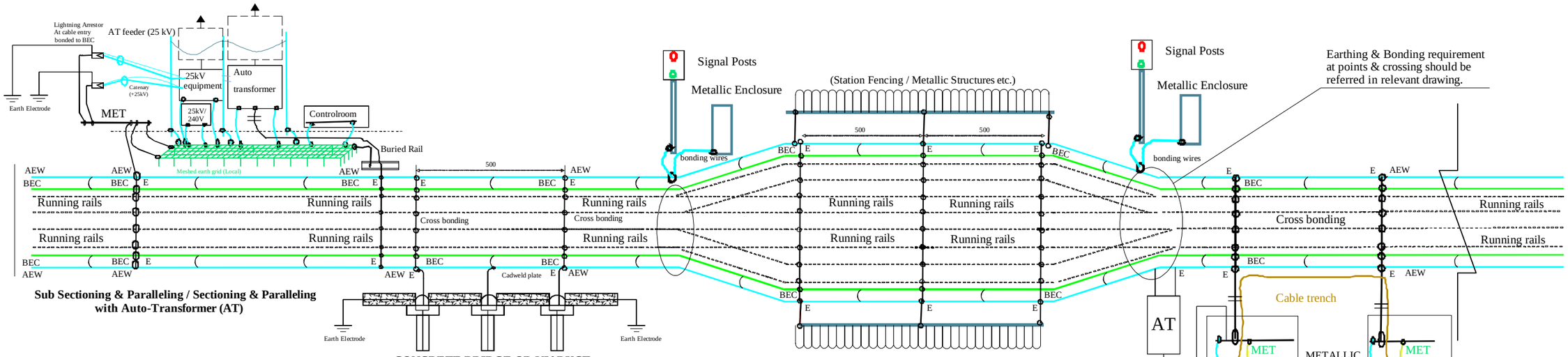



**Sub Sectioning & Paralleling / Sectioning & Paralleling with Auto-Transformer (AT)**

**CONCRETE BRIDGE OR VIADUCT**

(In Fig. Concrete bridge / Viaduct is not shown on actual location
It will be located below the track.) (Refer relevant drawing for details.)

**STATION LOCATION WITH MULTIPLE LINES**

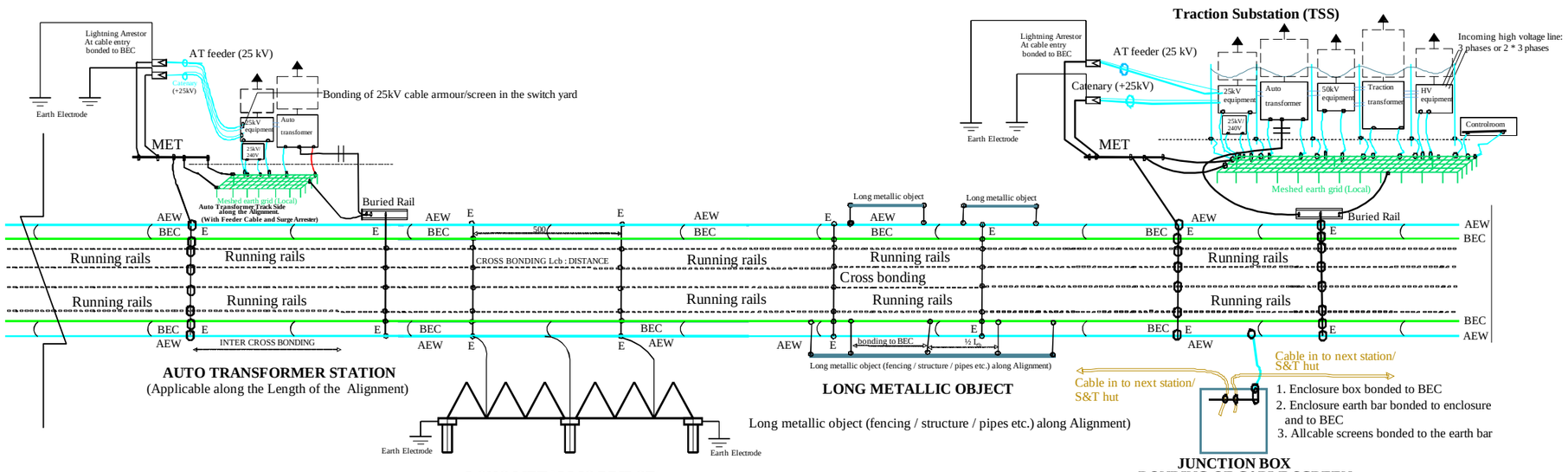
(Station Fencing / Metallic Structures etc.)

Internal Earthing within the room will be by building/service out

**STATION S&T HUT**

1. Main earth bar bonded to BEC.
2. Equipment enclosure bonded to main earth bar
3. Cable screen bonded to earth bar at cable entry point
4. Enclosure earth bar bonded to main earth bar, (PE connection of power supply)

**STATION TECHNICAL ROOMS**




**AUTO TRANSFORMER STATION**

(Applicable along the Length of the Alignment)

**LONG METALLIC BRIDGE**

(In Fig. Long Metallic Bridge is not shown on actual location
It will be located below the track.) (Refer relevant drawing for details.)

**LONG METALLIC OBJECT**

Long metallic object (fencing / structure / pipes etc.) along Alignment)

**JUNCTION BOX BONDING OF CABLE SCREEN**

1. Enclosure box bonded to BEC
2. Enclosure earth bar bonded to enclosure and to BEC
3. Allcable screens bonded to the earth bar

LEGEND

| SYMBOL | DISCRIPTION |
|---|---|
| | MESHED EARTH GRID |
| | BEC<br>AEW |
| | LIGHTNING ARRESTOR |
| | BURIED RAIL |
| | CONCRETE BRIDGE / VIADUCT |
| | RUNNING RAIL |
| | LONG METALLIC ( BRIDGE , STRUCTURE) |
| | BONDING CABLE |
| | ELECTRODE EARTH |
| | CABLE TO S&T HUT |
| | EARTH BAR |

**Reference Document:Earthing & Bonding**

1. Employer's Requirement - Particular Specification Vol.2 & 3
2. EN-50122
3. IS-3043
4. IEEE- 80:2000
5. Indian Railway Manual of A.C. Traction (ACTM)

**Notes:**

1. Cross Intertrack Bond Connecting Track Rail AEW & BEC shall be as per design as approved by the Engineer.
2. Rail Bond Connection to rail through flexible cable/wire to be done by cadweld.
3. 'E' represents location of Earth Electrode.
4. The names written does not represent the exact location of that equipment.
5. All dimensions / [illegible]

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD.**

GENERAL CONSULTANT

AECOM Asia Co. Ltd.
9TH FLOOR, INFINITY TOWER C DLF CYBER CIT'
DLF PHASE II GURGAON 122002, INDIA

EASTERN CORRIDOR

PROJECT: MUGHAL SARAI TO NEW BHAUPUR FROM CH: 119550 TO CH: 507693

STRUCTURE: CONTRACT PACKAGE - 204

TITLE: (INDICATIVE) CONCEPTUAL INTEGRATED EARTHING AND BONDING DRAWING

| SCALE | DATE | DRAWN BY | CHECKED BY | APPROVED BY | DRG. NO. | RE' |
|---|---|---|---|---|---|---|
| NTS | 08-04-2015 | K.R. | A.D. | S.S. | GC/DFCC/OHE/E&B/CONCEPT/TYP-602 | |