



GOVERNMENT OF
HIMACHAL PRADESH

DEVELOPEMENT PLAN FOR VARIOUS PLANNING AND SPECIAL AREAS OF HIMACHAL PRADESH

AMB-GAGRET PLANNING AREA DEVELOPMENT PLAN - 2035



Department of Town & Country Planning
Government of Himachal Pradesh

DEVELOPMENT PLAN FOR AMB-GAGRET PLANNING AREA IN UNA DISTRICT, HIMACHAL PRADESH

Prepared by:
**Town and Country Planning Department, Government of
Himachal Pradesh**



Mission: Shaping Future

Consultant:
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LIST OF ABBREVIATIONS

%	percent
ASI	Archaeological Survey of India
AGISAC	Aryabhata Geo Informatics Space Application Centre
BBMB	Bhakra Beas Management Board
BOD	Biochemical Oxygen Demand
BMO	Block Medical Office
BIS	Bureau of Indian Standard
CBSE	Central Board of Secondary Education
CPCB	Central Pollution Control Board
CBWTFs	Common Bio-medical Waste Treatment Facilities
CD Block	Community Development Block
CFL	Compact Fluorescent Lamp
DPF	Demarcated Protected Forest
DHE	Department of Higher Education
DTCA	Department of Tourism and Civil Aviation
DSP	Deputy Superintend of Police
DO	Dissolved Oxygen
ft	feet
GIS	Geographic Information System
GoHP	Government of Himachal Pradesh
GP	Gram Panchayat
GDDP	Gross District Domestic Product
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
GEC-97	Groundwater Resource Estimation Committee - 1997
HFW	Health and Family Welfare Department
HGV	Heavy Goods Vehicles
Ha	Hectare
HFL	High Flood Level
HPIPH	Himachal Pradesh Irrigation and Public Health Department
HPSEB	Himachal Pradesh State Electricity Board
HPSPCB	Himachal Pradesh State Pollution Control Board
HPTCP Act	Himachal Pradesh Town and Country Planning Act
HRTC	Himachal Road Transport Corporation
HH	Household
I.C.A. R	Indian Council of Agricultural Research
IHSDP	Integrated Housing and Slum Development Programme
IRC	Indian Road Congress
ITI	Industrial Training Institute
INR	International Normalised Ratio
IPH Dept.	Irrigation and Public Health Department
km	kilometre
KVA	Kilovolt-ampere

KWh	kilowatt-hour
L.U.P.	Land Use Planning
LOS	Level of Service
LWSS	Lift Water Supply Scheme
LED	Light Emitting Diode
LMV	Light Motor Vehicle
lpcd	litres per capita per day
MDR	Major District Road
msl	mean sea level
MW	Mega Watt
m	metres
MT	Metric Tonne
MSME	Micro Small and Medium Enterprises
mg/l	Milligram/litter
mm	millimetre
MLD	Million Litres per Day
MoDWS	Ministry of Drinking Water and Sanitation
N.B.S.S.	National Bureau of Soil Survey
NH - 103	National Highway
NH - 103AI	National Highway Authority of India
NIDM	National Institute of Disaster Management
NMSH	National Mission on Sustainable Habitats
NRSC	National Remote Sensing Centre
NRDWP	National Rural Drinking Water Programme
NDDP	Net District Domestic Product
NDP	Net Domestic Product
NSDP	Net State Domestic Product
NO ₂	Nitrogen Dioxide
NAC	Notified Area Council
O-D	Origin - Destination
ODR	Other District Road
PRI	Panchayati Raj Institution
PM	Particulate Matter
ppm	parts per million
PCU	Passenger Car Unit
PCI	Per Capita Income
pph	persons per hectare
PWS	Piped Water Scheme
PCCs	Pollution Control Committee
PMGSY	Prime Minister Gram Sarak Yojana
PWD	Public Works Department
RFP	Request for Proposal
RSPM	Respirable Suspended Particulate Matter
ROW	Right of Way
SC	Scheduled Caste
ST	Scheduled Tribe

sq.km.	square kilometre
SPCB	State Pollution Control Board
SHO	Station House Officer
SDM	Sub-Divisional Magistrate
SO ₂	Sulphur Dioxide
SPM	Suspended Particulate Matters
TCP	Town and Country Planning
TCPD	Town and Country Planning Department
TD	Town Directory
UT	Union Territory
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UGC	University Grant Commission
	Urban and Regional Development, Planning, Formulation and Implementation
URDPFI	Guidelines
VD	Village Directory
V/C	Volume/Capacity
WSS	Water Supply and Sanitation
WPR	Work Participation Rate
WHO	World Health Organisation

EXECUTIVE SUMMARY

Himachal Pradesh is one of the highly developed States of India with a population of 68,64,602 persons with 49 Urban Local Bodies and 59 census towns in the State as per Census of India, 2011. Also, there are 33 Planning Areas and 34 Special Areas notified under the provisions of the Himachal Pradesh Town and Country Planning Act, 1977. In the wake of rapid urbanisation and economic growth, the Government of Himachal Pradesh (GoHP) plans to regulate the development process in its urban settlements, to ensure that these urban settlements continue to serve their purpose without causing inconveniences and difficulties to the population, and the administration. To achieve the same, the Department of Town and Country Planning has prepared the Development Plans of nine Planning/Special Areas including Amb-Gagret Planning Area.

The present report is the draft Development Plan. It comprises of the existing socio-economic situation analysis of Amb-Gagret Planning Area along with social and physical infrastructure, housing, land use/land cover analysis and conceptual alternatives for the future development of the Planning Area.

Amb-Gagret is a notified Planning Area in Una district of Himachal Pradesh state. It is located at the north-western side of Una District along the major transport link i.e. National Highway (NH70) and State Highway (SH25). Amb and Gagret are two towns located on either side of the Swan River which is one of the main tributary of the river Sutlej. Swan River flows from North West to South East side. The two towns act as a twin city and have been merged into one Planning Area.

The Planning Area is located 33 km away from Una Town which serves as the District Headquarter of Una district. Amb-Gagret Planning Area falls under two Tehsils i.e. Amb and Ghanari. The Planning Area is comprised of two towns i.e. Amb and Gagret that falls under the jurisdiction of Amb and Ghanari tehsil respectively and administratively Amb serves as Tehsil Headquarter. Apart from this, the Planning Area is surrounded by Bharwain Sub-Tehsil and touches the boundary of Kangra district in the north, Bangana Tehsil in the south east, Una Tehsil in the South and it also share its boundary with Punjab State in the West.

Gagret is known for its industrial potential in the district as many companies have established manufacturing units here i.e. Advance Valves Pvt. Ltd. Luminous Batteries, Cast Well, Mittal Udyog to name a few. Gagret is also known for its wholesale steel and timber market. Located 28 km away from Hoshiarpur city of Punjab, Gagret acts as a transit and gateway town to Himachal Pradesh and Punjab.

Amb was named after the name of the goddess Amba, deity situated nearby Chintpurni. The town has some ancient historical ruins of royal palaces and gardens. Gagret is famous for the ancient Shiv Bari Temple, also known as Shiv Drone Mandir which is around 1 km from Gagret Chowk on Bharwain road. Other important landmarks in and around the Planning Area includes the Guga Jahar Pir in Amb, Gurudwara Bada Badd Bhag Singh at Mairi and Bada Pindi Das Ashram in Amb.

Una district is located between Siwalik ranges and forms part of the lesser Himalayas. It has a diverse landscape made of hills, valleys with piedmont zone and terraces. The elevations of the land surface in the district, vary from 340 m in south-eastern part to 1041 m above mean sea level (amsl) in eastern part of the district. The entire area is situated at the upper reaches of the Swan River Watershed zone which has a catchment of 1204 sq.km and is divided into 42 sub-watersheds.

Amb-Gagret is well connected with other major towns and cities by air, rail and road ways. The nearest airport to the Planning Area is the Gaggal Airport which is located in Kangra district at a distance of 82 km from Amb. Besides this, other airports in the vicinity of the Planning Area is the Chandigarh International Airport (156km) and Shimla Airport (217km). The railway connectivity is served by a broad-gauge railway line that connects the Planning Area with Delhi (National Capital) and Amb Andaura railway station is located within the Planning Area. Apart from air and rail connectivity, the major transport link i.e. NH-70 and SH-25 provides the road connectivity to Amb-Gagret Planning Area with other major town and cities.

Himachal Pradesh is well endowed with the forest resources. Out of the total geographical area of the Una district, 31.6% is under forest cover. The total forest cover of Una district occupies 1.3% of the total forest cover of the state. Due to variations in the altitude a large variety of fauna is available in the forests of Una district. The black bears and leopard are common in the higher reaches. The district is rich in flora as it has variety of trees, shrubs and other plant species. Some of the most prominent trees that are found in the district are the *simbal*, *mango* and *tun*.

Una district has 593 villages with a total population of 5,21,173. It occupies the 6th rank among the districts in terms of population distribution in the state. Amb-Gagret has an average household size of 4.7 which is almost same as district and state averages of 4.7 persons and 4.6 persons (Col, 2011) respectively with a population density of 5 persons per hectare which is more than the district average i.e. 3 persons per hectare. The decadal population growth of Amb-Gagret special area is 23.7 percent which is higher than the district average (16.26%). The sex-ratio is 949 which is lower than the state average (972 females/1000 males).

In Amb Gagret Planning Area, people are engaged in different types of economic sectors i.e. 59 percent workers are engaged in tertiary sector followed by 40 percent in primary sector and remaining one percent in secondary sector activities. It shows that the tertiary sector is the backbone of the economy in the Planning Area.

The total road length in Amb Gagret Planning Area is 208.70 km and the length of the NH -70 passing through the Planning Area is 15.5 km. Besides this, the National Highway i.e. NH -503 which is passing through the Planning Area has a short length i.e. 1.35 km and state highway i.e. SH – 25 also passes through the Planning Area with a total length of 6.3 km connecting Amb with the District Headquarter at Una. The Major District Road i.e. Panjawaar Road and Gagret – Daulatpur road also passes through the Planning Area with a total length of 8.77 km. Vehicular growth rate in the region puts light on the fact of future traffic pattern as increase in the number of private vehicles envisages the increase in the traffic volume. The main mode of public transport in Amb – Gagret Planning Area is the bus service. Both the towns i.e. Amb and Gagret are well-connected with all major towns of Himachal Pradesh and Punjab.

In Amb-Gagret Planning Area, on an average 72 percent of the houses are in good condition followed by 26 percent in livable condition whereas only 2 percent houses are in dilapidated condition. As per the records of Census of India (2011), there are more owners than tenants in the Planning Area which is corresponding to the permanent structures. Due to the nearness to major town and the presence of administrative offices, schools, colleges, health facilities and main market, people prefer to live areas that are considered as villages such as Partap Nagar, Hira Nagar, Adarsh Nagar and Tibi.

Irrigation and Public Health (I&PH) Department of Himachal Pradesh is the department responsible for supplying water to all the domestic and commercial set ups in Amb-Gagret Planning Area. Ground water is the main source of potable water in this area. The estimated water demand in the Planning Area is estimated to be 3.20 MLD at 70 lpcd and the estimated sewage generation in the Planning Area is 2.35 MLD at 80 percent of the total water demand. The total power demand in the Planning Area is estimated to be 14.19 MW.

Amb -Gagret Planning Area has adequate social amenities. The distribution of educational and healthcare facilities is existing as per the norms except the number of dispensaries and sub-centres that are not meeting the requirements of URDPFI guidelines. There is requirement for a commercial facility, a community hall, healthcare facilities, housing area parks and neighbourhood parks as per the planning norms.

Amb-Gagret Planning Area is prone to earthquake as it falls under zone V of seismic zone. It seems important to include the hazard resistant designs prior to any construction. Besides this, the Planning Area is also prone to flash floods. Hence, it becomes necessary to take measures to mitigate the impact of such disastrous events.

In terms of tourism potential, Amb-Gagret Planning Area doesn't have many areas for tourism development but the unexplored tourist spots of natural, historical and cultural importance can be developed to attract tourists from the neighbouring areas.

Based on the comprehensive analysis of the existing scenario of Amb-Gagret Planning Area, two conceptual development alternatives are proposed for future development.

The first alternative is to develop Amb-Gagret as *Agro-Industrial Hub* which will promote horticulture and sericulture in Planning Area. Majority of the industries in Planning Area are heavy industry and are situated in the eco-sensitive zone as these are located close to the forest areas and are lying on the banks of Swan River. It is observed that these industries might pollute Swan River and degrade the quality of environment. Therefore, it is proposed to make a shift from heavy industries to light industries as that will not only save region's eco-sensitive areas but it will also generate employment opportunities in the Planning Area. Apart from this, a commercial zone is also proposed in proximity to railway station and Agro Industries. Also, the proposal of *Eco-Tourism Zone* between forest area and Swan River will be helpful in preserving ecosystem and biodiversity. In addition to this, *Eco-Resorts* are proposed near forest that is expected to have a minimal impact over the environment. Also Skill development institute proposed near to Amb town.

Second alternative is to connect two major towns Amb and Gagret like *Twin Cities*. Amb and Gagret are two urban centres that are founded in close geographic proximity and then will grow into each other over time. A new link road is proposed connecting Amb and Gagret thereby diverting traffic away from the major road and reducing the time taken to travel. Besides this, Hospitality Zone is proposed along new link road to share hospitality services among two cities. Apart from this, existing agricultural fields in the west are proposed to be retained as *Agriculture Zone*, also Shiv Bari temple will be promoted as temple *Tourism Destination*. *Eco-tourism Zone* is proposed between forest area and Swan River helps in preserving ecosystems and biodiversity. It provides chance for local people to share their knowledge of the local terrain and ecology with the visitors. Additionally, *Riparian Buffer* is proposed along the Swan River. Riparian vegetation slows down the floodwaters, thereby helping to maintain stable stream banks and protect downstream agriculture fields.

After the carefully examining the merits and demerits of both alternative proposals, the preferred proposals will contain only the elements which are feasible for Amb-Gagret Planning Area. Based on the *Twin City* concept, Planning Area will be developed as *Agro-Industrial Hub* with supporting facilities and amenities to cater the agro industries and future urban expansion in the region.

1. INTRODUCTION: AMB-GAGRET PLANNING AREA

1.1 Introduction

Amb - Gagret is a notified Planning Area in Una district of Himachal Pradesh state. It is located at the north-western side of Una District along NH 3, NH 503 and SH 25. Amb and Gagret are two towns located on either side of the Swan River, a tributary of the Sutlej River and it drains from North West to South East side. The two towns act as a twin city and have been merged into one Planning Area.

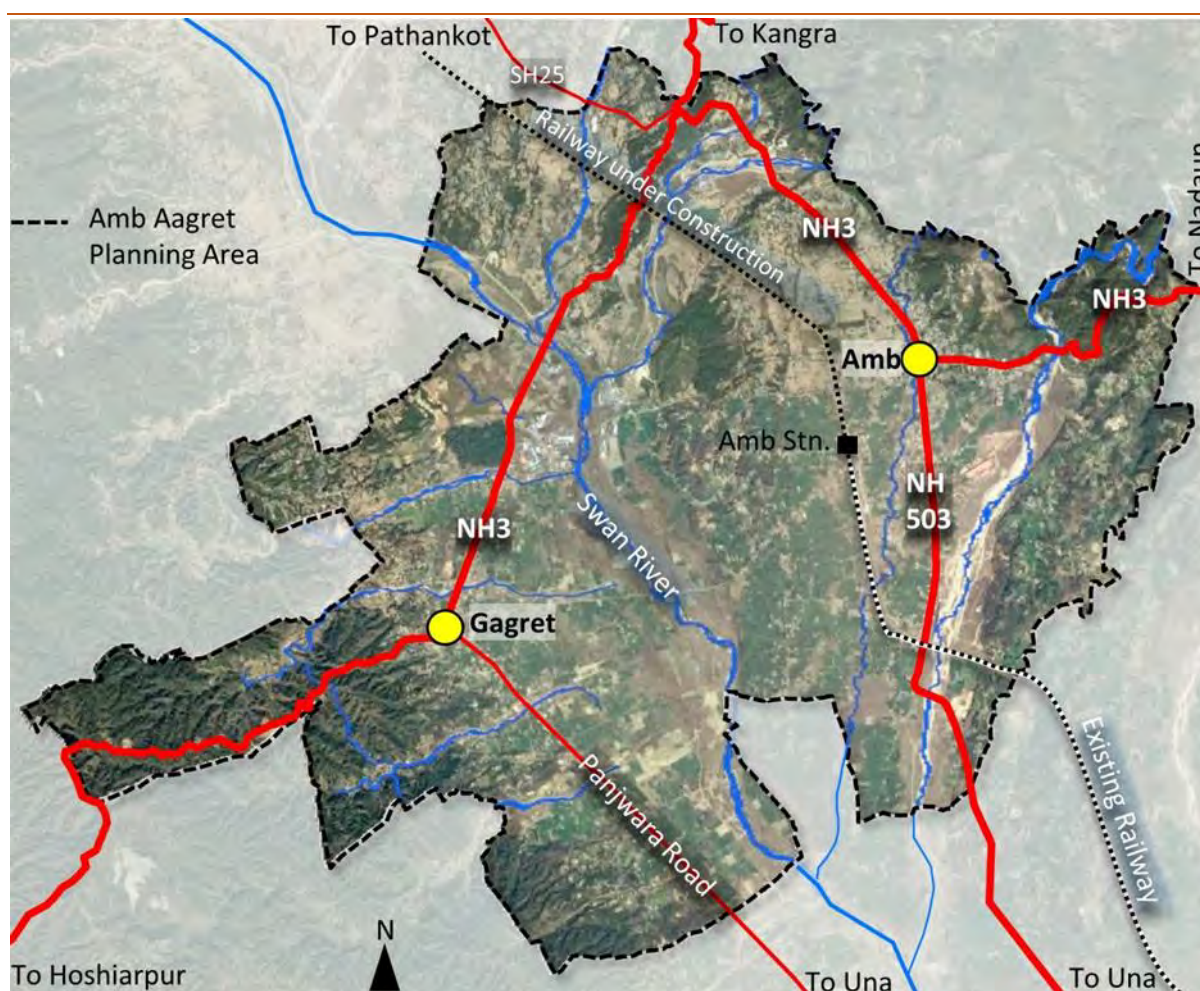


Figure 1-1: Connectivity of Amb-Gagret

Source: Town and Country Planning Department, Himachal Pradesh and Satellite Imagery

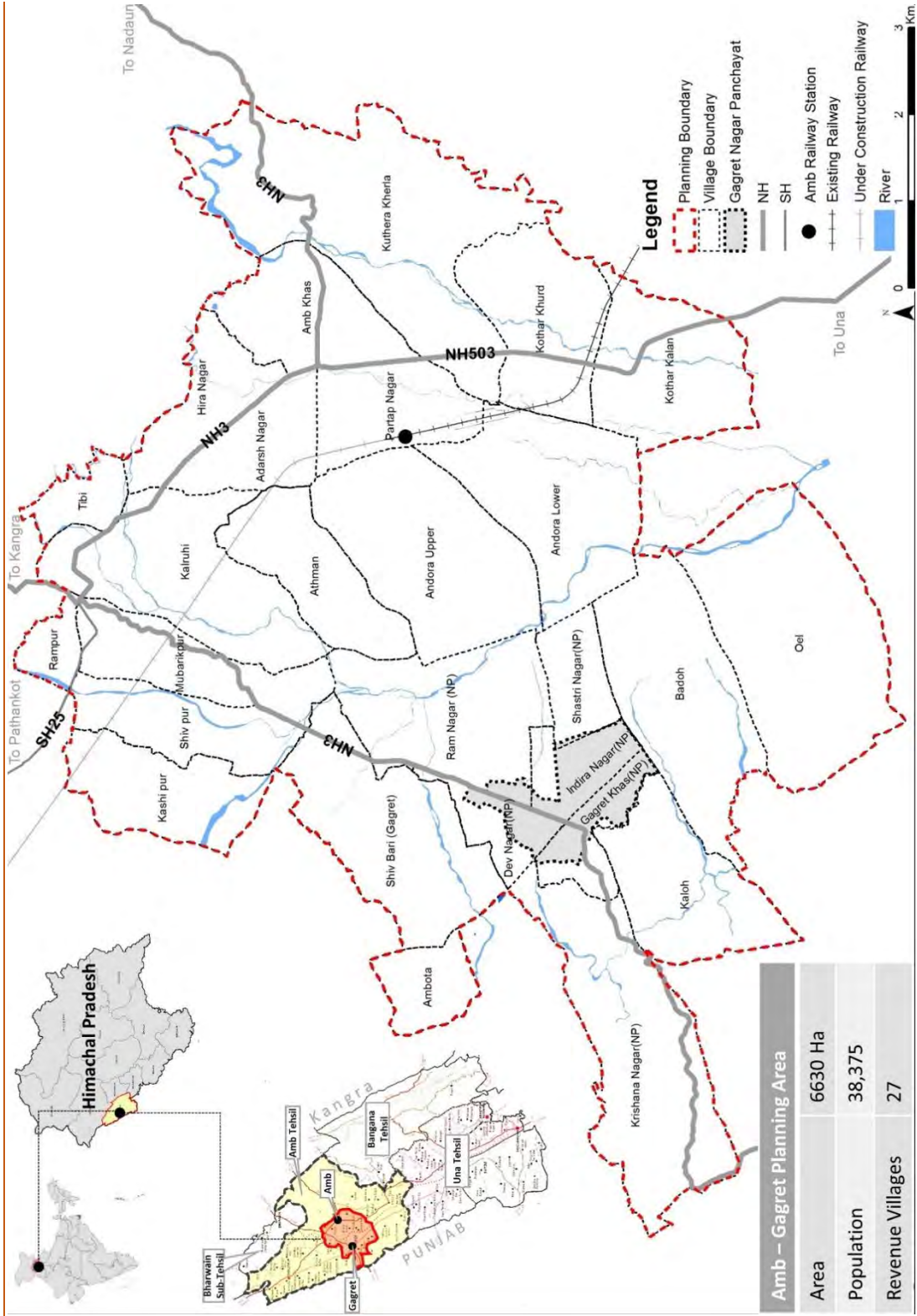


Figure 1-2: Location of Amb-Gagret Planning Area

Source: Census 2011 and TCP Department

The Planning Area is located 33 km away from Una Town, the district head quarter of Una district and it comes under two Tehsils and two Blocks. Amb and Gagret towns are located in Amb Block and Gagret Block under Amb Tehsil and Ghanari Tehsil¹ respectively. Amb is the Tehsil headquarter of the Amb Tehsil and is surrounded by Bharwain Sub-Tehsil and Kangra district in the north, Bangana Tehsil in the south east, Una Tehsil in the South and Punjab State in the West.

Gagret is known for its industrial base in the district, as many companies have established manufacturing units here such as Advance Valves Pvt. Ltd., Luminous Batteries, Cast Well, Mittal Udyog to name a few. Gagret is also known for its wholesale steel and timber market. Located 28 km away from Hoshiarpur city of Punjab, Gagret acts as a transit and gateway town to Himachal Pradesh and Punjab.

1.2 Planning Area

Amb-Gagret Planning Area was notified on 5th March, 2014 Under sub-section-(3) of Section- 1 of the Himachal Pradesh Town and Country Planning Act, 1977. The Planning Area comprised of following Revenue Villages:

Table 1-1: Planning Area Profile²

Sr. No.	Name of Revenue Villages	Hadbast No.	Area (in Ha.)	Population ³ (2011 Census)
1	Amb	143	206	1759
2	Partap Nagar	143	178	2494
3	Hira Nagar	143	138	1368
4	Adarsh Nagar	143	145	1284
5	Kalruhi	141	366	1331
6	Athman	142	211	813
7	Andora Nichla (Lower)	144	359	2246
8	Andora Upperla (Upper)	144	392	2298
9	Tibi	78	60	134
10	Shiv Pur	138	180	205
11	Kashi Pur	138	206	1630
12	Mubarikpur	138	196	1515
13	Rampur	138	53	803
14	Kothar Kalan	151	287	1256
15	Kothar Khurd	152	146	1036
16	Kuthera Kherla	85	677	2923
17	Shiv Bari (Gagret)	139	352	1433
18	Ambota	139	94	1801
19	Ram Nagar	140	339	435
20	Gagret	140	93	1245
21	Indira Nagar	140	92	171

¹ Ghanari tehsil was formed in March 2016. Data regarding the tehsil is not available as it is recently formed.

² Source: Town and Country Planning Department, Shimla

³ Population of Planning Area have not considered as per notification of Amb-Gagret Planning Area dated on 5th March, 2014 Under sub-section-(3) of Section- 1 of the Himachal Pradesh Town and Country Planning Act, 1977. Village wise population as per Census, 2011 has been considered for analysis and projections.

Sr. No.	Name of Revenue Villages	Hadbast No.	Area (in Ha.)	Population ³ (2011 Census)
22	Dev Nagar	140	81	421
23	Shastri Nagar	140	99	157
24	Krishan Nagar (denotified)	140	482	474
25	Baroh	147	372	1763
26	Oel	148	574	1948
27	Kaloh	142	252	1585
28	Gagret NP		-	3847
Total			6630	38375

Source: Census of India, 2011 and Town and Country Planning Department, Shimla

The Amb-Gagret Planning Area has 27 revenue villages out of which partial part of Ram Nagar, Gagret Khas, Indira Nagar and Dev Nagar are under Gagret Nagar Panchayat Administration. Rest part of the Mohals are under the Gram Panchayat Administration. The Planning Area has a population of 38,375 which is spread over an area of 6630 Ha.

1.3 Administrative Set up

Gagret is a Nagar Panchayat in the Gagret block which consists of partial areas of four revenue Mohals. The Urban Local Body (ULB) was constituted in 1979. It covers an area of 171 Ha and serves a population of 3847 as per Census of India, 2011. According to the 74th amendment, the Nagar Panchayat performs eighteen functions, listed in the 12th schedule.⁴

Amb is a Gram Panchayat in Amb Block. It is the Block and Tehsil Head quarter of Amb block and Amb Tehsil. The revenue villages are administered by the Gram Panchayats in the Planning Area.

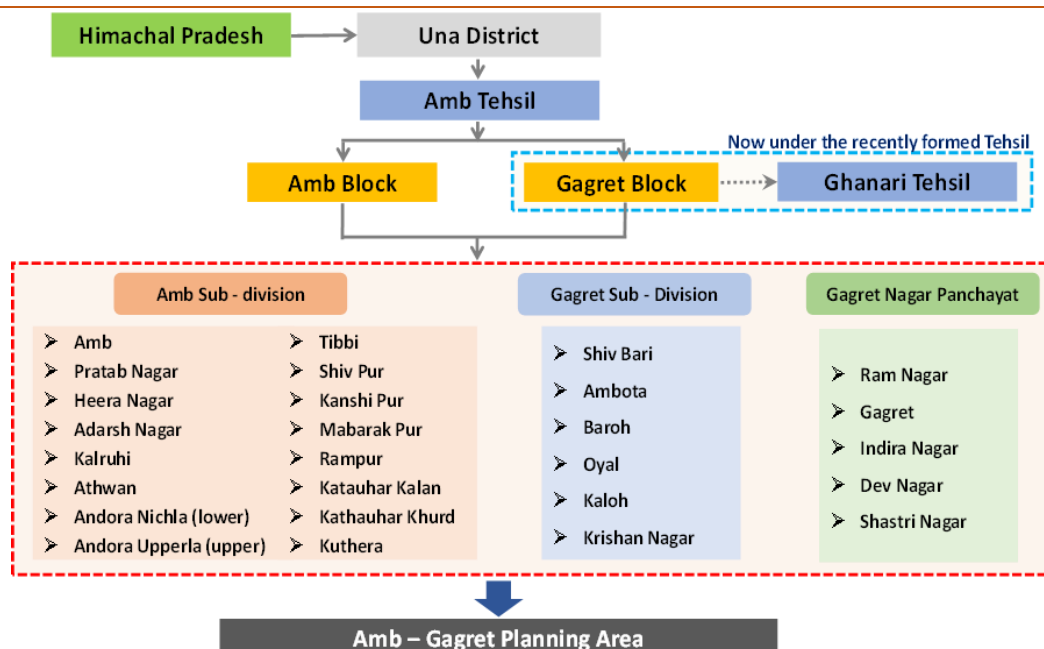


Figure 1-3: Administrative Set Up in Amb-Gagret Planning Area

⁴ Refer to Annexure 15.4

1.4 Regional Linkages and Connectivity

The Planning Area is well connected by air, rail and roadways with all the state level and national level major towns and cities. The district Head quarter Una is located at a distance of 34 Km from the Planning Area. Shimla (the state capital) is situated at a distance of 217 km from Amb. Chandigarh city is situated at a distance of 156 km whereas Delhi is 400 km away from the Planning Area.⁵

1.4.1 By Air

The nearest domestic airport to the Planning Area is the Gaggal airport, situated at a distance of 82 km followed by Ludhiana airport, located at a distance of 122 km. The Chandigarh airport which is 156 km away from the Planning Area is the nearest international airport.

1.4.2 By Rail

The Planning Area is connected by a broad gauge railway line via the Amb Andaura railway station. The railway line is part of the proposed Nangal – Una – Talwara broad gauge railway which is presently functional only till Amb. There are two service trains in the station:

- Himachal Express which runs daily connecting Delhi to Amb Andaura, Himachal Pradesh, and
- DMU Shuttle Train Service also running daily connecting Ambala to Amb Andaura via Chandigarh

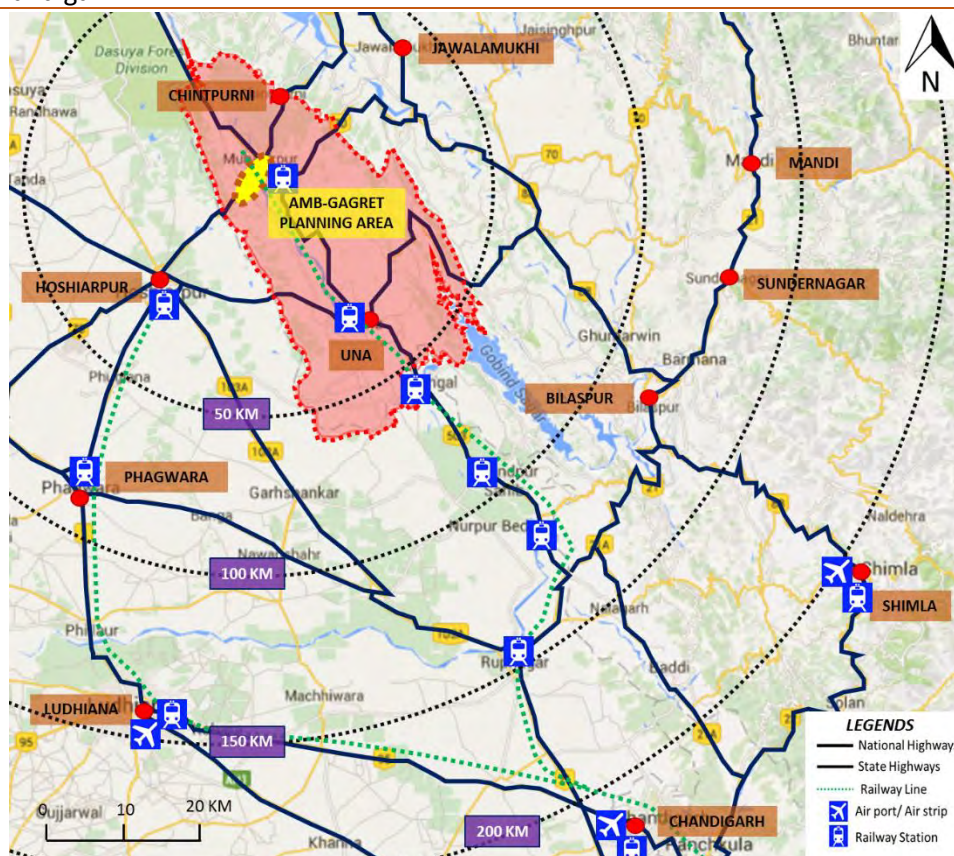


Figure 1-4: Regional Linkage

Source: Google Maps 2016

⁵ Note: Shortest Route distance has been considered.

1.4.3 By Road

The Planning Area is well connected with all the important towns and cities via NH -3 and NH -503. Amb is connected with Una via NH -503 and Gagret via NH - 3. The NH - 3 extends to Hoshiarpur in Punjab from Gagret and Nadaun from Amb. Daulatpur is connected with Gagret via Daulatput – Gagret road (SH-25), which further extends to Una via Panjara road.

1.5 Historical evolution

Amb was named after the name of the goddess Amba, deity situated nearby Chintpurni. It is believed that the present Una district including Amb-Gagret Planning Area but excluding the Eastern side of district, was formally a part of the erstwhile Kangra State. Bulk of the present Una district which is otherwise popularly known as Jaswan Dun was ruled by the Katoch family of Kangra. Very likely, the State was originally a fief (Jagir) which became independent in the unsettled times following on the Muhammadan invasions. With the acquisition of Kangra Fort, on the expulsion of the Gurkhas in 1809, Jaswan State became subject to Maharaja Ranjit Singh and in 1815 it was annexed to the Sikh Kingdom.

It is said that some three centuries back, Saint Baba Barbhag Singh had come to Amb from Kartarpur and done penance. The place is located near Amb-Nadaun road. Baba Barbhag Singh died in the same place, his followers have constructed two gurudwaras, one at the place where he had done penance and the other at a place where he had renounced the world.

Gagret is famous for the ancient Shiv Bari Temple, also known as Shiv Drone Mandir which is around 1 km from Gagret Chowk to Bharwain road. Shiv Bari, Shivbari or Drone Shiv Temple is said to be around 5000 years old. It is said to be one of the places where Lord Shiva is present in the form of a Pindi/ Shiva Lingam. The temple is said to have a rich history behind from the times of Guru Drone, Drona or Dronacharya. The temple and the dense forest around is once said to be the Drone Nagri (village of Guru Drona). He was the Guru of royal families, Pandavas and Kauravas. And this was the place where he taught the Pandavas and Kauravas.

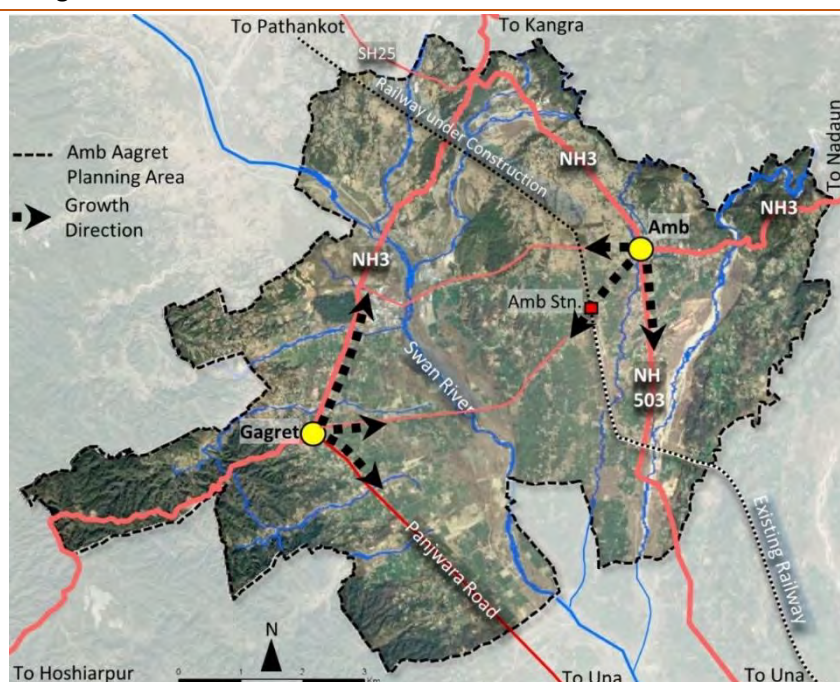


Figure 1-5: Spatial growth direction of Planning Area

Source: Google earth Imagery and Analysis

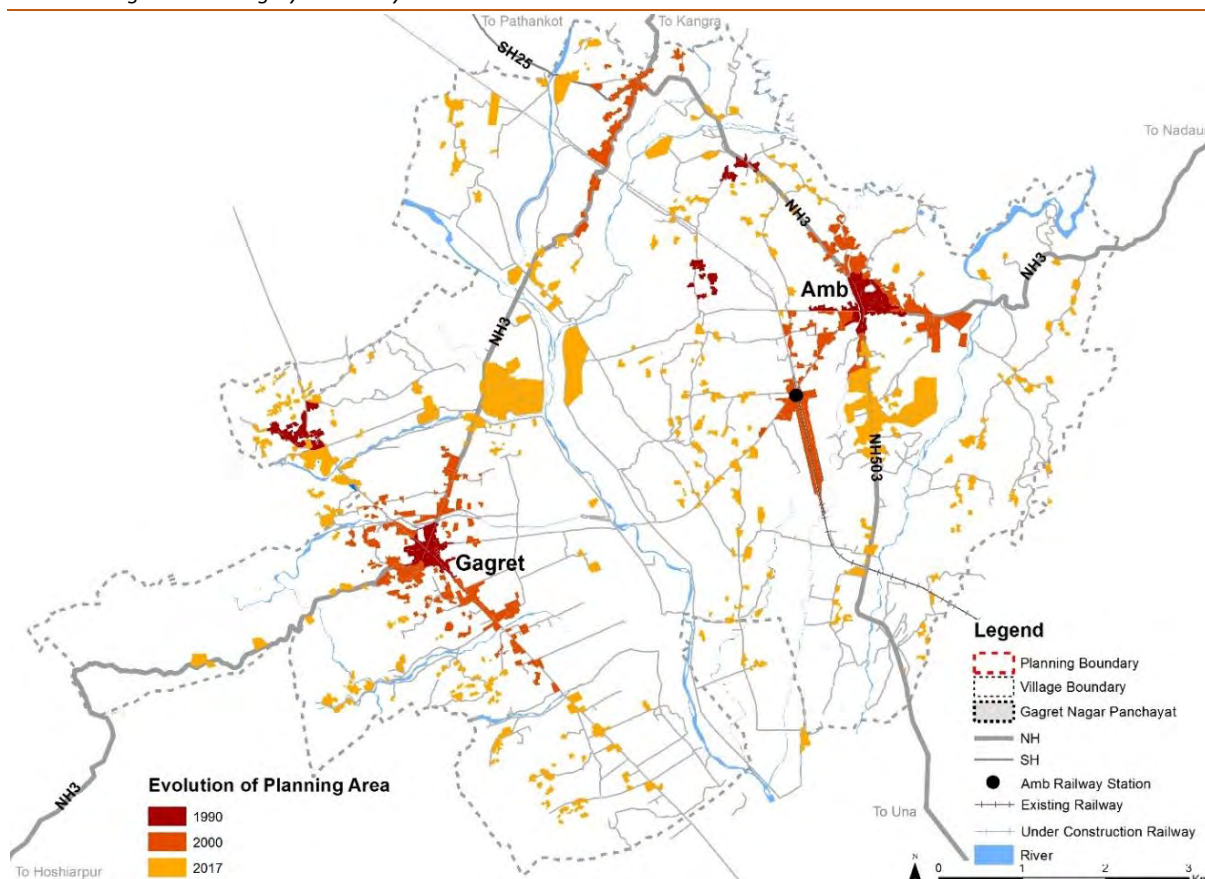


Figure 1-6: Year 1990, 2000 and 2017 Settlements Sprawl within Planning Area

Source: Google earth Imagery and Analysis

Amb and Gagret settlement are located on junction of major NH3 and 503 and SH. These settlements have spatially expanded due to its strategic location and connectivity. Gagret being located near to Himachal-Punjab state border functioned important role as facility centre for the inflow coming from Punjab. Most of the inflow coming from Punjab passes through Amb later visits Chintpurni and Baba Badbagh. After construction of Amb-Andora railway station in 2000, Amb expanded more towards railway station area. At present Amb Gagret Planning Area is spatially expanding in linear direction along NH-3 and NH-503.

1.6 Geographical setting

1.6.1 Geology

The ground water in the Siwalik group of rocks occur under the unconfined to semi confined conditions, mainly in the arenaceous rocks viz., sandstone, siltstone, gravel boulder beds etc. The occurrence and movement of ground water is controlled by inter granular pore spaces and also the fracture porosity. In Una valley area, the ground water occurs in porous unconsolidated / alluvial formation (valley fills) comprising sand, silt, gravel, cobbles / pebbles etc., and forms prolific aquifer.

1.6.2 Physiography

Una district is located between Siwalik ranges and forms part of the lesser Himalayas. It has a diverse landscape made of hills, valleys with piedmont zone, terraces. The elevations of the land surface in the district, vary from 340 m in south-eastern part to 1041 m above mean sea level (amsl) in eastern part of the district.

The vast area between the north western and south-eastern hill ranges, on both sides of Swan River is known as Una valley.

Swan River, a tributary of river Sutlej, drains the major part (80 %) of the Una district. Swan River has about 80 % catchment area in Una district and divides the district into two parts. Swan River flows in a south-eastern direction and has a wide channel and exhibits braided nature. It originates near Daulatpur in the north-eastern part and leaves the district near Santokhgarh and subsequently joins river Sutlej. Number of local streams (about 73 khads) joins the river within the district. The river is known as the sorrow of Una.

Most of the Planning Area is located in the Una valley plain area however, some of the North-eastern border and some part on the west side falls under the hilly uplands.

Amb-Gagret Planning Area is situated at the upper Reach of Swan River and is bifurcated into two parts by the river. During monsoon, Upper reaches of the catchment area is more fragile and prone to soil erosion, deposition of sand on fertile agricultural land.

