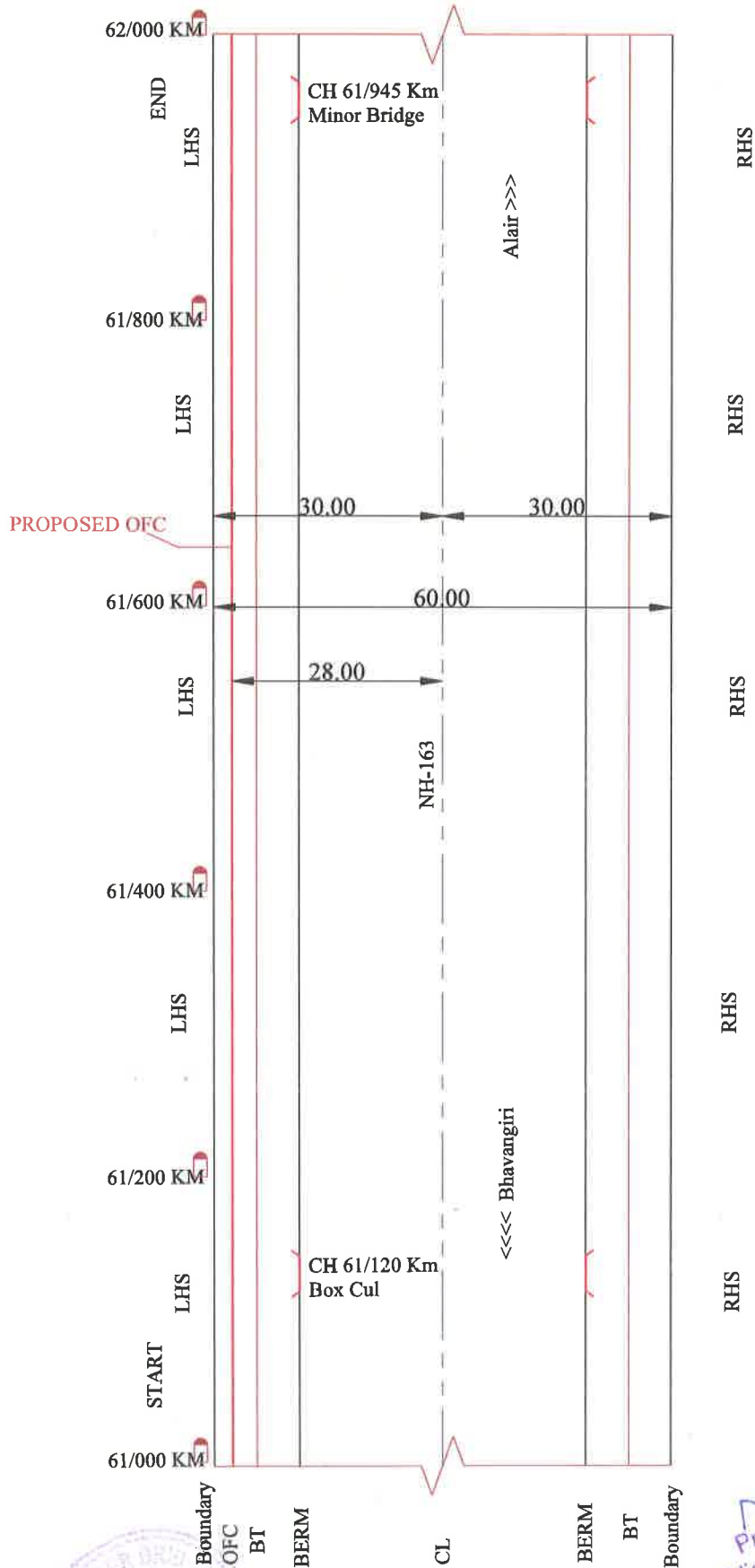
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Hyderabad

Yadagirigutta Mandal

NH- 163 - 61/000 km to 62/000 km



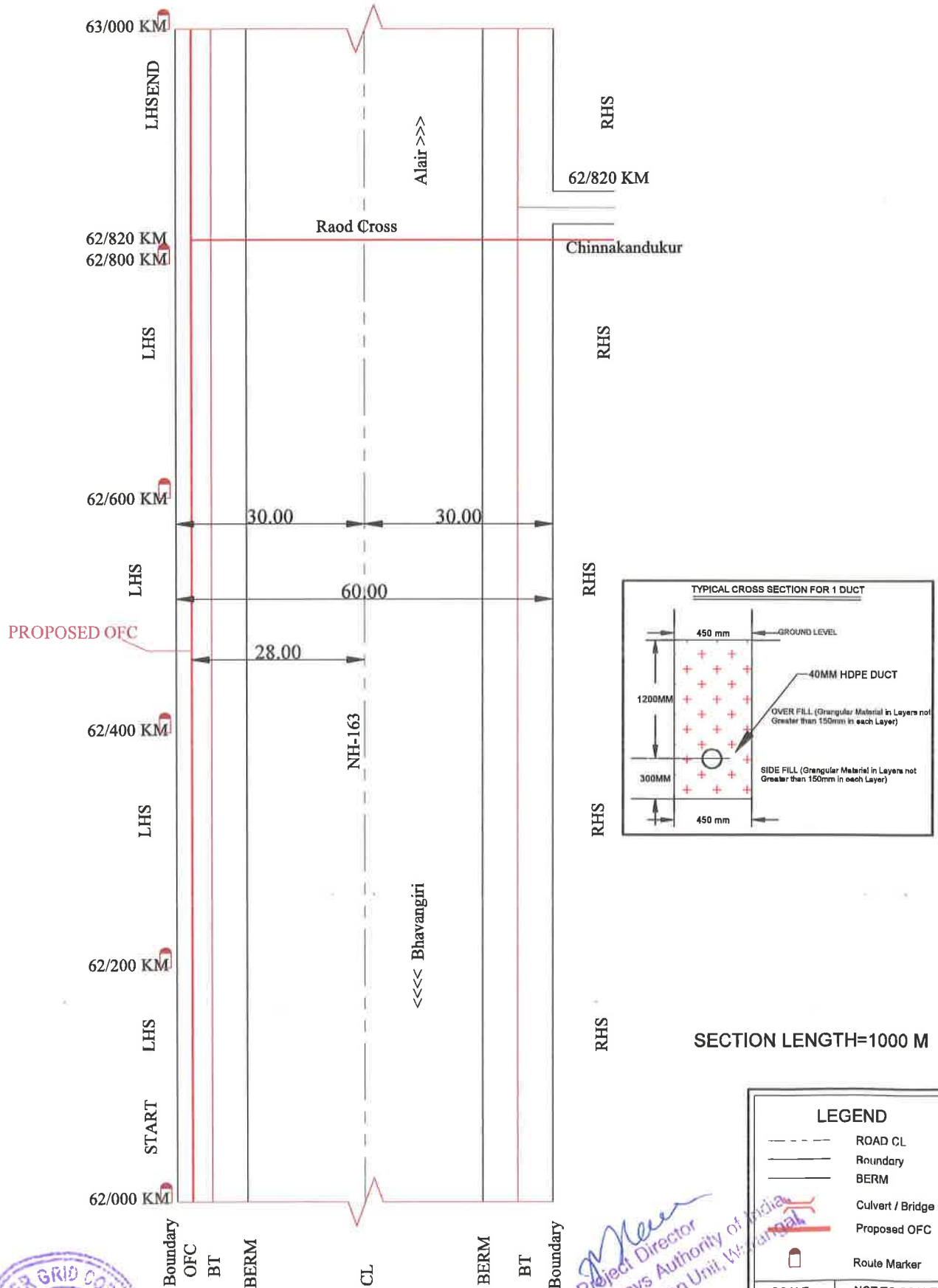
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LEGEND

---	ROAD CL
---	Boundary
---	BERM
---	Culvert / Bridge
---	Proposed OFC
---	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

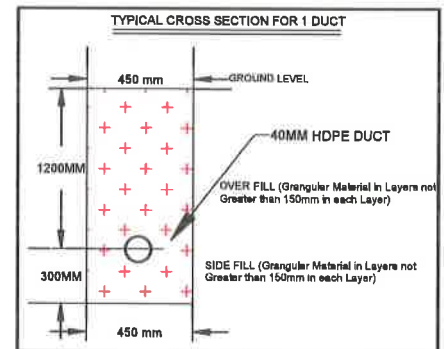
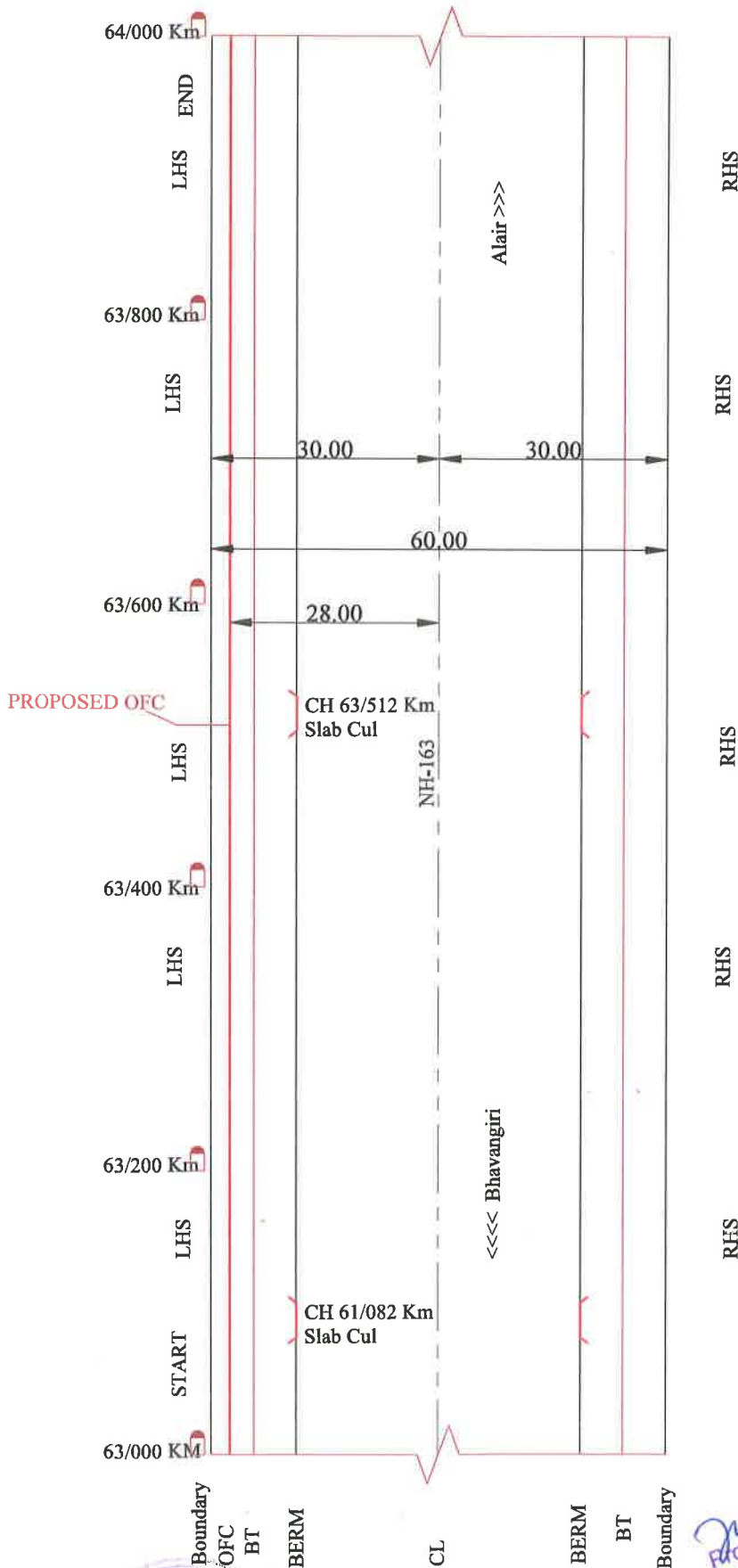
Yadagirigutta Mandal NH- 163 - 62/000 km to 63/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Yadagirigutta Mandal

NH- 163 - 63/000 km to 64/000 km



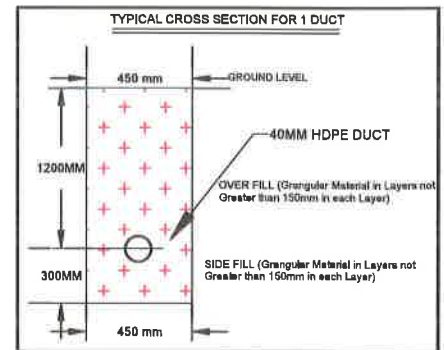
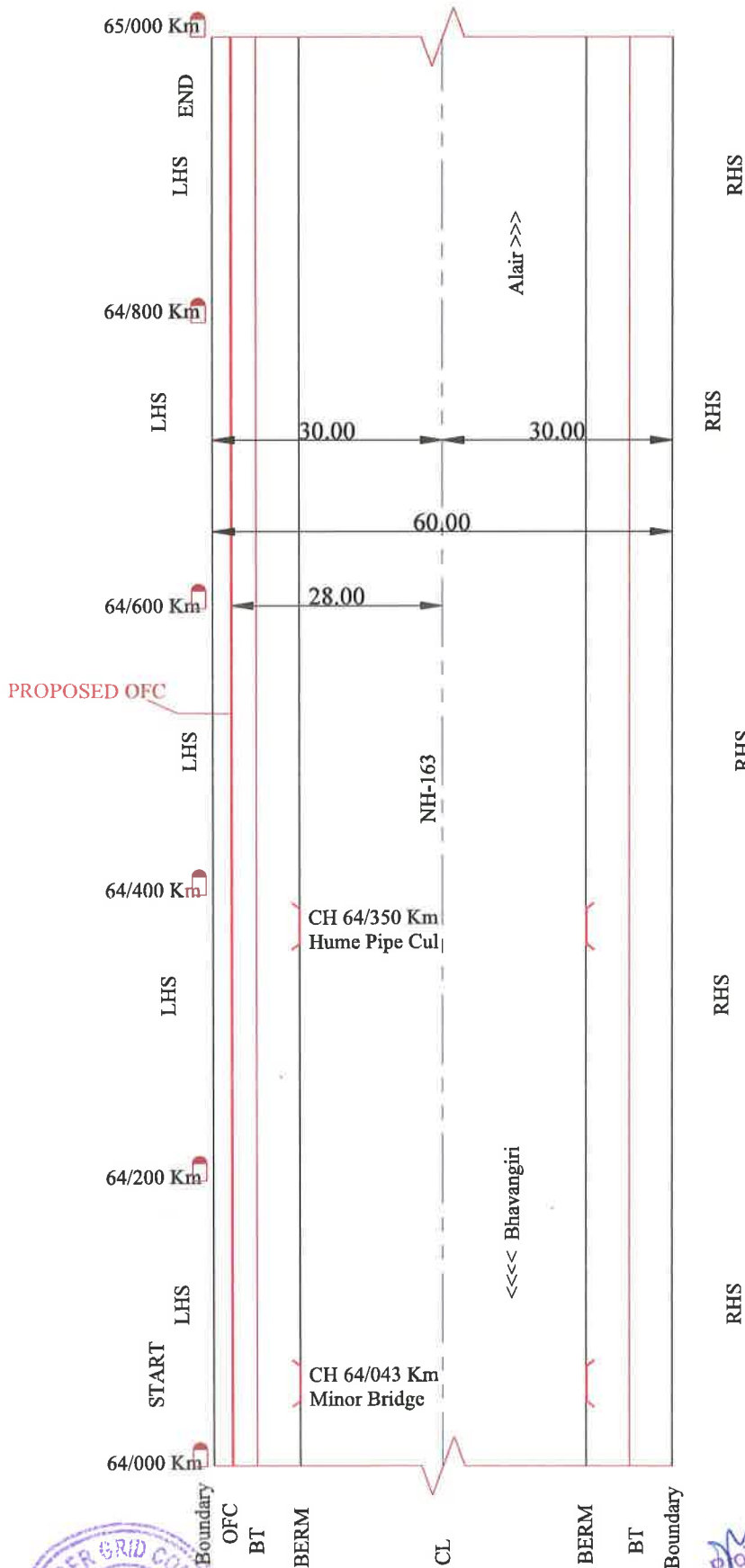
SECTION LENGTH=1000 M

LEGEND	
---	ROAD CL
---	Boundary
---	BERM
()	Culvert / Bridge
---	Proposed OFC
□	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Yadagirigutta Mandal

NH- 163 - 64/000 km to 65/000 km



SECTION LENGTH=1000 M

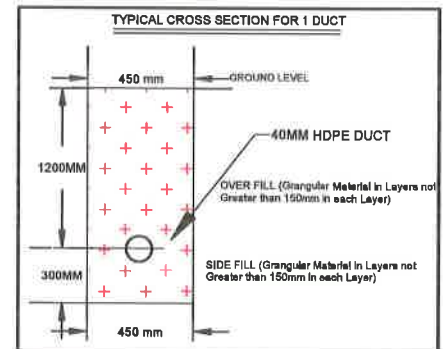
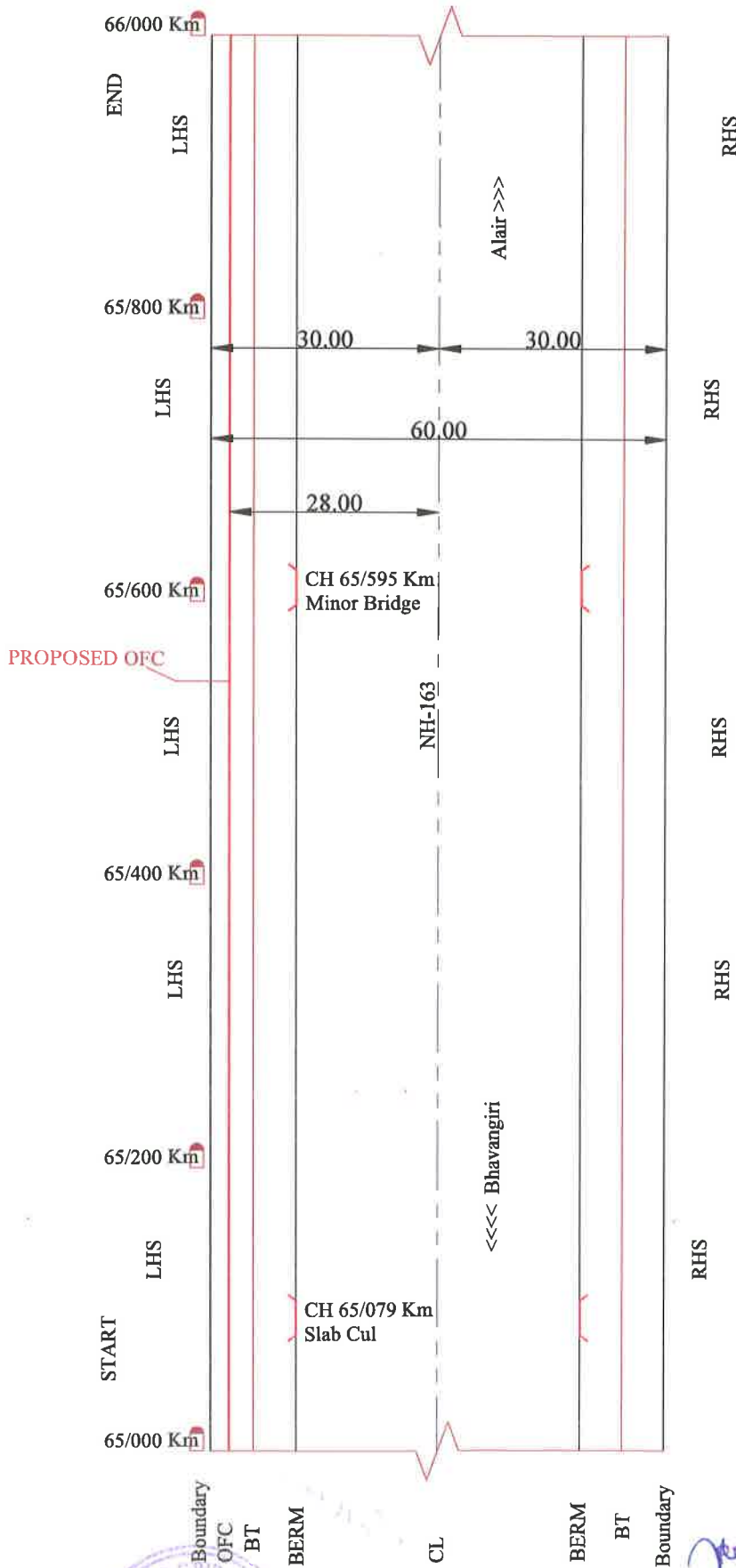
LEGEND	
---	ROAD CL
---	Boundary
---	BERM
()	Culvert / Bridge
---	Proposed OFC
□	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India
Project Implementation Unit, Warangal



Yadagirigutta Mandal

NH- 163 - 65/000 km to 66/000 km



SECTION LENGTH=1000 M

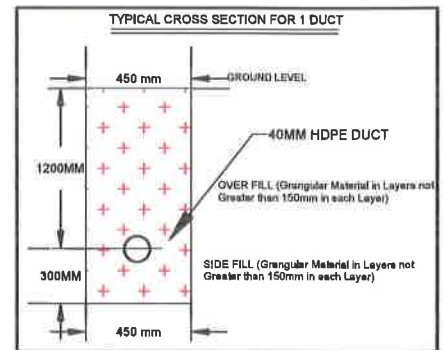
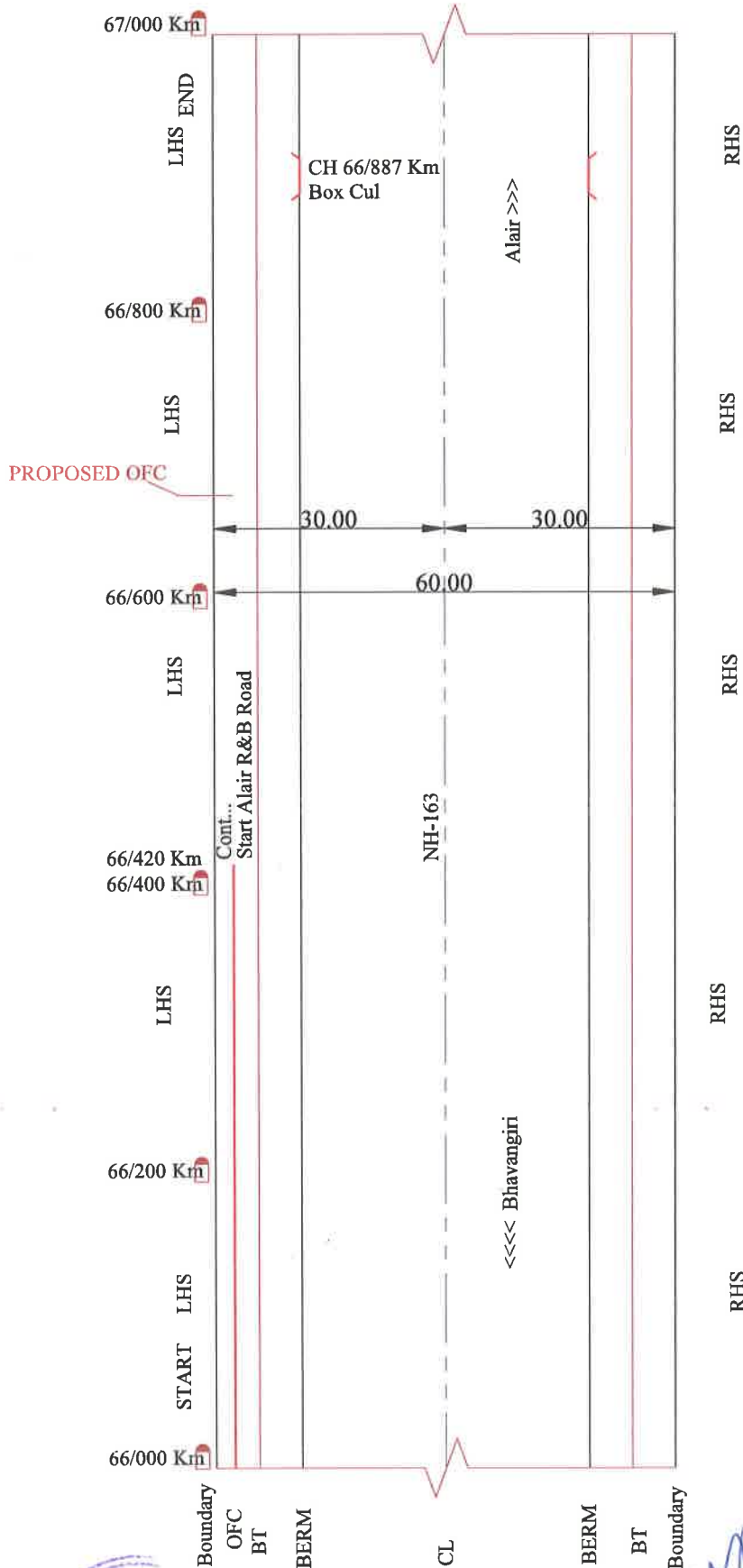
LEGEND	
---	ROAD CL
---	Boundary
---	BERM
()	Culvert / Bridge
---	Proposed OFC
●	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Yadagirigutta Mandal

NH- 163 - 66/000 km to 67/000 km



SECTION LENGTH=1000 M

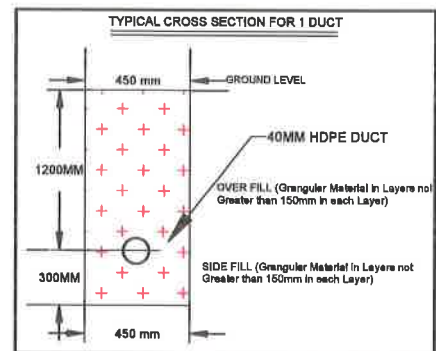
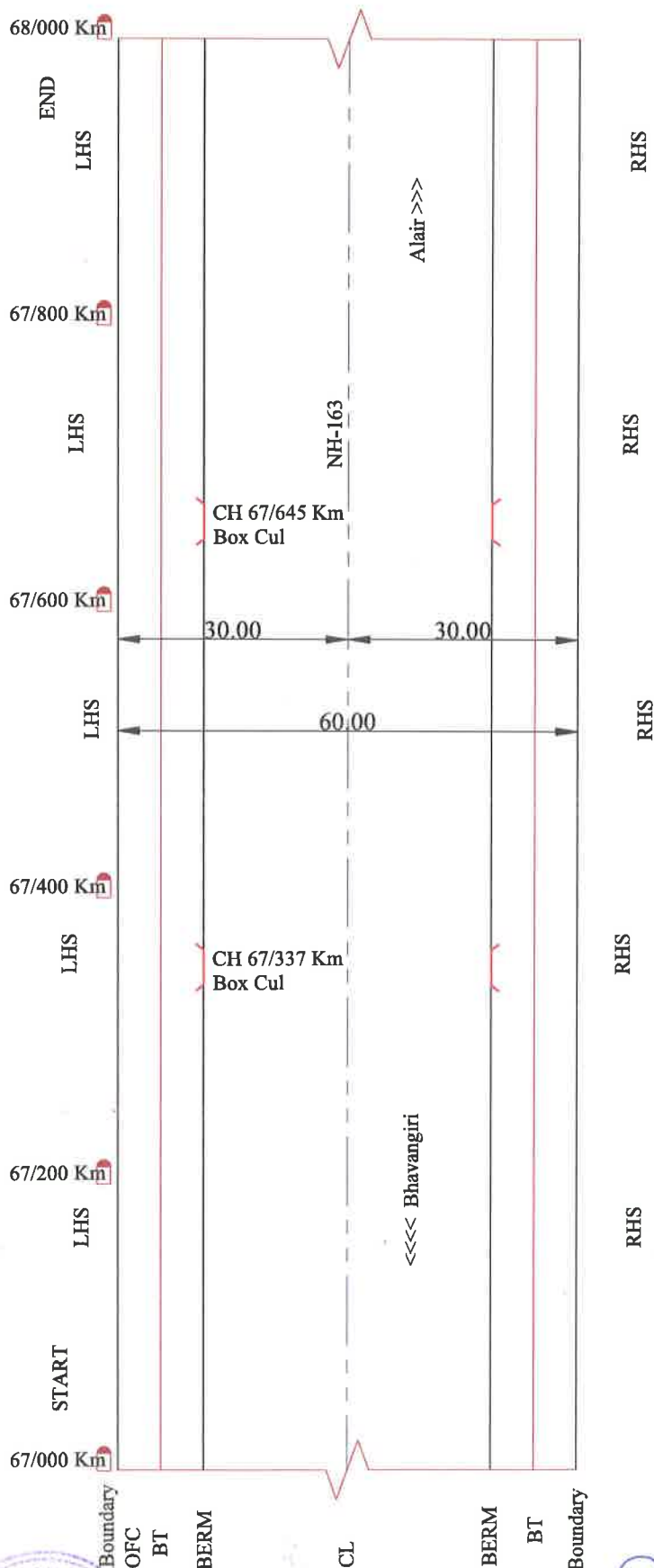
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Alair Mandal

NH- 163 - 67/000 km to 68/000 km



SECTION LENGTH=1000 M

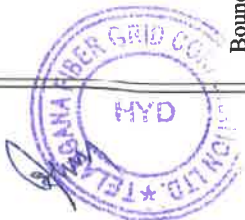
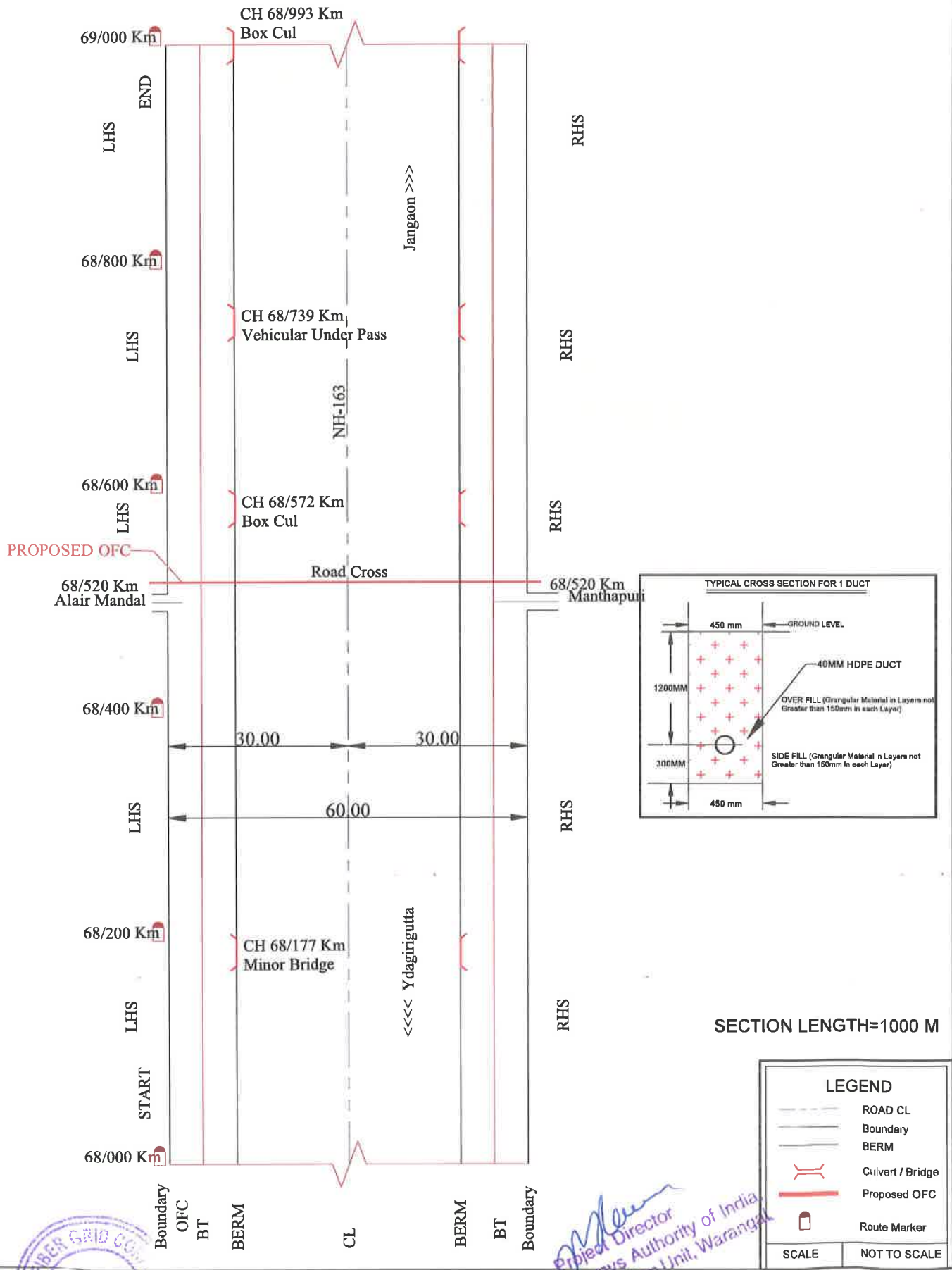
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
	SCALE
	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Mandal

Alair Mandal

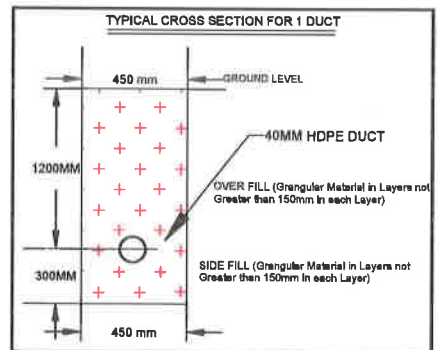
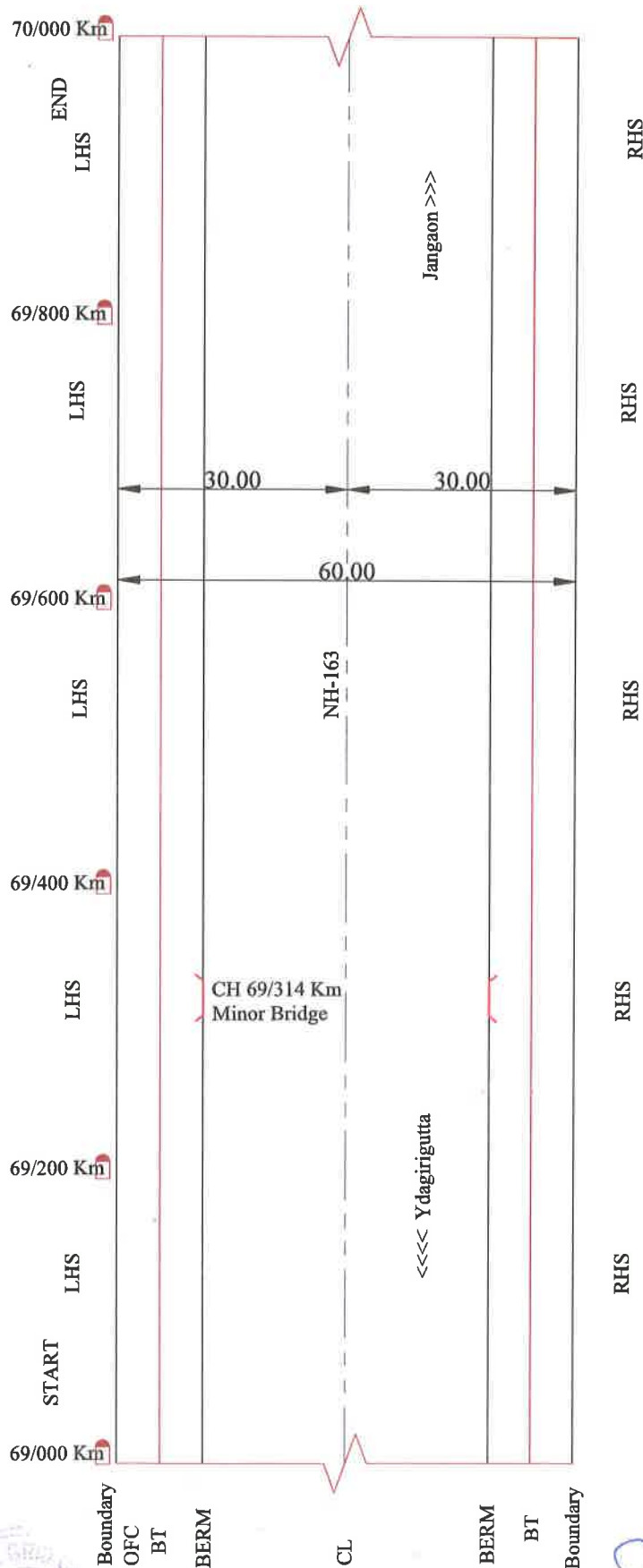
NH- 163 - 68/000 km to 69/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Alair Mandal

