

## **CIVIL ENGINEERING - 2022**

### **1.0 INTRODUCTION**

Civil Engineering department is responsible for development of new assets & maintenance of assets which includes track, buildings, water supply and sanitation and land at RWF. A track length of about 13 kms inside the factory and stacking yard of YNK station area is also being maintained by Civil Engineering department. Horticulture & Environment concerns are also comes under the purview of this department. Prevention of land encroachment and other issues related to land.

### **2.0 LAND**

The Rail Wheel Factory (RWF) premise is consisting of factory, track, staff quarters and other utility buildings located at Yelahanka, 16 km North of Bengaluru, on either side of the Bengaluru – Doddaballapur Road.

The Rail Wheel Factory extends over 291 acres. Plant occupies 191 acres while two staff colonies i.e. east colony for officers and west colony for NG staff occupies about 100 acres.

QUARTERS: RWF has 1016 quarters

#### **East colony – Officer quarters**

RWF House - 1

Type IV -42

TypeV -37

#### **West colony – NG staff quarters**

Type I – 220

Type II – 403

Type III – 267

Type IV - 52

### **3.0 WATER**

Most of the water requirement is met from the supplies from Bengaluru Water Supply & Sewerage Board (BWSSB), bore wells and open wells in the Plant & Colonies. In addition to this, treated water drawn from BWSSB caters to garden & green patches in the premises of the Plant & Colonies.

By constructing mega rain water harvesting in Wheel unit, Axle unit & Utility pump house and by revival of defunct bore wells projects, there has been reduction in

requirement of fresh water from BWSSB. In addition to Rain Water Harvesting pits (22 No's) in Administrative Block & in both East and West Colonies, Mega rain water harvesting has been done in Wheel shop (01 No's), Axle shop (01 No's) & Utility area (1 No's).

A Sewage Water Treatment system with a capacity of approx. 1.5 lakh litres per day has been installed inside factory and is functioning properly. This treated water is being used for manufacturing purpose inside the factory as well for gardening purpose. A new STP with 3 lakh litres per day capacity is under construction in West Colony for provision of water for non-drinking purposes. One STP of 80KLD capacity have been sanctioned for East Colony. Tender for the work shall be invited shortly.

To have a better metering and control of water distribution and to avoid wastage of water, East colony and factory water distribution lines has been automated by provision of level sensors, automated valves and PLC based control system. The system reduces manual intervention and optimizes supply and also aids in early leakage detection. West Colony automation of water supply system is in progress.

#### **4. SAFETY**

A number of works to enhance safety have been carried out inside plant.

1. Provision of staircase in Wheel shop & PC bay area for the safety of crane operators & maintenance staff.
2. Provision of chequered plates with anti-rotational lugs on crane pathways in wheel Shop & Axle shop.
3. Provision of hand rails on gantry walkways in wheel shop & Axle shop.
4. Fall protection by provision of horizontal life line on crane walkways in Old PC bay area B-grid.
5. Restoration measures were in PC Bay like column strengthening by providing rebar & Beam strengthening by providing extra steel beams, fall protection by providing horizontal lifeline etc. were carried out for obtaining stability certificate of SPC Bay structure. After successful completion of restoration measure works, stability certificate has been issued by M/s. Bureau Veritas India (Pvt) Ltd.
6. From colony and plant, dry leaves are being collected by BBMP regularly. This is to ensure that no incident of fire occurs due to accumulation of dry leaves. Dry vegetation is being cut and trimmed regularly to prevent fire accidents.
7. Following measures taken to minimize water seepage during heavy rain so that plant operations are not affected Waterproofing of roof elements
  - Regular cleaning of roof gutters, storm water drains,
  - Provision of submersible pumps in wheel shop basement for pumping excess water in basement
  - Additional rain water pipes in lime storage area of wheel shop provided

- Additional rain water pipes provided at C-9 & C-10 column of wheel shop

## **5. HORTICULTURE**

RWF proudly own an aesthetically appealing green ambience housing rare varieties of plants including aromatic and medicinal plants. Parks have been developed with play equipment and colorful cement benches in both colonies. Green house has been made functional for sustainable maintenance of greenery.

## **6. STAFF WELFARE**

The following staff amenities are being maintained:

- a) Factory – Canteen, staff rest rooms, tea room
- b) Administrative Block – PRS counter, Crèche, tea room, Staff Council & other association office rooms
- c) West colony – (a) Railway hospital with 46 beds, (b) sub-ordinate rest house with 4 suites & dormitory (c) Stadium with pavilion (d) swimming pool (e) Park (f) Mini Hockey synthetic turf & Kabaddi stadium (g) Employees' Institute with badminton court, tennis court, basketball court, TT, snooker table, chess room, gym, etc. (h) Utsava kalyana mantapa
- d) East Colony - (a) Officers' rest house & community hall (b) Mini golf course (c) Jogging track (d) park & skating rink (e) Officers' Club with badminton court, tennis court, squash court, TT, snooker table, gym, Jogging track, etc.
- e) Holiday homes at Ooty & Mysuru.

## **7. HIGHLIGHTS OF MAJOR WORKS 2021-22**

- Work of Fume Extraction tunnel of 50m length in wheel shop completed in a record time of three months
- Construction of additional suites and renovation of suites in ORH
- Renovation of officers club
- Renovation of hospital
- Rest rooms for staff inside factory premises and lorry drivers near time office
- A number of improvement works being carried out in both the colonies
  - Exterior painting and water proofing
  - Replacement of old cement tanks with syntax tanks of 1000 litres capacity in staff quarters in progress
  - Provision of additional room to Type-III (single bedroom) quarters- 72 units & Type-II quarters-58 units
  - Provision of new sewer line at east colony