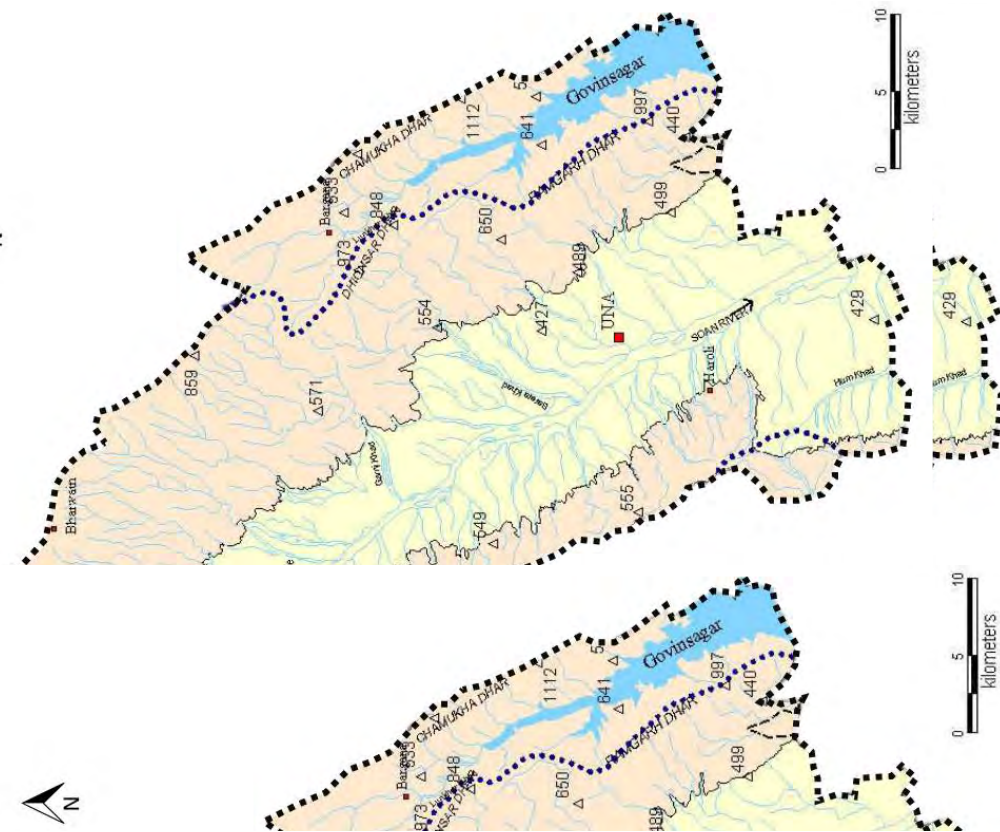


Figure 1-7: Geology of the Study Area

Source: Groundwater Information Booklet, Una District, CGWB

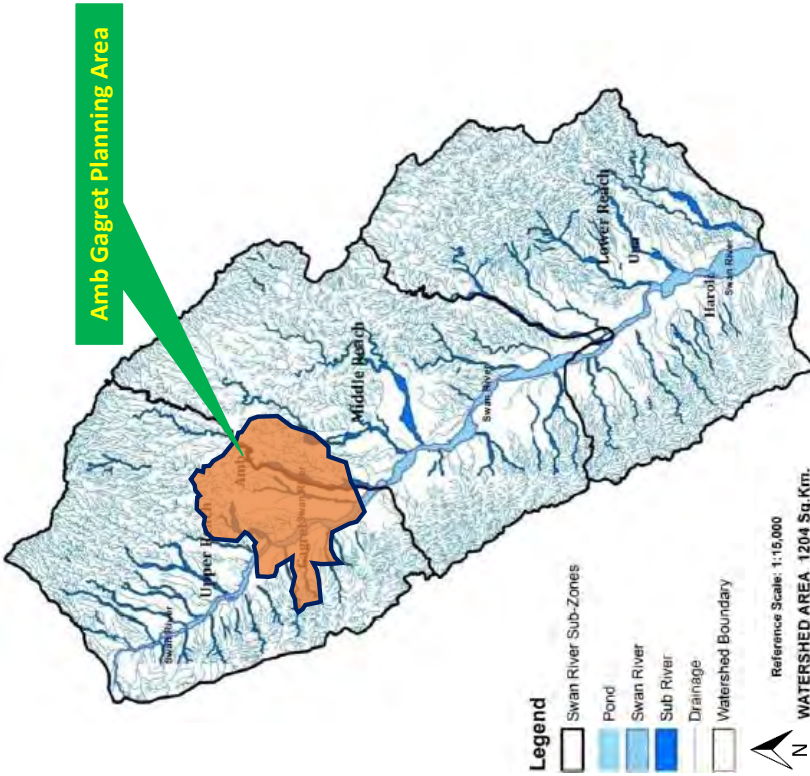


Figure 1-8: The Watershed Area of Swan River

Source: Joshi, M. (2015). Some experiences of Swan River Integrated Watershed Management Project with reference to impact of Secured irrigation facilities on crop diversification and enhancement of crop production of small & marginal farmers of Takarla Gram Panchayat District Una H.P. 1st ed. [pdf] Una: Swan River Integrated Watershed Management Project. Available at http://swanriverproject.nic.in/WriteReadData/userfiles/file/Some%20experiences%20of%20Project%20w_r_t_%20impact%20of%20irrigation%20facilities.pdf [Accessed 2 June, 2016]

1.6.2.1 Elevation

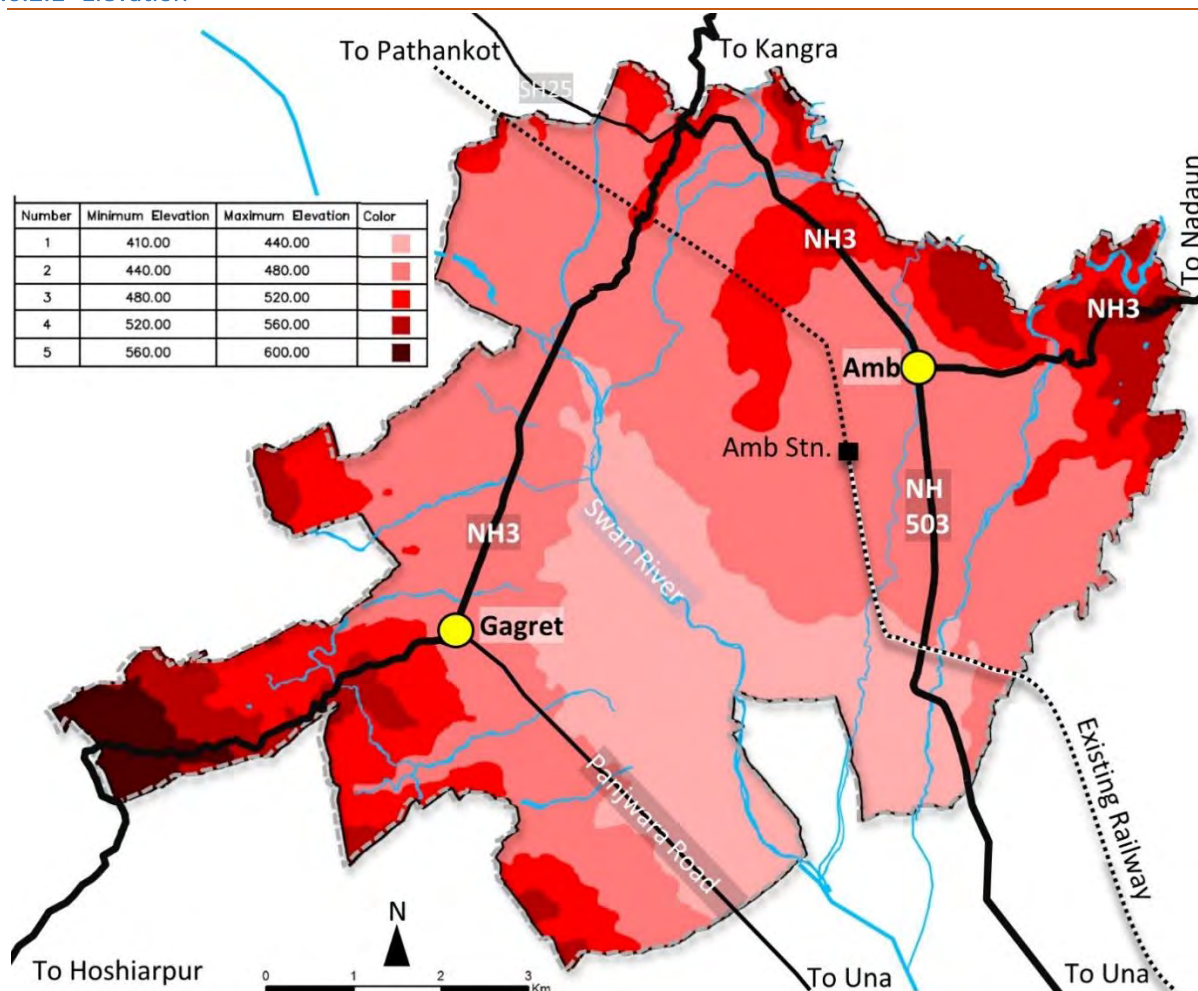


Figure 1-9: Elevation of Planning Area

Source: Analysis based on Base Map prepared by AGISAC, 2017

The elevation in the Planning Area ranges from 390 m near Una Valley, located at the south-eastern side to 600 m at the north western and south-western sides of the study area. The terrain of the Planning Area is mostly flat; however, it is undulating in some parts.

1.6.2.2 Slope Analysis

According to the slope map of the Planning Area, it is evident that the slope is from north western side to southern side of the Planning Area. As per the slope analysis, more than 95 % of the land in the study area has flat slope i.e. less than 10 % which is completely developable, almost 4 % area has moderate slope that ranges from 10 % to 25 % which is partially developable for construction of housing blocks and 0.5 % area is under steep slope i.e. more than 25 % which is not subject to development. The overall terrain of the Planning Area is flat and almost entire area is developable.⁶

⁶Reference: <http://www.fao.org/docrep/r4082e/r4082e04.htm>

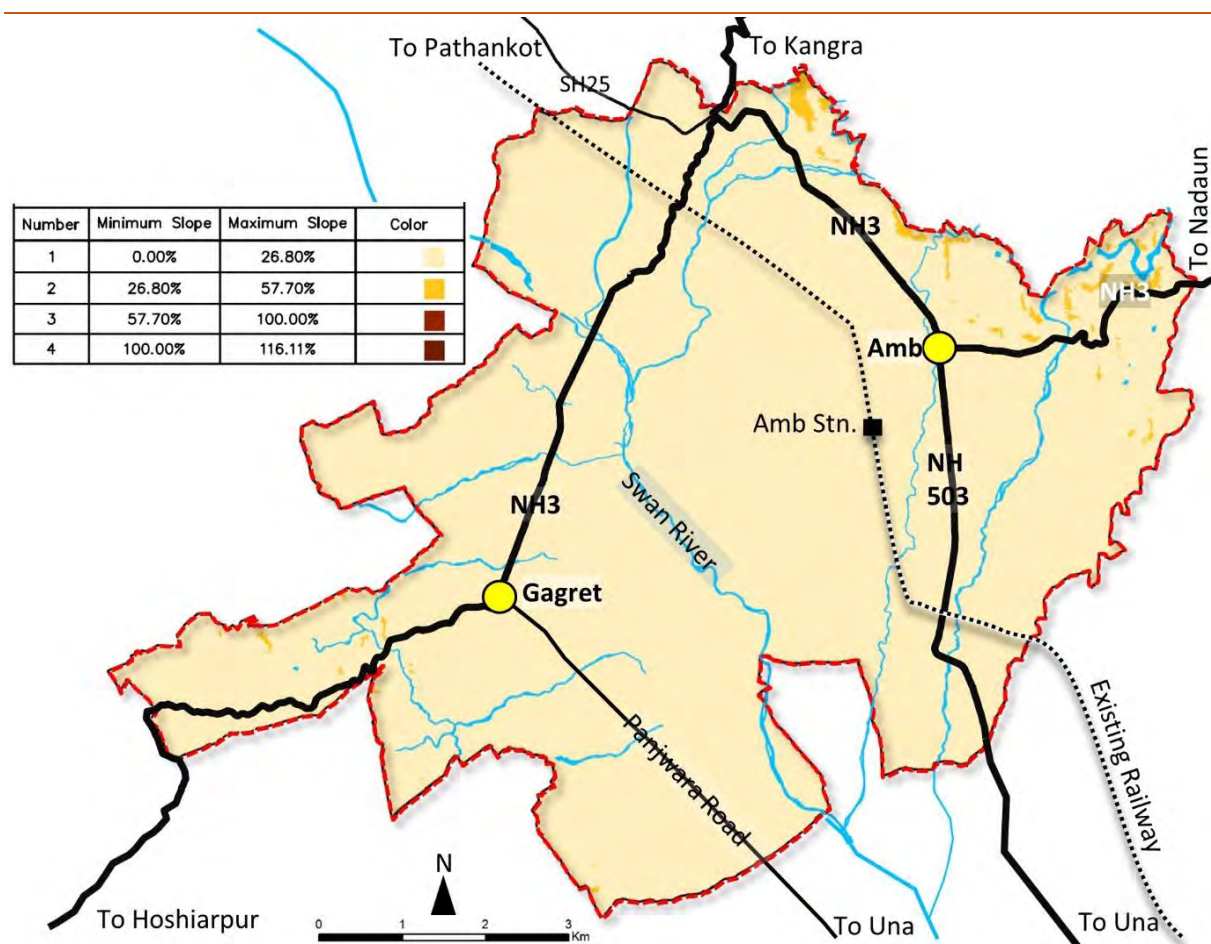


Figure 1-10: Slope in the Planning Area

Source: Base Map prepared by AGISAC

1.6.3 Soil character

There are two types of soils in the district viz., alluvial soil and non-calci brown soil. Most of the area (75 %) in the district is covered with alluvial soil and only about 25 % of the area i.e. hilly area in the district is covered with non-calci brown soil. Soils are rich in nutrients and thus are fertile.

1.6.4 Climate

In the absence of micro level climatic data, the climate data for the district is used for the study.

Climate of the district is tropical to temperate in nature, as the terrain varies from plains to high hills. The District experiences summer from Mid - March to June and the temperature varies from minimum of 8°C in winter to maximum of 45.5°C in summer. The rainy or monsoon season starts from June and continues till September where the district experiences an average high temperature of 35°C and a low of 14°C. The winter season starts in October and remains effective till February with an average high temperature of 33°C and experiences a low of -3.5°C.

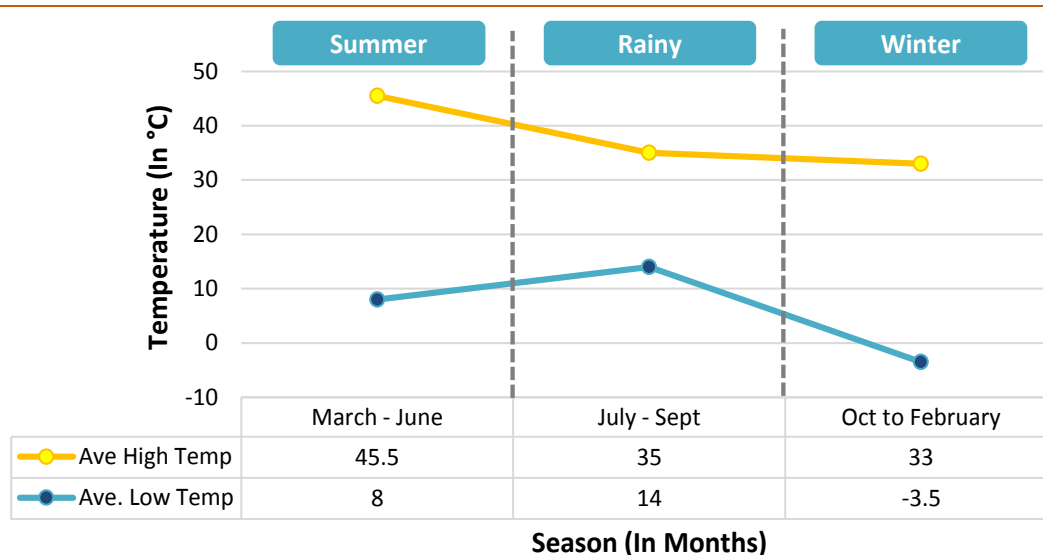


Figure 1-11: Annual Climate – Una District

Source: Himachal Pradesh – The Official Website, <http://hpuna.nic.in/factfile.htm>
http://himachal.nic.in/weather.php?lang=1&dpt_id=17&level=0&lid=1947&linkid=709

1.6.5 Rainfall

The annual average rainfall in the district is about 1110.7 mm⁷. The rainy season starts in July and ends in September, the maximum rainfall recorded is 340 mm and average is 144.8 mm. During the rainy season, the rainfall is recorded five times more as compared to the rest of the months in the year.

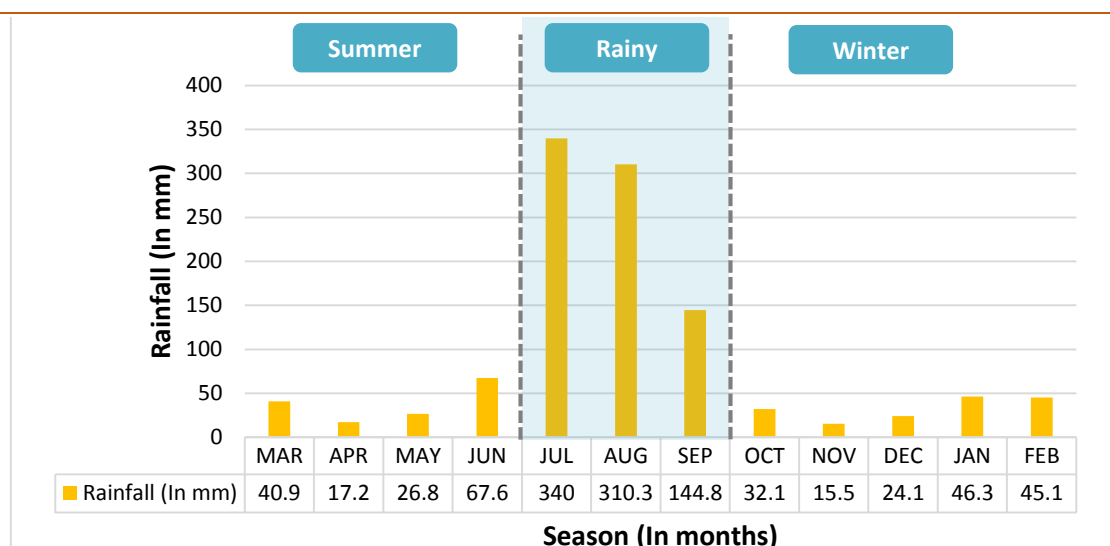


Figure 1-12: Annual Rainfall – Una District

Source: Open Government Data (OGD) Platform, Government of India
https://data.gov.in/catalogs/ministry_department/india-meteorological-department-imd

⁷ Source: Open Government Data (OGD) Platform, Government of India

https://data.gov.in/catalogs/ministry_department/india-meteorological-department-imd

1.7 Resources

Identification of existing natural resources and its assessment is required for plan preparation. The existing available resources in the Planning Area are as follows:

1.7.1 Mineral Resources

One of the major mineral resource that is commercial exploited in the district is the Silica sand⁸. Other than this, other minor resources such as bajri, sand and boulders are also commercially produced in the district

1.7.2 Forest Resources

Himachal Pradesh is well endowed with the forest resources. Out of the total geographical area of the district, 31.6 %⁹ is under forest cover. The total forest cover of Una district occupies 1.3 % of the entire forest cover of the state. The district has 523 sq.km area under forest cover (Refer **Table 1-2**).

Table 1-2: Forest Cover in Una District (2013)

Forest Type	Area (In sq.km)
Very dense forest	18
Moderate dense forest	302
Open forest	203
Total	523

Source: Himachal Pradesh Forest Department

<http://hpforest.nic.in/pages/display/ZiY0ZjZhq3FzZGZhNQ==district-wise-forest-in-himachal-pradesh>

1.7.3 Flora and Fauna¹⁰

A. Fauna

Due to wide variations in the attitude a large variety of fauna is available in the forests of Una district. The black bears are common in the higher valley. The Leopards are found throughout the district. Barking Deers and Goral are found at medium elevation the Musk Deer or Kastura and Seroa are found in certain areas. Most commonly found is the porcupine, which is found in almost in the entire district.

Other animal species such as Leopard (Bagher), Hare, Wild Bore (Jangli Suar), Jackal, Barking Deer, (Kakkar), Monkey and Sambar and bird species such as Chakor, Crow, Red Jungle Flow (Jangli Murga), Black Partridge (Kala Titar), Grey Partridge (Safed Titar), Woodpecker are also found in the district.

B. Flora

The district has rich variety of trees, shrubs and other plant species. Some of the most prominent trees found in the district are the Simbal (Bombex malabaricum), mango (Magnifera indica), tun (Cedrela toana), several species of Acacia and Albizia, Salambra (Odina wodier), Termnalia, Jamun (Engrnia Jambolna) and Bamboo.

The most common shrub at the higher elevation is Barberis, Indigopera and Desmodium. Other than these, shrubs such as Vitex, Munj, Ber, Ipomea and Dodonea are also found in the district.

⁸ Source: Ministry of Micro Small and Medium Enterprises, <http://dcmsme.gov.in/dips/DIP%20Una.pdf>

⁹ Source: Himachal Pradesh Forest Department, Himachal Pradesh Forest statistics 2013, <http://hpforest.nic.in/files/HP%20Forest%20Statistics2013.pdf>

¹⁰ Source: Himachal Pradesh Pollution Control Board, Draft Environmental Impact Assessment Report and Environment Management Plan, <http://hppcb.nic.in/Luxmisceia.pdf>

1.7.4 Water Resources¹¹

The entire Planning Area is situated at the upper reaches of the Swan River Watershed zone. The Swan River, also known as the Ancient Sombhadra River originates from Joh-Marwari village near Daulatpur Chowk in Amb Tehsil and flows down through the inter-mountain valley of Una district and dividing it longitudinally. After traversing a distance of about 65 km in Una it finally drains into River Sutlej near Anandpur Sahib, district Roopnagar of Punjab.

Total catchment area of the Swan River is divided into 42 Sub-watershed comprising 1204 sq. km (Refer The Watershed Area of Swan River).

The river passes through the Planning Area and is the main surface water source. However, ground water is another source of water.

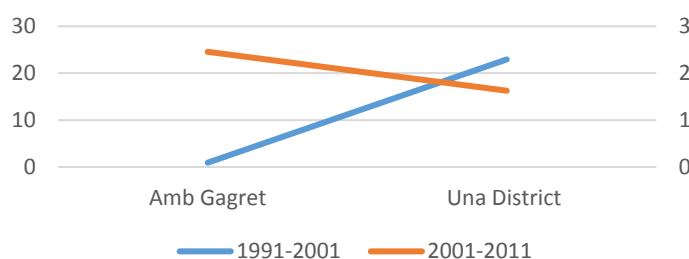
¹¹ Source: Official website, Swan River Integrated Watershed Management Project, Himachal Pradesh Forest Department, <http://swanriverproject.nic.in/>

2. DEMOGRAPHY AND URBANIZATION

2.1 Amb-Gagret Town Growth Trend

2.1.1 Population growth

According to Census of India, Amb-Gagret Planning Area has a decadal growth rate of 2.46 % which is more compared to the district average of 1.63 % from 2001 to 2011. The growth rate of Planning Area has increased from 0.91 % in 1991-2001 to 2.46 % in 2001-2011 and the district growth rate has been decreased to 1.63 % in 2001-2011 from 22.95 in 1991-2001.



	1991 - 2001	2001-2011
Amb Gagret	0.91	2.46
Una District	22.95	1.63

Figure 2-1: Population Growth Rate

Source: Census of India, 1991, 2001 and 2011

2.1.2 Population Distribution

The Amb Gagret Planning Area has 6.9 % of total Una district population in 2001 and 22.7 % of total Una district population in 2011. The population distribution of Amb-Gagret Planning Area is as follows:

Table 2-1: Population Distribution of Amb-Gagret Planning Area

Year	2001			2011		
	Total Population	HH	Avg HH Size	Total Population	HH	Avg HH Size
India	102,86,10,328	19,35,79,954	5.3	121,08,54,977	24,95,01,663	4.9
HP	60,77,900	12,21,589	5.0	68,64,602	14,83,280	4.6
Una District	4,48,273	88,181	5.0	5,21,173	1,10,332	4.7
Amb Tehsil	1,43,645	28,843	5.0	16,8,793	36,710	4.6
Amb-Gagret Planning Area	30,805	5,581	5.5	38,375	7,407	5.2

Source: Census of India, 2001 and 2011

According to the Census of India 2011, there are 38,375 people residing in Amb-Gagret Planning Area out of which 19571.25 are male (51 %) and 18803.75 are female (49 %). The population share of the Planning Area to the district population decreased from 20.75 % in 1991 to 6.87 % in 2001 but then increased to 7.36 % in 2011.

The population of the Planning Area is estimated as 22.7 % of the total population in Amb Tehsil in 2011 which has increased from 21.4 % in 2001. The population in the Planning Area is distributed in one Nagar

Panchayat (Gagret Nagar Panchayat) which has seven wards and six revenue Mohals (Gagret Khas, Krishan Nagar, Indira Nagar, Dev Nagar, Ram Nagar and Shastri Nagar) and 21 revenue villages along NH-70.

The villages Ambota, Gagret, Andora, Rampur, Mubarikpur and Amb were subdivided into smaller village areas before 1991. Census 2001 has considered revised areas of these villages. Thus, the data shows decrease in population growth from 1991 to 2001.

According to 2011 Census, 89.9 % of the population reside in rural areas. Out of the total Population of 38,375 people, only 10.1 % reside in Gagret Nagar Panchayat urban area within the Planning Area.

2.1.3 Sex Ratio

There are 949 females per 1000 males in Amb-Gagret Planning Area which is lesser than the district average that is 976 females per 1000 males in 2011. The sex ratio of the Planning Area is also less than the state average that is 972 females/1000 males in 2011.

There is a continuous decrease in the sex ratio in the Planning Area from 992 in 1991 to 974 in 2001 to 949 in 2011.

2.1.4 Literacy Rate

The overall literacy rate in the Planning Area is 88 % which is higher than the district average i.e. 87 % in 2011. The male literacy rate is 82 % whereas the female literacy rate is 75 %. There is a significant increase in literacy rate in the Planning Area from 48 % in 1991, to 84 % in 2001, to 88 % in 2011. The literacy rate for the urban area is 89 % and for rural area is 88 %.

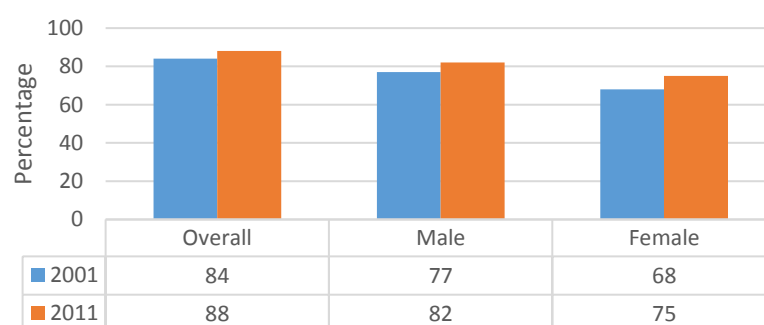


Figure 2-2: Literacy rate in Amb-Gagret Planning Area

Source: Census of India, 2011

2.1.5 Population Density

According to Census of India, the population density of the Planning Area is 5 persons per hectare in the year 2011, which is more than the district average of 3 persons per hectare. The population density is 4 persons per hectare in 1991-2001 decade. The population density has marginally increased from 4 persons per hectare in 2001 to 5 persons per hectare in 2011. Within the Planning Area the population density of Nagar Panchayat is 4 persons per hectare, whereas in villages its 7 persons per hectare.

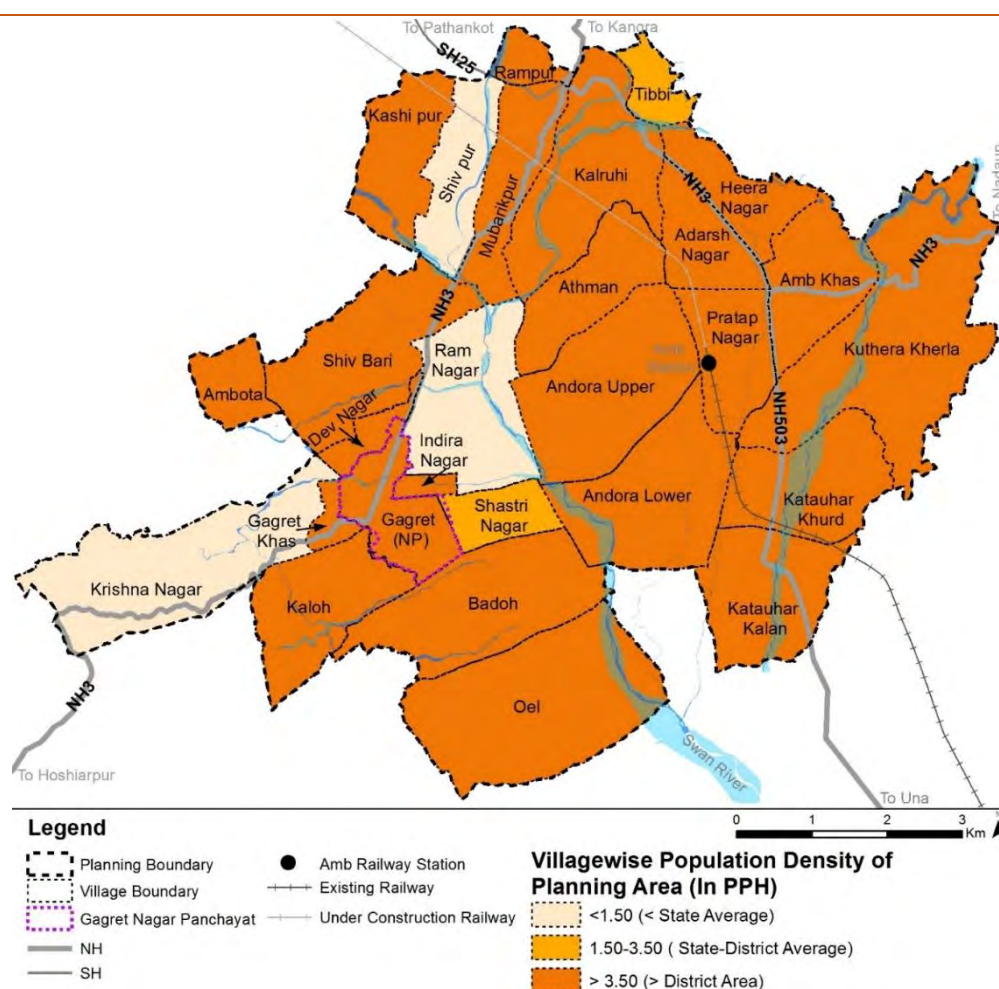


Figure 2-3: Population Density Distribution

Source: Census of India, 2011

2.2 Population Projection

For the purposes of estimating the infrastructure requirements and different land uses, population projections are to be done. The last Census was conducted in 2011, population projection up to target year starting from 1991 has been calculated. In this exercise, the future population distribution is more than a mere population projection of the past trends or past behaviour of the demographic variables. Such allocation depends majorly on development programmes envisaged or decided upon in the respective areas.

The projection method followed to forecast the probable increase of population in Amb-Gagret Planning Area up to target year 2035 is Compound Annual Growth Rate (CAGR). The Phase Years have been taken on a gap of 5 years i.e., 2016, 2021, 2026, 2031 and 2035. Hence the projected population for the Planning Area for the year of 2035 is 60000.

Table 2-2: Population Projection of Amb Gagret Planning Area

S.No.	Year	Projected Population
1.	2011	38375
2.	2016	41318
3.	2021	44538

4.	2026	48030
5.	2031	51796
6.	2035	60000

Source: Projected based on Census of India, 2011

2.3 Settlement Pattern

2.1.6 Urban Settlement

As per Census 2011, Amb Tehsil has two urban settlements or Nagar Panchayats out of which, one Class VI town is Gagret falling within the Planning Area. Within the Planning area, it is the only urban settlement. However, very recently Amb has also been classified Nagar Panchayat but yet not functioning as Nagar Panchayat.

The level of urbanization is low in the Planning Area (8.4 %) as compared to the District which is 8.61 %.

2.1.7 Rural Settlements

As per Census 2011, Planning Area has 27 villages with rural population of 27624 which is 89.9 % of the total population and in 2011 which has increased to 34,528 (89.9 %) of the total population of Amb-Gagret Planning Area.

Table 2-3: Distribution of Rural Settlements by Size of Population, 2011

S.No.	Range (Population)	No. of villages (2001)	No. of villages (2011)
1	< 100	1	0
2	100-500	6	8
3	500-1000	6	1
4	1000-1500	8	8
5	1500-2000	6	6
6	2000-2500	0	4
	Total	27	27

Source: Census of India, 2001-2011

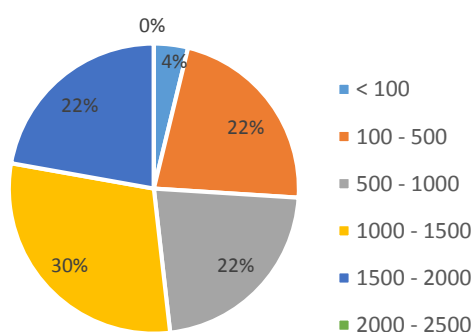


Figure 2-4: Distribution of Rural Settlements by Size of Population, 2001

Source: Census of India, 2001-2011

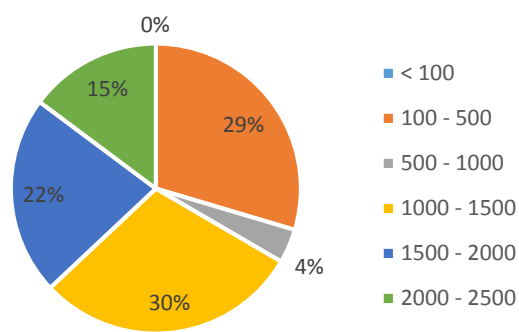


Figure 2-5: Distribution of Rural Settlements by Size of Population, 2011

The number of villages with population ranging from 2000-2500 have increased by 15 % and the number of villages with population ranging from 1000-1500 has remained same. the number of villages with population ranging from 100-1000 has increased from 22 % in 2001 to 29 % in 2011. whereas in 2011 there are no villages with <100 population in the Planning Area.

3. ECONOMIC BASE AND EMPLOYMENT

3.1 Economic Base

Economic base of the Planning area is discussed broadly in the following sections.

3.1.1 Work Participation Rate

In the Planning Area, the Work Participation Rate (WPR) is 39 % which is lower than the district average i.e. 41 % in 2011. The WPR has significantly increased from 17 % in 1991 to 39 % in 2011. The Work Participation Rate for both urban and rural area is same (39 %).

3.1.2 Main and Marginal workers

The total workers are categorised as main and marginal workers. Increase in the number of marginal workers indicates an increase of the informal economy in the given spatial unit. In case of Amb-Gagret Planning Area, there are 66 % main workers whereas 34 % marginal workers. The percentage of marginal workers has decreased from 57 % in 2001 to 34 % in 2011. In a rural population base, the number of marginal workers increases over the period of time,¹² but in Amb-Gagret Planning Area the percentage of marginal workers have decreased over the years which indicates the increase of formal economic activities in the study area.

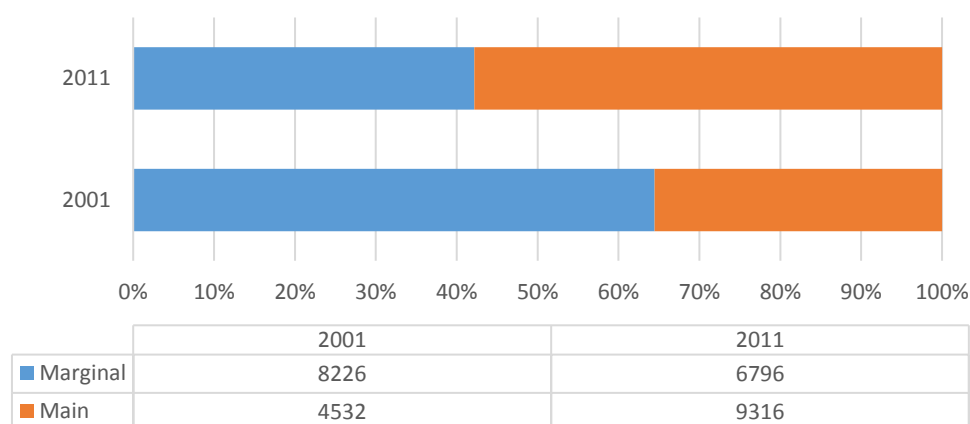


Figure 3-1: Distribution of Main and Marginal workers

Source: Census of India, 2011

3.1.3 Gender Wise Workforce Distribution

Out of the total workers, 69 % are male and 31 % are female in 2011. The percentage share of women participation has decreased from 44 % in 2001 to 31% in 2011. The percentage of female workers is more than the district average i.e. 29 % in 2011. Though among the States/UTs, highest worker

¹² Levels, Trends and Structure of Workforce in India: Census Based Study 1981-2001, International Institute for Population Sciences Govandi Station Road, Deonar Mumbai 400088, 2008

population ratio for females in the rural sector is in Himachal Pradesh i.e. 52.4 % in 2011, compared with the same it can be said Amb-Gagret Planning Area has a very low percentage of female workers.

3.1.4 Sector Distribution

Out of the total population, 13,552 people (39 %) are engaged in different types of economic sectors. Most of the workers (59 %) are engaged in tertiary sector. After tertiary sector, the second most important sector is primary sector where 39 % people are engaged. The least important sector is the secondary sector where 1 % people are engaged from the Planning Area.

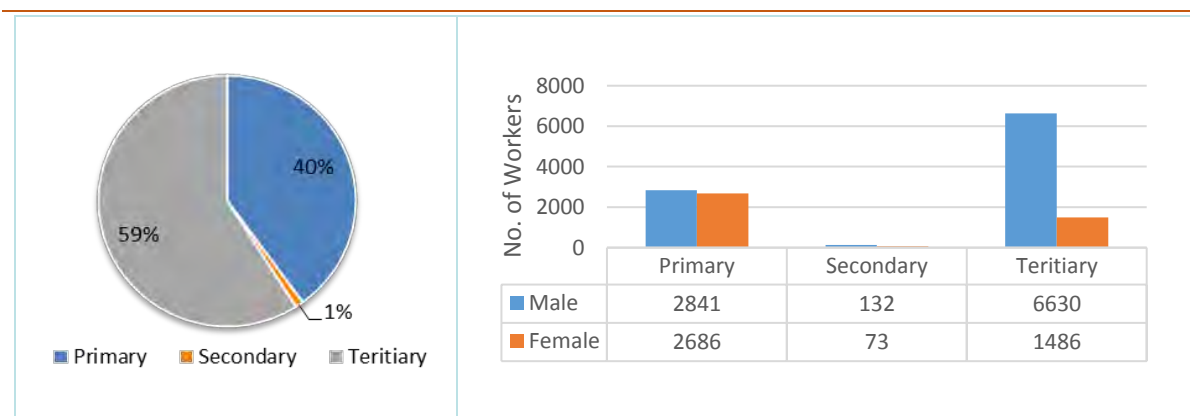


Figure 3-2: Distribution of workers sector wise and Gender wise

Source: Census of India, 2011

Among the three economic sectors, women participation is comparatively higher in primary sector i.e. 63 % in 2011 which is almost same to the national average of women participation (almost 65 %) in primary sector. Secondary and tertiary sectors have women work participation rate of 2 % and 35 % respectively (National Averages: 6 % and 30 % respectively). The women work participation in tertiary sector is more than the national average (35 %).

3.2 Sector Wise Analysis

Out of the total population, 13,848 people (39 %) are engaged in different types of economic sectors. Most of the workers (59 %) are engaged in tertiary sector. After tertiary sector, the second most important sector is primary sector where 40 % people are engaged. Secondary sector has the least percentage of workers where 1% people are engaged from the Planning Area.¹³

¹³ Source: Census of India, 2001 and 2011

3.2.1 Primary Sector

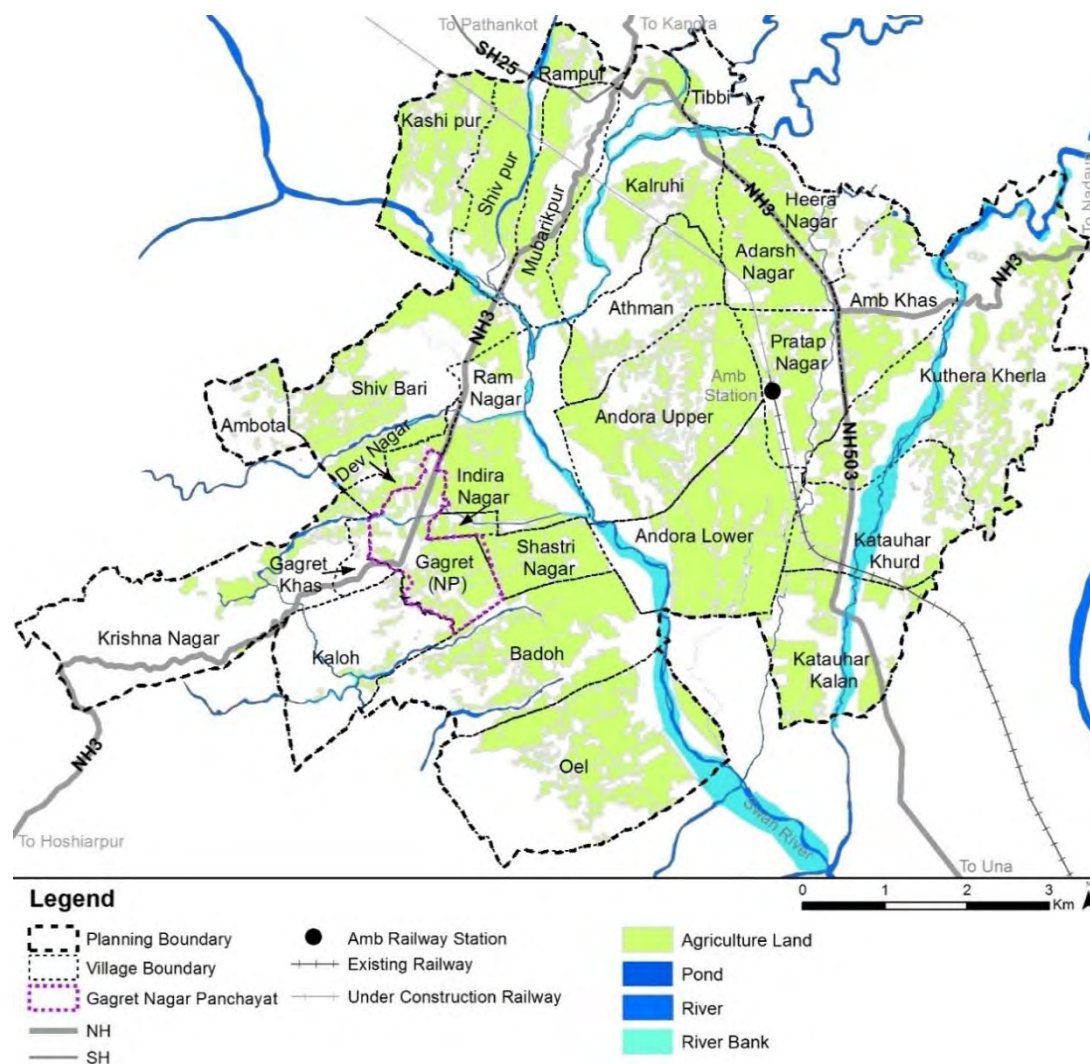


Figure 3-3: Area under Cultivation in Planning Area

Source: Census of India, 2011

It has already been discussed that primary sector is the second most important economic sector in Una district in terms of work participation rate (40 %) and GDDP share during the last decade. The share of primary sector in GDDP, has decreased over the period of time. During 2005-06 the share of primary sector fell to 22 % and during 2010-2011 to 20 %. This is clear from this statistic that people are shifting from primary sector to other sectors for the employment purposes.

Out of the total area, 41 % total land is under cultivation that amounts 2707.5 Ha in the Planning Area. In district Una, 28 % of the total area is under cultivation. Considering the availability of the agricultural land in the Planning Area, chances of development of agriculture/horticulture/ sericulture (already developed in Una district) related activities are high.

3.2.2 Secondary Sector

The planning area being in district Una which is one of the significant industrial Districts in the state, has the privilege to get the benefits for setting up industries, production and manufacturing units.

From 2005-06 the share of secondary sector in total GDDP has increased to 14 % (assumption) in 2009-10. There are proposals for setting up larger scale organised units in the District which would contribute more to the GDDP in manufacturing and production sector.

3.2.2.1 Industrial Profile of Planning Area

The Planning Area consists of two important industrial areas of the district viz. Amb Industrial Area and Gagret Industrial Area. Amb and Gagret Industrial areas constitute 33 % of the total Industrial area in the district. Amb and Gagret Industrial areas have been developed for setting up of the large-scale units mainly.

Out of the total Registered units in the district, Amb Gagret Planning Area has 558 units out of which nine are mainly large and medium scale units, 350 commercial and service units, 101 micro scale industries and 32 small scale industrial units. Out of the 23 Large Scale Industrial units in Una district, 9 units are located inside Planning Area.

