



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

DESIGN REVIEW COMMITTEE AGENDA

WEDNESDAY, JANUARY 11, 2017
3:00 P.M.
ESQUIMALT COUNCIL CHAMBERS

MEMBERS: Jill Singleton (Chair) Wendy Kay
Ally Dewji Richard Iredale
Paul De Greeff Roger Wheelock
Robert Schindelka

RESOURCE MEMBER: Cst. Franco Bruschetta [Non-Voting]

COUNCIL LIAISON: Councillor Beth Burton-Krahn
Councillor Olga Liberchuk

STAFF LIAISON: Bill Brown, Director of Development Services

SECRETARY: Pearl Barnard

- I. CALL TO ORDER
- II. ELECTION OF CHAIR
- III. ELECTION OF VICE CHAIR
- IV. LATE ITEMS
- V. ADOPTION OF AGENDA
- VI. ADOPTION OF MINUTES – November 9, 2016
- VII. STAFF REPORT

DEVELOPMENT PERMIT APPLICATION
“Core Area Sewage Treatment Plant”
337 Victoria View Road
Lot 1; Section 11; Plan EPP36468

PURPOSE OF APPLICATION:

The purpose of this application is to ensure that the developer's intentions are consistent with the Zoning Bylaw and the design guidelines for Development Permit Area No. 3 “Industrial”. The comments of the Design Review Committee are invaluable in helping staff in reviewing the application and Council in their decision making process vis a vis the application

RECOMMENDATION:

The Esquimalt Design Review Committee recommends that the development permit application for the Core Area Sewage Treatment Plant be forwarded to Council with a recommendation to **approve, approve with conditions, or deny the application including reasons for the chosen recommendation. Alternatively, if the Design Review Committee does not feel that the design has been adequately resolved or more information is required, it can request that the applicant return to the next meeting with revised drawings and additional information.**

VIII. STAFF LIAISON STATUS REPORT

IX. NEW BUSINESS

X. NEXT REGULAR MEETING
February 8, 2017

XI. ADJOURNMENT



CORPORATION OF THE TOWNSHIP OF ESQUIMALT
ADVISORY DESIGN REVIEW COMMITTEE MEETING MINUTES
HELD
NOVEMBER 9, 2016
ESQUIMALT COUNCIL CHAMBERS

MEMBERS PRESENT: Jill Singleton, Richard Iredale
Wendy Kay, Robert Schindelka
Roger Wheelock, Cst. Franco Bruschetta

REGRETS: Paul De Greeff and Ally Dewji

STAFF LIAISON: Bill Brown, Director, Development Services

SECRETARY: Pearl Barnard

I. CALL TO ORDER

The Chair called the meeting to order at 3:10 p.m.

II. LATE ITEMS

No late items

III. ADOPTION OF AGENDA

Moved by Richard Iredale, seconded by Roger Wheelock: That the agenda be adopted as distributed. **Carried Unanimously**

IV. ADOPTION OF MINUTES – October 12, 2016 Meeting

Moved by Wendy Kay, seconded by Richard Ireland: That the minutes of October 12, 2016 be adopted as distributed. **Carried Unanimously.**

V. STAFF REPORTS

DEVELOPMENT PERMIT APPLICATION

“Esquimalt Town Square Project”

1235 Esquimalt Road

Lot 1, Section 11, Plan EPP32782

PURPOSE OF APPLICATION:

The proposed development is for the Esquimalt Town Square, a 13,109.0 m² mixed-use project located in the heart of the Township of Esquimalt adjacent to the existing Municipal Hall. The Esquimalt Town Square Project is envisioned as a model example of exemplary mixed-use design that will be the catalyst for the rejuvenation of Esquimalt's core.

Franc D'Ambrosio and Erica Sangster, from D'Ambrosio Architecture + Urbanism, and Scott Murdoch, from Murdoch de Greeff Inc. were in attendance.

Franc D'Ambrosio gave a PowerPoint presentation outlining the master plan for the Esquimalt Town Square Project.

Erica Sangster then gave a detailed description of the buildings design, façade, material and colour palate chosen for the project. A colour board was passed around.

Scott Murdoch, Landscape Architect gave an overview of the proposed landscaping and storm water management plan for the site. Mr. Murdoch explained that they are proposing rain water management landscaping throughout the site. The two Garry Oak trees will be retained and some of the other trees will be salvaged and replanted on the site. He then gave a brief overview of the plant materials, site furnishings and proposed lighting for the site.

The Chair thanked the applicant for their presentation.

Committee Members had the following questions and comments:

- Members were positive about the project and had the following comments; wonderful project, beautiful design, like the variety of materials, facades and choice of colours, like the walk through, thrilled that the parking space could also be used for the market or other public events. The Landscape plan with the raised planters is well thought out, great plant materials and the storm water management for the site is really good.
- What is the style and direction of the art that is proposed for the ends of the building? Mr. D'Ambrosio advised it could be commissioned artwork, to be discussed with the owner.
- A Member asked about the commercial signage in the central block. Mr. D'Ambrosio advised that there are traditional sign bands under the overhang, signage will be surface lit rather than back lit, so the square doesn't feel commercialized. For visibility and to add a little texture to scale, the signs will be perpendicular to the façade. A member then asked if any of the signage would be above the second storey. Mr. D'Ambrosio advised the signage would all be below.
- A Member asked if there was one parking spot per unit. Ms. Sangster advised that a detailed parking and traffic study had been done. Building D (the rental units) would have less than one stall per unit. She went on to explain that the parking study looked at sharing of parking spaces. Most of the stalls in the underground parking are not assigned and will be shared accordingly to different patterns of use. The proposed development meets the requirements of the parking study.
- What provision is there for the library to expand in the next five to ten years? Mr. D'Ambrosio advised they could easily expand into the commercial office space above.
- Are there any plans to install video cameras on the public square area? Mr. D'Ambrosio advised that they haven't addressed that yet. A member then commented that it is a lot easier to have the systems install at the time of construction.
- A member inquired about a banner program and asked if there was going to be banners on the light fixtures? Mr. Murdoch advised the detailed design of the lighting is to be determined. Mr. D'Ambrosio also advised that a banner program hadn't been discussed, but thought it was a good point. Member then commented that it is really hard to add banners to fixtures that are not designed for them.

- Members had the following comments on the north façade of Building D elevation facing Esquimalt Road; seems a bit stark and plain, could be a bit fancier, the columns are nice. The other buildings on the back of the site are so interesting and really beautifully done and almost resort like, and in comparison this building doesn't seem as special. Another Member asked about the lighting on the north façade of Building D. Mr. D'Ambrosio advised there will be frame lights at the base of the columns in between the beam and the wood soffit. Another member asked if the lights in the balconies you see at night would be in soffits or wall fixtures. Mr. D'Ambrosio advised there would be wall fixtures on the balconies; otherwise you would be looking up at light sources all the time.
- A Member commented on the paving pattern for the Fraser Street entrance and asked if there was any special pavement treatment on the other entrances. Mr. Murdoch advised that there will be something like it. Member then commented that they liked the idea that each entrance has a slightly different material.
- Members thought the project was integrated and well thought through; a good addition to Esquimalt.
- A member commented that at the last meeting a question was asked about how disabled users would access the main entrance to the library from the internal parking lot, concern that people would have to go around obstacles. Has this been addressed? Mr. D'Ambrosio advised that there will be an accessibility ramp similar to the existing ramp and also a drop off area right on Park Place.
- Members thought the fenestration had been carefully thought out and congratulated the applicant.

Richard Ireldale left the meeting at 4:20pm

RECOMMENDATION:

Moved by Wendy Kay, seconded by Roger Wheelock: That the Esquimalt Design Review Committee recommends that the development permit application for the Esquimalt Town Square Project be forwarded to Council with a recommendation to **approve the application for the following reasons:**

- 1) The design is beautiful, the colours and materials are appropriate;
- 2) The development provides good social space for public gatherings;
- 3) The parking area can be used as a public space as well;
- 4) Storm water will be managed through the landscape architecture;
- 5) The Art Walkway is a valuable addition; and
- 6) The proposal is in compliance with the Design Guidelines.

The Motion Carried Unanimously

VI. STAFF LIASON STATUS REPORT

1. On Monday, November 7th, Council approved the Development Permit for a 12 unit townhouse development at 616 & 620 Lampson Street.
2. In early 2017, we might have a Development Permit Application for the Sewage Treatment Plant.

VII. NEW BUSINESS

Bill Brown advised that the British Columbia Government has a Stop of Interest Program and Council has asked staff to forward this to every Committee to see if any members have any ideas for a Stop of Interest for Esquimalt. A member asked if there are any Stops of Interest currently in Esquimalt. Mr. Brown advised he is not aware of any. Another member advised that there are some at the Department of National Defence. The Esquimalt Village Project was suggested.

VIII. NEXT REGULAR MEETING

Wednesday, December 14, 2016

IX. ADJOURNMENT

On motion the meeting adjourned at 4:40 p.m.

CHAIR, DESIGN REVIEW COMMITTEE

THIS 14th DAY OF DECEMBER 2016

ANJA NURVO,
CORPORATE OFFICER



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

Municipal Hall, 1229 Esquimalt Road, Esquimalt, B.C. V9A 3P1
Telephone (250) 414-7100 Fax (250) 414-7111

DRC Meeting: January 11, 2017

STAFF REPORT

DATE: January 8, 2017

TO: Chair and Members of the Design Review Committee

FROM: Bill Brown, Director of Development Services

SUBJECT: DEVELOPMENT PERMIT APPLICATION
“Core Area Sewage Treatment Plant”
337 Victoria View Road
Lot 1; Section 11; Plan EPP36468

RECOMMENDATION:

The Esquimalt Design Review Committee recommends that the development permit application for the Core Area Sewage Treatment Plant be forwarded to Council with a recommendation to **approve, approve with conditions, or deny the application including reasons for the chosen recommendation. Alternatively, if the Design Review Committee does not feel that the design has been adequately resolved or more information is required, it can request that the applicant return to the next meeting with revised drawings and additional information.**

BACKGROUND:

Purpose of the Application

The purpose of this application is to ensure that the developer's intentions are consistent with the Zoning Bylaw and the design guidelines for Development Permit Area No. 3 “Industrial”. The comments of the Design Review Committee are invaluable in helping staff in reviewing the application and Council in their decision making process vis a vis the application.

Context

The McLoughlin Point site is 14,213 m² parcel situated on the west side of the entrance to Victoria Harbour. Because of its prominent location, it is imperative that the plant exhibit exemplary design. Approximately 240 cruise ships are scheduled to dock at Ogden Point in 2017. In addition, the plant will lie in one of the float plane flight paths to the harbor. In addition to the need to ensure that the design of the plant reflects its prominent location, the design also needs to respond to the fact that it is located near one of the most seismically active areas in Canada and, given its proximity to the shore, subject to potential Tsunamis.

Applicant/Owner: Capital Regional District

Architect: HDR|CEI Architecture

Property Size: Metric: 14,213 m²

Existing Land Uses: Vacant

Surrounding Land Uses:

North: CFB Esquimalt.

South: Strait of Juan de Fuca.

West: CFB Esquimalt (low density residential)

East: Entrance to Victoria Harbour

Existing Zoning: McLoughlin Point Special Use [I-3]

Existing OCP Designation: Industrial

Existing Development Permit Area: No. 3 Industrial

Design Overview

The applicant's architects have provided a "Design Guideline Response Report" which includes a narrative explaining their design approach. Having reviewed the applicant's submission and following a number of meetings with the applicant's design team, staff have a number of questions that they would like the Design Review Committee to consider.

- 1) Does the form of the plant, including both the building and the associated walls, respond appropriately to the site and its environment?
- 2) Are the proposed building materials and colours appropriate? Staff are particularly concerned with the proposed use of COR-TEN steel®. The COR-TEN steel website contains the following message:

Climates NOT to use COR-TEN®:

COR-TEN® steel requires alternating wet and dry cycles to form a properly adhered protective layer. Areas that have salt laden air, high rainfall, humidity, or persistent fog are typically not the proper environment for COR-TEN® (<http://www.corten.com/frequently-asked-questions.html>).

It is noted that the design guidelines state: "Incorporate durable, long-lasting, and timeless materials and design strategies." Staff are concerned that COR-TEN does not meet this standard and would like the Design Review Committee's comments.

- 3) Staff would appreciate the Design Review Committee's comments on the use of concrete and the various proposed finishes for both the building and the Tsunami and landscape walls.
- 4) Galvanized metal odour control stacks are proposed. Is galvanized metal an appropriate treatment for the odour control stacks? Staff are concerned that the stacks may appear very shiny in sunlight and take away from the overall architectural composition as is usually the case when any shiny heating and ventilating equipment is put on a roof and not screened.
- 5) There are two generators that sit on top of the roof. Staff are concerned that they appear to be incongruent with the overall design. Should they be better integrated into the overall design of the building?
- 6) Waterfront landscape buffer – the original concept was that there would be a 4.0 m wide landscaped within the 7.5 m setback from the High Water Mark. The applicant is proposing a variable width landscape buffer that varies in width from 0.0 m to approximately 6.5 m. Staff are interested in the Design Review

Committee's thoughts on the proposed buffer. Is it adequate?

- 7) Resolution of the south façade of the building – The south façade, which will be the most prominent exposure to cruise ships as they enter Victoria Harbour, seems unresolved compared to the other facades of the building. Staff are very concerned about the image that the south façade will convey to the over half a million cruise ship passengers who will slowly pass by this façade every year. Staff believe that the south façade does not meet the design guidelines which state, "Incorporate designs that, while respecting the site, ensure the highest standards of materials and workmanship, and are aesthetically pleasing". Staff would appreciate the Design Review Committee's comments on whether or not it deems the south façade "aesthetically pleasing".
- 8) Does the relationship between the architecture and the landscape architecture present as a harmonious integrated design?
- 9) Three Serbian Spruce (2 m high) are proposed to be planted to screen the southern façade of the plant. Staff would appreciate the Design Review Committee's thoughts on whether or not this is sufficient screening.
- 10) A planter along the top green roof adjacent to the upper east wall of the plant is proposed to screen the plant. Does the Design Review Committee think that the proposed planting is sufficient?
- 11) Does the Design Review Committee think that the proposed plant species are appropriate for this location?
- 12) Staff would appreciate any other comments that the DRC may have that would contribute to design enhancements for the project.

Alternatives

1. Forward the application for Rezoning to Council with a **recommendation of approval including reasons for the recommendation.**
2. Forward the application for Rezoning to Council with a **recommendation of approval including specific conditions and including reasons for the recommendation.**
3. Forward the application for Rezoning to Council with a **recommendation of denial including reasons for the recommendation.**
4. Request that the applicant return to a future meeting with revised drawings and additional information that responds to the concerns raised by the Design Review Committee.

Bill Brown
Director of Development Services

DESIGN GUIDELINE RESPONSE REPORT

December 20, 2016



INTRODUCTION

The purpose of this document is to demonstrate the elements of the design that respond to each point of the Design Guidelines.

Note Regarding Formatting:

Text shown in **green** is extracted from the *OCP*.

Text shown in **blue** is extracted from the *Revised McLoughlin Point Wastewater Treatment Plant Design Guidelines* dated May 2013.

Text shown in **black** is a written response describing the overall design approach as well as specific design solutions and that address each point respectively.

Architectural Approach

The siting of this important public works facility poses both a great challenge and a great opportunity for the Greater Victoria area. Situated at the entry of the harbour and along a prominent rocky shoreline, the design respects the natural setting and reflects the highest standard of design, materiality and aesthetics.

The bulk of the plant is located at the west end of the site along Victoria View road, allowing the lower mass of the highly articulated and well designed Operations and Maintenance [O&M] building to screen the plant. The O&M building is stepped to further mitigate the perceived mass. In addition, over 80% of the roof of the O&M building will be planted to increase onsite habitat and provides storm water management. In conjunction with on-site rain gardens, there is considerable improvement in reducing storm-water runoff from the existing highly impervious rocky site. All buildings are set back from the high water mark between 7.5m to 15m. A landscape buffer and seawall are located within this setback.

The seawall and landscape buffer is a major component of the design. The design conforms to the Design Guidelines for seawalls. The seawall system reflects the rugged and textured surface of the exposed-rock shorelines. The mass and length of the wall is broken up visually with different materials, projections and protrusions. The materials utilized for the seawall will be a combination of concrete and stone. The angular composition of the O&M building is reflected in this wall. Where walls extend vertically greater than 4m they are stepped to reduce their apparent height.

In addition to the extensive planting around the perimeter of the plant, care has been taken to break up the mass of concrete walls with a combination of materials and the introduction of glazing and screening elements.

A palette of materials has been selected for the site which complements the stunning natural setting. Lower elements will be a combination of smooth and textured concrete and visually connect the building to the rocky shoreline. These walls will feature weathering steel highlights to add colour, variation and warmth at key locations on the site. The lower portions of the O&M building and the plant will be rendered with heavier materials such as precast concrete and masonry cladding, and include clerestory windows to the shops and change rooms areas. The upper floor of the O&M building will incorporate considerably more glazing for the office and multipurpose spaces and is designed to permit natural ventilation. Upper portions of the plant as well as the O&M building will feature highly durable metal cladding.

Parking and Loading

The provision of 18 on-site parking spaces is in accordance with Offsite Parking Assessment Memo, prepared by AECOM Engineering

The loading is in accordance with Parking Bylaw, 1992, No. 2011 Part 6, 15 Location, Siting, and Design of Loading Areas, Table 4, Industrial Zones:

3 spaces for total Floor Area between 1400-4200 square metres.

The provision of 3 loading spaces will exceed the practical requirements because it is anticipated that, when in operation, the volume of truck traffic to the plant will average one truck delivery per day.

All parking areas are screened by landscape elements.

Approach to Landscape Design

The landscape design is a major component of the project and will focus on providing screening of the treatment plant as per the zoning bylaw and conformance to the Design Guidelines. Part of the strategy to screen the plant from view from the water is to wrap the east side of the plant with the O&M building, presenting an attractive face to those on the water and from viewpoints across the harbour. Landscape planting and other screening elements will be employed in areas where the plant is not screened by the O&M building. The roof of the O&M building will also incorporate extensive planting.

The landscape will be comprehensively designed to increase the ecological integrity of the site, create a strong vegetative edge along Victoria View Road, provide vegetative screening from the harbour, contribute to on-site storm water management, and create an attractive and varied educational opportunity for visitors. Viewing opportunities and a future perimeter walkway will be situated to provide controlled connectivity to the site's coastal edge and ensure no negative impact on the foreshore and waterway. The design intent is to provide one or two viewing platforms and interpretive signage to inform visitors about the coastal environment as well as plant operations.

New vegetation will be limited to native or adaptive species selected for their suitability to the site and resilience to anticipated climate change. Trees, shrubs, rain gardens and extensive style green roofs will create a bio-diverse landscape with seasonal interest, provide treatment plant screening, and treat on-site storm water before discharge to the ocean. New plantings will be irrigated for establishment only, using non-potable water from the treatment plant.

