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E. OTHER BUSINESS

PLANNING REPORTS

1. **Planning Report - Application No. 7923-0227-00**

13585 - 95 Avenue

Owner: Centurion Appelt (9525 King George) Holdings Inc.

Director Information: G. Appelt, R. Orr

No Officer Information Filed as at February 10, 2024.

Agent: DF Architecture Inc (J. Arora)

Amend CD By-law

to allow for a slightly higher density within a previously supported development of a 41-storey mixed-use tower comprised of 463 market rental residential dwelling units, 876 square metres of ground floor commercial and 5,920 square metres of medical offices within the 5-storey podium.

* Further to the Planning Report dated May 6, 2024, additional information regarding the application is provided.

* **Planning Recommendation**

The Planning & Development Department recommends that:

1. Council authorize staff to close and file Development Variance Permit No. 7923-0227-00.
2. Council file Rezoning Bylaw No. 21257.
3. Council consider the new "Comprehensive Development (CD)" Bylaw No. 21436 to proceed to Public Notification. If supported the Bylaw will be brought forward for First, Second and Third Reading.
4. Council instruct staff to resolve the following issues prior to final adoption.
 - (a) all conditions of approval identified in the original Planning & Development Report for Development Application No. 7923-0227-00 (Appendix II), dated May 6, 2024.

* **Council Actions**

Development Variance Permit No. 7923-0227-00.

That Council file Development Variance Permit No. 7923-0227-00.

"Surrey Comprehensive Development Zone 212 (CD 212), Bylaw, 2024, No. 21257"

That Council file Bylaw No. 21257.

2. **Planning Report - Application No. 7924-0129-00**

17899 - 55 Avenue; 17850 - 56 Avenue

Owner: Delta Controls Inc.

Director Information: C. Campagna, T.-S. Ko, J. Nicholls, A. Tseng

No Officer Information Filed as at April 14, 2024.

Agent: Wales McLelland Construction (J. Vigni)

Rezoning a portion of the subject site (17850 - 56 Avenue) from C-8 to CD (based on IL)

Development Permit for a portion of the subject site (17850 - 56 Avenue)

Major Development Permit Amendment for a portion of the subject site (17899 - 55 Avenue)

to permit the development of a three-storey light industrial building

(17850 - 56 Avenue) as well as to permit an amendment to an approved

Development Permit (17899 - 55 Avenue) to facilitate a shared access driveway.

* **Planning Recommendation**

The Planning & Development Department recommends that:

1. a Bylaw be introduced to rezone a portion of the subject site at 17850 - 56 Avenue from "Community Commercial Zone (C-8)" to "Comprehensive Development Zone (CD)", and a date be set for Public Hearing.
2. Council authorize staff to draft Development Permit No. 7924-0129-00, including a comprehensive sign package, over 17850 - 56 Avenue generally in accordance with the attached drawings (Appendix I).
3. Council authorize staff to draft Development Permit No. 7904-0188-01 over 17899 - 55 Avenue generally in accordance with the attached drawings (Appendix I).
4. Council instruct staff to resolve the following issues prior to Final Adoption:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;

- (b) submission of a subdivision layout to the satisfaction of the Approving Officer;
- (c) approval from the Ministry of Transportation & Infrastructure;
- (d) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
- (e) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
- (f) submission of a finalized tree survey and a statement regarding tree preservation to the satisfaction of the City Landscape Architect;
- (g) the applicant satisfy the deficiency in tree replacement on the site, to the satisfaction of the Planning and Development Department;
- (h) demolition of existing buildings and structures on a portion of the subject site (17850 – 56 Avenue) to the satisfaction of the Planning and Development Department;
- (i) registration of a Section 219 Restrictive Covenant to prohibit habitable floor area below the Flood Construction Level and to inform current and future owners that the subject property is located within a floodplain area and that any buildings or structures constructed upon the lot may be damaged by flooding or erosion;
- (j) registration of a Section 219 Restrictive Covenant to adequately satisfy the City's needs with respect to public art, to the satisfaction of the General Managers, Parks, Recreation and Culture; and
- (k) registration of an amended easement for reciprocal access between 17899 - 55 Avenue and 17850 - 56 Avenue.

* **Council Actions**

"Surrey Zoning Bylaw, 1993, No. 12000, Amendment Bylaw, 2024, No. 21441"

First Reading

Second Reading

That the Public Hearing be held on Monday, November 4, 2024, at 7:00 p.m.

3. **Planning Report - Application No. 7924-0186-00**
Portion of 10611 - 150 Street
Owner: Wall Financial Corp.
Director Information: O. Borgers, M. Redekop, P. Ufford, A. Varslavan,
B. Wall, D. Wise, S-H. Yoon
Officer Information as at August 1, 2024: P. Ufford (Chair),
B. Wall (President)
Agent: Wall Financial Corporation (D. Wise)
OCP Text Amendment to allow for a density of 3.8 FAR within the Multiple Residential designation
Guildford Plan Amendment from "Low-Rise Transition Residential" to "High-Rise Residential"
Rezoning from RM-45 to CD
Development Permit
Housing Agreement
to permit the development of a 36-storey residential building with 217 market rental and 48 below-market rental residential dwelling units secured with a Housing Agreement.