NH- 163 - 69/000 km to 70/000 km



SECTION LENGTH=1000 M

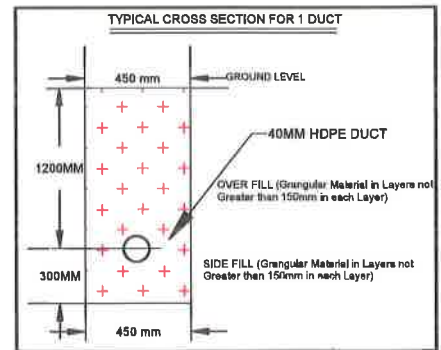
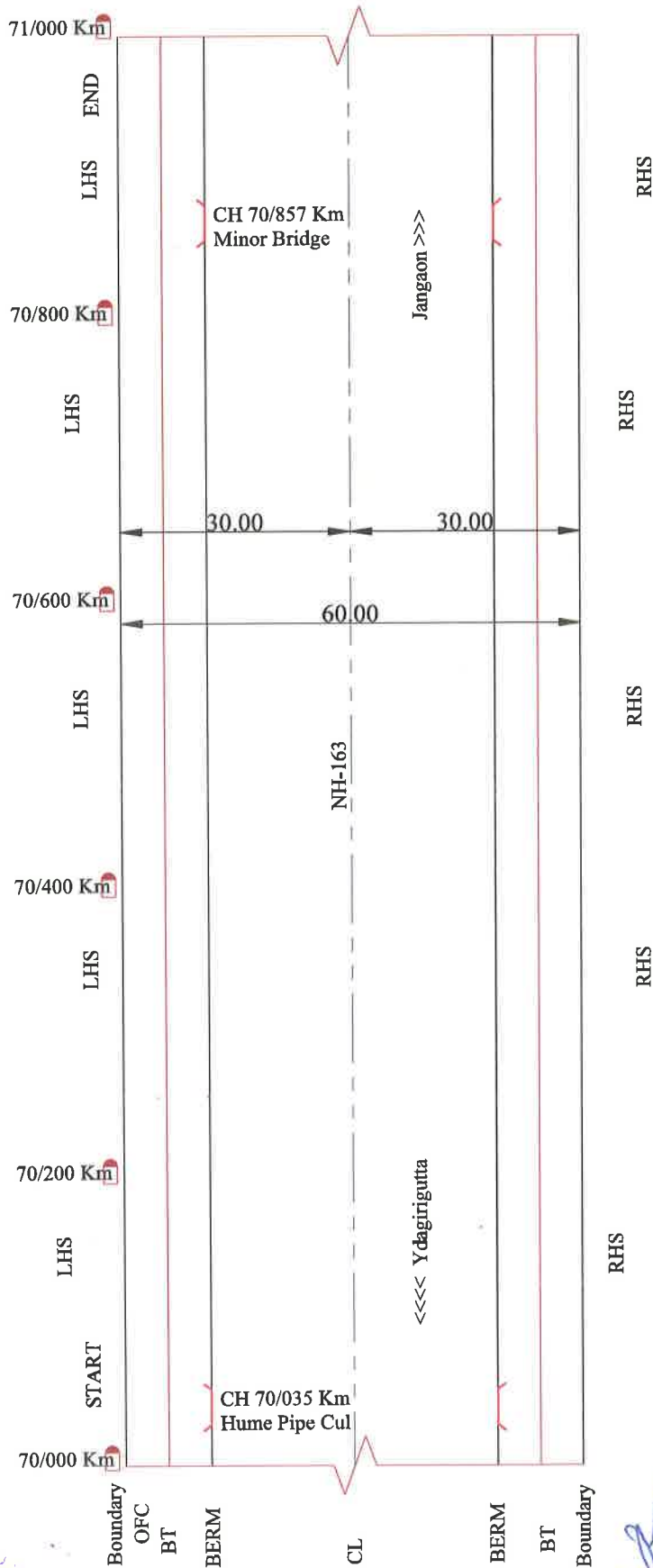
LEGEND

	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

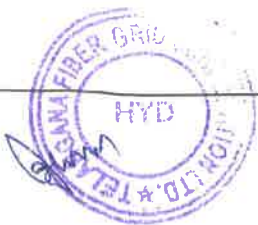
Alair Mandal

NH- 163 - 70/000 km to 71/000 km



SECTION LENGTH=1000 M

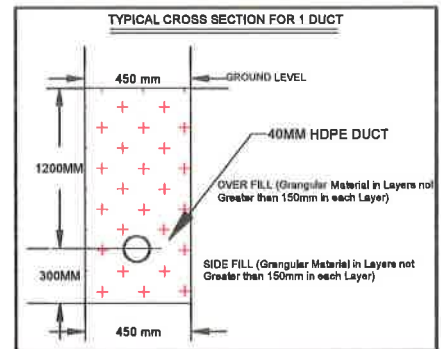
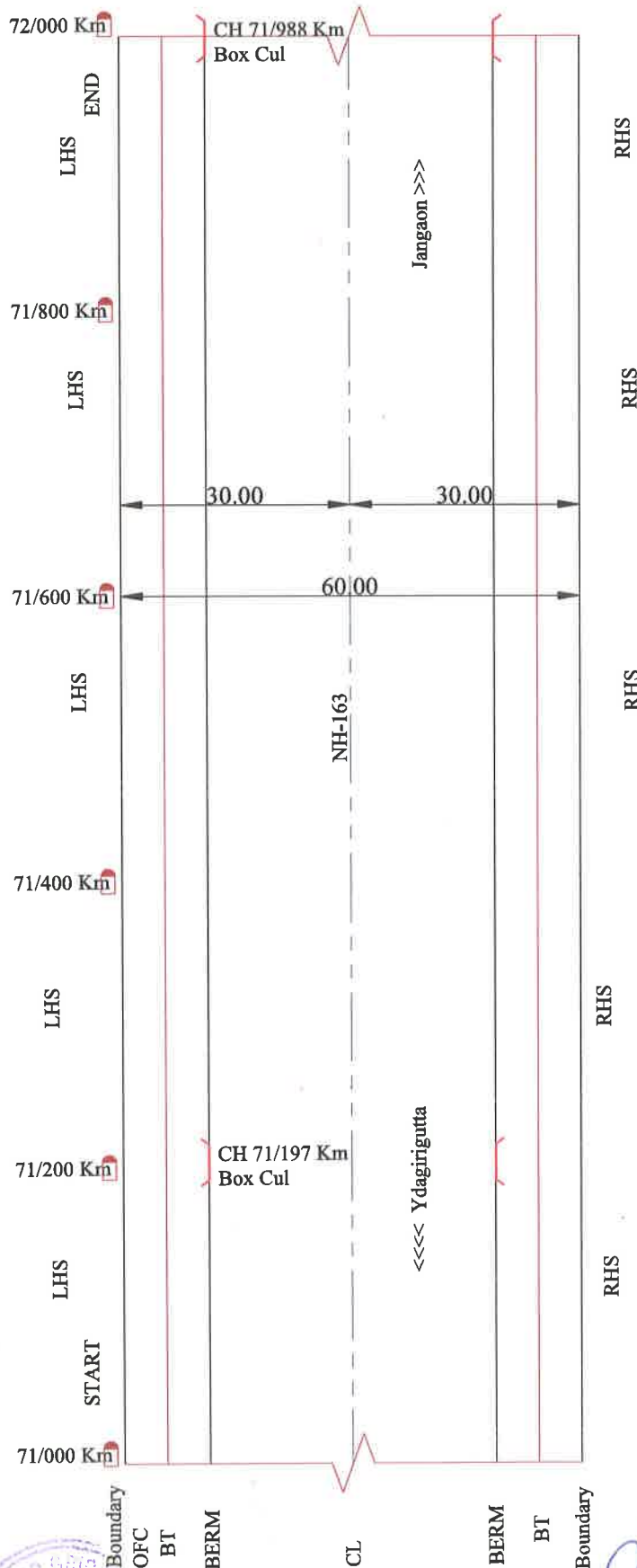
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Alair Mandal

NH- 163 - 71/000 km to 72/000 km



SECTION LENGTH=1000 M

LEGEND

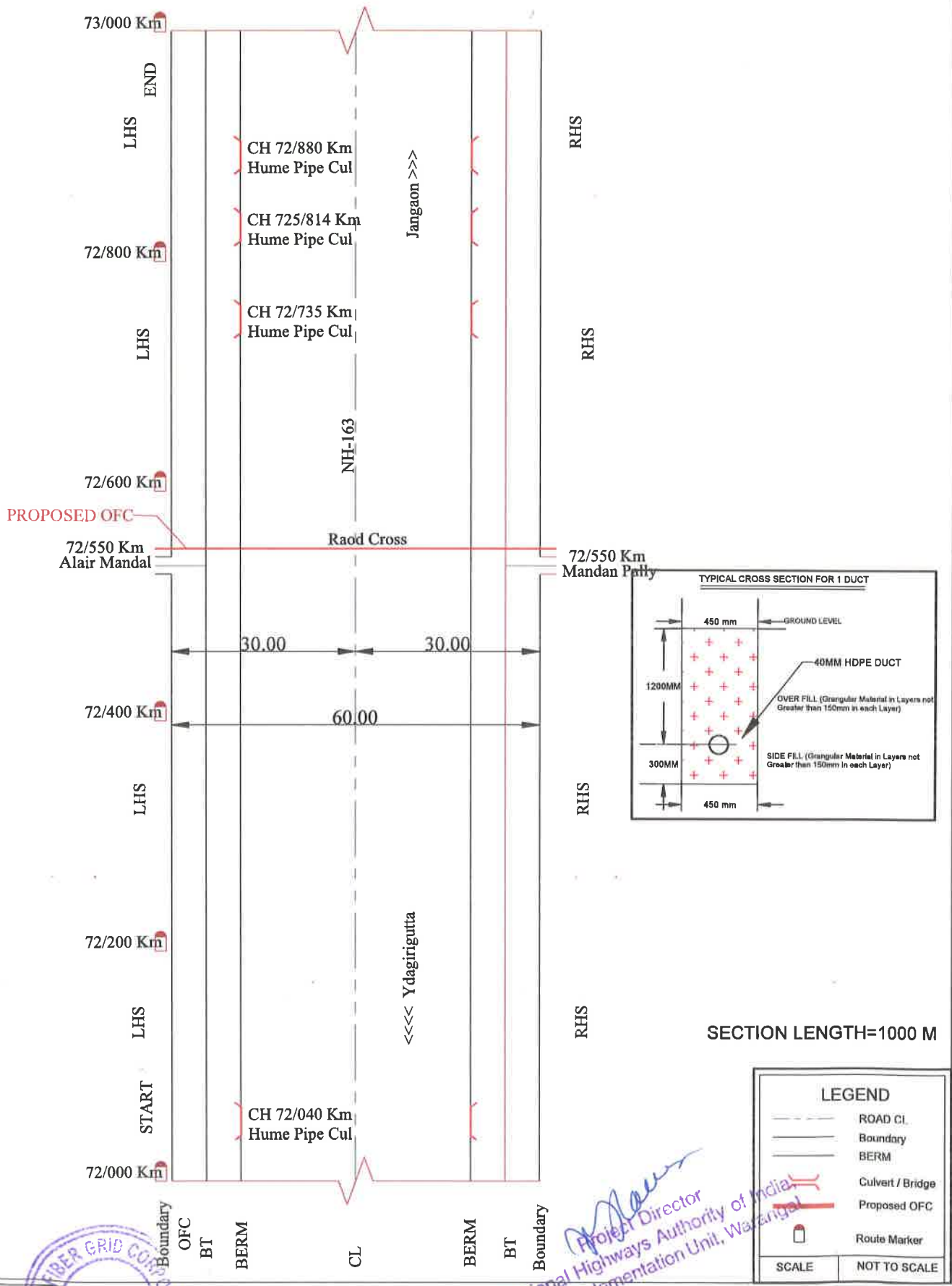
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
	SCALE
	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Alair Mandal

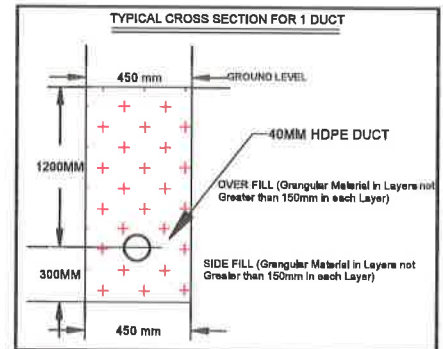
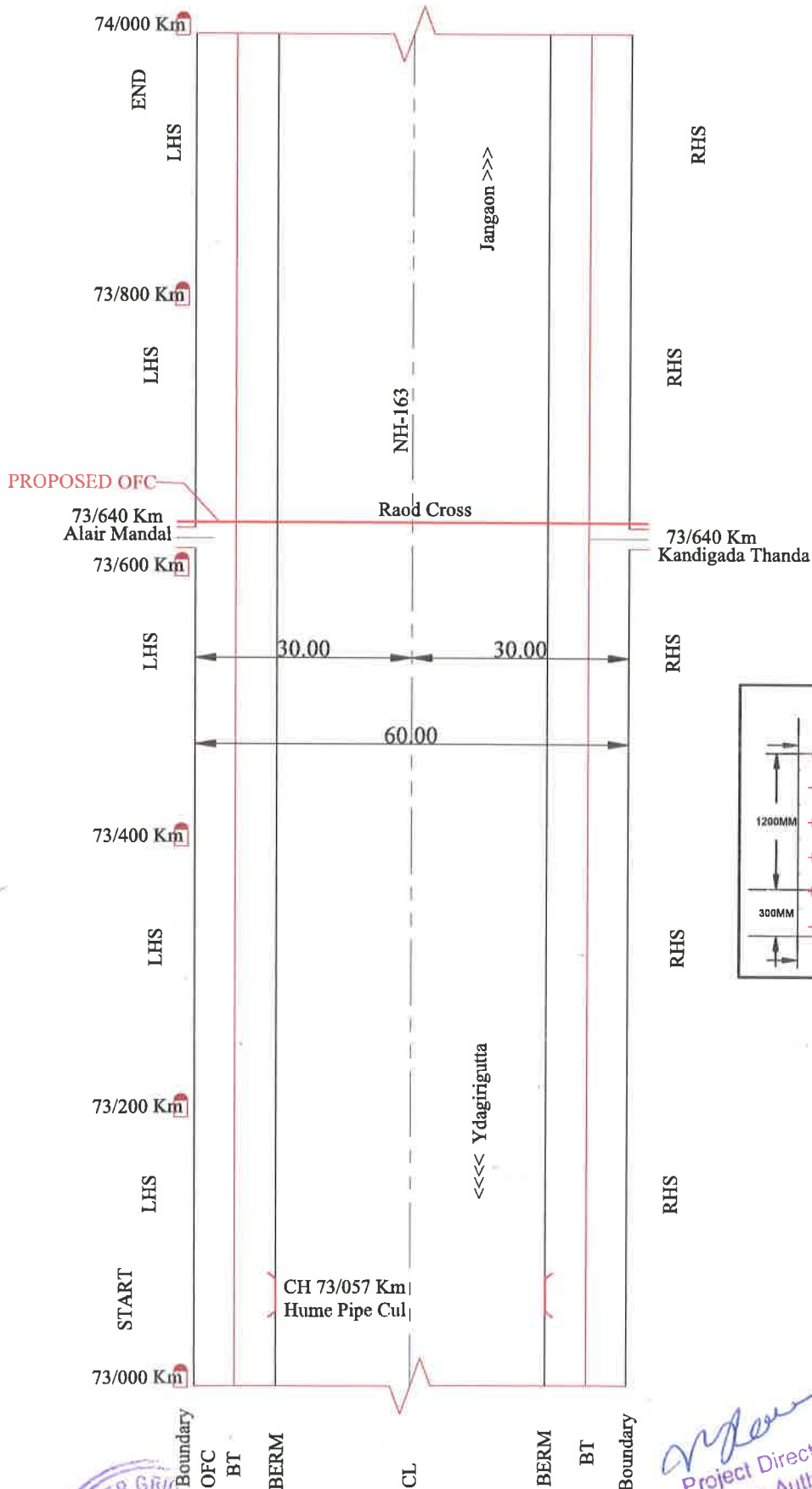
NH- 163 - 72/000 km to 73/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Alair Mandal

NH- 163 - 73/000 km to 74/000 km



SECTION LENGTH=1000 M

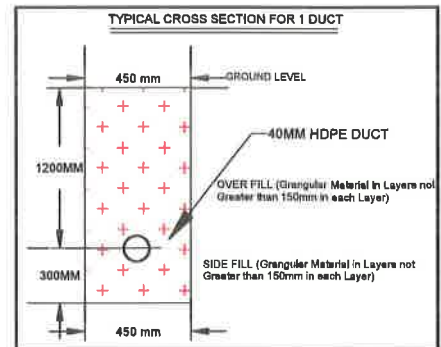
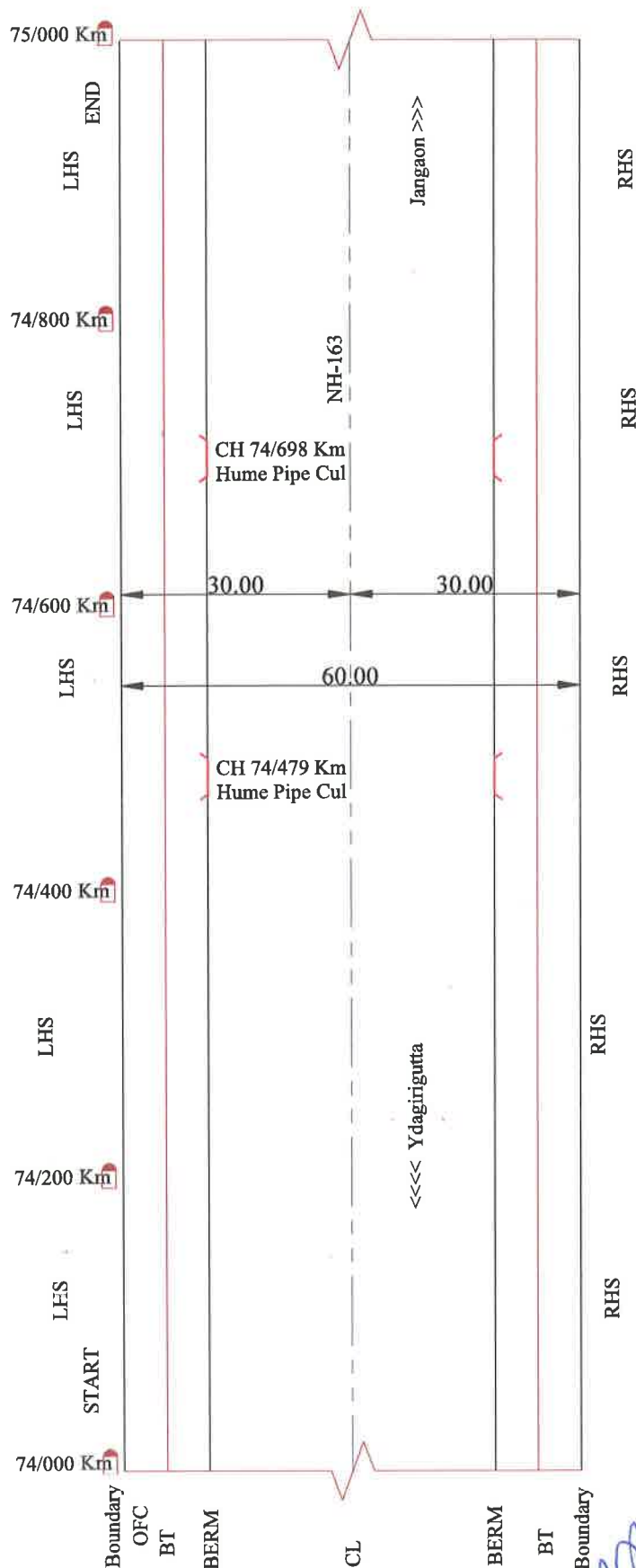
LEGEND

---	ROAD CL
---	Boundary
---	BERM
()	Culvert / Bridge
---	Proposed OFC
●	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Alair Mandal

NH- 163 - 74/000 km to 75/000 km



SECTION LENGTH=1000 M

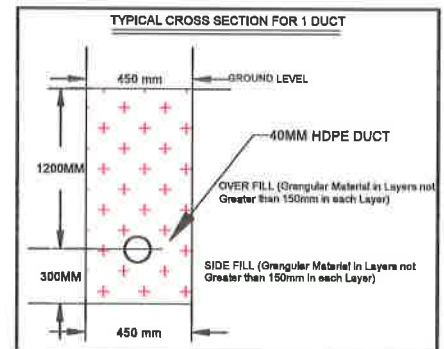
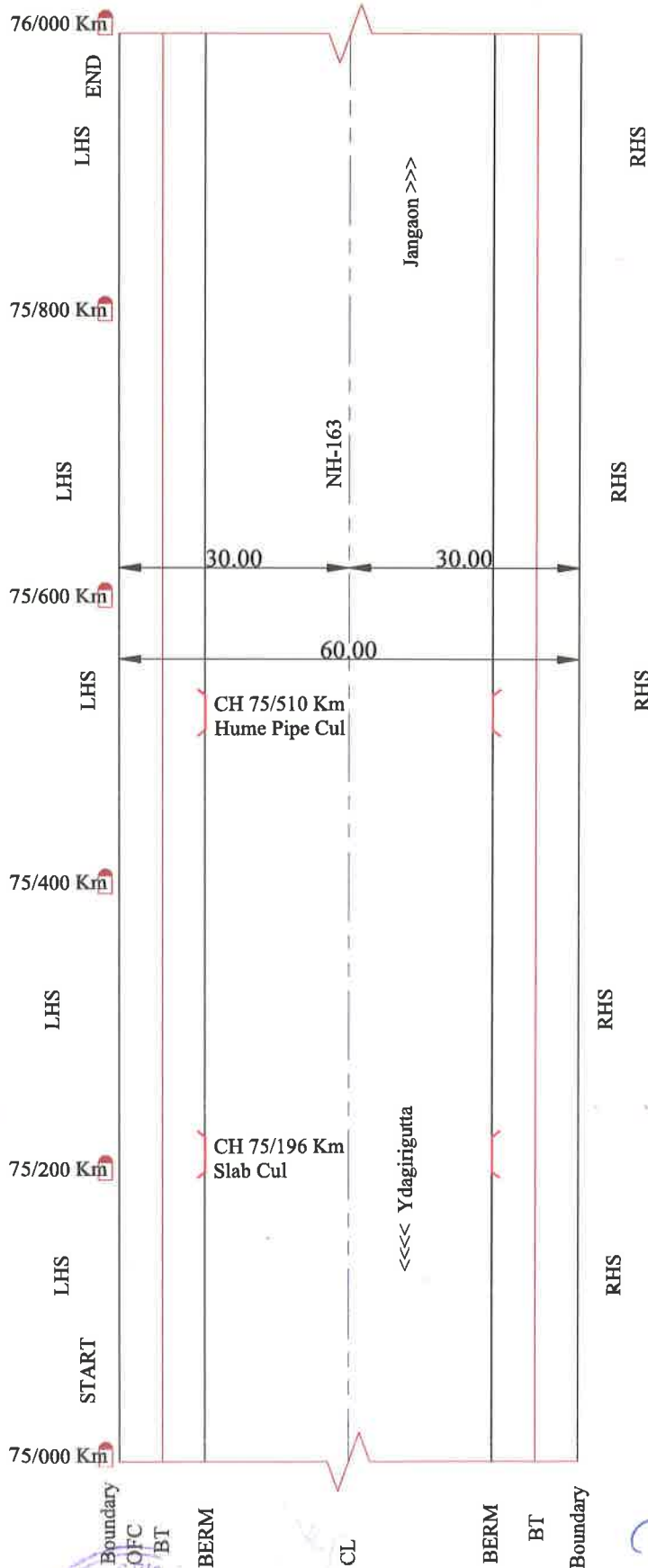
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Alair Mandal

NH- 163 - 75/000 km to 76/000 km



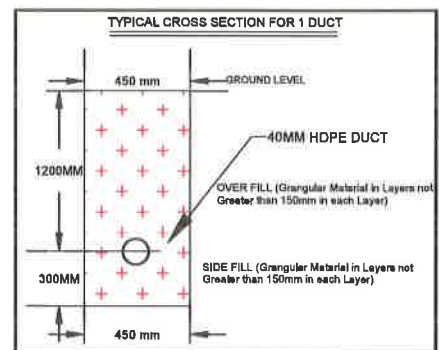
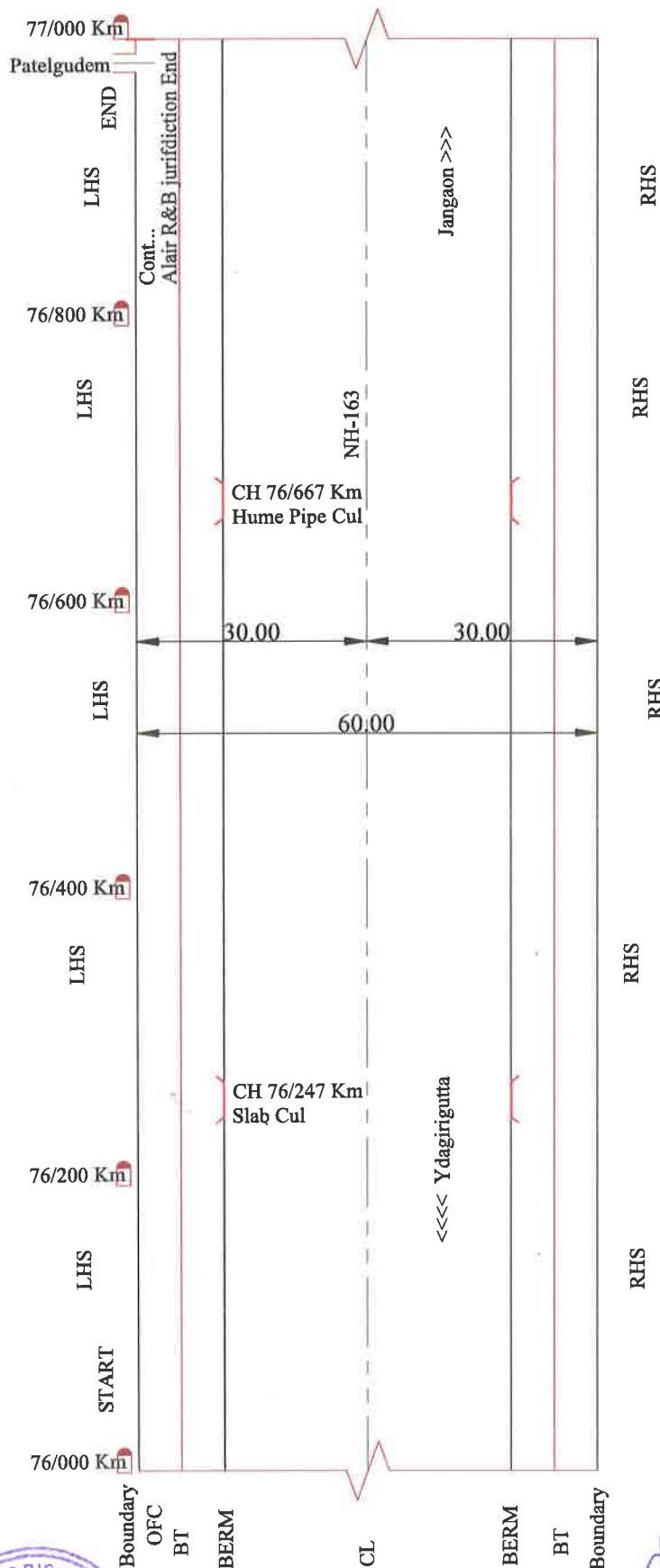
SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Alair Mandal

NH- 163 - 76/000 km to 77/000 km



SECTION LENGTH=1000 M

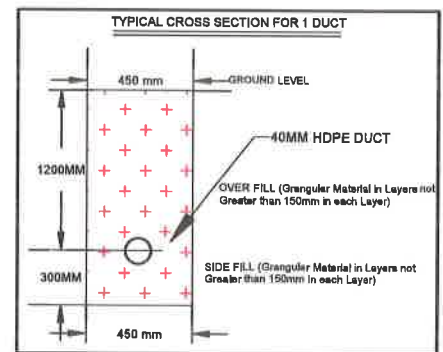
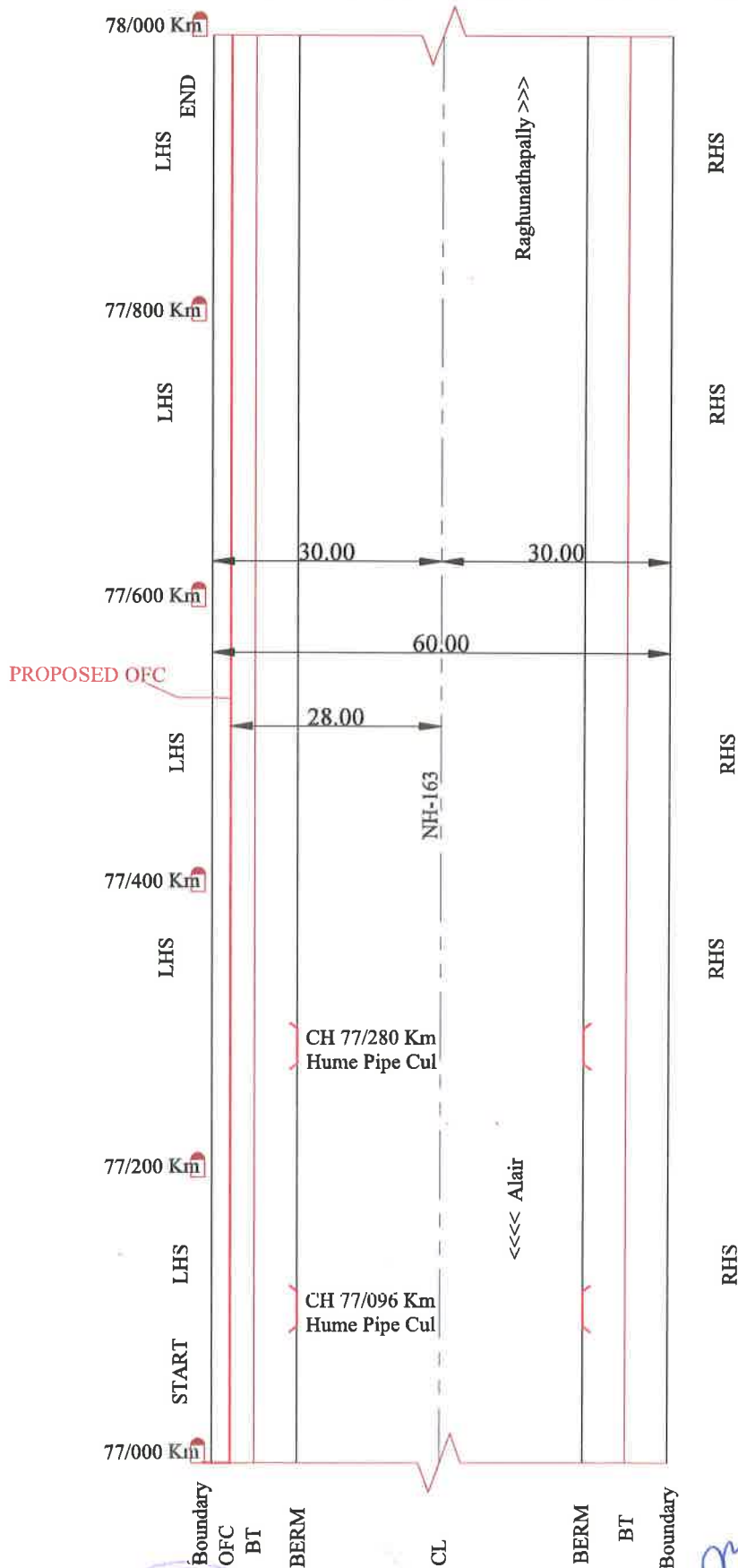
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 77/000 km to 78/000 km



SECTION LENGTH=1000 M

LEGEND

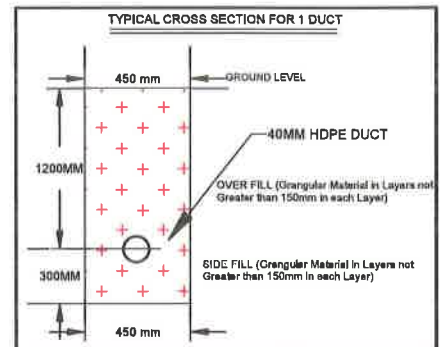
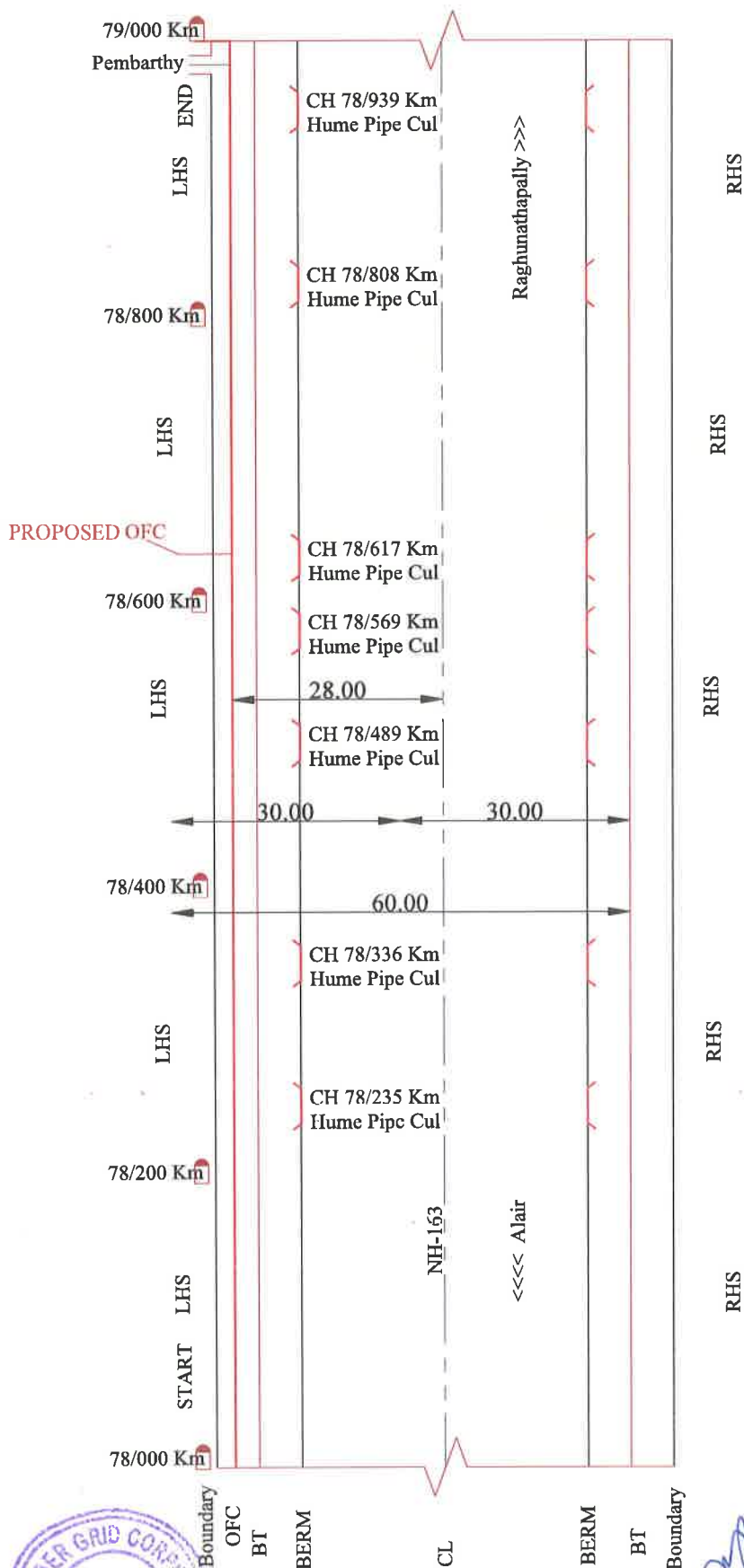
---	ROAD CL
---	Boundary
---	BERM
()	Culvert / Bridge
---	Proposed OFC
●	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 78/000 km to 79/000 km



