

**'SAFETY PRECAUTIONS TO BE TAKEN AT WORK SITE.**

- 1.1. The Contractor shall not allow any road vehicle belonging to his or his suppliers etc. to ply in railway land next to the running line. If for execution of certain works, viz., earthwork for parallel railway **line, supply** of ballast for new or existing railway line etc. road vehicles are necessarily to be used in railway land next to the railway line, the contractor shall apply to the Engineer-in-charge for **granting** permission giving the type and number of individual vehicles, names and license particulars **and permanent addresses of** drivers, location, duration and timings for such work/movement. The Engineer-in-charge or his authorized representative will personally counsel, examine and certify the road vehicle drivers, contractor's flagmen and his supervisors **to be deployed** on the work, location, period and timing of the work.

This permission will be subject to the following obligatory conditions:-

- i) The Road **vehicle** will ply **only between sunrise and sunset**.
  - ii) Nominated vehicles and drivers will be utilized for work in the presence of at least one flagmen and one supervisor or his representative certified for such work.
  - iii) The vehicles shall ply **6 Meters (from Centre of Track)** away from track. Any movement /work at less than **6 Meters** and up to minimum **3.5 Meters** clear of track center shall **only** be done in presence of railway employees authorized by the Engineer-in-charge . No part of road vehicle will be allowed at less than **3.5 Meters** from track center.
  - iv) The Contractor shall remain fully responsible for ensuring safety and in case of accident, shall bear the cost of all damages to the equipments and men and also damages to railway and its passengers.
  - v) Engineer-in-charge may impose any other condition necessary for a particular work or site.
- 1.2.1. The Contractor at all times shall adopt safe working methods to ensure safety of structures, equipments and labour at site of works.
- 1.2.2. The contractor shall not start any work without the presence of Railway supervisor or his representative authorized by ADEN-in-charge and Contractor's supervisor at site.
- 1.2.3. The methodology proposed to be adopted by the Contractor is to be approved by Engineer-in-charge with a view to ensure of safety of trains, passengers and workers and he shall also ensure that the methods and arrangements are actually available at site before start of the work and the contractor's supervisors and the workers have clearly understood the safety aspects and requirements to be adopted / followed while executing the work.
- 1.2.4. There shall be an assurance Register kept at each site, which will have to be signed by both, ie., Railway Supervisor or his representative as well as the contractor's supervisor as a token of their having understood the safety precautions to be observed at site.
- 1.2.5. Survey of site by Supervisor of contractor and Railway's Supervisor is to be done to assess precautions to be taken at site for working of trains and materials required for protection.

- 1.2.6. The list of permissible / sanctioned infringements to moving dimensions for the section shall be made available where work is to be done to execute the works without infringing the moving dimensions.
- 1.2.7. Competency certificate issued by ADEN-in-charge with the Contractor's supervisor at site should be available in the format given in Annexure-I.
- 1.2.8. The detailed plans for safe execution of works, duly approved by the Division should be available for undertaking execution of such works which have bearing on moving dimensions, especially those works close to the running lines and fixed structures on bridges, inside tunnels etc.,
- 1.2.9 Look-out caution, speed restrictions as well as traffic block shall be ensured where necessary for execution of works affecting running lines.
- 1.2.10 Mobile phones or Walky-Talkie sets where necessary should be provided at work sites.

