



DEVELOPMENT PERMIT

NO. DP- 2021-02

TO: **Nancy Morgan and Teryl Mullock**

ADDRESS:



(Permittee)

- 1) This Development Permit is issued subject to compliance with all of the Bylaws of the Town of Gibsons applicable thereto, except those specifically varied or supplemented by this Permit.
- 2) The Development Permit applies to those "lands" within the Town of Gibsons described below:
Parcel Identifier: 026-840-545
Legal Description: LOT Q BLOCK 2 DISTRICT LOT 686 GROUP 1 NEW WESTMINSTER DISTRICT PLAN BCP26583
Civic Address: 584 North Fletcher Rd.
- 3) This permit applies to Development Permit Area No. 9 (Gibsons Aquifer) of the Town of Gibsons Official Community Plan (Bylaw 985, 2005), for the purpose of the protection of the Gibsons Aquifer.
- 4) The "land" described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit, and any plans and specifications attached to this Permit which shall form a part thereof; specifically:
 - Geotechnical Report letter titled: *Memo. 1 – Development Permit Area 9 Review – Gibsons Aquifer 584 North Fletcher Road, Gibsons, British Columbia*, dated January 11, 2021 and signed by Benjamin Tomasz, P.Eng.
- 5) All requirements of the permit and plan(s) are to be followed. On site monitoring by the Geotechnical Engineer during construction as outlined in the plan(s) is required.
- 6) Minor changes to the aforesaid drawings that do not affect the intent of this Development Permit are permitted only with the approval of the Town of Gibsons and Geotechnical Engineer.
- 7) If the Permittee does not commence the development permitted by this Permit within twenty four months of the date of this Permit, this Permit shall lapse.
- 8) Upon completion of the works, a letter from a qualified professional is required to ensure all conditions of this permit were met.

9) This Permit is NOT a Building Permit.

ISSUED THIS 15th DAY OF JANUARY, 2021.



Lesley-Anne Staats, MCIP, RPP
Director of Planning

Copy of permit to Arya Engineering Inc.



Memorandum

File No.:	20-374-SC	Date:	January 11, 2021
To:	Teryl Mullock		
Email:	██████████	Phone:	██████████
From:	Emir Hot, EIT; Benjamin Tomasz, P.Eng.	CC:	
Subject:	Memo. 1 – Development Permit Area 9 Review – Gibsons Aquifer 584 North Fletcher Road, Gibsons, British Columbia		

1.0 INTRODUCTION

Arya Engineering Inc. presents the following document summarizing an assessment conducted to evaluate the anticipated impact of the proposed development project at the above-listed address on an underlying aquifer (Gibsons Aquifer). Based on conversations with the client and review of a design set produced by, and provided to Arya by the client, titled “Morgan-Mullock Residence – Studio Addition”, dated November 4, 2020, it is our understanding that the proposed work will consist of the development of a single-story studio addition to be located southwest of the existing single-family residential structure on the site. The proposed structure is expected to comprise an approximate area of 47 m².

We understand that development permit area (DPA) criteria for DPA 9 – Gibsons Aquifer (Lower Gibsons Subarea) need to be addressed as outlined in the Town of Gibsons’ Official Community Plan (OCP), adopted in March 2015. The intent of this memorandum is to provide commentary in support of development permit application approval for the proposed development.

2.0 AQUIFER/AQUITARD CHARACTERISTICS AT SUBJECT SITE

An aquifer mapping study prepared for the Town of Gibsons by Waterline Resources Inc. (Waterline 2013) was reviewed as part of this assessment. Waterline 2013 was completed to evaluate aquifer boundaries, hydraulic properties, and recharge/discharge properties of the aquifer. The report includes a schematic geologic cross section through the Gibsons Aquifer, extending from Upper Gibsons to the oceanic waters of Howe Sound through the Lower Gibsons Subarea. At its closest point, the Waterline 2013 geologic cross section passes approximately 530 m southwest of the subject site. An approximate aquitard thickness of 30 m is estimated in this area. Further, the subject property is positioned at an elevation of approximately 10 m below the aforementioned nearest cross section point. Per the waterline report, an aquitard thickness of approximately 25 m is expected at the elevation corresponding to the subject site.

Published well log data (sourced from iMap BC) was also reviewed to evaluate surficial geology and groundwater conditions for historic wells in the general vicinity of the subject property. No well-log data was available within 300 m of the subject site. However, our office reviewed data corresponding to three nearest local wells. These wells were located nearer to the foreshore of Gibsons Harbour (where a thinner



aquitard thickness is expected per the Waterline report) approximately 400 m to 450 m south and south-southwest of the site. Well log data for the reviewed wells can be seen in Table 1.

