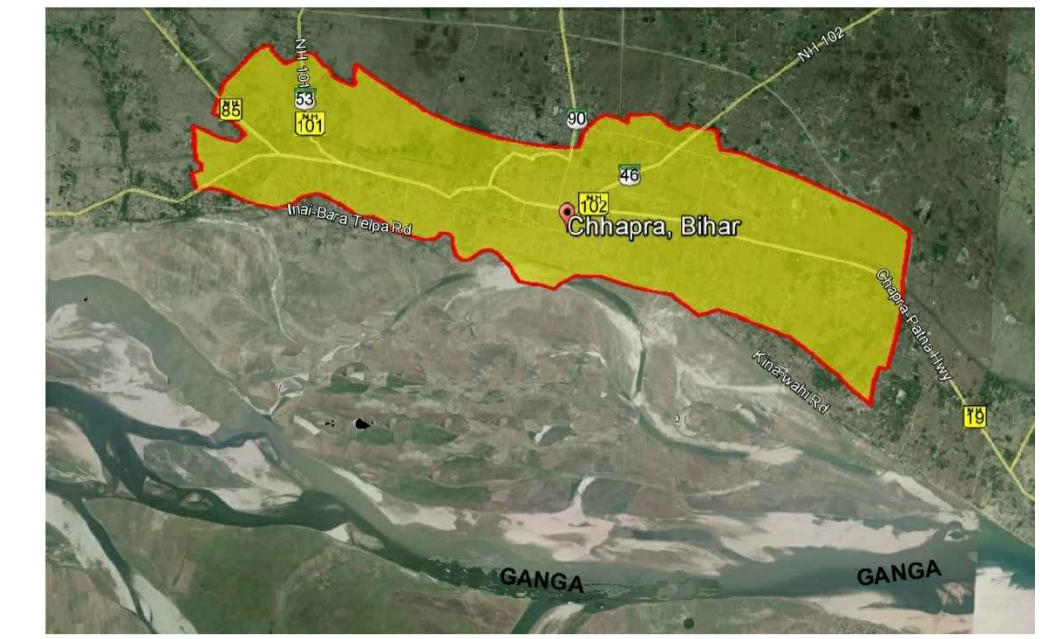
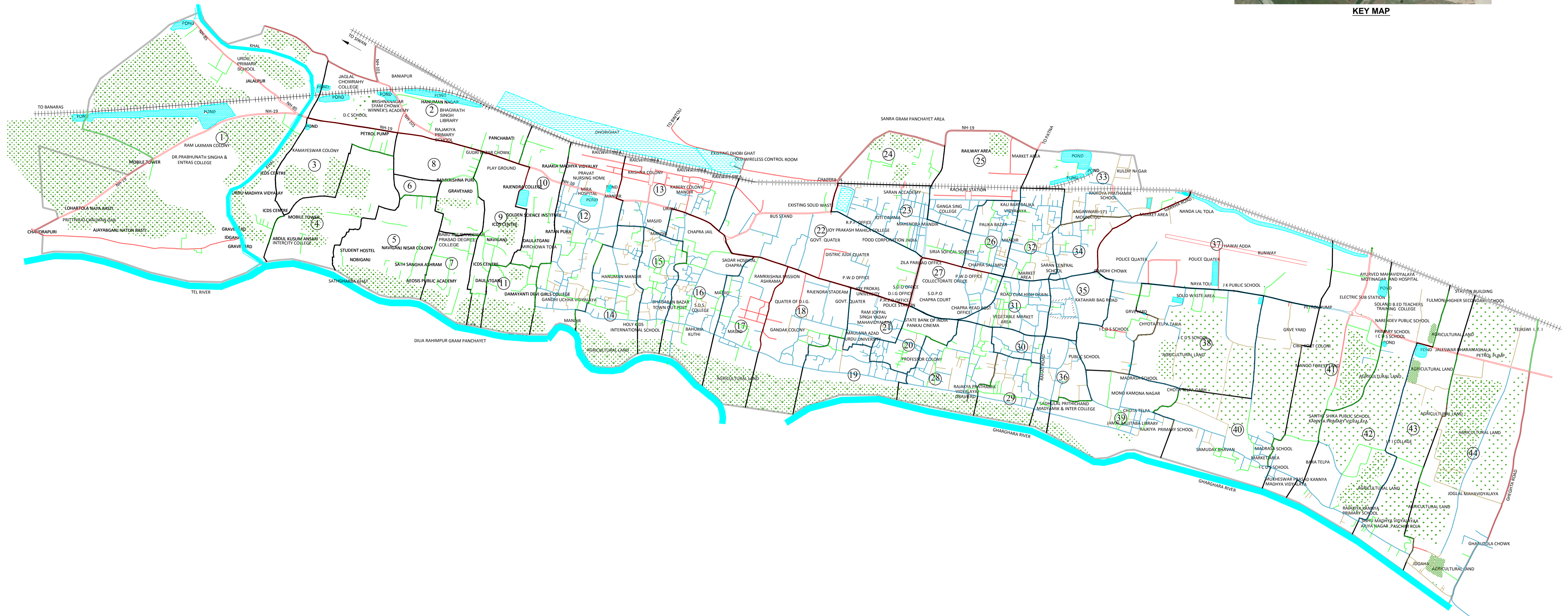
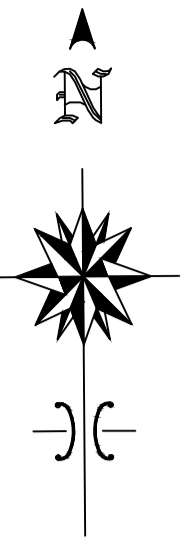


RIVER BASIN / SUB-BASINS IN BIHAR STATE			
Sl. No.	Name of Main River	Allotted Basin No	Outfall of the Main River
1	Ghaghra	1	Ganga
2	Gandak	2	Ganga
3	Burhi Gandak	3	Ganga
4	Bagmati-Adhwara	4	Kosi
5	Kamla-Balan	5	Ganga
6	Kosi	6	Ganga
7	Mahananda	7	Ganga
8	Karmnasa	8	Ganga
9	Sone (Stream)	9	Ganga
10	Punpun	10	Ganga
11	Kiul	11	Kiul
12	Harahar	11A	Ganga
13	Badua-Belhama	12	Ganga
14	Chandan-Bilasi-Chir	13	Ganga
15	Ganga (Stream)	14	Bay of Bengal
16	Kao-Gangi etc.	14A	Ganga
17	Baya	14B	Ganga
18	Koa-Bhena etc.	14C	Ganga
19	Mahi	14D	Ganga

REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.
REVISIONS					
Designed:	Date:	Scale:	NTS	Sheet Size:	A3
Drawn: K. Mukherjee	Checked: S. Nandi	FILE NAME:	D:\Project\H.505084-D-00-J-003-0\CHAPRA\BUIDCO\J & D\B2D1_Map showing polluted river_A3		
CLIENT: BUIDCO (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)					
BENEFICIARY: _____					
CONSULTANT:		 GWK Consult GmbH India Branch Office: PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake Kolkata - 700 091, West Bengal, India Tel : 91 33 40176800/6826, Fax : 91 33 40176827 E-mail : info.gkw_india@gkw-consult.com www.gkw-consult.com			
PROJECT: Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar Interception and Diversion, Chhapra					
SUBJECT: Detailed Project Report					
Map showing polluted river with its Basin and selected Town					
DRAWING NO.:		SHEET:		REVISION:	
H.505084-D-00-J-003-0		1 OF 1		0	



KEY MAP

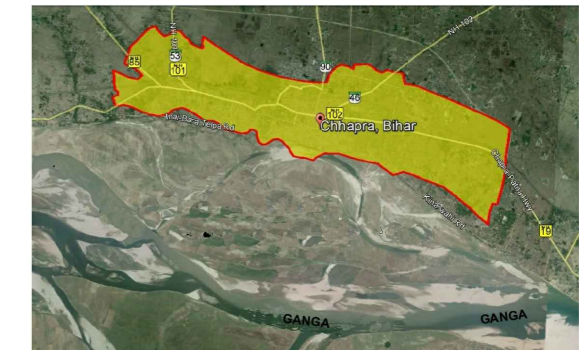


Sl. No.	Type of Road	Length in Km
1	Concret Road	87.9
2	Black Top Road	29.1
3	Brick Road	36.8
4	Earthen Road	22.1

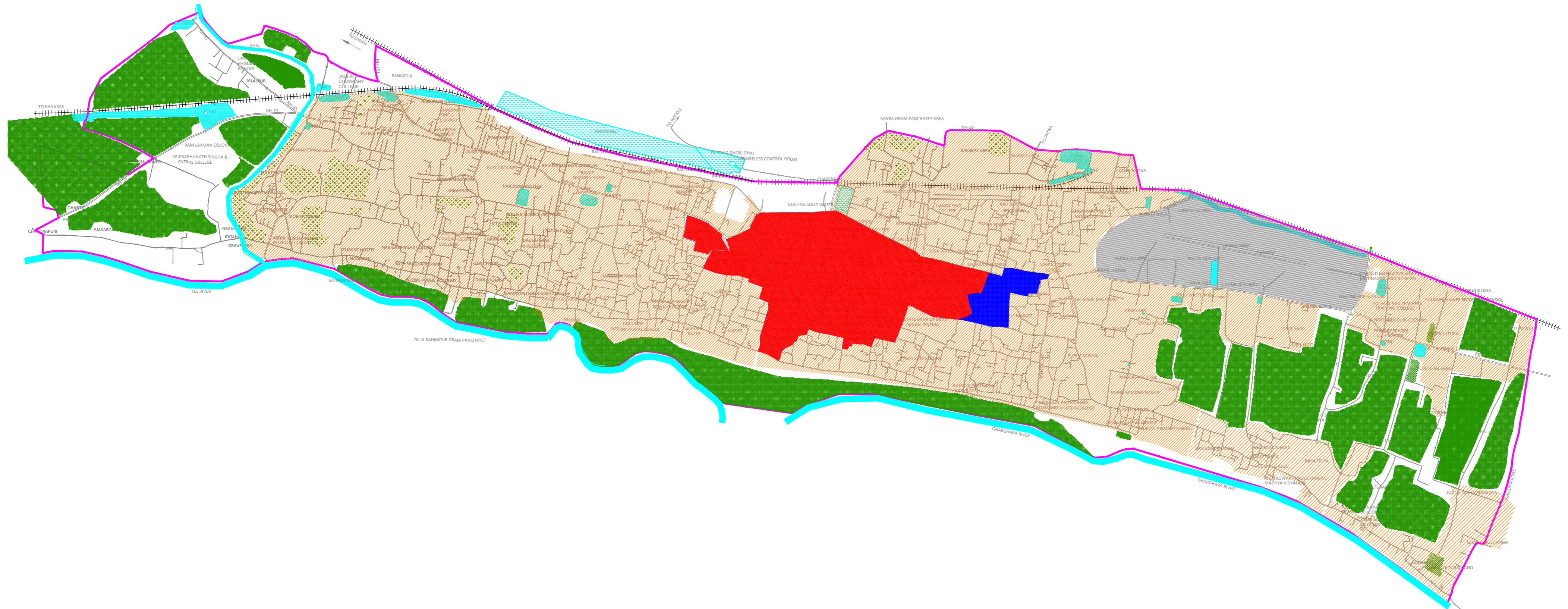
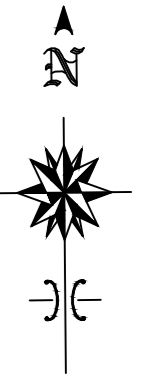
LEGEND:

MUNICIPAL BOUNDARY	—
WARD BOUNDARY	—
WATER BODY	—
AGRICULTURAL LAND	—
RAILWAY LINE	—
CONCRETE ROAD	—
BLACK TOP ROAD	—
BRICK ROAD	—
EARTHEN ROAD	—

REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.	
REVISIONS						
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Drawn: K. Mukherjee	Checked: S. Nandi	FILE NAME: D:\Projects\01_2018\08_26_HR_Chhapra\BUDG\01_DRA\258_Existing Roads with Ward Boundaries_A1				
CLIENT:						
BUIDCO (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)						
BENEFICIARY:						
CONSULTANT:						
		GKW Consult GmbH India Branch Office: PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake Kolkata - 700 091, West Bengal, India Tel: 91 33 40176800/8626, Fax: 91 33 40176827 E-mail: info.gkw_india@gkw-consult.com				
PROJECT:						
Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar Interception and Diversion, Chhapra Detailed Project Report						
SUBJECT:						
MAP SHOWING EXISTING ROADS WITH WARD BOUNDARIES OF THE TOWN						
DRAWING NO.: H.505084-D-03 01-H-004-0					SHEET: 1 OF 1	REVISION: 0



