

Full Title of the proposal:- Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from Hamirpur (Chil Bahal) to Bhangbar Section via Jwalamukhi (Package IV) of NH-88 (New NH-3 & 303) (Design Chainage- Km 138+295 to Km 175+270, Design Length-36.975 Km) in the State of Himachal Pradesh

File No. : FP/HP/ROAD/148886/2021

Date of Proposal: 29.10.2021

MUCK MANAGEMENT PLAN

1. INTRODUCTION

The project envisages two laning with paved shoulders from Hamirpur (Chil Bahal) to Bhangbar Section via Jwalamukhi (Package IV) of NH-88 (New NH-3 & 303). As the project road does not involve any construction of tunnels, the quantity of material generated from construction of project road is not of much concern. As the project road is located in a hilly cum rolling terrain, the muck generated from the excavation is required to be disposed in a planned manner so that it takes least possible space and is not hazardous to the environment. It is of prime importance that these sites will have to be rehabilitated as soon as the disposal sites are full.

The muck generation, muck disposal sites, site selection criteria, stabilization measures and adequate disposal and management guidelines have been discussed in the following sections.

2. MUCK GENERATION

In the proposed project, muck generation is expected to be generated as a result of construction of road only. The component wise muck generation from the project activity is given in Table-1.

Table-1: Abstract of Muck generated from Package IV

S. No.	Component	Road work	Quantity in cum
1.	Quantity of Debris/Muck generated (Cum)	Rock (10%)	1,32,395
		Soil (90%)	11,91,552
2.	Quantity of Muck due to swell factor (Cum)	Rock (5%)	1,33,785
		Soil (5%)	12,04,063
3.	Estimated Quantity of Muck/Debris Proposed to be utilized (Cum)	Rock (71%)	94,922
		Soil (71%)	8,54,295
4.	Balance quantity of Muck/Debris (Cum)	Rock (29%)	38,863
		Soil (29%)	3,49,768
5.	Effective Muck to be dumped (Cum) with 20% compaction.	Rock + Soil	3,10,905

Source-DPR Study

During construction of the various components of the project road, muck is generated from both soil and from rock excavation. Total quantity of muck / debris, generated from the project, shall be 13,23,947 cum which shall amount to 13,37,848 cum with swell factor. Out of the total muck generated, 9,49,217 cum shall be utilized on project work leaving 3,10,905 cum of muck to be dumped after rolling at designated area earmarked for muck disposal. The muck generated is proposed to be utilized in road activities such as earthwork embankment, subgrade, backfill and pavement layers depending on suitability of the material. The designated muck disposal area

shall also be properly protected and stabilized with retaining walls of suitable designed sections.

3. MUCK DISPOSAL AREA

An area of about 37.1764 ha within the proposed right of way (PROW) of the project road from km 157+100 to km 175+270 have been earmarked as muck disposal area for the project. The area designated for muck disposal is already acquired land. The muck shall be disposed on private non-forest land. The village-wise breakup of muck disposal area along with total capacity is given in **Table-2**.

Table-2: Area Earmarked for Muck Disposal within PROW

S.No.	Name of the Village	Area (In Hect.)
1	Salettar (373)	1.4634
2	Pathiar (378)	0.3031
3	Uchhar (377)	2.6412
4	Bareti (418)	2.1099
5	Chihru (375)	0.3244
6	Sakdyalu (665)	1.2294
7	Kohla Sagwal (667)	0.8064
8	Kohla (668)	2.1979
9	Bhati (640)	0.2548
10	Ummer (641)	2.1746
11	Buni Gujran (643)	1.4281
12	Hatli (644)	1.4691
13	Gummar (646)	1.3547
14	Gharun (624)	1.8137
15	Katialu (625)	0.0293
16	Dohag (626)	2.0821
17	Band (627)	0.9234
18	Thana (628)	1.3470
19	Swar (815)	0.1670
20	Bariala (814)	1.3679
21	Balu Gloa(811)	0.4235
22	Gaglu(810)	1.5882
23	Paisa Khas(605)	1.3974
24	Naushera(604)	0.4453
25	Kandyala(603)	1.3524
26	Paloti(546)	2.6783
27	Kalar Khurd (538)	0.0097
28	Bag(807)	1.1697
29	Suka Bag(806)	1.5740
30	Bhangbar(804)	1.0505
Area earmarked for Muck Disposal (in Ha.)		37.1764
Capacity of the Muck Disposal Area (in cum)		7,43,528

It may be seen from the Table above that the capacity of the area earmarked for muck disposal is 7.43 lakh cum and the volume of muck to be disposed off after utilization is 3.11 lakh cum. This states that the capacity of the muck disposal sites exceeds the generated muck volume. All the disposal area shall be well supported by retaining structures and suitable slope protection measures.

Site selection Criteria

Based on the geological nature of the rocks and engineering properties of the soil, a part of the muck can be used as construction material. However, the balance requires being suitably disposed. The following points shall be considered and followed as guidelines for finalization of the areas to be used as dumping sites:

1. The dumping sites shall be selected as close as possible to the project area to avoid long distance transport of muck.
2. The sites shall be free from active landslides or creep and care has to be taken that the sites do not have a possibility of toe erosion and slope instability.
3. Existing slope of the site shall not be preferably more than 30°.
4. The dumping sites shall be either at higher level than the flood level or shall be away from the river course so that the possibility of muck falling into the river is avoided.
5. There shall be no active channel or stream flowing through the dumping sites.
6. Disposal areas shall be planned downwind of villages and townships in consultation with the forest department.
7. Wind direction shall be taken into consideration so as to avoid the erosion i.e. on wind shadow region.
8. These sites shall not be pristine habitats containing endangered /threatened species.
9. Dumping site shall be located preferably 500 m from the river/stream/nullah
10. Dumping site shall not be located in Protected Areas.

Stabilization of Muck disposal site

The loosely held muck can lead to the rise in SPM levels and sedimentation load. Therefore, it requires stability with appropriate methods to avoid the subsequent ecological problems. The muck disposal involves both engineering and biological measures that depend on the eco-climatic conditions.

I) Engineering Measures:

The muck shall be disposed off in the area earmarked within the available PROW of Package IV as mentioned in Table 2 above and based on the existing topography and elevation profile suitable length of retaining wall shall be proposed towards the valley side.

The Strip Plan of the Muck disposal area is provided at the end of the report.

II) Biological Measures:

Vegetation cover plays a very important role in holding the dumped material over a period of time and controls the hydrological and mechanical effects on the soils and slopes. Special efforts will be required to raise vegetation cover of grasses, shrubs and trees. The local grass sodding should be done on the muck when grass seed will be germinating and the grass will add humus

to the dumped material.

Soil conservation and quick growing species to be planted to stabilize the slope - *Agave sisilana*, *Berberis aristata*, *Bauhinia vahilii*, *Jasminum humile*, *Rubus ellipticus*, *Prinsepia utilis*, *Justicia adhatoda*, *Ipomea carnea*, *Hypericum oblongifolium*, *Mimosa himalayana*, *Salix denticulate*, *woodfordia fruticosa*, *Alnus nepalensis* etc.

Guidelines on Muck disposal Management

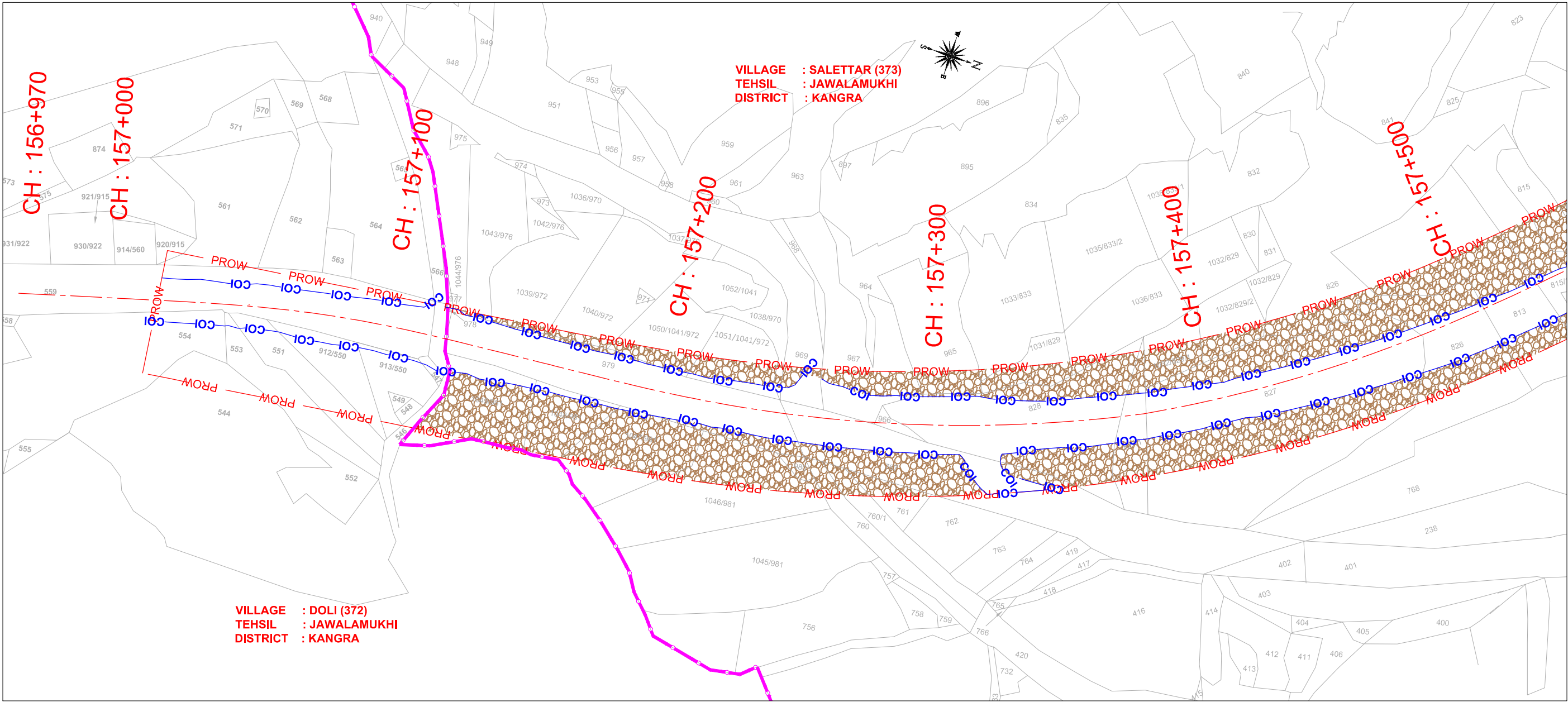
1. Fencing shall be done to prevent human / animal interference
2. Dumping shall not obstruct the natural drainage pattern
3. Trees shall be retained along the contours wherever feasible so as not to disturb the natural slope.
4. Protection walls shall be constructed along the contours prior to dumping
5. Before dumping the muck chemical analysis shall be done to identify hazardous material if any. The same shall be managed as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. In case hazardous materials like radioactive elements, high arsenic or fluoride laden rocks are found they shall not be dumped into the dumping site and handled as per prescribed rules.
6. Muck shall be carried in dumper trucks covered with heavy duty tarpaulin properly tied to the vehicles
7. Dumping may be avoided during the rainy season, to avoid slipping of muck while dumping
8. Top soil shall be stripped wherever feasible to a specified depth of 150 mm and stored in stockpiles of height not exceeding 2 m in height and used for landscaping.
9. All disposal sites shall be properly landscaped when the disposal gets completed so as to merge it in the natural surroundings.

4. RESTORATION PLAN

Once the dumpsites are filled, these sites shall be rehabilitated by covering it with 15 cm fertile top soil and planting local species of trees and shrubs in consultation with the forest department so that the landscape is in harmony with the surrounding environment.



The afforestation with indigenous plant species of high ecological and economic value which can adapt to local habitat will be undertaken in consultation with the forest department depending upon the canopy cover required. Major tree and shrub species which would be planted are listed in table below.


Botanical Name	Common Name
<i>Azadirachta indica</i>	Neem
<i>Bauhinia variegata</i>	Kachnar
<i>Bauhinia purpurea</i>	Kachnar
<i>Delonix regia</i>	Gulmohar
<i>Quercus leucotrichophora</i>	Banjh Oak
<i>Mallotus philippensis</i>	Kumkum



Legend:-

- Proposed Centerline:
- Proposed Right of Way:
- Khasra Line:
- Corridor of Impact:
- Village Boundary:
- Area earmarked for Muck Disposal:

 NATIONAL HIGHWAYS AUTHORITY OF INDIA	Scale: 1 : 1500	PROJECT TITLE Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, Design Length-36.975 Km) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (Package IV)	DRAWING NAME STRIP PLAN SHOWING MUCK DISPOSAL AREA FROM CH. 157+100 TO CH. 157+500		Intercontinental Consultants & Technocrats Pvt Ltd, A-8, Green Park, New Delhi - 110016 Ph : 011 4086-3000, Fax 2685-5252	R0	August, 2021	Initial	Checked by			
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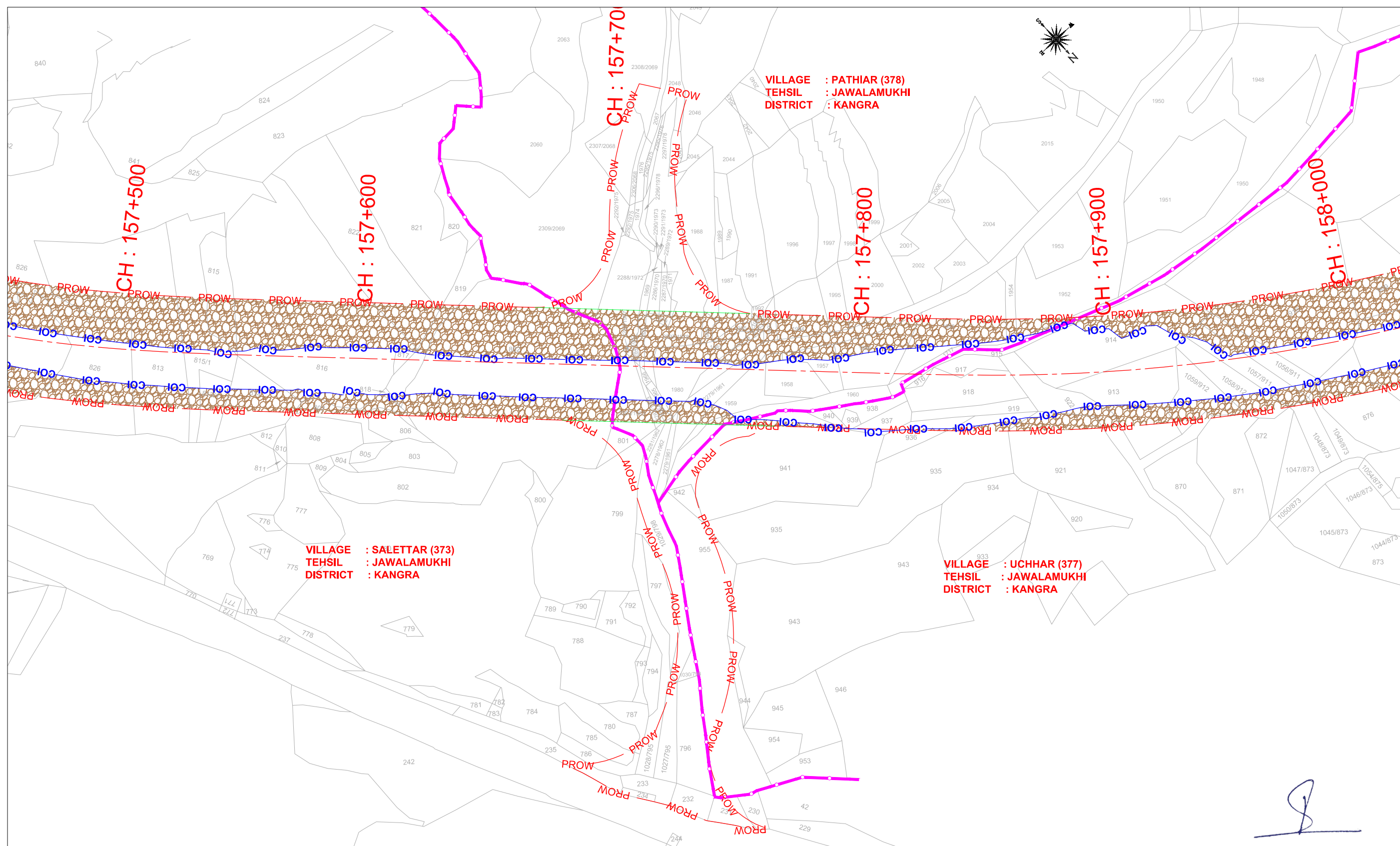


