

B.1 Administration - General

Alberta Transportation's current policy of Contract Administration consists of engaging a Consultant to administer the Contract, with the exception of:

- Tender and award of all construction contracts
- Administer holdback and contract security
- Resolution of higher levels of construction contract related claims

Refer to the "**Contract Administration Manual**" for the following details:

- Outline of the Department standard for contract administration processes to be used by Consultants on Department Projects.
- Outline of the specific responsibilities and authorities of the Consultant when performing these administrative processes.
- The Consultant must ensure that administrative processes are applied with uniformity and consistency

The following personnel deal with specific administrative functions for a Department Bridge Construction Contract:

- The **Project Sponsor** is appointed by the Department to act as a one-window liaison between the Department and the Consultant.
- The **Bridge Project Engineer** must be competent engineer(s) assigned by the Consultant to the Bridge Construction Contract with responsibilities on overall project management.
- The **Bridge Inspector** must be qualified inspector(s) assigned by the Consultant to the Bridge Construction Contract with responsibilities for onsite project inspection.

The Bridge Project Engineer and the Bridge Inspector are responsible to promptly and effectively refer/communicate the following contractual issues or matters to the Project Sponsor:

- Issues related to construction schedules
- Contract Design Changes (CDC)
- Unit prices for bid items that were not included in the original tender
- Extra work greater than \$10,000

- Contract claim resolution
- Contract Cost Overruns
- Contract Extensions
- Contract Changes
- Changes to the number of Site Occupancy days bid
- Property agreements
- Railway crossing agreements
- Progress and final payment for construction contracts
- Extensions to the contract completion date, etc.

B.2 Contract

The Contract is a legally binding agreement between the Department and a Contractor to accomplish a specific piece of work at specified rates of payment. To be legal, any contract includes the following essentials:

- An offer (bid by the Contractor)
- An acceptance (by the Department)
- The capacity of both parties to contract, i.e. the Contractor must be capable of entering into a legally binding Contract, and the Department must have the funds available to make payment.
- Consideration - a value for the promise of the Contract, i.e. payments must be made for the work accomplished in accordance with the Contract terms.

B.3 The Scope of Contract Work

Work outside the scope of a Contract cannot be covered by the terms of the Contract without further mutual agreement between the Department and the Contractor. If further work becomes necessary, it must be agreed to and governed by the provision for Extra Work as defined in the Contract. All decisions made regarding contract work must be in accordance with the Contract.

- No price, condition or requirement of a Contract can be added, removed or altered without the approval of the Contract Review Committee (CRC).
- Authority to approve changes to the Contract is often delegated by the Contract Review Committee to the Director of Tender Administration. This delegated authority is dependent on the nature of the change.
- The Project Sponsor, Bridge Project Engineer, Bridge Inspector and others involved in making decisions on contract work requirements, payments, standards, etc., must be entirely familiar with the terms of the particular Contract in question.

B.4 Hierarchy of Document and Drawings

The Contract between the Department and the Contractor includes all provisions of the following documents:

- Tender Document (Tender XXXX/YR)
 1. Instruction to Bidders
 2. Tender Forms
 3. Tender Amendment Forms
 4. Special Provisions
 5. Specification Amendments
 6. Supplemental Specifications
 7. Plans and Permits
 8. Addenda
- Contract Document (Contract XXXX/YR)
 1. Contract Forms
 2. Tender Forms
 3. Special Provisions
 4. Specification Amendments
 5. Supplemental Specifications
 6. Plans and Permits
 7. Addenda
- Specification Amendments and Supplemental Specifications, Edition #, Year
- Supplementary Specifications
- Specifications for Bridge Construction, Edition #, Year
- Bridge Construction Drawings

B.4.1 Hierarchy - Documents and Drawing Discrepancies

The following list in descending order applies:

- Addenda issued during tender period
- Special Provisions
- Project specific bridge construction drawings
- Standard bridge construction drawings
- Specification amendments and Supplemental Specifications, Edition #, Year
- Supplementary Specifications
- Specifications for Bridge Construction, Edition #, Year
 - General Specifications
 - Bridge Construction Specifications
- Standard Specifications for Highway Construction, Edition #, Year
 - General Specifications
 - Highway Construction Specifications

If any detail or detailed description concerning any point is apparently omitted from the specifications or drawings, only the best general practice is to prevail and only material and workmanship of the highest quality are to be used. The Contractor is required to proceed as directed by the Consultant and/or the Department.

