

PROJECT

**Carrowmagowan
 Wind Farm 110kV
 Grid Connection**

CLIENT

FuturaEnergy
Ireland

CONSULTANTS

MWP

NOTES: -

LEGEND: -

- 160mm Ø HDPE POWER DUCT WITH 12mm DIAMETER PULL ROPE
- 125mm Ø HDPE COMMUNICATION DUCT WITH 12mm DIAMETER PULL ROPE
- 63mm Ø HDPE EARTH CONTINUITY CONDUCTOR WITH 12mm DIAMETER PULL ROPE
- RED MARKER STRIP OR STEEL PLATES
- YELLOW MARKER WARNING TAPE
- 6mm GALVANISED STEEL PLATE
- EXISTING SERVICE TAPE

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P4	01.06.23	Issued for Planning
P3	02.12.22	Issued for Planning
P2	19.05.20	Issued for Planning
P1	29.11.19	Issued for Planning

PROJECT NUMBER

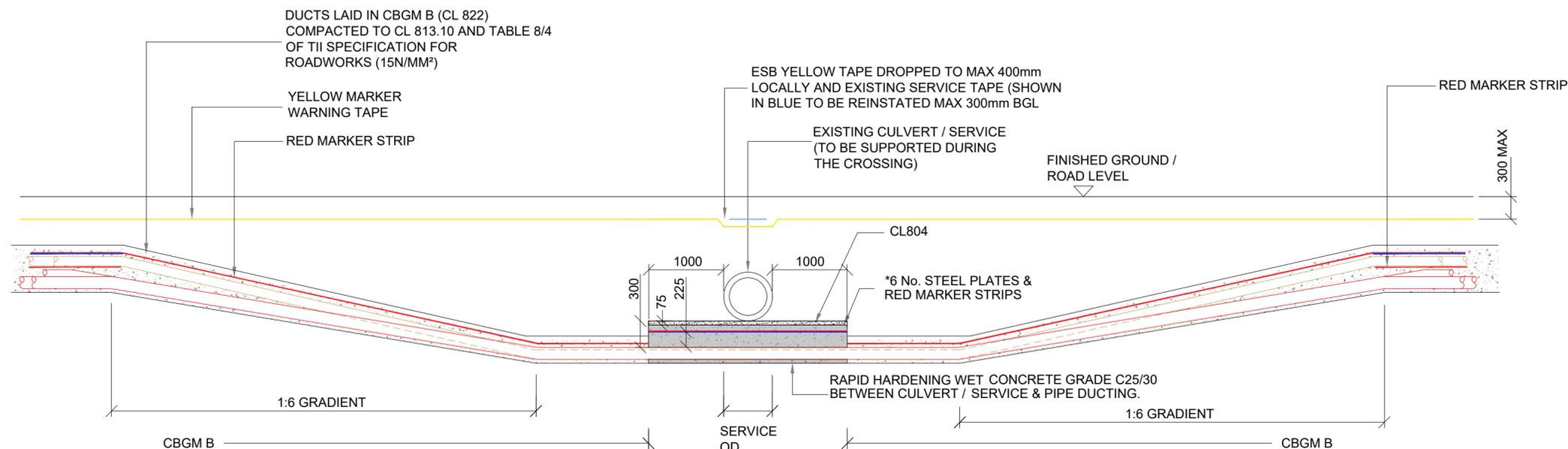
05-641

SHEET TITLE

Trench Sections For Undercrossing
 Existing Culverts / Services

SHEET NUMBER

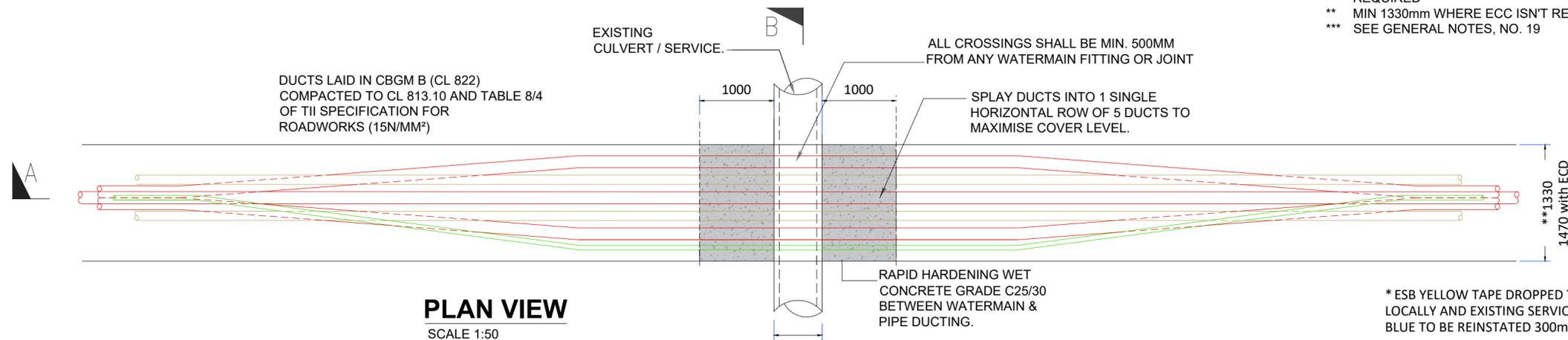
05641-DR-224



SECTION A-A

SCALE 1:50

- * 5X200mm STEEL PLATE & RED MARKER WHERE ECC ISN'T REQUIRED
- ** MIN 1330mm WHERE ECC ISN'T REQUIRED
- *** SEE GENERAL NOTES, NO. 19



