ANX-III

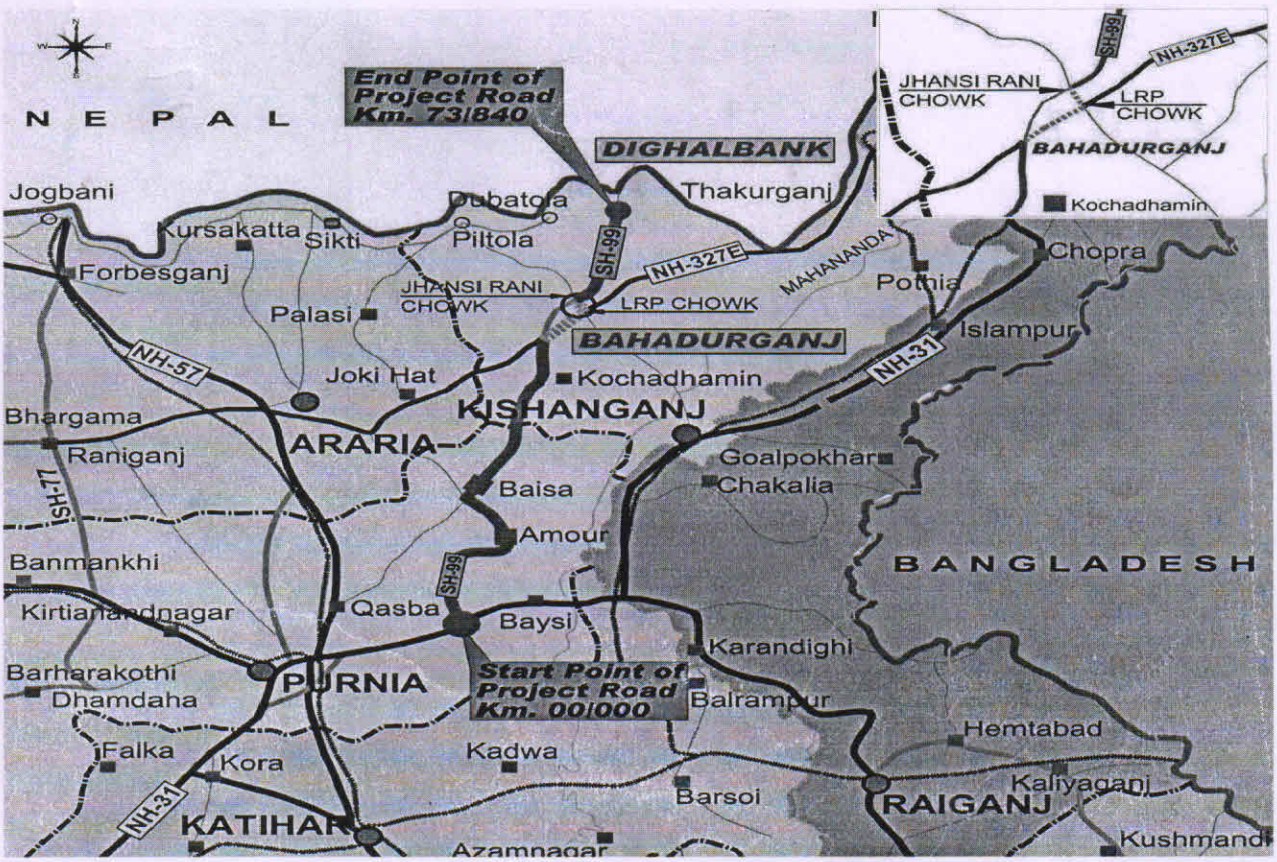
Tree Translocation Scheme (Tree Protection Plan)

Section-Kishanganj P.F Division (Existing Chainage-32+035 to 45+280)

Brief Summary of Project

Project Details: - Preparation of Detailed Project Report for Widening/upgradation of existing single/intermediate lane to 2-lanes with earthen shoulders/ paved shoulder of Baysi-Bahadurganj-Dighalbank section of SH 99 (Kishanganj P.F. section Existing chainage-32+035 to 45+280 Km) from Km 0/000 to Km 73/840 under Purnia and Kishanganj Districts in the State of Bihar.

Section-Kishanganj P.F Division (Existing Chainage-32+035 to 45+280) The project road of this section is a part of SH-99 starting from Katamatha to Sonthapunas in Kishanganj District in the State of Bihar.



S.No	Project Road	Length	Traverse District	Lat/Long (Starting)	Lat/Long (Ending)
1	Katamatha to Sonthapunas	13.245 Km	Kishanganj	26° 6'3.98"N 87°44'32.48"E	26°12'19.46"N 87°46'43.21"E

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The proposed project road in this section starts at village Katamatha and at design chainage 32+035 where it follows SH-99 and travels 13.245 Km and passes through villages of Kishanganj district directly or indirectly. The proposed road is passing through Kochadhaman tehsil in Kishanganj District.

BYPASS/REALIGNMENT-

The approved alignment of Kishanganj PF section (Existing Chainage-32+035 to 45+280) is a part of Byasi-Bahadurganj-Dighalbank strengthening and widening project which is initiating near Katamatha and terminating near Sonthapunas village in this stretch. As per the details from BSRDCL, this road has ROW of 24 m. Overall, the alignment is already revised due to avoiding some productive agriculture land, so there is no need for realignment again.

TRAFFIC CHARACTERISTICS-

Traffic varies by the hour, by the day and by the month. Hence it is essential to provide a factor which provides relationship between Average Annual Daily Traffic and Average Daily Traffic of the month corresponding to the traffic survey.

As per the vide circular letter no. RW/NH-33044/37/2015/S&R (R) dated 26TH 2016 the MORT& H revised upgradation to 4-lane in plain terrain with Traffic as 10,000 PCU/day.

The Average Annual Daily Traffic (AADT) is 10266 in the year 2021 and the project PCU will be more. So, the project stretch qualifies for 4-lane.

