VIA BROCKVILLE SIDING EXTENSION
BROCKVILLE SUBDIVISION – MILE 27.4

SCOPE OF WORK AND SPECIAL PROVISIONS

TABLE OF CONTENTS

GENERAL CONDITIONS

Contract Form GENERAL CONDITIONS OF THE CONTRACT and all sections of these tendering documents apply equally to this section of the Specifications.

PART 1 - SCOPE OF WORK

The scope of work covers the supply of all labour, material, engineering, equipment and superintendence to undertake Siding Track Extension Work, construction of a new concrete box culvert and all required signal and communication work on the VIA Brockville Subdivision between Mile 23.70 and 27.56.

1.1 PART A - TRACK EXTENSION AND REHABILITATION

.1 The contract's Work generally includes, but is not strictly limited to the following:

.1 Installation of new turnout equipment and relocation of existing turnout equipment to fit proposed track positioning;

.2 Removal and disposal of turnout equipment as well as other track material;

.3 Reconstruction of mainline track at demolished bridge location;

.4 Construction of Siding track extension;

.5 Replacement of deteriorated rail, ties, tie plates, spikes and anchors on Siding and Storage tracks;

.6 Replacement of deteriorated rail anchors on Siding and Storage tracks;

.7 Installation of insulated glued joints;

.8 Surfacing of Mainline, Siding and Storage track according to proposed rail elevations;

1.2 PART B - GRADING, DRAINAGE AND CIVIL WORK

.1 The contract's Work generally includes, but is not strictly limited to the following:

.1 Clearing and Grubbing;

.2 Roadbed grading;

.3 Ditch profiling along proposed roadbed;

.4 Construction of CSP culvert extension between road crossing and Creek along with manholes installation for maintenance and alignment;

.5 Earthwork for culvert extension and drainage;

.6 Addition of rip-rap along creek's bank upstream and downstream of railway crossing;

.7 Topsoil stripping, placement and grading;

.8 Hydraulic seeding.

1.3 PART C - STRUCTURE

.1 The contract's Work generally includes, but is not strictly limited to the following:

.1 Partial demolition of concrete block wall;

.2 Removal and disposal of existing handrailing;

.3 Installation of new hand-railings;

.4 Demolition of existing railway bridge span and partial demolition of bridge abutments;

.5 Construction of retaining wall, including soldier piles, concrete lagging and rock anchors;

.6 Construction and removals of temporary railway retaining wall;

.7 Installation of prefabricated concrete box culvert in replacement of existing bridge for both existing mainline track and proposed siding extension;

1.4 PART D - SIGNAL CONSTRUCTION

.1 GENERAL SIGNAL SCOPE

The signal general scope of work covers the supply of labour, material, equipment and supervision for, but not strictly limited to the following;

Locations
Mile 23.70 – Intermediate
Mile 25.80 – Laurier Boulevard
Mile 27.31 – Front Ave West
Mile 27.32 – North End of Siding
Mile 27.56 – South End of Siding

.1 **Intermediate – Mile 23.70**

.1 Install Take Siding Light for Signal 238;

.2 **Laurier Boulevard – Mile 25.80**

.1 Remove Signal 260;

.3 **Front Ave West – Mile 27.31**

.1 Install DC island;

.2 Provide and install new XP4 Crossing Control equipment;

.3 Provide and run interface cable between Bungalow 27.31 and new Bungalow 27.32;

.4 **North End Siding – Mile 27.32**

.1 Install new 8' x 8' bungalow, provide and install foundations and ground pots and rods;

.2 Provide and install new Electrolog IXS VLC signal control equipment;

.3 Provide and install new fouling bond;

.4 Provide and install new end-of-siding signal arrangement:

a) Facing point: 2-head absolute signal for southbound traffic. This signal shall be installed on north insulated joint of crossing Front Avenue MI.27.31;

b) Trailing point main (East): 2-head absolute signal for northbound traffic;

c) Trailing point siding (West): 3-head absolute signal for northbound traffic.

.5 Provide and install new power switch machine;

.6 Provide and install gas blower snow clearing device bungalow;

.7 Provide and install new batteries for operating and control banks complete with chargers;

.8 Provide and install new batteries for power switch machine complete with charger;

.9 Provide and install new cables to track circuits, power switch machine, signals and communication cable;

.10 Provide and install new TECK cable for power service (feed from main breaker panel at crossing M 27.31).

.5 **South End Siding – Mile 27.56**

.1 Install new 8' x 8' bungalow, provide and install foundations and ground pots and rods;

.2 Provide and install new Electrolog IXS VLC signal control equipment;

.3 Provide and run interface cable between new Bungalow 27.56 and CN bungalow 125.49;

.4 Provide and install new fouling bond;

.5 Provide and install new end-of-siding signal arrangement:

a) Facing point: Change existing signal 275(N) search lights to LED color-lights;

b) Trailing point main (East): 2-head absolute signal for southbound traffic;

c) Trailing point siding (West): 1-head absolute dwarf signal for southbound traffic.

.6 Provide and install new power switch machine;

.7 Provide and install new gas blower snow clearing device bungalow;

.8 Provide and install new batteries for power switch machine complete with charger;

.9 Provide and install new cables to track circuits, power switch machine, signals and communication cable.

.10 Provide and install new TECK cable for power service to existing breaker panel

.2 OVERVIEW

.1 The Contractor's work generally includes, but is not strictly limited to the following:

.2 Perform temporary modifications due to the installation of insulated joints or to the phasing out of cut-over work, such as existing aspect on new proposed masts. This work must be coordinated through VIA.

.3 Supply and install temporary track circuit connections where insulated joints may be required to be relocated.

.4 Install or replace temporary bond wires around new insulated joints where required to ensure proper operation of existing systems and install temporary track circuit connection wires at locations where insulated joints are being relocated. Install temporary bond wires around redundant insulated joints as the CTC system is commissioned into service.

.5 Re-calibrate any existing track circuits which may have had its operating parameters revised during the work or by the addition of any new track attachment or appliances whether on a temporary or permanent basis. The re-calibration C/W date must be noted in the site log book and revised values shall be recorded on appropriate documents.

