SPECIFICATION
FOR

PARKING LOT AND DRIVE LANE COATING
KOPEGARON WOODS CONSERVATION AREA

PREPARED FOR:

ESSEX REGION CONSERVATION AUTHORITY
360 FAIRVIEW AVE W., ESSEX, ON

Project No. 225044
June 16, 2025

PREPARED BY:

CHALL. ENG. Corporation, Consulting Engineers
12222 Tecumseh Road East, 2nd Floor
Tecumseh, Ontario, N8N 1L9
Tel.: (519) 979-7333
Att.: Jennifer Di Domenico, P.Eng.

DIVISION 00 – BIDDING REQUIREMENTS, CONTRACT FORMS AND CONDITIONS OF THE CONTRACT

DIVISION 01 – GENERAL REQUIREMENTS

DIVISION 31 – EARTHWORK

DIVISION 32 – EXTERIOR IMPROVEMENTS

LIST OF DRAWINGS

Cover Sheet / Aerial Plan
S1 Existing Parking Lot Plan
S2 Existing Drive Lane Plan
S3 Existing Drain Plan
P1 Proposed Parking Lot Plan
P2 Proposed Drive Lane Plan
P3 Proposed Drain Plan

END OF SECTION

Submitted by Tenderer: _____

Contact Person: _____

Contact's Phone No.: _____email:_____

To (Owner): Essex Region Conservation Authority

For Project: Parking Lot and Drive Lane Coating
Kopegaron Woods, Wheatley, Ontario

Dated: June 16, 2025

General Statement: In accordance with the Contract Documents, including Technical Specifications and Drawings

Documents Prepared by: Chall.Eng. Corporation, Consulting Engineers

No. of Addenda Received:_____

We hereby offer to furnish all equipment, labour and material necessary for the proper completion of the above named project, including all prime costs, allowances and Government Sales or other Taxes, as called for in the Technical Specifications, in accordance with the above-mentioned documents as follows:

Tender Price Form – Base Bid				
Item No.	**Description of Work**	**Estimated Quantities**		**Price**
2	**General**			
2.1	Mobilization, Access and Demobilization	N/A	Lump Sum	$
2.2	Out of Town Costs	N/A	Lump Sum	$
2.3	Protection of Property	N/A	Lump Sum	$
2.4	Site Restoration and Cleaning	N/A	Lump Sum	$
2.5	Bonding	N/A	Lump Sum	$
3	**Parking Lot, Drive Lane and Drain Works**			
3.1	Grading and Coating Works	N/A	Lump Sum	$
			Tender Price (Excluding HST):	
			HST (13%):	
			TOTAL TENDER PRICE(in lawful money of Canada):	
_____(Dollars) _____(cents) (Total Tender Price in Written Form)				

2.2 OPTIONAL PRICES

The Owner may accept any of the optional prices in any order or combination, including all or none,

(a) the lowest bidder will be determined solely from the base bid, without considering any optional prices,
(b) optional prices are open for acceptance by the Owner for the same period of time as the base bid price,
(c) the Work of the Contract and the Contract Price will reflect the optional prices, if any, accepted by the Owner at the time of contract award,
(d) acceptance of any optional prices will not affect the base bid contract completion time, unless we have specifically indicated an increase or decrease time, in number of days, on account of a particular alternative, and
(e) Prices shall remain firm for a period of 12 months from bid acceptance.

Item No.	Description of Work	Estimated Quantities		Price
4	**Optional Price Items**			
4.1	Replace culvert	N/A	Lump Sum	$

2.3 UNIT PRICES

The following are Unit Prices for the work listed hereunder. The following prices shall include all labour, material, overhead and profit and taxes except for HST to carry out the work. The contractor agrees to the following Unit Prices, which if accepted by the Owner will be Added to or Subtracted from the Stipulated Contract Price. The quantities listed in the Unit Prices are estimated and may vary. The extensions of Unit Prices and additions of Unit Price extensions will be checked by the Engineer and where arithmetical errors are discovered, the Unit Prices will be considered as representing our intentions and Unit Price extensions and the total amount entered for the Unit Price component of the Work will be corrected accordingly. Prices shall remain firm during the work.

Item No.	Description of Work	Estimated Quantities		Price
5	**Unit Price Items**			
5.1	Excavate and remove 1 additional cubic yard of soil	N/A	Lump Sum	$
5.2	Supply and place 1 additional cubic yard of granular A material	N/A	Lump Sum	$

In submitting this Tender, the Tenderer recognizes the right of the Owner to accept or reject any or all Tenders.

If this Tender is accepted and the Contract is awarded to us, we, the undersigned, hereby undertake to perform this Contract satisfactorily and guarantee the full performance of the Contract.

We further agree to leave this Tender open for acceptance, for a period of sixty (60) days from the closing date of this Tender.

The following labour rates shall be used for additions or deletions to the Contract Price. These labour rates do not include Harmonized Sales Tax (HST).

NO.	DESCRIPTION	LABOUR / MATERIAL RATE
1	Foreman	$ /hr
2	Journeyman	$ /hr
3	Labourer	$ /hr
4	Project Manager	$ /hr
5	Other	$ /hr
7	Materials	20%

SUBCONTRACTORS AND SUPPLIERS

1. The undersigned agrees that the following Subcontractors and/or Suppliers will be employed on the project.
2. Following is a list of Subcontractors that we propose to use for the performance of the identified portions of the Work.
3. Only one (1) Subcontractor shall be listed for each identified portion of the Work. Work to be performed by Contractor is indicated by the words "BY OWN FORCES".
4. We agree that changes to this list will not be allowed without the express written permission of the Owner.
5. We acknowledge that Subcontractors on this list may be so notified by the Owner.

Excavation: _____

Coating Supplier: _____

ACCEPTANCE AND CONTRACT

If awarded the Contract for this Work within Sixty (60) calendar days or less of the date set for receipt of Tenders, the undersigned agrees:

To commence the Work by: _____

To complete the Work by: _____

No. of full time Site Personnel: _____

Forman Name / Years of Experience: _____

LEGAL NAME OF COMPANY: _____

ADDRESS: _____

POSTAL CODE: _____

TELEPHONE: _____

FAX NUMBER: _____

EMAIL ADDRESS: _____

SIGNATURE OF AUTHOURIZED OFFICER(S): _____

NAME AND POSITION OF SIGNING OFFICER(S): _____

_____

_____

_____

In the case of a Limited Company, the Company seal shall be affixed to their Tender where the signature of the Signing Officer(s) of the Company appears, as well as the legal and registered name of the company.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 00 02 00 – Form of Tender

1.2 OWNER

.1 Owner shall mean the Essex Region Conservation Authority (ERCA).

1.3 ENGINEER

.1 Engineer shall mean Chall.Eng. Corporation, Consulting Engineers (CEC).

1.4 CONTRACTOR (OR TENDERER)

.1 Contractor (or Tenderer) shall mean the Corporation as noted on the Form of Tender.

1.5 PROJECT DESCRIPTION

.1 The Work is identified as Parking Lot and Drive Lane Coating, located at Kopegaron Woods Conservation Area, Wheatley, Ontario, also known as Project Number 225044, as prepared by Chall.Eng. Corporation, Consulting Engineers.

.2 In general, the scope of work includes, but is not limited to, application of chip seal coating.

1.6 TENDER DOCUMENTS

.1 The Tender Documents for this project shall include all Technical Specifications and Drawings as listed in Section 00 01 00 Table of Contents.

.2 In the event of any inconsistency or conflict in the provisions of the Technical Specifications and the Drawings, the Technical Specifications, then the Drawings shall take precedence.

.3 The Owner and Engineer do not assume any responsibility for the correctness, accuracy or completeness of the Drawings with respect to the location of existing concealed conditions or other objects (man-made or natural), and should the Drawings be found to be incorrect or incomplete, the Contractor shall not have any claim on this account prior to commencing with the work. Prior to commencing with the work, the Contractor shall confirm the information and dimensions as shown on the Drawings and as noted in the Scope of Work. Notify the Engineer immediately of any discrepancies or errors.

1.7 GENERAL REQUIREMENTS

.1 The Contractor shall furnish all access, labour, equipment and materials necessary to complete all work as specified herein.

.2 All labour shall be performed by competent workers and to reasonable standards of workmanship.

.3 All materials furnished under this Contract shall be new and undamaged, and must satisfy all Codes or Regulations.

.4 Substitute materials shall only be used if approved by the Owner and Engineer, and Tenderers shall not base their Tenders on substitute materials unless noted in an Addendum. The submission process for substitutions is noted in Section 3.2.

.5 This Tender is for a Stipulated Price Contract CCDC No. 2 (Latest Edition).

Part 2 Tender Submission

2.1 REQUIREMENTS

.1 Tenders shall be submitted in accordance with Table 1 – Summary of Submission Requirements.

Table 1 – Summary of Submission Requirements

Item	Requirements
Submission items:	Upload one (1) digital copy in Adobe PDF readable format of the following: 1. Item 2.3 Mandatory Requirements; 2. Section 00 02 00 Form of Tender
Submission deadline:	**June 30, 2025, until 1:00:00 p.m., local time**
Submission location:	Email responses to: 1. Engineer: Ms. Jennifer Di Domenico, of Chall.Eng. Corporation at jdidomenico@cec14.com; and 2. Owner's Representative: Mr. Kevin Money, of ERCA at kmoney@erca.org.

.2 Failure to comply with the above noted submission requirements may result, at the sole discretion of the Owner, in disqualification of the Tender Submission.

.3 Late Tenders, or Tenders submitted to the location other than that specified, will not be accepted.

.4 By submitting a Tender, the Tenderer agrees to every term, provision and condition set out in these Instructions to Bidders.

2.2 AMENDMENTS/WITHDRAWL OF TENDER SUBMISSIONS

.1 At any time prior to the Submission Deadline, a Contractor may withdraw and amend its Tender Submission. A Contractor wishing to amend its Tender Submission shall withdraw its initial Tender Submission and replace it with a complete, revised Tender Submission prior to the Submission Deadline. Should a Contractor submit more than one amendment for the same purpose, the one bearing the later date/time confirmation will be evaluated unless it is received after the Submission Deadline.

.2 A Tenderer may withdraw its Tender at any time prior to the official closing time by submitting a letter rejecting its bid and bearing its signature, to the place of closing specified.

2.3 MANDATORY REQUIREMENTS

.1 The Owner reserves the right to determine if each Contractor meets the mandatory requirements.

.2 Each Tender shall include a completed Form of Tender, an Agreement to Bond, WSIB Clearance and Insurances.

.1 Form of Tender

.1 The prices as tendered shall include the supply of all access, labour, materials and equipment, including all incidentals such as insurances, to complete the works in this Tender to the satisfaction of the Owner.

.2 If a Tenderer has omitted to enter a price for an item of work set out in the Form of Tender, the Tenderer shall, unless specifically stated otherwise in the Tender, be deemed to have allowed elsewhere in the Form of Tender for the cost of said item of work and, unless otherwise agreed to by the Owner, no increase shall be made in the Form of Tender on account of such omission.

.3 All sales taxes and import duties shall be included in the Total Tender Price.

.4 The cost of any works, equipment and/or labour not specifically noted in the Scope of Work that are required to complete the works properly, and the cost of all incidentals, such as insurances, overhead, profit, coordination, etc. that are noted in these Technical Specifications and on the Drawings, shall be included in the Total Tender Price. There will be no additional payment for incidentals.

.2 Agreement to Bond

.1 The Contractor shall submit an Agreement to Bond issued by a bonding company licensed in the Province of Ontario, in a form acceptable to the Owner, obliging the bonding company to issue Performance and Labour and Material Payment Bonds.

