

2020-02-06

**REQUEST FOR PROPOSAL
RFP #07 (2020-02)
CONSULTING SERVICES FOR
DESIGN OF ACCESSIBLE PATHWAYS**

You are invited to submit a written proposal to provide consulting services for the design of accessible pathways at the Toronto Zoo. Services to be provided include: the analysis of all site constraints and opportunities, review of existing facilities, services and drawings, the conceptual design of new pathways, detailed design, preparation of specifications and drawings, review and recommendation of tender submissions and contract administration throughout the construction phases of the Project.

Project Briefing: A project briefing for consultants will be held **Tuesday, 2020-02-11, at 0900 hours (9:00 a.m.)**. Meet at the Administrative Support Centre, enter at Gate A, 361A Old Finch Avenue, west of Meadowvale Road, Toronto, Ontario, M1B 5K7.

Proposal: Provide **five (5)** copies of your proposal, **one (1)** unbound signed and clearly marked as ORIGINAL and **three (3)** copies of the original proposal clearly marked as COPY and **one (1)** electronic copy (Microsoft Word or PDF) on a CD or flash drive in a sealed package or envelope. The original and all copies should be identical (excluding any obvious differences in labeling as noted above). Proposal to be delivered to the office of Purchasing & Supply, Toronto Zoo, Administrative Support Centre, 361A Old Finch Ave., Toronto, Ontario, M1B 5K7 by:

Due Date: **Tuesday, 2020-02-25 by 1200 hours (noon), local time**

Proposals shall remain in effect for a period of ninety (90) days from the Proposal due date.

The Board of Management of the Toronto Zoo reserves the right to reject any or all Proposals or to accept any Proposal, should it deem such action to be in its interests.

If you have any queries regarding this request for proposal, please contact Mr. Peter Vasilopoulos, Supervisor of Purchasing & Supply at 416 392-5916 or pvasilopoulos@torontozoo.ca. If you require further technical details, please contact Ben Knoop – Project Manager, bknoop@torontozoo.ca.

Yours truly,

Alia Lee
Director - Finance & Computer Services

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Site Accessibility Feasibility Study – Toronto Zoo

1.0 GENERAL TERMS

1.1 The following definitions will apply to this Request for Proposal and to any subsequent Contract:

1.1.1 **“Board”** means the Board of Management of the Toronto Zoo;

1.1.2 **“CEO”** means the Chief Executive Officer of the Toronto Zoo;

1.1.3 **“Consultant”** means the person, partnership or corporation contracting with the Board to provide the required Services;

1.1.4 **“Contract”** means acceptance by the Toronto Zoo (by way of written acknowledgement, Agreement, Contract or Purchase Order) to furnish Services for money or other considerations;

1.1.5 **“Contract Price”** means the price payable under the contract to the Consultant, being the Proposal Price eventually accepted by the Board of Management of the Toronto Zoo subject to any changes pursuant to the Contract Requirements;

1.1.6 **“Proponent”** means an individual or company that submits or intends to submit, a proposal in response to this Request for Proposal;

1.1.7 **“Proposal Price”**, **“Contract”** and **“Contract Documents”** have the meanings set out therefore in clauses contained in these documents;

1.1.8 **Request for Proposal (RFP)”** means the RFP document in its entirety, inclusive of any addenda that may be issued by the Toronto Zoo;

1.1.9 **“Services” or “Work”** means everything that is necessary to be performed, furnished delivered by the Consultant to meet the Consultant’s obligation under this Contract;

2.0 BACKGROUND AND PROJECT OVERVIEW

The Toronto Zoo opened August 15, 1974. Home to more than 5,000 animals and 300 exhibits representing the world’s biomes, the Zoo is situated on 697 acres of land in the picturesque Rouge Valley. The Zoo attracts an average of 1.2 million guests annually.

Many of the existing pathways at the Zoo were constructed as part of the original construction, and do not meet current AODA requirements. The site was evaluated in a Site Accessibility Feasibility Study in 2012 and recommendations to adjust the pathways were made.

The new pathways should be designed as per the report from MMM Group dated March 16, 2012, and shall meet modern AODA requirements and the City of Toronto Accessibility Standard. This project will be a multi-year project. Design for the full project will be completed immediately, however construction will be phased to accommodate the budget and to maintain site access throughout the construction. The exact phasing process will be determined once design is underway. The aim of the design is to greatly enhance the guest experience.

The Toronto Zoo is seeking a qualified and experienced consulting team to facilitate and develop a design for new accessible pathways at the Toronto Zoo. Discussions with appropriate Toronto Zoo staff and a complete review of the site, facilities, exhibits, equipment and infrastructure is required to confirm the design concept and prepare the required design documents. As well, the direction of the Zoo and its mission and vision, goals and objectives as set out in the 2016 Master Plan and 2015 Strategic Plan have to be considered in preparing your proposed design with respect to animal care, existing structures, site conditions, financial sustainability, conservation, education and guest experiences.

The terms of this engagement are outlined in a deliverable of set objectives, to commence immediately upon award and issuance of the purchase order.

3.0 DESCRIPTION AND SCOPE OF PROJECT

3.1 The Accessible Pathways Project will replace existing non-AODA compliant pathways with new accessible paths and enhance the overall guest experience. Conceptual and detailed design drawings, are to be completed in mid-2020. Tendering of some paths is to be completed with construction anticipated for completion in 2020 for some paths. The priority path for construction in 2020 is Area 3. Pathways & boardwalks included in this project are to be the same ones from the attached Site Accessibility Feasibility Study. The successful proponent can use one of the proposed design options or come up with a new design. The Consultants, in collaboration with its sub-consultants responsibilities include:

- a) Conceptual design;
- b) Detailed design includes all products leading to Final Plans and Specifications for tender and construction;
- c) Tender;
- d) Contract Administration for the construction phase; and
- e) Project close-out and Commissioning.

The Consultant, in collaboration with its sub-consultants, will assess the current proposed areas and surrounding site to evaluate design refurbishments for the area. Site services changes (water, sanitary, storm, gas, electrical and communications), demolition of the existing facilities, soft and hard landscaping, etc. will be included with the design, as well as all necessary permits that will be required.

3.2 The consultant will be required to complete all services necessary for the Toronto Zoo to implement the project. The services shall include, but will not be limited to:

- Planning, including information gathering, site analysis and program development;
- Preparation and/or review of existing plans provided by the Toronto Zoo;
- Coordination with Sub consultants, Zoo, City and authorities having jurisdiction;
- Conceptual Design, and Design development graphics for meetings, reports and approvals;
- Detailed design, issued for permit drawings;

- Contract documentation, signed & sealed construction drawings and specifications; and cost estimates
- All site review, final commissioning, and close-out services

3.2.1 Project Orientation and Initiation

- a) Project orientation meeting with Zoo Staff– clarification of project objectives, scope of work, information transfer, schedules and process steps.
- b) Information assembly and review: If available, the Zoo will provide to the Consultant, any relevant existing site information it may have on file. This may include previous concepts or designs, project history, photos and aerial documentation, environmental assessments, record drawings, project goals and visions.
- c) Verify and analyze all existing information related to the sites and identify opportunities, constraints and issues that require clarification or assessment work before start of concept and detailed design.

3.2.2 Program, Conceptual Design, Consultation

- a) Develop program options appropriate for the service level, area context and inventory, and site parameters.
- b) Direct assistance and liaison of consultant with designated Zoo Facilities & Services staff regarding planning, design, construction, organization and scheduling. Identify and address the specific functional requirements of the program for the existing and future site users, and the concerns/issues of the community.
- c) Consultant to co-ordinate and liaise with all sub-consultants and others as necessary making sure all relevant issues, opportunities, and constraints have been raised and concluded.
- d) Consideration must be given to the use of reused and recycled products, sustainable products, and consideration for waste management. Consideration should also be given to the use of long lasting maintenance free products where possible and appropriate.
- e) Consultant to provide all aspects of the conceptual design work including drawings, sketches, precedent photos, presentation materials and 3D renderings and graphics.
- f) Prepare conceptual drawings of site considering and incorporating feedback from orientation workshop ensuring specific features are consistent with achieving project objectives, adhere to safe and sustainable design and construction standards.
- g) Prepare information for preliminary cost estimates and materials list for conceptual designs.
- h) Revise conceptual designs and generate preliminary cost estimates based on feedback and guidance received from the Zoo and other stakeholders.
- i) Prepare materials as needed for presentation and discussion to the Zoo and other stakeholders.
- j) Meet with the Zoo and other stakeholders to facilitate discussion about the design concepts, gather feedback, comments, and field questions (Zoo will provide the venue and arrange the meeting)
- k) Adjust and update conceptual designs as required.
- l) Review and analyze feedback with Toronto Zoo Project contact to update concept design accordingly.

- m) Meet to update Zoo and other stakeholders to refine preferred conceptual designs, materials lists and construction cost estimates.
- n) Prepare information as needed for reports to Zoo Management to seek endorsement/approval of the preferred conceptual design and to proceed to next phase of detail design.
- o) Sign off of the conceptual Design by Toronto Zoo is required prior to the consulting team moving to detailed design.

3.2.3 Detailed Design and Specification Documents

- a) Detailed design services will include, but not be limited to, product samples, working to the highest published accessibility standard, all applicable codes, review of similar projects, associated design work, incorporating animal, guest and zoo needs, and landscaping.
- b) Prepare detailed design drawings and specifications from Zoo site drawings, typical specifications supplied by the Zoo, and from Project team meetings and workshop developments. The following authorities, guidelines and directives, among others, must be considered and developed into designs, as appropriate: Ontario Ministry of Labour - Health & Safety Act, Toronto Green Standards, Ontario Building Code, Accessibility Design Guidelines – City of Toronto, Accessibility for Ontarians with Disabilities Act (AODA).
- c) Provide construction methodology, materials list, and timelines.
- d) Meet with Zoo to develop design details and standards of project components.
- e) Prepare preliminary cost estimates, based upon input from the Consultant Team's Quantity Surveyor.
- f) Coordinate all design and development drawings.
- g) Prepare contract documents: detailed drawings and specifications for tender.
- h) Arrange soil investigation, slope stability study, land survey, arborist report, or other investigations, and analysis if required, as part of their work for the Project.
- i) Make all necessary applications and obtain permits from all Outside Agencies.
- j) Prepare refined cost estimates for the approved design, based upon input from the Consultant Team's Quantity Surveyor.
- k) Review detail design drawings with Zoo at milestone completion stages of drawing process.
- l) Review construction schedule for final approval with Project Manager.
- m) Prepare requested information for the report to Zoo Management to update on the final drawings, costing, project budget, and procurement and construction schedule.

3.2.4 Tender

- a) Preparation of tender documents (using Zoo forms & front end), including drawings and specifications.
- b) The Zoo's Purchasing Department will be responsible for the administration of the construction Tender process, including its release, closing and selection of the successful Tender. The Consultant will be available and provide assistance to the Project Manager throughout the entire Tendering process.

- c) Attending site briefing, review of recommended contractor references, review of the tender submissions and recommendation to the Toronto Zoo of a successful contractor.

3.2.5 Construction Contract Administration

- a) The Consultant will perform construction administration and provide inspection and reporting services during the course of construction of the accessible pathways.
- b) The Zoo will arrange a pre-construction meeting for which the Consultant shall attend. The pre-construction meeting date will be selected based upon the Zoo's decision for the project to proceed in a timely manner.
- c) The Consultant shall ensure that all design and development for this project complies with all requirements of the City of Toronto's Zoning Bylaw and Building Bylaws as well as all other applicable Federal, Provincial and Municipal laws and bylaws.
- d) The Consultant will obtain all development and building permits, variances if required, and any other permits (TRCA, Ravines & Natural Feature Protection) and approvals necessary by authorities having jurisdictions prior to the preconstruction meeting, in order for the project to proceed in a timely manner at that time. Any Permit Application fees will be paid by the Zoo and should not be included in your fee proposal.
- e) The Consultant will have ongoing review submittals for the Contractor for approvals including, but not limited to: shop drawings, samples, mock-ups and test results.
- f) The Consultant will be responsible to attend all site meetings including all participating sub consultants, contractors and tradespersons.
- g) The Consultant shall record all meeting minutes, including significant proceedings and decisions, identifying 'action by' parties, and will reproduce and distribute copies of minutes within three (3) business days after each meeting and transmit to meeting participant, affected parties not in attendance, Consultants and the Zoo.
- h) The Consultant will be responsible to assist with cost control.
- i) The Consultant will be responsible to prepare all documentation required for changes.
- j) The Consultant will review all monthly trade progress claims, provide payment certificates and forward to the Project Manager.
- k) The Consultant will inspect work in progress, prepare and issue progress and field review reports, certify substantial and total completion, identify deficiencies, and complete follow-up inspections.

3.2.6 Field and Construction Review

- a) The Consultant will be responsible to conduct regularly scheduled field reviews, including all material and equipment inspections prior to delivery to the site, to determine if the work performed, products, material and equipment conforms to the design and specifications and as required by the Building Permit Process..
- b) The Consultant will be responsible for all construction review reports and coordination of the construction reviews by the appropriate members of the Consulting Team for the work. The Consultant will forward reports to the Project Manager within three (3) days of the review.

- c) Consultant to review, prepare, recommend and issue site instructions (SI), requests for information (RFI), contemplated change orders (CCO) and change orders (CO), including for correction of site conditions, unknowns, and owner requested changes that are within the contingency allowance, as required to the contractor performing the Project, at no additional fee.
- d) The Consultant, in consultation with their Sub Consultants, shall review and interpret the results of all reports and testing conducted on this project.
- e) The Contractor is responsible for their own Quality Control (QC), but the Consultant shall be responsible for Quality Assurance (QS) and will not allow any features, materials or components to be supplied or, installation work to proceed, until positive test results on the features, materials or components are received, reviewed and accepted by Consultant and the Zoo.
- f) Consultant to ensure arrangement of construction work to be undertaken through liaison with Zoo staff to allow animal moves etc., for the best interest of the Zoo animal collection.
- g) Consultant to review and approve shop drawings for all aspects of the work as necessary during construction.
- h) Review of contractor invoices and preparation and review of certificates of payment are the responsibility of the Consultant.

