



Stantec Consulting Services Inc.
146 Main Street, Unit 3
Hyannis, Massachusetts 02601-3128

August 3, 2021
File: 852048

Attention: Tom Grimble
Land Management Committee for Lone Tree Hill
Town Clerk's Office, Town Hall
455 Concord Ave, Ground Floor
Belmont, MA 02478

Reference: McLean Hospital Proposed Drainage Improvements and Western Greenway Fire Road Repairs

Dear Mr. Grimble,

Stantec Consulting Services Inc. (Stantec) is pleased to provide this proposal for hydrologic and hydraulic modeling and drainage improvement design services to the Land Management Committee for Lone Tree Hill (LMC/Client) to address stability concerns at two locations along the Western Greenway fire road (Project). The Project is located within the McLean Hospital property, to the south of the facility and north of Pleasant Street (Route 60) in Belmont, Massachusetts.

Based on our recent field visit and correspondence with the Client, Stantec understands that in-channel debris jams have resulted in overtopping of the existing ditch at the downstream location, leading to scour along the fire road. Stantec anticipates that only minor disturbance and grading will be required at this location to remove in-channel debris and stabilize the existing ditch. Similarly, erosion at the upstream location has resulted from storm flows off of the exiting paved lot and adjacent areas behind the hospital. Stantec anticipates realignment of the existing ditch and conveyance design at this location to route stormflows to a natural depressional area for storage and infiltration. Feasibility of this approach will be evaluated during the design process.

The following Scope of Services outlines tasks related to preparation of planning-level ditch design and remedial activities that will address erosion in the two identified problem areas, improve stormwater management, and protect stability of the fire road during storm flows. This will be accomplished through development of a new alignment and sizing of a ditch with adequate capacity intended to convey storm flows to natural infiltration areas. Optional Tasks 5 and 6 are not included in the cost estimate; however, they may be added as a scope modification or amendment, if desired.

Scope of Services

Task 1. Data Acquisition

Stantec will gather relevant information that will support design. Data gathering may include obtaining current geospatial base data, precipitation data, land use areal coverages, and other site-specific information. Stantec assumes that geospatial base data, including existing 1-ft contours, are available

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publicly or will be provided by the Client. This task includes time for base data acquisition, review, and formatting to integrate existing conditions information into AutoCAD for subsequent design purposes.

During the hydrologic analysis (Task 2), if subsurface stormwater networks are included in the drainage area and are either not clearly delineated or available as a GIS data layer provided by the Client or other source, Stantec will need to conduct a drainage area verification by ground-truthing the delineated watershed boundary and verifying any subsurface infrastructure. Drainage area verification is not included in this scope and fee, and if it becomes necessary, an amendment request will be required.

Following implementation of available base data, a pre-design meeting will be held between Stantec's Project Manager and the client to discuss and gain concurrence on conceptual approach. This meeting will be held via teleconference and will be approximately one hour in duration.

Task 2. Hydrologic and Hydraulic Analysis

Stantec will perform hydrologic analyses for the proposed drainage improvements within the study area. Stantec assumes a single point of investigation for determining runoff rates to inform design parameters. We will take a simplified approach using the Rational Method equation to determine the discharge rates for the 10-yr and 25-yr return intervals. We will develop drainage area boundaries, determine the runoff coefficient for the site, and determine the rainfall intensity for a conservative rainfall duration. The hydrologic analysis will be a conservative estimate of the runoff for design, given the simplified analysis and without performing field drainage area verification; however, scope and fee may be modified if field verification is desired. Rainfall intensity curves and runoff coefficients will be determined based on the *Hydrology Handbook for Conservation Commissioners: A Guide to Understanding Hydrologic and Hydraulic Data and Calculations Under the Massachusetts Wetlands Protection Act*.

Stantec will perform hydraulic analysis for proposed drainage improvements within the study area. A simple model such as Hydraulic Toolbox or Manning's Equation will be applied iteratively throughout the design process. Stantec anticipates designing the proposed drainage features to convey the 10-year storm event in accordance with MassDEP Erosion and Sediment Control Guidelines but may select a more conservative design storm to be conveyed if site and construction considerations warrant it. Stantec will prepare a brief summary of hydrologic and hydraulics analysis, with drainage area mapping and model output, to support the design.

Task 3. Design Plan

Stantec will prepare plan sheets (Plans) to guide construction of the proposed drainage improvements. The plan set will be condensed into 1-2 sheets and include the following elements:

- Proposed Ditch Alignment with Existing Conditions Base Data (Planview),
- Typical Cross-sections,

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- Construction Notes and Details

On completion, the Plans will be transmitted to the client in electronic format as a PDF document. The Plans will not include an Erosion and Sediment Control Plan or a Planting Plan under this scope and fee; however, they may be added as an amendment if desired by the Client.

