

# FORM 401



GOVERNMENT OF NEWFOUNDLAND AND LABRADOR  
Department of Transportation and Works  
Highway Design Division

## SECTION 401 DITCHING FOR STREAMS

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#### 401.01 DESCRIPTION

All stream channel excavations pertaining to the drainage of the highway, whether within the limits of the right of way or not, shall be considered part of the contract. All materials excavated from ditches if suitable for constructing roadway fills shall be incorporated into fill construction in accordance with Section 204 "Grading of Fill". Materials not suitable for roadway fills shall be deposited in flat waste banks where and as directed by the Engineer and shall be levelled and trimmed to slightly proportions and contours to the Engineer's satisfaction.

In swamps, bogs and other wet areas, the Contractor if he so desires, may excavate ditches to the satisfaction of the Engineer by the use of ditching dynamite.

The term "Ditching for Streams" will include all excavations lying beyond the actual ends of footings for culverts and other drainage structures, and will include excavations for stream diversions.

The Contractor shall carry out the work in such a way so as to cause a minimum of disturbance and siltation to the water course and not to impact water quality.

Water courses carrying water shall not be blocked off until alternative water courses are completed and able to carry the water. The new channel shall be excavated in the dry. The channel bottom and side slopes shall be constructed of stable non-erodible material. When the new channel is completed, the old channel shall be closed off with impervious non-erodible material.

Care shall be taken to prevent fish being stranded in closed off diversions. Any fish that are stranded must be captured and transferred to the new stream.

The Contractor shall excavate the ditches to the lines, grades and cross section limits staked by the Engineer.

The Contractor shall minimize the crossing of water courses by heavy equipment. The same crossing place shall be used for such crossings as are unavoidable. At the completion of operations, the crossing place shall be put back to its original condition.

#### 401.02 MEASUREMENT FOR PAYMENT

Measurement will be made in excavation and will be from the cross section sheets showing the original ground lines and the completed and accepted excavation lines as cross sectioned. The volume of this excavation to be computed by the average end area method of computation or as wedges or pyramids, as the case may be, when terminating at grade points.

Excavation below grade, or beyond the cross section limits staked will not be measured for payment.

No allowance will be made for material excavated before original cross sections have been made.

The volume for payment shall be measured in cubic metres, rounded to the nearest whole number.

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### 401.03 BASIS OF PAYMENT

Payment shall be at the Contract Unit Price per cubic metre for either Ditching for Streams, Solid Rock, hauled 1 km or under, or Ditching for Streams, Other Material hauled 1 km or under, as the case may be, and such payment will be compensation in full for all labour and materials required to carry out the operations herein described.

However, should the contract not include quantities for Ditching for Streams, Solid Rock hauled 1 km or under, then all required excavation of solid rock for ditching of streams will be paid for at the contract price for "Ditching Solid Rock hauled 1 km or under".

Should the contract not include quantities for ditching for streams, other material hauled 1 km or under, then all required excavation of other material for ditching of streams will be paid for at the contract price for "Ditching Other Material Hauled 1 km or Under".

However, where the Engineer requires that materials excavated from ditches be hauled in excess of the 1 km freehaul before being placed, additional payment for overhaul will be made in accordance with Section 215 "Overhaul on Excavation Materials".