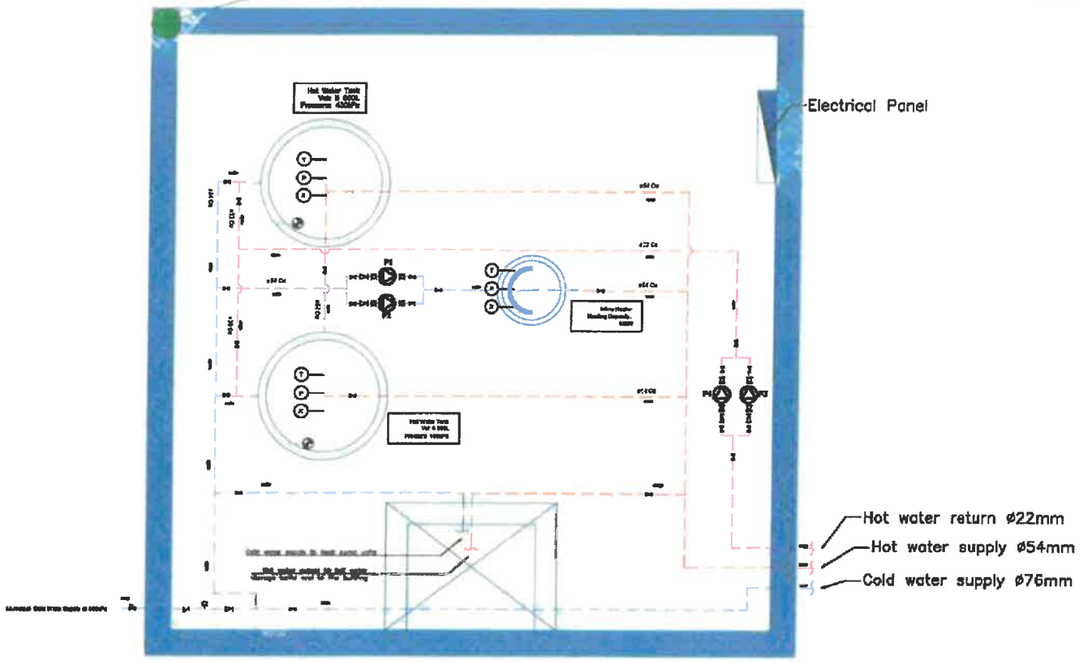
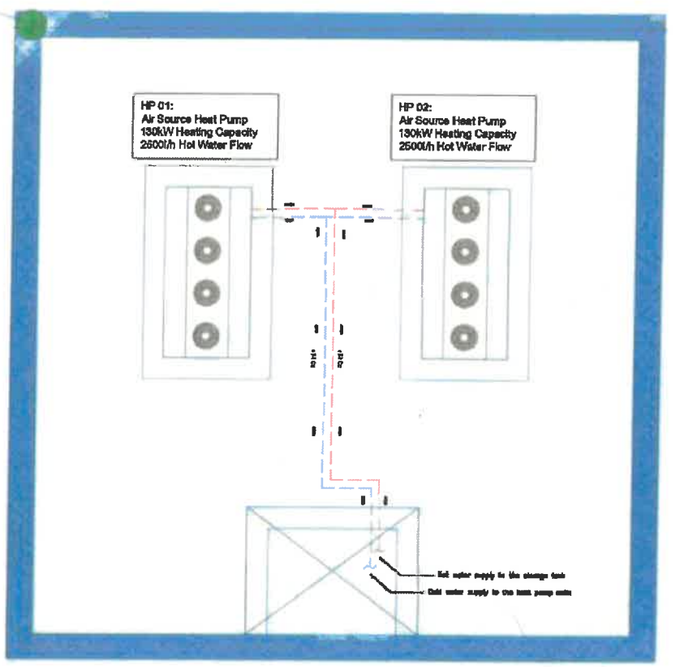
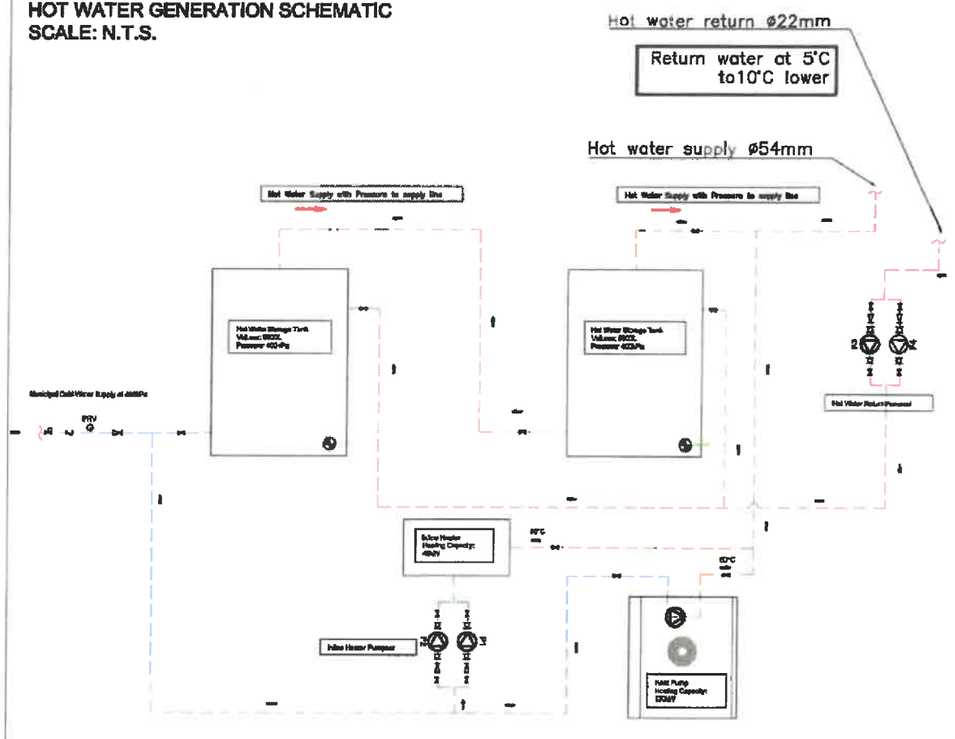


