

## **APPENDIX 'E'**

### **ROADWORK IN CLOSE PROXIMITY TO FEEDERMAIN**

## **Roadworks in Close Proximity to a Feedermain**

Contractors carrying out pavement construction or working in close proximity to the Feedermain shall meet the following conditions and technical requirements.

### **1. Pre-work, Planning and General Execution**

- a. No work shall commence at the site until the construction method statement has been approved, a pre-construction meeting has been held, and the Feedermain location has been clearly delineated in the field by use of paint, staking/flagging, construction fencing, snow fencing, or other suitable methods.
- b. The Contractor shall ensure that all work crew members understand and observe the requirements of this specification. Prior to commencement of onsite work, the Contractor shall jointly conduct an orientation meeting with the Contract Administrator and with all superintendents, foremen, and heavy equipment operators to make all workers on site fully cognizant of the limitation of altered loading on the Feedermain, the ramifications of inadvertent damage to the Feedermain and the constraints associated with work in close proximity to the Feedermain.
- c. For traverse crossings of the Feedermain in support of the roadworks activities, designate crossing locations just beyond the construction site and confine equipment crossing the Feedermain at those locations. Reduce equipment speeds to levels that minimize impact loadings.
- d. For construction work activities either longitudinally or transverse to the alignment on the Feedermain, work only with equipment and in the manner stipulated in the approved construction method statement and the requirements noted herein.
- e. Subgrade, subbase, and base course construction shall be kept in a rut free condition at all times. Construction equipment is prohibited from crossing the Feedermain if the grade is insufficient to support the equipment without rutting.
- f. Granular material, construction material, soil or other material shall not be stockpiled on the Feedermain or within 5 metres of the Feedermain centerline.
- g. Stage construction such that the Feedermain is not subject to significant asymmetrical loading at any time.
- h. Where work is in proximity to the Feedermain, utilize construction practices and procedures that do not impart excessive vibration loads on the Feedermain or that would cause settlement of the subgrade below the Feedermain.

### **2. Demolition and Excavation**

- a. Concrete demolition and removal within 3 metres horizontally of the Feedermain shall be completed by saw-cutting and removal, or use of hand-held jackhammers. Use of machine mounted concrete breakers above the Feedermain shall not be permitted.
- b. Where there is less than 2.5 metres of cover over the Feedermain, offset the excavator or excavation equipment from the Feedermain a minimum of 2.5 metres from the Feedermain centerline to carry out excavation.

- c. Where there is less than 1.6m of earth cover over the Feedermain and further excavation is required either adjacent to or over the Feedermain, utilize only smooth edged excavation buckets, soft excavation, or hand excavation techniques.
- d. Excavated materials intended for reuse shall not be dumped directly on the Feedermain but shall be carefully bladed into place.

### 3. Subgrade Construction

- a. Subgrade compaction within three metres (horizontal) of a the Feedermain shall be limited to non-vibratory methods only. Small walk behind vibratory packers will be permitted.
- b. Construction operations shall be staged to minimize the time period between excavation to subgrade and placement of granular subbase materials. Should bare subgrade be left overnight, measures shall be implemented to protect the subgrade against inadvertent travel over it and minimize the impact of wet weather.
- c. Subgrade conditions should be inspected by personnel with competent geotechnical experience (e.g. ability to adequately visually classify soils and competency of subgrade, subbase, and base course materials). In the event of encountering unsuitable subgrade materials above the Feedermain, proposed design revisions shall be submitted to this office for review to obtain approval from the Water and Waste Department relative to any change in conditions.

### 4. Subbase and Base Course Construction

- a. Subbase or base course material shall not be dumped directly on top of the Feedermain, but shall be carefully bladed into place.
- b. Subbase compaction shall be either carried out by static methods without vibration or with smaller equipment such as hand-held plate packers or smaller roller equipment.

### 5. Paving

- a. When constructing asphalt pavements, only non-vibratory compaction should be used within 3 metres (horizontal) of the center of the Feedermain.