3.2.7 Project Close-out and Commissioning

- a) Commissioning of services to ensure all systems operate as designed.
- b) Review of operation and maintenance of all equipment with Toronto Zoo staff.
- c) Consultant to perform commissioning services for all systems to confirm they are operating as designed. Consultant to attend commissioning and review of equipment with contractor and Toronto Zoo staff.
- d) Consultant to ensure that all closeout documentation is provided including as-built drawings, maintenance manuals, operating manuals, warranty information etc. as per the contract documents.
- e) Consultant to re-inspect the project, to liaise with contractors and other consultants, making sure all deficiencies have been corrected prior to the expiry date of warranties.

3.3 The Consultant Team proposals must demonstrate this expertise and experience through the successful completion of similar projects. Final detailed design products, drawings, specifications, renderings, photographic and other design products following Consultant and Zoo approval must be reviewed and approved by all authorities having jurisdiction.

3.4 The Project must be integrated into the existing Zoo site consistent with the current and future public and staff service circulation, physical site features, and site and facility plans.

3.5 Existing site drawings at the Toronto Zoo are for review and site familiarization only. Conceptual drawings and background information, provided by the Zoo, are for general layout and reference and not to be treated as final design products. Specifications for some typical details from similar projects, as prepared by the Zoo with previous Consultants, are to be reviewed, and/or modified where necessary

and used by Consultant to formulate drawings and specifications for all related work required for design and implementation of the Project.

- 3.6 A budget for this project has not been set.
- 3.7 The Consultant shall keep proper record of accounts including supporting documents for the services rendered as a result of this Agreement and these records of account shall be open for inspection and/or audit by the Zoo upon reasonable request during normal business hours at the Zoo. Such records shall be retained for two (2) years following the completion of the services.

4.0 CONSULTANT SERVICES TO BE PROVIDED

- 4.1 Upon award of the contract, the selected firm will enter into an agreement for Architectural and Engineering Services with the Zoo, incorporating the terms and conditions of the Request for Proposal and the proponent proposal.
- 4.2 Retention of all specialized Sub-consultants (e.g. architectural, engineering, landscape, quantity surveyor, cost consultant, land survey, etc.) necessary to complete detailed design of the Project.
- 4.3 Consultant to co-ordinate and liaise with all Sub-consultants and others as necessary making sure all relevant issues have been raised and concluded.
- 4.4 Direct assistance and liaison of Consultant with Zoo Project Management staff regarding planning, design, final detailed design and construction implementation reporting.

5.0 MEETING MINUTES

- 5.1 The Consultant will be responsible for recording all meeting minutes for the meetings noted above, including significant proceedings and decisions, identifying 'action by' parties, and will reproduce and distribute copies of minutes within three (3) business days after each meeting and transmit to Toronto Zoo for review and approval. Final approved minutes will be distributed by the Consultant to meeting participants, affected parties not in attendance, Consultants and the Zoo.

6.0 RECORD DRAWINGS

- 6.1 Upon completion of construction the Consultant shall be requested to supply record plans, based upon information accumulated in the field and received from Sub consultants, Contractors and City Inspectors.
- 6.2 Upon receipt of marked-up check prints from Sub consultants, Contractors and City Inspectors, the Consultant is to amend the Contract Drawings and provide AutoCAD drawings in .dwg files and PDF copies on a USB flash drive to the Zoo's currently acceptable standards.

7.0 INSURANCE AND POLICIES

The Consultant agrees to purchase and maintain in force, at its own expense and for the duration of the services, the following policies of insurance, which policies shall be in a form and with an insurer acceptable to the Toronto Zoo.

A certificate evidencing these policies signed by the insurer or an authorized agent of the insurer must be delivered to the Toronto Zoo prior to the commencement of services:

7.1 Commercial General Liability provided that the policy:

- (i) is in the amount of not less than Five Million Dollars (\$5,000,000.00), per occurrence;
- (ii) adds the Board of Management Toronto Zoo, Toronto and Region Conservation Authority, and the City of Toronto as an additional insured;
- (iii) includes Non Owned Automobile Liability, Cross Liability/Severability of Interest Clause, Employer's Liability and/or Contingent Employer's Liability, and any other provision relevant to the services;
- (iv) includes a clause which will provide the Toronto Zoo with thirty (30) days' prior written notice of cancellation (15 days if cancellation is due to non payment of premium).

7.2 Professional Liability (errors and omissions) coverage provided that the policy:

- (i) is in the amount of not less than Two Million Dollars (\$2,000,000);
- (ii) includes professional services pollution liability insurance coverage;

Notwithstanding anything to the contrary contained in this Agreement, kept in full force and effect for a period of time ending no sooner than TWO YEARS after the termination or expiry of this Agreement, as the case may be.

7.3 Automobile Liability insurance with a minimum limit of One Million Dollars (\$1,000,000) for all owned or leased licensed motorized vehicles used in the performance of services.

It is understood and agreed that the coverage and limits of liability noted above are not to be construed as the limit of liability of the Consultant in the performance of services. It is also agreed that the above insurance policies may be subject to reasonable deductible amounts, which deductible amounts shall be borne by the Consultant. At the expiry of the policies of insurance, original signed Certificates evidencing renewal will be provided to the Toronto Zoo without notice or demand.

The successful Consultant is responsible for any loss or damage whatsoever to any of its materials, goods, equipment or supplies and will maintain appropriate all-risk coverage as any prudent owner of such materials, goods, supplies and equipment. The successful vendor shall have no claim against the Toronto Zoo or the Toronto Zoo's insurers for any damage or loss to its property and shall require its property insurers to waive any right of subrogation against the Toronto Zoo.

7.4 All insurance policies shall be endorsed to provide a minimum advance written notice of not less than thirty (30) days, in the event of cancellation, termination or reduction in coverage or limits, such notice to be made to the Chief Executive Officer.

7.5 The Consultant shall, as applicable, conform to and enforce strict compliance with the Occupational Health and Safety Act and for purposes of the Act be designated as the "constructor" for the Service.

- 7.6 The Consultant must adhere to all relevant Zoo policies, including, but not limited to, the Contractor Safety Policy, Working in the Vicinity of Animal Containments Policy and the Vehicles on Site Policy, copies of which the Zoo shall supply to the Consultant.

8.0 PROPONENT SUBMISSION REQUIREMENTS

- 8.1 Title page showing request for Proposal Proponent's name
- 8.2 Duly executed proposal form
- 8.3 Indicate the individual or incorporated name of the Proponent (i.e. the prime Consultant); address(es); telephone and fax number(s); and name of key contact person(s).
- 8.4 The Proponent must provide names and company information for all Sub-consultants required by Consultant.
- 8.5 State the scope and limits of responsibility of the Consultant and Sub-consultants named in the team.
- 8.6 Provide a schedule or chart of the proposed tasks, hours and the hourly rates for each person associated with this project.
- 8.7 The Proponent must confirm compliance with the Insurance and Indemnification provisions identified in Section 7.0 and 11.0.
- 8.8 Clearly articulate key personnel to be involved with the Project and their responsibilities. Indicate the qualifications and experience (beyond a general resume), that each member will bring to the team and include a breakdown on the number of hours each will devote to the Project and their hourly billing rate. Indicate the total extent of availability of all team members throughout entire Project period.
- 8.9 Provide the name, location, client reference and brief description of not more than five (5) similar studies under the direct responsibility of the persons or team named above.
- 8.10 Clearly indicate how Project design and construction will be managed to conform to assigned projects budgets, construction timing, etc.
- 8.11 Guarantee Project start immediately following successful confirmation of award of the Project, and work to implementation and completion schedule.

9.0 LEVEL OF EFFORT AND FEE SCHEDULE

- 9.1 Fee Schedule and Cost of Services
- 9.1.1 The Proponent shall attach a Level of Effort and Fees Schedule for all of the Services outlining level of effort by each team member, including hourly rates and total lump sum fee. The hourly rates will be used to value additional services if required. The fee schedule should show the maximum upset limits that the Consultant will not exceed unless the Project Manager request additional services which are beyond the Scope of Work as outlined in this RFP.

- 9.1.2 The Proponent shall include in the fee schedule all sub-Consultant fees and all disbursements.
- 9.1.3 The Proponent shall indicate any additional 'Optional Services' or costs not accounted for in the fee schedule as part of the proposal submission.
- 9.1.4 The Consultant will not be able to claim any additional cost as a result of changes to the Construction Schedule or order of works, or for project delays due to inclement weather conditions. This condition shall be in effect for the duration of the project.
- 9.1.5 All Consultant and Sub-consultants costs and drawings, models, renderings and similar costs to be the responsibility of the Consultant, identified and included as part of the fees in the Fee Proposal.
- 9.1.6 Provide hourly rates for other services, which may be requested during completion of the Project.
- 9.1.7 An upset limit for disbursements is required, including, but not limited to, reproduction, postage, courier, fax machine, long-distance telephone calls; printing of drawings and specifications, photographic production, approved Consultant travel, as required. Photocopies of receipts must be provided for disbursements.
- 9.1.8 Soil and topographical surveys, arborist report, environmental testing, permits and application fees are not to be included in the Fee Proposal and will be reimbursed separately if required.
- 9.1.9 A 10% holdback will apply to all fees, not including disbursements, to be released after 30 days following acceptance of final construction of the Project.
- 9.1.10 Proposal prices shall remain in effect for a period of ninety (90) days from the proposal due date.
- 9.1.11 The Proponent shall bear all costs and expenses with respect to the preparation and submission of its Proposal and the bidder participation in the proposal process (the "Proposal Costs"), including but not limited to: site visits and inspections, all information gathering processes, interviews, preparing responses to questions or requests for clarification from the Board, preparation of questions for the Board, and contract discussions and negotiations.
- 9.1.12 The Zoo shall not be responsible for or liable to pay any Proposal Costs of any bidder regardless of the conduct or outcome of the Proposal Request, Purchase Order, or Contract process.

10.0 PROPOSAL EVALUATION AND SELECTION

- 10.1 The Proponent is urged to ensure that its Proposal is submitted in the most favourable terms in order to reflect the best possible potential, since less than best potential could result in exclusion of the Proposal from further consideration.

10.2 The Agreement will not be awarded to the Proposal with the lowest cost, but rather, award shall be based on a combination of related expertise, prior project experience and price. The lowest proposal may not necessarily be accepted, rather will be analyzed to determine the best overall value to the Zoo. Additionally, the Zoo may accept or reject any part of the Proponent's bid.

10.3 An Evaluation Team comprised of representatives designated by the Zoo will evaluate responses to the RFP.

10.4 There are three steps to the pre-defined evaluation process:

Step 1 – Initial Review of Responses

Step 2 – Evaluation of Submitted Proposals

Step 3 – Evaluation of Presentations

10.5 Step 1 – Initial Review of Responses

The Zoo will open only those Proposals received by the Proposal Deadline and time specified within this RFP. Immediately upon opening, the Zoo will review each Proposal for compliance with the instructions and conditions applicable to this RFP. The Zoo, at its option, may seek Proponent retraction and clarification of any discrepancy/contradiction found during its review of Proposals.

10.6 Step 2 – Evaluation of Submitted Proposals

10.6.1 The Evaluation Team will evaluate each submitted Proposal, that has passed through Step 1, on criteria that will include, but not necessarily be limited to, the following:

Evaluation Criteria	Points
Depth and breadth of the Project team's relevant qualifications and experience with similar scale and type of Projects	25
Commitment to complete work according to schedule of events in section 10.2 within the RFP	10
Availability of team members during entire Project	15
Understanding of Project scope of work	15
Details on the general approach and methodology that proponent would take in performing the services outlined within the RFP	15
Fee Proposal	20

10.6.2 The Zoo may, at its discretion, eliminate a Proposal from further consideration if it deems the overall cost to be prohibitive.

10.6.3 A short-list of suitable Proponents may be established who may be invited to Step 3 to provide presentations related to their Proposal.

10.7 Step 3 – Evaluation of Presentations (If Required)

10.7.1 Invited Proponent(s) shall provide presentations in support of their Proposals or to demonstrate or otherwise expand on the information contained therein.

- 10.7.2 The Proponent(s) shall ensure that the presentation is made by well versed staff with the authority to make decisions and commitments on behalf of the Proponent.
- 10.7.3 Any and all costs incurred by the Proponent in order to prepare for and attend the presentation and/or demonstration including transportation, food, lodging, etc. shall be borne entirely by the Proponent.

10.8 The final score is then calculated as illustrated in the following table:

Evaluation	Score
Step 1 – Initial Review of Submitted Proposals	Prerequisite
Step 2 – Evaluation of Submitted Proposals	Maximum 100
Step 3 – Evaluation of Presentations (If Required)	(Maximum 50 If Required)
Total maximum score excluding Presentation	100
Total maximum score including Presentation	150

- 10.9 By responding to this Proposal, the Proponent agrees to accept the recommendation of the Evaluation Team as final.
- 10.10 All Proposals shall be submitted by the Proponent on the understanding that the Proposals shall become the property of the Zoo.
- 10.11 The Zoo reserves the right to accept or reject any or all proposals or cancel the RFP. The lowest proposal may not necessarily be accepted, rather will be analyzed to determine best overall value to the Zoo.

10.12 SCHEDULE OF EVENTS:

The following is a tentative schedule for the Public Washroom Improvement process.

The Zoo expects detailed design work to begin immediately upon selection of the successful consultant, and be completed such that all construction/refurbishment work is completed as follows:

The final schedule will be developed jointly with the successful proponent in the first week of project execution:

Component	Milestone Dates
Pre-Award	
Release of RFP	2020-02-06
Site Inspection	2020-02-11
Proponents' Question Deadline	2020-02-18
Submission Due	2020-02-25
Interviews, if necessary	Week of 2020-03-02
Notification of Award By the Toronto Zoo	Week of 2020-03-06
Post-Award	

Complete Detailed Design (ready for tender)

2020-06-26

The consultant to provide a detailed design schedule based on the above dates and including all disciplines. The consultant should notify the Zoo of any component and milestone dates that are missing or changes that are required. Approved changes should be included in the detailed design schedule that is provided by the consultant.

