No.B1/Bhoomi/FC/ROAD/1562 24/2022-23



Office of Deputy Conservator of Forests, Sagara Territorial Division, Sagara, Sagara Taluk, Shivamogga District

Landline No: 08183-226071

Date: 22.08.2025

⊠Email:dcfsagar123@gmail.com

To

Executive Engineer, National Highway Division, Lokopayogi Bhavan, Balraj Urs Road, Shivamogga

Respected Sir,

Proposal No.FP/KA/ROAD/156224/2022

Subject:

Diversion of 25.763 Ha (Revised from 18.844 Ha) of Forest Land in Hosanagara Taluk, Shimoga District (Sagar Forest Division) for Construction of 2L+PS Road from km 55.60 to km 90.70 Mavinakoppa of NH 766C with Major Bridges across Sharavathi Back Water in favour of Executive Engineer, NH Division, Public Works Department, Shimoga-Reg.

Reference:

- The Ministry of Environment, Forest & Climate Change, Integrated Regional Office, Bangalore letter No. F. No.4-KRC1400/2022-BAN Dt: 07.07.2025 (Stage-I Approval).
- The Government of Karnataka Letter No. FEE/130/ FLL/2022 Dt: 08.07.2025 (Communication of Stage-I Approval).
- Principle Chief Conservator of Forests (Forest Conservation), and Nodal officer (FCA), Aranya Bhavan, Bengaluru Office Letter No. KFD/HOFF/ A5-6(GFL)/2/2022-FC Dt: 16.07.2025.
- Executive Engineer, NH Division, Shivamogga Office Letter No. EE/NHD/SMG/AE-1/NH-766C/ 2025-26/543 Dt: 23.07.2025.

With reference to the above mentioned subject in reference (1) The Ministry of Environment, Forest & Climate Change, Integrated Regional Office, Bangalore accorded in "Principle Approval Stage—I" under Section 2 of the Forest (Conservation) Act, 1980 for Diversion of 25.763 Ha (Revised from 18.844 Ha) of Forest Land in Hosanagara Taluk, Shimoga District (Sagar Forest Division) for Construction of 2L+PS Road from km 55.60 to km 90.70 Mavinakoppa of NH 766C with Major Bridges across Sharavathi Back Water in favour of Executive Engineer, NH Division, Public Works Department, Shimoga.

Subject to the fulfillment of conditions vide reference (1). In pursuit of the directions issued by The Government of Karnataka vide reference (2) and Principle Chief Conservator of Forests (Forest Conservation), and Nodal officer (FCA), Aranya Bhavan, Bengaluru vide reference (3) the following demand notice towards the statutory payments of Net Present Value, Compensatory Afforestation Charges and Watering Charges.

SI. No.	Statutory payment	Rate per Ha	Area (Ha)	Amount (Rs)
1	Net Present Value (Eco Class-I Very Dense Forest) [As per GOI Letter No. 5-3/2011- FC(VoI-I) Dt: 06-01-2022].	15,95,790	25.763	4,11,12,338/-
2	Cost of raising Compensatory Afforestation (CA) plantation in double the extent of diversion land [As per PCCF Letter No. KFD/HOFF/A5-3(GFL)/34/2019-FC Dt: 07-07-2025].	19,30,000	53.00	10,22,90,000/-
3	Cost of watering plants for 5 years appropriate provision for anticipated cost increase for works scheduled for subsequent years	8,95,080	53.00	4,74,39,240/-
4	Charges for implementing Wildlife Mitigation Plan. [As per PCCF (WL) & Chief Wildlife Warden, Karnataka Letter No. PCCF(WL)/D/CR-51/2018-19 Dt: 11-09-2023 & 20-08-2025].	<u>95-</u> 5	_	1,75,62,000/-
5	Charges for implementing Additional Wildlife Mitigation Plan for the unrestricted movement of Arboreal Animals. [As per PCCF (WL) & Chief Wildlife Warden, Karnataka Letter No. PCCF(WL)/D/CR-51/2018-19 Dt: 19-08-2025].	-	16 Canopy Bridges	25,00,000/-
	Dt. 10 00 2020].		Total	21,09,03,578/-

In case, the Government raises any changes in charges the user agency bound to pay the same.

The user agency are hereby requested to upload this demand notice for Rs. 21,09,03,578/- (Rupees Twenty One Crore Nine Lakhs, Three Thousand, Five hundred Seventy Eight Only) under CAMPA account in Government of India web portal www.parivesh.nic.in on acceptance of the demand notice by the Nodal officer, payment may be made by generating challan in Parivesh web portal.

Further, It is informed that if any payment is made by any other method, the same shall not be considered for compliance towards stage-II, it is also requested to submit the receipt along with the condition wise compliance report as per the stipulated conditions in the stage-I approval given vide reference(1) for further action.

You're Faithfully

Deputy Conservator of Forest Sagar Division, Sagar Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Karnataka.

No. PCCF(WL)/D/CR-51/2018-19 (E- 135382)



Office: 080-23341993 E-mail: pccfwl@gmail.com Aranya Bhavan, 2nd Floor, 18th Cross, Malleswaram, Bangalore–560 003 Date: 20-08-2025

To:

Deputy Conservator of Forests, Sagara Division, Sagara

Subject: Diversion of 25.73 Ha of Forest land in Hosanagara

Taluk Shivamogga District (Sagar Forest division) for Construction of 2 Lane with paved shoulder road from Km 55.60 Adagodi to Km 90.7 Mavinakoppa of NH 766C with Major bridges across Sharavathi Backwater-

reg.

Reference: 1 MoEF & CC letter F.No.4-KRC1400/2022-BAN, Dated:

07-07-2025

2 This Office letter even number dated: 11-09-2023

3 Letter No. FEE/NHD/SMG/AE-1/NH-766C/2025-26/618, dated: 02-08-2025 of the O/o The Executive Engineer,

NH Division, Shivamogga.

4 National Highways Zone, Bengaluru, Engineering Procurement and Construction Contract Agreement or

Work Order: 19/2023-24, Dated: 20-12-2023

Adverting to the above subject, in-principle approval /Stage-I approved by the Central Government has been granted for diversion of 25.763 ha. of forest land in Hosanagara Taluk, Shimoga District (Sagar Forest Division) for construction of 2 lane with paved shoulder road from KM 55.6-Adagodi to KM 90.7-Mavinakoppa of NH 766C with 4 major bridges across Sharavathi Backwaters (Online Proposal No. FP/KA/ROAD/156224/2022), by the Deputy Inspector General of Forests (Central) vide ref (1). Further, the Wildlife Mitigation Plan, with respect to this project, amounting to Rs. 420.83 Lakhs for 17 items of work has been approved by this office vide ref (2).

However, it is mentioned, in letter vide ref (3), by the Executive Engineer, NH Division, Shivamogga that "Out of these 17 items of work, the work of Item Nos. 1 to 13 and Item Nos. 15 and 16 have already been included in the Scope of work, amounting to Rs. 281.21 Lakhs, assigned to the EPC agency vide ref (4) and these works will be executed by the EPC agency as part of their contractual obligations". Further, it is requested that "items which are included in the scope of work amounting to Rs. 281.21 Lakhs may be excluded from the demand note being

issued by your office and to consider only item Nos. 14 and 17 amounting to Rs. 139.62 Lakhs while issuing the said demand note".

After examining the above points, the works/activities, mentioned in the concerned approved Wildlife Mitigation Plan, to be executed by the User Agency at their own cost, are assigned as tabled below.

SI. No.	Descriptions	Quantity	Estimated Cost (Rs. in Lakhs)
1	1x2m RCC Box animal Under Pass at Chainage 4+430	1 Number	8.22
2	1x3m RCC SLAB animal under pass at Chainage 5+460	1 Number	12.33
3	1x2m RCC BOX animal under pass at Chainage 8+640	1 Number	8,22
4	1x2m RCC BOX animal under pass at Chainage 9+100	1 Number	8.22
5	1x2m RCC BOX animal under pass at Chainage 9+240	1 Number	8.22
6	1x2m RCC BOX animal under pass at Chainage 9+420	1 Number	8.22
7	2x1.2m Pipe Culvert animal under pass at Chainage 10+200	1 Number	7.78
8	2x1.2m Pipe Culvert/ animal under pass at Chainage 10+680	1 Number	7.78
9	2x1.2m Pipe Culvert animal under pass at Chainage 10+680	1 Number	7.78
10	1x2m RCC BOX animal under pass at Chainage 11+170	1 Number	8.22
11	16mx10m RCC BOX animal under pass at Chainage 11+220	1 Number	64.00
12	16mx10m RCC BOX animal under pass at Chainage 12+760	1 Number	64,00
13	1x2m RCC BOX animal under pass at Chainage 12+960	1 Number	8.22
16	Providing Speed Breakers	6.293 km	24.00
		TOTAL	245.21

Further, the works/activities, mentioned in the concerned approved Wildlife Mitigation Plan, to be executed by the Forest Department are assigned as tabled below:

SI. No.	Descriptions	Quantity	Estimated Cost (Rs. in Lakhs)
14	Chain Link fencing	6.293 km	127.62
15	Installation of signboards	6.293 km	36.00
17	Providing Mahindra Bolero vehicle	1 Number	12.00
	· · · · · · · · · · · · · · · · · · ·	TOTAL	175.62

In view of the above, it is hereby directed to issue demand note offs.

175.62 Lakhs only to the User Agency to enable them to proceed with the subsequent processes of work and monitor progress of implementation of SI. No. 01 to 13 and 16 above by the User Agency and submit compliance report at the earliest.

Digitally signed by
PRABHASH CHANDRA RAY
Date: 20-08-2025

18:44:45
Principal Chief Conservator of Forests,
(Wildlife), & Chief Wildlife Warden,
Bangalore.

Copy to:

- The Principal Chief Conservator of Forests (Forest Conservation), Aranya Bhavana, Bengaluru for information.
- The Chief Conservator of Forests, Shimoga Cirle, Shimoga for information and necessary action.
- the Executive Engineer, NH Division, Public Works Department, Shimoga for information.

Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Karnataka.

No. PCCF(WL)/D/CR-51/2018-19

(E-135382)

Reference:



Office: 080-23341993 E-mail: pccfwl@gmail.com Aranya Bhavan, 2nd Floor, 18th Cross, Malleswaram, Bangalore–560 003 Date: 19-08-2025

To:

Deputy Conservator of Forests, Sagara Division, Sagara

Subject: Approval of the additional Wildlife Mitigation Plan,

incorporating the provosions for unrestricted movement of Arboreal Animals, related to the FC proposal

number: FP/KA/ROAD/156224/2022-reg

1 This office even number letter dated: 11-07-2023.

2 Letter number: 4-KRC-1400/2022-BAN dated: 07-07-2025 of Ministry of Environment, Ecology and Climate Change, Regional Office, Koramangala, Bengaluru.

3 Your Office Letter No. B1/Bhoomi/FC/ROAD/156224/2022-23, Dated: 01-08-2025

4 The letter No.: A4/Bhoomi/FC/GL-2926/2024-25, Dated: 04.08.2025 of the Chief Conservator of Forests, Shimoga Circle, Shimoga.

Adverting to the above subject, the Wildlife Mitigation Plan with respect to diversion of 25.763 Ha (revised from 18.844 ha) of forest land in Hosangara (T), Shivamogga (D) for construction of 2L + PS Road from Km 55.60 to Km 90.70 Mavnakoppa of NH 766C with major bridges across Shravathi back water, an amount of 420.83 lakh Rupees has been approved by this office letter vide ref (1). In the letter of the Ministry of Environment, Ecology and Climate Change, Regional Office, Koramangala, Bengaluru vide ref (2) it is directed that "The Wildlife Mitigation plan submitted incorporating the provisions for unrestricted movement of arboreal animals in the forest area shall be approved from the competent and same shall be implemented at the cost of user agency along with already approved Wildlife Mitigation plan by the CWLW. The user agency shall deposit the cost of Wildlife Mitigation Plan in the designated CAMPA account."

Accordingly, an additional Wildlife Mitigation Plan, incorporating the provosions for unrestricted movement of Arboreal Animals is submitted by the Executive Engineer, NH Division, Public Works Department, Shimoga, in consultation with the Deputy Conservator of Forests, Sagara Territorial Division, Sagara, and has been recommended and forwarded through the Chief

Conservator of Forests, Shimoga Circle, Shimoga vide letters ref (3) & (4). The said additional Wildlife Mitigation Plan, incorporating the provosions for unrestricted movement of Arboreal Animals, is reviewed and approved as under,

The additional Wildlife Mitigation Plan, incorporating the provosions for unrestricted movement of Arboreal Animals, by building the Canopy Bridges at 16 different locations, as tabled below, on the proposed stretch of NH-766C Mavinakoppa to Adugodi road:

SI. No.	Latitude (N)	Longitude (E)		
01	13.905939	75.043256		
02	13,90625	75.033185		
03	13.90599	75.030534		
04	13.90594	75.025171		
05	13.903411	75.010193		
06	13.901996	75.006794		
07	13.899908	75.002627		
08	13.899212	75.00048		
09	13.899004	74,998931		
10	13,899759	74.99389		
11	13.901838	74.987388		
12	13.904637	74.980688		
13	13,905344	74.979663		
14	13.908166	74.958727		
15	13.907918	74.957273		
16	13.907543	74.955226		

The additional Wildlife Mitigation Plan for Rs. 25.00 Lakhs (Rupees Twenty-Five Lakhs only) is approved. The designs of proposed area /structures should be approved by the Deputy Conservator of Forests, Sagara Territorial Division, Sagara. A copy of the approved additional Wildlife Mitigation Plan is enclosed for necessary action.

Digitally signed by PRABHASH CHANDRA RAY Date: 19-08-2025 2 Principal Chief Conservator of Forests, (Wildlife), & Chief Wildlife Warden, Bangalore.

Copy to:

- The Principal Chief Conservator of Forests (Forest Conservation), Aranya Bhavana, Bengaluru for information.
- The Chief Conservator of Forests, Shimoga Cirle, Shimoga for information and necessary action.
- the Executive Engineer, NH Division, Public Works Department, Shimoga for information.





Wild Life Mitigation Plan

Name of the Project: Construction of 2 Lane with Paved shoulder from Km 56.00 to Km 90.70(existing chainage) of NH-766C (complete Realignment of 13.832 Km) with 2 Major Bridges across Sharavathi Backwater on EPC mode under Annual Plan 2022-23 in the State of Karnataka – ADUGODI TO MAVINAKOPPA

Proposal No: FP/KA/ROAD/156224/2022

Applicant/User Agency:

The Superintending Engineer-Regional Officer
KSCFL Building, Race Course Road, Ministry of Transport
and Highways, Bangalore

WILDLIFE MITIGATION PLAN

Introduction:

The diversion of forest land proposed for the Diversion of 18.844 Ha of Forest land in Hosanagara (T), Shimoga (D) for Construction of 2L+PS road from km 55.60 to km 90.70 mavinakoppa of NH 766 C with major Bridges across Sharavathi back Water in favour of Executive Engineer, National Highways Division, Shivamogga. The Proposed project requires diversion of 25.763 ha forest land in about 7 villages of Hosanagara taluk in Sagar division. The new Road National Highway project starts at Mavinakoppa Village and ends at Adagodi Village (Bekkodi) with a length of 13+832 km. This Road covers in Shivamogga district. The details of forest land involved in the proposed project are given in the following **Table-1**

Ta	Table-1: Details of Forest Land Proposed for the Construction of Audugodi To Mavinakoppa								
Sl. No	District	Forest Division	Taluk	Name of Forest Area	Village	Sy. No.	Area in Ha	Length of Forest Land in (m)	
1	Shimoga	Sagara Division	Hosanagara	Transferred Land from Revenue Dept.(G.O. No. RD 32 LAD 62 Dt: 01.08.1964 & 06.07.1965	Ganganakop pa	13	0.420	73.542	
2	Shimoga	Sagara Division	Hosanagara	Transferred Land from Revenue Dept.(G.O. No. RD 32 LAD 62 Dt: 01.08.1964 & 06.07.1965	Ganganakop pa	21	0.337	112.36 4	
3	Shimoga	Sagara Division	Hosanagara	Transferred Land from Revenue Dept.(G.O. No. RD 32 LAD 62 Dt: 01.08.1964 & 06.07.1965	Ganganakop pa	5	0.430	143.341	
4	Shimoga	Sagara Division	Hosanagara		Kaluru	133	0.670	223.404	

		Sagara	Hosanagara					
5	Shimoga	Division	nosanagara		Kaluru	136	0.062	19.792
6	Shimoga	Sagara Division	Hosanagara	Transferred Land from Revenue Dept.(G.O. No. RD 32 LAD 62 Dt: 01.08.1964 & 06.07.1965	Sutta	10	1.635	577.26 2
7	Shimoga	Sagara Division	Hosanagara	Transferred Land from Revenue Dept.(G.O. No. RD 32 LAD 62 Dt: 01.08.1964 & 06.07.1965	Sutta	62	0.810	237.738
8	Shimoga	Sagara Division	Hosanagara	Transferred Land from Revenue Dept.(G.O. No. RD 32 LAD 62 Dt: 01.08.1964 & 06.07.1965	Sutta	75	0.165	55.125
9	Shimoga	Sagara Division	Hosanagara	Manasetti Section-4	Manasette	38	1.861	621.12
10	Shimoga	Sagara Division	Hosanagara	L.Guddekopp a Reserved Forest	L.Guddekopp a	45	0.222	73.713
11	Shimoga	Sagara Division	Hosanagara	L.Guddekopp a Reserved Forest	L.Guddekopp a	46	1.260	419.947
12	Shimoga	Sagara Division	Hosanagara	Deemed Forest	L.Guddekopp a	27	2.070	691.476
13	Shimoga	Sagara Division	Hosanagara	Deemed Forest	Hebburli	204	3.141	1045.35 4
14	Shimoga	Sagara Division	Hosanagara	Hebburuli Reserved	Hebburli	221	3.612	1,194.71
15	Shimoga	Sagara Division	Hosanagara	Hebburuli Reserved	Hebburli	51	3.289	1,094.15 3
16	Shimoga	Sagara Division	Hosanagara	Hebburuli Reserved Forest	Hebburli	44	1.517	502.222

17	Shimoga	Sagara Division	Hosanagara	Transferred Land from Revenue Dept.(G.O. No. RD 32 LAD 62 Dt:01.08.1964	Hosuru	43	0.530	161.428
				& 06.07.1965				
18	Shimoga	Sagara Division	Hosanagara	Adugodi Reserved Forest	Adugodi	74	1.992	681.37
19	Shimoga	Sagara Division	Hosanagara	Adugodi Reserved	Adugodi	79	1.740	490.952
Total 25.763							12654	

The proposed Diversion area inhabits wild animals like Indian Gaur (Bos gaurus), Sambar (Cervus unicolor), Munt Jack (Muntiacus muntajac), Wild Boar (Sus scrofa), Hanuman Langoor (Macaca semnopethicus), Giant squirrel (Ratufa indica), King Cobra (Ophiophagus hannagh) and other reptiles and Birds like Peacock (Pavo cristatus), Malabar Grey Hornbill (Ocyceros birostris). Animals move through the landscape for variety of reasons and often interact with roads, Traffic and other linear infrastructure. There is always a risk of collision with a vehicle if the animal attempts to cross the National Highway road, resulting in injury or death (road kill) of the animal and sometimes commuters. The rate of wildlife—vehicle collisions (WVC) has been increasing globally. The loss of wildlife from road collision is substantial and is one of the causes of wildlife mortality in our country. The location and timing of WVC are influenced by the location of the NH road in the landscape, traffic volume, vehicle speed and infrastructure provided to the wildlife to cross over and improvement of their habitats etc. understanding all the factors that influence their occurrence are essential to avoid high risk areas and designing effective mitigation plans and adaptive measures.

