Visit Report

On

Sewage Treatment Plant

At

Dudhali, Kolhapur

On

8th April, 2024

ACKNOWLEDGEMENT

We student of T. Y. B. Tech Civil engineering are gladly thankful to Prof. (Dr) S. N. Sapali Director Sir, B.Tech Civil Engineering Program Coordinator Prof. Mahesh S. Salunkhe Sir and Faculty has allowed us to visit at sewage treatment Plant, Dudhali, Kolhapur. Also, we are thankful to Er. Kedar kakare (Plant incharge,17 mld STP plant) because they granted permission to Sewage treatment plant at Dudhali, Kolhapur, Mr.Rahul Gatte (Lab camist) and Laxmi Engineers pvt , has given the proper information and guidance to us about STP.

INTRODUCTION

As a part of curriculum we all T.Y.B.Tech Civil Engineering students visited the Sewage Treatment Plant, Dudhali, and Kolhapur on 8th, April 2024 under the guidance of Professor Dr. G. S. Kulkarni Sir and Asst. Prof. Ms. T. R. Patil Ma'am. Supervisor of STP has given information and guidance about the existing working of Sewage treatment scheme constructed Sewage Treatment Plant at Dudhali having capacity of about 17 MLD. This plant is constructed and operated by firm Laxmi Engineers Civil Infrastructure Pvt. Ltd.

The waste water collected from the gutter to near dudhali area are collected by gutter in Dudhali STP for treatment Process. Every day, this plant treated water having capacity of 17 MLD and treated watersupplied to Kolhapur for agriculture purpose

We understand the complete treatment process of waste water stepby steps as follows:

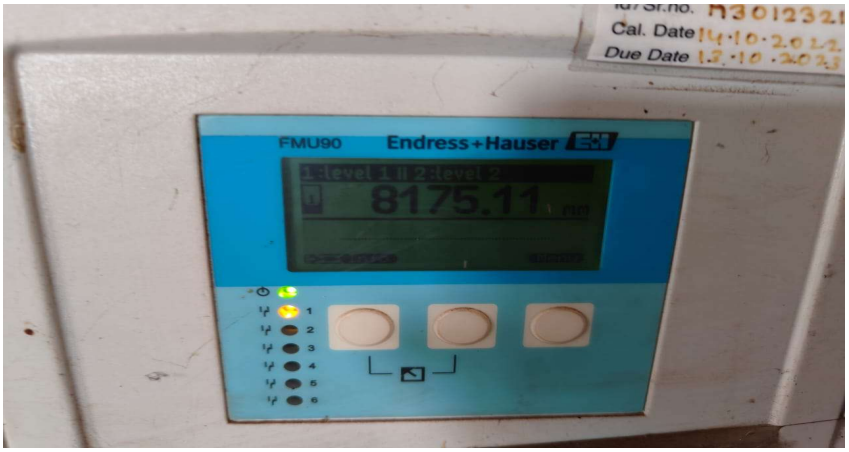
1. Coarse screen:

- Channel- 1 and 2
- Capacity-701.65 cumec/hr

In this process sewage water passes through the coarse screen to remove all large objects like cans , rags, sticks,plastic packets etc carried in sewage stream .

2. Wet well sump and pump house-

1] Depth -90ft
2] Pumps-5
3] Type-submersible pump
4] Capacity of pump (1,2,3)-
1.Hp-150
2.kw-112.5
3.RPM-960
5] Capacity of pump (4,5)
1.Hp-125
2.Kw-93.75
3.RPM-960
6] Water level in sump well-8175.11mm

