



TECHNICAL ADDENDUM #4

The following changes in the tender documents are effective immediately. This addendum will form part of the contract documents.

4 QUESTIONS RECEIVED BY THE TENDERING AUTHORITY

- .3 **Will the greenhouse be considered a farm building for design purposes or will the NBC apply as it will make a considerable difference in the cost?**

The greenhouse and header house will be considered as one building and the NBC will apply.

5 TERMS OF REFERENCE DOCUMENT

5.1 SECTION 1.6 – SUMMARY OF WORK

- .1 Add the following to Article 1.6.5 Items Supplied by Departmental Representative:
- .5 Computer Workstation for Greenhouse Controls Operator Workstation will be supplied by and installed by Departmental Representative
 - .6 Roller top benches will be supplied by and installed by Departmental Representative

5.2 SECTION 1.10 CODES, STANDARDS, REGULATIONS

- .3 Add the following:
- .4 The header house (washrooms, shower room and offices only) shall be designed in conformance with CSA B651-12 "Accessible Design for the Built Environment"

5.3 SECTION 2.4 DELIVERABLES

- .3 Revise Item .1 as follows: Revise "95%" to read "99%"

5.4 SECTION 3.5 ELECTRICAL REQUIREMENTS

- .3 Revise Article 3.5.1 Scope of Electrical Work as follows:
- .1 Revise Item .15 as follows: Replace "Provide new spare conduits (minimum 4 – 63mm dia), cables (including fibre) and wiring from Bldg 72 to new Header House electrical /I.T. room" with "Provide new spare conduits (minimum 4 – 63mm dia) c/w nylon pull lines from Bldg 72 electrical room to new Header House electrical /I.T room"



- .4 Revise Article 3.5.9 Wiring Methods as follows:
 - .1 Revise Item .8 to read as follows:
 - .8 All wiring in greenhouse (compartments and corridors) and Header House wet areas shall be in rigid aluminum conduit, fittings connectors and boxes.
 - .2 Add the following:
 - .9 Provide an insulated green ground conductor (#12 awg minimum) within each conduit run.
- .5 Revise Article 3.5.6 Emergency power as follows:
 - .1 Add the following:
 - .15 Provide one 120/208 V 3 phase 4 wire 60 circuit spare panel (225 amps mains) mounted in header house electrical room, feed with 4-#1/0 from 150 A-3P breaker in CDP distribution. Panel to be complete with 30-15A-1P, 5-20A-1P and 1-15A-3P spare breakers. Initial designate as Panel ESP.
- .6 Revise Article 3.5.10 Wiring Devices as follows:
 - .1 Add the following:
 - .14 Provide 15-15A 120 volt circuits from a ceiling box in the Header house centered in the future rooms area (shown dotted) and run to the spare Panel ESP spare circuits. Minimum circuits wiring shall be #10 awg and each on a separate dedicated neutral. Ceiling suspend conduit run
- .7 Revise Article 3.5.17 Telecommunication system as follows:
 - .1 Delete Item .1 ("Provide fibre optic cabling...")

5.5 SECTION 4.1 ARCHITECTURAL (GREENHOUSE)

- .3 Revise Article 4.1.1 Exterior/Interior Enclosure as follows:
 - .1 Add the following to Item. 7: "...with conditions of exterior 25 km / hr. wind and indoor / outdoor temperature difference of 20 dg C. Test & report using CO2 decay testing procedure:"
- .4 Revise Article 4.1.4 Greenhouse Roller Benches as follows:
 - .1 Delete "N/A" from Article name
 - .2 Add the following:
 - .1 Greenhouse Roller benches to be provided and installed by Departmental representative
- .5 Revise Article 4.1.6 Drainage as follows:
 - .1 Revise Item .1.2. to read as follows:
 - .2 Compartment floors shall slope to central trench drain at 1% slope. Ponding will not be permitted.



