

**Confidential
Design-Build Agreement**

DESIGN-BUILD AGREEMENT

Royal Columbian Hospital Redevelopment Project - Phase Two

FRASER HEALTH AUTHORITY

and

ELLISDON DESIGN BUILD INC.

Dated: December 17, 2020

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DESIGN-BUILD AGREEMENT

THIS AGREEMENT dated for reference as of December 17, 2020 (the "**Effective Date**") is entered into:

BETWEEN:

FRASER HEALTH AUTHORITY

(the "**Authority**")

AND:

ELLISDON DESIGN BUILD INC.

(the "**Design-Builder**")

WHEREAS:

- A. The Authority has selected the Design-Builder to perform all Work for the Project referred to as the "Royal Columbian Hospital Redevelopment Project", as further described in this Agreement; and
- B. The parties wish to enter into this Agreement to set out their respective rights and obligations.

NOW THEREFORE in consideration of the premises and the mutual obligations contained in this Agreement, the parties agree as follows:

PART A – DEFINITIONS AND INTERPRETATION

1 DEFINITIONS AND INTERPRETATION

1.1 In this Agreement, the following words and expressions have the following meanings:

"Agreement" means this agreement, including the documents referred to in Section 1.2;

"Apprenticeship Policy" has the meaning set out in Schedule 7 [Apprenticeship Policy];

"Architect" means a professional architect registered and in good standing under the *Architects Act* (British Columbia);

"Asbestos Reports" means:

- (i) 2019 Hazardous Materials for Roof and Exteriors includes Asbestos report;
- (ii) January 15, 2019 Hazardous Material Survey Columbia Tower report;
- (iii) January 15, 2019 Hazardous Material Survey Health Care Centre report;

- (iv) January 15, 2019 Hazardous Materials Survey Laundry Maintenance report;
- (v) January 15, 2019 Hazardous Materials Survey Main Entrance report;
- (vi) January 15, 2019 Hazardous Materials Survey Power Plant report;
- (vii) January 15, 2019 Hazardous Materials Survey Sherbrooke report;
- (viii) January 20, 2015 Astech Report 13689 Ceiling Tiles Asbestos Bulk Sample report;
- (ix) February 20, 2019 ACM Report Asbestos Containing Materials Updated Survey;
- (x) June 26, 2018 Report Pinchin 0207946-054 Asbestos Assessment Columbia Tower RCH Fraser Health;
- (xi) June 2018 Asbestos Floor Plan – Basement;
- (xii) June 2018 Asbestos Floor Plan – Level 1 Mech;
- (xiii) June 2018 Asbestos Floor Plan – Level 2;
- (xiv) June 2018 Asbestos Floor Plan – Level 3;
- (xv) June 2018 Asbestos Floor Plan – Level 4;
- (xvi) June 2018 Asbestos Floor Plan – Level 5;
- (xvii) June 2018 Asbestos Floor Plan – Level 6;
- (xviii) June 2018 Asbestos Floor Plan – Level 7 Penthouse Mech;
- (xix) June 2018 Asbestos Floor Plan – Main Fl Mech;
- (xx) June 2018 Asbestos Floor Plan – Main Floor;
- (xxi) July 26, 2018 RCH HMIS reports – Columbia Tower;
- (xxii) August 3, 2018 Report Pinchin 0207946054 Asbestos Assessment Emergency;
- (xxiii) September 18, 2018 Report Pinchin 0207946.054 Asbestos Assessment Health Care Centre RCH FHA;
- (xxiv) June 14, 2018 Report Pinchin 0207946.054 Asbestos Assessment Laundry Maintenance RCH Fraser Health;
- (xxv) June 2018 Asbestos Floor Plan – Basement;
- (xxvi) June 2018 Asbestos Floor Plan – Ground Floor;

- (xxvii) June 2018 Asbestos Floor Plan – Roof and Exterior;
- (xxviii) July 26, 2018 RCH HMIS reports – Laundry Maintenance Building;
- (xxix) July 12, 2018 Report Pinchin 0207946.054 Asbestos Assessment RCH Main Entrance Building;
- (xxx) July 26, 2018 RCH HMIS reports – Main Entrance Building;
- (xxxii) June 20, 2018 Report Pinchin 0207946.054 Asbestos Assessment RCH Power Plant Fraser Health;
- (xxxiii) June 2018 Asbestos Floor Plan – BSMT and SUB BSMT;
- (xxxiv) June 2018 Asbestos Floor Plan – MEZZANINE;
- (xxxv) June 2018 Asbestos Floor Plan – ROOF and EXTERIOR;
- (xxxvi) July 26, 2018 RCH HMIS reports – Power Plant; and
- (xxxvii) August 6, 2018 Report Pinchin 0207946054 Asbestos Assessment RCH Sherbrooke Centre;

"Asset Management" or "AM" is the coordinated activity of an organization to realize value from assets;

"Authority" has the meaning set out on the first page of this Agreement;

"Authority Having Jurisdiction" or "AHJ" means any federal, provincial, territorial, regional, municipal or local governmental authority, quasi-governmental authority, court, government or self-regulatory organization, commission, board, tribunal, or any regulatory, administrative or other agency, or any political or other subdivision, department or branch of any of the foregoing, having jurisdiction in any way over or in respect of any aspect of the performance of this Agreement or the Project;

"Authority's Consultant" means IBI Group Inc. unless replaced in accordance with Section 6.2;

"Authority's Representative" has the meaning set out in Section 5.1;

"BC Hydro" means British Columbia Hydro and Power Authority;

"BEMP" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Bond" has the meaning set out in Section 61.1;

"Building Energy Modeling Professional" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Business Day" means a day other than a Saturday, Sunday or statutory holiday in British Columbia;

"Carbon Emissions" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Carbon Guarantee" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Carbon Target" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Change" means a change in the Work, including any addition, deletion, alteration, revision or substitution;

"Change Directive" means a written instruction referenced as a "Change Directive" executed by the Authority and directing the Design-Builder to proceed with a Change;

"Change Order" means a written document referenced as a "Change Order" executed by the Authority and the Design-Builder and setting out a Change and the value or method of valuation of a Change and any adjustments to the Contract Price and Contract Time;

"Confidential Information" means information of a party that the party has designated as confidential at the time of disclosure and which is supplied, or to which access is granted, to or on behalf of the other party (whether before or after the Effective Date), either in writing, or in any other form, directly or indirectly pursuant to discussions with the other party and includes all analyses, compilations, studies and other documents whether prepared by or on behalf of a party which contain or otherwise reflect or are derived from such designated information;

"Construction" means all things, other than Design, necessary to complete the Work;

"Construction Management Plan" has the meaning set out in Schedule 4 [Management Systems and Plans];

"Contaminants" means any materials, substances or hazardous wastes, the storage, manufacture, disposal, treatment, generation, use, transport, remediation or release into the environment of which is now or hereafter prohibited, controlled or regulated under the *Environmental Management Act* (British Columbia) and regulations;

"Contemplated Change Notice" a written instruction referenced as a "Contemplated Change Notice";

"Contract Price" means the price set out in Section 2.1;

"Contract Time" means the time within which the Design-Builder will achieve Substantial Completion as set out in Section 3.1;

"Cooling Degree Days" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"COVID-19 Change in Law" means a change to applicable Laws and Standards which imposes, modifies or removes measures to minimize or mitigate the spread of, and human health effects from, the novel coronavirus COVID-19;

"COVID-19 Event" means an event, other than a COVID-19 Change in Law, arising after the Financial Submission Date and caused by the COVID-19 Pandemic;

"COVID-19 Pandemic" means the novel coronavirus COVID-19 pandemic declared March 11, 2020 by the World Health Organization until such time as the World Health Organization designates or declares the COVID-19 post-pandemic phase;

"Credit Provider" has the meaning set out in Section 16.2;

"Design" means the design for the Project;

"Design and Construction Schedule" means the general schedule for timing of the Work as set out in Appendix 1 to Schedule 11 [Design and Construction Schedule] and as updated pursuant to the provisions of Section 11 and Schedule 11 [Design and Construction Schedule];

"Design-Builder" has the meaning set out on the first page of this Agreement;

"Design-Builder's Consultant" means Parkin Architects Ltd., as the principal Architect and coordinating professional and any other architectural or engineering firm or person, including any Architect or Professional Engineer, engaged by the Design-Builder to prepare the Design, or to otherwise consult to the Design-Builder on the Project;

"Design-Builder's Representative" has the meaning set out in Section 5.2;

"Design Stages" has the meaning given in Schedule 3 [Design Process];

"Disclosed Data" means any information, data and documents (including in PLS-CADD or any other electronic format) made available or issued to the Design-Builder or any Subcontractor or other person on behalf of the Design-Builder or any Subcontractor in connection with the Project by or on behalf of the Authority, including any information relating to the Land or the requirements of any governmental authority, whether before or after the Effective Date;

"Dispute" means any disagreement, failure to agree or other dispute between the Authority and the Design-Builder arising out of or in connection with this Agreement, including in respect of the interpretation, breach, performance, validity or termination of this Agreement, whether in the law of contract or any other area of law;

"Effective Date" has the meaning set out on the first page of this Agreement;

"End Date" means the date described in Section 4.1;

"Energy" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Energy Consumption" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Energy Dashboard" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Energy Guarantee" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Energy Management Plan" has the meaning set out in Schedule 4 [Management Systems and Plans];

"Energy Model" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Energy Modeling Summary Report" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Energy Modeller" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Energy Target" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Environmental Credit" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Environmental Reports" means:

- (i) the Asbestos Reports;
- (ii) March 7, 2019 Review Letter Steer Env;
- (iii) EXP LE VAN-00246536-A0 Remediation Quantities 330 E Columbia St New Westminster BC_FINAL;
- (iv) March 19, 2019 FHA Remediation Commitment Letter;
- (v) Site 22181;
- (vi) April 2019 Site 22181 MoE Approval Letter;
- (vii) VAN-00246536-A0 – RCH Remediation Plan and Risk Assessment Report_FINAL;
- (viii) VAN-00246536-A0 DSI RCH New Westminster BC_FINAL;
- (ix) VAN-00246536-A0 – Stage 1 PSI Addndm RCH_New Westminster_BC_FINAL; and
- (x) VAN-00246536-A0 – Stage 2 PSI RCH_New Westminster_BC_FINAL;

"Epidemic" means an epidemic or pandemic of infectious disease of humans, including one that is either declared by the World Health Organization or that is a "regional event" as defined in the *Public Health Act* (British Columbia) for which the Provincial Health Officer gives notice under Section 52 of that Act, but excluding the COVID-19 Pandemic;

"Epidemic Change in Law" means a change to applicable Laws and Standards which in respect of an Epidemic imposes, modifies or removes measures to minimize or mitigate the spread of, and human health effects from, relevant infectious disease;

"Epidemic Event" means an event, other than an Epidemic Change in Law, arising after the Financial Submission Date and caused by an Epidemic;

"Estimate" means a detailed breakdown, estimate and other information attributable to a Contemplated Change Notice prepared by the Design-Builder in accordance with and meeting the requirements of Section 48;

"Existing Hospital" has the meaning set out in the Statement of Requirements;

"Facility" means the buildings, related structures, utility connections, landscaping and other improvements to be constructed by the Design-Builder pursuant to this Agreement;

"Financial Submission Date" means September 25, 2020;

"FIPPA" means the *Freedom of Information and Protection of Privacy Act* (British Columbia);

"Force Majeure" means COVID-19 Events, Epidemic Events, labour disputes, strikes, lock-outs, fire, unusual delay by common carriers or unavoidable casualties or, without limiting any of the foregoing, by a cause beyond the Design-Builder's reasonable control, but excludes:

- (i) any event that is the result of breach of this Agreement or Law;
- (ii) economic hardship or lack of financing;
- (iii) equipment failure;
- (iv) unavailability of personnel, labour or Subcontractors, unless and to the extent caused by a COVID-19 Event or an Epidemic Event;
- (v) unavailability of materials, unless and to the extent caused by a COVID-19 Event or an Epidemic Event;
- (vi) labour disputes, strikes or lock-outs of the personnel of the Design-Builder or the Subcontractors;
- (vii) delays resulting from adverse weather conditions; and
- (viii) unsuitable or unanticipated Site conditions, including subsurface conditions;

"GST" means the goods and services tax imposed pursuant to Section IX of the *Excise Tax Act* (Canada);

"Heating Degree Days" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Hot Water Energy Consumption" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"IEC" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"IEC Functions" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Independent Energy Consultant" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Indemnified Parties" has the meaning set out in Section 59.1;

"Independent Certifier" has the meaning set out in Section 7.1;

"Independent Energy Consultant" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Insurance Conditions" means the terms and conditions set out in Schedule 6 [Insurance Conditions];

"Key Individuals" means the persons identified in Schedule 9 [Key Individuals];

"Land" means the lands legally described as PID: 025-618-199, Parcel A Suburban Block 2 New Westminster District Plan BCP4410;

"Laws" means the common law and any and all laws, statutes, enactments, by-laws, regulations, rules, orders, directives, policies, permits, licences, codes and rulings of any government, and any ministries, agencies, board, commission or tribunal of any government;

"LD Holdback" has the meaning set out in Section 44.1.

"LEED Certifier" means the Canada Green Building Council or other organization authorized by the Canada Green Building Council to administer and award LEED Gold Certification;

"LEED Gold Certification" means the award of a LEED Gold certification from the LEED Certifying Authority under the LEED Rating System;

"LEED Rating System" means LEED v4 for Building Design + Construction (BD+C); Healthcare;

"Lien Holdback" means the 10% holdback required under the *Builders Lien Act* (British Columbia);

"Management Systems and Plans" has the meaning set out in Schedule 4 [Management Systems and Plans];

"Measurement and Verification Plan" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Megawatt hour" or "MWh" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Modelled Weather Data" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Monthly Design and Construction Schedule Update" has the meaning set out in Schedule 11 [Design and Construction Schedule];

"Monthly M&V Report" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Monthly Project Report" has the meaning set out in Schedule 4 [Management Systems and Plans];

"M&V Holdback" has the meaning set out in Section 44.1(c);

"M&V Period" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"M&V Scope" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Other Contractor" means any person employed by or having a separate contract directly or indirectly with the Authority for work related to the Project, other than the Work;

"Performance Holdbacks" has the meaning set out in Section 44.1;

"Predicted Carbon Emissions" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Predicted Energy Consumption" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Preliminary Works" has the meaning set out in the Statement of Requirements;

"Professional Engineer" means a professional engineer registered and in good standing under the *Engineers and Geoscientists Act* (British Columbia);

"Project" means the design, construction, testing and commissioning of the Facility and all other works in accordance with this Agreement;

"Project Binder" has the meaning set out in Schedule 3 [Design Process];

"Project Credits" means any incentive, income, credit, rebate, right, benefit or advantage provided by a governmental authority or industry group relating to energy, design, materials or environmental matters, including means of production of energy, input sources, use of products or materials, efficiencies, type and level of emissions, and compliance with any energy or environmental laws, regulations, rules or orders;

"PST" means the tax under the *Provincial Sales Tax Act* (British Columbia) and any regulation thereunder, including any transition provisions;

"RCH" means Royal Columbian Hospital;

"RCH Campus" has the meaning set out in the Statement of Requirements;

"Record Documentation" includes the as-built drawings, specifications, maintenance manuals, AutoCad files, BIM model and other documentation that record the completed Facility prepared in accordance with Schedule 3 [Design Process];

"Review Procedure" means Schedule 2 [Review Procedure];

"Reviewed Drawings and Specifications" has the meaning set out in Schedule 2 [Review Procedure];

"Schedule Information" has the meaning set out in Schedule 11 [Design and Construction Schedule];

"Schedule of Values" means the schedule to be provided by the Design-Builder pursuant to Section 41.4 and reviewed by the Authority under the Review Procedure that allocates the Contract Price set out in Schedule 10 [Schedule of Prices] over the course of the Project and that is the basis for monthly payments by the Authority for Work properly performed pursuant to this Agreement;

"Schedule Status Reports" has the meaning set out in Schedule 11 [Design and Construction Schedule];

"Site" means the place where the Construction is to be performed on the Land as indicated on the Site Plan, together with, as indicated from time to time, other such areas that the Design-Builder may be permitted to access for purposes of Construction in accordance with a Work Plan pursuant to Section 29.2;

"Site Occupation Date" means the date that is the third Business Day after the Effective Date unless otherwise agreed by the Authority and the Design-Builder;

"Site Plan" means the plan of the Site attached as APPENDIX 1E – WORK AREA DIAGRAMS to the Statement of Requirements;

"Site Reports" means the following reports:

- (i) September 7, 2018 EXP_Geo_Assessment_RCH_AcuteCareTower-Final;
- (ii) September 30, 2018 _Report_Katzie_RCH_Archaeological_Overview_Assessment_Sept2018_Final;
- (iii) September 26, 2018 H-3348A-R1;
- (iv) September 26, 2018 H-3348B;
- (v) May 30 TOPO-TO-SCALE;
- (vi) May 30 V17114B-Top-01-M-R0;
- (vii) May 30 V17114B-Top-01-M-R0;
- (viii) November 7, 2016 Columbia Tower Final Report;
- (ix) November 7, 2016 Emergency Building Final Report;
- (x) November 7, 2016 Health Care Centre Final Report;
- (xi) November 7, 2016 Laundry Maintenance Building Final Report;
- (xii) November 7, 2016 Main Entrance Building Final Report;
- (xiii) November 7, 2016 Parkade Final Report;
- (xiv) November 7, 2016 Power Plant Final Report;
- (xv) November 7, 2016 Sherbrooke Centre Final Report;
- (xvi) November 7, 2016 Support Trailer Final Report;
- (xvii) December 19, 2017 Royal Columbian Hospital Transportation Demand Analysis;
- (xviii) April 2018, Tree Preservation Report;
- (xix) Arc Flash Studies:
 - (a) 5510 - RCH_SC, COR, AF Analyses_4.1
 - (b) 7945 - RCH - Preliminary AF Analysis_2.0
 - (c) STN-RPT-SHORT_20180711
 - (d) STN-RPT-SHORT-EC_20180711

(e) STN-RPT-SHORT-MH_20180711

(xx) Existing Facilities:

- (a) RCH Medical Gas Outlet Summary and Detailed Report
- (b) Earth_General Notes
- (c) Earth_S02_Site Plan
- (d) Earth_S03_Foundation Plan
- (e) Earth_S06_Foundation Section and Details
- (f) Earth_S07_Foundation Section and Details 2
- (g) Laundry Maintenance Building Foundation
- (h) Laundry Maintenance Building Site Plan
- (i) Sherbrooke _Com. Duct Stubouts
- (j) STN-A971_Heliport_Roof_Demolition_Plan_r1_20171003
- (k) STN-A972_Heliport_Foundation_Demolition_Plan_r1_20171003

"Standards" means any and all Laws, professional standards and specifications applicable to the Work, or to work such as the Project, as they are in force from time to time in the latest current version thereof;

"Statement of Requirements" means Schedule 1 [Statement of Requirements];

"Subcontract" means a contract with a Subcontractor;

"Subcontractor" means a person or entity, including the Design-Builder's Consultant, having a contract with the Design-Builder or with a subcontractor of any tier to perform a part or parts of the Work or to supply products or materials for the Work;

"Submittal" means any and all items, documents and anything else required or specified by this Agreement (including by Schedule 3 [Design Process]), and any and all subsequent revisions, amendments and changes thereto, in respect of the Design and the Construction to be submitted to, reviewed, accepted or otherwise processed or considered by the Authority;

"Submittal Schedule" has the meaning set out in Schedule 2 [Review Procedure];

"Substantial Completion" has the meaning set out in Section 45.2;

"Substantial Completion Certificate" means the certificate issued to the Design-Builder by the Independent Certifier upon the achievement of Substantial Completion, as described in this Agreement;

"Substantial Completion Date" means the date that Substantial Completion has been achieved by the Design-Builder, as set out in the Substantial Completion Certificate;

"Target Substantial Completion Date" has the meaning set out in Section 3.1;

"Term" means the period commencing on the Effective Date and ending on the End Date;

"Total Completion" has the meaning set out in Section 45.14;

"Total Completion Certificate" means the certificate issued to the Design-Builder by the Independent Certifier upon the achievement of Total Completion;

"Total Completion Date" means the date that Total Completion has been achieved, as set out in the Total Completion Certificate;

"Updated Design and Construction Schedule" has the meaning set out in Schedule 11 [Design and Construction Schedule];

"User Consultation Groups" has the meaning set out in Schedule 2 [Review Procedure];

"Warranty Holdback" has the meaning set out in Section 44.1;

"Warranty Period" means the period defined in Section 39.1 during which the Design-Builder is required to repair any deficiencies or defects that arise in the Work;

"Weather Data" has the meaning set out in Schedule 5 [Energy and Carbon Guarantees];

"Work" means everything to be undertaken by the Design-Builder under this Agreement;

"Work Plan" has the meaning set out in Section 29.2; and

"Workers' Compensation Board" or "WorkSafe BC" means the board constituted pursuant to the *Workers Compensation Act* (British Columbia).

1.2 This Agreement includes the following schedules and all sub-schedules, appendices and attachments to those schedules:

- (a) Schedule 1 [Statement of Requirements];
- (b) Schedule 2 [Review Procedure];
- (c) Schedule 3 [Design Process];
- (d) Schedule 4 [Management Systems and Plans];

- (e) Schedule 5 [Energy and Carbon Guarantees];
- (f) Schedule 6 [Insurance Conditions];
- (g) Schedule 7 [Apprenticeship Policy];
- (h) Schedule 8 [Independent Certifier Agreement];
- (i) Schedule 9 [Key Individuals];
- (j) Schedule 10 [Schedule of Prices]; and
- (k) Schedule 11 [Design and Construction Schedule].

1.3 This Agreement will be interpreted according to the following provisions, except to the extent the context or the express provisions of this Agreement otherwise require:

- (a) no rule of law will apply that would construe this Agreement or any part of it against the party who (or whose counsel) drafted, prepared or put forward the Agreement or any part of it;
- (b) the table of contents, headings and sub-headings, marginal notes and references to them in this Agreement are for convenience of reference only, do not constitute a part of this Agreement and will not be taken into consideration in the interpretation or construction of, or affect the meaning of, this Agreement;
- (c) neither the organization of the Statement of Requirements or any other documents included in this Agreement into divisions, sections and parts, or the arrangement of drawings or specifications included in this Agreement will control the Design-Builder in dividing the Work among Subcontractors or in establishing the Work to be performed by a trade;
- (d) each reference to a Section or Schedule is a reference to a Section of or Schedule to this Agreement;
- (e) a Schedule includes all of the sub-schedules, appendices and other attachments attached to that Schedule;
- (f) each reference to an agreement, document, standard, principle or other instrument includes (subject to all relevant approvals and any other provisions of this Agreement expressly concerning such agreement, document, standard, principle or other instrument) a reference to that agreement, document, standard, principle or instrument as amended, supplemented, substituted, novated or assigned;
- (g) each reference to a statute or statutory provision (including any subordinate legislation) includes any statute or statutory provision which amends, extends, consolidates or replaces the statute or statutory provision or which has been amended, extended, consolidated or replaced by the statute or statutory provision

- and includes any orders, regulations, by-laws, ordinances, orders, codes of practice, instruments or other subordinate legislation made under the relevant statute;
- (h) each reference to time of day is a reference to Pacific Standard Time or Pacific Daylight Saving Time, as the case may be;
 - (i) words importing the singular include the plural and vice versa;
 - (j) words importing a particular gender include all genders;
 - (k) each reference to a public organization is deemed to include a reference to any successor(s) to such public organization or any organization or entity or organizations or entities which has or have taken over the functions or responsibilities of such public organization;
 - (l) unless the context otherwise requires, each reference to "parties" means the parties to this Agreement and each reference to a "party" means any one of the parties to this Agreement, provided however that a reference to a third party does not mean a party to this Agreement;
 - (m) all monetary amounts are expressed in Canadian Dollars;
 - (n) whenever this Agreement obliges a party (in this paragraph, the "Payor") to pay any amount to the other party (in this paragraph, the "Payee") in respect of any costs, expenses, fees, charges, liabilities, losses, claims or other sums incurred by the Payee:
 - (i) such obligation will be construed as applying only to so much of such sums as have been properly incurred on an arm's length commercial basis or, where not incurred on an arm's length commercial basis (including when the payment is made to an affiliate of the Payee), so much of them as are proper and reasonable; and
 - (ii) the Payee will, when requested by the Payor, provide supporting evidence of such costs, expenses, fees, charges, liabilities, losses, claims or other sums;
 - (o) the Authority will not be imputed with knowledge of any fact, matter or thing unless that fact, matter or thing is within the actual knowledge of any of those of its employees or agents (including the Authority's Representative) who have responsibilities in connection with the conduct of the Work;
 - (p) without limiting the extent of its actual knowledge, the Design-Builder will for all purposes of this Agreement be deemed to have such knowledge in respect of the Work as is held (or ought reasonably to be held) by all persons involved in carrying out the Work including the Design-Builder and the Subcontractors (including the Design-Builder's Consultant) and the officers, agents, employees or workers of any of them;

- (q) each requirement for a thing or action to be "in accordance with" or "in compliance with" any standard, code or specification or other requirement or stipulation means that such thing or action is to exceed or at least equal that standard, code, specification or other requirement or stipulation;
- (r) the words "include", "includes" and "including" are to be construed as meaning "include without limitation", "includes without limitation" and "including without limitation", respectively;
- (s) the terms "will", "shall" and "must" are synonymous;
- (t) the Statement of Requirements includes provisions written in the imperative, and all such provisions will be construed as obligations of the Design-Builder;
- (u) when a party has "discretion", it means that party has the sole, absolute and unfettered discretion, with no requirement to act reasonably or provide reasons unless specifically required under the provisions of this Agreement;
- (v) any consent contemplated to be given under this Agreement must be in writing;
- (w) general words are not given a restrictive meaning:
 - (i) if they are introduced by the word "other", by reason of the fact that they are preceded by words indicating a particular class of act, matter or thing; or
 - (ii) by reason of the fact that they are followed by particular examples intended to be embraced by those general words;
- (x) words or abbreviations which have well-known technical or trade meanings are used in accordance with those meanings;
- (y) the expression "all reasonable efforts" and expressions of like import, when used in connection with an obligation of either of the parties, means taking in good faith and with due diligence all commercially reasonable steps to achieve the objective and to perform the obligation, including doing all that can reasonably be done in the circumstances taking into account each party's obligations hereunder to mitigate delays and additional costs to the other party, and in any event taking no less steps and efforts than those that would be taken by a commercially reasonable and prudent person in comparable circumstances but where the whole of the benefit of the obligation and where all the results of taking such steps and efforts accrued solely to that person's own benefit, provided that the foregoing will not require the Authority to:
 - (i) take any action which is contrary to the public interest, as determined by the Authority in its discretion; or

- (ii) undertake any mitigation measure that might be available arising out of its status as a public body that would not normally be available to a private commercial party;
 - (z) the expressions "by the Design-Builder" and "by or through the Design-Builder" and expressions of like import are synonymous and mean by the Design-Builder or by anyone employed by or through the Design-Builder, including the Design-Builder and all Subcontractors and their respective officers, agents, employees and workers;
 - (aa) all accounting and financial terms used herein are, unless otherwise indicated, to be interpreted and applied in accordance with GAAP, consistently applied;
 - (bb) if the time for doing an act falls or expires on a day that is not a Business Day, the time for doing such act will be extended to the next Business Day;
 - (cc) each provision of this Agreement will be valid and enforceable to the fullest extent permitted by law. If any provision of this Agreement is held to be invalid, unenforceable or illegal to any extent, such provision may be severed and such invalidity, unenforceability or illegality will not prejudice or affect the validity, enforceability and legality of the remaining provisions of this Agreement. If any such provision of this Agreement is held to be invalid, unenforceable or illegal, the parties will promptly endeavour in good faith to negotiate new provisions to eliminate such invalidity, unenforceability or illegality and to restore this Agreement as nearly as possible to its original intent and effect;
 - (dd) each release, waiver of liability and indemnity in this Agreement expressed to be given in favour of a party is and will be interpreted as having been given in favour of and may be enforced by that party and, in the case of the Authority, by the Indemnified Parties; and
 - (ee) the words "herein", "hereof", "hereto" and "hereunder" refer to this Agreement as a whole and not to a particular Section or Schedule in which such word may be used.
- 1.4 All documents forming this Agreement are complementary, and what is required by any one will be as binding as if required by all.
- 1.5 If there is a conflict within the documents forming this Agreement:
- (a) the provisions establishing the higher quality, manner or method of performing the Work, using the more stringent standards, will prevail, with the intent that the provisions which produce the higher quality with the higher levels of safety, reliability, durability, performance and service will prevail;
 - (b) the order of priority of documents from highest to lowest will be:

- (i) the part of this Agreement from the first page to the page with the signatures of the persons executing this Agreement;
- (ii) the schedules (including appendices, sub-schedules and attachments to the schedules), in the order in which they are listed in Section 1.2;
- (c) specifications will govern over drawings;
- (d) drawings of a larger scale will govern over those of a smaller scale of the same date;
- (e) dimensions shown in drawings will govern over dimensions scaled from drawings; and
- (f) later dated documents will govern over earlier dated documents of the same type.

Any conflict, ambiguity or discrepancy in or between the documents comprising this Agreement will be at the Design-Builder's sole risk and the Design-Builder will have no entitlement to any adjustments to the Contract Price or Contract Time as a result of such conflict, ambiguity, discrepancy or direction of the Authority's Representative related thereto.

Upon discovery by the Authority or the Design-Builder of any conflict, ambiguity or discrepancy between any documents comprising this Agreement, such party will promptly notify the other party's representative and resolve all such conflicts, ambiguity or discrepancy through mutual consultation and the application of the order of priority for such documents specified herein. If such conflict, ambiguity or discrepancy is not resolved through mutual consultation and the application of such order of priority, or in the event of any other dispute over the meaning of any part of this Agreement, including whether any work is part of the Work, then the determination of the Authority governs and the Design-Builder will diligently proceed as the Authority directs, subject to the Design-Builder's rights to dispute the Authority's determination in accordance with Part K - Dispute Resolution.

PART B – PRICE, TIME, TERM

2 CONTRACT PRICE

- 2.1 The Authority will pay the total Contract Price of \$807,068,866 plus applicable GST to the Design-Builder for performance of the Work. The Contract Price includes the amounts that were payable under the DEWA (as defined in section 4.2), other than for the Change Order under the DEWA as described in Section 4.2(c), of which \$27,300,506 has been paid. The remaining balance of the Contract Price as of the Effective Date is \$779,768,360. No further amount is payable under the DEWA (as defined in section 4.2).
- 2.2 The Contract Price is the entire compensation to the Design-Builder for performance of the Work.

- 2.3 The Contract Price is subject to adjustments as provided in this Agreement.
- 2.4 The Authority will pay the Contract Price to the Design-Builder as provided in this Agreement.
- 2.5 The Authority and the Design-Builder acknowledge the Contract Price includes 14,686 data drops. The Authority may at its option require more or fewer data drops, in which case the Contract Price will be adjusted as set out in Appendix 1 to Schedule 10.

3 CONTRACT TIME

- 3.1 The Design-Builder will commence the Work within 7 days after the Effective Date and will thereafter diligently perform the Work in accordance with this Agreement and achieve Substantial Completion on or before January 31, 2025 (the "Target Substantial Completion Date") and Total Completion on or before a reasonable date to be determined by the parties, which date shall be no later than 90 days following Substantial Completion.
- 3.2 The Design-Builder will perform the Work in compliance with the Design and Construction Schedule, as may be modified in accordance with the terms of this Agreement, including Schedule 11 [Design and Construction Schedule].
- 3.3 If the Design-Builder fails to achieve Substantial Completion on or before the Target Substantial Completion Date and the Authority has not extended the Design and Construction Schedule in accordance with this Agreement, the Design-Builder will pay to the Authority by way of liquidated damages and not as a penalty the sum of _____ per day for each and every day after the Target Substantial Completion Date that Substantial Completion is not achieved (or if the Authority has extended the Design and Construction Schedule in accordance with this Agreement, such other date established for the Target Substantial Completion Date). The maximum aggregate amount of such liquidated damages will be _____ of the Contract Price. If this Agreement is terminated, the reference in this Section 3.3 to the "Contract Price" will be deemed only for purposes of this Section 3.3 to be the amount to which the Design-Builder would have been entitled if the Design-Builder had properly performed and completed the Work and this Agreement had not been terminated. The liquidated damages will be the Authority's sole claim for damages against the Design-Builder for failure to achieve Substantial Completion by the Target Substantial Completion Date. The liquidated damages will not relieve the Design-Builder from its obligation to complete the Work or from any other duties, obligations or responsibilities of the Design-Builder under this Agreement, and will not limit the Authority's rights to terminate this Agreement for default of the Design-Builder under this Agreement.
- 3.4 The Authority and the Design-Builder agree that the amount in Section 3.3 represents a genuine pre-estimate of the damages and expenses that the Authority is likely to incur for such failure to meet the Target Substantial Completion Date for the Work and both parties expressly agree that such amount is not a penalty. The Authority may, in its discretion, either deduct the daily sums in respect of liquidated damages from the Performance Holdbacks or any amounts payable to the Design-Builder under this Agreement or may require payment thereof by the Design-Builder on demand.

4 TERM

- 4.1 With the exception of provisions that are expressly stated to survive the expiry of the Term, this Agreement is effective for the period commencing on the Effective Date and ending on the date (the "End Date") that (i) this Agreement is terminated in accordance with its terms or (ii) all of the following conditions are fulfilled:
- (a) the Design-Builder and the Authority have performed all obligations required under this Agreement;
 - (b) the Total Completion Certificate has been issued in accordance with Section 45.15; and
 - (c) the Design-Builder has fulfilled all of its obligations pursuant to Section 39.
- 4.2 The Authority and the Design-Builder acknowledge and agree that:
- (a) the Authority and the Design-Builder entered into an agreement titled "Design Early Works Agreement" dated as of December 03, 2019 (the "DEWA") and that the DEWA is terminated effective as of the Effective Date;
 - (b) the Authority and the Design-Builder entered into an assignment of contracts in connection with the DEWA dated as of December 03, 2019 (the "Assignment of Contracts") and that the Assignment of Contracts is terminated effective as of the Effective Date and the Assigned Property referred to therein is re-assigned to the Design-Builder;
 - (c) all Design Early Works (as defined in the DEWA), with the exception of the Change Order under the DEWA to advance the following four (4) Phase 3 program areas to Schematic Design (SD) level - Interventional Program (in the existing Healthcare Centre), Satellite Medical Device Reprocessing (MDR), Pharmacy and Morgue, undertaken under the DEWA in advance of the Effective Date are deemed to have been undertaken by the Design-Builder pursuant to this Agreement (except for the provision of insurance under the DEWA) and the Design-Builder accepts and assumes full risk, responsibility and liability for the Design Early Works.
- 4.3 The Authority and the Design-Builder Acknowledge and agree that:
- (a) the Authority and the Design-Builder entered into an agreement titled "Early Works Agreement" dated as of October 15, 2020 (for purposes of this Section 4.3 defined as the "EWA") and that the EWA is terminated effective as of the Effective Date; and
 - (b) all Early Works (as defined in the EWA) undertaken under the EWA in advance of the Effective Date are deemed to have been undertaken by the Design-Builder pursuant to this Agreement (except for the provision of insurance under the EWA) and the Design-Builder accepts and assumes full risk, responsibility and liability for the Early Works.

5 REPRESENTATIVES

- 5.1 Within 7 days after the Effective Date, the Authority will give written notice to the Design-Builder designating its representative for the purposes of this Agreement (the "Authority's Representative"). The Authority will give written notice to the Design-Builder of any change of the Authority's Representative. The Authority or the Authority Representative may by written notice delegate any or all of the functions of the Authority's Representative to any other person, including for a specified period of time in the absence of the Authority's Representative.
- 5.2 The representative of the Design-Builder for the purposes of this Agreement (the "Design-Builder's Representative") will be the person designated as such in Schedule 9 [Key Individuals], unless otherwise agreed by the Authority. The Design-Builder's Representative may by written notice and with the approval of the Authority, acting reasonably, delegate any or all of the functions of the Design-Builder's Representative to any other person, including for a specified period of time in the absence of the Design-Builder's Representative.
- 5.3 The Design-Builder's Representative will represent the Design-Builder at the Site and written instructions given to the Design-Builder's Representative by the Authority will be deemed to have been given to the Design-Builder.

6 AUTHORITY'S CONSULTANT

- 6.1 The Authority will engage the Authority's Consultant to provide, without limitation, the following services, duties and responsibilities:
- (a) interpreting, in the first instance, of the requirements of this Agreement and the making of findings as to the performance hereunder by both the Authority and the Design-Builder without showing partiality to either the Authority or the Design-Builder, and in no event incurring liability for the result of such interpretations or findings rendered in good faith in such capacity;
 - (b) interpreting and finding, in the first instance, of Disputes;
 - (c) assisting the Authority with advisory team services, including assisting with review of the Design;
 - (d) rejecting Work which does not conform to the requirements of this Agreement;
 - (e) testing and inspection of the Construction by the Authority's Consultant, whether or not such Construction has been fabricated, installed, or completed;
 - (f) reviewing any defects or deficiencies in the Work at Substantial Completion and during the Warranty Period and the issuance of appropriate instructions for the correction of same; and

- (g) such other work that may be required by the Authority from time to time and that is acceptable to the Authority's Consultant.

6.2 If the Authority's Consultant's engagement is terminated, the Authority will engage a new Authority's Consultant to provide the Authority's Consultant's services. The Authority will notify the Design-Builder in writing before appointing a new Authority's Consultant and the Authority will not appoint any person to be the new Authority's Consultant to whom the Design-Builder may reasonably object.

7 INDEPENDENT CERTIFIER

7.1 The parties will cooperate to jointly appoint a Person (the "Independent Certifier"), who is:

- (a) qualified and experienced with respect to the design and construction of projects in British Columbia similar to the Project, and
- (b) independent from both the Authority and the Design-Builder (and who will be impartial to the parties),

to provide certification services for the benefit of the parties. The parties will enter into an agreement with the Independent Certifier on the terms generally as set out in Schedule 8 [Independent Certifier Agreement].

7.2 If within 20 Business Days of the Effective Date the Independent Certifier has not been appointed, or if for any reason the Independent Certifier is unable or unwilling to continue to perform the Independent Certifier services or if the Independent Certifier's appointment has been terminated by the Authority and the Design-Builder, then:

- (a) within 5 Business Days of the date that is 20 Business Days after the Effective Date (or within 5 Business Days of the date of termination of the Independent Certifier's appointment, if applicable), the Design-Builder will provide the names of 3 candidates acceptable to the Design-Builder for consideration by the Authority;
- (b) within 10 Business Days of receiving the candidate names, the Authority will notify the Design-Builder of the candidates acceptable to the Authority, and the parties will cooperate to enter into a contract with an acceptable candidate generally in the form set out in Schedule 8 [Independent Certifier Agreement]; and
- (c) if none of the candidates are acceptable to the Authority, acting reasonably, or if for any reason an Independent Certifier is not appointed within 40 Business Days of the Effective Date (or within 20 Business Days of the date of termination of the Independent Certifier's appointment, if applicable), then either party may immediately apply to the British Columbia International Commercial Arbitration Centre for the selection of an Independent Certifier, providing the other party the opportunity to participate in the selection and appointment process.

7.3 The parties will require the Independent Certifier to:

- (a) consult with the Authority, the Design-Builder and others involved in the Design;
- (b) conduct monthly inspections of the Construction;
- (c) raise any quality concerns and investigate those identified by Design-Builder and/or the Authority,

as the Independent Certifier determines is required for purposes of the Independent Certifier's functions under this Agreement and, no later than the 10th day of each month, prepare and deliver to the Authority and Design-Builder a monthly written report containing a description of:

- (d) the Work completed in the previous month; and
- (e) the progress of the Work relative to the Design and Construction Schedule, with an overview analysis of variances and investigations of quality concerns.

7.4 The Independent Certifier will:

- (a) determine amounts owing to the Design-Builder based on the Independent Certifier's observations and evaluations of the Design-Builder's applications for payment;
- (b) issue certificates of payment;
- (c) determine the dates of Substantial Completion and Total Completion and the issuing of certificates for same;
- (d) for purposes of the *Builders Lien Act* (British Columbia), determining the date of substantial performance and acting as payment certifier for this Agreement and for progressive release of portions of the Lien Holdbacks in respect of Subcontracts;
- (e) determine the holdback for any defects or deficiencies in the Work at Substantial Completion;
- (f) verify the Design-Builder's applications for release of the Performance Holdbacks;
- (g) assess the scope of any holdbacks to be made at any time; and
- (h) perform such other functions as are set out in this Agreement.

7.5 The Design-Builder will give the Independent Certifier access to the Design and Construction work as the Independent Certifier reasonably requests in order to be fully informed as to the progress of the Design and Construction including:

- (a) access to drawings, specifications, schedules, records, and other documents or data relating to the Design and Construction, including such information that is being produced by or in the possession of the Design-Builder or others; and

- (b) access to the Site,

and the Design-Builder will:
- (c) permit the Independent Certifier to attend all Design and Construction meetings except to the extent the Design-Builder and the Authority expressly otherwise agree; and
- (d) keep the Independent Certifier fully informed as to the progress of the Construction, including giving notice of any part of the Work before it becomes covered up and unavailable for inspection.

7.6 Nothing in this Agreement (including this Schedule) or in the parties' agreement with the Independent Certifier will be interpreted as giving the Independent Certifier any responsibility or authority for any aspect of the Design or the Construction, or as relieving the Design-Builder of its responsibility for the Design and Construction as set out in this Agreement, and neither the Design-Builder nor any Subcontractor will be entitled to rely on any review, acceptance, approval or confirmation that the Independent Certifier may give with respect to Design or Construction.

8 KEY INDIVIDUALS

8.1 Attached as Schedule 9 [Key Individuals] is a list of Key Individuals that the Design-Builder will utilize in undertaking the Design and Construction as described in that Schedule. Unless agreed by the Authority, no individual will hold more than one position set out in Schedule 9 [Key Individuals].

8.2 With respect to each of the Key Individuals:

- (a) The Design-Builder will use all reasonable efforts to retain the Key Individuals to perform the duties described in Schedule 9 [Key Individuals]; and
- (b) if for any reason a Key Individual resigns or is otherwise unavailable to perform the duties described in Schedule 9 [Key Individuals] then the Design-Builder will use all reasonable efforts to retain a replacement with similar expertise and experience to the unavailable Key Individual satisfactory to the Authority acting reasonably, and the Design-Builder will not replace such Key Individual without the Authority's consent, acting reasonably.

8.3 Within 10 days of the Design-Builder having knowledge that a Key Individual is or will be unavailable, the Design-Builder will:

- (a) notify the Authority; and
- (b) immediately commence the process to retain a replacement prior to the unavailability of such Key Individual or promptly thereafter and will replace the Key Individual no later than 20 Business Days after the unavailability of such Key Individual.

- 8.4 If either the Authority or the Design-Builder reasonably considers that a replacement cannot reasonably be retained within such 20 Business Days, the Design-Builder will deliver to the Authority a reasonable program (set out, if appropriate, in stages) for retaining the replacement. The program will specify in reasonable detail the manner in, and the latest date, by which the replacement will be retained.
- 8.5 The Authority will have 10 Business Days from receipt of the program within which to notify the Design-Builder that the Authority, acting reasonably, does not accept the program, failing which the Authority will be deemed to have accepted the program. If the Authority notifies the Design-Builder that it does not accept the program as being reasonable, the parties will use all reasonable efforts within the following five Business Days to agree to any necessary amendments to the program put forward. In the absence of an agreement within such five Business Days, the question of whether the program (as it may have been amended by agreement) will result in the retainer of a replacement in a reasonable manner and within a reasonable time period (and, if not, what would be a reasonable program) may be referred by either party for resolution in accordance with Part K - Dispute Resolution.
- 8.6 The Design-Builder acknowledges that if any of the Key Individuals are not available and are not replaced as required by this Agreement, the Authority will not be obtaining the Design and Construction at the quality and level assumed to be included in the payments to be made to the Design-Builder hereunder and that in addition the Authority may incur costs and expenses.
- 8.7 If either (i) the position of any Key Individual remains unfilled for more than 20 Business Days after the applicable individual Key Individual ceased to hold the position or ceased to perform the functions of that position, or (ii) the Authority has accepted a program under Section 8.5 and the Design-Builder at any time fails to comply with any part of the program:
- (a) the Design-Builder will pay the Authority's reasonable internal administrative and personnel costs and all reasonable out-of-pocket costs related to any measures the Authority considers are reasonably incurred in relation to the position being unfilled, including the costs to ensure that Design-Builder meets its requirements for Design and Construction and for the Authority to review and consider any replacement under this Section 5; and
 - (b) the Authority at its election may deem the position of the Key Individual to be a Change (other than the requirements to comply with this Section 5) and for the period of time that the Key Individual position has remained unfilled the Authority will be credited with the amount of the cost (wages, benefits, fees and other costs) that would have been incurred by the Design-Builder and Subcontractors in respect of the Key Individual plus a markup as set out in Section 50.2(b).

PART C – THE WORK

9 GENERAL

- 9.1 The Design-Builder will perform the Work in accordance with the requirements of this Agreement, including the Statement of Requirements.
- 9.2 The Design-Builder will perform and provide all professional design services, construction administration and construction work and all labour, services, products, materials, tools, water, heat, light, power, transportation, equipment, machinery and other facilities and services and everything else necessary for the performance of the Work.

10 MANAGEMENT SYSTEMS AND PLANS

- 10.1 The Design-Builder will comply with the requirements of Schedule 4 [Management Systems and Plans].

11 DESIGN AND CONSTRUCTION SCHEDULE

- 11.1 The Design-Builder will comply with the requirements of Schedule 11 [Design and Construction Schedule]. Attached as Appendix 1 to Schedule 11 [Design and Construction Schedule] is the initial schedule for the Project, which the parties have relied upon in entering into this Agreement.
- 11.2 The Design-Builder will ensure that the Design and Construction Schedule will be consistent with and meet the Target Substantial Completion Date and the date required for Total Completion and all other applicable requirements of this Agreement including the Statement of Requirements and Schedule 11 [Design and Construction Schedule].

12 CONTROL AND SUPERVISION OF THE WORK

- 12.1 The Design-Builder will effectively direct and supervise the Work using its best skill and attention. The Design-Builder will be solely liable and responsible for:
- (a) all design and all construction means, methods, techniques, sequences and procedures with respect to the Work; and
 - (b) coordinating all parts of the Work under this Agreement and for coordinating the Work with work of Subcontractors and, in accordance with Section 27.2, with work of Other Contractors,

in accordance with generally accepted management and supervisory practices in British Columbia.
- 12.2 The Design-Builder will have the sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and the design and execution of construction methods required in their use. The Design-Builder will engage and pay for Professional Engineers and Architects to perform these functions where required by Law, and in all cases where such temporary facilities and their method

of construction are of such a nature that the education, training and qualifications of the Architect or Professional Engineer are required to produce safe and satisfactory results.

- 12.3 The Design-Builder will execute the Work in a continuous and diligent manner, and perform all its obligations in conformance with this Agreement, including the Design and Construction Schedule.
- 12.4 Unless otherwise stated in this Agreement, the Design-Builder will perform the Work at the times, in the order of procedure and in the manner and method that the Design-Builder considers appropriate provided such Work is in conformance with this Agreement, including the Management Systems and Plans, Work Plan, Site Plan and the Design and Construction Schedule.
- 12.5 The Design-Builder will employ a competent construction manager, and necessary assistants, at the Site at all times during the progress of the Work.
- 12.6 The Design-Builder will employ or cause the Subcontractors to employ a sufficient number of sufficiently skilled workers to perform the Construction in compliance with this Agreement.
- 12.7 The Design-Builder will at all times maintain good order and discipline among its employees engaged on the Work.
- 12.8 Before commencing the Work and as a condition of all payments under this Agreement, the Design-Builder will:
- (a) purchase and deliver the Bond as set out in Section 61 to the Authority; and
 - (b) file with the Authority certificates of all insurance policies and necessary endorsements to comply with the Insurance Conditions.
- 12.9 The Design-Builder will not perform any Construction on the Site prior to the Site Occupation Date and will not commence any Construction until the Design-Builder has submitted a Design for that portion of the Work to be constructed that is in conformance with this Agreement, submitted to the Authority under the Review Procedure and that the Design-Builder is entitled to proceed with under the Review Procedure.
- 12.10 If agreed to in writing by the Authority, the Design-Builder may perform necessary limited investigative and preparatory activities on the Site prior to the Site Occupation Date.
- 12.11 The Design-Builder will comply with the provisions of Schedule 7 [Apprenticeship Policy].

13 QUALITY MANAGEMENT

- 13.1 The requirements of this Section 13 are in addition to the requirements of Schedule 4 [Management Systems and Plans] and the Management Systems and Plans.

- 13.2 The Authority, the Authority's Representative, the Authority's Consultant, the Independent Certifier and other persons designated by the Authority will, subject to the terms of this Agreement relating to health and safety, have access to the Work at all times at the Site and wherever the Work is in preparation or progress and the Design-Builder will provide reasonable facilities for such access.
- 13.3 If any of the Work requires tests, inspections or approvals by this Agreement, or by the written instructions of the Authority, the Authority's Consultant or the Independent Certifier, or by applicable Laws, the Design-Builder will give the Authority reasonable notice of when such Work is ready for review and inspection. The Design-Builder will arrange for and will give the Authority reasonable notice of the date and time of inspections by any governmental authorities.
- 13.4 The Design-Builder will furnish promptly to the Authority, on request, a copy of certificates and inspection reports relating to the Work.
- 13.5 If the Design-Builder covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, given or completed, the Design-Builder will, if so directed, uncover such Work, have the inspections or tests satisfactorily completed, and make good the covering work at the Design-Builder's expense.
- 13.6 Subject to Section 13.5, the Authority may order any portion or portions of the Construction to be examined to confirm that such Construction is in accordance with the requirements of this Agreement. If the Construction is not in accordance with the requirements of this Agreement, the Design-Builder will correct the Construction and pay the cost of examination and correction. If the Construction is in accordance with the requirements of this Agreement, the Authority will pay all costs incurred by the Design-Builder as a result of such examination and the restoration of the Construction.
- 13.7 If the results of any inspection or testing discloses that any part of the Work is incomplete or defective in any way, the Design-Builder will immediately complete that part of the Work or correct the defect at its own expense.
- 13.8 If the Independent Certifier, the Authority's Consultant or other representatives of the Authority makes more than one review of any aspect of the Work as a result of such Work being incomplete or defective or reviews more than one test, inspection or approval in respect of any aspect of the Work as a result of such Work being incomplete or defective, the Design-Builder will bear the costs and expenses of the Authority, the Independent Certifier, the Authority's Consultant and other representative.
- 13.9 The Design-Builder will permit access to the Site and to the Design and the Construction to persons designated by the Authority including persons representing other governmental authorities.

14 LEED GOLD CERTIFICATION

14.1 The Design-Builder will obtain LEED Gold Certification of the Facility in accordance with the following:

- (a) The Design-Builder acknowledges that the Authority has registered the Facility with the LEED Certifier for purposes of LEED Gold Certification under the LEED Rating System and for the pilot alternative compliance path for the Optimize Energy Performance credit (Alternative Energy Performance Metric).
- (b) The Design-Builder will use the LEED Certifier's split review certification process.
- (c) If at any time after the Effective Date, the requirements to achieve LEED Gold Certification under the LEED Rating System change and the Design-Builder is required to comply with such change in order to achieve LEED Gold Certification for the Facility, then the Design-Builder will forthwith notify the Authority of such change and such change will be a Change.
- (d) The Design-Builder will achieve all necessary prerequisites, credits and points under the LEED Rating System required to achieve the LEED Gold Certification and, except as set out in this Section 14.1, may in its discretion determine which of the credits and points to pursue.
- (e) The Design-Builder will not include any prerequisites, points or credits which require any action by or on behalf of the Authority without the Authority's prior written consent. If the Authority consents to the inclusion of prerequisites, points or credits which require any action by the Authority, the Authority will take reasonable steps, consistent with the nature of the Facility and the Authority's operations and maintenance, to cooperate with the Design-Builder in respect of its achievement of such prerequisites, points and credits; provided however that such cooperation will not require the Authority to obtain such prerequisites, points or credits or to incur any liability, cost or expense.
- (f) The Design-Builder will achieve the following LEED credits:
 - (i) Enhanced Commissioning (6 points minimum – MBCx + Envelope Cx);
 - (ii) Advanced Energy Metering;
 - (iii) Innovation Credit: Assessment and Planning for Resilience – OPTION 1;
 - (iv) Integrative Process;
 - (v) Heat Island Reduction;
 - (vi) Building Live-Cycle Impact Reduction – OPTION 4. Whole-Building Life-Cycle Assessment (1 point minimum);
 - (vii) Water Metering; and

(viii) Indoor Air Quality Assessment.

If for any reason the Design-Builder fails to achieve all of the required points and credits set out in this Section 14.1(f) within 24 months of the Substantial Completion Date then the Design-Builder will, upon written demand from the Authority, and in addition to any other payment owing under this Section 14.1 immediately pay to the Authority \$25,000 per required point that has not been achieved.

- (g) The Design-Builder will achieve 8 or more LEED points from 6 or more of the following LEED credits:
- (i) Outdoor Water Use Reduction;
 - (ii) Indoor Water Use Reduction;
 - (iii) Furniture and Medical Furnishings;
 - (iv) Indoor Air Quality Assessment;
 - (v) Thermal Comfort;
 - (vi) Interior Lighting;
 - (vii) Acoustic Performance;
 - (viii) Innovation Credit – Design for Enhanced Resilience;
 - (ix) Building Life-Cycle Impact Reduction – OPTION 4. Whole-Building Life-Cycle Assessment; and
 - (x) Pilot Credit – Procurement of Low Carbon Construction Materials.
- (h) The Design-Builder will compile and submit the required documents for certification.
- (i) If for any reason the Design-Builder fails to obtain LEED Gold Certification for the Facility within 36 months of the Substantial Completion Date then the Design-Builder will, upon written demand from the Authority, and in addition to any other payment owing under this Section 14.1 immediately pay to the Authority \$1,000,000.
- (j) Upon payment of amounts, if any, owing under this Section 14.1 the Design-Builder will have no further obligations in respect of obtaining LEED Gold Certification, except to provide the Authority with such information and administrative assistance as the Authority may reasonably require in relation to obtaining LEED Gold Certification, and for greater certainty the failure to obtain LEED Gold Certification will not be a default by the Design-Builder under this Agreement.

- (k) The Authority and the Design-Builder expressly agree that the amounts payable from the Design-Builder in this Section 14.1 are liquidated damages that represent a genuine pre-estimate of the damages and expenses that the Authority is likely to incur for such failure to achieve the LEED credits/points referred to in this Section 14.1 and LEED Gold Certification and both parties expressly agree that such amounts are not a penalty.

14.2 As a condition of Substantial Completion, the Design-Builder will deliver to the Authority:

- (a) a LEED project checklist, generally in accordance with the LEED Certifier's requirements, together with a written confirmation that, in the Design-Builder's judgment:
 - (i) the LEED credits/points required by this Section 14.1 will be achieved for the Facility; and
 - (ii) LEED Gold Certification will be achieved for the Facility; and
- (b) a written opinion from a LEED accredited professional supporting the confirmation described in Section 14.2(a) above.

15 ENERGY AND CARBON

15.1 The parties will comply with the provisions of Schedule 5 [Energy and Carbon Guarantees].

15.2 In addition to the requirements of Section 16, the Design-Builder acknowledges that BC Hydro or FortisBC may provide to the Authority an incentive or rebate or other Project Credits in respect of energy modelling of the Facility, and the Design-Builder will assist the Authority in obtaining such incentive, rebate and other Project Credits, including:

- (a) registering the Facility with all applicable BC Hydro and FortisBC programs;
- (b) engaging a consultant acceptable to BC Hydro and FortisBC, as applicable;
- (c) submitting the Design and conducting any baseline testing, if necessary;
- (d) conducting all energy modelling that may be required by BC Hydro, FortisBC or the Authority;
- (e) engaging with BC Hydro and FortisBC, as applicable, during the development of design to create a BC Hydro and FortisBC, as applicable, energy compliance checklist;
- (f) completing the Work in accordance with the BC Hydro and FortisBC, as applicable, energy compliance checklist;
- (g) facilitating any BC Hydro and FortisBC, as applicable, inspection or review of Construction and construction materials; and

- (h) any other steps necessary to obtaining BC Hydro and FortisBC, as applicable, incentives, rebates and other Project Credits.

15.3 As a condition of Substantial Completion, the Design-Builder will deliver to the Authority:

- (a) a BC Hydro and FortisBC, as applicable, energy modelling compliance checklist together with a written confirmation that:
 - (i) the Project has been designed and constructed to maximize available BC Hydro and FortisBC, as applicable, incentives, rebates and other Project Credits; and
 - (ii) all steps have been performed, including providing all required documentation and information to the Authority, BC Hydro and FortisBC, as applicable, to obtain incentives, rebates and other Project Credits (other than those steps that may only be performed by the Authority).

The Authority acknowledges that BC Hydro and FortisBC incentives, rebates and other Project Credits may be received after Substantial Completion.

15.4 This Section 15 will not limit any requirements of the Statement of Requirements for energy modelling for any purpose.

16 PROJECT CREDITS

16.1 The Authority will be entitled to any and all Project Credits related to the Work, the Facility and its operation.

16.2 The Design-Builder will, on behalf of the Authority, apply to BC Hydro and FortisBC (subject to Section 15), the LEED Certifier, and any other applicable incentive programs ("Credit Provider") and take all reasonable steps to obtain for the Authority the maximum benefits (funding, rebates, incentives and cost savings) offered by each Credit Provider under such program(s).

16.3 Without limitation, the Design-Builder will:

- (a) meet with Credit Providers at an early stage of the design of the Project;
- (b) carry out any required studies and modelling;
- (c) collaborate with each Credit Provider to identify potential improvements to the Facility design and methods of performing the Work that may achieve greater Project Credits; and
- (d) use all commercially reasonable efforts to maximize available Project Credits through the design and construction of the Facility (to the extent possible while maintaining consistency with the Statement of Requirements).

17 PROTECTION OF WORK, SITE AND PROPERTY

17.1 The Design-Builder will protect the Work, the Site and property adjacent to the Site from settlement, will be responsible for all settlement caused by the Work by the Design-Builder and the Subcontractors and the Facility from and after the Effective Date and will make good all damage to the Work, the Site and property adjacent to the Site at its own expense or pay all costs incurred by the Authority or others in making good such damage. Nothing in this Section 17.1 limits the responsibility of the Design-Builder to take into account in the Design and Construction possible post-Warranty Period settlement and to take measures to minimize such settlement.

18 EQUIPMENT AND FURNISHINGS

18.1 Without limiting the requirements of the Statement of Requirements in respect of equipment and furnishings, the Design-Builder will complete the Design and Construction to integrate and accommodate all equipment and furnishings in the Facility as identified in the Statement of Requirements, including all required electrical and plumbing connections, structural support, seismic restraints and space for efficient access, all to the tolerances and specifications as may be specified and required by the manufacturers or vendors of the equipment (which may be of a higher standard than specified in this Agreement). The Design-Builder will include equipment and furnishings identified in the Statement of Requirements as part of the development of Design under this Agreement.

19 REVIEW PROCEDURE

19.1 The Review Procedure will apply to all Submittals and the parties will comply with the requirements of the Review Procedure.

20 GENERAL DESIGN REQUIREMENTS

20.1 The Design-Builder is responsible for the means, methods, techniques, sequences and procedures necessary to properly complete the Design in conformance with this Agreement, including the Management Systems and Plans and the Design and Construction Schedule.

20.2 The Design-Builder will:

- (a) ensure that the Work, including the Design, is fully compliant with all requirements of this Agreement (including the Statement of Requirements) and all applicable Laws; and
- (b) perform and complete the Design and the Work so as to provide the completed Project that is fit for the intended uses as described in the Statement of Requirements.

20.3 The Design-Builder will:

- (a) cause all portions and aspects of the drawings and specifications to be prepared under the direction of, and to be sealed under the professional seal of, the Design-Builder's Consultant;
 - (b) cause the Design-Builder's Consultant to confirm to the Authority, under his or her professional seal (if applicable), that in the opinion of the Design-Builder's Consultant:
 - (i) the Reviewed Drawings and Specifications implement and otherwise conform to the Statement of Requirements;
 - (ii) the Reviewed Drawings and Specifications have been prepared in accordance with, and substantially comply with, all Standards; and
 - (iii) the Design-Builder's Consultant has carried out the reviews of the progress of the Construction, to the extent necessary, in order to determine to the Design-Builder's Consultant's satisfaction that the Construction is performed in conformity with the requirements of the Agreement (including the Statement of Requirements), the Reviewed Drawings and Specifications, Standards and applicable Laws; and
 - (c) provide the Authority and all applicable governmental authorities with all letters of professional assurance as required pursuant to applicable Laws.
- 20.4 The Design-Builder will only issue drawings and specifications for construction purposes based on Reviewed Drawings and Specifications.
- 20.5 The Design-Builder will perform the Construction in strict conformity with the Reviewed Drawings and Specifications, as may be modified and amended from time to time in accordance with the terms of this Agreement, and this obligation will be in addition to all other obligations of the Design-Builder under this Agreement.
- 20.6 During the Construction, the Design-Builder will submit all amendments or additions to the Reviewed Drawings and Specifications to the Authority's Representative for review under the Review Procedure. Any Changes during the Construction will be subject to the terms of Part E of this Agreement.
- 20.7 Nothing in this Section 20, or otherwise in or under this Agreement, makes the Authority, the Independent Certifier, the Authority's Representative, the Authority's Consultant or any other person on behalf of the Authority responsible for the Design of the Project, including compliance of the Reviewed Drawings and Specifications with the Statement of Requirements and all Standards, and the Design-Builder will, notwithstanding any review or acceptance under the Review Procedure or this Section 20 or other act of the Authority, remain solely liable and responsible for compliance of the Reviewed Drawings and Specifications with the Statement of Requirements and all Standards.
- 20.8 Without limiting any of the obligations of the Design-Builder under this Agreement, the duties and responsibilities of the Design-Builder with respect to the Design include:

- (a) review of the documents, reports, drawings, Statement of Requirements and other information provided by the Authority and reporting promptly to the Authority any error, inconsistency or omission the Design-Builder may discover;
- (b) preparation of a Design that meets the Statement of Requirements, all Standards, all applicable Laws and all terms of this Agreement;
- (c) the coordination required to integrate all parts of the Design in the Work;
- (d) preparation of all reports, documents, information, schemes and presentation materials as required by this Agreement;
- (e) inspecting the progress of the Construction in order to determine that the Work is in compliance with the requirements of the Design, Reviewed Drawings and Specifications, all Standards and all terms of this Agreement;
- (f) liaising with the Authority and Authorities Having Jurisdiction as required during the Design and Construction and providing copies of all correspondence with such local authorities to the Authority; and
- (g) providing all required assurances to Authorities Having Jurisdiction respecting conformance of the Design with all Standards and as may be required for the issuance of or compliance with any permits, licenses or approvals.

20.9 The Design-Builder will ensure that the Design-Builder's Consultant and all other Architects, Professional Engineers and other professionals performing professional services related to the Design and engaged directly or indirectly by the Design-Builder fulfill their duties and responsibilities to the standard of diligence, skill and care that such persons would customarily provide in accordance with their professional and legal obligations in similar circumstances and in the same general geographic location as the Site. Any failure by any of the Design-Builder's Consultants or other Architects, Professional Engineers or professionals performing professional services in relation to the Design will not relieve the Design-Builder of any responsibility for ensuring that the Work is carried out in conformance with this Agreement including the Statement of Requirements, the Design and all Standards.

20.10 If the Design-Builder's Consultant's engagement is terminated, the Design-Builder will engage a new Design-Builder's Consultant to provide the Design. The Design-Builder will notify the Authority in writing before appointing or re-appointing the Design-Builder's Consultant, and the Design-Builder will not appoint any Design-Builder's Consultant to whom the Authority may reasonably object.

21 DESIGN PROCESS

21.1 The Design-Builder will comply with Schedule 3 [Design Process].

22 RECORDS OF ADDS/OMITS

22.1 The parties wish to create a single record of adjustments to the Design and Construction that are reflected in the Reviewed Drawings and Specifications, but which do not constitute Changes for which there are adjustments to the Contract Price or the Contract Time. The adjustments include all inconsistencies with or differences from the Statement of Requirements and any other parts of this Agreement. The Design-Builder will maintain a list of all such adjustments, to be referred to as "Adds/Omits" or other name agreed to by the parties. The Design-Builder will provide a copy of such list, and proposed updates to the list, to the Authority at each of the phases of Design set out in Schedule 3 [Design Process] and will modify the list for reasonable comments made by the Authority. The parties intend to agree on documentation to reflect such adjustments and may for convenience set out such adjustments in a Change Order. Unless otherwise agreed, at least 90 days prior to the Substantial Completion Date, the Design-Builder will provide the Authority with a draft Estimate, without adjustments to the Contract Price or to the Target Substantial Completion Date, setting out such adjustments, and the parties will seek to agree on final documentation within 30 days after the Substantial Completion Date. For convenience in preparing and maintaining a record of adjustments, the parties will also seek to agree on such documentation on a preliminary basis at two reasonable times prior to Substantial Completion. This Section 22 will not limit the Design-Builder's responsibilities to provide the Project Binder and Record Documentation.

23 OWNERSHIP OF DOCUMENTS

- 23.1 The Design-Builder acknowledges and agrees that this Agreement contains intellectual property that is protected by copyright and that this intellectual property is intended to be used solely for the purposes of the Project. The Design-Builder will obtain prior written permission and will require the Design-Builder's Consultant and any other Subcontractors to obtain prior written permission for any other use.
- 23.2 Copyright for the Design and drawings belongs to the Design-Builder, the Design-Builder's Consultant or other consultants who prepared them.
- 23.3 Plans, sketches, drawings, graphic representations and specifications, including computer generated designs, when prepared by the Design-Builder's Consultant or other consultants are instruments of their service and will remain their property whether the construction for which they are made is executed or not.
- 23.4 Submission or distribution of the Design-Builder's Consultants' or other consultants' plans, sketches, drawings, graphic representations and specifications to meet official regulatory requirements or for other purposes in connection with the Work is not to be construed as publication in derogation of their reserved rights.
- 23.5 The Authority may retain copies, including reproducible copies, of all plans, sketches, drawings, computer-generated models, graphic representations and specifications and other material including the Record Documentation. The Design-Builder hereby grants to the Authority a non-exclusive, royalty-free, fully paid, world-wide, perpetual and irrevocable licence to use the Design and any and all such material for any purpose related

to the use and ownership of the Facility and the Land (including any renovations, additions or alterations to the Facility), for completion of any Work in the event of termination of this Agreement and for reference purposes in connection with other operations, projects and facilities of the Authority. Such licence may be sublicensed, assigned, at the discretion of the Authority, to any third party who has or may acquire an interest or obligation related to the Facility, including for any facilities maintenance, life cycle repair/replacement or other services to the Authority or others in relation to the Facility. The Design-Builder at the Authority's request, and prior to any payment after such request is made, will deliver to the Authority a consent and acknowledgement signed by the Design-Builder's Consultant confirming such licence.

23.6 Physical models and renderings furnished by the Design-Builder are the property of the Authority.

24 ERRORS IN DESIGN

24.1 The Design-Builder is responsible for the Design, including all errors, omissions or deficiencies in the Design.

24.2 The Design-Builder will give written notice to the Authority immediately upon becoming aware of any error, omission or deficiency in the Design.

24.3 The Design-Builder will remedy at its own cost any error, omission or deficiency identified in the Design, including any resulting error, omission or deficiency in the Design that results in defects or deficiencies in any part of the Construction that has been commenced or completed. The Design-Builder will ensure that such remediation will conform to the requirements of this Agreement.

25 LABOUR AND PRODUCTS

25.1 Unless otherwise expressly provided in this Agreement, the Design-Builder will provide and pay for all labour, products, materials, tools, equipment, machinery, water, heat, light, power, transportation and all other facilities, things and services (including services for Design) necessary for the performance of the Work in accordance with this Agreement.

25.2 All products, materials, equipment and machinery provided will be new unless otherwise expressly specified in this Agreement.

26 SUBCONTRACTS

26.1 The Design-Builder will preserve and protect the rights of the Authority under this Agreement with respect to any Work to be performed by a Subcontractor, so that the subcontracting does not prejudice the Authority's rights under this Agreement.

26.2 The Design-Builder will be responsible to the Authority for the performance of all Subcontractors and will require the Subcontractors to perform their work in accordance with the terms and conditions of this Agreement.

- 26.3 The Design-Builder will be as fully responsible to the Authority for acts and omissions of Subcontractors and of persons directly or indirectly employed by them as for the acts and omissions of persons directly employed by the Design-Builder.
- 26.4 Nothing contained in this Agreement will create any contractual relationship between the Authority and any Subcontractors or their officers, agents, employees or workers.
- 26.5 The Design-Builder will require every Subcontractor to observe the terms of this Agreement so far as they apply to that portion of the Work to be performed directly or indirectly by that Subcontractor. The Design-Builder will require that the terms of this Agreement that are applicable to the portion of the Work to be performed by a Subcontractor will form part of that Subcontract.
- 26.6 The Design-Builder will require that every Subcontract for designers and Subcontractors require such designers and Subcontractors, where requested by either the Authority or the Design-Builder, to attend any Dispute resolution process including discussions, negotiations, mediation or arbitration between the Design-Builder and the Authority; provide frank, candid and timely disclosure of relevant information and documentation; and, bona fide negotiations to resolve such Disputes.

27 OTHER CONTRACTORS

- 27.1 The Authority reserves the right to enter into separate contracts with Other Contractors in relation to the Project or to perform work itself. The Design-Builder will cooperate with and coordinate the Work with all concurrent construction activities by the Authority or Other Contractors on the Site or adjacent to the Site.
- 27.2 The Design-Builder will:
- (a) coordinate the Work with that of Other Contractors and connect the Work with the work of Other Contractors as applicable; and
 - (b) ensure that performance of the Work is carried out in accordance with the Design and Construction Schedule so that Other Contractors are not delayed in their work.
- 27.3 The Design-Builder will promptly report to the Authority any apparent deficiencies in Other Contractors' work that could affect the Work as soon as they come to the Design-Builder's attention, and will confirm such report in writing promptly.
- 27.4 Where a Change is required as a result of the coordination and connection of the work of Other Contractors or the Authority with the Work, the Changes will only be made as provided in Section 47.
- 27.5 The Authority will require Other Contractors to coordinate and schedule their construction activities at the Site in accordance with the reasonable instructions of the Design-Builder acting as prime contractor that are applicable to health and construction safety at the Site and that are in accordance with the *Workers Compensation Act* (British Columbia).

- 27.6 The Design-Builder acknowledges that other persons working at the Site may be union or non-union and that the Authority wishes to ensure that labour peace is maintained. The Design-Builder will comply with all requirements of the Authority in respect of labour relations and the Design-Builder will take all reasonable precautions to avoid labour disruptions caused by, or contributed to by the Design-Builder, its Subcontractors or any persons performing the Work. The Design-Builder will bear the sole cost and expense of preventing, avoiding or removing any matter or events giving rise to such a labour disruption.
- 27.7 The Authority will assure, where possible, that Other Contractors are bound to equivalent terms as those found in this Section 27.
- 27.8 Claims, disputes, and other matters in question between the Design-Builder and Other Contractors will be dealt with as provided in Section 64 provided the Other Contractors have reciprocal obligations. The Design-Builder will be deemed to have consented to arbitration of any dispute with any Other Contractor whose contract with the Authority contains a similar requirement to Section 64.

28 ACCESS TO AND USE OF SITE

- 28.1 Subject to the Site Plan, Construction Management Plan and Work Plan and any limitations in this Agreement, the Authority grants to the Design-Builder a licence to enter and be upon the Site from the Site Occupation Date until Substantial Completion, to perform the Work that is required to be performed on the Site.
- 28.2 After Substantial Completion, the Authority will provide access to the Facility and the Site as reasonably required for completion of the Work and rectification of deficiencies including warranty deficiencies, taking into account the Authority's use and occupancy of the Facility and the Site.
- 28.3 After Substantial Completion, the Design-Builder will:
- (a) coordinate with the Authority to ensure timely completion of the Work and rectification of deficiencies including warranty deficiencies;
 - (b) comply with the Authority's requirements as set out in Section 34 with respect to dust, noise and vibration;
 - (c) minimize disruption to the Authority's use and occupancy of the Facility and will comply with all directions of the Authority with respect to timing, security and access for the rectification of deficiencies including warranty deficiencies; and
 - (d) comply with the security requirements of the Authority.
- 28.4 The Design-Builder will obtain and comply with any permissions required by the Authority for access to the Site and carrying out the Work, including with respect to hot works and shutdowns. The Design-Builder will not carry out any Work that is the subject of any such permission until such permission has been obtained from the Authority.

28.5 The Design-Builder will:

- (a) limit its activities to the areas within the Site which are identified in the Site Plan, Construction Management Plan and Work Plan as required to perform the particular aspect of Work, unless the Design-Builder obtains permission to occupy or use other lands;
- (b) not access any areas of the Site or adjacent properties, including airspace, which it is not permitted to access under the Site Plan, Construction Management Plan or Work Plan, without the prior written permission of the Authority; and
- (c) obtain any construction easements, permits and crane overswing and other airswing agreements that may be required for construction of the Project. When requested to do so by the Design-Builder, the Authority will provide assistance to the Design-Builder in obtaining such construction easements and permits required for the construction of the Project but, in no circumstance will the Authority be required to incur any costs or make any payments.

28.6 The Design-Builder will:

- (a) not remove or disturb trees or other vegetation for purposes of the Work, including for the purpose of providing a lay down area unless expressly permitted to do so under this Agreement and in accordance with any applicable Laws and the Statement of Requirements. The Design-Builder will obtain any required tree cutting permits; and
- (b) rehabilitate all construction lay down areas to a standard not less than that observed for pre-existing conditions before Site Occupation Date and recorded in the pre-condition survey as described in the Statement of Requirements.

28.7 The Design-Builder acknowledges that no parking is available at the Site and agrees that the Design-Builder, the Subcontractors and their respective workers will not park on public streets within a 1km radius of the Site. The Design-Builder will use reasonable efforts to provide temporary parking or other alternate transportation solutions for workers.

28.8 The Design-Builder will:

- (a) comply with the reviewed Construction Management Plan;
- (b) construct the Facility within the area of the Site indicated in the Site Plan;
- (c) install at least an eight foot high fence around the perimeter of the area in which it is performing the Work and such hoarding and lighting as may be required by the Authority including any hoarding required to protect the Authority and the public;
- (d) provide a monitored motion system that would send a signal to responders if the Site perimeter is breached after hours;

- (e) provide video surveillance on all sides of the Site and that provides a full view of the Site perimeter;
 - (f) perform all Construction activities within the areas of the Site provided in the Site Plan and Construction Management Plan, except as approved by the Authority for any work required in other areas of the Site;
 - (g) perform all Construction activities without blocking or disrupting vehicle, delivery or pedestrian access, except as may be permitted pursuant to the Construction Management Plan;
 - (h) cause the Design-Builder's personnel, Construction workers, Subcontractors and suppliers to enter or exit the Site only at the access routes indicated on the Site Plan and Construction Management Plan, unless otherwise approved by the Authority;
 - (i) not use any explosives without the Authority's consent;
 - (j) take reasonable steps to ensure that Construction workers or suppliers do not smoke on any portion of the Site, other than in designated smoking areas;
 - (k) before commencing any Construction on any part of the Site, prepare and implement or update in co-operation with the Authority a construction fire safety plan for the Project, which plan will describe emergency access routes to and from the Facility and the Site during an emergency.
- 28.9 If the Design-Builder performs any Construction outside of the area designated at the Site, the Design-Builder will comply with all policies and other requirements of the Authority.
- 28.10 The Design-Builder may erect signage at the Site during Construction to identify the Design-Builder and Subcontractors provided such signage and its location(s) is acceptable to the Authority, acting reasonably. The Design-Builder will also erect the Authority's signage as required by the Authority.
- 28.11 The Design-Builder will confine its construction machinery and equipment, tools, storage of materials and products, and the operations of workers to limits indicated in the Site Plan, Construction Management Plan or Work Plan or under any applicable Laws, and will not unreasonably encumber the Site or other activities on the Site.
- 28.12 The Design-Builder will comply with the Authority's policies, procedures and instructions, including regarding parking, safety, harassment, fires, smoking, signs and advertisements.
- 28.13 The Design-Builder will not load or permit to be loaded any part of the Construction with a weight or force that endangers the safety of the Project.
- 28.14 The Design-Builder will confirm the location of all utilities and ensure that all of its labour force, employees, Subcontractors and any other workers at the Site:
- (a) are made aware of the location of all utilities in connection with the Project and the importance of avoiding damage to those underground utilities;

- (b) observe any instructions in connection with those utilities issued by the Authority on behalf of any applicable utility owners; and
- (c) protect all such utilities.

29 WORK PLAN

29.1 The Existing Hospital must remain fully operational at all times during Construction. The Design-Builder will ensure that the Work does not adversely impact the ongoing operations of the Authority, or any person on behalf of the Authority, near or adjacent to the Site, including the operation of the Existing Hospital.

29.2 Without limiting the other requirements of this Agreement, the Design-Builder will:

- (a) co-operate with the Authority to co-ordinate any work required to connect to the Existing Hospital to minimize the interference to the on-going operation of the Existing Hospital, including the delivery of quality patient care;
- (b) adhere to all Authority policies and procedures relating to the Existing Hospital established from time to time;
- (c) provide to the Authority for review a construction plan that includes:
 - (i) maintaining vehicle, pedestrian and fire access to the Existing Hospital;
 - (ii) maintaining the relevant portion of the Existing Hospital site clean and free of debris or unnecessary materials;
 - (iii) preventing the introduction onto the Existing Hospital site of any materials or chemicals on to the site which would impact the operation of the site;
 - (iv) restricting vehicular and machinery traffic to only those vehicles and machinery that are essential to, and actively engaged in, performing Work; and
 - (v) compliance with safety requirements;

prior to performing any Work in or around the Site that is not indicated in the Site Plan or Construction Management Plan or proceeding with any proposed shutdown of Existing Hospital services, deliver to the Authority and obtain the Authority's approval of a work plan (the "Work Plan") clearly identifying:

- (vi) any requirements or restrictions set out in the Statement of Requirements in relation to the Site;
- (vii) the activity that may interfere with the operation of the Existing Hospital, including a description of the nature, timing and extent of interference;

- (viii) the steps the Design-Builder intends to take to minimize the extent of such interference;
- (ix) the temporary measures that the Authority will be required to take to accommodate the interference;
- (x) any specific reporting relationships between the Design-Builder and the staff desirable or required to coordinate the interference; and
- (xi) any expansion of the area of the Site for the purpose of performing the Work indicated in the Work Plan,

unless the Authority, at its discretion, notifies the Design-Builder in writing that a Work Plan will not be required for particular work or a particular shutdown.

29.3 Prior to delivering a Work Plan, the Design-Builder will consult with the Authority and, upon reasonable request, the Authority will make appropriate staff available for such consultation to determine the Work Plan that minimizes interference to the Existing Hospital. The Design-Builder will not proceed with any work in the Existing Hospital or any proposed shutdown of Existing Hospital services without:

- (a) the Authority's prior written approval of a Work Plan under this Section 29, such approval not to be unreasonably withheld or delayed; or
- (b) advance written notice from the Authority confirming that a Work Plan is not required.

30 CONDITIONS AT SITE/DISCLOSED DATA

30.1 The Design-Builder acknowledges and agrees that:

- (a) it has received and reviewed a copy of all Site Reports;
- (b) it has had the opportunity to undertake examinations and investigations of the Site in order to satisfy itself as to Site conditions and the impact they could have on any or all of the Work (including Design and Construction), Contract Time and Contract Price;
- (c) only objective geotechnical data provided in the Site Reports can be relied upon for accuracy (subject to any qualifications or conditions set out in such information or this Agreement) but such data cannot be relied upon for sufficiency, relevancy or interpretation;
- (d) neither the Authority, the Authority's Representative, the Authority's Consultant nor any other person on behalf of the Authority is in any way responsible or liable for the completeness, interpretation or accuracy of the Site Reports (except accuracy of objective geotechnical data identified in Section 30.1(c)) or for any

variation between Site conditions actually encountered by the Design-Builder and those set out in the Site Reports; and

- (e) subject to Sections 30.4, 31 and 32, the Design-Builder is not entitled to any adjustment in the Contract Time or Contract Price, or to any other remuneration, compensation or damages whatsoever, in any way connected with Site conditions.

30.2 It is the Design-Builder's responsibility to have conducted its own analysis and review of the Project and, before the execution of this Agreement, to have taken all steps it considers necessary to satisfy itself as to the accuracy, completeness and applicability of any Disclosed Data upon which it places reliance and to assess all risks related to the Project. Except with respect to the accuracy of objective geotechnical data identified in Section 30.1(c) the Design-Builder will not be entitled to and will not make (and will ensure that no Subcontractor makes) any claim against the Authority or any Indemnified Party, whether in contract, tort or otherwise including any claim in damages for extensions of time or for additional payments under this Agreement on the grounds:

- (a) of any misunderstanding or misapprehension in respect of the Disclosed Data;
- (b) that the Disclosed Data was incorrect or insufficient; or
- (c) that incorrect or insufficient information relating to the Disclosed Data was given to it by any person other than the Authority,

nor will the Design-Builder be relieved from any obligation imposed on or undertaken by it under this Agreement on any such ground.

30.3 The Design-Builder, in order to design the Facility, is responsible for obtaining sufficiently accurate, complete and applicable geotechnical information necessary to properly design a foundation and structure of the Facility that is appropriate for the soils conditions. This may require supplementing the Disclosed Data. Accordingly, the Design-Builder is not entitled to any adjustment in the Contract Time or Contract Price, or to any other remuneration, compensation or damages whatsoever, in any way connected with Site conditions, including the matters described in Section 30.2 if it has failed to obtain sufficient geotechnical information necessary to prepare a Design that reasonably anticipates the soils conditions actually encountered.

30.4 If the Design-Builder is delayed in performing the Work as a result of inaccuracy in the objective geotechnical data provided in the Site Reports, the Design-Builder's entitlement to an extension of the Contract Time and reimbursement of costs will be determined in accordance with Section 52. If the Design-Builder is not delayed in performing the Work but incurs additional costs as a result of inaccuracy in the objective geotechnical data provided in the Site Reports, adjustment in the Contract Price will be agreed upon or determined in accordance with Section 48 (Valuation and Certification of Changes).

31 ARCHAEOLOGICAL ITEMS

- 31.1 Upon discovery at the Site of any fossils, remains, coins, articles of value or antiquity, including all heritage objects (as defined in the *Heritage Conservation Act* (British Columbia)), the Design-Builder will:
- (a) immediately notify the Authority;
 - (b) take all steps not to disturb the item and, if necessary, stop Construction to the extent required if performing the Construction would endanger the object or prevent or impede its excavation;
 - (c) take all necessary steps to preserve the item in the same position and condition in which it was found; and
 - (d) comply with all Laws and regulations and all requirements of governmental authorities with respect to such discovery including pursuant to the *Heritage Conservation Act* (British Columbia).
- 31.2 If the Design-Builder is delayed in performing the Work taking steps required under Section 31.1, the Design-Builder's entitlement to an extension of the Contract Time and reimbursement of costs will be determined in accordance with Section 52. If the Design-Builder is not delayed in performing the Work but incurs additional costs as a result of taking steps required under Section 31.1, adjustment in the Contract Price will be agreed upon or determined in accordance with Section 48 (Valuation and Certification of Changes).

32 CONTAMINANTS AND ENVIRONMENTAL MANAGEMENT

- 32.1 The Design-Builder acknowledges and agrees:
- (a) it has received and reviewed a copy of the Environmental Reports;
 - (b) it has had the opportunity to undertake examinations and investigations of the Site, including existing buildings and facilities, in order to satisfy itself as to Site conditions and the impact they could have on any or all of the Work (including Design and Construction), Contract Time, and Contract Price;
 - (c) it is responsible for all management, removal, abatement, containment and disposal of Contaminants disclosed in or reasonably inferred from the Asbestos Reports and the other Environmental Reports; and
 - (d) neither the Authority nor the Authority's Representative nor any other person on behalf of the Authority is in any way responsible or liable for the completeness, interpretation or accuracy of the Environmental Reports.
- 32.2 The Design-Builder acknowledges that the Authority has made no representation or warranty as to the absence or presence on, in or under the Site of any Contaminant. If the Design-Builder, after commencing the Work, encounters or has reason to believe in the

existence of any Contaminant on, in or under the Site, the Design-Builder will at once take all reasonable steps, including suspension of the Work, as necessary to ensure that no person or property suffers injury, sickness, death, damage or destruction as a result of exposure to, or the presence of, any Contaminant, and the Design-Builder will immediately report such Contaminant to the relevant governmental authorities and to the Authority.