.6 Test all new and existing insulated joints, gauge rods, and switch rod insulation to verify resistance value is within the prescribed range for that type of equipment before placing into service and recorded in site log book.

.7 Test and commission locations and ensure all are documented. Testing and commissioning will be done to the satisfaction of VIA.

.8 Except for the reused masts and bungalow identified above, supply and install only new material to include but may not be limited to; vital and non-vital microprocessors, code systems, electronic coded DC track control systems; wayside signals including masts, ladders and foundations; power switch machines; back-up battery systems; equipment housings; foundations; all necessary wire and cables track bonds and connections; monitoring systems; and miscellaneous materials or equipment as may be indicated on the contract drawings as well as power entrances required.

.9 Provide a completely wired, installed, tested, and commissioned systems within the guidelines of Section 11 of the Canadian Railway Safety Act and relevant standards detailed in section 3.2 to the satisfaction of VIA.

.10 Provide material and equipment to meet the most up to date CN recommended guidelines where applicable. The CN guidelines shall be considered standards unless noted otherwise.

.11 Provide verification that professional engineers, licensed in Canada have taken responsibility for all the engineering works as required by Section 11 of the Railway Safety Act. Stamp and sign a declaration to the effect that all the work has been completed to meet the applicable standards and regulations as indicated above.

.12 Remove all redundant signal material and equipment, other than the ones specified in Section 1.1, including but not limited to: signal structures, foundations of signal housings, hydro service poles, batteries and chargers; VIA shall maintain the first right of refusal of all recovered material and equipment. Contractor shall deliver the salvaged material which VIA wishes to keep to a location determined by VIA later. Upon completing review all remaining materials and equipment shall become the property of the Contractor and shall be removed from VIA property within 14 days.

.3 **COMMUNICATION SYSTEMS**

.1 The communications systems, equipment and services between the field and RTC office will be provided by others.

.2 The Contractor shall cooperate with all other contractors, VIA personnel and Utility companies during Work, Testing, and Commissioning.

1.5 GENERAL

.2 The work at the bridge(s) involves working over a sensitive river. The contractor shall not allow construction materials, ballast or debris to fall into the water. He shall be aware of the information in the Environmental review, included in the Reference Documents, and shall follow the procedures and mitigation measures listed therein to protect these waterways and surrounding areas;

.3 The project site is located in Fisheries Management Zone (FMZ) 18 and is considered in the "small rivers and streams" category. According to the "Timing guidelines" table in MNRF-Kemptville's response, the timing restriction for this site would therefore be: **no in-water works from March 15 to June 30**.

.4 The Contractor will note that many of the areas of the Work are located over water. The contractor shall design, supply, erect and remove all temporary work platforms to provide access to these areas for his workers and for the PROFESSIONAL. Prior to their erection, the Contractor shall submit two copies of shop drawings of the proposed work platforms to the PROFESSIONAL. Shop drawings shall be signed and sealed by a professional engineer, licensed in Ontario, who shall be responsible for design and inspection of the work platforms on site, and shall certify in writing their compliance with design requirements. Copies of existing bridge drawings will be supplied to the Contractor for this purpose at his

request. All costs for work platforms shall be included in the various prices for the repair work in the Form of Tender;

.5 See "Technical Specifications" for detailed specifications for this project. The contractor is responsible for the adequate distribution of technical specifications sections amongst his subcontractors;

.6 Overarching Principle;

.1 Tenderers should be aware that the absence of any specific activities in these documents, which are required to meet the requirements of Canadian National Railway's Engineering Track Standards or recommended methods or AREMA Guidelines bearing on 'the Work", to satisfy the provisions of the Railway Safety Act or in keeping with good railway engineering practice is not valid reason for the work to be omitted.
.2 The successful party will be expected to perform the activity, without additional payment, as if it were specifically addressed in these specifications.
.3 Should there be some concern with respect to any omission not covered by the above Overarching Principle, it should be brought to the attention of VIA or its designated agent.

.7 Note that the latest version of the "CN Engineering Track Standards" and "Railterm General Engineering Instructions" shall be in effect for all work completed as part of this Contract.

.8 Although not included in these Tender Documents, the following standards form an integral part of these specifications.

.1 AREMA Manual for Railway Engineering (last current edition)
.2 Ontario Provincial Standard Specifications (OPSS)
.3 AREMA C&S Manual
.4 AREMA Manual for Railway Engineering – Track
.5 CN Standard Practice Circulars (SPC) dated April 2005 – Track
.6 CN Standard Code of Practice March 29th, 2010
.7 CN GI & Power Standards March 29th, 2010
.8 CN-002-WSIG, Specification for Wayside Signal Structures
.9 CN LED Purchase specification
.10 Transport Canada Standards / Canadian Railway Safety Act
.11 Local / Provincial / Federal Electrical codes as they apply to a railroad environment

.9 The Contractor shall obtain any necessary permits and approvals required for executing the Work.

.10 The Contractor shall arrange for road protection and access, as and if required. The Contractor must abide by the Railway Association of Canada (RAC) Circular No. 13 (Oct.

01, 2004) – Recommended Practices for Manual Protection of Highway/Railway Grade Crossings (attached in Reference Documents).

.11 The Contractor shall provide certification that a Professional Engineer licensed in Ontario will be employed throughout the length of Work. The Contractor's Professional Engineer shall take the responsibility for the Work performed by the Contractor within these specifications.

PART 2 – SPECIAL PROVISIONS

2.1 GENERAL REQUIREMENTS

.1 Each Contractor must make himself personally acquainted with the location of the proposed work and must inform himself, by such means as he may prefer, as to all conditions of the site and all other factors which may affect his tender and the performance of the work, and shall not claim at any time after tendering that there was any misunderstanding in regard to conditions at site.

.2 The contractor must submit a detailed construction method for culvert construction, retaining wall construction and siding extension as part of his tender.

.3 At least 2 weeks prior to any performance of work, the Contractor shall supply a schedule in MS Project and PDF format, which highlights the critical path and the scheduled start-up date to meet the completion date as indicated in the Instructions to Tenderers.

