

TO: Electoral Area Services Committee **DATE:** October 8, 2019

FROM: Greg Keller
Senior Planner **FILE:** PL2019-180

SUBJECT: **Floodplain Management Site-Specific Bylaw Exemption Application No. PL2019-180**
2516 Pylades Drive – Electoral Area A
Lot A, Section 7, Range 6, Cedar District, Plan EPP83626

RECOMMENDATION

That the Board approve Floodplain Bylaw Exemption Application No. PL2019-180 to permit the construction of a dwelling unit subject to the conditions outlined in Attachments 2 to 5.

SUMMARY

To consider a site-specific exemption pursuant to “Regional District of Nanaimo Floodplain Management Bylaw No. 1469, 2006 (Bylaw 1469) to permit a dwelling unit to be constructed at an elevation which is less than the Flood Construction Level (FCL) required by Bylaw 1469. The proposal from the applicant is to build at an elevation below the FCL and install the protective works at some time in the future. Bylaw 1469 requires that the protective works be identified and constructed to provide protection to the year 2100. As the protective works have been identified, the site-specific exemption could be approved provided the protective works are in place at the time of construction of the dwelling. If the protective works are not provided, then the requirements for a site-specific exemption have not been met and an exemption cannot be granted.

BACKGROUND

The Regional District of Nanaimo (RDN) has received an application from Seward Developments Ltd. on behalf of Stephen and Anne Cooper to permit the construction of a dwelling unit at an elevation which is less than the FCL required by Bylaw 1469. The subject property is approximately 1,600 m² in area and is zoned Residential 2 Zone (RS2), pursuant to “Regional District of Nanaimo Land Use and Subdivision Bylaw No. 500, 1987”. The property is located to the southeast of the Strait of Georgia and is adjacent to other residential properties (see Attachment 1 – Subject Property Map). The topography of the subject property slopes down from Pylades Drive towards a bedrock ridge formation located adjacent to the ocean the top of which varies in elevation from 4.2 metres to 4.5 metres geodetic. This bedrock ridge formation then slopes steeply down approximately 2.0 – 3.0 metres to the ocean.

The property currently contains an existing dwelling unit, boat ramp, and paved seating area. The existing dwelling unit is located on the west portion of the property approximately 8.0 metres from Pylades Drive at a ground elevation of approximately 5.2 metres geodetic. The applicants are proposing to decommission and convert the existing dwelling unit to an accessory building to allow for the construction of the proposed dwelling. The proposed dwelling unit is located on the east side of the subject property (nearest the ocean) with elevations which vary from approximately 3.1 metres to 4.4 metres geodetic at natural grade. In addition, the proposed dwelling unit is located approximately 6.5 metres from the top of the bank at its closest point.

Prior to submission of this application, the applicants have received three RDN approvals in relation to the development of the subject property as follows:

1. Board of Variance (BOV) Appeal No. PL2018-113 was approved on August 8, 2018, to reduce the minimum setback from the top of slope of 30% or greater adjacent to the sea from 8.0 metres to 6.5 metres to permit a portion of the deck to be constructed 1.5 metres into the setback.
2. Development Permit (DP) PL2018-053 was issued on September 18, 2018, to permit driveway access and boat ramp improvements. Note, the dwelling unit did not require a DP as it is located more than 15.0 metres from the natural boundary of the sea (outside of the Development Permit Area (DPA)).
3. BOV Appeal No. PL2019-017 was approved on May 8, 2019, to increase the dwelling unit height from 8.0 metres to 8.44 metres to address high groundwater levels which were unexpectedly discovered during excavation.

In addition to the above RDN approvals, Bylaw 1469 was amended on December 4, 2018, in recognition of the adoption of amendments to the Province of BC's Flood Hazard Area Land Use Management Guidelines (Provincial Guidelines) to incorporate sea level rise into planning and future development. Prior to the adoption of the amendments, Bylaw 1469 specified a standard FCL of 1.5 metres above the natural boundary for all coastal properties. Now that Bylaw 1469 incorporates sea level rise considerations, the FCL has increased in response. As a result, the previously designed dwelling unit does not meet the current FCL requirements.

The amendments to Bylaw 1469 were introduced for the Board's consideration after the applicant had obtained BOV Appeal PL2018-113 and DP PL2018-053. BOV Appeal PL2018-113 was approved after the adoption of the amendments to Bylaw 1469 (see Attachment 5 – RDN Approvals Timeline). It should be noted that Bylaw 1469 was amended while the project was late in the planning stages. Unlike subdivision applications which benefit from protection against bylaw amendments for a period of 12 months after a bylaw is adopted provided the subdivision application is received prior to adoption of the bylaw as per section 511 of *The Local Government Act*, building permit applications do not benefit from the same protections. Therefore, regardless of what previous efforts and applications have been made, the current floodplain management bylaw must be applied.

At the time of submitting the building permit application for the proposed dwelling unit in May 2019, it was discovered that the proposed dwelling unit had to be elevated more than the property owners anticipated to meet FCL. The applicants met with staff to discuss the possibility of construction of habitable space below FCL through the site-specific floodplain management

bylaw exemption process. The applicants were provided with copies of the applicable bylaw and policies and it was explained that all applications for site-specific floodplain management bylaw exemptions must be accompanied by an engineer's report certifying that the property is safe for the use intended and must satisfy the requirements outlined in Bylaw 1469. In an email to the applicant, staff advised that given the circumstances related to this property and the change in FCL due to amendments to Bylaw 1469 that if the engineering report reflected the requirements in the bylaw for a site specific floodplain management bylaw exemption for the construction of habitable space below FCL, that staff would recommend support.

