



A1. CONTRACT ADVISOR

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Construction

Request for Proposals (RFP)

for

Performance of the work as described in Appendix "A" – Statement of Work of the draft contract.

A2. TITLE Supply and Installation of New Underground Fuel Tank for the Embassy of Canada to Zimbabwe		
A3. SOLICITATION NUMBER 23-218703	A4. PROJECT NUMBER N/A	A5. DATE November 3, 2022
A6. RFP DOCUMENTS <ol style="list-style-type: none"> 1. Request for Proposals (RFP) title page 2. Submission Requirements (Section "I") 3. Evaluation and Basis of Selection (Section "II") 4. Tender Form (Section "III") 5. Certifications (Section "IV") 6. General Instructions (Section "V") 7. Draft Contract <p>In the event of discrepancies, inconsistencies or ambiguities of the wording of these documents, the document that appears first on the above list shall prevail.</p>		
A7. PROPOSAL DELIVERY In order for the proposal to be valid, it must be received no later than 14:00 Eastern Standard Time on December 6, 2022 referred to herein as the "Closing Date". Electronic proposals must be sent only to the following email address: realproperty-contracts@international.gc.ca		
A8. TENDER FORM The completed Tender Form (Section "III") must be in a separate attachment named "Tender Form". The information required in section 4.0 must appear on the Tender Form (Section "III") only. Failure to comply may result in the proposal being declared non-compliant and rejected from further consideration.		
A9. LANGUAGE Proposals shall be submitted in English or French.		
A10. ENQUIRIES All enquiries or issues concerning this RFP must be submitted in writing to the Contract Advisor no later than three (3) business days prior to the Closing Date and Time in order to allow sufficient time to provide a response.		
A11. BIDDERS' CONFERENCE A Bidders' conference will be held virtually on November 15, 2022 . The conference will begin at 14:00 (local time in Harare, Zimbabwe). The scope of the requirement outlined in the bid solicitation will be reviewed during the conference and questions will be answered. It is recommended that Bidders who intend to submit a proposal attend or send a representative. Bidders are requested to communicate with the Contract Advisor before the conference to confirm attendance. Bidders should provide, in writing, to the Contract Advisor, the name(s) of the person(s) who will be attending and a list of issues they wish to table no later than three (3) business days prior to the conference. Any clarifications or changes to the bid solicitation resulting from the Bidders' conference will be included as an amendment to the bid solicitation. Bidders who do not attend will not be precluded from submitting a proposal.		
A12. CONTRACT DOCUMENTS The draft contract which the selected Bidder will be expected to execute is included with this RFP. Bidders are advised to review it in detail and identify any problematic clauses to the Contract Advisor in accordance with A10 - Enquiries. Her Majesty reserves the right not to make any amendment(s) to the Contract Documents.		
A13. BID SECURITY The Bidder shall submit a bid security in the amount as described in C4.		



SECTION "I" – SUBMISSION REQUIREMENTS

SI1 SUBMISSION OF PROPOSAL

- 1.1 Proposals must be received by the Department of Foreign Affairs, Trade and Development (DFATD) at the email address identified and by the date and time specified on page 1 of the solicitation.
- 1.2 Bidders should ensure that their name and the solicitation number is clearly referenced in the email subject line. It is the responsibility of the Bidder to confirm that their submission has been received on time and to the correct email address.
- 1.3 More than one (1) e-mail can be sent if necessary. If the same file is sent twice, the latest file received will be used for evaluation purposes and the previous one(s) will not be opened.
- 1.4 Her Majesty requests that Bidders provide their electronic proposals in Portable Document Format (.pdf) software application files or Microsoft office version 2003 or greater files.
- 1.5 Bidders should follow the specifications format instructions described below, during the preparation of their proposal:
 - Minimum type face of 10 points.
 - All material be formatted to print on 8.5" x 11" or A4 paper.
 - For clarity and comparative evaluation, the Bidder should respond using the same subject headings and numbering structure as in this RFP document.
- 1.6 Proposals may be modified or resubmitted only before the solicitation Closing Date and Time, and must be done in writing. The latest proposal received will supersede any previously received proposals.
- 1.7 Her Majesty will take no responsibility if a proposal is not received on time because the e-mail was refused by a server for the following reasons:
 - The size of attachments exceeds 10 MB.
 - The e-mail was rejected or put in quarantine because it contains executable code (including macros).
 - The e-mail was rejected or put in quarantine because it contains files that are not accepted by DFATD server, such as, but not limited to, .rar, encrypted .zip, encrypted .pdf, .exe., etc.
- 1.8 Links to an online storage service (such as Google Drive™, Dropbox™, etc.) or to another website, a File Transfer Protocol (FTP) service access, or any other mean of transferring files, will not be accepted. All documents submitted must be attached to the e-mail.
- 1.9 It is strongly recommended that Bidders confirm with the Contract Advisor that their complete proposal was received. For this same reason, it is recommended that in cases where more than one (1) e-mail containing documents comprising the proposal is submitted, the emails be numbered and the total number of emails sent in response to the solicitation also be identified.
- 1.10 Her Majesty requires that each proposal, at Closing Date and Time or upon request from the Contract Advisor, be signed by the Bidder or by an authorized representative of the Bidder. If any required signature(s) are not submitted as requested, the Contract Advisor may inform the Bidder of a time frame within which to provide the signature(s). Failure to comply with the request of the Contract Advisor and to provide the signature(s) within the time frame provided may render the proposal non-responsive.



- 1.11** It is the Bidder's responsibility to:
- obtain clarification of the requirements contained in the RFP, if necessary, before submitting a proposal;
 - prepare its proposal in accordance with the instructions contained in the RFP;
 - submit by Closing Date and Time a complete proposal;
 - send its proposal only to the email address specified on page 1 of the bid solicitation;
 - ensure that the Bidder's name, and the solicitation number are in the subject line of the email containing the proposal; and
 - provide a comprehensible and sufficiently detailed proposal, including all requested pricing details, that will permit a complete evaluation in accordance with the criteria set out in the RFP.
- 1.12** Unless specified otherwise in the RFP, Her Majesty will evaluate only the documentation provided with a Bidder's proposal. Her Majesty will not evaluate information such as references to Web site addresses where additional information can be found, or technical manuals or brochures not submitted with the proposal.
- 1.13** A proposal cannot be assigned or transferred in whole or in part.



SECTION "II" – EVALUATION AND BASIS OF SELECTION

1.0 TECHNICAL PROPOSAL

- 1.1 The evaluation will be based solely on the content of the responses and any correctly submitted amendment. No assumptions should be made that Her Majesty has any previous knowledge of the Bidders' qualifications other than that supplied pursuant to this RFP.
- 1.2 The Bidder's technical proposal **must not** exceed sixty (60) single-sided pages of 8½ "x 11" paper, minimum type face 10 pts., including organization charts and schedule. Material exceeding the sixty (60) page maximum will **NOT** be considered.

2.0 MANDATORY REQUIREMENTS

If the company or its resources do not meet all of the mandatory requirements, the proposal will be deemed non-compliant and will not receive further consideration.

Mandatory Criteria	Description	Compliance	Provide location in proposal where substantiation can be found.
M1	<p>Bidder's must submit three (3) installation of Underwriters Laboratory Canada (ULC) compliant Underground Fuel Tank (UFT) projects of similar size and scope of the SOW, that have been completed in the last five (5) years.</p> <p>Each project must have at a minimum of three (3) of the following works performed by the Bidder;</p> <ul style="list-style-type: none"> • Works associated with the installation of a UHT; • Concrete and paving; • Earthwork; • Hazardous/Non-hazardous waste disposal; • Installation of above ground pump; • Electrical; • Landscaping. <p>Should more than three (3) projects be submitted, only the first three (3) will be evaluated.</p> <p>These projects will be evaluated as part of PR1 of the Point Rated Criteria.</p>	<p>Bidder must provide the following for each project:</p> <ul style="list-style-type: none"> • Title of project; • Location of project • Description of services provided by the Bidder; and <ul style="list-style-type: none"> • Work period Start date (month, year) and End date (month, year) 	
M2	<p>Bidder must possess a current Commercial License for Contracting Building work on commercial property, granted by the relevant state management agencies in charge of</p>	<p>Bidder must provide a copy of their current Commercial Licence and proof of the following licences:</p>	



	<p>construction and be registered as Practitioner /Consultant with the Environmental Management Agency.</p>	<ul style="list-style-type: none"> • Commercial Contracting Building Work for commercial Property; • Certification for installation of Underground Storage Tanks • Environment. 	
M3	<p>The Bidder must propose a Site Manager that has at least five (5) years' on-site experience as a Site Manager, gained within the last 10 years.</p> <p>The Site Manager's responsibilities must have included the successful implementation of construction projects while coordinating teams of sub-contractors and directly engaged workers from start to finish.</p>	<p>The Bidder must:</p> <ul style="list-style-type: none"> • Demonstration the Site Manager was responsible for the coordination of teams of sub-contractors and directly engaged workers; • Demonstration that the Site Manager has five plus (5+) years' experience being an on-site Site Manager; and • Provide a CV that demonstrates that experience is within the last ten (10) years and Summary of the Site Manager's overall work experience. 	
M4	<p>The Bidder must provide a complete Project Schedule or Work Plan from contract award to project completion.</p> <p>The schedule must include the following details:</p> <ul style="list-style-type: none"> • An overall Project Schedule or Work Plan, with a detailed breakdown of the work to be performed each day and by which resources; <p>The Project Schedule or Work Plan will be point rated below in PR2.</p>	<p>The Project Schedule or Work Plan must include the following criterion:</p> <ul style="list-style-type: none"> • An anticipated start and end date of construction, based on duration (hours, days, and/or weeks) not actual dates; • A logical sequence of key milestones based on the SOW; • All associated tasks related to each identified milestone; • Provide the number of resources; 	



M1 PROJECT 1	
Project Title	
Project Location	City: Country:
Project start and end dates (<i>Start date must be after 01 January 2017</i>)	Start date of project (month/year): _____ End date of project (month/year): _____
Description of the Project	
<p>The Bidder must submit one (1) project of similar size and scope of the SOW, that have been completed in the last five (5) years.</p> <p>Each project must have at a minimum of three (3) of the following works performed by the Bidder;</p> <ul style="list-style-type: none"> • Works associated with the installation of a UHT; • Concrete and paving; • Earthwork; • Hazardous/Non-hazardous waste disposal; • Installation of above ground pump; • Electrical; • Landscaping. 	



MT1 PROJECT 2	
Project Title	
Project Location	City: Country:
Project start and end dates (<i>Start date must be after 01 January 2017</i>)	Start date of project (month/year): _____ End date of project (month/year): _____
Description of the Project	
<p>The Bidder must submit one (1) project of similar size and scope of the SOW, that have been completed in the last five (5) years.</p> <p>Each project must have at a minimum of three (3) of the following works performed by the Bidder;</p> <ul style="list-style-type: none"> • Works associated with the installation of a UHT; • Concrete and paving; • Earthwork; • Hazardous/Non-hazardous waste disposal; • Installation of above ground pump; • Electrical; • Landscaping. 	



MT1 PROJECT 3	
Project Title	
Project Location	City: Country:
Project start and end dates (<i>Start date must be after 01 January 2017</i>)	Start date of project (month/year): _____ End date of project (month/year): _____
Description of the Project	
<p>The Bidder must submit one (1) project of similar size and scope of the SOW, that have been completed in the last five (5) years.</p> <p>Each project must have at a minimum of three (3) of the following works performed by the Bidder;</p> <ul style="list-style-type: none"> • Works associated with the installation of a UHT; • Concrete and paving; • Earthwork; • Hazardous/Non-hazardous waste disposal; • Installation of above ground pump; • Electrical; • Landscaping. 	



3.0 Point-Rated Criteria (Total of 20 Points)

PR1: Corporate Experience

Intent: Evaluate the Proponents recent corporate experience on projects of similar size and scope to the SOW.

Submission Requirement	Scoring Criteria
<p><i>Description:</i> Adequate experience consists of 3 recent projects of the same size and scope, or an equivalent combination of larger and smaller projects, completed within the past five (5) years.</p> <p><i>Compliance:</i> Corporate Experience should include the following criterion: a) Title and location of the project; b) Brief description of the project scope, cost and schedule. c) Dates of participation in the project; d) Describe how the project was similar to the size and scope of works in the SOW; and e) Size of the team/ number of resources involved in the installation component.</p> <p>For a proposal to receive higher marks, it must demonstrate how the projects are similar in size, scope and complexity to the scope of work found in the SOW.</p> <p>Projects can include a mix of domestic and/or international works.</p> <p>Should more than three (3) projects be submitted, only the first three (3) will be evaluated.</p>	<p>10 points Bidder fully addresses all aspects of the criterion found under the <i>compliance</i> section.</p> <p>8 points Bidder addresses most aspects of the criterion, demonstrates the ability to meet the requirements and some details outlined in the attached SOW.</p> <p>6 points Bidder does not address all aspects of the criterion, demonstrates some understanding of the requirements outlined in the attached SOW.</p> <p>4 points Bidder does not address all aspects of the criterion nor is evidence presented indicating the likelihood of successfully meeting the requirements outlined in the attached SOW. Significant weaknesses are demonstrated and clearly outweigh any strengths presented.</p> <p>0 points Bidder does not address any aspects of the criterion and the information presented indicates a strong likelihood of failure to meet the requirements outlined in the attached SOW.</p>



PR2: Work Plan

Intent: Evaluate the Bidder’s approach to ensure the scope is understood and services will be delivered according to the SOW.

Submission Requirement	Scoring Criteria
<p><i>Description:</i> Adequate response consists of an effective delivery strategy to meet the requirements of the Statement of Work (SOW) and a clear description of how the team will be effectively managed.</p> <p><i>Compliance:</i> The Work Plan or Project Schedule provided in M5 should include the following criterion: a) A strategy for how requirements in the attached SOW will be addressed, including the size and composition of the proposed team (including any sub-contractors/trades); and b) Clearly indicating the estimated number of hours/days for key project activities on-site with milestones; and c) identify any challenges or risks and describe how they will be mitigated.</p> <p>For a proposal to receive higher marks, it must demonstrate the strategy for delivering the project and describe in detail how the various components of the Bidder’s Team relate to each other, assist each other and communicate with each other.</p>	<p>10 points Bidder fully addresses all aspects of the criterion found under the <i>compliance</i> section.</p> <p>8 points Bidder addresses most aspects of the criterion, demonstrates the ability to meet the requirements and some details outlined in the attached SOW.</p> <p>6 points Bidder does not address all aspects of the criterion, demonstrates some understanding of the requirements outlined in the attached SOW.</p> <p>4 points Bidder does not address all aspects of the criterion nor is evidence presented indicating the likelihood of successfully meeting the requirements outlined in the attached SOW. Significant weaknesses are demonstrated and clearly outweigh any strengths presented.</p> <p>0 points Bidder does not address any aspects of the criterion and the information presented indicates a strong likelihood of failure to meet the requirements outlined in the attached SOW.</p>



4.0 TENDER FORM (20 POINTS) 60/40 RATIO

4.1 All the information required in section 4.0 must appear on Section “III” – Tender Form ONLY and must be included in a separate attachment named “Tender Form”. Failure to comply may result in the proposal being declared non-compliant and rejected from further consideration.

4.2 Firm Price

4.2.1 Bidders shall quote an all-inclusive firm price (excluding the cost of The Minister’s services and equipment\urniture) on the form attached as Section “III” – Tender Form. The firm price must include, but not necessarily be limited to, all costs resulting from the performance of the Work as described in this RFP, all costs resulting from the performance of any additional Work described in the Bidder’s Proposal (unless clearly described as an option), all travel, living costs and all overhead costs including disbursements;

4.2.2 Bidders shall estimate the value of the taxes (including VAT as per 4.3) expected to be payable by Her Majesty as a result of entering into a contract with the Bidder;

4.2.3 All payments shall be made according to the terms of payment set out in the attached draft contract;

4.2.4 Exchange rate fluctuation protection is not offered; and

4.2.5 Tender Forms not meeting the above requirements will not be given any further consideration.

4.3 Taxes & Duties

4.3.1 Bidders are to provide full details concerning the applicability, amount and administration of the payment of all taxes (including VAT as described below) and duties (including import duties) payable in respect of the Work, as well as any possible exemption from all or part of same.

4.3.2 Her Majesty will pay the VAT specified in the Tender Form provided:

4.3.2.1 that amount is applicable to the Work provided by the Contractor to Her Majesty under the Contract. Her Majesty will not be responsible for the payment of any VAT payable by the Bidder to any third party (including Subcontractors);

4.3.2.2 Her Majesty is unable to procure an exemption from VAT in respect of the Work;

4.3.2.3 the Bidder agrees to render every reasonable assistance to Her Majesty in obtaining reimbursement of all VAT paid in respect of the Work from the appropriate Government Agency;

4.3.2.4 the VAT is shown separately on all of the Bidder’s invoices and progress claims; and

4.3.2.5 the Bidder agrees to remit to the appropriate Government Agency any amounts of VAT legally required to be remitted by the Bidder pursuant to applicable tax laws.

4.4 Price Breakdown

Her Majesty reserves the right to request a breakdown of the components of the Tender Form should it believe that the price is unreasonable. Failure to provide an adequate breakdown, describing the rationale and assumptions used to determine the cost of each component of the Work, may lead to disqualification.



5.0 PHASED BID COMPLIANCE PROCESS (PBCP)

5.1 General

- a. Her Majesty is conducting the PBCP described below for this requirement.
- b. Notwithstanding any review by Her Majesty at Phase I or II of the PBCP, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Her Majesty does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Her Majesty.

The Bidder acknowledges that the reviews in Phase I and II of this PBCP are preliminary and do not preclude a finding in Phase III that the bid is non-responsive, even for mandatory requirements which were subject to review in Phase I or II and notwithstanding that the bid had been found responsive in such earlier phase. Her Majesty may deem a bid to be non-responsive to a mandatory requirement at any phase.

The Bidder also acknowledges that its response to a notice or a Compliance Assessment Report (CAR) (each defined below) in Phase I or II may not be successful in rendering its bid responsive to the mandatory requirements that are the subject of the notice or CAR, and may render its bid non-responsive to other mandatory requirements.

- c. Her Majesty may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Her Majesty's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Her Majesty to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.
- d. The PBCP does not limit Her Majesty's rights to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection c.
- e. Her Majesty will send any Notice or CAR by any method Her Majesty chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Her Majesty at the date and time they are delivered to Her Majesty by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Her Majesty on the date and time it is received in Her Majesty's email inbox at Her Majesty's email address specified in the Notice or CAR. A Notice or CAR sent by Her Majesty to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Her Majesty. Her Majesty is not responsible for late receipt by Her Majesty of a response, however caused.



5.2 Phase I: Financial Bid

- a. After the closing date and time of this bid solicitation, Her Majesty will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Her Majesty's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- b. Her Majesty's review in Phase I will be performed by officials of the Department of Foreign Affairs, Trade and Development Canada.
- c. If Her Majesty determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- d. For Bids other than those described in c., Her Majesty will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- e. The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Her Majesty, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Her Majesty, except in circumstances and on terms expressly provided for in the Notice.
- f. In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.
- g. Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- h. Her Majesty will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Her Majesty, then the Bid shall be considered non-responsive and will receive no further consideration.
- i. Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Her Majesty, will receive a Phase II review.



5.3 Phase II: Technical Bid

- a. Her Majesty's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- b. Her Majesty will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- c. A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Her Majesty in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Her Majesty, except in circumstances and on terms expressly provided for in the CAR.
- d. The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Her Majesty, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.
- e. The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Her Majesty to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- f. Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.
- g. Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Her Majesty in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR.



If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid.

- h. Her Majesty will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Her Majesty, then the Bid shall be considered non-responsive and will receive no further consideration.
- i. Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Her Majesty, will receive a Phase III evaluation.

5.4 Phase III: Final Evaluation of the Bid

- a. In Phase III, Her Majesty will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- b. A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

5.5 Technical Evaluation

- a. The Phased Bid Compliance Process will apply to all mandatory technical criteria.



6.0 BASIS OF SELECTION

- 6.1 To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation; and
 - b. meet all mandatory criteria.
- 6.2 Bids not meeting (a) or (b) will be declared non-responsive.
- 6.3 The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60 % for the technical merit and 40 % for the price.
- 6.4 To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 60 %.
- 6.5 To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40 %. The total firm price (exclusive of taxes) will be used for evaluation.
- 6.6 For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
- 6.7 Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.
- 6.8 In the case of a tie for the highest total score, the Bidder submitting the lowest price will be selected. In the case of a tie for the total score and a tie for the Tender Form score, the Bidder with the highest score for the "Technical Proposal" will be selected.
- 6.9 The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 60/40 ratio of technical merit and price, respectively. The total available points equal 135 and the lowest evaluated price is \$45,000 (45).

Basis of Selection - Highest Combined Rating Technical Merit (60%) and Price (40%)

	Bidder 1	Bidder 2	Bidder 3
Overall Technical Score	115/135	89/135	92/135
Bid Evaluated Price	\$55,000.00	\$50,000.00	\$45,000.00
Technical Merit Score	115/135 x 60 =	89/135 x 60 =	92/135 x 60 = 40.89
Calculations	51.11	39.56	
Pricing Score	45/55 x 40 = 32.73	45/50 x 40 = 36.00	45/45 x 40 = 40.00
Combined Rating	83.84	75.56	80.89
Overall Rating	1st	3rd	2nd



SECTION "III" – TENDER FORM

Name of Firm: _____

Address: _____

Contact Person: _____

Phone number: _____

Email: _____

TF1 **FIRM PRICE**

Firm Price (exclusive of VAT): _____
(In accordance with 4.2)

The Firm Price exclusive of taxes will be used to determine the winning Bidder.

Applicable taxes: _____
(In accordance with 4.3)

Total Price (Firm Price + Applicable Taxes): _____

All amounts are in American dollars (USD).

Signature

Date

Print Name and Capacity



TF2 LIST OF SUB-CONTRACTORS

NAME

ADDRESS

20 horizontal lines for sub-contractor names

20 horizontal lines for sub-contractor addresses



SECTION "IV" - CERTIFICATIONS

C1. CERTIFICATIONS – BID

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after contract award. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

C2. ACCEPTANCE AND ENTRY INTO CONTRACT

I/We undertake, within fourteen (14) calendar days of receipt of notification of acceptance of my/our bid, to sign a contract contained in the RFP incorporating all the relative elements of this project, for the performance of the Work provided I/We are notified, by Her Majesty, of the acceptance of my/our bid within ninety (90) days of the tender closing date.

C3. CONSTRUCTION TIME

I/We agree to complete the Work within the time stipulated in the specification from the date of notification of acceptance of my/our bid.

C4. BID SECURITY

I/We herewith enclose bid security in accordance with article G119.

I/We understand that if a security deposit is furnished as bid security and if I/We refuse to enter into a contract when called upon to do so, my/our security deposit shall be forfeited without prejudice to any other remedy Her Majesty may have at law.

I/We understand that if the security furnished is not in the approved form as described in clause "G119 Bid Security" of this RFP, my/our bid will be disqualified.

C5. CONTRACT SECURITY AND INSURANCE

Within fourteen (14) calendar days after receipt of written notification of acceptance of my/our bid, I/We will furnish contract security and insurance certificate in accordance with articles C9 and C10 respectively of the draft Construction Contract.

I/We understand that the contract security referred to herein, if provided in the form of a certified cheque, will be deposited into the Consolidated Revenue Fund of Canada.

SIGNED, ATTESTED TO AND DELIVERED on the _____ day of _____ on behalf of:

Print the legal name of the Bidder

Signature of authorized signatory

Signature of authorized signatory

Print name(s) & titles of authorized signatory

Print name(s) & titles of authorized signatory

Signature of Witness



SECTION "V" - GENERAL INSTRUCTIONS

GI1 RESPONSIVENESS

- 1.1 For a proposal to be considered valid, it must comply with all the requirements of this RFP identified as mandatory. Mandatory criteria are also expressed by using imperative verbs such as "shall", "must" and "will".

GI2 ENQUIRIES - SOLICITATION STAGE

- 2.1 All enquiries or issues concerning this RFP must be submitted in writing to the Contract Advisor as early as possible within the solicitation period. Enquiries and issues must be received within the timeframe described in article A10 to allow sufficient time to provide a response. Enquiries received after that time will not be answered prior to the Closing Date.
- 2.2 To ensure consistency and quality of information provided to Bidders, the Contract Advisor will give notice, in the same manner as this RFP, of any additional information in response to significant enquiries received without revealing the sources of the enquiries.
- 2.3 All enquiries and other communications with government officials throughout the solicitation period shall be directed ONLY to the Contract Advisor named herein. Non-compliance with this condition during the solicitation period may (for that reason alone) result in the disqualification of your proposal.

GI3 BIDDER'S SUGGESTED IMPROVEMENTS DURING SOLICITATION PERIOD

- 3.1 Should any Bidder consider that the specifications or Statement of Work contained in this RFP can be improved technically or technologically, the Bidder is invited to make suggestions, in writing, to the Contract Advisor named herein. The Bidder must clearly outline the suggested improvements as well as the reason for the suggestion. Suggestions which do not restrict the level of competition nor favour a particular Bidder will be given consideration provided they are received by the Contract Advisor within the timeframe described in A10 to allow sufficient time to provide a response. Her Majesty reserves the right to accept or reject any or all suggestions.

GI4 PROPOSAL PREPARATION COST

- 4.1 The costs, including travel incurred by the Bidder in the preparation of its proposal and/or the negotiation (if applicable) of any resulting contract will be the sole responsibility of the Bidder and will not be reimbursed by Her Majesty.

GI5 PROPOSAL DELIVERY

- 5.1 Proposals and/or amendments thereto, will only be accepted by the Minister if they are received at the address indicated in A7, on or before the Closing Date and Time specified in A7.
- 5.2 Responsibility for proposal delivery: The Bidder has sole responsibility for the timely receipt of a proposal by Her Majesty and cannot transfer this responsibility to the Government of Canada. Her Majesty will not assume responsibility for proposals that are directed to an email address other than the one stipulated in A7.

GI6 VALIDITY OF PROPOSAL

- 6.1 Any proposal must remain open for acceptance for a period of not less than ninety (90) calendar days after the Closing Date.

GI7 RIGHTS OF CANADA

- 7.1 Her Majesty reserves the right:
 - 7.1.1 during the evaluation, to submit questions to or conduct interviews with Bidders, at Bidders' cost, upon forty eight (48) hours written notice, to seek clarification or to verify any or all information provided by the Bidder with respect to this RFP;
 - 7.1.2 to reject all proposals received in response to this RFP if it/they fail to meet the objectives of the requirement within the boundaries imposed by Her Majesty's different stakeholders;
 - 7.1.3 to accept any proposal in whole or in part without prior negotiation;
 - 7.1.4 to cancel and/or re-issue this RFP at any time;
 - 7.1.5 to award one or more contracts, if applicable;
 - 7.1.6 to retain all proposals submitted in response to this RFP;
 - 7.1.7 not to accept any deviations from the stated terms and conditions;



- 7.1.8 to incorporate all, or any portion of the Statement of Work, Request for Proposals and the successful proposal in any resulting contract; and
- 7.1.9 not to contract at all.

GI8 INCAPACITY TO CONTRACT WITH GOVERNMENT

- 8.1 Canada may reject a proposal where the Bidder, including the Bidder's officers, agents and employees, has been convicted of an offence under the following provisions of the *Criminal Code*:
 - 8.1.1 Section 121, Frauds upon the Government;
 - 8.1.2 Section 124, Selling or Purchasing Office; or
 - 8.1.3 Section 418, Selling Defective Stores to Her Majesty.
(Subsection 750 (3) of the *Criminal Code* prohibits anyone who has been so convicted from holding public office, contracting with the government or benefiting from a government contract.)
- 8.2 Where Canada intends to reject a proposal pursuant to a provision of paragraph 8.1, the Contract Advisor will so inform the Bidder and provide the Bidder ten (10) calendar days within which to make representations, prior to making a final decision on the proposal rejection.

GI9 INCURRING OF COST

- 9.1 No costs incurred before receipt of a signed Contract or specified written authorization from the Contract Advisor can be charged to any resulting Contract. In addition, the Contractor is not to perform Work in excess of or outside the scope of any resulting Contract based on verbal or written requests or instructions from any government personnel other than the Contract Advisor. The Bidder's attention is drawn to the fact that the Contract Advisor is the only authority which can commit Her Majesty to the expenditure of the funds for this requirement.

GI10 PROPERTY OF HER MAJESTY

- 10.1 All correspondence, documents and information provided to the Minister by any Bidder in connection with this RFP will become the property of Her Majesty and may be released pursuant to the *Canadian Federal Access to Information Act* and the *Privacy Act*.

GI11 RIGHTS OF UNSUCCESSFUL BIDDERS

- 11.1 Bidders are reminded that all materials submitted by them in either paper or electronic form, including architectural and engineering design drawings, specifications, photographs, etc. shall, upon opening of the proposal by Canadian officials become the property of the Canadian government. In consequence, they will not be returned to the unsuccessful Bidders of this tender competition. The keeping of such information by Canada is necessary to ensure that, in the event of a future internal audit of the tender process, or in the event of a challenge by one of the unsuccessful Bidders to this tender process, all the documents submitted by competing Bidders are available and not tampered with. Nevertheless, complete copyright in those materials will of course remain with the copyright owners of the materials submitted; Canada assures Bidders that it will at no time use those materials for any commercial purposes without the written consent of the authors.

GI12 PRICE SUPPORT

- 12.1 In the event that the Bidder's bid is the sole responsive proposal received, the Bidder must provide, on the Minister's request, one or more of the following price support if applicable:
 - 12.1.1 a current published price list indicating the percentage discount available to the Minister;
 - 12.1.2 copies of paid invoices for like services performed for other customers or for like items (same quantity and quality) sold to other customers;
 - 12.1.3 a price breakdown showing the cost of direct labour, direct materials, purchased items, engineering and plant overheads, general and administrative overhead, transportation, etc., profit;
 - 12.1.4 price or rate certification; and
 - 12.1.5 any other supporting documentation as requested by the Minister.



GI13 BIDDERS NOT TO PROMOTE THEIR INTEREST IN THIS PROJECT

13.1 Bidders must not make any public comment, respond to questions in a public forum or carry out any activities to publicly promote or advertise their interest in this project, except for their response to Her Majesty pursuant to this RFP.

GI14 ACCEPTANCE OF BIDS

14.1 Bidders must meet and adhere to the architectural and design standards contained in the bid documentation.

14.2 Bidders must submit a list of sub-contractors on TF2 they propose to use on the Works. The successful Bidder shall not be allowed any subsequent substitution of the submitted list of sub-contractors, unless authorized, in advance in writing by Her Majesty.

GI15 SIGNATURES

15.1 The following requirements are to be adhered to when signing the Tender Form:

15.1.1 Corporation

The signatures of the authorized signatories shall be affixed and their names and titles typed or printed.

15.1.2 Partnership

The signatures of the partners shall be affixed and their names typed or printed. If not all of the partners sign or if the signatory is not a partner then a certified true copy of the agreement signed by all partners authorizing such person or persons to execute the document on their behalf shall accompany the bid.

15.1.3 Sole Proprietorship

The signature of the sole proprietor shall be affixed and the name typed or printed. In the event that the signatory is not the sole proprietor then a certified true copy of the agreement signed by the sole proprietor authorizing such person or persons to execute the document shall accompany the bid.

15.1.4 Joint Venture

The signatures of the authorized signatories of each member of the joint venture shall be affixed and their names and titles typed or printed. Each of the participating signatories shall sign the document in the manner applicable to their particular business arrangement which is more particularly described in 15.1.1 to 15.1.3 above.

GI16 RETURN OF DOCUMENTS

16.1 Unsuccessful Bidders must, if requested by the Contract Advisor, return all bid documents (e.g. Working Drawings, Specifications and Bills of Quantities) intact and in good condition within fourteen (14) calendar days of notification. Any copies of the Working Drawings, Specifications and Bill of Quantities are to be returned along with the original bid documents.

GI17 INTERPRETATION

17.1 In this RFP, "Her Majesty", "the Minister" or "Canada" means Her Majesty the Queen in right of Canada, as represented by the Minister of Foreign Affairs.

