



TERMS OF REFERENCE (TOR-DB)

Design-Builder Services

DND Iqaluit Nose Dock Hangar Demolition (DND-NDH Demo)

Iqaluit, Nunavut
FOR
Department of National Defence (DND)

PWGSC#: R.073560.005
04 March 2016



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1 PROJECT DESCRIPTION

1.1 GENERAL

1.1.1 PURPOSE

- .1 These Terms of Reference (TOR) have been developed to ensure that the Design-Builder has a clear understanding of the project scope, procedures and performance required to deliver the completed project within the agreed to budget and schedule.

1.1.2 PROJECT INFORMATION

Project Information	
Project Title:	DND Iqaluit Nose Dock Hangar Demolition
User Department:	Department of National Defence (DND)
Project Location/Address:	Iqaluit, Nunavut
PWGSC Project Number:	R.073560.005

1.2 BACKGROUND INFORMATION

1.2.1 USER DEPARTMENT

- .1 The User Department referred to throughout is Department of National Defence (DND).

1.2.2 NEEDS & GOALS

- .1 The DND requires the comprehensive services of a Design-Builder to undertake the planning, documentation, demolition and disposal an existing, 1950's, decommissioned aircraft hangar, leaving the existing structurally supported slab and foundation for repurposing in the future.
- .2 The project requires the following Work;
 - .1 Demolition planning, design and permits;
 - .2 Safe, efficient and environmentally compliant removal (demolition) of an existing decommissioned aircraft hangar and associated building only;
 - .1 The safe removal and disposal of hangar components including some that contain hazardous materials (lead paint); and
 - .2 The disposal of non-hazardous hangar components;
 - .3 Amendments to the remaining structures to ensure that the site is safe for the community until such time as another project will be constructed on the site.
 - .1 The concrete hanger floor and foundation (slab and associated piles) is to be retained and repurposed as the foundation for a potential future undefined facility, unless otherwise agreed to in the Pre-Design Service.
 - .1 The foundation will require protection to ensure no further degradation occurs while dormant and exposed to the elements for a period of not less than five (5) years, while being used for aircraft operations in the interim.
 - .2 Smooth transition from apron to hangar floor surface for aircraft transit is a requirement and needs to account for the removal of the bottom door rails.
 - .3 Housekeeping pads and perimeter raised concrete edges will not need to be removed but will need to be marked for easy visual identification.
 - .4 Appropriate barriers or fencing will need to be constructed to prevent accidental falls from the edge of the concrete.
 - .4 The maintenance of the airport security and perimeter fencing throughout the



project.

- .1 The installing of security fencing to allow the removal of the Nose Dock Hanger while minimizing disruption to the existing active aircraft ramp.
- .2 The extension of the security fencing around the site and remaining concrete pad to ensure contiguous separation from the adjacent airfield and permit airside use of the remaining foundation.
- .3 Ensure Airport security is not compromised with the Work.
- .4 Ensure compliance with aeronautics acts throughout the demolition, particularly during Crane Operations.

1.2.3 EXISTING CONDITIONS

- .1 The existing hangar was built on top of the concrete foundation in the 1950's.
 - .1 The existing foundation is in permafrost and is intended to remain intact for future considerations. Following demolition, the hangar floor will be exposed to the elements and used for aircraft parking until a future use is confirmed and new structure(s) constructed. Therefore all concrete components will require protection from damage due to demolition activities. Post demolition stabilization will be required to minimize the effect of weather on the surface until repurposed. Additionally the Design Builder will also need to address hazards (safety) to its stated interim use.
 - .2 The services to the hangar have been disconnected but the Design Builder will need to ensure they are properly terminated.
 - .1 The existing power line runs close to the North West corner of the Hanger and may restrict demolition. Any temporary service for demolition is to be arranged by the Design Builder.
 - .2 An existing 'Northwest Tel' service is still attached to the building and the Design Builder must arrange for removal.
 - .3 Water and Sewage to the Hanger was by truck and associated holding tanks are still in the Hanger.
 - .3 The Hanger currently forms an integral part of the airport security fencing and the Design Builder will need to ensure the integrity of the airport security is maintained during the project.
- .2 The Hanger did contain various hazardous building materials; however, most of these materials have been abated under a separate contract. The abatement process has also resulted in the disposal of some non-hazardous building components that were removed during the abatement process.

1.2.4 HAZARDOUS MATERIALS

- .1 The remaining hazardous materials that the contractor will need to manage is lead paint on structural steel and doors.
 - .1 Lead painted items will need to be transported to an approved facility for abatement and/or disposal.
 - .2 Spot abatement may be required to permit the cutting of the steel for transport. The Design Builder's demolition plan should account for the removal and disposal of the lead paint.
- .2 The soil under the existing foundation has been impacted with hydrocarbons (see Environmental Surveys) and the contractor shall take appropriate precautions if any temporary infrastructure needs to be located in this area. The remediation of the impacted soil is not within the scope of this work.

1.2.5 CONSTRAINTS AND CHALLENGES

- .1 The project is located in the far North with unique site conditions and permafrost



considerations, prolonged seasons of cold temperatures, limited energy sources, limited access, short working seasons, transportation, local skills, materials and resources.

- .2 The project is located at an active airport whose operations cannot be disrupted.
 - .1 Airport Security and Operational protocols shall be respected.
 - .2 Adjacent to the site (South) is an active security gate that cannot be blocked or impaired as it is a key Fire Fighting access point.
 - .3 Access inside the air field security perimeter requires the Design Builder to arrange for security escorts that are trained to the Airport Authority standards. The use of the security escort will be at the expense of the Design Builder.

1.3 GOALS & OBJECTIVES

1.3.1 GENERAL

- .1 Deliver the completed Work while applying rigorous schedule, quality, and scope controls throughout the design, construction, and post-construction phases of the Project.
- .2 Comply with all waste management and environmental responsibility.

1.3.2 STEWARDSHIP OF EXCELLENCE

- .1 The Design Builder will be responsible for ensuring that both the design and construction teams adhere to:
 - .1 Best industry practices and standards in both the development of the Construction Documents and following them during construction,
 - .2 Professional conduct in all phases of the project, employing best practices for budget, schedule, quality, and scope management.
 - .3 Construction quality control and implementation complies with Construction Documents.
- .2 Carry out the Work in an environmentally responsible manner:
 - .1 Ensure hazardous materials are properly abated and taken to an appropriate disposal facility.
- .3 Support local opportunities to reuse salvaged materials.

1.3.3 SERVICE PERFORMANCE

- .1 The Design Builder must plan, schedule, document, coordinate, design, construct, demolish, remove, dispose of and remediate all required components and systems in the context of stringent regulations for the environment, security, and health and safety.
- .2 The Design Builder's Team will work cooperatively to:
 - .1 Identify and coordinate documentation, applications and reviews for all requisite codes, permits, inspections, reviews and certifications for environmental, health and safety compliance, demolition, removal and disposal procedures, and remediation for completion of the project site.
 - .2 Apply rigorous quality assurance reviews during the design and construction phases, including participation in reviews of the systems, components, construction tools and techniques of the proposed design.
 - .3 Apply state-of-the-art scheduling processes and techniques.
 - .4 Adopt good project delivery processes such as Risk Management studies.
 - .5 Ensure that all Health, Safety, Security, and Environmental Protection and Stewardship issues and concerns, are properly adhered to and satisfied.

1.3.4 PERFORMANCE

- .1 The Design Builder will provide services that will ensure that the implementation of



the Work will:

- .1 Provide a healthy and safe environment that meets or exceeds all codes for airport security, fire, health, and life safety.
- .2 Be safe, effective, efficient and environmentally sound.
- .3 Result in a final site that is hazard free and safe for use for airside operations.
- .4 Result in a final site that can be readily repurposed for future use (assuming a 5 year delay before a future use is implemented).

1.4 PROJECT DELIVERY APPROACH

1.4.1 TURNKEY APPROACH

- .1 The Crown requires the use of a Design-Build (turnkey) approach to plan, design, demolish, and dispose of an existing decommissioned aircraft hangar and preparing the slab and hanger floor for future use.
 - .1 Ensure appropriate drainage;
 - .2 Make safe for interim operations regarding any penetrations through the slab;
 - .3 Ensure any safety hazard from the removal of the structural elements extending from the slab are addressed and stabilized for weather;
 - .4 Restore / Seal damaged concrete; and
 - .5 Address fall height and airport security fencing requirements.
- .2 The Design Builder will take ownership of all demolition material for salvage value purposes and will provide documentation or certification to the Departmental Representative of the final disposal, recycling, or reuse of all materials.