Stantec will also perform velocity and shear stress calculations to size conveyance bed material to maintain stability during design storm events. Results will be included in the technical memorandum described in Task 4.

Task 4. Reporting and Deliverables

Stantec will prepare a brief technical memorandum or letter format report to accompany the Plans, summarizing analytical methods and results and will describe the proposed design approach and elements for documentation purposes. One round of Client review and revision of the Plans and technical memorandum is included in this cost estimate, and necessary revisions are assumed to be relatively minor without conceptual changes to the design approach agreed upon during the pre-design meeting. On completion of the draft deliverables, Stantec will schedule a teleconference review meeting to seek concurrence with the Client, resolve any questions, and identify necessary updates. The deliverables will then be finalized and transmitted to the Client in electronic PDF format. Note that these deliverables are for planning purposes as guidance for the selected contractor; however, they do not represent a full construction-level set of sealed engineering drawings.

Optional Task 5. Wetland Delineation

A wetland delineation will be required to determine potential impacts associated with construction of the proposed stormwater improvements for permitting purposes. This optional task is not included in the current cost total; however, it may be scoped separately if added as an amendment. Performing this optional task is advisable to evaluate design feasibility in consideration of minimization and avoidance of wetland impacts that could require mitigation and agency coordination.

If included in this Scope of Services, Stantec will conduct a detailed delineation of waters of the U.S., including wetlands (WOUS) within the Project area, subject to jurisdiction by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. Stantec will utilize the Routine Determination Method as outlined in the 1987 Corps of Engineers Wetland Delineation Manual and methods described in the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) to identify and delineate the wetland boundaries on the property. Stantec will prepare a preliminary review of archival information of wetland features on-site, including available resources such as National Wetlands Inventory (NWI) Maps, U.S. Geologic Survey (USGS) topographic maps, aerial color infrared photography, and soils maps. Site visits will then be conducted to delineate and flag the boundaries of wetlands and other WOUS. The flagging will be numbered sequentially to assist in survey location. We will record the necessary data to complete the wetland delineation data sheets, which are required by the USACE for confirmation. Stantec will prepare a technical memorandum to document the results of the wetland delineation; however, this task does not include agency coordination or permitting services.

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Optional Task 6. Pavement Removal and Supplemental Drainage Improvements

This optional task is not included in the current cost total; however, it may be added as a scope and fee modification or amendment. If desired, Stantec will prepare plan sheets and relevant notes and details to support removal of paved surfaces within the areas draining to the Project. Green infrastructure and planting treatments will be proposed to convert these areas to pervious cover types that will reduce runoff and provide treatment functions. Stantec will also evaluate opportunities to divert stormwater sheet flow away from portions of the lot that may be at risk of scour/erosion and redirect them to the improved stormwater conveyance developed under this Scope of Services. This task may be further refined in coordination with the Client and may be added as an amendment, if desired.

Assumptions/Exclusions

- Plans and other deliverables are for planning purposes as guidance for the selected contractor, but they will not be sealed as complete construction-level drawings.
- Permitting services and agency coordination are not included in this scope and fee.
- Stantec is not responsible for construction of the Project or construction contracting services.
- Construction oversight is not included in this scope and fee.
- Construction cost estimates are not included in this scope and fee.
- This scope and fee does not include preparation of a technical specifications book or specifications beyond those presented in the Plans.
- Erosion and Sediment Control plans are not included in this scope and fee.
- Planting Plan is not included in this scope and fee.
- Construction bid support, including contractor evaluation, is not included in this scope and fee.
- The optional tasks may be refined and scoped as an amendment, if desired, and are not included in the provided cost estimate.
- If subsurface stormwater infrastructure is determined to be within the drainage area, a field verification may be necessary for hydrologic analysis and design. This is not included in the current cost but will need to be added as a modification to scope and fee if available data do not allow clear delineation of drainage to the Project.
- Deliverables will be provided to the Client in electronic format.
- Any exclusions listed herein, or other tasks not specifically identified in this Scope of Services, may be added as an amendment to the contract.

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Cost

The Scope of Services is proposed to be charged on a time and materials basis, not to exceed **\$13,739** without prior approval from the Client. Non-labor charges (mileage, reproduction, field supplies, etc.) are included in the fee estimate.

