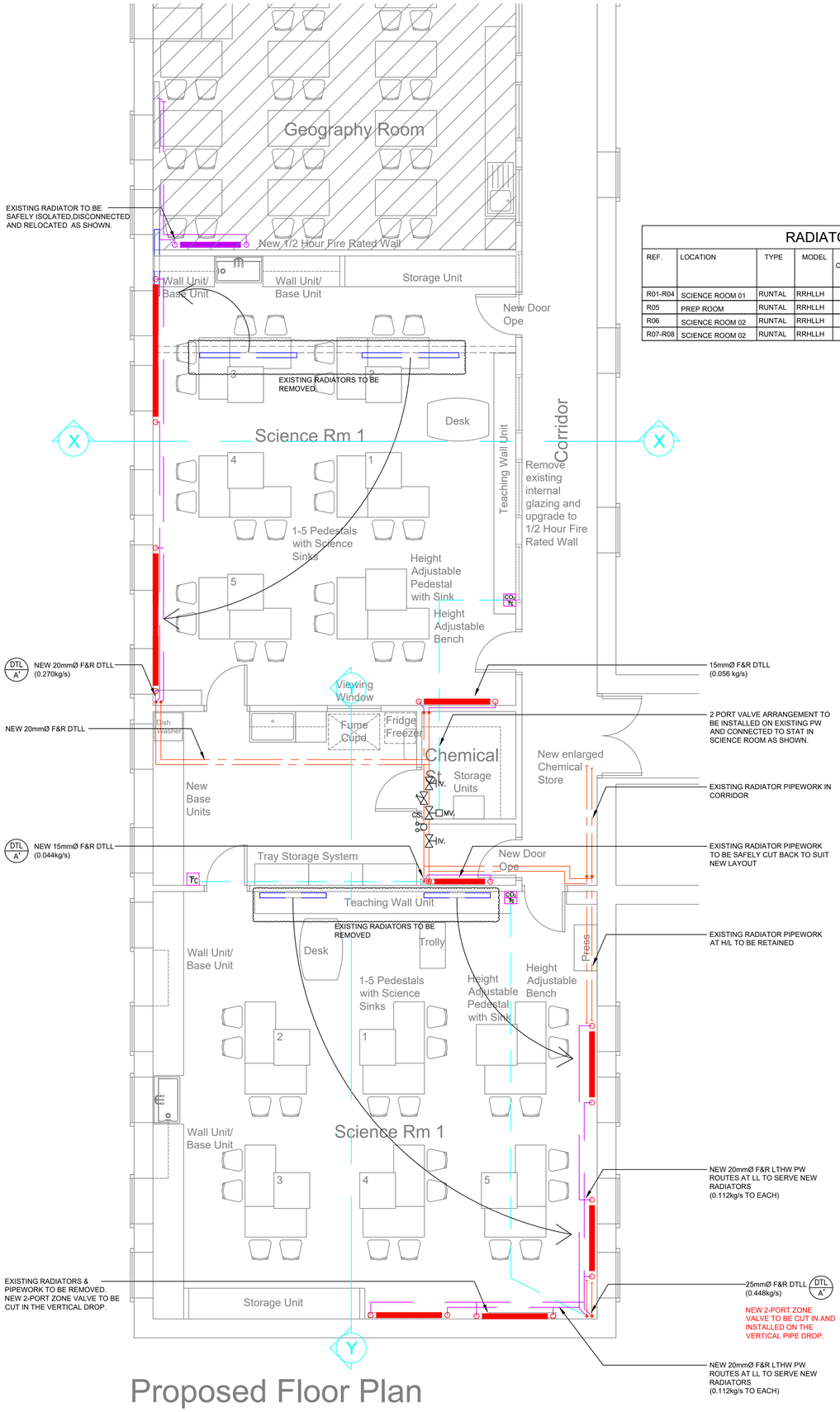


Proposed Floor Plan

ABBREVIATIONS

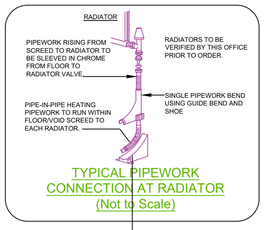
C/S	- CEILING SPACE
RTA	- RISE TO ABOVE
RFB	- RISE FROM BELOW
DTB	- DROP TO BELOW
DFA	- DROP FROM ABOVE
F&R	- FLOW AND RETURN
TMV	- THERMOSTATIC MIXING VALVE
DOC	- DRAIN OFF COCK
L/L	- LOW LEVEL
H/L	- HIGH LEVEL
DTLL	- DROP TO LOW LEVEL
RTHL	- RISE TO HIGH LEVEL
IV	- ISOLATING VALVE

