Scope of Work Document – Supply & Installation of a Medical (Dialysis) Water Purification System

Baxter is issuing the Rev 3 document for the project named ON-Centenary Hospital on August 22, 2023.

Before any project starts Baxter will release drawings labeled 'Issued for Construction'. These drawings will supersede, and information contained within this scope of work document.

This scope of work document will detail the responsibilities between Baxter and the parties involved to facilitate the installation of the equipment. Baxter does not know the specific arrangements between the client and their contractors. The intent of this document is to separate Baxter's responsibilities verses the responsibilities of others.

Baxter's Responsibilities

Design

Baxter will work with the appropriate hospital designates, architectural firm, consulting engineers, general contractor, or mechanical contractor to design a water purification system and distribution network that meets the dialysis unit's requirements.

The system will be designed to meet all applicable CSA and ISO water requirement for water quality.

Project Management & Coordination

Baxter will assign a project manager to coordinate all project related activities. They will be the primary point of contact and assist and support the project in its entirety.

Drawings

Baxter will produce the following drawings (when applicable)

1. Water Room – Equipment Layout
2. Water Room – Plumbing Requirements
3. Water Room – Electrical Requirements
4. Control System – Remote Alarm Light Tower / Clinic Control Panel
5. Distribution System – Loop Routing
6. Process Flow Diagram (P&FD)

Baxter may have produces preliminary drawings to support the bidding or RFP process of the project. These drawing are not to be used in the final system design or layouts. All project related drawings produced by Baxter will be marked as 'Issued for Construction' within the title block.

Once the project is complete Baxter will issue the 'As Build' drawings as part of the commissioning package.

Installation – Water Room & Distribution Loop

Baxter will install all equipment and piping systems as specified on with in the contract and 'Issued for Constriction' drawings. Installation of the equipment will be done in accordance

with the Baxter's quality control procedures and processes. Baxter will provide non-union trades to perform the installation of the equipment. All trades performing the installation of the equipment must be approved within the Baxter quality process prior to any installation work commencing. Baxter will be responsible for the quality of the workmanship of the water room equipment.

Schedules for installation of equipment supplied by Baxter will be assumed to be in cooperation with any construction or renovation schedules as set by an awarded contractor or hospital. The following timelines are required for the coordination of labour and equipment.

1. Distribution loop material – 60 Business days
2. Distribution loop installation – 60 Business days
3. Water room pretreatment – 60 Business days
4. Water room pretreatment installation – 60 Business days
5. Water room RO equipment (CWP 800 or 100) – 240 days
6. Commissioning – 30 Business days

Commissioning Services & Testing

Once the installation of the equipment is completed and the scope of work requirements has been delivered by the hospital/contractor Baxter will complete the commissioning of the water system.

The commissioning of the equipment will be done in accordance with the Baxter quality program. The commissioning process outline includes the following.

1. Start-up of the pretreatment
2. Start-up of the reverse osmosis unit(s)
3. System calibration
4. Commissioning document
5. Lab water analysis
6. As built drawings.
7. Level I & II training.

Baxter will supply a daily water verification form (DWVF) for use by the hospital to properly monitor and maintain all the installed equipment.

Baxter will provide a comprehensive 'Certificate of Analysis' for the reverse osmosis purified water for organic, inorganic. Prior to the first day of dialysis treatments Baxter will supply results for microbiological contaminants of the system. The testing will be performed by a certified laboratory or process in accordance with the lattes CSA/ISO standards.

If there is an extended period between the installation completion date and the commissioning date, the system may be left "dry", and the commissioning may be scheduled closer to the "go-live" date for the first patient treatment. Once the system has been commissioned the system must be monitored and disinfection in accordance with the schedule set by Baxter. The water that is produced by the system is part of a patient's prescription.

Warranty & After Sales Support

Once the system has been commissioned the warranty start date document will be issued. Warranty time and terms are specified within the contract document.

Hospital or Contractor Requirements

Contract

The customer must enter a contract with Baxter before the installation starts.

Plumbing Requirements

Water Room – Hot & Cold Water Supply

- One (1) inch, direct from the main, hot domestic feed water line @ 65 to 95 PSI
- One (1) inch, direct from the main, cold domestic feed water line @ 65 to 95 PSI
- Back flow preventors (BFP) must be supplied and installed on the hot and cold water lines. The location of the devices will be indicated on Baxter's 'Issued for Construction' plumbing drawing. Each BFP must be plumbed into the designated drain.
- One (1) inch shutoff valve located after the back flow preventors.
- Connections into Baxter's inlet panel (Hot & Cold).
- Baxter RECOMENDATIONS – Duplex BFP on the incoming hot and cold water lines

Water Room – Floor & Drain

- Floor drain's locations will be indicated on Baxter's 'Issued for Construction' plumbing drawing. For every Reverse Osmosis Unit one dedicated drain is required (x2). Additional drains for the pretreatment and post treatment will be required (x4). The backflow preventer's must be run into a dedicated floor drain (x1). The total number of floor drains required for this installation will be (x7).
- x6 of the floor drain for must have a collector funnel that can handle a flow capacity suitable for the size of unit installed.
- Baxter RECOMMENDATIONS – The flooring in the water room should be sealed with a watertight flooring. The flooring should be coved up the side of the walls at least 6". The flooring should be sealed at each floor drain and tested for leaks.

