SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

- Black Law Windfarm Extension Substation
- Overhead Line
- Underground Cable
- Linnmill Substation

0 1.25 2.5 km

Figure 4.1

Map Scale @ A3:1:50,000

LUC

FIG04-01_4770-077-r0_PreferedRoute50k_A3L 18/10/2012

SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

- Black Law Windfarm Extension Substation
- Overhead Line
- Wood Pole
- Angle Wood Pole
- Terminal Wood Pole
- Temporary Access Track
- Temporary Working Area
- Temporary Pulling area

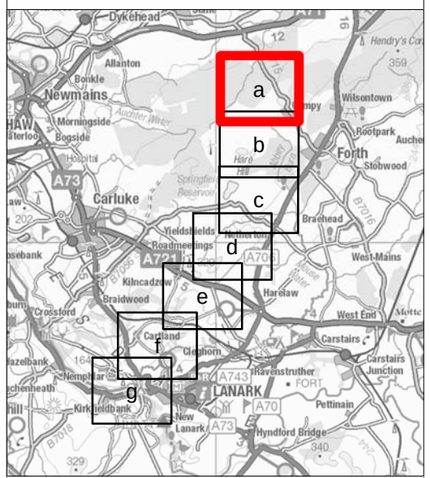


Figure 4.2a

Map Scale @ A3:1:10,000

LUC

SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

- Overhead Line
- Wood Pole
- Angle Wood Pole
- Temporary Access Track
- Temporary Working Area
- Temporary Pulling area

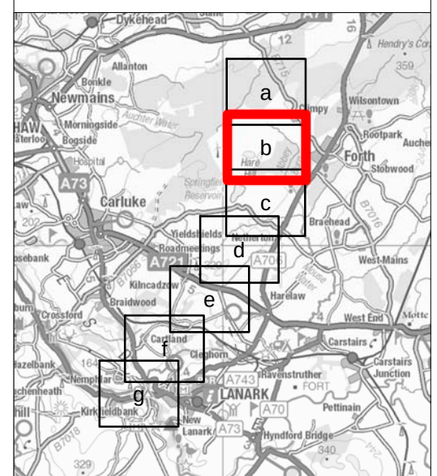


Figure 4.2b

Map Scale @ A3:1:10,000

LUC

SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

- Overhead Line
- Wood Pole
- Angle Wood Pole
- Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

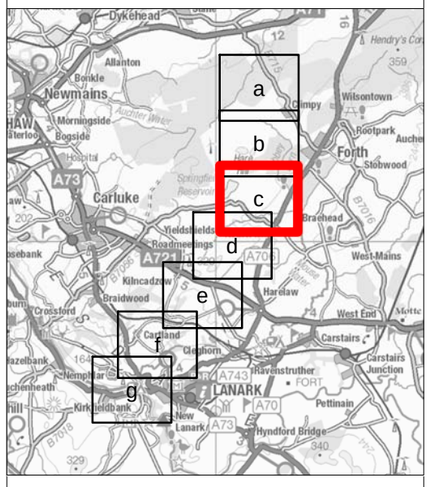


Figure 4.2c

Map Scale @ A3:1:10,000

LUC

SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

- Overhead Line
- Wood Pole
- Angle Wood Pole
- Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

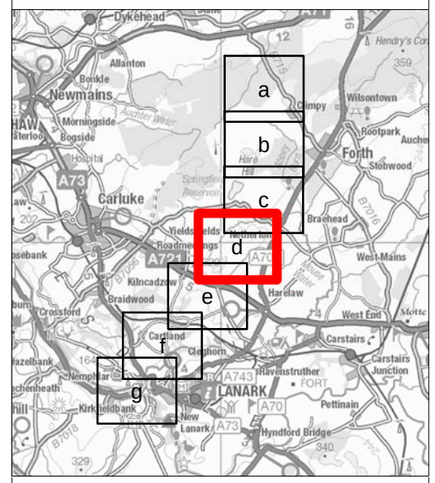


Figure 4.2d

Map Scale @ A3:1:10,000

LUC

FIG04-02_4770-078-r2_PreferedRoute10k_A3L 02/11/2012

SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

- Overhead Line
- Wood Pole
- Angle Wood Pole
- Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