5.6 SECTION 4.2 MECHANICAL (GREENHOUSE)

- .3 Revise Article 4.2.1 Ventilation as follows:
 - .1 Revise .1.1 as follows: delete “acceptable product Svensson Econet “
 - .2 Revise Item .6.7 to read as follows:
 - .7 One fan required for each module (total of six)
 - .3 Revise Item .7.4 to read as follows:
 - .4 Provide capacities to ensure a minimum of twelve (12) air circulations per hour per compartment. Provide for galvanized steel brackets to suspend fans from energy truss structure.
 - .4 Add the following to Item .8:
 - .1 “...Provide in vestibule wall a motorized damper interlock with fan to let air out of central corridor.”
- .4 Revise Article 4.2.2 Heating as follows:
 - .1 Revise Item .13.2 to read as follows:
 - .2 “Gutter heat to be controlled evenly from once control valve per zone (total of 7 zones)”
- .5 Revise Item .16.5.2 to read as follows:
 - .2 Seven (7) control zones to be provided for the gutter heat
- .6 Revise Article 4.2.16 Operator Workstation for Greenhouse Controls as follows:
 - .1 Revise Item .2 to read as follows:
 - .2 The control system software will be based on Windows 7 operating system.
 - .1 Departmental Representative will provide the following computer workstation for the controls:
 - .1 Intel Pentium dual Core microprocessor,
 - .2 20” LCD screen, 1600x900 resolution,
 - .3 16x or faster R/W Cd-ROM,
 - .4 20 GB hard drive,
 - .5 Ethernet 1000 Mbps,
 - .6 Sound card,
 - .7 3 button mouse,
 - .8 Ergonomic Microsoft keyboard,
 - .9 Laserjet printer,
 - .10 All necessary cables
 - .2 Revise Item .3 to read as follows:
 - .3 “Provide and install 30minute UPS system to operate computer and controller until building backup power generator comes on-line.”



5.7 SECTION 4.3 ELECTRICAL (GREENHOUSE)

- .14 Revise Addenda #4 Item .1 from: “Revise Article 4.4.4...” to read : “Revise Article 4.3.3...”

5.8 SECTION 5.1 ARCHITECTURAL (HEADER HOUSE)

- .3 Revise Article 5.1.1. General Description as follows:
 - .1 Item .6: Delete “ except at following locations: Between Rooms CRC I05, CRC I06, CRC I04, CRC I07”
 - .2 Revise Addenda #4 Item .5 from “Revise Article 5.14...” to “Revise Article 5.1.4...”

5.9 SECTION 5.3 MECHANICAL (HEADER HOUSE)

- .3 Revise Article 5.3.3. HVAC as follows:
 - .1 Revise .16.1.11 to read as follows:
 - .11 Cold water in fume hood with cup sink drain to the pesticide waste water collection system
 - .2 Revise Item .16.5 to read as follows:
 - .5 Sash Working height is 300mm
 - .3 Revise Item .16.8 to read as follows:
 - .14 Variable air volume (VAV) to provide 100 FPM face velocity. Fume Hood always ON to meet NFPA 45

5.10 SPACE DATA SHEETS

- .3 Revise Space Data Sheet #9 as follows:
 - .1 Revise floor plan diagram as follows:
 - .1 Remove containment pit
 - .2 Revise Special Plumbing to read as follows:
 - .1 Double compartment sink 316 stainless steel sink with hands free controls, hard wired. Sink and fume hood cup sink to drain to packaged pumping station, which transfers effluent to a 200L disposal barrel. Both faucets to have solenoid valve interlock with pumping station high level to prevent overflow
 - .3 Add ‘Applicable Regulations’ as follows:
 - .1 <http://www.gov.mb.ca/conservation/eal/pesticide/pestrec.pdf>
 - .2 <http://web2.gov.mb.ca/laws/regs/pdf/el25-094.88r.pdf>
 - .3 <http://web2.gov.mb.ca/laws/regs/2004/047.pdf>

5.11 DRAWINGS

- .3 Revise Drawing A2 Floor Plan (Rev.1) as follows:



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- .I Add the following note: "In Electrical Room, provide 3050mm wide full height clear wall space for future electrical equipment".