Task No.	Task Description	Subtotals
1	Data Acquisition	\$914
2	Hydrologic and Hydraulic Analysis	\$6,415
3	Design Plan Preparation	\$3,426
4	Reporting and Deliverables	\$2,984
Total		\$13,739
OT5	Wetland Delineation (optional)	TBD
OT6	Pavement Removal and Supplemental Drainage Improvements (optional)	TBD

The scope of services will be in accordance with Stantec's standard Professional Services Terms and Conditions (attached). Please note that this cost estimate is valid for a period of 90 days from the date of the proposal and any required services not directly covered by this proposal will be completed on a time and materials basis under a separate scope of services or amendment. If all of the provisions stated above meet with your approval, please sign at the end of this document.

Stantec appreciates the opportunity to assist you with this project, and we look forward to working with you. If you have questions about anything contained in this proposal, please feel free to contact me at matt.lajoie@stantec.com or by cell: (603) 731-9688.

Regards,

Stantec Consulting Services Inc.



Matt Lajoie
Associate, Senior Project Manager
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Lin Liang, P.E., BCEE
U.S. North Region Wet Weather Sector Leader
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By signing this proposal, Land Management Committee for Lone Tree Hill authorizes Stantec to proceed with the services herein described and the Client acknowledges that it has read and agrees to be bound by the attached Professional Services Terms and Conditions.

This proposal is accepted and agreed on the Day day of Month, Year.

Per: Land Management Committee for Lone Tree Hill

Tom Grimble, McLean Hospital Appointee

Print Name & Title

Signature

c. Stantec File



The following Terms and Conditions are attached to and form part of a proposal for services to be performed by Consultant and together, when the Client authorizes Consultant to proceed with the services, constitute the Agreement. Consultant means the Stantec entity issuing the Proposal.

DESCRIPTION OF WORK: Consultant shall render the services described in the Proposal (hereinafter called the "Services") to the Client.

DESCRIPTION OF CLIENT: The Client confirms and agrees that the Client has authority to enter into this Agreement on its own behalf and on behalf of all parties related to the Client who may have an interest in the Project.

TERMS AND CONDITIONS: No terms, conditions, understandings, or agreements purporting to modify or vary these Terms and Conditions shall be binding unless hereafter made in writing and signed by the Client and Consultant. In the event of any conflict between the Proposal and these Terms and Conditions, these Terms and Conditions shall take precedence. This Agreement supercedes all previous agreements, arrangements or understandings between the parties whether written or oral in connection with or incidental to the Project.

COMPENSATION: Payment is due to Consultant upon receipt of invoice. Failure to make any payment when due is a material breach of this Agreement and will entitle Consultant, at its option, to suspend or terminate this Agreement and the provision of the Services. Interest will accrue on accounts overdue by 30 days at the lesser of 1.5 percent per month (18 percent per annum) or the maximum legal rate of interest. Unless otherwise noted, the fees in this agreement do not include any value added, sales, or other taxes that may be applied by Government on fees for services. Such taxes will be added to all invoices as required.

NOTICES: Each party shall designate a representative who is authorized to act on behalf of that party. All notices, consents, and approvals required to be given hereunder shall be in writing and shall be given to the representatives of each party.

TERMINATION: Either party may terminate the Agreement without cause upon thirty (30) days notice in writing. If either party breaches the Agreement and fails to remedy such breach within seven (7) days of notice to do so by the non-defaulting party, the non-defaulting party may immediately terminate the Agreement. Non-payment by the Client of Consultant's invoices within 30 days of Consultant rendering same is agreed to constitute a material breach and, upon written notice as prescribed above, the duties, obligations and responsibilities of Consultant are terminated. On termination by either party, the Client shall forthwith pay Consultant all fees and charges for the Services provided to the effective date of termination.

ENVIRONMENTAL: Except as specifically described in this Agreement, Consultant's field investigation, laboratory testing and engineering recommendations will not address or evaluate pollution of soil or pollution of groundwater.

PROFESSIONAL RESPONSIBILITY: In performing the Services, Consultant will provide and exercise the standard of care, skill and diligence required by customarily accepted professional practices normally provided in the performance of the Services at the time and the location in which the Services were performed.

INDEMNITY: The Client releases Consultant from any liability and agrees to defend, indemnify and hold Consultant harmless from any and all claims, damages, losses, and/or expenses, direct and indirect, or consequential damages, including but not limited to attorney's fees and charges and court and arbitration costs, arising out of, or claimed to arise out of, the performance of the Services, excepting liability arising from the sole negligence of Consultant.

LIMITATION OF LIABILITY: It is agreed that the total amount of all claims the Client may have against Consultant under this Agreement, including but not limited to claims for negligence, negligent misrepresentation and/or breach of contract, shall be strictly limited to the lesser of professional fees paid to Consultant for the Services or \$50,000.00. No claim may be brought against Consultant more than two (2) years after the cause of action arose. As the Client's sole and exclusive remedy under this Agreement any claim, demand or suit shall be directed and/or asserted only against Consultant and not against any of Consultant's employees, officers or directors.