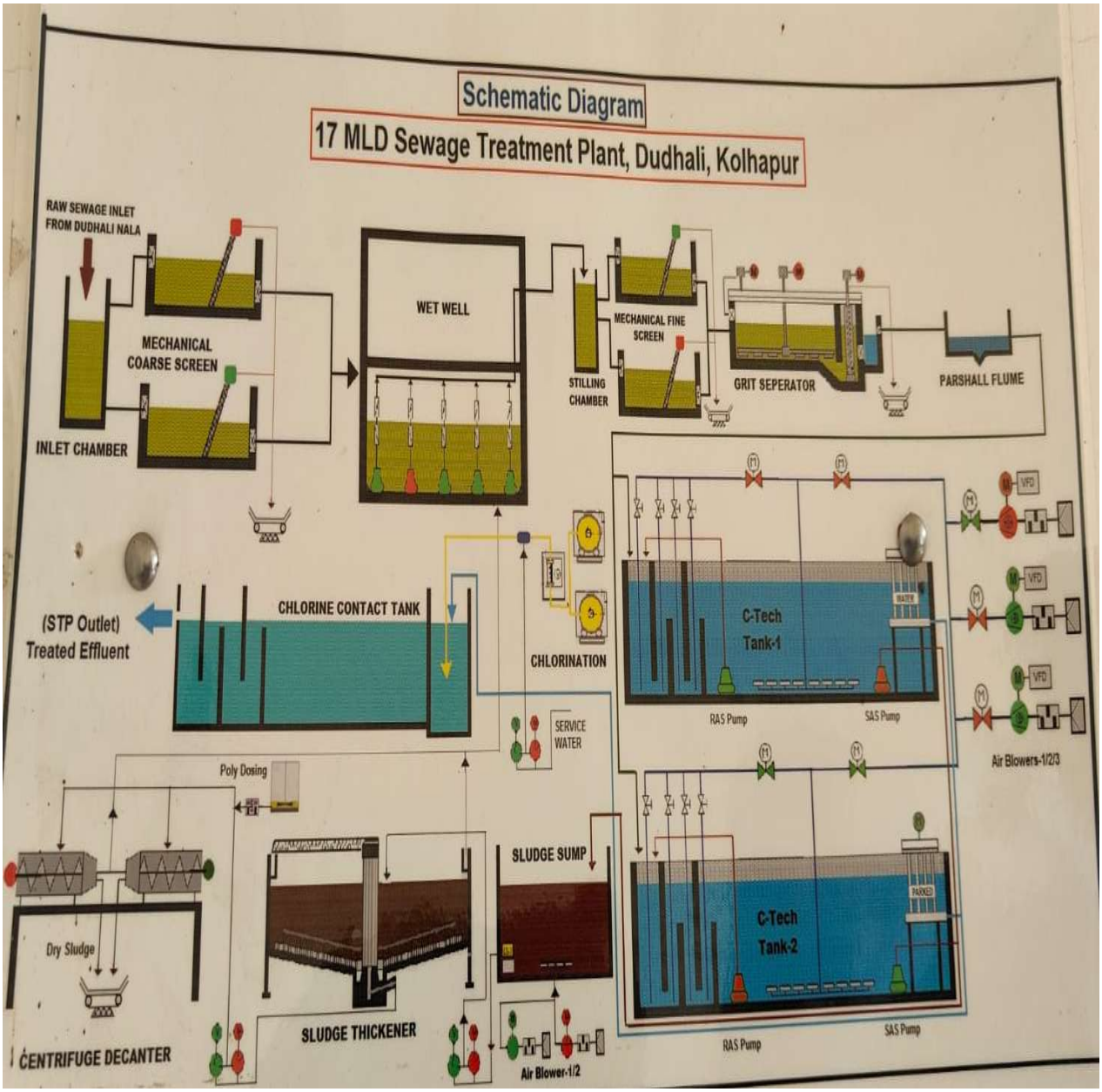


3. Stilling Chamber-

Water is lifted from sump wet well and transferred to stilling chamber to reduce velocity of water.

4. Fine screening

After stilling process fine screen are provided to remove small debris from water. After screening waste passes to conveyor belt to transfer downward side.



Flow sheet of Sewage Treatment Plant

5. Grit Chamber-

This system include a sand or grit removal. In this system the velocity of the incoming sewage is adjusted to allow the settlement of sand ,grit, stones, broken glass because they may damage pumps and other equipment .

At STP there are three mechanisms used to remove grit particle

1] Scraper mechanism
2] Screen classifier
3] Organic return pump

6. Partial Flume-

To measure and control the velocity of flow

7. Sequential batch reactor

This is aerobic batch process in which five treatment cycles are done. At STP two aeration tanks are present where both are operated in 180 minutes cycles continuously. The aerators used are of diffused air type. In a single day total 8 to 9 cycles are performed.

A] Filling
B] Aeration- 15min
C] Settling (Sludge)-30 min.
D] Decanter Unit -60 min.

8. Chlorine Contact tank

The clear water from SBR is send to CCT where 0.2 to 0.5 ppm FRC dose is given to treated waste water and then it is released into river.

CONCLUSION

The treatment of sewage is important if we want to release treated effluent into nearby stream or river and use that treated waste water for agriculture purpose. This STP visit has given the detail information about the sources of waste water and treatment of same. Also, we understood the design and systematic the working process of STP at Dudhali. Kolhapur.