- 32.3 If the Design-Builder is delayed in performing the Work due to discovery of Contaminants, other than those disclosed in or reasonably inferred from the Environmental Reports, by taking steps required under Section 32.2, the Design-Builder's entitlement to an extension of the Contract Time and reimbursement of costs will be determined in accordance with Section 52. If the Design-Builder is not delayed in performing the Work but incurs additional costs due to discovery of such Contaminants, other than those disclosed in or reasonably inferred from the Environmental Reports, adjustment in the Contract Price will be agreed upon or determined in accordance with Section 48 (Valuation and Certification of Changes).

33 SITE SAFETY

- 33.1 The Design-Builder agrees to be the "prime contractor" for the purposes of all applicable occupational health and safety Laws, including the *Workers Compensation Act* (British Columbia), and the Design-Builder is responsible for filing any documents necessary to comply with the *Workers Compensation Act* (British Columbia), including a notice of project. The Design-Builder will comply with all requirements of the *Workers Compensation Act* (British Columbia) and any other occupational health and safety Laws, applicable to the Project, the Work or to the Site. The Authority will comply, and will cause Other Contractors to comply, with occupational health and safety requirements established by the Design-Builder to fulfil the Design-Builder's obligations as "prime contractor".
- 33.2 Prior to commencing the Work and as a condition of receiving payment on Substantial Completion and on Total Completion, the Design-Builder will provide the Authority with satisfactory written evidence of compliance by the Design-Builder with all requirements under the *Workers Compensation Act* (British Columbia), including payments of assessments due under it to the Workers' Compensation Board. Without limiting the foregoing, the Authority may at any time require the Design-Builder to provide evidence of compliance with all requirements under the *Workers Compensation Act* (British Columbia), or payment of assessments due under it to the Workers' Compensation Board, or both.
- 33.3 When required to do so by the Authority, the Design-Builder will provide the Authority with evidence of its compliance and compliance of any or all of its Subcontractors under Section 33.2.
- 33.4 Following the Site Occupation Date, the Design-Builder will coordinate health and safety for the Site for all activities performed by its workers as well as those of Subcontractors, utilities, inspectors, the Authority, Other Contractors and any others performing any activities at the Site.

34 DUST, NOISE, VIBRATION AND OTHER DISRUPTIVE ACTIVITIES

- 34.1 The Design-Builder will carry out its Construction to minimize dust, noise, vibration, noxious odours and fumes.
- 34.2 Without limiting Section 34.1, the Design-Builder will discuss with the Authority any expected vibration disruption from the Construction activities, will plan operations to minimize disruption to Existing Hospital operations, and will carry out its Construction activities, so that dust, noise, vibration, noxious odours, fumes or other disruptive activities do not unreasonably and adversely affect Existing Hospital operations or use of properties in the vicinity of the Site.

35 DOCUMENTS AT THE SITE

- 35.1 The Design-Builder will keep at least 1 copy of the following documents at the Site in good order and available to the Authority:
- (a) a copy of this Agreement;
 - (b) a copy of all development, building, electrical and plumbing permits and inspection reports;
 - (c) up to date and current Reviewed Drawings and Specifications, including any shop drawings prepared or obtained in respect of the Work;
 - (d) the Design and Construction Schedule; and
 - (e) the Management Systems and Plans.

36 CLEANUP AND FINAL CLEANING OF WORK

- 36.1 The Design-Builder will, to the standards required by the Authority, maintain the Work in a tidy condition and free from the accumulation of waste products and debris, other than that caused by the Authority, Other Contractors or their employees.
- 36.2 The Design-Builder will promptly remove all surplus products, tools, construction machinery and equipment, and any waste and debris.
- 36.3 The Design-Builder will leave the Facility clean and suitable for occupancy and use by the Authority by the Substantial Completion Date in accordance with standards of cleanliness required by the Authority.
- 36.4 The Design-Builder will, by the Substantial Completion Date and to the standards required by the Authority, leave the Site clean and suitable for occupancy and use by the Authority.
- 36.5 In connection with any Work after the Substantial Completion Date, the Design-Builder will at all times leave the Work and Site clean and suitable for occupancy and use by the Authority but is not required to remove waste caused by the Authority.

37 REMEDIAL WORK

- 37.1 The Design-Builder will do all remedial work that may be required to make the several parts of the Work comply with the Statement of Requirements.
- 37.2 The Design-Builder will coordinate the Design and Construction Schedule for the Work to ensure that the requirement under Section 37.1 is kept to a minimum.
- 37.3 Remedial work will be performed by specialists familiar with the materials affected and will be performed in a manner to neither damage nor endanger any Work.

38 REJECTED WORK

- 38.1 Defective Work, whether the result of poor design, poor workmanship, use of defective equipment or materials, or damage through carelessness, default or other acts of the Design-Builder or any Subcontractor, and whether incorporated in the Work or not, which has been rejected by the Authority as failing to conform to any of the Statement of Requirements, the Design or the Standards, will be removed promptly by the Design-Builder and replaced and re-executed promptly and properly at the Design-Builder's expense.
- 38.2 If the Design-Builder does not remove such defective Work within the time fixed by written notice by the Authority, the Authority may remove them and store any materials at the expense of the Design-Builder.
- 38.3 Other Contractor's work destroyed or damaged by such removals or replacements will be made good by the Design-Builder promptly at the Design-Builder's expense.

39 WARRANTY

- 39.1 The Design-Builder will promptly correct, at its own expense, any Work that is not in accordance with this Agreement and any defects or deficiencies in the Work that appear during the period of:
 - (a) for the Work within the MHSUWC as specified in the main body of the Statement of Requirements and Appendix 1D, Parts A, B and C, but not including the final connections to the new Acute Care Tower (as described in the Statement of Requirements), 24 months after such Work within the MHSUWC is ready for use by the Authority or is being used by the Authority for the purpose intended; and
 - (b) for all other Work, 24 months after the Substantial Completion Date(the "Warranty Period").
- 39.2 The Design-Builder will correct defects or deficiencies at times and in a manner which causes as little inconvenience to the occupants of the Facility and the Authority's operations on and adjacent to the Site as is reasonably possible.

- 39.3 The Authority may carry out, or have others carry out, rectification work at the Design-Builder's cost if:
- (a) the Authority gives notice to the Design-Builder of a defect or deficiency and the Design-Builder does not correct the defect or deficiency within a reasonable time, not to exceed 14 days, unless the nature of the defect or deficiency is such that it cannot be corrected within such time and the Authority, acting reasonably, agrees to an extension of such time; or
 - (b) the nature of the defect or deficiency is such that it creates a risk to the health or safety of any occupant or user of the Facility, or risk of damage to the Facility, the environment or any property and the Authority gives notice to the Design-Builder within a reasonable time after the commencement or completion of the rectification work.
- 39.4 If the Authority carries out or has others carry out the rectification work pursuant to Section 39.3 the Design-Builder remains responsible for the Work (including the rectification work).
- 39.5 The Design-Builder will provide to the Authority extended warranties from Subcontractors where required under any provisions of this Agreement and any other extended warranties provided by Subcontractors.
- 39.6 The Design-Builder will correct, at its own cost, or pay the Authority for any damage resulting from the defects or deficiencies and the corrections required under Section 39.1.
- 39.7 Issuance of the Substantial Completion Certificate and the Total Completion Certificate, and final payment to the Design-Builder, do not relieve the Design-Builder from its responsibility under this Section 39.

40 TITLE AND RISK

- 40.1 Title to the Work will vest only in the Authority. Without prejudice to any of the rights of the Authority under this Agreement, title to the Work or any part of the Work will vest in the Authority at the earliest of:
- (a) the time that the Work or part of it is at the Site;
 - (b) the time that the Authority has paid for the Work or part of the Work; and
 - (c) the time of installation or construction of the Work or part of the Work.
- 40.2 The Work will remain under the care, custody and control of the Design-Builder and at the risk of the Design-Builder until Substantial Completion or until such earlier date determined by the Authority, and notified in writing to the Design-Builder, for occupancy and use by the Authority. The Design-Builder will exercise all reasonable care to avoid loss of, or damage to, the Work.

40.3 The Design-Builder represents and warrants that title to the Work and any part of the Work will pass to the Authority free and clear of all liens, charges and encumbrances.

PART D – PAYMENT AND COMPLETION

41 APPLICATIONS FOR PAYMENT

41.1 The Design-Builder will make applications for payment in accordance with this Section 41.

41.2 Applications for payment will be:

- (a) submitted to the Independent Certifier, with a copy to the Authority's Consultant;
- (b) dated the last day of the monthly period;
- (c) for the value, proportionate to the amount of the Contract Price, of Work performed and material and equipment delivered to the Site to and at the date of submission; and
- (d) submitted no more than once per month during the performance of the Work.

41.3 If the Design-Builder is permitted under this Agreement to proceed with a Change pending determination of the final cost of any Change, the undisputed value of the Work performed as a result of a Change is eligible to be included with payment applications.

41.4 The Design-Builder will submit to the Independent Certifier, with a copy to the Authority's Consultant, for review, at least 14 days before the first application for payment, a Schedule of Values of the various parts of the Work, aggregating to the total amount of the Contract Price and divided so as to facilitate evaluation of applications for payment. The Schedule of Values will be consistent with the information set out in the breakdown of the Contract Price set out in Schedule 10 [Schedule of Prices] and made out in such form and supported by such evidence as to its correctness as the Independent Certifier may reasonably require. The Independent Certifier will provide comments to the Design-Builder on the Schedule of Values, the Design-Builder will revise the Schedule of Values to address the comments, and so on, until such time as the Independent Certifier is satisfied with the Schedule of Values. The Schedule of Values will be used as the basis for all applications for payment, unless it is found at any time to be in error, in which case it will be corrected in accordance with the Independent Certifier's directions. If the Schedule of Values is not finalized prior to an application for payment, the Independent Certifier may consider the applications for payment on the basis of the Schedule of Values under review and the Independent Certifier's comments on such Schedule of Values or such other basis as determined by the Independent Certifier.

41.5 The Design-Builder's application for payment will be based upon the Schedule of Values. Claims for material and equipment delivered to the Site but not yet incorporated into the Work will be supported by such evidence as the Independent Certifier may reasonably require to establish the value and their delivery.

- 41.6 Subject to any further information that may be required by the Authority, the application for payment will include:
- (a) the amount applied for in the application;
 - (b) the value of Work performed and material and equipment delivered to the Site;
 - (c) the value of any amounts deducted under Table 2 of Schedule 4 [Management Systems and Plans] for non-compliance with reviewed Management Systems and Plans;
 - (d) payment amounts in respect of any Changes to which the Design-Builder is entitled under this Agreement, including under Section 41.3;
 - (e) any adjustments to the Contract Price under this Agreement;
 - (f) the balance of the Contract Price to complete the Work;
 - (g) the amount of Lien Holdback;
 - (h) the amount of Performance Holdbacks;
 - (i) the amount of any withholding or amount to be released under Section 41.8;
 - (j) certification by the Design-Builder that the Project Binder includes documentation current to within at least 30 days prior to the application, including all inspection reports;
 - (k) a statutory declaration of an officer or senior management employee of the Design-Builder stating that all accounts for labour, subcontracts, materials, construction machinery and equipment and other indebtedness which may have been incurred by the Design-Builder in performing the Work and for which the Authority might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute;
 - (l) a clearance letter from the Workers' Compensation Board indicating that all current assessments due from the Design-Builder and all Subcontractors with subcontracts larger than \$50,000 in value have been paid; and
 - (m) a title search performed by the Design-Builder indicating that the title is free and clear of any claims of builder's lien, builder's liens or certificates of pending litigation by any Subcontractor or other person claiming under or through the Design-Builder or Subcontractor.
- 41.7 Applications for release of the Lien Holdback will be made under Section 43 (Lien Holdback) and applications for any payment at Substantial Completion or Total Completion will be made under Section 45 (Substantial Completion and Total Completion).

41.8 It is a condition of payment that the following, and all documentation, certification and requirements of the following, are complete and up to date as of the date of each application for payment:

- (a) Design and Construction Schedule;
- (b) Project Binder;
- (c) issued for construction drawings and specifications, commencing with the first application for payment 180 days prior to the Target Substantial Completion Date; and
- (d) in accordance with Schedule 4 [Management Systems and Plans] and Schedule 5 [Energy and Carbon Guarantees], an updated Energy Model prepared by the Energy Modeller that demonstrates that the Facility will meet the Energy Guarantee and the Carbon Guarantee.

The Design-Builder will not be required to re-submit documentation previously provided. The Design-Builder will identify any changes to previously submitted documentation and at the Authority's request submit revised documentation.

The Authority acknowledges that the requirement in Section 41.8(c) for issued for construction drawings and specifications does not require the Design-Builder to provide such drawings and specifications prior to the date such drawings and specifications are required to perform the Work and in accordance with the other provisions of this Agreement.

In relation to Management Systems and Plans if the Independent Certifier considers that the Design-Builder has not demonstrated that the Work to which the Management Systems and Plans relate was satisfactorily performed in accordance with the Management Systems and Plans then the Independent Certifier may in accordance with Section 41.11 reduce the payment by the amount of such unsatisfactory Work and by the cost of the required processes, testing, certification, auditing and documentation required to ensure compliance with the Management Systems and Plans.

41.9 The following will apply:

- (a) if the Design-Builder does not deliver any and all mock-ups in accordance with the requirements of Schedule 3 [Design Process] and by the date set out in the Submittal Schedule, the Authority may withhold from payment the amount of 5% of the total application for payment for each mock up that was not delivered in accordance with the Submittal Schedule and the applicable requirements. This withholding will apply to each month for which such mock-up is not delivered in accordance with the requirements. The applicable withholding will be released with the next monthly payment when the mock-up is completed in accordance with the requirements; and

- (b) if the Design-Builder does not fully complete the Preliminary Works in accordance with the Statement of Requirements and by the date set out in the Design and Construction Schedule, the Authority may withhold from payment the amount of 100% of the total application for payment and for the avoidance of doubt, no further payments will be made by the Authority. This withholding will apply to each month for which the Preliminary Works are not complete in accordance with the requirements. The applicable withholding will be released when the Preliminary Works are fully complete in accordance with the Statement of Requirements.

41.10 Notwithstanding the actual progress, the following will apply:

- (a) it is a condition of the Authority's obligation to make payment under this Agreement that the Design-Builder complies with Section 12.8 in respect of the delivery of the Bond and insurance;
- (b) payment of the cost of the Bond and cost of insurance will be made to the Design-Builder upon presentation of all bonding and insurance documentation required by this Agreement and upon presentation of satisfactory proof of payment of related fees or premiums; and
- (c) payment for mobilization identified in the Schedule of Values will be a maximum of 1% of the Contract Price and payment will be made in two parts: 25% when the Design-Builder occupies the Site, and 75% when the Design-Builder has established a fully functional site office as determined by the Independent Certifier, construction equipment is on the Site and construction has commenced.

41.11 The Independent Certifier, will, within 10 Business Days of receipt of the Design-Builder's application for payment, either:

- (a) accept the amount set out in the application for payment; or
- (b) adjust the amount of any payment to reflect the Independent Certifier's estimate of Work satisfactorily performed as of the date of the application for payment.

For greater certainty, there will be no payment for any Work unless and until such Work is included in Reviewed Drawings and Specifications and there will be no payment for any Work not carried out in compliance with such Reviewed Drawings and Specifications and such failure will be included as Work not satisfactorily performed for the purposes of an adjustment to the amount of payment in accordance with paragraph 41.11(b) above.

If the Independent Certifier amends the application for payment, the Independent Certifier will promptly notify the Design-Builder in writing and give reasons for the amendment.

41.12 Provided the Design-Builder is not in material default of any provision in this Agreement, the Authority will pay the Design-Builder within 10 Business Days of the Independent

Certifier approving or adjusting the Design-Builder's application for payment in accordance with Section 41.11 and the Schedule of Values.

- 41.13 Whenever any sum of money is recoverable from or payable by the Design-Builder pursuant to this Agreement or is an amount for which the Authority may be liable on account of a default by the Design-Builder, the Authority may deduct or set off such sum from, or may reduce, any amounts then due or that may thereafter become due to the Design-Builder under this Agreement. Without limiting the generality of the foregoing, the Authority may set-off any amounts for liquidated damages set out in this Agreement.

42 TAXES AND DUTIES

- 42.1 The Contract Price is inclusive of all applicable customs duties and taxes (including PST), other than GST, in effect at the Effective Date.
- 42.2 The Design-Builder will remit all customs duties and taxes to the applicable governmental authority as and when required by the relevant Law and will without limiting Section 59 (Indemnification), indemnify and hold the Indemnified Parties harmless from and against any customs duties and taxes that the Design-Builder fails to remit as and when due, and from and against any costs and penalties and interest that may be levied against the Indemnified Parties.
- 42.3 Any increase or decrease in costs to the Design-Builder due to changes in taxes or duties that are in effect at the Effective Date of this Agreement will increase or decrease the Contract Price accordingly.
- 42.4 Where an exemption or refund of taxes, customs duties or excise taxes is applicable to this Agreement by way of the Design-Builder filing claims for, or cooperating fully with the Authority and the proper authorities in seeking to obtain such exemption or refund, the Design-Builder will make such applications and provide such cooperation.
- 42.5 Refunds that are properly due to the Authority and have been recovered by the Design-Builder will be promptly refunded to the Authority.

43 LIEN HOLDBACK

- 43.1 The Authority will retain and release the Lien Holdback in accordance with the provisions of the *Builders Lien Act* (British Columbia).
- 43.2 For purposes of the *Builders Lien Act* (British Columbia), the Independent Certifier will be the payment certifier for this Agreement.
- 43.3 For purposes of progressive release of portions of the Lien Holdback in respect of Subcontracts, the Independent Certifier will be the payment certifier under the *Builders Lien Act* (British Columbia).
- 43.4 The Design-Builder will make application to the Independent Certifier for certification under the *Builders Lien Act* (British Columbia). As a condition of making any application

and as a condition of any certification, the Design-Builder will provide the Independent Certifier with all information required by the Independent Certifier.

- 43.5 Without limiting Section 59, the Design-Builder will, at its sole risk and expense, do everything necessary, including through the institution, prosecution or defence of legal proceedings, to promptly discharge from title to the Site any claims of builder's lien, builder's liens or certificates of pending litigation by any Subcontractor or other person claiming under or through the Design-Builder or Subcontractor. If the Authority becomes aware that any such claim of builder's lien, builder's liens or certificate of pending litigation is threatened or has been registered against title to the Site, the Authority may, withhold out of the Lien Holdback or any other monies payable to the Design-Builder such amounts as the Authority reasonably considers necessary in order to secure the discharge of such claim of builder's lien, builder's liens or certificate of pending litigation. The Authority will cooperate with the Design-Builder in securing the discharge of any of the foregoing, subject to such arrangements being made as the Authority reasonably considers necessary before any such additional holdback monies are paid to any person or into court. This Section 43.5 will not apply to a claim of builder's lien, builder's liens or certificates of pending litigation that arise due to the improper non-payment by the Authority.

44 PERFORMANCE HOLDBACKS

- 44.1 In addition to the Lien Holdback and any amount retained under this Agreement (including for deficiencies under Section 45.4), the Authority will retain:
- (a) a holdback of _____ of the Contract Price (the "LD Holdback") if at any time after the date that is 12 months before the Target Substantial Completion Date (or if the Authority has extended the Design and Construction Schedule in accordance with this Agreement, such other date established for the Target Substantial Completion Date), the Independent Certifier determines that the Substantial Completion Date is not reasonably likely to occur on or before the Target Substantial Completion Date (or if the Authority has extended the Design and Construction Schedule in accordance with this Agreement, such other date established for the Target Substantial Completion Date);
 - (b) a holdback of _____ (the "LEED Holdback");
 - (c) a holdback of _____ (the "M&V Holdback"); and
 - (d) a holdback of _____ (the "Warranty Holdback")
- (collectively, the "Performance Holdbacks").
- 44.2 The Performance Holdbacks will be calculated as a percentage of the Contract Price and that percentage will be withheld from all payments, subject to Section 44.1(a), due by the Authority. The percentage applicable to payments will be adjusted as required from time to time if the Contract Price is adjusted.

- 44.3 The Authority will release the LD Holdback, less liquidated damages payable by the Design-Builder under Section 3.3 upon the achievement of Substantial Completion.
- 44.4 The Authority will release the LEED Holdback, less liquidated damages payable by the Design-Builder under Section 14, upon the achievement of the points, credits or LEED Gold Certification, as applicable.
- 44.5 The Authority will release the M&V Holdback upon completion of the M&V Period and completion of the IEC Functions and the obligations of the Design-Builder to provide assistance during the M&V Period.
- 44.6 The Authority will release the Warranty Holdback, less deductions for amounts owing to the Authority, upon the completion of the Warranty Period and satisfaction of all obligations of the Design-Builder under Section 39.
- 44.7 The Authority may apply the Performance Holdbacks against any amount owing by the Design-Builder to the Authority either prior to the Substantial Completion Date or during the Warranty Period. If any amount is applied against the Performance Holdbacks, the Design-Builder will at the Authority's option, acting reasonably, either pay such amount to the Authority to replenish the Performance Holdbacks then required to be withheld, or the Authority may withhold such amount from the next payment or payments due to the Design-Builder.
- 44.8 The Design-Builder will apply for payment of the applicable Performance Holdback and payment will be made in accordance with Section 41.
- 44.9 The Performance Holdbacks are not held in trust for the Design-Builder, property of the Design-Builder, earned by the Design-Builder or due and payable by the Authority until the conditions for release of the Performance Holdbacks are satisfied.
- 44.10 The Design-Builder as an alternative to the retention of the Performance Holdbacks may propose to the Authority to provide either a clean irrevocable standby letter of credit from a financial institution in Canada in a form acceptable to the Authority, or another form of performance security acceptable to the Authority. If the Authority accepts the proposal, the Authority will upon receipt of the performance security release the Performance Holdbacks to the Design-Builder.

45 SUBSTANTIAL COMPLETION AND TOTAL COMPLETION

- 45.1 The Design-Builder may make application to the Independent Certifier for the Substantial Completion Certificate at any time after it believes it has achieved Substantial Completion, as described in this Section 45 and has provided to the Independent Certifier the items as required in Section 45.2(b).
- 45.2 "Substantial Completion" means that all of the following have been achieved:
- (a) the Independent Certifier has certified that substantial performance of the Work under the *Builders Lien Act* (British Columbia) has been achieved;

- (b) the Facility is ready for use by the Authority or is being used by the Authority for the purpose intended, and the following items have been submitted to the Authority or completed by the Design-Builder:
 - (i) all equipment, mechanical and other systems (including medical gas systems) are in place, commissioned, received required certifications, and are fully operational;
 - (ii) a complete Project Binder, provided that:
 - (A) the commissioning reports may be preliminary; and
 - (B) the inspections, certificates, guarantees and warranties, and certifications may exclude only the items of Work that remain to be completed;
 - (iii) up to date and current Reviewed Drawings and Specifications;
 - (iv) maintenance and operating tools, replacement parts or products as specified in the Statement of Requirements;
 - (v) a clearance letter from the Workers' Compensation Board indicating that all current assessments due from the Design-Builder and all Subcontractors have been paid as required by and in accordance with Section 33.2;
 - (vi) a statement reconciling all Change Orders and claims under this Agreement with respect to the Work to the date of the application for Substantial Completion;
 - (vii) all approvals necessary for the Project from Authorities Having Jurisdiction;
 - (viii) an occupancy permit for the Facility as required from Authorities Having Jurisdiction;
 - (ix) a statutory declaration of an officer or senior management employee of the Design-Builder stating that all accounts for labour, subcontracts, materials, construction machinery and equipment and other indebtedness which may have been incurred by the Design-Builder in performing the Work and for which the Authority might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute;
 - (x) demonstration and training of all mechanical and electrically operated devices and clinical operational systems to the Authority's operating and maintenance staff;
 - (xi) all training required by the Statement of Requirements;

- (xii) the LEED Project Checklist and written opinion as required by and in accordance with Section 14.2;
 - (xiii) the BC Hydro energy modelling compliance checklist, as required by and in accordance with Section 15.3;
 - (xiv) the requirements of Section 36 (Cleanup and Final Cleaning of Work) have been fulfilled to the extent required by the Substantial Completion Date;
 - (xv) an updated Energy Model prepared by the Energy Modeller that demonstrates that the Facility will meet the Energy Guarantee and the Carbon Guarantee as required by Schedule 5 [Energy and Carbon Guarantees];
 - (xvi) the requirements of the Commissioning Plan, applicable to Substantial Completion, have been met; and
 - (xvii) any other conditions specified in this Agreement with respect to achieving Substantial Completion;
- (c) a comprehensive and detailed deficiency list, including an estimated value for each item, has been submitted to the Independent Certifier, with a copy to the Authority's Consultant, by the Design-Builder which will be supplemented by the Independent Certifier and by the Authority's Consultant, acting reasonably; and
- (d) a schedule for completion of all remaining Work has been submitted to the Independent Certifier, with a copy to the Authority's Consultant, by the Design-Builder.
- 45.3 The Independent Certifier, with input from the Authority's Consultant and the Design-Builder's Consultant will, not later than 10 days after the receipt of an application from the Design-Builder for the Substantial Completion Certificate, review and assess the Work to verify that the application and the Work conform to the requirements set out in Section 45.2. The Independent Certifier will, not later than 7 days after the review, notify the Authority and the Design-Builder of approval, or the reasons for disapproval, of the application. In the event of disapproval, the Design-Builder will rectify all matters that prevent the issuance of the Substantial Completion Certificate and the Independent Certifier will within 7 days after notice from the Design-Builder of rectification, approve or disapprove of the application, and so on, until such time as the Independent Certifier determines that Substantial Completion has been achieved. When the Independent Certifier determines that Substantial Completion has been achieved, the Independent Certifier will issue the Substantial Completion Certificate. Following the issuance of the Substantial Completion Certificate, the Independent Certifier, with input from the Design-Builder, will establish a schedule for Work still to be satisfactorily performed or replaced as specified in the list of deficiencies and for Total Completion. Following establishment of such schedule, the Design-Builder will update the Design and Construction Schedule in accordance with the requirements of Schedule 11 [Design and Construction Schedule]. The Design-Builder will be responsible for all costs of any additional reviews by the

Independent Certifier after the first review that are necessary under this Section, where such additional reviews reveal that previously identified deficiencies or non-conformances to the requirements set out in Section 45.2 have not been corrected or completed in a manner satisfactory to the Independent Certifier. Such costs will be deducted from any monies then due to the Design-Builder. The Design-Builder will involve the Authority's staff in any deficiency walkthroughs and final inspections.

45.4 The Authority may retain out of the amount due and owing to the Design-Builder upon Substantial Completion:

- (a) any sums required by law to satisfy any liens against the Work; and
- (b) an amount determined by the Independent Certifier to be equal to 2 times the estimated value of the Work as determined by the Independent Certifier that is still to be satisfactorily performed or rectified or replaced to address the issues specified in the list of deficiencies; and
- (c) any amount withheld pursuant to Section 43.5.

45.5 No payment will be made to the Design-Builder from amounts withheld under Section 45.4(b) until the completion or rectification or replacement of all the deficiencies and incomplete work specified in the deficiency list.

45.6 The Design-Builder will perform the work specified in the list of deficiencies at times and in a manner which causes as little inconvenience to the occupants of the Facility and the Authority's operations on and adjacent to the Site as is reasonably possible.

45.7 Prior to performing any work specified in the list of deficiencies, the Design-Builder will deliver to the Authority and obtain the Authority's approval of a Work Plan clearly identifying:

- (a) any activity that may interfere with the Authority's operations on and adjacent to the Site, including a description of the nature, timing and extent of interference;
- (b) the steps the Design-Builder intends to take to minimize the extent of such interference;
- (c) the temporary measures that the Authority will be required to take to accommodate the interference;
- (d) any specific reporting relationships between the Design-Builder and the staff desirable or required to coordinate the interference; and
- (e) any expansion of the area of the Site for the purpose of performing the work indicated in the Work Plan,

unless the Authority, at its discretion, notifies the Design-Builder in writing that a Work Plan will not be required for particular work.

- 45.8 Prior to delivering a Work Plan for any work specified in the list of deficiencies, the Design-Builder will consult with the Authority and, upon reasonable request, the Authority will make appropriate staff available for such consultation to determine the Work Plan that minimizes interference with the Authority's operations. The Design-Builder will not proceed with any work specified in the list of deficiencies without:
- (a) the Authority's prior written approval of a Work Plan under this Section 45, such approval not to be unreasonably withheld or delayed; or
 - (b) advance written notice from the Authority confirming that a Work Plan is not required.
- 45.9 The Design-Builder will keep the Authority fully advised of all activity and progress in implementing all Work Plans for work specified in the list of deficiencies and meeting the Design and Construction Schedule.
- 45.10 The Authority may carry out, or have others carry out, the work specified in the list of deficiencies at the Design-Builder's cost if:
- (a) the Design-Builder does not complete the work by the date established by the Independent Certifier in Section 45.3 and if the Authority gives notice to the Design-Builder and the Design-Builder does not complete, correct or replace the defect, deficiency or incomplete work within a reasonable time, not to exceed 14 days, unless the nature of the defect, deficiency or incomplete work is such that it cannot be completed or corrected within such time and the Authority, acting reasonably, agrees to an extension of such time; or
 - (b) the nature of the work is such that it creates a risk to the health or safety of any occupant or user of the Facility, or risk of damage to the Facility, the environment or any property and the Authority gives notice to the Design-Builder within a reasonable time after the commencement or completion of the rectification work.
- 45.11 If the Authority carries out or has others carry out the work pursuant to Section 45.9 the Design-Builder remains responsible for the work.
- 45.12 The Design-Builder will correct, at its own cost, or pay the Authority for any damage resulting from the work specified in the list of deficiencies.
- 45.13 The Design-Builder may make application to the Independent Certifier for the Total Completion Certificate at any time it believes it has achieved Total Completion as described in Section 45.14 and has provided to the Independent Certifier the items as required in Section 45.14(d).
- 45.14 "Total Completion" means that all of the following have been achieved:
- (a) the entire Work has been performed to the requirements of this Agreement other than:

- (i) work required to be performed under Section 39;
 - (ii) achievement of the LEED credits/points and LEED Gold Certification from the LEED Certifier under Section 14; and
 - (iii) any Work relating to the Predicted Energy Consumption Certificate, the Predicted Carbon Emissions Certificate and the monitoring of Energy Consumption and Carbon Emissions during the M&V Period in accordance with Schedule 5 [Energy and Carbon Guarantees];
- (b) all deficiencies specified in the deficiency list(s) have been rectified or completed as verified by the Independent Certifier and the Authority's Consultant and to the Authority's satisfaction;
- (c) the requirements of Section 36 have been fulfilled; and
- (d) the following items have been submitted by the Design-Builder and are acceptable to the Authority:
- (i) all Submittals, including certified Record Documentation;
 - (ii) the final Project Binder, including final commissioning reports, final inspections (structural, environmental, etc.) and deficiency reports;
 - (iii) a statutory declaration of an officer or senior management employee of the Design-Builder stating that all accounts for labour, subcontracts, materials, construction machinery and equipment and other indebtedness which may have been incurred by the Design-Builder in performing the Work and for which the Authority might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute, dated at least 45 days after the date of substantial performance under the *Builders Lien Act* (British Columbia);
 - (iv) a written statement of the Design-Builder that all claims for payment for Work done under this Agreement including claims and Change Orders have been presented to the Authority;
 - (v) a clearance letter from the Workers' Compensation Board indicating that all current assessments due from the Design-Builder and all Subcontractors have been paid as required by and in accordance with Section 33.2; and
 - (vi) certification, acceptable to the Authority, that all taxes, employment assistance payments, Canada Pension Plan contributions, duties, royalties and all other monies required to be paid by law or statute have been paid in full.

45.15 Upon receipt by the Independent Certifier of the Design-Builder's application for the Total Completion Certificate:

- (a) The Independent Certifier will, subject to the conditions contained in Section 45.14, and not later than 10 days after the receipt of an application from the Design-Builder for the Total Completion Certificate, review and assess the Work to verify that the application and the Work conform to the requirements set out in Section 45.14.
- (b) The Independent Certifier will, and not later than 7 days after the review contemplated in Section 45.15(a), notify the Design-Builder of approval, or the reasons for disapproval, of the application. In the event of a disapproval, the Design-Builder will rectify all matters that prevent the issuance of the Total Completion Certificate and the Independent Certifier will within 7 days after notice from the Design-Builder of rectification, review and assess the Work and approve or disapprove of the application, and so on, until such time as the Independent Certifier determines that Total Completion has been achieved.
- (c) The Design-Builder will be responsible for all costs of additional reviews required for by Section 45.15(b), such costs to be deducted from the monies due to the Design-Builder, where any additional review undertaken by the Independent Certifier pursuant to this Section reveals that previously identified deficiencies have not been corrected in a manner satisfactory to the Independent Certifier.

When the Independent Certifier determines that Total Completion has been achieved, the Independent Certifier will issue the Total Completion Certificate and certify for payment the monies due to the Design-Builder under this Agreement, less any amount still retained for the Lien Holdback or the Performance Holdbacks, amounts withheld under Section 43.5 or any amount set-off in accordance with this Agreement. The date of Total Completion will be as stated in the Total Completion Certificate.

- 45.16 No payment made by the Authority under this Agreement, or partial or entire use or occupancy of the Work by the Authority, will constitute an acceptance of Work not in accordance with the requirements of this Agreement.
- 45.17 By issuing any certificate, the Authority and the Authority's Consultant and the Independent Certifier do not guarantee, or otherwise become liable or responsible in any way for, the correctness or completeness of the Work, including the Design, and no certificate makes the Authority, the Authority's Consultant or the Independent Certifier in any way responsible or liable for adequacy of the Design or for the Work, all of which remain the responsibility of the Design-Builder.
- 45.18 As of the date of Total Completion, the Design-Builder expressly waives and releases the Authority from all claims against the Authority, including those that might arise from the negligence or breach of this Agreement by the Authority, except those made in writing prior to the Design-Builder's application for payment upon Total Completion and still unsettled and those arising in connection with the obligations of either party to be performed after Total Completion.

- 45.19 In the event of conflict between the provisions of this Section 45 and any other Section of this Agreement, the provisions of this Section 45 govern.
- 45.20 Without limiting any other withholding or set-off under this Agreement, the Authority may deduct from any payment to the Design-Builder under this Agreement the amount paid by the Authority to put the Design-Builder into compliance with the Insurance Conditions if the Design-Builder has defaulted in complying with the Insurance Conditions.

46 CASH ALLOWANCES

- 46.1 This Section 46 applies only if cash allowances are stated in this Agreement.
- 46.2 The Contract Price includes cash allowances, if any, stated in this Agreement. The allowances will be expended, if at all, only as the Authority authorizes. The scope of work or costs included in such cash allowances will be as described in this Agreement.
- 46.3 Cash allowances cover the net cost to the Design-Builder of services (including design services), materials, products, construction machinery and equipment, freight, unloading, handling, storage, installation and other expenditures authorized by the Authority that are incurred in performing the work stipulated under the cash allowances but do not include GST payable by the Authority to the Design-Builder.
- 46.4 The Contract Price, and not the cash allowances, includes the Design-Builder's overhead and profit in connection with such cash allowances.
- 46.5 Where the actual costs expended by the Design-Builder for work under a cash allowance exceed the amount of the cash allowance, the Design-Builder will be compensated for any excess incurred and substantiated plus an amount for overhead and profit as set out in Section 50.2(b). Where the actual costs expended by the Design-Builder for work under a cash allowance is less than the amount of the cash allowance, the Authority will be credited for the unexpended portion of the cash allowance, but not for the Design-Builder's overhead and profit on such amount. Multiple cash allowances will not be combined for the purpose of calculating the foregoing.
- 46.6 The Contract Price will be adjusted to provide for any difference between the amount of each cash allowance and the actual cost of the work under that cash allowance.
- 46.7 The value of the Work performed under a cash allowance is eligible to be included in the monthly applications for payment.
- 46.8 The Design-Builder and the Authority will jointly prepare a schedule that shows when the Authority, through the Authority's Consultant, must authorize the ordering of items called for under cash allowances to avoid delaying the progress of the Work.

PART E – CHANGES

47 CHANGES

- 47.1 The Authority, without invalidating this Agreement, may require Changes, with the Contract Price and Contract Time adjusted in accordance with Section 48. The Authority may issue any Change Order or Change Directive, which can include a stop Work order or resume Work order, to the Design-Builder's Representative or to any other person authorized by the Design-Builder to receive a Change Order.
- 47.2 No Change will be made without a Change Order or Change Directive from the Authority.
- 47.3 The Design-Builder will not be entitled to a Change Order or Change Directive, or to any adjustments to the Contract Price or the Contract Time, for any Change for which the Design-Builder has not, prior to commencing the performance of a Change, obtained from the Authority a Change Order or Change Directive except where expressly allowed in this Agreement at Sections 30.4, 31.2 and 32.3.

48 VALUATION AND CERTIFICATION OF CHANGES

- 48.1 The value of any Change will be determined by one or more of the following methods:
- (a) by estimate and agreement on a lump sum by the Design-Builder and the Authority following the process set out in this Section 48; or
 - (b) by unit prices or fee rates agreed upon (and which may include a maximum upset price) by the Design-Builder and the Authority following the process set out in this Section 48.

49 PROCESS FOR CHANGES

- 49.1 If the Authority wishes to propose a Change it will deliver to the Design-Builder a Contemplated Change Notice. The Contemplated Change Notice will describe the proposed Change with sufficient detail to enable the Design-Builder to prepare an Estimate.
- 49.2 If the Authority would be required by applicable Laws or interprovincial agreements to require the Design-Builder to competitively tender any contract in relation to the proposed Change, then the Authority may include in the Contemplated Change Notice a requirement that the Design-Builder seek and evaluate competitive tenders for the proposed Change in preparing the Estimate.
- 49.3 As soon as practicable and in any event not more than 10 Business Days after receipt of a Contemplated Change Notice, or such longer period as the parties acting reasonably mutually agree, the Design-Builder will deliver to the Authority an Estimate prepared in accordance with and meeting the requirements of Sections 49.5 and 49.6.
- 49.4 If the Change is reasonably anticipated to be greater than \$100,000 or involves design work greater than \$25,000, the Design-Builder will notify the Authority within 5 Business Days of the anticipated preparation time, an estimate for the cost of preparing an Estimate, and

an approximate estimate for the Contemplated Change Notice. Based on the approximate estimate, the Authority will advise the Design-Builder to proceed or the Authority may modify or withdraw the Contemplated Change Notice. The Design-Builder will use best efforts in advising the Authority of approximate costs but will not be accountable for an inaccurate approximate estimate.

49.5 The Estimate will include such of the following information as is applicable, sufficient to demonstrate to the Authority's reasonable satisfaction:

- (a) the steps the Design-Builder will take to implement the Change, in such detail as is reasonable and appropriate in all the circumstances;
- (b) any impact on the Substantial Completion Target Date and any impact on the Design and Construction Schedule (failure to provide this information with the Estimate will disallow the Design-Builder from claiming compensation from the Authority for delays to Substantial Completion resulting from the Change);
- (c) any impact on the Energy Guarantee or the Carbon Guarantee;
- (d) any design work and related cost;
- (e) any Subcontractors required;
- (f) a full breakdown of labour, material and other cost information;
- (g) any permits that are required to be obtained or amended attributable to the Change, and the estimated time for obtaining or amending same;
- (h) proposed updates to the Submittal Schedule required by the Change; and
- (i) any other impact of the Change,

in each case, together with such supporting information and justification as is reasonably required.

49.6 In preparing an Estimate, the Design-Builder will include sufficient information to demonstrate that:

- (a) the Design-Builder has used commercially reasonable efforts, including the use of competitive tenders if appropriate or required, to oblige its Subcontractors to minimize any increase in costs and to maximize any reduction in costs;
- (b) the full amount of any and all expenditures that have been reduced or avoided have been taken into account and applied in total to reduce the amount of all Change costs;
- (c) the Design-Builder has mitigated or will mitigate the impact of the Change, including on the Design and Construction Schedule for completion of the Work;

- (d) the Design-Builder will perform all Work associated with a Change in accordance with the times allowed for access to the Site;
 - (e) the Design-Builder is and will be in compliance with all applicable Laws or interprovincial agreements with respect to quotations and competitive tenders; and
 - (f) the Design-Builder will use commercially reasonable efforts to obtain the best value for money when procuring any work, services, supplies, materials or equipment required by the Change and will use commercially reasonable efforts to comply with good industry practice in relation to any such procurement to a standard no less than the Design-Builder would apply if all costs incurred were to its own account.
- 49.7 As soon as practicable, and in any event not more than 10 Business Days after the Authority receives an Estimate or such longer period as the parties acting reasonably mutually agree, including any consequential changes to the Estimate resulting from a modification thereof or an addition of a requirement to seek competitive tenders, the Design-Builder and the Authority will discuss and seek to agree on the Estimate and, if applicable, an adjustment to the Contract Time. Where the Authority and Design-Builder agree to the Change, including adjustments in the Contract Price and Contract Time, or to the method to be used to determine the adjustments, such Change will be effective when recorded in a Change Order.
- 49.8 The Authority may modify a Contemplated Change Notice in writing, at any time prior to the agreement between the parties referred to in Section 49.7, in which case the Design-Builder will, as soon as reasonably practicable and in any event not more than 10 Business Days after receipt of such modification or such longer period as the parties acting reasonably mutually agree, notify the Authority in writing of any consequential changes to the Estimate and, if applicable, to an adjustment to the Contract Time.
- 49.9 In the case of Changes agreed by the Authority and the Design-Builder under Section 49.7, the form of presentation of costs and methods of measurement will be agreed to by the Authority and the Design-Builder before proceeding with the Change. The Design-Builder will keep accurate records of quantities or costs as agreed upon and will present an account of the costs of the Change, together with vouchers where applicable, at least once each month during performance of the Change, and will present a final account upon completion of the Change.
- 49.10 If the methods of valuation, measurement and value of any Change or any adjustment to the Contract Time cannot be promptly agreed upon, and in any case within 10 days after the proposed Change, and the Change is required by the Authority in writing to be proceeded with, then the Change will be performed by the Design-Builder and the value of the Change and adjustment to the Contract Time will be determined in accordance with the Dispute resolution process described in Section 64 by determining the cost of the Change in accordance with Section 50 (other than Sections 50.1 and 50.4) and by determining the adjustment of the Contract Time as a reasonable time taking into account the critical path.

- 49.11 As soon as practicable, and in any event not more than 15 days (unless an extension is agreed to by the Design-Builder, acting reasonably) after the date the Estimate was agreed to, and if applicable, an adjustment to the Contract Time, was agreed to, the Authority will either:
- (a) issue an approved Change Order; or
 - (b) withdraw the Contemplated Change Notice by written notice to the Design-Builder.
- 49.12 If the Authority does not issue an approved Change Order within 15 Business Days (or such extended period as may have been agreed to) after the date the Estimate and, if applicable, an adjustment to the Contract Time, were agreed to then the Contemplated Change Notice will be deemed to have been withdrawn.
- 49.13 If the Authority has required the Design-Builder within the Contemplated Change Notice to seek and evaluate competitive tenders in relation to the Change and the Authority either withdraws or is deemed to have withdrawn the Contemplated Change Notice, the actual costs necessarily and properly incurred by the Design-Builder directly attributable to the competitive procurement process, as the parties acting reasonably mutually agree, will be invoiced by the Design-Builder in a form satisfactory to the Authority and will be paid by the Authority.
- 49.14 Upon the approved Change Order being issued:
- (a) the parties will as soon as practicable thereafter do all acts and execute all documents necessary to implement the Change,
 - (b) the value of the Work performed as the result of a Change Order and in the amount set out in the Estimate will be included in payment applications;
 - (c) the Design-Builder will as soon as practicable thereafter implement the Change as provided for in the approved Change Order.
- 49.15 It is intended in all matters involving Changes that both the Authority and the Design-Builder will act promptly and in accordance with the times set out in this Section 49.

50 DETERMINATION OF COST

- 50.1 Subject to Section 50.2 whenever it is necessary for the purposes of this Agreement to determine the cost of a Change, the cost will be the amount agreed upon by the Design-Builder and the Authority following the Change process as set out in Section 49.
- 50.2 If the Design-Builder and the Authority cannot agree as to the cost of the Change as contemplated in Section 50.1, the sole cost to which the Design-Builder will be entitled for the Change will be equal to the aggregate of:
- (a) all reasonable and proper amounts actually expended by or legally payable by the Design-Builder in respect of the labour, equipment or material (supported by invoices, purchase orders, timesheets and other customary industry documentation)

that are directly attributable to the subject matter of the Change and that are within one of the classes of expenditures described in Section 50.3; plus

- (b) to cover other costs, including overhead and profit, the following applicable markup on the amounts charged pursuant to Section 50.2(a):
 - (i) 5%, when the expenditure is a payment to a Subcontractor pursuant to Section 50.3(a); or
 - (ii) 10% when the Design-Builder performed the Change.

50.3 Classes of expenditure that are allowable (all without additional markups except as otherwise noted in Section 50) for the purposes of Section 50.2 are:

- (a) payments to Subcontractors, including a maximum aggregate markup of 10% on the direct labour, equipment and material costs of the Subcontractors who directly perform the Change;
- (b) wages, salaries and reasonable living and traveling expenses of employees of the Design-Builder while they are actually and properly engaged on the Work, other than wages, salaries, bonuses, reasonable living and travelling expenses of personnel of the Design-Builder generally employed at the head office, or at a general office, of the Design-Builder unless such personnel is engaged at the site of the Work, with the approval of the Authority;
- (c) payments for materials necessary for and incorporated in the Work or necessary for and consumed in the performance of the Work;
- (d) payment for equipment necessary for and incorporated in the Work;
- (e) payments for tools, other than tools customarily provided by tradespersons, necessary for and used in the performance of the Work;
- (f) payments for preparation, inspection, delivery, installation, commissioning and removal of equipment and materials necessary for the performance of the Work;
- (g) assessments payable under any statutory scheme relating to workers compensation, unemployment insurance or holidays with pay;
- (h) payments for renting equipment (but not tools) and allowances for equipment (but not tools) owned by the Design-Builder, necessary for the performance of the Work, provided that such payments or allowances are reasonable or have been agreed to by the Design-Builder and the Authority; and
- (i) other payments, made with the prior approval of the Authority, that are necessary for the performance of the Work, as determined by the Authority.

50.4 If the Design-Builder and the Authority cannot agree as to the cost of labour, equipment or material as contemplated in Section 50.1, and the Authority considers that a Change or

series of related Changes may exceed \$50,000, the Authority may require the Design-Builder, and the Design-Builder will, obtain a minimum of 3 competitive quotations or tenders for all or any part of such Change or Changes as directed by the Authority.

- 50.5 The applicable markup set out in this Section 50 will apply to any credit to the Authority for reductions in the costs relating to a Change. For greater certainty, the amount of any credit to the Authority will be calculated as such reduction in costs relating to a Change plus the applicable markup. Where both increases and reductions in costs relate to a Change, the applicable markup will apply to the net increase or reduction in costs.

51 CHANGE DIRECTIVE

- 51.1 The Authority may issue a Change Directive to the Design-Builder directing the Design-Builder to proceed with a Change. The Design-Builder will proceed with the Change and the valuation and adjustments to the Contract Price and the Contract Time will be made as soon as reasonably possible after the implementation of the Change in the same manner as a Change for which a Change Order would be issued under this Agreement.
- 51.2 The Authority may issue Change Directives at any time, including whether or not the Authority has issued a Contemplated Change Notice, where the Design-Builder fails to provide an Estimate, where an Estimate is not promptly agreed upon by the parties or if there is a Dispute in relation to a Change or Change Order (including a Dispute as to whether there is a Change).

PART F – DELAYS

52 DELAYS

- 52.1 If the Design-Builder is delayed in performing the Work as a direct result of a failure of the Authority to provide access to the Site, or a material breach by the Authority of the terms of this Agreement or by an order issued by any court or Authority Having Jurisdiction (providing such order was not issued as the result of any act or fault of the Design-Builder or a Subcontractor), or the events referred to in Sections 30.4, 31.2 or 32.3, then:
- (a) the Contract Time will be extended for such reasonable time, taking into account the critical path as agreed by the Authority and the Design-Builder, acting reasonably, and the Design-Builder will be reimbursed for any costs directly incurred by it as the result of such delay, determined in accordance with Section 50; or
 - (b) if the Authority determines that the Target Substantial Completion Date can still be met and requests in writing that the Design-Builder accelerate the Work, the Design-Builder will accelerate its efforts to meet the Target Substantial Completion Date as directed by the Authority. The Design-Builder will be reimbursed for all reasonable and direct costs plus the markup set out in Section 50.2(b) incurred by it as a result of undertaking such acceleration efforts.

52.2 If the Design-Builder is delayed in performing the Work by an event of Force Majeure then:

- (a) the Contract Time will be extended for such reasonable time taking into account the critical path, as agreed by the Authority, and the Design-Builder acting reasonably; or
- (b) if the Authority determines that the Target Substantial Completion Date can still be met and requests in writing that the Design-Builder accelerate the Work, the Design-Builder will accelerate its efforts to meet the Target Substantial Completion Date as directed by the Authority. The Design-Builder will be reimbursed for all reasonable and direct costs plus the markup set out in Section 50.2(b) incurred by it as a result of undertaking such acceleration efforts.

Except as provided in Section 52.2(b) for acceleration of the Work required by the Authority, the Design-Builder will not be entitled to any costs incurred in relation to the Force Majeure or delays arising from the Force Majeure.

52.3 If the Design-Builder is delayed in the performance of the Work for any reason other than that for which an extension of time is permitted under this Section 52 or if the Design-Builder does not perform the Work substantially in accordance with the Design and Construction Schedule to meet the Target Substantial Completion Date, the Design-Builder will at its cost accelerate the Work to meet the Target Substantial Completion Date.

52.4 The Design-Builder is not entitled to any extension of time or any reimbursement of costs for delay under this Section 52 unless written notice is given to the Authority not later than 7 days after the date that the Design-Builder becomes aware of the event causing the delay. In the case of a continuing cause of delay only one notice is necessary. The notice will include the reason for the delay, the justification under this Agreement for the claim and an estimated value for the claim including all impacts of the delay and all steps taken or reasonably available to mitigate the delay and impact. The Design-Builder will provide a full, detailed, and organized account of the delay and amount claimed, including any supporting information or documentation, as required by the Authority or Authority's Consultant, before any delays or impacts will be considered. The information and documentation must be presented promptly to the Authority, and in any event, no later than 30 days or such later date as the parties may agree, after the date on which the Design-Builder delivered notice, and in the event of a continuing delay such information and documentation must be updated every 30 days. No such account or update will be deemed to extend the time for delivery of notice, or revive a claim that has been waived. The Design-Builder waives any claim for extension of Contract Time or adjustment to the Contract Price, or any other compensation, expenses, loss or damages incurred as the result of a delay unless the Design-Builder provides such notice of the delay within the time period specified and provides the account of the delay and amount claimed and all required updates within the time periods specified.

52.5 In the case of any delay under Section 52.1 or Section 52.2 the Design-Builder will use all reasonable efforts to mitigate the costs and impacts of the delay including removing the cause of the delay as promptly as practicable such that the Design and Construction

Schedule is maintained and that acceleration efforts, if requested by the Authority, are minimized.

PART G – SUSPENSION AND TERMINATION

53 NON-DEFAULT SUSPENSION/TERMINATION

- 53.1 Notwithstanding that the Design-Builder may not be in default of the terms of this Agreement, if conditions arise which in the Authority's reasonable opinion make it necessary, the Authority may suspend performance of the Work or terminate this Agreement by giving 5 days' written notice to that effect to the Design-Builder and the suspension or termination is effective in the manner specified in the notice.
- 53.2 Without limiting Section 53.1, the Authority may, if it determines that there is an emergency, by notice to the Design-Builder, do either or both of the following:
- (a) suspend the Work whenever in its opinion such suspension may be necessary to ensure the safety or life of others or of the Work or neighbouring property; or
 - (b) make Changes, and order, assess and award the cost of such Changes that are extra to the Contract Price in accordance with Section 48 and Section 50 as determined to be necessary.
- 53.3 The Authority will within 2 Business Days after a Change under Section 53.2(b) confirm in writing any Change instructions and if a Change has been performed by order of the Authority, the Design-Builder retains its right to claim the value of such Change.
- 53.4 The Design-Builder upon receiving notice of suspension or termination from the Authority will immediately suspend all operations except those, which, in the Design-Builder's reasonable opinion, are necessary to ensure the safety of personnel and the public or for the care and preservation of the Work and materials. Subject to any directions in the notice of suspension or termination, the Design-Builder will discontinue ordering materials, will not enter into any further Subcontracts (except such Subcontracts as are necessary for the safety of personnel or for the care and preservation of the Work) and will make every reasonable effort in the event of termination to cancel existing Subcontracts and orders on the best terms available.
- 53.5 During the period of suspension the Design-Builder will not remove from the Site any of the Work, or any material, without the prior written consent of the Authority.
- 53.6 If the period of suspension is 30 days or less, the Design-Builder, upon the expiration of the period of suspension, will resume the performance of the Work and will be paid for all costs reasonably incurred by the Design-Builder in complying with the suspension, determined in accordance with Section 50 and for costs reasonably incurred for acceleration of the Work so that Substantial Completion is achieved by the Target Substantial Completion Date where the Authority requires such acceleration by written notice to the Design-Builder. If the Authority does not require the acceleration of the Work, or if it is not possible for the Design-Builder, using all reasonable efforts, to achieve

Substantial Completion by the Target Substantial Completion Date despite an intended acceleration of the Work, the Authority and the Design-Builder will, acting reasonably, agree on a new Target Substantial Completion Date.

- 53.7 If the period of suspension is greater than 30 days and, before 120 days after the date of the notice of suspension, the Authority and the Design-Builder agree to continue with and complete the Work, the Design-Builder will resume operations and complete the Work in accordance with any terms and conditions agreed upon by the Authority and the Design-Builder and the Design-Builder will be paid for all costs reasonably incurred by the Design-Builder in complying with the suspension, determined in accordance with Section 50.
- 53.8 If the period of suspension is greater than 30 days and the Authority and the Design-Builder do not agree to continue with and complete the Work, or they fail to agree on the terms and conditions upon which the Design-Builder is to resume operations and complete the Work, before 120 days after the date of the notice of suspension, this Agreement will be deemed to have been terminated.
- 53.9 If this Agreement is terminated pursuant to this Section 53:
- (a) the Authority will pay the Design-Builder:
 - (i) in accordance with this Agreement, for all Work performed and for all of the Design-Builder's obligations under Subcontracts that it was unable to cancel, or asked by the Authority not to cancel, less any payments made by the Authority prior to termination; and
 - (ii) all costs reasonably incurred by the Design-Builder in complying with the suspension or termination order, determined in accordance with Section 50, less any costs already paid to the Design-Builder pursuant to Section 53.6; and
 - (b) the Authority will be entitled to:
 - (i) take possession of the Work or any part of the Work;
 - (ii) take possession of drawings and specifications and make use of them in accordance with the rights granted under this Agreement; and
 - (iii) finish the Work or any part of the Work by whatever reasonable method the Authority may consider expedient.
- 53.10 The Design-Builder's obligations as to quality, correction and warranty of any portion of the Work performed prior to termination continue in force after termination under this Section 53.
- 53.11 The Design-Builder, by giving written notice to the Authority, may suspend performance of the Work to the extent the Work is stopped for a period in excess of 30 days by an order

of any court or Authority Having Jurisdiction through no act or fault of the Design-Builder, its Subcontractors or anyone for whose acts the Design-Builder may be liable.

54 DEFAULT AND TERMINATION OF AGREEMENT

54.1 The Authority may give written notice to the Design-Builder of default under this Agreement if the Design-Builder:

- (a) is adjudged bankrupt, makes a general assignment for the benefit of creditors, or a receiver is appointed on account of its insolvency, or fails to make payment to creditors when payment is due;
- (b) abandons the Work;
- (c) breaches a material term of this Agreement;
- (d) makes a material misrepresentation of a representation or warranty set out in this Agreement;
- (e) has delivered a statutory declaration in support of application for a payment under this Agreement that was false or materially inaccurate; or
- (f) has made an assignment of this Agreement without the required consent of the Authority.

54.2 If a default referred to in Section 54.1 occurs, other than a default referred to in Section 54.1(a) or 54.1(b), the Design-Builder will remedy the default within a 7 day rectification period after the notice given under Section 54.1, or such other period agreed to by the parties. If the nature of such default is that it cannot be remedied within such 7 day period, the Design-Builder will within such 7 day period provide the Authority with a schedule acceptable to the Authority for remedying the default and the Design-Builder will remedy the default in accordance with that schedule.

54.3 If a default referred to in Section 54.1(a) or 54.1(b) occurs or if the Design-Builder fails to remedy any other default within the rectification period described in Section 54.2 or in accordance with the schedule acceptable to the Authority, the Authority may without prejudice to any other right or remedy exercise any or all of the following:

- (a) suspend all or part of the Work;
- (b) terminate the Design-Builder's right to continue with the Work in whole or in part;
- (c) remedy the default and deduct the cost thereof from any payment then or thereafter due to the Design-Builder; and
- (d) terminate this Agreement.

54.4 If the Authority terminates the right to continue with all or part of the Work or terminates this Agreement pursuant to Section 54.3, the Authority will be entitled to:

- (a) take possession of the Work or any part of the Work;
- (b) take possession of drawings and specifications and make use of them in accordance with the rights granted under this Agreement;
- (c) use construction machinery and equipment, subject to the rights of third parties;
- (d) finish the Work or any part of the Work by whatever reasonable method the Authority may consider expedient;
- (e) charge the Design-Builder the amount by which the full cost of finishing the Work and a reasonable allowance to cover the cost of corrections to Work performed by the Design-Builder that may be required under Section 39 exceeds the unpaid balance of the Contract Price; and
- (f) on expiry of the Warranty Period, charge the Design-Builder the amount by which the cost of corrections to Work under Section 39 exceeds the allowance provided for such corrections, or reimburse the Design-Builder with the portion of the allowance unspent on the cost of corrections to the Work under Section 39 as applicable.

54.5 The termination of the right to continue with part of the Work does not relieve or discharge the Design-Builder from any obligations under this Agreement, except the obligation to perform the part of the Work removed from the Design-Builder.

54.6 The rights, powers and remedies conferred on the Authority under this Agreement are not intended to be exclusive but are cumulative, are in addition to, do not limit and are not in substitution for any other right, power and remedy existing under this Agreement, under any other agreement, at law or in equity. The exercise by the Authority of any right, power or remedy does not preclude the simultaneous or later exercise by the Authority of any other right, power or remedy.

55 TERMINATION BY THE DESIGN-BUILDER

55.1 The Design-Builder may by giving written notice to the Authority declare the Authority in default of this Agreement for any of the following reasons:

- (a) the Authority has failed to pay the Design-Builder within 45 days of the date that any payment becomes due to the Design-Builder in accordance with the terms of this Agreement, unless the Authority is bona fide disputing liability to make such payment and has provided notice to the Design-Builder of the basis for its dispute before the time provided in Section 41.11 for payment of invoices;
- (b) the Authority has failed to substantially supply the Site to the Design-Builder, subject to any property availability restrictions identified in this Agreement, within 90 days following the Site Occupation Date; or

- (c) substantially all of the Work is stopped by an order of any court or Authority Having Jurisdiction (providing that such order was not issued as the result of any act or fault of the Design-Builder or a Subcontractor) for a period of 90 days.
- 55.2 If a default referred to in Section 55.1 occurs, the Authority will remedy the default within a 21 day rectification period after the notice given under Section 55.1 or within such extension thereof established by the Design-Builder.
- 55.3 If the Authority fails to remedy the default within the rectification period described in Section 55.2 or any extension thereof established in accordance with that Section, the Design-Builder may exercise any or all of the following:
- (a) waive the default;
 - (b) further extend the rectification period;
 - (c) suspend the Work; and
 - (d) terminate this Agreement.
- 55.4 If the Design-Builder terminates this Agreement in accordance with Section 55.3(d), the Design-Builder is entitled to be paid:
- (a) in accordance with the terms of this Agreement for all Work satisfactorily performed to the date of termination; and
 - (b) expenses of the Design-Builder that are directly related to the termination and reasonable in the circumstances including the Design-Builder's obligations to other parties.

PART H – REPRESENTATIONS AND WARRANTIES

56 REPRESENTATIONS AND WARRANTIES

- 56.1 The Design-Builder represents and warrants to the Authority:
- (a) as of the Effective Date that:
 - (i) all necessary proceedings have been taken to authorize the Design-Builder to enter into this Agreement and to execute and deliver this Agreement;
 - (ii) this Agreement has been properly executed by an authorized signatory of the Design-Builder and is enforceable against the Design-Builder in accordance with its terms;
 - (iii) the Design-Builder has had sufficient time, opportunity and resources to investigate and has investigated and satisfied itself of every condition and risk relating to, affecting or that may affect the Project and the Work, or either of them, including the Site conditions, and the labour, equipment,

material and other resources that may be necessary for the performance of the Work in a manner that will meet or exceed all requirements of this Agreement;

- (iv) the Design-Builder's investigations and assessments described in Section 56.1(a)(iii), including of the Site conditions (such conditions including for greater certainty geotechnical conditions, subsurface conditions, bearing pressure, settlement characteristics and nature and consistency of soil), and any conclusions reached in such investigations and assessments, including any conclusions as to the effect, if any, on the Design, Construction, Substantial Completion Date and Contract Price, (or any of them), except for objective geotechnical information that can be relied upon for accuracy but not interpretation, sufficiency or relevance, are based on the Design-Builder's own experience, examination, knowledge, information, interpretation, assessment, analysis and judgment and not upon any statement, representation or information, whether oral or written, made, produced or provided by, through or on behalf of the Authority or its advisors;
 - (v) subject to Section 30.1 in respect of the accuracy of objective geotechnical data identified in Section 30.1(c), the Design-Builder acknowledges that the investigations made by the Authority of the conditions of the Site, including subsurface conditions, are of a preliminary nature and are made for the purpose of study and preliminary design for the sole benefit of the Authority only except for objective geotechnical data that can be relied upon by the Design-Builder for accuracy but not interpretation, sufficiency or relevance;
 - (vi) the Design-Builder has no knowledge of any fact that materially adversely affects or, so far as it can foresee, might materially adversely affect either its financial condition or its ability to fulfill its obligations under this Agreement;
 - (vii) there is no bona fide proceeding pending or threatened against the Design-Builder, which would, if successful, materially adversely affect the ability of the Design-Builder to fulfill its obligations under this Agreement; and
 - (viii) the Design-Builder acknowledges that it has the responsibility for informing itself of all aspects of the Project and all information necessary to perform the Work; and
- (b) as of the Effective Date (to the extent applicable as of the Effective Date) and at all times throughout the Term that:
- (i) the Design-Builder has filed all tax, corporate information and other returns required to be filed by all applicable Laws, has complied with all workers' compensation legislation and other similar legislation to which it is subject, and has paid all taxes, fees and assessments due by the Design-Builder under those laws as of the Effective Date, except for Lien Holdback monies

properly retained, payments deferred by agreement and accounts withheld by reason of legitimate dispute;

- (ii) the Design-Builder holds all permits, licences, consents and authorities issued by any level of government, or any agency of any level of government, that are required by all applicable Laws to perform the Work;
- (iii) the Design-Builder has paid, as they became due, all accounts, expenses, wages, salaries, taxes, rates, fees and assessments required to be paid by it in respect of the Work and fulfillment of its obligations under this Agreement;
- (iv) the Design-Builder is not in breach of any Law that is material to performance of the Design-Builder's obligations under this Agreement;
- (v) the Key Individuals or any substitute with equivalent qualifications proposed by the Design-Builder who have first been expressly accepted in writing by the Authority will be available and fully involved in the performance of the Work; and
- (vi) the Design-Builder is registered for the purposes of the GST.

56.2 The Authority represents and warrants to the Design-Builder as of the Effective Date that:

- (a) it has been properly constituted pursuant to applicable legislation;
- (b) it has been properly authorized to fulfill the obligations of the Authority under this Agreement; and
- (c) it has the power, capacity and authority to enter into this Agreement and to carry out its obligations under this Agreement.

PART I – PROTECTION AND INDEMNITY

57 PROTECTION OF WORK AND PROPERTY

57.1 The Design-Builder will protect the Work, the Site and property adjacent to the Site from damage that may arise as the result of the Design-Builder's operations under this Agreement, and will be responsible for such damage, except damage that occurs as the result of actions of the Authority, its agents, employees or Other Contractors.

57.2 Should any damage occur to the Work, the Site and property adjacent to the Site for which the Design-Builder is responsible as provided in Section 57.1, the Design-Builder will make good such damage at its own expense or pay all costs incurred by the Authority or others in making good such damage.

57.3 Should any damage occur to the Work, the Site and property adjacent to the Site for which the Design-Builder is not responsible as provided in Section 57.1, the Design-Builder will

at the Authority's direction and expense make good such damage. The Contract Price and Contract Time will be adjusted in accordance with Section 48 and Section 50.

58 EXCLUSIONS OF LIABILITY

- 58.1 Neither the Design-Builder nor the Authority will be liable to the other for any consequential or indirect damages in connection with this Agreement, whether based in contract, tort (including negligence), strict liability or otherwise and including loss of use, loss of revenues or profits and loss of opportunity. This Section 58.1 will not limit any liability the Design-Builder may have under this Agreement to pay liquidated damages.
- 58.2 Subject to Section 58.3 the maximum amount of the total aggregate liability of the Design-Builder to the Authority in connection with this Agreement, whether based in contract, tort (including negligence), strict liability or otherwise, is:
- (a) in respect of a loss by the Indemnified Parties for which insurance is to be provided by the Authority under Section 1 or Section 3 of Schedule 6 [Insurance Conditions], the applicable limit or sub-limit of the Wrap-up Liability coverage or the Course of Construction coverage, whichever is applicable to the loss, with such limit or sub-limit calculated without reduction for the amount of any deductible; or
 - (b) in respect of any liability other than a loss referred to in Section 58.2(a) above, 40% of the Contract Price.

If this Agreement is terminated, the reference in this Section 58.2 to the "Contract Price" will be deemed only for purposes of this Section 58.2 to be the amount to which the Design-Builder would have been entitled if the Design-Builder had properly performed and completed the Work and this Agreement had not been terminated.

- 58.3 Section 58.2 will not limit the Design-Builder's liability in connection with:
- (a) fraud, gross negligence or wilful, fraudulent or criminal misconduct;
 - (b) bodily injury, sickness, disease or death;
 - (c) liability to third parties in respect of tangible personal or real property;
 - (d) breach by the Design-Builder of its obligations of confidentiality under this Agreement; and
 - (e) penalties, fines or other liability imposed by a governmental authority, an administrative tribunal or a court of competent jurisdiction for breach of applicable Law.
- 58.4 Nothing in this Section 58 will be construed to limit the liability of an insurer under the insurance required to be maintained under this Agreement.

59 INDEMNIFICATION

- 59.1 The Design-Builder will indemnify and save harmless the Authority and its officers, employees, representatives, consultants and agents including the Authority's Representative (collectively the "Indemnified Parties") from and against any and all losses, claims, damages, actions, causes of action, costs and expenses (including actual legal and other professional fees and disbursements) that any of the Indemnified Parties may sustain, incur, suffer or be put to at any time either before or after the expiration or termination of this Agreement, where the same or any of them are based upon, arise out of or occur, directly or indirectly, by reason of any act or omission of the Design-Builder or of any representative, agent, employee, officer, director, consultant of the Design-Builder or of any Subcontractor, excepting only liability to the extent arising out of the independent acts of the Indemnified Parties.
- 59.2 The obligations of the Design-Builder under Section 59 will not be affected by completion or termination of this Agreement, whether for default or otherwise, or suspension of the Work or any withdrawal of services or labour from the Project.
- 59.3 Neither the requirement of the Design-Builder to purchase and maintain insurance as described in the Insurance Conditions nor the acceptance of evidence of such insurance by the Authority will, in any manner, limit or qualify the right of the Authority to make a claim and recover insurance proceeds under the insurance policies described in the Insurance Conditions or the liability and obligations otherwise assumed by the Design-Builder under this Agreement.

60 DESIGN-BUILDER'S DISCHARGE OF LIABILITY

- 60.1 The Design-Builder will discharge all liabilities incurred by it, including for labour, equipment, materials or services used or reasonably required for use, in the performance of this Agreement, on or before the date each becomes due. In the case of bona fide disputed payments, the Design-Builder will discharge such liabilities when legally obliged to do so.
- 60.2 The Design-Builder will include as a condition of every Subcontract that the Subcontractor discharge all liabilities incurred by it, including for labour, equipment, materials, supplies or services used or reasonably required for use, in the performance of the Subcontract, on or before the date upon which each becomes due. In the case of bona fide disputed payments, the Design-Builder will discharge such liabilities when legally obliged to do so.
- 60.3 The Design-Builder will furnish the Authority with satisfactory evidence that its liabilities and those of Subcontractors have been discharged, such satisfactory evidence to be a statutory declaration in the form of CCDC 9A sworn by a knowledgeable officer or senior management employee of the Design-Builder or Subcontractor, as the case may be, or such other evidence as the Authority may require.
- 60.4 With the exception of any claim of builder's lien, builder's liens or certificates of pending litigation that arise due to an improper non-payment by the Authority, the Design-Builder will not directly or indirectly create, incur, assume or allow to be created by any of its

Subcontractors or workers any lien, charge or encumbrance on the Site, Project or any part thereof or interest therein. The Design-Builder will immediately notify the Authority of any lien, charge or encumbrance asserted upon the Site, Project or any part thereof.

PART J – SECURITY, RECORDS, REPORTS AND AUDIT

61 THE BOND

- 61.1 Before commencing the Work, the Design-Builder will purchase and deliver to the Authority an executed performance bond (the "Bond"). The form of the Bond will be in accordance with the latest edition of the CCDC approved bond form or in substantially equivalent form acceptable to the Authority.
- 61.2 The Bond under Section 61.1 will be in the amount of 50% of the Contract Price and will be issued by a surety licensed to transact the business of a surety in British Columbia and acceptable to the Authority, acting reasonably.
- 61.3 The Design-Builder will pay for and maintain the Bond in force during the Term.
- 61.4 If the surety notifies either party that the Bond has been or is going to be terminated or cancelled for any reason whatsoever, the Design-Builder will obtain and provide the Authority with a valid bond effective from the date of termination or cancellation of the original bond that complies with the bonding requirements of this Agreement.
- 61.5 The Design-Builder will, if required by the surety, obtain the written consent of the surety to any Change and will upon request by the Authority provide confirmation from the surety of such consent or confirmation from the surety that such consent is not required.
- 61.6 For greater certainty, the amount of the Bond and any claim under the Bond will not limit the Authority from seeking additional claims, damages, or remedies the Authority may be entitled to by reason of the Design-Builder's failure to successfully complete the Agreement in accordance with its terms and conditions.

62 INSURANCE

- 62.1 The Authority and the Design-Builder will obtain and maintain during the Term the insurance specified for each of them under the Insurance Conditions, and will otherwise comply with the Insurance Conditions.
- 62.2 Before beginning the Work, the Design-Builder will deliver to the Authority certified copies of all insurance coverage obtained by the Design-Builder in accordance with the Insurance Conditions, or such other proof of that insurance as is satisfactory to the Authority, acting reasonably.

63 RECORDS AND AUDIT

- 63.1 The Design-Builder will, in connection with this Agreement retain for a minimum of 6 years after the expiry of the Warranty Period all records, reports, and other documentation

required under this Agreement and the following records, reports and other documentation relating to the Project whether or not required under other provisions of this Agreement:

- (a) all documents relating to permits;
- (b) all notices, reports, results and certificates relating to completion of the Design and Construction and completion of all commissioning activities;
- (c) all records relating to any inspections of the Facility conducted under applicable Laws or by or of any governmental authority;
- (d) all orders or other requirements issued to the Design-Builder by any governmental authority in connection with the Work;
- (e) all documents relating to applications for payment, Changes or delay or other claims by the Design-Builder.

The Design-Builder will permit the Authority and its consultants and representatives and the Independent Certifier to inspect and copy any or all such records, reports and other documentation.

- 63.2 Without limiting the other provisions of this Agreement, the Design-Builder will provide to the Authority and its consultants and representatives and the Independent Certifier all records, reports and other documentation reasonably required by the Authority to support any applications for payment, Changes or delay or other claims by the Design-Builder.
- 63.3 The Authority and its consultants and representatives and the Independent Certifier may on request, and acting reasonably, audit all books and records of the Design-Builder that relate to any applications for payment, Changes or delay or Disputes or other claims by the Design-Builder.
- 63.4 The Design-Builder will fully cooperate with the Authority to conduct an audit pursuant to this Section 63.

PART K – DISPUTE RESOLUTION

64 DISPUTE RESOLUTION

- 64.1 All Disputes will be resolved in accordance with the Dispute resolution process set out in this Section 64.
- 64.2 The Dispute resolution process set out in this Section 64 may be commenced by either party by giving notice to the other party briefly setting out the pertinent facts, the remedy or relief sought and the grounds on which such remedy or relief is sought.
- 64.3 Within 7 days of a notice under Section 64.2, the Design-Builder's Representative and the Authority's Representative will:

- (a) make bona fide efforts to resolve any Dispute arising between them by amicable negotiations; and
 - (b) provide frank, candid and timely disclosure of all relevant facts, information and documents, including full written particulars of the nature, entitlement and magnitude of any Dispute including the relevant provisions of this Agreement.
- 64.4 If the Authority's Representative and the Design-Builder's Representative fail to resolve the Dispute within 10 days after receipt of the notice pursuant to Section 64.3, the parties will refer the Dispute and all information to a nominated senior officer of the Authority and a nominated senior officer of the Design-Builder for resolution.
- 64.5 If the nominated senior officer of the Authority and the nominated senior officer of the Design-Builder fail to resolve the Dispute within 10 days after the Dispute has been referred to them, unless otherwise agreed in writing by the parties, either party may refer the Dispute to the Authority's Consultant by notice in writing to both the Authority's Consultant and to the other party. The Authority will require the Authority's Consultant to give a decision in writing and within a reasonable period of time. Both parties reserve their rights to dispute the decision of the Authority's Consultant.
- 64.6 Where either or both parties dispute the Authority's Consultant's decision made pursuant to Section 64.5, the parties will abide by the Authority's Consultant's decision until such time as the Dispute is finally resolved under the other provisions of this Section 64.
- 64.7 If either party disputes the Authority's Consultant's decision made pursuant to Section 64.5, or if the Authority's Consultant's decision is not made within a reasonable period of time, either party may elect to give notice of its intention to submit the Dispute to binding arbitration. If within 10 days of such notice the other party does not give a notice of objection to arbitration, the Dispute will be resolved by arbitration. The Dispute will be referred to a single arbitrator and finally resolved by binding arbitration under the rules of the British Columbia International Commercial Arbitration Centre. The arbitrator will be chosen by mutual agreement between the Design-Builder and the Authority. If an arbitrator has not been appointed within 14 days of the date that the Dispute has been referred to an arbitrator, the arbitrator will be appointed by the British Columbia International Commercial Arbitration Centre.
- 64.8 Prior to receiving a notice of intention to submit a Dispute to binding arbitration or after giving a notice of objection to arbitration in accordance with Section 64.7 a party may commence proceedings in respect of the Dispute in the courts of British Columbia and serve the other party as required in respect of such proceedings.
- 64.9 Any of the times specified in this Section 64 may be varied by mutual agreement between the Design-Builder's Representative and the Authority's Representative.
- 64.10 Pursuit of the resolution of a Dispute under any part of this Section 64 does not relieve either party of its responsibility to ensure timely performance of its obligations under this Agreement. In relation to all Disputes, whether or not a notice under Section 64.2 has been

given, the Design-Builder will diligently proceed with the Work and closely track all costs and impacts associated with the Dispute and may reserve its rights concerning the Dispute.

PART L – GENERAL PROVISIONS

65 LAWS, NOTICE, PERMITS AND FEES

65.1 The Design-Builder will perform the Work in accordance with all applicable Laws and Standards and will comply with all Laws and Standards that may affect or relate to the Work.

65.2 The Design-Builder will apply for, pay for and obtain the development permit, the building permit, the occupancy permit and all other permits, licences and approvals required for the performance of the Work. When requested to do so by the Design-Builder, the Authority may at its discretion provide reasonable assistance to the Design-Builder in obtaining permits, licences, and approval required for the performance of the Work but, in no circumstance will the Authority be required to incur any costs or make any payments pursuant to this Section.

65.3 All applicable Laws in force in British Columbia, as amended from time to time, govern the Work.

65.4 Except as otherwise provided in this Agreement, if after:

- (a) the Financial Submission Date a COVID-19 Change in Law comes into effect;
- (b) the Financial Submission Date an Epidemic Change in Law comes into effect; or
- (c) the Effective Date a change to applicable Laws and Standards comes into effect,

either party will be entitled to make a claim for an adjustment in the Contract Price or the Contract Time as a Change; provided that, except in relation to a COVID-19 Change in Law or an Epidemic Change in Law, the Design-Builder will not be allowed any adjustment in the Contract Price or the Contract Time for:

- (d) any lawful requirements of any governmental authority (unless resulting from a new Law or Standard or modification (including repeal) of any Law or Standard existing on the Effective Date);
- (e) any change in the interpretation of any legislation other than a judgment of a relevant Court which changes binding precedent in British Columbia;
- (f) any new Law or modification arising from or in any way connected to or having substantially the same effect as any Law which as of the Effective Date:
 - (i) had been introduced as a Bill in the Legislative Assembly of British Columbia or the Parliament of Canada or in a draft statutory instrument published or issued by a governmental authority; or

- (ii) had been published in the Canada Gazette or in a draft bill as part of a governmental authority discussion or consultation paper.

66 INTELLECTUAL PROPERTY FEES

- 66.1 The Design-Builder will obtain and pay for all intellectual property rights (including of any patent, copyright, industrial design, trademark or trade secret) all royalties and licence fees required for the performance of the Work and will, without limiting Section 59, indemnify and hold the Authority harmless from and against all claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the Design-Builder's performance of the Work under this Agreement that are attributable to infringement or an alleged infringement of any intellectual property right by the Design-Builder or its Subcontractors or anyone for whose acts the Design-Builder may be liable.

67 CONFIDENTIALITY AND COMMUNICATIONS

- 67.1 Subject to Section 67.2, each party will hold in confidence any Confidential Information received from the other party, except that this Section 67 will not restrict:
 - (a) the Design-Builder from disclosing or granting access to such information to its professional advisers and consultants, to the extent necessary, to enable it to perform (or to cause to be performed) or to enforce its rights or obligations under this Agreement and provided further that the Design-Builder may, subject to obtaining confidentiality restrictions similar to those set out in this Agreement, provide to a Subcontractor and its advisors, or provide or cause to be provided to other third parties, Confidential Information which is necessary to enable the Design-Builder to perform (or to cause to be performed) its obligations under this Agreement; and
 - (b) the Authority from disclosing or granting access to such information to any provincial ministry, Partnerships British Columbia Inc. and any other governmental authority which require the information in relation to the Project;
- 67.2 Subject to any restrictions on the Confidential Information which are imposed by a third party that may own any Confidential Information, the obligation to maintain the confidentiality of the Confidential Information does not apply to:
 - (a) Confidential Information which the party that disclosed the Confidential Information confirms in writing is not required to be treated as Confidential Information;
 - (b) Confidential Information which is or comes into the public domain otherwise than through any disclosure prohibited by this Agreement;
 - (c) Confidential Information to the extent any person is required to disclose such Confidential Information by Law, including a disclosure required under FIPPA;

- (d) Confidential Information to the extent consistent with any Authority's policy concerning the Authority's Confidential Information, the details of which have been provided to the Design-Builder in writing prior to the disclosure; or
- (e) the material referred to in Section 23.5 and any Confidential Information that the Authority is entitled to receive from the Design-Builder pursuant to this Agreement.

67.3 Without prejudice to any other rights and remedies that the other party may have, each of the parties agrees that damages may not be an adequate remedy for a breach of Section 67.1 and that the other party will, in such case, be entitled to the remedies of injunction, specific performance or other equitable relief for any threatened or actual breach of Section 67.1 subject, in the case of a claim for any such remedy against the Authority, to the provisions of the *Crown Proceeding Act* (British Columbia).

67.4 Unless required by any Law, neither party will make or permit to be made any public announcement or disclosure whether for publication in the press, radio, television or any other medium of any Confidential Information, without the consent of the other party (which will not be unreasonably withheld or delayed).

67.5 Except to the extent required for compliance with any applicable securities laws, the Design-Builder will not make any public announcement relating to the Project or this Agreement without the prior written consent of the Authority. The Design-Builder, with the prior written consent of the Authority, may include the Project in its promotional materials.

67.6 The Design-Builder acknowledges that the Authority may, in its discretion and without consultation with the Design-Builder, make any public announcement relating to the Project.

68 NOTICE

68.1 Any notice or communication required or permitted to be given under this Agreement will be in writing and will be considered to have been sufficiently given if delivered by hand or transmitted by electronic transmission to the address or electronic mail address of each party set out below:

- (a) if to the Authority:

Fraser Health Authority
Royal Columbian Hospital Redevelopment
Suite 800, 287 Nelson's Court
New Westminster, BC
V3L 0H3

Attention: Sharat Chandra
Email: sharat.chandra@fraserhealth.ca

(b) if to the Design-Builder:

EllisDon Build Inc.
Suite 350, 13775 Commerce Parkway
Richmond, BC
V6V 2V4

Attention: Craig Enns
Email: cenns@ellisdon.com

or to such other address or electronic mail address as any party may, from time to time, designate in the manner set out above.

68.2 Any such notice or communication will be considered to have been received:

- (a) if delivered by hand during business hours (and in any event, at or before 5:00 pm local time in the place of receipt) on a Business Day, upon receipt by a responsible representative of the receiver, and if not delivered during business hours, upon the commencement of business hours on the next Business Day; and
- (b) if sent by electronic transmission during business hours (and in any event, at or before 5:00 pm local time in the place of receipt) on a Business Day, upon receipt, and if not delivered during business hours, upon the commencement of business hours on the next Business Day, provided that:
 - (i) the receiving party has, by electronic transmission or by hand delivery, acknowledged to the notifying party that it has received such notice; or
 - (ii) within 24 hours after sending the notice, the notifying party has also sent a copy of such notice to the receiving party by hand delivery.

68.3 Delivery by mail will not be considered timely notice under this Agreement.

68.4 In the event of an emergency or urgent matter, in addition to the notice required by this Section 68, a verbal notice will be given as soon as the party giving the notice becomes aware of any material event or circumstance that gives rise to the requirement for a written notice being given.

69 LEGAL RELATIONSHIP

69.1 The Design-Builder is an independent contractor and not the servant, employee, partner or agent of the Authority.

69.2 The Design-Builder will not commit the Authority to the payment of any money to any person.

69.3 No partnership, joint venture or agency involving the Authority is created by this Agreement or under this Agreement.

69.4 All personnel engaged by the Design-Builder to design and construct the Project are at all times the employees or Subcontractors of the Design-Builder and not of the Authority. The Design-Builder is solely responsible for all matters arising out of the relationship of employer and employee.

70 ASSIGNMENT

70.1 The Design-Builder will not, without the prior written consent of the Authority, assign, either directly or indirectly, any right or obligation of the Design-Builder under this Agreement.

70.2 The Authority may, upon notice to the Design-Builder, assign any or all of its rights or obligations under this Agreement to any other agency or organization that will assume responsibility for the operation of the Facility. Subject to the foregoing and subject to the right of assignment of the licence referred to in Section 23.5, the Authority will not, without the prior written consent of the Design-Builder, assign, either directly or indirectly, any right or obligation of the Authority under this Agreement.

71 INTEREST

71.1 If payment by either party of any amount payable under this Agreement is not made when due, interest will be payable on such amount at 2% per annum over the prime rate, calculated from the date due under this Agreement until paid, compounded monthly. The party to whom payment is owed and overdue will notify the other party at least monthly of the overdue amount and the accrued interest on that amount. The prime rate is the annual rate of interest announced by the Royal Bank of Canada (or its successor), or any other Canadian chartered bank agreed to by the parties, as its "prime" rate then in effect for determining interest rates on Canadian dollar commercial loans made by it in Canada.

72 WAIVER

72.1 No waiver by either party of a right of that party or any breach by the other party in the performance of any of its obligations under this Agreement is effective unless it is in writing.

72.2 No waiver of any right or obligation is a waiver of any other right or obligation under this Agreement.

72.3 Failure or delay to complain of an act or failure of the other party or to declare the other party in default, irrespective of how long the failure or delay continues, does not constitute a waiver by the party of any of its rights against the other party.

72.4 The duties and obligations imposed by this Agreement and the rights and remedies available hereunder will be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by Law.

73 ASSUMPTION OF RISK

- 73.1 Except to the extent expressly allocated to the Authority or otherwise provided for under this Agreement, all risks, costs and expenses in relation to the performance by the Design-Builder of its obligations under this Agreement are allocated to, and accepted by, the Design-Builder as its entire and exclusive responsibility.

