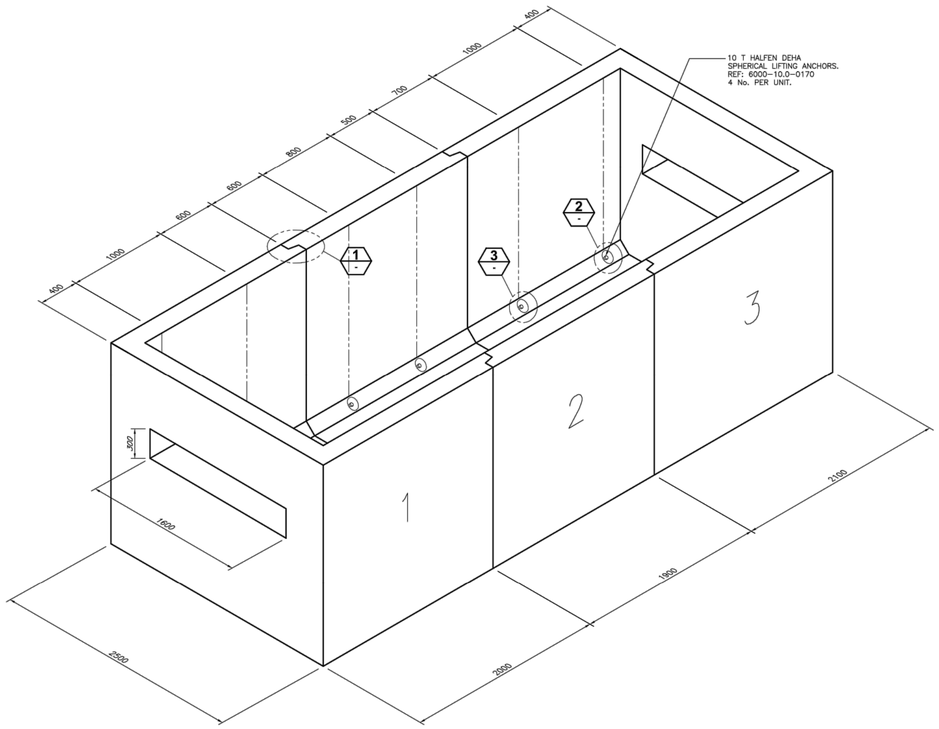
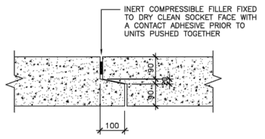
A1

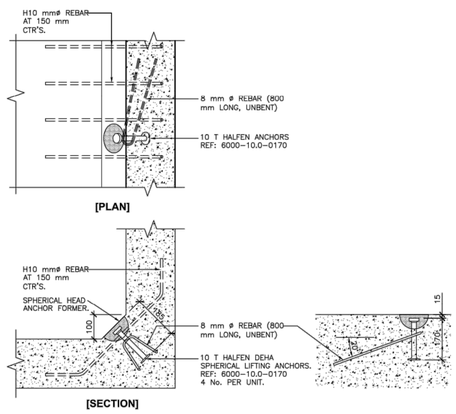



**ISOMETRIC: JOINT BAY ARRANGEMENT**
SCALE 1:25




**DETAIL 1** SCALE 1:10

**[TYPICAL SOCKET & SPIGOT DETAIL IN WALL & FLOOR]**




**DETAIL 2** SCALE 1:10

**[LIFTING EYE DETAIL]**
**[DETAIL 3 HANDED]**

GENERAL NOTES:

1. ALL PRECAST CONCRETE ELEMENTS TO BE MANUFACTURED TO B.S.EN 13369:2004 "COMMON RULES FOR PRECAST CONCRETE PRODUCTS".

2. LIFTING INSERTS TO BE DESIGNED & INSTALLED TO PD CEN/TR 15728:2008 "DESIGN AND USE OF INSERTS FOR LIFTING AND HANDLING OF PRECAST CONCRETE ELEMENTS".

3 SPECIFIED LIFTING INSERTS HAVE A S.W.L. OF 10 TONNE.

4. LOCATION & SPECIFICATION OF LIFTING INSERTS ARE ASSUMED TO FACILITATE DEMOULDING AND HANDLING IN PRECAST MANUFACTURING FACTORY. IT IS THE RESPONSIBILITY OF THE PRECAST MANUFACTURER TO NOTIFY THE ESBI ENGINEER IF THESE ARE UNSUITABLE FOR HIS MANUFACTURING METHODOLOGY. ESBI ENGINEER TO BE INFORMED OF ANY ALTERNATIVE LIFTING LOCATIONS FOR FACTORY HANDLING & DEMOULDING.