Table 1 – Coordinates and Well Tag Numbers of Local Wells nearest to Site

Well Tag Number	Latitude	Longitude
117708	49.40098	-123.50937
76196	49.40082	-123.50799
117709	49.40049	-123.50774

Based on a review of the record information available for the select water wells outlined in Table 1, the upper contact of the aquitard is expected at a minimum depth of 2.7 m below existing ground surface. A maximum well depth of 25 m below ground surface was noted in the wells reviewed as detailed in Table 1. It is important to note that the wells reviewed as part of this assessment are located further downslope in the lower Gibsons Subarea, and thus the aquitard depth and thickness is anticipated to be greater at the subject site.

An Arya representative conducted a site reconnaissance to review site conditions, and our office also reviewed existing site photographs provided by the client of excavation during construction of the existing dwelling. Based on a review of the photographs, and conversations with the client, the previous excavation had been extended to a maximum depth of 1.0 m below pre-development site grade to a subgrade comprised of medium brown to brownish grey sand with trace to some silt and trace to some gravel and cobbles. Based on Arya's local project experience, this material was inferred to comprise granular Capilano Sediments that are present across lower Gibsons, and which overlie the upper contact of the glacial till/basal Capilano aquitard.

3.0 DEVELOPMENT IMPACT ON GIBSONS AQUIFER AND RECOMMENDATIONS

The proposed structure is expected to incorporate shallow foundation elements, and below ground living space and below ground parking are not expected as part of the planned works. As such, minimal excavation into the underlying aquitard is required, and ground disturbance is expected to be limited to localized excavations and trenching required for the structure. **Based on a review of the aforesaid plan set, excavation for the proposed addition is not expected to exceed excavation depths of the existing dwelling. A maximum excavation depth of 1.8 m (below current site grade) is expected for the proposed works, and thus the excavation is expected to extend to the upper contact of the aquitard at a maximum, or as needed to uncover undisturbed, compact soils for placement of foundations. In essence, no appreciable excavation into the aquitard is expected at this time.**

Per Waterline 2013, three primary recharge mechanisms are recognized for the Gibsons Aquifer. These include mountain block recharge (recharge movement through bedrock fractures suspected near the base of Mt. Elphinstone), creek recharge (recharge through creek beds that may be connected to the underlying aquifer where the aquitard cover is thin or has been eroded away), and recharge windows through Capilano Alluvium. Anticipated recharge windows are expected to be located to the north of



Upper Gibsons and near the base of Mt. Elphinstone, in areas where erosion of the Basal Capilano/Vashon Till cover has resulted in a direct pathway for recharge to enter the Gibsons Aquifer. Waterline 2013 suggests that those areas of primary interest include the northern extents of Upper Gibsons to the peak of Mt. Elphinstone (mountain recharge), 150 m within creek corridors (creek recharge), and across Upper Gibsons to the base of Mt. Elphinstone (Capilano Sediment recharge windows).

Based on the information reviewed as part of this memorandum, no evident recharge windows are expected in the vicinity of the property and the nearest creek is located beyond 150 m from the area of proposed development, approximately 350 m north-northeast of the subject site. Furthermore, no appreciable excavation is anticipated into the aquitard as part of this development project. The anticipated maximum excavation depths for shallow foundations are expected to extend to the upper contact of the aquitard.

CLOSURE AND LIMITATIONS

In consideration of the aforesaid observations and findings based on the information reviewed as part of this memorandum, the proposed works are not expected to appreciably impact the underlying Gibsons Aquifer. Our office should also be contacted to assess site conditions upon commencement of excavation to confirm consistency with the anticipated subsurface conditions as presented herein and we should be provided with opportunity to review final project plans as needed to confirm the findings of this document and to review the suitability of the commentary provided herein.

This memorandum has been prepared for the exclusive use of Teryl Mullock for the development activities proposed on the subject site at the time this document was drafted. The recommendations provided in this document reflect Arya's best judgment based on the information available to Arya at the time of preparation of this document.

This document remains the property of Arya Engineering Inc., and Arya does not accept damages caused by the unauthorized third-party use of the information contained herein. The information in this assessment can be considered valid for a period of 2 years, after which this office should be retained to review site conditions and verify the adequacy of the information contained herein. This assessment was conducted in accordance with current geotechnical engineering practice and principles.