The RFP process and project will be governed according to the above schedule or other schedule provided by the Consultant and approved by the Toronto Zoo. Although every attempt will be made to meet all dates listed, the Toronto Zoo reserves the right to modify any or all dates at its sole discretion. Appropriate notice of change will be provided, in writing, as soon as is feasible so that each Proponent will be given the same non-preferential treatment.

11.0 PROPOSAL TERMS AND PROVISIONS

The successful Proponent shall be retained through a contractual agreement and/or a purchase order, which includes the terms and conditions of this Request for Proposal.

11.1 Consultant's Liability and Indemnity

The Consultant will from time to time at all times hereafter well and truly save, defend and keep harmless and fully indemnify the Board, the City of Toronto, and the Toronto and Region Conservation Authority and each of their officers, employees and agents (hereinafter called the "Toronto Indemnities") of, from and against all manner of action, suits, claims, executions and demands which may be brought against or made upon the Toronto Indemnities or any of them and of, from and against all loss, costs, charges, damages, liens and expenses which may be sustained, incurred or paid by the Toronto Indemnities, their officers, employees and agents or any of them by reason of or on account of or in consequence of the execution of this agreement or provision of the business or any other work or matter to be carried out or performed by the Proponent with respect to the Request for Proposal or any agreement that may result from the request for proposal process, and/or the non-execution or imperfect or improper execution thereof and will pay to the Toronto Indemnities on demand any loss, costs, damages and expenses which may be sustained, incurred or paid by the Toronto Indemnities or any of them in consequence of any such action, suit, claim, lien, execution or demand and any monies paid or payable by the Toronto Indemnities or any of them in settlement or discharge on account thereof.

The Consultant shall be responsible for any and all damages, or claims for damages for injuries or accidents done or caused by his or her employees, or resulting from the prosecution of the Work, or any of their operations, or caused by reason of the existence of location or condition of the works, or of any materials, plant or machinery used thereon or therein, or which may happen by reason thereof, or arising from any failure, neglect or omission on their part, or on the part of any of their employees to do or perform any or all of the several acts or things required to be done by him or them under and by these General Conditions, and covenants and agrees to hold the Board, the Toronto and Region Conservation Authority and the City of Toronto, their officers, agents, employees, Consultants and invitees harmless and indemnified for all such damages and claims for damage; and in case of the Consultant's failure, neglect or omission to observe and perform faithfully and strictly, all the provisions of the Work, the CEO may, either with or without notice (except where in these Contract Requirements, notice is specially provided for, and then upon giving the notice therein

provided for), take such steps, procure such material, plant trucks and men, and do such work or things as he/she may deem advisable toward carrying out and enforcing the same and any such action by the CEO as he is herein empowered to take, shall not in any way relieve the Consultant or his/her surety from any liability under the Contract.

11.2 Incurred costs

The Proponent shall bear all costs and expenses with respect to the preparation and submission of its Proposal and the Proponent's participation in the proposal process (the "Proposal Costs"), including but not limited to: all information gathering processes, interviews, preparing responses to questions or requests for clarification from the Board and contract discussions and negotiations.

The Toronto Zoo shall not be responsible for or liable to pay any Proposal Costs of any Proponent regardless of the conduct or outcome of the Proposal Request, Purchase Order process, or Contract process.

- 11.2.1 The RFP does not constitute an offer or tender by the Toronto Zoo. Receipt of Proposals by the Toronto Zoo pursuant to this RFP or selection or notification confers no rights under any Proposal nor obligates the Toronto Zoo in any manner whatsoever.

11.3 Liability of Errors

While the Toronto Zoo has used considerable efforts to ensure an accurate representation of information in this Request for Proposal, the information contained in this Request for Proposal is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted to be accurate by the Toronto Zoo, nor is it necessarily comprehensive or exhaustive. Nothing in this Request for Proposal is intended to relieve Proponents from forming their own opinions and conclusions with respect to the matters addressed in this Request for Proposal.

11.4 Toronto Zoo Rights and Options Reserved:

The Toronto Zoo reserves the right to award the contract to any proponent who will best serve the interest of the Toronto Zoo. The Toronto Zoo reserves the right, in its sole discretion, to exercise the following rights and options with respect to the proposal submission, evaluation and selection process under this RFP:

- (a) To reject any or all proposals.
- (b) To re-issue this RFP at any time prior to award of work.
- (c) To cancel this RFP with or without issuing another RFP.
- (d) To supplement, amend, substitute or otherwise modify this RFP at any time prior to the selection of one or more proponents for negotiation.
- (e) To accept or reject any or all of the items in any proposal and award the work in whole or in part.
- (f) To waive any informality, defect, non-responsiveness and/or deviation from this RFP and its requirements.
- (g) To permit or reject at the Toronto Zoo's sole discretion, amendments (including information inadvertently omitted), modifications, alterations and/or corrections of proposals by some or all of the proponents following proposal submission.
- (h) To request that some or all of the proponents modify proposals based upon the Toronto Zoo's review and evaluation.

- (i) To request additional or clarifying information or more detailed information from any Proponent at any time, before or after proposal submission, including information inadvertently omitted by the proponent.

11.5 Cancellation

Nothing herein shall be construed as giving the Proponent the right to perform the services contemplated under this agreement beyond the time when such services become unsatisfactory to the Toronto Zoo; and in the event that the Proponent shall be discharged before all the services contemplated hereunder have been completed or the services are for any reason terminated, stopped or discontinued because of the inability of the Proponent to serve under this agreement, the Proponent shall be paid only for the portion of the work which shall have been satisfactorily completed at the time of termination.

11.6 Ownership and Confidentiality of Board-Provided Data

All correspondence, documentation and information provided by the Toronto Zoo staff to any bidder or prospective Bidder in connection with, or arising out of this RFP, the services or acceptance of the RFP:

- 9.1.1 is and shall remain the property of the Board;
- 9.1.2 must be treated by Proponents and Prospective Proponents as confidential;
- 9.1.3 must not be used for any purpose other than for replying to this RFP, and for fulfillment of any related subsequent agreement.

11.7 Copyright:

The final product and related materials from the work is to be for the exclusive use of the Toronto Zoo. The Toronto Zoo shall be the only and sole owner of the product and related materials for the sole and unfettered use by the Toronto Zoo. Upon payment of the said product and related materials by the Toronto Zoo, the successful bidder shall have no hold, proprietary claim, ownership, use of any kind, intellectual or otherwise nor shall there be any restrictions placed on the final product and related products by the successful bidder. By submitting a Proposal in this response to this RFP, the Bidder shall thereby acknowledge and agrees that the Toronto Zoo has exclusive ownership and sole and unfettered use of this final product and related products.

11.8 Ownership and Disclosure of Proposal Documentation

The documentation composing any Proposal submitted in response to this RFP, along with all correspondence, documentation and information provided to the Toronto Zoo by any Bidder in connection with, or arising of this RFP, once received by the Toronto Zoo:

- 11.8.1 Shall become property of the Toronto Zoo and may be appended to purchase order issued to the successful Bidder;
- 11.8.2 Shall be come subject to the *Municipal Freedom of Information and Protection of Privacy Act ("MFIPPA") and may be released pursuant to that Act*

Because of *MFIPPA*, prospective Bidders are advised to identify in their Proposal material any scientific, technical, commercial, proprietary or similar confidential information, the disclosure of which could cause them injury.

Each Bidder's name shall be made public. Proposals will be made available to member of the Board on a confidential basis and may be released to members of the public pursuant to *MFIPPA*.

11.9 Conflict of Interest Statement

In its Proposal, the Proponent must disclose to the Toronto Zoo any potential conflict of interest that might comprise the performance of the Work. If such a conflict of interest does exist, the Toronto Zoo may, at its discretion, refuse to consider the Proposal.

The Proponent must also disclose whether it is aware of any Toronto Zoo employee, member of board, agency or commission or employee thereof having a financial interest in the Proponent and the nature of that interest. If such an interest exists or arises during the evaluation process or the negotiation of the Agreement, the Toronto Zoo may, at its discretion, refuse to consider the Proposal or withhold the awarding of any agreement to the Proponent until the matter is resolved to the Toronto Zoo's sole satisfaction.

Proponents are cautioned that the acceptance of their Proposal may preclude them from participating as a Proponent in subsequent projects where a conflict of interest may arise. The Consultant(s) for this project may participate in subsequent/other Toronto Zoo projects provided the Consultant(s) has (have) satisfied pre-qualification requirement of the Toronto Zoo, if any and in the opinion of the Toronto Zoo, no conflict of interest would adversely affect the performance and successful completion of an Agreement by the Consultant(s).

If, during the Proposal evaluation process or the negotiation of the Agreement, the Proponent is retained by another client giving rise to potential conflict of interest, then the Proponent will so inform the Toronto Zoo. If the Toronto Zoo requests, then the Proponent will refuse the new assignment or will take steps as are necessary to remove the conflict of interest concerned.

11.10 No Collusion

A proponent shall not discuss or communicate, directly or indirectly, with any other Proponent or their agent or representative about the preparation of the Proposals, Each proponent shall attest by virtue of signing the Proposal Submission Form that its participation in the RFP process is conducted without any collusion or fraud. If the Toronto Zoo discovers there has been a breach of this requirement at any time, the Toronto Zoo reserves the right to disqualify the Proposal or terminate any ensuing Agreement.

11.11 Governing Law

This RFP and any quotation submitted in response to it and the process contemplated by this RFP including any ensuing Agreement shall be governed by the laws of the Province of Ontario. Any dispute arising out of this RFP or this RFP process will be determined by a court of competent jurisdiction in the Province of Ontario

12.0 PROPOSAL FORM

The undersigned Proponent having reviewed and fully understood the RFP and all terms and requirements of the RFP and all terms and conditions of the RFP and information provided, hereby submits the attached Proposal and supporting materials (“the Proposal”) in accordance.

I/We, hereby, have received, allowed for and included as part of our submission all issued Addendum numbered _____.

The Board of Management of the Toronto Zoo reserves the right to reject any or all Proposals or to accept any Proposal, should it deem such action to be in its interests.

By submitting a Proposal the Proponent agrees to all of the terms and conditions of this Request for Proposal.

By signing and submitting this proposal, you are agreeing to the release of your proposal information, as deemed necessary by the Board, in order to conduct business associated with this proposal or project.

COMPANY INFORMATION	
Company Name:	
Name of authorized Signing Officer	Title:
Signature:	Date:
Contact Name:	Title:
Address:	
Telephone #:	Fax #:
Email:	Web Site:
HST #:	

DISCOUNT	Discount	Days
Discount allowed for prompt payment and period within which invoice must be paid to qualify.	%	

**NOTICE OF NO BID
INSTRUCTIONS:**

It is important to the Toronto Zoo to receive a reply from all invited bidders. If you are unable, or do not wish to submit a bid, please complete the following portions of this form. State your reason for not bidding by checking the applicable box(es) or by explaining briefly in the space provided. It is not necessary to return any other Request for Proposal/Quotation/Tender documents or forms. Please just return this completed form by email to purchasing@torontozoo.ca or fax (416) 392-6711 prior to the official closing date.

A Proposal/Quotation/Tender is not submitted for the following reason(s):		
<input type="checkbox"/>	Project/quantity too large.	<input type="checkbox"/> Project/quantity too small.
<input type="checkbox"/>	We do not offer services or commodities to these requirements	<input type="checkbox"/> Cannot meet delivery or completion requirement
<input type="checkbox"/>	We do not offer this service or commodity.	<input type="checkbox"/> Agreements with other company do not permit us to sell directly.
<input type="checkbox"/>	Cannot handle due to present commitments.	<input type="checkbox"/> Licensing restrictions
<input type="checkbox"/>	Unable to bid competitively.	<input type="checkbox"/> We do not wish to bid on this service or commodity in the future.
<input type="checkbox"/>	Insufficient information to prepare quote/proposal/tender	<input type="checkbox"/> Specifications are not sufficiently defined
<input type="checkbox"/>	We are unable to meet bonding or insurance requirements.	

<u>Other reasons or additional comments (please explain):</u>

Company Name:	
Address	
Contact Person:	
Signature of Company Representative:	
Date:	
Phone Number:	
Email address	
Fax Number:	

FEE PROPOSAL FORM

Proponent Name					
		FEES	DISBURSEMENTS	HST	TOTAL
Area 1	Detailed Design and Tender				
	Construction Administration and Commissioning				
Area 2	Detailed Design and Tender				
	Construction Administration and Commissioning				
Area 3	Detailed Design and Tender				
	Construction Administration and Commissioning				
Area 4	Detailed Design and Tender				
	Construction Administration and Commissioning				
Area 5	Detailed Design and Tender				
	Construction Administration and Commissioning				
Area 6	Detailed Design and Tender				
	Construction Administration and Commissioning				
	Daily Rate For Resident Site Inspection (if requested)				
TOTAL COSTS					



SITE ACCESSIBILITY FEASIBILITY STUDY

TORONTO ZOO

Existing Conditions, Assessment and
Recommendations for Six Sites



March 16, 2012

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Appendices:

- A AODA, Accessibility Standard for the Built Environment, Statement of intent and status of Standards**
- B Site Plan - Existing Conditions Survey**
- C Design Options - Option A, Option B and C**
- D Preliminary Cost Estimates**

Other References: Ontario Building Code, June 28, 2006
City of Toronto Accessibility Design Guidelines, 2003

1.0 INTRODUCTION

THIS STUDY WILL REQUIRE A SENSITIVITY THAT ACHIEVES A BALANCE BETWEEN ACCESSIBILITY, SAFETY, FUNCTIONALITY, MAINTENANCE, ECOLOGY OF THE LANDS, THE DIVERSE DEMANDS OF THE VISITING PUBLIC AND ANIMALS, PHASING AND CONNECTING PATHWAY SYSTEMS.

