



FROM : HRM PROCUREMENT,
DIVISION OF FINANCE
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REQUEST FOR QUOTATION

RFQ number/date
2060018592 / 2014.04.30
RFQ Collective Number
Q14P258
Contact person/Telephone
Pat Keohan/902 490-6307

Our reference
2050583808
This number must appear on all invoices lading bills, containers and
correspondence.

Send queries DIRECT to Purchasing Agent.

Please send completed RFQ to:

Halifax Regional Municipality
Procurement Division

Suite 103, 40 Alderney Drive, Dartmouth, NS B2Y 2N5

THIS IS NOT A PURCHASE ORDER

Contact person/Telephone
Peter Williams 902-490-4059

Your reference
Q14P258

Quotation deadline: 2014.05.15
Á

Request for Quotation for:
Sir Sanford Fleming Park Stair Replacement.

Quotation Q14P258 closing Thursday May 15, 2014 at 4:00 pm Atlantic Standard Time (AST).

All bids to be submitted on this form only.

Quotations can be delivered by courier to HRM Procurement located at 40 Alderney Dr., Suite# 103, Dartmouth
NS, or faxed to (902)490-6425. Bidders are advised that Canada Post does not deliver to the Procurement Office.

Name of Company Quoting: _____

Name of Company Representative: _____



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Terms and Conditions:

By submitting a response to this request, the bidder agrees to comply with all terms, conditions, instructions and specifications for Specified Price Contracts as posted on the Halifax Regional Municipality website at <http://halifax.ca/procurement/SpecifiedPriceContracts.html> unless otherwise stated in this solicitation.

Submission of a response to this Request for Quotation confirms that your company has viewed and accepts these Terms and Conditions.

A Mandatory Site Meeting is scheduled for Thursday May 8, 2014 at 10:30am local time. The site is located at Dingle Road, Halifax, N.S. You will need to sign in to this meeting. Please be prompt. The drawings will be handed out at the meeting.

For questions concerning specifications, work requirements or application, and or to view the site, contact the HRM Project Manager for this project - Peter Williams at 902-490-4059.

(for questions concerning terms and conditions contact pat keohan, at 902-490-6307).

Bidders shall include references of other organizations you have supplied similar products and/or services to(print clearly):

"References from Halifax Regional Municipality staff will not be considered. HRM reserves the right to contact submitted references at their discretion."

1) NAME OF COMPANY _____

CONTACT PERSON: _____

TELEPHONE #: _____

SCOPE: _____

VALUE: _____

EMAIL: _____

2) NAME OF COMPANY _____

CONTACT PERSON: _____

TELEPHONE #: _____

SCOPE: _____

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VALUE: _____

EMAIL: _____

Item	Material	Description
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00010		SIR SANFORD FLEMING PRK SUP/INSTALL
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To provide all labour, materials, tools, equipment, transportation and services for Sir Sanford Fleming Park Stair Replacement according to the specifications, drawings and mandatory site meeting.

Specifications, Bid Sheet and Drawings attached.

Upon receipt of purchase order, work to be substantially complete within eight (8) weeks, unless otherwise stipulated in writing.

Bidder to state if using any subcontractors: Yes____ No____

If yes, state name of company and work they will be doing:

Provide brief history of your firm, experience and qualifications for doing this work, (Please Print):

Item	Material	Description

Bidders are to submit with their quotation, current copy of letter of Good Standing from The Workers Compensation Board, and a Letter of Good Standing from a WCB of Nova Scotia approved audit firm. Any subcontractors are to have these documents as well.

Vendor Quoting (print clearly):

Name of Company: _____

Address: _____

City & Province: _____ Postal Code: _____

Telephone: _____ Fax: _____

Email Address: _____

HST #: _____

Name of Representative: _____

Signature of Representative: _____

Date: _____

HALIFAX REGIONAL MUNICIPALITY
PARKS FACILITY DEVELOPMENT

SIR SANFORD FLEMING PARK STAIR REPLACEMENT

QUOTATION # Q14P258

The contract documents for this quotation, in order of precedence, are as follows:

- Supplementary Terms and Conditions
- General Requirements - Specified Price Tender
(<http://halifax.ca/procurement/specifiedpriceContracts.html>)
- Instruction to Bidders
- General Specifications
- Works and Specifications
- Details
- Form of tender
- Contractor Safety Management Policy
- Substance Abuse Prevention Policy
- Appendix "B" Health and Safety Questionnaire

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Appendix A: HRM Standard Specification for Municipal Services
(excerpt) 2009.

Appendix B: Hydroseeding

HALIFAX REGIONAL MUNICIPALITY
PARKS FACILITY DEVELOPMENT

SIR SANFORD FLEMING PARK STAIR REPLACEMENT

QUOTATION # Q14P258

Prices are requested for stair replacement in HRM at Sir Sanford Fleming Park, Halifax, as detailed later in these specifications. **Four (4)** Drawing Sheets are included.

A) GENERAL SPECIFICATIONS

1) NAMES OF PARTIES

The Owner under the terms of this Contract is the Halifax Regional Municipality, 3rd Floor, Duke Tower, Scotia Square, Halifax, Nova Scotia.