74 GENERAL DUTY TO MITIGATE

- 74.1 In all cases where the Design-Builder is entitled to receive from the Authority any additional compensation or any costs, damages or extensions of time, the Design-Builder will use all reasonable efforts to mitigate such amount required to be paid by the Authority to the Design-Builder under this Agreement, or the length of the extension of time. Upon request from the Authority, the Design-Builder will promptly submit a detailed description, supported by all such documentation as the Authority may reasonably require, of the measures and steps taken by the Design-Builder to mitigate and meet its obligations under this Section 74.

75 OTHER PROVISIONS

- 75.1 The exclusions, waivers and limitations of liability, representations and warranties and indemnities in this Agreement, the provisions of Sections 63, 64, 66, 67 and rights accrued prior to completion or termination of this Agreement will survive the completion or termination of this Agreement.
- 75.2 This Agreement constitutes the entire agreement between the parties, expressly superseding all prior agreements and communications (both oral and written) between any of the parties hereto with respect to all matters contained herein or therein, and except as stated herein or the instruments and documents to be executed and delivered pursuant hereto, contains all the representations and warranties of the respective parties.
- 75.3 No waiver of any provision of this Agreement and no consent required pursuant to the terms of this Agreement is binding or effective unless it is in writing and signed by the party providing such waiver or consent.
- 75.4 No failure to exercise, and no delay in exercising, any right or remedy under this Agreement will be deemed to be a waiver of that right or remedy. No waiver of any breach of any provision of this Agreement will be deemed to be a waiver of any subsequent breach of that provision or of any similar provision.
- 75.5 This Agreement enures to the benefit of and binds the Authority, its successors and its assigns and the Design-Builder and its successors and permitted assigns.
- 75.6 The parties must do everything reasonably necessary to give effect to the intent of this Agreement, including execution of further instruments.

- 75.7 The Design-Builder and the Authority will take all reasonable and necessary steps to minimize and avoid all costs and impacts arising out of the performance of the Work and this Agreement.
- 75.8 Neither the Authority nor the Design-Builder will take advantage of any apparent discrepancy, ambiguity, error or omission in this Agreement and will notify the other party forthwith following the detection of anything it suspects may be an ambiguity, discrepancy, error or omission.
- 75.9 Each Schedule attached to this Agreement is an integral part of this Agreement as if set out at length in the body of this Agreement.
- 75.10 This Agreement may only be amended by an agreement of the parties in writing. No such amendments will be valid unless executed by the Authority and the Design-Builder.
- 75.11 This Agreement will be deemed to be made pursuant to the Laws of the Province of British Columbia and the Laws of Canada applicable therein and will be governed by and construed in accordance with such Laws.
- 75.12 For the purposes of any legal actions or proceedings brought by any party hereto against the other party, the parties hereby irrevocably submit to the exclusive jurisdiction of the courts of the Province of British Columbia and acknowledge their competence and the convenience and propriety of the venue and agree to be bound by any judgment thereof and not to seek, and hereby waive, review of its merits by the courts of any other jurisdiction.
- 75.13 Where the Design-Builder is a joint venture, partnership or consortium, each member agrees to be jointly and severally liable for the obligations of the Design-Builder.
- 75.14 Time is of the essence of this Agreement.
- 75.15 This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, and this has the same effect as if the signatures on the counterparts were on a single copy of this Agreement so that it will not be necessary in making proof of this Agreement to produce or account for more than one such counterpart.
- 75.16 A party may deliver an executed copy of this Agreement by facsimile or other electronic means but that party will immediately deliver to the other parties an originally executed copy of this Agreement.

IN WITNESS WHEREOF the parties have executed this Agreement as of the Effective Date.

FRASER HEALTH AUTHORITY

Per: 
DR. VICTORIA LEE

ELLISDON BUILD INC.



Per:

CRAIG ENNS

SCHEDULE 1

STATEMENT OF REQUIREMENTS

See separate document.

SCHEDULE 2

REVIEW PROCEDURE

1. SUBMITTAL SCHEDULE

- 1.1 The parties agree that the preliminary schedule for Submittals (the "Submittal Schedule") is included in the Design and Construction Schedule that is set out in Schedule 11 [Design and Construction Schedule], and that the Submittal Schedule will conform to the requirements identified in Sections 19, 20, and 21 of the Design-Build Agreement. The Submittal Schedule may be amended by agreement of the parties in accordance with the terms of this Section 1. Any amendment to the Submittal Schedule will provide for a progressive and orderly flow of Submittals from the Design-Builder to the Authority as appropriate to allow sufficient time for review of each Submittal by the Authority, taking into account both the resources necessary to be available to the Authority to conduct such review and any user group consultations.
- 1.2 Unless a longer period is required by this Agreement or is otherwise reasonably required by the Authority, the Submittal Schedule will allow:
- (a) for the Authority's review of Submittals submitted for the Design Stages, a minimum of:
 - (i) 10 Business Days for Schematic Design (SD) – 15% complete;
 - (ii) 15 Business Days for Design Development (DD) – 30% complete;
 - (iii) 20 Business Days for Construction Documents (CD) – 60% complete;
 - (iv) 25 Business Days for Construction Documents (CD) – 90% complete;
 - (v) 10 Business Days for Issued for Construction (IFC) – 100% complete;
 - (b) 10 Business Days for the Authority's review of other Submittals, from the date of receipt for review of and response to each Submittal, provided that if the Design-Builder has made major changes to the grouping and volume of Submittals, such period of time will be adjusted, acting reasonably, taking into account the factors set forth in this Section 1; and
 - (c) The review periods noted in Section 1.2(a) above will only start once the complete set of all drawings, specifications and other documents for the Design Stage have been received by the Authority.
- 1.3 The Design-Builder will in scheduling Submittals and in the performance of the Design and the Construction allow adequate time, prior to performing the Design and the Construction that are the subject of the Submittals, for review of the Submittals and for the Design-Builder to make changes to the Submittals, to the Design and to the Construction that may be required if comments are received on the Submittals.

- 1.4 If the Submittal Schedule indicates that a material number of Submittals will be made at one time, the Authority may request a longer period for review or a staggering of the Submittals, and the Design-Builder will revise the Submittal Schedule accordingly, taking into account both the availability of resources required by the Authority to conduct such review and whether delay in the review of the subject matter of the Submittal will have a material impact on the Design-Builder's ability to progress future anticipated Submittals and the Design or Construction in accordance with the Design and Construction Schedule.
- 1.5 The Design-Builder will submit the Submittal Schedule 30 days after the Effective Date, including amendments and, subsequently, to the Authority on a monthly basis until Substantial Completion is achieved.
- 1.6 All amended Submittal Schedules will be required to meet all the requirements of this Section 1.
- 1.7 The Design-Builder will submit all Submittals to the Authority in accordance with the most current amended Submittal Schedule.
- 1.8 The Design-Builder will bear the risk of delays and additional costs caused as a result of the late submission of Submittals to the Authority, by Submittals which are rejected and required to be re-submitted in accordance with the terms of this Schedule 2 [Review Procedure], or by changes in the Design and Construction required as a result of comments made pursuant to this Schedule 2 [Review Procedure].

2. GENERAL REQUIREMENTS FOR SUBMITTALS

- 2.1 Unless otherwise specified by this Agreement or by the Authority, the Design-Builder will issue an electronic copy of each Submittal in 'True' PDF format (where True PDF is understood to be a digitally created file using software or via the "print" function within a software application – scans of documents are not considered True PDF) along with the design authoring models used to generate the submittal or other format agreed by the parties acting reasonably. The Design-Builder will include with each Submittal a certification by the Design-Builder's Consultant that the Work set out in or proposed by the Submittal meets the requirements of the Agreement, including the Statement of Requirements. Unless otherwise required by this Agreement or by applicable Law to be signed or sealed at the time the Submittal is first provided to the Authority, upon assignment of the comment "REVIEWED" by the Authority of each Submittal for the Issued for Construction (IFC) - 100% complete Design Stage and for Record Documentation the Design-Builder will issue a paper copy (or an electronically sealed copy if agreed by the Authority) of the Submittal that has been sealed by the Design-Builder's Consultant as required by Section 2.4 below.
- 2.2 The Design-Builder will compile and maintain a Submittal log that includes the date, contents and status of the submission of all Submittals and the date of receipt and content of all returned Submittals and comments thereon.
- 2.3 All Submittals will be in English.

- 2.4 All Submittals, and all amended versions of Submittals, required by this Agreement or by applicable Law to be signed or sealed by persons with professional designations (including where applicable by registered professional architects or engineers) will be so signed and, where applicable, sealed, and will include confirmation by such person or persons that the Work proposed by the Submittal meets the requirements of the Agreement, including the Statement of Requirements.
- 2.5 All Submittals will include all documents to be reviewed and will clearly identify the purpose of the Submittal, the Design-Builder's proposed course of action relating to the Submittal and the Design and the Construction that are the subject of the Submittal.
- 2.6 All Submittals will refer to the relevant provisions of the Statement of Requirements and to any matter that has previously been subject to review. All Submittals will:
- (a) be clearly identified as a Submittal and will be delivered with appropriate covering documentation, which will include a list of all attached Submittals and for each Submittal the document number(s) or drawing number(s);
 - (b) include revision numbers (if applicable);
 - (c) include document or drawing title(s);
 - (d) include name of entity that prepared the Submittal;
- 2.7 All Submittals will include details of the Submittal log showing date and delivery information and/or log number of all previous submissions of that Submittal; identification of any previous Submittal superseded by the current Submittal, and a description of the portions of the Submittal that are the subject of review.
- 2.8 Except for the Schematic Design (SD) – 15% complete Submittal the Design-Builder will only submit the next corresponding Submittal when the previous Submittal has been granted "REVIEWED" status.

3. COMMENTS

- 3.1 The Authority will review and respond to each Submittal in accordance with the applicable time periods for the Submittal.
- 3.2 The Authority will return Submittals to the Design-Builder and assign one of the following 3 comments:
- (a) "REVIEWED";
 - (b) "CORRECT DEFICIENCIES"; or
 - (c) "REJECTED".

- 3.3 The comment "REVIEWED" will be assigned to those Submittals that, in the opinion of the Authority, acting reasonably, conform to the requirements of this Agreement. The Design-Builder will comply with and implement such Submittals.
- 3.4 The comment "CORRECT DEFICIENCIES" will be assigned to those Submittals that, in the opinion of the Authority, acting reasonably, generally conform to the requirements of this Agreement, but in which minor deficiencies have been found and identified by the Authority's review. The Design-Builder will, to the extent necessary, correct these Submittals and provide a copy of such Submittals to the Authority not less than 10 Business Days before the Design-Builder implements the portions of such Submittals that have received comments, but may proceed on the portions of such Submittals that have not received comments. The Design-Builder will comply with and implement such corrected Submittals. If at any time it is discovered that the Design-Builder has not corrected the deficiencies on Submittals that were correctly stamped "CORRECT DEFICIENCIES", then the Design-Builder will be required to modify the Submittals, the relevant Design and the Construction as required to correct the deficiencies and the Design-Builder may be required, at the Authority's discretion, acting reasonably, to resubmit relevant Submittals.
- 3.5 The comment "REJECTED" will be assigned to those Submittals that, in the opinion of the Authority, acting reasonably, contain significant deficiencies, are incomplete or otherwise insufficient for the purposes of a Design review, are received by the Authority before the date scheduled in the Submittal Schedule, or do not conform with the requirements of this Agreement, including this Schedule 2 [Review Procedure]. The Design-Builder will correct and re-submit these Submittals within 10 Business Days after the comment has been provided to the Design-Builder. The Authority will then review such corrected Submittals and assign a comment to the corrected Submittal. The Submittals will be corrected, revised and resubmitted as often as may be required to obtain a comment that permits the Design-Builder to proceed. Except with the written consent of the Authority, the Design-Builder will not proceed with any Design or Construction to which such Submittals receiving the comment "REJECTED" relate until the Design-Builder obtains a comment that permits the Design-Builder to proceed.
- 3.6 The Authority may request additional time for the review of any Submittal, including where the Submittal is voluminous or requires extensive review by representatives (including consultants) of the Authority, and the Design-Builder will extend such time for any reasonable requests by the Authority.
- 3.7 If the Authority does not respond to a Submittal within the applicable time periods for the Submittal, the Submittal will be deemed "REVIEWED" and the Design-Builder may proceed with and implement the Design and the Construction on the basis set forth in the applicable Submittal without any further action or documentation required.
- 3.8 Where the Authority issues the comment "CORRECT DEFICIENCIES" or "REJECTED", the Authority will provide reasons for the comment, referencing the particulars of the Section(s) of the Agreement (including the Statement of Requirements) that the Submittal fails to satisfy or as otherwise indicated in this Schedule 2 [Review Procedure].

- 3.9 If at any time after assigning any comment to a Submittal or where Section 3.7 of this Schedule has applied, the Authority or the Design-Builder discovers deficiencies or any failure to conform to the requirements of this Agreement, the Authority may revise the comment assigned to any Submittal. If the parties agree or it is determined in accordance with Section 63 (Dispute Resolution) of the Agreement that the revised comment is correct, the Design-Builder will make all such corrections to the Submittals and the Design and the Construction.
- 3.10 For the purpose of facilitating and expediting the review and correction of Submittals, the Authority's Representative and the Design-Builder's Representative will meet as may be mutually agreed to discuss and review any outstanding Submittals and any comments thereon.
- 3.11 In lieu of returning a Submittal, the Authority may by letter notify the Design-Builder of the comment assigned to the Submittal and if such comment is "CORRECT DEFICIENCIES" or "REJECTED" the letter will contain comments in sufficient detail for the Design-Builder to identify the correction sought.
- 3.12 The following Submittals will be deemed to be "Reviewed Drawings and Specifications":
- (a) Submittals which the Authority has marked as "REVIEWED" under Section 3.3 of this Schedule;
 - (b) portions of Submittals that the Design-Builder may proceed with under Section 3.4 of this Schedule;
 - (c) Submittals which have been deemed "REVIEWED" by the Authority under Section 3.7 of this Schedule.

4. USER CONSULTATION PROTOCOL

- 4.1 The Design-Builder acknowledges that review of the Design by the Authority and consultation with the Facility users is an essential step in the completion of the detailed design of the Facility. Accordingly, the Design-Builder will conduct consultations with representatives of the Facility users (the "User Consultation Groups") as described in this Schedule. The Authority will make reasonable efforts, as requested by the Design-Builder, to assist and support the Design-Builder with the consultation process, but nothing in this Section 4 will be interpreted to give the Authority responsibility for the Design, the Design schedule or the user consultation process.
- 4.2 The Authority will establish User Consultation Groups that may include the Authority, the Authority's Representatives, employees, agents, contractors and subcontractors, physicians, nurses, other clinicians, patients, visitors, students and volunteers. The Authority may also from time to time include residents, families and neighbours in the user consultation process.
- 4.3 Unless agreed by the Authority, all aspects of the Design will be subject to review by one or more User Consultation Groups.

- 4.4 The User Consultation Groups will include a User Consultation Group designated as the "Core User Group" with responsibility for coordinating the Design review process with the Design-Builder.
- 4.5 The Design-Builder's Facility Maintenance Advisor will be fully integrated into the design team to ensure that the most sustainable design decisions are informed not only as they relate to the initial capital costs but also to the operational efficiencies and effectiveness of the systems for the whole life costs of the Facility.
- 4.6 For the purposes of the requirements indicated in this Schedule and its appendices, a "Working Session" is a full day meeting or series of full day meetings in which the Design-Builder will present the information of the Submittal, informal comments related to the Submittal will be discussed, and, as applicable, comments related to the review of previous Submittals will be discussed. The intent of the Working Session is for a collaborative and interactive effort to minimize misinterpretation or confusion related to the informal comments or formal comments, as applicable, and to satisfactorily address them or to discuss potential solutions that will be further developed and included in the formal Submittal. The Working Session is separate from and in addition to any special topic meetings, or any other meetings or consultations, with the User Consultation Groups.
- 4.7 Unless otherwise agreed, Submittals for the Design Stages will be provided and reviewed in accordance with the following process with a pre-Submittal leading to a Submittal:
- (a) Pre-Submittal:
 - (i) The Design-Builder will provide a pre-Submittal as indicated on the Submittal Schedule that includes all relevant material that should be reviewed by the Authority and the User Consultation Groups, with the material provided 10 Business Days in advance.
 - (ii) The Authority is not required to provide comments under Section 3 to a pre-Submittal.
 - (iii) All changes from a previous Submittal will be clearly indicated in accordance with Section 8 of this Schedule and Schedule 3 [Design Process] of this Schedule.
 - (b) Informal Comments from the Authority:
 - (i) The Authority may provide informal comments to the Pre-Submittal through to the Design-Builder 5 business days before the Working Session.
 - (c) Presentation at Working Session:
 - (i) 10 Business Days following the receipt of the pre-Submittal, the Design-Builder will present the relevant material at the Working Session with the relevant User Consultation Group(s);

- (ii) The Design-Builder will schedule the Working Session with the intent to cover all relevant disciplines;
 - (iii) The Working Session will be attended in person by the Architect or, if the Authority agrees, the Design-Builder's Key Individuals and other individuals as required based on content being discussed;
 - (iv) During the Working Session, a representative of the Design-Builder will take "live minutes" so that all parties can consider the content of the minutes during the meeting. The Design-Builder will circulate the minutes immediately after the meeting to all parties and within 3 Business Days the Design-Builder must circulate formal minutes for review. If the Authority notifies the Design-Builder of any errors in the minutes, the Design-Builder will correct such errors within 3 Business Days of the Authority's notice and formally resubmit the minutes;
 - (v) The minutes will be required to identify and summarize any deviation from the requirements of this Agreement triggered by any comment or changes resulting from the User Consultation Process;
 - (vi) The time required to cover the Working Sessions (one or more days) will not be part of the Submittals' review periods as indicated in Section 1.2 but in addition to those review periods.
- (d) Submittal:
- (i) After considering any comments on the pre-Submittal, the Design-Builder will make the formal Submittal as scheduled within Design-Builder's Submittal Schedule;
 - (ii) If the Submittal does not address the Authority's informal comments and the comments provided at the Working Session, the Design-Builder will with the Submittal provide a commentary letter on the reasons for not addressing the comments. If the commentary letter is not provided with the Submittal or the Authority does not deem the reasons for not addressing the feedback satisfactory the Submittal will be automatically deemed to be assigned a "REJECTED" status.
- (e) Formal Response from the Authority:
- (i) The Authority will respond to the Submittal in accordance with Section 8 of this Schedule.
- (f) Process continues until "REVIEWED" status
- (i) If the Authority's response or deemed response is "CORRECT DEFICIENCIES" or "REJECTED", the Design-Builder will repeat the

process set out in Sections (a) to (e) above until a "REVIEWED" response is achieved.

- 4.8 The process set out in this Section 4 will be set out in the Submittal Schedule. The Submittal Schedule will be required to clearly identify timelines related to the all steps set out in Section 4.7.
- 4.9 The parties acknowledge that Design Development is an iterative and interactive process and that additional User Consultation Group review and meetings may be required from those shown on the Submittal Schedule. The parties will co-operate to amend the Submittal Schedule as may be required from time to time to ensure that sufficient consultations with the User Consultation Group in relation to each component of the Design (and changes to the Design resulting from such consultations) are completed prior to the Design-Builder making the formal Submittal.
- 4.10 The Authority and the Design-Builder will not be bound by the consultations with the User Consultation Groups, unless reflected in the formal Submittal and comments from the Authority.
- 4.11 If the Design-Builder considers that compliance with any comment raised by a User Consultation Group member would lead to a Change, the Design-Builder will, before taking into account such comment or objection, notify the Authority. If it is agreed by the Authority that such comments or objections would lead to a Change then the procedure as detailed in Part E- CHANGES of the Design-Build Agreement will apply. In all cases, the parties will cooperate to identify potential alternative solutions to any comments or objections raised that would not lead to a Change.
- 4.12 The User Consultation Group meetings and Working Sessions will be held in New Westminster, B.C., or another location designated by the Authority, at a space made available by the Authority.

5. DISPUTES

- 5.1 If the Design-Builder disputes any comment issued by the Authority in respect of a Submittal, including on the basis that the comment is or would result in a Change, the Design-Builder will promptly notify the Authority of the details of such Dispute and will submit the reasons why the Design-Builder believes a different comment should be assigned, together with appropriate supporting documentation. The Authority will review the Submittal, the reasons and supporting documentation and within 7 Business Days after receipt thereof will either confirm the original comment or notify the Design-Builder of a revised comment. Nothing in this Section 5.1 will limit either party's right to refer a Dispute for resolution in the first instance to the Authority's Consultant under Section 63 (Dispute Resolution) of the Agreement.

6. EFFECT OF REVIEW

- 6.1 Any review of and comment by the Authority on any Submittals are for general conformity to the obligations and requirements of this Agreement, and any such review and comment

will not relieve the Design-Builder of the risk and responsibility for the Design and the Construction and for meeting all of its obligations and requirements of this Agreement, and will not create any new or additional obligations or liabilities for the Authority. Without limiting the generality of the foregoing any and all errors or omissions in Submittals or of any review and comment will not exclude or limit the Design-Builder's obligations or liabilities in respect of the Design or the Construction under this Agreement or exclude or limit the Authority's rights in respect of the Design and the Construction under this Agreement.

7. SUBMITTAL EXPLANATION

- 7.1 At any time, the Authority may, acting reasonably, require the Design-Builder, including the Design-Builder's Consultant, Subcontractors and any other relevant personnel, at no additional cost to the Authority, to explain to the Authority and the Authority's advisors the intent of the Design-Builder's Submittals, including in relation to any design and any associated documentation and as to its satisfaction of the Statement of Requirements.

8. REVISIONS

- 8.1 The Design-Builder will ensure that Submittals keep the same, unique reference number throughout the review process, and that all subsequent revisions of the same Submittal are identified by a sequential revision number and identified and tracked in the Submittal log. Correspondence related to such Submittal will reference the reference number and revision number.
- 8.2 Re-submittals will clearly show all revisions from the previous Submittal. Bound documents, including reports and manuals, will contain a preface that clearly states how revisions are marked and the previous revision number against which the revisions have been marked and highlighted within the document. A consistent format for mark-ups of documents will be used (e.g. deletions struck out and additions underscored). Revised portions of drawings will be clearly marked (with appropriate means to visually distinguish between the parts of the drawing that are revised and the parts that are not revised) and the revision number and description of the revision will be included on the drawing.
- 8.3 All revisions on electronic versions or print media versions of Submittals will be clearly identified in by way of clouds or colour coding.
- 8.4 The Design-Builder will keep all Reviewed Drawings and Specifications current. If any Reviewed Drawings and Specifications are revised as part of a Submittal, all other Reviewed Drawings and Specifications relying on or based on those Reviewed Drawings and Specifications will also be revised accordingly. All such revised drawings and specifications will also be submitted with the Submittal to which it relates.

9. AUDIT BY THE AUTHORITY

- 9.1 Without limiting any other right under the Agreement, the Authority will have the right to audit all Submittals, including comparing all Submittals to previous Submittals.

- 9.2 If during an audit or at any other time it is discovered by the Authority or the Design-Builder that any Submittals were not correctly implemented, the Design-Builder will at its sole cost immediately take all necessary steps to correct and modify the applicable Submittals and the Design and Construction to which they relate and will advise the Authority of all such corrections and modifications.

Design-Build Agreement

SCHEDULE 3

DESIGN PROCESS

1. GENERAL REQUIREMENTS

- 1.1. Each of the Submittals required by or made in accordance with this Schedule will meet all requirements set out in Schedule 1 [Statement of Requirements] and such other requirements of the Authority, acting reasonably.
- 1.2. Unless otherwise required by the Authority, the Design-Builder will provide and use, and make available to the Authority and representatives of the Authority, a secure and confidential internet-based system for the storage and exchange of Design documentation in electronic format acceptable to the Authority.

2. SUBMITTAL DOCUMENTS

- 2.1. The Design-Builder will prepare the Design and make Submittals to the Authority at the following stages of Design (the "Design Stages"):
 - 2.1.1 Schematic Design (SD) 15% complete;
 - 2.1.2 Design Development (DD) 30% complete;
 - 2.1.3 Construction Documents (CD) 60% complete;
 - 2.1.4 Construction Documents (CD) 90% complete; and
 - 2.1.5 Issued for Construction (IFC) 100% complete.
- 2.2. The Design-Builder will provide all the required documentation for the Design Stages, and the Record Documentation, generated from the digital model data.
- 2.3. Design Compliance Matrix **(NTD: FOR DISCUSSION AT COLLABORATIVES AS THE INTENT OF THIS DOCUMENT IS FOR REFERENCE AND NOT FOR THE AUTHORITY TO PROVIDE A REVIEW STATUS FOR IT)**
 - 2.3.1. The Design-Builder will provide with each Design Stage Formal Submittal a Design Compliance Matrix that will:
 - 2.3.1.1. Clearly indicate how compliance with the requirements in Schedule 1 [Statement of Requirements], including all its appendices, and any other Schedules in this Agreement as applicable, is achieved and in which documents the information demonstrating compliance is included;
 - 2.3.1.2. Have detail references, as reasonably possible (e.g. document name, page number, section number, area within drawing, etc.), to the location of the information in the documents that demonstrates compliance to the requirement; and
 - 2.3.1.3. Be presented in a format aligning to the section numbering matching the corresponding Schedule or Appendix.
- 2.4. The Design-Builder will deliver two (2) full size hard copies of all drawings (to scale), one (1) 11x17 reduced size hard copy of all drawings, two (2) half scale sized of all drawings, one (1) electronic

version on USB device of each drawing, specifications document, all digital models, including the Data and Geometry Specification (DGS) and the Project Execution Plan (PEP), utilized to generate the design documents, AutoCad files of each of the drawings, and all supporting material (such as: code analysis, energy cost models, acoustic design reports, correspondence, design narratives etc.); Submittals will be delivered at a location selected by the Authority.

2.5. Drawings, Models, and Visualization

- 2.5.1 The Design-Builder will use the BIM process in accordance with the BIM Project Execution Plan (PEP) as agreed to in consultation with the Authority through the Review Procedure.
- 2.5.2 The Design-Builder will lead and manage the BIM process throughout the implementation stage of the Project, beginning with the development of the BIM PEP. The schedule for the evolution and production of the BIM deliverables will be established through a collaborative BIM PEP development process, which will include representatives from the Design-Builder and the Authority.
- 2.5.3 The Design-Builder will also use Revizto, a software agnostic, cloud-based virtual coordination tool to allow all parties to collaborate and coordinate. In addition to the Submittal log, this tool will also be used for the tracking and management of comments and revisions during the design review process.
- 2.5.4 Provide AutoCAD files for all drawings including plot configuration files.
- 2.5.5 Provide an expected drawing table of contents at least ten (10) Business Days prior to each of the Design Stage Submittals. The drawing table of contents shall clearly include a list of all drawings that will be included as a part of the Design Stage Submittal.
- 2.5.6 All drawings (e.g. floor plans, reflected ceiling plans, sections, interior elevations, etc.) of all disciplines, including the Room Data Sheets (RDS) and the Enhanced Room Data Sheets (ERDS), will include, in addition to the architectural room numbers designated for each interior space, and exterior spaces as applicable, all room names and numbers corresponding to those indicated in Appendix 1A [Clinical Specifications and Functional Space Requirements] and the alphanumeric ID for the Communications Rooms as indicated in the PHSA Communications Infrastructure Standards and Specifications]. Architectural room numbers will follow the requirements as indicated in Part 5 of Schedule 1 [Statement of Requirements], the Wayfinding and Signage document, and in consultation with the Authority.
- 2.5.7 All drawings and renderings including the Enhanced Room Data Sheets (ERDS) will include the necessary number of individual drawings or sheets at the scale required to ensure all the Design information is uncluttered and easy to read and review. If required, the Design-Builder will make adjustments to the number of drawings, sheets renderings or to the drawing scale as requested by the Authority acting reasonably.
- 2.5.8 3-Dimensional, photo-realistic coloured exterior and interior renderings:
 - 2.5.8.1 3-Dimensional photo realistic exterior renderings will illustrate all Facility elevations and a close up of the Main Entrance Area to the Facility including the drop-off areas, canopy, and adjacent landscaping;
 - 2.5.8.2 3-Dimensional photo realistic interior renderings will illustrate at a minimum, the following areas:
 - a. Main Entrance Area including Main Entrance/Foyer;

- b. Care Team Base – CSICU;
- c. Patient Room, Private;
- d. Operating Room, Hybrid Airborne Isolation;
- e. Triage;
- f. Food Service - Pantry;
- g. Site Operations Command Centre; and
- h. Patient Room, Private SRMC.

2.5.8.3 All 3-Dimensional photo realistic renderings will be provided at Schematic Design 15% complete and will be updated, as the Design progresses, and provided at Construction Documents 60% complete.

2.5.9 All drawings will be in metric (millimeter) and prepared to current industry standards.

2.5.10 All drawings will be to 1:100 scale unless otherwise required by the nature of the information provided (e.g., enlarged drawings) or otherwise approved or required by the Authority.

2.5.11 For the purposes of the requirements indicated in this Schedule the term “drawing(s)” includes the graphic output from the Revit models that demonstrate a pictorial portion of the Submittals showing the design location and dimensions of the services, generally including plans, elevations, sections, details, schedules and diagrams.

2.5.12 Fly-Through

2.5.12.1 The Fly-Through will show the exterior of the Facility (all sides), the interior of the Main Entrance/Foyer, and the most relevant spaces of all the Care Platforms as indicated in Appendix 1A [Clinical Specifications and Functional Space Requirements].

2.5.13 Virtual Reality

2.5.13.1 The Design-Builder will provide complete virtual reality models (room templates) for the rooms indicated in Section 3 Mock Up Rooms and Prototypes and any other room or spaces as required by the Authority acting reasonably. The room templates will include all disciplines’ components, equipment and finishes required to provide a fully immersive experience of the finished space.

2.5.13.2 The Design-Builder will facilitate and administer the following workflows on behalf of the Authority:

- a. A construction coordination workflow – Revit with Revizto. The Design-Builder will:
 - i. Export and synchronize multi-discipline full-building Revit construction models to the Revizto cloud platform on a bi-weekly basis. All object data, sheets and linked files will be preserved from Revit when exported into the Revizto platform.

These uploads are for the Authority's reference only and not for review;

- ii. Present and facilitate the Revizto visualizations to the Authority in meetings and allow the Authority to navigate the construction model with a combination of simple game navigation controls and immersive virtual reality (VR) peripherals;
 - iii. Collaborate, track and manage design feedback using Revizto throughout all phases of the Project; and
 - iv. Share and manage licence access to the Revizto cloud platform with Authority approved project stakeholders.
- b. A room template coordination workflow - Revit and Enscape. The Design-Builder will:
- i. Provide the Authority with online access to current individual 3D room templates for the duration of the Project;
 - ii. Develop and manage all Revit room templates to facilitate real-time 3D design coordination and visualization with the Authority
 - iii. Edit and modify the room templates in real-time within design meetings with the Authority while presenting the Enscape visualization on fixed wall display for viewing by the Authority; and
 - iv. Export the most recent Authority approved Revit room templates using Enscape to both standalone exe and web formats after each Authority approved modification to the templates. Maintain an index of all export files and web links for version control and distribution.
- c. In the room template coordination workflow - Revit and Enscape, the Authority will:
- i. Provide confirmation of equipment types so that the Design-Builder can include realistic asset models to import into the Revit room templates.

2.5.13.3 The Design-Builder will provide the following hardware, software and supporting services to facilitate 3D design visualization and virtual reality experiences:

- a. Two (2) skilled Revit operators with VR-ready laptops loaded with current software (Revit, Revizto and Enscape) who will facilitate visualization sessions to the Authority at a location selected by the Authority;
- b. Four wireless VR headsets to be selected in consultation with the Authority; and
- c. A large dedicated space within the Design-Builder's Room Mock-Up site for larger stakeholder meetings and visualizations. The space will include one (1) fixed performance VR-ready workstation with two fixed (2) large format viewing displays in addition to the workstation operator display.

The space will be wired and wireless computer networking infrastructure designed for high-bandwidth and low-latency.

2.5.13.4 The Design-Builder will submit a Virtual Reality coordination plan to the Authority in accordance with Schedule 4 [Management Systems and Plans].

2.5.14 With each Submittal starting at Design Development 30% complete through to Issued for Construction 100% complete, the Design-Builder will schedule clash review sessions with the Authority. The purpose of these clash review sessions will be to identify and document for resolution:

2.5.14.1 The physical conflicts between the different disciplines (e.g. architectural, structural, mechanical, electrical, communications, etc.); and

2.5.14.2 Where the Design of the Facility does not meet the minimum clearance requirements.

2.6 Specifications

2.6.1 Submit specifications as hard copies and electronic copies.

2.6.2 Specifications for all disciplines will be organized according to CSI/CSC Master Format using CSC full-page Section Format/Page Format.

2.6.3 The Design-Builder will provide specifications for all disciplines progressively with sufficient information to enable the Authority to verify the compliance with the requirements in this Agreement and to accurately construct the Facility as intended.

2.6.4 The Design-Builder will include in the specifications, starting from the Schematic Design 15% complete Submittal, basis of design (brand name) product information.

2.6.5 The Design-Builder will include full technical specifications that lists critical technical characteristics deemed necessary to permit a review in order to assess compliance of any potential substitution.

2.6.6 Shop drawings and product data sheets are not considered as specifications for the Design Stage Submittals.

2.7 Design Narratives

2.7.1 The Design-Builder will provide Design Narratives at Schematic Design 15% complete Submittal and updated Design Narratives at Design Development 30% complete Submittal for each discipline, except as indicated in Section 2.7.1.2, which will also address the methodology and solutions for the following items:

2.7.1.1 Functionality (including direct Line of Sight and travel distance);

2.7.1.2 Security and Safety. This Design Narrative will be prepared by a security lead who possess an active Certified Healthcare Administrator Designation from the International Association of Healthcare Safety and Security, and it will be provided at all Design Stages. It will include:

- a. Facility risk and threat assessment (including how the Design will mitigate risks and vulnerabilities to people, property, the Authority, and the surrounding community);

- b. Security design principles and key strategy elements;
 - c. CPTED principles and application to site and landscape design;
 - d. Day and night time operation in fire alarm mode with a narrative of security devices (for example, cameras, card readers, locking devices, alarms, special construction requirements at grade and in parking garage, elevator control, contained use spaces, exterior parking areas, grounds, and site);
 - e. Building design features that will minimize the need for security staff;
 - f. Authority's engagement in the security plan; and
 - g. Security system monitoring and recording.
- 2.7.1.3 Accessibility (including ability to use all common spaces and perform personal care and food delivery from kitchen to table);
 - 2.7.1.4 Wellness (including Direct Natural Light);
 - 2.7.1.5 Acoustics (including speech privacy, reverberation, noise isolation and exterior noise control);
 - 2.7.1.6 Wayfinding;
 - 2.7.1.7 Operations, maintainability and reliability (including access to equipment, durability and redundancy);
 - 2.7.1.8 External environment;
 - 2.7.1.9 Standardization: (including floor plate flexibility, structural systems such as foundation, floor and roof framing, deflection and vibration control and lateral load resisting);
 - 2.7.1.10 Consistent room stacking and service core locations;
 - 2.7.1.11 Material management; and
 - 2.7.1.12 Sustainability and LEED (including construction activity pollution, sustainably sourced materials and products, daylight and views and additional credits).

2.8 Shop Drawings

- 2.8.1 Shop drawings include drawings, diagrams, illustration, samples, schedules, performance charts, literature, brochures, and other data which are to be provided by the Design-Builder to illustrate details of a portion of the Work in True PDF format.
- 2.8.2 The purpose of shop drawing Submittals is to demonstrate the Design-Builder's understanding of the design intent. This understanding is demonstrated by articulating which equipment and material is required, and by what methods of fabrication and installation will be utilized.
- 2.8.3 Submit fully detailed shop drawings, indicating materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes, required backing or accessories including those to be provided by others, colour charts for selecting

colour where applicable, design calculations, and other pertinent information necessary to complete the Work. Where items attach to other items, or to waterproof membranes, indicate that such items have been coordinated, regardless of Section under which such adjacent items are supplied and installed. Indicate cross references to the requirements of this Agreement.

2.8.4 Shop drawings will be in metric measurements.

2.8.5 Prior to review of the shop drawings by the Authority the Design-Builder shall submit fully reviewed and accepted shop drawings by the required disciplines of its consulting team.

2.8.6 Submit all shop drawings relevant to the Design and Construction of the Facility and such others as may be requested by the Authority acting reasonably. The Design-Builder will submit the shop drawings for review by the Authority at least three weeks in advance of proceeding with Construction related to the shop drawing.

2.9 Room Data Sheets (RDS)

2.9.1 Provide RDS which record the architectural, mechanical, electrical, and communications requirements and services to be provided for each space identified in Appendix 1A [Clinical Specifications and Functional Space Requirements] and all the Communications Rooms as identified in Schedule 1 [Statement of Requirements]. Refer to the PHSA Communications Infrastructure Standards and Specifications.

2.10 Enhanced Room Data Sheets (ERDS)

2.10.1 In addition to the required information from each discipline in the RDSs, as indicated in the Section above, the Design-Builder will provide Enhanced Room Data Sheets that will include:

2.10.1.1 Graphic representation of plan view, reflected ceiling plan view, and all interior elevation views;

2.10.1.2 All disciplines properly coordinated, including all clinical equipment and IM/IT equipment;

2.10.1.3 A 3D rendering (axonometric) of the room showing all components, materials and equipment that reside in it;

2.10.1.4 A legend identifying each component, material item and piece of equipment shown; and

2.10.1.5 An equipment schedule in the form of a table listing the equipment and components to be installed in the room. The schedule will be broken into two categories – Design-Builder provided and Authority provided. Each item will be quantified and given a brief description and a location (e.g. rack or wall mounted).

2.10.2 The Design-Builder will provide Enhanced Room Data Sheets for the following rooms:

2.10.2.1 Rooms indicated in the Architectural Large Scale Plans (scale 1:50 or larger) Section of the FH Design Stages Submittals Expectations document;

2.10.2.2 Each individual Communications Room;

- 2.10.2.3 Each individual Multimedia Room;
- 2.10.2.4 The Campus Communications Hub;
- 2.10.2.5 Washing Area;
- 2.10.2.6 Automatic Washing/Sanitizing Area;
- 2.10.2.7 Detergent Dispensing Room;
- 2.10.2.8 Vestibule, PPE;
- 2.10.2.9 Packaging & Assembly Area;
- 2.10.2.10 Clean Instrument Holding Area;
- 2.10.2.11 Recovery Room, Double CICU;
- 2.10.2.12 Patient Room, Private ICU;
- 2.10.2.13 Storage, Ventilator;
- 2.10.2.14 Family Respite Room;
- 2.10.2.15 Workroom, Satellite Biomedical Clinical;
- 2.10.2.16 Patient Room, Private SRMC Airborne Isolation;
- 2.10.2.17 Alcove, Charting;
- 2.10.2.18 Care Team Base;
- 2.10.2.19 Communal Area, On-Call;
- 2.10.2.20 Patient Room, Private NICU;
- 2.10.2.21 Procedure Room;
- 2.10.2.22 Centralized Preparation Room;
- 2.10.2.23 Isolette Cleaning Room;
- 2.10.2.24 Breast Pump Room;
- 2.10.2.25 Patient Room, Private Pediatric;
- 2.10.2.26 Comfort Room;
- 2.10.2.27 Family Lounge;
- 2.10.2.28 Exam /Treatment Room, Large;
- 2.10.2.29 Pediatric Level 2 Surgical Recovery Room;
- 2.10.2.30 Command Pod, Interventional Operations;

- 2.10.2.31 Operating Room, General Airborne Isolation;
- 2.10.2.32 Workroom, Perfusion;
- 2.10.2.33 Frozen section, Pathology Laboratory;
- 2.10.2.34 PACU room;
- 2.10.2.35 Results/ Exam Bays;
- 2.10.2.36 Lab/ECG Room;
- 2.10.2.37 Minor Procedure Room;
- 2.10.2.38 Care Team Base; Zone 5 - Support Area;
- 2.10.2.39 Ante Room, Secure; Zone 5 - Mental Health and Substance Use;
- 2.10.2.40 Interview Room; Zone 5 - Mental Health and Substance Use;
- 2.10.2.41 Patient Room, Double;
- 2.10.2.42 Cardiac Group Therapy;
- 2.10.2.43 ADL / Hybrid Suite;
- 2.10.2.44 Food Service – Pantry;
- 2.10.2.45 Main Entrance Vestibule;
- 2.10.2.46 Reception and Waiting;
- 2.10.2.47 Office, Bed booking;
- 2.10.2.48 Gift Shop/Lotto Booth;
- 2.10.2.49 Equipment Garage - Cleaning/Disinfecting;
- 2.10.2.50 Equipment Garage – Storage;
- 2.10.2.51 Storage, Medical Supply;
- 2.10.2.52 Storage, Flammable;
- 2.10.2.53 General Receiving;
- 2.10.2.54 Storage, Med Gas Manifold;
- 2.10.2.55 Storage Med Gas Cylinder;
- 2.10.2.56 Storage Tow Motor;
- 2.10.2.57 Holding room, FMO;
- 2.10.2.58 Environmental Service Closet;

- 2.10.2.59 Exchange Cart Staging Room;
 - 2.10.2.60 Linen Room;
 - 2.10.2.61 Soiled Linen Staging Room; and
 - 2.10.2.62 Five (5) additional rooms or spaces, as requested by the Authority based on the Design-Builder's Design.
- 2.10.3 The Enhanced Room Data Sheets will not be part of any of the different disciplines' packages but a separate package of drawings required to be submitted at each of the Design Stages, except at the Schematic Design (SD) 15% complete stage.
- 2.10.4 The package of Room Data Sheets and Enhanced Room Data Sheets will have overlap of information based on the requirements as described in Section 2.9 and Section 2.10. Therefore, the Design-Builder will have the option to submit the Enhanced Room Data Sheets package and not the Room Data Sheet package only if the Enhanced Room Data Sheets package has all the rooms as required in the Room Data Sheets package with all the information and requirements as applicable to the Enhanced Room Data Sheets.

3. MOCK UP ROOMS AND PROTOTYPES

- 3.1 The Design-Builder will, at its cost and as part of the Review Procedure, including user consultation, described in Schedule 2 [Review Procedure], provide and make available to the Authority for review the "mock-ups" and "prototype" rooms described in this Schedule.
- 3.2 The Design-Builder will include dates on the Submittal Schedule for construction of and for Authority review of mock-ups. The time periods for Authority review and comments on Submittals set out in Schedule 2 [Review Procedure] will apply to mock-ups.
- 3.3 For Multimedia and Communications Room mock up additional requirements refer to Part 7 of Schedule 1 [Statement of Requirements].
- 3.4 The Design-Builder will utilize mock-ups as required by the Authority. The equipment needs will have to be in coordination with the Authority. Equipment will be installed for validating spatial and move functionality as it would operate in the authentic scenario. If the Authority is not providing the equipment, then the Design-Builder is responsible to provide a prop that will mimic the movement and physical dimensions of the actual equipment.
- 3.5 By the date set out in the Submittal Schedule, the Design-Builder will provide 1:1 scale mock ups (using either paper, tape markings on the floor, or similar) and fully constructed 1:1 scale mock-ups of the following rooms (at a location either within the Facility as it is under construction or at another location provided by Design-Builder near the Facility), including all actual materials, finishes, Millwork, services, equipment and furniture included in the design of the room so that the Authority and the User Consultation Group can experience all features of the Design and make design decisions:
- 3.5.1 Patient Room, Private (including Washroom, Patient Ensuite; and Alcove, Observation);
 - 3.5.2 Patient Room, Private ICU, Bariatric Airborne Isolation (including Anteroom; Washroom; Patient Ensuite, Bariatric Airborne Isolation; and Alcove, Observation);

- 3.5.3 Patient Room, Private SRMC (including Washroom, SRMC Soaker Ensuite; and Alcove, Charting);
 - 3.5.4 Patient Room, Private NICU (two rooms with sliding glass doors to open up to one room);
 - 3.5.5 Operating Room, General;
 - 3.5.6 Operating Room, Hybrid (including Control Room, Hybrid OR;
 - 3.5.7 Computer Room, Hybrid OR;
 - 3.5.8 PACU Room, Airborne Isolation (including Anteroom; Washroom, Patient, PACU Airborne Isolation);
 - 3.5.9 Pre/Post Unit Room;
 - 3.5.10 Workroom, Anaesthesia;
 - 3.5.11 Food Service – Pantry;
 - 3.5.12 Soiled Holding Room;
 - 3.5.13 Site Operations Command Centre;
 - 3.5.14 Care Team Base – CICU; and
 - 3.5.15 Conference Room, EOC
- 3.6 During construction, the Design-Builder will construct an in-situ prototype of the rooms described in the Section above, and make the prototype available to the Authority at appropriate stages of construction so that the Authority and the User Consultation Group can review the prototype room (including all materials, services, Millwork, finishes, equipment and furniture) in its actual location within the Facility at various stages of construction, and consider whether any design adjustments are necessary.
- 3.7 Equipment and furniture will be actual pieces unless otherwise approved by the Authority. If replicas are used, they will accurately represent the actual physical dimensions and functionality of the piece.
- 3.7.1 If the Clinical Equipment for the Mock Up Rooms is supplied by the Authority, either as new or borrowed from the Existing Hospital, the Design-Builder will be responsible for the coordination, packing, moving, installing, uninstalling and secure, clean storage as required by the Authority.
 - 3.7.2 If the clinical equipment for the Mock Up Rooms is Category 5 Equipment or Category 6 Equipment the Design-Builder will coordinate with the vendor to ensure delivery, installation, removal if required, safe and clean storage, and re-installation if required.
 - 3.7.3 The Design-Builder will store all equipment used in the Mock Up Rooms until final installation prior to Substantial Completion unless otherwise required by the Authority.
- 3.8 Design-Builder will modify the mock-ups as may be required as the Design develops based on feedback from the User Consultation Group and the Authority. The Design-Builder will fully photo document the mock-ups before the Authority's review and any modifications to the mock-ups after the review and feedback.

- 3.9 The purpose of the mock-up is to illustrate the Design. The Design-Builder will update all Design documentation to reflect the mock-ups and prototypes, and any input from the Authority, including User Consultation Groups, and will submit all such updated Design documentation to the Authority for review under Schedule 2 [Review Procedure].
- 3.10 The Design-Builder will provide a site acceptable to the Authority for the mock-ups.

4. CONSTRUCTION DOCUMENTATION

4.1 Visual Documentation

- 4.1.1 Provide comprehensive photographic, video, and web camera (webcam) documentation of the construction project and site. Immersive 360° panoramic photographic documentation of key milestone conditions, where indicated. Design-Builder-piloted UAV photographic, and video documentation as standalone and supplemental documentation services, as indicated in this Schedule and Schedule 4 [Management Systems and Plans].
- 4.1.2 Provide documentation software platform (MultiVista) which integrates and centralizes all visual documentation throughout the construction project. Indexing and navigation system which indexes and links photographic documentation to actual construction drawings (project plans) by both date and location. Software-integrated task management tool which supports task association to visual documentation and project plans. The Design-Builder will upload the visual documentation to the MultiVista platform and make it available to the Authority starting at the first key milestone condition after project mobilization, as agreed with the Authority.
- 4.1.3 Provide laser scanning for the following. Point clouds are to be turned into simple Revit models, version to match that of the project, utilizing the FHA BIM Requirements:
- 4.1.3.1 Operating room ceilings;
 - 4.1.3.2 Mechanical rooms;
 - 4.1.3.3 Systems not modeled by the Design-Builder's design consultants; and
 - 4.1.3.4 Buried services and other congested areas.
- 4.1.4 Provide online interface to access documentation via standard (desktop) and mobile web browsers. This includes direct access to photographic and webcam documentation from supported mobile devices.
- 4.1.5 Provide, at Substantial Completion, a standalone desktop version of the interface to include all captured information, including all point clouds of scans.
- 4.1.6 The Design-Builder will perform all photographic and video documentation services, deliver all webcams and included components, provide, maintain, secure and support the documentation software platform and interface. The Design-Builder will meet all requirements for experience, personnel, certifications/registrations and proximity to project location(s).
- 4.1.7 Project Documentation Requirements
- 4.1.7.1 Photographic Documentation

- a. Documentation will be captured as inspection-grade, high-resolution digital images.
- b. Progressive and recurring documentation of the overall construction project at approximate intervals or phases of construction:
 - i. Intervals/phases for recurring documentation will be specified in consultation with the Authority;
 - ii. Recurring documentation coverage for the exterior of the Facility (building envelope and surrounding project site) and/or the interior of the Facility;
 - iii. Civil and other horizontal construction documentation will be supported by standard photographic (ground/manual capture) services; and
 - iv. Each recurrence of documentation will be executed in such a way that it shows progress over time.
- c. Documentation of pre-existing conditions at the Site and adjoining/immediately surrounding areas:
 - i. Documentation will be captured prior to project mobilization, whenever possible;
 - ii. Documentation will be supported by standard photographic services; and
 - iii. Coverage will include all adjoining and immediately surrounding ground surfaces (e.g., sidewalks, streets, parking areas), structures (e.g., buildings, fences) and landscaping, as applicable;
- d. Documentation of the structure, materials and conditions of the Facility's foundations and footings just prior to backfill.
- e. Documentation of the structural components and utilities/systems which will be covered up by a slab:
 - i. Documentation will be covered just prior to pouring or placing a slab over the area;
 - ii. Documentation will be done post-inspection, where inspection is required; and
 - iii. Documentation will be supported by standard photographic services;
- f. Documentation of the location and conditions of major tie-ins from underground utilities, where they directly connect to the Site and where they directly connect to the Facility. Documentation will occur just prior to cover-up of each tie-in or junction.

- g. Documentation of the subgrade waterproofing materials installed in exterior foundation walls prior to backfill.
- h. Documentation of the conditions of mechanical, electrical, plumbing, communications and all other systems, including backing, to be contained in walls and ceilings:
 - i. Documentation will occur post-inspection and pre-insulation, sheet rock or drywall installation for each wall and ceiling; and
 - ii. Documentation will occur throughout the project as needed.
- i. Documentation of the materials and conditions of in-floor hydronic heating systems prior to cover-up.
- j. Documentation of materials and conditions of the Facility's exterior skin prior to cover-up/finishing:
 - i. Authority-specified and Design-Builder-approved areas of particular interest on the exterior will receive increased coverage as agreed by both parties (e.g., window systems, waterproofing, EIFS); and
 - ii. Documentation will be supported by standard photographic services;
- k. Documentation of materials and conditions of the Facility's roofs prior to installation of the roofs' outer layers:
 - i. Authority-specified and Design-Builder-approved milestones or areas of interest will receive increased coverage as agreed by both parties; and
 - ii. Documentation will be supported by standard photographic services.
- l. Documentation of conditions of all finished interior walls, ceilings and floors:
 - i. Documentation will be done post-inspection at Substantial Completion or another finished milestone specified by the Authority; and
 - ii. Immersive 360° panoramic photography services will be available to capture conditions from key vantage points;
- m. Documentation of the entire Facility at a point in time specified by the Authority before any further work commences.
- n. Periodic standard photographic documentation to provide overviews of the project site or miscellaneous events/conditions occurring on site when a Design-Builder's photographer is present.

- o. Periodic Design-Builder-piloted UAV photographic documentation to provide overviews of the Site or miscellaneous events/conditions occurring on Site when a Design-Builder's UAV pilot is present.
- p. Photographic documentation will be linked to the BIM models to provide the Authority direct access to the photographic documentation in its native environment. Hyperlink-based integration is accomplished by linking photographic documentation to custom objects within the BIM model, which correspond to the photographs' actual locations and orientations. Integration will be compatible with Revit and Navisworks software models, and the Autodesk® BIM 360™ Glue/Field environments.

4.1.7.2 Video Documentation

- a. Video documentation will be recorded in no less than 1920x1080p HD video format.
- b. Documentation of facilities management, operations and maintenance presentations/demonstrations for key equipment and systems as determined in consultation with the Authority.
- c. Documentation of training presentations/demonstrations for any Construction related subject matter as determined in consultation with the Authority.
- d. Documentation of dynamic construction events (e.g., ground breaking, ribbon-cutting ceremonies).
- e. Documentation of inspections and related events for the Construction.
- f. Documentation of live site conditions at a point in time specified by the Authority, captured via Design-Builder-piloted UAV.
- g. Custom video documentation specified by the Authority to meet project documentation needs not satisfied by the preceding requirements. Custom documentation will be designed in collaboration with the Design-Builder to ensure its feasibility.

4.1.7.3 Webcam Documentation

- a. Fixed view and adjustable view (Pan-Tilt-Zoom – “PTZ”) webcams will be provided. They will be set up five (5) business days after project mobilization.
- b. Webcams will support wired Ethernet (Power over Ethernet [POE]), wireless Ethernet and cellular modem connections.
- c. Webcams will provide live streaming footage, still image captures and time lapse video capabilities for covered areas.
- d. Webcam service will include required operational components:
 - i. All webcams require the following:
 - 1. Power supply (POE module);

2. Wall bracket; and
 3. Enclosure
- ii. Fixed view webcams will include a pendant fixture.
 - iii. Webcams using a wireless connection will include a wireless component.
 - iv. Webcams using a cellular modem connection will include:
 1. Modem;
 2. Modem bracket; and
 3. Antenna.
 - v. Additional/optional equipment or components will be included as required and expressly agreed.

4.2 Samples

4.2.1 Submit all samples relevant to the Design and Construction of the Facility or as requested by the Authority acting reasonably, including:

- 4.2.1.1 Concrete;
- 4.2.1.2 Millwork finishes;
- 4.2.1.3 Solid surfacing;
- 4.2.1.4 Exterior wall cladding;
- 4.2.1.5 Roof membranes and finishes;
- 4.2.1.6 Interior doors;
- 4.2.1.7 Glazing;
- 4.2.1.8 Flooring;
- 4.2.1.9 Architectural ceilings;
- 4.2.1.10 Wall protection;
- 4.2.1.11 Interior paint; and
- 4.2.1.12 Window coverings.

4.3 Project Binder

4.3.1 The Design-Builder will prepare and provide to the Authority a set of documentation that is bound in one or more binders (the "Project Binder").

4.3.2 The Project Binder will include the following:

- 4.3.2.1 Commissioning reports satisfactory to the Authority;

- 4.3.2.2 All inspections, certifications, guarantees and warranties;
 - 4.3.2.3 Record Documentation, maintenance manuals and operating instructions;
 - 4.3.2.4 Certification by all testing, cleaning or inspection authorities or associations;
 - 4.3.2.5 Confirmation of the Design-Builder's Consultant in accordance with the Design Build Agreement;
 - 4.3.2.6 Copies of all warranties and guarantees from Subcontractors; and
 - 4.3.2.7 All other documentation that is reasonably required by the Authority or by any party on behalf of the Authority to operate and maintain the Facility.
- 4.3.3 The Project Binder will be updated on a monthly basis with all documentation to Work completed up to the date is updated. The Design-Builder will provide and update three (3) copies of the Project Binder, and will include three (3) USB memory keys, each one with an electronic copy in True PDF, unless directed to use a different format by the Authority, acting reasonably.
- 4.3.4 Throughout the Construction, the Design-Builder will update the Reviewed Drawings and Specifications, including all final shop drawings, Room Data Sheets and Enhanced Room Data Sheets, so as to produce accurate and complete Record Documentation for the Facility.
- 4.3.5 Within 60 days after achieving Substantial Completion, the Design-Builder will provide to the Authority the following:
- 4.3.5.1 Three (3) complete sets of paper print of the as-built drawings, signed and sealed by the Design-Builder's Consultant, showing the as-built Work and identified in bold letters with the words "CERTIFIED AS-BUILT"; and
 - 4.3.5.2 Three (3) USB memory keys each one with a complete copy of the Record Documentation in both BIM (Building Information Modelling) and True PDF unless directed to use a different format by the Authority, acting reasonably.
- 4.3.6 Record Documentation
- 4.3.6.1 In addition to the requirements specified in the BIM PEP and Appendix 8E of Schedule 4 [Management Systems and Plans] the Record Documentation supplied by the Design-Builder will include all information detailed in this Agreement as applicable, including the following:
 - a. Drawings included in the 100% submission of all disciplines, signed and sealed by the Design-Builder's Consultant, plus any changes made and any drawings added up to the completion of construction.
 - b. Full size set of as-built drawings signed and sealed by the Design-Builder's Consultant.
 - c. Text searchable True PDFs where all drawings are combined into a single document per discipline.
 - d. All AutoCad files with all X-Refs bound. Version of AutoCad to be confirmed with the Authority.

- e. The Enhanced Room Data Sheets and a complete set of all reviewed shop drawings.
- f. Maintenance Manuals
 - i. All documentation will be placed in Maintenance Manuals in both a hard copy, in a commercial hard back D-ring binder, and a digital copy in text searchable True PDF in separate USB memory keys.
 - ii. Will be prepared in accordance with applicable requirements in CSA Z8001 and CSA Z8002.
 - iii. Will be organized system by system, as indicated in CSA Z8002 6.3.1.3.
 - iv. Will include the following information on equipment and systems that have been included in the design and construction of the Facility:
 - a. Equipment identification
 - i. Nameplate information; and
 - ii. Electronic record.
 - b. Manufacturer's technical data
 - i. Manufacturer's technical specifications;
 - ii. Manufacturer's description of function and operation;
 - iii. Manufacturer's certified performance and calibration curves for equipment; and
 - iv. Factory tests for the equipment of record.
 - c. Preventative Maintenance ("PM") and Predictive Maintenance ("PdM") information
 - i. PM/PdM plans and schedules, using manufacturer's recommendations for major pieces of equipment including:
 - 1. Check sheets detailing tasks and associated frequencies;
 - 2. Schedules indicating the recommended frequency of maintenance tasks (e.g. weekly, monthly, quarterly, semi-annually, annually, or as recommended by the manufacturer); and

3. Summary of warranty items that must be fulfilled for the Authority to obtain maximum value during the warranty period.
- ii. Detailed PM/PdM procedures for each individual maintenance task identified on PM/PdM plans and schedules, including:
 1. Safety instructions and precautions, including lock out/tag out precautions;
 2. Required skill level of operators/maintenance Staff;
 3. Number of personnel required;
 4. Special tools required;
 5. Parts required;
 6. Estimated time to complete task;
 7. Lubrication schedule indicating types, grades, and capacities of lubricants for specific temperature ranges and applications; and
 8. Schedule of maintenance materials specified in Schedule 1 [Statement of Requirements] including tools, spare parts, and extra materials.
- v. Maintenance Manual hard copies will be suitably labelled, each complete with an index and tabbed title sheet for each section. All binder pages will have self-adhesive reinforcing rings at each binder ring.
 - vi. All Maintenance Manual data will be printed on 8 1/2" x 11" heavy bond, indexed, tabbed, punched and bound in the binders. Drawings will be printed on 11" x 17". Each manual will have a title sheet which is labelled "Operation & Maintenance Manual", and will list the Project's name, Design-Builder's name, sub-contractors and suppliers used on the Project, date submitted, and a table of contents for each volume. If a binder exceeds 75 mm in thickness, provide additional binders as required.
 - vii. The digital copy of the Maintenance Manual will:
 4. Organize the files making up the Manual in a logical folder structure;
 5. Provide all items in the Table of Contents with "hypertext links" within the document;

6. Have all digital content text searchable and bookmarked contents; and
7. Be presented in one document if file does not exceed 100Mb. If file exceeds 100Mb the document will have to be presented in as many parts as required.

g. Visual documentation (electronic form only).

SCHEDULE 4 –

MANAGEMENT SYSTEMS AND PLANS

Royal Columbian Hospital Redevelopment Phase 2

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SCHEDULE APPENDICES

Appendix #	Appendix Title
Appendix 1	Communications Plan
Appendix 1A	Communications Strategy
Attachment 1	Incident and Complaint Response Communications
Appendix 2	Reporting Plan
Appendix 2A	Monthly Reporting Requirements
Appendix 3	Quality Assurance Plan
Appendix 4	Building Information Model Management - Project Execution Plan (PEP)
Appendix 4A	Building Information Management - BIM Requirements Document Set V2.18.3
Appendix 5	Energy Management Plan
Appendix 6	Infection Prevention and Control Plan
Appendix 7	Hospital Technology Systems Integration Plan
Appendix 8	Construction Management Plan
Appendix 8A	Construction Protocols
Appendix 8B	Safety
Appendix 8C	Dust, Noxious Odour and Noise Control
Appendix 8D	F&E Logistics
Appendix 8E	Construction Completion
Appendix 9	Commissioning Plan

1. GENERAL

1.1 Capitalized Terms

Capitalized terms used in this Schedule have the definitions as set out in the Design-Build Agreement (the "DBA") to design and build the Facility in New Westminster, British Columbia between Her Majesty the Queen in right of British Columbia, and the Design-Builder, or as set out in other Schedules to the DBA, as applicable, unless expressed otherwise. Unless otherwise provided, references to Section numbers are references to Sections in this Schedule.

1.2 Definitions and Interpretation

In this Schedule, the following expressions have the following meanings:

"**Authority's Representative**" is the authorized representative of the Authority and has the authority to represent the respective party in providing directions or making decisions with respect to this DBA

"**BIM Project Execution Plan**" has the meaning set out in Appendix 4; Building Information Management - BIM Requirements Document Set V2.18.3;

"**Cleanliness**" has the meaning set out in Appendix 8E;

"**Commissioning Authority**" has the meaning set out in the Schedule 1 Appendix 1I;

"**Commissioning Provider**" has the meaning set out in the Schedule 1 Appendix 1I;

"**Commissioning Plan**" means the plan described in Section 3.9;

"**Construction Completion Plan**" means the plan described in Appendix 8E;

"**Construction Management Plan**" means the plan described in Section 3.8;

"**Core Working Hours**" has the meaning set out in Appendix 8A;

"**Design-Builder's Quality Manager**" has the meaning set out in Section 3.3;

"**Energy Management Plan**" means the plan described in Section 3.4;

"**Furniture & Equipment Logistics Plan**" has the meaning set out in Appendix 8D;

"**Hospital Technology Systems Integration Plan**" means the plan described in Section 3.7;

"**Infection Prevention and Control Plan**" means the plan described in Section 3.6;

"**Management Systems and Plans**" means the following:

- (a) Communications Plan;

- (b) Reporting Plan;
- (c) Quality Management Plan;
- (d) Building Information Model Management - Project Execution Plan (PEP);
- (e) Energy Management Plan;
- (f) Infection Prevention and Control Plan;
- (g) Hospital Technology Systems Integration Plan;
- (h) Construction Management Plan; and
- (i) Commissioning Plan;

"Monthly Project Report" has the meaning set out in Section 3.2

"Quality Assurance Plan" has the meaning described in Section 3.3;

"Reviewed" has the meaning set out in Schedule 2 [Review Procedure] for a submittal reviewed status;

"User" has the meaning described in Schedule 2 [Review Procedure];

1.3 Overview

This Schedule contains:

- (a) The plans as listed in the Schedule of Appendices table;
- (b) Minimum content requirements for listed management plans and requirements related to the respective topic areas where not covered elsewhere;
- (c) Requirements for updating listed management plans;
- (d) Timing for updates;
- (e) User engagement and review of updates;
- (f) Cost implications for development and non-compliance with plans; and
- (g) Requirements related to amending plans.

2. REQUIREMENTS

The following general requirements are applicable to all Management Systems and Plans listed below unless indicated otherwise:

2.1 Content of Plans

The content of the Management Systems and Plans will be in addition drafts of certain Management Systems and Plans attached to this Schedule and to any Proposal Extracts.

This Schedule is to be read as supplementary to cross reference the requirements of this Agreement including Schedule 1 [**Statement of Requirements**] and in accordance with all procedures set out in the DBA and any attached draft Management Systems and Plans and any Proposal Extracts.

2.2 Development of Plans and Update Timing

All Management Systems and Plans are to be developed and updated as indicated in Table 1.

Table 1: Plan Development and Updates

Plan #	Name of Plan	First Draft (unless otherwise noted) of Detailed Plan	Reviewed Status as per Schedule 2	Timing of Progress Reports
1.	Communications Plan	First draft received November 4, 2020, with period for review under Review Procedure to commence 14 days after the Effective Date	3 months after Effective Date	Monthly updates on Incident reports and complaints
2.	Reporting Plan	First draft received January 3, 2020	Completed	Monthly updates
3.	Quality Assurance Plan	First draft received June 5, 2020, with period for review under Review Procedure to commence 14 days after the Effective Date	2 months after the Effective Date	Monthly
4.	Building Information Model Management - Project Execution Plan	First draft received April 2, 2020	Completed	Update plan with each Submittal

Plan #	Name of Plan	First Draft (unless otherwise noted) of Detailed Plan	Reviewed Status as per Schedule 2	Timing of Progress Reports
5.	Energy Management Plan	First draft received April 2, 2020	Completed	<p>Update Plan with:</p> <ul style="list-style-type: none"> - Each informal and formal Design Stages Submittal; - The application for the Substantial Completion Certificate; and - During the monthly M&V Reporting period as described in Appendix 3 of Schedule 5. <p>The Energy Model and Energy Modeling Summary Report does not need to be updated during the Monthly M&V Reporting period.</p>
6.	Infection Prevention and Control Plan	First draft received October 19, 2020, with period for review under Review Procedure to commence 14 days after the Effective Date	2 months after the Effective Date	Monthly
7.	Hospital Technology Systems Integration Plan	First draft received March 3, 2020	Completed	Update plan with each Submittal
8.	Construction Management Plan	First draft received November 4, 2020, with period for review under Review Procedure to commence 14 days after the Effective Date.	2 months after the Effective Date	Monthly
9.	Commissioning Plan	22 months after the Effective Date	24 months after the Effective Date	Following 50% construction completion and updated monthly or as needed to reflect status of Design

2.3 User Engagement and Review Process

User engagement in developing and in reviewing each Management System and Plan will be in accordance with Schedule 2 [Review Procedure].

2.4 Cost Implications

Management Systems and Plans are a key element in success of the Work and the Authority has assigned a monetary value related to the development and execution of each Management Systems and Plans in accordance with final Reviewed version. The payment for completing the plans and holdbacks are listed in the table below and will be applied in accordance with Schedule 10 [Schedule of Prices].

Table 2: Management Plan Holdbacks and Deductions

Plan #	Name of Plan	Holdbacks to Submission of First Draft of Detailed Plan	Holdbacks to Receipt of Final Plan with Reviewed Status as per Schedule 2	Value Deducted from Monthly Payment Related to Non-compliance with Reviewed Plan
1.	Communications Plan			Severe Significant Minor Repeat
2.	Reporting Plan			Severe Significant Minor Repeat
3.	Quality Assurance Plan			Severe Significant Minor Repeat
4.	Building Information Model Management - Project Execution Plan			Severe Significant Minor Repeat
5.	Energy Management Plan			Per Schedule 5
6.	Infection Prevention and Control Plan			Severe Significant Minor Repeat
7.	Hospital Technology Systems Integration Plan			Severe Significant Minor Repeat
8.	Construction Management Plan			Severe Significant Minor Repeat
9.	Commissioning Plan			Severe Significant Minor Repeat

For purposes of applying the monetary amounts in Table 2, the Authority will in its discretion, acting reasonably, use the following guidelines:

- (a) The value assigned above to submission of the first draft of the applicable detailed Management System and Plan will be withheld from payment until the Management System and Plan is submitted as per the content requirements described in this Schedule;
- (b) The value assigned for receipt of the final Management System and Plan with "Reviewed" will be withheld from payment until the Management System and Plan achieved 'Reviewed' status in accordance with the provisions of Schedule 2 [Review Procedure]; and
- (c) The value deducted from a payment for non-compliance with a Management System and Plan will be determined by the Authority based on the severity of the non-compliance as described below:
 - (i) Severe – could potentially cause injury, project delay, or cost to the Authority if not rectified;
 - (ii) Significant – could potentially cause a minor delay, additional user engagement, or inconvenience, and include failure to achieve Reviewed status 30 days after the required dates as indicated in Table 1;
 - (iii) Minor – not material as a standalone incident but indicative of a lack of care, poor supervision or diligence in delivering a high quality project; and
 - (iv) Repeat – same or similar incident reported in sequential months or an incident unresolved in a subsequent month. Also include failure to achieve Reviewed status 60 days after the required dates as indicated in Table 1. Note that the value of a repeat non-compliance is not related to level of severity.

Each incident of non-compliance will be assigned an amount as indicated in Table 2 and the total number of incidents for the month will be multiplied by the assigned amount for each incident and be deducted from the payment for the month when the non-compliance is noted and communicated to the Design-Builder in writing. If the non-compliance is rectified to the satisfaction of the Authority before the payment invoice is submitted, the amounts related to the corrected non-compliance may not be deducted.

2.5 Amending Plans

All Management System and Plans can be amended with the Authority's approval through the sequential review process described in Schedule 2 [Review Procedure] and in accordance with this Agreement or, if it is determined that a plan cannot be followed for justifiable reasons acceptable to the Authority and it is necessary to make amendments outside the normal usual Review Procedure, the Design-Builder may request consideration

of an amendment with supporting reasons. Until the Authority indicates that the proposed amendment is acceptable, all provisions of this Schedule, including deductions, will apply.

3. PLAN DETAILS

3.1 Communications Strategy

- (a) The Authority and the Design-Builder will share responsibilities implementing the RCH Redevelopment Communication and Engagement Strategic Plans with the Design-Builder providing a lead or supporting role for communications planning, community engagement, construction notifications, signage, media relations, construction related events and tours, filming and photographic records, stakeholder consultation, and emergency communications on the terms set out in Appendix 1A – Communications Strategy.
- (b) For the areas where the Design-Builder is the lead, the Design-Builder will provide a detailed plan on how they will lead, develop, and disseminate or share communications.
 - (i) As per Section 11 of Appendix 1A, the Design-Builder will provide a detailed plan for how it will lead, develop and disseminate Construction Notices including:
 - (A) Communications goals
 - (B) Communications objectives, principles, assumptions and considerations
 - (C) Audiences, including how they will develop, maintain, update, and share a list of community, Authority, and Design-Build contacts who need to receive Construction Notices, and have a system for how the Design-Builder and the Authority will keep each other apprised of changes to the contact list.
 - (D) Indication of who is responsible for developing, reviewing, and approving notices among the Design-Build team, Authority team, and City staff, and the timelines allowed for reviews and approvals in consideration of adequate notification to neighbours and the City's Good Neighbour Protocol.
 - (E) When and how notices will be disseminated and posted, and who from the Design-Builder will be responsible for such dissemination. This includes to community contacts, buildings, the Authority's website and/or the Design-Builder's website.
 - (F) A template for print notices, e-notices, and ad insertions for community newspapers. Templates need to be compatible with the Authority's word processing or design software.

- (G) A Schedule of expected construction notices, based up on the Work schedule.
 - (H) The Design-Builder's plan for a Construction-related Open Houses, street side chats with neighbours, and other community forums to provide advance notification to neighbours prior to construction start.
 - (I) How the Design-Builder will lead the development and rollout of Notices, Signage, and strategy, timelines, and activities for engaging neighbours and comm.
- (ii) As per Section 14 of Appendix 1A, the Design-Builder will provide a detailed plan for where and when it will install construction/project promotional signage including:
- (A) Timing, location, and size of promotional signage that creates maximum awareness of the project. The promotional signage should include a high resolution rendering of the building design, and appropriate logos from the Design-Builder and its partners, the government, Foundation, and Authority.
 - (B) Recognition it is responsible for installing promotional signage, appropriate city permits, and removing signage.
 - (C) Opportunities for the Royal Columbian Hospital Foundation to install promotional banners or signs in a highly visible, high traffic area while the Works are underway.
- (iii) As per Section 16 of Appendix 1A, the Design-Builder will provide a detailed plan for how it will document, share, and promote the progress of the Works through a photo and video record including:
- (A) The location of a webcam, positioned to allow capture of time-lapse video for the duration of the project, including arranging required City signage, and Privacy Impact Approvals.
 - (B) A Schedule for quarterly drone footage including securing appropriate permits, and a protocol for notifying the Authority's heliport and security stakeholders, City stakeholders, and impacted neighbours
 - (C) A system and protocol for getting consents from people included in footage or photos in line with the Authority's Media Consent Form in the event photo/footage is to be used publically.
 - (D) The location where photos will be stored and shared with the Authority.

(c) Incident and Complaint Response Communications Plan

- (i) The RCH Incident and Complaint Response Communications Plan included within Attachment 1 to Appendix 1A form part of this Schedule and will be amended or supplemented by the Design-Builder in accordance with the DBA and the procedure set out in Schedule 2 [Review Procedure].
- (ii) Content of the Incident and Complaint Response Communications Plan

The Design-Builder will review the Authority's RCH Incident and Complaint Response Communications Plan requirements described in Appendix 1A, and provide input and revisions based on its Lead and Supporting roles outlined in therein including:

- (A) Standards and definitions of levels of incident and complaint that may occur on the construction site or due to construction that have an impact that is considered urgent or requiring attention by the concerned individual (e.g user, neighbour, stakeholder); and
- (B) Key Design-Builder contacts in the event of an incident including a 24-hour hotline number.
- (C) As the Lead for Emergency and Incident Communications related to Designer-Builder health and safety the Design-Builder will provide an information flow-chart for how they will respond to any health or safety incident, and appropriate health and safety contacts.

3.2 Monthly Reporting Requirements

The Design-Builder will submit a Monthly Project Report to the Authority, on a monthly basis no later than the 5th day of each month starting the following month after the Effective Date, until Total Completion is achieved. The minimum content requirements of the Monthly Project Report have been laid out in Appendix 2A.

3.3 Quality Assurance Plan

(a) The Design-Builder's Quality Manager

The Design-Builder will appoint a qualified expert in quality management (the "Design-Builder's Quality Manager") to develop, implement and oversee a Quality Assurance Program and Quality Assurance Plan. The project will not permit the Design-Builder's Quality Manager to perform any role in the Design and Construction except for the role described in this Section.

(b) Quality Assurance Program

The Design-Builder's quality assurance program (the "**Quality Assurance Program**") will:

- (i) Detail the Design-Builder's measures required to complete all aspects of the Work pursuant to its Quality Assurance Plan and in accordance with the requirements of this Agreement including Schedule 1 [Statement of Requirements] and in accordance with the procedure set out in the DBA and in Schedule 2 [Review Procedure];
- (ii) Acknowledges that a comprehensive quality program is critical for the proper and timely completion of the Work and accordingly the Design-Builder will implement and follow an approved Quality Assurance Program and Plan;
- (iii) Address and be applicable to all aspects of the Work;
- (iv) Be solely responsible for the quality of the Work;
- (v) Provide for a graded approach to quality in which the appropriate level of quality assurance requirements for various elements of the Work are defined;
- (vi) Describe and comply with the following:
 - (A) The required quality level for each process or activity involved in the Work and the means of achieving it;
 - (B) The steps to ensure that everyone participating in the Design or Construction is committed to the Quality Assurance Program;
 - (C) The steps to ensure that the management and organizational structure and responsibilities are defined and understood by everyone participating in the Design or Construction;
 - (D) Require that all persons participating in the Design or Construction are competent to do their required tasks;
 - (E) Require that individuals involved with the Quality Assurance Program will be held accountable for their work;
 - (F) Provide that the right people will have the right information at the right time;
 - (G) Provide that relevant experience for each process or activity will be sought and used;
 - (H) Work activities are planned and controlled;
 - (I) The right items, processes, and practices will be used;
 - (J) Materials and services are verified to confirm that they are correct; persons giving verification will be sufficiently qualified and will be

independent from those who perform or install the materials or services;

(K) Peer reviews and inspections will be performed on structured planned basis on all elements of the Work:

(1) Errors and deficiencies will be identified and recorded; and

(2) Errors and deficiencies remedied or corrected and a record maintained of the remedy or correction;

(L) Maintain records as required by this Agreement;

(vii) Provide record documents within the Monthly Report that professionals of record will:

(A) Carry out on-site field reviews, review materials testing and inspector's reports, undertake required surveying, measuring, and verification of materials and construction methods to ensure conformance with the Reviewed Drawings and Specifications; and

(B) Provide a letter of assurance that is an attestation that the Work has been performed in accordance with the Reviewed Drawings and Specifications.

(c) Quality Assurance Plan

(i) The Design-Builder is not required to be certified to ISO 9001 but the spirit and principles of ISO 9001 are a guideline to meet the Authority's expectations for the Quality Assurance Plan;

(ii) The Design-Builder will develop a reasonable quality assurance plan (the "**Quality Assurance Plan**"), to be attached as Appendix 3 to this document that describes the implementation of the Quality Assurance Program in accordance with all requirement indicated in Section 3;

(iii) If the Authority does not accept the Quality Assurance Plan, the parties will, acting reasonably, diligently work together with a view to revising the Quality Assurance Plan to address the Authority's reasons for non-acceptance;

(iv) The Design-Builder will not commence any Construction until:

(A) The quality control and quality assurance procedures applicable to that part of the Work have been developed and included in the Quality Assurance Plan and the Design-Builder is entitled to proceed with the Quality Assurance Plan in accordance with the Review Procedure; and

(B) Such quality control and quality assurance procedures are fully implemented by the Design-Builder.

(d) Enhanced Quality Control through the use of Virtual Reality

(i) As per the requirements of Schedule 3 [Design Process] Virtual Reality will be used to support the design process. The Design-Builder will submit a Virtual Reality Coordination Plan, as a part of the Quality Assurance Plan, to the Authority outlining the proposed personnel, software and equipment to be provided for each of the Project phases with supporting detail on costs and any Authority interface requirements. The Authority will review and approve the document prior to providing the Design-Builder with permission to purchase equipment and facilitate services.

(e) Validation of the Quality Assurance Plan

(i) If any of the Work requires tests, inspections or approvals by this Agreement, or by the written instructions of the Authority or the Authority's Consultant, or by applicable Laws, the Design-Builder will give the Authority reasonable notice of when such Work is ready for review and inspection. The Design-Builder will arrange for and will give the Authority reasonable notice of the date and time of inspections by any Authorities Having Jurisdiction.

(ii) The Authority will be consulted and actively engaged in witnessing, validating or inspecting Construction before it is covered up or concealed by subsequent work. The Quality Assurance Program will anticipate this need and allow sufficient time for notification and review by the Authority or the Authority's Consultants. The Quality Assurance Program will also include active User engagement in any Plan that has an operational impact to the RCH Campus. Information relating to defects revealed by tests will be shared with the Authority and the Authority will be consulted on remedial plans.

(A) If the results of any testing or other aspect of the Quality Assurance Plan or implementation of the Quality Assurance Plan disclose that any part of the Work is incomplete or defective in any way, the Design-Builder will immediately complete that part of the Work or correct the defect at its own expense; and

(B) The Authority may at any time audit the Quality Assurance Plan and its implementation and may, at the Authority's expense, carry out independent quality control testing at any time.

(f) Cost Implications Related to the Quality Assurance System

(i) In addition to the cost implications indicated in Section 2.4, any cost related to re-testing or revealing concealed work that the Authority has not had the

opportunity to inspect or repairing or replacing work that does not comply with the requirements of this Agreement will be the Design-Builder's responsibility. If the results of any testing or other aspect of the Quality Assurance Plan or implementation of the Quality Assurance Plan disclose that any part of the Work is incomplete or defective in any way, the Design-Builder will correct the Work and pay the cost of examination and correction.

- (ii) If the Construction is found to be in accordance with the requirements of this Agreement, the Authority will pay all costs incurred by the Design-Builder as a result of such examination and the restoration of the Work.
- (iii) If the Authority's Consultant or other representatives of the Authority makes more than one review of any aspect of the Work as a result of such Work being incomplete, defective or reviews more than one test, inspection or approval in respect of any aspect of the Work as a result of such Work being incomplete or defective, the Design-Builder will bear the costs and expenses of the Authority, the Authority's consultant and other representative.

3.4 Building Information Management (BIM) Project Execution Plan (PEP)

The BIM Project Execution Plan (PEP) shall be included in Appendix 4 and is to be completed by the Design-Builder to demonstrate how they plan to use BIM as a tool for quality management of design and construction.

3.5 Energy Management Plan

Refer to Schedule 5 [Energy and Carbon Guarantees] for details regarding content of the Energy Management Plan, as well as requirements regarding updating and amending the plan, and cost implication of the plan.

3.6 Infection Prevention and Control Plan

- (a) The outline Infection Prevention and Control (IPC) Plan attached as Appendix 6 forms part of this Schedule and will be amended or supplemented by the Design-Builder in accordance with the procedure set out in the DBA and in Schedule 2 [Review Procedure].
- (b) Objectives

The objectives of the IPC Plan are as follows:

- (i) Comply with the Infection Prevention Control requirements for: CSA Z317.13 Infection Control during construction, renovation and maintenance of health care facilities, CSA Z317.2 Special requirements for heating, ventilation and air-conditioning (HVAC) systems in health care facilities, CSA Z317.1 Special requirements in plumbing installations in health care

facilities, CSA Z8000 Canadian Health care facilities, FHA Water Damage and Mould Assessment/Remediation Plan;

- (ii) Ensure the construction sites and buildings remain safe from IPC issues and concerns throughout the Project life cycle;
 - (iii) Ensure the RCH Campus and any areas that may be effected by the Work have been investigated and proper IPC precautions are being adhered to;
 - (iv) Ensure IPC risk assessments are performed, an IPC Plan and an Infection Control Risk Assessment (ICRA) is submitted for all buildings that will be renovated or demolished;
 - (v) Ensure the safety of the public and workers throughout the Project life cycle;
 - (vi) Ensure the safety of Patients, Staff and public after the Facility has been turned over to the Authority; and
 - (vii) Ensure ICRA are performed and guidelines are followed for Construction after the Facility has been turned over to the Authority.
- (c) Content of the IPC Plan will include, at a minimum, the following:
- (i) Identification of key stakeholders consistent with the Communication Plan;
 - (ii) Ensure the procurement of subcontractors and contract documents include the requirements for IPC; Allocation of (working with the Authority) roles and responsibilities for all parties involved in the IPC management of the Project;
 - (iii) Compliance with CSA standards and FHA guidelines as applicable to the Work;
 - (iv) Establishment of (working with the Authority) a standing Work-specific, Multidisciplinary Team (MDT);
 - (v) Development of tactics to ensure the identified key stakeholders are engaged in design meetings in accordance with the User consultation process described in Schedule 2 [Review Procedure];
 - (vi) Development of tactics to ensure IPC is taken into account and addressed the selection of Furniture and Equipment as set out in F&E Logistics Plan in Appendix 8D;
 - (vii) Ensuring IPC is taken into account for the selection of Hospital Technology Systems as set out in Hospital Technology Systems Integration Plan in Appendix 7;

- (viii) Ensuring the MDT is kept informed and involved in any IPC discussions or decisions during the Design and Construction phases;
- (ix) In addition, the IPC Plan will include but not be limited to:
 - (A) Roles and responsibilities;
 - (B) Risk and mitigation strategies;
 - (C) Dust control and mitigation measures:
 - (1) Soil extraction;
 - (2) Intake into existing HVAC systems;
 - (3) Intake into existing windows;
 - (4) In proximity to public spaces and pathways; and
 - (5) Effect on adjacent communities;
 - (D) Mitigation and management measures for mechanical;
 - (E) Mitigation and management measures for ventilation;
 - (F) Shipping and storage of equipment and materials;
 - (G) Site maintenance and management;
 - (H) Protection of Site;
 - (I) Site environmental management;
 - (J) Daily cleaning requirements;
 - (K) Final Construction clean, including but not limited to duct cleaning and testing; and
 - (L) Pre-Turnover final clean;
- (x) Education for Site workers:
 - (A) Develop and implement IPC preventative measures education for all workers on site with required CSA Z317.13 (2 day) course training implemented for all Design-Builder site supervisors as per the Authority requirements; and
 - (B) Education material to be coordinated with the Authority.

- (xi) IPC preventive measures checklist template for construction in completed areas and for construction in existing buildings:
 - (A) Pre-turnover final cleaning checklist template to be approved by the Authority;
 - (B) Check lists will be completed and submitted to the Authority as part of the reporting protocol; and
 - (C) IPC preventive measures incident report will be documented and submitted to the Authority for review and approval that:
 - (1) Identify root causes and corrective actions; and
 - (2) Provide corrective actions to prevent further occurrences.
- (xii) Complete and submit as required in Section (c). Use the templates provided in CSA Z317.13 when carrying out Work in existing buildings;
- (xiii) Ensure all key stakeholders are notified of any incident on the RCH Campus. The MDT will be involved to ensure a resolution is determined, approved and implemented; and
- (xiv) Document and track IPC issues in an issues log.

3.7 Hospital Technology Systems Integration

The Hospital Technology Systems Integration Plan forms part of this Schedule and will be amended or supplemented by the Design-Builder in accordance with Schedule 1 [Statement of Requirements] and in accordance with the procedure set out in the DBA and in Schedule 2 [Review Procedure].

