

No. RO/VJA/Misc.24/B/OFC/NH-40/Sr.no.87/9821

Government of India

Ministry of Road Transport & Highways

Regional Office, Vijayawada

Door No.41-29-45A, 3rd & 4th floors, MORTH/NHAI Buildings, Ranigarithota,
Near Kanakadurga Varadhi, Krishnalanka, Vijayawada-520013. Tele: 0866-2571985

Dated: 02.12.2021

Invitation of Public Comments

Sub: Proposal for Permission for laying Optical Fibre cable (OFC) along NH-40 by M/s Airtel Telesonic Network Ltd., Hyderabad from km 299/288 to km 316/000 (LHS) of NH-40 for a total length of 16,712mts and across the road at Km 311/000 for a length of 30mts in Chittoor District in the State of Andhra Pradesh - reg.

Please find enclosed herewith the proposal in accordance with Ministry's latest guidelines dated 22.11.2016 forwarded by Chief Engineer(R&B), NH & CRF, AP vide letter dated 11.11.2021 for laying Optical Fibre cable (OFC) by M/s Airtel Telesonic Network Ltd., Hyderabad from km 299/288 to km 316/000 (LHS) of NH-40 for a total length of 16,712mts and across the road at Km 311/000 for a length of 30mts in Chittoor District in the State of Andhra Pradesh by the Horizontal Directional Drilling (HDD) method.

2. As per the guidelines, issued by the Ministry vide Circular No.RW/NH-33044/29/2015/S&R(R) dated 22.11.16, the proposal for Highway crossing permission along National Highways shall be put out in the public domain for 30 days for seeking claims and objections on grounds of public inconvenience, safety and general public interest.

3. In view of the above, comments of the public on the above mentioned proposal is invited on the address mentioned below:

The Regional Officer,
Ministry of Road Transport and Highways,
Regional Office, Vijayawada
Door No.41-29-45A, 3rd & 4th floors, MORTH/NHAI Buildings, Ranigarithota,
Near Kanakadurga Varadhi, Krishnalanka, Vijayawada-520013. Tele: 0866-2571985.
Email id: romorthvijayawada@gmail.com.

Yours Faithfully,

Encl: As above

(Venkataiah Mekala)

Sr. Technical Assistant,
For Regional Officer, MoRTH, Vijayawada

Copy to:

- 1) Senior Technical Director, NIC for uploading on the Ministry's website.
- 2) The Chief Engineer(R&B), NH & CRF, AP.
- 3) M/s Airtel Telesonic Network Ltd., Hyderabad, 1-8-437, 438, 364 & 445, splendid towers, Opp: Begumpet Police Station, Hyderabad - 500016.

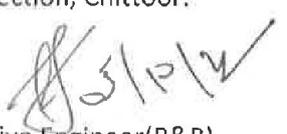
INSPECTION REPORT

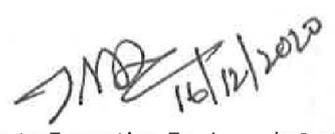
The concerned authority of Airtel has requested to accord Road cutting Permission for laying HDPE Duct for Optical Fiber lines along NH-40 (Old NH-18) from Km 299/288 to 360/000 (LHS) for total length of 16.742 Km in Chittoor district of Andhra Pradesh under (R&B) NH division ,Chittoor.

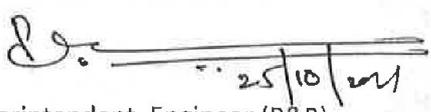
We have inspected the site along with concerned authorized representatives of Airtel on 12.12.2020 with reference to the above proposal submitted. the following points were observed and mentioned below.

1. The total length of laying of OFC proposed to laid is 16742 meters along the road from Km 299/288 to 316/0 of NH-40 in Chittoor district of Andhra Pradesh as mentioned below.
2. Road crossings are mentioned in the attached checklist.
3. The firm has proposed to lay 40mm pipeline at the depth of 1.65 m from existing ground level.
4. Above OFC lines shall have to be laid at a minimum distance of 12 meters
5. The ROW of road varies from 25m to 30 m. in this stretch.
6. Restoration of the trenches should be done by the agency as specified in MoRTH circular Memo No.RW/NH/33033/29/2015/S&R (R) , dated 22.11.2016
7. The strip plan, methodology of laying pipeline and other documents submitted by the agency are attached herewith.