The pre-vegetated sedum mat green roofs will contribute to storm water management, reduce heat island impacts, and moderate internal temperature in the operations and maintenance building below. The upper green roof will include an area of deeper soils along the west edge to support vines being planted to reduce the impact of the BAF gallery wall.

Approach to Lighting Design

The site's public presence and high visibility from the water has been a strong consideration in the lighting approach. All light fixtures will be energy efficient and will be aligned with *Illuminating Engineering Society for North America Recommended Practice Manual: Lighting for Exterior Environments* and will conform to the Design Guidelines. Providing safe and secure lighting for all publicly accessible areas is paramount. Light shields will direct all lighting downward and within property boundaries.

Sustainability

Considerable effort has been made towards incorporating sustainable standards into the project. The O&M building will be designed and built to the level of LEED [2009] Gold, but will not be certified. There is no LEED standard or certification process for wastewater treatment plants. Heat recovery will occur within the facility to provide heating for the O&M building with the opportunity to extend this further into the neighbourhood at a future date.

A major component of the overall facility will be the opportunity for public education in the water cycle and particularly with Storm-water management. Onsite storm water management includes rain gardens and areas of permeable paving with under drain systems. These elements will be features in a self-guided tour.

Site Amenities, Public Art and Public Education

There are several amenities incorporated within the site design. A prominent observation deck is located adjacent to the main building entry. This will act as the front porch and gathering place for visitors to the site, including school groups and educational tours. An Education and Interpretive Centre has been incorporated on the second floor of the Operations and Maintenance Building. There is easy access up a central organizing stair and elevator from the main entry to the Education Centre. The Education Centre opens onto a rooftop terrace, offering views of the city and harbour. Opportunities for Public Education will be incorporated throughout the design of the facility.

The significant landscape buffer along the waters edge will be contained within a series of sloped and angled concrete retaining walls. The landscaped areas are tipped toward the waters

edge to minimize exposed retaining walls while maximizing the amount of planting visible from the water. Care has been taken in the design of the perimeter to facilitate the future addition of a public walkway which could extend along the full length of the shoreline.

There will be opportunities for public art within the overall design in accordance with the Township's policies. See commentary later in this document.

In our experience, successful public art is achieved when the artist is brought on early in the design process and we look forward to working with Esquimalt and the CRD in selecting an artist in the near future.

9.5.5 Guidelines for Owners of Land within the Development Permit Area

a) Buildings should be designed to minimize the intrusion into the privacy of existing surrounding homes.

RESPONSE: Refer to Architectural Site/Roof plan for evidence of compliance.

The areas of the wastewater treatment plant (WWTP) that are regularly occupied are located away from the existing surrounding homes. The parking areas where most employees would park are screened with landscaping.

b) Buildings should be located to avoid casting shadows onto adjacent residential properties.

RESPONSE: Refer to Architectural Site/Roof plan for evidence of compliance.

The WWTP building is set 8.9m east of the west property line of the site, which in turn lies several metres across Victoria View Road to the adjacent residential property to the west. The other neighbouring residential property is located southwest of the site where shadows could never be cast by the WWTP.

c) Outdoor storage and parking areas will be screened by berms, fences, landscaping or solid noise-absorbing barriers or a combination of these methods. Landscaping should also be incorporated within the parking areas to "break up" large expanses of pavement.

RESPONSE: Refer to Landscape drawings for evidence of compliance through Landscape screening of parking along Victoria View Road.

Refer to Architectural drawing Level 1 Floor Plan for wall as screening of parking near observation deck.

d) The style and finish of new buildings should enhance the appearance of the industrial area, which is surrounded by urban residential development.

RESPONSE: Refer to Architectural drawings for evidence of compliance.

e) Buildings should be designed to avoid doors and openings that would tend to direct noise in the direction of immediately adjacent residentially-zoned lands.

RESPONSE: Refer to Architectural drawings for evidence of compliance.

Doors and openings adjacent to residentially zoned lands are very rarely opened so little noise will escape. The workshops are located on the east side of the site away from the residentially zoned lands.

f) Retention and protection of trees and the natural habitat is encouraged wherever possible.

RESPONSE: There is only a small amount of brushy vegetation on this barren, brownfield site but this must be removed in order to building a tsunami wall to protect the WWTP. There is considerable native planting and trees incorporated in the new project which will provide new habitat for wildlife.

9.5.6 McLoughlin Point Revitalization

a) Description and Justification: Site of a former oil storage facility, McLoughlin Point is an oceanfront site and a prominent entrance to Victoria Harbour. An objective is redevelopment of mixed uses, including revitalization when commercial uses are permitted, as is encouraged under section 2.4.5 of this plan, of impeccable design and cohesive operation, respecting adjacent DND lands as well as the broader communities. Public access from land and the water is encouraged, primarily for educational purposes, the latter recognizing historic uses and the heritage of the property, while recognizing the former is and may be limited given upland access through DND lands. As an oceanfront site, there are nearby natural habitat considerations worthy of protection and preservation, as well as enhancement of the subject property itself given the history of heavy industrial use. The subject property is susceptible to high winds, and high tides, including risk of tsunami and therefore development on the site must occur in a manner to protect it from these natural hazards, while respecting the need to do so in a manner that does not increase risks for other properties or harm the natural environment. The report "Modelling of Potential Tsunami Inundation Limits and Run-up" for the Capital Region was completed by the Capital Regional District's Local Government Emergency Program Advisory Commission; it identified risks for McLoughlin Point that the CRD has indicated it has been considering to-date in its proposal for this site.

The CRD has also prepared and submitted a number of professional reports which identify special conditions at McLoughlin Point, including for a sewage treatment plant, and further justify designation to achieves objective both the CRD's and Township's objectives. These include but are not limited to the reports entitled:

- "Core Area Wastewater Treatment Program McLoughlin Point Zoning Application, Township of Esquimalt McLoughlin Point Risk Assessment" dated December 18, 2012 prepared by Stantec Consulting Ltd.;
- "Archaeological Review of the Proposed Capital Regional District McLoughlin Point Wastewater Treatment Facility" dated January 2013 prepared by Tera Environmental Consultants;

- “Capital Regional District Core Area Wastewater Treatment Program McLoughlin Point Wastewater Treatment Facility Traffic Considerations” dated January 23, 2013 prepared by Bunt & Associates;
- “Terrestrial Environmental Effects of the Proposed Capital Regional District McLoughlin Point Wastewater Treatment Facility” dated January 2013 prepared by Tera Environmental Consultants; and the
- “Community Impact and Mitigation Report” dated January 2013 and prepared by CitySpaces Consulting Ltd.

Prominent regional facilities should be models of energy and water efficiency and reduction of greenhouse gas emissions, and such is an objective of this development permit area. This is supported and/or required under the goals established pursuant to the 2007 Capital Region Community Energy Planning process. The objective, requirements and guidelines of previous sections under Section 9.5 DPA extend to McLoughlin Point, and are further supplemented, except as specifically varied below, as follows:

RESPONSE: The WWTP will be designed and built to LEED 2009 Gold standard, with particular emphasis on energy and water efficiency. The main source of heat for this building will be through heat recovery from the effluent rather than through burning of fossil fuels, thereby contributing to reduction of greenhouse gas emissions.

b) Requirement and Exemptions: A development permit is required for all activities in accordance with section 920 of the Local Government Act and there are no exemptions for McLoughlin Point except for 9.5.4(b)(iii).

RESPONSE: An application has been submitted for a Development Permit which covers any activities on site which are not exempt above.

c) Guidelines: In addition to guidelines identified above, all of the following apply to McLoughlin Point:

- i) All those identified in ‘Design Guidelines – McLoughlin Point Wastewater Treatment Plant’ prepared by CitySpaces (Revised May 2013), a copy of which is attached as Appendix H to this bylaw, as are appropriate to these development permit area designations;

RESPONSE: See detailed response below to “Design Guidelines – McLoughlin Point Wastewater Treatment Plant” prepared by CitySpaces (Revised May 2013).

- ii) Consider the establishment of an 8.0 m buffer from the High Water Mark;

RESPONSE: Refer to Architectural Site/Roof plan and ‘Proposed Buildings Average Grades’ by WSP for evidence of compliance.

After consideration and discussion with Esquimalt staff, we have a minimum 7.5m setback from the High Water Mark (HWM) to the building. Generally, the building is located beyond the 7.5m setback from the HWM, resulting in a buffer averaging at least 8 metres in width.

iii) Consider the establishment of a 4.0 m heavily landscaped buffer within the 8.0 m buffer to hide the building(s) on the site;

RESPONSE: Refer to Landscape drawings for evidence of compliance.

After consideration and discussion with Esquimalt staff, we have incorporated a landscaped buffer between the HWM and the building which varies in width but averages 4.0 metres or more in width. The location of the landscape buffer. The buffer is planted heavily wherever not prohibited in the "Design Guidelines – McLoughlin Point Wastewater Treatment Plant" prepared by CitySpaces (Revised May 2013).

iv) Consider stepping buildings back on the site with the lowest buildings (the tanks) located closest to the shore;

RESPONSE: Refer to Architectural Drawings for compliance.

The height of the WWTP steps back on the site from the shore with the lowest portions located close to the shore.

v) Consider the establishment of a seawall using as its design precedent, the convention centre in Seattle;

RESPONSE: A variety of precedents were considered regarding the seawall. The seawall design responds more directly to the "Design Guidelines – McLoughlin Point Wastewater Treatment Plant" in terms of the form and character than to any particular precedent.

vi) Consider the establishment of an historical interpretation program;

RESPONSE: Refer to Architectural Drawing Level 1 for compliance.

Historical Interpretive signage is indicated at the perimeter of the observation deck. Specific locations, format and content of this signage will be developed in conjunction with Esquimalt staff.

vii) Consider the establishment of public access to the 8.0 m buffer area via a public dock;

RESPONSE: After consideration and discussion with CRD and Esquimalt staff, a public dock has not been incorporated into the site.

viii) Consider the incorporation of water features as public art within the design of the building;

RESPONSE: After consideration and discussion with Esquimalt staff, the inclusion of public art to this site has not been currently indicated for the following reasons:

- 1) Esquimalt may wish to locate the Public Art in a more publicly accessible location where it may be more widely experienced.
- 2) Esquimalt has an existing policy and procedure for commissioning and/or procurement of public art.

ix) Consider design and construction in a manner that mitigates environmental and human health impacts (in particular those related to odour and noise), and contributes to the visual quality and scenic beauty of the harbour entrance; and

RESPONSE: The design of the WWTP is in accord with very high standards for odour and noise control. The conveyance line from Ogden Point under Victoria Harbour is to be done by directional drilling which will avoid potential disruption of the seabed of Victoria Harbour.

Refer to the Architectural and Landscape drawings for compliance regarding the contribution to the visual quality and scenic beauty of the harbor entrance.

The design of the WWTP locates the most attractive elements of the building toward the harbour and integrates the building with the site through terracing, form, materials, colours, and planting.

x) Any proposed buildings or structures must incorporate the findings of the “Modelling of Potential Tsunami Inundation Limits and Run-up” for the Capital Region that has been completed by the Capital Regional District’s Local Government Emergency Program Advisory Commission.

RESPONSE: The WWTP has been designed taking into account the findings of the report “Modelling of Potential Tsunami Inundation Limits and Run-up”.

Design Guidelines - McLoughlin Point Wastewater Treatment Plant, May 2013

GUIDING PRINCIPLES

1. SUSTAINABILITY

a) The treatment system will support environmental, social and economic sustainability, and be considered part of CRD climate action initiatives.

RESPONSE: The WWTP supports environmental, social and economic sustainability through the secondary and tertiary treatment of the region's wastewater prior to release into the ocean, which is a crucial part of our physical, social and economic environment.

The environmental, social and economic benefits will expand as markets develop for products arising from processing the bio-solids extracted in the treatment process.

The harvesting of energy from the effluent to heat the plant will contribute to the reduction of GHGs in support of the CRD climate action initiatives.

b) Wastewater should be treated as a resource and, wherever possible and practical, provide opportunities for resource recovery and reuse.

RESPONSE: The WWTP will harvest the energy from the effluent for use in heating the occupied spaces.

The sludge resulting from the secondary treatment process in the WWTP will be conveyed to a site where the bio-solids can be recovered for re-use.

c) The McLoughlin Point facility should meet, or exceed the CRD's and the Township of Esquimalt's policies on sustainability and building excellence.

RESPONSE: There is no recognized sustainability rating system suitable for application to Wastewater treatment plants. However, the O&M portion of the WWTP will be designed and constructed to LEED 2009 Gold standards and constructed with attractive durable materials.

All of the structures are to have a design life of 100 years design life with exterior cladding materials a design life of 50 years. Other building systems typically have a design life of 25 years. Moreover, the facility is designed to Post-Disaster standards.

2. RESPECT FOR THE SITE

a) Respect the site as a gateway location.

RESPONSE: Refer to the Architectural and Landscape drawings for compliance.

The siting of this important public works facility poses both a great challenge and a great opportunity for Esquimalt and the Greater Victoria area. Situated at the entry of the harbour and along a prominent rocky shoreline, the design respects the natural setting and reflects the highest standard of design, materiality and aesthetics.

The bulk of the plant is located at the west end of the site along Victoria View road, allowing the lower mass of the highly articulated and well designed Operations and Maintenance [O&M] building to screen the plant. The O&M building is stepped to further

mitigate the perceived mass. In addition, over 80% of the roof of the O&M building will be planted to increase onsite habitat and provides storm water management.

In addition to the extensive planting around the perimeter of the plant, care has been taken to break up the mass of concrete walls with a combination of materials and the introduction of glazing and screening elements.

b) Respect the natural shoreline.

RESPONSE: Refer to Architectural and Landscape Drawings for compliance.

A significant amount of the rocky shoreline has been retained in balance with other requirements for seawalls and planting on the site. The angular shapes and colours of the rocky shoreline are reflected in the shapes, colour and textures of the retaining walls and building.

c) Respect the site context, and respond to the site and its surroundings.

RESPONSE: Refer to Architectural and Landscape Drawings for compliance.

The bulk of the plant is located at the west end of the site along Victoria View road, allowing the lower mass of the highly articulated and well designed Operations and Maintenance [O&M] building to screen the plant. The O&M building is stepped to further mitigate the perceived mass. In addition, over 80% of the roof of the O&M building will be planted to increase onsite habitat and provides storm water management.

A palette of materials has been selected for the site which complements the stunning natural setting. Lower elements will be a combination of smooth and textured concrete and visually connect the building to the rocky shoreline. These walls will feature weathering steel highlights to add colour, variation and warmth at key locations on the site.

The siting of this important public works facility poses both a great challenge and a great opportunity for Esquimalt and the Greater Victoria area. Situated at the entry of the harbour and along a prominent rocky shoreline, the design respects the natural setting and reflects the highest standard of design, materiality and aesthetics.

The bulk of the plant is located at the west end of the site along Victoria View road, allowing the lower mass of the highly articulated and well designed Operations and Maintenance [O&M] building to screen the plant. The O&M building is stepped to further mitigate the perceived mass. In addition, over 80% of the roof of the O&M building will be planted to increase onsite habitat and provides storm water management. In conjunction with on-site rain gardens, there is considerable improvement in reducing stormwater runoff from the existing highly impervious rocky site. All buildings are set back from the high water mark between 7.5m to 15m. A landscape buffer and seawall are located within this setback.

The seawall and landscape buffer is a major component of the design. The design conforms to the Design Guidelines for seawalls. The seawall system reflects the rugged and textured surface of the exposed-rock shorelines. The mass and length of the wall is broken up visually with different materials, projections and protrusions. The materials utilized for the seawall will be a combination of concrete. The angular composition of the O&M building is reflected in this wall. Where walls extend vertically greater than 4m they are stepped to reduce their apparent height.

In addition to the extensive planting around the perimeter of the plant, care has been taken to break up the mass of concrete walls with a combination of materials and the introduction of glazing and screening elements.

A palette of materials has been selected for the site which complements the stunning natural setting. Lower elements will be a combination of smooth and textured concrete and visually connect the building to the rocky shoreline. These walls will feature weathering steel highlights to add colour, variation and warmth at key locations on the site. The lower portions of the O&M building and the plant will be rendered with heavier materials such as precast concrete and masonry cladding, and include clerestory windows to the shops and change rooms areas. The upper floor of the O&M building will incorporate considerably more glazing for the office and multipurpose spaces and is designed to permit natural ventilation. Upper portions of the plant as well as the O&M building will feature highly durable metal cladding.

3. PLAN FOR THE FUTURE

a) Acknowledge and plan for major tsunami events, climate warming effects, and post-disaster resiliency.

RESPONSE: The WWTP is designed as a 'post disaster facility', taking into account the findings of the report "Modelling of Potential Tsunami Inundation Limits and Run-up", and predicted sea level rise.

b) Incorporate durable, long-lasting, and timeless materials and design strategies.

RESPONSE: The WWTP is designed with durable materials and cladding such as cast-in-place concrete, pre-cast concrete panels, masonry, and corrosion resistant metal cladding and fittings.

4. LIVABILITY

a) Provide a design solution that meets, or exceeds, Township of Esquimalt and City of Victoria noise by-law requirements.

RESPONSE: The WWTP design is a fully enclosed plant. Emergency generators are self-contained, fully enclosed units with high efficiency mufflers. Potential noise sources are located away from any adjacent properties

b) Provide a design solution that restricts odours to a maximum of five (5) odour units, or less (not detectable by humans).

RESPONSE: The WWTP design is a fully enclosed plant with exhaust filtration systems designed to operate at a maximum of 5 odour units measured at the property line.

c) Respect view impacts from all sides, and from above.

RESPONSE: Refer to the Architectural and Landscape drawings for compliance.

The view of the plant from the west is restricted by a landscape buffer along Victoria View Road.

The view of the plant from the north is restricted by a landscape buffer along the north property line.

The view of the plant from the water is restricted by a landscape buffer between the shoreline and the building face. In addition, other planting is provided on a green roof to grow up the upper wall of the east face of the highest parts of the plant.

The most attractive elements of the building are located facing Victoria Harbour to screen other elements beyond.

The roofs above the Operations and Maintenance components are green roofs planted in a distinct pattern that complements the shape and forms of the building, and when viewed from above create terraces of planted areas from the higher roof to the large landscaped planters between the shoreline and the building.

5. SENSE OF PRIDE

a) Incorporate designs that, while respecting the site, ensure the highest standards of materials and workmanship, and are aesthetically pleasing.

RESPONSE: Situated at the entry to the harbour and along a prominent rocky shoreline, the design respects the natural setting and reflects the highest standard of design, materiality and aesthetics.

The shoreline remains intact, the building mass is stepped away from the shore, the forms of the elements near the rocky shore are angular and rendered in texture and colours sympathetic to the natural site.