Project Director
NHAI, PIU-Hamirpur

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Prepared by	Designed by	Checked by	Approved by

◀ TO SHIMLA

TO MATAUR ►



Legend:-

Proposed Centerline: — — — — —

Proposed Right of Way: — PROW — PROW —

Corridor of Impact ——— COI ——— COI ———

Village Boundary: 





Khasra Line _____

Area earmarked
for Muck Disposal

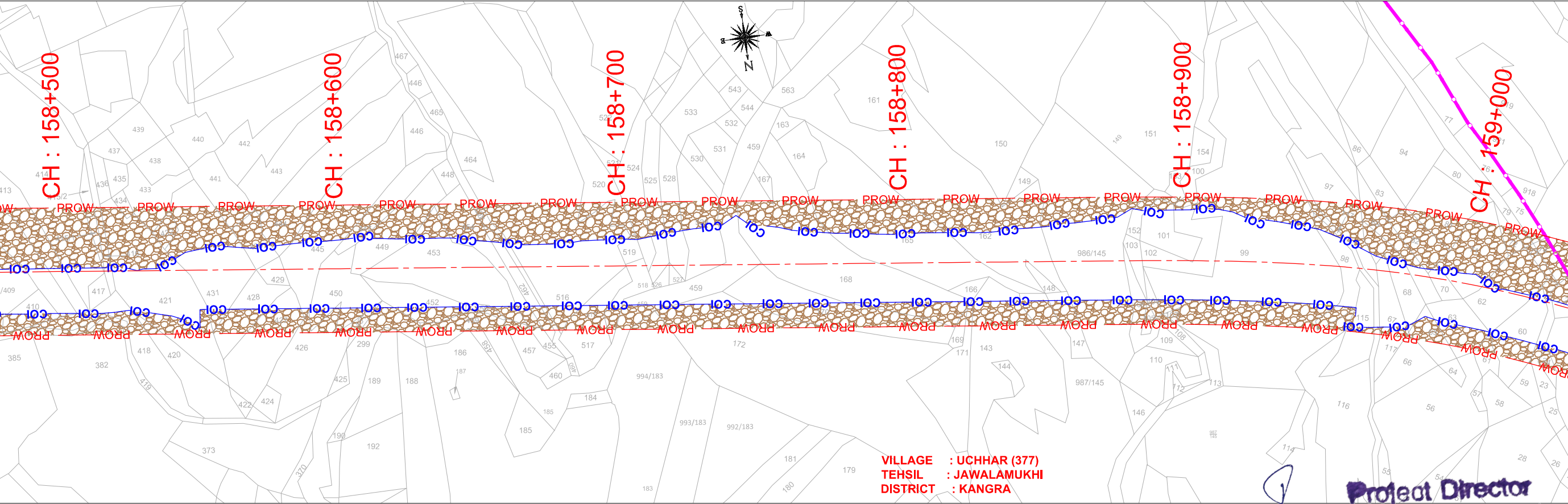
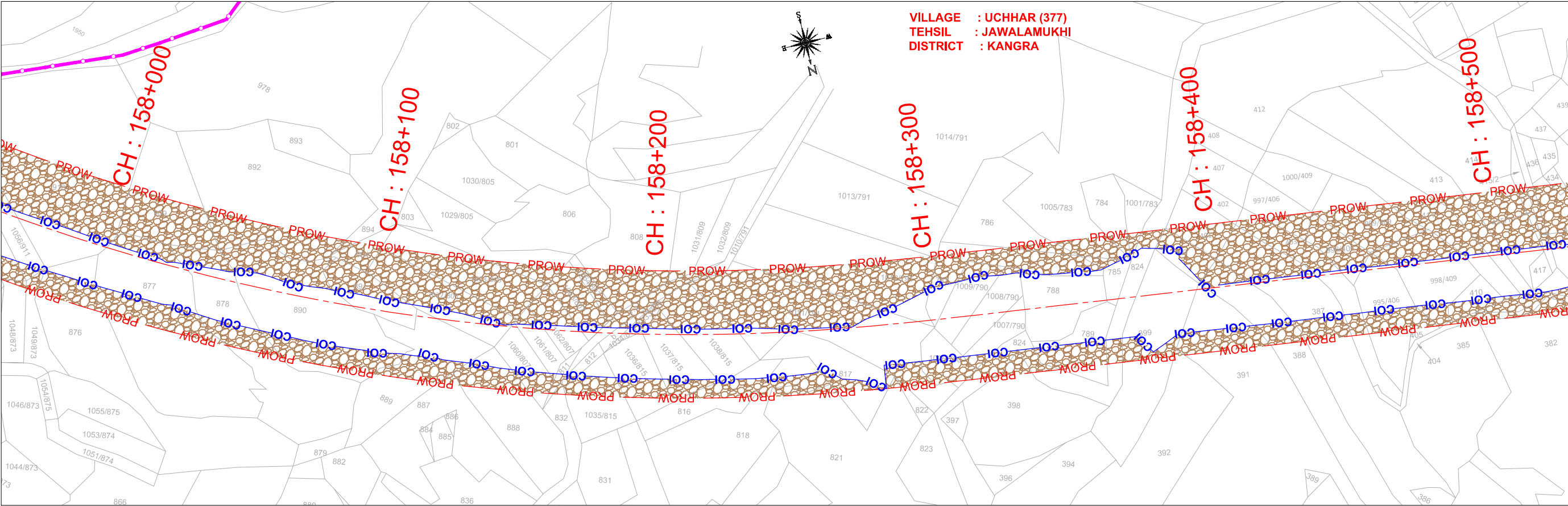
STRIP PLAN SHOWING MUCK DISPOSAL AREA

FROM CH. 157+500 TO CH. 158+000

Intercontinental Consultants & Technocrats Pvt Ltd,
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Ph : 011 4086-3000, Fax 2685-5252

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	R1	January, 2022	Revised	
	R0	August, 2021	Initial	Checked by
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Khasra Line: ————

Corridor of Impact: — COI — COI —

Village Boundary: ————

Area earmarked for Muck Disposal: [Brown Shaded Area]

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PROJECT TITLE
Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (**Package IV**)

DRAWING NAME
STRIP PLAN SHOWING MUCK DISPOSAL AREA

FROM CH. 158+000 TO CH. 159+000

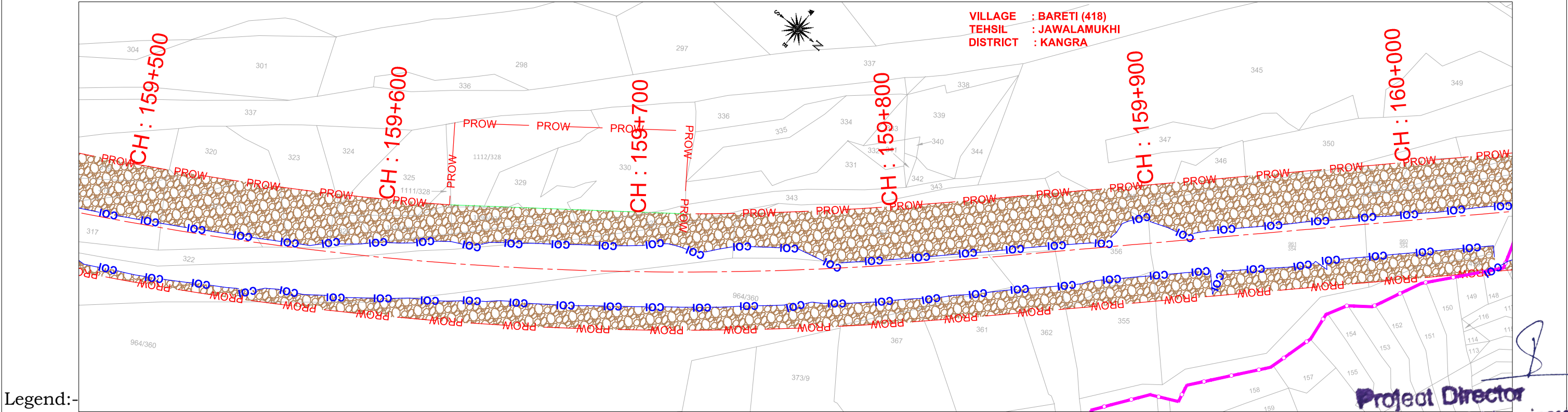
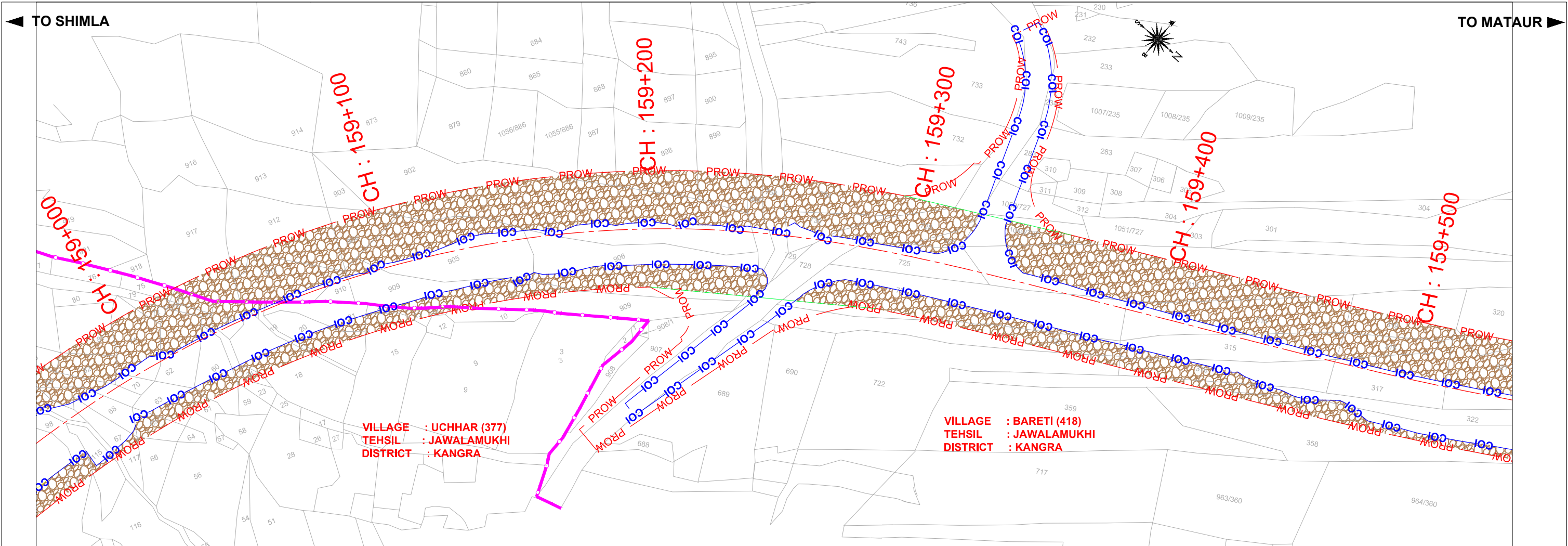


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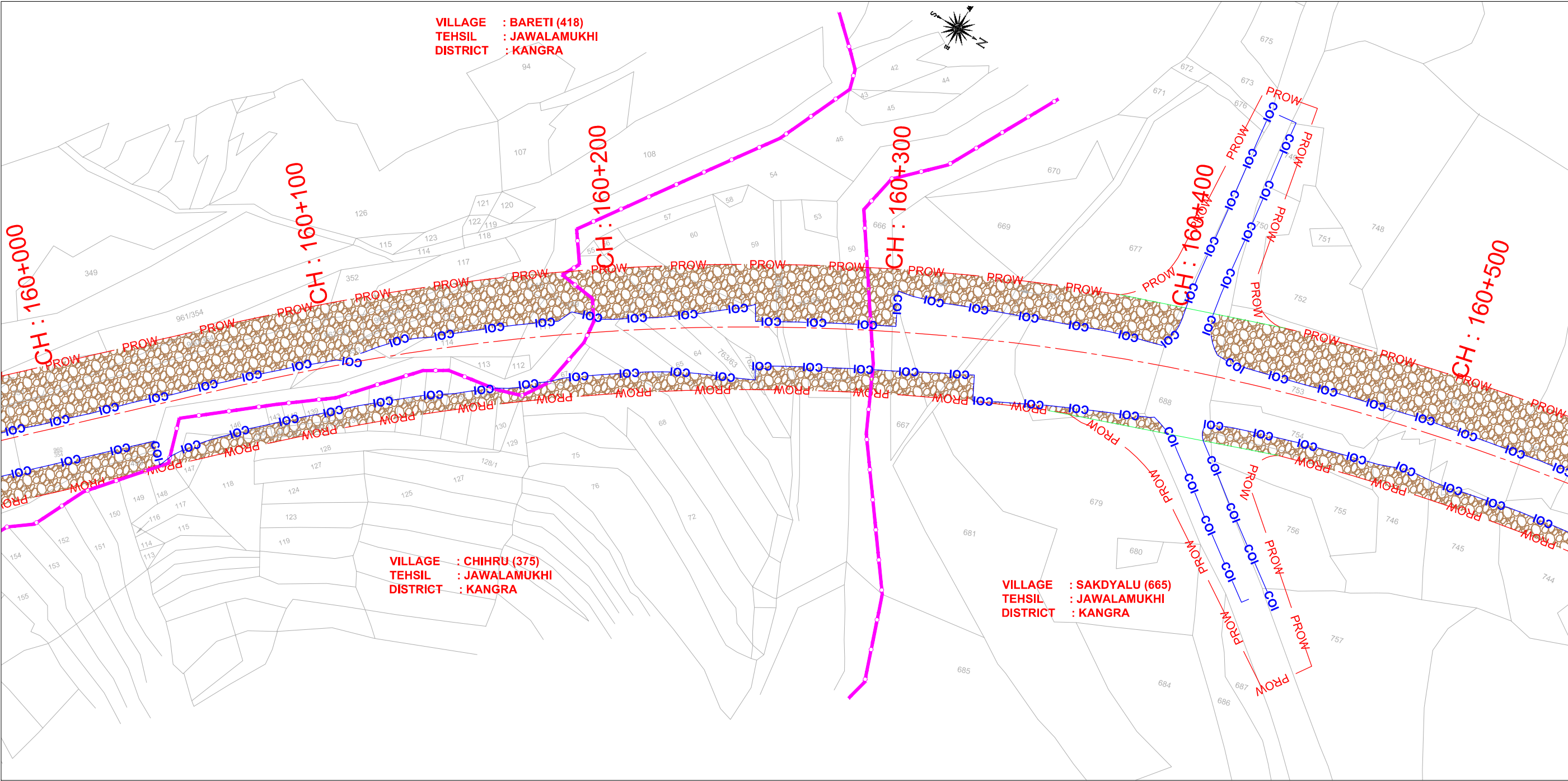
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- Proposed Centerline: ---
- Proposed Right of Way: --- PROW --- PROW ---
- Corridor of Impact: --- col --- col ---
- Village Boundary: ---
- Khasra Line: ---
- Area earmarked for Muck Disposal: [Hatched Pattern]