The Contractor under the terms of this Contract is the person or firm or Company whose tender has been accepted by the Owner and includes the Contractor's successors and permitted assigns.

The Project Manager under the terms of this Contract is the assigned HRM Parks representative.

HRM under the terms of this Contract means the Halifax Regional Municipality.

2) FORM OF CONTRACT

The Contract shall be as per terms and conditions of this specification and associated drawings and documents.

3) DESCRIPTION OF SITE

The site is located at **Dingle Road, Halifax, NS**. For further clarification, refer to the site vicinity plan (see **Dwg. L -100: inset map**) included within the drawing package.

It is recommended that tenderers visit the site in order to satisfy themselves as to the following:

- .1) Means of access to the site.
- .2) General location of the work area and of working and storage space available
- .3) Conditions which may prevail on or adjacent to the site during construction
- .4) Adjoining private/City fences, trees/shrubs, concrete/asphalt walkways; overhead and underground services, lawn areas, etc. which require protection during the progress of the works. Care must be taken to avoid disturbing these sites.

It is the Contractor's responsibility to arrange for all required utility locates at each respective site within this Contract. Cost to repair all damages to any utility caused by the Contractor through the execution of this Contract shall be borne by said Contractor.

.5) Facilities to be provided for other contractors or workers of the Owner who may be employed during the progress of the works

.6) Surface condition and the nature of the ground and subsurface

No allowance beyond the Contract Sum will be made for any alleged ignorance in respect of these matters.

4) PROGRAMME OF OPERATIONS

.1) Project must be substantially complete within eight (8) weeks of receipt of PO, unless otherwise stipulated in writing.

Substantial Completion has been reached "*when the Work is ready for safe use or is being used for the purpose intended and has been accepted as such (in writing) by the Project Manager.*"

.2) The pre-construction meeting is mandatory. Construction cannot commence until the pre-construction meeting has been held.

.3) Possession of the site will be given to the Contractor at the commencement of construction and remain until construction is complete.

.4) A \$500.00/day penalty will be deducted from the contract price for each day the project extends beyond the stipulated substantial completion date. Delays in shipping any components required for the completion of the project will not be considered as a legitimate reason for delay.

.5) All of the above works shall proceed only during good weather conditions. The Project Manager reserves the right to stop all work during periods of inclement weather. In the event of work stoppage, or approved change orders (see sections 5 and 6 below), the stipulated completion date may be adjusted accordingly and agreed revised date provided in writing.

5) WORK STOPPAGE

.1) In the event of inclement weather resulting in a work stoppage and anticipated need for substantial completion date extension, the Contractor shall notify the Project Manager in writing (fax, e-mail, mail) of the delay a minimum of 24 hours before the original substantial completion date. Written approval of the extension by the Project Manager must be obtained. In no case will a work stoppage be accepted as a basis for extra payment.

6) CHANGE ORDERS

.1) Procedure for contemplated change order is as follows:

- .1) Site meeting (if required) is arranged between Contractor and Project manager.
- .2) Contractor submits (in writing) a breakdown of additional costs or credit (if any) and anticipated extension of substantial completion date to the Project Manager for written approval.
- .3) Change order work cannot proceed until written approval is received.

7) GUARANTEE

.1) The Contractor shall guarantee the Works and materials for a period of **one (1) year** from the day following substantial completion.

.2) Deficiencies, as determined by the Project Manager, shall be corrected and/or replaced by the Contractor during this period. This would include but not be limited to deficiencies in material, and workmanship. No payment by the Project Manager shall constitute a waiver of the one year guarantee.

.3) Neither the final certificate nor payment nor any provisions in the Contract shall relieve the Contractor of responsibility for negligence or faulty materials or workmanship within the extent and period provided by law.

8) PROTECTION

The Contractor must protect, uphold and maintain all existing pipes, ducts, sewers, service mains, overhead and underground cables, fencing, asphalt/concrete walkways, etc. during the execution of the works.

9) CLEAN SITE

The Contractor shall remove debris during the course of the works and shall leave the site free of all debris of excess materials upon completion of the works. All adjacent pathways and roads shall be kept free from the accumulation of all deleterious material through the construction period.

10) PAYMENT

.1) This is a **Lump Sum** contract. Payment shall not be made until **Final Completion** of the work (in accordance with the specifications).
Final Completion has been reached *“when the works are 100% complete with no deficiencies and the Project Manager has accepted this in writing.”*

11) STORAGE OF MATERIALS AND EQUIPMENT

Materials and/or equipment are to be stored and maintained in an orderly manner satisfactory to the Project Manager during the progress of the work and shall be removed from the site immediately upon completion of the job or when ordered to do so by the Manager. The Contractor shall be responsible for damage to and damage caused by any equipment the contractor leaves on site during the construction period.

12) MATERIALS - EQUIPMENT ETC.

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labour, water, tools, equipment, light, power, transportation and any other goods or services necessary for the execution and satisfactory completion of the work.

13) PERMITS/APPROVALS

All permits/licences etc. necessary for carrying out the works shall be secured and paid for by the Contractor unless otherwise stipulated.