.2 The cost of the bonds shall be included in the Form of Tender.

.3 WSIB Clearance

.1 The Contractor shall submit written evidence to the Owner that they are covered under the Worker's Compensation Act.

.4 Insurances

.1 The Contractor shall submit written evidence to the Owner that they carry liability and property damages of Five Million Dollars ($5,000,000) insurance.

.2 The Owner, the Engineer, and all parties listed in Section 5.2.2 are to be named as additionally insured.

.3 The insurance policy shall include a Cross Liability clause.

.4 Standard Non-Owned and Owner's Form Automobile Liability Insurance shall have a minimum of $2,000,000 PLPD.

.5 All Risks Builder's Insurance, Liability and Fire Insurance coverage shall be for the full value of the Total Tender Price.

.6 The policy shall not exclude any peril that can reasonably be expected in completing the proposed work.

2.4 BONDS

.1 Performance Bond

.1 A Performance Bond in the amount of Fifty Percent (50%) of the Total Tender Price shall be provided by the successful Contractor.

.2 The Performance Bond issued by the Surety of the Tenderer's choice shall become part of the Agreement or Contract before the Contract is awarded.

.2 Labour and Material Payment Bond

.1 A Labour and Material Payment Bond in the amount of Fifty Percent (50%) of the Total Tender Price shall be provided by the successful Contractor.

.2 A Labour and Material Payment Bond issued by the Surety of the Tenderer's choice shall become part of the Agreement or Contract before the Contract is awarded.

Part 3 Access and Inquiries

3.1 PRE TENDER MEETING

.1 A brief Non-Mandatory Pre Tender Site Meeting will be held on June 20, 2025, at 9:00 am. Contractors are requested to park in the parking lot at Kopegaron Woods Conservation Area, Wheatley, Ontario.

.2 Before submitting its Tender, each Tenderer shall be held responsible to have examined the premises and satisfied themselves as to the existing conditions under which they will be obliged to operating in performing the work. No extras will be allowed for the failure to make the examination.

3.2 SUBSTITUTIONS

.1 The Tender Price shall be based upon materials and equipment specified or approved equivalents.

.2 Contractors and suppliers wishing to obtain approval for equipment and/or material items as equivalent to those specified shall submit a minimum of five (5) days prior to the Tender Closing Date, complete with the following:

.1 Product name and manufacturer's name, address, telephone numbers, and web site.

.2 Reason(s) for proposing the substitution.

.3 A statement verifying that the substitution will not affect the Contract Price and Contract Time.

.4 A statement verifying that the substitution will not affect the performance or warranty of other parts of the Work.

.5 Manufacturer's product literature for the substitution, including material descriptions, compliance with applicable codes and reference standards, performance and test data, compatibility with contiguous materials and systems, and environmental considerations.

.6 A summarized comparison of the physical properties and performance characteristics of the specified product and the substitution, with any significant variations clearly highlighted.

.3 Contractors will be notified of acceptable substitutions via email, a minimum of two (2) days prior to the Tender Closing Date.

.4 Deviations from Specifications must be stated in writing at the time of submission.

3.3 QUESTIONS

.1 It is the responsibility of the Tenderer to clarify any details in question and not mentioned in this Tender or shown on the accompanying drawings before submitting their Tender. No allowance will be made for the Tenderer not being familiar with this Tender.

.2 Any inquiries or questions concerning this project should be directed, by email, to Ms. Jennifer Di Domenico, of Chall.Eng. Corporation, Consulting Engineers, by email at jdidomenico@cec14.com. Telephone inquiries will not be accepted.

.3 If the Engineer considers a question to be relevant to all Contractors, the Engineer will provide both the question and the answer in the form of an addendum.

.4 Any oral or written response provided by anyone other than the Engineer in connection with this Tender will neither be binding on the Owner, nor will it change, modify, amend or waive the requirements of this Tender is any way.

.5 The last day for questions is June 24, 2025, at 12:00 pm. Any questions submitted after this time will not be answered.

3.4 ADDENDA

.1 All addenda will be issued by email only and circulated to all Tenderers.

.2 If any addenda are issued, the Tenderer shall indicate the number of addenda that the Tenderer received in the appropriate blank space on the Form of Tender. If no addenda are received, the Tenderer shall indicate zero.

.3 The Owner reserves the right to reject any Tender Submission that fails to identify addenda issued against the Tender Documents.

.4 Addenda items shall govern and supersede any items in the Technical Specifications and the Drawings.

.5 The last addendum will be issued no later than June 25, 2025, at 2:00 pm.

Part 4 Tender Award

4.1 ACCEPTANCE/REJECTION OF TENDERS

.1 Tenders shall remain open for acceptance for a period of sixty (60) calendar days commencing on and including the day on which the Tenders are received.

.2 The Owner reserves the right to accept or reject any or all Tenders and to waive or not waive any informalities as it may deem advantageous.

.3 The lowest or any Tender may not be accepted.

.4 The Form of Tender and any Mandatory Requirements shall be legible in ink or typewritten.

.5 Tender Submissions which are unsigned, improperly signed or sealed, incomplete, unbalanced, conditional or obscure, or which contain erasures or alterations not properly initialed, or irregularities of any kind, may be rejected.

.6 The Owner may, as permitted by the Tender Documents, or with the agreement of any party with whom it has entered into, or proposes to enter into, a Contract, delete, add or change items in the Technical Specifications and Drawings at any time before or after Tender acceptance.

.7 A Tender is considered as accepted by the Owner upon receipt of a Letter of Authorization, with a CCDC No. 2 Stipulated Sum Contract to follow to the Tenderer.

Part 5 Pre-Construction

5.1 BUILDING PERMITS AND INSPECTIONS

.1 A Building Permit is not required to be obtained for these works.

.2 The Contractor shall secure and pay for all permits, inspections, indemnity fees and certifications of Work as required by the laws and regulations in effect in the locality in which the Work is to be performed.

.3 The Contractor shall deliver to the Engineer and Owner, a copy of the Certificates of Inspection.

5.2 COMMENCEMENT AND COMPLETION

.1 The Contractor shall commence the Work by July 7, 2025, and be substantially complete by August 25, 2025.

.2 Prior to commencing the Works, the Contractor shall submit and obtain approval from the Owner for the following documents:

.1 Notice of Project – Ministry of Labour;

.2 Insurances, which name the Essex Region Conservation Authority as insured, and Chall.Eng. Corporation, Consulting Engineers, as additionally insured;

.3 Bonds – Performance, Labour and Material Payment Bonds;

.4 Project Schedule;

.5 WSIB Certificate of Clearance;

.6 CCDC No. 2 Contract signed and sealed;

.7 Schedule of Values; and

.8 Manufacturer's Technical Information as noted in the Technical Specifications or on the Drawings.

.3 Should the Contractor not complete the Works within the time frame as specified, the Owner may proceed with the work using its own forces or hire or employ such labour, firms, materials, and/or equipment as is necessary to complete the work and charge all costs so incurred in excess of the Contract Price, against the Contractor or recover in a court of competent jurisdiction as a debt due to the Owner.

Part 6 Contract Modification

6.1 CHANGE ORDER PROCEDURES

.1 Upon issuance by the Engineer to the Contractor of a proposed change in the Work, and unless otherwise requested in the proposed change or unless otherwise agreed:

.1 Submit to the Engineer a fixed price quotation for the proposed change in the Work within 5 days after receipt of the proposed change in the Work.

.2 Include in the quotation the increase or decrease to the Contract Time, if any, for the proposed change, stated in number of days.

.3 Include in the quotation the number of days for which the quotation is valid.

.2 The quotation will be evaluated by the Engineer and the Owner and, if accepted by the Owner, be documented in the form of a signed Change Order.

.3 Where there is to be a valuation of changes in the work and lump sum or units prices cannot be agreed upon, the cost and percentages fee will be determined as the total of the following:

.1 Actual cost of labour, including such items as Work Place and Insurance Board Clearance Certificate and Unemployment Insurance or labour cost based on agreed upon schedule of rates;

.2 Actual cost of materials to be incorporated into the Work, including such items as freight and taxes;

.3 For Work done by the Contractor, an amount equal to 10% of the totals from subsections (.1) and (.2) above, which shall constitute overhead (5%) and profit (5%) of the Contractor, unless subsection (.1) is based on the schedule of rates in which case no surcharge will apply on the latter;

.4 For Work done by Sub-Contractors, an amount equal to 15% of the totals from subsections (.1) and (.2) above, which shall constitute overhead (5%) and profit (5% Contractor / 5% Subcontractor) of the Contractor and Sub-Contractors, unless subsection (.1) is based on the schedule of rates or Lump Sum changed by Sub-Contractor in which case only 15% will apply to the latter;

.5 Rental of equipment and plant having a new value of greater than $300; and

.6 Reports shall be submitted daily in writing indicating the total chargeable quantities of labour, material and equipment for certification by the Engineer.

6.2 CHANGE DIRECTIVE PROCEDURES

.1 When proceeding with a change in the Work under a Change Directive, keep accurate records of daily time sheets for labour and construction equipment, and invoices for product and construction equipment costs. Submit such records to the Engineer weekly, until the Change Order superseding the Change Directive is issued.

6.3 SUPPLEMENTAL INSTRUCTIONS

.1 The Engineer may issue Supplemental Instructions to provide clarifications to the Contract Documents, provide additional information, or make minor variations in the Work not involving adjustment in the Contract Price or Contract Time.

.2 If the Contractor considers a Supplemental Instruction to require an adjustment in Contract Price or Contract Time, the Contractor shall promptly notify the Engineer and the Owner in writing and shall not proceed with any work related to the Supplemental Instruction pending receipt of a Change Order, a Change Directive, or, in accordance with the dispute resolution provisions of the General Conditions of Contract, a Notice in Writing of a dispute and instructions to proceed.

Part 7 Construction Period

7.1 GENERAL

.1 The Contractor shall note that the Owner will not be responsible for any loss or damage to the site between the time of the calling of the Tenders and the date work is completed. Should there be any substantial or significant changes, the Contractor shall submit a request in writing for any changes to the Contract's work and/or price.

.2 A competent Foreman, Supervisor or Company Representative shall be on site at all times during the course of the work.

7.2 MAINTAIN LIFE SAFETY SYSTEMS IN OCCUPIED FACILITIES

.1 In an emergency affecting the safety of life or property, the Contractor, without special instruction or authority from the Owner, shall be required to act with speed and remove all of the Contractor's equipment and materials from the path of the emergency.

.2 Maintain operational life safety systems and public access to exits in occupied areas during all stages of the Work.

.3 Be responsible for costs incurred by Owner on account of false fire alarms activated as a result of the execution of the Work without adequate precautions.

7.3 CONSTRUCTION SAFETY

.1 The Contractor's attention is directed to the Occupational Health and Safety Act (OHSA) for Construction Projects. All Work shall be carried out in conformance with these Regulations.

.2 The Contractor shall obtain a Notice of Project from the Ministry of Labour and submit a copy to the Owner, prior to commencing the Work on this site. The Contractor shall be the "Constructor" as defined by the OHSA.

7.4 WORK RESTRICTIONS

.1 The Contractor shall complete work in an orderly manner so as not to interfere with the Owner's and other Contractor's and Owner's Client's use and occupancy of the premises, except for the work area specified.

.2 The Contractor is advised to co-ordinate their works with the Owner's Representative.

.3 Comply with smoking / vaping restrictions. Smoking or vaping is not permitted within the work area.

