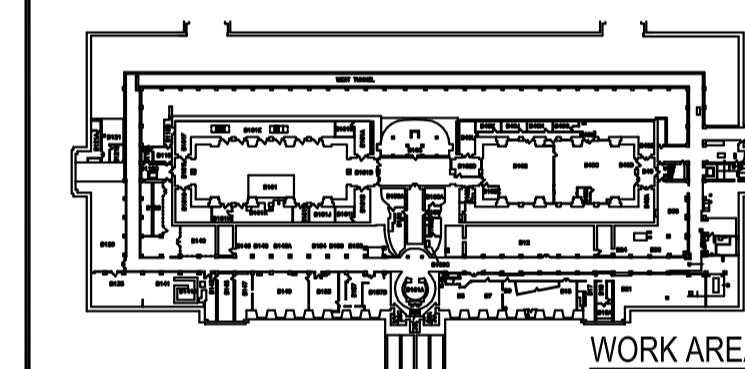


GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS AND CLEARANCES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES AND/OR OMISSIONS TO DEPARTMENTAL REPRESENTATIVE.
- CONTRACTORS MUST VISIT THE SITE AND FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK PRIOR TO PROJECT COMMENCEMENT.
- ALL TRADES TO COORDINATE WORK ON SITE, WITH APPROVAL OF DEPARTMENTAL REPRESENTATIVE TO AVOID ANY CONFLICTS AND/OR INTERFERENCE.
- ANY AND ALL REQUIRED SHUTDOWNS SHALL BE COORDINATED WITH DEPARTMENTAL REPRESENTATIVE.
- INSTALLATION OF ALL SYSTEMS SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
- CONTRACTOR TO BE RESPONSIBLE FOR REINSTATEMENT AND REPAIR OF ANY DAMAGE CAUSED BY WORK.
- CONTRACTOR SHALL PREVENT THE SPREAD OF DUST AND DEBRIS BEYOND AREA OF WORK AND CLEAN ALL SURFACES AT COMPLETION.
- ALL SHUTDOWNS SHALL BE PERFORMED AFTER NORMAL WORKING HOURS
- INFILL THE OPENINGS THROUGH THE FLOOR WITH FIRE RATED ROXUL INSULATION AND SELF-LEVELING FIRE RETARDANT

KEY PLAN

PLAN CLÉ



WORK AREA:

0	14 10 2020	ISSUED FOR TENDER	RGC
No.	Date	Revision	By: Par:

Date Printed Date imprimée

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité

A	A Detail no. / No. du détail	A
B	B Location drawing no. sur dessin no.	B
C	C Drawing no. dessin no.	C

project projet

DOMESTIC HOT WATER SYSTEM CONVERSION TO ELECTRIC
 SUSSEX CAMPUS (S77)