Need for wildlife Management Plan

Wildlife habitat is considered as the environment used by an animal and is essential for food, mating, cover and other requirements for survival. Any disturbance or loss of such habitat will have adverse effect on the overall population of the animals which live in that area. Whereas, linear projects such as irrigation canal is important to the country for economic growth and to meet the demands of basic needs of the people. Hence, incorporating the ecological considerations into modern design techniques will result in favourable win to win approach to safeguard the interests of both wildlife and people.

In this context, the objectives of the present Wildlife Management & Mitigation plan are as follows:

- To provide a plan to mitigate the impacts due to construction of track inside the forest areas.
- To provide wildlife-crossings at suitable places, which are comfortable and conducive for wildlife movement across the proposed canal.
- To provide structures such as crossings, overpass bridges, culverts, water holes, etc so as not to disrupt the wildlife behavior and its activities.
- To improve the habitat factors by augmenting the availability of water to wildlife during pinch period and by carrying out plantation of suitable species.
- To ensure the safety of wildlife by erecting Road fence along the frackto prevent road kills and accidental falls on the track.
- Monitor of wildlife crossings and study the long term impacts.

ANTICIPATED IMPACTS

Habitat Fragmentation

Habitat fragmentation is defined as a process during which 'a large area of habitat is transformed into a number of smaller patches of smaller total area, isolated from each other by a matrix of habitats unlike the original' (Wilcove*et al.*, 1986).

Construction of the track acts as a physical barrier for wildlife, the species belonging to the area proposed for track construction will lose their habitat and fragmentation will take place. Animal movement will be blocked and chances of animals fall into the canal result in death or injury.

Loss of Habitat

The area proposed for diversion is a habitat for antelopes and sloth bears along with other species. Habitat loss has direct negative effect on genetic diversity and population growth rate. Habitat loss occurs when an area of suitable habitat is altered and becomes unsuitable leading to displacement of resident species. However, landscape as a whole, the area proposed for diversion is small and any changes occurred would be recoverable with appropriate mitigation measures.

Disturbance during project implementation

Impacts due to labour force for construction activities will lead to establishment of campsites, generation of sewage, waste water and solid waste. Further, they may engage in activities that are detrimental to natural habitat such as hunting, illegal extraction of timber for fuel wood and non-timber forest products.

Air and noise pollution will arise due to activities such as excavation, cutting, drilling and filling and compaction work, as well as operation of construction related vehicles during the construction phase will cause disturbance to the wild animals. This can be avoided by following appropriate mitigative measures.

National Highway Road kills/accidental fall on to track

The alignment of Road at isolated stretches of 6.293km in forest area may lead to National Highway road kills of wildlife during its movement to the other side of the track. Accidental fall of animal's especially small and medium sized animals on to the track will result in death or injury to these animals. This can be avoided with erection of Road fencing on either sides of the track.

WILDLIFE MANAGEMENT PLAN

The impacts stated earlier can be minimized through several mitigation measures which are a part of the Wildlife Management Plan. The mitigation measures are as follows:

Provision of Wildlife crossings

Wildlife, like any other living species require the primary needs of food, shelter, water and territory to roam, hunt, search for food etc., the construction of canal in the WLS may pose as a barrier restricting the movement of animals. Daily, weekly or seasonal movements across landscape are necessary for the most terrestrial species.

It may not be a serious threat for the smaller mammal and other terrestrial species but the large mammals may get highly affected. This leads to habitat fragmentation and the major impacts are as follows (Jaeger *et. al.*, 2005):

- Limits the availability of habitat for any wild species
- Prevents access to water and other resources on the other side of the canal
- Subdivide wildlife populations into smaller and more vulnerable sub-populations.
- Affects the regular movement path of the wildlife.

Hence it is necessary to construct wildlife crossings in order to facilitate the smooth movement of animals all through its natural habitat. The crossing over construction is necessary for the following elements:

- To restore pre-development wildlife movement pattern
- To reduce wild life physical barrier due to canals

These structures allow animals to cross human – made barriers safely. These crossings

may include: underpass tunnels, viaducts and overpasses (mainly for large or herd-type animals) amphibian tunnels, tunnels and culverts (for small mammals) green roofs (for butterflies and birds) (Bank *et al.*, 2002). All of these structures are designed to provide semi-natural corridors above and below human constructed barriers like canals so that animals can safely cross without endangering themselves.

Wildlife crossings are a practice in habitat conservation, allowing connections or reconnections between habitats, combating habitat fragmentation. They also assist in avoiding falling on the track.

Conservation Measures

- i) Green belt/plantation will be developed all along the roads and other places for control of air, odour, and fugitive dust emission in the proposed expansion project area as well as in study area where suitable land is available.
- ii) Green shelter belt will be developed along the roadside.
- iii) Availability of water throughout the year will be maintained by artificial water holes and ponds deepening wherever required.
- iv) Fire prevention measures will be taken in the forest areas so that fire won't spread from road into the forest. Sparks from exhaust of vehicles and mischievous commuters may lead to forest fire and devastate the forest area. Hence appropriate measures have to be taken to counter this threat.

Action Plan for Conservation of Wildlife

- Plantation will be developed near the water bodies and water availability and its quality will be maintained regularly.
- Underpasses will be created at selected sites so that animals can easily cross from one side of the road to other freely. This is very essential to ensure easy passage of animals and also safety of the passengers on the road. The locations of underpasses have been shown in the map below.
- Only indigenous species will be preferred for plantations and grasslands.
- Public awareness will play a major role in conservation of any wildlife. So, various public awareness activities like seminars, conferences, nature club, poster presentation at school and gram panchayath, nature education camps for students and villagers around wildlife habitation.
- Wildlife signage will be used on a very large scale along the road to create awareness.

- To conserve the wildlife, it is important to provide a wildlife rescue Centre or to provide adequate facilities for treating wildlife should be made available in nearby veterinary hospital.
- Various wildlife days, environment days and wildlife week (1st to 7th Oct) will be celebrated in collaboration with forest department to create awareness among the local people for the conservation of wildlife.

SL	Conservation Activities						
No.							
1	Planting of buffer plantation along the National Highway						
	Road inside the forest area.						
2	Construction of underpasses for movement of wild animals						
	across the National Highway Road.						
3	At under passes (animal crossing) fencing to be provided for						
	200 mtr on four sides & also on either side of forest land.						
4	Erection of display boards at vantage points to bring						
	awareness among commuters						

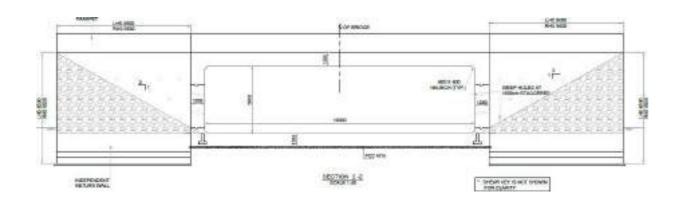
CONSERVATION ACTIVITIES PROPOSED BY DCF SAGAR

Considering the Wildlife movements in the proposed stretch of National Highway Road DCF Sagar have proposed following physical structures which facilitate the easy movement of wildlife across the National Highway Road and avoid any wildlife causalities due to road accidents.

1. Construction of under passes

Total of 13underpasses/overpasses are planned to be constructed in the proposed project. That includes below2structures proposed by DCF Sagar(Table2). Some of the sketches along with ID no. of the underpasses are attached with this reportAnnexure-1

Typical Cross Section of Animal Underpass



Bridge No.	Forest Area Chainage	Underpass Chainage	Structure for wildlife crossing (No. of openings× width×height)	GPS Readingsof the proposed Bridges	Remarks
					For passage of wild
					life from one
					side of alignment to other side
	4 . 220 T-		1x2mBOX	40.00601	(Manasatte -
1	4+330 To 5+024	4+430	RCC	13.906°N 75.037°E	Sy.No.38)
1	3+024	4+430	1100	73.037 E	For passage of wild
					life & water from one
					side of alignment to
					other side
	5+450 To		1x3m SLAB	13.905°N	(L.Guddekoppa
2	5+904	5+460	RCC	75.0284°E	Sy.No.27 & 46)
	3 7 9 1	D 100		70.02012	For passage of wild
					life & water from one
					side of alignment to
	8+290 To		1x2mBOX	13.899°N	other side (Hebburali
3	8+960	8+640	RCC	75.0005°E	- Sy.No.221)
					For passage of wild
					life & water from one
					side of alignment to
			1x2mBOX	13.899°N	other side (Hebburali
4		9+100	RCC	74.996°E	- Sy.No.221)
					For passage of wild
					life & water from one
					side of alignment to
					other
			4.0.000		side(Hebb
	9+02 To		1x2mBOX	13.899°N	urali -
5	9+240	9+240	RCC	74.995°E	Sy.No.221)
					For passage of wild life & water from one
					side of alignment to
			1x2mBOX	40.000000	other side (Hebburali
6	9+307 To	0.420	RCC	13.8999°N	- Sy.No.221)
6	9+640	9+420	Rec	74.993°E	
					For passage of wild
					life & water from one
			2 4 2 5755		side of alignment to
			2x1.2m PIPE	13.902°N	other side (Hebburali
7		10+200	CULVERT	74.986°E	- Sy.No.51)
					For passage of wild life & water from one
					side of alignment to
			2x1.2m PIPE	10.00001	other side (Hebburali
0		10:400	CULVERT	13.902°N	- Sy.No.51)
8	<u> </u>	10+400	COLVERT	74.984°E	Jy.110.31j

_						
		9+965				For passage of wild
		То				life & water from one
		11+286				side of alignment to
						other side
				2x1.2m PIPE	13.903°N	(He
	9		10+680	CULVERT	74.982°E	bburali –Sy.No.51)
						For passage of wild
						life & water from one
						side of alignment to
				1x2m BOX	13.905°N	other side.(Hebburali
	10		11+170	RCC	74.978°E	Sy.No.44)
F	10		11+1/0	RCC	74.970 E	
						For passage of wild life & water
						from one side of
						alignment to
						other side. This
						underpass is
						proposed by
						DCF Sagar
				16mx10m	13.906°N	(Hebburali –
	11		11+220	RCC BOX	74.978°E	Sy.No.44)
Ī						For passage of wild
						life & water
						from one side of
						alignment to other
						side. This
						underpass is
				16mx10		proposed by DCF
				mRCC	13.908°N	Sagar
ļ	12		12+760	BOX	74.959°E	(Adgodi – Sy.No.74)
						For passage of wild
						life & waterfrom one
		12+660		4.0	40.00-01-	side of alignment to
	12	To	12.060	1x2m	13.907°N	other side (Adgodi –
	13	13+832	12+960	RCCBOX	74.955°E	Sy.No.79)

2. Construction of Chain link Mesh Fencing

Construction of Chain link mesh Fencing is proposed on either side of the National Highway Road which passes through Forest area. The Chain link mesh Fencing prevents wildlife crossing across the Roads and guides them towards the underpasses which are proposed to be constructed.

The above conservation activities proposed by DCF Sagarhave been included in the Mitigation plan for movement of wild life across the road. Along with that voluntarily few more under passes are provided and Chain link Mesh Fencing will be provided on either side of road to prevent wild animals crossing on entire length of the Road passing through forest area except at the proposed wild life crossing structures. The details of chain-link fencing points is shown in **Table-3**.

Proposed Road Chain Link fencing along the alignment on either side of the road(Table-3)

SL	Chainage		Length in	Remarks
No.	From	To	Km	
1	0+000	0+073	0.073	
2	0+327	0+440	0.112	
3	0+619	0+762	0.143	
4	1+941	2+055	0.113	
5	2+100	2+210	0.110	Chain link Mesh Fencing
6	2+333	2+353	0.019	will be provided on either
7	2+738	2+793	0.055	will be provided on either
8	2+980	3+218	0.237	side of road to prevent
9	3+462	4+039	0.577	wild animals crossing
10	4+326	4+947	0.621	
11	4+947	5+165	0.217	except at the proposed
12	5+450	5+905	0.453	wild life crossing
13	6+293	6+807	0.513	5
14	7+321	9+263	1.940	structures
15	9+307	9+606	0.299	
16	9+972	11+299	1.326	
17	11+532	11+630	0.098	
18	11+782	11+953	0.171	
19	11+953	12+114	0.161	
20	12+173	12+183	0.009	
21	12+659	13+832	1.172	
Total Length		8.419		

3. Installation of Signboards and Speed Breakers

The construction highway results in the increase in the cruising speed of the oncoming vehicles. In order to reduce the speed of vehicles and to create awareness, specialized signboards must be installed in the forest patches and speed breakers also to be installed to decrease the speed of the coming vehicles in specific paths of highway. The location details for these proposed signboards and speed breakers are given as below.

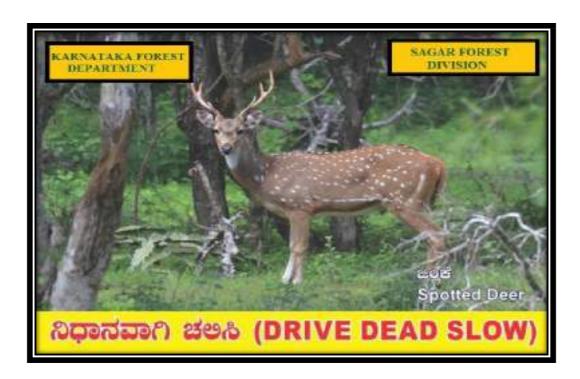
Sl No	Villago	Locality	GPS Reading	Proposed
31 NO	Village	(Sy. No.)	GPS Reading	Structure
_			13.908° N	Signboards/
1	Ganganakoppa	21	74.955° E	Speed breaker
			13.907° N	Signboards/
2	Sutta	10	75.042° E	Speed breaker
			13.907° N	Signboards/
3	Sutta	75	75.054° E	Speedbreaker
4	Manasette	38	13.906° N	Signboards/
4	Manasette	38	75.039° E	Speed breaker
5	L.Guddekoppa	27	13.906° N	Signboards/
3	L.Guudekoppa	27	75.016° E	Speed breaker
6	L.Guddekoppa	46	13.906° N	Signboards/
U			75.025° E	Speed breaker
7	L.Guddekoppa	45	13.907° N	Signboards/
,	L.ddddeKoppa	43	75.033° E	Speed breaker
8	B Hebburli	44	13.907° N	Signboards/
U	Hebburn	7-1	74.975° E	Speed breaker
g	9 Hebburli	51	13.901° N	Signboards/
,	Hebbuili	31	74.988° E	Speed breaker
10	Hebburli	221	13.901° N	Signboards/
10	nebbuin	221	74.992° E	Speed breaker
11	Hosuru	43	13.909° N	Signboards/
11	110801 u	43	74.971° E	Speed breaker
12	Adgodi	74	13.909° N	Signboards/
12	Augoui	/ 4	74.965° E	Speed breaker
13	Adgodi	79	13.908° N	Signboards/
13	Auguui	/ 7	74.955° E	Speed breaker

4. Providing one Mahindra-Bolero Vehicle for rescue of Wild Animals in Sagar Division:

To take-up rescue and rehabilitation of wild animals during conflict situation one Mahindra-Bolero vehicle will be provided for division from user agency.