* **Planning Recommendation**

The Planning & Development Department recommends that:

1. a Bylaw be introduced for a text amendment to the Official Community Plan (OCP), "Table 7A: Land Use Designation Exceptions" within the Multiple Residential designation by adding site specific permission for a portion of 10611 - 150 Street to permit a density of up to 3.8 FAR, and a date for Public Hearing be set.
2. Council determine the opportunities for consultation with persons, organizations and authorities that are considered to be affected by the proposed amendment to the OCP, as described in the Report, to be appropriate to meet the requirement of Section 475 of the Local Government Act.
3. a Bylaw be introduced to rezone a portion of the subject site as shown as Block A on the attached Survey Plan (Appendix I), from "Multiple Residential 45 (RM-45)" to "Comprehensive Development (CD)", and a date be set for Public Hearing.
4. a Bylaw be introduced to enter into a Housing Agreement and be given First, Second and Third Reading.
5. Council authorize staff to draft Development Permit No. 7924-0186-00 in accordance with the attached drawings (Appendix III).

6. Council instruct staff to resolve the following issues prior to final adoption:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;
 - (b) submission of a subdivision layout to the satisfaction of the Approving Officer;
 - (c) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
 - (d) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
 - (e) submission of a finalized tree survey and a statement regarding tree preservation to the satisfaction of the City Landscape Architect;
 - (f) the applicant enter into a Housing Agreement with the City to secure the 48 non-market and 217 market rental residential dwelling units;
 - (g) the applicant provide a density bonus amenity contribution consistent with the Tier 2 Capital Projects CACs in support of the requested increased density, to the satisfaction of the General Manager, Planning and Development Department, in effect at the time of Final Adoption if applicable;
 - (h) provision of cash-in-lieu contribution to satisfy the indoor amenity space requirement of the RM-135 Zone, at the rate in effect at the time of Final Adoption;
 - (i) demolition of existing buildings and structures to the satisfaction of the Planning and Development Department;
 - (j) registration of access easements to ensure access to the proposed shared parking and amenity facilities within the development;
 - (k) registration of a Section 219 Restrictive Covenants to adequately address the City's needs with respect to public art, to the satisfaction of the General Manager, Parks, Recreation and Culture and with respect to the City's Affordable Housing Strategy and Tier 1 Capital Project CACs, and deferred contributions for rental housing, to the satisfaction of the General Manager, Planning & Development Services;

- (l) registration of a volumetric statutory right-of-way for the public plaza fronting 150 Street;
 - (m) approval and input from the Ministry of Transportation & Infrastructure; and
 - (n) construction of the additional off-site parking as a condition of occupancy of the proposed building.
7. Council pass a resolution to amend the Guildford Plan from "Low Rise Transition Residential" to "High Rise Residential", and allow for a building height of 36-storeys when the project is considered for Final Adoption.

* **Council Actions**

"Surrey Official Community Plan Bylaw, 2013, No. 18020, Amendment Bylaw 2024, No. 21444"

First Reading

Second Reading

That the Public Hearing be held on Monday, November 4, 2024, at 7:00 p.m.

"Surrey Zoning Bylaw, 1993, No. 12000, Amendment Bylaw, 2024, No. 21445"

First Reading

Second Reading

That the Public Hearing be held on Monday, November 4, 2024, at 7:00 p.m.

"Wall Financial Corp. Housing Authorization By-law, 2024, No. 21446"

First Reading

Second Reading

Third Reading

4. **Planning Report - Application No. 7924-0003-00
105 and 109 – 175A Street**

Owner: Litco Landmark Group Ltd.

Director Information: S. Bassi, M. Lit

No Officer Information as at June 16, 2023.

Agent: Orion Construction (Paul Bangma)

Development Permit / Development Variance Permit

to permit the development of a 6,725 square metre industrial mixed employment building.

* **Planning Recommendation**

The Planning & Development Department recommends that:

1. Council File Development Permit No. 7917-0146-01.
2. Council authorize staff to draft Development Permit No. 7924-0003-00 generally in accordance with the attached drawings (Appendix I).
3. Council approve Development Variance Permit No. 7924-0003-00 (Appendix III), to allow standard parking spaces in front of overhead loading doors and for these to be considered towards the calculation of required off-street parking spaces, to proceed to Public Notification.
4. Council instruct staff to resolve the following issues prior to final approval:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;
 - (b) approval from the Ministry of Transportation & Infrastructure;
 - (c) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
 - (d) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
 - (e) submission of a finalized tree survey and a statement regarding tree preservation to the satisfaction of the City Landscape Architect;
 - (f) the applicant satisfy the deficiency in tree replacement on the site, to the satisfaction of the Planning and Development Department;

- (g) registration of a Section 219 Restrictive Covenant prohibiting the construction of additional mezzanine space; and
- (h) submission of an acceptable fire access plan to the satisfaction of the Planning and Development Department.

* **Council Action**

Development Permit No. 7917-0146-01.

That Council file Development Permit No. 7917-0146-01.