We trust that the observations and recommendations presented herein meet the current development requirements. Should any questions or concerns arise, please do not hesitate to contact our office.

Sincerely,
Arya Engineering Inc.



Emir Hot, EIT
Geotechnical Project Engineer

Benjamin Tomasz, P.Eng.
Principal | Senior Geotechnical Engineer

Attachment: Terms and Conditions



TERMS AND CONDITIONS OF ENGAGEMENT

1. **GENERAL:** Arya Engineering Inc. (ARYA) shall render the Services, as specified in the attached Scope of Services, to the Client for the Project in accordance with the following terms and conditions of engagement and related articles. ARYA may, at its discretion and at any stage, engage sub-consultants to perform any part or all of the Services.
2. **DEFINITIONS:**
 - a. Agreement – is this Prime Agreement for professional Services.
 - b. Consultant – shall mean professionals and other specialists other than ARYA or its officers, employees and agents engaged by the Client directly.
 - c. Contractor – is the party contracting with the Client for the provision of labour, materials and equipment for the execution and quality control of the Work.
 - d. Contract – is the agreement between the Client and the Contractor for the provision of labour, materials and equipment for the execution of the Work by the Contractor.
 - e. Contract Documents – shall comprise all documents relating to the Project issued by or through ARYA, including the plans, drawing, specifications and schedules, and all variations and modifications thereto approved by ARYA.
 - f. Field Services – shall mean applying such selective sampling and inspection procedures at the project site during construction as ARYA, and at ARYA’s professional discretion, considers necessary to enable ARYA to ascertain whether the Contractor is carrying out the Work in general conformity with the design concept for the Project.
 - g. Project– shall refer to the project described in the recital clauses to this Agreement.
 - h. Services – shall mean ARYA’s duties and responsibilities to the Client as set forth in the attached Scope of Services and Authorization to Proceed.
 - i. Sub-Consultant – shall mean any registered professional engineers or other specialists engaged by ARYA in connection with the Project.
 - j. Work – is the totality of all labour, materials and equipment used or incorporated into the Project by the Contractor pursuant to the Contract Documents.
3. **REPRESENTATIVES:** Each party shall designate a representative who is authorized to act on behalf of that party and receive notices under this Agreement.
4. **AUTHORIZATION TO PROCEED:** Verbal authorization by the Client, either in person or over the telephone, or by written instructions will serve as authorization for ARYA to proceed with the services called for in this services agreement and those delineated in related correspondence between ARYA and Client. This Agreement, including attachments incorporated herein by reference, represents the entire agreement between ARYA and Client. This Agreement may be altered only by written instrument signed by authorized representatives of both Client and ARYA.
5. **EXTENT OF AGREEMENT:** Work beyond the Scope of Services or redoing any part of the Project through no fault of ARYA, shall constitute extra Work and shall be paid for on a time-and-materials basis in addition to any other payment provided for in this Agreement. If, during the course of performance of this Agreement, conditions or circumstances are discovered which were not contemplated by ARYA at the commencement of this Agreement, ARYA shall notify the Client either verbally or in writing of the newly discovered conditions or circumstances, and the Client and ARYA shall renegotiate, in good faith, the terms and conditions of this Agreement.
6. **COMPENSATION:** Charges for the Services rendered will be made in accordance with ARYA’s Schedule of Fees and Disbursements in effect from time the services are rendered. ARYA’s Schedule of Fees and Disbursements are included in ARYA’s budget estimate. All charges will be payable in Canadian Dollars. ARYA shall invoice the Client for the services performed under this Agreement and shall provide a summary of costs upon request. The Client shall pay such invoice upon receipt. Invoices not paid within thirty (30) days of the invoice date shall be subject to a late payment charge of 1.5 percent per month (18% per annum) from the date of billing until paid. The invoice amounts shall be presumed to be correct unless the Client notifies ARYA in writing within fourteen (14) days of receipt. Overdue accounts over ninety (90) days will be forwarded to a collections agency. The Client and ARYA expressly agree that ARYA’s fee shall be payable by the Client even in the event that the Client does not, for any reason, proceed with the Project as described in the Contract Documents. The Client and ARYA further expressly agree that payment of the ARYA’s fee by the Client pursuant to this Agreement shall be a condition precedent to the Client’s use of the Contract Documents and models for the execution of the Work.
7. **PROBABLE COSTS:** ARYA does not guarantee the accuracy of probable costs for providing Engineering Services. Such probable costs represent only ARYA as a professional and are supplied only for the general guidance of the Client. The parties expressly acknowledge and agree that the cost of the Services and contract time estimates provided by ARYA to the Client under this Agreement are subject to change and are contingent upon factors over which ARYA has no control. ARYA does not guarantee the accuracy of such estimates.