In response, the property owners indicate that elevating the proposed dwelling unit to meet the required FCL is not possible given the proposed design and have submitted this floodplain management bylaw exemption application supported by a report by an engineering prepared with a professional with experience in floodplain and coastal management. .

Proposed Development

The proposal is to construct a dwelling unit with a proposed FCL (top of concrete slab) at an elevation of 3.65 metres geodetic (see Attachment 3 – Site Plan and Attachment 4 – Building Elevations). As the proposed FCL is approximately 1.0 metre less than what has been identified by the applicants' engineer, a site-specific exemption is required. As the proposed dwelling unit is located outside of the Marine Coast DPA, and the applicants have demonstrated an exemption from the Yellowpoint Aquifer Protection DPA, a DP is not required.

Land Use and Development Implications

Bylaw 1469 provides the ability for an applicant to apply for a site-specific exemption to allow a property to be developed in a way which is inconsistent with the bylaw.

To apply for an exemption, applicants must provide the information required by Bylaw 1469, which includes submission of a report from a Professional Engineer or Geoscientist to certify that the property can be safely used for the intended use. In addition, the report must certify protection from sea level rise to the year 2100 and a section 219 covenant must be registered respecting the use and development of the land including an indemnity in favour of the RDN (see Attachment 2 – Conditions of Approval).

In support of this application, the applicants have submitted a Geotechnical Assessment – Flood Construction Level prepared by Ryzuk Geotechnical Engineering & Materials Testing dated September 5, 2019, (Assessment). The Assessment specifies an FCL of 4.65 metres geodetic is applicable based on the methodology outlined in the Provincial Guidelines for Management of Coastal Flood Hazard Land Use.

The Assessment indicates that it is safe to build at an elevation of 3.5 metres geodetic based on the assumption that sea level rise is foreseeable and the public has sufficient time to protect themselves and their assets before inundation would occur. The Assessment confirms the presence of a bedrock ridge that protects the subject property from coastal erosion and regression as well as inundation up to an elevation of 4.2 metres geodetic. In recognition that the lowest elevation of the ridge is less than the established FCL (4.65 metres geodetic), the Assessment states that it may be necessary, at some time during the anticipated lifespan of the proposed dwelling unit (50 to 75 years), to design and construct a seawall up to an elevation of 4.65 metres geodetic tying into the higher elevation rock to the north and south, or to raise the dwelling unit to meet the 4.65 metre FCL.

To comply with the required 4.65 metre FCL, the top of the concrete slab of the proposed dwelling unit would have to be elevated approximately 1.25 to 1.55 metres above natural grade or alternatively could be constructed at natural grade without being elevated on land located above FCL in the location of the existing dwelling unit (proposed accessory building). The applicants are proposing to build at an elevation of 3.65 metres geodetic which requires the top of the concrete slab to be elevated by approximately 0.25 to 0.55 metres from natural grade. Elevating the proposed dwelling unit to meet FCL is consistent with what would be expected on other coastal properties and is not anticipated to unreasonably hinder development of the property.

In accordance with Section 20(b) of Bylaw 1469, site-specific floodplain bylaw exemptions must certify protection from sea level rise to the year 2100. Bylaw 1469 requires that protective works be identified and constructed to provide protection to the year 2100. Construction of the seawall, concurrently with the proposed dwelling unit, is required to satisfy the requirements of Bylaw 1469. Therefore, support for the proposed site-specific floodplain management bylaw exemption is subject to construction of the seawall concurrently with construction of the proposed dwelling unit. Without the seawall being constructed concurrently, the proposal does not meet the site-specific exemption criteria in Bylaw 1469.

It should be noted that the applicants are opposed to constructing a seawall and to raising the proposed dwelling unit to the recommended 4.65 metre geodetic FCL at this time.

In relation to the seawall, the applicants have not provided a site plan, engineered drawings, or an assessment of potential impacts on adjacent properties at this time. However, based on available elevation data for the site, it is anticipated that the seawall would be less than 1.0 metre in height and would not be considered a structure subject to minimum setback requirements. The seawall could be located outside of the Marine Coast DPA, limiting potential impacts to neighbouring properties and minimizing potential environmental impacts.

“Board Policy B1.5 Development Variance Permit, Development Permit with Variance and Floodplain Exemption Application Evaluation” for evaluation of Floodplain Bylaw Exemption Applications (Policy B1.5) requires that the proposed exemption is necessary and that it be supported by an adequate demonstration of an acceptable land use justification prior to the Board's consideration. In this case, the applicant must demonstrate that the following be consistent with the policy:

- there are no other practical building sites located on the subject property;
- the applicant has exhausted all other options including variances; or,
- it is not practical to develop the subject property without an exemption.

In order to address Policy B1.5, the applicant cites unique topography and site constraints. The applicant has not provided adequate justification in support of the exemption as there are other practical building sites located on the subject property and dwelling unit height is not impacted by FCL. Further, based on other examples of residential development on coastal properties, it has been shown that it is possible to develop a coastal property without an exemption.

