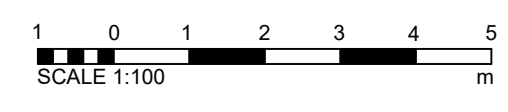
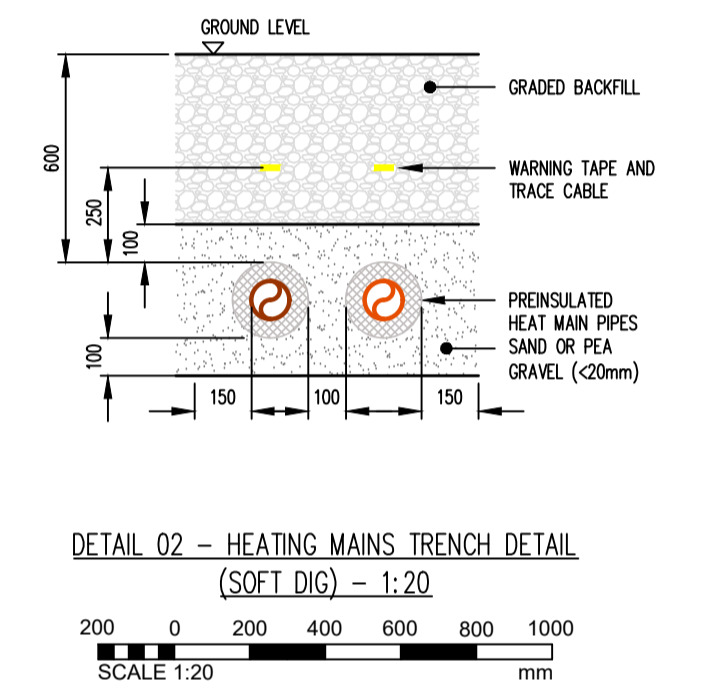
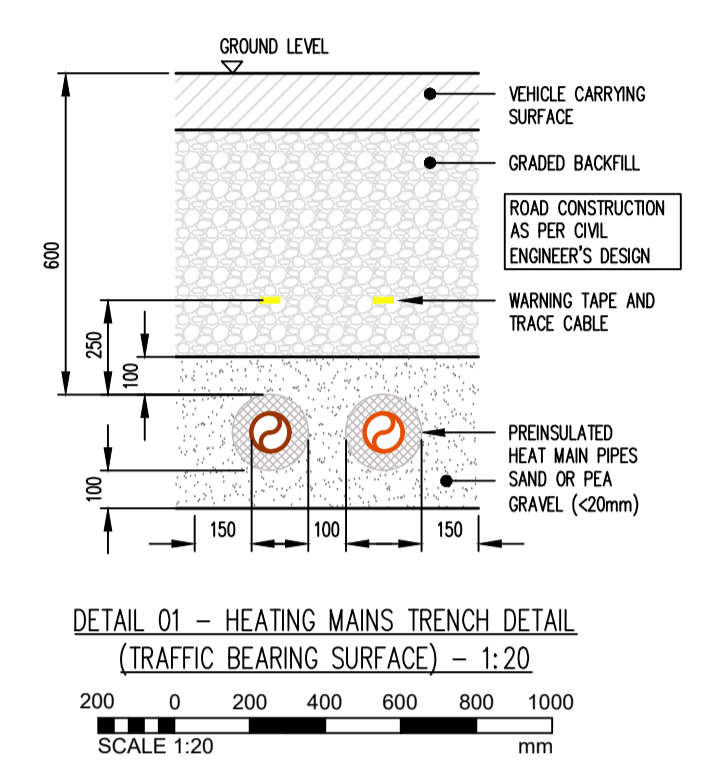


ALL PIPEWORK WITHIN TRENCHING TO BE INSTALLED WITH MINIMUM DEPTH OF COVER TO MINIMISE DEPTH OF TRENCH
PIPEWORK TO BE INSULATED AS REQUIRED TO SUIT DEPTH OF COVER
REFER TO TYPICAL HEAT MAINS TRENCH DETAILS