7.5 PROTECTION OF WORK AND ACCESS TO THE PROPERTY

.1 The Contractor shall continuously maintain adequate protection and security, such as temporary and permanent fencing and barricades, around all work to prevent access to the work area and shall protect the Owner's property from damage or loss arising in connection with the Contractor's work.

.2 Facilitate maintenance of the grass and landscaping through-out the course of the work, with the Owner's forces.

7.6 CLEANING AND WASTE MANAGEMENT

.1 Comply with applicable regulatory requirements when disposing of waste materials.

.2 Obtain permits from authorities having jurisdiction and pay disposal fees where required for disposal of waste materials and recyclables. Cost of disposal fees to be included in the Total Tender Price.

.3 Maintain the work area in an organized manner, clean site of debris daily and dispose to a suitable location off site on a weekly basis.

7.7 HOURS OF WORK

.1 Work may be performed during Monday to Friday between the hours of 8:00 a.m. to 5:00 p.m., with some quiet work being permitted before 8:00 am and until 6:00 p.m., and with some exceptions for additional quiet work.

.2 Schedule noisy work to avoid disturbance to neighbouring properties between the hours of 9:00 am and 4:30 pm.

.3 Use power actuated devices only with the Engineer's written permission.

.4 Provide seventy-two (72) hours written notice to the Engineer and the Owner for work to be performed outside of the designated times, for Owner approval.

.5 Saturday work may be permitted by the Owner upon request and will be reviewed on an as needed basis, however permission may not necessarily be granted.

.6 Work will not be permitted on statutory or government / bank holidays.

.7 Allow for hours of work restrictions in the construction schedule.

7.8 WORK SEQUENCE

.1 The Conservation Area will be closed for the duration of the works. Schedule works to reduce the downtime.

7.9 EXAMINATION AND PREPARATION

.1 Before commencing excavation, drilling or other earthwork, establish or confirm location and extent of all existing underground / embedded utilities and structures in work area and promptly notify

Engineer if underground / embedded utilities, structures, or their locations differ from those indicated in the original building drawings.

.2 Protect, relocate or maintain existing active services. When services are encountered, cap off / protect in a manor approved by authority having jurisdiction. Mark and record locations of capped off / protected services.

.3 Where work specified in any Technical Specification Section is dependent on the work of another Technical Specification Section or Technical Specification Sections having been properly completed, verify that work is complete and in a condition suitable to receive the subsequent work. Commencement of work of a Technical Specification Section that is dependent on the work of another Technical Specification Section or Technical Specification Sections having been properly completed, means acceptance of the existing conditions.

.4 Verify that ambient conditions are suitable before commencing the work of any Technical Specification Section and will remain suitable for as long as required for proper setting, curing, or drying of Products used.

.5 Ensure that substrate surfaces are clean, dimensionally stable, cured and free of contaminants.

.6 Notify Engineer in writing of unacceptable conditions.

7.10 MOCK-UPS

.1 Prepare mock-ups of Work as specified in the Technical Specifications. If a mock-up location is not indicated in the Technical Specifications or Drawings, locate where directed by Engineer.

.2 Modify mock-up as required until Engineer approval is obtained.

.3 Approved mock-ups establish an acceptable standard for the Work.

.4 Protect mock-ups from damage until the Work they represent is complete.

.5 Unless otherwise specified in the Technical Specifications, approved mock-ups forming part of the Work may remain as part of the Work.

.6 Remove mock-ups only when the Work they represent is complete or when otherwise directed by Engineer.

7.11 EXECUTION

.1 Install, erect, or apply Products in strict accordance with manufacturer's instructions.

.2 Notify Engineer, in writing, of conflicts between Contract Documents and manufacturer’s instructions where, in Contractor’s opinion, conformance with Contract Documents instead of the manufacturer’s instructions may be detrimental to the Work or may jeopardize the manufacturer’s warranty.

.3 Provide manufacturer’s representatives with access to the Work at all times. Render assistance and facilities for such access so that manufacturer’s representatives may properly perform their responsibilities.

.4 Consider location of fixtures, outlets, and devices indicated on Drawings as approximate.

.5 Promptly notify Engineer in writing of conflicting installation requirements for fixtures, outlets, and devices. If requested, indicate proposed locations and obtain approval for actual locations.

.6 Adequately protect parts of the Work completed and in progress from any kind of damage.

7.12 REMOVAL OF PARTS/MATERIALS

.1 The Contractor shall not remove or relocate any parts/materials on site without the permission of the Owner.

.2 The Contractor shall be given space for the storage of their materials and equipment on site, but the Owner is not responsible for any loss, damage, and/or theft to the Contractor's equipment and materials.

.3 Items identified for removal/demolition become the property of the Contractor. The Contractor shall be responsible to clean-up, remove and properly dispose of any excess materials and/or debris related to the Contractor's works to a suitable and proper location off site.

7.13 DEFICIENCIES

.1 At the completion of the Works, conduct an inspection with the Engineer to identify defective, deficient, or incomplete work.

.2 Prepare a comprehensive and detailed list of deficiencies to be completed or corrected, with an anticipated schedule for completion or correction.

.3 Identify the dollar amount associated with each deficiency, with this dollar amount being held back until the deficiency has been completed or corrected to the satisfaction of the Engineer. If the completion or correction of the deficiencies is prolonged, the itemized dollar amount will be subtracted from the Total Tender Price and the Owner will take over in completing the unfinished works.

7.14 CLOSE OUT PROCEDURES

.1 Prior to final payment, undertake the following:

.1 Complete or correct all deficiencies.

.2 Remove all remaining surplus products, construction equipment, and temporary work.

.3 Return all elements and materials of the site that were part of the work area to their pre-construction state and cleanliness following the work. Ensure all walls, roof areas and landscaping are adequately cleaned and/or returned to their pre-construction state or better.

.4 Submit all manuals, warranty documentation, and extra materials as required.

Part 8 Payment and Holdback

.1 The Contractor shall submit an invoice monthly, based on the value of the materials supplied and the works completed during that month (HST included) inclusive of the value of any extra works completed and approved in writing, and less the value of any incomplete or deficient works, works deleted and Statutory Holdback of 10%.

.2 Each proper invoice for payment submitted by the Contractor must be accompanied by the following documents:

.1 Schedule of Values, indicating the values, to the date of application for payment, of work performed and products delivered to place of the work;

.2 Updated Project Schedule;

.3 Current Workplace Safety and Insurance Board Clearance Certificate; and

.4 Statutory Declaration for the second and subsequent applications and as prescribed for the holdback release.

.3 The Owner and Engineer will review the Work to determine a payment amount.

.4 Payments will be made by the Owner after certification by the Engineer directly to the Contractor within 30 days of the Contractor's submission.

.5 The payment of the 10% Holdback of the Contract value shall be made in accordance with the Construction Lien Act.

.6 A payment for the incomplete or deficient works shall be made upon the successful completion of these works to the Owner's satisfaction.

Part 9 Warranty

.1 Unless noted otherwise in the Technical Specifications, the Contractor agrees to warranty the work for a period of two (2) years from the date of acceptance (Substantial Completion) thereof from deficiencies that, in the opinion of the Owner, were caused by faulty workmanship or materials. The Contractor, at his own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Owner. Should the Contractor for any cause fail to do so, the Owner may employ such other person or persons as it may be deemed to make such repairs or do such work, as the whole costs, charges and expenses so incurred may be deducted from any amount due to the Contractor or may be collected otherwise by the Owner from the Contractor.

.2 The decision of the Owner shall be final as to the necessity of repairs of any work required to be done under the provisions of this clause or clauses, in the amounts expended therefore.

END OF SECTION

Part 1 Scope of Work

1.1 SCOPE OF WORK

.1 The Work as specified below and as noted on Drawings S1 to S3 and P1 to P3 shall form the basis of this Contract to carry out the placement of chip seal on the parking lot and drive lane at Kopegaron Woods, Wheatley.

Part 2 General

2.1 MOBILIZATION, ACCESS, AND DEMOBILIZATION:

.1 The Contractor is to provide and undertake the following:

.1 Mobilize to the site and provide all access, materials, tools, and equipment necessary to facilitate and carry out works.

.2 Maintain the work area in an organized manner, clean site of debris daily and dispose to a suitable location off site on a weekly basis.

.3 Provide notice to the Owner two (2) weeks prior to mobilization to facilitate notice to public users of the Conservation Area.

.4 Provide access to the Owner and Engineer to inspect the work area prior to work, through-out progress and upon completion.

.5 Maintain a full copy of all project documents on site at all times.

.2 Payment of this item will be released in equal amounts with the first and last payment.

2.2 OUT OF TOWN COSTS:

.1 Should the Contractor not have an office / shop located within 100 km (62.5 miles) of Windsor Essex County, the Contractor is to include a breakout of their out of town costs, including labour housing, meals, and travel.

.2 Payment of this item will be released in equal payments, based on the anticipated schedule and the Contract Value.

2.3 PROTECTION OF PROPERTY:

.1 The Contractor is to provide and undertake the following:

.1 Take all measures to protect the site and existing site finishes from damage by the Contractor's work.

.2 Erect and maintain fencing, hoarding, dust barriers and construction signage at the perimeter of the work / staging areas as required to undertake the work in accordance with Technical Specification Section 01 56 00 Temporary Works.

.3 Post traffic signs and barriers which may include, but are not limited to, snow fencing, plywood, barrels, plastic sheeting and supports, saw horses and caution tape.

.4 Advise Owner / Engineer of proposed barriers.

.2 Payment of this item will be released in equal payments, based on the anticipated schedule and the Contract Value.

2.4 SITE RESTORATION AND CLEANING

.1 The Contractor is to provide and undertake the following:

.1 Prior to mobilization to the site, document site conditions.

.2 Take preconstruction photographs and distribute copies to the Owner.

.3 Protect adjacent surfaces during construction operations, including equipment and storage of materials.

.4 Take all measures possible to protect the existing site features during the construction.

.5 Restore the site features to their preconstruction condition or better prior to demobilizing from each suite.

.2 Payment of this item will be released with the final application for payment.

2.5 BONDING

.1 Arrange, obtain and submit bonds specified in Technical Specification Section 00 21 13 Information to Bidders to the Engineer.

.2 Payment of this item will be released with the first invoice following submission of specified bonds.

Part 3 Parking Lot, Drive Lane and Drain Works

3.1 GRADING AND COATING WORKS

.1 Provide all access, labour, materials, equipment, site safety, and supervision to place a double layer of chip seal including, but not limited to, the following:

.1 Relocate the existing portable washroom to an Owner approved location prior to the start of the works and return the existing portable washroom to its existing location after the coating work is complete.

.2 Carefully remove existing parking bumpers and store on site at an Owner approved location prior to the start of the works and reinstall existing parking bumpers to their existing locations after the coating work is complete.

.3 Excavate soils at locations as shown on Drawing P2 to a depth of 200 mm (8 inches) below the existing grade to widen the drive lane. Dispose of excavated soils to an Owner approved location on site. If clay soils are not encountered, notify the Engineer immediately.

.4 Supply, place and compact 200 mm (8 inches) of granular A material in all excavations in accordance with Technical Specification Section 31 23 00. Granular materials to be compacted to 98% SPMDD.

.5 Supply, place and compact granular A material in accordance with Technical Specification Section 31 23 00 as required to meet proposed grades. Granular materials to be compacted to 98% SPMDD.

.6 Supply and place two (2) layers of chip seal in accordance with Technical Specification Section 32 01 13.02.