MMM Group Limited (MMM) was commissioned by the Toronto Zoo (TZ) to complete a Site Accessibility Feasibility Study at six (6) outdoor areas throughout the Toronto Zoo. The Study was to assess existing visitor pathway and boardwalk structures to determine how these sites comply with current accessibility standards such as the Accessibility for Ontarians with Disabilities Act (AODA), the Ontario Building Code (OBC), City of Toronto's – Accessibility Design Guideline and CPTED (Crime Prevention through Environmental Design).

ONTARIO REGULATION 191/11 made under the ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT was made official in 2005. Although the Act is in place, the Government of Ontario is currently completing the document that specifies the specific requirements of the Act as it relates to the Built Environment (refer to Appendix A, Ontario, Ministry of Community and Social Services, Accessibility Standards for the Built Environment).

The Final Proposed Accessible Built Environment Standard, as part of the Accessibility for Ontarians with Disabilities Act, 2005, is posted on the Ministry of Community and Social Services' website.

The final proposed standard was developed by an external Accessible Built Environment Standards Development Committee (ABE-SDC). This external committee included representatives from the disability community as well as the public and private sectors.

The initial proposed standard was released for its mandatory public review period from July 14, 2009 to October 16, 2009. The committee then revised the initial proposed standard to reflect the public's input resulting in the Final Proposed Accessible Built Environment Standard. The final proposed standard has now been submitted to the government for consideration, **it is not yet law.**

Until this document is completed, the Government of Ontario reverts back to the requirements of the OBC and Municipal Requirements. Since the TZ is located within the City of Toronto, the relevant documents for the purpose of the Study will be the OBC and the City of Toronto's Accessibility Guidelines, 2003 (CTAG).

The TZ asked MMM to contact J.D. Barns Limited to get topographic drawings of the Sites in AutoCAD format. J.D. Barns sent MMM three drawings in late August 2011. The first drawing, updated on 2011.06.08, was a Schematic Drawing of the Site Plan identifying the various Themed Geographic areas. The second drawing, dated 09.09.10, showed the centerline of pathways and boardwalks with elevations for the six specific sites within the Study area. The third drawing showed contours throughout the TZ Site. In some cases spot elevations shown on the second drawing did not exactly correlate the

general contours arrangement shown on the third drawing. For the purposes of this assignment we have used the more accurate survey drawing from J.D. Barns showing the specific centerline of pathway elevations. Areas both sides of the pathways will need to be surveyed to match existing grades prior to the preparation of the final construction drawings.

Additional topographical surveys were completed for Area by MMM Group in February 2012. This additional work was completed to map existing trees and topography on both sides of the trails. This was required to minimize tree removals and establish Limit of Grading/Limit of Work to generate Preliminary Cost Estimate.

2.0 EXISTING CONDITIONS, REQUIREMENTS and ASSESSMENT

EXISTING CONDITIONS

Sham Nankoosingh of MMM visited the six areas on numerous occasions, took a Photographic Inventory of the Site and documented areas where existing site conditions appear to not meet the requirements of the OBC and the CTAG.

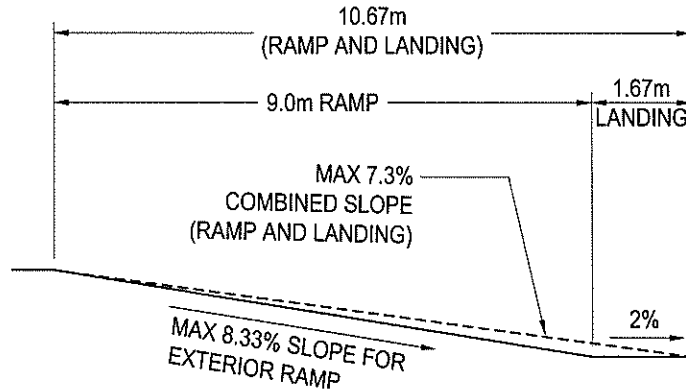
Based on the aforementioned topographic survey, MMM has gone through the entire length of pathways for all six areas to determine the existing gradients. In Appendix B, Existing Conditions Survey, the gradients on the pathways are separated into three categories: 0-5% slope, 5%-7.3% and greater than 7.33%. All gradients equal to or less than 5% are acceptable slopes for pathways per OBC and CTAG requirements. Any walking surface with a gradient over 5% and less than 8.33% (12:1) is considered a Ramp. Walkways greater than 12:1 are not considered accessible.

TECHNICAL REQUIREMENTS FOR RAMPS

According to the OBC ramps shall have a minimum clear width of 1100mm. Ramps shall have a maximum running slope no greater than 12:1. The maximum cross slope shall not be greater than 2%. Thresholds and changes in floor level shall be vertical for a change in level of less than 6mm or beveled at a maximum slope of 50% for a change in level between 6mm to 13mm. The size of landings shall be minimum 1670mm at the top and bottom of a ramp; 1100mm by 1100mm where there is a 90degree turn on a landing; and 2000mm x 2000mm where there is a 180degrees turn on the landing. Where a landing is served by a door, the length of the landing shall be extended by 600mm beyond the latch side of the door opening when the door swings toward the ramp; and by 300mm beyond the latch side of the door opening when the door swing is away from the ramp. On ramps and landings edge protection shall be provided at all edges where the ramp surface is not at grade level; or there is no solid enclosure or guard; and where required, have a curb at least 50mm in height or have railings or barriers that extend to within 100mm of the finished ramp surface. All ramps shall have handrails on both sides of the ramp with a clear width of at least 1100mm between the handrails. Where ramps are wider than 2400mm there shall be an intermediate handrail with a minimum clear width of 1100mm between the two sets of handrails.

RAMP ANALYSIS

Since landings between ramp sections are to be a minimum of 1.67m in length then for the purposes of this analysis, we have determined that any existing gradient on existing pathways greater than 7.3% will require additional length of pathway to maintain a maximum ramp slope of 8.33%. Refer to illustration below.



In other words, if the existing slope is less than 7.3%, we do not need to encroach into other less steep areas to meet the required maximum allowable gradient for a ramp. Conversely, if the existing slope is greater than 7.3%, we do need to encroach into less steep areas to meet the maximum allowable gradient for ramps.

2.1 AREA 1 - American Pavilion Waterfall

Existing Condition



The existing pathway is grey-black asphalt with precast concrete benches along the south side. The pathway is fairly narrow from less than 2.0m in width at the waterfall to 4.0m in width at the bottom of the east slope. Because of the very tight corners and dimensions of the pathways maintenance vehicles cannot access this stretch of the pathway.

There are numerous existing trees close to the pathway with some within 600mm of the asphalt. The slope along the east side of the

waterfall is very steep with gradients of up to 15.4%. Immediately west of the waterfall the pathway slope is up to 10.4%. (refer to plan L1, Appendix B). The pathway under the waterfall and the pathway east of the waterfall are both wet from overspray from the falls. Three glass window viewing areas are located along the east side of the waterfall. Low palisades, large boulders, post and chain barriers, 1.2m high black vinyl chainlink fences help guide visitors through this section of the Site. Under the waterfall, temporary 1.2m high galvanized steel crowd control fencing help prevent visitors from getting too close to the waterfall and the retaining wall. There is no lighting along this section of the pathway. There are a couple of signs that says, "Caution- Please keep off Rocks" and "Caution- Do not cross Barrier". There are a few precast pots and artifacts scattered within the planted areas.

Assessment

The existing pathways do not currently meet the OBC or CTAG requirements. The slopes far exceed maximum gradient slopes for pathways at 5%. The slopes even exceed maximum gradient slopes for ramps at 12:1 or 8.33%. The over-spray from the waterfall makes the walkway surface very slippery and potentially dangerous. Adjusting the elevations on the pathway to make slopes acceptable will not be possible without damaging the existing root systems of nearby trees. Grading close to the trees will ultimately affect the health and survival of these trees and other nearby vegetation. The free standing concrete wall that separates the visitor from the bottom of the waterfall does not meet OBC height requirements. The temporary crowd control fencing was installed because of safety concerns. There is not enough width to accommodate maintenance vehicle or emergency vehicle access. This section of pathway is therefore considered a light duty surface.

2.2 AREA 2 - Africa Restaurant to Americas Restaurant



Existing Condition

There are two parts included in this section of the route. The primary north-south route is a 4.3m to 4.6m wide asphalt pathway used by visitors, maintenance and emergency vehicles. There is a concrete curb 150mm to 200mm in height along the east side of the primary pathway. There are also three seating/lookout areas along the east side of the primary pathway supported by concrete retaining walls. The change in elevation from the top of the bench to the bottom of the concrete wall is over 1.0m at the northern seating area. Generally the drainage through the forest is from the west over the pathway to the east. Drainage from the pathway also flows west to east through openings in the concrete curb and openings in the retaining walls.



The slopes along the northern 95m of the pathway range from 1.5% to below 5% (refer to L2, L3 and L4, Appendix B). The remaining 138m of the primary pathway is a continuous slope from 5% to some areas exceeding 8.5%.



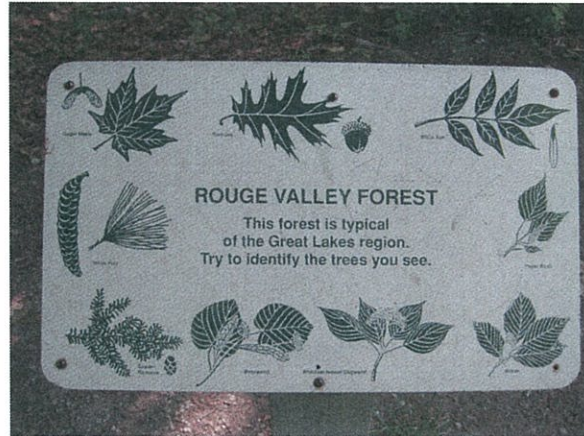
The secondary pathway at the south west leg is also very steep with gradients greater than 10.5%. It too is asphalt with a width of approximately 3.0m.

A few of the mature trees both sides of the pathways are within 1.0m of the asphalt surface.

A concrete curb along the east side of the primary pathway addresses the grade change

between the pathway elevation and the forest floor elevation. The curb has been shifted in some locations and is disconnected from the concrete seating walls at the lookout areas.

There is no lighting along this length of the pathway however there are a few recycle and trash bins.



There are a few directional signs and one educational sign showing the trees species found in the forest.

Assessment

Because this major pathway is used by visitors, maintenance vehicles, emergency access vehicles the pathway will need to be at minimum, a medium duty rating. Although the southern part of the pathway has an adequate gradient on the pathway the northern part of the pathway and the secondary pathway to the south is far too steep to meet OBC and CTAG requirements with slopes two times over acceptable standards for pathways. The over 1.0m change in elevation drop at the viewing area also exceeds acceptable standards of 0.6m maximum height adjacent to a walkway. The shifting of the curb is evidence of a soil creep. Maintaining existing trees close to the pathway will be very difficult with any proposed regarding operations that may result with altering the elevation of the pathways. An accurate survey locating the exact locations and finished grade elevations of the trees within a minimum of 6.0m from the pathway will be necessary for the final design and preparation of working drawings. Low retaining walls or curbs may have to be incorporated to maintain grades both sides of the pathway to preserve existing trees. Depending on final grading, handrails may need to be introduced where elevation on the pathway exceeds 600mm above adjacent surfaces to meet OBC and CTAG requirements. Existing signage may have to be removed and reinstalled after required alterations to the pathways. The pathways meet all width requirements for visitor, maintenance and emergency access.

2.3 AREA 3 – ‘Indo Malayan Pavilion to the African Rainforest Pavilion via Boardwalk’



Existing Condition

The existing wooden boardwalk structure is approximately 130m in length and has a change in elevation of 8.79m from the top to the bottom. The average width is approximately 3.70m with viewing areas as much as 9.0m wide. Slopes on the ramp portions range from 8.5% to 11.6%, with 1% to 3% at viewing areas (refer to L5). An existing staircase close to mid-point of the route has been cordoned off preventing public access. Some of the decking on the structure has been modified.



Low level led lighting, metal handrails, painted directional footprints on the decking and signage are other elements part of the boardwalk structure.

Assessment

We understand there have been recent modifications to the existing structure to meet structural code requirements for a public boardwalk. Although the structure has been accessed as structurally sound, the gradient on all the ramps are far too steep to meet OBC and CTAG requirements. The vertical change in elevation from the bottom to the top of the existing ramp is also too high to overcome given the overall length of the route and the required maximum ramp gradient of 12:1 (8.33%) including required landings. Railings, heights of barriers and ramp width do however meet OBC and CTAG requirements. We understand there is no requirement for vehicular access on the boardwalk.



2.4 AREA 4 – Parking Lot 2 Sidewalk



Existing Condition

The existing concrete sidewalk along the east side of the driveway from Meadowvale Road to the existing Lot 2 parking lot is 2.0m in width and in good condition. The gradient however matches the gradient of the driveway which is as much as 10.8% near mid-slope open grassed field spotted with trees. (refer to drawings L6, L7 and L8, Appendix B). Also near mid-slope a dirt pathway approximately 1.0m wide veers away from the sidewalk to the north across an open field. The pathway is a pedestrian shortcut to the parking area. Where this dirt pathway connects back up to the sidewalk beside the driveway the slope is again too steep to meet requirements.



There are no site furnishings other than one trash receptacle along the stretch of sidewalk.

Assessment

The existing sidewalk is far too steep to meet OBC and CTAG requirements. A few existing trees near the bottom of the sidewalk near Meadowvale Road may interfere with any grading operations associated with changing the elevation of the pathway. There is no requirement for vehicular, emergency or maintenance traffic on the sidewalk or pedestrian zone. The roadway will allow for all required vehicular access. The alignment of the dirt pathway is a more direct route to the parking area and is indicative of a natural desire line for pedestrians. The existing



alignment of the sidewalk beside the roadway cannot meet required gradients without the introduction of a retaining wall to keep the roadway at its existing elevation. This solution will require the introduction of a safety barrier between the road and the pedestrian pathway. Therefore a realignment of the pathway away from the road will be a practical, cost effective solution.

