

भारत सरकार Government of India
रेल मंत्रालय Ministry of Railways
रेलवे बोर्ड Railway Board

(E-File No.:3435093)

No.96/M(C)/141/77

New Delhi, Date: 27.11.2024

General Managers
All Zonal Railways
RCF, ICF and MCF

Director General
RDSO

Sub: Committee report on Standardization of Enroute Carriage Watering System.

Ref.:i. Railway Board letter no. 96/M(C)/141/77 dated 24.01.2024.
ii. Railway Board letter no. ERB-I/2024/23/08 dated 23.01.2024.
iii. CAMTECH letter no. IRCAMTECH/GWL/M/COACH WATERING dt. 06.09.24

1. Railway Board vide letters under reference (i) and (ii) had constituted a committee under PED/CAMTECH to recommend infrastructure and manpower requirement for Quick Watering system
2. The committee has submitted its report vide letter at (iii) above. The recommendations made by the Committee have been examined at Board:
 - a. The approved recommendations regarding QWS infrastructure are placed at Annexure-A.
 - b. Further, regarding increasing the modification of inlet connector diameter from 24mm to 38-36mm taper from free end, and increasing the strainer hole size from 6mm to 10mm, NR is nominated for conducting the modification trial in consultation with CAMTECH, and submit report to Board by 26/01/2025.
3. Zonal Railways are advised that all new QWS systems to be installed as per the revised specifications of QWS at Annexure-A, and provide feedback to CAMTECH for future improvements, if any.

The above issues with the approval of competent authority.

D/A: As above



(प्रांजल मिश्रा)

संयुक्त निदेशक/ यांत्रिक इंजी. कोचिंग-II
रेलवे बोर्ड

Copy to:

- PCMEs/ All Zonal Railways, RCF, MCF and ICF - for kind information and necessary action please.
- PED/CAMTECH/Gwalior: For kind information and necessary action please.
- PED/RS/RDSO: For kind information please.

Specifications regarding infrastructure of QWS

- 1) Arrangement for the Quick Coach Watering System for the set of two watering line (for more than two watering lines the set is to be repeated):

• **Pipe Layout:-**

Description	Quantity/ unit
Suction & Distribution Header at Booster Pump	500mm
Supply Line from Distribution Header to Hydrant line	400mm
Hydrant Distribution pipeline	200mm
Hydrant Valve	50 mm
Filling hose Diameter (ID)	31.5mm
Connector with inlet Diameter	38t o36mm taper From free end

• **Booster Pump Details:-**

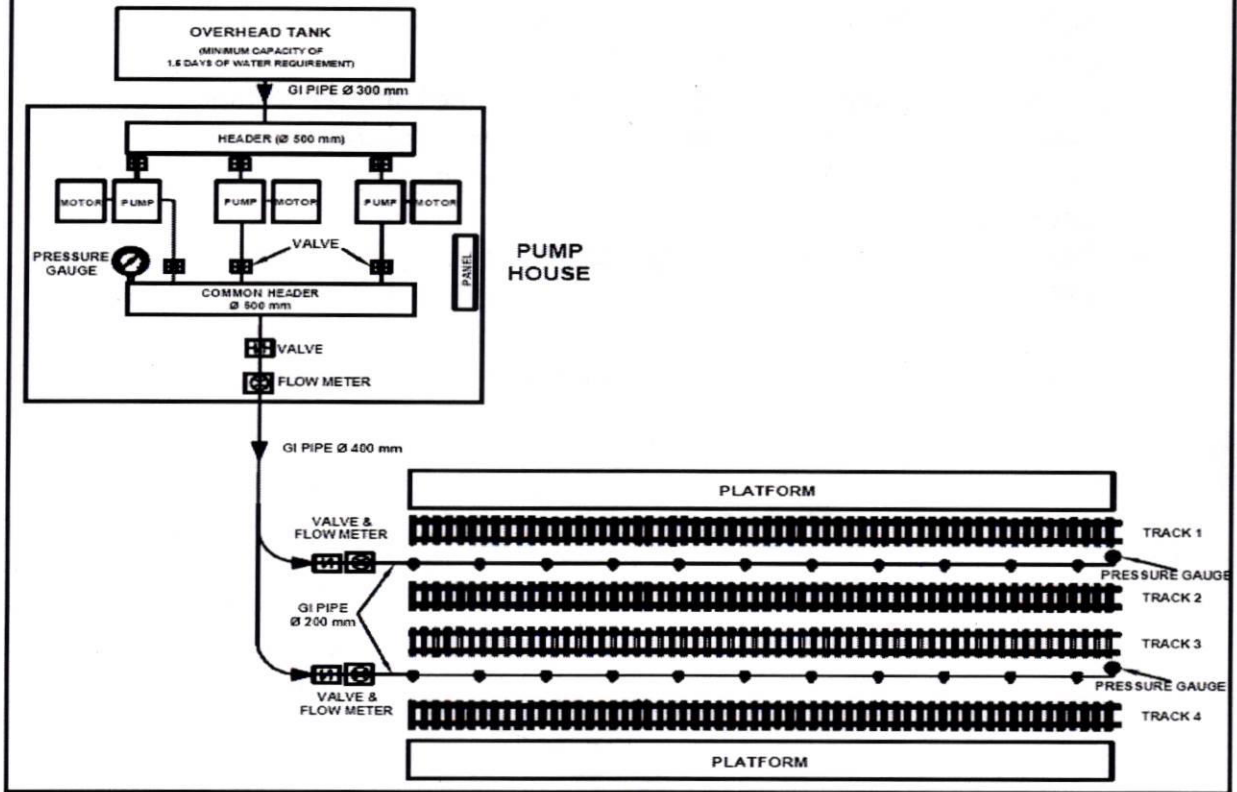
Description	Quantity/ unit
Booster Pump flow rate	Minimum 320 m ³ /hr or 5333 lpm
Discharge head	Minimum 35m
HP	60HP
Number of pumps in one set	03no's
❖ 3 Phase Induction motor, frequency 50 Hz, Motor Insulation Class H & efficiency IE3 or higher.	
❖ Three pumps integrated with Variable frequency variable speed with constant discharge (VVFD) & integrated with SCADA	