Despite the application not being consistent with Policy B1.5 as proposed, constructing a seawall would protect against the potential impacts of sea level rise until the year 2100. The recommended works satisfy the intent of the policy by minimizing potential for flood damages

during the anticipated lifespan of the dwelling unit. Based on the above, the applicants have made reasonable efforts to address Policy B1.5.

While the proposed dwelling unit could be constructed in accordance with Bylaw 1469, the applicants have confirmed that the property can be used safely for the use intended provided mitigative actions are taken. A seawall as identified in the geotechnical assessment would provide protection to the proposed dwelling unit until the year 2100. Although the FCL has been identified and the protective works have been identified constructing the house below FCL without the protective works in place does not meet the requirements for a site specific exemption. The application can be approved if the protective measures are taken. The recommendation is for the Board to approve the requested Floodplain Bylaw Exemption subject to construction of the seawall.

ALTERNATIVES

1. To deny Floodplain Management Bylaw Exemption Application No. PL2019-180.
2. To approve Floodplain Management Bylaw Exemption Application No. PL2019-180 in accordance with Bylaw 1469 with protective works that will provide protection from sea level rise to the year 2100.
3. To approve Floodplain Management Bylaw Exemption Application No. PL2019-180 as requested.

FINANCIAL IMPLICATIONS

The proposed development has no implications related to the Board 2019 – 2023 Financial Plan.

STRATEGIC PLAN IMPLICATIONS

Goal 1 “Climate Change” recommends immediate actions towards adaptation and mitigation. The requirement to raise the dwelling unit or construct a sea wall is consistent with this goal as it will help mitigate the impacts of climate change and sea level rise.



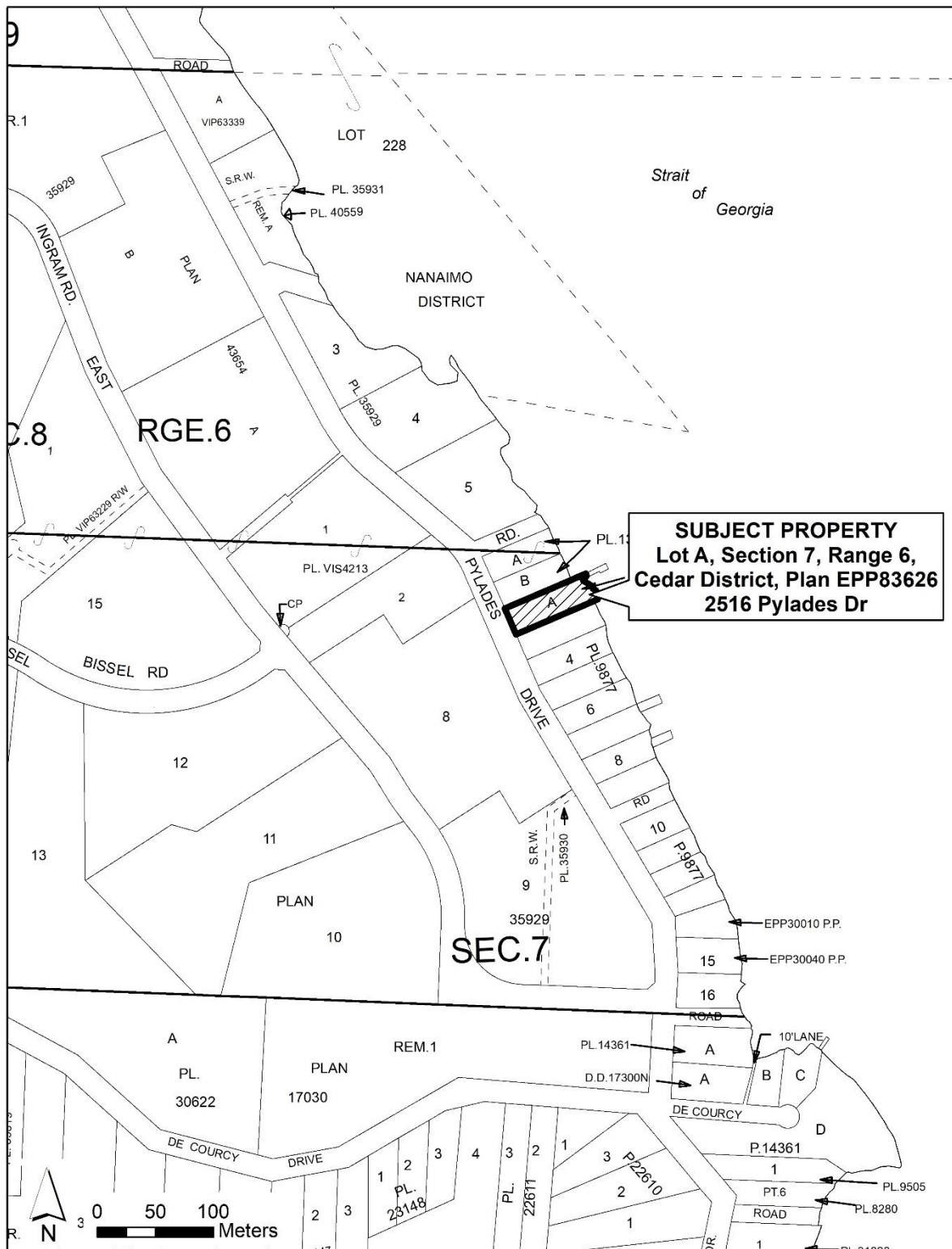
Greg Keller
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September 24, 2019

