APPROVED DESIGN

By EAP (EAP016120) at 14:45 on 16th August 2022

Network Design:

Mains Design Pressure and Velocity	LP		MP
Source Pressure	45 mBar		mBar
Peak Flow	57.9 m3/hr		m3/hr
Maximum Velocity	4.99 m/s		m/s
Minimum Pressure	35.04 mBar		mBar
Pressure Drop	9.96 mBar		0 mBar

Connection	
Parent Main Operator	GTC
Parent Main Dia	180mm
Parent Main Material	Pe
Connection	Branch Saddle Connection
POC Coordinates	553092, 226463
Downstream Main	90mm Pe

Mains Lengths (m) and Diameters					
Pe					
LP		MP		IP (HDPE100)	
63mm	502	63mm		63mm	
90mm	225	90mm		90mm	
125mm		125mm		125mm	
180mm		180mm		180mm	
250mm		250mm		250mm	
315mm		315mm		315mm	
355mm		355mm		355mm	
Steel					
LP		MP		IP	

Meterbox Types: Unibox

This plan (or the attached plan) shows the location of those pipes to be constructed and owned by Energy Assets Pipelines (EAP) by virtue of being a licensed Independent Gas Transporter (IGT). Gas pipes owned by other Gas Transporters or third parties may also be present in this area but are not shown on this plan. Information with regards to such pipes should be obtained from the relevant owners. No warranties are given with regard to the accuracy of the information shown on this plan. Valves, syphons, sub-connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by EAP or its agents, servants or sub-contractors for any error or omission contained herein. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that plant location information is provided to all persons (whether direct labour or sub-contractors) working for you on or near gas apparatus. Information included on this plan should not be referred to beyond a period of 28 days from the date of issue. If your works are close to EAP apparatus please contact plantenquiries@energyassets.co.uk for further advice.

PE Pipe SDR (Unless Otherwise Stated)
SDR11 =63mm
SDR17 =≥90mm

Medium Pressure Meter/Regulator Housing - Minimum Proximity Distances

Minimum distance of meter box to any opening such as openable window, door, air brick, balanced flue, or other breach	0.18m
Minimum distance above or to the side of a meter box, to any electrical equipment such as lights, switches and power points	0.02m
Minimum distance of a relief vent tip to any opening such as openable window, door, air brick, balanced flue, or other breach	1.00m
Minimum distance of a relief vent tip to any electrical equipment such as lights, switches and power points	1.50m

Medium Pressure Services
Service excess flow valves (SEFVs) or Emergency Control Valves (ECVs) shall be fitted on all IGP domestic services where the PSI Bracket (SBAR), all other MP services shall be provided with service isolation valves.

Standards and Materials Specifications

All pipe, fittings and materials used on this design are to be in accordance with: GIS/E/E7 Part 2, GIS/E13 Part 1, GIS/ECE 1, GIS/EFV 1, GIS/F2, GIS/F7, GIS/F9 Part 1, GIS/F9 Part2, GIS/L2, GIS/PL2 all parts, 1 to 8, GIS V4, GIS V7 parts 1, 2 and 3, GIS V9 Part1, GIS/TE/PL3, GIS E34.

IGEM standards:
IGE/TD/1 Supplement 1 Handling, transport and storage of steel pipe, bends and fittings.
IGE/TD/3 Steel and PE pipelines for gas distribution.
IGE/TD/4 Gas Services.
IGE/G/8 Transport, handling and storage of polyethylene pipes and fittings.
IGE/TD/13 Pressure regulating installations for transmission and distribution systems.
IGE/TD/101 Adoption of pipe system by a GT - management of UIP activities.
IGE/UP/1 Gas installations in timber frame buildings.
IGE/G/5 Pipe installations - Procedures.
IGE/GM/8 Specification for meter capacities of diaphragm and rotary displacement meter installations with badged meter capacities exceeding 6m³/h but not exceeding 107m³/h.
IGE/G/1 Definitions for the End of a Network.
IGE/G/5 Gas in flats and other multi-dwelling buildings.
IGE/SR/22 Purging operations for fuel gases in Transmission, Distribution and Storage.
IGE/SR/25 Hazardous area classification of natural gas installations.
IGE/SR/28 Trenchless Techniques

All internal gas meter rooms must be constructed such that in event of gas explosion the integrity of the whole building is not compromised.

METER ROOM(S)
INDIVIDUAL METERS OR METERS TO BE LOCATED ON MANIFOLD(S) IN PURPOSE BUILT GROUND FLOOR/BASEMENT METER ROOM(S) MUST HAVE SECURE PERMANENTLY VENTILATED DOOR(S) OPENING DIRECTLY TO THE OUTSIDE OR INTO PERMANENTLY VENTILATED BASEMENT GARAGE AREA

METER ROOM VENTILATION
EFFECTIVE VENTILATION AREA TO BE NOT LESS THAN 2% OF THE FLOOR AREA OF ROOM (OR OF ITS ROTIONAL EQUIVALENT) OR 3% WHERE VENTILATION IS PROVIDED IN ONE WALL ONLY. ROOM TO BE SEALED FROM REST OF INTERIOR OF BUILDING.