LEGEND

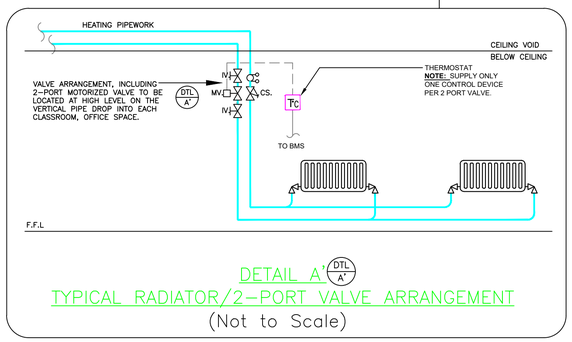
	PIPE WORK IN CEILING VOID
	PIPE WORK AT LOW LEVEL
	PIPE WORK AT LOW LEVEL
	PIPE WORK WITHIN FLOOR VOID
	NEW RADIATOR
	EXISTING RADIATOR
Tc	ROOM TEMPERATURE STAT
CO_2 TEMP	COMBINED C02 & TEMPRATURE STAT
BTC	RADIANT PANEL BLACK BULB TEMPERATURE STAT
	PIPE CONNECTION OR DROP
	ISOLATING VALVE
	COMMISSIONING SET

RADIATOR SCHEDULE

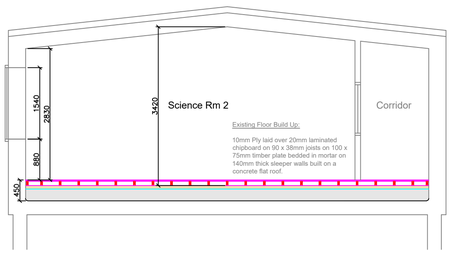
REF.	LOCATION	TYPE	MODEL	REQ'D OUTPUT (W)	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	SELECTED OUTPUT (W) (dt50)	QTY
R01-R04	SCIENCE ROOM 01	RUNTAL	RRHLLH	2,358	499	1500	100	2,358	X 4No.
R05	PREP ROOM	RUNTAL	RRHLLH	1,886	499	1200	100	1,886	X 1No.
R06	SCIENCE ROOM 02	RUNTAL	RRHLLH	2,358	499	1500	100	2,358	X 1No.
R07-R08	SCIENCE ROOM 02	RUNTAL	RRHLLH	4,402	499	2800	100	4,402	X 2No.



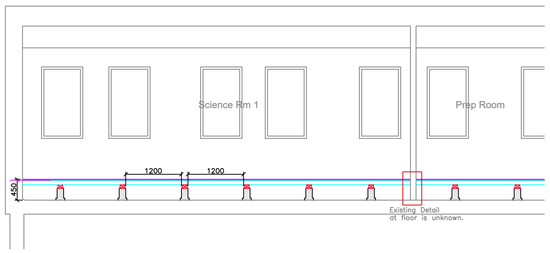
TYPICAL PIPEWORK CONNECTION AT RADIATOR
(Not to Scale)



DETAIL A' (DTL A')
TYPICAL RADIATOR/2-PORT VALVE ARRANGEMENT
(Not to Scale)



Existing Section X-X



Existing Section Y-Y

NOTE:

ALL SERVICES TO RUN BETWEEN TIMBER JOISTS. JOISTS TO BE NOTCHED OUT WHERE REQUIRED (FOLLOWING AGREEMENT WITH ARCHITECT)

GENERAL SPACE HEATING NOTES

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND INTERIOR DESIGN DRAWINGS.

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT MEP SCHEMATICS AND SPECIFICATIONS.