14) SAFETY REQUIREMENTS AND REGULATIONS

In accordance with the Nova Scotia Department of Labour's Health and Safety Act and Regulations, the HRM reserves the right to suspend works should the Project Manager find the Contractor in violation of any applicable construction safety codes, or in the opinion of the Project Manager is otherwise jeopardizing site safety in any manner. The Contractor, however, remains responsible for maintaining safe work practises and site safety whether the Project Manager is present or not.

15) SITE SECURITY

.1) The Contractor is to wrap equipment with plastic snow fencing at the end of each working day during construction.

.2) The Contractor is to ensure no excavated holes are to be left open at the end of each day.

.3) The Contractor is to install and maintain site signage in two visible locations during the course of construction. A minimum of two signs indicating "SITE CLOSED" to be placed at potential construction site access points on wooden road construction access barriers. Signage to include Contractor name and contact information.

16) ORDER OF PRECEDENCE

In the event of any conflicts or inconsistencies in the provisions of the plans and specifications of this document, such provisions shall take precedence and govern in the following order:

1. Purchase Order
2. Addenda (where issued)
3. Special Provisions and/or General Requirements
4. Contract Drawings
5. HRM Standard Specifications and Standard Drawings
6. Bid Sheet

17) PROJECT CONTACT

Interested bidders may contact Peter Williams at Facility Development - Parks, HRM at 490-4059, cell 718-7765. All quotations are to be downloaded from the Nova Scotia Provincial website. Vendors are responsible to check the site on a regular basis for any quotations/addendums as they are no longer faxed to the vendors.

Website address: www.gov.ns.ca/tenders

A mandatory pre-construction meeting will be held after contract is awarded at a date stipulated by the Project Manager.

B) WORKS SPECIFICATIONS

1) DEMOLITION

Works are to include the demolition of the existing timber stair and all associated concrete footings and hardware. All materials to be hauled off site and disposed of in an appropriate facility. **Refer to Drawing L-100.**

2) SITE PREPARATION

- 2.1) Works are to include the supply of all labour, materials and equipment to prepare site for construction. This includes vegetation clearing, grubbing, and excavation to a depth of 150 mm (6 inches); and removal of unsuitable material (i.e. concrete turf, debris, rocks, fill, etc.). All unsuitable materials are to be hauled off site.
- 2.2) Contractor to supply and install tree protection using plastic snow fence and steel rebar posts. **Refer to Drawing L-100** for tree protection locations.
- .1 Set T-bars in ground maximum 2.4m apart, no closer to the tree than its dripline, unless otherwise directed by Consultant.
 - .2 Attach plastic snow fencing with wire or plastic electrical ties to completely surround tree or trees.
 - .3 Store NO materials and operate NO equipment within the tree protection fencing.
- 2.3) Unsuitable materials must be disposed of offsite. Soil materials may be re-distributed on site for pathway grading purposes if required. Bedrock removal not required.

3) EXCAVATION & GRADING

Work to include all required excavation for concrete installation as per drawings. This may include the removal of boulders if necessary. Bedrock removal is not required. If bedrock is encountered, notify HRM Project Manager as soon as possible.

Contractor to perform finish grading. **Refer to Drawing L-101.**

4) CONCRETE

Work to include supply and installation of all concrete sonotubes and two concrete landing slabs. **Refer to drawing set** for required concrete installation locations and required elevations. Base of concrete sonotubes to be set 1200mm below finish grade, or to bedrock if required. **Refer to Drawing L-102 for required sonotube elevations.** **Contractor is responsible for providing Layout Survey.**

Refer to Appendix A from HRM Standard Specification for Municipal Services (2009).

5) **TIMBER STAIR**

Work to include supply and installation of all timber and hardware for stair. Refer to **Drawing L101** for stair layout and **L103** for stair details. All wood to be Cedar to NLGA standard Grading Rules for Canadian Lumber.

6) **SITE REINSTATEMENT / CLEAN UP**

.1) The Contractor shall keep the construction area as clean and tidy as possible during construction.

.2) The Contractor shall take all necessary action to prevent inconveniences to nearby residents, and park patrons, and to control dust from construction by cleaning mud/dirt from the road and sidewalks as required.

.3) All existing roadways, driveways, pathways, grassed areas, site furnishings, and utilities which are disturbed as a result of the undertaking of this Contract, must be reinstated to their original condition or better, unless otherwise specified.

.4) On completion of the work, the Contractor shall remove all temporary signs, barriers, etc., and leave the site in a neat and tidy condition, free from debris, refuse and mud, to the satisfaction of the Project Manager.

.5) All turf areas on site disturbed by the Contractor through the execution of this Contract are to be restored by the placement of min. depth of 4" topsoil and Hydroseeding at the Contractor's expense. **Refer to Appendix B.**

7) **DRAWING PACKAGE**

The following drawing sheets shall form part of this contract.

Drawing No.

L - 100	Demolition Plan	
L - 101	Layout and Grading	
L - 102	Foundation Profile	Site
L - 103	Details	

8)

BID SHEET

Quotation # Q14P258

Date: _____

SIR SANFORD FLEMING PARK STAIR REPLACEMENT

All bidders shall provide a **Lump Sum** price for the scope of work as identified in the specifications. HRM reserves the right to accept all or any combination of itemized bid prices and/or increase or reduce quantities within each Contractor's bid price. HRM will not combine bids from other bidders but may choose to carry out work using its own forces and Standing Orders and /or substitute its own materials.