GI18 APPROVAL OF ALTERNATIVE MATERIAL

18.1 The proposal must be based on using materials specified by trade or manufacturer's names where specified in the tender documentation.

18.2 Alternatives to materials and equipment specified by trade or manufacturer's names will be considered during the bid period if full descriptive data on proposed alternatives is submitted in writing to the Contract Advisor as specified in A10. Enquiries.

18.3 The Contract Advisor must approve any alternative material in writing. Approved alternatives will be incorporated in the specification by issuance of addenda to the tender documents.

GI19 BID SECURITY

19.1 The Bidder shall submit bid security with its bid in the form of a bid bond or a security deposit and shall be equal to not less than the amount specified in 19.5;



- 19.2** A bid bond shall be in an approved form and issued by a financial institution whose bonds are acceptable to Her Majesty;
- 19.3** A security deposit shall be a CERTIFIED CHEQUE payable to the Canadian Embassy and certified by a Chartered Bank acceptable to Her Majesty; and
- 19.4** Unsuccessful Bidders will have their bid security deposits returned within thirty (30) calendar days of acceptance of a bid by Her Majesty. No interest will be paid on security deposits held by Her Majesty.
- 19.5** Bid security will be in the following amounts:
 - a. For bid security when the amount exceeds \$30,000 USD
 - o if the security is a bill of exchange or a government guaranteed bond, 10 percent of the amount bid up to a bid total of \$250,000 USD. If the bid exceeds \$250,000, the foregoing amounts are requested plus 5 per cent of the amount in excess of \$250,000 USD.
 - b. if the security is a surety bond, 10 percent of the amount bid.



SECTION "I" - SUPPLEMENTARY CONDITIONS

SC1 SECURITY REQUIREMENTS

The Contractor and/or all other personnel involved in the Work must be properly supervised on the premises of the Mission, Official Residence or Staff quarter. No access to the restricted zones of the Mission will be permitted

SC2 HEALTH AND SAFETY

The Contractor must comply with all requirements of applicable Canadian (federal, provincial, municipal), foreign and local environmental, health and safety laws and regulations. The Contractor must follow the prevention and infection control measures of the workplace or put in place by the Canadian mission (i.e. practise physical distancing, practise proper hand washing, avoid touching face with unwashed hands, etc.) and follow the proper protocols to complete the required work such as utilizing the appropriate equipment and personal protective equipment (PPE) as necessary. The Contractor is responsible for all costs associated with the compliance.

SC3 COMPLIANCE WITH ON-SITE MEASURES, STANDING ORDERS, POLICIES, AND RULES IN THE SOLICITATION AND THE RESULTING CONTRACT.

The Contractor must comply and ensure that its employees and subcontractors comply with all security measures, standing orders, policies or other rules in force at the site where the Work is performed.

SC4 CERTIFICATIONS – CONTRACT

Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.



SECTION "II" – TERMS OF PAYMENT

TP1 AMOUNT PAYABLE - GENERAL

- 1.1 Subject to any other provisions of this Contract, Her Majesty shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which:
- 1.1.1 the aggregate of the amounts described in TP2 exceeds; and
 - 1.1.2 the aggregate of the amounts described in TP3;
- and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by him in respect of the Work to which the payment relates.
- 1.2 Subject to any other provisions in this Contract, "Days" shall mean continuous calendar days including weekends and statutory public holidays.

TP2 AMOUNT PAYABLE TO THE CONTRACTOR

- 2.1 The amounts referred to in TP1.1.1 are the aggregate of:
- 2.1.1 The contract amount referred to in C8 of the Articles of Agreement; and
 - 2.1.2 The amounts, if any, that are payable to the Contractor pursuant to the General Conditions.

TP3 AMOUNT PAYABLE TO HER MAJESTY

- 3.1 The amounts referred to in TP1.1.2 are the aggregate of the amounts, if any, that the Contractor is liable to pay Her Majesty pursuant to the Contract.
- 3.2 When making any payment to the Contractor, the failure of Her Majesty to deduct an amount referred to in TP3.1 from an amount referred to in TP2 shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

TP4 TIME OF PAYMENT

- 4.1 In these Terms of Payment:
- 4.1.1 The "payment period" means a period of thirty (30) consecutive days or such other longer period as is agreed between the Contractor and the Departmental Representative;
 - 4.1.2 An amount is "due and payable" when it is due and payable by Her Majesty to the Contractor according to TP4.4, TP4.7 or TP4.10;
 - 4.1.3 An amount is overdue when it is unpaid on the first day following the day upon which it is due and payable;
 - 4.1.4 The "date of payment" means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada and given for payment; and
 - 4.1.5 The "Bank Rate" means the discount rate of interest set by the Bank of Canada in effect at the opening of business on the date of payment.

Progress Payments

- 4.2 The Contractor shall, on the expiration of a payment period, deliver to the Departmental Representative in respect of that payment period a written progress claim in a form acceptable to the Departmental Representative that fully describes any part of the Work that has been completed (including its percentage of the total Work), and any material that was delivered to the work site but not incorporated into the Work, during that payment period.
- 4.3 The Departmental Representative shall, not later than ten days after receipt by him of a progress claim referred to in TP4.2:
- 4.3.1 Inspect, or cause to have inspected, the part of the Work and the material described in the progress claim; and
 - 4.3.2 Determine the value of the part of the Work and the material described in the progress claim that, in the opinion of the Departmental Representative:
 - 4.3.2.1 is in accordance with the Contract, and
 - 4.3.2.2 was not paid for in any other progress claim relating to the Contract.
- 4.4 Subject to TP1 and TP4.5 Her Majesty shall, no later than thirty (30) days after the receipt by the Departmental Representative of a progress claim referred to in TP4.2, pay the Contractor an amount that is equal to the value that is determined under TP4.3.2 less a holdback as stated in C12.



- 4.5 It is a condition precedent to Her Majesty's obligation under TP4.4 that the Contractor has made and delivered to the Departmental Representative a statutory declaration in respect of a progress claim referred to in TP4.2.
- 4.6 A statutory declaration referred to in TP4.5 shall contain a deposition by the Contractor that up to the date immediately preceding the Contractor's latest progress claim, all lawful obligations of the Contractor with regard to subcontractors and suppliers of material in respect of the Work under the Contract have been fully discharged.

Interim Certificate of Completion

- 4.7 Subject to TP1 and TP4.8, Her Majesty shall, not later than thirty (30) days after the date of issue of an Interim Certificate of Completion referred to in GC44.2, pay to the Contractor an amount that is equal to the amount referred to in TP1, less the aggregate of:
- 4.7.1 An amount that is equal to the Departmental Representative's estimate of the cost to Her Majesty of rectifying defects and deficiencies described in the Interim Certificate of Completion; and
- 4.7.2 an amount that is equal to the total of all payments made by Her Majesty under TP4.4.
- 4.8 It is a condition precedent to Her Majesty's obligation under TP4.7 that the Contractor has made and delivered to the Departmental Representative a statutory declaration described in TP4.9 in respect of an Interim Certificate of Completion referred to in GC44.2.
- 4.9 A statutory declaration referred to in TP4.8 shall contain a deposition by the Contractor that up to the date of the Interim Certificate of Completion the Contractor has:
- 4.9.1 Discharged all of the Contractor's lawful obligations to the subcontractors and suppliers of material in respect of the Work under the Contract; and
- 4.9.2 Discharged the Contractor's obligations referred to in GC14.6.

Final Certificate of Completion

- 4.10 Subject to TP1 and TP4.11, Her Majesty shall, not later than sixty (60) days after the date of issue of a Final Certificate of Completion referred to in GC44.1, pay the Contractor the amount referred to in TP1 less the sum of all payments that were made pursuant to TP4.4 and TP4.7.
- 4.11 It is a condition precedent to Her Majesty's obligation under TP4.10 that the Contractor has made and delivered a statutory declaration described in TP4.12 to the Departmental Representative.
- 4.12 A statutory declaration referred to in TP4.11 shall, in addition to the depositions described in TP4.9, contain a deposition by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the Contract have been discharged and satisfied.

TP5 PROGRESS REPORT AND PAYMENT THEREUNDER NOT BINDING ON HER MAJESTY

Neither a progress claim referred to in TP4.3 nor any payment made by Her Majesty pursuant to these Terms of Payment shall be construed as an admission by Her Majesty that the Work, material or any part thereof is complete, is satisfactory or is in accordance with the Contract.

TP6 DELAY IN MAKING PAYMENT

- 6.1 Notwithstanding GC7 any delay by Her Majesty in making any payment when it is due pursuant to these Terms of Payment shall not be a breach of the Contract by Her Majesty.
- 6.2 Her Majesty shall be liable to pay to the Contractor simple interest at the average Bank Rate as defined in TP9.2.2 plus three percent (3%) per annum on any amount that is overdue, from the date such amount becomes overdue until the day prior to the date of payment, inclusive. No interest will be payable or paid in respect of payment unless the Contractor so requests after payment has become due.
- 6.3 Interest shall not be payable or paid unless the amount referred to in TP6.2 has been overdue for more than fifteen (15) days following:
- 6.3.1 The date the said amount became due and payable; or
- 6.3.2 The receipt by the Departmental Representative of the statutory declaration referred to in TP4.5, TP4.8 or TP4.11; whichever is the later, and
- 6.3.3 Interest shall not be payable or paid on overdue advance payments if any.



TP7 RIGHT OF SET-OFF

7.1 Without limiting any right of set-off or deduction given or implied by law or elsewhere in the Contract, Her Majesty may set-off any amount payable to Her Majesty by the Contractor under this Contract or under any current contract against any amount payable to the Contractor under this Contract.

7.2 For the purposes of TP7.1, "current contract" means a contract between Her Majesty and the Contractor:

7.2.1 under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or

7.2.2 In respect of which Her Majesty has, since the date on which the Articles of Agreement were made, exercised any right to take the Work that is the subject of the Contract out of the Contractor's hands.

TP8 PAYMENT IN EVENT OF TERMINATION

If the Contract is terminated pursuant to GC41, Her Majesty shall pay the Contractor any amount that is lawfully due and payable to the Contractor as soon as is practicable under the circumstances.

TP9 INTEREST ON SETTLED CLAIMS

9.1 Her Majesty shall pay to the Contractor simple interest on the amount of a settled claim at an average Bank of Canada Rate plus one and a quarter percent (1.25%) from the date the settled claim was outstanding until the day prior to the date of payment.

9.2 For the purposes of TP9.1:

9.2.1 A claim is deemed to have been settled when an agreement in writing is signed by the Departmental Representative and the Contractor setting out the amount of the claim to be paid by Her Majesty and the items of work for which the said amount is to be paid.

9.2.2 An "average Bank Rate" means the discount rate of interest set by the Bank of Canada in effect at the end of each calendar month averaged over the period the settled claim was outstanding.

9.2.3 A settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the Contract had it not been disputed.

9.2.4 A claim means a disputed amount subject to negotiation between Her Majesty and the Contractor under the Contract.

TP10 TAXES

10.1 If applicable, the VAT or Canadian Goods and Services Tax (GST) is to be shown separately on all invoices and progress claims for Work performed, and will be paid by Her Majesty. The Contractor agrees to remit any GST due to Revenue Canada.

10.2 The Government of Canada GST registration number is 121491807.



SECTION "III" - GENERAL CONDITIONS

GC1 INTERPRETATION

1.1 In the Contract:

- 1.1.1 Where reference is made to a part of the Contract by means of numbers receded by letters, the reference shall be construed to be a reference to the particular part of the Contract that is identified by that combination of letters and numbers and to any other part of the Contract referred to therein;
 - 1.1.2 "Contract" means the Contract Documents referred to in the Articles of Agreement;
 - 1.1.3 "Contract security" means any security given by the Contractor to Her Majesty in accordance with the Contract;
 - 1.1.4 "Days" means continuous calendar days, including weekends and statutory public holidays;
 - 1.1.5 "Departmental Representative" means the officer, employee or person engaged by Her Majesty who is designated pursuant to the Articles of Agreement and includes a person specially authorized by him to perform, on his behalf, any of his functions under the Contract and is so designated in writing to the Contractor;
 - 1.1.6 "Former Public Office Holder" means an employee of the executive or senior manager categories who was employed by the Canadian federal public service during the period of one (1) year immediately preceding the date of this Contract;
 - 1.1.7 "Material" includes all commodities, articles and things required to be furnished by or for the Contractor under the Contract for incorporation into the Work;
 - 1.1.8 "Minister" includes a person acting for, or if the office is vacant, in place of the Minister and his successors in the office, and his or their lawful deputy and any of his or their representatives appointed for the purposes of the Contract;
 - 1.1.9 "Person" includes, unless the context otherwise requires, a partnership, proprietorship, firm, joint venture, consortium and a corporation;
 - 1.1.10 "Plant" includes all animals, tools, implements, machinery, vehicles, buildings, structures, equipment and commodities, articles and things other than material, that are necessary for the due performance of the Contract;
 - 1.1.11 "Subcontractor" means a person to whom the Contractor has, subject to GC4, subcontracted the whole or any part of the Work;
 - 1.1.12 "Superintendent" means the employee of the Contractor who is designated by the Contractor to act pursuant to GC19;
 - 1.1.13 "Technical documentation" means designs, reports, photographs, surveys, drawings, plans, specifications, computer software, computer printouts, calculations and other data, information and material, prepared, collected, computed, drawn, or produced for the Work; and
 - 1.1.14 "Work" includes, subject only to any express stipulation in the Contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract.
- 1.2 The headings in the Contract documents, other than in the Plans and Specifications, form no part of the Contract but are inserted for convenience of reference only.
 - 1.3 In interpreting the Contract, in the event of discrepancies or conflicts between anything in the Plans and Specifications and the General Conditions, the General Conditions govern.
 - 1.4 Words importing the singular only also include the plural, and vice versa, where the context requires;
 - 1.5 Headings or notes in the Contract shall not be deemed to be part thereof, or be taken into consideration in its interpretation;
 - 1.6 "Herein," "hereby," "hereof," "hereunder" and similar expressions refer to the Contract as a whole and not to any particular subdivision or part thereof.
 - 1.7 In interpreting the Plans and Specifications, in the event of discrepancies or conflicts between:
 - 1.7.1 The Plans and Specifications, the Specifications govern;
 - 1.7.2 The Plans, the Plans drawn with the largest scale govern; and
 - 1.7.3 Figured dimensions and scaled dimensions, the figured dimensions govern.

GC2 SUCCESSORS AND ASSIGNS

The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and assigns.



GC3 ASSIGNMENT OF CONTRACT

The Contract may not be assigned by the Contractor, either in whole or in part, without the written consent of the Minister.

GC4 SUBCONTRACTING BY CONTRACTOR

- 4.1 Subject to this General Condition, the Contractor may subcontract any part of the Work.
- 4.2 The Contractor shall notify the Departmental Representative in writing of his intention to subcontract.
- 4.3 A notification referred to in GC4.2 shall identify the part of the Work, and the subcontractor with whom it is intended to subcontract.
- 4.4 The Departmental Representative may object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by the Departmental Representative of a notification referred to in GC4.2.
- 4.5 If the Departmental Representative objects to a subcontracting pursuant to GC4.4, the Contractor shall not enter into the intended subcontract.
- 4.6 The Contractor shall not, without the written consent of the Departmental Representative, change a subcontractor who has been engaged by him in accordance with this General Condition.
- 4.7 Every subcontract entered into by the Contractor shall adopt all of the terms and conditions of this Contract that are of general application.
- 4.8 Neither a subcontracting nor the Departmental Representative's consent to a subcontracting by the Contractor shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon Her Majesty.

GC5 AMENDMENTS

No amendment or change in any of the provisions of the Contract shall have any force or effect until it is reduced to writing and signed by both parties.

GC6 NO IMPLIED OBLIGATIONS

- 6.1 No implied terms or obligations of any kind by or on behalf of Her Majesty shall arise from anything in the Contract and the express covenants and agreements therein contained and made by Her Majesty are the only covenants and agreements upon which any rights against Her Majesty are to be founded.
- 6.2 The Contract supersedes all communications, negotiations and agreements, either written or oral, relating to the Work that were made prior to the date of the Contract.

GC7 TIME OF THE ESSENCE

Time is of the essence of the Contract.

GC8 INDEMNIFICATION BY CONTRACTOR

- 8.1 The Contractor shall indemnify and save Her Majesty harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by whomever made, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by or attributable to the activities of the Contractor, his servants, agents, subcontractors and sub-subcontractors in performing the Work including an infringement or an alleged infringement of a patent of invention or any other kind of intellectual property.
- 8.2 For the purposes of GC8.1, "activities" includes any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC9 INDEMNIFICATION BY HER MAJESTY

- 9.1 Her Majesty shall, subject to the Crown Liability Act, the Patent Act, and any other law that affects Her Majesty's rights, powers, privileges or obligations, indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of his activities under the Contract that are directly attributable to:
 - 9.1.1 Lack of or a defect in Her Majesty's title to the work site whether real or alleged; or
 - 9.1.2 An infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the Contract employing a model, plan or design or any other thing related to the Work that was supplied by Her Majesty to the Contractor.



GC10 MEMBERS OF HOUSE OF COMMONS NOT TO BENEFIT

As required by the Parliament of Canada Act, it is an express condition of the Contract that no member of the Canadian House of Commons shall be admitted to any share or part of the Contract or to any benefit arising therefrom.

GC11 NOTICES

- 11.1 Any notice, consent, order, decision, direction or other communication, other than a notice referred to in GC11.4, that may be given to the Contractor pursuant to the Contract may be given in any manner.
- 11.2 Any notice, consent, order, decision, direction or other communication required to be given in writing, to any party pursuant to the Contract shall, subject to GC11.4, be deemed to have been effectively given:
- 11.2.1 to the Contractor, if delivered personally to the Contractor or the Contractor's superintendent, or forwarded by mail, email or facsimile to the Contractor at the address set out in the Articles of Agreement; or
 - 11.2.2 to Her Majesty, if delivered personally to the Departmental Representative, or forwarded by mail, email or facsimile to the Departmental Representative at the address set out in C1.
- 11.3 Any such notice, consent, order, decision, direction or other communication given in accordance with GC11.2 shall be deemed to have been received by either party:
- 11.3.1 If delivered personally, on the day that it was delivered;
 - 11.3.2 If forwarded by mail, on the earlier of the day it was received and the sixth (6th) day after it was mailed; and
 - 11.3.3 If forwarded by email or facsimile, twenty-four (24) hours after it was transmitted.
- 11.4 A notice given under GC38.1.1, GC40 and GC41, if delivered personally, shall be delivered to the Contractor if the Contractor is doing business as a sole proprietor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC12 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY HER MAJESTY

- 12.1 Subject to GC12.2, the Contractor is liable to Her Majesty for any loss of or damage to material, plant or real property that is supplied or placed in the care, custody and control of the Contractor by Her Majesty for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 12.2 The Contractor is not liable to Her Majesty for any loss or damage to material, plant or real property referred to in GC12.1 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 12.3 The Contractor shall not use any material, plant or real property referred to in GC12.1 except for the purpose of performing this Contract.
- 12.4 If the Contractor fails to make good any loss or damage for which he is liable under GC12.1 within a reasonable time after being required to do so by the Departmental Representative, the Departmental Representative may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Her Majesty for the cost thereof and shall, on demand, pay to Her Majesty an amount equal to that cost.
- 12.5 The Contractor shall keep such records of all material, plant and real property referred to in GC12.1 as the Departmental Representative from time to time requires and shall satisfy the Departmental Representative, when requested, that such material, plant and real property are at the place and in the condition in which they ought to be.

GC13 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF HER MAJESTY

- 13.1 Subject to GC14.7 all material and plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Contract shall become the property of Her Majesty for the purposes of the Work and they shall continue to be the property of Her Majesty:
- 13.1.1 In the case of material, until the Departmental Representative indicates that he is satisfied that it will not be required for the Work; and
 - 13.1.2 In the case of plant, real property, licenses, powers and privileges, until the Departmental Representative indicates that he is satisfied that the interest vested in Her Majesty therein is no longer required for the purposes of the Work.



- 13.2 Material or plant that is the property of Her Majesty by virtue of GC13.1 shall not be taken away from the work site or used or disposed of except for the purposes of the Work without the written consent of the Departmental Representative.
- 13.3 Her Majesty is not liable for loss of or damage from any cause to the material or plant referred to in GC13.1 and the Contractor is liable for such loss or damage notwithstanding that the material or plant is the property of Her Majesty.

GC14 PERMITS AND TAXES PAYABLE

- 14.1 The Contractor shall, within fifteen (15) days after the date of the Contract, tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for a person other than Her Majesty.
- 14.1.1 The Contractor shall be responsible for obtaining and pay for all necessary permits for all the Work to be undertaken under the Contract. He shall give all notices and comply with all laws, rules and regulations bearing on the conduct of the Work as drawn and specified.
- 14.2 Within ten (10) days of making a tender pursuant to GC14.1, the Contractor shall notify the Departmental Representative of his action and of the amount tendered and whether or not the municipal authority has accepted that amount.
- 14.3 If the municipal authority does not accept the amount tendered pursuant to GC14.1 the Contractor shall pay that amount to Her Majesty within six (6) days after the time stipulated in GC14.2.
- 14.4 For the purposes of GC14.1 to GC14.3 "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not Her Majesty.
- 14.5 The Contractor shall pay any and all applicable taxes arising from or relating to the performance of the Work under the Contract. The Contractor shall also determine the extent of, and apply for, any and all exemptions that are, or may be, available due to the status of Her Majesty as a sovereign entity. Where the Contractor procures goods for incorporation into the Work, for such purposes, the Contractor shall be an agent of Her Majesty. Any such exemptions that are available shall be applied to the benefit of Her Majesty. The Contractor shall obtain and provide sufficient documentation from the relevant authorities as to the availability of such exemptions.
- 14.6 In performing the Work under the Contract, the Contractor shall abide by all of the laws in force in the local jurisdiction. Should the Contractor fail to pay any dues or taxes payable under those laws, the Minister, after giving the Contractor seven (7) days prior written notice of his intention so to do, shall have the right to pay directly any such dues or taxes claimed, and deduct same from any payment due to the Contractor.
- 14.7 For the purpose of the payment of any and all applicable taxes or the furnishing of security for the payment of any and all applicable taxes arising from or related to the performance of the Work under the Contract, the Contractor shall, notwithstanding the fact that all material, plant and interest of the Contractor in all real property, licences, powers and privileges, have become the property of Her Majesty after the time of purchase, be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any and all applicable taxes payable, at the time of the use or consumption of that material, plant or interest of the Contractor in accordance with the relevant legislation.

GC15 PERFORMANCE OF WORK UNDER DIRECTION OF DEPARTMENTAL REPRESENTATIVE

The Contractor shall:

- 15.1.1 Permit the Departmental Representative to have access to the Work and its site at all times during the performance of the Contract;
- 15.1.2 Furnish the Departmental Representative with such information respecting the performance of the Contract as he may require; and
- 15.1.3 Give the Departmental Representative every possible assistance to enable the Departmental Representative to carry out his duty to see that the Work is performed in accordance with the Contract and to carry out any other duties and exercise any powers specially imposed or conferred on the Departmental Representative under the Contract.

GC16 COOPERATION WITH OTHER CONTRACTORS

- 16.1 Where, in the opinion of the Departmental Representative, it is necessary that other contractors or workers with or without plant and material, be sent onto the Work or its site, the Contractor shall, to the satisfaction of the Departmental Representative, allow them access and cooperate with them



in the carrying out of their duties and obligation.

16.2 If:

16.2.1 the sending onto the Work or its site of other contractors or workers pursuant to GC16.1 could not have been reasonably foreseen or anticipated by the Contractor when entering into the Contract;

16.2.2 the Contractor incurs, in the opinion of the Departmental Representative, extra expense in complying with GC16.1; and

16.2.3 the Contractor has given the Departmental Representative written notice of his claim for the extra expense referred to in GC16.2.2 within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site;

16.3 Her Majesty shall pay the Contractor the cost, calculated in accordance with GC48 to GC50, of the extra labour, plant and material that was necessarily incurred.

GC17 EXAMINATION OF WORK

17.1 If, at any time after the commencement of the Work but prior to the expiry of the warranty or guarantee period, the Departmental Representative has reason to believe that the Work or any part thereof has not been performed in accordance with the Contract, the Departmental Representative may have that Work examined by an expert of his choice.

17.2 If, as a result of an examination of the Work referred to in GC17.1, it is established that the Work was not performed in accordance with the Contract, then, in addition to and without limiting or otherwise affecting any of Her Majesty's rights and remedies under the Contract either at law or in equity, the Contractor shall pay Her Majesty, on demand, all reasonable costs and expenses that were incurred by Her Majesty in having that examination performed.

GC18 CLEARING OF SITE

18.1 The Contractor shall maintain the Work and its site in a tidy condition and free from the accumulation of waste material and debris, in accordance with any directions of the Departmental Representative.

18.2 Before the issue of an Interim Certificate of Completion referred to in GC44.2, the Contractor shall remove all the plant and material not required for the performance of the remaining Work, and all waste material and other debris, and shall cause the Work and its site to be clean and suitable for occupancy by Her Majesty's servants, unless otherwise stipulated in the Contract.

18.3 Before the issue of a Final Certificate of Completion referred to in GC44.1, the Contractor shall remove from the Work and its site all of the surplus plant and material and any waste material and other debris.

18.4 The Contractor's obligations described in GC18.1 to GC18.3 do not extend to waste material and other debris caused by Her Majesty's servants or contractors and workers referred to in GC16.1

GC19 CONTRACTOR'S SUPERINTENDENT

19.1 The Contractor shall, forthwith upon the award of the Contract, designate a superintendent.

19.2 The Contractor shall forthwith notify the Departmental Representative of the name, address and telephone number of a superintendent designated pursuant to GC19.1.

19.3 A superintendent designated pursuant to GC19.1 shall be in full charge of the operations of the Contractor in the performance of the Work and is authorized to accept any notice, consent, order, direction, decision or other communication on behalf of the Contractor that may be given to the superintendent under the Contract.

19.4 The Contractor shall, until the Work has been completed, keep a competent superintendent at the work site during working hours.

19.5 The Contractor shall, upon the request of the Departmental Representative, remove any superintendent who, in the opinion of the Departmental Representative, is incompetent or has been conducting himself improperly and shall forthwith designate another superintendent who is acceptable to the Departmental Representative.

19.6 Subject to GC19.5, the Contractor shall not substitute a superintendent without the written consent of the Departmental Representative.

19.7 A breach by the Contractor of GC19.6 entitles the Departmental Representative to refuse to issue any certificate referred to in GC44 until the superintendent has returned to the work site or another superintendent who is acceptable to the Departmental Representative has been substituted.



GC20 NATIONAL SECURITY

- 20.1** If the Minister is of the opinion that the Work is of a class or kind that involves the national security of Canada, he may order the Contractor:
- 20.1.1** To provide him with any information concerning persons employed or to be employed by him for purposes of the Contract; and
 - 20.1.2** To remove any person from the Work and its site if, in the opinion of the Minister, that person may be a risk to the national security.
- 20.2** The Contractor shall, in all contracts with persons who are to be employed in the performance of the Contract, make provision for his performance of any obligation that may be imposed upon him under GC19 to GC21.
- 20.3** The Contractor shall comply with an order of the Minister under GC20.1.

GC21 UNSUITABLE WORKERS

The Contractor shall, upon the request of the Departmental Representative, remove any person employed by him for purposes of the Contract who, in the opinion of the Departmental Representative, is incompetent or has conducted himself improperly, and the Contractor shall not permit a person who has been removed to return to the work site.

GC22 INCREASED OR DECREASED COSTS

- 22.1** The amount set out in the Articles of Agreement shall not be increased or decreased by reason of any increase or decrease in the cost of the Work that is brought about by an increase or decrease in the cost of labour, plant or material or any wage adjustment.
- 22.2** Notwithstanding GC22.1 and GC35, an amount set out in the Articles of Agreement shall be adjusted in the manner provided in GC22.3, if any change occurs in a tax imposed under any sales tax legislation applicable under the governing law of this Contract relative to the purchase of tangible personal property to be incorporated into Real Property:
- 22.2.1** Occurs after the date of the submission by the Contractor of his tender for the Contract;
 - 22.2.2** Applies to material; and
 - 22.2.3** Affects the cost to the Contractor of that material.
- 22.3** If a change referred to in GC22.2 occurs, the appropriate amount set out in the Articles of Agreement shall be increased or decreased by an amount equal to the amount that is established by an examination of the relevant records of the Contractor referred to in GC51 to be the increase or decrease in the cost incurred that is directly attributable to that change.
- 22.4** For the purpose of GC22.2, where a tax is changed after the date of submission of the tender but public notice of the change has been given by the appropriate local tax authorities before that date, the change shall be deemed to have occurred before the date of submission of the tender.

GC23 LABOUR AND MATERIAL

- 23.1** The Contractor shall at all time enforce strict discipline and good order amongst his employees, professional consultants and subcontractors and shall not employ on the Work any unfit person nor anyone unskilled in the Work assigned to him.
- 23.2** The Contractor warrants that all materials and workmanship to be supplied by him shall be of a quality consistent with the specifications of the Contract.

GC24 PROTECTION OF WORK AND DOCUMENTS

- 24.1** The Contractor shall guard or otherwise protect the Work and its site, and protect the Contract, specifications, plans, drawings, information, material, plant and real property, whether or not they are supplied by Her Majesty to the Contractor, against loss or damage from any cause, and he shall not use, issue, disclose or dispose of them without the written consent of the Minister, except as may be essential for the performance of the Work.
- 24.2** If any document or information given or disclosed to the Contractor is assigned a security rating by the person who gave or disclosed it, the Contractor shall take all measures directed by the Departmental Representative to be taken to ensure the maintenance of the degree of security that is ascribed to that rating.
- 24.3** The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by the Minister to inspect or to take security measures in respect of the Work and its site.
- 24.4** The Departmental Representative may direct the Contractor to do such things and to perform such



additional Work as the Departmental Representative considers reasonable and necessary to ensure compliance with or to remedy a breach of GC24.1 to GC24.3.

GC25 PUBLIC CEREMONIES AND SIGNS

- 25.1** The Contractor shall not permit any public ceremony in connection with the Work without the prior written consent of the Departmental Representative.
- 25.2** The Contractor shall not erect or permit the erection of any sign or advertising on the Work or its site without the prior written consent of the Departmental Representative.

GC26 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE, AND OTHER HAZARDS

- 26.1** The Contractor shall, at his own expense, do whatever is necessary to ensure that:
- 26.2.1** No person, property, right, easement or privilege is injured, damaged or infringed by reasons of the Contractor's activities in performing the Contract;
 - 26.2.2** Pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted or endangered by the performance or existence of the Work or plant;
 - 26.2.3** Fire hazards in or about the Work or its site are eliminated and, subject to any direction that may be given by the Departmental Representative, any fire is promptly extinguished;
 - 26.2.4** The health and safety of all persons employed in the performance of the Work are not endangered by the method or means of its performance;
 - 26.2.5** Adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;
 - 26.2.6** Adequate sanitation measures are taken in respect of the Work and its site; and
 - 26.2.7** All stakes, buoys and marks placed on the Work or its site by or under the authority of the Departmental Representative are protected and are not removed, defaced, altered or destroyed.
- 26.2** The Departmental Representative may direct the Contractor to do such things and to perform such additional Work as the Departmental Representative considers reasonable and necessary to ensure compliance with or to remedy a breach of GC26.1.
- 26.3** The Contractor shall, at his own expense, comply with a direction of the Departmental Representative made under GC26.2.

GC27 INSURANCE

- 27.1** The Contractor shall, at his own expense, obtain and maintain insurance contracts in respect of the Work and shall provide evidence thereof to the Departmental Representative in accordance with the requirements of the Insurance Conditions in Section "IV."
- 27.2** The insurance Contracts referred to in GC27.1 shall:
- 26.2.8** be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in Insurance Conditions in Section "IV"; and
 - 26.2.9** Provide for the payment of claims under such insurance Contracts in accordance with GC28.