Assistant Executive Engineer(R&B)
NH Section, Chittoor.

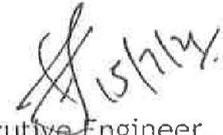

Executive Engineer(R&B)
NH Division, Chittoor.

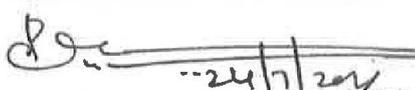

Deputy Executive Engineer(R&B)
NH Sub-Division, Chittoor.


Superintendent Engineer (R&B)
NH Circle, Anantapur.

CERTIFICATE

1. Undersigned has examined the proposal of the applicant M/S Airtel Telesonic Network Ltd., Hyderabad for "laying Optical Fibre Cable (OFC) of NH-40 along the road from Km 299/288 to 316/000 in LHS for a length of 16712 mts and across the road at Km 311/000 for a length of 30.00 mts in Chittoor District" and confirm that all the standard conditions issued vide MORT&H Circular Memo.No.RW/NH/330044/29/2015/S&R(R), Dt:22.11.2016.
2. It is certified that any other location of Utility line would be extremely difficult and unreasonable costly and installation of utility line within ROW will not adversely affect the design, stability and traffic safety of the highway nor the likely future improvement such as widening of the carriageway, easing of curve etc.
3. I will ensure supervision of the work of laying of utility and ensure that the defects in road portion after laying of utility are corrected.
4. I will notify/forfeit the BG for claims for damages done/disruption in working, if any.
5. I will ensure that proposed permission is entered in the register of records.
6. The records of previous approval, if any has been considered and copy of same is enclosed with the proposal.


Executive Engineer,
(R&B) NH Division, Chittoor.


Superintending Engineer
(R & B) NH Circle, Anantapuramu


B/W
15/07/2022

// Countersigned //

24/7/2022

SPECIFICATION REPORT

Specification report to accompany the estimate towards license fee for laying of OFC along for laying HDPE Duct for Optical Fiber lines along NH-40 (Old NH-18) from Km 299/288 to 316/000 (LHS) for total length of 16.742 Km in Chittoor district of Andhra Pradesh under (R&B) NH division ,Chittoor.

Estimate Amount:

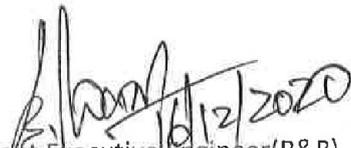
License Fee: Rs. 2,36,135.00/-

Bank Guarantee : Rs 16,74,200.00/-

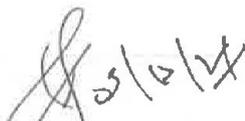
The Authorized Signatory of AIRTEL, has requested to accord permission for laying of OFC from Km 299/288 to 316/000 (LHS) for total length of 16.742 Km in Chittoor district of Andhra Pradesh under (R&B) NH division ,Chittoor.

The Land rates have been obtained from official website of registration & stamps department, Government of Andhra Pradesh and copy of the same is attached herewith.

Further, the license fee and bank Guarantee amount have been worked out as per MoRTH circular Memo No. RW/NH/330044/29/2015/S&R (R), dated 22.11.2016.


Assistant Executive Engineer(R&B)
NH Section, Chittoor


Deputy Executive Engineer(R&B)
NH Sub-Division, Chittoor


Executive Engineer(R&B)
NH Division, Chittoor


Superintendent Engineer (R&B)
NH Circle, Anantapur

Proposal for granting of permission for laying of OfC cable NH-40 Pileru-Chittoor Road by M/s Telesonic Networks Limited between KM 299.000 to KM 316.000 & 1No's of road crossings (30Mtr) for the total length of 17030 meters