(a) Objectives

The objectives of the Hospital Technology Systems Plan are as follows:

- (i) Ensure hospital technology systems provided by the Design-Builder are designed, procured, installed, and tested in a manner that results in a smooth transition to the Authority at Substantial Completion;
- (ii) Ensure hospital technology systems provided by the Design-Builder can be supported by the Authority;
- (iii) Ensure key users and key stakeholders of the hospital technology systems are engaged throughout the process and areas of sole and shared responsibilities are known in advance to achieve the objectives stated herein; and

(b) Content of the Hospital Technology Systems Plan

The Hospital Technology Systems Plan will be prepared by the Design-Builder and will include, but not limited to:

- (i) **Plan and Approach:** How the Design-Builder will achieve the Hospital Technology System Plan objectives as outlined in above;
- (ii) **Master Technology Index:** A list and summary description of hospital technology systems provided by the Design-Builder;
- (iii) **Roles and Responsibilities:** A list of key roles and responsibilities for each hospital technology system;
- (iv) **Milestones:** Based on the Master Technology Index: A list of the key milestones and the dates for decisions and key activities related to each system;
- (v) **Considerations and Assumptions:** For each listed system, key considerations and assumptions related to approvals, procurement, delivery, installation, Authority interface and supply of key components, system set-up including the Authority's engagement, programming, testing and commissioning; Also identify priority systems and systems required for occupancy permits;
- (vi) **Integration Points:** Approach to system integration and how the Design-Builder will ensure systems are effectively integrated with each other and with Authority systems; Also identify those systems that don't need to be integrated;
- (vii) **Interfaces:** Identification of all required interfaces between systems (including medical equipment) in matrix format, including description of the interfaces and categorizing the interfaces into types according to the responsible parties that are involved for that interface (Design-Builder, Authority, vendor or others as appropriate);
- (viii) **Stakeholder Management:** Stakeholder management methodology to ensure that interfaces with multiple stakeholders are resolved in a timely manner and with clear, sensible, achievable lines of responsibility;
- (ix) **Systems Compatibility:** Approach to maintaining compatibility of systems with the RCH Campus and beyond as applicable;
- (x) **Upgrades and Interconnectivity:** Approach to ensuring systems can be easily upgraded and integrated with legacy or interconnected systems and do not preclude future technologies and standards;
- (xi) **Critical Dependencies and Schedule:** Identification of any critical dependencies on the Authority for all interfaces, including a

Schedule showing requirements of the Authority and timelines by which these activities are required to be completed. Note that if the Design-Builder needs to link into the Provincial network, the Design-Builder will have to apply for access and follow government rules using standard government protocols and forms that will be provided by the Authority upon request;

- (xii) **Server and Network Requirements:** Server and other network requirements for application hosting and system connectivity;
- (xiii) **Missing or Unclear information:** Provide a list of any apparent missing information or lack of clarity about responsibility between the Authority, Design-Builder or vendor; and
- (xiv) **Systems Sustainment:** The Design-Builder will support the Authority on ways and means to maintain the systems, including at the Authority's request to obtain service contract proposals from equipment providers.

(c) Authority's engagement in the Hospital Technology Systems Plan

The Authority will be consulted and actively engaged in the content development of the Hospital Technology Systems Plan prior to the delivery of the First Draft; and between the First Draft and Final Plan.

3.8 Construction Management Plan

- (a) The outline Construction Management Plan attached as Appendix 8 and the Appendices 8A, 8B, 8C, 8D and 8E form part of this Schedule and will be amended or supplemented by the Design-Builder in accordance with the procedure set out in the DBA and in Schedule 2 [Review Procedure].

(b) Objectives

There is the potential that Early Works could have an impact within and outside the Site boundary if not appropriately mitigated. The Authority requires that the Design-Builder ensures that these Early Works do not have unacceptable impacts on Construction.

(c) Contents of the Construction Management Plan

The Construction Management Plan will comply with the requirements of the DBA and will contain, at a minimum, the following elements:

- (i) Key roles and responsibilities;
- (ii) Site logistics including access, fencing, gates, laydown, security, Site offices, temporary power/services, tower crane and hoisting details and layout;

- (iii) A minimum 2 months' notice is required when submitting the required documentation to Transport Canada where there is an impact (if any) on the helicopter flight path to as a result of equipment penetrating into the RCH flight path landing location;
- (iv) Major work procedures;
- (v) Procedure for Site disruptions related to traffic, safety, or unusual events;
- (vi) Hours of operation;
- (vii) Worker parking (including the estimated parking demand of construction workers and where they will park off-site, a communications package that will be used to inform construction workers of travel mode options, the shortage of parking supply on and around the construction site, strongly encouraging workers to use non-auto travel modes and, if unavoidable, strongly encouraging carpooling);
- (viii) Description and Schedule for key construction activities and phases;
- (ix) List of required approvals integrated with construction activities on Project schedule;
- (x) Description of construction plan and timing for integrating activities within the RCH Campus;
- (xi) Waste management plan;
- (xii) Safety per Appendix 8B;
- (xiii) Dust, Noise, Noxious Odours and per Appendix 8C;
- (xiv) F&E integration per Appendix 8D; and
- (xv) Construction completion per Appendix 8E.

3.9 Commissioning Plan

The Commissioning Agent's Commissioning Plan will be amended or supplemented by the Design-Builder in Appendix 8 in accordance with Schedule 1 [Statement of Requirements] and in accordance with the procedure set out below.

(a) Content of the Commissioning Plan

The content of the Commissioning Plan will meet the requirements presented in the indicative Commissioning Plan within Schedule 1 Appendix 1I [Commissioning Roles and Requirements] of the DBA.

(b) Minimum Requirements for the Initial Draft

For each Financial Submission, the Design-Builder shall include the following with the understanding that the final Commissioning Plan to be delivered shall be as described in Article 3.8(a) above:

- (i) table of contents for the final Commissioning Plan structure as per Schedule 1 Appendix 1I and an outline of the following sections:
 - (A) contact information for the Commissioning Team members as outlined within Schedule 1 Appendix 1I;
 - (B) the proposed Roles and Responsibilities Matrix for the Commissioning Team;
 - (C) outline of the proposed Commissioning process including warranty reviews and deferred testing;
- (ii) the System Commissioning Outlook matrix presenting the systems and equipment to be commissioned, the testing rate and Commissioning witness rate for each system and equipment, and proposed Commissioning involvement;
- (iii) a sample tracking log to be used to track the different Commissioning process;
- (iv) a sample issues log to be used to track closeout of any issues arising from the Commissioning process; and
- (v) a sample mechanical and electrical equipment commissioning script and a sample integrated testing commissioning script.

(c) Review Process of the Commissioning Plan

The Commissioning Plan will meet the requirements of this Section 3.9 and further development of the Commissioning plan will be amended or supplemented by the Design-Builder in accordance with the procedure set out in the DBA and in Schedule 2 [Review Procedure].

(d) Review Process of the Commissioning Procedures

Final commissioning procedures will be generated by the Commissioning Provider, for all equipment and systems installed as a part of the Design Build Agreement.

Final commissioning procedures will be provided to the Commissioning Authority no later than 6 months from the acceptance of the final Commissioning Plan by the Authority. Acceptance of the final commissioning procedures by the Commissioning Authority is required no later than 12 months before the Target Substantial Completion Date.

APPENDIX 1: COMMUNICATIONS PLAN

To be developed in accordance with this Schedule 4.

APPENDIX 1A: COMMUNICATIONS STRATEGY

Executive Summary

The Authority and the Design-Builder will share responsibilities for communications, including community relations, stakeholder consultation, media relations and emergency communications on the terms set out in this Schedule.

The Authority has established an RCH Redevelopment Communications Strategy, an RCH Redevelopment Community Engagement Strategy, and an RCH Redevelopment Incident and Complaint Response for the project (collectively referred to as "**RCH Redevelopment Communication and Engagement Strategic Plans**") which encompass communications with external stakeholders including Provincial departments, the media, interested parties, the City, neighbours, the local and surrounding communities and individuals; and with internal stakeholders such as Authority leaders, staff, physicians, and volunteers.

1. GENERAL

- 1.1 The Design-Builder will be guided by the Authority's best practices regarding communications.
- 1.2 The Design-Builder will consult and cooperate with the Authority regarding communications and engagement activities relating to the Project.
- 1.3 The desired outcome of communications and engagement activities is to inform and involve the public and other stakeholders about the progress, value and benefits of the Project and to develop and maintain support for the Project.
- 1.4 Communications and engagement strategies and plans involving the interests of both parties are to be prepared on a joint basis, with one party taking a lead role and the other a supporting role, as described in this Schedule.
- 1.5 Where communications strategies and plans involve the interests of both parties, each party will give the other a reasonable opportunity (taking into account the need for timely communications and that the City and the Provincial government may be required to review and approve communications) to consider communications strategies, plans, and communications initiated by the other and, if information is supplied by a party, it should include or be accompanied by sufficient explanatory or other material to enable the information to be properly considered.
- 1.6 The Design-Builder will consider and, acting reasonably, take into account, public and other stakeholder input in regard to its plans for the Design and Construction.
- 1.7 This Schedule is a guideline and may be amended by mutual agreement.
- 1.8 No communication regarding the subject matter of a Dispute, including one resolved under Section 64 [Dispute Resolution] of the Design-Build Agreement, will be made without the prior written consent of the Authority or the Design-Builder, as the case may be, unless otherwise ordered under the Dispute resolution procedure.

- 1.9 The Design-Builder acknowledges that FIPPA applies to the Authority, that nothing in this Schedule limits any requirements for compliance with FIPPA and that the Authority may be required to make disclosure of information under FIPPA.
- 1.10 The Design-Builder acknowledges that the Authority will be free to disclose (including on Websites) this Agreement and any and all terms hereof, except for those portions that would not be required to be disclosed under FIPPA. The Authority will consult with the Design-Builder prior to such disclosure.
- 1.11 Except for Section 1.10, this Schedule is subject to the parties' obligations in respect of Confidential Information pursuant to Section 67 [Confidentiality and Communications] of the Design-Build Agreement.

2. CATEGORIES OF COMMUNICATIONS

The following categories of communications are covered by this Schedule and each category applies during the Construction period:

- 2.1 **Communications Planning:** Developing overall and special initiative project communications plans, strategies and annual work plans.
- 2.2 **Community Engagement:** Engaging in discussions with Project stakeholders.
- 2.3 **Communications:** Keeping all key audiences including external and internal Project stakeholders (as identified in communications plans) informed, including providing overall Project information, information about schedule, design, construction (including traffic management), facilities management and other services, using any and all appropriate communications tools and tactics.
- 2.4 **Construction Notices:** Keeping all key audiences, internal and external, apprised in a timely manner, of construction which will impact them in a discernable way.
- 2.5 **Signage:** Installing directional, informational, and promotional Project signs.
- 2.6 **Media Relations:** Providing media with Project updates and responding to issues raised by the media.
- 2.7 **Emergency Communications:** Planning, preparing and implementing crisis, incident, and complaint response communications.
- 2.8 **Construction-related Events and Tours:** Accommodating or assisting in the organization, promotion, and implementation of public, dignitary, employee or fundraising events to mark major milestones, change management initiatives, or site visits and tours.
- 2.9 **Filming and Photographic Record:** Documenting the progress of the Work through photographs, videos, and drone footage including the production of final public facing files.
- 2.10 **Industry Award Submissions:** Applications to appropriate industry awards in order to achieve suitable peer and industry recognition.

- 2.11 **Permitting:** Filing for necessary municipal permits required to undertake and complete the Work, including any required community engagement as per Section 69 [Laws, Notice, Permits and Fees] of the Design-Build Agreement.

3. LEAD AND SUPPORTING ROLES

- 3.1 Within each category of communications set out in Section 2 of this Appendix, the Design-Builder will play either a lead or supporting role, working with the Authority to achieve the desired communications outcomes.
- 3.2 For all categories of communication, and whether communication occurs as part of a lead or supporting role, no advertising that involves payment, by the Design-Builder, to a third party may include the Authority or the Project unless the Design-Builder obtains the prior consent of the Authority, not to be unreasonably withheld or delayed.

4. LEAD RESPONSIBILITIES

The following is an overview of the responsibilities associated with lead roles and is to form the basis of the Design-Builder's overall Communications Plan where they are responsible to take the lead role as outlined in Section 6.0 of this Appendix:

- 4.1 Developing an overall strategic communications plan, that includes plans for communications, community relations, consultation, media relations, emergency communications, construction-related events and tours, and industry award submissions;
- 4.2 Having regard for the input of the supporting party, approving communication plans and tactics in response to specific circumstances, unless otherwise indicated in this Schedule;
- 4.3 Implementing its role in approved plans;
- 4.4 Achieving the outcomes set out in the strategic communication plan;
- 4.5 Maintaining constructive and positive relationships with the public and other stakeholders;
- 4.6 Providing information, as required by the supporting party and its team members, to support communication and consultation activities;
- 4.7 As relevant to its lead role, organizing, attending and participating in community and other stakeholder consultation meetings and carrying out other communication activities to consult with and report back to the community and other stakeholders, including open houses, information updates, public displays, advertising, website creation, maintenance updates, construction notices, milestone celebration events, news releases, construction site and building tours, and directing inquiries to the supporting party as appropriate;
- 4.8 In addition to the cost implications indicated in Section 2.4, all costs related to carrying out lead responsibilities to a standard acceptable to the Authority, in the amounts and in the manner approved by the Authority is the Design-Builder's responsibility;

4.9 Monitoring whether the Design and Construction are conducted in a manner consistent with strategic communication plans and advising the parties of any material inconsistency; and

4.10 Having a trained media relations spokesperson available 24/7 to respond to media requests.

5. SUPPORTING RESPONSIBILITIES

The following is an overview of the responsibilities associated with supporting roles:

5.1 Assisting with the implementation of plans, including drafting of other communication documents or reviewing communications documents, as directed by the lead party;

5.2 Implementing its role in approved plans;

(a) Maintaining constructive and positive relationships with the public and other stakeholders;

(b) Providing information, as required by the lead party and its team members, to support communication and consultation activities;

(c) As relevant to its supporting role, organizing, attending and participating in community and other stakeholder consultation meetings and carrying out other communication activities to consult with and report back to the community and other stakeholders, including open houses, information updates, public displays, advertising, website creation, maintenance updates, construction notices, milestone celebration events, news releases, construction site and building tours, and directing inquiries to the lead party as appropriate;

(d) Assuming responsibility for costs related to carrying out supporting responsibilities to a standard acceptable to the Authority, in amounts and in a manner approved by the Authority; and

(e) Having a local, trained media relations spokesperson available 24/7 to respond to media requests.

6. ALLOCATION OF LEAD AND SUPPORTING ROLES

The lead and supporting roles will be allocated as set out in the following table, unless otherwise required by the Authority in consultation with the Design-Builder:

CATEGORY	LEAD	SUPPORTING
Communications Planning	Authority	Design-Builder
Community Engagement and Consultation	Authority	Design-Builder
Communications	Authority	Design-Builder
Notices of Construction-related Traffic, Noise, Light Intrusion, Dust, Disruption Vibration Impacts	Design-Builder	Authority

CATEGORY	LEAD	SUPPORTING
Media Relations	Authority	Design-Builder
Emergency and incident Communications Relating to existing Authority employees, programs, services and facilities; and Design-Builder performance	Authority	Design-Builder
Emergency and incident Communications related to Design-Builder Site health and safety	Design-Builder	Authority
Complaint Response (from public/Authority staff)	Authority	Design-Builder
Signage (Construction and Project Promotion)	Design-builder	Authority
Relocation communications (of staff and patients and directed to those audiences)	Authority	Design-Builder
Film and Photographic Record	Design-Builder	Authority

7. AUTHORITY RIGHT TO STEP IN AT DESIGN-BUILDER'S COST

If the Design-Builder is required to take a lead role but fails to comply with its obligations under this Schedule in any material respect, the Authority may give reasonable notice to the Design-Builder that it intends to undertake and assume the lead role obligations of the Design-Builder, at the expense of the Design-Builder, including all direct costs of engaging, staffing, supplier, or third party assistance with communication responsibilities and all direct costs of the Authority in connection with fulfilling the Design-Builder's obligations under this Schedule.

8. COMMUNICATIONS PLANNING

The RCH Redevelopment Communications Strategy will be led by the Authority until the Work is completed, which includes the execution of the strategic plans, annual Work Plans, and communications with the media, internal and external stakeholders, and interested parties or individuals.

- 8.1 The Design-Builder will be provided with a copy of all or parts of the RCH Redevelopment Communication and Engagement Strategic Plans prepared by the Authority and applicable to this Project and will support the implementation of the strategies and activities listed in them.
- 8.2 The Design Builder will appoint and provide a Project Director or Communications/Engagement Manager to be responsible for the implementation of its lead and supporting responsibilities, and who will be a single point of contact with the Authority's RCH Redevelopment Communications.
- 8.3 An annual Work Plan will be jointly developed by the Design-Builder and the Authority outlining communication activities and responsibilities for the subsequent twelve (12)

month period, updated annually and initially delivered no later than the dates indicated in Section 2.2.

- 8.4 The Authority will establish the primary key messages for the local community and the media about the project and the Work and prepare content for use in pre-construction engagement and beyond. This is vital to avoid mixed messages and it will be important that all involved in the Work use consistent messaging. The Design-Builder will be required to contribute to this by submitting content to the Authority or otherwise participating in communications activities under the direction of the Authority as well as submitting content it drafts to the Authority for review and approval prior to release.

9. COMMUNITY ENGAGEMENT AND CONSULTATION

Stakeholder engagement and consultation will be primarily led by the Authority with the Design-Builder taking an active and supportive role in initiatives aimed at the Project's key stakeholders.

- 9.1 The Design-Builder will participate in briefings and meetings with political representatives and local community leaders, if required to do so by the Authority. Meetings may include events held in the evening or on weekends, and may be attended by the Mayor of the City of New Westminster, City Councillors or staff, local community residential associations, special interest groups, and business groups.
- 9.2 Working with the Authority, the Design-Builder will contribute to and support effective engagement with Aboriginal and other ethnic groups ensuring an understanding of the work, and a positive and mutually-beneficial dialogue. This may include participating in meetings and consultations with representatives of such groups, to receive input on culturally sensitive aspects to the Work, and/or providing content and engagement materials in non-English formats.
- 9.3 The Design-Builder will participate in meetings and events targeting Authority employees, physicians, volunteers and service providers alongside the Authority, or if required to do so by the Authority, to ensure awareness and understanding of the Work, to sustain a positive dialogue, and to prepare people for change. This may include in-hospital forums, drop-ins, events, and meetings, which may occur during the day, evenings, or weekends.
- 9.4 The Design-Builder will organize and participate in meetings and events targeting local residents and neighbours either alongside the Authority, or if required to do so by the Authority, to ensure awareness is developed, concerns are understood, and proper consideration is given to avoid or minimize impacts. This may include quarterly resident and business association meetings, community fairs and events, Open House drop-in sessions, workshops, street-side chats, and small group meetings which may occur during the day, evenings or weekends. The Design Builder will be responsible for the development, cost, and distribution of ads/invites, mail-outs and promotional signage, poster boards explaining the Work and its impacts for community engagement events.

10. COMMUNICATIONS

- 10.1 The Authority will regularly develop and distribute informational and promotional materials and newsletters, and will develop and maintain project webpages, over which it will have final editorial control of all content.
- 10.2 The Design-Builder will provide the following support and information when requested by the Authority:
- (a) Original text for articles and stories;
 - (b) Architectural, engineering, building cross sections, and other design drawings;
 - (c) Renderings and flythrough video;
 - (d) Annual Construction Look ahead narrative, calendars and timelines;
 - (e) Construction facts and infographics;
 - (f) Animations;
 - (g) 3D models;
 - (h) Photographs;
 - (i) Video footage;
 - (j) Drone footage;
 - (k) Company logos;
 - (l) Links to the live webcam(s) overlooking the Site;
 - (m) Floor plans with layout usages;
 - (n) Information on its Corporate Social Responsibility priorities, including highlighting socially responsible activities in the area; and
 - (o) Information on the Work's green building, environmentally-friendly, and energy efficient characteristics.
- 10.3 The Design-Builder will allow for the provision for ethnic, mobility, hearing and site impaired external parties, including publishing content and notices in Braille or non-English languages, if requested by the Authority.

11. NOTICES OF CONSTRUCTION

The Design-Builder will lead the development and distribution of construction notices. Notices will be distributed before all major deliveries or site activities which could have any discernible impacts to internal and external stakeholders, such as road or area closures,

noise, lighting, after hours work, demolition, hazardous materials/pest control, or road/sidewalk disruption in accordance with the most current City of New Westminster's Good Neighbour Protocol. Considerations include:

- 11.1 Information letters/postcards/e-notices will be delivered to local residents and businesses located within a five-kilometre radius of the hospital's campus, prior to the start of Construction or road closures and at approximately 10 - 12 key milestones in the Design and Construction Schedule as confirmed by the Design-Builder and approved by the Authority;
- 11.2 The Design-Builder will provide at least one week for the Authority, and in some cases the City, to review and approve all notices prior to distribution to stakeholders;
- 11.3 Print and digital notices will provide a minimum of one week's notice to stakeholders unless otherwise approved by the Authority (which is given no less than 48 hours' notice), and unless the Good Neighbourhood Protocol dictates otherwise;
- 11.4 The Design-Builder will provide a Design-Builder designates name/email/phone number for the neighbourhood committee to voice concerns or ask questions, on notices and other project materials;
- 11.5 A 24-hour phone hotline number will be indicated (with the number posted in a prominent location on the site, on construction notices and signage, the project webpages, and all publicity material distributed to the local community) to which the Design-Builder responds to any phone calls received on the hotline within 1 hour. The hotline is intended for:
 - (a) Authority staff to notify the Design-Builder of any Construction related emergencies or complaints; and
 - (b) Neighbours and passers-by to contact the Design-Builder;
- 11.6 Notices will be customized to the audience and clearly outline in plain jargon-free language what, when, where construction is happening, the impacts expected to stakeholders and the actions required of them, the Design-Build contact person info, and a map;
- 11.7 The Design-Builder will post notices on the doors of local residential and commercial buildings and provide extra print copies for posting as requested by those building managers or for distribution to hospital areas, as required;
- 11.8 The Design-Builder will distribute print copies door-to-door to the surrounding neighbourhood when expected by the City;
- 11.9 Notices will be posted to the Authority's project webpages and may at times be posted to the City's website;
- 11.10 Digital versions of notices may be required for the hospital's in-house TV system, as directed by the Authority;

- 11.11 Print notices in the community newspaper(s) or its City Page may be required, as directed by the Authority or the City;
- 11.12 Street-side sandwich board signs, or in-hospital digital. TV notices may be required, as directed by the Authority or the City;
- 11.13 Social media posts may be required for Fraser Health's social platforms, as directed by the Authority;
- 11.14 The Design-Builder will maintain a subscriber and community contact list in conjunction with the Authority which will be used for distribution of construction notices and newsletters; and
- 11.15 For general inquiries the Design-Builder will be required to include all comments or queries raised by any external party and the response given within the Monthly Report to the Authority as required as a part of Schedule 4 [Management Systems and Plans].

12. MEDIA RELATIONS

Media relations will be led and managed by the Authority. The Design-Builder will provide material to support the Authority in this and will comply with the requirements herein.

Media engagement will be for the purpose of proactively promoting the Project or reacting to media inquiries related to the Project, incidents, or complaints.

The Design-Builder will not engage in any communications with, or give interviews to the media, trade publications or magazines without obtaining prior written approval from the Authority and with the timely opportunity for the Authority to vet drafts/final copies. All journalists' queries, requests for interviews or any other enquiries received by the Design-Builder will be directed to the Authority.

12.1 Media Briefings

If required to do so by the Authority, the Design-Builder will participate in or contribute to manage media briefings to be set up with key media to educate and inform them about the Project, how it will be delivered, and the Work to be undertaken; or to inform them of actions taken to address any incidents or complaints.

12.2 Generated Media Coverage

In order to achieve supporting media coverage of the Work, media coverage will be generated, when appropriate, through a combination of news releases, features and issues/opinion articles, story pitches, videos or photos.

The Design-Builder will contribute to media material/content and provide information, original drafting and other material to support this, as required by the Authority.

12.3 Features

Opportunities for features will be identified annually or semi-annually by the Authority and these will form a component of the overall media programme.

The Design-Builder will participate in the development of story pitches and content for submission to appropriate journalists or in generating relevant material/content in order to achieve suitable and programme - supporting coverage.

12.4 News Announcements

The Design-Builder will contribute to the drafting and review of media releases to report important progress, achievements and milestones for the Project. This may include:

- (a) **Progress:** Reporting key developments and innovation in design, construction, technology, and construction/project milestones;
- (b) **Reassurance:** Reporting on progress and momentum to maintain awareness that the project will be delivered on time and in line with expectations;
- (c) **Information:** Reporting on information events or aspects of community engagement (as part of publicizing opportunities for people to engage and support local community relations activity); and
- (d) **Reactive:** Where appropriate (and in the event of any incident on site or public realm complaint), the Design-Builder will be required to support reporting/clarification of any such incident and assist the Authority in managing it.

12.5 Bylined Articles

Bylined articles are an effective way to enable people/companies/organizations to get undiluted messages across to target audiences and to position senior spokespersons. Bylined articles are expected to contribute to the overall media programme and assist with supporting coverage.

The Design-Builder will provide or contribute to bylined articles, under the direction of the Authority.

12.6 Ongoing Reactive Comment

In addition to the proactive media relations work outlined above, the Design-Builder will participate in, provide advice on and/or support the following:

- (a) **Rapid reaction communications:** when dealing with any incident on site or complaints relating to construction; and
- (b) **Monitoring and being appraised of local media** in order to assist the Authority in responding to opportunities and threats.

12.7 Media Monitoring

The Authority will be responsible for overall media monitoring. The Design-Builder will be apprised of any media reporting related to the Work and participate, with the Authority, in achieving a comprehensive understanding of media reporting. This is to enable the Design- Builder to:

- (a) Highlight opportunities/risks that it identifies to the Authority; and
- (b) Participate effectively in responding to/managing misreporting risk. The principle of redeveloping the Royal Columbian Hospital has been widely welcomed and sustaining trust, confidence and positivity between the redevelopment and the local community is a priority for the Authority.

13. **INCIDENT AND COMPLAINT RESPONSE COMMUNICATIONS**

The Authority's RCH Incident and Complaint Communications Response Plan, as attached as Attachment 1 to this Appendix 1A, is a guide for managing communications during a Project-related incident/crisis or a hospital incident that impacts or may impact employee/patient/public safety, the environment, public confidence in the Project or the ability of the Project to proceed; and also outlines protocols to respond to complaints.

The Authority's RCH Incident and Complaint Communications Response Plan will serve as the basis for a jointly developed and agreed upon Plan for emergency, incident, or complaint response.

- 13.1 As per the dates indicated in Section 2.2, and before any Construction or demolition begins, the Design-Builder will review and provide their revisions and comments to the RCH Redevelopment Incident and Complaint Response Communications plan in consideration of its lead and supporting roles, any standards or definitions of its own levels of incident, and its contact representatives. The Design-Builder will work with the Authority to then come to a mutually agreed standard for the response to incidents, crisis and complaints.
- 13.2 The Authority will lead public/staff complaint response and Emergency/incident communications relating to existing Authority employees, programs, services and facilities and Design-Builder performance.
- 13.3 The Design-Builder will lead emergency and incident communications related to Design-Build site health and safety.
- 13.4 During the duration of the Work the Design-Builder will be responsible for sharing an up-to-date copy of the agreed upon RCH Redevelopment Incident and Complaint Response Communications Plan with its subcontractors before the subcontractors Work begins.
- 13.5 The Design-Builder and Authority will keep each other apprised of any changes to the names, emails, and cell phone numbers of their respective representatives who are to be contacted in the event of a construction-related emergency, incident or complaint.

- 13.6 The Design-Builder will be required to report summaries of incident, emergency and complaint responses within the Monthly Report to the Authority as per the reporting requirements outlined in Appendix 2A.

14. SIGNAGE

- 14.1 The Design-Builder will be responsible for all Construction site and road signage as per the DBA and as required by the City and its Good Neighbour Protocol, which may also include digital signage.
- 14.2 The Design-Builder, at the request of the Authority, will provide street-side informational signage that provides updates on the Work, or site-specific signage for neighbouring facilities.
- 14.3 The Design-Builder, on completion of the 95% or 100% design review < please verify the timing of renderings re: DBA Schedule>, will produce, install, and assume costs for a large sign on or near the Construction site showcasing an updated rendering of the building's design, with partner and government logos, the design of which will be agreed upon with the Authority.
- 14.4 The Design-Builder will provide opportunities and assistance to the Authority or its agents or partners for the installation of promotional fence banners, building wraps, or promotional signage.

15. CONSTRUCTION MILESTONE EVENTS, SITE VISITS AND TOURS

- 15.1 The Design-Builder will assist the Authority in organizing and delivering Construction milestone events and visits/tours of the Site for interested parties, including but not limited to the Authority or its agents/staff/physicians, Provincial/national/local politicians or City officers, or Royal Columbian Hospital Foundation donors and campaign leaders, during the course of the construction works.
- 15.2 The Design-Builder. The Design-Builder will provide visual and written material and information about the Work, including samples, graphics, artwork, visualizations and other relevant material, to the Authority to use in connection with events and visits and will provide representatives, equipment operators, and safety personnel to attend such events and visits where required to do so by the Authority.
- 15.3 The Authority will provide reasonable notice of such visits/tours wherever possible.
- 15.4 The Design-Builder will keep the Authority advised about areas of the Site that are unavailable for visits/tours as the Work progresses.

16. FILM AND PHOTOGRAPHIC RECORD

The Design-Builder will lead producing a film and photographic record of the Work for promotional use by the Authority.

- 16.1 From the commencement of the Work until Substantial Completion, the Design-Builder will provide a high quality colour webcam with wifi service with one or more webcams that are linked to the Authority's public webpages that provide frequently refreshed high quality images, and time-lapse videos showing the Construction activities. The Authority will suggest one or more locations reasonably required by the Design-Builder to install cameras and supporting infrastructure. The Design-Builder will be responsible for FIPPA requirements including approvals.
- 16.2 From the commencement of the Work until Substantial Completion, the Design-Builder will provide the Authority with high resolution drone video and image footage of the Construction site's progress and activities four times per year.
- 16.3 If required by the Authority, the Design-Builder will allow access to the Site for filming sessions which may be arranged by the Authority during the course of the Work (subject to the Design-Builder's health and safety policies). The Design-Builder will be made available for interview at the filming sessions if requested by the Authority, and if required provide safety personnel and equipment operators. The Authority will provide reasonable notice of such filming sessions wherever possible.

17. INDUSTRY AWARDS

The Authority intends to make submissions to appropriate industry awards in order to achieve suitable peer and industry recognition. These are likely to include architectural and building awards.

The Design-Builder will support the Authority in providing content for identified award submissions and work alongside the Authority and its appointed professional consultancy team to assist on awards entries.

The Design-Builder or its subcontractors and supply chain contractors will not undertake any submission for any industry award without prior agreement with the Authority, consistent with the rules of engagement related to the Design-Builder and in reference to the project for marketing purposes (above), and will provide drafts of submissions to the Authority for review and approval at least two weeks prior to submission deadlines.

18. USE OF THE PROJECT FOR MARKETING

Prior written approval must be obtained from the Authority before using the Work, or making any reference to the Authority (including its logo), its representatives or agents in any marketing or publicity material, or submissions for other work in response to proposal calls or submissions to third parties. The Authority must review and approve all uses of its logo.

This requirement applies to the Design-Builder and must be included in all the Design-Builder's subcontracts and supply chain contracts.

19. PERMITTING

The Design-Builder will be responsible for planning, managing and leading communications with the City and its stakeholders in connection with all permitting and utility servicing.

The Design-Builder will notify the Authority of planned consultation with the City and will consult with the Authority about the content and outcomes of the previous pre-application consultation to ensure that the planned consultation is coordinated and consistent with the previous consultation.

The Design-Builder will provide the Authority with copies of all correspondence issued to and received from the City. The Design-Builder will invite the Authority and its agents to attend all meetings arranged between the Design-Builder and the City, providing notice of not less than one week, and will take and furnish the Authority with minutes and other records of all meetings held.

**ATTACHMENT 1 TO APPENDIX 1A:
INCIDENT AND COMPLAINT RESPONSE COMMUNICATIONS**

(see attached)



Incident and Complaint Response Communications Plan Phase 2 and 3

Design-Build Agreement

Carol Swan, Senior Communications Lead, RCH Redevelopment



1. Introduction

This plan is a guide for managing communications during a Royal Columbian Redevelopment Project-related incident/crisis or a hospital incident which impacts the Project. An incident is any non-routine event that impacts or may impact employee/patient/public safety, the environment, public confidence in the Royal Columbian Hospital Redevelopment Project or the ability of the Project to proceed.

This plan integrates with existing emergency response protocols of Fraser Health, Royal Columbian Site Operations, and the Phase 1 and 2/3 construction partners. A copy will be provided to members of the Redevelopment communications team, relevant members of the Project, Site Operations, Fraser Health Public Affairs, and relevant construction partners.

2. When and How to Notify

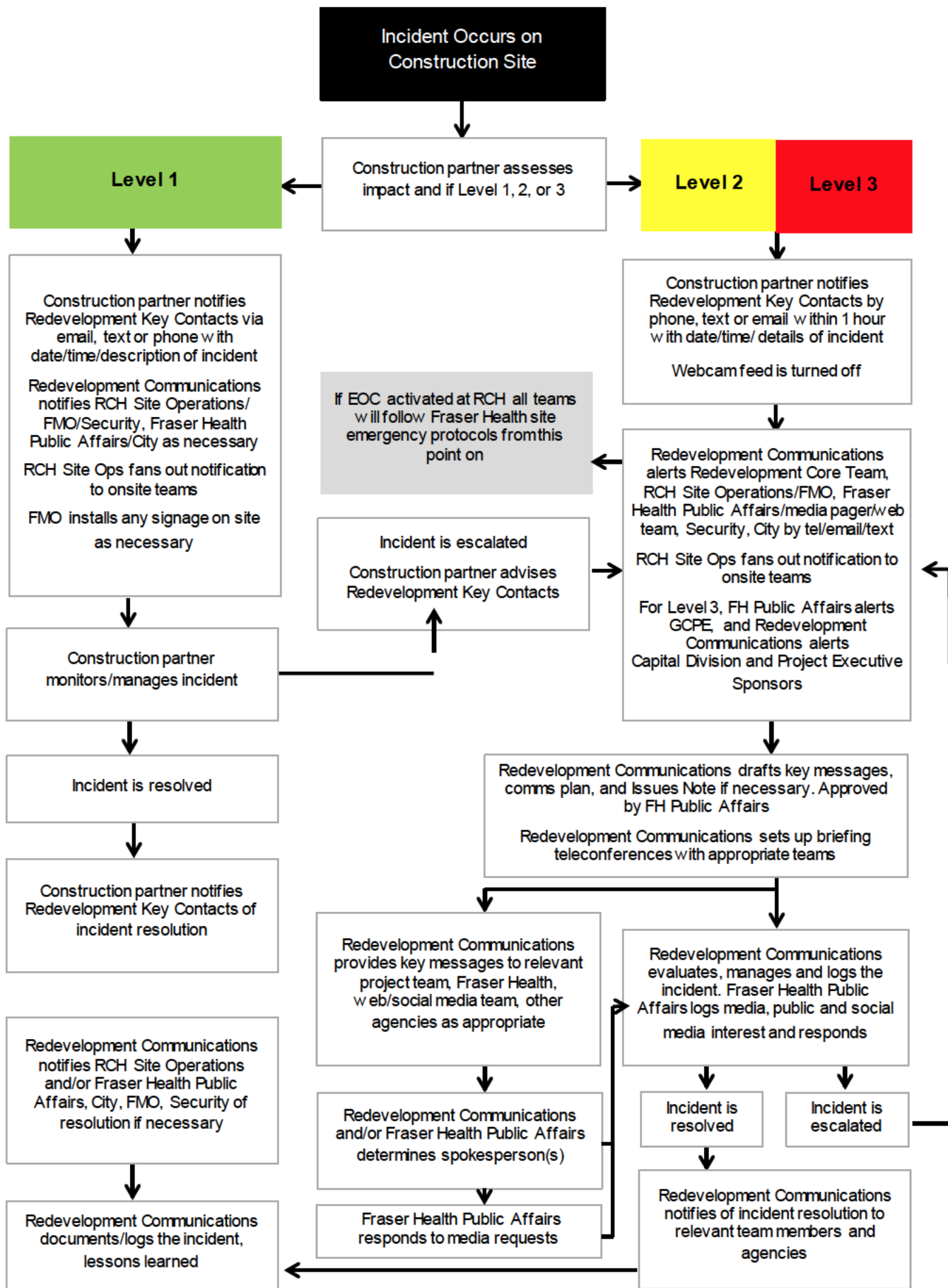
Redevelopment Construction Site Incident

A 'Redevelopment construction site' is any space on or off hospital grounds or within the hospital under construction and within the scope of the Redevelopment Project. The space is considered a Redevelopment Construction site until it has been handed back to the site for operationalizing.

When an incident occurs a designated construction partner representative will assess the situation, determine if the communications response is a level 1, 2, or 3 as per the chart below, and then notify the Project's Key Contacts (as noted on page 6), by email, phone or text based on urgency.

The Project Key Contacts will relay information to the Project team and other stakeholders, as necessary and as outlined on pages 3 and 4.

Potential Incidents	Level 1 (Minimal impact. No potential for media)	Level 2 (Moderate Impact. Some potential for media)	Level 3 (Major Impact. High potential for media)
Injury related to construction	Minor injury to worker dealt with by site personnel/first aid, no impact outside site	Injury of worker, hospital staff, cyclist or pedestrian (may require ambulance)	Serious injury or fatality
Traffic impacts	Crash with minor damage to vehicle covered by contractor's insurance Unscheduled construction-related disruption (lasting more than an hour) to traffic	Crash involving multiple vehicles blocking access to/on site or existing facility	Serious injury or fatality Major damage to roads or buildings resulting in serious impacts to clinical areas
Property damage related to construction	Minor damage to hospital or city property (broken fence, felled tree, damage to sidewalk, road or building)	Potential for damage to hospital facilities resulting in closure of any service area	Major property damage resulting in long-term impacts to clinical services
Environmental	Minor environmental impact (e.g. muddy storm water)	Minor spill or contamination that could potentially impact a clinical area or neighbours/offsite	Major spill/contamination to clinical areas or neighbours Damage to environment/air quality impacting clinical areas or neighbours
Utility disruption	Unscheduled, minor outage/disruption lasting one hour or less	Significant disruption to utility service/medium term outage to clinical areas or neighbours including loss of services (power, water)	Major disruption to utility service Long term outage resulting in closure of a clinical area or stoppage of patient services or impacts to neighbours
Collapse of a structure	Uncast formwork collapse on construction site, no injuries	Integrity of a structure impacted/damage to structure, minor injuries due to collapse	Structural collapse

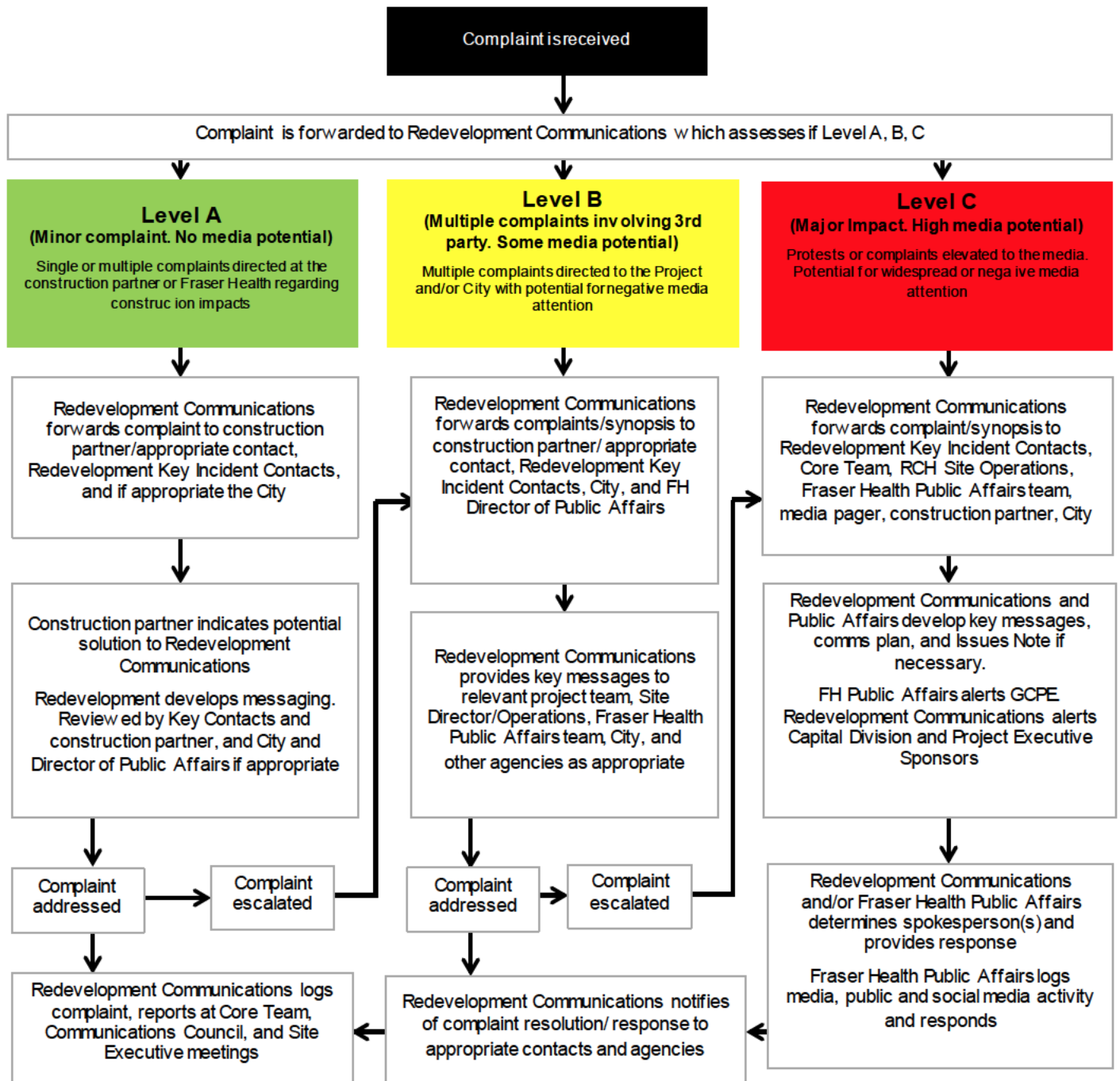


Redevelopment Complaint/Request

Public engagement is handled by Redevelopment Communications. First point of contact may be feedback@fraserhealth.ca, RCH_Redevelopment@fraserhealth.ca, the Redevelopment office, the construction partner, Site Operations, or the City of New Westminster. Complaints may also come through social media channels.

When a complaint or request is received, it should be forwarded to the Redevelopment Communications Key Contact who will assess it determine if the response is a level A, B, or C as per the chart below, and then notify appropriate contacts (as noted on page 6) by email or phone for resolution and/or response. The City of New Westminster has requested to review responses to neighbours.

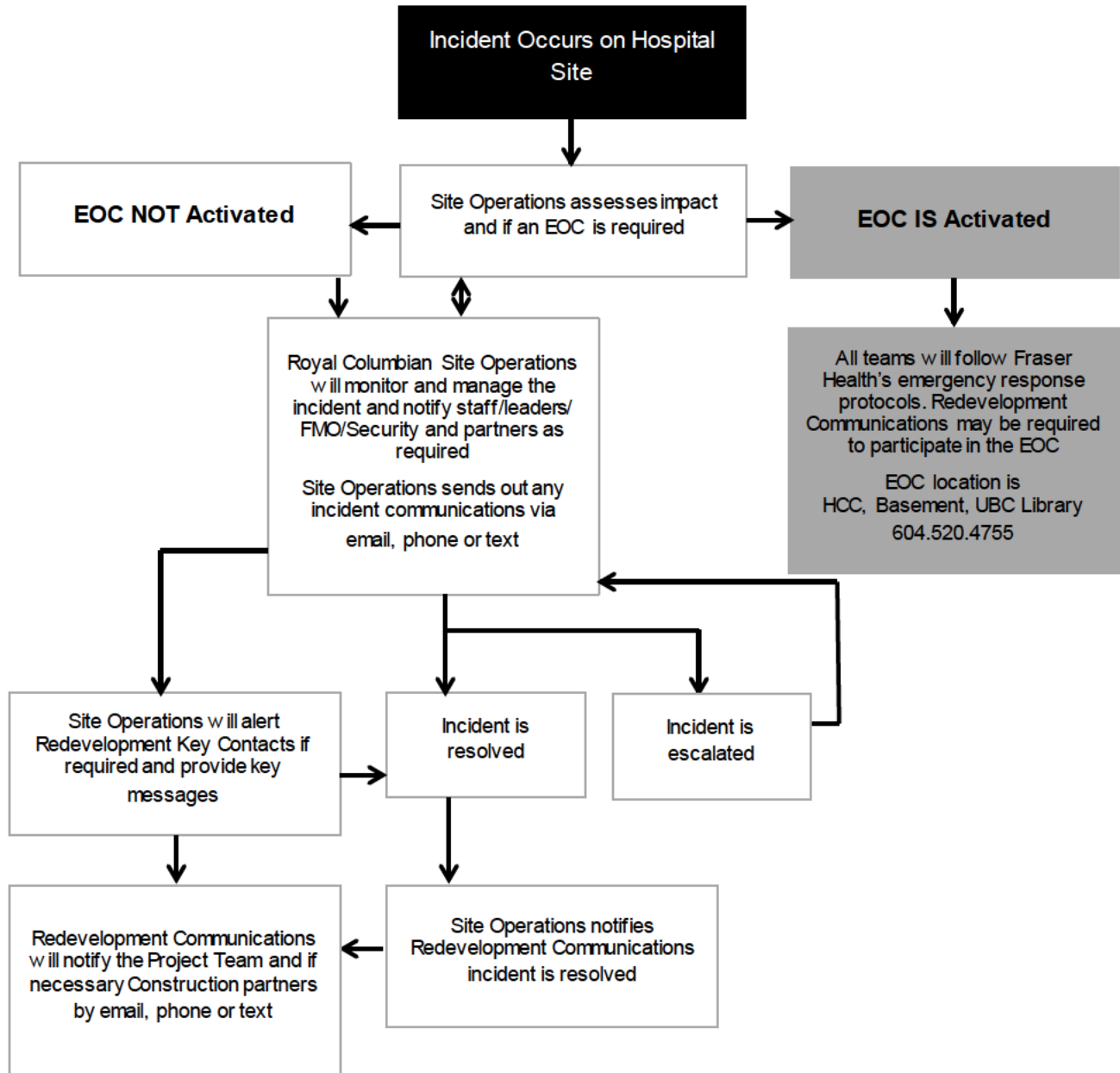
Fraser Health endeavours to acknowledge any complainant within 24 hours and provide a response within one week, ccing feedback@fraserhealth.ca. Not all complaints can be resolved. Complaint logs are at N:Drive>9.Communications>Engagement-Community>Responses.



Hospital Site Incident (Impacting Redevelopment Construction)

Royal Columbian Site Operations will ONLY notify Redevelopment Key Contacts if a site incident will impact Redevelopment construction activities, or if follow-up actions are required by Redevelopment Communications, the Project team, or redevelopment construction partners.

Emergency (EOC) response protocols for the Royal Columbian Hospital site are outlined in the Fraser Health Emergency Response Manual.



3. Who to Notify

Redevelopment Key Incident Contacts			
Name	Role	Cell	Email
Carol Swan	Senior Communications Consultant	604.418.5326	Carol.Swan@fraserhealth.ca
Robin Latondresse	Director, Planning & Project Implementation	604.613.0867	Robin.Latondresse@fraserhealth.ca
Kevin Zembik	Senior Project Manager	604.377.5603	Kevin.Zembik@fraserhealth.ca

Other Incident Contacts			
Name	Role	Cell	Email
Sharat Chandra	Chief Project Officer	604.613.2159	Sharat.Chandra@fraserhealth.ca
Carol Galte	Chief Clinical Planner and Project Management Office	604.306.4267	Carol.Galte@fraserhealth.ca
Franca MacInnes	Leader, Finance, Project Management Office & Project Administration	604.614.8056	Franca.MacInnes@fraserhealth.ca
Doug Redwood	Director, Planning, Informatics & Analytics	604.953.5015	Doug.Redwood@fraserhealth.ca
Cian Moriarty	Project Coordinator	236.886.6719	Cian.Moriarty@fraserhealth.ca
Royal Columbian Hospital Site Contacts: Operations, FMO, Security			
Sheila Finamore	Executive Director	604.360.5742	Sheila.Finamore@fraserhealth.ca
Barb Sutherland	Director, Clinical Operations	604.520.4949	Barb.Sutherland@fraserhealth.ca
Rosemary Magonya	Coordinator, General Operations	604.613.9075	Rosemary.Magonya@fraserhealth.ca
Martin Wright	Senior Manager, Facilities Maintenance & Operations	604.613.4072	Martin.Wright@fraserhealth.ca
Matt Hilderman	Lead Coordinator, Integrated Protection Services	604.953.5015 Ext 761962	Matt.Hilderman@fraserhealth.ca
RCH Site Security	604-875-2000 Ext 8999 (non-urgent) or Ext 3800 (urgent)		RCHssl@paladinsecurity.com
Shawn Vanier	HEMBC Coordinator RCH	604.328.0050	Shawn.vanier@fraserhealth.ca
Switchboard		604.520.4253	
After Hours	Site Manager on Call	604.365.6239	
STAT Line		7111	
Fraser Health Communications and Public Affairs			
Naseem Nuraney	Vice President, Communications and Public Affairs	604.613.3229	Naseem.Nuraney@fraserhealth.ca
Jacqueline Blackwell	Director, Public Affairs	604.613.4397	Jacqueline.Blackwell@fraserhealth.ca
Aletta Vanderheyden	Senior Consultant, Public Affairs	604.363.82132	Aletta.Vanderheyden@fraserhealth.ca
Dixon Tam	Senior Consultant, Public Affairs	604.587.4613	DixonTam@fraserhealth.ca
Larisa Saunders	Director, Corporate Communications	604.807.6536	Larisa.Saunders@fraserhealth.ca
Lee Rego	Senior Consultant, Electronic & Corporate Communications	236.332.4796	Lee.Rego@fraserhealth.ca
Bassam Chahira	Consultant, Communications (social media)		Bassam.Chahira@fraserhealth.ca
Gurteen Dhessi	Coordinator, Corporate Communications (web updates)		Gurteen.Dhessi@fraserhealth.ca webupdates@fraserhealth.ca
MEDIA PAGER		604.450.7881	media@fraserhealth.ca

Other Incident Contacts			
Name	Role	Cell	Email
Fraser Health Executive Sponsors			
Brent Kruschel EA: Shirley Hoffman	Vice President, Informatics, Technology and Facilities	604.614.1788	Brent.Kruschel@fraserhealth.ca Shirley.Hoffman@fraserhealth.ca
Laurie Leith EA: Tami Bye	VP Regional Hospitals and Communities	604.587.7854	Laurie.Leith@fraserhealth.ca Tami.Bye@fraserhealth.ca
Brenda Liggett EA: Christine Intile	VP Planning, Informatics and Analytics	604.807.0984	Brenda.Liggett@fraserhealth.ca Christine.Intile@fraserhealth.ca
Construction Partner (Phase 2/3 partner)			
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
24 HOUR HOTLINE		TBD	
City of New Westminster			
Lisa Spitale	Chief Administrative Officer	604.527.4549	lspitale@newwestcity.ca
Rupinder Basi	Senior Planner (community engagement)	604.515.3826	rbasi@newwestcity.ca
Hardeep Maghera	Engineering Technologist	604.527.4545	hmaghera@newwestcity.ca
Ashleigh Young	Communications Coordinator	604.527.4559	ayoung@newwestcity.ca
Ministry of Health, Capital Division			
Kirk Eaton	Executive Director, Capital Services	778.698.0411	Kirk.Eaton@gov.bc.ca
Mark Bell	Director Major Projects, Capital Services Branch	250-952-1640	Mark.J.Bell@gov.bc.ca
Fraser Health Crises Contacts			
Integrated Protection Services On-Call		1.888.449.4857	24 hours pager
Health Emergency Management BC		1.855.675.2436	
Workplace Health Call Centre		1.866.922.9464	
Ministry of Health		1.250.812.5571	24 hours pager

4. What to Say

The following principles will be agreed to by the Redevelopment Team and Construction Partner:

- We will work together and share information in a timely and open manner to ensure our response is accurate, honest, and responsible.
- Employee/public safety, and environmental protection take priority over material assets.
- Our communications will represent the Project in a manner consistent with our collective goals and objectives, and reflect our responsibility to hospital users, staff, and the community.
- Unconfirmed facts will be stated as such when we convey information to each other. They will not be shared with the media, public or staff.
- Non-communications staff will be prohibited from taking photos and videos of the incident and/or posting to social channels in respect of the privacy of our patients and staff.

Redevelopment Communications and the Construction Partner will work collaboratively to gather and confirm these facts:

- What happened?
- What impact/damage/injuries/deaths has been reported?
- What has been done to mitigate the situation?
- What can be done to prevent it from getting worse?
- When is the incident expected to be resolved?
- What are we, other organizations/contractors doing to address the situation?
- Who is involved?
- How have our staff and community been directly impacted?
- What are the health impacts (short and long term) of this situation?
- What should people do to protect themselves?
- Will there be an investigation?

Key Messages

Messaging will be developed by Redevelopment Communications with input and approval from the Project's Core Team, Fraser Health Public Affairs, and Construction Partner delegates.

Key messages will vary depending on the incident but in general they should:

- Be simple, clear, and able to be quoted in a 12 second sound bite
- Indicate the Project's first priority is safety (of employees, patients, staff, etc.)
- Indicate the Project is working cooperatively with construction partners to solve the problem/resolve the issue/undertake a complete review of the incident, etc.
- Include what specific actions have been taken to solve the issue, help those affected, to return things to normal, and if necessary review of policies and procedures
- Reflect the Project's empathy and concern for person(s) impacted
- Avoid placing blame
- Only state the facts, not rumour

Suggested 'holding' key messages

- The safety of (employees, patients, staff, construction workers, etc.) is our top priority.
- We have emergency/incident response plans in place and are working with (police, firefighters, construction partners, etc.).
- Fraser Health is currently investigating the situation.
- Fraser Health is working cooperatively with (emergency crews and) our partners to solve the problem/resolve the issue/undertake a review of the incident, etc.
- We ask for your patience as we respond to this emergency (or incident).
- Please check the Fraser Health website and social media channels for updates.

Media and Public Relations

For Level 1 incidents, Redevelopment Communications will communicate to staff, public, neighbours, the City and other stakeholders, and will log calls, emails, and responses.

For Level 2 and 3 incidents, Redevelopment Communications will work with Fraser Health's Public Affairs team to develop key messages and issues notes, and will provide incident updates as required.

All media inquiries will be directed to, and handled by, Fraser Health's Public Affairs team. This includes responding to media interview requests, logging media calls, and proactively contacting the media if it's required.

Media spokespersons

Staff from the Redevelopment Project and construction partners are not authorized to speak to the media on behalf of Fraser Health at any time unless they have been designated as spokespersons by Fraser Health Public Affairs.

If a media spokesperson is required, Fraser Health's Public Affairs team, in consultation with the Chief Project Officer and Redevelopment Communications Lead will determine the most appropriate and credible spokesperson. For Level 2 or 3 incidents, Fraser Health will designate an appropriate spokesperson.

When speaking to the media either as a spokesperson or as an information provider, spokespersons should:

- Always consult with the Director of Public Affairs for a briefing on key messages prior to responding to media questions
- Only agree to be interviewed by a reporter if comfortable with the role and the messaging
- Never speculate on events, causes, actions, or future policy decisions
- Never provide any unconfirmed information or information that is not approved for public release
- Never offer personal opinions or make any comments "off the record"
- Indicate they will follow up with the interviewer if they are unable to answer a question

Preparing for Media Interviews

Redevelopment Communications and Fraser Health Public Affairs team will prepare any spokesperson for media interviews as follows:

- Redevelopment Communications will provide up-to-date status reports
- Redevelopment Communications and Public Affairs will prepare key messages, any Q&A document, including responses to difficult issues
- Public Affairs will determine the reporter's needs (type of media, previous reporter's coverage, likely focus, likely questions, and deadline)
- Public Affairs will review and practice key messages with the spokesperson

5. Website, Social Media, Webcam

If an incident occurs at a construction site which is filmed by webcam, it may be necessary to temporarily restrict public access to the webcam feed. Timed photos may have to be deleted to protect personal privacy. Webcam contacts are:

- Redevelopment Construction: Robin Latondresse
- Communications: Carol Swan
- Construction Partner: TBD

When information about an incident needs to be posted on Fraser Health's website or in social media channels, Redevelopment Communications will forward approved messaging to Fraser Health's web and social team. If after hours, content will be forwarded to whoever is covering the media pager who will forward it to the web team for posting. Public web content will be posted on the Construction Zone page of fraserhealth.ca/royalcolumbian and to the Newsroom.

6. Communications Team Checklist for Level 2 or 3 Incidents

Redevelopment Communications will follow the flow of information as outlined on page.

- Stop webcam, if applicable
- Consult:
 - Fraser Health's Crises Communications Guide on the RCH Redevelopment Sharepoint site at [Planning Group>Communications>Incident Communications Plan](#)
 - Emergency Response information on [FH Pulse](#) at Security and Emergency Management>Emergency Management>Emergency Response and Code Manuals
 - The Health Emergency Management binder on the Communication Leads' desk
- Gather facts from construction partner and site contacts
- Determine level of media/public/City interest
- Develop joint strategies/messages with stakeholders and open lines of communication
- Take photos or video. Remind security, FMO, Site Ops no pictures are allowed by crews or staff
- If appropriate, ask Security, FMO or the construction partner to put up visual barriers around the area to protect privacy and to limit social sharing by the public or staff
- Develop key messages, Q&A, Issues Note as required. Approvals are required by the Chief Project Officer, Director of Facilities Capital Planning & Implementation, and Director of Public Affairs
- Liaise with Public Affairs to determine appropriate spokesperson
- Distribute key messages to key stakeholders (telephone conference, etc.), determine which receive personal calls. Staff receive messaging before media and the public
- If appropriate develop content for website and have posted
- Monitor media and social channels and post information or responses if appropriate
- Check in with Fraser Health Public Affairs about any media briefings and provide timing for updates on the incident
- Log all communications and queries (when, who, what info, response, distribution)
- Log communication lessons learned

Colour Code Quick Reference Guide

> To activate a code dial 7111

Refer to the site Emergency Response and Code Manual for site specific procedures and how they apply

Code	Who can activate	Who responds	What to do
Red	Fire Anyone discovering smoke or fire	<ul style="list-style-type: none"> All staff Code Red Response Team Fire Department 	Follow RACE procedures: R emove people A ctivate alarm C ontain smoke/fire E xtinguish/Evacuate
Blue*	Cardiac Arrest Medical Emergency * Adult/Pediatric where applicable Anyone who finds a person in an immediate medical emergency	<ul style="list-style-type: none"> Code Blue Team 	Make way for Code Blue Team, give assistance as directed
White	Violence/Aggressive Behaviour Anyone who witnesses violent/aggressive behaviour	<ul style="list-style-type: none"> Code White Team Security 	Assist as trained to do so or as directed
Yellow	Missing Patient/Resident Charge Nurse/Designate	<ul style="list-style-type: none"> All staff 	Refer to missing patient/resident description, search area
Green	Evacuation Administrator In-Charge/Designate	<ul style="list-style-type: none"> All staff 	Prepare to assist with evacuation and/or receive patients in your work area
Orange	Mass Casualty/Disaster Administrator In-Charge/Designate	<ul style="list-style-type: none"> All staff 	Activate functional area or departmental plan as directed
Black	Bomb Threat Administrator In-Charge/Designate	<ul style="list-style-type: none"> All staff Security Police 	Give assistance as directed, conduct a visual search of your area for unusual objects
Brown	Hazardous Spill Supervisor/Designate when spill/leak meets workplace health guidelines	<ul style="list-style-type: none"> Contracted Chemical Response Team 	Keep yourself and others away from spill
Grey	System Failure Administrator In-Charge/Designate	<ul style="list-style-type: none"> System specialists 	Give assistance as directed, refer to downtime and code procedures
Pink	Obstetric/Neonatal Emergency Clinical staff in designated units	<ul style="list-style-type: none"> Code Pink Team 	Make way for Code Pink Team
Amber	Missing or Abducted Infant/Child Manager/Designate	<ul style="list-style-type: none"> All staff 	Refer to missing or abducted infant/child description, search area

Consider your safety first in any emergency





CAMPUS DETAILS: QUICK REFERENCE

Royal Columbian Hospital Campus

SITE DETAILS

Site: Royal Columbian Hospital (RCH)
Address: 330 E Columbia St, New Westminster, BC, V3L 3W7

SITE CONTACT INFORMATION

STAT Line	7111
Switchboard - Main Hospital Number	604-520-4253
Administrator On-Call	898994
Security	8999 (Non-urgent) 3800 (Urgent)
Health Emergency Management BC	1-855-675-2436
Service Desk	895544
Workplace Health Call Centre	1-866-922-9464
24hr Media Pager/ Communications On-Call	604-450-7881
Integrated Protection Services On-Call	Pager 1-888-449-4857

EMERGENCY OPERATIONS CENTRE (EOC)

Location: Health Centre, Basement Level, UBC Library
After Hours Access: EOC Access can be requested through Security 8999

EOC Main Phone Line	604-520-4755
EOC Fax Machine	

CODE YELLOW/AMBER KIT

Location: UBC Library (Code Yellow supplies in Librarian's office in EOC cabinet)

HEALTH EMERGENCY MANAGEMENT RESOURCES – [FHpulse]

http://fhpulse/security_and_emergency_management/emergency_management/Pages/Default.aspx

Materials will be team-reviewed and approved per the following table
(source: Strategic Communications Plan, Phases 1, 2, 3):

REVIEWERS (Draft versions)			APPROVERS (Final version)	
Subject	Internal Materials	Add for External Materials	Internal Materials	Add for External Materials
Overall	<ul style="list-style-type: none"> • Director, Planning & Project Implementation • Project Director of Clinical Planning* • Senior Project Construction Manager • Leader, Project Management Office & Finance Manager • RCH Site Operations Manager • Facilities Project Lead 	<ul style="list-style-type: none"> • City of New West Manager of Strategic Initiatives 	<ul style="list-style-type: none"> • Chief Project Officer • Director of Capital Projects • FH Executive Project Sponsors if sensitive • FH Chief Financial Officer if \$\$\$ quoted • RCH Site Executive Director 	<ul style="list-style-type: none"> • MoH Government Communications & Public Engagement • MoH Director Major Projects/Capital Projects • MoH Executive Director, Capital Services • FH Chief Communications Officer/Director of Public Affairs • City of New West Communications • Project Board (for news releases) • GCPE (via FH Public Affairs) • PBC Project Director
Add for Procurement	<ul style="list-style-type: none"> • Director, IM/IT Solutions Facilities Redevelopment • Senior Manager, Corporate Services • Financial Planner • PBC Senior Associate 	<ul style="list-style-type: none"> • Potential Construction partners 		
Add for Facilities, or parking	<ul style="list-style-type: none"> • Parking/Access contact if appropriate 		<ul style="list-style-type: none"> • Director of Parking (if parking related) 	<ul style="list-style-type: none"> • City of New West Communications
Add for Clinical topic	<ul style="list-style-type: none"> • Project Lead, Clinical Operations 		<ul style="list-style-type: none"> • Fraser Health Program Director or RCH Clinical Director 	<ul style="list-style-type: none"> • Fraser Health Program Director or RCH Clinical Director
Add for Technology topic	<ul style="list-style-type: none"> • Fraser Health IM Reviewers • Fraser Health IT Reviewers 		<ul style="list-style-type: none"> • Director, IM/IT Solutions Facilities Redevelopment 	<ul style="list-style-type: none"> • City of New West Communications (if relates to IT pathway)
Add for Hiring/HR	<ul style="list-style-type: none"> • FH Project HR lead 		<ul style="list-style-type: none"> • FH Vice President, People and Organization Development 	<ul style="list-style-type: none"> • FH Vice President, People and Organization Development
Add for Physician	<ul style="list-style-type: none"> • Physician Lead 		<ul style="list-style-type: none"> • RCH Medical Director 	<ul style="list-style-type: none"> • Fraser Health Executive Medical Director

* Director of Clinical Planning will forward to appropriate Director of Clinical Operations if needed

APPENDIX 2: REPORTING PLAN

To be developed in accordance with this Schedule 4.

APPENDIX 2A: MONTHLY REPORTING REQUIREMENTS

1. CONTENT OF THE MONTHLY PROJECT REPORT

The Design-Builder will submit a Monthly Project Report to the Authority, as per the requirements outlined in section 3.2 of this Schedule 4 [Management Systems and Plans]. The Monthly Project Report will provide all supporting documentation, including, but not limited to:

- 1.1 A summary of design work completed over the past reporting period including key design issues and decisions that were critical to advancing the design development process, including a summary of design meetings completed with the Authority. This will also include a summary of anticipated design progression and design review meetings scheduled over the next two months;
- 1.2 Provide a narrative related to design clash coordination and identification of potential issues as per the requirements of the BIM Execution Plan in Schedule 4 [Management Systems and Plans];
- 1.3 The most current LEED scorecard with a narrative describing all LEED credits that the design is incorporating and achieving along with any impacts to the anticipated energy performance of the Facility as a result of design development;
- 1.4 A summary of construction work completed over the past reporting period along with a narrative detailing works to come in the following two months. The construction summary should also include completed and upcoming monthly progress meetings and Site meetings, including meetings between the Design-Builder and/or its Sub-Contractors. The construction summary should also cover any updates, if required, to the Construction Management Plan as per the requirements of Schedule 4 [Management Systems and Plans];
- 1.5 A summary of permits in place as well as ones still to come with anticipated application/approval timelines;
- 1.6 A summary of Changes executed to date along with any Changes currently being priced or in development;
- 1.7 A narrative related to Occupational Health and Safety with a summary of injuries and/or incidents that have occurred on the Site over the past reporting period. This shall also include onsite personnel counts with tally of the total number of person hours worked with a breakout summary of apprentice numbers and hours completed as per the requirements of Schedule 7 [Apprenticeship Policy];
- 1.8 A summary of the Infection Prevention and Control measures, confirming daily compliance with CSA Z317.13, and identification of any failure by the Design-Builder to comply, including any incidents reports and any remediation measures related to:
 - (a) Dust control;
 - (b) Noise control;

- (c) Vibration monitoring;
 - (d) Settlement monitoring; and
 - (e) Noxious odours (including diesel exhaust);
- 1.9 A report of the Quality Assurance Plan prepared by the Design-Builder's Quality Manager covering all aspects of the Design and Construction completed in the reporting period that are relevant to the Quality Assurance Plan. The Design-Builder will highlight any deficiencies identified and corrective actions taken to address such deficiencies during the period covered by such report. The report will include all supporting documentation including field reviews, inspection reports, photographs, reports and other material completed by all professionals of record over the reporting period as per the requirements of Schedule 4 [Management Systems and Plans];
- 1.10 A narrative related to the current Design and Construction Schedule which describes the current status of the Work, any deviations from scheduled performance, and any changes in the Design-Builder's work plan as of the data date as per the requirements of Schedule 11 [Design and Construction Schedule];
- 1.11 A summary of how the planned F&E will be integrated into the most up to date design;
- 1.12 A summary describing all communications related activities including, but not limited to: construction notifications, general enquiries, external communications, incident and complaint reporting as per the requirements of Schedule 4 [Management Systems and Plans];
- 1.13 Provide letters of assurance from the Certified Registered Professional certifying that all design and construction is being constructed in compliance with the Reviewed Drawings and Specifications and the Design and Construction Specifications;
- 1.14 Provide a list of all sub-trades retained as a part of the Project;
- 1.15 Provide any notices of Delay Claims immediately upon receipt and include status updates of these claims until their resolution; and
- 1.16 Provide photos summarizing onsite progress over the past month.
- 1.17 The Monthly Project Report will be organized in accordance with the following table of contents:

TABLE OF CONTENTS

1. MONTHLY STATUS REPORT

1.1 EXECUTIVE SUMMARY

1.2 BIM PROGRESS

1.3 LEED DOCUMENTS

1.4 PROJECT DESIGN STATUS

1.4.1 DESIGN PROGRESS THIS MONTH

1.4.2 DESIGN MEETINGS

1.4.3 DESIGN PROGRESS UPCOMING

1.4.4 UPCOMING DESIGN MEETINGS

1.4.5 UPDATES TO THE MANAGEMENT PLAN

1.4.6 PERMIT SUMMARY

1.4.7 FM INPUT

1.5 HEALTH & SAFETY

1.6 INFECTION PREVENTION & CONTROL

1.6.1 DUST CONTROL

1.6.2 NOISE CONTROL

1.6.3 VIBRATION MONITORING

1.6.4 SETTLEMENT MONITORING

1.6.5 NOXIOUS ODOURS

1.7 QUALITY CONTROL

1.8 PROJECT SCHEDULE

1.8.1 CURRENT CONSTRUCTION STATUS

1.8.2 UPCOMING CONSTRUCTION ACTIVITIES

1.8.3 CHANGES TO THE SCHEDULE

1.8.4 SCHEDULE ITEMS OF CONCERN

1.9 FF&E SUMMARY

1.10 PROJECT COMMUNICATIONS

1.11 COMPLIANCE

1.12 SUBCONTRACTORS

1.13 DELAY CLAIMS

2. FINANCIAL MANAGEMENT

2.1 CONTRACT STATUS

2.1.1 CONTRACT DOCUMENTATION

2.1.2 RISK MANAGEMENT

2.2 BUDGET CONTROL AND COST CONTROL

2.2.1 OVERVIEW

2.2.2 ONGOING ISSUES

2.3 CHANGE ORDERS AND INVOICING

2.3.1 CHANGE ORDER SUMMARY

2.3.2 INVOICING AND CASH FLOW

3. PHOTOGRAPHS

APPENDICES

APPENDIX A – RISK REGISTER-None Updated

APPENDIX B – MASTER CONSTRUCTION SCHEDULE

APPENDIX C – RFI LOG

APPENDIX D – SUBMITTAL LOG

APPENDIX E – SI LOG

APPENDIX F – CHANGE LOG

APPENDIX G – LEED SCORECARD

APPENDIX H – PLANS

APPENDIX 3: QUALITY ASSURANCE PLAN

To be developed in accordance with this Schedule 4.

**APPENDIX 4: BUILDING INFORMATION MODEL MANAGEMENT –
PROJECT EXECUTION PLAN (PEP)**

To be developed in accordance with this Schedule 4.

**APPENDIX 4A: BUILDING INFORMATION MANAGEMENT (BIM)
REQUIREMENTS DOCUMENT SET V2.18.3**

The Authority's guidelines for Building Information Management (BIM) processes have been outlined within the following BIM Requirement Document Set and will be taken as the baseline for the development of the BIM PEP:

- 00 – FHA Shared Parameters (txt file format)
- 01 – FHA BIM Requirements Overview-V2.18.3b (pdf file format)
- 02 – FHA BIM Standards Requirements-V2.18.3b (pdf file format)
- 04 – FHA Design DGS-V2.18.3b (xlsb file format)
- 05 – FHA Build DGS-V2.18.3b (xlsb file format)

APPENDIX 5: ENERGY MANAGEMENT PLAN

To be developed in accordance with this Schedule 4 and Schedule 5.

APPENDIX 6: INFECTION PREVENTION AND CONTROL PLAN

To be developed in accordance with this Schedule 4.

APPENDIX 7: HOSPITAL TECHNOLOGY SYSTEMS INTEGRATION PLAN

To be developed in accordance with this Schedule 4.

APPENDIX 8: CONSTRUCTION MANAGEMENT PLAN

To be developed in accordance with this Schedule 4.

APPENDIX 8A: CONSTRUCTION PROTOCOLS

1. HOURS OF CONSTRUCTION WORKING

- 1.1 The Core Working Hours on the RCH Campus and delivery activities, aligned with the City of New Westminster's Construction Noise Bylaw and the City's Good Neighbour Protocol, typically take place as follows:
 - (a) 07:00 – 20:00 hours Monday to Friday; and/or
 - (b) 09:00 – 18:00 hours Saturday.
- 1.2 The RCH Campus is an active healthcare campus. The Design-Builder will respect these operating hours for any work outside the Site that may require interaction with RCH staff or may have an impact on the Health Authority's Operations of the Existing Hospital (particularly noisy, vibration, dust and building access).
- 1.3 If the Authority determines that work outside of the Core Working Hours within the Site perimeter is having a negative impact on the Existing Hospital, the Authority retains the right to require the Design-Builder to cease working.
- 1.4 Construction activities outside of the Site perimeter but on the RCH Campus that require work outside of the Core Working Hours will be undertaken in the following order of preference:
 - (a) Evening periods;
 - (b) During the daytime over the weekend;
 - (c) Morning periods; and
 - (d) Night working, which will be considered as a last resort or where the need is driven by other constraints.
- 1.5 Locations on the RCH Campus outside the Site perimeter where construction is anticipated to take place and the planned time outside of Core Working Hours will be defined and confirmed by the Authority through the submission; review and Authority approval of scope specific Work Plans.
- 1.6 During periods of necessary night working the work activity will be chosen, sited and enclosed such that noise levels at the nearest properties do not exceed the levels as per the requirements of Schedule 1 [Statement of Requirements] Section 2.6.5.

2. EXISTING UTILITIES AND SERVICES

The Design-Builder will confirm the location of, and protect:

- 2.1 All existing off RCH Campus utilities and services that may be affected by the Construction;

- 2.2 All existing on RCH Campus and services that may be affected by the Construction;
- 2.3 The Design-Builder will relocate any existing on RCH Campus utilities and services that conflict with Construction; and
- 2.4 All existing utilities and services to the RCH Campus must remain in operation at all times. Interruptions will be permitted only if there is no reasonable alternative to the interruption and if the interruption has been approved, through a Work Plan, in advance by the Authority.

3. SITE ISSUES

The Design-Builder will:

- 3.1 Perform all Construction activities without blocking or disrupting vehicle or pedestrian access to, except as may be permitted pursuant to an approved Work Plan, the RCH Campus;
- 3.2 Take reasonable steps to ensure that the Design-Builder's Construction workers are encouraged to use transit to get to the Site and Construction workers and/or suppliers do not:
 - (a) Use for vehicle parking:
 - (i) Any portion of the RCH Campus site outside of the Site, including public parking facilities on the RCH Campus; and/or
 - (ii) Any street within 1 km of the Site;
 - (b) Smoke on any portion of the RCH Campus; and/or
 - (c) Use the washroom or other facilities at the RCH Campus;
- 3.3 Before commencing the Construction, prepare and implement, in co-operation with the Authority, a Work Plan approved by the Authority at least two (2) weeks prior to the scheduled work, a construction fire safety plan for the Site, which will describe emergency access, impacted or changed egress points and routes from the existing buildings as well as routes to and from the Site during an emergency; and
- 3.4 If The Design-Builder performs any Construction outside of the Site, but within the RCH Campus, the Design-Builder will comply with all policies and other requirements of the Authority.

4. CONSTRUCTION VEHICLE ROUTING

The Design-Builder will ensure the following construction vehicle routing measures:

- 4.1 Access routes to and from the Site to be used by large trucks, semis and main construction traffic will be agreed with the Authority prior to commencement of construction;

- 4.2 Construction routes will be clearly signposted, and the entrance to the Site will be clearly lit at all times;
- 4.3 Traffic control and traffic calming measures will be provided at the Site entrance to ensure vehicles entering and exiting the Site do not cause undue congestion;
- 4.4 All construction traffic will enter and exit the Site as directed by the Authority;
- 4.5 To minimize the likelihood of congestion, strict monitoring and control of all vehicles entering, exiting and travelling across the Site will be maintained, including:
 - (a) The setting of specific delivery and collection times;
 - (b) Consolidation of deliveries wherever possible;
 - (c) A system of 'just in time' deliveries;
 - (d) The requirement for prior authorisation when visiting the Site via vehicle, which would be managed by the Design-Builder; and
 - (e) Site access controls and barriers;
- 4.6 A waste compactor may be used on-Site where possible to help reduce the number of vehicle trips related to waste collection. Suppliers delivering packaged or wrapped components will be required to take redundant packaging away on delivery vehicles, rather than by separate measures; and
- 4.7 Any local traffic management measures for Site access will be agreed with the City.

5. CONTINUED OPERATION OF THE ROYAL COLUMBIAN HOSPITAL CAMPUS DURING CONSTRUCTION

Royal Columbian Hospital must always remain fully operational during construction of the Facility.

The Design-Builder will:

- 5.1 Co-operate with the Authority to co-ordinate any work required that might interfere with the RCH Campus, through the submission and approval by the Authority of a Work Plan, to minimize the interference to or disruption of the on-going operation of the RCH Campus, including the delivery of quality patient care;
- 5.2 Adhere to all Authority policies and procedures relating to the RCH Campus;
- 5.3 Before undertaking any work that may interfere with the RCH Campus, as per the requirements of Schedule 1 [Statement of Requirements] Section 2.6.9, deliver to the Authority and obtain the Authority's approval of a Work Plan clearly identifying:

- (a) The activity that may interfere with or disrupt the operation of the RCH Campus including a description of the nature, timing and extent of interference or disruption;
 - (b) The steps the Design-Builder intends to take to minimize the extent of such interference or disruption;
 - (c) The temporary measures that the Authority will be asked to undertake to support the interference or disruption with a clear outline detailing the affected Authority Operations and identify steps the Design-Builder will take to minimize disruption; and
 - (d) Any specific reporting relationships between the Design-Builder and the Authority staff desirable or required to coordinate the interference or disruption, unless the Authority, at its discretion, notifies the Design-Builder in writing that a Work Plan will not be required for that specific scope of work or a particular shutdown;
- 5.4 Prior to delivering a Work Plan, consult with the Authority and, upon reasonable request, the Authority will make appropriate staff available for such consultation to determine the Work Plan that minimizes interference or disruption to RCH Campus;
- 5.5 not proceed with any work described in Section 5.3(c) above without:
- (a) The Authority's prior written approval of a Work Plan under this Section, such approval not to be unreasonably withheld or delayed; or
 - (b) Advance written notice from the Authority confirming that a Work Plan is not required;
- 5.6 Undertake the Construction in accordance with any Work Plan approved by the Authority; and
- 5.7 Undertake the Construction respecting the Authority's FMO construction protocols for the RCH Campus.
- 6. MAINTENANCE OF EXISTING CYCLING, PEDESTRIAN AND VEHICLE ROUTES**
- The Design-Builder will develop and implement a plan to ensure all existing cycling, pedestrian and vehicle routes are maintained, including the following measures:
- 6.1 Undertake the Construction so as not to impede vehicle traffic flow along the full existing width of Sherbrooke Street, East Columbia St, Keary St and the Service Lane so as not to adversely affect the safety of vehicles, cyclists or pedestrians;
 - 6.2 Maintain the existing bus stop on the West side of East Columbia Street, or temporarily relocate it during the Construction Period (in consultation with the Authority, City and TransLink) with the same level of access, visibility and weather protection;
 - 6.3 Avoid interfering with other bus stops in the vicinity of the Site;

- 6.4 Maintain City public pedestrian and bicycle pathways around the perimeter of the RCH Campus, or obtain approval from the City to temporarily relocate them during the Construction Period; and
- 6.5 If any curbs and sidewalks are disturbed during construction:
 - (a) Provide temporary alternate safe passage for pedestrians and cyclists; and
 - (b) Replace the disturbed curbs and sidewalks with new curbs and sidewalks and integrate them with existing curbs and sidewalks.

7. SITE COMPOUNDS

- 7.1 All Design-Builder site compounds for the accommodation of welfare facilities or storage of equipment, tools, vehicles and materials will be contained within the Site. No Design-Builder site compounds will be permitted outside the Site.
- 7.2 Within each work area, weather-tight and secure compounds will be established for the storage of materials. Storage areas will not be established in ecologically or environmentally sensitive areas. Materials will be stored within designated areas which may include the use of steel containers.
- 7.3 Areas will be clearly marked and managed to prevent them becoming overfilled and ensured that the areas are suitable for the materials stored.
- 7.4 Hazardous materials such as fuel will be stored within secure compound areas to prevent spillage, theft or malicious damage.

8. DELIVERIES

- 8.1 All deliveries to the Site will be booked in and out of Site at designated security/access points. The Site will be laid out in such a way that there is a clear and simple route for both vehicles and pedestrians. Vehicle and pedestrian routes will be kept separate with pedestrian crossing points being clearly marked and warning signs posted.
- 8.2 To prevent construction traffic standing on public roadways, the Site entrance will have a 'pull-in' area to allow construction delivery vehicles to move off public roadways immediately upon arrival at the site. Vehicles waiting in holding areas will switch off their engines while they are processed.
- 8.3 Large vehicle deliveries will be scheduled outside peak hours as far as possible and will be spread across the working day.

9. TEMPORARY LIGHTING

Temporary lighting to support construction work will generally be limited to the Core Working Hours. Site lighting will be kept to a reasonable minimum and chosen to limit intrusion onto other properties and sky glow, whenever possible, except where it is essential for health and safety or security reasons.

10. SECURITY

Security within the Site and the perimeter of the Site will be the responsibility of the Design-Builder 24 hours a day, 7 days a week. Overall RCH Campus security will continue to be maintained by the Authority's Integrated Protection Services (IPS) and managed to minimize risks of the development becoming a nuisance to IPS and the New West Minister Police Department. The Design-Builder's will provide security personnel for after-hours Site security and will be fully coordinated with the Authority's IPS.

Due to the size and complexity of the Site the Design-Builder's security will ensure that the Site is fully secure to limit any potential for intrusion into the Site. All site fencing and/or hoarding, shall be installed at a minimum height of 2,400mm (8') and be either chain link or tamper proof modular fence anchored into the ground. The site fence and/or hoarding will be designed and erected to minimize the visual impact into the site.

11. DESIGN-BUILDER SITE MEETINGS

The Authority's Representative and its delegates will have the right to attend all progress meetings and Site meetings, including meetings between the Design-Builder and its sub-contractors. The Design-Builder will cooperate with the Authority to arrange for tours of the Site at reasonable times during construction for interested clinical or research staff and other health care officials and personnel, in a way that does not interfere with the progress of the construction.

12. PROTECTION OF PROPERTY

The Design-Builder will ensure:

- 12.1 The Authority's property (and any third party's property) is protected from damage caused by the Construction, including buildings, roadways, drainage systems, landscaping, surfaces, services and infrastructure; and
- 12.2 Promptly repair of any damage to property caused by the Design-Builder in undertaking the Construction, including any damage caused by site settlement or ground vibration.

13. CONSTRUCTION DEBRIS AND WASTE MANAGEMENT

The Design-Builder will develop and implement a comprehensive waste management plan for the Construction that, complied with LEED waste disposal requirements and:

- 13.1 Quantifies the Design-Builder's material diversion, including recycling or salvage, goals;
- 13.2 Identifies materials that will be recycled, including the following items:
 - (a) Clean dimensional wood and palette wood;
 - (b) Concrete/brick/concrete block/asphalt;
 - (c) Drywall;

- (d) Fluorescent tubes;
- (e) Old corrugated cardboard;
- (f) Paint; and
- (g) Scrap metal; and

13.3 Describes the plans and procedures to be implemented by the Contractor for:

- (a) The separation of materials, and prevention of contamination of materials, to be recycled or salvaged; and
- (b) The removal, handling and disposal of hazardous wastes in accordance with applicable Laws.

14. SITE HOUSEKEEPING

The Design-Builder will develop and manage a comprehensive Site "housekeeping" strategy that at a minimum ensures:

- 14.1 Wheel cleaning facilities will be used to clean vehicles leaving the site;
- 14.2 All materials transported to and from the Site are conveyed by suitable vehicles using adequate wind shielding measures such as sheeting;
- 14.3 The Site will be regularly cleaned and maintained in an orderly fashion to prevent the unnecessary build-up of dust, debris and rubbish to be cleared and removed at regular intervals throughout the construction work week including but not limited to:
 - (a) Clean up during the shift;
 - (b) Day-to-day cleanup;
 - (c) Regular waste disposal;
 - (d) Daily removal of unused materials; and
 - (e) Regular inspection to ensure cleanup is complete.
- 14.4 Lighting will be configured so as to minimize its effect on adjacent RCH Campus and the local community.

15. POLLUTION CONTROL

The Design-Builder will be responsible for the control and management of pollutants on site during Construction and will implement pollution prevention measures as follows:

- 15.1 Establish a pollution risk register identifying potential hazards, and include suitable provisions for mitigation;

- 15.2 Protecting areas where contamination may occur, such as vehicle maintenance and refuelling areas;
- 15.3 Provide onsite provision for the control of identified pollutants as well as protection of personnel and members of the public;
- 15.4 Provide pollution control packs within vulnerable areas to allow immediate reaction to any pollution incident;
- 15.5 Develop incident control procedures in conjunction with the requirements of the City and local emergency services;
- 15.6 Provide pollution control briefing as part of the site induction briefing; and
- 15.7 Ensure no contaminating materials are deposited onto Site.