SECTION LENGTH=1000 M

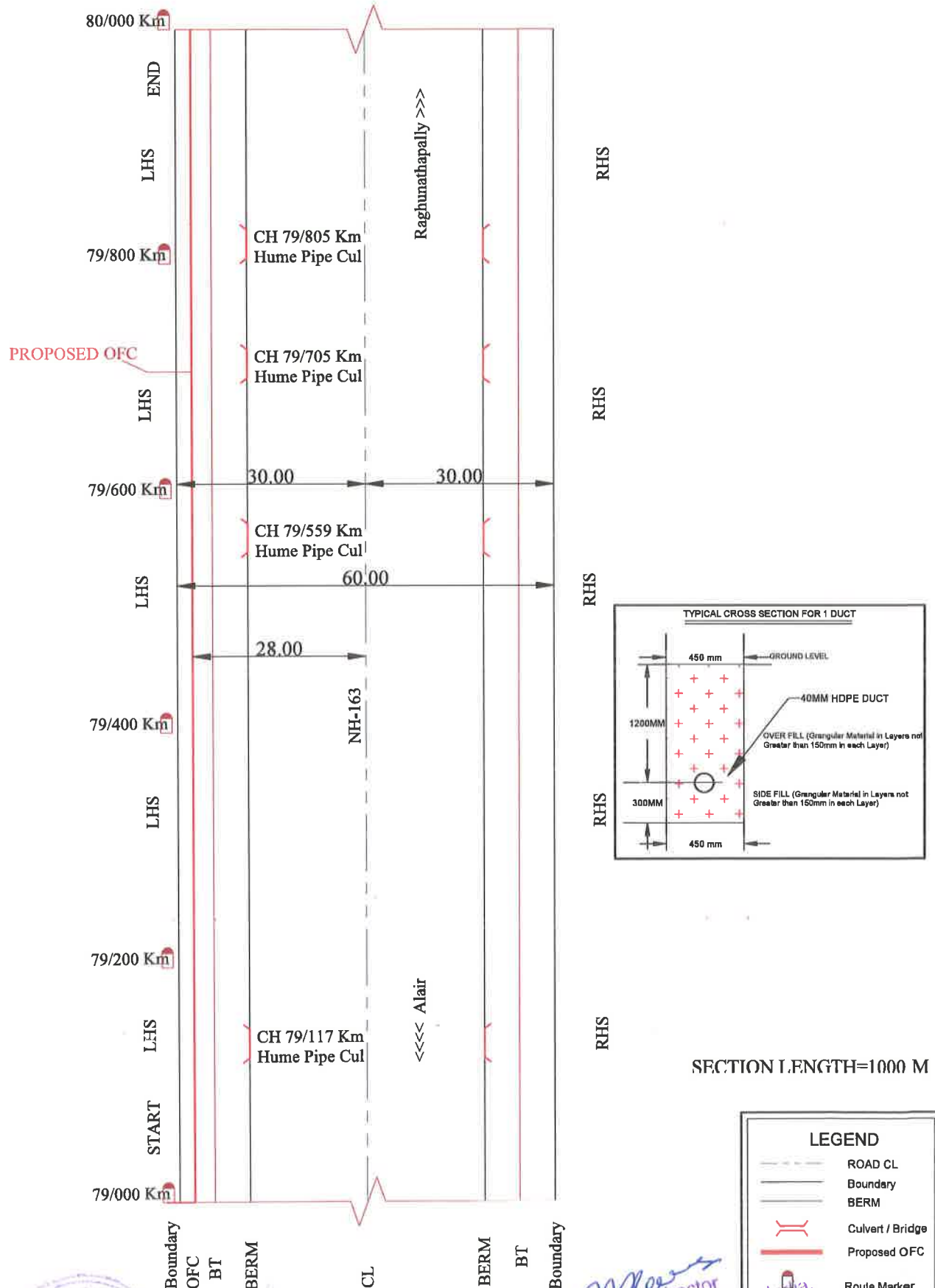
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Jangaon Mandal

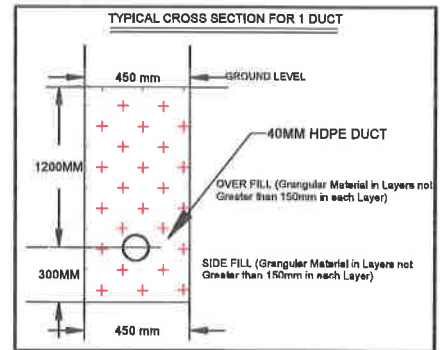
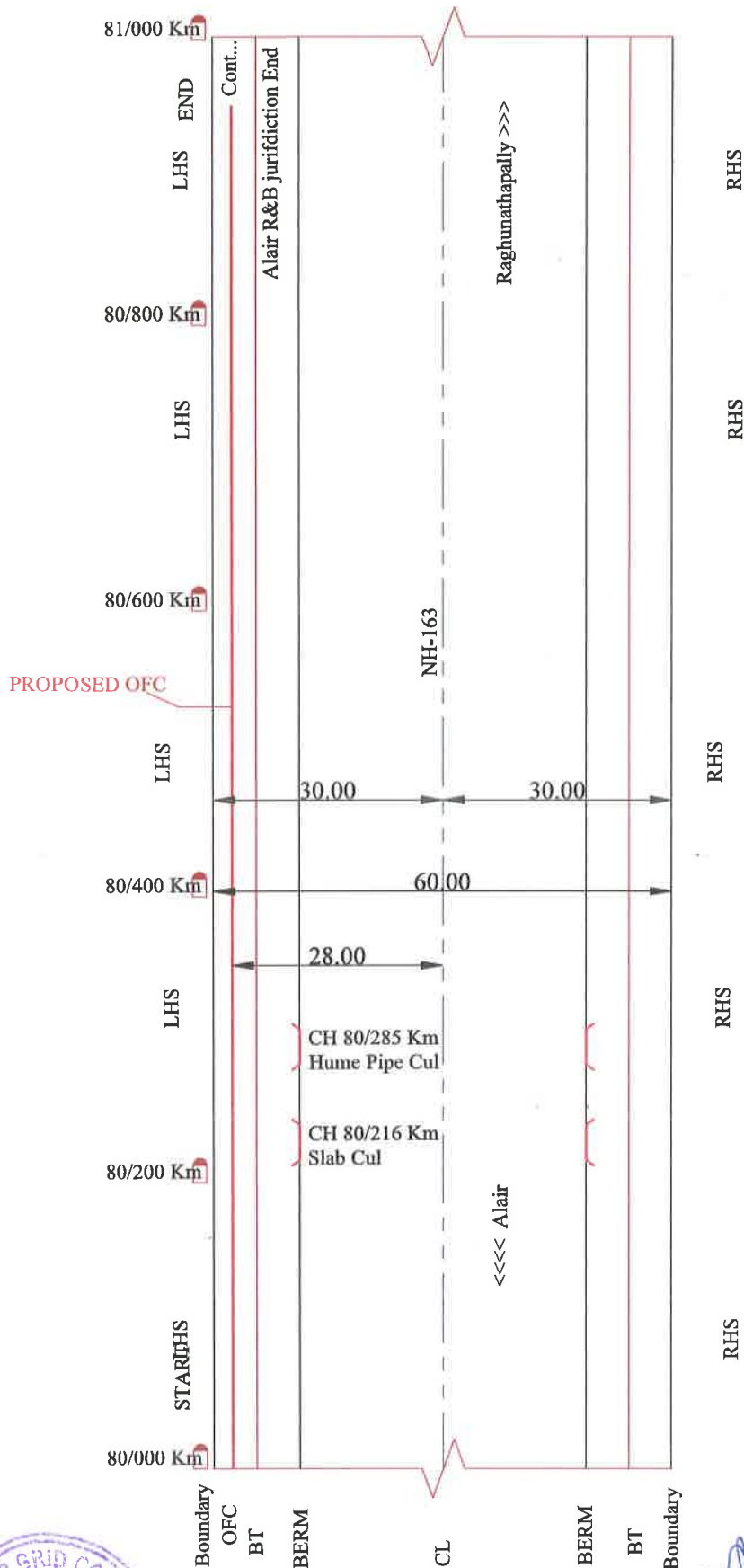
NH- 163 - 79/000 km to 80/000 km



Project Director
 National Highways Authority of India,
 Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 80/000 to 81/000 km



SECTION LENGTH=1000 M

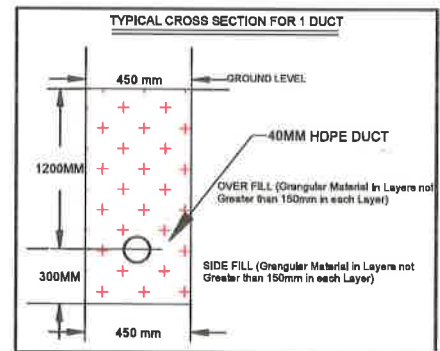
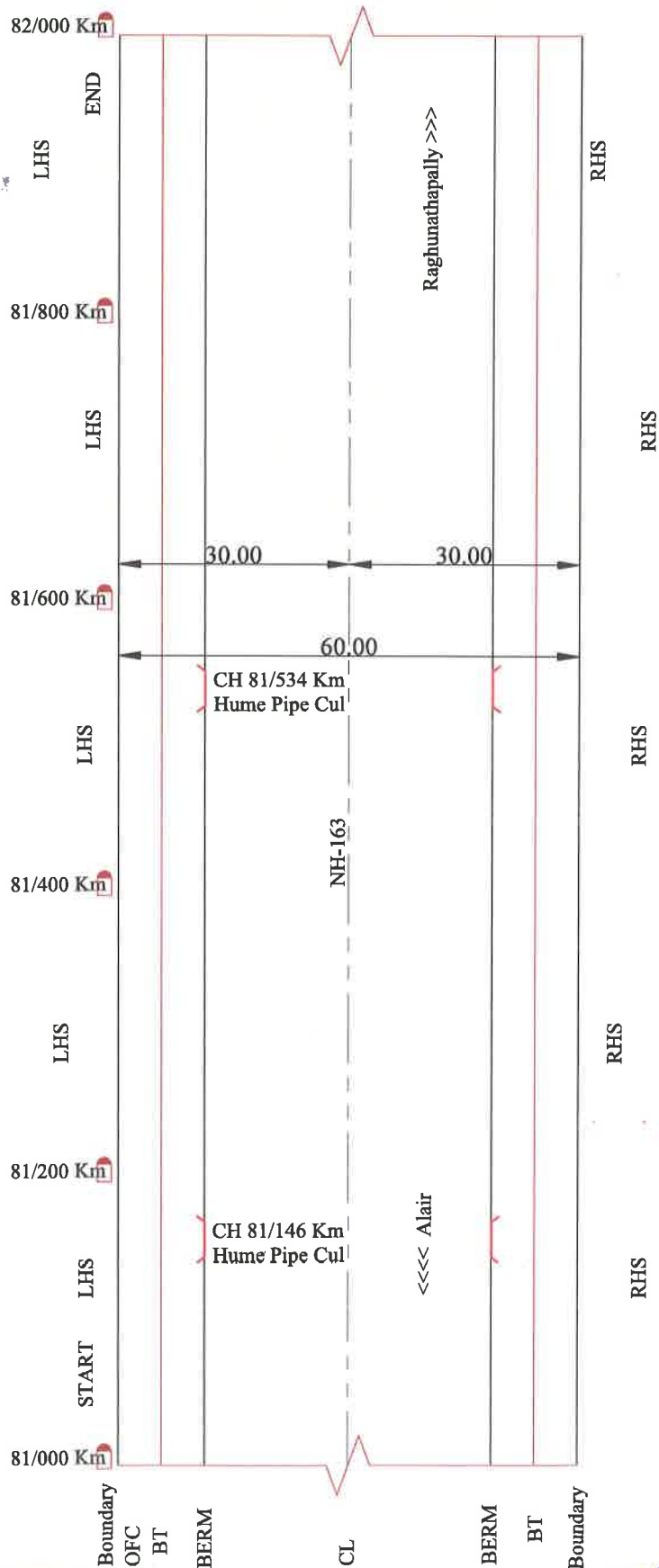
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
 National Highways Authority of India
 Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 81/000 km to 82/000 km



SECTION LENGTH=1000 M

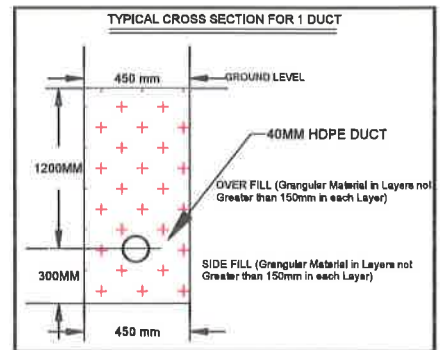
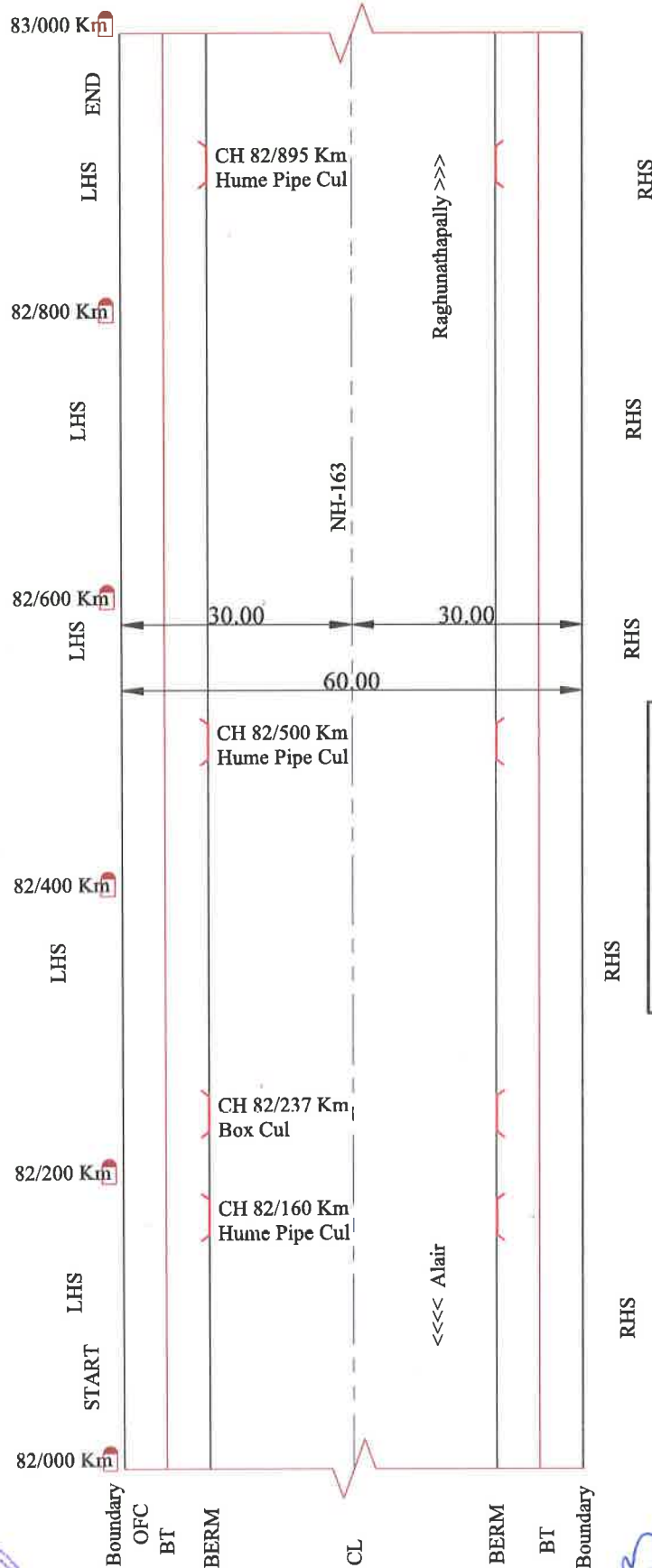
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
 National Highways Authority of India
 Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 82/000 to 83/000 km



SECTION LENGTH=1000 M

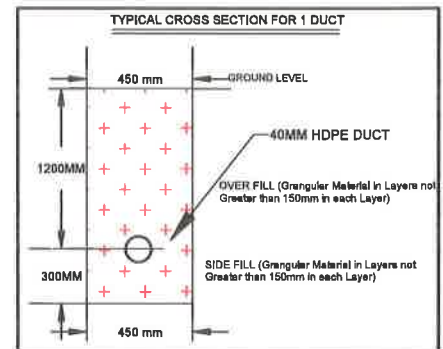
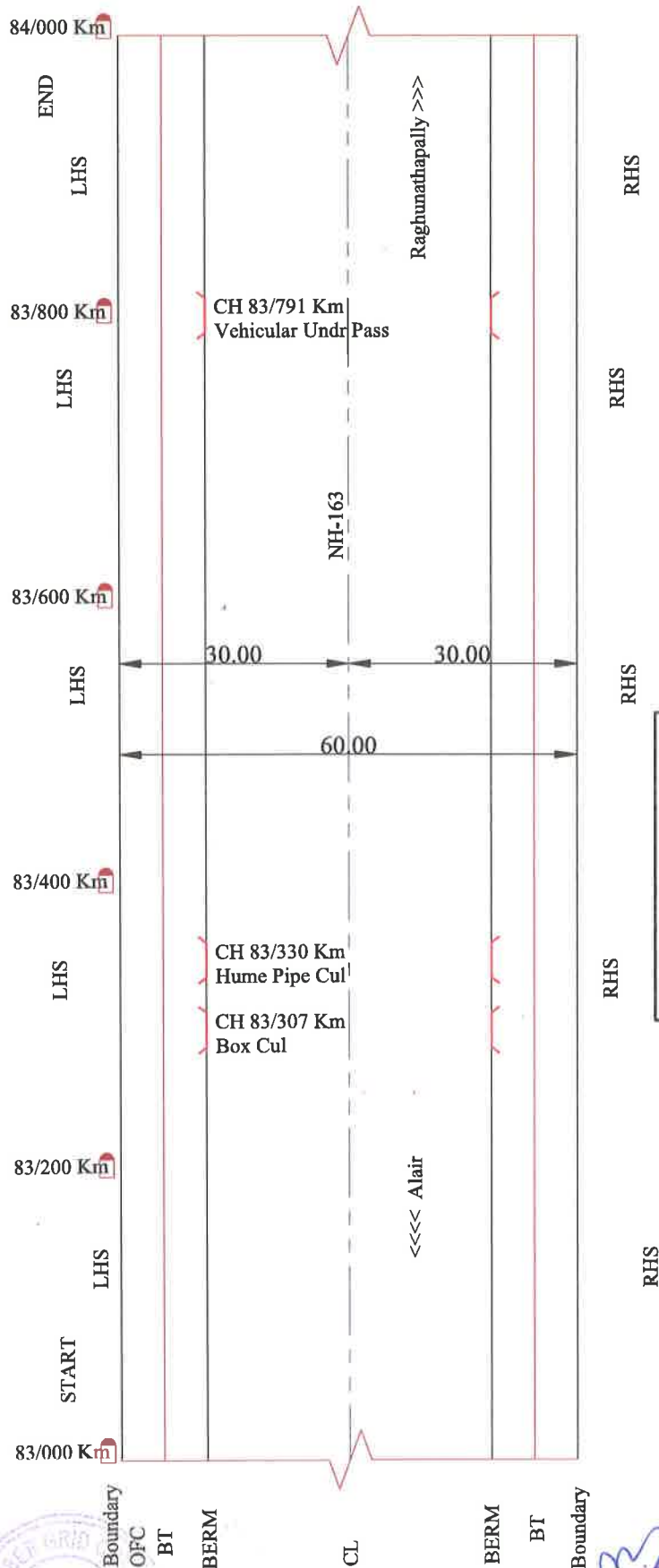
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India
Project Implementation Unit, Warangal



Jangaon Mandal

NH- 163 - 83/000 km to 84/000 km



SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

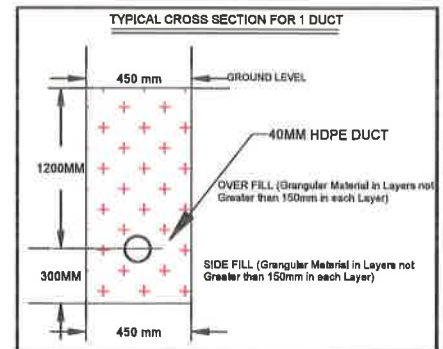
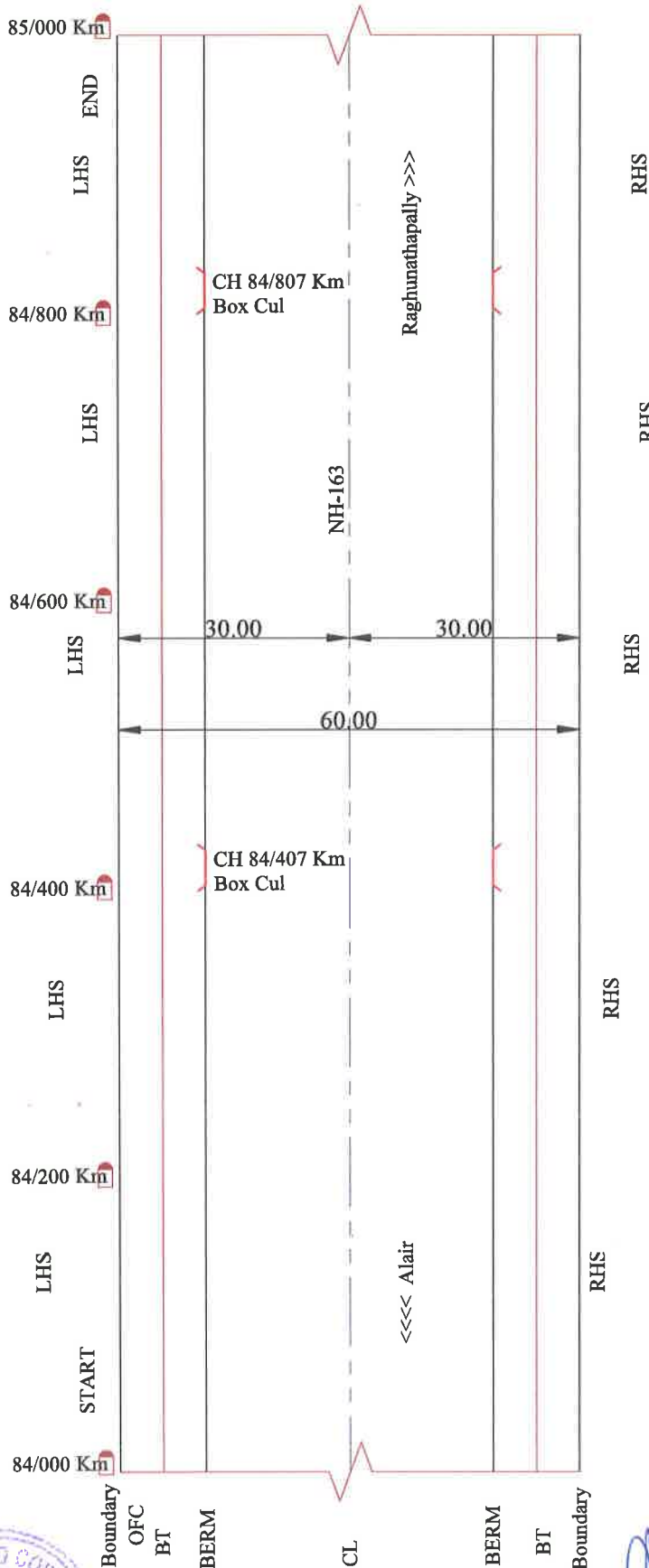
Signature



Signature
Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 84/000 to 85/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

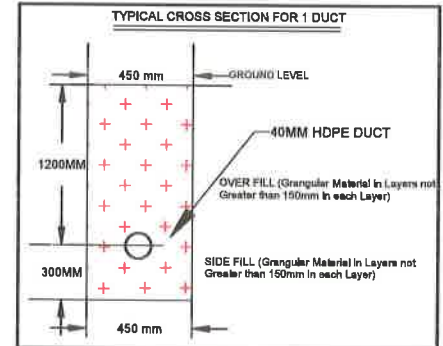
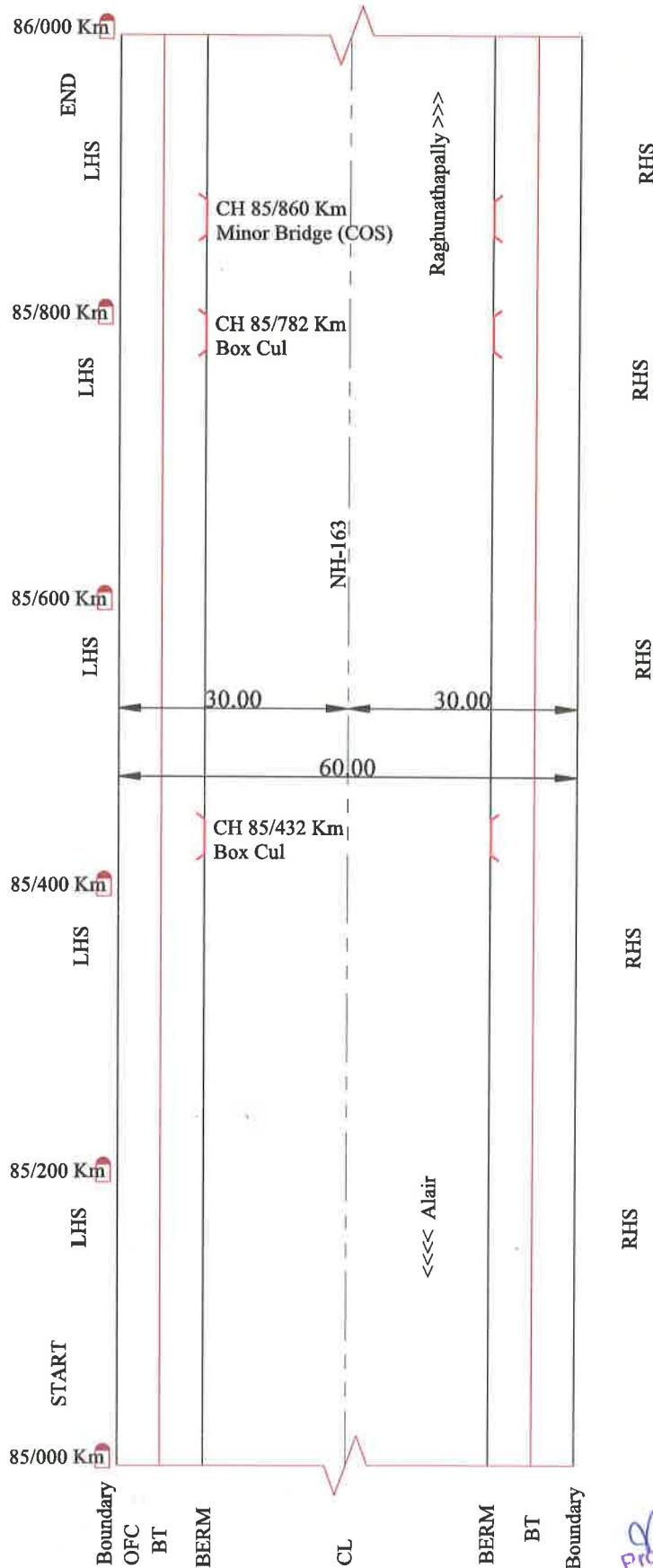
SCALE NOT TO SCALE



Project Director
National Highway Authority of India
Project Implementation Unit, Warangal

Jangaon Mandal

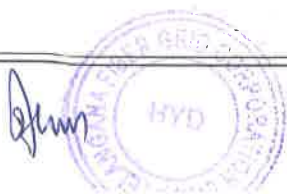
NH- 163 - 85/000 km to 86/000 km



SECTION LENGTH=1000 M

LEGEND

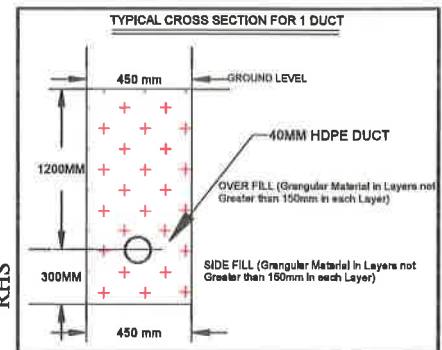
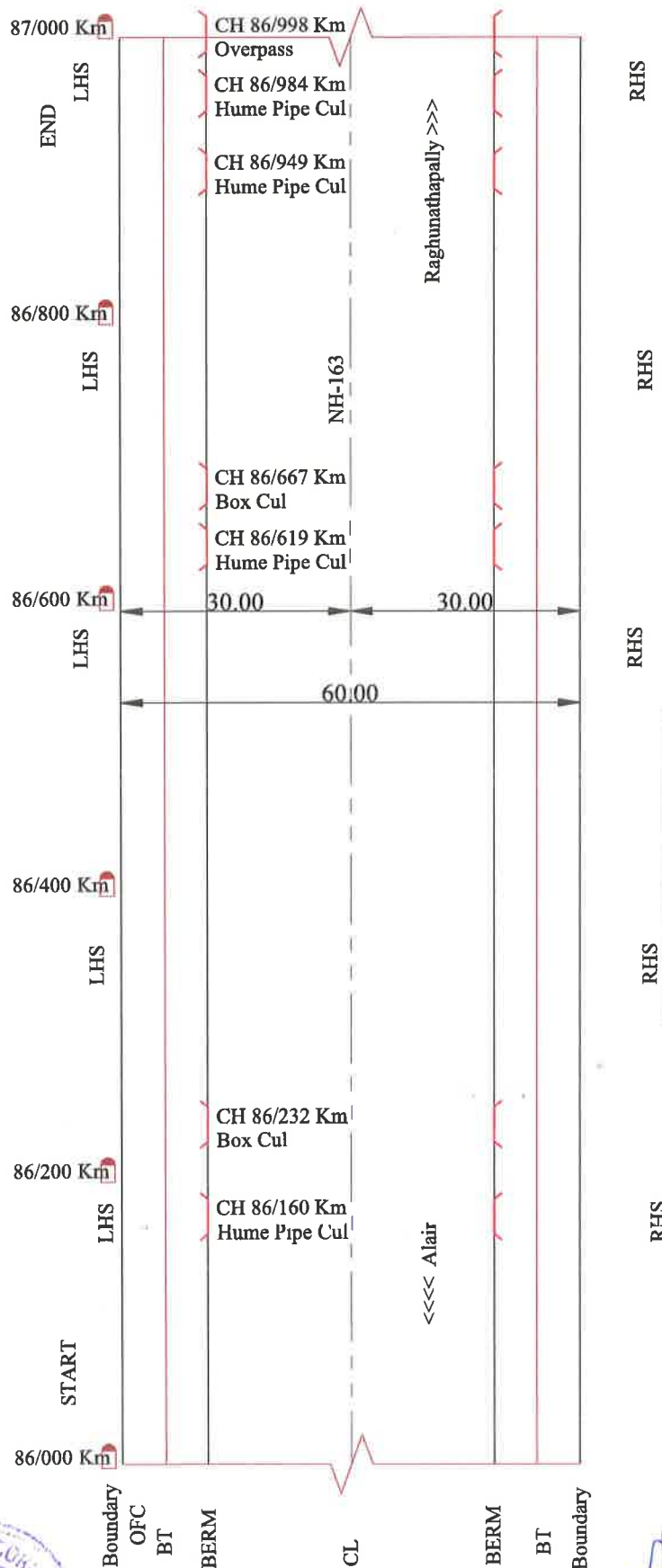
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
 National Highways Authority of India,
 Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 86/000 km to 87/000 km



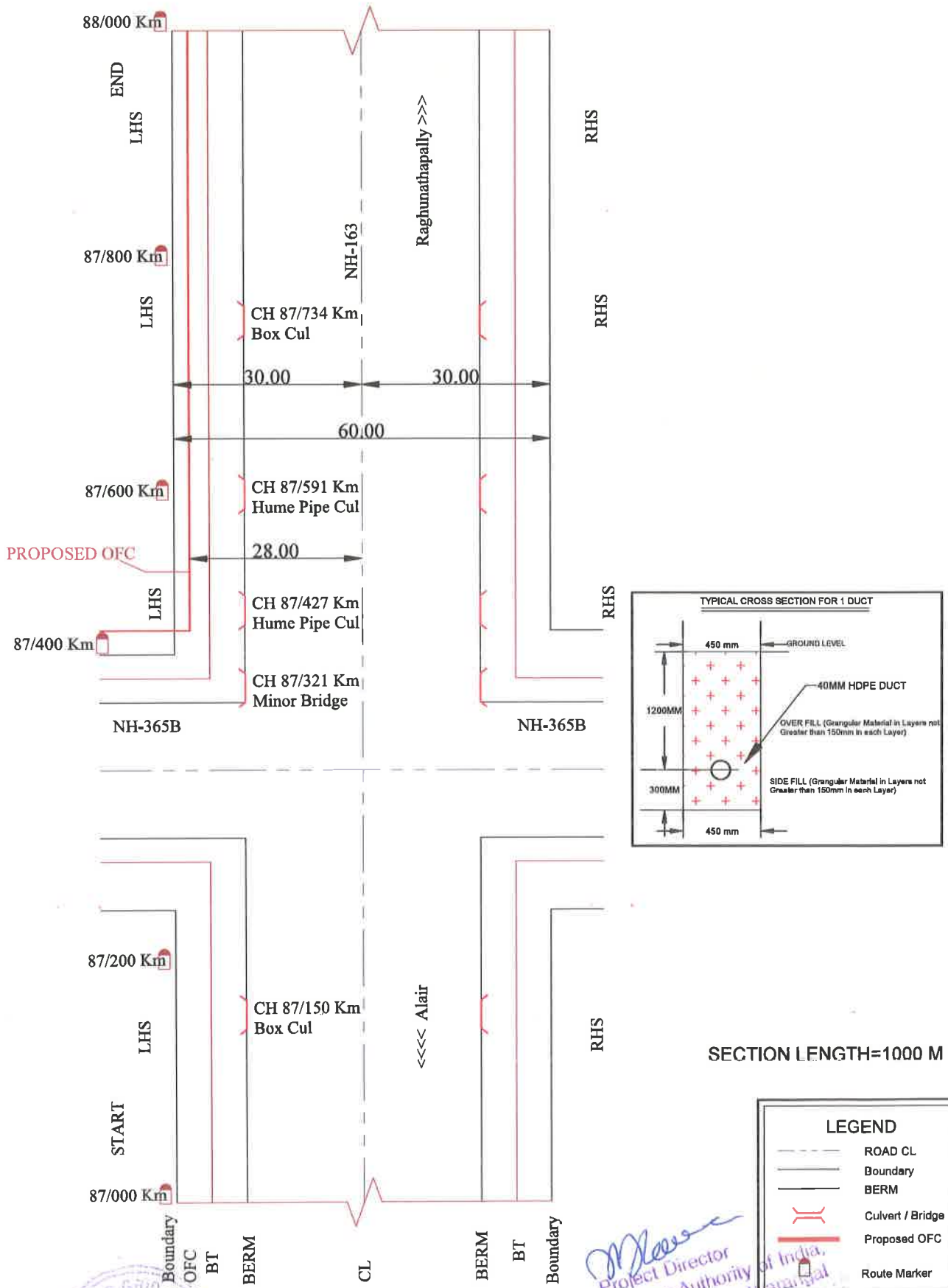
SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 87/000km to 88/000 km