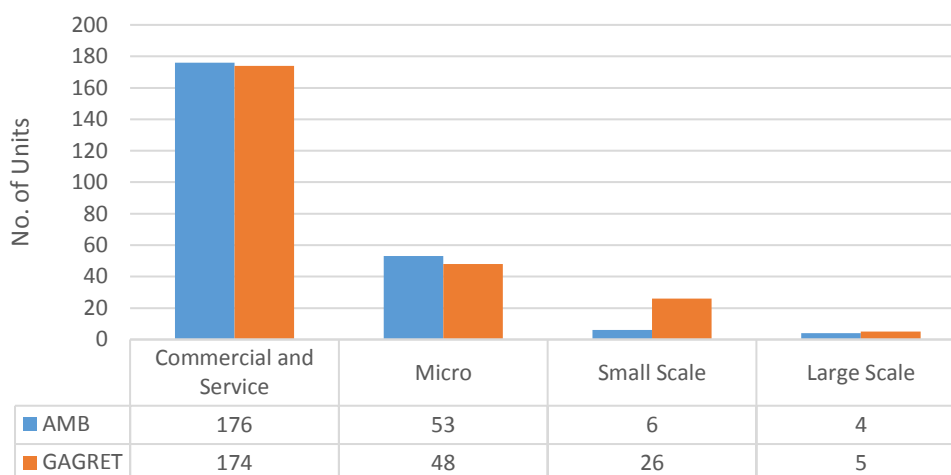


Figure 3-4: Number of Units in the Planning Area

Source: DIC, Una

Out of the total investment made in the Planning Area 70 % have been invested in nine Large Scale Industrial Units and rest of the 30 % have been invested in various small and micro scale units in the Planning Area.

Large scale units consist of the manufacturing industries of battery, blade, printing blocks, Cylinder, cars, multi-utility vehicles, TMT bars manufacturer. Commercial and Service units consist of repairing, wooden furniture making, beauty parlours, processing of gates-grills and water tanks, manufacturing of exercise note books, wheat flour producing units, film printing, tailoring, flower and PCOs etc. Micro scale units consist of repairing shops of different plastic, electronic and wooden goods. The small-scale units consist of fertilizer manufacturing and pharmaceutical industries.

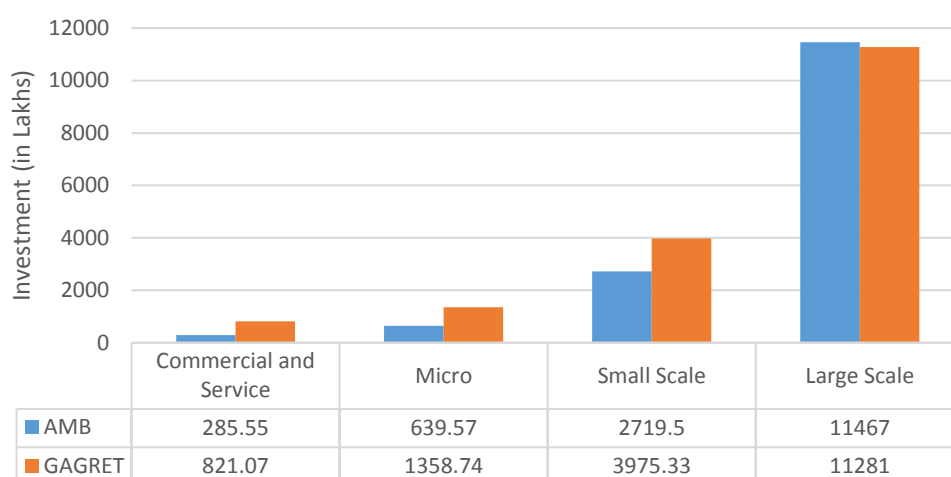


Figure 3-5: Investment in different Industrial Units

Source: DIC, Una

Out of the total investment made in the district, 1/5th portion i.e. 20% has been made in the Planning Area.¹⁴

Industrial units inside Amb-Gagret Planning Area provides employment to 4370 people out of which 1596 workers (37 %) are engaged in nine Large and Medium Scale Industrial Units. Rest of the workers are engaged in different types of micro, small and service industries. Out of the total industrial workers, 85% are indigenous people and 15 % are non-natives of the state. Figure 3-6: Number of Workers show that more persons are employed in Gagret Industrial Area in the Planning Area.

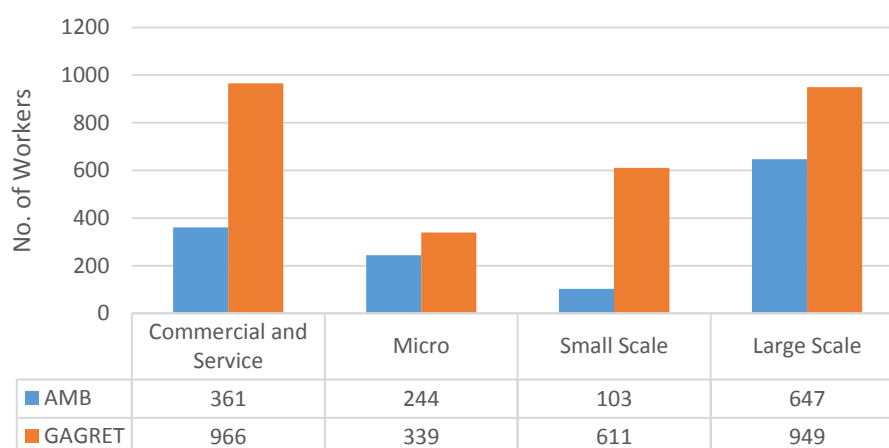


Figure 3-6: Number of Workers

Source: DIC, Una

The above analysis shows that Gagret Industrial Area is more developed than Amb Industrial Area in terms of Industrial investments, distribution of workers and number of operational units Amb Industrial Area.

¹⁴ Source: DIC, Una

3.2.2.2 Future Proposals

Amb and Gagret Industrial Areas are entirely developed and no vacant plots are available for setting up new industrial units. HPSIDC suggested to develop and improve the available infrastructure at the industrial areas under MIIUS (Modified Industrial Infrastructure Up Gradation Scheme).

An Integrated Textile Park has been proposed in Thatal village in Tehsil Amb. Total twelve number of Industrial Units were proposed in this park out of which three have already been developed. Common facilities like warehouse, workers' hostel, office guest house and recreation centres would be available.

3.2.3 Tertiary Sector

Tertiary sector or the service sector is one of the emerging sectors in the Planning Area in terms of work participation rate (59 %) and share in GDDP amount in the last decade. In terms of GDDP share, tertiary sector has the maximum percentage share in the total GDDP of the district since 1999-00. The share of tertiary sector in 1999-00 was 53,361 lakh rupees (at constant price of 1999-00) which was 53 % of the total GDDP of Una district. The share of the tertiary sector increased to 101866 lakh rupees (at constant price of 1999-00) 72 % in 2005-06 and to 76 % (assumed) in 2009-10. This indicates that tertiary sector is the most important sector in terms of its annual growth in GDDP share and work participation rate.

Table 3-1: Occupational Classification of Amb Gagret Planning Area

S.No.	Sector	Distribution of Workers (%)
1.	Primary Sector	25
2.	Secondary Sector	12
3.	Tertiary Sector	61

Source: Census of India, 2011

3.3 Employment Generation

One of the key objectives of Amb-Gagret Development Plan - 2035 is to boost the economic activities within the Planning Area and create more opportunities for work, the Planning Area will have a substantially higher WPR i.e. 40 % till 2035. Thus, the worker population in 2035 will be 24,000 considering an additional 5 % as floating population the total workforce of Planning Area will be 25,200.

A break-up of the estimated employment generation in each sector has been worked out in the following table.

Table 3-2: Proposed Occupational Classification of Amb Gagret Planning Area

Sr. No	Sector	Occupation	In %		In Figures
1	Primary	Agriculture, Forestry	20	20	4800
2	Secondary	Agro-based Industries	3	20	720
3		Light Industries and Composite Use Zone	5		1200
4		Construction Industry	12		2880
5	Tertiary	Govt. offices	8	60	1920
6		Institutional areas	12		2880

Sr. No	Sector	Occupation	In %		In Figures
7		CBD	12		2880
8		Wholesale Trade (Integrated Freight Complex)	4		960
9		Transportation Hub	2		480
10		Retail Sector	22		5280
	Total		100	100	24000

Source: Census of India, 2011 Analysis and Trend

3.4 Strategies and Recommendations

Una District has shown significant development in secondary sector in recent years. It is the 4th most important district in Himachal Pradesh in terms of Industrial development.

At present Industrial area of Amb and Gagret are not completely functioning. Most of the units are sick due to unavailability of raw material, unfavourable Industrial policy. It is recommended to draft policy in order to create conducive environment for potential investors.

The employment preference of the Planning Area reveals that people prefer to work in tertiary sector; they also prefer employment activities close to their home, e.g., agriculture, forestry and fishing etc. Thus, employment opportunities close to their residences would generate interest in the local population. The households should be motivated to save a significant part of the household income and invest in health, education and nutrition to improve the overall quality of life.

3.4.1 Hospitality and Wayside Amenities

Major passenger inflow passing through Planning Area travels for religious and tourism purposes. Creating service industry activities like motel, hotels, lodging, event planning, theme parks will complement the tourism economy of region.

3.4.2 Mandi/ Wholesale Complex

Development Plan 2035 proposed to develop a 0.5 ha new Mandi Complex at NH3. This will include other allied activities which are closely related to trade like financial institutions, administrative services, business entrepreneurship, physical and social infrastructure facilities and services, people related retail market facilities like eating places and other conveniences.

3.4.3 Retail

Retail shopping areas are essential and major part of tertiary sector. Presently there are two dedicated shopping complexes near bus stop at Amb and Gagret. These areas are not organized retail areas leading to traffic chaos. To accommodate the future required shopping, commercial offices, and other

activities like cinema, hotel and related to facilities in organised manner, the following three tier system of commercial development is proposed.

Table 3-3: Activities allowed in 3 tier systems of commercial areas

S.No.	Function	Level I	Level II	Level III
1.	Population	1,00,000	10,000	5,000
2.	Area	5 Ha	0.50 Ha	0.15 Ha
3.		CBD	Community Center	Neighborhood Center
4.	Activities	Shopping (Retail Service, Repair and limited Wholesale) Informal Shopping, Commercial Offices, Cinema, Hotel, Guest House, Nursing Home. Service Industries: Auditorium, Museum, Library, Science Centre, Art/Craft/Music/ Dance School, Craft/Mela/Book Bazaar, Weekly Markets (on close days), Local Government Offices. Bus Terminal, Fire Post, Police Post, Telephone Exchange, Electric Sub Station, Post Offices, Petrol Pump, Conveniences	Shopping (Retail Service, Commercial Offices, Cinema, Hotel, Guest House, Nursing Home). Post office, Dispensary, Petrol Pump (filling Station only) Facility corridor which have Weekly Markets (on close days), Repair Informal Shopping, Electric Sub-Station Conveniences, Library.	Shopping Retail Service, Repair Informal Shops, Commercial Offices. Community Hall. Electric Sub-Station conveniences.

Source: Proposed based on URDPFI Guidelines, 2015

3.4.4 Informal sector

The informal sector trade and services are scattered within the Planning Area. The informal sector units locate themselves strategically near work centres, commercial areas, outside the boundaries of schools, colleges and hospitals, transport nodes and near large housing clusters. It is proposed to integrate the informal sector in trade and services in the planned development. This would be appropriately incorporated in the following developments:

- Community Centre
- Neighbourhood Shopping Centre
- Convenience Shopping Centre
- Integrated Freight Complex
- Hospital
- Bus terminal/ Depot
- Primary/ Secondary/ Senior
- Secondary/ Integrated Schools
- Parks

- City/ District/ Community/ Neighbourhood Parks Residential development
- Industrial development

In all the above developments, 1 % of the total area shall be reserved for informal sector/ vendor market development. This area shall have temporary construction not to be included in coverage and FAR. At appropriate locations, reservations shall be made for night shelters.

Thus, the Development Plan makes provision for the informal service sector spread over the Planning Area. Attractive design shall be prepared for the space for stationary and mobile vending.

4. TRAFFIC AND TRANSPORTATION

4.1 Introduction

This chapter gives the details of traffic surveys, the existing traffic characteristics and traffic trends of project road with junction count, details on adopted traffic growth rates and forecasted traffic along the study corridors.

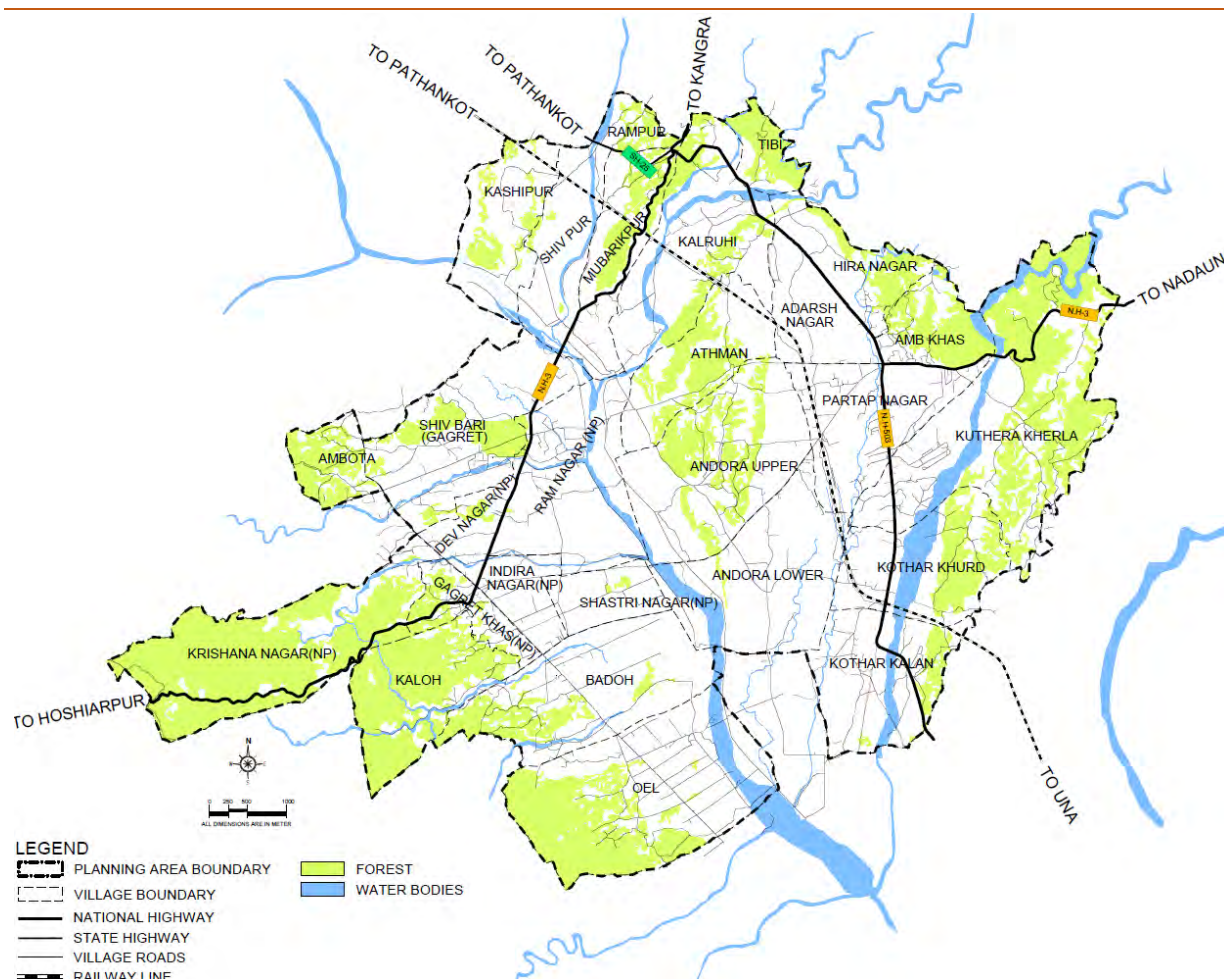


Figure 4-1: Existing Road Network in Amb-Gagret Planning Area

Source: Google Earth Imagery, Primary Survey and Consultations

4.2 Road Network

Amb and Gagret is located along the NH – 3 which connects Jalandhar in Punjab and Mandi in Himachal Pradesh via Mubarakpur. The SH – 25 also connects Mubarakpur with Amb (except the portion of NH - 3) and further extends to Una in the south. Gagret is also connected to Daulatpur in the north by the Daulatpur-Gagret road and to Una in the south via Panjavar road.

4.1.1 Primary Road Network

The primary road network in the Planning Area is the National Highway – 3. It connects Jalandhar and Mandi via Hoshiarpur, Gagret, Mubarakpur, Amb and Nadaun. The NH – 3 enters the Planning Area from the western side via Gagret, continues towards the Mubarakpur in the north and connects Amb

towards the south where it leaves the Planning Area. The NH -3 is also situated along the villages of Amb Khas, Adarsh Nagar, Tibi, Kalruhi, and Mubarikpur, Ram Nagar, Indira Nagar and Gagret. It completes a road network of 208.3 km in the Planning Area. Apart from the NH – 3, the SH – 25 connects Amb with Una towards the south. It is also the only linkage from Una to the NH – 3. The villages of Partap Nagar, Kathauhar Khurd and Kothar Kalan is situated along the SH -25.

4.1.2 Secondary Road Network

The secondary road network in the Planning Area is the Gagret – Daulatpur – Panjavar Road. It connects Daulatpur in the north and Una towards the south. It also acts as a by-pass route connecting Una and Gagret and completes a total length of 8.77 km stretch in the Planning Area and passes along the villages of Shiv Bari, Dev Nagar, Gagret, Baroh and Oel.

4.1.3 Tertiary Road Network

The tertiary road network consists of the village roads which connects the rest of the settlements in the Planning Area, which includes Athman, Andora Upperla, Andora Nichla, Kaloh, Kuthera Kherla and Hira Nagar. The village roads connect the settlements along various contours.

4.3 Road Inventory

The total existing road length in the Planning Area is 208.70 km which includes the National Highway (NH – 3), State Highway (SH – 25), Major District Road and Village Road.

Table 4-1: Road length – As per hierarchy

S.No.	Road Hierarchy	Length (In km)
1.	National Highway – 3	15.53
2.	National Highway – 503	1.35
3.	State Highway – 25	3.78
4.	(Panjavar Road and Gagret – Daulatpur road)	8.77
5.	Village Road	176.78

The total length of the NH -3 passing through the Planning Area is 15.5 km. NH -503 passes through the area in a short length by 1.35 km. SH – 25 also passes through the area with a total length of 6.3 km connecting Amb with the district headquarter Una. The Panjavar Road and Gagret – Daulatpur road also passes through the area with a total length of 8.77 km. Other village roads have a total length of 176.78 km.

The NH -3, NH -503, SH – 25 and Panjavar Road are two lane undivided roads with 6m width while the Gagret – Daulatpur Road have a width of 4m. Most of the roads are metalled¹⁵ with earthen shoulders.

Out of the total road network of 208.70 km in the Planning Area, 20.4 km length is maintained by the PWD Amb Sub-Division. Another 8 km is under the Pradhan Mantri Gram Sadak Yojana (PMGSY) in 2014-15 which falls under two road stretches; one is the link road connecting Andora via Badaun and the other connecting Kalruhi and Adarsh Nagar.

¹⁵ Data on length of metalled and un-metalled road is yet to be received.

4.4 Vehicular Growth

Vehicular growth rate in the region puts light on the fact of future traffic pattern. Increase in the number of private vehicles envisages the increase in the traffic volume in the town. It would put more pressure on the existing roads and creates congestion on a larger run if necessary measures are not taken. Through this analysis assumptions can be drawn for measuring the future level of Service (LOS) of the existing roads.

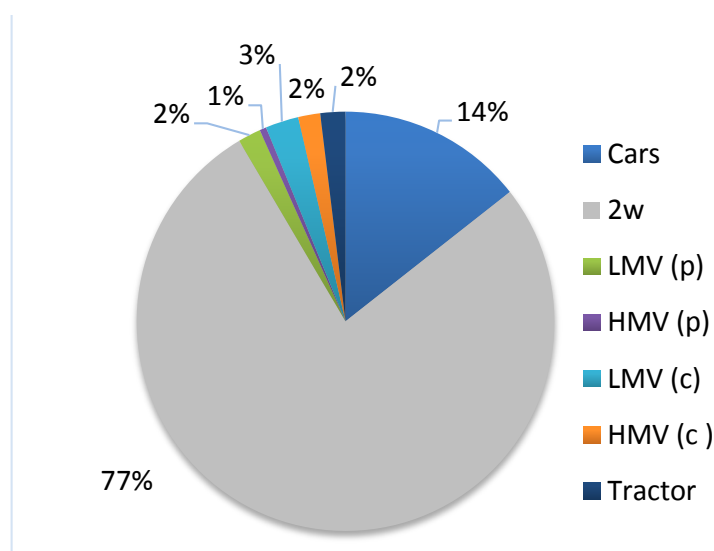


Figure 4-2: Average Annual Vehicle Registration

Source: SDM Office, Una

4.5 Pedestrian Pathways

There are no designated pathways for the pedestrian movement in both Amb and Gagret town. The carriage way of the main arterial roads is used by the pedestrians mainly. The walkways are required as most of the people commute by walking inside the Planning Area¹⁶.

According to IRC, pedestrian pathways should be minimum of 1.5 m of width at both sides of the carriage ways. It can be customised according to the demand of the area.

4.6 Public Transport and Routes

4.1.4 Roadways

The main mode of public transport in Amb – Gagret Planning Area is the Bus service. Both the towns are well-connected with all major towns of from both Himachal Pradesh and Punjab. There are private buses as well as Government (HPRTC) buses operating in both the towns.

¹⁶ To be updated after conducting the primary survey

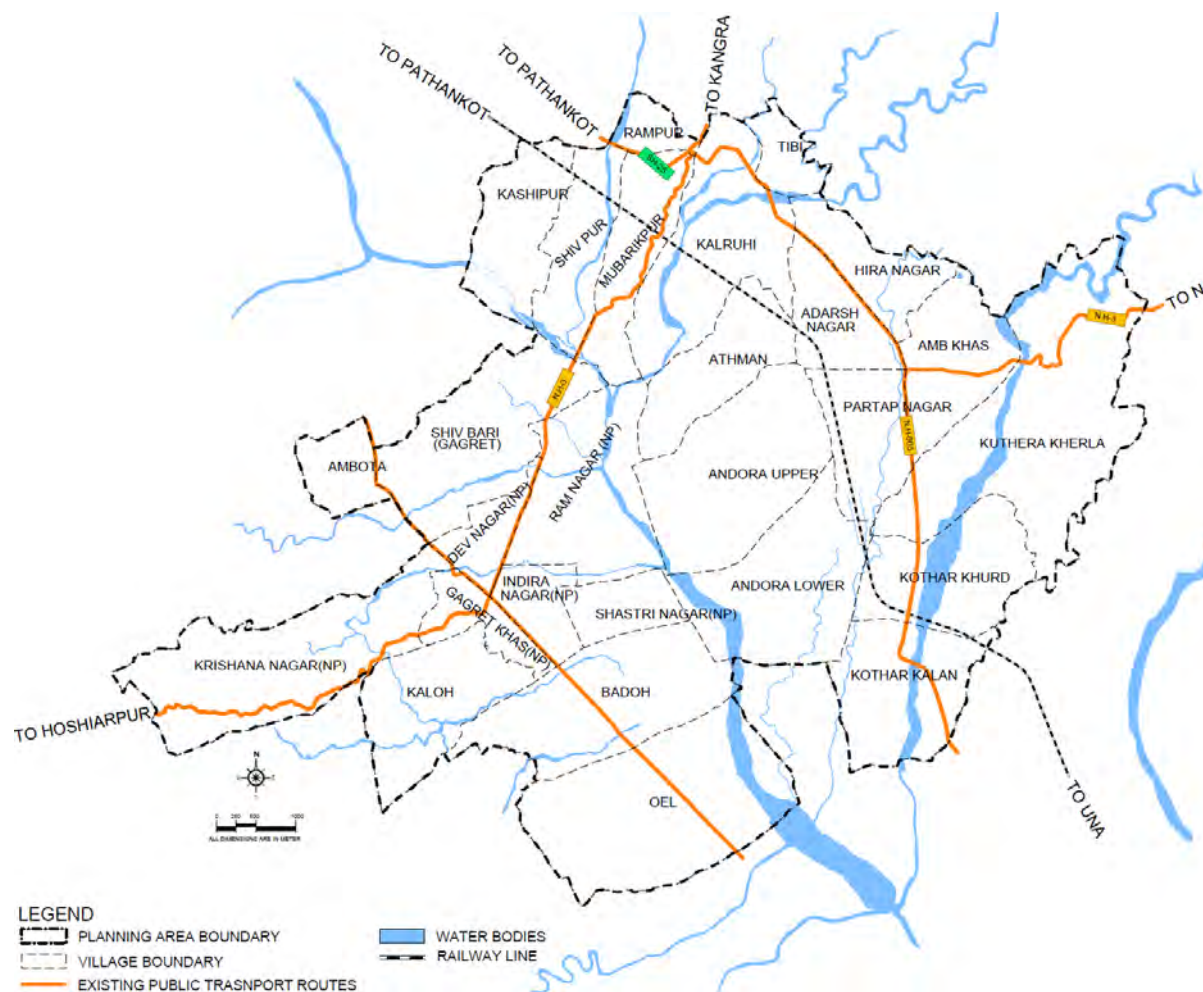


Figure 4-3: Public Transport Routes – Amb- Gagret Planning Area

Source: RTO, Una

Buses are available every 10 – 15 minutes from all neighbouring towns such as Una, Bharwain, Nadaun, Daulatpur, etc. Apart from buses, there are autos to commute within the town area. Taxi services are also available in the area for people to commute to distant towns and for personal hire purpose.

4.1.5 Railways

The 80 km Nangal – Una – Talwara broad – gauge railway runs laterally through the Planning Area from south-western part to north crossing Amb town. The railway line is under construction and is presently functional till Amb¹⁷. There are two service trains, the Amb-Ambala Diesel Mobile Unit and the Himachal Express which reaches Amb via Una every. The proposed railway line from Amb to Joginder Nagar is under construction.

4.7 Proposals and Recommendations

- i. Amb has high density residential as well as commercial area. All commercial activities are along the road due to which there is high movement of local traffic.

¹⁷<http://www.tribuneindia.com/news/himachal/community/daulatpur-talwara-rail-line-proposed-on-elevated-pillars/167569.html>

- ii. Considering scenario of existing roads, proposal has been given for two lane paved shoulder with footpath and utility corridor.
- iii. A bypass road has been proposed from Pakka Parok Chowk (Una Side) to Kalruhi Bus Stop Chowk (Kangra Side) for Amb area to avoid the core town.
- iv. High traffic movement is observed between Amb - Gagret through NH-3. Traffic coming from Gagret going towards Una uses NH-3, this loads NH-3 with additional traffic. To avoid this traffic, proposal has been given for 2-lane paved shoulder direct link from Gagret Chowk to Amb Chowk. At present this link road is disconnected due to absence of the bridge. Hence it is proposed to connect the two roads through a new bridge over Swan river.
- v. At junction of SH-25, NH-503 and NH-3 (Mubarikpur Chowk) commercial and mixed land use has been proposed. To cater this multi-level car parking and junction improvement has been proposed in this junction.
- vi. Amb Junction at intersection of NH-3 and NH-503 is congested due to dense built-up and encroachment along roads. Moreover, movement of local traffic (vehicular as well as pedestrian) will also add in highway traffic. It will further create congestion and will become accidental prone zone. It will be unsafe for pedestrians due to narrow ROW at that junction.
- vii. Proposed commercial activities along National Highway, will generate additional traffic (vehicular as well as pedestrian) which will create congestion at highway and become accident prone zone.
- viii. High through traffic will create issues (traffic congestion and accident-prone zone) in local area which can be avoided. To give priority to local traffic (mainly pedestrians) a bypass has been proposed in that area.
- ix. At NH-3 in Gagret area traffic numbers show need of two lane paved shoulder with footpath. Existing ROW (12 m-15 m) of this area is sufficient to cater for future traffic.
- x. At junction of SH-25, NH-503 and NH-3 (Mubarikpur Chowk) due to proposal of commercial area, multi-level parking and junction improvement has been proposed.
- xi. Considering high congestion near Amb Chowk and insufficient area at existing bus stops, relocation of Amb City Bus Station has been proposed. Proposed location of bus station is at the junction of proposed bypass and link road, in Andora Lower Village. It is 1 km far from existing Amb railway station.
- xii. For local transportation IPT services have been proposed in the core town and development nodes near bus station to ease this traffic movement.

5. HOUSING

5.1 Introduction

This chapter gives an overview of the housing infrastructure in Amb-Gagret Planning Area. This chapter covers housing aspects such as housing typology that includes condition of houses, ownership status, type of structure, use of structure and material used for construction, household size and dwelling rooms. It also deals with housing infrastructure viz. public and semi-public facilities, commercial and convenience shopping facilities, educational facilities, health facilities and recreational facilities.

5.2 Household and Dwelling Size

In Amb-Gagret Planning Area, the average household size is 4.7 persons per household which is lower than the district average of 5.1 and state average of 5 in 2011. The household size varies from one village to other from 4 to 5 persons per household.

More than 50 % households have two to three rooms and nearly 20 % households have four to six dwelling rooms and rest 30 % households reside in one dwelling room. This is corresponding to the household size in the Planning Area.

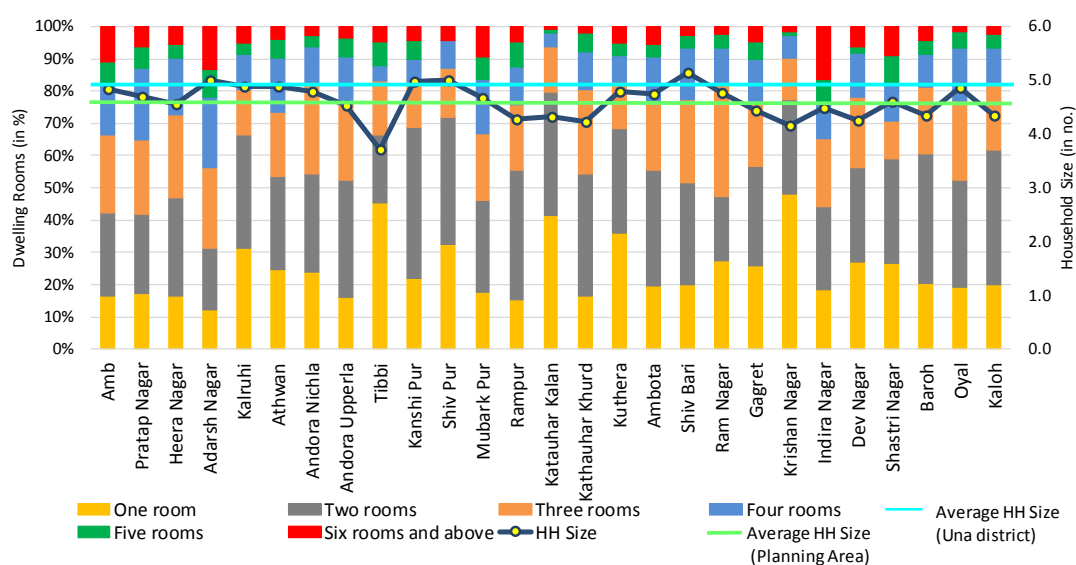


Figure 5-1: Household size and dwelling rooms in revenue villages of Amb-Gagret Planning Area

Source: Housing Table HLPCHA 02029 HH-14, Census of India, 2011

5.3 Type of Structures

Houses are classified¹⁸ as permanent, semi-permanent and temporary based on the type of material used in construction of building, wall and roof. On an average, 85 % of the houses in Amb-Gagret

Planning Area are permanent structures followed by 11 % households have semi-permanent structures and only 5 % are temporary structures.

The temporary structures are those where the migrant labours reside. Majority of these structures can be seen either close to the construction site and brick kiln or close to water body.

In Amb-Gagret Planning Area, the proportion of permanent structure is more in urban areas as compared to permanent structures in rural areas. As far as semi-permanent structures are concerned, they are more in rural areas than in urban areas. The proportion of temporary structures is also equal in rural as well as urban areas of the Planning Area. High percentage of permanent structures and owned structures in the Planning Area indicates that high proportion of the households are the natives of this place.

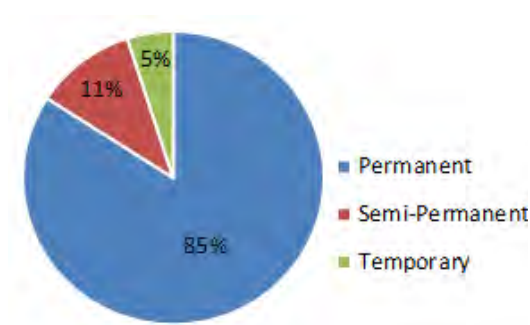


Figure 5-2: Type of Structures in Amb-Gagret Planning Area

Source: Housing Table HLPKA 02029 HH-14, Census of India, 2011

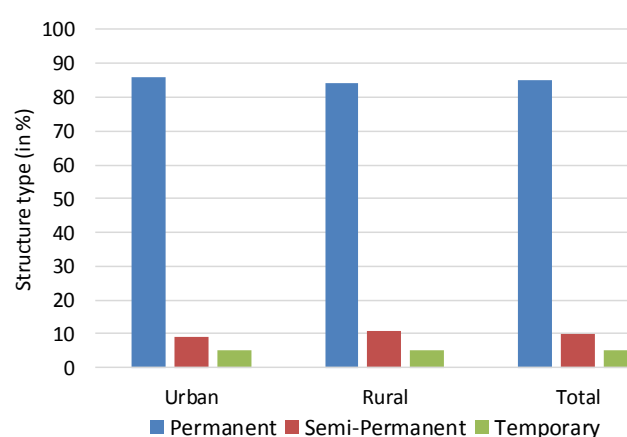


Figure 5-3: Type of Structures in urban and rural areas in Planning Area

5.4 Ownership Status

In the Planning Area, more than 80 % of the households' own houses. The rented structures are existing in the villages that are either located close to Amb or are located along the major transport corridor i.e. along National Highway (NH-70) and State Highway (SH-25). Due to the nearness to major town and the presence of administrative offices, schools, colleges, health facilities and main market, people prefer to live in villages such as Partap Nagar, Hira Nagar, Adarsh Nagar and Tibias where they have availability of rented structures.

The percentage of houses owned are high in both urban and rural areas but comparatively it is higher in rural areas than in urban. In terms of rented structures, it is found that rented structures exist in both urban and rural areas but the proportion is comparatively higher in urban areas. It shows that majority of households might be native of the Planning Area.

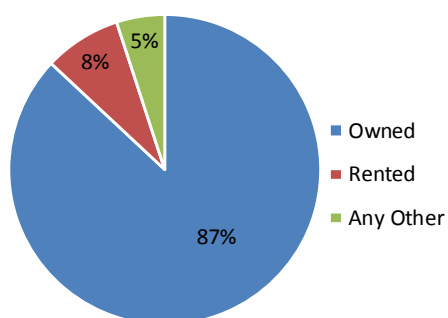


Figure 5-4: Ownership status of households in Planning Area

Source: Data taken from Housing Table HLPKA 02029 HH-14, Census of India, 2011 and analysed by VSP

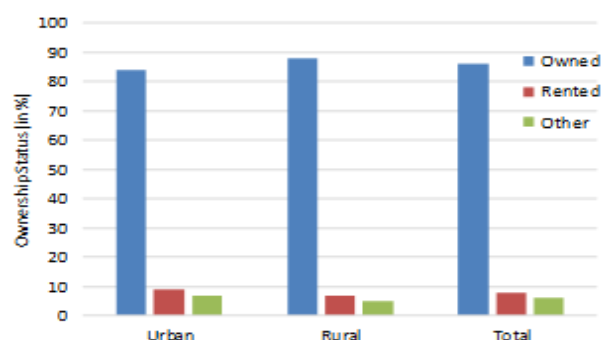


Figure 5-5: Ownership status of Households for Urban & Rural area

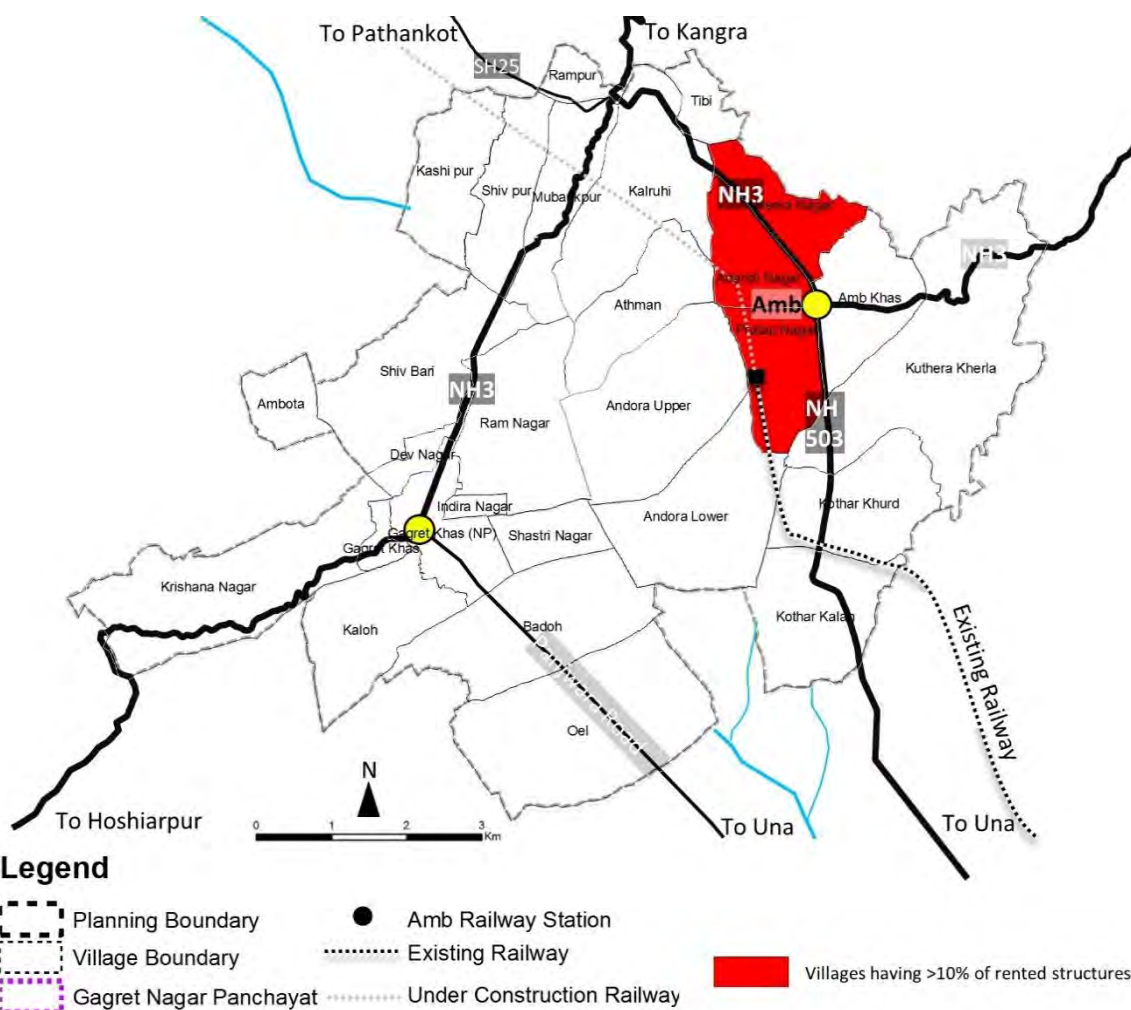


Figure 5-6: Ownership status of households in Amb-Gagret Planning Area

Source: Data taken from Housing Table HLPKA 02029 HH-14, Census of India, 2011 and analysed by VOYANTS

5.5 Housing Need

The demand of housing in the year 2035 is calculated on the basis of projected population, household size and current housing shortage. The Amb Gagret Development Plan proposes to facilitate the provision of a fully serviced dwelling unit for each family and mitigate the gap between housing shortage and supply through suitable measures.

Table 5-1: Housing Forecast

S.No.	Description	
1.	Population 2011	38,375
2.	Population 2035	60,000
3.	Additional Population 2035	21625
4.	Household Size	4.7
5.	Present households	8245
6.	Household Demand (2035)	12,766
7.	Total Housing Need by Year 2035	4521

Table 5-2: Year wise Housing Need

S.No.	Year	Present Population (2011)	Population	Additional Population	Avg HH Size	Present HH (2011)	HH Demand	Housing Need
1.	2016	38,375	41,318	2943	4.7	8245	8791	546
2.	2021		44,538	6163			9476	1231
3.	2026		48,030	9655			10,219	1974
4.	2031		51,796	13,421			11,020	2775
5.	2035		60,000	21,625			12,766	4521
	Total						4521	

5.6 Housing Strategy

Planning norms, land use zoning, density, FAR, and building controls have been reviewed for housing, both in new areas to be opened up and for redevelopment of existing areas. In the context of housing strategy, it is essential to optimise utilization of land and space with a view to increasing net residential density. The policy should indicate that EWS and LIG houses after construction by a private group shall be handed over to the nodal agency / agencies and these should be allotted to eligible beneficiaries.

Following aspects should be focused for new public housing development –

1. Strategy for Land Assembly
2. Finance and Incentives
3. Human Resource Management and E-governance
4. Public Private Partnership (PPP) and People Public Private Partnership (PPPP) model
5. The traditional vernacular housing techniques of Himachal Pradesh addressing the prevailing topography and extremities of climate should be promoted
6. Retrofit measures to make the existing building stock energy efficient and to overcome the various environmental challenges posed by the sector
7. **Vernacular Construction Techniques-** The local traditional house construction techniques should be followed. The orientation of buildings is mostly east and south. Materials available for construction are stone slabs for flooring and roofing, stone and earth for walls and wooden plank supports on wooden joists for intermediate floors
8. **Retrofitting of Dilapidated Houses-** In case of dilapidated structures, if structure is below 50 years, it should be retrofitted, if structure is above 50 years, it should be demolished and the occupants should be relocated. The additional housing units can be achieved by the participation of Government Departments/ Agencies and Private Agencies under the following strategies-
9. State Government should provide proposed developable land in the Development Plan for government agencies and private sectors

10. Major infrastructures like major roads, water supply lines, sewage channels, power lines and other basic infrastructure to be developed
11. Private sectors should be encouraged to construct new houses with basic lower order infrastructures
12. Use of local available building materials should be encouraged by the government
13. More development in the central part of Planning Area to be avoided except the areas where proposals have been given in Development Plan
14. Clearance of Building Plan and Land Development/Layout Plans from local statutory authority before construction/ development should be strictly imposed by the Government under the Himachal Pradesh Town and Country Planning Rules, 2014
15. Strict compliance of the Building Regulations in regard to the following-
 - i) Structural Design
 - ii) Structural Design Basis Report
 - iii) Seismic Strengthening/Retrofitting
 - iv) Certification Regarding Structural Safety in Design
 - v) Constructional Safety
 - vi) Quality Control and Inspection
 - vii) Structural Requirements of Low Cost Housing
 - viii) Inspection

6. PHYSICAL INFRASTRUCTURE

6.1 Water Supply

6.1.1 Existing Situation and Demand Estimation

The Irrigation and Public Health (I&PH) Department of Himachal Pradesh supply water to all the domestic and commercial establishments in Amb-Gagret Planning Area. Ground water is the main source of potable water in this area. Ground water is extracted by deep tube wells and then lifted to the Main storage tanks. From the Main Storage Tanks (MSTs), water is supplied to the Sub Storage tanks (SSTs) through gravity. From the sub-storage tanks, the water is distributed throughout the Planning Area.