1.4.2 DESIGN SERVICES

- .1 The Design-Builder must provide a single prime consultant entity to fulfill the role of the registered professional of record for the Work including all cross discipline coordination:
 - .1 Professional Engineering services must be provided throughout the Project phases with stamped engineered drawings for safe demolition (structural), including any remaining mechanical and electrical services to be terminated, and ensure potential hazards have been mitigated for the remaining foundation, concrete slab, and site.
 - .2 The prime consultant must be engaged for the entire project to certify satisfactory completion of the project.
- .2 The Design-Builder will ensure a full consulting team of registered professionals, licensed to practice in Nunavut including, but not limited to, the following specialties:
 - .1 Professional Engineers:
 - .1 Structural Engineer.
 - .2 Civil, Mechanical, Electrical Engineers as required
 - .3 Environmental Engineer- Remediation / Abatement Specialist.
 - .2 Remediation / Abatement Safety Specialist.
 - .3 Risk Management Specialist.

1.4.3 DEMOLITION SERVICES

- .1 The Design Builder must manage and deliver the completed demolition and ensure the integrity of the remaining foundation and concrete slab associated with the Work for the Project are not damaged and potential hazards have been mitigated in accordance with the duties outlined in the terms and conditions of the contract and the requirements in this TORs.



- .2 As part of the Work, the Design Builder is responsible for the implementation of Division 01 work contained in this TOR.

1.5 SCHEDULE

1.5.1 GENERAL

- .1 Deliver the project to be ready for use in accordance with the project milestone listing identified below, unless otherwise agreed to by the Departmental Representative.
- .1 Take note of access restrictions due to Airport Operations listed at Paragraph 4.2.1.2.
- .2 The project must be substantially complete by 15 October 2016.

1.5.2 ANTICIPATED MILESTONES & DELIVERABLE DATES

Project Phase	Weeks	Milestone Date
Design/Build Contractor Contract Award	start	10 June 2016
Pre-Design Report submission	3 weeks	30 June 2016
66% - Construction Document submission	2 weeks	15 July 2016
99% - Construction Document & Permits submission	2 weeks	29 July 2016
Security Fence construction followed by demolition. <i>Unless otherwise agreed to by Airport Manager and in accordance with para 4.2.1.2</i>		Assumed not before 4 August 2016
Demolition and remediation substantially complete		15 Oct 2016
Final Inspection, Acceptance		23 Oct 2016

1.6 PROJECT BUDGET

1.6.1 FUNDING

- .1 Total Funding for the delivery of this project will be fixed upon selection of the successful Proponent's Proposal.
- .2 The Crown will not accept scope creep or cost escalation of selected Proponent's proposal, except in the limited situations as stipulated in the terms of the contract.

1.7 EXISTING DOCUMENTATION

1.7.1 GENERAL

- .1 Site information and documents
- .2 Appendix A, Demolition Key Plan Drawings, by AMEC Foster Wheeler, January 2016
- .3 Appendix B, Site Visit Photo Log, by AMEC Foster Wheeler, January 2016
- .4 DND-NDH Demolition Specifications 2014
- .5 Public Works and Government Services Canada (PWGSC) Phase I Environmental Property Transfer Assessment (EPTA)
- .6 PWGSC Phase II Environmental Site Assessment (ESA)
- .7 PWGSC Phase III Environmental Site Assessment (ESA)
- .8 PWGSC DSS - Designated Substance Survey
- .9 PWGSC DSR – Designated Substance Report.
- .10 Professional Engineers Providing Services for Demolition of Buildings and other Structures, Guideline, Professional Engineers Ontario, April 2011



- .11 Nunavut Good Building Practices
<http://cgs.gov.nu.ca/PDF/Good%20Building%20Practices%20Guideline.pdf>
- .12 PWGSC Waste Audit February 2016.
- .13 Abatement Contractor Report – available upon contract award

1.8 CODES, REGULATIONS, STANDARDS AND GUIDELINES

1.8.1 GENERAL

- .1 Comply with all applicable Acts, Regulations, Codes and Standards.
- .2 The documents listed in the sub-paragraphs below apply to this project but are not limited to this list.

1.8.2 CODES AND REGULATIONS

- .1 Canadian Environmental Protection Act (CEPA)
- .2 Transportation of Dangerous Goods Act (TDGA)
- .3 Transportation of Dangerous Goods Regulations
- .4 The NRC National Building Code (NBC) of Canada 2010,
- .5 The NRC National Fire Code of Canada, 2010,
- .6 The Canada Labour Code: <http://laws.justice.gc.ca/en/L-2/>
- .7 The Canada Occupational Health and Safety Regulations,
 - .1 <http://laws.justice.gc.ca/eng/SOR-86-304/index.html>
- .8 Applicable Provincial / Territorial and Local Acts, Regulations, Codes, and By-laws
- .9 The Environmentally Responsible Construction and Renovation Handbook.
<http://www.tpsgc-pwgsc.gc.ca/biens-property/gd-env-cnstrctn/page-9-eng.html>

1.8.3 POLICY, STANDARDS AND GUIDELINES

- .1 Canadian Standards Association
- .2 National Fire Protection Association (NFPA)
- .3 PWGSC Environmental Policy (074)
- .4 PWGSC Directive on Construction Occupational Health and Safety (007-2)
- .5 Nunavut Environmental Guideline for Contaminated Site Remediation.
- .6 Nunavut Environmental Guidelines for General Management of Hazardous Wasted
- .7 Nunavut Environmental Guidelines for Waste Lead and Lead Paint
- .8 Nunavut Environmental Guidelines for Dust Suppression.



2 REQUIRED SERVICES

2.1 PROJECT SERVICES

2.1.1 GENERAL

- .1 General Services:
 - .1 Meeting Services
 - .2 Project Monitoring and Reporting Services
- .2 Design Services: includes scheduling, cost estimating and risk management
 - .1 Pre-Design Service
 - .2 Construction Document Service
 - .3 Construction Administration Service
 - .4 Post Construction Service
- .3 Build Services:
 - .1 Implementing the demolition and remediation as per the accepted Construction Documents and requirements identified in the TOR.

2.2 GENERAL SERVICES

2.2.1 GENERAL

- .1 Services identified in this section are general in nature and apply to both the Design Services and the Build Services.

2.2.2 MEETING SERVICES

- .1 Coordinate, participate in and record minutes of project meetings/workshops throughout project delivery as outlined in this TOR.

2.2.3 MEETINGS DELIVERABLES

- .1 Agendas, Minutes, Action and Decision Logs.

2.2.4 PROJECT MONITORING AND REPORTING SERVICES

- .1 The Design Builder must develop a Project Procedures Manual, within 10 business days of contract award, updated at 66% Construction Document acceptance and Final Construction Document acceptance.
 - .1 The Project Procedures Manual will:
 - .1 Be developed in consultation with the Departmental Representative for the execution of key Project activities.
 - .2 Provide a clear description of procedures, reports, roles, responsibilities, levels of authority and the information systems for the execution of the Project, including details of the processes and sample formats to:
 - .3 Include the process and methods to;
 - .1 Maintain all Project records;
 - .2 Implement a quality assurance program;
 - .3 Prepare, update, monitor and maintain the Master Schedule.
 - .4 Manage communications between Project Delivery Team participants based upon the documented roles, responsibilities and authority of Team members, and maintain a listing of meetings, frequency, type, etc.;
 - .5 Manage correspondence, reports and performance records;
 - .6 Distribute correspondence electronically;
 - .7 Process Shop Drawings;
 - .8 Document conduct reviews and approvals of Construction Document package(s); and



- .9 Maintain a decision log during the entire project, recording participants, date and place of all decisions affecting schedule, budget, scope, or quality.
- .2 Prepare, develop, maintain and submit, on the first Monday of each month, a Monthly Progress Report, including:
 - .1 Request for Progress Payment;
 - .2 Permits, Certification and test results;
 - .3 Statutory Declaration (ELF form 2835 (11/2010))
 - .4 Site Instructions;
 - .5 Contemplated Change Notices;
 - .6 Change Orders; and
 - .7 Site Visit Reports;
 - .8 Quality Assurance Plan;
 - .9 Design Service Submittals;
 - .10 Progress of the work;
 - .1 All instances where the schedule is not being met;
 - .2 Outline remedial measures being taken;
 - .11 Updated Project Schedule;
 - .12 Copies of all Permits;
 - .13 Cost Plan with expenditures to date (including all change orders) in a form that compares the original budgets for each trade with the expected costs;
 - .14 Anticipated and/or potential problems to be addressed;
 - .15 Site Specific Health and Safety Plan, complete with:
 - .1 Minutes from tool box talk,
 - .2 All Health and Safety updates;
 - .16 Action and Decision Logs; and
 - .17 All associated deliverables from the Design Services.

