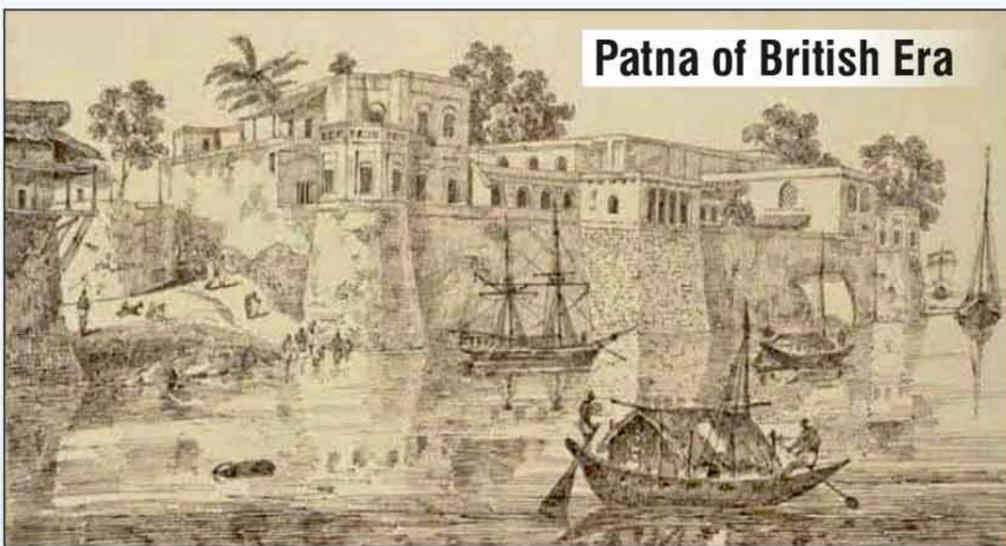


Patna



One of the **Oldest** continuously **inhabited cities** in the **World**, **Pataliputra** was founded in **490 BCE** as the capital of the Magadh Empire through Haryanka, Nanda, Mauryan, Shunga, Gupta and Pala dynasties.



Patna of British Era

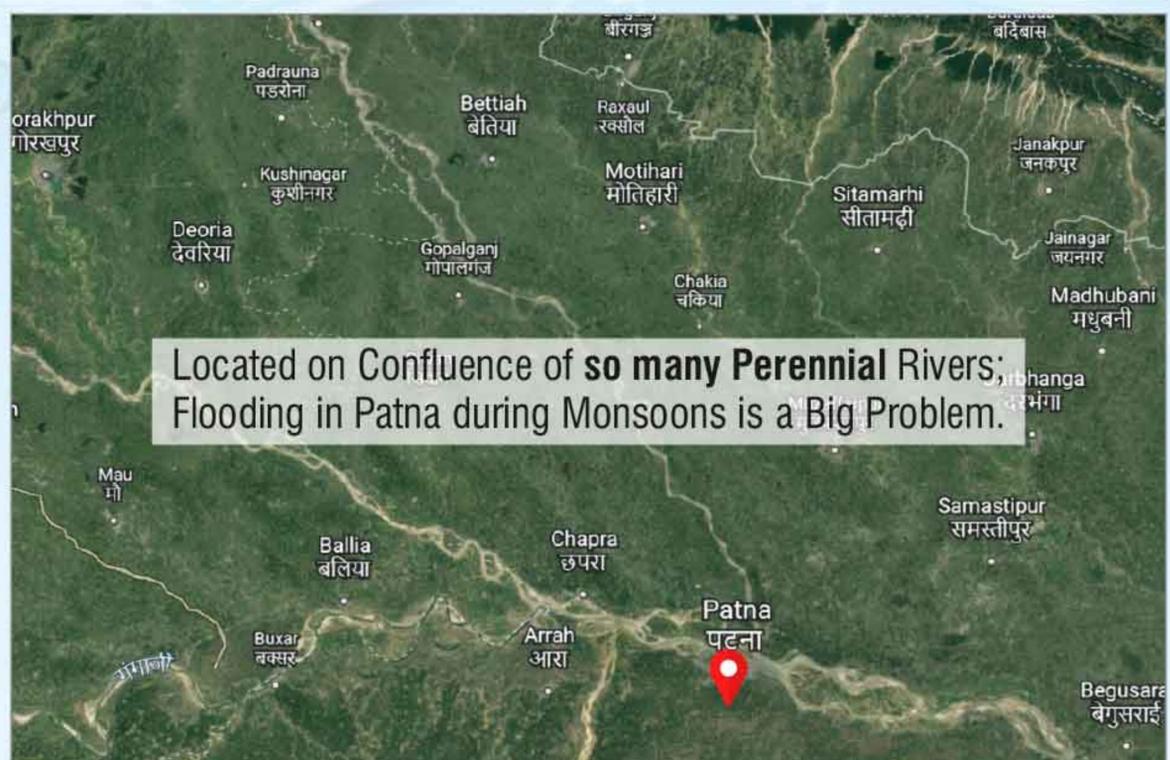
In the **17th century**, it was developed by the **British** as a centre of **International trade** using **Ganges** as **waterway**.