BYLAWS WITH PERMITS

- 5. Planning Report - Application No. 7922-0231-00, 7922-0231-02
17077 and 17121 - 92 Avenue

Owner: Anniedale Bothwell (GP) Inc. (Director Information: G. Gill)
Agent: Hub Engineering Inc. (M. Kompter)

To subdivide into 29 small residential lots and 1 lot for park and riparian protection purposes. In addition, the proposal includes a Development Variance Permit to reduce the minimum lot width for proposed Lots 1, 13, and 16; to reduce the minimum lot width for proposed Lots 2, 14, and 15; and to permit a front access, side-by-side double garage on a lot less than 13.4 metres wide for proposed Lots 1, 3-13, and 16-27. The proposal also includes a Development Permit for Sensitive Ecosystems, Hazard Lands, and Farm Protection.

"Surrey Zoning By-law, 1993, No. 12000, Amendment Bylaw, 2024, No. 21335"

Final Adoption

Development Variance Permit No. 7922-0231-02

That Council authorize the issuance of Development Variance Permit No. 7922-0231-02.

Development Permit No. 7922-0231-00

That Council authorize the issuance of Development Permit No. 7922-0231-00.

CITY OF SURREY

OTHER BUSINESS



City of Surrey
ADDITIONAL PLANNING COMMENTS

Application No.: 7923-0227-00

Planning Report Date: October 21, 2024

PROPOSAL:

- Amend CD By-law

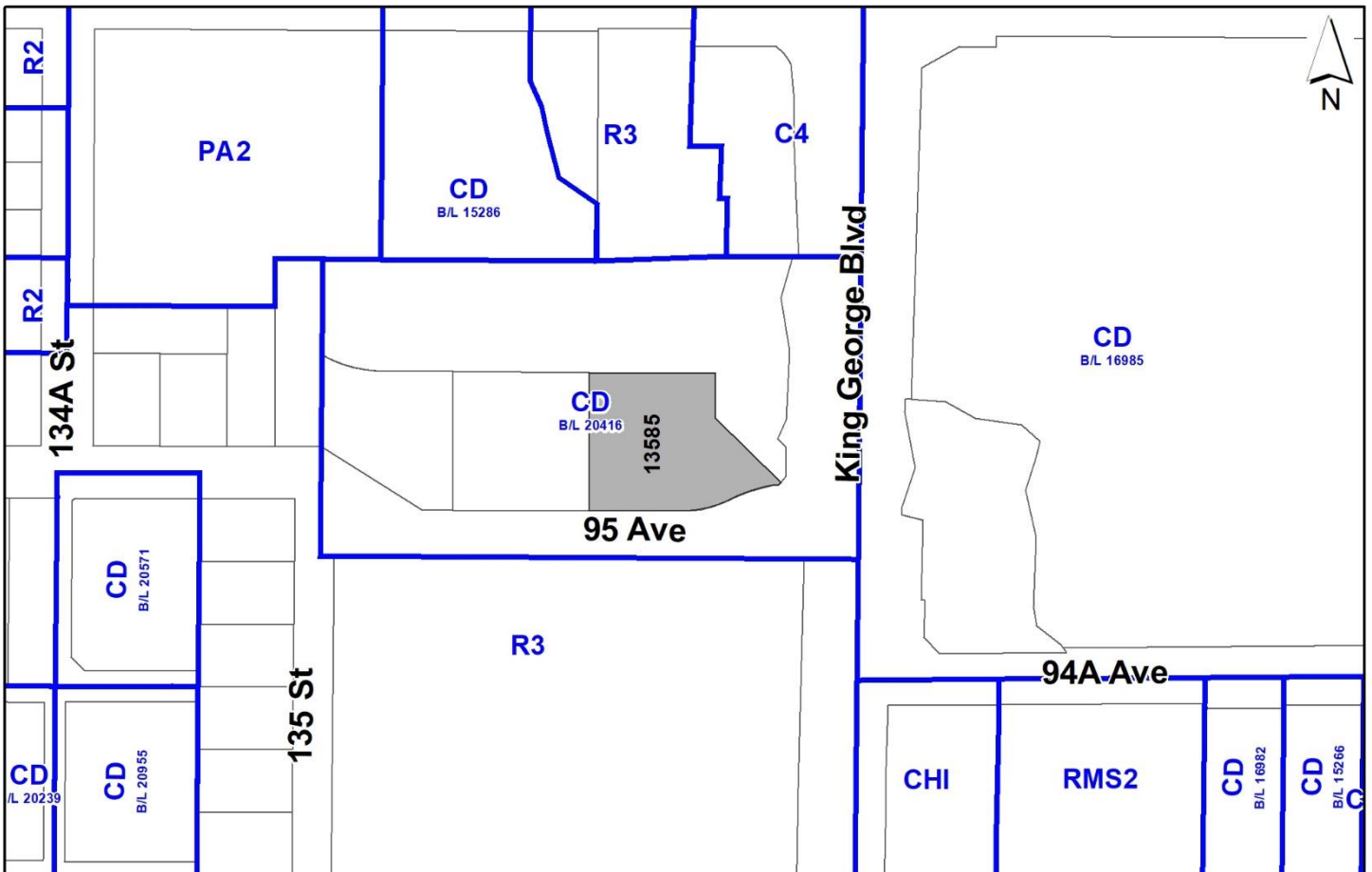
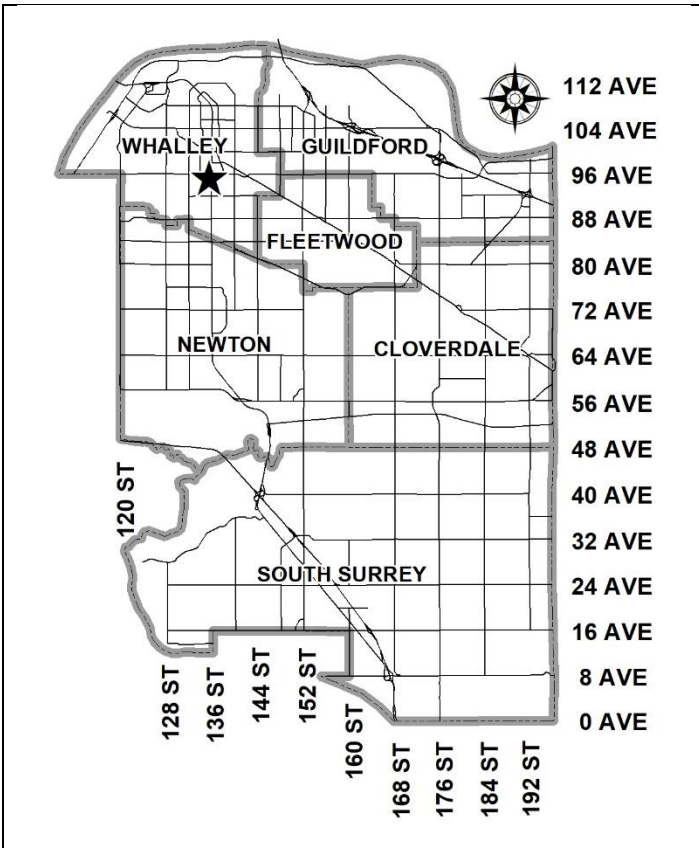
to allow for a slightly higher density within a previously supported development of a 41-storey mixed-use tower comprised of 463 market rental residential dwelling units, 876 square metres of ground floor commercial and 5,920 square metres of medical offices within the 5-storey podium.