ITEM DESCRIPTION	QUANTITY	ESTIMATED PRICE
1) All Demolition, Haulage and Disposal	1	Lump Sum \$ _____
2) Site Preparation including All Excavation and Grading, Tree Protection, & Boulder Re-Location	1	Lump Sum \$ _____
3) All Concrete Supply & Install	1	Lump Sum \$ _____
4) All Timber & Hardware Supply & Install	1	Lump Sum \$ _____
5) Site Reinstatement Including Topsoil & Hydroseed Supply & Installation	1	Lump Sum \$ _____
6) All Gravel Supply & Installation as Required for Re-Instatement Of Path and Roadside Parking Area	1	Lump Sum \$ _____
		Sub-Total: \$ _____
		HST, (15%): \$ _____
		Total Price: \$ _____

Notes:

- 1. Contractor to reinstate all disturbed areas at no extra cost to the contract.**
- 2. Contemplated extra work and provisional items to be approved by Project Manager prior to installation.**

Company Name: _____

Address: _____

Postal Code: _____

Phone No.: _____

Fax No.: _____

INDEX TO CLAUSES

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- 3.3 Reinforcement and Embedded Items
- 3.4 Waterstops
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- 3.6 Joints
- 3.7 Finishing
- 3.8 Curing and Protection
- 3.9 Concrete Quality
- 3.10 Defective Work

PART 1 - GENERAL

1.1 Work Included

- .1 This section specifies requirements for constructing cast-in-place concrete. Work includes supply and installation of formwork, reinforcement, concrete and accessories.

1.2 Related Sections

- .1 Metal Fabrication Section 05 50 00
- .2 Earthwork Section 31 20 00
- .3 Walks, Curbs and Gutters Section 32 16 00
- .4 Reinstatement Section 32 98 00
- .5 Water Mains Section 33 11 00
- .6 Sanitary Sewers Section 33 31 00
- .7 Pressure Sewers Section 33 34 00
- .8 Precast Manholes, Catch Basins and Structures Section 33 39 00
- .9 Storm Sewers and Culverts Section 33 40 00
- .10 Standard Details Section 39 00 00

1.3 Reference Standards

- .1 ASTM C171-07, Standard Specification for Sheet Materials for Curing Concrete.
- .2 ASTM C260-06, Air-Entraining Admixtures for Concrete
- .3 ASTM C309-07, Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
- .4 ASTM C494/C494M-08a, Standard Specification for Chemical Admixtures for Concrete.
- .5 AASHTO M182 Burlap Cloth Made from Jute or Kenaf.
- .6 CAN/CSA-A3000 Series-03, Cementitious Materials Compendium

- .7 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test Standard Practice for Concrete
- .8 CSA S269.3-M92 (R2008), Concrete Formwork
- .9 CSA G30.18-M92 (R2007), Billet-Steel Bars for Concrete Reinforcement

1.4 Submittals

- .1 Submit shop drawings and samples in accordance with Section 01 10 00 for items listed in Supplementary Specification.

PART 2 - PRODUCTS

2.1 Materials

- .1 Portland Cement: to CSA Standard A3000, Type 10, Normal and CSA A23.1, Table 6, type GU.
- .2 Blended Hydraulic Cement: CSA Standard A3000 and CSA A23.1, Table 7. Ternary blended cements may be used with the concurrence of the Engineer.
- .3 Aggregates: to CSA-A23.1. For exposure Classes C-XL, C-1, C-2, C-3, C-4 and F-1, supply certification that the concrete mixtures have been evaluated for alkali-aggregate reaction and that measures have been taken to improve the reaction.
- .4 Water: to CSA-A23.1, Table 9.
- .5 Admixtures:
 - .1 Air Entraining: to ASTM C260.
 - .2 Chemical: to ASTM C494/C494M or C1017 for flowing Concrete.
- .6 Supplementary Cementing Materials:
 - .1 Low Calcium Fly Ash (Class F): to CSA A3000 and CSA 23.1, Table 8. Certification shall be provided for the fly ash used in the concrete.
- .7 Reinforcement:
 - .1 Bars: to CSA G30.18, billet steel, grade 400, deformed.
 - .2 Welded Steel Wire Fabric: to CSA G30.5.

- .3 Bar Supports and Spacers: to CSA-A23.1.
 - .8 Formwork:
 - .1 Forms: to CSA-A23.1, plywood and lumber, clean and free of loose knots, splits or metal.
 - .2 Form Ties: to CSA-A23.1, removable or snap-off metal ties, fixed or adjustable length. Form ties, tie wire, spacers or other embedded fixtures shall not be positioned closer than 20 mm of the surface. For severe environments, the dimension shall be as shown on the project drawings.
 - .3 Release Agent: non-staining natural organic chemicals of sprayable consistency which prevent adhesion of concrete to forms.
 - .4 Design: to CSA S269.3.
 - .9 Curing Compound: to CSA A23.1, white. Refer to AASHTO M182; ASTM C171; ASTM 309.
 - .10 Waterstops: ribbed, extruded PVC of type and size indicated.
 - .11 Non-shrink Grout: pre-mixed, dry pack or pourable, containing non-metallic aggregate, plasticizing agents and cement, minimum compressive strength of 45 MPa at 28 days.
- 2.2 Concrete Mix
- .1 Provide in accordance with CSA A23.1, Table 5, Alternate (1) or (2).
 - .2 Mix proportions to provide workable concrete having required durability and strength.
 - .3 Air entraining admixtures: to obtain Air Content Category as defined in CSA A23.1, Tables 1, 2 and 4.
 - .4 Slump: to CAN/CSA A23.1, Section 4.3.2.3.
 - .5 Compressive strength at 28 days: unless for mixtures containing supplementary cementing materials other ages may be appropriate as determined by the
-

Engineer. The strength shall be evaluated in accordance with CSA A23.1.