GC28 INSURANCE PROCEEDS

- 28.1** In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance Contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid directly to Her Majesty, and:
- 28.1.1** the monies so paid shall be held by Her Majesty for the purposes of the Contract; or
 - 28.1.2** Her Majesty elects, shall be retained by Her Majesty, in which event they vest in Her Majesty absolutely.
- 28.2** In the case of a claim payable under a General Liability insurance Contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid by the insurer directly to the claimant.
- 28.3** If an election is made pursuant to GC28.1, the Minister may cause an audit to be made of the accounts of the Contractor and of Her Majesty in respect of the part of the Work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between:
- 28.3.1** The aggregate of the amount of the loss or damage suffered or sustained by Her Majesty, including any costs incurred in respect of the clearing and cleaning of the Work and its site and any other amount that is payable by the Contractor to Her Majesty under the Contract, minus any monies retained pursuant to GC28.1.2; and



- 28.3.2** The aggregate of the amounts payable by Her Majesty to the Contractor pursuant to the Contract up to the date of the loss or damage.
- 28.4** A difference that is established pursuant to GC28.3 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.
- 28.5** When payment of a deficiency has been made pursuant to GC28.4, all rights and obligations of Her Majesty and the Contractor under the Contract shall, with respect only to the part of the Work that was the subject of the audit referred to in GC28.3, be deemed to have been expended and discharged.
- 28.6** If an election is not made pursuant to GC28.1.2 the Contractor shall, subject to GC28.7, clear and clean the Work and its site and restore and replace the part of the Work that was lost, damaged or destroyed at his own expense as if that part of the Work had not yet been performed.
- 28.7** When the Contractor clears and cleans the Work and its site and restores and replaces the Work referred to in GC28.6, Her Majesty shall pay him out of the monies referred to in GC28.1 so far as they will there unto extend.
- 28.8** Subject to GC28.7, payment by Her Majesty pursuant to GC28.7 shall be made in accordance with the Contract but the amount of each payment shall be one hundred percent (100%) of the amount claimed notwithstanding TP4.4.
- GC29 CONTRACT SECURITY**
- 29.1** The Contractor shall obtain and deliver contract security to the Departmental Representative in accordance with the provisions of the document attached hereto, marked Section "V" and entitled Contract Security Conditions.
- 29.2** If the whole or a part of the contract security referred to in GC29.1 is in the form of a security deposit, it shall be held and disposed of in accordance with GC43 and GC45.
- 29.3** If a part of the contract security referred to in GC29.1 is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond on the work site.
- GC30 CHANGES IN THE WORK**
- 30.1** Subject to GC5, the Departmental Representative may, at any time before he issues the Final Certificate of Completion:
- 30.1.1** Order Work or material in addition to that provided for in the Plans and Specifications; and
- 30.1.2** Delete or change the dimensions, character, quantity, quality, description, location or position of the whole or any part of the Work or material provided for in the Plans and Specifications or in any order made pursuant to GC30.1.1, if that additional Work or material, deletion, or change is, in his opinion, consistent with the general intent of the original Contract.
- 30.2** The Contractor shall perform the Work in accordance with such orders, deletions and changes that are made by the Departmental Representative pursuant to GC30.1 from time to time as if they had appeared in and been part of the Plans and Specifications.
- 30.3** The Departmental Representative shall determine whether or not anything done or omitted by the Contractor pursuant to an order, deletion or change referred to in GC30. 1 increased or decreased the cost of the Work to the Contractor.
- 30.4** If the Departmental Representative determines pursuant to GC30.3 that the cost of the Work to the Contractor has been increased, Her Majesty shall pay the Contractor the increased cost that the Contractor necessarily incurred for the additional Work calculated in accordance with GC49 or GC50.
- 30.5** If the Departmental Representative determines pursuant to GC30.3 that the cost of the Work to the Contractor has been decreased, Her Majesty shall reduce the amount payable to the Contractor under the contract by an amount equal to the decrease in the cost caused by the deletion or change referred to in GC30.1.2 and calculated in accordance with GC49.
- 30.6** GC30.3 to GC30.5 are applicable only to a contract or a portion of a contract for which a Fixed Price Arrangement is stipulated in the Contract.
- 30.7** An order, deletion or change referred to in GC30. 1 shall be in writing, signed by the Departmental Representative and given to the Contractor in accordance with GC11.
- GC31 INTERPRETATION OF CONTRACT BY DEPARTMENTAL REPRESENTATIVE**
- 31.1** If, at any time before the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, any question arises between the parties about whether anything has been



done as required by the Contract or about what the Contractor is required by the Contract to do, and, in particular but without limiting the generality of the foregoing, about:

- 31.1.1 the meaning of anything in the Plans and Specifications;
- 31.1.2 the meaning to be given to the Plans and Specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;
- 31.1.3 whether or not the quality or quantity of any material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the Contract;
- 31.1.4 the Work and carrying out the Contract are adequate to ensure that the Work will be performed in accordance with the Contract and that the Contract will be carried out in accordance with its terms;
- 31.1.5 what quantity of any kind of Work has been completed by the Contractor; or
- 31.1.6 the timing and scheduling of the various phases of the performance of the Work, the question shall be decided by the Departmental Representative whose decision shall be final and conclusive in respect of the Work.

31.2 The Contractor shall perform the Work in accordance with any decisions of the Departmental Representative that are made under GC31.1 and in accordance with any consequential directions given by the Departmental Representative.

GC32 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

32.1 Without restricting any warranty or guarantee implied or imposed by law or contained in the contract documents, the Contractor shall, at his own expense:

32.1.1 Rectify and make good any defect or fault that appears in the Work or comes to the attention of the Minister with respect to those parts of the Work accepted in connection with the Interim Certificate of Completion referred to GC44.2 within twelve (12) months from the date of the Interim Certificate of Completion; and

32.1.2 Rectify and make good any defect or fault that appears in or comes to the attention of the Minister in connection with those parts of the Work described in the Interim Certificate of Completion referred to in GC44.2 within twelve (12) months from the date of the Final Certificate of Completion referred to in GC44.1.

32.2 The Departmental Representative may direct the Contractor to rectify and make good any defect or fault referred to in GC32.1 or covered by any other expressed or implied warranty or guarantee.

32.3 A direction referred to in GC32.2 shall be in writing, may include a stipulation in respect of the time within which a defect or fault is required to be rectified and made good by the Contractor, and shall be given to the Contractor in accordance with GC11.

32.4 The Contractor shall rectify and make good any defect or fault described in a direction given pursuant to GC32.2 within the time stipulated therein.

GC33 NON-COMPLIANCE BY CONTRACTOR

33.1 If the Contractor fails to comply with any decision or direction given by the Departmental Representative pursuant to GC18, GC24, GC26, GC31 or GC32, the Departmental Representative may employ such methods as he deems advisable to do that which the Contractor failed to do.

33.2 The Contractor shall, on demand, pay Her Majesty an amount that is equal to the aggregate of all costs, expenses and damage incurred or sustained by Her Majesty by reason of the Contractor's failure to comply with any decision or direction referred to in GC33.1, including the cost of any methods employed by the Departmental Representative pursuant to GC33.1.

GC34 PROTESTING DEPARTMENTAL REPRESENTATIVE'S DECISIONS

34.1 The Contractor may, within ten (10) days after the communication to him of any decision or direction referred to in GC30.3 or GC33.1, protest that decision or direction.

34.2 A protest referred to in GC34.1 shall be in writing, contain full reasons for the protest, be signed by the Contractor and be given to Her Majesty by delivery to the Departmental Representative.

34.3 If the Contractor gives a protest pursuant to GC34.2, any compliance by the Contractor with the decision or direction that was protested shall not be construed as an admission by the Contractor of the correctness of that decision or direction, or prevent the Contractor from taking whatever action he considers appropriate in the circumstances.

34.4 The giving of a protest by the Contractor pursuant to GC34.2 shall not relieve him from complying with the decision or direction that is the subject of the protest.

34.5 Subject to GC34.6, the Contractor shall take any action referred to in GC34.3 within three (3)



months after the date that a Final Certificate of Completion is issued under GC44.1, and not afterwards.

- 34.6 The Contractor shall take any action referred to in GC34.3 resulting from a direction under GC32 within three (3) months after the expiry of a warranty or guarantee period and not afterwards.
- 34.7 Subject to GC34.8, if Her Majesty determines that the Contractor's protest is justified, Her Majesty shall pay the Contractor the cost of the additional labour, plant and material necessarily incurred by the Contractor in carrying out the protested decision or direction.
- 34.8 Costs referred to in GC34.7 shall be calculated in accordance with GC48 to GC50.

GC35 CHANGES IN SOIL CONDITIONS AND NEGLECT OR DELAY BY HER MAJESTY

- 35.1 Subject to GC35.2 no payment, other than a payment that is expressly stipulated in the contract, shall be made by Her Majesty to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.
- 35.2 If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to:
 - 35.2.1 a substantial difference between the information relating to soil conditions at the work site that is contained in the Plans and Specifications or other documents supplied to the Contractor for his use in preparing his tender or a reasonable assumption of fact based thereon made by the Contractor, and the actual soil conditions encountered by the Contractor at the work site during the performance of the Contract; or
 - 35.2.2 Any neglect or delay that occurs after the date of the Contract on the part of Her Majesty in providing any information or in doing any act that the Contract either Her Majesty to do or that would ordinarily be done by an owner in accordance with the usage of the trade, he shall, within ten (10) days of the date the actual soil conditions described in GC35.2.1 were encountered or the neglect or delay described in GC35.2.2 occurred, give the Departmental Representative written notice of his intention to claim for that extra expense or that loss or damage.
- 35.3 When the Contractor has given a notice referred to in GC35.2, he shall give the Departmental Representative a written claim for extra expense or loss or damage within thirty (30) days of the date that a Final Certificate of Completion referred to in GC44.1 is issued and not afterwards.
- 35.4 A written claim referred to in GC35.3 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable the Departmental Representative to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as the Departmental Representative requires from time to time.
- 35.5 If the Departmental Representative determines that a claim referred to in GC35.3 is justified, Her Majesty shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC47 to GC50.
- 35.6 If, in the opinion of the Departmental Representative, an occurrence described in GC35.2.1 results in a savings of expenditure by the Contractor in performing the Contract, the amount set out in the Articles of Agreement shall, subject to GC35.7, be reduced by an amount that is equal to the saving.
- 35.7 The amount of the saving referred to in GC35.6 shall be determined in accordance with GC47 to GC49.
- 35.8 If the Contractor fails to give a notice referred to in GC35.2 and a claim referred to in GC35.3 within the times stipulated, an extra payment shall not be made to him in respect of the occurrence.

GC36 EXTENSION OF TIME

- 36.1 Subject to GC36.2, the Departmental Representative may, on the application of the Contractor made before the day fixed by the Articles of Agreement for completion of the Work or before any other date previously fixed under this General Condition, extend the time for its completion by fixing a new date if, in the opinion of the Departmental Representative, causes beyond the control of the Contractor have delayed its completion.
- 36.2 An application referred to in GC36.1 shall be accompanied by the written consent of the bonding company whose bond forms part of the contract security.

GC37 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

- 37.1 For the purposes of this General Condition:
 - 37.1.1 the Work shall be deemed to be completed on the date that an Interim Certificate of Completion referred to in GC44.2 is issued; and



- 37.1.2** "Period of delay" means the number of days commencing on the day fixed by the Contract for completion of the Work and ending on the day immediately preceding the day on which the Work is completed but does not include any day within a period of extension granted pursuant to GC36. 1, and any other day on which, in the opinion of the Departmental Representative, completion of the Work was delayed for reasons beyond the control of the Contractor.
- 37.2** If the Contractor does not complete the Work by the day fixed for its completion by the Articles of Agreement but completes it thereafter, the Contractor shall pay Her Majesty an amount equal to the aggregate of:
- 37.2.1** All salaries, wages and travelling expenses incurred by Her Majesty in respect of persons overseeing the performance of the Work during the period of delay;
- 37.2.2** The cost incurred by Her Majesty as a result of the inability to use the completed Work for the period of delay; and
- 37.2.3** All other expenses and damages incurred or sustained by Her Majesty during the period of delay as a result of the Work not being completed by the day fixed for its completion.
- 37.3** The Minister may waive the right of Her Majesty to the whole or any part of the amount payable by the Contractor pursuant to GC37.2 if, in the opinion of the Minister, it is in the public interest to do so.
- 37.3.1** Her Majesty may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies due or become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.
- GC38 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS**
- 38.1** The Minister may, at his sole discretion, by giving a notice in writing to the Contractor in accordance with GC11, take all or any part of the Work out of the Contractor's hands, and may employ such means as he sees fit to have the Work completed if the Contractor:
- 38.1.1** Has not, within six (6) days of the Minister or the Departmental Representative giving notice to the Contractor in writing in accordance with GC11, remedied any delay in the commencement or any default in the diligent performance of the Work to the satisfaction of the Departmental Representative;
- 38.1.2** Has defaulted in the completion of any part of the Work within the time fixed for its completion by the Contract;
- 38.1.3** Has become insolvent;
- 38.1.4** Has committed an act of bankruptcy;
- 38.1.5** Has abandoned the Work;
- 38.1.6** Has made an assignment of the contract without the consent required by GC3; or
- 38.1.7** Has otherwise failed to observe or perform any of the provisions of the Contract.
- 38.2** If the whole or any part of the Work is taken out of the Contractor's hands pursuant to GC38.1:
- 38.2.1** the Contractor's right to any further payment that is due or accruing under the Contract is, subject only to GC38.4, extinguished; and
- 38.2.2** The Contractor is liable to pay Her Majesty, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Her Majesty in respect of the Contractor's failure to complete the Work.
- 38.3** If the whole or any part of the Work that is taken out of the Contractor's hands pursuant to GC38.1 is completed by Her Majesty, the Departmental Representative shall determine the amount, if any, of the holdback or a progress claim that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands and that is not required for the purposes of having the Work performed or of compensating Her Majesty for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 38.4** Her Majesty shall pay the Contractor the amount determined not to be required pursuant to GC38.3.
- GC39 EFFECT OF TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS**
- 39.1** The taking of the Work or any part thereof out of the Contractor's hands pursuant to GC38 does not operate so as to relieve or discharge him from any obligation under the Contract or imposed upon him by law except the obligation to complete the performance of that part of the Work that was taken out of his hands.
- 39.2** If the Work or any part thereof is taken out of the Contractor's hands pursuant to GC38, all plant and material and the interest of the Contractor in all real property, licences, powers and privileges



acquired, used or provided by the Contractor under the Contract shall continue to be the property of Her Majesty without compensation to the Contractor.

- 39.3** When the Departmental Representative certifies that any plant, material, or any interest of the Contractor referred to in GC39.2 is no longer required for the purposes of the Work, or that it is not in the interests of Her Majesty to retain that plant, material, or interest, it shall revert to the Contractor.

GC40 SUSPENSION OF WORK BY MINISTER

- 40.1** The Minister may, when in his opinion it is in the public interest to do so, require the Contractor to suspend performance of the Work either for a specified or an unspecified period by giving a notice of suspension in writing to the Contractor in accordance with GC11.
- 40.2** When a notice referred to in GC40.1 is received by the Contractor in accordance with GC11, he shall suspend all operations in respect of the Work except those that, in the opinion of the Departmental Representative, are necessary for the care and preservation of the Work, plant and material.
- 40.3** The Contractor shall not, during a period of suspension, remove any part of the Work, plant or material from its site without the written consent of the Departmental Representative.
- 40.4** If a period of suspension is thirty (30) days or less, the Contractor shall, upon the expiration of that period, resume the performance of the Work and he is entitled to be paid the extra cost, calculated in accordance with GC48 to GC50, of any labour, plant and material necessarily incurred by him as a result of the suspension.
- 40.5** If, upon the expiration of a period of suspension of more than thirty (30) days, the Minister and the Contractor agree that the performance of the Work will be continued by the Contractor, the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by the Minister and the Contractor.
- 40.6** If, upon the expiration of a period of suspension of more than thirty (30) days, the Minister and the Contractor do not agree that performance of the Work will be continued by the Contractor or upon the terms and conditions under which the Contractor will continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC41.

GC41 TERMINATION OF CONTRACT

- 41.1** The Minister may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC11.
- 41.2** When a notice referred to in GC41.1 is received by the Contractor in accordance with GC11, he shall, subject to any conditions stipulated in the notice, forthwith cease all operations in performance of the Contract.
- 41.3** If the Contract is terminated pursuant to GC41.1, Her Majesty shall pay the Contractor, subject to GC41.4 an amount equal to:
- 41.3.1** the cost to the Contractor of all labour, plant and material supplied by him under the Contract up to the date of termination in respect of a contract or part thereof for which a Unit Price Arrangement is stipulated in the Contract; or the lesser of:
 - 41.3.2** An amount, calculated in accordance with the Terms of Payment, that would have been payable to the Contractor had he completed the Work; and
 - 41.3.3** An amount that is determined to be due to the Contractor pursuant to GC49 in respect of a contract or part thereof for which a Fixed Price Arrangement is stipulated in the Contract less the aggregate of all amounts that were paid to the Contractor by Her Majesty and all amounts that are due to Her Majesty from the Contractor pursuant to the Contract.
- 41.4** If Her Majesty and the Contractor are unable to agree about an amount referred to in GC41.3 that amount shall be determined by the method referred to in GC50.

GC42 CLAIMS AGAINST AND OBLIGATIONS OF THE CONTRACTOR OR SUBCONTRACTOR

- 42.1** Her Majesty may, in order to discharge lawful obligations of and satisfy claims against the Contractor or a Subcontractor arising out of the performance of the Contract, pay any amount that is due and payable to the Contractor pursuant to the Contract directly to the obligees of and the claimants against the Contractor or the Subcontractor but such amount if any, as is paid by Her Majesty shall not exceed that amount which the Contractor would have been obliged to pay to such



- claimant pursuant to legislation applicable under the governing law of the Contract. Any such claimant need not comply with the provisions of such legislation setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which claimant might have had, however Her Majesty shall, prior to paying any such claims, provide the Contractor with ten (10) days prior written notice to the effect that She will be so doing.
- 42.2** Her Majesty will not make any payment as described in GC42.1 unless and until that claimant shall have delivered to Her Majesty:
- 42.2.1** A binding and enforceable Judgment or Order of a court of competent jurisdiction setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the legislation applicable under the governing law of this Contract ;
- 42.2.2** A final and enforceable award of an arbitrator setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the legislation applicable under the governing law of this Contract; or
- 42.2.3** The consent of the Contractor authorizing a payment.
- 42.3** For the purposes of determining the entitlement of a claimant pursuant to GC42.2.1 and GC42.2.2, the notice required by GC42.8 shall be deemed to replace the registration or provision of notice after the performance of Work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by any applicable legislation.
- 42.4** The Contractor shall, by the execution of this Contract, be deemed to have consented to submit to binding arbitration at the request of any claimant those questions that need be answered to establish the entitlement of the claimant to payment pursuant to the provisions of GC42.1 and such arbitration shall have as parties to it any Subcontractor to whom the claimant supplied material, performed Work or rented equipment should such Subcontractor wish to be adjoined and Her Majesty shall not be a party to such arbitration and, subject to any agreement between the Contractor and the claimant to the contrary, the arbitration shall be conducted in accordance with the applicable legislation governing arbitration.
- 42.5** A payment made pursuant to GC42.1 is, to the extent of the payment, a discharge of Her Majesty's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
- 42.6** The Contractor shall comply with all laws in force in the jurisdiction where the Work is being performed relating to payment period, mandatory holdbacks, and creation and enforcement of mechanics' liens, builder's liens, privileges or similar legislation.
- 42.7** The Contractor shall discharge all his lawful obligations and shall satisfy all lawful claims against him arising out of the performance of the Work at least as often as the Contract requires Her Majesty to pay the Contractor.
- 42.8** The Contractor shall, whenever requested to do so by the Departmental Representative, make a statutory declaration deposing to the existence and condition of any obligations and claims referred to in GC42.6.
- 42.9** GC42.1 shall only apply to claims and obligations:
- 42.9.1** The notification of which has been received by the Departmental Representative in writing before payment is made to the Contractor pursuant to TP4.10 and within one hundred and twenty (120) days of the date on which the claimant;
- 42.9.1.1** Should have been paid in full under the claimant's contract with the Contractor or Subcontractor where the claim is for money that was lawfully required to be held back from the claimant; or
- 42.9.1.2** Performed the last of the services, Work or labour, or furnished the last of the material pursuant to the claimant's contract with the Contractor or Subcontractor where the claim is not for money referred to in GC42.9.1.1; and
- 42.9.2** The proceedings to determine the right to payment of which, pursuant to GC42.2, shall have commenced within one year from the date that the notice referred to in GC42.9.1 was received by the Departmental Representative, and the notification required by GC42.9. I shall set forth the amount claimed to be owing and the person who by contract is primarily liable.
- 42.10** Her Majesty may, upon receipt of a notice of claim under GC42.9.1, withhold from any amount that is due and payable to the Contractor pursuant to the Contract the full amount of the claim or any portion thereof.
- 42.11** The Departmental Representative shall notify the Contractor in writing of receipt of any claim



referred to in GC42.9.1 and of the intention of Her Majesty to withhold funds pursuant to GC42.10 and the Contractor may, at any time thereafter and until payment is made to the claimant, be entitled to post, with Her Majesty, security in a form acceptable to Her Majesty in an amount equal to the value of the claim, the notice of which is received by the Departmental Representative and upon receipt of such security Her Majesty shall release to the Contractor any funds which would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of GC42.10 in respect of the claim of any claimant for whom the security stands.

GC43 SECURITY DEPOSIT - FORFEITURE OR RETURN

43.1 If:

43.1.1 The Work is taken out of the Contractor's hands pursuant to GC38;

43.1.2 The Contract is terminated pursuant to GC41; or

43.1.3 The Contractor is in breach of or in default under the Contract;

43.2 Her Majesty may convert the security deposit, if any, to Her own use.

43.3 If Her Majesty converts the contract security pursuant to GC43.1, the amount realized shall be deemed to be an amount due from Her Majesty to the Contractor under the Contract.

43.4 Any balance of an amount referred to in GC43.3 that remains after payment of all losses, damage and claims of Her Majesty and others shall be paid by Her Majesty to the Contractor if, in the opinion of the Departmental Representative, it is not required for the purposes of the Contract.

GC44 DEPARTMENTAL REPRESENTATIVE'S CERTIFICATES

44.1 On the date that:

44.1.1 the Work has been completed; and

44.1.2 The Contractor has complied with the Contract and all orders and directions made pursuant thereto, both to the satisfaction of the Departmental Representative, the Departmental Representative shall issue a Final Certificate of Completion to the Contractor.

44.2 If the Departmental Representative is satisfied that the Work is substantially complete he shall, at any time before he issues a certificate referred to in GC44.1, issue an Interim Certificate of Completion to the Contractor, and for the purposes of GC44.2 the Work will be considered to be substantially complete:

44.2.1 When the Work under the Contract or a substantial part thereof is, in the opinion of the Departmental Representative, ready for use by Her Majesty or is being used for the purposes intended; and

44.2.2 when the Work remaining to be done under the Contract is, in the opinion of the Departmental Representative, capable of completion or correction at a cost of not more than:

Three percent (3%) of the first \$500,000;

Two percent (2%) of the next \$500,000, and

One percent (1%) of the balance of the value of the Contract at the time this cost is calculated.

44.3 For the sole purpose of GC44.2.2, where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and the remainder of the Work or a part thereof cannot be completed by the time specified in C3, or as amended pursuant to GC36, for reasons beyond the control of the Contractor or where the Departmental Representative and the Contractor agree in writing not to complete a part of the Work within the specified time, the cost of that part of the Work which was either beyond the control of the Contractor to complete or the Departmental Representative and the Contractor have agreed in writing not to complete by the time specified shall be deducted from the value of the Contract referred to GC44.2.2 and the said cost shall not form part of the cost of the Work remaining to be done in determining substantial completion.

44.4 An Interim Certificate of Completion referred to in GC44.2 shall describe the parts of the Work not completed to the satisfaction of the Departmental Representative and all things that must be done by the Contractor:

44.4.1 before a Final Certificate of Completion referred to in GC44.1 will be issued; and

44.4.2 Before the twelve (12) month period referred to in GC32.1.2. shall commence for the said parts and all the said things.

44.5 The Departmental Representative may, in addition to the parts of the Work described in an Interim Certificate of Completion referred to in GC44.2, require the Contractor to rectify any other parts of the Work not completed to his satisfaction and to do any other things that are necessary for the satisfactory completion of the Work.



- 44.6** If the Contract or a part thereof is subject to a Unit Price Arrangement, the Departmental Representative shall measure and record the quantities of labour, plant and material, performed, used and supplied by the Contractor in performing the Work and shall, at the request of the Contractor, inform him of those measurements.
- 44.7** The Contractor shall assist and cooperate with the Departmental Representative in the performance of his duties referred to in GC44.6 and shall be entitled to inspect any record made by the Departmental Representative pursuant to GC44.6.
- 44.8** After the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, he shall, if GC44.6 applies, issue a Final Certificate of Measurement.
- 44.9** A Final Certificate of Measurement referred to in GC44.8 shall:
- 44.9.1** contain the aggregate of all measurements of quantities referred to in GC44.6; and
 - 44.9.2** Be binding upon and conclusive between Her Majesty and the Contractor as to the quantities referred to therein.

GC45 CLARIFICATION OF TERMS IN GC47 TO GC50

- 45.1** For the purposes of GC47 to GC50:
- 45.1.1** "Unit Price Table" means the table set out in the Contract; and
 - 45.1.2** "Plant" does not include tools customarily provided by a tradesman in practising his trade.

GC46 ADDITIONS OR AMENDMENTS TO UNIT PRICE TABLE

- 46.1** Where a Unit Price Arrangement applies to the Contract or a part thereof the Departmental Representative and the Contractor may, by an agreement in writing:
- 46.1.1** Add classes of labour, plant or material, and units of measurement, prices per unit and estimated quantities to the Unit Price Table if any labour, plant or material that is to be included in the Final Certificate of Measurement referred to in GC44.8 is not included in any class of labour, plant or material set out in the Unit Price Table; or
 - 46.1.2** subject to GC47.2 and GC47.3, amend a price per unit set out in the Unit Price Table for any class of labour, plant or material included therein if the Final Certificate of Measurement referred to in GC44.8 shows or is expected to show that the total quantity of that class of labour, plant or material actually, used or supplied by the Contractor in performing the Work is:
 - 46.1.2.1** Less than eighty-five percent (85%) of that estimated total quantity; or
 - 46.1.2.2** In excess of one hundred and fifteen percent (115%) of that estimated total quantity.
- 46.2** In no event shall the total cost of an item set out in the Unit Price Table that has been amended pursuant to GC47.1.2.1. exceed the amount that would have been payable to the Contractor had the estimated total quantity actually been performed, used or supplied.
- 46.3** An amendment that is made necessary by GC47.1.2.2 shall apply only to the quantities that are in excess of one hundred and fifteen percent (115%).
- 46.4** If the Departmental Representative and the Contractor do not agree as contemplated in GC47. 1, the Departmental Representative shall determine the class and the unit of measurement of the labour, plant or material and, subject to GC47.2 and GC47.3, the price per unit therefor shall be determined in accordance with GC50.

GC47 DETERMINATION OF COST - UNIT PRICE TABLE

Whenever, for the purposes of the Contract it is necessary to determine the cost of labour, plant or material, it shall be determined by multiplying the quantity of that labour, plant or material expressed in the Unit Price Table by the price of that unit set out by agreement in a unit price table which will be included in the Contract prior to signing.

GC48 DETERMINATION OF COST - NEGOTIATION

- 48.1** If the method described in GC48 cannot be used because the labour, plant or material is of a kind or class that is not set out in the Unit Price Table, the cost of that labour, plant or material for the purposes of the Contract shall be the amount agreed upon from time to time by the Contractor and the Departmental Representative.
- 48.2** For the purposes of GC49.1, the Contractor shall submit to the Departmental Representative any necessary cost information requested by the Departmental Representative in respect of the labour, plant and material referred to in GC49.1.



GC49 DETERMINATION OF COST - FAILING NEGOTIATION

- 49.1** If the methods described in GC47, GC48 or GC49 fail for any reason to achieve a determination of the cost of labour, plant and material for the purposes referred to therein, that cost shall be equal to the aggregate of:
- 49.1.1** all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, plant and material that falls within one of the classes of expenditure described in GC50.2 that are directly attributable to the performance of the Contract;
 - 49.1.2** an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, and every other cost, charge and expenses, but not including those referred to in GC50.1.1 or GC50.1.3 or of a class referred to in GC50.2, in an amount that is equal to ten percent (10%) of the sum of the expenses referred to in GC50.1.1, and interest on the costs determined under GC50.1.1 and GC50.1.3, which interest shall be calculated in accordance with TP9.
 - 49.1.3** provided that the total cost of an item set out in the Unit Price Table that is subject to the provisions of GC47.1.2 does not exceed the amount that would have been payable to the Contractor had the estimated total quantity of the said item actually been performed, used or supplied.
- 49.2** For purposes of GC50.1.1. the classes of expenditure that may be taken into account in determining the cost of labour, plant and material are:
- 49.2.1** Payments to subcontractors;
 - 49.2.2** Wages, salaries and travelling expenses of employees of the Contractor while they are actually and properly engaged on the Work, other than wages, salaries, bonuses, living and travelling expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor unless they are engaged at the work site with the approval of the Departmental Representative;
 - 49.2.3** Assessments payable under any statutory authority relating to workmen's compensation, employment insurance, pension plan or holidays with pay;
 - 49.2.4** Rent that is paid for plant or an amount equivalent to the said rent if the plant is owned by the Contractor that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that plant has been approved by the Departmental Representative;
 - 49.2.5** Payments for maintaining and operating plant necessary for and used in the performance of the Work, and payments for effecting such repairs thereto as, in the opinion of the Departmental Representative, are necessary to the proper performance of the Contract other than payments for any repairs to the plant arising out of defects existing before its allocation to the Work;
 - 49.2.6** Payments for material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
 - 49.2.7** Payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the plant and material necessary for and used in the performance of the Contract; and
- 49.3** Any other payments made by the Contractor with the written approval of the Departmental Representative that are necessary for the performance of the Contract.

GC51 RECORDS TO BE KEPT BY CONTRACTOR

- 51.1** The Contractor shall:
- 51.1.1** Maintain full records of his estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto;
 - 51.1.2** Make all records and material referred to in GC51.1.1 available to audit and inspection by the Minister and the Deputy Receiver General for Canada or by persons acting on behalf of either or both of them, when requested;
 - 51.1.3** Allow any of the persons referred to in GC51.1.2 to make copies of and to take extracts from any of the records and material referred to in GC51.1.1; and
 - 51.1.4** Furnish any person referred to in GC51.1.2 with any information he may require from time to time in connection with such records and material.
- 51.2** The records maintained by the Contractor pursuant to GC51.1.1 shall be kept intact by the Contractor until the expiration of two (2) years after the date that a Final Certificate of Completion referred to in GC44.1 was issued or until the expiration of such other period of time as the Minister may direct.



- 51.3** The Contractor shall cause all subcontractors and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with GC51.1 and GC51.2 as if they were the Contractor.
- GC52 CONFLICT OF INTEREST**
It is a term of this Contract that no former public office holder who is not in compliance with the Government of Canada's Conflict of Interest and Post-Employment Code for Public Office Holders shall derive a direct benefit from this Contract.
- GC53 CONTRACTOR STATUS**
- 53.1** The Contractor shall be engaged under the contract as an independent Contractor.
- 53.2** The Contractor or any employee of the said Contractor is not engaged by the Contract as an employee, servant or agent of Her Majesty.
- 53.3** For the purposes of GC53.1 and GC53.2 the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for pension plans, employment insurance, workers' compensation or income tax.
- GC54 GOVERNING LAWS**
The Contract shall be governed by the laws in force in the jurisdiction defined in section C14 of the Articles of Agreement.
- GC55 SOVEREIGN IMMUNITY**
Notwithstanding any provision in this Contract, Her Majesty the Queen in Right of Canada, does not waive any immunity to which she is or may be entitled to by virtue of domestic or international law.
- GC56 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST**
- 56.1** For the purposes of this clause:
- 56.1.1** Human remains means the whole or any part of a deceased human being, irrespective of the time that has elapsed since death;
- 56.1.2** Archaeological remains are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not are limited to, stone, wood, or iron structures; monuments, bump deposits, bone artifacts, weapons, tools, coins, or pottery; and
- 56.1.3** Items of historical or scientific interest are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.
- 56.2** If, during the course of the Work, the Contractor encounters any object, item or thing which is described in clause GC56.1, or which resembles any object, item or thing described in clause GC56.1, the Contractor shall:
- 56.2.1** take all reasonable steps, including immediately stopping the Work in the affected area, to protect and preserve the object, item or thing;
- 56.2.2** immediately notify the Departmental Representative of the circumstances in writing; and
- 56.2.3** Take all reasonable steps to minimize additional costs which may accrue as a result of any work stoppage.
- 56.3** Upon receipt of a notification in accordance with GC56.2.2, the Departmental Representative shall, in a timely manner, determine whether the object, item, or things is one described in, or contemplated by, clause GC56.1, and shall notify the Contractor in writing of any action to be performed, or Work to be carried out, by the Contractor as a result of the Departmental Representative's determination.
- 56.4** The Departmental Representative may, at any time, enlist the services of experts, particularly an archaeologist or historian as appropriate, to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and monitoring in case of further discoveries, and the Contractor shall, to the satisfaction of the Departmental Representative, allow them access and cooperate with them in the carrying out of their duties and obligations.
- 56.5** Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall remain the property of her Majesty.
- 56.6** Accept as may be otherwise provided for in the contract, the provisions of GC30 shall apply.