PLANT ROOM
SCALE: N.T.S



FIRST FLOOR PLAN
SCALE: N.T.S.

HOT WATER GENERATION SCHEMATIC
SCALE: N.T.S.



Hot Water Heat Pump Units Schedule

Type Mark	Area Serving	Type	Heating Capacity (kW)	Water Flowrate (l/hr)	Input Power (kW)	Phase/Voltage/ Hz	Size (LxWxH)	Weight (kg)	Qty
HP 01	K1.83	Air to Water	130	2500	32	3/415/50	2130x1080x2038	1000	2
HP 01	K2.83	Air to Water	130	2500	32	3/415/50	2130x1080x2039	1000	2
HP 01	K3.83	Air to Water	130	2500	32	3/415/50	2130x1080x2040	1000	2
HP 01	K4.83	Air to Water	130	2500	32	3/415/50	2130x1080x2041	1000	2
HP 01	K5.83	Air to Water	130	2500	32	3/415/50	2130x1080x2042	1000	2
HP 01	K6.83	Air to Water	130	2500	32	3/415/50	2130x1080x2043	1000	2
HP 01	K7.83	Air to Water	130	2500	32	3/415/50	2130x1080x2044	1000	2
HP 01	K8.83	Air to Water	130	2500	32	3/415/50	2130x1080x2045	1000	2
HP 01	K9.83	Air to Water	130	2500	32	3/415/50	2130x1080x2046	1000	2
HP 01	K10.83	Air to Water	130	2500	32	3/415/50	2130x1080x2047	1000	2
HP 01	K11.83	Air to Water	130	2500	32	3/415/50	2130x1080x2048	1000	2
HP 01	K12.83	Air to Water	130	2500	32	3/415/50	2130x1080x2049	1000	2

Inline Heaters Schedule

Type Mark	Area Serving	Heating Capacity (kW)	Input Power (kW)	Phase/Voltage/ Hz	Qty
ILH 01	K1.83	48	32	3/415/50	2
ILH 01	K2.83	48	32	3/415/50	2
ILH 01	K3.83	48	32	3/415/50	2
ILH 01	K4.83	48	32	3/415/50	2
ILH 01	K5.83	48	32	3/415/50	2
ILH 01	K6.83	48	32	3/415/50	2
ILH 01	K7.83	48	32	3/415/50	2
ILH 01	K8.83	48	32	3/415/50	2
ILH 01	K9.83	48	32	3/415/50	2
ILH 01	K10.83	48	32	3/415/50	2
ILH 01	K11.83	48	32	3/415/50	2
ILH 01	K12.83	48	32	3/415/50	2

Hot Water Storage Tanks Schedule

Type Mark	Area Serving	Volume (L)	Pressure (kPa)	Qty
HWT 01	K1.83	5000	400	2
HWT 01	K2.83	5000	400	2
HWT 01	K3.83	5000	400	2
HWT 01	K4.83	5000	400	2
HWT 01	K5.83	5000	400	2
HWT 01	K6.83	5000	400	2
HWT 01	K7.83	5000	400	2
HWT 01	K8.83	5000	400	2
HWT 01	K9.83	5000	400	2
HWT 01	K10.83	5000	400	2
HWT 01	K11.83	5000	400	2
HWT 01	K12.83	5000	400	2