.4 Arrange for final inspection by VIA upon completion. Give 48 hours advance notice when work is ready for inspection.

.5 Regular bi-weekly progress meetings will be held at times and locations approved by VIA and the PROFESSIONAL. The meetings shall consist of inspection of the work performed to date as well as sit-down meetings to discuss issues, progress, schedule and forecasts. The PROFESSIONAL will notify parties concerned of meetings to ensure proper co-ordination of the work. Designated parties shall take required action on decisions made at meetings. The PROFESSIONAL will prepare the minutes to be accepted by VIA and distribute to parties prior to next meeting.

.6 The work must be performed in accordance with the Railway Safety Act, Transport Canada Standards and Guidelines, all current standards evidenced for Class 5 track. In addition, perform work in accordance with The Building Code of Ontario containing the Building Code Act and O. Reg. 416190. (OBC), or the Code de construction de Quebec – Chapitre 1 Batiment et code national du batiment – Canada 2005 modifies, the National Building Code of Canada (NBC), the Ontario Electrical Code, Canadian Electrical Code, or Code Électricité du Québec 2010, CSA Standards and any other code of local application provided that in the case of conflict or discrepancy, the more stringent requirements shall apply. Meet or exceed requirements of specified standards, codes and referenced documents.

.7 Observe and enforce construction safety measures required by the National Building Code (2005) Part 8. Provincial Government, Workers Safety and Insurance Board, and municipal statutes and authorities.

.8 The Contractor shall conform with the Occupational Health and Safety Act, or Code de sécurité pour les travaux de construction S-2.1, r.6 18 mars 2008 and Regulations for Construction projects and Industrial Establishments relating to the performance of this project.

.9 Minimum personal protective equipment requirements (all CSA approved):

.1 All employees working in the vicinity of VIA's Right of Way must wear:

.1 Hard Hats

.2 Protective Eyewear (including side shields

.3 Protective Footwear

- Minimum 6 inches (152 mm) high
- Laced top
- Defined heel

.4 Reflective Apparel

.2 Personal Protective Equipment are also required when:

.1 Working inside designated office/buildings

.2 Inside enclosed vehicles or equipment.

.10 The Contractor shall have a complete set of current Material Safety Data Sheets (MSDS's) for all WHMIS controlled products on site. These MSDSS must be available on the site for the Contractor's employees.

.11 The Contractor is required to provide a first aid kit at the site.

.12 The Contractor is required to provide a spill kit on all machinery.

.13 All work shall be carried out with the approval and to the satisfaction of VIA.

.14 All claims for additional costs foreseen or incurred by the Contractor shall be submitted to VIA's Project Manager, in writing, within twenty-four (24) hours of occurrence.

.15 Extra work, outside of the scope & specifications contained in these Tender Documents, shall only be performed with prior written approval from VIA's Project Manager. With no exception, the Contractor will not be compensated for any extra work that is performed without prior written authorization from VIA.

2.2 SITE CONDITIONS

.1 The Contractor must ensure that all train operations can be maintained with minimal disruption.

.2 Some portions of the work may have to be scheduled outside daylight working hours and may include working on weekends in order to minimize the impact on VIA operations.

.3 Working hours shall be consistent. Time tables for the Toronto-Ottawa route can be found on VIA's website at: http://www.viarail.ca/en/trains/. A CP switcher also run during the night from Monday to Friday, as such, track shutdown shall be planned on Saturday and Sunday nights with the exception of long weekends. Note that these schedules are subject to change a few times per year. The Contractor also has the option to perform the work during the night where longer work blocks are available, but shall not affect CP train operation from Monday to Friday night.

.4 Contractor will be required to stop work, stop machinery, secure machinery and work site, as required, and to exit from machinery on instruction from VIA's on-site supervisor during the passage of trains. A delay caused by the contractor not clearing in time is unacceptable and will be sanctioned by a monetary penalty.

.5 The Contractor will be permitted to work on the track between trains upon authorization from flagman. Between these hours, there are "windows" of varying durations according to the bridge location.

.6 the PROFESSIONAL must meet with VIA Project Manager, on site, to discuss the project schedule, how to mitigate impact on train operations, discuss safety procedures for the protection of the public at the crossing, flagging operations, job briefings, and any other safety or operational issues.

.7 Prior to any performance of any work within 10 metres (33 feet) from the centerline of the nearest track VIA must be notified 5 days in advance. A flag person will be required to protect trains from the Contractors activities. VIA will provide flagging protection and all charges shall be the responsibility of VIA. However, flagging charges due to Contractor inefficiencies shall be charged to the Contractor.

.8 Provide flagging protection to protect vehicular and pedestrian traffic as prescribed in the Railway Association of Canada Circular NO 13 titled "***Recommended Practices for Manual Protection of Highway/Railway Grade Crossings***" if it will be necessary to have automatic warning devices operating or caused to be out of service during any stage of the project. Contractor is to ensure all field personnel have a demonstrated knowledge of this circular and its procedures and instructions. If it will be necessary to have a crossing declared out of service, the Contractor shall coordinate with VIA to place a GBO into effect. VIA shall have the sole responsibility to place a GBO into effect.

.9 The Contractor, through appropriate authorities, prior to commencing work, shall locate all utilities and services, including railway communication and fiber optic cables, that may be affected because of the Work associated activities. The cost for all locates and permits will constitute part of the lump sum price stated on the form of tender. Damaged utilities and services shall be repaired immediately at the Contractor's expense, to the satisfaction of VIA and the utilities involved.

.10 The Contractor should be aware that cables installed under the track may or may not be in CSA approved steel duct from 0.5 to 4 feet below the base of rail and may or may not extend a minimum of 4 feet beyond all rails it is placed under.

.11 Existing property and adjacent public and private property must be protected at all times.

.12 The Contractor must verify all site dimensions and conditions.

.13 The Contractor shall prevent movement, settlement or damage of adjacent structures, VIA property, adjacent public and private property and area of work. Any damage of same shall be repaired immediately at the Contractor's expense, to the satisfaction of VIA.