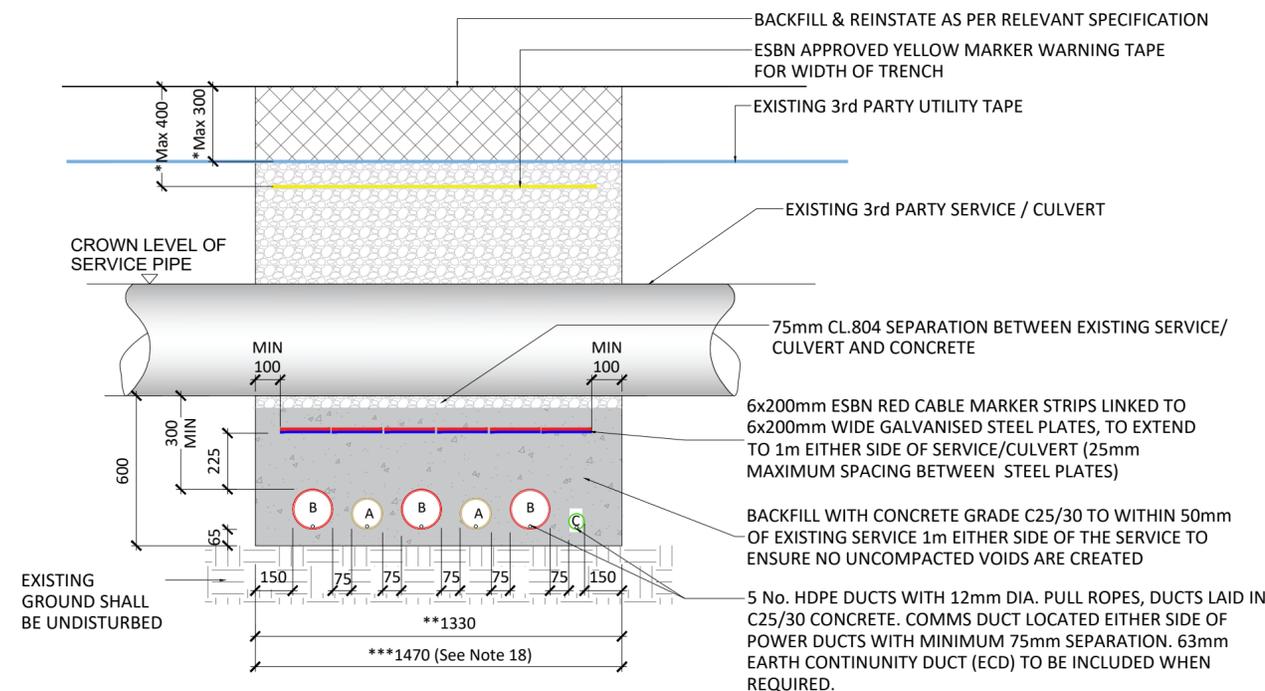
PLAN VIEW

SCALE 1:50

SERVICE UNDERCROSSING

GENERAL NOTES

1. This drawing is subject to ESB design approval and is not to be used for construction.
2. This drawing is to be read in conjunction with all other relevant documentation.
3. Do not scale from this drawing use only printed dimensions
4. All dimensions are in millimetres, all chainages, levels and co-ordinates are in metres unless defined otherwise.
5. No excavation shall commence until the Contractor has consulted up to date services drawings and carried out an Electromagnetic Locator (EML) Scan.
6. Hand dig only within 500mm of existing services.
7. If compacting CBGM B could cause damage to the culvert / service below, use rapid hardening cement grade C25/30 following engineers prior approval.
8. For standard trench cross section drawings and minimum horizontal separation to existing services, see 05641-DR-222 (TREFOIL) and 05641-DR-228 (FLAT).
9. Where depths exceed 2500mm to the top of duct the Contractor shall consult the cable system design engineer for phase spacing requirements.
10. Backfill as per guidelines for the opening, backfilling and reinstatement of openings in public roads (2015).
11. **ESB's preference is to cross under existing services where possible.**
12. Backfill as per guidelines for the opening, backfilling and reinstatement of openings in public roads (2015)
13. The Contractor is responsible for the design and construction of all temporary works. The Contractor shall appoint a temporary works designer, and submit temporary works design to PSDP for review.
14. 225mm minimum concrete over ducts where they transition from standard cross section and where they are at less than standard cover to ground level.
15. Replace existing service marker tape over ESB yellow marker tape.
16. The owner of the existing utility being crossed must be consulted in advance of works commencing as per their guidelines.
17. The Contractor shall record detailed as-built information as per the specification. At all crossing locations these records shall include photographic evidence clearly demonstrating that minimum service clearances and duct separations have been achieved.
18. Where duct for Earth Continuity Conductor (ECC) is required for single point bonded sections, attach the 63mm ECC duct to the A duct and update the trench width accordingly.



SECTION B-B

SCALE: 1:20

- A = 125mm OUTER DIAMETER HDPE ESB APPROVED COMMS DUCT, SDR=17.6
- B = 160mm OUTER DIAMETER HDPE ESB APPROVED POWER DUCT, SDR=21
- C = 63mm OUTER DIAMETER HDPE FOR EARTH CONTINUITY CONDUCTOR