drawing dessin
 ELECTRICAL SINGLE LINE DIAGRAM AND LAYOUT

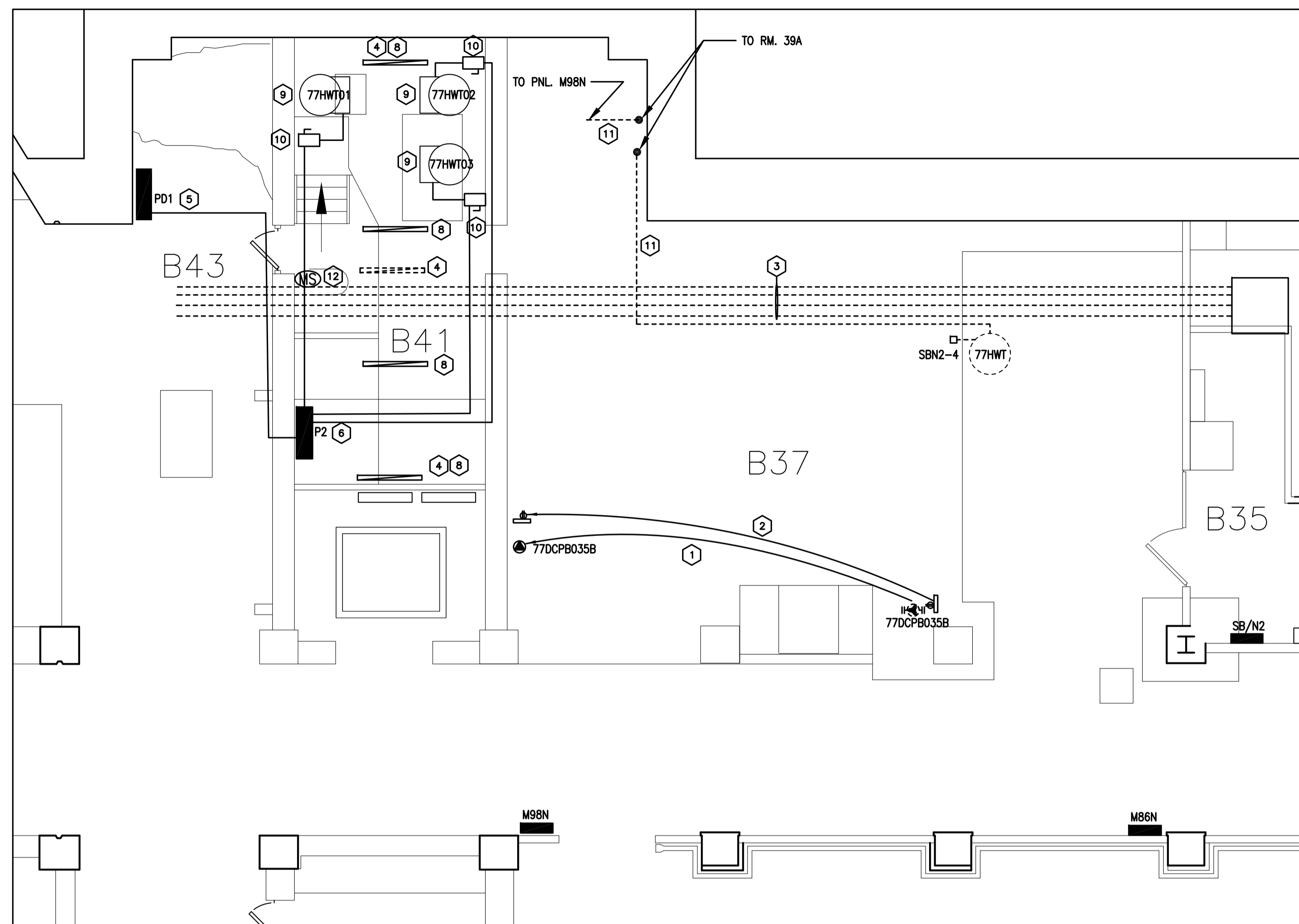
designed	conçu	date	date
KXL		10/2020	

drawn	dessiné	scale	échelle
KXL		NA	

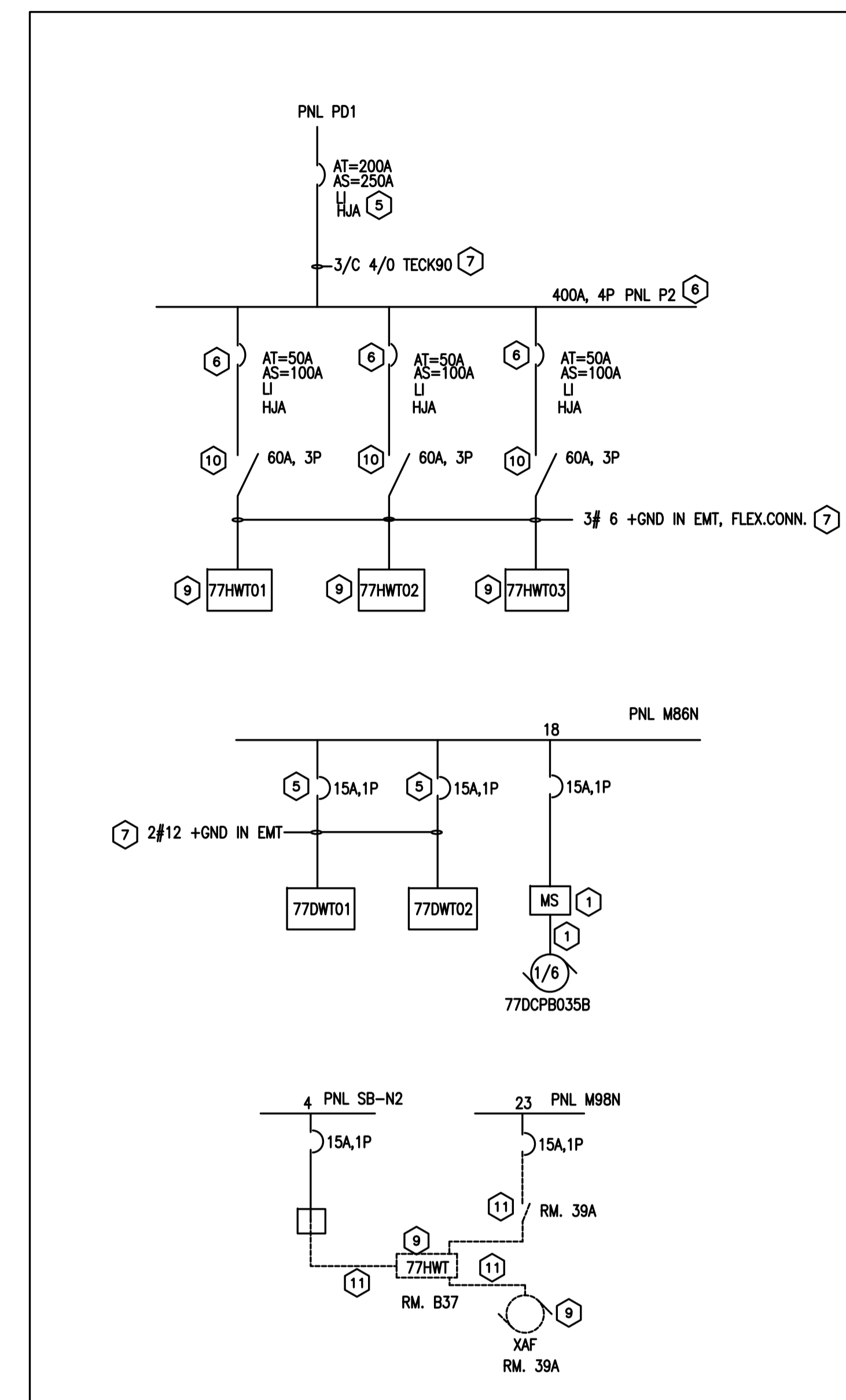
checked	vérifié	sheet	feuille
CYC		E01 of/de	E01

approved	approuvé	W.O.no.	D.T.no.
ALS		A1-011224-14	

dwg.no.	dessin no.
5909-E01	



2 PARTIAL SUBBASEMENT FLOOR PLAN
 E01 SCALE: 6"=1'-0"



1 SINGLE LINE DIAGRAM
 E01 SCALE

CONSTRUCTION NOTES:

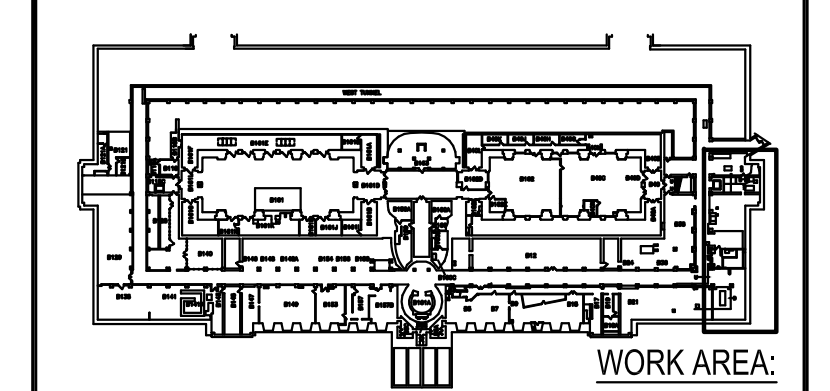
- EXISTING CIRCUIT AND MANUAL STARTER TO DOMESTIC HOT WATER PUMP TO BE RELOCATED TO NEW LOCATION INDICATED. PROVIDE ADDITIONAL WIRING. COORDINATE WITH DIVISION 23
- EXISTING RACEWAY WITH CIRCUITS TO BE DISCONNECTED AND RELOCATED AS SHOWN.
- EXISTING 4" RIGID CONDUIT TO BE DEMOLISHED, CAP THE OPENINGS ON EXISTING PULL BOX.
- EXISTING LIGHTING FIXTURE TO BE DISCONNECTED AND REMOVED, RETAIN CIRCUIT TO RE-USE
- PROVIDE NEW SQ D I-LINE BREAKER IN EXISTING PANEL
- PROVIDE NEW SQ D I-LINE PANEL P2 WITH BREAKER AND ELECTRONIC TRIP UNIT, 45" MOUNTING SPACE
- PROVIDE NEW WIRING AND CONNECTION AS SHOWN
- PROVIDE NEW LED LINEAR STRIP LIGHTING FIXTURE, POWER BY EXISTING CIRCUIT
 - SIGNIFY FLUXSTREAM, FSS440L840-UNV-DIM
- EQUIPMENT PROVIDED BY DIV.23
- PROVIDE NEW NON-FUSED DISCONNECT NEXT TO HEATER
- DISCONNECT AND REMOVE EXISTING WIRING TO EXISTING HOT WATER TANK AND EXHAUST FAN
- PROVIDE ADDITIONAL MOTION SENSOR FOR NEW LIGHTS IN ROOM B41, MATCH THE EXISTING



GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS AND CLEARANCES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES AND/OR OMISSIONS TO DEPARTMENTAL REPRESENTATIVE.
- CONTRACTORS MUST VISIT THE SITE AND FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK PRIOR TO PROJECT COMMENCEMENT.
- ALL TRADES TO COORDINATE WORK ON SITE, WITH APPROVAL OF DEPARTMENTAL REPRESENTATIVE TO AVOID ANY CONFLICTS AND/OR INTERFERENCE.
- ANY AND ALL REQUIRED SHUTDOWNS SHALL BE COORDINATED WITH DEPARTMENTAL REPRESENTATIVE.
- INSTALLATION OF ALL SYSTEMS SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
- CONTRACTOR TO BE RESPONSIBLE FOR REINSTATEMENT AND REPAIR OF ANY DAMAGE CAUSED BY WORK.
- CONTRACTOR SHALL PREVENT THE SPREAD OF DUST AND DEBRIS BEYOND AREA OF WORK AND CLEAN ALL SURFACES AT COMPLETION.
- ALL CONTROL WORK TO BE COMPLETED BY AINSWORTH INC. CONTACT AARON DOBSON AT (613) 247-7938, (AARON.DOBSON@AINSWORTH.COM) FOR PRICING.
- CONTRACTOR SHALL RELOCATE EXISTING RE-CIRCULATING DOMESTIC HOT WATER PUMP DURING A SCHEDULE 2 DAY SCHEDULED SHUTDOWN WITH NRC. CONTRACTOR TO INCLUDE FOR A WEEKEND SHUTDOWN.
- NEW DOMESTIC HOT WATER SYSTEM SHALL BE OPERATING FOR A MINIMUM OF SEVEN DAYS BEFORE DEMOLITION OF EXISTING DOMESTIC HOT WATER SYSTEM CAN START.

KEY PLAN PLAN CLÉ



No.	Date	Revision	By:
0	14 10 2020	ISSUED FOR TENDER	RCC

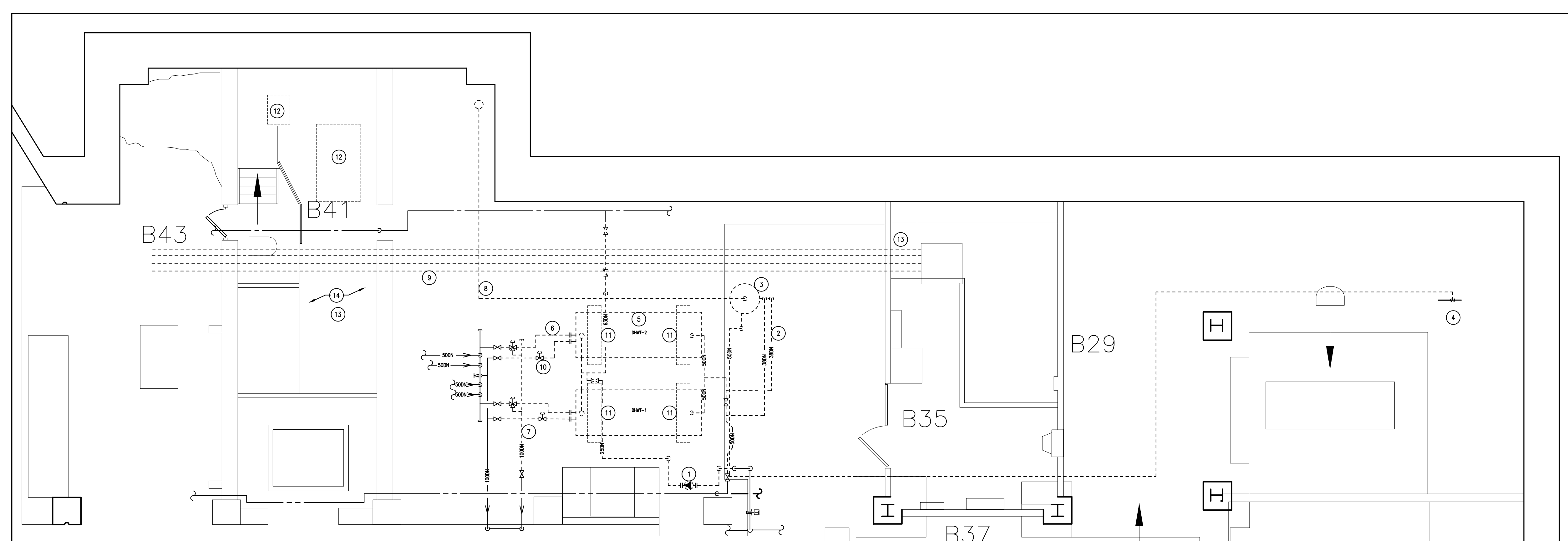
Date Printed: _____ Date imprimée: _____

Verify all dimensions and site conditions and be responsible for same.
 Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité

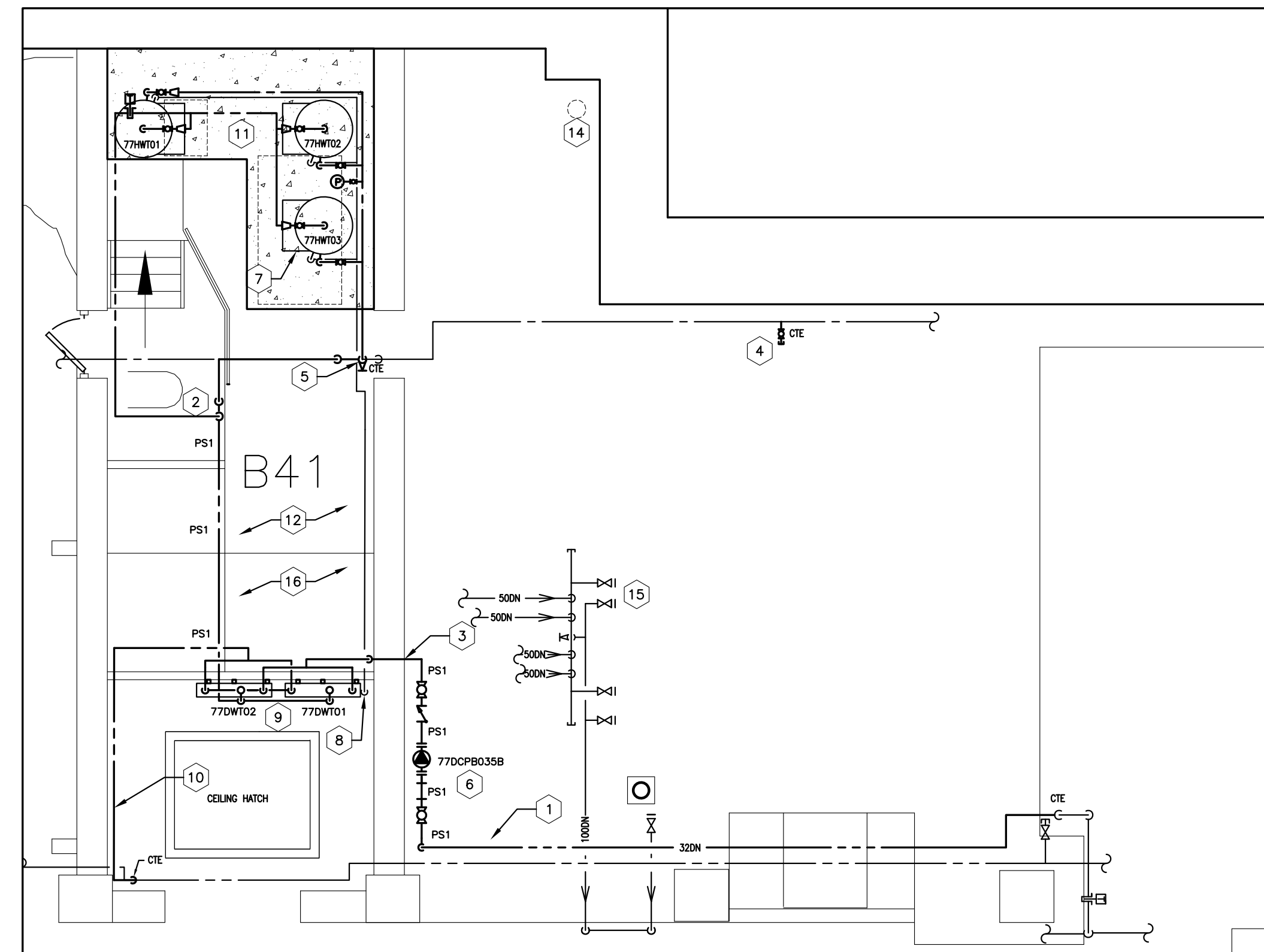
A	A Detail no. / No. du détail	A
B	B Location drawing no. / sur dessin no.	B
C	C Drawing no. / dessin no.	C

project: DOMESTIC HOT WATER SYSTEM CONVERSION TO ELECTRIC
 projet: SUSSEX CAMPUS (S77)
 drawing: MECHANICAL LAYOUT
 dessin: _____

designed: R.G.C./C.E.	conçu: R.G.C./C.E.	date: 10/2020	date: _____
drawn: R.G.C./C.E.	dessiné: R.G.C./C.E.	scale: NA	échelle: _____
checked: IAF	vérifié: IAF	sheet: 1 of/de 2	feuille: _____
approved: _____	approuvé: _____	W.O.no.: A1-011224-14	D.T.no.: _____
dwg.no.: 5909-G01	dessin no.: _____		



1 DEMOLITION LAYOUT
 MO1



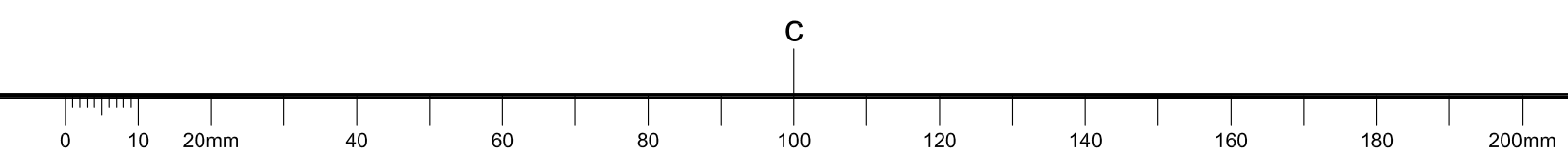
2 NEW DOMESTIC HOT WATER SUPPLY LAYOUT
 MO1

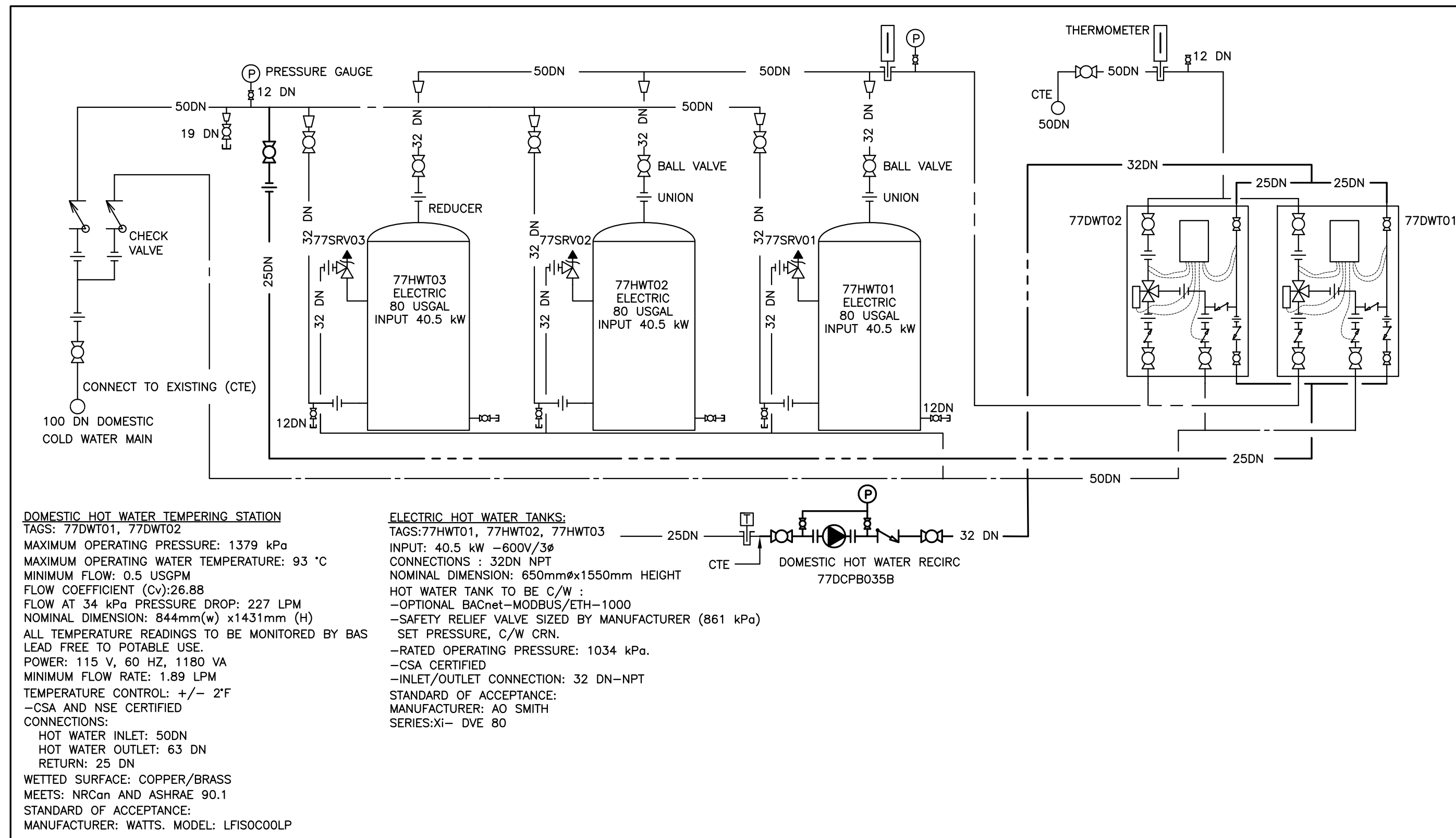
DETAIL 2 NOTES:

- NEW INSULATED DOMESTIC HOT WATER RE-CIRCULATING TUBING TO BE ROUTED PARALLEL TO EXISTING 500mm DOMESTIC HOT WATER PIPING. CONNECT TO EXISTING PIPING AT LOCATION INDICATED.
- NEW INSULATED DOMESTIC COLD/HOT WATER PIPING TO DROP DOWN TO 250mm/400mm ABOVE FINISHED FLOOR AND BE SUPPORTED TO CONCRETE WALL WITH CORE 100mm HOLE THROUGH EXISTING 500mm THICK CONCRETE WALL TO SUIT NEW INSULATED TUBING.
- PROVIDE NEW 630N ISOLATION VALVE C/W CAP AS CLOSE TO EXISTING MAIN AS POSSIBLE.
- NEW INSULATED DOMESTIC COLD WATER PIPING. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AT LOCATION INDICATED. TUBING TO BE LOCATED AT HIGH AS POSSIBLE AND SLOPED TO SUIT CEILING.
- RELOCATED RE-CIRCULATING HOT WATER PUMP TO THIS LOCATION AT 300mm ABOVE FINISHED FLOOR.
- TYPICAL OF THREE NEW ELECTRIC HOT WATER TANKS TO BE PROVIDED.
- VENT TUBING FROM EACH TANK TO BE CONNECTED AND RUN ALONG WALL TERMINATED AT 100mm ABOVE BASEMENT FLOOR AT THIS APPROXIMATE LOCATION.
- TYPICAL OF TWO NEW DOMESTIC WATER TEMPERING STATIONS TO BE PROVIDED. SUPPORT EACH STATION ON THREE VERTICAL 3 METERS LONG SECTIONS OF GALVANIZED UNISTRUT (P1000). EXACT LOCATION OF EACH STATION TO BE COORDINATED ON SITE WITH NRC. SECURE UNISTRUT TO CONCRETE WALL WITH THREE EQUALLY SPACED HILTI ANCHORS (KH-3/8x5"). PROVIDE GALVANIZED WASHERS BETWEEN UNISTRUT AND WALL AS REQUIRED TO LEVEL STRUCTURE. SECURE EACH STATION TO UNISTRUT WITH SIX "U" SHAPED UNISTRUT FITTINGS (P-6048) TO BE C/W BOLTING HARDWARE. PROVIDE A VERTICAL UNISTRUT BRACE 150mm FROM TOP OF EACH UNISTRUT TO EXISTING FLOOR AT A NOMINAL 22.5° DEGREE ANGLE. SECURE BRACE TO UNISTRUT WITH UNISTRUT FITTING (P2102-C/W HARDWARE) AND SECURE BRACE TO FLOOR WITH UNISTRUT FILLING (P2096-C/W HARDWARE AND CONCRETE ANCHOR).
- NEW INSULATED DOMESTIC HOT WATER TUBING. CONNECT TO EXISTING DOMESTIC HOT WATER TUBING AT LOCATION INDICATED. TUBING TO BE LOCATED AT HIGH AS POSSIBLE AND SLOPED TO SUIT CEILING.
- NEW CONCRETE INFILL TO LEVEL OF EXISTING CONCRETE PADS. APPROX. 102mm THICK 25 MPa C/W 15M DOWELS AT EACH CORNER AND AT 610mm O.C. EACH DIRECTION. DOWEL TO EXISTING ROUGHENED CONCRETE SURFACE. NEW CONCRETE TO RECEIVE 15M Ø305mm EACH WAY. PAD TO BE WOOD FLOAT FINISHED WITH CHAMFERED EDGE. EXACT LOCATION TO BE DETERMINED ON SITE. PAINT CONCRETE WITH NEW EPOXY PAINT (GREY). 102mm STRIP AT EDGE OF CONCRETE TO BE PAINTED CAUTION YELLOW.
- ALL INTERIOR WALLS TO BE PAINTED WITH EPOXY PAINT (GREY). EXISTING STAIRS, GUARDRAIL AND ALL ASSOCIATED ELEMENTS TO BE PAINTED CAUTION YELLOW.
- INFILL PENETRATIONS WHERE CONDUIT HAS BEEN REMOVED. FRESTOP TO HIS USING SYSTEM AS RECOMMENDED BY MANUFACTURER BASED ON OPENING SIZE. STANDARD MANUFACTURER OF ACCEPTANCE. HILTI.
- FILL REMAINING VOID WITH FIRE RATED SILICON AND PROVIDE 200x200x12mm (THICK) STEEL PLATE AND SECURE TO FLOOR.
- PROVIDE NEW CLASS 150 BLIND FLANGE ON REMAINING STEAM AND CONDENSATE VALVES REMAINING. TYPICAL OF FIVE.
- EXISTING SLAB TO RECEIVE NEW 25mm CONCRETE TOPPING. STANDARD OF ACCEPTANCE: QUICKRETE C/W BONDING ADHESIVE.