Reviewed by:

- P. Thompson, Manager, Current Planning
- G. Garbutt, General Manager, Strategic & Community Development
- P. Carlyle, Chief Administrative Officer

Attachments

1. Subject Property Map
2. Conditions of Approval
3. Site Plan
4. Building Elevations
5. Summary of RDN Approvals Timeline



Attachment 2 Conditions of Approval

Conditions of Approval

The Following is to be completed to the satisfaction of the RDN prior to the issuance of a building permit for the proposed dwelling unit.

1. The Permittee shall, at the applicant's expense, and to the satisfaction of the RDN, register a Section 219 Covenant respecting the use and development of the land on the property title containing the Geotechnical Hazard Assessment prepared by Ryzuk Geotechnical Engineering & Materials Testing, dated September 5, 2019, to include an indemnity in favour of the RDN to indemnify and save harmless the RDN against any loss or damage with respect to the flooding to the property, or flood damage to the land, structures and contents thereof, or any injury (including death) to any person or animal arising from the flooding of the property or flood damage to the land.
2. With respect to the seawall, the Permittee shall, at the Permittee's expense, and to the satisfaction of the RDN, submit a site plan prepared by a BC Land Surveyor, engineered drawings of the required seawall, and an assessment of potential impacts on adjacent properties.

The Following is to be completed to the satisfaction of the RDN prior to occupancy of the proposed dwelling unit.

The Permittee shall, at the Permittee's cost and to the satisfaction of the RDN construct a seawall, to the design specifications and location agreed to in number 2 above, prior to the issuance of occupancy, to a minimum elevation of 4.65 metres geodetic.

General Conditions

1. The Lands are developed in accordance with the Site Plan prepared by Island Timberframe, dated March 22, 2018 and attached as Attachment 3.
2. The Lands shall be developed in general compliance with the plans and elevations prepared by Island Timberframe, dated March 22, 2018 and attached as Attachment 3.

Attachment 3 (Page 1 of 2)