| S.No | Location | Chainage (in KM) | | Length (in Mtrs) | Width (in Mtrs) | Area (in Mtrs) | Guidance Value in per Acre (in Rs.) | Guidance Value in Rs./Sqm | Amount (in Rs.) |
|---|-------------------|------------------|---------|------------------|-----------------|----------------|-------------------------------------|---------------------------|-----------------|
| | | From | To | | | | | | |
| 1 | Along the road | 299.288 | | 5012 | | 2256 | | | 766476 |
| 2 | Pileru | 299.000 | 304.300 | 5300 | 0.45 | 2385 | 1375000 | 339.7578453 | 8,10,322.46 |
| 3 | Cherukuaripalle | 304.300 | 307.600 | 3300 | 0.45 | 1485 | 550000 | 135.9031381 | 2,01,816.16 |
| 4 | Yerraguntlapalle | 307.600 | 309.600 | 2000 | 0.45 | 900 | 540000 | 133.432172 | 1,20,088.95 |
| 5 | Agraharam | 309.600 | 313.100 | 3500 | 0.45 | 1575 | 400000 | 98.83864591 | 1,55,670.87 |
| 6 | Sodam | 313.100 | 314.600 | 1500 | 0.45 | 675 | 600000 | 148.2579689 | 1,00,074.13 |
| 6 | Yerrathivaripalle | 314.600 | 316.000 | 1400 | 0.45 | 630 | 550000 | 135.9031381 | 85,618.98 |
| 1 | Across the road | 311.000 | 311.000 | 30 | 0.45 | 13.5 | 1375000 | 98.83 | 1335 |
| | Agraharam | 311.000 | 311.000 | 30 | 0.45 | 13.5 | 1375000 | 39.7578453 | 4,586.73 |
| | | | | 7663.5 | | | 400000 | | 1431081.00 |
| Total Amount (Rs.) 1431081 | | | | | | | | | |
| License Fee (Rs./Per Month) = Rs (478179.00/10*12) | | | | | | | | | |
| License Fee for 5 Years = Rs (2319.00*5*12) | | | | | | | | | |
| For Public Utility of 33% of industrial Utilities as per MORT&H no.RW/NH-33044/29/2015/S&R (R) Dated 22.11.2016 | | | | | | | | | |
| 11926 X 5 X 12 | | | | | | | | | |
| 715560 | | | | | | | | | |
| 11926 X 12319.00 | | | | | | | | | |
| 14,78,179.00 | | | | | | | | | |
| 739140.00 | | | | | | | | | |
| 243917.00 | | | | | | | | | |

RS 236135.00

performance Bank Guarantee @ RS 100 per route meter (600 16.742 km)

[Signature]

Asst. Executive Engineer
(R&B) National Highways
Section-II, CHITTOOR

[Signature]

Executive Engineer
(R&B) National Highways
CHITTOOR

[Signature]

EXECUTIVE ENGINEER
(R & B) N.H. Division
CHITTOOR.

[Signature]

Superintending Engineer
(R & B) NH Circle, Anantapuram



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1/5/2021

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Guidelines for processing the proposal for laying of utility line in the land along National Highways vested with NHAI/PWD/BRO.

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3.14

| Sl. No. | Item | Information/ Status | Remarks |
|---------|--|---|---------|
| 1 | General Information | | |
| 1.1 | Name and Address of the Applicant/Agency | Telesonic Networks Limited, 1-8-437, 438, 364 & 445, Splendid Towers, Opp. Begumpet Police Station, Hyderabad-500016. | |
| 1.2 | National Highway Number | NH-40 | |
| 1.3 | State | Andhra Pradesh | |
| 1.4 | Location | Pileru to Devalampet | |
| 1.5 | (Chainage in km.) | Km.299.288 to Km.316.000 (LHS) | |
| 1.6 | Length in Meters | 16742 M (Along the Road 16712 M + Road crossings 1 X 30 M) | |
| 1.7 | Width of available ROW | | |
| | (a) Left side from center line towards increasing chainage/ km direction | 15 Meters | |
| | (b) Right side from center line towards increasing chainage/ km direction | 15 Meters | |
| 1.8 | Proposal to lay the utility | | |
| | (a) Left side from center line towards increasing chainage/km directions | NA | |
| | (b) Right side from center line towards increasing /km direction | Km.299.288 to Km.316.000 (LHS) | |
| 1.9 | Proposal to acquire land | | |
| | a) left side from 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 | NA | |
| 1.12 | Number of existing lanes (2/4/6/8 lanes) | 2 lane | |
| 1.13 | Proposed Number of lanes (2 lane with paved shoulders/4 /6/8 lanes) | NA | |
| 1.14 | Service road existing or not | NA | |
| | If yes then which side | | |
| | (a) Left side from center line | NA | |
| | (b) Right side from center line | NA | |
| 1.15 | Proposed Service road | | |
| | (a) Left side from center line | | |
| | (b) Right side from center line | NA | |
| 1.16 | Whether proposal to lay utility is after the service road or between the service road and main carriageway | NA | |



Asst. Executive Engineer
(R & B) National Highways
Section-II, CHITTOOR

Deputy Executive Engineer
(R & B) National Highways
CHITTOOR

EXECUTIVE ENGINEER
(R & B) N.H. Division
CHITTOOR.