- .6 Water/cement ratio: to CSA A23.1, Tables 1, 2 and 4 as required for exposure conditions.
- .7 Ready mix plant shall conform to CSA and possess a current active membership in the Atlantic Provinces Ready Mix Concrete Association.

PART 3 - EXECUTION

3.1 General

- .1 Do concrete work to CSA-A23.1 and as herein specified.
- .2 Use ready-mixed concrete unless on-site mixing approved.
- .3 Do not change concrete mix without prior approval of Engineer. Changes in material supply will require submission of a new mix design for review.
- .4 If on-site mixing is approved, equipment to be capable of accurately proportioning ingredients to produce required concrete.

3.2 Formwork and Falsework

- .1 Construct formwork and falsework to CSA-A23.1.
- .2 Construct formwork to produce finished concrete to required shape, dimensions, and levels indicated within tolerances required by CSA-A23.1. Provide close fitting joints to prevent leakage of mortar, and form ties and bracing sufficient to withstand pressure of plastic concrete without deflection.
- .3 Falsework to be of sufficient strength to support total load of formwork, concrete, reinforcing steel, workers and equipment.
- .4 Use approved form release agent.
- .5 Formwork removal shall be in accordance with CSA A23.1.

- .6 Fill form tie holes with non-shrink mortar and finish to texture of adjacent concrete.
- 3.3 Reinforcement and Embedded Items
- .1 Clean reinforcing of rust build-up, mill scale or other coatings that prevent or reduce bond.
- .2 Bend all bars cold to measurements required.
- .3 Ensure reinforcement and inserts are not disturbed during concrete placement.
- .4 Place and support reinforcing using bar supports and side form spacers to ensure cover, spacing and location indicated.
- 3.4 Waterstops
- .1 Install waterstops where indicated.
- .2 Do not pierce, except near edges as required for securing, or distort waterstops, or displace reinforcement.
- .3 Tie waterstops securely in place.
- .4 Weld all joints in waterstop in accordance with manufacturer's published instructions.
- 3.5 Placing
- .1 Place concrete to CSA A23.1, Section 7.
- .2 Convey concrete from mixer to forms by methods that will maintain specified slump and prevent segregation.
- .3 Do not drop concrete more than 1.5 metres vertically unless it can be shown that the concrete will not segregate. Deposit concrete in final position in forms to avoid lateral movement.
- .4 Place concrete in continuous operation, starting from lowest point in form, in lifts not greater than 500 mm.
- .5 Vibrate or tamp each layer to obtain dense homogeneous structure free of cold joints, fill planes, voids and honeycombing. For vertical installation vibrate at least 150 mm into previously placed layers. Concrete to be well bonded to all reinforcing steel,
-

anchors, waterstops and other embedded parts.

3.6 Joints

- .1 Make joints in accordance with CSA-A23.1, Section 7.3.

3.7 Finishing

- .1 Finish concrete in accordance with CSA A23.1, Section 7.5.

3.8 Curing and Protection

- .1 Provide curing and protection to CSA A23.1, Section 7.4. The temperature of the concrete as placed to be within the limits of Table 14.
- .2 Do not place concrete on frozen base. Remove all snow, ice and frost from area prior to placing concrete. Do not place concrete on, or against, any surface that will lower the temperature of the concrete in place below the minimum value shown in Table 14.
- .3 When air temperature may drop below 5°C or when there is a probability that it will drop below 5°C within 24 hours of placing, raise temperature of base, reinforcing steel, embedded parts and forms above 5°C prior to placing concrete. In addition, before placement have available all materials and equipment needed for adequate protection and curing.
- .4 When air temperature is at or above 27°C, or when there is a probability of its rising to 27°C during the placing period, provide facilities for protection of concrete in place from effects of hot and/or drying weather conditions. Under severe drying conditions, protect formwork reinforcement and concreting equipment from direct rays of sun, or cool by fogging.
- .5 After placing is completed, maintain minimum curing conditions for the concrete in accordance with CSA-A23.1, Section 7.4.
-

3.9 Concrete
Quality

- .1 Engineer may require inspection or testing of concrete in accordance with CSA-A23.1, using CSA certified concrete laboratory.

3.10 Defective
Work

- .1 Remediate defective concrete or remove and replace concrete not in accordance with these specifications, blemishes and embedded debris, and repair as directed.

APPENDIX B: HYDROSEEDING

.1) Topsoil

The Contractor shall supply and spread evenly a minimum of 100mm (4inches)(settled) of loamy topsoil over the areas for seeding.