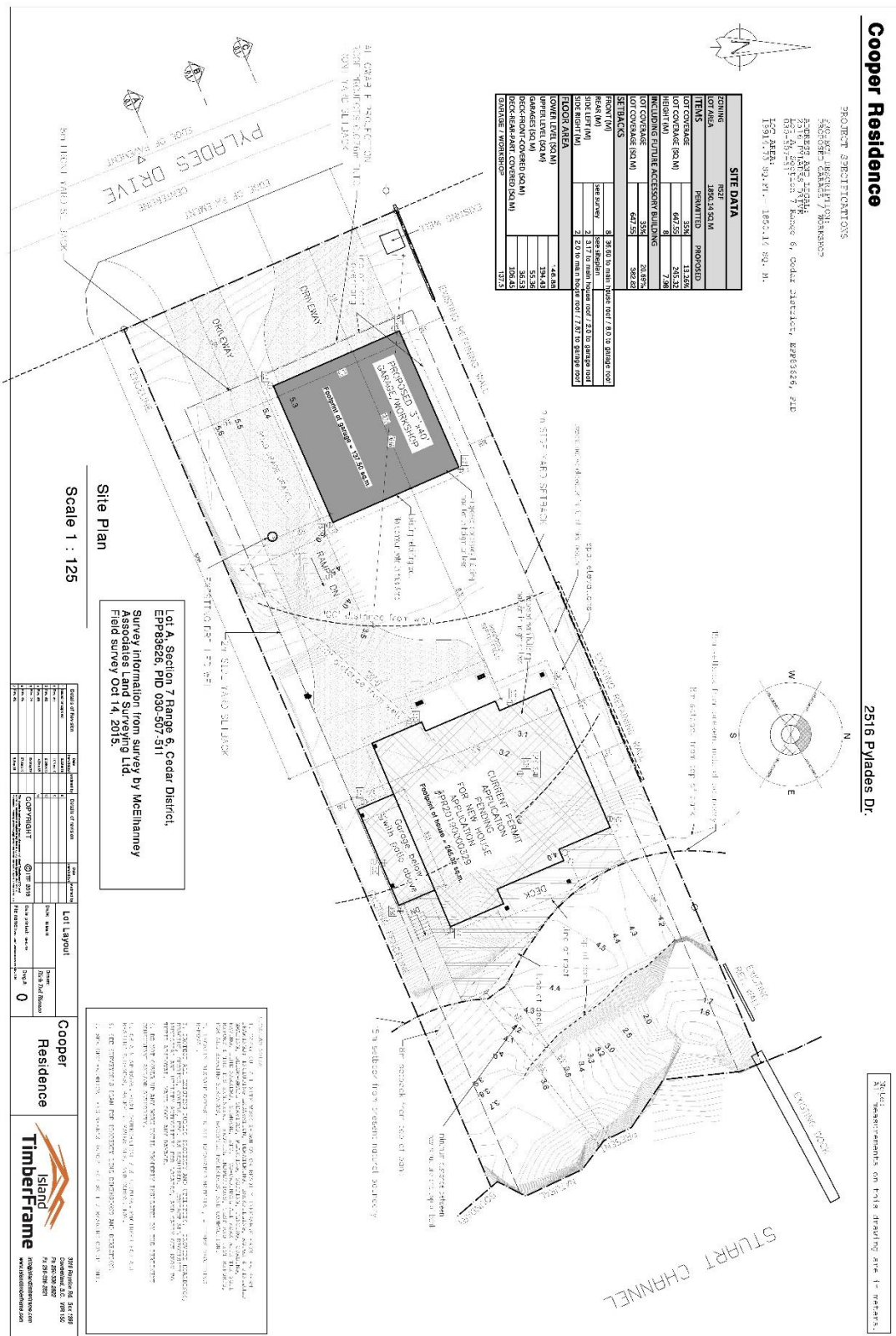
Site Plan

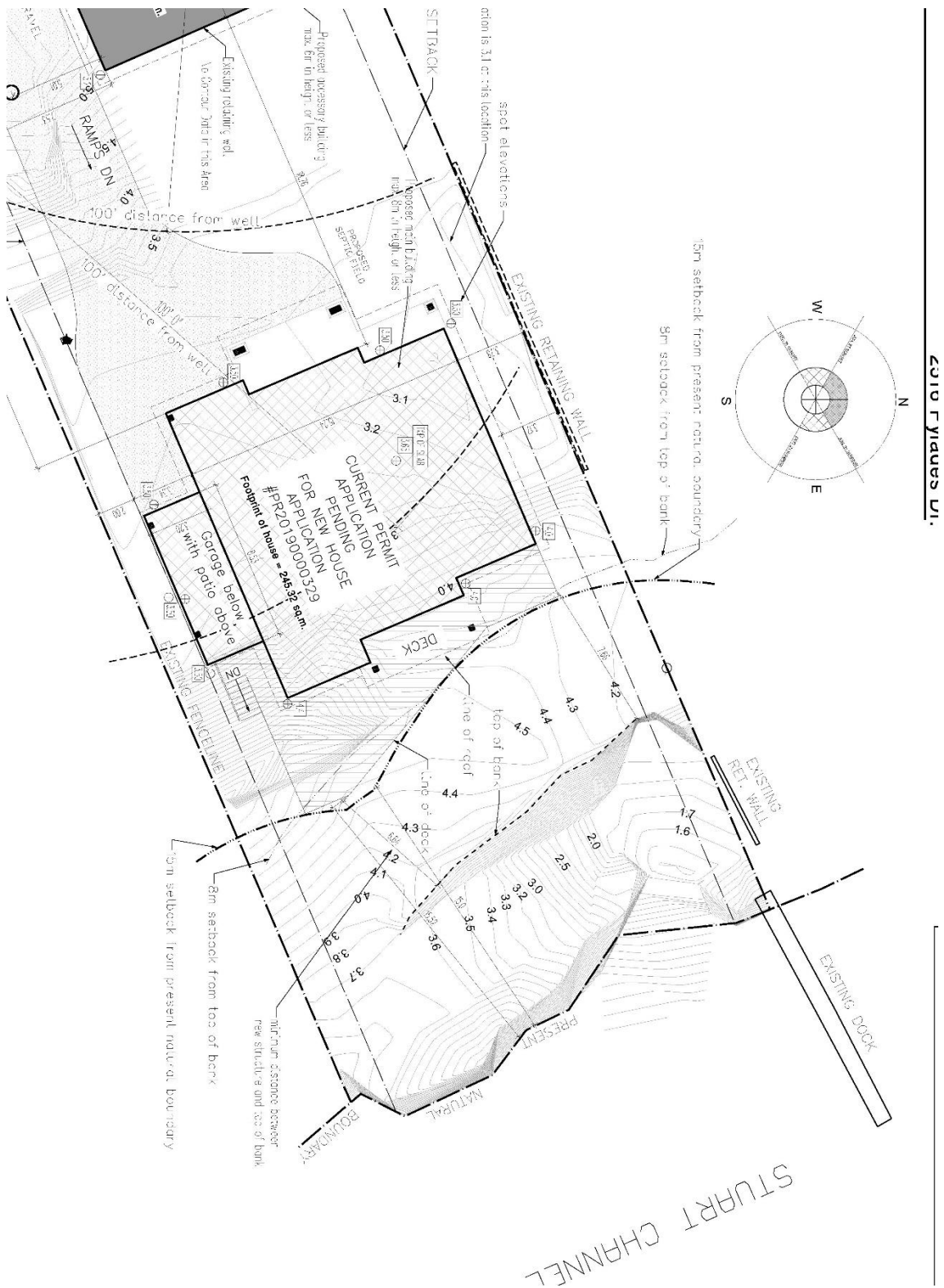
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PROJECT SPECIFICATIONS