Proposed Sign Boards as follows:





Informatory Sign Boards

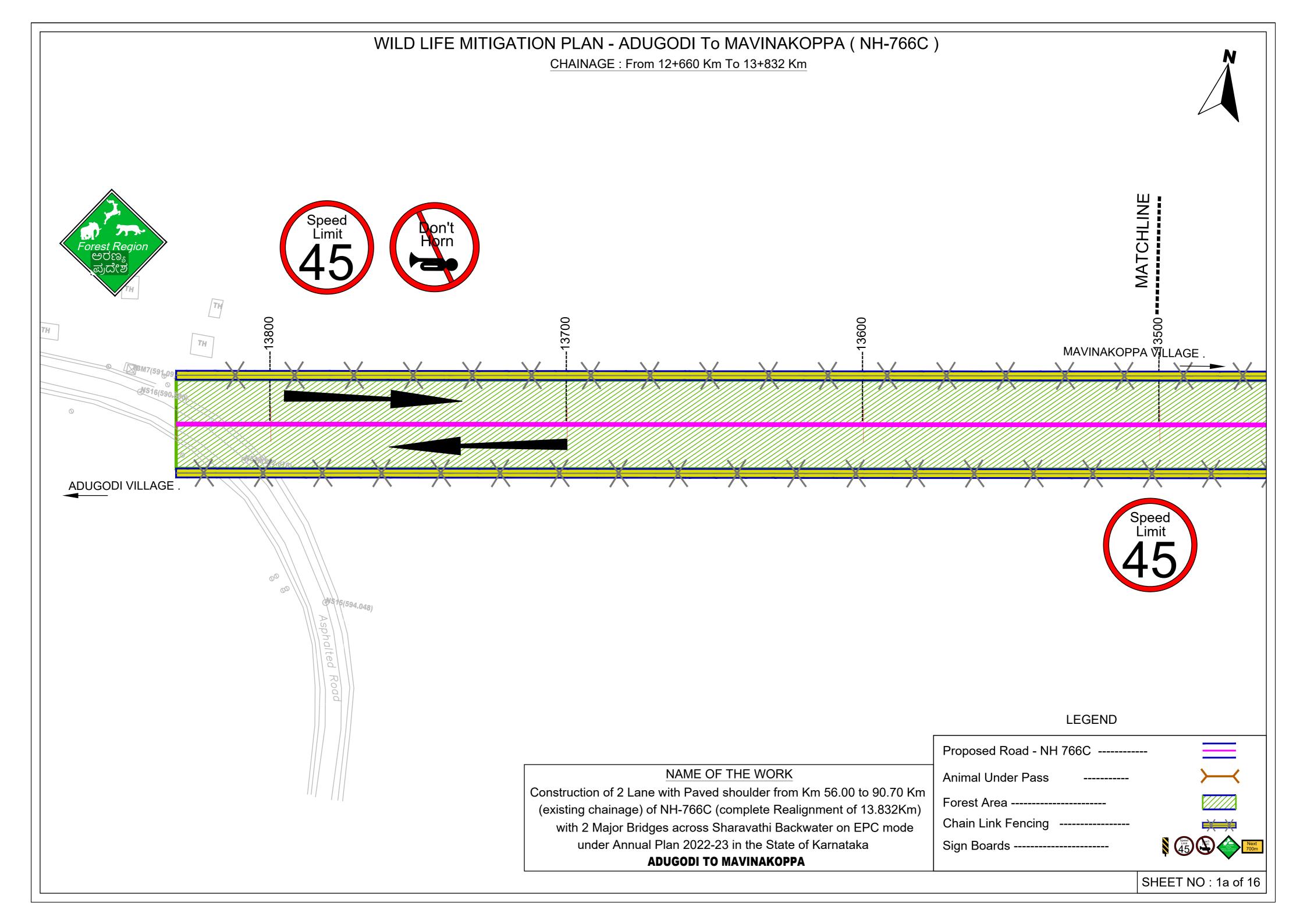


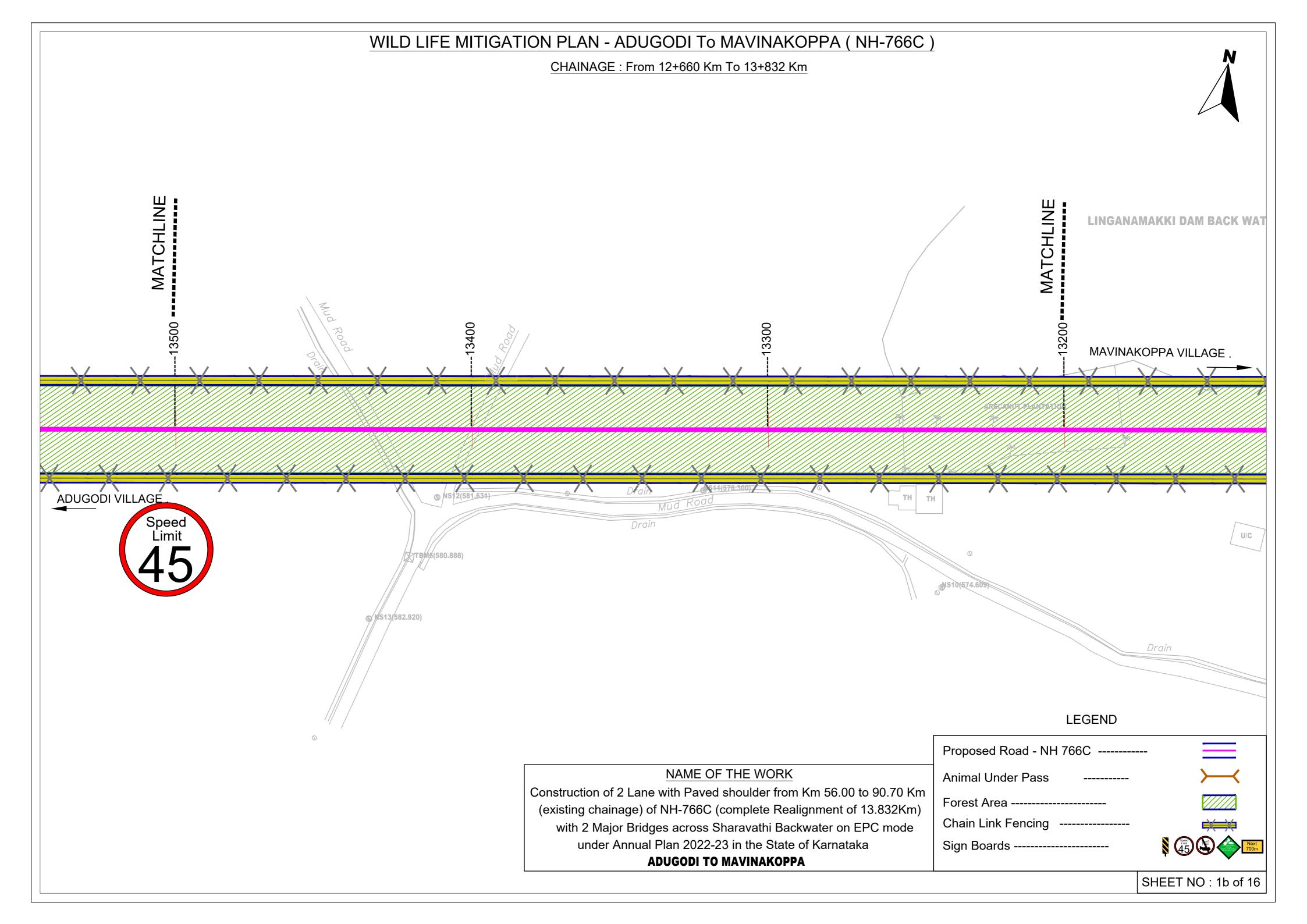


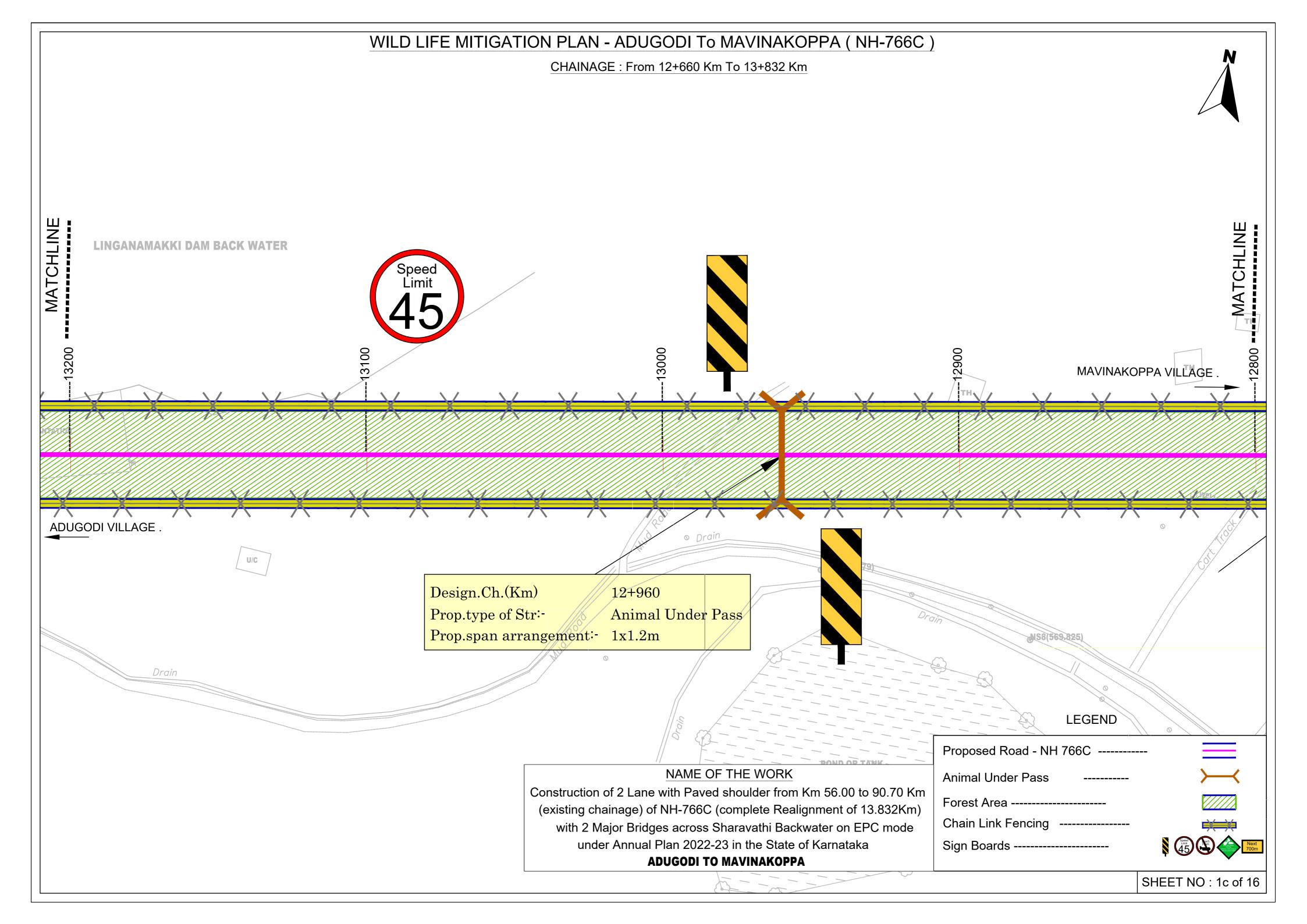


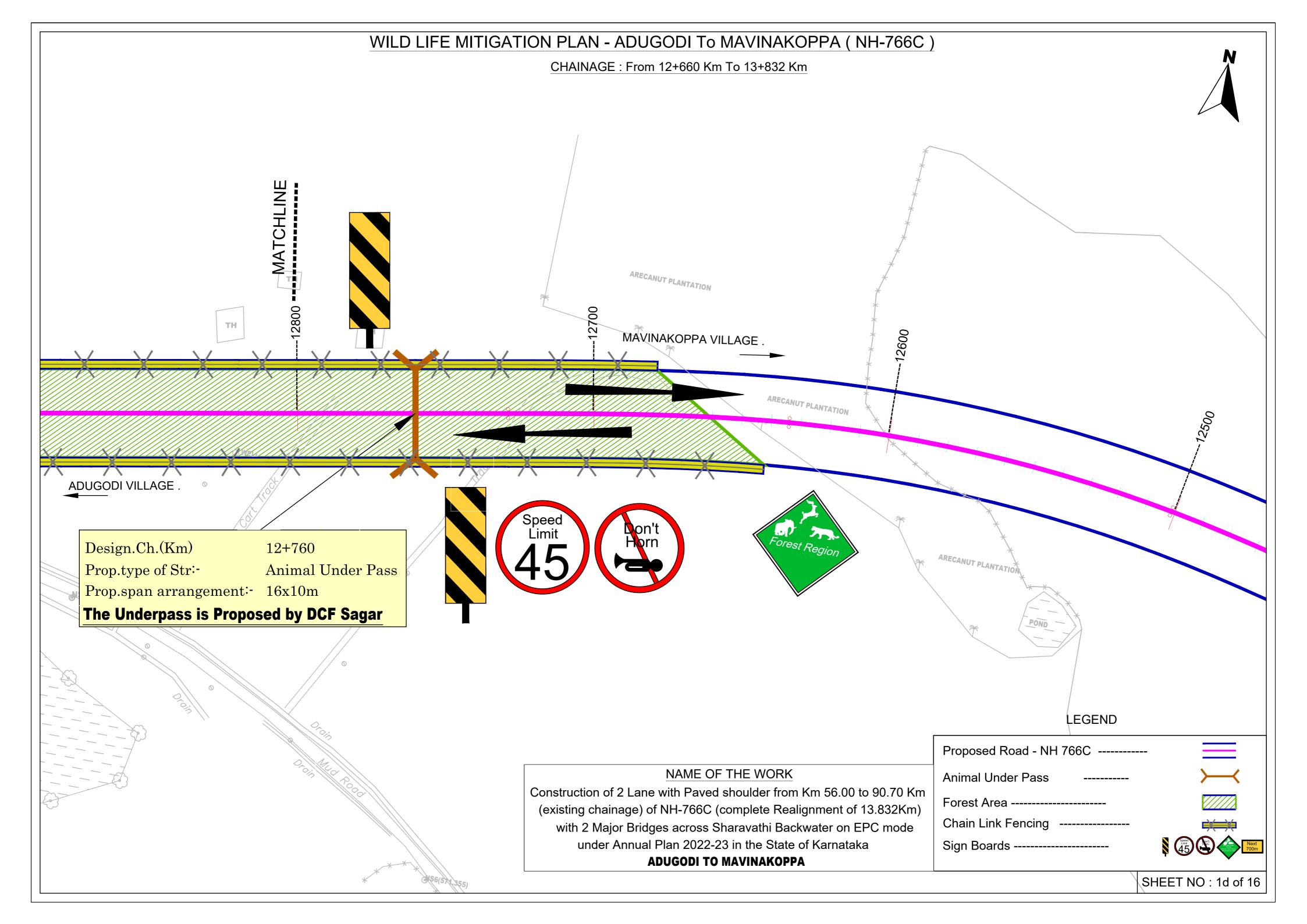


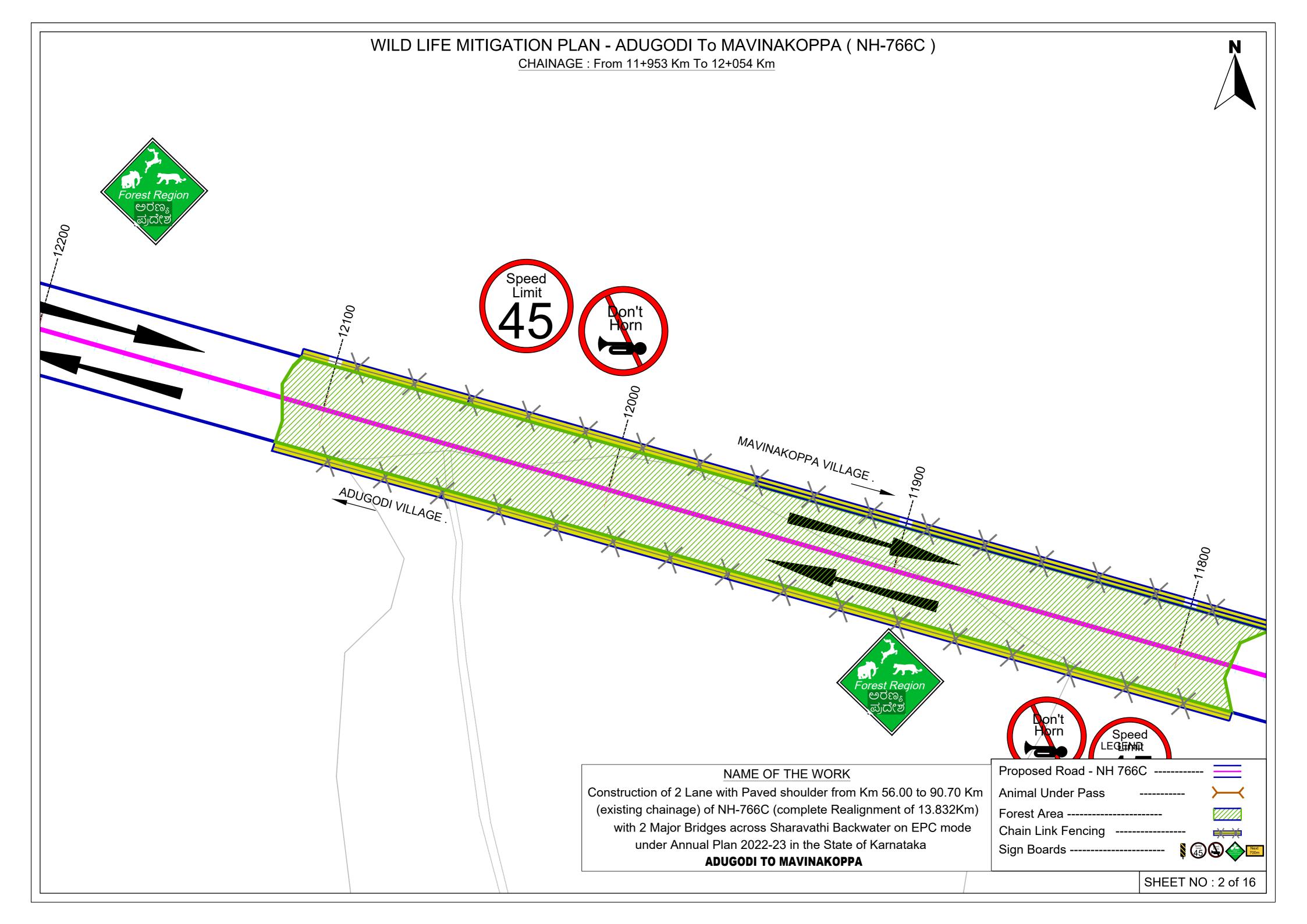
Cautionary Sign Boards

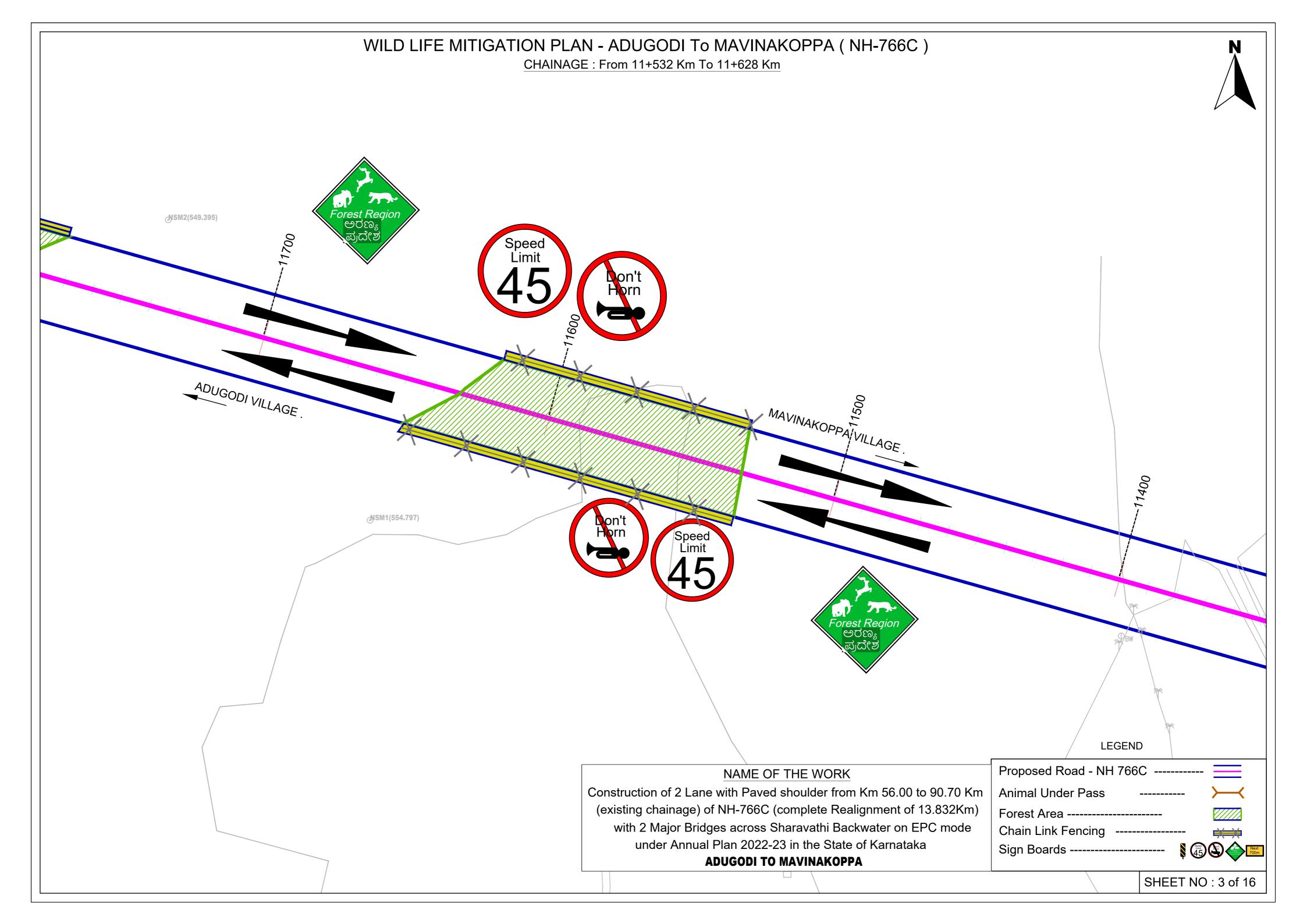


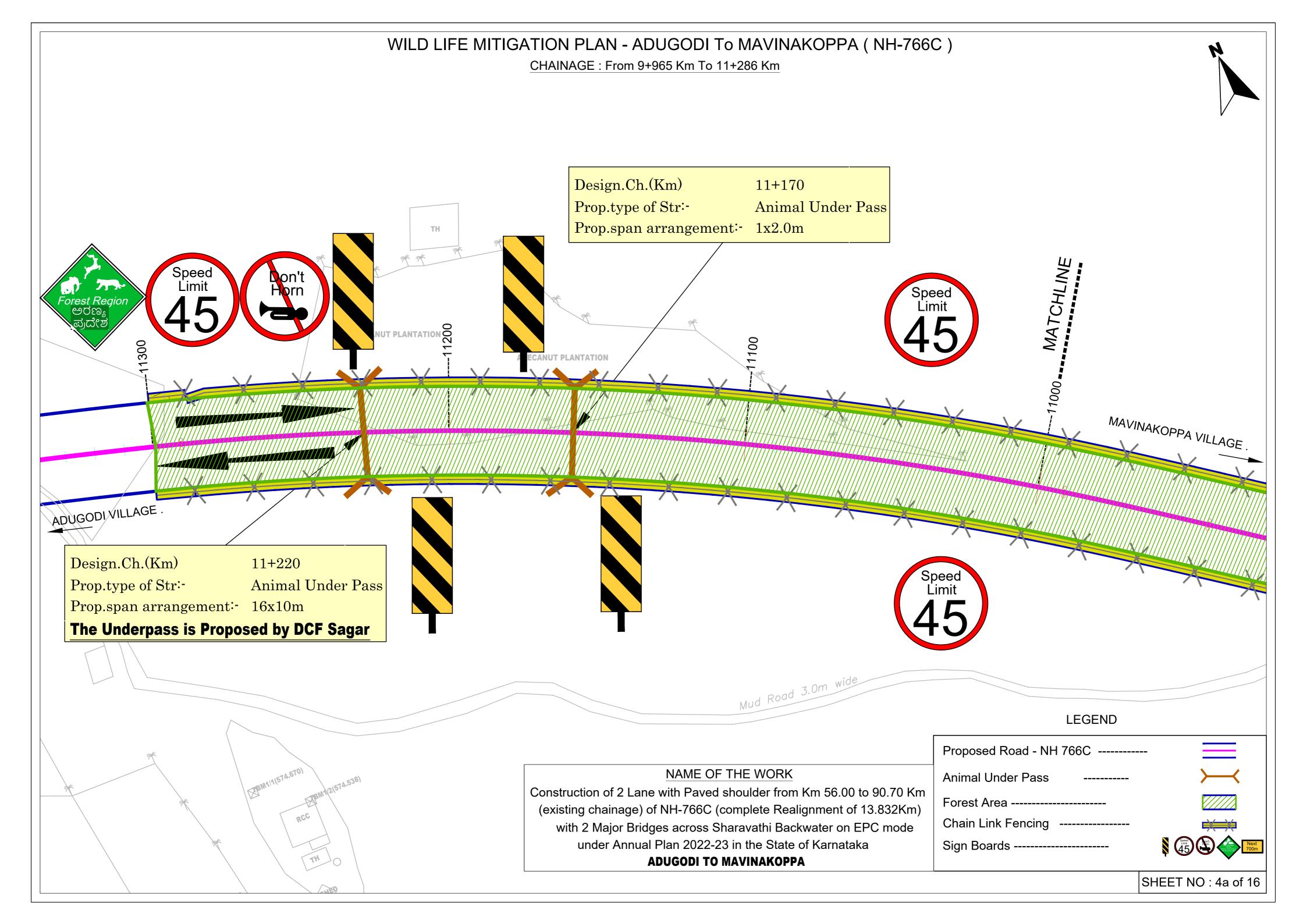


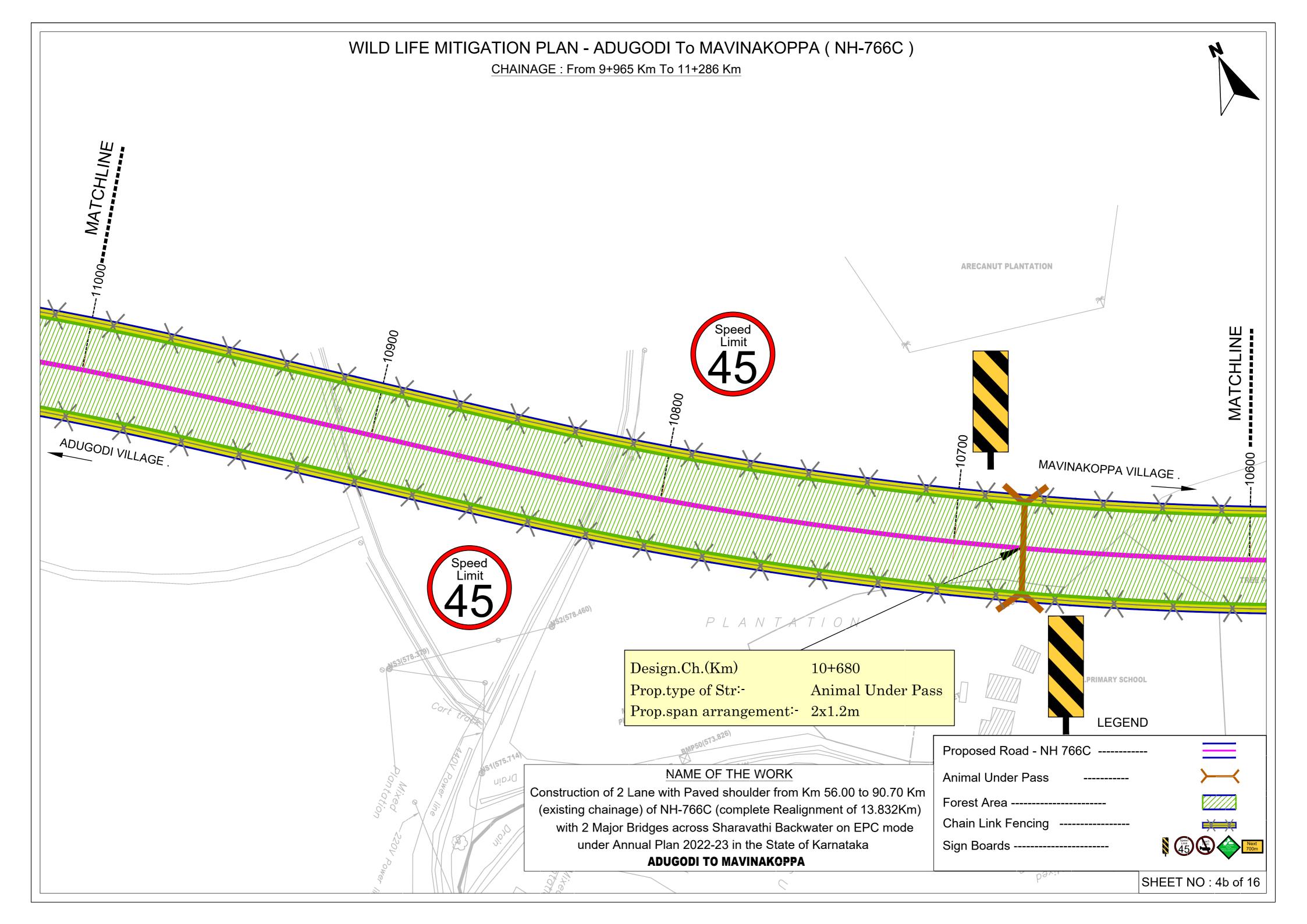


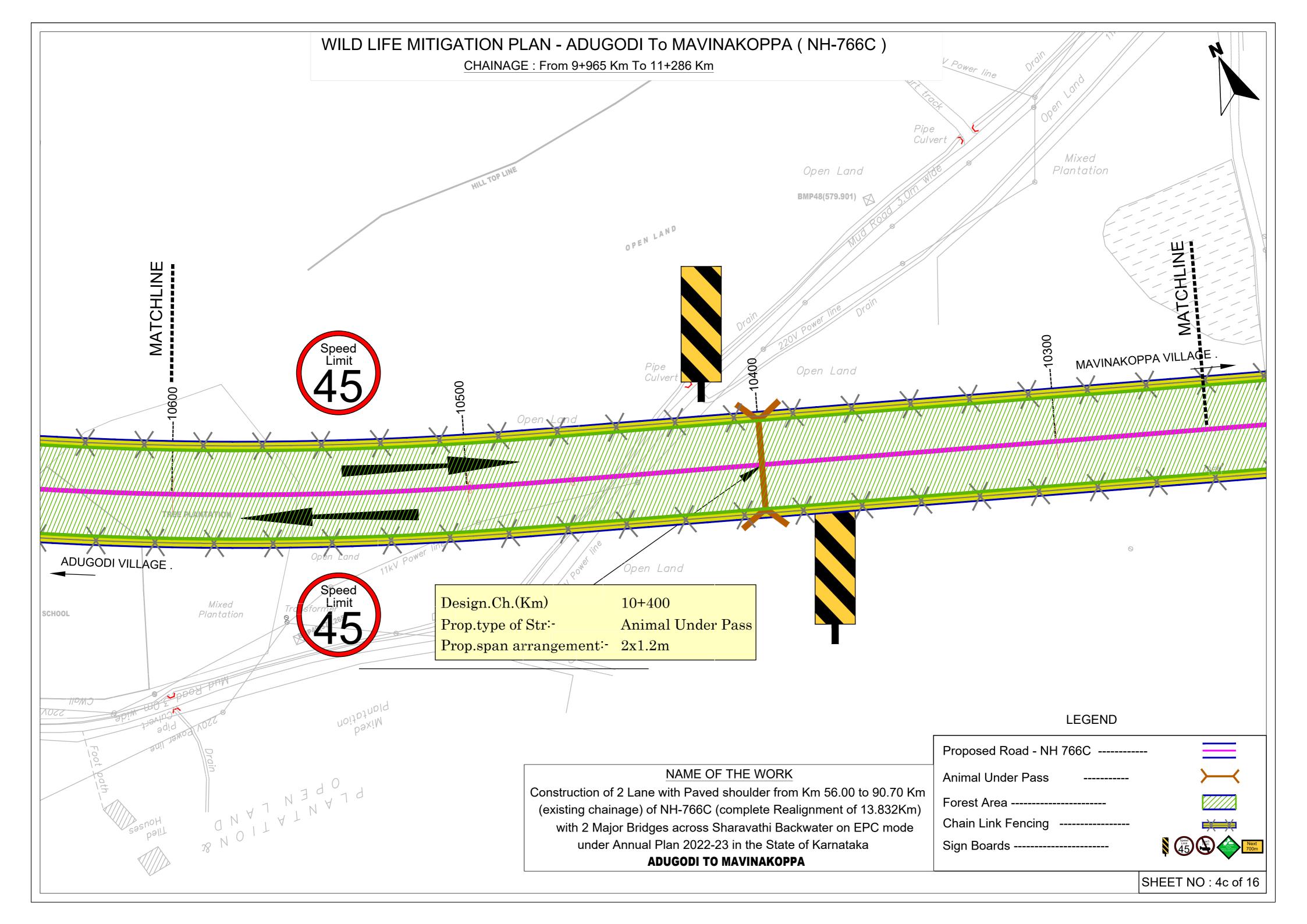


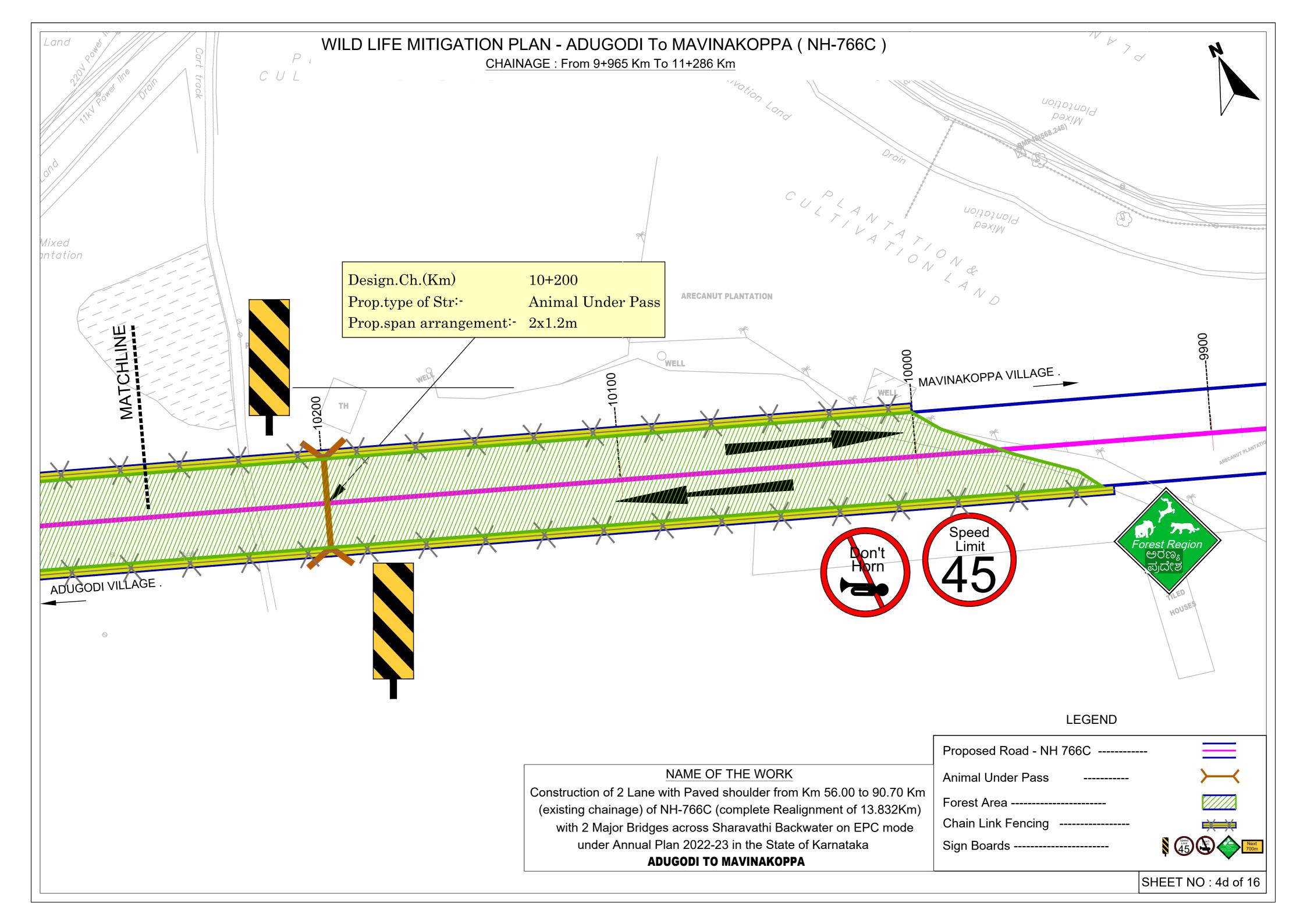


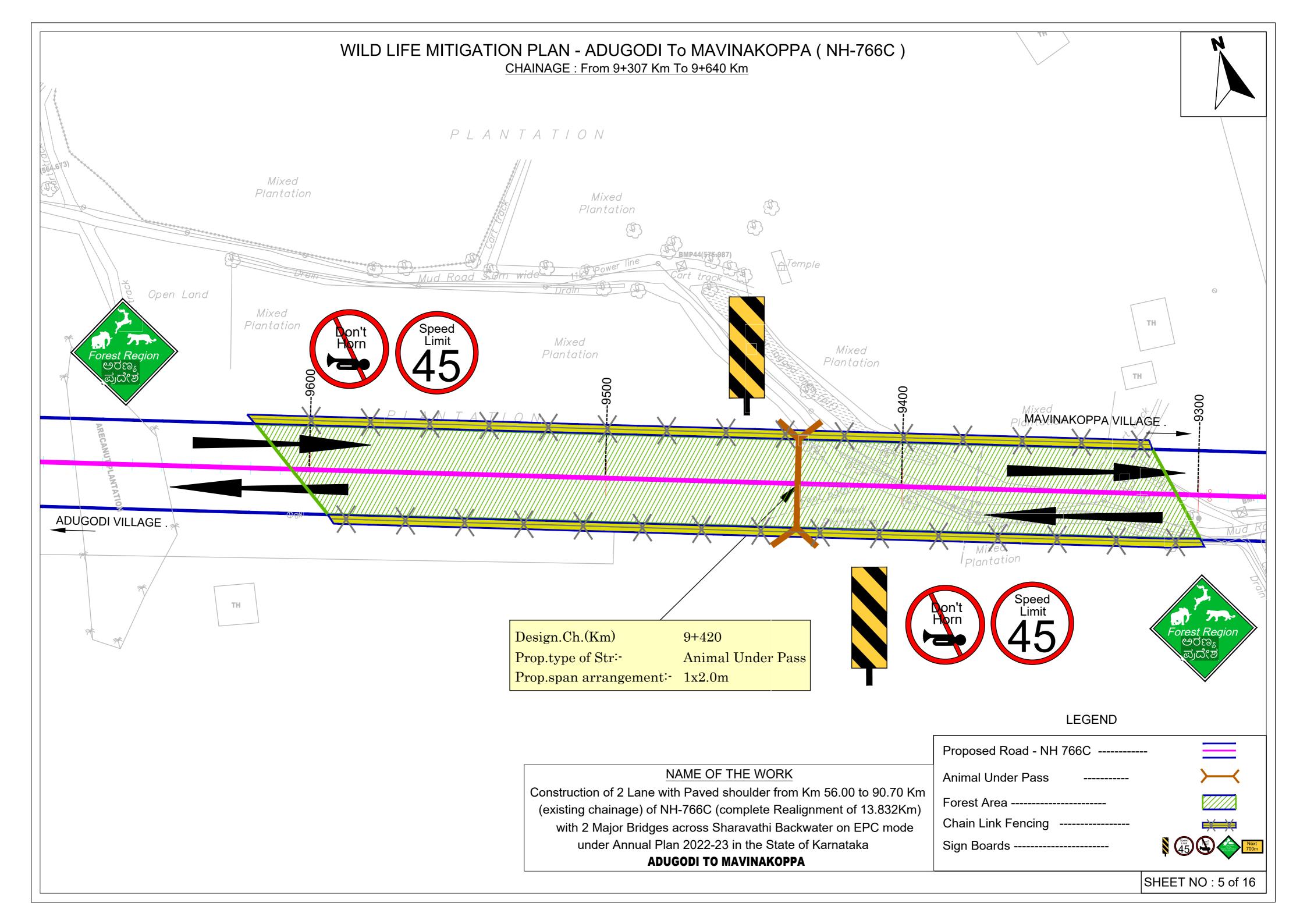


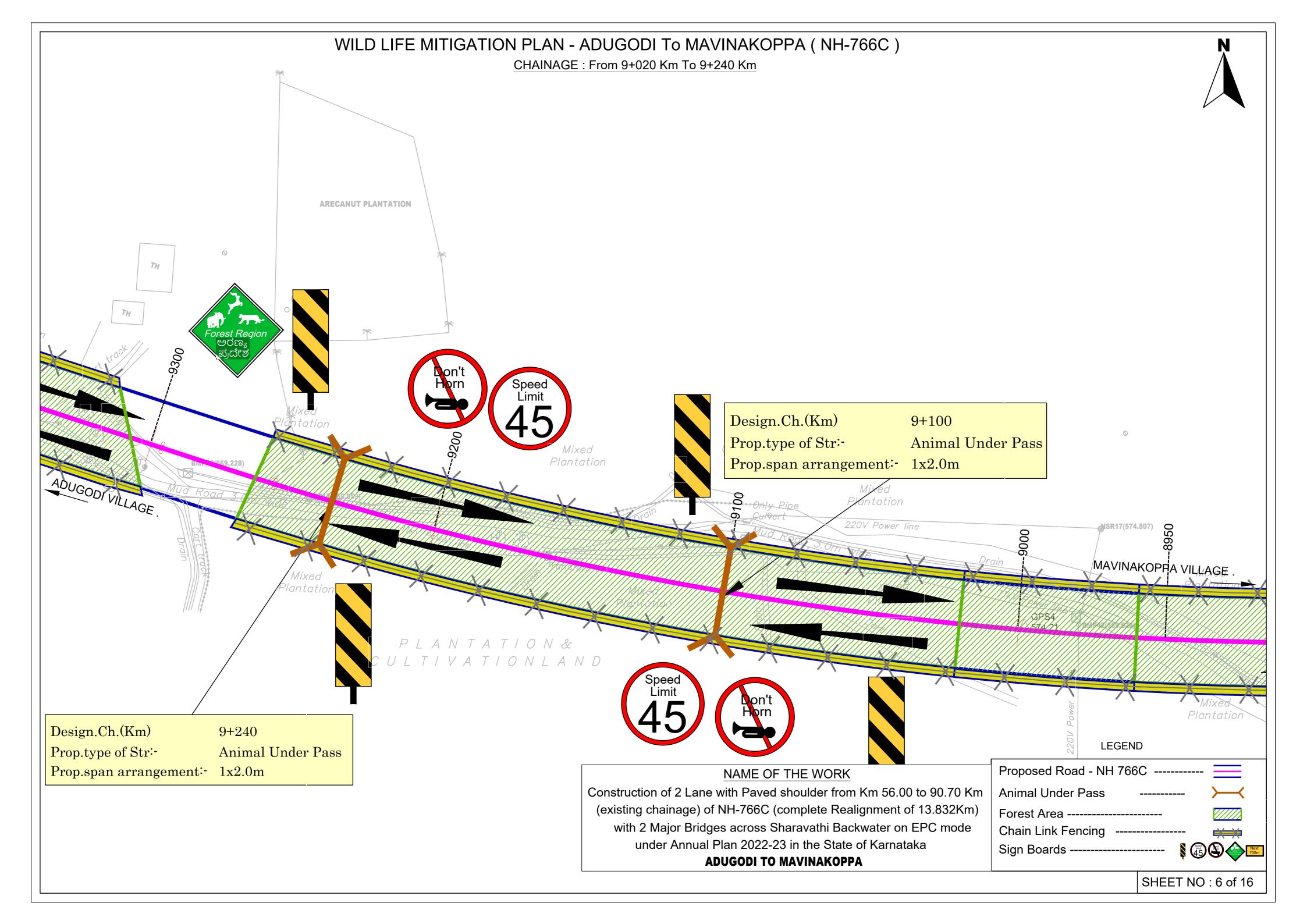


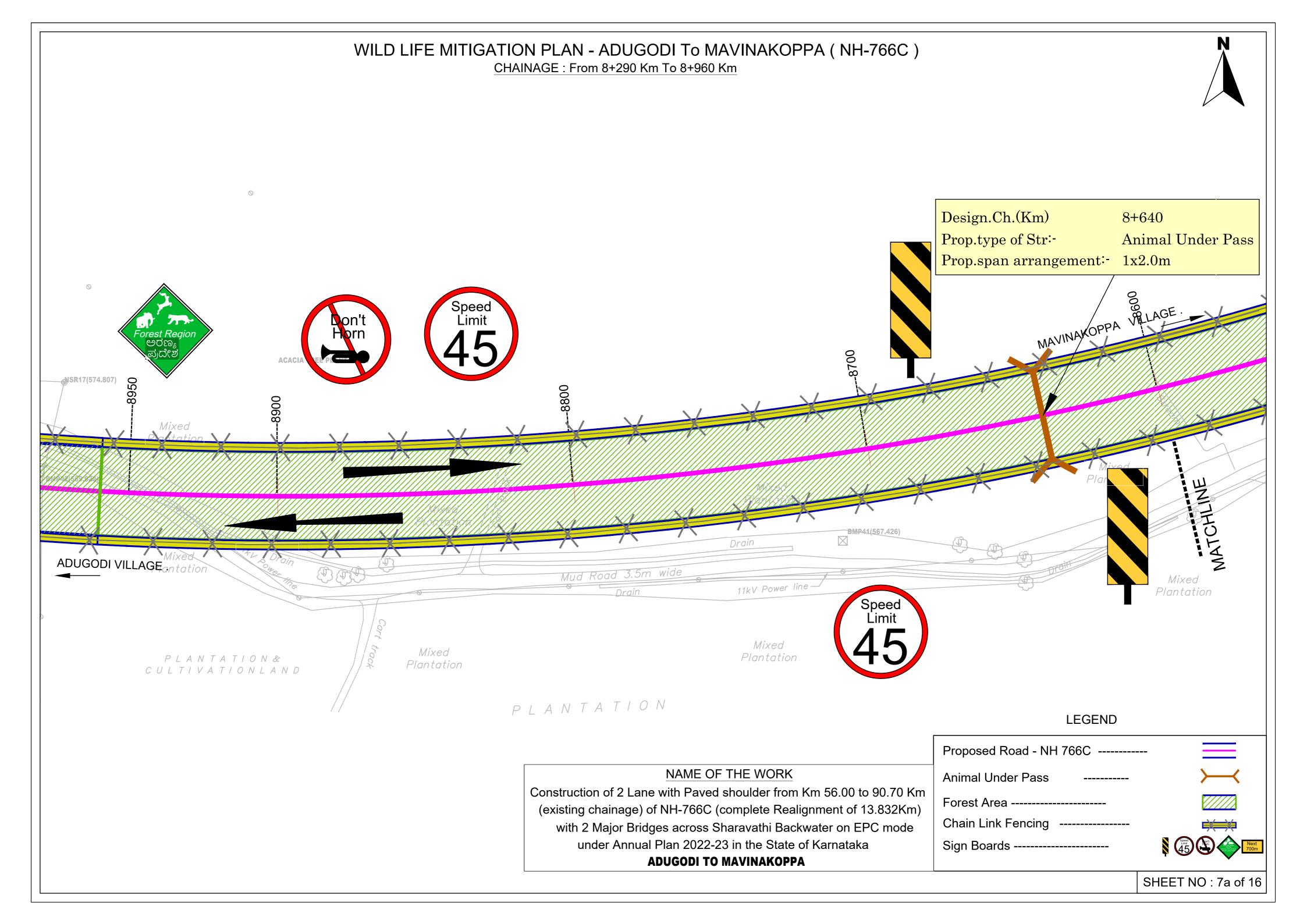


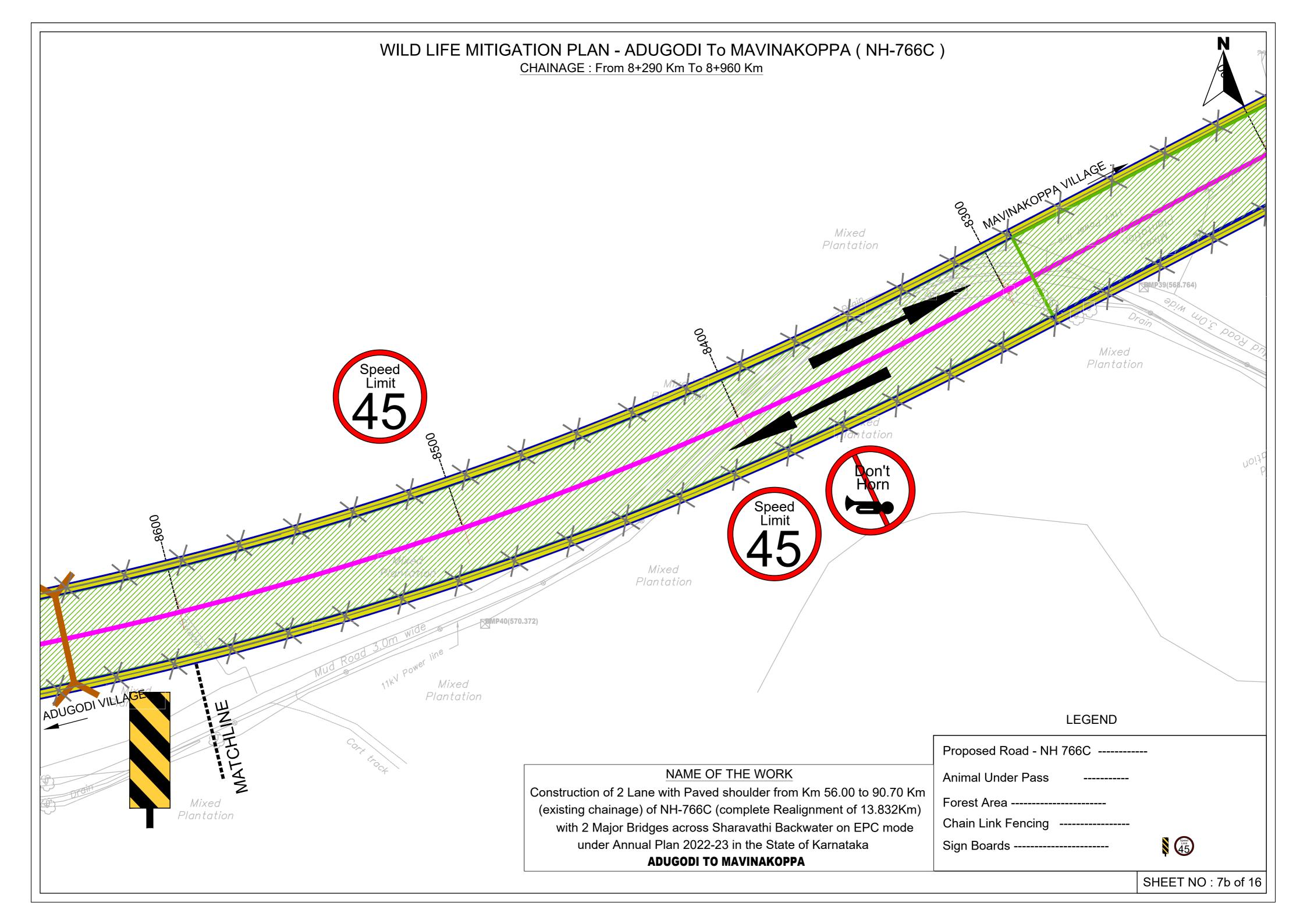


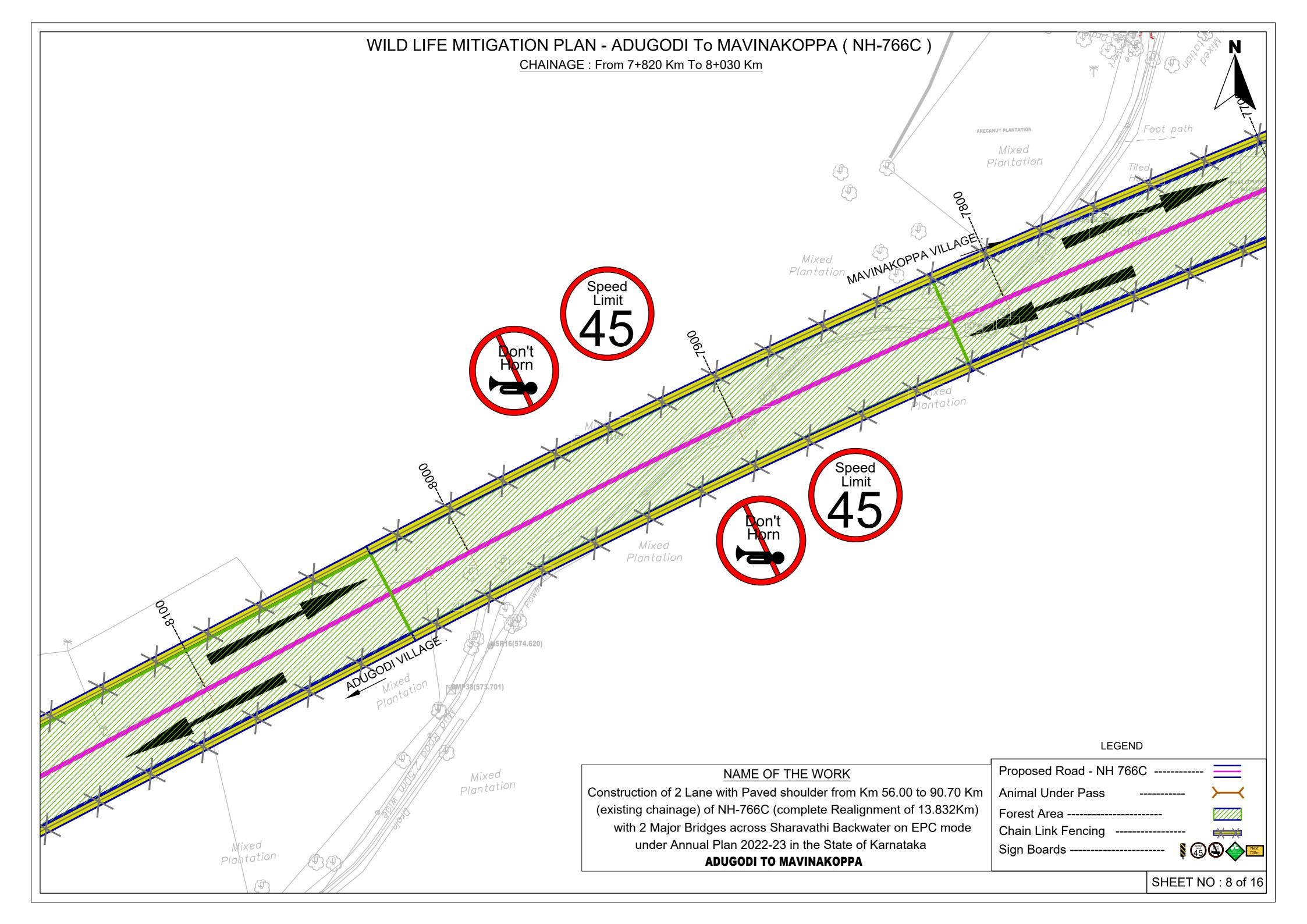


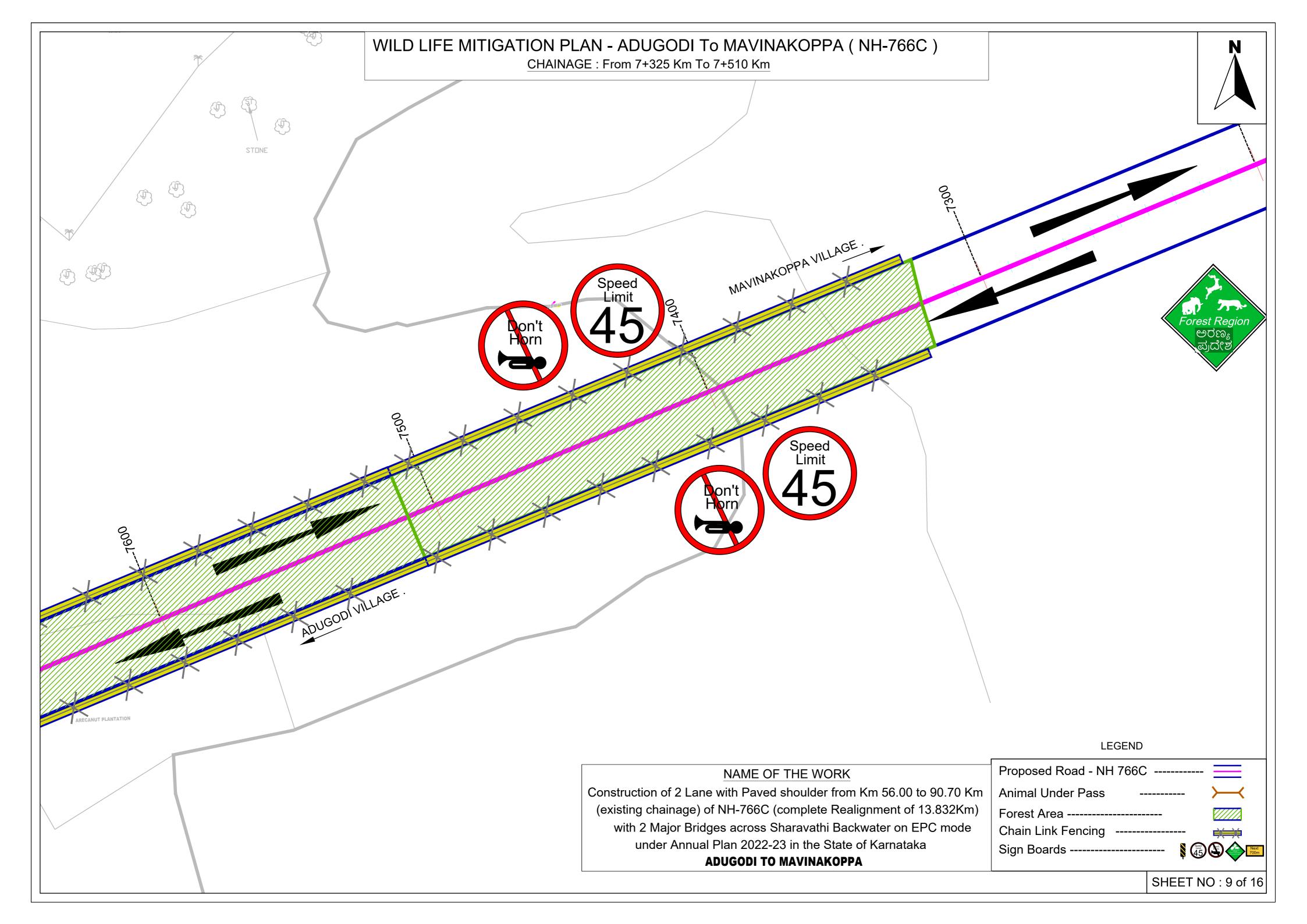


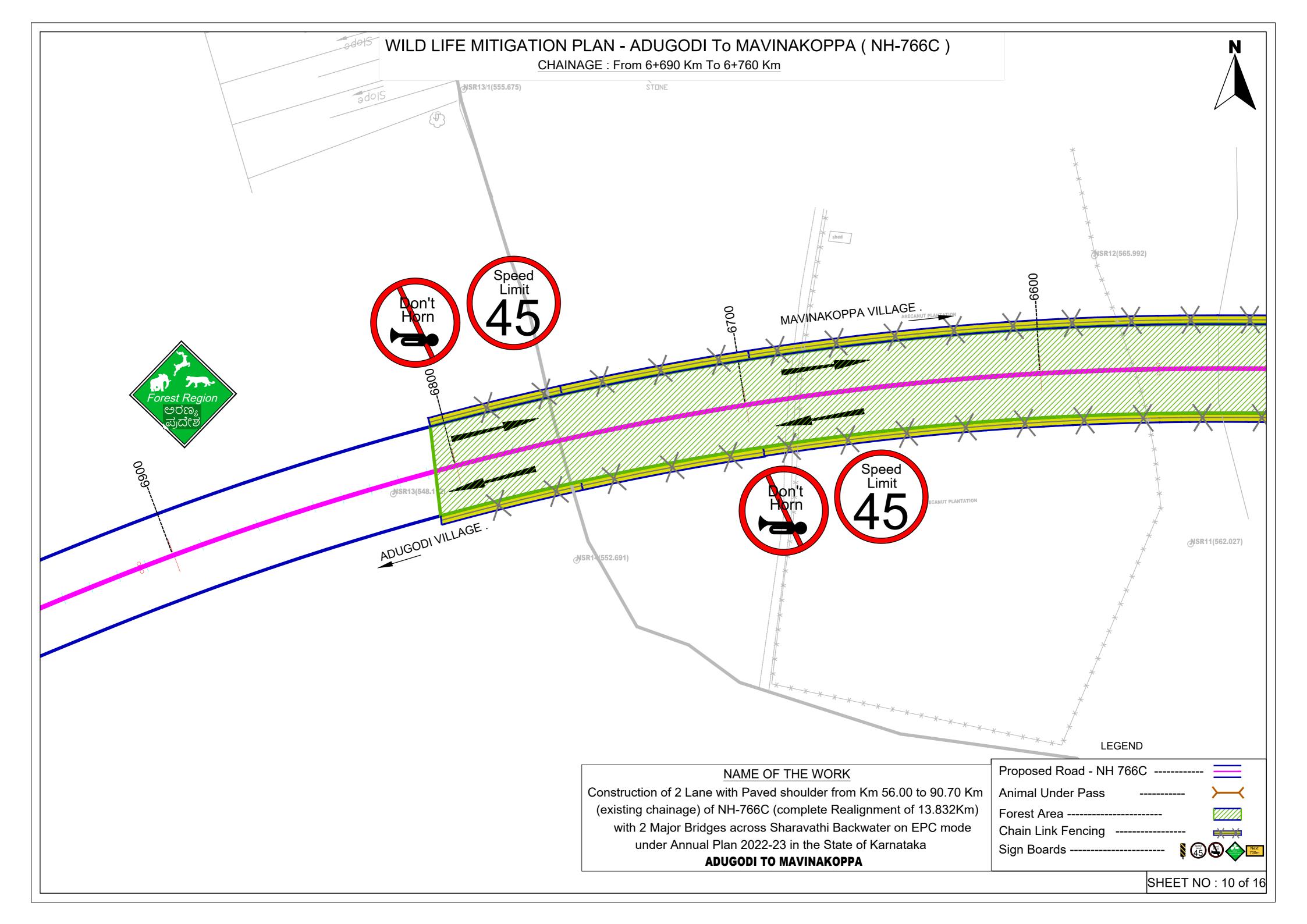


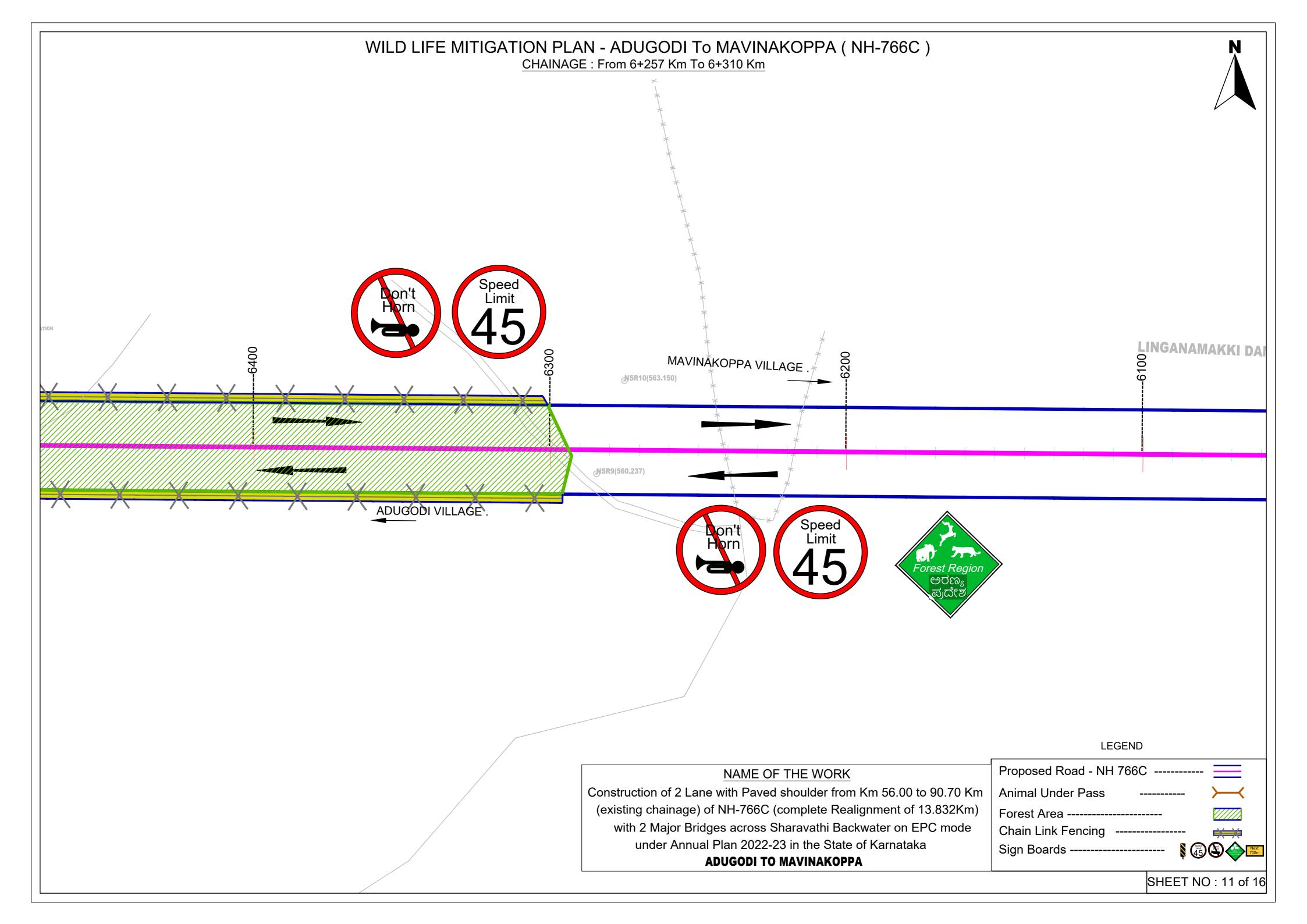


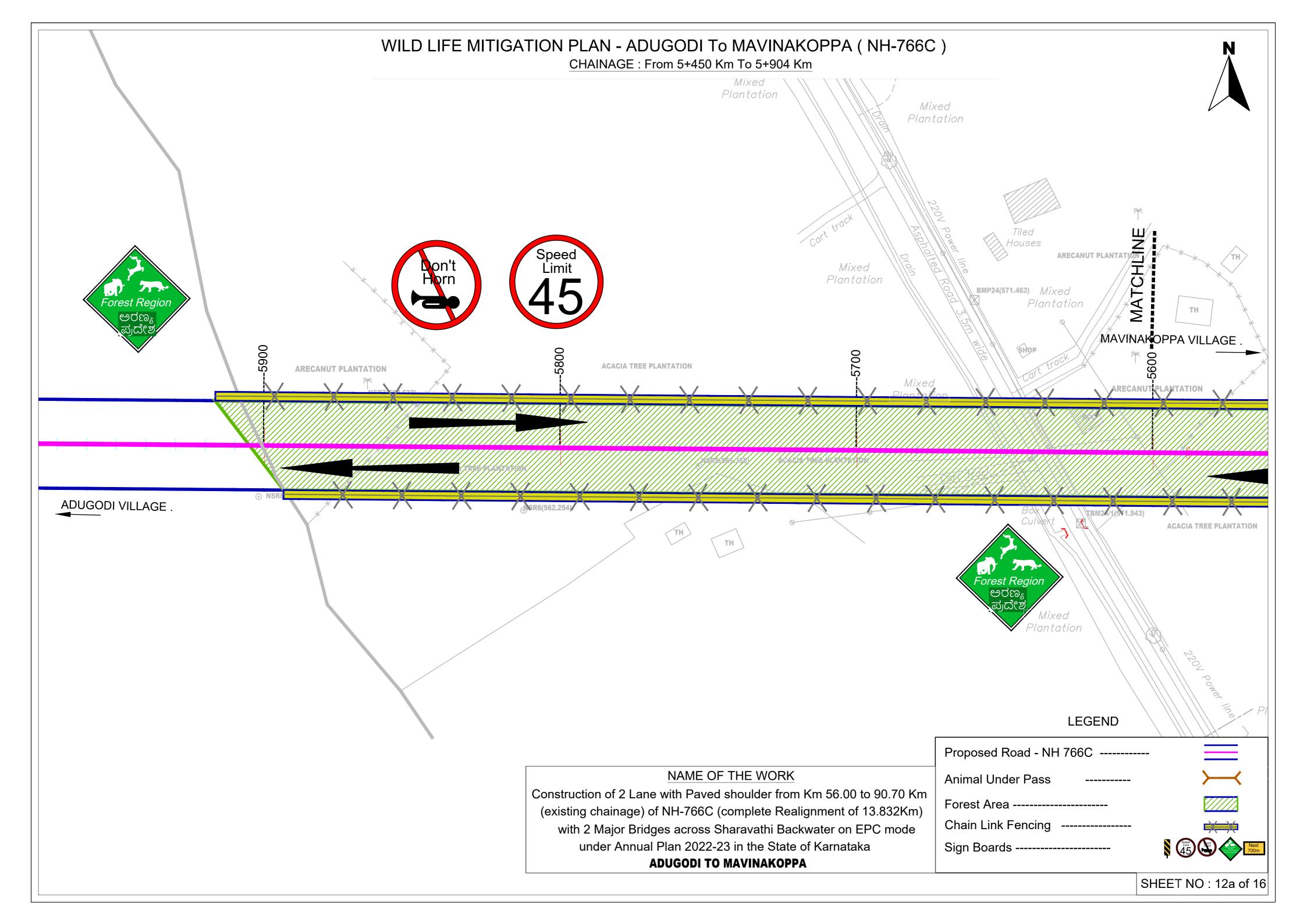


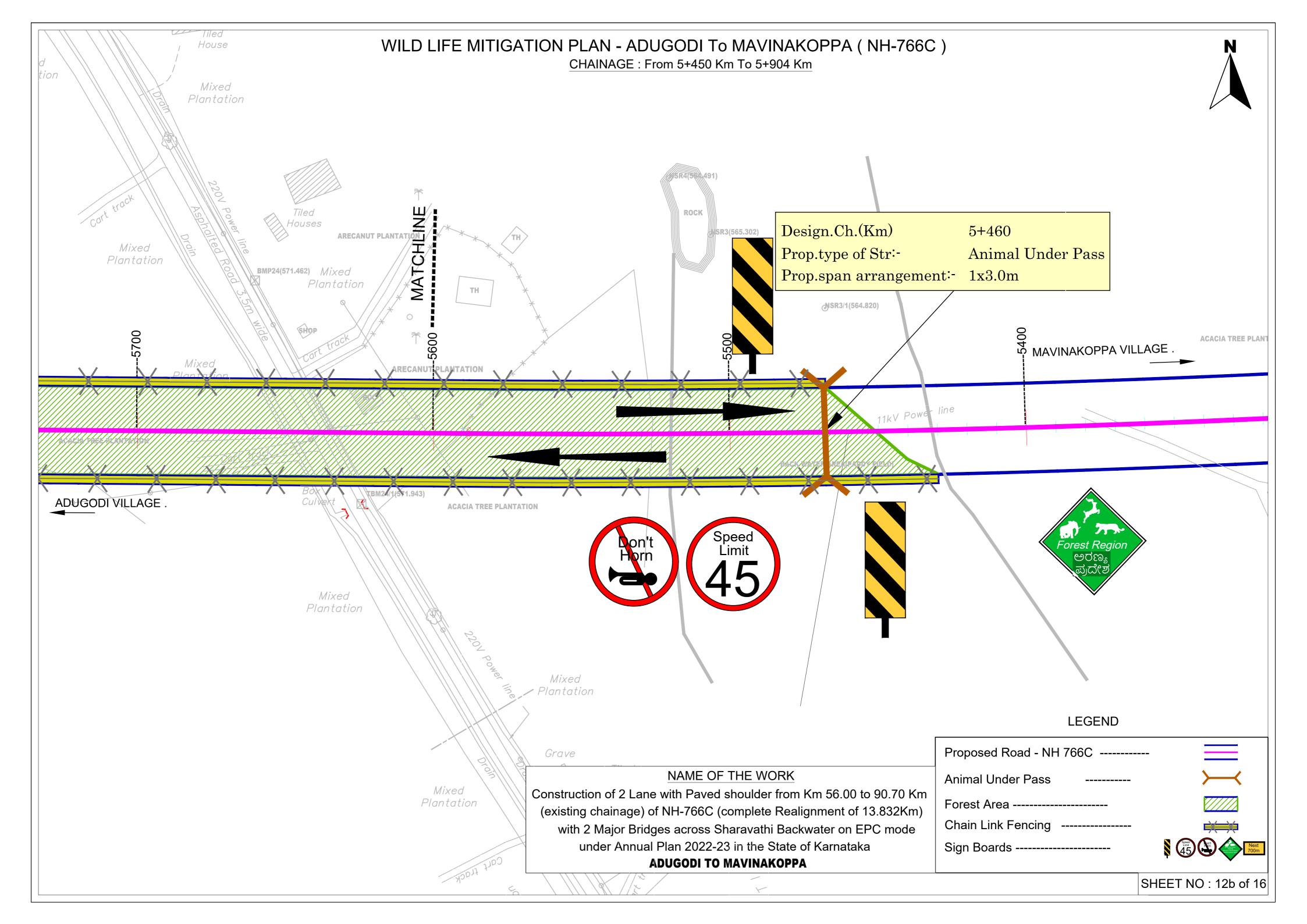


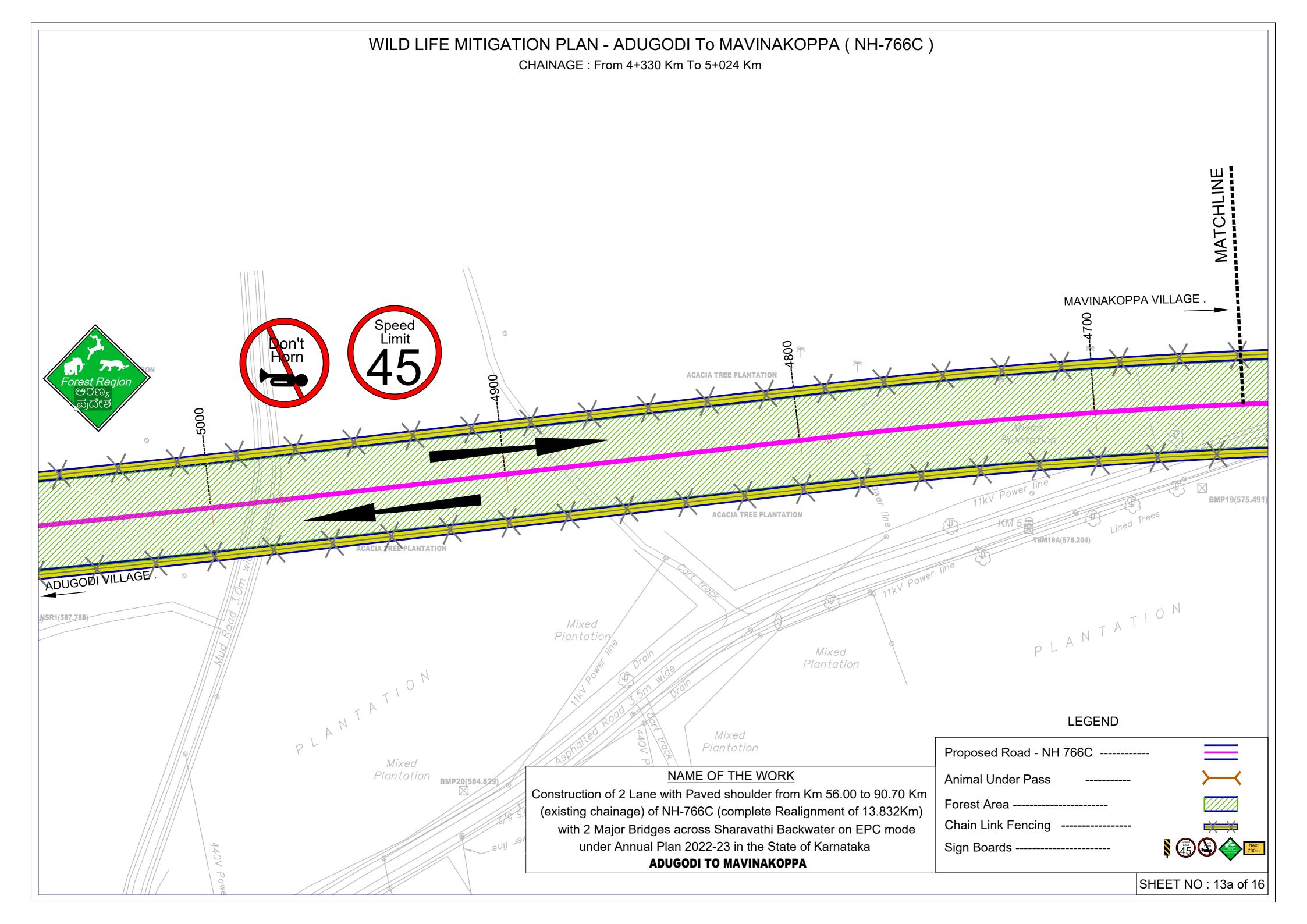


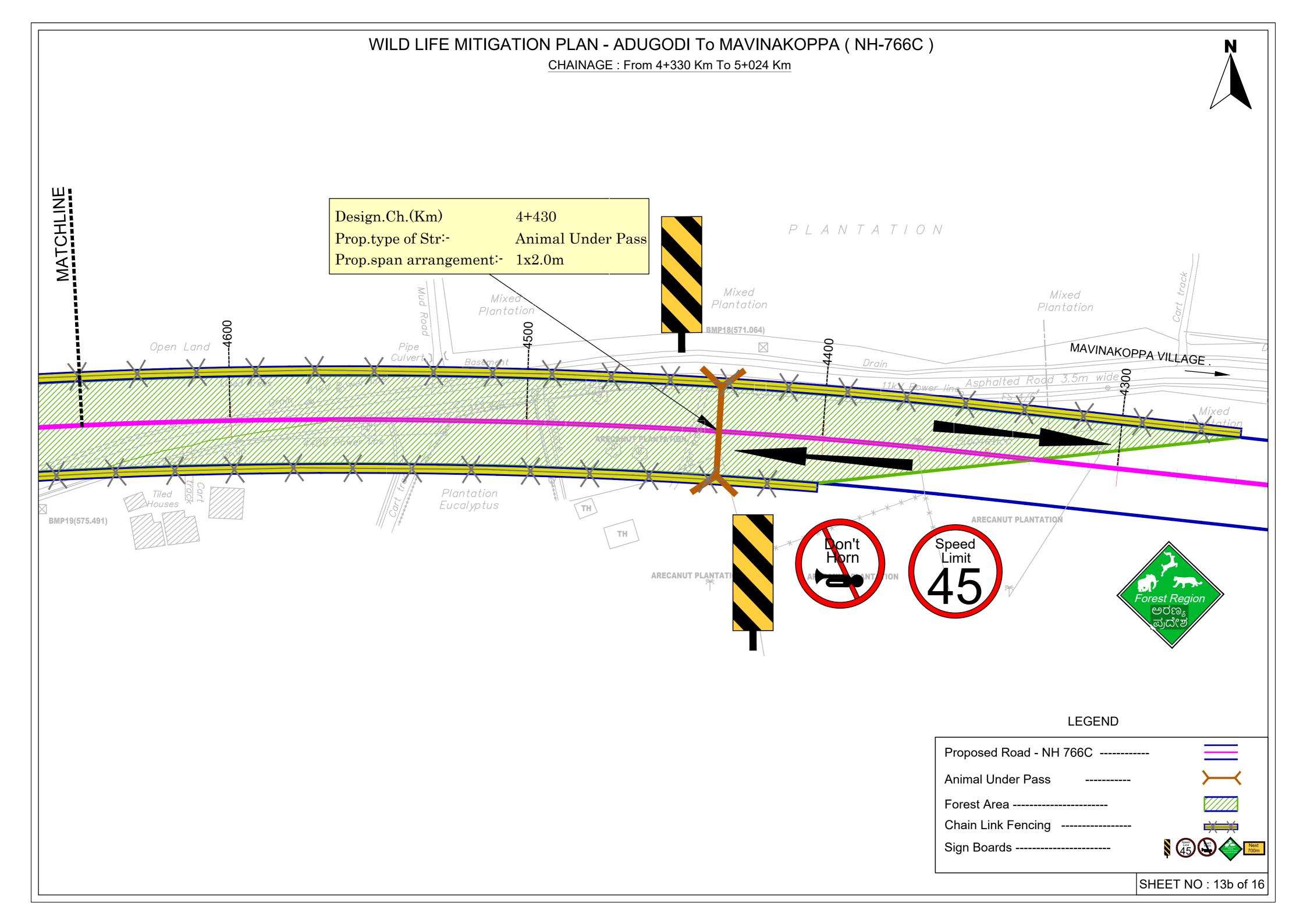


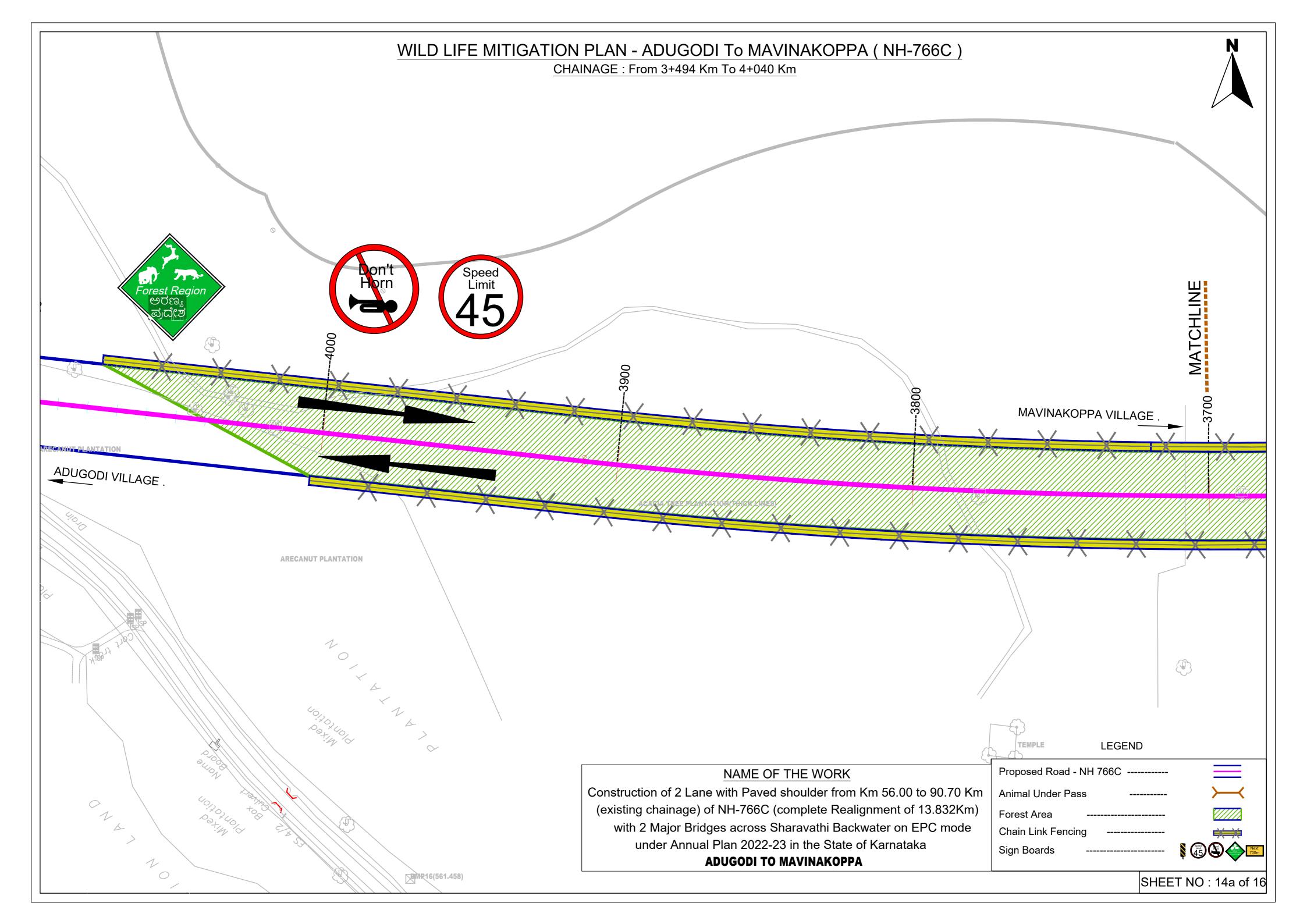


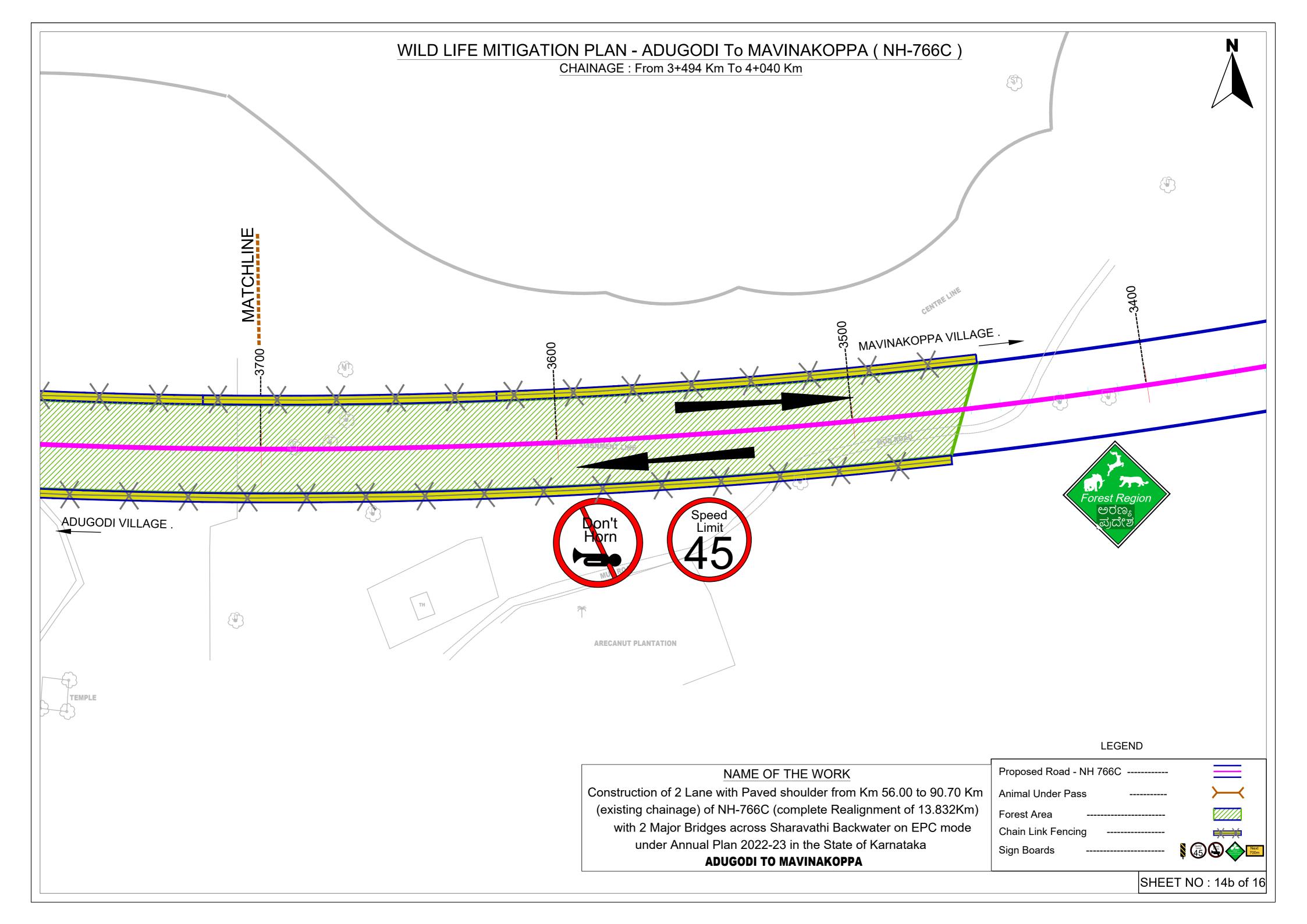


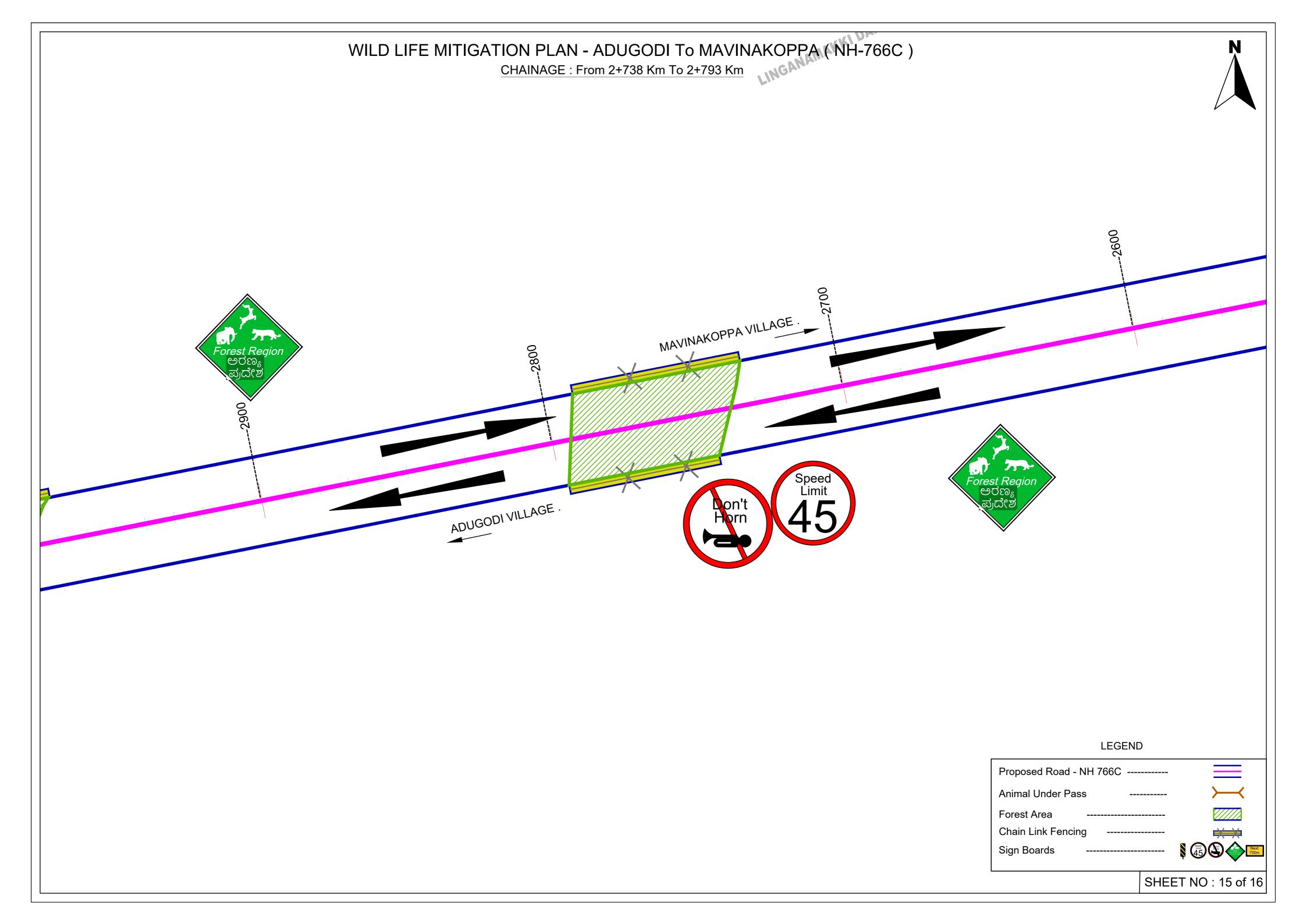


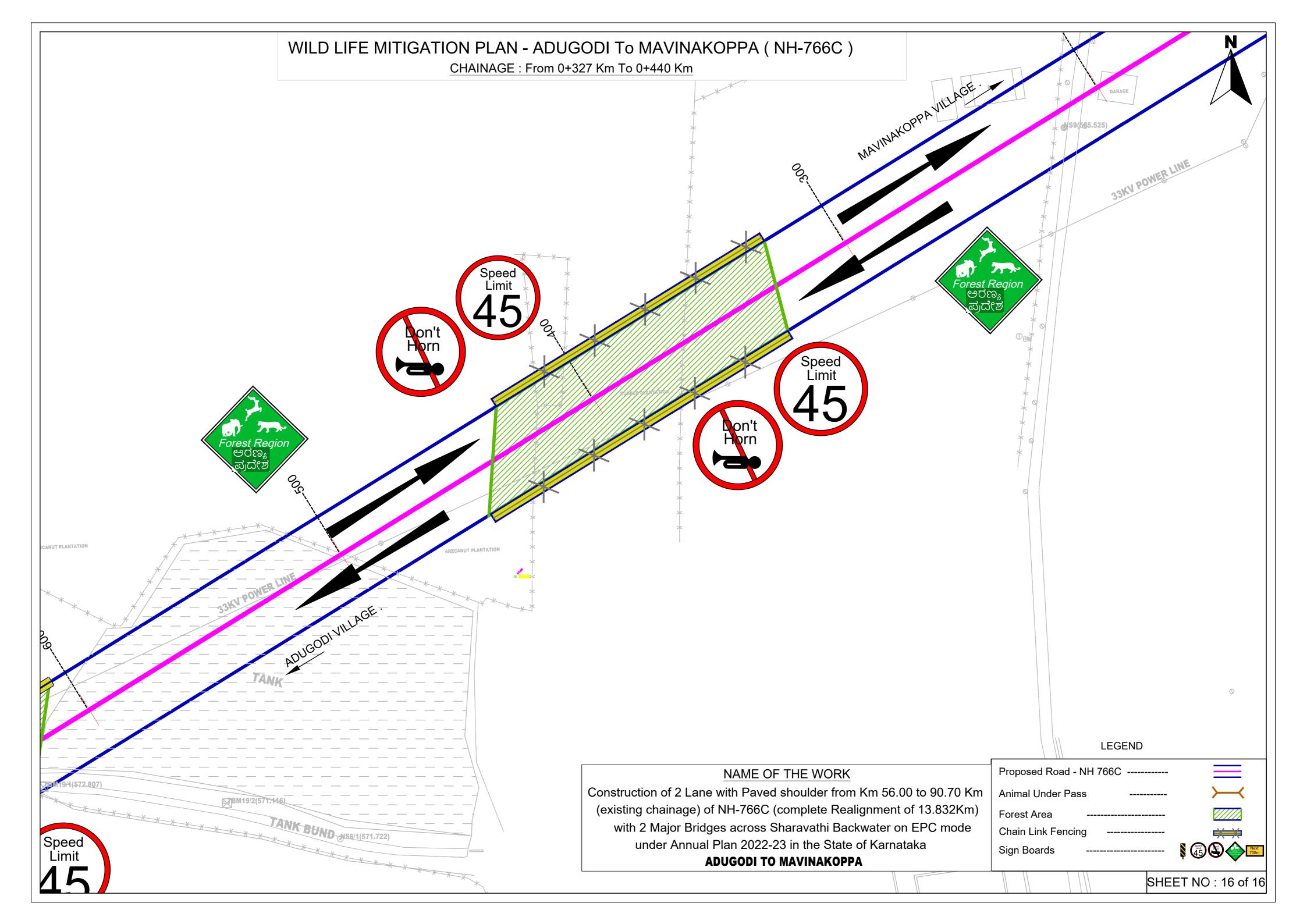
















Wild Life Mitigation Plan for Arboreal Animals