LOCATION: 13585 - 95 Avenue

ZONING: CD Bylaw No. 20416

OCP DESIGNATION: Downtown

CCP DESIGNATION: Mid to High Rise Mixed-Use



RECOMMENDATION SUMMARY

- Council file Rezoning Bylaw No. 21257.
- Council consider the new proposed CD Bylaw to proceed to Public Notification. If supported the Bylaw will be brought forward for First, Second and Third Reading.
- Council authorize staff to close and file Development Variance Permit No. 7923-0227-00.

DEVIATION FROM PLANS, POLICIES OR REGULATIONS

- None.

RATIONALE OF RECOMMENDATION

- In accordance with changes to the Local Government Act, Section 464, under Bill 44 (2023) a Public Hearing is not required for the subject rezoning application as the proposed rezoning is consistent with the Official Community Plan (OCP). As such, Council is requested to endorse the Public Notification to proceed for the proposed Rezoning By-law. The Rezoning By-law will be presented to Council for consideration of Second, and Third Reading, as amended after the required Public Notification is complete, with all comments received from the Public Notification presented to Council prior to consideration of the By-law readings.
- Previous Planning & Development Report for Development Application No. 7923-0227-00 was considered by Council on May 5, 2024. The application at that time was proposing a Rezoning and Development Permit to permit the development of a 41-storey mixed-use tower comprised of 463 market rental residential dwelling units, 991 square metres of ground floor commercial and 5,890 square metres of medical offices within the 5-storey podium.
- The Rezoning Bylaw subsequently received First, Second and Third Reading by Council after Public Notification on May 27, 2024.
- Approval to draft the Detailed Form and Character Development Permit No. 7923-0227-01 for the site, was approved by Council on May 6, 2024 (Appendix II).
- The applicant has subsequently revised the proposal and is seeking an amendment to allow for a small increase in density and residential floor area. The current CD Bylaw allows for a floor area ratio (FAR) of up to 11.9 FAR, provided that the residential floor area does not exceed 9.56 FAR. An increased density of 12.3 FAR is now proposed, provided that the residential floor area does not exceed 9.8 FAR. To accommodate this, the existing Rezoning Bylaw (No. 21257) is proposed to be filed, and a new one introduced.
- The increase in total floor area, resulting from the additional FAR proposed, is 795 square metres. The total number of residential dwelling units proposed remains the same, at 463 residential units. The applicant has requested the slight increase in order to accommodate mechanical closets into the units to house heat pumps connected to district energy, which would provide both heating and cooling to the units. As the mechanical closets and heat pumps take up space, some units are proposed to be reconfigured so that they can

accommodate the mechanical closets/heat pumps, usable closet space for residents, and functional units.

- The unit count and unit mix remains generally unchanged, and the overall expression of the building remains unchanged. The heat pumps, which would provide both heating and cooling to the units, will increase the livability of the units.
- The Zoning Bylaw has been updated to not require residential parking within transit-oriented areas, and therefore Development Variance Permit No. 7923-0227-00 is no longer required
- The proposed development conforms to the goal of achieving high-rise, high density, and mixed-use development around the three City Centre SkyTrain Stations. The Gateway SkyTrain Station is located within a walking distance of 500 metres of the subject site.
- The proposed height and density of the development is consistent with an evolving urban context in the City Centre, as it relates to adjacent tower developments in City Centre.
- The proposed building achieves a striking architectural built form, which proposes high quality, contemporary and natural materials, and modern lines. The street interface has been designed to a high quality to achieve a positive urban experience between the proposed building and the public realm.

