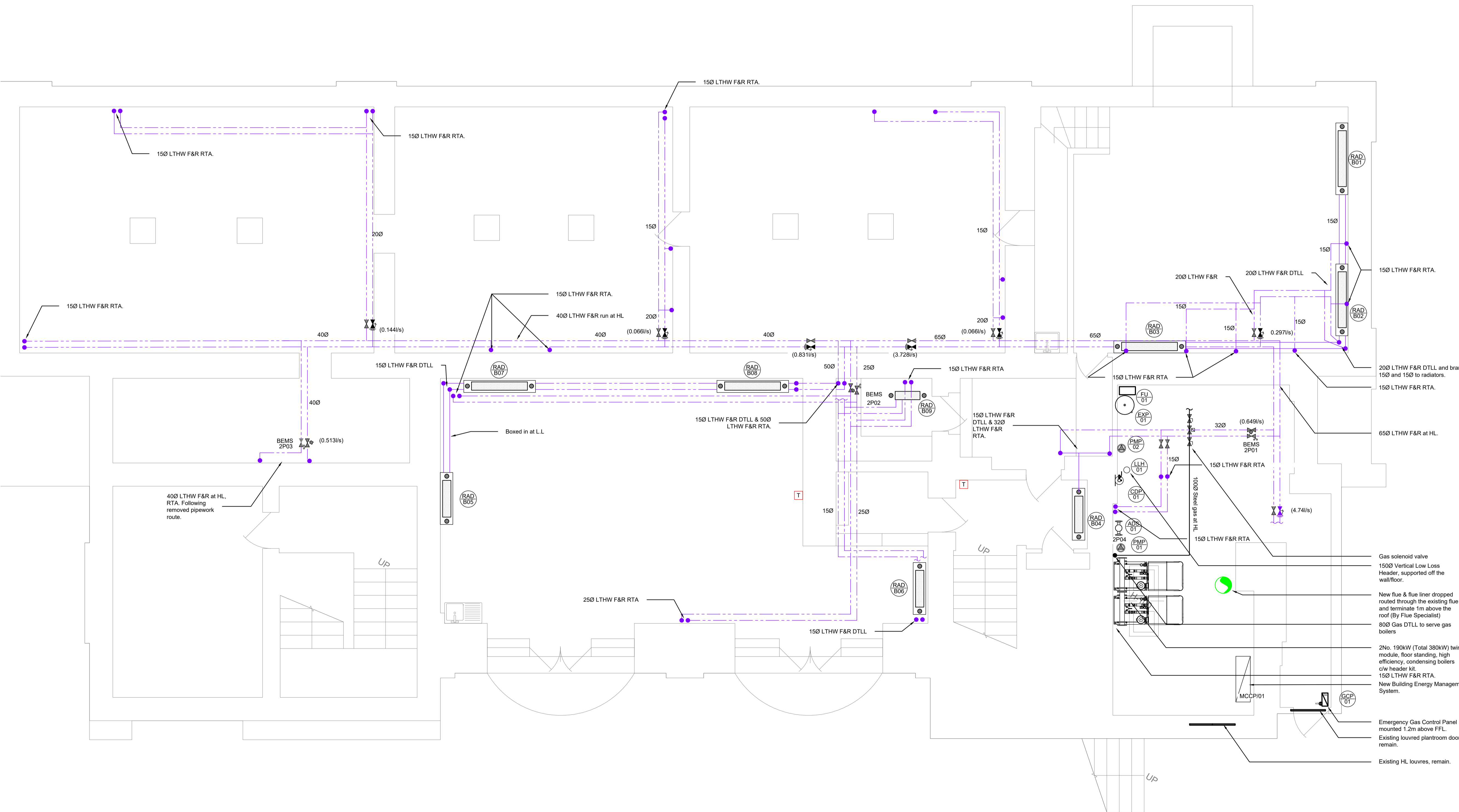


**Low Temperature Hot Water General Notes:**

- LTHW heating pipework shall be carried out in 'press fit' mild steel.
- Drain cocks shall be provided at all low points and equal tee air bottles at high points in accordance with BS 2879. Automatic air vents will be permitted within plant areas only. Inaccessible air vents shall be extended in 15mm copper pipework to low level within nearest accessible plant or store area complete with needle valves.
- All equipment shall be installed in accordance with relevant manufacturers recommendations and accepted good practice. Valve and union connections shall be provided to isolate all equipment.
- Flushing points and drain cocks are to be installed at strategic locations in accordance with the flushing strategy.
- All LTHW heating systems shall be commissioned by an approved reputable commissioning specialist to achieve the flow rates as detailed and shall be witnessed by the Engineer.
- Refer to heating schematic for provision of isolation and balancing valves. Contractor shall allow for isolation valves where the LTHW F&R pipework rises between floors.
- Ensure all LTHW flow and return pipework hole diameters within floor joists are not greater than 0.25 times the depth of a joist or 65mm and located between 0.25 and 0.4 times the span of the support.
- Where pipework runs up through the stairwells the contractor shall include to box in the pipework, where new radiators are shown on plans the contract shall include to box out to the radiators.