Following the partition of Bengal presidency in **1912**, it became the **Capital of Bihar & Orissa** provinces.

Topography

Patna is located on a saucer shaped strip of land surrounded by the **Ganga** in North, the **Punpun** in the West and the **Sone** in the East; along with multiple river systems originating in the **Himalayas of Nepal** - all **confluencing** near Patna.

During Monsoons, Patna receives **upto 50" of rains** & often this coincides with already flooded rivers.



Situation



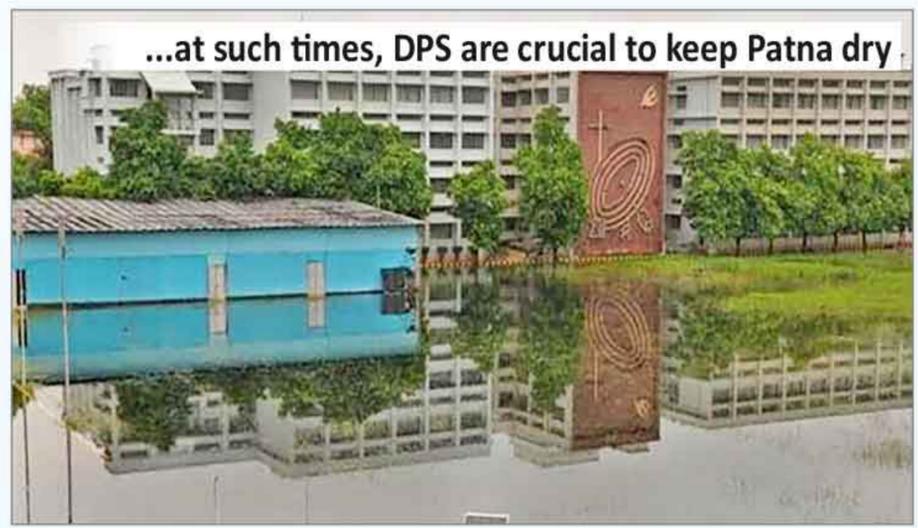
Frequently, Ganges swells even as Patna receives Heavy Rains...

Due to Dense Population, very Old Drainage & Scarce Free Land, despite multiple attempts; Patna has **not been able to develop any new major drainage networks** since 1968.

Many times, during monsoon floods; **boats move across Patna's flooded streets**, abandoned cars lie Submerged in water & citizens get trapped in their homes for days without electricity or potable water.