RECOMMENDATION

The Planning & Development Department recommends that:

1. Council authorize staff to close and file Development Variance Permit No. 7923-0227-00.
2. Council file Rezoning Bylaw No. 21257.
3. Council consider the new proposed CD Bylaw to proceed to Public Notification. If supported the Bylaw will be brought forward for First, Second and Third Reading.
4. Council instruct staff to resolve the following issues prior to final adoption.
 - (a) all conditions of approval identified in the original Planning & Development Report for Development Application No. 7923-0227-00 (Appendix II) dated May 6, 2024.

SITE CONTEXT & BACKGROUND

<u>Direction</u>	<u>Existing Use</u>	<u>CCP Designation</u>	<u>Existing Zone</u>
Subject Site	Vacant site	Mid to High Rise Mixed-Use	CD (Bylaw No. 20416)
North:	Park containing Quibble Creek	Creek Buffer	CD (Bylaw No. 20416)
East (Across King George Boulevard):	Surrey Memorial Hospital and park containing Quibble Creek	High Density Employment and Creek Buffer	CD (Bylaw No. 16985)
South (Across 95 Avenue):	Queen Elizabeth Secondary School	School	R3
West:	Vacant site under Development Application No. 7924-0143-00	Mid to High Rise Mixed-Use	CD (Bylaw No. 20416)

Context & Background

- The subject site is a 2,987 square metre site, consisting of 1 property, located on the north side of 95 Avenue and west of King George Boulevard in the Medical District of Surrey City Centre.
- The subject site is designated “Downtown” in the Official Community Plan (OCP), “Mid to High Rise Mixed-Use” in the City Centre Plan and is zoned “Comprehensive Development Zone (CD)” Bylaw No. 20416.
- The subject site was previously rezoned as part of WestStone Group’s phased mixed-use development called “Innovation Village”, under Development Application No. 7920-0244-00, which received Final Adoption on April 25, 2022. Development Application 7920-0244-00

rezoned the parent property to a CD Zone (Bylaw No. 20416) and subdivided into three lots (Lots A, B & C) to accommodate future development.

- General Development Permit No. 7920-0244-00 was also issued on April 25, 2022, to guide the general design of the entire development site, with subsequent Detailed Development Permit applications required for each phase.
- Under General Development Permit No. 7920-0244-00, the subject site (Lot A) was envisioned as a 37-storey mixed-use tower comprised of 370 residential dwelling units (100% market rental, secured by a 20-year Housing Agreement), 370 square metres of ground floor commercial and 5,898 square metres of medical offices within the 5-storey podium.
- The subject site (Lot A) was subsequently sold to Centurion Appelt (the current applicant/owner).
- A subsequent Planning & Development Report for Application No. 7923-0227-00 was considered by Council on May 5, 2024, proposing to modify the previous approval. The application at that time was proposing a Rezoning and Development Permit to permit the development of a 41-storey mixed-use tower comprised of 463 market rental residential dwelling units, 991 square metres of ground floor commercial and 5,890 square metres of medical offices within the 5-storey podium.
- The Rezoning Bylaw subsequently received First, Second and Third Reading by Council after Public Notification on May 27, 2024 (CD Bylaw No. 21257).
- The applicant has subsequently revised the proposal and is seeking an amendment to the proposal to allow for a small increase in density and residential floor area. The current CD Bylaw allows for a floor area ratio (FAR) of up to 11.9 FAR, provided that the residential floor area does not exceed 9.56 FAR. An increased density of 12.3 FAR is now proposed, provided that the residential floor area does not exceed 9.8 FAR.
- The increase in total floor area, resulting from the additional FAR proposed, is 795 square metres. The total number of residential dwelling units proposed remains the same, at 463 residential units. The height is proposed to be slightly increased, from 140 metres to 143 metres, to allow for some flexibility and ensure no issues with height at the Building Permit stage. The number of storeys remains unchanged at 41.
- The applicant has requested the slight increase in order to accommodate mechanical closets into the units to house heat pumps connected to district energy, which would provide both heating and cooling to the units. As the mechanical closets and heat pumps take up space, some units are proposed to be reconfigured so that they can accommodate the mechanical closets/heat pumps, usable closet space for residents, and functional units.
- The unit count and unit mix remains generally unchanged, and the overall expression of the building remains unchanged. The heat pumps, which would provide both heating and cooling to the units, will increase the livability of the units.

DEVELOPMENT PROPOSAL

Planning Considerations

- The owner previously received Third Reading from Council at the May 27, 2024 Regular Council – Public Hearing meeting for a new development application to permit the development of a 41-storey mixed-use tower comprised of 463 market rental residential dwelling units, 877 square metres of ground floor commercial and 5,920 square metres of medical offices within the 5-storey podium.
- As noted in the initial land use report, the proposal will require the following:
 - Rezoning the site from CD (Bylaw No. 20416) to CD (based on RM-135 and C-8);
 - Detailed Development Permit for Form and Character; and
 - Housing Agreement to secure 463 rental units for a period of 40 years.