As per the National Rural Drinking Water Programme (NRDWP), Ministry of Drinking Water and Sanitation (MoDWS), 1.95 MLD is supplied to all rural and urban settlements in the Planning Area. Out of the total supply to the Planning Area, 47 % is piped water supply and 53 % is by the hand pumps. There are 121 water supply schemes operational in the Planning Area out of which fourteen are piped Water Supply (PWS), 106 Hand Pumps and one well. Ground Water is the major source of water in the entire Planning Area. It covers 100 % of the water supply schemes. Easy recharge of ground water in the Planning Area through Swan River and its tributaries make the ground water level high in the Planning Area.

Out of the total functional Water Supply Schemes in the Planning Area (121), four Water Supply Schemes (WSS) provide water according to the CPHEEO standards i.e. 70 lpcd to some of the habitations in Ram Nagar (two Schemes), Kathauhar Khurd (one) and Kalruhi (one). Out of these four, two are installed Hand Pumps and two are Piped Water Supply (PWS). There is one Piped Water Supply (PWS) in Oel village with 60 lpcd service level.

CPHEEO Manual, norms are adopted for calculating water demand for base year, intermediate year and target year 2035. Water demand should be increased to 135 lpcd for residential purposes and for other purposes, consumption rate as mentioned in CPHEEO Manual.

Table 6-1: Total Water Demand and Gap

Description	Year		
	2016	2026	2035
Total Domestic Population	41,452	52,248	60,000
Total Domestic Water Demand	5.60	7.05	8.10
Commercial Demand	0.31	0.39	0.45
Industrial Demand	0.15	0.19	0.22
Institutional Demand	0.12	0.15	0.17
Floating Demand	0.39	0.50	0.57
Fire Demand @ 100vP	0.64	0.72	0.77
Total Water Demand	7.21	9.00	10.28
15 % losses	1.08	1.35	1.54
Grand Total of Water Demand	8.30	10.35	11.83
Existing Supply	1.95	1.95	1.95
Gap	6.35	8.40	9.88

Source: Calculated as per CPHEEO Manual

The total water demand for base year 2016, intermediate year 2026 and target year 2035 is 8.30 MLD, 10.35 MLD and 11.83 MLD respectively. At present, water supply does not take into account the floating population and firefighting load. Hence to bridge the supply gap, water supply system need to be augmented to meet out water demand at different stages.

6.1.1.1 Water Sources and Treatment

The existing water sources can be used to cater for water demand for the Planning Area. Presently, Existing water treatment plant is required to be augmented as per demand estimation.

Table 6-2: Water Treatment Demand

Description	Year		
	2016	2026	2035
Total Water Demand (MLD)	8.30	10.35	11.83
WTP Capacity Required (MLD)	9.50	11.86	13.55
Existing WTP Capacity (MLD)	0.89	0.89	0.89
Augmentation required (MLD)	8.61	10.97	12.66

Source: Calculated as per CPHEEO Manual

6.1.1.2 Fire Stations and other Fire-Fighting Facilities

Presently, there is no fire station in Planning Area. As per the URDPFI norms, at a population of 50,000, there should be a fire station. The projected population of Planning Area is 60,000. Hence, one fire station with adequate fire tender is required to cater the needs for the Planning Area. The fire station should have dedicated water reservoir with adequate capacity within its premises which will be supplied from nearest service reservoir.

6.1.2 Service Level Benchmarking

Service level benchmarking have been formulated by the MoUD with a view to achieving all-round sustainability including environmental sustainability.

Table 6-3: Service Level Benchmarking for Water Supply System (2016-2035)

Sl. No.	Services	Ultimate Benchmark as per MoUD, GoI Guidelines	Present Status (%)	Aim to be achieved in Long Term
1	Coverage of piped Water Supply connections	100%	11%	100%
2	Per Capita Supply of Water in Project area	135 lpcd	40 lpcd	135 lpcd
3	Extent of Non-Revenue Water	15%	NA	15%
4	Extent of Metering	100%	47%	100%
5	Continuity of Water supplied	24 Hours	NA	24 Hours
6	Efficiency in redressal of customer complaints	80%	NA	80%
7	Quality of Water Supplied	100%	NA	100%
8	Cost Recovery	100%	NA	100%
9	Efficiency in collection of Water charges	90%	NA	90%

Source: Based on NMSH, MoUD, GoI, 2014

6.1.3 Development Strategies

The present water supply system in project area is intermittent, this is proposed to be developed into 24x7 hours. Decentralization in the distribution system ensures equalization of supply of water throughout the area. Each decentralized area should have its separate distribution network served by the elevated and/or ground level service reservoirs. The service reservoirs should be provided at the highest elevation of the distribution zone, so that the water can be supplied by gravity for majority of the demand area.

The total required storage capacity of service reservoirs 9.83 ML per day for the target year based on 24x7 water supply system.

(A) Short Term Strategies

1. Develop strategies for improvement and utilization of existing water supply schemes for the potential demands and adequate supply of potable water in the region.
2. Water supply shall be on 24x7 for equity, effective metering and for best hygiene model of supply. Systems leaks and thefts can easily be revealed only with a 24x7 supply pattern.
3. Augmentation of Water Treatment Plant or setup new water treatment plant of 11.00 MLD
4. 100% coverage of potable piped water supply system
5. New water reservoirs for supplying to end users as per target year requirement
6. Replacement or Repair the old/defunct system/network, if any
7. Streamlining of household connections as well as legalized connections
8. Implementation of 100% Consumer metering system
9. Awareness program for optimization of water use, recycling and recharging
10. Introducing SCADA system to minimise water losses and theft
11. Complaint redressal centers to be set up to look after the issues on water supply
12. Systems should function with minimum interruption and failures
13. Detailed Operation and Maintenance Programme

(B) Long Term Strategies

1. Use of Recycled water for meeting horticulture, air-conditioning, industrial cooling and other non-potable uses
2. Additional 1.20 MLD capacity of water treatment plant after 2026
3. Leak detection equipment should be implementing the measures and reducing NRW
4. Mapping and digitization of water supply networks for distribution shall be done on continuous basis. Hydraulic modelling shall be adopted for rationalizing pipe networks and ensuring equitable pressure
5. Implementation of Rain Water Harvesting Scheme

6.1.4 Proposed Water Supply Projects

Based on the existing water supply and demand analysis, there are some potential projects can be proposed for water supply projects in the study area. Some of the potential projects are-

- Detailed analysis of existing water sources and supply system
- Detailed designing of water supply system (DPR) including Mapping and digitization of existing water supply networks
- Implementation of 24X7 water supply system

- Augmentation of existing water treatment plant or setup new water treatment plant
- Implementation of 100 % Consumer metering system
- Introducing SCADA system to minimise water losses and theft
- Implementation of Rainwater Harvesting Scheme
- Detailed Operation and Maintenance Programme

6.2 Sewerage System

The components of sewerage system are the house connection, conveyance network, pumping system, the treatment facility and the disposal strategy. The conveyance is by gravity and the treatment facility is located at the lowest point.

6.1.5 Existing Situation and Demand Estimation

Presently, only Gagret Nagar Panchayat has a 7.80 km of centralised sewerage network in the Planning Area out of which 6.39 km has already been developed and 1.40 km. is proposed. Households, located in the rural areas have septic tanks and pit latrines for sewage disposal in the Planning Area.

Considering 80 % of total water supply and 10 % infiltration as per CPHEEO Manual on Sewage and Sewage Treatment, Clause 3.6, future sewage generation projected is as follows:

Table 6-4: Sewerage Generation and Gap

Description	Year		
	2016	2026	2035
Total Sewage Generation including infiltration (MLD)	6.73	7.59	8.48
STP Capacity (MLD)	7.07	7.97	8.90
Existing STP Capacity (MLD)	4.50	4.50	4.50
Augmentation required (MLD)	2.57	3.47	4.40

Source : Calculated as per CPHEEO Manual

6.1.5.1 Sewage Treatment and Disposal

Currently, the Planning Area generates 6.73 MLD of sewage. Projected sewage generation for 2035 will be 8.48 MLD.

6.1.6 Service Level Benchmarking

The following table explains the impact of the implementation of the above-mentioned measures on the service level benchmarks of Sewerage and Sanitation of the Planning Area.

Table 6-5: Service Level Benchmarking for Sewerage and Sanitation (2016-2035)

Sl. No.	Services	Ultimate Benchmark as per MoUD, GoI Guidelines (%)	Present Status (%)	Aim to be achieved in Long Term
1	Coverage of Sewerage Network Services	100	60	100
2	Collection Efficiency of Sewerage Network	100	60	100
3	Adequacy of Sewage Treatment capacity	100	67	100
4	Quality of Sewage Treatment	100	NA	100
5	Extent of reuse and recycling of sewage	20	NA	20

Sl. No.	Services	Ultimate Benchmark as per MoUD, GoI Guidelines (%)	Present Status (%)	Aim to be achieved in Long Term
6	Efficiency in redressal of customer complaints	80	NA	80
7	Extent of cost recovery in sewage management	100	NA	100
8	Efficiency in collection of sewerage charges	90	NA	90

Source : Based on NMSH, MoUD, GoI, 2014

6.1.7 Development Strategies

The project area needs to develop integrated centralized/decentralized sewage collection and treatment method.

Possibilities of recycle/reuse of waste water shall be incorporated in the development plan to reduce the burden on water supply system. All the household/community septic tanks should be connected to the sewer network.

It is to be ensured that Sewage flows by gravity, minimizing the use of energy for pumping. An efficient sewerage and wastewater disposal system is of critical importance with respect to maintaining high standards of health and hygiene in the Planning Area.

Strategically the sewerage system that should be proposed for Planning Area should aim at provision of such a facility in a cost effective and organized manner, by establishing a hierarchical distribution of sewer networks in the urban landscape. The aim should be to fix the sizing of the sewerage pipes, by establishing a distinct hierarchy in the collection system catering to its optimal needs.

Reuse options for Treated Wastewater

The outlet water quality parameters after treatment should be in accordance with IS:10500. Possibilities of reuse of waste water shall needs to be incorporated in the detailed master plan for sewerage system to reduce the demand on water supply system. Treated water from STP should be recycled as per URDPFI Guidelines and sludge can be used as manure for agriculture and plantation. It should be aimed to achieve 100 % coverage of sewerage connections to every household.

Provision of an efficient sewerage system throughout the study area needs to be put in place which can be ensured by

- Laying sewerage network lines to entire areas
- Sewage treatment has to be carried out before disposal
- Treatment technology options which are less land intensive should be explored in case of the new STP.
- Provision of adequate public toilet complexes at public places and slums to ensure hygienic condition and environmental sanitation
- All properties/ structures should be connected to sewerage system, even if they are not connected to a public/municipality water supply system.
- Sewerage charges shall be levied on the basis of water consumed and in the water bill itself. In case of no water supply, alternative methods of billing shall be used.
- To ensure hygienic condition and environmental sanitation
- The storm water drainage system of the Planning Area should not be attached with the sewerage network.

6.1.8 Proposed Sewerage System Projects

Based on the existing system and demand analysis, there are some potential projects can be proposed for sewerage system projects in the study area. Some of the potential projects are-

- Detailed analysis of existing supply system
- Detailed designing of sewerage system (DPR)
- Implementation of centralized/ decentralized collection, treatment and disposal of the sewage generated
- Sewage Treatment plant
- Construction of adequate public toilet complex at public places
- Recycle and use of treated sewage- Tapping of a portion of the sewage generated to be used for greening of the open areas through Decentralized Waste Water System
- Detailed Operation and Maintenance Programme

6.3 Storm Water Drainage Network

6.1.9 Existing Situation and Demand Estimation

The Amb-Gagret Planning Area is located at the upper reaches of the Swan Watershed. The Swan River has dissected the Planning Area from North West to South East. Numerous number of Khads and Nallas in the watershed drain towards Swan river. The river and nallas form the braided network in the study area.

Amb Gagret Planning Area is almost a flat area (slope <10 %) where provision of drainage is very important for draining out the storm water to near-by natural inlets to avoid water logging.

As per the gap and deficiency identified, an integrated approach is required to cater the sustainable drainage solution. As an integrated approach, some of the drains will run alongside of the roads (Roadside Drains) and others may follow natural slope (Cross Drain).

6.1.10 Service Level Benchmarking

Service level benchmarking have been formulated by the MoUD with a view to achieving all-round sustainability including environmental sustainability.

Table 6-6: Service Level Benchmarking for Storm Water Drainage System (2016-2035)

Sl. No.	Services	Ultimate Benchmark as per MoUD, GoI Guidelines (%)	Present Status (%)
1	Coverage of storm water drainage network	100%	95%
2	Incidence of water logging	0%	3 numbers
3	Construction of new drains and conversion of <i>Katcha</i> drains (earthen, natural drains) into <i>Pucca</i> drains with additional provision to carry 20% discharge.	100%	NA
4	Cleaning of drains twice in a year	100%	NA
5	Incidence of people affected in vulnerable areas and property damaged during flooding.	0%	NA
6	Rejuvenation of water bodies once in two years.	100%	NA

Sl. No.	Services	Ultimate Benchmark as per MoUD, GoI Guidelines (%)	Present Status (%)
7	Provision of pumping arrangement in low lying areas/water logging areas.	100%	NA
8	Extent of rain water harvesting in buildings etc.	100%	NA
9	Incidence of sewage mixing in the drains	0%	NA

Source: Projections based on NMSH, MoUD, GoI, 2014

6.1.11 Development Strategies

As per CPHEEO Manual on Sewage and sewage treatment, Clause 3.9 and it's sub-clauses, Rainfall intensity calculated from monthly rainfall data of last 11 years comes out to be 89.49 mm/hr. considering once in 5 years as storm frequency and 30 minutes as Time of concentration. Rational method was used for computation of run-off, which is recommended for urban areas by CPHEEO– Drainage Design Manual.

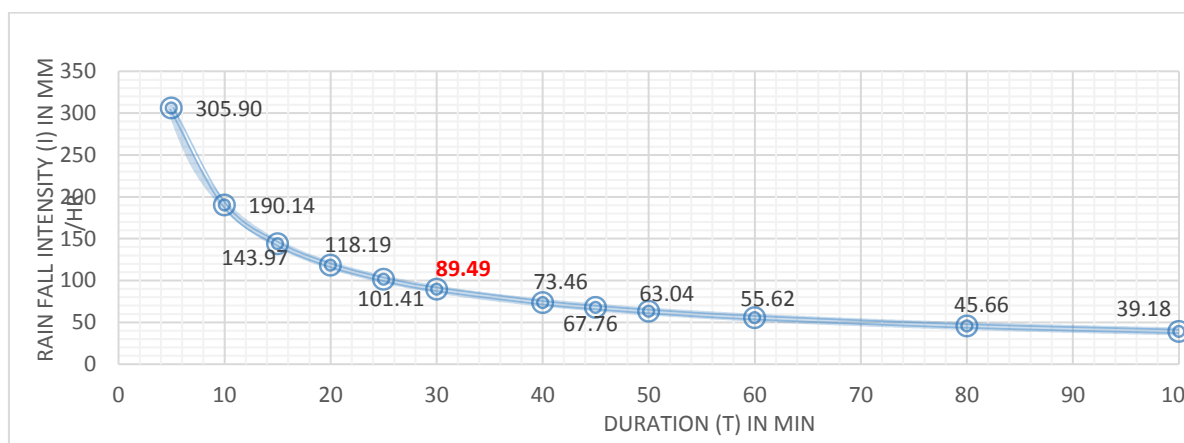


Figure 6-1: Intensity-Duration Curve for Once in 5 years Storm frequency

Source: Calculated based on CPHEEO Manual

As an integrated approach, some of the drains will run alongside of the roads (Roadside Drains) and others may follow natural slope (Cross Drain). The Planning Area is broadly divided into 143 catchments, which is further divided into smaller sub-catchments. All the major Catchments draining itself to major streams/water bodies. Key feature of the network is use of natural streams, to minimize the drain section. Several outfalls are proposed in order to enable safe conveyance of runoff discharge. Two major streams flowing through the project area receives run off through major catchment basin. The total runoff generated for entire study is 820.287 Cumecs.

The drains will run along the roads, either one side or both side as per road camber. Wherever the drain proposed to be closed, it will be necessary to provide a horizontal/vertical entry into the drain at the same time not obstructing free passage for the pedestrians or vehicles. Hence, wherever road of width greater than 10 m, kerb opening inlets as shown are proposed at every 50 m interval to provide horizontal entry into the drain. Since the roads with road width less than 10 m cannot accommodate Kerb Inlets, Perforated Cover Slabs are proposed at every 50 m interval.

All the primary and secondary drains should be covered. These covers will protect the storm drains from disposal of garbage, debris, etc. and also may serve as walkway for pedestrian in narrow roads. Natural storm water should not have mixed with sewage/sullage and garbage. There are need for

provisions of restoration of rainwater for meeting the upcoming water demand for agriculture and other household purposes by upgrading the existing water bodies/ponds.

- a) Storm water Drainage (SWD) system should be designed as a separate system to carry storm water by gravity for the entire project area. Storm water drains are designed with a certain gradient, which will create a self-cleansing velocity, as these drains will carry storm water along with grit, silt and other impurities. All the primary storm water drains should be designed to have a capacity to carry the total discharge of all secondary and tertiary storm water drains.
- b) Regular and proper operation and maintenance of drainage facility is essential for function. It is also accepted that for quality maintenance of drainage system, optimum use of labour, equipment and material is required to keep the system in good condition, so that storm water is efficiently conveyed up to disposal point.
- c) Existing nallahs running through the study area should be improved to increase the efficiency of natural channels. Improvement works shall consist of desilting of channel, development of banks, improvement of side slopes and development of green belt around the nallahs and provision of culverts at road crossings.
- d) It is very important for all upcoming new developments to have rain water harvesting measures. Even government can improve the urban environment by providing recharge wells at suitable locations.
- e) Detailed Operation and Maintenance Programme
- f) Detailed Hydrology study for further proper flood management plan

6.1.11.1 Rainwater Harvesting

Long term water level declines as a result of injudicious exploitation of groundwater resource has led to several vexing problems. Some of these problems are reduced well yields, low water level and leakage into the aquifer of highly mineralised water. In order to overcome these serious environmental implications, the recharge potential of groundwater resource has to be given utmost importance.

Rain water harvesting is the technique of collection and storage of rain water at surface or in sub-surface aquifers, before it is lost as surface run-off. The augmented resource can be harvested in the time of need. Artificial recharge to ground water is a process by which the ground water reservoir is augmented at rate exceeding that under natural conditions of replenishment. For the economic design of drains, it is necessary to trap the rain water by rain water harvesting structures.

6.1.12 Proposed Projects

Based on the existing system and gap analysis, there are some potential projects which can be proposed as follows:

- a) Detailed Master Plan for Storm Water Drainage system for further detailed assessment and solution of drainage proposal
- b) Detailed Hydrology study of existing nallahs/ canals/ river for proper flood management plan and to improve efficiency to cater for storm water discharge from outfalls
- c) Detailed designing of storm water system (DPR)
- d) Implementation of integrated storm water drainage system

- e) Proper outfall structures
- f) Rainwater harvesting system
- g) Detailed Operation and Maintenance Programme

6.4 Solid Waste Management

6.1.13 Existing Situation and Demand Estimation

Presently, there is no solid waste management system in the Planning Area except in the Gagret Nagar Panchayat. The solid waste is burnt in a regular interval in the rural areas whereas in urban area, the solid waste is collected and disposed at the landfill site.

Currently, per day solid waste generation in Gagret NAC area is 2.5 MT which is collected from the households from different wards by five hand driven collection carts. The informal dumping sites are located at ward no. 1 near Mittayal Udyog and Truck Union, ward no. 2 near old Amb road, ward no. 3 near Sewa Singh road and BDO Office, ward no. 4 near the house of Bedi Chand, Shiv Temple and Tube Well no. 1, ward no. 5 near senior secondary school and Old Veterinary hospital and ward no. 7 near Govt. Hospital. There is one tractor trolley which is used for collecting wastes from these informal disposal sites and transport and dispose to the landfill site which is located 4 km away from the NAC area and along NH 70 towards Hoshiarpur road. The landfill site is of 950 sq. m. and NAC pays 2500 rupees rent for disposing waste in this area. No segregation is taking place presently during collection and disposal. No charges are levied on the waste collection. According to the norms 650 sq. m. of landfill site is required for disposing 1 MT waste. In Gagret Nagar Panchayat, as per the norms, 1625 sq. m. of landfill site is required. Additional 675 sq. m. of landfill site is required for disposal of the present waste generated.

To maintain cleanliness at the public places, Gagret NAC has installed 75 dustbins in the Nagar Panchayat area.

6.1.13.1 Projected SWM Generation and Gap Assessment

The number of waste generating inhabitants as well as collection is assumed to rise to a higher percentage of the total population. With passing time as a consequence of ameliorated collection systems the percentages are due to rise in coverage which leads to increase in daily waste production from 7.99 ton/day to 24.44 ton/day.

The following table gives estimated solid waste generated in the Planning Area at the end of the plan period (2035) and the estimated waste reaching the land fill site.

The following assumptions were considered:

- Waste generated per day: 0.3 kg per capita per day.
- Solid waste growth factor: 1.33 percent per annum (ministry of urban development standard).
- Quantity of solid waste reaching landfill: 39 percent of total waste (based on national average).

Table 6-7: Solid Waste Generation and Gap

Sl. No.	Description	2016	2026	2035
1	Population	50223	63304	72696
2	Solid Waste Generation Annual (tons/day)	7.99	15.07	24.44

Sl. No.	Description	2016	2026	2035
3	Annual Cumulative Solid Waste Generation (tons/day)	7.99	32.69	75.16
4	Existing Treatment Facility (tons)	2.50	2.50	2.50
5	Gap (tons)	5.49	12.57	21.94

Source : Calculated as per CPHEEO Manual and MoUD Standard

6.1.14 Service Level Benchmarking

Table 6-8: Service Level Benchmarking for Solid Waste Management (2016-2035)

Sl. No.	Services	Ultimate Benchmark as per MoUD, GoI Guidelines (%)	Present Status (%)	Aim to be achieved in Long Term
1	Household level coverage of SWM services through door-to-door collection of waste	100	8	100
2	Collection Efficiency of Solid waste	100	80	100
3	Extent of segregation of waste	100	NA	100
4	Extent of MSW Recovered	80	NA	80
5	Extent of scientific disposal of waste of landfill sites	100	NA	100
6	Efficiency in redressal of customer complaints	80	NA	80
7	Extent of cost recovery for ULB/ NP/ Authorized agency in SWM services	100	NA	100
8	Efficiency in collection of SWM charges	90	NA	90

Source : Projections based on NMSH, MoUD, GoI, 2014

6.1.15 Future Requirement

Studies on solid waste composition needs to be carried out for study area. Proper segregation at source, collection, transportation and collection/ treatment system need to be developed. Proper landfill site needs to be developed based on horizon year demand.

In designing of waste management system, the composition of solid waste is very important factor that needs to be taken into account, especially when determining the most appropriate recycle possibilities, as well as the treatment and final disposal systems.

An effective waste management system should include the following:

- Proper Waste collection and transportation.
- Segregation of Solid Waste at source
- Resource recovery through sorting and recycling of materials.
- Resource recovery through waste processing by using composting or waste to energy approaches.

- e) Waste minimization by reducing volume, toxicity or other physical/chemical properties of waste to make it safe for final disposal.
- f) Disposal of waste in an environmentally safe and sustainable manner through land filling.
- g) Recycling of Solid waste
- h) Commissioning of landfilling site.
- i) Integrated management of Solid waste.
- j) Incineration for treatment of biomedical waste.
- k) Awareness generation for reduce, reuse and recycling of Solid waste

6.1.15.1 Private Sector Participation in SWM at Urban Local Body Level

Considering the lack of in-house capability of municipal authorities and paucity of financial resources, it is desirable to outsource certain services and resort to private sector/NGO participation in providing SWM services.

The world over it has shown that private sector participation (PSP) results in cost savings and improvement in efficiency and effectiveness in service delivery mainly due to financial and managerial autonomy and accountability in private sector operations. Besides, it brings in new investment and better technologies. In developed countries the private sector manages most of the SWM services.

In India, by and large, municipal authorities are providing solid waste management services departmentally. Resistance from labour unions and interpretations of labour laws have discouraged city administrations from contracting out services to private operators. Of late, some experiments to privatize certain SWM services have demonstrated improvement in the level of services in a cost-effective manner.

The Amb-Gagret cluster has proposed for the integrated waste management in Una district by Directorate of Urban development, Shimla.

6.1.16 Proposed Solid Waste Management Projects

For achieving the goal and implementing the strategies various projects need to be undertaken. Some of the proposed projects are-

- 100 % waste collection
- Waste transfer stations which will include the following:
 - a) Decentralized compost plants
 - b) Sorting and recycling yards
- Waste treatment facility Sanitary landfill
- Information Communication Education (ICE) for solid waste management
- Energy/resource recovery from waste

6.5 Power

The power generation, transmission and distribution in the Planning Area are under the provision of Himachal Pradesh State Electricity Board Limited (HPSEBL). The board has two sub divisions within the Planning Area, one in Amb and another in Gagret.

Table 6-9: Number of Connections

Sectors	Amb Division	Gagret Division
Domestic	5769	15226
Commercial	1382	2251
Industrial	85	356
Sectors	Amb Division	Gagret Division
Institutional	58	133
Agriculture	-	996
Others	-	190
Total	7294	19152

Source: HPSEBL, Gagret and Amb Divisions, Una

6.1.17 Power Connection

There are 19,152 connections in Gagret Sub divisions out of which 2520 are in urban area and rest 16,632 are in rural areas. Out of the total connections, 80 % are of domestic connections, 12 % are of commercial connections, 5 % connections are in agricultural fields and rest 3 % are NDNC (Non-Domestic Non-Commercial), small power and Govt. irrigation connections.¹⁹

In Amb Sub-division, there are 7294 connections which are distributed entirely in the rural areas. Out of the total connections, 79 % are domestic connections, 19 % are commercial, 1 % is industrial and 1 % is NDNC (Non-Domestic Non-Commercial) connections.²⁰

In the Planning Area, 100 % households are connected have lighting facility. In Urban area, 96 % households use electricity as the main source of lighting whereas rest 4 % use Kerosene for lighting. In rural areas of the Planning Area, 98 % households use electricity as the main source of lighting and 2% are dependent on other sources like kerosene and other oils.²¹

6.1.18 Power supply Mechanism in the Planning Area

The power is generated at different sites like Pong Dam, Chamera and Jogindernagar. It is then transmitted to Regional transmission station at Dhera, Kangra. From Dehra, power is transmitted to Amb sub-station at 133/33/11 KV, that comes under Amb Electrical division.

There are four operational feeders under Amb sub-station i.e. Amb feeder, Dhussara feeder, Panjoya feeder and Sidhpur feeder which distribute power to ground level users. The feeders have capacity of 11 KV each. ²²

In Gagret, there is a separate sub-station which comes under the Gagret Electrical Division. The Gagret sub-station has four operational feeders i.e. Gagret Deoli and Bharwain feeder, Bhaira Panjavar-Khad feeder, Gagret Panjavar-Ispur feeder and Gagret local feeder which distribute power to the users. The feeders are with 11 KV capacity each.²³

¹⁹ Source: HPSEBL, Gagret Divisions, Una

²⁰ Source: HPSEBL, Amb Division, Una

²¹ Source: Census of India, 2011

²² Source: HPSEBL, Amb Division, Una

²³ Source: HPSEBL, Gagret Division, Una

6.1.19 Outages and T&D Losses

The number of scheduled outages has been reduced from seven times in a year in 2013 to two times in a year in 2015 whereas the no. of unscheduled outages has been increased from 258 times in a year in 2013 to 279 times in a year in 2015 in Gagret division. In Amb Division, the no. of scheduled outages has been reduced from 39 times in a year in 2013 to 25 times in a year in 2015. The no. of unscheduled outages has also been reduced from 77 times in a year in 2013 to 33 times in a year in 2015. It puts light on the fact, that the demand of power is more in Gagret division than the supply whereas in Amb division, the power supply is trying to meet the demand. The gap between demand and supply is more in Gagret area than Amb are.²⁴

The T&D losses have been improved in both the divisions in terms of reducing the percentage loss of electricity. The T&D losses in Gagret area have been reduced from 14.32 % in 2013 to 8.78 % in 2015 whereas in Amb area the reduction in losses is from 8.12 % in 2013 to 6.25 % in 2015.²⁵

6.1.20 Demand Assessment

According to the URDPFI guidelines, the standard service level of power is 2.74 KWH per capita per day. For estimating the power supply demand at domestic level, the assumption of 8 hours' power supply has been taken into consideration. As per the URDPFI guideline and assumption, the power demand at domestic level is 11.83 MW in the Planning Area. Other than the domestic demand estimation, the demand of other sectors is estimated as 2.42 MW (assumed to be 20 % of the domestic demand). The total power demand in the Planning Area is estimated to be 14.19 MW. Considering 7.50 % AT&C losses i.e. 1.06 MW of the total power supply, the total power supply should be 15.25 MW in the Planning Area.

²⁴ Source: HPSEBL, Amb and Gagret Divisions, Una

²⁵ Source: HPSEBL, Amb and Gagret Divisions, Una

7. SOCIAL INFRASTRUCTURE

7.1 Introduction

Social infrastructure is a subset of the infrastructure sector which includes assets that accommodate social services. Social Infrastructure includes educational facilities, healthcare facilities and related infrastructure, post office and telegraph services, recreational facilities, socio-cultural and public and semi-public facilities. This chapter gives an overview of the social infrastructural facilities in Amb-Gagret Planning Area which covers the distribution of educational and healthcare facilities, safety and security, post-office and communication, public and semi-public facilities and issues and concerns related to social infrastructure in Amb-Gagret Planning Area.

7.2 Educational Facilities

In Amb-Gagret Planning Area, there are about 80 % of the schools are run by the government and remaining schools are run by private authorities.

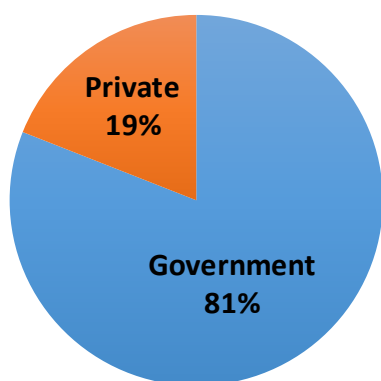


Figure 7-1: Ownership of School facilities in Amb-Gagret Planning Area

Source: VD-02029, Village Directory, Kangra District, Census of India, 2011

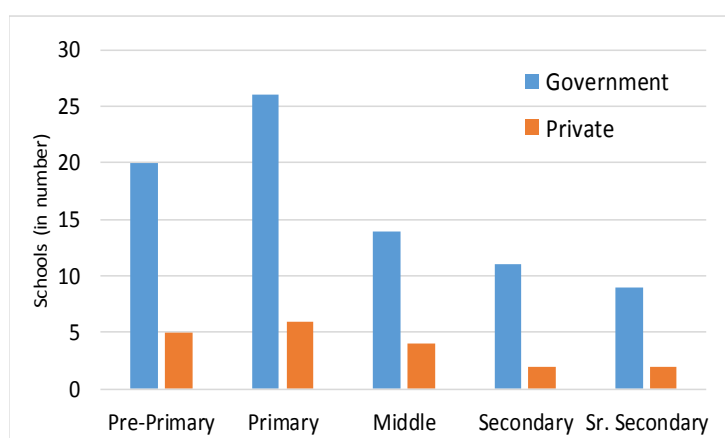


Figure 7-2: Number of Government/ Private School Facility in Amb-Gagret Planning Area

Source: VD-02029, Village Directory, Kangra District, Census of India, 2011

The elementary educational facilities are evenly distributed in the Planning Area but to avail education after elementary, school going population in the settlements such as Partap Nagar, Adarsh Nagar, Tibi, Mubarikpur and Shiv Bari have to commute to nearby facility located at a distance of less than 5 km to avail education at Nehri, Amb, Kalruhi, Shiv Pur and Ambota respectively.

The educational facilities, a level beyond elementary i.e. secondary and senior secondary are well distributed among all the settlements except Partap Nagar, Hira Nagar, Kothar Kalan and Shiv Bari where children commute around 5 to 10 km to avail education.

Table 7-1: Present (2017) and Future (2035) requirement for Education

Facility	Present population	E	R	G	Required Area	Projected population	E	R	G	Required area
Primary School	38375	32 (Govt. 26 & Private 6)	9	-	-	60000	32 (Govt. 26 & Private 6)	15	-	-

Secondary School		24 (Govt. 19 & Private 4)	4	-	-		24 (Govt. 19 & Private 4)	4	-	-
Industrial Training Centre		-	-	1	0.30		-	-	1	1
College		2	2	-	-		2	2	-	-
Professional College		1	2	-	-		1	2	-	-
Universities		-	-	1	2.00		-	-	1	1

Note: E-Existing, R-Required, G-Gap

In Amb-Gagret Planning Area, the primary and secondary education facilities are more than the current requirement. There are two colleges i.e. a Maharana Partap Government Degree College and a private Engineering college in the Planning Area whereas Government Management Institutes are located outside the Planning Area i.e. Una, Hamirpur and a private Management Institute at Pandoga. Besides, there is a government Polytechnic situated at Ambota with the Planning Area. Moreover, there are professional colleges located outside the Planning Area at Daulatpur, Tanda, Una, and Nehri that draws students from within the Planning Area. It is found that all the educational facilities in Amb-Gagret Planning Area are sufficient as per the standards as in URDPFI guidelines.

7.3 Medical Facilities

In Amb-Gagret Planning Area, hierarchy can be seen in terms of healthcare facilities i.e. dispensary, sub-centre, primary health centre, community health centre, hospital and veterinary centre.

Dispensary: There are 11 dispensaries in Amb-Gagret Planning Area and have a strength of 13 doctors and 16 para-medical staff out of which 8 doctors and 12 para-medical staff are in-position. Residents of Kothar Kalan have to commute 5 to 10 km in order to avail facilities at dispensary but the medical needs of the village are fulfilled by a Primary Health Sub-Center which is located within the village. Rest of the villages have to commute less than 5 km to avail basic medical treatment. As per the norms, there should one dispensary at a population of 2,500 and in the Planning Area the existing number of dispensaries are lesser than the requirement, therefore, there is a gap for 3 dispensaries in the Planning Area. Hence, the dispensaries are not sufficient as per the current requirement.

Sub-Centre: There are 9 primary health sub-centers in Amb-Gagret Planning Area with a total strength of 9 doctors and 18 para-medical staff out of which all the 9 doctors are in position and but only 9 para-medical staff is in position. People residing in Hira Nagar have to cover 5 to 10 km to avail medical facility whereas residents of Rampur has access to Primary Health Center within 5 km. The number of sub-centres in the Planning Area is less than the requirement with reference to the URDPFI guidelines. There are 9 sub-centres existing in the Planning Area and the total requirement is 12, hence, there a gap of 3 sub-centres. Therefore, the number of sub-centres are not adequate as per the URDPFI guidelines.

Primary Health Centre: There are total 2 Primary Health Centres (PHC) in Amb-Gagret Planning Area. The PHCs are located at Amb and Andora Nichla. Rest of the villages have to cover 5 to 10 km to avail medical treatment whereas people residing in Shiv Bari have to commute more than 10 km to visit a PHC. There is a total strength of 4 doctors in PHCs and all the 4 doctors are in position at these PHCs.

As per the URDPFI norms, there should be one PHC for a population of 20,000. Hence, the distribution of PHCs in the Planning Area is more than the requirement with reference to the planning standards.

Hospital: There is one allopathic hospital in Amb, namely, Government Hospital. There is a total strength of 2 doctors and 6 para-medical staff out of which 2 doctors and 5 para-medical staff are in position.

According to the URDPFI standards, there should be one hospital at a population of 80,000. Therefore, the distribution of hospitals in Amb-Gagret Planning Area is sufficient to cater the current as well as future demand.

Veterinary Centre/Hospital: There are 7 veterinary hospitals in the Planning Area located at Andora Upperla, Mubarikpur, Ambota, Gagret, Dev Nagar, Shastri Nagar and Oel. The total doctors in position at these 4 hospitals are 5. The existing veterinary hospitals in Amb-Gagret Planning Area are adequate while comparing it with the distance range given in the URDPFI guidelines.

Table 7-2: Present (2017) and future (2035) requirement for Health facilities

Facility	Present Population	E	R	G	Required Area	Projected Population	E	R	G	Required Area
Dispensary	38375	11	14	3	0.45	60000	11	24	13	0.195
Health Sub-Centre		9	12	3	0.075		9	20	11	0.275
Family Welfare Centre		-	7	7	0.175		-	1	1	0.025
Maternity Home		-	2	2	0.05		-	1	1	0.025
Nursing Home		-	2	2	0.1		-	1	1	0.050
Primary Health Centre (25 to 50 beds)		2	2	-	-		2	40	38	3.99
Hospital (80 beds)		1	1	-	-		1	1	-	-
Veterinary Centre		7	35	28	1.4		7	60	53	2.65

Note: E-Existing, R-Required, G-Gap

7.4 Public and Semi-public Facilities

The public and semi-public facilities include anganwadi, community hall, police station, fire station, disaster management cell, banking facility, commercial facility, post office and telecommunication facility and recreational facility.

7.4.1 Police Station

There are two Police Stations in the Planning Area. These 2 Police Stations of Amb and Gagret are catering the population of entire Amb-Gagret Planning Area. As per the guidelines, there should be one police station for a population of 15,000. The existing facilities are not adequate as per the planning guidelines. So there is requirement of one more police station in the Planning Area.

Table 7-3: Present and Future requirement for Police station services

Sr. No.	Service	Present population	E	R	G	Required area (Ha)	Projected population	E	R	G	Required area (Ha)
1	Police station	38375	2	3	1	0.50	60000	2	4	2	1

Note: E-Existing, R-Required, G-Gap

7.4.2 Fire Station

In Amb-Gagret Planning Area, there is no fire station. But to deal with the fire incidents in the Planning Area, there is one fire service station at Rampur in Una district which is situated at a distance of 33 km from Amb and 35 km from Gagret. As per the URDPFI norms, for a population of 50,000, there should be one fire station. The population of Amb-Gagret Planning Area is 38,375. Hence, fire services at Rampur is sufficient to cater the needs. However, considering the growth of Industrial area in the Planning Area, an independent fire station is required to cater to all fire emergencies within the Planning Area.

Table 7-4: Present and Future requirement for Police station services

Sr. No.	Service	Present Population	E	R	G	Required area (Ha)	Projected Population	E	R	G	Required area (Ha)
1	Fire station	38375	1	1	-	0.30	60000	1	2	1	0.30

Note: E-Existing, R-Required, G-Gap

7.4.3 Disaster Management Centre

The Office of Sub-Divisional Magistrate (SDM) of Amb Sub-Division has a Disaster Management Cell that looks after the disaster management in Amb-Gagret Planning Area. According to the URDPFI norms, there should be a Disaster management Centre for a population of 20,000. Hence, there is requirement for one more Disaster Management Cell in the Planning Area according to the URDPFI norms.

7.4.4 Banking Facility

In terms of banking facilities, there are branches of nationalised banks in the Planning Area i.e. State Bank of India, Punjab National Bank, Canara Bank and State Bank of Patiala. In addition, according to the Census records (2011), there are 4 commercial banks, 13 co-operative banks and 17 Agricultural Credit Societies. As per the norms, there should be one bank at 10,000 population. In Amb-Gagret Planning Area, the banking facilities are sufficient and it is more than prescribed in the URDPFI norms.

Table 7-5: Present and Future requirement for Disaster Management centre

Sr. No.	Service	Present Population	E	R	G	Required area (Ha)	Projected Population	E	R	G	Required area (Ha)
1	Bank	38375	34	4	-	-	60000	34	6	-	-

Note: E-Existing, R-Required, G- Gap

7.4.5 Commercial Facility

The main commercial activities are located along the NH-3 in the Planning Area. There are two main markets in the Planning Area, one is located in Amb and other is in Gagret. Both of these markets are

located along the national highway and are considered as main markets as entire population of the Planning Area is dependent on these two markets. Besides this, commercial activities can also be seen along the internal roads in the centre of Gagret. Moreover, there is convenience shopping facility in each of the revenue village within the Planning Area. According to URDPFI guidelines, one commercial centre should serve 10,000 populations. Hence, there is requirement of four local convenience shopping facilities in the Planning Area according to the URDPFI norms.

Table 7-6: Present and Future Requirement for Local Convenience Shopping

Sr. No.	Service	Present population	E	R	G	Required area (Ha)	Projected Population	E	R	G	Required area (Ha)
1	Local Convenience Shopping	38375	2	4	2	1	60000	2	6	4	2

Note: E-Existing, R-Required, G-Gap

7.4.6 Post office

As per the Census of India (2011) records, there are 13 sub-post offices located at Amb, Hira Nagar, Kalruhi, Andora Upperla, Mubarikpur, Kothar Kalan, Kuthera Kherla, Ambota, Gagret, Indira Nagar, Baroh, Oel and Kaloh. The main post office is located in Una. According to the URDPFI guidelines, there should be one post office for a population of 10,000 and a rural post-office for a population of 2000. In Amb-Gagret Planning Area, all the post-offices are existing as per the guidelines and are sufficient to cater the demand of the Planning Area.

Table 7-7: Present and Future Requirement for Post Office

Sr. No.	Service	Present Population	E	R	G	Required area (Ha)	Projected Population	E	R	G	Required Area (Ha)
1	Post office	38375	13	4	-	-	60000	13	6	-	-

Note: E-Existing, R-Required, G-Gap

7.4.7 Telecommunication

Amb-Gagret Planning Area is served by extensive network of telecommunication. Private communication providers like Airtel, Vodafone, Reliance and BSNL are providing efficient service in the entire Planning Area. The Amb-Gagret Planning Area is also well connected with the landline phone connections whereas according to the village directory of Una district (2011), internet facility is available only in 10 villages.

7.4.8 Community Centre

According to Census of India (2011), there are two community centres within the Planning Area. These are located at Baroh and Oel. According to the URDPFI guidelines, there should be a community centre at a population of 10,000 accordingly 3 Community Centers are required for the Planning Area. There are two existing Community Centers and one additional Community Center is required as per URDPFI guidelines.

Table 7-8: Present and Future Requirement for Community Welfare Center

Sr. No.	Service	Present Population	E	R	G	Required Area (Ha)	Projected Population	E	R	G	Required area (Ha)
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1	Community Welfare Center	38375	2	3	1	0.10	60000	2	4	2	0.2
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Note: E-Existing, R-Required, G-Gap

7.4.9 Recreational Facility

In Amb-Gagret Planning Area, there are six recreational centres and a Ram Leela Maidan which is used for conducting the cultural and religious events. Besides, there are no parks and open spaces. Apart from this, Census of India record says that there are thirteen sports field located in Planning Area. The recreational facilities are adequate as per the URDPFI norms. There is a requirement of four housing area parks, five neighbourhood park and one botanical park as per the planning guidelines.

Table 7-9: Present requirement for Recreational Facilities

Sr. No.	Service	Present population	E	R	G	Required area (Ha)	Projected population	E	R	G	Required area (Ha)
1	Housing Area Park	38375	-	8	8	4	60000	-	12	12	6
2	Neighborhood Park		-	4	4	5		-	6	6	7.2
3	City Parks/ playgrounds/ma idan/ exhibition grounds/ cultural gathering grounds		1	1	-	-		1	1	-	-
4	Botanical Garden		-	1	1	10.00		-	1	1	10.00
5	Recreational complex		6	1	-	-		3	1	-	-

Note: E-Existing, R-Required

8. ENVIRONMENT

8.1 Forest Cover

In Amb Gagret Planning Area, out of 6630 ha 26.12 % of the land is covered by forests. It is more than the district average i.e. 13 %. The south eastern portion of the Planning Area falls under Chohar Range. Northern portion of Planning Area is under Chintpurni range. This forest area is marked as un-demarcated protected and open category forests.