| Radiator Schedule |                        |              |                       |      |            |             |                          |                     |                 |                  |           |
|-------------------|------------------------|--------------|-----------------------|------|------------|-------------|--------------------------|---------------------|-----------------|------------------|-----------|
| Reference         | Area Served / Location | Manufacturer | Model                 | Type | Width (mm) | Height (mm) | Ambient Temperature (°C) | Room Heat Loss (kW) | Rad Output (kW) | Flow Rate (kg/s) | TRV & LSV |
| RAD B01           | 123 MUSIC ROOM         | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1600       | 750         | 21                       | -                   | 2.477           | 0.0295           | ✓         |
| RAD B02           | 123 MUSIC ROOM         | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1600       | 750         | 21                       | -                   | 2.477           | 0.0295           | ✓         |
| RAD B03           | 123 MUSIC ROOM         | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1600       | 750         | 21                       | -                   | 2.477           | 0.0295           | ✓         |
| RAD B04           | 126 CIRCULATION        | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1200       | 1050        | 19                       | -                   | 2.514           | 0.0299           | ✓         |
| RAD B05           | 129 CLASSROOM          | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1250       | 650         | 19                       | -                   | 2.225           | 0.0265           | ✓         |
| RAD B06           | 129 CLASSROOM          | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1250       | 650         | 19                       | -                   | 2.225           | 0.0265           | ✓         |
| RAD B07           | 129 CLASSROOM          | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1200       | 650         | 19                       | -                   | 0.994           | 0.0000           | ✓         |
| RAD B08           | 129 CLASSROOM          | SENSOTHERM   | SAFERAD LST - MODEL C | SEP2 | 1200       | 650         | 19                       | -                   | 0.994           | 0.0000           | ✓         |
| RAD B09           | STORE                  | SENSOTHERM   | SIL COMPACT           | 22   | 800        | 600         | 15                       | -                   | 1.468           | 0.0000           | ✓         |

- Notes
- Radiators selected on 82/71°C LTHW F&R.
  - \*RAD EXC is the existing column radiators.
  - \*RAD EXS is the existing steel radiators.



**Notes**

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Discrepancies and / or ambiguities within this drawing, between it and information given elsewhere, must be reported immediately to the engineers for clarification before proceeding.

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**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

Refer to the relevant Construction (Design and Management) documentation where applicable.

It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

**Project Notes**

The Contractor shall ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the installation. No claim will be considered on the grounds of the lack of site knowledge.

The Contractor shall be responsible for the final coordination of all new and existing services, with the building structure, architecture and fixed furniture and equipment.

The Contractor shall allow for all required changes in height and direction not identified on the drawing and the final setting out of all plant, equipment and services shall be agreed on site with the Engineer.

The Contractor shall be responsible for any temporary access or lifting equipment required to carry out the works.

- Legend:**
- Services run in Floor Void
  - Services at Low Level
  - Services at High Level
  - Services Within Ceiling Void
  - [T] Zonal Thermostat linked to BEMS
  - [V] Isolation Valve / Ball Valve
  - [V] Commissioning Valve Set
  - [V] 2-Port Control Valve
  - [V] Pressure Independent Control Valve
  - [B] Expansion Bellow (by Specialist)
  - DTLL Drop to Low Level
  - RTA Rise to Above
  - RFB Rise From Below
  - DTB Drop to Below

|     |                     |         |          |
|-----|---------------------|---------|----------|
| C01 | Construction Issue  | CS/CS   | 18.07.19 |
| T2  | Revised Pipework    | SG/CSL  | 10.07.19 |
| T1  | Pipework Alteration | JCJS/BV | Dec'18   |
| T0  | Tender Issue        | JCJS/BV | Dec'18   |

Rev Description By / Chkd / App'd Date



Client  
**London Borough of Camden**

Project  
**New End Primary School**

Drawing Title  
**Mechanical Services Drawing  
Proposed Heating Layout  
Basement Level**

|                           |            |          |             |
|---------------------------|------------|----------|-------------|
| Purpose of Issue          |            | Status   |             |
| <b>Construction Issue</b> |            | <b>B</b> |             |
| Project No.               | Scale @ A1 | Date     |             |
| 30202                     | 1/50       | 11/01/19 |             |
| Revision                  | Drawn By   | Check By | Approved By |
| C01                       | JC         | JS       | BV          |

All Drawing Identifiers  
Project - Origin Zone Level Type Role Class Number  
NEP BPC XX B1 DR M 5600001  
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