The topsoil shall consist of loose, friable, fertile loam, capable of sustaining vigorous plant growth free of, refuse, stumps, roots, rocks, brush, weeds or other extraneous matter which will prevent the formation of a suitable sod bed. Topsoil shall be screened so as to be free of objects larger than 1 inch in greatest dimension. It shall be a light mixture but shall contain sufficient humus to prevent over compaction and sustain vigorous plant growth.

NOTE: Good quality loam will be required. Heavy clay or light infertile sandy soil will not be accepted.

Topsoil shall have a minimum 2% organic carbon content and a pH of not less than 5.7 or greater than 7.2. The contractor shall provide a five gallon sample of the topsoil intended for use on the site, not less than 10 days prior to spreading on site.

.2) Soil Spreading

Topsoiling shall be spread and fine graded (raked) so that seeding can proceed with little additional soil preparation or tillage. On the fine grading of topsoil, all debris and stones of 1 inch in diameter or more shall be removed from the surface of the finish grade. Surface irregularities and/or depressions shall be eliminated during this operation. The entire area to be sodded shall be rolled with a medium weight roller to a standard proctor density of 90% prior to sodding. Approval of finished raking and grades must be obtained from the HRM project manager prior to sodding.

Topsoil shall be feathered into the existing adjoining turf areas where they exist. Where there is no adjacent turf the contractor shall feather out the top soil to adjacent existing grades.

.3) Hydraulic Seeding

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Clause

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- 1.2 Delivery and Storage
- 1.3 Testing

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- 3.2 Workmanship
- 3.3 Subgrade Preparation
- 3.4 Soil Amendments
- 3.5 Seeding
- 3.6 Maintenance
- 3.7 Acceptance

Part 1 General

1.1 Work Included

.1 This section specifies requirements for supplying , transporting topsoil and applying seed by hydraulic method to area as indicated on the attached plan or additional hydraulic seeding is required as directed by the Project Manager.

1.2 Delivery and Storage

- .1 Deliver grass seed in original containers showing:
 - .1 Analysis of seed mixture
 - .2 Percentage of pure seed
 - .3 year of production
 - .4 net mass
 - .5 Date when tagged and location
 - .6 Percentage Germination

1.3 Testing

.1 Test soil prior to seeding. Apply lime or other soil amendment at the rate determined from soil sample.

Part 2 Products

2.1 Materials

.1 Hydro-seed Mix : Canada No. 1 Grade to federal and provincial seed laws and having a minimum germination of 80% and minimum purity of 85%

Seed Mixture as Follows:

45% - Creeping Red Fescue

30% - Kentucky Blue Grass

10% Red Top

10% Perennial Rye

5% - White Dutch Clover

.2Mulch:

.1 Fibre : wood or wood cellulose fibre free of germination or growth-inhibiting ingredients and forming blotter like ground cover allowing absorption and percolation of water.

.3 Fertilizer: 6-10-6 grade, uniform in composition, free flowering and suitable for application with approved equipment. The fertilizer shall be supplied in unopened waterproof bags fully labelled. Fertilizer other than the standard for grade specified must be approved by the project Manager and have not less than the minimum requirements of the grades specified. 50% of the elements are to be derived from organic sources.

.4 Erosion control agent: to ASTM D977, grade SS-1.

.5 Water: potable, free of impurities that would inhibit germination.

.6 Lime : agriculture grade limestone, ground so that 90% will pass a No. 20seive and at least 50% will pass a No. 100seive.

Part 3 - Execution

3.1 General

.1 Accept existing soil grade and depth prior to starting seeding operations.
Amend soil conditions as outlined in clause 1.4.1

3.2 Workmanship

.1 Keep site well drained

.2 Clean up soil, mulch ,or other debris spilled onto pavement. Dispose of

deleterious material.

.3 Take reasonable care to prevent contamination by seeding slurry of structures, signs, guardrails, fences and utilities.

.4 Where contamination occurs remove seeding slurry to satisfaction of and by means approved by the Project Manager.

3.3 Subgrade Preparation

.1 Areas to receive hydroseeding to receive minimum depth of 300mm from finish grade of common material free of roots, stumps trees and other organics, rocks and boulders larger than 200mm in diameter. Compact to 98% SPD. Fill subgrade voids larger than 300mm in diameter with compacted common material prior to application of 300mm layer at finish grade.

.2 Obtain Project Manager's approval of sub grade and depth before starting seeding.

3.4 Soil Amendments

.1 Apply lime or other soil amendment at a rate determined from soil sample.

.2 Mix soil amendment well into full depth of topsoil by cultivating or roto-tilling prior to application of fertilizer.

3.5 Seeding

.1 Submit portion of seed , soil amendments, mulch and erosion control agent proposed for use to the project for approval. Coverage is as follows:

- Fertilizer - 175 lb /acre
- Seed mix - 150 lb=/acre.
- Plant Fibre Mulch- 490lb/acre

.2 Erosion control agent, seed and mulch may be applied in one operation by use of an approved spraying machine. The materials shall be mixed with water in the machine and kept in an agitated state in order that the materials may be suspended in the water. The equipment shall be so designed that the materials will be distributed evenly over the entire area.