DETAILS OF AFFECTED TREES:

The entire linear stretch of roadside plantation along highway is declared as protected forest. About 1090 no. of trees have been affected within the PROW of the entire project section from Katamatha to Sonthapunas (Existing Chainage 32+035 to 45+280). 168 trees are proposed to be translocated and remaining 922 trees need to be felled. **List of trees (168) need to be translocated are also attached.**

1. **Detail of Land identified for translocation of Trees**

Name of District of Identified Land	Kishanganj
Location of Identified Land for Translocation of Trees	Rest land for Avenue plantation along both the sides of Proposed ROW (toward 12m from existing centreline) of entire project section of Kishanganj district (Design chainage 32+035 to 45+015)
Name of the forest division	Araria Forest Division
No. of Trees for Translocation	168

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Calculation of Identified Land

- Required area for 01 tree= 3mx3m= 9m^2
- Therefore, required area for 168 trees= 168x9= 1512 m^2 (0.15 Hectare)
- Required length for translocation of trees with available width 3 m= 1.713 Km

Existing Km		Design Chainage		Length (Km)	Cross Section Type	Remarks	Balance width (m) L/R	Width (L+R)	Length	Area(sq. m)
From	To	From	To							
33/340	33/805	33+050	33+540	0.49	TCS-4	Flexible Pavement	5.50	11	490	5390
33/805	34/255	33+540	33+990	0.45	TCS-5	Rigid Pavement	5.50	11	450	4950
39/450	39/750	39+150	39+550	0.4	TCS-5	Rigid Pavement	5.50	11	400	4400
42/760	43/310	42+490	43+040	0.55	TCS-5	Rigid Pavement	5.50	11	550	6050
Total Area										**20790**

- Available length for Translocation of Trees= (20790/3= 6930m) 6.930 Km
- No. of trees which can be accommodated= 2310

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Methodology for Trees Translocation

Translocation is the term used to describe the digging and replanting of trees from one location to a new location. Due to wide extent and morphology of tree root system, translocation of trees usually involves substantial removal of roots.

Design and Documentation

It is ensured that the requirements such as timing of root pruning, size of root ball, translocate and lifting requirement, monitoring and post translocation maintenance, etc. shall be properly planned.

Safety precautions- Tree Translocation, like other tree management works, would be conducted in a controlled and safe manner. Workers who shall involve in translocate trees will be given adequate instruction and supervision to ensure that the tasks are completed in a safe manner.

Translocation operations

Tools and equipment- All tools and equipment shall be appropriate to the operations and prepared in advance. Digging and root pruning tools shall be sharp and clean in order to cut without breaking, crushing or tearing roots. Mechanical digging and root pruning equipment shall be operated according to manufacturers' recommendations to minimize root damage.

Lifting cables, chains, straps and/or slings shall be inspected and used according to manufacturers' instructions and specifications.

Preparation of root ball- Root pruning is sometimes required before translocating a tree. Sufficient time shall be allowed between preparation and final lifting for development of new roots capable of sustaining and continuing the growth of the translocated tree.

The root system of a woodland or open-grown tree will normally be widespread. Lifting such trees without initial preparation of a root ball will result in much of root system being left in the soil. After translocation, the tree crown may then die back, or the tree may not be able to recover and will die eventually.

The root ball size would be of a diameter and depth to encompass enough of the root system as necessary for establishment. Normally the diameter of a root ball is larger than its depth which seldom exceeds1 meter.

Pre-lifting operations: - Tree lifting operations shall be carefully timed so as to enable direct delivery to the receptor site. No translocation operations would commence until either the receptor site or the holding nursery is fully prepared. Tree uplifted must be translocated and watered the same day. Watering before lifting is recommended.

Before uplifting, the outer edge of the previously dug trenches shall be loosened from the surrounding soil, and the root ball can be shaped with taper on the sides, slanting inward toward

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the base. The first cut around the perimeter of the root ball should be made with a sharp tool. Cuts should be clean to avoid tearing or breaking the roots. The shaping and final cuts should be clean to avoid tearing or breaking the roots. The shaping and final cuts should be done by hand.

Temporary support of trees before lifting- A tree after pruning shall not be having extensive root support during the interim of the translocate process. It may be vulnerable to inclement weather such as typhoon or heavy rainfall.

Removal of the root system may sometimes aggravate the natural form and balance of a tree is likely to be jeopardized, a temporary support, such as guying or simple prop is essential.

Lifting and handling of root-balled trees- The root ball would be properly wrapped before lifting. Lifting shall be done by direct lift, with padded protection for the tree, using a machine of appropriate capacity connected to the support around the root ball, not to any other part of the trees. Trees shall not be lifted by the trunk as this can cause serious trunk injury but by its root ball which shall be properly prepared and wrapped. Root balls that are not properly protected would easily collapse during transplanting due to its own weight.

Post-planting Care- In case of translocation of trees within the project site amidst the construction activities, they will be well protected with robust fencing.

All newly translocated trees shall receive proper maintenance care in order to facilitate recovery of tree from the translocation shock. It would be ensuring the tree shall be stable before its root system is fully recovered to gain support.

The stress of a tree shall be observed immediately after translocation or gradually after a period of time. Proper care after transplanting will help to assure survival and minimize stress and ensure a higher successful rate. Maintenance of translocate trees will be in continuation till one year.

Annexure: - 1. Summary of Trees which needs to be translocated

2. Undertaking to bear the amount of translocation and translocation shall be done by User Agency
3. Geo-referenced Map of identified Land to translocate the trees (168 No.)

