

### **Special Conditions of contract for design mode track tamping.**

1. Job work will be executed at site with Gedo Trolley.
2. Primary GNSS reference point: To be established with continuous 48 hrs observations with DGPS receiver and processed with RTX post process centre point correction service. Coordinates shall be submitted with WGS 84 in latitude and longitude and UTM grid coordinate to be provided for drawing purpose.
3. Reference point establishment at alternate OHE or 150 meter maximum interval with 10mins DGPS observations of 3mm  $\pm$  0.1ppm in horizontal and 3.5  $\pm$  0.4 ppm in vertical.
4. Measured reference points to be submitted in UTM coordinate system.
5. Pre-measurement for tamping: To measure horizontal shift, vertical lift, cross level & gauge for pre measurement with Gedo trolley at track centre with 3m interval: To measure horizontal & vertical offset from reference point with total station trolley and to initialize optical chord between two reference points. After chord initialization prism trolley will move towards the instrument trolley and measure and store gauge cross level chainage, shift and lift value at every 3m interval along the track. To measure obligatory points like level crossing, bridge start and end point etc. Measurement to be done with or without block.
6. Data downloading and processing of measured data. Reference points in UTM coordinate to provide N, E, Z coordinates along the track at 3m interval the track centre left and right rail data should be exported in CSV file with detail N, E, Z coordinates on each rail gauge cant.
7. Instrument trolley should support Indian Railway gauge 1676mm, gauge measurement accuracy  $\pm$  0.3mm, cant measurement accuracy  $\pm$  0.5mm (static), insulated from two rail and weight trolley should be light weight ( less than 20 Kg )
8. Design Alignment: To construct design/target alignment with the good points of existing pre measurement track centre line data in design software. During the design horizontal vertical & cant alignment parameter as per the section sheet to be considered.
9. Data to be exported in ALC format with target alignment and to provide track adjustment file with .ver extension and also provide ".geo Geometry file at 5m interval. To provide text file with slew and uplift at every 5m interval for tamping machine operator reference during reference.
10. Before start of measurements in each block section Contractor and Railway Representative will do the joint site visit to identify physical location for Reference points.
11. If fix structure is not available to mark as Reference point at site then the Railway will arrange the availability of fixed reference point.
12. Primary DGPS Reference point Dimensions if required to build are of 400mm x 400 mm x 600 mm with provision of plate to mark Survey point will be provided by Railway.
13. Secondary DGPS Reference point Dimensions of control pillar if required to build are of 300mm x 300mm x 500 mm with provision of plate to mark Survey point will be provided by Railway.

14. Reference points at 150m interval required will be mark with nail / screw foundation of OHE or Dimensions of control pillar if required to build are of 200mmx 200mm x 400 mm with provision of plate to mark Survey point.
15. Railwaywilldeputepersontoprovidefielddetailsofexistingtrackparametersduring Survey/ measurements. (existing transition points and recording obligatory points).
16. Railway will provide Tamping machine limits for slew and uplift required to export Create text file for ALC.
17. In absence of ALC tamping machine, Contractor provide track adjustment text file and Railway will write data on sleeper within 2dayssothat tamping may start within schedule time.
18. Concern official of Railway will advise on location for good points during design of alignment.
19. Contractor will depute experience survey team consisting of two surveyors with total Station trolley and two surveyors at prism trolley.
20. The execution of Job will be done by block section wise.
21. Contractor will depute their staff during tamping.
22. However Railway reserves the right to change the above location during the execution of the work.