DO NOT SCALE, VERIFY ALL DIMENSIONS BY SITE MEASUREMENT.

SERVICES ROUTES SHOWN ARE INTENDED TO DEMONSTRATE PROPOSED ROUTES TO BE TAKEN.

THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CO-ORDINATING ALL SERVICES ON SITE.

ALL PIPEWORK TO BE INSULATED WITH CLASS 'O' INSULATION, THICKNESS TO CONFORM TO BS 5422.

ALL PIPEWORK LESS THAN 40Ø PENTRATING FIRE COMPARTMENTS/WALLS SHALL BE SLEEVED AND SEALED WITH INTUMESCENT MASTIC.

ALL PIPEWORK 40Ø AND GREATER PENETRATING FIRE COMPARTMENTS/ WALLS SHALL BE SLEEVED WITH AN INTUMESCENT COLLAR.

ALL PIPEWORK BRANCHES SHALL HAVE ISOLATING VALVES FITTED.

ENSURE ALL PIPEWORK IS PRESSURE TESTED AND WITNESSED BEFORE IT IS CONCEALED.

ADEQUATE ACCESS SHALL BE PROVIDED THROUGHOUT FOR CLEANING AND TESTING THE LTHW SERVICES AND PIPEWORK.

MECHANICAL CONTRACTOR SHALL INCLUDE FOR EXTENSION PIECES TO ALL TEST POINTS TO CLEAR INSULATION AND CLADDING.

ALL PUMPS SHALL BE MOUNTED WITH FLEXIBLE CONNECTIONS TO PIPEWORK AND OR VIBRATION ISOLATORS TO SUPPORTS.

ALL PIPEWORK, FITTINGS AND EQUIPMENT SHALL BE CLEARLY LABELLED.

LOCATION OF EXPANSION BELLOWS AND ASSOCIATED ANCHOR POINTS TO BE AGREED WITH SUPPLIERS AND MECHANICAL CONTRACTORS.

EXPANSION BELLOWS, GUIDES & ANCHORS TO BE INSTALLED ON ALL PIPEWORK CROSSING BUILDING EXPANSION JOINTS AND ON RUNS GREATER THAN 25 METERS IN LENGTH.

ALL HIGH POINTS AND COIL CONNECTIONS TO HAVE AUTOMATIC AIR VENT FITTED.

ALL LOW POINTS TO HAVE DRAIN COCKS FITTED.

ALL LTHW SERVICES PIPEWORK TO BE MEDIUM GRADE STEEL TO BS EN 10255:2004.

LOCATION OF ALL TEMPERATURE SENSORS AND CONTROL POINTS SHALL BE CONFIRMED WITH ENGINEER PRIOR TO INSTALLATION.

ON COMPLETION OF THE INSTALLATION THE MECHANICAL CONTRACTOR SHALL FULLY FLUSH THE INSTALLATION. THE LTHW SYSTEMS SHALL BE CHEMICALLY TREATED AS DETAILED IN THE MECHANICAL SPECIFICATION. THE MECHANICAL CONTRACTOR SHALL ISSUE A METHOD STATEMENT TO THE ENGINEER PRIOR TO UNDERTAKING THESE WORKS.

RADIATORS
FOR THE PURPOSES OF DESIGN, THE RADIATOR SCHEDULE ON THIS DRAWING HAS BEEN PRODUCED USING THE OUTPUT, TYPE, PHYSICAL SIZE AND CONNECTION DETAILS OF RADIATORS MANUFACTURED BY ZEHNDER RUNTALL RADIATORS.

RADIATORS SHALL BE MANUFACTURED IN ACCORDANCE WITH BSEN442 AND SHALL BE FACTORY TESTED TO APPROXIMATELY 7.0BAR OR TWICE THE WORKING PRESSURE, WHICHEVER IS THE GREATER.

RADIATORS SHALL BE SUPPORTED ON PURPOSE DESIGNED BRACKETS TO SUIT THE TYPE OF RADIATOR. THE NUMBER OF BRACKETS SHALL BE AS THE MANUFACTURER'S RECOMMENDATIONS.