B.5 Special Provisions

The Special Provisions included in the Contract documents have been written for the specific project mentioned in the Contract. Special Provisions and information on contract plans are set up for each particular project and can vary from Contract to Contract, even though the standard specifications are uniform. The Bridge Inspector must review these thoroughly and be completely familiar with every item.

- Special Provisions include information as to which editions of Specifications are to be used and a check off list of Specification Amendments and Supplemental Specifications applicable to the Contract.
- Special Provisions also include the Scope of Work, which highlights work items applicable to the Contract.

- The listing of all the items under the Scope of Work is not intended to be a complete listing of all such items. The Contractor is expected to provide all labour and material required for the complete project even though it may not have been specifically listed.
- The Special Provisions detail the required schedule, with dates for completion, of particular elements of the project and final completion.
- The dates in the schedule are critical as other Contracts will usually have been entered into and work of such other Contracts will be dependent on the completion dates being met.
- Failure to complete the work by the specified dates will result in penalties and liquidated damages being assessed against the Contractor.
- The Department no longer supplies bridge materials. Any materials listed in the Special Provisions are provided to Contractors for information purposes only. The Contractor is required to supply all material necessary to do a complete job.
- The Bridge Inspector may review material requirements with the Contractor to ensure quality of material

B.6 General Specifications

The “General Specifications”, and Supplements thereto are included in the Contract to note all of the general requirements of both the Contractor and the Department that are applicable to all contracts between the Department and the Contractors. They have been standardized for thorough familiarity to all persons involved.

- The responsibilities of the Contractor relating to items such as work by others, location of utilities, schedules, permits, public traffic, construction stakes, inspection of the work and defective work, are part of the “General Specifications”.
- The Bridge Inspector must read and thoroughly understand **every** item applicable to the Contract, and the Bridge Project Engineer and/or the Project Sponsor should be consulted about any questions or concerns.
- The General Specifications also deal with contractual relations between the Department and the Contractor and with items such as bonds and insurance requirements, and how completion dates can be adjusted.
- The General Specifications specify terms of payment to the Contractor, and if necessary, how the Contractor is to be compensated for extra work.
- The Bridge Inspector must read and thoroughly understand the General Specification.

B.7 Claims, Negotiations, Disputes

The General specification along with any Supplements, together with the Special Provisions, the Contract forms and the Specifications for Bridge Construction and the drawings make up the terms of the Contract. Contracts are not always perfect documents, therefore disputes may arise and negotiations may become necessary.

- A dispute is a disagreement between the Contractor and the Bridge Inspector and/or the Bridge Project Engineer over application of the contract specifications, extra work or measurement of quantities in the field. Not all disputes can be settled before they become claims against the Department.
- Initial negotiations can be conducted by the Bridge Project Engineer to resolve disputes or claims wherever possible in a reasonable manner under terms of the Contract.
- A claim is a Contractor's demand for compensation, for costs he contends he has incurred or losses he contends he has suffered during the performance of his duties under a contract, when actual circumstances encountered were, in his opinion at variance with the terms described in the Contract. Claims are a final means to settle disputes between the Department and the Contractor.
- The Department's strength in handling claims is based upon on-project documentation. The Bridge Inspector must keep records as if claims were to be settled in court. The Inspector's diary, weekly reports and reference to construction photos are important examples of documentation. For approved Extra Work, the Bridge Inspector shall keep records of hours of work for the Contractor's manpower and equipment used in the performance of the extra work.
- A measure of the Bridge Inspector's performance is the completeness of documentation maintained through the extent of the contract, supporting the Department's stand in the event of a claim.
- **It is important that the Bridge Inspector give no assistance, advice or gratuitous information to the Contractor to help him formulate the basis of his claim.**
- The Contractor must **not** have access to project diaries or Consultant to Department correspondence or vice versa except that information relating to progress estimates and applicable substandard quality assurance test results.
- The General Specifications outline procedures to be followed by the Contractor in making a claim against the Department.
- If a claim cannot be resolved by negotiation at the various levels, then arbitration or mediation may be recommended. Litigation is usually the last means for claim/dispute resolution.