.14 The Contractor is to advise VIA immediately should any materials of a hazardous or toxic nature is encountered during construction.

.15 The work site, including all materials and equipment, must be secured at the end of each day prior to the Contractor leaving the site.

.16 The Contractor shall maintain all the work sites, including materials and equipment storage areas, in a tidy condition and free from the accumulation of waste products and debris, other than caused by VIA, other Contractors and their employees. Waste shall be disposed of in the appropriate waste receptacles provided by the Contractor and removed on a daily basis and disposed of in a safe and legal manner off-site. The Contractor is fully responsible to ensure that the material belonging to him, either supplied for the performance of the work or generated as a result of the work, remains safe and secure at all times. VIA shall not be responsible for any of the Contractor's equipment or material.

.17 Except as where indicated otherwise surplus material shall become the property of the Contractor and shall be removed promptly, as the material becomes surplus, at the cost of the Contractor and in manner acceptable to VIA and according to environmental guidelines, restrictions or legislations that may be imposed by all governing bodies. A Certificate of disposal shall be provided to VIA. Distribution of and/or removal of track material from VIA's right-of-way may be permitted during day light hours under flagging protection as it does not interfere with the continued safe movement of rail traffic.

2.3 CO-OPERATION

.1 The Contractor shall co-operate with all other contractors, VIA representative, Maintenance-Of-Way Contractor, utility companies and road authorities carrying out work in the area so that all the work to be performed under this Contract shall be completed not later than the date specified in "Instructions to Tenderers".

.2 The Contractor shall be prepared to schedule his work so as to cause as little inconvenience as possible in the operation of the VIA's facilities and operations in the area. In case of dispute, VIA's ruling regarding respective rights shall be accepted as final.

2.4 CO-ORDINATION

.1 The Contractor shall co-ordinate Work with other contractors to ensure that all requirements of the specifications are met and that the track structure is safe for normal train movements at all times.

.2 The Contractor shall ensure that the integrity of any existing signal plant, including crossing protection, is maintained and safe for normal train movements at all times.

2.5 SIGNAL TEST AND COMMISSIONNING

.1 **GENERAL**

.1 Contractor shall provide qualified inspectors and test personnel for all testing and commissioning activities for the duration of Work.

.2 Perform as many pre-tests as possible in advance of in-service testing. To have a successful cutover, it is essential as much pre-testing and advance wiring be completed before the in-service testing begins.

.3 Contractor to provide all necessary tools and equipment to be used for communication purposes and to perform tests as required. The Work shall include the costs of any special equipment and assistance required to conduct all tests and complete the required documentation

.4 For Automatic Warning Devices at least one train in each direction must be observed and the warning devices seen to operate correctly before the commissioning is deemed to be completed. Records of train movements as well as train speeds and warning times shall be recorded and submitted to VIA.

.5 VIA will provide the Shop Test, Testing and Commissioning Procedures for Centralized Traffic Control systems. Contractor is responsible for grade crossing systems testing procedures.

.2 SIGNAL FACTORY ACCEPTANCE TESTING

.1 Each control point, intermediate signal, grade crossing warning system, or other control signal equipment housing shall be tested to verify that it functions properly before it is shipped to the field for installation.

.2 Provide confirmation that all required factory tests of systems, subsystems, assemblies, subassemblies and components supplied under this contract have been performed and that the system performance follows the agreed upon specification guidelines.

.3 Upon completion of factory acceptance testing, the contractor must provide VIA marked-up field signal plans detailing any modifications of equipment locations, wiring changes, or any other changes made from the issued construction plans.

.3 SITE ACCEPTANCE OF SIGNAL TESTING

.1 Tests shall involve connecting all control systems that make up a system, applying power, bungalows installed in the field and all equipment connected and then exercising each function of the system and verify proper result.

.2 Upon completion of site acceptance testing, the contractor must provide VIA marked-up field signal plans detailing any modifications of equipment locations, wiring changes, or any other changes made from the issued construction plans.

.4 FINAL SINGAL COMMISIONING

.1 The Bidder must submit in the Proposal their own plan of execution for commissioning; describing the team, crew allocation, duration of tests, and equipment and vehicles, command center (work trailer), etc.

.2 Contractor must have 2 copies of signal plans with proposed color changes per location that will be commissioned. One copy will remain in the bungalow after commissioning while the other will be signed and handed to VIA before the first train is allowed. Marked-up changes during commissioning must be tracked in both.

.3 As each site is commissioned into service the contractor shall deliver to VIA 15 days prior the commissioning plan used to perform the testing procedures, the commissioning may be done in phases. The request should include:

.1 List of the assigned locations of the assigned personnel and tester in charge and their designated duties during tests;

.2 Schedule of testing which includes beginning and ending dates, times, and locations in a time-line format;

.3 Plans to be used during testing, test forms and test procedures and description of each test to be performed;

.4 Work area and protection;

.5 Description of the equipment to be used for communication purposes (Other).

.4 All test reports shall be dated and signed by the contractor's testing manager or contractor's responsible employee on the day the test has been performed and delivered to VIA representatives before the first train is allowed, along with a set of signed field copies marked-up "as-installed" plans mentioned in 2.7.4.2.

2.6 FLAGGING

.1 **VIA will provide one (1) flag person at no cost to the Contractor for one 10 hour shift per day**. If the Contractor requires additional flag persons for their operations, these extra flag persons will be provided, if available, at a cost. The Contractor shall submit a detailed schedule of work ahead of time so the Maintenance-Of-Way Contractor could organize their staff against the schedule work. VIA will provide one (1) flag person for the duration of the Work. Extra flag persons may not be available at all times and the Contractor may have to reschedule some work in future shifts.

.2 The Construction Schedule shall specify the numbers of days in the field to perform the Work from the Mobilization to the Demobilization. For any extra days of work not covered by a Change Order, all the cost associated for railway traffic protection (flagman) and field supervision by the third-party consultant will be deducted from the contract price.

.3 The Contractor will be responsible for ensuring that construction operations are carried out without interfering with the continued safe movement of rail traffic. VIA reserves the right to quantify the cost of train delays and the cost of any repairs to rail, ties, ballast, signal

appliances required as a result of damage caused by the Contractor and to assess this liability to the Contractor at VIA's sole discretion.