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Detailed summery of Trees for widening and strengthening of Kishanganj Section (From Km 32+035 to Km 45+280)				
(A) Detailed Summery of affected plants (Both side) for Translocation				
Affected Trees	**Left Side**	**Right side**	**Total (Both side)**	**Remark**
Affected Trees Girth size (between 0 cm to 60 cm) Except PaniGamhar, Kanil, Babool, Tar, Ashok, Gulmohar,Saajan, Khajoor, Amaltas, Chakundi, Jalebi, Bakain, Phul Gamhar (between 0 cm to 60 cm)	67	101	168	Needs to be Translocated

(B) Detailed Summery of affected plants (Both side) for Felling				
Affected Trees	**Left Side**	**Right side**	**Total (Both side)**	**Remark**
Affected Trees Girth (more than 60cm) also include Pani Gamhar,Kanil,Babool,Tar,Ashok,Gulmohar,Saajan,Khajoor, Amaltas, Chakundi, Jalebi, Bakain, Phul Gamhar (between 0 cm to 60 cm)	455	467	922	Needs to be Felled

Abstract			
From km 32+035 to km 45+280			
Affected Trees/Plants	**Left Side**	**Right Side**	**Total Trees / Plants (Both side)**
(A) Translocation Plants	67	101	168
(B) Felling Plan	455	467	922
Total Trees	**522**	**568**	**1090**

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Tree Translocation List Summary Kishanganj Km 32+035 to Km 45+280 (Left and Right)						
Scientific name	Tree Type	Left	Right	Left	Right	Grand Total
		0-30		31-60		
Mangifera indica	Aam	10	13	12	19	54
Acacia	Akesia	2	0	2	0	4
Albizia	Albijia	0	0	0	0	0
Psidium	Amrud	0	0	0	3	3
Terminalia arjuna	Arjun	0	2	2	1	5
Ziziphus mauritiana	Bair	2	1	6	7	16
Ficus benghalensis	Bargad	0	0	0	1	1
Other	Bhadar	1	0	0	1	2
Manilkara zapota	Chikoo	0	0	1	0	1
Eucalyptus	Eucalyptus	0	0	2	1	3
Hibiscus	Gulhad	0	0	1	0	1
Tamarindus indica	Imli	0	0	0	0	0
Lagerstromia speciosa	Jahrul	0	0	0	1	1
Syzygium cumini	Jamun	0	2	0	0	2
Other	Jeeyal	2	2	6	14	24
Rattlepods	Junjuna	0	0	0	1	1
Neolamarckia cadamba	Kadam	0	1	7	8	16
Artocarpus heterophyllus	Kathal	0	0	1	3	4
Swietenia	Mahogani	0	0	1	2	3
Cocos nucifera	Nariyal	0	0	0	0	0
Azadirachta indica	Neem	0	0	1	0	1
Citrus limon	Nimbu	0	2	2	1	5
Ficus religiosa	Peepal	0	0	0	0	0
Tectona grandis	Sagwan	0	0	0	1	1
Annona reticulata	Sarifa	1	1	0	0	2
Dalbergia sissoo	Seesam	0	0	1	0	1
Bombax ceiba	Semal	0	3	2	6	11
Albizia lebbeck	Siris	0	1	1	2	4
Areca catechu	Supari	0	1	0	0	1
Acacia catechu	Khair	0	0	1	0	1
Other	Lakdi	0	0	0	0	0
	Total	**18**	**29**	**49**	**72**	**168**

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Tree Felling List Summary Kishanganj Km 32+035 to Km 45+280 (Left and Right)														
Scientific name	Tree Type	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Grand Total
		0-30		31-60		61-90		91-120		121-150		>150		
Mangifera indica	Aam	0	0	0	0	5	9	5	2	3	2	14	3	43
Acacia	Akesia	0	0	0	0	0	0	0	0	0	0	0	0	0
Albizia	Albijia	0	0	0	0	0	0	0	0	0	0	1	0	1
Cassia fistula	Amaltas	0	0	0	1	0	0	0	0	0	0	0	0	1
Psidium	Amrud	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminalia arjuna	Arjun	0	0	0	0	6	3	18	20	3	4	6	9	69
Saraca asoca	Ashok	0	0	0	0	1	0	0	0	0	0	0	0	1
Vachellia nilotica	Babool	0	0	1	0	1	0	1	2	0	0	0	0	5
Ziziphus mauritiana	Bair	0	0	0	0	4	2	1	1	0	0	0	0	8
Melia azedarach	Bakain	0	0	4	1	0	0	0	0	0	0	0	0	5
Ficus benghalensis	Bargad	0	0	0	0	0	0	0	0	0	0	0	1	1
Other	Bhadar	0	0	0	0	0	0	0	0	0	0	0	0	0
Senna siamea	Chakundi	0	0	0	0	7	8	12	9	6	2	0	0	44
Manilkara zapota	Chikoo	0	0	0	0	0	0	0	0	0	0	0	0	0
Eucalyptus	Eucalyptus	0	0	0	0	0	3	0	0	1	0	0	0	4
Hibiscus	Gulhad	0	0	0	0	0	0	0	0	0	0	0	0	0
Delonix regia	Gulmohar	0	0	2	1	0	1	0	3	1	0	0	0	8
Tamarindus indica	Imli	0	0	0	0	0	0	0	0	0	0	1	0	1
Lagerstromia speciosa	Jahrul	0	0	0	0	0	0	0	0	0	0	0	0	0
Pithecellobium dulce	Jalebi	0	0	3	2	0	0	1	0	1	0	1	1	9
Syzygium cumini	Jamun	0	0	0	0	1	1	1	2	0	0	0	0	5
Other	Jeeyal	0	0	0	0	1	3	0	0	0	0	0	0	4
Rattlepods	Junjuna	0	0	0	0	1	0	0	0	0	0	0	0	1