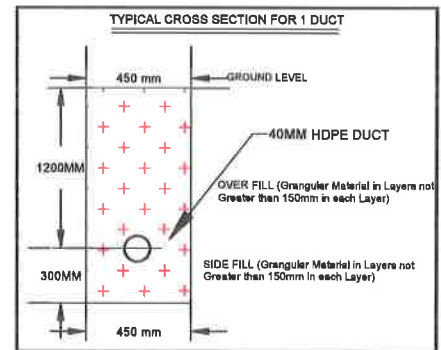
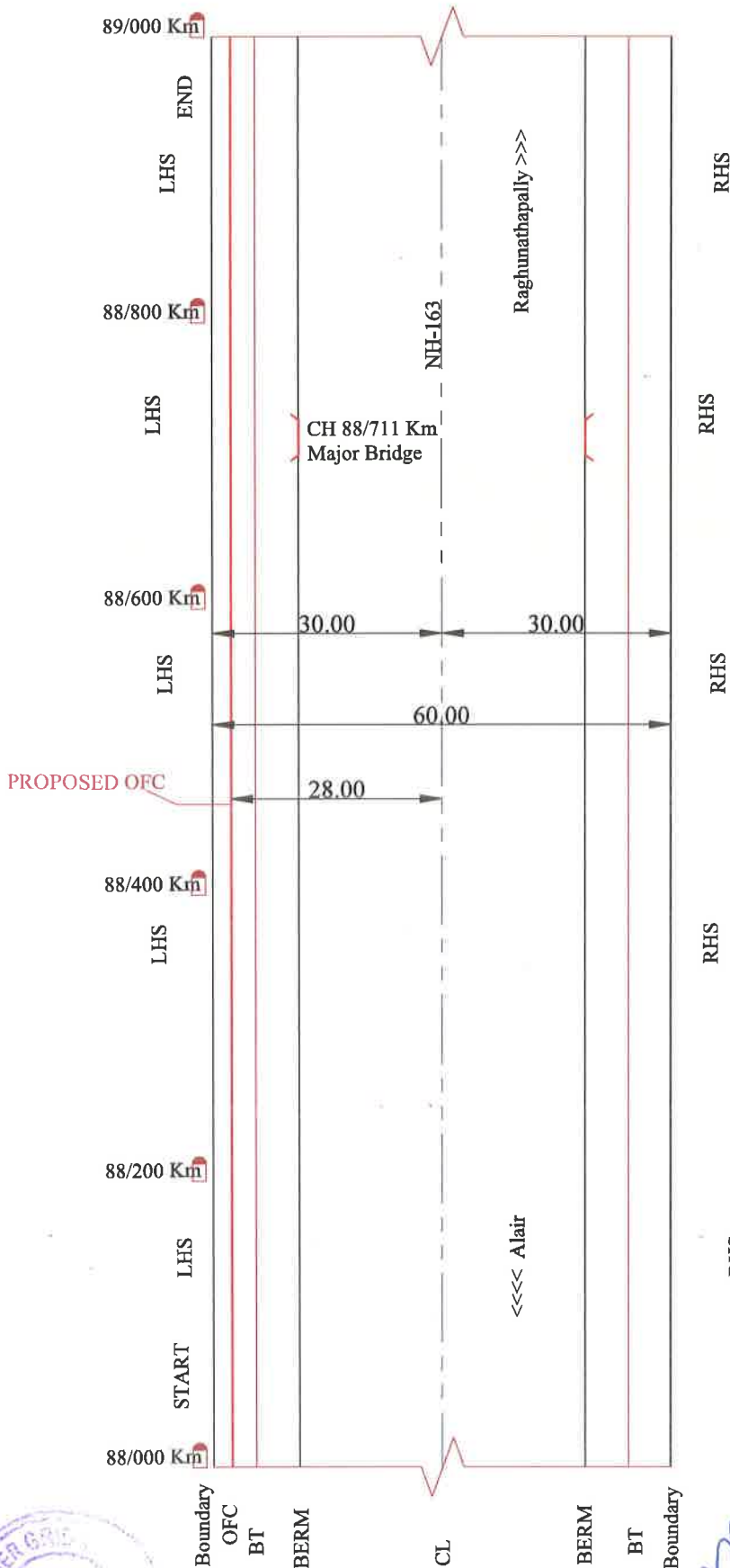


Project Director
National Highways Authority of India,
Project Implementation Unit, Jangaon

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Jangaon Mandal

NH- 163 - 88/000 km to 89/000 km



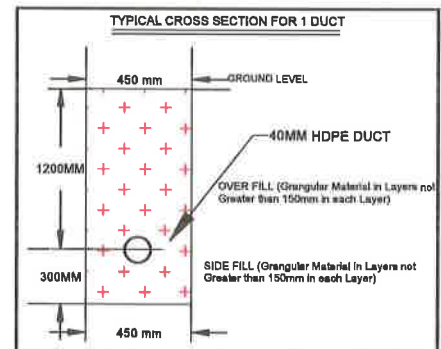
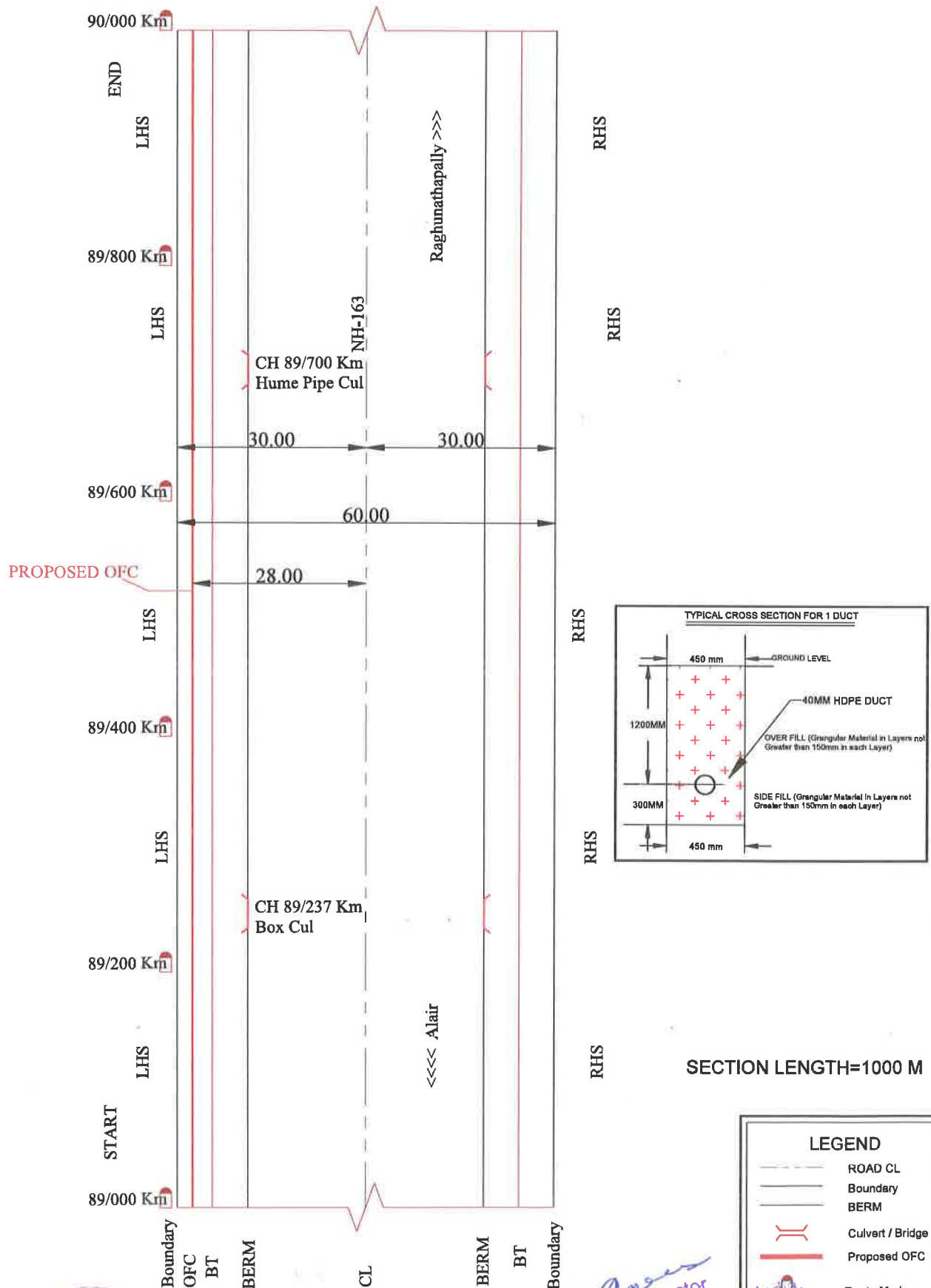
SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Jangaon Mandal

NH- 163 - 89/000 km to 90/000 km



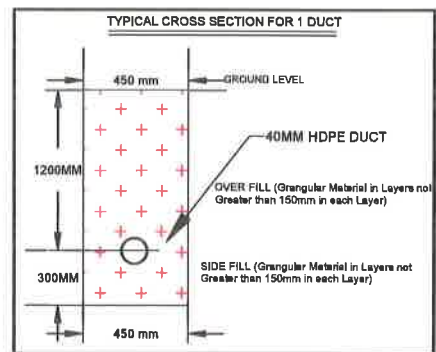
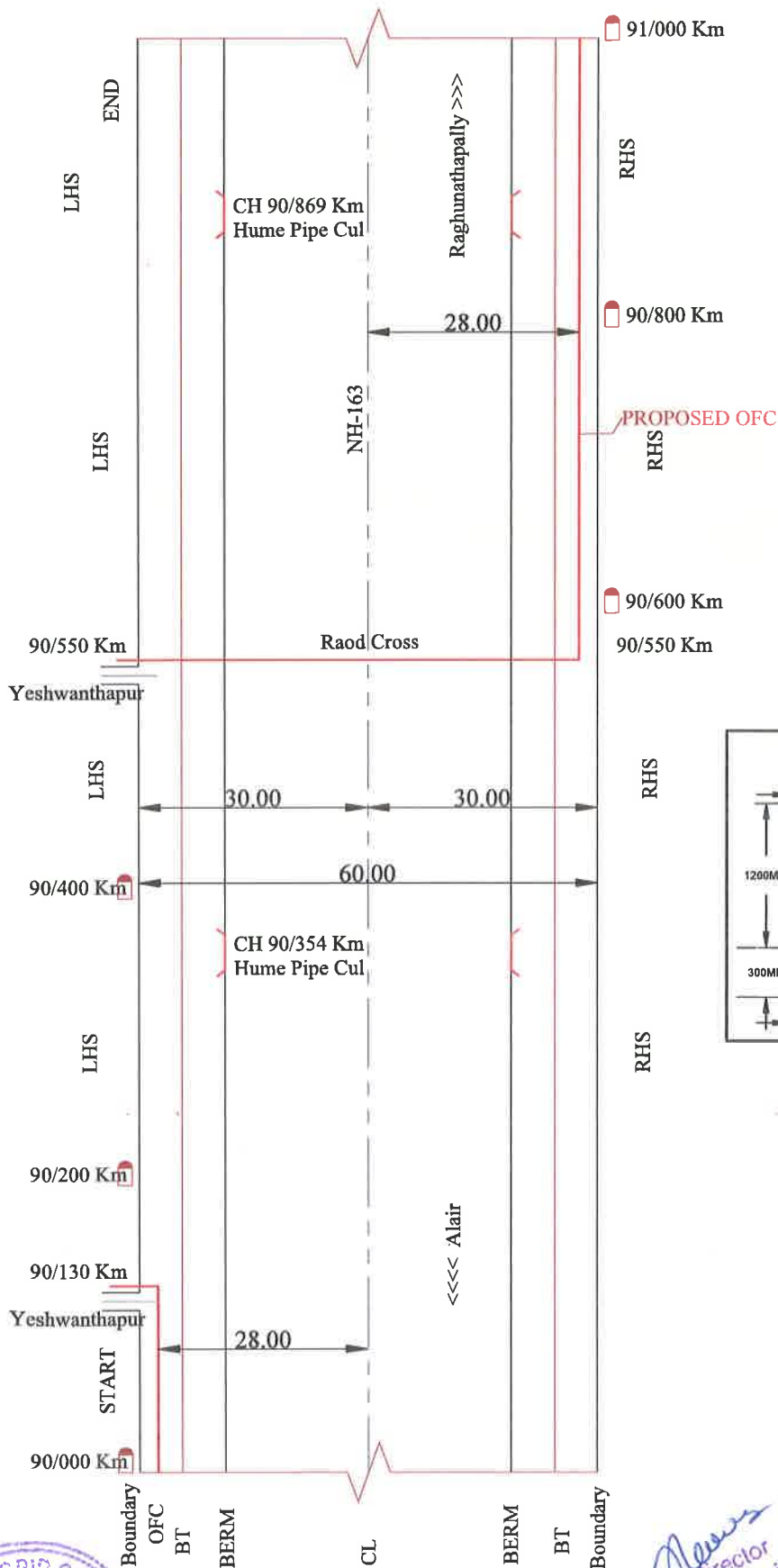
LEGEND

	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Jangaon Mandal
NH- 163 - 90/000 km to 91/000 km



SECTION LENGTH=1000 M

LEGEND

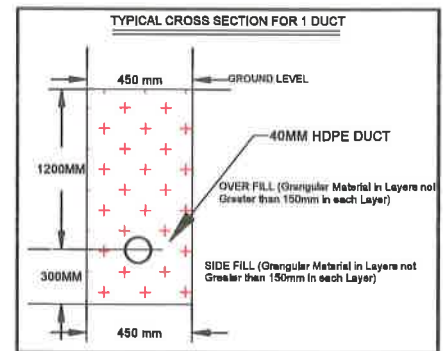
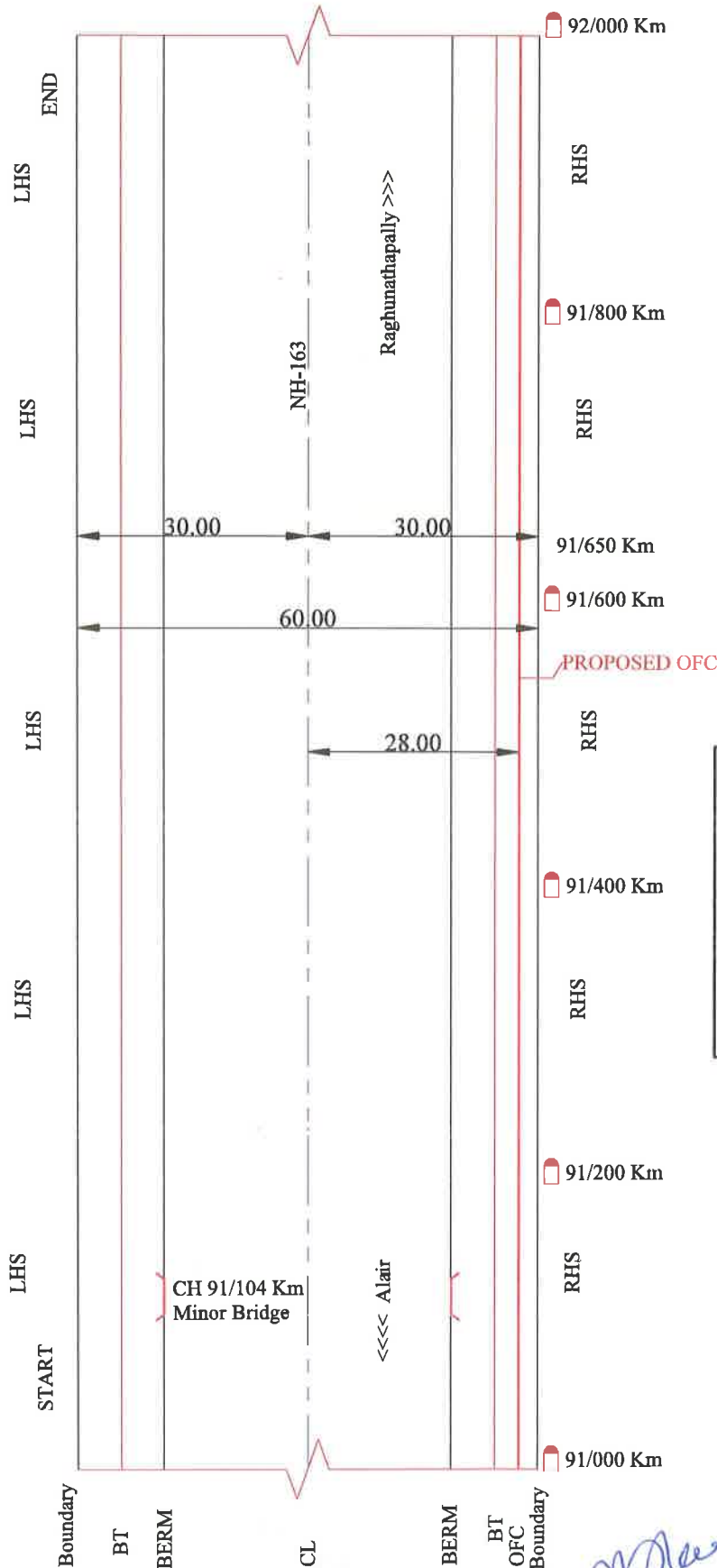
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker

SCALE	NOT TO SCALE
--------------	---------------------



Jangaon Mandal

NH- 163 - 91/000 km to 92/000 km



SECTION LENGTH=1000 M

LEGEND

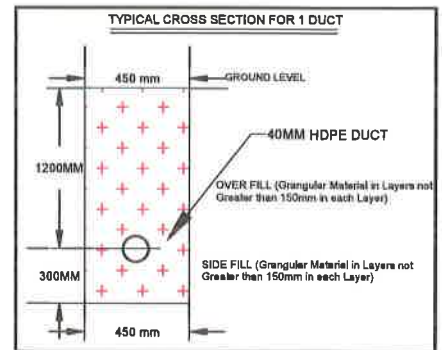
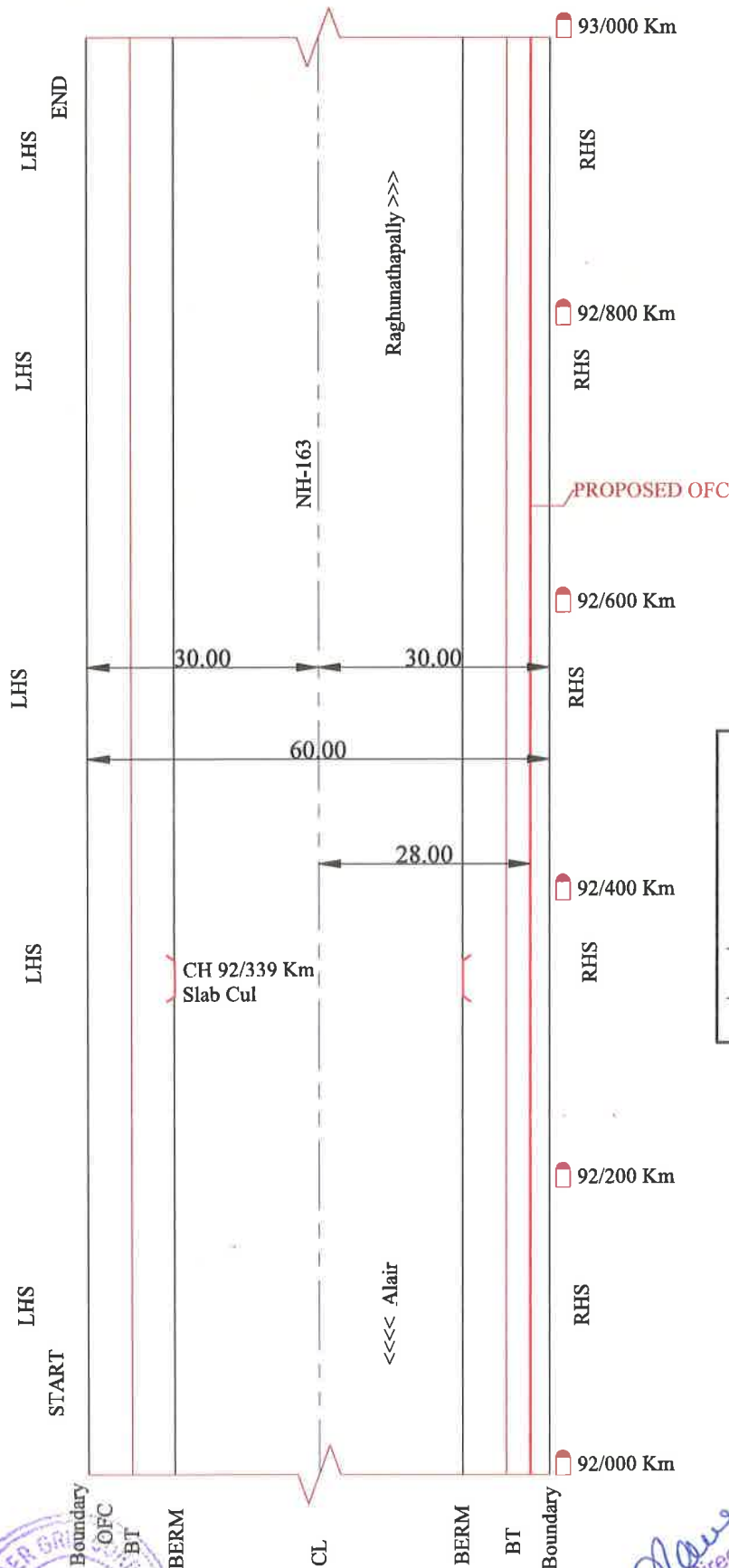
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal



Raghunathpally Mandal

NH- 163 - 92/000 km to 93/000 km



SECTION LENGTH=1000 M

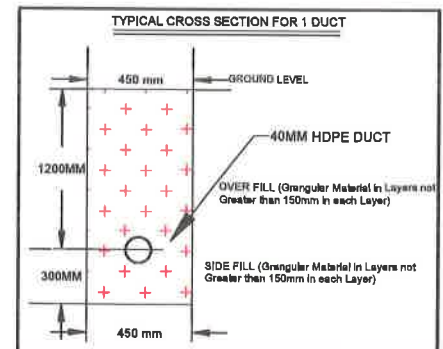
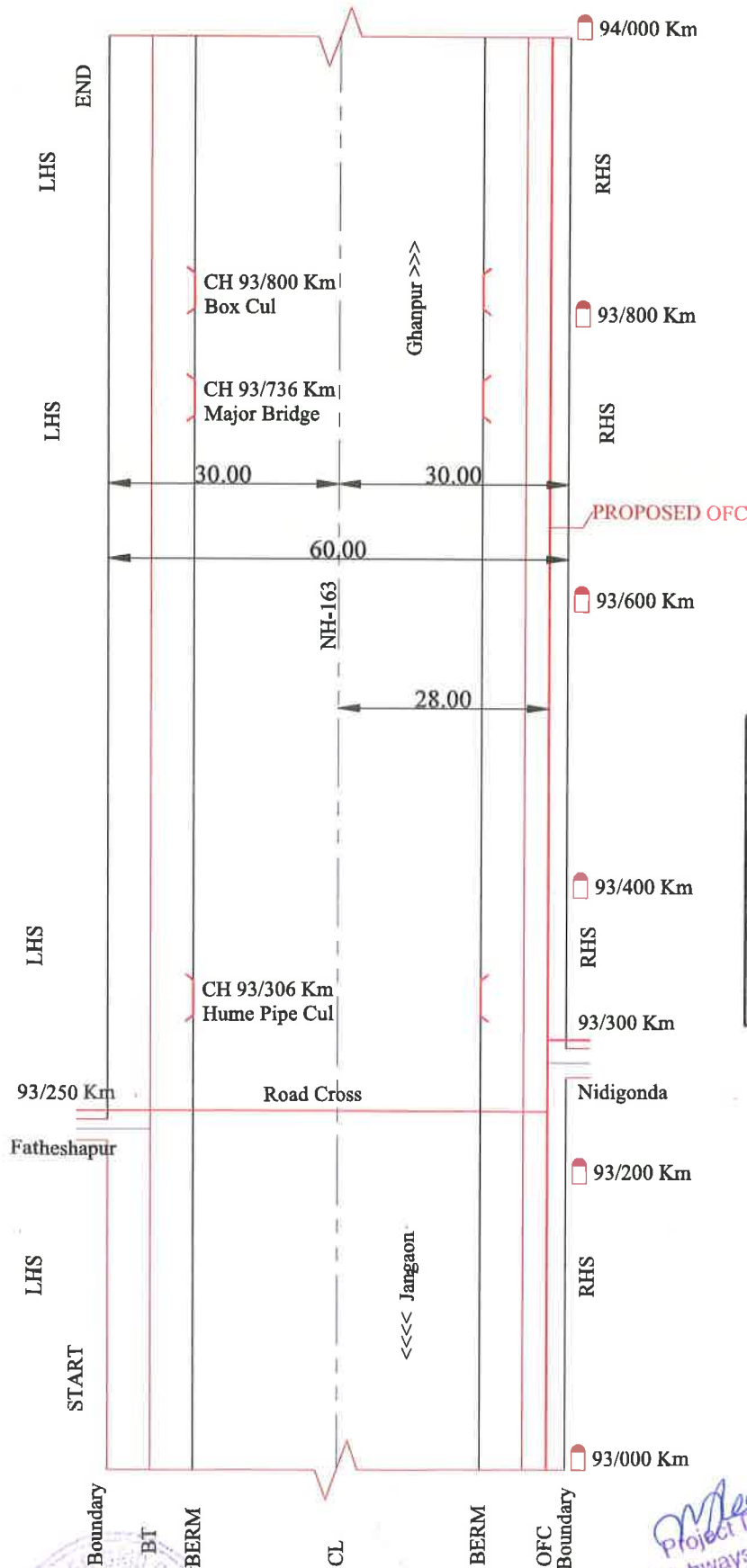
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 93/000 km to 94/000 km



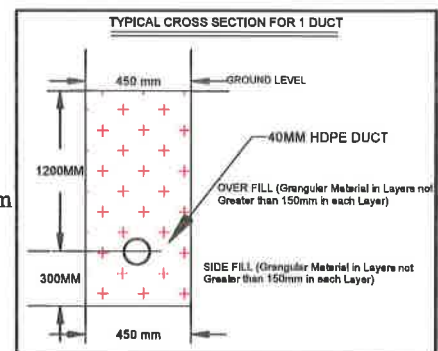
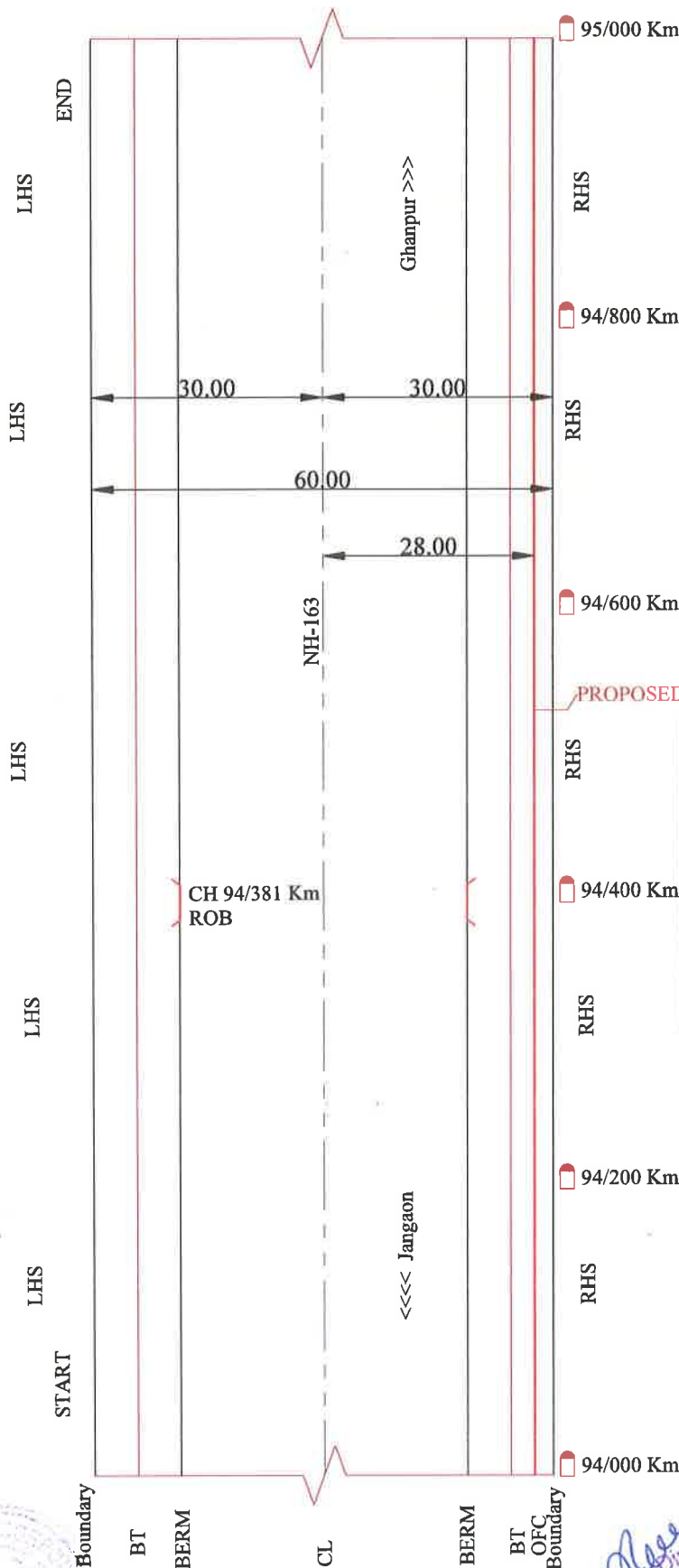
SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 94/000 to 95/000 km



SECTION LENGTH=1000 M

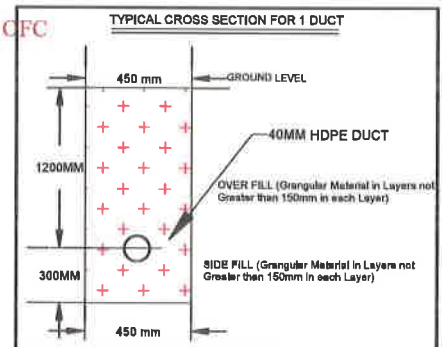
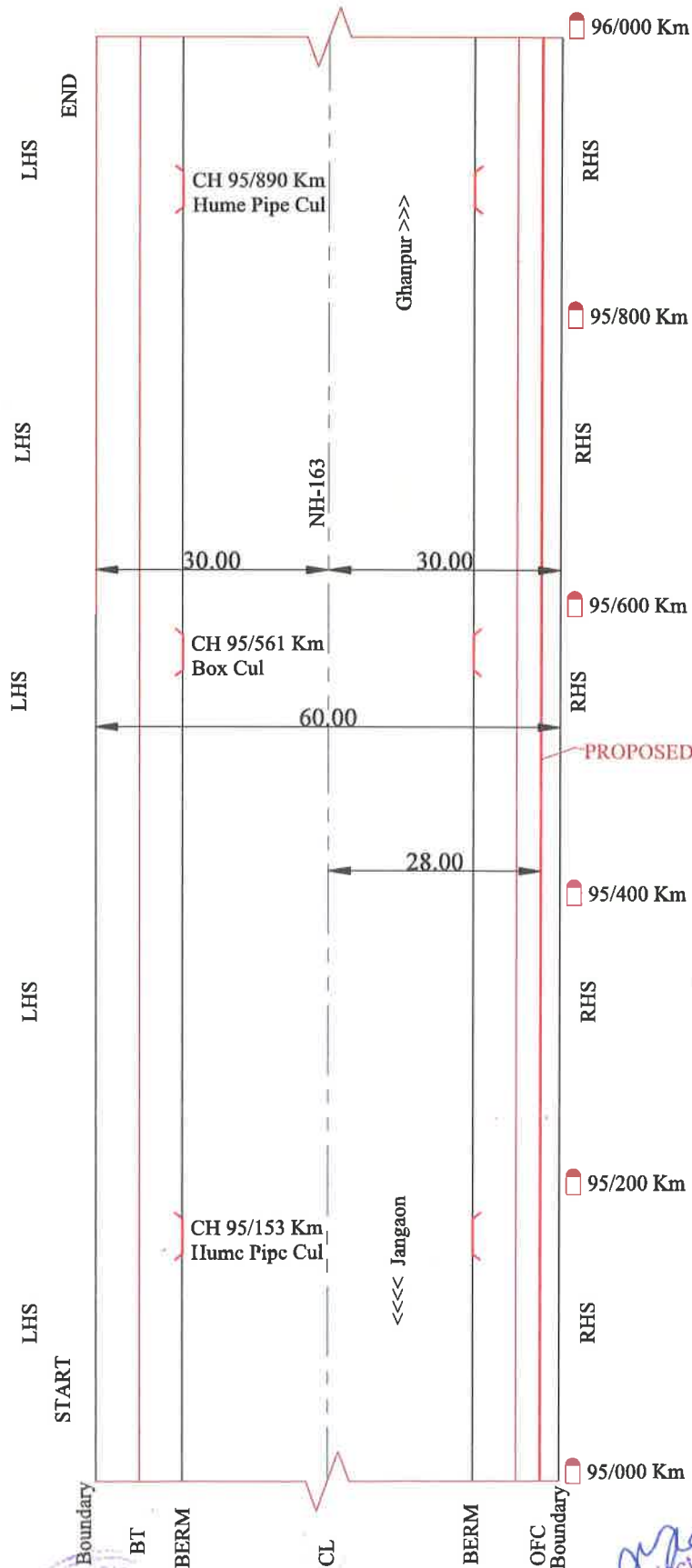
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 95/000 km to 96/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