A palette of materials has been selected for the site which complements the stunning natural setting. Lower elements will be a combination of smooth and textured concrete and will visually connect the building to the rocky shoreline. These walls will feature weathering steel highlights to add colour, variation and warmth at key locations on the site. The lower portions of the O&M building and the plant will be rendered with heavier materials such as precast concrete and masonry cladding, and include clerestory windows to the shops and change rooms areas. The upper floor of the O&M building will incorporate considerably more glazing for the office and multipurpose spaces and is

designed to permit natural ventilation. Upper portions of the plant as well as the O&M building will feature highly durable metal cladding.

b) Incorporate public art into the design.

RESPONSE: We welcome public art to be incorporated into the design. However, after consideration and discussion with Esquimalt staff, the specific inclusion of public art to this site has not been currently indicated for the following reasons:

- 1) Esquimalt may wish to locate the Public Art in a more publicly accessible location where it may be more widely experienced.
- 2) Esquimalt has an existing policy and procedure for commissioning and/or procurement of public art.

DESIGN GUIDELINES

SUSTAINABILITY STANDARDS

Treating its wastewater should be viewed as an element of the region's long-term sustainability objectives. Design considerations to support environmental, social, and economic sustainability include:

- Design the Operations and Controls building to a LEED® Gold standard.

RESPONSE: The Operations and Maintenance Building will be designed and constructed to LEED 2009 Gold standard.

- Where feasible, design for on-site heat recovery, and plan for future, long-term, neighbourhood, heat-resource opportunities.

RESPONSE: The WWTP will harvest the energy from the effluent for use in heating the occupied spaces in the plant.

However, the feasibility is limited for future, long-term neighbourhood heat-resource opportunities due to the nature of DND mandates.

- Incorporate a green roof system into the Operations and Controls building and other buildings, where appropriate.

RESPONSE: The Operations and Controls building features a pre-vegetated sedum mat green roof system on the second and third levels. Other portions of the plant are not suited to incorporation of green roofs.

- While much of the site is impervious rocky shoreline, where possible, introduce methods to clean and reduce stormwater runoff, incorporate rain gardens, and consider practical ways to re-use water.

RESPONSE: A significant amount of rainfall to the site will be intercepted by the extensive style green roofs which will absorb and hold runoff for eventual uptake by the roof plants, and release any filtered overflow to the planting beds below at grade. The site has been softened with planting beds wherever possible, significantly increasing the amount of absorbent surface and biomass which will catch, detain, absorb and filter stormwater. Additionally, the design includes a raingarden that receives all of the tertiary treatment building roof water and a portion of the internal roadway runoff.

- Restrict impact on the shoreline, except for those areas where wastewater lines enter or exit the treatment plant.

RESPONSE: The shoreline will remain unaffected by any permanent structures including the influent and effluent lines which are constructed under the surface using tunneling techniques. Care will be taken during construction to avoid the impact of construction activities on the shoreline.

VIEW CONSIDERATIONS

View impacts are an important design consideration given that the site is a waterfront property. The impact on views from all sides (including from east and south perspectives, from across the harbour, and from above) need to be considered in the design process.

Building and design view impacts will be evaluated from the following locations:

- Shoal Point and Ogden Point;

RESPONSE: Refer to Architectural Drawings for compliance

- Songhees Walkway to West Bay; and

RESPONSE: Refer to Architectural Drawings for compliance

- From above.

RESPONSE: Refer to Architectural Drawings for compliance

MARINE SHORELINE CHARACTER DESIGN CONSIDERATIONS

- Building forms should respect the site.

RESPONSE: Refer to Architectural and Landscape drawings for compliance.

Situated at the entry to the harbour and along a prominent rocky shoreline, the design respects the natural setting and reflects the highest standard of design, materiality and aesthetics.

The shoreline remains intact, the building mass is stepped away from the shore, the forms of the elements near the rocky shore are angular and rendered in texture and colours sympathetic to the natural site. A palette of materials has been selected for the site which complements the stunning natural setting.

- Wall elements, relating to tsunami and associated catastrophic event protection, such as stepped walls that incorporate angled features, projections, wall terraces, and textures, should reflect the character of the rocky shoreline.

RESPONSE: The seawall and landscape buffer is a major component of the design. The seawall system reflects the rugged and textured surface of the exposed-rock shorelines. The mass and length of the wall is broken up visually with different materials, projections and protrusions. The materials utilized for the seawall will be a combination of smooth and board-formed concrete. The angular composition of the O&M building is reflected in this wall. Where walls extend vertically greater than 4m they are stepped to reduce their apparent height.

MASSING, SITING & EXTERIOR ARCHITECTURAL ELEMENTS

- The design must demonstrate how the buildings and structures will fit into the site, responding to the shoreline in the forefront, and the evergreen treeline and rocky knoll backdrop.

RESPONSE: Refer to Architectural and Landscape Drawings for compliance.

The bulk of the plant is located at the west end of the site along Victoria View road, allowing the lower mass of the highly articulated and well designed Operations and Maintenance [O&M] building to screen the plant. The O&M building is stepped to further mitigate the perceived mass. In addition, over 80% of the roof of the O&M building will be planted to increase onsite habitat and provides storm water management. In conjunction with on-site rain gardens, there is considerable improvement in reducing stormwater runoff from the existing highly impervious rocky site. All buildings are set back from the high water mark between 7.5m to 15m. A landscape buffer and seawall are located within this setback.

In addition to the extensive planting around the perimeter of the plant, care has been taken to break up the mass of concrete walls with a combination of materials and the introduction of glazing and screening elements.

A palette of materials has been selected for the site which complements the stunning natural setting. Lower elements will be a combination of smooth and textured concrete and will visually connect the building to the rocky shoreline. These walls will feature weathering steel highlights to add colour, variation and warmth at key locations on the site. The lower portions of the O&M building and the plant will be rendered with heavier materials such as precast concrete and masonry cladding, and include clerestory windows to the shops and change rooms areas. The upper floor of the O&M building will incorporate considerably more glazing for the office and multipurpose spaces and is designed to permit natural ventilation. Upper portions of the plant as well as the O&M building will feature highly durable metal cladding.

- Building heights should vary, but not exceed 15 metres, from the finished grade.

RESPONSE: Refer to Architectural Sections and Elevation Drawings for compliance.

The building heights vary from 5 metres to 15 metres from average grade.

- Design aesthetics should be optimized with the use of appropriate, high quality materials.

RESPONSE: Refer to Architectural Drawings and Materials Board for compliance.

The WWTP is designed with durable materials and cladding such as cast-in-place concrete, pre-cast concrete panels, masonry, and corrosion resistant metal cladding and fittings.

- Exterior building materials, including exterior details, must be selected to withstand intense weather and sea conditions, and must be of a high standard to ensure low maintenance.

RESPONSE: Refer to Architectural Drawings and Materials Board for compliance.

The WWTP is designed with durable materials and cladding such as cast-in-place concrete, pre-cast concrete panels, masonry, and corrosion resistant metal cladding and fittings.

- Doors, overhead doors, and other closures (including hatches, grilles, and louvres) should be durable, thermally resistant, and suitably finished for the marine environment.

RESPONSE: The design of the WWTP complies.

The energy requirements to meet LEED 2009 Gold standard necessitates a high performance building envelope including all doors etc.

- Windows should have high performance glazing, and be capable of providing natural ventilation, where appropriate.

RESPONSE: The design of the WWTP complies.

The energy requirements to meet LEED 2009 Gold standard necessitates a high performance building envelope including all glazing. Operable glazing units will be employed where appropriate.

- Roof areas must consider views from above.

RESPONSE: Refer to Architectural and Landscape Drawings for compliance.

The roofs above the Operations and Maintenance components are green roofs planted in a distinct pattern that complements the shape and forms of the building, and when viewed from above create terraces of planted areas from the higher roof to the large landscaped planters between the shoreline and the building.

- Clarifiers and aerated filters must be covered to meet noise and odour principles.

RESPONSE: Refer to Architectural drawings for compliance.

All plant functions are enclosed.

LIGHTING

- Light fixtures should provide no more than the minimum lighting needed for their intended purposes, and not exceed levels recommended by the Illuminating Engineering Society for North America Recommended Practice Manual: Lighting for Exterior Environments.

RESPONSE: Refer to Site Lighting Drawing for compliance.

- Light fixture shields should be specified to reduce impacts on other properties, and when seen from the designated viewpoints.

RESPONSE: Refer to Site Lighting Drawing for compliance.

- All lighting should be directed downward, and not into the night sky.

RESPONSE: Refer to Site Lighting Drawing for compliance.

- Energy efficient fixtures should be specified, with consistent colour for all lighting

RESPONSE: Refer to Site Lighting Drawing for compliance.

LANDSCAPE ELEMENTS

The design concept is based on site conditions, views from the harbour, and a windswept rocky shoreline. With this in mind, landscape elements should include:

- Use of plant species that are designated hardy to harsh, and for salt spray environments; situate plants such that the force of the wind shapes their future forms;

RESPONSE: Plant species have been selected based on their resilience (low maintenance, salt and wind tolerance), availability, appearance, site suitability (available soil volume, growth habit), and adaptability to the Pacific Northwest climate and anticipated climate change. The site is located in the Coastal Douglas -fir Biogeoclimatic Zone, a zone dominated by Douglas fir in both upland and rock outcrop areas, and for this reason Douglas fir have been selected as the primary tree species for the site. They will take on a characteristically windswept appearance while screening the building and providing some shelter to the massed plantings below. The predominantly native plant palette will enhance the ecological integrity of the site, and the combination of native and adaptive perennials, shrubs and grasses whose hardy blooms will provide seasonal interest and habitat.

Note that scientists who study 'thigmomorphogenesis' or the response of plants to high winds, indicate Douglas-fir is a 'streamliner' or wind avoider while Black Pine is a 'non-streamliner' or wind tolerator. In a nutshell this means that Douglas-fir will bend with the wind (a preferred condition in the Design Guidelines), while Austrian (Black) Pine will not. Trees exposed to wind will not grow as tall, will have shorter branches and will have thicker stems and stronger roots than those not exposed to wind.

- A retaining wall system designed to reflect the rugged and rough-textured surface of boulders and exposed-rock shorelines;

RESPONSE: The seawall system reflects the rugged and textured surface of the exposed-rock shorelines. The mass and length of the wall is broken up visually with

different materials, projections and protrusions. The materials utilized for the seawall will be a combination of smooth and board-formed concrete. The angular composition of the O&M building is reflected in this wall. Where walls extend vertically greater than 4m they are stepped to reduce their apparent height.

- Outdoor storage and parking areas screened through the use of berms, fences, landscaping and/or solid noise-absorbing barriers;

RESPONSE: Refer to Landscape drawings for evidence of compliance through Landscape screening of parking along Victoria View Road.

Planting beds have been mounded wherever possible in order to improve screening – this includes mounding against the building face as well as within the wider beds themselves. Much of the visual screening of the site comes in the form of coniferous trees, whose dense evergreen foliage doubles as an effective sound barrier. Wherever possible, vines have been trained on trellises across the building face, further improving the vegetative screening in areas where trees cannot be planted .

Refer to Architectural drawing Level 1 Floor Plan for wall as screening of parking near observation deck.

GUIDELINES FOR SEAWALL AND WALLS

The retaining wall system should be designed to reflect the rugged and textured surface of the exposed-rock shorelines. To reduce view impacts for neighbouring communities and water/air traffic, the mass of the wall (combined height and width) will be broken up visually with features such as board form relief, wall projections, vertical elements, and wall protrusions. It should feature both rounded, smooth, and angular surfaces to reflect the natural shoreline. Walls are divided into two types: 1) primary walls, which are prominent perimeter retaining walls, and feature walls within the plant; and 2) secondary walls, which serve as infill between the primary walls.

- Walls must not protrude beyond the High Water Mark (HWM 1.804m geodetic).

RESPONSE: Refer to Architectural Drawings for compliance.

No walls protrude beyond the HWM.

- The site must be protected by a continuous tsunami protection wall that has a top elevation of not less than 6.5 metres above the High Water Mark.

RESPONSE: Refer to Architectural Drawings for compliance.

The site is protected by a tsunami wall with a top elevation of 6.5 metres along the shoreline and the north side. The thick concrete walls of the plant at the southwest and the west form a continuation of the tsunami wall.

- The appearance of wall heights greater than 4.0 metres must be minimized by placing step walls in the tsunami protection wall.

RESPONSE: Refer to Architectural Drawings for compliance.

Retaining walls in front of the tsunami wall are employed to create landscape planters which reduce the apparent height of the tsunami wall.

- Planted stepped walls should be a minimum depth of 1.0 metre horizontally to allow for landscape elements to be introduced. Where this is not possible, shallower multiple steps may be used.

RESPONSE: Refer to Architectural and Landscape Drawings for compliance.

Planted stepped walls are typically 2.5 metres or more in width.

- All surfaces of the primary perimeter retaining walls must be finished with random board-formed recesses or other suitable architectural treatment. Vertical recesses should be spaced randomly. A smooth finish should be considered for secondary walls.

RESPONSE: Refer to Architectural Drawings and Materials Board for compliance.

We have considered the primary retaining walls those closest to the shore. These are to be board formed concrete intended to refer to the forms and materials of historical military emplacements directly adjacent to this site and nearby Macauley Point. In contrast, the tsunami wall will be a smooth finish concrete.

- The design should plan for development of a pedestrian pathway along the waterfront side of the site.

RESPONSE: Refer to Architectural Drawing L1 for compliance.

The design allows for a future pedestrian pathway to be developed directly adjacent the face of the retaining walls around the waterfront side of the site. For much of this extent, the pathway could be built on top of the rocks along with a short bridge element to span across a low spot.

GUIDELINES FOR PLANTING – GENERAL

- Distribution of plants will be limited due to salt spray and wind exposure, particularly on the south side of the site.

RESPONSE: Refer to Landscape Drawings for compliance.

The plant species for the shoreline sides of the site have been selected for their ability to withstand both sea spray and high winds. While all the selected plants are adapted to shoreline conditions, those with the highest sea spray tolerances are situated closest to the water; those with less tolerance are situated behind. The plan favours mass plantings to improve species coping ability to coastal conditions via the colony effect.

- Planting will exclude lawns.

RESPONSE: Refer to Landscape Drawings for compliance.

No lawns are included in the landscape design

- Mature plant heights must be at least 60 cm tall for all planted areas to shade undesirable weed species.

RESPONSE: Refer to Landscape Drawings for compliance.

All plant species selected have mature heights of over 60cm, with the exception of native coastal strawberry (*Fr. Chilensis*) which is proposed for the curb edge along portions of Victoria View Road. Coastal strawberry is a dense, fast growing, groundcover and will smother weeds when established. Note that plants proposed for Victoria View Road have been selected for deer tolerance as well as climatic resilience.

- Planting densities must ensure that vegetated areas will have 100% plant coverage after two full growing seasons.

RESPONSE: Refer to Landscape Drawings for compliance.

Plant sizes, species, and spacing have been selected to ensure that all vegetated areas will have 100% plant coverage after two full growing seasons.

- Planted areas will be irrigated with a high efficiency irrigation system.

RESPONSE: Refer to Landscape Drawings for compliance.

Planted areas will be irrigated with an irrigation system that uses recycled water from the plant, and high efficiency components.

- Plants should be drought tolerant and require minimal water after the two-year establishment period.

RESPONSE: Refer to Landscape Drawings for compliance.

All selected plant species are native or adaptive, drought-tolerant and well-suited to local climatic conditions. Based on current climate conditions, and *anticipated* climate change, they will require minimal water after a two-year establishment period.

- Green roofs must be installed fully established to minimize wind erosion and maintenance.

RESPONSE: Refer to Landscape Drawings for compliance.

The proposed green roofs will be pre-vegetated sedum mats, fully established when installed. Note that LADR has considerable experience with sedum mat green roofs in the Greater Victoria area.

- All planting will be to BCNLA/BCSLA Landscape Standards.

RESPONSE: Refer to Landscape Drawings for compliance.

All plantings will adhere to current BCNLA/BCSLA Landscape Standards.

GUIDELINES FOR PLANTING ALONG SEAWALLS

- Distribution of plants will be limited due to salt spray and wind exposure.

RESPONSE: Refer to Landscape Drawings for compliance.

The plant species for the shoreline sides of the site have been selected for their ability to withstand both sea spray and high winds. While all the selected plants are adapted to shoreline conditions, those with the highest sea spray tolerances are situated closest to the water; those with less tolerance are situated behind. The plan favours mass plantings to improve species coping ability to coastal conditions via the colony effect.

- Trees must be situated more than 10 metres from the south facing wall, as this will be a high wind velocity area.

RESPONSE: Refer to Landscape Drawings for compliance.

Trees are situated more than 10 metres away from the south-facing wall

- The following species are considered appropriate for use along the waterfront:
 - *Pinus contorta* var. *Contorta* (Shore Pine)
 - *Arbutus menzesii* (Pacific Madrone)
 - *Rosa nutkana* (Nootka Rose)
 - *Symphoricarpus albus* (Snowberry)
 - *Arbutus unedo* (Strawberry Tree)
 - *Myrica californica* (Sweet Gale)
 - *Lonicera pileata* (Privet Honeysuckle)
 - *Mahonia aquifolium* (Oregon Grape)

RESPONSE: Refer to Landscape Drawings for compliance.

The landscape design incorporates most of the shrub species from the provided list, as well as additional species that are well-adapted to PNW shoreline conditions. Plants have been selected with consideration for resiliency, growth habit (maintenance), impact

on habitat and ecological integrity, capacity to contribute to a dynamic seasonal landscape aesthetic, and commercial availability. Proposed plants are available in sizes required to meet the expectations of the Design Guidelines (plant screening, 100% ground coverage in two years).

As noted in Landscape Elements, because this is a Coastal Douglas-fir zone, Douglas-fir has been selected as the primary tree for the site; they are readily available in 5 gallon or larger sizes from commercial nurseries. Shore Pine is not a tree representative of the Douglas-fir zone and its typical growth pattern, short and crooked, would not contribute to the screening requirement outlined in the Design Guidelines. Arbutus trees are not commonly available though can occasionally be found in 1 gallon size; they are very slow growing, notoriously difficult to transplant and *heavily* browsed by deer when saplings.

GUIDELINES FOR PLANTING ADJACENT TO BUILDING ENTRANCES

Planting around the building entrances can be more design driven, and specific hard and soft landscaping should complement the building architecture.

RESPONSE: Refer to Landscape Drawings for compliance.

The building entrance planting beds reflect the form and content of the shoreline planting beds albeit in a smaller and more detailed scale. In both, massed plants stretch through mounded beds in geometric forms that reflect the building architecture. Near the entrances, flowering vines are trained across trellises on the building faces to provide seasonal bursts of color and scent. The decorative paving surface of the viewing platform also reflects the geometry of the architecture, in conformance with the intent of the guideline.