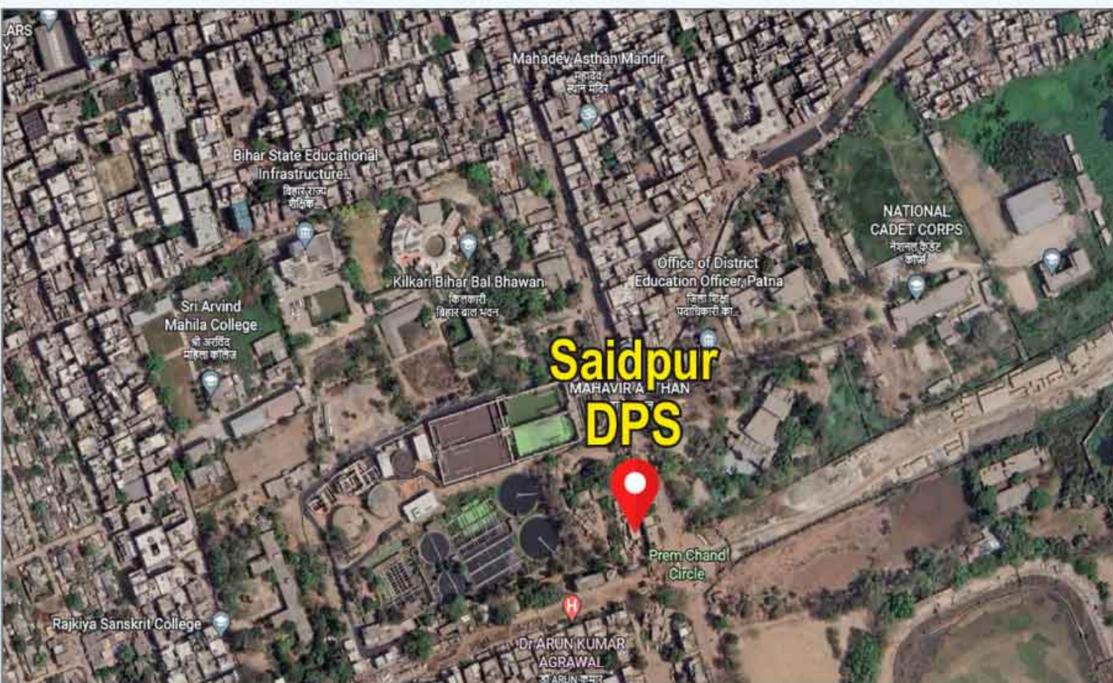
Saidpur, Yogipur & Sandalpur Drainage Pumping stations (DPS) are very critical for draining Patna as they are in the low lying areas with huge inflow of waste water into its sumps nearly throughout the year.

⚠️ The **challenges** were two fold - to **Augment** these **DPS's Discharge Capacity but within Available Space** (as land availability is scare) & **while in Running Condition** (as at no point of time, the luxury of having a dry sump (to do the needful installations) is available).



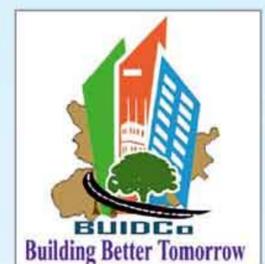
...at such times, DPS are crucial to keep Patna dry.