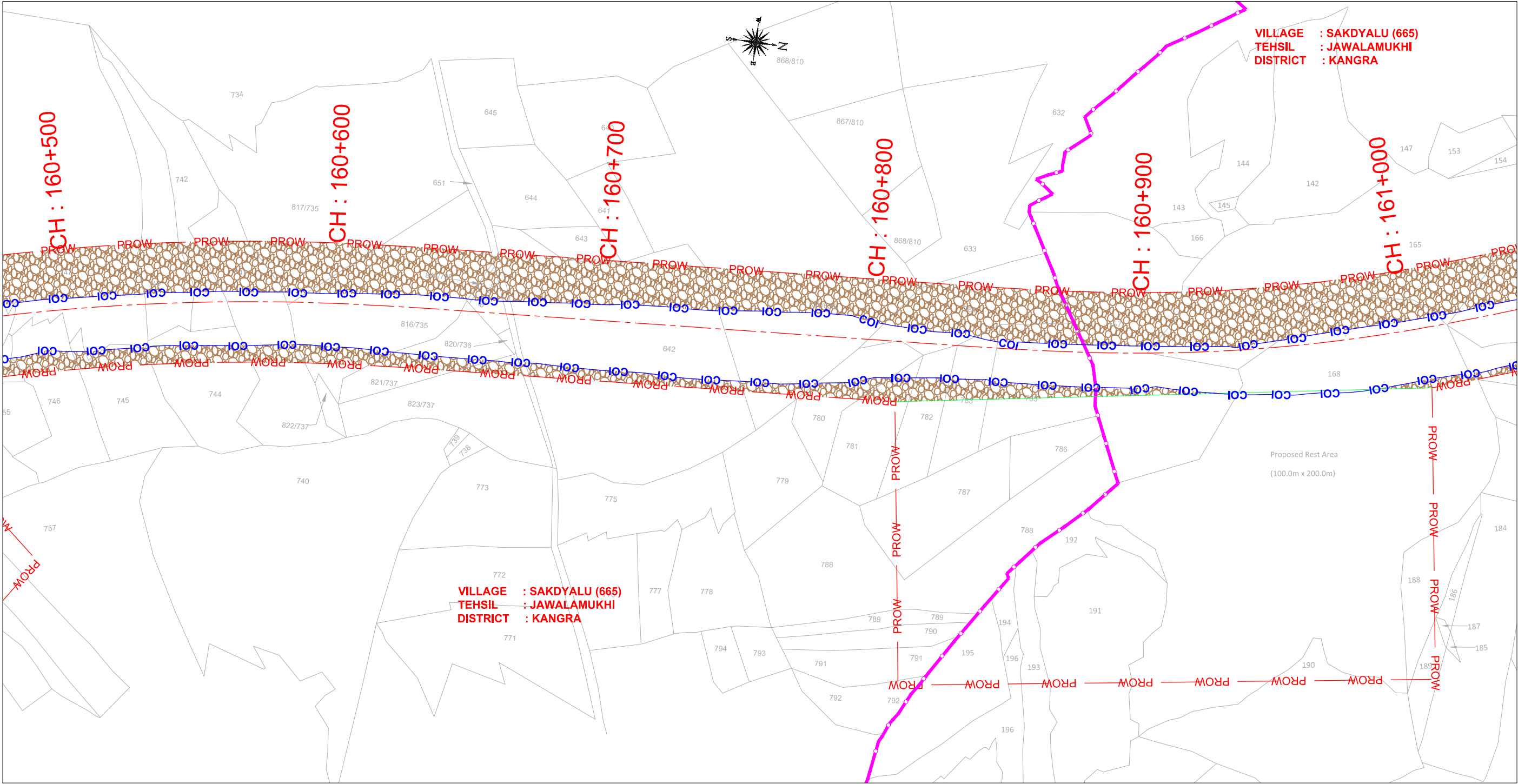
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- Proposed Right of Way:
- Khasra Line:
- Corridor of Impact:
- Village Boundary:
- Area earmarked for Muck Disposal:


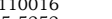
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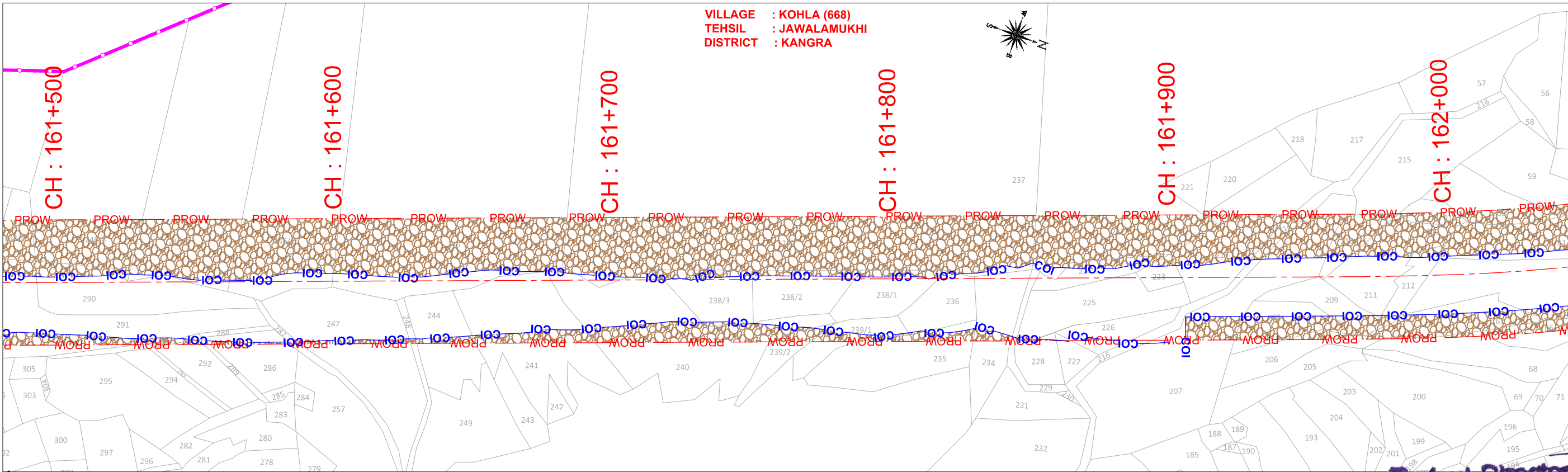
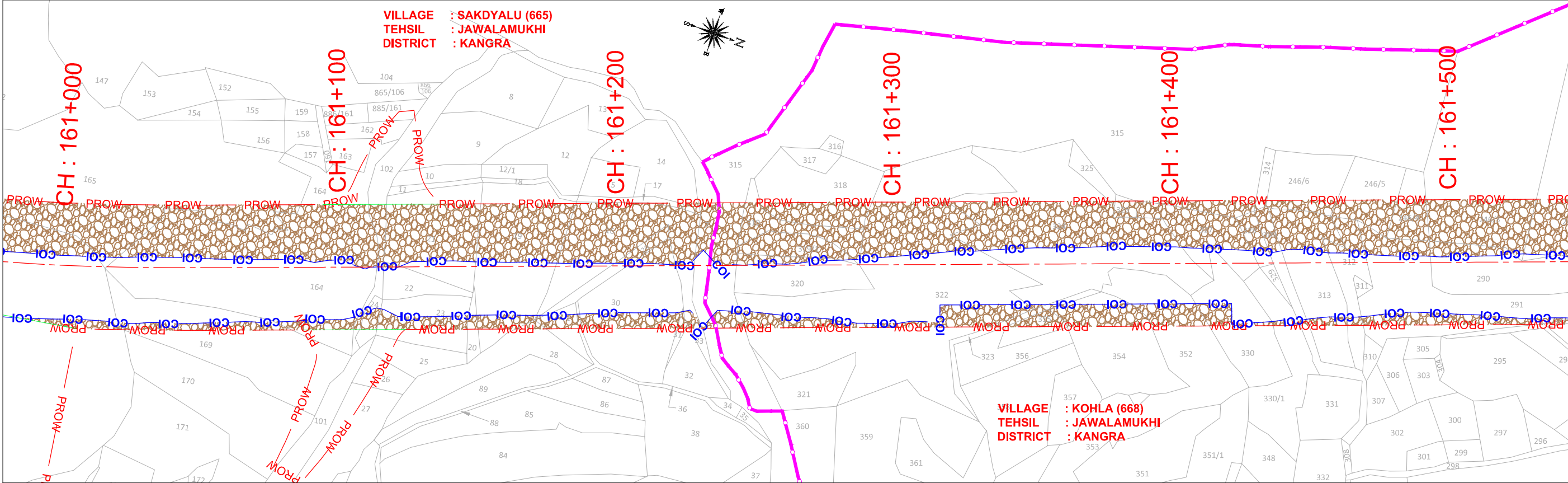


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Project Director
NHAI, PIU-Hamirpur

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
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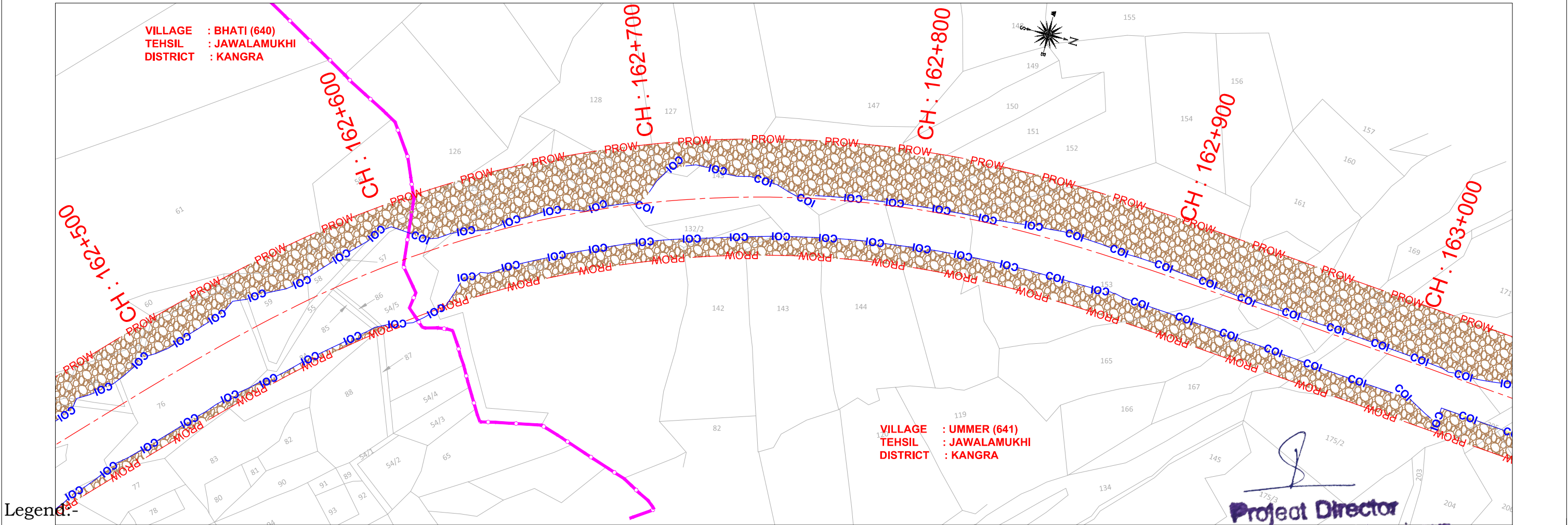
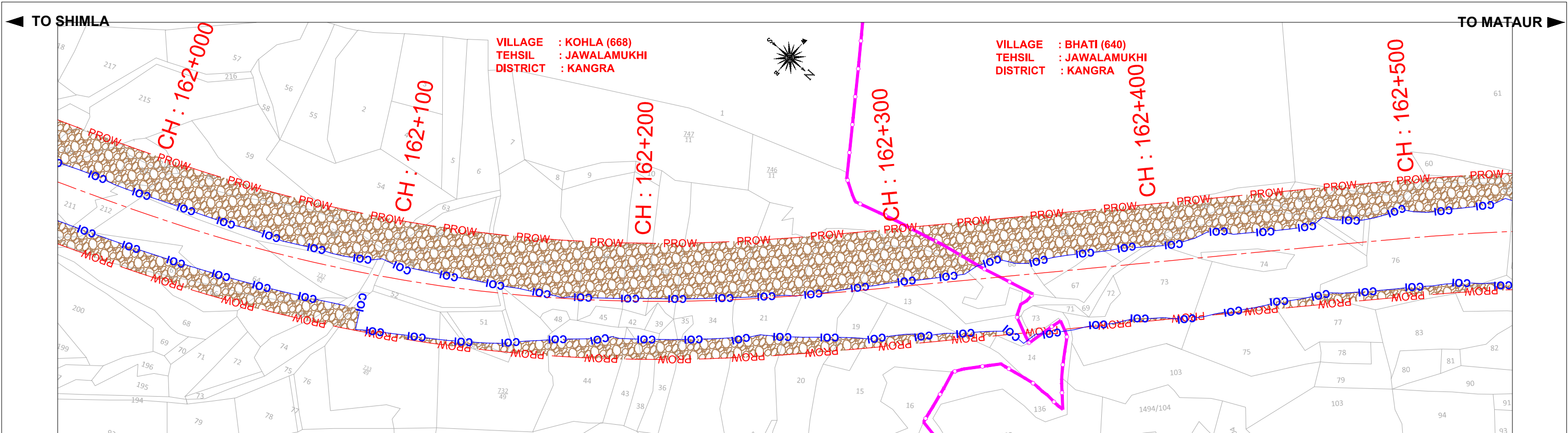
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Village Boundary:

Khasra Line:

Area earmarked for Muck Disposal:

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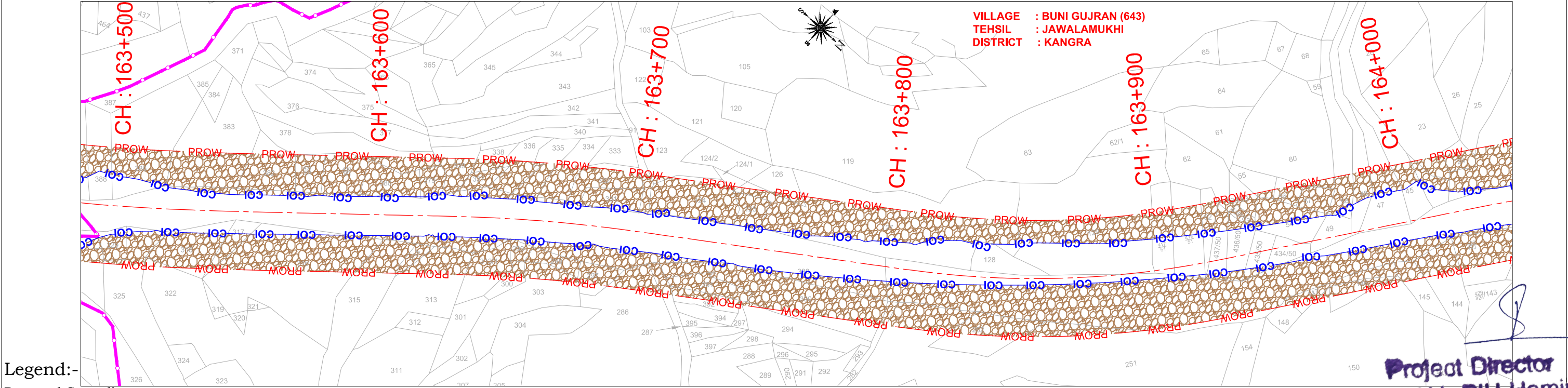
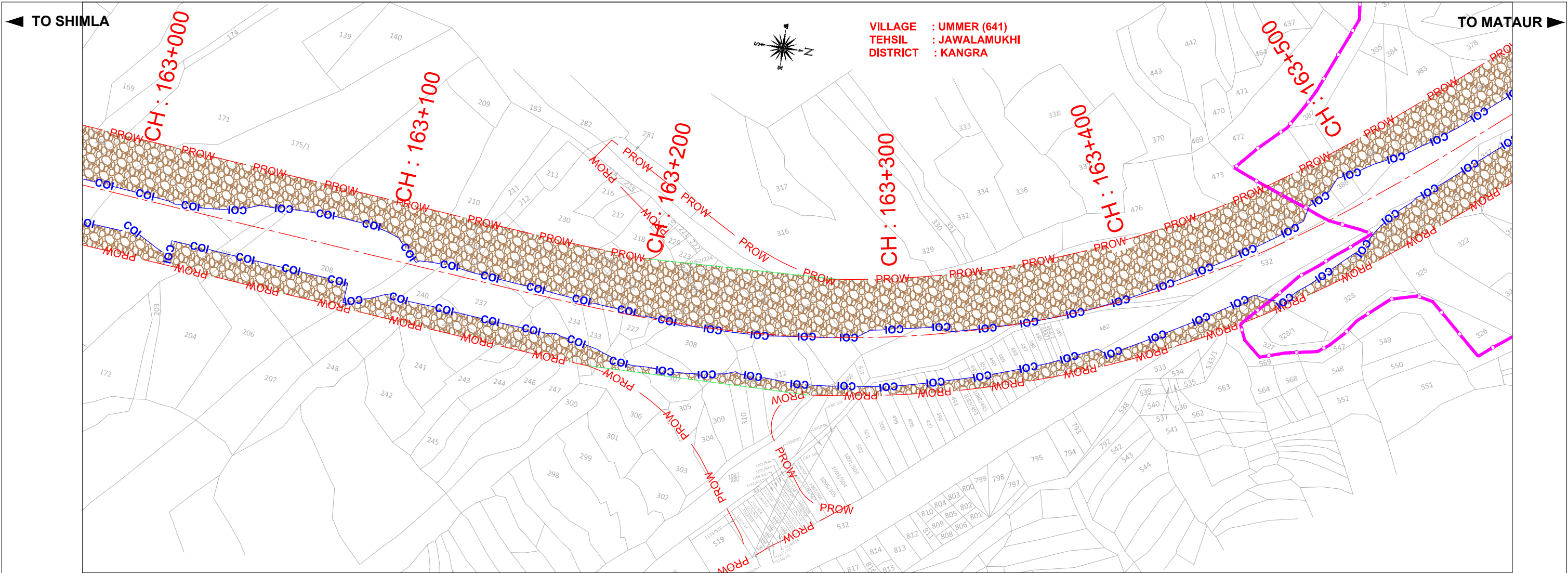
Corridor of Impact: --- COI --- COI ---

Village Boundary: ---



Khasra Line: ---



Area earmarked for Muck Disposal: ---

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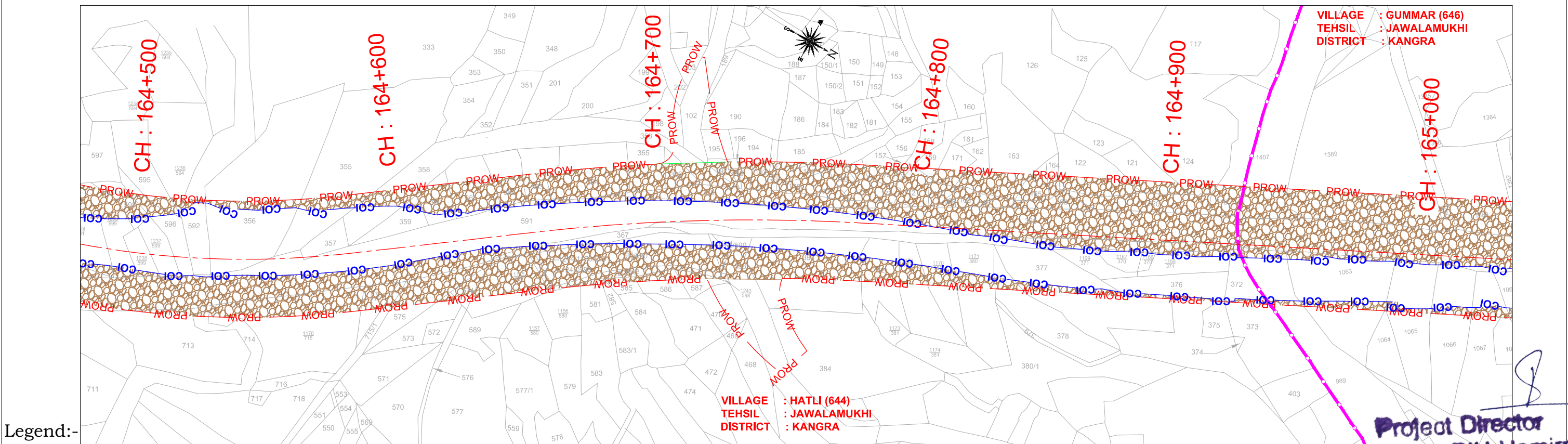
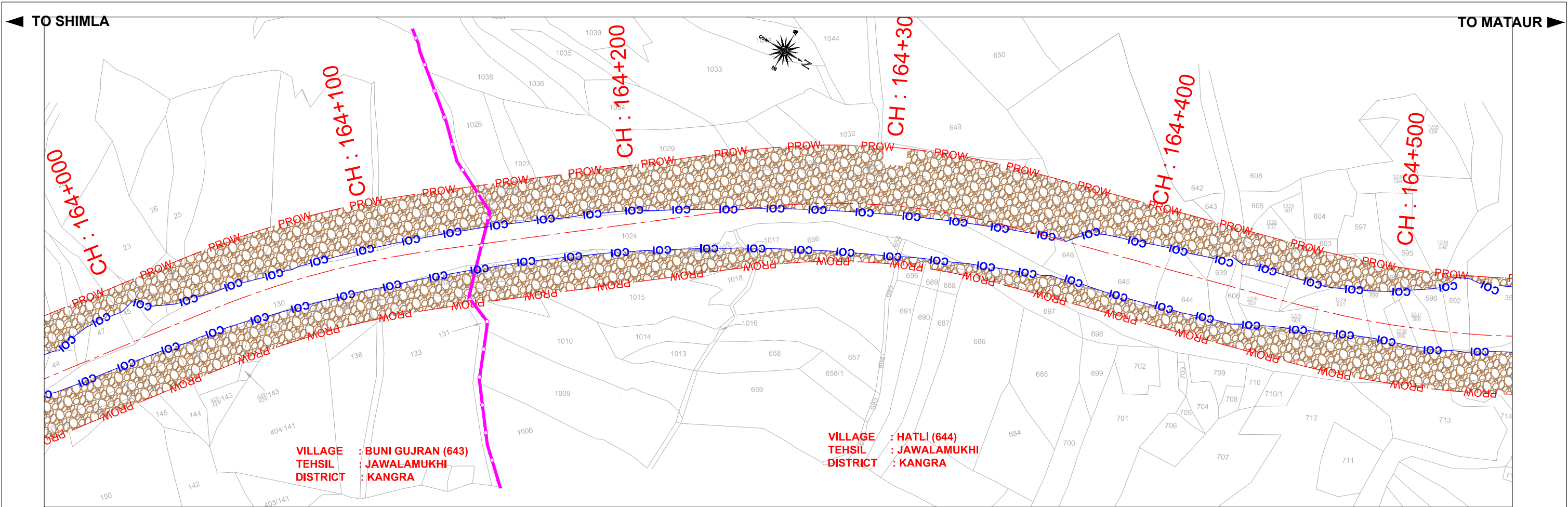
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Corridor of Impact 

Proposed Right of Way: 
Village Boundary: 

Khasra Line
Area earmarked for Muck Disposal 

Project Director
NHAI, PIU-Hamirpur

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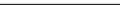



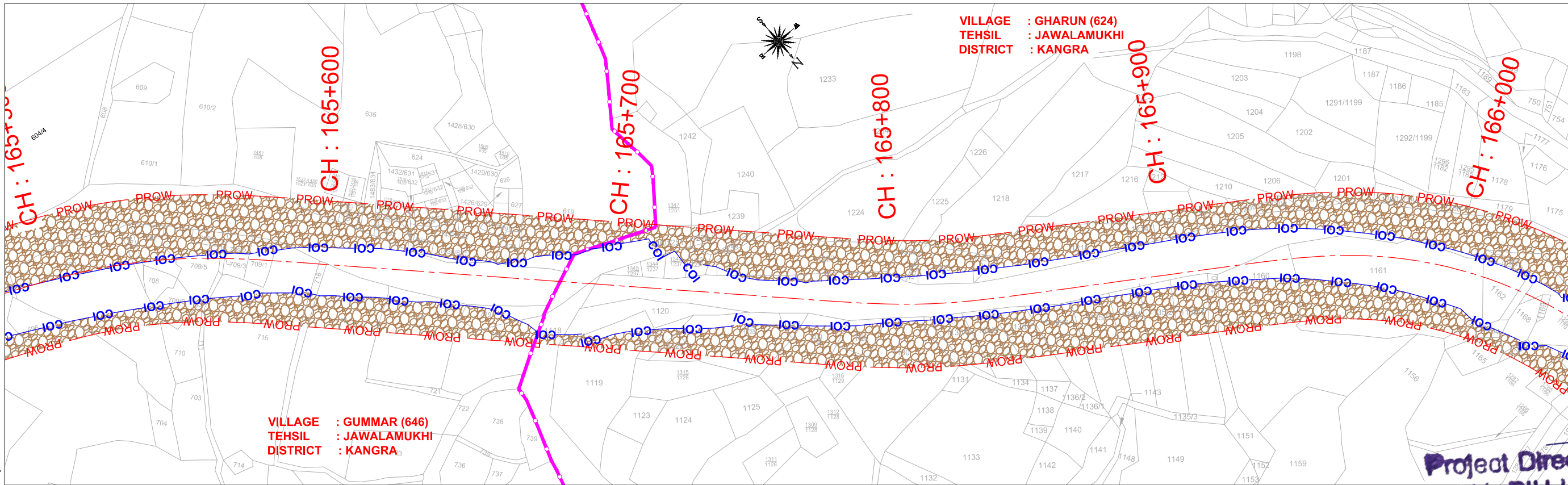
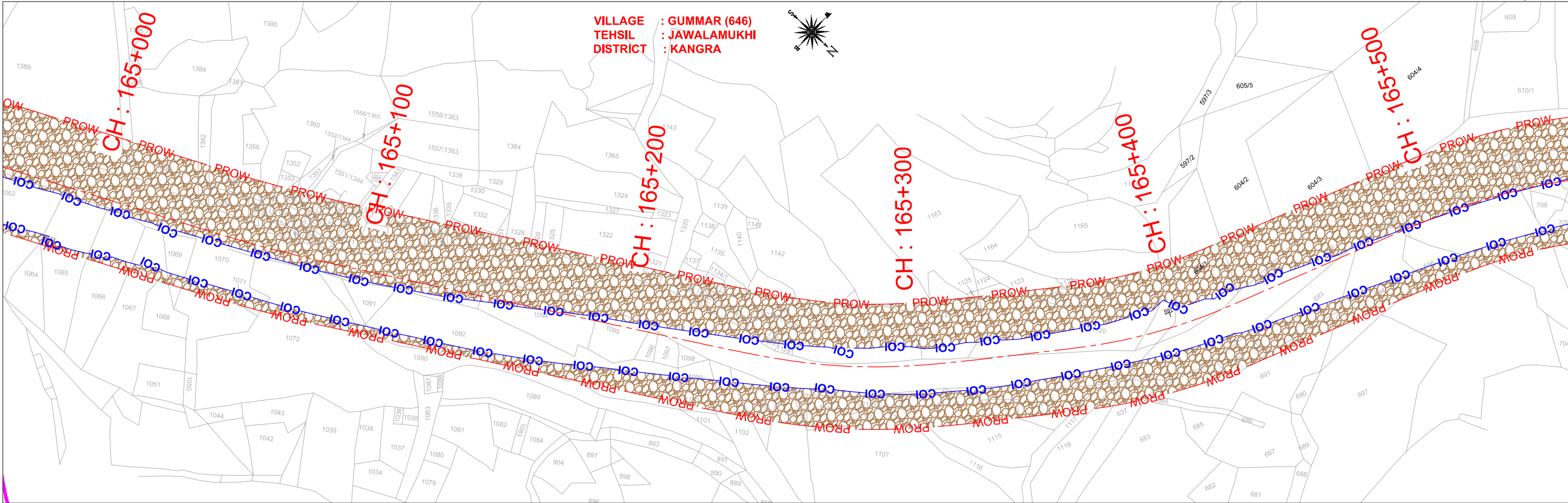
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Proposed Centerline: ---
Corridor of Impact: col col