RADIATOR TAPPINGS SHALL BE TO SUIT THE PIPING DISTRIBUTION, OF THE SIZE AND FUNCTION AS DETAILED.

RADIATORS SHALL BE PROVIDED COMPLETE WITH BRASS RECESSED AIR VENT AND MALLEABLE IRON BLANKING PLUGS, WHERE REQUIRED. VERTICAL RADIATORS TO BE COMPLETE WITH VENTS AT H/L AND DRAIN VALVE AT L/L.

RADIATORS SHALL BE FIXED TO PROVIDE A MINIMUM CLEARANCE OF 150mm. BETWEEN THE FLOOR AND THE UNDERSIDE OF THE RADIATOR. WHERE RADIATORS ARE FITTED UNDERNEATH WINDOWS THEY MUST NOT PROTRUDE ABOVE THE SILL.

RADIATORS SHALL BE COMPLETELY DE-RUSTED AND SUPPLIED WITH A FACTORY APPLIED OFF-WHITE PRIMER COAT OF PAINT OR AS SPECIFIED ON THE DRAWINGS OR SCHEDULE.

THE CONTRACTOR SHALL INCLUDE FOR TAKING DOWN ALL RADIATORS ONCE FOR PAINTING AND FOR RE-FIXING.

LST -	INDICATES LOW SURFACE TEMP RADIATOR
BOE -	INDICATES BOTTOM OPPOSITE END CONNECTIONS
TOE -	INDICATES TOP OPPOSITE END CONNECTIONS
SC -	INDICATES SINGLE PANEL CONVECTOR
DP+ -	INDICATES DOUBLE PANEL SINGLE CONVECTOR
DPC -	INDICATES DOUBLE PANEL CONVECTOR

ALL RADIATORS TO HAVE CONN. AS INDICATED & SHALL BE FITTED WITH ANGLE PATTERN THERMOSTATIC VALVE ON FLOW ANGLE PATTERN LOCKSHIELD VALVE ON RETURN. ALL RADIATORS TO BE FINISHED TO RAL COLOUR SPECIFIED BY ARCHITECT.

ALL PIPEWORK DROPS AND ROUTES TO BE CONFIRMED WITH THE ENGINEER & ARCHITECT PRIOR TO WORKS BEGINNING ON SITE.

MECHANICAL CONTRACTOR TO NOTIFY MAIN BUILDING CONTRACTOR ON LOCATION OF PIPEWORK DOWNDROPS AND WALL PENETRATIONS TO ALLOW CONSTRUCTION OF SAME.

ALL MAIN PIPING TO BE RUN IN CEILING VOID WITH ACCESSIBLE VALVE LOCATIONS FOR ISOLATION AND COMMISSIONING PURPOSES. ALL PIPING TO BE INSULATED WHERE HIDDEN. ALL EXPOSED PIPEWORK TO BE PRIMED AND PAINTED TO RAL COLOUR SPECIFIED BY ARCHITECT.

ALL Htg. PIPEWORK TO BE LAID TO FALL TO FACILITATE THE VENTING OF THE Htg. SYSTEM BY WAY OF A.A.V.'S FITTED AT ALL HIGH POINTS WITHIN THE SYSTEM.

DRAIN DOWN VALVES TO BE FITTED AT L/L WHERE NECESSARY TO ENABLE THE SYSTEM TO BE COMPLETELY DRAINED DOWN.

ALL PIPEWORK SUPPORTS AS SPECIFIED, INTERMEDIATE SUPPORTS BETWEEN PIPELINE ANCHORS TO BE ARTICULATED DROP ROD TYPE.

ALL RADIATORS NOTING TRV SHALL BE FITTED WITH A THERMOSTATIC RADIATOR VALVE ON THE FLOW CONNECTION AND A LOCKSHIELD VALVE ON THE RETURN CONNECTION.

CENTRAL CIRCULATING PUMP
THE CIRCULATION PUMP SHALL BE LOCATED IN THE MAIN PLANT ROOM. IT SHALL BE SIZED TO MEET THE MAXIMUM PRESSUE DROP OF THE INDEX RUN & THE OVEREALL HEATING SYSTEM FLOW RATE. THE VARIABLE SPEED TWIN HEAD PUMP(S) SHALL BE SELECTED ON MID CURVE.