Consultant's liability with respect to any claims arising out of this Agreement shall be absolutely limited to direct damages arising out of the Services and Consultant shall bear no liability whatsoever for any consequential loss, injury or damage incurred by the Client, including but not limited to claims for loss of use, loss of profits and/or loss of markets.

Liability of Consultant shall be further limited to such sum as it would be just and equitable for Consultant to pay having regard to the extent of its responsibility for the loss or damage suffered and on the assumptions that all other consultants and all contractors and sub-contractors shall have provided contractual undertakings on terms no less onerous than those set out in this Agreement to the Client in respect of the carrying out of their obligations and have paid to the Client such proportion of the loss and damage which it would be just and equitable for them to pay having regard to the extent of their responsibility.

DOCUMENTS: All of the documents prepared by or on behalf of Consultant in connection with the Project are instruments of service for the execution of the Project. Consultant retains the property and copyright in these documents, whether the Project is executed or not. These documents may not be used for any other purpose without the prior written consent of Consultant. In the event Consultant's documents are subsequently reused or modified in any material respect without the prior consent of Consultant, the Client agrees to defend, hold harmless and indemnify Consultant from any claims advanced on account of said reuse or modification.

Any document produced by Consultant in relation to the Services is intended for the sole use of Client. The documents may not be relied upon by any other party without the express written consent of Consultant, which may be withheld at Consultant's discretion. Any such consent will provide no greater rights to the third party than those held by the Client under the contract, and will only be authorized pursuant to the conditions of Consultant's standard form reliance letter.

Consultant cannot guarantee the authenticity, integrity or completeness of data files supplied in electronic format ("Electronic Files"). Client shall release, indemnify and hold Consultant, its officers, employees, Consultant's and agents harmless from any claims or



damages arising from the use of Electronic Files. Electronic files will not contain stamps or seals, remain the property of Consultant, are not to be used for any purpose other than that for which they were transmitted, and are not to be retransmitted to a third party without Consultant's written consent

FIELD SERVICES: Consultant shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with work on the Project, and shall not be responsible for any contractor's failure to carry out the work in accordance with the contract documents. Consultant shall not be responsible for the acts or omissions of any contractor, subcontractor, any of their agents or employees, or any other persons performing any of the work in connection with the Project. Consultant shall not be the prime contractor or similar under any occupational health and safety legislation.

GOVERNING LAW/COMPLIANCE WITH LAWS: The Agreement shall be governed, construed and enforced in accordance with the laws of the jurisdiction in which the majority of the Services are performed. Consultant shall observe and comply with all applicable laws, continue to provide equal employment opportunity to all qualified persons, and to recruit, hire, train, promote and compensate persons in all jobs without regard to race, color, religion, sex, age, disability or national origin or any other basis prohibited by applicable laws.

DISPUTE RESOLUTION: If requested in writing by either the Client or Consultant, the Client and Consultant shall attempt to resolve any dispute between them arising out of or in connection with this Agreement by entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. The Parties agree that any actions under this Agreement will be brought in the appropriate court in the jurisdiction of the Governing Law, or elsewhere by mutual agreement. Nothing herein however prevents Consultant from any exercising statutory lien rights or remedies in accordance with legislation where the project site is located.

ASSIGNMENT: The Client shall not, without the prior written consent of Consultant, assign the benefit or in any way transfer the obligations under these Terms and Conditions or any part hereof.

SEVERABILITY: If any term, condition or covenant of the Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions of the Agreement shall be binding on the Client and Consultant.

FORCE MAJEURE: Any default in the performance of this Agreement caused by any of the following events and without fault or negligence on the part of the defaulting party shall not constitute a breach of contract, labor strikes, riots, war, acts of governmental authorities, unusually severe weather conditions or other natural catastrophe, disease, epidemic or pandemic, or any other cause beyond the reasonable control or contemplation of either party. Nothing herein relieves the Client of its obligation to pay Consultant for services rendered.

COVID-19: The parties acknowledge the ongoing COVID-19 pandemic and agree that the fee and schedule in the proposal is based on what is currently understood. Where conditions change, the parties may have further discussions to manage and mitigate the impact of this evolving situation on the Project.

CONTRA PROFERENTEM: The parties agree that in the event this Agreement is subject to interpretation or construction by a third party, such third party shall not construe this Agreement or any part of it against either party as the drafter of this Agreement.

FLORIDA CONTRACTS: PURSUANT TO FLORIDA STATUTES CHAPTER 558.0035 AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR DAMAGES RESULTING FROM NEGLIGENCE.