2.2.5 PROJECT MONITORING AND REPORTING DELIVERABLES

- .1 Project Procedures Manual
- .2 Monthly Progress Report

2.3 DESIGN BUILD SERVICES

2.3.1 GENERAL

- .1 The Design-Builder must provide a single prime consultant entity to fulfill the role of the registered professional of record for the Work including all cross discipline coordination. The Design Services are to be provided by professionals licensed to practice in Nunavut Territory.
- .2 The prime consultant must follow the “Professional Engineers Providing Services for Demolition of Buildings and other Structures” in delivering professional engineering services.

2.3.2 PRE-DESIGN SERVICE

- .1 Coordinate, participate in, and minute project meetings. Refer to Division 01.
- .2 Visit the project site(s) as needed. Notify the Departmental Representative seven (7) days in advance to coordinate access.
- .3 Prepare a Pre-Design Report for submission to:
 - .1 Demonstrate that a thorough review and assessment has been conducted by the Design-Build team. Identify, record and document, analyze and evaluate, verify



and confirm:

- .1 Environmental, health and safety requirement and associated scope of work;
 - .2 Existing environmental, site, and building conditions;
 - .3 Existing systems that require further removal prior to demolition and safe disposal of the building components, materials, substances and debris on site;
 - .4 Strategy to conduct Demolition activities and preparation of the foundation and slab for the proposed operational requirements;
 - .5 Local opportunities to re-use or reduce waste shipping requirements;
 - .6 All Authorities Having Jurisdiction (AHJ) over the codes, regulations and standards;
 - .1 Applicable legislation, codes, standards, and guidelines;
 - .2 Strategies for adhering to applicable legislation, codes, standards, and guidelines;
 - .7 Challenges and risks;
 - .8 De-commissioning requirements as applicable to ensure proper termination of site services.
 - .9 All other available existing material related to the project including the TOR.
- .2 Confirm project delivery schedule.

2.3.3 PRE DESIGN DELIVERABLES

- .1 A clear, concise, complete Pre-Design Report.

2.3.4 DESIGN SERVICE

- .1 Construction Document Service
 - .1 Formal acceptance/approval of the Pre-Design submission is required to prior to proceeding with Construction Document Service.
 - .2 The Construction Documents consist of any required specifications, drawings, addenda, and / or internal formal work instructions / procedures. Standard practice for the preparation of Construction Documents requires:
 - .1 Document the structural system demolition procedure to ensure a safe demolition process of all major components.
 - .2 Documenting suitability / capacity for any crane or equipment loadings on floors or other structures.
 - .3 Documenting temporary works design for suitability of loading and construction.
 - .4 Drawings to be complete and clear.
 - .1 Drawings demonstrate work to be done depicting shape, dimension, location, quantity of materials and relationship between building components and how they are to be safely demolished;
 - .2 Dimensions to be metric;
 - .3 Legends of symbols, abbreviations, references, etc., on the front sheet of each set of drawings or, in large sets of drawings, immediately after the title sheet and index sheets.
 - .4 Schedules, locate for convenient reference.
 - .5 North Points
 - .5 Regulatory Analysis not limited to a summary of:
 - .1 Regulatory and statutory requirements;
 - .2 Authorities having jurisdiction;
 - .3 All applicable codes, regulations, standards, guidelines and policies.



- .3 Prepare formal Contemplated Change Notices as required.
- .4 Obtain demolition and construction permits.
- .2 Construction Document Deliverables
 - .1 66% complete Construction Documents issued review.
 - .2 Complete (final) Construction Documents issued for permits and construction/demolition.
 - .3 Contemplated Change Notices as required.
- .3 Construction Administration Service
 - .1 Coordinate the submittals to the Departmental Representative including but not limited to;
 - .1 Shop Drawings.
 - .2 Demolition implementation documents.
 - .3 Scaffolding designs.
 - .4 Other submittals.
 - .2 Conduct regular field reviews as required to fulfil the Consultant's professional obligations to monitor construction/demolition activities throughout the construction period.
 - .1 At a minimum 2 field reviews per key discipline(s).
 - .2 Provide written field review reports to Departmental Representative.
 - .3 Field review reports are to monitor construction/demolition performance and be the basis of documenting work progress in support of certifying Construction Progress Claims. The completeness of the field review reports will be agreed upon by the Departmental Representative.
 - .3 Prepare clarification documents and Site Instructions as required.
 - .4 Prepare Contemplated Change Notices (CCN).
 - .5 Conduct Deficiency Inspection, and document in Deficiency Inspection Report.
 - .6 Sign off on Substantial Completion documents.
- .4 Construction Administration Deliverables
 - .1 Tracking of all submittals.
 - .2 Field Review Reports.
 - .3 Site Instructions, Contemplated Change Notices.
 - .4 Deficiency Inspection Report.
 - .5 Certified Substantial Completion documents.
- .5 Post Construction Service
 - .1 Prepare record drawings (AutoCAD) of the remaining foundation and site.
 - .2 Coordinate and track the completion of close out submissions as per the General Requirements of Division 01.
 - .3 Prepare and submit Final Certificate of Completion and associated final records.
- .6 Post Construction Deliverables
 - .1 Record Drawings.
 - .2 Certified of Completion documents.

2.3.5 CONTRACTOR SERVICE

- .1 Perform the duties of a Construction/Implementation and Delivery Close out Contractor in accordance with the requirements outlined in this TOR, including all parts of the TOR, Division 01 and the documents produced by the Design Services.
- .2 Prepare Close out documents for review and acceptance.



2.3.6 CONTRACTOR DELIVERABLES

- .1 Completed Work as outlined in the TOR and as developed through the course of the project.
- .2 Safe site for access by the public.
- .3 Maintenance at all times of airport security integrity.
- .4 Documents as identified in the Design Service submissions and Division 01 of this TOR.
- .5 The contractor must develop a solid waste management program (See section 3.7);
 - .1 Provide a cost benefit analysis;
 - .2 Provide Waste Diversion Workplan.



3 PROJECT ADMINISTRATION

3.1 GENERAL REQUIREMENTS

3.1.1 GENERAL

- .1 The administration requirements outlined in this section are applicable to all PWGSC projects in Western Region unless otherwise indicated in the TOR.
- .2 "Project Team" refers to key representatives involved in this project.
- .3 All team members must maintain a professional and collaborative relationship.

3.1.2 LANGUAGE

- .1 Construction documents must be prepared in English.

3.1.3 MEDIA

- .1 The Design-BUILDER must not respond to any media inquiry.
- .2 Direct all media requests to the Departmental Representative.

3.1.4 PROJECT MANAGEMENT

- .1 PWGSC administers the project on behalf of Canada and exercises continuing control over the project during all phases of development.
- .2 The PWGSC project management team, the Design-BUILDER, and the User Department teams are to work professionally, cooperatively and collaboratively at every stage of the design and construction process.

3.1.5 SECURITY CLEARANCE AND SECURITY INFORMATION

- .1 The design builder must comply with Airport Airside access and Airport Security requirements.
- .2 There are no other security requirements for this project.

3.2 ROLES AND RESPONSIBILITIES

3.2.1 DESIGN BUILDER

- .1 The Design-BUILDER is completely responsible for providing and coordinating the work of all resources, professional disciplines and Construction Contractor(s), for the design, construction and completion of the project.
- .2 The Design-BUILDER, and their personnel identified in the completed Team Identification Form, in the TOR submission, including Prime Consultant, Subcontractors and Specialists, comprises the Design Build Team.
 - .1 Substitution of personnel will be subject to approval by the Departmental Representative.
- .3 The Design-BUILDER must provide a single prime consultant to fulfill the role of the licensed professional of record for the Work and all discipline coordination:
 - .1 The prime consultant must be engaged for the project duration including design, construction, commissioning and satisfactory completion of the Work.
 - .2 Provide all necessary personnel and licensed professionals to perform the Services and duties for the Project, either by assignment of Design Builder qualified staff or by engagement of services contracted directly to the Design Builder,
 - .3 Carefully document and deliver comprehensive Field Review services and reports during the construction phase. The completeness of the field review reports must be agreed upon by the Departmental Representative.
 - .4 Provide contact information for designated Design-BUILDER's personnel for the purpose of emergencies and if their presence required on site outside normal business hours throughout the project.



- .4 The Design-Builder will be required to maintain its team's expertise for the duration of the project and to comply with and adhere to:
 - .1 All the requirements in the Contract;
 - .2 All commitments made and included in the TOR submission and in the completed Declaration Form.

3.2.2 PWGSC TEAM

- .1 The PWGSC Project Manager is;
 - .1 The Departmental Representative,
 - .2 Responsible for conveying all DND requirements to the Design-Builder,
 - .3 The liaison amongst and between the Design-Builder, PWGSC, any agent retained by PWGSC, and the User Departments.
- .2 PWGSC Architecture and Engineering Centre of Expertise (AECOE) Team and/or Advocate Consultant:
 - .1 Provides oversight of architectural and engineering aspects of the Work;
 - .2 Reviews deliverables submitted by the Design Builder at designated design and construction document stages per TOR.
 - .3 May attend design and construction meetings as a designated representative of the Departmental Representative;

3.2.3 USER DEPARTMENT TEAM

- .1 The Project Leader is responsible for the interests of User Department, in collaboration with the Departmental Representative.