THE PUMP SHALL BE CONTROLLED BY THE BMS.

THERMOSTATS
THE INTERNAL TEMPERATURE SHALL BE CONTROLLED BY A ROOM TEMPERATURE SENSOR LOCATED IN THE HEATING SPACE.

THE SENSOR SHALL BE LOCATED MIN 1500mm FFFL, OUT OF DIRECT SUNLIGHT AND AWAY FROM ANY HEATING/COOLING SOURCES.

4-CORE SCREENED CABLE SHALL BE USED TO CONNECT THE ROOM THERMOSTAT TO THE BMS.

PRESSURE TEST
PIPEWORK SHALL UNDERGO A PRESSURE TEST TO 6 BAR FOR 1 HOUR. A TEST PRESSURE CERTIFICATION MUST BE AVAILABLE FOR ALL PIPEWORK.

THE SYSTEM SHALL BE PRESSURISED TO 1.5TIMES THE OPERATING PRESSURE OF THE SYSTEM- A MINIMUM OF 3BAR AND A MAXIMUM OF 6BAR FOR 30MINUTES.

THE SYSTEM SHOULD BE LEFT UNDER PRESSURE UNTIL CONNECTION TO THE PRIMARY HEATING CIRCUIT, WITH THE GAUGES MONITORED AT REGULAR INTERVALS.

LIAISON BETWEEN ALL CONTRACTORS ON SITE

THE MAIN CONTRACTOR, THE MECHANICAL CONTRACTOR & THE ELECTRICAL CONTRACTOR SHALL REMAIN IN CONSTANT COMMUNICATION WITH EACH OTHER AND OTHER EMPLOYED SPECIALISTS/SUPPLIERS.THE MECHANICAL & ELECTRICAL ONTRACTORS MUST AGREE CO-ORDINATION ROUTES OF SERVICES AND PLACING OF PLANT AND EQUIPMENT ASSOCIATED WITH THE PROPOSED WORKS. SHOULD THERE BE ANY CLASHING OF SERVICES, THE MECHANICAL AND ELECTRICAL CONTRACTORS SHALL RELOCATE AND RESOLVE THE ISSUES AT THEIR OWN EXPENSE.

THE MECHANICAL CONTRACTOR SHALL TIMEOUSLY INFORM THE ELECTRICAL CONTRACTOR OF ALL THEIR POWER AND CABLE REQUIREMENTS E.G. FOR THE VENTILATION FANS, THE CONTROLS INSTALLATIONS, ETC. LIKEWISE THE ELECTRICAL CONTRACTOR IS TO DETERMINE FROM THE MECHANICAL CONTRACTOR FINAL LOCATIONS OF ALL ITEMS OF MECHANICAL PLANT AND EQUIPMENT PRIOR TO FIRST FIX WORKS TO ABLE INSTALLATION OF SUPPLIES TO CORRECT LOCATIONS.

IPSUM ENGINEERS operate a Quality Assurance System to ISO 9001.

SERVICE INFORMATION ONLY TO BE TAKEN FROM THIS DRAWING.

Use figure dimensions - DO NOT SCALE FROM THIS DRAWING.

Where Architects details are shown on this drawing, these are indicative and reference should be made to the appropriate Architect's drawing.

Rev.	Date	Description	Eng.	App.

Drawing number.
PL-M56-001

Client.
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Architect.
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THE COURTYARD
LOWER MAIN STREET
LETERKENNY
CO.DONEGAL

Project.
REFURBISHMENT OF SCIENCE ROOMS
SCOIL MHUIRE BUNCRANA
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Service.
MECHANICAL

Drawing Status.
TENDER

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Eng./CAD CMcC | Checked. RD

Title.
SCIENCE CLASSROOMS 1&2
SECOND FLOOR

SPACE HEATING SERVICES

Scale(s). 1:50 @ A1 | Date. MAY.2026

Project Number. 6447 | Revision. T0

Drawing number.
PL-M56-001

Base Negative Identity	Xref name.-	Drg. Source.-	Drg. Number.-	Drawing Revision.-	Date Received.-	By.-