TERMS AND CONDITIONS OF ENGAGEMENT

8. **STANDARD OF CARE:** ARYA shall perform its services in a manner consistent with the standard of care and skill ordinarily exercised by members of the profession practicing under similar conditions in the geographic vicinity and at the time the Services are performed. This Agreement neither makes nor intends a warranty or guarantee, either expressed or implied.
9. **INDEMNITY:** Client waives any claim against ARYA, its officers, employees and agents and agrees to defend, indemnify, protect and hold harmless ARYA and its officers, employees and agents from any and all claims, liabilities, damages or expenses, including but not limited to, delay of the project, reduction of property value, fear of or actual exposure to or release of toxic or hazardous substances, and any consequential damages of any nature, which may arise directly or indirectly, to any party, as a result of the services provided by ARYA under this Agreement, unless such injury or loss is caused by the sole negligence of ARYA.
10. **INSURANCE, LIMITATION OF LIABILITY:** The Client agrees to limit ARYA and its officers, employees, and agents liability due to professional negligence and to any liability arising out of or relating to this Agreement to fifty thousand dollars (\$50,000) or the amount of ARYA's fee, whichever is less. This limit applies to all services on the project, whether provided under this or subsequent agreements, unless modified in writing, agreed to, and signed by authorized representatives of the parties. No claims may be brought against ARYA in contract or tort more than two (2) years after Services were completed or terminated under this engagement. If for any reason such insurance shall not be available or shall not apply to any claim made by the Client against ARYA in respect of the Services, then the liability of ARYA to the Client under this Agreement shall be absolutely limited to the amount of any professional liability available at the time such claims are made. In this case, any liability arising out of or relating to this Agreement will also be limited to fifty thousand dollars (\$50,000), or the amount of ARYA's fee, whichever is less. Note: ARYA will not be responsible for water ingress related problems as ARYA's insurance policy contains an Absolute Water Ingress Exclusion. For special projects, higher liability limits are available from our underwriter for an additional fee. ARYA warrants it is protected by WorkSafe BC Insurance, General Liability Insurance, Professional Errors and Omissions Insurance, and Automobile Liability Insurance. Certificates for such policies of insurance shall be provided to the Client upon request.
11. **RESPONSIBILITY:** ARYA is not responsible for the completion or quality of work that is dependent upon or performed by the Client or third parties not under the direct control of ARYA, nor is ARYA responsible for their acts or omissions or for any damages resulting there from. ARYA shall not be responsible for the following:
 - a. The failure of a Contractor, retained by the Client, to perform the Work required for the Project in accordance with the applicable Contract Documents;
 - b. The design of or defects in equipment supplied or provided by the Client for incorporation into the Project;
 - c. Any cross-contamination resulting from subsurface investigations;
 - d. Any damage to subsurface structures and utilities which were identified and located by the Client;
 - e. Any Project decisions made by the Client if the decisions were made without consultation of ARYA or contrary to or inconsistent with ARYA's recommendations;
 - f. Any consequential loss, injury, or damages suffered by the Client, including but not limited to, loss of use, earnings, and business interruption; and,
 - g. The unauthorized distribution of any document or report prepared by or on behalf of ARYA for the exclusive use of the Client.
12. **CLIENT'S RESPONSIBILITIES:**
 - a. Make available to ARYA all relevant information or data pertinent to the project which is required by ARYA, and instruct ARYA fully in writing as to the Client's total requirements in connection with the Project. ARYA shall be entitled to rely upon the accuracy and completeness of such information and data furnished by or through the Client, including information and data originating with Consultants, whether such Consultants are engaged at the request of ARYA or otherwise. Where such information or data originates either with the Client or with Consultants, then ARYA shall not be responsible to the Client for the consequences of any error or omission contained therein or arising from ARYA's use of this data;
 - b. When required by ARYA, to engage Consultants directly to perform services necessary to enable ARYA to carry out its duties and responsibilities. Such Consultants engaged by the Client shall be subject to the joint approval of the Client and ARYA;
 - c. Authorize ARYA to act as the Client's for such purposes as are necessary to ARYA's rendering of its Services pursuant to this Agreement;
 - d. Give prompt consideration to all sketches, drawing, specifications, tenders, proposals, contracts and other documents relating to the Project laid before the Client by ARYA, and whenever prompt action is necessary inform ARYA of the Client's decisions in such reasonable time so as not to delay the Services of ARYA, or to prevent ARYA from forwarding drawings or instructions to the Contractor or the Consultants or to Sub-Consultants in good time;
 - e. Pay ARYA's fee and reimbursable expenses as provided for in this Agreement;