GC57 CONTAMINATED SITE CONDITIONS

- 57.1** For the purposes of this clause, a contaminated site condition exists when toxic, radioactive or other hazardous substances or materials, or other pollutants, are found to be present at the site of the Work to the extent that they constitute a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 57.2** If the Contractor encounters a contaminated site condition, or has reasonable grounds to believe that a contaminated site condition exists at the site of the Work, the Contractor shall:
- 57.2.1** take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;
- 57.2.2** immediately notify the Departmental Representative of the circumstances in writing; and
- 57.2.3** Take all reasonable steps to minimize additional costs which may accrue as a result of any work stoppage.
- 57.3** Upon receipt of a notification in accordance with GC57.2.2, the Departmental Representative shall, in a timely manner, determine whether a contaminated site condition as described in, or contemplated by, clause GC57.1, exists, and shall notify the Contractor in writing of any action to be taken, or Work to be performed, by the Contractor as a result of the Departmental Representative's determination.
- 57.4** If the Contractor's services are required by the Departmental Representative, the Contractor shall follow the direction of the Departmental Representative with regard to any excavation, treatment and disposal of the contaminated substances or materials.
- 57.5** The Departmental Representative may at any time, and at the Departmental Representative's sole discretion, enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of the contaminated site condition, and the Contractor shall, to the satisfaction of the Departmental Representative, allow them access and cooperate with them in the carrying out of their duties and obligations.
- 57.6** Accept as may be otherwise provided for in the Contract, the provisions of GC30 shall apply.

GC58 CERTIFICATION - CONTINGENCY FEES

- 58.1** The Contractor certifies that it has not directly or indirectly paid or agreed to pay and covenants that it will not directly or indirectly pay or agree to pay a contingency fee for the solicitation, negotiation or obtaining of this Contract to any person other than an employee acting in the normal course of the employee's duties.
- 58.2** All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.
- 58.3** If the Contractor certifies falsely under GC58.1 or is in default of the obligations contained therein, Her Majesty may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract to recover from the Contractor by way of reduction to the Contract amount or otherwise the full amount of the contingency fee.
- 58.4** For the purposes of GC58:
- 58.4.1** "Contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiation the whole or any part of its terms;
- 58.4.2** "Employee" means a person with whom the Contractor has an employer/employee relationship; and
- 58.4.3** "Person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the Lobbyist Registration Act R.S. 1985 c.44 (4th Supplement) as the same may be amended from time to time.

GC59 DISPUTE SETTLEMENT

59.1 Mutual Discussions

The Contractor and Her Majesty, which for the purpose of this GC 59.1 shall jointly be referred to as the "Parties" and severally as the "Party," agree that if any dispute arises out of or in connection



with this Contract, including without limitation any question regarding its existence, validity, termination of rights or obligation of any party, the Parties shall attempt, for a period of thirty (30) days after receipt by one Party of a notice from the other Party of indicating:

59.1.1 the existence of the dispute

59.1.2 its basic substance; and

59.1.3 The other Party's decision to refer the dispute to arbitration in accordance with GC59 of the Contract, the Parties shall attempt to settle the dispute by mutual discussions between them.

59.2 Referral to Arbitration

Any such dispute that cannot be settled amicably by mutual discussion within the thirty (30) day period referred to above, shall be settled by arbitration under the arbitration of the Province of Ontario (the "Rules"). The venue of the arbitration shall be conducted in the province of Ontario, Canada. Any notice of arbitration, response or other communication given to or by a party to the arbitration shall be given and deemed received as provided in the Rules. The costs of the arbitration shall be determined and paid by the parties to the arbitration as provided in the Rules.

59.3 Appointments of Arbitrators

Each of the Parties has the right to appoint one (1) arbitrator. The two (2) arbitrators will in turn appoint the third arbitrator. Should either Party fail to appoint its respective arbitrator within thirty (30) days from the date requested by the other Party, or should the two (2) arbitrators so appointed fail to appoint the third arbitrator within thirty (30) days from the date of appointment of the second arbitrator then such arbitrator(s) shall be appointed by the chairman of the Attribution of the Association of Chartered Engineers in the Province of Ontario, Canada.

59.4 No Legal Proceedings

Each Party agrees that it will not institute any legal proceedings arising out of or in connection with this Contract, except only as provided in this GC34 and each party agrees that it will apply to the court having jurisdiction to homologate for legal enforcement the decision rendered by the arbitral tribunal. In the event any legal proceedings are instituted in any court to enforce any arbitration award, the person or persons against whom enforcement of that arbitration award is sought shall pay all costs, including without limitation the costs of legal counsel and translation fees, of the person or persons seeking to enforce the arbitration award.

59.5 Award Binding

The arbitration must be held within six (6) months of the date of appointment of the arbitrator and the arbitrator is authorized to assess costs against a party who has caused delay or who has failed to comply with any rules of the arbitration. The decision of the arbitrator shall be final, binding and incontestable and may be used as a basis for judgement thereon in the Province of Ontario, Canada, or elsewhere.

59.6 Waivers

The Parties expressly agree to waive Article 48.1 of Law No. 30 Year 1999 on Arbitration and Alternative Dispute Resolution, so that the mandate of the arbitrators duly constituted in accordance with the terms of this Contract shall remain in effect until a final arbitration award has been issued by the arbitrators.

59.7 Enforcement of Awards

For the purpose of enforcing any arbitration award, the Parties choose the general, permanent and not-exclusive domicile of the Office of the Registrar of the Province of Ontario, Canada, without prejudice to the Parties' rights to enforce any arbitration award in any court having jurisdiction over the other Party or its assets.

GC60 FORCE MAJEURE

60.1 Relief from Performance

Neither Her Majesty nor the Contractor shall be liable to the other for any delay in or failure to render, any act or thing to be performed pursuant to this Contract, to the extent that such delay or failure is caused by an event of force majeure. The effected party must use its best endeavours to eliminate the effects of the force majeure as soon as possible and resume performance hereunder.

60.2 No termination

This Contract must not be terminated by temporary force majeure and the rights and obligations of the Contractor and Her Majesty must be restored in full after any period of force majeure has ended.

60.3 Payment of Moneys

60.3.1 If as a consequence of money that is required to be paid by one Party pursuant to the terms and conditions of this Contract cannot be so paid in the manner directed by this Contract due



to an event of force majeure, then the Party required to pay must notify the Party entitled to receive the money of the former's inability to pay and the reasons for it.

60.3.2 The Party entitled to receive the money will designate to the Party required to pay an alternative place for payment and the latter will remit the funds to that place for the Party entitled to receive the funds.

60.4 Force Majeure Events

Force majeure events shall include, without limitation, any act of God, civil commotion or delays caused by governmental restriction affecting all or any portion of the Work which prevents or materially restricts either party from performing its obligations hereunder for which such party is responsible

GC61 HEALTH AND SAFETY

61.1 The Contractor shall ensure, in fulfilling its contractual obligations under this Contract, that its employees and agents are appropriately equipped with all safety clothing and equipment required to perform the Work.

61.2 The Contractor shall further ensure that its employees and agents adhere to and follow all applicable health and safety regulations, standards and procedures in force in the jurisdiction and have been trained and will use all mandatory safety equipment imposed by local law when completing the Work under this Contract.



SECTION "IV" – INSURANCE CONDITIONS

IC1 PROOF OF INSURANCE

- 1.1 The Contractor shall, at its own expense, obtain and maintain insurance as provided hereunder with companies subject to approval in writing by Her Majesty.
- 1.2 Immediately following notification of Contract award and preceding the start of any on-site Work, the Contractor shall have its insurance broker, agency or underwriter inform the Departmental Representative in writing that all insurance required hereunder is in force.
- 1.3 Within fourteen (14) days after acceptance of the Contractor's tender, the Contractor shall, unless otherwise directed in writing by the Departmental Representative, deposit with the Departmental Representative an Insurer's Certificate of Insurance in the form displayed in this document and, if requested by the Departmental Representative, the originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the Insurance Coverage Requirements shown hereunder.

IC2 RISK MANAGEMENT

- 2.1 The provisions of the Insurance Coverage Requirements contained hereunder are not intended to cover all of the Contractor's obligations under GC8 of the General Conditions Section "III" of the Contract. Any additional risk management measures or additional insurance coverages the Contractor may deem necessary to fulfill its obligations under GC8 shall be at its own discretion and expense.

IC3 PAYMENT OF DEDUCTIBLE

- 3.1 The payment of monies up to the deductible amount made in satisfaction of a claim shall be borne by the Contractor.

IC4 TYPES OF INSURANCE REQUIRED

- 4.1 The Contractor will obtain the following types of commercial insurance coverage:
 - 4.1.1 Comprehensive General Liability Insurance ("CGL"); and
 - 4.1.2 Builder's Risk - Direct Damage Insurance ("BR").

IC5 ADDITIONAL NAMED INSURED

- 5.1 Each insurance policy shall insure the Contractor, and shall include as Additional Named Insured, the Owner, being Her Majesty the Queen in right of Canada, represented by the Minister of Foreign Affairs and the Employees or servants of both Her Majesty and the Contractor.

IC6 PERIOD OF INSURANCE COVERAGE

- 6.1 Unless otherwise directed in writing by the Departmental Representative, the policies required hereunder shall attach from the date of contract award and shall be maintained until the day of issue of the Final Certificate of Completion.

IC7 NOTIFICATION

- 7.1 Each insurance policy shall contain a provision that thirty (30) days prior written notice shall be given by the Insurer to the Departmental Representative in the event of any material change in, cancellation of, or expiration of coverage. Any notice affecting a material change in, cancellation of, or expiration of coverage received by the Contractor shall be transmitted forthwith to the Departmental Representative.



PART I - COMPREHENSIVE GENERAL LIABILITY (CGL)

CGL1 LIMITS

- 1.1 The policy shall be written on a form similar to that known and referred to in the insurance industry as IBC 2100 - Commercial General Liability policy (Occurrence form) and shall provide for limit of liability of not less than the amount stated in C9, inclusive of Bodily Injury and Property Damage for any one occurrence or series of occurrences arising out of one cause. Legal or defence costs incurred in respect of a claim or claims shall not operate to decrease the limit of liability.

CGL2 COVERAGES

- 2.1 The policy shall include but not necessarily be limited to the following coverages:
- 2.1.1 All premises, property and operations necessary or incidental to the performance of this Contract;
 - 2.1.2 Personal injury;
 - 2.1.3 Bodily injury and Property Damage on an "occurrence" basis;
 - 2.1.4 "Broad Form" Property Damage including the loss of use of property;
 - 2.1.5 Removal or weakening of support of any property, building or land whether such support be natural or otherwise;
 - 2.1.6 Elevator Liability (including Escalators, Hoists and Similar Devices);
 - 2.1.7 Contingent Employer's Liability;
 - 2.1.8 Owner's and Contractor's Protective Liability;
 - 2.1.9 Contractual and Assumed Liabilities under this Contract;
 - 2.1.10 Completed Operations and Products Liability;
The insurance shall continue for a period of at least two (2) years beyond the date of the Departmental Representative's Final Certificate of Completion for the Completed Operations Hazard.
 - 2.1.11 Cross Liability;
The clause shall be written as follows:
Cross Liability
The insurance as is afforded by this policy shall apply in respect to any claim or action brought against any one Insured by any other Insured. The coverage shall apply in the same manner and to the same extent as though a separate policy had been issued to each Insured. The inclusion herein of more than one Insured shall not operate to increase the limit of the Insurer's liability.
 - 2.1.12 Severability of Interests Clause;
The clause shall be written as follows:
Severability of Interests
This policy, subject to the limits of liability stated herein, shall apply separately to each Insured in the same manner and to the same extent as if a separate policy had been issued to each. This inclusion herein of more than one insured shall not increase the limit of the Insurer's liability.
- 2.2 Period of Insurance Coverage:
The period of required insurance coverage for all insurance elements listed in CGL2: Coverages shall be from the date of execution of this contract until the date of issuance by the Departmental Representative of the Final Certificate of Completion.

CGL3 ADDITIONAL EXPOSURES

- 3.1 The policy shall be endorsed to include the following exposures or hazards if the Work is subject thereto:
- 3.1.1 Blasting;
 - 3.1.2 Pile driving and caisson work;
 - 3.1.3 Underpinning;
 - 3.1.4 Risks associated with the activities of the contractor on an active airport;
 - 3.1.5 Radioactive contamination resulting from the use of commercial isotopes; and
 - 3.1.6 Damage to the portion of an existing building beyond that directly associated with an addition, renovation or installation contract. (The care, custody and control exclusion shall not apply.).



CGL4 INSURANCE PROCEEDS

4.1 Insurance Proceeds from this policy are payable directly to a Claimant/Third Party.

CGL5 DEDUCTIBLE

5.1 The policy shall be issued with a deductible amount of not more than \$500.00 CAD per occurrence applying to Property Damage claims only.



PART II - BUILDER'S RISK - DIRECT DAMAGE (BR)

BR1 SCOPE OF POLICY

1.1 The policy shall be written on an "All Risks" basis granting coverage similar to that provided by the form known and referred to in the Insurance Industry as "Builders' Risk Comprehensive Form."

BR2 PROPERTY INSURED

2.1 The property insured shall include:

2.1.1 The Work and all property, equipment and materials intended to become part of the finished Work at the site of the project while awaiting, during and after installation, erection or construction including testing;

2.1.2 Expenses incurred in the removal from the construction site of debris of the property insured, including demolition of damaged property, de-icing and de-watering, occasioned by loss, destruction or damage to such property and in respect of which insurance is provided by this policy; and

2.1.3 Equipment and materials required for the execution or temporary protection of the Work.

BR3 INSURANCE PROCEEDS

3.1 Insurance Proceeds from this policy are payable in accordance with GC28 of the General Conditions of the Contract.

3.2 The policy shall provide that the proceeds thereof are payable to Her Majesty or as the Minister may direct.

3.3 The Contractor shall do such things and execute such documents as are necessary to effect payment of the proceeds.

BR4 AMOUNT OF INSURANCE

4.1 The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Her Majesty at the site of the project to be incorporated into and to form part of the finished Work.

BR5 DEDUCTIBLE

5.1 The policy shall be issued with a deductible amount of not more than \$1,000.00 CAD.

BR6 EXCLUSION QUALIFICATIONS

6.1 The policy may be subject to the standard exclusions but the following qualifications shall apply:

6.1.1 Faulty materials, workmanship or design may be excluded only to the extent of the cost of making good thereof and shall not apply to loss or damage resulting therefrom;

6.1.2 Loss or damage caused by contamination by radioactive material may be excluded except for loss or damage resulting from commercial isotopes used for industrial measurement, inspection, quality control, radiographic or photographic use; and

6.1.3 Use and occupancy of the project or any part or section thereof shall be permitted where such is for the purposes for which the project is intended upon completion.



BROKER'S CERTIFICATE OF INSURANCE

(TO BE DELIVERED TO THE DEPARTMENTAL REPRESENTATIVE BEFORE THE START OF ANY ON-SITE WORK)

COVERING:
 DESCRIPTION OF WORK: _____
 LOCATION OF WORK: _____
 ISSUED BY:
 BROKER/AGENT: _____
 ADDRESS: _____

ISSUED TO: FOREIGN AFFAIRS, TRADE AND DEVELOPMENT CANADA
 ADDRESS: 125 SUSSEX DRIVE, OTTAWA, ONTARIO CANADA K1A 0G2

NAMED INSURED:
 CONTRACTOR: _____
 ADDRESS: _____

This document certifies that the following policies of Insurance are at present in force covering all operations of the Insured, effective from _____ 20__ in connection with Foreign Affairs, Trade and Development Canada, for the _____ made between the Named Insured and Foreign Affairs, Trade and Development Canada.

TYPE	POLICY NUMBER	EXPIRY DATE OF LIABILITY			LIMITS	DEDUCTIBLE
		DAY	MONTH	YEAR		
Comprehensive General Liability						
Builder's Risk "All Risks"						

Each of these policies provides coverages as specified in Insurance Conditions Section "IV" which form part of this Contract.

The Insurer agrees to notify Her Majesty and the Named Insured in writing thirty (30) days prior to any material change in, cancellation of, or expiration of any policy or coverage.

 Name - Broker/Agent's Authorized Representative Signature-Broker/Agent's Authorized Representative Date Telephone Number

ISSUANCE OF THIS CERTIFICATE SHALL NOT LIMIT OR RESTRICT THE RIGHT OF HER MAJESTY TO REQUEST AT ANY TIME DUPLICATE CERTIFIED COPIES OF SAID INSURANCE POLICIES.



INSURER'S CERTIFICATE OF INSURANCE

(TO BE DELIVERED TO THE DEPARTMENTAL REPRESENTATIVE BEFORE THE START OF ANY ON-SITE WORK)

COVERING:
 DESCRIPTION OF WORK: _____
 LOCATION OF WORK: _____
 ISSUED BY:
 BROKER/AGENT: _____
 ADDRESS: _____

ISSUED TO: FOREIGN AFFAIRS, TRADE AND DEVELOPMENT CANADA
 ADDRESS: 125 SUSSEX DRIVE, OTTAWA, ONTARIO CANADA K1A 0G2

NAMED INSURED:
 CONTRACTOR: _____
 ADDRESS: _____

This document certifies that the following policies of Insurance are at present in force covering all operations of the Insured, effective from _____ 20__ in connection Foreign Affairs, Trade and Development Canada, for the _____ made between the Named Insured and Foreign Affairs, Trade and Development Canada.

TYPE	POLICY NUMBER	EXPIRY DATE OF LIABILITY			LIMITS	DEDUCTIBLE
		DAY	MONTH	YEAR		
Comprehensive General Liability						
Builder's Risk "All Risks"						

Each of these policies provides coverages as specified in Insurance Conditions Section "IV" which form part of this Contract.

The Insurer agrees to notify Her Majesty and the Named Insured in writing thirty (30) days prior to any material change in, cancellation of, or expiration of any policy or coverage.

 Name - Insurer's Authorized Representative Signature- Insurer's Authorized Representative Date Telephone Number

ISSUANCE OF THIS CERTIFICATE SHALL NOT LIMIT OR RESTRICT THE RIGHT OF HER MAJESTY TO REQUEST AT ANY TIME DUPLICATE CERTIFIED COPIES OF SAID INSURANCE POLICIES.



SECTION "V" – CONTRACT SECURITY CONDITIONS

CS1 OBLIGATION TO PROVIDE CONTRACT SECURITY

- 1.1 Where the contract amount referred to in the Contract is:
 - 1.1.1 less than CDN \$25,000.00, the Departmental Representative may require the Contractor to provide contract security prescribed in CS2; and
 - 1.1.2 CDN \$25,000.00 or more, the Contractor shall, at his own expense, provide one or more of the forms of contract security prescribed in CS2.
- 1.2 The Contractor is required to provide contract security pursuant to CS2 and such security shall be delivered to the Departmental Representative within fourteen (14) days after the date that the Contractor receives notice that his tender or offer was accepted by Her Majesty.

CS2 DESCRIPTION OF ACCEPTABLE CONTRACT SECURITY

- 2.1 If the Contractor is required to provide contract security pursuant to CS1, Her Majesty shall accept from the Contractor one or more of the forms of security prescribed in CS2.2 to CS2.6.
- 2.2 A Contractor shall deliver to the Departmental Representative:
 - 2.2.1 a performance bond and a labour and material payment bond each in an amount that is equal to not less than the amount stated in C10 of the Articles of Agreement; or
 - 2.2.2 a labour and material payment bond in an amount that is equal to not less than the amount stated in C9 of the Articles of Agreement, and a security deposit in an amount that is equal to:
 - 2.2.2.1 not less than 10% of the contract amount referred to in the Articles of Agreement where that amount does not exceed CDN \$250,000.00; or
 - 2.2.2.2 CDN \$25,000.00 plus 5% of the part of the contract amount referred to in the Articles of Agreement that exceeds CDN \$250,000.00; or
 - 2.2.2.3 a security deposit in an amount prescribed by CS2.2.2 plus an additional amount that is equal to 10% of the contract amount referred to in the Articles of Agreement.
- 2.3 A performance bond and a labour and material payment bond referred to in CS2.2 shall be in a form and be issued by a bonding or surety company that is approved by Her Majesty.
- 2.4 The amount of a security deposit referred to in CS2.2.2 shall not exceed CDN \$250,000.00 regardless of the contract amount referred to in the Articles of Agreement.
- 2.5 A security deposit referred to in CS2.2.2 and CS2.2.2.3 shall be in the form of:
 - 2.5.1 a certified cheque payable to the Receiver General of Canada and drawn on a member of the Canadian Payments Association or a local cooperative credit society that is a member of a central cooperative credit society having membership in the Canadian Payments Association; or
 - 2.5.2 bonds of or unconditionally guaranteed as to principal and interest by the Government of Canada.
- 2.6 A bond referred to in CS2.5.2 shall be:
 - 2.6.1 payable to bearer;
 - 2.6.2 accompanied by a duly executed instrument of transfer to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - 2.6.3 registered as to principal or as to principal and interest in the name of the Receiver General for Canada.



SECTION "VI" – LABOUR CONDITIONS

LC1 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR

1.1 The Contractor agrees that:

1.1.1 in the hiring and employment of workers to perform any Work under the Contract, the Contractor will not refuse to employ and will not discriminate in any manner against any person because:

1.1.1.1 of that person's race, national origin, colour, religion, age, sex or marital status;

1.1.1.2 of the race, national origin, colour, religion, age, sex, or marital status of any person having any relationship or association with that person; or

1.1.1.3 a complaint has been made or information has been given by or in respect of that person relating to an alleged failure by the Contractor to comply with subparagraph (LC1.1.1.1.) or (LC1.1.1.2);

1.2 If any question arises as to whether the Contractor has failed to comply with the provision described in paragraph (LC1.1), the Minister or any person designated by the Minister shall decide the question and his decision shall be final for the purposes of the Contract; and

1.3 Failure to comply with the aforementioned clauses (LC1.1.1) and (LC1.1.2) regarding non-discrimination shall constitute a material breach of the Contract.

LC2 LABOUR

2.1 The Contractor further agrees to pay in employing labour, wages that are in conformity with all applicable legislation and norms in force in the place in which the Work is being performed.



Appendix "A" - STATEMENT OF WORK

1.0 TITLE

Supply and Installation of New Underground Fuel Tank for the Embassy of Canada to Zimbabwe

2.0 OBJECTIVE

The Department of Foreign Affairs, Trade and Development (DFATD) has a requirement for a new compartmentalised 10,000 litre double-walled Underwriters Laboratory Canada (ULC) compliant Underground Fuel Tank (UFT) on the grounds of the Official Residence (OR) in Harare, Zimbabwe. The tank will have two (2) equal compartments housing petrol and diesel respectively. The work will also include the installation of a dual pump system to allow each of the tank's compartments to be dispensed independently.

3.0 COMMUNICATION

All deliverables (ex: reports, communications, assessments, etc.) must be sent to the Departmental Representative.

(Information to be provided at contract award)

The language used to write the reports must be French or English. At least one representative of the Contractor must speak English on site.

4.0 SCOPE

The work will consist of several key activities for the supply and installation of the new 10m³ Double Skinned Wall Underground Storage Tank (UST) 2 Comp - C/W Speedframe - Diameter:1900mm as described in the sections below and in Annex 1 to the SOW. The work will include but not limited to:

- General Tasks;
- Earthwork;
- Concrete Work;
- Landscaping;
- Electrical;
- Pumps and Piping; and
- Disposal

As part of the Works, the Contractor is responsible for the following key activities:

- Attend a virtual Kick-Off meeting with the Departmental Representative within one week of contract award;
- Attend a site visit with the Departmental Representative to do a site survey to validate specifications and site condition;
- Within one week of the Kick-Off meeting, provide a hardcopy in English to the Departmental Representative of the schedule outlining anticipated dates of all project milestones, critical path, and deliverables;
- Ensure the programming of these works shall be undertaken in conjunction with all other trades and subcontractors under the Contractor;
- The works shall be agreed upon by the Departmental Representative with the Contractor as a final quality assurance check that the full scope of works was completed and the building left in a fully functional and operational site fit for purpose;
- Provide a completed non-hazardous waste manifest from the Environment Management Agency (EMA) via email to the Departmental Representative describing the final disposal location of any



petroleum products, impacted soils, oily water, and tank residue/sludge. This manifest must include a list of EMA approved disposal sites;

- Stop work immediately If hazardous materials are found and immediately report the find to the Departmental Representative;
- Provide written notification and description and test results (or sample analysis) of hazardous materials prior to removal. Uncontaminated surplus materials may be removed as necessary;
- Stop work immediately If hazardous materials are found;
- Provide signed notice and all relevant documents when disposal of hazardous material disposal has been completed and in accordance to the EMA manifest;
- Be responsible for the professional quality, technical accuracy, and the coordination of all construction and other services furnished under this contract;
- Apply for and have all required permits and licenses to perform the work as required by EMA in Harare;
- Ensure all work under this contract will be done in strict accordance with all current applicable Federal, State, and local regulations. All applicable codes, regulations and standards are adopted into this specification and will have the same force and effect as this specification. When necessary, the Departmental Representative will review with the Contractor; and
- Be certified for the tank and piping installation by the tank and piping manufacturers in accordance with subdivision 22a-449(d) – 102(a)(6) of the Underground Storage Tank Regulations. (see below) <https://www.canada.ca/en/environment-climate-change/services/pollutants/storage-tanks-petroleum-allied-products/regulations.html>.

5.0 GENERAL TASKS

THE CONTRACTOR MUST:

- Identify a Site Manager who shall be responsible for the overall management of the project and shall represent the Contractor on the site during construction;
- Ensure the Project Site Manager attends all weekly site meetings with the Departmental Representative and provide regular updates to the Departmental Representative via email;
- Coordinate with the Departmental Representative to schedule on-site works as the OR will be occupied at time of works;
- Obtain all necessary permits and licenses for the works - except the permit to install a new UFT has been granted by the EMA;
- Ensure two (2) copies of the EMA regulations and any licenses are posted at the work site and in the Contractor's office;
- Provide a list of certified hazardous material workers to the Departmental Representative prior to starting the works onsite to ensure all workers are certified;
- Provide a detailed Health and Safety Plan to the Departmental Representative prior to starting onsite work. Details must include, description of Personal Protective Equipment (PPE);
- Discuss with the Departmental Representative the demolition/alternation of any existing facilities and the removal any overlying materials that obstruct the area where the work is to take place. This includes at minimum the removal of trees, sections of the drive, sections of the side walk, and impacted soils;
- Supply and use own tools for all the works;
- Supply and install a temporary 2-metre-high safety fence supported with steel posts around all open excavations until the excavations can be backfilled. This fence must be onsite prior to any excavation activities;
- Supply and install new compartmentalised 10,000 litre double-walled ULC compliant UFT and related piping. The tank must have two (2) equal compartments housing petrol and diesel respectively. See Materials List in Appendix 1 of this document;
- Supply and install a dual pump system to allow each of the tank's compartments to be dispensed independently;



- Not use or operate tractors, bulldozers, or other power-operated equipment on paved surfaces when treads or wheels of which are so shaped as to cut or otherwise damage such surfaces;
- Restore all surfaces that have been damaged by the Contractor's operations, to a condition at least equal to that in which they were found immediately before work commenced;
- Provide all new base material will be in accordance with manufactures recommendations and a minimum of 6 inches thick;
- Use concrete will be Class C with a minimum of 3 ksi compressive strength at 28 days.
- Ensure expansion joint material will be placed at 20-foot spacing;
- Ensure joints will be placed into the concrete sidewalk at 5-foot spacing or match existing joint spacing. The sidewalk will be broom finished;
- Provide testing results that will consist of a complete coordination and functional check under simulate operating conditions, followed by operational test under actual operating conditions. All tests that are a part of this acceptance test will be conducted in the presence representative(s) of the Departmental Representative;
- Ensure any defect in material, equipment, or workmanship that may show up during the above tests, will be promptly made corrected by the Contractor and a new acceptance test will be scheduled, subject to the same provisions as above described;
- Prepare for inspection by conducting a final cleaning of all work areas for use and occupancy by the Mission. This includes all landscaping work, sidewalk replacement, and clean up as required;
- Keep one copy of the Specifications, Drawings, Addenda, approved Shop Drawings, Change Orders, Schedules and Instructions in good order at the site and record all changes made during construction. The documents will be available to the Departmental Representative or their authorized representatives at all times upon request; and
- At the conclusion of construction, the Contractor will turn one set of the marked-up drawings with recorded changes over to the Departmental Representative.

6.0 SITE MANAGEMENT

THE CONTRACTOR MUST:

- Exercise all necessary precautions for fire prevention. An acceptable fire extinguisher will be made available at all times. Burning of demolition debris is not permitted on or near site. Use of burning torches will not be permitted without site-specific written authorization from the Departmental Representative;
- Provide protection of persons and property throughout progress of work. All work should proceed in such manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel; and
- Obtain permission from the Departmental Representative before abandoning or removing any existing structures, materials, equipment and appurtenances not specified in the specifications.

7.0 SITE PREPARATIONS, ALTERATIONS, AND DISPOSAL PROCEDURES

THE CONTRACTOR MUST:

- Provide information regarding disposal activities, including but not limited to petroleum-impacted soil, to the Departmental Representative as per instructions under "General Tasks";
- Remove any overlying materials, including trees and sections of the drive to the property, sidewalk and soil as required; and
- Provide and maintain a temporary 2-metre-high construction safety fence supported with steel posts surrounding all open excavations until the excavations are completely backfilled. The fencing will be on-site and ready for installation prior to commencement of any excavation activities.



8.0 CUTTING AND PATCHING

THE CONTRACTOR MUST:

- Pour a concrete base slab sufficient to anchor the new tank as per the manufacturing recommendations as detailed in the attached drawings;
- Prevent surface waters from entering the tank and piping excavations at all times;
- Fill in all openings and chases may not be shown on the Drawings. It is the responsibility of the Contractor to provide chases, channels or openings where needed to facilitate the work;
- After completion of openings, channels and/or chases, close and finish to match the existing;
- Obtain permission from the Departmental Representative before cutting beams, arches, lintels or other structural members. Concrete ground covers will be neatly saw cut through their entire thicknesses; and
- Seal all penetrations through floors and walls and make watertight as needed; restore or preserve fire-rated construction.

9.0 DEMOLITION AND ALTERATIONS

The demolition and alteration of existing facilities as shown on the Drawings in Appendix A will consist of the following key activities:

- Earth excavation;
- Backfilling;
- Grading;
- Paving;
- Landscaping;
- Excavation of contaminated materials;
- Staging;
- Loading; and
- Transportation and disposal of materials.

