PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

VICTORIA BASE CANADIAN COAST GUARD - WHARF REPAIR

SOLICITATION NO. F1700-150532

SPECIFICATIONS
December 2015

Canada

TABLE OF CONTENTS

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this Contract involves the construction advancements of a wharf that will be used to support the operations of the Canadian Coast Guard. The work involves:

- .1 Mobilisation/Demobilisation;
- .2 Demolish the existing concrete deck between Pile Cap 29 and 31 and remove the upper part of the existing concrete retaining wall as shown on the drawings;
- .3 Supply and install new support steel beams for the concrete deck complete as shown on the drawings.
- .4 Supply all material and construct concrete Lock-Block abutment behind the existing concrete retaining wall complete as shown on the drawings.
- .5 Supply and construct new reinforced concrete deck between Pile Cap 29 and 31 complete with new reinforced concrete cope and abutment beams as shown on the drawings.
- .6 Supply and construct new reinforced concrete transition plate between the wharf deck and the existing yard pavement and restore existing pavement around the transition plate complete as shown on the drawings.
- .7 Reinstall existing timber curb, fenders, access ladder and cleat that temporarily were removed for the construction as directed by the engineer.

1.2 CONTRACT METHOD

.1 Construct Work under Unit Price contract.

.2 The contract price for the Work will be the total of actual quantities of Work listed in the attached "*Schedule of Quantities*" that is to be submitted by each individual bidder.

1.3 CONSTRUCTION SCHEDULE

.1 This contract must be completed by March 31, 2016

1.4 WORK BY OTHERS

.1 Co-operate with other Contractors in carrying out their respective works and carry out instructions from Engineer.

.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 Engineer, in writing, any defects which may interfere with proper execution of Work.

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 Other documents as specified.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.

.2 Maintain existing services to building and provide for personnel and vehicle access.

.3 Where security is reduced by work provide temporary means to maintain security.

.4 Closures: protect work temporarily until permanent enclosures are completed.

1.2 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING SYSTEMS

.1 Execute work with least possible interference or disturbance to operations, occupants, and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.3 EXISTING SERVICES

.1 Notify, Departmental Representative and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services give Departmental Representative Consultant 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions to a minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.

.3 Provide for personnel and pedestrian and vehicular traffic.

1.4 SPECIAL REQUIREMENTS

.1 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.

.2 Keep within limits of work and avenues of ingress and egress.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 Submittal Procedures

1.2 DEFINITIONS

.1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.

.2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.

.3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.

.4 Construction Work Week: Monday to Friday or Saturday, inclusive, will provide five to six day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.

.5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element: usually expressed as workdays or work weeks.

.6 Master Plan: summary-level schedule that identifies major activities and key milestones.

.7 Milestone: significant event in project, usually completion of major deliverable.

.8 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

.9 Project Planning, Monitoring and Control System: overall system operated by Departmental Representative to enable monitoring of project work in relation to established milestones.

1.3 REQUIREMENTS

.1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.

.2 Plan to complete Work in accordance with prescribed milestones and time frame.

.3 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.4 SUBMITTALS

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

.2 Submit to Departmental Representative within 5 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.

.3 Submit Project Schedule to Departmental Representative within 10 working days of receipt of acceptance of Master Plan.

1.5 PROJECT MILESTONES

.1 Project milestones form interim targets for Project Schedule.

.1 Project completed before **April 1, 2016**.

1.6 MASTER PLAN

.1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).

1.7 PROJECT SCHEDULE

.1 Develop detailed Project Schedule derived from Master Plan.

.2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:

.1 Award.
.2 Shop Drawings, Samples.
.3 Permits.
.4 Mobilization.
.5 Pile Driving
.6 Project Completion

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

.1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Present shop drawings, product data, samples and mock-ups in SI Metric units.

.4 Where items or information is not produced in SI Metric units converted values are acceptable.

.5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.7 Verify field measurements and affected adjacent Work is co-ordinated.

.8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative review of submittals.

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.

.10 Keep one reviewed copy of each submission on site.

1.2 SHOP DRAWINGS AND PRODUCT DATA

.1 Refer to CCDC 2 GC 3.11.

.2 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.3 Submit shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in Province of BC, Canada.

.4 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.5 Allow 2 days for Departmental Representative's review of each submission.

.6 Adjustments made on shop drawings by Departmental Representative. are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.

.7 Make changes in shop drawings as Departmental Representative require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.

.8 Accompany submissions with transmittal letter, containing:

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address.
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.

.9 Submissions include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier.
  - .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of Work as applicable:
  - .1 Fabrication.
  - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
  - .3 Setting or erection details.
  - .4 Capacities.
  - .5 Performance characteristics.
  - .6 Standards.

.7 Operating weight.

