Sub: Construction Management System: Circular – 9
Ref: Standard Operating Procedure for laying of pipe line under RUSDP.

Under RUSDP, works of laying pipelines for both water supply and sewerage works are being executed in 5 towns namely Pali, Tonk, Hanumangarh, Sri Ganganagar, Jhunjhunu and sewerage works in towns namely Bhilwara, Bikaner, Jhalawar, Udaipur, Sawaimadhopur, Mount Abu & Kota. Proactive approach has to be adopted by PIU/Consultant (PMDSC/PSC)/Contractor’s Engineer in identification of lanes/roads where either both the pipe line (Water Supply/ Sewer) or only sewer pipe line are proposed to be laid, so as to ensure least inconvenience to the habitants and proper placing of the pipelines in such lanes/roads. In this regard, following guidelines are issued:

1. The activities of laying of these pipe lines should be planned by proper co-ordination between different agencies working in town in such a manner that there is no duplicity of efforts to the possible extent. It should have minimum inconvenience to the citizens and the works carried out by other agencies are properly dovetailed. In case of difference of opinions the matter should be sorted out through the CLC in the city.

2. For starting excavation of a new stretch for laying of Water/Sewer line:

   (a) Alignment/layout on ground shall be finalized by PIU & PMDSC/PSC as per the available site conditions and working drawing issued by Engineer In-charge showing all the components viz. water/sewer pipe line/MH/IC & any other item before starting of work:

   (i) Water Supply sector:

   a) Pipe line should be on one side of road pavement in berm/kacha portion to the possible extent.

   (ii) Waste Water sector:

   a) Other side of pavement on berm/kacha portion of/opposite side of water supply lines
   b) Distance between both lines should be horizontally 1.5m.
   c) Mark the line layouts on the road with lime powder.
   d) Check the Ground levels with design and approved drawings.
   e) Check/cross checked the levels with main Sewer line to be connected.
   f) Incase water supply line is to be laid near to sewer lines encasing should be done for water line.

Circular 9: SOP for pipe line
(b) JE/AE, Support Engineer & Site Engineer of contractor shall jointly finalize the alignment of pipe line based on approved drawings & site condition.

(c) It shall be ensured that:

(i) Works in no. of DMA’s are not more than prescribed in contract agreement completing all relevant underground work.

(ii) Road Restoration upto motorable are in accordance to contract agreement.

(iii) Un-restored road length should not exceed the contract provisions.

(d) Proposed road top profile in sketch/drawing plan and L-section to ensure flushed Manholes & Inspection chambers with the road level should be proposed and executed by PMDSC/PSC & PIU.

(e) Accordingly, finalized alignment shall be witnessed/checked/cross checked by Senior Construction Engineer (SCE)/ACM/DCM and EE/SE, PIU on regular basis as per the prevailing norms. Any defect in the alignment and gradient shall be pointed out and corrected immediately.

3. Sequencing of constructions shall be broadly as mentioned below which can be changed as per the need and requirement of site condition:

(i) Laying of sewer pipe line with testing & refilling of trenches.

(ii) Construction of Manhole Chambers and their Hydro Testing.

(iii) Laying of water supply lines along with HSC upto ground level with hydro testing & refilling of trenches

(iv) Construction of Inspection Chambers in close vicinity (to the maximum possible extent) of the compound wall with laying of required PVC-u pipes upto Manhole.

(v) Road restoration works.

(vi) Providing House service connection during commissioning of DMA. House service connection should be near to the existing one & as per convenience of the consumer.

(vii) House sewer connection of individual house (inside house to inspection chamber) after commissioning of SPS/STP.

4. Following things shall be kept in mind while laying of pipe line/ installation of Manhole are done:

(i) Proper barricading is mandatory.

(ii) Shoring shall be done, if required & will be planned with pipe line layout.

(iii) CC/BT pavement road cutting shall be done with cutter machine only.

(iv) Utilities (HSC, property connection, cables etc) to be identified through underground utility survey & saved from damages.

(v) Diversion and precaution board & security tape is mandatory.

(vi) The invert level of laid pipe should be checked & signed by JE/AE & Support Engineer.

(vii) First layer of refilling trench (15cm) shall be done manually after removing clods, stones, lumps, debris & watered compacted manually.

(viii) Construction of Manhole, haunching, benching along with bottom ring casting level should be adjusted in such a way, that ultimately top level of finished Manhole to be matched with the finished road top level (M-30/CC/PCC/PMC/SDMC)

(ix) Watering the trench and compact manually by hand compactor and trench compactor.

Circular 9: SOP for pipe line
(x) Refill balance depth with in 15 cm layers & compact it with Plate or mechanical compactor. Carry out MDD test as per the norms at each layer to ensure proper compaction.
(xi) Restore the trench to the level of WMM/WBM/PCC within ten days of completion of excavation trenches.

5. Before starting Road Restoration (i.e. CC/BT) JE/AE, Support Engineer and Site Engineer of contractor shall jointly visit the site and ensure:

(i) All Manholes/House Service Connections/ Inspection Chambers work is completed.
(ii) Approved levels of MH/IC etc.
(iii) Prepare the profile and check manhole top level with respect to road top level (M-30/PMC/SDMC/BT)
(iv) If found satisfactory: Prepare the drawings including all levels and shall be signed by JE/AE, Support Engineer and Site Engineer of contractor.
(v) Drop Manhole, if any should be completed.
(vi) Vent shaft are constructed.
(vii) HSC are completed upto ground level.
(viii) All IC are located nearest to the property boundary to the maximum possible extent.

JE/AE, Support Engineer and Site Engineer of contractor shall jointly visit the site and certify that above work has been completed. This shall also be witnessed/checked/cross checked by Senior Construction Engineer (SCE)/ ACM/ DCM and EE/SE, PIU. Then only road restoration work shall be taken up.

All necessary stage wise construction recorded in register and should be signed daily by JE/AE & Support Engineer.

This circular shall be strictly abided by all the members of PMU, PIU, PMDSC, PSC & Contractor.

(\textit{Dr. Preetam B Yashvant})
\textbf{Project Director}

No. F3 (201)(57)/RUIDP/PMU/Ph-III/CMS/ 537 - 41

Date: 2.04.2018

Copy to following for information and necessary action:
1. PA to PD/Addl. PD/ FA/ CE/ ACE/SE-I/SE-II/SE-III/ POs/APOs, PMU, RUIDP, Jaipur
2. SE, PIU, Pall/Tonk/Sriganganagar/Jhunjhunu/Bhilwara/Hanumangarh/Kota
3. EE, PIU, Sawai Madhopur/ Bikaner/ Udaipur/ Jhalawar/ Mt. Abu/Banswara
4. Team Leader/ Project Coordinator/CM/ Dy. CM/ACM, PMDSC/ PSC, Jaipur, Pall/ Tonk/ Sriganganagar/ Jhunjhunu/ Bhilwara/ Hanumangarh/ Kota/ Sawai Madhopur/ Bikaner/ Udaipur/ Jhalawar/ Mt. Abu/Banswara
5. ACP, RUIDP, Jaipur to send by e-mail and put up the Guidelines on the website.

(\textit{Addl. Chief Engineer})