16. HAZARDOUS MATERIALS

The Design-Builder will be required to carry out risk assessments and produce method statements for works in areas where there may be hazardous materials. Where significant risks to health, environment or safety are identified in a risk review the works will be closely monitored and suitable provisions put in place to mitigate the risks, before the works proceed. If appropriate the works will be suspended until the hazard is removed. The Design-Builder will maintain on site suitable testing equipment as well as personal protective equipment (PPE), decontamination and containment measures for all known hazardous materials.

17. SIGNAGE

- 17.1 The Design-Builder may erect signage during construction to identify the Design-Builder and project-specific signage provided such signs are acceptable to the Authority, acting reasonably.
- 17.2 The Design-Builder will be responsible for any signage required for temporary changes to building or site access, temporary alterations to emergency exiting and any other traffic or pedestrian rerouting required to accommodate the Work.
- 17.3 The Design-Builder will:
 - (a) Maintain all existing RCH signage along the perimeter of the Site at all times during the Construction with adequate visibility to pedestrians, cyclists and vehicles, or obtain approval from the Authority to relocate such signage to accommodate the Work; and
 - (b) Provide directional signage at the Site perimeter to appropriately direct pedestrian and vehicular traffic.

18. TEMPORARY WORKS

During the Construction Period, the Design-Builder will:

- 18.1 Have the sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and the design and execution of construction methods required in their use;
- 18.2 Provide and pay for all services necessary for the Design-Builder's construction use, including power, heating, cooling, telephone, data, water, sewage and staff kitchen facilities; and
- 18.3 For any work that is off-Site, but within the RCH Campus, the Design-Builder will comply with all rules or regulations governing the activity of contractors at RCH as provided by the Authority.

19. WORK PERFORMED POST-SUBSTANTIAL COMPLETION

For all Work that the Design-Builder will be performing in the Facility after Substantial Completion and prior to Total Completion being achieved will, require a Work Plan to be submitted to the Authority, as described in Section [●] of this Appendix, and all activities will be fully coordinated and scheduled with the Authority as per the requirements of Schedule 11 [Design and Construction Schedule].

APPENDIX 8B: SAFETY

The safety section of the Construction Management Plan will address, at a minimum, the requirements of regulatory agencies and FHA Occupational Health and Safety Standards.

1. WORKSITE HAZARDS

The Design-Builder will identify worksite hazards and will develop operational occupational safety policies, procedures and plans that are specific to those hazardous aspects of the Work to ensure the safety of every person at a construction site and the public accessing or using the Site. The Design-Builder will provide copies of these safety policies, procedures and plans prior to the commencement of the work as a part of the Work Plan submissions.

If WorkSafeBC or municipal agencies conduct a worksite inspection that results in "orders" being issued to the Design-Builder or any of its subcontractors, the Design-Builder will immediately notify the Authority along with supplying copies of these orders to the Authority.

Notwithstanding the above, the Authority may order the suspension of work in cases of recognized imminent danger or when the Design-Builder fails to comply with WorkSafeBC orders issued or fails to rectify previously identified worksite hazards.

2. THIRD PARTY ACCIDENT REPORTING

The Design-Builder will immediately notify the Authority of any:

- 2.1 Accident occurring within the Site involving its own or its subcontractors' vehicles or equipment; and
- 2.2 Accident occurring during the Construction which involves a fatality, serious personal injury, or third party property damage in excess of \$1,000 or as specified in the Occupational Health and Safety Act, or successor act or regulation.

The Design-Builder will investigate any accident (including those of its subcontractors) and complete a detailed accident report in a form satisfactory to the Authority within 72 hours of when the Design-Builder first learned of the accident or ought to have learned of the accident.

The detailed accident report must include:

- (a) Photographs;
- (b) Details of site conditions;
- (c) Weather reports;
- (d) Records of signs; and

- (e) Witness contact information.

In the event of an accident involving a death, the Design-Builder will inform the Authority within one hour of when the Design-Builder first learned of the death or ought to have learned of the death, but in any event no later than 24 hours after the occurrence of the accident.

3. SAFETY MEETINGS

For the duration of the Construction, the Design-Builder will conduct safety meetings prior to the commencement of any work on each major work phase of the Work, or monthly, whichever occurs more frequently. The Design-Builder will invite the Authority to send a representative to attend such safety meetings and will give reasonable advance notice of such meetings.

4. EMERGENCY PLANNING AND INCIDENT MANAGEMENT PROCEDURES

The Design-Builder will be responsible for the development and implementation of the emergency plans and the incident management procedures during Construction. The Design-Builder will provide suitable on-site provision to mitigate reasonably foreseeable risks. Control procedures will include:

- (a) Measures for the immediate containment of pollution at source;
- (b) Reporting an incident immediately to the Authority's management team;
- (c) Raising the alarm to the emergency services;
- (d) Summoning emergency services where appropriate;
- (e) Incident recording and reporting;
- (f) Regular monitoring and recording of site risks to identify areas of high, medium and low risk;
- (g) Provision for onsite incident management facilities to cater for reasonably foreseeable risks, such as the provision of spill kits at key locations;
- (h) Regular liaison with the locally based emergency services, to provide updates on current medium – high risk activities; and
- (i) Provision of Site-based, and suitably qualified, health and safety personnel.

5. FIRE SAFETY PLANS

The Design-Builder will be responsible for the development and implementation of Fire Safety Plans during the course of Construction. The Design-Builder will be responsible to update or amend the Fire Safety Plans if at any point the Project Boundary Limits change due to the nature and timing of the Work being performed. The Design-Builder will retain

a professional fire safety consultant to provide Fire Safety Plans and all related documentation as required by the Authority Having Jurisdiction and coordinate in further consultation with the Authority to ensure such documentation meets all applicable Authority standards for Fire Safety Plans and related documentation.

APPENDIX 8C: DUST, NOXIOUS ODOUR AND NOISE CONTROL

1. PURPOSE OF THIS APPENDIX

- 1.1 Acknowledge that construction-caused settlement of existing buildings and structures on the RCH Campus and construction-caused ground vibration may disrupt the operation of medical equipment and may disrupt utility services to RCH. The Design-Builder will cooperate with the Authority and take all reasonable steps to avoid disrupting such equipment and services. The Design-Builder will meet with the Authority's staff and equipment suppliers in advance of construction to develop and implement a mitigation strategy to avoid identified risks and align with all requirements set out in Schedule 1 [Statement of Requirements];
- 1.2 Identify high risk locations where potential settlement may be a concern or where excess vibration may cause discomfort (including neighbouring residential areas) or interfere with activities at the RCH Campus;
- 1.3 Establish a set of benchmarks in consultation with the Authority and document pre-construction conditions at nearby structures exposed to possible settlement or vibrations;
- 1.4 Monitor conditions at test locations during construction activities that could possibly expose structures to settlement or excess vibration and report results at least monthly;
- 1.5 Have a contingency plan in place to respond to conditions that exceed allowable thresholds for either settlement or vibration; and
- 1.6 Document final conditions following completion of the structure to record any permanent settlements, cracking or other damage so that the Design-Builder can complete necessary repairs.

2. REQUIREMENTS FOR DEVELOPING THE CONSTRUCTION MANAGEMENT PLAN

- 2.1 The final Construction Management Plan with surveyed benchmarks will be submitted for review as part of the Schematic Design Phase submission package but it must be submitted in advance of excavation.
- 2.2 The benchmarks will be surveyed and vibration monitoring will be undertaken at least monthly during excavation and until the ground floor structure is complete and then on completion of the structure. Vibration measurements will be taken during activities that generate high levels of vibration or at times requested by the Authority to address concerns raised by neighbours or staff at RCH. If reported values indicate unexpected settlement or vibration, establish additional monitoring locations or additional testing frequency in consultation with the Authority to determine the cause and to ensure remedial actions are effective.
- 2.3 The pre-construction survey will include the perimeter of the Site, adjacent RCH structures, all adjacent properties including adjacent residential buildings, infrastructure, and

roadways (including all underground services and installations) within a radius required by the Authority. The pre-construction survey will include photos as well as surveyed levels and will be in a form and detail satisfactory to the Authority, acting reasonably. The pre-construction survey will be provided to the Authority as a Submittal and will be reviewed in accordance with Schedule 2 [Review Procedure].

3. DUST AND NOXIOUS ODOR CONTROL

The Design-Builder will provide a strategy for minimizing the impact of construction activities, including dust and noxious odors, on neighbours and the Existing Hospital. At a minimum, the Design-Builder will:

- 3.1 Identify possible dust causing material and activities, at project start up;
- 3.2 Ensure adequate controls are in place to reduce environmental impact of any dust or emissions;
- 3.3 Ensure an adequate water supply on the site for effective dust / particulate matter mitigation (using recycled water if possible);
- 3.4 Use enclosed chutes, conveyors and covered dumpsters;
- 3.5 Ensure equipment is readily available on site to clear any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods;
- 3.6 Record and respond to all dust and air quality pollutant emissions complaints;
- 3.7 Provide suitable measures to prevent the spread of airborne pollutants on the Site and particularly beyond the site boundary. Unnecessary stockpiling on Site will also be avoided;
- 3.8 Controlling dust or mud on the roads and take action through regular sweeping, wet cleaning or grading;
- 3.9 Ensure site fencing and hoarding will be routinely cleaned & maintained to prevent the build-up of dust; and
- 3.10 Ensure the site will be laid out so that machinery and dust causing activities can reasonably be located away from receptors.

4. NOISE CONTROL

The Design-Builder will be responsible for assessing, monitoring and developing noise and vibration control procedures to ensure the disturbance caused by construction traffic and construction activities are minimized.

Noise and vibration mitigation measures will include:

- 4.1 Selection of construction methods and scheduling to minimize noise and vibration at sensitive receptors;
- 4.2 Selection of routes and scheduling for the transport of construction materials, spoil and personnel to minimize noise and vibration at sensitive receptors;
- 4.3 Design and use of site hoardings and screens to provide acoustic screening where practicable at the earliest opportunity;
- 4.4 Doors and gates will not be located opposite occupied noise-sensitive RCH buildings;
- 4.5 Assessment of construction operations against current standard for predicted noise levels with reasonably practical measures to reduce/attenuate noise levels, in particular:
 - (a) Demolition;
 - (b) Ground works; and
 - (c) Concrete works;
- 4.6 Assess the noise and vibration impact of plant and machinery that will be utilized on Site prior to commencing Construction, and to then instigate suitable mitigation measure where noise levels exceed acceptable limits;
- 4.7 Plant and equipment liable to create noise or vibration will be located away from sensitive receptors or will be controlled by the use of lined and sealed acoustic covers or enclosures to prevent or reduce risk of disturbance;
- 4.8 Where used, acoustic covers or enclosures will remain in place whilst the relevant noise generating equipment is in use;
- 4.9 Regular maintenance will be undertaken on all plant and equipment in accordance with manufacturers' guidelines. Maintenance records will be kept on-site;
- 4.10 Muffler silencers will be fitted to all Site-based plant, machinery and vehicles;
- 4.11 Plant and equipment will be used where practicable in the mode of operation that minimizes noise, and shut down when not in use;
- 4.12 Only plant conforming to relevant national or international standards, directives and recommendations on noise and vibration emissions will be used; and
- 4.13 Minimize noise pollution through the use of noise attenuation techniques to comply with all Laws and Regulatory Requirements.

APPENDIX 8D: F & E LOGISTICS

Refer to Section 14, Appendix 1G [Clinical Equipment] of Schedule 1 [Statement of Requirements] for details regarding content of the Clinical Equipment Logistics Plan, as well as requirements regarding updating and amending the plan. A Complete Documents Phase package will be submitted no later than the dates indicated in Section 2.2.

APPENDIX 8E: CONSTRUCTION COMPLETION

1. CONSTRUCTION COMPLETION REQUIREMENTS

Construction completion will be based on the following minimum requirements:

- 1.1 Protocol for deficiency inspections;
- 1.2 Protocol and timing for correction of deficiencies;
- 1.3 Check-lists for ensuring the following are completed:
 - (a) Equipment installation;
 - (b) Hospital Technology Systems integration and compliance checking;
 - (c) Commissioning;
 - (d) Municipal inspections;
 - (e) Training;
 - (f) Move-in readiness including Cleanliness per Section 3 of this Appendix;
 - (g) LEED certification application; and
 - (h) Energy compliance in accordance with Part B, Section 3 of this Schedule;
- 1.4 Preparation, checking and submitting the operating and maintenance manuals ("**Operations and Maintenance Manuals**");
- 1.5 Schedule for submitting as-built or record documentation ("**Record Documentation**") in accordance with Section 5 of this Appendix;
- 1.6 Schedule for submitting shop drawings and product information;
- 1.7 Completion of all photographic records in accordance with Schedule 2 [Review Procedure]; and
- 1.8 Provision of all warranties in accordance with Section 4 of this Appendix.

2. REQUIREMENTS FOR CONSTRUCTION COMPLETION

The Construction Completion Plan will be submitted for review as part of the requirements indicated in Section 2.2.

3. CLEANLINESS

The Facility must be hospital level clean as per CSA Z317.13, and usable for the purposes intended at Substantial Completion or at an earlier date if the space is being turned over for

installation of furniture, fixtures and equipment that might be susceptible to dust or dirt contamination. Once clean, the Design-Builder will restrict traffic to maintain cleanliness but will promptly clean any area that becomes dirty as a result of contractor or any other activity including Authority or equipment vendor use in installing equipment. Cleanliness for occupancy will comply with Section 3.8 Infection Prevention and Control of these Management Plans.

4. PROJECT DOCUMENTATION AND SECURITY

In addition to the requirements specified in the BIM PEP and Schedule 3 [Design Process] Section 4.3.6 the Record Documentation supplied by the Design-Builder will include all information detailed in this Agreement as applicable. The Design-Builder will provide on or before Substantial Completion:

- 4.1 Provide operation and maintenance manuals, specifications, warranties and related information, in written and electronic form, for all the equipment and systems that have been included in the design and construction of the Facility for review by the Authority's Representative;
- 4.2 Include warranties in the name of the Authority for a minimum of two years from the date of Substantial Completion or such extended period as stipulated in Schedule 1 (Statement of Requirements);
- 4.3 Provide a Warranty Letter of Credit as described in Section 7 of this Appendix;
- 4.4 Provide cut sheets with product details and operating instructions for all Category 4 equipment;
- 4.5 Provide operating and maintenance instructions for all mechanical and electrical systems subject to the approval of the Authority's building operators;
- 4.6 Provide a list of all suppliers and sub-trades with contact names, addresses, phone numbers, email addresses and web sites;
- 4.7 Provide the following spare parts and those specified in Schedule 1 [Statement of Requirements], and as required to ensure uninterrupted operation of critical equipment where parts that might be subject to unexpected failure are not readily available to the Authority:
 - (a) Door controllers – 2 of each type;
 - (b) Door hardware – includes 2 sets of all varieties of hardware (items with moving parts like hinges, door latch assemblies, moving parts needed to maintain revolving or sliding doors);
 - (c) BMS controllers and terminal hardware – 2 sets of each unique element;
 - (d) Clock system components – sufficient to repair or replace 2 clocks of each type;

- (e) PTS system components – 2 of each unique component not readily available;
- (f) Ceiling tiles – 2 cartons of each type of ceiling tile;
- (g) Lamps – 2 cartons of each lamp type;
- (h) One full change of filters (in addition to the clean filters inserted at hand over);
- (i) Flooring materials – sufficient material to replace or repair 100 square meters of each flooring type;
- (j) One set of motors for each different sized air handling unit;
- (k) Wall protection components – provide 6 spare corner guards and 30 m of each type of wall guard including each type or rail;
- (l) Variable frequency drives (VFD) – provide one spare VFD for each size of VFD;
- (m) Plumbing fixtures – provide 2 spare fixtures for each type of toilet, lavatory basin and associated faucets; and
- (n) One spare air circuit breaker of each major size on distribution; and

4.8 Provide any other information needed to maintain and operate the Facility.

5. RECORD DOCUMENTATION

In addition to the requirements specified in the BIM PEP and Schedule 3 [Design Process] Section 4.3.6 the Record Documentation supplied by the Design-Builder will include all information detailed in this Agreement as applicable. The Design-Builder will on or before Substantial Completion:

5.1 As-built drawings and Specifications:

5.2 The Design-Builder will:

- (a) Throughout construction, update the Reviewed drawings and specifications and 100% Complete Drawings (with respect to the drawings, such update will be in hard copy and "CAD" or other electronic format), including all final shop drawings, so as to produce accurate and complete as-built documents for the Facility;
- (b) Upon request by the Authority from time to time during the Construction, make available such as-built drawings and specifications to the Authority's Representative for review to permit the Authority's Representative to monitor the Design-Builder's compliance with the requirements of this Section and for the Authority's operational and other use;

- (c) Prior to Substantial Completion, update and provide a clean set of drawings incorporating all site changes, change orders or any other deviations from the design drawings; and
- (d) Provide three full-size hard copies plus electronic copies of drawings and the 3D model in the formats specified below of the completed as-built drawings, specifications and records listed below on or before Substantial Completion:
 - (i) 2D drawings will be in both Autodesk Design Review 'DWF,' and in DWG and in Adobe Reader 'PDF' format; and
 - (ii) The 3D combined model will be in both Autodesk Design Review 'DWF' and either NavisWorks Freedom 'NWD' or Tekla BIMsight.

The Design-Builder will submit all electronic copies in compliance with the standards established by the Authority from time to time for electronic copies and in particular, the provisions of Section 6 of this Appendix.

(e) Design Records

The Design-Builder will retain and submit records of the Design process at construction close-out.

(f) Minutes of Meetings

The Design-Builder will retain minutes of all meetings between the Authority and the Design-Builder relating to the Design and Construction and submit a complete record at construction close-out. The Design-Builder will circulate such minutes to the Authority's Representative for review and comment within the time period specified in the DBA for the particular meeting or if no time period is specified then within three Business Days after the relevant meeting, and a reasonable period before any subsequent meeting so that all parties may consider the minutes and take required actions in advance of the subsequent meeting.

(g) Inspection Reports and Tests Results

The Design-Builder will provide all official reports and certified test records of all inspections and tests which were undertaken as part of the construction.

(h) Monitoring Results

The Design-Builder will provide all survey and monitoring records obtained in connection with Part B, Section 7.

(i) Utility Plans

The Design-Builder will provide all utility plans for the Facility.

(j) Operating and Maintenance Manuals

The Design-Builder will provide operating manuals that include standard operating procedures for all mechanical and electrical operating Equipment with the original equipment manufacturer cut sheets as part of the operating and maintenance manuals.

(k) Landscape and Irrigation Plans

The Design-Builder will retain landscape and irrigation plans for the Facility.

(l) Copies of all Permits

The Design-Builder will retain copies of all permits for the Construction and occupation of the Facility.

(m) Quality Assurance

The Design-Builder will submit at closing an updated version of the Quality Assurance and all records of the Quality Assurance implemented as required by the DBA.

6. RECORDS AND REPORTS

6.1 Record Keeping

(a) General Requirements:

The Design-Builder will retain and maintain all the records (including superseded records) referred to in "Record Retention" below as follows:

- (i) In accordance with this Schedule and other applicable terms of this DBA;
- (ii) In an organized manner;
- (iii) In a form that is capable of audit;
- (iv) In accordance with all requirements of the Canadian Institute for Health Information (CIHI);
- (v) In accordance with the Design-Builder's normal business practices; and
- (vi) In accordance with GAAP.

Wherever practical and unless otherwise agreed, the Design-Builder will retain and maintain original records in hard copy form. The Design-Builder will also maintain all electronic data and records in readable and accessible form.

Any drawings or plans required to be made or supplied pursuant to this DBA will be of a size appropriate to show the detail to be depicted clearly without magnifying aids. If by prior agreement with the Design- Builder the Authority has agreed to accept microfilm, microfiche or other electronic storage media (which must include secure back up facilities), the Design-Builder will make or supply, or have made or supplied, drawings and other documents in such agreed upon form.

The Design-Builder will retain and maintain all records referred to in "Record Retention" below, all in sufficient detail, in appropriate categories and generally in such a manner to enable each party to comply with its obligations and exercise its rights under this DBA.

The Design-Builder will maintain all records for the period specified in the DBA.

Prior to destroying or disposing of any records required to be maintained, the Design-Builder will give the Authority 60 days' notice of the Design-Builder's intention to destroy or dispose of records. If within such 60-day period, the Authority gives notice to the Design-Builder that the Authority wishes to receive any of the records, then the Design-Builder will, at the cost and expense of the Authority, deliver up such records to the Authority in the manner and at the location or locations as the Authority specifies, acting reasonably.

The Design-Builder will provide a comprehensive computerized information management system maintained through the DBA Term and which will include:

- (i) Records and information related to the Design and Construction of the Facility;
- (ii) Access by the Authority (through online web access or other access acceptable to the Authority) to all such information such that the Authority will be able to read, copy, download and search all such records without licence or payment;
- (iii) Hardware and software which operate the information management and system and which interface with the Authority's information technology systems, provided that any changes required and resulting from an upgrade to, or change by, the Authority to its system will be paid for by the Authority;
- (iv) Backup and storage in safe custody of the data, materials and documents in as would be accepted by a prudent Authority;
- (v) Records and details of specific license requirements; and
- (vi) Turnover of all project information at the DBA End Date organized in a searchable format.

(b) Record Retention:

The Design-Builder will retain, and will require its subcontractors to retain, the following:

- (i) This DBA, its Schedules, and the Design-Builder subcontracts;
- (ii) The as-built drawings, plan, records and other Construction documentation described in the SOR and DBA Schedules including:
 - (A) Any revisions or amendments to such documents (copies of all such documents will be kept at each applicable Facility and made accessible to the Authority at all times);
 - (B) Up-to-date CAD and BIM drawings for the Facility, linked to, and compatible with, the Authority's information systems;
 - (C) All documents relating to all Permits, including applications, refusals and appeals, for a period of six years after the expiry date of the relevant Permit;
 - (D) All notices, reports, test reports, results and certificates relating to the Design and Construction, the Site and any other relevant lands for a period of six years after Substantial Completion;
 - (E) All records relating to any inspections of the Facility conducted under applicable Laws or by or for any provincial or federal agencies;
 - (F) All orders or other requirements issued to the Design-Builder by any governmental authority for a period of six years after such order or requirement has been satisfied by Design-Builder;
 - (G) All operation and maintenance manuals, procedures, guidelines, policies and other similar records in respect of the Facility including all information electronically and/or manually recorded by the BMS and the CMMS for the Facility for a period of six years after such information was recorded;
 - (H) A comprehensive electronic inventory and asset register that provides up-to-date records for all F&E items at the time of Substantial Completion;
 - (I) All documents relating to a referral to the Dispute Resolution Procedure for a period of six years after a determination has been made with respect thereto;
 - (J) All documents submitted in connection with any Change;

- (K) All records required by Law (including in relation to health and safety matters) to be maintained by the Design-Builder with respect to the Design and the Construction;
- (L) All documents relating to insurance and insurance claims for a period of 12 years after the relevant claim is settled; and
- (M) All other records, notices or certificates required to be produced or maintained by the Design- Builder pursuant to the express terms of this DBA or any Design-Builder contract.

6.2 Photographic Documentation

The Design-Builder will provide a photo documentation service as per the requirements outlined in Schedule 3 [Design Process] Section 4.

7. WARRANTY LETTER OF CREDIT

Refer to Section 47 [Performance Holdbacks] of the Design-Build Agreement for details regarding content of the Holdbacks.

APPENDIX 9: COMMISSIONING PLAN

To be developed in accordance with this Schedule 4.

SCHEDULE 5

ENERGY AND CARBON GUARANTEES

1. INTERPRETATION

1.1 Definitions

In this Schedule, in addition to the definitions set out in Section 1 of this Agreement:

"**BEMP**" means Building Energy Modeling Professional;

"**Building Energy Modeling Professional**" means an energy modeller who has earned the ASHRAE BEMP designation, as listed on ASHRAE website <http://certificants.ashrae.org/>;

"**Carbon Emissions**" for a period means the total amount of carbon equivalent greenhouse gas emissions associated with Energy Consumption during that period, expressed in metric tonnes of equivalent carbon dioxide (tCO_2e) and calculated using the following formula:

$$tCO_2e = \left(Elec_C \times 0.011 \frac{tCO_2e}{MWh} \right) + \left(NG_C \times 0.180 \frac{tCO_2e}{MWh} \right) + \left(HW_C \times 0.224 \frac{tCO_2e}{MWh} \right) \\ + \left(CHW_C \times 0.002 \frac{tCO_2e}{MWh} \right) + \left(Stm_C \times 0.256 \frac{tCO_2e}{MWh} \right)$$

where,

$Elec_C = Electricity Consumption [MWh]$

$NG_C = Natural Gas Consumption [MWh]$

$HW_C = Hot Water Consumption Consumption [MWh]$

$CHW_C = Chilled Water Consumption [MWh]$

$Stm_C = Steam Consumption [MWh]$

"**Carbon Guarantee**" has the meaning given in Section 6.1 of this Schedule;

"**Carbon Target**" means _____ per year;

"**Energy**" means electrical and thermal energy used within, by or for the Facility excluding the Existing Hospital;

"**Energy Consumption**" for a period means the total amount of Energy consumed at and by the Facility, excluding the Existing Hospital, during that period, expressed in MWh as reflected by the readings for the metered utilities, whether or not directly from utility providers, and as calibrated by the IEC;

"Environmental Credit" means any income, credit, right, benefit or advantage relating to environmental matters including type and level of emissions (including Carbon), means of production of Energy, input sources and compliance with any environmental laws, regulations, rules or orders;

"Energy Dashboard" means a password protected web-accessible tool that can display real time (with up to 2 hour lag time) energy consumption and carbon emission for a range of time increments (including hourly, daily, monthly, and yearly) and broken down by energy type (electrical and thermal at a minimum) and major end uses, with comparison to the Energy Target and Carbon Target;

"Energy Guarantee" has the meaning given in Section 5.1 of this Schedule.

"Energy Model" means the hourly energy simulation model produced using whole building energy modelling software, with such model identified as RCH Target Model.pd2, including any calculations of expected Energy Consumption and expected Carbon Emissions;

"Energy Modeling Summary Report" means the report that summarizes the inputs, methodology, assumption and results of the Energy Model and status relative to the Energy and Carbon Guarantees, as described in Appendix 2 of this Schedule 5.

"Energy Modeller" means a BEMP engaged by the Design-Builder to prepare the Energy Model and confirm associated Energy Consumption and Carbon Emissions;

"Energy Target" means _____ per year;

"Heating Degree Days" for a period means the figure obtained or calculated from the Site Weather Data setting out the extent to which the average outdoor temperature during that period at the Site was less than a mean temperature of +18 degrees Celsius;

"Hot Water Energy Consumption" means the thermal Energy consumed by the use of hot water supplied to the Facility by the Energy Centre measured in units of MWh;

"IEC" has the meaning set out in Section 4.1 of this Schedule;

"IEC Functions" has the meaning set out in Section 4.2 of this Schedule;

"Independent Energy Consultant" has the meaning set out in Section 4.1 of this Schedule;

"Measurement and Verification Plan" means the process and associated deliverables produced in accordance with Option D of IPMVP Volume three (3)-2003;

"Megawatt hour", or "MWh", is the unit of energy to be used throughout this Schedule and 1 MWh is equivalent to 3.6 GJ;

"Modelled Weather Data" means the weather data for Pitt Meadows, British Columbia, as file CAN_BC_Pitt.Meadows.Rgnl.AP.717750_CWEC2016.zip as available from <http://climate.onebuilding.org/>;

“**Monthly M&V Report**” has the meaning set out in Section 5.4 of this Schedule;

"**M&V Period**" means a continuous 12 month period within the 24 months after the Substantial Completion Date;

"**M&V Scope**" has the meaning set out in Section 4.2(a) of this Schedule;

"**Predicted Carbon Emissions**" means the prediction of Carbon Emissions as determined from the Energy Model or as determined by the IEC;

“**Predicted Energy Consumption**” means the prediction of Energy Consumption as determined from the Energy Model or as determined by the IEC; and

"**Weather Data**" means the historic weather data obtained from Environment Canada's "National Climate Data and Information Archive" including but not limited to the following hourly meteorological parameters:

- (a) atmospheric pressure;
- (b) drybulb temperature;
- (c) humidity ratio (or dewpoint / wetbulb temperature); and
- (d) solar parameters.

2. MONITORING EQUIPMENT

2.1 Equipment Installation

The Design-Builder will install equipment, including metering, satisfactory to the Authority to measure, record and monitor Energy Consumption for purposes of the Energy Guarantee and the Carbon Guarantee.

Such equipment must be suitable and properly calibrated to enable a detailed measurement, recording and monitoring of Energy and to allow analysis of the data collected to enable various matters, including:

- (a) comparisons to be made with the Energy Guarantee and the Carbon Guarantee;
- (b) early warning of malfunctions and deviations from norms; and
- (c) to provide an Energy Dashboard to the Authority.

Such equipment must secure all such properly recorded information so that it is not lost or degraded as a result of any equipment or service malfunctions and is secure from adjustment, modification or loss from any source.

2.2 Review of Equipment

The Design-Builder will make submission to the Authority for review of the proposed equipment in accordance with the design stages described in Schedule 3 [Design Process].

3. THE ENERGY MANAGEMENT PLAN

3.1 Scope of Energy Management Plan

The Energy Management Plan will set out the planning and activities and associated roles and responsibilities related to effectively managing Energy Consumption and Carbon Emissions of the Facility.

3.2 Content and Format of the Energy Management Plan

The content and format of the Energy Management Plan is described in Appendix 2 to this Schedule 5 and includes:

- (a) Measurement & Verification Plan; and
- (b) Energy Modeling Summary Report.

3.3 Requirements for Updating the Energy Management Plan

The Design-Builder will update the Energy Management Plan in accordance with Schedule 4.

4. IEC

4.1 Engaging the IEC

The parties will cooperate to jointly appoint a Person (the "**Independent Energy Consultant**" or "**IEC**") who is:

- (a) qualified and experienced with respect to Energy and Carbon for projects in British Columbia similar to the Project, and
- (b) independent from both the Authority and the Design-Builder (and who will be impartial to the parties),

to provide the IEC Functions.

The parties will enter into an agreement with the IEC on substantially the same terms as the parties will enter into for the Independent Certifier, as set out in Schedule 8 [Independent Certifier Agreement], with such changes as are reasonably required by the parties to reflect the IEC Functions and for payment to the IEC to be made solely by the Design-Builder.

If within 20 Business Days of the Effective Date the IEC has not been appointed, or if for any reason the IEC is unable or unwilling to continue to perform the IEC services or if the IEC appointment has been terminated by the Authority and the Design-Builder, then:

- (c) within 5 Business Days of the date that is 20 Business Days after the Effective Date (or within 5 Business Days of the date of termination of the IEC's appointment, if applicable), the Design-Builder will provide the names of 3 candidates acceptable to the Design-Builder for consideration by the Authority;
- (d) within 10 Business Days of receiving the candidate names, the Authority will notify the Design-Builder of the candidates acceptable to the Authority, and the Design-Builder will enter into a contract with an acceptable candidate generally in the form required by this Section 4.1; and
- (e) if none of the candidates are acceptable to the Authority, acting reasonably, or if for any reason an IEC is not appointed within 40 Business Days of the Effective Date (or within 20 Business Days of the date of termination of the IEC's appointment, if applicable), then either party may immediately apply to the British Columbia International Commercial Arbitration Centre for the selection of an Independent Certifier, providing the other party the opportunity to participate in the selection and appointment process.

4.2 IEC Functions

The IEC will perform the following functions (the "**IEC Functions**"):

- (a) lead the development and implementation of a Measurement and Verification Plan consistent with Option D (Whole Building Calibrated Simulation) Method 2 of International Performance Measurement & Verification Protocol (IPMVP) Volume III (three) as outlined in more detail within the Energy Management Plan and in Schedule 4 (Management Systems and Plans) (the "**M&V Scope**");
- (b) lead the M&V process throughout the Design and Construction to ensure the Energy Target and Carbon Target are achieved while minimizing operational costs;
- (c) identify and integrate various the consulting disciplines and other parties and whose decisions and actions impact the achievement of the Energy Target and Carbon Target while minimizing operational costs;
- (d) review the work of the Energy Modeller throughout the Project to the level of detail deemed appropriate by the IEC at each submission, taking into account requirements of the Design-Builder and Authority;;
- (e) determine the date the M&V Period will commence;
- (f) review the Energy Model and associated Energy Consumption and Carbon Emissions as described in this Schedule and the Agreement; and
- (g) all other services which the parties may require of the IEC or which the IEC is required to perform to meet the obligations under this Agreement.

5. ENERGY GUARANTEE

5.1 Meet or Beat Energy Target

The Design-Builder warrants to the Authority that the Facility, excluding the Existing Hospital, will be designed and constructed so that the Energy Consumption per year will not exceed the Energy Target (the "**Energy Guarantee**").

5.2 Design & Construction Period

The Design-Builder warrants to the Authority that at all times during Design and Construction and prior to and including as a condition of Substantial Completion, the Facility, excluding the Existing Hospital, will, upon completion of Construction in compliance with the Reviewed Drawings and Specifications, not exceed the Energy Target.

The Design-Builder will, with each Submittal under the Review Procedure, identify any impacts on the Energy Guarantee or the assumptions set out in Appendix 1, for review by the Authority. Any such impacts will not be effective unless agreed in writing by the Authority. If the Design-Builder does not identify any impacts, the Submittal will be deemed to have no impact on the Energy Guarantee or the assumptions set out in Appendix 1.

The Design-Builder will provide an updated Energy Model prepared by the Energy Modeler and acceptable to the IEC that demonstrates that the Energy Guarantee will be met. The frequency of updates to the Energy Model shall be in accordance with Schedule 4.

If the Design-Builder at any time prior to Substantial Completion fails to demonstrate that the Energy Guarantee will be met, the Design-Builder will:

- (a) revise the Design and re-submit the Reviewed Drawings and Specifications, together with an updated Energy Model prepared by the Energy Modeller and acceptable to the IEC demonstrating that the Energy Guarantee will be met, to the Authority for review under the Review Procedure; and
- (b) modify the Work as required to comply with the revised Reviewed Drawings and Specifications.

The Authority will not be required to make any payment for any Work that fails to comply with, or will cause the Design-Builder to fail to comply with, the Energy Guarantee. The Independent Certifier will assess any such Work and apply a holdback for the value of correction of such Work, until the Work is modified to comply with the revised Reviewed Drawings and Specifications that demonstrate that the Energy Guarantee will be met.

5.3 Predicted Energy Consumption Certificate

Upon Substantial Completion, the IEC will review the Record Documentation (including but not limited to drawings, approved shop drawings, sequences of operation, commissioning report, balancing report, DDC inputs, etc.) and compare with the Energy Model inputs to validate that the Predicted Energy Consumption does not exceed the Energy Target, holding constant all Authority-controlled inputs and assumptions.

Following this assessment, and within 6 months after the Substantial Completion Date, the IEC will, with the assistance of the Design-Builder, produce a certificate showing:

- (a) the Predicted Energy Consumption based on the Energy Model;
- (b) a comparison between the Predicted Energy Consumption and the Energy Target on an end use basis;
- (c) confirmation that the Predicted Energy Consumption does not exceed the Energy Target, or quantification of the extent to which the Energy Target is exceeded; and
- (d) a summary of any variable that affects or invalidates the Energy Model assumptions set out in Appendix 1 to this Schedule.

5.4 Monitoring of Energy Consumption during M&V Period

During the M&V Period, the IEC, with assistance from the Design-Builder, will monitor Energy Consumption in order to determine the Energy Consumption for the M&V Period and will provide monthly reports (the "Monthly M&V Report") within 15 Business Days from the beginning of each calendar month as described in Appendix 3 to this Schedule.

6. CARBON GUARANTEE

6.1 Meet or Beat Carbon Target

The Design-Builder warrants to the Authority that the Facility, excluding the Existing Hospital, will be designed and constructed so that the Carbon Emissions per year will not exceed the Carbon Target (the "**Carbon Guarantee**").

6.2 Design and Construction Period

The Design-Builder warrants to the Authority that at all times during Design and Construction and prior to and including as a condition of Substantial Completion, the Facility, excluding the Existing Hospital, will, upon completion of Construction in compliance with the Reviewed Drawings and Specifications, not exceed the Carbon Target.

The Design-Builder will, with each Submittal under the Review Procedure, identify any impacts on the Carbon Guarantee or the assumptions set out in Appendix 1, for review by the Authority. Any such impacts will not be effective unless agreed in writing by the Authority. If the Design-Builder does not identify any impacts, the Submittal will be deemed to have no impact on the Carbon Guarantee or the assumptions set out in Appendix 1.

The Design-Builder will provide an updated Energy Model prepared by the Energy Modeler and acceptable to the IEC that demonstrates that the Carbon Guarantee will be met. The frequency of updates to the Energy Model shall be in accordance with Schedule 4.

If the Design-Builder at any time prior to Substantial Completion fails to demonstrate that the Carbon Guarantee will be met, the Design-Builder will:

- (a) revise the Design and re-submit the Reviewed Drawings and Specifications, together with an updated Energy Model prepared by the Energy Modeller and acceptable to the IEC demonstrating that the Carbon Guarantee will be met, to the Authority for review under the Review Procedure; and
- (b) modify the Work as required to comply with the revised Reviewed Drawings and Specifications.

The Authority will not be required to make any payment for any Work that fails to comply with, or will cause the Design-Builder to fail to comply with, the Carbon Guarantee. The Independent Certifier will assess any such Work and apply a holdback for the value of correction of such Work, until the Work is modified to comply with the revised Reviewed Drawings and Specifications that demonstrate that the Carbon Guarantee will be met.

6.3 Predicted Carbon Emissions Certificate

Upon Substantial Completion, the IEC will review the Record Documentation (including but not limited to drawings, approved shop drawings, sequences of operation, commissioning report, balancing report, DDC inputs, etc.) and compare with the Energy Model inputs to validate that the Predicted Carbon Emissions do not exceed the Carbon Target, holding constant all Authority-controlled inputs and assumptions.

Following this assessment, and within 6 months after the Substantial Completion Date, the IEC will, with the assistance of the Design-Builder, produce a certificate showing:

- (a) the Predicted Carbon Emissions based on the Energy Model;
- (b) a comparison between the Predicted Carbon Emissions and the Carbon Target on an end use basis;
- (c) confirmation that the Predicted Carbon Emissions do not exceed the Carbon Target, or quantification of the extent to which the Carbon Target is exceeded, and
- (d) a summary of any variable that affects or invalidates the Energy Model assumptions set out in Appendix 1 to this Schedule.

6.4 Monitoring of Carbon Emissions during M&V Period

During the M&V Period, the IEC, with assistance from the Design-Builder, will monitor Carbon Emissions in order to determine the Carbon Emissions for the M&V Period and will provide the Monthly M&V Report within 15 Business Days from the beginning of each calendar month as described in Appendix 3 to this Schedule.

7. ENVIRONMENTAL CREDITS

7.1 Entitlement to Environmental Credits

The Authority will be entitled to any and all Environmental Credits related to the Facility and its operation and the Design-Builder will use commercially reasonable efforts to assist the Authority in achieving the maximum Environmental Credits available with respect to the Facility, excluding the Existing Hospital.

APPENDIX 1 OF SCHEDULE 5 – ENERGY

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1. ENERGY MODELING METHODOLOGY AND ASSUMPTIONS

The intent of this section and associated Appended tables is to provide clarity regarding modeling methodologies and assumptions, especially related to authority-controlled variables.

1.1 General

- (a) The Design-Builder shall apply the modeling assumptions and methodologies outlined in this Schedule for all energy models and supporting documentation submitted in relation to Energy Management Plan and the Design and Construction Energy Target.
- (b) The methodology for producing energy models as described in this appendix shall take precedence over LEED, ASHRAE 90.1-2016 Appendix G Rating Method, NECB Performance Compliance or other protocols.
- (c) A 'baseline' or 'reference' building simulation is not required for the Design and Construction Energy Target.
- (d) Compliance with the energy target provisions of Schedule 5 is required regardless of simulation and calculation tools, or techniques employed by the proponent.
- (e) Tables described in Schedule 5 are attached in Appendix 1, contents as follows.

1.2 Terminology

- (a) Modeled Floor Area (MFA)
 - (1) The total enclosed floor area of the building, as reported by the energy simulation software, excluding exterior areas and indoor (including underground) parking areas. All other spaces, including partially-conditioned and unconditioned spaces, are included in the MFA. The MFA must be within 5% of the gross floor area from the architectural drawings, unless justification is provided demonstrating where the discrepancy arises and why the MFA should differ from the gross floor area by greater than 5%
- (b) Total Energy Use Intensity Energy Consumption
 - (1) The sum of all energy used on site by Phase 2 (i.e. electricity, natural gas, chilled water, hot water, and steam), minus all renewable energy generated on site, divided by the Modelled Floor Area (MFA), reported as kWh/m²/year.

Since the electricity consumption is already accounted for, the hot and chilled water produced by the heat recovery chillers and supplied to Phase 2 will not be included in Energy Target or for the calculation of the Carbon Target.

For the purposes of determining the Energy Target and Carbon Target, the baseline chilled water loads and low temperature hot water loads of Phase 2 will be determined using the Energy Model. The electricity consumption of the heat recovery chillers and chilled water produced by the heat recovery chillers located in the Energy Centre will be determined using the Energy Model or acceptable external work-around.

- (c) Simulation Template Room (STR)
 - (1) Identifies a combination of simulation parameters that apply to specific rooms.

- (d) Process Load
 - (1) Energy consumption other than zone lighting or zone receptacle load that in general is a function of the occupant-driven or commercial activities occurring within the building rather than energy consumption associated with operation of the building.

- (e) Operating Schedules
 - (1) Operating schedules listed in Table A5 and Table A6 reflect hypothetical operation of the building in which departments operate under typical clinical hours of operation. For the Phase 2 building many departments operate 24 hours a day, 365 days per year.

- (f) Plant/System Operating Modes
 - (1) Operating Mode 1 reflects a mode of operation for systems and plant to minimize energy costs by balancing consumption of electricity and natural gas.
 - (2) Operating Mode 2 reflects a mode of operation for systems and plant equipment to minimize greenhouse gas emissions.

1.3 Referenced Standards

- (a) CSA Z317 Standards for Health Care Facilities
 - (1) Z317.2 HVAC Special requirements for HVAC systems
 - (2) Z317.5 Illumination Design

- (b) Energy Standards
 - (1) ASHRAE 90.1-2016 – Energy Standard for Buildings (except Low-rise Residential)

1.4 Simulation Engines

- (a) For determining the Design and Construction Energy Target, simulation engines shall at a minimum have the following abilities:
 - (1) Explicitly model a 8760 hours per year at a maximum timestep duration of one hour but preferably less.
 - (2) Hourly variations in occupancy, lighting power, miscellaneous equipment,
 - (3) HVAC system operation variations in setpoints and schedules,
 - (4) Part-load performance curves for systems & equipment,
 - (5) Output time-series variables in the following electronic file format:
 - (A) Tab- or comma-separated values
 - (B) Spreadsheet files
- (b) Other supporting calculations tools are at the discretion of the proponent.
- (c) Operating schedules as defined in this appendix, and site shading elements are made available by the authority in electronic files compatible with the following simulation engines:
 - (1) EnergyPlus
 - (2) IES Virtual Environment
 - (3) DOE 2.2
- (d) The authority infers no preference or requirement for a specific simulation engine in the previous sentence.
- (e) It is expected that time-series output data will be utilized to simulate or perform calculations that the simulation engine is unable to do.

2. ENERGY MODEL ASSUMPTIONS

2.1 General Independent Assumptions

- (a) While allowing flexibility in modeling approach, use the default assumptions shown in the following sections to determine operating parameters for the various spaces, unless other Owner-provided data contradicts these assumptions, or where knowledge or experience dictate that a different assumption would better reflect actual operating conditions. If deviations are made to assumptions made herein provide a rationale for why different assumptions have been used and what they are.
- (b) Weather File
- (1) Weather Data for the energy models submitted for proposal and substantial completion is to be the Pitt Meadows-AP CWEC 2016 weather file (WMO # 717750).
- (c) Energy Rate Structures
- (1) Energy cost rate structures for calculation of annual energy cost are summarized in Table 1 and Table 2 below based on anticipated rates for year 2025 (anticipated first full year of occupancy) inclusive of all charges (including as carbon tax) and excluding carbon offset costs, which are accounted for separately.

Table 1: Utility Rates 1

Energy Source	Consumption Charge (\$/MWh)	Demand Charge (\$/kW)	Fixed Charge	Comments
Electricity	\$71	\$14	\$0	Based on BC Hydro rate LGS 1611 with inflation
Gas	\$32	n/a	\$0	Based on current FortisBC rates with inflation
Hot water	\$40	n/a	\$1,005,272	Purchased from Energy Centre
Chilled water	\$22	\$3		Purchased from Energy Centre
Steam	\$46	n/a		Purchased from Energy Centre

- (d) Carbon Offset Cost
- (1) When calculating operational costs for energy, the carbon offset cost assumed is \$25/tCO_{2e}.

Table 2: Utility Rates 2

Energy Source	Consumption Charge (\$/MWh)	Demand Charge (\$/kW)	Fixed Charge	Comments
Electricity	\$71	\$14	\$0	Based on BC Hydro rate LGS 1611 with inflation
Gas	\$48	n/a	\$0	Potential future high gas rate
Hot water	\$56	n/a	\$1,005,272	Purchased from Energy Centre
Chilled water	\$22	\$3		Purchased from Energy Centre
Steam	\$62	n/a		Purchased from Energy Centre

(e) Emission factors

- (1) Emission factors for calculation of annual greenhouse gas emissions, are to be as identified in Schedule 5 (within definition of Carbon Emissions).

(f) Schedules & Hours of Operation

- (1) All schedules applicable to the simulation are to be referenced in appended Table A6.

(g) Room Setpoints

- (1) All space temperature and humidity setpoints as defined in Table 1 of CSA Z317.2
- (2) Cooling thermostat setpoint schedules for all zones are to be set at the upper-end of the range specified in CSA Z317.2, Table 1 for the space function or at 24°C if the CSA Standard does not specify a temperature range. This shall be applied for all hours.
- (3) Heating thermostat setpoint schedules for all zones are to be set at the lower-end of the range specified in CSA Z317.2, Table 1 for the space function or at 22°C if the CSA Standard does not specify a temperature range. This shall be applied for all hours.
- (4) The minimum humidity setpoint shall be the lower-end of the range at the upper end of the temperature range provided in CSA Z317.2, Table 1 for the space function or at 30% RH where the CSA Standard does not specify a humidity range.
- (5) The maximum humidity setpoint shall be the upper-end of the range at the lower end of the temperature range provided in CSA Z317.2, Table 1 for the space function or at 60% RH where the CSA Standard does not specify a humidity range.

2.2 Envelope Modeling Methodology

(a) General

- (1) Take-offs and building constructions as per design. Glazing areas to represent the total area of the rough opening including glass + frame.
- (2) U-value calculations for all surface must include:
 - (A) Thermal bridging effects
 - (B) Edge effects
 - (C) Structural interface bridging.
- (3) Thermal performance of zone must account for variations in construction types and assemblies, and panel sizes, for both above and below ground surfaces.
- (4) The U-values of assemblies with structural penetrations, such as balcony slabs, beams, girders, columns, and ornamentation or appendages that must completely penetrate the building envelope to perform their intended function, shall account for such features, provided that the sum of the cross-sectional areas at such major structural penetrations exceeds 2% of the above-ground building envelope area.
- (5) Structural penetrations that partly penetrate the building envelope assembly, such as slab edges, should be accounted.

(b) Infiltration:

- (1) Assume a nominal air infiltration rate of 2.5 (L/s)/m² of exterior above grade envelope surface area (at 75 Pa), which should be modelled as 0.28 (L/s)/m² of building envelope area.

Per PNNL Report 18898, Infiltration Modeling Guidelines for Commercial Building Energy Analysis, building air leakage rates shall be converted for modeling in annual energy analysis programs by being multiplied by 0.112 (e.g. a tested air leakage of 2 (L/s)/m² of building envelope area at 75 Pa would be modeled at 0.224 (L/s)/m² of building envelope area)

- (2) Air leakage by infiltration shall be modeled at 100% when the building fan system is off. The Design-Builder to propose to the Authority for their review and approval a simulation strategy for an appropriate infiltration rate fraction to be applied during HVAC operation for when the building fan system is on;
- (3) During the bid phase, the nominal infiltration assumption can be reduced to as low as 1.8 (L/s)/m² at 75 Pa subject to approval from the Owner, if the team can demonstrate a viable plan to achieve improved air tightness (and associated

energy savings) through improved design details and construction practices that meet or exceed industry best practices.

- (4) During detailed design, the nominal infiltration assumption can be reduced to as low as 2 (L/s)/m² at 75 Pa subject to approval from the Owner, if the team can demonstrate a viable plan to achieve improved air tightness (and associated energy savings) through improved design details and construction practices that meet or exceed industry best practices.
 - (5) Air leakage testing after construction will be used to update the assumption for nominal air infiltration rate, and the energy model input (and associated Design and Construction Energy Target) will be updated accordingly. The input for modeled air leakage will be adjusted based on air leakage testing after construction within the range of 0.055 to 0.45 (L/s)/m² of building envelope area, which is equivalent to a tested infiltration rate ranging between 0.5 and 4.0 (L/s)/m² (@ 75 Pa) of exterior above grade envelope surface area.
 - (6) Humidification and dehumidification set points are to be adjusted to achieve humidity set points in worst case zones (high exterior wall to floor area areas relative to zone minimum air change rate).
 - (7) Zones with exterior doors are to be applied infiltration rates and schedules appropriate to door & vestibule types and traffic patterns.
- (c) Thermal bridges
- (1) For calculating envelope performance, apply the procedures of BC Hydro PowerSmart Building Envelope Thermal Bridging Guide:
 - (A) Building Envelope Thermal Bridging Guide V1.2, Morrison Herschfield Ltd., October 2014, and appendices A through E

2.3 Thermal Zones

- (a) Zoning Methodology
- (1) Thermal zones in the simulation are to reflect the zones in the design except in cases where doing so would cause simulation issues or inaccuracies, such as:
 - (A) Zones served by single-zone equipment such as cooling fan coils and ventilation air provided by a central VAV system.
 - (B) Large, open spaces served by multiple air terminals or supplemental HVAC units.
 - (C) Others may to be identified by the proponent.

- (2) Internal loads of thermal zones are to be based on the sum of internal loads applied to the spaces with the thermal zones.
- (3) Schedules and temperature settings may be applied to thermal zones based on those of the dominant space.
- (4) Combination of like interior zones are to follow the following criteria:
 - (A) Same internal load density (lighting, plug & process loads, and occupant).
 - (B) Same minimum outdoor air and supply air exchange rates.
 - (C) Served by the same air system and no zone supplemental equipment.
 - (D) Same operating schedules.
- (5) Combination of like exterior zones are to follow the following criteria:
 - (A) Criteria (a) through (d) per interior zones
 - (B) Same net floor area +/- 20%
 - (C) Within a tolerance of 10%, zones have the same ratio of net floor area to: design cooling airflow; design heating airflow; and perimeter heating capacities.
 - (D) Same exterior surface & window constructions, and shading elements.
 - (E) Same ratio of net floor area to exterior wall & window areas within a tolerance of 10%, and facing directions within 10° or all exterior surfaces facing +/- 35° from true north.
 - (F) All zones are completely shaded, or all zones are completely unshaded by topographical features, other buildings, or by surfaces of the building itself.

2.4 Zone Independent Assumptions

- (a) Appended Table A4 identifies rooms of the indicative design and the associated simulation template room (STR) that is to be applied for simulation parameters.
- (b) The appended Table A5 provides parameters associated with each simulation template room:
 - (1) Columns 'Department' and 'Sub-department': As identified in project documents including Minimum Room Requirements.
 - (2) Column 'STR #': The identifier referenced by Table A4.

- (3) Column 'RDS Template Room I.D.': References a Minimum Room Requirement Number. Refer to project Schedule of Requirements.
 - (4) Column 'Simulation Template Room Name': Associates a general room name or function to the STR #. The name reflects the dominant space of one or more Room Data Sheet rooms grouped to form a functional room.
 - (5) Column 'CSA Z317.2-15 Space Type': Indicates the # of the space type to be used from Table A3.
 - (6) Column 'ACH Set Back': A flag that identifies whether the total zone ventilation rate may be set back from the minimum CSA Z-317.2 air change rate criteria when the zone is identified as being unoccupied.
 - (7) Columns 'Schedule': Operating schedules to be applied:
 - (A) Column 'HVAC' denotes which variation of a departmental schedule is to be applied to HVAC operation: On or Off.
 - (B) Column 'Lighting.': Schedule for applying fraction of lighting power
 - (C) Column 'Occupancy': Schedule for applying fraction of number of occupants or of occupant density.
 - (D) Column 'Plug': Schedule for applying fraction of receptacle load.
 - (E) Column 'Proc.': Schedule for applying fraction of process loads.
 - (8) Columns 'Occupancy': The zone occupants 'Qty.' or specific area 'm²/occ'.
 - (9) Column 'Plug Load': The zone electric receptacle load (W/m²).
- (c) Appended Table A6 provides details of the aforementioned schedules.
- (1) Figure 1 illustrates the naming convention for referencing schedules of Table A6 from Table A3

TABLE A5. Simulation Template Room description

Department	Subdepartment	STR #	RDS Template Room I.D.	Simulation Template Room Name	CSA Z317.2-15 Space Type #	Schedule 1				Schedule 2			
						HVAC	Occupancy	Lighting	Plug	Process	HVAC	Occupancy	Lighting
	Decontamination area	A1.1-A	A1.1	Vestibule, Entry	33	2	2	2	2				
		A1.2-A	A1.2	Gowning Room, PPE	29	2	2	2	2				
		A1.3-A	A1.3	Soiled Holding Area	46	2	2	2	2				
		A1.4-A	A1.4	Washing Area	48	2	2	2	2				
		A1.5-A	A1.5	Automatic Washing / Sanitizing Area	48	1	1	1	1				
		A1.6-A	A1.6	Cart Wash Area	48	1	1	1	1				
		A1.9-A	A1.9	Detergent Dispensing Room	77	2	2	2	2				
		A1.10-A	A1.10	Environmental Services Closet	34	2	2	2	2				
		A1.Corr-A	A1.Corr	Corridors	33	*	*	*	*				

Department

Schedule Variant

RCH Schedule Set A-1

	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	1
HVAC																			
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Occupant																			
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

Figure 1: Naming Convention for Schedules of Table A6 from Table A3

2.5 Air Systems

(a) Ventilation Rates

- (1) Apply CSA Z317.2-15 minimum air change rates and only setback air flow rates as indicated in Table A5.

(b) Fan Power Calculation

- (1) The Provide a narrative explaining how AHU staging has been modeled to best reflect the actual sequence of operation. Describe how fan energy has been appropriately calculated with respect to AHU staging.

Table 3: System Cycle-On / Cycle-Off Critical PLR Values

Quantity AHUs per System	Cycle-Off SYS_PLR_{OFF}				Cycle-On SYS_PLR_{ON}			
	5 - 4	4 - 3	3 - 2	2 - 1	1 - 2	2 - 3	3 - 4	5 - 4
2	-	-	-	0.40	0.50	-	-	-
3	-	-	0.47	0.27	0.32	0.55	-	-
4	-	0.45	0.30	0.20	0.25	0.38	0.55	-
5	0.46	0.35	0.24	0.16	0.20	0.30	0.42	0.60

- (2) Use the initial values of Table 3. Make minor adjustments to the PLR to avoid repetitive cycling if the air system regularly operates near a SYS_PLR critical value.
- (3) Calculate system fan power at each timestep based on the number of parallel AHUs operating at the same part load ratio.

$$PLR_{FAN} = \frac{i_{MAX}}{i_{OP}} PLR_{SYS}$$

where: i_{MAX} := quantity of AHUs in air system
 i_{OP} := number of operating AHUs in air system at PLR
 PLR_{FAN} := part load ratio of i_{OP} AHU fans operating
 PLR_{SYS} := part load ratio of system airflow

$$P_{SYS} = i_{OP} P_{FAN} f_{PLR}(PLR_{FAN})$$

where: P_{SYS} := system fan power
 P_{FAN} := power of AHU fan at $PLR = 1.0$

and $f_{PLR}(PLR_{FAN})$ is the part load correction factor as a function of airflow

- (4) When an air system is required to operate but its part load ratio would be less than 0.30 with low zone demand and a single air handler operating, zone minimum air flow must be increased to maintain PLR above 0.30.
- (5) Develop separate fan power functions $f_{PLR}(PLR_{FAN})$ for supply, exhaust and return/relief fans.
- (6) The $f_{PLR}(PLR_{FAN})$ function for each system is to account for
- (A) duct system pressure drop

- (B) linear pressure drop of transition or laminar flow regimes through zone reheat, heating and cooling coils, air filtration elements, and heat recovery devices.
 - (C) Pressure reset due to reduced airflow demand
 - (D) Minimum pressure setpoint such as at the airflow damper of terminal boxes
 - (E) Fan efficiency map
- (c) Air System Heat Recovery
- (1) Air system heat recovery effectiveness is normally a function of the fraction of actual-to-nominal airflow. If the simulation engine's heat recovery algorithm cannot accommodate adjusting the parameters of this function, the nominal effectiveness is to be adjusted so that the simulated effectiveness is less than or equal to the rated effectiveness throughout the range of airflow ratios.
 - (2) If exhaust-to-supply-air enthalpy wheels are incorporated in the design, latent effectiveness should be simulated if the design employs capacity modulation by air-bypass.
 - (3) If the heat recovery capacity modulation is by varying the wheel's angular velocity, latent effectiveness greater than zero may only be simulated if the following requirements and methods are met:
 - (A) A detailed performance map is provided by the device manufacturer showing sensible effectiveness as a function of angular velocity and latent effectiveness as a function of angular velocity.
 - (B) So that enthalpy, dewpoint and temperature set point control for heat recovery can be accommodated, the simulation engine's heat recovery algorithm must be parameterized to calculate both:
 - (i) latent effectiveness as a function of modulated sensible effectiveness
 - (ii) sensible effectiveness as a function of modulated latent effectiveness.
 - (C) The heat recovery equipment manufacturer rates the performance as stated.

- (d) Controls
 - (1) Zone temperature setpoints are to have a deadband of 0.5°C, meaning that a zone thermostat setpoint of 22.5°C will result in the VAV damper increasing airflow above the minimum CSA Z317 airflow only when the space temperature has approached 23°C, and the reheat valve is not opened until the space temperature has approached 22°C. The simulation engine utilized by the Design-Builder is to have the ability to model control with a deadband no greater than 0.5°C.
 - (2) Setback of zone temperatures is not permitted.
 - (3) Ventilation setback is permitted where identified in Table A5.

2.6 Process and Miscellaneous Loads

- (a) Exterior Lighting
 - (1) Lighting load as per design. Total kW with schedule based on photocells controls per ASHRAE 90.1-2016.
- (b) Elevator Electricity Consumption
 - (1) Apply the assumptions per Table A7: Special Rooms for electricity consumption and heat dissipation associated with elevators
- (c) Parking Garage
 - (1) Based upon the design. Assume 6 hours daily exhaust fan operation controlled by vehicle emission sensors. Lighting is to be continuously available.
- (d) Kitchen and pantry
 - (1) Pantries are used 3 times per day for 2 hours each use and each pantry.
- (e) Process Steam
 - (1) The Medical Device Re-processing department has a significant peak load but high diversity. Assume a steam sterilization load of 400 MWh. Provide adequate metering at the Facility to ensure this load can be separated out.
- (f) Service Water Heating
 - (1) Service water heating load need not be modelled at the zone level.
 - (2) Assume a service hot water load of 605 MWh of thermal energy (excluding efficiency of generation) based on code-compliant fixtures and adjust this load as

appropriate where more efficient fixtures and/or other strategies are used to reduce service hot water requirements.

- (3) Model the service water load as 605 MWh based on 212 kW peak load and Schedule Z3 of Table A6.
- (g) Electric Vehicle Charging Stations
 - (1) Track this end use separately and state assumptions regarding energy use (if applicable)
- (h) Electrical plug and process loads
 - (1) Apply the assumptions per Table A5. STR Table for electrical plug loads and schedule.
 - (2) Additional electrical process loads will be identified when known.
- (i) Electrical Losses
 - (1) For transformer losses in electrical rooms, schedule the loss based on the actual load on the transformer and efficiency of the transformers.
 - (2) Create polynomial curves based on the 4 part-load efficiency points tested in accordance with DOE 10 CFR Part 431 2016 / NRCan 2019 Energy Efficiency Requirements for MVDT Transformers.
- (j) IT Electricity Consumption
 - (1) Apply the assumptions per Table A7: Special Rooms for the electricity consumption and heat dissipation associated with IT equipment.

2.7 Energy Centre

- (a) Simulate the demands by heating, cooling and humidification loads and process loads as purchased energy from the RCH Energy Centre:
 - (1) Chilled Water Loop
 - (2) Hot Water Loop
 - (3) Steam Distribution System
- (b) Apply the provided utility rates for purchased energy for calculation of energy costs.
- (c) Simulate separate secondary (and tertiary if required) loops per the building design as distinct from the plant.

- (d) Simulate pump flow and power consumption for the loops extended from the Energy Centre to the Phase 2 building. Simulate with minimum pump flow rates as required for even temperature distribution and minimum pump speeds.
- (e) The definitions of Energy, Energy Consumption, Energy Target, Carbon Target, Predicted Energy Consumption, and Predicted Carbon Emissions shall account for the Energy Center heat recovery chillers as follows:
 - (1) Energy Center heat recovery chiller energy (low temperature hot water and chilled water) attributable to Phase 2 shall be excluded from Energy
 - (A) The Energy Center heat recovery chiller electricity input attributable to Phase 2 shall be calculated based on the simultaneous 'low temperature heating load' and 'cooling load' within Phase 2, as determined in the Energy Model (or its external work-around), and be based on the efficiency of the Energy Center heat recovery chillers.
 - (B) The electricity consumption of the heat recovery chillers and chilled water produced by the heat recovery chillers located in the Energy Centre shall be determined using the Energy Model or acceptable external work-around
 - (2) Energy Center heat recovery chiller electricity input attributable to Phase 2 shall be included as Energy.
 - (A) The Energy Center heat recovery chiller pump electricity input attributable to Phase 2 includes the heat recovery chiller condenser and evaporator pumps and shall be calculated as the pump specific power (pump kW per ton of chiller cooling capacity) multiplied by the heat recovery chiller cooling load supplied to Phase 2 (in tons) in the Energy Model (or its external work-around).
 - (3) Energy Center heat recovery chiller pump electricity input attributable to Phase 2 shall be included as Energy.
 - (A) The Energy Center heat recovery chiller pump electricity input attributable to Phase 2 includes the heat recovery chiller condenser and evaporator pumps and shall be calculated as the pump specific power (pump kW per ton of chiller cooling capacity) multiplied by the heat recovery chiller cooling load supplied to Phase 2 (in tons) in the Energy Model (or its external work-around).
 - (4) The Energy Model (or its external work-around) shall assign 286 tons of Energy Center heat recovery chiller cooling capacity and associated heating capacity to the Phase 2 facility.
 - (A) This chiller capacity shall be treated in the Energy Model as if it is dedicated to Phase 2 because the loads of Phase 1 are outside the scope of this Design-Build Agreement.

3. APPENDED TABLES

A1 – Energy, Cost & Emission Summary

A2 – Energy End-Use Monthly Summary

A3 – CSA Z317.2 Space Type #

A4 – Simulation Template Room Assignment

A5 – STR Parameter Values

A6 – Simulation Schedules

A7 – Other Rooms & Loads

A8 – Modeling Input Summary Template

TABLE A1 Energy Emissions & Cost Summary	Total Cost*		Electricity		Chilled Water		Hot Water		Steam		Natural Gas		Greenhouse Gas	
	kW	MWh	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	CO ₂ e tonne
January			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
February			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
March			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
April			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
May			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
June			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
July			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
August			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
September			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
October			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
November			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
December			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Annun			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	

*Round costs to the nearest

Table A2					
Energy Consumption by End-Use					
MWh					
End Use	Electricity	Hot Water	Steam	Chilled Water	Natural Gas
Interior Lights					
Task Lights					
Exterior Lights					
Fans					
Pumps					
Cooling & Heat Rejection					
Process Cooling					
Heat Pumps					
Heating					
Humidification					
Service Water Heating					
Receptacles					
Electrical Losses					
Elevators & Escalators					
Medical Equipment					
Other Process					
Miscellaneous					
Total					

Table A2					
Energy Intensity by End-Use					
MWh					
End Use	Electricity	Hot Water	Steam	Chilled Water	Natural Gas
Interior Lights					
Task Lights					
Exterior Lights					
Fans					
Pumps					
Cooling & Heat Rejection					
Process Cooling					
Heat Pumps					
Heating					
Humidification					
Service Water Heating					
Receptacles					
Electrical Losses					
Elevators & Escalators					
Medical Equipment					
Other Process					
Miscellaneous					
Total					

TABLE A3. CSA Z317.2-15 Classification
CSA Z317.2-15 Space

CSA Z317.2-15 Space Type #	SPACE FUNCTION	SPACE FUNCTION	CSA Z317.2-15 Space Type #
1	Ambulatory care clinic areas	Laundry: Clean linen folding	21.3
2	Anaesthesia storage	Laundry: Clean linen storage	21.4
3	Anaesthetic equipment workroom	Nursing stations	22
4.1	Animal research and lab: Holding Areas	Maternal and newborn: Labour and birthing room	23.1
4.2	Animal research and lab: Surgery	Maternal and newborn: Operative birthing room (Caesarean delivery area)	23.2
5.1	Autopsy/morgue: Autopsy	Maternal and newborn: Nurseries	23.3
5.2	Autopsy/morgue: Morgue	Medical device reprocessing areas: Decontamination/soiled	24.1
6	Cardiac catheterization	Medical device reprocessing areas: Ethylene oxide sterilizer room	24.2
7.1	Clinical support space: Soiled Utility	Medical device reprocessing areas: Preparation and packaging/clean workroom	24.3
7.2	Clinical support space: Clean Utility	Medical device reprocessing areas: Scope reprocessing	24.4
7.3	Clinical support space: Medication room	Medical device reprocessing areas: Sterile storage	24.5
8	Corridors	Medical device reprocessing areas: Sterilizer equipment room	24.6
9.1	Critical care areas: NICU, Level 2 nursery	Minor surgical procedures: General	25.1
9.2	Critical care areas: Critical/intensive care unit	Minor surgical procedures: Endoscopy	25.2
9.3	Critical care areas: Coronary care unit	Minor surgical procedures: Bronchoscopy	25.3
10.1	Dental Suite: Clinic	Minor surgical procedures: Cystoscopy	25.4
10.2	Dental Suite: Minor procedures room	Minor surgical procedures: In-vitro fertilization (IVF)	25.5
11	Detoxification area	Operational therapy	26
12.1	Dietary: Kitchen	Patient rooms: Class A facility (mixed air system)	27.1
12.2	Dietary: Dishwashing	Patient rooms: Class A facility (100% outside air system)	27.2
12.3	Dietary: Dining room	Patient rooms: Class B facility	27.3
13.1	Diagnostic imaging suites: General (includes CT, MRI, X-ray, ultrasound)	Patient waiting rooms	28
13.2	Diagnostic imaging suites: Nuclear medicine	Patient washrooms, toilet rooms	29
13.3	Diagnostic imaging suites: Special procedures	Pharmacy	30
13.4	Diagnostic imaging suites: Angiography	Physical Plant: Workshops	31.1
13.5	Diagnostic imaging suites: Film Storage	Physical Plant: Housekeeping	31.2
14	Dialysis unit	Physiotherapy areas	32
15.1	Emergency: Corridors	Physiotherapy pool	33
15.2	Emergency: Emergency waiting rooms	Radiation treatment bunker	34
15.3	Emergency: Triage	Respiratory therapy: Clinic	35.1
15.4	Emergency: Exam/treatments	Respiratory therapy: Workroom	35.2
15.5	Emergency: Resuscitation or major assessment areas	Special precaution rooms (high-level air separation): Airborne isolation room (AIR)	36.1
15.6	Emergency: Fracture room, cast room	Special precaution rooms (high-level air separation): Examination, treatment, and procedure rooms for patients requiring airborne precautions	36.2
15.7	Emergency: Trauma room, life support	Special precaution rooms (high-level air separation): Burn unit	36.3
15.8	Emergency: Decontamination	Special precaution rooms (high-level air separation): Protective environment room	36.4
16	Examination/treatment and consultation	Special precaution rooms (high-level air separation): Anterooms for special precaution rooms	36.5
17.1	General: Storage	Surgery: Clean corridors	37.1
17.2	General: Conference room	Surgery: Day surgery (Stage 2 recovery)	37.2
17.3	General: Change room (for patients)	Surgery: Operating rooms	37.3
17.4	General: Locker room for staff	Surgery: Pre-operation holding area	37.4
17.5	General: Offices	Surgery: Preparation/induction	37.5
17.6	General: Admitting	Surgery: Recovery room/PACU	37.6
18	Hydrotherapy tub	Surgery: Scrub room	37.7
19	Janitor's closet	Surgery: Sterile core	37.8
20.1	Laboratories: General	Surgery: Substerilization room	37.9
20.2	Laboratories: Media preparation, tissue culture laboratories	Surgery and management areas: Non-refrigerated garbage	38.1
21.1	Laundry: Laundry	Waste storage and management areas: Biomedical waste storage and processing	38.2
21.2	Laundry: Soiled linen		

TABLE A4. Simulation Template Room (STR) Assignment									
Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
A1.1	A1.1-A	A5.3-01	A5.3-A	B2.3	B2.3-A	B4.1-06	B4.1-A	B4.6-12	B4.6-A
A1.10	A1.10-A	A5.3-02	A5.3-A	B2.3.1	B2.3.1-A	B4.1-07	B4.1-A	B4.6-13	B4.6-A
A1.2	A1.2-A	A5.4	A5.4-A	B2.4	B2.4-A	B4.1-08	B4.1-A	B4.6-14	B4.6-A
A1.3	A1.3-A	A5.4.1	A5.4.1-A	B2.4.1	B2.4.1-A	B4.1-09	B4.1-A	B5.1.1-01	B5.1.1-A
A1.4	A1.4-A	A5.5	A5.5-A	B2.4.2	B2.4.2-A	B4.1-10	B4.1-A	B5.1.1-02	B5.1.1-A
A1.5	A1.5-A	A6.1	A6.1-A	B2.5-01	B2.5-A	B4.1-11	B4.1-A	B5.1.2-01	B5.1.2-A
A1.6	A1.6-A	A6.2	A6.2-A	B2.5-02	B2.5-A	B4.1-12	B4.1-A	B5.1.2-02	B5.1.2-A
A1.7	A1.7-A	A6.3	A6.3-A	B2.5-03	B2.5-A	B4.1-13	B4.1-A	B5.10-01	B5.10-A
A1.8	A1.8-A	A6.4	A6.4-A	B2.5-04	B2.5-A	B4.1-14	B4.1-A	B5.10-02	B5.10-A
A1.9	A1.9-A	A6.5	A6.5-A	B2.5-05	B2.5-A	B4.1-15	B4.1-A	B5.1-01	B5.1-A
A2.1-01	A2.1-A	A6.6	A6.6-A	B2.5-06	B2.5-A	B4.1-16	B4.1-A	B5.1-02	B5.1-A
A2.1-02	A2.1-A	A6.7	A6.7-A	B2.5-07	B2.5-A	B4.1-17	B4.1-A	B5.11-01	B5.11-A
A2.2	A2.2-A	B1.1	B1.1-A	B2.5-08	B2.5-A	B4.1-18	B4.1-A	B5.11-02	B5.11-A
A2.3	A2.3-A	B2.1.1-01	B2.1.1-A	B2.5-09	B2.5-A	B4.1-19	B4.1-A	B5.11-03	B5.11-A
A2.4	A2.4-A	B2.1.1-02	B2.1.1-A	B3.1-01	B3.1-A	B4.1-20	B4.1-A	B5.12-01	B5.12-A
A2.5	A2.5-A	B2.1.1-03	B2.1.1-A	B3.1-02	B3.1-A	B4.1-21	B4.1-A	B5.12-02	B5.12-A
A2.6-01	A2.6-A	B2.1.1-04	B2.1.1-A	B3.1-03	B3.1-A	B4.1-22	B4.1-A	B5.13	B5.13-A
A2.6-02	A2.6-A	B2.1.1-05	B2.1.1-A	B3.2	B3.2-A	B4.2.1-01	B4.2.1-A	B5.14	B5.14-A
A2.6-03	A2.6-A	B2.1.1-06	B2.1.1-A	B3.2.1	B3.2.1-A	B4.2.1-02	B4.2.1-A	B5.15	B5.15-A
A2.6-04	A2.6-A	B2.1.1-07	B2.1.1-A	B3.3	B3.3-A	B4.2.2-01	B4.2.2-A	B5.16	B5.16-A
A2.7	A2.7-A	B2.1.1-08	B2.1.1-A	B3.3.1	B3.3.1-A	B4.2.2-02	B4.2.2-A	B5.16.1	B5.16.1-A
A2.8	A2.8-A	B2.1.1-09	B2.1.1-A	B3.3.2	B3.3.2-A	B4.2-01	B4.2-A	B5.17-01	B5.17-A
A2.9	A2.9-A	B2.1.1-10	B2.1.1-A	B3.4	B3.4-A	B4.2-02	B4.2-A	B5.17-02	B5.17-A
A3.1	A3.1-A	B2.1.1-11	B2.1.1-A	B3.5	B3.5-A	B4.3-01	B4.3-A	B5.17-03	B5.17-A
A3.2-01	A3.2-A	B2.1.1-12	B2.1.1-A	B3.5.1	B3.5.1-A	B4.3-02	B4.3-A	B5.17-04	B5.17-A
A3.2-02	A3.2-A	B2.1.1-13	B2.1.1-A	B3.5.2	B3.5.2-A	B4.4.1-01	B4.4.1-A	B5.18-01	B5.18-A
A3.2-03	A3.2-A	B2.1-01	B2.1-A	B3.6-01	B3.6-A	B4.4.1-02	B4.4.1-A	B5.18-02	B5.18-A
A3.2-04	A3.2-A	B2.1-02	B2.1-A	B3.6-02	B3.6-A	B4.4.2-01	B4.4.2-A	B5.18a-01	B5.18a-A
A3.2-05	A3.2-A	B2.1-03	B2.1-A	B3.6-03	B3.6-A	B4.4.2-02	B4.4.2-A	B5.18a-02	B5.18a-A
A3.3	A3.3-A	B2.1-04	B2.1-A	B3.6-04	B3.6-A	B4.4-01	B4.4-A	B5.18a-03	B5.18a-A
A3.4	A3.4-A	B2.1-05	B2.1-A	B3.7-01a	B3.7-A	B4.4-02	B4.4-A	B5.18a-04	B5.18a-A
A3.5	A3.5-A	B2.1-06	B2.1-A	B3.7-01b	B3.7-A	B4.5	B4.5-A	B5.18a-05	B5.18a-A
A3.6	A3.6-A	B2.1-07	B2.1-A	B3.7-02	B3.7-A	B4.6-01	B4.6-A	B5.18a-06	B5.18a-A
A4.1	A4.1-A	B2.1-08	B2.1-A	B3.7-03	B3.7-A	B4.6-02	B4.6-A	B5.18a-07	B5.18a-A
A4.2	A4.2-A	B2.1-09	B2.1-A	B3.7-04	B3.7-A	B4.6-03	B4.6-A	B5.18a-08	B5.18a-A
A4.2a	A4.2-A	B2.1-10	B2.1-A	B3.7-05	B3.7-A	B4.6-04a	B4.6-A	B5.18a-09	B5.18a-A
A4.3	A4.3-A	B2.1-11	B2.1-A	B3.7-06	B3.7-A	B4.6-04b	B4.6-A	B5.18a-10	B5.18a-A
A4.4	A4.4-A	B2.1-12	B2.1-A	B3.7-07	B3.7-A	B4.6-05	B4.6-A	B5.18a-11	B5.18a-A
A4.5	A4.5-A	B2.1-13	B2.1-A	B3.7-08	B3.7-A	B4.6-06	B4.6-A	B5.18a-12	B5.18a-A
A4.6	A4.6-A	B2.2.1-01	B2.2.1-A	B3.8	B3.8-A	B4.6-07	B4.6-A	B5.18a-13	B5.18a-A
A4.7	A4.7-A	B2.2.1-02	B2.2.1-A	B4.1-01	B4.1-A	B4.6-08	B4.6-A	B5.18a-14	B5.18a-A
A4.8	A4.8-A	B2.2.2-01	B2.2.2-A	B4.1-02	B4.1-A	B4.6-09	B4.6-A	B5.18a-15	B5.18a-A
A5.1	A5.1-A	B2.2-01	B2.2-A	B4.1-03	B4.1-A	B4.6-10	B4.6-A	B5.19	B5.19-A
A5.2-01	A5.2-A	B2.2-02	B2.2-A	B4.1-04	B4.1-A	B4.6-11a	B4.6-A	B5.20	B5.20-A
A5.2-02	A5.2-A	B2.2-02	B2.2-A	B4.1-05	B4.1-A	B4.6-11b	B4.6-A	B5.2-01	B5.2-A

TABLE A4. Simulation Template Room (STR) Assignment

Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
B6.19	B6.19-A	B7.6	B7.6-A	C10.6-01	C10.6-A	C12.6-05	C12.6-A	C2.11-02	C2.11-A	C20.6-04	C20.6-A
B6.20	B6.20-A	B7.7-01	B7.7-A	C10.6-02	C10.6-A	C13.1-01	C13.1-A	C2.2-01	C2.2-A	C20.7-01	C20.7-A
B6.2-01	B6.2-A	B7.7-02	B7.7-A	C10.6-03	C10.6-A	C13.1-02	C13.1-A	C2.2-02	C2.2-A	C20.7-02	C20.7-A
B6.2-02	B6.2-A	B7.7-03	B7.7-A	C10.6-04	C10.6-A	C13.2	C13.2-A	C2.3	C2.3-A	C20.7-03	C20.7-A
B6.21	B6.21-A	B7.8	B7.8-A	C10.6-05	C10.6-A	C13.3-01	C13.3-A	C2.3.1	C2.3.1-A	C20.7-04	C20.7-A
B6.22-01	B6.22-A	B7.9	B7.9-A	C10.6-06	C10.6-A	C13.3-02	C13.3-A	C2.4	C2.4-A	C20.7-05	C20.7-A
B6.22-02	B6.22-A	C1.1	C1.1-A	C10.6-07	C10.6-A	C13.4	C13.4-A	C2.5	C2.5-A	C20.7-06	C20.7-A
B6.23-01	B6.23-A	C1.1.2	C1.1.2-A	C10.6-08	C10.6-A	C13.5	C13.5-A	C2.6	C2.6-A	C20.7-07	C20.7-A
B6.23-02	B6.23-A	C1.2	C1.2-A	C10.6-09	C10.6-A	C14.1-01	C14.1-A	C2.7-01	C2.7-A	C20.7-08	C20.7-A
B6.3	B6.3-A	C1.3	C1.3-A	C10.6-10	C10.6-A	C14.1-02	C14.1-A	C2.7-02	C2.7-A	C20.7-09	C20.7-A
B6.4-01	B6.4-A	C1.4	C1.4-A	C10.6-11	C10.6-A	C15.1	C15.1-A	C2.8	C2.8-A	C20.7-10	C20.7-A
B6.4-02	B6.4-A	C1.5-01	C1.5-A	C10.6-12a	C10.6-A	C16.1	C16.1-A	C2.9	C2.9-A	C20.7-11	C20.7-A
B6.5	B6.5-A	C1.5-02	C1.5-A	C10.6-12b	C10.6-A	C17.1	C17.1-A	C20.1	C20.1-A	C20.7-12	C20.7-A
B6.6-01	B6.6-A	C10.1.1-01	C10.1.1-A	C10.7	C10.7-A	C17.2	C17.2-A	C20.1.1	C20.1.1-A	C20.7-13	C20.7-A
B6.6-02	B6.6-A	C10.1.1-02	C10.1.1-A	C10.8	C10.8-A	C18.1	C18.1-A	C20.10	C20.10-A	C20.7A	C20.7A-A
B6.7-01	B6.7-A	C10.1-01	C10.1-A	C10.9	C10.9-A	C19.10-01	C19.10-A	C20.11	C20.11-A	C20.8-01	C20.8-A
B6.7-02	B6.7-A	C10.1-02	C10.1-A	C11.1	C11.1-A	C19.10-02	C19.10-A	C20.12	C20.12-A	C20.8-02	C20.8-A
B6.8-01	B6.8-A	C10.3-01	C10.3-A	C11.10-01	C11.10-A	C19.1-01	C19.1-A	C20.2	C20.2-A	C20.9	C20.9-A
B6.8-02	B6.8-A	C10.3-02	C10.3-A	C11.10-02	C11.10-A	C19.1-02	C19.1-A	C20.3-01	C20.3-A	C21.1	C21.1-A
B6.9-01	B6.9-A	C10.3-03	C10.3-A	C11.11	C11.11-A	C19.11	C19.11-A	C20.3-02	C20.3-A	C21.2	C21.2-A
B6.9-02	B6.9-A	C10.3-04	C10.3-A	C11.2	C11.2-A	C19.3	C19.3-A	C20.3-03	C20.3-A	C21.3-01	C21.3-A
B7.1	B7.1-A	C10.3-05	C10.3-A	C11.3	C11.3-A	C19.4-01	C19.4-A	C20.3-04	C20.3-A	C21.3-02	C21.3-A
B7.10-01	B7.10-A	C10.3-06	C10.3-A	C11.4	C11.4-A	C19.5-01	C19.5-A	C20.3-05	C20.3-A	C21.3-03	C21.3-A
B7.10-02	B7.10-A	C10.3-07	C10.3-A	C11.5-01	C11.5-A	C19.5-02	C19.5-A	C20.3-06	C20.3-A	C21.3-04	C21.3-A
B7.10-03	B7.10-A	C10.3-08	C10.3-A	C11.5-02	C11.5-A	C19.6-01	C19.6-A	C20.3-07	C20.3-A	C21.4-01	C21.4-A
B7.11	B7.11-A	C10.3-09	C10.3-A	C11.6	C11.6-A	C19.6-02	C19.6-A	C20.3-08	C20.3-A	C21.4-02	C21.4-A
B7.12-01	B7.12-A	C10.3-10	C10.3-A	C11.7	C11.7-A	C19.6-03	C19.6-A	C20.3-09	C20.3-A	C21.4-03	C21.4-A
B7.12-02	B7.12-A	C10.3-11	C10.3-A	C11.8	C11.8-A	C19.6-04	C19.6-A	C20.3-10	C20.3-A	C21.4-04	C21.4-A
B7.13	B7.13-A	C10.3-12	C10.3-A	C11.9	C11.9-A	C19.6-05	C19.6-A	C20.3-11	C20.3-A	C21.5	C21.5-A
B7.14.1a	B7.14-A	C10.3-13	C10.3-A	C12.1	C12.1-A	C19.6-06	C19.6-A	C20.3-12	C20.3-A	C21.6	C21.6-A
B7.14.1b	B7.14-A	C10.3-14	C10.3-A	C12.2-01	C12.2-A	C19.7	C19.7-A	C20.4-01	C20.4-A	C22.1	C22.1-A
B7.15-01	B7.15-A	C10.3-15	C10.3-A	C12.2-02	C12.2-A	C19.8	C19.8-A	C20.4-02	C20.4-A	C23.1	C23.1-A
B7.15-02	B7.15-A	C10.3-16	C10.3-A	C12.2-03	C12.2-A	C19.9	C19.9-A	C20.4-03	C20.4-A	C23.2	C23.2-A
B7.16-01	B7.16-A	C10.3A-01	C10.3A-A	C12.3-01	C12.3-A	C2.10	C2.10-A	C20.4A	C20.4A-A	C23.3	C23.3-A
B7.16-02	B7.16-A	C10.3A-02	C10.3A-A	C12.3-02	C12.3-A	C2.1-01	C2.1-A	C20.5-01	C20.5-A	C23.4	C23.4-A
B7.16-03	B7.16-A	C10.3A-03	C10.3A-A	C12.4-01	C12.4-A	C2.1-02	C2.1-A	C20.5-02	C20.5-A	C24.1	C24.1-A
B7.16-04	B7.16-A	C10.3A-04	C10.3A-A	C12.4-02	C12.4-A	C2.1-03	C2.1-A	C20.5-03	C20.5-A	C24.2	C24.2-A
B7.17	B7.17-A	C10.4-01	C10.4-A	C12.5-01	C12.5-A	C2.1-04	C2.1-A	C20.5-04	C20.5-A	C24.3	C24.3-A
B7.18	B7.18-A	C10.4-02	C10.4-A	C12.5-02	C12.5-A	C2.1-05	C2.1-A	C20.5-05	C20.5-A	C24.4	C24.4-A
B7.2	B7.2-A	C10.4-03	C10.4-A	C12.5-03	C12.5-A	C2.1-06	C2.1-A	C20.5-06	C20.5-A	C24.5	C24.5-A
B7.3	B7.3-A	C10.4-04	C10.4-A	C12.5-04	C12.5-A	C2.1-07	C2.1-A	C20.5-07	C20.5-A	C24.6	C24.6-A
B7.4	B7.4-A	C10.5-01	C10.5-A	C12.6-01	C12.6-A	C2.1-08	C2.1-A	C20.5-08	C20.5-A	C24.7	C24.7-A
B7.4.1	B7.4.1-A	C10.5-02	C10.5-A	C12.6-02	C12.6-A	C2.1-09	C2.1-A	C20.6-01	C20.6-A	C25.1	C25.1-A
B7.5-01	B7.5-A	C10.5-03	C10.5-A	C12.6-03	C12.6-A	C2.1-10	C2.1-A	C20.6-02	C20.6-A	C26.1	C26.1-A
B7.5-02	B7.5-A	C10.5-04	C10.5-A	C12.6-04	C12.6-A	C2.11-01	C2.11-A	C20.6-03	C20.6-A	C27.1	C27.1-A