Solution



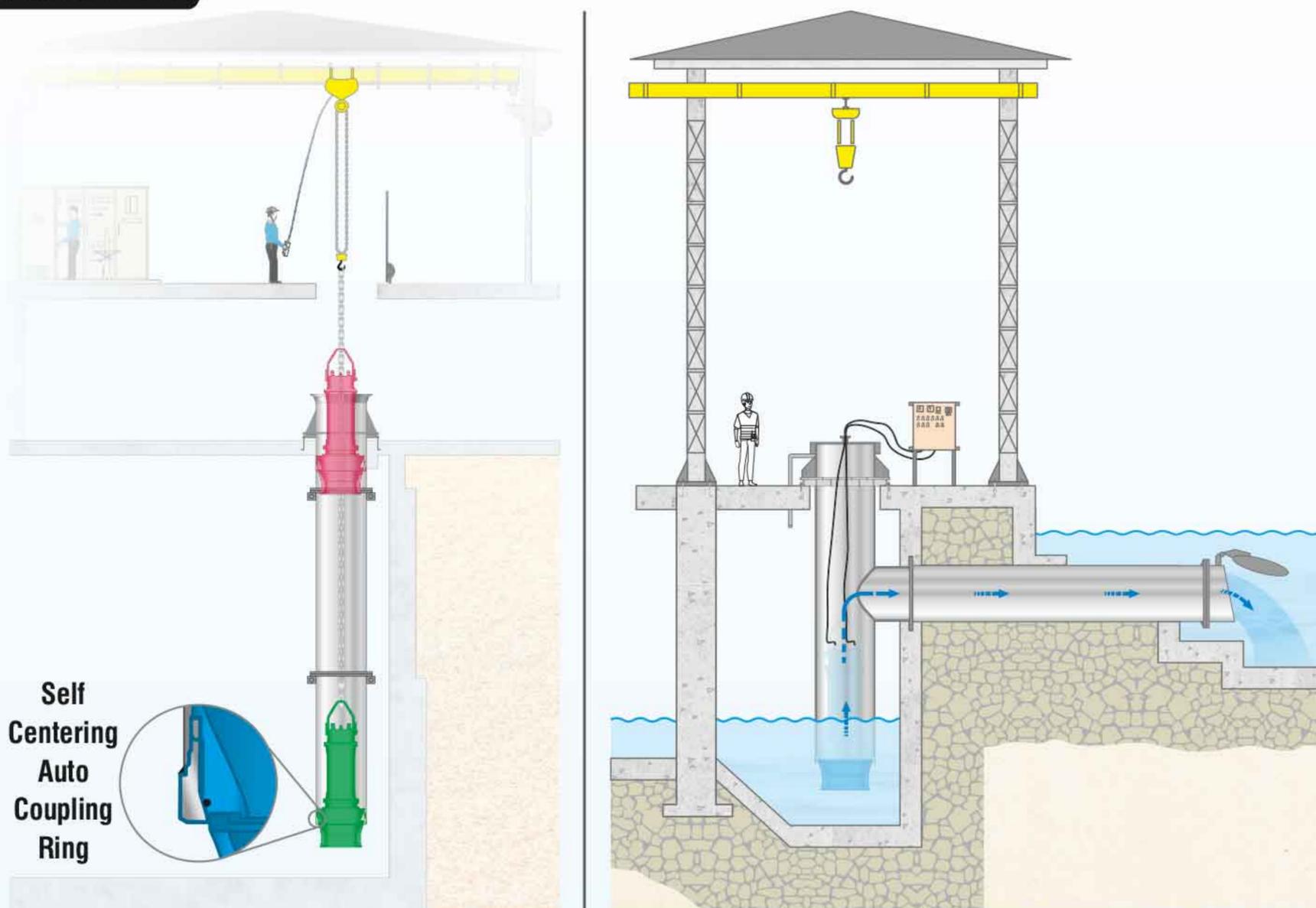
To alleviate this problem and address the challenge of drainage, **m/s BUIDCo** undertook multipronged strategy of creating more drainage networks & augmenting the Existing DPS (Drainage Pumping Stations).

m/s Aqua played a major proactive role in this Augmentation process by doing the Site Visit & suggesting ways to increase the pumping capacities in existing sump and civil structures.



DPS	Pump Model	Capacity (m ³ /hr)	Total Head (m)	Quantity (nos.)
Saidpur	ATBP_V_Tu_1st_Bo_ES_8052_M_6P_315N_415_NJ	5400 m ³ /hr	9	2
Yogipur	ANS_V_AC_1st_VoG_ES_3552_D_6P_150N_415_NJ	1800 m ³ /hr	15	2
Sandalpur	ANS_V_AC_1st_VoG_ES_3552_TY_6P_150N_415_NJ	2160 m ³ /hr	12	1

Installation



This represents the most Compact Economical & User-friendly Axial Flow pumping station design.

The Pumpset is installed directly at the bottom of the Riser Tube using **Aqua's Automatic Coupling System** which ensures that the pumpset is Concentrically Lowered (& firmly connected to the discharge piping) or Lifted out (disengaged from discharge piping) in a **simple**, precise manner & **within minutes...!**

The pumpset is kept in place by its weight - **there is no need for any fastening of Bolt-Nut**. Removing the pumpset for maintenance is equally simple - **just pull it up; there are no bolts to be dismantled**.

