

## APPENDIX 'A'

### Bowden Institution – Production Kitchen User Specifications

Rev 1, June 27, 2013

1. The Design-Builder's (DB) consultant team will include an experienced and qualified commercial kitchen design consultant.
2. The Design-Builder's project specifications will meet or exceed the applicable components of the Ontario Kitchen Project Specifications that form part of this RFP as **Appendix – 'I'**.
3. All kitchen equipment that is supplied by CSC (**Appendix –'G'**) or supplied by the Design-Builder (**Appendix – 'H'**) must be installed by OEM authorized distributor using certified technicians. The DB must involve the distributor/s of all the required equipment early in the design to ensure that the utility feeds to the equipment are designed correctly.
4. The production kitchen building will be a steel frame structure with brick/stone veneer up to the door height and metal exterior above that. The loading dock area will be enclosed but not heated. This space will have one walk-in cooler/freezer unit and one chiller unit. The roofing material will be 0.64 mm (0.0252", 24 gauge) aluminium-zinc alloy coated steel sheet, conforming to ASTM A792/A792M-06 SS Grade 33, AZM150 (AZ50) coating. Thickness tolerance as per ASTM A924/A924M-06  $\pm 0.08$  mm (0.003") for sheet widths not exceeding 1500 mm (60").
5. The DB will provide 5 year warranty on the roof and two year warranty on the flooring.
6. The proposed layout drawings for the production kitchen are provided to standardize the design of the production kitchen across multiple locations in Canada. While the general layout of the production kitchen may not require any changes, changes to the footprint will be required to accommodate the steam boiler room, water treatment area, and open to above area near the basement entrance for ease of installing and removing equipment installed in the basement. Changes may also be required to the loading dock. The total square footage of the building and loading dock will not exceed the scope outlined in Section 1.3.1 of the TOR.
7. Fiberglass reinforced plastic panels will be used on the walls and ceilings of the production kitchen. Crane Composites is one supplier of these panels. See specifications.
8. All interior windows will be made of tempered safety glass. The ledge of the interior windows on the production side will be stainless steel.
9. The interior finished height of the production kitchen will be 12 feet.
10. Seamless flooring, wall and ceiling coating for production area:
  - a. EP1 Standard epoxy in regular areas: three component, trowelled, epoxy mortar system. Floor system under heat generating equipment: four component, notch trowel applied polyurethane mortar system.
  - b. EP2 – Cove base integral with the floor.
  - c. EP3 – Wall system standard epoxy: wall coating to 1200 above finished floor. Three component, trowel applied, 100% solids, colour.
  - d. EP4 – Wall system standard epoxy. Wall system, pinhole free finish.
  - e. EP5 – Exterior floor system epoxy. Floor system, for exterior work. Three component, trowelled epoxy system.
11. Utility Raceways must be designed to provide all utility services for the Bowden Production Kitchen in pre-engineered and pre-manufactured units.

- a. Units shall be a stainless steel enclosure consisting of a horizontal raceway (chase) and vertical end risers (service towers).
  - b. The design builders engineering consultant will design the chase and towers to contain the cable bus electrical system and plumbing services (manifolds with water, NGAS, steam etc.) with connections for individual equipment.
  - c. The design builders engineering consultant will design the run for the steam lines, condensate returns, NGAS, water and compressed air lines.
  - d. Units shall be island type with the flexibility for future line-up changes and/or addition of equipment.
12. The complete grey water drain system in the kitchen basement will be designed such that the drains run in a chase like steel brackets or hangars. All branch outs will follow a pattern that will allow ease of access for maintenance and avoid haphazard run of drain lines. All p-traps should be easily accessible.
13. The DB's engineering consultants will design the grease-trap system for the entire kitchen to ensure that grease is separated before the grey water leaves the kitchen building. Certain pieces of equipment like the dishwasher will require their own grease trap that is mounted close to the equipment.
14. All equipment will be installed using inserts on the epoxy flooring to maintain water tightness of the epoxy flooring.
15. Exposed fasteners shall be tamper-resistant, pin-in-head torx type
16. Equipment Installation:
- a. The design builder will provide all applicable warranty services as detailed within the General Terms & Conditions.
  - b. The design builder will provide a factory warranty for all equipment guaranteeing that the equipment is free of defects in design, material, workmanship, installation and operation.
  - c. Ensure the warranty documentation, including the factory warranty time period for new equipment shall begin when installation and testing are completed and the Technical Authority has accepted the equipment after completing the commissioning inspection.
17. The floor of the kitchen will be structural slab over the basement. An open to above area is required to be designed in the stairwell area to allow easy installation and removal of equipment in the basement. A 2.5 ton, I-beam hoist is required on the underside of roof structure to service the open to above area. The design builder's structural engineer will incorporate this in the design. The lateral travel of the hoist must allow the hoist to carry the load to the set of double doors. The double doors will replace the single door shown on generic layout.
- 18. The design, supply and installation of the water treatment equipment to supply the feed water to the two Clayton-SF50 boilers is part of the design-builder's scope of work.**
19. All doors, windows, and hardware will be of commercial specifications.
20. The loading dock will be covered and come with a 10' x 10' rolling steel door for loading and unloading. It will also have a 32" side door for personnel to enter the loading dock using concrete steps.
21. The loading dock will have rubber bumpers to receive a 5-ton commercial truck.
22. A refrigeration penthouse can be designed above the loading dock to house all the compressor racks for the coolers, freezers and chiller.
23. The kitchen design must maximize on day lighting.