THE CONTRACTOR MUST:

- Carry out program of excavation in such manner as to eliminate all possibility of undermining or disturbing foundations of existing structures or of work previously completed under this contract;
- Make all excavations in open, except as otherwise specified or permitted;
- Ensure excavation, trenching and shoring requirements for the protection of employees in accordance with Canadian Centre of Health and Safety (CCOHS) Regulations, for trenching and excavations will be employed and enforced. See link <https://www.ccohs.ca/topics/legislation/programs/> ;
- Follow the length of trench open at any one time will be controlled by conditions and subject to any limits that may be prescribed by the Departmental Representative;
- Will verify that pavement and concrete is cut through entire depth with pneumatic tools;
- Contact all utility companies to ask for any information they might have in relation to the utility routes, to ensure that these can be mapped out prior to undertaking and excavations;
- Repair utilities damaged by the Contractor with equal materials in a schedule and to the specifications of the Departmental Representative;
- Preserve all existing pipes, poles, wires, utilities, fences, curbing's, property line markers, and other structures, which the Departmental Representative decides must be preserved in place without being temporarily or permanently relocated will be carefully supported and protected from damage by the work. Should such items be damaged, they will be restored by the Contractor, to the same condition prior to the damages;
- Consult with the Departmental Representative whenever the Contractor encounters or damages previously unknown or undocumented existing structures as described below, he will perform all or a portion of the work described as directed in writing by the Departmental Representative to



change the location of, remove and restore, or replace such structures, or to assist the Departmental Representative thereof in so doing;

- Ensure the structures to which the provisions of the preceding two paragraphs will apply include pipes, wires, and other structures which meet all of the following: (a) are not indicated on the drawings or otherwise provided for, (b) encroach upon or are encountered near and substantially parallel to the edge of the excavation, and (c) in the opinion of the Departmental Representative will impede progress to such an extent that satisfactory construction cannot proceed until they have been changed in location, removed (to be later restored), or replaced;
- Ensure branches, limbs and roots will not be cut unless written authorization is provided by the Departmental Representative;
- Restore existing property or structures should be done as promptly as practicable and not left until the end of the construction period;
- Remove material unsuitable for foundation (in the opinion of the Departmental Representative) is found at or below the grade to which excavation would normally be carried out in accordance with the drawings and/or specifications, the Contractor will remove such material to the required width and depth and replace it with thoroughly compacted, material of a type as directed;
- Remove unless otherwise directed by the Departmental Representative, surplus excavated materials not needed and uncontaminated will be hauled away and disposed of by the Contractor, at his expense, at appropriate locations, and in accordance with Environmental Management Agency recommendations. Excavated soil suspected of contamination may not be removed from the site prior to sampling and chemical analysis and written approval from the Departmental Representative. The Contractor is responsible for all sampling and analysis for standard waste characterization and disposal analyses. Any additional waste characterization sampling will be the responsibility of the Contractor;
- Ensure during progress of work, the Contractor will conduct his operations and maintain area of his activities, including sweeping and water sprinkling of paved surfaces and covering of soil stockpiles as necessary, so as to minimize the creation and dispersion of dust. If the Departmental Representative decides that it is necessary to use additional water for more effective dust control, the Contractor will furnish and apply additional water, as directed;
- Ensure and unless other material is indicated on drawings or specified, material used for backfilling trenches and excavations around structures will be suitable material which was removed in the course of making the construction excavations;
- Reuse of existing materials for backfill will be preapproved by the Departmental Representative. If sufficient suitable material is not available from the excavations, the backfill material for the UST and piping will be pea gravel to at least 12-inches above the UST and 6-inches above the piping;
- Ensure trench and pavement subgrade backfill will be mechanically compacted in 8-inch lifts maximum with a vibratory plate compactor using a minimum of four phases;
- Use pea gravel around the UST will be carefully placed to avoid voids and bridging;
- Discuss the nature of materials will govern both their acceptability for backfill and methods best suited for their placement and compaction in backfill with the Departmental Representative;
- Pea gravel will be separated from upper free draining materials with geotextile fabric;
- Ensure the depth of burial of the tank will conform with manufacturers requirements and National Fire Protection Agency 30 and 31.9;
- Provide concrete sidewalks will be placed upon a completed sub base, which has been brought to proper grade and cross-section by prescribed means. This work will be performed in accordance with these specifications and in conformity with the line, grade, and thickness of the existing sidewalk;
- Provide a new wooden platform will be replaced upon completion, this will be performed in accordance with these specifications and in conformity with materials, grades, and thickness to the existing platform and in accordance with the building codes;



- Restore landscaping which will consist of furnishing, placing and shaping topsoil in all landscaped areas to a minimum in-place thickness of 6 inches and in accordance with Standard Specifications. Turf establishment in these areas will consist of providing an accepted uniform stand of established perennial turf grasses by furnishing and placing fertilizer, seed and mulch on all areas to be treated as shown on the Drawings and where designated by the Departmental Representative;
- Must provide a detailed demolition plan and schedule where work under this section may disrupt operations or use of on site facilities, to the Departmental Representative for approval;
- Must confine the apparatus, storage of material, demolition work, new construction, and operations of workmen to the designated work area and other areas that will not interfere with continued use and operation of the entire facility;
- Provide and maintain lights, barriers, and temporary passageways for free and safe access;
- Wet down work during demolition operations as necessary to prevent dust from arising. All curbing and concrete ground covers will be neatly saw cut through their entire thicknesses;
- Provide shoring or bracing where necessary to prevent settlement or displacement of existing or new structures;
- excavate to form the space where the new tank will be installed;
- Form new conduits for the new fuel supply and return lines below the forecourt for the tanks;
- Provide, install and maintain fencing and other appropriate approved barricades to prevent individuals or vehicles from falling into excavations. The Contractor will prevent surface water from entering the tank grave during excavation;
- During excavation for the new tank and/or appurtenances, if the Contractor encounters material that is believed to be contaminated, hazardous, or petroleum-contaminated, the Contractor will cease work in the area and notify the Departmental Representative immediately; and
- In the event that the depth of the excavation is deeper than specified in the drawings or foreseeable, backfill, with material as directed by the Departmental Representative.

10.0 CONTAMINATED MATERIALS EXCAVATION, STAGING, LOADING, TRANSPORTATION AND DISPOSAL

The procedures outlined in this Technical Specification will be followed during the excavation, staging, loading, transportation, and disposal of contaminated materials generated according to the following scenarios:

- Contaminated soil generated during excavation and construction activities;
- Contaminated liquids, No. 2 fuel oil product, and solid waste, other than soil, such as concrete debris from slab produced by the Contractor during construction/demolition and decontamination activities;
- The Contractor is responsible for providing the Departmental Representative all sampling and analyses required for disposal. The Departmental Representative will be responsible for properly characterizing for disposal all material prior to removing material from the site; and
- The waste characterization analyses requirements will be submitted to the Departmental Representative prior to start of tank removal activities.

STORAGE OF PRODUCTS GENERATED FROM EXCAVATION

THE CONTRACTOR MUST:

- Use Plastic Sheets: Provide polyethylene plastic sheeting with a minimum thickness of 6 mm and a minimum width of ten (10) feet. Plastic sheeting of 10 mm thickness will also be required as specified;
- Remove all waste generated by the Work, including all impacted excavated material, from the site after approval by the Departmental Representative and within 10 business days of the time the



waste is generated and transported directly to an approved disposal facility as specified. Storage of any waste on-site overnight will be permitted in the manner and location specifically approved by the Departmental Representative;

- Load and transport contaminated liquid and solid waste, other than soil, to an approved and permitted waste disposal/treatment facility;
- Transport all materials for disposal directly to facilities which have received prior approval of the Mission. No materials will be added to or removed from transport vehicles between their time of departure from the site and their time of arrival at the approved facility for their disposal;
- Use only properly permitted mission - approved waste transporters. All vehicles and drivers will be permitted and licensed in accordance with all applicable federal, state and local laws and regulations including the laws and regulations of governing agencies which have jurisdiction over areas through which the waste will be transported;
- Provide certified weight scale tickets showing the weight of the vehicle at the time of arrival and departure from the disposal facility will be provided as a prerequisite to payment for all waste material transported off-site. The weight tickets will be signed and dated by a representative of the Contractor certifying to the accuracy of all measurements, the date and time of arrival and departure of each vehicle, the disposal location and the vehicle identification number;
- Complete all required manifest forms and bills of lading as required by applicable laws and regulations for transportation and disposal of materials off-site. The Contractor will provide copies of all required manifests and bills of lading to the Departmental Representative along with all requested backup documentation. The Departmental Representative or its designated representative will sign manifests and bills of lading. The Contractor will be responsible for assuring that all notifications, labeling, documentation, sampling, analysis, transportation and disposal requirements of the disposal facility, and federal, state and local governments are complied with and properly documented;
- Repair damage to existing paved surfaces and curbing necessary to complete the tank closure according to applicable drawings and specifications;
- Use scales for determination of weight for contaminated soil disposal and imported clean backfill soil will be certified by the EMA; and
- Undertake Soil management to include tank grave sampling and testing of soils to determine if soil is contaminated. Any contaminated soil from excavation for the new tank will be managed by the Contractor at the Departmental Representative's' direction.

REMOVAL AND STAGING OF CONTAMINATED SOIL

- Area Preparation: Prior to beginning excavation, all standing liquids and associated tank bottom sediments and sludge will be removed from the tank and underground piping as described in Section on Demolition and Alterations, to the maximum extent feasible;
- The excavation of contaminated soil will not extend below the water table more than one (1) foot, below areas which may compromise structural integrity of buildings or utilities, nor below barriers to contaminant movement such as clay, silt lenses, or termination of soil at the bedrock surface unless indicated on the plans or ordered by the Departmental Representative. The Contractor will safely maintain the tank and piping excavations open for a period of time not to exceed two (2) business days, unless otherwise directed by the Departmental Representative. Contractor will utilize proper equipment (e.g., excavator bucket) to assist the Departmental Representative in the collection of post-excavation bottom and sidewall soil samples. Additional excavation may be required as directed by the Departmental Representative. The area will be backfilled by the Contractor only after receiving written authorization from the Departmental Representative;
- Staging: Excavated soil that has been preliminarily classified as "contaminated" material will be staged on-site in the following manner as directed by the Departmental Representative;
- All excavated soil will be underlain by two overlapping layers 10-mil plastic sheet of sufficient size to ensure that seepage of soil or water is prevented;



- All excavated soil will be covered with a 6-mil plastic sheet of sufficient size to ensure that infiltration of precipitation or generation of dust is prevented. The cover will be held in place with two (2) rows of hay bales continuously around the perimeter to form a soil-retaining trough. Wrap bottom 6-mil plastic sheet over trough and under outer hay bales;
- The staging area will be inspected regularly by the Contractor to ensure that the cover or other containment structure has not been damaged, and that there is no apparent leakage from the pile. If the plastic cover has been damaged, or there is evidence of seepage from the piles, the Contractor will replace the plastic sheet cover material as needed to prevent the release of materials to the environment from the piles. It is the Contractor's responsibility to prevent the pile from releasing contaminants to the environment throughout the duration of the project. The staging area is restricted to within the work area limits shown on the Drawings unless approved otherwise by the Departmental Representative or Departmental Representative; and
- The staging area will be inspected regularly by the Contractor to ensure that the cover or other containment structure has not been damaged, and that there is no apparent leakage from the pile. If the plastic cover has been damaged, or there is evidence of seepage from the piles, the Contractor will replace the plastic sheet cover material as needed to prevent the release of materials to the environment from the piles. It is the Contractor's responsibility to prevent the pile from releasing contaminants to the environment throughout the duration of the project. The staging area is restricted to within the work area limits shown on the Drawings unless approved otherwise by the Departmental Representative.

TRENCH EXCAVATION, BACKFILL - GRADING, PAVING AND LANDSCAPING

Work included under this section consists of Trench Excavation, Backfill, Drainage, Paving, Topsoil & Seeding, Wooden Platform Installation and all other work indicated on the drawings in Appendix A and not covered in the Specifications.

SEPARATION OF SURFACE MATERIALS

THE CONTRACTOR MUST:

- Remove only existing concrete sidewalk designated in the annexes and agreed upon by the Departmental Representative and that is necessary for execution of work. The extent of removal is as detailed in the drawings provided; and
- Carefully remove loam and topsoil from excavated areas and store separately for further use or furnish equivalent loam and topsoil as directed by the Departmental Representative.

DRAINAGE AND DEWATERING

- Allow for dewatering if any ground water is encountered during the soil excavation or as directed by the Departmental Representative due to unsuitable conditions. Contractor will protect subgrades soils from softening, undermining, washing out, and damage by rain or water accumulations;
- Precautions will be taken to protect uncompleted work from flooding during storms or from other causes. All pipe lines or structures not stable against uplift during construction or prior to completion will be thoroughly braced or otherwise protected;
- Prevent surface water from flowing into excavations and from flooding the project area, as well as surrounding areas. Do not allow water to accumulate in excavations. Provide suitable temporary pipes, flumes or channels for water that may flow along or across the site of work;
- The Contractor will be prepared to install a sump(s) for dewatering the excavation and will supply all sump materials, pump(s), hoses tank for temporary water storage and particulate settlement. Under the direction of the Departmental Representative, the Contractor will be prepared to dispose of recovered water;



- The Contractor will test and dispose of liquid products in accordance with approved procedures, federal laws and regulations. The potential exists for contaminated groundwater to be present in trenches and tank excavations;
- The Contractor will not dispose of any contaminated water into sanitary sewers or storm water drains. Recovered water may be discharged with the approval of and under the direction of the Departmental Representative;
- All pumped or drained water will be disposed of or discharged, as directed by the Departmental Representative, without undue interference to other work, damage to pavements, other surfaces, or property;
- During excavation activities, when the Contractor approaches pipes, conduits, or other underground structures, the excavation must continue using hand tools only, to prevent damages to these structures.;
- Include such manual excavation, in work to be done, when incidental to normal excavation and under items involving normal excavation; and
- Excavate test pits, when determination of exact location of pipe or other underground structure is necessary for doing work properly.

DISPOSAL AND SALVAGE

- Petroleum impacted soils will be removed and disposed of offsite by the Contractor at the direction of the Departmental Representative;
- The Contractor will provide written documentation to the Departmental Representative showing that all materials disposed off-site for the Contract were disposed of in accordance with EMA Directives. The Contractor is to seek a copy of the government issued license showing that their dump site is approved by the EMA;
- Based on the finalized soil classification provided by the Contractor and reviewed by the Departmental Representative, contaminated soil will be loaded by the Contractor onto vehicles for transport to a permitted disposal/treatment facility in the following manner;
- Contaminated soil will be loaded for transportation by the Contractor and transported to an approved disposal/treatment facility. Contaminated soil loading and transportation arrangements will be coordinated between the Contractor and the Departmental Representative. The Contractor will coordinate his work schedule with the schedule of vehicles to minimize loading time for those vehicles;
- No contaminated soil will be loaded onto vehicles until the Departmental Representative has completed his review of the soil laboratory analytical results and approval from the Departmental Representative is received by the Contractor;
- During loading operations and final clean-up of the staging area, the Contractor will prevent the mixing of contaminated soil with non-contaminated existing soil at the staging area; and
- The Contractor will coordinate the disposal of work generated materials which may be contaminated including reasonable amounts of materials generated and disposed of. These waste materials include decontamination rinse water, disposable personal protective equipment (PPE), and miscellaneous disposable support equipment.

TRANSPORTATION

DRUMS

If drums are utilized, the Contractor will load and transport the drums of contaminated liquid and solid waste, other than soil, to the appropriate permitted waste disposal/treatment facilities, as arranged by the Contractor and approved by the Departmental Representative.

- Leaking or deteriorated drums will be over packed prior to shipping;
- Drums containing waste will not be double stacked at any times on site or during transportation;



- Truck beds and walls must be clean and smooth to prevent damage to the drums; and
- Drums will be secured, as needed, to prevent shifting during transport.

BULK MATERIAL:

- All vehicles used by the Contractor to transport, "contaminated" and regulated liquid, solid waste, and soil will be registered with the EMA, as required by law. The materials will be covered or protected during transport to ensure that seepage of waste material, water or dust into or out of the vehicle is prevented. Transport vehicles, gross vehicle weight and loading and unloading procedures will meet all appropriate state and federal Department of Transport (DOT) standards;
- The Contractor will load and transport nonhazardous bulk waste material, other than soil, to a permitted solid waste disposal/recycling facility, (please liaise with the EMA for list of approved sites). Allow for confirming with the Departmental Representative;
- Bulk solids will be kept several inches below the top of the truck container; and
- The load will be secured to prevent shifting or release during transportation.

11.0 TANK SPECIFICATION

Prior to the ordering materials, the Contractor must submit all shop drawings and material approval requests to the Departmental Representative to confirm they meet the ULC standards.

The Contractor must supply and install the following:

- UFT must have a minimum holding capacity of 10,000 litres;
- UFT and must have sealed welded joints along the inside of the tank bottom from shell to shell and head to shell. Lap joints and butt joints with one plate edge offset for the length specified;
- The UFT must comply with the specifications detailed in section 4 (Construction) of the CAN/ULC-S603-14 - Standard for Steel Underground Tanks for Flammable and Combustible Liquids. The information for this standard can be found at the following link:
<https://canada.ul.com/public-access-canulc-s603-14-standard-for-steel-underground-tanks-for-flammable-liquids-and-combustible-liquids/> ;
- The UFT and all associated materials and systems must comply with Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations -SOR/2008-197. The information for this standard can be found at the following link:
<https://laws-lois.justice.gc.ca/eng/regulations/sor-2008-197/index.html> ; and
- The Contractor must provide certification that their tanks comply with the ULC Standards per the link below. This will take the form of a certificate issued to the manufacturer by ULC.
<https://canada.ul.com/wp-content/uploads/sites/11/2021/04/05-ST-S0850-1.pdf> .

12.0 FUEL TANK PIPING

The Contractor is responsible for all required piping and electrical connections to ensure proper installation and operation of the new UFT.

The Contractor must ensure:

- The UFT and all associated piping must be installed in accordance with the following:
 - The manufacturer's instructions;
 - NFPA 30 requirements; ;
<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=30> ;
- CT Regulations are followed - Section 22a-449(d)-102 and 22(a)-449(d)103:
https://eregulations.ct.gov/eRegsPortal/Browse/RCSA/Title_22aSubtitle_22a-449%20dSection_22a-449%20d-103/;



- All fuel and return line piping must be double-walled, flexible, piping (OPW, APT, or equivalent to be approved by Departmental Representative) suitable to the project application;
- All supplied piping is as detailed in the attached drawings, found in the annexes of this SOW;
- New 2-inch conduits must be installed for the supply lines. All fittings and connections to the tank and pumps to be included herewith; and
- Shop Drawings of the pumps must be submitted to the Departmental Representative for approval.

13.0 TESTING

The Contractor will test the completed tank system including the alarm and leak monitoring systems in accordance with PN 1326 and in accordance with the manufacturer's Installation Manual and Operating Guidelines in effect at the time of installation.

TANK ATMOSPHERE TESTING

The tank atmosphere and the excavation area must be continuously monitored by the Contractor for flammable vapour and oxygen concentrations.

Monitoring will be performed with a combustible gas indicator provided by the Contractor which is properly calibrated and thoroughly checked and maintained according to the manufacturer's instructions. Persons responsible for monitoring must be completely familiar with the use of the instrument and the interpretation of the instrument's readings.

Combustible gas indicator readings may be misleading if the tank atmosphere contains less than 5 percent by volume oxygen, as in a tank vapor-freed with CO₂, N₂, or another inert gas. In general, readings in oxygen-deficient atmospheres will be on the high, or safe, side. Therefore, the Contractor will also use an oxygen indicator to assess the oxygen concentration in the tanks.

Please refer to the link for further information on requirements:

<https://www.hse.gov.uk/pubns/priced/l101.pdf>.

14.0 CONCRETE WORK

The Contractor will form a new concrete base as detailed in the attached drawings in the Annex 1 of this document and as follows:

NEW REINFORCED CONCRETE ABOVE FUEL TANK

- All work will be in accordance with the attached drawings in Annex 1;
- All new base material will be free draining material and compacted in a minimum of 8 inch lifts with four passes of a vibratory plate compactor or similar;
- Reinforcing will be 6X6 – W2 X W2 welded wire reinforcing;
- Concrete will be Class C, with a minimum 3 ksi compressive strength in 28 days;
- The new watertight manholes and sumps will be installed in accordance with manufacturer's recommendations; and
- Two coats of curing compound will be applied to the finished concrete.

15.0 PLUMBING, TANKS, PUMPS, PIPING AND ELECTRICAL

CODES AND STANDARDS FOR ELECTRICAL WORKS

All electrical work to be performed and all materials to be furnished will be in accordance with the rules and regulations of the National Fire Protection Association, National Electric Code, the State



and Local Codes, the Contract Specifications, and to the satisfaction of the Departmental Representative.

CONNECTIONS AND IDENTIFICATION OF CIRCUITS

Included in this Contract will be all necessary approved terminal and terminating devices required for a complete and working installation, satisfactory to the Departmental Representative. Where conductors are to be terminated in existing equipment, the Electrical Contractor will obtain all required termination information and complete all terminations. All wires and cables will be banded with an identifying number at each end termination and at each splice or pull point in junction boxes and pull boxes. The identifying number of each wire will be determined at the point of circuit origination, and will continue unchanged to the point of circuit termination.

MATERIALS

No materials of any kind will be used unless they have not been approved by the Departmental Representative, and ensure that each piece of equipment will have the manufacturers logo thereon, where it can readily be observed, the name or trademark of the manufacturer.

ALUMINUM RIGID CONDUIT

Aluminum conduit will be rigid, manufactured of 6063 alloy in temper designation T-1. Fittings will be of the same alloy. Conduit will conform to Federal Specifications WWC-0054-DC and ANSI C-80.5.

Conduit will be lined with a silicone compound to reduce friction and drag.

OUTLET BOXES AND FITTINGS

- Outlet boxes and fittings will be of proper dimensions for each application, complete with watertight gaskets and covers secured with stainless steel screws;
- Conduit fittings, such as elbows, tees, couplings, caps, bushings, nipples, and locknuts will be threaded to provide a watertight connection;
- Joints in conduit and between conduit and fittings will be watertight and ends will be reamed to prevent damage to conductor insulation;
- A non-corrosive, conductive thread lubricant, such as "STL" thread lubricant as manufactured by Crouse-Hinds will be thoroughly applied on all threaded joints;
- Cast metal outlet boxes will be Crouse-Hinds Company, Square D Company, or equal, and will be coated inside and outside with corrosion-resisting epoxy or equal finish;
- All junction boxes, fittings or other terminals without tapped conduit entrances will be provided with double nuts and standard bushings; and
- In hazardous locations all outlet boxes and fittings will be NEMA Type 7. Seal fittings will be supplied in accordance with the NEC.

TERMINAL, JUNCTION AND PULL BOXES

- Terminal, junction, and pull boxes will be installed as required;
- In general, boxes will be made of the same material used in the conduit run. Boxes made of cast iron or cast aluminum will be used, unless otherwise specified. Where the weight of cast boxes exceeds 50 pounds, boxes may be made of 1/8-inch sheet aluminum or of (minimum) No. 12-gauge stainless steel, with sides flanged around the cover opening or with approved supporting frame for cover. Mounting lugs and threaded entry bosses will be provided as required. Seams in sheet metal boxes will be continuously welded and ground smooth;



- 65.3 Pull and junction boxes will have covers held in place by stainless steel screws. Terminal boxes will have minimum 12-gauge steel panels for mounting terminal blocks. Hinged covers will fit tightly against a gasket, secured by lug bolts and wing nuts. All boxes will be provided with rabbeted gaskets or flange gaskets, securely held in place;
- Cast metal terminal, junction, and pull boxes will be Crouse-Hinds Company, Square D Company, or equal, and coated inside and outside with corrosion-resisting epoxy or equal finish; and
- In hazardous locations, all terminal junction boxes and pull boxes and fittings will be NEMA Type 7.

FLEXIBLE CONDUIT

- Flexible conduit will be liquid-tight electrical conduit having a core of flexible, steel tubing covered with a liquid-tight polyvinyl jacket. Tubing will be fitted with grounding bushings and standard rigid conduit fittings for connection and attachment. Conduit will be Electric-Flex Company, Type HTA, Anaconda, or equal; and
- In hazardous locations flexible metallic conduits and fittings will be NEMA Type 7.

GROUNDING

- The previously described and specified electrical equipment and neutral of wiring system will be permanently and securely grounded in accordance with the latest requirement of National Electrical Code;
- Insulated copper conductors for equipment grounding will be routed with all power conductors and will be sized in accordance with the C22.1-18 Canadian Electrical Code, Part 1 (24th Addition) Safety Standard for Electrical Installation or its equivalent;
- These conductors are required for all equipment connected under this Contract; including fixtures, receptacles, and electrical equipment furnished by others, even if not shown on the Contract Drawings; and
- Test the ground resistance of the grounding system and provide copies of all grounding system tests for review by the Departmental Representative and for inclusion in the Operation and Maintenance Manuals.

WIRES AND CABLE (600 VOLTS)

A complete system of insulated copper conductors will be installed in the conduit system, except where otherwise designated. Unless otherwise specified, conductors will be Type XHHW 600V cross-linked polyethylene type insulation. All conductors will conform to the requirements of the National Electric Code of IPCEA (IPCEA - Insulated Power Cable Association).

Except where otherwise noted, all power conductors will be single conductor #12 AWG minimum, and all control conductors will be stranded single conductor #14 AWG minimum.

CONDUCTOR TESTING AND WARRANTY

All conductors will be tested for continuity, in addition, all power conductors will be meggered to indicate compliance with the manufacturer's guaranteed values. A paper summary of test results will be submitted to the Departmental Representative for record purposes.

All conductors rated 600 V and below will be furnished with a manufacturer's one-year warranty.



INSTALLATION OF CONDUITS, FITTINGS, AND BOXES

- All conduit fitting and boxes such as elbows, tees, couplings, caps, bushings, nipples, junction boxes, and lock nuts will be threaded to provide a watertight connection. No box will be drilled and tapped for more conduits than actually enter it and all box covers will be accessible after installation;
- All conduits will be installed as required. The conduit system will be installed complete with all accessories, fittings, and boxes, in an approved workmanlike manner to provide proper raceways for electrical conductors;
- All exposed conduits will be run parallel to or at right angles to walls or beams, and plumb on the walls;
- As far as practicable, conduit will be pitched slightly to drain to the outlet boxes, or otherwise installed to avoid trapping of condensate. Where necessary to secure drainage, a Crouse-Hinds Company Type ECD, Square D Company, or equal breather-drain fitting will be installed in the boxes or trapped conduit at low points. Conduit will not be run through columns or beams unless so specifically detailed on the Contract Drawings;
- Conduit system bends and offsets may be made in field using approved bending tools, but no deformed, split or crushed conduit will be permitted in the work. All bends in conduit over 1 inch in diameter will be made with a pipe bending machine. No more than three quarter bends will be made between any two pull boxes without permission of the Departmental Representative;
- Conduits will be installed throughout structures in a completed system and must be so run that electrical conductors can be withdrawn and replaced at any time;
- Where existing conduits are to be reused, they will be cleaned using approved methods removing all obstructions or imperfections liable to injure the new conductor insulation;
- Conduits to be built into structure will be properly protected and suitably supported to prevent strains at joints or injury by building operations, and will be thoroughly protected at all times from the entrance of water or other foreign matter by being well plugged when work is interrupted. If left dead ended, they will be furnished with iron caps or pipe plugs;
- The interior of all conduits, conduit fittings, pull and junction boxes will be carefully and thoroughly cleaned before and after erection;
- Special care will be taken to prevent conduits from becoming choked with cement or other debris; and
- No conduit smaller than 3/4 inch will be used.

CONDUIT CONNECTIONS TO EQUIPMENT

- The conduit system will terminate at the terminal box or at the conduit connection point of electric motor and devices. Terminations of conduits at such locations will permit direct wire connections to the motor and devices;
- Conduit connections will be made with rigid conduit if the equipment is fixed and not subject to adjustment, mechanical movement, or vibration. Rigid conduit connections will have union fittings, to permit removal of equipment without cutting or breaking the conduit; and
- Conduit connections will be made with approved flexible metallic conduit if the equipment is subject to adjustment, mechanical movement, or vibration. Flexible conduit connections will be watertight.

INSTALLATION OF CONDUCTORS

- All wires and cables pulled into conduits will be carefully handled to avoid twists or kinks in the conductors, or damage to the sheaths and insulation. Wire and cable manufacturer's recommendations for allowable minimum bending radius and maximum pulling tension will not be exceeded;



- All trapped conduit lines will be swabbed to remove any debris or accumulated moisture before cables or wires are pulled in;
- No splices will be permitted between terminals, except at approved junction or terminal box points, as required by code for pull lengths. Cable and wire runs will be looped through pull boxes without cutting and splicing, where possible; and
- The neutral (current carrying ground) conductors be colored WHITE and that earth grounding conductors be GREEN. The hot lines will be black, blue or red depending on voltage system. The color coding may be by the continuous external color of the insulation as applied at the factory during manufacture, or, by color coded sleeves at the discretion of the Departmental Representative; but in no case will field applied colored tape be acceptable nor will colored sleeves be acceptable for grounding conductors or neutral conductors.

16.0 FILLING PRODUCTS

The Contractor must use the materials outline below for filling work.

PROCESSED AGGREGATE BASE COURSE

The subbase will consist of a clean soil aggregate mixture of gravel and/or broken stone aggregate, placed to be placed below the sidewalk or where directed by the Departmental Representative and constructed in accordance with these specifications. The material will also be certified clean and meet the soil requirements specified herein.

PEA GRAVEL

Will be rounded stone will not contain reclaimed miscellaneous aggregate. Pea gravel will be used as backfill around and over the UST and for the pipe bedding and cover (at least over the piping). The material will also be certified clean and meet the soil requirements specified herein.

FREE DRAINING MATERIAL

This material will be furnished and placed in accordance with these specifications and used as trench backfill pipe cover, or as ordered by the Departmental Representative, or wherever specified. Material for this work will not contain reclaimed miscellaneous aggregate. The material will also be certified clean and meet the soil requirements specified herein.

TOP SOIL

Prior to the laying of topsoil, the Contractor must submit all topsoil source information, chemical test data, and samples to the Departmental Representative for preapproval to document that the soil is free of contamination and clean in accordance with these specifications.

The top soil will also be certified clean and meet the soil requirements specified herein.

GEOTEXTILE FABRIC

The material will consist of a Mirafi 140 N or equivalent approved by the Departmental Representative.

TURF ESTABLISHMENT

Turf establishment will be completed, except that mowing and a second application of fertilizer will not be required. It is expected that a reasonable stand of grass will be achieved by the Contractor, or re-application of seed fertilizer or mulch will be required.



The materials and construction methods for this work will conform to the code of practice for the laying of turf. Seed mixtures will be proportioned by weight as follows:

Mixture Percent Pure Common Name by Weight Live Seed:

- Red Fescues 30 95
- Kentucky bluegrass 20 95
- Perennial Ryegrass 30 95
- Weed seed will not exceed 1 percent by weight of the total mixture. Wet, moldy, or otherwise damaged seed will be rejected.

17.0 CONTRACTOR SUPPORT:

DFATD will:

- Undertake survey of the immediate surroundings to determine if and what equipment needs to be relocated to enable the works;
- Will ensure the Contractor has access to the work site during the prescribed working hours as well as any pre approved hours outside this scope of work.;
- Obtain the permit to install a new UFT has been granted by the Environmental Management Agency (EMA) in Harare;
- Review regulations with the Contractor as necessary;
- Provide all the relevant documents in relation this contract is enclosed in the Appendices. This set of documents include additional drawings, site plans displaying the UFT location, work area, as well as details regarding the site conditions, and specified finishes to the ground upon contract award; and
- Provide the following design drawings, sections of tank installation, and a bill of quantities;
 - S02/43 – 2019A – Plan Layout
 - S01/43 – 2018 – Topological Survey
 - S02/43 – 2019B – Cross Section Tank
 - S01/43 – 2018 – Tank Details
 - S01/43-2018 – Forecourt A1

18.0 CONSTRAINTS:

1. WORKING HOURS

The approved working hours are 8:00 A.M. to 4:00 P.M., Monday through Friday, excluding Local and Embassy Public Holidays as advised by the Departmental Representative, this will be communicated at the Kick Off Meeting.

Should the Contractor wish to work outside of the approved working hours, they must request written permission from the Departmental Representative at least 48 hours in advance. All requests must detail the work to be undertaken, operatives involved, and an estimation of the duration of the work. All requests must be approved by the Departmental Representative prior to the commencement of the work outside the approved working hours.

2. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Adequate and appropriate Personal Protective Equipment (PPE) for the project and number of personnel/shifts must be provided by the Contractor to all of its employees as well as any subcontractors. All (PPE) issued must be based on a written hazard assessment in accordance with the attached link which details how the correct PPE for each task should be arrived at. A list of the PPE that the contractor will provides should be included in the Health and Safety Plan for the project <https://www.hse.gov.uk/pubns/indg174.pdf>



Please note that operatives who do not have the required PPE will not be allowed on site or allowed to undertake any works, until the appropriate PPE is put on.

3. OCCUPANCY

The premises will be occupied during entire construction period to conduct of normal operations. The Contractor will cooperate with the Mission in scheduling operations to minimize conflict and to facilitate normal usage.

4. CONTRACTOR'S USE OF PREMISE

- a. The Departmental Representative will provide the Contractor with the work area limits. Including proposed location for a site office and base of operations as required.
- b. The Contractor must ensure their operations, including storage of supplies, equipment and materials stay within the agreed work area limits approved by the Departmental Representative.
- c. Parking for Contractor's employees will be limited to an area (or areas) designated by the Departmental Representative.
- d. The Contractor is permitted to use the restroom on the OR grounds. The Departmental Representative will advise on an approved location.
- e. The Contractor is responsible for the security of their own equipment and materials on the site and are to ensure that all equipment is stored safely with any machinery kept away from accessible areas.
- f. Use of on Site Services
- g. The contractor is to advise at the kick of meeting what utilities they require to undertake the works including Electricity and running water. If these are used the contractor and the Departmental Representative will come to an agreement on partial payments for these utilities during the works.

5. SECURITY

The site has a security team and the Contractor is to liaise with them to ensure that the security of the site is not compromised at any time. The Contractor is to ensure that the hoarding entrance is locked off and copies of all keys issued to the onsite security. The Contractor must ensure that all workers are easily identifiable with passes or company clothing while on the property.

6. TRAFFIC WAYS

- a. Access to the site is via a public side road, public roadways will not be blocked by standing trucks, parked cars, material storage, construction operations, or in any other manner. The Contractor may use on-site paved roads and parking areas but will not hinder same or their access unless otherwise approved by the Departmental Representative.
- b. Public roads and existing paved roads, drives and parking areas on the OR grounds will be kept free from scrap, waste, or debris due to construction operations and any damage to their surface caused by the Contractor will be repaired by Contractor at its own expense.
- c. Contractor will be allowed to block off traffic flow within designated work area during construction operations.

7. TEMPORARY CONTROLS

The Contractor will confine his construction activities only to areas required for the execution of the Work. Land resources within the project areas and outside limits of the Work as may be affected by the work of this Contract will be preserved in their present condition, or be restored to a condition after completion of construction that will appear natural.



8. TRANSPORTING AND HANDLING

Materials and equipment will be delivered, stored and handled to prevent intrusion of foreign matter and damage by weather or breakage. Packaged materials will be delivered and stored in original, unbroken containment.

9. STORAGE AND PROJECTION

Store all products in accordance with manufacturer's instructions with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity range required by manufacturer.

Contractor will place and store loose granular material on solid surfaces in a well drained area; prevent mixing with foreign matter.

Arrange storage to provide access for inspection. Periodically inspect to ensure products are undamaged and are maintained under required conditions. Keep log showing date, time and problems, if any.

10. GENERAL EQUIPMENT CONSIDERATIONS

All equipment will be provided to the work site free of contamination. The Departmental Representative retains express authority to prohibit from the site any equipment which in his opinion has not been thoroughly decontaminated prior to arriving at the project location. Any decontamination of the Contractor's equipment prior to arrival at the site will be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the project site which is not thoroughly decontaminated upon arrival.

All equipment involved in Exclusion Zone (Hot Zone) activities will be decontaminated each time it is removed from the Exclusion Zone. Equipment decontamination will be performed in conformance with the Contractor's HASP.

The Contractor will decontaminate all equipment which comes in contact with contaminated material, either directly or indirectly, (i.e., excavation, sampling and testing equipment), after completion of work at one location (i.e., tank excavation) and prior to beginning work at another location, if so directed by the Departmental Representative.

Rinse water used for decontamination which contains chemicals used during decontamination or which may contain hazardous chemicals or pollutants from the equipment which was decontaminated will be collected by the Contractor in drums or removed in bulk with the tank contents for proper offsite disposal by the Contractor, unless otherwise directed by the Departmental Representative.

11. PRODUCTS AND MATERIALS – GENERAL INSTRUCTIONS

At least 2 days prior to the start of each section of work, the Contractor must provide and maintain a sufficient quantity of materials and equipment prevent delays due to material shortages. Materials to be used for the work must follow the below guidelines.

All materials must be delivered in their original packaging, bearing the brand or manufacturer name, as applicable.

All sensitive materials must be stored off the ground, away from wet surfaces, and kept under sufficient cover to prevent damages or contamination of the materials.

No flammable or combustible materials may be stored inside the buildings.

Materials must not block or hinder access to the OR grounds by staff or visitors.



The Departmental Representative may at any time throughout the work perform a visual inspection of the materials with the intent of surveying for signs of damage, deterioration, or the re-use of single-use materials. Any items identified as such must be removed from the worksite by the Contractor and must not be used for the work.

12. DECONTAMINATION PROCEDURES FOR ONSITE OPERATIVES

The decontamination procedure will follow the requirements of 29 CFR 1910.120, as described in the Contractor's HASP and specified herein.

13. ROUTINE DECONTAMINATION

Routine decontamination will follow the guidelines of 29 CFR 1910.120. (See *below*)-
<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.120>

14. PERSONNEL DECONTAMINATION

The Contractor will provide and maintain a decontamination area which is to be located in the decontamination zone. The Contractor will coordinate the location of the decontamination zone with the Departmental Representative. Decontamination of personnel and equipment is required after performance of activities in the exclusion zone (Hot Zone). The personnel decontamination area may be in the form of a mobile trailer or field station. Personnel decontamination will, at a minimum, consist of: safe work practice, use of disposable protective clothing, personal hygiene, personal decontamination before breaks and each time workers exit the exclusion zone, and at the completion of each work day to prevent worker exposure and the spread of contaminants offsite. The Contractor will use Chapter 10 of NIOSH Publication No. 85-115 when designing a decontamination plan. See <https://www.cdc.gov/niosh/docs/85-115/default.html>

This plan will be in conformance with the requirements of 29 CFR 1910.120 and include those requirements specified herein.

15. EMERGENCY DECONTAMINATION

Should a worker be splashed with contaminants, the worker will be immediately escorted to the field decontamination station and be decontaminated in accordance with Contractor's HASP (Health and Safety Plan)



APPENDIX "B": SECURITY REQUIREMENT CHECK LIST



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité Unclassified

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE		
1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine GAC		2. Branch or Directorate / Direction générale ou Direction HRARE
3. a) Subcontract Number / Numéro du contrat de sous-traitance	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant	
4. Brief Description of Work / Brève description du travail 19559 - OR - Install New Tank & Recapitalize and Upgrade Fuel Storage and Water Pump Sheds. The works involve the supply and installation of underground Fuel Storage Tank and Pump Station at the OR in Harare.		
5. a) Will the supplier require access to Controlled Goods? / Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? / Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? / Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) / Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. / Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
6. c) Is this a commercial courier or delivery requirement with no overnight storage? / S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès		
Canada <input type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions / Aucune restriction relative à la diffusion <input type="checkbox"/>	All NATO countries / Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions / Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable / À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>
Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:
7. c) Level of information / Niveau d'information		
PROTECTED A / PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A / PROTÉGÉ A <input type="checkbox"/>
PROTECTED B / PROTÉGÉ B <input type="checkbox"/>	NATO RESTRICTED / NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B / PROTÉGÉ B <input type="checkbox"/>
PROTECTED C / PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL / NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C / PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>	NATO SECRET / NATO SECRET <input type="checkbox"/>	CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>
SECRET / SECRET <input type="checkbox"/>	COSMIC TOP SECRET / COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET / SECRET <input type="checkbox"/>
TOP SECRET / TRÈS SECRET <input type="checkbox"/>		TOP SECRET / TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>

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PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? No / Non Yes / Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel : _____
Document Number / Numéro du document : _____

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET- SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input checked="" type="checkbox"/> SITE ACCESS
ACCÈS AUX EMBLEMES | | | |

Special comments:
Commentaires spéciaux : Contractors will only require access to the Official Residence grounds

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? No / Non Yes / Oui
If Yes, will unscreened personnel be escorted?
Dans l'affirmative, le personnel en question sera-t-il escorté? No / Non Yes / Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? No / Non Yes / Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? No / Non Yes / Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? No / Non Yes / Oui

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PART C - (continued) / PARTIE C - (suite)

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
 Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
 Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET / TRÈS SECRET
											A	B	C			
Information / Assets / Renseignements / Biens / Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Media / Support TI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Link / Lien électronique	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
 La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

**If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
 Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.**

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
 La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

**If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
 Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).**



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité Unclassified

PART D - AUTHORIZATION / PARTIE D - AUTORISATION			
13. Organization Project Authority / Chargé de projet de l'organisme			
Name (print) - Nom (en lettres moulées) Jennifer Littlemore		Title - Titre DEPUTY DIRECTOR - AWF	Signature Littlemore, Jennifer 2020.11.30 19:06:10 -05'00'
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
14. Organization Security Authority / Responsable de la sécurité de l'organisme			
Name (print) - Nom (en lettres moulées) Amanda Reid		Title - Titre MSO	Signature Reid, Amanda Signature numérique de Reid, Amanda Date : 2020.11.11 09:58:32 +02'00'
Telephone No. - N° de téléphone 377-3300	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel amanda.reid@international.gc.ca	Date
15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached? Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?			<input type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
16. Procurement Officer / Agent d'approvisionnement			
Name (print) - Nom (en lettres moulées)		Title - Titre	Signature
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
17. Contracting Security Authority / Autorité contractante en matière de sécurité			
Name (print) - Nom (en lettres moulées)		Title - Titre	Signature
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date

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Annex 1 to the Statement of Work:

FINAL REPORT OF GEOTECHNICAL INVESTIGATIONS FOR CANADIAN EMBASSY PROPOSED FUEL STORAGE TANK

Prepared by:

Patience Madamombe
BTech Ed in Civil & Construction Engineering
Diploma Project Planning & Management

Silas Mhlanga
Materials Technician

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1. Executive Summary

1.1 General

This report summarizes the geotechnical investigation performed by Construction Laboratory Services (Conlab) for the proposed fuel storage tank and pavement designs that the Canadian Embassy is considering constructing at Harare, Zimbabwe (Government of Canada) located at 4 Marimba Close, Harare.

A total of seven (7) no. test holes were excavated down to a depth of 3300mm below natural ground level. The material encountered in the upper 0-500mm includes grass and silty clay, and deeper soils from +/-1000mm to 3300mm below the natural ground level is weathered schist and gabbro rock. No ground water was encountered during our subsurface investigation to the maximum depth explored of 3300mm in all holes.

Possible geological hazards that might affect the establishment of the fuel tanks were reviewed using the presented reports and data. From our assessment there is little to no potential settlement, landslides, flooding, erosion or poor soil conditions. If appropriate mitigation to any identified geological hazards is applied the hazards are considered less significant. Based on the information available for this investigation, geological hazards do not appear to represent a "fatal flaw" therefore the site appears suitable from a geotechnical stand point.

2. Introduction

The investigation was undertaken in order to assess the suitability of the proposed location of a new underground fuel storage tank at the Official Residence for the Government of Canada Ambassador in Harare.

2.1 Objectives of the Geotechnical Investigation Assignment

The main objective of the Geotechnical Services Consultancy work is to carry out detailed Geotechnical Investigations on the site of the proposed fuel storage tank by assessing the soil conditions from ground level down to refusal, as well as assessing the properties of the in-situ materials. The actual tests required are detailed below under the respective components of the report.

The investigation is aimed at providing a comprehensive Geotechnical report necessary for the design and construction of an underground fuel storage tank and its bedding and the fuel delivery pumps

stations above ground. The investigation will also advise on whether once the tank is installed the natural ground can support the tank and its infrastructure and any vehicular movement on the surface.

3. Scope of Work

The scope of work will consist of the geotechnical investigation through randomly placed 7 trial pits of a depth of 5000mm or refusal, whatever came first, which is necessary for the design of bedding and condition for the placement of a 20,000 litres bonded tank to the proposed location. Soil investigation, carried out in order to evaluate the following:

- Soil condition at the formation level at the above-mentioned site.
- Subsoil condition in the site and take logs and perform lab tests too.
- The depth, the elevation and the thickness of each soil layers, including bedrock.
- The description of subsurface conditions.
- The description of the bedrock and of each bedrock layer
- The compactness or consistency of the soil layers.
- The depth of representative samples and tests performed.
- The final exploration depth.
- The groundwater elevation.
- Any other relevant information.

4. Site Description and Observations

The proposed fuel storage tanks are to be constructed at Stand No 4 Marimba Close in Chisipite at the Canadian Ambassador's residence. The land slopes to the west from the Consulate House Residence on the east. The proposed area is covered with natural vegetation including tall Msasa and Mukina trees. The geological types of soils are red brown clay and silty gravels with outcropping gabbro (picture p. 21) and schist stone boulders.

5. Field Work - Objectives

Definition of material layers, geotechnical classification, depth, thickness and resistance are tabulated in the table below. Excavation and backfilling of trial holes was done using a Backhoed TLB (Tractor Loader Backhoe) see picture on page 20 and disturbed soil samples were visually examined, classified and recovered at every change of soil strata for laboratory tests. No borehole drilling was done. Soil profiling and logging of pits was done and are compiled in the table 01 below.

Estimation, at the time of sampling, of the undrained shear strengths and/or unconfined compressive strengths of any cohesive soils sampled, by means of a Dynamic Cone Penetrometer (DCP) whose

results are compiled in table 02 were carried out in accordance to SANS (South African National Standards) 2001 TMH6-ST6. Picture of DCP on page 19.

A table showing all the GPS for test pits on page 19.

Character and genesis of soil is detailed in table 01 with soil profiles.

6. Field Work

Visual inspections were carried out in accordance with BS 5930 Section 3:10 to assess the soil conditions from ground level down to bedrocks and residual materials. Three (3) trial holes for the fuel storage tanks were excavated down to 3300mm depth below natural ground level or down to refusal. For the pavements, four (4) trial pits were excavated to a depth 1000mm below natural ground level using a back hoed TLB machine. The holes were logged to profile the stratigraphy layers of the soils. Seven (7) Dynamic Cone Penetrometer tests were carried out from ground level to below ground level or to refusal and no bedrock was encountered.

We got to refusal in **all holes**, with decomposed fine grained gabbro rocks encountered in all holes from 1500mm-2500mm depth, followed by whitish schist was encountered at depth 2500-3330mm (picture p.22) No rock coring was done in all holes. No ground water was encountered in all holes and water levels don't seem to rise seasonally as evidenced by no signs of mottling (redoximorphic features) noted on the soil horizons.

Firmness is determined by in-situ density test results obtained during DCP tests. The millimetres/blow achieved during DCP tests also determine the firmness. The amount of resistance encountered during excavation is also an indicator that the soil is firm or loose.

Table 01.
Detailed Soil Profiles

Canadian Embassy Fuel Storage Tank Project - Soil Profiles							
Trial Hole	Depth (mm)	Colour	Moisture Condition	Consistency	Structure	Soil Type	Geological Origin
TH 1 (Tank)	0-500	Red brown	Moist	Slightly-firm	Decayed Humus	Organic + grass	Transported
	500-1000	Red brown	Very moist	Firm	Fissured	Silty clay	Transported
	1000-3300	Light grey	Moist	Firm	Decomposed stone	Schist & Gabbro	Residual
TH 2 (Tank)	0-500	Reddish brown	Moist	Slightly-firm	Decayed Humus	Organic + grass	Transported
	500-2000	Red orange brown	Very moist	Firm	Fissured	Silty clay	Transported
	2000-3200	Light greyish	Moist	Firm	Decomposed stone	Schist & Gabbro	Residual
TH 3 (Tank)	0-500	Red brown	Moist	Slightly-firm	Decayed Humus	Organic + grass	Transported
	500-1000	Red brown	Very moist	Firm	Fissured	Silty clay	Transported
	1000-3300	Light grey	Moist	Firm	Decomposed stone	Schist & Gabbro	Residual
No ground water and rock in all holes							
TP 1 (Pavement)	0-250	Reddish brown	Moist	Slightly-firm	Decayed humus	Organic + grass	Transported
	250-1000	Red orange brown	Moist	Firm	Fissured	Silty clay gravel	Transported
TP 2 (Pavement)	0-250	Reddish brown	Moist	Slightly	Decayed humus	Organic + grass	Transported
	250-1000	Red orange brown	Moist	Firm	Fissured	Silty clay gravel	Transported
TP 3 (Pavement)	0-250	Reddish brown	Moist	Slightly-firm	Decayed humus	Organic + grass	Transported
	250-1000	Red orange brown	Moist	Firm	Fissured	Silty clay gravel	Transported
TP 4 (Pavement)	0-250	Reddish brown	Moist	Slightly-firm	Decayed humus	Organic/ grass	Transported
	250-1000	Red orange brown	Moist	Firm	Fissured	Silty clay gravel	Transported

Table 02.

Dynamic Cone Penetrometer (DCP) and Bearing Pressure Tests

JOB NO: CL 0080

CLIENT: Canadian Embassy

JOB: Canadian Embassy's Fuel Storage Tank Project

POSITION: TH1 @ Ground Level & @2000mm below Ground Level GPS Coordinate: 17°46'07.3"S 31°07'17.1"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TH 1	0	1970	0	0	0	0	0	0
@Ground	10	1820	150	150	15	155	8	150
Level	10	1540	280	430	28	76	4	430
	10	1225	315	745	32	63	3	745
	10	1140	85	830	9	280	14	830
	10	1100	40	870	4	795	40+	870
	10	1030	70	940	7	400	20	940
	10	930	100	1040	10	250	13	1040
	10	830	100	1140	10	250	13	1140
	10	730	100	1240	10	250	13	1240
	10	630	100	1340	10	250	13	1340
	10	475	155	1495	16	145	7	1495
	10	325	150	1645	15	155	8	1645
	10	225	100	1745	10	250	13	1745
	10	155	70	1815	7	400	20	1815
	10	80	75	1890	8	315	16	1890
	10	25	55	1945	6	500	25	1945
REMARKS	Average bearing capacity @ 1000mm ground level is 250Kpa							
@2000mm	0	1970	0	0	0	0	0	2000
Below	10	1910	60	60	6	500	25	2060
Ground	10	1880	30	90	3	1000+	50+	2090
Level	10	1840	40	130	4	795	40+	2130
	10	1700	140	170	14	165	8	2170
	10	1660	40	210	4	795	40+	2210
	10	1610	50	260	5	630	32	2260
	10	1600	10	270	1	1000+	50+	2270
	10	1560	40	310	4	795	40+	2370
	10	1500	60	370	6	500	25	2430
	10	1440	60	430	6	500	25	2490
	10	1380	60	490	6	500	23	2560
	10	1310	70	560	7	400	20	2600
	10	1270	40	600	4	795	40+	2650
	10	1220	50	650	5	630	32	2680
	10	1190	30	680	3	1000+	50+	2710
	10	1160	30	710	3	1000+	50+	2740
	10	1130	30	740	3	1000+	50+	2770
	10	1100	30	770	3	1000+	50+	2770
REMARKS	Average bearing capacity @ 2000mm ground level is 500Kpa							

POSITION: TH 1 @3300mm below Ground Level

GPS Coordinate: 17°46'07.3"S 31°07'17.1"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TH 1	0	1970	0	0	0	0	0	3300
@2000mm	10	1905	65	65	7	400	20	3365
Below	10	1890	15	80	2	1000+	50+	3380
Ground	10	1860	30	110	3	1000+	50+	3410
	10	1830	30	140	3	1000+	50+	3440
	10	1800	30	170	3	1000+	50+	3470
	10	1770	30	200	3	1000+	50+	3500
	10	1740	30	230	3	1000+	50+	3530
	10	1700	40	270	4	795	40+	3570
	10	1670	30	300	3	1000+	50+	3600
	10	1660	10	310	1	1000+	50+	3610
REMARKS	Average bearing capacity @ 3000mm ground level is above 500Kpa							

POSITION: TH 2 @ Ground Level & @2000mm below Ground Level

GPS Coordinates: 17°46'08.1"S 31°07'17.3"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TH 2	0	1970	0	0	0	0	0	0
@Ground	10	1810	160	160	16	145	7	160
Level	10	1560	250	410	25	88	5	410
	10	1240	320	730	32	63	3	730
	10	1160	80	810	8	315	16	810
	10	1080	80	890	8	315	16	890
	10	1020	60	950	6	500	25	950
	10	920	100	1050	10	250	13	1050
	10	810	110	1160	11	225	11	1160
	10	710	100	1260	10	250	13	1260
	10	615	95	1355	10	250	13	1355
	10	480	135	1490	14	165	8	1490
	10	330	150	1640	15	155	8	1640
	10	230	100	1740	10	250	13	1740
	10	150	80	1820	8	315	16	1820
	10	75	75	1895	8	315	16	1895
	10	20	55	1950	6	500	25	1950
REMARKS	Average bearing capacity @1000mm ground level is 250Kpa							
@2000mm	0	1960	0	0	0	0	0	2000
Below	10	1900	60	60	6	500	25	2060
Ground	10	1830	70	130	7	400	20	2130
Level	10	1735	95	225	10	250	13	2225
	10	1700	35	270	4	795	40+	2270
	10	1640	60	330	6	500	25	2330
	10	1590	50	380	5	630	32	2380
	10	1530	60	440	6	500	25	2440
	10	1470	60	500	6	500	25	2500
	10	1420	50	550	5	630	32	2550
	10	1370	50	600	5	630	32	2600
	10	1315	55	655	6	500	25	2655
	10	1290	25	680	3	1000+	50+	2700
	10	1270	20	700	2	1000+	50+	2720
	10	1250	20	720	2	1000+	50+	2740
REMARKS	Average bearing capacity @2000mm ground level is 450Kpa							

POSITION: TH 3 @ Ground Level & @2000mm below Ground Level GPS Coordinates: 17°46'07.8"S 31°07'16.9"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TH 3	0	1970	0	0	0	0	0	0
@Ground	10	1830	140	140	14	165	8	140
Level	10	1570	260	400	26	84	4	400
	10	1310	260	660	26	84	4	660
	10	1190	120	780	12	200	10	780
	10	1040	150	930	15	155	8	930
	10	930	110	1040	11	225	11	1040
	10	800	130	1170	13	180	9	1170
	10	690	110	1280	11	225	11	1280
	10	525	165	1445	17	135	7	1445
	10	465	60	1505	6	500	25	1505
	10	320	145	1650	15	155	8	1650
	10	245	75	1725	8	315	16	1725
	10	135	110	1835	11	225	11	1835
	10	65	70	1905	7	400	20	1905
	10	10	55	1960	6	500	25	1960
REMARKS	Average bearing capacity @1000mm ground level is 250Kpa							
@2000mm	0	1970	0	0	0	0	0	2000
Below	10	1920	50	50	5	630	32	2050
Ground	10	1850	70	120	7	400	20	2120
Level	10	1800	50	170	5	630	32	2170
	10	1760	40	210	4	795	40+	2210
	10	1700	60	270	6	500	25	2270
	10	1630	70	340	7	400	20	2340
	10	1590	40	380	4	795	40+	2380
	10	1525	65	445	7	400	20	2445
	10	1475	50	495	5	630	32	2495
	10	1400	75	570	8	315	16	2570
	10	1350	50	620	5	630	32	2620
	10	1300	50	670	5	630	32	2670
	10	1260	40	710	4	795	40+	2710
	10	1200	60	770	6	500	25	2770
	10	1170	30	800	3	1000+	50+	2800
	10	1135	35	835	4	795+	40+	2835
	10	1100	35	870	4	795+	40+	2870
REMARKS	Average bearing capacity @2000mm ground level is 630Kpa							

POSITION: TH 3 @3200mm below Ground Level

GPS Coordinates: 17°46'08.1"S 31°07'17.3"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TH 3	0	1960	0	0	0	0	0	3200
@3200mm	10	1930	30	30	3	1000+	50+	3230
Below	10	1900	30	60	3	1000+	50+	3260
Ground	10	1860	40	100	4	795	40+	3300
	10	1810	50	150	5	630	32	3350
	10	1770	40	190	4	795	40+	3390
	10	1740	30	220	3	1000+	50+	3420
	10	1700	40	260	4	795	40+	3460
	10	1660	40	300	4	795	40+	3500
	10	1620	40	340	4	795	40+	3540
	10	1600	20	360	2	1000+	50+	3560
	10	1570	30	390	3	1000+	50+	3590
	10	1530	40	430	4	795	40+	3630
	10	1500	30	460	3	1000+	50+	3660
	10	1440	60	520	6	500	25	3720
	10	1400	40	560	4	795	40+	3760
	10	1370	30	590	3	1000+	50+	3790
	10	1350	20	610	2	1000+	50+	3810
	10	1320	30	640	3	1000+	50+	3840
REMARKS	Average bearing capacity @ 3200mm above ground level is above 795Kpa							

POSITION: TP1 @ Ground Level (Pavement Design) GPS Coordinates: 17°46'08.1"S 31°07'17.3"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TP 1	0	1970	0	0	0	0	0	0
@Ground	10	1780	190	190	19	115	6	190
Level	10	1545	235	425	23.5	92	5	425
	10	1235	310	735	31	66	4	735
	10	985	250	985	25	88	5	985
	10	780	205	1190	20.5	105	5	1190
	10	610	170	1360	17	135	7	1360
	10	440	170	1530	17	135	7	1530
	10	300	140	1670	14	165	7	1670
	10	280	20	1690	2	1000+	50+	1690
REMARKS	Average bearing capacity is 100Kpa							

POSITION: TP2 @ Ground Level (Pavement Design)

GPS Coordinates: 17°46'08.2"S 31°07'17.1"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TP 2	0	1970	0	0	0	0	0	0
@Ground	10	1765	205	205	21	105	5	205
Level	10	1550	215	420	22	100	5	420
	10	1490	60	480	6	500	25	480
	10	1450	40	520	4	795	40+	520
	10	1390	60	580	6	500	25	580
	10	1340	50	630	5	630	32	630
	10	1300	40	670	4	795	40+	670
	10	1225	75	745	8	315	16	745
	10	1140	85	830	9	280	14	830
	10	1040	100	930	10	250	13	930
	10	960	80	1010	8	315	16	1010
	10	890	70	1080	7	400	20	1080
	10	850	40	1120	4	795	40+	1120
REMARKS	Average bearing capacity is 315Kpa							

POSITION: TP3 @ Ground Level (Pavement Design)

GPS Coordinates: 17°46'06.8"S 31°07'16.9"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TP 3	0	1960	0	0	0	0	0	0
@Ground	10	1700	60	60	6	500	25	60
Level	10	1380	320	380	32	63	3	380
	10	1310	70	450	7	400	20	450
	10	1140	170	620	17	135	7	620
	10	950	190	810	19	115	6	810
	10	710	240	1050	24	92	5	1050
	10	565	145	1195	15	155	8	1195
	10	455	110	1305	11	225	11	1305
	10	345	110	1415	11	225	11	1415
	10	280	65	1475	7	400	20	1475
REMARKS	Average bearing capacity is 300Kpa							

POSITION: TP4 @ Ground Level (Pavement Design)

GPS Coordinates: 17°46'07.3"S 31°07'16.9"E

LOCATION	NO. OF BLOWS	DEPTH (mm)	PENETRATION		N VALUE (mm/blow)	BEARING CAPACITY (KPa)	CBR	DEPTH (mm)
			Per Blow	Cumulative				
TP 4	0	1960	0	0	0	0	0	0
@Ground	10	1850	110	110	11	225	11	110
Level	10	1650	200	310	20	110	6	310
	10	1460	190	500	19	115	6	500
	10	1435	25	525	3	1000+	50+	525
	10	1400	35	570	4	795	40+	570
	10	1360	40	610	4	795	40+	610
	10	1310	50	660	5	630	32	660
	10	1275	35	695	4	795	40+	695
	10	1240	35	730	4	795	40+	730
	10	1205	35	765	4	795	40+	765
	10	1165	40	805	4	795	40+	805
	10	1100	65	870	7	400	20	870
	10	1040	60	930	6	500	25	930
	10	980	60	990	6	500	25	990
REMARKS	Average bearing capacity is 300Kpa							

7.1 Laboratory Work

- Laboratory tests
- Geotechnical classification achieved by sieve analysis, Atterberg limits, Mod AASHTO, specific gravity.
- Expansibility -plasticity index, liquid limit test were be done.
- Soil Aggresivity
- Soil Corrosivity
- Data analysis, interpretation, reporting and recommendation
- Summary of results obtained from various tests and other interpretation to evaluate various soil parameters in table 03.

7.2 Laboratory Tests

Samples from all the trial holes were sampled for testing in the laboratory to ascertain the sol engineering properties for accurate determination and classification purposes in indicator tests, sieve analysis, Mod AASHTO and California Bearing Rations (CBR). The results are tabulated above. The soils are slightly-medium plastic from 500mm-2000mm depth and non-plastic from 3000-4000mm showing a competent residual rock decomposed and schist soils.

Table 03.

SUMMARY OF MATERIAL TEST RESULTS

Location:	Structure (Fuel Tank Area)					
Sample	TH 1	TH 1	TH 2	TH 2	TH 3	TH 1&3 Mixed
Depth (mm)	500-1000	1000-3300	1000-1500	2000-3200	1000-3200	
Average DCP Results (KPa)	250	584	250	1000+	627	
Sieve Size						
37,5						
26,5				100		
19,0				94	100	100
9,5	100	100	100	91	96	98
4,75	99	99	100	84	88	88
2,36	98	98	99	66	63	63
1,18	94	96	97	48	45	43
0,600	91	93	92	37	36	33
0,300	88	89	82	27	27	26
0,150	83	78	70	22	18	16
0,075	79	70	65	17	17	11
Reject Index (IR)	-	-	-	-	-	-
Grading Modulus	0.34	0.42	0.49	1.86	1.89	1.97
Liquid Limit (WL)	55	34	36	NP	54	NP
Plasticity Index (Ip)	19	SP(Slightly Plastic)	SP (Slightly Plastic)	NP(Non Plastic)	SP (Slightly Plastic)	NP(Non Plastic)
Plastic Product(pp)	1492	70	65	17	17	11
Classification	1875a	0360a	0360a	0315d	0315d	6315d
Coarseness Index	2	2	1	34	37	37
Maximum Dry Density (kg/m ³)	1850				1955	1700
OMC (%)	9.9				13.2	22.4
CBR at OMC	98%	27			40	6
	95%	26			38	6
	90%	24			36	5

Location:	Pavements				
Sample	TP 2&4 Mixed	TP 1	TP 2	TP 3	TP 4
Depth (mm)	300-900	150-1000	300-600	300-1200	300-900
Average DCP Results (KPa)		100	315	300	300
Sieve Size					
37,5					
26,5	100		100		100
19,0	97	100	96		98
9,5	91	98	92		92
4,75	84	95	84	100	86
2,36	78	92	79	99	79
1,18	75	90	74	98	76
0,600	71	87	70	96	74
0,300	65	83	63	92	71
0,150	60	76	55	88	65
0,075	56	69	50	82	61
Reject Index (IR)	-	-	-	-	-
Grading Modulus	0.88	1.01	0.54	1.06	0.25
Liquid Limit (WL)	49	61	45	49	60
Plasticity Index (Ip)	18	20	17	14	19
Plastic Product(pp)	1008	1384	850	1148	1159
Classification	1860c	1860a	1845c	1380a	1860c
Coarseness Index	22	8	21	1	21
Maximum Dry Density (kg/m³)	1750				
OMC (%)	20.2				
CBR at OMC	98%	6			
	95%	6			
	90%	5			

8.0 General Potential Hazard Assessment

Based on the results of our site exploration and geologic hazards evaluation, we judge that the proposed project is feasible from a geotechnical standpoint. The primary geotechnical considerations for the project are ensuring uniform foundation support for the new fuel tanks, appropriate seismic design of new improvements, and appropriate design of new site retaining walls and drainage systems. Recommendations to address these and other geotechnical issues are presented in the subsequent sections of this report.