.8 Wiring diagrams.

.9 Single line and schematic diagrams.

.10 Relationship to adjacent work.

.10 After Departmental Representative's review, distribute copies.

.11 Submit electronic copies of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.

.12 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.

.13 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.

.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.

.2 Testing must have been within 3 years of date of contract award for project.

.14 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.

.1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.

.2 Certificates must be dated after award of project contract complete with project name.

.15 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Departmental Representative.

.1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

.16 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.

.1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

.17 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.

.18 Delete information not applicable to project.

.19 Supplement standard information to provide details applicable to project.

.20 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

.21 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.

.1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.

.2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.3 SAMPLES

.1 Not used.

1.4 MOCK-UPS

.1 Not used.

1.5 PROGRESS PHOTOGRAPHS

.1 Submit progress photographs in accordance as requested by the Departmental Representative

1.6 CERTIFICATES AND TRANSCRIPTS

.1 Immediately after award of Contract, submit Workers' Compensation Board status.

.2 Submit transcription of insurance immediately after award of Contract.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Health and safety considerations required to ensure that PWGSC shows due diligence towards health and safety on construction sites, and meets the requirements laid out in PWGSC/RPB Departmental Policy DP 073 - Occupational Health and Safety - Construction.

1.2 REFERENCES

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.3 Province of British Columbia

.1 Occupational Health and Safety Act, R.S.Y. [1986].

1.3 SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit site-specific Health and Safety Plan: Within 3 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.

.3 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative authority having jurisdiction, weekly.

.4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

.5 Submit copies of incident and accident reports.

.6 Submit WHMIS MSDS - Material Safety Data Sheets

.7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 3 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative.

.8 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

.9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.

1.4 SAFETY ASSESSMENT

.1 Perform site specific safety hazard assessment related to project.

1.5 MEETINGS

.1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.6 REGULATORY REQUIREMENTS

.1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.7 GENERAL REQUIREMENTS

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.8 RESPONSIBILITY

.1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.9 COMPLIANCE REQUIREMENTS

.1 Comply with Workers Compensation Act, B.C. Reg..

.2 Comply with Occupational Health and Safety Regulations, 1996.

.3 Comply with Occupational Health and Safety Act, General Safety Regulations, O.I.C..

.4 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.10 UNFORSEEN HAZARDS

.1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.11 HEALTH AND SAFETY CO-ORDINATOR

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:

.1 Have site-related working experience specific to activities associated with contamination.

.2 Have working knowledge of occupational safety and health regulations.

.3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

1.12 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.

.2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.

.3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.13 POWDER ACTUATED DEVICES

.1 Use powder actuated devices only after receipt of written permission from Departmental Representative.

1.14 WORK STOPPAGE

.1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Approved: 2012-06-30

Part 1 General

1.1 REFERENCES

.1 Definitions:

.1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.

.2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

.2 Reference Standards:

.1 Canada Green Building Council (CaGBC)

.1 LEED Canada-NC Version 1.0-[2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum [2007]).

.2 Rating System Addenda for New Construction and Major Renovations LEED Canada-NC Version 1.0-[Addendum 2007].

.3 LEED Canada-CI Version 1.0-[2007], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.

.4 LEED Canada 2009 for Design and Construction-[2010], LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide

.5 LEED Canada for Existing Buildings, Operations and Maintenance-[2009], LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide.

.2 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2008 Stipulated Price Contract.

.3 U.S. Environmental Protection Agency (EPA)/Office of Water

.1 EPA 832/R-92-005-[92], Storm Water Management for Construction Activities, Chapter 3.

.2 EPA General Construction Permit (GCP) [2012].

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Comply with all environmental protection requirements necessary to carry out the work.

.2 Before commencing construction activities or delivery of materials to site, review Environmental Protection Plan submitted by Departmental Representative.

1.3 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on site and adjacent properties as indicated.

.2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of [2] m minimum.

.3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage.

.1 Avoid unnecessary traffic, dumping and storage of materials over root zones.

.4 Minimize stripping of topsoil and vegetation.

1.4 WORK ADJACENT TO WATERWAYS

.1 Use waterway beds for borrow material only after written receipt of approval from Departmental Representative.

.2 Waterways to be kept free of excavated fill, waste material and debris.

.3 Do not skid logs or construction materials across waterways.

.4 Avoid indicated spawning beds when constructing temporary crossings of waterways.

1.5 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under this Contract.

.2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.

.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.6 NOTIFICATION

.1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.

.2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.

.1 Take action only after receipt of written approval by Departmental Representative.

.3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 CLEANING

.1 Progress Cleaning: clean in accordance with Section [01 74 11 - Cleaning].

.1 Leave Work area clean at end of each day.

.2 Bury rubbish and waste materials on site where directed after receipt of written approval from Departmental Representative.