3.2.4 AIRPORT AUTHORITY.

- .1 The Nunavut Airport Authority has responsibility of safe airport operations and is responsible for overseeing airport security.
- .2 All communication with the Nunavut Airport Authority is through the Departmental Representative.
- .3 The use of airport escorts by the Design Builder during the project will be at the expense of the Design Builder.

3.3 DESIGN BUILDER QUALITY ASSURANCE

3.3.1 GENERAL QUALITY ASSURANCE

- .1 The Design-Builder must ensure that:
 - .1 The performance of the Work is in accordance with the specific requirements outlined in this TOR or better than standard accepted industry practices for the type of Work, if not stipulated more precisely in the requirements.
 - .2 The Work performed in an environmentally and workplace safe manner.
 - .3 Engineers and supporting specialists are to provide full contract services as are outlined in the respective Professional Association Guidelines, Best Practices and typical Contracts to ensure conformance to the design and project requirements.
 - .4 A Quality Assurance process is to be put in place such that the Design Builder can measure and demonstrate actual quality performance. This process is to be the result of careful and critical investigation of all Work. The Quality Assurance process shall compare the Work with performance standards and codes to detect variances and act on the difference to correct and prevent rework or delay.

3.3.2 QUALITY ASSURANCE PLAN

- .1 Provide a Quality Control Plan for the purpose ensuring;
 - .1 Documentation of the QA process used within the Design Build team,



- .2 Proper lines of communication,
- .3 Responsibility and accountability of the design,
- .4 Systematic and consistent checks,
- .5 Conformity with specified performance Standards,
- .6 Ensuring that materials and items of equipment delivered conform to specifications, before they are incorporated into Work,
- .7 Identify items of Work that will be subjected to quality assurance measures.
- .2 Activities of the plan should include, but not necessarily be limited to:
 - .1 Setting up a system of reviews by Design Builder's personnel,
 - .2 Engaging appropriately qualified Subcontractors;
 - .3 Ensuring adequate materials and systems testing procedures are carried out;
 - .4 Consulting with Departmental Representative, Design Build team and Subcontractors to confirm that requirements of the drawings and specifications are thoroughly understood;
 - .5 Documenting each stage of construction to confirm Work is done professionally and in accordance with drawings and specifications;
 - .1 Maintain a checklist and status of inspections, checks, tests which must be agreed upon by the Departmental Representative.
- .3 Integrate the Quality Assurance Plan with the Demolition Plan.

3.4 COMMUNICATION AND MEETINGS

3.4.1 COMMUNICATION

- .1 Unless otherwise directed by the Departmental Representative, the Design Builder conducts all project communication through the Departmental Representative only.
- .2 If any communication results in the need for any change to the Project's scope of work, quality, cost or schedule, the Design Builder must inform the Departmental Representative, and seek direction, before taking any action.
- .3 The Departmental Representative will arrange for the Design Builder to obtain access to PWGSC's secured shared document management site (Buzzsaw).
- .4 Correspondence:
 - .1 All correspondence from the Design Builder must be distributed as directed by the Departmental Representative.
 - .2 There must be no correspondence between occupants or users of the facility and the Design Builder unless directed by the Departmental Representative.
 - .3 All correspondence must carry the Contract name/number, PWGSC Project title, PWGSC Project/WBS number and date in metric format (yyyy-mm-dd).
 - .4 Automatic date fields must not be used except when preceded by "Printed on:"
- .5 The Design Builder must:
 - .1 Develop a communication and correspondence protocol, submit it to the Departmental Representative for review and acceptance prior to implementation;
 - .2 Direct communication and correspondence between members of the PWGSC Project Team, Design Builder and the User Departments on routine matters as required to enable the project to proceed in a timely and efficient manner,
 - .1 However, no communication must alter the terms of the project scope, budget or schedules unless directed in writing by the Departmental Representative.
 - .3 Provide agenda minimum 2 working days in advance of meetings.

3.4.2 MEETINGS: DESIGN AND CONSTRUCTION DOCUMENT STAGES

- .1 Meetings with PWGSC and the Design Builder team will primarily be via



teleconference, with WebEx used if there are documents that need to be reviewed at the meeting:

- .2 Design Builder will arrange meetings bi-weekly, or scheduled at a frequency acceptable to the Departmental Representative, through to the completion of the design and construction documents including the development of the Demolition Plan for the project, with representatives from:
 - .1 PWGSC;
 - .2 Agents of PWGSC (as identified);
 - .3 Design Builder team; and
 - .4 DND representatives.
- .3 Design Builder will be responsible for:
 - .1 Preparing minutes of meetings, and must be agreed upon by the Departmental Representative prior to finalizing.
 - .2 Draft minutes will be distributed within 2 working days of the meeting; and comments will be returned in a timely manner.
- .4 Forwarding minutes to the Departmental Representative and DND as per a distribution list provided by the Departmental Representative;
 - .1 These meetings are for the accurate exchange of information.
 - .2 All requests and decisions must follow through formal lines of communications.

3.4.3 MEETINGS: CONSTRUCTION STAGES

- .1 As identified in General Requirements: Division 01.
- .2 Participation in the Airport Manager's Operational weekly meeting during demolition.

3.5 PROJECT REVIEW AND APPROVAL

3.5.1 GENERAL

- .1 Submissions to PWGSC:
 - .1 Submit one (1) original to the Departmental Representative in electronic format unless otherwise directed in writing.
 - .2 Electronic formats:
 - .1 The electronic deliverables must be provided using Microsoft applications, Adobe Acrobat *.pdf format and/or AutoCad.
 - .2 The deliverable format is to be formally agreed to in advance of the submission of deliverables.
 - .3 Formal responses to PWGSC reviews to be in the original editable format.
- .2 Allow for two (2) weeks turnaround time for Departmental Representative to provide comments.
- .3 Design Builder must respond in writing to the Departmental Representative's written review comments within two (2) weeks of receipt.

3.5.2 ACCEPTANCE OF PROJECT DELIVERABLES

- .1 The project delivery process entitles PWGSC or their representative to review any work.
- .2 PWGSC (and DND through PWGSC) reserves the right to reject undesirable or unsatisfactory work.
- .3 The Design Builder must obtain Departmental Representative acceptance of all required deliverables for the Project.
 - .1 Acceptance indicates that, based on a general review of material for specific issues, the material is considered to comply with the performance requirements and that the overall project objectives appear to be satisfied.



- .2 Where deliverables include equivalent solutions to the requirements of the TOR, the Design Builder is responsible to highlight aspects for special attention and demonstrate how the solution meets the intent of the TOR for discussion and potential acceptance.
- .3 Acceptance does not relieve the Design Builder of responsibility for the work and compliance with the contract.
- .4 Acceptance does not prohibit rejection of work, which is determined to be unsatisfactory at later stages of review.
- .4 All submissions are to be complete, professional and comprehensive.

3.5.3 FEDERAL GOVERNMENT

- .1 The PWGSC Departmental Representative, as well as the Federal Authorities identified below will review work in progress on a continuing basis.
- .2 The following are authorities having Federal Government jurisdiction over the project:
 - .1 Treasury Board accessed through the Departmental Representative;
 - .2 PWGSC,

3.5.4 PROVINCIAL / TERRITORIAL, LOCAL AND OTHER AUTHORITIES HAVING JURISDICTION

- .1 Although the Federal Government is not formally subject to jurisdictions at other levels of government, compliance with the requirement of these other Authorities is a requirement of this TOR unless otherwise directed by the Departmental Representative.
 - .1 Codes, regulations, by-laws and decisions of authorities identified herein as having jurisdiction must be observed.
 - .2 In areas of conflict between authorities, the Federal authority prevails.
 - .3 In areas of conflict between Codes, Standards and regulations, the most rigid requirements must be adhered to.
 - .4 The Design Builder must identify other jurisdictions appropriate to the project.
- .2 Provincial/ Territorial Acts, Regulations, Standards and Inspections:
 - .1 Unless directed otherwise by the Departmental Representative, the Design Builder will:
 - .1 Adhere to all applicable provincial / territorial Construction Health and Safety Acts and regulations, in addition to the related Canada Occupational Safety and Health *Regulations*,
 - .2 Adhere to the requirements of the Labour Standards and Regulations including (but not limited) to,
 - .1 Employment Standards,
 - .2 Construction Safety,
 - .3 Designated Substance Management and
 - .4 Workers Compensation.
- .3 Local By-laws, Regulations, Standards and Inspections
 - .1 The Federal government does not defer to local authorities, except for specific by-laws, regulations, Standards and inspections noted below.
 - .1 A Class A permit under the Territorial Land Use Regulations may be required which might trigger a potential preliminary screening under the Nunavut Impact Review Board.
 - .2 Unless directed otherwise by the Departmental Representative, the Design Builder will:
 - .1 Apply for and obtain all permits and approvals from the local Authorities having Jurisdiction for the work, in advance of commencing the work;
 - .1 Provide all required supporting documentation for permit applications;



- .2 Resolve all Permit related issues, as may be required;
- .3 Provide Local authorities access to the site as required and arrange for inspections of the construction work by governing utility officials.