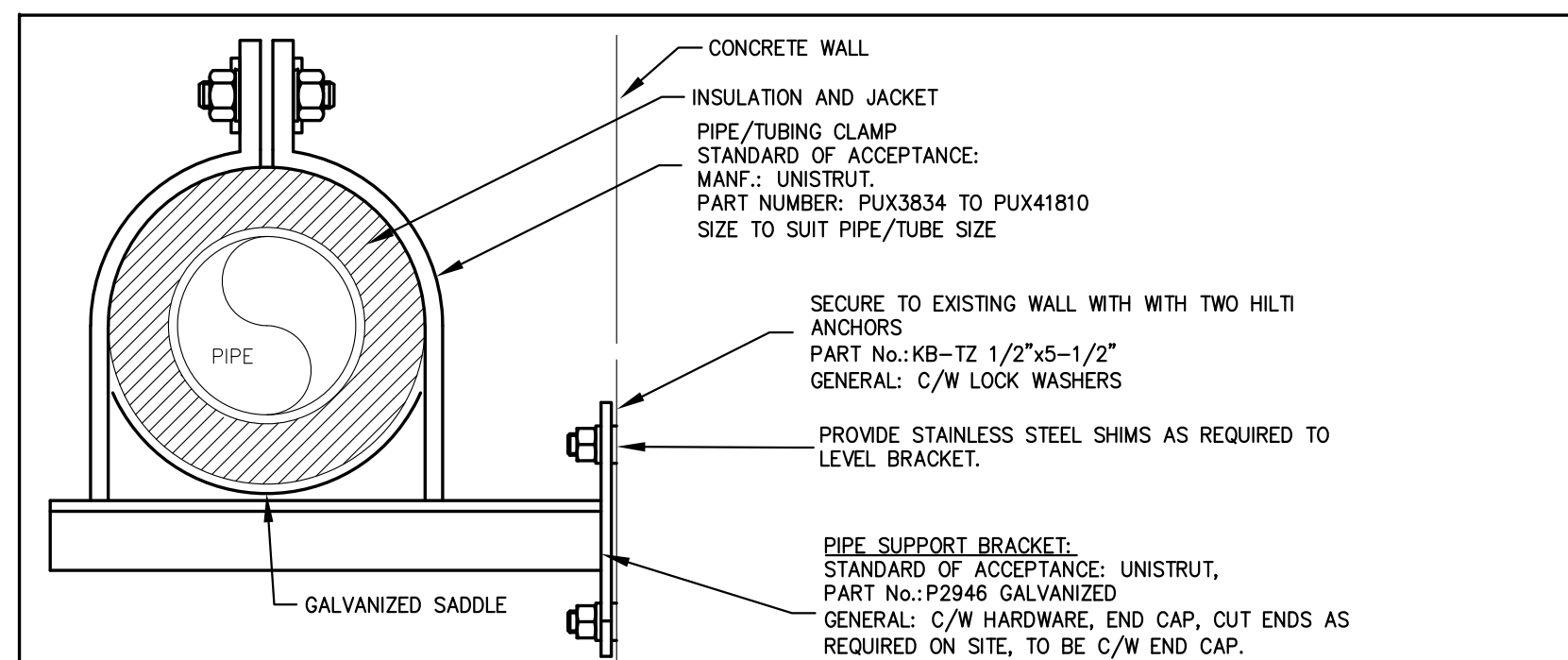
DETAIL 1: DEMOLITION NOTES:

- DOMESTIC HOT WATER RE-CIRCULATING PUMP TO BE RELOCATED TO NEW LOCATION INDICATED. NEW RE-CIRCULATING PIPING TO BE COMPLETED IN ADVANCE OF RELOCATING THE PUMP. ALL OTHER DEMOLITION WORK TO BE COMPLETED ONLY AFTER NEW DOMESTIC HOT WATER SYSTEM HAS BEEN COMPLETED AND OPERATING TROUBLE FREE FOR A MINIMUM OF SEVEN CONTINUOUS DAYS.
- EXISTING INSULATED DOMESTIC HOT WATER COPPER TUBING TO BE REMOVED AND DISPOSED OF BY CONTRACTOR.
- EXISTING NATURAL GAS DOMESTIC HOT WATER TANK AND ALL GAS PIPING AND VENTING TO BE REMOVED AND DISPOSED OF BY CONTRACTOR. REMOVAL CONTRACTOR SHALL BE A LICENSED CONTRACTOR WITH TSSA AND HAVE A VALID G2 NATURAL GAS CERTIFICATE.
- NATURAL GAS PIPING TO BE REMOVED AND DISPOSED OF BY CONTRACTOR. PIPING TO BE CAPPED AT THIS APPROXIMATE LOCATION.
- TYPICAL OF TWO INSULATED STEAM TO HOT WATER (SHELL AND TUBE) TANKS TO BE REMOVED AND DISPOSED OF BY CONTRACTOR. NOMINAL DIMENSIONS: 950mmx3 METERS.
- TYPICAL INSULATED 100 PSIG STEAM PIPING (STEEL-SCHEDULE 40) C/W SUPPORTS, VALVES, FITTINGS, GAUGES, TEMPERATURE SENSORS AND SUPPORTS TO BE REMOVED AND DISPOSED OF BY CONTRACTOR.
- TYPICAL INSULATED HIGH TEMPERATURE STEAM CONDENSATE PIPING (STEEL-SCHEDULE 80) C/W SUPPORTS, VALVES, FITTINGS, GAUGES, TEMPERATURE SENSORS AND SUPPORTS TO BE REMOVED AND DISPOSED OF BY CONTRACTOR.
- EXISTING 1000N VENT PIPING FROM HOT WATER TANK TO EXISTING EXHAUST FAN LOCATED IN ROOM 39A TO BE REMOVED. ALL ELECTRICAL BETWEEN FAN AND HOT WATER TANK TO BE REMOVED. TO BE COORDINATED WITH ELECTRICAL.
- DISCHARGE 1000N VENT TO BE FILLED WITH ROXUL INSULATION AND CAPPED.
- EXISTING FOUR 1000N EMPTY ELECTRICAL CONDUITS AND RELATED SUPPORTS TO BE REMOVED. EXISTING JUNCTION BOX TO REMAIN AND FOUR 1000N CONNECTIONS CAPPED PER ELECTRICAL CODE. SEE ELECTRICAL.
- TYPICAL OF TWO STEAM CONDENSATE 3-WAY MIXING VALVES AND TWO 2-WAY CONTROL VALVES TO BE REMOVED AND HANDED OVER TO NRC.
- REMOVE EXISTING STEAM TO HOT WATER SHELL CONCRETE SADDLES (TYPICAL OF TWO PER TANK AND FOUR SADDLES IN TOTAL). CHIP OUT CONCRETE AND CUT BACK ANY REBAR OR DOWELS TO SLAB LEVEL. INFILL ALL DEPRESSIONS OR CRACKS TO ENSURE EVEN APPLICATION OF NEW TOPPING.
- EXISTING CONCRETE HOUSEKEEPING PADS TO REMAIN. CHIP CONCRETE DOWN TO SOUND MATERIAL. CHIP OUT CONCRETE AND CUT BACK ANY REBAR OR DOWELS TO LEVEL. INFILL ALL DEPRESSIONS OR CRACKS TO ENSURE EVEN APPLICATION OF NEW TOPPING AND FINISH.
- REMOVE ALL SPALLING/PEELING EXISTING PAINT AND EFFLORESCENCE FROM MASONRY UNIT WALLS IN AREA TO MAKE READY FOR NEW EPOXY PAINT FINISH.
- EXISTING UPPER AREA SLAB TO BE CLEANED OF ALL DEBRIS DOWN TO SOUND SURFACE AND MADE READY FOR NEW CONCRETE APPLICATION.