.3 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.

.4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 11 - Cleaning].

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-94, Stipulated Price Contract.

1.2 INSPECTION

.1 Refer to CCDC 2, GC 2.3.

.2 Allow Departmental Representative or Consultant Engineer 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.

.3 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative or Consultant Engineer instructions, or law of Place of Work.

.4 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.5 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.3 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access.

1.4 PROCEDURES

.1 Notify Departmental Representative or Consultant Engineer 5 days in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.5 REJECTED WORK

.1 Refer to CCDC, GC 2.4.

.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 Departmental Representative or Consultant Engineer as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

.3 Make good other Contractor's work damaged by such removals or replacements promptly.

.4 If in opinion of Departmental Representative or Consultant Engineer it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative and Consultant Engineer,

1.6 MILL TESTS

.1 Submit mill test certificates as requested.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Approved: 2006-03-31

Part 1 General

1.1 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-[94], Stipulated Price Contract.

1.2 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.

.2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.

.3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.4 Dispose of waste materials and debris off site.

.5 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

.6 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.7 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.3 FINAL CLEANING

.1 Refer to CCDC 2, GC 3.14.

.2 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.3 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.4 Prior to final review remove surplus products, tools, construction machinery and equipment.

.5 Remove waste products and debris [other than] [including] that caused by Owner or other Contractors.

.6 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.

.7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.8 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, floors.

.9 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Approved: 2006-03-31

Part 1 General

1.1 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-[94], Stipulated Price Contract.

.2 DOC 14-[2000], Design-Build Stipulated Price Contract.

.3 DOC 15-[2000], Design-Builder/ Consultant Contract.

1.2 INSPECTION AND DECLARATION

.1 Contractor's Inspection: Contractor conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.2 Request Departmental Representative Inspection.

.2 Departmental Representative Inspection: Departmental Representative, Consultant and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly.

.3 Completion: submit written certificate that following have been performed:

.1 Work has been completed and inspected for compliance with Contract Documents.

.2 Defects have been corrected and deficiencies have been completed.

.3 Equipment and systems have been tested, adjusted and are fully operational.

.4 Operation of systems have been demonstrated to Owner's personnel.

.5 Work is complete and ready for final inspection.

.4 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative and Engineer Consultant. If Work is deemed incomplete by Departmental Representative and Engineer Consultant, complete outstanding items and request re-inspection.

.5 Declaration of Substantial Performance: when Owner and Departmental Representative and Engineer consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance. Refer to CCDC 2, General Conditions Article DOC 14 DOC 15 for specifics to application.

.6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty

period and commencement of lien period unless required otherwise by lien statute of Place of Work.

.7 Final Payment: when Owner and Departmental Representative consider final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. Refer to CCDC 2. If Work is deemed incomplete by Owner, Departmental Representative, and Consultant, complete outstanding items and request re-inspection.

.8 Payment of Holdback: after issuance of certificate of Substantial Performance of Work, submit an application for payment of holdback amount in accordance with CCDC 2

1.3 CLEANING

.1 In accordance with Section 01 74 11 - Cleaning.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Executionnot Used

.1 Not Used.

END OF SECTION

Fisheries and Oceans Canada | Pêches et Océans Canada

Canada

REAL PROPERTY SERVICES

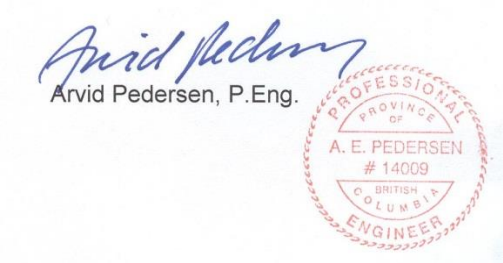
Technical Specifications

CONCRETE WHARF REPAIR

CCG - SHOAL POINT

VICTORIA; B.C.

December, 2015



VJA ENGINEERING

TECHNICAL SPECIFICATIONS

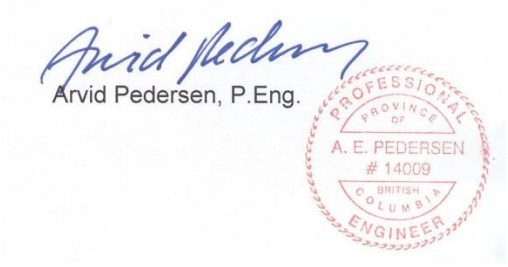
SECTION	TITLE
00 00 01	Technical Specification Index
01 00 00	General Requirements
01 01 00	Summary of Work
00 20 60	Demolition of Structures
00 22 20	Fill and Rock Work
00 30 00	Concrete
00 51 00	Structural Steel Work
00 61 00	Rough Carpentry
00 98 00	Painting

DRAWINGS	TITLE
215126-100	Site Plan and General Notes
215126-101	Existing Wharf – General Arrangement
215126-102	Existing Wharf – Typical Cross Sections
215126-110	Wharf Repair Area 1 - Plan and Section
215126-111	Concrete and Reinforcing Details – Sheet 1 of 2
215126-112	Concrete and Reinforcing Details – Sheet 2 of 2

REFERENCE DRAWINGS:

Vic Base – Wharf As-Builts.pdf
Conforce Drawings-2.pdf
Conforce Drawings-3.pdf

END OF SECTION



1 GENERAL

.1 The Standard General Conditions of these specifications form an integral part of this section.