SCALE

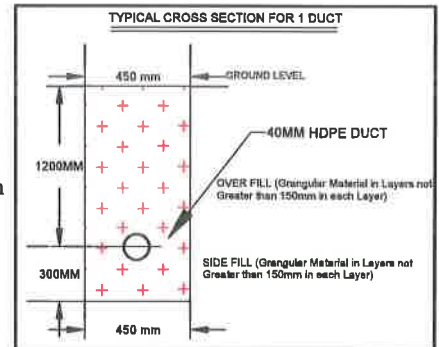
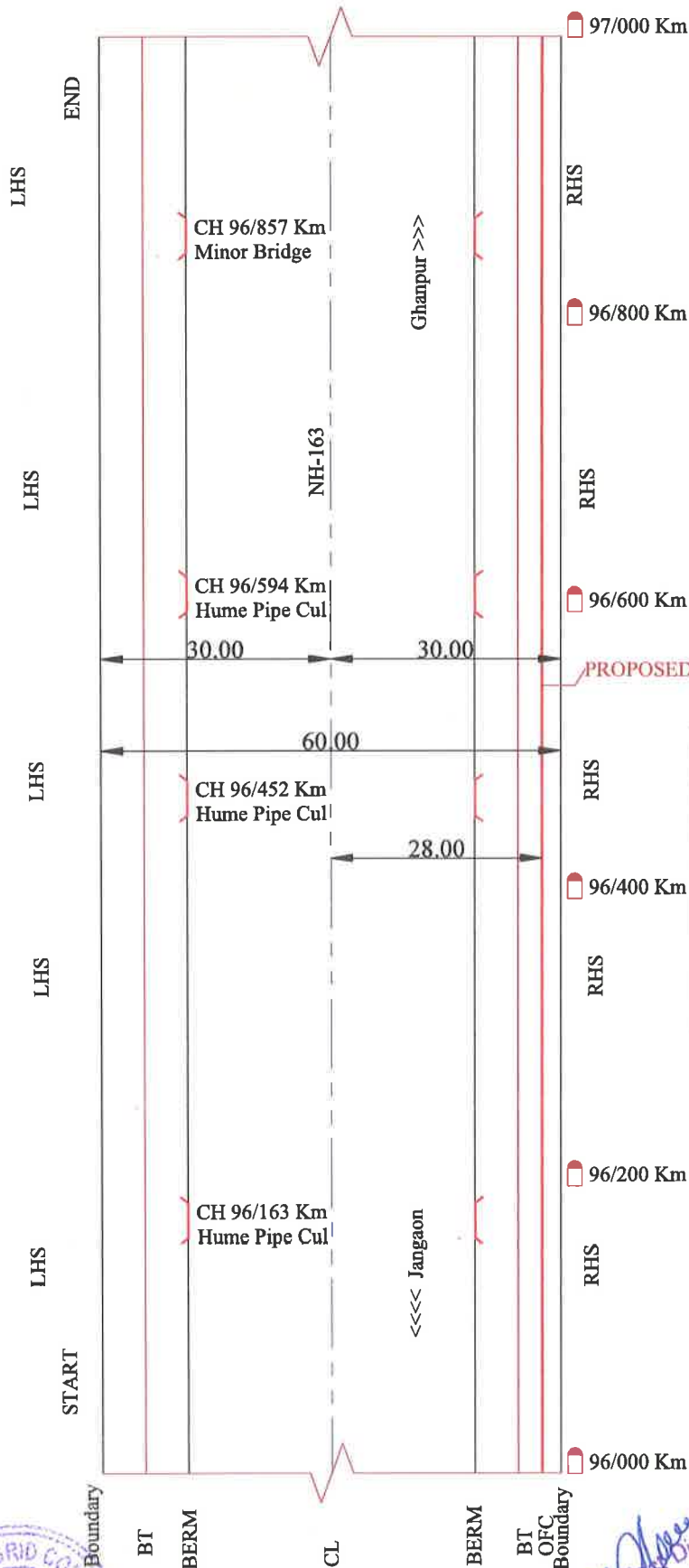
NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 98/000 km to 97/000 km



SECTION LENGTH=1000 M

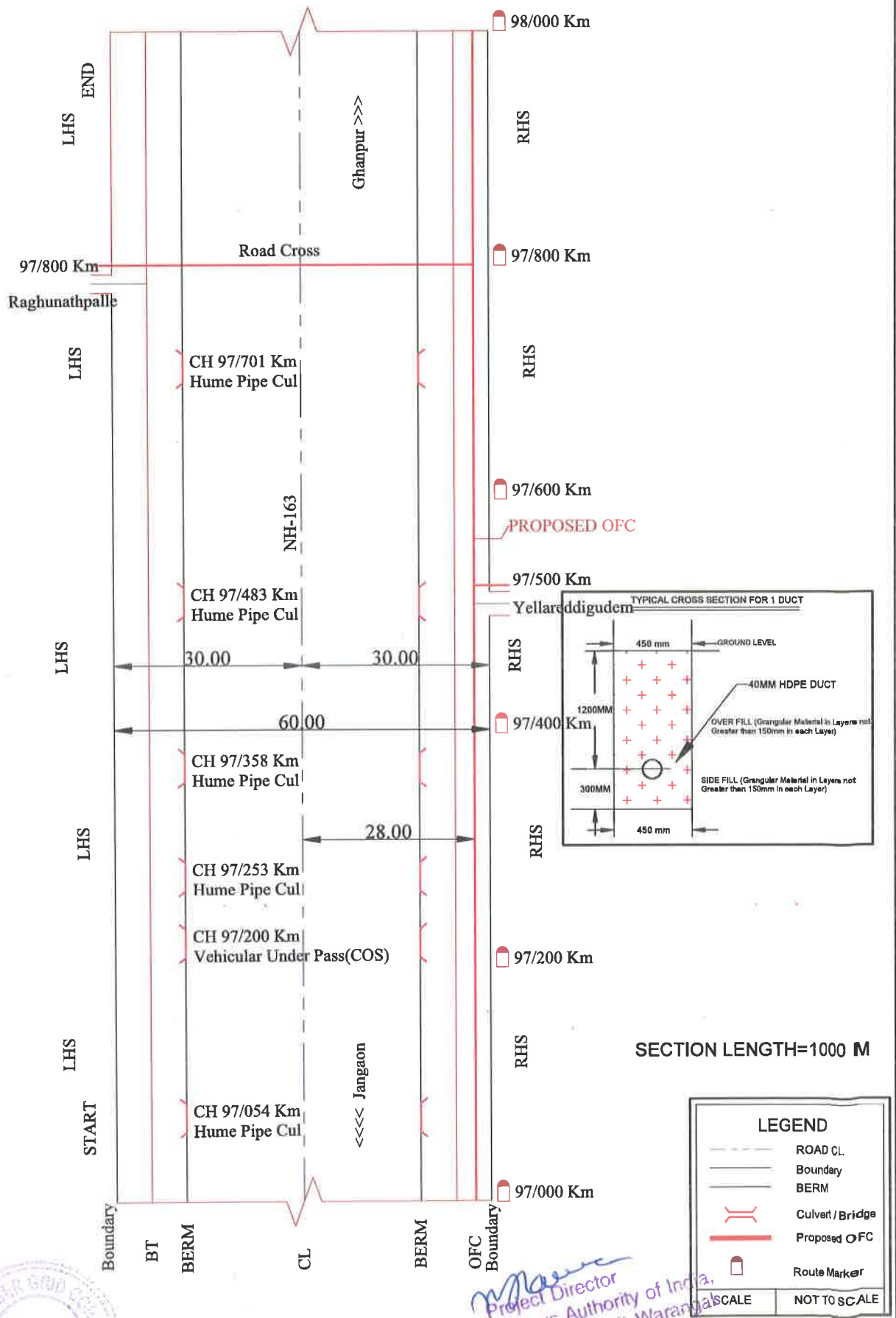
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Raghunathpally Mandal

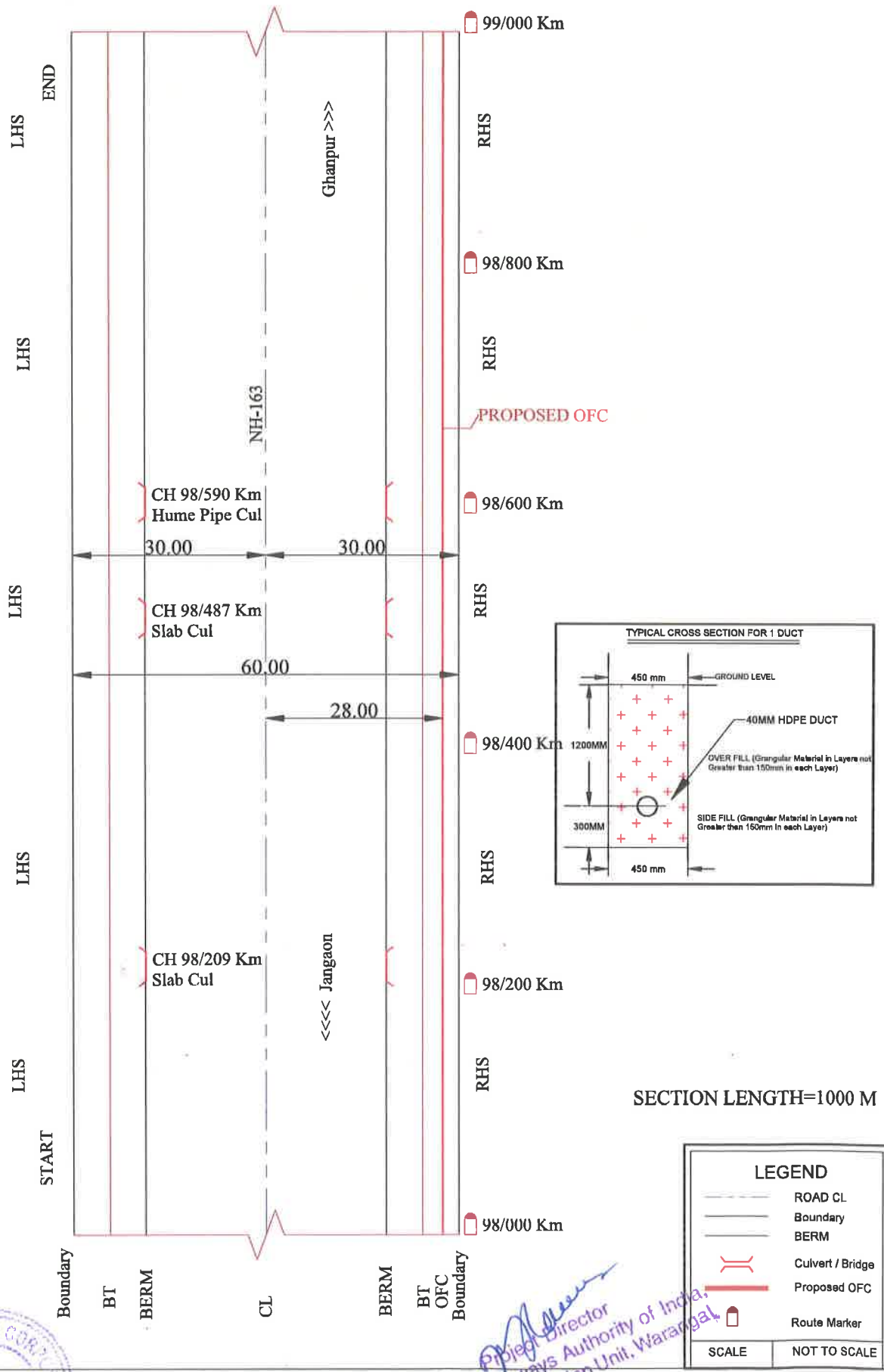
NH- 163 - 97/000 km to 98/000 km



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 98/000 km to 99/000 km

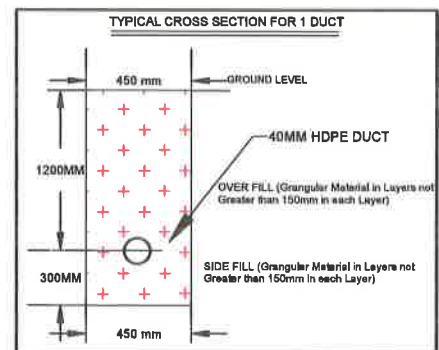
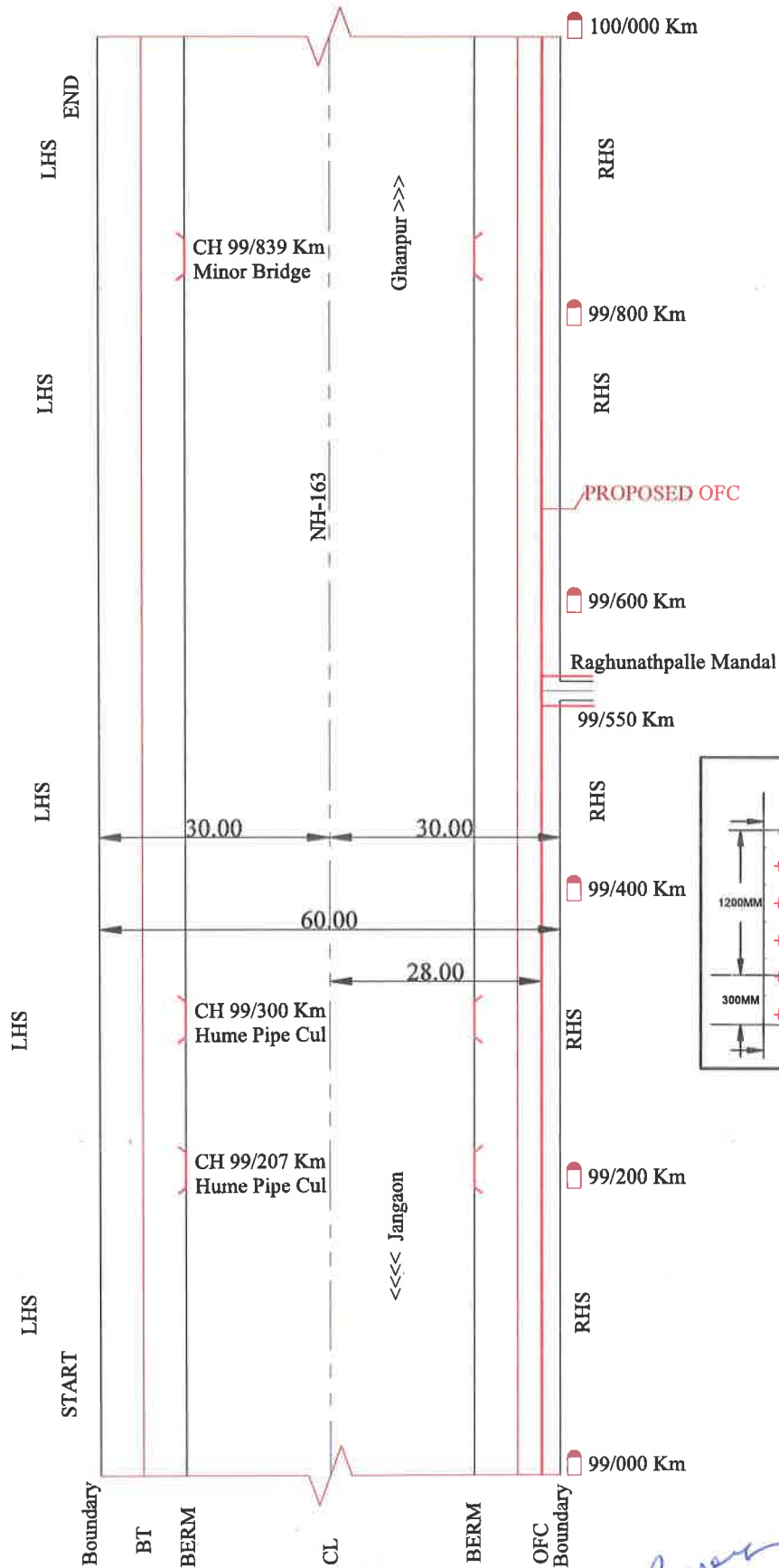


Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal



Raghunathpally Mandal

NH- 163 - 99/000 km to 100/000 km



SECTION LENGTH=1000 M

LEGEND

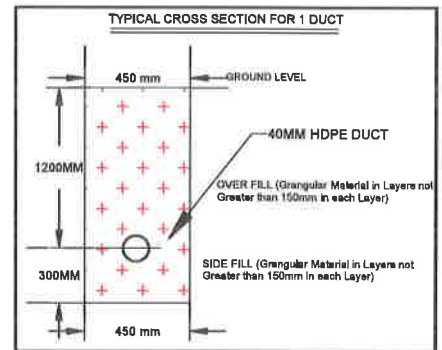
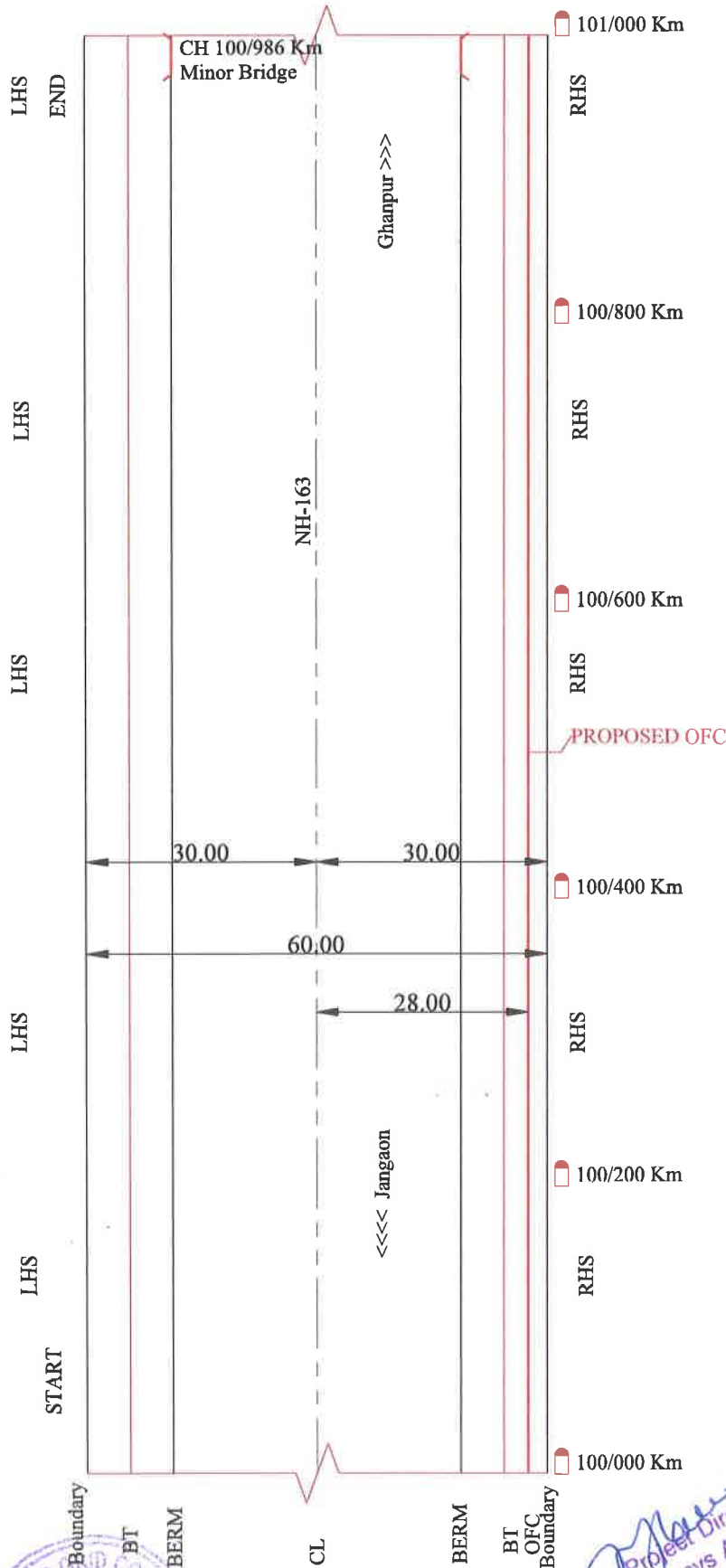
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 100/000 km to 101/000 km



SECTION LENGTH=1000 M

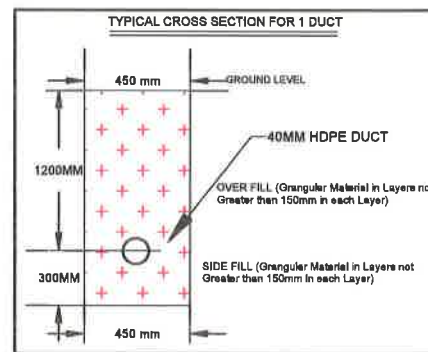
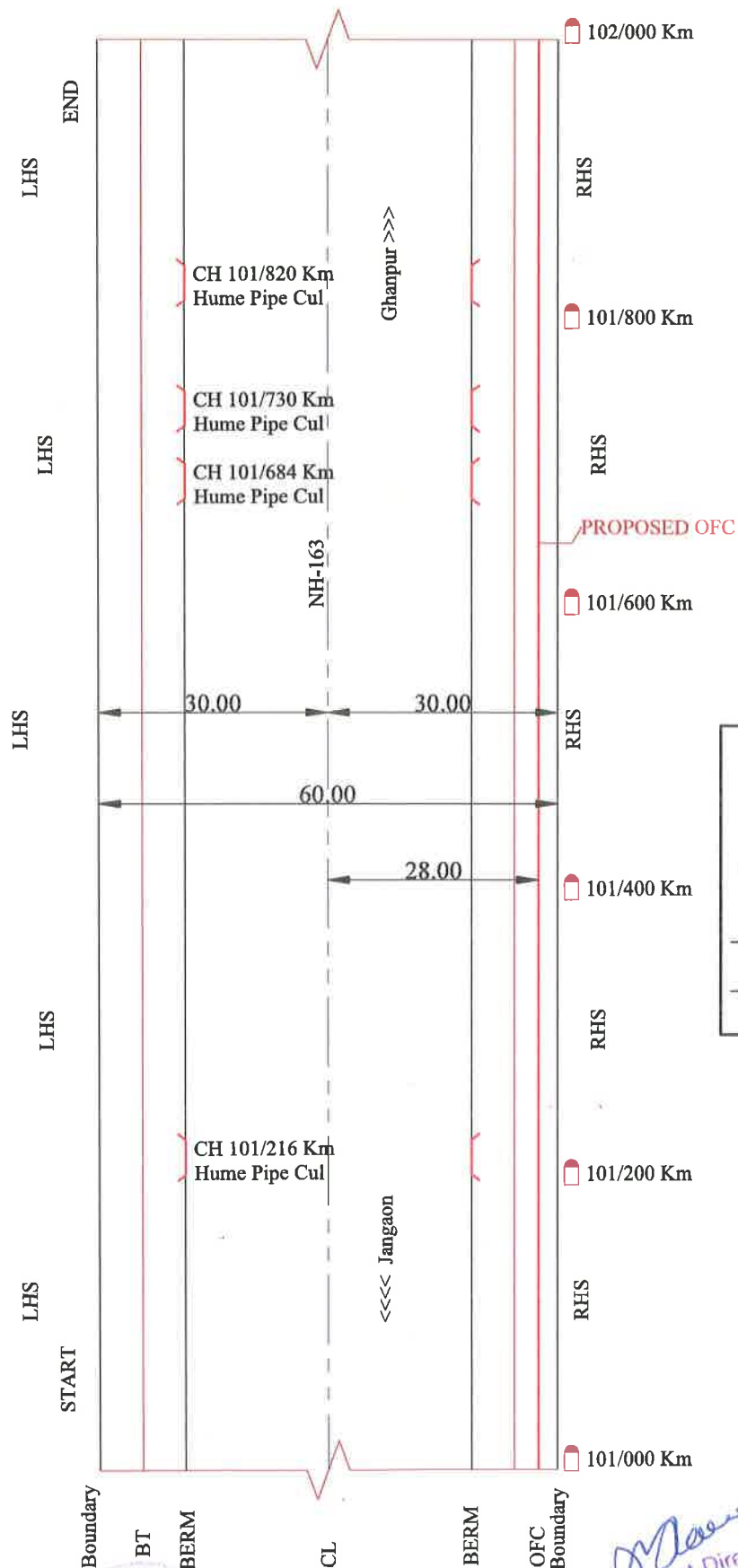
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal



Raghunathpally Mandal

NH- 163 - 101/000 km to 102/000 km



SECTION LENGTH=1000 M

LEGEND

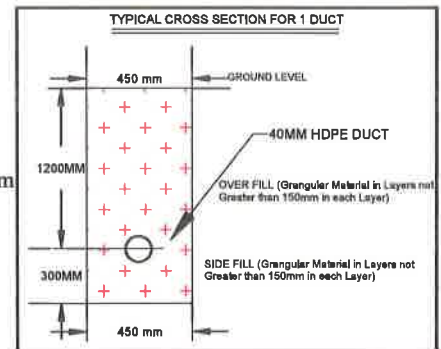
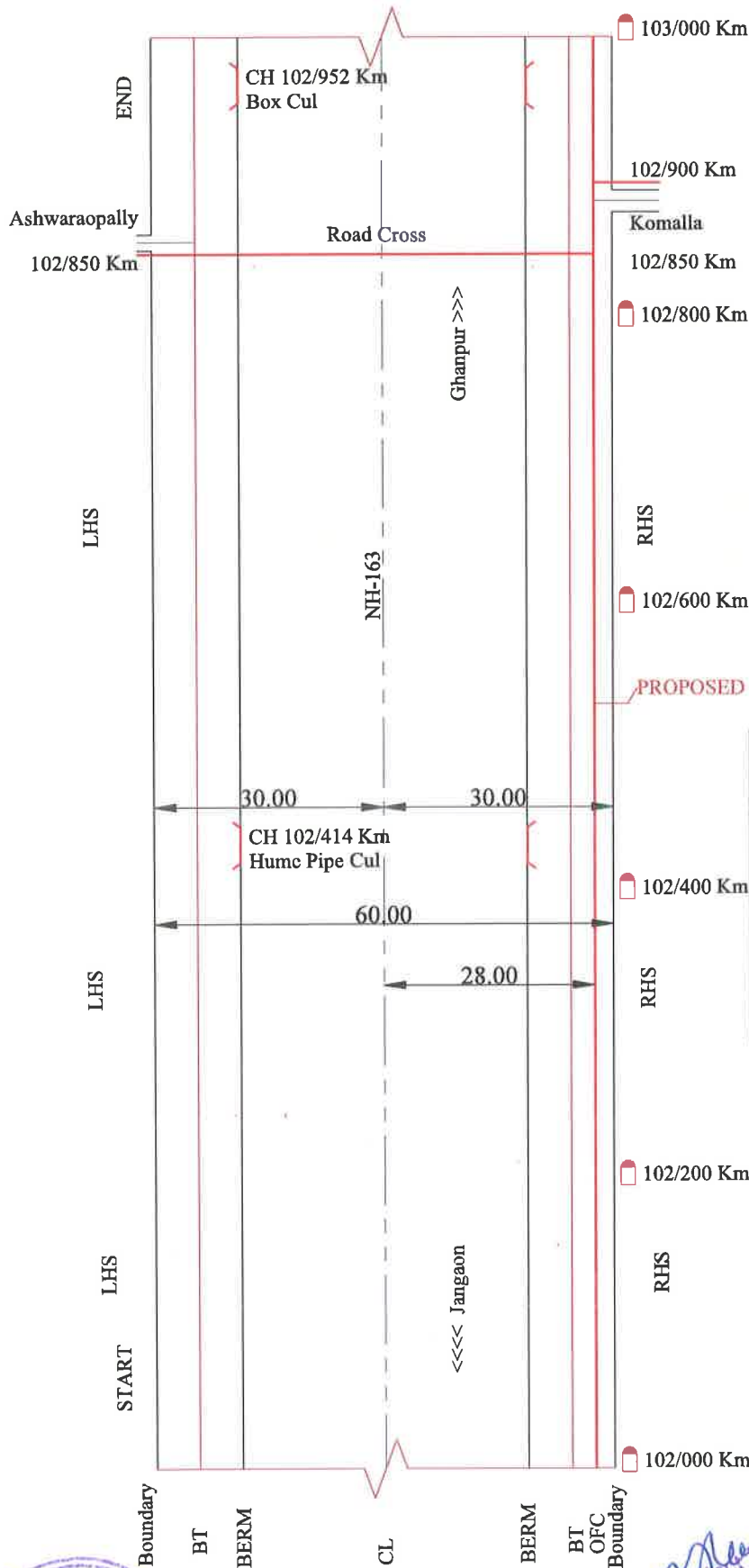
- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

SCALE NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

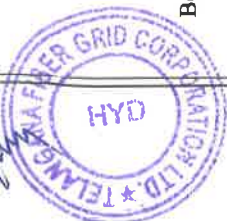
Raghunathpally Mandal

NH- 163 - 102/000 km to 103/000 km



SECTION LENGTH=1000 M

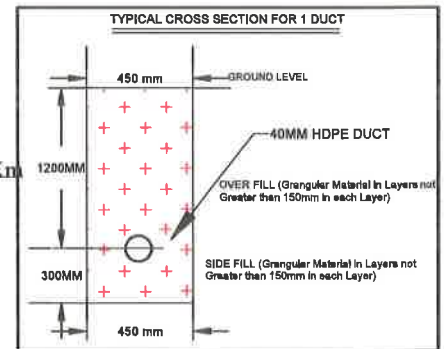
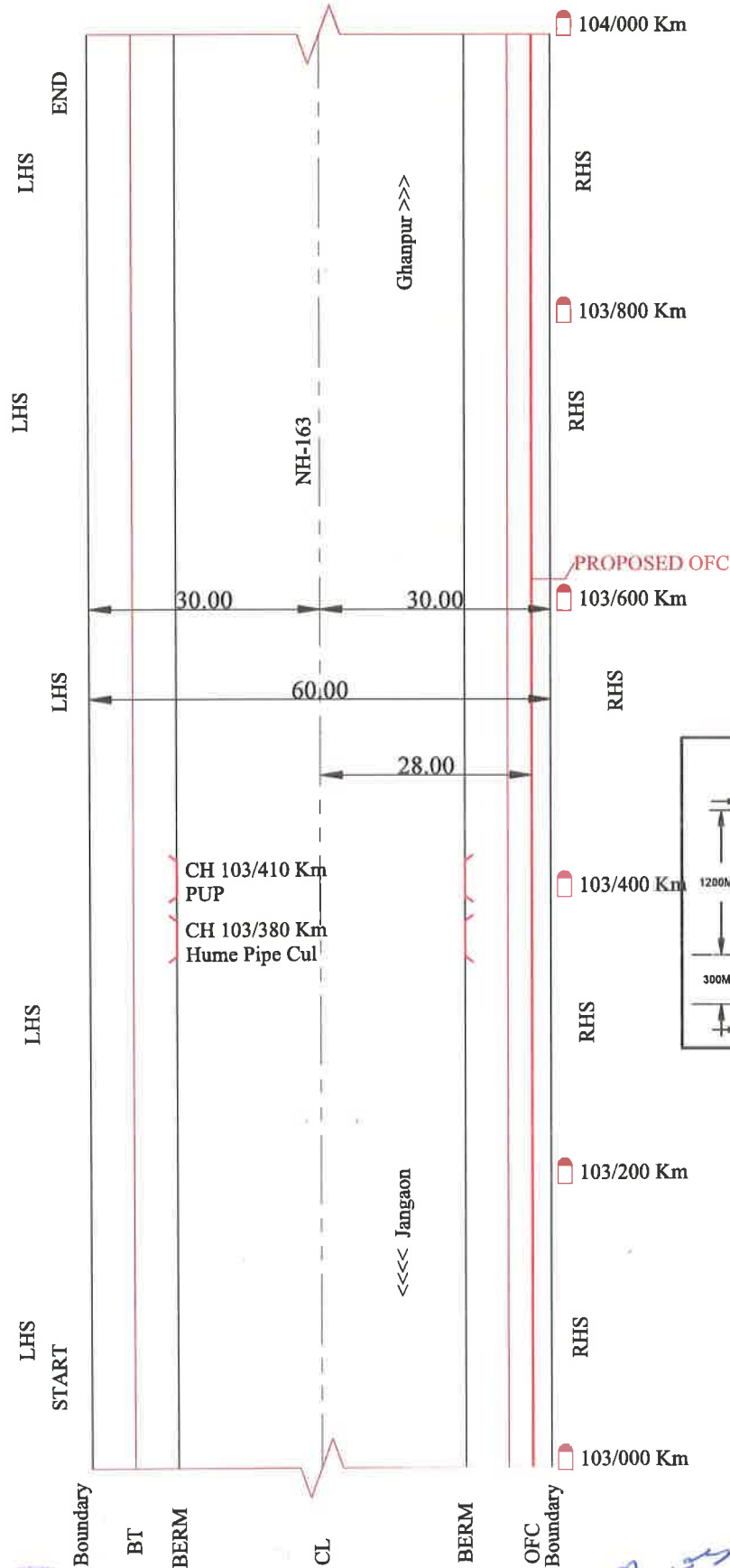
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 103/000 km to 104/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- (X) Culvert / Bridge
- Proposed OFC
- Route Marker

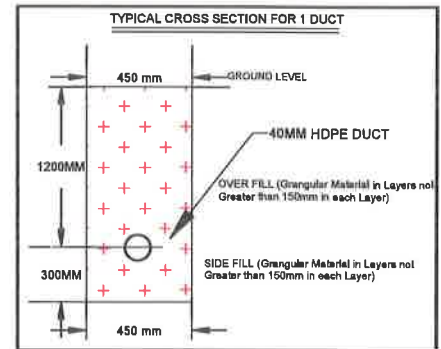
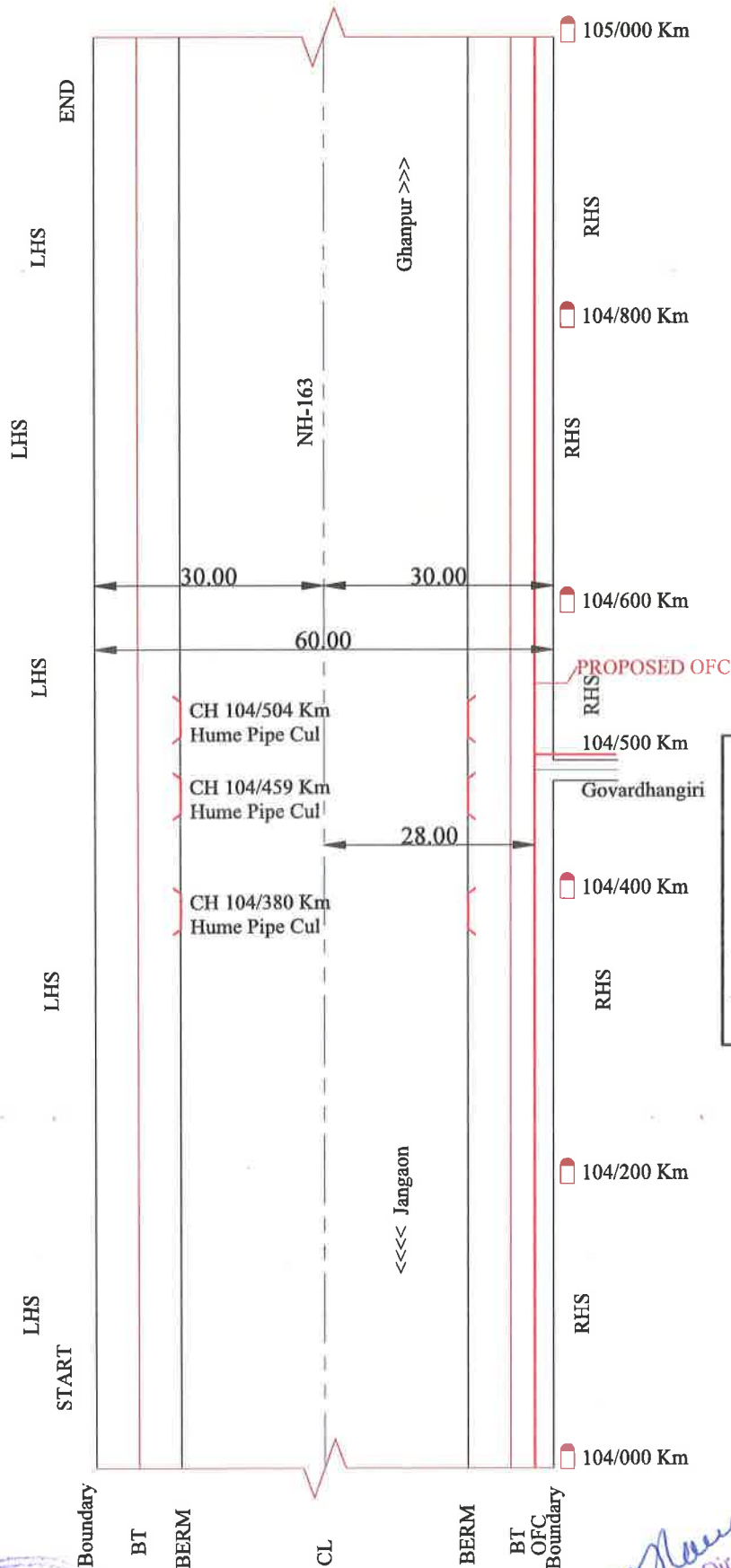
SCALE NOT TO SCALE