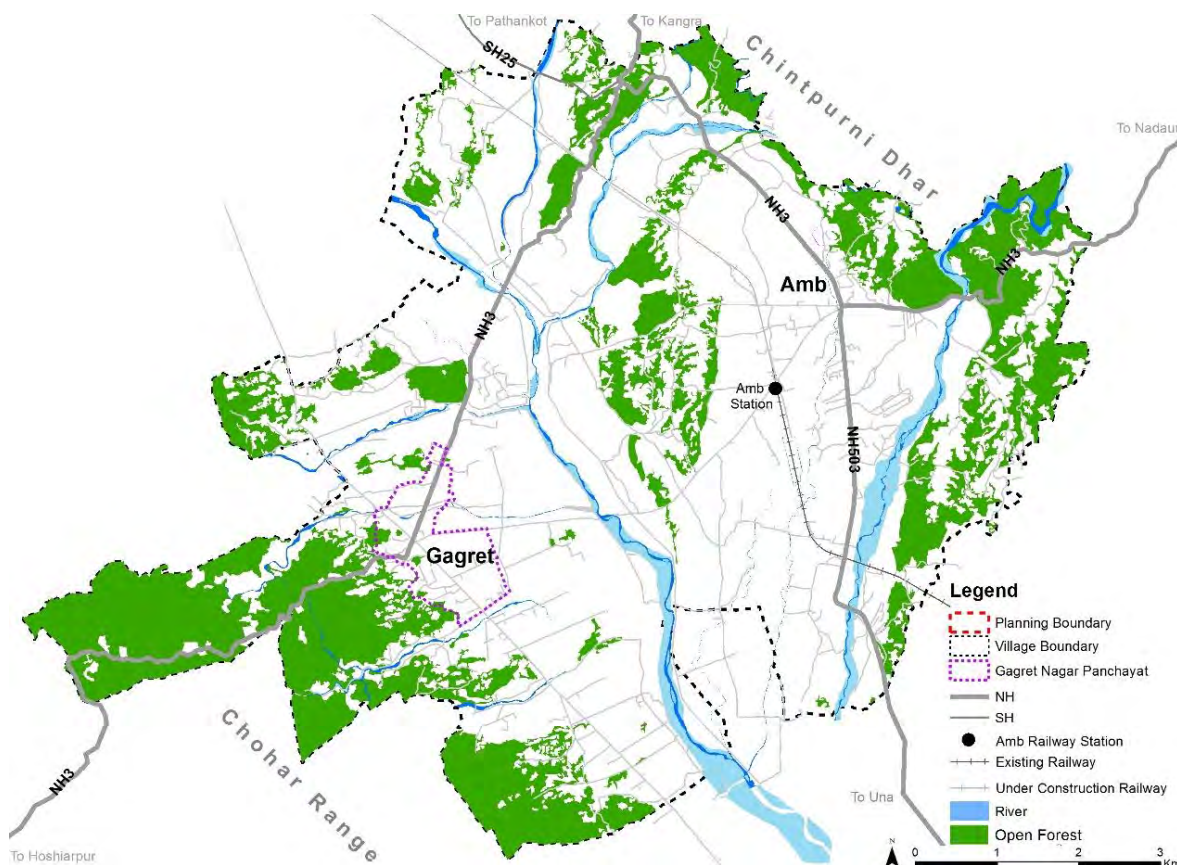


Figure 8-1: Forest Cover in Planning Area

Forest land is under open forest and that is not notified. These forest areas shall be conserved while preparing the development framework. It is essential to mark the un-demarcated forests as well to protect them and prevent degradation of it over period of time. The un-demarcated protected forests and open forests can be used for collecting forest produce ensuring livelihood for the local people in the area.

8.2 Conservation of Forest Cover

Forest cover of Planning Area is more than district average. It is an important asset to Planning Area and need to be safeguarded for providing sustained benefits to the community and diversion of such land to other purpose should be done after careful examination from social and environmental point of view. 26.12 % of forest cover shall be conserved and would function as green lungs Amb Gagret Planning Area. A buffer around the boundary needs to be maintained as per the HP TCP Rules, 2014

(Amended). The minimum distance of 5.00 m from Forest boundary shall be maintained and minimum distance from existing tree shall be 2.00 m²⁶

8.3 Water bodies

8.3.1 Surface Water

Complete Planning Area fall within catchment area of Swan river. Swan river runs from North West to South East part of Planning Area. There are 8 out of total 73 tributaries (Khad) of Swan river that fall within Planning Area makes dense drainage network.

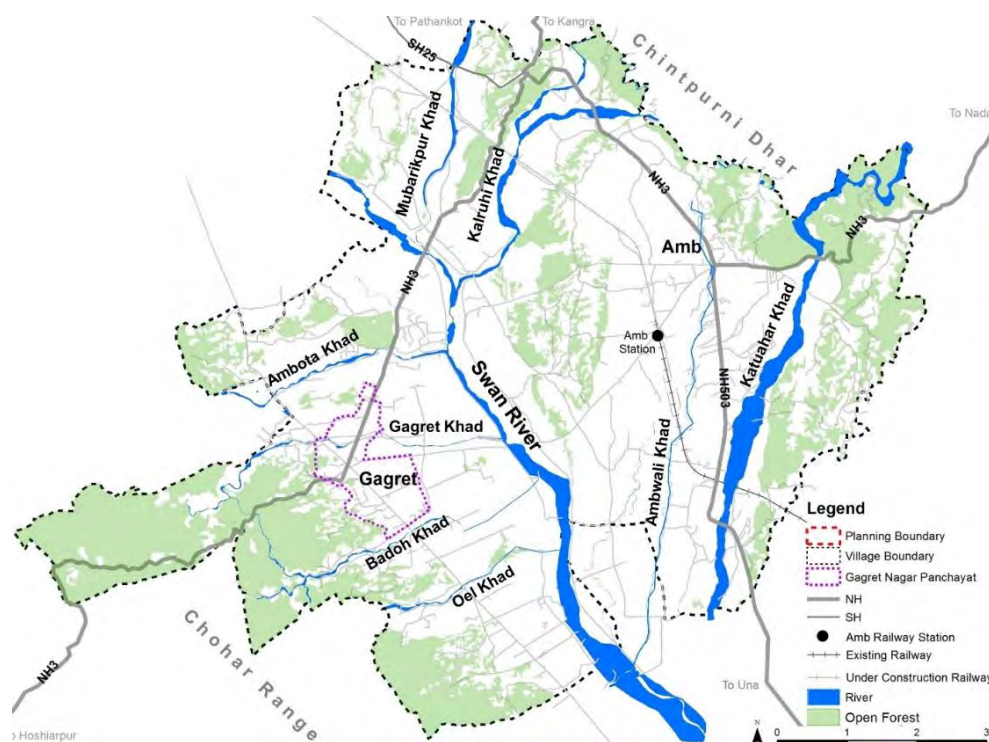


Figure 8-2: River and Drainage Map of Planning Area

Source: Irrigation and Flood Control Department, Gagret

8.3.2 Conservation of Water-bodies

No building activity shall be carried out within 25 m from the embankment of the river Swan and the same shall be maintained as green buffer zone. No construction activity except agriculture shall be allowed in area falling between green buffer zone to HFL. The construction shall be allowed at distance of 10 M from Nallah and Khad respectively. The river front areas may be developed with attractive laser shows for tourists and visitors during festive seasons. Any degradation of wetland or surface water body would lead to habitat loss for birds, aquatic species and rare vegetation. Even deterioration of water quality of such lakes may distract tourists. To check depletion of water bodies, Himachal Pradesh Town and Country Planning (Amendment) Rules, 2014 the master plan recommends the following

- Stop dumping of waste in the water bodies
- Stop earth filling of water bodies

²⁶ Himachal Pradesh Town and Country Planning (Amendment) Rules, 2014 (Amended)

c) Encourage suitable recreational facility around water body to keep surveillance

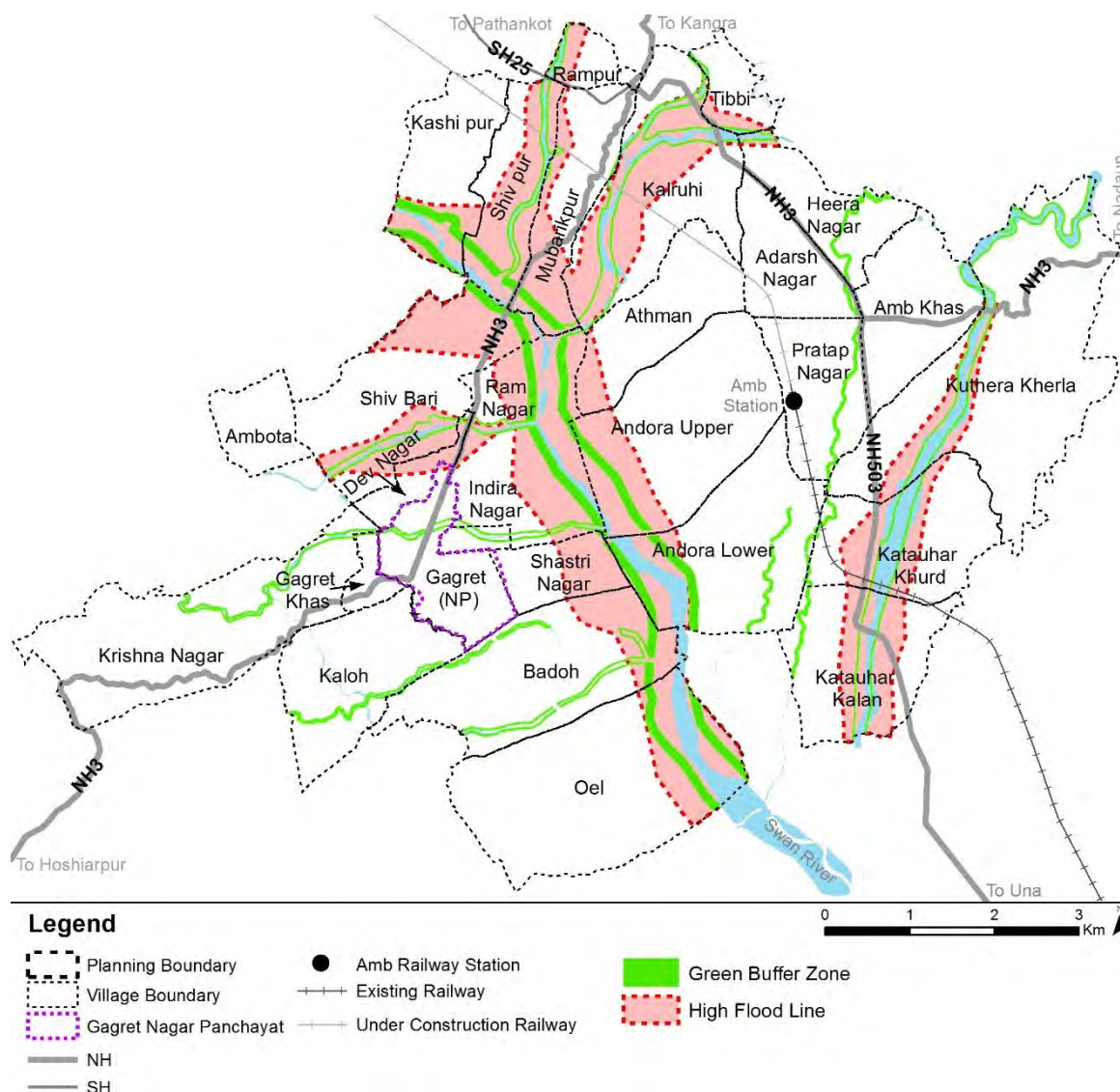


Figure 8-3: Flood map of Planning Area

Source: Irrigation and Flood Control Department, Gagret

8.3.3 Water Quality

Water quality assessment and management is one of the vital element of water management. This has gained significance over the years due to the growing concerns and awareness on environment and health related impacts²⁷.

In Amb-Gagret Planning Area, the water discharge into Swan river is being monitored at the Santokhgarh discharge station. The data from 2013-2015 is being assessed to monitor the water quality in the Planning Area.

It has been found that the pH value of the surface water is good as it falls under the permissible limits of CPCB standards whereas the dissolved oxygen in water is close to mean 8.14 and a standard

²⁷ Government of India, Water Quality Assessment Authority, seen on 16th April, 2016, available at <http://wqaa.gov.in/Content/History.aspx>

deviation of ± 1.5 . It is also found that the amount of dissolved oxygen is more than the minimum requirement of 6 mg/l. Therefore, it is a good indicator for the sustenance of aquatic life. On the other hand, the mean of Biochemical Oxygen Demand (BOD) is 4.6 and ± 5.9 standard deviation. The Biochemical Oxygen Demand falls under Class C of the standards prescribed by CPCB. Therefore, due to presence of high BOD, the water can be used for drinking purpose only after the conventional treatment.

8.3.4 Air Quality Assessment

There are several sources of air pollutants and their composition changes from time to time. The concentration of air pollution varies according to the source of its generation, location and topographical conditions of a particular location depending on its varying time and seasons. The closest air quality monitoring station to Amb-Gagret Planning Area is located at Una. The analysis of ambient air quality has been done based on the data received from Una station from Himachal Pradesh Pollution Control Board's official website²⁸.

(A) Concentration of Sulphur Dioxide

The concentration of SO₂ in the air didn't fluctuate much during 2013 to and it is found to be under the permissible limit as per the ambient quality standards of CPCB.

(B) Concentration of Nitrogen Dioxide

The annual concentration of Nitrogen Dioxide has increased from 47.4 $\mu\text{g}/\text{m}^3$ during 2013-14 to 50.1 $\mu\text{g}/\text{m}^3$ during 2014-15. The concentration of NO₂ is above the permissible limit of 40 $\mu\text{g}/\text{m}^3$ for industrial, residential, rural and other areas given by CPCB ambient air quality standards. The presence of NO₂ is high during the summers and winters than rest of the months in a year.

(C) Concentration of RSPM

The concentration of RSPM has increased from 74.86 $\mu\text{g}/\text{m}^3$ during 2013-14 to 78.95 $\mu\text{g}/\text{m}^3$ during 2014-15. It is noticed that the presence of RSPM in the air is above the permissible limit of 40 $\mu\text{g}/\text{m}^3$ for industrial, residential, rural and other areas given by CPCB standards for ambient air quality monitoring. Though, RSPM is higher than the standards in all the months but in summer months i.e. April to June it exceeds 80 $\mu\text{g}/\text{m}^3$ (refer **Figure 8-4**). The main reasons for high concentration of RSPM in the air may be due to the diesel driven vehicles and industrial emissions.

²⁸ <http://hppcb.nic.in/airquality/Una.pdf>

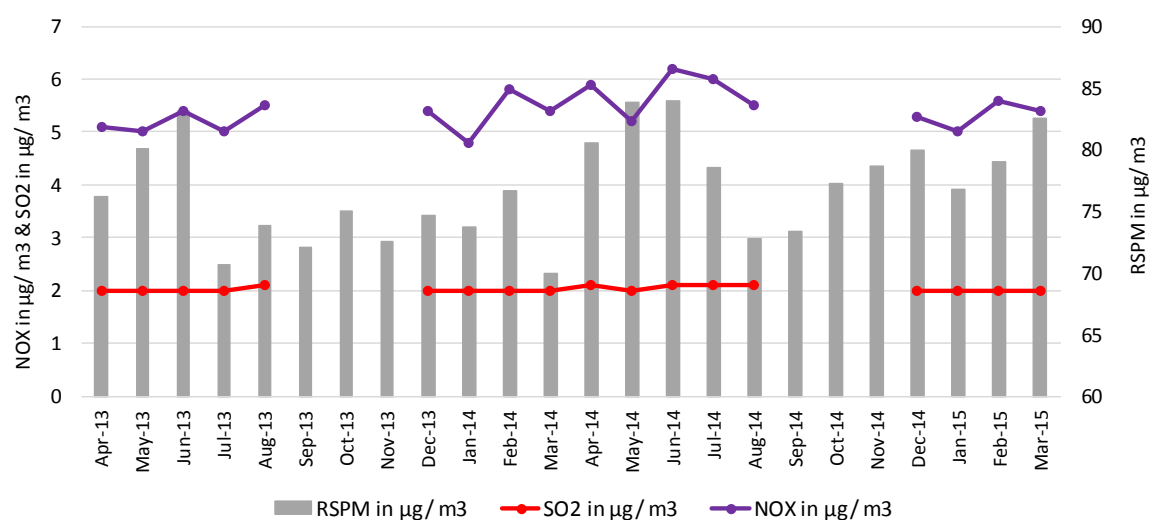


Figure 8-4 Monthly mean concentration of SO₂, NO₂ and RSPM at Una during 2013-15

Source: Himachal Pradesh Pollution Control Board (seen on 07/06/2016 <http://hppcb.nic.in/airquality/Una.pdf>)

8.4 Disaster Vulnerability Profile and Mitigation Measures

The nature of disastrous events is such that there is very less time to respond unless there is preparedness to cope with the effects in pre-disaster and post-disaster stages. It is considered that preparedness is the best measure to respond to catastrophic events for reducing the effects and mitigate the losses in terms of life and property²⁹. Traditionally, preparedness during the time of emergency involved the stockpiling of relief goods and providing basic needs to people in need³⁰. It is believed that capacity building for human response to is a long-term exercise for mitigating the impact of disasters whereas the short-term contingencies include the finance that is required for providing relief and restoration of infrastructure. Now-a-days, it has become important for the communities to work closely with the local authorities in order to enhance their own capacities to prepare for and manage the effects of various risks³¹.

According to Sub-Divisional Disaster Management Plan (2015) of Amb sub-division, the Planning Area is prone to flash flood, fire accidents, drought, hailstorms, road accidents, chemical hazards, stampede, earthquake, building collapses etc.

8.4.1 Fire Accidents

Fire related accidents are common during the summer season that causes immense loss to the human lives, livestock, residential properties, jhuggi-jhopri clusters, industries and forest produce. In Amb-

²⁹ Government of India, 2012, District Disaster Management Plan: District Kangra, Himachal Pradesh, the Government of India-UNDP Disaster Risk Reduction (DRR) Programme (2009-12), UNDP.

³⁰ World Health Organization, 2007, Risk reduction and emergency preparedness: WHO six-year strategy for the health sector and community capacity development, WHO Document Production Services, Geneva, Switzerland p.9. (available on http://www.who.int/hac/techguidance/preparedness/emergency_preparedness_eng.pdf)

³¹ World Health Organization, 2007, Risk reduction and emergency preparedness: WHO six-year strategy for the health sector and community capacity development, WHO Document Production Services, Geneva, Switzerland p.9. (available on http://www.who.int/hac/techguidance/preparedness/emergency_preparedness_eng.pdf)

Gagret Planning Area, major fire events have occurred in industries which resulted in huge losses (refer Table 8-1).

Table 8-1 Historical Fire Hazard Events in Amb-Gagret Planning Area

Date	Name of Industry	Cause	Product	Loss of Property
21/7/2008	Luminous Power Tel Pvt. Ltd., Gagret	Fire	Led Acid Batteries etc.	13 crores approx.
24/06/2009	MBD Pvt. Ltd., Gagret	Fire	Paper Mills	5 crores approx.

Source: Sub-Divisional Disaster Management Plan, Amb Sub-Division, District Una, 2015

MITIGATION MEASURES

At present the Sub-Division has following measures in order to cope up with Fire Incidents:

- A fire service station at Una which has a manpower of 21 personnel, 3 vehicles including 1 fire vosuer, 1 water tender and a small water tender. In addition to this, there are enough hydrants available with I&PH department Division No.I & II.
- Fire extinguishers are installed in all the government offices and all heads of offices have been directed to take immediate action on it.
- A fire tender has been purchased for Temple Trust of Chintpurni temple. In case of fire incidents, Home Guards and Jawans of 1st IRB Bangarh and Police are available for deployment. There are five companies of Home Guards having 478 Home Guards and one company of 1st IRB comprising of 100 trained men are available, in case of emergencies.
- At community level, disaster management committees are formed and Sub-Division is working on capacity building of the committee members to handle any sudden fire incident.

However, there is no fire station in Amb Gagret Planning Area. However, considering the presence of Industrial area in the Planning Area, an independent fire station is required to cater to all fire emergencies within the Planning Area. It is proposed to have 1 fire station in the Planning Area.

In addition to the above mentioned mitigation measures, there shall be fire extinguishers installed in each industry and each industry shall have officials deputed for fire management. Such designated officials shall be trained in fire management and capacity building exercises shall be conducted at each industry on a regular basis.

8.4.2 Drought

Drought affect the crops resulting into shortage of food and fodder. The government provides subsidies to the farmers if the losses are above 50 %. In order to meet the requirement of fodder, wheat straw is imported by the government from Punjab and provide it to farmers at a subsidized rate.

MITIGATION MEASURES

To get over the drought situation in Planning Area, the following measures have been taken up by the Sub-Divisional administration:

- I&PH departments is identifying the water scarcity areas and installing hand pumps in drought prone areas.
- Traditional water sources are also cleaned and disinfected for making them usable.

- c) In some areas of Amb, where the water sources are completely dried; the drinking water is supplied through tankers in the summer season.
- d) I&PH department is looking after the drought situation from time to time. In order to mitigate the impact of climate change and drought on agriculture and horticulture, Sub-Division is using MNREGA, DPAP and SWAN Watershed project to enhance irrigational potential by way of constructing water harvesting structures.
- e) Revenue department is responsible for taking immediate action on the loss assessment to provide relief to farming community as per the provisions of relief manual and also to submit the case for special assistance from the State as well as Central government.

8.4.3 Floods

Amb-Gagret Planning Area is endowed with seasonal rivers and khads. The main river that crosses across the Planning Area i.e. Swan river is vulnerable to floods and it is known as “Sorrow of Una District”. The Disaster Management Department have identified the villages that are prone to floods (refer Figure 8-5).

MITIGATION MEASURES

- a) The Swan River Integrated Watershed Management Project³² was sanctioned for channelizing the embankment in 2006-07 to cater to the degradation in the catchment area.
- b) The first phase of the Swan River Channelization was completed in year 2009 for the river between Jhalera Bridge and Santokhgarh, benefiting large number of people inhabiting on its banks. The successful execution of the first phase had helped in reclaiming the entire 2,260 hectare of land which is now being used for agricultural purposes.
- c) The second phase included construction of embankments on both banks of Swan River from Gagret Bridge to Jhalera with a total length of 28.34 km. Phase to is completed in 2015-16
- d) A separate Flood Protection Division is established at Gagret which is channelizing the Swan River and its tributaries. Also, villages are given early warnings well before the onset of rainy season and during the rainy season to prevent life and property.
- e) Quick Response Teams of Sub-Divisional Police, 1st IRB at Bangarh and Home Guards are kept at high alert during the rainy season.

As a part Watershed Management Project, Department of Irrigation and Flood Control, Gagret have identified high flood line for Swan river and its tributaries.

Construction of such embankment have reduced effective catchment area of Swan river. However, it is unsafe to allow any development activities in demarcated flood prone area. In future only Agriculture/Recreation related activities shall be allowed in such areas.

³² Swan River Integrated Watershed Management Project, Himachal Pradesh Forest Department, http://swanriverproject.nic.in/content/2_1_AboutUs.aspx

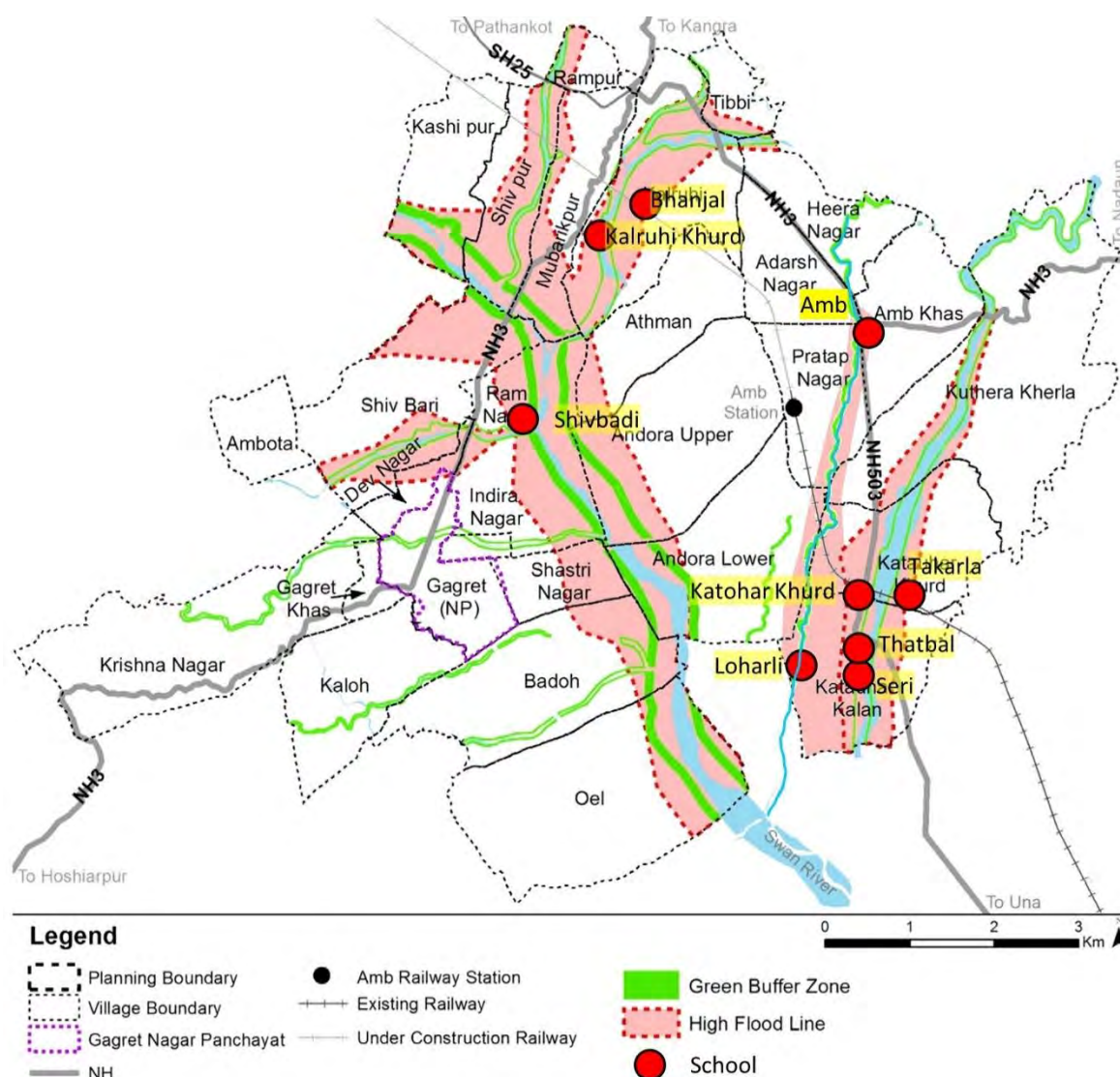


Figure 8-5 Flash Flood vulnerability map of Amb-Gagret Planning Area

Source: Sub-Divisional Disaster Management Plan of Amb, District Una, 2015

8.4.4 Road Accidents

The main national highway connecting Jalandhar to Mandi i.e. NH 3 pass through Amb-Gagret Planning Area. The presence of religious sites in and around the Planning Area results in heavy traffic during the religious events. The Planning Area is prone to road accidents as the traffic increases every year during the religious events. The major cause of road accidents is negligence of traffic rules.

MITIGATION MEASURES

Sub-Divisional Police has formulated a strategy to maintain round the clock road discipline. Una Division receives large number of undisciplined traffic complaints related to heavy traffic and light good carriers carrying passengers.

The passenger carriers are overloaded with passengers and majority of them enters from the neighbouring states of Punjab and Haryana. There are no check posts for adhering the traffic rules.

8.4.5 Earthquake

Entire Una district is vulnerable to earthquakes of severe intensity and the Amb-Gagret Planning Area falls in seismic zone range of IV and III of earthquake. The epicentre of various earthquakes that had hit Himachal Pradesh in the past are shown along with their intensity on Richter scale. The population at the risk of earthquake has also been shown with the buffer along the thrust and fault line. It shows that Amb-Gagret Planning Area falls under zone IV and III but it is not located on any fault line. According to the Sub-Divisional Disaster Management Plan of Amb, government buildings in the rural areas, especially those constructed through Gram Panchayats such as schools, community centres, mahila mandal bhawans, youth club, anganwadi centres are vulnerable to damage due to lack of inclusion of seismic features for construction of such buildings.

MITIGATION MEASURES

- a) **Preparedness:** Community preparedness is important for mitigating the impact of earthquake. Sub-Divisional administration is in process of undertaking effective programs with the help of Panchayati Raj Institutions and Civil Body Organizations such as Mahila Mandal, Youth Mandal, village health and sanitation committees and village level disaster management committees along with the financial assistance from State and Central government.
- b) **Public Education:** Imparting education regarding the earthquake is important. Preparedness through public education includes educating the public on the causes and characteristics of an earthquake and how should they respond to it. Public education and awareness programs have been designed to reach the vulnerable groups.
- c) **Building Design:** Architectural and engineering designs shall be responsive to basic parameters for earthquake resistance, as per prevalent norms, as in NBC 2016, before constructing a new structure. Identification of type of soil prior to site finalisation shall be made mandatory and construction of buildings on soft soil shall be restricted. Enforcement of building byelaws shall be made strict.

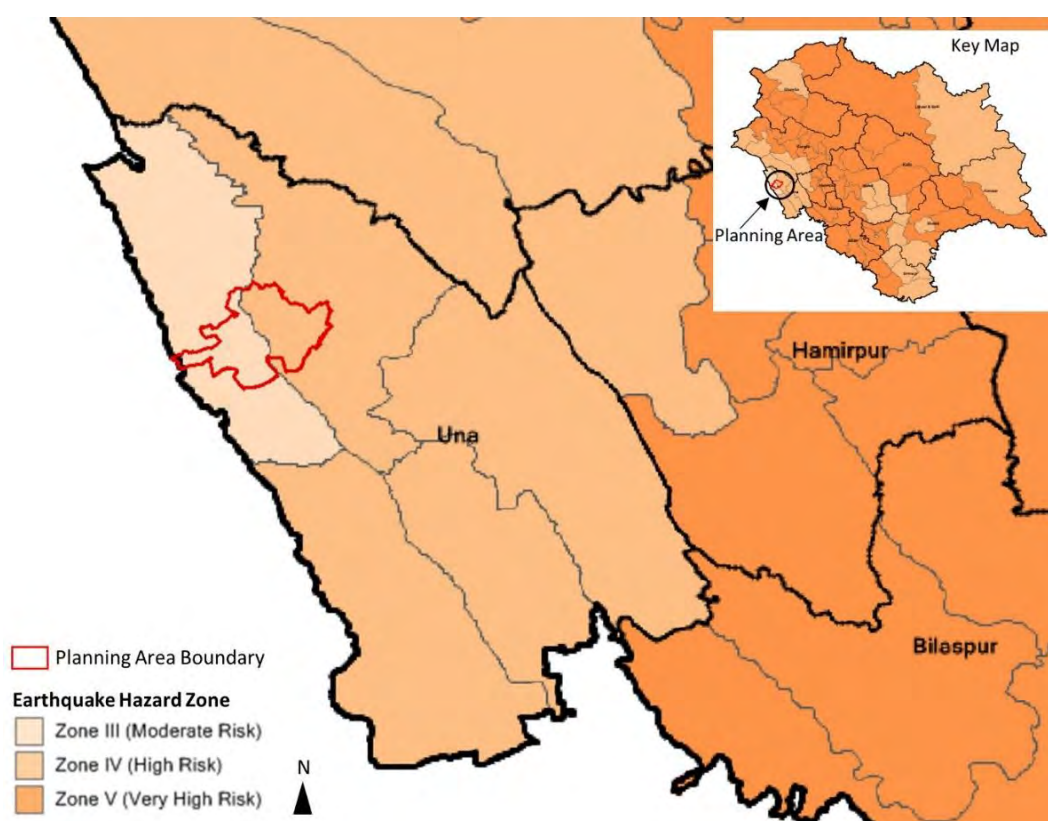


Figure 8-6: Earthquake Hazard Vulnerability Zone Map of Planning Area

Source: Hazard Vulnerability and Risk Analysis Atlas, Disaster Management Cell, Department of Revenue, HP

In addition to this, IITK-BMTPC “Earthquake Tips: Learning Seismic Design and Construction” (EQ Tip 18, 23, 24)³³ shall be followed prior to any construction activity.

8.4.6 Chemical Hazard

Area bordering to Punjab such as Gagret in Amb-Gagret Planning Area has presence of few chemical establishments that are highly vulnerable to chemical hazard (refer Table 8-2). Besides these, there are LPG cylinder storage houses and LPG Tubing Rubber establishments that are also vulnerable to fire hazard and chemical hazard in case of any accident in LPG installations.

Table 8-2 Chemical Hazard Events in Amb-Gagret Planning Area

Year	Name of the Industry	Cause	Chemical/Product	Loss of Property
2005	M/s Shree Balaji Magnese Pvt. Ltd., VPO Gagret	Short-Circuit	Ferro Alloys	268.43 lakhs
2010	M/s Kanaiya Industries, VPO Basal	Short-Circuit	P.U. Foam	200.00 lakhs

Source: Sub-Divisional Disaster Management Plan of Amb, District Una, 2015

³³ IITK--BMTPC “Earthquake Tips: Learning Seismic Design and Construction”, National Information Centre of Earthquake Engineering, IIT Kanpur, India seen on 16th June 2016

9. TOURISM

9.1 Introduction

According to the Regional Master Plan of National Capital Region (2021)³⁴, the heritage in a region can be natural or man-made. Natural heritage includes environment, mountains, rivers and lakes, forests etc. whereas man-made heritage covers the monuments, archaeological sites, religious structures, old buildings etc.

9.2 Tourism in Amb-Gagret Planning Area

Amb-Gagret Planning Area doesn't have many places of tourist attraction except Shiv Bari temple which is of historical significance and Swan river bank that offers natural picturesque view (refer **Figure 9-1**). There are places around the Planning Area that comprises natural, cultural and historical heritage.

9.3 Places of Tourism Interest in the Planning Area

Pong Dam

The Maharana Partap Sagar reservoir or Pong Dam, situated at a distance of 46 km from Amb-Gagret Planning Area. Pong Dam is endowed with the presence of migratory birds. Therefore, activities like bird watching, photography, fishing and water sports attract tourists from around the world. The reservoir is a well-known wildlife sanctuary and one of the 25 international wetland sites declared in India by the Ramsar Convention³⁵. Over 220 bird species have been recorded in and around the lake area. A regional water-sports centre has been established in the Pong Dam Reservoir, which offers focused activities such as canoeing, rowing, sailing, and water skiing, apart from swimming.

³⁴ Ministry of Urban Development, "Regional Plan-2021: National Capital Region", Government of India, p. 125-128

³⁵ ENVIS Centre on Wildlife and Protected Area, seen on 09/06/2016 at http://wiienviis.nic.in/Database/ramsar_wetland_sites_8224.aspx

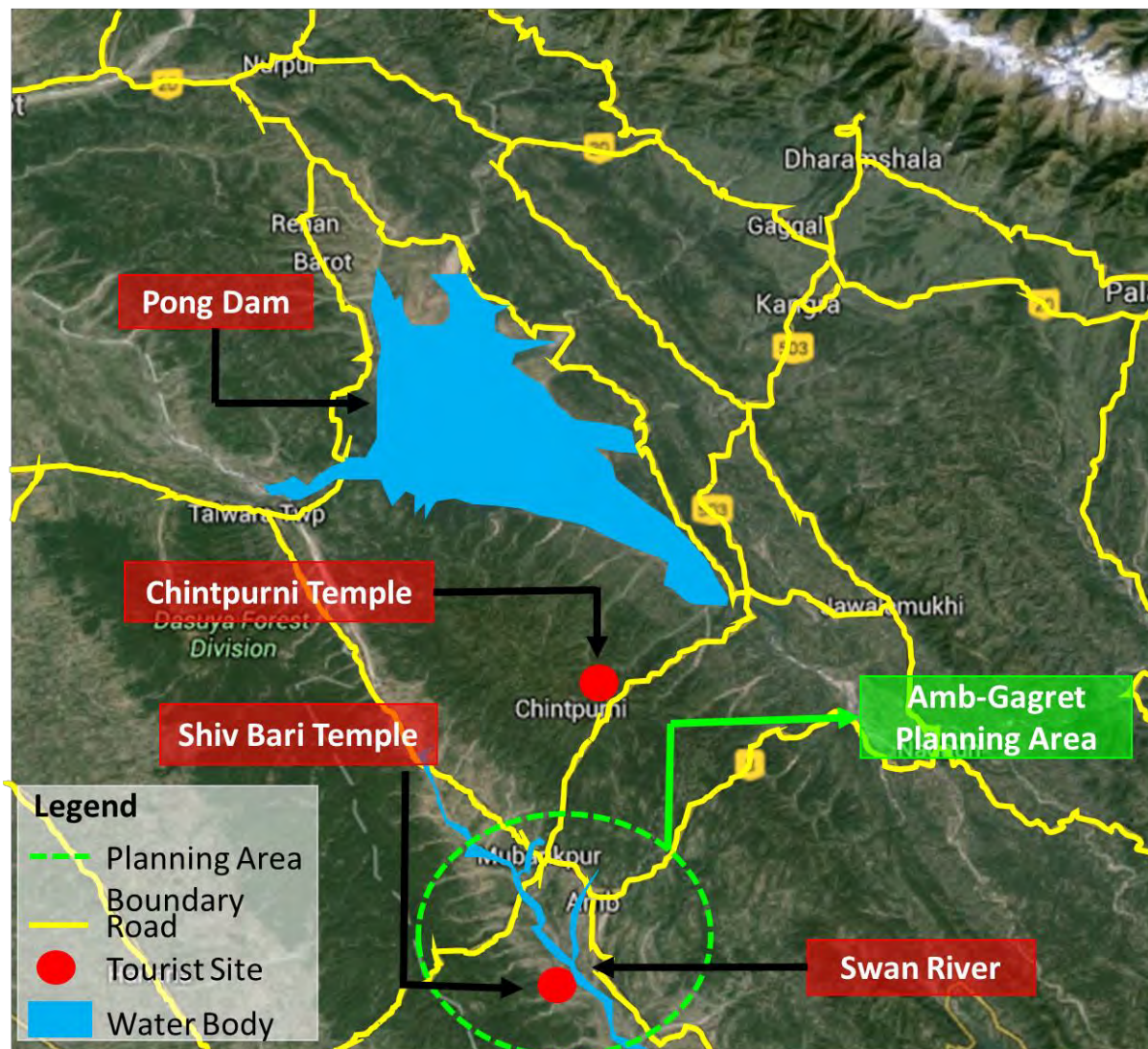


Figure 9-1: Tourist Places in and around Amb-Gagret Planning Area

Source: Google Maps, 2016

Swan River

The Swan River originates from *Joh-Marwari village* near Daulatpur Chowk in Amb Tehsil of Una district of Himachal Pradesh and flows down through the mountain valley of Una district and dividing it longitudinally. The river creates a picturesque valley inside the Planning Area. Shiv Bari which is known for its historical importance, is also located on the bank of river Swan.

In Amb-Gagret Planning Area, there is Shiv Bari temple that is of cultural importance (refer **Figure 9-2**). Besides this, Chintpurni temple is also of cultural importance but it is located outside the Planning Area.

Shiv Bari Temple

Shiv Bari temple is located on the bank of Swan River. Shiv Bari temple is a spot which is believed to have been the practicing range for archery pupils (Shishya) of Guru Dronacharya. As per a belief the lord Shiva's temple in the Shiv Bari was got constructed



Figure 9-2: Shiv Bari Temple in Amb-Gagret Planning Area

Source: Site Visit

by Guru Dronacharya to facilitate his daughter Jayati to worship lord Shiva. This temple is believed to be 5000 years old. Besides this, there is a big mela organised down the open space towards the north at the time of Shivratri. This place is visited by many pilgrims on the way back from Chintpurni Devi temple which is around 17 km away from Shiv Bari.

Chintpurni Temple

The Chintpurni temple is located outside the Planning Area at a distance of 24 km from Gagret. The Chintpurni is among one of the Shaktipeeth and is an important pilgrimage site for the tourists. Chintpurni fair is held near the temple of Goddess Bhagwati Chhinmastaka, where, it is said that the mother Goddess appeared in astral form in ancient times. The Chintpurni temple is one of the important religious spot in Himachal Pradesh where tourists and pilgrims are observed at end of every year. Built of stone in the 9th century AD in the shikhara style, it is a fine blend of sculpture and architecture. Its base is square and a dome provides the center of its roof. The temple is situated on one of the highest peaks of the Sola Singhi range of hills. The outside of the temple is beautiful with some exquisitely carved floral pattern and images of deities

Dera Baba Bharbhag Singh Gurudwara

Earlier known as Dera Baba, Sain baba Bharbhag Singh ji established this Gurudwara in Una which is flocked by thousands of Pilgrims every year. It is located outside the Planning Area, at a distance of 78 km from Una and Jalandhar serves as the nearest airport and rail connectivity to the Gurudwara. Covered by Eucalyptus trees, the Gurudwara stands on top of the hill. Pilgrims planning an overnight stay can rest at The PWD Guest House as well as the Gurudwara Sarai. Baba Bhar Bhag Singh Mela and Hola Mohalla Fair are some of the famous fairs or rather festivals that are organized during February to offer salutations to Bharbhag Singh Ji who was celebrated for his miraculous powers. Held, during the festival of Holi, this fair is one of its kinds in India and is known for curing mental illness.

Other places of interest around the Planning Area are Guga Jahar Pir in Amb. Another is the Gurudwara Bada Badd Bhag Singh in Mairi which is located at a distance of 20 km (approximately) from Amb. Most of the places of interest in and around the Planning Area attract pilgrimage tourist attributed by many of these religious temples and Gurudwaras.

The Department of Language, Art and Culture at Una looks after the conservation of Chintpurni temple. Chintpurni is an ancient temple and visited by lakh devotees, therefore, Chintpurni temple has its own Temple Trust that looks after the management and conservation of the temple is taken care by the Department of Art and Culture at Una.

Though, the Shiv Bari temple is of cultural significance but as of now, they have not been covered by any of the following department, the Department of Art and Culture, Archaeological Survey of India and INTACH.

- Swan River watershed management project is a first step by the State government to conserve the natural heritage of Swan River. The project started in April 2006 and it mainly focuses on the restoration of the degraded forest land, protection of agricultural land and increase in agricultural and forestry products by carrying out integrated watershed management, including afforestation, construction of flood control facilities, soil protection and land reclamation, agricultural development and income generating activities.
- All the identified areas of natural heritages should be protected in terms of land use and pollution control in the vicinity to ensure the protection of eco-sensitive zone.

9.4 Tourism Prospect

The Amb-Gagret Planning Area doesn't have much potential for tourism development but the unexplored tourist spots of natural, historical and cultural importance can be developed to attract tourists from the neighbouring areas. Besides this, conservation of places of natural, historical and cultural significance shall be covered under the Himachal Pradesh Conservation Act.

Apart from this, Mela ground and Shiv Bari that are of cultural importance in the Planning Area shall be developed for tourism. Additionally, there shall be no development within a buffer of 25 meters along the Swan River and Shiv Bari temple. Also, river front development of Swan River can also be undertaken in order to protect river banks and preserve the natural heritage in the Planning Area.

