

- LEGEND**
- DEMOTES PERMEABLE SURFACING TO ROAD
  - DEMOTES GRASSCRETE TO FIRE TENDER ROAD AND CAR PARKING FOR DETAILS REFER TO LANDSCAPE ARCHITECT DRAWINGS AND SPECIFICATIONS
  - DEMOTES GREEN ROOF TO UNIT 2 OFFICE ROOF
  - DEMOTES CONCRETE TO PROPOSED FOOTPATH
  - DEMOTES LANDSCAPING FOR DETAILS REFER TO LANDSCAPE ARCHITECT DRAWINGS AND SPECIFICATIONS
  - DEMOTES EXISTING LANDSCAPING FOR DETAILS REFER TO LANDSCAPE ARCHITECT DRAWINGS AND SPECIFICATIONS

- PROPOSED SUDS DEVICES THROUGHOUT DEVELOPMENT:**
- GREEN ROOF (TO THE ROOF OF THE FRONT OFFICE OF UNIT 2)
  - PERMEABLE PAVING (TO THE ROADS IN FRONT OF THE OFFICE BETWEEN CAR PARKING SPACES)
  - GRASSCRETE PAVING (TO THE CAR PARKING AND TO THE FIRE TENDER ROUTES)
  - SUDS TREE PITS (ALL PROPOSED TREES - REFER TO LANDSCAPE ARCHITECT LAYOUT FOR DETAILS)

**NOTE:**  
PLEASE REFER TO LANDSCAPE ARCHITECT'S PLANS, SECTIONS AND SPECIFICATION FOR LOCATION AND DETAILS ON PROPOSED SUDS DEVICES THROUGHOUT THE PROPOSED DEVELOPMENT.

**STORM WATER DRAINAGE PIPE MATERIALS**

EXTRACTED FROM IISH WATER 'CODE OF PRACTICE FOR DRAINAGE WORKS'

11.3.1 Pipe Types  
The following must be used in the construction of main pipes or connections from gullies or private drains. The list below applies to all the Local Sanitary Authorities apart from Dublin City Council who do not approve the use of uPVC pipes in the public area.

11.3.1.1 Concrete  
Concrete sewer pipes with rigid and socket joints and rubber ring fittings to comply with IS EN 1916 and IS 6204 or equivalent standard. Class M or class H.

11.3.2 Clayware  
Vitrified pipes and fittings must comply with the requirements of I.S. EN 245-1/2/3 or equivalent standard. Class 100 or 500.

11.3.3 uPVC  
Unplasticized PVC pipes must comply with the 'Provisional Specification for Soil Pipes, Drains, Sewers and fittings made of unplasticized PVC' issued by the Department of the Environment.

11.3.4 BS 8006 Part 1 - Sewerage or equivalent  
BS 8006 Part 2 - Pipes on or over or equivalent design, construction and installation.

11.3.5 BS 6856 Part 6 Code of Practice for the installation of unplasticized PVC  
PVC pipes for Gravity Drains and Sewers or equivalent

11.3.6 BS 6854 - Unplasticized PVC sewer pipe specification

11.3.7 BS 6854 - Unplasticized PVC soil pipe specification

11.3.8 BS 6854 - Unplasticized PVC soil pipe specification

11.3.9 BS 6854 - Unplasticized PVC soil pipe specification

11.3.10 BS 6854 - Unplasticized PVC soil pipe specification

11.3.11 BS 6854 - Unplasticized PVC soil pipe specification

11.3.12 BS 6854 - Unplasticized PVC soil pipe specification

11.3.13 BS 6854 - Unplasticized PVC soil pipe specification

11.3.14 BS 6854 - Unplasticized PVC soil pipe specification

**FOUL SEWER PIPE MATERIALS**

EXTRACTED FROM IISH WATER 'CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE' IW-COS-03-10

3.13 Grassy Sewer Pipe Material Types  
The types and fittings outlined herein shall be used in the construction of the Grassy Sewers. Pipe material should not change between manholes. The list below does not apply to pipes installed by pipe jacking or micro tunneling.