24. The production kitchen building will be integrated with the Bowden Annex public address system (PA System). The design must include additional capacity to connect two additional speakers in the future Greenhouse building. The design builder will design the PA system in the new kitchen. It is a critical requirement that all announcements are heard clearly inside the production kitchen building.
25. All exterior doors and the rolling steel door will be connected to the Bowden Annex door contact security system. The monitoring panel for this system will be installed in the Bowden Annex administration building. The design for the door contact security system must include two additional door ID's for the future greenhouse. Only triple bias door contact sensors are permitted in this CSC facility. The DB must submit the specifications for CSC approval along with the 66% design submission.
26. A concrete sidewalk is required to connect the new kitchen building to the Bowden Annex administration building. The walkway design must meet accessibility requirements.
27. A concrete sidewalk is also required to wrap around the new kitchen building, starting from the main entrance to the basement access doors and continuing on to the loading dock. Steps are required from the walkway to a door on the loading dock. Item #20 above.
28. A concrete pad is required for the "Garbage and Recycling Area".
29. The main entrance to the kitchen building will have a wheelchair ramp.
30. Emergency power is required in the production kitchen building for the fire alarm system, HVAC system, security system and two exterior lights. One of the lights will be near the front entrance and one will be in the loading dock area.
31. The orientation of the production kitchen building will depend on the site conditions. The design builder's consulting team will propose the orientation options after completing the site investigation.
32. The DB will sod all area where the top soil was disturbed. The grades must drain water away from the production kitchen building. It is the responsibility of the DB to ensure the sod is installed correctly. The sod cannot be installed between October 2013 and April 2014 to ensure that the new sod is not damaged by frost.
33. The DB must budget for landscaping that will include six (0.5m<sup>3</sup>) boulders five trees (3 x Deciduous and 2 x Coniferous) and 10 shrubs. The boulders will be placed close to the building to deter the trucks coming closer to the building during turning.
34. Provide one hose-bib in front of the building for lawn care.
35. Bollards will be required at the edge of the sidewalk on the building corner near the loading dock.
36. The access road and the paved pad for the loading dock must be connected to the site storm drainage system.
37. All stainless steel tables that are fixed will be made of seamless, 12 gauge bonded stainless steel with a 100 mm integrated backsplash. The wall side of the tables will be mounted to the wall. The front will have legs. The legs will be attached to the flooring using adjustable inserts.
38. Provide a minimum 300mm high tiled or stainless steel back-splash above the stainless steel tables/countertops.
39. All washrooms will have a ventilation fan with switch.
40. Provide one steel frame with cedar plank bench in all change rooms. The bench will be secured in place.
41. Washrooms will have white wall tiles to 1200 mm height. The tiles will be full wall height adjacent to the showers.
42. The inmate WC and change room will have one urinal.