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| 1.17 | Whether carrying of sewage/OFC has been proposed on highway Bridges. If yes, then mention the methodology proposed for the same. | No, Utility (OFC) not proposed on Bridges. | |
| 1.18 | Whether carrying of sewage/OFC has been proposed on the parapet/any part of the Bridges. If yes, then mention the methodology proposed for the same. | No, Utility (OFC) not proposed on the parapet/any part of the Bridges. | |
| 1.19 | If Crossing of the Road involved If Yes, it shall be either encased in pipes or through structure or conduits specially built for that purpose at the expense of the agency owning the line | Yes @ Km.311/000 | |
| | a) Whether the existing drainage structures are allowed to carry the OFC | No | |
| | b) Is it on a line normal to NH | Yes | |
| | c) What is the distance of crossing the utility OFC from the existing structures? Crossings shall not be too near the existing structures on the National Highway, the minimum distance being 15 meter. | Not Applicable | |
| | d) The casing pipe (or conduit pipe in the case of electric cable) carrying the utility line shall be of steel, cast iron or reinforced concrete and have adequate strength and be large enough to permit ready withdrawal of carrier pipe/cable Mention type of casing. | Not Applicable | |
| | e) Ends of the casing/conduit pipe shall be sealed from the outside, so that it does not act as a drainage path | Not Applicable | |
| | f) The casing/conduit pipe should be as minimum extend from drain to drain in cuts and toe of slope in the fills. | Not Applicable | |
| | g) The top of the casing/conduit pipe should be at least 1.5 meter below the surface of the road subject to being at least 0.3 m below the drain inverts. Mention the proposed details | Applicable | |
| | h) Mention the methodology proposed for crossing of road for the proposed sewage/OFC. Crossing shall be by boring method (HDD) (Trenchless Technology), specially where the existing road pavement is of cement concrete or dense bituminous concrete type | Using HDD methodology | |
| | i) The casing/conduit pipe shall be installed with an even bearing throughout its length and in such a manner as to prevent the formation of a water way along it | Not Applicable | |
| 2 | Document/Drawings to be enclosed with the proposal | Enclosed | |



Asst. Executive Engineer
(R&B) National Highways
Section-II CHITTOOR

Deputy Executive Engineer
(R&B) National Highways
CHITTOOR

EXECUTIVE ENGINEER
(R & B) N.H. Division
CHITTOOR.

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| 2.1 | Cross section showing the size of trench for open trenching method | Enclosed | |
| | Is it normal size of 1.5m deep x 0.3 m wide | Yes | |
| | i) should not be greater than 60 cms wider than the outer diameter of the pipe | Yes | |
| | ii) located as close to the extreme edge of the Right of Way as possible but not less than 15m from the center line of the nearest carriageway | Drawing Enclosed | |
| | iii) shall not be permitted to run along the National Highways when the road formation is situated in double cutting nor shall these be laid over the existing culverts and bridges | Not Applicable | |
| | iv) These should be so laid that their top is at least 0.6m below the ground level so as not to obstruct drainage of the road land | Yes | |
| 2.2 | Cross section showing the size of pit and location of cable for HDD method | HDD Cross section enclosed | |
| 2.3 | Strip plan / Route Plan showing utility/OFC chainage, width of ROW, distance of proposed pipe line from the edge of ROW, important mile stone, intersections, cross drainage works etc. | Strip plan showing all the details is enclosed | |
| 2.4 | Methodology for laying of the OFC | Enclosed | |
| 2.4.1 | Open trenching method (may be allowed in utility corridor only where pavement is neither cement concrete nor dense bituminous concrete type) If yes, what is the methodology of refilling the trench | Yes, Methodology of OFC laying attached. | |
| | a) The trench width should be at least 30 cms, but not more than 60 cms. wider than the outer diameter of the pipe | Open Trench cross section enclosed | |
| | b) For filling of the trench, Bedding shall be to a depth of not less than 30 cms. It shall consist of granular material, free of lumps, clods, cobbles and graded to yield firm surface without sudden change in the bearing value. Unsuitable soil and rock edges should be excavated and replaced by selected material. | Yes | |
| | c) The backfill shall be completed in two stages- i) side fill to the level of the top of the pipe and ii) overfill to the bottom of the road crust | Yes | |