NOTES:

- Coordinate drawing with other services.
- All cold water piping shall be copper pipes.
- All hot water shall be copper pipe, insulated and cladding with galvanized metal sheet.
- All Dimensions indicated are in millimeters (mm).
- All piping shall be complete with appropriate valves where necessary, all pipe fittings, pipe supports and any other accessories to complete the installation.
- All water pipe fittings shall be rated at 600kPa.
- All valves for cold water shall be clearly marked as such or painted in blue colour.
- All valves for hot water shall be clearly marked as such or painted in red colour.
- All wall penetration openings shall have 25mm clearance.
- All penetrations shall be neatly sealed.
- All piping installations shall be pressure tested for leak detection purposes.
- Piping shall be chased in the wall where practically possible.
- Builder shall confirm all measurements on-site prior to commencement of any works.
- All plumbing work shall be executed by a qualified plumber, and issue Certificate of Compliance (COC).
- All electrical installations shall be executed by a qualified electrician, and issue COC.
- Drain pipes shall be installed at an angle to enable gravitated flow.
- All drain pipes shall be PVC type material.
- All pipe work shall be supported by means of clamps, brackets, etc.

APPROVED
23/08/2020

NOTES:

THE USE OF TRADE NAMES ON THIS DRAWING IS PROHIBITED, ANY OTHER TRADE NAME EQUIPMENT FOR THIS PROJECT REQUIRES APPROVAL FROM THE RESPONSIBLE ENGINEER

1. BEFORE EXECUTION WORK BEGINS, THE CONTRACTOR SHALL VISIT SITE FOR FINAL SITE MEASUREMENTS
2. ANY SMALL DIMENSIONAL ALTERATIONS BY MAIN CONTRACTOR
3. ALL DIMENSIONS ARE IN MM
4. ALL WORK TO BE DONE IN ACCORDANCE WITH SANS 1288-1 2018 SANS 10400-X AS DIRECTED BY THE RESPONSIBLE ENGINEER

REVISIONS

REV.	DESCRIPTION	DATE	BY
01	FOR INFORMATION	27-05-20	

LEGEND:

- DRAIN POINT
- DRAIN PIPE
- COLD WATER SUPPLY PIPE
- HOT WATER SUPPLY PIPE
- HOT WATER RETURN PIPE
- ISOLATING (GATE) VALVE
- FLOW DIRECTION
- NON RETURN VALVE
- POSITIVE TYPE FLOAT VALVE
- ANTI-VIBRATION BELLOW
- PRESSURE GAUGE
- THERMOMETER
- WATER METER
- PUMP
  P1 = P2: Inline Heater Pumps
  P3 = P4: Hot Water Return Pumps
  Pressure Head = 10 m
  Pkwatts = 3.5 kwh

DRAWING ISSUED FOR:

INFORMATION	
PRELIMINARY DESIGN	
DETAILED DESIGN	X
TENDER	
CONSTRUCTION	
AS BUILT	

Full Name:

Professional Registration No.:

CONSULTANT

public works & infrastructure

CLIENT

correctional services

Discipline:
Work with X below

ARCHITECTURAL	
CIVIL & STRUCTURAL ENGINEERING	
ELECTRICAL ENGINEERING	
MECHANICAL ENGINEERING	X

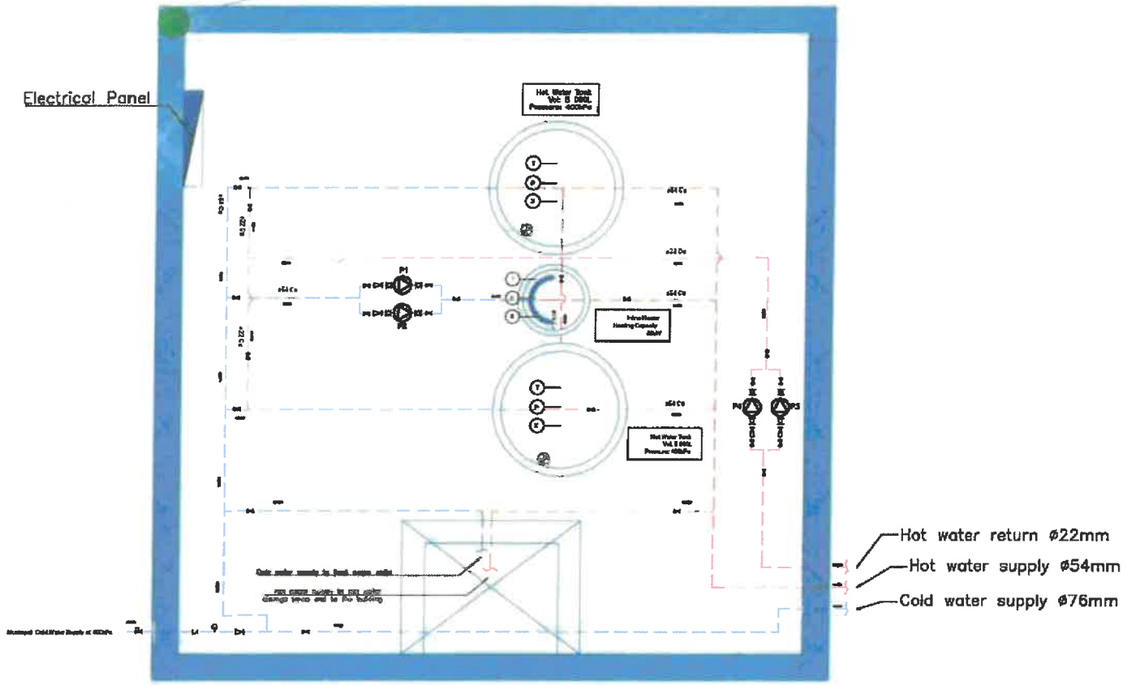
PROJECT TITLE

TSWELOPELE CORRECTIONAL CENTRE
REPLACEMENT OF HEAT PUMPS

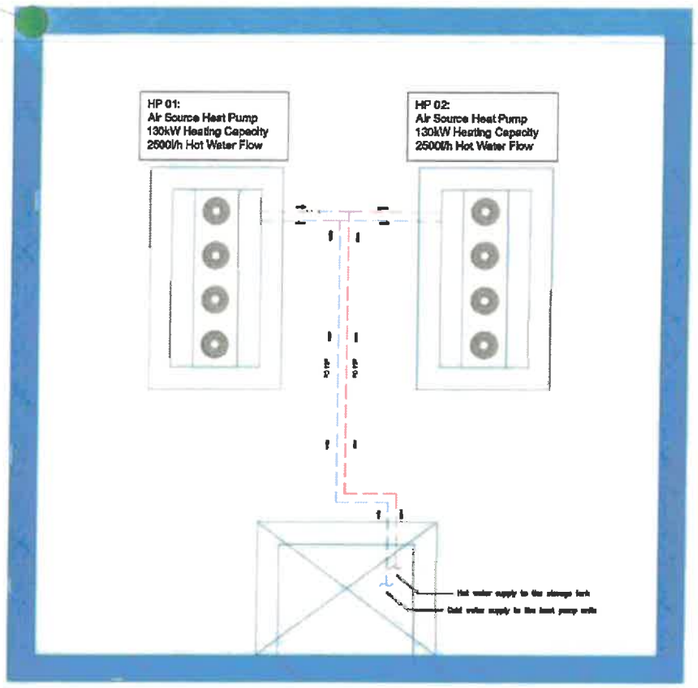
DRAWING TITLE

K1.83 - K12.83 PLANTROOM LAYOUT

CAPITAL	X	MAINTENANCE	
WCS No. 268411		Designed	G.Molomo
Scale NTS		Drawn	G.Molomo
Date 12-06-20		Checked	M.Tladi
Drawing No. MEWS-02		Rev No. 02	Size A1