**1.3. Precautionary measures to be taken at work site away from the track:-**

- 1.3.1. Trenches and foundation pits should be adequately and securely fenced, provided with proper caution signs and marked with red lights at suitable intervals during night to avoid accidents. Adequate protective measures should be taken to see that the excavation operations do not affect or damage adjoining existing buildings.
- 1.3.2. Proper precautions should be taken for safety of persons and adjoining property before undertaking any blasting operation. Red flags should be prominently displayed around the area to be blasted. All the people on the work except those, who actually light the fuses, should be withdrawn to a safe distance of not less than 300 meters from the blasting site. Recommendations given in I.S. 4081:1986 should be followed for safety during various operations involved in the process of blasting.
- 1.3.3. Suitable scaffold should be provided for workman for all works that cannot be safely done from the ground or from solid constructions except such works which can be done safely from ladders for a short period. When a ladder is used, extra labour should be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable foot holds and handholds should be provided on the ladder and ladder should be given an inclination not steeper than 4 to 1 ( Four vertical to one Horizontal).
- 1.3.4. Workers employed on mixing asphalt materials, cement and lime mortars should be provided with protective hand and footwear and protective goggles.
- 1.3.5. Workers employed in white washing and stacking of cement bags or any materials which are injurious to the eyes should be provided with protective goggles.
- 1.3.6. Workers engaged in welding works should be provided with welder protective eye-shields, single piece cotton cloth and shoes.
- 1.3.7. Stone breakers should be provided with protective goggles, leg-guards and protective clothing and they should be seated at sufficiently safe distance from each other.
- 1.3.8. A fully equipped First-Aid Box should be maintained at site by the Agency with at least one person fully trained to give First-Aid.
- 1.3.9. Inflammable articles such as Petrol, oil etc., should be stored separately from other materials and all prescribed precautions as per the Indian Explosive Act should be taken.

1.3.10. In the Bridge work, Track works, repairs to tunnel and demolition of structures through contractual Agency, the safe working and ensuring safety of workman employed should be specifically laid down in the contract itself.

1.4. **Precautionary measures to be taken at work site in vicinity of track:-**

1.4.1. Drivers of trains must be served with caution order to look out for any obstruction at the place of work.

1.4.2. Arrangements should be made to protect the track in case of emergency at work site.

1.4.3. Before the start of the work, the land strip adjacent to the running track where road vehicle / machinery is to ply for the work shall be demarcated by lime in advance at the appropriate distance from the centre of existing track in consultation with the Railway Supervisor[**Annexure-IV(A)**]. Sketch showing the location of marking and barricading along the full length of the work area should be done as per the sketch given in [**Annexure-IV (B)**]. This will enable the workmen posted at the site and also the lorry drivers to have clear guidelines on the movement of vehicles.

1.4.4. Movement of Lorries near the track should be prohibited during night. In case it is unavoidable adequate protective measures including lighting must be ensured in the complete work area for the safety of the Public and Passengers. Also additional staff shall be posted as necessary for night working.

1.4.5. Work should not be allowed to progress without the prior approval of the Engineer-in-charge in case movement of vehicles close to the track is involved.

1.4.6. Machines and vehicles should ply 6 meters (from Track centre) in case movement at less than 6 meters away from the track is inescapable, it should be permitted in the presence of Railway employee authorized by the Engineer-in-charge.

1.4.7. Contractor's representative should be issued a certificate by ADEN to the effect that they have acquired sufficient knowledge about the safety precautions that are needed to be followed while working near the track.

1.4.8. The worksite shall be suitably demarcated to keep public and passengers away from work area. Necessary sign boards such as **Work in progress** etc. shall be provided at appropriate locations to warn the Public / passengers.

1.4.9. Check lists given in **Annexure-II and III** shall be used to ensure that all the requisite measures have been taken before start of work and work in progress.

1.4.10. All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimensions do not infringe. Necessary checks shall be exercised by Site in-charge from time to time.