3.13.1 Concrete  
Concrete Sewer pipes with rigid and socket joints and rubber ring fittings shall comply with IS EN 1916 (2002), BS 8011 Part 1 (2002 - 2010) and IS 6 (2004) or equivalent standard, through Class B0 with minimum crushing loads in accordance with Table 6 of BS 5911-1 (2002-2010). All pipes and fittings shall have gasket type joints of rigid and socket or rubber form. (Pipe diameters 225mm and above)

3.13.2 Thermoplastic Structured Wall Pipes  
Thermoplastic structured wall pipes shall comply with the provisions of IS EN 13476 (2007/2009) and with WS 4-35-01 (2003). Pipes to be of Glass Reinforced Plastic and to be capable of demonstrating a jacking resistance of 4,000 psi (280 Bar) without damage when tested in accordance with section 6.10 of WS 4-35-01. (Pipe diameters 150mm up to 600mm).

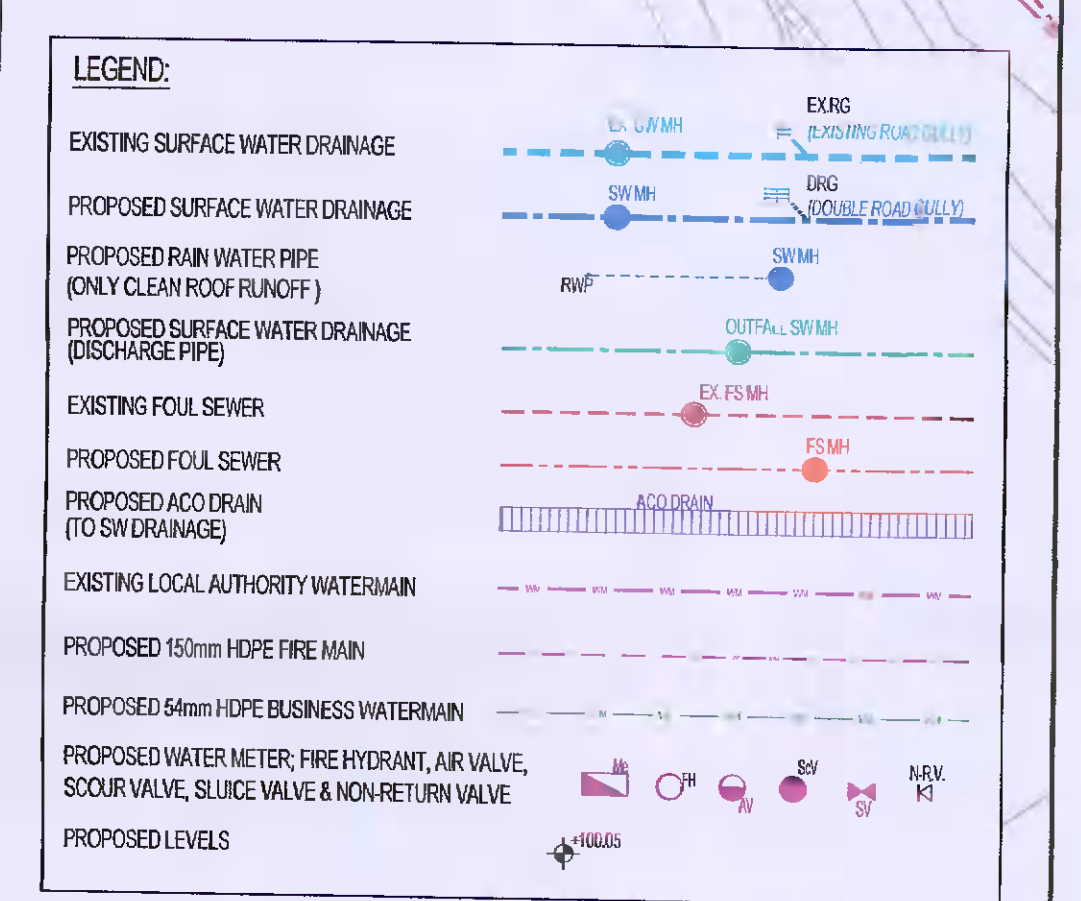
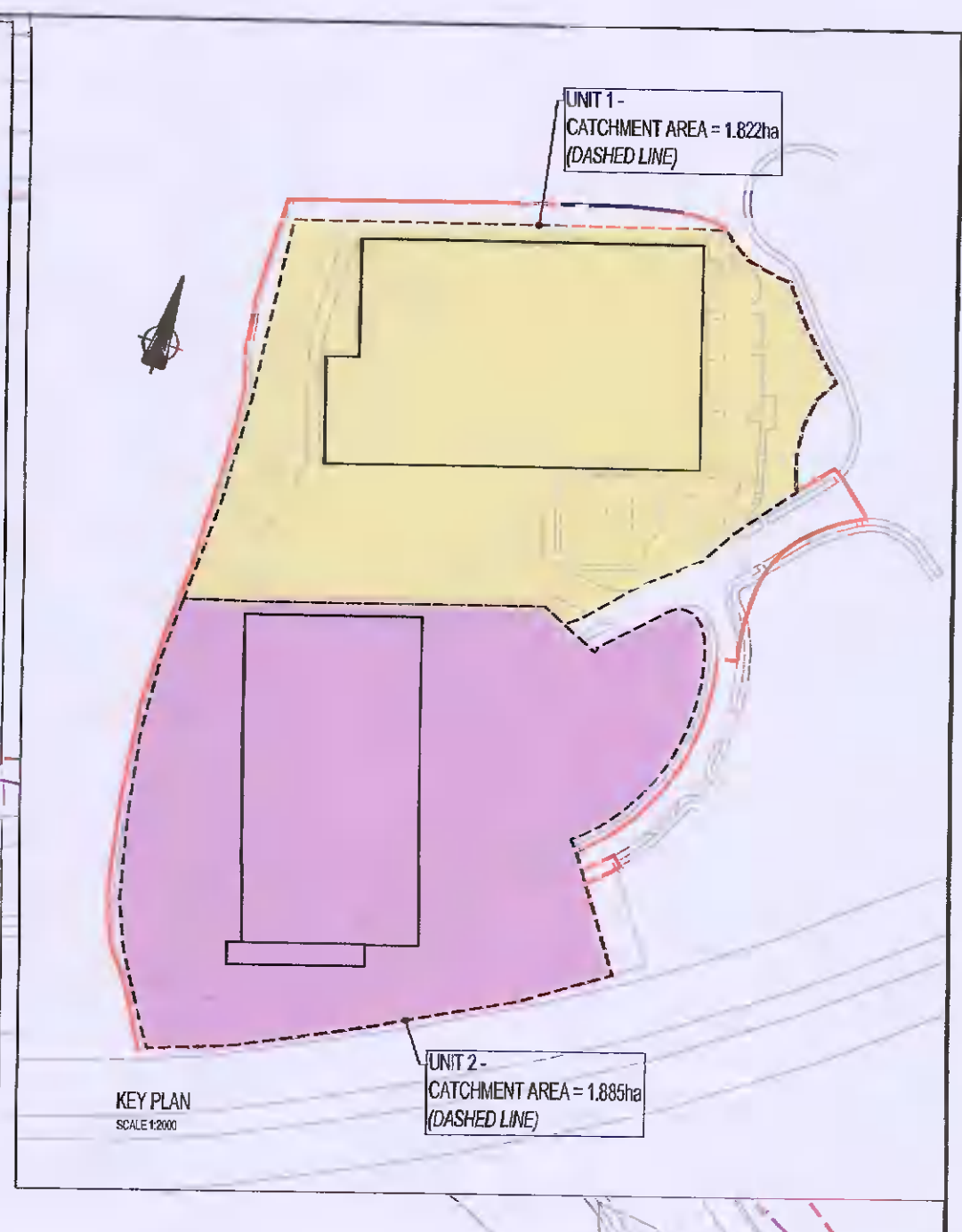
3.13.3 Unplasticized PVC  
Unplasticized PVC pipes, joints and fittings for service connections shall comply with the provisions of BS 6854 and BS EN 1401 - Part 1. Push fit joints shall be rigid and socket. (Pipe diameter 150mm).

3.13.4 Other  
The use of alternative pipe types and materials will require the prior written agreement of Irish Water.

**WATERMAIN MATERIALS SELECTION MAINS AND SERVICE CONNECTIONS**

Water Mains suitable for Water and approved by Irish Water shall be either ductile iron (DI) or polyethylene (PE) with PE100 rating (MDPE, HDPE or HPEPE). All plastic water pipes shall be blue in colour. uPVC pipes shall not be used on water supply networks, unless a compelling reason is provided for its use.

Pipe Size (ID) mm	Pipe Material
25 to 80	HDPE and MDPE
100 to 150	HDPE, MDPE and DI
200 to 300	HDPE, MDPE and DI
350 to 600	HDPE and DI
>600	DI



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Drawing Title: **COMPLIANCE**

Project: **WAREHOUSE DEVELOPMENT AT BROWNSBARN, CITYWEST CAMPUS, DUBLIN 24**

Drawing Title: **DRAINAGE & WATERMAIN LAYOUT**

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