TABLE A4. Simulation Template Room (STR) Assignment									
Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
C27.2	C27.2-A	C29.8-02	C29.8-A	C3A.1-05	C3.1-A	C3B.1.2-06	C3.1.2-A	C4.5-03	C4.5-A
C27.3	C27.3-A	C30.1-01	C30.1-A	C3A.1-06	C3.1-A	C3B.10	C3.10-A	C4.5-04	C4.5-A
C27.4	C27.4-A	C30.1-02	C30.1-A	C3A.1-07	C3.1-A	C3B.1-01	C3.1-A	C4.5-05	C4.5-A
C27.5	C27.5-A	C31.1	C31.1-A	C3A.1-08	C3.1-A	C3B.1-02	C3.1-A	C4.5-06	C4.5-A
C27.6	C27.6-A	C31.2	C31.2-A	C3A.1-09	C3.1-A	C3B.1-03	C3.1-A	C4.5-07	C4.5-A
C27.7-01	C27.7-A	C31.3	C31.3-A	C3A.1-10	C3.1-A	C3B.1-04	C3.1-A	C4.6-01	C4.6-A
C27.7-02	C27.7-A	C32.1	C32.1-A	C3A.1-11	C3.1-A	C3B.1-05	C3.1-A	C4.6-02	C4.6-A
C27.8-01	C27.8-A	C32.2	C32.2-A	C3A.1-12	C3.1-A	C3B.1-06	C3.1-A	C4.6-03	C4.6-A
C27.8-02	C27.8-A	C32.3	C32.3-A	C3A.1-13	C3.1-A	C3B.1-07	C3.1-A	C4.6-04	C4.6-A
C27.8-03	C27.8-A	C32.4-01	C32.4-A	C3A.1-14	C3.1-A	C3B.1-08	C3.1-A	C4.6-05	C4.6-A
C27.8-04	C27.8-A	C32.4-02	C32.4-A	C3A.1-15	C3.1-A	C3B.1-09	C3.1-A	C4.6-06	C4.6-A
C27.9	C27.9-A	C32.4-03	C32.4-A	C3A.1-16	C3.1-A	C3B.11	C3.11-A	C4.6-07	C4.6-A
C28.1-01	C28.1-A	C32.4-04	C32.4-A	C3A.1-17	C3.1-A	C3B.1-10	C3.1-A	C4.7-01	C4.7-A
C28.1-02	C28.1-A	C32.5	C32.5-A	C3A.2	C3.2-A	C3B.1-11	C3.1-A	C4.7-02	C4.7-A
C28.2	C28.2-A	C32.6	C32.6-A	C3A.2.1	C3.2.1-A	C3B.1-12	C3.1-A	C4.7-03	C4.7-A
C28.3	C28.3-A	C33.1	C33.1-A	C3A.2.2	C3.2.2-A	C3B.1-13	C3.1-A	C4.7-04	C4.7-A
C28.4	C28.4-A	C33.2	C33.2-A	C3A.3-01	C3.3-A	C3B.12	C3.12-A	C4.7-05	C4.7-A
C28.5-01	C28.5-A	C33.2.1	C33.2.1-A	C3A.3-02	C3.3-A	C3B.13	C3.13-A	C4.7-06	C4.7-A
C28.5-02	C28.5-A	C33.3	C33.3-A	C3A.3-03	C3.3-A	C3B.14	C3.14-A	C4.7-07	C4.7-A
C28.5-03	C28.5-A	C33.4-01	C33.4-A	C3A.3-04	C3.3-A	C3B.2	C3.2-A	C5.1.1-01	C5.1.1-A
C28.5-04	C28.5-A	C33.4-02	C33.4-A	C3A.3-05	C3.3-A	C3B.2.1	C3.2.1-A	C5.1.1-02	C5.1.1-A
C28.5-05	C28.5-A	C33.4-03	C33.4-A	C3A.3-06	C3.3-A	C3B.2.2	C3.2.2-A	C5.1.1-03	C5.1.1-A
C28.5-06	C28.5-A	C33.4-04	C33.4-A	C3A.3-07	C3.3-A	C3B.3-01	C3.3-A	C5.1.1-04	C5.1.1-A
C28.6	C28.6-A	C33.5	C33.5-A	C3A.4	C3.4-A	C3B.3-02	C3.3-A	C5.1.1-05	C5.1.1-A
C28.7-01	C28.7-A	C33.6	C33.6-A	C3A.4.1	C3.4.1-A	C3B.3-03	C3.3-A	C5.1.1-06	C5.1.1-A
C28.7-02	C28.7-A	C33.7-01	C33.7-A	C3A.5	C3.5-A	C3B.3-04	C3.3-A	C5.1.1-07	C5.1.1-A
C28.7-03	C28.7-A	C33.7-02	C33.7-A	C3A.6	C3.6-A	C3B.3-05	C3.3-A	C5.1.1-08	C5.1.1-A
C28.8-01	C28.8-A	C3A.1.1-01	C3.1.1-A	C3A.7-01	C3.7-A	C3B.3-06	C3.3-A	C5.10-01	C5.10-A
C28.8-02	C28.8-A	C3A.1.1-02	C3.1.1-A	C3A.7-02	C3.7-A	C3B.3-07	C3.3-A	C5.10-02	C5.10-A
C28.8-03	C28.8-A	C3A.1.1-03	C3.1.1-A	C3A.8-01	C3.8-A	C3B.4	C3.4-A	C5.1-01	C5.1-A
C28.8-04	C28.8-A	C3A.1.1-04	C3.1.1-A	C3A.8-02	C3.8-A	C3B.4.1	C3.4.1-A	C5.1-02	C5.1-A
C29.1	C29.1-A	C3A.1.1-05	C3.1.1-A	C3A.9-01	C3.9-A	C3B.5	C3.5-A	C5.1-03	C5.1-A
C29.2	C29.2-A	C3A.1.1-06	C3.1.1-A	C3A.9-02	C3.9-A	C3B.6	C3.6-A	C5.1-04	C5.1-A
C29.3	C29.3-A	C3A.1.1-07	C3.1.1-A	C3B.1.1-01	C3.1.1-A	C3B.7-01	C3.7-A	C5.1-05	C5.1-A
C29.4-01	C29.4-A	C3A.1.2-01	C3.1.2-A	C3B.1.1-02	C3.1.1-A	C3B.7-02	C3.7-A	C5.1-06	C5.1-A
C29.4-02	C29.4-A	C3A.1.2-02	C3.1.2-A	C3B.1.1-03	C3.1.1-A	C3B.8-01	C3.8-A	C5.1-07	C5.1-A
C29.4-03	C29.4-A	C3A.1.2-03	C3.1.2-A	C3B.1.1-04	C3.1.1-A	C3B.8-02	C3.8-A	C5.1-08	C5.1-A
C29.5	C29.5-A	C3A.1.2-04	C3.1.2-A	C3B.1.1-05	C3.1.1-A	C3B.9-01	C3.9-A	C5.11	C5.11-A
C29.6-01	C29.6-A	C3A.1.2-05	C3.1.2-A	C3B.1.1-06	C3.1.1-A	C3B.9-02	C3.9-A	C6.1-01	C6.1-A
C29.6-02	C29.6-A	C3A.1.2-06	C3.1.2-A	C3B.1.1-07	C3.1.1-A	C4.1	C4.1-A	C6.1-02	C6.1-A
C29.6-03	C29.6-A	C3A.10	C3.10-A	C3B.1.2-01	C3.1.2-A	C4.2	C4.2-A	C6.1-03	C6.1-A
C29.6-04	C29.6-A	C3A.1-01	C3.1-A	C3B.1.2-02	C3.1.2-A	C4.3	C4.3-A	C6.1-04	C6.1-A
C29.7-01	C29.7-A	C3A.1-02	C3.1-A	C3B.1.2-03	C3.1.2-A	C4.4	C4.4-A	C6.1-05	C6.1-A
C29.7-02	C29.7-A	C3A.1-03	C3.1-A	C3B.1.2-04	C3.1.2-A	C4.5-01	C4.5-A	C6.11	C6.11-A
C29.8-01	C29.8-A	C3A.1-04	C3.1-A	C3B.1.2-05	C3.1.2-A	C4.5-02	C4.5-A	C6.12	C6.12-A
								C6.13	C6.13-A
								C6.14	C6.14-A

TABLE A4. Simulation Template Room (STR) Assignment

Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
C6.15	C6.15-A	C8.4	C8.4-A	C9.9.2-06	C9.9.2-A	D10.2-17	D10.2-A	D10.5-02	D10.5-A	D12.12-01	D12.12-A		
C6.16	C6.16-A	C8.5	C8.5-A	C9.9.2-07	C9.9.2-A	D10.2-18	D10.2-A	D10.5-03	D10.5-A	D12.12-02	D12.12-A		
C6.17-01	C6.17-A	C8.5.1	C8.5.1-A	C9.9.2-08	C9.9.2-A	D10.2-19	D10.2-A	D10.6.1-01	D10.6.1-A	D12.12-03	D12.12-A		
C6.17-02	C6.17-A	C8.5.2	C8.5.2-A	C9.9.2-09	C9.9.2-A	D10.2-20	D10.2-A	D10.6.1-02	D10.6.1-A	D12.13-01	D12.13-A		
C6.18-01	C6.18-A	C8.6	C8.6-A	C9.9.2-10	C9.9.2-A	D10.2-21	D10.2-A	D10.6.2-01	D10.6.2-A	D12.13-02	D12.13-A		
C6.18-02	C6.18-A	C8.7	C8.7-A	C9.9a	C9.9-A	D10.2-22	D10.2-A	D10.6.2-02	D10.6.2-A	D12.13-03	D12.13-A		
C6.2-01	C6.2-A	C8.8	C8.8-A	C9.9b	C9.9-A	D10.2-23	D10.2-A	D10.6-01	D10.6-A	D12.13-04	D12.13-A		
C6.2-02	C6.2-A	C8.9	C8.9-A	D1.1-01	D1.1-A	D10.2-24	D10.2-A	D10.6-02	D10.6-A	D12.13-05	D12.13-A		
C6.2-03	C6.2-A	C8.9	C8.9-A	D1.1-02	D1.1-A	D10.2-25	D10.2-A	D10.7-01	D10.7-A	D12.14-01	D12.14-A		
C6.2-04	C6.2-A	C9.10	C9.10-A	D1.1-03	D1.1-A	D10.2-26	D10.2-A	D10.7-02	D10.7-A	D12.14-02	D12.14-A		
C6.2-05	C6.2-A	C9.11	C9.11-A	D1.2	D1.2-A	D10.2-27	D10.2-A	D10.7-03	D10.7-A	D12.15-01	D12.15-A		
C6.3	C6.3-A	C9.12	C9.12-A	D1.3	D1.3-A	D10.2-28	D10.2-A	D10.7-04	D10.7-A	D12.15-02	D12.15-A		
C6.3.1	C6.3.1-A	C9.13	C9.13-A	D1.4	D1.4-A	D10.2-29	D10.2-A	D10.7-05	D10.7-A	D12.16-01	D12.16-A		
C6.4	C6.4-A	C9.14	C9.14-A	D1.5	D1.5-A	D10.2-30	D10.2-A	D10.7-06	D10.7-A	D12.16-02	D12.16-A		
C6.5	C6.5-A	C9.15	C9.15-A	D1.6	D1.6-A	D10.2-31	D10.2-A	D10.7-07	D10.7-A	D12.16-03	D12.16-A		
C6.6	C6.6-A	C9.16	C9.16-A	D1.7	D1.7-A	D10.2-32	D10.2-A	D10.7-08	D10.7-A	D12.16-04	D12.16-A		
C6.7	C6.7-A	C9.17	C9.17-A	D1.8	D1.8-A	D10.2-33	D10.2-A	D11.1-01	D11.1-A	D12.16-05	D12.16-A		
C6.8-01	C6.8-A	C9.18-01	C9.18-A	D10.1.1-01	D10.1.1-A	D10.2-34	D10.2-A	D11.1-02	D11.1-A	D12.16-06	D12.16-A		
C6.8-02	C6.8-A	C9.18-02	C9.18-A	D10.1.1-02	D10.1.1-A	D10.2-35	D10.2-A	D11.1-03	D11.1-A	D12.16-07	D12.16-A		
C6.9	C6.9-A	C9.18-03	C9.18-A	D10.1.1-03	D10.1.1-A	D10.2-36	D10.2-A	D11.2-01	D11.2-A	D12.16-08	D12.16-A		
C7.1	C7.1-A	C9.18-04	C9.18-A	D10.1.1-04	D10.1.1-A	D10.2-37	D10.2-A	D11.2-02	D11.2-A	D12.16-09	D12.16-A		
C8.1.1-01	C8.1.1-A	C9.18-05	C9.18-A	D10.1.2-01	D10.1.2-A	D10.2-38	D10.2-A	D11.2-03	D11.2-A	D12.17-01	D12.17-A		
C8.1.1-02	C8.1.1-A	C9.18-06	C9.18-A	D10.1.2-02	D10.1.2-A	D10.2-39	D10.2-A	D11.3-01	D11.3-A	D12.17-02	D12.17-A		
C8.10-01	C8.10-A	C9.19-01	C9.19-A	D10.1.2-03	D10.1.2-A	D10.2-40	D10.2-A	D11.3-02	D11.3-A	D12.17-03	D12.17-A		
C8.10-02	C8.10-A	C9.19-02	C9.19-A	D10.1.2-04	D10.1.2-A	D10.2-41	D10.2-A	D11.3-03	D11.3-A	D12.17-04	D12.17-A		
C8.1-01	C8.1-A	C9.20	C9.20-A	D10.1-01	D10.1-A	D10.2-42	D10.2-A	D11.4-01	D11.4-A	D12.17-05	D12.17-A		
C8.1-02	C8.1-A	C9.2-01	C9.2-A	D10.1-02	D10.1-A	D10.2-43	D10.2-A	D11.4-02	D11.4-A	D12.2-A	D12.2-A		
C8.11-01	C8.11-A	C9.2-02	C9.2-A	D10.1-03	D10.1-A	D10.2-44	D10.2-A	D11.4-03	D11.4-A	D12.7-A	D12.7-A		
C8.11-02	C8.11-A	C9.21	C9.21-A	D10.1-04	D10.1-A	D10.2-45	D10.2-A	D11.5-01	D11.5-A	D12.8-A	D12.8-A		
C8.12	C8.12-A	C9.22	C9.22-A	D10.2-01	D10.2-A	D10.2-46	D10.2-A	D11.5-02	D11.5-A	D12.9-A	D12.9-A		
C8.13	C8.13-A	C9.3	C9.3-A	D10.2-02	D10.2-A	D10.3-01	D10.3-A	D11.5-03	D11.5-A	D12.9-02	D12.9-A		
C8.14	C8.14-A	C9.4	C9.4-A	D10.2-03	D10.2-A	D10.3-02	D10.3-A	D11.6-01	D11.6-A	D2.1.1-01	D2.1.1-A		
C8.15-01	C8.15-A	C9.5	C9.5-A	D10.2-04	D10.2-A	D10.3-03	D10.3-A	D11.6-02	D11.6-A	D2.1.1-02	D2.1.1-A		
C8.15-02	C8.15-A	C9.6	C9.6-A	D10.2-05	D10.2-A	D10.3-04	D10.3-A	D11.6-03	D11.6-A	D2.1.2-01	D2.1.2-A		
C8.16	C8.16-A	C9.6.1	C9.6.1-A	D10.2-06	D10.2-A	D10.3-05	D10.3-A	D11.7-01	D11.7-A	D2.1.2-02	D2.1.2-A		
C8.17-01	C8.17-A	C9.7	C9.7-A	D10.2-07	D10.2-A	D10.3-06	D10.3-A	D11.7-02	D11.7-A	D2.1.2-03	D2.1.2-A		
C8.17-02	C8.17-A	C9.8-01	C9.8-A	D10.2-08	D10.2-A	D10.3-07	D10.3-A	D11.7-03	D11.7-A	D2.1.2-04	D2.1.2-A		
C8.18	C8.18-A	C9.8-02	C9.8-A	D10.2-09	D10.2-A	D10.3-08	D10.3-A	D11.8	D11.8-A	D2.1.3-01	D2.1.3-A		
C8.19	C8.19-A	C9.8-03	C9.8-A	D10.2-10	D10.2-A	D10.3-09	D10.3-A	D11.9-01	D11.9-A	D2.1.3-02	D2.1.3-A		
C8.2	C8.2-A	C9.9.1	C9.9.1-A	D10.2-11	D10.2-A	D10.3-10	D10.3-A	D11.9-02	D11.9-A	D2.1.3-03	D2.1.3-A		
C8.20	C8.20-A	C9.9.2-01	C9.9.2-A	D10.2-12	D10.2-A	D10.4	D10.4-A	D11.9-03	D11.9-A	D2.1.3-04	D2.1.3-A		
C8.3-01	C8.3-A	C9.9.2-02	C9.9.2-A	D10.2-13	D10.2-A	D10.5.1-01	D10.5.1-A	D12.1	D12.1-A	D2.1.4-01	D2.1.4-A		
C8.3-02	C8.3-A	C9.9.2-03	C9.9.2-A	D10.2-14	D10.2-A	D10.5.1-02	D10.5.1-A	D12.10-01	D12.10-A	D2.1.4-02	D2.1.4-A		
C8.3-03	C8.3-A	C9.9.2-04	C9.9.2-A	D10.2-15	D10.2-A	D10.5.1-03	D10.5.1-A	D12.10-02	D12.10-A	D2.1.5-01	D2.1.5-A		
C8.3-04	C8.3-A	C9.9.2-05	C9.9.2-A	D10.2-16	D10.2-A	D10.5-01	D10.5-A	D12.11	D12.11-A	D2.1.5-02	D2.1.5-A		

TABLE A4. Simulation Template Room (STR) Assignment											
Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
D2.1.6-01	D2.1.6-A	D2.7-02	D2.7-A	D3.15	D3.15-A	D3.8.2-01	D3.8.2-A	D4.14-08	D4.14-A	D4.8-03	D4.8-A
D2.1.6-02	D2.1.6-A	D2.8-01	D2.8-A	D3.16-01	D3.16-A	D3.8.2-02	D3.8.2-A	D4.14-09	D4.14-A	D4.9.1-01	D4.9.1-A
D2.1.7	D2.1.7-A	D2.8-02	D2.8-A	D3.16-02	D3.16-A	D3.8.3	D3.8.3-A	D4.14-10	D4.14-A	D4.9.1-02	D4.9.1-A
D2.10	D2.10-A	D2.9-01	D2.9-A	D3.16-03	D3.16-A	D3.8.4	D3.8.4-A	D4.15-01	D4.15-A	D4.9-01	D4.9-A
D2.1-01	D2.1-A	D2.9-02	D2.9-A	D3.16-04	D3.16-A	D3.8.5-01	D3.8.5-A	D4.15-02	D4.15-A	D4.9-02	D4.9-A
D2.1-02	D2.1-A	D3.1.1-01	D3.1.1-A	D3.16-05	D3.16-A	D3.8.5-02	D3.8.5-A	D4.15-03	D4.15-A	D5.1	D5.1-A
D2.1-03	D2.1-A	D3.1.1-02	D3.1.1-A	D3.16-06	D3.16-A	D3.8-01	D3.8-A	D4.15-04	D4.15-A	D5.10-01	D5.10-A
D2.1-04	D2.1-A	D3.1.1-03	D3.1.1-A	D3.17-01	D3.17-A	D3.8-02	D3.8-A	D4.15-05	D4.15-A	D5.10-02	D5.10-A
D2.11	D2.11-A	D3.1.1-04	D3.1.1-A	D3.17-02	D3.17-A	D3.9-01	D3.9-A	D4.2.1-01	D4.2.1-A	D5.10-03	D5.10-A
D2.12	D2.12-A	D3.1.1-05	D3.1.1-A	D3.17-03	D3.17-A	D3.9-02	D3.9-A	D4.2.1-02	D4.2.1-A	D5.10-04	D5.10-A
D2.13-01	D2.13-A	D3.1.2-01	D3.1.2-A	D3.17-04	D3.17-A	D3.9-03	D3.9-A	D4.2.2-01	D4.2.2-A	D5.10-05	D5.10-A
D2.13-02	D2.13-A	D3.1.2-02	D3.1.2-A	D3.18-01	D3.18-A	D3.9-04	D3.9-A	D4.2.2-02	D4.2.2-A	D5.10-06	D5.10-A
D2.14-01	D2.14-A	D3.1.2-03	D3.1.2-A	D3.18-02	D3.18-A	D4.10-01	D4.10-A	D4.2-01	D4.2-A	D5.11	D5.11-A
D2.14-02	D2.14-A	D3.1.2-04	D3.1.2-A	D3.18-03	D3.18-A	D4.10-02	D4.10-A	D4.2-02	D4.2-A	D5.12-01	D5.12-A
D2.14-03	D2.14-A	D3.1.2-05	D3.1.2-A	D3.18-04	D3.18-A	D4.1-01	D4.1-A	D4.3-01	D4.3-A	D5.12-02	D5.12-A
D2.14-04	D2.14-A	D3.1.2-06	D3.1.2-A	D3.19	D3.19-A	D4.1-02	D4.1-A	D4.3-02	D4.3-A	D5.12-03	D5.12-A
D2.2.1	D2.2.1-A	D3.1.2-07	D3.1.2-A	D3.2	D3.2-A	D4.1-03	D4.1-A	D4.3-03	D4.3-A	D5.12-04	D5.12-A
D2.2.2-01	D2.2.2-A	D3.1.2-08	D3.1.2-A	D3.2.1	D3.2.1-A	D4.1-04	D4.1-A	D4.3-04	D4.3-A	D5.13	D5.13-A
D2.2.2-02	D2.2.2-A	D3.1.2-09	D3.1.2-A	D3.2.2	D3.2.2-A	D4.1-05	D4.1-A	D4.3-05	D4.3-A	D5.14	D5.14-A
D2.2.3-01	D2.2.3-A	D3.10-01	D3.10-A	D3.20	D3.20-A	D4.1-06	D4.1-A	D4.3-06	D4.3-A	D5.2-01	D5.2-A
D2.2.3-02	D2.2.3-A	D3.10-02	D3.10-A	D3.22	D3.22-A	D4.1-07	D4.1-A	D4.3-07	D4.3-A	D5.2-02	D5.2-A
D2.2.4	D2.2.4-A	D3.1-01	D3.1-A	D3.23-01	D3.23-A	D4.1-08	D4.1-A	D4.3-08	D4.3-A	D5.2-03	D5.2-A
D2.2.5	D2.2.5-A	D3.1-02	D3.1-A	D3.23-02	D3.23-A	D4.1-09	D4.1-A	D4.3-09	D4.3-A	D5.2-04	D5.2-A
D2.2.6	D2.2.6-A	D3.1-03	D3.1-A	D3.24	D3.24-A	D4.1-10	D4.1-A	D4.3-10	D4.3-A	D5.2-05	D5.2-A
D2.2.7	D2.2.7-A	D3.1-04	D3.1-A	D3.25-01	D3.25-A	D4.11-01	D4.11-A	D4.3-11	D4.3-A	D5.2-06	D5.2-A
D2.2-01	D2.2-A	D3.1-05	D3.1-A	D3.25-02	D3.25-A	D4.11-02	D4.11-A	D4.3-12	D4.3-A	D5.2-07	D5.2-A
D2.2-02	D2.2-A	D3.1-06	D3.1-A	D3.3	D3.3-A	D4.1-11	D4.1-A	D4.3-13	D4.3-A	D5.3-01	D5.3-A
D2.3	D2.3-A	D3.1-07	D3.1-A	D3.4.1-01	D3.4.1-A	D4.1-12	D4.1-A	D4.3-14	D4.3-A	D5.3-02	D5.3-A
D2.3.1	D2.3.1-A	D3.1-08	D3.1-A	D3.4.1-02	D3.4.1-A	D4.1-13	D4.1-A	D4.3-15	D4.3-A	D5.3-03	D5.3-A
D2.3.2	D2.3.2-A	D3.1-09	D3.1-A	D3.4.2-01	D3.4.2-A	D4.1-14	D4.1-A	D4.3-16	D4.3-A	D5.4	D5.4-A
D2.3.3	D2.3.3-A	D3.11	D3.11-A	D3.4.2-02	D3.4.2-A	D4.1-15	D4.1-A	D4.3-17	D4.3-A	D5.6-01	D5.6-A
D2.3.4	D2.3.4-A	D3.12-01	D3.12-A	D3.4.2-03	D3.4.2-A	D4.1-16	D4.1-A	D4.4	D4.4	D5.6-02	D5.6-A
D2.3.5	D2.3.5-A	D3.12-02	D3.12-A	D3.4-01	D3.4-A	D4.1-17	D4.1-A	D4.5.1-01	D4.5.1-A	D5.6-03	D5.6-A
D2.3.6	D2.3.6-A	D3.13	D3.13-A	D3.4-02	D3.4-A	D4.1-18	D4.1-A	D4.5.1-02	D4.5.1-A	D5.6-04	D5.6-A
D2.4	D2.4-A	D3.13.1-01	D3.13.1-A	D3.4-03	D3.4-A	D4.12-01	D4.12-A	D4.5.2-01	D4.5.2-A	D5.6-05	D5.6-A
D2.4.2	D2.4.2-A	D3.13.1-02	D3.13.1-A	D3.5	D3.5-A	D4.12-02	D4.12-A	D4.5.2-02	D4.5.2-A	D5.6-06	D5.6-A
D2.4.3	D2.4.3-A	D3.13.1-03	D3.13.1-A	D3.6	D3.6-A	D4.12-03	D4.12-A	D4.5-01	D4.5-A	D5.7-01	D5.7-A
D2.4.4	D2.4.4-A	D3.13.1-04	D3.13.1-A	D3.6.1	D3.6.1-A	D4.13	D4.13-A	D4.5-02	D4.5-A	D5.7-02	D5.7-A
D2.4.5	D2.4.5-A	D3.13.2-01	D3.13.2-A	D3.6.2	D3.6.2-A	D4.14-01	D4.14-A	D4.6-01	D4.6-A	D5.8-01	D5.8-A
D2.5-01	D2.5-A	D3.13.2-02	D3.13.2-A	D3.6.3	D3.6.3-A	D4.14-02	D4.14-A	D4.6-02	D4.6-A	D5.8-02	D5.8-A
D2.5-02	D2.5-A	D3.13.2-03	D3.13.2-A	D3.6.4	D3.6.4-A	D4.14-03	D4.14-A	D4.6-03	D4.6-A	D5.8-03	D5.8-A
D2.5-03	D2.5-A	D3.13.2-04	D3.13.2-A	D3.7	D3.7-A	D4.14-04	D4.14-A	D4.7-01	D4.7-A	D5.8-04	D5.8-A
D2.6-01	D2.6-A	D3.14-01	D3.14-A	D3.7.1	D3.7.1-A	D4.14-05	D4.14-A	D4.7-02	D4.7-A	D5.9-01	D5.9-A
D2.6-02	D2.6-A	D3.14-02a	D3.14-A	D3.7.2	D3.7.2-A	D4.14-06	D4.14-A	D4.8-01	D4.8-A	D5.9-02	D5.9-A
D2.7-01	D2.7-A	D3.14-02b	D3.14-A	D3.8.1	D3.8.1-A	D4.14-07	D4.14-A	D4.8-02	D4.8-A	D5.9-03	D5.9-A

TABLE A4. Simulation Template Room (STR) Assignment

Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR		
D6.9-04	D5.9-A	D7.3	D7.3-A	E11.1	E11.1-A	E2.11	E2.11-A	E3.3B-02	E3.3-A	E4.14-02	E4.14-A
D6.1	D6.1-A	D7.3.1-01	D7.3.1-A	E11.10	E11.10-A	E2.12	E2.12-A	E3.3B-03	E3.3-A	E4.14-03	E4.14-A
D6.1.1-01	D6.1.1-A	D7.3.1-02	D7.3.1-A	E11.11-01	E11.11-A	E2.13	E2.13-A	E3.3B-04	E3.3-A	E4.14-04	E4.14-A
D6.1.1-02	D6.1.1-A	D7.3.1-03	D7.3.1-A	E11.11-02	E11.11-A	E2.14	E2.14-A	E3.3B-05	E3.3-A	E4.14-05	E4.14-A
D6.1.1-03	D6.1.1-A	D7.3.1-04	D7.3.1-A	E11.11-03	E11.11-A	E2.15	E2.15-A	E3.4-01	E3.4-A	E4.14-06	E4.14-A
D6.1.1-04	D6.1.1-A	D7.4	D7.4-A	E11.12	E11.12-A	E2.2-01	E2.2-A	E3.4-02	E3.4-A	E4.14-07	E4.14-A
D6.1.1-05	D6.1.1-A	D7.5	D7.5-A	E11.13	E11.13-A	E2.2-02	E2.2-A	E3.4-03	E3.4-A	E4.14-08	E4.14-A
D6.1.1-06	D6.1.1-A	D7.6-01	D7.6-A	E11.13.1	E11.13.1-A	E2.5	E2.5-A	E3.5-01	E3.5-A	E4.14-09	E4.14-A
D6.1.1-07	D6.1.1-A	D7.6-02	D7.6-A	E11.14-01	E11.14-A	E2.6-01	E2.6-A	E3.5-02	E3.5-A	E4.14-10	E4.14-A
D6.1.1-08	D6.1.1-A	D7.6-03	D7.6-A	E11.14-02	E11.14-A	E2.6-02	E2.6-A	E3.5-03	E3.5-A	E4.14-11	E4.14-A
D6.1.1-09	D6.1.1-A	D7.7	D7.7-A	E11.15	E11.15-A	E2.6-03	E2.6-A	E3.5-04	E3.5-A	E4.14-12	E4.14-A
D6.1.1-10	D6.1.1-A	D7.8	D7.8-A	E11.16	E11.16-A	E2.6-04	E2.6-A	E3.6.1-01	E3.6.1-A	E4.14-13	E4.14-A
D6.1.2-01	D6.1.2-A	D7.9	D7.9-A	E11.17	E11.17-A	E2.6-05	E2.6-A	E3.6.1-02	E3.6.1-A	E4.14-14	E4.14-A
D6.1.2-02	D6.1.2-A	E1.10	E1.10-A	E11.18	E11.18-A	E2.7	E2.7-A	E3.6.1-03	E3.6.1-A	E4.14-15	E4.14-A
D6.1.2-03	D6.1.2-A	E1.11	E1.11-A	E11.19	E11.19-A	E2.8	E2.8-A	E3.6.1-04	E3.6.1-A	E4.14-16	E4.14-A
D6.1.2-04	D6.1.2-A	E1.11-01	E1.11-A	E11.20	E11.20-A	E2.9-01	E2.9-A	E3.6.2-01	E3.6.2-A	E4.15	E4.15-A
D6.1.2-05	D6.1.2-A	E1.12	E1.12-A	E11.21	E11.21-A	E2.9-02	E2.9-A	E3.6.2-02	E3.6.2-A	E4.16	E4.16-A
D6.1.2-06	D6.1.2-A	E1.13	E1.13-A	E11.22	E11.22-A	E3.1.1	E3.1.1-A	E3.6.2-03	E3.6.2-A	E4.17-01	E4.17-A
D6.1.2-07	D6.1.2-A	E1.2	E1.2-A	E11.23	E11.23-A	E3.10	E3.10-A	E3.6.2-04	E3.6.2-A	E4.17-02	E4.17-A
D6.1.2-08	D6.1.2-A	E1.2.1	E1.2.1-A	E11.23	E11.23-A	E3.1-01	E3.1-A	E3.6-01	E3.6-A	E4.18	E4.18-A
D6.1.2-09	D6.1.2-A	E1.2.2	E1.2.2-A	E11.3	E11.3-A	E3.1-02	E3.1-A	E3.6-02	E3.6-A	E4.19-01	E4.19-A
D6.1.2-10	D6.1.2-A	E1.2.3-01	E1.2.3-A	E11.4-01	E11.4-A	E3.3-01	E3.3-A	E3.6-03	E3.6-A	E4.19-02	E4.19-A
D6.1.3-01	D6.1.3-A	E1.2.3-02	E1.2.3-A	E11.4-02	E11.4-A	E3.3-02	E3.3-A	E3.6-04	E3.6-A	E4.19-03	E4.19-A
D6.1.3-02	D6.1.3-A	E1.3	E1.3-A	E11.4-03	E11.4-A	E3.3-03	E3.3-A	E3.7-01	E3.7-A	E4.2	E4.2-A
D6.1.3-03	D6.1.3-A	E1.4	E1.4-A	E11.5	E11.5-A	E3.3-04	E3.3-A	E3.7-02	E3.7-A	E4.20-01	E4.20-A
D6.1.3-04	D6.1.3-A	E1.5	E1.5-A	E11.6	E11.6-A	E3.3-05	E3.3-A	E3.8-01	E3.8-A	E4.20-02	E4.20-A
D6.2	D6.2-A	E1.6	E1.6-A	E11.7	E11.7-A	E3.3-06	E3.3-A	E3.8-02	E3.8-A	E4.21-01	E4.21-A
D7.1	D7.1-A	E1.7	E1.7-A	E11.8	E11.8-A	E3.3-07	E3.3-A	E3.8-03	E3.8-A	E4.21-02	E4.21-A
D7.1.1-01	D7.1.1-A	E1.8	E1.8-A	E11.9	E11.9-A	E3.3-08	E3.3-A	E3.8-04	E3.8-A	E4.22-01	E4.22-A
D7.1.1-02	D7.1.1-A	E1.9	E1.9-A	E11.9a	E11.9-A	E3.3-09	E3.3-A	E3.8-05	E3.8-A	E4.22-02	E4.22-A
D7.1.1-03	D7.1.1-A	E10.1	E10.1-A	E12.1	E12.1-A	E3.3-10	E3.3-A	E3.8-06	E3.8-A	E4.22-03	E4.22-A
D7.1.2-01	D7.1.2-A	E10.1.1	E10.1.1-A	E12.1.1	E12.1.1-A	E3.3-11	E3.3-A	E3.8-07	E3.8-A	E4.23-01	E4.23-A
D7.1.2-02	D7.1.2-A	E10.10	E10.10-A	E12.10	E12.10-A	E3.3-12	E3.3-A	E3.8-08	E3.8-A	E4.23-02	E4.23-A
D7.1.2-03	D7.1.2-A	E10.10.1	E10.10.1-A	E12.11	E12.11-A	E3.3-13	E3.3-A	E3.9	E3.9-A	E4.23-03	E4.23-A
D7.10	D7.10-A	E10.12	E10.12-A	E12.12	E12.12-A	E3.3-14	E3.3-A	E4.1	E4.1-A	E4.23-04	E4.23-A
D7.11	D7.11-A	E10.13	E10.13-A	E12.2	E12.2-A	E3.3-15	E3.3-A	E4.10.1-01	E4.10.1-A	E4.23-05	E4.23-A
D7.12	D7.12-A	E10.2	E10.2-A	E12.3	E12.3-A	E3.3-16	E3.3-A	E4.10.1-02	E4.10.1-A	E4.23-06	E4.23-A
D7.13	D7.13-A	E10.3	E10.3-A	E12.4	E12.4-A	E3.3-17	E3.3-A	E4.10-01	E4.10-A	E4.24	E4.24-A
D7.14	D7.14-A	E10.4	E10.4-A	E12.5	E12.5-A	E3.3-18	E3.3-A	E4.10-02	E4.10-A	E4.25-01	E4.25-A
D7.15	D7.15-A	E10.5	E10.5-A	E12.6	E12.6-A	E3.3-19	E3.3-A	E4.11-01	E4.11-A	E4.25-02	E4.25-A
D7.17-01	D7.17-A	E10.6	E10.6-A	E12.7	E12.7-A	E3.3-20	E3.3-A	E4.11-02	E4.11-A	E4.26	E4.26-A
D7.17-02	D7.17-A	E10.7	E10.7-A	E12.8	E12.8-A	E3.3A-01	E3.3-A	E4.12	E4.12-A	E4.27	E4.27-A
D7.2-01	D7.2-A	E10.8	E10.8-A	E12.9	E12.9-A	E3.3A-02	E3.3-A	E4.12.1	E4.12.1-A	E4.28	E4.28-A
D7.2-02	D7.2-A	E10.9-01	E10.9-A	E2.1	E2.1-A	E3.3A-03	E3.3-A	E4.13	E4.13-A	E4.29-01	E4.29-A
D7.2-03	D7.2-A	E10.9-02	E10.9-A	E2.10	E2.10-A	E3.3B-01	E3.3-A	E4.14-01	E4.14-A	E4.29-02	E4.29-A

TABLE A4. Simulation Template Room (STR) Assignment									
Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
E4.30	E4.30-A	E5.9a	E5.9-A	E8.3-01	E8.3-A	G12.1.1-21	G2.1.1-A	G12.2.1-04	G2.2.1-A
E4.3-01	E4.3-A	E5.9b	E5.9-A	E8.3-02	E8.3-A	G12.1.1-22	G2.1.1-A	G12.2.1-05	G2.2.1-A
E4.3-02	E4.3-A	E6.1	E6.1-A	E8.3-03	E8.3-A	G12.1.1-23	G2.1.1-A	G12.2.1-06	G2.2.1-A
E4.3-03	E4.3-A	E6.1.1	E6.1.1-A	E8.4	E8.4-A	G12.1.1-24	G2.1.1-A	G12.2.1-07	G2.2.1-A
E4.3-04	E4.3-A	E6.10-01	E6.10-A	E8.5	E8.5-A	G12.1.1-25	G2.1.1-A	G12.2.1-08	G2.2.1-A
E4.34-01	E4.34-A	E6.10-02	E6.10-A	E8.6	E8.6-A	G12.1.1-26	G2.1.1-A	G12.2-01	G2.2-A
E4.34-02	E4.34-A	E6.11	E6.11-A	E8.7	E8.7-A	G12.1.1-27	G2.1.1-A	G12.2-02	G2.2-A
E4.34-03	E4.34-A	E6.12	E6.12-A	E8.8	E8.8-A	G12.1.1-28	G2.1.1-A	G12.2-03	G2.2-A
E4.34-04	E4.34-A	E6.13	E6.13-A	E8.9	E8.9-A	G12.1.1-29	G2.1.1-A	G12.2-04	G2.2-A
E4.35	E4.35-A	E6.14	E6.14-A	E9.2-01	E9.2-A	G12.1.1-30	G2.1.1-A	G12.3.1-01	G2.3.1-A
E4.36	E4.36-A	E6.15	E6.15-A	E9.2-02	E9.2-A	G12.1.1-31	G2.1.1-A	G12.3.1-02	G2.3.1-A
E4.37	E4.37-A	E6.16	E6.16-A	E9.2-03	E9.2-A	G12.1-01	G2.1-A	G12.3.1-03	G2.3.1-A
E4.38	E4.38-A	E6.17	E6.17-A	E9.3	E9.3-A	G12.1-02	G2.1-B	G12.3.2-01	G2.3.2-A
E4.39	E4.39-A	E6.18	E6.18-A	E9.4.1-01	E9.4.1-A	G12.1-03	G2.1-A	G12.3.2-02	G2.3.2-A
E4.4	E4.4-A	E6.2	E6.2-A	E9.4.1-02	E9.4.1-A	G12.1-04	G2.1-A	G12.3.2-03	G2.3.2-A
E4.40-01	E4.40-A	E6.3-01	E6.3-A	E9.4-01	E9.4-A	G12.1-05	G2.1-A	G12.3-01	G2.3-A
E4.40-02	E4.40-A	E6.3-02	E6.3-A	E9.4-02	E9.4-A	G12.1-06	G2.1-A	G12.3-02	G2.3-A
E4.41	E4.41-A	E6.3-03	E6.3-A	E9.5	E9.5-A	G12.1-07	G2.1-A	G12.3-03	G2.3-A
E4.42	E4.42-A	E6.3-04	E6.3-A	E9.6-01	E9.6-A	G12.1-08	G2.1-A	G12.4.1-01	G2.4.1-A
E4.43	E4.43-A	E6.4	E6.4-A	E9.6-02	E9.6-A	G12.1-09	G2.1-A	G12.4.1-02	G2.4.1-A
E4.5	E4.5-A	E6.5	E6.5-A	E9.7-01	E9.7-A	G12.1-10	G2.1-B	G12.4.1-03	G2.4.1-A
E4.6	E4.6-A	E6.6	E6.6-A	E9.7-02	E9.7-A	G12.1-11	G2.1-A	G12.4-01	G2.4-A
E4.7	E4.7-A	E6.7	E6.7-A	E9.7-03	E9.7-A	G12.1-12	G2.1-A	G12.4-02	G2.4-A
E4.8	E4.8-A	E6.8	E6.8-A	E9.8	E9.8-A	G12.1-13	G2.1-A	G12.4-03	G2.4-A
E4.9-01	E4.9-A	E6.9	E6.9-A	E9.9	E9.9-A	G12.1-14	G2.1-A	G12.5.1-01	G2.5.1-A
E4.9-02	E4.9-A	E7.1-01	E7.1-A	G12.1.1-01	G2.1.1-A	G12.1-15	G2.1-B	G12.5.1-02	G2.5.1-A
E5.1-01	E5.1-A	E7.1-02	E7.1-A	G12.1.1-02	G2.1.1-A	G12.1-16	G2.1-A	G12.5.1-03	G2.5.1-A
E5.1-02	E5.1-A	E7.1-03	E7.1-A	G12.1.1-03	G2.1.1-A	G12.1-17	G2.1-B	G12.5.2-01	G2.5.2-A
E5.1-03	E5.1-A	E7.2.1-01	E7.2.1-A	G12.1.1-04	G2.1.1-A	G12.1-18	G2.1-A	G12.5.2-02	G2.5.2-A
E5.1-04	E5.1-A	E7.2.1-02	E7.2.1-A	G12.1.1-05	G2.1.1-A	G12.1-19	G2.1-A	G12.5.2-03	G2.5.2-A
E5.1-05	E5.1-A	E7.2.2-01	E7.2.2-A	G12.1.1-06	G2.1.1-A	G12.1-20	G2.1-A	G12.5-01	G2.5-A
E5.1-06	E5.1-A	E7.2.2-02	E7.2.2-A	G12.1.1-07	G2.1.1-A	G12.1-21	G2.1-A	G12.5-02	G2.5-A
E5.1-07	E5.1-A	E7.2-01	E7.2-A	G12.1.1-08	G2.1.1-A	G12.1-22	G2.1-B	G12.5-03	G2.5-A
E5.1-08	E5.1-A	E7.2-02	E7.2-A	G12.1.1-09	G2.1.1-A	G12.1-23	G2.1-A	G12.6-01	G2.6-A
E5.2	E5.2-A	E7.3	E7.3-A	G12.1.1-10	G2.1.1-A	G12.1-24	G2.1-A	G12.6-02	G2.6-A
E5.3	E5.3-A	E7.4	E7.4-A	G12.1.1-11	G2.1.1-A	G12.1-25	G2.1-A	G12.6-03	G2.6-A
E5.4-01	E5.4-A	E8.1	E8.1-A	G12.1.1-12	G2.1.1-A	G12.1-26	G2.1-A	G12.6-04	G2.6-A
E5.4-02	E5.4-A	E8.1.1	E8.1.1-A	G12.1.1-13	G2.1.1-A	G12.1-27	G2.1-A	G12.6-05	G2.6-A
E5.5-01	E5.5-A	E8.10	E8.10-A	G12.1.1-14	G2.1.1-A	G12.1-28	G2.1-A	G12.6-06	G2.6-A
E5.5-02	E5.5-A	E8.11-01	E8.11-A	G12.1.1-15	G2.1.1-A	G12.1-29	G2.1-A	G12.6-07	G2.6-A
E5.6-01	E5.6-A	E8.11-02	E8.11-A	G12.1.1-16	G2.1.1-A	G12.1-30	G2.1	G12.6-08	G2.6-A
E5.6-02	E5.6-A	E8.12	E8.12-A	G12.1.1-17	G2.1.1-A	G12.1-31	G2.1-A	G12.6-09	G2.6-A
E5.7	E5.7-A	E8.13	E8.13-A	G12.1.1-18	G2.1.1-A	G12.2.1-01	G2.2.1-A	G12.6-10	G2.6-A
E5.8	E5.8-A	E8.14	E8.14-A	G12.1.1-19	G2.1.1-A	G12.2.1-02	G2.2.1-A	G12.6-11	G2.6-A
E5.9	E5.9-A	E8.2	E8.2-A	G12.1.1-20	G2.1.1-A	G12.2.1-03	G2.2.1-A	G12.6-12	G2.6-A

TABLE A4. Simulation Template Room (STR) Assignment

Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
G13.12-02	G3.12-A	G4.6-01	G4.6-A	GI2.1.1-14	G2.1.1-A	GI2.1-28	G2.1-A	GI2.6-06	G2.6-A	GI3.11-07	G3.11-A
G13.12-03	G3.12-A	G4.6-02	G4.6-A	GI2.1.1-15	G2.1.1-A	GI2.1-29	G2.1-A	GI2.6-07	G2.6-A	GI3.11-08	G3.11-A
G13.12-04	G3.12-A	G5.10	G5.10-A	GI2.1.1-16	G2.1.1-A	GI2.1-30	G2.1-B	GI2.6-08	G2.6-A	GI3.11-09	G3.11-A
G13.2-01	G3.2-A	G5.11	G5.11-A	GI2.1.1-17	G2.1.1-A	GI2.1-31	G2.1-A	GI2.6-09	G2.6-A	GI3.11-10	G3.11-A
G13.2-02	G3.2-A	G5.12	G5.12-A	GI2.1.1-18	G2.1.1-A	GI2.2.1-01	G2.2.1-A	GI2.6-10	G2.6-A	GI3.11-11	G3.11-A
G13.2-03	G3.2-A	G5.13	G5.13-A	GI2.1.1-19	G2.1.1-A	GI2.2.1-02	G2.2.1-A	GI2.6-11	G2.6-A	GI3.11-12	G3.11-A
G13.2-04	G3.2-A	G5.14	G5.14-A	GI2.1.1-20	G2.1.1-A	GI2.2.1-03	G2.2.1-A	GI2.6-12	G2.6-A	GI3.12-01	G3.12-A
G13.3-01	G3.3-A	G5.15	G5.15-A	GI2.1.1-21	G2.1.1-A	GI2.2.1-04	G2.2.1-A	GI2.6-13	G2.6-A	GI3.12-02	G3.12-A
G13.3-02	G3.3-A	G5.16-01	G5.16-A	GI2.1.1-22	G2.1.1-A	GI2.2.1-05	G2.2.1-A	GI2.6-14	G2.6-A	GI3.12-03	G3.12-A
G13.3-03	G3.3-A	G5.16-02	G5.16-A	GI2.1.1-23	G2.1.1-A	GI2.2.1-06	G2.2.1-A	GI2.6-15	G2.6-A	GI3.12-04	G3.12-A
G13.3-04	G3.3-A	G5.16-03	G5.16-A	GI2.1.1-24	G2.1.1-A	GI2.2.1-07	G2.2.1-A	GI2.6-16	G2.6-A	GI3.2-01	G3.2-A
G13.3-05	G3.3-A	G5.17-01	G5.17-A	GI2.1.1-25	G2.1.1-A	GI2.2.1-08	G2.2.1-A	GI2.6-17	G2.6-A	GI3.2-02	G3.2-A
G13.3-06	G3.3-A	G5.17-02	G5.17-A	GI2.1.1-26	G2.1.1-A	GI2.2-01	G2.2-A	GI2.6-18	G2.6-A	GI3.2-03	G3.2-A
G13.3-07	G3.3-A	G5.18	G5.18-A	GI2.1.1-27	G2.1.1-A	GI2.2-02	G2.2-A	GI2.6-19	G2.6-A	GI3.2-04	G3.2-A
G13.3-08	G3.3-A	G5.19	G5.19-A	GI2.1.1-28	G2.1.1-A	GI2.2-03	G2.2-A	GI2.6-20	G2.6-A	GI3.3-01	G3.3-A
G13.4-01	G3.4-A	G5.1a	G5.1-A	GI2.1.1-29	G2.1.1-A	GI2.2-04	G2.2-A	GI2.6-21	G2.6-A	GI3.3-02	G3.3-A
G13.4-02	G3.4-A	G5.1b	G5.1-A	GI2.1.1-30	G2.1.1-A	GI2.3.1-01	G2.3.1-A	GI2.6-22	G2.6-A	GI3.3-03	G3.3-A
G13.4-03	G3.4-A	G5.2	G5.2-A	GI2.1.1-31	G2.1.1-A	GI2.3.1-02	G2.3.1-A	GI2.6-23	G2.6-A	GI3.3-04	G3.3-A
G13.4-04	G3.4-A	G5.20	G5.20-A	GI2.1-01	G2.1-A	GI2.3.1-03	G2.3.1-A	GI2.6-24	G2.6-A	GI3.3-05	G3.3-A
G13.6-01	G3.6-A	G5.21	G5.21-A	GI2.1-02	G2.1-B	GI2.3.2-01	G2.3.2-A	GI3.1.1-01	G3.1.1-A	GI3.3-06	G3.3-A
G13.6-02	G3.6-A	G5.22	G5.22-A	GI2.1-03	G2.1-A	GI2.3.2-02	G2.3.2-A	GI3.1.1-02	G3.1.1-A	GI3.3-07	G3.3-A
G13.6-03	G3.6-A	G5.22.1A	G5.22.1-A	GI2.1-04	G2.1-A	GI2.3.2-03	G2.3.2-A	GI3.1.1-03	G3.1.1-A	GI3.3-08	G3.3-A
G13.6-04	G3.6-A	G5.23	G5.23-A	GI2.1-05	G2.1-A	GI2.3-01	G2.3-A	GI3.1.1-04	G3.1.1-A	GI3.4-01	G3.4-A
G13.7-01	G3.7-A	G5.24	G5.24-A	GI2.1-06	G2.1-A	GI2.3-02	G2.3-A	GI3.10-01	G3.10-A	GI3.4-02	G3.4-A
G13.7-02	G3.7-A	G5.3	G5.3-A	GI2.1-07	G2.1-A	GI2.3-03	G2.3-A	GI3.10-02	G3.10-A	GI3.4-03	G3.4-A
G13.7-03	G3.7-A	G5.4	G5.4-A	GI2.1-08	G2.1-A	GI2.4.1-01	G2.4.1-A	GI3.10-03	G3.10-A	GI3.4-04	G3.4-A
G13.7-04	G3.7-A	G5.5	G5.5-A	GI2.1-09	G2.1-A	GI2.4.1-02	G2.4.1-A	GI3.10-04	G3.10-A	GI3.6-01	G3.6-A
G13.8-01	G3.8-A	G5.6	G5.6-A	GI2.1-10	G2.1-B	GI2.4.1-03	G2.4.1-A	GI3.10-05	G3.10-A	GI3.6-02	G3.6-A
G13.8-02	G3.8-A	G5.7	G5.7-A	GI2.1-11	G2.1-A	GI2.4-01	G2.4-A	GI3.10-06	G3.10-A	GI3.6-03	G3.6-A
G13.8-03	G3.8-A	G5.8	G5.8-A	GI2.1-12	G2.1-A	GI2.4-02	G2.4-A	GI3.10-07	G3.10-A	GI3.6-04	G3.6-A
G13.8-04	G3.8-A	G5.8.1	G5.8.1-A	GI2.1-13	G2.1-A	GI2.4-03	G2.4-A	GI3.10-08	G3.10-A	GI3.7-01	G3.7-A
G13.9-01	G3.9-A	G5.9	G5.9-A	GI2.1-14	G2.1-A	GI2.5.1-01	G2.5.1-A	GI3.10-09	G3.10-A	GI3.7-02	G3.7-A
G13.9-02	G3.9-A	GI2.1.1-01	G2.1.1-A	GI2.1-15	G2.1-B	GI2.5.1-02	G2.5.1-A	GI3.1-01	G3.1-A	GI3.7-03	G3.7-A
G13.9-03	G3.9-A	GI2.1.1-02	G2.1.1-A	GI2.1-16	G2.1-A	GI2.5.1-03	G2.5.1-A	GI3.1-02	G3.1-A	GI3.7-04	G3.7-A
G13.9-04	G3.9-A	GI2.1.1-03	G2.1.1-A	GI2.1-17	G2.1-B	GI2.5.2-01	G2.5.2-A	GI3.10-10	G3.10-A	GI3.8-01	G3.8-A
GI4.1-01	G4.1-A	GI2.1.1-04	G2.1.1-A	GI2.1-18	G2.1-A	GI2.5.2-02	G2.5.2-A	GI3.10-11	G3.10-A	GI3.8-02	G3.8-A
GI4.1-02	G4.1-A	GI2.1.1-05	G2.1.1-A	GI2.1-19	G2.1-A	GI2.5.2-03	G2.5.2-A	GI3.10-12	G3.10-A	GI3.8-03	G3.8-A
GI4.2-01	G4.2-A	GI2.1.1-06	G2.1.1-A	GI2.1-20	G2.1-A	GI2.5.2-01	G2.5.2-A	GI3.1-03	G3.1-A	GI3.8-04	G3.8-A
GI4.2-02	G4.2-A	GI2.1.1-07	G2.1.1-A	GI2.1-21	G2.1-A	GI2.5-01	G2.5-A	GI3.8-04	G3.8-A	GI3.9-01	G3.9-A
GI4.3-01	G4.3-A	GI2.1.1-08	G2.1.1-A	GI2.1-22	G2.1-B	GI2.5-02	G2.5-A	GI3.1-04	G3.1-A	GI3.9-02	G3.9-A
GI4.3-02	G4.3-A	GI2.1.1-09	G2.1.1-A	GI2.1-23	G2.1-A	GI2.5-03	G2.5-A	GI3.11-04	G3.11-A	GI3.9-03	G3.9-A
GI4.4-01	G4.4-A	GI2.1.1-10	G2.1.1-A	GI2.1-24	G2.1-A	GI2.6-01	G2.6-A	GI3.11-02	G3.11-A	GI3.9-04	G3.9-A
GI4.4-02	G4.4-A	GI2.1.1-11	G2.1.1-A	GI2.1-25	G2.1-A	GI2.6-02	G2.6-A	GI3.11-03	G3.11-A	GI4.1-01	G4.1-A
GI4.5-01	G4.5-A	GI2.1.1-12	G2.1.1-A	GI2.1-26	G2.1-A	GI2.6-03	G2.6-A	GI3.11-04	G3.11-A	GI4.1-02	G4.1-A
GI4.5-02	G4.5-A	GI2.1.1-13	G2.1.1-A	GI2.1-27	G2.1-A	GI2.6-04	G2.6-A	GI3.11-05	G3.11-A	GI4.2-01	G4.2-A
						GI2.6-05	G2.6-A	GI3.11-06	G3.11-A		

TABLE A4. Simulation Template Room (STR) Assignment									
Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
GI4.2-02	G4.2-A	GI12.1.1-07	G2.1.1-A	GI12.1-21	G2.1-A	GI12.5-02	G2.5-A	GI13.1-04	G3.1-A
GI4.3-01	G4.3-A	GI12.1.1-08	G2.1.1-A	GI12.1-22	G2.1-B	GI12.5-03	G2.5-A	GI13.11-01	G3.11-A
GI4.3-02	G4.3-A	GI12.1.1-09	G2.1.1-A	GI12.1-23	G2.1-B	GI12.6-01	G2.6-A	GI13.11-02	G3.11-A
GI4.4-01	G4.4-A	GI12.1.1-10	G2.1.1-A	GI12.1-24	G2.1-A	GI12.6-02	G2.6-A	GI13.11-03	G3.11-A
GI4.4-02	G4.4-A	GI12.1.1-11	G2.1.1-A	GI12.1-25	G2.1-A	GI12.6-03	G2.6-A	GI13.11-04	G3.11-A
GI4.5-01	G4.5-A	GI12.1.1-12	G2.1.1-A	GI12.1-26	G2.1-A	GI12.6-04	G2.6-A	GI13.11-05	G3.11-A
GI4.5-02	G4.5-A	GI12.1.1-13	G2.1.1-A	GI12.1-27	G2.1-A	GI12.6-05	G2.6-A	GI13.11-06	G3.11-A
GI4.6-01	G4.6-A	GI12.1.1-14	G2.1.1-A	GI12.1-28	G2.1-A	GI12.6-06	G2.6-A	GI13.11-07	G3.11-A
GI4.6-02	G4.6-A	GI12.1.1-15	G2.1.1-A	GI12.1-29	G2.1-A	GI12.6-07	G2.6-A	GI13.11-08	G3.11-A
GI5.10.1	G5.10.1-A	GI12.1.1-16	G2.1.1-A	GI12.1-30	G2.1-B	GI12.6-08	G2.6-A	GI13.11-09	G3.11-A
GI5.11	G5.11-A	GI12.1.1-17	G2.1.1-A	GI12.1-31	G2.1-A	GI12.6-09	G2.6-A	GI13.11-10	G3.11-A
GI5.12	G5.12-A	GI12.1.1-18	G2.1.1-A	GI12.2.1-01	G2.2.1-A	GI12.6-10	G2.6-A	GI13.11-11	G3.11-A
GI5.13	G5.13-A	GI12.1.1-19	G2.1.1-A	GI12.2.1-02	G2.2.1-A	GI12.6-11	G2.6-A	GI13.11-12	G3.11-A
GI5.14	G5.14-A	GI12.1.1-20	G2.1.1-A	GI12.2.1-03	G2.2.1-A	GI12.6-12	G2.6-A	GI13.12-01	G3.12-A
GI5.15	G5.15-A	GI12.1.1-21	G2.1.1-A	GI12.2.1-04	G2.2.1-A	GI12.6-13	G2.6-A	GI13.12-02	G3.12-A
GI5.16-01	G5.16-A	GI12.1.1-22	G2.1.1-A	GI12.2.1-05	G2.2.1-A	GI12.6-14	G2.6-A	GI13.12-03	G3.12-A
GI5.16-02	G5.16-A	GI12.1.1-23	G2.1.1-A	GI12.2.1-06	G2.2.1-A	GI12.6-15	G2.6-A	GI13.12-04	G3.12-A
GI5.16-03	G5.16-A	GI12.1.1-24	G2.1.1-A	GI12.2.1-07	G2.2.1-A	GI12.6-16	G2.6-A	GI13.2-01	G3.2-A
GI5.17-01	G5.17-A	GI12.1.1-25	G2.1.1-A	GI12.2.1-08	G2.2.1-A	GI12.6-17	G2.6-A	GI13.2-02	G3.2-A
GI5.17-02	G5.17-A	GI12.1.1-26	G2.1.1-A	GI12.2-01	G2.2-A	GI12.6-18	G2.6-A	GI13.2-03	G3.2-A
GI5.18	G5.18-A	GI12.1.1-27	G2.1.1-A	GI12.2-02	G2.2-A	GI12.6-19	G2.6-A	GI13.2-04	G3.2-A
GI5.19	G5.19-A	GI12.1.1-28	G2.1.1-A	GI12.2-03	G2.2-A	GI12.6-20	G2.6-A	GI13.3-01	G3.3-A
GI5.1a	G5.1-A	GI12.1.1-29	G2.1.1-A	GI12.2-04	G2.2-A	GI12.6-21	G2.6-A	GI13.3-02	G3.3-A
GI5.1b	G5.1-A	GI12.1.1-30	G2.1.1-A	GI12.3.1-01	G2.3.1-A	GI12.6-22	G2.6-A	GI13.3-03	G3.3-A
GI5.2	G5.2-A	GI12.1.1-31	G2.1.1-A	GI12.3.1-02	G2.3.1-A	GI12.6-23	G2.6-A	GI13.3-04	G3.3-A
GI5.20	G5.20-A	GI12.1-01	G2.1-A	GI12.3.1-03	G2.3.1-A	GI12.6-24	G2.6-A	GI13.3-05	G3.3-A
GI5.21	G5.21-A	GI12.1-02	G2.1-B	GI12.3.2-01	G2.3.2-A	GI13.1-01	G3.1-A	GI13.3-06	G3.3-A
GI5.22	G5.22-A	GI12.1-03	G2.1-A	GI12.3.2-02	G2.3.2-A	GI13.1-02	G3.1-A	GI13.3-07	G3.3-A
GI5.22.1	G5.22.1-A	GI12.1-04	G2.1-A	GI12.3.2-03	G2.3.2-A	GI13.1-03	G3.1-A	GI13.3-08	G3.3-A
GI5.23	G5.23-A	GI12.1-05	G2.1-A	GI12.3-01	G2.3-A	GI13.1-04	G3.1-A	GI13.4-01	G3.4-A
GI5.24	G5.24-A	GI12.1-06	G2.1-A	GI12.3-02	G2.3-A	GI13.10-01	G3.10-A	GI13.4-02	G3.4-A
GI5.3	G5.3-A	GI12.1-07	G2.1-A	GI12.3-03	G2.3-A	GI13.10-02	G3.10-A	GI13.4-03	G3.4-A
GI5.4	G5.4-A	GI12.1-08	G2.1-A	GI12.4.1-01	G2.4.1-A	GI13.10-03	G3.10-A	GI13.4-04	G3.4-A
GI5.5	G5.5-A	GI12.1-09	G2.1-A	GI12.4.1-02	G2.4.1-A	GI13.10-04	G3.10-A	GI13.6-01	G3.6-A
GI5.6	G5.6-A	GI12.1-10	G2.1-B	GI12.4.1-03	G2.4.1-A	GI13.10-05	G3.10-A	GI13.6-02	G3.6-A
GI5.7	G5.7-A	GI12.1-11	G2.1-A	GI12.4-01	G2.4-A	GI13.10-06	G3.10-A	GI13.6-03	G3.6-A
GI5.8	G5.8-A	GI12.1-12	G2.1-A	GI12.4-02	G2.4-A	GI13.10-07	G3.10-A	GI13.6-04	G3.6-A
GI5.8.1	G5.8.1-A	GI12.1-13	G2.1-A	GI12.4-03	G2.4-A	GI13.10-08	G3.10-A	GI13.7-01	G3.7-A
GI5.9	G5.9-A	GI12.1-14	G2.1-A	GI12.5.1-01	G2.5.1-A	GI13.10-09	G3.10-A	GI13.7-02	G3.7-A
GI12.1.1-01	G2.1.1-A	GI12.1-15	G2.1-B	GI12.5.1-02	G2.5.1-A	GI13.1-01	G3.1-A	GI13.7-03	G3.7-A
GI12.1.1-02	G2.1.1-A	GI12.1-16	G2.1-A	GI12.5.1-03	G2.5.1-A	GI13.10-10	G3.10-A	GI13.7-04	G3.7-A
GI12.1.1-03	G2.1.1-A	GI12.1-17	G2.1-B	GI12.5.2-01	G2.5.2-A	GI13.10-11	G3.10-A	GI13.8-01	G3.8-A
GI12.1.1-04	G2.1.1-A	GI12.1-18	G2.1-A	GI12.5.2-02	G2.5.2-A	GI13.10-12	G3.10-A	GI13.8-02	G3.8-A
GI12.1.1-05	G2.1.1-A	GI12.1-19	G2.1-A	GI12.5.2-03	G2.5.2-A	GI13.1-02	G3.1-A	GI13.8-03	G3.8-A
GI12.1.1-06	G2.1.1-A	GI12.1-20	G2.1-A	GI12.5-01	G2.5-A	GI13.1-03	G3.1-A	GI13.8-04	G3.8-A

TABLE A4. Simulation Template Room (STR) Assignment											
Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
GIV2.1.1-01	G2.1.1-A	GIV2.1.1-15	G2.1-B	GIV2.5.1-02	G2.5.1-A	GIV3.1-01	G3.1-A	GIV3.7-03	G3.7-A	GIV5.5	G5.5-A
GIV2.1.1-02	G2.1.1-A	GIV2.1.1-16	G2.1-A	GIV2.5.1-03	G2.5.1-A	GIV3.10-10	G3.10-A	GIV3.7-04	G3.7-A	GIV5.6	G5.6-A
GIV2.1.1-03	G2.1.1-A	GIV2.1.1-17	G2.1-B	GIV2.5.2-01	G2.5.2-A	GIV3.10-11	G3.10-A	GIV3.8-01	G3.8-A	GIV5.7	G5.7-A
GIV2.1.1-04	G2.1.1-A	GIV2.1.1-18	G2.1-A	GIV2.5.2-02	G2.5.2-A	GIV3.10-12	G3.10-A	GIV3.8-02	G3.8-A	GIV5.8	G5.8-A
GIV2.1.1-05	G2.1.1-A	GIV2.1.1-19	G2.1-A	GIV2.5.2-03	G2.5.2-A	GIV3.1-02	G3.1-A	GIV3.8-03	G3.8-A	GIV5.8.1	G5.8.1-A
GIV2.1.1-06	G2.1.1-A	GIV2.1.20	G2.1-A	GIV2.5-01	G2.5-A	GIV3.1-03	G3.1-A	GIV3.8-04	G3.8-A	GIV5.9	G5.9-A
GIV2.1.1-07	G2.1.1-A	GIV2.1.21	G2.1-A	GIV2.5-02	G2.5-A	GIV3.1-04	G3.1-A	GIV3.9-01	G3.9-A	GIV2.1.1-01	G2.1.1-A
GIV2.1.1-08	G2.1.1-A	GIV2.1.22	G2.1-B	GIV2.5-03	G2.5-A	GIV3.11-01	G3.11-A	GIV3.9-02	G3.9-A	GIV2.1.1-02	G2.1.1-A
GIV2.1.1-09	G2.1.1-A	GIV2.1.23	G2.1-A	GIV2.6-01	G2.6-A	GIV3.11-02	G3.11-A	GIV3.9-03	G3.9-A	GIV2.1.1-03	G2.1.1-A
GIV2.1.1-10	G2.1.1-A	GIV2.1.24	G2.1-A	GIV2.6-02	G2.6-A	GIV3.11-03	G3.11-A	GIV3.9-04	G3.9-A	GIV2.1.1-04	G2.1.1-A
GIV2.1.1-11	G2.1.1-A	GIV2.1.25	G2.1-A	GIV2.6-03	G2.6-A	GIV3.11-04	G3.11-A	GIV4.1-01	G4.1-A	GIV2.1.1-05	G2.1.1-A
GIV2.1.1-12	G2.1.1-A	GIV2.1.26	G2.1-A	GIV2.6-04	G2.6-A	GIV3.11-05	G3.11-A	GIV4.1-02	G4.1-A	GIV2.1.1-06	G2.1.1-A
GIV2.1.1-13	G2.1.1-A	GIV2.1.27	G2.1-A	GIV2.6-05	G2.6-A	GIV3.11-06	G3.11-A	GIV4.2-01	G4.2-A	GIV2.1.1-07	G2.1.1-A
GIV2.1.1-14	G2.1.1-A	GIV2.1.28	G2.1-A	GIV2.6-06	G2.6-A	GIV3.11-07	G3.11-A	GIV4.2-02	G4.2-A	GIV2.1.1-08	G2.1.1-A
GIV2.1.1-15	G2.1.1-A	GIV2.1.29	G2.1-A	GIV2.6-07	G2.6-A	GIV3.11-08	G3.11-A	GIV4.3-01	G4.3-A	GIV2.1.1-09	G2.1.1-A
GIV2.1.1-16	G2.1.1-A	GIV2.1.30	G2.1-B	GIV2.6-08	G2.6-A	GIV3.11-09	G3.11-A	GIV4.3-02	G4.3-A	GIV2.1.1-10	G2.1.1-A
GIV2.1.1-17	G2.1.1-A	GIV2.1.31	G2.1-A	GIV2.6-09	G2.6-A	GIV3.11-10	G3.11-A	GIV4.4-01	G4.4-A	GIV2.1.1-11	G2.1.1-A
GIV2.1.1-18	G2.1.1-A	GIV2.2.1-01	G2.2.1-A	GIV2.6-10	G2.6-A	GIV3.11-11	G3.11-A	GIV4.4-02	G4.4-A	GIV2.1.1-12	G2.1.1-A
GIV2.1.1-19	G2.1.1-A	GIV2.2.1-02	G2.2.1-A	GIV2.6-11	G2.6-A	GIV3.11-12	G3.11-A	GIV4.5-01	G4.5-A	GIV2.1.1-13	G2.1.1-A
GIV2.1.1-20	G2.1.1-A	GIV2.2.1-03	G2.2.1-A	GIV2.6-12	G2.6-A	GIV3.12-01	G3.12-A	GIV4.5-02	G4.5-A	GIV2.1.1-14	G2.1.1-A
GIV2.1.1-21	G2.1.1-A	GIV2.2.1-04	G2.2.1-A	GIV2.6-13	G2.6-A	GIV3.12-02	G3.12-A	GIV4.6-01	G4.6-A	GIV2.1.1-15	G2.1.1-A
GIV2.1.1-22	G2.1.1-A	GIV2.2.1-05	G2.2.1-A	GIV2.6-14	G2.6-A	GIV3.12-03	G3.12-A	GIV4.6-02	G4.6-A	GIV2.1.1-16	G2.1.1-A
GIV2.1.1-23	G2.1.1-A	GIV2.2.1-06	G2.2.1-A	GIV2.6-15	G2.6-A	GIV3.12-04	G3.12-A	GIV5.1	G5.1-A	GIV2.1.1-17	G2.1.1-A
GIV2.1.1-24	G2.1.1-A	GIV2.2.1-07	G2.2.1-A	GIV2.6-16	G2.6-A	GIV3.2-01	G3.2-A	GIV5.10.3	G5.10.3-A	GIV2.1.1-18	G2.1.1-A
GIV2.1.1-25	G2.1.1-A	GIV2.2.1-08	G2.2.1-A	GIV2.6-17	G2.6-A	GIV3.2-02	G3.2-A	GIV5.11	G5.11-A	GIV2.1.1-19	G2.1.1-A
GIV2.1.1-26	G2.1.1-A	GIV2.2-01	G2.2-A	GIV2.6-18	G2.6-A	GIV3.2-03	G3.2-A	GIV5.12	G5.12-A	GIV2.1.1-20	G2.1.1-A
GIV2.1.1-27	G2.1.1-A	GIV2.2-02	G2.2-A	GIV2.6-19	G2.6-A	GIV3.2-04	G3.2-A	GIV5.13	G5.13-A	GIV2.1.1-21	G2.1.1-A
GIV2.1.1-28	G2.1.1-A	GIV2.2-03	G2.2-A	GIV2.6-20	G2.6-A	GIV3.3-01	G3.3-A	GIV5.14	G5.14-A	GIV2.1.1-22	G2.1.1-A
GIV2.1.1-29	G2.1.1-A	GIV2.2-04	G2.2-A	GIV2.6-21	G2.6-A	GIV3.3-02	G3.3-A	GIV5.15	G5.15-A	GIV2.1.1-23	G2.1.1-A
GIV2.1.1-30	G2.1.1-A	GIV2.3.1-01	G2.3.1-A	GIV2.6-22	G2.6-A	GIV3.3-03	G3.3-A	GIV5.16-01	G5.16-A	GIV2.1.1-24	G2.1.1-A
GIV2.1.1-31	G2.1.1-A	GIV2.3.1-02	G2.3.1-A	GIV2.6-23	G2.6-A	GIV3.3-04	G3.3-A	GIV5.16-02	G5.16-A	GIV2.1.1-25	G2.1.1-A
GIV2.1-01	G2.1-A	GIV2.3.1-03	G2.3.1-A	GIV2.6-24	G2.6-A	GIV3.3-05	G3.3-A	GIV5.16-03	G5.16-A	GIV2.1.1-26	G2.1.1-A
GIV2.1-02	G2.1-B	GIV2.3.2-01	G2.3.2-A	GIV3.1.1-01	G3.1.1-A	GIV3.3-06	G3.3-A	GIV5.17-01	G5.17-A	GIV2.1.1-27	G2.1.1-A
GIV2.1-03	G2.1-A	GIV2.3.2-02	G2.3.2-A	GIV3.1.1-02	G3.1.1-A	GIV3.3-07	G3.3-A	GIV5.17-02	G5.17-A	GIV2.1.1-28	G2.1.1-A
GIV2.1-04	G2.1-A	GIV2.3.2-03	G2.3.2-A	GIV3.1.1-03	G3.1.1-A	GIV3.3-08	G3.3-A	GIV5.18	G5.18-A	GIV2.1.1-29	G2.1.1-A
GIV2.1-05	G2.1-A	GIV2.3-01	G2.3-A	GIV3.1.1-04	G3.1.1-A	GIV3.4-01	G3.4-A	GIV5.19	G5.19-A	GIV2.1.1-30	G2.1.1-A
GIV2.1-06	G2.1-A	GIV2.3-02	G2.3-A	GIV3.10-01	G3.10-A	GIV3.4-02	G3.4-A	GIV5.2	G5.2-A	GIV2.1.1-31	G2.1.1-A
GIV2.1-07	G2.1-A	GIV2.3-03	G2.3-A	GIV3.10-02	G3.10-A	GIV3.4-03	G3.4-A	GIV5.20	G5.20-A	GIV2.1-01	G2.1-A
GIV2.1-08	G2.1-A	GIV2.4.1-01	G2.4.1-A	GIV3.10-03	G3.10-A	GIV3.4-04	G3.4-A	GIV5.21	G5.21-A	GIV2.1-02	G2.1-B
GIV2.1-09	G2.1-A	GIV2.4.1-02	G2.4.1-A	GIV3.10-04	G3.10-A	GIV3.6-01	G3.6-A	GIV5.22	G5.22-A	GIV2.1-03	G2.1-A
GIV2.1-10	G2.1-B	GIV2.4.1-03	G2.4.1-A	GIV3.10-05	G3.10-A	GIV3.6-02	G3.6-A	GIV5.22.1	G5.22.1-A	GIV2.1-04	G2.1-A
GIV2.1-11	G2.1-A	GIV2.4-01	G2.4-A	GIV3.10-06	G3.10-A	GIV3.6-03	G3.6-A	GIV5.23	G5.23-A	GIV2.1-05	G2.1-A
GIV2.1-12	G2.1-A	GIV2.4-02	G2.4-A	GIV3.10-07	G3.10-A	GIV3.6-04	G3.6-A	GIV5.24	G5.24-A	GIV2.1-06	G2.1-A
GIV2.1-13	G2.1-A	GIV2.4-03	G2.4-A	GIV3.10-08	G3.10-A	GIV3.7-01	G3.7-A	GIV5.3	G5.3-A	GIV2.1-07	G2.1-A
GIV2.1-14	G2.1-A	GIV2.5.1-01	G2.5.1-A	GIV3.10-09	G3.10-A	GIV3.7-02	G3.7-A	GIV5.4	G5.4-A	GIV2.1-08	G2.1-A

TABLE A4. Simulation Template Room (STR) Assignment									
Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
GV2.1-09	G2.1-A	GV2.4.1-02	G2.4.1-A	GV3.10-04	G3.10-A	GV3.6-01	G3.6-A	GV5.22	G5.22-A
GV2.1-10	G2.1-B	GV2.4.1-03	G2.4.1-A	GV3.10-05	G3.10-A	GV3.6-02	G3.6-A	GV5.22.1	G5.22.1-A
GV2.1-11	G2.1-A	GV2.4-01	G2.4-A	GV3.10-06	G3.10-A	GV3.6-03	G3.6-A	GV5.23	G5.23-A
GV2.1-12	G2.1-A	GV2.4-02	G2.4-A	GV3.10-07	G3.10-A	GV3.6-04	G3.6-A	GV5.24	G5.24-A
GV2.1-13	G2.1-A	GV2.4-03	G2.4-A	GV3.10-08	G3.10-A	GV3.7-01	G3.7-A	GV5.3	G5.3-A
GV2.1-14	G2.1-A	GV2.5.1-01	G2.5.1-A	GV3.10-09	G3.10-A	GV3.7-02	G3.7-A	GV5.4	G5.4-A
GV2.1-15	G2.1-B	GV2.5.1-02	G2.5.1-A	GV3.1-01	G3.1-A	GV3.7-03	G3.7-A	GV5.5	G5.5-A
GV2.1-16	G2.1-A	GV2.5.1-03	G2.5.1-A	GV3.10-10	G3.10-A	GV3.7-04	G3.7-A	GV5.6	G5.6-A
GV2.1-17	G2.1-B	GV2.5.2-01	G2.5.2-A	GV3.10-11	G3.10-A	GV3.8-01	G3.8-A	GV5.7	G5.7-A
GV2.1-18	G2.1-A	GV2.5.2-02	G2.5.2-A	GV3.10-12	G3.10-A	GV3.8-02	G3.8-A	GV5.8	G5.8-A
GV2.1-19	G2.1-A	GV2.5.2-03	G2.5.2-A	GV3.1-02	G3.1-A	GV3.8-03	G3.8-A	GV5.8.1	G5.8.1-A
GV2.1-20	G2.1-A	GV2.5-01	G2.5-A	GV3.1-03	G3.1-A	GV3.8-04	G3.8-A	GV5.9	G5.9-A
GV2.1-21	G2.1-A	GV2.5-02	G2.5-A	GV3.1-04	G3.1-A	GV3.9-01	G3.9-A	H1.1	H1.1-A
GV2.1-22	G2.1-B	GV2.5-03	G2.5-A	GV3.11-01	G3.11-A	GV3.9-02	G3.9-A	H1.2-01	H1.2-01-A
GV2.1-23	G2.1-A	GV2.6-01	G2.6-A	GV3.11-02	G3.11-A	GV3.9-03	G3.9-A	H1.2-02	H1.2-02-A
GV2.1-24	G2.1-A	GV2.6-02	G2.6-A	GV3.11-03	G3.11-A	GV3.9-04	G3.9-A	H1.3	H1.3-A
GV2.1-25	G2.1-A	GV2.6-03	G2.6-A	GV3.11-04	G3.11-A	GV4.1-01	G4.1-A	H1.4	H1.4-A
GV2.1-26	G2.1-A	GV2.6-04	G2.6-A	GV3.11-05	G3.11-A	GV4.1-02	G4.1-A	H1.5	H1.5-A
GV2.1-27	G2.1-A	GV2.6-05	G2.6-A	GV3.11-06	G3.11-A	GV4.2-01	G4.2-A	H1.6	H1.6-A
GV2.1-28	G2.1-A	GV2.6-06	G2.6-A	GV3.11-07	G3.11-A	GV4.2-02	G4.2-A	H1.7	H1.7-A
GV2.1-29	G2.1-A	GV2.6-07	G2.6-A	GV3.11-08	G3.11-A	GV4.3-01	G4.3-A	H1.8	H1.8-A
GV2.1-30	G2.1-B	GV2.6-08	G2.6-A	GV3.11-09	G3.11-A	GV4.3-02	G4.3-A	H2.1	H2.1-A
GV2.1-31	G2.1-A	GV2.6-09	G2.6-A	GV3.11-10	G3.11-A	GV4.4-01	G4.4-A	H2.2-01	H2.2-01-A
GV2.2.1-01	G2.2.1-A	GV2.6-10	G2.6-A	GV3.11-11	G3.11-A	GV4.4-02	G4.4-A	H2.2-02	H2.2-02-A
GV2.2.1-02	G2.2.1-A	GV2.6-11	G2.6-A	GV3.11-12	G3.11-A	GV4.5-01	G4.5-A	H2.2-03	H2.2-03-A
GV2.2.1-03	G2.2.1-A	GV2.6-12	G2.6-A	GV3.12-01	G3.12-A	GV4.5-02	G4.5-A	H2.2-04	H2.2-04-A
GV2.2.1-04	G2.2.1-A	GV2.6-13	G2.6-A	GV3.12-02	G3.12-A	GV4.6-01	G4.6-A	H2.3	H2.3-A
GV2.2.1-05	G2.2.1-A	GV2.6-14	G2.6-A	GV3.12-03	G3.12-A	GV4.6-02	G4.6-A	H2.4	H2.4-A
GV2.2.1-06	G2.2.1-A	GV2.6-15	G2.6-A	GV3.12-04	G3.12-A	GV5.1	G5.1-A	H3.1	H3.1-A
GV2.2.1-07	G2.2.1-A	GV2.6-16	G2.6-A	GV3.2-01	G3.2-A	GV5.10.4	G5.10.4-A	H3.2	H3.2-A
GV2.2.1-08	G2.2.1-A	GV2.6-17	G2.6-A	GV3.2-02	G3.2-A	GV5.11	G5.11-A	H3.3	H3.3-A
GV2.2-01	G2.2-A	GV2.6-18	G2.6-A	GV3.2-03	G3.2-A	GV5.12	G5.12-A	H3.4-01	H3.4-01-A
GV2.2-02	G2.2-A	GV2.6-19	G2.6-A	GV3.2-04	G3.2-A	GV5.13	G5.13-A	H3.4-02	H3.4-02-A
GV2.2-03	G2.2-A	GV2.6-20	G2.6-A	GV3.3-01	G3.3-A	GV5.14	G5.14-A	H3.4-03	H3.4-03-A
GV2.2-04	G2.2-A	GV2.6-21	G2.6-A	GV3.3-02	G3.3-A	GV5.15	G5.15-A	H3.4-04	H3.4-04-A
GV2.3.1-01	G2.3.1-A	GV2.6-22	G2.6-A	GV3.3-03	G3.3-A	GV5.16-01	G5.16-A	H3.5-01	H3.5-01-A
GV2.3.1-02	G2.3.1-A	GV2.6-23	G2.6-A	GV3.3-04	G3.3-A	GV5.16-02	G5.16-A	H3.5-02	H3.5-02-A
GV2.3.1-03	G2.3.1-A	GV2.6-24	G2.6-A	GV3.3-05	G3.3-A	GV5.16-03	G5.16-A	H3.6	H3.6-A
GV2.3.2-01	G2.3.2-A	GV3.1.1-01	G3.1.1-A	GV3.3-06	G3.3-A	GV5.17-01	G5.17-A	H3.6-01	H3.6-01-A
GV2.3.2-02	G2.3.2-A	GV3.1.1-02	G3.1.1-A	GV3.3-07	G3.3-A	GV5.17-02	G5.17-A	H3.6-02	H3.6-02-A
GV2.3.2-03	G2.3.2-A	GV3.1.1-03	G3.1.1-A	GV3.3-08	G3.3-A	GV5.18	G5.18-A	H3.6-03	H3.6-03-A
GV2.3-01	G2.3-A	GV3.1.1-04	G3.1.1-A	GV3.4-01	G3.4-A	GV5.19	G5.19-A	H3.6-04	H3.6-04-A
GV2.3-02	G2.3-A	GV3.10-01	G3.10-A	GV3.4-02	G3.4-A	GV5.2	G5.2-A	H3.6-05	H3.6-05-A
GV2.3-03	G2.3-A	GV3.10-02	G3.10-A	GV3.4-03	G3.4-A	GV5.20	G5.20-A	H3.6-06	H3.6-06-A
GV2.4.1-01	G2.4.1-A	GV3.10-03	G3.10-A	GV3.4-04	G3.4-A	GV5.21	G5.21-A	H3.6-07	H3.6-07-A