10. SWOT ANALYSIS

Strength	Weakness
<p>Location and Connectivity:</p> <ul style="list-style-type: none"> Amb Gagret Planning Area is located along NH-3 and NH-503. Amb Planning Area become a Transit and Gateway town for travellers going to the famous city of Dharamshala or locations within the Himalayas such as Kullu, Manali, Jawalamukhi, and Chintpurni. Buses are available for all major towns of Himachal and North India including Delhi, Chandigarh, Shimla, and Dharmshala. The Amb railway station (Station Code-AADR) is situated 1.8 km from the Amb bus stand. Railway line is under construction which will connect Amb further to Talwara. <p>Infrastructure:</p> <ul style="list-style-type: none"> Major settlements of Planning Area are having self-sustaining social infrastructure facilities. <p>Economy:</p> <ul style="list-style-type: none"> Major part of Planning Area is flat and fertile plain of Swan river. It is suitable for any kind of development. The Amb and Gagret Industrial areas constitute 33% of the total Industrial area in the Una district. Tertiary Sector is rapidly developing due to major inflow of religious tourist passing through Planning Area. 	<ul style="list-style-type: none"> 25.17 % of the land is undevelopable due to High Flood Zone along Swan river, buffers etc, that are restricting future development. Inadequacy of Public transport infrastructure. Lack of space for bus stops at Amb and Mubarikpur. Direct connectivity of Amb Gagret is poor due to unavailability of proper road infrastructure at Swan river crossing. Both industrial activities at Amb and Gagret Industrial area is completely developed but most of the units are sick. No dedicated parking areas in the Planning Area. Haphazard and uncontrolled development commercial establishment along major highways are creating traffic congestion. Lack of building bylaws and regulations leading to frequent fire incidents in industrial areas.
Opportunity	Threats
<ul style="list-style-type: none"> Opportunity for development of transit infrastructure amenities along major highways passing through Planning Area. Development of Hospitality industry targeting tourist passing through Planning Area. The Planning Area comprises of 43 % Agriculture land. This will support the proposed Agro Processing Industries. Strategic and central location from Una, Hoshiarpur, Pathankot provides opportunity to develop Planning Area as center for trade, commerce and Mandi. 	<ul style="list-style-type: none"> Una district is a seismic-prone area. Amb Gagret Planning Area falls under high risk seismic zone IV. Entire Planning Area is under catchment area of Swan river. 25 % of Planning Area falls under flood prone area. Lack of firefighting infrastructure in Planning Area is leading to frequent fire incident in Industrial area.

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- | | |
|---|--|
| <ul style="list-style-type: none">• Establishment of training centers and vocational courses to provide skilled workforce for existing industrial base.• Development of Hindu Temple Circuit- Shivbadi - Jwalamukhi - Brajeshwari - Chintpurni - Naina Devi Baijnath – Manimahesh. | |
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11. DEVELOPMENT PROPOSALS

11.1 Strategies and Development Policy

The Compact City Concept has been adopted in the planning policies of this development plan for the following benefits:

- a. Efficient use of land while curtailing sprawl
- b. Strengthening transport system
- c. A socially interactive environment with vibrancy of activities
- d. Economic viability

The Development Policies for the proposed Development Plan covers three key areas: social capital, infrastructure development and economic development.

- Center development with integrated residential, commercial, and industrial functions in the traffic nodal points
- Acceleration of new industrial and commercial business development
- Creation of a housing environment where residences are in close proximity to offices and connect this area to the urban core with public transportation network
- Development of active public spaces, planned parks and green areas for better quality of life.
- Conservation of superior agricultural lands
- Conservation of the natural open forest area and provision of buffers for river and stream buffers for flood control
- Conservation of natural environment, such as riverside area, which contributes on multi-function such as flood control and biodiversity
- Formulate urban development project for public welfare (e.g., social housing and improvement of urban space)

11.2 Constrains for Development

- Diverse typologies of terrain, inaccessible habitation, vulnerability to natural calamity, poor infrastructures (socio-economic as well as physical) etc.
- A large part of land in the planning area is covered with Open Forest which restricts the growth of city. These have been indicated in the proposed land-use map.
- A large part of the area under government land and open forest is located at steep slope zone i.e. more than 30% which is completely non-developable.
- The recent developments are in the form of linear/ribbon growth along national highways and state highway. Such developments are not conducive for ensuring holistic and sustainable development of the planning area.
- Lack of proper accessibility due to hilly terrain.
- Low environmental awareness among overall population, domestic tourists, commercial property owners and developers.

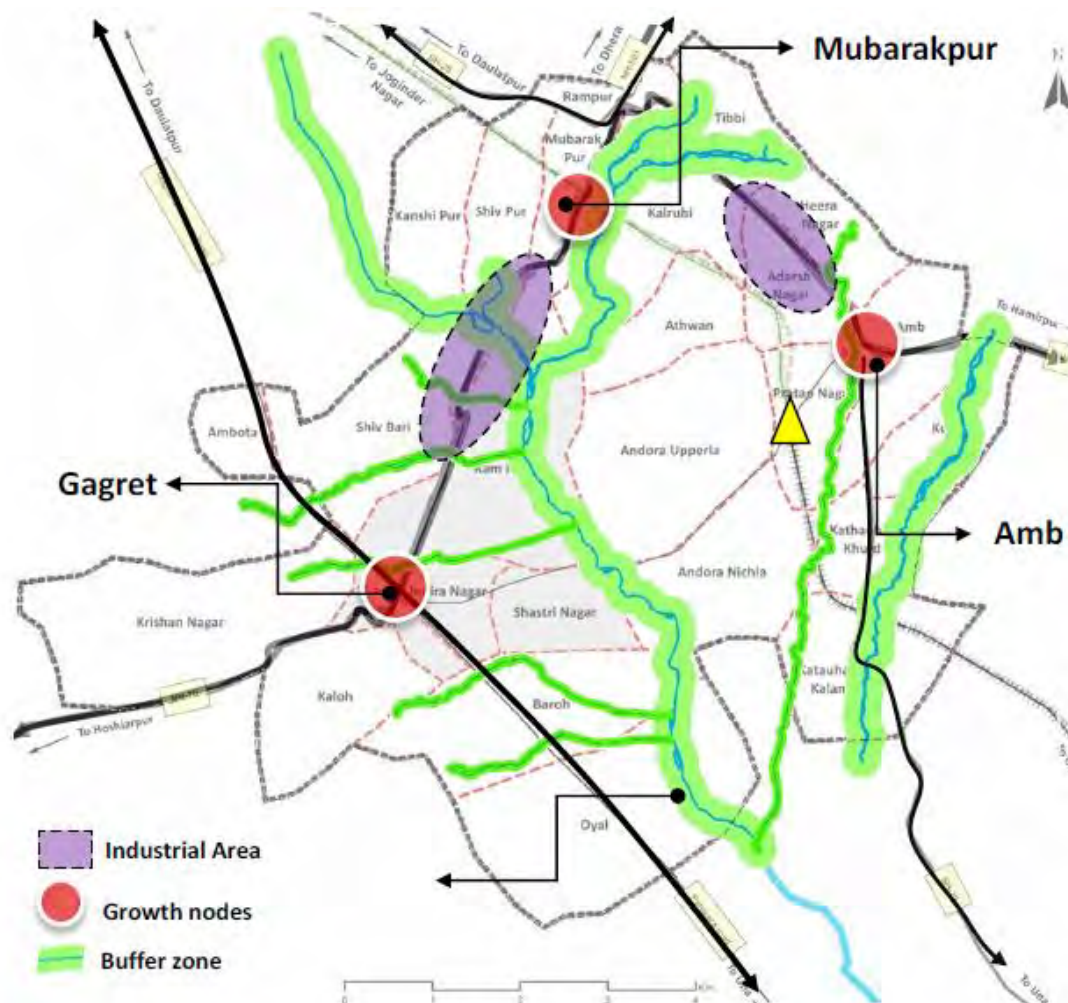


Figure 11-11-1: Evolution of Planning Area

Three alternative conceptual proposals were drawn up and presented at the earlier stages of projects. The main approach adopted to create a logical and efficient proposals in response to road network, natural features, existing issues and bottlenecks. The conceptual alternatives have been analysed in identifying the land to be designated under roads and open spaces, defined the various other land uses and the built form character.

Preferred Conceptual plan:

It is observed that the major growth center Hoshiarpur, Pathankot, and Una (district Headquarter) within the prescient area of 150 km is well connected through Planning Area. These corridors and serving the transit facilities to the commuters. It seems the mixed used development pattern along the corridor, commercial, retail shops, residential and transport facilities have been observed. At the same, the residential development seems to be scattered in the planning area due to existence of village settlement. Many of the road side development and activities are spill over on the road right of way (RoW) and creating a chaotic situation like, traffic congestion, road blocks and create a hindrance for the development. Local authority is unable to control and manage the haphazard growth due to non-existence of development plan and regulation guidelines.

The presence of highways/corridors are creating economic opportunities for the neighboring residual population. By keeping this in mind the further future proposals has been envisage in order to cater the future requirement. The proposals are integrating with the existing variations of various indigenous characters like existing development, topography, water bodies etc. specific to the area

under consideration. The attempt has been to respect the natural topography and cause minimum impact on the landscape.

Such principle is to address the existing issue and provide the better connectivity to each corner and formalised the built-up along the corridor results in the creation of a new roads, links and mixed-use land use that grows out of its regional context.

The ribbon-like development forms the basic structure for the area, with major roads will connecting with existing major roads and highways within and bordering the project area. To the extent possible, the roads have been designed so as to follow the pattern of existing roads.

One of the main features of the Master Plan is the formation new roads to strengthen the regional connectivity within the project area. Accordingly, existing link of the Gagret existing town area has been proposed to be widened and which is directly connecting to Amb town crosses Swan river. This link crosses Swan River and bridge has been proposed to link Amb-Gagret. The idea is to bypass heavy vehicle traffic that is currently passing through the inner town areas can be transferred. Due to topographical constraints and existing development the Gagret bypass roads will unite in the north-eastern part of the NH-3

The public amenities (education facilities, health facilities, community centres, banks, post offices, etc.) along with the recreation spaces (parks, playgrounds etc.) have been planned such that it is spread across the project area. Based on the availability of the government land the hierarchy of the public amenities and recreation spaces shall be planned. The higher order of these facilities shall be preferably developed on the government lands. While town-level facilities have been worked out and marked on the Development plan.

11.3 Development Proposals

Developing as a Transit Tourist Centre

With fairly good connectivity through rail and road network Amb-Gagret is acting as a transit town for tourists. Such potential is enhanced by providing proposals which will compliment 'transit tourist' activity of the planning area. A strategic approach will contribute income to the national and local economies, create jobs, build businesses and improve regional economic balances.

A) Provision for Physical and Social Infrastructure

- a. Provide infrastructure facilities to all. Every household in urban area should have water supply and sewerage connection
- b. Health, education, security, recreational, social and cultural facilities to be distributed throughout the city
- c. The development will provide housing and amenities for people and families of all cultures, ages and incomes

B) Sustainable Environment

Natural features in the form of forests and rivers needs to be conserved. These large environmentally sensitive areas need to be conserved and preserved. The river Swan is prone to flooding especially during monsoon/ rainy seasons which is now being protected by constructing bunds along the banks. However, the plan has provision of leaving the riparian land for green and agricultural purposes only. Therefore no development will be encouraged in Flood Prone Region in Planning Area.

C) Efficient Transportation

Some of the villages that are included in the Planning Area do not have bituminous roads, however, the Nagar Panchayat area is connected to other towns and cities via national highway. In order to achieve the vision for the planning area, by the target year the plan must envisage to strengthen the transportation and ensure that all the inhabited and habitable settlements are well connected with proper hierarchy of road network.

D) Sense of Safety and Security

For improving the living conditions, it is mandatory that the population at large should live in a secured environment.

E) Resolving Urban Issues

Provision of more public spaces and proper utilization of land as it is scarce resource in hilly areas. Problems of traffic congestion and parking is the most important urban issue to be dealt with appropriately.

F) Encourage Economic Activity

The upcoming development intends to position itself as an economic engine and generate employment. The light industrial, trade centre, mandi and promoting agriculture along with a strong infrastructure base will attract new businesses and entrepreneurs to this development.

G) Urban Design

River development zone along the river stretch to add to natural beauty of the city.

Safe, accessible and comfortable public spaces will add to the creation of vibrant, healthy and sustainable community by emphasizing walkable streets and public places. Innovative approaches for building construction, layout of neighbourhood, infrastructure network, circulation pattern, alternative energy sources and recycling can provide opportunities to minimize the impact of the development.

12. LAND USE

12.1 Land Use Classification

The land use plan has been prepared on the contoured Base Map provided by AGISAC (Aryabhata Geo Informatics Space Application Centre), Department of Environment, Science and Technology, Shimla. The base map has been prepared on IKONOS-2 satellite image having 1 m resolution. After interpretation of land utilisation or land cover from the satellite imagery, a predominant land use survey was conducted to identify the various land uses within the planning area.

As the planning area comprises of both urban and rural areas, the land use classification adopted is comprised of urban and regional level land uses as specified in the URDPFI guidelines with reference to the Census of India. Consequently, two level classification of land use have been adopted for the planning area

Table 12-1: Land Use Classification

Sl. No.	Landuse Classification	Land Use Sub-Classification	Code
1	Residential Use	Existing	R-1
		Proposed	R-2
2	Commercial Use	Retail Shopping Zone and Service Sector	C-1
		Hospitality: Hotels/Lodges	C-2
		Wholesale, Go-downs, Warehousing/ Regulated markets	C-3
3	Mixed Use	Residential and Commercial	M-1
		Residential and Household Industries	M-2
4	Industrial Use		I
5	Public/Semi-Public Use	Govt./ Semi Govt. / Public Offices	PS-1
		Educational and Institutional	PS-2
		Medical and Health	PS-3
		Heritage and Socio-Cultural	PS-4
		Public Amenities/Utilities and Services	PS-5
		Govt Land (Undetermined)	PS-6
6	Recreational Use	Playgrounds/ Stadium/ Sports Complex	P-1
		Parks and Gardens – Public open spaces	P-2
		Multi-purpose open space (Maidan)	P-3
7	Transport Use	Road	
		Railway	T-1
		Bus Depots/ Truck Terminals	T-2
		Parking	T-3
8	Primary Activity Use	Agriculture	PA-1
		Plantation	PA-2
		Forest	PA-3
		Brick Kiln/ Mud Quarry	PA-4
9		Water bodies	E-1

Sl. No.	Landuse Classification	Land Use Sub-Classification	Code
	Protected and Undevelopable Use	Protected Forest	E-2
		Green Belt/Buffer	E-3
10	Special Area		S

Source: URDPFI Guidelines 2015

12.2 Existing Land Use Distribution

Based on the AGiSAC information and ground survey, the total land in Amb Gagret Planning Area (6630.21 Ha) only 630.48 Ha i.e., 9.51 % is developed and remaining 5999.73 Ha i.e., 90.00 % in under developed. Of the total developed land, about 5.23 % is under residential area. Transportation, which includes roads, parking areas and other transportation facilities, constitutes an area of 1.6 % of the total area. The commercial area, public and semi-public area and mixed use in Amb Gagret Planning Area account for nearly 1 % of total developed area respectively. About 0% of the developed area is under recreational green.

Table 12-2: Existing Land Use Distribution

Sl.No.	Type		Land use Code	Area (in Ha)	Land use Percentage (%)
1	Residential		R-1	346.85	5.23
2	Commercial		C-1	24.35	0.37
3	Waterbody		E-1	569.85	8.6
4	Protected Forest		E-2	372.76	5.62
5	Industrial		I	91.46	1.38
6	Mixed		M-1	12.77	0.19
7	Recreational		P-1	2.07	0.03
8	Primary Activity	Agriculture	PA-1	4813.11	72.6
		Plantation	PA-2	57.05	0.86
		Forest	PA-3	162.27	2.45
		Brick Kiln	PA-4	22.05	0.33
9	Public Semi Public		PS-1	8.21	0.12
			PS-1 & 2	3.45	0.05
			PS-1 & 5	2.3	0.03
			PS-2	20.18	0.3
			PS-2 & 4	0.37	0.01
			PS-3	1.67	0.03
			PS-4	1.14	0.02
			PS-5	12.12	0.18
10	Transportation		T	90.43	1.36
			T-1	14.26	0.22
			T-2	0.77	0.01
			T-3	0.51	0.01
Total				6630	100

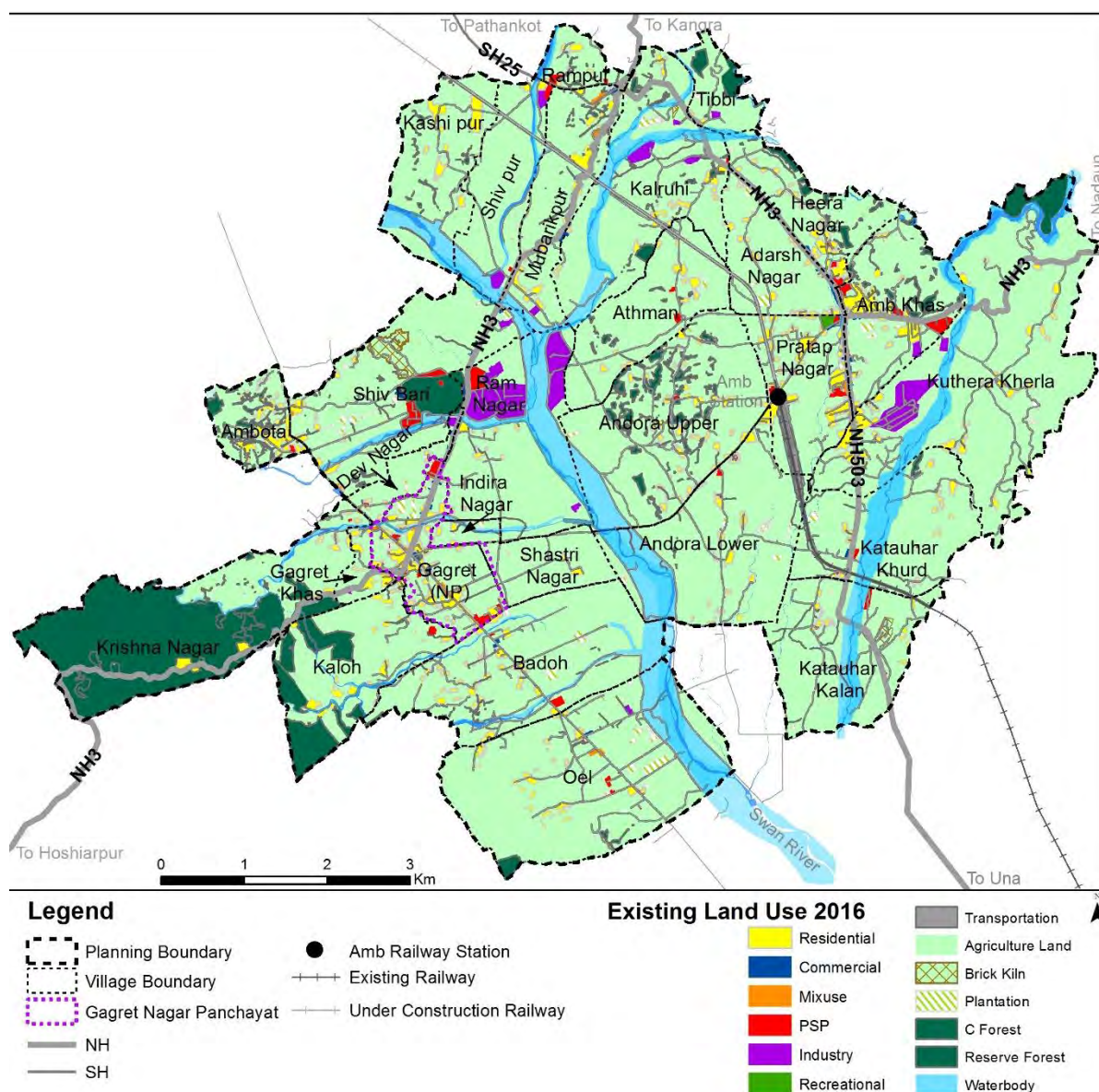


Figure 12-12-1: Existing Land Use of Amb Gagret Planning Area

12.3 Proposed Land Use and Activity Structure

The proposed land use distribution has been prepared based on the existing situation analysis of the region, the current growth patterns, prevailing gaps in various land use activities and facilities, the availability of developable land, demand for social and physical infrastructure in the future to support the projected population, and so on.

The planning has been done such that all the parts of the project area get better road connectivity which is essential for the development of any region. To achieve this, the strengthen of existing RoW and new links on existing pattern of roads has been superimposed. This new road network shall ensure that each part of the project area has the congestion free accessibility (freight and passenger both) also it will open new areas for the development in the vicinity.

As can be seen from the proposed Development Plan, the residential land use has been provided along the existing growth corridors i.e. the major roads within the project area. The major city level public

space has been provided where the government land is located i.e. in the Eastern and Northern part of the existing town. The highlighted land area in the green shade in the Eastern and Western periphery of the project area has been kept under the protective and undevelopable use zone considering the topography and eco-sensitivity of these areas.

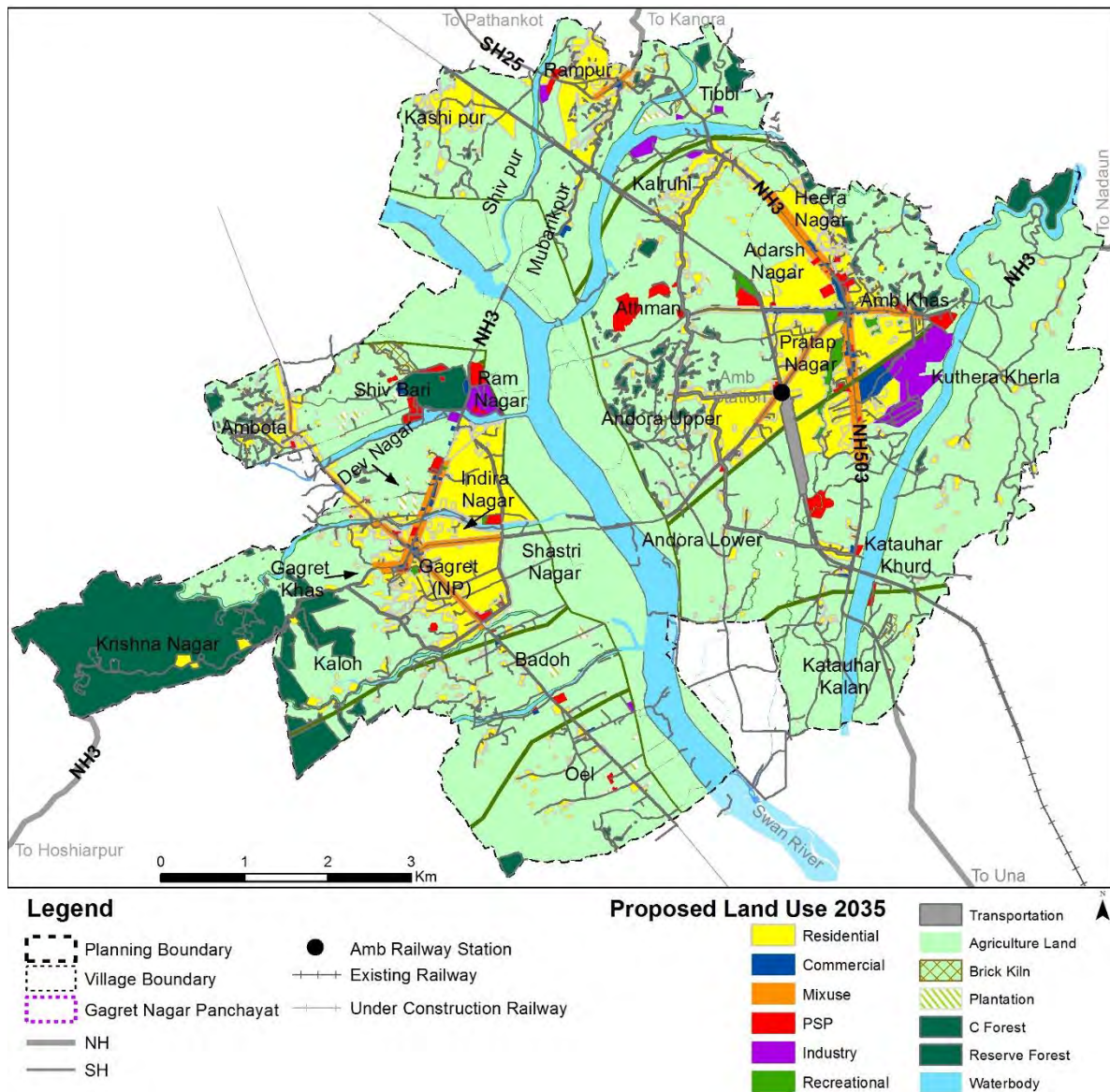


Figure 12-12-1: Proposed Land Use of Amb Gagret Planning Area

12.4 Comparison of Existing and Proposed Land Use

The comparison of existing and proposed land use acts as a guiding tool to analyse the adopted rationale approach for spatial standards and provides vision for the overall balanced development of the entire region – both at macro and micro level.

Land Use Categories	Hill Towns Standards	Tourism Towns Standards	Existing Area (Ha)	Existing % Taken	Additional Area Requirement (Ha)	% of Additional Area in comparison to Existing Area	Proposed Area in Hectare	Proposed %
Residential	50-55	35-40	346.85	54.80	493.35	71.43	840.2	63.48
Commercial and Mixed	2-3	5-7	24.35	3.85	33.55	4.86	57.9	4.37
Mixed Use			12.77	2.02	59.53	8.62	72.3	5.46
Public & Semi-Public	8-10	10-12	49.44	7.81	20.56	2.98	70	5.29
Industrial	3-4	4-5	91.46	14.45	-23.76	-3.44	67.7	5.11
Recreational	15-18	10-12	2.07	0.33	24.43	3.54	26.5	2.00
Transportation	5-6	12-14	105.97	16.74	83.03	12.02	189	14.28
Total Developable			632.91	100.00	690.69	100.00	1323.6	100
Green Buffer			0	0.00			172.9	3.26
Waterbody			569.85	9.50			524.3	9.88
Protected Forest			372.76	6.22			372.8	7.03
Agriculture			4813.11	80.26			4036	76.06
Plantation			57.05	0.95			33.5	0.63
Forest			162.27	2.71			151.6	2.86
Brick Kiln			22.05	0.37			15.3	0.29
Total Undeveloped			5997.09	100.00			5306.4	100
Total			6630				6630.0	

According to the proposed land use, residential activities will constitute around 12 % of the total planning area, while commercial use and office and industrial use will occupy approximately 58 Ha and 67.7 Ha of the total Planning Area. The share of land use under Public and Semi-Public category shall be around 70 Ha and area under transportation and communication shall be around 3 % of the Planning Area.

Similarly, the land under open space will be around 26.5 ha of the total project area. The share of land use under primary activity, water bodies and special area (forest / reserve forest / hilly area) will be 2.28 % and 5.62 % respectively.

Important features adopted in Proposed Master Plan in comparison with the existing developments:

- a. Residential land use has been increased from 5 % to 12 % in order to accommodate the future projected population. In terms of residential area more area has been earmarked as the current residential development is scattered form and expansion of these cluster has been taken into consideration
- b. The commercial development is prime factor to cater the robust urban development and hence the area under commercial use has been increased from 24.35 Ha as can be seen in ELU to 57.90 Ha in PLU. Also, mixed land classification has been earmarked along the major corridor envisioning about 72.30 Ha (1.09 %) of development would be converted in to commercial use
- c. The area under industrial use located along swan flood prone area will be reduced and hance, it has been decreased from 91.46 Ha in ELU to 67.7 Ha in PLU in order to create employment opportunities within the project area
- d. The area under public and semi-public use has been increased from 49.44 Ha to 70 Ha which shall take care of the existing prevailing gaps and also the need for these facilities in the future
- e. The area proposed under transportation and communication which is merely 105.97 Ha as per ELU has been increased to 189 Ha in PLU through creation of extensive interwoven road network

12.4.1 Residential Use

After studying the existing landuse, the development is observed along the major arterial road. It is also found that most of the commercial footprints are taking their shapes on the same. The proposed residential use has been derived to this principle 'Axial' where development has been motivated along major roads of the Planning Area by providing multiple use zone in the mixed land use classification. The current net residential density of the Planning Area is 113 pph. In the proposed land use plan the residential activity has been allocated based on the spatial distribution rather than density calculation.

Residential uses within the Planning Area are spread out in different locations, the net Residential uses account to 840.2 ha with a proportion of 12 % of the total Planning Area (PA). In the area earmarked for residential use zone is meant for all types of residential activities and building, the accessory use and allied activities like local shops, day care centre, play school, et.al are allowed area where only residential and allied uses as permissible under the development control regulations. These are further governed by location and site requirements as given revised and rationalized building provisions.

EWS- Zone or Affordable housing of about 1.77 Ha (part of residential area)- This is an additional type of Residential Zone proposed in the Draft Development Plan. The areas earmarked in this zone will be developed for public housing for the economically weaker section population. The area has been reserved for the housing board as the Acquiring Authority. To achieve the vision of slum free city this is an additional type of Residential Zone has been allocated. This zone can be utilised for Slums on ecological sensitive areas like river banks, Nallas, hill top hill slopes, rehabilitation purpose can be reorienting on sites.

12.4.2 Commercial and Retail

The total commercial area in existing condition about 24.35 ha of commercial activities were observed due to presence of National and State highway and existing developed area.

The principle of the Commercial and Mixed used (Multiple use) zones allows primarily Commercial activities, Private Institutions for education and health care, non-polluting service industries are permissible. In addition, above the high end residential uses under mixed used zones as prescribed under the development control rules, would be permissible on the zone i.e. the lands fronting on major roads.

The zone is concentrated on the major arterial road, 60 m on either side of National highway and 30 m on major connecting corridors. The increase level of infrastructure in relation with the proposed multiple use zone, to accommodate city level social and physical demand. There is substantial increase in multiple land use (which can accommodate commercial activities) about 72.3 Ha, to facilitate and promote a diverse range of activity.

Other city level facilities viz, Wholesale and Warehousing activity (Mandi) of 2.08 Ha has been proposed in the vicinity of the Railways and National highway 503. In addition to above local shopping centres are part of proposed land use to be developed with sizeable shops.

12.4.3 Industry

As area of 67.7 Ha (1.02 %) has been allocated for industrial development with the planning area. It is proposed to accommodate Agro based, horticulture, Agriculture Processing units like Grain processor, flour mill, seed cleaning, forest based industries and miscellaneous such as clothing manufacturing, agricultural chemicals distribution and metal based industries in form of organized industrial area.

At present, it is found that many of the industries are not in working condition thus provision of allocation of industrial land use is kept minimal. However, State Industrial Policy need to be reviewed in order to rejuvenated these units. Polluting industries shall not be allowed in residential areas.

12.4.4 Public and Semi Public

An area of 49.44 Ha approximately is existing under utilities, facilities and services. It is anticipated that an additional shall be required more for providing various facilities at local level in the Planning Area by the year 2035 as per the requirements.

It is found that all the educational facilities in Amb-Gagret Planning Area are sufficient as per the standards provided in the URDPFI guidelines. There is a requirement for one Industrial Training centre and one university in the Planning Area and total area of 2.3 Ha has been provided in the Planning Area. To cater to the medical needs of the people in the Planning Area by the year 2035, an area of about 3.8 Ha has been provided in two parcels one at Garget village and another one at Amb village. Additional facilities like one hector for police station, 0.30 Ha for fire station, 2 Ha for disaster management centre, 0.10 Ha for post office, 0.2 Ha for community welfare centre and 0.50 Ha for local convenience shopping are been given provision at different locations in the planning area satisfying the standards mentioned in the URDPFI guidelines.

The town lacks organised parks and open spaces. Local Parks are therefore, required to be developed at cluster/sector level. According to the URDPFI guidelines there is an additional requirement of 24 Ha of land to cater the population of the Planning Area by the year 2035. Housing level parks and neighbourhood parks are been allotted at different locations spread though out the Planning Area and 10 Ha of Botanical Ggarden is provided in additional in the Planning Area according the requirements mentioned in the URDPFI guidelines.

Table 12-3: Proposed Infrastructure Facilities Details

Sr. No.	Facilities	Total Area Proposed (Ha)
1	Industrial Training center	0.30
2	Universities	2.00
3	Health care facilities	3.8
4	Police station	1.0
5	Fire station	0.30
6	Disaster Management center	2.00
7	Local convenience shopping	0.50
8	Post office	0.10
9	Community welfare center	0.2
10	Recreational facilities	24.0
Total		34.2

12.4.5 Recreational activity

The forests act as passive recreational spaces for the Planning Area but there is absence of dedicated active recreational space in and around Planning Area. Thus, it is a necessity to facilitate dedicated recreational zone in the town despite of presence of river zone, forest areas etc.

This will be a focal point for the surrounding region and create the prospect for recreational activity at large scale, boosting economic development in the Planning Area. The location of the recreational zone has been proposed on the bank of the Swan River which will act as a recreational tourism centre. The project will encompass the beatification of River Swan, commercial kiosks and other allied activities. This river front development will facilitate recreational activity as well as open spaces in the form of parks and gardens along the river front. This will facilitate major recreational site not only to the citizens of Amb-Gagret but also for surrounding villages and towns. In addition to this, as discussed in previous section of this report, the planning area also encompasses the temple tourism in Shiv Bari area. The community area, spiritual heritage facilities have been proposed.

12.4.6 Open Space/ Buffer Zone

Buffer zones are proposed as Green belts to enhance the environmental value by conservation and development of the natural features like 'Rivers' and 'Nallas'. Green belt can be developed as gardens or jogging tracks etc. 10 m buffer on either side of "khads" and 25 m buffer from high flood line of Swan River which would be utilized for open green space and also protect it from flood in planning area. In addition to this, 25 m buffer on either side of high tension line (HT line).

Land parcel acting as buffer to the existing Railway line is left as open space of 50 m width from the centre line of Railway line, on both sides, this may be used green belt only.

12.4.7 Roads and Transportation

The broad aim of Transportation sector will be to ensure safe, convenient and quick access to all areas, reduction of pollution and congestion, road safety and towards meeting these objectives. 189 ha (2.85 %) of total area is proposed under the Roads and Transportation.

The proposed 7.5 km link between Amb and Gagret town will curtail the travelling time between these towns. The 24-m proposed ROW passes through Swan river. One new bridge has been proposed across Swan River connecting Amb and Gagret town from 'Andora Nichala' village. The proposed bridge will be of two lanes for the ease of the movement which will facilitate significant connectivity between these towns. The two major linkages have been proposed acting as an alternative route to NH-3, one is in Gagret town and another at Amb town. This new link will be new incentive for the development. The existing road configuration of 6 m to 8 m fails to cater the current traffic demand as many of the commercial activities are present on these corridors resulting in creation of traffic congestion. Due to

this activity, there is no scope for the expansion of ROW. Thus, to achieve the future demand and creating new growth centre creation of new link will benefit.

13. GENERAL DEVELOPMENT REGULATION, BUILDING BYE-LAWS AND PROCEDURE OF PLAN SANCTION

13.1 Development Control Regulations (DCR)

Regulations/Building Bye Laws are legal tools for development control used to regulate ground coverage, height, architectural design and construction aspects of buildings to achieve orderly development of an area. They are statutory in nature and serve to protect buildings against fire, earthquake, noise, structural failures and other hazards. They also safeguard appropriate indoor environment for inhabitants with natural light and ventilation. Regulations/Building Bye Laws also helps to avoid encroachments and protect the road right of way.

All mandatory regulations w.r.t. Development Plan/ Development Control Regulations regarding use, coverage, FAR, set-backs, open spaces, height, number of stories, number of dwelling units, parking standards etc., for various categories of buildings, including modifications therein, made from time to time, shall be applicable mutatis-mutandis in the Building Regulations as well. All amendments/modifications made in these Regulations will automatically be included as part of the Development Control Regulations.

13.2 Jurisdiction of Regulations

These Regulations shall apply to the sub-division of land and building activities in the Amb-Gagret Planning Area. The detail of Revenue Villages falling in Amb-Gagret Planning Area is as under:

Table 13-1: Components of Amb-Gagret Planning Area

Sr. No.	Name of Revenue Villages	Hadbast No.	Area (in Ha.)	Population ³⁶ (Census of 2011)
1	Amb	143	206	1759
2	Partap Nagar	143	178	2494
3	Hira Nagar	143	138	1368
4	Adarsh Nagar	143	145	1284
5	Kalruhi	141	366	1331
6	Athman	142	211	813
7	Andora Nichla (Lower)	144	359	2246
8	Andora Upperla (Upper)	144	392	2298
9	Tibi	78	60	134
10	Shiv Pur	138	180	205
11	Kashi Pur	138	206	1630
12	Mubarikpur	138	196	1515
13	Rampur	138	53	803
14	Kothar Kalan	151	287	1256
15	Kothar Khurd	152	146	1036

³⁶ Population of Planning Area have not considered as per notification of Amb-Gagret Planning Area dated on 5th March, 2014 Under sub-section-(3) of Section- 1 of the Himachal Pradesh Town and Country Planning Act, 1977. Village wise population as per Census, 2011 has been considered for analysis and projections.

Sr. No.	Name of Revenue Villages	Hadbast No.	Area (in Ha.)	Population ³⁶ (Census of 2011)
16	Kuthera Kherla	85	677	2923
17	Shiv Bari (Gagret)	139	352	1433
18	Ambota	139	94	1801
19	Ram Nagar	140	339	435
20	Gagret	140	93	1245
21	Indira Nagar	140	92	171
22	Dev Nagar	140	81	421
23	Shastri Nagar	145	99	157
24	Krishan Nagar (denotified)	140	482	474
25	Baroh	147	372	1763
26	Oel	148	574	1948
27	Kaloh	142	252	1585
28	Gagret NP		-	3847
Total			6630	38375

Source: Gazette Notification dated 5th March, 2014 Under sub-section-(3) of Section- 1 of the Himachal Pradesh Town and Country Planning Act, 1977

13.3 Applicability of Regulations

These Regulations shall be applicable to all building activities and be read in conjunction with the Himachal Pradesh Town and Country Planning Act, 1977 and the Himachal Pradesh Town and Country Planning Rules, 2014 as amended from time to time and shall be applicable for a period for which this Development Plan has been prepared, after which these shall be reviewed. Till such time the reviewed Regulations are notified, these will continue to be in force.

13.3.1 Part Construction

In case of part construction, where the whole or part of a building is demolished or altered or re-constructed, except where otherwise specifically stipulated, these Regulations shall apply only to the extent of the work involved.

13.3.2 Re-construction

The re-construction in whole or part of a building which has ceased to operate due to fire, natural collapse or demolition having been declared unsafe, or which is likely to be demolished, as the case may be, these Regulations shall apply.

13.3.3 Existing Approved Building

Nothing in these Regulations shall require the removal, alteration or abandonment, nor prevent continuance of the lawfully established use or occupancy of an existing approved building unless, in the opinion of the Competent Authority, such a building is unsafe or constitutes a hazard to the safety of adjacent property or to the occupants of the building itself.

13.4 Development Permission

Development or re-development shall carry out including sub-division on any plot or land (not forming part of any approved layout plan or scheme) after obtaining approval for the layout plan from the Competent Authority only.

13.5 Building Permission

13.5.1 Building Permission

Any person intending to erect, re-erect or make addition/ alterations in any building or cause the same to be done shall first obtain appropriate building permission for each such building from the Competent Authority.

The following item of works are exempted from the above Regulation:

- (i) Plastering/cladding and patch repairs, except for the Heritage Buildings where Heritage Conservation Committee's permission is required
- (ii) Re-roofing or renewal of roof including roof of intermediate floor at the same height
- (iii) Flooring and re- flooring
- (iv) Opening windows, ventilators and doors opening within the owners' plot
- (v) Rehabilitation/repair of fallen bricks, stones, pillars, beams etc
- (vi) Construction or re- construction of sunshade not more than 0.75 Metre in width within one's own land and not overhanging over a public street
- (vii) Construction or re-construction of parapet and also construction or reconstruction of boundary walls as permissible under Bye Laws
- (viii) White washing, painting etc. including erection of false ceiling in any floor at the permissible clear height provided the false ceiling in no way can be put to use as a loft /mezzanine floor etc
- (ix) Reconstruction of portions of buildings damaged by storm, rains, fire, earthquake or any other natural calamity to the same extent as existed prior to the damage as per sanctioned plan, provided the use conforms to provisions of Development Plan
- (x) Erection or re-erection of internal partitions provided the same are within the preview of the Bye-laws
- (xi) For erection of Lifts in existing buildings in residential plotted development (low-rise)
- (xii) Change/ Installation/ re-arranging/ relocating of fixtures or equipments without hindering other's property/ public property shall be permitted
- (xiii) Landscaping
- (xiv) Toilet/Washroom, Security Room, up to a maximum area of 9.00 M² only (permitted within setback area, provided it does not obstruct fire vehicles movement) in plot more than 3000 M²
- (xv) A Porta cabin up to 4.50 M² permitted within setback area, provided it does not obstruct fire vehicles movement

13.5.2 Grant, Refusal and Deemed to be Sanctioned

If within the time limit stipulated in the Himachal Pradesh Town and Country Planning Act, 1977 as amended from time to time for various categories of buildings specified therein or the Competent Authority fails to intimate in writing to the person, who has applied for permission of its refusal or sanction or any intimation, the application with its plans and statements shall be deemed to have been sanctioned.

Provided that the fact is immediately brought to the notice of the Competent Authority in writing by the person.

Subject to the conditions mentioned in these Bye-laws, nothing shall be constructed to authorize any person to do anything in contravention or against the terms of lease or titles of the land or against any other Regulations, Bye-laws or Ordinance operating on the site of the work.

In case the Competent Authority rejects the application due to any reasons, the applicant can re-submit the building plan along with fees and with compliances.

13.6 Already Granted Permissions

Building permission issued by the Competent Authority before these Regulations come in to effect and where construction is in progress and has not been completed within the specified period from the date of such permission, the said permission shall be deemed to be valid and shall only be eligible for re-validation thereunder. Accordingly, where the validity of permission has expired, such construction shall be governed by the provisions of these Regulations. If the validity of permission has not expired and construction has not been started such applicants may revise the layout plan as per these regulations.

13.7 Procedure for Obtaining Permission

13.7.1 Application and Fee




The application for development of land to be undertaken on behalf of the Union or State Government under Section 28 and under Section 29 by a Local Authority or any Authority specially constituted under the Himachal Pradesh Town and Country Planning Act, 1977 as amended from time to time shall be accompanied by such documents as prescribed under Rule- 14 of the Himachal Pradesh Town and Country Planning Rules, 2014. The application for development of land to be undertaken under Section 30 by any person not being the Union or State Government, Local Authority or any Authority specially constituted under the Himachal Pradesh Town and Country Planning Act, 1977 shall be in such form along with the Specifications Sheet and Schedule attached with these forms and containing such documents and with such fee as prescribed under Rule 16 of the Himachal Pradesh Town and Country Planning Rules, 2014. All the applications shall be made online.






13.8 Documents Required

Apart from above, the applicant shall furnish the following additional documents namely:

- (i) Location Plan in the Scale of 1:1000, showing North direction indicating the land in question, main approach roads, important physical features of the locality/area, important public buildings like School, Hospital, Cinema, Petrol Pump, existing land uses /building uses surrounding the land.
- (ii) Site Plan in the scale of 1:200, showing North direction indicating the proposed site, approach road, adjoining buildings, the existing drainage and sewerage showing the built up and open area clearly. Site must tally with the shape and dimensions of plot shown in the Tatima or as per actual at site duly verified by the competent authority.
- (iii) Building plan, showing elevation and section in the scale of 1:100. The architectural drawings duly signed by the applicant and licensed/registered Architect/ Planner/ Engineer/ Draftsman along with his/ her address and Registration number.
- (iv) Recommended notation for colouring of plans: The site and building plans shall be coloured as specified in the table given below. Where items of work are not identified, the colouring notation used shall be indexed.