M. S. Rao
Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Raghunathpally Mandal

NH- 163 - 104/000 km to 105/000 km



SECTION LENGTH=1000 M

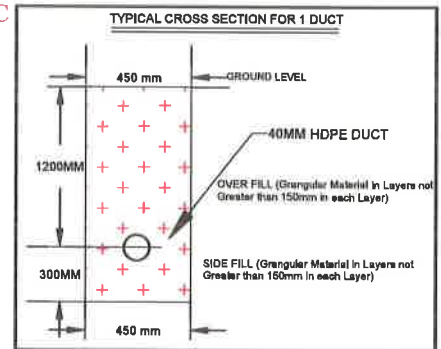
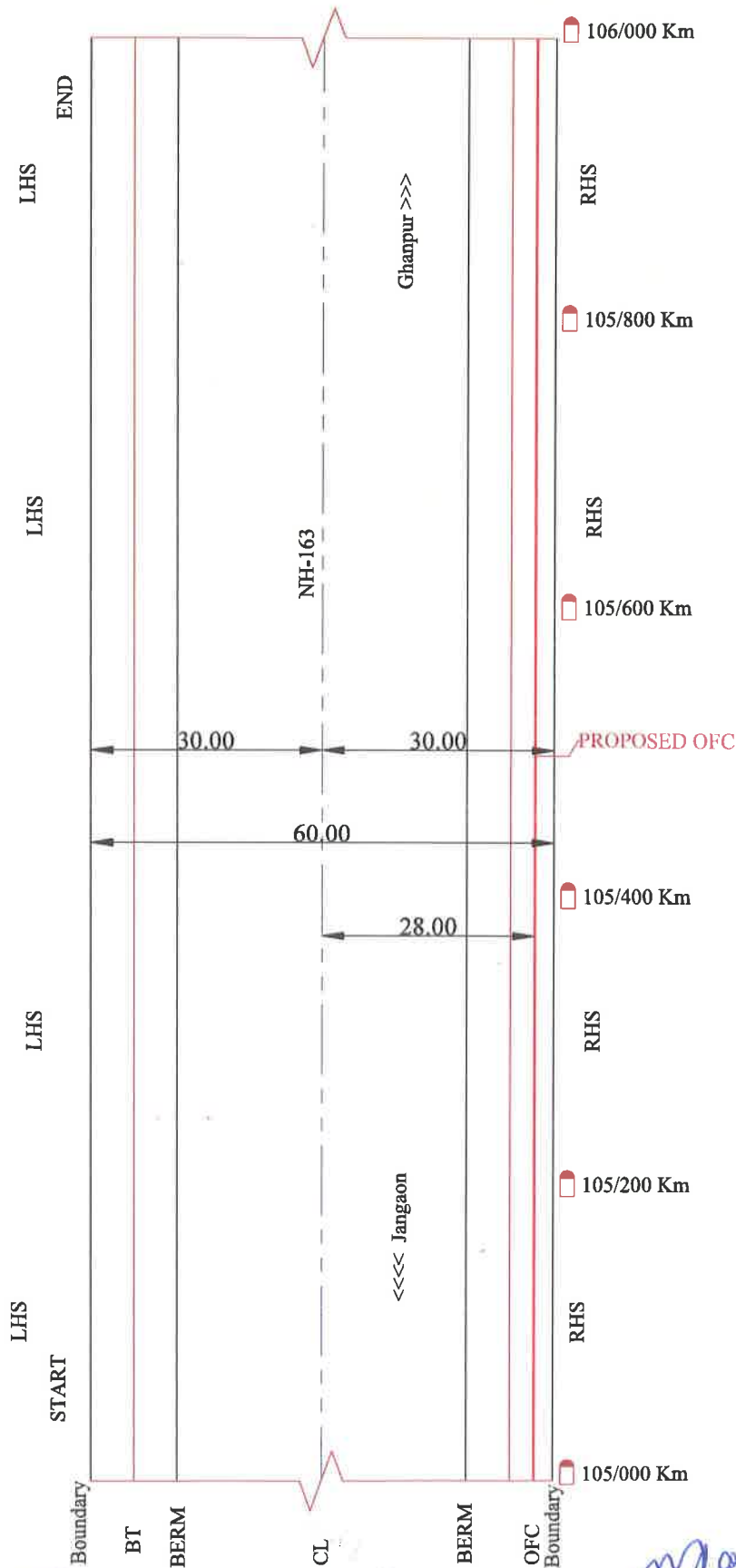
LEGEND	
---	ROAD CL
---	Boundary
---	BERM
---	Culvert / Bridge
---	Proposed OFC
---	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal



Raghunathpally Mandal

NH- 163 - 105/000 km to 106/000 km



SECTION LENGTH=1000 M

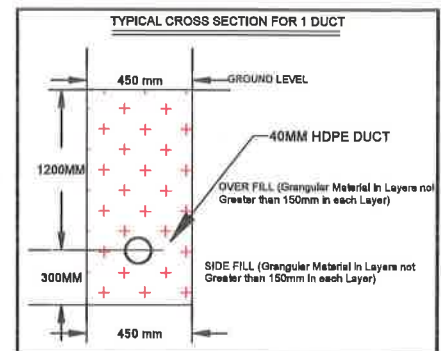
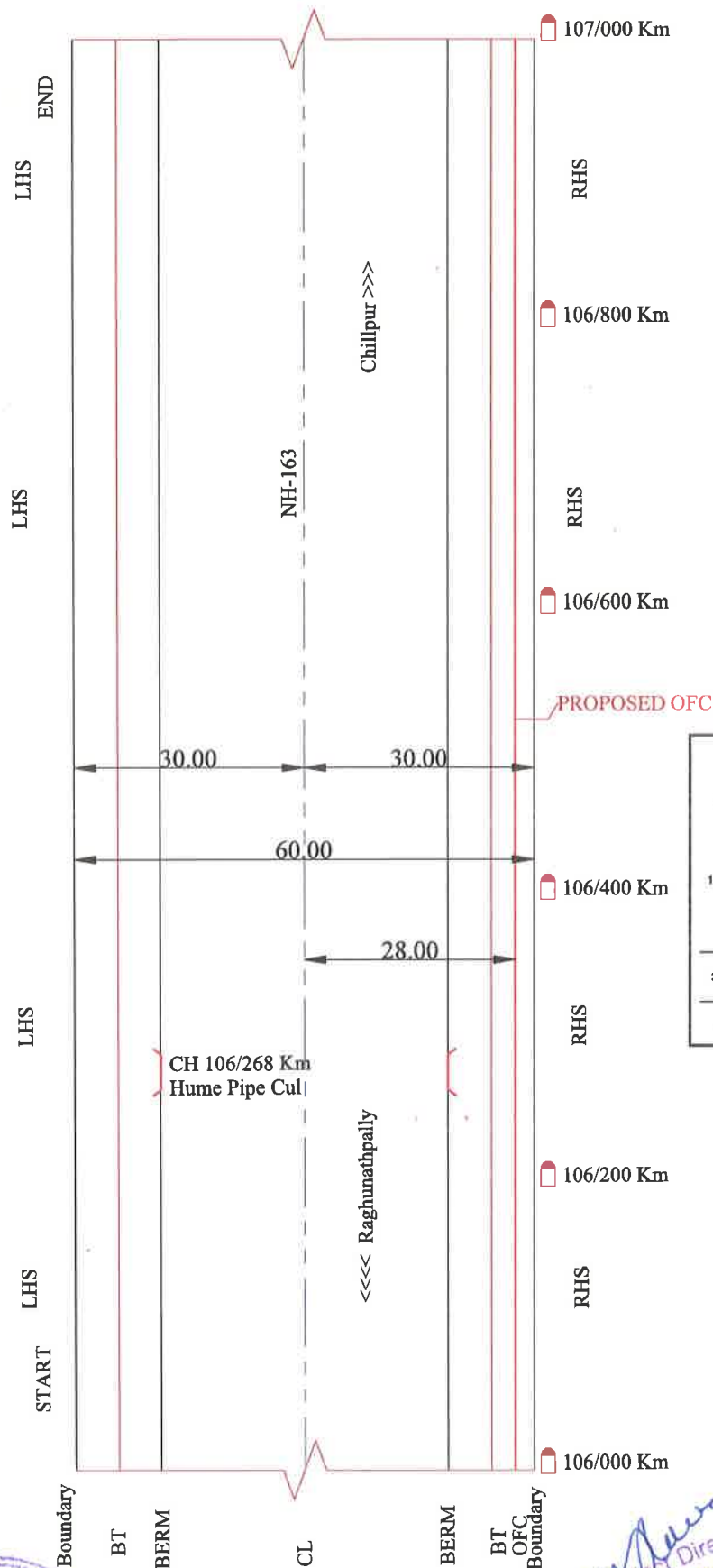
LEGEND

	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Ghanpur (Station) Mandal

NH- 163 - 106/000 km to 107/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

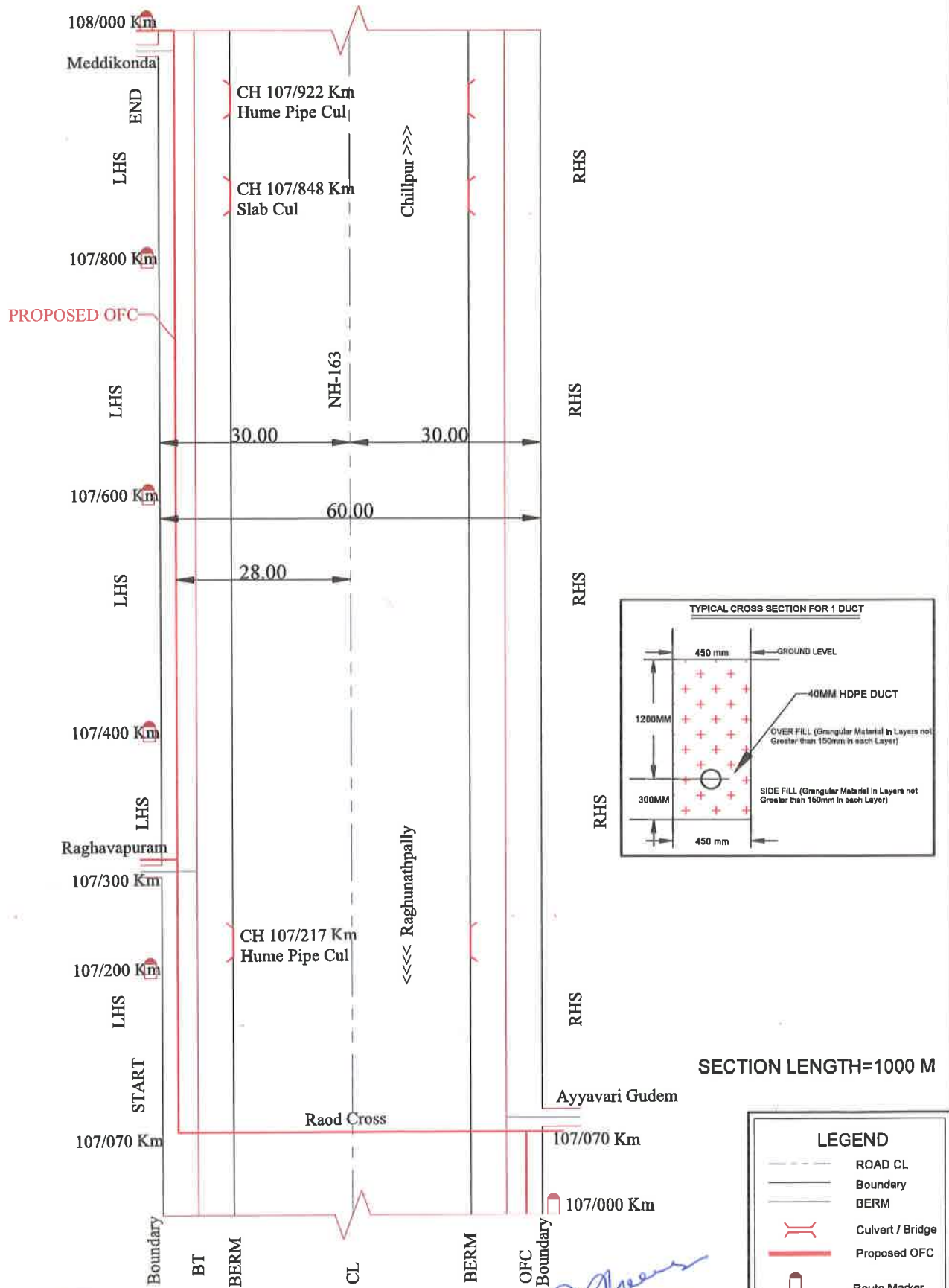
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National Highways Authority of India,
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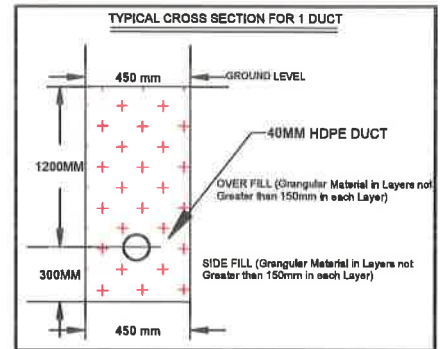
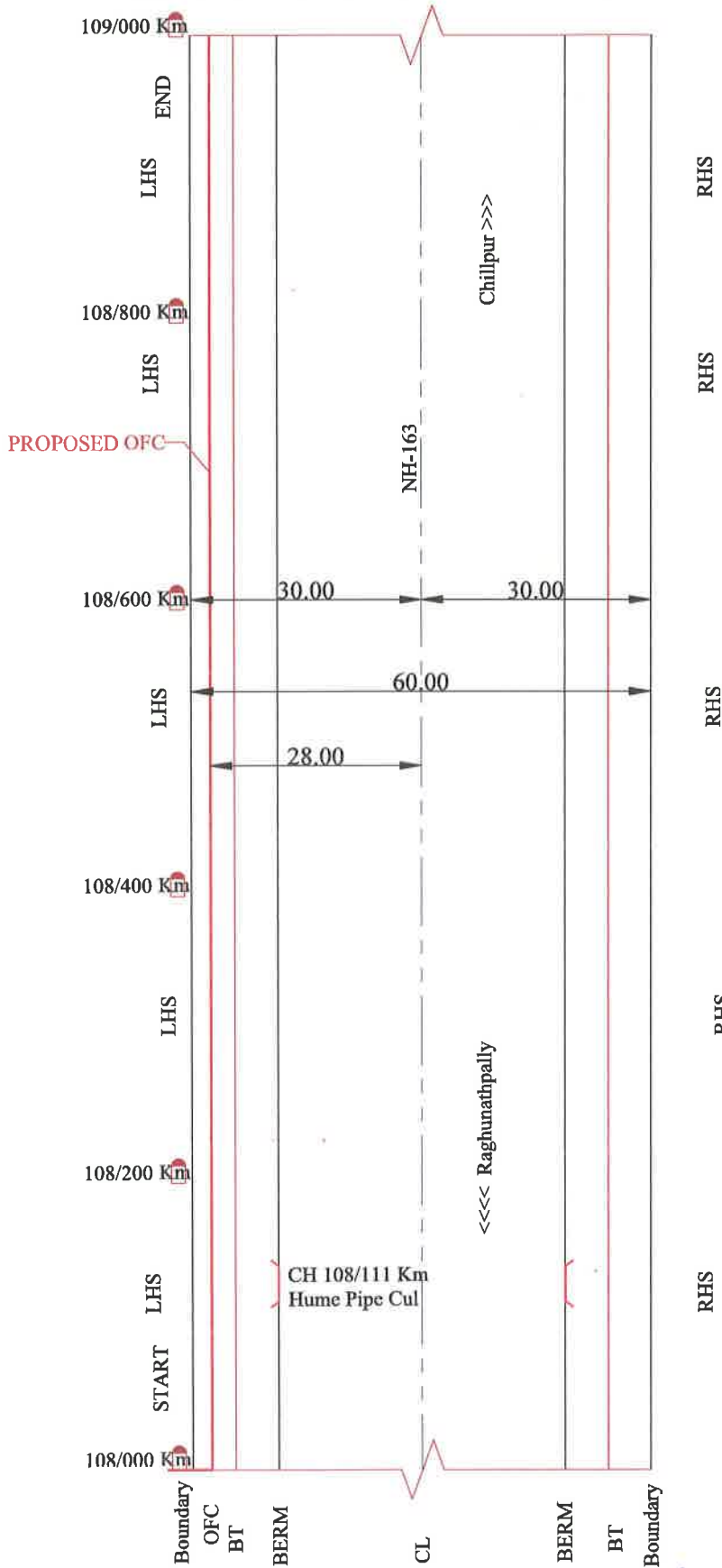
Ghanpur (Station) Mandal

NH- 163 - 107/000 km to 108/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Ghanpur (Station) Mandal NH- 163 - 108/000 km to 109/000 km



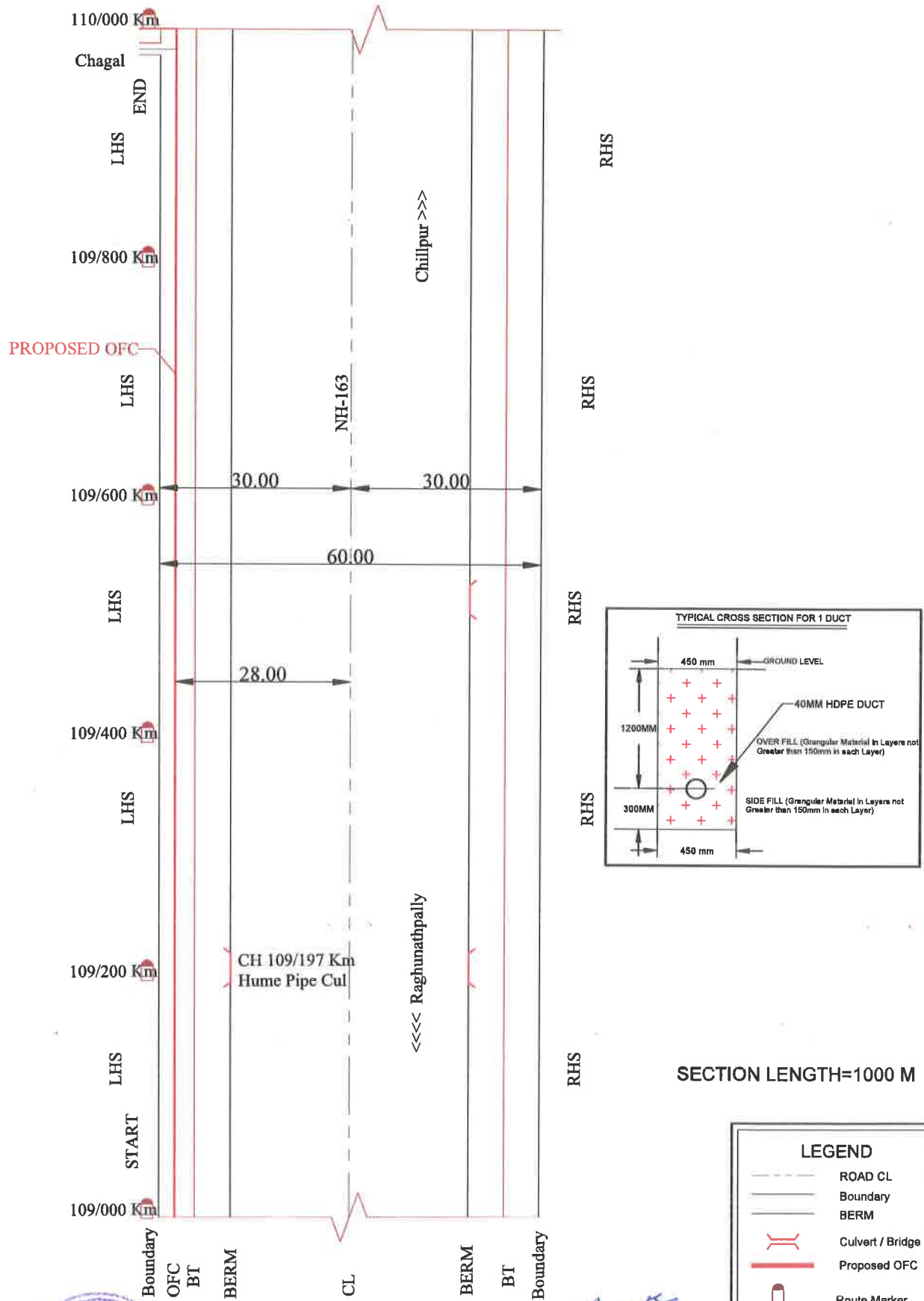
SECTION LENGTH=1000 M

LEGEND	
---	ROAD CL
---	Boundary
---	BERM
()	Culvert / Bridge
---	Proposed OFC
●	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

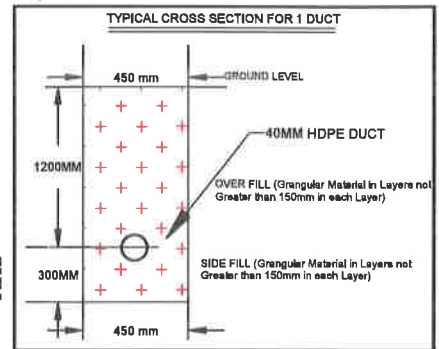
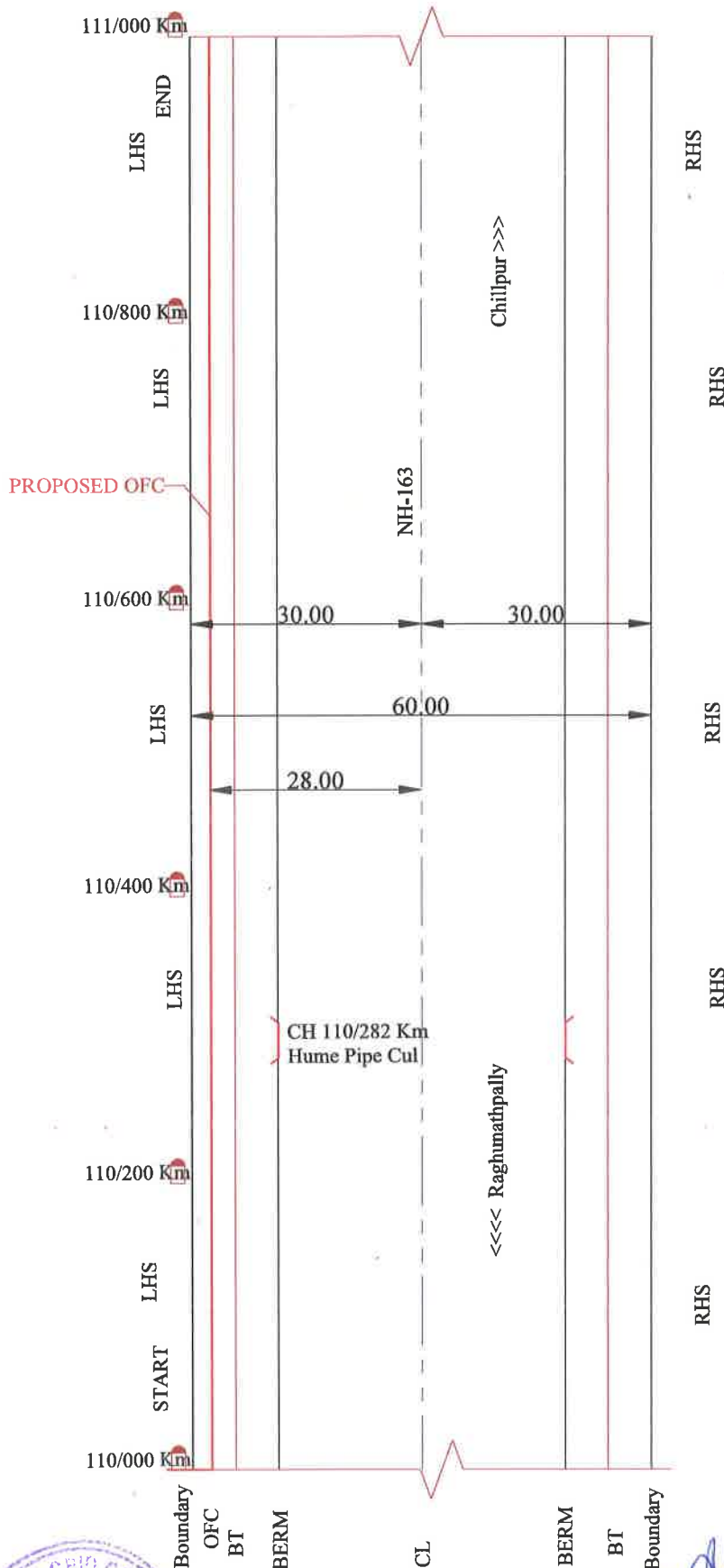
Ghanpur (Station) Mandal NH- 163 - 109/000 to 110/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Ghanpur (Station) Mandal

NH- 163 - 110/000 km to 111/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- () Culvert / Bridge
- Proposed OFC
- Route Marker

SCALE

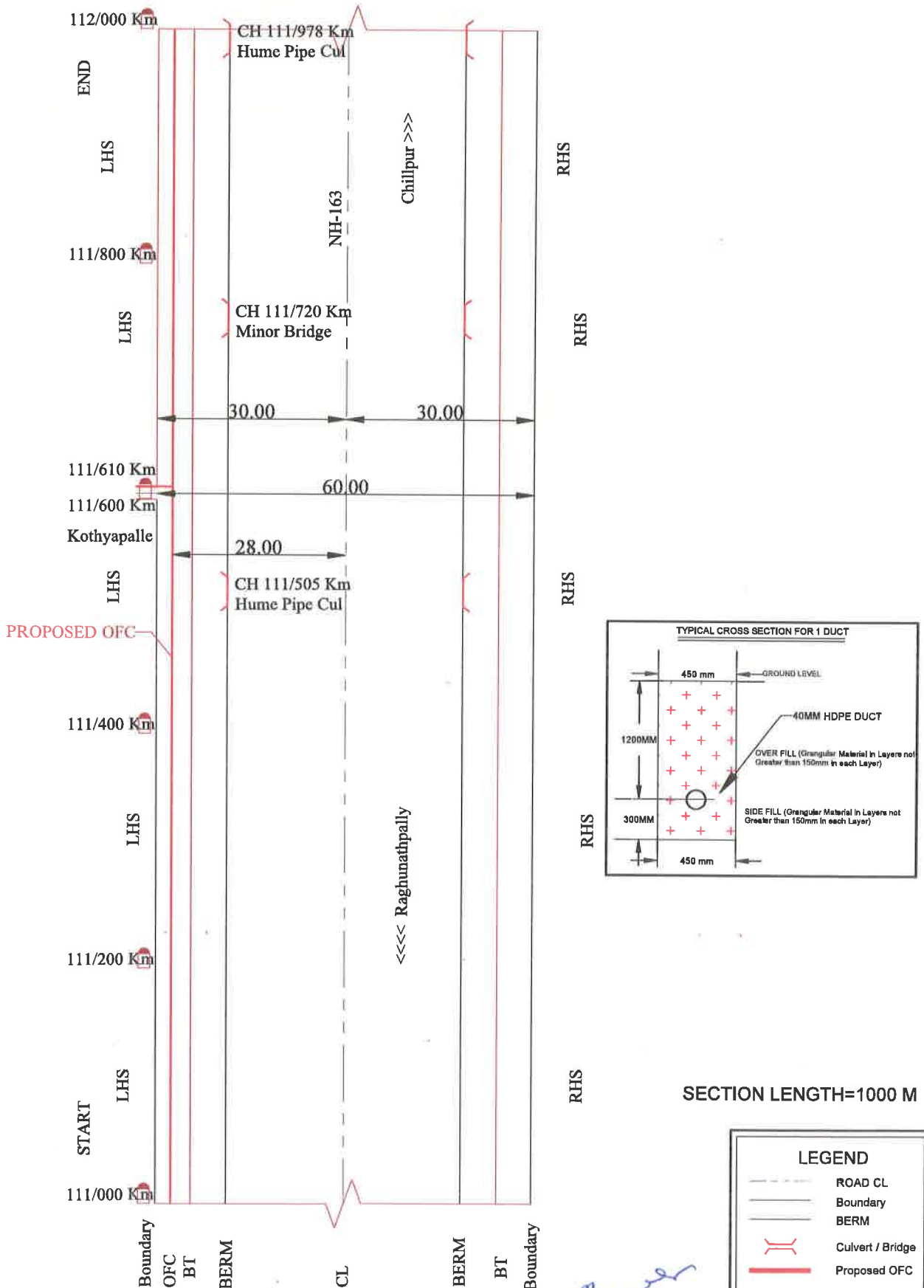
NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

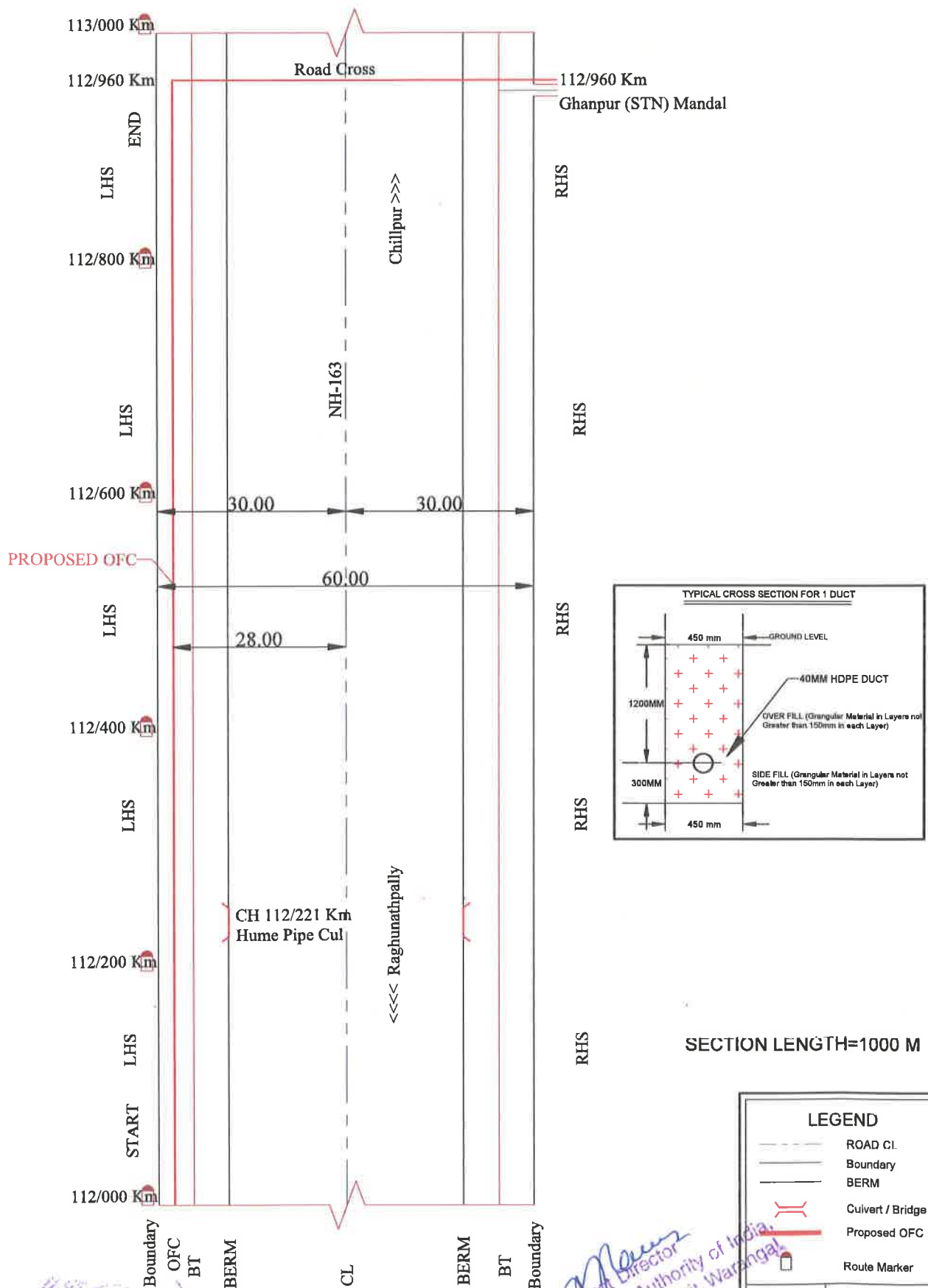
Ghanpur (Station) Mandal

NH- 163 - 111/000 km to 112/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

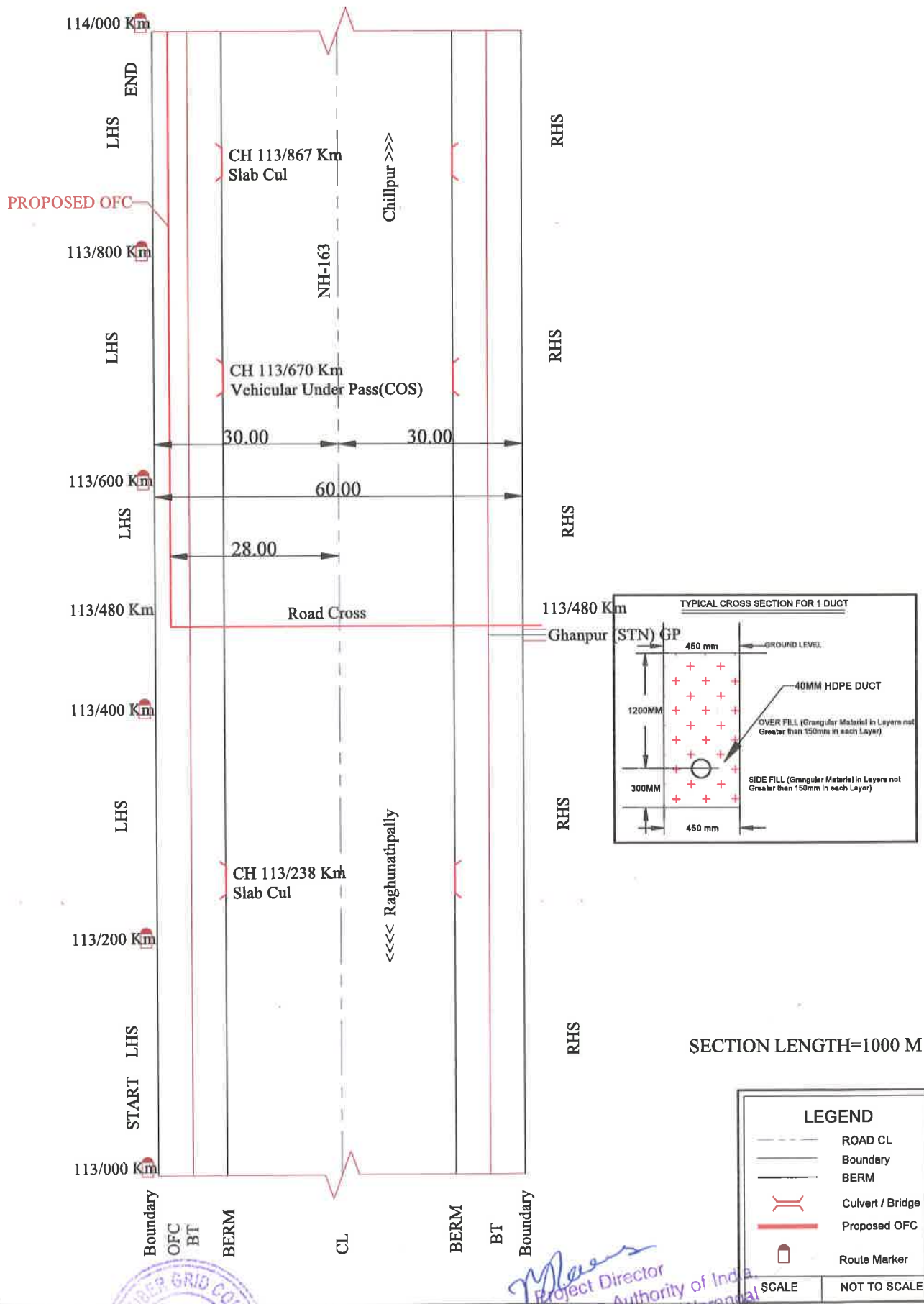
Ghanpur (Station) Mandal NH- 163 - 112/000 km to 113/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