3.5.5 PROJECT RESPONSE TIME

- .1 Key personnel of the Design Builder are required to be personally available to attend all meetings and respond to inquiries promptly.
- .2 During the project, the Design Builder's Key Personnel must be:
 - .1 Available to attend meetings and respond to inquiries within one (1) working days' notice;
 - .2 Respond to emergencies within four (4) hours including those occurring during off-hours and on weekends/ holidays.
- .3 On occasion, there may be urgent, problem-solving meetings.
 - .1 The Design Builder must be available to attend such meetings within four (4) business hours by web-ex or teleconference.

3.6 SCHEDULE MANAGEMENT

3.6.1 PROJECT SCHEDULE

- .1 A Detailed Project Schedule is a schedule developed in reasonable detail to ensure adequate Time Management planning and control of the project.
- .2 Project Schedules are used as a guide for the planning, design and implementation phases of the project, as well as to communicate to the project team when activities are to happen, based on network techniques using Critical Path Method (CPM).
- .3 The Design-Builder must include a Submission Schedule for the purpose of Review and Approval of all Deliverables considering Code, Health and Life safety issues.
- .4 When building a Project Schedule, the Design-Builder must consider:
 - .1 The level of detail required for control and reporting;
 - .2 The reporting cycle must be monthly, unless otherwise identified in the TOR.
 - .3 What is required for reporting in the Project Teams Communications Plan and
 - .4 The nomenclature and coding structure for naming of scheduled activities must be submitted to the Departmental Representative for acceptance. A preliminary schedule must be submitted to the Departmental Representative for review within 14 days of contract award.

3.6.2 MILESTONES

- .1 The Major Milestones are standard Deliverables and Control Points, which are required in all schedule development.
- .2 These Milestones will be used in Time Management Reporting within PWGSC as well as used for monitoring project progress using Variance Analysis.
- .3 Milestones may also be external constraints such as the completion of an activity, exterior to the project, affecting the project.

3.6.3 ACTIVITIES

- .1 All activities will need to be developed based on:
 - .1 Project Objectives
 - .2 Project Scope
 - .3 Deliverables
 - .4 Key Milestones
 - .5 Meetings with the project team and
 - .6 The scheduler's full understanding of the project and it's processes.



- .2 Subdivide elements into manageable increments to structure and define the total scope of work in levels that can be scheduled, monitored and controlled.
 - .1 This process will develop the Activity List for the project.
- .3 Each activity will describe the work to be performed using a verb and noun combination (i.e. Review Design Development Report).
- .4 These elements will become activities, interdependently linked in the Project Schedule.

3.6.4 SCHEDULE REVIEW AND APPROVAL

- .1 Once the scheduler has identified and properly coded all the activities to the acceptance of the Departmental Representative, the activities are then sorted into a logical order, with appropriate durations, and applied to complete the schedule.
- .2 The scheduler, together with the Project Team, can then analyze the schedule to see if the milestone dates meet the project timelines and then adjust the schedule accordingly by modifying durations or changing logic.
- .3 When the schedule has been satisfactorily prepared, the scheduler can present the detailed schedule back to the Project Team for acceptance and application as the project baseline.
 - .1 There may be several iterations before the schedule meets with the Project Teams agreement and the critical project timelines.
- .4 The final agreed version must be copied and saved as the Baseline Schedule used to monitor variances throughout the project.

3.6.5 SCHEDULE MONITORING AND CONTROL

- .1 The Baseline Schedule will be monitored, documented and reported.
- .2 Monitoring is performed by, comparing the baseline activities % complete and milestone dates to the actual and forecast dates to identify the variance and record any potential delays, outstanding issues and concerns and provide options for dealing with any serious planning and scheduling issues.
- .3 There will be several schedules generated from the analysis of the baseline schedule as outlined in the Required Services Sections of the TOR.
- .4 Each updated schedule reflects the progress of each activity to date, any logic changes, both historic and planned, projections of progress and completion indicating the actual start and finish dates of all activities being monitored.
- .5 The Scheduler is to provide continuous monitoring and control, timely identification and early warning of all unforeseen or critical issues that affect or potentially affect the project in accordance with the TOR.
- .6 If unforeseen or critical issues arise, the Scheduler will advise the Departmental Representative and submit proposed alternative solutions in the form of an Exception Report.
 - .1 An Exception Report will include sufficient description and detail to clearly identify:
 - .1 Scope Change: Identifying the nature, reason and total impact of all identified and potential project scope changes affecting the project.
 - .2 Delays and accelerations: Identifying the nature, the reason and the total impact of all identified and potential duration variations.
 - .3 Options Enabling a Return to the project baseline: Identifying the nature and potential effects of all identified options proposed to return the project within base lined duration.
- .7 At each submission or deliverable stage, provide an updated schedule and exception report.



3.7 WASTE MANAGEMENT

3.7.1 PROTOCOL

- .1 The Construction, Renovation, and Demolition (CRD) Non-hazardous Solid Waste Management Protocol to which PWGSC is bound, provides direction on the undertaking of non-hazardous solid waste management actions on projects (see The Environmentally Responsible Construction and Renovation Handbook);
 - .1 The protocol is designed to meet federal requirements, provincial / territorial policies and PWGSC Sustainable Development Strategy (SDS) objectives;
- .2 The Design Builder must implement a solid waste management program;
 - .1 Complete a cost benefit analysis;
 - .2 Develop Waste Diversion Workplan.
 - .3

3.7.2 DESIGN-BUILDER RESPONSIBILITIES

- .1 Research and investigate hazardous waste disposal strategies in context of the project and make recommendations;
- .2 Include in the contract documents, a requirement for the contractor to develop a waste reduction and management plan during the construction of this project;
- .3 Support local opportunities to safely reuse salvaged materials.

3.8 SITE PERFORMANCE REQUIREMENTS

3.8.1 SITE SIGNAGE

- .1 As required, requirements as listed in Division 01.
- .2 Provide signage as required for Design Builder purposes.

3.8.2 INTERRUPTION OF SITE SERVICES TO EXISTING FACILITIES

- .1 Notify Departmental Representative, Client and utility companies of any necessary interruption of services and obtain required permission in writing, at least seven (7) calendar days in advance of the interrupted service.

3.8.3 USE OF SITE

- .1 The site is located at: DND Nose Dock Hangar, Iqaluit, NU.
 - .1 Confine operations to avoid conflict.
 - .2 The site is on an active airport and airside access to the site needs to be coordinated with the Airport Authority through the Departmental Representative.
- .2 Define, in consultation with the Departmental Representative, a workable scheme to limit parts of the site to Contractor resources so as to not disturb hydrocarbon impacted soil.
 - .1 The use of the site must be defined in a "Limits of Site" drawings prepared by the Contractor and submitted to the Departmental Representative and User Department for review and acceptance.
- .3 Adhere to Departmental Representative and User Department/s restriction and limitations.
- .4 Confine activities, parking of vehicles of the Design-Builder or companies directly involved in the project, construction equipment, and areas for storage, stockpiling and plant set-up to Limits of Site and other areas as directed by Departmental Representative in consultation with Owner.
 - .1 All business and private vehicles of Subcontractors, their employees and suppliers must be parked in an area agreed upon by the Departmental



Representative.

- .2 The Design-Builder must issue mandatory instructions to all involved companies to uphold these requirements, and to minimize construction associated traffic and associated noise, exhaust and dust pollution, vibration and congestion.



4 GENERAL REQUIREMENTS (DIVISION 01)

4.1 01 11 00 - SUMMARY OF WORK

4.1.1 WORK SEQUENCE

- .1 Construct and Demolish the Work to eliminate any impacts on the airport's ability to operate during regular operational hours and to best meet the project goals and objectives.
- .2 Maintain fire access/control.

4.1.2 WORK BY OTHERS

- .1 Co-operate with other Contractors or Consultants in carrying out their respective works and carry out instructions from Departmental Representative.
- .2 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Departmental Representative, in writing, any defects which may interfere with proper execution of Work.

4.1.3 DESIGN BUILDER USE OF PREMISES

- .1 Provided restricted use of site and premises as directed by Departmental Representative until Substantial Performance. Restrictions include:
 - .1 Compliance with Airport procedures;
 - .2 Use of security escorts;
 - .3 Minimizing staging of material on site;
 - .4 Not impacting airside emergency access;
 - .5 Others as directed by the Departmental Representative.
- .2 Obtain and pay for use of additional storage or work areas (if) needed for operations under this Contract. Use of additional storage area will be at the expense of the Design Builder.