Dialysis Wall Sinks

- Drainage piping sizes and materials must be determined by a mechanical engineer. It is recommended to use a chemical resistance piping that is fused welded.
- Each sink must have a dedicated p-trap installed.
- Mechanical compression fitting is recommended to connect the sink to the drainage system.
- All installation and drain material are not supplied by Baxter.

Electrical requirements

All electrical installation shall be in accordance with regional Electrical Safety Codes and the CSA Certification Standards.

All electrical location will be indicated on the Baxter 'Issued for Construction' drawings.

Reverse Osmosis Machine

- **CWP 800 RO (Emergency Power)** – x2 400/3/60 (3 phase voltage, 400V between phases, a neutral and a separate ground on a 20A circuit breaker, '5 wires in total'). This circuit must be equipped with one isolation switch.

*****Note step up/down transformers is included in Baxter's pricing***

- **CWP 800 Hot Water Tank (Emergency Power)** – x2 400/3/60 (3 phase voltage, 400V between phases, a neutral and a separate ground on a 20A circuit breaker, '5 wires in total'). This circuit must be equipped with one isolation switch.
- **All Electrical connection** – between the disconnect and CWP(s)
- **Transformer Installation** – 1 x transformers to be installed in the hospitals chosen area. The size and configuration of transformer must be determined by the electrical engineer from the hospital (Primary option of 600VAC or 208VAC in delta or wye configurations are available)
- **Transformer Electrical Connections** – All connection to the transformer primary (x1). All connections from the transformer secondary's (x3). The secondary's feed is spilt into 3 separate circuits and terminated into the isolation switches. Each isolation switch must be equipment with a 16 AT (slow blow) 400V fuse (9 in total)
- **Disconnect Electrical connection** – between the disconnect and CWP(s)
- **Control Wiring**: Cat 7 cable within conduit to be run (Daisy Chain) from RO 1 to RO 2 to Hot Water Tank to additional HW Units. RJ45 Male connectors @ each end. Leave ~5 foot additional cable coiled @ each end.

Pretreatment

- **Booster pump (Emergency Power)** – x2 x 250 VAC 15 amp type 6-15R heavy duty grounded (non GFI)
- **Pretreatment media tank control valves** – x12 120/1/60 15A for pre-treatment devices (each tank less than 750VA).
- **Auxiliary electrical plug** – x 2 120/1/60 15A for general service usage and computer connection
- **Testomats Analyzers** – x2 120/1/60 15A for pre-treatment devices (each less than 5A).
- **Pretreatment Digital Monitor** – x2 120/1/60 15A
- **Hospital Internet**: To Allow Access to **CWP On-Line**, hospital to provide Female RJ45 connection installed within conduit / JBox / Cover Plate @ the Pretreatment Monitor Box / Raspberry Pi Location.

Remote Alarm & Clinic Panel (CWP 800)

- **Conduit Clinic Panel** – x1 from the CWP 800 # 1 to the Clinic Panel(s)
- **Communication Cable** – x1 Cat 7 cable from the CWP 800 # 1 to each clinic panel pulled through the ½" conduit.
- **Conduit Remote Alarm** (Light Tower) – from the clinic panel to each of the specified remote alarm locations (Typical = x1 in the tech repair shop). Conduit must be run from the clinic panel and terminated into a dual gang junction box rotated 90° in the specified remote alarm locations.
- **Alarm Wire** – x1 alarm wire from the clinic panel to each remote alarm (e.g., x1 clinic panel and 1 remote alarm locations = 1 cables). Alarm wire is a minimum of 8 conductor 20-22 AWG (Belden Type cable) pulled through each ½" conduit. Wires to be coiled in 10 ft.
- **Building Automation Monitoring**: Min. X2 dry contacts within Clinic Panel. Others to provide 8 conductor 20-24 AWG cable + ½" conduit from Clinic Panel J Box to BAS Node Panel. Additional Alarm Contacts Available Upon request.

General Requirements

Infection Control
- Outside of Baxter installation plan

Coring
- All penetrations for the distribution loop

Fire Proofing
- All fire proofing for any of the distribution loop routing

Garbage
- Access to dumpster to dispose of recyclable and non-recyclable materials.

Installation Plan

TBD