2.5 AREA 5 – Indo-Malaya Bridge



Existing Condition

The asphalt pathway both north and south of the bridge is approximately 5.9m to 6.1m in width and is considered a primary pathway that accommodates visitor, maintenance vehicle and emergency vehicle traffic. This pathway is therefore rated at minimum, medium duty. The slope north of the bridge ranges from 2.9% to 5.2%. The slope on the pathway south of the bridge is as much as 10.7% (refer to L5, Appendix B). Existing signage, site furnishings including one trash and one recycle receptacles, one bench, a large globe and the Geothermal Energy Field are within close proximity or beside the pathway. Some existing large trees including Austrian Pines, Ash and a couple maple trees are located just east of the pathway. Off this pathway is keeper access on the north side of the building.

Assessment

There is a small section of pathway approximately 15m long that has a gradient of 5.2%; slightly more than the required maximum 5% gradient. The slope on this area can be reduced with minor grading either north or south of the steepest section.

The asphalt pathway south of the bridge is too steep to meet OBC and CTAG requirements. The length of the existing pathway from the top of bridge elevation at

140.15 to the finished grade elevation near the pavilion at 137.51 is simply too short. There is a low point east of the south pathway that does not appear to drain anywhere to existing storm sewers or natural swales.

Site furnishing will need to be relocated depending on the final alignment of the pathway. A survey showing the exact location of existing trees east of the pathway with finished grades will be necessary to determine which trees will be affected with grading and possible re-alignment of the pathway. Many of the trees found within this area are non-native Austrian Pine trees. These trees are not desirable species close to natural woodland areas and possible removal will likely be seen as an overall ecological benefit by City of Toronto Urban Forestry and TRCA staff.

Rock edging lining the pathway may serve to retain soil in areas that may need to be regarded near existing trees to be preserved. The rocks will also help define the travel route and reduce wear on nearby sodded areas.

2.6 AREA 6 - Africa Restaurant to TWIGA Restaurant



U Existing Condition

The asphalt pathway along this section is approximately 4.5m in width and flares wider at the giraffe and hyena viewing areas. This pathway is both a primary visitor access and maintenance access route. Most of the pathway will be considered a medium duty surface with a heavy duty surface at the north-south maintenance crossing road. There is a slight change in colour in the pathway within the African Savanna area to a reddish grey. Gradient on pathways ranges from less than 1% to as much as 8.7% (refer to drawing L2, Appendix B). There are a number of features and elements within this section of pathway. There are a number of signs including the 'Keisho Park' entrance feature and smaller signs. There is a water fountain and a commercial kiosk on a unit paving pad on the south side of the pathway east of the 'Keisho Park' entrance feature. Directly north of the kiosk, north of the pathway a pier mounted binocular fastened onto a wooden platform has been installed for viewing into the giraffe exhibit. The grassed area around the platform appears to have been worn because of heavy pedestrian traffic. The asphalt area north of the Africa restaurant at the delivery area is in very poor condition. From the depressions in the asphalt they appear to have been caused by the tires of delivery vehicles. The timber and palisade retaining walls are also in very poor condition. Heavy pedestrian traffic seems to have worn the grassed areas on both sides of the asphalt pathway at numerous locations. Where the adjacent grassed areas are elevated and protected with rock retaining features the grass is in good condition. A very steep unit paving ramp (approximately 12%) on the south side of the pathway leads to a grassed picnic area west of the restaurant.

Assessment

There appears to be the need for two types of pavement structures at different locations to accommodate types of traffic. There will be a need for a medium duty paving structure for the primary pedestrian traffic and infrequent vehicular traffic along the visitor path and a heavy duty pavement structure at the north-south maintenance access road crossing and at the delivery area. There are a number of locations where the gradient along the visitor pathway is too steep to meet OBC and CTAG requirements with slopes exceeding 8.5%. In keeping with the Savanna theme, the asphalt paving will need to match the coloured pavement west of the Keisho Park Entrance feature. The unit paving base at the kiosk may need to be adjusted to ensure access from the pathway. Existing features as signage and the water fountain may need to be adjusted to provide visitor access. Generally, where pedestrian pathways are not defined by curbs, retaining features etc., grassed areas are severely worn. The granitic ledgerrock appear to successfully retain the slopes and preserve adjacent grassed areas by deterring pedestrian traffic. The tire ruts in the asphalt at the Africa Restaurant delivery area indicate the pavement structure is not adequate to accommodate delivery vehicles. The timber palisades and retaining walls appear to be close to the end of their respective life cycles. The unit paving ramp up to the picnic area is too steep and must be replaced.

3.0 Analysis and Summary of Existing Conditions

Generally, the primary issue relating to non-compliance to the OBC and CTAG within the six study areas are walkways that are too steep. For accessible walkways, the OBC and CTAG stipulate the slopes are to be less than 5% for walkways and ramps are to be 5% to 8.33% (12 horizontal to 1 vertical distance) for a maximum length of 9 horizontal metres between landings. The CTAG states landings are to be a minimum of 1.67m in length.

Re-grading walkways at all six locations will be necessary to meet OBC and CTAG slope requirements. At three locations, re-grading the pathway to meet requirements can be achieved by spreading an acceptable slope between steeper and less steep areas, keeping the same general alignment of the route. This can be achieved where the beginning and end of the slope is not confined by entrances to buildings or other structures. These locations include:

1. AREA 1 - American Pavilion Waterfall,
2. AREA 2 - Africa Restaurant to Americas Restaurant
3. AREA 6 - Africa Restaurant to TWIGA Restaurant

In other areas, keeping the exact route alignment while achieving acceptable gradients will not be possible. In two cases the existing horizontal distance between the top and the bottom of the ramp is simply too short to make up the vertical change in elevation at required gradients. These two locations include:

4. AREA 3 - 'Indo Malayan Pavilion to the African Rainforest Pavilion via Boardwalk'
5. AREA 5 - Indo-Malaya Bridge

While the same route alignment is possible at SITE 4, Lot 2 Parking Lot Sidewalk, it would be an impractical solution. This exact alignment will require the construction of a continuous retaining wall between the concrete road curb and the new pathway at a lower elevation. The walkway will need to be as much as 2.5m lower than the existing roadway thus requiring a very long retaining wall that climbs to 2.5m high. This solution will also require the installation of safety barriers on the retaining wall to protect pedestrians from vehicles that may veer off the driveway in an accident or during inclement weather.

In many areas existing trees and other vegetation provide grading constraints. Grading within the root systems of existing trees will affect their health and their survival. Grading within the root zones of existing significant trees will therefore need to be avoided where possible. Signage, retaining features, site furnishings as benches, lighting, trash and recycle receptacles are features that will have to be removed and replaced with any significant alterations to the pathways. These changes may be changes in elevation and/or changes to alignment of the walkway. Existing animal viewing areas must also be maintained where possible as many of these locations provide the best animal viewing areas for visitors. At some locations, at primary routes where vehicular and emergency access is required, the route must maintain a medium or heavy duty structure that will accommodate appropriate traffic loads. At other locations where there is no need to accommodate vehicular traffic, at Sites 1 and 3, a light duty boardwalk or medium duty paving solution may be appropriate. Loading for outdoor structures used for gathering

areas is to be minimum 4.8kPa (100lbs/sq.ft) per OBC requirements.

In the next Section we have looked at possible design options and recommendations. Each of these options in all six areas meets the accessibility requirements of the OBC and the CTAG.

4.0 DESIGN OPTIONS and RECOMMENDATIONS

We have provided proposed grading plans illustrating options for each of the six areas in Appendix C. Proposed slopes on walkways and ramps are indicated on the plans. Paving surfaces, limit of work areas, required railings and fencing, general drainage, required retaining features and site furnishings are also indicated on the plans. In appendix D we have also provided Preliminary Cost Estimates for Capital Works for all of the proposed options for all six areas.

4.1 AREA 1 - American Pavilion Waterfall

Option A

This Option includes significant grading and removal of existing vegetation to attain desired slopes on pathways. In this option the minimum width of the asphalt pathway will be 2.2m to provide access for two persons in wheelchairs traveling in opposite directions. The gradient on the pathways will be 4.8% to 5.0% with 2% at lookout locations. This option will not require ramps; the entire pathway will be completely accessible. Because of the increased area of disturbance required to allow for a continuous pathway additional planting removals, grading and restoration including landscaping will need to be provided to maintain aesthetic levels and prevent erosion. This solution will require the full removal of the existing asphalt pathway including the granular bases, removal of rockwork vegetation, signage, benches etc. Existing lookout locations and railings will be maintained. The existing culvert north of the waterfall will be removed and replaced. Signage and benches will also require replacement. A separate 1070mm height railing under the waterfall is introduced to address safety/ fall height requirements. Refer to the Cost Estimate in Appendix D, Costing.

Option B

This Option includes the introduction of a 2.2m wide wooden boardwalk structure. Maximum slopes on ramps are not to exceed 12:1 for a maximum length of 9.0m. Landings will be the full width of the ramp with minimum lengths of 1.7m at 1.5% to 2.0% slopes. The 2.2m minimum width will provide access for persons in two wheelchairs traveling in opposite directions. The intended alignment will follow the existing asphalt pathway alignment to avoid major re-grading and disturbance to the root structure of existing trees. The lookout locations will remain unchanged. The boardwalk structure will sit on sono-tube concrete footings extended to a minimum 1.5m depth. The structure will be designed and built to support a minimum of 4.8kPa (100lbs/sq.ft) per OBC requirements for outdoor public structures. This solution will provide an accessible route with minimum disturbance to the existing topography and vegetation in the area. The railing along the boardwalk will extend under the waterfall area to provide a consistent treatment while providing the required 1070mm height safety barrier. The existing asphalt surface under the boardwalk structure will be removed while much of the existing granular bases may be maintained under the boardwalk. Much of the existing landscaping including vegetation and retaining rockwork will remain. Existing signage, viewing area railings and benches will need to be removed and replaced. The existing culvert north of

the waterfall will need to be removed. While the proposed boardwalk structure can span the drainage channel some remedial work including riverstone in the channel under the boardwalk will be required to control erosion. Refer to the Cost Estimate in Appendix D, Costing.

RECOMMENDATIONS

Although both options offer pros and cons, from a costing and longevity perspective Option A (asphalt pathway) will offer a better longer term solution. Option A is approximately 15% less cost to implement than Option B at \$ 297,275. Furthermore an asphalt pathway will likely last longer and require less maintenance than a wooden boardwalk structure. Other benefits will include less susceptibility to vandalism and the ability to more easily clear snow by mechanical means during the winter months. To enhance the theme of the South American 'jungle' experience, coloured asphalt may be considered.

4.2 AREA 2 - Africa Restaurant to Americas Restaurant

Option A

The Primary walkway alignment and width will be maintained. The Primary walkway will be lowered along the western section and raised along the eastern section to maintain a maximum 5% slope on the pathway. (Refer to Appendix C, Drawing L2AA & L2BA and Sections A-A and B-B.) This option minimizes grading in the forest by introducing retaining walls on both sides of the pathway. Where the heights of retaining walls are greater than 0.6m, railings are required per OBC and CTAG. The three bump-out lookout areas have been re-introduced at higher elevations per pathway gradient requirements. Similar to Option A, a culvert has been introduced to maintain drainage from the forest area north to the forest area to the south of the pathway to avoid ponding and maintaining the health of the upland vegetation found in this area. The new elevated pathway will be medium duty asphalt to match existing loading requirements. This option will limit grading along the primary route and therefore will significantly reduce the requirement for tree removal.

As in option A, the Secondary pathway will be maintained only as an alternate route for abled-bodied individuals. It will be signed to let patrons know to use the Primary Trail for those that need to. The gradient will be reduced from over 10.5% to under 10.0% which is generally acceptable for hiking/nature trails etc. in Ontario. It will also be a medium duty asphalt surface to accommodate load from maintenance vehicles etc. Refer to the Cost Estimate in Appendix D, Costing.

Option B

As in Options 'A', both the horizontal and vertical alignments of the primary and secondary pathways will remain the same as the existing condition to minimize disturbance to the existing trees. Retaining walls will be introduced on the primary trail to address the required changes of the vertical alignment and the existing topography. As

above in the two previous options, the eastern portion of the pathway will need to be raised to maintain a maximum 5% gradient on the pathway. In Option B, a bridge structure has been introduced to reduce the amount of fill material that has to be brought in to raise the eastern portion of the pathway. (Refer to Appendix C, Drawing L2AA & L2BA and Sections A-A and B-B.) This solution will also reduce the amount of retaining walls while providing drainage from the north forest area to the south forest area. This solution will require less grading than Option A within the forest area and will therefore reduce disturbance and some removal of existing vegetation. Railings will be required on the bridge structure and on the retaining walls where the change in elevation between the top of the walls and the bottom of the walls exceeds 600mm in height. The bridge structures will meet the Canadian Highway Bridge Design Code CAN/CSA-S6-06 which is the minimum vehicle loading level in the Bridge Code. Refer to the Cost Estimate in Appendix D, Costing.

RECOMMENDATIONS

Option A will offer the best scenario to minimize grading and therefore removal of existing trees in the forest. Option B with the retaining wall and bridge is the more expensive solution, however it will allow more free movement of animals to and from the north and south forest areas without having to cross the pedestrian route. This option will cause more disruption during the construction of the foundation walls and the installation of the bridge given the heavy overhead tree canopy. Option A is the more cost-effective solution it will cause more disruption during the construction phase. We recommend Option A. This option will minimize grading, damage and removal of existing trees and habitat.

