APPENDIX 3J

FOOD SERVICES SPECIFICATIONS

1. FOOD SERVICES

1.1 Design Consultant

(a) Project Co will retain as part of its professional design team a qualified food service consultant that is a professional member of Food Service Consultant Society International, has at minimum 10 years experience managing food service designs for hospital of similar size or has specifically managed and designed a minimum of 5 food service facilities for acute care hospitals of similar size and scope as the Facilities.

(b) Project Co will provide the Authority with the food service consultant's qualifications documenting this experience.

(c) As part of the design process described in Schedule 2 [Design and Construction Protocols], and without limiting any provision of Schedule 2, Project Co will provide the following in relation to food services:

(1) Food service equipment plans;

(2) Food service specifications;

(3) Catalogue specifications sheets for all equipment items;

(4) Elevations and section details for custom fabricated food service equipment items; and

(5) Connection point drawings

1.2 Scope of Work

Project Co will design, supply, install, inspect and test the following:

(a) all food service equipment (buy out and custom fabricated) (refer to Appendix 2D [Equipment and Furniture];

(b) refrigerated and frozen storage room assemblies;

(c) mechanical refrigeration systems for refrigerated and frozen storage room assemblies;

(d) conveyors; and

(e) warewashing and waste handling equipment.

(f) All electrical equipment must conform to the Canadian Hydro Electrical Code, the Electrical Inspection Department Bulletins, the British Columbia Hydro Electric Safety

Code and the Canadian Standards Association. All equipment must have a C.S.A. approval label.

(g) Electrical work related to all food service equipment will be in liquid tight flexible conduit and concealed within building walls or ceilings wherever possible.

(h) Supply and installation of all internal wiring on custom fabricated items will be concealed.

(i) Supply emergency power to food service equipment to maintain food service during power outages.

(j) Mechanical work and electrical work related to the food service equipment, refrigerated and frozen storage room assemblies, mechanical refrigeration systems for refrigerated and frozen storage room assemblies, conveyors, waste handling equipment and warewashing equipment will be concealed within building walls or ceilings wherever possible.

(k) Gas equipment will conform to the Canadian Gas Association, the Gas Utilization Code of the Department of Energy and Resources Management, British Columbia and Canadian Standard Association standards.

(l) Plumbing or drainage systems will conform to the BC Plumbing Code.

(m) All mechanical refrigeration systems will be supplied with safety relief valves, shut-off valves for each piece of equipment, refrigerant leak detectors and other safety guards required by law.

(n) All welded pressure vessels will be constructed to ASME Code. The vessels will bear the stamp and certificates framed under glass and hung adjacent to the vessel.

(o) Supply, install and connect all exhaust ductwork from exhaust fans to foodservice equipment, exhaust ventilators hoods or dishwashing and cart washing equipment in compliance with NFPA-96 and the British Columbia Natural Gas and Propane Code.

(p) The supply and installation of remote fire suppression system will be in accordance with all requirements and regulations of the ULC and NFPA96.

(q) Provide all floor depressions as required for the foodservice equipment.

(r) Provide all building floor slab depressions, slab insulation, flexcell expansion joints and slab ventilation systems for prefabricated, insulated walk-in refrigerated or frozen room assemblies where specified.

(s) Supply and install extruded Styrofoam insulation (Foamular 1000 or equivalent) in floor depressions or under concrete slab for all prefabricated, insulated walk-in type refrigerated and frozen room assemblies.

(t) Supply and install in-fill concrete topping inside prefabricated, insulated walk-in refrigerated and frozen room assemblies which have depressed prefabricated insulated floor panels or extruded styrofoam so as to make floor level with outside floors.

(u) Supply and install all floor tile or other specified flooring finishes inside prefabricated, insulated walk in type refrigerated and frozen room assemblies including coving up inside and outside of prefabricated walls.

(v) Supply and set sleeves in floors, walls and ceiling (as well as any related core drilling) for electrical, mechanical refrigeration, plumbing, gas, beverage and other lines.

(w) Supply and install structural supports or sleepers for roof top condensing units, condensers or evaporative condensers, exhaust and make-up air units as specified.

(x) Supply and install structural support beams to anchor hanging rods for roof panels of all prefabricated, insulated walk-in refrigerated and frozen room assemblies and exhaust hoods.

(y) Architectural design will accommodate and enable the removal and replacement of large food service equipment following the end of its useful life.

1.3 Equipment

(a) All equipment will be inspected by the local hydro authority and carry CSA and ULC approval.

(b) Each piece of equipment will be accompanied by a label or certificate of approval.

(c) Equipment design and fabrication must conform with the National Sanitation Foundation.