B. Boom
**Asst. Executive Engineer
 (R&B) National Highways
 Section-II, CHITTOOR**

JMA
**Deputy Executive Engineer
 (R&B) National Highways
 CHITTOOR**

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**EXECUTIVE ENGINEER
 (R & B) N.H. Division
 CHITTOOR.**

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| | d) The side fill shall consist of granular material laid in 15 cms. Layers each consolidated by mechanical tamping and controlled addition of moisture to 95% of the proctor density. Overfill shall be compacted to the same density as the material that has been removed. Consolidation by saturation or ponding will not be permitted. | Yes | |
| | e) The road crust shall be built to the same strength as the existing crust on either side of the trench. Care shall be taken to avoid the formation of a dip at the trench. | Yes | |
| | f) The excavation shall be protected by flagman, Signs and barricades and red lights during night hours. | Yes | |
| | g) If required a diversion shall be constructed at the expense of agency owing the utility line. | Not applicable | |
| 2.4.2 | Horizontal Directional Drilling (HDD) Method | Details provided in Methodology of Laying. | |
| 2.4.3 | Methodology for laying of the OFC through CD works and method of laying In cases where the carrying of OFC on the bridge becomes inescapable | Yes, Methodology of OFC laying attached. | |
| 3 | Draft License Agreement signed by two witnesses | Enclosed | |
| 3.1 | The License fee estimate as per Ministry's guidelines issued vide circular No. RW/NH/33044/29/2015/S&R dated 22-11-2016 | Enclosed | |
| 4 | Whether Performance Bank Guarantee as per Ministry guidelines issued vide circular No. RW/NH/33044/29/2015/S&R dated 22-11-2016 is obtained | Yes, Enclosed | |
| 4.1 | Confirmation of BG has been obtained or not as per MoRTH/NHAI guidelines | Confirmation of BG shall be obtained after BG submission by M/s Telesonic Networks Ltd | |
| 5 | Affidavit/Undertaking from the Applicant for following is to be furnished | | |
| 5.1 | Undertaking for not to damage any other utility, if damaged then to pay the losses either to NHAI or to the concerned agency | Yes, Enclosed | |
| 5.2 | Undertaking for Renewal of Bank Guarantee as and when asked by MoRTH/NHAI | Yes, Enclosed | |
| 5.3 | Undertaking for confirming all standard conditions of Ministry/NHAI's guidelines | Yes, Enclosed | |
| 5.4 | Undertaking for Indemnity against all damages and claims | Yes Enclosed | |
| 5.5 | Undertaking for management of traffic movement during laying of utility line without hampering the traffic | Yes Enclosed | |
| 5.6 | Undertaking that if any claim is raised by the Concessionaire/contractor then the same has to be paid by the applicant | Yes Enclosed | |
| 5.7 | Undertaking that prior approval of the NHAI shall be obtained before undertaking any work | Yes Enclosed | |