GUIDELINES FOR SCREENING ON VICTORIA VIEW ROAD

- To break up the mass of concrete walls, introduce screening (mostly of coniferous tree plantings) along the road frontage and adjacent property lines. The CRD should work with the Department of National Defence to allow for landscaping along the road frontage adjacent to the site. Cluster trees to provide clear 8-metre wide gaps to allow for future maintenance access (from a crane).

RESPONSE: Refer to Landscape Drawings for compliance.

A significant number of coniferous and deciduous trees have been planted along the frontage of Victoria View Road in mounded beds that further aid visual screening of the site. A mass planting of both Douglas and Grand fir along the North property line creates a substantial visual and auditory screen of the site. Trees along Victoria View Road have been clustered to ensure that there are 8M-wide gaps scattered along the frontage, though this has been limited in an effort to achieve the maximum possible amount of screening (drive aisles also provide crane access).

- A continuous shrub border will be required at the base of the wall to screen the lower retaining wall, and reduce the risk of vandalism. Shrubs in this area are to be native species only, with the exception of those adjacent to the two entrances, where lower evergreen screening is desirable.
- In situations with larger retaining walls, vines can be considered, but must be supported by cable systems.

RESPONSE: Refer to Architectural and Landscape Drawings for compliance.

Vines are planted at the base of the west wall of the WWTP supported on vertical trellis framework mounted on the lower portion of the wall face.

Vines are employed at a variety of locations on the site to create vegetative screening where physical space &/or soil volume does not support planting trees. This includes planting beds along the internal roadway, as well as on the third floor green roof. Wall-mounted trellis systems have been provided for all of the proposed vines with the exception of the Boston Ivy on the third floor green roof as it is better suited to cling to the building face.

- The following species are considered appropriate for use in screening applications:
 - *Pseudotsuga menziesii* (Douglas Fir);
 - *Rosa nutkana* (Nootka Rose);
 - *Symphoricarpus albus* (Snowberry); and
 - *Parthenocissus tricuspidata* (Boston Ivy).

RESPONSE: Refer to Landscape Drawings for compliance.

All of the listed plant species are employed in the screening of the buildings, along with a selection of other native and adaptive plants that are well-suited to the site conditions.

STORMWATER MANAGEMENT

The following stormwater management measures should be considered for the site:

- Stormwater from the internal roadways and parking areas will be treated to remove 80% of TSS from a 6-month rain event prior to discharge.

RESPONSE: The design will comply with this requirement

- Treatment of roadway and parking run-off can come in the form of:
 - A combination of rain gardens and bioswales adjacent to the parking and roadways, complete with raised overflow basins, and under drains connected to the storm drain system;
 - Aqua-pave permeable paving, complete with an under drain system in discrete areas where direction of run-off to a bioswale is not feasible; or
 - A combination of these.

RESPONSE: a combination of the above methods will be utilized to achieve compliance

- A conventional storm drain will be installed with an outfall to the ocean. All drainage from the site will eventually be discharged through this pipe.

RESPONSE: All drainage from the site will eventually be discharged through the storm drain piping to the ocean

- The buildings will connect directly to the piped storm drain system. Building drainage will bypass the treatment system. However, a rain garden, stormceptor, or similar end-of-pipe treatment device could be installed if treatment of roof drainage is required.

RESPONSE: All building drainage will connect to the storm drain system, bypassing the wastewater treatment system and retained and/or treated if required before discharge to the ocean.

PARKING AND SERVICE

- Parking for visitors, plant and system operation staff, and CRD maintenance vehicles should be suitably screened through the use of berms, fences, landscaping, and/or solid noise-absorbing barriers to minimize visual impact.

RESPONSE: Refer to Landscape drawings for evidence of compliance through Landscape screening of parking along Victoria View Road.

Refer to Architectural drawing Level 1 Floor Plan for wall as screening of parking near observation deck.

SIGNAGE

- Limit signage to directional and identification as required for wayfinding.

RESPONSE: Refer to Architectural Drawings for compliance.

No large signs identifying the building or third party signs will be incorporated.

However, in addition to directional and identification signage, in compliance with 9.5.6 (c) (vi) in the OCP, and 55 (2)(d)(10) of the Zoning Bylaw, historical interpretive signage regarding the history of the site is indicated at the perimeter of the observation deck. Specific locations, format and content of this signage will be developed in conjunction with Esquimalt staff.

PUBLIC ART AND EDUCATION

- Public art shall be provided. The CRD and Township of Esquimalt will work together to confirm the process and requirements.

RESPONSE: After consideration and discussion with Esquimalt staff, the specific inclusion of public art to this site has not been currently indicated for the following reasons:

1) Esquimalt may wish to locate the Public Art in a more publicly accessible location where it may be more widely experienced.

2) Esquimalt has an existing policy and procedure for commissioning and/or procurement of public art.

- Plans should include capacity for organized, educational site visits to learn about the functioning of the treatment system, the regional liquid waste management program, resource recovery, etc.

RESPONSE: Refer to Architectural Drawings for Compliance.

The WWTP contains an Educational and Interpretive Centre intended to accommodate organized educational site visits to learn about the functioning of the treatment system, the regional liquid waste management program, resource recovery, etc. A drop-off for a bus is included in the site design.

Also, historical interpretive signage regarding the history of the site is indicated at the perimeter of the observation deck. Specific locations, format and content of this signage will be developed in conjunction with Esquimalt staff.



GREEN BUILDING CHECKLIST

The purpose of this Checklist is to make property owners and developers aware of specific green features that can be included in new developments to reduce their carbon footprints to help create a more sustainable community.

Creating walkable neighbourhoods, fostering green building technologies, making better use of our limited land base and ensuring that new development is located close to services, shops and transit are some of the means of achieving sustainability.

The Checklist which follows focuses on the use of **Green Technologies** in new buildings and major renovations. The Checklist is not a report card, it is a tool to help identify how your project can become 'greener' and to demonstrate to Council how your project will help the Township of Esquimalt meet its sustainability goals. It is not expected that each development will include all of the ideas set out in this list but Council is looking for a strong commitment to green development.

There are numerous green design standards, for example, Built Green BC; LEED ND; Living Building Challenge; Green Shores; Sustainable Sites Initiative. Esquimalt is not directing you to follow any particular standard, however, you are strongly encouraged to incorporate as many green features as possible into the design of your project .

As you review this checklist, if you have any questions please contact **Development Services at 250.414.7108** for clarification.

**New development is essential to Esquimalt.
We look forward to working with you
to ensure that development is
as green and sustainable as possible.**

Other documents containing references to building and site design and sustainability, which you are advised to review, include:

- Esquimalt's Official Community Plan
- Development Protocol Policy
- Esquimalt's Pedestrian Charter
- Tree Protection Bylaw No. 2664
- A Sustainable Development Strategic Plan for the Township of Esquimalt

Adopted on January 10th, 2011



“One-third of Canada’s energy use goes to running our homes, offices and other buildings. The federal government’s Office of Energy Efficiency (Natural Resources Canada) reports that a corresponding one-third of our current greenhouse gas (GHG) emissions come from the built environment.”
 [Green Building and Development as a Public Good, Michael Buzzelli, CPRN Research Report June 2009]

Please answer the following questions and describe the green and innovative features of your proposed development. Depending on the size and scope of your project, some of the following points may not be applicable.

Green Building Standards

Both energy use and emissions can be reduced by changing or modifying the way we build and equip our buildings.

1	Are you building to a recognized green building standard? If yes, to what program and level? <u>LEED GOLD FOR O+M BUILDING</u>	<input checked="" type="radio"/> Yes	<input type="radio"/> No
2	If not, have you consulted a Green Building or LEED consultant to discuss the inclusion of green features?	<input type="radio"/> Yes	<input type="radio"/> No
3	Will you be using high-performance building envelope materials, rainscreen siding, durable interior finish materials or safe to re-use materials in this project? If so, please describe them.	<input checked="" type="radio"/> Yes	<input type="radio"/> No
4	What percentage of the existing building[s], if any, will be incorporated into the new building? <u>N/A - NO EXISTING BLDG.</u>	_____ %	
5	Are you using any locally manufactured wood or stone products to reduce energy used in the transportation of construction materials? Please list any that are being used in this project. <u>STONE FROM THE SITE WILL BE UTILIZED FOR AGGREGATE & LANDSCAPING</u>		
6	Have you considered advanced framing techniques to help reduce construction costs and increase energy savings?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
7	Will any wood used in this project be eco-certified or produced from sustainably managed forests? If so, by which organization? <u>TBC.</u> For which parts of the building (e.g. framing, roof, sheathing etc.)? <u>FINISHES / MILLWORK.</u>		
8	Can alternatives to Chlorofluorocarbon's and Hydro-chlorofluorocarbons which are often used in air conditioning, packaging, insulation, or solvents] be used in this project? If so, please describe these. _____	<input type="radio"/> Yes	<input checked="" type="radio"/> No
9	List any products you are proposing that are produced using lower energy levels in manufacturing. <u>CONCRETE.</u>		
10	Are you using materials which have a recycled content [e.g. roofing materials, interior doors, ceramic tiles or carpets]?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
11	Will any interior products [e.g. cabinets, insulation or floor sheathing] contain formaldehyde?	<input type="radio"/> Yes	<input checked="" type="radio"/> No

Water Management

The intent of the following features is to promote water conservation, re-use water on site, and reduce storm water run-off.

Indoor Water Fixtures

12	Does your project exceed the BC Building Code requirements for public lavatory faucets and have automatic shut offs?	<input checked="" type="radio"/> Yes	No
13	For commercial buildings, do flushes for urinals exceed BC Building Code requirements?	<input checked="" type="radio"/> Yes	No
14	Does your project use dual flush toilets and do these exceed the BC Building Code requirements? <u>NO DUAL FLUSH</u>	Yes	<input checked="" type="radio"/> No
15	Does your project exceed the BC Building Code requirements for maximum flow rates for private showers?	<input checked="" type="radio"/> Yes	No
16	Does your project exceed the BC Building Code requirements for flow rates for kitchen and bathroom faucets?	<input checked="" type="radio"/> Yes	No

Storm Water

17	If your property has water frontage, are you planning to protect trees and vegetation within 60 metres of the high water mark? [Note: For properties located on the Gorge Waterway, please consult Sections 7.1.2.1 and 9.6 of the Esquimalt Official Community Plan.]	<input checked="" type="radio"/> Yes	No	N/A
18	Will this project eliminate or reduce inflow and infiltration between storm water and sewer pipes from this property?	<input checked="" type="radio"/> Yes	No	N/A
19	Will storm water run-off be collected and managed on site (rain gardens, wetlands, or ponds) or used for irrigation or re-circulating outdoor water features? If so, please describe. <u>RAIN GARDEN</u>	<input checked="" type="radio"/> Yes	No	N/A
20	Have you considered storing rain water on site (rain barrels or cisterns) for future irrigation uses?	Yes	No	<input checked="" type="radio"/> N/A
21	Will surface pollution into storm drains will be mitigated (oil interceptors, bio-swales)? If so, please describe. <u>ON-SITE TREATMENT</u>	<input checked="" type="radio"/> Yes	No	N/A
22	Will this project have an engineered green roof system or has the structure been designed for a future green roof installation?	<input checked="" type="radio"/> Yes	No	N/A
23	What percentage of the site will be maintained as naturally permeable surfaces? <u>SITE IS PREDOMINANTLY PAV. WE ARE ADDING SIGNIFICANTLY MORE PERMEABLE PLANTING/PAVED AREAS</u> _____ %			

Waste water

24	For larger projects, has Integrated Resource Management (IRM) been considered (e.g. heat recovery from waste water or onsite waste water treatment)? If so, please describe these. <u>HEAT RECOVERY FOR O+M BUILDING</u>	<input checked="" type="radio"/> Yes	No	N/A
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Natural Features/Landscaping

The way we manage the landscape can reduce water use, protect our urban forest, restore natural vegetation and help to protect the watershed and receiving bodies of water.

25	Are any healthy trees being removed? If so, how many and what species? <u>1 ALBATUS IS BEING REMOVED</u>	<input checked="" type="radio"/> Yes	No	N/A
	Could your site design be altered to save these trees? <u>NO</u>			
	Have you consulted with our Parks Department regarding their removal? <u>NO</u>			

26	Will this project add new trees to the site and increase our urban forest? If so, how many and what species? <u>70 TREES + 14 LARGE SHRUBS</u>	<input checked="" type="radio"/> Yes	No	N/A
27	Are trees [existing or new] being used to provide shade in summer or to buffer winds?	<input checked="" type="radio"/> Yes	No	N/A
28	Will any existing native vegetation on this site be protected? If so, please describe where and how. _____	Yes	<input checked="" type="radio"/> No	N/A
29	Will new landscaped areas incorporate any plant species native to southern Vancouver Island?	<input checked="" type="radio"/> Yes	No	N/A
30	Will xeriscaping (i.e. the use of drought tolerant plants) be utilized in dry areas?	<input checked="" type="radio"/> Yes	No	N/A
31	Will high efficiency irrigation systems be installed (e.g. drip irrigation; 'smart' controls)?	<input checked="" type="radio"/> Yes	No	N/A
32	Have you planned to control invasive species such as Scotch broom, English ivy, Himalayan and evergreen blackberry growing on the property?	<input checked="" type="radio"/> Yes	No	N/A
33	Will topsoil will be protected and reused on the site? <u>NO TOPSOIL EXISTING</u>	Yes	No	<input checked="" type="radio"/> N/A

Energy Efficiency

Improvements in building technology will reduce energy consumption and in turn lower greenhouse gas [GHG] emissions. These improvements will also reduce future operating costs for building occupants.

34	Will the building design be certified by an independent energy auditor/analyst? If so, what will the rating be? <u>IN HOUSE ENERGY MODELLING</u>	Yes	No	N/A
35	Have you considered passive solar design principles for space heating and cooling or planned for natural day lighting?	<input checked="" type="radio"/> Yes	No	N/A
36	Does the design and siting of buildings maximize exposure to natural light? What percentage of interior spaces will be illuminated by sunlight? <u>70 % OF OIM BLDG.</u>	<input checked="" type="radio"/> Yes	No	N/A
37	Will heating and cooling systems be of enhanced energy efficiency (ie. geothermal, air source heat pump, solar hot water, solar air exchange, etc.). If so, please describe. <u>HEAT RECOVERY FROM EFFLUENT.</u> If you are considering a heat pump, what measures will you take to mitigate any noise associated with the pump? <u>INTERNAL EQUIPMENT</u>	<input checked="" type="radio"/> Yes	No	N/A
38	Has the building been designed to be solar ready? <u>NOT APPLICABLE AS ALL ENERGY REQ. AVAIL. FROM EFFLUENT</u>	Yes	No	<input checked="" type="radio"/> N/A
39	Have you considered using roof mounted photovoltaic panels to convert solar energy to electricity?	<input checked="" type="radio"/> Yes	No	N/A
40	Do windows exceed the BC Building Code heat transfer coefficient standards?	<input checked="" type="radio"/> Yes	No	N/A
41	Are energy efficient appliances being installed in this project? If so, please describe. <u>NO KITCHEN APPLIANCES</u>			N/A
42	Will high efficiency light fixtures be used in this project? If so, please describe. <u>LED THROUGHOUT</u>	<input checked="" type="radio"/> Yes	No	N/A
43	Will building occupants have control over thermal, ventilation and light levels?	<input checked="" type="radio"/> Yes	No	N/A
44	Will outdoor areas have automatic lighting [i.e. motion sensors or time set]?	<input checked="" type="radio"/> Yes	No	N/A
45	Will underground parking areas have automatic lighting?	<input checked="" type="radio"/> Yes	No	N/A

Air Quality

The following items are intended to ensure optimal air quality for building occupants by reducing the use of products which give off gases and odours and allowing occupants control over ventilation.

46	Will ventilation systems be protected from contamination during construction and certified clean post construction?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
47	Are you using any natural, non-toxic, water soluble or low-VOC [volatile organic compound] paints, finishes or other products? If so, please describe. <u>LEED COMPLIANT IAC FINISHES IN OPM,</u>	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
48	Will the building have windows that occupants can open?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
49	Will hard floor surface materials cover more than 75% of the liveable floor area?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
50	Will fresh air intakes be located away from air pollution sources?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A

Solid Waste

Reuse and recycling of material reduces the impact on our landfills, lowers transportation costs, extends the life-cycle of products, and reduces the amount of natural resources used to manufacture new products.

51	Will materials be recycled during demolition of existing buildings and structures? If so, please describe. <u>NO EXIST. BLDGS.</u>	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
52	Will materials be recycled during the construction phase? If so, please describe. <u>CONTRACTOR TO PROVIDE LEED COMPLIANT CONSTRUCTION WASTE MANAGEMENT PLAN</u>	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
53	Does your project provide enhanced waste diversion facilities i.e. on-site recycling for cardboard, bottles, cans and or recyclables or on-site composting?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
54	For new commercial development, are you providing waste and recycling receptacles for customers?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A

Green Mobility

The intent is to encourage the use of sustainable transportation modes and walking to reduce our reliance on personal vehicles that burn fossil fuels which contributes to poor air quality.

55	Is pedestrian lighting provided in the pathways through parking and landscaped areas and at the entrances to your building[s]?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
56	For commercial developments, are pedestrians provided with a safe path[s] through the parking areas and across vehicles accesses?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
57	Is access provided for those with assisted mobility devices?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
58	Are accessible bike racks provided for visitors?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
59	Are secure covered bicycle parking and dedicated lockers provided for residents or employees?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A
60	Does your development provide residents or employees with any of the following features to reduce personal automobile use [check all that apply]: <input type="checkbox"/> transit passes <input type="checkbox"/> car share memberships <input type="checkbox"/> shared bicycles for short term use <input type="checkbox"/> weather protected bus shelters <input checked="" type="checkbox"/> plug-ins for electric vehicles			

Is there something unique or innovative about your project that has not been addressed by this Checklist? If so, please add extra pages to describe it.

**To:**
Peter Gawlick, P.Eng., PMP**CC:**
Neil Snowball, P.Eng

Memo

Subject: Off-Street Parking Assessment – McLoughlin Point Wastewater Treatment Plant

1. INTRODUCTION

Municipal Bylaws for zoning and development outline the requirements for each new development in terms of building footprints, occupancy, off-street parking and other characteristics to reflect the designated zoning. The off-street parking bylaw requirements are determined relative to a new development's building area. This is the generally accepted method for determining the required off-street parking in relation to the floor space area to be occupied. However, modern wastewater treatment plants are not typically fully occupied facilities and are mainly operated by automated systems, with a small staffed control facility. As a result, much of the building footprint within the site is not occupied and therefore has little application in determining off-street parking demand and associated provision.

The purpose of this memo is to discuss the provision of staff and visitors that would be expected to be at the treatment plant and to provide an assessment of the associated parking requirements in relation to demand and municipal bylaws. A recommendation for the proposed parking provision is provided as a conclusion to this memo.