.7 Clear drain of brush and regrade to meet proposed elevations. This work includes removing and resetting the bridge as required to carry out these works.

.2 Payment will be released monthly based on percentage of work completed at the end of the month.

Part 4 Optional Price Items

The following items are at the option of the Owner, and are not included in the calculation of the base price Scope of Work:

4.1 CULVERT

.1 Remove the existing culvert and replace with a new 12.19 metres (40.0 foot) long, 45 cm (18 inch) diameter culvert (Boss 2000 with 320 kPa pipe stiffness by Armtec or approved equal). This work includes, but is not limited to, the following:

.1 Culvert to be set 50 to 75 mm (2 to 3 inches) below the original ditch bottom and provide positive drainage to the north.

.2 Backfill with granular A material.

.3 Gabion stone end treatment, with 0.61 metres (2 feet) of exposed pipe at each end of the culvert.

Part 5 Unit Price Items

The following items are dependent upon site conditions, are at the direction of the Engineer, and are not included in the calculation of the base price Scope of Work:

5.1 EXCAVATE AND REMOVE 1 ADDITIONAL CUBIC METRES OF SOILS

.1 Excavate and remove 1 additional cubic metre (1.3 cubic yard) of soil material and dispose of material to a suitable location onsite in accordance with Technical Specification Section 31 23 00. This unit price applies to removal of additional soil at the Engineer's direction and not works included in the Grading and Coating Works, such as widening the drive lane or the parking lot.

5.2 SUPPLY AND PLACE 1 ADDITIONAL CUBIC METRES OF GRANULAR A MATERIAL

.1 Supply and place 1 additional cubic metre (1.3 cubic yard) of granular A material in accordance with Technical Specification Section 31 23 00. This unit price applies to placement of new granular material to replace removed failed base at the Engineer's direction and not works included in the Grading and Coating Works, such as adjusting existing elevations to proposed elevations.

END OF SECTION

Part 1 Procedures

1.1 ADMINISTRATIVE

.1 Submit specified submittals to Engineer for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in the Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time or for product substitutions or other deviations from the Drawings and Specifications.

.2 Where required by authorities having jurisdiction, provide submittals to such authorities for review and approval.

.3 Do not proceed with Work affected by a submittal until review is complete.

.4 Present shop drawings, product data, and samples in SI metric units. Where items or information is not produced in SI metric units, converted values are acceptable.

.5 Review submittals, provide verified field measurements where applicable, and affix Contractor's review stamp prior to submission to Engineer. Contractor's review stamp represents that necessary requirements have been determined and verified, and that the submittal has been checked and coordinated with requirements of the Work and Contract Documents.

.6 Verify field measurements and that affected adjacent work is coordinated.

.7 Submittals not meeting specified requirements will be returned with comments.

.8 Reproduction of construction drawings to serve as background for shop drawings is not permitted.

.9 Do not propose substitutions or deviations from Contract Documents via shop drawing, product data or sample submittals.

1.2 SHOP DRAWINGS AND PRODUCT DATA

.1 Indicate products, methods of construction, attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of the Work.

.2 Where products attach or connect to other products, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross-references to drawings, specifications and other already reviewed shop drawings.

.3 Shop drawing submittals shall include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier.
  - .3 Manufacturer.

.4 Product data submittals shall include material safety data sheets for all controlled products.

.5 Submit an electronic copy of shop drawings where specified in the Technical Specifications.

.6 Submit electronic copy of product data sheets or brochures where specified in the technical specifications.

.7 Where a submittal includes information not applicable to the work, clearly identify applicable information and strike out non-applicable information.

.8 Supplement standard information to include details for the project.

.9 If upon Engineer's review, no errors or omissions are discovered, or if only minor corrections are required as indicated, submittal will be returned and fabrication or installation of the Work may proceed.

.10 If upon Engineer's review significant errors or omissions are discovered, a so noted copy will be returned for correction and resubmission. Do not commence with fabrication or installation.

.11 Engineer's notations on submittals are intended to ensure compliance with the Contract Documents and are not intended to constitute a change in the Work requiring change to the Contract Price or Contract Time. If the Contractor considers any Engineer's notation to be a change in the Work, promptly notify the Engineer in writing before proceeding with the Work.

.12 Resubmit corrected submittals through the same procedure indicated above, before fabrication or installation of the Work proceeds. When resubmitting, notify Engineer in writing of any revisions other than those requested by the Engineer.

1.3 SAMPLES

.1 Submit samples for Engineer's review in duplicate where specified in the Technical Specifications. Label samples as to origin, Project name, and intended use.

.2 Deliver samples prepaid to the site office.

.3 Notify Engineer in writing of any deviations in samples from requirements of Contract Documents.

.4 Where a required colour, pattern or texture has not been specified, submit full range of available products meeting other specified requirements.

.5 Engineer selection from samples is not intended to change the Contract Price or Contract Time. If a selection would affect the Contract Price or Contract Time, notify Engineer in writing prior to proceeding with the Work.

.6 Resubmit samples as required by Engineer to comply with Contract Documents.

.7 Reviewed and accepted samples will establish the standard against which installed Work will be reviewed.

END OF SECTION

Part 1 Barriers and Enclosures

1.1 GENERAL

.1 Provide temporary barriers and enclosures as necessary to protect the public and to secure the place of the Work during performance of the Work.

.2 Comply with applicable regulatory requirements.

.3 Maintain temporary barriers and enclosures in good condition for the duration of the Work.

.4 Remove temporary barriers and enclosures from the place of the Work when no longer required.

1.2 FENCING

.1 Erect temporary security and safety site fencing, a minimum 1.8 m (6 ft) high, using chain link fencing or self-supporting wire fence sections to prevent the public from accessing the site.

.2 Maintain site fencing in good repair until removed.

.3 Provide lockable access gates as required to facilitate construction access.

1.3 PROTECTION OF BUILDING/SITE FINISHES

.1 Provide necessary temporary barriers and enclosures to protect existing and completed or partially completed finished surfaces from damage during performance of the Work.

Part 2 Temporary Controls

2.1 GENERAL

.1 Provide temporary controls as necessary for performance of the Work and in compliance with applicable regulatory requirements.

.2 Maintain temporary controls in good condition for the duration of the Work.

.3 Remove temporary controls and construction equipment used to provide temporary controls from the place of the Work when no longer required.

2.2 PLANT PROTECTION

.1 Do not remove any plants, trees or vegetation unless approved by the Owner.

.2 Protect roots inside dripline from disturbance or damage during excavation and grading.

.3 Avoid traffic, dumping and storage of materials over root zones.

2.3 DUST AND PARTICULATE CONTROL

.1 Implement and maintain dust and particulate control measures in accordance with applicable regulatory requirements.

.2 Execute Work by methods that minimize production of dust from construction operations and spreading of dust on site or to adjacent properties.

.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

2.4 DEWATERING

.1 Provide temporary drainage and pumping as necessary to dewater excavations, trenches, foundations, and other parts of the Work.

.2 Maintain such areas free of water arising from groundwater or surface run-off, as required to keep them stable, dry, and protected from damage due to flooding.

.3 Maintain standby equipment necessary to ensure continuous operation of dewatering system.

.4 Do not pump water containing suspended materials or other harmful substances into waterways, sewers or surface drainage systems. Treat or dispose of such water in accordance with applicable regulatory requirements.

2.5 SITE DRAINAGE

.1 Maintain grades to ensure proper site drainage.

.2 Prevent surface water runoff from leaving the site except as otherwise provided by site grading.

.3 Prevent precipitation from infiltrating or from directly running off stockpiled waste materials. Cover stockpiled waste materials with an impermeable liner during periods of work stoppage including at end of each working day.

.4 Control surface drainage by ensuring that drains and gutters are kept open and water is not directed across or over pavements or sidewalks, except through pipes or properly constructed troughs. Ensure that runoff from unfinished areas is intercepted and diverted to suitable outlets.

2.6 EROSION AND SEDIMENT CONTROL

.1 Minimize amount of bare soil exposed at one time. Stabilize disturbed soils as quickly as practical to minimize erosion. Remove accumulated sediment resulting from construction activity from adjoining surfaces, drainage systems, and watercourses, and repair damage caused by soil erosion and sedimentation.

.2 Provide and maintain appropriate temporary measures, such as silt fences, straw bales, ditches, geotextiles, drains, berms, terracing, riprap, temporary drainage piping, sedimentation basins, vegetative cover, dikes, and other measures that may be required to prevent erosion and migration of silt, mud, sediment, and other debris.

.3 Periodically inspect erosion and sediment control measures to detect evidence of erosion and sedimentation. Promptly take corrective measures when necessary.

.4 If soil and debris from site accumulate in ditches or other low areas, remove accumulation, and restore area to original condition.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 This Section specifies excavation, backfilling and grading materials, and methods for sub-grade materials.

1.2 RELATED SECTIONS

.1 Section 01 11 00 – Summary of Work

.2 Section 01 33 00 – Submittal Procedures

.3 Section 01 56 00 – Temporary Works

.4 Section 32 01 13.02 – Flexible Paving Surface Treatment – Multiple Application

1.3 REFERENCES

.1 All references to be latest edition.

.2 American Society for Testing and Materials (ASTM):

.1 ASTM C136: Standard Test Method for Sieve Analysis of Fine and Course Aggregates

.2 ASTM D422: Standard Test Method for Particle Size Analysis of Soils

.3 Canadian General Standards Board (CGSB):

.1 CAN/CGSB-8.1: Sieves, Testing, Woven Wire, Inch Series

.2 CAN/CGSB-8.2: Sieves, Testing, Woven Wire, Metric

.4 Canadian Standards Association (CSA):

.1 CAN/CSA-23.1: Concrete Materials and Methods of Concrete Construction

.2 CAN/CSA-A3000: Cementitious Materials Compendium

.5 Ontario Provincial Standard Specification (OPSS):

.1 OPSS 1010: Material Specification for Aggregates

1.4 SUBMITTALS

.1 Submittals to be in accordance with Technical Specification Section 01 33 00 Submittal Procedures.

.2 Inform Engineer at least one week prior to commencing Work, of proposed source of till and un-shrinkable fill materials.

.3 Provide Engineer with:

.1 Designs of engineered fill and mix designs for un-shrinkable fill.

.2 Gradations of all granular materials specified herein used in the work.

.4 Submit duplicate samples of each type of material and colour.

1.5 QUALITY ASSURANCE

.1 Submit designs and supporting data at least 2 weeks prior to commencing Work.

.2 Design and supporting data submitted shall bear stamp and signature of Professional Engineer licensed in the place of the work.

.3 Keep design and supporting data on site.

.4 Excavation and fill work shall be done only by skilled workmen, with suitable machinery, supervised by foremen experienced in the Work of this Section.

.5 Installer Qualifications: Company specializing in performing the Work of this section with minimum five (5) years documented experience.

1.6 WARRANTY

.1 Correct defective Work, including settlement causing ponding, cracking, break down of the surface or other defects in material or workmanship, within a thirty (30) day period after Date of Substantial Completion.

.2 Provide warranty for this Work for a period of two (2) years from the date of completion and final acceptance by the Owner, including supplying all requisite labour, equipment and materials, at no additional cost to the Owner, to correct defective Works.

1.7 SITE EXAMINATION

.1 Verify all site conditions which may affect the performance or Works in this Section.

.2 Report in writing all conditions which may adversely affect the Work in this Section.

1.8 FIELD MEASUREMENTS

.1 Measurements shown on drawings are estimates only. Verify actual measurements prior to placement of fill.

1.9 PROTECTION

.1 Protect building and site features in accordance with Technical Specification Section 01 56 00 Temporary Works.