(d) Work related to the pre-fabricated insulated walk-in refrigerated and frozen storage room assemblies and mechanical refrigeration systems will be and include:

(1) supply and installation of all prefabricated insulated panels required to insulate building structural columns that occur within walk-in type refrigerated and frozen room assemblies;

(2) supply and installation of internal and external bumpers as required;

(3) supply and installation of low temperature fluorescent lights with quick start;

(4) supply and installation of stainless steel flashings as required to conceal openings in prefabricated insulated walk-in type panels;

(5) supply and installation of stainless steel corner guards for all corners and insulated panels around structural columns;

(6) supply and installation of viewing windows (heated for freezers) on sliding and hinged doors;

(7) supply and installation of removable enclosure panels from top of insulated walk-in type refrigerated and frozen storage room assemblies to finished ceiling. Color and finish to match color and finish of room assemblies;

(8) supply and installation of insulated liquid refrigerant supply, hot gas and suction return lines required to interconnect mechanical refrigeration system components, including piping runs from indoor or outdoor air cooled condensing units, compressors, compressor parallel packs to evaporator coils within prefabricated, insulated walk-in type refrigerated and frozen room assembly, required in order to form a complete operating mechanical refrigeration system; and

(9) refrigerator door hardware: self closing, heavy duty stainless steel offset pivot hinges with magnetic gaskets and 430 stainless steel door frame and tamper proof cylinder locks.

(e) Ensure electrical equipment is accompanied by label or certification of approval by the Canadian Standards Association, Hydro Electrical Power Commission or local authority.

(f) Ensure steam pressure equipment is accompanied by a "Certificate of Boiler.

(g) Identify equipment with permanently secured metal plates or labels which include, where applicable, the manufacturer's name or recognized trademark, complete model identification, model, serial number and CSA, ULCor NSF identifications, electrical characteristics, direction of drive, controls, circuits, lines and specific operating instructions.

(h) Flexibility and Adaptability

(1) To the extent possible, mobile equipment will be used in the central kitchen so as to allow for movement and repositioning, easy replacement and ease of cleaning.

(2) A variety of mechanical and electrical sources including gas, electrical and steam will be provided so as to ensure production and service capabilities during power loss.

(3) Automation and staff efficiency will be taken into account when selecting food service equipment.

(i) Energy Star equipment will be utilized wherever possible.

1.4 Materials and Finishes

(a) Finished work must be perfectly true and plumb with no warping, buckling or open seams. All edges, hidden or exposed, must be ground smooth and rounded. Rivet heads, weld marks, or other imperfections are not acceptable.

(b) Materials for fixed surfaces will be impervious to moisture, corrosion resistant, smooth and able to withstand regular cleaning and sanitizing.

(c) Stainless steel will be ASTM-A167-81A, (18-8 Analysis) type 304 cold rolled and annealed, No. 4 finish one side, 180 grit finish, and free of buckles, pits, warps and imperfections. Ensure that the direction of grain matches throughout the units.

(d) Receptacles will be waterproof and have stainless steel cover plates and screws. Cords and caps will be an approved type and match the receptacles for which they are intended. Receptacles, junction boxes and breaker panels will be easily accessible without dismantling equipment.

(e) All welding will conform to the requirements of CSA specifications and be performed by fabricators who are approved by the Canadian Welding Bureau and CSA standards. Exposed welds will be filed or ground smooth and flush and polished to match surfaces. All exposed welds will be continuous.

(f) The gauge of metal and methods of construction will in all cases be adequate for the intended purposes of the equipment or structure. Finished equipment will be rigid when assembled and installed.

(g) Stainless steel worktables and counters

(1) Stainless steel worktables and counters will be constructed using a minimum of 2.0mm thick stainless steel continuous sheets.

(2) Reinforcing will be a minimum 3.0mm Satin Coat subtop arranged so that forms are concealed from view. Secure reinforcing to tops with stud welding and appropriate silicone.

(3) Tables and counters over 1800mm in length will have a minimum of 4 legs.

(4) Tables and counters with sinks will have a marine edge.

(5) For worktables and counters with a sink, work tops will slope towards the sink at a slope of 20mm per metre. For worktables and counters with a dishwashing machine, work tops will slope toward the dishwashing machine at a slope of 8mm per metre. The front edge will be level for the full length.

(6) Sheet material for counter tops, tables, shelves and similar forms will be straight lengths in one continuous sheet (unless over 3 metres long).

(7) Backsplashes will be an integral section of table or counter top turned up on a 19mm radius to the height specified, then boxed or splayed. Enclose, fill and weld all exposed ends and back. Exposed backs at upturns and splash backs will be faced with 1.2mm stainless steel back panel to the bottom of the splashback. Such panels will be removable as required for access to mechanical and electrical parts. Seal backsplashes to the wall with clear silicone.

