

# Technical Bulletin

## TB 233 - OPGW clearance to metallic fittings on timber poles

### Purpose

To amend the requirements for installing OPGW on timber poles.

### Background

There have been a number of instances where the OPGW installed down a timber pole to a fibre splice enclosure had inadequate clearance to metallic fittings (such as pole bands and stay wires) and was subsequently damaged from a suspected lightning strike flashing over.

### Actions

Where OPGW is constructed down a timber pole, the OPGW flat metal brackets shall be positioned to provide a minimum 70mm clearance between the OPGW and metallic fittings. In some cases, the flat metal brackets may need to be bent away from the pole to achieve the required clearance.

The OPGW must also be earthed at least at the following locations during construction to help manage lightning risks;

- At poles with fibre splice enclosures installed
- At the first and last pole

### Implementation

The following drawings have been updated to include the above requirements and are to be used for all new and retrofit constructions.

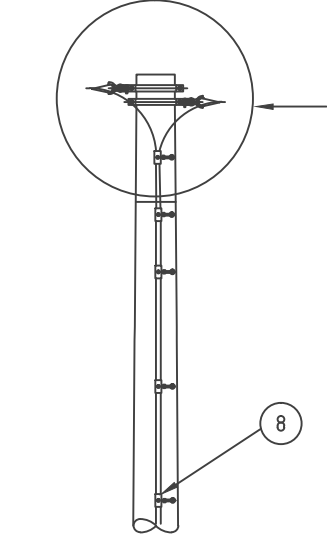
- Drawing 298166 D – Overhead transmission OPGW assembly type 3 through strain with splice
- Drawing 298128 E – Overhead transmission OPGW assembly type 4 termination

### Impacted Standards

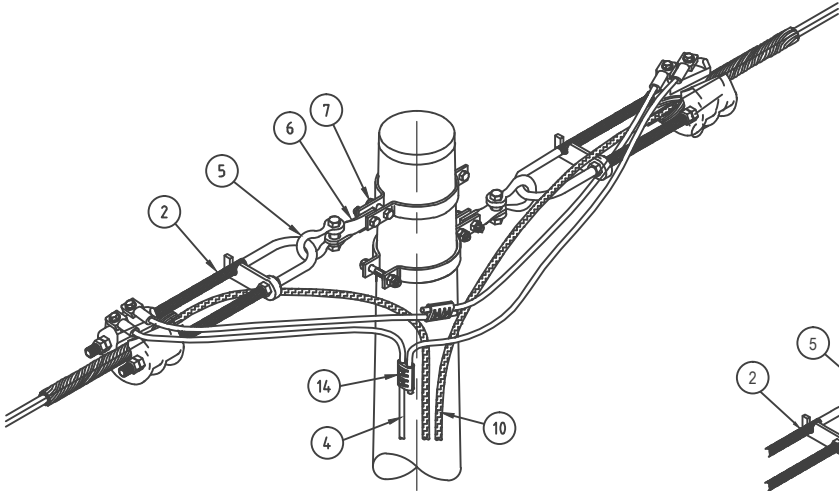
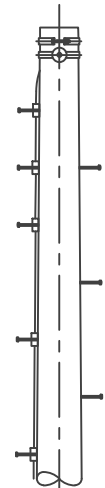
The contents of this technical bulletin will be included in the next update of MDI 0047– Overhead transmission mains design.