8.1 Soil Conditions (Expansive, Collapsible, Corrosive, Aggressive Soils)

Expansive soils can cause damage to foundations and other lightly-loaded improvements such as exterior flatwork and pavements. Potentially expansive soils were observed during our site investigations, and subsurface exploration. Therefore, the likelihood of damage due to expansive soils at the site is low to medium and some mitigation measures are required. We propose grade 20 MPa mass concrete as footing of the foundation, grade 30MPa for the foundation beams and 25MPa for the bases reinforced with 18-20mm steel bars.

As indicated on the laboratory tests summary sheets, slightly-medium plasticity, with slight potential for expansive soils encountered at 500-2000mm depth during our subsurface investigation and laboratory tests. There is anticipation of slight effects to the proposed structures due to expansivity of the soils.

The potential for collapsible soils is not highly anticipated because the project site is located on slightly-medium plastic soils overlaying competent parent bedrock.

Factors that influence soil Corrosivity include pH, electrical resistivity, and chemical constituents (chloride, sulphate, etc.). Based on our laboratory tests the soils are typically slightly acidic with a pH = (6.7–6.9), therefore non-slightly corrosive to uncoated steel, and are mildly corrosive to concrete materials. Mitigation measures may be necessary to reduce or eliminate the potential hazard.

Soil aggressiveness is influenced by the pH levels, soil salinity, total soluble salt content and sulphate content. Our laboratory tests reveal that the soils are non-aggressive with a pH = (6.7–6.9)

8.2 Seismic Induced Ground Settlement

Ground shaking can induce settlement of loose granular soils above the water table. Considering the relatively shallow weathered bedrock at the project site, the probability of seismic induced settlement is low therefore no mitigation measures are required.

8.3 Liquefaction Potential

Liquefaction refers to the sudden, temporary loss of soil strength during strong ground shaking. This phenomenon can occur where there are saturated, loose, granular deposits subjected to seismic shaking. Liquefaction-related phenomena include settlement, flow failure, and lateral spreading. The project site is underlain by a very competent layer of decomposed rock, and loose granular soils are not present. The likelihood of soil liquefaction at the site is therefore remote with no mitigation measures are required.

8.4 Settlement

New surface loads can cause consolidation of soft clays or compression of loose soils. The project site is underlain by a very competent weathered rock, and the new tank foundation is expected to bear entirely on firm decomposed gabbro rock and fine schist. Therefore, the likelihood of damage due to settlement is low with no mitigation measures are required.

Table 04

SUMMARY OF TEST RESULTS

Sample No.	Soil Corrosivity		Soil Aggresivity		Soil Stability		
	Chlorides (ppm)	Resistivity – as electrical conductivity ($\mu\text{S}/\text{cm}$)	Sulphates (ppm)	Acidity (pH)	Coefficient of permeability (kT) m/sec	Cohesion (C) kN	Angle of shearing resistance (θ)°
TH1 & 2 (MIXED)	14.18	125.5	10	6.900	0.00001351	9	32.2
TH 3 (1100-3200)	7.09	89.7	5	6.711	0.000061213	0	26.8
TP 1	7.09	71.0	5	6.879	0.000004027	0	14.6

9. Recommendations

9.1 Recommendations for underground fuel tanks founding levels

Having completed the field and laboratory works, Conlab is of the opinion that the possible founding levels for fuel storage tanks to be from 4000-5000mm depth below natural ground level to achieve an allowable bearing capacities 500-1000kPa as achieved by dynamic cone penetrometer (DCP) tests. The soils are non-slightly plastic on competent residual decomposed bedrock material. With the assistance from the structural consulting engineers we hope that our findings and report will be considerable help. The stratigraphic layers of soils were found to be more consistent in almost all the tested pits. Materials from 1000+ depth around the property is suitable for use as backfilling materials. The project site, excavations for new utilities will encounter weathered bedrock at 1000mm+ depth. Hardstands should be constructed after removal of about 400mm overburden and organic layer thickness and further excavation to +/- 4000mm depth. Backfill material should be approved inert granular material and shall be non-expansive materials free of organic matter, have a Liquid Limit of less than 40 and a Plasticity Index of less than 20. Structural fills should be 150mm thickness and should be moisture conditioned above the optimum moisture content and uniformly compacted to a minimum of 95-98 percent Mod AASHTO relative compaction to reduce the potential for significant settlements. We propose the application of a mass concrete of grade 20MPa of +/-200mm thickness. We recommend that the tank be installed on a reinforced steel concrete sitting on 6 no. stub columns of +/-500mm height. DCP test done from the excavated depth in all holes down to +/-5000mm achieving bearing capacity of 1000+kpa CBR 50+ and there was no bedrock encountered. Excavations are expected to encounter decomposed rock. Although risk of walls collapsing is very remote, if during excavations any risk of wall collapse is identified we recommend use of timber or shutters for shielding the walls as safety measures to prevent collapsing of the lateral walls.

No underground water is expected at depths of 5000mm because the general geology of the area. Underground water is expected to drain easily since the site is on a slope.

9.2 Pavement and car park designs

The access road and car park which link the fuel tanks to be founded at +/-300mm depth following removal to waste of an overburden layer of 300mm. Base layers of subgrade may be formed from a depth of 300 mm of in-situ competent soil consisting of silty clay gravel. When the desired depth has been achieved, the subgrade surface should be scarified to a minimum depth of 150mm, moisture-conditioned to near the optimum moisture content, and re-compacted to a minimum of 90 percent relative compaction in general accordance with Mod AASHTO HCE. This is to be followed by two 150mm base layers formed with an proved inert granular material or suitable crusher run from an approved source compacted to 95-98% Mod ASHTOO to achieve a bearing capacity of 100-150 kPa with a CBR value of 8 under wet conditions.

10. CONSTRUCTION MONITORING

10.1. Excavation Inspection

It is recommended that all foundations be inspected by a competent person (geotechnical engineer/technician) prior to placing any concrete. We recommend inspection of the excavations and testing of the bearing capacity achieved during backfilling and compaction.

10.2 Control Testing

Regular checks on the quality and compaction of the backfill to the terraces should be made by a qualified laboratory.

11. Conclusion

This report presents recommendations for planning of the proposed fuel storage tank. The findings and recommendations presented in this report are based upon soil conditions inferred from Conlab site explorations and laboratory tests of the proposed site area.

Compiled by:

Silas Mhlanga

Materials Technician



Patience Madamombe

BTech Ed in Civil & Construction Engineering



APPENDIX:

TESTS RESULTS

A. CORROSIVITY TESTING

CHLORIDE

SAMPLE #	RESULT	CORROSIVITY RATING
TH 1& 2	14.18 ppm	Mildly corrosive
TP 1	7.09 ppm	Mildly corrosive
TH 3	7.09 ppm	Mildly corrosive

B. RESISTIVITY (as Electrical Conductivity)

SAMPLE #	RESULT	CORROSIVITY RATING
TH 1& 2	125.5 $\mu\text{S}/\text{cm}$	Non -corrosive
TP 1	71.0 $\mu\text{S}/\text{cm}$	Non -corrosive
TH 3	89.7 $\mu\text{S}/\text{cm}$	Non -corrosive

C. SOIL AGGRESSIVITY

SULPHATE

SAMPLE #	RESULT	AGGRESSITIVITY RATING
TH 1& 2	10 ppm	Non- Aggressive
TP 1	5 ppm	Non- Aggressive
TH 3	5 ppm	Non- Aggressive

SAMPLE #	RESULT	AGGRESSITIVITY RATING
TH 1& 2	6.900	Non- Aggressive
TP 1	6.711	Non- Aggressive
TH 3	6.879	Non- Aggressive

D. GPS Coordinates

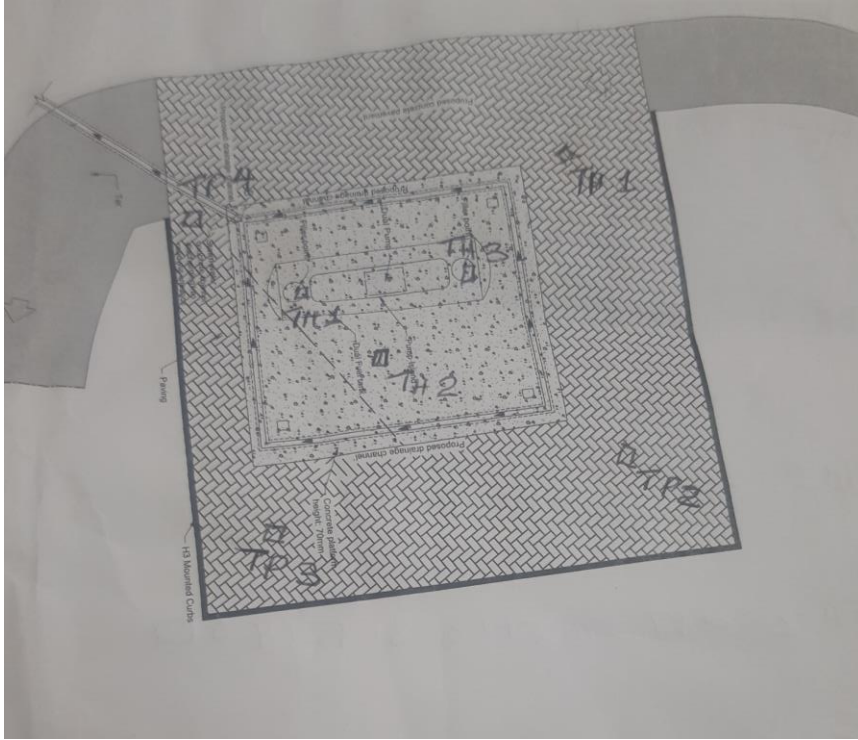
Position		GPS Coordinates	Southings and Eastings
Fuel Tank	TH 1	-17.7686990,31.1214210	17°46'07.3"S 31°07'17.1"E
	TH 2	-17.768913,31.121460	17°46'08.1"S 31°07'17.3"E
	TH 3	-17.7688430,31.1213480	17°46'07.8"S 31°07'16.9"E
Pavement	TP 1	-17.768913,31.121460	17°46'08.1"S 31°07'17.3"E
	TP 2	-17.7689440,31.1214270	17°46'08.2"S 31°07'17.1"E
	TP 3	-17.7685490,31.1213470	17°46'06.8"S 31°07'16.9"E
	TP 4	-17.7687030,31.1213640	17°46'07.3"S 31°07'16.9"E

PICTURES:

01. Dynamic Cone Penetrometer



02. Sketch showing Test Pit Positions



03. TLB (Tractor Loader Backhoe)



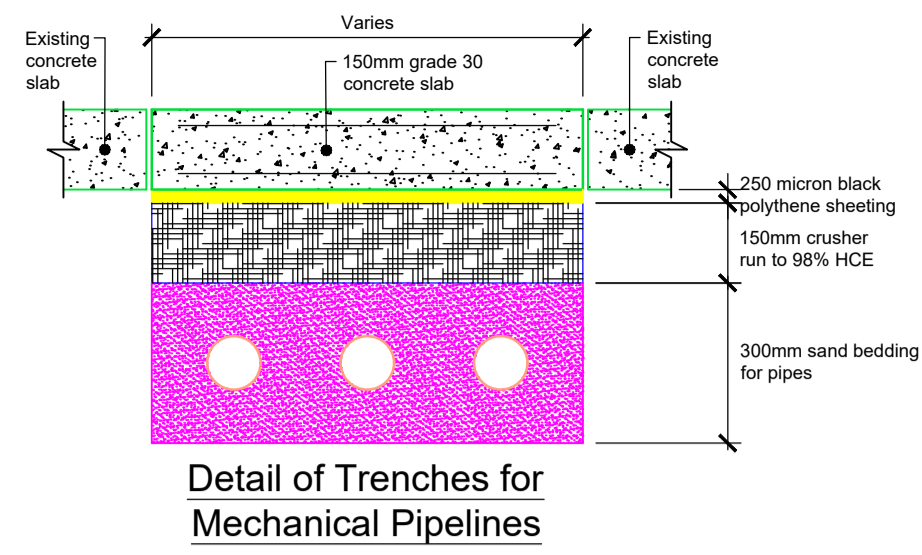
04. Outcropping Gabbro Rocks



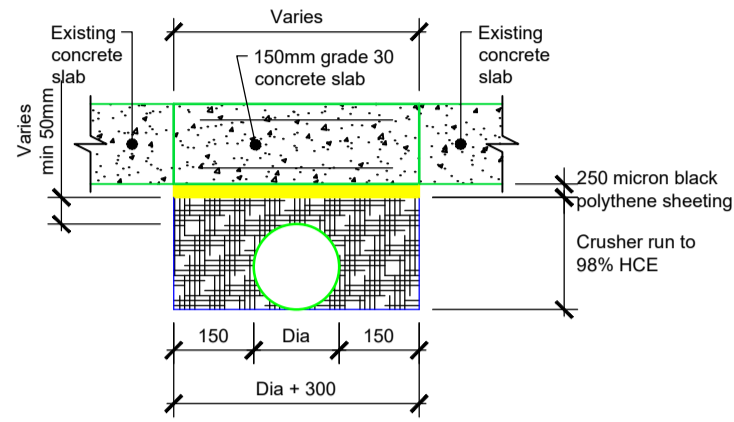
05. **Whitish Schist @ 2500-3300mm depth**



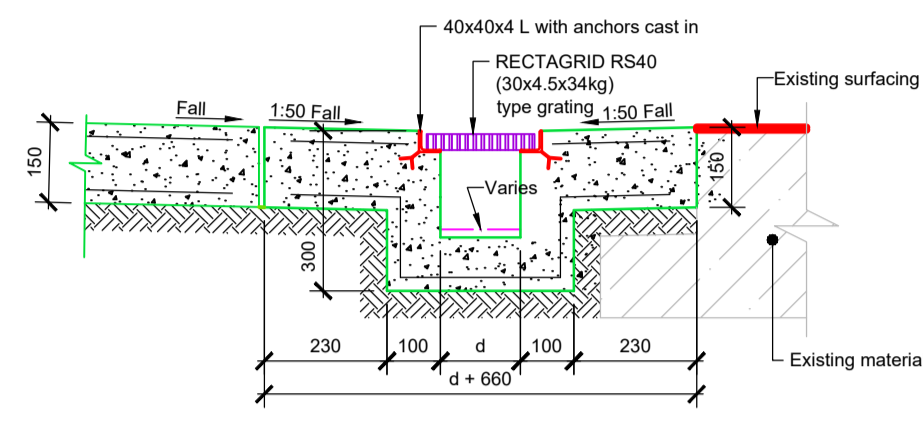
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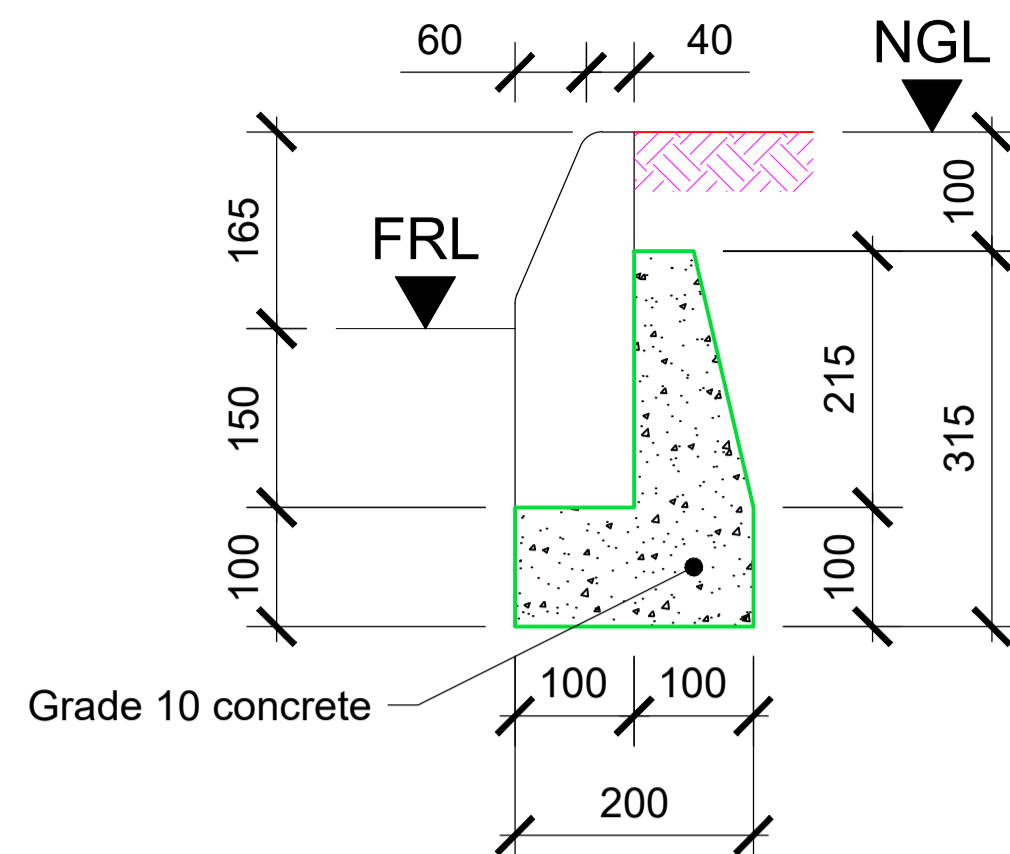
Detail of Trenches for Mechanical Pipelines
Scale 1:10



Detail of Stormwater Pipes
Scale 1:10

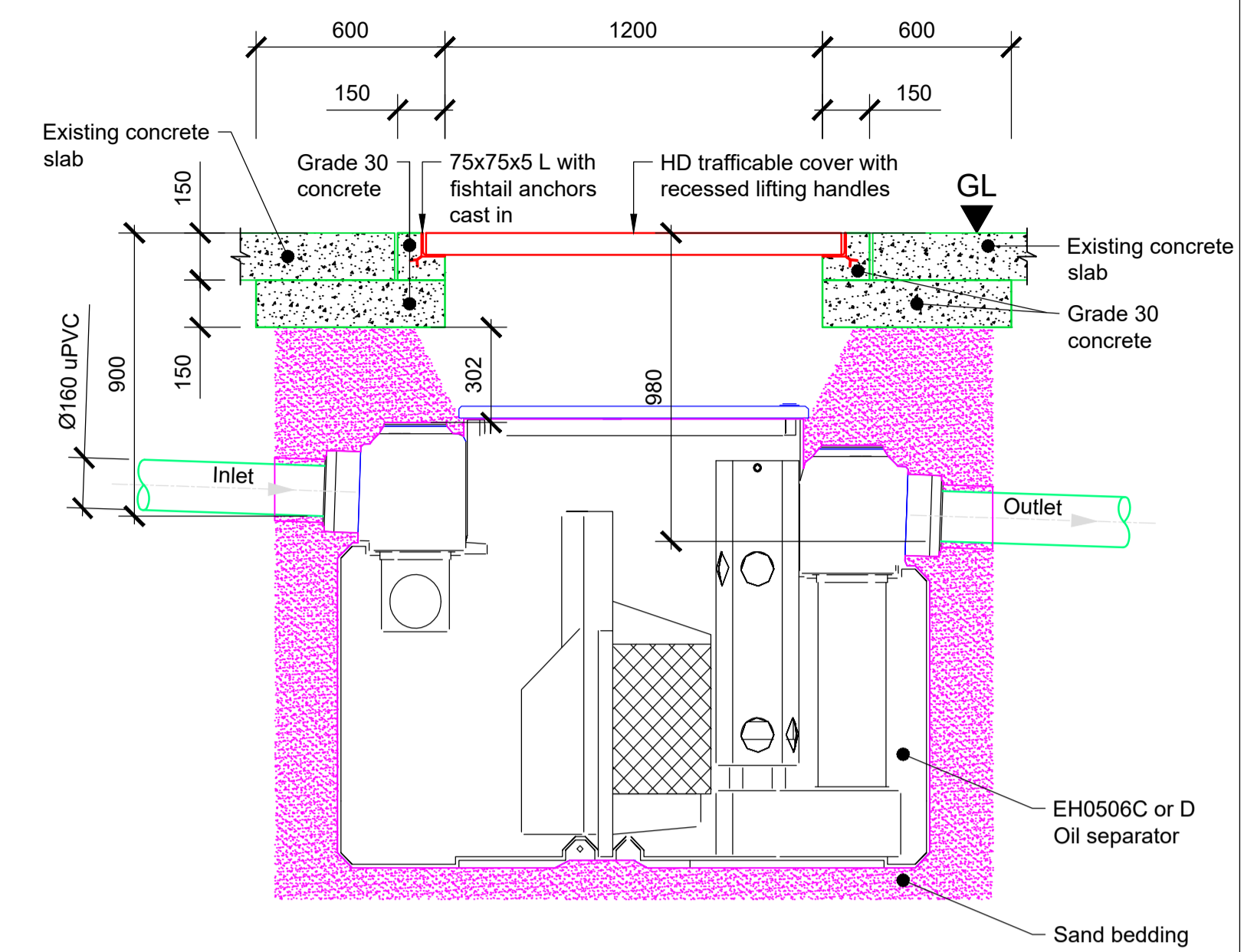


Section A-A
Scale 1:10

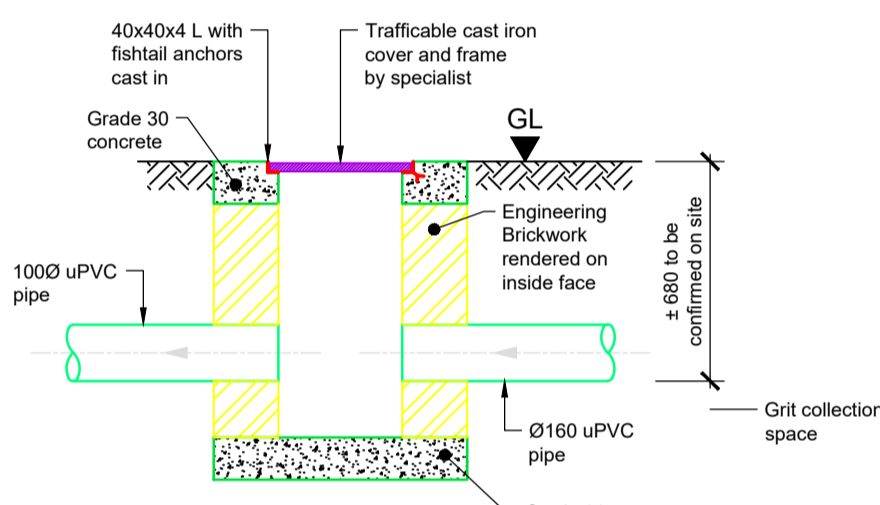


Precast Concrete Kerb Detail (Type H7)
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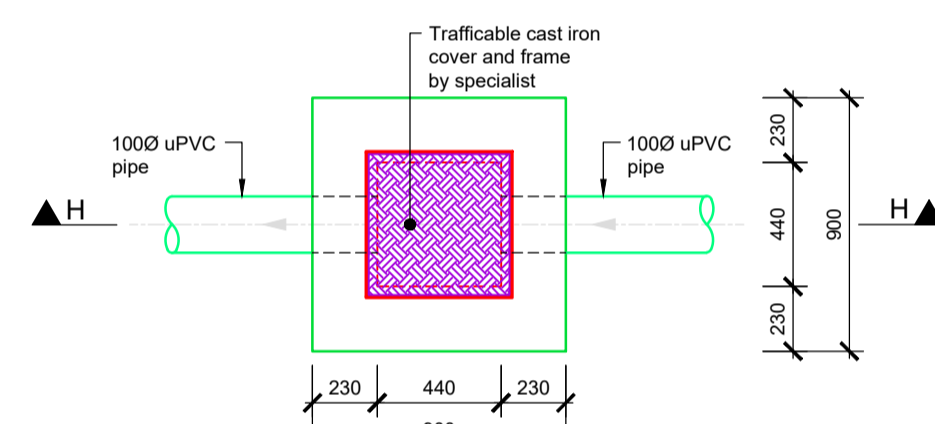
Kerb Details