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Scientific name	Tree Type	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Grand Total
		0-30		31-60		61-90		91-120		121-150		>150		
Neolamarckia cadamba	Kadam	0	0	0	0	4	3	1	0	0	0	0	2	10
Indigofera suffruticosa	Kanil	0	0	3	0	0	0	0	0	0	0	0	0	3
Artocarpus heterophyllus	Kathal	0	0	0	0	3	0	2	1	0	0	0	0	6
Phoenix dactylifera	Khajur	0	0	0	0	1	2	0	1	0	0	0	0	4
Swietenia	Mahogani	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocos nucifera	Nariyal	0	0	0	0	1	3	3	1	0	0	0	0	8
Azadirachta indica	Neem	0	0	0	0	1	0	0	0	2	0	0	1	4
Citrus limon	Nimbu	0	0	0	0	0	0	0	0	0	0	0	0	0
Gmelina arborea	Pani Gamhar	23	33	42	59	53	64	50	59	36	27	16	11	473
Ficus religiosa	Peepal	0	0	0	0	0	0	0	0	0	0	0	4	4
Other	Phul Gamhar	0	0	0	0	1	0	0	0	0	0	0	0	1
Moringa oleifera	Saajan	0	0	1	0	1	0	0	0	0	0	0	0	2
Tectona grandis	Sagwan	0	0	0	0	0	0	0	0	0	0	0	0	0
Annona reticulata	Sarifa	0	0	0	0	0	0	0	0	0	0	0	0	0
Dalbergia sissoo	Seesam	0	0	0	0	1	0	4	1	1	1	1	1	10
Bombax ceiba	Semal	0	0	0	0	2	8	5	13	5	11	3	2	49
Albizia lebbeck	Siris	0	0	0	0	8	8	19	25	27	21	14	6	128
Areca catechu	Supari	0	0	0	0	0	0	0	0	0	0	0	0	0
Borassus flabellifer	Tad	0	0	0	0	4	0	1	0	1	0	0	0	6
Acacia catechu	Khair	0	0	0	0	1	1	0	0	0	1	0	0	3
Other	Lakdi	0	0	0	0	0	1	0	0	0	0	0	0	1
	Total	**23**	**33**	**56**	**64**	**108**	**120**	**124**	**140**	**87**	**69**	**57**	**41**	**922**

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आज दिनांक 15.11.2022 को प्रधान मुख्य वन संरक्षक, बिहार, पटना के कार्यालय आदेश संख्या–03 दिनांक–01.10.2019 के द्वारा पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, बिहार सरकार के कार्यालय आदेश संख्या–39 सह पठित ज्ञापांक–974(ई0) दिनांक–26.07.2019 के द्वारा निर्गत दिशा निर्देशों के अधीन पेड़ों के पुर्नस्थापन/पातन हेतु प्रयोक्ता एजेन्सी द्वारा प्रस्तावित वृक्ष सुरक्षा योजना पर विचारोपरान्त निर्णय लेने हेतु गठित क्षेत्रीय सक्षम समिति की भागलपुर में अध्यक्ष–सह–क्षेत्रीय मुख्य वन संरक्षक, भागलपुर की अध्यक्षता में सम्पन्न बैठक की कार्यवाही :–

किशनगंज जिला अन्तर्गत राज्य उच्च पथ संख्या - 99 (बायसी–बहादुरगंज–दिघलबैंक) पथ के उन्नयन/चौड़ीकरण कार्य हेतु (पंचायत काठामांठा से महादेव दिघी तक) पथांशों, जो Protected Forest अधिसूचित है, का प्रस्ताव (कि0मी0 32.035 से कि0मी0 45.280)

उपस्थिति :–

1. क्षेत्रीय मुख्य वन संरक्षक, भागलपुर
2. वन संरक्षक, पूर्णियां अंचल, पूर्णियां
3. वन प्रमंडल पदाधिकारी, अररिया वन प्रमंडल, अररिया

सर्वप्रथम क्षेत्रीय मुख्य वन संरक्षक, भागलपुर–सह–अध्यक्ष द्वारा गठित समिति के समक्ष इस संबंध में प्राप्त निदेशों पर विस्तृत प्रकाश डाला गया।

वन संरक्षक, पूर्णियां अंचल, पूर्णियां–सह–सदस्य द्वारा प्राप्त निर्देश के आलोक में वन प्रमंडल पदाधिकारी, अररिया–सह–सदस्य सचिव द्वारा क्षेत्रीय सक्षम समिति के समक्ष बताया गया कि अररिया वन प्रमंडल के किशनगंज जिला अन्तर्गत राज्य उच्च पथ संख्या -99 (बायसी–बहादुरगंज–दिघलबैंक) के अंश (पंचायत काठामांठा से महादेव दिघी तक) (कि0मी0 32.035 से कि0मी0 45.280), जो Protected Forest घोषित है, के उन्नयन का प्रस्ताव है। इसमें प्रभावित होने वाले वृक्षों की कुल संख्या 1090 (एक हजार नब्बे) है हैं। वृक्ष सुरक्षा योजना में प्रस्तावित है कि 90 से0मी0 से उपर गोलाई के वृक्षों का पातन किया जाना है और 0–90 से0मी0 गोलाई तक के वृक्षों का पुर्नस्थापन किया जाना है। इसके अनुसार पातित होने वाले वृक्षों की संख्या 518 (पाँच सौ अठारह) है तथा पुर्नस्थापित होने वाले वृक्षों की संख्या 572 (पाँच सौ बहत्तर) है। उक्त सभी वृक्षों की संयुक्त गणना वनों के क्षेत्र पदाधिकारी, किशनगंज एवं प्रबंधक (तकनिकी) श्री राजीव रंजन एवं श्री दीपक कुमार मंडल के द्वारा की गयी है। उक्त जाँच के आलोक में वन प्रमंडल पदाधिकारी के द्वारा स्थलीय निरीक्षण किया गया है एवं वन प्रमंडलीय पत्रांक 2581 दिनांक–28.10.2022 से वृक्ष सुरक्षा योजना समर्पित किया है।

समिति द्वारा पाया गया कि पर्यावरण वन एवं जलवायु परिवर्तन विभाग, भारत सरकार के दिशा निर्देश के अनुसार 60 से0मी0 तक के गोलाई के वृक्षों को ही पुर्नस्थापित किया जाना है। इस प्रस्ताव में भी

60 से0मी0 से अधिक गोलाई के वृक्षों का पातन किया जाना उचित होगा। पुनः पुर्नस्थापित किये जाने वाले वृक्षों की प्रजाति पर ध्यान नहीं दिया गया है। विदित है कि कुछ प्रजातियों के पुर्नस्थापन की सफलता संदिग्ध होती है। साथ ही कुछ ऐसी प्रजातियाँ भी हैं जो बड़ी आसानी से रोपित हो जाती हैं और बच भी जाती हैं। इनके प्रतिस्थापन की कोई आवश्यकता नहीं है। पानी गंभार, कनेल, बबूल, ताड़, अशोक, गुलमोहर, सहजन, खजूर, अमलतास, चकुंडी, जिलेबी, बकैन, फूलगंभार प्रजाति के प्रतिस्थापन का कोई औचित्य नहीं है। उपर्युक्त प्रजातियों के सभी वृक्षों का पातन किया जायेगा। अन्य प्रजातियों के 60 से0मी0 से अधिक गोलाई के वृक्षों का पातन किया जायेगा।