2 MINIMUM STANDARDS

.1 In the absence of other standards specified in the Contract Documents, all work is to conform to, or exceed, the minimum standards of the Canadian Government Specifications Boards, the Canadian Standards Association, the American Society for Testing of Materials, or the National Building Code of Canada, whichever is applicable.

.2 All work to be done in accordance with Work Safe BC regulations.

3 INTERFERENCE WITH OPERATION

.1 The Contractor shall obey all navigation regulations and conduct operations so as to interfere as little as possible with the use of berthing spaces, fairways and passages. Install and maintain any and all protection to navigation as may be required by any properly constituted authority or by the Engineer. During the course of construction and cleanup, do not dispose of surplus, waste or demolished materials in navigable waters.

.2 The Contractor shall upon instruction of the Owner or Engineer, promptly remove any of the Contractor's equipment located outside the specified work area and obstructing any operation at the CCG base at Shoal Point.

4 BARRIERS, LIGHTS AND WATCHING

.1 The Contractor shall provide all requisite barriers, fences, warning signs, lights and watching for the protection of persons and property on or adjacent to the site.

5 SITE ACCESS

.1 The Contractor shall make his own arrangements subject to the approval of the Engineer, for access to the site. Site access shall be coordinated with the local CCG representative.

.3 The Contractor shall maintain routes of travel, the Engineer being the sole judge as to what may be deemed reasonable:

.4 The Contractor shall erect and maintain barriers, fences, lights, warning devices, and other protective devices as may be required for prevention of theft or damage of goods and protection of the public and workers, or if so ordered by the Engineer.

6 CONSTRUCTION AREA

.1 The Contractor shall regulate construction traffic on public areas and comply with all local ordinances in connection therewith, including load limitation and removal of debris.

.2 The Contractor shall confine his operations on the site to those areas actually required for the work including routes and regulations approved by the Owner for haulage of materials.

7 NIGHT WORK

.1 The Contractor shall keep proper lights each night between the hours of sunset and sunrise upon all floating plant and false-work, upon all ranges and other stakes where necessary, and upon all buoys of such size and in such locations as required by a governing authority. When work is done at night, maintain from sunset to sunrise such lights on or about the work and plant as necessary for the proper observation of the work and the efficient prosecution thereof.

8 CLEAN-UP

.1 At all times the Contractor shall keep the site free from accumulation of waste material and debris and leave the site clean and tidy on completion.

9 TEMPORARY SERVICES

.1 On site the Contractor shall make his own arrangements for supply of water and electricity.

.2 The Contractor shall supply for his own use; sanitary, first aid, and all other temporary services and facilities required for the work.

10 PROGRESS REPORT

.1 The Contractor shall keep a daily record of progress of the work available for inspection by the Engineer.

.2 The daily record shall include particulars of weather conditions, number of workers, plant and equipment working and work performed.

11 ENGINEER'S ACCESS

.1 The Contractor shall provide access to the work for the Engineer's inspectors and surveyors as required.

12 PERMITS AND ROYALTIES

.1 Permits and licenses required for the Contractors work are the responsibility of the Contractor and shall be for the Contractor's account. The Contractor shall have the appropriate business license.

13 PROTECTION OF EXISTING STRUCTURES

.1 Existing structures, adjacent marine facilities, roads, services, piping or equipment within the work area which are not to be replaced shall be properly protected from any injury or damage, direct or indirect. Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractor's expense to the satisfaction of the Engineer.

14 WEATHER

.1 No work shall be undertaken by the Contractor when, in the opinion of the Engineer, the weather is unsuitable or unfavourable for a particular class of work. Time lost by the Contractor due to stoppage on account of adverse weather conditions may be allowed

the Contractor, at the discretion of the Engineer, as an extension of time for the completion of the work over and above the date of completion specified in the contract agreement.

15 PREVENTION OF WATER AND AIR POLLUTION

.1 The Contractor shall comply with Federal and Provincial laws, orders and regulations concerning the control and abatement of water and air pollution.