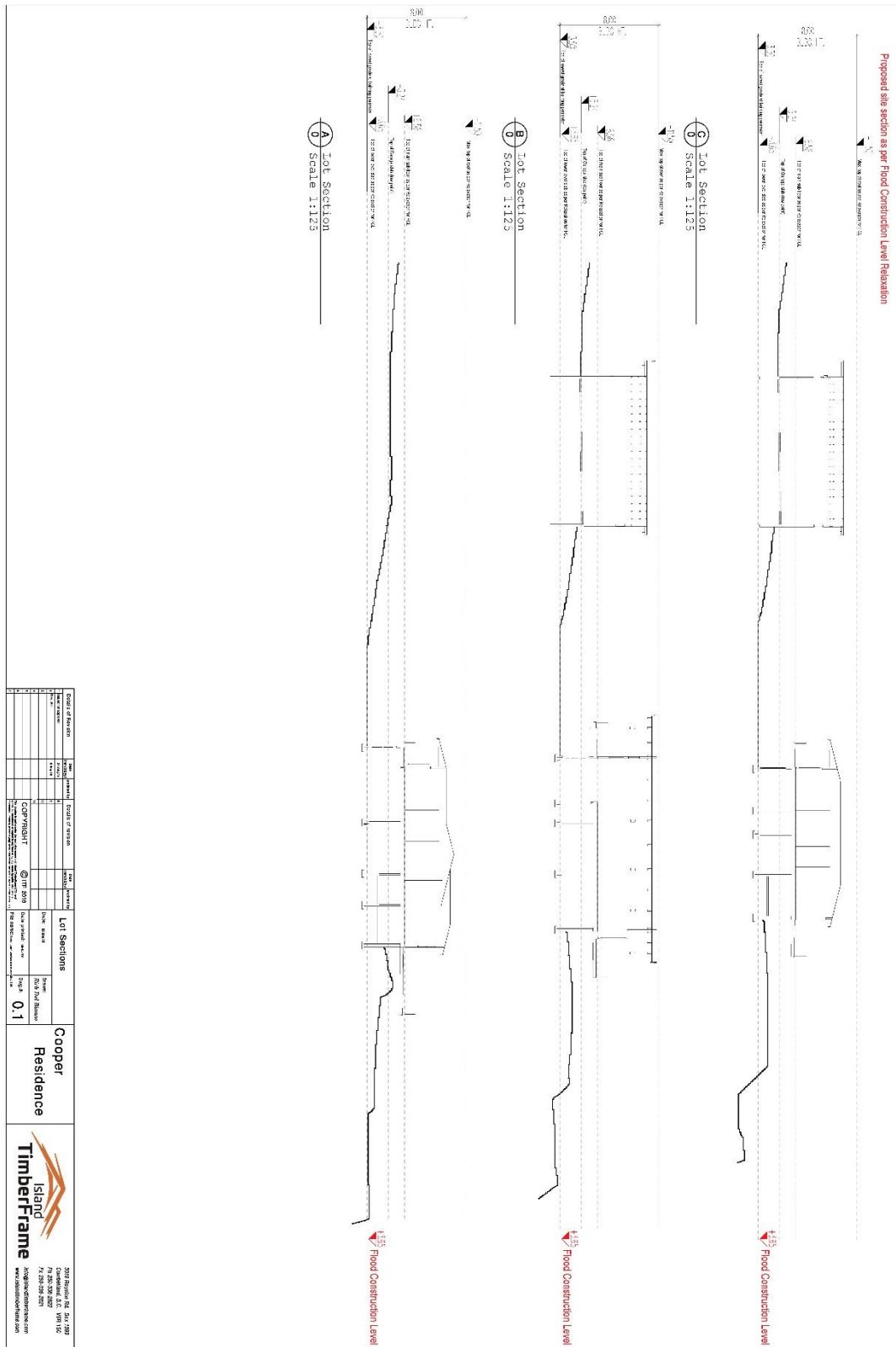
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ACTIVE	NSF	
NET AREA	386.15 SQ.M	
PERMITTED	790000340	
LOT COVERAGE	64.155	
LOT COVERAGE (SQ.M)	354.32	
HEIGHT (M)	7.48	
INCLUDING FUTURE ACCESSORY BUILDING	35.54	28.87
LOT COVERAGE (SQ.M)	64.155	382.82
SERVICES		
FRONT (M)	8	26.10 to main road
REAR (M)	8	26.10 to main road
DEPT (M)	3	26.10 to main road
DEPT (M)	2.0 to min. in future	17.87 to 20.39 side
FLOOR AREA		
LOWER LEVEL (SQ.M)		146.48
UPPER LEVEL (SQ.M)		339.43
GARAGE (SQ.M)		55.36
DECK/PAVEMENT COVERED (SQ.M)		382.43
DECK/PAVEMENT UNCOVERED (SQ.M)		382.43
LOT TOTAL COVERAGE		1771