क्षेत्रीय सक्षम समिति के द्वारा सम्यक् विचारोपरान्त संलग्न वृक्ष सुरक्षा योजना पर उपुर्यक्त संशोधन के साथ सहमति दी जाती है। वन संरक्षण अधिनियम,1980 के अंतर्गत प्रस्ताव पर सक्षम प्राधिकार की स्वीकृति प्राप्त होने के उपरांत निहित शर्त्तों के अधीन ही वृक्ष सुरक्षा योजना लागू करने की कार्रवाई की जायेगी। समिति की बैठक की कार्यवाही से अपर प्रधान मुख्य वन संरक्षक–सह–नोडल पदाधिकारी (वन संरक्षण), बिहार, पटना को अवगत कराने हेतु सदस्य सचिव–सह–वन प्रमंडल पदाधिकारी, अररिया वन प्रमंडल को अधिकृत किया गया।

अंत में सधन्यवाद बैठक की कार्यवाही समाप्त की गई ।

15/11/22

सदस्य सचिव –सह–
वन प्रमंडल पदाधिकारी,
अररिया वन प्रमंडल, अररिया।

15/11/2022

सदस्य–सह–
वन संरक्षक,
पूर्णियां अंचल, पूर्णियां।

15/11/22

अध्यक्ष–सह–
क्षेत्रीय मुख्य वन संरक्षक,
भागलपुर।

Detailed summery of Trees for widening and strengthening of Kisanganj Section (From km 32+035 to km 45+280)				
(A) Detailed Summery of affected plants (Both side) for Translocation				
Affected Trees	**Left Side**	**Right side**	**Total (Both side)**	**Remark**
Affected Trees Girth size (between 0 cm to 90 cm).	254 ~~253~~	318 ~~319~~	572	Needs to be Translocated

(B) Detailed Summery of affected plants (Both side) for Felling				
Affected Trees	**Left Side**	**Right side**	**Total (Both side)**	**Remark**
Affected Trees Girth (more than 90cm).	268	250	518	Needs to be Felled

Abstract			
From km 32+035 to km 45+000			
Affected Trees/Plants	**Left Side**	**Right Side**	**Total Trees / Plants (Both side)**
(A) Translocation Plants	~~253~~ 254	~~319~~ 318	572
(B) Felling Plan	268	250	518
Total Trees	**~~521~~** 522	**~~569~~** 568	**1090**

Manager (Tech.)
PIU Katihar

Manager (Tech.)
BSRDCL
PIU-Katihar

Tree List Summary of Kisanganj km 32+035 to km 45+280														
Scientific name	Species Name	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Grand Total
		0-30		31-60		61-90		91-120		121-150		>150		
Mangifera indica	Aam	10	13	12	19	5	9	5	2	3	2	14	3	97
Acacia	Akesia	2	0	2	0	0	0	0	0	0	0	0	0	4
Albizia	Albijia	0	0	0	0	0	0	0	0	0	0	1	0	1
Cassia fistula	Amaltas	0	0	0	1	0	0	0	0	0	0	0	0	1
Psidium	Amrud	0	0	0	3	0	0	0	0	0	0	0	0	3
Terminalia arjuna	Arjun	0	2	2	1	6	3	18	20	3	4	6	9	74
Saraca asoca	Ashok	0	0	0	0	1	0	0	0	0	0	0	0	1
Vachellia nilotica	Babool	0	0	1	0	1	0	1	2	0	0	0	0	5
Ziziphus mauritiana	Bair	2	1	6	7	4	2	1	1	0	0	0	0	24
Melia azedarach	Bakain	0	0	4	1	0	0	0	0	0	0	0	0	5
Ficus benghalensis	Bargad	0	0	0	1	0	0	0	0	0	0	0	1	2
Other	Bhadar	1	0	0	1	0	0	0	0	0	0	0	0	2
Senna siamea	Chakundi	0	0	0	0	7	8	12	9	6	2	0	0	44
Manilkara zapota	Chikoo	0	0	1	0	0	0	0	0	0	0	0	0	1
Eucalyptus	Eucalyptus	0	0	2	1	0	3	0	0	1	0	0	0	7
Hibiscus	Gulhad	0	0	1	0	0	0	0	0	0	0	0	0	1
Delonix regia	Gulmohar	0	0	2	1	0	1	0	3	1	0	0	0	8
Tamarindus indica	Imli	0	0	0	0	0	0	0	0	0	0	1	0	1
Lagerstromia speciosa	Jahrul	0	0	0	1	0	0	0	0	0	0	0	0	1
Pithecellobium dulce	Jalebi	0	0	3	2	0	0	1	0	1	0	1	1	9
Syzygium cumini	Jamun	0	2	0	0	1	1	1	2	0	0	0	0	7
Other	Jeeyal	2	2	6	14	1	3	0	0	0	0	0	0	28
Rattlepods	Junjuna	0	0	0	1	1	0	0	0	0	0	0	0	2
Neolamarckia cadamba	Kadam	0	1	7	8	4	3	1	0	0	0	0	2	26
Indigofera suffruticosa	Kanil	0	0	3	0	0	0	0	0	0	0	0	0	3