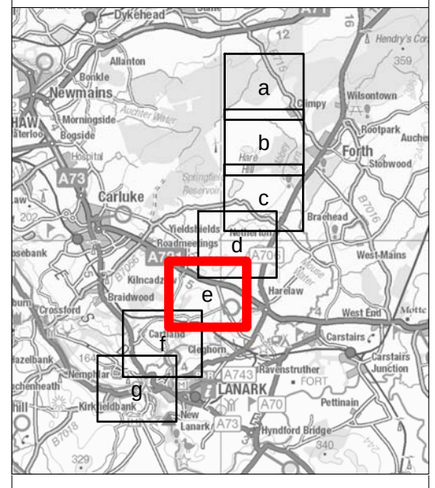


Figure 4.2e

Map Scale @ A3:1:10,000

LUC

SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

- Overhead Line
- Wood Pole
- Angle Wood Pole
- Terminal Wood Pole
- Underground Cable
- Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

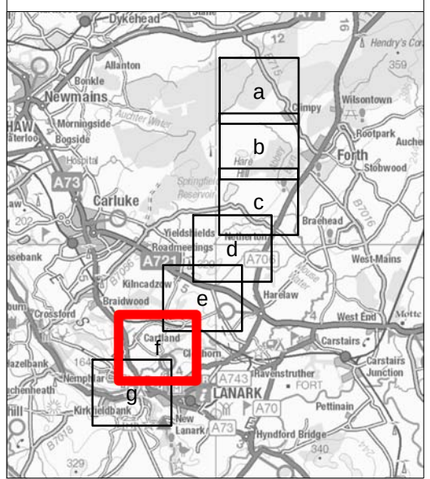


Figure 4.2f

Map Scale @ A3:1:10,000

LUC

SP TRANSMISSION

Black Law Grid Connection

Proposed Grid Connection

Underground Cable

Temporary Access Track

Existing Linnmill Substation

Linnmill Substation Extension

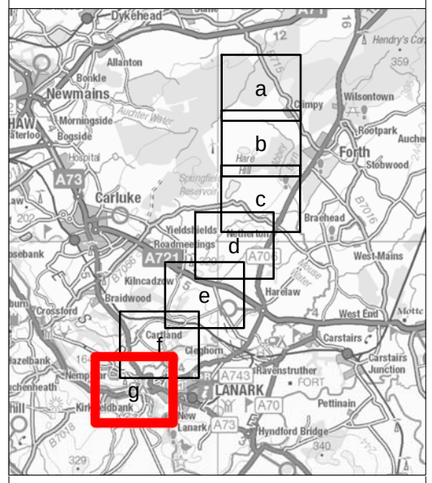
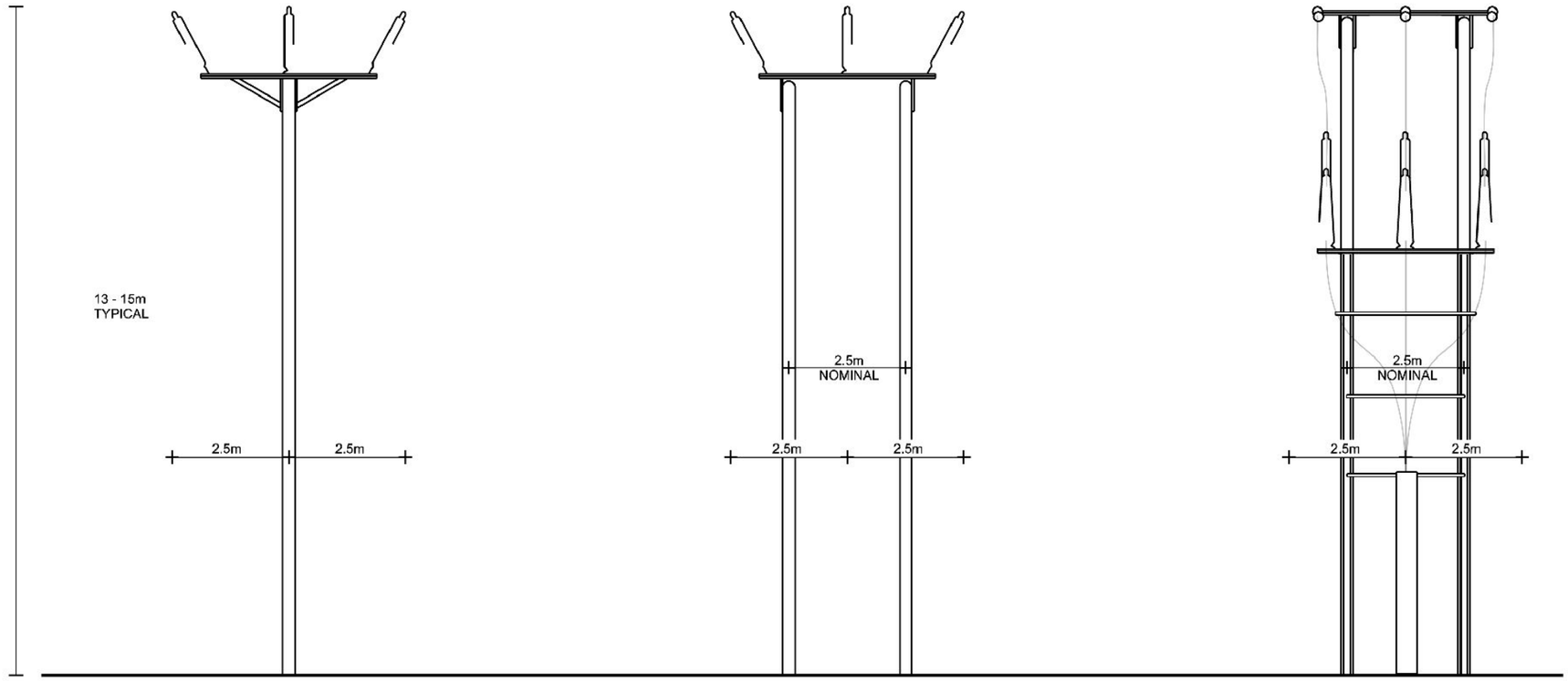