Amended CD By-law

- The applicant has proposed an amended CD Bylaw to accommodate a proposed mixed-use high-rise tower on the subject site. The proposed CD By-law for the development site identifies the uses, densities and setbacks proposed.

	Proposed
Lot Area	
Gross Site Area:	2,987 square metres
Net Site Area:	2,987 square metres
Number of Lots:	1
Building Height:	41 storeys / 140 metres
Floor Area Ratio (FAR):	12.13 (net) (previously 11.9)
Floor Area	
Residential:	29,294.27 m ² (previously 28,538 m ²)
Commercial:	876.58 m ² (previously 991 m ²)
Office:	5,919.85 (previously 5,890 m ²)
Total:	36,213.47 m ² (previously 35,418 m ²)
Residential Units:	
Micro Studio:	None (previously 24)
Studio:	128 (previously 104)
1-Bedroom:	194 (previously 195)
2-Bedroom:	129 (previously 128)
3-Bedroom:	12 (same as previous)
Total:	463 (same as previous)

- Under the initial proposal, 24 micro units were proposed. Micro units are defined by the Zoning Bylaw as a dwelling unit with a floor area between 30 square metres and 35 square metres. As a result of the increased floor area, the proposed studio units now have a minimum floor area of 38 square metres, and are therefore no longer micro units.
- A comparison of the density, building height and parking requirements in the current and proposed amended version of CD By-law No. 21257 is illustrated in the following table:

Zoning	Current CD Bylaw No. 21257 (at Third Reading)	Proposed Amended CD Bylaw No. 21257
Unit Density:	N/A	N/A
Floor Area Ratio:	11.9	12.3
Principal Building Height:	140 metres	143 metres
Parking (Part 5)	Required	Proposed
Number of Stalls		
Residential:	0	228
Residential Visitor:	0	44
Retail:	24	24
Office:	204	204
Total:	228	500
Accessible:	9	11
Bicycle Spaces		
Residential Secure Parking:	556	558
Residential Visitor:	6	6

- The net FAR is proposed to be increased from 11.9 to 12.3.
- The height is proposed to be slightly increased, from 140 metres to 143 metres, to allow for some flexibility and ensure no issues with height at the Building Permit stage. The number of storeys remains unchanged at 41.
- A sub-section has been added to Section H. of the proposed CD Bylaw, to require 0.02 accessible parking spaces per dwelling unit. The Zoning Bylaw currently requires 0.05 parking spaces per dwelling unit for multiple unit residential buildings in Transit Oriented Areas. However, this was an error; the intended requirement was 0.02 (not 0.05) accessible spaces per dwelling unit. The Zoning Bylaw will be updated accordingly, but in order to ensure that the application is able to proceed to Final Adoption before the Zoning Bylaw is updated, a notwithstanding clause has been added to the proposed CD Bylaw to provide clarity.
- All other aspects of the proposed CD Bylaw remain the same.
- The proposed density and building height are supportable at this location and in the Medical District of City Centre. The proposed building height and overall massing of the project are generally consistent with City Centre Goals.

Parking Variance – Development Variance Permit No. 7923-0227-00

- In accordance with changes to the Local Government Act, Section 525, under Bill 47 (2023) a local government must not require an applicant within a transit-oriented area to provide off-street parking spaces for the residential use of the land, other than accessible spaces. The Zoning Bylaw has been updated in accordance with this Provincial legislation.
- When this proposal proceeded to Council in May 2024, the parking requirements in the Zoning Bylaw had not yet been updated. A parking variance was required at that time. However, the Zoning Bylaw has since been updated to not require residential parking within transit-oriented areas, and therefore Development Variance Permit No. 7923-0227-00 is no longer required, and should be closed and filed accordingly.

INFORMATION ATTACHED TO THIS REPORT

The following information is attached to this Report:

- Appendix I. Updated Architectural Drawings
- Appendix II. Initial Planning Report No. 7923-0227-00, dated May 6, 2024

approved by Shawn Low

Ron Gill
Acting General Manager
Planning and Development

HK/cb



9525 King George Blvd, Surrey BC

Updated Drawings

7923-0227-00

October, 15 2024

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Project Statistics

LOT INFO			
Civic Address	13585 95 Ave, Surrey BC		
Legal Description	RD 031-716-105		
	LOT A SECTION 32 TOWNSHIP 2 NEW WESTMINSTER DISTRICT PLAN EPP65742		
Gross Site Area	32,142 sf	2,987.20 sq m	
FAR Gross	12.13		
FAR Net	12.13		
District	Medical District		
Zoning	CD		
OCP Designation	Multiple Residential		
Lot Coverage	54%		
Height, Proposed	465.87F	142m	
Proposed Setbacks			
North	21.3 ft	6.50m	
East	21.3 ft	6.50m	
South	14.9 ft	4.55m	
West	18.3 ft	5.56m	
Minimum Setbacks			
North	14.9 ft	4.55m	
East	16.1 ft	4.89m	
South	11.5 ft	3.50m	
West	18.3 ft	5.56m	