INDICATIVE GROUND COLLECTOR ARRAY LAYOUT, TO BE CONFIRMED BY GROUND SOURCE HEAT PUMP SPECIALIST
BOREHOLE TO 180m DEPTH, min. 6m SPACING BETWEEN EACH BOREHOLE

GROUND COLLECTOR ARRAY MANIFOLD IN CHAMBER - LOCATION AND SIZE TO BE CONFIRMED BY GROUND SOURCE HEAT PUMP SPECIALIST

PRIMARY GROUND LOOP FLOW & RETURN TO BASEMENT PLANT ROOM



General Notes:

This drawing should be read in conjunction with the relevant Etch Associates specifications and technical schedule documents.

This drawing should be read in conjunction with all relevant design documents.

All apparent drafting errors or discrepancies with other design documents shall be identified as soon as possible and brought to the attention of Etch Associates.

Do not scale from this drawing.

Project Notes:

- THIS DESIGN CONSTITUTES A PERFORMANCE SPECIFICATION FOR A DESIGN & BUILD CONTRACT, THE INDICATIVE SERVICES LAYOUTS/ARRANGEMENTS ARE PROVIDED TO CONVEY DESIGN INTENT ONLY, THE APPOINTED CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COMPLETING THE DESIGN, INSTALLATION AND SETTING TO WORK OF THE DESCRIBED SYSTEMS.
- DO NOT USE THIS DRAWING FOR CONSTRUCTION - THE CONTRACTOR SHALL PRODUCE A COMPLETE SET OF COORDINATED INSTALLATION DRAWINGS THAT SHALL BE SUBMITTED TO THE CLIENT TEAM FOR REVIEW BEFORE COMMENCEMENT OF WORKS.
- THE WORKS ARE TO BE COMPLETED IN TWO PHASES:
 - THE FIRST SHALL INCLUDE ALL EXTERNAL WORKS WITH PIPEWORK AS DETAILED ON THE EXTERNAL SERVICES LAYOUT, INSTALLED UP TO THE POINT OF ENTRY TO THE PLANT ROOM AND TESTING OF THE PIPEWORK.
 - THE SECOND SHALL INVOLVE INSTALLING PIPEWORK THROUGH THE BASEMENT WALL AND CONNECTING INTO THE PLANT ROOM, INSTALLATION OF ALL PLANT ROOM SERVICES AS DETAILED ON THE PLANT ROOM LAYOUT, TESTING AND COMMISSIONING OF THE INSTALLATION AND DOCUMENTATION AND DEMONSTRATION OF THE SYSTEM.
- THE FIRST PHASE OF WORKS SHALL BE CARRIED OUT AS A STANDALONE ELEMENT OF WORK, REFER TO THE CONTRACT PRELIMINARIES FOR DETAILS.
- THE SECOND PHASE OF WORKS WILL BE CARRIED OUT AS PART OF A MAINTENANCE/REFURBISHMENT PROJECT FOR THE BUILDING, SEPARATE MECHANICAL & ELECTRICAL CONTRACTORS SHALL BE APPOINTED FOR THESE WORKS AND SHALL INSTALL NEW HEATING, DOMESTIC HOT & COLD WATER SERVICES AND BMS SERVICES AS WELL AS POWER SUPPLIES THAT WILL INTERFACE WITH THE GROUND SOURCE HEAT PUMP INSTALLATION. THE DELINEATION OF SCOPE IS IDENTIFIED ON THE SYSTEM SCHEMATIC. IN GENERAL, THE GSP CONTRACTOR SHALL INSTALL ALL NECESSARY PLANT FOR THE OPERATION AND COMMISSIONING OF THE GSP, THIS INCLUDES THE LTW BUFFER VESSEL AND THE CALORIFIER AND ASSOCIATED EXPANSION VESSELS, SAFETY RELIEF VALVES AND ISOLATION VALVES. THIS SHALL ALLOW THE SYSTEM TO BE COMMISSIONED AND OPERATION DEMONSTRATED. THIS DELINEATION WILL SERVE AS THE BOUNDARY OF RESPONSIBILITY WITH THE SYSTEM IN THE EVENT THAT THERE IS A SYSTEM FAULT THAT NEEDS TO BE RECTIFIED. ALLOW FOR ALL NECESSARY COORDINATION WITH THE OTHER PARTIES TO DELIVER A FULLY COORDINATED SYSTEM, COMMISSIONED AND LEFT IN FULL WORKING ORDER.
- THE SERVICES TO BE INSTALLED BY OTHERS HAVE BEEN GATED OUT ON THE DRAWINGS, THEY DO NOT FORM PART OF THE SCOPE OF WORKS BUT ARE SHOWN FOR CONTEXT.