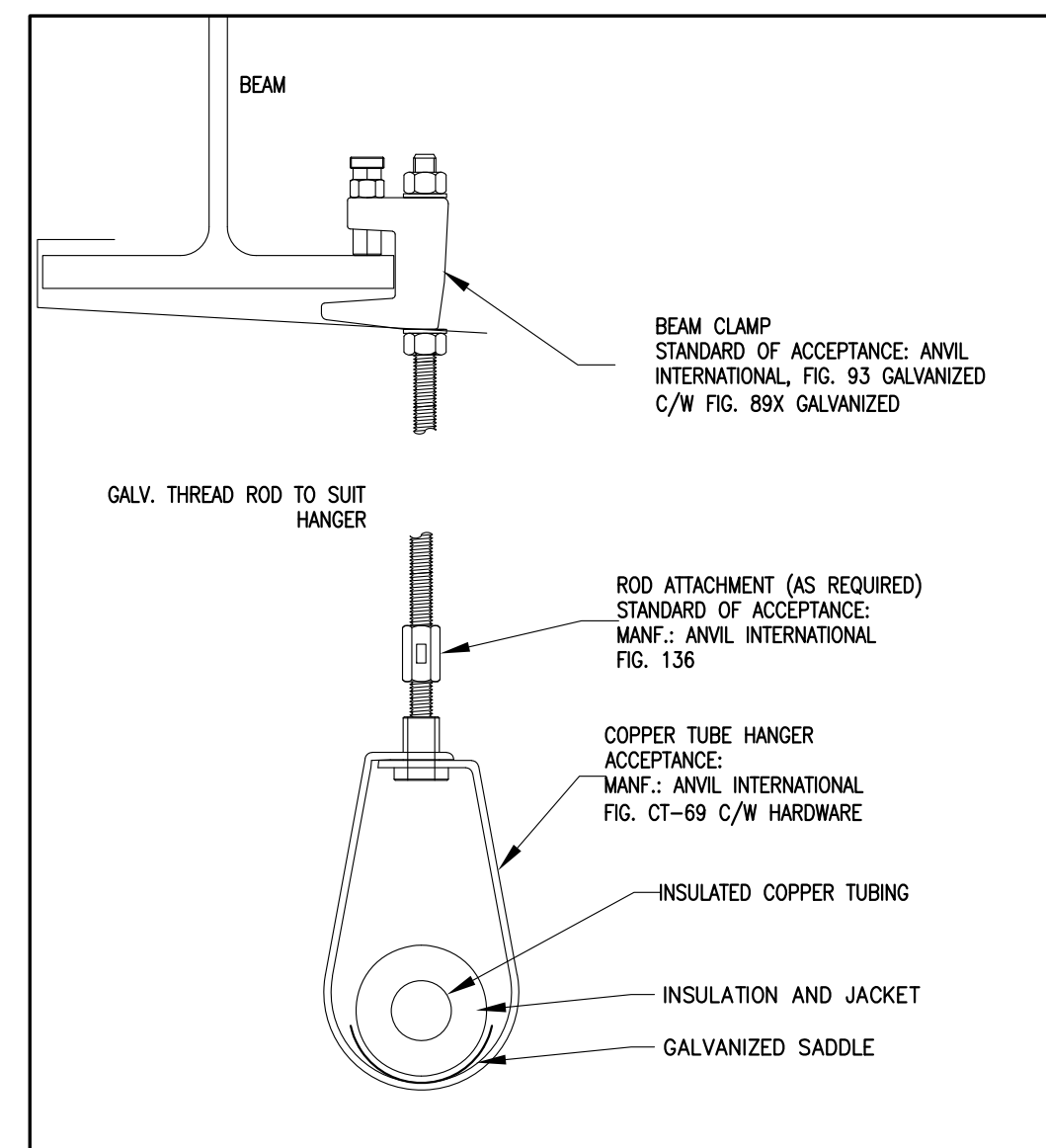




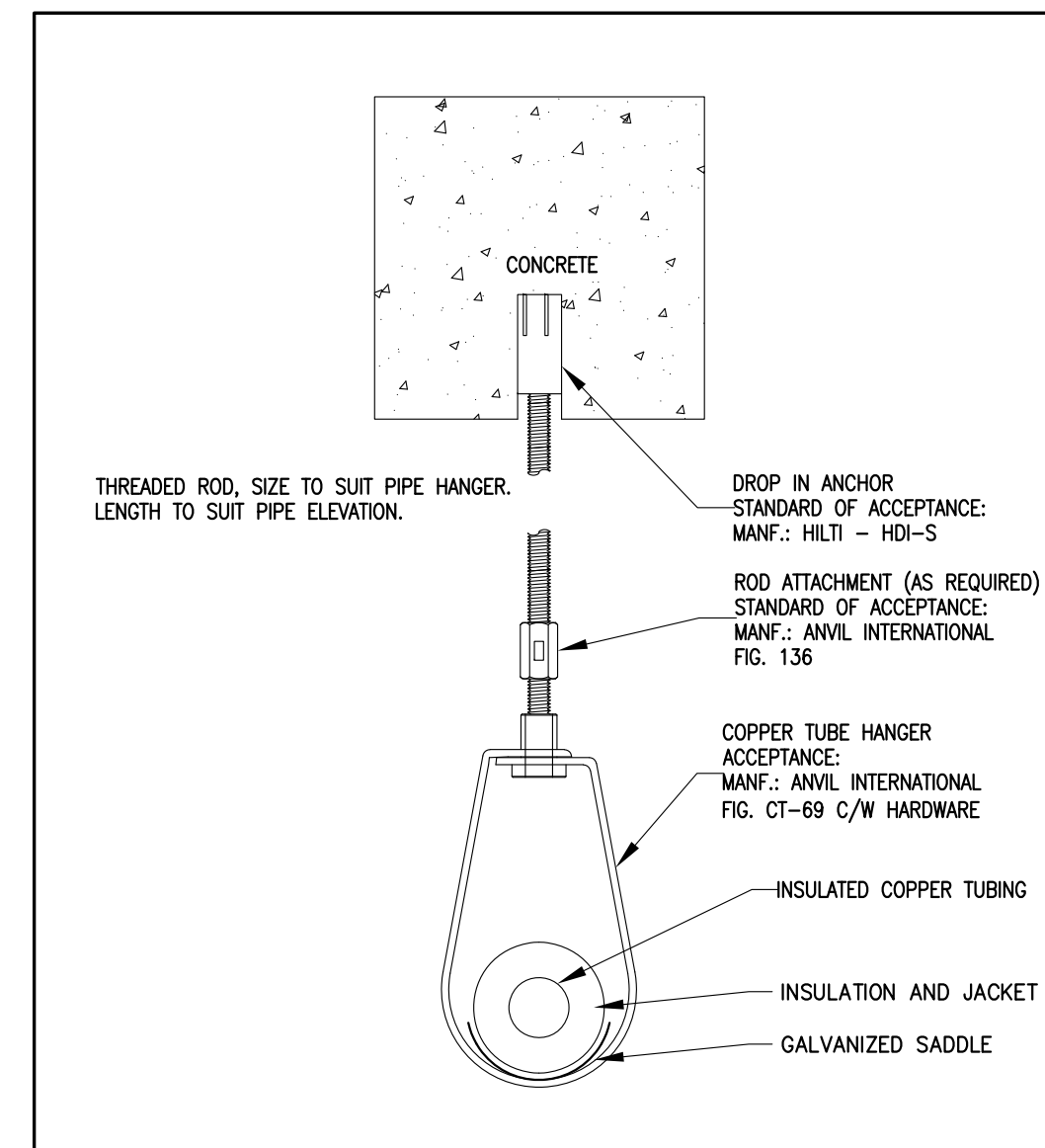
1 NEW DOMESTIC HOT WATER PIPING SCHEMATIC
M02



2 PIPE SUPPORT DETAIL : PS1
SCALE = NA
M02



3 PIPE SUPPORT : PS2
M02



4 PIPE SUPPORT : PS3
M02

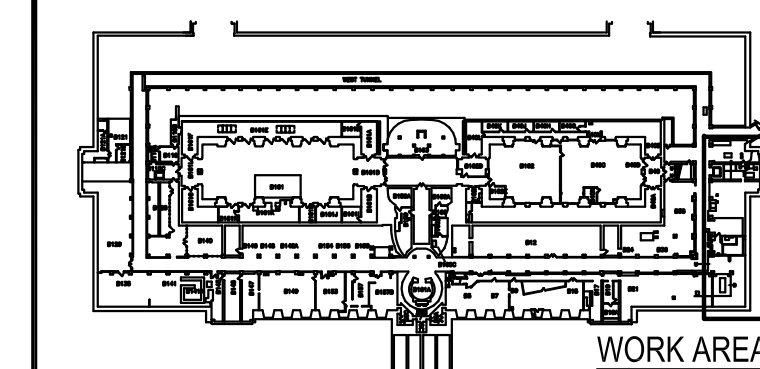
PRESSURE GAUGE (P)

TAG	P
WORKING FLUID	WATER
MAXIMUM SYSTEM PRESSURE (kPa)	700
MAXIMUM SYSTEM TEMPERATURE (°C)	100
POINTER	ANODIZED BLACK
MINIMUM SYSTEM TEMPERATURE (°C)	70
CONNECTION (NPT)	1/2 S.T
CONNECTION TYPE	S.T
BOURDON TUBE	S.T
ACCURACY (FULL SCALE)	1%
CANADIAN REGISTRATION NUMBER	NO
CASE MATERIAL	S.T
CONNECTION	LOWER/S.T
DIAL SIZE	100mm
GLYCERIN FILLED	NO
STANDARD - ASME	B40.100
INTERNAL MATERIAL	S.T
GAUGE DUAL SCALES: PSIG (kPa)	0-100 (689)
STANDARD OF ACCEPTANCE	
MANUFACTURERS	WKA, WEISS, WINTERS (PPF)
NOTES:	
- ALL GAUGES C/W WHITE FACE WITH BLACK FIGURES, ALUMINUM POINTER, ISOLATION VALVE.	
- SUITABLE FOR POTABLE WATER SYSTEMS AND LEAD FREE.	



- CONTRACTOR TO PROVIDE THE FOLLOWING :
- REMOVE EXISTING TEMPERATURE SENSORS AND RELATED CONDUITS ON EXISTING HOT WATER TANKS.