(8) Legs and bracing will be 1.6mm stainless steel wall, 41mm O.D. tubular. Leg spacing will be a maximum of 1600mm apart, 760mm front to back. Provide

bullet feet of Component Hardware Model A10-0851. If a table has service connections, dowel and secure to the floor using Component Hardware Model A10-0854. Secure to one set of feet only when bridging a structural expansion joint. Braces will be continuously welded to legs, polished with minimum reduction in volume.

(9) Sink bowls will be 2.0mm stainless steel integrally welded into the table or counter. Interior corners will be radiused 19mm both vertically and horizontally, all welded and polished. Slope the bottom of the sink bowl to the drain fitting. Undercoat the sink bowl with sound deadening compound when sinks are not exposed. Multiple sinks to have an 18 gauge stainless steel apron to conceal gap between bowls.

(10) Plastic laminate should be fabricated and constructed using a minimum ¾" (19MM) thick plywood applied under high pressure. All edges will be carefully sanded to smooth finish, removing burns, nicks and cut marks. Plastic laminate joints are to be finished without wavy and unsightly joints.

(h) Pre-fabricated insulated walk in type refrigerated and frozen storage rooms

(1) All pre-fabricated insulated wall and ceiling panels will bear a stamp indicating ULC approval and be fabricated to comply with Canadian Standards Association. The CSA label will be affixed to the interior door jamb.

(2) Insulation will be foamed-in-place polyurethane injected into the panels to form a rigid wall without the use of wood or metal structural members. Insulation will have a "K" thermal conductivity factor of not more than 0.86 watts per square metre per degree Kelvin for a temperature difference of 38°C (100°F) and will be rated as self extinguishing, fire retardant type.

(3) Wall thickness will be a minimum of 76mm (3"), having a density of 40 kg per cubic metre.

(4) Panel sections will be of modular design, assembled with eccentric locking devices, or approved equivalent, actuated from the interior of any of the rooms and enabling sections to be erected within 38mm of any building room, column and ceiling.

(5) Wiring will terminate in a junction box on top of the prefabricated walk-in room, ready for connection by electrical trades. Use three-way switches if more than one door is specified.

(6) Provide L.E.D. readout thermometers to provide temperature readings from -40 C to +15 C and mount on latch side of door panel approximately 1525mm from floor. Cover sensing bulb with protective metal cover of the same finish as walk-in refrigerated storage room.

(7) Where walk-in rooms are floorless, wall panels are to be fastened to screeds in lieu of floors. 76mm high screeds are to be of similar construction material and insulation to wall and ceiling panels. Screeds are to be installed plumb and level and secured to the finished building floor.

(8) Supply and install an alarm system for each prefabricated walk-in refrigerated and frozen storage room.

(i) Mechanical Refrigeration Systems

(1) Each individual system will be sized to suit the internal space, ambient temperatures and humidity levels of surrounding areas, product type and load, heat infiltration and temperature of incoming product in order to maintain the specified holding temperatures.

(2) Design refrigeration equipment for use with Freon R404 for refrigerators and freezers (high, medium, and low temperature applications). Refrigeration equipment for use with Freon R22 will not be accepted.

(3) All condensing units 3/4 horse power or greater if specified will be semi-hermetic complete with motor, water cooled condenser, receiver, compressor, suction and discharge valves, oil separator, high/low pressure controls and all other necessary components mounted in a flexible manner on a common base with all service valves and controls readily accessible and easily serviceable.

(4) Evaporator (coil) to be forced convection unit cooler type, made to be suspended from ceiling panels. Forced air discharge to be parallel to ceiling. Air circulation motor, multi-fin with tube type coil and grill to be assembled within protective housing. Expansion valve, with strainer, heat exchanger inlet and outlet service valve connections also to be contained within housing.

(j) Exhaust Ventilators, Hoods and Fire Suppression Systems

(1) The basic requirements of the design and installation of exhaust systems components including ventilators (hoods with or without dampers), exhaust ducts, air moving devices, fire suppression systems and auxiliary equipment will be supplied and installed in accordance with the current edition of the NFPA-96 and NFPA-17a, and ULC standard ULC-S646-98.

(2) Fabricate hoods of 1.25 mm stainless steel type 304 and No. 4 finish, with joints and seams fully welded and liquid tight.

(3) The basic requirements for the design, installation and use of a pre-engineered fire suppression system will be governed by the current edition of the NFPA-17a, NFPA-96, ULC listed.