Figure 4.2g

Map Scale @ A3:1:10,000

LUC

FIG04-02_4770-078-r2_PreferedRoute10k_A3L 02/11/2012



LONG SPAN INTERMEDIATE SINGLE POLE
MAX SPAN 200m

LONG SPAN INTERMEDIATE 'H' POLE
MAX SPAN 200m

TERMINAL H-POLE

Trident 43-50 Intermediate Support Pole

Long span intermediate 'H' pole

Terminal 'H' Pole

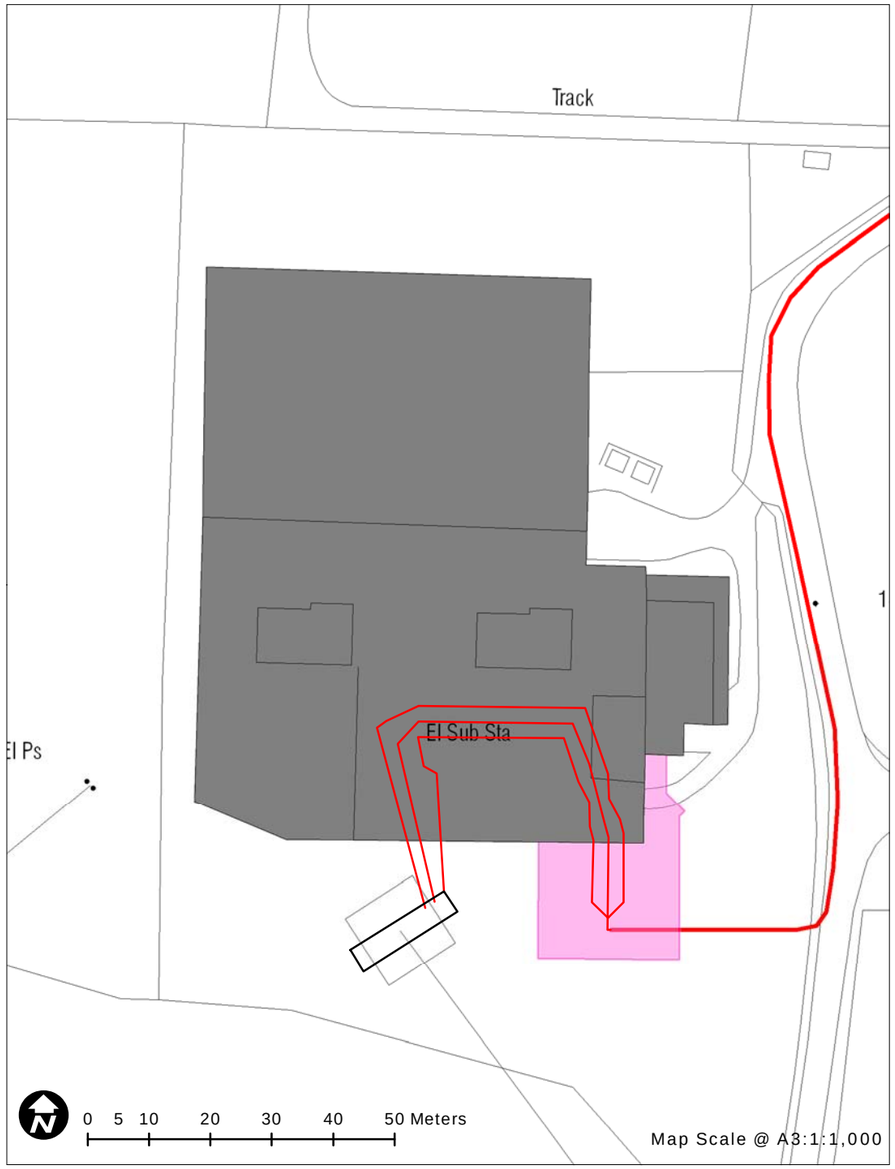
SP TRANSMISSION

Black Law Grid Connection

Wood Pole Design

Figure 4.3

LUC

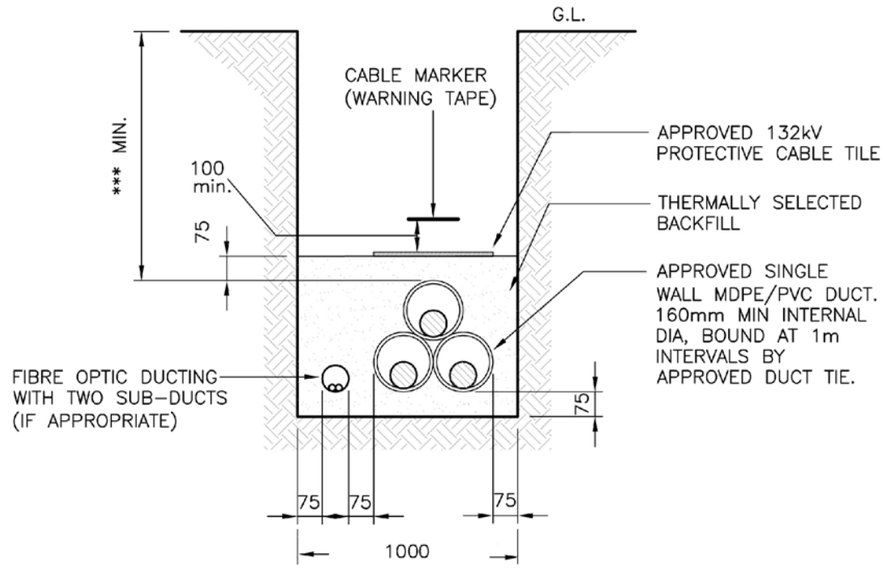


Linnmill Substation Upgrade

ALL DIMENSIONS SHOWN ARE IN MILLIMETRES
AND ARE MINIMUM REQUIREMENTS.

DIMENSION ***

750mm – IN ROADS
900mm – ACROSS GOOD AGRICULTURAL LAND
750mm – ACROSS OPEN COUNTRYSIDE
600mm – FOOTPATHS OR GRASS VERGES



Single Circuit 132kV Undergound Cable Trench

SP TRANSMISSION

Black Law Grid Connection

Arrangement of Cable Trench and Linnmill Grid Substation Upgrade

- Existing Linnmill Substation
- Linnmill Substation Extension
- New Equipment
- Underground Cable

Figure 4.4

LUC

SP TRANSMISSION

Black Law Grid Connection

Indicative Access Points

- Access Points
- New Access Track
- Existing Access Road / Track
- Overhead Line
- Underground Cable

Figure 4.5

Map Scale @ A3:1:55,000

LUC

SP TRANSMISSION

Black Law Grid Connection

Temporary Access Track Types, Watercourse and Road/Rail Crossings.