Name of the Project: Diversion of 25.763 Ha (revised from 18.844 ha) for Construction of 2 Lane with Paved shoulder road from Km 55.60 – Adugodi to Km 90.70 – Mavinakoppa of NH-766C with 2 Major Bridges across Sharavathi Backwater in favour of Executive Engineer, NH Division, Public Works Department, Shimoga.

Proposal No: FP/KA/ROAD/156224/2022

Applicant/User Agency:

Executive Engineer,

NH Division,

Public Works Department,

Shimoga



WILDLIFE MITIGATION PLAN FOR ARBOREAL ANIMALS

Introduction:

The diversion of forest land proposed for the Diversion of 25.763 Ha of Forest land in Hosanagara Taluk, Shimoga District for Construction of 2L+PS road from km 55.60 to km 90.70 mavinakoppa of NH 766 C with major Bridges across Sharavathi back Water (FP/KA/ROAD/156224/2022) in favour of Executive Engineer, National Highways Division, Shivamogga. The Proposed project requires diversion of 25.763 ha forest land in about 8 villages of Hosanagara Taluk in Sagar division. This National Highway project starts at Mavinakoppa Village and ends at Adagodi Village (Bekkodi) with a length of 13+832 km. This Road covers in Shivamogga district.

Previously the Principle Chief Conservator of Forests, (Wildlife), & Chief Wildlife Warden approved wildlife mitigation plan vide Letter No. PCCF/WL/D/CR-51/2018-19 dated: 11-09-2023. In which 13 underpasses of various dimensions, 