4.3 AREA 3 – ‘Indo Malayan Pavilion to the African Rainforest Pavilion via Boardwalk’

Option A

As noted above, the horizontal length of the series of ramps and landings is too short to meet acceptable slope requirements from the top of the boardwalk to the bottom or vice versa. In Option ‘A’ the boardwalk assumes the general alignment of the existing boardwalk with the introduction of an additional section of ramp near mid-point at the abandoned staircase. This location to extend the ramp was chosen to minimize removal of existing trees along this heavily treed area in the forest. Generally, the existing deck structure will need to be removed and rebuilt to meet gradient and landing requirements. In most cases the existing post supporting structure may be salvaged and reused. These posts will need to be adjusted to meet gradient and landing requirements as indicated on the grading plan. The structure will be designed and built to support a minimum of 4.8kPa (100lbs/sq.ft) per OBC requirements for outdoor public structures. Railing heights shall be a minimum of 1070mm in height both sides of the boardwalk to meet the requirements of the OBC.

Option B

Similar to Option A, Option B also follows the general horizontal alignment of the existing boardwalk. The vertical alignment has been altered to meet gradient and landing requirements. As in Option A, the deck structure will need to be removed and rebuilt to meet gradient and landing requirements. The heights of posts will need to be adjusted to meet ramp gradient requirements. This option shows an alternative location for the additional section of ramp. Trees have been recently removed in this area providing a perfect location for a level landing and viewing platform. The structure will be designed and built to support a minimum of 4.8kPa (100lbs/sq.ft) per OBC requirements for outdoor public structures. Railing heights shall be a minimum of 1070mm in height both sides of the boardwalk and to meet the requirements of the OBC.

Option C

The option eliminates the need for ramps. This option maintains a maximum 5% slope along the entire route with viewing areas at 1 to 2%. This option however requires a 60% extension of existing length of the boardwalk. This translates to an additional 75m length to the boardwalk structure into the forest, meaning some trees will need to be removed. The existing structure is currently 125m in length. The extension will also be designed to support a minimum of 4.8kPa (100lbs/sq.ft) per OBC requirements for outdoor public structures. Railing heights shall be a minimum of 1070mm in height both sides of the boardwalk and to meet the requirements of the OBC.

RECOMMENDATIONS

Both Options A and B will require the installation of a mid-rail along the centre of the ramp. Since Option C is 5% or less, it is not considered a ramp and will not require a mid-rail (refer to Item 2.0, Technical Requirements for Ramps). The cost difference for

the implementation of Options A and B is negligible, less than 1%. Option C is approximately 60% more expensive than the other two options however it will provide easy access from anywhere one side of the viewing platform to the other side without the central handrail. The best alignment will depend on the ultimate configuration of the exhibit if expanded. Option C will also require an expansion of the boardwalk into the forest areas which will require the removal of some trees. The exact tree removal will depend on the final alignment on the expanded boardwalk.

4.4 AREA 4 – Parking Lot 2 Sidewalk

Option A

The existing steep sidewalk beside the roadway has been removed. This option introduces a new concrete walkway from Morningside Avenue to the parking lot. The walkway has been offset from the existing roadway to maintain a 5% maximum slope on the walkway and leave enough room for a retaining wall and slope to meet the grades of the much steeper driveway alongside. The existing trees to the west of the walkway present a physical constraint. To minimize disturbance and removals of these existing trees retaining walls have been introduced in the design. The height of the wall varies from 0.5m to 2.5m. A topographic survey of the area along with an Arborist Report will help determine the value of the existing vegetation that may be affected by grading operations. If these trees are determined to be insignificant, the height of the wall may be significantly reduced or possibly removed altogether. A geotechnical investigation of the existing sub-grade will also help determine more accurate costing implications associated with design and construction of the wall. To protect pedestrians on the ramp from vehicles on the adjacent higher roadway, a steel beam guide rail (OPSD 902.03) has also been introduced.

Option B

The existing steep sidewalk beside the roadway has also been removed in this option. This option introduces a wooden ramp and landing structure. The structure has been offset from the existing roadway to minimize the height of retaining walls and to provide a steel guide rail to protect pedestrians. The structure will be designed and built to support a minimum of 4.8kPa (100lbs/sq.ft) per OBC requirements for outdoor public structures. Railing heights shall be a minimum of 1070mm in height both sides of the boardwalk and to meet the requirements of the OBC. Although a retaining wall is shown on the west side of the sidewalk as in Option A, it will be significantly shorter and lower ranging in height from 0.5m to 1.5m. As with Option A, a topographic survey of the area along with an Arborist Report will help determine the value of the existing vegetation that may be affected by grading operations. If these trees are determined to be insignificant, the height of the wall may be significantly reduced or possibly removed altogether as in option A. A geotechnical investigation of the existing sub-grade will also help determine more accurate costing implications relating to the design of the walls and deck structure footings. To protect pedestrians on the ramp from vehicles on the adjacent higher roadway, a steel beam guide rail (OPSD 902.03) has also been introduced. This option will reduce grading operations, reduce retaining wall heights and lengths and reduce disturbance to existing vegetation over Option A.

4.5 AREA 5 – Indo-Malaya Bridge

Option A

This option removes the existing asphalt pathway and realigns it to the east. The width and surface material is reintroduced in a new alignment to create a slope that is equal to or less than 5%. A heavy duty asphalt treatment will maintain the level of existing use. This option shows the introduction of ledgerrock retaining walls to address grade changes from the new path elevation and existing grades near trees. To address the grade change beside the new elevated walkway railing are required. The existing paved area will be removed and replaced with landscaping including new trees, shrubs and groundcover. A topographic survey and an arborist report will help determine the final alignment of the pathway as it goes through the existing trees.

Option B

This option retains the existing pathway as the primary route. A 2.2m wide asphalt pathway will provide a secondary accessible route that is to be signed as such. This option too will require the use of a retaining wall system to support the proposed pathway while minimizing disturbance to the existing trees. As discussed above a topographic survey identifying existing trees and existing elevations at their bases will be beneficial to determine the best and final alignment of the pathway. Geotechnical investigations will determine if there any significant organics in the existing sub-grade and the required pavement structure. This scenario will allow simultaneous wheelchair access in either direction along the entire length of the new pathway.

Option C

This option retains the existing pathway as the primary route. A 2.2m wide wooden boardwalk structure will provide a secondary accessible route that is to be signed as such. This option will require minimum re-grading and no retaining walls, thus minimizing disturbance to the existing trees. As discussed above, a topographic survey identifying existing trees and existing elevations at their bases will be beneficial to determine the best and final alignment of the boardwalk. Geotechnical investigations will determine if there any significant organics in the existing sub-grade and the required footings. This scenario will allow simultaneous wheelchair access in either direction along the entire length of the new boardwalk.

4.6 AREA 6 - Africa Restaurant to TWIGA Restaurant

Option A

This option will show a reduction on the pathway slopes to be at or under 5%. The asphalt pavement structures will meet or exceed existing requirements. A heavy duty structure will be utilized at the main north-south maintenance access road and at the delivery area near the 'Africa' restaurant. West of the 'Keisho Park' entrance, a coloured medium duty asphalt will be implemented to match existing paving within the Keisho Park area. To meet the required gradients, parts of the pathway will need to be raised while most of the pathway will need to be lowered. Where the pathway is either lowered or raised we can match existing adjacent topography with minor slopes and sodding. In some areas ledgerrock retaining features may be a simple solution to maintain existing vegetation beside the pathway or in planted islands. At the hyena viewing window the elevation of the pedestrian pathway will need to be lowered. The resulting gap between the bottom of the window and the ground surface will need to be addressed. One option can be extending the artificial rockwork. Another might be the introduction of a low ledgerrock retaining feature to eliminate the gap between the viewing structure and the lower new elevation of the pathway. Since the area around the binoculars is currently worn grass, this option extends the asphalt paving in this area to provide easy access for zoo patrons. Ledgerrock in this area is to be red granite to match the theme and the existing rocks found in the area. New railings will also need to match existing railings to maintain a consistent theme.

Respectfully Submitted,

MMM Group Limited



Sham Nankoosingh, BLA OALA
Senior Landscape Architect
Landscape Architecture and Urban Design
Associate Partner

APPENDIX A

**AODA, Accessibility Standard for the Built Environment,
Statement of intent and status of Standards**

Accessibility for Ontarians with Disabilities Act, 2005

S.O. 2005, CHAPTER 11

Consolidation Period: From December 15, 2009 to the [e-Laws currency date](#).

Last amendment: 2009, c. 33, Sched. 8, s. 1.

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PART I
INTERPRETATION

Purpose

1. Recognizing the history of discrimination against persons with disabilities in Ontario, the purpose of this Act is to benefit all Ontarians by,

- (a) developing, implementing and enforcing accessibility standards in order to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, buildings, structures and premises on or before January 1, 2025; and
- (b) providing for the involvement of persons with disabilities, of the Government of Ontario and of representatives of industries and of various sectors of the economy in the development of the accessibility standards. 2005, c. 11, s. 1.

Definitions

2. In this Act,

“accessibility standard” means an accessibility standard made by regulation under section 6; (“norme d’accessibilité”)

“barrier” means anything that prevents a person with a disability from fully participating in all aspects of society because of his or her disability, including a physical barrier, an architectural barrier, an information or communications barrier, an attitudinal barrier, a technological barrier, a policy or a practice; (“obstacle”)

“director” means a director appointed under section 30; (“directeur”)

“disability” means,

- (a) any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and, without limiting the generality of the foregoing, includes diabetes mellitus, epilepsy, a brain injury, any degree of paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness or hearing impediment, muteness or

speech impediment, or physical reliance on a guide dog or other animal or on a wheelchair or other remedial appliance or device,

- (b) a condition of mental impairment or a developmental disability,
- (c) a learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language,
- (d) a mental disorder, or
- (e) an injury or disability for which benefits were claimed or received under the insurance plan established under the *Workplace Safety and Insurance Act, 1997*; (“handicap”)

“Minister” means the Minister of Citizenship and Immigration or whatever other member of the Executive Council to whom the administration of this Act is assigned under the *Executive Council Act*; (“ministre”)

“organization” means any organization in the public or private sector and includes,

- (a) the Government of Ontario and any board, commission, authority or other agency of the Government of Ontario,
- (b) any agency, board, commission, authority, corporation or other entity established under an Act,
- (c) a municipality, an association, a partnership and a trade union, or
- (d) any other prescribed type of entity; (“organisation”)

“prescribed” means prescribed by regulation; (“prescrit”)

“regulations” means the regulations made under this Act, unless the context indicates or requires otherwise; (“règlements”)

“Tribunal” means, with respect to an appeal of an order made by a director under this Act, the tribunal designated by the Lieutenant Governor in Council under section 26 for the purposes of hearing that appeal. (“Tribunal”) 2005, c. 11, s. 2; 2009, c. 33, Sched. 8, s. 1.

Recognition of existing legal obligations

3. Nothing in this Act or in the regulations diminishes in any way the legal obligations of the Government of Ontario or of any person or organization with respect to persons with disabilities that are imposed under any other Act or otherwise imposed by law. 2005, c. 11, s. 3.

PART II APPLICATION

Application

4. This Act applies to every person or organization in the public and private sectors of the Province of Ontario, including the Legislative Assembly of Ontario. 2005, c. 11, s. 4.

Crown bound

5. This Act binds the Crown. 2005, c. 11, s. 5.

APPENDIX B

Site Plan - Existing Conditions Survey



LEGEND

- ≤ 5.0% ACCEPTABLE SLOPE FOR WALKWAY
- > 5.0 TO 7.3% ACCEPTABLE SLOPE FOR RAMPS
- (Tree symbol) EXISTING TREES
- + 142.79 EXISTING SPOT ELEVATION
- EXISTING CONTOURS



**361A OLD FINCH AVE.
TORONTO, ON
M1B 5K7**

NO.	DESCRIPTION	DATE
NO.	REVISION	DATE

**TORONTO ZOO
PROJECT**

**SITE
ACCESSIBILITY
IMPROVEMENT
STUDY**

**APPENDIX B
SITE PLAN - EXISTING
CONDITIONS SURVEY
AREA 4B**

PROJECT NO: 14-11413-001-LA1

DRAWN BY: L.S.N.

CHECKED BY: L.S.N.

LAST UPDATED: 2011-08-29

SCALE: 1:200

DRAWING #:

L6

4B PLAN VIEW – PARKING LOT 2 SIDEWALK
L6 1:200

MATCHLINE SEE 4C ON SHEET L7

APPENDIX C

Design Options – Option A, Option B and Option C



361A OLD FINCH AVE.
TORONTO, ON
M1B 5K7

NO.	DESCRIPTION	DATE
NO.	REVISION	DATE

TORONTO ZOO PROJECT

SITE ACCESSIBILITY IMPROVEMENT STUDY

APPENDIX C AREA 1 - AMERICAN PAVILION - OPTION 'A'

PROJECT NO: 14-11413-001-LA1

DRAWN BY: L.S.N.

CHECKED BY: L.S.N.