System Notes:

- CONTRACTOR SHALL ALLOW TO CARRY OUT A TOPOGRAPHICAL SURVEY FOR THE ENTIRE AREA TO ENSURE PIPEWORK TRENCHES ARE FULLY COORDINATED. PIPEWORK ROUTES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY, THEY HAVE BEEN COORDINATED WITH THE CURRENT TOPO WHICH DOES NOT FULLY REPRESENT THE SITE ANYMORE.
- PIPEWORK ROUTES TO BE COORDINATED WITH EXISTING SEWER & SURFACE WATER DRAINAGE, TREE ROOT PROTECTION ZONES, OTHER LANDSCAPING FEATURES, EXISTING BURIED SERVICES AND BUILDINGS/FOUNDATIONS.
- DEPTH OF SERVICES WITHIN TRENCHING TO BE CONFIRMED BY CONTRACTOR BUT TO AT LEAST MEET MINIMUM DEPTHS GIVEN IN TYPICAL DETAILS.
- CONTRACTOR TO ALLOW FOR ALL MAKING GOOD TO BUILDINGS AND LANDSCAPING WHERE BUILDERS WORK OR EXCAVATION IS CARRIED OUT TO FACILITATE THE PROPOSED WORKS.
- ALL POLYETHYLENE TUBE AND FITTINGS SHALL BE INSTALLED FULLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ELECTRO-FUSION WELDED.
- EACH AND EVERY WELD (BUTT OR ELECTRO-FUSION) SHALL BE RECORDED USING AN AUTOMATIC FUSION WELDING KIT LOGGER, REPORTS DETAILING EACH WELD SHALL BE INCLUDED WITH THE O&M MANUAL.
- ALL UNDERGROUND BENDS AND SERVICES ENTRIES TO BUILDINGS SHALL BE LONG RADIUS BENDS, AT LEAST 8x THE OUTER PIPE DIAMETER OR IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS - WHICHEVER IS THE GREATER.
- ALL NEW PIPEWORK SHALL BE PRESSURE TESTED, TEST RESULTS DOCUMENTED AND ISSUED BEFORE SYSTEM BECOMES OPERATIONAL.
- REFER TO SPECIFICATION FOR FURTHER DETAILS.

Index	Description	Designed	Reviewed	Authorised	Date
T02	RIBA STAGE 3 ISSUE	DRH	LK	DB	11/23
T01	RIBA STAGE 3 ISSUE	DRH	LK	DB	08/23
P02	RIBA STAGE 3 ISSUE	DRH	LK	DB	12/22
P01	RIBA STAGE 2 ISSUE	DB	LK	DB	05/22

REVISIONS:

etch

ARCHITECT:

LEE / FITZGERALD ARCHITECTS

CLIENT:

Brasenose College

PROJECT TITLE:
FREWIN HALL REFURBISHMENT
FREWIN HALL
BRASENOSE COLLEGE
OXFORD

DRAWING TITLE:
MECHANICAL ENGINEERING SYSTEMS
EXTERNAL SERVICES
GENERAL ARRANGEMENT
SITE PLAN

RIBA STAGE 3 ISSUE

DOCUMENT QA:

Design:	Review:	Authorising Issue:						
DRH	LK	DB						
Office:	Date:	Scale:						
OXFORDSHIRE	JUN 2023	1:100 @ A1						
DRAWING NUMBER								
Project Code	Orig	Zone	Level	Type	Rate	Class	Number	Revision
011014	EAL	EX	00	GA	M	390	0001	T02