4.3 Project Construction

4.3.1 Contract Management

Contract management practices may vary depending on the type of construction delivery method (e.g. Design-Bid-Build, Stipulated Sum, Construction Management).

The Construction Phase for a traditional Design-Bid-Build delivery model typically commences after design and tendering are completed and commensurate with awarding of the construction contract. However, under other models such as Construction Management, retaining the Contractor earlier in the project may be considered in order to provide logistical advice, preliminary and ongoing costing information, and input into the design, phasing, and scheduling of the work. Also, if the construction of the project is being fast-tracked, construction may begin before the design documentation is complete.

Delivery models such as Design-Build or P3 will typically have a single contract with an entity that delivers the design, construction, and possibly other services.

The goal of the construction phase is to produce a built facility that is fully compliant with the scope, the program and service delivery requirements and the contract drawings and specifications, regardless of the project delivery model used.

4.3.2 Roles and Responsibilities

As in other phases of the project, the Project Manager is responsible for managing the Project Team during the Construction Phase of the project. Team members during this phase could include design consultants, construction contractors, specialty consultants, testing agencies, commissioning agents, as well as the Clinical Liaison and various client stakeholders (see section 4.1 – Project Start-up and Planning).

Under the direction of the Project Director, the Project Manager, along with the rest of the Project Team is generally responsible for:

- coordinating all work on the site;
- monitoring the schedule;
- managing project scope and the scope change process;
- monitoring and controlling the budget;
- monitoring and directing design consulting team and other consultants;
- monitoring and directing the Contractor;

- managing any conflict/disputes between parties that may arise;
- approving construction changes;
- approving billings;
- approving completion of milestones;
- managing the construction completion and facility handover phases;
- communicating with the Clinical Liaison on project progress, changes, decisions required, and project completion details;
- communicating with the Project Steering Committee on the project's progress; and
- developing and distribution of project reports.

The Construction Phase is intensive in terms of the amount of administration and communication required amongst the parties. Timely decision making is essential. The Project Manager will seek information and decisions from appropriate parties in a timely manner to ensure ongoing control of the project schedule and budget.

AHS personnel will play a key role in various stages of construction and will need to provide timely responses to change proposals and other requests from the Project Manager. The Clinical Liaison continues to be the key contact for AHS, with the following specific responsibilities during construction:

- consulting with and involving AHS personnel as required or when requested by the Project Manager;
- obtaining decisions required from AHS user groups; and
- liaising with the Project Manager on the project schedule, and coordinating client take-over and operational commissioning.

Facility Maintenance and Engineering (FM&E)

AHS FM&E engagement in facility construction, handover and commissioning differs according to whether construction occurs in or adjacent to an existing facility or at a new location. A renovation site by definition is one which is located within, adjacent to or close to an existing facility, and therefore is likely to have a notable impact on existing AHS facility operations.

For a renovation construction site, FM&E responsibilities include:

- facilitating access by the Contractor and Project Manager to AHS controlled spaces when work is taking place in an operating facility or site;

- coordinating with the Contractor and Project Manager on maintenance of the construction site, including arrangement of utilities tie-ins and building systems, with the assistance of the INFRA Project Coordinator; and
- coordinating with the Project Team for utilities shut downs, utilities tie-ins and building systems and other operational issues with ongoing maintenance and engineering activities in adjacent facilities.

In contrast to a renovation site, a new construction site refers to those sites that are not connected to an existing facility and therefore are likely to have negligible or no impact on existing AHS facility operations. For a new construction site, FM&E responsibilities include:

- providing input into project planning and design process;
- incorporating physical or operational requirements as required throughout the construction period;
- identifying deficiencies in consultation with the Project Manager and ensuring maintainability after Handover (see section 4.4);
- participating in the System Commissioning Phase as required (see section 4.4);
- participating in the building commissioning of the new facility; and
- receiving keys, operational manuals, attending training sessions, etc., at Project Completion and Handover.

Project Manager

The Project Manager is responsible for coordinating FM&E activities with AHS FM&E staff, including:

- construction assistance - coordination of construction activities within the operation of existing linked or adjacent facilities for renovation sites; and
- commissioning assistance - coordination of commissioning activities with AHS FM&E staff for both renovation and new construction sites. The Project Manager involves FM&E throughout the entire life cycle of the project, including design review, site inspections, verification/testing, review of Operations and Maintenance (O&M) manuals, and O&M training (see section 4.4.3 for a description of commissioning process).