16 SOIL DATA AND EXISTING TOPOGRAPHY

.1 The Contractor shall notify the Engineer of any subsurface conditions at the place of the work that may differ materially from those indicated in the Contract Documents.

17 UTILITIES AND SERVICES

.1 The Contractor shall be responsible for any damage to overhead, underwater and/or underground utilities and/or services caused by the Contractor's operations and shall repair and make good the repairs at the Contractor's own expense.

.2 The Contractor shall be responsible, unless otherwise agreed to by the Engineer, for all temporary or construction services and utilities, and first aid facilities.

18 CARE OF FINISHED WORK

.1 The Contractor shall protect all finished work from injury, defacement, unauthorized entry, or trespass until such time as the work described in the Contract Documents is substantially complete.

19 NOISE BY-LAWS

.1 The Contractor shall comply with the requirements of any local or other Noise By-Laws.

20 MATERIAL DISPOSAL

.1 All material designated to be removed will become the property of the Contractor and will be disposed of in an environmentally acceptable manner so that they neither become a menace to marine navigation nor a nuisance to the public on adjacent or any other property.

.2 Unless otherwise specified, all existing material to be replaced or removed will be disposed of in accordance with 20.1 above.

.3 Conduct clean-up and disposal operations in conformance with local ordinances and antipollution laws.

END OF SECTION

1 GENERAL

.1 The Standard General Conditions of these specifications form an integral part of this section.

2 WORK INCLUDED

.1 The work under this contract shall include the supply of equipment, labour and materials for the performance of all work as required by the Contract Documents. All replaced items, cut-offs and waste material shall be disposed by the contractor in strict accordance with provincial, local, and municipal regulations and Part 8 of the National Building Code and with the Canadian Construction Safety Code.

.2 The work to be carried out under this contract includes the demolition and disposal of parts of the existing concrete wharf between Pile Cap 29 and 31 at CCG Shoal Point, Victoria, BC and the supply and construction of a new approximately 14 m by 15 m concrete deck complete with support steel beams and concrete abutment. The work generally consists of, but is not limited to the following items:

.1 Mobilisation/Demobilisation

.2 Demolish the existing concrete deck between Pile Cap 29 and 31 and remove the upper part of the existing concrete retaining wall as shown on the drawings.

.3 Supply and install new support steel beams for the concrete deck complete as shown on the drawings.

.4 Supply all material and construct concrete Lock-Block abutment behind the existing concrete retaining wall complete as shown on the drawings.

.5 Supply and construct new reinforced concrete deck between Pile Cap 29 and 31 complete with new reinforced concrete cope and abutment beams as shown on the drawings.

.6 Supply and construct new reinforced concrete transition plate between the wharf deck and the existing yard pavement and restore existing pavement around the transition plate complete as shown on the drawings.

.7 Reinstall existing timber curb, fenders, access ladder and cleat that temporarily were removed for the construction as directed by the engineer.

END OF SECTION

1 GENERAL

.1 The Standard General Conditions and Supplementary General Conditions of these specifications form an integral part of this section.

.2 Where existing works are to be removed, they shall be removed and salvaged or disposed of to the satisfaction of the Engineer.

.3 The Contractor shall furnish all labour, materials, tools, plant and services required incidental to the completion to the full extent of the drawings and specifications for the execution of all demolition salvage and protection work specified herein.

.4 Demolition and disposal shall be carried out in strict accordance with provincial, local, and municipal regulations and Part 8 of the National Building Code and with the Canadian Construction Safety Code.

.5 Demolition shall be carried out in accordance with the construction schedule as approved by the Engineer.

2 REMOVAL OF DEMOLISHED MATERIAL

.1 All material, which are not to be salvaged for the Owner, shall become the Contractor's property and the Contractor must remove it from the site.

.2 It shall be the Engineer's decision as to which material shall be salvaged and which materials shall be disposed of.

3 SALVAGE

.1 Material to be salvaged for the Owner shall be stored as directed by the Engineer.

4 PROTECTION

.1 The Contractor shall protect the remaining structural elements and adjacent structures against damage from falling debris or other causes.

.2 The Contractor shall take precautions to guard against movement or settlement of adjacent structures and remaining structural elements, provide and place shoring or bracing as required, and be responsible for the safety and support of such structures, be liable for any damage or injury caused thereby or resulting therefore. If at any time safety of any adjacent structure appears to be endangered; the Contractor shall cease operations and notify the Engineer.

END OF SECTION

1 GENERAL

.1 The Standard General Conditions and Supplementary General Conditions form an integral part of this section.