6.293 Km of chain link fencing, installation of signboards, providing speed breakers and providing a Mahindra Bolero vehicle for patrolling with necessary budgetary provisions of 420.83 lakhs has been proposed and approved.

The Deputy Inspector General of Forests (Central), Ministry of Environment, Forest & Climate Change vide letter no. 4-KRC 1400/2022-BAN Dt: 16-04-2025 raised an EDS to provide a wildlife mitigation plan for the unrestricted movement of arboreal animals in the forest.

Need of wildlife Management Plan for Arboreal Animals

Wild animals move through the landscape for variety of reasons and often interact with roads, traffic and other linear infrastructure. There is always a risk of collision with a vehicle if the animal attempts to cross the road, resulting in injury or death (road kill) of the animal and sometimes commuters. The rate of wildlife-vehicle collisions (WVC) has been increasing globally. The location and timing of wildlife-vehicle collisions are influenced by the location of the road in the landscape, traffic volume, vehicle speed and infrastructure provided to the wildlife to cross over. Especially the arboreal animals usually move across the tree canopy from tree to tree without needing to descend to the ground. So in order to mitigate any wildlife-vehicle collisions of arboreal wild animals necessary infrastructure must be created so arboreal wild animals can move across the proposed road without venturing on the road. The proposed road is situated Western Ghats containing tropical wet evergreen

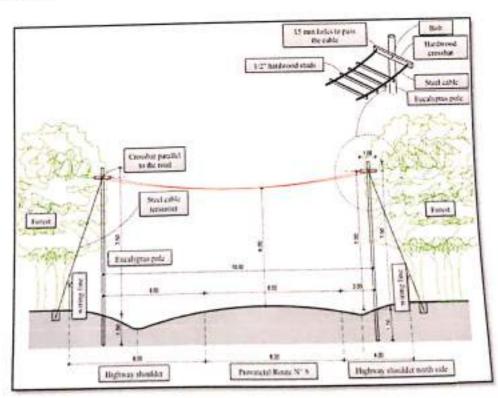
and semi evergreen forests which habitats several arboreal wild animals. The proposed Diversion area inhabits following arboreal wild animals;

Sl. No.	Name of the Arboreal Wild	Scientific Name
1	Common Langur	Semnopithecus entellus
	Bonnet Macaque	Macaca radiata
2	Malabar Gaint Squirrel	Ratufa indica
3	Indian Gaint Flying Squirrel	Petaurista philippensis
4		Loris tardigradus
5	Slender Loris	110000000000000000000000000000000000000
6	Brown Palm Civet	Paradoxurus jerdoni

In order to facilitate the movement of above mentioned arboreal animals across the proposed road canopy bridges are proposed.

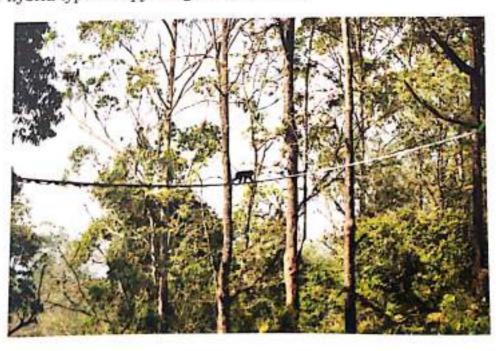
Canopy Bridge

A canopy bridge is a structure which connects two opposite parts of a forest canopy fragmented by man-made barriers like roads, railway tracks and other similar infrastructure. These bridges allow animals to travel through the canopy without needing to descend to the ground, reducing the risk of road collisions and other man-wildlife conflicts.

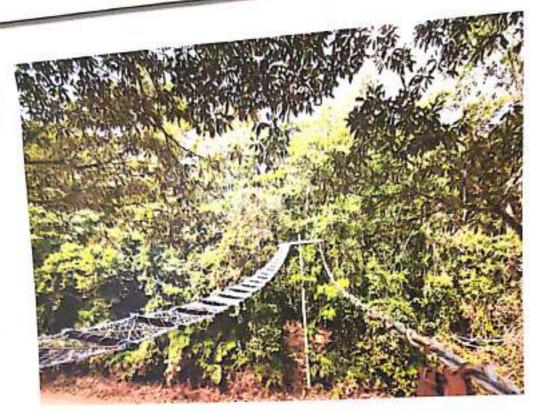


