

SECTION 901

REMOVAL OF EXISTING STRUCTURE

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901.01 SCOPE

The scope of the work involves the demolition, removal, salvage and disposal of an existing structure, structural components and debris.

The intention of this specification is to cover both rehabilitation and complete removal and disposal works. For rehabilitation type projects, if complete structural components are to be removed, a supplementary general condition shall describe which structural components are to be removed, salvaged, and disposed of. The removal of deteriorated or damaged concrete, steel, asphalt, and other components to facilitate repairs shall be carried out as per Section 919.

Debris shall be defined as pieces of timber, concrete, steel, wood, sticks, branches, bushes, garbage and the like including that above and below the water level. Also included is the accumulation of any debris from the time of tender closing up to and including the date of substantial completion.

Structural components and related debris shall include that related to the superstructure, pavement, railings, bearings, abutments, piers, piles, footings and wing walls.

All demolition work shall be carried out in accordance with all applicable National and Provincial Regulations.

901.02 GENERAL

Contractors shall submit demolitions plans to the Department outlining their plans to complete the demolition of the existing structure. Contractors are expected to have done

a thorough site visit and have developed a comprehensive understanding of the effort, equipment and labour required to access the site, remove the structure and reinstate the area before submitting these plans. Plans shall be stamped by a Professional Engineer licenced to Practice in Newfoundland and Labrador as required by applicable legislations. Examples of drawings requiring stamps include, but are not limited to, lift plans, access platform details, and fall arrest systems. Contractors shall allow 10 business days for the Department to review the demolition plans.

The demolition, removal, disposal and salvage of an existing structure shall be carried out under the conditions specified in this section and in accordance with the following Sections and regulations:

- a. Division 8
- b. Section 902
- c. Section 919
- d. Department of Fisheries and Oceans Regulations and Best Practices
- e. Applicable Environmental Permits
- f. Occupational Health and Safety Regulations

The structure shall be completely removed unless otherwise accepted by the Owner's Representative. If portions of the existing structure are to remain, including piles, they shall be removed to 0.6 metres below grade or stream bed. In both cases, removal shall be carried out with as little disturbance to the area or river bed as possible. The bending down of reinforcing steel to meet the above 0.6 metre criteria shall not be permitted. Reinforcing steel shall be cut off flush with the concrete remaining. The area or stream bed or waterway will be restored as near to original condition as possible including removal of any concrete debris over 150 mm in any dimension and all metallic and asphaltic debris and all other garbage to the satisfaction of the Owner's Representative.

Demolition and disposal of asphalt on the existing structure, including approach slabs, if present, shall be incidental and disposed of in accordance with Section 919.18.

Where unwatering is required and is incidental to the work, it shall be as detailed under Section 180. Where unwatering is a separate pay item, it shall be completed in accordance with Section 902.

When all activity is complete, the affected work area must be restored to its natural condition acceptable to the Owner's Representative. This shall include the backfilling of holes left after the existing foundation has been removed with material compatible with

the natural environment, and returning side slopes to 1.5 horizontal to 1 vertical or as directed by the Owner's Representative.

The Contractor is advised that the indiscriminate disturbance of the general area or stream bed will not be permitted.

901.03 DEMOLITION, REMOVAL, SALVAGE AND DISPOSAL

The Contractor shall provide a disposal site satisfactory to all municipal, provincial and federal agencies having jurisdiction. Such disposal site shall be reviewed by the Owner's Representative before demolition commences.

Demolition, removal, salvage and disposal shall include the excavation, disassembly, breaking into pieces, handling, transportation from the job to disposal or storage site, and disposal or storage of bridge components and debris including burial and trimming of the disposal site to neat contours as required.

Demolition and removal of the old superstructure and substructures shall be carried out so no significant debris enters the watercourse or harbour. Busting of the superstructure while in place shall not be permitted. The Contractor shall submit a demolition plan to the Owner's Representative for review and approval prior to demolition commencing.

Contractors shall be aware of the requirements of the Specifications Book including, but not limited to those in Division 8, Section 180, and Section 902 ensuring that the demolition plan reflects the requirements in these sections.

Demolition, salvage and removal operations shall be conducted in a neat, orderly, safe and environmentally manner as accepted by the Owner's Representative. Debris which moves downstream during the work shall be recovered. Debris with a larger dimension of 500 mm shall be removed from streams and rivers.