- Claims and dispute resolution procedures are also outlined in the General Specifications.

B.8 Avoidance of Claims

Attention to the following items by the Bridge Inspector will help to avoid claims by the Contractor.

- Review of the project specifications and drawings in detail in advance of the work is essential. **KNOW THE CONTRACT!**
- The Contractor is only obligated to perform work in which he has contracted to perform.
- Documentation of the Contractor's work on the project should be thorough and accurate as if litigation may take place. Accurate measurement and records of quantities and quality must be maintained at all times.
- The Bridge Inspector must apply fair judgement at the time of difficulty.

The following items are some of the causes perceived by Contractors to entitle them to a claim:

- Late payments (Progress payments must be made in a "reasonable" time frame).
- Changed conditions affecting:
 - Scope of Work
 - Soil conditions
 - Site access
 - Unforeseen difficulties
 - Unforeseen climatic conditions
- Inadequate standards, instructions, requirements of the Contract.
- Delays or acceleration in the work.
- Delays due to late completion of work by others.
- The Bridge Inspector interfering with the Contractor's method of work.

These causes may result in a valid claim if they arise due to circumstances not reasonably within a prudent Contractor's control or ability to predict at the time of tendering.

B.9 Records and Forms

To assist the Bridge Inspector to keep adequate records of progress of a specific project, a number of forms have been prepared by the Department. Conscientious attention to completing these forms fully, accurately, and on time will help to assure that the Bridge Inspector has been fulfilling his/her responsibilities.

B.9.1 The Diary

The most important record of progress and activities at the project site will be the Bridge Inspector's Dairy. The Diary must be written daily and must include, but not necessary be limited to:

- Weather
- All information pertaining to the relocation of utilities and note of any delay to the Contractor.
- A record of visits from the Project Sponsor and other officials and resulting instructions or decisions.
- All changes from original plans and/or design quantities and an explanation of the reasons.
- All irregularities on any item during the stages of construction
- Explanation of incompleteness of field records.
- Explanations of defects and when and how they were rectified including pertinent photographs.
- General progress of the work and an account of any extreme difficulties encountered by the Contractor accompanied with photographs.
- Special notations or items pertaining to Extra Work or possible Extra Work.
- The Contractor's claims, intention to claim, complaints, disputes, etc. including photographs if applicable.
- All discussions or dealings with property owners and other public.
- All discussions or dealings with officials of municipalities.
- All discussions or dealings with safety officers pertaining to safety matters.

- A record of all accidents within the contract limits and a record of conditions at the time of accident with photographs, including a description of all pertinent signs in place at the time.
- Traffic accommodation, detours, construction signs, flagpersons including photographs.
- A record of events that could affect the Contractor's production.
- Discussion with the Contractor with regard to work schedules and quality of work.
- Assessment of the Contractor's working day.
- A full description of construction photos taken. **THE PHOTOS MUST HAVE THE DATE THEY WERE TAKEN MARKED ON THEM AND THEY SHOULD BE REFERENCED TO THE DIARY.**

B.9.2 Weekly Progress Report

The Bridge Inspector's Weekly Progress Report is to be entered daily and submit to the Bridge Project Engineer, with a faxed copy to the Project Sponsor at the beginning of each week.