.4 Give VIA at least five (5) working days notice of the hours within which work is to be carried out in order that protection may be provided. Time wasted unnecessarily by the VIA personnel due to the Contractor will be charged against the Contractor.

.5 Ensure that a responsible person is present at all times to whom the Railway personnel will issue orders regarding work near the tracks. The contractor shall comply immediately with such orders and instructions.

.6 The Contractor shall consider approximately 30% downtime to permit the passage of trains on the adjacent tracks. The Contractor shall have no claims for additional payment for delays.

2.7 WORKING WITHIN THE VIA RIGHT-OF-WAY

.1 INTRODUCTION

.1 The purpose of this special provision is to outline VIA's rules, policies, standards and procedures that the Contractor will be expected to abide by while working within the VIA right-of-way (ROW).

.2 Railway facilities and operations can be dangerous places for people who do not have a railroad background. It is important that proper measures be taken to ensure that access to VIA property is controlled and the safety of all people is assured. The Contractor shall be responsible for reviewing the appropriate health, safety and regulatory documents and for determining their applicability in relation to the contract work prior to its use. The Contractor is solely responsible for ensuring compliance with this special provision.

.3 All Contractor, and Sub-Contractor, personnel shall read and comply with the requirements of this special provision.

.2 GENERAL REQUIREMENTS

.1 The vertical construction clearance of 22 feet above the top of the highest rail and the horizontal construction clearances of 8 feet 6 inches from the centerline of tangent track, and 10 feet from the centerline of curved track, must be maintained at all times.

.2 The Contractor shall maintain positive drainage of VIA's property for the duration of the work. Any dewatering of the site requires prior VIA approval. After construction is complete, VIA's property shall be restored to the satisfaction of VIA. Any fencing removed to facilitate construction shall be restored and any temporary drainage facilities shall be removed.

.3 The Contract Administrator may schedule and conduct bi-weekly liaison meetings with Railway for the duration of the Contract, for which attendance by the Contractor is mandatory.

.4 The Contractor shall minimize the storage of any material or equipment on VIA's property. If required, they need to be stored as far as possible from the track at a location accepted by VIA. Equipment or vehicles shall be situated in a location so as not to block the sight lines and automatic warning devices at level crossings nor to block railway signal lights.

.5 Metal measuring tapes or other metal appliances must not meet the rail of any track. Walking or stepping on a rail, switch, interlocking machinery or connection is prohibited.

.6 Red color shall not be used for safety helmets, safety vests, apparel, or survey markers. Other highly visible colors, such as orange, are acceptable.

.7 Any object waved violently by anyone on or near the tracks is a signal for trains to stop. The Contractor shall be liable for all costs, direct and indirect, incurred by VIA because of damage, disruption or inconvenience to VIA's operations, property or infrastructure, caused by the Contractor's operations.

.8 The Contractor shall note that, from time to time, CP, VIA or other work near the project limits may result in cancellation or reduced hours of rail traffic protection (flagging) and/or track closures scheduled for this contract. The Contractor shall have no claims for additional payment for delays in this regard. When possible, VIA will make arrangement with CP to have the freight run during the day instead of night.

.9 All work executed by the Contractor shall not interfere with the continued, safe movement of rail traffic. Any object waved violently by anyone on or near the tracks is a signal for trains to stop. The Contractor shall be liable for all costs, direct and indirect, incurred by Railway because of damage, disruption or inconvenience to VIA's operations, property or infrastructure, caused by the Contractor's operations.

.10 The Contractor shall be liable for all costs, direct and indirect, incurred by VIA due to the settlement of track(s) or any other problems related to VIA's operations, property or infrastructure, that occur because of the Contractor's operations, for a period of one (1) year from the date of completion of the work.

.11 The Contractor shall be responsible for all costs associated with delays or inconvenience to the Contractor's operations because of :

a) VIA's requirements;

b) Failure by the Contractor to provide sufficient notification to VIA as outlined in this special provision;

c) VIA's inability to provide a VIA flag person, notwithstanding the Contractor providing sufficient notification as outlined in this special provision;

d) Stoppage of work within the Right of Way, by VIA;

e) Delay or shortened duration of the reduced minimum clearances by VIA; or

f) Cancellation, delay, or reduced hours of the track closure(s), by VIA, or stand-by time during the track closure to allow train passage.

.12 Where any individual(s) in the employment or under the responsibility of the Contractor, or Sub-Contractor, is in violation of VIA's safety rules, policies, standards, or procedures, or instructions/ direction given by VIA personnel, including actions resulting to train delays, the Contractor shall be assessed a $5,000 penalty, per incident. This shall also result in the immediate removal of the Contractor, and/or the offending personnel from VIA property, stoppage of all work within the ROW, and closure of the site until the situation is corrected. Repeat offences shall result in the Contractor being prohibited from continuing all contract work within the ROW and from working on VIA property in the future.

.13 All accidents/incidents that occur on VIA, or adjacent to VIA with risk to rail operations, shall be reported to the VIA flagman immediately, and to the VIA Contact Person within 24 hours. All such incidents shall be fully investigated by the Contractor, with a written report sent to VIA within seven (7) days detailing the nature of the incident, the cause(s), regulatory authorities notified, and a specific action plan to prevent recurrence.

.3 CONTRACTOR SAFETY ORIENTATION

.1 The Contractor shall ensure that all personnel working within the ROW, including Sub-Contractors, complete the VIA safety orientation course, available on the Internet at the following address: www.contractororientation.com

.2 The objective of this course is to outline VIA's safety guidelines/policies, and shall not be considered as a substitute for the applicable government regulations. These guidelines are the minimum requirement and must be exceeded where the hazard or government regulations warrant.

.3 The Contractor shall register each person that has completed the course, and will receive a qualification card and sticker for each person within ten (10) days of registration. The sticker shall be affixed to the employee's hardhat in a location where it is easily visible. The qualification card shall be carried on each employee, and each employee must have his/her name labelled on the front of his/her hard hat.