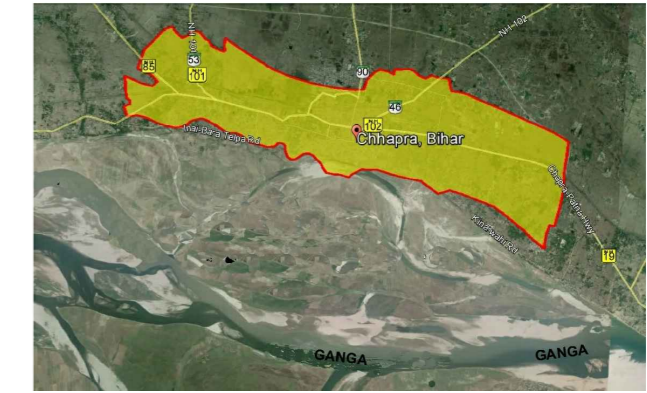
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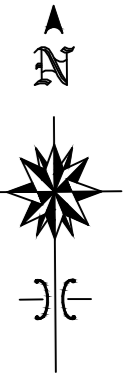
LEGEND:

MUNICIPAL BOUNDARY	
WATER BODY	
RAILWAY LINE	
ROAD	
RESIDENTIAL AREA	
MARKET AREA	
GOVERNMENT AREA	
AGRICULTURAL LAND / MANGO GARDEN	
AIR FORCE AREA	
VACANT LAND	

REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.
REVISIONS					
Designed:	Date: 14.06.2018	Scale: 1:19250	Sheet Size: A2		
Drawn: K. Mukherjee	Checked: S. Nandi	FILE NAME: D:\Projects\H.505084 M. Chhapra BUIDCO\ & DIR\05_Existing Land use_A2			
CLIENT:					
BUIDCO (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)					
BENEFICIARY:					
CONSULTANT:					
		GKW Consult GmbH India Branch Office: PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake Kolkata - 700 091, West Bengal, India Tel : 91 33 40176800/6826, Fax : 91 33 40176827 E-mail : info.gkw_india@gkw-consult.com www.gkw-consult.com			
PROJECT:					
Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar Interception and Diversion, Chhapra Detailed Project Report					
SUBJECT:					
MAP MAP SHOWING EXISTING LAND USE OF THE TOWN					
DRAWING NO.:			SHEET:	REVISION:	
H.505084-D-03 01-H-005-0			1 OF 1	0	



KEY MAP

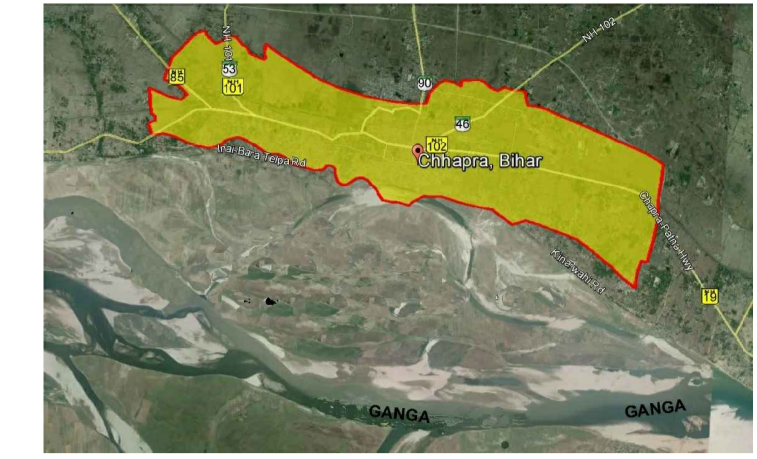


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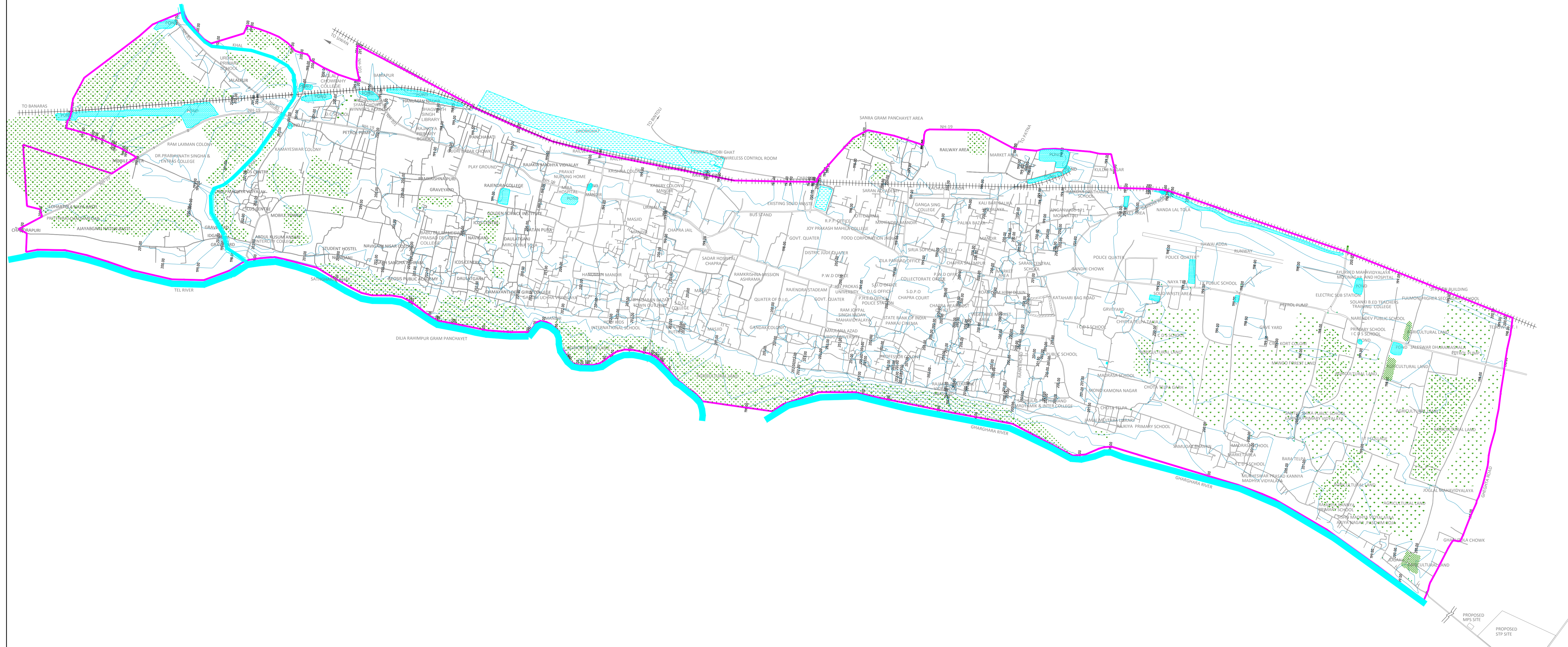
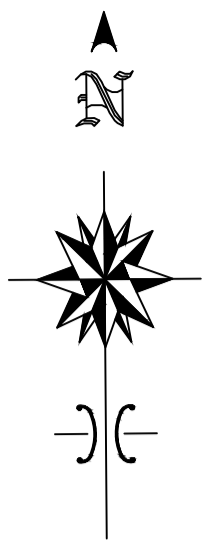
MUNICIPAL BOUNDARY	
WATER BODY	
AGRICULTURAL LAND	
RAILWAY LINE	
OVER HEAD RESERVOIR	
TUBE WELL	