Meter room to comply with IGEM-G-5 and IGEM-GM-8
IF IN DOUBT PLEASE SEEK ADVICE
Where pipework passes through walls and floors it must be ducted and firestopped (sealant to BS EN 1366-3 or for pipes 6" & above, a proprietary fire stopping system such as a pipe collar)

FIGURE 1 - Recommended Positioning of Utility Apparatus in a 2 metre Footway
Taken from NJUG Publication Volume 1 Issue 2 (somm)2007

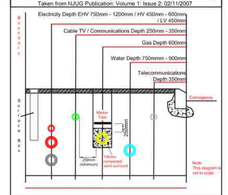
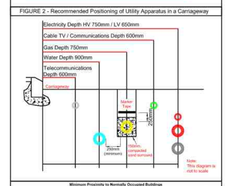


FIGURE 2 - Recommended Positioning of Utility Apparatus in a Carriageway



Minimum Proximity to Normally Occupied Buildings

Type of Main	Diameter of Main (mm)	Pe: Minimum Building Proximity Distance (m)			
		≤ 1bar	> 1bar - ≤2bar	>2bar - ≤5 Bar	>5 Bar - ≤7bar
Pe - Non-Inserted	Up to 125	0.25	2	4	6
	126 to 250	1	2	4	6
	251 to 500	1	2	4	6
	501 to 1000	1	3	12	30
Pe - Inserted	Up to 125	0.25	1	2	2
	126 to 250	0.5	1	2	2
	251 to 500	0.5	1	2	2
	501 to 1000	0.5	1	2	3

Type of Main	Wall Thickness of Main (mm)	Steel: Minimum Building Proximity Distance (m)			
		≤ 1bar	> 1bar - ≤2bar	>2bar - ≤5 Bar	>5 Bar - ≤7bar
Steel	Steel up to 6.3	0.25	1	3	15
	Steel 6.3 - 11.1	0.25	1	3	15
	Steel > 11.1	0.25	1	3	3

Depth of Cover - Mains & Services	
Main (fields)	1.1m
Main (road & verge)	0.75m
Main (footpath)	0.6m
Service (road & verge)	0.45m
Service (footpath)	0.45m
Service (private land)	0.5m
Depths are for proposed & added mains & services unless shown otherwise.	

Gas Ducts

	Gas Pipe Outside Diameter	Duct Inside Diameter
	20, 25 and 32mm	50mm
	63mm	100mm
	90mm	150mm
	125mm and 180mm	225mm
	250mm	350mm
	315mm	450mm

Legend

Gas
- High Pressure Existing
- Intermediate Pressure Existing
- Medium Pressure Existing
- Low Pressure Existing
- High Pressure Proposed
- Intermediate Pressure Proposed
- Medium Pressure Proposed
- Low Pressure Proposed
- Service Proposed
- Manifold / Steel
- Mains Assumed Diverted / Abandoned
- Duct
- Reducer
- Valve
- Governor
- Proposed Abandoned Services
- Point of Disconnection

Rigid plastic ducting can be used for perpendicular road crossings only. The developer is responsible for the supply and installation of ducting. A suitable standard for plastic ducting is BS 4962. Corrugated ducting must not be used for road crossings.

All gas mains, services and ducts that shall contain gas pipes, must be overlaid with gas identifiable marker tape 150mm above the apparatus. Gas mains and services should have a minimum of 250mm clearance from other utilities.

The information shown on this plan is given without obligation or warranty. The accuracy thereof cannot be guaranteed. Where service pipes are shown their position is approximate. No liability of any kind whatsoever is accepted by the company, its agents, servants or contractors for any error or omission. All apparatus must be located on site and verified and established on site before any excavations are carried out or any mechanical plant used. For details of all existing apparatus, please consult the records department of the host utility. Any availiting apparatus shown on this drawing is for planning purposes only, the positions of which are to be taken as approximate only.

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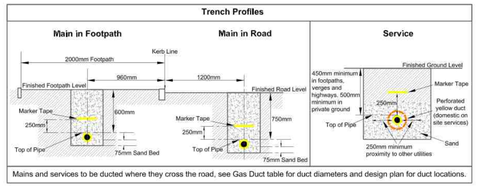
Trench Profiles



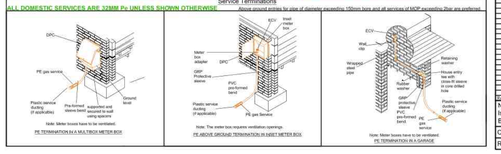
Mains and services to be ducted where they cross the road, see Gas Duct table for duct diameters and design plan for duct locations.

METER BOX POSITIONS SHOULD BE NO MORE THAN 2m FROM THE ELEVATION FRONTING THE MAIN

ALL DOMESTIC SERVICES ARE 32MM Pe UNLESS SHOWN OTHERWISE

Service Terminations

Above ground entries for size of diameter exceeding 150mm bore and all services of MOP exceeding 2bar are preferred.



Gas Network Design Drawing

Issue	Date	Amendment Details
1	22-07-22	Original Drawing

New Site (Domestic),
Isabel Drive, Elsenham
Bishops Stortford, Herts, CM22 6LL

Client ref: X796 | Energy Assets No. EAP016120

Ref: B9641825 3 | Date: 22/07/2022 | Scale: 1:1000@A1 | Drawn By: MR