Colouring of Plans

Sl. No.	Item	Site/ Building Plan
1.	Plot lines	Yellow 
2.	Road/ Street/ Path	Black 
3.	Proposed building line	Red 

4.	Existing work (Outline)	Green	
5.	Work proposed to be demolished	Orange	
6.	Sewerage	Dark Brown	
7.	Water Supply/ RWH System	Sky Blue	
8.	Drainage	Dark Blue	

- (v) A copy of Treasury Challan Form/ receipt vide which requisite fee has been deposited shall be uploaded online after approval of the case in principle by the department.
- (vi) Ownership documents, i.e. latest original Jamabandi.
- (vii) Latest original Tatima showing Khasra number of land in question, adjoining Khasra numbers from all sides of plot and approach path with dimensions.
- (viii) In the Site Plan, the distance of electricity line, from development as per Indian Electricity Rules, in case any electricity line is passing over or nearby the proposed site be shown.
- (ix) A certificate from the Nagar Panchayat or Gram Panchayat or Development Authority or Local Authority, as the case may be, shall be enclosed to claim compensatory benefit in support of taking over the land surrendered for development in public interest such as road or path and designating it as Public Street/ infrastructure shall be submitted. The land surrendered for development of Public Street/ infrastructure shall be registered by the Revenue Authority. Provided further that the applicant shall be compensated by allowing additional Floor Area Ratio (FAR) in lieu of surrendering the land for public purpose. The extra FAR shall not exceed the area surrendered for public purpose.

Important- Total plot area will also include the area surrendered for path so that applicant gets compensation in form of FAR for any land surrendered in public interest.

- (x) The Structural Stability Certificate shall be submitted by the applicant on submission of planning permission case and at the time of completion of structure duly signed by the registered Structural Engineer, including soil investigation report and structural design basis report as per provisions for safety against natural hazard.

13.9 General Regulations

The following general regulations shall apply to all development activities in each of the land use zones in the left-out area: -

- i. No building or other structure shall be erected, re-erected or materially altered without the permission of the competent authority.
- ii. No yard or plot existing at the time of coming into force of these regulations shall be reduced in dimension or area below the minimum requirement set forth herein. The yards or plots created after the effective date of these requirements shall meet at least the minimum requirements established by these regulations. All the plots registered prior to coming into force of these regulations shall be treated as plots irrespective of their size subject to the condition that 3.00 m

wide path abutting one side of the plot will be the basic requirement. If 3.00 m wide path is not available at site in newly developed area and if it is less in width, then the owner shall surrender the remaining land from his plot to make the path as 3.00 m wide. The construction would be allowed on hereditary owned smaller plots and the regulations for maintaining minimum plot size/area shall not be insisted on such hereditary owned smaller plots.

iii. The height of a building shall further be related to the width of abutting path:

For path less than 3.0 M and non-vehicular - 10 Meters

For path 3.0 M and vehicular - 13 Meters

For path width above 3.0 M and up to 5.0 M - 15 Meters

For path width above 5.0 M and up to 7.0 M - 18 Meters

iv. The following structures shall not be considered in regulating the height of the building: -

- Roof tanks and their supports not exceeding 2.00 Meter in height.
- Mechanical, electrical, HVAC, lift rooms and similar service equipment.
- Staircase mumty not exceeding 3.00 Meter in height.
- Architectural features serving no other function except that of decoration, chimneys, poles, parapet and other projections not used for human habitation, may extend beyond the prescribed height limits, not exceeding 1.50 Metre in height, unless the aggregate area of such structures exceeds 1/3rd of the roof area of the building on which these are erected.
- Solar panels installed on the roof.
- These height regulations shall not apply to the structures housing main seat of Deity /Sanctum / Sanctorum which are part of religious buildings e.g. Temples, Mosques, Gurudwaras, Churches, etc. provided it is so designed and approved by the Competent Authority. The height restrictions shall apply to the ancillary structures like Dharamshala, Sarai etc.

v. Maximum acceptable slope for development shall be 45 degrees.

vi. If a plot developed by cutting land, owner shall protect hill cut by retaining, breast wall in the structure so that cutting may not harm adjoining property.

vii. Maximum height of plinth level shall be 2.00 Meters.

viii. Area zoned for public and semi-public uses and parks and open spaces shall not be built upon or used for any purpose other than parks, play grounds and recreation. These may, however, with the prior permission of the competent authority be permitted temporarily for a period not

exceeding 30 days to be used for public entertainment purposes and shall be removed at the end of the period and shall in no case be permanently erected.

- ix. The existing non-conforming uses of land and buildings, if continued after coming into force of this Development Plan, shall not be allowed in contravention of provisions of Section-26 of the Himachal Pradesh Town and Country Planning Act, 1977.
- x. Normally the cutting of the natural profile shall not exceed more than 3.50 Meter. However, in extraordinary cases where hill cut or excavation is more than 3.50-meter site development plan/Cross section showing retaining/breast wall etc. would be prepared by the Structural Engineer.
- xi. No wall fence and hedge along any yard or plot shall exceed 1.50 m in height.
- xii. On a corner plot bounded by a vehicular road in any land use zone, nothing shall be erected, placed, planted or allowed to grow in such a manner so as to materially impede the vision to avoid accidents and for smooth running of vehicular traffic.
- xiii. No planning permission for development shall be granted unless the road/path on which land/plot abuts is properly demarcated and developed.
- xiv. Drainage shall be regulated strictly according to natural profile of land with a view to prevent landslides, soil erosion and to maintain sanitation.
- xv. In case of petrol filling station, the layout plan/ norms of the Indian Oil Corporation (IOC) shall be adopted. However, on National Highways and State Highways the front setback shall be kept as 8.00 m from acquired width of the Highway or as mandate of HPPWD. If the rear and side setbacks are not mentioned in the layout plan of IOC, the sides and rear setbacks shall be 2.00 m minimum.
- xvi. Minimum building width of 5.00 metre be ensured without insisting on setbacks on smaller plots.
- xvii. All commercial/ public and semi-public buildings above 15-meter height shall have the provision of elevator.
- xviii. Minimum front set back from the line of controlled width of Highways and other Himachal Pradesh Public Works Department's scheduled roads falling within the Planning Area or Special Area limits (excluding the land, included in the inhabited sites of an village as entered and demarcated in the Revenue record or on sites in notified Municipal area that are already built up) shall be 3.00 M. Minimum front setback for non-scheduled roads and Municipal roads shall be 3.00 M.

- xix. Construction other than as is permissible under the Himachal Pradesh Road Side Control Act, 1972 would not be allowed on the controlled width of National Highway Authority of India (NHAI) or Himachal Pradesh Public Works Department (HPPWD).
- xx. Sky view impression on the ground should be such that nothing including projections and appendages such as AC outdoor units/sign boards etc. should project on the streets/roads/other's land.
- xxi. Water, sludge and sewage should also not trickle on the streets or roads. Septic Tank and provision to lay our sewerage service line or connecting with the existing sewerage lines shall be mandatory.
- xxii. Every building should have a clear means of access from a street or road. The competent authority may require the provisions of an access lane or access road within the site of any new building. Where for the purpose of this Regulation, it is necessary to determine the width of any road or street, the same shall be determined by the competent authority.
- xxiii. Minimum size of different parts of a building shall be as under:

Sl.No.	Description of Space	Particulars	Min Area/ Width Required
a	Habitable room	Minimum floor area	9. 50 Sq.m.
		Minimum width	2.40 m
b.	Kitchen	Minimum floor area	4.50 Sq.m.
		Minimum width	1.80 m
c.	Bath Room	Minimum floor area	1.80 Sq.m.
		Minimum width	1.20 m
d.	Water Closet	Minimum floor area	1.10 Sq.m.
		Minimum width	0.90 m
e.	Toilet	Minimum floor area	2.30 Sq.m.
		Minimum width	1.20 m
f.	Corridor	(i) For residential	
		Minimum width	1.00 m
		(ii) For other uses	
		Minimum width	1.20 m
g.	Stair	(i) For residential	
		Minimum width	1.00 m
		(ii) For Hotel/ Flats/ Hostel/ Group Housing/Educational Institutions like school. College et.	
		Minimum width	1.50 m
		(iii)Hospital/Auditorium/Theatre/Cinema Hall	
		Minimum width	2.00 m
h.	Width of treads without nosing	For residential	25 cm minimum for internal staircase
		For other uses	30 cm minimum for internal staircase
i	Height of riser	For residential	19 cm maximum (15 Nos. maximum in a flight)
		For other uses	15 cm maximum (15 Nos. steps maximum in a flight)
j.	Spiral staircase	In commercial building of 3 or more storeys, provision of spiral staircase not less than 1.50 M dia with adequate head height shall be permissible, as fire escape in addition to regular staircase.	
k.	Openings	For sufficient air and light, the windows and ventilators provided should have minimum area equivalent to 1/6th of the floor area.	
l.	Balcony projection	1.20 m wide balcony completely open at two sides with restriction up to 50% of building frontage, where minimum front setback is 3.00 M shall be permissible.	
		Roof slab/ chajja projection over door/ window opening shall be upto 1.00 m. over 3.00 m setbacks on all sides. However, it will be limited upto 0.45 m. on the setbacks less than 3.00 m. on all sides.	

- xxiv. The habitable basement and attic/mezzanine floor shall be counted as an independent storey.
- xxv. The Apartments and Colonies shall be dealt with as per Regulations contained in Appendix-7 of HPTCP Rules 2014.
- xxvi. Though minimum area of plot has been defined in Regulation, yet the plots allotted by the Central or State Government under various Social Housing Schemes including Gandhi Kutir Yojana, Indira Awas Yojana, Rajiv Awas Yojana, Affordable Housing Schemes, launched by the Central or State Government, may be considered and permission accorded in relaxation of Regulations. However, the minimum area of plot for the persons belonging to the Economically Weaker Sections and Low Income Groups of society should not be less than 45 M² and 80 M² respectively.
- xxvii. The following shall not be included in covered area of FAR calculations:
- Machine room for lift on top floor as required for the lift machine installation.
 - Rockery, lift/lift well, escalator well and well structures, plant nursery, water pool at any level (if uncovered), platform around a tree, water tank, fountain, bench, chabutra with open top and/or unenclosed sided by walls, open ramps, compound wall, gate, slide swing door, fire staircase, fire towers, refuse area, fire control room, overhead water tank or top of building/open shafts, cooling towers.
 - Mumty over staircase on top floor maximum 3.00 M height.
 - Watch and ward cabins of total area not more than 4.50 sq.m. and 6.00 sq.m. with W/C each at entry and exit, within the property line having plot area not less than 500 sq.m. and front setback not less than 5.00 m.
 - Entrance porch, canopies, pergolas, sunshade elements and balconies.
 - Plinth steps.
 - Area of all staircase(s), Fire Exit(s).
 - Service floor having services like HV AC(Heating, Ventilation and Air Conditioning), MEP installation, Janitor rooms, AHU Room, Electric room, LT room, CCTV room, laundry, Meter Room with HT/LT panel, DG Room, AC Plant room, CCTV room/ Control room, Fire control room or any other similar services shall be considered free from FAR.
 - Building service shafts like electrical shafts, communication shafts, fire shafts MRP and HVAC shall not be counted in FAR.

- Common toilets served by a public corridor shall be free from FAR.
- xxviii. Parking floor shall not be counted in FAR. However, twin parking floors shall also be excluded from FAR in Public & Semi- public and commercial buildings. Maximum height of parking floor shall be 3.00 Meters for residential use and 4.00 Metres for other uses. Shear walls shall be constructed on all the three sides of parking floor, so that it does not behave as a soft storey. In case, space as per requirement for parking is available in open, over and above the set backs, condition of parking floor shall not be insisted. Fee for parking floor(s) shall have to be payable in all cases.
- xxix. Every room used or intended to be used for the purpose of an office or for habitation in any building shall have a height of minimum 2.75 Meters. The chimneys, elevators, poles, tanks and other projections not used for human occupancy may extend above the prescribed height limits.
- xxx. Sloping roof shall be optional which may be CGI, GI sheet or slate roof with fascia. The roof shall be painted with post office red or forest green or natural roofing material such as slates. Height of sloping roof zero at eaves and maximum 2.75 Meters at centre shall be permissible. The Dormer at suitable distance on either side of the roof shall be permissible subject to the condition that the ridge of Dormer shall be below the ridge line of main roof. Roof top @ 12 M² per 1 Kilo Watt peak (KWp) shall be used for Solar Photo voltaic (PV) installations.
- xxxi. Construction in terraces shall be allowed to have a provision of storeys as permissible subject to fulfillment of FAR provision.
- xxxii. 1/3rd area of the top floor shall be permissible as open terrace.
- xxxiii. The applicants shall not be insisted for submission of No Objection Certificate (NOC) from National Highway Authority of India (NHAI) or Himachal Pradesh Public Works Department (HPPWD) authorities. However, applicant will submit his layout plan with clearly demarcated acquired and controlled width etc.
- xxxiv. Distance from Electric Lines:- The distance in accordance with the Central Electricity Authority (Measures Relating to Safety and Electric Supply) regulations, 2010 as amended from time to time and as defined in National Building Code of India, 2016 is to be provided between the building and overhead electric supply line as under :-

Clearances from Electric Supply Lines

Sl. No.	Type of Supply Line	Vertical Clearance	Horizontal Clearance
1.	Voltage lines and service lines not exceeding 650V	2.50 Metre	1.20 Metre

2.	High voltage lines above 650 Volts and including 11,000 Volts	3.70 Metre upto and including 33KV	1.20 Metre
3.	High voltage lines above 11,000 Volts and upto and including 33,000 Volts	3.70 Metre	2.00 Metre
4.	Extra high voltage lines additional 33,000 Volts	3.70 Metre plus 0.30 Metre for every additional 33,000 Volts or part thereof	2.00 Metre plus 0.30 Metre for every additional 33,000 Volts or part thereof

- xxxiii.** Building shall not be put to use prior to issue of Completion Certificate by the competent authority.
- xxxiv.** Issuance of No Objection Certificate (NOC) for water supply and electricity connections shall be as under: -
- Temporary at plinth level.
 - Permanent on completion of dwelling unit/floor/whole of the building.
- xxxv.** Any subsequent deviations made in the building constructed after getting the plan approved and after grant of No Objection Certificate (NOC) issued by the Department shall entail the entire building unauthorized and NOC so issued shall be withdrawn and the services shall be disconnected.
- xxxvi.** No construction shall be allowed within a radius of 5.00 m from the Forest/Green belt boundary and within a radius of 2.00 m from an existing tree. The distance shall be measured from the circumference of the tree.
- xxxvii.** Reconstruction shall be permissible on old lines. The plinth area and number of storeys shall remain the same as existing before reconstruction.
- xxxviii.** The provision for Rain Harvesting Tank shall be proposed in the plan @20 litre per sq.m. of the roof top area for those buildings having roof top area more than 200 sq.m.
- xxxix.** Construction on sandwiched vacant plots falling within built up areas shall be permissible as per existing building line irrespective of the width of path/road abutting the site, provided existing buildings are authorized.
- xl.** In the proposals for 3 and more dwelling units on plots of more than 200.00 Sq.m. an adequate fire safety measures, provisions of an additional fire escape stair case and rain water harvesting shall be made.

- xli. The construction shall be allowed at distance of 25 m, 10m, 5 m and 3.00 Metre after HFL of River Swan, other tributaries, Khud and Nallah respectively.
- xlii. Construction of cellar shall not be counted as a storey and should be constructed within the prescribed setbacks and prescribed building lines and subject to maximum coverage on floor i.e. entrance floor and may be put for following uses:-
- Storage of household or other goods of ordinarily combustible material; Minimum width of path/road abutting one side of plot shall be 5.00 M.
 - Strong rooms, bank cellars etc;
 - Air conditioning equipment and other machines used for services and utilities of the building; and parking spaces.

The cellar shall have following requirements: -

- All the walls shall be kept dead and below the natural ground level except the portion kept for ventilation purpose;
- Every cellar shall be, in every part, at least 2.40 M in height from the floor to the underside of the roof slab or ceiling;
- Adequate ventilation shall be provided for the cellar and any deficiency in ventilation requirements may be met by providing mechanical ventilation in the form of blowers, exhaust fans and air conditioning system etc;
- The minimum height of the ceiling of any cellar shall be 0.90 M and the maximum 1.20 M above the average surrounding ground level;
- Adequate arrangements shall be made such that surface drainage does not enter the cellar;
- The walls and floors of the cellar shall be watertight and be so designed that the effects of the surrounding soil and moisture if any, are taken into account in design and adequate damp proofing treatment is given;
- The access to the cellar shall be separate from the main and alternative staircase providing access and exit from higher floor. Where the staircase is continuous in the case of buildings served by more than one staircase, the same shall be enclosed type, serving as a fire separation from the cellar floor

and higher floors. Open ramps shall be permitted, if they are constructed within the building line subject to the provision of clause (v) above;

- In case partition in the cellars is allowed by the Authority, no compartment shall be less than 50.00 M² in area and each compartment shall have proper ventilation provision and the cellar partition shall however, conform to the norms laid down by the Fire Services; and
- In no circumstances, construction of Toilet, Bath, and Kitchen etc. shall be allowed in the cellar.

- xlili.** Minimum permissible distance between two Blocks constructed on a plot shall be 5.00 m.
- xliv.** Every development proposal shall have explicit mention of sewage disposal.
- xliv.** No permission shall be granted in areas notified by the Archaeological Survey of India as protected monuments or areas, without prior clearance from the competent authority as prescribed for the purpose.
- xlvi.** Structural Stability Certificate should be submitted along with the project drawings and report for obtaining building permission. The structure should be vetted by a qualified structural engineer having experience of building designs in hilly and earthquake sensitive areas.
- xlvi.** No development permission shall be granted on the land having “Forest” classification in the revenue record until and unless specific clearance is granted by the competent authority i.e. Forest Department. However, the recreational activities shall be allowed after mandatory permission from the competent authority.

13.10 Sub-Division of Land Regulations

- i. The Sub-Division of land into plots amounts to ‘Development’ under the Himachal Pradesh Town and Country Planning Act, 1977; as such no person will sub-divide the land unless permitted by the competent authority.
- ii. Similarly, no Registrar or the Sub-Registrar will register any deed or documents of any sub-division of land, unless the sub-division of land is duly approved by the competent authority, as provided under Section 16 of the Himachal Pradesh Town and Country Planning Act, 1977 and the Sub-Division of Land Regulations as prescribed herein.

- iii. The application for sub-division of land shall be submitted as per the procedure provided under Para 14.9. These shall be kept in view while permitting sub-division of land.
- iv. The sub-division of land shall be permitted in accordance with natural profile/ topography as shown on the contoured map along with drainage of land, access, road orientation, wind direction and other environmental requirements and according to prescribed Land Use in the Development Plan. Natural flora and fauna shall be preserved. Unless site conditions prohibit, plots shall be permitted at right angle to the road with proper shape and dimension, so that optimum use of the land is ensured.
- v. Development proposal for a part of land or khasra no. shall be considered. However, proposal for complete land holding/khasra No. shall be submitted even if planning permission is required for part of the land provided further that atleast one ROW of adequate width in view of total area of complete land holding/khasra No. shall have to be proposed to ensure access for balance area.
- vi. The development of land shall not be permitted in area where basic services like paved roads, water supply, drainage, sewerage disposal, electricity, street lighting etc. do not exists or unless the applicant undertakes that these services shall be provided at his own cost.

i	Minimum width of pedestrian links to smaller cluster of plots, not exceeding 5 in number.	3.00 M.
ii	Minimum width of vehicular access, if number of plots is above 5.	5.00 M (with cul-de-sac) at the end.
iii	Minimum area for open/green space for the scheme having more than 5 plots	10%
iv	Minimum area for soak pit etc. (irrespective of number of plots).	5% of the scheme area/ Individual septic tank and soak pit can be proposed in each plot also.
v	Orientation of the plots shall be provided in such a manner so as to be in conformity with the integration of existing plots/infrastructure, wind direction, natural flow of surface drainage to allow un-obstructed rain water discharge.	—
vi	Layout of plots shall be governed by easy access having acceptable grades minimum 1 in 15 and which may not obstruct view or vista.	—

- vii. The minimum width of road for sub-division shall be 7.00 m. However, in view of geographical constraints, width of road/ path may be relaxed to 3.00 m for maximum plot upto 5 in number. The minimum width of path/ road abutting one side of plot shall be 5.00 m to cluster of plots from 6 to 10 in number. For group of plots between 11 to 20 in number (2000 to 4000 Sq.m.) on one particular access, the minimum vehicular access shall be 7.00 m wide. In case of plots exceeding 20 in number (more than 4000 Sq.m.) the minimum width of road of road shall be 9.00 m.

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- viii. In case of plots or land abutting the existing or proposed roads/paths, width of the same shall be increased to meet with the requirements of this Development Plan.
 - ix. Average slope gradient for regional roads shall have to be 1:20. However, local roads in town may be allowed with slope gradient up to 1:10 and additional width of carriageway shall be provided on curves for ensuring smooth flow of vehicular traffic, which may not obstruct view or vista.
 - x. Minimum area of plot for detached house shall not be less than 150 Sq.m.
 - xi. Semi-detached house construction shall be allowed on plots upto max. 250 Sq.m and row housing on plots upto 120 Sq.m. Subject to maximum number of such plots do not exceed 8 in row after with a gap of 7.00 m shall be left. Although minimum size of plot for construction in a row with two common walls, has been kept as 90 Sq.m, yet in exceptional circumstances, considering economic/site conditions the minimum size of plots in a row, with two common walls, up to 60 Sq.m for houses may be allowed so as to provide smallest possible residential construction in a planned manner for the benefit of economically weaker sections of the society.
 - xii. The plots allotted by the Government under Gandhi Kutir Yojna, Indira Awas Yojna, Economically Weaker Section (EWS) Schemes etc. may be considered and permission accorded in relaxation to regulations to accommodate the target groups.
 - xiii. The minimum area for open or green space in a Scheme having more than 5 plots (1000.00 Sq.m) shall be 10% of the scheme area. Where a sub-division of land involving plots exceeding 10 in number (2000 Sq.m) by individual colonizer or any society is proposed, the provisions of parks or tot-lots and open spaces shall be made on a centre suitable location in the scheme. Such parks cannot be built upon and sold in any manner in future. Provision shall also have to be made for education, medical, firefighting, religious, socio-cultural and other community facilities, based on actual requirements, in the cases of sub-division of land in accordance with prescribed norms and standards. The ownership of such land shall be transferred/ surrendered to the Development Authority or Local Authority for its development and future maintenance. In case, basic educational facilities are available within walkable distance, reservation of area shall not be mandatory.
 - xiv. While carving out the plots, orientation of the plots shall be provided in such a manner, so as to be in conformity with the integration of existing plots, infrastructure, wind direction and natural flow of surface drainage to allow un-obstructed rain water discharge.

- xv. Minimum area for septic tank and soak pit irrespective of number of plots shall be 5% of the scheme area. However, the same can also be proposed within boundary of each plot.
- xvi. Provision for rain water harvesting for surface run off other than that of structures shall have to be ensured to ease the water supply problem.
- xvii. Provision for decomposition of biodegradable waste shall have to be made in accordance with requirements of particular sub-division of land by earmarking space at suitable location.

13.11 Regulations for Each Land Use Zone

The following Regulations shall apply to each of the Land Use Zones as specified below: -

13.11.1 Residential Zone

The General Regulation as laid down under para 14.10 shall be kept in view while permitting any development in this Zone.

The plot area, maximum coverage, setbacks and maximum Floor Area Ratio (FAR) shall be as under:

Sl. No.	Description and Minimum Plot Area	Minimum Set Backs (in Metre)				Maximum Floor Area Ratio	Maximum Height in Metres*
		Front	Left	Right	Rear		
1.	Detached Houses						
	(i) 150 M ² to 250 M ²	2.00	1.50	1.50	1.50	1.75	21.00
	(ii) Above 250 M ² to 500 M ²	3.00	2.00	2.00	2.00	1.75	21.00
	(iii) Above 500 M ²	5.00	3.00	3.00	2.00	1.75	21.00
2.	Semi-detached Houses with common wall on one side						
	Upto 120 M ²	2.00	1.50	-	1.50	1.75	21.00
	Above 120 M ² to 250 M ²	2.00	1.75	-	1.50	1.75	21.00
3.	Row Houses with common wall on two sides						
	90 M ² to 120 M ²	2.00	Nil	Nil	1.50	1.75	18.00

Notes:

- i. Minimum width of path/road abutting one side of plot shall be 3.00 m.
- ii. No projections and opening shall be provided on the sides of common wall, in case of row housing and semi-detached housing. However, the owner of the plots of either side shall have an option to construct a common wall.

13.11.2 Commercial Zone

The General Regulation as laid down under para 14.10 shall be kept in view while permitting any development in this Zone.

The minimum Plot Area, minimum Set Backs and maximum Floor Area Ratio (FAR) for the construction in this zone shall be as under:-

Sl. No.	Description and Minimum Plot Area	Minimum Set Backs (in Metre)				Maximum Floor Area Ratio	Maximum Height in Metres*
		Front	Left	Right	Rear		
1.	Booths upto 10 M ²	1.00	Nil	Nil	Nil	-	4.00
2.	Shops						
	(i) Above 10 M ² to 30 M ²	2.00	Nil	Nil	1.00	-	6.00
	(ii) Above 30 M ² to 100 M ²						
	(iii) Above 100 M ² to 250 M ²	2.00	Nil	Nil	1.00	1.75	9.00
	(iv) Above 250 M ² to 500 M ²						
		3.00	Nil	Nil	1.50	1.75	12.00
		4.00	1.50	1.50	2.00	1.75	15.00
3.	Shopping Complex						
	(i) 500 M ² to 1500 M ²	5.00	3.00	3.00	3.00	1.75	21.00
	(ii) Above 1500 M ² to 4000 M ²						
	(iii) Above 4000 M ²	10.00	5.00	5.00	5.00	1.75	21.00
		12.00	7.50	7.50	6.00	1.50	21.00
	Parking						
	(i) 500 M ² to 1500 M ²	= 1.50 ECS per 100 M ² of built up area					
	(ii) 1500 M ² to 4000 M ²	= 2.00 ECS per 100 M ² of built up area					
	(iii) Above 4000 M ²	= 3.00 ECS per 100 M ² of built up area					
4.	Tourism Unit						
	(i) 250 M ² to 500 M ²	3.00	2.00	2.00	2.00	1.75	21.00
	(ii) Above 500 M ² to 1500 M ²	5.00	4.00	4.00	3.00	1.50	21.00
	(iii) Above 1500 M ²						
		7.50	5.00	5.00	4.00	1.50	21.00
	Parking						
	(i) 250 M ² to 500 M ²	= 1.00 ECS per 100 M ² of built up area.					
	(ii) Above 500 M ² to 1500 M ²	= 1.50 ECS per 100 M ² of built up area.					
	(iii) Above 1500 M ²	= 2.00 ECS per 100 M ² of built up area.					
	(iv) Tourism Units, can be known by the name of Hotel or Guest House or Eco-Tourism or by any other name.						
	(v) In existing built up areas like Bazaars, the building line can be maintained.						
5.	Cinema / Cineplex						
	4000 M ² and above	15.00	7.50	7.50	6.00	1.50	21.00

	Parking (i) 3.00 ECS per 100 M ² of built up area (ii) Other Regulations as per Cinematography Act shall also apply.						
6.	Multiplexes						
	4000 M ² and above	15.00	9.00	9.00	9.00	1.50	21.00
	Parking (i) Permissible within the complex. (ii) Parking space to be provided within Multiplex @ 3 ECS for every 100 M ² of built up area. (iii) Other Regulations as per Cinematography Act shall also apply. (iv) Multiplex complex shall mean an integrated entertainment and shopping centre/ complex having at least 2 Cinema Halls. The minimum area on which this use shall be permitted should not be less than 4000 M ² . Apart from Cinema Halls, the Multiplexes may also have Restaurant, Fast Food, Outlet, Pubs, Health Spas/ Centers, Hotels and other Re-creational activities. The shopping center may have Retail Outlet, Video Games, Parlours, Bowling Alleys, Health Centers, Shopping Malls, Office space.						
	Note: - 1.00 ECS (Equivalent Car Space) shall mean as under:- (i) For parking in open = 23 M ² (ii) For parking in stilts or ground floor = 28 M ² (iii) For parking in basement floor = 32 M ²						
7.	Multi-level parking						
	(i) 500 M ² to 1500 M ²	5.00	3.00	3.00	3.00	1.75	21.00
	(ii) Above 1500 M ² to 4000 M ²	10.00	5.00	5.00	5.00	1.75	21.00
	(iii) Above 4000 M ²	12.00	7.50	7.50	6.00	1.50	21.00

***Note.—The Maximum height of building further be depicted by the General Regulation clause No 2.**

The Hotels/Guest Houses shall be permitted provided following regulations: -

- The proposed Guest Houses/Hotels must have a vehicular access at least with a width of not less than 5.00 M.
- Each suit shall have an attached independent toilet.
- If a commercial building/plot abuts on two or more streets (path/road building/ plot shall be deemed for the purpose of this regulation to phase upon the street (path/road) that has greater width.
- Minimum width of path/road abutting one side of plot shall be 5 meters.

13.11.3 Industrial Zone

The General Regulation as laid down under para 14.10 shall be kept in view while permitting any development in this Zone.

Type of Industry, minimum Plot Area, minimum Set Backs, maximum Floor Area Ratio (FAR) and maximum height of building: -

Sl. No.	Type of Industry and Minimum Plot Area	Minimum Set Back in Metres				Maximum FAR	Maximum Height in Metres from Mean Sea Level above 1000M
		Front	Left	Right	Rear		
1.	Small Scale Industries 250 M ² to 500 M ²	3.00	2.00	2.00	2.00	1.75	12.00
2.	Service/ Light scale Industries Above 500 M ² to 1000 M ²	5.00	2.00	2.00	3.00	1.50	12.00
3.	Medium Scale Industries Above 1000 M ² to 5000 M ²	10.00	5.00	5.00	5.00	1.25	15.00
4.	Large and Heavy Scale Industries Above 5000 M ²	15.00	7.50	7.50	7.50	1.00	15.00

Note: -

Service area required for pharmaceutical units or such type of Industries under requirement of Goods Manufacturing Practice (G.M.P) shall not be included for calculation of FAR, provided it is only used for utilities and services but not in any case for production.

For ancillary uses like security post/room shall be allowed in setback area i.e. one wall shared with the boundary wall and shall be counted in the FAR.

Minimum width of path/road abutting one side of plot shall be 5.00 M for small scale industries and 8.00 M for others.

13.11.4 Public and Semi Public Zone

The General Regulation as laid down under para 14.10 shall be kept in view while permitting any development in this Zone.

i. Minimum area of plot

The minimum area of plot shall depend on the specific requirements; however, it should not be less than 150.00 Sq.m.

ii. Maximum number of storeys

For public and semi-public buildings, maximum number of storeys shall be 4+1 mandatory parking floor. The short fall in parking, if any, shall be met out in open area, over land above the setbacks.

iii. Maximum height of building.

The maximum height of public and semi-public buildings shall be 18.80 m (including 2.50 m maximum height of sloping roof and 2.70 m height of compulsory for parking floor).

The maximum coverage, setbacks and FAR shall be as under: -

Description	Minimum Setback (m)
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Sl. No.		Maximum coverage	Front	Left	Right	Rear	Maximum FAR
1.	Educational Buildings	40%	8.00	2.50	2.50	2.50	2.00
2.	Police Station, Fire Station Buildings	40%	8.00	2.50	2.50	2.50	2.00
3.	Medical Buildings	40%	8.00	2.50	2.50	2.50	2.00
4.	Community Hall	40%	8.00	2.50	2.50	2.50	2.00
5.	Library/Religious Buildings	40%	8.00	2.50	2.50	2.50	2.00
6.	Government-Semi Government Offices Buildings	40%	8.00	2.50	2.50	2.50	2.00

Note: -

- i. Up to 50% of open area shall be utilized for open parking and rest shall be landscaped.
- ii. Minimum width of path/road abutting one side of plot shall be 5.00 m.
- iii. In case of petrol/diesel filling stations, the layout plan/norms prescribed for setbacks etc. by the Indian Oil Corporation (IOC) shall be adopted. However, on National Highway and State Highways the front setback shall be kept 8.00 m If rear and side setbacks are not mentioned on the layout plan of (IOC), then the sides and rear setbacks shall be kept as 2.00 m
- iv. In the case of godowns for Liquefied Petroleum Gas (LPG) cylinders. The norms as prescribed by the Oil and Natural Gas Commission (ONGC) shall be adopted. However, on National Highway and State Highways the front setback shall be kept 8.00 m from acquired width of the Highway. If the rear and side setbacks are not mentioned on the layout plan of (ONGC), then the side and rear setbacks shall be kept as 2.00 m
- v. In case of existing institutional buildings, Government and Semi-Government Office buildings in Zones, other than this Zone, the permission on special grounds may be given by the Competent Authority, to construct such institutional buildings according to the requirements and Regulations of that particular Zone.
- vi. Every plot should have minimum vehicular access of 5.00 m

13.11.5 Traffic and Transportation

The General Regulation as laid down under para 14.10 shall be kept in view while permitting any development in this Zone.

In case of construction of any building incidental to traffic and transportation use, such as, convenient shopping, hotel/ dhabas, ware-housing, waiting hall, etc. the Regulations as applicable to Commercial Zone shall also be applicable to this Zone.

Regulations for Solar Passive Building Design, for Development of Barrier Free Environment for the Persons with Disabilities in Public and Semi Public Building & Re-creational Areas within the limits of Economic Capacity, for collection of Rain Water Harvesting, for Development of Apartments and Colonies in Real Estate Projects and for Installation for Communication Towers shall be as prescribed in the Himachal Pradesh Town and Country Planning Rules, 2014.

13.11.6 Fire and Life safety

The provisions of fire and life safety as enshrined in the National Building Code of India, 2016 shall be applicable to buildings having height of 15.00 Meter or above and having floor area more than 500

M2 on any one or more floors and in case of Institutional Buildings it shall be applicable to the buildings having height of 9.00 Meter and above.

13.11.7 Relaxations

In the public interest and in the interest of town design or any other material consideration the Competent Authority may relax minimum size of plot, setbacks and Floor Area Ratio (FAR). The decision of the Competent Authority shall be final.

13.11.8 Parks and Open Spaces

The General Regulations as laid down under para 14.10 shall be kept in view while permitting any development in this Zone.

In case of construction of any building incidental to parks and open spaces use, such as, public toilets, fast food kiosks, stadium, sports room etc. the Regulations as applicable to the Public and Semi-Public Zone as envisaged under Regulation 14.6 shall also be applicable to this Zone.

No change in land use shall be allowed in the 25 m wide buffer zone provided for Swan River on both sides and 10 m width provided for all the Khuds and other water bodies.

13.11.9 Agriculture

The General Regulation as laid down under para 14.10 shall be kept in view while permitting any development in this Zone.

- i. Sub-Division of land in this Zone shall be allowed only for agriculture purposes and for the purposes incidental to agriculture use.
- ii. The predominant land use will remain agriculture. However, mixed land use shall be permitted on special grounds by the competent authority.

The activities Permitted, Restricted and Prohibited in Mixed land use zone shall be as given below:

(a) Activities Permitted

In the mixed-use zone all activities falling within permitted land use (dominant land use) shall be minimum 60% and to co-exist with commercial, institutional and recreational which shall include Residential Plot- Plotted housing and Group housing, Residential-cum-work plot, Employees housing, Guest House, Boarding and Lodging houses, Hostel, Dharamshala and its equivalent, Night shelter, Local Level (Convenience/ Local Shopping Centre), Cinema/ Multiplexes, Post Offices, Parks and Playgrounds, Service industry, Road network with street furniture, Bus Stops, Taxi stand, Parking, Community hall/barat ghar, Community/ Recreational Hall, Library, Reading Room, Society Office, Creche and Day Care Centre, Nursing home/ Polyclinic/ Clinical Laboratory, Religious premises, Gymnasium, Yoga Centres, Banks, clubs, ATM, Police stations, Police post

(b) Activities Restricted

Activities related to non-polluting household industrial land use shall be allowed to a maximum of 10%.

(c) Activities Prohibited

All other activities especially industrial which are polluting in nature and which will have adverse impact on the overall activities of this zone.

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15. ANNEXURES

Household Survey Format

Development Plan for Planning/Special Areas of Himachal Pradesh

Department of Town and Country Planning, Shimla

Household Survey

NAME OF SURVEYOR: DATE: DAY:

NAME OF RESPONDENT: AREA SURVEYED:

1. HOUSEHOLD PROFILE

SL. No.	Relationship with the Respondent	Age	Sex	Education	Occupation	Monthly Income	Work Places	Education Institute	Mode of transport
				a. Illiterate b. Literate b. Primary c. Higher Secondary d. Graduate e. Post-Graduate f. Others (please specify)	a. Student b. Business c. Government Service d. Private professional e. Retired f. Home maker g. others (please specify)	a. <5000 b. 5000-10000 c. 10000-20000 d. 20000-30000 e. 30000-40000 f. 40000-50000 g. >50000	a. Within Village b. In urban areas (planning area) c. Within planning area d. Outside planning area		a. Walk b. Cycle c. Two-Wheeler d. Car e. Taxi/Auto f. Bus g. Tractors h. Others

1.1 Housing typology ☐ Plotted ☐ Flats ☐ Others, specify

1.2 No. of floors ☐ G ☐ G+1 ☐ G+2 ☐ G+3 ☐ Others, specify

1.3 When was this house built? ☐ 0-10years ☐ 10-20years ☐ More than 20years

1.4 House ownership ☐ Owned ☐ Rented ☐ Govt. allotted

1.5 If rented, Monthly Rental Rs

.....

2. HOUSING STRUCTURE PROFILE

2.1 Plot size (m²).....Property / Land Value

.....

2.2 No. of rooms

2.3 Floor Wise Building Use

Floor	Use (Residential/ Commercial/ Others)	Remarks (specify if others)
Ground Floor		
First Floor		
Second Floor		
Third Floor		

2.4 Building Material

a) Floor ☐ Cement ☐ Mud
b) Wall ☐ Brick ☐ Wooden
c) Roof ☐ RCC ☐ Concrete
☐ Asbestos ☐ Thatch ☐ Tiles
☐ Tin sheet

3. MIGRATION:

3.1 CITY/TOWN SPECIFIC

a) Duration of stay of head of household ☐ Since birth ☐ No

b) If no, When did you move here ☐ 0-2 years ☐ 2-5 years ☐ 5-10 years
☐ More than 10 year

c) From where did you migrate?

.....

d) What was the reason for migration?

☐ Employment ☐ Education ☐ Marriage ☐ Due to Disaster ☐ Others,
specify

4. PHYSICAL INFRASTRUCTURE

4.1 WATER SUPPLY

a) Source: ☐ Supply by IPH ☐ Bore well ☐ Hand pump ☐ Community Tap
☐ Others

b) If municipal supply, Duration of supply per day ☐ Irregular ☐ < 1hour ☐ 1-

2hour ☐ >2hour

c) Do you pay tariff for water ☐ Yes ☐ No

c-1) If yes, how much amount you pay per month?

.....

4.2 SANITATION and SEWERAGE

a) Toilet Facility ☐ Within Housing Block ☐ Within Premises ☐ Community

Toilets ☐ Open

b) Sewerage system ☐ Individual Septic Tank ☐ Community Septic Tank ☐

City Sewer line

b-1) If septic tanks then the frequency of cleaning septic tanks

☐ Monthly ☐ Quarterly ☐ Half-yearly ☐ Yearly

b-2) Method of cleaning the septic tanks ☐ Manually ☐ Mud pipe

☐ Others

4.3 STORM WATER

a) Type of Storm Water Drains ☐ Open ☐ Closed

☐ None

b) Any Problems with Storm Water Drains ☐ Water logging ☐ Blockage

☐ Smell ☐ Mosquito breeding

c) Frequency of cleaning ☐ Daily ☐ Weekly ☐ Fortnight

☐ Monthly

d) Any water harvesting facility practiced? ☐ Yes ☐ No

d-1) If yes, ☐ Individual ☐ Community level

4.4 SOLID WASTE MANAGEMENT

a) Method of Solid Waste Collection

☐ Door-to-door collection ☐ Community Level Collection ☐ None

b) Waste Dumping

☐ Individually to the nearest bin ☐ Individually to the dumping ground ☐

Community level dumping ☐ Others

c) Distance to nearest garbage bin/ dumping ground (in km)

.....

4.5 POWER

a) Do you have Metered Electricity Connection ☐ Yes ☐ No

c) Are there any power cuts? ☐ Yes ☐ No

c-1) If yes, for what time/ hours per day.....

d) How much tariff do you pay for electricity?

☐ per unit..... ☐ per month.....

e) Do you have access to solar power? ☐ Yes ☐ No

e-1) If yes, for what purpose you use? ☐ Lighting ☐ Solar Heating system

☐ Cooking ☐ Other, specify.....

4.6 TRANSPORT

a) Vehicle ownership

Type	4-wheeler	2-wheeler	Cycle	Other	None
No.					

b) Details of Household trips

Sl.No.	Gender	Mode of Transport a. Walk b. Cycle c. Two-Wheeler d. Car e. Taxi/Auto f. Bus	Origin	Destination	Travel Purpose	Travel Time	Travel Cost

Sl.No.	Gender	Mode of Transport a. Walk b. Cycle c. Two-Wheeler d. Car e. Taxi/Auto f. Bus	Origin	Destination	Travel Purpose	Travel Time	Travel Cost

b-1) Are you satisfied with the frequency of bus service in your area? ☐ Yes ☐ No

b-1.1) If no,

why?.....

5. SOCIAL INFRASTRUCTURE

Social Services/Infrastructure	Location e. Within village f. In urban areas (planning area) g. Within planning area h. Outside planning area	Frequency of use a. Daily b. Twice a week c. Weekly d. Rarely	Satisfaction Unsatisfied - 0-3 Fair - 4-5 Good - 6-7 V.Good - 8-10
(A) Health			
Dispensary/ Clinic			
Hospital			

Social Services/Infrastructure	Location	Frequency of use	Satisfaction
	e. Within village	a. Daily	Unsatisfied - 0-3
	f. In urban areas (planning area)	b. Twice a week	Fair - 4-5
	g. Within planning area	c. Weekly	Good - 6-7
	h. Outside planning area	d. Rarely	V.Good - 8-10
(B) Shopping			
Convenience Shopping			
Weekly Market			
Local Shopping			
Others, specify			
(C) Services			
Community Hall			
Post Office			
Police Booth/ Station			
Fire Station			
(D) Recreational			
Parks			
Playground			
Others			
(E) Utilities			
Taxi stand/ Bus stop			
(F) Education			
Nursery School/ Anganwadi			

Social Services/Infrastructure	Location	Frequency of use	Satisfaction
	e. Within village	a. Daily	Unsatisfied - 0-3
	f. In urban areas (planning area)	b. Twice a week	Fair - 4-5
	g. Within planning area	c. Weekly	Good - 6-7
	h. Outside planning area	d. Rarely	V.Good - 8-10
Primary School			
Secondary School			
Sr. Sec. School			
College			

6. DISASTER AWARENESS and MANAGEMENT

6.1 AT INDIVIDUAL LEVEL

a) Which are the most common/likely disaster in your area

- ☐ Flood
 ☐ Earthquake
 ☐ Cloud Burst
 ☐ Drought
☐ Forest Fire
 ☐ Landslide
 ☐ Fire Incident
 ☐ Other.....

b-1) Does any of the above mentioned event took place in your area/nearby in last 10 years? ☐ Yes ☐ No

b-1.1) If yes, name the event

b-1.2) Date of the event

b-1.3) Impact ☐ Devastating ☐ Moderate

☐ Mild

c) If your family prepared to face disaster? ☐ Yes ☐ No

c-1) If yes, what steps will you take to mitigate the impact

.....