Manager (Tech.)
PIU Katihar

Manager/Tech.
PIU Kishanganj & PIU-Katihar

Keshav kr. Jha
28/12/2021

28/12/2021

R. J

Scientific name	Species Name	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Grand Total
		0-30		31-60		61-90		91-120		121-150		>150		
Artocarpus heterophyllus	Kathal	0	0	1	3	3	0	2	1	0	0	0	0	10
Phoenix dactylifera	Khajur	0	0	0	0	1	2	0	1	0	0	0	0	4
Swietenia	Mahogani	0	0	1	2	0	0	0	0	0	0	0	0	3
Cocos nucifera	Nariyal	0	0	0	0	1	3	3	1	0	0	0	0	8
Azadirachta indica	Neem	0	0	1	0	1	0	0	0	2	0	0	1	5
Citrus limon	Nimbu	0	2	2	1	0	0	0	0	0	0	0	0	5
Gmelina arborea	Pani Gamhar	23	33	42	59	53	64	50	59	36	27	16	11	473
Ficus religiosa	Peepal	0	0	0	0	0	0	0	0	0	0	0	4	4
Other	Phul Gamhar	0	0	0	0	1	0	0	0	0	0	0	0	1
Moringa oleifera	Saajan	0	0	1	0	1	0	0	0	0	0	0	0	2
Tectona grandis	Sagwan	0	0	0	1	0	0	0	0	0	0	0	0	1
Annona reticulata	Sarifa	1	1	0	0	0	0	0	0	0	0	0	0	2
Dalbergia sissoo	Seesam	0	0	1	0	1	0	4	1	1	1	1	1	11
Bombax ceiba	Semal	0	3	2	6	2	8	5	13	5	11	3	2	60
Albizia lebbeck	Siris	0	1	1	2	8	8	19	25	27	21	14	6	132
Areca catechu	Supari	0	1	0	0	0	0	0	0	0	0	0	0	1
Borassus flabellifer	Tad	0	0	0	0	4	0	1	0	1	0	0	0	6
Acacia catechu	Khair	0	0	1	0	1	1	0	0	0	1	0	0	4
Other	Lakdi	0	0	0	0	0	1	0	0	0	0	0	0	1
	Total	**41**	**62**	**105**	**136**	**108**	**120**	**124**	**140**	**87**	**69**	**57**	**41**	**1090**

Manager (Tech)
PIU Kathua

Manager (Tech)
PIU - Kathua

Abhay Kr. Pg

Manager (Tech.)
PIU-Kathua

R. J

Project Title: Widening/upgradation of existing single/intermediate lane to 2-lanes with earthen shoulders/ paved shoulder of Baysi-Bahadurganj-Dighalbank section of SH 99 (Kishanganj P.F. section-32+035 to 45+280 Km) from Km 0/000 to Km 73/840 under Purnia and Kishanganj Districts in the State of Bihar.

UNDERTAKING TO TRANSLOCATE AFFECTED TREES WITHIN PROPOSED RIGHT OF WAY

I, ***D.G.M (Tech.)***, PIU-Katihar, on behalf of Bihar State Road Development Corporation Limited (BSRDCL), do hereby undertake that the affected trees (168 nos.) (which are decided by concerned Forest Department) shall be translocated on both the sides of proposed ROW after stage-1 clearance with all safety measures to remain its safety from machineries and raw material at the construction phase. The affected plants shall be translocated according to a detailed scheme for suitable trees prepared in consultation with the state Forest Department and the cost for the same shall be borne by User Agency.

User Agency also undertakes to continue to maintain such trees for a period of one year from transportation.

D.G.M. (Tech.)
BSRDCL
PIU-Katihar at Purnea

Date:

Tree Inventory for Kisanganj Division Km 32+035 to Km 45+280						
Sr. No.	Distance from Centre line (m)	Species Name	Girth (cm)	Left Side	Translocation (T) / Felling (F)	Tree Health, Green/Dry/Infected
Km. 32/035 to Km 33/000						
1	4.75	Semal	60	Right	T	G
2	3.75	Jamun	25	Right	T	G
3	3.75	Bargad	55	Right	T	G
4	4.75	Jeeyal	50	Right	T	G
5	5.75	Jeeyal	60	Right	T	G
6	3.75	Jeeyal	60	Right	T	G
7	5.75	Aam	50	Right	T	G
8	5.75	Aam	60	Right	T	G
9	4.25	Supari	30	Right	T	G
10	5.25	Jamun	30	Right	T	G
11	6.75	Aam	50	Right	T	G
12	5.75	Aam	30	Right	T	G
13	6.25	Aam	60	Right	T	G
Km. 33/000 to Km 34/000						
14	6.75	Aam	40	Right	T	G
15	5.75	Bargad	50	Right	T	G
16	6.25	Aam	60	Right	T	G
Km. 34/000 to Km 35/000						
17	6.75	Jahrul	60	Right	T	G
18	5.25	Junjuna	60	Right	T	G
19	5.25	Van Kathal	50	Right	T	G
20	7.75	Mahogani	55	Right	T	G
21	7.75	Aam	30	Right	T	G
22	7.25	Mahogani	60	Right	T	G
23	7.25	Aam	35	Right	T	G
24	4.75	Bair	25	Right	T	G
Km. 35/000 to Km 36/000						
25	4.25	Bair	50	Right	T	G
26	4.25	Bair	40	Right	T	G
Km. 36+000 to Km 37+000						
27	6.75	Jeeyal	30	Right	T	G
Km. 37+000 to Km 38+000						
28	7.25	Amrud	50	Right	T	G

Manager (Tech.)
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29	4.75	Jeeyal	50	Right	T	G
30	8.75	Aam	50	Right	T	G
31	6.25	Jeeyal	40	Right	T	G
32	5.75	Jeeyal	40	Right	T	G
33	8.75	Sagwan	40	Right	T	G
34	8.75	Nimbu	40	Right	T	G
35	5.75	Jeeyal	40	Right	T	G
36	5.75	Jeeyal	40	Right	T	G
37	5.75	Jeeyal	50	Right	T	G
38	6.75	Jeeyal	30	Right	T	G
39	7.75	Aam	40	Right	T	G
40	6.75	Jeeyal	50	Right	T	G
41	7.25	Aam	25	Right	T	G
42	7.75	Aam	40	Right	T	G
Km. 38+000 to Km 39+000						
43	4.25	Semal	50	Right	T	G
44	3.75	Semal	60	Right	T	G
45	8.75	Semal	40	Right	T	G
46	3.75	Semal	50	Right	T	G
47	7.75	Semal	60	Right	T	G
48	4.25	Jeeyal	50	Right	T	G
49	4.25	Jeeyal	50	Right	T	G
50	4.25	Jeeyal	40	Right	T	G
Km. 39+000 to Km 40+000						
51	6.75	Kadam	40	Right	T	G
52	6.75	Kadam	40	Right	T	G
53	5.75	Kadam	60	Right	T	G
54	5.75	Kadam	50	Right	T	G
55	5.75	Kadam	40	Right	T	G
56	5.25	Kadam	50	Right	T	G
Km. 40+000 to Km 41+000						
57	6.75	Kadam	60	Right	T	G
58	6.75	Aam	20	Right	T	G
59	7.75	Eucalyptus	60	Right	T	G
60	8.75	Aam	50	Right	T	G
61	7.75	Aam	60	Right	T	G
62	7.75	Aam	20	Right	T	G
63	8.75	Aam	60	Right	T	G
64	8.75	Aam	20	Right	T	G