43. All walk-in coolers, freezers and chiller units will have an alarm system activated from inside the units. The DB will design the system to send an alarm signal to the Annex admin. office.
44. Weeping tile and sump-pump system is required. DB to design the system suitable for the building based on the geotechnical report.
45. Appropriate type and size of gravel will be used for the electrical and deep services trench bed. Sand is not permitted.
46. Light standards are required on the paved pad and will be a minimum of 25' high. Light standards are also required on the access road to the new kitchen building and two light standards will be installed 50 meters North of the new kitchen building. The DB should budget for 8 exterior light standards.
47. Exterior lights are also required around the kitchen building and will be mounted on the exterior walls.
48. Only steel pipes are permitted for the kitchen fire sprinkler system.
- 49. Only Type-50 Sulphide Resistant Concrete will be used for all foundation work.**
50. All exterior and interior doors in the kitchen will be numbered with durable tags. CSC will approve signage tag material.
51. The Fire Exit signs will comply with the current fire code.
52. The HVAC system will be professionally cleaned prior to Commissioning.
53. The cleaning of building prior to commissioning will be done in two stages. The required stages are construction cleaning and final cleaning. No cleaning can commence prior to 100% completion of flooring and paint work.
54. The new production kitchen building will require its own NGAS meter and water meter. Two bollards are required to protect the NGAS meter.
55. Only **Copper** will be used for all electrical wiring including the feeds to and from the transformer. No aluminum wiring will be used for the scope of work for the production kitchen.
56. The Fire Alarm System is required to be integrated with the Bowden Annex Fire Alarm System. The DB will install annunciator panel identical to the fire alarm panels at the Bowden Annex. The Fire Alarm system at the Annex was upgraded in 2011. The fire alarm system must have two spare zones programmed for the future greenhouse building.
57. The DB will provide two (2) 100 mm conduits to connect the new Production Kitchen Building to the Bowden Institution admin building. One conduit will be used to route the Security, PA, telephone, security camera, data, and optical-fiber cabling. The other will have a pull string and provided for future CSC use. **Note:** All the wiring and connections will be completed by the DB.
58. A Cat6E cable is required to be rouged in at roof height on the outside wall of the warewash room. An exterior electrical outlet is also required. This is required for the installation of a security camera to monitor the loading dock. The Cat6E cable will be terminated in the LAN closet.
59. The DB will provide two (12 pair) fiber optic cables between the existing admin building and the new production kitchen building. The cables are required to be terminated in a rack in the LAN closet of the production kitchen. See cable specifications below. The exact location of the LAN closet and specifications are to be determined by the DB.
60. The following cables are required to connect the new production kitchen building to the Bowden Annex Admin.
  - a. A 25 pair telephone/multipurpose cable.
  - b. A video signal cable. Specifications will depend on the distance.

- c. Fiber Optic cable. See specs below.
- d. Fire Alarm System connectivity cables
- e. PA system connection cable
- f. Door contact security system cable.

All cables are required to be connected or terminated in racks.

### **Cables, Cabinets and Rack Specifications:**

- 61. All data cables and data jumper cables (minimum 23 gauge), jacks and connector boots installed as part of this project, whether CAT6 or fiber optic, will be BRIGHT GREEN in colour or as a minimum be marked at exposed ends. All cables will be FT4 rated and suitable for outdoor installation where required. All patch cables will be stranded cable with RJ45 connectors. RJ45 connectors will not to be attached to solid conductor cable.
- 62. All installed runs of CAT6 cable will be solid conductor cable and terminated into patch panels in equipment racks or faceplates in other locations. It is understood that an installed cable is any cable that is run through a conduit, run from one area in a building to another area, any cable that travels farther than the adjacent equipment cabinet in a series of cabinets. It is noted that equipment cabinets must be abutting without side panels to open connection to be considered adjacent.
- 63. All new Essex 66-246-5A CAT6 field wiring will be terminated at the equipment cabinet locations with Signamax 128458MD-C6C, 12 Port, or 24458MD-C6C, 24 Port, Rack Mount CAT6 Patch Panels. All new runs of CAT6 cable will be tested in accordance with EIA/TIA-568 Standards. Signamax SKFL-6, 6 Port Single Gang Faceplates c/w KJ458-C6-GN CAT6 Jacks and CMK-BL Blank Modules will be supplied and installed WITH SECURITY SCREWS.- A SPECIALIZED TOOL FOR REMOVAL OF THIS TOOL SHALL BE PROVIDED AS PART OF THE SPARES = SPECIALIZED BITS ARE ACCEPTABLE. The number of CAT6 Jacks and Blank Modules at each outlet will be determined by the equipment to be connected at those locations and therefore the corresponding number of CAT6 cables to be terminated at that location. Connection between the patch panels and outlets and the network switches and other equipment will be by provided CAT6 patch cords.
- 64. Where new fiber optic cable is required, Berk-Tek PDR012EB3010/25-I/O, 12 Fiber, 50/125, OM3, Indoor / Outdoor Cable or Berk-Tek PDR024EB3010/25-I/O, 24 Fiber, 50/125, OM3, Indoor / Outdoor Cable will be provided. The fiber cable will be provided with a green jacket as specified. All optical fibers of each new cable will be terminated with 3M 3600W Hot Melt SC Connectors. The remote fiber terminations will be housed in the provided FIS F1-RM12BLK, 12 Port Fiber Patch Panels or F1-RM24BLK, 24 Port Fiber Patch Panels as appropriate. The head end fiber terminations will be housed in F1-RM48XBLK, 48 Port Fiber Patch Panels or F1-RM72XBLK, 72 Port Fiber Patch Panels or as dictated by the number of fibers to be terminated at each particular head end location. Each fiber patch panel will be provided complete with FIS F1-SC6ILM SC Coupler Panels to accommodate the total fiber count, current and future, that be terminated in that particular patch panel. All fibers will be tested in both directions using an OTDR. OTDR test results will be provided as part of the Maintenance Manual and will be available at the time of Site Acceptance Testing. All required 50/125 duplex fiber patch cords will be provided as part of this proposal.