2 MATERIALS

.1 Gravel Fill: Well graded crushed rock, gravel, sand and fines with continuous gradation, free of any deleterious material, having a maximum diameter of 25 mm (1") and gradation conforming to the following requirements:

U.S. Standard Sieve Size		Percent Passing by Weight
25	mm Screen	100
19	mm Screen	70 - 100
9.5	mm Screen	40 - 75
4.75	mm Screen	30 - 55
2.36	mm Screen	20 - 40
1.18	mm Screen	15 - 30
0.300	mm Screen	5 - 15
0.075	mm Screen	0 - 5

.2 The Contractor shall when and as directed by the Engineer break down into fractions a sample of a representative volume compared to the material. The Contractor shall carry out the necessary weighing of the fractions.

.3 Materials that do not meet the Specifications and hence is rejected by the Engineer shall be promptly removed from the site and satisfactorily substituted by the Contractor.

3 EXECUTION

.1 Place gravel fill in uniform layers with maximum thicknesses of 300 mm and compact to a minimum of 99% density Standard Proctor up to grade indicated.

END OF SECTION

1 GENERAL

.1 All work shall be carried out in conformance with CSA Standard CAN3.A23.1-M.

2 MATERIALS

.1 Cement shall be sulphate-resistant cement (MS).

.2 Fine aggregate shall conform to Clause 5.3 CSA Standard CAN3.A23.1-M.

.3 Coarse aggregate shall conform to Clause 5.4 CSA Standard CAN3.A23.1-M group 1.

.4 Water shall be clean and free from injurious amounts of oil, alkali, organic matter and deleterious materials.

3 CONCRETE MIXES

.1 All concrete shall develop a 28 day compressive strength of 35 MPa minimum, unless noted otherwise on the drawings.

.2 Minimum cement content shall be 300 kg per cubic metre.

.3 Maximum water cement ratio shall be 0.40.

.4 Air content shall be between 5% and 8%.

.5 Set retarding admixtures shall not be used unless approved by the Engineer.

.6 The concrete mix design shall be submitted to the Engineer for approval prior to placing concrete. The mix design including admixtures shall not be changed without prior approval of the Engineer.

.7 Exposure class of concrete shall be C-1 as per CAN/CSA A23.1-M.

4 PLACING, FINISHING AND CURING CONCRETE

.1 All concrete shall be placed in accordance with the requirements of Clause 19 CSA Standard CAN3.A23.1-M and as indicated on the drawings.

.2 All concrete shall be placed continuously between start of placement and a control joint.

.3 Accurate records shall be maintained for all cast-in-place and pre-cast concrete including date of placement, location, quantity, temperature and test samples taken.

.4 The Engineer shall be notified prior to commencement of concrete placement as specified in Clause 5.0.

.5 All defective concrete shall be removed and replaced as directed by the Engineer.

.6 Concrete shall be vibrated adequately by means of mechanical vibrators. Rock pockets and honeycombing shall not be accepted.

.7 Cold and hot weather concrete work shall be carried out in conformance with Clause 21 of CSA Standard CAN3.A23.1-M. Procedures for this work shall be submitted to the Engineer for approval.

.8 All concrete shall be protected and cured in accordance with CSA Standard CAN3.A23.1-M.

5 INSPECTION AND TESTING

.1 The Engineer shall be notified 24 hours prior to placement of concrete.

.2 Unless noted otherwise an independent inspection and testing firm appointed by the Contractor shall collect and test a minimum of 3 concrete cylinders per concrete batch. One concrete cylinder shall be tested after 7 days. The remaining 2 cylinders shall be tested after 28 days. The test results shall be made available to the Engineer. This testing shall be conducted at the Contractor's expense.

.3 The Contractor shall permit the testing firm free access to all portions of the work and shall co-operate with the testing firm in carrying out the work.

END OF SECTION

1 WORKMANSHIP

.1 All fabrication and erection of structural steel shall comply with CSA Standard CAN3-S16.1, latest revision.

2 MATERIALS

.1 Hollow structural steel sections shall conform to CSA Standard G40.20/G40.21-M, Class "C", Grade 350W.

.2 All other rolled sections and miscellaneous plate shall be grade 300W, unless noted otherwise on the drawings, in conformance with CSA Standard G40.20/G40.21-M.

.3 All structural steel members shall be made of the size and weight shown on the drawings unless written approval for any change is first obtained from the Engineer.

.4 Bolts, washers and nuts shall conform to ASTM specification A325.

3 WELDING

.1 Welding practice and qualifications of welders and erectors of welded construction shall conform to the requirements of CSA Standards W47, W48, and W59 latest editions. The metallurgy of weld metal shall be similar to the parent material.

.2 Unless noted otherwise, all welds shall develop the full strength of the connected members, and shall be continuous seal welds with a minimum 6mm leg length.

.3 Where on the drawings it is called for double sided welding; the welding details called for on the near side shall be duplicated on the far side if not called up otherwise.

4 INSPECTION

.1 The Contractor shall furnish all facilities for inspecting and testing the weight, dimensions and quality of workmanship at the shop where the material is fabricated.