Sl. No.	Location of ELSRs	Ward No.
1	Nagar Palika chowk	27
2	Gudari (Rajendra College)	9
3	Irrigation	18
4	Dahiyawa Tola	25
5	Shyam Chak	2
6	Bhagwan Bazar	12
7	Jagdamba Sthan	28
8	Police Line	37

REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.
REVISIONS					
Designed:	Date: 14.06.2018	Scale: 1:19250	Sheet Size: A2		
Drawn: K. Mukherjee	Checked: S. Nandi	FILE NAME: D:\Project\H.505084 M. Chhapra BUIDCO\ & DWR\07_Existing Water Works_A2			
CLIENT: BUIDCO (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)					
BENEFICIARY:					
CONSULTANT: GKW Consult GmbH India Branch Office: PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake Kolkata - 700 091, West Bengal, India Tel : 91 33 40176800/6826, Fax : 91 33 40176827 E-mail : info.gkw_india@gkw-consult.com www.gkw-consult.com A COMPANY OF THE LAMMETER GROUP Augustaanlage 67 68165 Mannheim, Germany					
PROJECT: Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar Interception and Diversion, Chhapra Detailed Project Report					
SUBJECT: BASE MAP SHOWING EXISTING WATER WORKS					
DRAWING NO.: H.505084-D-03 01-H-007-0			SHEET: 1 OF 1		REVISION: 0



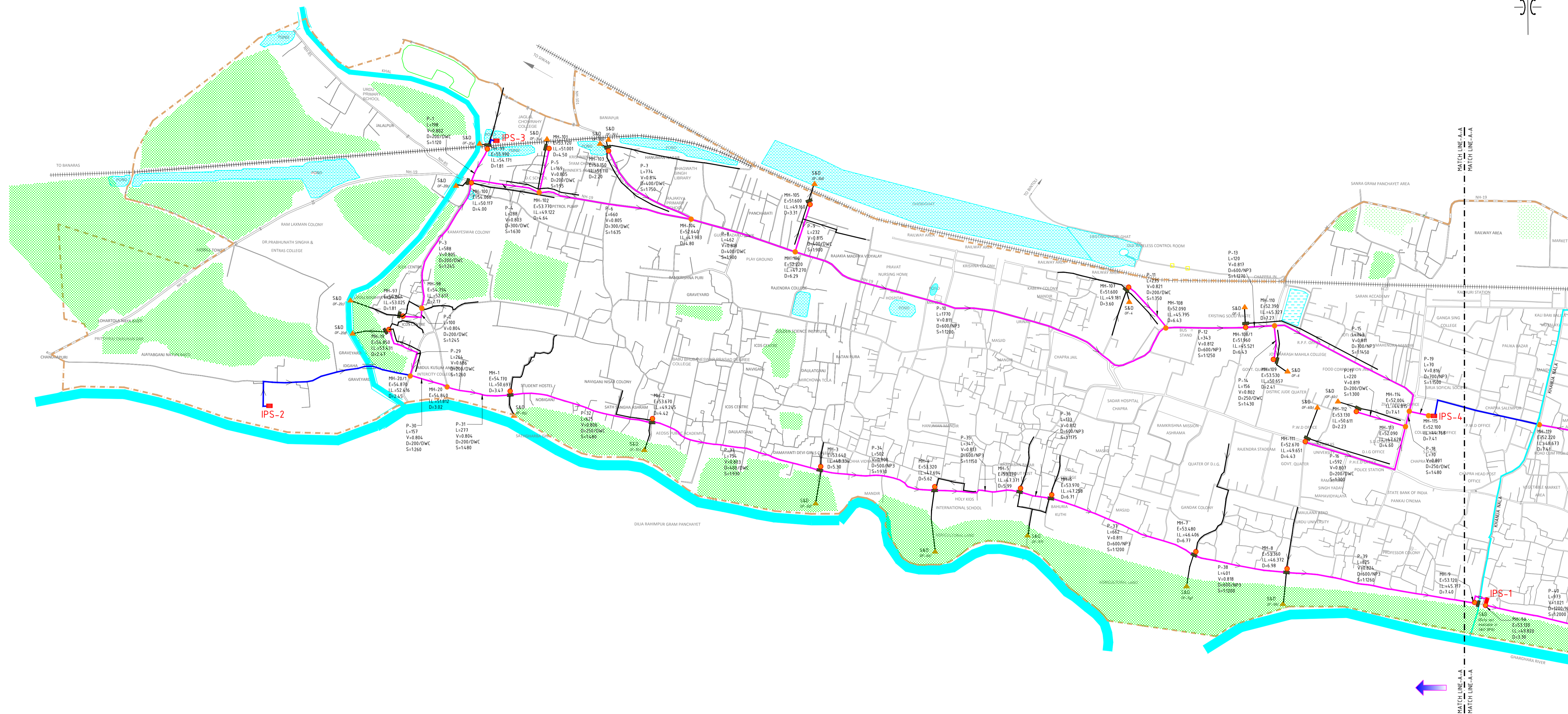
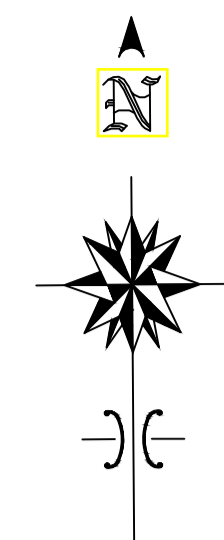
KEY MAP



LEGEND:

MUNICIPAL BOUNDARY	
WATER BODY	
AGRICULTURAL LAND	
RAILWAY LINE	

REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.
REVISIONS					
Designed:	Date: 14.06.2018	Scale: 1:13100	Sheet Size:	A1	
Drawn: K. Mukherjee	Checked: S. Nandi	FILE NAME: D:\Projects\14.05.2018\PR_Chhapra\BUD\GIS\1-DRA258_Centour of the Town_A1			
CLIENT: BUIDCo (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)					
BENEFICIARY:					
CONSULTANT: GKW Consult GmbH India Branch Office: PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake Kolkata - 700 091, West Bengal, India Tel: 91 33 40176800/8626, Fax: 91 33 40176827 E-mail: info.gkw_india@gkw-consult.com A COMPANY OF THE LAUBERTEK GROUP Augustenstraße 67 68165 Mannheim, Germany					
PROJECT: Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar Interception and Diversion, Chhapra Detailed Project Report					
SUBJECT: BASE MAP SHOWING CONTOUR OF THE TOWN					
DRAWING NO.: H.505084-D-03 01-K-008-0			SHEET: 1 OF 1		REVISION: 0



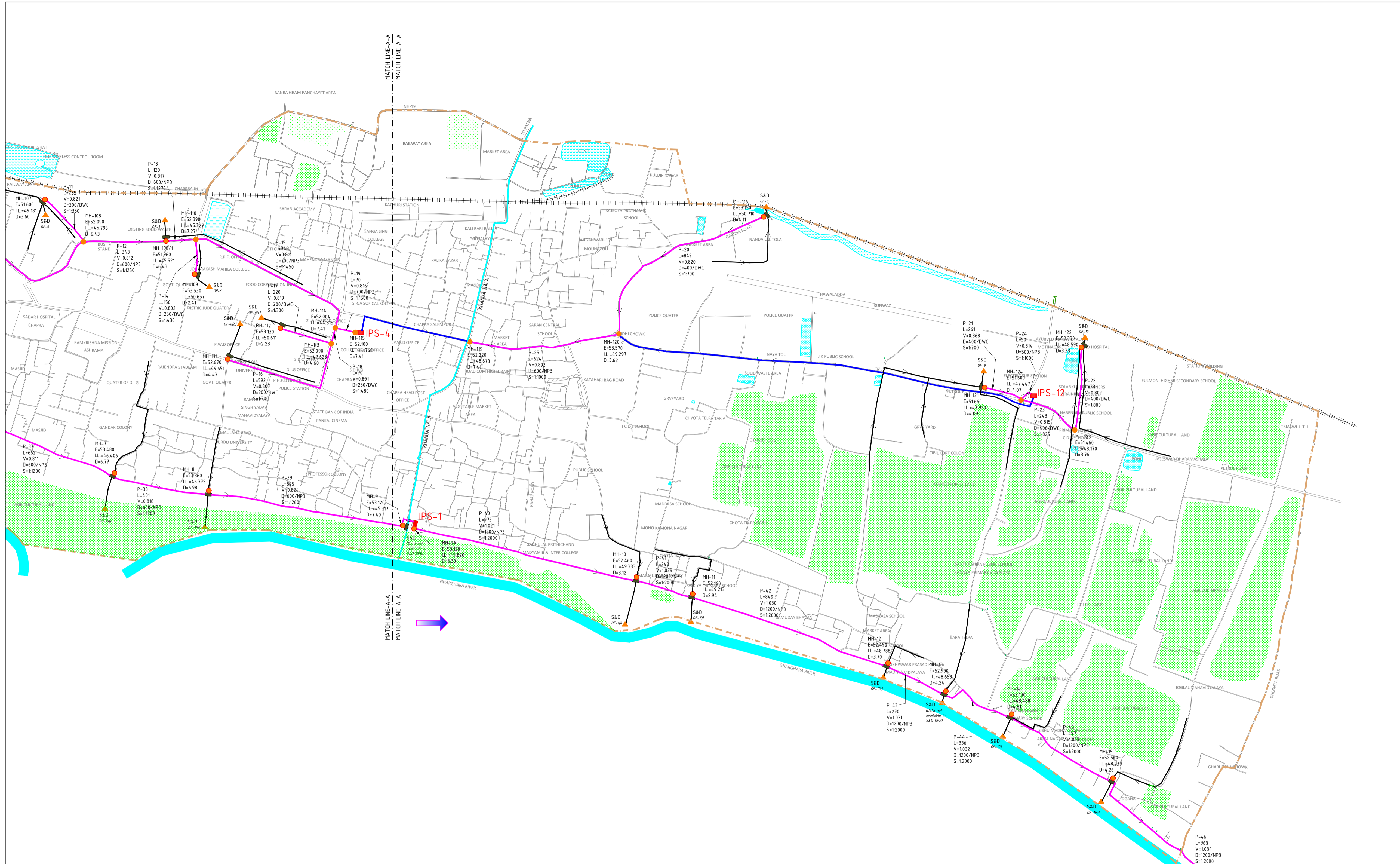
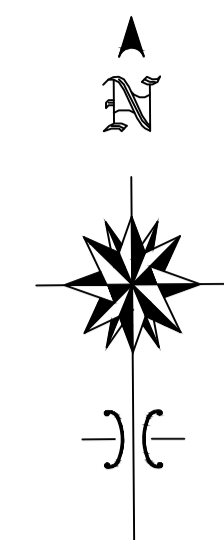
NOTE:

MANHOLE DETAILS:	PIPE DETAILS:
MH= MANHOLE NO.	P= PIPE NO.
E= ELEVATION IN 'M'	L= LENGTH IN 'M'
IL.= INVERT LEVEL IN 'M'	V= VELOCITY IN 'M/S'
D= DEPTH IN 'M'	D= DIAMETER IN 'MM'
	S= SLOPE IN '1/S'

LEGEND:

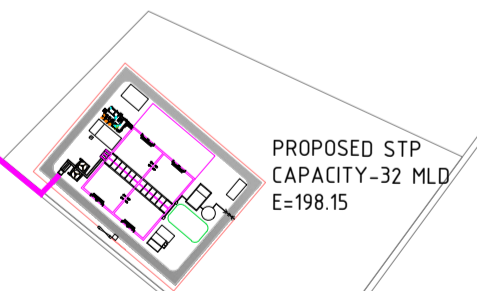
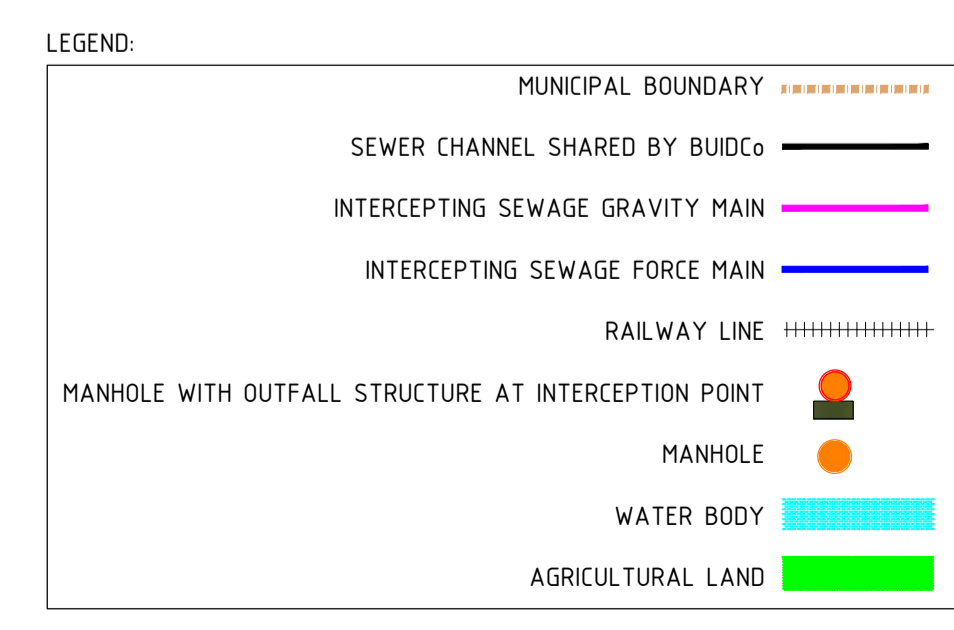
MUNICIPAL BOUNDARY	-----
SEWER CHANNEL SHARED BY BUIDCO	-----
INTERCEPTING SEWAGE GRAVITY MAIN	-----
INTERCEPTING SEWAGE FORCE MAIN	-----
RAILWAY LINE	-----
MANHOLE WITH OUTFALL STRUCTURE AT INTERCEPTION POINT	●
MANHOLE	●
WATER BODY	-----
AGRICULTURAL LAND	-----

REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.
REVISIONS					
1	14.06.2018	Scale: 1:13100			A1
Designed: D. Dutta					
Drawn: K. Mukherjee					
Checked: S. Nandi					
Date: 14.06.2018					
Scale: 1:13100					
Sheet Size: A1					
File Name: CHAPRA_TOWN_SEWERAGE_NETWORK_14.06.2018.dwg					
Client: BUIDCO (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)					
Beneficiary: _____					
Consultant: GRW Consult GmbH India Branch Office: PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake Kolkata - 700 091, West Bengal, India Tel: 91 33 40176800/9826, Fax: 91 33 40176827 E-mail: info.gkw_india@gkw-consult.com					
Project: Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar Interception and Diversion, Chhapra					
Subject: MAP SHOWING PROPOSED I & D NETWORK OF CHHAPRA TOWN					
Drawing No.: H.505084-D-21 00-K-009-0					
Sheet: 1 OF 2					Revision: 1



NOTE:

MANHOLE DETAILS:	PIPE DETAILS:
MH= MANHOLE NO.	P= PIPE NO.
E= ELEVATION IN 'M'	L= LENGTH IN 'M'
LL= INVERT LEVEL IN 'M'	V= VELOCITY IN 'M/S'
D= DEPTH IN 'M'	D= DIAMETER IN 'MM'
	S= SLOPE IN '1/S'



REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.
REVISIONS					

Designed: D. Dutta Date: 14.06.2018 Scale: 1:13100 Sheet Size: A1
 Drawn: K. Mukherjee Checked: S. Nandi FILE NAME: CHHAPRA STP Proposed I & D Network with proposed sewer channel outfall

CLIENT:
BUIDCo (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)

BENEFICIARY:

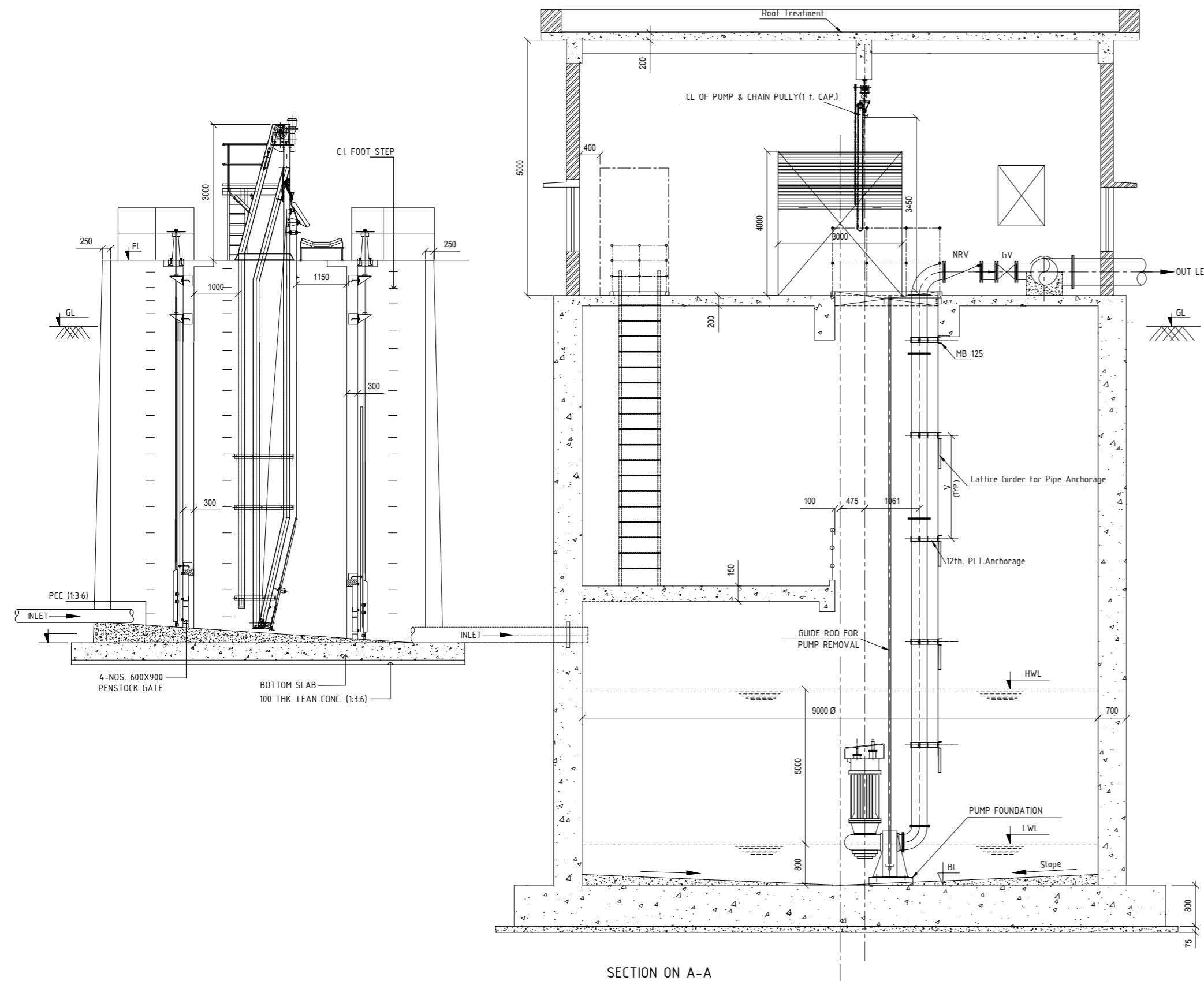
CONSULTANT:

 GRW Consult GmbH
 India Branch Office:
 PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake
 Kolkata - 700 091, West Bengal, India
 Tel: 91 33 40176800/8626, Fax: 91 33 40176827
 E-mail: info.gkw_india@gkw-consult.com
 www.gkw-consult.com
 Augustaanlage 67
 68165 Mannheim, Germany

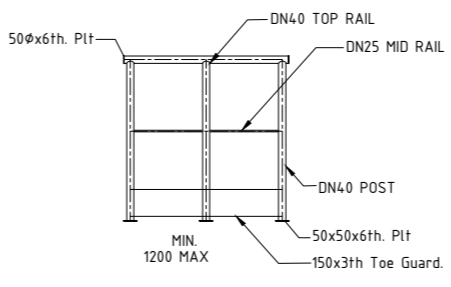
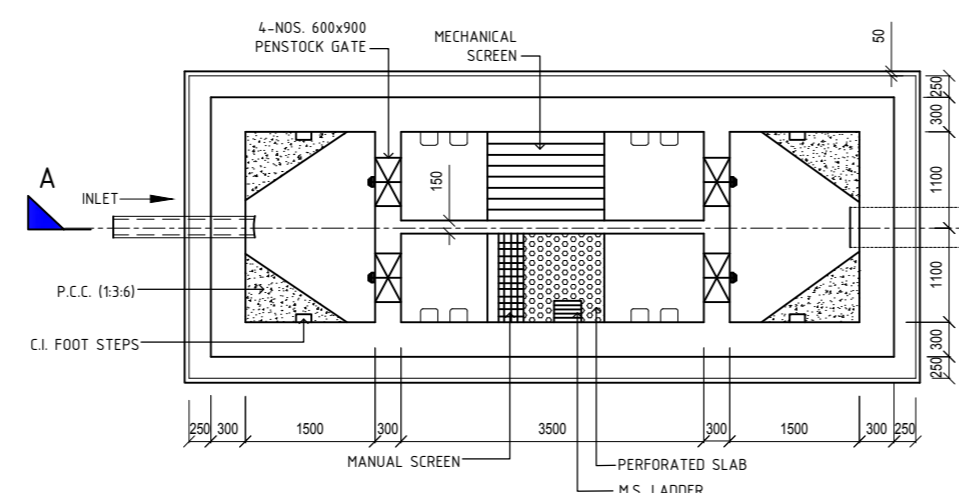
PROJECT:
**Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar
 Interception and Diversion, Chhapra**
 Detailed Project Report

SUBJECT:
**MAP SHOWING PROPOSED I & D NETWORK OF
 CHHAPRA TOWN**

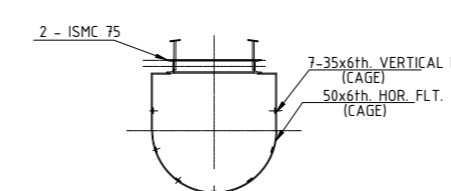
DRAWING NO.:	H.505084-D-21 00-K-009-0	SHEET:	1 OF 1	REVISION:	1
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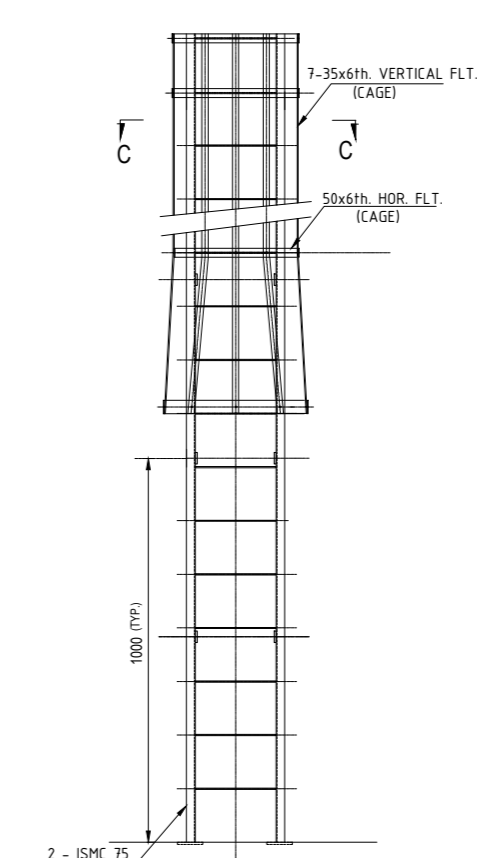
SECTION ON A-A