LAST UPDATED: 2011-12-27

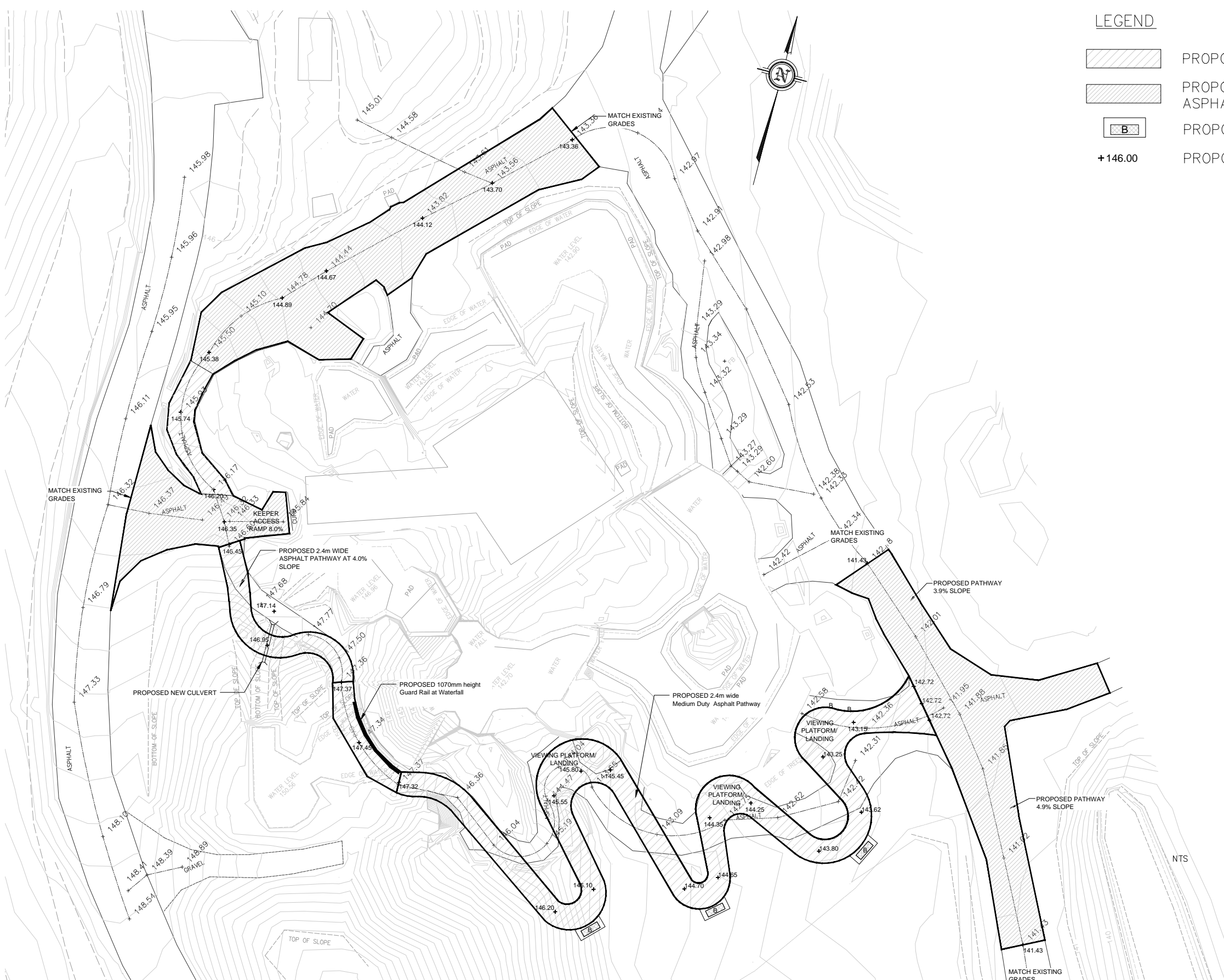
SCALE: 1:200

DRAWING #:

L1A

LEGEND

-  PROPOSED LIGHT DUTY ASPHALT
-  PROPOSED MEDIUM DUTY ASPHALT
-  PROPOSED BENCHES
- +146.00 PROPOSED ELEVATION POINT



1 AREA 1 - AMERICAN PAVILION TO WATERFALL - OPTION 'A'
L1A

1:200



361A OLD FINCH AVE.
TORONTO, ON
M1B 5K7

NO.	DESCRIPTION	DATE
NO.	REVISION	DATE




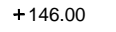
**TORONTO ZOO
PROJECT**

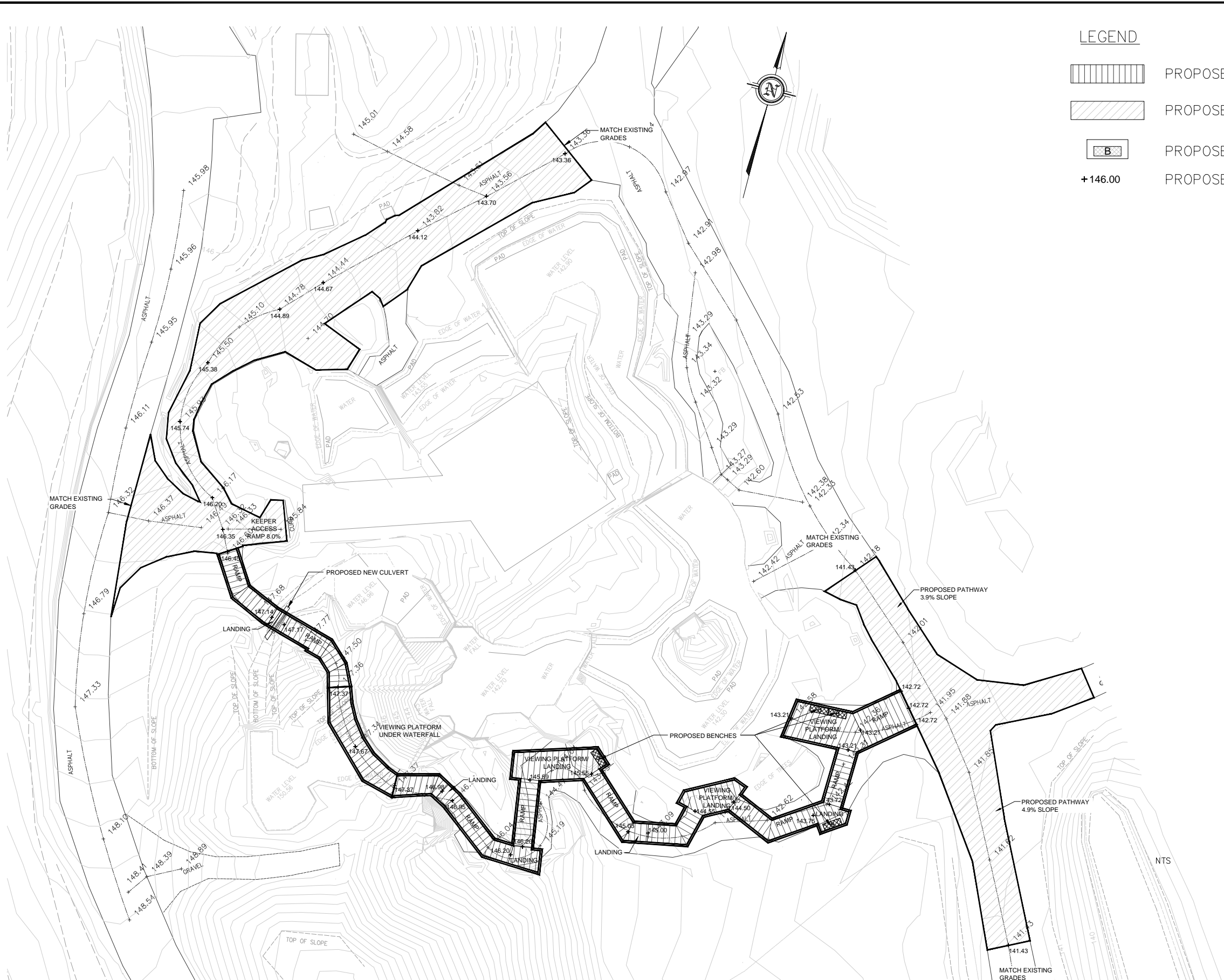
**SITE
ACCESSIBILITY
IMPROVEMENT
STUDY**

**APPENDIX C
AREA 1 - AMERICAN
PAVILION - OPTION 'B'**

PROJECT NO: 14-11413-001-LA1
DRAWN BY: L.S.N
CHECKED BY: L.S.N.
LAST UPDATED: 2011-12-27
SCALE: 1:200

DRAWING #:
L1B

- LEGEND**
-  PROPOSED WOOD DECK
 -  PROPOSED LIGHT DUTY ASPHALT
 -  PROPOSED BENCHES
 -  PROPOSED ELEVATION POINT



1 AREA 1 - AMERICAN PAVILION TO WATERFALL - OPTION 'B'
L1B

1:200

APPENDIX D

Preliminary Cost Estimates

Toronto Zoo - Site Accessibility Improvement Study

AREA 1: AMERICAN PAVILION TO WATERFALL

PRELIMINARY COST ESTIMATE

Option A (Asphalt Pathway)

February 2012

PRELIMINARY COST ESTIMATE					
Item No.	Description	Unit	Est. Qty.	Unit Price	Total
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lm	370	\$35.00	\$12,950.00
1.2	Asphalt paving and granular bases	m2	1200	\$20.00	\$24,000.00
1.3	Sodding and 150mm depth topsoil	m2	300	\$6.00	\$1,800.00
1.4	Signage/artifacts removal and storage	ls			\$3,500.00
1.5	Vegetation Removal	ls			\$6,500.00
1.6	Remove pallisade walls	ls			\$3,500.00
1.7	Remove post and chain fence	ls			\$1,500.00
1.8	Remove chainlink fence	ls			\$2,000.00
2.0	New Construction				
2.1	Supply and install (light duty) asphalt paving and bases	m2	460	\$45.00	\$20,700.00
2.2	Supply and install (medium duty) asphalt paving and bases	m2	850	\$65.00	\$55,250.00
2.3	Grading	ls			\$20,000.00
2.4	Benches	ea	3	\$1,200.00	\$3,600.00
2.5	Supply and install sod and topsoil	m2	600	\$12.00	\$7,200.00
2.6	Reinstall signage and artifacts	ls			\$2,500.00
2.7	Railing at waterfall	lin.m	10	\$500.00	\$5,000.00
2.8	1.2m high decorative metal fence	lin.m	260	\$300.00	\$78,000.00
2.9	300mm dia. X 6m culvert w/ ends	ea	1	\$3,000.00	\$3,000.00
2.10	Landscaping	ls			\$7,500.00
3.0	Sub-Total				\$258,500.00
4.0	Contingency (15%)				\$38,775.00
5.0	Total				\$297,275.00

Toronto Zoo - Site Accessibility Improvement Study

AREA 1: AMERICAN PAVILION TO WATERFALL

PRELIMINARY COST ESTIMATE

Option B (Boardwalk)

January 2012

PRELIMINARY COST ESTIMATE					
Item No.	Item	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lm	370	\$35.00	\$12,950.00
1.2	Asphalt paving and granular bases	m2	1200	\$20.00	\$24,000.00
1.3	Sodding and 150mm depth topsoil	m2	300	\$6.00	\$1,800.00
1.4	Signage/artifacts removal and storage	ls			\$3,500.00
1.5	Vegetation Removal	ls			\$3,500.00
1.6	Remove pallisade walls	ls			\$3,500.00
1.7	Remove post and chain fence	ls			\$1,500.00
1.8	Remove chainlink fence	ls			\$2,000.00
2.0	New Construction				
2.1	Boardwalk	m2	360	\$400.00	\$144,000.00
2.2	Supply and install (medium duty) asphalt paving and bases	m2	840	\$70.00	\$58,800.00
2.3	Grading	ls			\$8,000.00
2.4	Benches	ea	3	\$1,200.00	\$3,600.00
2.5	Supply and install sod and topsoil	m2	200	\$10.00	\$2,000.00
2.6	Reinstall signage and artifacts	ls			\$2,500.00
2.7	Railing at waterfall	lin.m	10	\$500.00	\$5,000.00
2.8	1.2m high decorative metal fence	lin.m	260	\$90.00	\$23,400.00
2.9	300mm dia. X 6m culvert w/ ends	ea	1	\$3,000.00	\$3,000.00
3.0	Sub-Total				\$303,050.00
4.0	Contingency (15%)				\$45,457.50
5.0	Total				\$348,507.50

Toronto Zoo - Site Accessibility Improvement Study

AREA 2: AFRICA REST. TO AMERICA REST.

PRELIMINARY COST ESTIMATE

Option A (Retaining Wall and Grading)

March 2012

PRELIMINARY COST ESTIMATE					
Item No.	Item	Unit	Est. Qty.	Unit Price	Total
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lm	500	\$30.00	\$15,000.00
1.2	Asphalt paving and granular bases	m2	1650	\$20.00	\$33,000.00
1.3	Sodding and 150mm depth topsoil	m2	200	\$6.00	\$1,200.00
1.4	Signage removal and storage	ls			\$2,500.00
1.5	Vegetation Removal	ls			\$3,500.00
1.6	Remove concrete curb	lin.m	220	\$25.00	\$1,500.00
1.7	Remove concrete wall	lin.m ²	30	\$60.00	\$2,000.00
2.0	New Construction				
2.1	Ledgerock Retaining Wall	m2face	516	\$400.00	\$206,400.00
2.2	Supply and install (medium duty) asphalt paving and bases	m2	1650	\$70.00	\$115,500.00
2.3	Supply and install engineered fill	m2	900	\$20.00	\$18,000.00
2.4	Grading	ls			\$30,000.00
2.5	Benches	ea	3	\$1,200.00	\$3,600.00
2.6	Supply and install sod and topsoil	m2	200	\$10.00	\$2,000.00
2.7	Railing both sides of pathway	lin.m	320	\$350.00	\$112,000.00
2.8	1.2m high chainlink fence	lin.m	90	\$90.00	\$8,100.00
2.9	300mm dia. X 6m culvert w/ ends	ea	1	\$3,000.00	\$3,000.00
2.10	Re-install signage	ls			\$1,500.00
3.0	Sub-Total				\$558,800.00
4.0	Contingency (15%)				\$83,820.00
5.0	Total				\$642,620.00

Toronto Zoo - Site Accessibility Improvement Study

AREA 2: AFRICA REST. TO AMERICA REST.