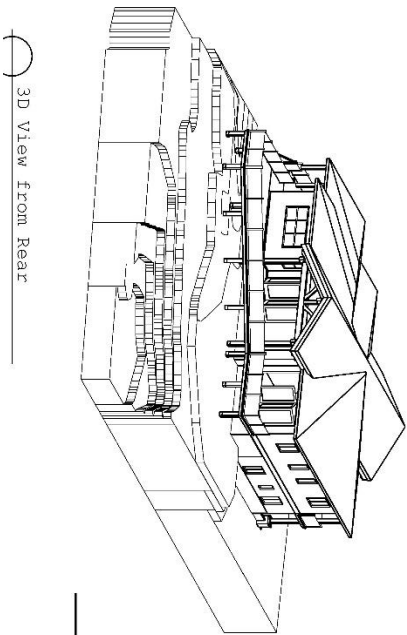


Attachment 4 (Page 1 of 3)
Building Elevations – Cross Sections

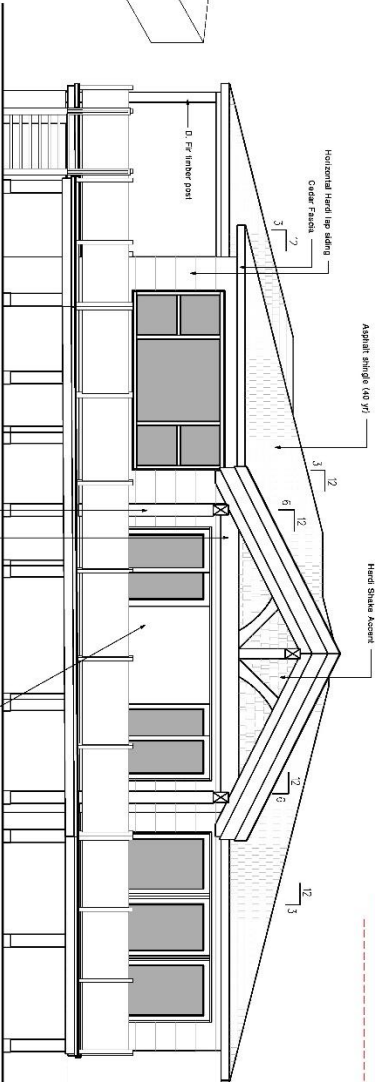


Attachment 4 (Page 2 of 3)
Building Elevations – Enlarged for Convenience

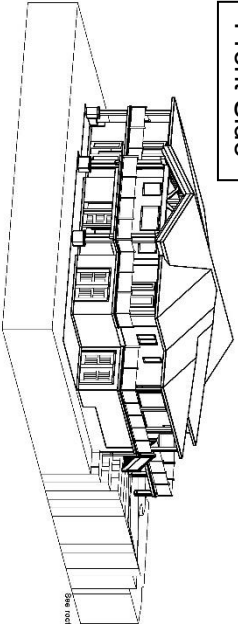
Back Side



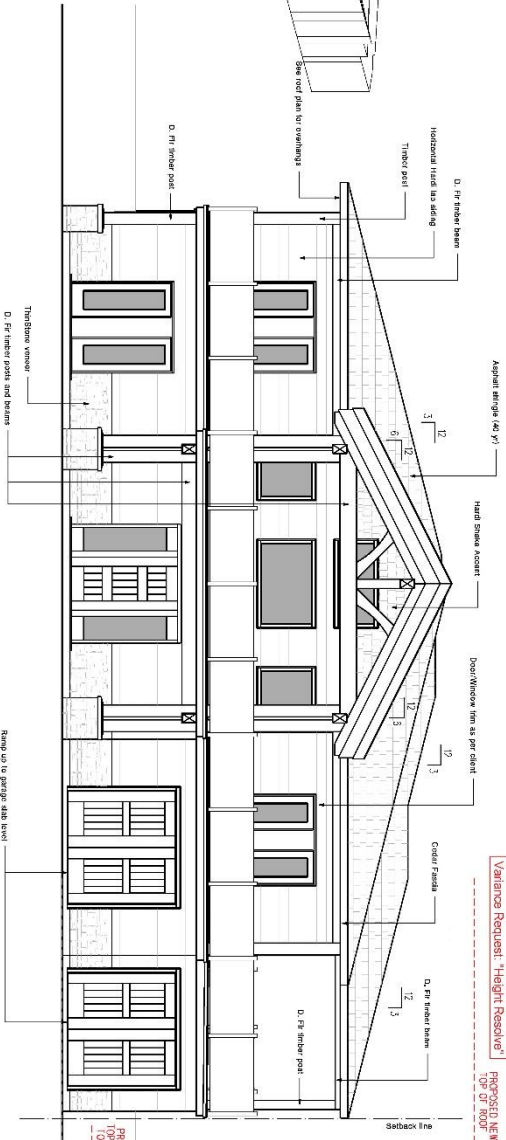
3D View from Rear



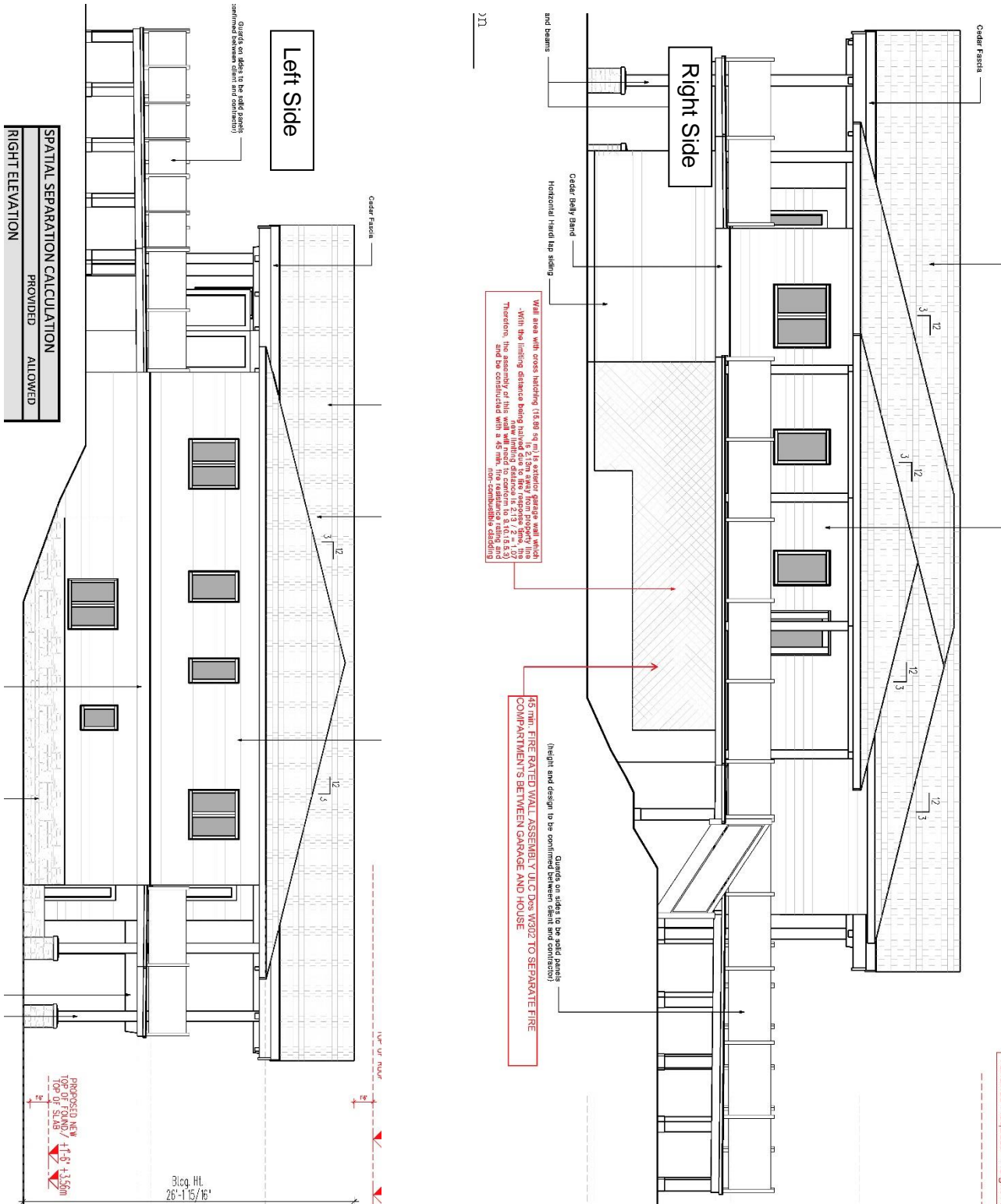
Front Side



3D View from Front



Attachment 4 (Page 3 of 3) Building Elevations – Enlarged for Convenience



Attachment 5 Summary of RDN Approvals Timeline

Date	Item/Description
April 4, 2018	Received application for development permit with variance. Originally for boat ramp within development permit area and deck within setback to top of bank.
June 24, 2018	Site visit was conducted. The bluff appeared well above the natural boundary (more than the bylaw requirement of 1.5 metres which applied at that time). The development permit guidelines also did not address flood or hazard protection at that time. Planning staff did not have authority to require a flood hazard assessment to address sea level rise through the DP process.
June 28, 201	In response to insufficient information and rationale provided by the applicant in relation to DP PL2018-053 and a board deadline, to save the applicants time, the applicants were given the option to pursue the variance through the Board of Variance (BOV) if they felt there was a hardship as the BOV had a meeting scheduled before the next available Board meeting. The boat ramp was to be dealt with through a delegated development permit application.