2. EXISTING TREATMENT PLANT STAFF LEVELS AND PARKING

New wastewater treatment plants are mainly operated by automated systems for daily operations, and require fewer employees than older facilities. The automated equipment and tanks at each wastewater treatment plant occupy the majority of the gross floor area within the proposed site. For example, the Lions Gate Wastewater Treatment Plant (LGWWTP), proposed Lions Gate Secondary Wastewater Treatment Plant (LGSWWTP), and Lulu Island Wastewater Treatment Plant (LIWWTP) are the existing treatment plants in the British Columbia Lower Mainland, which have a similar operation to the proposed McLoughlin Point Wastewater Treatment Plant (MPWWTP).

2.1 Lions Gate Wastewater Treatment Plant

The existing Lions Gate Wastewater Treatment Plan (LGWWTP) is located under the Lions Gate Bridge at the southern end in West Vancouver (see [Figure 1](#) for the site location). The operation at the LGWWTP is mainly automated and requires approximately 20 full-time equivalents (FTE) to provide support during daily operations. The FTEs include supervisory and administration, operations and maintenance, and laboratory staff. There are 20 parking stalls provided at the LGWWTP for staff and visitors. The number of off-street parking available at the LGWWTP corresponds to the approximate number of staff that is expected to be on site. It is expected that each FTE will not necessarily be working daily at the site and that FTE may use other travel modes such as rideshare or bicycles. The location of the plant has low accessibility by transit with the nearest bus route is on Marine Drive, approximately 800 m from the site.



Figure 1: Lions Gate Wastewater Treatment Plant

2.2 Lions Gate Secondary Wastewater Treatment Plant

The proposed Lions Gate Secondary Wastewater Treatment Plant (LGSWWTP) is located on West 1st Street between Phillips Ave and Pemberton Ave in North Vancouver (see [Figure 2](#) for the site location). The operation is similar to the LGWWTP where the plant is mainly automated, but is expected to have approximately 31 FTE to be on site to provide support for daily operations. 32 parking stalls are proposed at the LGSWWTP for staff and visitors. The number of off-street parking available corresponds to the approximate number of FTE that are expected to be on site. The location of the plant has low accessibility by transit with the nearest bus route is on Marine Drive, approximately 760 m from the site.



Figure 2: Lions Gate Secondary Wastewater Treatment Plant

2.3 Lulu Island Wastewater Treatment Plant

The existing Lulu Island Wastewater Treatment Plant (LIWWTP) is located at the south end of Gilbert Street (near Dyke Road) in Richmond (see Figure 3 for the site location). The operation is also mainly automated, and has approximately 25 FTE on site. There are 25 parking stalls provided for staff and visitors at the LIWWTP. The number of off-street parking available corresponds to the approximate number of FTE that are expected to be on site. The location of the Plant has low accessibility by transit with the nearest bus route is on Steveston Highway or on Moncton Street, approximately 2 km or approximately 1.4 km respectively.



Figure 3: Lulu Island Wastewater Treatment Plant

3. MCGLOUGHLIN POINT WASTEWATER TREATMENT PLANT

The McLoughlin Point Wastewater Treatment Plant (MPWWTP) is located at the south end of the Victoria View Road in Esquimalt (see [Figure 4](#) for the site location). The treatment plant will be highly automated requiring minimal employees for daily operations. The majority of the structures within the site will house equipment and tanks in the processing plant, with only the Operation and Maintenance (O&M) building occupied by staff. It is anticipated that approximately seven to ten FTE would staff the treatment plant from Monday to Friday and approximately four FTE at the weekend. The treatment plant has a gated secure perimeter that will be open to visitors during normal office hours. Four visitor parking spaces will be located near the building entrance. There is an education and interpretive centre within the facility, however will mainly be used as a training or boardroom for internal staff, as well as for presentations to invited school groups. To accommodate visiting school groups, a bus parking drop off is included on site.

The proposed gross area for the processing plant (machine and equipment) is 5755 m² and the floor area for the O&M building (occupants) is 2157 m². See [Figure 5](#) for the building layout within the site.



Figure 4: McLoughlin Point Wastewater Treatment Plant

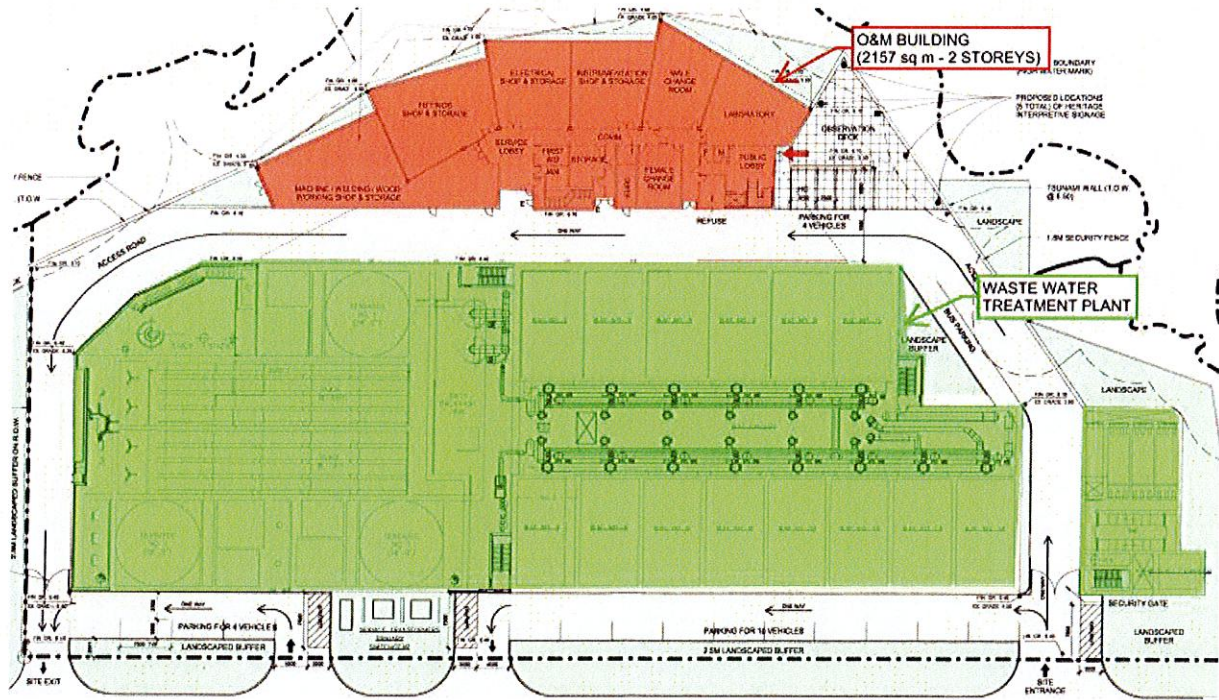


Figure 5: Building Layout

4. BYLAW PARKING REQUIREMENTS

Off-street parking requirements are outlined in the Corporation of The Township of Esquimalt's *Parking Bylaw 1992, Bylaw No. 2011 (May, 2003)*. Part 5, Section 13 (1), covers the provision of off-street parking spaces. These are determined based on the gross floor area of the use, building or structure. However, it is noted in Section 13 (2) that "If a use, building or Structure is not listed in Table 1, the number of spaces required shall be calculated on the basis of the most similar use that listed" and in section 13 (3) that "Unless otherwise provided in Table 1, if a development contains more than one use or involves collective parking for more than one building or use, the total number of spaces required shall be the sum of the various classes of uses calculated separately and any space required for one use shall not be included in the calculations for any other use."

As a result, the MPWWTP will need to be compared and assessed against the building or structure in the Bylaw.

The Use, Building or Structures that are listed in the Bylaws under section 13(1) are classified under five categories: Residential, Commercial, Industrial, Public Institutional, and Marine Commercial. The treatment plant is an industrial facility and therefore not applicable to the residential, commercial, public institutional or marine commercial categories. Refer to [Table 1](#) for the Off-Street Parking Assessment based on the provisions of the Bylaw related to industrial use.

Table 1: Off-Street Parking Assessment

Use, Building, or Structure	Required Parking Spaces (Bylaw No. 2011)	Total Parking Spaces Required	Assessment
INDUSTRIAL			
Warehouse - storage	1 space per 250 sq. m. gross floor area	9 spaces	Based on the O&M gross area of 2157m ² .
Warehouse- Wholesale outlet	1 space per 25 sq. m. gross floor area	87 spaces	Based on the O&M gross area of 2157m ² . Not applicable since the treatment plant is not a wholesale outlet facility.
Manufacturing - light	1 space per 100 sq. m. gross floor area	22 spaces	Based on the O&M gross area of 2157m ² . Not applicable since the treatment plant is not a manufacturing facility.
Manufacturing - heavy	1 space per 50 sq. m. site area	44 spaces	Based on the O&M gross area of 2157m ² . Not applicable since the treatment plant is not a manufacturing facility.
Other Industrial	1 space per 25 sq. m. gross floor area	87 spaces	Based on the O&M gross area of 2157m ² .

The treatment plant is largely an unoccupied facility with has large areas of unoccupied space for the storage and processing of sewage and a small designated office and workshop area for support staff in the O&M building.

Based on assessment, the MPWWTP is most similar to the Industrial "Warehouse –Storage" classification. The occupied space is only about 28% of the total gross area of the building. The treatment plant would not permit unauthorized access by the public, therefore any categories that relates to public access are not considered to be applicable. The O&M building will have operational staff (up to 10 FTE) with occasional visitors to the plant by invitation only.

5. OFF-STREET LOADING SPACES REQUIREMENTS

According to Part 6 - Loading Requirements in the Parking Bylaw No. 2011, under Section 14 (Table 4), Industrial zones with a total floor area between 2800 m² to 4200 m² are required to have three off-street loading spaces. The proposed loading space will be located adjacent to the processing plant building directly accessed from Victoria View Road. There are three designated off-street loading spaces for the treatment plant which meets the requirement of Section 14 (Table 4) and the location and design of the loading areas are compliant under Section 15. See Figure 6 for the locations of the loading spaces.

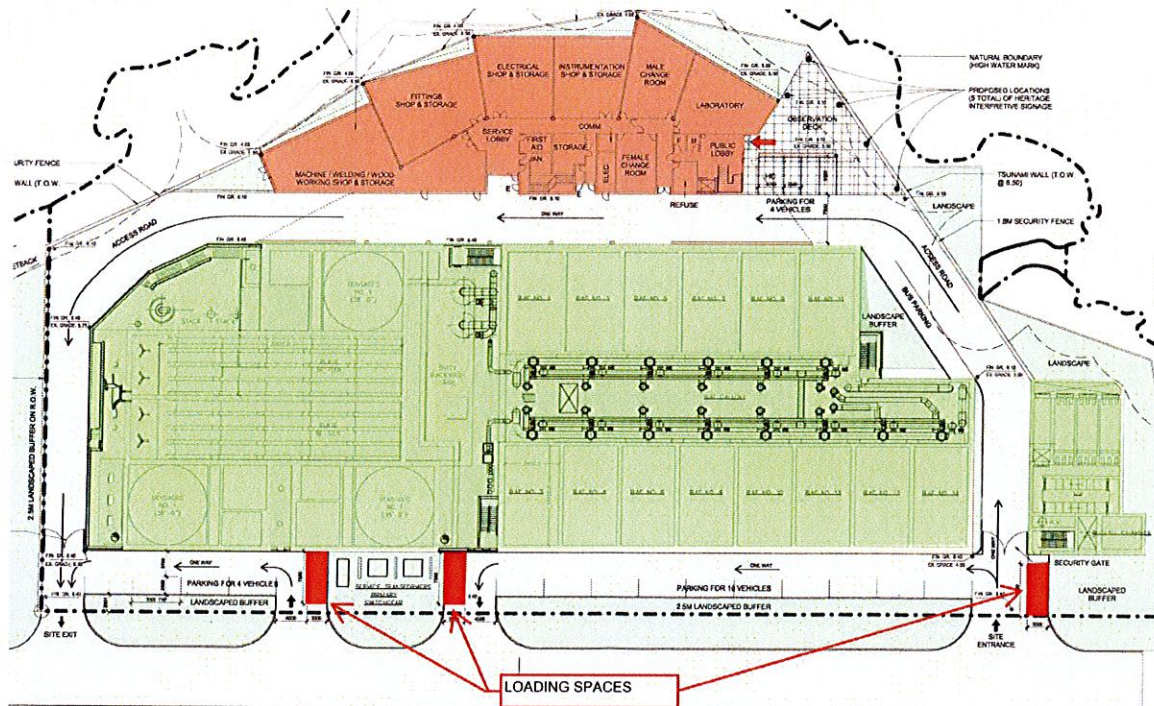


Figure 6 Loading Spaces

6. OFF-STREET DISABLED PARKING REQUIREMENTS

Per Section 12 in the Parking Bylaw No. 2011, "In any Development requiring 25 or more Parking Spaces, Disabled Persons' Parking Spaces shall be provided in a ratio of 1 for every 50 required Parking Spaces, plus 1 space for any remainder in excess of the required number of spaces divided by 50." A total of 18 standard parking spaces (including one disabled parking space) are proposed to be installed for the treatment plant.

Since the total proposed parking spaces are less than 25 spaces, it is interpreted that no disabled parking spaces are required for the treatment plant. However, one designated disabled parking space has been provided. See Figure 7 for the location of the disabled parking space.

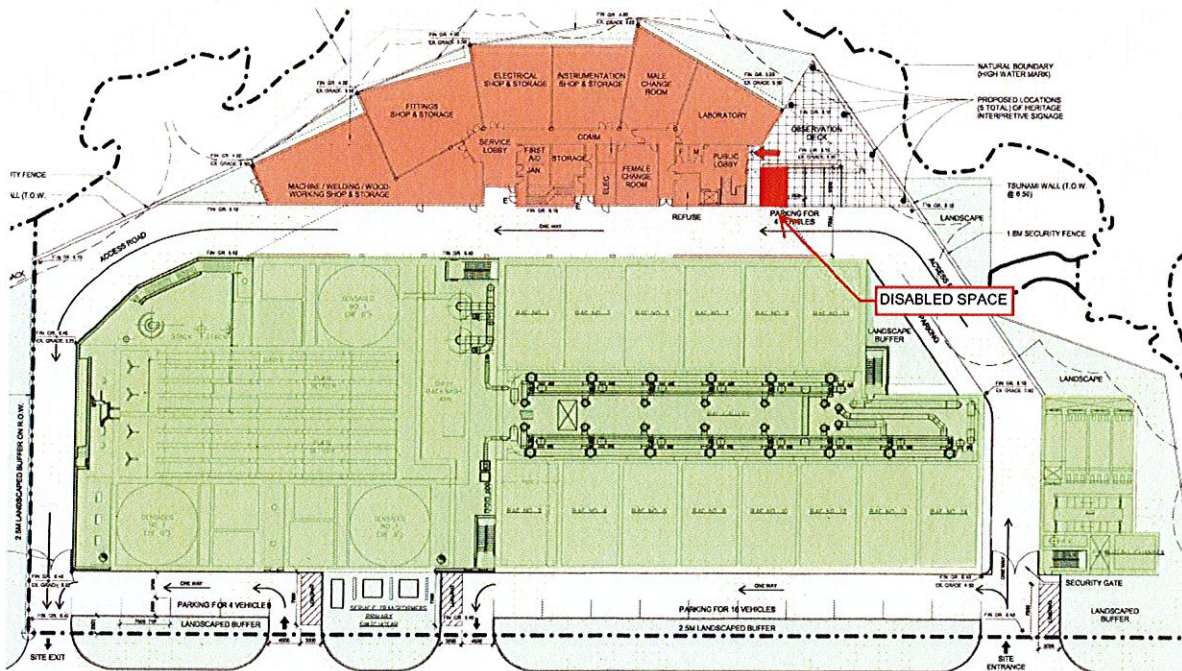


Figure 7: Disabled Space

7. SCHOOL BUS PARKING BAY

The education and interpretive centre within the O&M building will primarily be used for internal staff training and meetings, with a secondary use for presentations to invited school groups. Groups that are invited to the site are anticipated to arrive in a school bus. The facility has proposed a designated stall for bus parking. See Figure 8 for the location of the bus drop off location. Bus parking is anticipated to be off site.

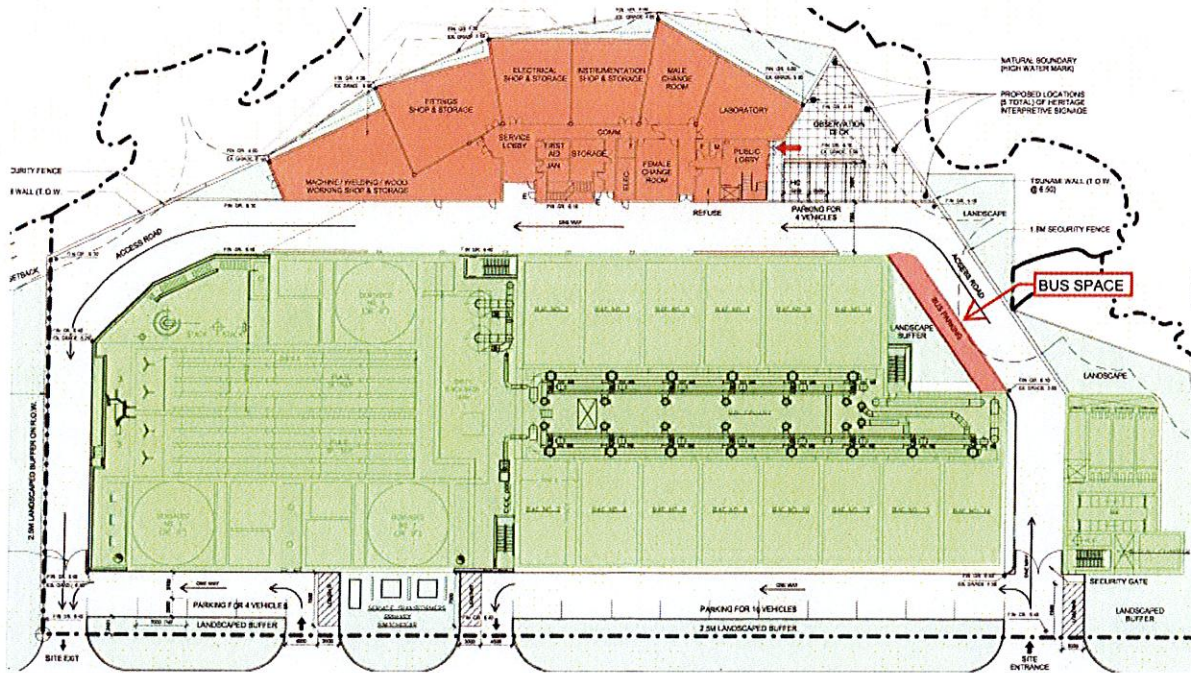


Figure 8 Bus Space

8. SUMMARY

Based on the review of the proposed staffing levels and the Parking Bylaws from the Township of Esquimalt, the proposed 18 off-street parking (including one disabled parking space) meet the needs of the facility and are consistent with the intent of the Bylaws. The MPWWTP will be a gated facility that does not permit public access to the site. It is not considered as a commercial development and is considered to be similar to a "Warehouse – Storage" per Bylaw usage categories. The anticipated FTE for the site is between seven and ten FTE during Monday to Fridays and up to four FTE on weekends. The proposed 18 off-street parking at MPWWTP provides adequate spaces for all expected demands, and is consistent with other wastewater treatment plants in the region.



