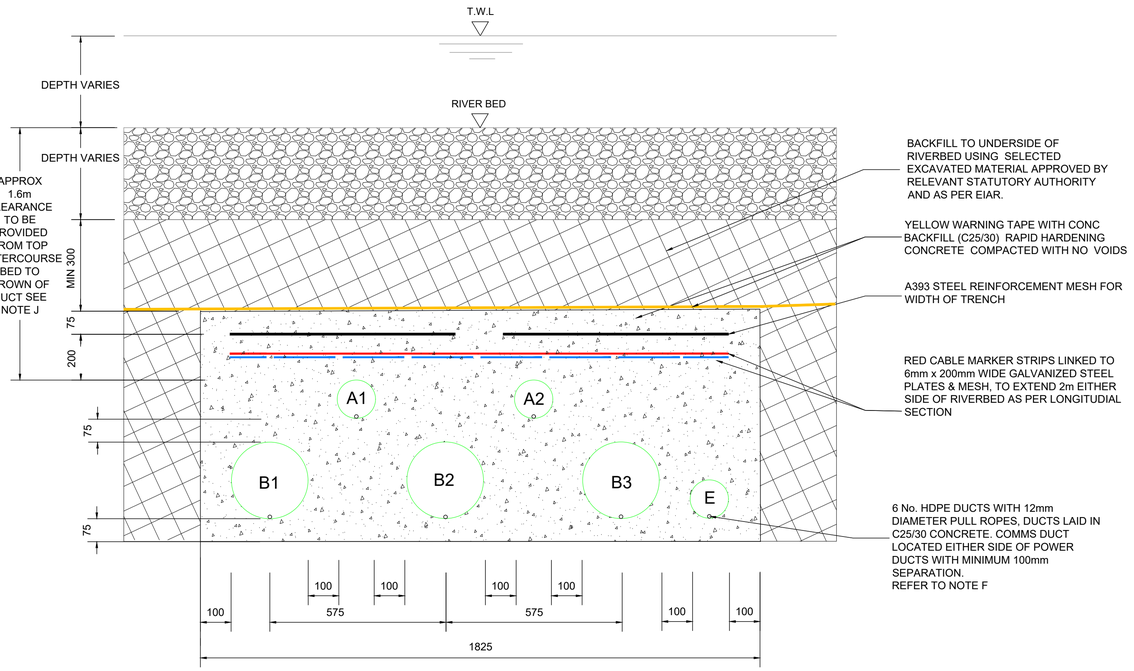


SECTION A-A
TYPICAL CROSS SECTION INDICATING TRENCH FOR 220KV SINGLE CIRCUIT IN FLAT FORMATION WATERCOURSE (RIVERS, STREAMS AND OPEN DITCHES) CROSSING

SCALE 1:10

KEY

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- A393 STEEL REINFORCEMENT MESH
- 6mm GALVANISED STEEL PLATE
- RAPID HARDENING WET CONCRETE C25/30
- BACKFILL COMPACTED (CL. 804 OR ACCEPTABLE MATERIAL)
- EXISTING GROUND
- REINSTATED RIVERBED
- CBGM B (CL. 822). COMPACTED TO CL 813.10

GENERAL NOTES: -

:

A. ALL PRODUCTS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
B. 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES (600mm MIN CLEARANCE), WATER MAINS, CULVERTS etc.) IN THE CASE OF HIGH RISK 3RD PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT 3RD PARTY SERVICE OWNERS FOR GUIDANCE.
C. STEEL PLATES MUST COVER DUCTS. NO OVERLAP IS REQUIRED HOWEVER STANDARD DIMENSIONS MAY RESULT IN AN OVERLAP. SPACING OF 10mm TO BE MAINTAINED BETWEEN STEEL PLATES TO PREVENT THE TRANSFER OF STRAY CURRENT.
D. THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS 100mm, BUT INCREASED SPACING MAY BE REQUIRED IN ORDER TO ACHIEVE THE CABLE RATING (TO BE CONFIRMED BY ELECTRICAL DESIGNER CABLE RATING CALCULATIONS).
E. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF RELEVANT INFRASTRUCTURE.
F. TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 100mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
G. MINIMUM SPACING BETWEEN POWER DUCTS TO BE CONFIRMED WITH RATING CALCULATION.
H. MINIMUM CLEARANCE BETWEEN CABLE TRENCH CONCRETE AND RIVER BED TO BE AGREED WITH RELEVANT AUTHORITY.
I. STANDARD MARKER POSTS TO BE INSTALLED AT EITHER SIDE OF RIVER CROSSING.
J. 1.6m CLEARANCE TO BE PROVIDED FROM WATERCOURSE BED TO CROWN OF DUCT. ALL CROSSINGS TO BE AGREED WITH IFI/EPA AND OTHER RELEVANT LOCAL AUTHORITIES IN ADVANCE OF THE WORKS AND IN ACCORDANCE WITH EIAR.

A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS, SDR=17.6
B= 250mm O.D. HDPE DUCT FOR HV CABLE, SDR=21
E= 125mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR, SDR=17.6

CABLE DUCING NOTES:

ELECTRICAL CABLE DUCT 220KV HV DUCTING AND JOINTS(OR SIMILAR AND APPROVED)

MAIN CABLE DUCT (250MM OD) - SHALL BE 250MM OD - SDR21 HDPE (ESB APPROVED RED) ELECTRIC CABLE DUCT SMOOTH

WALL DUCT IS MANUFACTURED FROM POLYETHYLENE (PE) IN ACCORDANCE WITH BS EN50086-2-4 (BS EN 61386-24:2010) AND

CONFORM TO ESB CONFORM SPEC 16113 AND EIRGRID SPEC FOR POWER DUCTING.