.2 Be responsible for the protection of all buildings and landscaped areas.

.3 Existing buried utilities and structures:

.1 Prior to commencing excavation work, notify applicable Owner or authorities having jurisdiction.

.2 Establish location and state of use of buried utilities and structures.

.3 Confirm locations and buried utilities by careful test excavations.

.4 Maintain and protect from damage water, sewer, gas, electric, telephone and other utilities and structures encountered.

.4 Excavate by hand at locations near existing buried utilities and structures, where required to protect these buried utilities and structures.

.5 Existing building and surface features:

.1 Conduct a condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, pavement, and survey and benchmarks which may be affected by the work.

.2 Protect existing buildings and surface features from damage. In the event of damage, immediately make repair to approval of the Engineer.

.3 Where required for excavation, cut roots or branches as approved by Engineer.

.6 Repair and make good to a condition equal to or better than existing at no additional cost to the Owner all damages to the site and its materials and features caused by the Contractor's Work.

1.10 WASTE MANAGEMENT AND DISPOSAL

.1 Do not dispose of any liquids into the sewer system, streams, lakes, onto the ground or in other locations where it will pose a health or environmental hazard. Dispose of liquids to a proper and suitable facility.

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

Part 2 Products

2.1 FILL MATERIALS

.1 Soil Fill: Clean, natural sod material, free from organic matter, rocks larger than 50 mm (2 inches) in diameter, foreign or building material debris and other deleterious materials.

.2 Granular Fill: To OPSS 1010.

.3 Unshrinkable Fill: Proportioned and mixed to provide the following:

.1 Maximum compressive strength of 0.5 MPa (72 psi) at 28 days.

.2 Maximum Portland cement content (25 kg/mm (1375 lb/in) with 40% fly ash replacement) to CAN/CSA A3000 A5, Type 10.

.3 Concrete aggregates to CAN/CSA A23.1

.4 Portland Cement: Type 10

.5 Slump: 160 mm to 200 mm (6 inches to 8 inches)

Part 3 Execution

3.1 PREPARATION

.1 Protect installed work of other trades from staining or contamination.

.2 Remove obstructions, ice, and snow from surfaces to be excavated.

.3 Cut pavement and/or curbs and sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

3.2 DEWATERING AND DRAINAGE

.1 Protect open excavations against flooding and damage due to surface run-off.

.2 Submit details of proposed dewatering or heave prevention methods, such as does, well points and sheet pile cut-offs.

.3 Avoid excavation below groundwater table if quick condition or heave is likely to occur.

.4 Prevent piping or bottom heave of excavations by ground water lowering, sheet pile cut-outs or other means.

.5 Dispose of water in a manner not detrimental to public and private property, or any other portion of work completed or under construction.

3.3 EXCAVATION

.1 Advise Engineer at least one (1) week in advance of excavation operations.

.2 Excavation for pads shall be to neat lines as required for work to be carried out or as noted on Drawings.

.3 The bottom of the excavation shall not be disturbed. If disturbed due to improper protection or premature excavation, the disturbed portion shall be removed and replaced with material as per Engineer's direction at no cost to the Owner.

.4 In soft conditions, construction shall commence immediately after the removal of material to level required.

.5 Do not disturb soils within branch spread of trees or shrubs that are to remain. If excavating through roots, excavate by hand and cut roots with sharp axe or saw.

.6 Keep excavated and stockpiled materials a safe distance away from the edge of the trench.

.7 Restrict vehicle operations directly adjacent to open trenches.

.8 Dispose of surplus and unsuitable excavated material at location as directed by Engineer on site.

.9 Do not obstruct the flow of surface drainage or natural watercourses.

.10 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter. Remove unsuitable material from trench bottom to extent and depth as directed by the Engineer.

.11 Over excavated areas shall be restored to the required level at no cost to the Owner by filling with granular A materials.

.12 Hand trim, make firm and remove loose material and debris form excavations where material at bottom of excavation is disturbed. Compact foundation soil to density at least equal to undisturbed soil.

3.4 BACKFILLING

.1 Areas to be backfilled to be free from debris, snow, ice and water.

.2 Do not use backfill material which is frozen or contains ice, snow or debris.

.3 Place backfill material in uniform layers not exceeding 200 mm (8 inches) thickness up to grades indicated or to match existing. Compact each layer before placing succeeding layer.

.4 Backfilling around installations:

.1 Place bedding and surround material as specified elsewhere.

.2 Do not backfill around or over cast-in-place concrete within 24 hours after placing of concrete.

.3 Place layers simultaneously on both sides or installed work to equalize loading.

.5 Where temporary unbalanced earth pressures are liable to develop on walls or other structures:

.1 Concrete to cure for minimum 14 days or until it has sufficient strength to withstand earth and compaction pressure as directed by Engineer.

.2 If approved by Engineer, erect bracing or shoring to counteract unbalance, and leave in place until removal is approved by Engineer.

.6 Place un-shrinkable fill in areas as indicated. Consolidate and level un-shrinkable fill with internal vibrators.

.7 Install drainage system in backfill as indicated.

3.5 ROUGH GRADING AND SUBGRADE PREPARATION

.1 Rough grade work area to suit required backfill depths. Proof roll the exposed subgrade to identify areas of unsuitable material.

.2 Subgrade below proposed new structures shall be undisturbed and/or stable material, having a minimum 98% of the maximum dry density, as determined by M.T.O. LS-706, at optimum moisture content. Compact and adjust the moisture content to the top 300 mm (12 inches) of the exposed subgrade where required to achieve these limits.

.3 If unsatisfactory material is encountered in the subgrade, remove this material at a 45 degree slope (1:1) beneath and away from the base elevation of the proposed structure. Unsatisfactory material includes any man-made fill that was not controlled during placement or contains unacceptable constituents. Once unsatisfactory fill material is completely removed, it is to be replaced with an approved import fill material. Place in maximum 200 mm (8 inch) lifts. Each lift shall be compacted to obtain 98% of the maximum dry density, as determined by M.T.O. LS-706, at optimum moisture content, before proceeding to apply a subsequent layer.

3.6 RESTORATION

.1 Upon completion of Work, remove waste materials and debris off site at local landfill and/or recycling facility.

.2 Trim slopes, and correct defects as directed by the Engineer.

.3 Clean and reinstate areas affected by work.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 This Section specifies the requirements for the use of double chip seal.

1.2 RELATED SECTIONS

.1 Section 01 11 00 – Summary of Work

.2 Section 01 33 00 – Submittal Procedures

.3 Section 01 56 00 – Temporary Works

.4 Section 31 23 00– Excavation and Fill

1.3 REFERENCES

.1 All references to be latest edition.

.2 European Standards (EN):

.1 EN12272-3: Determination of Binder Aggregate Adhesivity by the Vialit Plate Shock Test Method

.3 Ontario Ministry of Transportation (MTO):

.1 MTO Laboratory Testing Manual

.4 Ontario Provincial Standard Specification (OPSS):

.1 OPSS 1006: Aggregates – Surface Treatment

.2 OPSS 1103: Emulsified Asphalt

.5 Ontario Traffic Manual (OTM):

.1 OTM Book 7: Temporary Conditions

1.4 SUBMITTALS

.1 Submittals to be in accordance with Technical Specification Section 01 33 00 Submittal Procedures.

.2 Provide Engineer with:

.1 Chip seal design.

1.5 QUALITY ASSURANCE

.1 Submit designs and supporting data at least 2 weeks prior to commencing Work.

.2 Design and supporting data submitted shall bear stamp and signature of Professional Engineer licensed in the place of the work.

.3 Keep design and supporting data on site.

.4 Application of chip seal work shall be done only by skilled workmen, with suitable machinery, supervised by foremen experienced in the Work of this Section.

.5 Installer Qualifications: Company specializing in performing the Work of this section with minimum five (5) years documented experience.

.6 The Contractor shall conduct such quality control procedures, including sampling and testing, as is necessary to ensure that all aggregates and all asphalt binder to be used in the work conform to the requirements of the Contract.

1.6 ENVIRONMENTAL RESTRICTIONS

.1 Chip seal shall not be applied when the base material is moist, or when the weather is, or may be, detrimental.

.2 No chip seal shall be applied when the base material is below 15.5°C (60°F) and falling.

.3 The work shall not be carried out when the ambient temperature is less than 10°C (50°F) or when climatic or site conditions preclude the curing of the binder.

.4 The application of binder and aggregate shall terminate 1 hour before sunset.

1.7 WARRANTY

.1 Correct defective Work, including settlement causing ponding, cracking, break down of the surface or other defects in material or workmanship, within a thirty (30) day period after Date of Substantial Completion.

.2 Provide warranty for this Work for a period of two (2) years from the date of completion and final acceptance by the Owner, including supplying all requisite labour, equipment and materials, at no additional cost to the Owner, to correct defective Works.

1.8 SITE EXAMINATION

.1 Verify all site conditions which may affect the performance or Works in this Section.

.2 Report in writing all conditions which may adversely affect the Work in this Section.

1.9 FIELD MEASUREMENTS

.1 Measurements shown on drawings are estimates only. Verify actual measurements prior to placement of fill.

1.10 PROTECTION

.1 Protect site features in accordance with Technical Specification Section 01 56 00 Temporary Works.

.2 Be responsible for the protection of all buildings and landscaped areas.

.3 Existing buried utilities and structures:

.1 Prior to commencing excavation work, notify applicable Owner or authorities having jurisdiction.

.2 Establish location and state of use of buried utilities and structures.

.3 Confirm locations and buried utilities by careful test excavations.

.4 Maintain and protect from damage water, sewer, gas, electric, telephone and other utilities and structures encountered.

.4 Excavate by hand at locations near existing buried utilities and structures, where required to protect these buried utilities and structures.

.5 Existing building and surface features:

.1 Conduct a condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, pavement, and survey and benchmarks which may be affected by the work.

.2 Protect existing buildings and surface features from damage. In the event of damage, immediately make repair to approval of the Engineer.

.3 Where required for excavation, cut roots or branches as approved by Engineer.

.6 Repair and make good to a condition equal to or better than existing at no additional cost to the Owner all damages to the site and its materials and features caused by the Contractor's Work.

1.11 WASTE MANAGEMENT AND DISPOSAL

.1 Do not dispose of any liquids into the sewer system, streams, lakes, onto the ground or in other locations where it will pose a health or environmental hazard. Dispose of liquids to a proper and suitable facility.

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

Part 2 Products

2.1 ASPHALT BINDER

.1 Rapid setting polymer modified emulsified asphalt according to OPSS 1103.

2.2 AGGREGATES

.1 General

.1 Aggregates for both applications of the chip seal shall be of the same geological parent produced from the same source.

.2 Aggregates shall be obtained from a source listed on the MTO's Designated Sources List for coarse aggregates for HL1 or Superpave 12.5 FC1 hot mix.

.3 Aggregates containing slag are not permitted for use in a chip seal application.

.2 Physical Requirements

.1 The physical requirements of the aggregates for the first application of chip seal shall be according to those of a Class I aggregate according to OPSS 1006.

.3 Gradation Requirements

.1 First Application

.1 Aggregate shall be no finer than the gradation of a Class 1 aggregate according to OPSS 1006.

.2 Maximum median size shall be 13.6 mm (17/32 inches).

.2 Second Application

.1 The gradation of the aggregate should be 100% passing the 9.5 mm (3/8 inches) sieve and a maximum 1% passing the 75 µm sieve.

.2 The median size of the aggregate shall be 40 to 55% of the median size of the aggregates used in the first application.