4.1.4 EXISTING SERVICES

- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
 - .1 Minimize duration of interruptions.
 - .2 Carry out work at times as directed by governing authorities.
 - .3 Provide alternative routes for personnel, pedestrian and vehicular traffic.
 - .4 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.
- .2 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services as required.
- .3 Provide temporary services as required to maintain existing buildings' systems.
- .4 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .5 Construct barriers in accordance with Section 01 56 00.
- .6 Provide and maintain for purposes of the Work access road within construction area for Design Builder's own construction vehicles, equipment and material access.

4.1.5 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.



- .4 Reviewed Shop Drawings.
- .5 List of Outstanding Shop Drawings.
- .6 Change Orders.
- .7 Other Modifications to Contract.
- .8 Field Test Reports.
- .9 Copy of Approved Work Schedule.
- .10 Health and Safety Plan and Other Safety Related Documents.
- .11 Material and Safety Data Sheets.
- .12 Labour conditions and Wage Schedules.
- .13 Material and Labour Bonds.
- .14 Manufacturers' applicable instructions.
- .15 Local and Territorial Permits.
- .16 Other documents as specified.

4.2 01 14 00 - WORK RESTRICTIONS

4.2.1 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with local, provincial / territorial and other regulations.
- .2 Subject to security clearances: Design Builder will have site access 24 hours, 7 days a week but may be restricted during certain times due to airport operations.
 - .1 From an airport operational perspective, the dates for the work, in order of preference:
 - .1 May 15 – July 4th
 - .2 May 15 – July 21
 - .3 August 5 – onwards
 - .4 NOTE: July 22 – August 4 (+/- 3 days) is not an operational possibility
 - .5 The earlier it is done in the season (prior to July 4th) the more flexibility we can offer in terms of lay down area and working constraints.
 - .3 Any access inside the Airside Operations will require Security Escort to be arranged for and paid by the Contractor. Two Security Firms are authorized to work at the Iqaluit Airport:
 - .1 Twilite Security – contact Keith Norman at keithnorman@twilitesecurity.ca 867-222-3352: or
 - .2 Frobisher Bay Touchdown Services – contact Bernard Frank corporate@frobisherbaytouchdown.com at 867-979-6226.
 - .4 The Contractor will task the Security Firm to arrange for and administer Block Passes for all Contractors employees and any others as directed by the Departmental Representative.
 - .1 Provide the names and a copy of Photo ID of all Contractor's employees, a minimum of one week in advance of their employment on site to the Security Firm.
 - .2 Ensure employees display their passes on a lanyard or armband while working inside the airside operations area.

4.2.2 SECURITY CLEARANCES

- .1 All personnel employed on this project may be subject to security check.

4.2.3 BUILDING SMOKING RESTRICTIONS

- .1 Smoking is not allowed on the project site.



4.2.4 CONSTRUCTION ON AIRPORTS SUMMARY:

- .1 Use of a crane will require the assessments by NavCanada and Transport Canada and need to be submitted at least 30 days in advance.
 - .1 The Form can be found at: http://wwwapps.tc.gc.ca/wwwdocs/Forms/26-0427E_1405-04_E.pdf
 - .2 Once approved, a copy of the approval letters from Transport Canada and NavCanada can be forwarded to Departmental Representative for the file.
 - .3 Notify the Departmental Representative a minimum of 48 working hours prior to crane work to allow for the filing of the NOTAM.
- .2 The access road through Gate 8 is the main access for our airport fire rescue trucks and access is to be maintained at all times.

4.2.5 FOR AERODROME SECURITY MEASURES

- .1 The airport security fence must remain intact and therefore any temporary construction fencing must meet the minimum standard for airport fencing. Fence is to match existing and is guided by the following paragraphs:
 - .1 If the operator of an aerodrome uses a fence as a security barrier or as part of a security barrier, the operator must ensure that the fence:
 - .1 is a metal chain-link fence;
 - .2 is at least 2.13 m high;
 - .3 has a 0.3 m three-strand barbed-wire overhang that faces out; and
 - .4 Maintains the integrity of the airport security.
 - .2 Height
 - .1 For greater certainty, the barbed-wire overhang is not included in the 2.13 m minimum height.
 - .3 Alternative materials
 - .1 Despite paragraph (1)(a), the operator of an aerodrome may use a fence other than a metal chain-link fence if:
 - .1 A metal chain-link fence would have a detrimental effect on communication or navigational aids; and
 - .2 Non-metallic materials such as plastic or wood are used only to the extent necessary to mitigate the detrimental effect.

4.3 01 29 00 - PAYMENT PROCEDURES

4.3.1 APPLICATION FOR PROGRESS PAYMENT

- .1 Submit a Cost Breakdown, in detail to the Department Representative at least 14 days before first application for progress payment for the Work aggregating the total amount of the Contract Price;
- .2 After approval by Department Representative, the Cost Breakdown will be used as the basis for progress payments.
- .3 Support claims for products and material delivered to the Place of the Work that are not yet incorporated into Work with the documentation/evidence to establish the value and delivery of products as required by the Departmental Representative.

4.4 01 31 19 - PROJECT MEETINGS

4.4.1 ADMINISTRATIVE

- .1 Schedule and administer project meetings throughout the progress of the work.
 - .1 Meetings must support teleconference and face to face discussions.



- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting 5 working days in advance of meeting date to Departmental Representative.
- .4 Make arrangements for meetings every second week.
- .5 Preside at meetings.
- .6 Record the meeting minutes including;
 - .1 Significant proceedings and decisions.
 - .2 Identify actions by parties.
 - .3 Agreement of minutes by the Departmental Representative prior to finalizing.
- .7 Reproduce and distribute copies of minutes within 2 working days after meetings and transmit to meeting participants and, affected parties not in attendance and Departmental Representative. Content of minutes must be agreed upon by the Departmental Representative.
 - .1 Hold green meetings where possible.
- .8 Representative of Design-Builder, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

4.4.2 PRECONSTRUCTION MEETING

- .1 Within 7 working days after each Contract award, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Departmental Representative and any of his agents, Design Builder team, major Subcontractors, or supervisors will be in attendance.
- .3 Establish time, location and agenda of meetings and notify parties concerned a minimum of 2 working days prior to the meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include:
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of Work
 - .3 Scope of work and Implementation Strategy
 - .4 Environmental Issues and Compliance
 - .5 Demolition, Removal and Disposal Plan.
 - .6 Requirements for temporary facilities
 - .7 Site access, security and site specific health and safety plan.
 - .8 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .9 Record drawings
 - .10 Monthly progress claims, administrative procedures, photographs, hold backs.
 - .11 Risk management update.
 - .12 Appointment of inspection and testing agencies or firms.
 - .13 Insurances, transcript of policies.

4.4.3 PROGRESS MEETINGS

- .1 During course of Work schedule separate construction meetings every 2 weeks.
- .2 Design Builder, major Subcontractors involved in Work and Departmental Representative are to be in attendance.
- .3 Notify parties a minimum of 5 working days prior to meetings.
- .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 2 working days after meeting. Minutes must be agreed upon by the Departmental Representative.



- .5 Agenda to include the following items such as:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Corrective measures and procedures to regain projected schedule.
 - .6 Revision to construction schedule.
 - .7 Progress schedule, during succeeding work period.
 - .8 Review submittal schedules: expedite as required.
 - .9 Review proposed changes for impact on schedule and on completion date.
 - .10 Risk Management update.
 - .11 Health and Safety
 - .12 Other business.

4.5 01 32 15 - CONSTRUCTION PROGRESS SCHEDULES

4.5.1 GENERAL

- .1 Use a project management control system based on Critical Path Method (CPM) and Bar (GANTT) Chart techniques as may be required and agreed with the Departmental Representative.
- .2 Schedule reviews by Departmental Representative shall not mean approval of detail inherent in schedule, responsibility for which lies with Design Builder.

4.5.2 DEFINITIONS

- .1 Master Plan: summary-level schedule identifying major activities and milestones.
- .2 Project Plan: a formal, approved document to guide project execution and project control. Primary uses of Project Plan include:
 - .1 Document planning assumptions and decisions
 - .2 Facilitate communication among stakeholders
 - .3 Document approved scope, cost, and schedule baselines.
 - .4 Project Plans may be a summary or detailed, and an executive summary is advised for detailed Project Plans.
- .3 Project Schedule: planned dates for performing activities and planned dates for meeting milestones.
- .4 Risk: uncertain event or condition that has positive or negative impact on the project.
- .5 Work Breakdown Structure (WBS): deliverable-oriented grouping of project elements that organizes and defines total project Scope of Work.
 - .1 Each descending level represents increasing detail of the Work.