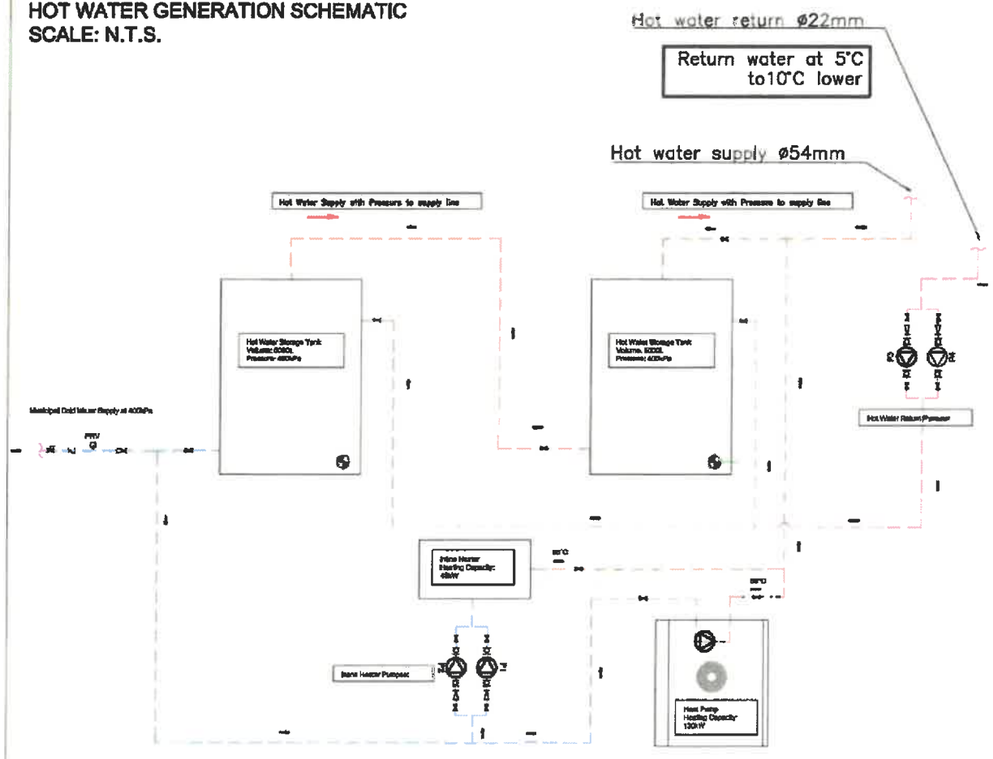


PLANT ROOM
SCALE: N.T.S



FIRST FLOOR PLAN
SCALE: N.T.S.

HOT WATER GENERATION SCHEMATIC
SCALE: N.T.S.



Hot Water Heat Pump Units Schedule

Type Mark	Area Serving	Type	Heating Capacity [kW]	Water Flowrate [l/hr]	Input Power [kW]	Phase/Voltage/ Hz	Size (LxWxH)	Weight [kg]	Qty
HP 01	Medical Block	Air to Water	130	2500	32	3/415/50	2110x1080x2050	1000	2
HP 01	Laundry	Air to Water	130	2500	32	3/415/50	2110x1080x2051	1000	2
HP 01	Kitchen	Air to Water	130	2500	32	3/415/50	2110x1080x2052	1000	2

Inline Heaters Schedule

Type Mark	Area Serving	Heating Capacity [kW]	Input Power [kW]	Phase/Voltage/ Hz	Qty
ILH 01	Medical Block	48	32	3/415/50	2
ILH 01	Laundry	48	32	3/415/50	2
ILH 01	Kitchen	48	32	3/415/50	2

Hot Water Storage Tanks Schedule

Type Mark	Area Serving	Volume [l]	Pressure [kPa]	Qty
HWT 01	Medical Block	5000	400	2
HWT 01	Laundry	5000	400	2
HWT 01	Kitchen	5000	400	2

NOTES:
- Coordinate drawing with other services.
- All cold water piping shall be copper pipes.
- All hot water shall be copper pipe, insulated and cladding with galvanized metal sheet.
- All Dimensions indicated are in millimeters (mm).
- All piping shall be complete with appropriate valves where necessary, all pipe fittings, pipe supports and any other accessories to complete the installation.
- All water pipe fittings shall be rated at 600kPa.
- All valves for cold water shall be clearly marked as such or painted in blue colour.
- All valves for hot water shall be clearly marked as such or painted in red colour.
- All wall penetration openings shall have 25mm clearance.
- All penetrations shall be neatly sealed.
- All piping installations shall be pressure tested for leak detection purposes.
- Piping shall be chased in the wall where practically possible.
- Builder shall confirm all measurements on-site prior to commencement of any works.
- All plumbing work shall be executed by a qualified plumber, and issue Certificate of Compliance (COC).
- All electrical installations shall be executed by a qualified electrician, and issue COC.
- Drain pipes shall be installed at an angle to enable gravitated flow.
- All drain pipes shall be PVC type material.
- All pipe work shall be supported by means of clamps, brackets, etc.

APPROVED

DRAWING ISSUED FOR:

INFORMATION	
PRELIMINARY DESIGN	
DETAILED DESIGN	X
TENDER	
CONSTRUCTION	
AS BUILT	

REVISIONS

REV	DESCRIPTION	DATE
01	FOR INFORMATION	27-05-20

LEGEND:
- DRAIN POINT
- DRAIN PIPE
- COLD WATER SUPPLY PIPE
- HOT WATER SUPPLY PIPE
- HOT WATER RETURN PIPE
- ISOLATING (GATE) VALVE
- FLOW DIRECTION
- NON RETURN VALVE
- EQUILIBRIUM TYPE FLOAT VALVE
- ANTI-VIBRATION BELLOW
- PRESSURE GAUGE
- THERMOMETER
- WATER METER
- PUMP
  P1 = P2: Inline Heater Pumps
  P3 = P4: Hot Water Return Pumps
  Pressure Head = 10 m
  Flowrate = 30 l/min