Proposed Right of Way: PROW PROW
Village Boundary: ---

Khasra Line
Area earmarked for Muck Disposal

 <div>NATIONAL HIGHWAYS AUTHORITY OF INDIA</div>	Scale: 1 : 1500	<div>PROJECT TITLE</div> <div>Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, Design Length-36.975 Km) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (Package IV)</div>	<div>DRAWING NAME</div> <div>STRIP PLAN SHOWING MUCK DISPOSAL AREA</div> <div>FROM CH. 164+000 TO CH. 165+000</div>		Intercontinental Consultants & Technocrats Pvt Ltd, A-8, Green Park, New Delhi - 110016 Ph : 011 4086-3000, Fax 2685-5252		RO	August, 2021	Initial	Checked by
					Revisions		Date	Description		
							Revisions			
							DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 08			
							Rev.			
							R1			

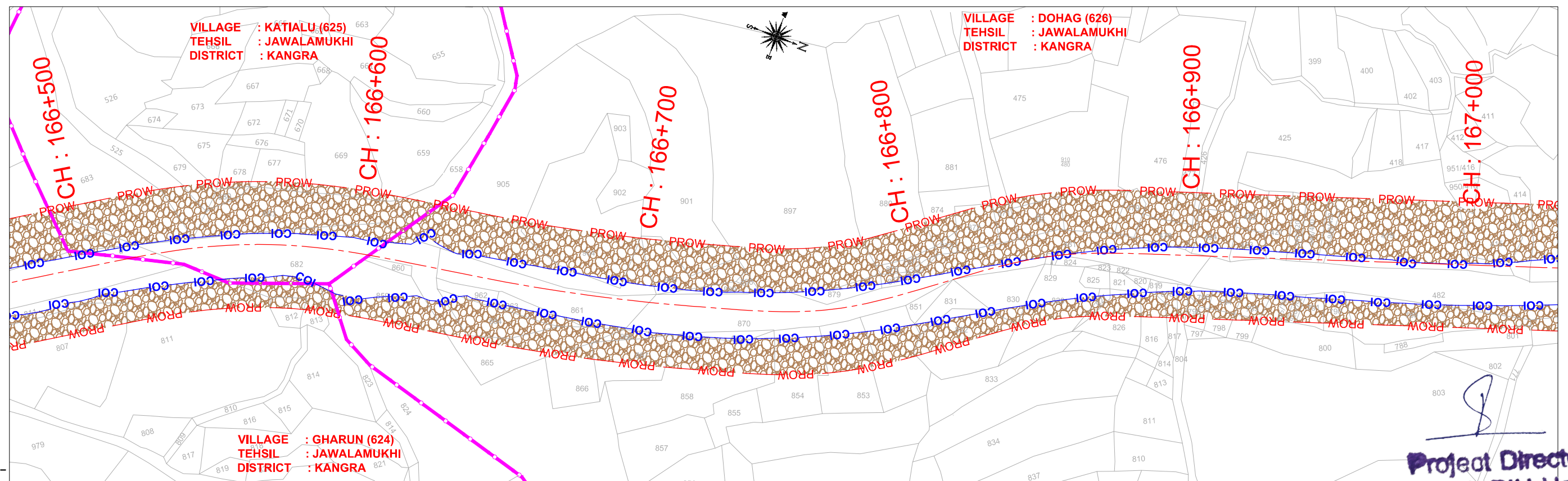
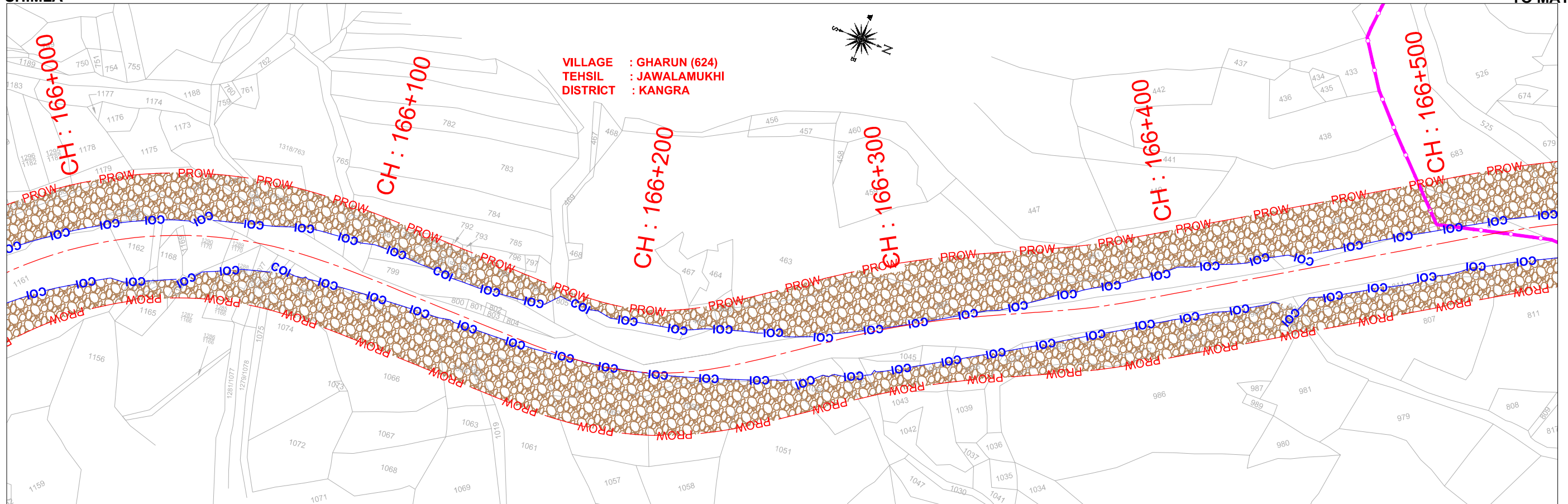


Legend:-

- Proposed Centerline:
- Proposed Right of Way:
- Khasra Line
- Corridor of Impact
- Village Boundary:
- Area earmarked for Muck Disposal

◀ TO SHIMLA

TO MATAUR ►



Legend:-

Proposed Centerline:

Proposed Right of Way:

Khasra Line

Area earmarked
for Muck Disposal



DRAWING NAME

STRIP PLAN SHOWING MUCK DISPOSAL AREA

FROM CH. 166+000 TO CH. 167+000


VILLAGE : DOHAG (626)
TEHSIL : JAWALAMUKHI
DISTRICT : KANGRA

CH: 166+900

CH: 167+000

VILLAGE : GHARUN (624)
TEHSIL : JAWALAMUKHI
DISTRICT : KANGRA

**Project Director
NHAI, PIU-Hamirpur**



NATIONAL HIGHWAYS
AUTHORITY OF INDIA

Scale:

1 : 1500

PROJECT TITLE


Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. **(Package IV)**

DRAWING NAME

Intercontinental Consultants & Technocrats Pvt Ltd,
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Ph : 011 4086-3000, Fax 2685-5252



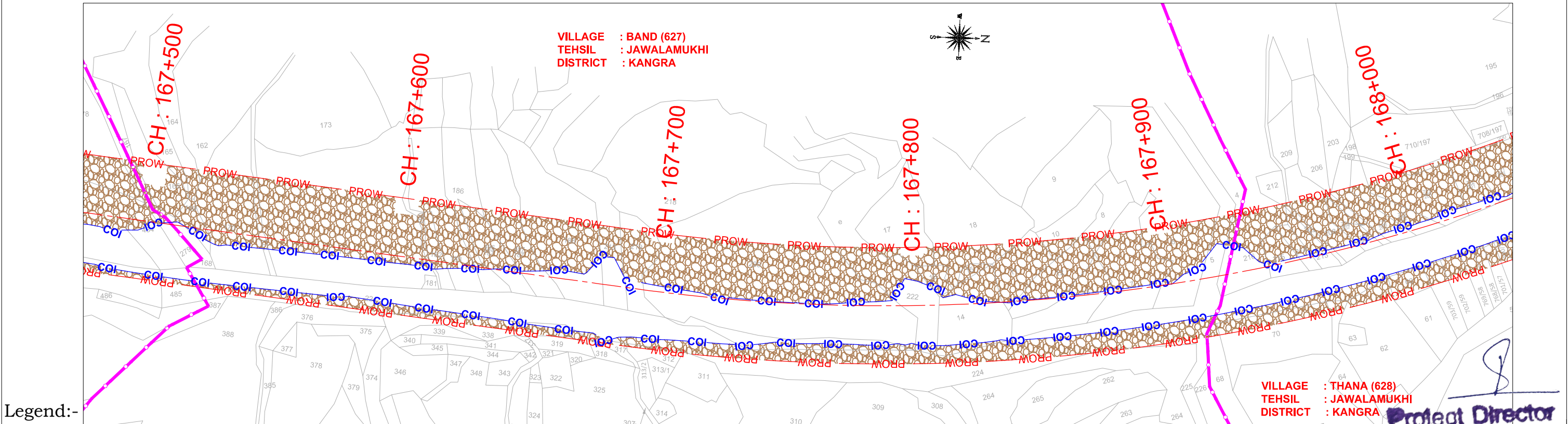
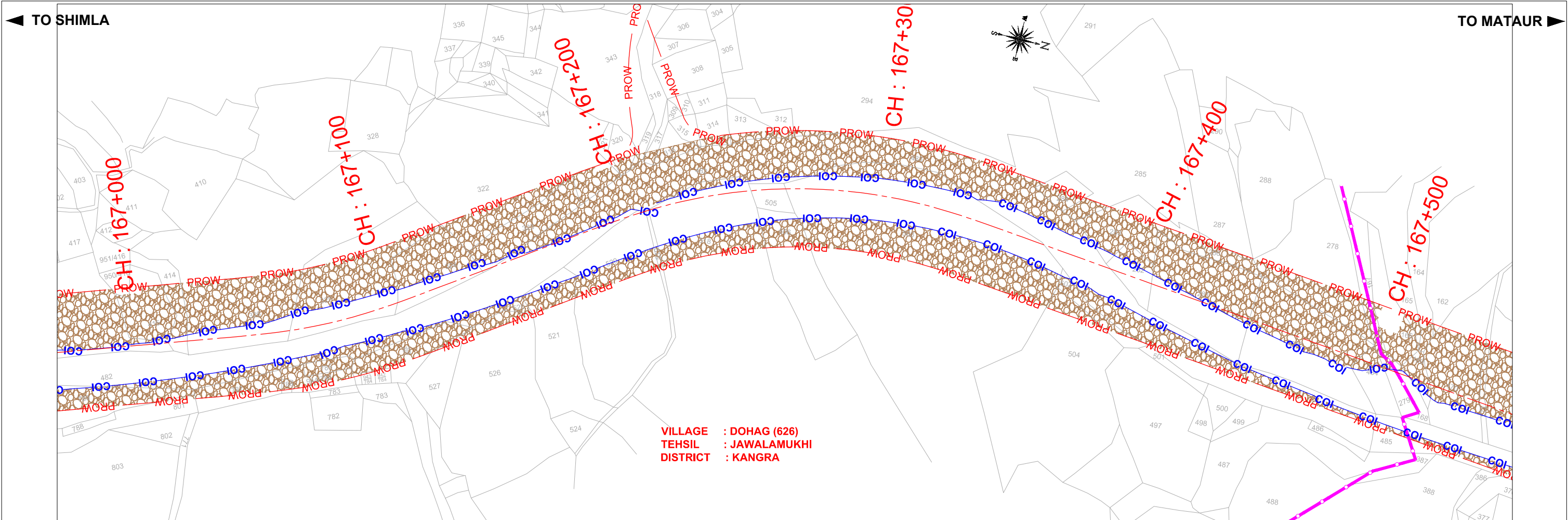
Manoj Rawat
Prepared by

	
	Devendra Kumar
	Designed by

	Neeraj
r	Neeraj Choudha
	Checked by



ry	Sandip Bhattacharya
	Approved by

	R1	January, 2022	Revised	
	R0	August, 2021	Initial	Checked by
	Revisions	Date	Description	
	Revisions			
a	DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 10			Rev.
				R1



Legend:-

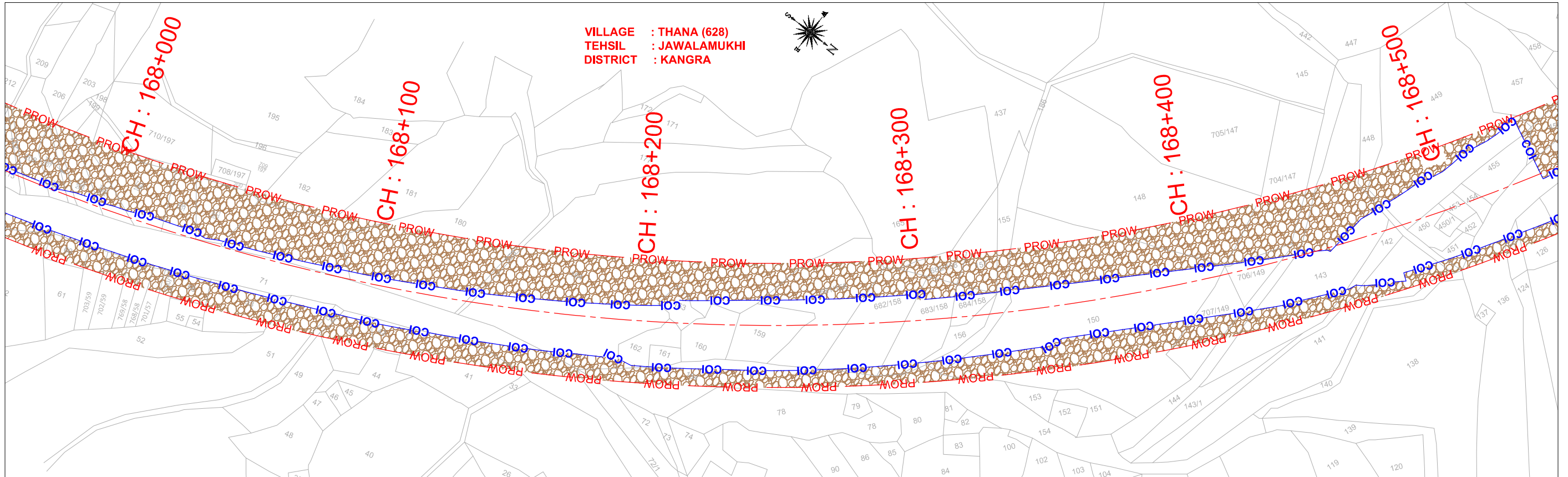
- Proposed Centerline: ---
- Proposed Right of Way: --- PROW --- PROW ---
- Corridor of Impact: --- COI --- COI ---
- Village Boundary: ---
- Khasra Line: ---
- Area earmarked for Muck Disposal: [Stippled Pattern]