August 8, 2018	BOV Appeal PL2018-113 was approved to allow the setback to top of bank for the deck to be reduced.
September 18, 2018	Development Permit PL2018-053 for the boat ramp was approved.
October 16, 2018	Floodplain bylaw amendments receive first and second reading by the Board.
December 4, 2018	Floodplain bylaw amendments adopted by the Board.
April 12, 2019	BOV* application PL2019-017 to permit the dwelling unit height to be increased was submitted.
May 8, 2019	BOV Appeal PL2019-017 was approved.
May 9, 2019	Application for building permit received.
May 28, 2019	RDN Building Inspection requires a survey to determine dwelling unit height in relation to geodetic elevations and indicates a report from a geotechnical engineer may be required in accordance with Bylaw 1469 pending the results of the survey.
June 17, 2019	RDN Building Inspection requires the applicant to provide a report from a professional engineer in accordance with Bylaw 1469.
July 15, 2019	Applicants provide draft Geotechnical Assessment prepared by Lewkowich Engineering Associates Ltd. which specifies a minimum FCL of 4.95 metres geodetic. Applicants determine that they do not wish to construct to the recommended FCL.
August 13, 2019	Met with applicants to discuss requirements for Floodplain Bylaw Exemption.
September 5, 2019	Application for site-specific floodplain management bylaw site-specific exemption received.

*It should be noted that the BOV is an independent body and process that does not provide the opportunity for staff to conduct an in-depth review of the appeal or require development approval information.