4.3.3 Contracting, Procurement and Supply Management and Information Technology

AHS' Contracting, Procurement and Supply Management (CPSM) and Information Technology organizations will be responsible for the following during the Construction Phase:

- procuring F&E/IT that is purchased through the project budget, as well as items that are relocated from existing facilities;
- coordinating F&E/IT delivery and installation requirements with the Project Manager; and
- reporting the F&E/IT budget status to the Project Manager. See section 4.1.10 for more details on CPSM's roles and responsibilities.

4.3.4 Infection Prevention and Control

The design and construction of health capital facilities needs to account for Infection Prevention Control (IPC) policies and operational processes. Project Managers are responsible for ensuring that these are addressed through a consultative process with AHS, respecting AHS IPC policies and local hospital procedures. AHS is responsible for the provincial level IPC guidelines and HEALTH is responsible for the review of these guidelines.

The Joint Operations Committee, Standards and Guidelines Sub-Committee will review IPC processes for consideration in health capital facility design. This effort will address AHS IPC policy as well as external sources e.g. CSA Z8000. See Section 4.2.1 for more details on Standards and Guidelines.

AHS is reviewing their province wide policy for IPC and will advise the Parties when a new policy document is ready for implementation.

4.3.5 Access Management

The Prime Contractor is responsible for managing and coordinating access to the construction site.

The Project Manager and the FM&E site lead liaise with FM&E personnel in the tendering stage to set specific site standards and requirements prior to preparation of the final contract documents. The general access standards and requirements are described below.

Access Management for Renovation Sites

For construction sites adjacent to an existing facility, the INFRA Project Manager liaises with the FM&E site lead at the tendering stage to identify/determine standards and requirements for:

- utility interface;
- cost recovery (e.g. for FM&E personnel, utility usage);
- site access for construction and INFRA staff;
- environmental management (noise, vibrations, air quality);
- any other site-specific requirements, safety protocols; and
- building systems.

For renovation sites located within an existing facility the same process is followed; however, standards and requirements are more extensive and include:

- involvement of AHS' FM&E personnel throughout the project;
- location of contractor space within the facility;
- contractor responsibilities throughout the project;
- contractor identification process;
- workplace health and safety protocols;
- occupational Health and Safety (OH&S) policies and procedures;
- security protocols and criminal records checks;
- fire and emergency procedures;
- IPC protocols; and
- any other site specific requirements.

Access Management for New Construction Sites

AHS personnel may require access to new construction sites for the following reasons:

- consultation during project planning, administration, construction and building commissioning;
- walk-through prior to Handover;
- storage, testing and/or installation of equipment or furniture prior to Handover (see section 4.1.10);
- security of AHS equipment on site; and
- early commissioning activities, where practical.

In these instances, AHS makes a request to the Project Manager who coordinates access through the Prime Contractor.

4.3.6 Insurance and/or Risk Management

Health capital projects delivered by INFRA require insurance that is appropriate for the project delivery methodology and addresses whether the facility is new construction or a renovation project within existing AHS infrastructure.

The primary insurance policies required for capital projects are Course of Construction and Wrap-up Liability. (See Appendix 1.1- Glossary for definitions).

Risk Management Insurance Branch Responsibilities

The Risk Management Insurance (RMI) branch of TBF collaborates with ministries and agencies throughout government to assist with identifying, measuring, controlling and funding the risk of accidental loss. The program is responsible for all government ministries and agencies subject to the *Financial Administration Act*.

For Construction Management (CM) projects, RMI will arrange the purchase of project insurance on behalf of INFRA.

For other delivery methods, and particularly for the Design-Bid-Build method, the Prime Contractor will be responsible to obtain project insurance during the construction phase prior to handover to AHS and is required to submit evidence of insurance for review by INFRA and RMI to ensure compliance with contract requirements.

Project Services Branch Responsibilities

INFRA's Project Services Branch procurement staff and the Project Manager are responsible for:

- working with the RMI Branch of TBF to develop insurance and risk management wording, including the wording within RFPs, contracts, and the insurance policy documents; and
- liaising with AHS' staff on matters of mutual concern.

Project Manager Responsibilities

Project Manager specific responsibilities include the following:

- prior to the issuance of an RFP for a CM, Design-Bid-Build or a Design-Build project, Project Managers need to liaise with both the INFRA Project Services procurement staff and with RMI concerning insurance requirements. This should be done sufficiently in advance of a tender to ensure insurance is arranged prior to start of construction; and
- prior to issuance of an RFP for a Prime Consultant, Project Managers also need to consult with Project Services Branch procurement staff and RMI to ensure adequate

Errors and Omissions (E&O) insurance involving the Prime Consultant is coordinated in a timely manner for projects delivered through a Construction Management or a Design-Bid-Build contract. For Design-Build contracts, the E&O insurance responsibility rests with the Design-Build contractor.