**Asst. Executive Engineer
(R&B) National Highways
Section-II, CHITTOOR**

**Deputy Executive Engineer
(R&B) National Highways
CHITTOOR**

**EXECUTIVE ENGINEER
(R & B) N.H. Division
CHITTOOR.**

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| | of installation, shifting or repairs, or alterations to the utility located in the National Highway Right of Ways. | | |
| 5.8 | Undertaking that expenditure if any incurred by NHA for repairing any damage caused to the NH by laying, maintenance or shifting of the utility line will be borne by the applicant agency owning the line. | Yes Enclosed | |
| 5.9 | Undertaking that text of the License deed is as per verbatim of format issued by MoRTH vide circular No. RW/NH/33044/29/2015/S&R dated 22-11-2016 | Yes Enclosed | |
| 5.10 | Undertaking that the applicant has obtained various safety clearances from the respective authorities such as Directorate of Electricity, Chief Controller of Explosives, Petroleum and Explosive Safety Organization, Oil Industry Safety Directorate, state/central pollution control board and any other statutory clearances as applicable, before applying to Highway Administration. | Not Applicable as the Utility line proposed is OFC. | |
| 5.11 | If the MoRTH/NHA considers it necessary in future to move the utility line for any work of improvement or repairs to the road, it will be carried out as desired by the MoRTH/NHA at the cost of the Agency owning the utility line within a reasonable time (not exceeding 60 days) of the intimation given. | Yes, enclosed | |
| 5.12 | Certificate from the applicant in the following format i) Laying of OFC will not have any deleterious effects on any of the bridge components and roadway safety for traffic ii) We do undertake that I/we will relocate service road/approach road/utilities at my/our own cost notwithstanding the permission granted within such time as will be stipulated by NHA for future six laning or/any other development. | Enclosed Enclosed | |
| 6 | Who will sign the agreement on behalf of OFC line agency? Power of attorney to sign the Agreement is available or not | Sr. Manager, Telesonic Networks Ltd., Copy of Power of Attorney enclosed. | |
| 7 | The Project Director shall submit the following Certificates | | |
| 7.1 | Certificate that the proposal is conforming to all standard conditions issued vide MoRTH circular No. RW/NH/33044/29/2015/S&R dated 22-11-2016 | Enclosed | |
| 7.2 | Certificate from the PD in the following format i) "it is certified that any other location of the OFC would be extremely difficult and unreasonably costly and the installation of OFC within RoW will not adversely affect the design, stability and traffic safety of the highway nor the likely future improvement such as widening of the carriage way, easing of curve etc." ii) for 6-laning | Enclosed | |

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TELESONIC NETWORKS LTD.

Handwritten signature
Asst. Executive Engineer (R&B) National Highways Section-II, CHITTOOR

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Deputy Executive Engineer (R&B) National Highways CHITTOOR

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Superintending Engineer (R & B) NH Circle, Anantapuramu.

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EXECUTIVE ENGINEER (R & B) N.H. DIVISION CHITTOOR

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| | <p>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".</p> <p>b) In case feasibility report is not available "I do certify that sufficient ROW is available at site for accommodating proposed six-laning"</p> | Enclosed | |
| | | Enclosed | |
| 8 | If NH section proposed to be taken up by NHAI on BOT basis – a clause is to be inserted in the agreement "the permitted highway on which licensee has been granted the right lay OFC duct has also been granted as a right of way concessionaire under the concession agreement for up gradation of Dornala T-Junction Penchalakona section from Km.329/300 to km 337/420 of NH no. 565) on Build, Operate and Transfer basis and therefore the licensee shall honor same. | NA | |
| 9 | Who will supervise the work of laying of Utility Pipe line | | |
| | a) On behalf of the applicant | Area Manager, Telesonic Networks Limited, Chittoor | |
| | b) On behalf of MoRTH/NHAI | Executive Engineer (R&B), NH Division, Chittoor | |
| 10 | 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. | | |
| | c) On behalf of the applicant | Area Manager, Telesonic Networks Limited, Chittoor | |
| | d) On behalf of MoRTH/NHAI | Executive Engineer (R&B), NH Division, Chittoor | |
| 11 | Who will pay the claims for damages done/disruption in working of Concessionaire if asked by the Concessionaire? | Telesonic Networks Limited | |
| 12 | 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) | Yes, Enclosed | |
| 13 | If any previous approval is accorded for laying cable line then Photocopy of register of records of permissions accorded (as maintained by PD) to be enclosed. | NA | |

Shri. P Srinivas Reddy
Sr Manager-Network

Name, Designation and Signature of the Authorized representative of applicant

(Signature)
**Asst. Executive Engineer
(R&B) National Highways
Section-II, CHITTOOR,**