JOINTS - THE MAIN CABLE DUCT TO BE JOINED USING COMPATIBLE AND APPROVED MECHANICAL FITTINGS/PUSH-FIT COUPLERS.

DOUBLE RING-AIRTIGHT SEAL COUPLERS CONNECTION TO EN 1401-1:1998/BS EN 681-1 TYPE WA

DIMENSIONS -O.D. MIN-MAX 250.0-251.0MM,MIN. WALL THICKNESS INCLUDING SKIN 11.9-13.2MM, OVALITY MAX 3.0MM

LENGTHS - -12M OR 6M, 9M, 13.5M AS PER ORDER.

MARKING -PRINTLINE SHALL READ E.G. "DANGER ELECTRICITY CABLES - RADIUS 200MM SDR21 - 200J - DANGER ELECTRICITY

CABLES - ESB SPEC 16113 REV8 - BATCH NUMBER - LINE NUMBER"

TELECOMMUNICATION AND EARTH BOND DUCTING AND JOINTS. (OR SIMILAR AND APPROVED)

MAIN CABLE DUCT (125MM OD) -125MM OD HDPE SMOOTH INNER WALL DUCT TO BSI KITEMARK, BBA APPROVED,

ENA TS 12-24 CERTIFICATION/BS EN 61386-24

JOINTS- DUCTING TO BE JOINED USING COMPATIBLE AND APPROVED MECHANICAL FITTINGS/PUSH-FIT AIRTIGHT

-SEAL COUPLERS COUPLERS AS PER MANUFACTURES DATA.

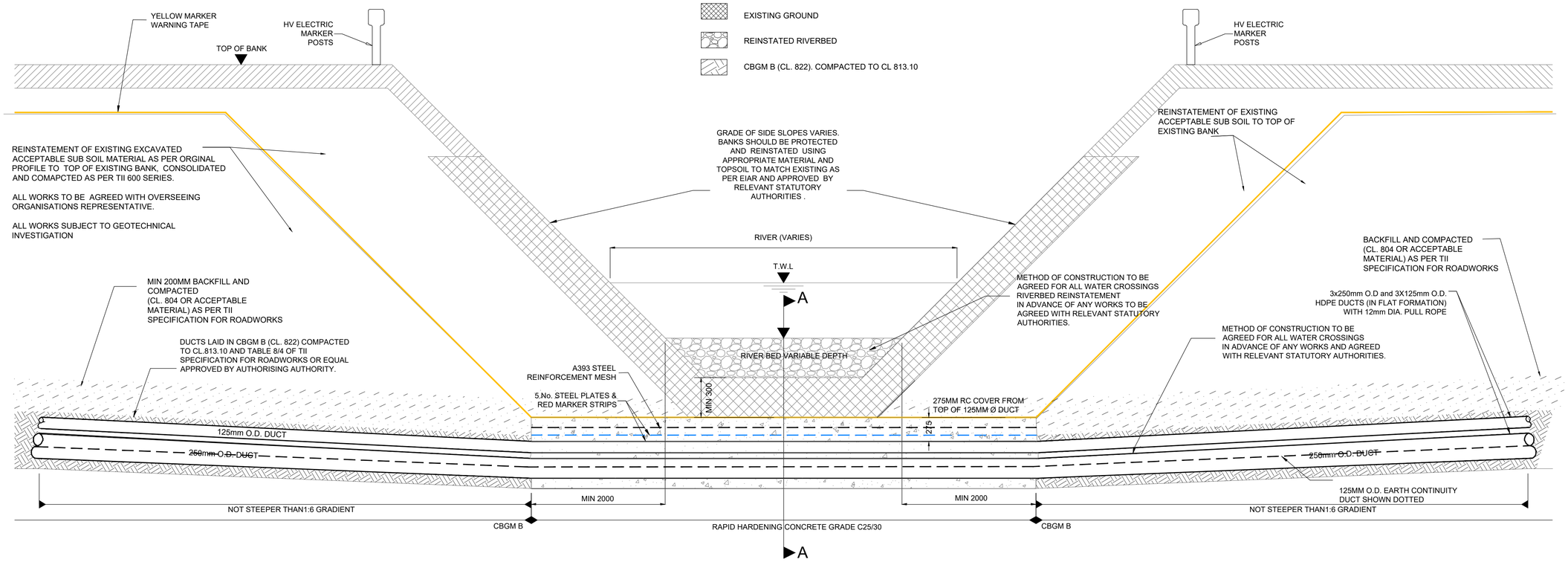
LENGTHS STANDARD PIPE OR COIL LENGTH

MARKING -DUCT MARKING FOR EARTH BOND AND TELECOMMUNICATIONS ELECTRICITY IS PRINTED

"ELECTRIC CABLE". ENATS C2 IS PRINTED IN ACCORDANCE TO ENA TS 12-2

ELECTRICAL INSTALLATION AND TESTING

ALL ELECTRICAL WORKS INCLUDING EARTH BONDING SHALL BE AS PER ELECTRICAL ENGINEER DESIGN



Rev	Date	By	Chkd	Appd
PL1	22.03.21	SB	SO'S	MW

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Design Consultant
AECOM

Project Title
Arklow Bank Wind Park
Phase 2
Onshore Grid Infrastructure

Drawing Title
Typical Riverbed Crossing Details

Scale at A1 Plan NTS, Sections 1:25
Role Civil
Suitability Planning

Arup Job No **271715-00** | Rev **PL1**

Name **ONS-GEN-004**

Do not scale

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