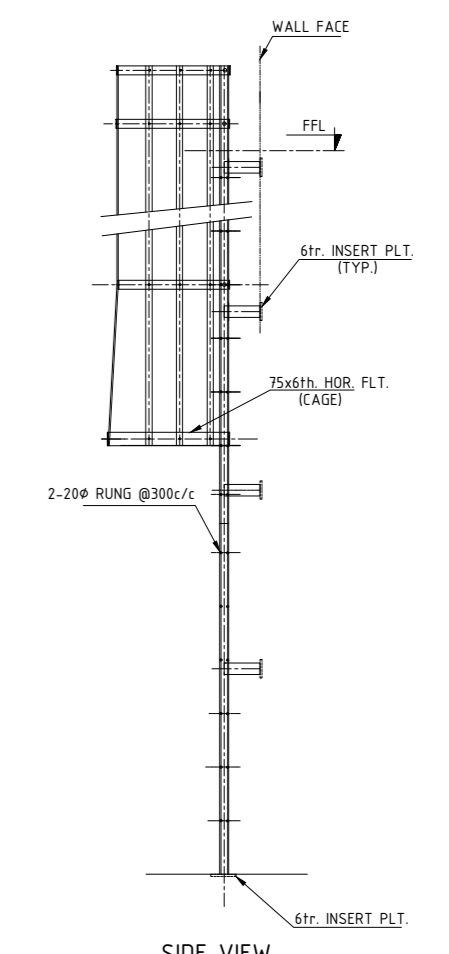
TYP. DETAIL OF HAND RAIL



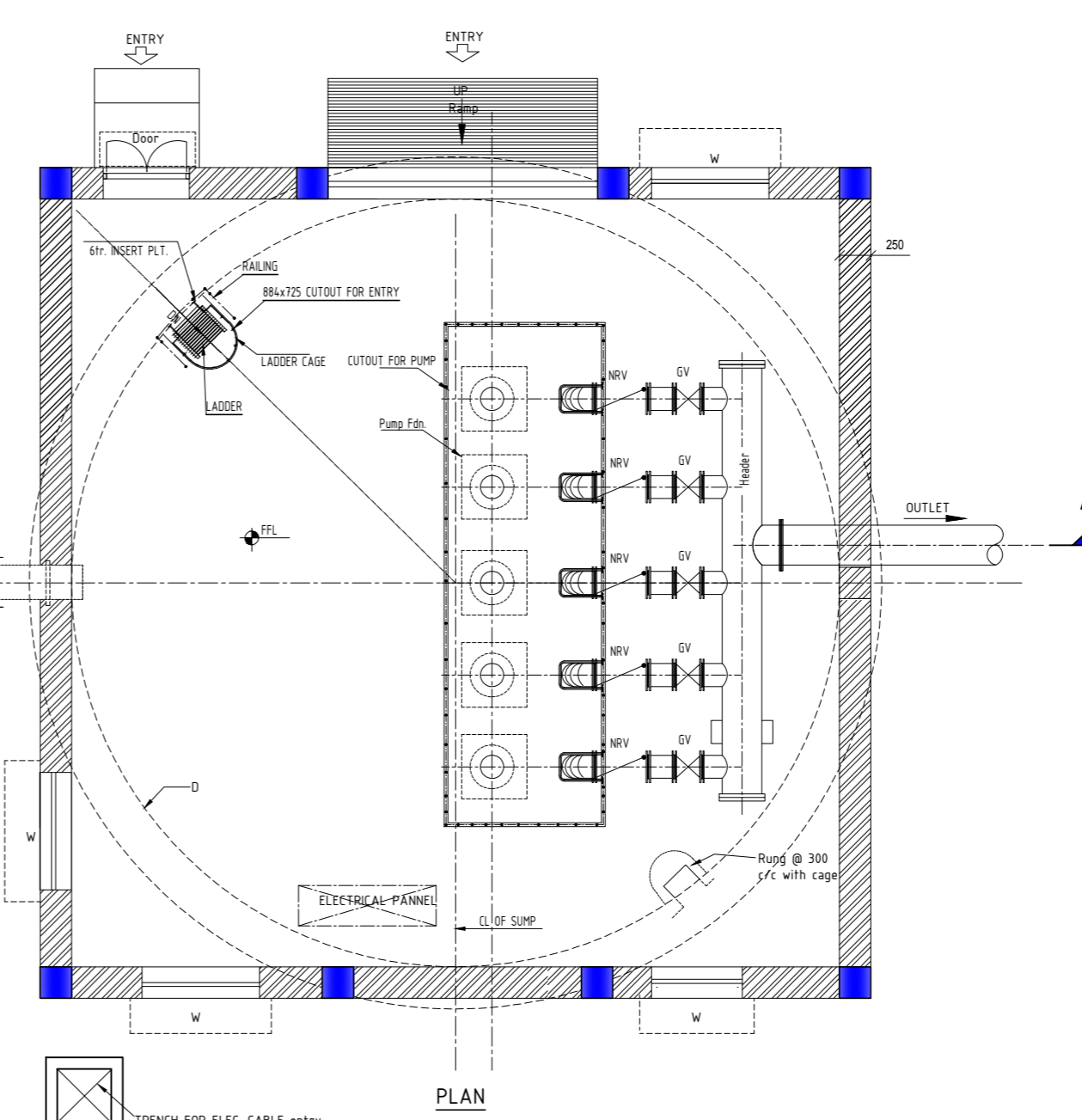
SECTION ON C - C



ELEVATION (LADDER) TYP. DETAIL OF LADDER



SIDE VIEW



PLAN

NOTES :

1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN M. UNLESS OTHERWISE STATED
2. MINIMUM WATER LEVEL HAS BEEN CONSIDERED AS 800 mm. FROM SUMP FLOOR LEVEL. MINIMUM WATER LEVEL WILL BE FINALISED AFTER PUMP ORDER PLACEMENT

REV.	DATE	DESCRIPTION	DRAWN	CHECK	APPR.
REVISIONS					
Designed: D. Dutta		Date: 14.06.2018	Scale: NTS	Sheet Size: A2	
Drawn: K. Mukherjee		Checked: S. Nandi	FILE NAME: D:\Projects\H505084 IN, Chhapra BUIDCo\ & D\R\SCAD\10_GA Drawing of MPS & IPS		
CLIENT: BUIDCo (BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION)					
BENEFICIARY:					
CONSULTANT: GKW CONSULT GmbH India Branch Office: PS Srijan Corporate Park, Tower 1, 13th Floor, Sector V, Salt Lake Kolkata - 700 091, West Bengal, India Tel : 91 33 40176800/6826, Fax : 91 33 40176827 E-mail : info.gkw_india@gkw-consult.com A COMPANY OF THE LAHMEYER GROUP www.gkw-consult.com Augustaanlage 67 68165 Mannheim, Germany					
PROJECT: Preparation of Detailed Project Report on Sewerage for Chhapra, Bihar Interception and Diversion, Chhapra Detailed Project Report					
SUBJECT: GENERAL ARRANGEMENT OF IPS & MPS					
DRAWING NO.: H.505084-D-25 00-J-010-0			SHEET: 1 OF 1		REVISION: 0