(Signature)
**Superintending Engineer
(R & B) NH Circle, Anantapuramu**

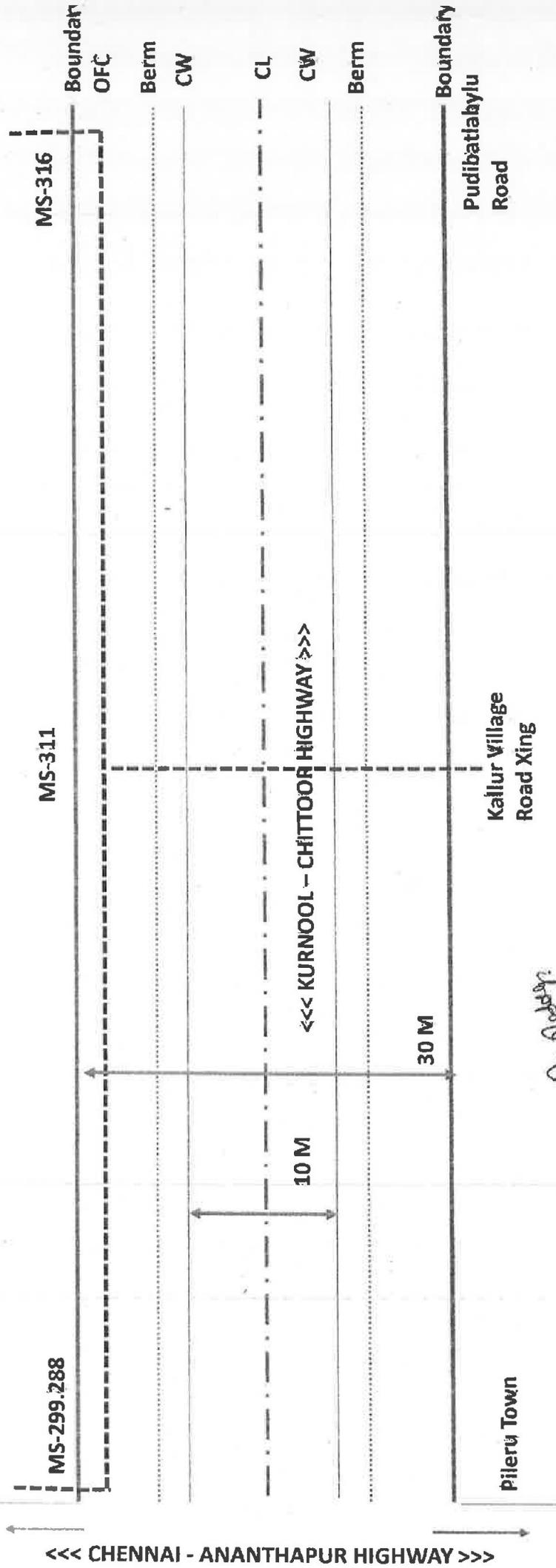
Name Designation and signature of concerned field authority of NHAI/PWD/BRO

(Signature)
**Deputy Executive Engineer,
(R & B) National Highways
CHITTOOR**

(Signature)
**EXECUTIVE ENGINEER
(R & B) N.H. DIVISION
CHITTOOR.**

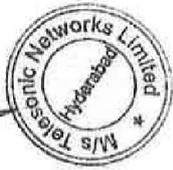
Route - Pileru - Chittoor

Road Name : NH-40



Legend:

Proposed OFC Path - - - - -
Road Length 16742 & Road Cross-1



[Signature]
Asst. Executive Engineer
 (R & B) National Highways
 Section-II, CHITTOOR

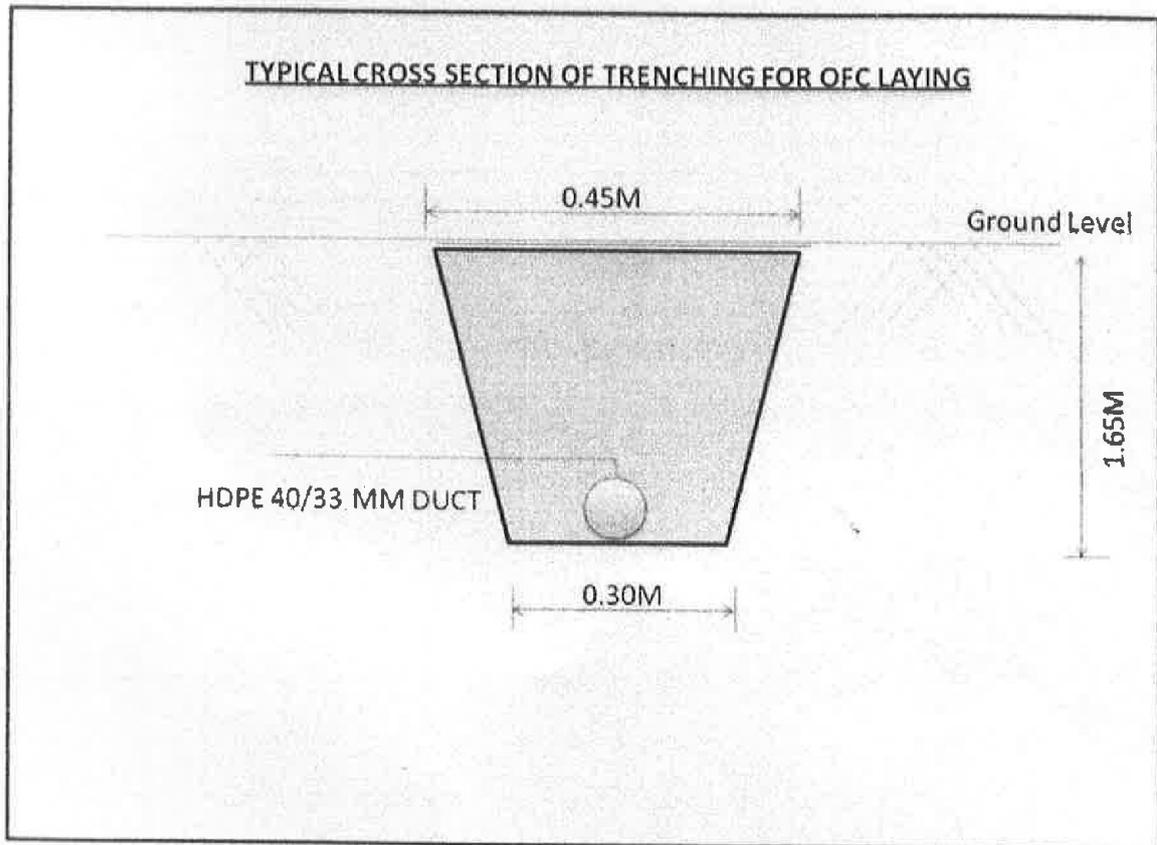
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Deputy Executive Engineer
 (R & B) National Highways
 CHITTOOR