.4 The cost of the course is $25.00 US per person (price subject to change). Qualification is valid for three (3) years after the date of completion. On or before the expiration date, the employee shall register and repeat this course.

.4 SUBMISSIONS

.1 At least one (1) week prior to the commencement of work within the ROW, the Contractor shall provide written notice for the requirement of a VIA flag person. The Contractor shall make all arrangements for the flag person through the VIA Contact person. Failure by the Contractor to provide the specified notification of any proposed work requiring flagging protection may result in no flag person being provided and the work not being permitted to proceed until a flag person is available.

.2 Where applicable, At least one (1) week prior to the commencement of work within the ROW, the Contractor shall submit a request for the arrangement of VIA cable locates. The Contractor shall have a representative on site to accompany the VIA Signals & Communications Supervisor while locates are being provided.

.3 Prior to commencement of work within the ROW, the Contractor shall submit the following documents to VIA. The Contractor shall retain a copy of these documents on site always, and available for review by VIA personnel.

a) Signed copy of the "Release of Liability and Permit for Applicant"

b) Signed copy of the "SCP-1005, Instructions to Excavators for the Protection of Underground S&C Cables"

c) Proof of VIA Safety Orientation qualification

d) Proof of CROR qualification

e) Proof of delivery of supplied material by the Contractor on VIA's property

f) Signed copy of the "Contract with VIA Rail Canada"

g) Proof of insurance as per Clause 11 of the Contract

h) Completed Risk identification form

i) Work schedule in MS-Project format showing main activities with material supply lead times.

.4 During the work, the Contractor shall submit the following:

a) Provide Progress Payments 5 day prior the end of the month

b) Provide a bi-weekly updated schedule measured against the baseline in MS-Project format

c) Provide every Thursday, a weekly request of working hours/days as to plan for railway flag person and site supervision

d) Prepare and submit change order request to VIA Project Manager.

.5 SLOW ORDER PENALTIES

.1 If because of the Contractor's operations or negligence other than a normal speed restriction for a specific Work approved by VIA, VIA is unable to maintain normal operating speed and a slow order is issued, the Contractor shall be liable for the cost

of train delay including but not limited to alternate transportation of passengers affected by the delay or train cancellation.

.2 Where remedial work is to be completed by VIA, the duration of the slow order shall be dependent on the availability of VIA to supply the necessary material, labor and equipment to complete the work. The Contractor shall be responsible for the cost of repairs to the track and signal plant required because of damage caused by his/her operations in addition to the slow order penalty assessed above.

.6 UNDERGROUND & OVERHEAD VIA or CN OWNED & MAINTAINED CABLES

.1 There are buried and overhead cables within the ROW. These cables are conveyors of high technology information. Disruption of this service is costly to repair and most importantly, causes severe loss of revenue and inconvenience to VIA/CN and its customers. In addition, the cables carry high voltages that could cause serious injury or fatality. Therefore, it is important that Contractors use extreme caution when working near any signals and communications cable.

.2 Where applicable, prior to mobilization within the ROW, the Contractor shall make a joint inspection with VIA, while VIA locates their underground cables by means of markers and/or fluorescent paint. The Contractor will be required to sign VIA's locate form. This form is only valid for thirty (30) days.

.3 The Contractor shall ensure that prior to any excavation within the ROW, the VIA locate sheet is current. If the locate sheet is more than 30 days old, the Contractor shall be responsible to arrange for new cable locates.

.4 The Contractor will be required to provide the current locate sheet to the railway flag person before the railway flag person will permit any excavation within the ROW.

.5 Contact the "Call Before You Dig Center" at 1-877-865-6193 to arrange for Bell Canada (360 Networks) fiber optic cable locates and On1Call at 1-800-400-2255 for all other utilities.

.6 The Contractor shall carry out all excavation operations in accordance with "Instructions for Excavators, Underground S&C Cable, SCP-1005". A copy of the bulletin is attached to these specifications. The Contractor shall take every conceivable precaution to ensure that the cables are not damaged.

.7 Prior to commencing any excavation work or any work near and around the fiber optic cables, the Contractor shall receive authorization from VIA that CN's Network Management Centre has been notified at (800) 661-3687, and provide confirmation of authorization to the Contract Administrator.

.8 When working within one (1) meter (distance may be changed at the discretion of CN) of CN's underground cables, the Contractor shall expose the underground cables using an approved hydro-vac service only. The Contractor may also be required to provide hydro-vac services for positive identification of cables. All

hydro-vac work shall be done in the presence of the VIA site supervisor and/or VIA Signals and Communications maintainer.

.9 When working within one (1) meter from the outer edge of the Bell Canada (360 Networks) duct system/cables, the Contractor shall perform this work under constant monitoring by an approved Bell Canada (360 Networks) representative.

.10 When working within two (2) meters from the outer edge of the Bell Canada (360 Networks) duct system/cables, the Contractor shall perform any excavation work under constant monitoring by an approved Bell Canada (360 Networks) representative.

.11 In the case that the buried cables have less than one (1) meter of ground cover, and when it is necessary to cross over VIA or CN's underground cables with heavy equipment (including at the approaches to a temporary construction crossing) the Contractor shall expose the cable(s) using a hydra-vac, and install protection (steel plate/steel troughing) as directed by and under the supervision of VIA. The cables shall have at least one (1) meter of cover, or greater depth, as dictated by ground conditions and as determined by VIA. Material used for cover shall be approved fill and separated from the ballast shoulder by means of heavy filter fabric, supplied and installed by the Contractor. The Contractor shall restore VIA's roadbed to its original condition and elevations on completion of work within the ROW.

.12 Any damage to a signals or communications cable shall be reported immediately to the railway flag person, VIA Project Manager and the VIA Signals and Communications maintainer. The Contractor shall make no attempt to repair damaged cables.

.13 The Contractor shall be held liable for all costs related to repairs and loss of revenue because of disruption to the cable network caused by the Contractor's operations.