5. CONCRETE TO HAVE A MINIMUM STRENGTH OF 30 N/mm² PRIOR TO HANDLING OR DEMOULDING.

6. MAIN CONTRACTOR TO ENSURE THAT A METHOD STATEMENT AND RISK ASSESSMENT INCLUDING A LIFTING PLAN, IS PRODUCED FOR INSTALLATION AND ARE AVAILABLE TO ESBI ENGINEER FOR REVIEW IF REQUESTED. LIFTING PLAN TO INCORPORATE REQUIREMENTS OF LIFTING INSERTS AND LIFTING LOOP EYES.

7. A MINIMUM LIFTING SLING ANGLE OF 50° TO THE HORIZONTAL IS REQUIRED.

8. A LIFTING SYSTEM WHICH ENSURES ALL LIFTING POINTS TAKE ON AN EQUAL LOAD IS REQUIRED.

9. HALFEN DEHA SPHERICAL LIFTING ANCHORS TO BE USED AS SPECIFIED. ANY DEVIATION FROM THIS MUST BE NOTIFIED TO ESBI ENGINEER BY PRECAST MANUFACTURER. LIFTING INSERTS TO BE INSTALLED AS PER MANUFACTURER'S GUIDELINES AND IN ACCORDANCE WITH PD CEN/TR 15728:2008.

10. FORMWORK FOR PRECASTING TO BE OF A MINIMUM STANDARD OF VARNISHED WOODEN MOULD WITH PLANED BOARDS.

11. COVER TO REINFORCEMENT TO BE 40mm.

12. CONCRETE TO BE GRADE C30/37 AS SPECIFIED IN TABLE 1.

13. ALL CONCRETE TO BE IN ACCORDANCE WITH I.S. EN 206-1: 2002 WITH THE MIX DESIGNS SHOWN IN TABLE 1.

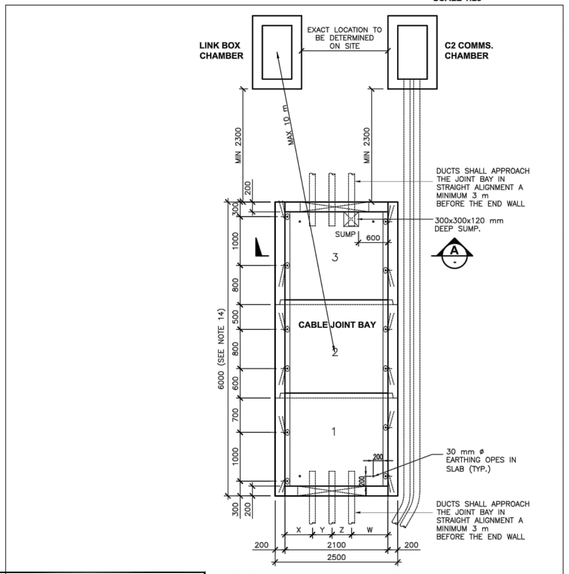
14. FOR 7.9 m JOINT BAY INSERT 1 No. ADDITIONAL PRECAST SECTION 2
FOR 9.8 m JOINT BAY INSERT 2 No. ADDITIONAL PRECAST SECTIONS 2

15. THE DEPTH FROM GROUND/ROAD LEVEL TO THE TOP OF THE CONCRETE WALL SHALL BE:
A) 500 mm – IN CULTIVATED FIELDS AND GRASSED LANDS
B) 300 mm – IN PAVED ROADS AND GRASS VERGES
C) 350 mm – IN PAVED ROADS IN DUBLIN CITY COUNCIL ROADS AND GRASS VERGES

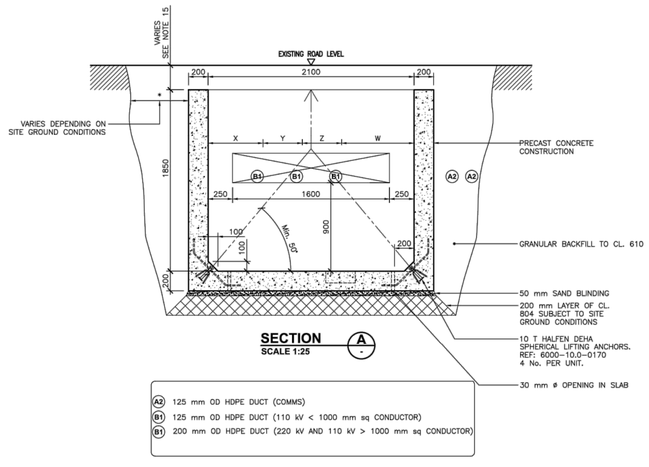
16. LINK BOX CHAMBER TO BE POSITIONED AT THE EDGE OF OR OFF ROAD.