[Signature]
EXECUTIVE ENGINEER
 (R & B) N.H. Division
 CHITTOOR.

All Dimensions are in Meters

[Signature]
Superintending Engineer
 (R & B) NH Circle, Anantapur & FEL

ANNEXURE NO-7



[Signature]
**Asst. Executive Engineer
(R&B) National Highways,
Section-II, CHITTOOR.**

[Signature]
**Deputy Executive Engineer
(R&B) National Highways
CHITTOOR**

[Signature]
**EXECUTIVE ENGINEER
(R & B) N.H. Division
CHITTOOR.**

[Signature]

[Signature]
**Superintending Engineer
(R & B) NH Circle, Anantapuramu.**

Methodology of Laying of OFC-Open Trenching & Trenchless (HDD) along NH
63

Trenching Method:

Laying of Optical Fiber Cable along the mentioned route will be done by conventional method/manual and Machine Trenching method. The dimension of the trench will be 165 cms in depth and 45 cms in width. The Cable laying work will be carried out in phased manner in such a way that after the HDPE / Protection ducts are laid for Optical Fiber Cable, the trench will be reinstated to its original surface.

Trench Filling Method:

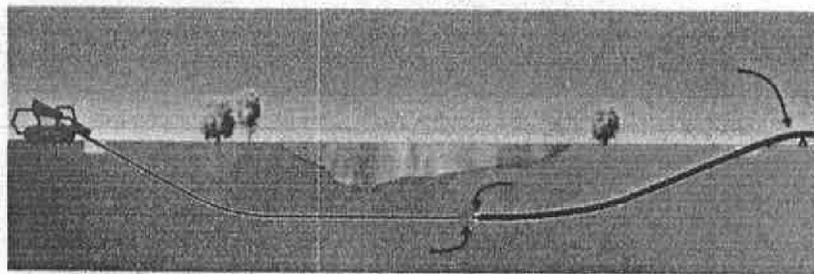
As a measure of abundant precaution against future settlement and other allied problems, only selected granular material will be used in filling reinstatement of trenches. The entire depth of cutting will be filled either with coarse sand or the excavated material, compacted in layers not exceeding 75 mm when compacted by ordinary power roller /plate compacter. Special Compaction equipment like plate compacter, frog hammer will be utilised besides ordinary power roller.

Trenchless Crossing: HDD Method

Horizontal Directional Drilling (HDD) is a technique for installing product pipes, including utility lines, below ground using a surface-mounted drill rig that launches and places a drill string at a shallow angle to the surface and has tracking and steering capabilities. In recent years HDD has been the preferred methodology due to several government policies conducive to Infrastructure growth.

All crossing on the Route will be done by Horizontal Directional Drilling method without disturbing the road surface.

A Typical HDD Methodology is shown below:



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