2.3 COMPATIBILITY OF ASPHALT BINDER AND AGGREGATE

.1 Adhesivity values of % aggregate retentions of the selected binder-aggregate combination determined by the mechanical adhesivity test in EN12272-3 shall be minimum 90%.

Part 3 Equipment

3.1 ASPHALT DISTRIBUTOR

.1 Self powered and capable of providing a uniform application rate of asphalt binder varying from 0.23 – 4.5 litres/m^2 (0.05 – 1.00 gal/yd^2) over a variable width up to 6 m (20 feet) in a single pass.

.2 Uniformity of the distributor shall not vary by more than 0.09 liters/m^2 (0.02 gal/yd^2).

.3 Distributor shall be equipped with a variable power unit for the pump and full circulation spray bars, adjustable both laterally and vertically.

.4 Nozzle angle and bar height shall be set to provide 100% of double coverage in a single pass.

.5 Where multiple passes are required to complete the full width, the 10 cm (4 inches) adjacent to the second pass may be left with 50 percent coverage so that the next pass will complete the full application rate specified.

3.2 CHIP SPREADER

.1 Specifically designed and manufactured to apply various types of aggregate.

.2 Self-propelled and supported by at least 4 tires on 2 axles capable of providing a uniform application rate of aggregate from 2.7 – 27 kg/m^2 (5 – 50 lbs/yd^2) over a variable width.

.3 Designed to convey aggregate materials from a rear receiving hopper to a front spread hopper.

.4 Front spread hopper to be fixed width or variable width.

.5 Chip spreader shall be capable of applying aggregate in a uniform pattern across the entire width of the spread hopper regardless of spreading widths.

.6 Chip spreader shall be capable of maintaining consistent application rates regardless of the speed of the machine or changing spread widths.

3.3 PNEUMATIC ROLLERS

.1 Minimum of 2 self-propelled pneumatic tired rollers shall be used unless otherwise noted.

.2 Rubber tired rollers shall have a gross load adjustable to apply 1379 – 1724 kPa (200 -250 psi) of rolling width.

.3 Tire pressure shall be specified for the pneumatic tire rollers and shall not vary more than plus or minus 34.5 kPa (5.0 psi).

.4 Rollers shall travel no more than 16 km/hour (10 miles/hour).

3.4 SWEEPERS

.1 Self-propelled 4 wheeled rotary mechanical brooms and or vacuum brooms capable of operating in both forward and reverse.

Part 4 Execution

4.1 PREPARATION

.1 Immediately prior to applying chip seal, the surface shall be cleared of all loose material, silt spots, vegetation, and other objectionable material.

.2 Manholes, valve boxes, drop inlets and other service entrances shall be protected from the chip seal by a suitable method.

.3 If water is used to prepare the surface, cracks shall be allowed to dry thoroughly before applying the chip seal.

.4 Cracks in pavement greater than 0.64 cm (0.25 inches) shall be treated with an approved crack sealer prior to application of chip seal.

.5 All failed pavement sections shall be removed and patched. The perimeter of excavated areas should be milled or sawcut to for a neat vertical face.

.6 Unstable areas of sub-grade should be backfilled with well graded and compacted aggregate.

4.2 APPLICATION OF ASPHALT BINDER

.1 Asphalt binder shall be applied by means of a pressure distributor.

.2 Application shall be a uniform, continuous, full coverage spread, and under such pressure as to thoroughly coat the surface at the specified rate.

.3 The forward speed of the distributor truck shall be synchronized with the application of the cover coat aggregate.

4.3 APPLICATION OF COVER COAT MATERIAL

.1 The cover coat should be applied immediately following the asphalt binder application.

.2 The Contractor shall calibrate the aggregate spreader to achieve the design application rate of the cover coat aggregate.

.3 Spreading shall be accomplished in such a manner that the tires of the trucks and aggregate spreader never contact the newly applied asphalt binder.

.4 The width of the aggregate spreader shall be equal to the width of the asphalt binder coverage, except where additional passes are required.

.5 Areas which are deficient in aggregate shall be covered immediately with additional cover coat.

4.4 ROLLING

.1 Initial rolling shall begin immediately after the application of the cover coat aggregate.

.2 Rollers shall work in tandem and complete a minimum of three passes with a sufficient overlap.

.3 Should the rolling be delayed, the aggregate and asphalt binder application shall be halted until the operation regains proper sequencing and timing.

.4 Maximum speed of the rolling operations shall be 16 km/hour (10 miles/hour).

4.5 SWEEPING

.1 Following at least 24 hours of curing, excess aggregate shall be swept or picked up from the roadway and adjacent areas.

4.6 FOG SEALING

.1 After the initial sweeping, an optional application of fog seal may be applied to all areas chip sealed.

.2 The polymer modified fog seal or approved equal emulsion shall be diluted 40% with water.

.3 The application rate shall be between 0.04 – 0.065 litres/m^2 (0.08 – 0.12 gal/yd^2).

4.7 APPLICATION RATES

.1 Application rates as per the following table, with exact design determined using factors such as surface temperature, traffic volume, existing road condition and time of year.

Material	Type I Chip Seal	Type II Chip Seal	Type III Chip Seal
Asphalt	0.9 – 1.1 l/m^2 (0.2 – 2.4 gal/yd^2)	1.1 – 1.27 l/m^2 (0.24 – 0.28 gal/yd^2)	1.18 – 1.45 l/m^2 (0.26 – 0.32 gal/yd^2)

Emulsified Asphalt	1.27 – 1.54 l/m^2 (0.28 – 0.34 gal/yd^2)	1.54 – 1.81 l/m^2 (0.34 – 0.4 gal/yd^2)	1.72 – 2.08 l/m^2 (0.38 – 0.46 gal/yd^2)
Fog Seal	0.36 l/m^2 (0.08 gal/yd^2) minimum	0.49 l/m^2 (0.11 gal/yd^2) minimum	0.54 l/m^2 (0.12 gal/yd^2) minimum
Cover Coat Aggregate	9.8 kg/m^2 (18 lbs/yd^2) minimum	11.9 kg/m^2 (22 lbs/yd^2) minimum	13.6 kg/m^2 (25 lbs/yd^2) minimum

4.8 RESTORATION

.1 Upon completion of Work, remove waste materials and debris off site at local landfill and/or recycling facility.

.2 Trim slopes, and correct defects as directed by the Engineer.

.3 Clean and reinstate areas affected by work.

END OF SECTION

KOPEGARON WOODS
PARKING LOT AND DRIVE LANE
COATING

TALBOT ROAD EAST, WHEATLEY
ISSUED FOR TENDER: JUNE 16, 2025
CHALL.ENG. PROJECT NO. 225044

Essex Region Conservation Authority
sustaining the place for life

Essex Region Conservation Authority

Chall.Eng.
CONSULTING ENGINEERS

DRAWING LIST:

COVER SHEET
S1 EXISTING DRIVE LANE PLAN
S2 EXISTING PARKING LOT PLAN
S3 EXISTING DRAIN PLAN
P1 PROPOSED DRIVE LANE PLAN
P2 PROPOSED PARKING LOT PLAN
P3 PROPOSED DRAIN PLAN

AERIAL N.T.S.

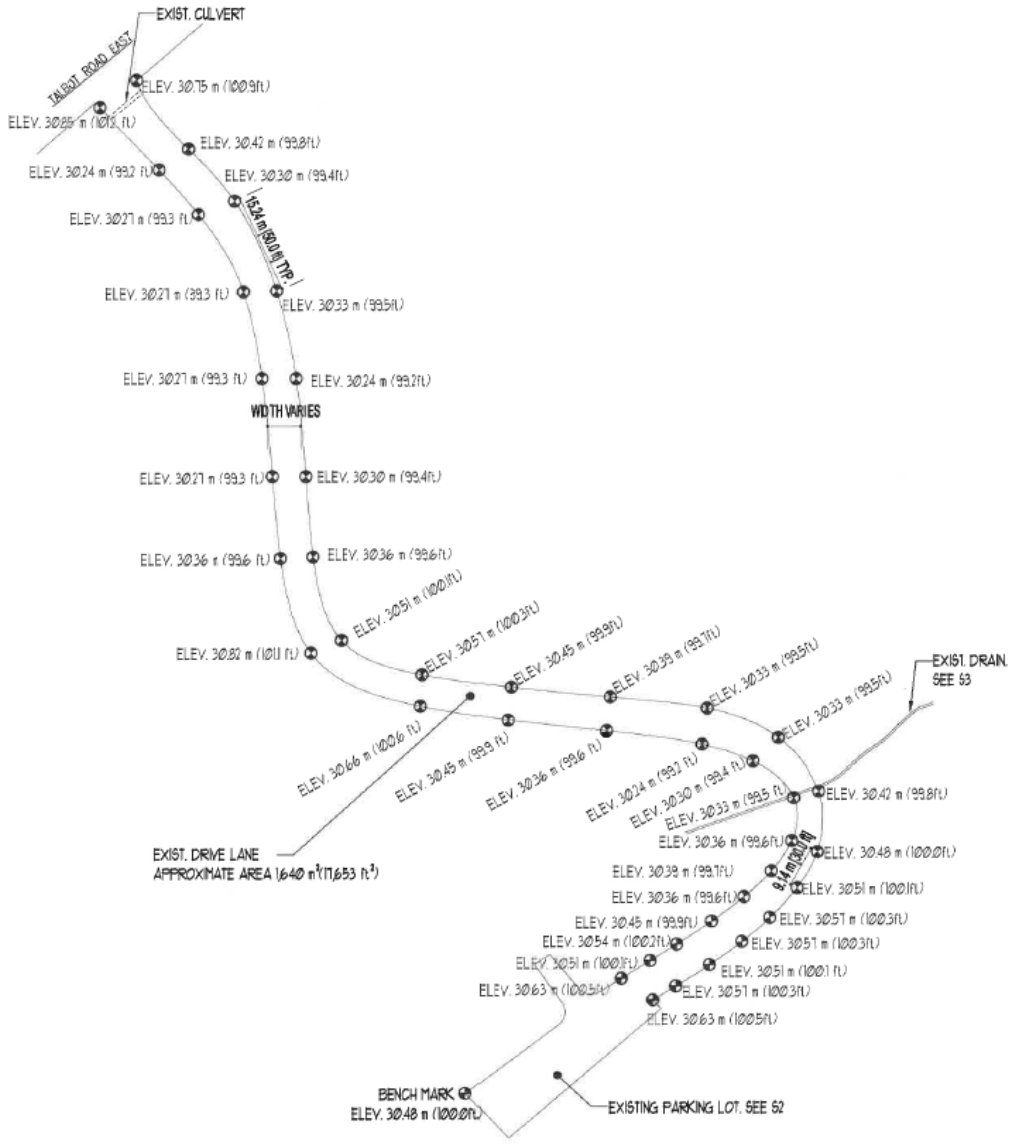

FIGURE 1: EXISTING DRIVE LANE PLAN

SCALE: 1/128" = 1'-0"

NOT FOR CONSTRUCTION

ISSUED FOR:	DATE:
OWNER REVIEW	JUN 03/25
TENDER	JUN 16/25

FIELD VERIFY ALL DIMENSIONS

PROJECT:		
KOPEGARON WOODS TALBOT ROAD EAST, WHEATLEY, ONTARIO		
DATE: JUNE 3, 2025	PROJ. NO: 225044	SCALE: AS SHOWN

EXISTING DRIVE LANE PLAN

DWG. NO.: S1
REV. NO.:

Chail Eng. CONSULTING ENGINEERS
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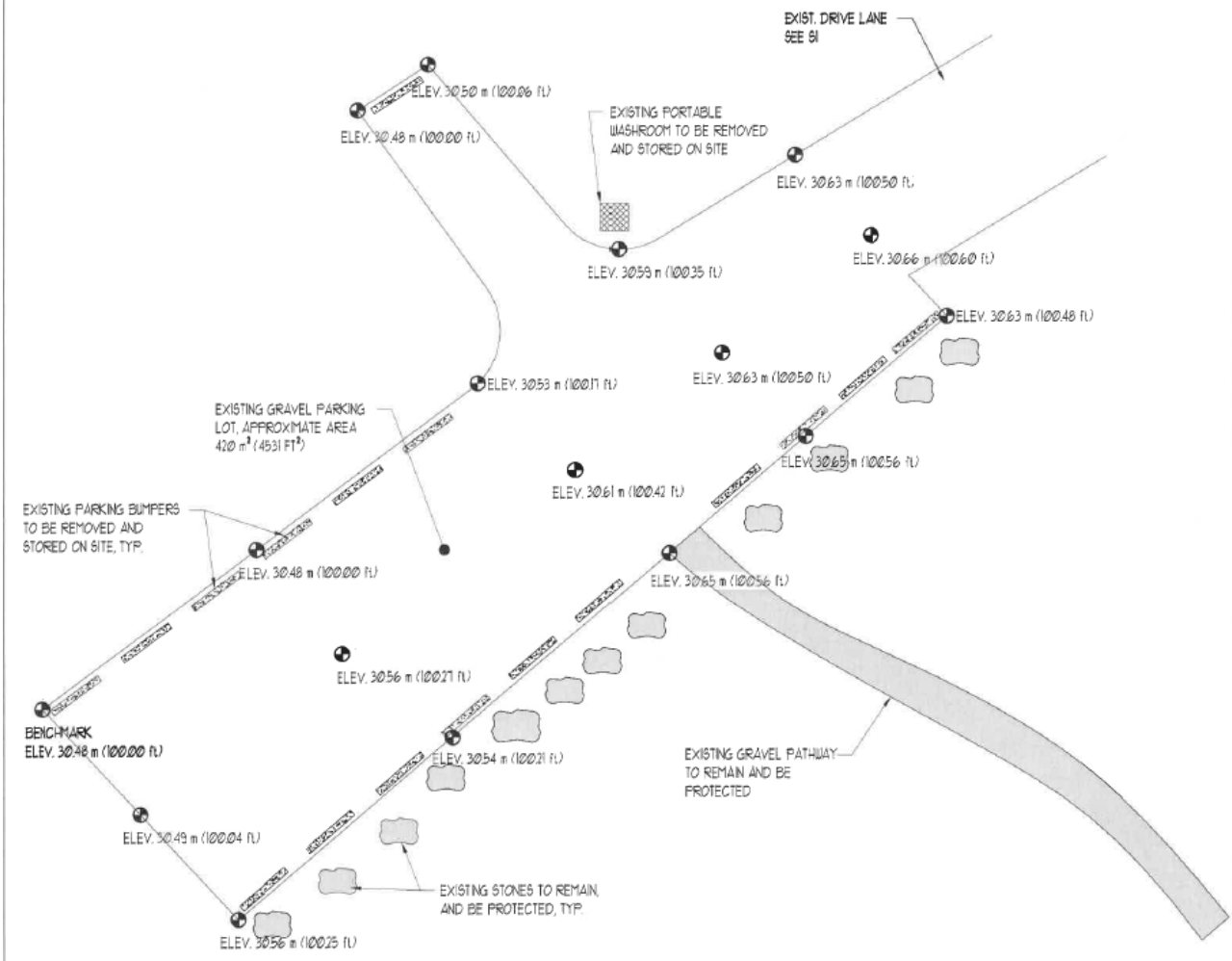

FIGURE 2: EXISTING PARKING LOT PLAN

SCALE: 1/16" = 1'-0"

N

FIELD VERIFY ALL DIMENSIONS

NOT FOR CONSTRUCTION

ISSUED FOR:	DATE:
OWNER REVIEW	JUN 03/25
TENDER	JUN 16/25

PROJECT:		
KOPEGARON WOODS TALBOT ROAD EAST, WHEATLEY, ONTARIO		
DATE: JUNE 3, 2025	PROJ. NO: 225044	SCALE: AS SHOWN

EXISTING PARKING LOT PLAN

DWG. NO. S2

REV. NO.

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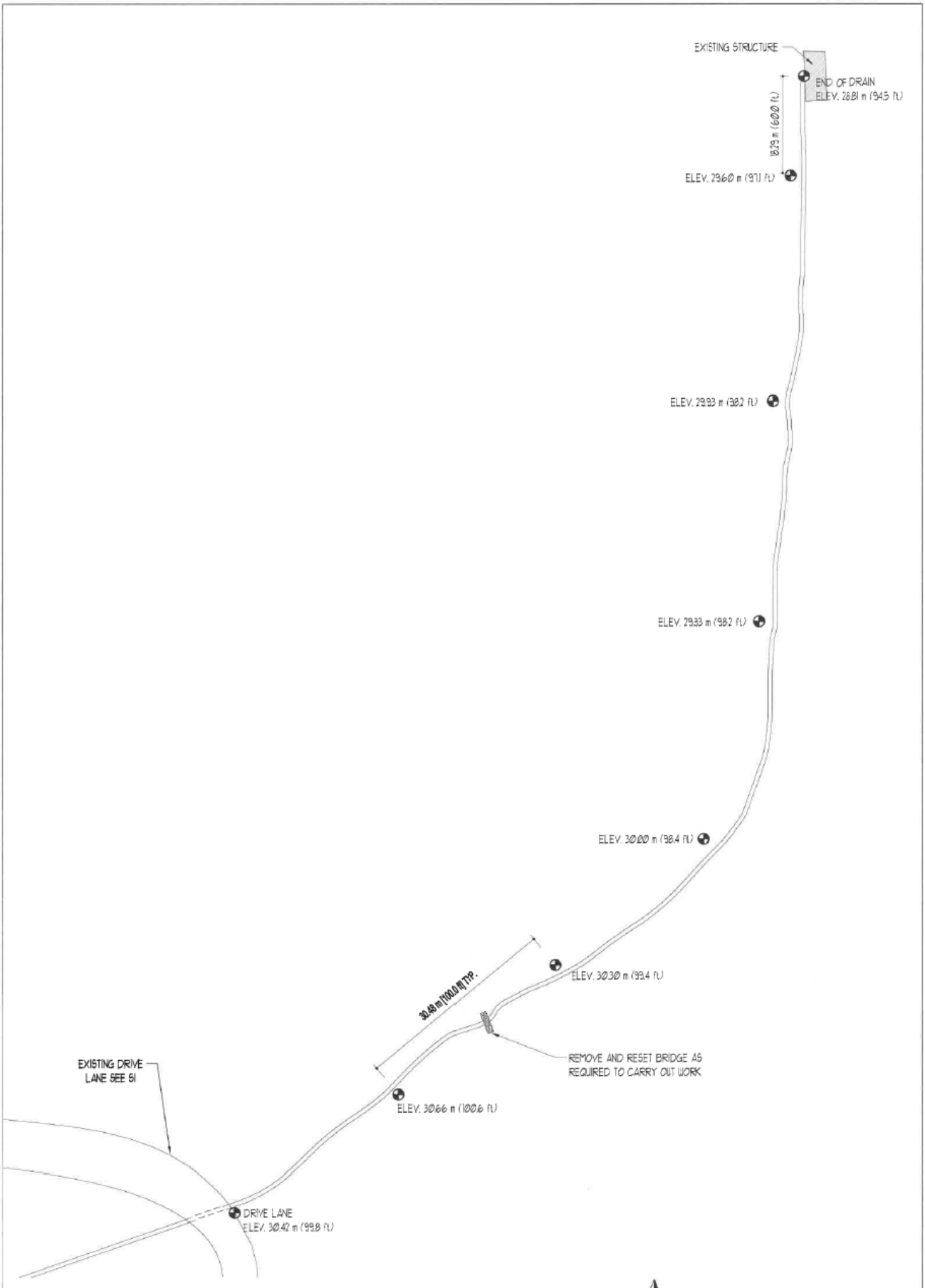

FIGURE 3: EXISTING DRAIN PLAN

SCALE: 3/128" = 1'-0"

N

NOT FOR CONSTRUCTION

ISSUED FOR:	DATE:
OWNER REVIEW	JUN 03/25
TENDER	JUN 16/25

FIELD VERIFY ALL DIMENSIONS

PROJECT: KOPEGARON WOODS, TALBOT ROAD EAST, WHEATLEY, ONTARIO		
DATE: JUNE 3, 2025	PROJ. NO: 225044	SCALE: AS SHOWN

EXISTING DRAIN PLAN

DWG. NO. S3

REV. NO.

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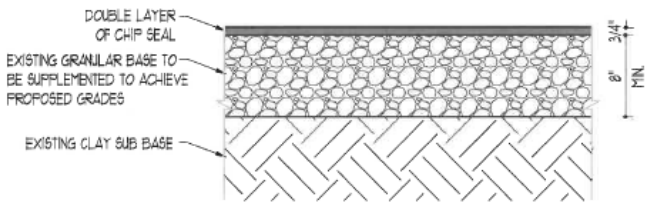

FIGURE 4: PROPOSED SECTION

SCALE: 1" = 1'-0"

