

21.1 Removal and Salvage of Bridge Structures - General

Removal and salvage of bridge structures includes stockpiling the salvaged materials at the bridge site or the Contractor's storage area, disposing of the remainder of the bridge structure and leaving all work areas in a tidy and safe condition.

The Bridge Inspector shall provide the Contractor with a list of materials to be salvaged.

The Contractor shall perform his work in a manner that prevents damage to or loss of materials listed for salvage. Where the Contractor causes damage to or loss of materials listed for salvage, the Contractor shall repair or replace these materials at his expense and to the approval of the Bridge Inspector.

21.2 Environmental Constraints

- Be aware of the instream activity window in fish bearing stream.
- A silt fence, barrier, settling pond, berm or cofferdam shall be utilized to prevent siltation and minimize impact on water quality of the channel.
- Ensure equipment working in the water channel is well maintained, having no oil or fuel leaks, and free from other contaminants.
- Siltation monitoring may be required when working in the water channel. Efforts shall be made to minimize stirring up silt from the channel bed.
- Prior to final acceptance of the work, the Contractor is required to tidy up the site and restore disturbed areas to specified requirements.

21.3 Safety

Refer to Alberta's Occupational Health and Safety Regulation, General Safety Requirements for specific safety requirements.

- Part 3 Health and Safety Plan
- Part 4 Hazard Assessment, Elimination and Control
- Part 15 Personal Protective Equipment
- Part 16 Powered Mobile Equipment

21.4 Bridge Inspector's Record

Prior to bridge removal, the Bridge Inspector should photograph and record every element of the bridge structure for future reference. These photographs document the conditions of the materials to be salvaged and establish the acceptance criteria for those materials salvaged by the Contractor.

- The contractor is responsible to ensure that there are no utilities attached or in the vicinity of the bridge structure to be removed. If there are utilities, they should be accurately located, protected or relocated.
- All structures or improvements adjacent to the bridge removal site should be reviewed and photographed prior to bridge removal so that any damages claimed later can be verified as to whether or not they occurred during bridge removal.
- Photographs and records of equipment used for removal and salvage of bridge structures are necessary for resolving disputes and claims.

21.5 Excavation

All excavations necessary to remove bridge structures shall conform to "Section 1 - Excavation" of the Specification for Bridge Construction.

- For culverts, the excavation shall extend to the invert elevation and the width at this level shall be the culvert diameter plus 3 m or wider as necessary to accommodate larger excavation machinery.
- For bridge abutments, the excavation shall extend to the ground level at the streamside of the abutment.
- The sides of all excavations shall be excavated at one horizontal to one vertical or as required for stability.

21.6 Removal and Salvage

Material not listed for salvage shall be disposed of in a manner and location acceptable to the Bridge Inspector.

- The portion of bridge abutments and piers located above natural ground level shall be completely removed.
- The portion below the natural ground level may remain in place.

Materials listed for salvage shall be dismantled piece by piece removing all nails, bolts, drift pins and other hardware. Torch cutting to remove hardware or to dismantle these materials will not be permitted.

- Dismantle SPCSP to yield lengths not exceeding 8 m.
- Dismantle CSP by removing the couplers.
- Dismantle precast concrete units individually:
 - Carefully chip grout out in shear keys and in connector pockets,
 - Disconnect and remove connector bolts,
 - Pry or jack precast concrete unit loose,
 - Remove drift pins and other hardware.
- Precast concrete units shall be lifted only at the designed lifting points, with the top of each unit up at all times, and shall be allowed to rest only on the designed bearing areas.
- The haul of salvage materials shall include loading and unloading, stockpiling and all associated handling of the materials.

21.7 Checklist

21.7.1 Bridge Inspectors Responsibilities

- Review applicable specifications and study drawings
- Review and document the conditions of bridge materials to be salvaged with photographs.
- Check with Contractor to ensure their work plan, procedure and equipment satisfies environmental constraints governing the site.
- Review and report accidents and injuries.
- Assess deficient work and withhold progress payment.
- Check to ensure that the Contractor has tidied up the site and restored all disturbed areas to original state or to the specified requirements.
- Initiate payment when work is acceptably completed.