 - REMOVE EXISTING CONTROLS FOUR STEAM/WATER CONTROL VALVES.
 - CONNECT NEW HOT WATER TANKS TO EXISTING BAS AND UPDATED GRAPHICS.
 - CONNECT THE TWO NEW DOMESTIC HOT WATER TEMPERING MIXING VALVES STATION TO EXISTING BAS AND UPDATE GRAPHIC SCREEN TO MONITOR FOUR TEMPERATURE SENSOR AND ALARM STATUS.
2. CONNECT EACH HOT WATER TANK TO BAS TO PROVIDE THE FOLLOWING ON BAS GRAPHIC SCREEN : ENABLE/DISABLE, TEMPERATURE SETPOINTS AND ALARM NOTIFICATIONS.

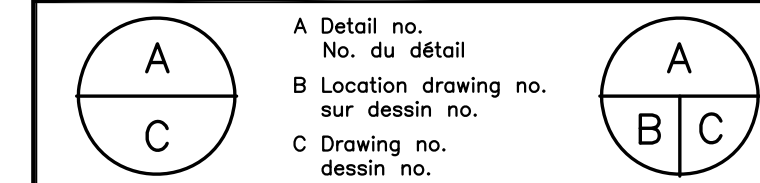
KEY PLAN PLAN CLÉ



0	14 10 2020	ISSUED FOR TENDER	RCC
No.	Date	Revision	By: / Par:

Date Printed / Date imprimée

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité



project / projet

DOMESTIC HOT WATER SYSTEM CONVERSION TO ELECTRIC
SUSSEX CAMPUS (S77)
drawing / dessin
DETAILS AND SCHEDULED

designed / conçu	date	date
R.G.C./C.E	10/2020	
drawn / dessiné	scale	échelle
R.G.C./C.E	NA	
checked / vérifié	sheet	2 of/de 2 feuille
IAF		
approved / approuvé	W.O.no.	D.T.no.
	A1-011224-14	
dwg.no.	dessin no.	

5909-G02