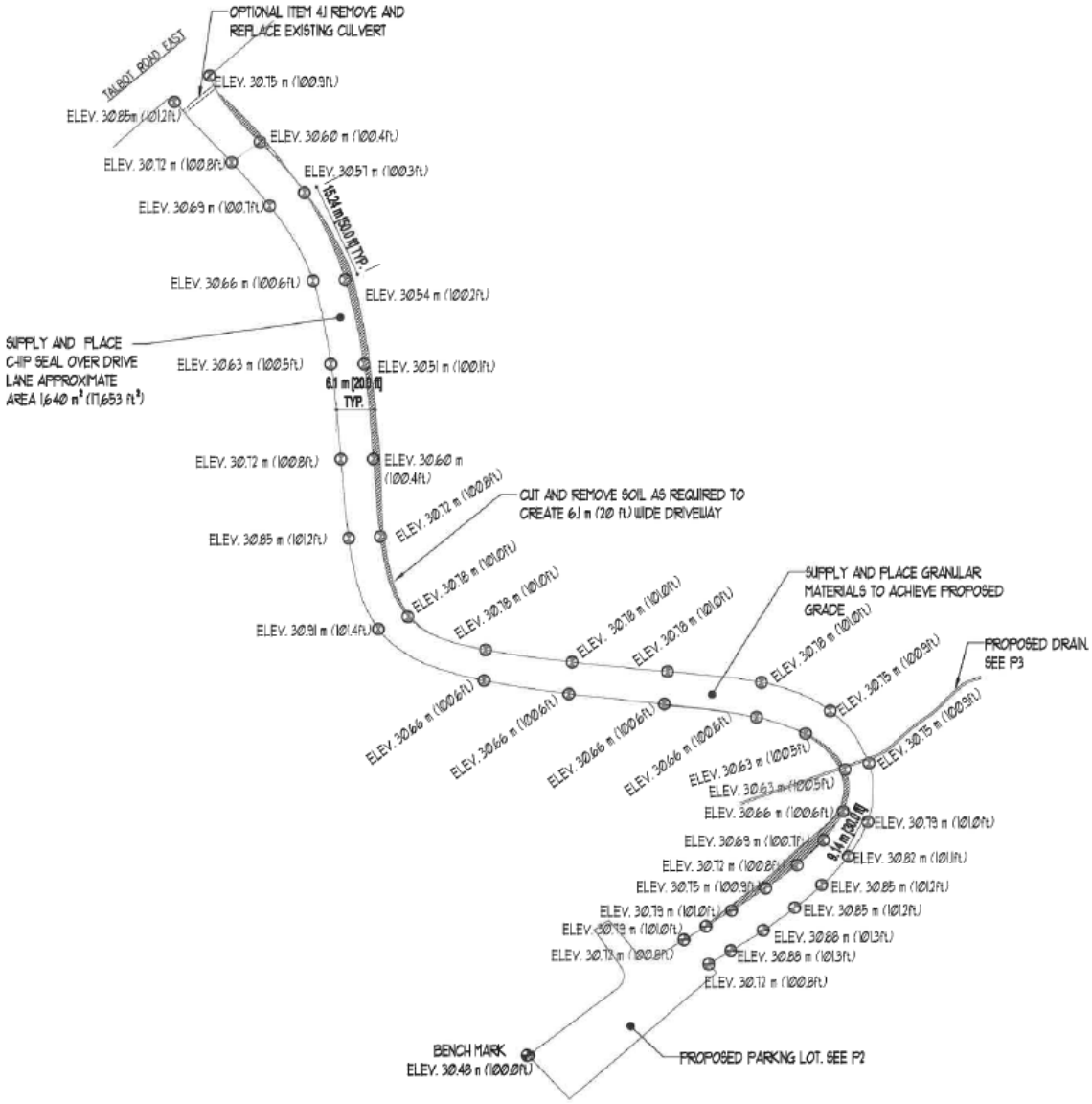

FIGURE 4: PROPOSED DRIVE LANE PLAN

SCALE: 1/128" = 1'-0"

N

FIELD VERIFY ALL DIMENSIONS

NOT FOR CONSTRUCTION

ISSUED FOR:	DATE:
OWNER REVIEW	JUN 03/25
TENDER	JUN 13/25

PROJECT:		
KOPEGARON WOODS TALBOT ROAD EAST, WHEATLEY, ONTARIO		
DATE: JUNE 3, 2025	PROJ. NO: 225044	SCALE: AS SHOWN

PROPOSED DRIVE LANE PLAN

DWG. NO. P1

REV. NO.

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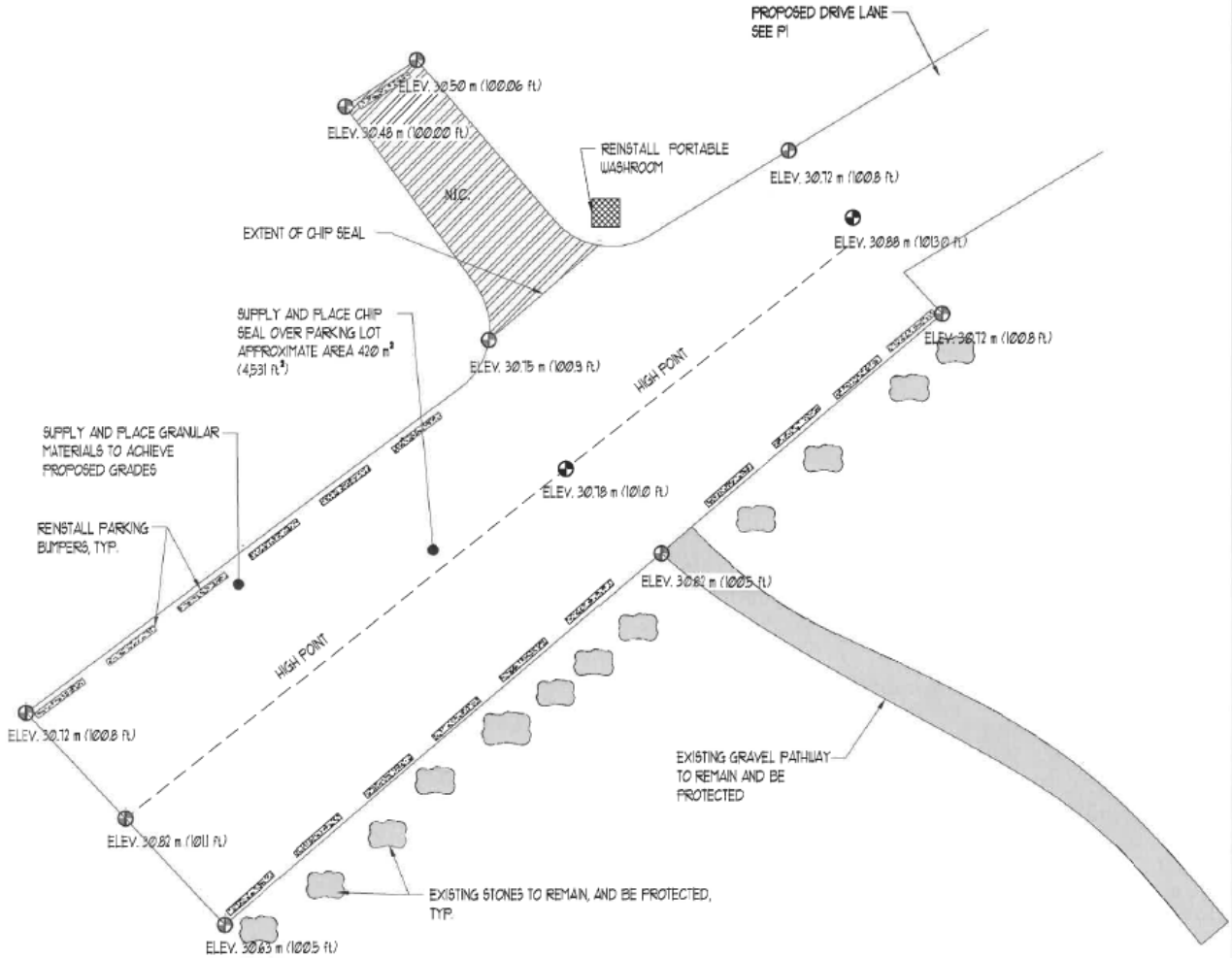

FIGURE 5: PROPOSED PARKING LOT PLAN

SCALE: 1/16" = 1'-0"

N

FIELD VERIFY ALL DIMENSIONS

NOT FOR CONSTRUCTION

ISSUED FOR:	DATE:
OWNER REVIEW	JUN 03/25
TENDER	JUN 16/25

PROJECT: KOPEGARON WOODS TALBOT ROAD EAST, WHEATLEY, ONTARIO	PROPOSED PARKING LOT PLAN	DWG. NO. P2 REV. NO.
DATE: JUNE 3, 2025 / PROJ. NO: 225044 / SCALE: AS SHOWN		

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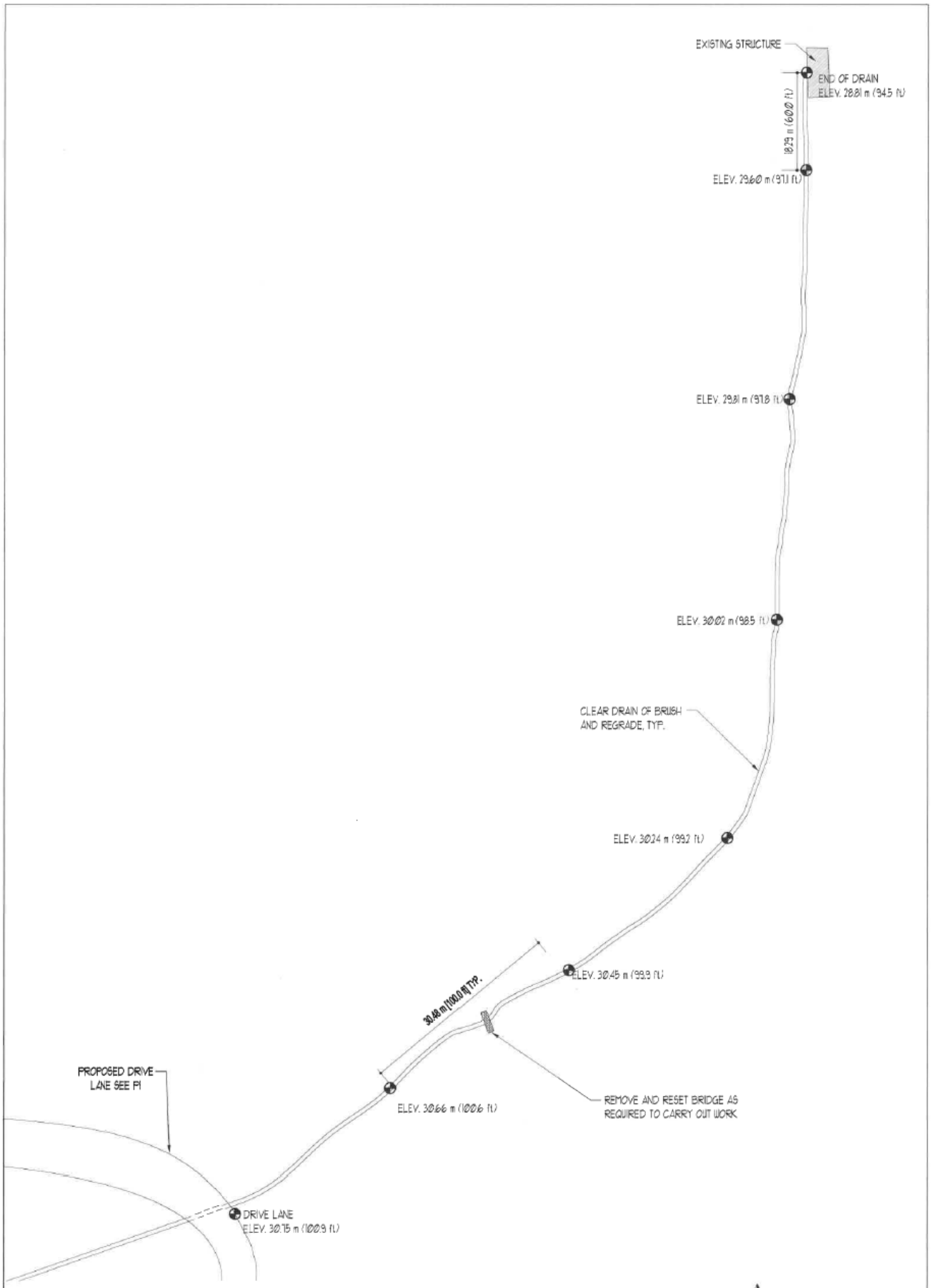

FIGURE 6: PROPOSED DRAIN PLAN

SCALE: 3/128" = 1'-0"

N

NOT FOR CONSTRUCTION

ISSUED FOR:	DATE:
OWNER REVIEW	JUN 03/25
TENDER	JUN 16/25

FIELD VERIFY ALL DIMENSIONS

PROJECT: KOPEGARON WOODS, TALBOT ROAD EAST, WHEATLEY, ONTARIO			PROPOSED DRAIN PLAN	DWG. NO. P3	Chall.Eng. CONSULTING ENGINEERS	12222 TECUMSEH ROAD EAST, SECOND FLOOR, TECUMSEH, ONTARIO, N8N1L9 PHONE: 519-979-7333 CEO@CEC14.COM WWW.CEC14.COM
DATE: JUNE 3, 2025	PROJ. NO: 225044	SCALE: AS SHOWN		REV. NO.		