TABLE A4. Simulation Template Room (STR) Assignment

Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
Z004	I. Corridor-A	Z1158	G. Corridor-A	Z503	C. Corridor-A	Z902	G. Corridor-A	ZE-405	Z.Elec.room-A	ZL-PA01	Z. Shaft-A
Z005	I. Corridor-A	Z151	C. Corridor-A	Z551	C. Corridor-A	Z951	Z. Corridor-A	ZE-501	Z.Elec.room-A	ZL-PA101	Z. Shaft-A
Z006	A. Corridor-A	Z152	E. Corridor-A	Z552	Z. Corridor-A	Z952	Z. Corridor-A	ZE-502	Z.Elec.room-A	ZL-PA111	Z. Shaft-A
Z007	A. Corridor-A	Z153	E. Corridor-A	Z553	C. Corridor-A	Z953	G. Corridor-A	ZE-503	Z.Elec.room-A	ZL-PA111	Z. Shaft-A
Z008	I. Corridor-A	Z154	E. Corridor-A	Z554	C. Corridor-A	Z954	G. Corridor-A	ZE-504	Z.Elec.room-A	ZL-PA21	Z. Shaft-A
Z009	I. Corridor-A	Z155	E. Corridor-A	Z555	C. Corridor-A	Z955	G. Corridor-A	ZE-505	Z.Elec.room-A	ZL-PA31	Z. Shaft-A
Z010	I. Corridor-A	Z156	E. Corridor-A	Z556	C. Corridor-A	Z956	G. Corridor-A	ZE-601	Z.Elec.room-A	ZL-PA41	Z. Shaft-A
Z012	Z. Corridor-A	Z157	Z. Corridor-A	Z557	C. Corridor-A	Z957	G. Corridor-A	ZE-602	Z.Elec.room-A	ZL-PA51	Z. Shaft-A
Z013	Z. Corridor-A	Z158	H. Corridor-A	Z558	C. Corridor-A	Z958	G. Corridor-A	ZE-603	Z.Elec.room-A	ZL-PA61	Z. Shaft-A
Z014	A. Corridor-A	Z159	C. Corridor-A	Z601	C. Corridor-A	ZE-001	Z.Elec.room-A	ZE-604	Z.Elec.room-A	ZL-PA71	Z. Shaft-A
Z015	A. Corridor-A	Z160	E. Corridor-A	Z602	C. Corridor-A	ZE-002	Z.Elec.room-A	ZE-701	Z.Elec.room-A	ZL-PA81	Z. Shaft-A
Z016	I. Corridor-A	Z161	E. Corridor-A	Z603	C. Corridor-A	ZE-003	Z.Elec.room-A	ZE-702	Z.Elec.room-A	ZL-PA91	Z. Shaft-A
Z017	I. Corridor-A	Z162	H. Corridor-A	Z604	C. Corridor-A	ZE-004	Z.Elec.room-A	ZE-703	Z.Elec.room-A	ZL-PAHP1	Z. Shaft-A
Z018	I. Corridor-A	Z201	D. Corridor-A	Z605	C. Corridor-A	ZE-005	Z.Elec.room-A	ZE-704	Z.Elec.room-A	ZL-PARF1	Z. Shaft-A
Z019	A. Corridor-A	Z202	C. Corridor-A	Z606	Z. Corridor-A	ZE-1001	Z.Elec.room-A	ZE-801	Z.Elec.room-A	ZL-PU01	Z. Shaft-A
Z020	I. Corridor-A	Z203	Z. Corridor-A	Z651	C. Corridor-A	ZE-1002	Z.Elec.room-A	ZE-802	Z.Elec.room-A	ZL-PU101	Z. Shaft-A
Z021	I. Corridor-A	Z204	D. Corridor-A	Z652	C. Corridor-A	ZE-1003	Z.Elec.room-A	ZE-803	Z.Elec.room-A	ZL-PU102	Z. Shaft-A
Z022	A. Corridor-A	Z205	D. Corridor-A	Z653	Z. Corridor-A	ZE-1004	Z.Elec.room-A	ZE-804	Z.Elec.room-A	ZL-PU111	Z. Shaft-A
Z023	I. Corridor-A	Z206	D. Corridor-A	Z654	C. Corridor-A	ZE-101	Z.Elec.room-A	ZE-901	Z.Elec.room-A	ZL-PU112	Z. Shaft-A
Z024	I. Corridor-A	Z207	D. Corridor-A	Z655	C. Corridor-A	ZE-102	Z.Elec.room-A	ZE-902	Z.Elec.room-A	ZL-PU12	Z. Shaft-A
Z025	A. Corridor-A	Z208	D. Corridor-A	Z656	C. Corridor-A	ZE-103	Z.Elec.room-A	ZE-903	Z.Elec.room-A	ZL-PU12	Z. Shaft-A
Z1001	G. Corridor-A	Z251	D. Corridor-A	Z657	C. Corridor-A	ZE-104	Z.Elec.room-A	ZE-904	Z.Elec.room-A	ZL-PU13	Z. Shaft-A
Z1002	G. Corridor-A	Z252	D. Corridor-A	Z658	C. Corridor-A	ZE-105	Z.Elec.room-A	ZE-P101	Z.Elec.room-A	ZL-PU21	Z. Shaft-A
Z101	Z. Corridor-A	Z253	Z. Corridor-A	Z659	C. Corridor-A	ZE-106	Z.Elec.room-A	ZE-P102	Z.Elec.room-A	ZL-PU22	Z. Shaft-A
Z102	E. Corridor-A	Z254	D. Corridor-A	Z701	G. Corridor-A	ZE-107	Z.Elec.room-A	ZE-P103	Z.Elec.room-A	ZL-PU23	Z. Shaft-A
Z103	E. Corridor-A	Z255	D. Corridor-A	Z702	G. Corridor-A	ZE-108	Z.Elec.room-A	ZE-P104	Z.Elec.room-A	ZL-PU24	Z. Shaft-A
Z104	E. Corridor-A	Z301	Z. Corridor-A	Z751	Z. Corridor-A	ZE-109	Z.Elec.room-A	ZE-P201	Z.Elec.room-A	ZL-PU31	Z. Shaft-A
Z105	E. Corridor-A	Z302	Z. Corridor-A	Z752	C. Corridor-A	ZE-110	Z.Elec.room-A	ZE-P202	Z.Elec.room-A	ZL-PU32	Z. Shaft-A
Z1051	Z. Corridor-A	Z303	Z. Corridor-A	Z753	G. Corridor-A	ZE-1101	Z.Elec.room-A	ZE-P203	Z.Elec.room-A	ZL-PU41	Z. Shaft-A
Z1052	Z. Corridor-A	Z304	Z. Corridor-A	Z754	G. Corridor-A	ZE-1102	Z.Elec.room-A	ZE-P204	Z.Elec.room-A	ZL-PU42	Z. Shaft-A
Z1053	G. Corridor-A	Z305	Z. Corridor-A	Z755	G. Corridor-A	ZE-1103	Z.Elec.room-A	ZHP51	Z. Corridor-A	ZL-PU51	Z. Shaft-A
Z1054	G. Corridor-A	Z351	Z. Corridor-A	Z756	G. Corridor-A	ZE-1104	Z.Elec.room-A	ZHP52	Z. Corridor-A	ZL-PU52	Z. Shaft-A
Z1055	G. Corridor-A	Z401	B. Corridor-A	Z757	C. Corridor-A	ZE-111	Z.Elec.room-A	ZHP53	Z. Corridor-A	ZL-PU61	Z. Shaft-A
Z1056	G. Corridor-A	Z402	B. Corridor-A	Z758	G. Corridor-A	ZE-112	Z.Elec.room-A	ZL-CD01	Z. Shaft-A	ZL-PU62	Z. Shaft-A
Z1057	G. Corridor-A	Z403	B. Corridor-A	Z801	G. Corridor-A	ZE-201	Z.Elec.room-A	ZL-CD02	Z. Shaft-A	ZL-PU71	Z. Shaft-A
Z1058	G. Corridor-A	Z451	Z. Corridor-A	Z802	G. Corridor-A	ZE-202	Z.Elec.room-A	ZL-CD11	Z. Shaft-A	ZL-PU72	Z. Shaft-A
Z1101	G. Corridor-A	Z452	B. Corridor-A	Z851	Z. Corridor-A	ZE-203	Z.Elec.room-A	ZL-CD12	Z. Shaft-A	ZL-PU81	Z. Shaft-A
Z1102	G. Corridor-A	Z453	B. Corridor-A	Z852	Z. Corridor-A	ZE-301	Z.Elec.room-A	ZL-CD21	Z. Shaft-A	ZL-PU82	Z. Shaft-A
Z1151	Z. Corridor-A	Z454	B. Corridor-A	Z853	G. Corridor-A	ZE-302	Z.Elec.room-A	ZL-CD22	Z. Shaft-A	ZL-PU91	Z. Shaft-A
Z1152	Z. Corridor-A	Z455	Z. Corridor-A	Z854	G. Corridor-A	ZE-303	Z.Elec.room-A	ZL-CD31	Z. Shaft-A	ZL-PU92	Z. Shaft-A
Z1153	G. Corridor-A	Z456	B. Corridor-A	Z855	G. Corridor-A	ZE-304	Z.Elec.room-A	ZL-CD32	Z. Shaft-A	ZL-PUP11	Z. Shaft-A
Z1154	G. Corridor-A	Z457	B. Corridor-A	Z856	G. Corridor-A	ZE-401	Z.Elec.room-A	ZL-CD41	Z. Shaft-A	ZL-PUP21	Z. Shaft-A
Z1155	G. Corridor-A	Z458	B. Corridor-A	Z857	G. Corridor-A	ZE-402	Z.Elec.room-A	ZL-CD42	Z. Shaft-A	ZL-S01	Z. Shaft-A
Z1156	G. Corridor-A	Z501	C. Corridor-A	Z858	G. Corridor-A	ZE-403	Z.Elec.room-A	ZL-CD51	Z. Shaft-A	ZL-S101	Z. Shaft-A
Z1157	G. Corridor-A	Z502	Z. Corridor-A	Z901	G. Corridor-A	ZE-404	Z.Elec.room-A	ZL-CD52	Z. Shaft-A	ZL-S11	Z. Shaft-A

TABLE A4. Simulation Template Room (STR) Assignment

Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
ZL-S111	Z.Shaft-A	ZM-1013	Z.Mech. Room-A	ZM-309	Z.Mech. Room-A	ZM-714	Z.Mech. Room-A	ZM-P201	Z.Mech. Room-A
ZL-S21	Z.Shaft-A	ZM-1014	Z.Mech. Room-A	ZM-310	Z.Mech. Room-A	ZM-715	Z.Mech. Room-A	ZM-P202	Z.Mech. Room-A
ZL-S22	Z.Shaft-A	ZM-102	Z.Mech. Room-A	ZM-311	Z.Mech. Room-A	ZM-801	Z.Mech. Room-A	ZM-P203	Z.Mech. Room-A
ZL-S31	Z.Shaft-A	ZM-103	Z.Mech. Room-A	ZM-312	Z.Mech. Room-A	ZM-802	Z.Mech. Room-A	ZM-P204	Z.Mech. Room-A
ZL-S41	Z.Shaft-A	ZM-104	Z.Mech. Room-A	ZM-313	Z.Mech. Room-A	ZM-803	Z.Mech. Room-A	ZM-P205	Z.Mech. Room-A
ZL-S51	Z.Shaft-A	ZM-105	Z.Mech. Room-A	ZM-401	Z.Mech. Room-A	ZM-804	Z.Mech. Room-A	ZM-P206	Z.Mech. Room-A
ZL-S61	Z.Shaft-A	ZM-106	Z.Mech. Room-A	ZM-402	Z.Mech. Room-A	ZM-805	Z.Mech. Room-A	ZM-RF01	Z.Mech. Room-A
ZL-S71	Z.Shaft-A	ZM-1101	Z.Mech. Room-A	ZM-403	Z.Mech. Room-A	ZM-806	Z.Mech. Room-A	ZM-RF02	Z.Mech. Room-A
ZL-S81	Z.Shaft-A	ZM-1102	Z.Mech. Room-A	ZM-404	Z.Mech. Room-A	ZM-807	Z.Mech. Room-A	ZM-RF04	Z.Mech. Room-A
ZL-S91	Z.Shaft-A	ZM-1103	Z.Mech. Room-A	ZM-405	Z.Mech. Room-A	ZM-808	Z.Mech. Room-A	ZM-RF05	Z.Mech. Room-A
ZL-SP1	Z.Shaft-A	ZM-1104	Z.Mech. Room-A	ZM-406	Z.Mech. Room-A	ZM-809	Z.Mech. Room-A	ZM-RF06	Z.Mech. Room-A
ZL-SP2	Z.Shaft-A	ZM-1105	Z.Mech. Room-A	ZM-407	Z.Mech. Room-A	ZM-810	Z.Mech. Room-A	ZP101	Z. Corridor-A
ZL-SPF1	Z.Shaft-A	ZM-1106	Z.Mech. Room-A	ZM-408	Z.Mech. Room-A	ZM-811	Z.Mech. Room-A	ZP151	Z. Corridor-A
ZL-T01	Z.Shaft-A	ZM-1107	Z.Mech. Room-A	ZM-409	Z.Mech. Room-A	ZM-812	Z.Mech. Room-A	ZP152	Z. Corridor-A
ZL-T101	Z.Shaft-A	ZM-1108	Z.Mech. Room-A	ZM-501	Z.Mech. Room-A	ZM-813	Z.Mech. Room-A	ZP153	Z. Corridor-A
ZL-T11	Z.Shaft-A	ZM-1109	Z.Mech. Room-A	ZM-502	Z.Mech. Room-A	ZM-814	Z.Mech. Room-A	ZP154	Z. Corridor-A
ZL-T111	Z.Shaft-A	ZM-1110	Z.Mech. Room-A	ZM-503	Z.Mech. Room-A	ZM-815	Z.Mech. Room-A	ZP155	Z. Corridor-A
ZL-T21	Z.Shaft-A	ZM-1111	Z.Mech. Room-A	ZM-504	Z.Mech. Room-A	ZM-901	Z.Mech. Room-A	ZP156	Z. Corridor-A
ZL-T31	Z.Shaft-A	ZM-1112	Z.Mech. Room-A	ZM-505	Z.Mech. Room-A	ZM-902	Z.Mech. Room-A	ZP157	Z. Corridor-A
ZL-T41	Z.Shaft-A	ZM-1113	Z.Mech. Room-A	ZM-506	Z.Mech. Room-A	ZM-903	Z.Mech. Room-A	ZP158	Z. Corridor-A
ZL-F51	Z.Shaft-A	ZM-1114	Z.Mech. Room-A	ZM-507	Z.Mech. Room-A	ZM-904	Z.Mech. Room-A	ZP201	Z. Corridor-A
ZL-T61	Z.Shaft-A	ZM-201	Z.Mech. Room-A	ZM-508	Z.Mech. Room-A	ZM-905	Z.Mech. Room-A	ZP204	Z. Corridor-A
ZL-T71	Z.Shaft-A	ZM-202	Z.Mech. Room-A	ZM-601	Z.Mech. Room-A	ZM-906	Z.Mech. Room-A	ZP205	Z. Corridor-A
ZL-T81	Z.Shaft-A	ZM-203	Z.Mech. Room-A	ZM-602	Z.Mech. Room-A	ZM-907	Z.Mech. Room-A	ZP250	Z. Corridor-A
ZL-T91	Z.Shaft-A	ZM-204	Z.Mech. Room-A	ZM-603	Z.Mech. Room-A	ZM-908	Z.Mech. Room-A	ZP251	Z. Corridor-A
ZL-THP1	Z.Shaft-A	ZM-205	Z.Mech. Room-A	ZM-604	Z.Mech. Room-A	ZM-909	Z.Mech. Room-A	ZP252	Z. Corridor-A
ZL-TRF1	Z.Shaft-A	ZM-206	Z.Mech. Room-A	ZM-605	Z.Mech. Room-A	ZM-910	Z.Mech. Room-A	ZP253	Z. Corridor-A
ZM-001	Z.Mech. Room-A	ZM-207	Z.Mech. Room-A	ZM-606	Z.Mech. Room-A	ZM-911	Z.Mech. Room-A	ZRF01	Z. Corridor-A
ZM-002	Z.Mech. Room-A	ZM-208	Z.Mech. Room-A	ZM-607	Z.Mech. Room-A	ZM-912	Z.Mech. Room-A	ZRF51	Z. Corridor-A
ZM-003	Z.Mech. Room-A	ZM-209	Z.Mech. Room-A	ZM-608	Z.Mech. Room-A	ZM-913	Z.Mech. Room-A	ZS-001	Z. Stairs-A
ZM-004	Z.Mech. Room-A	ZM-210	Z.Mech. Room-A	ZM-609	Z.Mech. Room-A	ZM-914	Z.Mech. Room-A	ZS-002	Z. Stairs-A
ZM-005	Z.Mech. Room-A	ZM-211	Z.Mech. Room-A	ZM-610	Z.Mech. Room-A	ZM-HP01	Z.Mech. Room-A	ZS-003	Z. Stairs-A
ZM-1001	Z.Mech. Room-A	ZM-212	Z.Mech. Room-A	ZM-701	Z.Mech. Room-A	ZM-HP02	Z.Mech. Room-A	ZS-004	Z. Stairs-A
ZM-1002	Z.Mech. Room-A	ZM-213	Z.Mech. Room-A	ZM-702	Z.Mech. Room-A	ZM-P101	Z.Mech. Room-A	ZS-005	Z. Stairs-A
ZM-1003	Z.Mech. Room-A	ZM-214	Z.Mech. Room-A	ZM-703	Z.Mech. Room-A	ZM-P101	Z.Mech. Room-A	ZS-006	Z. Stairs-A
ZM-1004	Z.Mech. Room-A	ZM-215	Z.Mech. Room-A	ZM-704	Z.Mech. Room-A	ZM-P102	Z.Mech. Room-A	ZS-006a	Z. Stairs-A
ZM-1005	Z.Mech. Room-A	ZM-216	Z.Mech. Room-A	ZM-705	Z.Mech. Room-A	ZM-P103	Z.Mech. Room-A	ZS-007	Z. Stairs-A
ZM-1006	Z.Mech. Room-A	ZM-301	Z.Mech. Room-A	ZM-706	Z.Mech. Room-A	ZM-P104	Z.Mech. Room-A	ZS-008	Z. Stairs-A
ZM-1007	Z.Mech. Room-A	ZM-302	Z.Mech. Room-A	ZM-707	Z.Mech. Room-A	ZM-P105	Z.Mech. Room-A	ZS-008a	Z. Stairs-A
ZM-1008	Z.Mech. Room-A	ZM-303	Z.Mech. Room-A	ZM-708	Z.Mech. Room-A	ZM-P106	Z.Mech. Room-A	ZS-1001	Z. Stairs-A
ZM-1009	Z.Mech. Room-A	ZM-304	Z.Mech. Room-A	ZM-709	Z.Mech. Room-A	ZM-P107	Z.Mech. Room-A	ZS-1002	Z. Stairs-A
ZM-1010	Z.Mech. Room-A	ZM-305	Z.Mech. Room-A	ZM-710	Z.Mech. Room-A	ZM-P108	Z.Mech. Room-A	ZS-1003	Z. Stairs-A
ZM-1011	Z.Mech. Room-A	ZM-306	Z.Mech. Room-A	ZM-711	Z.Mech. Room-A	ZM-P109	Z.Mech. Room-A	ZS-1004	Z. Stairs-A
ZM-1012	Z.Mech. Room-A	ZM-307	Z.Mech. Room-A	ZM-712	Z.Mech. Room-A	ZM-P110	Z.Mech. Room-A	ZS-1005	Z. Stairs-A
		ZM-308	Z.Mech. Room-A	ZM-713	Z.Mech. Room-A	ZM-P111	Z.Mech. Room-A	ZS-101	Z. Stairs-A

TABLE A4. Simulation Template Room (STR) Assignment

Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR	Room Unique ID	STR
ZS-704	Z.Stairs-A						
ZS-705	Z.Stairs-A						
ZS-801	Z.Stairs-A						
ZS-802	Z.Stairs-A						
ZS-803	Z.Stairs-A						
ZS-804	Z.Stairs-A						
ZS-805	Z.Stairs-A						
ZS-901	Z.Stairs-A						
ZS-902	Z.Stairs-A						
ZS-903	Z.Stairs-A						
ZS-904	Z.Stairs-A						
ZS-905	Z.Stairs-A						
ZS-HP01	Z.Stairs-A						
ZS-P101	Z.Stairs-A						
ZS-P102	Z.Stairs-A						
ZS-P103	Z.Stairs-A						
ZS-P104	Z.Stairs-A						
ZS-P105	Z.Stairs-A						
ZS-P201	Z.Stairs-A						
ZS-P202	Z.Stairs-A						
ZS-P203	Z.Stairs-A						
ZS-P204	Z.Stairs-A						
ZS-P205	Z.Stairs-A						
ZS-RF01	Z.Stairs-A						
ZS-RF02	Z.Stairs-A						

TABLE A5. Simulation Template Room description

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
MEDICAL DEVICE REPROCESSING PLATFORM	DECONTAMINATION AREA	A1.1-A	A1.1	Vestibule, Entry	8	1	1	1	1	1	100	0
		A1.2-A	A1.2	Gowning Room, PPE	17.3	1	1	1	1	1	10	1.25
		A1.3-A	A1.3	Soiled Holding Area	24.1	3	3	3	3	3	20	3.75
		A1.4-A	A1.4	Washing Area	24.4	2	2	2	2	2	20	3.75
		A1.5-A	A1.5	Automatic Washing / Sanitizing Area	24.4	3	3	3	3	3	20	3.75
		A1.6-A	A1.6	Cart Wash Area	24.4	3	3	3	3	3	20	3.75
		A1.7-A	A1.7	Alcove, Deluge Shower	8	1	1	1	1	1	100	0
		A1.8-A	A1.8	Alcove, Hand Hygiene Sink	8	1	1	1	1	1	100	0
		A1.9-A	A1.9	Detergent Dispensing Room	24.1	1	1	1	1	1	20	3.75
		A1.10-A	A1.10	Environmental Services Closet	19	1	1	1	1	1	20	10
	CLEAN / ASSEMBLY AREA	A2.1-A	A2.1	Vestibule, PPE	8	1	1	1	1	1	100	0
		A2.2-A	A2.2	Cart Drying Area	7.2	2	2	2	2	2	20	10
		A2.3-A	A2.3	Clean Instrument Holding Area	7.2	2	2	2	2	2	20	10
		A2.4-A	A2.4	Packaging & Assembly Area	24.3	3	3	3	3	3	20	3.75
		A2.5-A	A2.5	Storage, Reprocessing Supply	7.2	2	2	2	2	2	20	10
		A2.6-A	A2.6	Dryers	7.2	2	2	2	2	2	20	10
		A2.8-A	A2.8	Environmental Services Closet	19	1	1	1	1	1	20	10
		A2.9-A	A2.9	Alcove, SPMS Computer on Wheels	8	1	1	1	1	1	100	0
		A3.1-A	A3.1	Vestibule, PPE	8	1	1	1	1	1	100	0
		A3.2-A	A3.2	Sterilizer, Steam	24.6	3	3	3	3	3	20	3.75
	STERILIZATION AREA	A3.3-A	A3.3	Sterilizer, Immediate-Use Steam	24.6	1	1	1	1	1	20	3.75
		A3.4-A	A3.4	Sterilizer, Low-Temperature	24.6	3	3	3	3	3	20	3.75
		A3.5-A	A3.5	Cooling Room	24.6	2	2	2	2	2	20	3.75
		A3.6-A	A3.6	Workstation, Incubators	17.5	3	3	3	3	3	20	3.75
		A4.1-A	A4.1	Vestibule, PPE	8	1	1	1	1	1	100	0
		A4.2-A	A4.2	Storage, Sterile	24.5	3	3	3	3	3	20	3.75
		A4.4-A	A4.4	Dispatch Room	24.5	2	2	2	2	2	20	3.75
		A4.5-A	A4.5	Clean Elevator Loading Area	24.5	2	2	2	2	2	20	3.75
		A4.6-A	A4.6	Workstation, Control	17.5	2	2	2	2	2	20	3.75
		A4.7-A	A4.7	De-Boxing Room	24.5	2	2	2	2	2	20	3.75
STERILE STORAGE AND DISTRIBUTION	A4.8-A	A4.8	Storage, Case Cart	24.5	2	2	2	2	2	20	3.75	
	A5.1-A	A5.1	Lounge, Staff	17.5	3	3	3	3	3	20	3.75	
	A5.2-A	A5.2	Washroom, Staff	29	2	2	2	2	2	30	0.5	
	A5.3-A	A5.3	Washroom, Staff	29	2	2	2	2	2	30	0.5	
	A5.4-A	A5.4	Lockers, Staff	17.4	2	2	2	2	2	10	1.25	
	A5.4.1-A	A5.4.1	Change Cubicles	17.4	1	1	1	1	1	10	1.25	
	A5.5-A	A5.5	Conference Room	17.2	3	3	3	3	3	5	0.5	
	A6.1-A	A6.1	Office, Shared	17.5	3	3	3	3	3	20	3.75	
	A6.2-A	A6.2	Office, Coordinator/ Supervisor	17.5	2	2	2	2	2	20	3.75	
	A6.3-A	A6.3	Office, Private	17.5	2	2	2	2	2	20	3.75	
ADMINISTRATIVE AREA	A6.4-A	A6.4	Office, Private	17.5	3	3	3	3	3	20	3.75	
	A6.5-A	A6.5	Office, Private	17.5	1	1	1	1	1	20	3.75	
	A6.6-A	A6.6	Office, Shared	17.5	3	3	3	3	3	20	3.75	
	A6.6-A	A6.6	Office, Shared	17.5	3	3	3	3	3	20	3.75	

Schedule 5 – Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
MDR	ADMINISTRATIVE AREA	A6.7-A	A6.7	Workroom	17.5	3	3	3	3		20	3.75
		A6.7-A	A6.7	A.Corridor	8	1	1	1	1		100	0
CRITICAL CARE UNIT	UNIT ENTRANCE AREA	B1.1-A	B1.1	Volunteer and Reception Desk	17.6	1	1	1	1		10	0
		B2.1-A	B2.1	Patient Room, Private HAU	9.2	1	1	1	1		20	5
		B2.1.1-A	B2.1.1	Washroom, Patient Ensuite	29	2	2	2	2		30	0.5
		B2.2-A	B2.2	Patient Room, Private HAU Airborne Isolation	36.1	3	3	3	3		20	3.75
		B2.2.1-A	B2.2.1	Washroom, Patient Ensuite Airborne Isolation	36.1	1	1	1	1		20	3.75
		B2.2.2-A	B2.2.2	Anteroom	36.5	1	1	1	1		20	3.75
		B2.3-A	B2.3	Patient Room, Private HAU Bariatric	9.2	1	1	1	1		20	5
		B2.3.1-A	B2.3.1	Washroom, Patient Ensuite, Bariatric	29	1	1	1	1		30	0.5
		B2.4-A	B2.4	Patient Room, Private HAU Bariatric Airborne Isolation	36.1	1	1	1	1		20	3.75
		B2.4.1-A	B2.4.1	Washroom, Patient Ensuite, Bariatric Airborne Isolation	36.1	1	1	1	1		20	3.75
		B2.4.2-A	B2.4.2	Anteroom	36.5	1	1	1	1		20	3.75
		B3.1-A	B3.1	Patient Room, Private CSICU	9.2	1	1	1	1		20	5
		B3.2-A	B3.2	Patient Room, Private CSICU	9.2	1	1	1	1		20	5
		B3.2.1-A	B3.2.1	Washroom, Patient Ensuite	29	2	2	2	2		30	0.5
		B3.3-A	B3.3	Patient Room, Private CSICU Airborne Isolation	36.1	1	1	1	1		20	3.75
		B3.3.1-A	B3.3.1	Washroom, Patient Ensuite Airborne Isolation	36.1	2	2	2	2		20	3.75
		B3.3.2-A	B3.3.2	Anteroom	36.5	1	1	1	1		20	3.75
		B3.4-A	B3.4	Patient Room, Private CSICU Bariatric	9.2	2	2	2	2		20	5
		B3.5-A	B3.5	Patient Room, Private CSICU Bariatric, Airborne Isolation	36.1	3	3	3	3		20	3.75
		B3.5.1-A	B3.5.1	Washroom, Patient Ensuite Bariatric, Airborne Isolation	36.1	3	3	3	3		20	3.75
		B3.5.2-A	B3.5.2	Anteroom	36.5	3	3	3	3		20	3.75
		B3.6-A	B3.6	Patient Room, Shared CSICU	9.2	1	1	1	1		20	5
		B4.1-A	B4.1	Patient Room, Private ICU	9.2	1	1	1	1		20	5
		B4.2-A	B4.2	Patient Room, Private ICU Airborne Isolation	36.1	1	1	1	1		20	3.75
		B4.2.1-A	B4.2.1	Washroom, Patient Ensuite Airborne Isolation	36.1	3	3	3	3		20	3.75
		B4.2.2-A	B4.2.2	Anteroom	36.5	1	1	1	1		20	3.75
		B4.3-A	B4.3	Patient Room, Private ICU Bariatric	9.2	2	2	2	2		20	5
		B4.4-A	B4.4	Patient Room, Private ICU Bariatric Airborne Isolation	36.1	3	3	3	3		20	3.75
B4.4.1-A	B4.4.1	Washroom, Patient Ensuite Bariatric Airborne Isolation	36.1	3	3	3	3		20	3.75		
B4.4.2-A	B4.4.2	Anteroom	36.5	1	1	1	1		20	3.75		
B4.5-A	B4.5	Shower Room, Patient	29	2	2	2	2		30	0.5		
B5.1-A	B5.1	Care Team Base	22	1	1	1	1		20	1.25		
B5.1.2-A	B5.1.2	Medication Room	7.3	1	1	1	1		100	0.5		
B5.2-A	B5.2	Workstation, Clinician	17.5	1	1	1	1		20	3.75		
B5.3-A	B5.3	Clean Supply Room	7.2	3	3	3	3		20	10		
B5.4-A	B5.4	Utility Room, Soiled	7.1	1	1	1	1		20	10		
B5.5-A	B5.5	Soiled Holding Room	21.2	1	1	1	1		20	10		
B5.6-A	B5.6	Environmental Services Closet	19	1	1	1	1		20	10		
B5.13-A	B5.13	Storage, Rehab	17.1	1	1	1	1		100	0.5		
B5.14-A	B5.14	Central Equipment Room	17.1	1	1	1	1		100	0.5		
B5.15-A	B5.15	Workroom	17.5	3	3	3	3		20	3.75		

Schedule 5 – Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy Qty	m ² /occ	W/m ²
						HVAC	Occupancy	Lighting	Plug			
CRITICAL CARE UNIT	HAU-CSICU SUPPORT AREA (34-BED)	B5.16-A	B5.16	Workroom, Respiratory	35.2	1	1	1	1	20	5	
		B5.16.1-A	B5.16.1	Storage, Ventilator	24.5	1	1	1	1	20	3.75	
		B5.17-A	B5.17	On-Call Room	9.2	2	2	2	2	20	5	
		B5.18-A	B5.18	Washroom, On-Call	29	2	2	2	2	30	0.5	
		B5.19-A	B5.19	Quiet/Consultation Room	16	1	1	1	1	20	5	
		B5.21-A	B5.21	Waiting Area	28	1	1	1	1	10	0.5	
		B5.22-A	B5.22	Washroom, Family	29	1	1	1	1	30	0.5	
		B5.23-A	B5.23	Family Respite Room	9.2	1	1	1	1	20	5	
		B5.24-A	B5.24	Washroom, Public	29	1	1	1	1	30	0.5	
		B5.25-A	B5.25	Washroom, Staff	29	1	1	1	1	30	0.5	
		B6.1-A	B6.1	Care Team Base	22	1	1	1	1	20	1.25	
		B6.1.2-A	B6.1.2	Medication Room	7.3	1	1	1	1	100	0.5	
		B6.2-A	B6.2	Workstation, Clinician	17.5	1	1	1	1	20	3.75	
		B6.3-A	B6.3	Clean Supply Room	7.2	1	1	1	1	20	10	
		B6.4-A	B6.4	Utility Room, Soiled	7.1	3	3	3	3	20	10	
	B6.5-A	B6.5	Soiled Holding Room	21.2	2	2	2	2	20	10		
	B6.6-A	B6.6	Environmental Services Closet	19	1	1	1	1	20	10		
	B6.12-A	B6.12	Central Equipment Room	17.1	1	1	1	1	100	0.5		
	B6.13-A	B6.13	Workroom	17.5	1	1	1	1	20	3.75		
	B6.14-A	B6.14	Workroom, Respiratory	35.2	1	1	1	1	20	5		
	B6.14.1-A	B6.14.1	Storage, Ventilator	24.5	1	1	1	1	20	3.75		
	B6.15-A	B6.15	On-Call Room	17.5	2	2	2	2	20	3.75		
	B6.16-A	B6.16	Washroom, On-Call	29	3	3	3	3	30	0.5		
	B6.17-A	B6.17	Quiet/Consultation Room	16	1	1	1	1	20	5		
	B6.19-A	B6.19	Waiting Area	28	1	1	1	1	10	0.5		
	B6.20-A	B6.20	Washroom, Family	29	1	1	1	1	30	0.5		
	B6.21-A	B6.21	Family Respite Room	9.2	1	1	1	1	20	5		
	B6.22-A	B6.22	Washroom, Public	29	3	3	3	3	30	0.5		
	B6.23-A	B6.23	Washroom, Staff	29	1	1	1	1	30	0.5		
	B7.1-A	B7.1	Storage, Dialysis	7.2	3	3	3	3	20	10		
	B7.2-A	B7.2	Workroom, Cardiac Diagnostics	17.5	2	2	2	2	20	3.75		
	B7.3-A	B7.3	Workroom, Satellite Biomedical Clinical	17.5	3	3	3	3	20	3.75		
	B7.4-A	B7.4	Food Service - Pantry	12.1	3	3	3	3	20	5		
	B7.4.1-A	B7.4.1	Workstation	17.5	1	1	1	1	20	3.75		
B7.5-A	B7.5	Conference Room	17.2	1	1	1	1	5	0.5			
B7.6-A	B7.6	Conference Room	17.2	1	1	1	1	5	0.5			
B7.7-A	B7.7	Office, Manager	17.5	1	1	1	1	20	3.75			
B7.8-A	B7.8	Office, Program Clerks	17.5	1	1	1	1	20	3.75			
B7.9-A	B7.9	Office, Private	17.5	1	1	1	1	20	3.75			
B7.10-A	B7.10	Office, Shared	17.5	2	2	2	2	20	3.75			
B7.11-A	B7.11	Office, Research	17.5	1	1	1	1	20	3.75			
B7.12-A	B7.12	Lounge, Staff	17.5	1	1	1	1	20	3.75			
B7.13-A	B7.13	Lockers, Staff	17.4	1	1	1	1	10	1.25			
HAU-CSICU-ICU SUPPORT AREA (62 BED)												

Schedule 5 – Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
CU	HAU-CSICU-ICU SUPPORT AREA (62 BED)	B7.15-A	B7.15	Washroom, Staff	29	2	2	2	2	30	0.5	
		B7.16-A	B7.16	Washroom, Staff	29	2	2	2	2	30	0.5	
		B.Corridor-A	B.Corridor	B.Corridor	8	1	1	1	1	100	0	
		C1.1-A	C1.1	Reception & Control Desk	17.6	1	1	1	1	10	0	
	UNIT ENTRANCE AREA	C1.1.2-A	C1.1.2	Workroom	17.5	2	2	2	2	20	3.75	
		C1.2-A	C1.2	Waiting Area	28	1	1	1	1	10	0.5	
		C1.5-A	C1.5	Washroom, Public	29	1	1	1	1	30	0.5	
	ASSESSMENT ZONE	C2.1-A	C2.1	Assessment Room	16	1	1	1	1	20	5	
		C2.2-A	C2.2	Washroom, Patient	29	1	1	1	1	30	0.5	
		C2.3-A	C2.3	Care Team Base	22	2	2	2	2	20	1.25	
		C2.4-A	C2.4	Medication Room	7.3	1	1	1	1	100	0.5	
		C3.1-A	C3.1	Patient Room, Private SRMC	9.2	1	1	1	1	20	5	
		C3.1.1-A	C3.1.1	Washroom, SRMC Ensuite	29	2	2	2	2	30	0.5	
	SINGLE ROOM MATERNITY CARE (SRMC) ZONE - 28 BEDS IN TWO 14-BED CLUSTERS	C3.1.2-A	C3.1.2	Washroom, SRMC Soaker Ensuite	29	1	1	1	1	30	0.5	
		C3.2-A	C3.2	Patient Room, Private SRMC Airborne Isolation	36.1	1	1	1	1	20	3.75	
		C3.2.1-A	C3.2.1	Washroom, SRMC Soaker Airborne Isolation Ensuite	36.1	1	1	1	1	20	3.75	
		C3.2.2-A	C3.2.2	Anteroom	36.5	1	1	1	1	20	3.75	
		C3.4-A	C3.4	Care Team Base	22	1	1	1	1	20	1.25	
		C3.5-A	C3.5	Medication Room	7.3	2	2	2	2	100	0.5	
		C3.12-A	C3.12	Environmental Services Closet	19	2	2	2	2	20	10	
		C3.13-A	C3.13	Utility Room, Soiled	7.1	2	2	2	2	20	10	
		C3.14-A	C3.14	Washroom, Staff	29	2	2	2	2	30	0.5	
	SRMC SUPPORT AREA (28-BED)	C4.2-A	C4.2	Quiet/Family Room	16	1	1	1	1	20	5	
		C4.4-A	C4.4	Washroom, Public	29	2	2	2	2	30	0.5	
		C5.1-A	C5.1	Patient Room, Private Post-Section	9.2	1	1	1	1	20	5	
		C5.1.1-A	C5.1.1	Washroom, Patient Ensuite	29	1	1	1	1	30	0.5	
		C5.2-A	C5.2	Patient Room, Private Post-Section Bariatric	9.2	1	1	1	1	20	5	
		C5.2.1-A	C5.2.1	Washroom, Patient Ensuite Bariatric	29	1	1	1	1	30	0.5	
		C5.3-A	C5.3	Patient Room, Private Post-Section Bariatric Airborne Isolation	36.1	2	2	2	2	20	3.75	
		C5.3.1-A	C5.3.1	Washroom, Patient Ensuite Bariatric Airborne Isolation	36.1	1	1	1	1	20	3.75	
		C5.3.2-A	C5.3.2	Anteroom	36.5	1	1	1	1	20	3.75	
		C5.5-A	C5.5	Care Team Base	22	1	1	1	1	20	1.25	
	POST-SECTION ZONE - 10 BEDS	C5.6-A	C5.6	Medication Room	7.3	2	2	2	2	100	0.5	
		C5.14-A	C5.14	Utility Room, Soiled	7.1	1	1	1	1	20	10	
		C5.15-A	C5.15	Washroom, Staff	29	1	1	1	1	30	0.5	
		C5.16-A	C5.16	Quiet/Family Room	16	1	1	1	1	20	5	
		C5.18-A	C5.18	Washroom, Public	29	2	2	2	2	30	0.5	
		C6.1-A	C6.1	Patient Room, Antepartum	27.2	1	1	1	1	20	5	
	ANTEPARTUM ZONE - 10 BEDS	C6.1.1-A	C6.1.1	Washroom, Patient Ensuite	29	1	1	1	1	30	0.5	
		C6.3-A	C6.3	Care Team Base	22	1	1	1	1	20	1.25	
		C6.4-A	C6.4	Medication Room	7.3	2	2	2	2	100	0.5	
		C6.12-A	C6.12	Utility Room, Soiled	7.1	2	2	2	2	20	10	
		C6.13-A	C6.13	Washroom, Staff	29	1	1	1	1	30	0.5	

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
PERINATAL UNIT AND OBSTETRICAL ORS	ANTEPARTUM ZONE - 10 BEDS POST-SECTION AND ANTEPARTUM SUPPORT AREA	C6.14-A	C6.14	Quiet/Family Room	16	2	2	2	2	20	5	
		C6.16-A	C6.16	Washroom, Public	29	1	1	1	1	30	0.5	
		C7.1-A	C7.1	Environmental Services Closet	19	1	1	1	1	20	10	
		C8.1-A	C8.1	Operating Room, Obstetrics	37.3	1	1	1	1	20	5	
		C8.2-A	C8.2	Infant Resuscitation/ Stabilization Room	23.2	1	1	1	1	20	5	
		C8.3-A	C8.3	Pre/Post Unit Room	16	1	1	1	1	20	5	
		C8.4-A	C8.4	Workroom, Anaesthesia	17.5	2	2	2	2	20	3.75	
		C8.5-A	C8.5	Care Team Base	22	2	2	2	2	20	1.25	
		C8.6-A	C8.6	Environmental Services Closet	19	2	2	2	2	20	10	
		C8.7-A	C8.7	Central Equipment Room	17.1	1	1	1	1	100	0.5	
	OBSTETRICAL ORs (2 SUITES)	C8.13-A	C8.13	Sterile Core	37.8	1	1	1	1	100	0	
		C8.14-A	C8.14	Clean Supply Room	7.2	1	1	1	1	20	10	
		C8.16-A	C8.16	Utility Room, Soiled	7.1	1	1	1	1	20	10	
		C8.18-A	C8.18	Dictation, Physician	16	1	1	1	1	20	5	
		C8.19-A	C8.19	Waiting Area	28	1	1	1	1	10	0.5	
		C9.1-A	C9.1	Storage, Prenatal Education	17.1	2	2	2	2	100	0.5	
		C9.4-A	C9.4	Clean Supply Room	7.2	1	1	1	1	20	10	
		C9.5-A	C9.5	Soiled Holding Room	21.2	1	1	1	1	20	10	
		C9.6-A	C9.6	Food Service - Pantry	12.1	1	1	1	1	20	5	
		C9.7-A	C9.7	Lounge, Staff	17.5	2	2	2	2	20	3.75	
	PERINATAL AND OBSTETRICS SUPPORT AREA (48-BED)	C9.8-A	C9.8	Washroom, Staff	29	2	2	2	2	30	0.5	
		C9.9-A	C9.9	Lockers, Staff	17.4	1	1	1	1	10	1.25	
		C9.10-A	C9.10	Conference Room, Small	17.2	1	1	1	1	5	0.5	
		C9.11-A	C9.11	Conference Room, Large	17.2	1	1	1	1	5	0.5	
		C9.12-A	C9.12	Office, Manager	17.5	1	1	1	1	20	3.75	
		C9.13-A	C9.13	Office, Private	17.5	1	1	1	1	20	3.75	
		C9.14-A	C9.14	Office, Shared	17.5	1	1	1	1	20	3.75	
		C9.15-A	C9.15	Office, Research	17.5	1	1	1	1	20	3.75	
		C9.16-A	C9.16	Workroom	17.5	1	1	1	1	20	3.75	
		C9.17-A	C9.17	On-Call Communal Area	17.5	1	1	1	1	20	3.75	
	NICU INPATIENT	C9.18-A	C9.18	On-Call Room	17.5	1	1	1	1	20	3.75	
		C9.19-A	C9.19	Washroom, On-Call	29	2	2	2	2	30	0.5	
		C9.20-A	C9.20	Central Equipment Room	17.1	2	2	2	2	100	0.5	
		C9.22-A	C9.22	Reprocessing Room	24.4	1	1	1	1	20	3.75	
		C10.1-A	C10.1	Care Team Base	22	1	1	1	1	20	1.25	
		C10.3-A	C10.3	Patient Room, Private	9.1	1	1	1	1	20	5	
C10.3A-A		C10.3A	Patient Room, Private	9.1	1	1	1	1	20	5		
C10.4-A		C10.4	Patient Room, Private, Airborne Isolation	36.1	1	1	1	1	20	3.75		
C10.5-A		C10.5	Ante Room / Negative Pressure	36.5	2	2	2	2	20	3.75		
C10.7-A		C10.7	Procedure Room	37.3	2	2	2	2	20	5		
NICU FAMILY / PATIENT SUPPORT	C10.8-A	C10.8	Reading Room	16	1	1	1	1	20	5		
	C10.9-A	C10.9	Storage, Rehab	24.5	2	2	2	2	20	3.75		
	C11.1-A	C11.1	Quiet/Consultation Room	16	1	1	1	1	20	5		

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
PERINATAL UNIT AND OBSTETRICAL ORS	NICU FAMILY / PATIENT SUPPORT	C11.2-A	C11.2	Family Education Room	16	1	1	1	1	20	5	
		C11.3-A	C11.3	Family Lounge	16	1	1	1	1	20	5	
		C11.5-A	C11.5	Washroom, Public	29	1	1	1	1	30	0.5	
		C11.6-A	C11.6	Laundry Facilities	21.1	1	1	1	1	20	10	
		C11.7-A	C11.7	Breast Milk Dispensary	12.1	1	1	1	1	20	5	
		C11.8-A	C11.8	Formula Mixing Room	12.1	1	1	1	1	20	5	
		C11.9-A	C11.9	Storage, Formula	12.1	2	2	2	2	20	5	
		C11.11-A	C11.11	Breast Pump Room	16	1	1	1	1	20	5	
		C12.1-A	C12.1	Central Equipment Room	17.1	1	1	1	1	100	0.5	
		C13.1-A	C13.1	Environmental Services Closet	19	2	2	2	2	20	10	
		C13.2-A	C13.2	Clean Supply Room	7.2	1	1	1	1	20	10	
		C13.3-A	C13.3	Utility Room, Soiled	7.1	1	1	1	1	20	10	
		C13.4-A	C13.4	Soiled Holding Room	21.2	1	1	1	1	20	10	
		C13.5-A	C13.5	Isolate Cleaning Room	7.1	1	1	1	1	20	10	
		C14.1-A	C14.1	Medication Room	7.3	1	1	1	1	100	0.5	
	C15.1-A	C15.1	Workroom, Respiratory / Storage	35.2	1	1	1	1	20	5		
	C17.2-A	C17.2	Workroom, Lab	17.5	1	1	1	1	20	3.75		
	C18.1-A	C18.1	Workroom, BioMed	17.5	1	1	1	1	20	3.75		
	C19.1-A	C19.1	Washroom, Staff	29	2	2	2	2	30	0.5		
	C19.3-A	C19.3	Office, Private	17.5	1	1	1	1	20	3.75		
	C19.4-A	C19.4	Office, Private	17.5	1	1	1	1	20	3.75		
	C19.5-A	C19.5	Office, Shared	17.5	1	1	1	1	20	3.75		
	C19.6-A	C19.6	Workstation, Clinician	17.5	1	1	1	1	20	3.75		
	C19.7-A	C19.7	Physician/Resident Work Area	17.5	1	1	1	1	20	3.75		
	C19.8-A	C19.8	Office, Research	17.5	2	2	2	2	20	3.75		
	C19.9-A	C19.9	Workroom	17.5	1	1	1	1	20	3.75		
	C19.10-A	C19.10	Washroom, Staff	29	1	1	1	1	30	0.5		
	C19.11-A	C19.11	Lockers, Staff	17.4	1	1	1	1	10	1.25		
	C20.1-A	C20.1	Care Team Base	22	1	1	1	1	20	1.25		
	C20.2-A	C20.2	Workroom	17.5	1	1	1	1	20	3.75		
	C20.3-A	C20.3	Patient Room, Private	27.2	1	1	1	1	20	5		
	C20.4-A	C20.4	Patient Room, Private, Airborne Isolation	36.1	1	1	1	1	20	3.75		
	C20.4A-A	C20.4A	Patient Room, Private, Airborne Isolation_MH	36.1	1	1	1	1	20	3.75		
C20.6-A	C20.6	Ante Room / Negative Pressure	36.5	1	1	1	1	20	3.75			
C20.7-A	C20.7	Washroom, Patient	29	1	1	1	1	30	0.5			
C20.7A-A	C20.7A	Washroom, Patient MH	29	2	2	2	2	30	0.5			
C20.8-A	C20.8	Washroom, Patient	29	1	1	1	1	30	0.5			
C20.9A	C20.9	Plyroom	16	2	2	2	2	20	5			
C20.10-A	C20.10	Treatment/Exam Room	16	2	2	2	2	20	5			
C20.12-A	C20.12	Comfort Room	16	1	1	1	1	20	5			
C21.1-A	C21.1	Environmental Services Closet	19	1	1	1	1	20	10			
C21.2-A	C21.2	Clean Supply Room	7.2	1	1	1	1	20	10			
C21.5-A	C21.5	Washroom, Public	29	2	2	2	2	30	0.5			

Schedule 5 – Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
PERINATAL UNIT AND OBSTETRICAL ORS	PEDIATRICS INPATIENT ENVIRONMENTAL PEDIATRICS INPATIENT MEDICATION	C21.6-A	C21.6	Utility Room, Soiled	7.1	1	1	1	1	20	10	
		C22.1-A	C22.1	Medication Room	7.3	1	1	1	1	100	0.5	
		C23.1-A	C23.1	Quiet/Consultation Room	16	1	1	1	1	20	5	
	PEDIATRICS INPATIENT FAMILY / PATIENT SUPPORT	C23.3-A	C23.3	Family Lounge	16	1	1	1	1	20	5	
		C23.4-A	C23.4	Family Washroom	29	2	2	2	2	30	0.5	
		C24.4-A	C24.4	Storage, Child Life Supply	7.2	1	1	1	1	20	10	
	PEDIATRICS INPATIENT SUPPLIES / EQUIPMENT	C24.5-A	C24.5	Central Equipment Room	17.1	2	2	2	2	100	0.5	
		C24.6-A	C24.6	Storage, Rehab	7.2	1	1	1	1	20	10	
		C27.1-A	C27.1	Staff Lounge	17.5	1	1	1	1	20	3.75	
	PEDIATRICS INPATIENT STAFF SUPPORT AREA	C27.2-A	C27.2	Washroom, Staff	29	2	2	2	2	30	0.5	
		C27.3-A	C27.3	Washroom, Staff	29	2	2	2	2	30	0.5	
		C27.4-A	C27.4	Conference Room	17.2	1	1	1	1	5	0.5	
		C27.5-A	C27.5	Office, Private	17.5	2	2	2	2	20	3.75	
		C27.6-A	C27.6	Office, Private	17.5	2	2	2	2	20	3.75	
		C27.7-A	C27.7	Office, Shared	17.5	1	1	1	1	20	3.75	
		C27.9-A	C27.9	Patient Lockers	17.3	1	1	1	1	10	1.25	
		C28.2-A	C28.2	Workroom	17.5	2	2	2	2	20	3.75	
		C28.3-A	C28.3	Waiting Area	28	1	1	1	1	10	0.5	
		C28.4-A	C28.4	Washroom, Public	29	2	2	2	2	30	0.5	
		C28.5-A	C28.5	Exam / Treatment Room	16	1	1	1	1	20	5	
		C28.6-A	C28.6	Large Exam /Treatment Room	16	1	1	1	1	20	5	
	OBSTETRICAL / PEDIATRICS OUTPATIENT SERVICES - OBSTETRICALS OUTPATIENT	C28.7-A	C28.7	Washroom, Patient	29	1	1	1	1	30	0.5	
		C29.2-A	C29.2	Waiting Area	28	1	1	1	1	10	0.5	
		C29.3-A	C29.3	Washroom, Public	29	2	2	2	2	30	0.5	
		C29.4-A	C29.4	Pediatric Level 2 Surgical Recovery Room	16	1	1	1	1	20	5	
		C29.6-A	C29.6	Exam / Treatment Room	16	1	1	1	1	20	5	
		C29.7-A	C29.7	Washroom, Patient	29	2	2	2	2	30	0.5	
		C30.1-A	C30.1	Medication Room	7.3	1	1	1	1	100	0.5	
		C31.1-A	C31.1	Environmental Services Closet	19	2	2	2	2	20	10	
		C31.2-A	C31.2	Clean Supply Room	7.2	1	1	1	1	20	10	
		C31.3-A	C31.3	Utility Room, Soiled	7.1	1	1	1	1	20	10	
	INTERVENIONAL	C32.6-A	C32.6	Central Equipment Room	17.1	1	1	1	1	100	0.5	
		C33.1-A	C33.1	Washroom, Staff	29	1	1	1	1	30	0.5	
C33.2-A		C33.2	Care Team Base	22	1	1	1	1	20	1.25		
C33.3-A		C33.3	Conference Room	17.2	1	1	1	1	5	0.5		
C33.5-A		C33.5	Education Supply Room	17.1	2	2	2	2	100	0.5		
C33.6-A		C33.6	Office, Shared	22	1	1	1	1	20	1.25		
C33.7-A		C33.7	Office, Shared	17.5	2	2	2	2	20	3.75		
C.Corridor-A		C.Corridor	C.Corridor	8	1	1	1	1	100	0		
D1.5-A		D1.5	Washroom, Patient	29	1	1	1	1	30	0.5		
D1.7-A		D1.7	Quiet/Consultation Room	16	2	2	2	2	20	5		
D1.8-A	D1.8	Command Centre	17.5	3	3	3	3	20	3.75			
D2.1-A	D2.1	Operating Room, Universal Interventional Suite (Cardiology Lab)	13.4	3	3	3	3	20	5			

Schedule 5 - Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
INTERVENTIONAL	INTERVENTIONAL UNIT (8 SUITES)	D2.1.3-A	D2.1.3	Reading Room, Cardiologist	13.1	3	3	3	3	20	5	
		D2.1.4-A	D2.1.4	Control Room, IC Suite	13.1	1	1	1	1	20	5	
		D2.1.5-A	D2.1.5	Computer Room, IC Suite	13.1	3	3	3	3	20	5	
		D2.1.7-A	D2.1.7	Anteroom	36.5	1	1	1	1	20	3.75	
		D2.2-A	D2.2	Operating Room, Universal Interventional Suite (Radiology Lab - single)	13.4	3	3	3	3	20	5	
		D2.2.3-A	D2.2.3	Reading Room, Radiologist	13.1	3	3	3	3	20	5	
		D2.2.4-A	D2.2.4	Control Room, IR Suite	13.1	1	1	1	1	20	5	
		D2.2.5-A	D2.2.5	Computer Room, IR/CT Suite	13.1	3	3	3	3	20	5	
		D2.2.7-A	D2.2.7	Anteroom	36.5	2	2	2	2	20	3.75	
		D2.3-A	D2.3	Operating Room, Universal Interventional Suite (Radiology Lab - biplan)	13.4	1	1	1	1	20	5	
		D2.3.5-A	D2.3.5	Computer Room, IR Suite	13.1	3	3	3	3	20	5	
		D2.4-A	D2.4	Operating Room, Universal Interventional Suite (CT Scan)	13.4	2	2	2	2	20	5	
		D2.4.3-A	D2.4.3	Reading Room, Radiologist	13.1	2	2	2	2	20	5	
		D2.4.4-A	D2.4.4	Control Room, CT	13.1	2	2	2	2	20	5	
		D2.4.5-A	D2.4.5	Computer Room, CT	13.1	2	2	2	2	20	5	
		D2.5-A	D2.5	Washroom, Staff	29	2	2	2	2	30	0.5	
		D2.6-A	D2.6	Storage, Clean Specialized Supplies	17.1	2	2	2	2	100	0.5	
		D2.7-A	D2.7	Storage, Clean Specialized Supplies	7.2	2	2	2	2	20	10	
		D2.12-A	D2.12	Washroom, Patient	29	2	2	2	2	30	0.5	
		D3.1-A	D3.1	Operating Room, General	37.3	3	3	3	3	20	5	
		D3.2-A	D3.2	Operating Room, General Airborne Isolation	37.3	3	3	3	3	20	5	
		D3.2.2-A	D3.2.2	Anteroom	36.5	3	3	3	3	20	3.75	
		D3.3-A	D3.3	Equipment Room, Cardiac Perfusion	7.2	3	3	3	3	20	10	
		D3.4-A	D3.4	Operating Room, Cardiac	37.3	3	3	3	3	20	5	
		D3.5-A	D3.5	Workroom, Perfusion	17.5	3	3	3	3	20	3.75	
		D3.6-A	D3.6	Operating Room, Hybrid	13.3	3	3	3	3	20	5	
		D3.6.3-A	D3.6.3	Computer Room, Hybrid OR	13.1	3	3	3	3	20	5	
		D3.6.4-A	D3.6.4	Control Room, Hybrid OR	13.1	3	3	3	3	20	5	
		D3.7-A	D3.7	Operating Room, Hybrid Airborne Isolation	36.2	3	3	3	3	20	3.75	
		D3.7.2-A	D3.7.2	Anteroom	36.5	1	1	1	1	20	3.75	
		D3.8-A	D3.8	Operating Room, Interoperative CT	13.3	1	1	1	1	20	5	
		D3.8.3-A	D3.8.3	CT Garage	13.1	1	1	1	1	20	5	
		D3.8.4-A	D3.8.4	Computer Room, CT	13.1	1	1	1	1	20	5	
		D3.8.5-A	D3.8.5	Control Room, CT	13.1	1	1	1	1	20	5	
		D3.9-A	D3.9	Anaesthesia Patient Preparation Room	37.5	1	1	1	1	20	5	
D3.10-A	D3.10	Workroom, Anaesthesia	3	1	1	1	1	20	3.75			
D3.11-A	D3.11	Collaboration Room, Large	17.2	1	1	1	1	5	0.5			
D3.12-A	D3.12	Collaboration Room, Small	17.2	2	2	2	2	5	0.5			
D3.13-A	D3.13	Sterile Core	37.8	2	2	2	2	100	0			
D3.14-A	D3.14	Storage, Operating Room	24.5	2	2	2	2	20	3.75			
D3.15-A	D3.15	Soiled Case Cart Holding Room	21.2	2	2	2	2	20	10			
D3.17-A	D3.17	Dictation, Physician	17.5	2	2	2	2	20	3.75			
D3.18-A	D3.18	Washroom, Staff	29	2	2	2	2	30	0.5			
SURGICAL SERVICES (17 ORs)		D3.1-A	D3.1	Operating Room, General	37.3	3	3	3	3	20	5	
		D3.2-A	D3.2	Operating Room, General Airborne Isolation	37.3	3	3	3	3	20	5	
		D3.2.2-A	D3.2.2	Anteroom	36.5	3	3	3	3	20	3.75	
		D3.3-A	D3.3	Equipment Room, Cardiac Perfusion	7.2	3	3	3	3	20	10	
		D3.4-A	D3.4	Operating Room, Cardiac	37.3	3	3	3	3	20	5	
		D3.5-A	D3.5	Workroom, Perfusion	17.5	3	3	3	3	20	3.75	
		D3.6-A	D3.6	Operating Room, Hybrid	13.3	3	3	3	3	20	5	
		D3.6.3-A	D3.6.3	Computer Room, Hybrid OR	13.1	3	3	3	3	20	5	
		D3.6.4-A	D3.6.4	Control Room, Hybrid OR	13.1	3	3	3	3	20	5	
		D3.7-A	D3.7	Operating Room, Hybrid Airborne Isolation	36.2	3	3	3	3	20	3.75	
		D3.7.2-A	D3.7.2	Anteroom	36.5	1	1	1	1	20	3.75	
		D3.8-A	D3.8	Operating Room, Interoperative CT	13.3	1	1	1	1	20	5	
		D3.8.3-A	D3.8.3	CT Garage	13.1	1	1	1	1	20	5	
		D3.8.4-A	D3.8.4	Computer Room, CT	13.1	1	1	1	1	20	5	
		D3.8.5-A	D3.8.5	Control Room, CT	13.1	1	1	1	1	20	5	

TABLE A5- Simulation Template Room description

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
INTERVENTIONAL	SURGICAL SERVICES (17 ORs)	D3.19-A	D3.19	Frozen Section, Pathology Laboratory	20.1	3	3	3	3		20	5
		D3.20-A	D3.20	Specimen Handling & Formalin Dispensing Room	20.1	3	3	3	3		20	5
		D4.1-A	D4.1	Pre/Post Unit Room	37.2	3	3	3	3		20	5
		D4.2-A	D4.2	Pre/Post Unit Room, Airborne Isolation	36.2	2	2	2	2		20	3.75
		D4.2.1-A	D4.2.1	Washroom, Patient, Pre/Post Unit Airborne Isolation	36.1	2	2	2	2		20	3.75
		D4.2.2-A	D4.2.2	Anteroom	36.5	2	2	2	2		20	3.75
		D4.3-A	D4.3	PACU Room	37.6	3	3	3	3		20	5
		D4.4-A	D4.4	Viewing Area, PACU	37.6	2	2	2	2		20	5
		D4.5-A	D4.5	PACU Room, Airborne Isolation	36.2	2	2	2	2		20	3.75
		D4.5.1-A	D4.5.1	Washroom, Patient, PACU Airborne Isolation	36.1	1	1	1	1		20	3.75
		D4.5.2-A	D4.5.2	Anteroom	36.5	1	1	1	1		20	3.75
		D4.6-A	D4.6	Washroom, Patient	29	1	1	1	1		30	0.5
		D4.9-A	D4.9	Care Team Base	22	1	1	1	1		20	1.25
		D4.9.1-A	D4.9.1	Above, Pneumatic Tube Station	8	1	1	1	1		100	0
		D4.10-A	D4.10	Washroom, Staff	29	1	1	1	1		30	0.5
		D4.12-A	D4.12	Medication Room	7.3	1	1	1	1		100	0.5
		D4.14-A	D4.14	Workstation, Clinician	17.5	1	1	1	1		20	3.75
	INTERVENTIONAL SERVICE SUPPORT AREA	D5.1-A	D5.1	Central Equipment Room	17.1	3	3	3	3		100	0.5
		D5.4-A	D5.4	Workroom, Satellite Biomedical Clinical	17.5	2	2	2	2		20	3.75
		D5.6-A	D5.6	Environmental Services Closet	19	3	3	3	3		20	10
D5.7-A		D5.7	Clean Supply	7.2	2	2	2	2		20	10	
D5.8-A		D5.8	Utility Room, Soiled	7.1	1	1	1	1		20	10	
D5.9-A		D5.9	Soiled Holding Room	21.2	3	3	3	3		20	10	
D5.12-A		D5.12	Workroom	17.5	3	3	3	3		20	3.75	
D5.14-A		D5.14	Above, Stretcher Staging	8	2	2	2	2		100	0	
D6.1-A		D6.1	Lockers, Staff	17.4	3	3	3	3		10	1.25	
D6.1.1-A		D6.1.1	Washroom, Staff	29	2	2	2	2		30	0.5	
STAFF SUPPORT AREA	D6.1.3-A	D6.1.3	Above, Scrubs	8	2	2	2	2		100	0	
	D6.2-A	D6.2	Lounge, Staff	17.5	1	1	1	1		20	3.75	
	D.Corridor-A	D.Corridor	D.Corridor	8	1	1	1	1		100	0	
	E1.2-A	E1.2	Decontamination room	15.8	1	1	1	1		20	3.75	
	E1.2.1-A	E1.2.1	Vestibule, Decontamination	15.8	1	1	1	1		20	3.75	
	E1.2.2-A	E1.2.2	Washroom, Decontamination	29	2	2	2	2		30	0.5	
	E1.2.3-A	E1.2.3	Anteroom, Decontamination	36.5	1	1	1	1		20	3.75	
	E1.3-A	E1.3	Observation Room, Decontamination	15.8	1	1	1	1		20	3.75	
	E1.4-A	E1.4	Storage, Decontamination	7.2	1	1	1	1		20	10	
	E1.5-A	E1.5	Vestibule, Walk-in Police/Paramedics Cases	15.1	1	1	1	1		20	3.75	
AMBULANCE GARAGE	E1.6-A	E1.6	Secure Holding Room, Police Escort	17.5	2	2	2	2		20	3.75	
	E1.7-A	E1.7	Vestibule, Ambulance Stretcher Cases	15.1	1	1	1	1		20	3.75	
	E1.8-A	E1.8	Holding Area, Ambulance Stretcher	15.2	1	1	1	1		20	3.75	
	E1.9-A	E1.9	Workroom, Ambulance Crew / Police	17.5	1	1	1	1		20	3.75	
	E1.10-A	E1.10	Utility Room, Ambulance	7.2	1	1	1	1		20	10	
	E1.11-A	E1.11	Workstation, Clinician	17.5	1	1	1	1		20	3.75	

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
EMERGENCY DEPARTMENT	AMBULANCE GARAGE	E1,12-A	E1,12	Washroom, Staff	29	1	1	1	1	30	0.5	
		E1,13-A	E1,13	Washroom, Patient	29	1	1	1	1	30	0.5	
		E2,1-A	E2,1	Vestibule, Walk-in Entrance/Screening	15,1	1	1	1	1	20	3,75	
	CHECK-IN	E2,5-A	E2,5	Workroom	17,5	2	2	2	2	20	3,75	
		E2,6-A	E2,6	Triage Station	15,3	1	1	1	1	20	3,75	
		E2,8-A	E2,8	Waiting Area, Main	15,2	1	1	1	1	20	3,75	
		E2,9-A	E2,9	Washroom, Public	29	1	1	1	1	30	0.5	
		E3,1-A	E3,1	Resuscitation/ Trauma Room	15,7	1	1	1	1	20	3,75	
		E3,1,1-A	E3,1,1	Anteroom	36,5	2	2	2	2	20	3,75	
		E3,3-A	E3,3	Exam/Treatment Room	16	1	1	1	1	20	5	
		E3,4-A	E3,4	Washroom, Patient	29	1	1	1	1	30	0.5	
		E3,5-A	E3,5	Exam/Treatment Room, Bariatric	15,4	1	1	1	1	20	3,75	
		E3,6-A	E3,6	Exam/Treatment Room, Airborne Isolation Bariatric	36,1	2	2	2	2	20	3,75	
		E3,6,1-A	E3,6,1	Anteroom	36,5	1	1	1	1	20	3,75	
		ZONE 1 (TRAUMA, ACUTE, OBSERVATION) - 4, 36 AND 8 ROOMS	E3,6,2-A	E3,6,2	Washroom, Patient Ensuite	29	2	2	2	2	30	0.5
	E3,8-A		E3,8	Exam/Treatment Room	15,4	1	1	1	1	20	3,75	
	E3,9-A		E3,9	Washroom, Patient	29	1	1	1	1	30	0.5	
	E3,10-A		E3,10	Washroom, Patient	29	1	1	1	1	30	0.5	
	E4,1-A		E4,1	Collaboration Work Area	17,2	1	1	1	1	5	0.5	
	E4,4-A		E4,4	Utility Room, Soiled	7,1	2	2	2	2	20	10	
	E4,5-A		E4,5	Environmental Services Closet	19	2	2	2	2	20	10	
	E4,9-A		E4,9	Family Quiet Room	17,5	1	1	1	1	20	3,75	
	E4,10-A		E4,10	Care Team Base, Acute Exam/Treatment	22	1	1	1	1	20	1,25	
	E4,10,1-A		E4,10,1	Alcove, Pneumatic Tube Station	15,1	1	1	1	1	20	3,75	
	E4,11-A		E4,11	Medication Room	7,3	1	1	1	1	100	0.5	
	E4,12-A		E4,12	Care Team Base, Acute Exam/Treatment	22	1	1	1	1	20	1,25	
	E4,12,1-A		E4,12,1	Alcove, Pneumatic Tube Station	15,1	1	1	1	1	20	3,75	
	E4,13-A		E4,13	Medication Room	7,3	1	1	1	1	100	0.5	
	E4,14-A		E4,14	Workstation, Clinician	15,1	1	1	1	1	20	3,75	
	E4,15-A		E4,15	Workstation, Clerical	17,5	1	1	1	1	20	3,75	
	ZONE 1 SUPPORT AREA		E4,16-A	E4,16	Workroom	17,5	1	1	1	1	20	3,75
			E4,17-A	E4,17	Utility Room, Soiled	7,1	1	1	1	1	20	10
		E4,18-A	E4,18	Environmental Services Closet	19	1	1	1	1	20	10	
		E4,20-A	E4,20	Alcove, Wheelchair/Stretcher	15,1	1	1	1	1	20	3,75	
		E4,21-A	E4,21	Alcove, Crash Cart	15,1	1	1	1	1	20	3,75	
		E4,23-A	E4,23	Alcove, Hand Hygiene Sink	15,1	1	1	1	1	20	3,75	
E4,24-A		E4,24	Waiting Area, Intake	15,2	1	1	1	1	20	3,75		
E4,25-A		E4,25	Washroom, Public	29	1	1	1	1	30	0.5		
E4,27-A		E4,27	Family Quiet Room	17,5	2	2	2	2	20	3,75		
E4,28-A		E4,28	Lab / ECG Room	20,1	1	1	1	1	20	5		
E4,30-A		E4,30	Workroom, Respiratory	35,2	1	1	1	1	20	5		
E4,34-A		E4,34	Workstation, Clinician	15,1	1	1	1	1	20	3,75		
E4,35-A		E4,35	Utility Room, Soiled	7,1	1	1	1	1	20	10		

Schedule 5 – Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

TABLE A5- Simulation Template Room description

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
EMERGENCY DEPARTMENT	ZONE 1 SUPPORT AREA	E4.36-A	E4.36	Environmental Services Closet	19	1	1	1	1	20	10	
		E4.42-A	E4.42	Washroom, Staff	29	1	1	1	1	30	0.5	
		E4.43-A	E4.43	Washroom, Public	29	2	2	2	2	30	0.5	
		E5.1-A	E5.1	Exam/Treatment Room	15.4	1	1	1	1	20	3.75	
		E5.2-A	E5.2	Exam/Treatment Room, ENT	15.4	2	2	2	2	20	3.75	
		E5.3-A	E5.3	Exam/Treatment Room, EYE	15.4	2	2	2	2	20	3.75	
		E5.4-A	E5.4	Exam/Treatment Room, Gyne	15.4	1	1	1	1	20	3.75	
	ZONE 2 (AMBULATORY / MINOR PROCEDURES) AND ZONE 3 (MINOR TREATMENT) - 15 ROOMS	E5.5-A	E5.5	Washroom, Patient	29	1	1	1	1	30	0.5	
		E5.6-A	E5.6	Change Room, Patient	17.3	1	1	1	1	10	1.25	
		E5.7-A	E5.7	Minor Procedure Room	25.1	1	1	1	1	20	5	
		E5.8-A	E5.8	Waiting Area	15.2	1	1	1	1	20	3.75	
		E5.9-A	E5.9	Exam/Treatment Room	15.4	1	1	1	1	20	3.75	
		E6.1-A	E6.1	Care Team Base, Ambulatory	22	1	1	1	1	20	1.25	
		E6.1.1-A	E6.1.1	Alcove, Pneumatic Tube Station	15.1	1	1	1	1	20	3.75	
		E6.2-A	E6.2	Medication Room	7.3	1	1	1	1	100	0.5	
		E6.5-A	E6.5	Utility Room, Soiled	7.1	1	1	1	1	20	10	
		E6.6-A	E6.6	Environmental Services Closet	19	2	2	2	2	20	10	
	ZONE 2 (+ 3) SUPPORT AREA	E6.12-A	E6.12	Washroom, Staff	29	2	2	2	2	30	0.5	
		E6.13-A	E6.13	Waiting Area, Intake	15.2	1	1	1	1	20	3.75	
		E6.14-A	E6.14	Waiting Area, Results	15.2	1	1	1	1	20	3.75	
		E6.15-A	E6.15	Washroom, Public	29	1	1	1	1	30	0.5	
		E6.18-A	E6.18	Lab/ECG Room	20.1	1	1	1	1	20	5	
		E7.1-A	E7.1	Exam/Treatment Room, Pediatric	15.4	1	1	1	1	20	3.75	
		E7.2-A	E7.2	Exam/Treatment Room, Pediatric Airborne Isolation	36.1	1	1	1	1	20	3.75	
		E7.2.1-A	E7.2.1	Atrium	36.5	2	2	2	2	20	3.75	
		E7.2.2-A	E7.2.2	Washroom, Patient Ensuite	29	1	1	1	1	30	0.5	
		E7.3-A	E7.3	Safe Room, Pediatrics (Mental Health)	15.4	1	1	1	1	20	3.75	
	ZONE 4 (PEDIATRICS) - 6 ROOMS	E7.4-A	E7.4	Washroom, Patient	29	1	1	1	1	30	0.5	
		E8.1-A	E8.1	Care Team Base, Pediatrics	22	1	1	1	1	20	1.25	
		E8.1.1-A	E8.1.1	Alcove, Pneumatic Tube Station	15.1	2	2	2	2	20	3.75	
		E8.2-A	E8.2	Medication Room	7.3	1	1	1	1	100	0.5	
		E8.3-A	E8.3	Workstation, Clinician	15.1	1	1	1	1	20	3.75	
		E8.4-A	E8.4	Workstation, Volunteer	17.5	1	1	1	1	20	3.75	
E8.5-A		E8.5	Utility Room, Soiled	7.1	1	1	1	1	20	10		
E8.6-A		E8.6	Environmental Services Closet	19	2	2	2	2	20	10		
E8.9-A		E8.9	Alcove, Brosebw Cart	15.1	1	1	1	1	20	3.75		
E8.12-A		E8.12	Waiting Area, Intake	15.2	1	1	1	1	20	3.75		
ZONE 5 (MENTAL HEALTH AND SUBSTANCE USE) - 6 ROOMS	E8.13-A	E8.13	Waiting Area, Intake	29	1	1	1	1	30	0.5		
	E8.14-A	E8.14	Alcove, Family Nourishment	15.1	1	1	1	1	20	3.75		
	E9.2-A	E9.2	Interview Room	16	1	1	1	1	20	5		
	E9.3-A	E9.3	Exam/Treatment Room	16	2	2	2	2	20	5		
	E9.4-A	E9.4	Washroom, Patient	16	1	1	1	1	20	5		
	E9.4.1-A	E9.4.1	Atrium, Secure	36.5	1	1	1	1	20	3.75		

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
EMERGENCY DEPARTMENT	ZONE 5 (MENTAL HEALTH AND SUBSTANCE USE) - 6 ROOMS	E9.5-A	E9.5	Washroom, Patient	29	1	1	1	1	30	0.5	
		E9.6-A	E9.6	Exam/Treatment Room, Bariatric	16	1	1	1	1	20	5	
		E9.7-A	E9.7	Recline	16	1	1	1	1	20	5	
		E9.8-A	E9.8	Exam/Treatment Room, Bariatric	16	1	1	1	1	20	5	
		E9.9-A	E9.9	Washroom, Patient	29	2	2	2	2	30	0.5	
		E10.1-A	E10.1	Care Team Base	22	1	1	1	1	20	1.25	
		E10.2-A	E10.2	Medication Room	7.3	2	2	2	2	100	0.5	
		E10.3-A	E10.3	Clean Supply Room	7.2	1	1	1	1	20	10	
		E10.4-A	E10.4	Utility Room, Soiled	7.1	1	1	1	1	20	10	
	ZONE 5 SUPPORT AREA	E10.5-A	E10.5	Environmental Services Closet	19	2	2	2	2	20	10	
		E10.10-A	E10.10	Waiting Room, Intake	15.2	1	1	1	1	20	3.75	
		E10.12-A	E10.12	Washroom, Public	29	1	1	1	1	30	0.5	
		E10.13-A	E10.13	Storage, Patient Belongings	21.2	1	1	1	1	20	10	
		E11.1-A	E11.1	Storage, Central Equipment	17.1	1	1	1	1	100	0.5	
		E11.2-A	E11.2	Storage, Respiratory Therapy	17.1	1	1	1	1	100	0.5	
		E11.3-A	E11.3	Clean Supply Room, Central	7.2	1	1	1	1	20	10	
		E11.4-A	E11.4	Clean Supply Room, Satellite	7.2	1	1	1	1	20	10	
		E11.5-A	E11.5	Soiled Holding Room, Central	21.2	1	1	1	1	20	10	
		E11.6-A	E11.6	Workroom, Biomedical Clinical	17.5	1	1	1	1	20	3.75	
		DEPARTMENT SUPPORT AREA	E11.7-A	E11.7	Office, Research	17.5	1	1	1	1	20	3.75
E11.8-A	E11.8		Conference Room	17.2	1	1	1	1	5	0.5		
E11.9-A	E11.9		Collaboration Room	17.2	1	1	1	1	5	0.5		
E11.10-A	E11.10		Office, Private	17.5	1	1	1	1	20	3.75		
E11.11-A	E11.11		Office, Shared	17.5	1	1	1	1	20	3.75		
E11.12-A	E11.12		Lounge, Staff	17.5	1	1	1	1	20	3.75		
E11.13-A	E11.13		Lockers, Staff	17.4	1	1	1	1	10	1.25		
E11.13.1-A	E11.13.1		Change Cubicles	17.4	2	2	2	2	10	1.25		
E11.14-A	E11.14		Washroom, Staff	29	1	1	1	1	30	0.5		
E11.15-A	E11.15		Washroom, Staff	29	1	1	1	1	30	0.5		
E11.17-A	E11.17		Alcove, Generic	15.1	1	1	1	1	20	3.75		
E11.18-A	E11.18		Office, Private	17.5	1	1	1	1	20	3.75		
E11.19-A	E11.19		Office, Shared	17.5	1	1	1	1	20	3.75		
E11.20-A	E11.20		Dictation Room	17.5	2	2	2	2	20	3.75		
E11.21-A	E11.21		Sleep Room, On-Call	17.5	2	2	2	2	20	3.75		
SATELLITE MEDICAL IMAGING	E11.22-A		E11.22	Washroom, On-Call	29	1	1	1	1	30	0.5	
	E11.23-A	E11.23	Communal Area, On-Call	17.5	1	1	1	1	20	3.75		
	E12.1-A	E12.1	Scan Room, CT	13.1	1	1	1	1	20	5		
	E12.1.1-A	E12.1.1	Control Room, CT	13.1	2	2	2	2	20	5		
	E12.2-A	E12.2	General Radiography Room	13.1	1	1	1	1	20	5		
	E12.3-A	E12.3	General Radiography Room	13.1	1	1	1	1	20	5		
	E12.4-A	E12.4	Ultrasound Room	13.1	1	1	1	1	20	5		
	E12.5-A	E12.5	Radiologist Reading Room	13.1	1	1	1	1	20	5		
	E12.6-A	E12.6	Work Area, Technologist	17.5	1	1	1	1	20	3.75		

TABLE A5. Simulation Template Room description												
Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy Qty	m ² /occ	W/m ²
						HVAC	Occupancy	Lighting	Plug			
EMERGENCY DEPARTMENT	SATELLITE MEDICAL IMAGING	E12.7-A	E12.7	Storage, Medical Imaging	24.5	2	2	2	2	20	3.75	
		E12.8-A	E12.8	Holding Area, Stretcher	15.2	1	1	1	1	20	3.75	
		E12.9-A	E12.9	Workstation, Clerical	17.5	2	2	2	2	20	3.75	
		E12.10-A	E12.10	Waiting Room	15.2	1	1	1	1	20	3.75	
		E12.11-A	E12.11	Washroom, Patient	29	1	1	1	1	30	0.5	
		E12.12-A	E12.12	Change Room, Patient	17.3	1	1	1	1	10	1.25	
		E.Corridor-A	E.Corridor		8	1	1	1	1	100	0	
		G2.1-A	G2.1	Patient Room, Private	27.2	4	4	4	4	20	5	
		G2.1-B	G2.1	Patient Room, Private	27.2	5	4	5	3	30	5	
		G2.1-A	G2.1,1	Washroom, Patient Ensuite	29	2	2	2	2	30	0.5	
		G2.2-A	G2.2	Patient Room, Private, Double	27.2	3	3	3	3	20	5	
		G2.2-1-A	G2.2,1	Washroom, Patient Ensuite	29	1	1	1	1	30	0.5	
G2.3-A	G2.3	Patient Room, Private, Airborne Isolation	36.1	1	1	1	1	20	3.75			
G2.3.1-A	G2.3,1	Washroom, Patient Ensuite	36.1	1	1	1	1	20	3.75			
G2.3.2-A	G2.3,2	Anteroom	36.5	1	1	1	1	20	3.75			
G2.4-A	G2.4	Patient Room, Private, Bariatric	27.2	3	3	3	3	20	5			
G2.4.1-A	G2.4,1	Washroom, Patient Ensuite Bariatric	29	2	2	2	2	30	0.5			
G2.5-A	G2.5	Patient Room, Private, Bariatric Airborne Isolation	36.1	1	1	1	1	20	3.75			
G2.5.1-A	G2.5,1	Washroom, Patient Ensuite Bariatric	29	1	1	1	1	30	0.5			
G2.5.2-A	G2.5,2	Anteroom	36.5	1	1	1	1	20	3.75			
G3.1-A	G3.1	Care Team Base	22	1	1	1	1	20	1.25			
G3.2-A	G3.2	Medication Room	7.3	1	1	1	1	100	0.5			
G3.8-A	G3.8	Washroom, Public	29	2	2	2	2	30	0.5			
G3.9-A	G3.9	Workstation, Clinician	17.5	3	3	3	3	20	3.75			
G3.12-A	G3.12	Phone Booth, Clinician	17.5	1	1	1	1	20	3.75			
G4.1-A	G4.1	Environmental Services Closet	19	3	3	3	3	20	10			
G4.2-A	G4.2	Utility Room, Soiled	7.1	1	1	1	1	20	10			
G4.4-A	G4.4	Workroom	17.5	1	1	1	1	20	3.75			
G4.6-A	G4.6	Washroom, Staff	29	2	2	2	2	30	0.5			
G5.1-A	G5.1	Clean Supply (Central)	7.2	1	1	1	1	20	10			
G5.2-A	G5.2	Soiled Holding Room	21.2	1	1	1	1	20	10			
G5.3-A	G5.3	Central Equipment Room	17.1	1	1	1	1	100	0.5			
G5.4-A	G5.4	Storage, Rehab	17.1	3	3	3	3	100	0.5			
G5.8-A	G5.8	Food Service - Pantry	12.1	1	1	1	1	20	5			
G5.9-A	G5.9	Quiet/Consultation Room	16	3	3	3	3	20	5			
G5.10-A	G5.10	Satellite Biomedical-Clinical Workroom	17.5	3	3	3	3	20	3.75			
G5.10.1-A	G5.10,1	Cardiac Group Therapy	16	3	3	3	3	20	5			
G5.10.2-A	G5.10,2	Allied Health Treatment Space	16	3	3	3	3	20	5			
G5.10.3-A	G5.10,3	Allied Health Treatment Space/ADI - Hybrid	16	3	3	3	3	20	5			
G5.10.4-A	G5.10,4	Allied Health Treatment Space	16	3	3	3	3	20	5			
G5.11-A	G5.11	Waiting Area	28	2	2	2	2	10	0.5			
G5.12-A	G5.12	Conference Room	17.2	1	1	1	1	5	0.5			
G5.13-A	G5.13	Conference Room	17.2	1	1	1	1	5	0.5			

Schedule 5 – Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

TABLE A5- Simulation Template Room description

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²	
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ		
SITE INTEGRITY	48-BED SUPPORT AREA	G5.14-A	G5.14	Conference Room, Large	17.2	1	1	1	1	5	0.5		
		G5.15-A	G5.15	Office, Manager	17.5	3	3	3	3	20	3.75		
		G5.16-A	G5.16	Office, Shared	17.5	3	3	3	3	20	3.75		
		G5.17-A	G5.17	Workstation, PCC/UC	17.5	3	3	3	3	20	3.75		
		G5.18-A	G5.18	Collaboration Work Area	17.2	1	1	1	1	5	0.5		
		G5.19-A	G5.19	Lounge, Staff	17.5	2	2	2	2	20	3.75		
		G5.20-A	G5.20	Washroom, Staff	29	2	2	2	2	30	0.5		
		G5.21-A	G5.21	Washroom, Staff	29	2	2	2	2	30	0.5		
		G5.22-A	G5.22	Lockers, Staff	17.4	3	3	3	3	10	1.25		
		G5.22.1-A	G5.22.1	Change Cubicles	17.4	3	3	3	3	10	1.25		
		G.Corridor-A	G.Corridor	G.Corridor	8	1	1	1	1	100	0		
		H1.1-A	H1.1	Conference Room, EOC	17.2	1	1	1	1	5	0.5		
		SITE INTEGRITY	ADMINISTRATION AND CONTROL	H1.2-A	H1.2	Washroom, Staff	29	1	1	1	1	30	0.5
H1.3-A	H1.3			Workroom	17.5	1	1	1	1	20	3.75		
H1.4-A	H1.4			Storage, EOC	17.1	2	2	2	2	100	0.5		
H1.5-A	H1.5			Radio Room	17.5	1	1	1	1	20	3.75		
H1.6-A	H1.6			Office, Pact Manager	17.5	1	1	1	1	20	3.75		
H1.7-A	H1.7			Site Access Control Centre	17.5	2	2	2	2	20	3.75		
H1.8-A	H1.8			Office, Bed Booking	17.5	2	2	2	2	20	3.75		
H2.1-A	H2.1			Main Entrance / Foyer	17.6	1	1	1	1	10	0		
H2.2-A	H2.2			Washroom, Gender Neutral	29	1	1	1	1	30	0.5		
H2.3-A	H2.3			Gift Shop/Loto Booth	17.5	1	1	1	1	20	3.75		
H2.4-A	H2.4			Storage, Gift Shop	17.5	2	2	2	2	20	3.75		
SITE INTEGRITY	FOUNDATION			H3.1-A	H3.1	Reception and Waiting	17.6	1	1	1	1	10	0
				H3.2-A	H3.2	Workroom	17.5	2	2	2	2	20	3.75
		H3.3-A	H3.3	Office, Private	17.5	1	1	1	1	20	3.75		
		H3.4-A	H3.4	Workstation	17.5	1	1	1	1	20	3.75		
		H3.5-A	H3.5	Meeting Room	17.5	1	1	1	1	20	3.75		
		H3.6-A	H3.6	Storage, Foundation	17.1	2	2	2	2	100	0.5		
		H.Corridor-A	H.Corridor	H.Corridor	8	1	1	1	1	100	0		
		LOGISTICS PLATFORM		I1.1.1-A	I1.1.1	Equipment Garage - Receiving Area	41	1	1	1	1	100	0.5
				I1.1.2-A	I1.1.2	Equipment Garage - Cleaning/Disinfecting	7.1	3	3	3	3	20	10
				I1.1.3-A	I1.1.3	Equipment Garage - Storage	17.1	2	2	2	2	100	0.5
				I1.1.4-A	I1.1.4	Equipment Garage - Coordinator Workstation	17.5	2	2	2	2	20	3.75
				I1.2-A	I1.2	Mailroom	17.5	3	3	3	3	20	3.75
				I1.3-A	I1.3	Storage, Medical Supply (interim)	7.2	3	3	3	3	20	10
I1.4-A	I1.4			Storage, Flammable	42	2	2	2	2	100	0.5		
I1.5-A	I1.5			General Receiving	8	3	3	3	3	100	0		
I1.6-A	I1.6			Decanting/Breakout Room	8	1	1	1	1	100	0		
I1.8-A	I1.8			Storage, Emergency Supply	7.2	3	3	3	3	20	10		
I1.9-A	I1.9			Storage, Compressed Gas	43	2	2	2	2	100	0.5		
I1.10-A	I1.10			Workroom	17.5	3	3	3	3	20	3.75		
I1.13-A	I1.13			Cart Staging Area	7.2	3	3	3	3	20	10		