• **General**

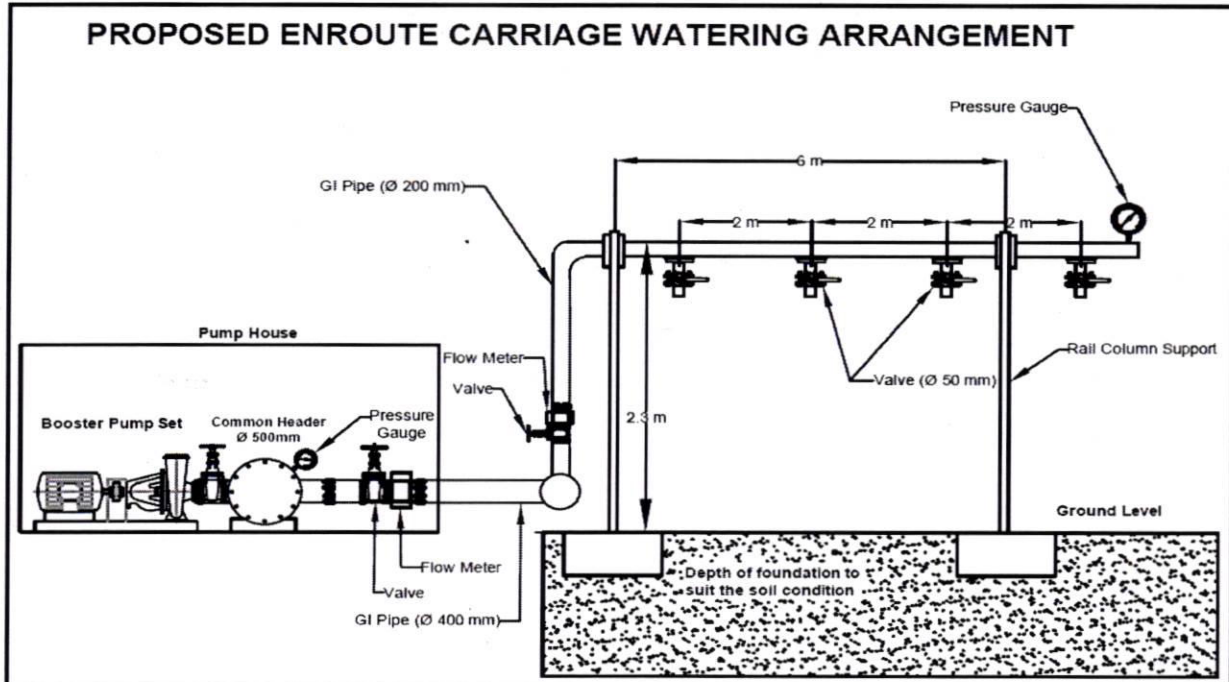
- ❖ Provision of Pressure Gauge/sensor on the main header & the last of each hydrant line.
- ❖ Provision of flow meter on each hydrant line.

- 2) The proposed watering system is suitable for two watering lines, in case there are more watering lines then the additional parallel set of watering systems is to be installed. All sets of pumps should be interconnected through the header so that in case of failure of one pump set another pump set will feed the water supply.
- 3) A proper pathway of one meter width for ease of carriage watering is to be provided as recommended in the earlier report of 2008. It is seen that most stations do not have proper pathways which is a dangerous situation and needs to be addressed. All new station development projects across IR should address this issue.

GENERAL LAYOUT OF PROPOSED ENROUTE CARRIAGE WATERING SYSTEM



PROPOSED ENROUTE CARRIAGE WATERING ARRANGEMENT



- 4) Proper illumination over the pathway is to be provided for rake filling in night time.
- 5) A DG set of 250 kVA rating capacity for one set of booster pumps, i.e. 3 pumps together, to be installed. If more pumps are installed, then capacity of DG set may be evaluated.
- 6) Water reservoirs used for coach watering is to be separated and not to

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be used for other station facilities. For enroute watering, there should be provision of dedicated water tank of suitable capacity. The capacity can be worked out based on availability of municipal/bore well water and no. of trains and coaches to be watered per day as recommended in earlier CAMTECH report of 2008.

- 7) In case water supply is from municipal sources the water tank should have capacity to store at least 1.5 days of water requirement. However, in case it is from a dedicated bore of railways, it may be 50% of one day's requirement.
- 8) Report generation of all en-route coach watering may be generated in CMM for proper monitoring of coach watering and quantity of water filled in the train from SCADA. There may be a dashboard on CMM for all running trains for the watering status of all enroute coach watering stations.

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