PART 3 – MEASUREMENT METHOD & ITEM DESCTIPTION

Provision for labour, materials, tools, equipment protection, transportation, administration fees, profits and necessary financing, etc., to complete the work stipulated in this project, shall be included in each of the items mentioned below, except where otherwise indicated.

The procedure for measuring the categories of labour, tools and materials which constitute the work is as follows and as defined in the Schedule of Prices in the Form Tender:

3.1 PART A – TRACK EXTENSION & REHABILITATION

Item A1: Mobilization and demobilization

This item shall not be measured and will be paid as a Lump Sum Price.

This item shall include all the work required to mobilize the site, build temporary access roads if required and facilities such as scaffolding and all the engineering work related to it, all the necessary measures required to ensure security during the entire project, demobilization and all other work.

The Contractor will be paid 50% of the Contract Bid Price for this item upon completion of the mobilization operation. The remainder of the Contract Bid Price for this item will be paid when the Contractor demobilizes from the site and restores the site to a condition acceptable to VIA.

Refer to sections 020000

Item A2 & A10: Supply proposed turnouts

These items shall be measured and will be paid by the unit number of turnout supplied.

Theses item shall include the supply and transport of two turnout #12S, 115 lb. RE RBM frog CN TS-284 A-D new including rail and switch-plate rollers. Tie plates shall be cast plate with lag screw.

Refer to sections 021130

Item A3 & A11: Install proposed turnouts

These items shall not be measured and will be paid as a Lump Sum Price.

These items shall include all the work and equipment required to handle and install turnout equipment as required on the drawings and specifications for turnout installation and replacement. This item also includes the removal and disposal when required of existing track panels to be replaced by turnouts panels in accordance with VIA Rail standards.

Refer to sections 021130

Item A4: Construction of proposed Siding and Storage tracks

This item shall not be measured and will be paid as a Lump Sum Price.

This item shall include all the work, equipment and material related to the construction of the proposed Siding extension. It shall include the supply, transport placement and compaction of ballast prior to the surfacing operation. It also includes the supply, transport and installation of all required ties, tie plates, spikes and anchors. The item include the transportation of the PW 115 lbs rails supplied by VIA from Carlsbad Spring to the job site and the installation. The existing #9 turnout shall be relocated to be used in the proposed Siding track configuration. In addition, this item includes the removal and disposal of any existing conflictual track material, i.e. existing Siding and storage track portion to be removed.

Refer to sections 021130

Item A5: Construction of Mainline track at existing bridge location

This item shall not be measured and will be paid as a Lump Sum Price.

This item shall include all the work, equipment and material related to the construction of the Mainline track portion to replace the existing bridge and the #9 turnout to be removed. It shall include the supply, transport placement and compaction of ballast prior to the surfacing operation. It also includes the supply, transport and installation of all required ties, tie plates, spikes and anchors. The item include the transportation of the PW 115 lbs rails supplied by VIA from Carlsbad Spring to the job site and the installation.

Refer to sections 021130

Item A6, A8 &A9: Dismantle turnouts

These items shall not be measured and will be paid as a Lump Sum Price.

These items shall include all the work and equipment required to dismantle, store and/or dispose to the appropriate site all turnout equipment to be replaced or removed in accordance with the contract documents. They shall also include the work and equipment required to rebuild track connections after turnout dismantling for item A8 where a gap will be left in the Siding track.

Refer to sections 021130

Item A7: Dismantle Storage track end portion and install Bumping post

This item shall not be measured and will be paid as a Lump Sum Price.

This item shall include all the work and equipment required to dismantle, store and/or dispose to the appropriate site or facility all Storage track equipment to be removed at the end portion of the track in accordance with the contract drawings. In addition, this item includes the disposal of existing railway ties and the labour and equipment required to handle rails, tie plates, spikes and all other railway infrastructure in accordance with VIA Rail standards. A bumping post shall be supplied and installed as shown on drawings afterwards.

Refer to sections 021130

Item A12: Supply and install new glued insulated joints

This item shall be measured and will be paid by the unit number of insulated joints install.

This item shall include the supply, transport and installation of insulated glued joints.

Refer to sections 021130

Item A13: Supply double shoulder tie plates

This item shall be measured and will be paid by the unit number of tie plates supplied.

This item shall include the supply and transport of double shoulder tie plates for ties replacement.

Refer to sections 021130

Item A14: Supply track spikes

This item shall be measured and will be paid by the unit number of spikes supplied.

This item shall include the supply and transport of track spikes for ties replacement.

Refer to sections 021130

Item A15: Replace identified ties

This item shall be measured and will be paid by the unit number of ties replaced.

This item shall include all work associated with the supply, transport and installation of the new railway ties for Siding track rehabilitation, in accordance with the method described in the contract technical specification for track construction, including handling and installation of ties, plates, spikes and all other required material. In addition, this item includes the disposal of existing railway ties and the labour and equipment required to handle rails, tie plates, spikes and all other railway infrastructure in accordance with VIA Rail standards. Only identified ties shall be replaced.

Refer to sections 021130

Item A16: Replace Siding 100 lb. rail with 115 lb.

This item shall be measured and will be paid as per track foot (t.f.) price.

This item shall include all work associated with the installation of 115 lb. rail supplied by VIA to replace existing Siding rails in accordance with the method described in the contract technical specification for track construction, including handling and installation of ties, plates, spikes and all other required material. In addition, this item the labour and equipment required to handle rails, tie plates, spikes and all other railway infrastructure in accordance with VIA Rail standards.

Refer to sections 021130

Item A17 & A18: Supply and install rail anchors

These items shall be measured and will be paid by the unit number of anchors supplied installed to replace deteriorated anchors.

Theses items shall include all the work and equipment required to supply and install rail anchors for existing Siding track rehabilitation. In addition, this item includes the disposal of existing rail anchors and the labour and equipment required to handle rails, tie plates, spikes and all other railway infrastructure in accordance with VIA Rail standards.

Refer to sections 021130

Item A19: Supply Ballast prior to surfacing

This item shall be measured and will be paid as per cubic meter price.

This item shall include all the work and equipment related to the supply and transport of track ballast for the surfacing operation.