McLoughlin Point Wastewater Treatment Plant

PROJECT TEAM

AECOM – Engineering 3292 Production Way Burnaby BC V5Z 4R4 - Ernie Maschner

Graham Construction 10840 27 Street SE Calgary AB T2Z 3R6 – Mark Livingston

HDR|CEI 203-655 Tyee Road Victoria BC V2A 6P6- Jim Mann

LADR Landscape Design 495 Dupplin Rd #2b, Victoria, BC V8z 1B8– Bev Windjack

DRAWING LIST - ARCHITECTURAL

SHEET NUMBER	SHEET NAME
A-0	COVER SHEET
A-1	ARCHITECTURAL ROOF PLAN
A-2	RETAINING WALL PLAN
A-3	LEVEL 1
A-4	LEVEL 2
A-5	BUILDING AND SITE SECTIONS
A-6	BUILDING ELEVATIONS
A-7	BUILDING ELEVATIONS 2
A-8	RENDERED VIEWS 1
A-9	RENDERED VIEWS 2

DRAWING LIST - CONSULTANTS

SHEET NUMBER	SHEET NAME
010057954-CNSK01-R00	PROPOSED BUILDING AVERAGE GRADES
L1	LANDSCAPE PLAN
L2	PLANT IMAGES
ML-B0-C-004	TRUCK TURNING AND PARKING PLAN
ML-B0-C-201	EARLY WORK AREA PLAN
ML-B0-E-002	ELECTRICAL SITE LIGHTING PLAN

Google Maps



PROJECT DATA			
SITE	LEGAL DESCRIPTION	CIVIC ADDRESS	NOTES
PROJECT LOT	LOT 1, SECTION 11, AND PART OF THE BED OF VICTORIA HARBOUR, ESQUIMALT DISTRICT, PLAN 36468		SECTION 11 ESQUIMALT DISTRICT
LOT AREA	14 213 m2		

ZONING ANALYSIS - McLOUGHLIN POINT SPECIAL USE [I-1]		
BONUS DENSITY LEVEL 3	PERMITTED	PROPOSED
FLOOR AREA	4500 m2	2157 m2
DENSITY (FAR)	0.35	0.15
LOT COVERAGE	75%	61%
MAX HEIGHT	15m	15m

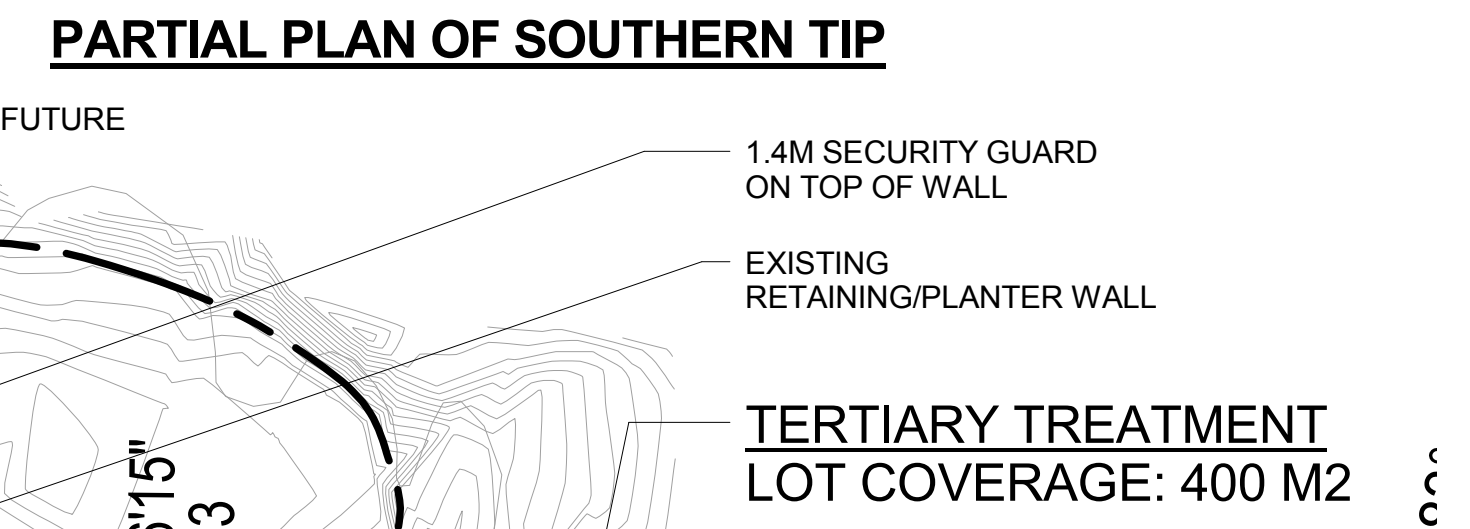
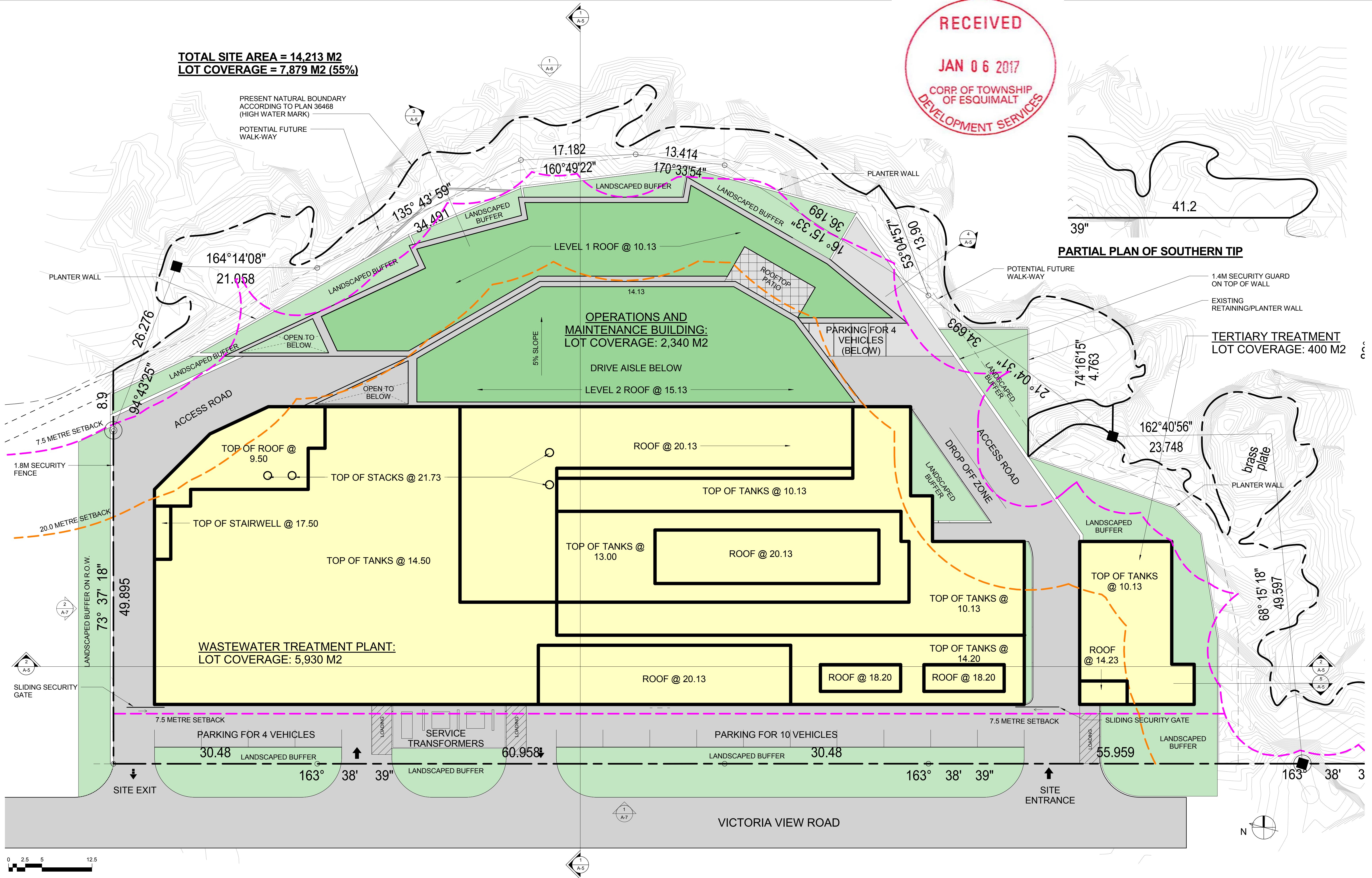
PARKING			
Parking requirements include			
SPACES AS DETERMINED BY AECOM OFF-STREET PARKING ASSESSMENT			
		TOTAL SPACES PROVIDED	SPACES FROM PARKING REPORT
STANDARD SPACE MIN. SIZES: 2.6 X 5.5 & 2.6 X 7.0		16	17
DISABLED SPACE MIN. SIZE:	1	1	1
ELECTRIC CAR CHARGING STATION STALLS MIN. SIZE:	n/a	1	0
SUBTOTAL		18	18
LOADING SPACE MIN. SIZE:	3m X 7.5m X 4.25h	3	3
# OF MOTORCYCLE STALLS PROVIDED			

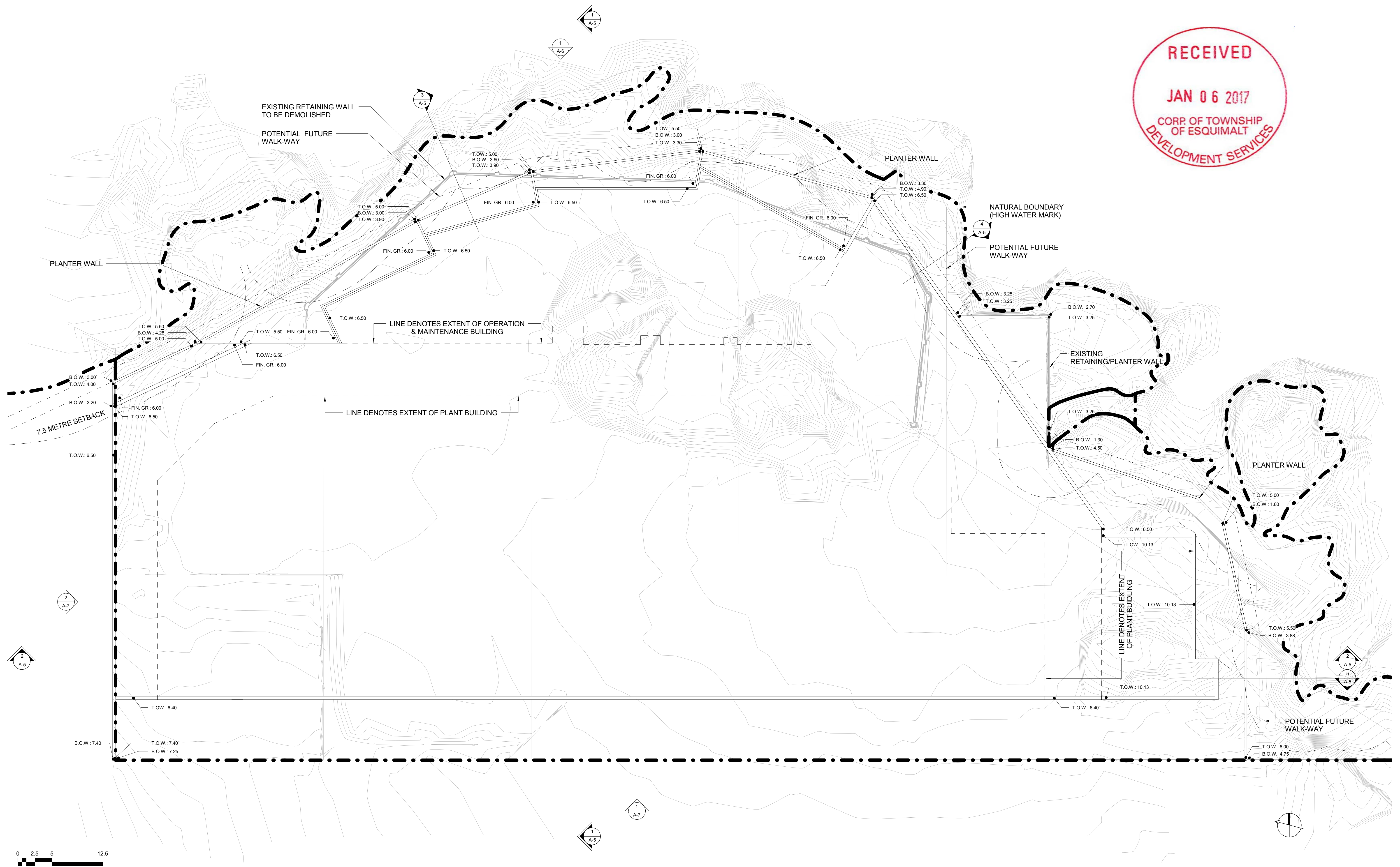
NOTES:



BUILDING DATA		
FLOOR	O & M (FLOOR AREA m²)	PROCESSING PLANT (GROSS m²)
LEVEL 1	1273 m2	PLANT NOT INCLUDED IN FLOOR AREA
LEVEL 2	884 m2	
TOTAL	2157 m2	
LOT COVERAGE	2140 m2	6330 m2 (INCLUDED IN LOT COVERAGE)

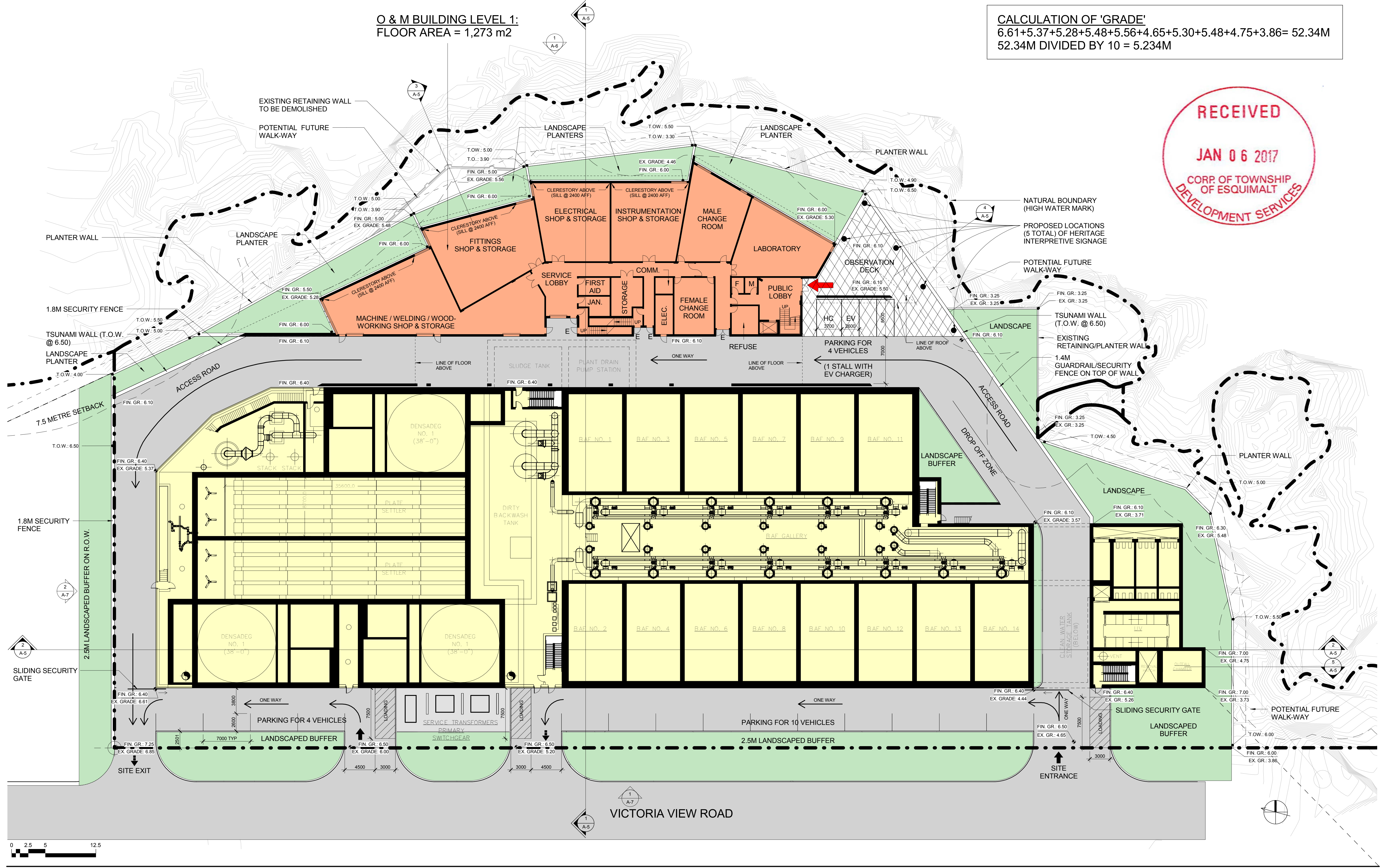
TOTAL SITE AREA = 14,213 M²
LOT COVERAGE = 7,879 M² (55%)