.2 The Engineer shall be notified well in advance of the start of work, in order to allow sufficient time for inspection of material and workmanship.

5 SHOP DRAWINGS

.1 The Contractor shall prepare and submit shop drawings.

.2 The Contractor shall submit three prints or a PDF file of the shop drawings for the Engineer's review prior to commencing fabrication. If shop drawings are not to the Engineer's satisfaction, they will be returned with the notation "Resubmit". Drawings that have been returned with the notation "Reviewed" would allow fabrication to commence.

.3 The review of shop drawings will be for size and arrangement of members and strength of connections. Any errors in dimensions shown on the shop drawings shall be the responsibility of the Contractor.

.4 Upon completion of the project, all reviewed shop drawings shall be submitted to the owner along with the As-Built marked drawings. In addition, diskettes containing all shop drawings shall be submitted.

6 COATINGS

.1 Except as noted below, all structural and miscellaneous steel shall be painted in accordance with the requirements of Section 00 98 00 – Painting.

.2 All bolts, inserts, washers and nuts shall be hot dip galvanized in accordance with ASTM Specifications A-153 or A-123 or CSA G 164-M (minimum zinc coating 610 g/m^2).

.3 Damaged painted or galvanized surfaces shall be coated with Galvacon immediately after the damage has occurred. Final touch up of painted steel including steel pipe piles and pile caps shall be as per 00 98 00 – Painting.

END OF SECTION

1 GENERAL

.1 The Standard General Conditions and Supplementary General Conditions of these specifications form an integral part of this section.

.2 All work shall be carried out in accordance with Specification CAN/CSA 086.1-M, latest revision and in accordance with Best Management Practices (BMP) for the use of treated wood in aquatic environments.

.3 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

2 PRODUCT

.1 Lumber Material.

.1.1 Existing curb and fender panel lumber that temporarily had to been removed for the construction shall be reinstalled.

.2 Fasteners

.2.1 Fasteners for curb and fender panel temporarily removed for the construction shall be replaced with new fasteners of equal diameter. All bolts, nuts and washers shall be hot dip galvanised in accordance with Specification CAN/CSA G164-M.

.2.2 Bolt holes in timber shall be bored to provide driving fit. Holes for drift bolts shall be 2 mm undersize and longer than the drift bolts.

.2.3 All bolts to meet the requirements of Standard ASTM - A325.

.3 Wood Preservative

.3.1 All preservative treatment, inspection and re-treatment shall be in accordance with Specification CAN/CSA 080-M, latest edition.

.3.2 All timber guardrails shall be given an CCA or ACZA preservative treatment in accordance with the Best Management Practices for CCA or ACZA.

.3.3 All treated timbers shall be incised before treatment.

3 EXECUTION

.1 All timber, which has been given a preservative treatment, shall be carefully handled to avoid breaking through the treated surfaces. Cant hooks and rafting dogs shall not be used on timbers. No spikes shall be driven into timbers except to tack the timbers in their final position. If spikes are used, they shall be fully driven and left in.

.2 Bolt holes and countersunk holes shall be filled with CCA or ACZA preservative and the bolts shall be dipped in CCA or ACZA preservative concentrate before the bolts are placed.

END OF SECTION

1 SCOPE OF WORK

.1 All ferrous surfaces except galvanised components are to be painted. This includes:
- Steel support beams for the concrete deck.

2 APPLICABLE CODES

.1 All work contained in this section shall comply with the latest edition of the following standards:

CGSB	Standards of the Canadian General Standards Board
SSPC-SP1	Solvent Cleaning (degreasing)
SSPC-SP2	Hand Tool Cleaning
SSPC-SP7	Brush-off Blast Cleaning
SSPC-SP10	Near White Blast Cleaning
SSPC-SP11	Power Tool Cleaning to Bare Metal
SSPC-GUIDE 6	Debris Containment
ASTM-03276	Recommended Practice Guide for Paint Inspection
ASTM-D3359	Method for Measuring Adhesion by Tape Test
Work Safe BC	Occupational Health and Safety Regulations
	BC Waste Management Act (SWEP)
SSPC-PA2	Procedure for Determining Conformance to Dry Coating Thickness Requirement

3 SURFACE PREPARATION

.1 All steel surfaces to be painted shall be prepared in accordance with the SSPC Manual Volume II and the paint manufacturer's specifications.

.2 Degrease according to SSPC-SP1 Solvent Cleaning. Remove all weld splatter and grind all welds and sharp edges. Blast clean to SSPC-SP10, Near White Metal Standard.

.3 Minimum allowable motor anchor pattern is 50 microns (2 mils). Shape of surface profile shall be jagged and irregular, as opposed to peened.