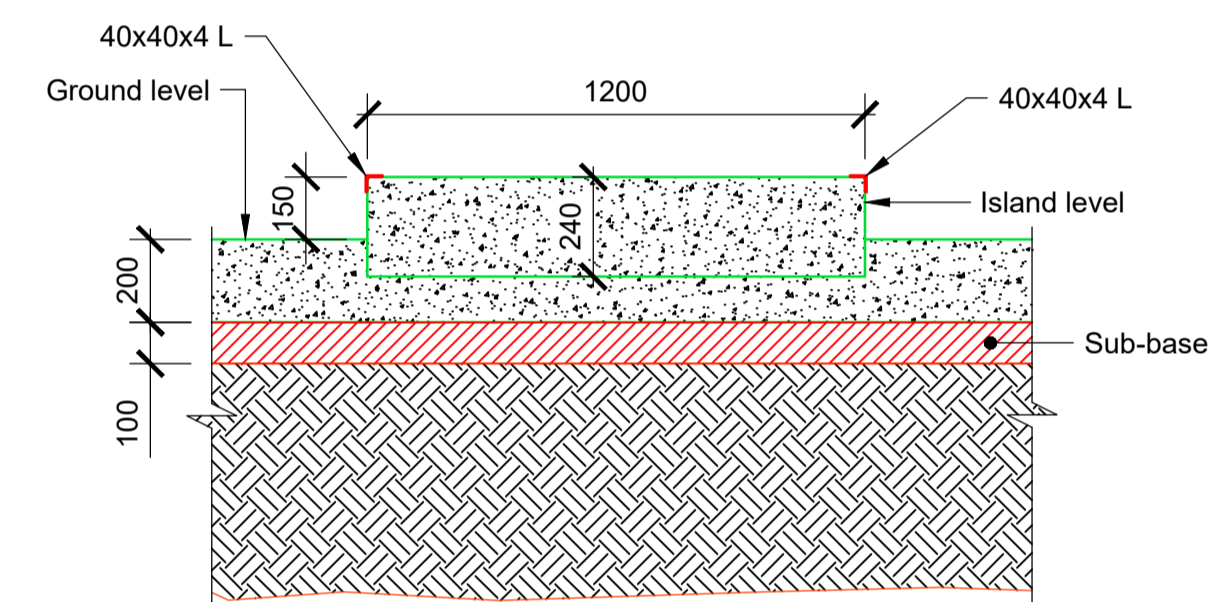
Oil Separator Detail
Scale 1:20



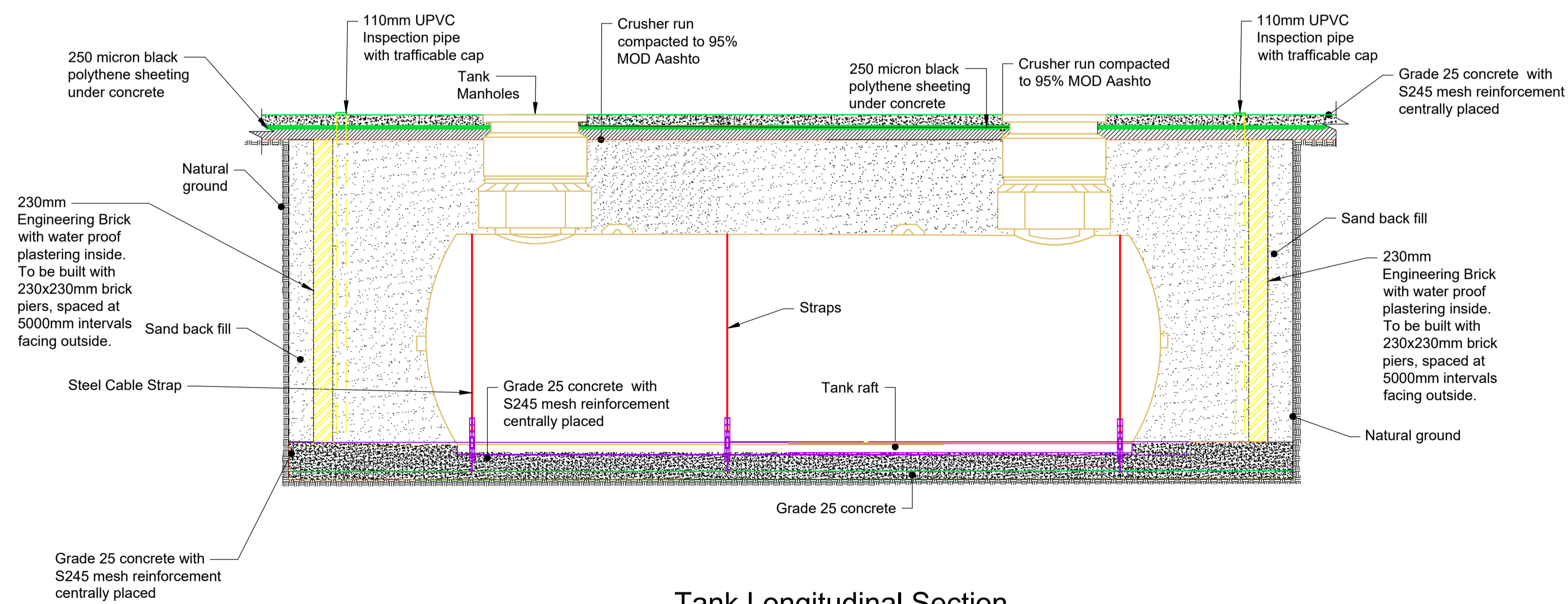
Grit collection Chamber Section H-H



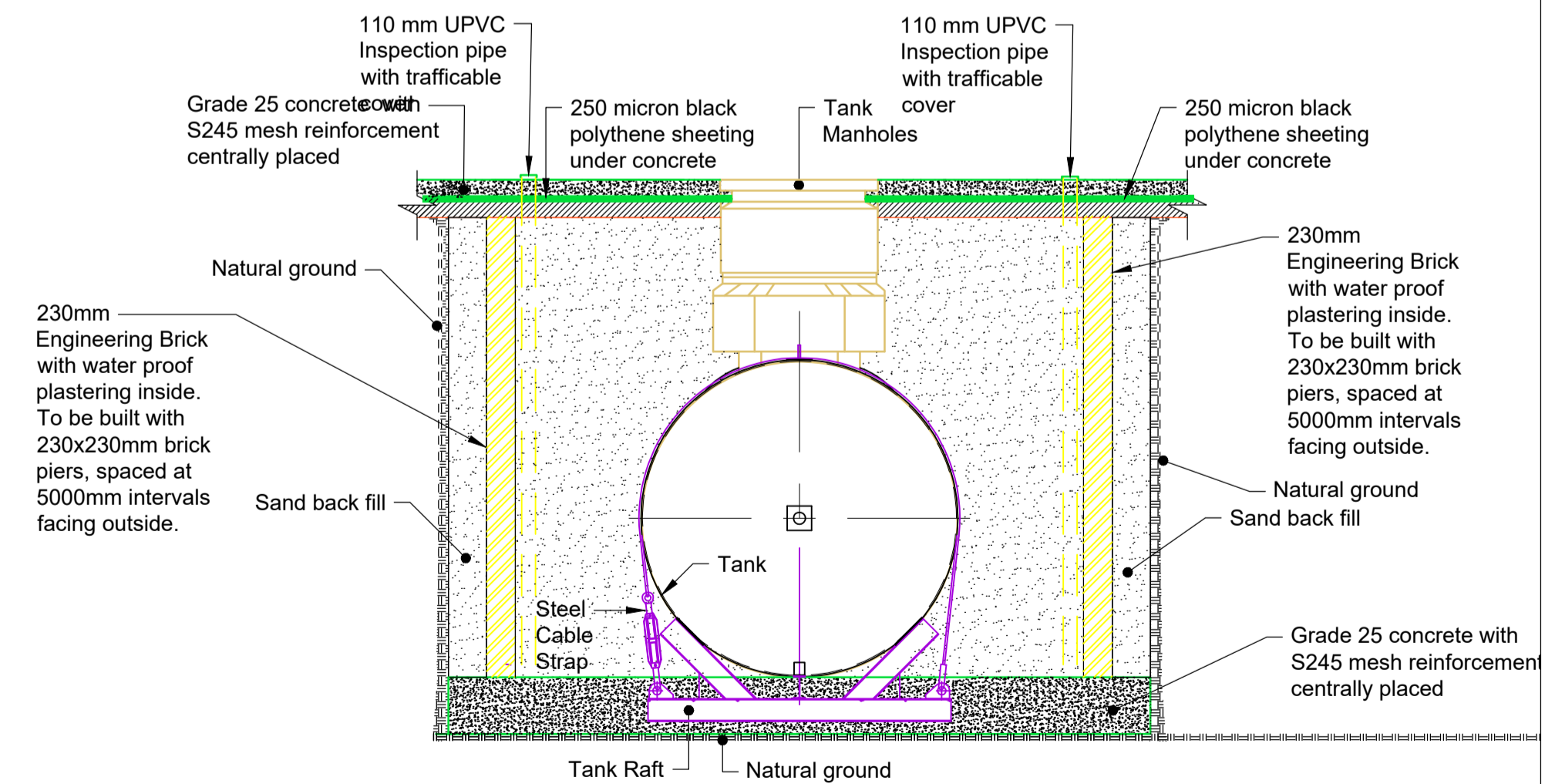
Grit Collection Chamber Plan



Pump Island Detail
Scale 1:20



Tank Longitudinal Section



Cross Section

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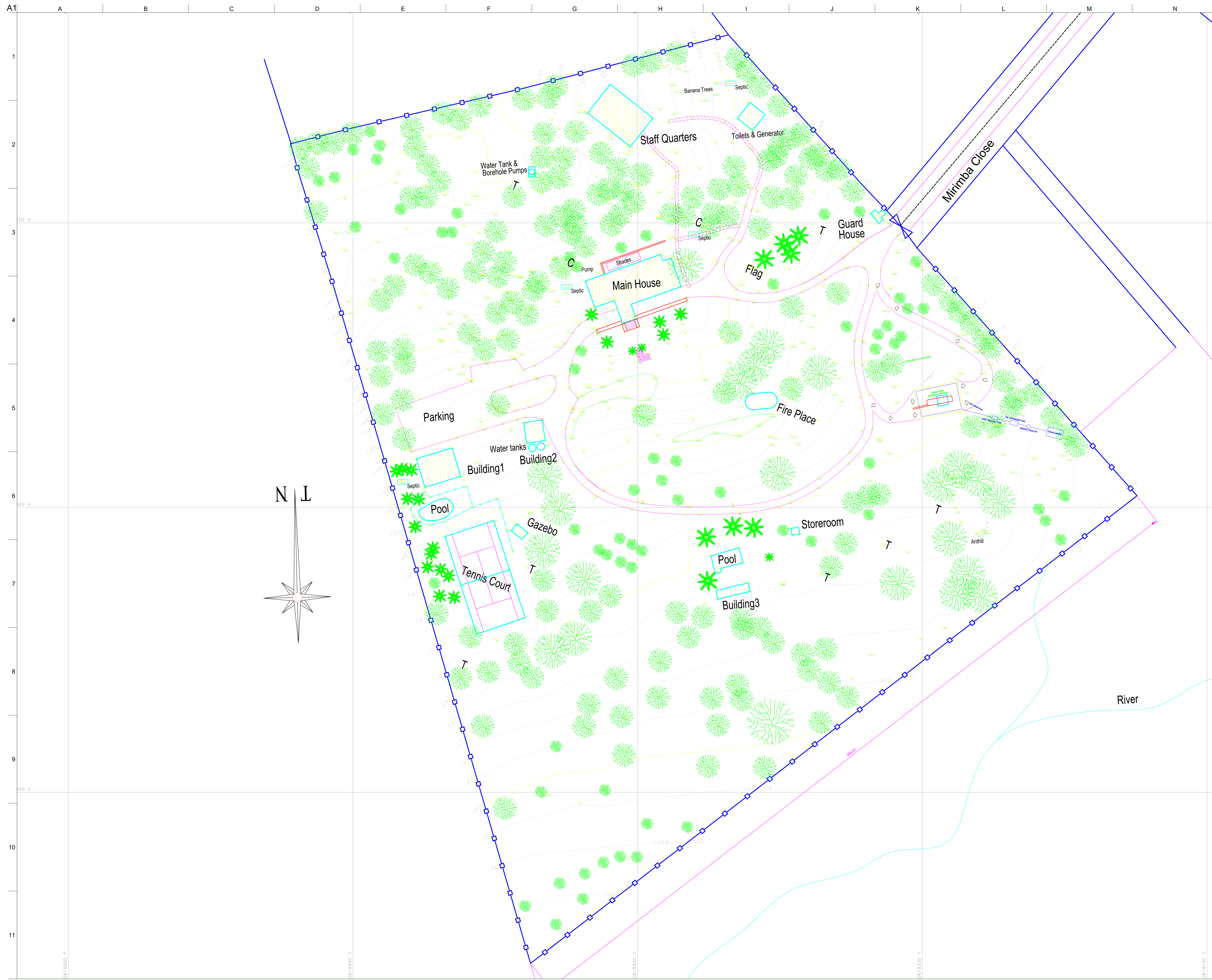
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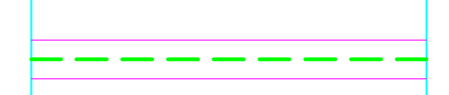
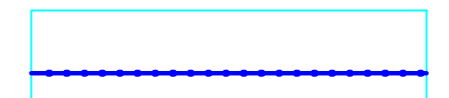





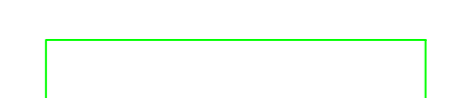

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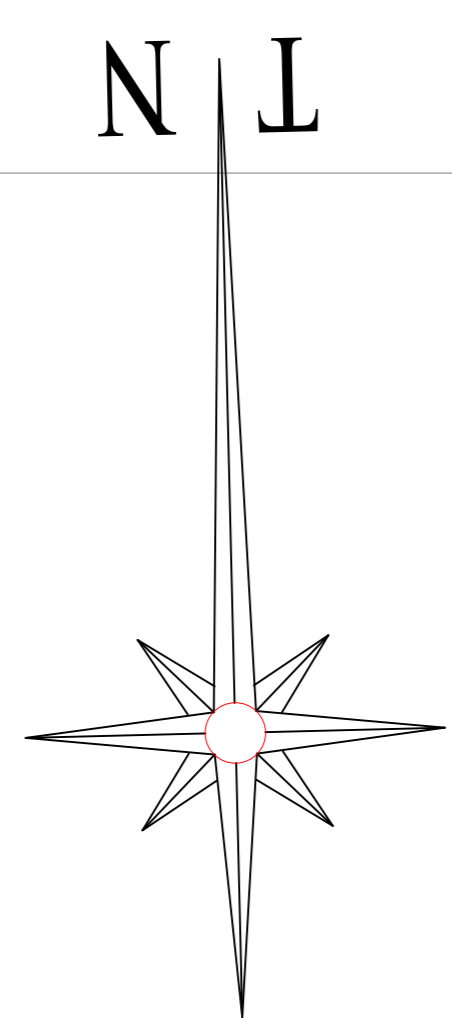
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Drawing No	Job No
S01/43-2018	1821



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-  Tarred Road
-  Boundary Wall
-  Building
-  Contours
-  Trees
-  Fence
-  Palm
-  Tap
-  Camera / CCTV



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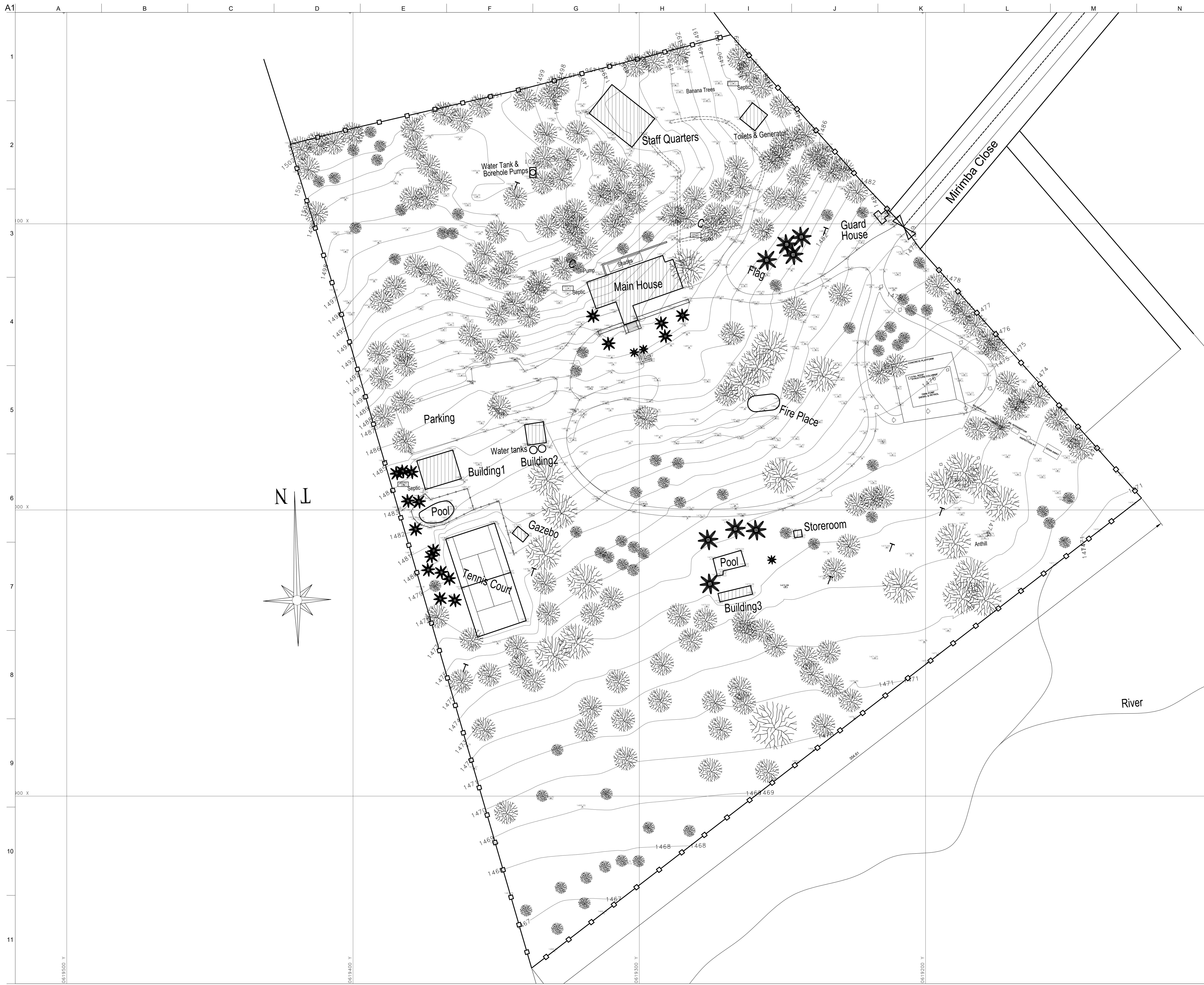
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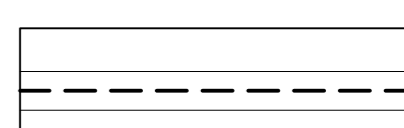
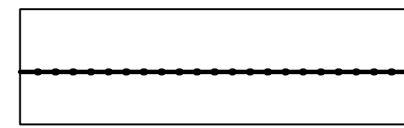
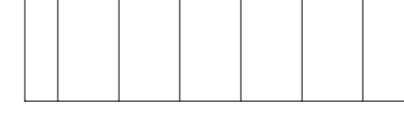
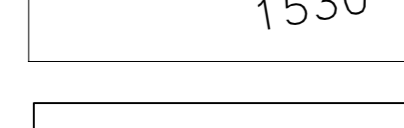
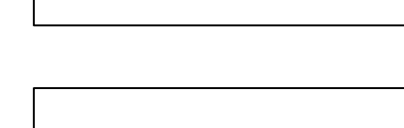
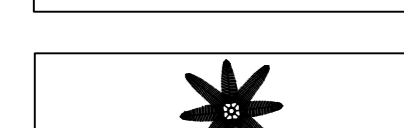
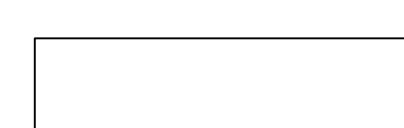
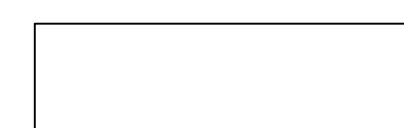

Topographic Survey
4 Mirimba Close
Rolf Valley

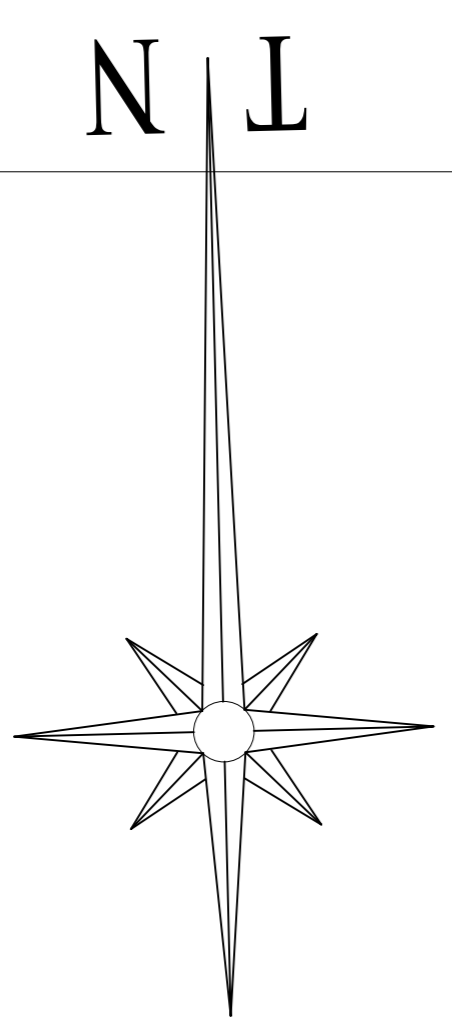
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Drawing No	S01/43-2018
Job No	1821



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-  Boundary Wall
-  Building
-  Contours
-  Trees
-  Fence
-  Palm
-  Tap
-  Camera / CCTV



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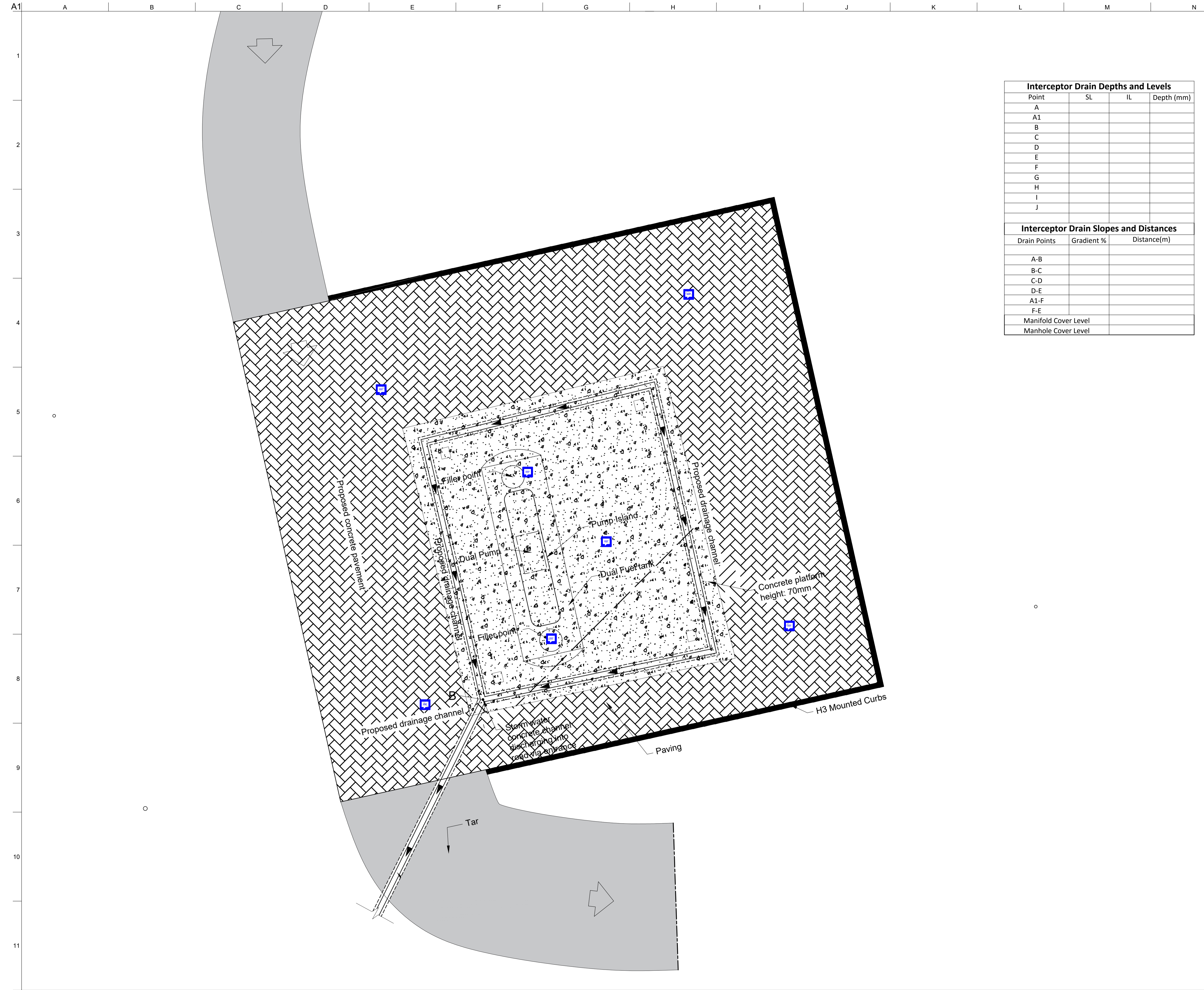
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Topographic Survey
4 Mirimba Close
Rolf Valley

Scale at A1	1:150
Drawing Status	Preliminary
Issue	P1
Drawing No	S01/43-2018
Job No	1821



Interceptor Drain Depths and Levels			
Point	SL	IL	Depth (mm)
A			
A1			
B			
C			
D			
E			
F			
G			
H			
I			
J			

Interceptor Drain Slopes and Distances		
Drain Points	Gradient %	Distance(m)
A-B		
B-C		
C-D		
D-E		
A1-F		
F-E		
Manifold Cover Level		
Manhole Cover Level		

- Notes
1. This drawing is to be read in conjunction with drawing C201 and C203
 2. Do not scale any drawings, work to figured dimensions only.
 3. Any discrepancies on this drawing to be brought to the engineer's attention prior to implementation of any work.
 4. This survey is based on a local projection.

Key

- Water and Storm Water Drain
- Proposed island
- New Grade 30 S245 Mesh Reinforced Concrete
- G-Blocks
- Tar

Cross section of H3 Mountable Kerb

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Drawing Status Preliminary
Issue P1 Date 07 May 2019
Drawing No S01/43-2018 Job No 1821

A1

A B C D E F G H I J K L M N

1

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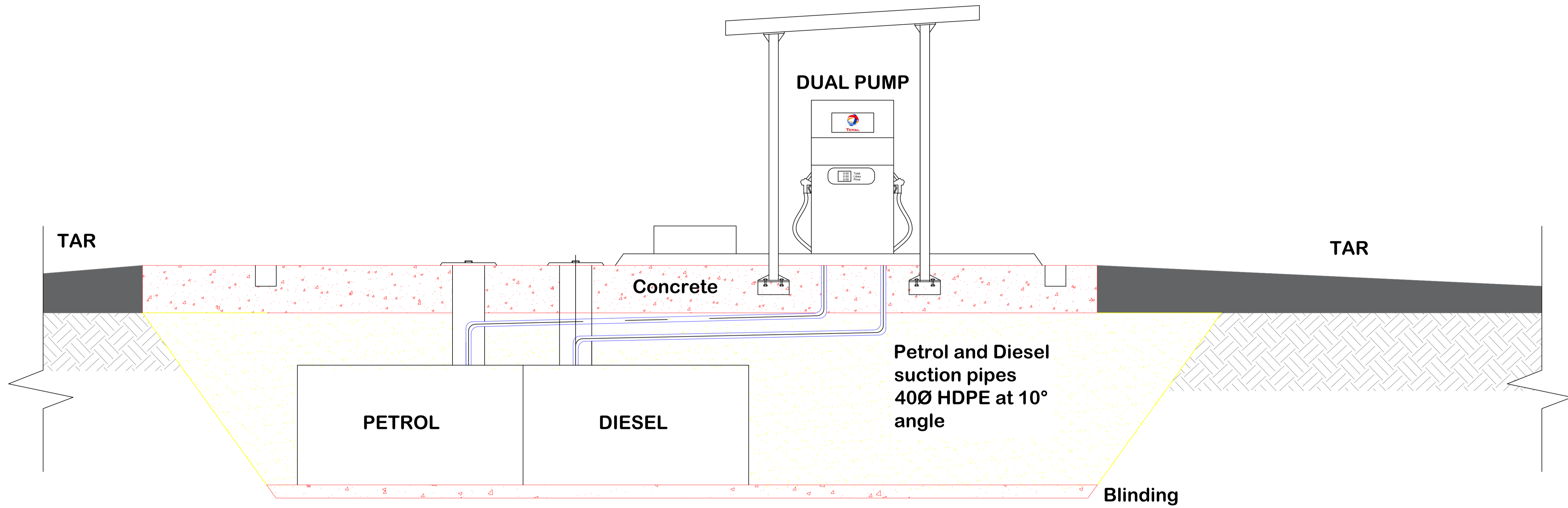
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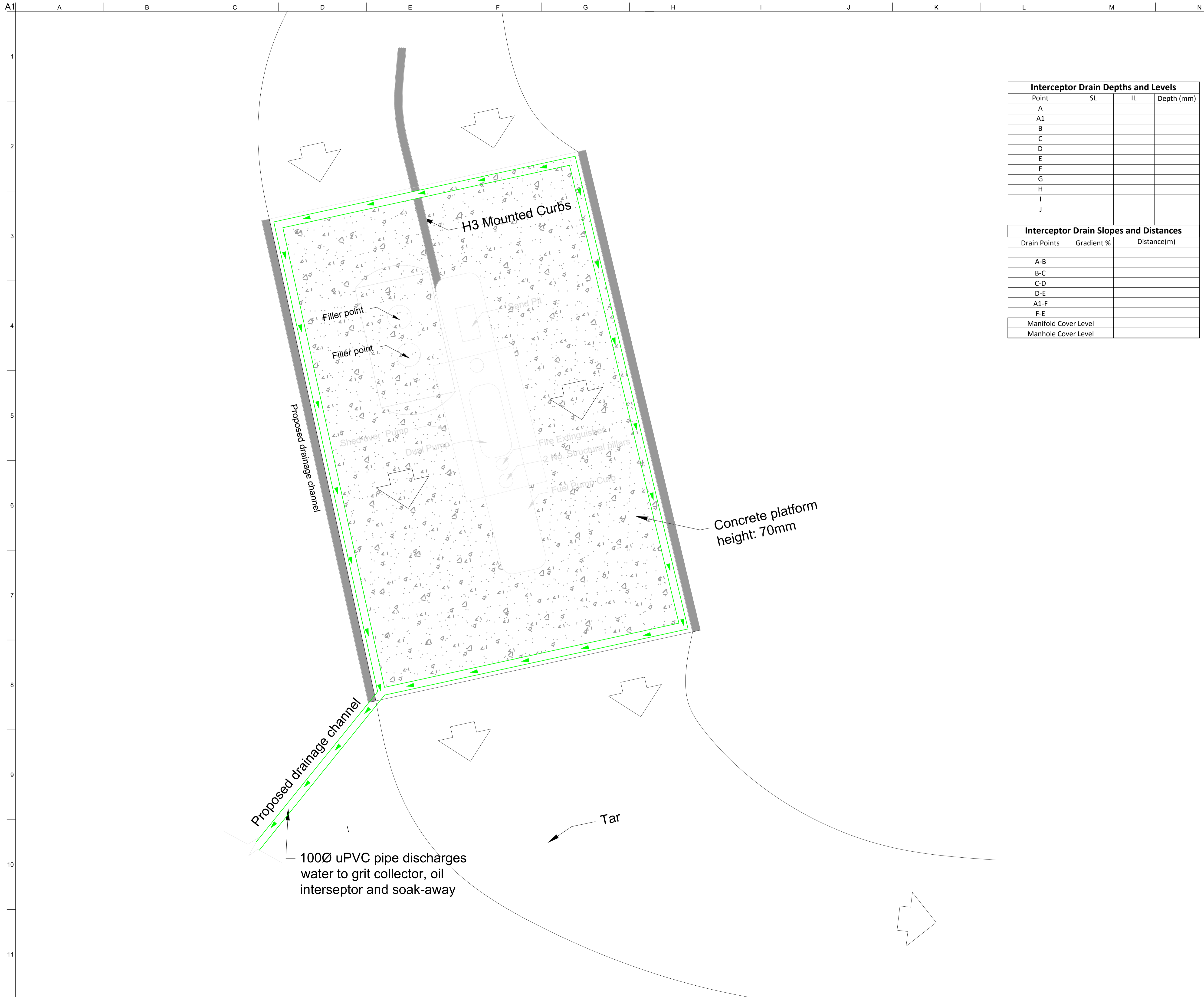
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Issue	Date 22/05/2019
Drawing No S02/43-2019-B	Job No 1821



Interceptor Drain Depths and Levels			
Point	SL	IL	Depth (mm)
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A1			
B			
C			
D			
E			
F			
G			
H			
I			
J			

Interceptor Drain Slopes and Distances		
Drain Points	Gradient %	Distance(m)
A-B		
B-C		
C-D		
D-E		
A1-F		
F-E		
Manifold Cover Level		
Manhole Cover Level		

- Notes
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Key

- Water and Storm Water Drain
- Proposed island
- New Grade 30 S245 Mesh Reinforced Concrete
- G-Blocks
- Tar

Cross section of H3 Mountable Kerb

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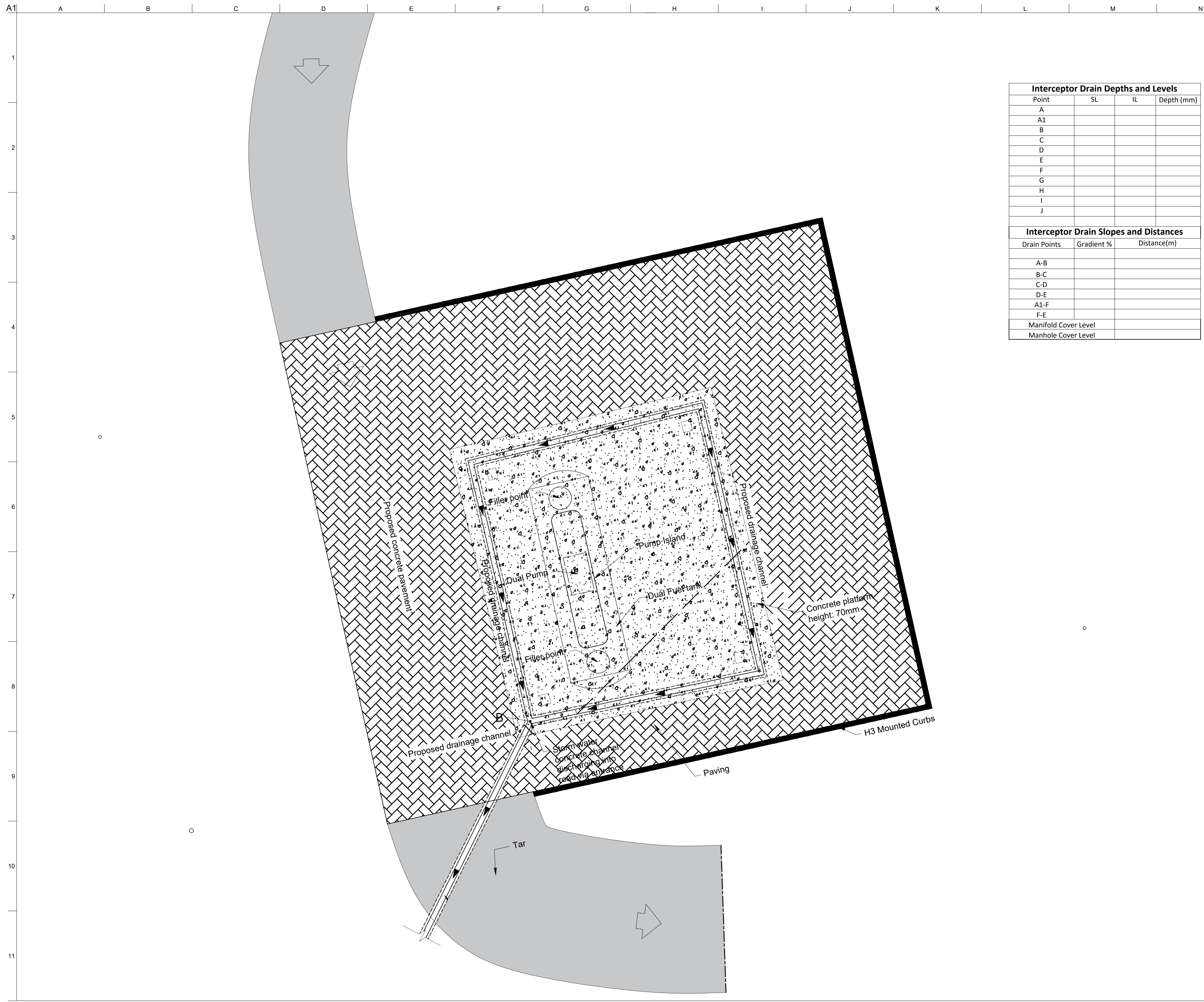
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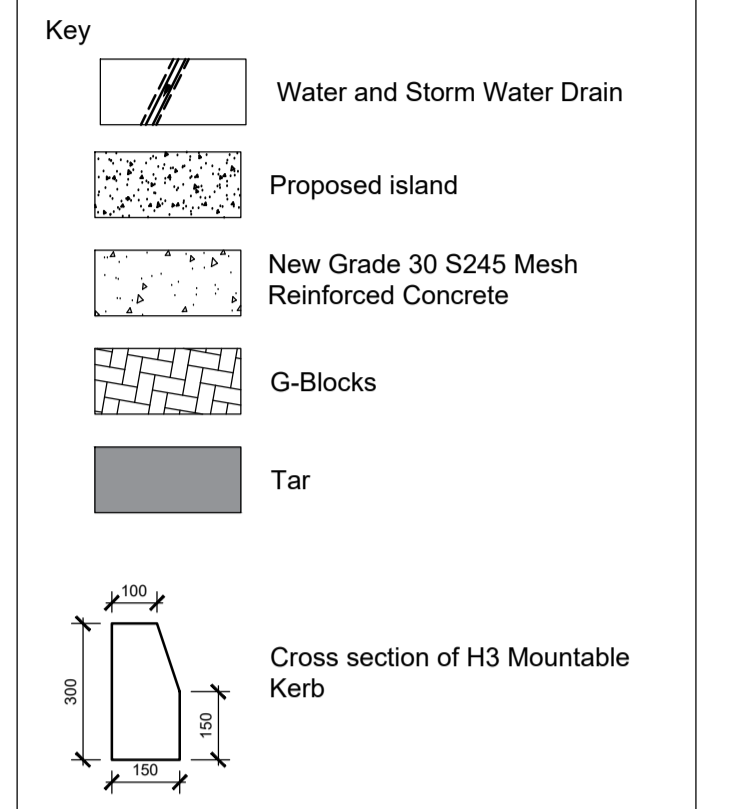
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Drawing No	Job No
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Interceptor Drain Depths and Levels			
Point	SL	IL	Depth (mm)
A			
A1			
B			
C			
D			
E			
F			
G			
H			
I			
J			

Interceptor Drain Slopes and Distances		
Drain Points	Gradient %	Distance(m)
A-B		
B-C		
C-D		
D-E		
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F-E		
Manifold Cover Level		
Manhole Cover Level		



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Scale at A1	Not to scale
Drawing Status	Preliminary
Issue	Date
P1	07 May 2019
Drawing No	Job No
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