**REFERENCE DRAWINGS**

**SECTION No. 1 : PE424-D7001-003-003-003**
**SECTION No. 2 : PE424-D7001-003-004-003**
**SECTION No. 3 : PE424-D7001-003-005-003**




**TYPICAL PLAN OF JOINT BAY**
SCALE 1:50




**SECTION A** SCALE 1:25

A2 125 mm OD HDPE DUCT (COMMS)
B1 125 mm OD HDPE DUCT (110 kV < 1000 mm sq CONDUCTOR)
B1 200 mm OD HDPE DUCT (220 kV AND 110 kV > 1000 mm sq CONDUCTOR)

**TABLE 1**

| CONCRETE SPECIFICATION TO I.S. EN 206-1 | | | | |
|---|---|---|---|---|
| | BLINDING & MASS CONCRETE, DRAINAGE PIPE & MANHOLE SURROUNDS | FOUNDATIONS & WALLS | INTERNAL SLABS | EXTERNAL SLABS |
| EXPOSURE CLASS | X0 | XC2 | XC1 | XC4 |
| MIN. CEMENT CONTENT (kg/m³) | 240 | 300 | 300 | 320 |
| MAX. WATER/CEMENT RATIO | - | 0.60 | 0.60 | 0.55 |
| CEMENT TYPE TO I.S. EN 197-1 | CEM 1 N | CEM 1 N | CEM 1 N | CEM 1 N |
| CHLORIDE CONTENT CLASS | Cl. 1,0 | Cl. 0,40 | Cl. 0,40 | Cl 0,40 |
| MAX. AGGREGATE (mm) | 10 | 20 | 20 | 20 |
| MIN. COVER (CMin) (mm) | - | 40 | 30 | 40 |
| *COMPRESSIVE STRENGTH CLASS | C16/20 | C30/37 | C28/35 | C30/37 |

NOTES: 1. *C16/20 to be read as follows: 16 - Refers to min. characteristic cylinder strength (N/mm²).
20 - Refers to min. characteristic cube strength (N/mm²).
2. Design working life to be 50 years minimum.

**TABLE 2- DUCT SEPARATION**

| | X | Y | Z | W |
|---|---|---|---|---|
| 110 kV | 560 | 400 | 400 | 760 |
| 220 kV | 375 | 675 | 675 | 375 |

| REV. | DATE | REVISION DESCRIPTION | DRN | PROC | VER | APP |
|---|---|---|---|---|---|---|
| 9 | | POSITION OF END WALL OPENING REVISED | | | | |
| 8 | 02/17 | OPENING SIZE AT END WALLS REVISED & TABLE 2 ADDED | RD | RD | MA | RD |
| 7 | 10/16 | END WALLS RAISED, NEW OPENINGS & NOTE 15 & 16 ADDED | RD | RD | TS | RD |
| 6 | 11/15 | DIMENSIONS BETWEEN DUCTS IN JOINT BAY ADDED | RD | RD | MA | TS |
| 5 | 10/15 | LINK BOX ADDED AND C2 COMMS.CHAMBER REPOSITIONED | RD | RD | MA | RD |
| 4 | 28.07 | NOTE 14 | POL | RS | TS | MA |
| 3 | 01.12 | ANCHOR DETAILS & DIMS REVISED. | CJ | RS | TS | MA |

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED
TENDER ☐ CLIENT APPROVAL ☐ CONSTRUCTION ☐ AS-BUILT ☐ REVISED ☐

Client: ESB NETWORKS

Project: HV Cables Standards

Contract: CABLES SERVICES TO ESB

Drawing Title: PRECAST JOINT BAY 110 kV & 220 kV GENERAL ARRANGEMENT AND DETAILS

Production Unit: Civil, Building & Environmental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**Registered Office:** as above **Registered in Ireland No.** 155249


| DRAWN | PRODUCED | VERIFIED | APPROVED | APPD DATE |
|---|---|---|---|---|
| R.Doyle | R.Doyle | M.Arnet | R.Donaghy | 09/02/2017 |

| CLIENT REF | No. of Shts | SIZE | SCALE |
|---|---|---|---|
| TC200024 | 6 | A1 | As Shown |

DRAWING NUMBER (SHEET, REV): PE424-D7001-003-002-009

P02 | ISSUE FOR PLANNING | PH | CD | 01-02-2019
Revision | Description | Drw'n | Ch'd | Date


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Client: ADSIL

Project: Darndale to Belcamp Grid Connection

Dwg. Title: Typical Precast Joint Bay 110kV and 220kV General Arrangement and Details

Drawn By: LT | Date: 29/05/2018

Checked by: CD | Scale: NTS @ A1

| Project Code | Originator | Zone/ Phase | Level | Type | Role | Dwg. No. |
|---|---|---|---|---|---|---|
| 17181 | - CSE - | 00 - | XX - | DR - | C - | 2557 |

S2 ISSUED FOR INFORMATION
Status Code | Suitability Description

P02 PLANNING
Revision | Project Status

17_181
CSEA Job No.