AHS Responsibilities

AHS is responsible for the following:

- risk management and insurance for F&E/IT delivered to a facility under construction;
- property insurance for the facility and F&E/IT at Substantial Performance (or turnover); and
- the AHS FM&E representative to the project informs the AHS risk management and insurance staff of the date when AHS will need to add the facility to their property insurance policy (normally at Substantial Performance).

4.3.7 Occupational Health and Safety

Site safety is an important issue during the Construction Phase of the project, and the assignment of roles and responsibilities for safety is crucial to ensuring a safe working environment for all staff, contractors and consultants.

Under the *Occupational Health and Safety Act of Alberta* (*I OH&S Act*), the owner of a building or site has responsibility for monitoring site safety on that site. The entity responsible for site safety on the site is referred to as the Prime Contractor under *the OH&S Act*, and an owner may assign the Prime Contractor responsibility to another party under the terms of a contractual arrangement, in which case the assigned Prime Contractor assumes the owner's responsibility for all safety on the site. The owner may assume the role of Prime Contractor but will usually designate, through the construction contract, the Contractor (or Construction Manager) as the Prime Contractor for all or part of the site or building.

An important distinction needs to be made between a project involving a new building or site and one that is in an existing facility. In the case of a new facility, INFRA will typically own the property, and title will transfer to AHS at the completion (Handover) of the project. In this instance, INFRA normally assigns Prime Contractor responsibility to the Contractor during the course of construction.

Where the property is already owned by AHS, no title transfer is required; however, formal acknowledgement in the form of a Handover letter (see Appendix 12.6) is required.

In the case of a renovation project, construction work will take place in a facility or site that is typically in operation, and therefore, owned by AHS. AHS staff and patients may be present within the facility during construction activities. This situation requires a more careful delineation of responsibility for safety. AHS will retain overall Prime Contractor responsibility for the site and building even though this responsibility is typically assigned to the Contractor through the construction contract (for any areas within the building or site for which the Contractor has control).

The Contractor will be subject to AHS' safety policies when working in areas that are jointly occupied by the Contractor and AHS staff, and/or other personnel. The Contractor will be required to establish a safety plan that meets or exceeds AHS policies and OH&S regulations for the areas in which they have assumed Prime Contractor responsibility.

Roles and Responsibilities - New Construction Sites

The Project Manager's responsibility for OH&S includes the following:

- assigning Prime Contractor responsibility under the construction contract;
- checking that the Contractor possesses a current Certificate of Recognition from the Alberta Construction Safety Association;
- reviewing the Contractor's safety plan;
- conducting construction start-up meeting with the Contractor to discuss roles and responsibilities, and review safety plans and procedures; and
- monitoring the Contractor's administration of the safety plan and receiving updates on the Contractor's safety meetings, issues and actions.

AHS participates in discussions relating to OH&S during the Construction Phase prior to the building being turned over to AHS.

Roles and Responsibilities – Renovation Projects

The roles and responsibilities concerning renovation projects for the INFRA Project Manager and AHS are outlined below:

- Project Manager – INFRA, in addition to the responsibilities detailed above, the Project Manager's responsibilities include the following:
  - ensuring clear delineation of areas for which the Contractor and AHS have Prime Contractor responsibility, as well as responsibilities of each party;
  - facilitating discussion of building safety, access, safe work permit system, etc., between the Contractor, AHS and INFRA at the construction start-up meeting; and

- facilitating project safety meetings in conjunction with regular construction meetings or as required.

- AHS – FM&E and Workplace Health and Safety Advisor:
  - liaising with Project Manager and Contractor on safety issues affecting work in occupied spaces, and/or where there may be overlapping responsibilities;
  - coordinating access to spaces that are outside the Contractor's control, issue work permits, etc.;
  - participating in project safety meetings as required; and
  - conducting safety walk-throughs of contractor area to ensure contractor is adhering to Safety Procedures.

4.3.8 Project Reporting

Through the project lifecycle there are a number of reports that are required. These include quarterly reports and end of cycle reports. Refer to Appendix 11 – Project Reporting Matrix.

The matrix is currently under review.