 <div>NATIONAL HIGHWAYS AUTHORITY OF INDIA</div>	Scale: 1 : 1500	<div>PROJECT TITLE</div> <div>Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, Design Length-36.975 Km) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (Package IV)</div>	<div>DRAWING NAME</div> <div>STRIP PLAN SHOWING MUCK DISPOSAL AREA</div> <div>FROM CH. 167+000 TO CH. 168+000</div>	 <div>Intercontinental Consultants & Technocrats Pvt Ltd, A-8, Green Park, New Delhi - 110016 Ph : 011 4086-3000, Fax 2685-5252</div>	RO		August, 2021	Initial	Checked by			
					Revisions		Date	Description				
					Revisions							
					DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 11							Rev.
												R1

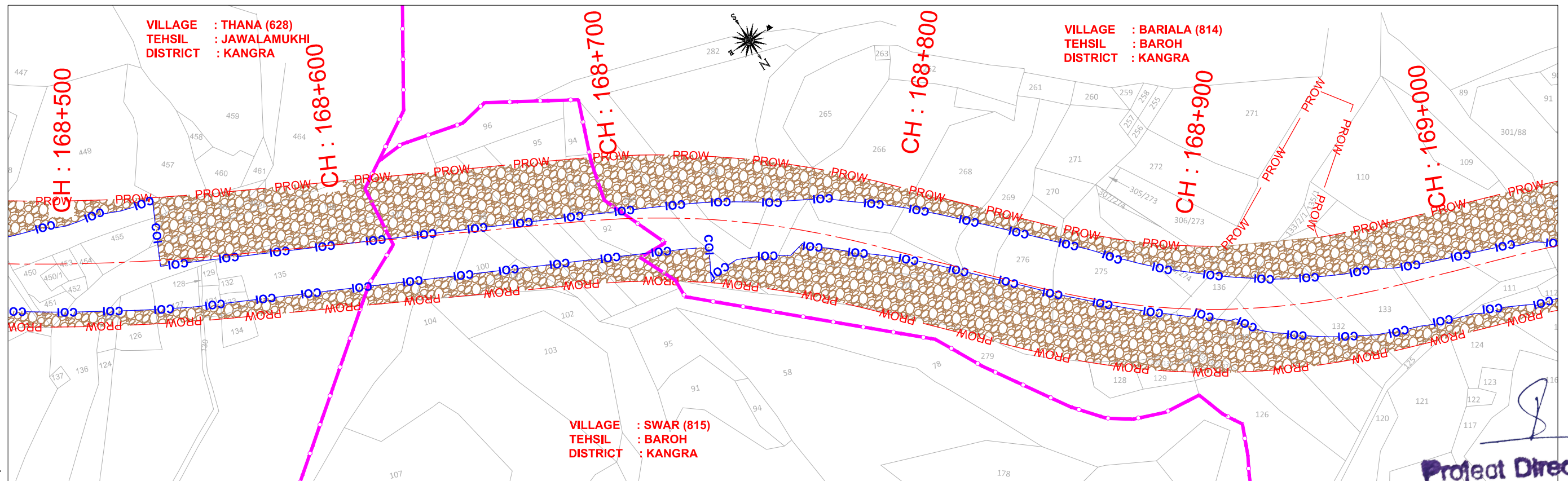
Project Director
NHAI, PIU-Hamirpur

TO SHIMLA

TO MATAUR



VILLAGE : THANA (628)
TEHSIL : JAWALAMUKHI
DISTRICT : KANGRA



VILLAGE : THANA (628)
TEHSIL : JAWALAMUKHI
DISTRICT : KANGRA

VILLAGE : BARIALA (814)
TEHSIL : BAROH
DISTRICT : KANGRA

VILLAGE : SWAR (815)
TEHSIL : BAROH
DISTRICT : KANGRA

Legend:-

Proposed Centerline: ---

Proposed Right of Way: --- PROW --- PROW ---

Khasra Line: ---

Corridor of Impact: --- COI --- COI ---

Village Boundary: ---

Area earmarked for Muck Disposal: [Pattern]



Scale:
1 : 1500

PROJECT TITLE
Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (**Package IV**)

DRAWING NAME
STRIP PLAN SHOWING MUCK DISPOSAL AREA
FROM CH. 168+000 TO CH. 169+000

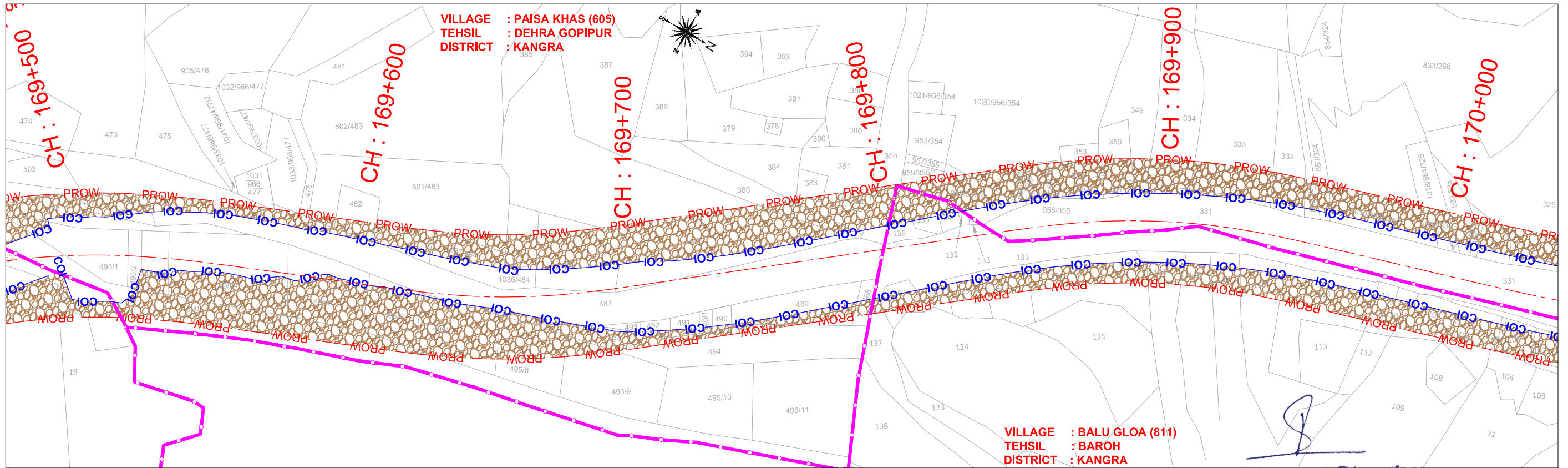
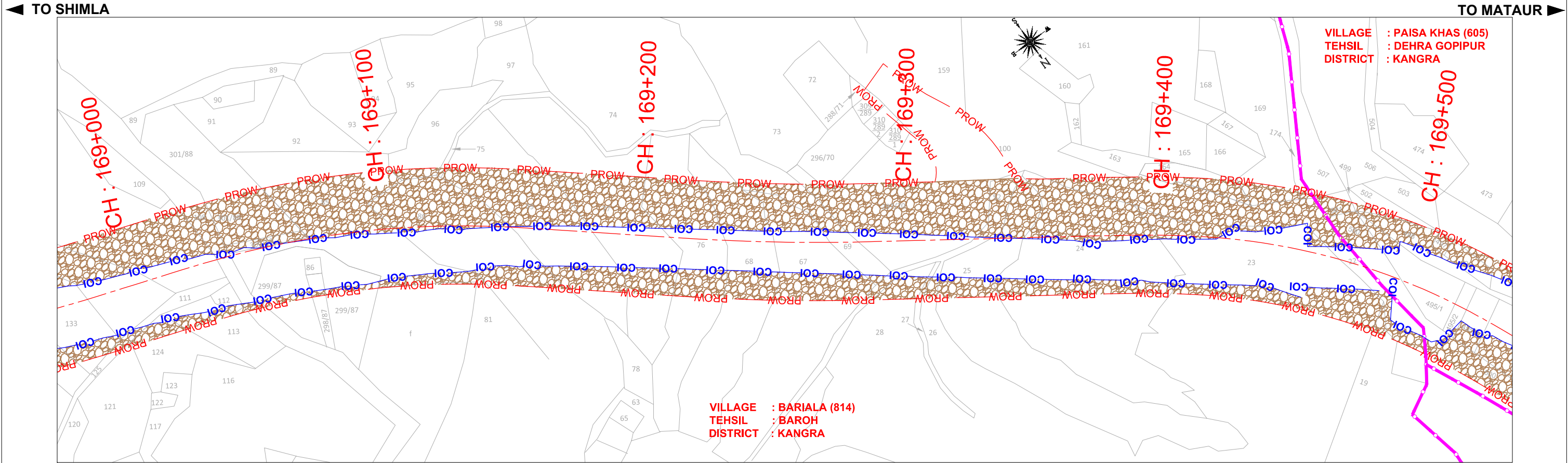


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Manoj Rawat	Devendra Kumar	Neeraj Choudhary	Sandip Bhattacharya
Prepared by	Designed by	Checked by	Approved by

R1	January, 2022	Revised	
R0	August, 2021	Initial	Checked by
Revisions	Date	Description	
Revisions			
DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 12			Rev.
			R1

Project Director
NHAI, PIU-Hamirpur



Legend:-

Proposed Centerline: ---

Proposed Right of Way: --- PROW --- PROW ---

Khasra Line: ---

Corridor of Impact: --- COI --- COI ---

Village Boundary: ---

Area earmarked for Muck Disposal: [Brown Stippled Pattern]



Scale:
1 : 1500

PROJECT TITLE
Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (**Package IV**)

DRAWING NAME
STRIP PLAN SHOWING MUCK DISPOSAL AREA
FROM CH. 169+000 TO CH. 170+000

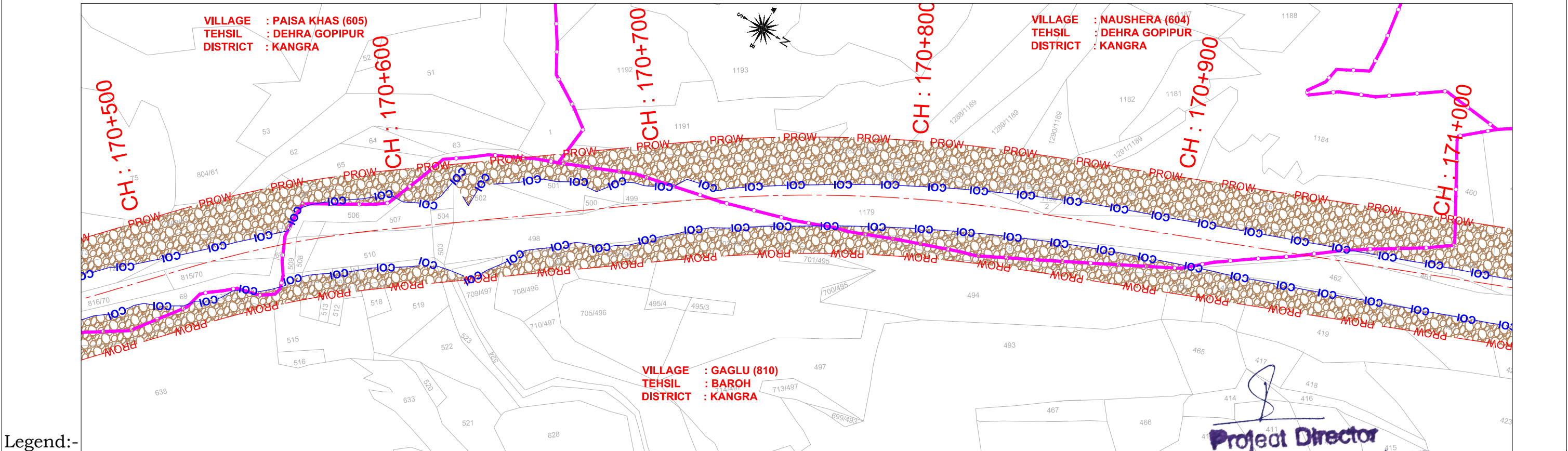
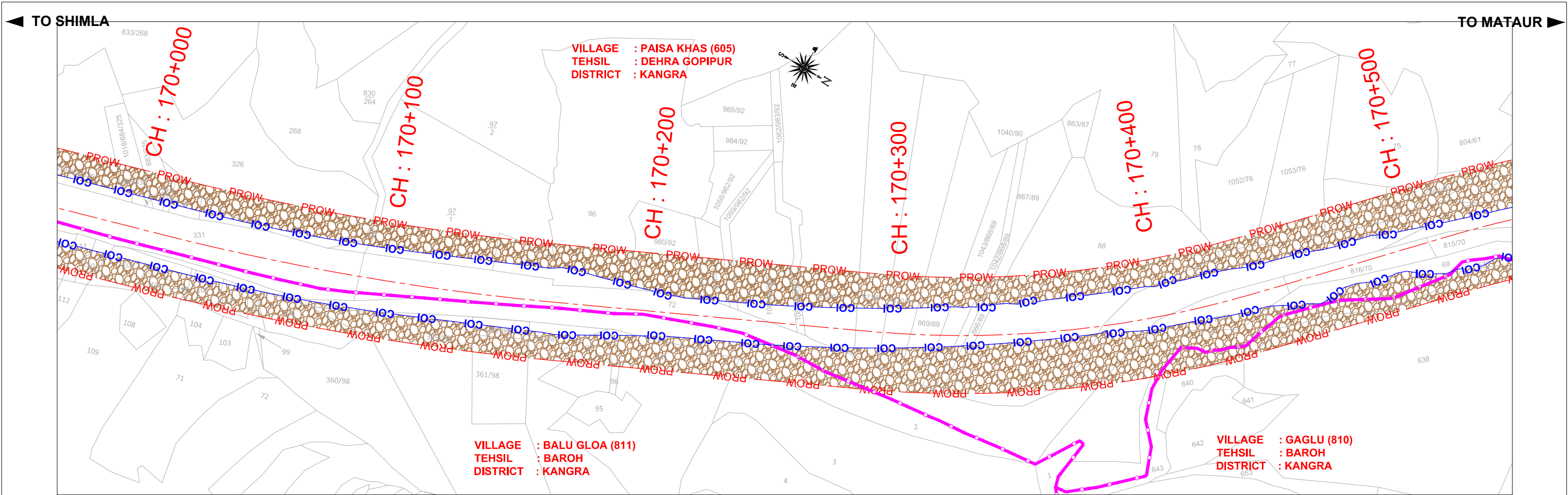