6.2 AT COMMUNITY LEVEL

a) Did you receive any mock drill on any of the disaster event at community level in your area? ☐ Yes ☐ No

a-1) If yes, on what event?

a-2) Who organized it?

a-3) Frequency of such drills? ☐Monthly ☐Quarterly ☐Half-yearly ☐Yearly

7. Problems and Prospects

i. What are the basic problems that the housing area faces, example, drainage, water supply, waste disposal, safety and security?

.....

.....

.....

ii. Who is responsible for the management of the housing area? What major works have they done in the past?

.....

.....

.....

iii. What are the benefits of living in the area, for example connectivity, accessibility to facilities, etc

.....

.....

.....

iv. Do you suggest some changes that could help improve the housing area?

.....

.....

.....

v. What kind of improvements and development are you expecting in your area?

.....

.....

.....

8. What are your priorities for Improvement?

☐ Security ☐ Health ☐ Water ☐ Employment ☐ Roads

☐ Education ☐ Housing ☐ Sanitation ☐ Electricity

Traffic Volume Count Survey Format

TRAFFIC VOLUME COUNT SURVEY FORMAT

Name of Enumerator:

Date / Time:

Name of Road / Location:

Direction of Traffic:

Time Period	Car	2 Wheeler	LMV (Passenger)		HMV (Passenger)		LMV (Goods)		HMV (Goods)	Tractor		Non – Motorized Vehicles				
			LMV (Passenger)		HMV (Passenger)		LMV (Goods)		HMV (Goods)	With Trailer	Without Trailer	Cycle	Rick- Shaw	Hand- cart	Bullock cart	Others
			3 W	4 W	Mini Bus	Standard Bus	3 W	4 W	Truck							

ORIGIN – DESTINATION SURVEY FORMAT

Date / Time:

Direction of Traffic:

[illegible]

16. TRAFFIC SURVEYS

Location: Survey Point-I

Direction: Both Direction

AVERAGE OF SEVEN DAYS

Time interval	Car/ Jeep/Van	Utility Vehicles	Two wheeler	3wh(pass)	Minibus	Standard Bus	3wh(Goods)	LCV	Trucks	Tractor	Tractor with	Cycle	Cycle Rickshaw	Animal cart	Others	Passenger Vehicles	Freight Vehicles	Total Fast Moving	Total Slow Moving	Total Vehicles	Total PCU
9:00-10:00	352	205	433	6	22	65	0	80	61	4	10	7	-	-	1	1,090	157	1,239	7	1,246	1,329
10:00-11:00	301	174	421	6	13	48	-	84	64	4	10	7	-	-	1	971	163	1,127	7	1,134	1,191
11:00-12:00	293	127	425	4	15	44	5	82	49	4	7	4	-	-	1	912	148	1,056	4	1,060	1,066
12:00-1:00	319	140	435	12	13	44	11	75	48	3	15	3	-	-	-	966	152	1,115	3	1,118	1,142
1:00-2:00	312	101	407	9	7	37	1	56	45	3	7	4	-	-	0	878	113	987	4	991	981

2:00-3:00	277	100	361	3	6	36	-	64	42	3	8	7	-	-	0	789	117	899	7	906	911
3:00-4:00	322	94	411	2	8	48	0	59	43	1	9	6	-	-	0	891	113	998	6	1,004	1,014
4:00-5:00	310	114	405	3	4	48	1	62	46	4	8	11	-	-	-	895	121	1,004	11	1,015	1,026
5:00-6:00	269	93	265	2	2	33	1	37	45	4	5	3	-	-	-	667	91	756	3	758	800
Total	2755	1149	3563	47	90	403	19	599	443	31	79	52	0	0	4	8059	1175	9181	52	9233	9460

DAILY WISE BOTH DIRECTION

Location: Survey Point I

Time interval	Car/ Jeep/Van	Utility Vehicles	Two wheeler	3wh(pass)	Minibus	Standard Bus	3wh(Goods)	LCV	Trucks	Tractor	Tractor with Trailer	Cycle	Cycle Rickshaw	Animal cart	Others	Passenger Vehicles	Freight Vehicles	Total Fast Moving Vehicles	Total Slow Moving Vehicles	Total Vehicles	Total PCU
Date: 12/01/2017	305 3	138 2	415 4	53	159	395	8	680	393	29	94	49	0	0	8	924 5	121 2	104 08	49	104 57	103 71
Date: 13/01/2017	242 2	708	284 8	30	48	385	7	448	317	10	59	66	0	0	3	650 7	844	728 5	66	735 1	754 0
Date: 14/01/2017	278 9	135 7	368 8	57	63	428	43	668	619	55	83	42	0	0	0	842 4	146 8	985 0	42	989 2	104 71
ADT (Mubarikpur to Amb)	140 1	620	190 9	24	59	241	17	382	225	22	43	32	0	0	3	428 6	693	494 7	32	497 9	514 0
ADT (Amb to Mubarikpur)	135 4	529	165 5	23	31	162	3	216	218	8	35	20	0	0	0	377 3	480	423 3	20	425 3	431 8
ADT	275 5	114 9	356 3	47	90	403	19	599	443	31	79	52	0	0	4	805 9	117 5	918 1	52	923 3	946 0

AADT	275 5	114 9	356 3	47	90	403	19	599	443	31	79	52	0	0	4	805 9	117 5	918 1	52	923 3	946 0
------	----------	----------	----------	----	----	-----	----	-----	-----	----	----	----	---	---	---	----------	----------	----------	----	----------	----------

Annexure 1.2

Location: Survey Point II

Direction: Both Direction

AVERAGE OF SEVEN DAYS

Time interval	Car/ Jeep/Van	Utility Vehicles	Two wheeler	3wh(pass)	Minibus	School Bus	3wh(Goods)	4Wheeler Goods	Trucks	Tractor	Tractor with Trailer	Cycle	Cycle Rickshaw	Animal cart	Others	Passenger Vehicles	Freight Vehicles	Total Fast Moving Vehicles	Total Slow Moving Vehicles	Total Vehicles	Total PCU
9:00-10:00	149	23	83	1	2	21	-	19	14	0	2	2	-	-	-	281	35	313	2	315	349
10:00-11:00	188	21	86	1	1	23	-	11	15	1	3	2	-	-	-	323	29	350	2	352	394
11:00-12:00	192	18	118	-	3	21	0	13	11	1	2	1	-	-	-	353	27	379	1	380	391
12:00-1:00	176	28	103	1	1	23	1	17	20	0	3	0	-	-	-	332	41	373	0	374	420
1:00-2:00	91	10	47	0	1	6	-	5	8	-	1	1	-	-	-	155	14	168	1	169	177

2:00-3:00	220	26	107	1	1	27	0	21	21	1	2	1	-	-	-	382	45	427	1	428	478
3:00-4:00	249	27	104	1	1	22	-	17	26	-	1	1	-	-	-	405	43	447	1	448	493
4:00-5:00	260	34	113	1	4	18	-	20	21	1	2	0	-	-	-	430	43	473	0	473	502
5:00-6:00	160	43	111	1	-	16	-	27	15	2	3	0	-	-	-	331	46	377	0	377	394
Total	168 5	231	872	7	14	175	1	149	150	6	17	9	0	0	0	299 2	324	330 8	9	331 6	359 8

DAILY WISE BOTH DIRECTION

Location: Survey Point II

Time interval	Car/ Jeep/Van	Utility Vehicles	Two wheeler	3wh(pass)	Minibus	School Bus	3wh(Goods)	4Wheeler Goods	Trucks	Tractor	Tractor with Trailer	Cycle	Cycle Rickshaw	Animal cart	Others	Passenger Vehicles	Freight Vehicles	Total Fast Moving	Total Slow Moving	Total Vehicles	Total PCU
Date: 12/01/2017	135 5	295	844	6	19	190	1	159	159	6	12	8	0	0	0	271 7	337	304 6	8	305 4	338 1

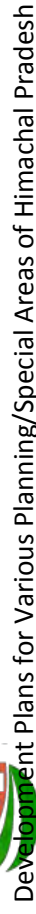
Date: 13/01/2017	133 3	190	776	4	7	164	1	128	148	3	19	13	0	0	0	248 7	299	277 3	13	278 6	308 7
Date: 14/01/2017	236 6	208	995	11	17	171	2	161	144	8	21	5	0	0	0	377 3	336	410 4	5	410 9	432 5
ADT (Hoshiarpur to Gagret)	882	110	503	5	9	89	1	57	65	4	10	3	0	0	0	160 1	138	173 6	3	173 9	183 6
ADT (Gagret to Hoshiarpur)	803	121	368	2	5	86	0	92	85	2	7	6	0	0	0	139 1	186	157 1	6	157 7	176 1
ADT	168 5	231	872	7	14	175	1	149	150	6	17	9	0	0	0	299 2	324	330 8	9	331 6	359 8
AADT	168 5	231	872	7	14	175	1	149	150	6	17	9	0	0	0	299 2	324	330 8	9	331 6	359 8

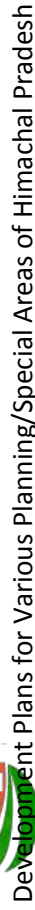


Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Vehicle Type: 1	Cars												
1	0	255	47	123	9	92	23	0	0	0	44	0	595
2	362	0	0	48	0	91	11	5	5	0	0	0	521
3	57	0	0	5	0	20	0	0	14	5	5	0	107
4	184	42	9	0	5	37	0	0	5	5	41	5	335
5	42	0	0	0	0	16	0	0	0	5	5	0	69
6	77	166	9	36	0	0	9	5	19	0	152	14	488
7	21	28	9	0	0	22	0	0	5	31	25	0	141
8	5	14	0	0	5	5	11	0	5	5	14	5	70
9	0	0	0	0	5	0	0	0	0	0	0	5	9
10	0	9	19	5	23	0	42	0	0	0	29	9	136
11	82	5	0	5	5	103	5	31	11	15	0	0	260
12	5	0	0	0	0	11	0	0	5	0	0	0	21
Grand Total	836	519	94	221	51	398	101	42	69	68	316	38	2753



Vehicle Type: 2		Taxi											
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
1	0	54	0	0	0	0	0	0	0	0	16	0	70
2	102	0	0	0	0	0	0	0	0	0	0	0	102
3	0	0	0	0	0	0	44	0	0	0	16	0	60
4	48	0	0	0	0	0	0	0	0	0	16	16	80
5	32	0	22	0	0	32	16	0	0	22	0	0	124
6	0	22	0	0	0	0	0	0	0	0	16	0	38
7	60	0	0	16	0	0	0	0	0	16	0	16	108
8	0	0	0	0	0	0	0	0	0	0	22	0	22
9	0	0	0	0	0	0	16	0	0	0	0	0	16
10	0	44	0	0	110	0	0	0	0	0	0	0	154
11	48	0	32	38	0	152	0	16	44	0	0	0	329
12	0	0	0	0	0	32	0	16	0	0	0	0	48
Grand Total	289	120	54	54	110	215	76	32	44	38	86	32	1149
Vehicle Type: 3		M. Bus											
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total

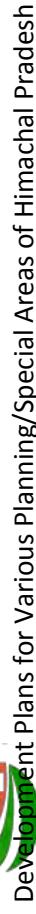
Town and Country Planning Department, Himachal Pradesh



Town and Country Planning Department, Himachal Pradesh



5	74	0	22	0	0	48	16	0	0	28	5	0	193
6	77	209	9	36	0	0	9	5	19	0	178	54	597
7	93	28	9	16	0	22	0	0	5	47	25	16	260
8	5	14	0	0	5	5	11	0	5	5	36	5	92
9	0	0	0	0	5	0	16	0	0	0	0	5	25
10	0	53	40	5	164	0	82	0	0	0	29	30	402
11	130	5	32	43	5	255	5	168	55	15	0	0	710
12	5	0	0	121	0	66	0	16	5	0	0	0	213
Grand Total	1148	660	168	395	202	637	217	194	113	106	424	130	4395
Vehicle Type: 1	LMV												
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
1	0	108	0	0	0	0	0	0	0	0	0	0	108
2	191	0	0	0	0	191	0	0	0	0	0	0	382
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0



Town and Country Planning Department, Himachal Pradesh



9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
10	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	19
11	21	0	0	0	0	9	0	14	7	0	0	0	0	0	0	0	52
12	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Grand Total	84	85	42	0	0	118	47	21	28	0	17	0	0	0	0	0	443
Vehicle_Type_g	Total Goods																
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total				
1	0	127	19	0	0	38	9	0	0	0	7	0	0	0	0	0	200
2	219	0	0	0	0	212	0	7	0	0	0	0	0	0	0	0	439
3	14	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	35
4	0	28	0	0	0	14	19	0	0	0	0	0	0	0	0	0	61
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	7	0	0	0	0	0	9	0	7	0	0	0	0	0	0	0	24
7	14	0	0	0	0	14	0	0	14	0	9	0	0	0	0	0	52
8	0	19	7	0	0	0	9	0	0	0	0	0	0	0	0	0	35
9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
10	0	9	9	0	0	0	0	0	0	0	0	108	0	0	0	0	127



Development Plans for Various Planning/Special Areas of Himachal Pradesh

TCPD, Himachal Pradesh

TCPD

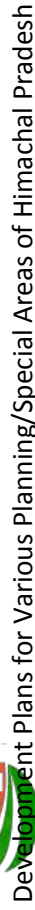
11	21	0	0	0	0	0	9	0	14	7	0	0	0	52
12	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Grand Total	276	193	42	0	0	0	309	47	21	28	0	17	108	1042



Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Vehicle Type: 1	Cars												
1	0	0	0	0	0	5	0	0	0	0	58	0	63
2	0	0	0	0	0	0	0	0	0	0	58	0	58
3	0	0	0	5	0	11	0	0	0	5	195	0	216
4	0	0	0	0	0	0	0	0	0	0	48	0	48
5	0	0	0	0	0	5	0	5	5	0	206	0	222
6	0	0	0	5	0	0	0	5	0	0	37	0	48
7	0	0	0	0	0	0	0	0	0	0	95	0	95
8	0	0	0	0	0	0	5	0	0	0	42	0	47
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	5	0	0	0	0	0	0	0	5
11	53	53	137	63	341	16	142	74	0	5	0	0	882
12	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	53	53	137	74	347	37	147	84	5	11	739	0	1685

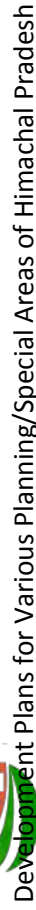


Vehicle Type: 2		Taxi											
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
1	0	0	3	0	0	0	0	0	0	0	3	0	5
2	0	0	0	0	0	0	0	0	0	0	13	0	13
3	0	0	0	0	0	0	0	0	0	0	10	0	10
4	0	0	0	0	0	0	0	0	0	0	5	0	5
5	0	0	0	0	0	0	0	0	0	0	44	0	44
6	0	0	0	0	0	0	0	0	0	0	5	0	5
7	0	0	0	0	0	0	0	0	0	3	23	0	26
8	0	0	0	0	0	0	3	0	0	0	8	0	10
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	1	0	0	0	0	0	1
11	2	3	5	6	51	5	27	14	0	0	0	0	112
12	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2	3	7	6	51	5	30	14	0	3	111	0	231
Vehicle Type: 3		M. Bus											
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total



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5	0	0	0	0	0	0	0	0	5	0	5	0	264	0	279
6	0	0	0	5	0	0	0	0	5	0	0	0	45	0	56
7	0	0	0	0	0	0	0	0	0	0	3	0	132	0	134
8	0	0	0	0	0	0	0	0	0	0	0	0	60	0	68
9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
10	0	0	0	0	5	0	0	4	0	0	0	0	0	0	9
11	55	56	173	69	431	33	181	87	0	5	0	0	0	0	1089
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	55	56	175	79	436	64	193	98	5	13	932	0	2105	0	2105
Vehicle Type: 1															
LMV															
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total		
1	0	0	0	0	0	0	0	0	0	0	12	0	12	0	12
2	0	0	0	0	0	0	0	0	0	0	5	0	5	0	5
3	0	0	0	0	0	0	0	0	0	0	17	0	17	0	17
4	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2
5	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2
6	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2



7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	36
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	12
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	12	4	4	0	4	0	25	8	0	0	0	0	0	0	0	0	0	57	0	57
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	12	4	4	0	4	0	25	8	0	0	0	0	0	0	0	0	0	149	0	149
Vehicle Type: 2																				
Truck																				
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total							
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	0	3
3	0	0	0	0	0	0	0	0	0	0	38	0	38	0	0	0	0	38	0	38
4	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	0	3
5	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	6	0	6
6	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	0	3
7	0	0	0	0	0	0	0	0	0	0	13	0	13	0	0	0	0	13	0	13
8	0	0	0	0	0	0	0	0	0	0	13	0	13	0	0	0	0	13	0	13



9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
10	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	0	6
11	6	6	12	6	6	0	0	24	0	0	0	0	0	0	0	0	59	0	59
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	6	6	12	6	6	6	6	24	0	0	0	85	0	0	0	150			
Vehicle_Type_g	Total Goods																		
Origin/ Destination	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total						
1	0	0	0	0	0	0	0	0	0	0	12	0	12	0	0	12			
2	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	8			
3	0	0	0	0	0	0	0	0	0	0	55	0	55	0	0	55			
4	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	6			
5	0	0	0	0	0	0	0	0	0	0	9	0	9	0	0	9			
6	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	6			
7	0	0	0	0	0	0	0	0	0	0	49	0	49	0	0	49			
8	0	0	0	0	0	0	0	0	0	0	25	0	25	0	0	25			
9	0	0	0	0	0	0	0	0	0	0	9	0	9	0	0	9			
10	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6			



11	18	10	16	6	10	0	48	8	0	0	0	0	117
12	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	18	10	16	6	10	6	48	8	0	0	177	0	300



Projected Normal/Total Traffic AADT (PCU) at Survey Point –I (Mubarikpur to Amb(Point I))

Year	Car/ Jeep/Van	Utility Vehicles	Two wheeler	3wh(pass)	Minibus	Standard Bus	3wh(Goods)	LCV	Trucks	Tractor	Tractor with Trailer	Cycle	Cycle Rickshaw	Animal cart	Others	Total Vehicles	Total PCU
2017	2755	1149	3563	47	90	403	19	599	443	31	79	52	0	0	4	9233	9460
2018	2892	1206	3742	49	95	423	20	629	465	33	83	55	0	0	4	9695	9933
2019	3037	1267	3929	51	99	444	21	660	488	35	87	58	0	0	4	10180	10430
2020	3189	1330	4125	54	104	466	22	693	513	36	91	61	0	0	4	10689	10951
2021	3348	1397	4331	57	109	489	23	728	538	38	96	64	0	0	4	11223	11499
2022	3516	1466	4548	60	115	514	25	764	565	40	100	67	0	0	5	11784	12074
2023	3692	1540	4775	63	121	540	26	802	594	42	105	70	0	0	5	12374	12678
2024	3876	1617	5014	66	127	567	27	842	623	44	111	74	0	0	5	12992	13311
2025	4070	1698	5265	69	133	595	29	885	655	46	116	77	0	0	5	13642	13977
2026	4273	1782	5528	72	140	625	30	929	687	49	122	81	0	0	6	14324	14676
2027	4487	1872	5804	76	147	656	31	975	722	51	128	85	0	0	6	15040	15410
2028	4711	1965	6095	80	154	689	33	1024	758	54	135	90	0	0	6	15792	16180



Development Plans for Various Planning/Special Areas of Himachal Pradesh

TCPD, Himachal Pradesh

TCPD

2029	4947	2063	6399	84	162	723	35	1075	796	56	141	94	0	0	7	16582	16989
2030	5194	2167	6719	88	170	759	36	1129	835	59	148	99	0	0	7	17411	17839
2031	5454	2275	7055	92	178	797	38	1185	877	62	156	104	0	0	7	18281	18730
2032	5727	2389	7408	97	187	837	40	1245	921	65	164	109	0	0	8	19195	19667
2033	6013	2508	7778	102	196	879	42	1307	967	68	172	114	0	0	8	20155	20650
2034	6314	2634	8167	107	206	923	44	1372	1015	72	180	120	0	0	8	21163	21683
2035	6629	2765	8576	112	217	969	47	1441	1066	75	189	126	0	0	9	22221	22767
2036	6961	2903	9004	118	227	1018	49	1513	1119	79	199	132	0	0	9	23332	23905
2037	7309	3049	9455	124	239	1068	51	1588	1175	83	209	139	0	0	10	24499	25101
2038	7674	3201	9927	130	251	1122	54	1668	1234	87	219	146	0	0	10	25724	26356
2039	8058	3361	10424	137	263	1178	57	1751	1296	92	230	153	0	0	11	27010	27673
2040	8461	3529	10945	143	276	1237	59	1839	1361	96	242	161	0	0	11	28360	29057
2041	8884	3706	11492	151	290	1299	62	1931	1429	101	254	169	0	0	12	29778	30510
2042	9328	3891	12067	158	305	1364	65	2027	1500	106	266	177	0	0	12	31267	32035
2043	9795	4085	12670	166	320	1432	69	2129	1575	111	280	186	0	0	13	32831	33637
2044	10284	4290	13304	174	336	1503	72	2235	1654	117	294	195	0	0	14	34472	35319
2045	10799	4504	13969	183	353	1579	76	2347	1737	123	308	205	0	0	14	36196	37085



2046	11339	4729	14667	192	370	1657	80	2464	1823	129	324	215	0	0	15	38006	38939
2047	11906	4966	15401	202	389	1740	84	2587	1915	135	340	226	0	0	16	39906	40886
2048	12501	5214	16171	212	408	1827	88	2717	2010	142	357	237	0	0	17	41901	42931
2049	13126	5475	16979	222	429	1919	92	2853	2111	149	375	249	0	0	17	43996	45077
2050	13782	5749	17828	233	450	2015	97	2995	2216	157	394	262	0	0	18	46196	47331



Projected Normal/Total Traffic AADT (PCU) at Survey Point No. – II (Hoshiarpur- Gagret (Point-II))

Year	Car/Jeep/Van	Utility Vehicles	Two wheeler	3wh(pass)	Minibus	Standard Bus	3wh(Goods)	LCV	Trucks	Tractor	Tractor with Trailer	Cycle	Cycle Rickshaw	Animal cart	Others	Total Vehicles	Total PCU
2017	1685	231	872	7	14	175	1	149	150	6	17	9	0	0	0	3316	3598
2018	1769	243	915	7	15	184	1	157	158	6	18	9	0	0	0	3482	3777
2019	1857	255	961	8	16	193	1	165	166	6	19	10	0	0	0	3656	3966
2020	1950	267	1009	8	17	203	2	173	174	7	20	10	0	0	0	3839	4165
2021	2048	281	1060	9	17	213	2	182	183	7	21	11	0	0	0	4031	4373
2022	2150	295	1112	9	18	223	2	191	192	7	22	11	0	0	0	4233	4591
2023	2258	310	1168	9	19	235	2	200	201	8	23	12	0	0	0	4444	4821
2024	2370	325	1227	10	20	246	2	210	212	8	24	12	0	0	0	4666	5062
2025	2489	341	1288	10	21	259	2	221	222	8	26	13	0	0	0	4900	5315
2026	2613	358	1352	11	22	271	2	232	233	9	27	13	0	0	0	5145	5581
2027	2744	376	1420	11	23	285	2	243	245	9	28	14	0	0	0	5402	5860
2028	2881	395	1491	12	25	299	2	255	257	10	30	15	0	0	0	5672	6153



2029	3025	415	1565	13	26	314	2	268	270	10	31	16	0	0	0	5956	6461
2030	3177	436	1644	13	27	330	3	282	283	11	33	16	0	0	0	6253	6784
2031	3336	457	1726	14	28	346	3	296	298	11	34	17	0	0	0	6566	7123
2032	3502	480	1812	15	30	364	3	310	313	12	36	18	0	0	0	6894	7479
2033	3677	504	1903	15	31	382	3	326	328	12	38	19	0	0	0	7239	7853
2034	3861	529	1998	16	33	401	3	342	345	13	40	20	0	0	0	7601	8246
2035	4054	556	2098	17	34	421	3	359	362	14	42	21	0	0	0	7981	8658
2036	4257	584	2203	18	36	442	3	377	380	14	44	22	0	0	0	8380	9091
2037	4470	613	2313	19	38	464	4	396	399	15	46	23	0	0	0	8799	9545
2038	4693	644	2428	20	40	488	4	416	419	16	48	24	0	0	0	9239	10023
2039	4928	676	2550	20	42	512	4	437	440	17	51	25	0	0	0	9701	10524
2040	5174	710	2677	22	44	538	4	459	462	17	53	27	0	0	0	10186	11050
2041	5433	745	2811	23	46	564	4	482	485	18	56	28	0	0	0	10696	11602
2042	5705	782	2952	24	49	593	5	506	509	19	59	29	0	0	0	11230	12182
2043	5990	821	3099	25	51	622	5	531	535	20	62	31	0	0	0	11792	12792
2044	6290	862	3254	26	54	653	5	558	561	21	65	32	0	0	0	12381	13431
2045	6604	906	3417	27	56	686	5	585	589	22	68	34	0	0	0	13000	14103



2046	6934	951	3588	29	59	720	5	615	619	23	71	36	0	0	0	13650	14808
2047	7281	998	3767	30	62	756	6	645	650	24	75	37	0	0	0	14333	15548
2048	7645	1048	3956	32	65	794	6	678	682	26	79	39	0	0	0	15050	16326
2049	8027	1101	4153	33	68	834	6	712	716	27	83	41	0	0	0	15802	17142
2050	8429	1156	4361	35	72	876	7	747	752	28	87	43	0	0	0	16592	17999

Notes

1. All dimensions are in meter unless otherwise specified.
2. All dimensions to be verified on site.



**Department of Town & Country
Planning**
Government of Himachal Pradesh


**DEVELOPMENT PLAN FOR PLANNING AND
SPECIAL AREAS OF HIMACHAL PRADESH
(AMB-GAGRET)**

EXISTING ROADS

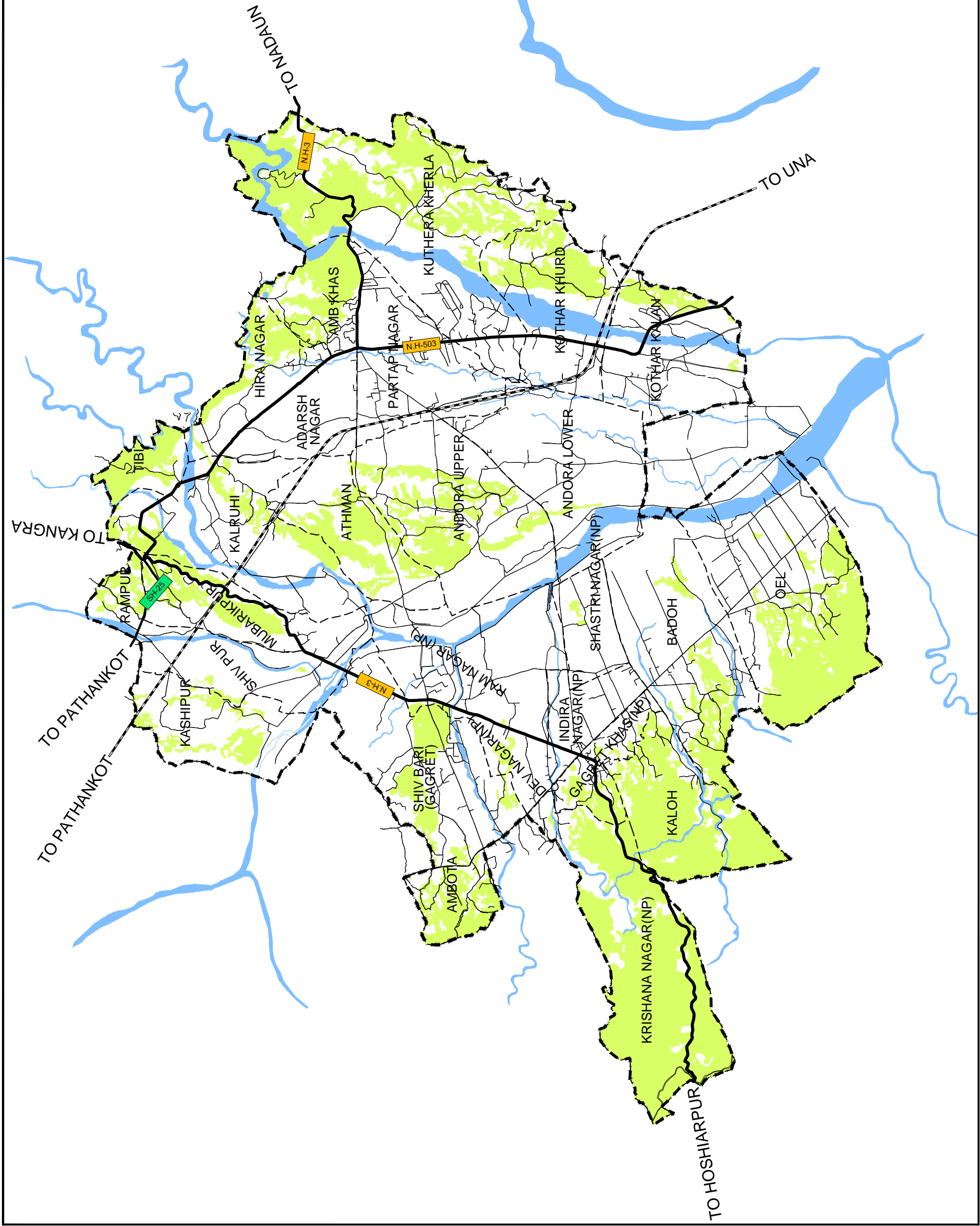
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0 100 250 500

ALL DIMENSIONS ARE IN METERS



Signature



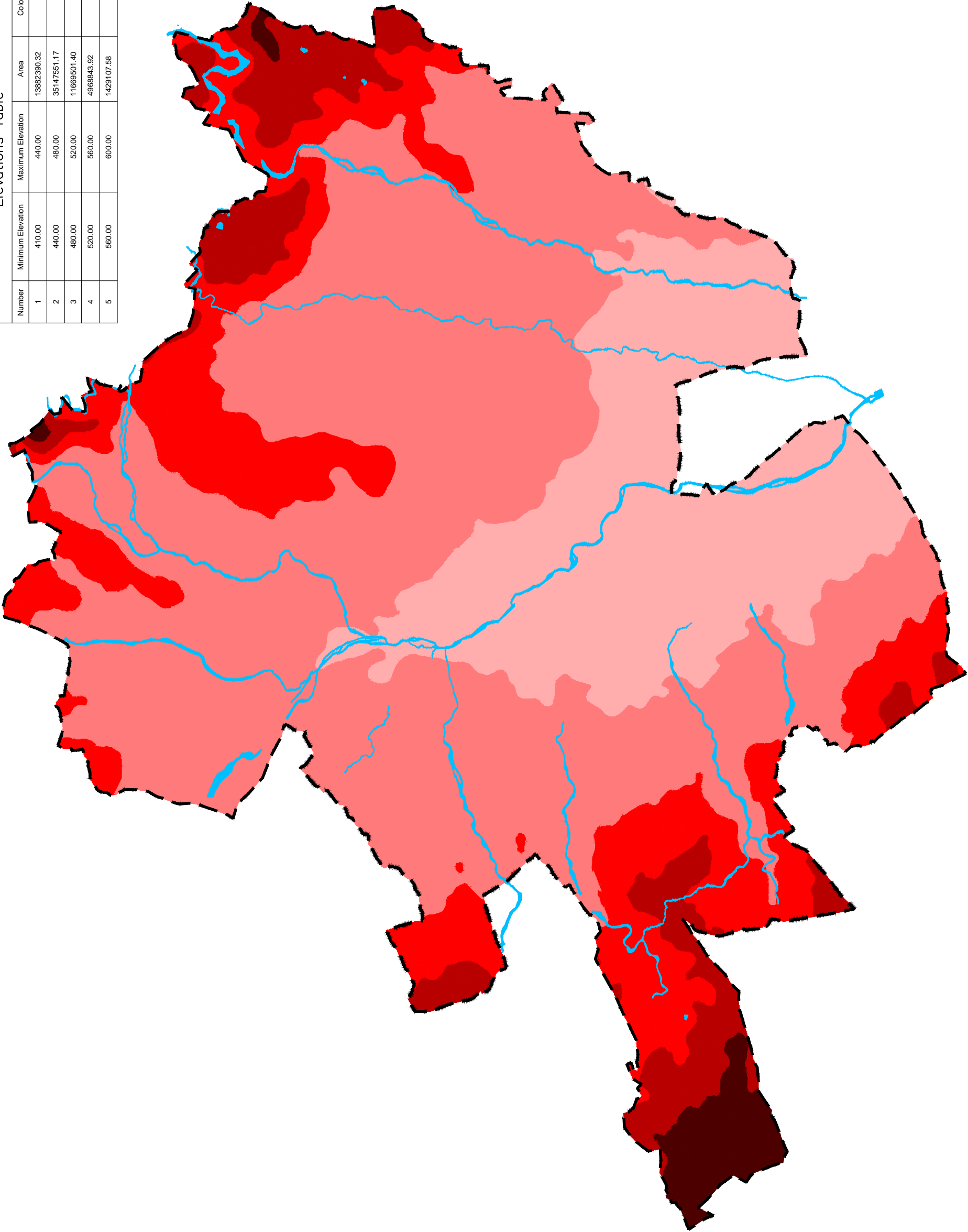
Notes

- 1. All dimensions are in meter unless otherwise specified.
- 2. All dimensions to be verified on site.

LEGEND

PLANNING AREA BOUNDARY

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	410.00	440.00	13882390.32	
2	440.00	480.00	35147551.17	
3	480.00	520.00	11669501.40	
4	520.00	560.00	4968843.92	
5	560.00	600.00	1429107.58	



Department of Town & Country
Planning
Government of Himachal Pradesh

DEVELOPMENT PLAN FOR PLANNING AND
SPECIAL AREAS OF HIMACHAL PRADESH
(AMB-GAGRET)

ELEVATION MAP



Signature

Notes

- 1. All dimensions are in meter unless otherwise specified.
- 2. All dimensions to be verified on site.

LEGEND

- PLANNING AREA BOUNDARY
- FLOW DIRECTION
- LOW POINT
- HIGH POINT
- OUT FALL
- RIVER



Department of Town & Country
Planning
Government of Himachal Pradesh

DEVELOPMENT PLAN FOR PLANNING AND
SPECIAL AREAS OF HIMACHAL PRADESH
(AMB-GAGRET)

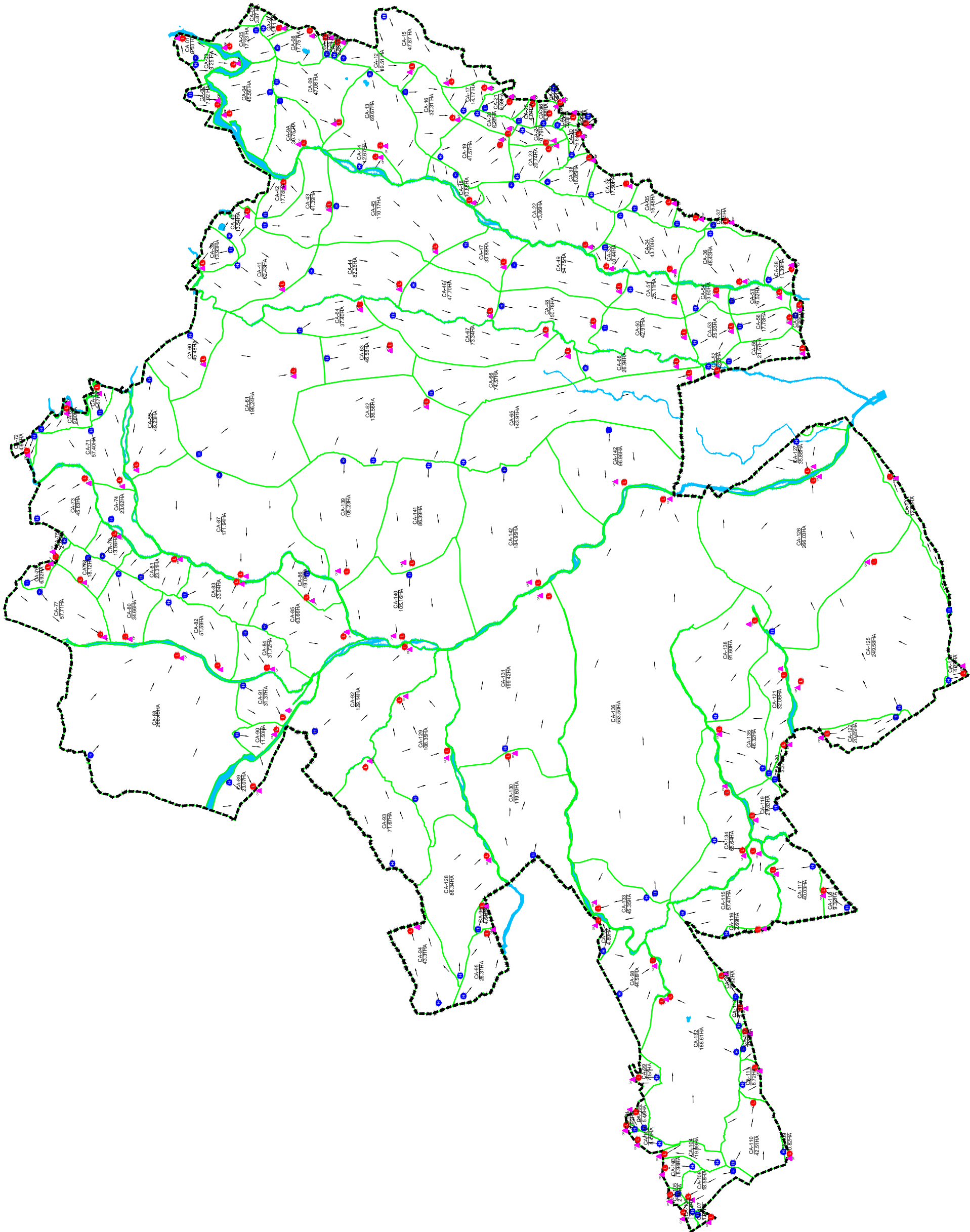
CATCHMENT MAP

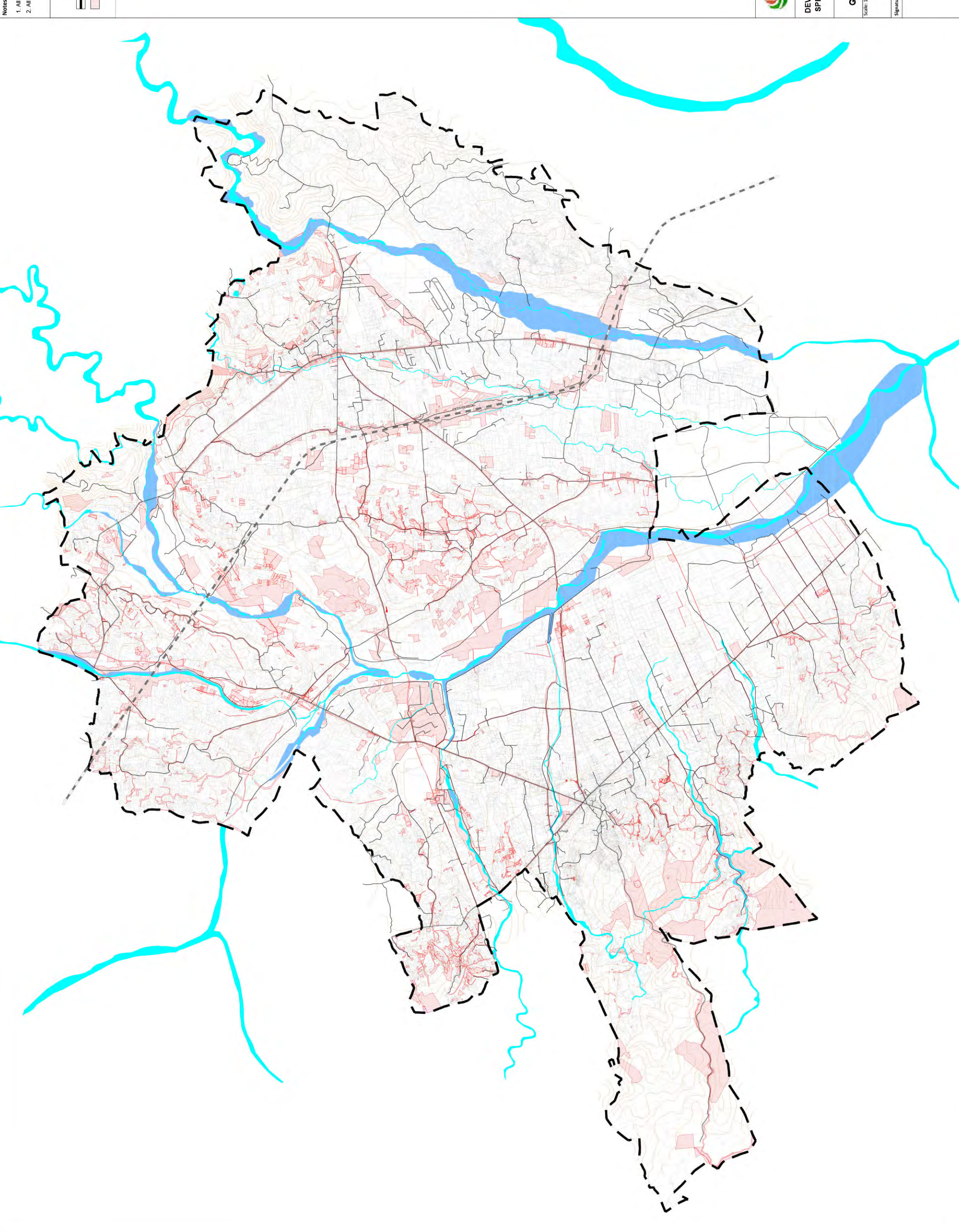
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Signature





Notes

1. All dimensions are in meter unless otherwise specified.

2. All dimensions to be verified on site.

- PLANNING AREA BOUNDARY
- GOVERNMENT LAND

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Planning
Government of Himachal Pradesh

DEVELOPMENT PLAN FOR PLANNING AND
SPECIAL AREAS OF HIMACHAL PRADESH
(AMB-GAGRET)

GOVERNMENT LAND PARCEL



Signature

Notes:
1. All Dimensions are in meter unless otherwise specified.
2. All Dimensions to be verified on site.

LEGEND

Administrative Boundaries

- Planning Boundary
- Nagar Panchayat Boundary
- Village Boundary

Infrastructure & Other Features

- NH
- MDR
- VR
- Existing Railway
- Railway Under Construction
- High Flood Line
- Contour
- Khasra Boundary
- Bridge

Land Use Classification

- R-1 Existing Residential
- R-2 Proposed Residential
- C-1 Commercial
- M-1 Mixed Use

Public and Semi Public Use

- PS-1 Govt./ Semi Govt. / Public Offices
- PS-2 Educational and Institutional
- PS-3 Medical and Health
- PS-4 Heritage and Socio-Cultural
- PS-5 Public Amenities/Utilities and Services

Industrial

Recreational Use

- P-1 Playgrounds/ Stadium/ Sports Complex

Transportation

- T-1 Railway Station
- T-2 Bus, Depots, Terminal/Truck Terminals

Agriculture

PA-1

PA-2

PA-3

PA-4

E-2

E-1

Government Land

DEVELOPMENT PLAN



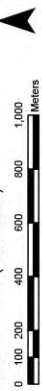
Department of Town & Country Planning
Government of Himachal Pradesh

DEVELOPMENT PLAN FOR PLANNING AND
SPATIAL RESOURCES MANAGEMENT
(AMB GAGRET PLANNING AREA)

Proposed Landuse- 2035

Sheet Number: 1432/JPD/AGPA/JP/01

Scale-1:13000 (Sheet: A0)



Signature