3.6 Maintenance

- .1 Ensure maintenance equipment is suitable to Project Manager
- .2 Keep soil moist during germination period and water grassed areas frequently during maintenance period.
- .3 Damaged areas shall be replaced to the approval of the Project Manager

3.8 Acceptance

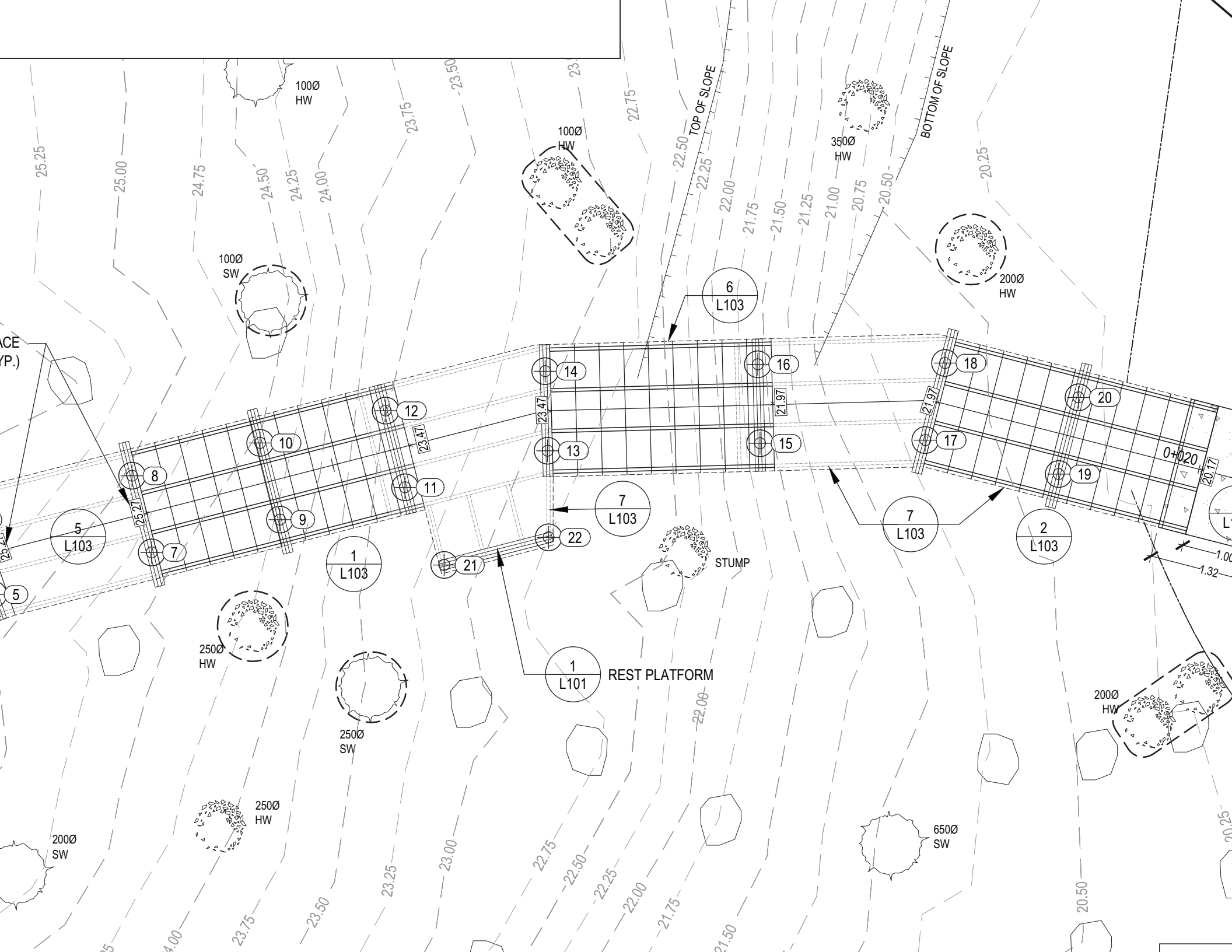
- .1 Grassed areas will be accepted by the HRM provided that:
 - .1 Grassed areas are properly established; and
 - .2 Turf is free of bare and dead spots.

3.9 CLEAN-UP

- .1 Immediately remove materials which have spilled onto adjacent surfaces during work of this contract.