4.5.3 SYSTEM DESCRIPTION

- .1 Construction Progress Schedule (Project Time Management):
 - .1 Describes processes required to ensure timely completion of Project.
 - .2 These processes ensure that various elements of Project are properly coordinated.
 - .3 Consists of planning, scheduling, progress monitoring and control.
- .2 Project monitoring and reporting:
 - .1 As the project progresses, keep the team aware of changes to schedule, impacts and possible consequences.
 - .2 In addition to Bar Charts and CPM networks, use narrative reports to provide advice on the seriousness of difficulties and measures to overcome them.



- .3 Narrative reporting begins with statement on general status of Project followed by summarization of delays, potential problems, corrective measures and Project status criticality.

4.5.4 SCHEDULE REQUIREMENTS

- .1 Ensure Master Plan and Detail Schedule are practical and remain within specified Contract duration.
- .2 Acceptance of Master Plan and Detail Schedule showing scheduled Contract duration shorter than specified Contract duration does not constitute change to Contract. Duration of Contract may only be changed through bilateral Agreement.
- .3 Consider Master Plan and Detail Schedule showing Work completed in less than specified Contract duration, to have float.
- .4 Calculate dates for completion milestones from Plan and Schedule.
- .5 Delays to non-critical activities, those with float may not be basis for time extension.
- .6 Allow for and show Master Plan and Detail Schedule adverse weather conditions normally anticipated. Specified Contract duration has been predicated assuming normal amount of adverse weather conditions.
- .7 Provide necessary crews and manpower to meet schedule requirements for performing Work within specified Contract duration. Simultaneous use of multiple crews on multiple fronts on multiple critical paths may be required.
- .8 Arrange participation on and off site of Design Builder's Contractors, Own Forces and suppliers, as required by Departmental Representative for purpose of network planning, scheduling, updating and progress monitoring. Approvals by Departmental Representative of original networks and revisions do not relieve Design Builder from duties and responsibilities required by Contract.
- .9 Substantial Performance Certificate and Final Certificate of Completion.

4.5.5 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00.
- .2 Submit preliminary construction progress schedule within 14 working days of contract award to Departmental Representative for review.
- .3 Coordinate with Departmental Representative's project schedule.
- .4 After review, revise and resubmit schedule to comply with revised project schedule.
- .5 During progress of Work revise and resubmit as directed by Departmental Representative.
- .6 Submit Project Control System for planning, scheduling, monitoring and reporting of project progress to the Departmental Representative.
- .7 Submit Project Control System to Departmental Representative for approval; failure to comply with each required submission, may result in progress payment being withheld in accordance with Federal Government's Terms of Payment.
- .8 Submit Project planning, monitoring and control system data as required by Departmental Representative in following form:
 - .1 Electronically: in original scheduling software specified in TOR and PWGSC Documentation and Submissions Standards containing schedule, cash flow, labeled with date, specific update, and person responsible for update.
 - .2 Master Plan Bar Chart.
 - .3 Construction Detail schedule Bar Chart.
 - .4 Listing of project activities including milestones and logical connectors, networks from Project start to end. Sort activities by activity identifier and accompany with descriptions. List early and late start and finish dates together with durations, codes and float time.



- .5 Criticality report listing activities and milestones with days total float.
- .6 Progress report in early start sequence, listing for each trade, activities due to start, underway, or finished within two months from monthly update date. List activity identifiers, description and duration.

4.5.6 PROJECT MEETING

- .1 Meet with Departmental Representative within 5 working days of each Award of Sub-Contract or Own Forces date, to establish Work requirements and approach to project construction operations.

4.5.7 WORK BREAKDOWN STRUCTURE (WBS)

- .1 Prepare construction Work Breakdown Structure (WBS) within 5 working days of Award of Sub-Contract or Own Forces date.

4.5.8 PROJECT MILESTONES

- .1 Project milestones include:
 - .1 Award.
 - .2 Design Service Submissions
 - .3 Permits.
 - .4 Site Mobilization and demobilization.
 - .5 Demolition including engineered demolition of structural steel and associated submittals.
 - .6 Utility Service Disconnection (if necessary)
 - .7 Interim Completion.
 - .8 Final Certificate Completion.

4.5.9 DETAIL SCHEDULE

- .1 Provide detailed project schedules within 5 working days of agreement to proceed with construction, showing activity sequencing, interdependencies and duration estimates. Include listed activities as follows:
 - .1 Approvals
 - .2 Construction - demolition
 - .3 Removal - certification
 - .4 Disposal - certification
 - .5 Site works and remediation
- .2 Relate Detail Schedule activities to basic activities and milestones developed and approved in Master Plan.
- .3 Insert Change Orders in appropriate and logical location of Detail Schedule. After analysis, clearly state and report to Departmental Representative for review effects created by insertion of new Change Order.

4.5.10 REVIEW OF THE CONSTRUCTION DETAIL SCHEDULE

- .1 Allow 10 workdays for review by Departmental Representative of proposed construction Detail Schedule.
- .2 Upon receipt of reviewed Detail Schedule make necessary revisions and resubmit to Departmental Representative for review within 5 working days.
- .3 Promptly provide additional information to validate practicability of Detail Schedule as required by Departmental Representative.
- .4 Submittal of Detail Schedule indicates that it meets Contract requirements and will be executed generally in sequence.

4.5.11 COMPLIANCE WITH DETAIL SCHEDULE

- .1 Comply with reviewed Detail Schedule.
- .2 Proceed with significant changes and deviations from scheduled sequence of



- activities that cause delay, when agreed by Departmental Representative.
- .3 Identify activities that are behind schedule and causing delay. Provide measures to regain slippage.
 - .1 Construction delays affecting project schedule will not constitute justification for extension of contract completion date.
 - .4 In the event of a request for Contract extension, submit justification, project schedule data and supporting evidence for extension to Design Builder's Contract or Design Builder's Contractors' completion date, or partial or interim acceptance milestone date when required. Include as part of supporting evidence:
 - .1 Written submission of proof of delay based on revised activity logic, duration and costs, showing time impact analysis illustrating influence of each change or delay relative to approved contract schedule.
 - .2 Prepared schedule indicating how change will be incorporated. Demonstrate perceived impact based on date of occurrence of change and include status of construction at that time.
 - .3 Other supporting evidence requested by Departmental Representative.

4.5.12 PROGRESS MONITORING AND REPORTING

- .1 Detail Schedule on job site must show "Progress to Date".
 - .1 Arrange participation on and off site of Design Builder's Own Forces, Contractors and suppliers, as, and when necessary, for purpose of network planning, scheduling, updating and progress monitoring.
 - .2 Inspect Work with Departmental Representative or their agent at least once per month to establish progress on each current activity shown on applicable networks.
- .2 Update and reissue project Work Breakdown Structure and relevant coding structures as project develops and changes.
- .3 Perform Detail Schedule update monthly with status dated (Data Date) on last working day of month.
 - .1 Update to reflect activities completed, activities in progress, logic and duration changes.
- .4 Submit a copies of updated Detail Schedule to the Departmental Representative.
- .5 Requirements for monthly progress monitoring and reporting are basis for progress payment request.
- .6 Submit monthly written report based on Detail Schedule, showing Work to date performed, comparing Work progress to planned, and presenting current forecasts. Report must summarize progress, defining problem areas and anticipated delays with respect to Work schedule, and critical paths.
- .7 Explain alternatives for possible schedule recovery to mitigate any potential delay. Include in report:
 - .1 Description of progress made.
 - .2 Pending items and status of Change Orders, possible time extensions.
 - .3 Status of Design Builder's completion date and milestones.
 - .4 Risk review including current and anticipated problem areas, potential areas of delays and gains, corrective measures, and opportunities for gains in time.
 - .5 Review of progress and status of critical activities.



4.6 01 33 00 - SUBMITTAL PROCEDURES

4.6.1 ADMINISTRATIVE

- .1 Design Builder's responsibility for errors and omissions in submissions is not relieved by Departmental Representative's review of submittals.
- .2 Design Builder's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.

4.6.2 PROGRESS PHOTOGRAPHS

- .1 Submit progress reports including digital progress photographs of all key project aspects with two different views of each location, complete with date and narrative labels.
- .2 Frequency: every two weeks or as agreed with Departmental Representative with each progress statement and request for payment.

4.7 01 35 43 - ENVIRONMENTAL PROCEDURES

4.7.1 FIRES

- .1 Fires and burning of rubbish on site is not permitted.

4.7.2 DISPOSAL OF WASTES

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm, sanitary sewers, or any terrain feature.

4.7.3 NOTIFICATION

- .1 Departmental Representative will notify Design Builder in writing of observed noncompliance with Federal, Provincial / Territorial or Local environmental laws or regulations, permits, and other elements of Design Builder's Environmental Protection plan.
- .2 Design Builder: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Design Builder for such suspensions.