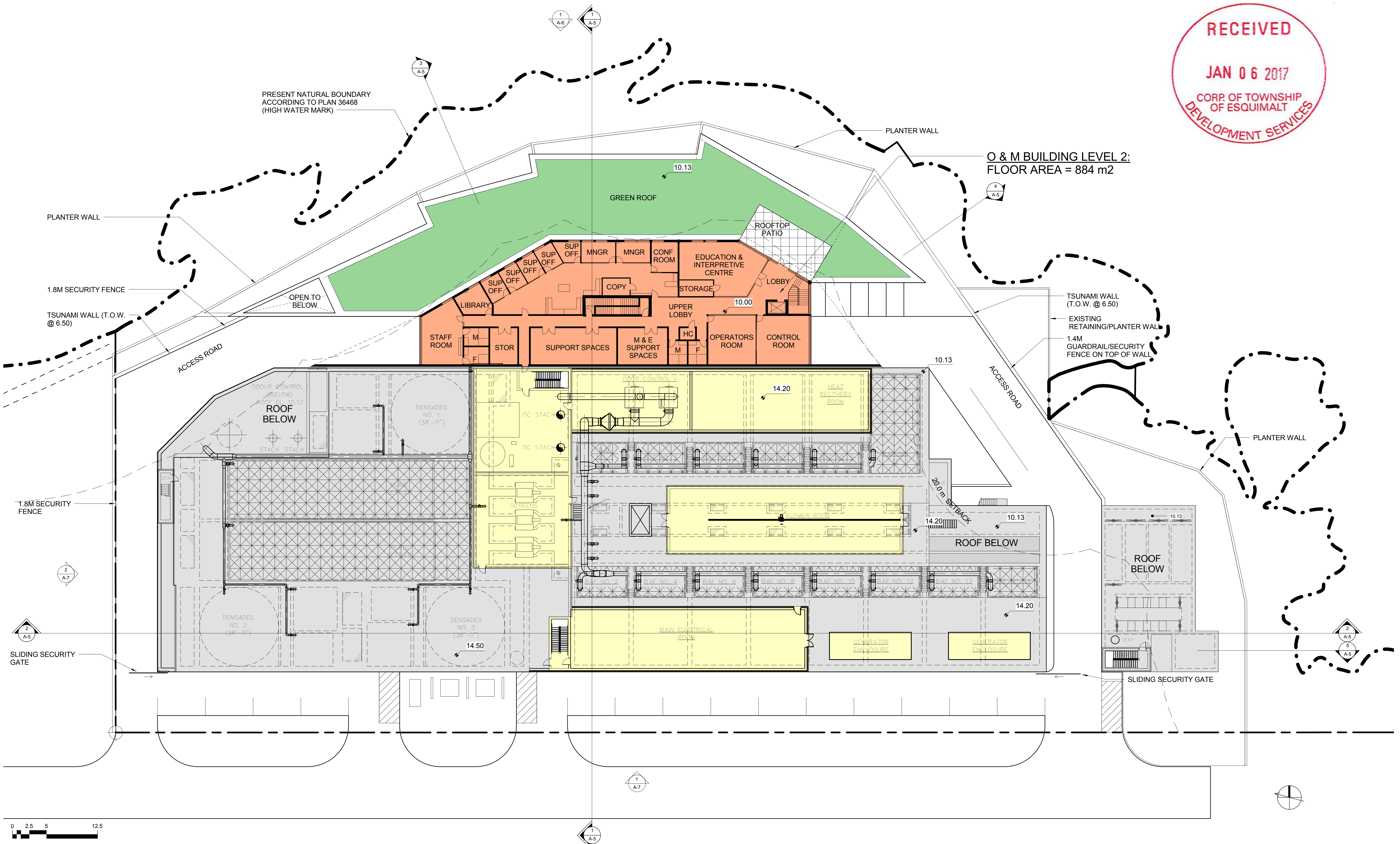




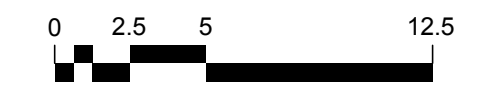
O & M BUILDING LEVEL 1:
FLOOR AREA = 1,273 m²

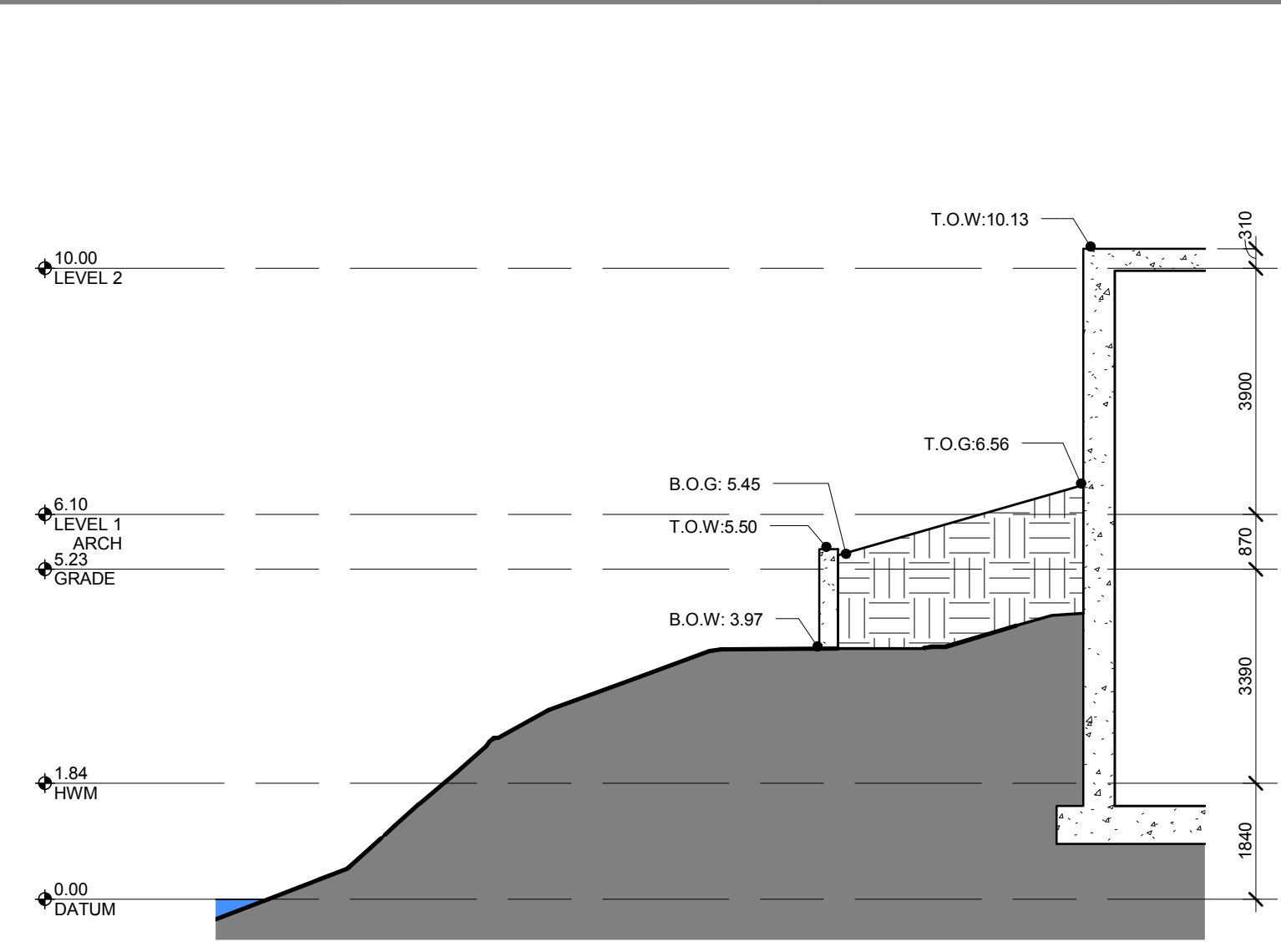
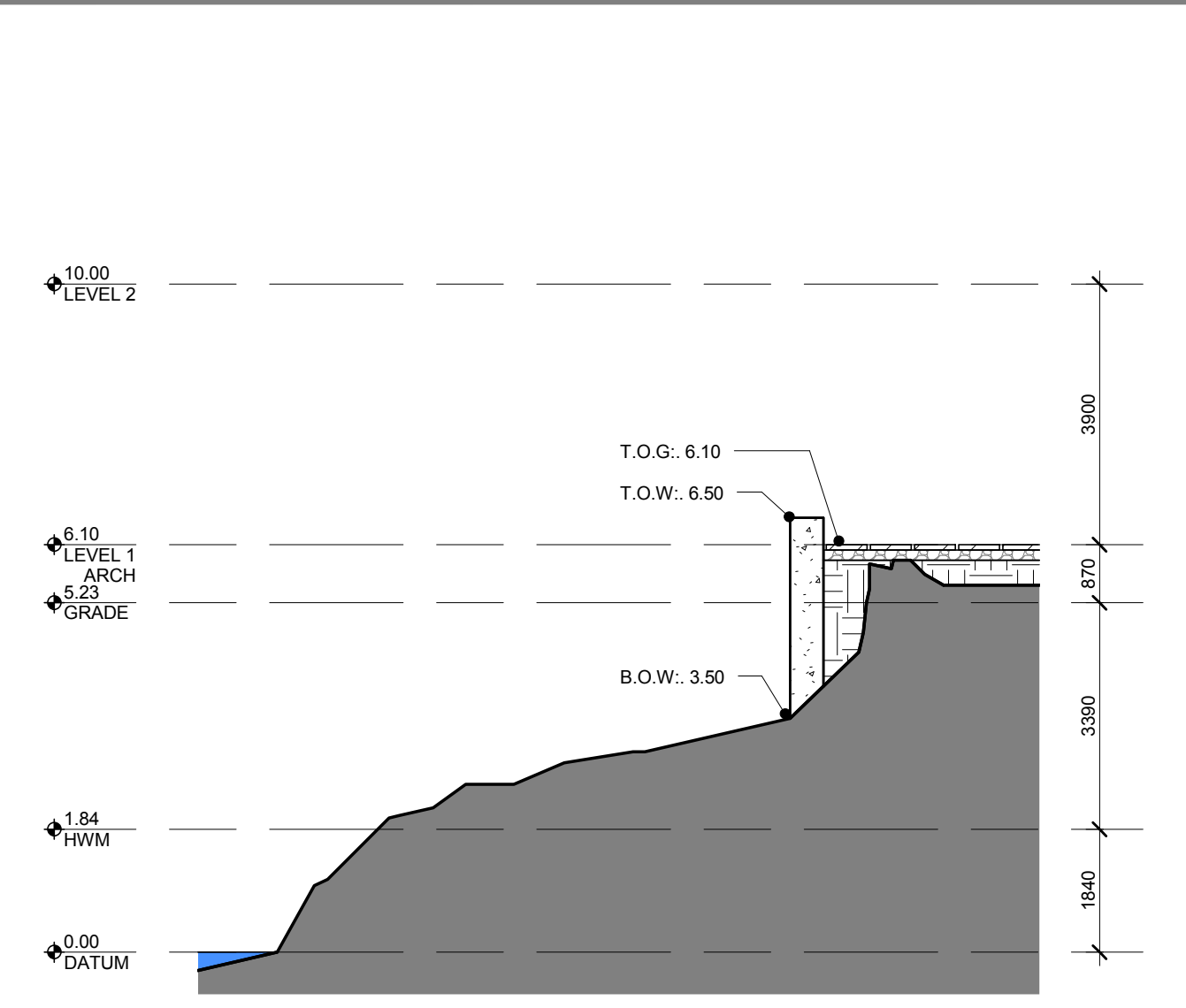
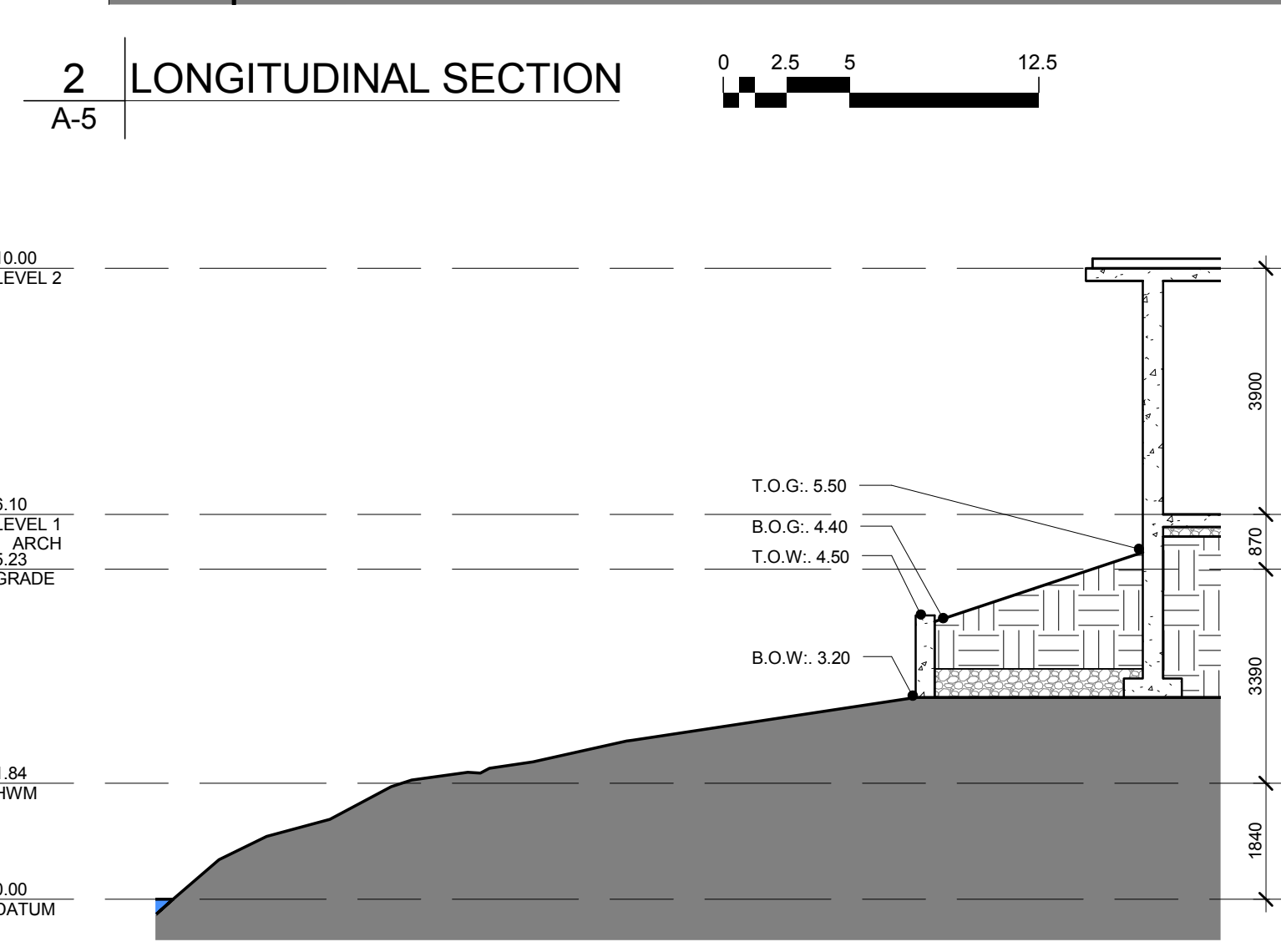
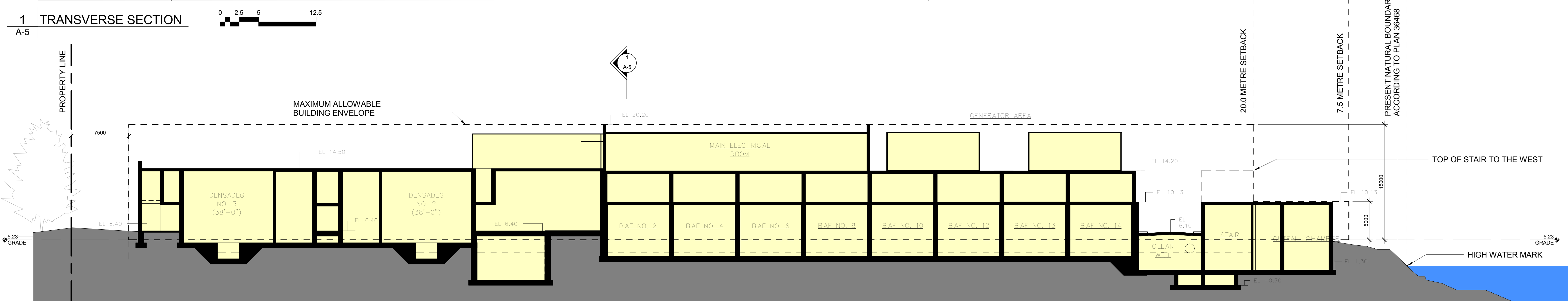
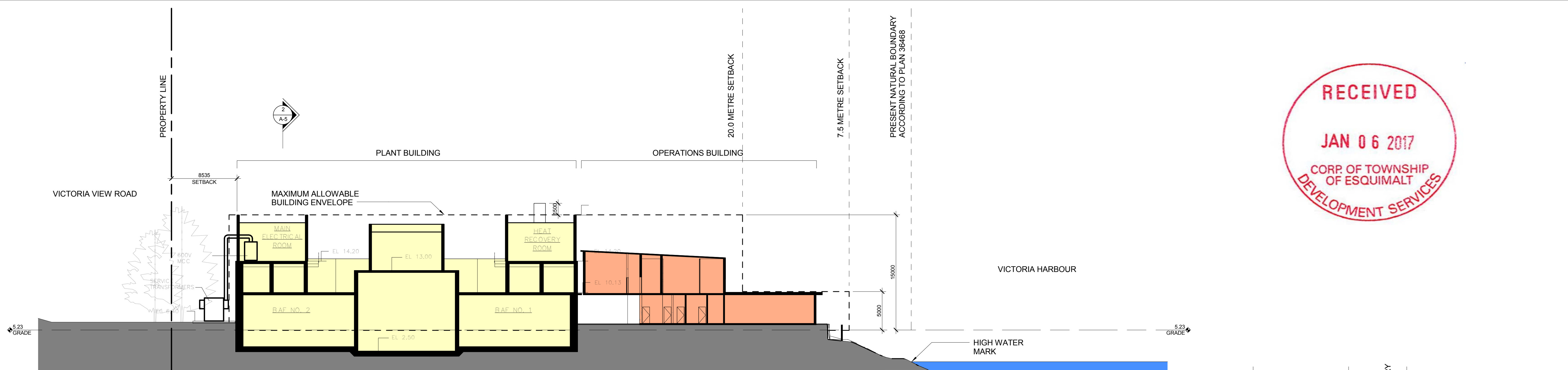
CALCULATION OF 'GRADE'
6.61+5.37+5.28+5.48+5.56+4.65+5.30+5.48+4.75+3.86= 52.34M
52.34M DIVIDED BY 10 = 5.234M





O & M BUILDING LEVEL 2:
FLOOR AREA = 884 m²







1 BUILDING ELEVATION - EAST
A-6



2 BUILDING ELEVATION - SOUTH
A-6



EXTERIOR ELEVATION KEY NOTES

GENERAL NOTES

1. ALL RETAINING WALLS TO RECEIVE A LIGHT SANDBLAST FINISH

1	CONCRETE - ARCHITECTURAL FINISH (SMOOTH)	6	MASONRY CLADDING - LIGHT	11	SEDUM MAT GREEN ROOF	16	SECURITY FENCE	21	PRE-PAINTED GENERATOR ENCLOSURE
2	CONCRETE - BOARDFORM (MEDIUM TEXTURE)	7	METAL PANEL CLADDING - DARK	12	LANDSCAPE ELEMENTS	17	INTERPRETIVE SIGNAGE		
3	CONCRETE - BOARDFORM (ROUGH TEXTURE)	8	METAL PANEL CLADDING - LIGHT	13	CLIMBING VEGETATION ON SCREEN ELEMENT	18	ODOR CONTROL STACKS - GALVANIZED METAL		
4	CONCRETE - PRECAST CONCRETE PANEL	9	WEATHERING STEEL PANEL	14	METAL BAR GRATE SCREEN	19	GLASS GUARD		
5	MASONRY CLADDING - DARK	10	GLAZING IN ALUMINUM FRAME	15	METAL BAR GRATE - SECURITY GATE	20	PIPE RAIL GUARD		