The use of explosives will only be permitted where they are authorized for use by the Owner's Representative. The use of explosives will not be permitted where any part of the structure is intended for salvage or to remain in future work

Excavations deeper than 1m shall be fitted with trench boxes or sloped or stepped at a minimum of 1 Vertical to 1 Horizontal. The Contractor shall implement shallower slopes or other measures as needed to maintain a safe work site or to meet the requirements of regulatory agencies.

The Contractor shall ensure that temporary works are at no time compromised by the removal of the existing bridge. If the removal operation interferes with the temporary works, the Contractor shall provide a method of retention acceptable to the Owner's Representative at no additional cost to the Department.

In the event that areas to be occupied by new footings overlap the areas occupied by the existing footings, utmost care must be taken during removal. For shallow foundations, any material in these areas which is below the bottom elevation of the new footing or new rock mattresses and which must, in the opinion of the Owner's Representative, be disturbed to achieve the demolition, will be excavated and the area will be compacted and filled with "Select Material Compacted – Rock." For foundations supported on piles, the piles shall be removed to 0.6m below the proposed bottom of footing and be replaced with "Select Material Compacted – Rock" to the satisfaction of the Owner's Representative. If needed, the Contractor shall also replace any disturbed or excavated soil up to the bottom elevation of the new footing with "Select Material Compacted – Rock".

901.04 SALVAGE

Where structural components, regardless of material type, are destined to be salvaged, the contract shall contain a supplementary general condition indicating which components are to be salvaged, how and where they are to be stored and whatever other pertinent requirements must be fulfilled by the Contractor.

Where the removal of aluminum railing, steel guiderail and any related components is required, it shall be salvaged by the Contractor. Removal of the bridge rail posts will require concrete chipping at the base to expose the anchorages to a depth such that the anchorages can be cut and the posts removed without damage to the posts and their associated baseplates. This shall include loading, transportation to the nearest maintenance Depot, off-loading and storage in a manner acceptable to the Owner's Representative. The Contractor shall provide an inventory of all salvaged materials delivered to the Depot to the Owner's Representative prior to acceptance of delivery.

Storage shall include the provision for wooden spacers to separate the various items from the ground and from each other. Provision for suitable water tight containers necessary to store components which may become lost or scattered is also required.

901.05 MEASUREMENT FOR PAYMENT

Measurement for payment purposes shall be lump sum for the excavation, demolition, removal, disposal, and salvage if so required, of the existing structure, structural components and debris as outlined above.

Once demolition has been completed to the satisfaction of the Owner's Representative, Contractors shall provide the Owner's Representative with a minimum of 48 hours notice to conduct a survey of the site prior to further excavation or construction. Failure to provide an opportunity for this survey will negate any associated claims including, but not limited to, claims for "Removal of Existing Structure", "Excavation for Foundations" and the supply of any backfill materials.

901.06 BASIS OF PAYMENT

Payment at the contract price for "Removal of Existing Structure" in the Unit Price Table shall be full compensation for all labour, materials and equipment required to demolish, remove, salvage, and dispose of the entire existing structure, structural components and related debris as outlined above. Development and submission of demolition plans are also incidental to this item.

Demolition and disposal of asphalt on the existing structure, including approach slabs, if present, shall be incidental to the removal of the existing structure. Asphalt on the approaches to the bridge shall be paid for under a separate item.

Any excavation and replacement of any soil required to carry out the removal of the existing structure shall be considered incidental to "Removal of Existing Structure." No additional payment will be made for extra excavation required as a result of Contractor error or negligence.

For extra excavation and rock fill directed by the Owner's Representative as described under 901.03, payment will be made as per "Excavation for Foundation" and "Supply and Install Select Rock Material".

Also included in the basis of payment is the cost to the Contractor of selecting and providing the disposal site, cost of all permits, fees and royalties in addition to all necessary backfilling, grading and trimming of both the job and disposal site to neat and sightly contours.

If a significant amount of demolition debris from the bridge superstructure enters the watercourse or harbor, as determined by the Owner's Representative, the Contractor's bid price for "Removal of Existing Structure" shall be reduced by 50 percent.

Any materials identified for salvage by the Department which is damaged by the Contractor as a result of negligence will be replaced by the Contractor at their expense.