Full Name:
Professional Registration No.:

CONSULTANT
public works & infrastructure

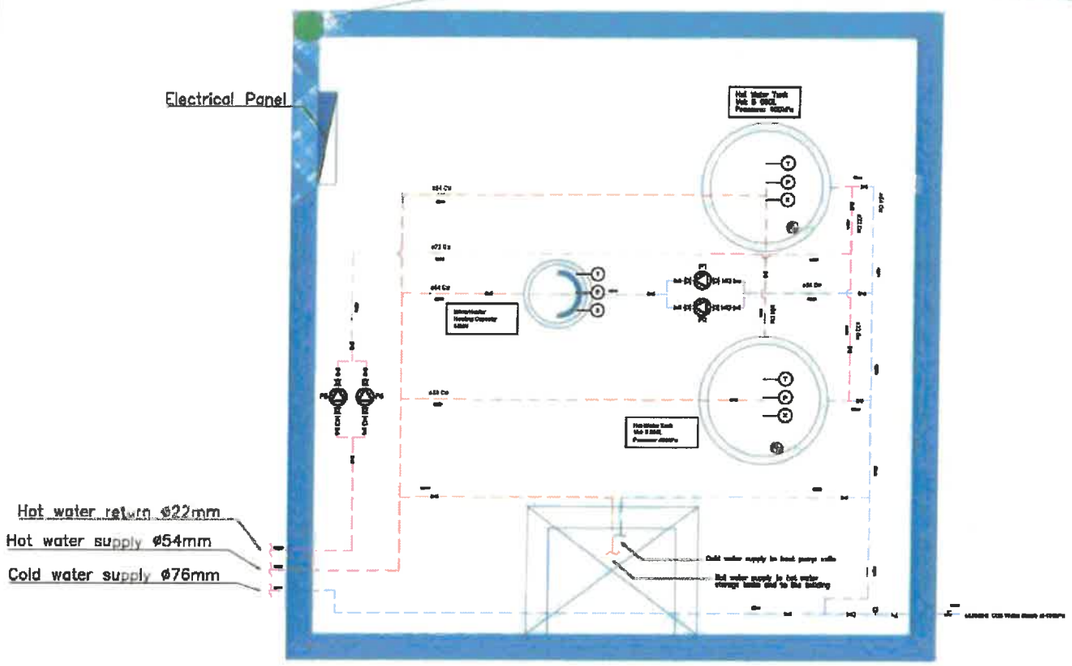
CLIENT

Discipline:
Mark with X below
ARCHITECTURAL
CIVIL & STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING
MECHANICAL ENGINEERING

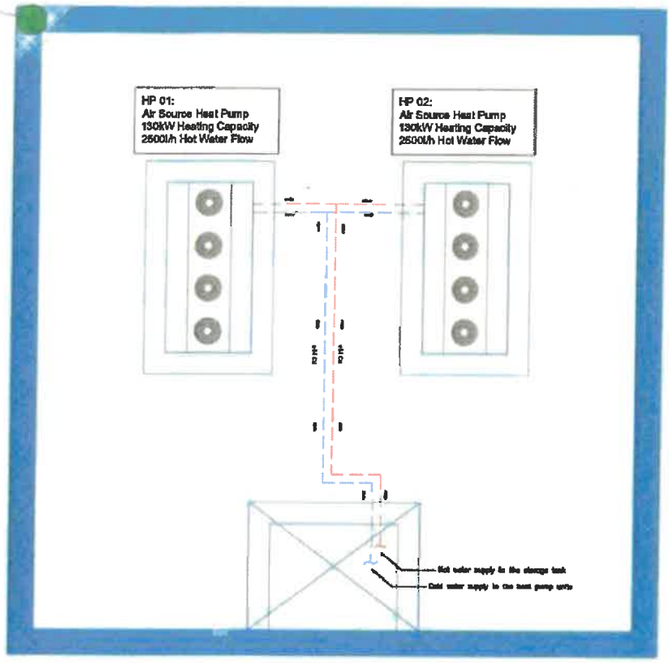
PROJECT TITLE
TSWELOPELE CORRECTIONAL CENTRE
REPLACEMENT OF HEAT PUMPS

DRAWING TITLE
K1.63 - K12.63 PLANTROOM LAYOUT

CAPITAL	X	MAINTENANCE	
WCS No.	055411	Designed	G Mok
Scale	NTS	Drawn	G.Mol
Date	12-06-20	Checked	M.Tsh
Drawing No.		Rev No.	1
ME-WS-03		02	



PLANT ROOM
SCALE: N.T.S



FIRST FLOOR PLAN
SCALE: N.T.S.