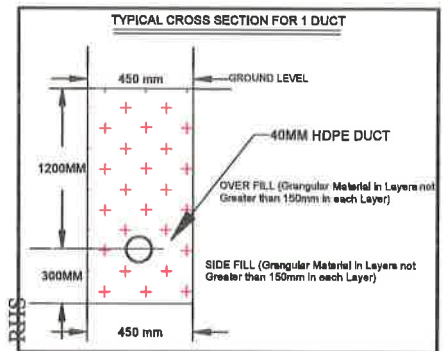
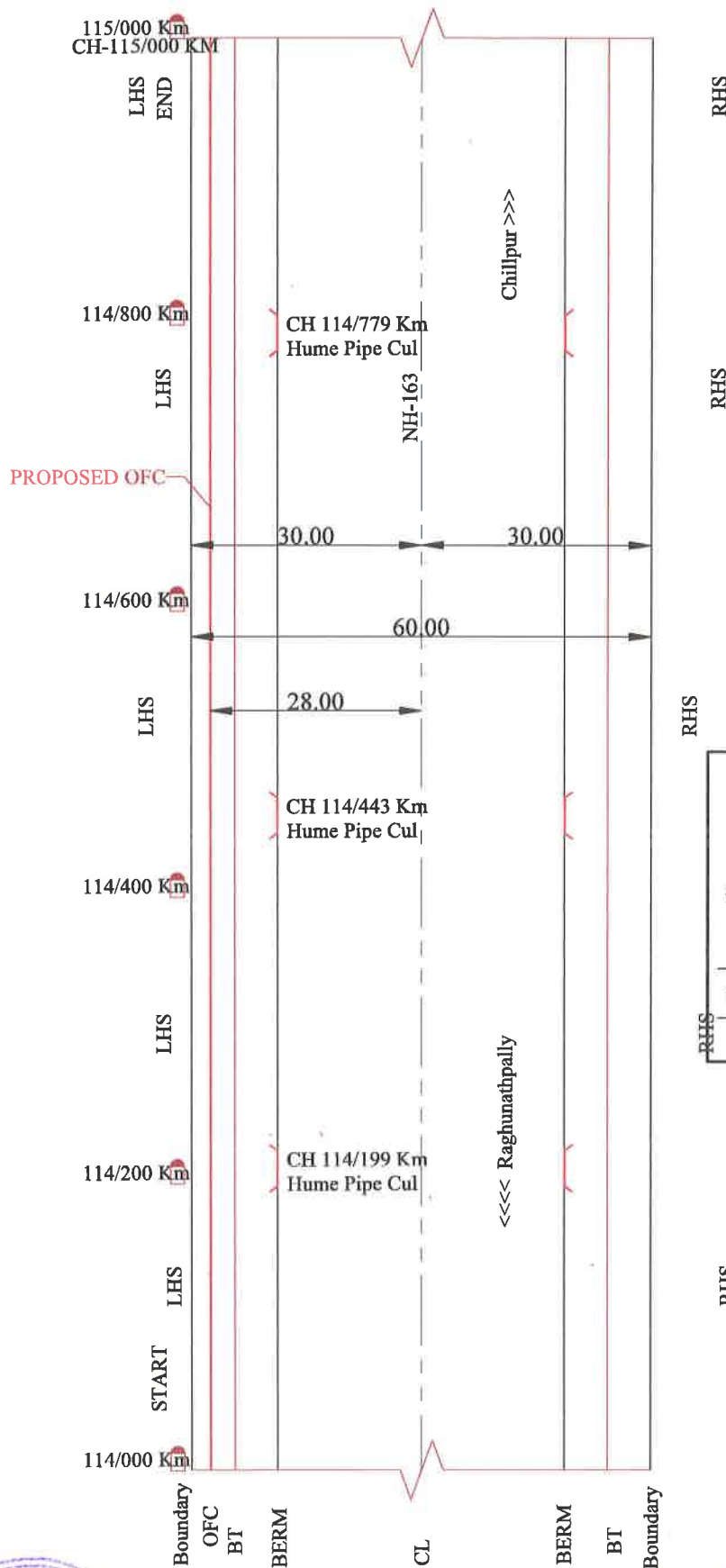
Ghanpur (Station) Mandal

NH- 163 - 113/000 km to 114/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Ghanpur (Station) Mandal NH- 163 - 114/000 km to 115/000 km



SECTION LENGTH=1000 M

LEGEND

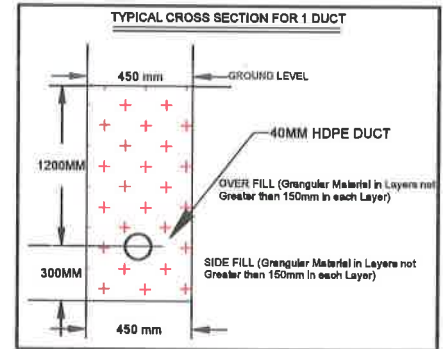
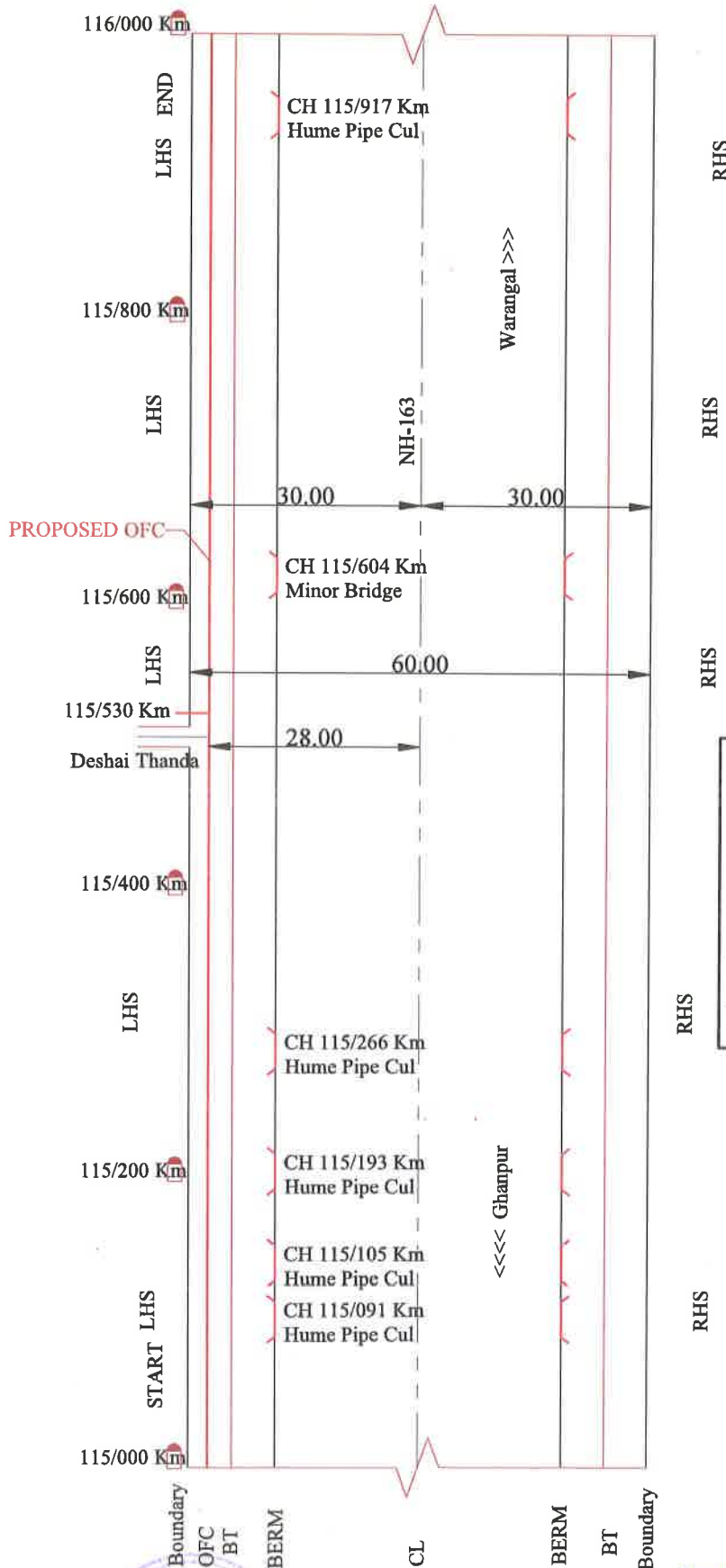
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



[Signature]
Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal

NH- 163 - 115/000 to 116/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

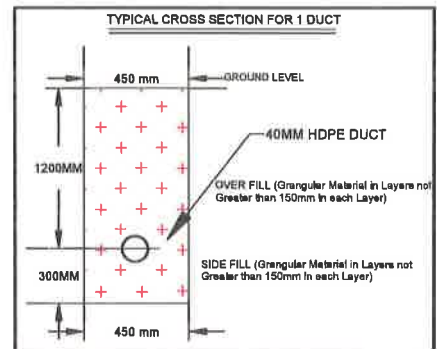
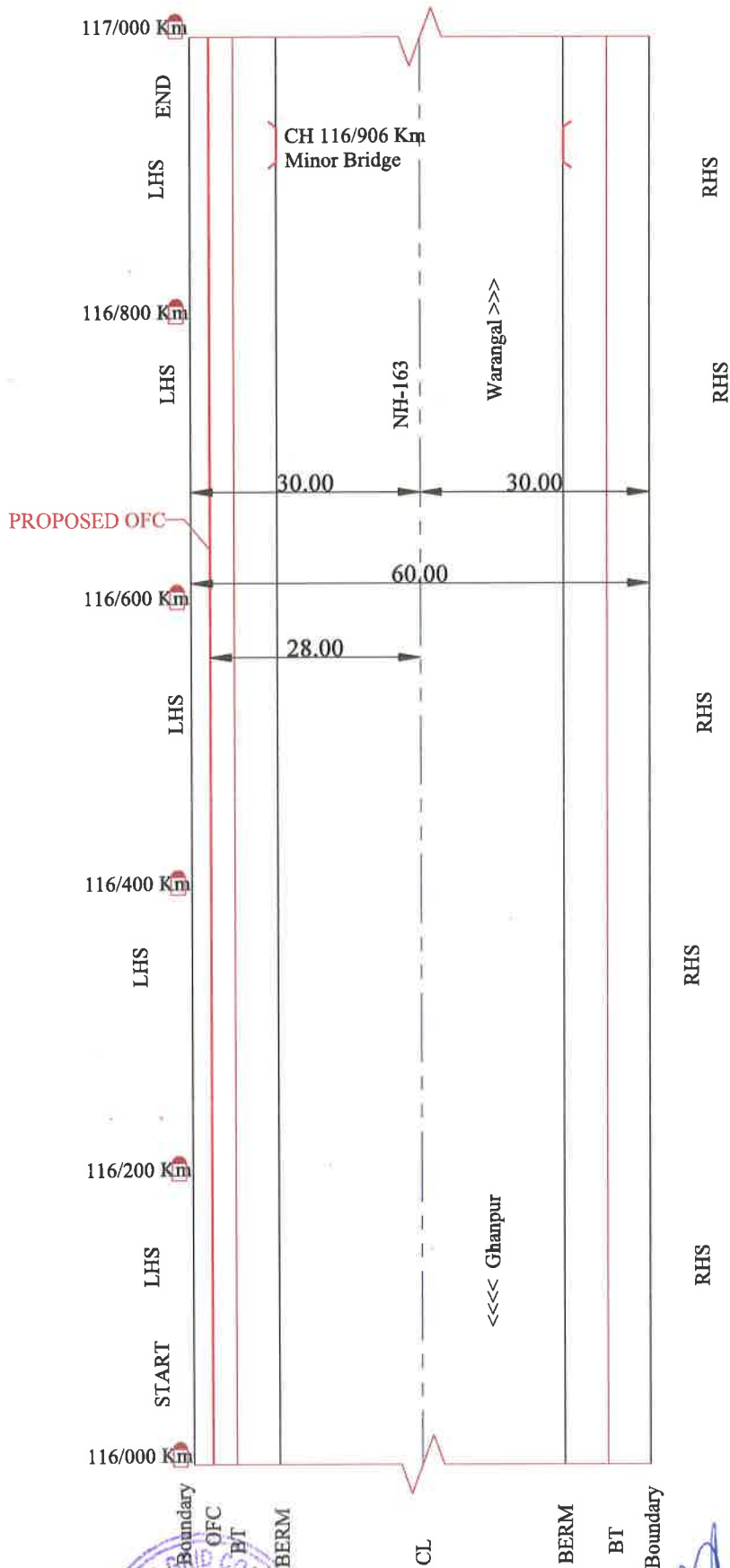
SCALE NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal

NH- 163 - 116/000 km to 117/000 km



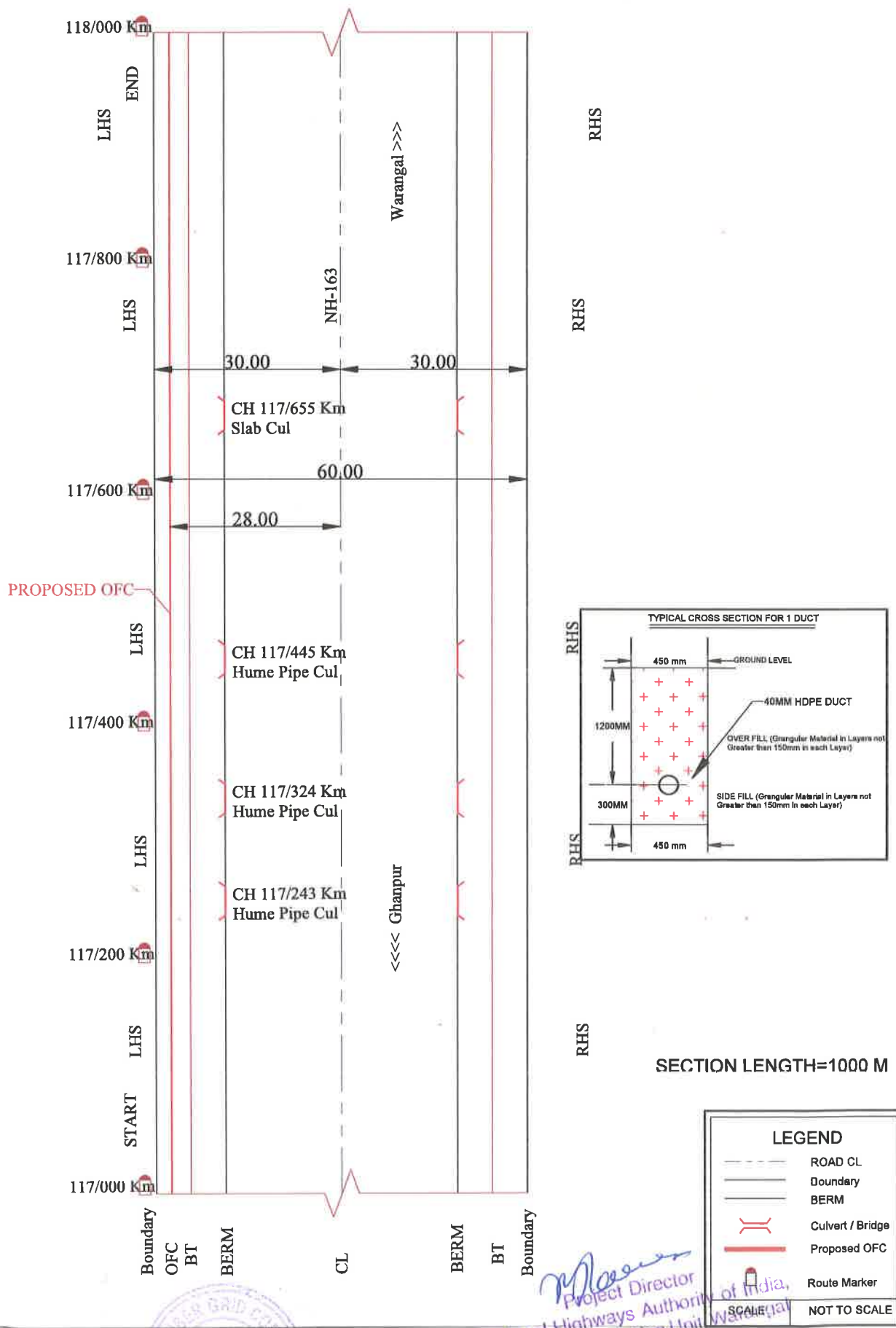
SECTION LENGTH=1000 M

LEGEND	
---	ROAD CL
---	Boundary
---	BERM
()	Culvert / Bridge
---	Proposed OFC
●	Roule Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

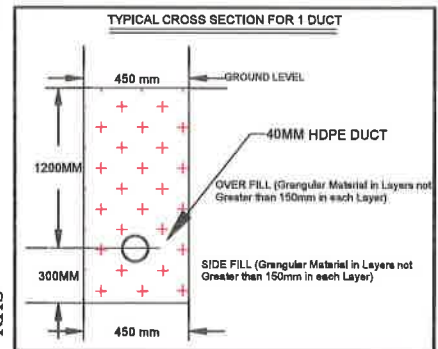
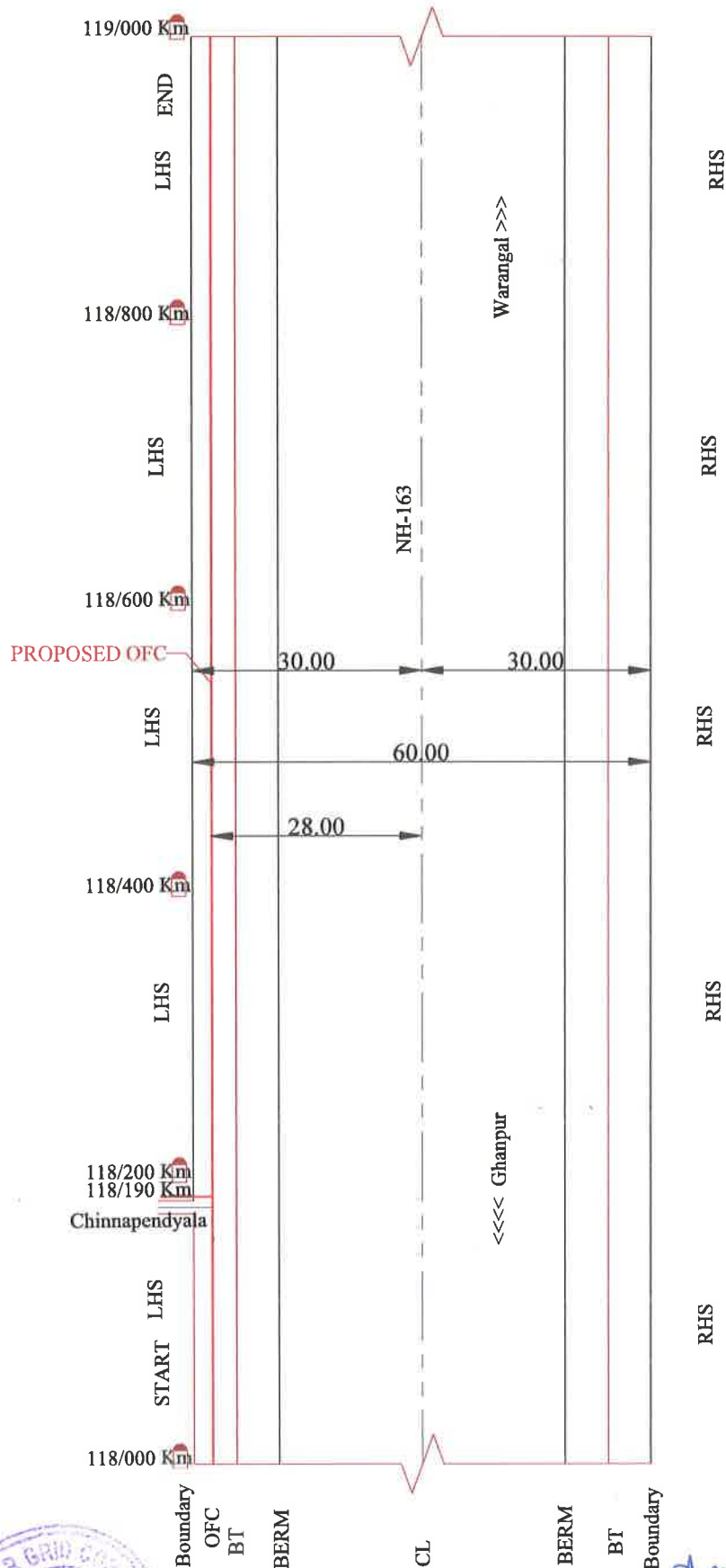
Chilpur Mandal NH- 163 - 117/000 km to 118/000 km



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Chilpur Mandal

NH- 163 - 118/000 km to 119/000 km



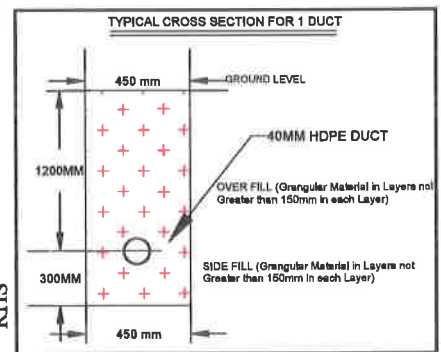
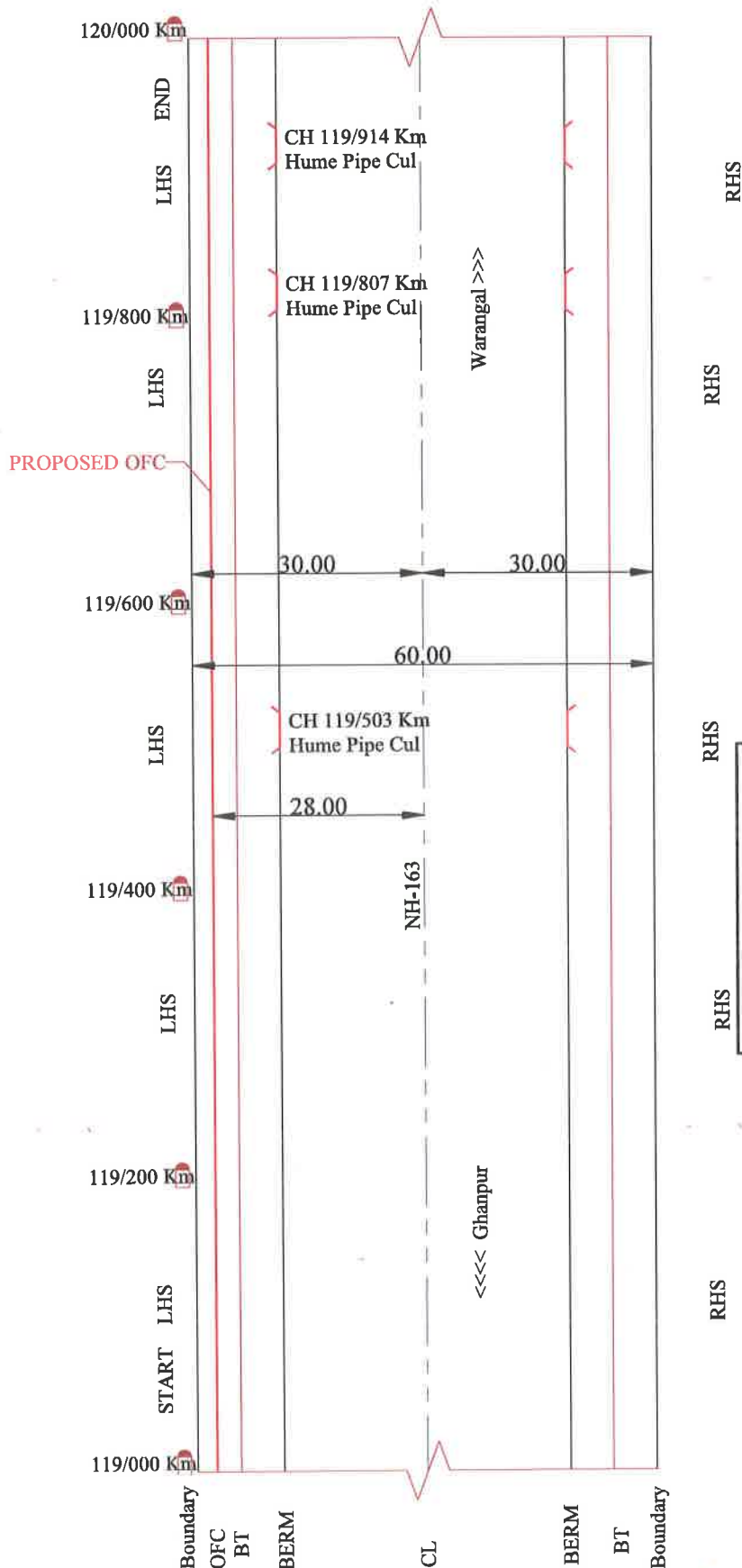
SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal NH- 163 - 119/000 km to 120/000 km



SECTION LENGTH=1000 M

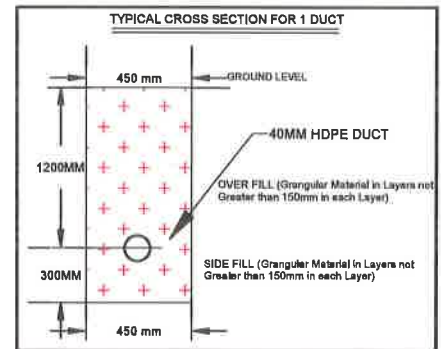
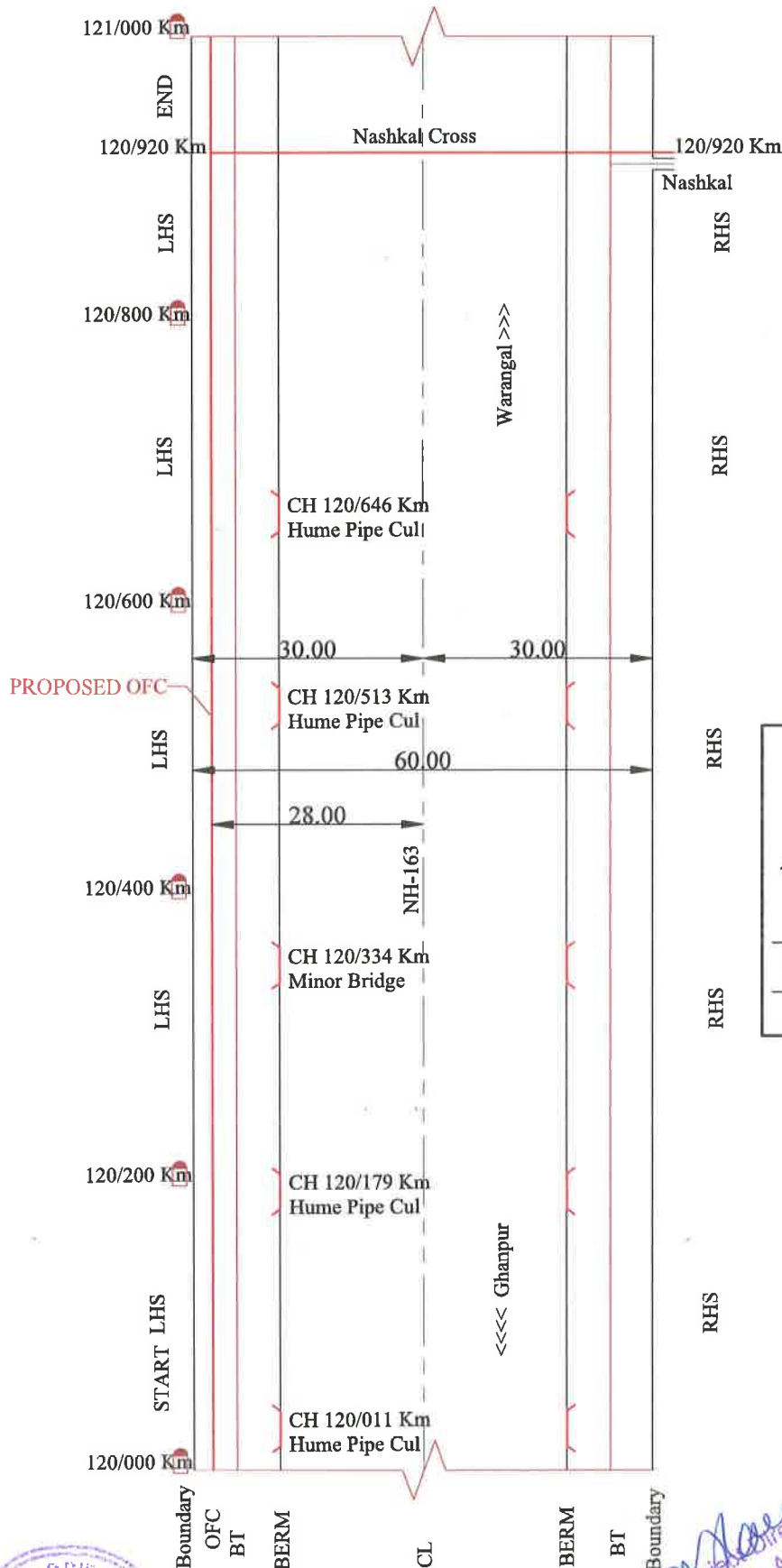
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal

NH- 163 - 120/000 km to 121/000 km



SECTION LENGTH=1000 M

LEGEND

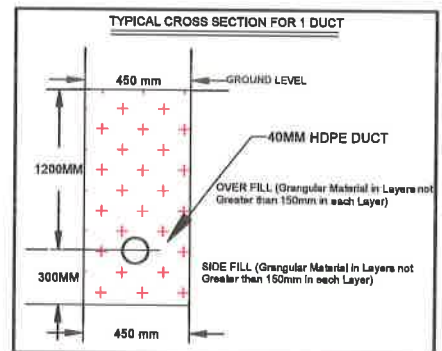
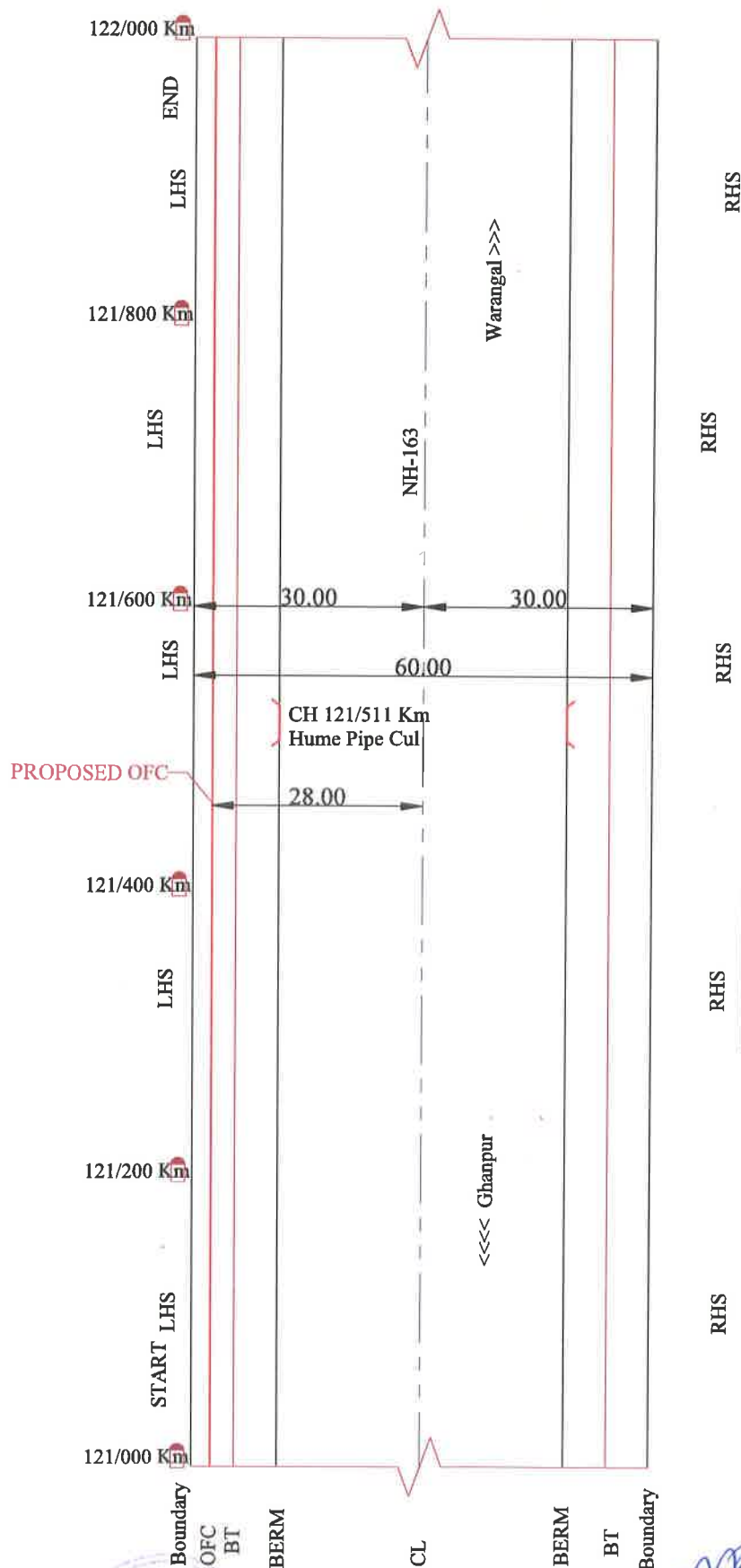
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal

NH- 163 - 121/000 km to 122/000 km



SECTION LENGTH=1000 M

LEGEND

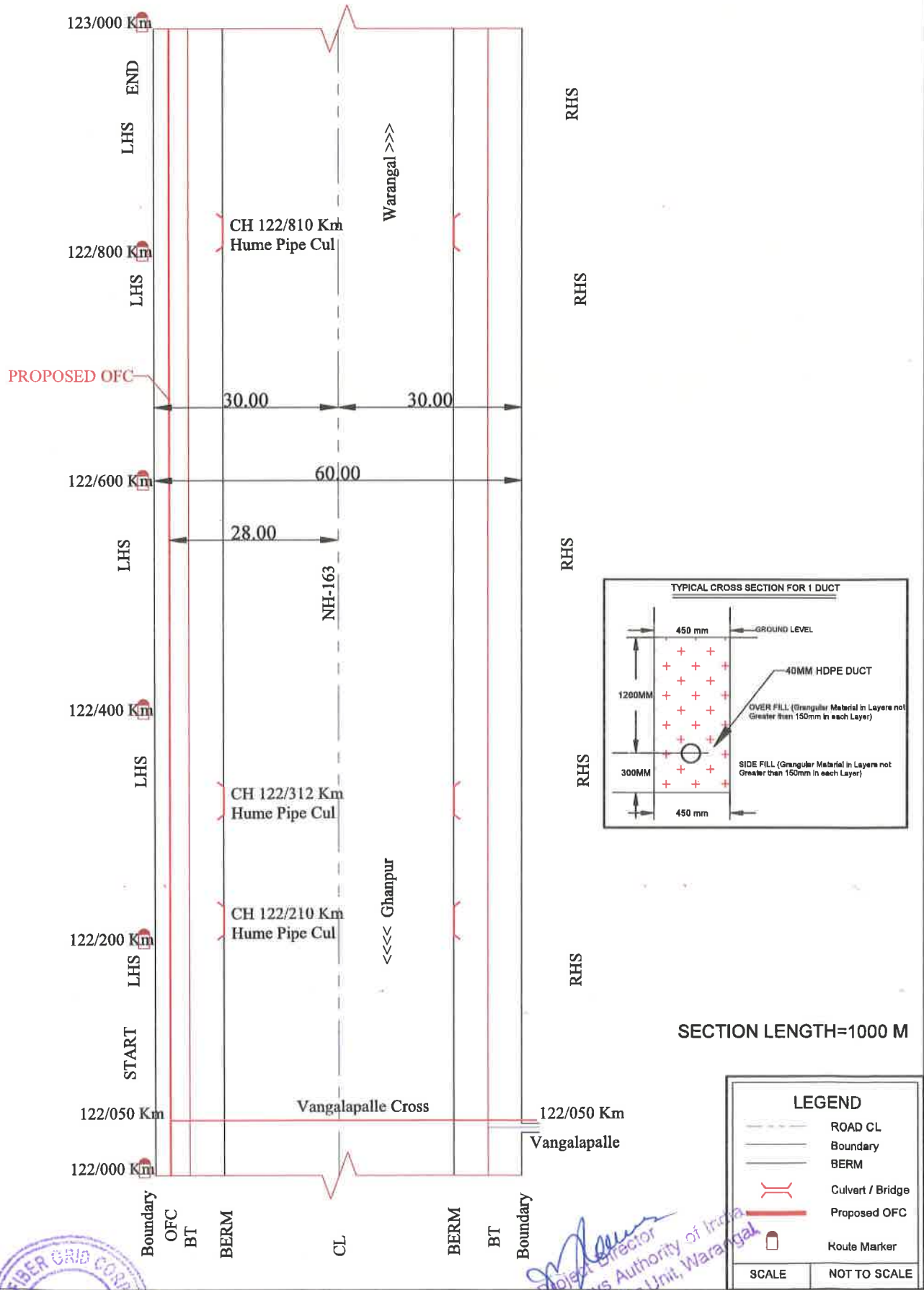
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
	SCALE
	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal

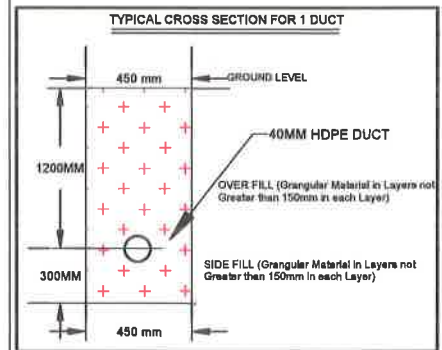
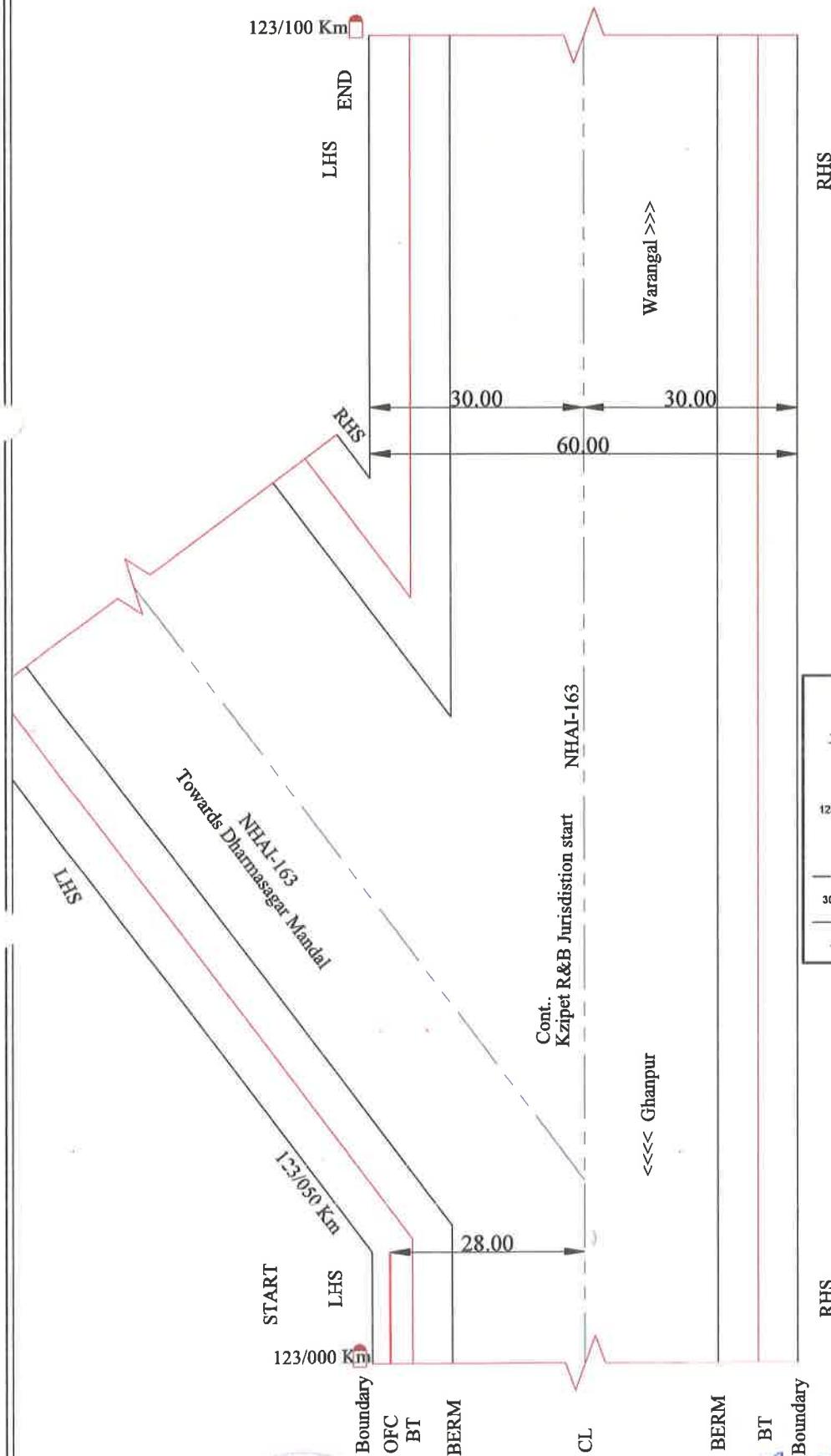
NH- 163 - 122/000 km to 123/000 km



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal

NH- 163 - 123/000 km to 123/100 km



SECTION LENGTH=100 M

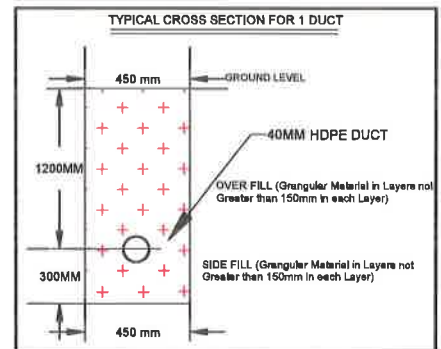
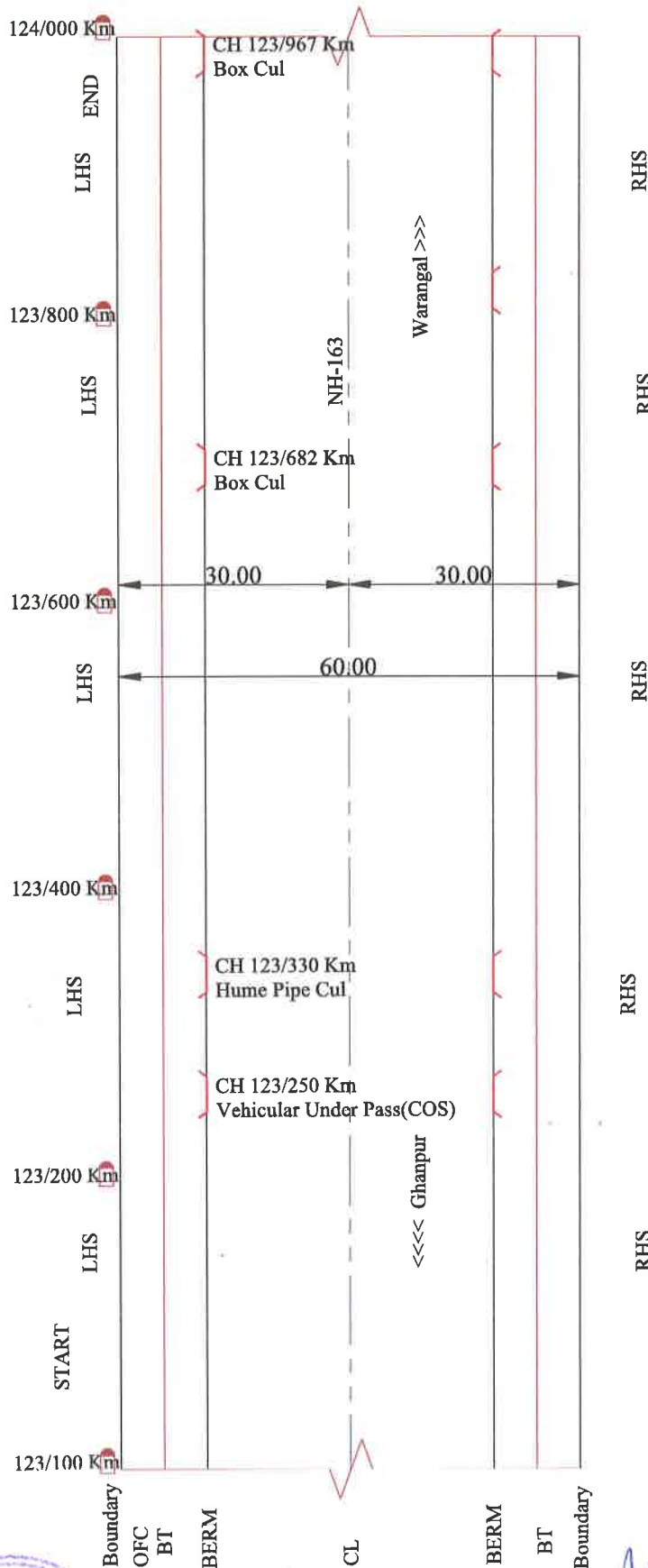
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal

NH- 163 - 123/100 km to 124/000 km



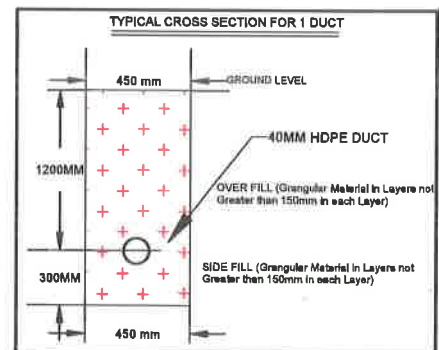
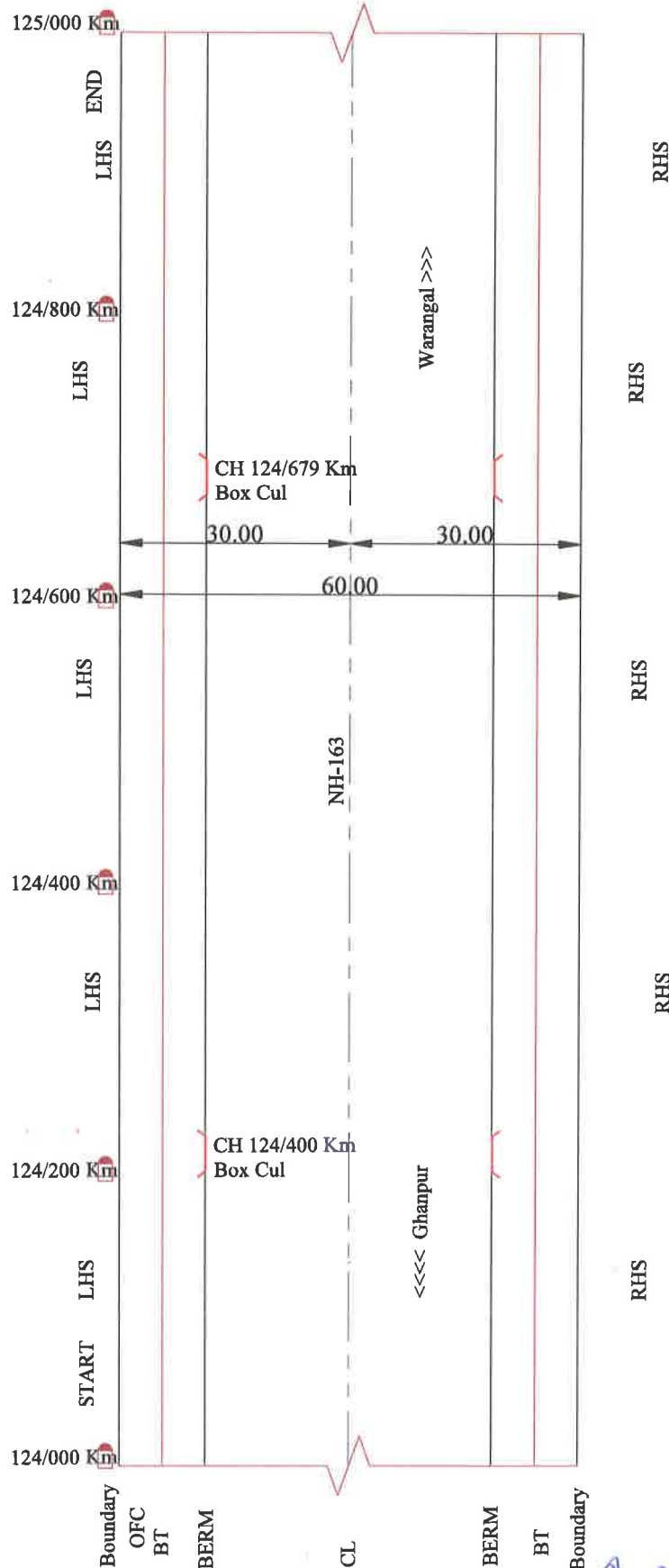
SECTION LENGTH=900 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India
Project Implementation Unit, Warangal

Chilpur Mandal NH- 163 - 124/000 km to 125/000 km



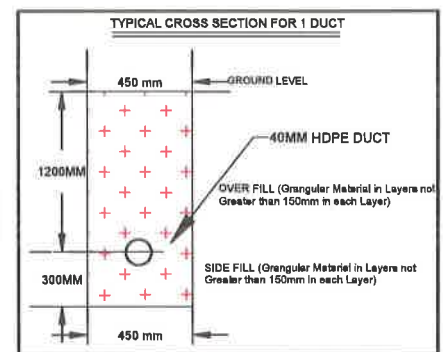
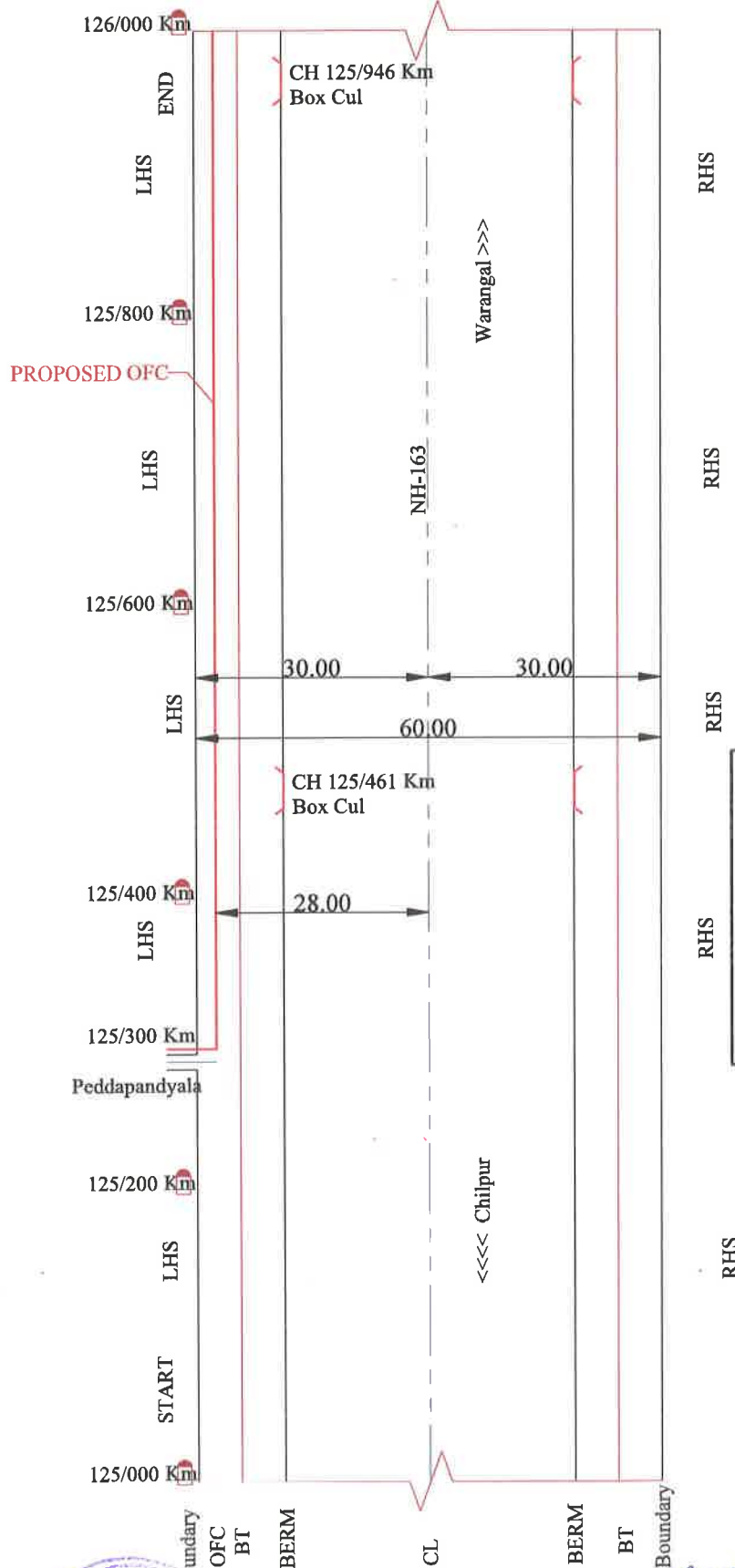
SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Dharmasagar Mandal

NH- 163 - 125/000 km to 126/000 km



SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

NH- 163 - 126/000 km to 127/000 km



LEGEND

	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker

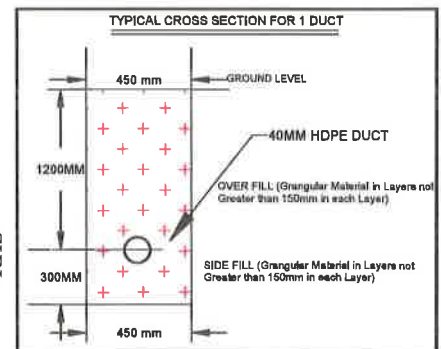
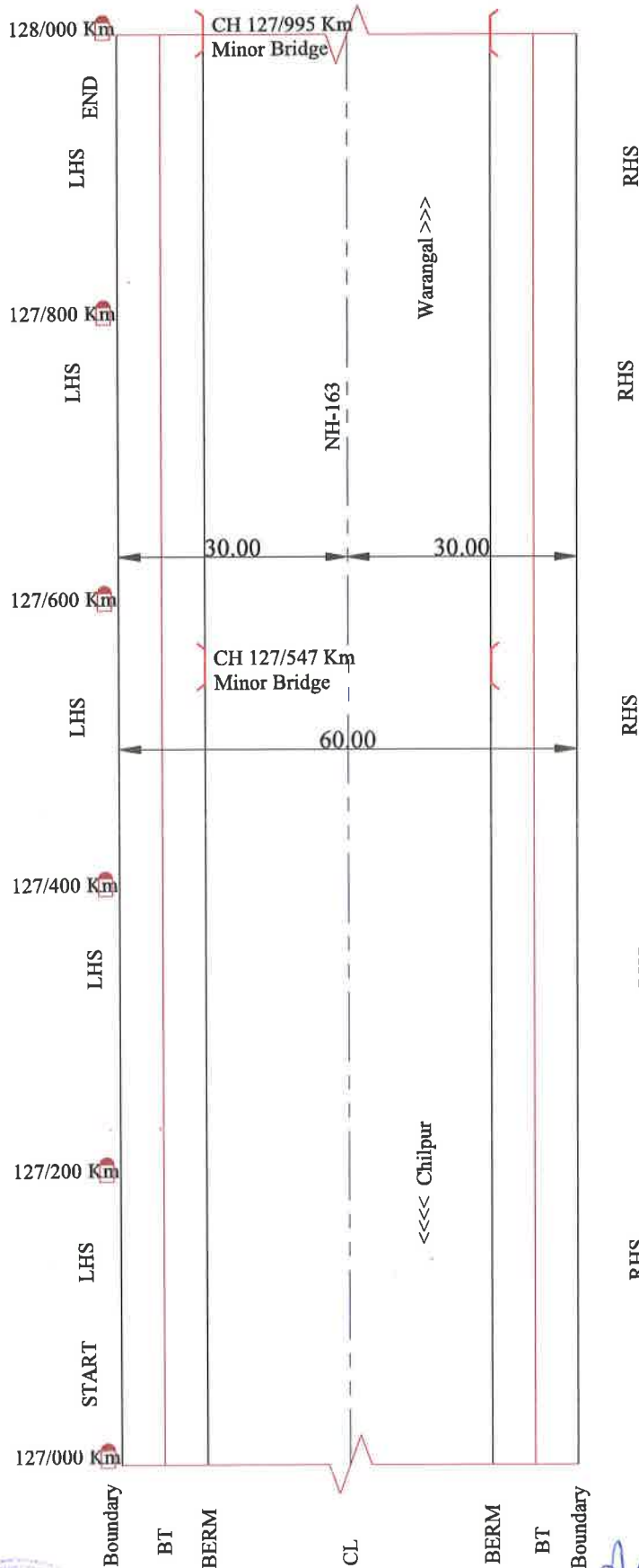
SCALE	NOT TO SCALE
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BER
BT
Bound

[Signature]
Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Dharmasagar Mandal

NH- 163 - 127/000 km to 128/000 km



SECTION LENGTH=1000 M

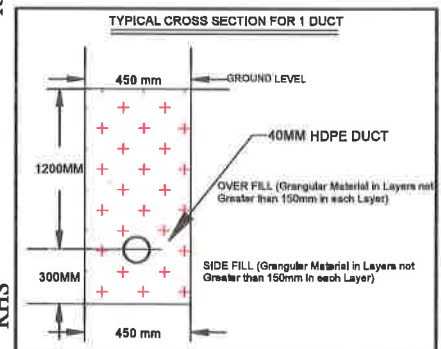
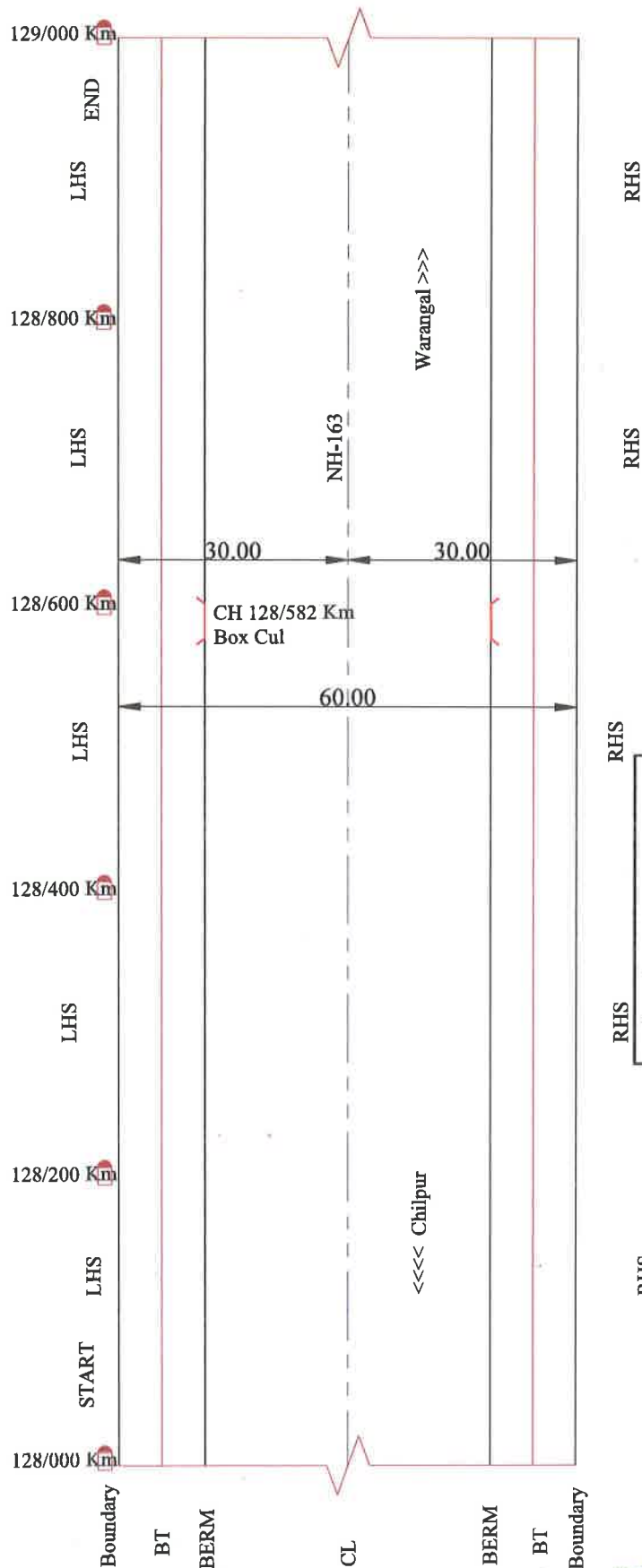
LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE



Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Dharmasagar Mandal

NH- 163 - 128/000 km to 129/000 km



SECTION LENGTH=1000 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

SCALE NOT TO SCALE

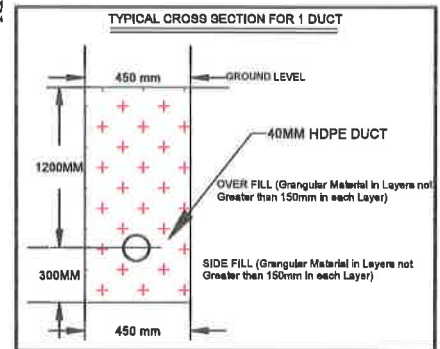
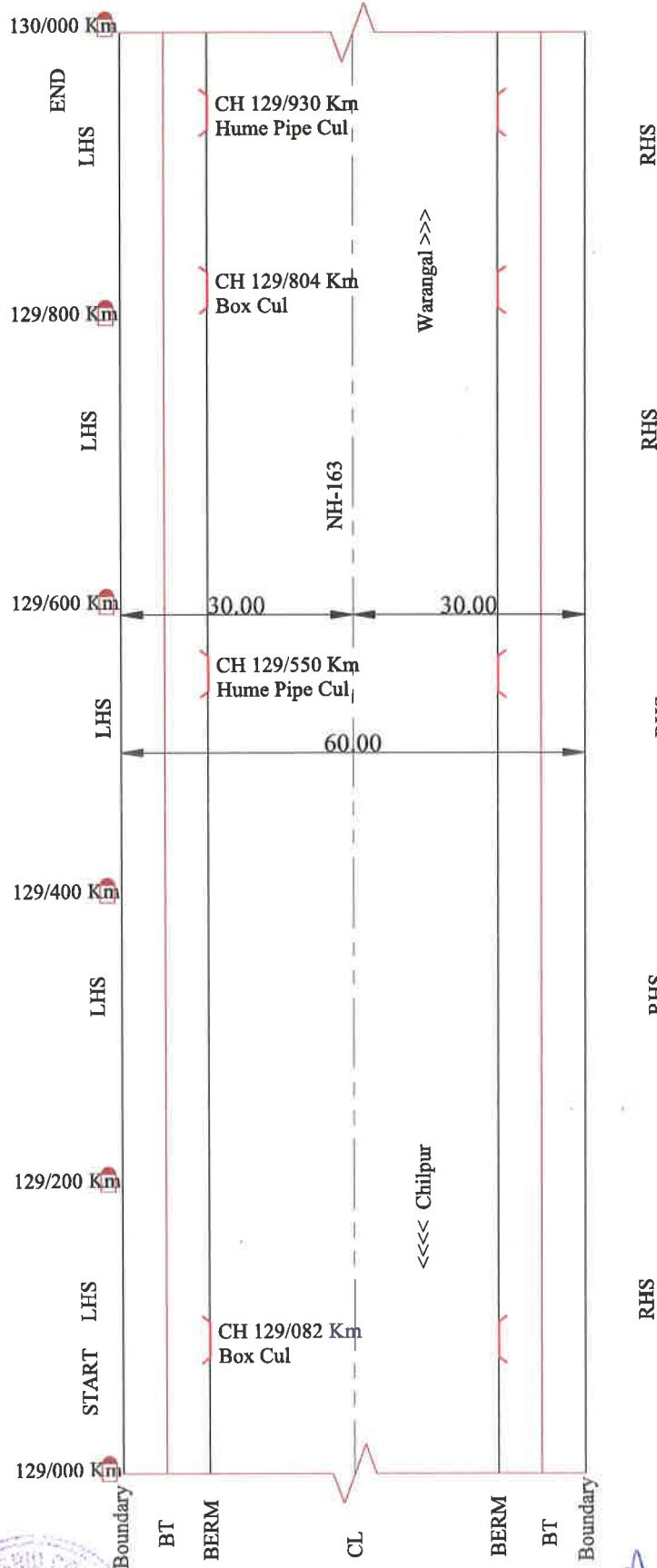
Signature



Signature
Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal

Dharmasagar Mandal

NH- 163 - 129/000 to 130/000 km



SECTION LENGTH=1000 M

LEGEND	
	ROAD CL
	Boundary
	BERM
	Culvert / Bridge
	Proposed OFC
	Route Marker
SCALE	NOT TO SCALE

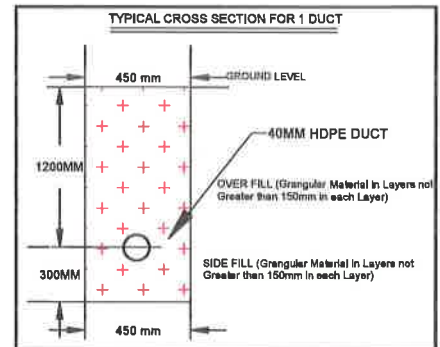
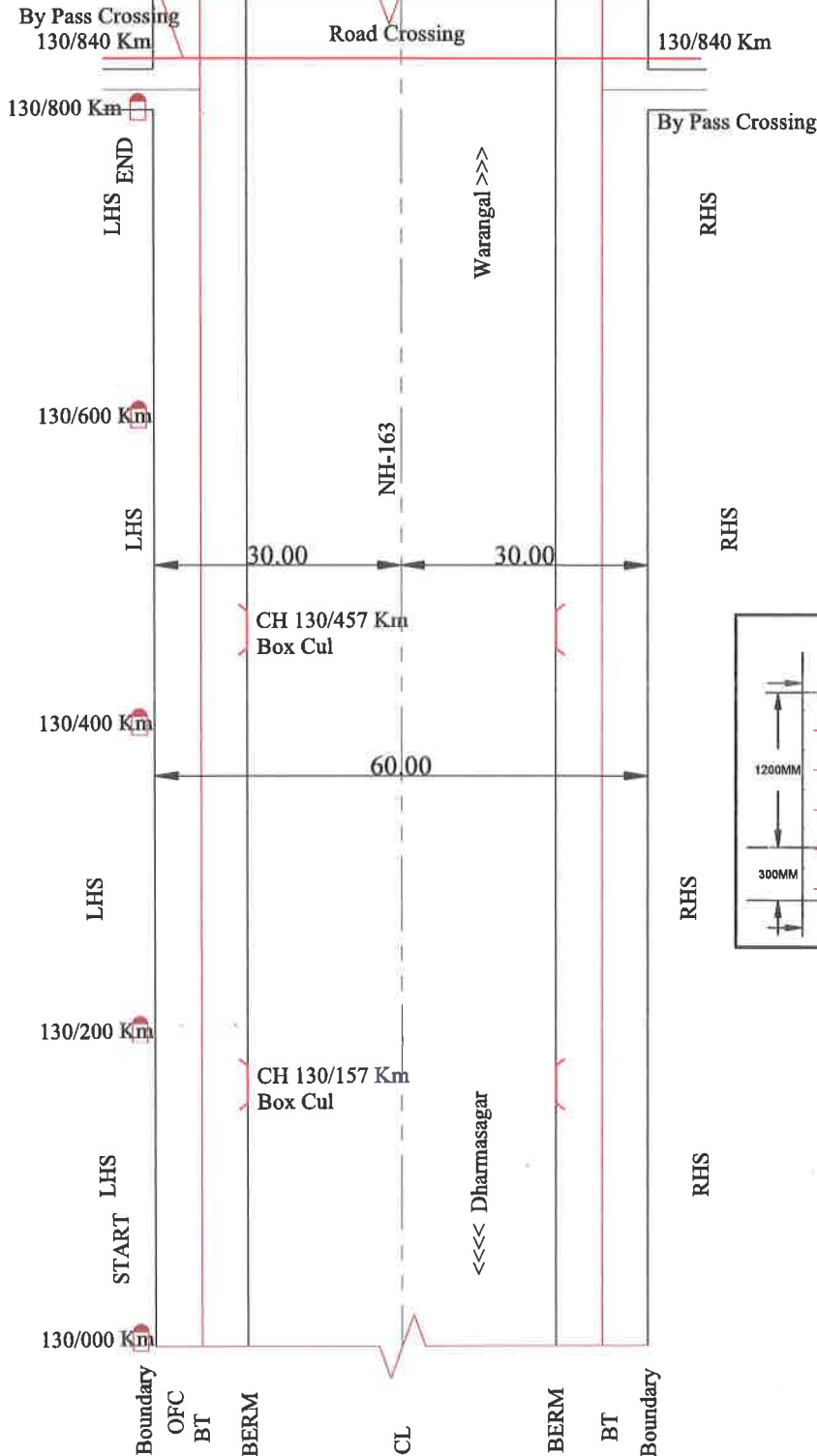


Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal.

Kazipet Mandal

NH- 163 - 130/000 km to 130/840 km

PROPOSED OFC



SECTION LENGTH=840 M

LEGEND

- ROAD CL
- Boundary
- BERM
- Culvert / Bridge
- Proposed OFC
- Route Marker

SCALE NOT TO SCALE

[Signature]
Project Director
National Highways Authority of India,
Project Implementation Unit, Warangal