Refer to sections 021130

Item A20, A21 & A22: Railway surfacing

These items shall be measured and will be paid by the track foot (t.f.) of surfaced tracks.

These items shall include all the work and equipment required for the surfacing and realignment operations of all tracks between mile 27.33 to 27.57 in accordance with the contract drawings and specifications, and VIA Rail standards.

Refer to sections 021130

3.2 PART B – GRADING, DRAINAGE AND CIVIL WORK

Item B1: Clearing and Grubbing

This item shall be measured and will be paid by the surface area (m^2) of removed vegetation.

This item shall include all the work and equipment related to cutting off trees and brush vegetative as well as topsoil stripping. This item shall also include the removal of stumps, roots, surface debris, boulders and rock fragments to a specified depth in accordance with the contract technical specifications.

Refer to sections 022310

Item B2: Excavation

This item shall be measured and will be paid as per cubic meter price.

This item shall include all the work and equipment required to remove the necessary material for ditch profiling and roadbed grading in accordance with the contract drawings.

Refer to sections 023150

Item B3: Backfilling

This item shall be measured and will be paid as per cubic meter price.

This item shall include all the work and equipment required to supply, place and compact all the necessary material for ditch profiling and roadbed grading in accordance with the contract drawings. This item is limited to earth and subgrade layer for roadbed construction.

Refer to sections 023150

Item B4: Supply & install Sub-ballast

This item shall be measured and will be paid as per cubic meter price.

This Item shall include all the work and equipment related to supply, placement and compaction of sub-ballast material as required on the drawings and specifications for proposed roadbed construction.

Refer to sections 027210

Item B5: Install CSP culvert extensions between Creek and Front street existing culvert

This item shall not be measured and will be paid as a Lump Sum Price.

This item shall include all the work, equipment and material required to install the culvert extensions between Butler's Creek and Front street. This item includes trenching, granular bedding, pipes installation and coupling, and connection to manholes in accordance with the contract drawing, East and West of tracks.

Refer to sections 026330

Item B6: Install Manholes

This item shall be measured and will be paid by the unit number of manholes installed.

This item shall include all the work, equipment and material required to supply, transport and install the proposed manholes in order to connect the proposed culverts with the existing culverts beneath Front Avenue, East and West of tracks as required on the contract drawings.

Refer to sections 026310

Item B7: Supply & install Rip-Rap along Creek's banks

This item shall be measured and will be paid by the surface area (m^2) of Rip-Rap supplied and placed.

This item shall include all work associated with the labour, equipment and materials required to supply, transport and place rip-rap along the Creek's banks upstream and downstream of existing bridge to prevent erosion in accordance with the contract documents.

Refer to sections 023940

Item B8: Topsoil placement and grading & Hydraulic seeding

This item shall be measured and will be paid by the surface area (m^2) of topsoil placed and sprayed with hydroseeding.

This item shall include all the work, equipment and material required to place and grade soil as well as seed required areas in accordance with the contract documents.

Refer to sections 029110; 029200

3.3 PART C – STRUCTURE

Item C1 & C6: Structural demolition

These items shall not be measured and will be paid as a Lump Sum Price.

Demolition and disposal of existing deck plate girder (DPG) span, including bridge ties and trainmen's walkway. Partial demolition and disposal off-site of existing concrete and masonry abutments and block wall to limits indicated on plans.

Refer to sections 0711320

Item C2: Box Culvert construction

This item shall be measured and will be paid by the linear meter (m) of box culvert installed.

Fabrication, delivery and, installation of precast concrete culvert shown on drawing, including headwalls. Installation of precast sections includes the construction and removal of any temporary shoring required. This item also includes, but is not limited to, excavation, backfill under, installation, post tensioning and grouting of precast concrete sections, placement of 0.5MPa concrete, installation of protection boards and any other works required to install the precast elements as per the contract drawings.

Refer to sections 034100

Item C3: Supply & install H-piles

This item shall be measured and will be paid by the linear meter (m) of H-piles installed.

Fabrication, delivery, storage and installation of steel piles cored into rock required for the construction of the permanent retaining wall as shown on the contract drawings. Fabrication of piles includes the preparation of detailed shop drawings signed and sealed by an engineer registered in Ontario. The present item includes the placement of both 35MPa and 0.5 MPa concrete as needed around the steel piles, drilling to 1m inside rock and concrete pouring around base.

Refer to sections 023680

Item C4: Supply & install precast concrete lagging

This item shall not be measured and will be paid as a Lump Sum Price.

Fabrication, delivery, storage and installation of precast concrete lagging required for the construction of the permanent retaining wall as shown on the contract drawings. Fabrication of precast lagging includes the preparation of detailed shop drawings signed and sealed by an engineer registered in Ontario. This item shall also include the supply and installation of neoprene pads installed between the neoprene pads and the geotextile required on the backside of the lagging.

Refer to sections 034100

Item C5: Supply, drill & install Rock anchors

This item shall be measured and will be paid by the linear meter (m) of Rock anchors installed.

Supply and installation of rock anchors required for permanent retaining wall as shown on contract drawings. Installation includes the drilling, grouting and testing of anchors as specified on the drawings and in the technical specifications.

Refer to sections 023710

Item C7: Supply and install natural Streambed stones

This item shall be measured and will be paid by the surface area (m^2) of streambed stones supplied and placed.

Supply and place natural streambed stones within limits indicated on drawings around and inside the newly constructed concrete culvert.

Refer to sections 023160

Item C8: Supply & install Hand railing

This item shall be measured and will be paid by the linear meter (m) of hand railing supplied and installed.

Fabrication, delivery and installation of new handrailing's along headwalls of concrete culvert on both sides of tracks. This item includes the preparation of detailed shop drawings signed and sealed by an engineer registered in the province of Ontario.

Refer to sections 051233

3.4 PART D – SIGNAL

Item D1 to D8: Signal and Communication work

Payment or credit for the Work of this Section shall be included in the lump sum price for each location included in the Form of Tender. Payment will be full compensation for all materials, labour, use of equipment, tools and incidentals necessary to complete the Work of this section.

Refer to sections 3B-01 to 3B-14

***** END OF SECTION *****