END OF SECTION





EXISTING GRADE

.76
36

DESIGN GRADE

STA:0+009.25
ELEV:24.00

STA:0+010.73
ELEV:23.06

STA:0+012.50
ELEV:23.06

STA:0+014.91
ELEV:21.56

STA:0+016.98
ELEV:21.56

STA:0+018.55
ELEV:20.69

9,10

11,12

13,14

15,16

17,18

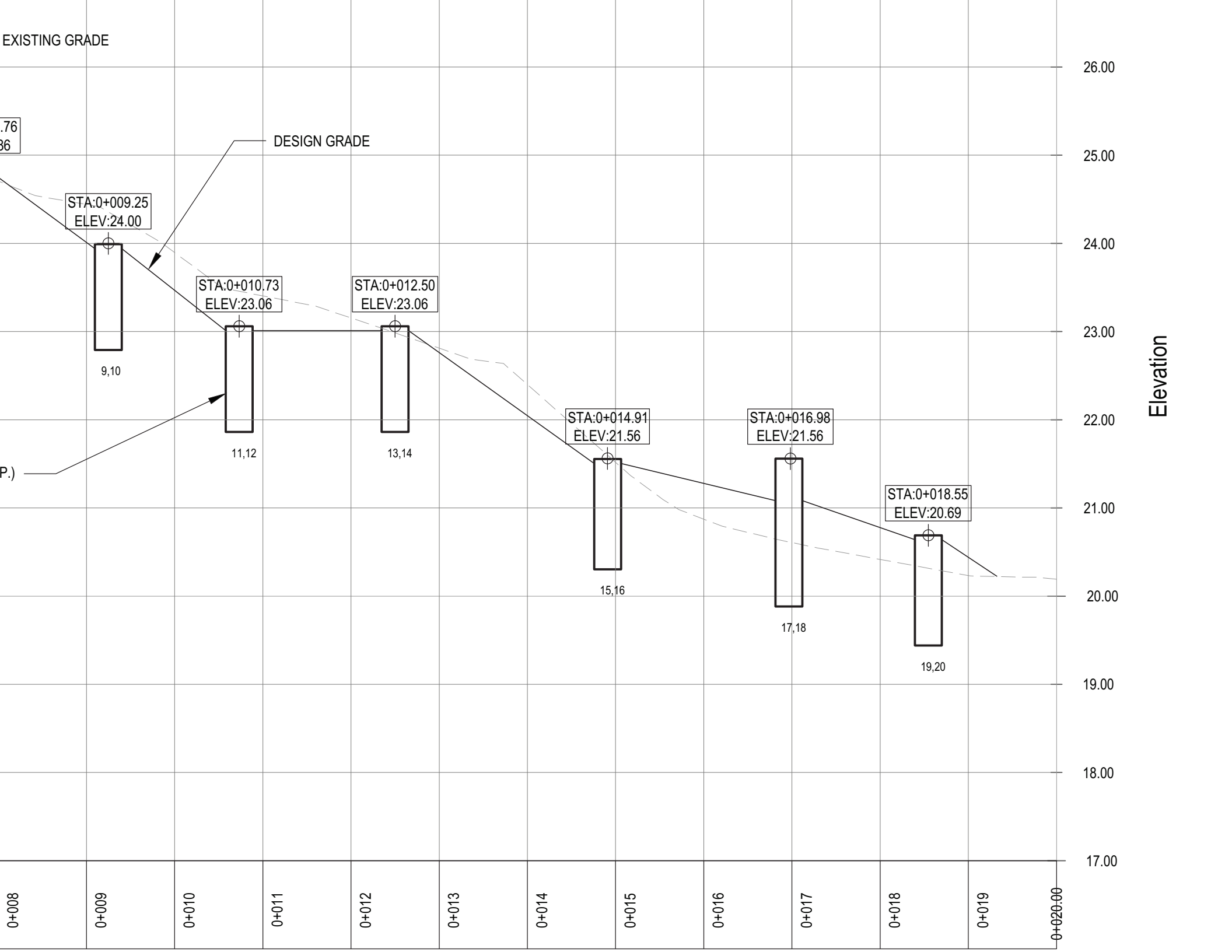
19,20

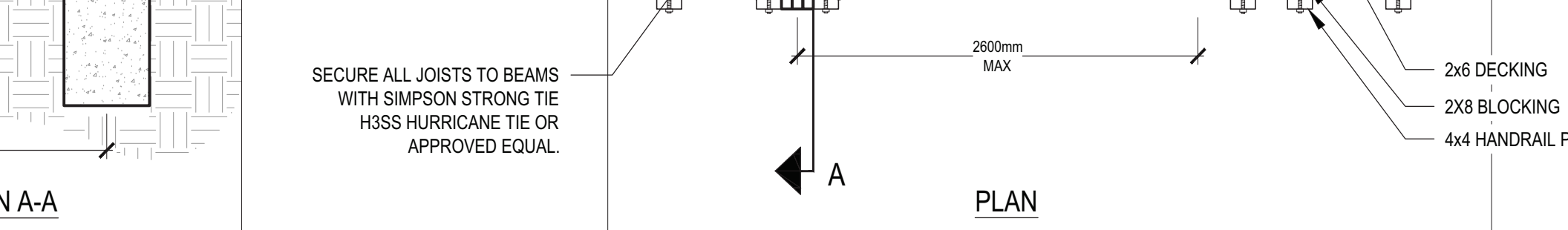
P.)

Elevation

26.00
25.00
24.00
23.00
22.00
21.00
20.00
19.00
18.00
17.00

0+008 0+009 0+010 0+011 0+012 0+013 0+014 0+015 0+016 0+017 0+018 0+019 0+020.00





SECURE JOISTS TO BEAMS WITH SIMPSON STRONG TIE H3SS HURRICANE TIE OR APPROVED EQUAL.

2x6 HANDRAIL, ROUNDED ON ENDS, 1/2" MITERED CORNERS ALL AROUND, SAND SMOOTH

7" CARRIAGE BOLT, 1/2" DIA. COUNTERSINK. CONNECT HANDRAIL POST TO HANDRAIL