4.8 01 41 00 - REGULATORY REQUIREMENTS

4.8.1 REFERENCES AND CODES

- .1 Perform Work in accordance with National Building Code of Canada (NBC) including amendments up to tender closing date and other codes of provincial / territorial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

4.8.2 HAZARDOUS MATERIAL DISCOVERY

- .1 The Design-Builder shall inform the Departmental Representative should any Hazardous Materials be discovered outside of those identified at the time of tender.



4.9 01 45 00 - QUALITY CONTROL

4.9.1 INSPECTION

- .1 Allow Departmental Representative, or designated representatives, access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Independent Inspection/Testing Agencies may be engaged by the Departmental Representative for purpose of inspecting and/or testing portions of the Work.
 - .1 Cost of such services will be borne by the Departmental Representative.
 - .2 If defects are revealed during inspection and/or testing, the Departmental Representative will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by the Departmental Representative at no cost to the Departmental Representative. The Design Builder to pay cost for retesting and reinspection.

4.9.2 PROCEDURES

- .1 Notify appropriate agency and Departmental Representative in advance of critical tasks in order that attendance arrangements can be made.
- .2 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by the Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents at no cost to the project.

4.9.3 REPORTS

- .1 Submit one pdf copy of inspection and test reports to the Departmental Representative.

4.10 01 51 00 - TEMPORARY UTILITIES

4.10.1 TEMPORARY UTILITIES

- .1 The Design Builder is responsible for the safe provision of all temporary utilities.

4.11 01 52 00 - CONSTRUCTION FACILITIES

4.11.1 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-S269.2-M1987(R2003), Access Scaffolding for Construction Purposes.
 - .2 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.

4.11.2 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00.

4.11.3 SITE STORAGE/LOADING

- .1 The Design Builder will be provided full access to the site and any staging areas.

4.11.4 CONSTRUCTION PARKING

- .1 Parking - make available as required
- .2 Make good damage to roads used for project site access.
- .3 Provide and maintain adequate access to project site.



- .4 Clean site access areas/routes where used by Design Builder's equipment.

4.11.5 OFFICE AND TRAILERS

- .1 Design Builder will be responsible for own services.

4.11.6 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Design Builder will be responsible for own storage.

4.11.7 SANITARY FACILITIES

- .1 Design Builder will be responsible for workers sanitary facilities.

4.11.8 CONSTRUCTION SIGNAGE

- .1 No construction advertisement signs, other than health and safety, warning and instructional signs, are permitted on site.
- .2 Maintain approved signs and notices in good condition for duration of project, and dispose of signs and notices off-site on completion of project or earlier if directed by Departmental Representative.

4.11.9 CLEAN-UP

- .1 Remove or safely contain demolition debris, waste materials, and material from site on a daily basis.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways and airfield surfaces.

4.12 01 56 00 - TEMPORARY BARRIERS AND ENCLOSURES

4.12.1 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Ensure at all times that they comply with airport authority direction.
- .3 Remove from site all such work after use.

4.12.2 GUARD RAILS AND BARRICADES

- .1 Provide as required by governing authorities.

4.12.3 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

4.12.4 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property including lay down, site office facilities and parking areas from damage during performance of Work.
- .2 The Design Builder will be responsible for any damage incurred, including all cost to restore effected areas.

4.13 01 74 21 - DEMOLITION WASTE MANAGEMENT AND DISPOSAL

4.13.1 WASTE MANAGEMENT GOALS

- .1 Prior to start of Work conduct meeting with Departmental Representative to review and discuss PWGSC's waste management goals.
- .2 Provide Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
- .3 Accomplish maximum control of construction waste.
- .4 Preserve environment and prevent pollution and environment damage.

4.13.2 STORAGE HANDLING AND PROTECTION

- .1 Propose an off-site location to store materials to be reused, recycled and salvaged. The off-site location is subject to approval by the Departmental Representative.
- .2 Unless specified otherwise, materials for removal become Design Builder's property



for salvage value purposes.

- .3 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .4 Protect structural components not removed for demolition from movement or damage.
- .5 Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative.
- .6 Separate and store materials produced during dismantling of structures in designated areas.
- .7 Ensure surface drainage is directed to authorized location(s), complete with catchment systems to prevent unapproved drainage from the site.
- .8 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On-site source separation is recommended.
 - .2 Remove co-mingled materials to off-site processing facility for separation.
 - .3 Provide waybills for separated materials.

4.13.3 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil, paint thinner into waterways, storm, sanitary sewers, or any terrain feature.
- .3 Keep records of construction waste including:
 - .1 Number and size of bins.
 - .2 Waste type of each bin.
 - .3 Total tonnage generated.
 - .4 Tonnage reused or recycled.
 - .5 Reused or recycled waste destination.
- .4 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

4.13.4 CLEANING

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

4.14 01 77 00 - CLOSEOUT PROCEDURES

4.14.1 INSPECTION AND DECLARATION

- .1 Design Builder's Inspection: Design Builder is to coordinate the completion of an inspection of Work, and document any deficiencies, defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative in writing of any deficiencies (and their associated costs) to rectify at time of Certificate of Substantial Performance and subsequently the satisfactory correction of those deficiencies for the Certificate of Completion.
 - .2 Request Departmental Representative Inspection.
- .2 Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with:
 - .1 Contract Documents.
 - .2 Local authorities having jurisdiction.



- .3 Local services/utility providers.
- .2 Certificates required by Authorities Having Jurisdiction, (Utility Companies) have been submitted.
- .3 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative and / or their agent.
 - .1 If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection. All cost associated with the re-inspection will be the Design Builders expense.

4.15 01 78 00 - CLOSEOUT SUBMITTALS

4.15.1 SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00.
- .2 Copies will be returned after final inspection, with Departmental Representative's comments.
- .3 Revise content of documents as required prior to final submittal.
- .4 Two weeks prior to Substantial Performance of the Work, submit to the Departmental Representative both electronic and printed copies of all documents.

4.15.2 ELECTRONIC SUBMITTALS

- .1 Submit number of hard copies specified for each type and format of submittal and submit in electronic format as pdf files and in MS Word, Excel, etc, as appropriate.
- .2 Transfer as-built information from marked up set of documents to electronic format.
- .3 Provide plotted or printed drawings as specified.

4.15.3 RECORD DRAWINGS (AS-BUILTS)

- .1 Maintain, in addition to requirements in General Conditions, at site for Departmental Representative one record copy of Construction Drawings.
- .2 Store record documents in field office apart from documents used for construction.
- .3 Maintain record documents in clean, dry and legible condition.
- .4 Keep record documents available for inspection by Departmental Representative.
- .5 Turnover at completion with all as-built information:
 - .1 Specifications:
 - .1 Searchable pdf file.
 - .2 Drawings:
 - .1 1 electronic AutoCAD file - version to be confirmed
 - .2 4 sets of printed as-built drawings.
 - .3 1 pdf copy.
- .6 Submit to Departmental Representative one copy of drawings and specifications for review prior to final submission.

4.15.4 RECORDING SITE CONDITIONS

- .1 Record information on set of black line opaque drawings, and in copy of Specifications Documents.
- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.



5 SYNOPSIS: AIRPORT SECURITY & OPERATIONAL PROTOCOLS

5.1 EMAIL CONSTRUCTION FENCE– NUNAVUT AIRPORT SERVICES

5.1.1 2016-01-20

I have attached an image that I have done up to try and capture my suggestions. These are suggestions only – the layout of the final security fence and the construction fence are not requirements, just a representation of the ideas you can consider.

The red line is representative of the current security fence line. The building also forms part of that security barrier.

One suggestion is to first install the permanent fencing as per the regulatory specifications. This is shown in green on the attached drawing titled Nosedock fenceline.

Then, the construction fencing can be installed – shown by the orange line. The construction fencing then can be different specifications – it can be the 5' feet that you reference, and does not need to have barbed wire.

However, if your contractor does not want to operate in a completely fenced area then they will need to install the fencing as per the attached drawing identified as Nosedock fenceline option #2.







5.2 EMAIL - AERODROME SECURITY MEASURES

5.2.1 2016-01-20

With regards to the fence, here are the specifications:

5.2.2 FOR OPERATIONS,

- .1 Security limitations on the lay down area information:
 - .1 Clear zones — aprons
 - .1 The operator of an aerodrome must keep any portion of a security barrier that is on an air terminal building apron clear of objects that could pose a threat to aerodrome security by ensuring that the objects are
 - .1 at least 3 m from the barrier if they are in a non-restricted area; and
 - .2 at least 1 m from the barrier if they are in restricted area.

5.2.3 LIGHTS:

- .1 For aircraft safety reasons, the fence will also need to have lighted red obstruction lights installed at intervals along the top of the fence line.