A: Low Pressure Vehicle Use (no track required)

B: Steel Matting

C: Narrow Burn Crossing

D: Fixed Road/Rail Crossing

Figure 4.6

LUC

Construction of Section Angle Support Pole

Construction for Intermediate Support Pole in Soft/Boggy Ground Conditions

Winch for Stringing Wood Pole

Temporary Working Area

Land reinstatement after construction

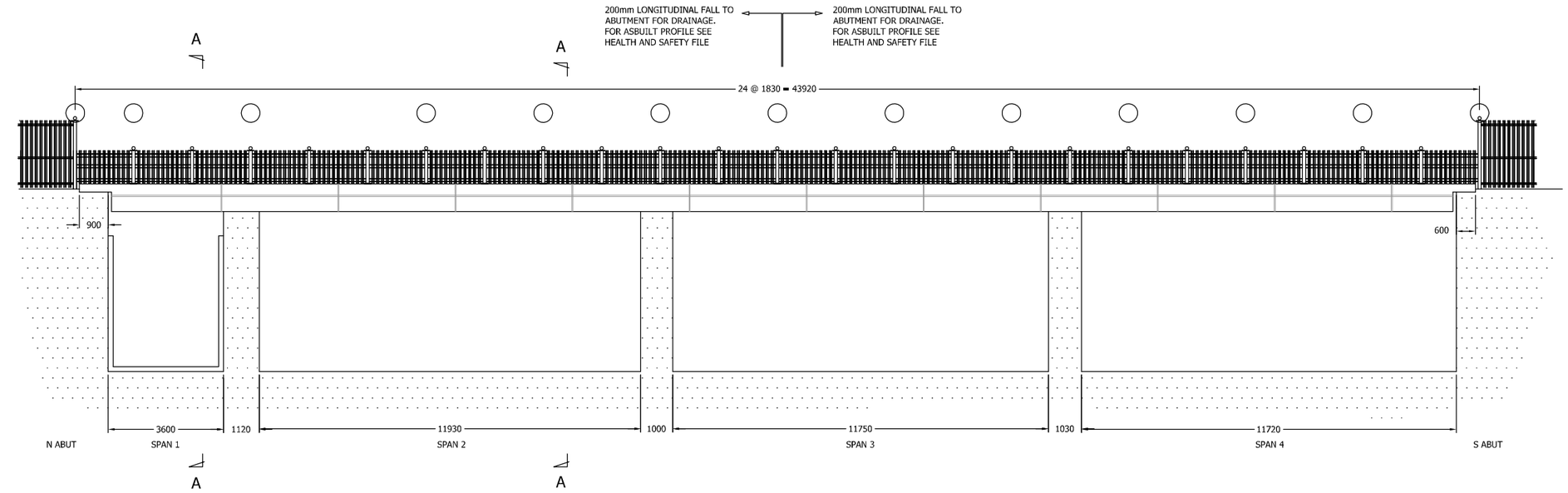
SP TRANSMISSION

Black Law Grid Connection

Construction of
Wood Poles

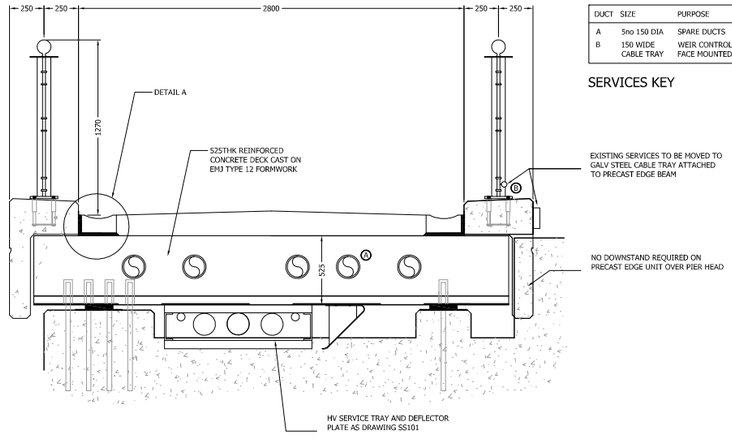
Figure 4.7

LUC



ELEVATION OF NEW STRUCTURE LOOKING UPSTREAM