### **The Data/Telecommunication system will include the following:**

- a. Beldon/Nordx CSV certified installation.
- b. Single mode (SM) 9 micron fibre optics backbone

- c. Fibre patch panel with LC connectors.
  - d. Category 6 ethernet cable.
  - e. Patch panels and BIX blocks for voice and data.
  - f. Cabinet will be dual separation, dual rails and set back.
  - g. Fibre and UTP patch cords.
65. Provide detailed equipment and installation drawings for review by the Departmental Representative prior to ordering and installation of voice/data equipment and system.
66. DB is responsible for installing the network termination racks in the LAN closet.
67. Each office and meeting room will have two computer network jacks and two telephone jacks. All vertical voice/data cable drops will be in conduits. The wires will be terminated in the LAN closet.
68. Each telephone jack will have an independent wire. A duplex jack will require two telephone wire drops. Each duplex data outlet will require two data cable drops to the outlet. All cables will be terminated in the LAN closet.
69. The commissioning of the security electronic systems will require the DB to complete the requisite CSC forms, provide an equipment list with part numbers and verification process report to the Regional Security Electronics Officer (Mr. Jeff Mills). As-Built drawings for the security electronics system are also required to be submitted prior to project completion.
70. The DB is responsible for installing wall mounted Fire Extinguishers. The DB should budget for installing 6 wall mounted fire extinguishers. Each extinguisher installation will be on a ½ inch thick wooden panel that will be finished in red paint and carry the mounting brackets. The exact type and quantity of wall mounted extinguishers will be determined during design.
71. The DB is responsible for testing the functionality of each telephone and data outlet as part of commissioning.
- 72. Door Locks and hardware specifications:**
- a. The existing locks at Bowden Annex are Stanley (Best) hardware, cylinders and cores and must be compatible with the existing system. Follow the CSC key control process as per TOR Section 5.
  - b. The Institution requires that the locks for the production kitchen be specified as Stanley (Best) hardware that accepts the 9 pin I/C cores or equivalent.
  - c. Required cores will be on existing keyways.
  - d. Matched to existing control keys
  - e. Matched to existing master keys
  - f. Operating keys will be as specified by the Institution.
- 73. Special door types that are required in the kitchen include:**
- a. Strip door with clear vinyl curtains
  - b. Air-curtain doors
  - c. Impact Doors
  - d. Commercial Tuff Doors
  - e. Stainless Steel doors.
- The DB is required to provide a door schedule during design submissions.

**74. Door Closers:**

Door closers are needed on the following doors.

- a. Exits
- b. Bathrooms
- c. Basement Access

**It is to be noted that “User Specifications” are mandatory requirements that must be incorporated in the building design and specifications. The “User Specifications” take precedence over all other generic documentation as noted in the TOR. In the event there is a conflict between the generic design and the “User Specifications”, the Departmental Representative will make the decision.**

**Some “User Specifications” are requirements that are additional to the requirements of the generic design and specifications and should not be construed as either/or.**

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