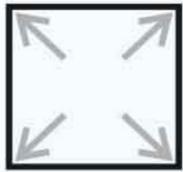


Benefits

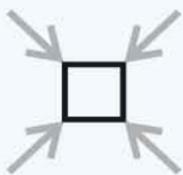


Requires No Special Pre – Post / Ancillary-Auxillary Operations; like Operating & Maintaining the Forced Water Lubrication systems operation, No damage due to Flood or Rains.

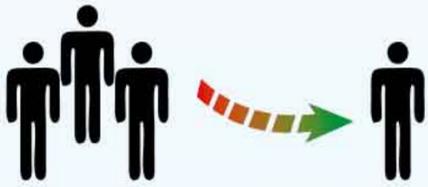
Size of Pumping Station



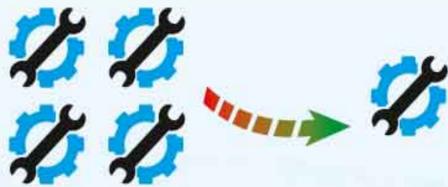
Huge 
Other Pumps



Compact 
Aqua's Pumps



Saves (upto 66%) O&M Staff*



Saves (upto 75%) Spare Parts & Consumables*

No need for Frequent Periodic....



Shafts/Sleeves &/or Coupling



Gland Packing



Oil &/or Grease

DPS	Pump Model	Capacity (m ³ /hr)
Saidpur	ATBP_V_Tu_1st_Bo_ES_8052_M_6P_315N_415_NJ	5400 m ³ /hr
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Sandalpur	ANS_V_AC_1st_VoG_ES_3552_TY_6P_150N_415_NJ	2160 m ³ /hr

पत्रांक:- २१०२ / पटना, दिनांक:- 20.04.22.

कनीय अभियन्ता,
दक्षिण बिहार (कार्य प्रमंडल),
बुडको, पटना।

सेवा में,

सहायक अभियन्ता(यांत्रिक),
दक्षिण बिहार (कार्य प्रमंडल),
बुडको, पटना।

विषय:- सैदपुर डी0 पी0 एस0 पर अधिष्ठापित 2x315 HP Submersible Tubular Pump के Performance के संबंध में।

प्रसंग:- Letter No-280 Date-18-02-2022
महाशय,

उपरोक्त विषय के संबंध में सादर सूचित करना है कि M/S Shivaur द्वारा Agreement No- F2-04/2020-21 (SITC of Submersible pump at Saidpur) के विरुद्ध 2x315 HP Submersible Tubular Pump आपूर्ति किया गया। दिनांक-29.05.2021 को सैदपुर DPS में पम्प अधिष्ठापित किया गया जो वर्तमान में पूर्ण रूप से कार्यरत है एवं जल निकासी का कार्य किया जा रहा है।

आपूर्ति किये गये पम्पों की विवरणी निम्न है :-

S.N	Agreement No	Pump Model & make	H.P	Discharge	Head	Remarks
1	Agreement No-F2-04/2020-21	ATBP_V_Tu_1 st _Bo_ES_8052_M_6P_315N_415_NJ_AQUA	315	5400M ³ /Hour	9 Meter	

विश्वासभाजन

20/04/22

कनीय अभियन्ता
दक्षिण बिहार, (कार्य प्रमंडल)
बुडको, पटना।

पत्रांक:- 120 / दिनांक:- 20/4/22

कापिल मणि (जाँ)

इस पत्र में बुझाने एवं आवश्यक कार्यवाही हेतु।

Assistant Engineer (Mech.)
Buidco. Mech. Sub-Division
Patna

Aqua Machinerics Private Limited

www.aquapumps.com

Registered Office & Manufacturing Plant

Survey No. 504/1-2, 442/2, Near Haridarshan Estate, Near Express Highway, Ramol, Ahmedabad-382 445. Gujarat, India.

marketing@aquapumps.com