

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 31 23 16.26 – Rock Disposal

1.2 REFERENCES

- .1 Definitions:
 - .1 Rock Scaling: the scaling and complete removal of loose rock and shotcrete from the rock cliff by the Contractor using appropriate manual scaling methods, in the areas indicated on the Drawings and as required by the Departmental Representative, including disposal of rock and other materials, in order to provide safe working conditions and for rock cliff remediation. The work of this section includes all labour, materials, and equipment to provide access and to carry out the scaling as required.

1.3 UNIT PRICES

- .1 The unit of measurement shall be crew hours for scaling or brush removal that is carried out and shall include all of the Contractor's equipment and work force while employed on scaling which has been approved in advance by the Departmental Representative.
- .2 The crew for scaling shall include, as a minimum, three persons for scaling, all necessary equipment operators, the Contractor's foreman and any other persons required to safely and efficiently carry out the necessary work.
- .3 Payment for the work of this Section will be made in accordance with the unit prices contained in the Schedule of Quantities and Prices.
- .4 No separate payment will be made for routine inspection by the Contractor or for the supply, installation or movement of anchor points, equipment or staging to access the work and no payment will be made for delays caused by mechanical breakdown or other delays caused by the Contractor. Payment will only be made for time spent actively scaling rock and other material from the cliff face.
- .5 No separate payment will be made for scaling outside the site limits shown on the drawings unless required for safety reasons and approved in advance by the Departmental Representative.

1.4 EQUIPMENT

- .1 Supply all necessary equipment to access the Works.
- .2 All equipment for accessing the rock cliff shall be in safe and good working condition to the satisfaction of the Departmental Representative.
- .3 All mobile equipment shall be equipped with an audible back up warning device. All operators shall be equipped with two way radios.

1.5 ANCHOR POINTS

- .1 Establish appropriate anchor points for fall arrest or rope access in accordance with Ontario Occupational Health and Safety Act and Regulations requirements. The Contractor should note that the existing stone parapet wall and railing along the crest of the cliff are not

suitable for anchor points for fall arrest or for rope access work and are not to be used in any way.

- .2 If required, submit design drawings for engineered anchor points approved by an Engineer licensed in the province of Ontario.

Part 2 Products

2.1 NOT APPLICABLE

- .1 Not used.

Part 3 Execution

3.1 SCALING

- .1 Submit, within 3 days of award, a detailed plan for accessing the various areas of the rock slope for the purpose of carrying out the work including both temporary and permanent works and vegetation protection. Obtain prior approval before the pruning or cutting of any vegetation along the face and bottom of the escarpment.
- .2 All personnel engaged in scaling work must be completely conversant with scaling at heights and fully qualified.
- .3 Scaling shall be performed by Contractor certified personnel with the appropriate training.
- .4 Carry out all scaling in a safe working manner and to the satisfaction of the Departmental Representative.
- .5 Work can either be accomplished from the bottom and/or from the top of the cliff within the identified site limits in Drawing C1.
- .6 The use of small pneumatic jack leg equipment is permitted while heavy rock drills are not. Scaling of the escarpment face of all loose rock, shotcrete and other loose materials to be undertaken by experienced workers trained with the specific rock work skills.
- .7 All rock fall protection required to preserve existing structures, facilities and walkways shall be in place and fully functional prior to undertaking any rock scaling work on the cliff above.
- .8 At no time shall the volume of rock released during scaling exceed the capacity of the rock fall protection.
- .9 Identify and plan in advance each day the location of the rock scaling activities with the Departmental Representative.
- .10 Monitor the progress of work relative to the construction schedule and update and resubmit the schedule as requested by the Departmental Representative.
- .11 Contractor to sound rock and shotcrete before scaling.
- .12 All scaling operations shall comply with the Ontario Ministry of Labour requirements and the Ontario Occupational Health & Safety Act and Regulations and any other applicable codes, regulations or standards.

- .13 Undertake manual scaling from the top of the rock face down to ensure that at no time the scaling crew is working beneath loosened or undercut sections of the rock face.
- .14 Ensure the scaling crew is in full-time radio contact with the foreman to permit direct and immediate control.
- .15 Inspect the rock face with the scaling crew at the start of each working day to identify rock that requires immediate removal so as not to endanger the workers.
- .16 Inspect the rock face to ensure that all loose rock that may endanger the work areas below has been removed prior to shut down.
- .17 Manage all material resulting from the operation and dispose of off-site.
- .18 All costs associated with the management and disposal of materials are deemed to be included in the contract unit price.

3.2 PROTECTION OF EXISTING TREES

- .1 Prevent damage to trees in work area, in accordance with Section 01 35 43 – Environmental Procedures.
- .2 Any designated trees that are damaged from site works shall be replaced at Contractor's expense.

3.3 BRUSH REMOVAL

- .1 Only prune trees and/or brush deemed as required to facilitate the work. Obtain written approval from Departmental Representative prior to pruning or removing any brush or trees.

END OF SECTION