Minimum building setbacks are measured to the furthest projection (i.e. projections that extend more than 0.6m into the setback
 Balconies are a minimum of 4.6 sq m or 5% of the unit size (whichever is greater) and a minimum of 1.5 m in depth

Project Statistics

AREA SCHEDULE												
Floor	AREA											
	SF						SQM					
	GFA		Exclusion		Bulldable		GFA		Exclusion		Bulldable	
	Office/Retail	Residential	Common Areas	Indoor Amenity	Service		Office/Retail	Residential	Amenity	Service		Efficiency
Level 01	9,435					14,495	876.58				1,346.62	71%
		3,313	1,530	217				449.90	20.14			
Level 02	13,495		2,316			15,811	1,469				1,468.90	85%
Level 03	13,654		2,316			15,970	1,484				1,483.65	85%
Level 04	13,654		2,316			15,970	1,484				1,483.65	85%
Level 05	13,654		2,316			15,970	1,484				1,483.65	85%
Level 06		4,753	1,817	3,703		10,272		610.35	343.98		954.34	46%
Level 07		4,976	1,570	3,727		10,274		608.19	346.28		954.47	48%
Level 08		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 09		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 10		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 11		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 12		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 13		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 14		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 15		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 16		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 17		9,364	1,623			10,988		1,020.80			1,020.80	84%
Level 18		6,447	1,321			7,768		721.66			721.66	79%
Level 19		6,447	1,321			7,768		721.66			721.66	79%
Level 20		6,447	1,321			7,768		721.66			721.66	79%
Level 21		6,447	1,321			7,768		721.66			721.66	79%
Level 22		6,447	1,321			7,768		721.66			721.66	79%
Level 23		6,447	1,321			7,768		721.66			721.66	79%
Level 24		6,447	1,321			7,768		721.66			721.66	79%
Level 25		6,447	1,321			7,768		721.66			721.66	79%
Level 26		6,447	1,321			7,768		721.66			721.66	79%
Level 27		6,447	1,321			7,768		721.66			721.66	79%
Level 28		6,447	1,321			7,768		721.66			721.66	79%
Level 29		6,447	1,321			7,768		721.66			721.66	79%
Level 30		6,447	1,321			7,768		721.66			721.66	79%
Level 31		6,447	1,321			7,768		721.66			721.66	79%
Level 32		6,447	1,321			7,768		721.66			721.66	79%
Level 33		6,447	1,321			7,768		721.66			721.66	79%
Level 34		6,447	1,321			7,768		721.66			721.66	79%
Level 35		6,447	1,321			7,768		721.66			721.66	79%
Level 36		6,447	1,321			7,768		721.66			721.66	79%
Level 37		6,447	1,321			7,768		721.66			721.66	79%
Level 38		6,447	1,321			7,768		721.66			721.66	79%
Level 39		6,447	1,321			7,768		721.66			721.66	79%
Level 40		6,447	1,321			7,768		721.66			721.66	79%
Level 41		6,447	1,321			7,768		721.66			721.66	79%
Roof			1,181	1,904		1,181		109.73	176.93		109.73	
Service Floor					1,321	1,321					122.77	
Total	63,891.16	261,406.60	63,305.49	9,551.15	1,321.48	397,570.99	6,796.43	29,306.03	887.33	122.77	36,935.63	78%
Grand Total	389,924.73						36,225.23					
FSR	12.13											

Project Statistics

UNIT SCHEDULE					
Floor	Studio	1Br	2Br	3Br	Total
	38.2 - 52.76	38.6 - 45.7	58.5 - 77.1	72.9 - 85.1	
<i>Ground Level</i>					
<i>Level 02 (Office)</i>					
<i>Level 03 (Office)</i>					
<i>Level 04 (Office)</i>					
<i>Level 05 (Office)</i>					
Level 06	2	0	4	1	7
Level 07	4	0	3	1	8
Level 08	5	5	5	1	16
Level 09	5	5	5	1	16
Level 10	5	5	5	1	16
Level 11	5	5	5	1	16
Level 12	5	5	5	1	16
Level 13	5	5	5	1	16
Level 14	5	5	5	1	16
Level 15	5	5	5	1	16
Level 16	5	5	5	1	16
Level 17	5	5	5	1	16
Level 18	3	6	3		12
Level 19	3	6	3		12
Level 20	3	6	3		12
Level 21	3	6	3		12
Level 22	3	6	3		12
Level 23	3	6	3		12
Level 24	3	6	3		12
Level 25	3	6	3		12
Level 26	3	6	3		12
Level 27	3	6	3		12
Level 28	3	6	3		12
Level 29	3	6	3		12
Level 30	3	6	3		12
Level 31	3	6	3		12
Level 32	3	6	3		12
Level 33	3	6	3		12
Level 34	3	6	3		12
Level 35	3	6	3		12
Level 36	3	6	3		12
Level 37	3	6	3		12
Level 38	3	6	3		12
Level 39	3	6	3		12
Level 40	3	6	3		12
Level 41	3	6	3		12
Roof					
Total	128	194	129	12	463
%	28%	42%	28%	3%	100%
Grand Total	463				