Manager (Tech.)
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D.G.M. (Tech.)
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65	8.75	Aam	30	Right	T	G
66	8.75	Aam	30	Right	T	G
67	7.75	Aam	20	Right	T	G
68	9.75	Semal	30	Right	T	G
Km. 41/000 to Km 42/000						
69	8.75	Kathal	60	Right	T	G
70	7.75	Arjun	30	Right	T	G
Km. 42/000 to Km 43/000						
71	7.25	Arjun	60	Right	T	G
72	7.25	Arjun	30	Right	T	G
73	7.25	Siris	30	Right	T	G
74	9.75	Siris	60	Right	T	G
75	6.75	Amrud	40	Right	T	G
76	5.75	Bair	50	Right	T	G
77	6.75	Aam	20	Right	T	G
78	8.75	Aam	50	Right	T	G
Km. 43/000 to Km 44/000						
79	5.25	Nimbu	30	Right	T	G
80	4.75	Sarifa	25	Right	T	G
81	7.75	Nimbu	30	Right	T	G
82	4.75	Semal	20	Right	T	G
83	4.75	Jeeyal	40	Right	T	G
84	4.25	Semal	20	Right	T	G
85	3.75	Aam	30	Right	T	G
86	5.75	Kathal	40	Right	T	G
87	5.75	Siris	60	Right	T	G
88	8.75	Kadam	60	Right	T	G
89	3.75	Bair	40	Right	T	G
Km. 44/000 to Km 45/000						
90	2.75	Bair	50	Right	T	G
91	5.75	Aam	20	Right	T	G
92	7.75	Aam	20	Right	T	G
93	5.75	Aam	40	Right	T	G
94	4.25	Kadam	30	Right	T	G
95	4.75	Aam	50	Right	T	G
96	7.75	Bair	60	Right	T	G
97	8.25	Bair	60	Right	T	G
98	8.25	Aam	60	Right	T	G
99	7.75	Aam	50	Right	T	G

Manager (Tech.)
BSRDCL
PIU-Katihar at Purnea

D.G.M. (Tech.)
BSRDCL
PIU-Katihar at Purnea

100	6.75	Aam	50	Right	T	G
Km. 45/000 to Km 45/280						
101	6.75	Amrud	50	Right	T	G

Manager (Tech.)
BSRDCL
PIU-Katihar at Purnea

21.07.23
D.G.M. (Tech.)
BSRDCL
PIU-Katihar at Purnea

Tree Inventory for Kisangani Division Km 32+035 to Km 45+280						
Sr. No.	Distance from Centre line (m)	Species Name	Girth (cm)	Left Side	Translocation (T) / Felling (F)	Tree Health, Green/Dry/Infected
Km. 32/035 to Km 33/000						
1	7.75	Jeeyal	50	Left	T	G
2	5.75	Jeeyal	40	Left	T	G
3	6.25	Jeeyal	60	Left	T	G
4	4.75	Bair	45	Left	T	G
5	6.75	Aam	40	Left	T	G
6	5.75	Aam	20	Left	T	G
7	8.25	Aam	30	Left	T	G
Km. 33/000 to Km 34/000						
Km. 34/000 to Km 35/000						
8	6.75	Nimbu	50	Left	T	G
9	8.25	Aam	50	Left	T	G
10	5.75	Kadam	50	Left	T	G
11	9.75	Mahogani	50	Left	T	G
Km. 35/000 to Km 36/000						
12	5.75	Sajan	90	Left	T	G
Km. 36/000 to Km 37/000						
13	4.75	Bair	50	Left	T	G
14	5.25	Jeeyal	50	Left	T	G
15	3.75	Jeeyal	30	Left	T	G
16	4.25	Aam	60	Left	T	G
17	4.25	Aam	45	Left	T	G
18	7.75	Bair	20	Left	T	G
Km. 37/000 to Km 38/000						
19	6.25	Bair	50	Left	T	G
20	7.25	Aam	60	Left	T	G
Km. 38/000 to Km 39/000						
21	8.75	Siris	60	Left	T	G
Km. 39/000 to Km 40/000						
22	5.75	Kadam	50	Left	T	G
23	6.75	Akesia	30	Left	T	G
24	7.75	Eucalyptus	50	Left	T	G
25	6.75	Akesia	40	Left	T	G
26	4.75	Akesia	45	Left	T	G
27	4.75	Eucalyptus	60	Left	T	G
28	4.75	Akesia	30	Left	T	G
29	7.75	Kadam	60	Left	T	G
30	7.75	Kadam	50	Left	T	G