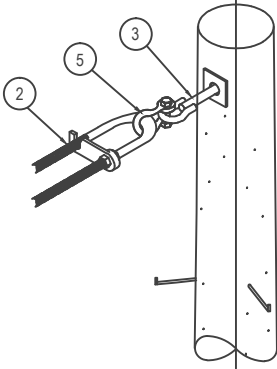
|                                                                 |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |
|-----------------------------------------------------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|------|---------|----------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------|-----|
| 1                                                               |                | 2        |                                                                                                                                                                                                                                                                                                                                                                                                                    | 3 |  | 4    |         | 5                          |                            | 6                                                                                                                        |     |
| AMENDMENTS                                                      |                | NOTES    |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  | ITEM | PART No | DRG No                     | DESCRIPTION                |                                                                                                                          | QTY |
| A                                                               | ORIGINAL ISSUE |          | 1. MINIMUM BENDING RADIUS OF OPTICAL GROUND WIRE (OPGW) CABLE (ITEM 10) IS 500mm. ALSO NOTE THAT OPGW HAS A LEFT HAND WRAP.                                                                                                                                                                                                                                                                                        |   |  |      | 1       | -                          | -                          | POLE AS PER PROJECT DRAWING                                                                                              | 1   |
|                                                                 | Job No.        | NA       |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 2       | 1551845                    | -                          | OPGW DEADEND (18.01 – 18.5mm)                                                                                            | 2   |
| B                                                               | DR'N           | UJH      | 2. INSTALL THE CLAMP ON NON CLIMBING SIDE OF STEP BOLTS. FOR TIMBER POLES, THE FLAT BRACKET MAY BE BENT AWAY FROM THE POLE TO PROVIDE AT LEAST 70mm CLEARANCE BETWEEN THE OPGW AND ANY METALLIC FIXTURES (SUCH AS POLE BANDS OR STAY WIRES). IF CLEARANCES ARE STILL INSUFFICIENT, THE OPGW FLAT BRACKET MAY BE INSTALLED IN ALTERNATE POSITION ON THE POLE SURFACE USING AN M16 COACH SCREW (STOCKCODE – SC14452) |   |  |      | 3       | ACP005<br>ASP005<br>ATP006 | 240600<br>398036<br>054798 | M20 EYEBOLT ASSEMBLY FOR CONCRETE POLES<br>M20 EYEBOLT ASSEMBLY FOR STEEL POLES<br>M20 EYEBOLT ASSEMBLY FOR TIMBER POLES | 2   |
|                                                                 | CH'D           | R.L.     |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |
|                                                                 | DATE           | 05.11.12 |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |
|                                                                 | JOB No         | PR090    |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |
| DSM                                                             | G. SCHAFER     |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 4       | -                          | 51125<br>048346            | EARTH CONNECTION CONCRETE/STEEL OR<br>EARTH CONNECTION TIMBER POLE                                                       | 1   |
| STORAGE BRACKET ADDED                                           |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 5       | 1032859                    | 54796                      | SHACKLE BOW TYPE 16mm 70kN                                                                                               | 2   |
| C                                                               | DESIGN         | N/A      |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 6       | SS13109                    | 15320                      | STRAP RIGHT ANGLE TWISTED                                                                                                | 2   |
|                                                                 | DR'N           | K.T.     |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 7       |                            | 15354                      | POLE BAND TWO PIECE DIA TO SUIT                                                                                          | 2   |
|                                                                 | CH'D           | JB/RL    |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 8       | 1551878                    | -                          | OPGW DOWNLEAD POLE MOUNT (16.7-19.1mm)                                                                                   | A/R |
|                                                                 | DATE           | 31.10.14 |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 9       | 1551894                    | -                          | FIBRE OPTIC SPLICE ENCLOSURE BANDIT ATTACHMENT                                                                           | 1   |
| TMDM                                                            | S.F.Williams   |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 10      | 1561166                    | -                          | OPGW CABLE                                                                                                               | A/R |
| NMM                                                             | D.Mate         |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 11      | 1560853                    | -                          | STORAGE BRACKET                                                                                                          | 1   |
| AMENDED TO SUIT CONCRETE/STEEL OR TIMBER POLE. DAMPERS DELETED. |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 12      | 1561802                    | 370399                     | POLE STEP 16mm FOR CONCRETE/STEEL POLE                                                                                   | A/R |
|                                                                 |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         | 1018929                    | -                          | SCREW-IN POLE STEP 16mm FOR TIMBER POLE                                                                                  | A/R |
|                                                                 |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         | SC14452                    | -                          | M16 COACH SCREW                                                                                                          | A/R |
| D                                                               | DR'N           | D.C.S.   |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 13      | SB16973                    | -                          | BAND-IT SPRING 19mm STAINLESS STEEL                                                                                      | A/R |
|                                                                 | CH'D           | S.M.     |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      | 14      | 1134220                    | -                          | PG CLAMP 2 BOLT (7.5 – 19mm)                                                                                             | 1   |
|                                                                 | DATE           | 15.02.17 |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |
|                                                                 | JOB No         | NA       |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |
| M.A.M.                                                          | D. MATE        |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |
| NOTE 2 WAS MODIFIED. MODIFIED ITEM 12.                          |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                    |   |  |      |         |                            |                            |                                                                                                                          |     |