- Daily entries must include a summary and the highlights of the Contractor's activities at the site and will usually be extrapolated from the Bridge Inspector's Diary.

B.9.3 Bridge Construction Inspector's Weekly Report

The Bridge Inspector must also complete the form entitled Bridge Construction Inspector's Weekly Report.

- The form is intended to be a record of the Bridge Inspector's activities on each day and may well include the Bridge Inspector's activity and observations at several different sites.
- The form must be faxed to the Project Sponsor at the beginning of each week.

B.9.4 Monthly Progress Estimate

The monthly Progress Estimate must be submitted promptly to the Project Sponsor on the 25th of each month illustrating the pay quantity for each bid item.

- The Bridge Inspector must measure and calculate the quantities of work items that the Contractor has constructed during the month.
- The forms will be provided by the Bridge Project Engineer with the tendered prices shown. If the appropriate activity and task codes are not shown on the form already, the Bridge Inspector or the Bridge Project Engineer has to obtain them from the Project Sponsor.
- The Bridge Inspector must enter the appropriate quantities and submit the estimate to the Bridge Project Engineer for checking and certification. And then submit the checked and certified original to the Project Sponsor for processing payment.
- Whenever Extra Work is progressed, an approved Extra Work Order is required to be attached to the progress estimate as supporting documentation

B.9.5 Instruction to Contractors

Written Instruction to Contractors shall conform to the following guidelines:

- The Bridge Inspector's record of written instructions to the Contractor must be clearly dated.
- The Bridge Inspector must keep copies for his records and for immediate submission to the Bridge Project Engineer.
- A faxed copy must immediately send to the Project Sponsor.
- The Bridge Inspector should discuss any contentious items with the Bridge Project Engineer and the Project Sponsor prior to any written instructions being issued to the Contractor. Controversial instructions could lead to contract claims.

B.9.6 Pile Data Record and Concrete Test Cylinder Report

The Bridge Inspector must complete forms to record pile data, and must ensure that the Contractor's qualified personnel complete and submit appropriate quality control Concrete Test Cylinder reports. The Bridge Inspector/Bridge Project Engineer is responsible to submit a concrete test cylinder analysis coding form

B.9.7 Survey Book

The Bridge Inspector must keep a Survey Book for all survey work for each bridge project.

- Entries should include date, weather, names of persons doing the survey, and all readings and calculations made.
- Survey books must be submitted to the Bridge Project Engineer and finally to the Project Sponsor at the end of the project to form part of the “as-constructed” records.

B.10 Payment

Note that each pay item may vary from contract to contract. However, with some particular work item, as for example, in pier excavation, it is specifically stated in the Specifications as to what is considered to be extra excavation and what is incidental excavation.

The Bridge Inspector should be completely familiar with the method of payment for all the tender items.

B.11 Project Finalization

There are occasions during the construction of a bridge, when a Contractor does not perform the work in exact conformance with the requirements of the specifications. Discrepancies and deficiencies during construction are a fact of life and must be dealt with professionally, on an item by item basis.

B.11.1 Discrepancies

The Bridge Inspector has an obligation to notify the Contractor immediately of any variations in the work, from that specified. Discussions and open communication with the Bridge Project Engineer will facilitate the appropriate course of action, in controversial situations.

- In some cases, where the Contractor’s work does not meet the letter of the specifications, but it may appear that the intent of the specification has been met; the Bridge Inspector must discuss whether the discrepancy can be accepted, with the Bridge Project Engineer.
- In situations where the work is clearly unsatisfactory and repairs or replacement have to be carried out by the Contractor, decisions must be promptly communicated by the Bridge Inspector to the Contractor.

B.11.2 Deficiencies

The Bridge Inspector must keep an accurate record of all deficiencies, and the deficient items that will require rectification or replacement.