.4 If chloride substrates measurements are required by Engineer, the chloride concentration shall be less than 3µg/cm^2 measured by Chlor-Rid test.

.5 The surface finish shall be approved by a representative of the Owner or the paint manufacturer before application of any coatings.

4 PAINT APPLICATION

.1 Coatings shall be applied in accordance with the manufacturer's specifications. All blast cleaning and shop painting shall be carried out under cover in an area protected from weather and other detrimental effects.

.2 Paint applications should commence prior to any presence of rust bloom and within 8 hrs. following abrasive blasting.

.3 Paint manufacturers recommendation for application parameters shall be consulted to identify minimum and maximum temperatures, relative humidity and dew point restrictions and pot life. Consult paint manufacturer for further information.

5 PAINT SYSTEM

.1 All dry film thickness (DFT) shall be stated in Mils (thousands of an inch). The equivalent measurement and conversions are as follows:

One thousandth of an inch (1 mil) = 25 microns

The detailed requirements of the paint schedule are given below.

.2 Stripe coats shall be applied to all welds, lap joints, plate edges, corners, sharp edges and any other areas where spray application of the overall coating system may result in low dry film thickness.

.3 The following paint system shall be used for painting of all structural and miscellaneous steel except galvanized components:

Coat No.	Type	Binder	Product Name	Dry Film Thickness
1	Primer	Zinc-Rich Epoxy	Interzinc 52	2.5 mils
2	Mid Coat	Polyamide Epoxy	Interseal 670HS	7 mils
2	Stripe Coat	Polyamide Epoxy	Interseal 670HS	5 mils
3	Topcoat	Polyamide Epoxy	Interseal 670HS	7 mils
-	-	-	-	16.5 mils minimum

Note: Finished coating system Dry Film Thickness shall be a minimum of 16.5 Mils (412 microns) at each spot measurement. Stripe coat not included.

.5 Topcoat to be a light grey colour (colour code RAL 7035).

.6 All bolts, washers and nuts shall be hot dip galvanised in accordance with ASTM Specifications A-153 or A-123, or CSA Specification G 164-M (minimum zinc coating 610 g/m^2).

6 WORKMANSHIP

.1 Contractor shall complete a daily reporting account for Shop/Field Quality Assurance.

.2 An Engineer's Representative may request on site monitoring during paint preparation.

.3 Each coat, including stripe coat shall be of contrasting colors and mixed in full proportions.

.4 The preparation of surfaces to be painted and the application of the paints shall be as specified above.

.5 Coating shall take place as soon as practicable after inspection of cleaning, but, in any event, within eight hours and before any visible or detrimental rusting or contamination occurs.

.6 All coating material shall be applied by airless spray unless otherwise allowed or specified by the manufacturer. Spray painting equipment shall be of ample capacity and suitable for the work and shall at all times be kept clean and in good working order. Air lines shall be equipped with water traps to positively remove condensed moisture.

.7 No thinner shall be added to any paint in excess of the paint manufacturer's recommendations.

.8 Prior to spray application of primer, all crevices, appurtenances, and re-entrant surfaces which would otherwise be difficult to coat by spraying, together with all weld areas shall be brushed (stripe) in order to ensure a continuous film on all surfaces, and then painted as specified.

.9 Newly coated surfaces will be inspected when the coating has thoroughly dried and immediately before the coated member is to be removed from the paint shop for shipment. The coated surfaces may be rejected if any of the following defects are apparent, and the Engineer or his representative, in his judgement, believes the coating performance and life will be impaired by these conditions:

a. Inadequate dry film thickness (DFT).
b. Runs, sags, holidays or shadowing caused by inefficient application methods.
c. Evidence of poor coverage at plate edges, lap joints, crevices, pockets, corners and re-entrant angles.
d. Damage to shop coat due to handling before the coating is sufficiently cured or any other contributory cause.

.10 Coated surfaces rejected by the Engineer shall be made good by the Contractor at his own expense. The Contractor shall submit to the Engineer his proposed method of repair to the damaged surfaces.

.11 Damage to adjacent property, vehicles, pedestrians and other portions of the structure due to the painting operations shall be made good without additional expenses to the Owner. No paint, equipment, scaffolding, et cetera shall obstruct traffic or pedestrians, except by written permission of the Owner's Representative, in which case proper warning signs, barricades, et cetera shall be placed, maintained and removed without additional expense to the Owner.

.12 Field touch up painting shall be carried out in accordance with the paint manufacturer's specifications.

.13 The Contractor shall provide sufficient paint for field touch-up of any damaged paint surface.

.14 Only nylon ropes or rubber covered slings may be used for handling steel in either the Contractors shop during loading or shipment or during unloading and erection at the site. Where coatings are damaged during handling/erection, these areas shall be marked and recorded for remedial actions.

END OF SECTION