## **WORKING OF CONTRACTOR'S VEHICLES AT SITE**

- 1 When the contractor's vehicles are to be worked closer to 6m but not less than 3.5m from center line of the running track (Annexure-VA)**
  - i) Drivers of vehicle shall be briefed about safety and precautions to be taken while moving/working close to traffic.
  - ii) Demarcation of the land shall be done by bright coloured red ribbon/nylon rope of 12mm thick suspended on 75cm high wooden/bamboo posts at a distance of 3.5m from center line of nearest running track as shown in (Annexure-IVC)
  - iii) Contractor shall ensure the road vehicle/Machinery ply in a way so that these do not infringe the line of demarcation.
  - iv) Presence of an authorized Railways representative shall be ensured before plying of vehicles or working machinery.
  - v) Railway supervisor shall issue suitable caution order to drivers of approaching train about road vehicles plying or machinery working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train. Whistle boards shall be provided wherever considered necessary.
  - vi) Lookout men shall be posted along the track at a distance of 800m from such locations, which will carry red flag and whistles to warn to the road vehicles/machinery users about the approaching trains.
  - vii) On curves where visibility is poor, additional lookout men shall be posted.
  - viii) In unusual circumstances, where operator apprehends infringement to track while working truck/machinery near running track, following action shall be taken:
    - a) The contractor /supervisor/vehicle operator immediately advise the situation to Railway official and assist him in protecting the track.
    - b) Protection shall be done for other emergencies.
- 2. When the contractor's vehicles are to be worked close to 3.5m from center line of running track:**
  - i) Plying of vehicle or working of machinery closer to 3.5m of running track shall be done under protection of track. Traffic block shall be imposed wherever considered necessary. The site shall be protected as per the sketch given in (Annexure-VB) and the provisions of Para No. 806 & 807 of P-way Manual as the case may be.
  - ii) Presence of a Railway supervisor shall be ensured at work site.
  - iii) Railway supervisor shall issue suitable caution order to drivers of approaching train about road vehicles plying or machinery working close to running tracks. The train drivers shall whistle freely to warn about the approaching train.
- 3. Parking of vehicles or construction machinery:**
  - i) No vehicle or construction machinery shall be parked in unmanned condition on a gradient sloping towards running track.
  - ii) Even on level ground or gradients sloping away from the track, vehicles or construction machinery shall be parked in unmanned conditions at a minimum distance of 6m from nearest track center in fully braked condition. In addition to brakes, suitable wedges shall also be applied on all the wheels.
- 4. TRAINING**

Training in safe working methods for both along and on the track should be imparted to supervisors /operators of the work executing agencies. Such training may be imparted at zonal/divisional training schools for required duration as deemed fit, with a view to ensure that the field staff engaged in such works get acquainted with the safety precautions that are needed to be taken while executing the works.

**ANNEXURE - I**

**COMPETENCY CERTIFICATE**

Certified that Shri.....

P.Way supervisor of M/s. .... has been

Examined regarding P.Way working on .....

Work. His knowledge has been found satisfactory and he is capable of  
Supervising the work safely.

ASSISTANT ENGINEER



# ANNEXURE – II

## CHECK LIST (BEFORE STARTING THE WORK)

Name of the work : .....

Location .....

Duration of the work : From ..... To .....

| Sl. No | Details  | Yes | No |
|--------|--|-----|----|
| 1      | Contractor's supervisor identified / Selected. Who is going to be site in-charge?                                    |     |    |
| 2      | Training imparted to contractors supervisor & Certificate issued?  |     |    |
| 3      | Work site inspected by Constructions supervisor / other department's supervisors along with contractor's supervisor? |     |    |
| 4      | Precautions to be taken identified and listed?   |     |    |
| 5      | Plan of work, drawn out by contractor's supervisor in consultation with Railway's supervisor?                        |     |    |
| 6      | Plan of work, brought to the knowledge of open line AEN/IOW & PWI?   |     |    |
| 7      | Before start of the work, proper lime marking / barricading had done at site of work?                                |     |    |
| 8      | Men deputed for protection of track along with safety equipments?  |     |    |
| 9      | Caution order issued for the train drivers in case work is being done within 6mts of centre of running track?        |     |    |
| 10     | Drivers of vehicles/machinery being used have been identified?   |     |    |
| 11     | Drivers of vehicles/machinery briefed about the safe working?  |     |    |
| 12     | Sufficient lighting provided at site of work for night working?  |     |    |
| 13     | Infringements checked?   |     |    |
| 14     | Sectional (Open line) AEN/PWI/IOW have satisfied themselves regarding safety arrangements?                           |     |    |
| 15     | Availability of Walkie –Talkie sets for communication?   |     |    |

Signature of construction/  
Other departments Supervisor  
Date:

# ANNEXURE – III

## CHECK LIST ( WHILE WORK IN PROGRESS )

Name of the work : .....