TERMS AND CONDITIONS OF ENGAGEMENT

- f. Provide necessary advertising incidental to obtaining tenders, and provide or reimburse ARYA for obtaining necessary legal, accounting and insurance counseling services;
 - g. Arrange and make provision for ARYA's entry and ready access to property (public and private) as well as to the Project site, as necessary to enable ARYA to perform its Services;
 - h. Give prompt written notice to ARYA whenever the Client or the Client's representative becomes aware of any defects or deficiencies in the Work or in the Contract Documents; and,
 - i. Obtain required approvals, licences and permits from municipal, governmental or other authorities having jurisdiction over the Project so as not to delay ARYA in the performance of Services. The Client expressly undertakes not to enter into contracts in connection with the Project which describe duties and responsibilities of ARYA which are inconsistent with the duties and responsibilities of ARYA provided for in this Agreement without obtaining ARYA's prior written agreement thereto.
- 13. EXCLUSIVE USE:** Services provided under this Agreement, including all reports, drawings, plans, models, specifications and other documents, information or recommendations prepared or issued by ARYA, are instruments of service for the execution of the Project. ARYA retains the property and copyright in these documents, whether the Project is executed or not. No other use of these documents is authorized under this Agreement without the prior written agreement and remuneration of ARYA.
- 14. SAMPLES:** All non-consumed samples shall remain the property of the Client, and Client shall be responsible for and promptly pay for the removal and lawful disposal of samples, cuttings and hazardous materials, unless otherwise agreed to in writing. If appropriate, ARYA shall preserve samples obtained for the project for not longer than thirty (30) days after the issuance of any document that includes the data obtained from those samples.
- 15. ENVIRONMENTAL:** ARYA's field investigation, laboratory testing and engineering recommendations will not address or evaluate pollution of air, soil and/or groundwater, unless otherwise specifically listed in the attached Scope of Services. ARYA will co-operate with the Client's environmental consultant during field work phase of the investigation is requested.
- 16. FIELD SERVICES:** Where applicable, Field Services recommended for the Project are the minimum necessary, at the sole discretion of ARYA, to review whether the Work of a Contractor retained by the client is being carried out in general compliance with the intent of the Services and in compliance to information and recommendations presented in all reports, drawings, plans, models, specifications and other documents provided in the deliverables prepared by ARYA in fulfillment of the Scope of Services. It is understood and agreed by the Client that the performance of the Contract is not ARYA's responsibility, nor are Field Services rendered for the Contractor's benefit. The Contractor alone is responsible for the quality control of the Work. Any reduction from the level of services recommended will result in ARYA not providing qualified certifications for the Work. ARYA shall issue certifications only where Field Services have been performed by ARYA.
- 17. TERMINATION:** This Agreement may be terminated by either party upon ten (10) days written notice to the other. Upon the receipt of such written notice from the Client to ARYA, ARYA shall perform no further Services other than those reasonably necessary. In the event of a termination, the Client shall pay for all charges for services performed and demobilization by ARYA, in addition to reasonable termination expenses incurred to the date of notice of Termination. The limitation of liability and indemnity obligations of this Agreement shall be binding notwithstanding any Termination of this Agreement.
- 18. DISPUTE RESOLUTION:** If requested in writing by either the Client or ARYA, the Client and ARYA shall attempt to resolve any dispute between them arising out of or in connection with this Agreement by entering into structured, non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed jointly by the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, the dispute shall be referred to and finally resolved by arbitration under the rules of British Columbia or by an arbitrator appointed by agreement of the parties or by reference to a Judge of the Supreme Court of British Columbia. No one shall be nominated to act as an arbitrator who is in any way financially interested in the conduct of the Project or in the business affairs of either the Client or ARYA. The award of the arbitrator shall be final and binding upon the parties.
- 19. GOVERNING LAW:** This Agreement is governed by the law British Columbia, and any litigation shall be brought and tried in, the judicial jurisdiction of the ARYA office that entered this Agreement, as stated herein.
- 20. NON-SOLICITATION:** The Client agrees they shall not recruit for employment or hire any ARYA employees who provide services pursuant to this Agreement during the term of this Agreement and for a period of one (1) year following its termination.