Schedule 5 – Energy and Carbon Guarantees (Royal Columbian Hospital Redevelopment Phase 2) Design-Build Agreement

TABLE A5- Simulation Template Room description

Department	Subdepartment	STR #	RDS Template Room ID.	Template Room Name	CSA Z317.2-15 Space Type #	Schedule				Occupancy		Plug Load W/m ²
						HVAC	Occupancy	Lighting	Plug	Qty	m ² /occ	
STAFF SUPPORT AREA FOR SUPPLY CHAIN		I2.1-A	I2.1	Office, Manager	17.5	1	1	1	1	20	3.75	
		I2.2-A	I2.2	Office, Supervisor	17.5	2	2	2	2	20	3.75	
		I2.3-A	I2.3	Office, Supply Analyst	17.5	3	3	3	3	20	3.75	
		I2.4-A	I2.4	Office, Replenishment	17.5	3	3	3	3	20	3.75	
		I3.1-A	I3.1	Storage, General	17.1	1	1	1	1	100	0.5	
		I3.2-A	I3.2	Storage, EVS Equipment	17.1	1	1	1	1	100	0.5	
		I3.3-A	I3.3	Card/Gurney Wash	7.1	2	2	2	2	20	10	
		I3.4-A	I3.4	Storage, Cleaning Supplies	7.1	3	3	3	3	20	10	
		I3.5-A	I3.5	Holding Room, Dirty Mops/Rags	7.1	2	2	2	2	20	10	
		I3.6-A	I3.6	Storage, Tow Motor	4.4	3	3	3	3	100	0.5	
ENVIRONMENTAL SERVICES AND WASTE MANAGEMENT		I3.7-A	I3.7	Holding Room, Clean EVS	7.2	3	3	3	3	20	10	
		I3.8-A	I3.8	Work Area, EVS	17.5	3	3	3	3	20	3.75	
		I3.9-A	I3.9	Office, Manager	17.5	2	2	2	2	20	3.75	
		I3.10-A	I3.10	Environmental Services Closet	19	3	3	3	3	20	10	
		I4.1-A	I4.1	Exchange-cart staging room	7.2	2	2	2	2	20	10	
		I4.2-A	I4.2	Linen Room	21.2	3	3	3	3	20	10	
		I4.3-A	I4.3	Office, Laundry	17.5	1	1	1	1	20	3.75	
		I5.1-A	I5.1	Workstation, Porter	17.5	2	2	2	2	20	3.75	
		I5.2-A	I5.2	Office, Supervisor Dispatch	17.5	1	1	1	1	20	3.75	
		I5.3-A	I5.3	Cardiac Arrest Cart Exchange Room - Clean	7.2	3	3	3	3	20	10	
LAUNDRY / LINEN		I5.4-A	I5.4	Cardiac Arrest Cart Clean Room - Dirty	7.1	3	3	3	3	20	10	
		I6.1-A	I6.1	Lounge, Staff	17.5	2	2	2	2	20	3.75	
		I6.2-A	I6.2	Lockers, Staff	17.4	3	3	3	3	10	1.25	
		I6.2.1-A	I6.2.1	Change Cubicles	17.4	1	1	1	1	10	1.25	
		I6.3-A	I6.3	Washroom, Staff	29	2	2	2	2	30	0.5	
		I6.4-A	I6.4	Washroom, Staff	29	2	2	2	2	30	0.5	
		I7.1-A	I7.1	Office, Dock Master	17.5	1	1	1	1	20	3.75	
		I7.3-A	I7.3	Biohazard Holding	38.2	2	2	2	2	20	10	
		I7.4-A	I7.4	Storage, Tow Motor	17.1	1	1	1	1	100	0.5	
		I7.5-A	I7.5	Soiled Linen Staging Room	21.2	3	3	3	3	20	10	
LOADING DOCK		I7.6-A	I7.6	Cart Holding Area	7.2	3	3	3	3	20	10	
		I.Corridor-A	I.Corridor	I.Corridor	8	1	1	1	1	100	0	
		Z.Corridor-A	Z.Corridor	Z.Corridor	8	1	1	1	1	100	0	
		Z.Elec.room-A	Z.Elec.room	Z.Elec.room	31.1	1	1	1	1	200	0.5	
		Z.Stairs-A	Z.Stairs	Z.Stairs	31.1	1	1	1	1	0	0.5	
		Z.Shaft-A	Z.Shaft	Z.Shaft	31.1	1	1	1	1	0	0.5	
		Z.Mech. Room-A	Z.Mech. Room	Z.Mech. Room	31.1	1	1	1	1	200	0.5	

Table A6. Simulation Schedules
A. Medical Device Reprocessing Platform

RCH Schedule Set A-1																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lighting																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Receptacle																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

RCH Schedule Set A-2																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Occupant																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Lighting																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Receptacle																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0

A. Medical Device Reprocessing Platform

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set A-3																											
HVAC																											
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Occupant																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lighting																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Receptacle																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set A-4																											
HVAC																											
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Occupant																											
Weekday	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1	
Weekend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1	
Lighting																											
Weekday	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1	
Weekend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1	
Receptacle																											
Weekday	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1	
Weekend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1	

B. Critical Care Unit

RCH Schedule Set B-1																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lighting																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Receptacle																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

RCH Schedule Set B-2																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Occupant																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Lighting																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Receptacle																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0

B. Critical Care Unit

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set B-3																											
HVAC																											
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Occupant																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lighting																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Receptacle																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set B-4																											
HVAC																											
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Occupant																											
Weekday	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	
Weekend	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	
Lighting																											
Weekday	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	
Weekend	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	
Receptacle																											
Weekday	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	
Weekend	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	

C. Perinatal Unit and Obstetrical ORs

RCH Schedule Set C-1																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lighting																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Receptacle																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

RCH Schedule Set C-2																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Occupant																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Receptacle																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

C. Perinatal Unit and Obstetrical ORs

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
RCH Schedule Set C-3																										
HVAC																										
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																										
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Lighting																										
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Receptacle																										
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

D. Interventional

RCH Schedule Set D-1																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lighting																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Receptacle																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

RCH Schedule Set D-2																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Occupant																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
Lighting																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
Receptacle																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0

D. Interventional

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set D-3																											
HVAC																											
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Occupant																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lighting																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Receptacle																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set D-4																											
HVAC																											
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Occupant																											
Weekday	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	
Weekend	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	
Lighting																											
Weekday	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	
Weekend	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	
Receptacle																											
Weekday	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	
Weekend	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	

E. Emergency Department

RCH Schedule Set E-1																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lighting																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Receptacle																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

RCH Schedule Set E-2																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
HVAC																									
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Occupant																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Lighting																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Receptacle																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0

E. Emergency Department

RCH Schedule Set E-3																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HVAC	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																								
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Lighting																								
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9
Receptacle																								
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9

G. Medical/Surgical Inpatient Unit

RCH Schedule Set G-1																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lighting																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Receptacle																									
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

RCH Schedule Set G-2																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Occupant																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Lighting																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Receptacle																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0

G. Medical/Surgical Inpatient Unit

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set G-3																											
HVAC																											
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Occupant																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lighting																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Receptacle																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set G-4 (Patient Rooms)																											
HVAC																											
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Occupant																											
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lighting																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Receptacle																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

G. Medical/Surgical Inpatient Unit

RCH Schedule Set G-5 (Patient Rooms with visitors)																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
HVAC																									
Weekday	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	1.0	0.33	0.33	0.33	1.0	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Weekend	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	1.0	0.33	0.33	0.33	1.0	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Lighting																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Receptacle																									
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

RCH Schedule Set G-6																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
HVAC																									
Weekday	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7
Weekend	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7
Lighting																									
Weekday	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7
Weekend	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7
Receptacle																									
Weekday	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7
Weekend	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7

H. Site Integrity Department

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set H-1																											
HVAC																											
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Occupant																											
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lighting																											
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Receptacle																											
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set H-2																											
HVAC																											
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF		
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF		
Occupant																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Lighting																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Receptacle																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		

H. Site Integrity Department

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
RCH Schedule Set H-3																										
HVAC																										
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																										
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Lighting																										
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Receptacle																										
Weekday	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Weekend	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9

I. Logistics Platform

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set I-1																											
HVAC																											
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Occupant																											
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Lighting																											
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Receptacle																											
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
RCH Schedule Set I-2																											
HVAC																											
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF		
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF		
Occupant																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Lighting																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Receptacle																											
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0		

I. Logistics Platform

RCH Schedule Set I-3																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HVAC																								
Weekday	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Weekend	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Occupant																								
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting																								
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Receptacle																								
Weekday	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weekend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RCH Schedule Set I-4																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HVAC																								
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Occupant																								
Weekday	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1
Weekend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1
Lighting																								
Weekday	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1
Weekend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1
Receptacle																								
Weekday	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1
Weekend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.1	0.1	0.1	0.1

Z. Special rooms

RCH Schedule Set Z-1																										
		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
		HVAC																								
Weekday	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Weekend	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
		Occupant																								
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
		Lighting																								
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
		Receptacle																								
Weekday	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Weekend	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

RCH Schedule Set Z-2 (NREL)																									
		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
		Elevators																							
Weekday	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	0.75	1.00	1.00	1.00	0.75	1.00	1.00	1.00	1.00	1.00	1.00	0.52	0.52	0.28	0.20	0.20
Weekend	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.40	0.46	0.70	0.70	0.70	0.51	0.51	0.51	0.51	0.51	0.25	0.20	0.20	0.20	0.20	0.20	0.20

RCH Schedule Set Z-3 (ASHRAE SHW)																									
		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
		SHW																							
Weekday	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.17	0.58	0.66	0.78	0.82	0.71	0.82	0.78	0.74	0.63	0.41	0.18	0.18	0.18	0.18	0.01	0.01
Weekend	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.17	0.58	0.66	0.78	0.82	0.71	0.82	0.78	0.74	0.63	0.41	0.18	0.18	0.18	0.01	0.01	0.01

RCH Schedule Set Z-4																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
	IT loads																								
Weekday	0.75	0.75	0.75	0.75	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75	0.75	0.75
Weekend	0.75	0.75	0.75	0.75	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75	0.75	0.75

Transformer Loss Schedules

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
30-30																										
Fraction of Peak Loss																										
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.13	0.13	0.10	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.13	0.13	0.10	0.10	0.10	0.10	0.10	0.10

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
30-45																										
Fraction of Peak Loss																										
Weekday	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.13	0.13	0.11	0.11	0.11	0.11	0.11	0.11
Weekend	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.13	0.13	0.11	0.11	0.11	0.11	0.11	0.11

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
30-45-750																										
Fraction of Peak Loss																										
Weekday	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.24	0.24	0.24	0.21	0.21	0.21	0.21	0.21	0.21
Weekend	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.24	0.24	0.24	0.21	0.21	0.21	0.21	0.21	0.21

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
30-112.5-150																										
Fraction of Peak Loss																										
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.13	0.13	0.10	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.13	0.13	0.10	0.10	0.10	0.10	0.10	0.10

		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
30-225-225																										
Fraction of Peak Loss																										
Weekday	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.33	0.33	0.33	0.31	0.31	0.31	0.31	0.31	0.31
Weekend	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.33	0.33	0.33	0.31	0.31	0.31	0.31	0.31	0.31

Transformer Loss Schedules

45-75																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.13	0.13	0.10	0.10	0.10	0.10	0.10	0.10
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.13	0.13	0.10	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.13	0.13	0.10	0.10	0.10	0.10	0.10	0.10

45-75-75																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10

75-75-75																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.12	0.12	0.12	0.09	0.09	0.09	0.09	0.09	0.09
Weekday	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.12	0.12	0.12	0.09	0.09	0.09	0.09	0.09	0.09
Weekend	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.12	0.12	0.12	0.09	0.09	0.09	0.09	0.09	0.09

75-112.5																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10

75-112.5-112.5																									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10

Transformer Loss Schedules

112.5-112.5																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10

112.5-112.5-112.5																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10
Weekday	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10
Weekend	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10

225-225-225																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.36	0.36	0.36	0.34	0.34	0.34	0.34	0.34
Weekday	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.36	0.36	0.36	0.34	0.34	0.34	0.34	0.34
Weekend	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.36	0.36	0.36	0.34	0.34	0.34	0.34	0.34

3325-3325																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.23	0.23	0.23	0.20	0.20	0.20	0.20	0.20
Weekday	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.23	0.23	0.23	0.20	0.20	0.20	0.20	0.20
Weekend	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.23	0.23	0.23	0.20	0.20	0.20	0.20	0.20

TABLE A7. Special Rooms					
Special Room/Zone Name	T-Stat	T-Stat	Electricity Consumption	Heat dissipation	Schedule Set
	Heating	Cooling			
	°C	°C	kW	kW	
P1, P2 IT Room	18	25	3.52	3.52	Z-4
L0 IT Room (MER)	18	25	12.31	12.31	Z-4
L0 IT Room (EFR)	18	25	17.58	17.58	Z-4
L0 IT Room	18	25	3.52	3.52	Z-4
L1-L2, L4-L6 IT Room	18	25	7.03	7.03	Z-4
L3 S IT Room	18	25	3.52	3.52	Z-4
L3 N IT Room	18	25	7.03	7.03	Z-4
L7-L11 IT Room	18	25	7.03	7.03	Z-4
Roof IT Room	18	25	5.28	5.28	Z-4
(per) Elevator	-	25	18.5	6.66	Z-2

Inputs	Table 8. Energy Model Assumptions Reporting
Software used and version	
Climate Zone & Weather File	
Building Floor Area and MFA	
Hours of operation	
Utility Rates & Emission Factors	
Electricity	
Gas	
Energy Center (DES)	
Other Fuel Sources	
Envelope Performance	
Roof R-value (effective) (°K·ft²/btuh)	For each type
Wall Above Grade R-value (effective) (°K·ft²/btuh)	For each type
Wall Below Grade R-value (effective) (°K·ft²/btuh)	For each type
Slab on grade (°K·ft²/btuh)	
WWR Glazing (%)	
Glass U-value including frame (btu/h.ft².F), and Solar Heat Gain Coefficient (SHGC)	For each type
Shading Devices	
Infiltration Rate	
Internal Loads	
Occupant Density & Schedule	
Lighting Power Density & Schedule	
Interior Lighting Controls	
Exterior Lighting	
General Plug Loads & Schedule	
Process Loads & Schedule	
Elevators & Schedule	
Domestic Hot Water & Schedule	
Operating Conditions	
Room Set-points	Temperature, Humidity
Air Handling Units	Per AHU and MAU– list all that applies: Area it serves

Inputs	Table 8. Energy Model Assumptions Reporting
	Min OA Flow and % of total Total Supply Air Flow Heating Coil Capacity Cooling Coil Capacity Reheat Coil Capacity Fan Power Supply Fan Power Return Fan Power Exhaust Supply Air Temperature Humidification Controls / Variable / Constant Volume / DCV
Heat Recovery Ventilators	Per HRV or ERV -list all that applies: Min OA flow Sensible efficiency % Latent efficiency %
Zone Terminal Systems	List all that applies for heating and cooling
Zone Exhausts	Per System: Air Flow Fan Power
Central Plant	
Heating Equipment Type	Type, Capacity, Efficiency, Temperature
Hot Water Loop	Per Hot Water Loop – list all that applies: Supply Water Temperature Return Water Temperature Description of Reset / Controls Heat Rejection/Heat Recovery
Cooling Equipment Type	Type, Capacity, Efficiency, Temperature
Chilled Water Loop	Per Chilled Water Loop – list all that applies: Supply Water Temperature Return Water Temperature Heat Rejection/ Heat Recovery
Heat Rejection	Type, Capacity, Efficiency, Temperature
Condenser Water Loop	Per Condenser Water Loop –list all that applies: Supply Water Temperature Return Water Temperature Heat Rejection/ Heat Recovery
Steam System	Type, Capacity, Efficiency, Temperature
Domestic Hot Water Preheat	Type, Capacity, Temperature
Domestic Hot Water	Type, Capacity, Efficiency, Temperature, Storage Capacity
Pumps	For all pumps: Flow, Power
Other	
Renewable Energy	List all that applies: Type, Capacity

APPENDIX 2 TO SCHEDULE 5 – ENERGY MANAGEMENT PLAN

1. CONTENT AND FORMAT OF ENERGY MANAGEMENT PLAN 1

 1.1 Measurement & Verification Plan 1

 1.2 Energy Modeling Summary Report 1

2. SUBMITTAL REQUIREMENTS FOR THE ENERGY MANAGEMENT PLAN 2

1. CONTENT AND FORMAT OF ENERGY MANAGEMENT PLAN

The Design Builder will deliver to the Authority an Energy Management Plan and update as set out in Schedule 4. The content and format of the Energy Management Plan is described in this Appendix 2 and includes two main components:

- (a) Measurement & Verification Plan per Section 1.1 of this Appendix 2; and
- (b) Energy Modeling Summary Report per Section 1.2 of this Appendix 2.

1.1 Measurement & Verification Plan

The Design Builder will deliver to the Authority a Measurement and Verification Plan (the M&V Plan) consistent with Option D (Whole Building Calibrated Simulation) Method 2 of International Performance Measurement & Verification Protocol (IPMVP) Volume III (three) for new construction projects.

The M&V Plan should progress with the building design, and can be finalized when the design has developed to a point where all M&V issues can be addressed and signed off. The parties will agree upon the exact form of the M&V Plan, which will include all the items noted within IPMVP Volume III unless otherwise agreed.

1.2 Energy Modeling Summary Report

- (a) The Energy Modeling Summary Report to include, at a minimum:
 - (1) Executive Summary,
 - (2) Statement of software used and version,
 - (3) Statement of climate scenarios modeled,
 - (4) Using ASHRAE 90.1 definition of conditioned, semi-conditioned and unconditioned spaces, provide summary of all gross floor areas in the Project, including Modeled Floor Area (MFA) and other areas broken down into:
 - (A) Total MFA (m²)
 - (i) Conditioned Area (m²)
 - (ii) Semi-Conditioned Area (m²)
 - (iii) Unconditioned Area (m²)
 - (B) Areas excluded from MFA: Parking Areas (m²)
 - (5) Written narrative description of modeled building systems, including envelope assembly types, lighting system and controls, process loads and HVAC system types, controls, and system sequence of operation.

- (6) In addition to narrative descriptions per item (5) above, use the Model Input Summary Template provided in Table A8 [Model Input Summary Template], or in greater level of detail, to document key energy modeling inputs and assumptions.
 - (7) Provide description of modeling methodologies including description of any workarounds or post-processing of results made outside of software.
 - (8) Include assumptions & parameters not described, or that deviate from those described herein with a rationale and solution used for any deviation.
 - (9) Provide output summary reports from the energy simulation software.
 - (10) At the discretion of the Authority, hourly output variables of the simulation will be submitted by the Design Builder in electronic format if requested.
 - (11) Provide energy consumption end-use breakdown per Table A1 [Energy, Cost & Emission Summary] and Table A2 [Energy End-Use Monthly Summary];
 - (12) Identify for each end-use the energy consumption by fuel type, i.e., electricity, natural gas, purchased thermal heat or any other source of energy that may be available;
- (b) Energy, Cost & Emission Summary, per Table A1 [Energy, Cost & Emission Summary] of this Attachment.
- (1) Provide a summary for each climate scenario modeled
- (c) Energy per End-Use Summary, per Table A2 [Energy End-Use Monthly Summary] of this Attachment.
- (1) Provide a summary for each climate scenario modeled.
- (d) Energy and Carbon Guarantee Compliance Declaration
- (1) Provide written confirmation that the Project achieves the Energy Target and the Carbon Target, stating in the declaration: the total achieved energy consumption (MWh) and carbon emission (tonnes CO₂e) achieved along with the statement date.

2. SUBMITTAL REQUIREMENTS FOR THE ENERGY MANAGEMENT PLAN

Each submission shall include the following:

- (a) An entire submission package in accordance with Sections 1.1 and 1.2 of this Appendix 2, or
- (b) Confirmation that there has been no material change that would impact the content or results of the reports since the previous submission, or
- (c) A summary of the key changes since the previous submission including at minimum the following:
 - (1) An updated version of Sections 1.2(b), 1.2(c), and 1.2(d) of this Appendix; and

- (2) A statement from the Independent Energy Consultant confirming that they have reviewed the submission and noting any concerns regarding the accuracy of the submission.

APPENDIX 3 OF SCHEDULE 5 – MONTHLY M&V REPORTS

1. CONTENT AND FORMAT OF MONTHLY M&V REPORTS 1
1.1 Monthly M&V Reports..... 1

1. CONTENT AND FORMAT OF MONTHLY M&V REPORTS

1.1 Monthly M&V Reports

During the M&V Period, the Design Builder will deliver to the Authority a monthly Measurement and Verification Report to present findings of the Measurement and Verification Plan. The parties will agree upon the exact form of the Measurement and Verification Report but at a minimum the Measurement and Verification Report will include the following:

- (a) the Energy Consumption in MWh for each energy utility and each major end use in that month (including lighting, heating, cooling, pumps, and fans, or a more detailed end use breakdown);
- (b) the Weather Data for that month, including the number of Cooling Degree Days and Heating Degree Days;
- (c) comparison of actual Energy Consumption compared to the Energy Target on an end use basis, or more detailed as needed;
- (d) differentiation between weather impacts and Authority-controlled variables versus variables controlled or influenced by the Design Builder through design and construction, such that the extent to which the Energy Target is met can be assessed;
- (e) highlight opportunities to improve energy efficiency and suggested next steps to action each opportunity;
- (f) suggested remedies for end uses that exceed the Energy Target for that end use; and
- (g) a summary of whom the previous monthly report was issued to;
- (h) an indication of who provided input, review and/or feedback to inform the current monthly report;
- (i) any other variable that affects the Energy Consumption relative to the energy model assumptions.

SCHEDULE 6

INSURANCE CONDITIONS

Without restricting the generality of the indemnification provisions in Section 59, insurance and coverage will be arranged and paid for as follows:

1. WRAP-UP LIABILITY INSURANCE

- 1.1 The Authority will provide, maintain and pay for Wrap-up Liability Insurance with a limit of _____ inclusive per occurrence, and no less than _____ general aggregate for bodily injury, death, and damage to property including loss of use thereof, product/completed operations liability with a limit of _____ aggregate.
- 1.2 This insurance will cover the Authority, Design-Builder & Subcontractors, Architects, Engineers, Consultants and anyone employed by them to perform a part or parts of the Work (includes both Construction and Design services, but excludes all professional services, under this Agreement) but excluding suppliers whose only function is to supply and/or transport products to the project site or security protection persons or organizations providing site protection on or at the insured project. The insurance does not extend to any activities, works, jobs or undertakings of the insureds other than those directly related to the Work of this Agreement.
- 1.3 The insurance will preclude subrogation claims by the insurer against anyone insured hereunder.
- 1.4 The insurance will include coverage for:
 - (a) Products or Completed Operations Liability;
 - (b) Blanket Contractual Liability;
 - (c) Cross Liability;
 - (d) Contingent Employer's Liability;
 - (e) Personal Injury Liability;
 - (f) Shoring, Blasting, Excavating, Underpinning, Demolition, Piledriving and Caisson Work, Work Below Ground Surface, Tunneling and Grading, as applicable;
 - (g) Liability with respect to Non-Owned Licensed Vehicles (no less than _____);
 - (h) Broad Form Property Damage;
 - (i) Broad Form Completed Operations;
 - (j) Limited Pollution Liability (no less than _____);

- (k) Employees as Additional Insureds;
- (l) Broad Form Tenants Legal Liability (no less than
- (m) Operation of Attached Machinery; and
- (n) Forest Fire Fighting Expenses (no less than

1.5 Any applicable deductibles will not exceed

1.6 This insurance will be maintained continuously from commencement of the Work until Substantial Completion of the Project, plus cover completed operations for a further period of .

2. PROFESSIONAL LIABILITY INSURANCE

2.1 The Design-Builder or the Design-Builder's Consultant during the term of this Agreement will provide and maintain continuously from the commencement of the Work, until 2 (two) years after Substantial Completion of the Project, the following insurance which will be placed with such company or companies and in such form and amounts and with such deductibles as may be acceptable to the Authority:

- (a) Project Specific Professional Errors and Omissions Liability Insurance, protecting the Design-Builder or the Design-Builder's Consultant, sub-consultant(s) and their respective servant(s), agent(s) or employee(s) against any loss or damage arising out of the Design under this Agreement. Such insurance will be for the adequate amount acceptable to the Authority and will in any event be not less than
per claim and with a limit of
aggregate, such limits to be dedicated specifically to the Project; and
- (b) Any applicable deductibles will not exceed

3. PROPERTY COVERAGE INSURANCE

3.1 The Authority will provide, maintain and pay for Course of Construction coverage, against "All Risks" of direct physical loss or damage including flood and earthquake, and will cover all materials, property, structures and equipment purchased for, entering into, or forming part of the Work whilst located on the project site during construction, erection, installation and testing, but such coverage will not include coverage for Design-Builder's and Subcontractors' equipment of any description. Such coverage will be maintained until Substantial Completion of the Project.

Deductibles, per occurrence, will not exceed the following amounts; if more than one deductible applies, the highest one will apply:

1. For floods,

2. For water damage and sewer back up,
3. For earthquakes, the greater of
of the total project value insured;
4. For testing and commissioning,
and
5. For all other insured perils,

Waiting period deductibles, per occurrence, not exceeding the following amounts to be applied separately from any property damage deductible:

6. For soft costs, a waiting period for each month of the project duration
subject to a minimum waiting period of and a minimum

- 3.2 The coverage will include as a protected entity, each Design-Builder, Subcontractor, Architect or Engineer who is engaged in the Project.
- 3.3 The coverage will contain a waiver of the Authority's rights of subrogation against all protected entities except where a loss is deemed to have been caused by or resulting from any error in design or any other professional error or omission, or manufacturers (not employees of the insured).
- 3.4 The Design-Builder will, at his own expense, take special precaution to prevent fires occurring in or about the Work and will observe, and comply with, all insurance policy warranties and all laws and regulations in force respecting fires.

4. AUTOMOBILE LIABILITY INSURANCE

- 4.1 The Design-Builder will provide, maintain and pay for, and require all Subcontractors to provide, maintain and pay for Automobile Liability Insurance in respect of all owned or leased vehicles, subject to limits of not less than
inclusive per occurrence. The insurance will be placed with such company or companies and in such form and deductibles as may be acceptable to Authority.

5. AIRCRAFT AND/OR WATERCRAFT LIABILITY INSURANCE

- 5.1 The Design-Builder will provide, maintain and pay for liability insurance with respect to owned or non-owned aircraft and watercraft if used directly or indirectly in the performance of the Work, subject to limits of not less than
inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof and including Aircraft Passenger Hazard where applicable. The insurance will name the Authority as an additional insured, include a cross liability clause, be endorsed to provide the Authority with 30 days' advance written notice of

cancellation and be placed with such company or companies and in such form and deductibles as may be acceptable to Authority.

5.2 The Design-Builder will provide, maintain and pay for marine cargo insurance covering all materials, equipment and other property supplied under or used during the project and which are critical to performance of the Work if such materials, equipment and other property are conveyed by ocean marine transport. The insurance will include the following terms:

- (a) coverage in an amount not less than the full replacement value of the shipment;
- (b) coverage for the Design-Builder and all Subcontractors;
- (c) include the Authority as an additional named insured;
- (d) subject to the conditions of the Institute Cargo Clauses (All Risks), including war and strikes extensions, and including transit and storage where applicable;
- (e) if an entire vessel is chartered for shipping materials, equipment or property then charterer's liability insurance will also be provided in amounts sufficient to protect and indemnify the Authority, Design-Builder and all Subcontractors from and against all liability arising out of the chartering of such vessel; and
- (f) a deductible not exceeding per occurrence;

6. CONTRACTORS POLLUTION LIABILITY INSURANCE

6.1 When applicable (hazardous materials and/or asbestos abatement work), the Design-Builder (or Design-Builder's Subcontractors) will require all Subcontractors to provide, maintain and pay for:

- (a) Contractors Pollution Liability insurance, where the Design-Builder's performance (or Design-Builder's Subcontractor's performance) of the work is associated with hazardous materials clean up, removal and/or containment, transit or disposal. This insurance must have a limit of liability not less than inclusive per occurrence insuring against bodily injury, death, and damage to property including loss of use thereof.

Any insurance required under this Section 6 must name the Authority as an additional insured but only with respect to liability arising out of the Design-Builder's performance of the Work. Such insurance shall not be impaired by any time element limitations, biological contaminants (without limitation, mould and bacteria), asbestos, or lead-based paint exclusions. Any "Insured versus Insured" exclusion shall not prejudice coverage for the Authority and shall not affect the Authority's ability to bring suit against the Design-Builder as a third party.

6.2 Any insurance required under this Section 6 must be endorsed to provide the Authority with 30 days' advance written notice of cancellation. If any such insurance is provided on

a claims-made basis and that insurance is cancelled or not renewed, such policy must provide a extended reporting period.

- 6.3 The Design-Builder must cause all Subcontractors to provide to the Authority a Certificate of Insurance confirming all policies and endorsements necessary to comply with the insurance requirements outlined herein, or upon request, a certified copy of the required insurance policy.

7. GENERAL

- 7.1 The description of the Authority arranged insurance described herein is provided on a summary basis only and is not a statement of the actual policy terms and conditions. The Authority does not represent or warrant that the Authority arranged insurance contains insurance for any and all losses. It is the Design-Builder's responsibility to ascertain the exact nature and extent of coverage provided by the Authority arranged insurance, to review all policies pertaining thereto and to obtain any other insurance that it may be prudent for the Design-Builder to obtain.
- 7.2 The Design-Builder will also provide, maintain and pay for any other insurance that the Design-Builder is required by law to carry, or which the Design-Builder considers necessary.
- 7.3 Unless specified otherwise, the duration of each coverage and insurance policy will be from the date of commencement of the Work until the date of final certificate for payment.
- 7.4 The Authority will, upon request, provide the Design-Builder with proof of insurance of those coverages and insurances required to be provided by the Authority prior to commencement of the Work and subsequent certified copy of policies within a reasonable time period thereafter.
- 7.5 The Design-Builder and/or its Subcontractors, the Design-Builder's Consultants and sub-consultants as may be applicable, will be responsible for any deductible amounts under the policies of coverage and insurance except for perils of flood and earthquake.
- 7.6 The Design-Builder will provide the Authority with proof of insurance for those insurances required to be provided by the Design-Builder (or Design-Builder's Consultant) prior to the commencement of the Work in the form of a completed Certificate of Insurance and will also provide a certified copy of any required policies upon request.
- 7.7 The Authority will not be responsible for injury to the Design-Builder's employees or for loss or damage to the Design-Builder's or to the Design-Builder's employees' machinery, equipment, tools or supplies which may be temporarily used or stored in, on or about the premises during construction and which may, from time to time, or at the termination of this Agreement, be removed from the premises. The Design-Builder hereby waives all rights of recourse against the Authority or any other contractor with regard to damage to the Design-Builder's property.

- 7.8 If the Design-Builder fails to provide, maintain and pay for insurance as required by this Schedule, other than automobile liability insurance, the Authority may obtain and pay for the required insurance, the cost of which will be payable on demand by the Design-Builder. The Authority may offset such amounts from any monies due to the Design-Builder if not paid within 15 days.

SCHEDULE 7

APPRENTICESHIP POLICY

1. APPRENTICESHIP POLICY

- 1.1 The Design-Builder acknowledges that it has obtained a copy of and has reviewed the Ministry of Advanced Education, Skills and Training policy set out in Apprentices on Public Projects Policy and Procedure Guidelines, Date: July, 2015, Update: March, 2016 available at: https://www2.gov.bc.ca/assets/gov/business/economic-development/assets/apprentices-on-public-projects/policy_and_procedure_guidelines.pdf (the "Apprenticeship Policy").
- 1.2 Unless defined in this Agreement, capitalized terms in this Schedule 7 have the meaning given in the Apprenticeship Policy.

2. APPLICATION

- 2.1 The Design-Builder agrees that the Apprenticeship Policy applies to this Agreement and the Design-Builder will, subject to the reasonable assistance of the Authority, comply with the requirements of the Apprenticeship Policy.
- 2.2 The Design-Builder agrees that the Authority requires the Design-Builder to apply the Apprenticeship Policy to Subcontractors and Subcontracts (of all tiers) valued at \$500,000 or more.

3. REQUIREMENTS

- 3.1 The Design-Builder acknowledges that the requirements of the Apprenticeship Policy and this Schedule 7 include:
- (a) using Registered Apprentice(s) in respect of Specified Trades valued at \$500,000 or more;
 - (b) reporting in Form A: Confirmation of Intent to Use Registered Apprentices as soon as practicable and at least 5 days prior to commencement of Work under this Agreement or work under the applicable Subcontract and completing all supplementary forms (Form A) as required;
 - (c) reporting in Form B: Apprentice Utilization Report quarterly and upon completion of Work under this Agreement or work under the applicable Subcontract; and
 - (d) complying with applicable requirements in relation to Personal Information.
- 3.2 The Design-Builder further acknowledges that under the Apprenticeship Policy the Authority may, or may permit the Ministry, to exercise all provisions of the Apprenticeship Policy applicable to the Contracting Authority or the Province (whether through the Ministry or otherwise) provisions that permit the Contracting Authority:

- (a) to delay the start of Work on the Project until the Authority has confirmed, through the Ministry, that Registered Apprentices will be used on the Project; and
 - (b) to delay issue of final payment in relation to the applicable Work until the final Form B is submitted.
- 3.3 The Design-Builder represents that the Design-Builder will ensure that the provisions of this Schedule 7 are incorporated into applicable Subcontracts.
- 3.4 The Design-Builder and the Authority acknowledge that any change to the Apprenticeship Policy will, if required by the Authority to be implemented for purposes of this Agreement, be implemented as a Change under Part E- Changes.

SCHEDULE 8

INDEPENDENT CERTIFIER AGREEMENT

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SCHEDULE 8

INDEPENDENT CERTIFIER AGREEMENT

THIS AGREEMENT is made as of the ▼ day of ▼, 20▼

AMONG:

FRASER HEALTH AUTHORITY

(the “Authority”)

AND:

▼

(the “Design-Builder”)

AND:

▼

(the “Independent Certifier”)

WHEREAS:

- A. the Authority and the Design-Builder have entered into the Design-Build Agreement;
- B. the Authority and the Design-Builder wish to appoint the Independent Certifier, and the Independent Certifier wishes to accept such appointment, to perform certain services in connection with the Design-Build Agreement; and
- C. the Authority, the Design-Builder and the Independent Certifier wish to enter into this Agreement in order to record the terms by which the Independent Certifier will perform such services.

NOW THEREFORE in consideration of the mutual promises and agreements of the Authority, the Design-Builder and the Independent Certifier herein expressed and for other good and valuable consideration the receipt and sufficiency of which are hereby acknowledged, the Authority, the Design-Builder and the Independent Certifier covenant and agree as follows:

1. DEFINITIONS

1.1 Definitions

In this Agreement including the recitals and Schedules, unless the context indicates a contrary intention, terms which are defined in the Design-Build Agreement (and not otherwise defined in this Agreement) will have meanings given to them in the Design-Build Agreement and the following terms will have the following meanings:

“**Agreement**” means this Independent Certifier Agreement and its schedules;

“**Change in Control**” means with respect to a relevant person:

- (a) any direct or indirect change by contract or otherwise (other than as set out in (b)) which results in a person or group of persons having the ability to direct or cause the direction of the management, actions or policies of the relevant person; or
- (b) any direct or indirect change in the ownership or control of any legal, beneficial or equitable interest in any or all of the shares, units or equity in the relevant person (including the control over the exercise of voting rights conferred on equity share capital, unit interests or equity interests or the control over the right to appoint or remove directors, a general partner or other managers), including changes arising from assignment or transfer of existing shares, units or equity, issuance of new shares, units or equity or amalgamation, merger consolidation, amendment of a limited partnership certificate or other reorganization, or any other direct or indirect change which results in a person or group of persons, other than the equity holders of the relevant person immediately prior to the change, directly or indirectly:
 - (1) controlling the composition of the majority of the board of directors of the relevant person or of a general partner or manager of the relevant person;
 - (2) controlling the decisions made by or on behalf of the relevant person, including by controlling the voting power of the board of directors or by controlling the voting power of any class of shareholders or equity holders of any of the relevant person, a general partner of the relevant person or a manager of the relevant person or otherwise;
 - (3) holding equity (either beneficially or otherwise) of the relevant person with a subscribed value (taking into account contributions to be made in the case of a limited partnership) of more than one half of the subscribed value (taking into account contributions to be made in the case of a limited partnership) or equity (either beneficially or otherwise) of the relevant person with more than one half of the voting rights; or
 - (4) having the ability to direct or cause the direction of the management, actions or policies of the relevant person;

“**DBA Parties**” means, collectively, the Authority and the Design-Builder;

“**Design-Build Agreement**” means that certain agreement entitled “Design-Build Agreement” and made between the Authority and the Design-Builder as of the _____ day of _____, 2019 with respect to the design and construction of the Facility; and

“**Fee**” means the fees payable by the DBA Parties to the Independent Certifier for the Functions, as such fees are specified and made payable in Schedule 2 [Fee];

“**Functions**” means:

- (a) all of the functions and obligations conferred on the Independent Certifier under the Design-Build Agreement;
- (b) all of the functions and obligations conferred on the Independent Certifier under this Agreement, including the functions described in Schedule 1 [Functions]; and
- (c) all other things or tasks which the Independent Certifier is required to do to comply with its obligations under this Agreement;

“**Functions Variation**” means any change to the Functions;

“**Intellectual Property**” means any and all intellectual property rights throughout the world, whether subsisting now or in the future, including rights of any kind in inventions, patents, copyright, trademarks, service marks, industrial designs, integrated circuit topography rights, applications for registration of any of the foregoing, and know-how, trade secrets, confidential information and trade or business names;

“**Project Material**” means all material:

- (a) provided to the Independent Certifier or created by or required to be created by any DBA Party; and
- (b) provided by or created by or required to be created by the Independent Certifier as part of, or for the purpose of, performing the Functions,

including documents, equipment, reports, technical information, plans, charts, drawings, calculations, tables, schedules and data (stored and recorded by any means).

2. INTERPRETATION

2.1 Interpretation

The division of this Agreement into Sections, the insertion of headings and the provision of a table of contents are for convenience only, do not form a part of this Agreement and will not be used to affect the construction or interpretation of this Agreement. The word “including” will not be construed as limiting the general term or statement immediately preceding. Unless otherwise specified:

- (a) each reference in this Agreement to “**Section**” and “**Schedule**” is to a Section of, and a Schedule to, this Agreement;
- (b) each reference to a statute is deemed to be a reference to that statute and any successor statute, and to the regulations made under that statute and any successor statute, as amended or re-enacted from time to time;
- (c) words importing the singular include the plural and vice versa and words importing gender include all genders;
- (d) references to time of day or date mean the local time or date in Vancouver, British Columbia;
- (e) all references to amounts of money mean lawful currency of Canada; and
- (f) an accounting term has the meaning assigned to it, and all accounting matters will be determined, in accordance with GAAP consistently applied.

2.2 Obligations and Exercise of Rights by the DBA Parties

The obligations of the DBA Parties under this Agreement will be several. Except as specifically provided for in this Agreement, the rights of the DBA Parties under this Agreement will be jointly exercised by each of the DBA Parties.

3. ROLE OF THE INDEPENDENT CERTIFIER

3.1 Engagement

The DBA Parties hereby appoint the Independent Certifier, and the Independent Certifier hereby accepts such appointment, to carry out the Functions in accordance with this Agreement. The Independent Certifier will perform the Functions in accordance with this Agreement.

3.2 Acknowledgement by Independent Certifier

The Independent Certifier hereby acknowledges in favour of the DBA Parties that it has received a copy of the Design-Build Agreement.

3.3 Standard of Care

The Independent Certifier will exercise the standard and skill, care and diligence in the performance of the Functions that would be expected of an expert professional experienced in providing services in the nature of the Functions for projects similar to the Project.

3.4 Duty of Independent Judgment

In exercising the Functions, the Independent Certifier will act:

- (a) impartially, honestly and independently;
- (b) reasonably and professionally; and
- (c) in a timely manner:
 - (1) in accordance with the times prescribed in this Agreement or the Design-Build Agreement, as applicable; or
 - (2) where no times are prescribed, within five Business Days or such earlier time so as to enable the DBA Parties to perform their respective obligations under the Design-Build Agreement.

Although the Independent Certifier should take account of any opinions or representations made by the DBA Parties, the Independent Certifier will not be bound to comply with any opinions or representations made by either of them in connection with any matter on which the Independent Certifier is required to exercise its professional judgment.

3.5 Authority to Act

The Independent Certifier:

- (a) is an independent consultant and is not, and will not purport to be, a partner, joint venturer or agent of any DBA Party;
- (b) other than as may be expressly set out in the Design-Build Agreement, has no authority to give any directions to a DBA Party or its officers, employees, contractors, consultants or agents; and
- (c) has no authority to waive or alter any terms of the Design-Build Agreement, nor to discharge or release a DBA Party from any of its obligations under the Design-Build Agreement unless jointly agreed in writing by the DBA Parties.

3.6 Knowledge of the DBA Parties' Requirements

The Independent Certifier warrants that:

- (a) it has and will be deemed to have informed itself fully of the requirements of the Design-Build Agreement;
- (b) it will inform itself fully of the requirements of such other documents and materials as may become relevant from time to time to the performance of the Functions;
- (c) without limiting Sections 3.6(a) or 3.6(b), it has and will be deemed to have informed itself fully of all time limits and other requirements for any Function which the Independent Certifier carries out under the Design-Build Agreement and this Agreement;
- (d) it has and will be deemed to have informed itself fully of the nature of the work necessary for the performance of the Functions and the means of access to and facilities at the Facility and Site including restrictions on any such access or protocols that are required; and
- (e) it has satisfied itself as to the correctness and sufficiency of its proposal for the Functions and that the Fee covers the cost of complying with all of the obligations under this Agreement and of all matters and things necessary for the due and proper performance and completion of the Functions.

3.7 Co-ordination by Independent Certifier

The Independent Certifier will:

- (a) fully co-operate with the DBA Parties;
- (b) carefully co-ordinate the Functions with the work and services performed by the DBA Parties;
- (c) without limiting its obligations under Sections 3.4 and 3.7(b), perform the Functions so as to avoid unreasonably interfering with, disrupting or delaying the work and services performed by the DBA Parties; and
- (d) provide copies to all DBA Parties of all reports, communications, certificates and other documentation that it provides to any DBA Party.

3.8 Conflict of Interest

The Independent Certifier warrants that:

- (a) at the date of signing this Agreement, no conflict of interest exists or is likely to arise in the performance of its obligations under this Agreement; and
- (b) if, during the term of this Agreement, any such conflict or risk of conflict of interest arises, the Independent Certifier will notify the DBA Parties immediately in writing of that conflict or risk of conflict and take such steps as may be required by each of the DBA Parties to avoid or mitigate that conflict or risk.

3.9 Independent Certifier Personnel

- (a) Subject to Section 3.9(b), the Independent Certifier will use the partners, directors or employees described in Schedule 3 [Independent Certifier Personnel] in connection with the performance of the Functions and such individuals' services will be available for so long as may be necessary to ensure the proper performance by the Independent Certifier of the Functions. Such individuals will have full authority to act on behalf of the Independent Certifier for all purposes in connection with this Agreement.
- (b) None of the individuals listed in Schedule 3 [Independent Certifier Personnel] will be removed or replaced unless he/she ceases to work as a partner in or director or employee of the Independent Certifier or he/she is unable to work because of death or illness. The Independent Certifier will notify the DBA Parties of any such circumstances and will be responsible for finding a replacement who will previously have been approved in writing by the DBA Parties.

4. ROLE OF THE DBA PARTIES

4.1 Assistance

The DBA Parties agree to co-operate with and provide reasonable assistance to the Independent Certifier to familiarize the Independent Certifier with all necessary aspects of the Project to enable the Independent Certifier to carry out its obligations under this Agreement.

4.2 Instructions in Writing

All instructions to the Independent Certifier by the DBA Parties will be given in writing.

4.3 Information and Services

The DBA Parties will each make available to the Independent Certifier, as soon as practicable from time to time, all information, documents and particulars necessary for the Independent Certifier to carry out the Functions, including such information, documents and particulars required in order for the Independent Certifier to determine whether the criteria for Substantial Completion have been achieved, and will provide copies of all such information, documents and particulars to the other DBA Party.

4.4 Additional Information

If any information, documents or particulars are reasonably required to enable the Independent Certifier to perform the Functions and have not been provided by the Design-Builder or the Authority, as the case may be, then:

- (a) the Independent Certifier will give notice in writing to the Design-Builder's Representative or the Authority's Representative, as the case may be, of the details of the information, documents or particulars demonstrating the need and the reasons why they are required; and
- (b) the Design-Builder or the Authority, as the case may be, will arrange the provision of the required information, documents or particulars.

4.5 Right to Enter and Inspect

Upon giving reasonable notice to the Design-Builder's Representative, the Independent Certifier (and any person authorized by it) may enter and inspect the Site, Facility and work in progress at any reasonable time in connection with the exercise or proposed exercise of rights under this Agreement, subject to:

- (a) observance of the reasonable rules of the Design-Builder as to safety and security for the Site, Facility and work in progress;
- (b) not causing unreasonable delay to the carrying out of the Work by reason of its presence at the Site or Facility; and
- (c) not causing any damage to the Site, Facility or work in progress.

4.6 DBA Parties Not Relieved

Neither DBA Party will be relieved from performing or observing its obligations, or from any other liabilities, under the Design-Build Agreement as a result of either the appointment of, or any act or omission by, the Independent Certifier.

4.7 DBA Parties not Liable

On no account will a DBA Party be liable to another DBA Party for any act or omission by the Independent Certifier whether under or purportedly under a provision of the Design-Build Agreement, this Agreement or otherwise, provided that any such act or omission will not extinguish, relieve, limit or qualify the nature or extent of any right or remedy of either DBA Party against or any obligation or liability of either DBA Party to the other DBA Party which would have existed regardless of such act or omission.

5. SUSPENSION

5.1 Notice

The Functions (or any part) may be suspended at any time by the DBA Parties:

- (a) if the Independent Certifier fails to comply with its obligations under this Agreement, immediately by the DBA Parties giving joint notice in writing to the Independent Certifier; or
- (b) in any other case, by the DBA Parties giving seven days joint notice in writing to the Independent Certifier.

5.2 Costs of Suspension

The Independent Certifier will:

- (a) subject to the Independent Certifier complying with Section 8, be entitled to recover the extra costs incurred by the Independent Certifier by reason of a suspension directed under Section 5.1(b) valued as a Functions Variation under Section 8; and
- (b) have no entitlement to be paid any costs, expenses, losses or damages arising from a suspension under Section 5.1(a).

5.3 Recommencement

The Independent Certifier will immediately recommence the carrying out of the Functions (or any part) on receipt of a joint written notice from the DBA Parties requiring it to do so.

6. INSURANCE AND LIABILITY

6.1 Independent Certifier's Professional Indemnity Insurance

- (a) The Independent Certifier will, at its cost, have in place:
 - (1) professional errors and omissions insurance:
 - (A) in the amount of _____ per claim and in the aggregate, a deductible of not more than _____ per claim and from an insurer and on terms satisfactory to each of the DBA Parties;
 - (B) with a term and extended reporting period from the date of this Agreement until the expiration of _____ from the cessation of the Functions; and
 - (C) covering liability which the Independent Certifier might incur as a result of a breach by it of its obligations or any breach of a duty owed by the Independent Certifier in a professional capacity to the DBA Parties, or either of them, under or in connection with this Agreement or the provision of the Functions; and
 - (2) at all times during the term of this Agreement, comprehensive general liability insurance in the amount of _____ per claim and in the aggregate, no deductible for personal injury or bodily injury, a deductible of not more than _____ per occurrence for property damage, naming the Authority as an additional insured and from an insurer and on terms satisfactory to each of the DBA Parties.
- (b) The Independent Certifier will:
 - (1) ensure that each of the insurance policies described in Section 6.1(a):
 - (A) bears an endorsement to the effect that the insurer will not effect any adverse material change or amendment to the policy or any cancellation of the policy without first giving at least 30 days prior written notice by registered mail to the Authority; and
 - (B) is obtained and maintained with reputable and qualified insurers, acceptable to the Authority, licensed in British Columbia; and
 - (2) provide copies of each of the insurance policies described in Section 6.1(a) to each of the DBA Parties upon request.

6.2 Workers' Compensation Insurance

The Independent Certifier will, at its own cost and at all times during the term of this Agreement, insure its liability (including its common law liability) as required under any applicable workers compensation statute or regulation in relation to its employees engaged in the Functions.

7. PAYMENT FOR SERVICES

7.1 Fee

- (a) In consideration of the Independent Certifier performing the Functions in accordance with this Agreement, the DBA Parties will pay the Independent Certifier the Fee.
- (b) The Fee includes all taxes (except for GST), disbursements and expenses (including accommodation, car rental, equipment and travel expenses), overheads and profit to perform the Functions.

7.2 Payment of Fee

- (a) Subject to Section 7.2(c), the DBA Parties will each pay half the Fee to the Independent Certifier in accordance with the payment schedule specified in Schedule 2 [Fee]. The Independent Certifier will invoice each of the DBA Parties separately. The obligation on the Design-Builder and the Authority to each pay its portion of the Fee to the Independent Certifier is not subject to joint and several liability and neither the Authority nor the Design-Builder will have any liability whatsoever for the non-payment by the other of any fees or costs payable by such other party under this Agreement.
- (b) The Design-Builder acknowledges and agrees that if any amount due and payable by the Design-Builder to the Independent Certifier is outstanding, the Independent Certifier will not have any obligation to the Design-Builder to make any certification under the Design-Build Agreement.
- (c) The Design-Builder will bear the full cost of the Fee related to certification of Work, including equipment and materials, that is located off-Site where such off-Site Work is not identified in the Design and Construction Schedule and agreed and included in the Fee.

8. FUNCTIONS VARIATIONS

8.1 Notice of Functions Variation

- (a) If the Independent Certifier believes, other than a “Functions Variation Order” under Section 8.3, that any direction by the DBA Parties constitutes or involves a Functions Variation it will:
 - (1) within 7 days after receiving the direction and before commencing work on the subject matter of the direction, give notice to the DBA Parties that it considers that the direction constitutes or involves a Functions Variation; and
 - (2) within 21 days after giving the notice under Section 8.1(a)(1) above, submit a written claim to each of the Authority’s Representative and the Design-Builder’s Representative which includes detailed particulars of the claim, the amount of the claim and how it was calculated.
- (b) Regardless of whether the Independent Certifier considers that such a direction constitutes or involves a Functions Variation, the Independent Certifier will continue to perform the Functions in accordance with this Agreement and all directions, including any direction in respect of which notice has been given under this Section.

8.2 No Adjustment

If the Independent Certifier fails to comply with Section 8.1, the Fee will not be adjusted as a result of the relevant direction.

8.3 Functions Variation Procedure

- (a) The Authority's Representative and the Design-Builder's Representative may jointly issue a document titled "Functions Variation Price Request" to the Independent Certifier which will set out details of a proposed Functions Variation which the DBA Parties are considering.
- (b) Within 7 days after the receipt of a "Functions Variation Price Request", the Independent Certifier will provide each of the Authority's Representative and the Design-Builder's Representative with a written notice in which the Independent Certifier sets out the effect which the proposed Functions Variation will have on the Fee.
- (c) Each of the Authority's Representative and the Design-Builder's Representative may then jointly direct the Independent Certifier to carry out a Functions Variation by written document titled "Functions Variation Order" which will state either that:
 - (1) the Fee is adjusted as set out in the Independent Certifier's notice; or
 - (2) the adjustment (if any) to the Fee will be determined under Section 8.4.

8.4 Cost of Functions Variation

- (a) Subject to Section 8.2, the Fee will be adjusted for all Functions Variations or suspensions under Section 5.1(b) carried out by the Independent Certifier by:
 - (1) the amount (if any) stated in the "Functions Variation Order" in accordance with Section 8.3(c);
 - (2) if Section 8.4(a)(1) is not applicable, an amount determined pursuant to the fee schedule for Functions Variations in Schedule 2 [Fee]; or
 - (3) where such rates or prices are not applicable, a reasonable amount to be agreed between the DBA Parties and the Independent Certifier or, failing agreement, determined by the Authority's Representative and the Design-Builder's Representative jointly, acting reasonably.
- (b) Any reductions in the Fee will be calculated on the same basis as any increases.

9. TERM AND TERMINATION

9.1 Term

Subject to earlier termination, this Agreement will commence on the Effective Date and continue in full force until:

- (a) 60 days after the Total Completion Date; or
- (b) such later date as may be mutually agreed between the DBA Parties and the Independent Certifier.

9.2 Notice of Breach

If the Independent Certifier commits a breach of this Agreement, the DBA Parties may give written notice to the Independent Certifier:

- (a) specifying the breach; and
- (b) directing its rectification in the period specified in the notice being a period not less than 7 days from the date of service of the notice.

9.3 Termination for Breach

If the Independent Certifier fails to rectify the breach within the period specified in the notice issued under Section 9.2, the DBA Parties may, without prejudice to any other rights of the DBA Parties or either of them, immediately terminate this Agreement.

9.4 Termination for Financial Difficulty

The DBA Parties may, without prejudice to any other rights which the DBA Parties or either of them may have, terminate this Agreement immediately if:

- (a) events have occurred or circumstances exist which, in the opinion of the DBA Parties, may result in or have resulted in insolvency or the control of the Independent Certifier passing to another body or corporation; or
- (b) the Independent Certifier has communications with its creditors with a view to entering into, or enters into, any form of compromise, arrangement or moratorium of any debts whether formal or informal, with its creditors.

9.5 Termination for Convenience

Notwithstanding anything to the contrary in this Agreement, the DBA Parties may at any time terminate this Agreement upon 30 days written notice to the Independent Certifier.

9.6 Independent Certifier's Rights upon Termination for Convenience

Upon a termination under Section 9.5, the Independent Certifier will:

- (a) be entitled to be reimbursed by the DBA Parties for the value of the Functions performed by it to the date of termination; and
- (b) not be entitled to any damages or other compensation in respect of the termination and (without limitation) any amount in respect of:
 - (1) the lost opportunity to earn a profit in respect of the Functions not performed at the date of termination; and
 - (2) any lost opportunity to recover overheads from the turnover which would have been generated under this Agreement but for it being terminated.

9.7 Procedure upon Termination

Upon completion of the Independent Certifier's engagement under this Agreement or earlier termination of this Agreement (whether under Sections 9.3, 9.4 or 9.5 or otherwise) the Independent Certifier will:

- (a) co-operate with the DBA Parties;
- (b) hand to the DBA Parties all Project Material and all other information concerning the Project held or prepared by the Independent Certifier; and
- (c) as and when required by the DBA Parties, meet with them and such other Persons nominated by them with a view to providing them with sufficient information to enable the DBA Parties to execute the Project or the Persons nominated to provide the Functions.

9.8 Effect of Termination

Except as otherwise expressly provided in this Agreement, termination of this Agreement will be without prejudice to any accrued rights and obligations under this Agreement as at the date of termination (including the right of the Design-Builder and the Authority to recover damages from the Independent Certifier).

9.9 Survival

Termination of this Agreement will not affect the continuing rights and obligations of the Design-Builder or the Authority and the Independent Certifier under Sections 6, 7, 9.6, 9.7, 9.8, 10, 11.7, 11.8 and this Section 9.9 or under any other Section which is expressed to survive termination or which is required to give effect to such termination or the consequences of such termination.

10. INDEMNITY

10.1 Indemnity

The Independent Certifier will indemnify and save harmless the DBA Parties, and each of them, and their respective employees, agents, officers and directors from and against any and all losses incurred or suffered by any of them by reason of, resulting from, in connection with, or arising out of:

- (a) the breach of any representation, warranty, covenant, term, duty or obligation of the Independent Certifier set out in or arising under this Agreement or the Design-Build Agreement; or
- (b) any act or omission of the Independent Certifier in connection with the subject matters of this Agreement.

11. GENERAL

11.1 Entire Agreement

This Agreement and the Design-Build Agreement constitute the entire agreement between the DBA Parties and the Independent Certifier and supersede all communications, arrangements and agreements, either oral, written, made or entered into prior to the date of this Agreement between the DBA Parties and the Independent Certifier with respect to the subject matter of this Agreement.

11.2 Negation of Employment

- (a) The Independent Certifier, its officers, employees, servants and agents and any other individuals engaged by the Independent Certifier in the performance of the Functions will not by virtue of this Agreement or the performance of the Functions become in the service or employment of the DBA Parties for any purpose.

- (b) The Independent Certifier will be responsible for all matters requisite as employer or otherwise in relation to such officers, employees, servants and agents and other individuals who are engaged by the Independent Certifier.

11.3 Waiver

Failure by any DBA Party or the Independent Certifier to enforce a provision of this Agreement will not be construed as a waiver by that DBA Party or the Independent Certifier of any right in respect of that provision, or any other provisions of this Agreement.

11.4 Notices

Any document which is to be or may be issued or given to or served upon the Design-Builder, the Authority or the Independent Certifier under this Agreement will be deemed to have been sufficiently issued or given to or served if:

- (a) it is delivered or sent by commercial courier, upon receipt;
- (b) it is sent by fax, upon confirmation of a successful transmission by a transmission report received by the sender,

to the addresses set out below:

- | | | | | |
|-----|------------------------------|--------------------------|------|---|
| (1) | if to the Authority: | ▼
Fax
Attention: ▼ | No.: | ▼ |
| (2) | if to the Design-Builder: | ▼
Fax
Attention: ▼ | No.: | ▼ |
| (3) | if to Independent Certifier: | ▼
Fax
Attention: ▼ | No.: | ▼ |

- (c) Any party may change its address for notice by notice given to the other parties in accordance with this Section.

11.5 Transfer and Assignment

- (a) The Independent Certifier:
 - (1) will not assign, transfer, mortgage, charge or encumber any right or obligation under this Agreement without the prior written consent of the DBA Parties, which each DBA Party may give or withhold in its absolute discretion; and
 - (2) agrees that any assignment, transfer, mortgage, charge or encumbrance will not operate to release or discharge the Independent Certifier from any obligation or liability under this Agreement.
- (b) For the purposes of this Section, an assignment will be deemed to have occurred where there is a Change In Control of the Independent Certifier after the date of this Agreement.

- (c) Each of the DBA Parties may assign, transfer, mortgage, charge or encumber any right or obligation under this Agreement in accordance with the terms of the Design-Build Agreement.

11.6 Governing Laws and Attornment

This Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the federal laws of Canada applicable therein without regard to conflicts of law principles that would apply a different body of law, and the Authority, the Design-Builder and the Independent Certifier hereby irrevocably submit and attorn to the exclusive jurisdiction of the courts of that Province and all courts competent to hear appeals therefrom with respect to any action, suit, proceeding or dispute in connection with this Agreement.

11.7 Confidentiality

- (a) The Independent Certifier will ensure that:
 - (1) neither it nor any of its officers, employees, servants and agents disclose, or otherwise make public, any Project Material or any other information or material acquired in connection with or during the performance of the Functions without prior written approval of the DBA Parties; and
 - (2) no Project Material is used, copied, supplied or reproduced for any purpose other than for the performance of the Functions under this Agreement.
- (b) The DBA Parties may at any time require the Independent Certifier to give and to arrange for its officers, employees, servants and agents engaged in the performance of the Functions to give written undertakings, in the form of confidentiality agreements on terms required by the DBA Parties, relating to the non-disclosure of confidential information, in which case the Independent Certifier will promptly arrange for such agreements to be executed and delivered.

11.8 Project Material

- (a) The DBA Parties and the Independent Certifier agree that the Independent Certifier does not and will not have any rights, including any Intellectual Property, in any Project Material provided to the Independent Certifier or created or required to be created by any DBA Party.
- (b) All title and ownership, including all Intellectual Property, in and to the Project Material created or required to be created by the Independent Certifier as part of, or for the purposes of performing the Functions, is hereby assigned jointly to the Authority and the Design-Builder on creation, or where such title, ownership and Intellectual Property cannot be assigned before creation of the Project Material, it will be assigned to the Authority and the Design-Builder on creation. In addition, to the extent that copyright may subsist in such Project Material so created by the Independent Certifier, the Independent Certifier hereby waives all past, present and future moral rights therein and the Independent Certifier will ensure that any agent or employee of Independent Certifier will have waived all such moral rights.
- (c) The Independent Certifier will do all such things and execute all such documents as reasonably requested by either of the DBA Parties in order to confirm or perfect the assignment of Intellectual Property in the Project Material referred to in Section 11.8(b).

11.9 Time of the Essence

Time will be of the essence of this Agreement and of the transactions contemplated by this Agreement.

11.10 Amendment

No change or modification of this Agreement will be valid unless it is in writing and signed by each party to this Agreement.

11.11 Severability

If any provision of this Agreement will be declared invalid, unenforceable or illegal by the courts of any jurisdiction to which it is subject, such provision may be severed and such invalidity, unenforceability or illegality will not prejudice or affect the validity, enforceability or legality of the remaining provisions of this Agreement.

11.12 Enurement

Subject to the restrictions on transfer contained in this Agreement, this Agreement will enure to the benefit of and be binding on the parties and their respective heirs, executors, administrators, successors and assigns.

11.13 Counterparts

This Agreement may be executed in any number of counterparts and all counterparts taken together will constitute one and the same instrument.

[signature pages follow]

IN WITNESS WHEREOF the Authority, the Design-Builder and the Independent Certifier have executed this Agreement.

FRASER HEALTH AUTHORITY

Per: _____
Name:
Title:

[THE DESIGN-BUILDER],

Per: _____
Name:
Title:

Per: _____
Name:
Title:

[INDEPENDENT CERTIFIER],

Per: _____
Name:
Title:

Per: _____
Name:
Title:

SCHEDULE 1

FUNCTIONS

The Independent Certifier will, subject to the provisions of the Design-Build Agreement, provide the services as set out below. In the event of a conflict between any provision of this Agreement, including this Schedule 1, and a provision of the Design-Build Agreement, the Design-Build Agreement will prevail.

(a) The Independent Certifier will:

- (i) consult with the Authority, the Design-Builder and others involved in the Design;
- (ii) conduct monthly inspections of the Work; and
- (iii) raise any quality concerns and investigate those identified by the Design-Builder and/or the Authority,

as the Independent Certifier determines is required for purposes of the Independent Certifier's functions under this Agreement and, no later than the 10th day of each month, prepare and deliver to the Authority and the Design-Builder a monthly written report containing a description of:

- (iv) the Work completed in the previous month; and
- (v) the progress of the Work relative to the Design and Construction Schedule, with an overview analysis of variances and investigations of quality concerns.

(b) The Independent Certifier will:

- (i) determine amounts owing to the Design-Builder based on the Independent Certifier's observations and evaluations of the Design-Builder's applications for payment;
- (ii) issue certificates of payment;
- (iii) determine the dates of Substantial Completion and Total Completion and the issuing of certificates for same;
- (iv) for purposes of the Builders Lien Act (British Columbia), determining the date of substantial performance and acting as payment certifier for this Agreement and for progressive release of portions of the Lien Holdbacks in respect of Subcontracts;
- (v) determine the holdback for any defects or deficiencies in the Work at Substantial Completion;
- (vi) verify the Design-Builder's applications for release of the Performance Holdbacks;
- (vii) assess the scope of any holdbacks to be made at any time; and
- (viii) perform such other functions as are set out in the Design-Build Agreement.

(c) For greater certainty, the Independent Certifier will adjust the amount of any payment to the Design-Builder to reflect the Independent Certifier's estimate of Work satisfactorily performed as of the date of the application for payment, and will not certify for payment of any Work not carried out in compliance with the Reviewed Drawings and Specifications.

SCHEDULE 2

FEE

SCHEDULE 3
INDEPENDENT CERTIFIER PERSONNEL

SCHEDULE 9

KEY INDIVIDUALS

Individual's Name	Company Name	Position	Duties
	EllisDon Design Build Inc.	Design-Build Director	Represents the Design-Builder and has overall responsibility to design and build the Project
	EllisDon Design Build Inc.	Design-Build Design Manager	Oversees the design-build design team
	Parkin Architects Western Limited	Lead Architect	Responsible for leading the design of the Project
	EllisDon Design Build Inc.	Design-Build Construction Manager	Responsible for leading the construction of the Project and conducting constructability review throughout the Project's design development process
	Crossey Engineering Ltd.	Electrical Design Engineer Lead	Responsible for leading the electrical design of the Project
	Crossey Engineering Ltd.	Mechanical Design Engineer Lead	Responsible for leading the mechanical design of the Project
	Aspyr Consulting	Communication (IT) Lead	Responsible for the deployment of Information Technology (IT) and communications infrastructure through design, construction, equipment fit out and commissioning and integration with other systems
	EllisDon Furniture, Equipment & Design	Equipment Lead	Responsible for leading the equipment aspect of the Project

Melnychuk Health Care Consulting	Clinical Lead	Responsible for leading the clinical planning and has active in-person participation during the procurement, design and construction phases of the Project
Colorado Aces Consulting	Interventional Advisor	Responsible for providing advice on the interventional platform during the procurement and design phases of the Project, and during construction phase of the Project on an as needed basis
ClarkRN, Inc.	Interventional Advisor	Responsible for providing advice on the interventional platform during the procurement and design phases of the Project, and during construction phase of the Project on an as needed basis
EllisDon Design Build Inc.	Quality Manager	Responsible for the overall quality of the design and construction of the Project
Jones Lang Lasalle Real Estate Services Inc.	Design-Build Commissioning Lead	Responsible for the commissioning of the Project
EllisDon Facilities Services Inc.	Facility Maintenance Advisor	Responsible for providing long-term perspective of the Project during design, including facility maintenance and life cycle of the Project, and transition from construction into operation

SCHEDULE 10

SCHEDULE OF PRICES

The Contract Price represents the entire compensation to the Design-Builder by the Authority for any and all costs related to the Work, including but not limited to all fees, cash allowances, contingencies and all duties and taxes, excluding GST payable by the Authority to the Design-Builder.

The attached Appendix 2 is a breakdown of the Contract Price solely for the purpose of assisting the parties to develop the Schedule of Values, and will not be used or relied upon by the Design-Builder for any purpose.

DBA Schedule 10 Attachment

Contract Pricing Schedule	
Total Amount Paid Under DEWA	
Period Ending	Expected Monthly Construction Period Payments
December-20	\$
January-21	\$
February-21	\$
March-21	\$
April-21	\$
May-21	\$
June-21	\$
July-21	\$
August-21	\$
September-21	\$
October-21	\$
November-21	\$
December-21	\$
January-22	\$
February-22	\$
March-22	\$
April-22	\$
May-22	\$
June-22	\$
July-22	\$
August-22	\$
September-22	\$
October-22	\$
November-22	\$
December-22	\$
January-23	\$
February-23	\$
March-23	\$
April-23	\$
May-23	\$
June-23	\$
July-23	\$
August-23	\$
September-23	\$
October-23	\$
November-23	\$
December-23	\$
January-24	\$
February-24	\$

DBA Schedule 10 Attachment

March-24	\$	
April-24	\$	
May-24	\$	
June-24	\$	
July-24	\$	
August-24	\$	
September-24	\$	
October-24	\$	
November-24	\$	
December-24	\$	
January-25	\$	
February-25	\$	
March-25	\$	
April-25	\$	
Total Phase 2 Contract Price	\$	807,068,866

APPENDIX 1 Authority Use Data Drop- Definitions and Unit Pricing

DEFINITIONS

“Authority use data drops” are defined as the mutually agreed 14,686 CAT6A structured cabling data drops included by the Design-Builder for the following Schedule 1 requirements for the RCH Phase 2 Acute Care Tower:

- Category 1,2,2F,3,4,5,6 Clinical Equipment as defined in appendix 1G- Clinical Equipment
- Category 7 & 8 IMIT Equipment as defined in Appendix 1F – Equipment List IM/IT
- 4.4.9.4(6) Automated Parking Payment System
- 7.10.13 IM/IT Wi-Fi Network
- 7.10.13.2 Category 6A Cabling Grid
- 7.10.14 IM/IT Voice Network
- 7.10.17 Multimedia Infrastructure and Systems “Authority use data drops” supporting:
 - Ultra HD digital display monitors
 - Video Conference Codecs
 - Crestron touch screen control panels
 - 7.10.17.19 Digital Signage
- 7.10.18 Patient Physiological Monitoring. If a COAX based Telemetry system is chosen by the Authority, these COAX cables will be included as “Authority use data drops”. Whereby,
 - $\text{Number of Data Drops} = \text{Total Coax installed (m)} / \text{Avg. Data Drop length (45m)}$
- CAT6A Horizontal component of 7.10.23.5 CATV Outlet
- 7.10.24 Locating Services
- Spare or unused data drops related to the above “Authority use data drops” as defined in 7.10.11.2(13)(c) Ensure there is one unused Data Drop for each TO installed in the Facility with the exception of those TOs associated with wall mounted telephones, intercom door stations, Multimedia Room control panels, CCTV cameras and access points.

“Design-Builder Use Data Drops”, these are defined as the CAT6A structured cabling data drops for the Schedule 1 requirements below. The Design-Builder is responsible for the quantity required.

- 4.2.6 Support Building
- 4.4.9.4(16) EV Charging Stations
- 4.4.9.5 Real-Time Parking Count System
- 6.14.2 Elevator- Products (Elevator Phone and Control)
- 6.14.6 Pneumatic Tube System
- 7.4.7 Medical Gas Systems
- 7.8.2 BMS Network and Wiring
- 7.9.14 Metering
- 7.9.21 Lighting Control System
- 7.9.3 Emergency Power Supply
- 7.9.5 Integrated Controls for High Voltage Equipment in the Energy Centre
- 7.9.7 Distribution Equipment – 600 Volts and below
- 7.9.8 Uninterruptible Power Supply (UPS) Systems
- 7.9.14 Metering
- 7.9.21 Lighting Control System
- 7.9.22 Clock System
- 7.10.19 Public Address
- 7.10.20 Intercommunication System
- 7.10.21 Nurse Call Systems
- 7.11.2 Fire Alarm System
- 7.11.4 Access Control
- 7.11.5 Panic Duress System
- 7.11.7 IP Video Surveillance System
- 7.11.8 Infant Protection System

- 7.11.9 Patient Wandering System
- Data Drops required for the build out of the Energy Center, CCH, MHSCWC

Royal Columbian Hospital- Phase 2 Acute Care Tower

AUTHORITY USE DATA DROPS UNIT PRICING

Design Construction Timeline						
CAT6A DATA DROP	BEFORE CD 100	AFTER CD 100, BEFORE "PULL CAT6A AND LOW VOLTAGE CABLE" HAS BEGUN IN THE CONSTRUCTION ZONE	AFTER "PULL CAT6A AND LOW VOLTAGE CABLE" HAS BEGUN, BEFORE "INSTALL BOARD" IN THE CONSTRUCTION ZONE	AFTER "INSTALL BOARD"	WHEN USE OF ENVIROMENTAL CONTAINMENT UNIT IS REQUIRED FOR INFECTION CONTROL BY THE ICP	AFTER STRUCTURED CABLING CREW DEMOLIBLIZE FROM THE JOB
DELETE						
ADD						

Design Construction Timeline						
1" CONDUIT AND BOX FOR T.O	BEFORE CD 100	AFTER CD 100, BEFORE "MID LEVEL ELECTICAL ROUGH-IN" HAS BEGUN IN THE CONSTRUCTION ZONE	AFTER "PULL CAT6A AND LOW VOLTAGE CABLE" HAS BEGUN IN THE CONSTRUCTION ZONE, BEFORE "INSTALL BOARD"	AFTER "INSTALL BOARD"	WHEN USE OF ENVIROMENTAL CONTAINMENT UNIT IS REQUIRED FOR INFECTION CONTROL BY THE ICP	AFTER ELECTRICAL CREW DEMOLIBLIZE FROM THE JOB
ADD						

* Based on work completed before structured cabling crew is demobilized from area

** Does not include DB expenditures, overhead and profit

" " Terms in quotations refer to scheduled tasks in the Project Master Schedule

Clarifications Regarding Authority Data Drop Add / Delete Pricing

1. Add pricing will apply to all “Authority use data drops” requested after the Design-Builder’s CD 100 Design Submittal has obtained Reviewed status as per the DBA.
2. Delete pricing will apply to all deleted or unused “Authority use data drops” from the total of 14,686.
3. The Design-Builder will provide a final detailed reconciliation of all data drops to the Authority after the CD 100 Design Submittal has obtained Reviewed Status. This reconciliation does not negate the responsibility of the Design to provide an inventory of data drops as prescribed in clause 1.6.4.3 of the Fraserhealth Design Stages Submittals Expectations.
4. Upon review of the CD 100 data drop reconciliation:
 - a. if the reconciled quantity is above the included 14,686 “Authority use data drops”, the Authority will amend the contract price to reflect a higher data drop cost based on the unit prices provided in this document.
 - b. if the reconciled quantity is below the included 14,686 “Authority use data drops”, the Authority will amend the contract price to reflect a lower data drop cost based on the unit prices provided in this document
5. In the event that any CD 100 design packages are advanced or delayed, the Design-Builder and Authority will, acting reasonably, agree to a revised date for CD 100 reconciliation.
6. Any adds or deletes requested by the Authority after CD 100 reconciliation, will be
 - a. Requested in writing by the Authority
 - b. Recorded by the Design-Builder
 - c. Reviewed monthly between the Design-Builder and the Authority to ensure agreement
7. At minimum, additional reconciliations of data drops will occur, 90 days prior to targeted Substantial Completion and a final reconciliation will occur 30 days before Total Completion.

8. Upon review of each data drop reconciliations after CD 100:
 - a. if the reconciled quantity is an increase to the previous reconciliation of “Authority use data drops”, and is in excess of 14,686, the Authority will amend the contract price based on the unit prices provided in this document, or
 - b. if the reconciled quantity is less than the previous reconciliation of “Authority use data drops” or is less than 14,686, the Authority will amend the contract price based on the unit prices provided in this document.
9. Unit pricing contained in this document is valid until 90 days following Substantial Completion of Phase 2 Acute Care Tower.
10. Unit Pricing is for CAT6A 80 meters and less.
11. Unit pricing provided is per data drop unit. No quantity discounts or surcharges will be applied to these unit prices.
12. Unit pricing reflects the Schedule 1 and PHSA requirements and to be of the same materials provided throughout the Project.
13. The determination of the correct unit price to use for additional data drops will be based on the current master construction schedule 15 days prior to the request for additional drops. The intent is to ensure the Authority is aware of deadlines that trigger the next level of unit pricing. The Design-Builder will include schedule and upcoming deadlines as an agenda item in collaborative coordination meetings to ensure clarity.
14. Unit pricing is only for the installation, testing and labelling of a data drop and any associated conduit installation scopes of work. Unit pricing does not include cutting, patching, painting, infection control other than use of a portable Environmental Containment Unit (ECU).
15. The Design-Builder is to include for installation, testing and labeling a combined total of 26 “Authority use data drops” to be added after field verification of signal coverage for Authority designed wireless systems. These data drops will not be subject to unit pricing unless in excess of the included 14,686 or previous reconciled quantity.

16. Unit Pricing is inclusive of all forms of expenditure incurred by Houle in the performance of the work including overhead and profit for the subcontractor Houle Electric Ltd.

SCHEDULE 11

DESIGN AND CONSTRUCTION SCHEDULE

1. GENERAL

1.1 Section References

1.1.1 Unless otherwise provided, references to Section numbers are references to Sections in this Schedule.

1.2 Definitions and Interpretation

In this Schedule, in addition to the definitions set out in Section 1 of this Agreement:

"**DBA**" means the main body of this Agreement;

"**Monthly Design and Construction Schedule Update**" has the meaning set out in Section 2.1.6;

"**Schedule Information**" means the Design and Construction Schedule, Schedule Status Reports and other schedule related information owed by the Design-Builder under the Agreement;

"**Schedule Status Reports**" means all schedule related reports developed by the Design-Builder including but not limited to the Monthly Design and Construction Schedule Status Report and the 2-Week Look-ahead Status Report; and

"**Updated Design and Construction Schedule**" means the latest Design and Construction Schedule that incorporates all revisions that have been accepted by the Authority and designated as 'Reviewed' through the Review Procedure

2. DESIGN AND CONSTRUCTION SCHEDULE

2.1 Design and Construction Schedule

2.1.1 The initial Design and Construction Schedule is attached as Appendix 1, and if necessary will be amended or supplemented by the Design-Builder as required in accordance with this Agreement, including Schedule 2 [Review Procedure].

2.1.2 The Design and Construction Schedule is the project master schedule and will include all other schedules required by the DBA.

2.1.3 The Design and Construction Schedule, as attached in Appendix 1 will become the Design and Construction Schedule - Baseline 1.0 for all future schedules and will not be modified or amended without acceptance by the Authority under the Review Procedure. Where any such modification or amendment is accepted by the Authority, this will result in an Updated Design and Construction Schedule. The Design and Construction Schedule - Baseline 1.0 will be shown on all Updated Design and Construction Schedules for the duration of the Project.

2.1.4 The Design-Builder will prepare all Schedule Information as specified herein. The Work under the Agreement will be planned, scheduled, executed, and reported by the Design-Builder. The Design-Builder will show the proposed sequence to perform the work and dates contemplated for starting and completing all schedule activities in the Design and Construction Schedule. Design-Builder personnel must actively participate in the development of all Schedule Information. Any and all Subcontractors, including the Design-Builder's Consultant, must also contribute to the development and maintenance of accurate Schedule Information. The Design-Builder will prepare Schedule Information that is a forward planning as well as a monitoring tool.

2.1.5 The Design and Construction Schedule will indicate the sequence and dates on which the activities that make up the Project, the critical path of activities, project milestones, submittal schedules and all necessary tasks required to complete the project are scheduled to be completed. The Design and Construction Schedule will also include, as applicable, all work to be performed by the Authority and/or other involved parties and these activities are fully coordinated with Design-Builder's Work.

2.1.6 As a part of each Monthly Project Report the Design-Builder will submit an update to the Design and Construction Schedule (the "Monthly Design and Construction Schedule Update") providing monthly updates to the as-built status of the Project as of the data date and the Design-Builder's current plan to complete the remaining work as of the Monthly Project Report date.

2.1.7 The Monthly Project Report will also describe the current status of the Work, any deviations from scheduled performance, and any changes in the Design-Builder's work plan as of the data date.

2.1.8 On a monthly basis (every 4 weeks) the Design-Builder will submit a 4-Week Look-ahead Schedule to provide a more detailed day-to-day plan of upcoming work identified on the Monthly Design and Construction Schedule Update. The first submission will follow the Authority's approval of the Design and Construction Schedule – Baseline 1.0.

2.1.9 The parties acknowledge that the initial Design and Construction Schedule attached as Appendix 1 will be updated in accordance with this Agreement, including Schedule 2. The Authority has identified the following key areas for further discussion after reviewing the Design and Construction Schedule attached as Appendix 1:

- (a) timing of the fully constructed mock-ups to coordinate with the major equipment selection and orders; and
- (b) timing of specification reviews to coordinate with Design Development reviews and other Project timelines.

2.2 Key Milestones

2.2.1 Key milestones in the Design and Construction Schedule will, at a minimum, reflect the following:

- (a) Submission of the development permit application, which will occur no later than 30 days following notification of being named the Design-Builder;

- (b) Commencement of mobilization on the Site, which will start no earlier than written notice from the Authority following Effective Date of the DBA;
- (c) Dates for clinical equipment staging (equipment garage) ready and functional six (6) months prior to Substantial Completion;
- (d) Dates for access to the building to deploy and install OSOI equipment four (4) months prior to Substantial Completion;
- (e) Total Completion that is 60 days from Substantial Completion;
- (f) Design milestones aligned with the review dates and Submissions Schedule in Schedule 2 [Review Procedure], including Mock-ups; and with Schedule 4 [Management Systems and Plans];
- (g) Construction milestones including (at a minimum):
 - (i) Mobilization to site including hoarding, site offices and temporary utilities;
 - (ii) Preliminary Works;
 - (iii) Start of excavation;
 - (iv) First concrete pour for foundations;
 - (v) Start and end dates for each structural floor level;
 - (vi) Start and end dates for roofing and overall building watertightness;
 - (vii) Start and end dates for exterior cladding;
 - (viii) Milestones for interior finishing elements by floor and department; and
 - (ix) Milestones related to mechanical and electrical systems;
- (h) Dates for Delivery, Installation, Set-up, Commissioning and training of Furniture and Equipment aligned with the Construction Management Plan and Schedule 4, Appendix 8D [F&E Logistics];
- (i) Key dates from the Hospital Technology Systems Integration Plan as described in Schedule 4 [Management Systems and Plans] and, in particular, those dates when the Authority will be required to undertake activities or provide information.
- (j) Additional milestones to be scheduled and coordinated specifically relate to the Construction of the communications infrastructure, networks and systems. The Authority will be performing tasks that are dependent of these milestones which will be delivered by the Authority directly or indirectly through its contractors and suppliers:

- (i) Completion of the Phase 2 fit out of the CCH. Refer to Schedule 1 Appendix 1D [Technical Specifications Part A: Campus Communications Hub];
- (ii) Completion of the Service Entrance Facilities into the Facility. Refer to Schedule 1 Section 7.10.10.3 for details on requirements;
- (iii) Completion dates per floor for the backbone Communications Pathway System in the Facility. Refer to Schedule 1 Section 7.10.9.4 for details on requirements;
- (iv) Completion date for rooftop Communications Pathway System in the Facility. Refer to Schedule 1 Section 7.10.9.6 for details on requirements;
- (v) Rough-in dates for the backbone cabling subsystem in the Facility. Refer to Schedule 1 Section 7.10.11.3 for details on requirements;
- (vi) Finishing dates for the backbone cabling subsystem where "finishing" is defined as the termination, testing, labelling and documentation of all components associated with the intra-building copper and fibre optic backbone cabling subsystem in the Facility. Refer to Schedule 1 Section 7.10.11.3 and 7.10.12 for details on requirements;
- (vii) Rough-in dates per floor for the horizontal cabling subsystem in the Facility. For details on requirements, refer to Schedule 1 Sections 7.10.11.2 as well as Section 7.10.22 and 7.10.23 for horizontal cables associated with DAS and CATV;
- (viii) Finishing dates per floor for the horizontal cabling subsystem as well as for horizontal cables associated with DAS and CATV in the Facility where "finishing" is defined as the termination, testing, labelling and documentation of all components associated with these cabling infrastructures. For details on requirements, refer to Schedule 1 Sections 7.10.11.2, 7.10.12, 7.10.22 and 7.10.23;
- (ix) Wireless system installation dates per floor. This date is typically a predecessor to the installation of ceiling tiles in the Facility. Refer to Schedule 1 Section 7.10.13 for details on requirements;
- (x) Communications Room equipment ready dates in the Facility. Refer to Section 7.10.10.9 and 7.10.12 for details on requirements;
- (xi) The date when the IM/IT Storage Room will be provided in the Facility in accordance with the requirements specified in Schedule 1 Appendix 1F [Equipment List – IM/IT]; and
- (xii) Dates per floor when the Design-Builder will make areas of the Facility available to IM/IT to deploy its equipment in accordance with the

requirements specified in Schedule 1 Appendix 1F [Equipment List – IM/IT].

2.3 Anticipated Outstanding Work at Substantial Completion

Work to complete deficiencies will most likely be necessary after Substantial Completion but be fully completed before Total Completion. The anticipated Work outstanding at Substantial Completion will be shown on the Design and Construction Schedule; updated two (2) months prior to the request for Substantial Completion, and the Design-Builder will ensure sufficient resources stay on the Project to achieve Total Completion within the established timelines set out in the DBA.

2.4 Software

The scheduling software will be Microsoft Project (MS Project) or Primavera and all submissions will be submitted to the Authority in TruePDF format.

APPENDIX 1

DESIGN AND CONSTRUCTION SCHEDULE

(see attached)

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Royal Columbian Hospital Ph 2 Master Design and Construction Schedule

Date	Revision	Checked	Approved
25-Nov-20	Rev_16_Nov 2020		

Activity ID	Activity Name	Planned Duration	Start	Finish	2021												2022												2023												2024												2025												2026												027																																																																																																																																																								
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RCH Phase 2 Project Schedule (Master)																																																																																																																																																																																																																																					
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- Remaining Level of Effort
- Actual Work
- Actual Level of Effort
- Milestone
- Remaining Work
- Critical Remaining Work
- Summary