Location .....

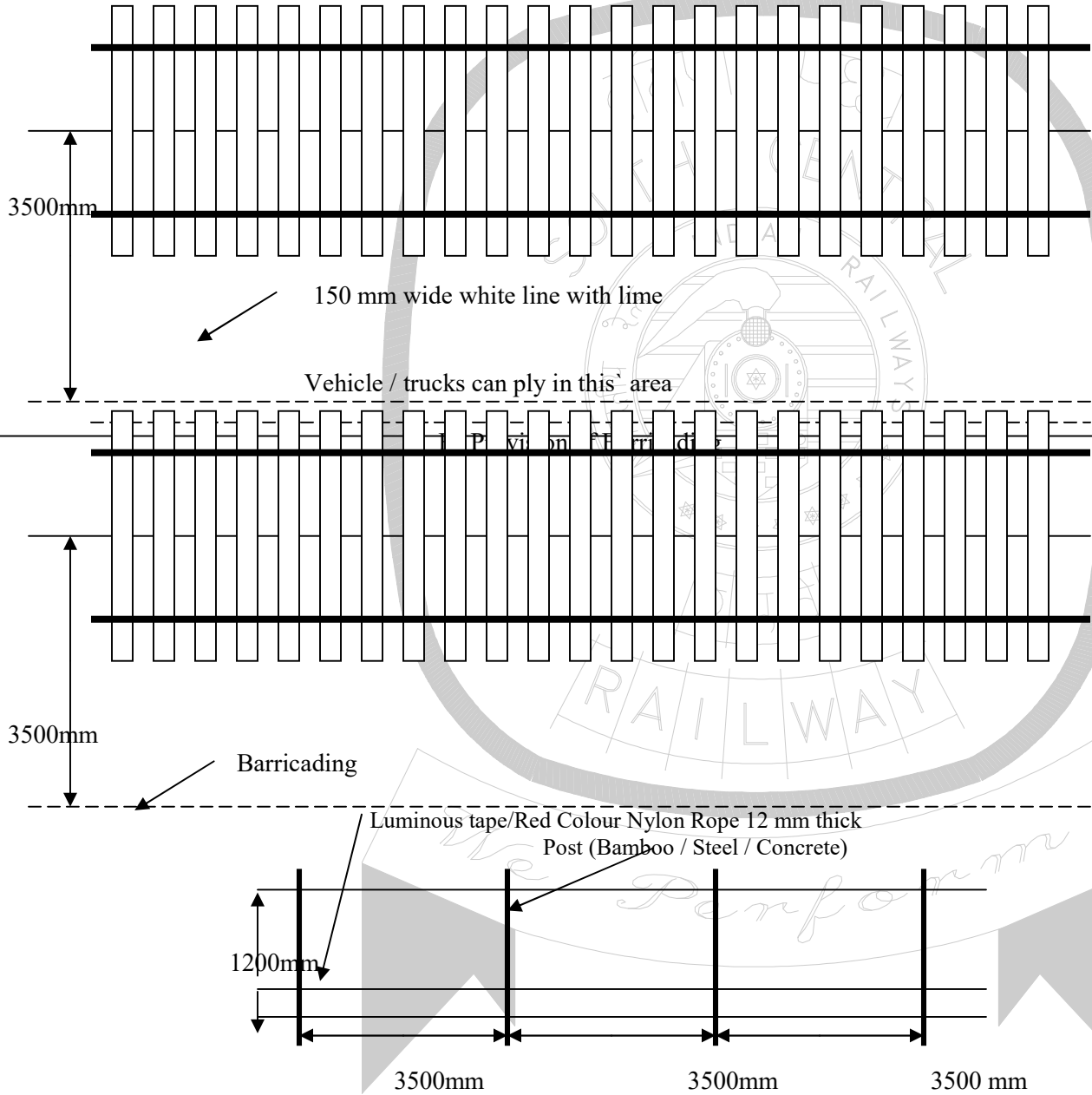
Duration of the work: From ..... To .....