As indicated



1 BUILDING ELEVATION - WEST
A-7



2 BUILDING ELEVATION - NORTH
A-7

EXTERIOR ELEVATION KEY NOTES

GENERAL NOTES

1. ALL RETAINING WALLS TO RECEIVE A LIGHT SANDBLAST FINISH

1	CONCRETE - ARCHITECTURAL FINISH (SMOOTH)	6	MASONRY CLADDING - LIGHT	11	SEDUM MAT GREEN ROOF	16	SECURITY FENCE	21	PRE-PAINTED GENERATOR ENCLOSURE
2	CONCRETE - BOARDFORM (MEDIUM TEXTURE)	7	METAL PANEL CLADDING - DARK	12	LANDSCAPE ELEMENTS	17	INTERPRETIVE SIGNAGE		
3	CONCRETE - BOARDFORM (ROUGH TEXTURE)	8	METAL PANEL CLADDING - LIGHT	13	CLIMBING VEGETATION ON SCREEN ELEMENT	18	ODOR CONTROL STACKS - GALVANIZED METAL		
4	CONCRETE - PRECAST CONCRETE PANEL	9	WEATHERING STEEL PANEL	14	METAL BAR GRATE SCREEN	19	GLASS GUARD		
5	MASONRY CLADDING - DARK	10	GLAZING IN ALUMINUM FRAME	15	METAL BAR GRATE - SECURITY GATE	20	PIPE RAIL GUARD		



As indicated



AERIAL VIEW FROM SOUTH EAST



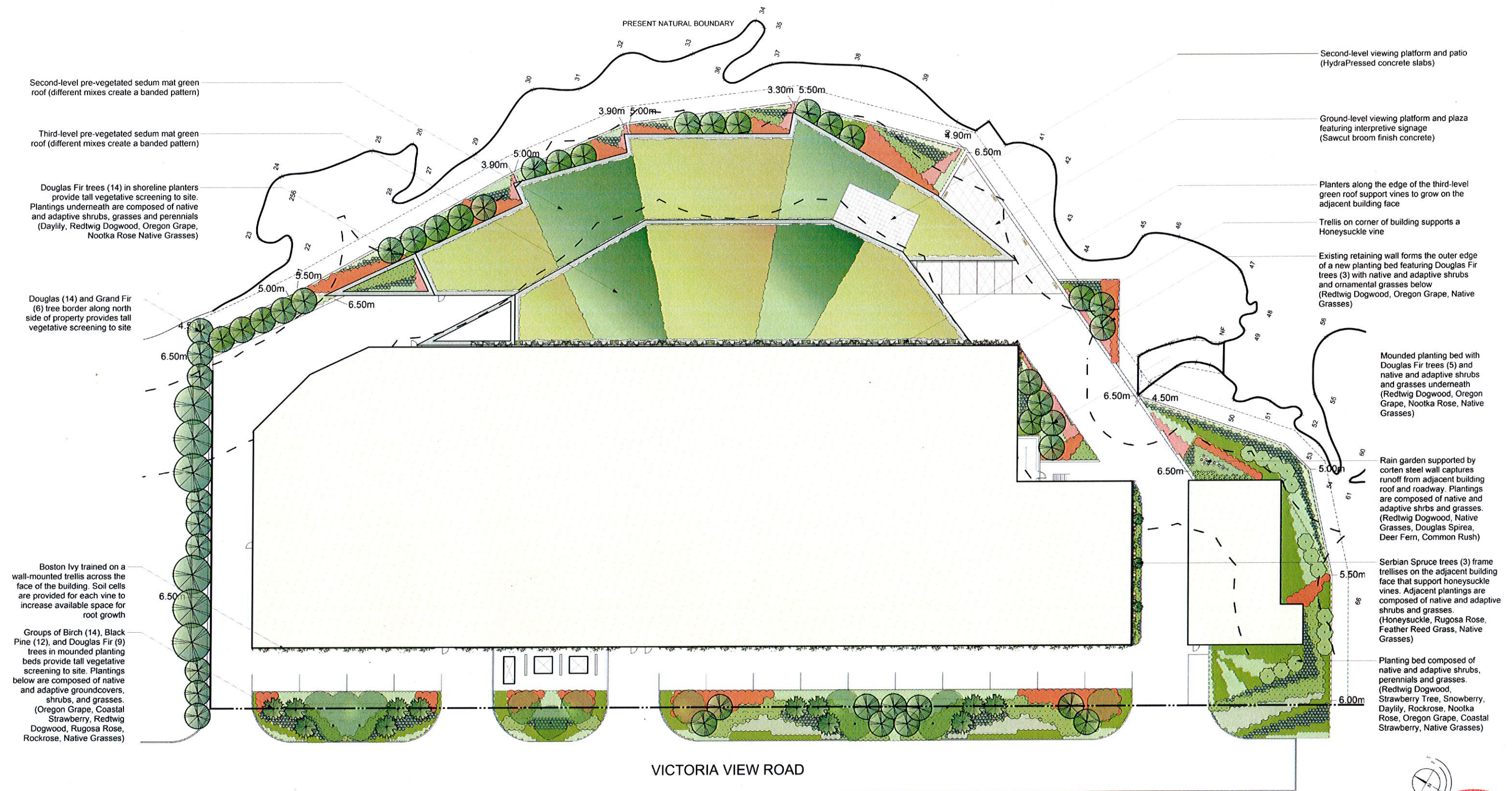
VIEW FROM OGDEN POINT



VIEW FROM SHOAL POINT



VIEW FROM SONGHEES WALKWAY



VICTORIA VIEW ROAD

Recommended Nursery Stock

Trees
Total: 78

Botanical Name	Common Name	Size
<i>Abies grandis</i>	Grand Fir	2m ht
<i>Betula jacquemonti</i>	Himalayan White Birch	6cm cal
<i>Picea omorika</i>	Serbian Spruce	2m ht
<i>Pinus nigra</i>	Black Pine	2m ht
<i>Pseudotsuga menziesii</i>	Douglas Fir	2m ht

Large Shrubs
Total: 14

Medium Shrubs
Total: 1404

Botanical Name	Common Name	Size
<i>Arbutus unedo</i>	Strawberry Tree	#5 pot
<i>Cistus x hybridus</i>	White Rockrose	#2 pot
<i>Cornus sericea 'Flaviramea'</i>	Midwinter Fire Dogwood	#3 pot
<i>Mahonia aquifolium</i>	Tall Oregon Grape	#3 pot
<i>Rosa nutkana</i>	Nootka Rose	#1 pot
<i>Spiraea douglasii</i>	Douglas Spirea	#1 pot
<i>Symphoricarpos albus</i>	Snowberry	#3 pot

Small Shrubs
Total: 2942

Perennials, Annuals and Ferns
Total: 1800

Botanical Name	Common Name	Size
<i>Cistus x hybridus</i>	White Rockrose	#2 pot
<i>Cornus stolonifera 'Kelsey'</i>	Kelsey Dogwood	#2 pot
<i>Mahonia nervosa</i>	Low Oregon Grape	#1 pot
<i>Mahonia repens</i>	Creeping Oregon Grape	#1 pot
<i>Calamagrostis x acutiflora 'Karl Foerster'</i>	Karl Foerster Feather Reed Grass	#1 pot
<i>Native grasses</i>	Native grasses	#1 pot
<i>Hemerocallis 'Stella de Oro'</i>	Stella de Oro Daylily	#1 pot
<i>Juncus effusus</i>	Common Rush	#1 pot
<i>Polyactidium maritimum</i>	Sword Fern	#1 pot

Groundcovers
Total: 335

Vines
Total: 44

Botanical Name	Common Name	Size
<i>Fragaria chiloensis</i>	Coastal Strawberry	#1 pot
<i>Lonicera periclymenum 'Belgica'</i>	Early Dutch Honeysuckle	#1 pot
<i>Parthenocissus tricuspidata 'Veitchii'</i>	Veitchii Boston Ivy	#1 pot

Green Roof

Prevegetated Sedum Mat

Notes:
 1. All work to be completed to current BCSLA Landscape Standards
 2. All soft landscape to be irrigated with an automatic irrigation system



MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT | LANDSCAPE PLAN



28-495 Dupplin Rd. Victoria B.C. V8Z 1B8
 Phone: (250) 598-0105 Fax: (250) 412-0696

RECEIVED
 DEC 20 2016
 CORP. OF TOWNSHIP
 OF ESQUIMALT
 DEVELOPMENT SERVICES



Yellowtwig Dogwood (*Cornus sericea* 'Flaviramea')



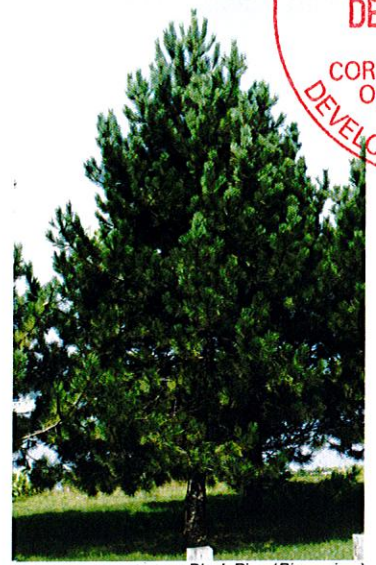
Mahonia nervosa (Low Oregon Grape)



Mahonia repens (Creeping Oregon Grape)



Grand Fir (*Abies grandis*)



Black Pine (*Pinus nigra*)



Tall Oregon Grape (*Mahonia aquifolium*)



Douglas Spirea (*Spiraea douglasii*)



Kelsey's Dwarf Redtwig Dogwood (*Cornus sericea* 'Kelseyi')



Common Rush (*Juncus effusus*)



Feather Reed Grass (*Calamagrostis x acutiflora* 'Karl Foerster')



Coastal Strawberry (*Fragaria chiloensis*)



Douglas Fir (*Pseudotsuga menziesii*)



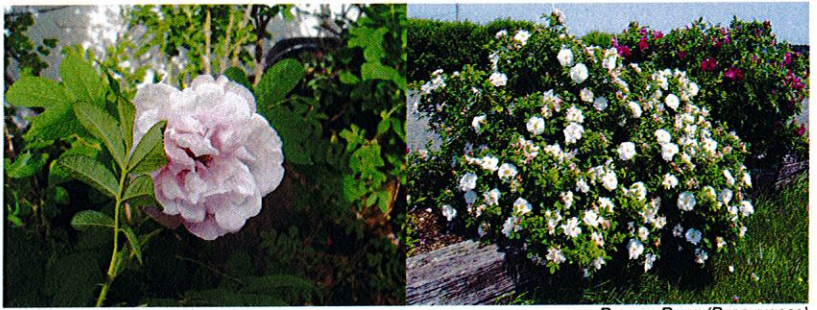
Himalayan White Birch (*Betula jacquemonti*)



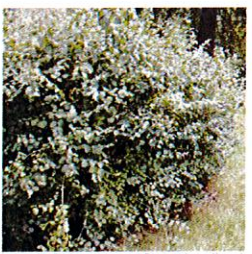
Boston Ivy (*Parthenocissus tricuspidata* 'Veitchii')



Dutch Honeysuckle (*Lonicera per.* 'Belgica')



Rugosa Rose (*Rosa rugosa*)



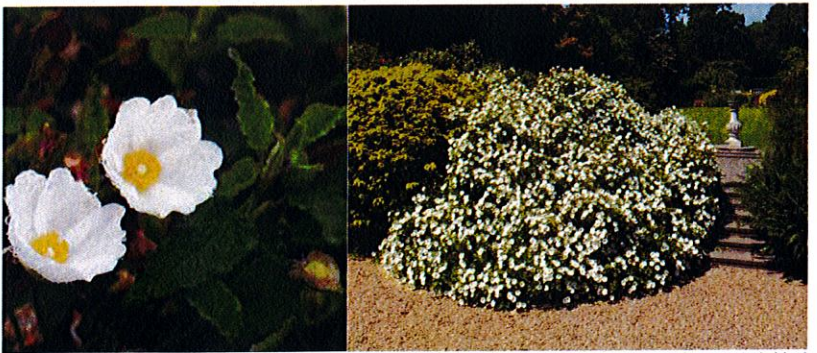
Snowberry (*Symph. albus*)



Sword Fern (*Poly. munitum*)



Dwarf Daylily (*Hemerocallis sp.*)



White Rockrose (*Cistus x hybridus*)



Strawberry Tree (*Arbutus unedo*)



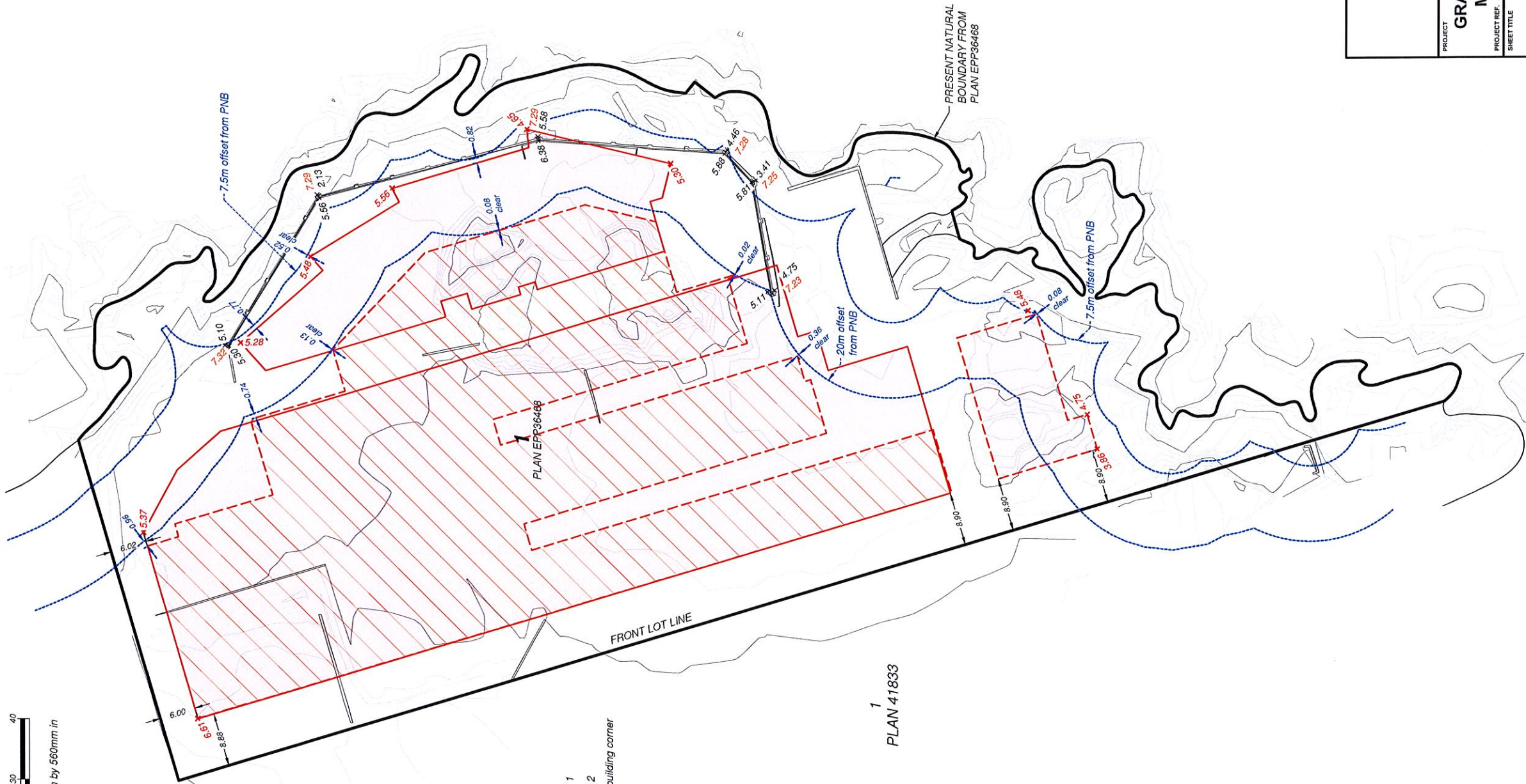
Serbian Spruce (*Picea omorika*)

MCCLOUGHLIN POINT WASTEWATER TREATMENT PLANT | PLANT IMAGES



The intended plot size of this plan is 432mm in width by 560mm in height (C size) when plotted at a scale of 1:500.

All distances are in metres and decimals thereof.



LEGEND

- denotes proposed building outline level 1
- denotes proposed building outline level 2
- x 5.21 denotes ground elevation at proposed building corner
- x 5.21 denotes ground elevation
- x 5.21 denotes top of retaining wall elevation
- denotes property line
- denotes setback from PNB

Contour interval = 0.5 m.

Elevations are derived from differential dual frequency GNSS observations to Esquimalt ACP (GCM #600411)

Elevations are to geoidic datum. To convert to chart datum, add 1.87m. (Chart Datum = -1.87m on this plan)

Vertical Datum CGVD28 (HTV2.0).

See Focus Drawing 010040904-CNS101-R01 for complete topographic survey.

Lot boundaries shown hereon are derived from Plan EPP36468.

Elevations at proposed building corners derived from field survey December 15, 2016

AVERAGE GRADE = 5.23

McLoughlin Point Special Use Zone [1-3] Siting Requirements
 Front Setback: 7.5m
 Exterior Side Setback: 4.5m
 High Water Mark Setback: 7.5m

VICTORIA HARBOUR

PRESENT NATURAL BOUNDARY FROM PLAN EPP36468

PLAN EPP36468

FRONT LOT LINE

PLAN 41833



WSP Surveys (BC) Limited Partnership
 #100-1000-1000-1000-1000
 1-250-474-1151 www.wspgroup.com

PROJECT
 GRAHAM CONSTRUCTION
 MCGLOUGHLIN POINT

PROJECT REF.
 SHEET TITLE
 PROPOSED BUILDINGS
 AVERAGE GRADES

DRAWN
 ME
 DATE
 2016-12-14
 CHECKED
 DK
 SCALE
 1:500

SHEET No.
 010057954-CNSK01-R00

Certified correct this 19th day of December, 2016
 David Kaczowka
 ECU455
 David J. Kaczowka, ECLS 957

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