Schematics of a Canopy Bridge

- Safe Passage for arboreal Wild Animals: They provide a clear and safe path for Advantages of Canopy Bridges arboreal animals to cross over roads, railway tracks, or other barriers.
 - Reduced Wildlife Accidents: By preventing arboreal animals from crossing on the ground, they significantly reduce the risk of collisions with passing vehicles.
 - Connectivity in fragmented habitats: Canopy bridges help reconnect fragmented forest habitats, allowing animals to move freely between different areas and maintain their natural behaviours.
 - Species-Specific Design: Different bridge designs can be used to suit the needs of various species, such as single ropes for agile primates, horizontal ladders for those needing stability, and hybrid bridges for a wider range of animals.
 - Cost-Effective: When compared to under passes/over passes canopy bridges have been shown to be a cost-effective solution for mitigating road mortality and improving wildlife conservation.
 - Site Specific Flexibility in Construction:
 - > If tall trees present on both sides of the proposed road horizontal ladders/single ropes can be tied directly to the tree branches.
 - > If tall trees not available on both sides of the proposed road wooden/concrete/steel poles with a 7.5 meter height can be constructed. T-Shaped cross structures can be fitted, so simple On top of the pole or hybrid type canopy bridges can be built.



Simple Canopy Bridge



Hybrid Canopy Bridge

Locations of Proposed Canopy Bridges

With the consultation of local forest authorities 16 different locations have been identified on the proposed stretch of NH-766C Mavinakoppa to Adugodi road to build the canopy bridges. The GPS readings of proposed locations to build canopy bridges are given as below;

Sl. No.	Lattitude	Longitude
1	13.905939	75.043256
2	13.90625	75.033185
3	13.90599	75.030534
4	13,90594	75.025171
5	13.903411	75.010193
6	13.901996	75.006794
7	13.899908	75.002627
8	13.899212	75.00048
9	13.899004	74.998931
10	13.899759	74.99389
11	13.901838	74.987388

	The Section of the Se
13.904637	74.980688
13.905344	74.979663
13.908166	74.958727
13.907918	74.957273
13.907543	74.955226
	13.905344 13.908166 13.907918

Budgetary Provisions:

Ministry of Road Transport & Highways has sanctioned Rs. 3607 lakhs for the forest clearance related expenditure vide Letter No. NH-12037/26/2022/KNT/South-I dated: 21-03-2023. From which Rs. 25 Lakhs will be utilized for the construction of canopy bridges in 16 identified locations across the proposed NH-766C Mavinakoppa to Adugodi road.

> Deputy Conservator of Forests Sagar Division, SAGAR.