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Km. 40/000 to Km 41/000						
31	7.75	Aam	30	Left	T	G
32	7.75	Aam	20	Left	T	G
33	7.75	Aam	25	Left	T	G
34	7.75	Aam	30	Left	T	G
35	5.75	Aam	50	Left	T	G
36	5.75	Aam	50	Left	T	G
37	3.75	Bair	30	Left	T	G
38	8.75	Aam	30	Left	T	G
Km. 41/000 to Km 42/000						
39	7.75	Kadam	50	Left	T	G
40	6.75	Kadam	60	Left	T	G
41	5.75	Bair	40	Left	T	G
42	5.25	Semal	60	Left	T	G
43	8.75	Arjun	40	Left	T	G
44	8.75	Arjun	50	Left	T	G
45	4.75	Seesam	60	Left	T	G
Km. 42/000 to Km 43/000						
46	9.75	Sarifa	30	Left	T	G
47	8.75	Aam	40	Left	T	G
48	6.75	Aam	40	Left	T	G
49	6.75	Bair	50	Left	T	G
50	8.75	Chikoo	60	Left	T	G
51	8.75	Nimbu	60	Left	T	G
Km. 43/000 to Km 44/000						
Km. 44/000 to Km 45/000						
52	4.75	Bhadar	30	Left	T	G
53	4.75	Jeeyal	20	Left	T	G
54	4.75	Saajan	50	Left	T	G
55	4.25	Jeeyal	50	Left	T	G
56	4.25	Jeeyal	40	Left	T	G
57	7.75	Aam	20	Left	T	G
58	7.75	Aam	50	Left	T	G
59	5.25	Bair	40	Left	T	G
60	7.75	Kathal	40	Left	T	G
61	6.75	Aam	40	Left	T	G
62	7.75	Semal	60	Left	T	G
63	5.25	Aam	55	Left	T	G
64	4.75	Gulhad	50	Left	T	G
Km. 45/000 to Km 45/280						
65	7.25	Aam	20	Left	T	G
66	7.25	Aam	20	Left	T	G

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67	8.75	Neem	40	Left	T	G

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ANX-2

STRIP CHART/LINEAR PLAN FOR TRANSLOCATION OF TREES (FROM DESIGN CHAINAGE KM 32+035 TO 45+015)

Side	Component	32+035 – 33+050	33+100 – 33+540	33+600 – 33+990	34+000 – 38+300
Left Side (Towards 12 m from existing Centre line)	Rest Land for Avenue Plantation (meter)	0.50 m	5.50 m	5.50m	0.50 m
	Drain	1.50 m	1.50 m	1.50m	1.50 m
	Protection Land				
	Embankment Slope (1:2 Ratio)	4.00 m			4.00 m
	Earthen Shoulder	1.00 m			1.00 m
	Paved Shoulder	1.50 m	1.50 m	1.50m	1.50 m
	Proposed Carriageway	3.50 m	3.50 m	3.50m	3.50 m
	Existing Carriageway Road	2.75 m	2.75 m	2.75m	2.75 m
Right Side (Towards 12 m from existing Centre line)	Existing Carriageway Road	2.75 m	2.75 m	2.75m	2.75 m
	Proposed Carriageway	3.50 m	3.50 m	3.50m	3.50 m
	Proposed Paved Shoulder	1.50 m	1.50 m	1.50m	1.50 m
	Proposed Earthen Shoulder	1.00 m			1.00 m
	Embankment Slope (1:2 Ratio)	4.00 m			4.00 m
	Protection Land				
	Drain	1.50 m	1.50 m	1.50m	1.50 m
	Rest Land for Avenue Plantation (meter)	0.50 m	5.50 m	5.50m	0.50 m
Design Chainage		32+035, 32+100, 32+200, 32+300, 32+400, 32+500, 32+600, 32+700, 32+790, 32+800, 32+900, 33+050	33+100, 33+200, 33+300, 33+400, 33+540	33+600, 33+700, 33+800, 33+900, 33+990	34+000, 34+100, 34+200, 34+300, 34+400, 34+500, 34+600, 34+700, 34+800, 34+900, 35+000, 35+100, 35+200, 35+300, 35+400, 35+500, 35+600, 35+700, 35+800, 35+900, 36+000, 36+100, 36+200, 36+300, 36+400, 36+500, 36+600, 36+700, 36+800, 36+900, 37+000, 37+100, 37+200, 37+300, 37+400, 37+500, 37+600, 37+700, 37+800, 37+900, 38+000, 38+100, 38+200, 38+300

Side	Component	38+400 – 39+150	39+200 – 39+550	39+600 – 42+490	42+500 – 43+040	43+100 – 45+015
Left Side (Towards 12 m from existing Centre line)	Rest Land for Avenue Plantation (meter)	0.50 m	5.50m	0.50m	5.50m	0.50m
	Drain	1.50 m	1.50m	1.50m	1.50m	1.50m
	Protection Land					
	Embankment Slope (1:2 Ratio)	4.00 m		4.00m		4.00m
	Earthen Shoulder	1.00 m		1.00m		1.00m
	Paved Shoulder	1.50 m	1.50m	1.50m	1.50m	1.50m
	Proposed Carriageway	3.50 m	3.50m	3.50m	3.50m	3.50m
	Existing Carriageway Road	2.75 m	2.75m	2.75m	2.75m	2.75m
Right Side (Towards 12m from existing Centre line)	Existing Carriageway Road	2.75 m	2.75m	2.75m	2.75m	2.75m
	Proposed Carriageway	3.50 m	3.50m	3.50m	3.50m	3.50m
	Proposed Paved Shoulder	1.50 m	1.50m	1.50m	1.50m	1.50m
	Proposed Earthen Shoulder	1.00 m	1.00m	1.00m		1.00m
	Embankment Slope (1:2 Ratio)	4.00 m	4.00m	4.00m		4.00m
	Protection Land					
	Drain	1.50 m	1.50m	1.50m	1.50m	1.50m
	Rest Land for Avenue Plantation (meter)	0.50 m	5.50m	0.50m	5.50m	0.50m
Design Chainage		38+400, 38+500, 38+600, 38+700, 38+800, 38+900, 39+000, 39+150	39+200, 39+300, 39+400, 39+550	39+600, 39+700, 39+800, 39+900, 40+000, 40+100, 40+200, 40+300, 40+400, 40+500, 40+600, 40+700, 40+800, 40+900, 41+000, 41+100, 41+200, 41+300, 41+400, 41+500, 41+600, 41+700, 41+800, 41+900, 42+000, 42+100, 42+200, 42+300, 42+400, 42+490	42+500, 42+600, 42+700, 42+800, 42+900, 43+040	43+100, 43+200, 43+300, 43+400, 43+500, 43+600, 43+700, 43+800, 43+900, 44+000, 44+100, 44+200, 44+300, 44+400, 44+500, 44+600, 44+700, 44+800, 44+900, 45+000, 45+015

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