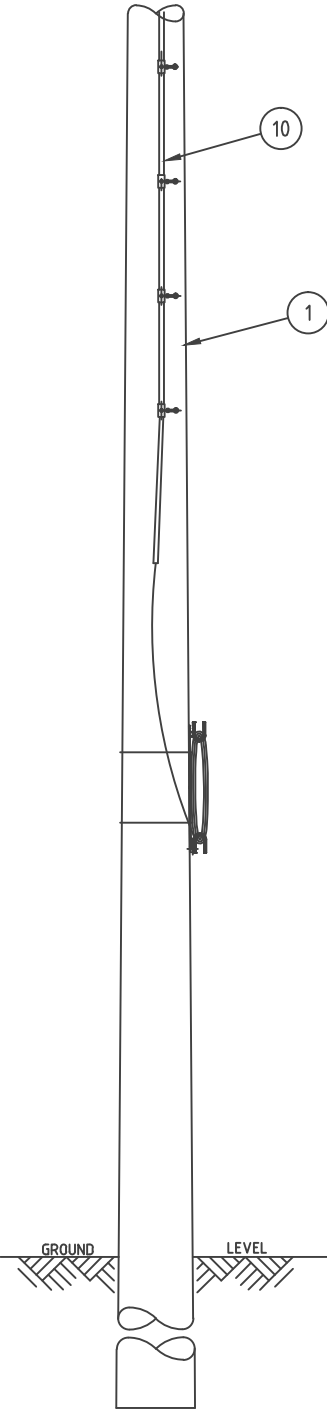
REFER DETAIL "X"



DETAIL "X"



ALTERNATIVE ARRANGEMENT FOR EYEBOLT.



10

1

REFER NOTE 1

13

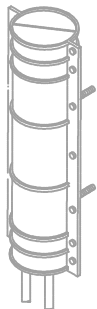
9

11

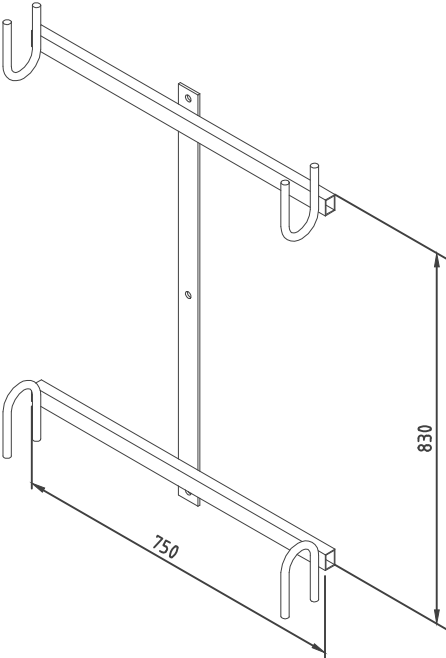
(3000) MINIMUM



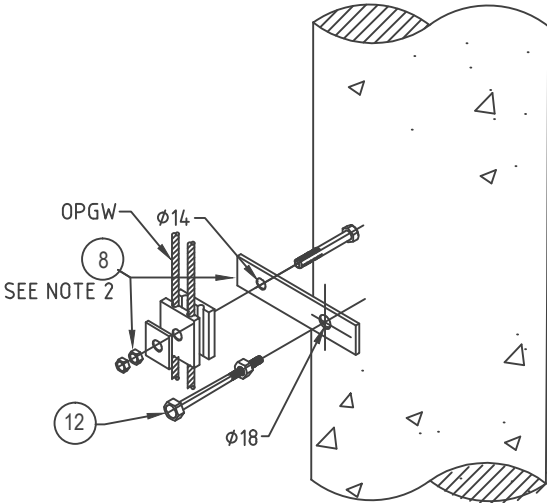
POLE STEP FACE



ITEM 9 DETAIL



ITEM 11 DETAIL



ITEM 8 DETAIL

|                          |  |                                              |  |                                   |  |
|--------------------------|--|----------------------------------------------|--|-----------------------------------|--|
|                          |  | DO NOT SCALE<br>DIMENSIONS<br>IN MILLIMETRES |  | REFERENCE DRAWINGS                |  |
| ORIGINAL<br>SCALE<br>NTS |  | APPROVED<br>K.Oliver                         |  | AUTHORISED<br>D.Asvestas          |  |
| DRAWN<br>P.JB            |  | DATE<br>01.08.05                             |  | MGR TRANSMISSION CAPITAL PROJECTS |  |
| CH'D<br>R.Lewis          |  | DATE<br>01.08.05                             |  | 19.08.05                          |  |
|                          |  |                                              |  | Rev.<br>D                         |  |
|                          |  |                                              |  | A2P                               |  |
|                          |  |                                              |  | 298166                            |  |
|                          |  |                                              |  | SHEET No 1 OF 1 SHEETS            |  |