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Ph : 011 4086-3000, Fax 2685-5252

Prepared by: Manoj Rawat
Designed by: Devendra Kumar
Checked by: Neeraj Choudhary
Approved by: Sandip Bhattacharya

Project Director
NHAI, PIU-Hamirpur

R1	January, 2022	Revised	
R0	August, 2021	Initial	Checked by
Revisions	Date	Description	
Revisions			
DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 13			Rev.
			R1



Legend:-

Proposed Centerline: ---

Proposed Right of Way: --- PROW --- PROW ---

Khasra Line: ---

Corridor of Impact: --- COI --- COI ---

Village Boundary: ---

Area earmarked for Muck Disposal: [Pattern]



Scale:
1 : 1500

PROJECT TITLE
Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (**Package IV**)

DRAWING NAME
STRIP PLAN SHOWING MUCK DISPOSAL AREA
FROM CH. 170+000 TO CH. 171+000

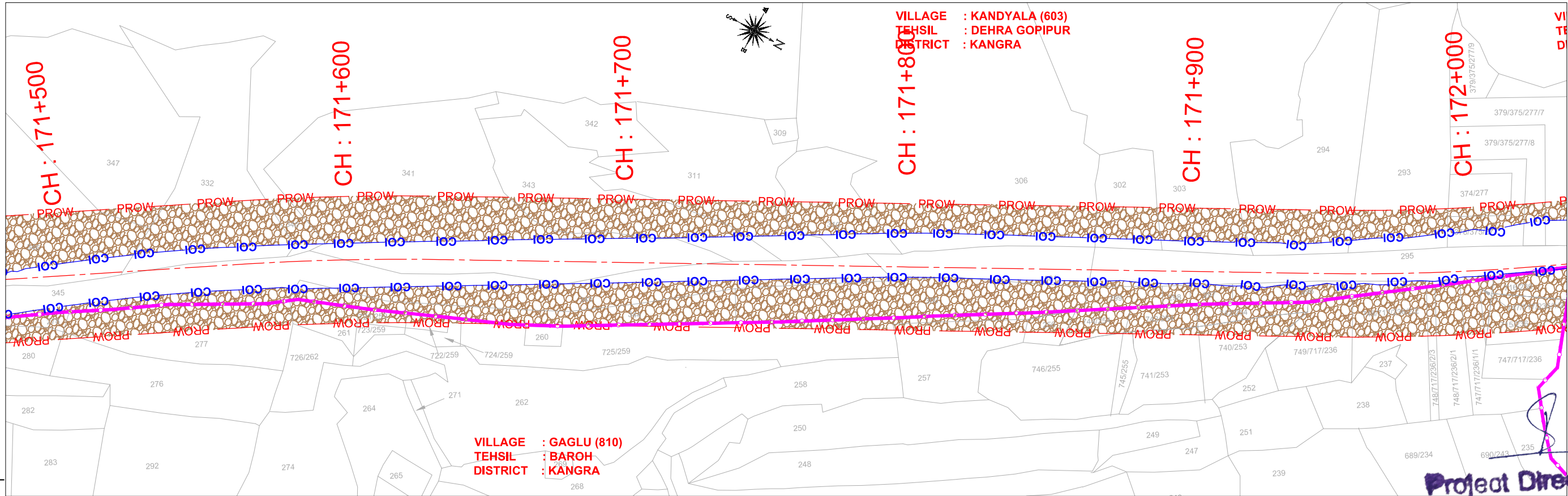
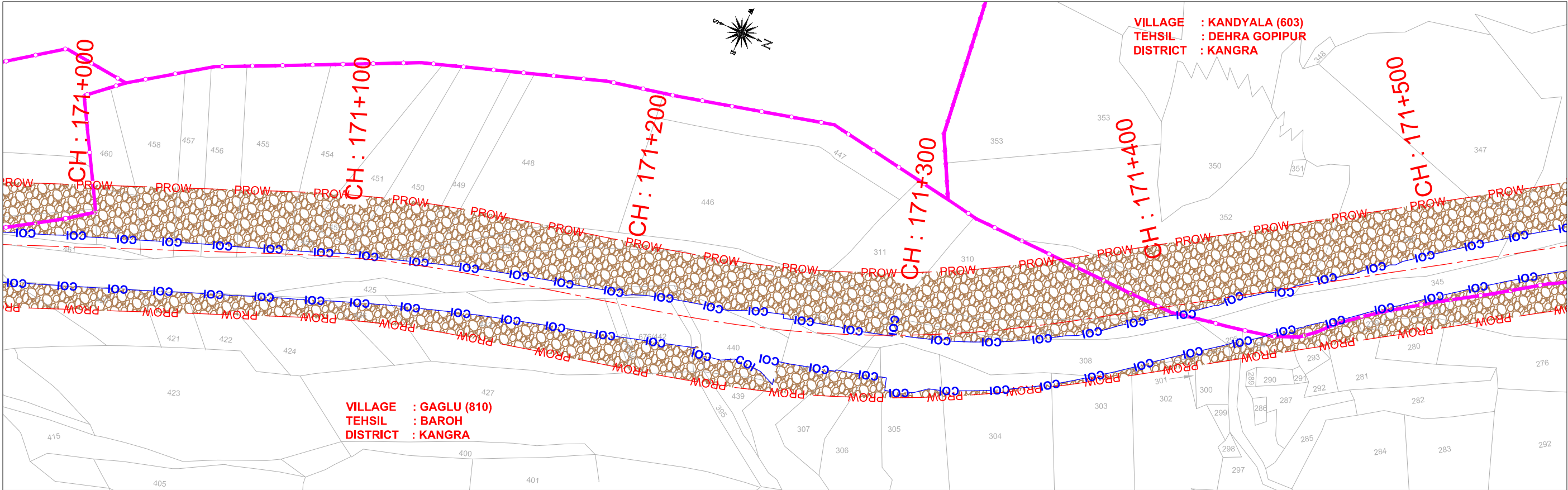


Intercontinental Consultants & Technocrats Pvt Ltd,
A-8, Green Park, New Delhi - 110016
Ph : 011 4086-3000, Fax 2685-5252

Prepared by: Manoj Rawat
Designed by: Devendra Kumar
Checked by: Neeraj Choudhary
Approved by: Sandip Bhattacharya



Project Director
NHAI, PIU-Hamirpur

R1	January, 2022	Revised	
R0	August, 2021	Initial	Checked by
Revisions	Date	Description	
Revisions			
DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 14			Rev.
			R1

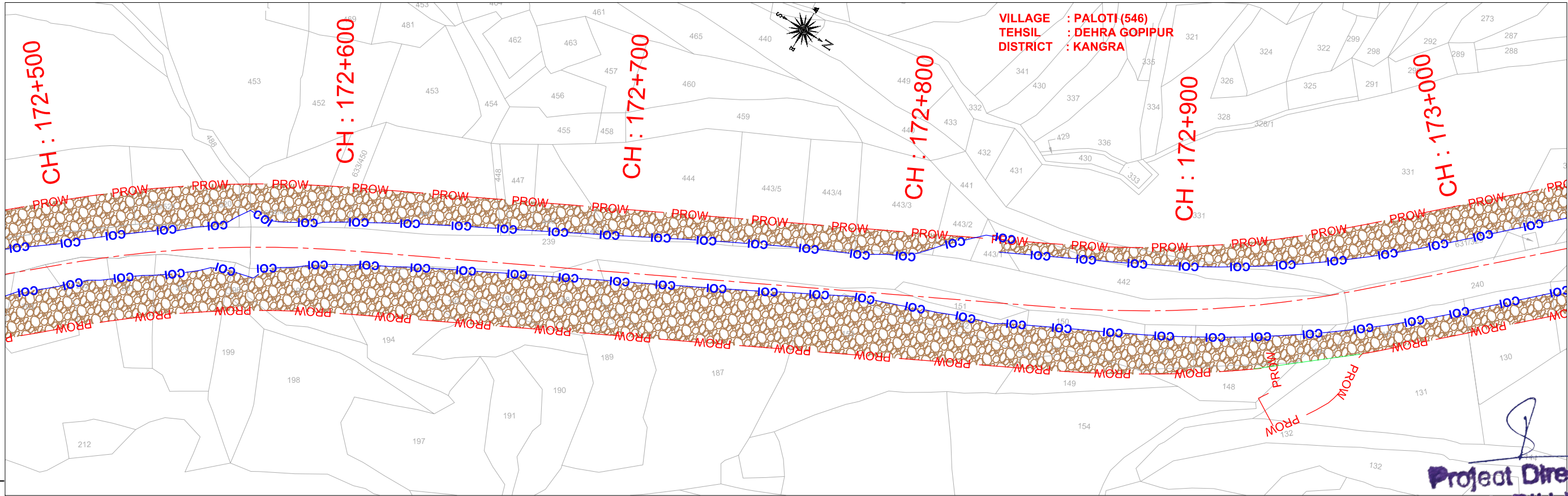
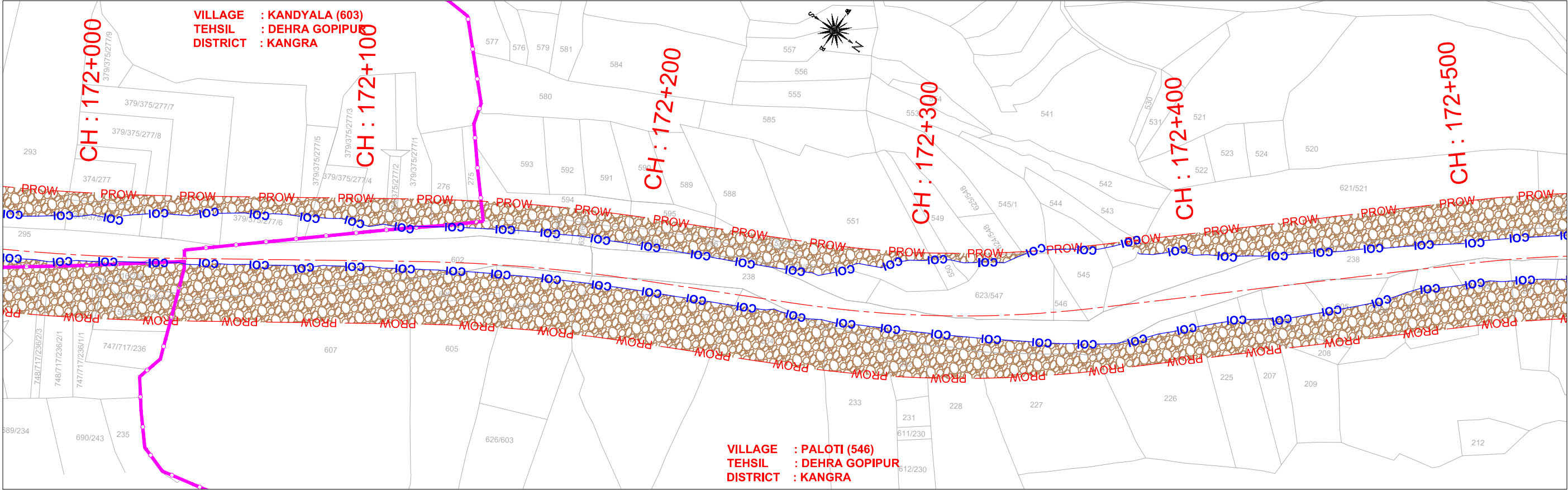


Legend:-

- Proposed Centerline:
- Proposed Right of Way:
- Khasra Line
- Corridor of Impact
- Village Boundary:
- Area earmarked for Muck Disposal

 <div>NATIONAL HIGHWAYS AUTHORITY OF INDIA</div>	Scale:	<u>PROJECT TITLE</u>	<u>DRAWING NAME</u>	Intercontinental Consultants & Technocrats Pvt Ltd, A-8, Green Park, New Delhi - 110016 Ph : 011 4086-3000, Fax 2685-5252		R0	August, 2021	Initial	Checked by	
	1 : 1500	Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamipur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, Design Length-36.975 Km) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (Package IV)	STRIP PLAN SHOWING MUCK DISPOSAL AREA		Sandip Bhattacharyya	Revisions	Date	Description		
						Revisions				
						DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 15				Rev.
										R1
		FROM CH. 171+000 TO CH. 172+000								

Project Director
NHAI, PIU-Hamirpur



Legend:-

- Proposed Centerline:
- Proposed Right of Way:
- Khasra Line
- Corridor of Impact
- Village Boundary:
- Area earmarked for Muck Disposal

NATIONAL HIGHWAYS
AUTHORITY OF INDIA

Scale:

1 : 1500

PROJECT TITLE

Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (**Package IV**)

DRAWING NAME

STRIP PLAN SHOWING MUCK DISPOSAL AREA

FROM CH. 172+000 TO CH. 173+000

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Ph : 011 4086-3000, Fax 2685-5252