Stonebyres Weir Purpose Built Ducts



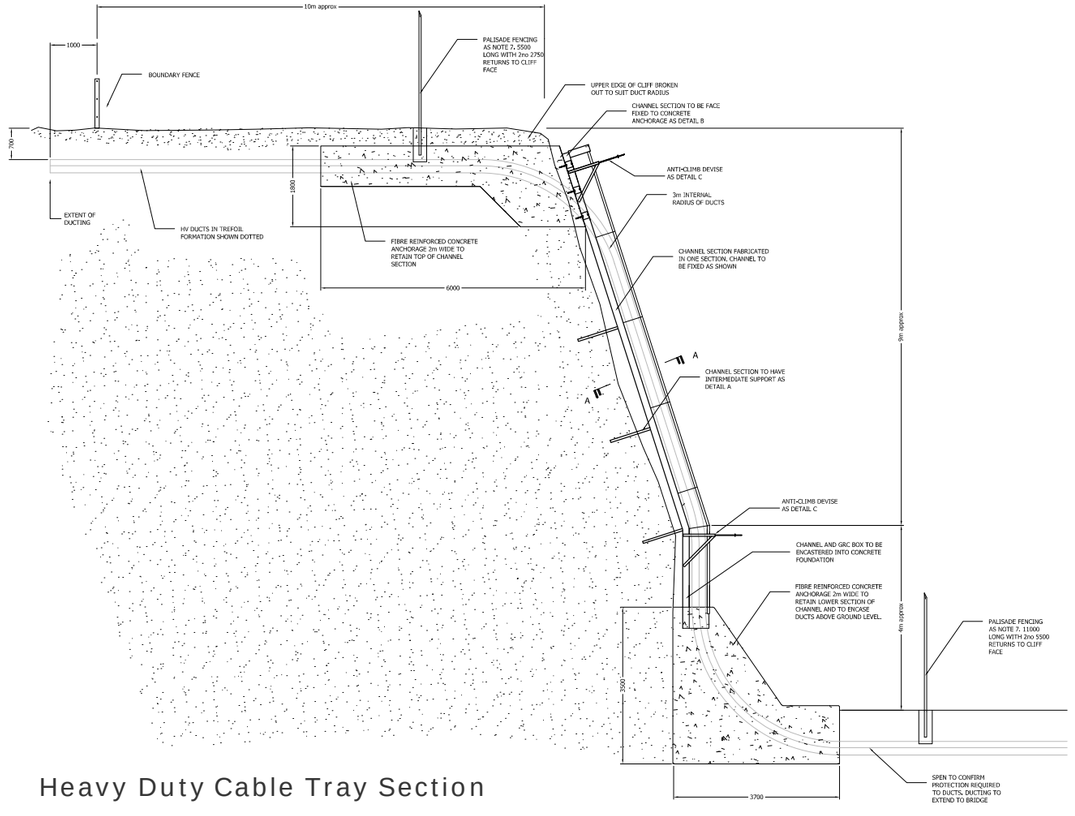
DUCT	SIZE	PURPOSE
A	5no 150 DIA	SPARE DUCTS
B	150 WIDE CABLE TRAY	WEIR CONTROL CABLES FACE MOUNTED ON EDGE BEAM

SERVICES KEY

EXISTING SERVICES TO BE MOVED TO GALV STEEL CABLE TRAY ATTACHED TO PRECAST EDGE BEAM

NO DOWNSTAND REQUIRED ON PRECAST EDGE UNIT OVER PIER HEAD

TYPICAL SECTION A-A: SPANS 1 TO 4



Heavy Duty Cable Tray Section

SP TRANSMISSION

Black Law Grid Connection

Indicative Stonebyres Weir Purpose Built Ducts and Heavy Duty Cable Tray

Figure 4.8

LUC