PRELIMINARY COST ESTIMATE

Option B (Retaining Wall and Bridge)

March 2012

PRELIMINARY COST ESTIMATE					
	Item	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lm	500	\$30.00	\$15,000.00
1.2	Asphalt paving and granular bases	m2	1650	\$20.00	\$33,000.00
1.3	Sodding and 150mm depth topsoil	m2	200	\$6.00	\$1,200.00
1.4	Signage removal and storage	ls			\$2,500.00
1.5	Vegetation Removal	ls			\$3,500.00
1.6	Remove concrete curb	lin.m	220	\$25.00	\$1,500.00
1.7	Remove concrete wall	lin.m	30	\$60.00	\$2,000.00
2.0	New Construction				
2.1	Ledgerock Retaining Wall	m2face	420	\$400.00	\$168,000.00
2.2	Bridge structure	m2	64	\$5,000.00	\$320,000.00
2.2	Supply and install (medium duty) asphalt paving and bases	m2	1650	\$70.00	\$115,500.00
2.3	Supply and install engineered fill	m2	900	\$20.00	\$18,000.00
2.4	Grading	ls			\$30,000.00
2.5	Benches	ea	3	\$1,200.00	\$3,600.00
2.6	Supply and install sod and topsoil	m2	200	\$10.00	\$2,000.00
2.7	Railing both sides of pathway	lin.m	320	\$350.00	\$112,000.00
2.8	1.2m high chainlink fence	lin.m	90	\$90.00	\$8,100.00
2.9	300mm dia. X 6m culvert w/ ends	ea	1	\$3,000.00	\$3,000.00
2.10	Re-Install signage	ls			\$1,500.00
3.0	Sub-Total				\$840,400.00
4.0	Contingency (15%)				\$126,060.00
5.0	Total				\$966,460.00

Toronto Zoo - Site Accessibility Improvement Study
AREA 3: Indo-Malaya to Africa Rainforest
PRELIMINARY COST ESTIMATE

Option A (Extend Boardwalk at Steps)

February 2012

PRELIMINARY COST ESTIMATE					
	Item	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	10	\$30.00	\$300.00
1.2	Remove existing steps & boardwalk and posts	m2	65	\$150.00	\$9,750.00
1.3	Remove existing Boardwalk excluding posts	m2	550	\$100.00	\$55,000.00
1.4	Signage removal and storage	ls			\$1,500.00
1.5	Disconnect LED lighting	ls			\$1,000.00
1.6	Vegetation Removal	ls			\$3,500.00
2.0	New Construction				
2.1	Raise/ lower Boardwalk(new deck)	m2	540	\$450.00	\$243,000.00
2.2	Extend Boardwalk	m2	115	\$600.00	\$69,000.00
2.3	Extend LED lighting	ls			\$5,000.00
2.4	Grading	ls			\$1,000.00
2.5	Re-install signage	ls			\$1,500.00
4.0	Sub-Total				\$390,550.00
5.0	Contingency (15%)				\$58,582.50
6.0	Total				\$449,132.50

Toronto Zoo - Site Accessibility Improvement Study
AREA 3: Indo-Malaya to Africa Rainforest
PRELIMINARY COST ESTIMATE

Option B (Extend Boardwalk at Clearing)

February 2012

PRELIMINARY COST ESTIMATE - AREA 3: Indo-Malaya to Africa Rainforest - OPTION B					
	Item	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	125	\$30.00	\$3,750.00
1.2	Remove existing boardwalk and posts	m2	60	\$150.00	\$9,000.00
1.3	Remove existing Boardwalk excluding posts	m2	555	\$100.00	\$55,500.00
1.4	Signage removal and storage	ls			\$1,500.00
1.5	Vegetation Removal	ls			\$3,500.00
1.6	Disconnect existing LED lighting	ls			\$1,000.00
2.0	New Construction				
2.1	Raise/ lower Boardwalk(new deck)	m2	585	\$450.00	\$263,250.00
2.2	Extend Boardwalk	m2	70	\$600.00	\$42,000.00
2.3	New LED lighting	ls			\$5,000.00
2.4	Grading	ls			\$1,000.00
2.5	Re-install signage	la			\$1,500.00
3.0	Sub-Total				\$387,000.00
4.0	Contingency (15%)				\$58,050.00
5.0	Total				\$445,050.00

**Toronto Zoo - Site Accessibility Improvement Study
AREA 3: Indo-Malaya to Africa Rainforest**

PRELIMINARY COST ESTIMATE

Option C (Accessible Boardwalk - No Ramps (less than 5%))

February 2012

PRELIMINARY COST ESTIMATE					
Item	Description	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	125	\$30.00	\$3,750.00
1.2	Signage removal and storage	ls			\$1,500.00
1.3	Vegetation Removal	ls			\$8,000.00
1.4	Disconnect existing LED lighting	ls			\$1,000.00
1.5	Remove existing Boardwalk excluding posts	m2	615	\$100.00	\$61,500.00
2.0	New Construction				
2.1	Raise/ lower Boardwalk(new deck)	m2	615	\$450.00	\$276,750.00
2.2	Extend Boardwalk	m2	430	\$600.00	\$258,000.00
2.3	New LED lighting	ls			\$5,000.00
2.4	Grading	ls			\$2,000.00
2.5	Supply and install sod and topsoil	m2	200	\$12.00	\$2,400.00
2.6	Re-install signage	ls			\$1,500.00
3.0	Sub-Total				\$621,400.00
4.0	Contingency (15%)				\$93,210.00
5.0	Total				\$714,610.00

Toronto Zoo - Site Accessibility Improvement Study

AREA 4: Parking Lot 2

PRELIMINARY COST ESTIMATE

Option A (New Sidewalk - No Ramps (less than 5%))

March 2012

PRELIMINARY COST ESTIMATE					
Item	Description	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	320	\$25.00	\$8,000.00
1.2	Concrete sidewalk and granular bases	m2	320	\$25.00	\$8,000.00
1.3	Sodding and 150mm depth topsoil	m2	310	\$6.00	\$1,860.00
1.4	Signage removal and storage	ls			\$500.00
1.5	Vegetation Removal	ls			\$3,000.00
2.0	New Construction				
2.1	Concrete sidewalk and granular bases	m2face	500	\$100.00	\$50,000.00
2.2	Grading	ls			\$40,000.00
2.3	Supply and install sod and topsoil	m2	415	\$12.00	\$4,980.00
2.4	Supply and install steel beam guide rail	lin.m	48	\$200.00	\$9,600.00
2.5	Supply and install Retaining Wall	m2face	170	\$400.00	\$68,000.00
2.6	Supply and install Handrail on retaining walls	lm	110	\$350.00	\$38,500.00
2.7	Supply and install Sod and topsoil	m2	600	\$10.00	\$6,000.00
3.0	Sub-Total				\$238,440.00
4.0	Contingency (15%)				\$35,766.00
5.0	Total				\$274,206.00

Toronto Zoo - Site Accessibility Improvement Study

AREA 4: Parking Lot 2

PRELIMINARY COST ESTIMATE

Option B (New Boardwalk - Ramps)

March 2012

PRELIMINARY COST ESTIMATE					
	Item	Unit	Est.	Unit	Total
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	320	\$25.00	\$8,000.00
1.2	Concrete sidewalk and granular bases	m2	320	\$25.00	\$8,000.00
1.3	Sodding and 150mm depth topsoil	m2	310	\$6.00	\$1,860.00
1.4	Signage removal and storage	ls			\$500.00
1.5	Vegetation Removal	ls			\$3,000.00
2.0	New Construction				
2.1	Concrete sidewalk and granular bases	m2face	150	\$100.00	\$15,000.00
2.2	Grading	ls			\$12,000.00
2.3	Supply and install 2.4m wide wooden boardwalk	m2	215	\$350.00	\$75,250.00
2.4	Supply and install sod and topsoil	m2	600	\$12.00	\$7,200.00
2.5	Supply and install steel beam guide rail	lin.m	48	\$200.00	\$9,600.00
2.6	Supply and install Retaining Wall	m2face	70	\$400.00	\$28,000.00
2.7	Supply and install Handrail on retaining walls	lm	110	\$350.00	\$38,500.00
3.0	Sub-Total				\$206,910.00
4.0	Contingency (15%)				\$31,036.50
5.0	Total				\$237,946.50

Toronto Zoo - Site Accessibility Improvement Study
AREA 5: Indo Malaya Bridge
PRELIMINARY COST ESTIMATE

Option A (Realignment of Asphalt Walkway)

February 2012

PRELIMINARY COST ESTIMATE					
	Item	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	140	\$30.00	\$4,200.00
1.2	Asphalt Paving and granular bases	m2	400	\$25.00	\$10,000.00
1.3	Sodding and 150mm depth topsoil	m2	520	\$6.00	\$3,120.00
1.4	Signage removal and storage	ls			\$1,500.00
1.5	Vegetation Removal	ls			\$3,000.00
2.0	New Construction				
2.1	Grading	ls			\$12,000.00
2.2	Supply Medium Duty Asphalt paving and bases	m2	610	\$70.00	\$42,700.00
2.3	Supply and install Granular fill material	m3	460	\$20.00	\$9,200.00
2.4	Supply and install sod and topsoil	m2	600	\$12.00	\$7,200.00
2.5	Supply and install Retaining Wall	m2face	150	\$400.00	\$60,000.00
2.6	Supply and install guard rail	lin.m	110	\$450.00	\$49,500.00
2.7	Supply and install native deciduous trees (70mm cal.)	ea	6	\$450.00	\$2,700.00
2.8	Supply and install shrub plantings	ea	50	\$40.00	\$2,000.00
2.9	Supply and install stone edging at pathway	lin.m	150	\$70.00	\$10,500.00
2.10	Re-installation of signage	ls			\$1,500.00
3.0	Sub-Total				\$219,120.00
4.0	Contingency (15%)				\$32,868.00
5.0	Total				\$251,988.00

Toronto Zoo - Site Accessibility Improvement Study
AREA 5: Indo Malaya Bridge
PRELIMINARY COST ESTIMATE

Option B (Alternate Accessible Asphalt Walkway)

February 2012

PRELIMINARY COST ESTIMATE					
Item	Description	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	130	\$30.00	\$3,900.00
1.2	Sodding and 150mm depth topsoil	m2	360	\$6.00	\$2,160.00
1.3	Signage removal and storage	ls			\$1,500.00
1.4	Vegetation Removal	ls			\$3,000.00
1.5	Asphalt paving and bases	m2	12	\$25.00	\$300.00
2.0	New Construction				
2.1	Grading	ls			\$6,000.00
2.2	Supply Medium Duty Asphalt paving and bases	m2	120	\$70.00	\$8,400.00
2.3	Supply and install granular fill material	m3	120	\$20.00	\$2,400.00
2.4	Supply and install sod and topsoil	m2	330	\$12.00	\$3,960.00
2.5	Supply and install ledgerock retaining walls	m2face	110	\$400.00	\$44,000.00
2.6	Supply and install guard rail	lin.m	50	\$450.00	\$22,500.00
2.7	Re-installation of signage	ls			\$1,500.00
3.0	Sub-Total				\$99,620.00
4.0	Contingency (15%)				\$14,943.00
5.0	Total				\$114,563.00

Toronto Zoo - Site Accessibility Improvement Study
AREA 5: Indo Malaya Bridge
PRELIMINARY COST ESTIMATE

Option C (Alternate Accessible Boardwalk)

February 2012

PRELIMINARY COST ESTIMATE					
Item	Description	Unit	Est. Qty.	Unit Price	Total Amount
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lin.m	130	\$30.00	\$3,900.00
1.2	Sodding and 150mm depth topsoil	m2	360	\$6.00	\$2,160.00
1.3	Signage removal and storage	ls			\$1,500.00
1.4	Vegetation Removal	ls			\$3,000.00
2.0	New Construction				
2.1	Supply and install boardwalk	m2	86	\$400.00	\$34,400.00
2.2	Supply and install asphalt paving and bases	m2	35	\$70.00	\$2,450.00
2.3	Grading	ls			\$2,500.00
2.4	Supply and install sod and topsoil	m2	330	\$12.00	\$3,960.00
3.0	Sub-Total				\$53,870.00
4.0	Contingency (15%)				\$8,080.50
5.0	Total				\$61,950.50

Toronto Zoo - Site Accessibility Improvement Study
AREA 6: AFRICA REST. TO TWIGA REST.
PRELIMINARY COST ESTIMATE

Option A (Retaining Walls/ Edging and Grading)

January 2012

PRELIMINARY COST ESTIMATE					
Item No.	Item	Unit	Est. Qty.	Unit Price	Total
1.0	Demolition, Removal and Disposal				
1.1	Hoarding/construction fence installation and removal	lm	280	\$30.00	\$8,400.00
1.2	Asphalt paving and granular bases	m2	1425	\$20.00	\$28,500.00
1.3	Unit Paving and Bases	m2	80	\$30.00	\$2,400.00
1.4	Sodding and 150mm depth topsoil	m2	250	\$6.00	\$1,500.00
1.5	Signage removal and storage	ls			\$2,000.00
1.6	Vegetation Removal	ls			\$1,500.00
1.7	Chainlink Fence Removal	lin.m	135	\$20.00	\$2,700.00
1.8	Railing	lin.m	40	\$40.00	\$1,600.00
1.9	Removal and storage of rock edging and retaining walls for re-use	lin.m	180	\$30.00	\$5,400.00
2.0	New Construction				
2.1	Supply and install (medium duty) coloured asphalt paving and bases	m2	1125	\$90.00	\$101,250.00
2.2	Supply and install heavy duty asphalt paving and bases	m2	300	\$90.00	\$27,000.00
2.3	Ledgerrock Edging (re-used ledgerrock)	lin.m	180	\$90.00	\$16,200.00
2.4	Ledgerrock Edging (new ledgerrock)	lin.m	50	\$150.00	\$7,500.00
2.5	Grading	ls			\$15,000.00
2.6	Benches	ea	3	\$1,200.00	\$3,600.00
2.7	Supply and install sod and topsoil	m2	200	\$10.00	\$2,000.00
2.8	Railing	lin.m	40	\$350.00	\$14,000.00
2.9	1.2m high chainlink fence	lin.m	135	\$90.00	\$12,150.00
2.10	Re-install signage	ls			\$1,500.00
2.11	Sod and topsoil	m2	500	\$12.00	\$6,000.00
2.12	Adjustment to Viewing area and Artificial Rockwork	ls			\$30,000.00
3.0	Sub-Total				\$290,200.00
4.0	Contingency (15%)				\$43,530.00
5.0	Total				\$333,730.00