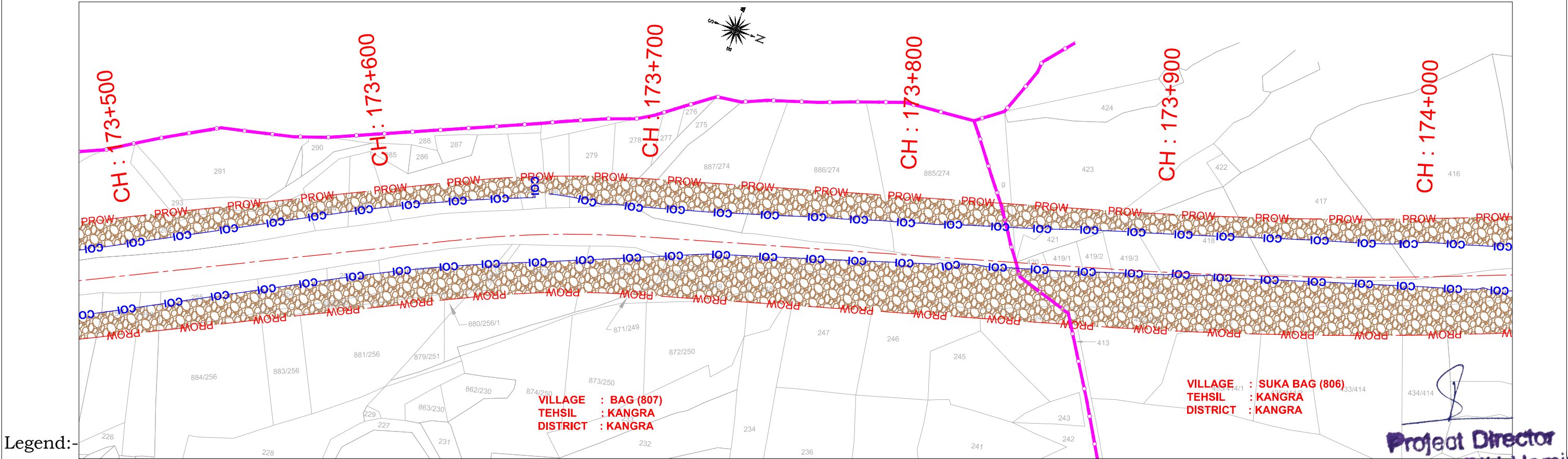
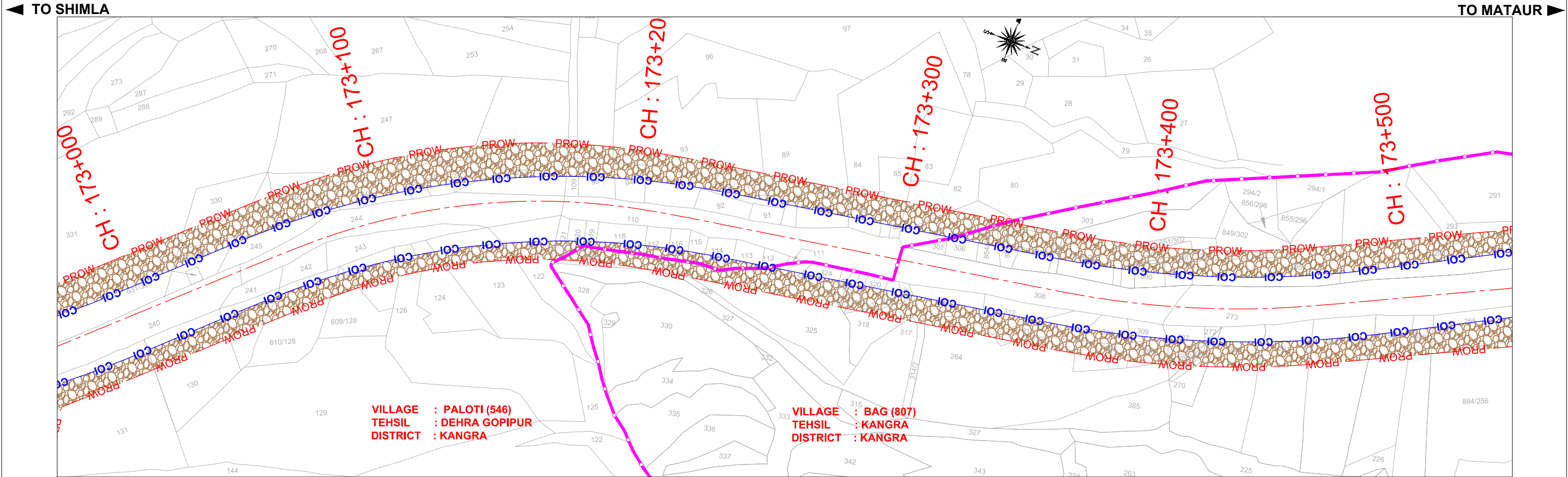
Manoj Rawat
Prepared by

Devendra Kumar
Designed by

Neeraj Choudhary
Checked by

Sandip Bhattacharya
Approved by

R1	January, 2022	Revised	
R0	August, 2021	Initial	Checked by
Revisions	Date	Description	
Revisions			
DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 16			Rev.
			R1



Legend:-

Proposed Centerline: ---

Proposed Right of Way: --- PROW --- PROW ---

Khasra Line

Corridor of Impact --- COI --- COI ---

Village Boundary: ---

Area earmarked for Muck Disposal



Scale:
1 : 1500

PROJECT TITLE
Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (**Package IV**)

DRAWING NAME
STRIP PLAN SHOWING MUCK DISPOSAL AREA
FROM CH. 173+000 TO CH. 174+000

Intercontinental Consultants & Technocrats Pvt Ltd,
A-8, Green Park, New Delhi - 110016
Ph : 011 4086-3000, Fax 2685-5252

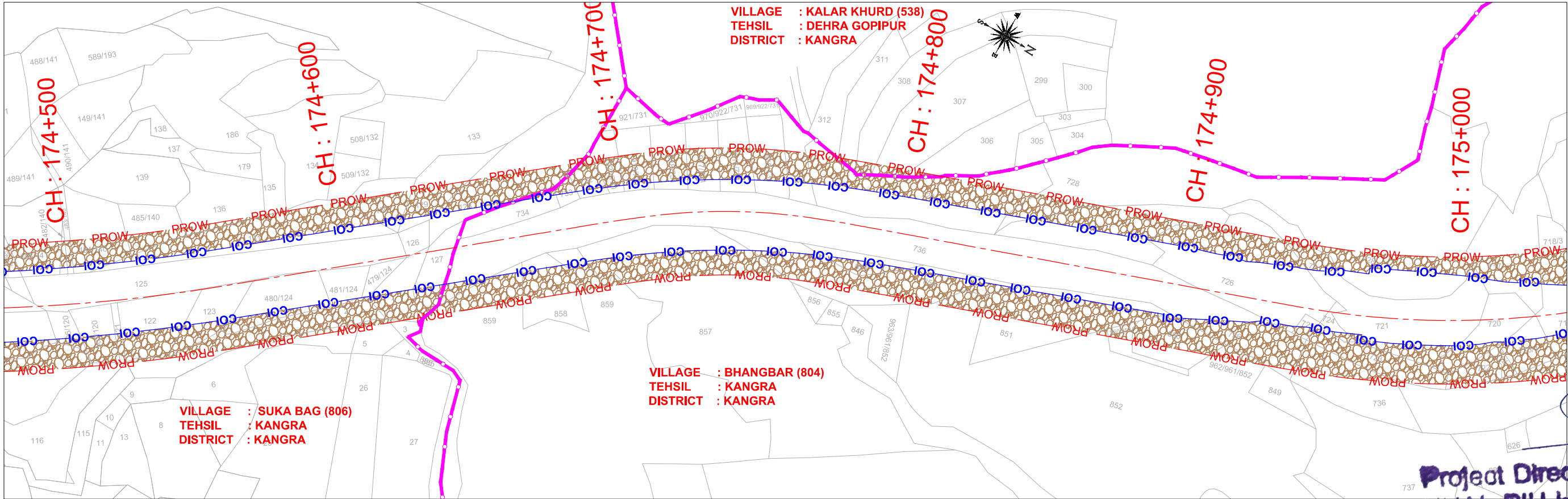
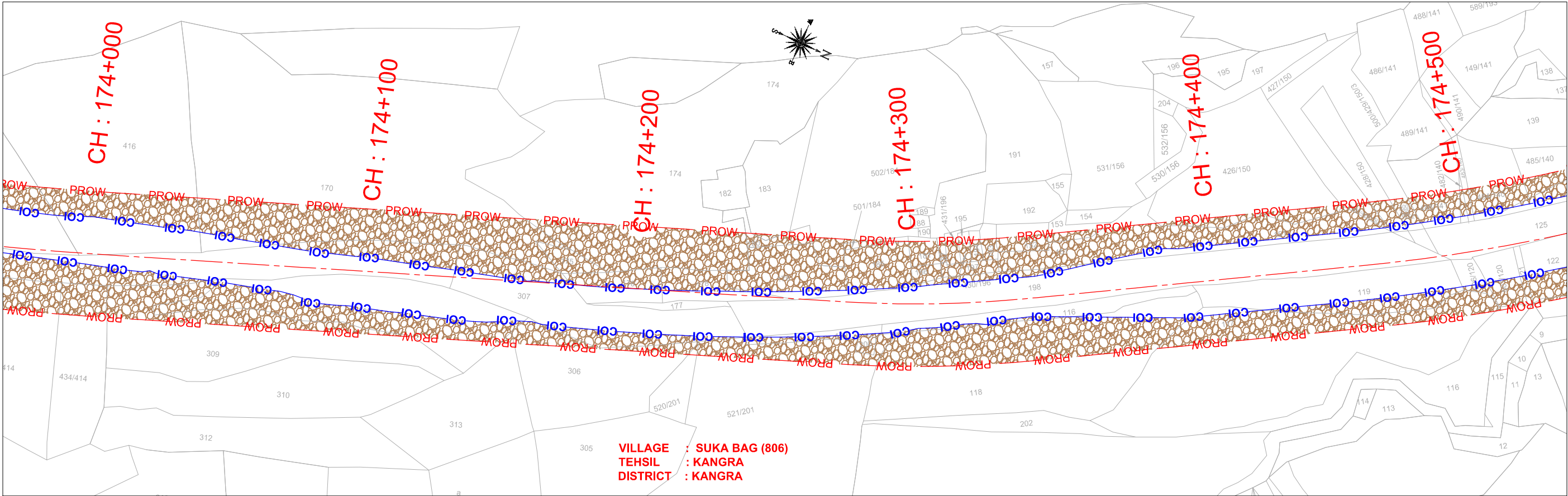
Manoj Rawat
Prepared by

Devendra Kumar
Designed by

Neeraj Choudhary
Checked by


Sandip Bhattacharya
Approved by

R1	January, 2022	Revised	
R0	August, 2021	Initial	Checked by
Revisions	Date	Description	
Revisions			
DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 17			Rev.
			R1



Legend:-

- Proposed Centerline:
- Proposed Right of Way:
- Khasra Line
- Corridor of Impact
- Village Boundary:
- Area earmarked for Muck Disposal



NATIONAL HIGHWAYS
AUTHORITY OF INDIA

Scale:

1 : 1500


PROJECT TITLE

Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, **Design Length-36.975 Km**) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (**Package IV**)


DRAWING NAME

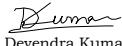
STRIP PLAN SHOWING MUCK DISPOSAL AREA

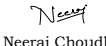
FROM CH. 174+000 TO CH. 175+000




Intercontinental Consultants & Technocrats Pvt Ltd,
A-8, Green Park, New Delhi - 110016
Ph : 011 4086-3000, Fax 2685-5252

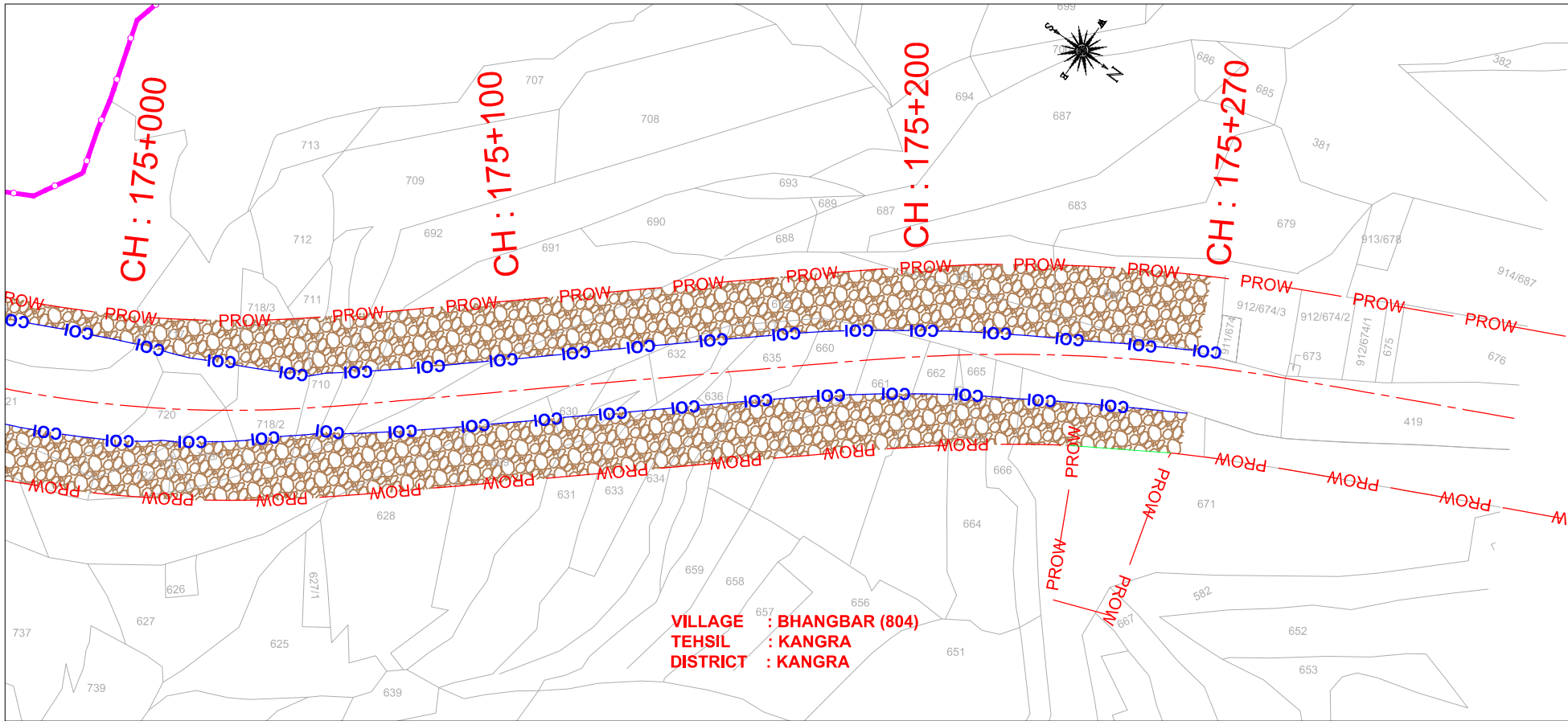

Manoj Rawat
Prepared by


Devendra Kumar
Designed by


Neeraj Choudhary
Checked by



Sandip Bhattacharya
Approved by



R1	January, 2022	Revised	
R0	August, 2021	Initial	Checked by
Revisions	Date	Description	
Revisions			
DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 18			Rev.
			R1



Legend:-

- Proposed Centerline:
- Proposed Right of Way:
- Khasra Line:
- Corridor of Impact:
- Village Boundary:
- Area earmarked for Muck Disposal:


Project Director
NHAI, PIU-Hamirpur

 NATIONAL HIGHWAYS AUTHORITY OF INDIA	Scale: 1 : 1500	PROJECT TITLE Rehabilitation and Upgrading of Existing Road to 2 Lane with Paved Shoulder from End of Hamirpur Bypass (Near Village Chilbahal) to Bhangbar Section via Jwalamukhi of NH-88 (New NH-03 and NH-303) (Design Chainage- Km.138+295 to Km 175+270, Design Length-36.975 Km) in the State of Himachal Pradesh Under NH (O) On HAM Mode. (Package IV)	DRAWING NAME STRIP PLAN SHOWING MUCK DISPOSAL AREA FROM CH. 175+000 TO CH. 175+270		Intercontinental Consultants & Technocrats Pvt Ltd, A-8, Green Park, New Delhi - 110016 Ph : 011 4086-3000, Fax 2685-5252				R0	August, 2021	Initial	Checked by				
									Revisions	Date	Description					
													Revisions			
									Manoj Rawat	Devendra Kumar	Neeraj Choudhary	Sandip Bhattacharya	DRAWING No:- NHAI/NH-88/SHIMLA - MATAUR/SP-MDA/ 19			Rev.
									Prepared by	Designed by	Checked by	Approved by				R1