- The Bridge Inspector keeps an accurate record of all deficiencies, and his instructions to the Contractor.
- The Bridge Inspector should update the deficiency list on a regular basis, review it with the Bridge Project Engineer, and present it to the Contractor to keep him informed of all the items which are considered to be outstanding deficiencies.
- The Bridge Inspector must indicate to the Contractor which items must be re-inspected after being corrected before they absorbed by subsequent stages of the work.
- The Bridge Inspector must not in anyway perform the Contractor's supervisory and/or quality control responsibilities.
- The Bridge Inspector must do his independent inspection of the work.
- The Bridge inspector should insist that the Contractor performs his own quality control checking and corrects any deficiencies before the Bridge Inspector does his "quality assurance" inspection.

B.11.3 Final Site Cleanup

Incomplete cleanup of construction debris, excess materials and damage caused by the Contractor's operations are common deficiency items, which must be completed to the satisfaction of the Bridge Inspector. Ensure that this includes:

- Access berm removal
- Cleaning up and levelling disposal area
- Access road removal
- Public and private properties restoration
- Borrow pit reclamation

B.11.4 Final Acceptance

At the completion of the project, the Contractor is required to request an inspection for Final Acceptance of the completed work. Prior to this final inspection, the Bridge Inspector must insist and ensure that the Contractor has corrected all deficiencies.

- The inspection for Final Acceptance will usually involve the Bridge Project Engineer, the Bridge Inspector, the Project Sponsor and the Contractor.
- Due to penalty clauses imposed for late completion, the Bridge Project Engineer and the Project Sponsor should make every effort to do the “Final Acceptance” inspection promptly, when the Contractor has completed all work.
- Additional deficiencies noted during a Final Inspection are to be corrected by the Contractor prior to a request for re-inspection.
- The structure is only acceptable when all the items are satisfactorily completed, as the structure is accepted as a “whole” and NOT by the completion of each element.
- The Bridge Project Engineer, after the final acceptance, will issue a completion certificate to the Contractor and copies to the Department indicating that the project is satisfactory completed in accordance with the Contract requirements and commencement of the warranty period.

B.11.5 “As-Constructed” Documents

The Bridge Inspector will be issued one set of drawings for the project, designated as the set for “As-Constructed” drawings. This set of drawings is only be used for the purpose of recording the details of any changes to the actual construction, as it is done. All pertinent features and deviations from the plans must be noted, such as:

- Exact footing elevations and dimensions.
- The pile penetrations shown should be an average, maximum and minimum for each element.
- Any additional piles required or defective piles.
- Any revision to pier or abutment shapes.
- Any variation in the placing of the reinforcing steel or additional reinforcing used.
- The actual dimensions of riprap slope protection.

- The elevation of the stream bed at each pier, and at other critical locations such as the toe of riprap.
- Drain trough lengths and locations.
- Extra concrete, tremie seals, blinding courses, even if these are not paid items.
- All quantities on each applicable drawing.
- Measurement of the gap in deck joints and the position of the expansion bearings along with the date and ambient air temperature when measured.
- The elevation for the wingwall “Bench Mark Tablet”.
- Measurement of clearance boxes on Railroad Overpasses and Grade Separations.
- Exact location of the ends of ducts and conduit in approach fills.

“As-Constructed Plans” are to be forwarded to the Bridge Project Engineer, together with the final estimates, including the final quantity calculations and all pertinent field notes for checking for completeness.

B.11.6 Bridge Construction Report

A Bridge Construction Report including appropriate BIM inspection report and BIS coding sheet will be required at the end of the project, the Bridge Project Engineer will outline the requirements of this report, and will provide the Bridge Inspector with a guide to the required format and information.

After checking for completeness, the Bridge Project Engineer submits the Bridge Construction Report, As-Constructed Plans and Final Estimates including final quantity calculations and all pertinent field notes to the Department.