Date of inspection .....

| Sl.N<br>o | Details   | Yes | No |
|-----------|---|-----|----|
| 1         | Does the contractor's supervisor have the certificate?  |     |    |
| 2         | Does the knowledge of contractor's supervisor on safety of track & work site is up to the mark? |     |    |
| 3         | Is the Railway's supervisor of Construction Organization/other departments available at site?   |     |    |
| 4         | Is knowledge of Railway's supervisor O.K.?  |     |    |
| 5         | Is lime marking/barricading done?   |     |    |
| 6         | Are adequate safety precaution taken?   |     |    |
| 7         | Are communication facility (Walkie – Talkie sets) available at site?                            |     |    |
| 8         | Are only identified drivers driving the vehicles/machinery?                                     |     |    |
| 9         | Is whole work site safe for working of men/vehicles & trains?                                   |     |    |
| 10        | Are adequate lighting arrangements done at site?  |     |    |
| 11        | Are adequate protection equipment available at site?  |     |    |
| 12        | Is caution order to trains being issued?  |     |    |
| 13        | Are train drivers following the enforced temporary speed restriction?                           |     |    |
| 14        | Has work permit been taken for working in Electrified territory/Station yards (P & C areas)     |     |    |

Signature of inspecting officer

**(A) Marking of Line with Lime**

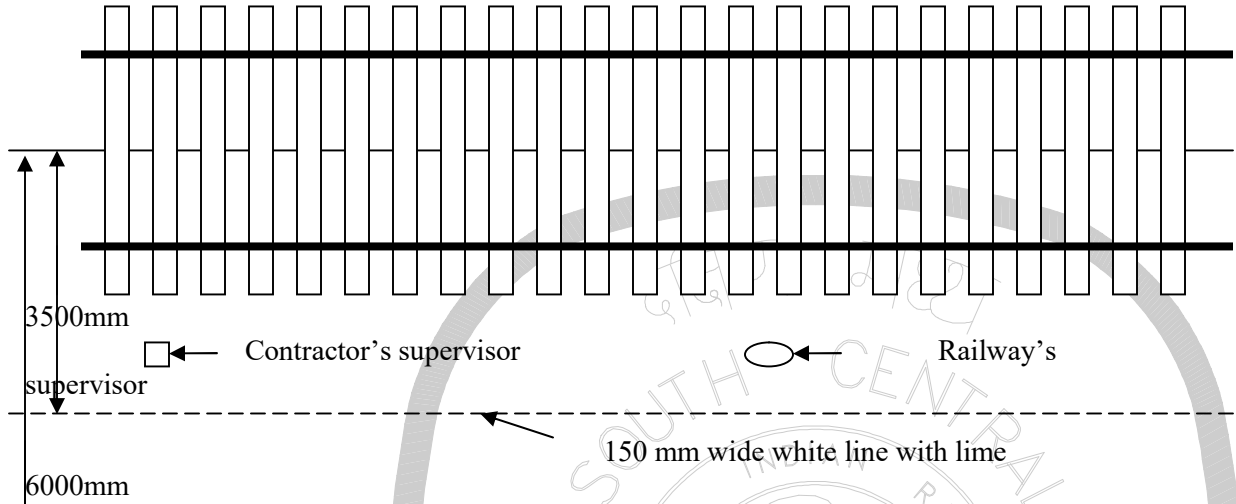


**C) Elevation of Barricading**

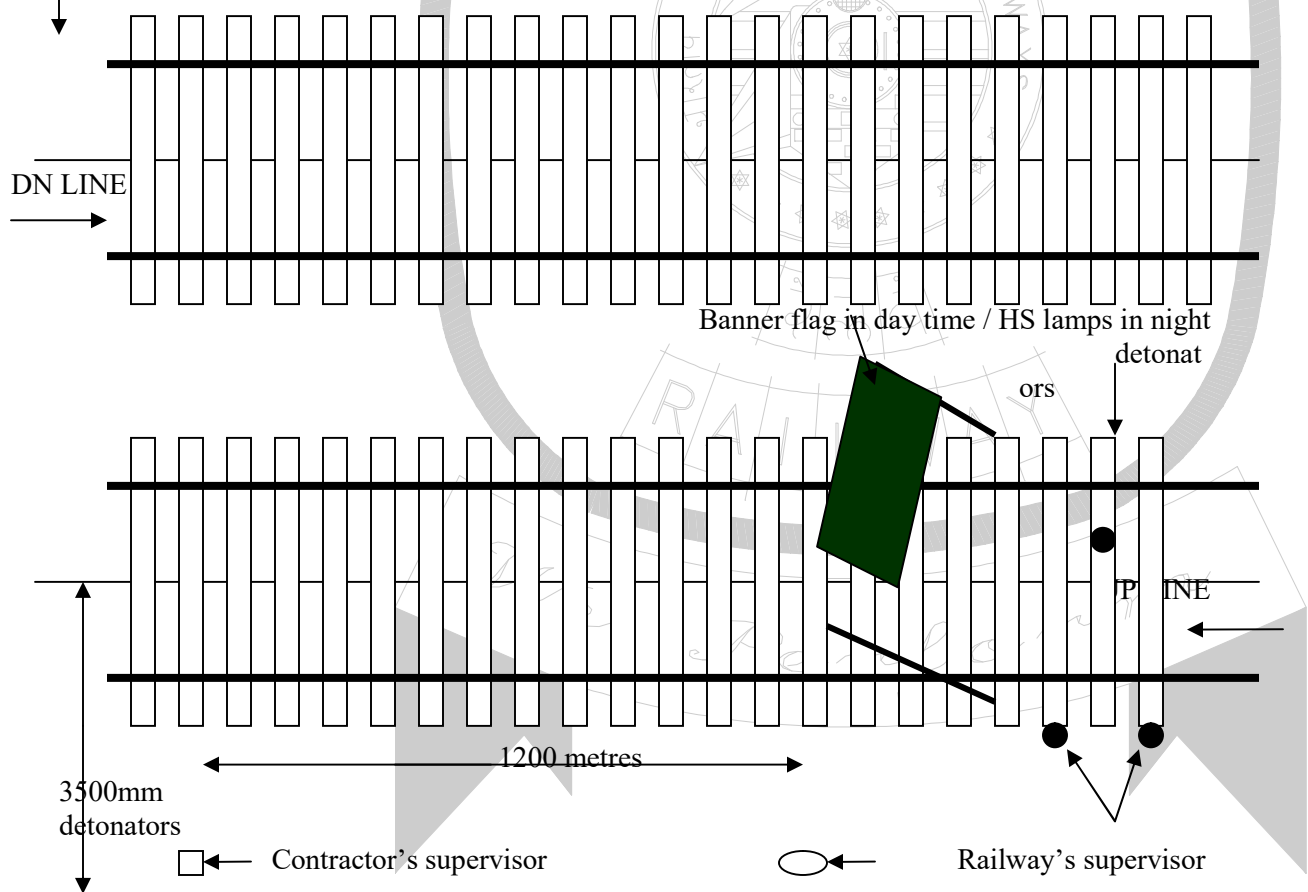


# **ANNEXURE -V**

A) Plying of Vehicles/Machinery between 3.5 mts. to 6.0 mts from centre of track



B) Plying of Vehicles / Machinery within 3.5 mts from center of track



**Signature of the Tenderer/Contractor.**