NOTES:

THIS SET OF DRAWINGS IS ON NON-DRAINING IS PROHIBITED AND ANY TRADE NAMES SUPPLIED FOR THIS PROJECT REQUIRE PRIOR APPROVAL FROM THE RESPONSIBLE ENGINEER.

1. BEFORE ERECTION WORK BEGINS, THE CONTRACTOR MUST VISIT THE SITE FOR FINAL ZERO-IN MEASUREMENTS
2. ALL SETTING-OUT DIMENSIONS BY MAIN CONTRACTOR
3. ALL DIMENSIONS ARE IN MM
4. ALL WORK TO BE DONE IN ACCORDANCE TO SANS 1200 SERIES AND SANS 10400 AND NB OBTAINED BY THE MECHANICAL ENGINEER

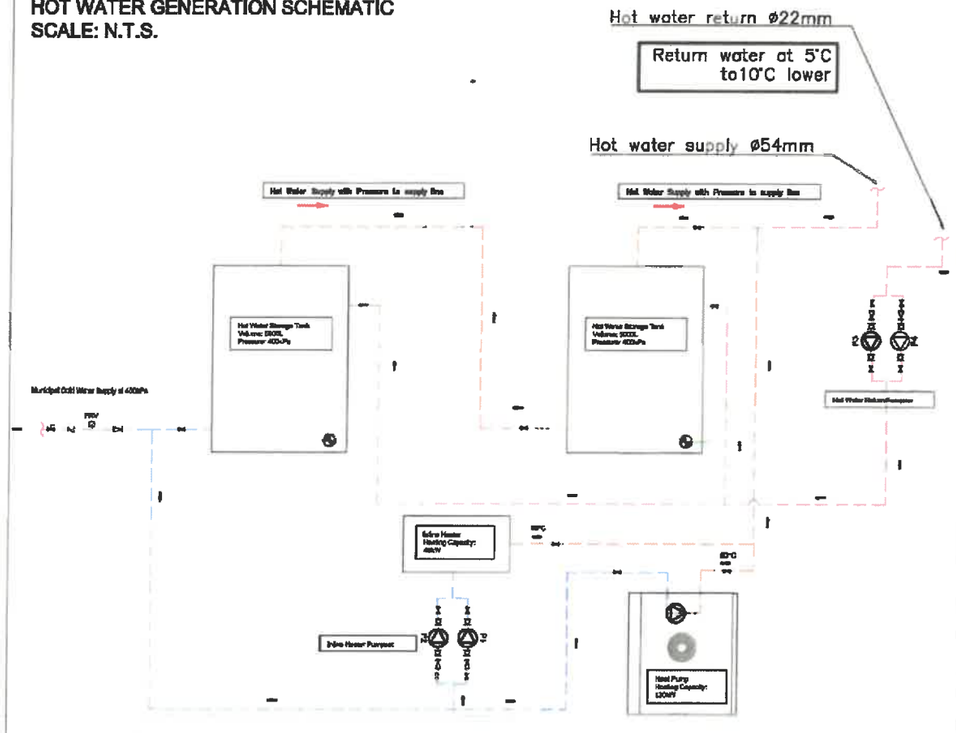
REVISIONS

REV	DESCRIPTION	DATE	BY
01	FOR INFORMATION	27-05-20	G. McLO

LEGEND:

- DRAIN POINT
- DRAIN PIPE
- COLD WATER SUPPLY PIPE
- HOT WATER SUPPLY PIPE
- HOT WATER RETURN PIPE
- ISOLATING (GATE) VALVE
- FLOW DIRECTION
- NON RETURN VALVE
- PCV IF PRESS TYPE FLOAT VALVE
- ANTI-VIBRATION BELLOW
- PNEUMATIC GAUGE
- THERMOMETER
- WATER METER
- PUMP
  PH = P3: Inline Heater Pumps
  PH = P4: Hot Water Return Pumps
  Pressure Head = 10 m
  Flowrate = 33 l/min

HOT WATER GENERATION SCHEMATIC
SCALE: N.T.S.



Hot Water Heat Pump Units Schedule

Type Mark	Area Serving	Type	Heating Capacity (kW)	Water Flowrate (l/hr)	Input Power (kW)	Phase/Voltage/ Hz	Size (LxWxH)	Weight (kg)	Qty
HP 01	K1.82	Air to Water	130	2500	32	3/415/50	2110x1080x2038	1000	2
HP 01	K2.82	Air to Water	130	2500	32	3/415/50	2110x1080x2039	1000	2
HP 01	K3.82	Air to Water	130	2500	32	3/415/50	2110x1080x2040	1000	2
HP 01	K4.82	Air to Water	130	2500	32	3/415/50	2110x1080x2041	1000	2
HP 01	K5.82	Air to Water	130	2500	32	3/415/50	2110x1080x2042	1000	2
HP 01	K6.82	Air to Water	130	2500	32	3/415/50	2110x1080x2043	1000	2
HP 01	K7.82	Air to Water	130	2500	32	3/415/50	2110x1080x2044	1000	2
HP 01	K8.82	Air to Water	130	2500	32	3/415/50	2110x1080x2045	1000	2
HP 01	K9.82	Air to Water	130	2500	32	3/415/50	2110x1080x2046	1000	2
HP 01	K10.82	Air to Water	130	2500	32	3/415/50	2110x1080x2047	1000	2
HP 01	K11.82	Air to Water	130	2500	32	3/415/50	2110x1080x2048	1000	2
HP 01	K12.82	Air to Water	130	2500	32	3/415/50	2110x1080x2049	1000	2

Inline Heaters Schedule

Type Mark	Area Serving	Heating Capacity (kW)	Input Power (kW)	Phase/Voltage/ Hz	Qty
ILH 01	K1.82	48	32	3/415/50	2
ILH 01	K2.82	48	32	3/415/50	2
ILH 01	K3.82	48	32	3/415/50	2
ILH 01	K4.82	48	32	3/415/50	2
ILH 01	K5.82	48	32	3/415/50	2
ILH 01	K6.82	48	32	3/415/50	2
ILH 01	K7.82	48	32	3/415/50	2
ILH 01	K8.82	48	32	3/415/50	2
ILH 01	K9.82	48	32	3/415/50	2
ILH 01	K10.82	48	32	3/415/50	2
ILH 01	K11.82	48	32	3/415/50	2
ILH 01	K12.82	48	32	3/415/50	2

Hot Water Storage Tanks Schedule

Type Mark	Area Serving	Volume (L)	Pressure (kPa)	Qty
HWT 01	K1.82	5000	400	2
HWT 01	K2.82	5000	400	2
HWT 01	K3.82	5000	400	2
HWT 01	K4.82	5000	400	2
HWT 01	K5.82	5000	400	2
HWT 01	K6.82	5000	400	2
HWT 01	K7.82	5000	400	2
HWT 01	K8.82	5000	400	2
HWT 01	K9.82	5000	400	2
HWT 01	K10.82	5000	400	2
HWT 01	K11.82	5000	400	2
HWT 01	K12.82	5000	400	2

NOTES:

- Coordinate drawing with other services.
- All cold water piping shall be copper pipes.
- All hot water shall be copper pipe, insulated and cladding with galvanized metal sheet.
- All Dimensions indicated are in millimeters (mm).
- All piping shall be complete with appropriate valves where necessary, all pipe fittings, pipe supports and any other accessories to complete the installation.
- All water pipe fittings shall be rated at 600kPa.
- All valves for cold water shall be clearly marked as such or painted in blue colour.
- All valves for hot water shall be clearly marked as such or painted in red colour.
- All wall penetration openings shall have 25mm clearance.
- All penetrations shall be neatly sealed.
- All piping installations shall be pressure tested for leak detection purposes.
- Piping shall be chased in the wall where practically possible.
- Builder shall confirm all measurements on-site prior to commencement of any works.
- All plumbing work shall be executed by a qualified plumber, and issue Certificate of Compliance (COC).
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- Drain pipes shall be installed at an angle to enable gravitated flow.
- All drain pipes shall be PVC type material.
- All pipe work shall be supported by means of clamps, brackets, etc.

APPROVED
23/06/2020

DRAWING ISSUED FOR:	
INFORMATION	
PRELIMINARY DESIGN	
DETAILED DESIGN	X
TENDER	
CONSTRUCTION	
AS BUILT	

Full Name: _____

Professional Registration No.: _____

CONSULTANT

public works & infrastructure

CLIENT

provincial services

Discipline:

ARCHITECTURAL	
CIVIL & STRUCTURAL ENGINEERING	
ELECTRICAL ENGINEERING	
MECHANICAL ENGINEERING	X

PROJECT TITLE

TSWELOPELE CORRECTIONAL CENTRE: REPLACEMENT OF HEAT PUMPS

DRAWING TITLE

K1.82 - K12.82 PLANTROOM LAYOUT

CAPITAL	X	MAINTENANCE	
WCS No.	055411	Designed	G.McMorris
Scale	NTS	Drawn	G.McMorris
Date	12-05-20	Checked	M.Thusi
Drawing No.	ME-WS-01	Rev No.	02
		Size	A1