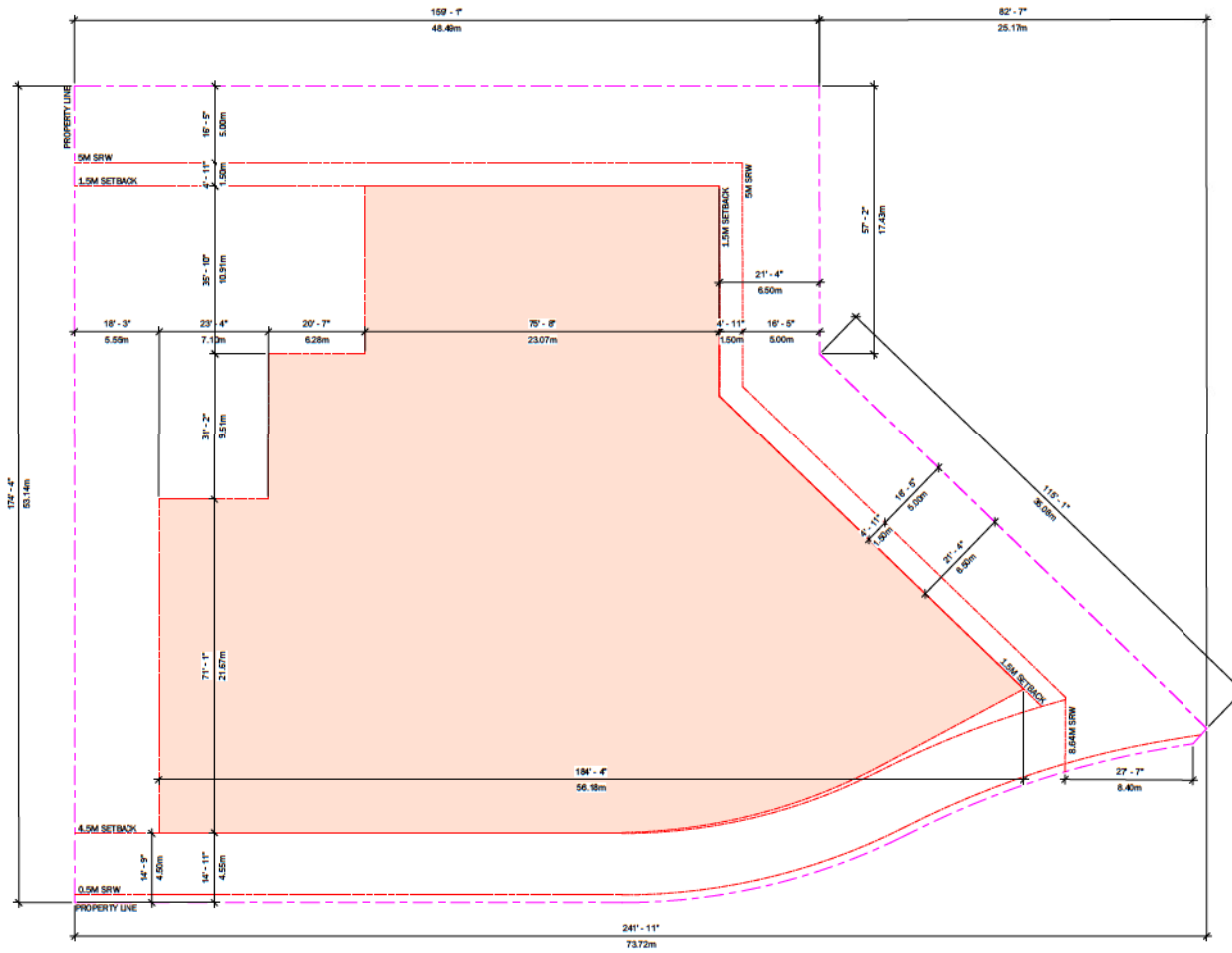
Parking	
Required	
Min. Bylaw rate per unit	
<i>Residential</i>	
<i>Resident stalls</i>	- stalls per dwelling unit
<i>Visitor stalls</i>	- stalls per dwelling unit
<i>Retail</i>	3.00 stalls per 100 sqm of GFA (20% reduction ap
<i>Office (medical)</i>	3.50 stalls per 100 sqm of GFA
Total (office + retail)	228
<i>of that, accessible</i>	5 2% of required parking
<i>Residential accessible</i>	9 2% of dwelling units
Total accessible	14
Total parking	237
Provided	
P1	16
P2	79
P3	82
P4	82
P5	82
P6	82
P7	74
Total	497
Proposed breakdown	
<i>Retail</i>	24
<i>Office (medical)</i>	204
<i>Visitor</i>	44
<i>Residential</i>	227
Provided accessible parking	
<i>Accessible</i>	5
<i>Van accessible</i>	6
Total	11 2% of provided stalls

Bicycle Parking			
	Count	Min. Bylaw rate per unit	
Units	463	1.2	spaces per dwelling unit
Total (Required)		556	
Total (Provided)		556	
Amenity			
No. of Units		Rate	
<i>Units (up to 186)</i>	186	3.00 sqm	32.00 sf
<i>Units (above 186)</i>	277	1.00 sqm	10.76 sf
<i>Micro-units (30 to 35 sq m)</i>	-	4.00 sqm	43.00 sf
Indoor, minimum (Part 4.8.6)		372.00 sq m	4,003 sf
Indoor, required		835.00 sq m	8,985 sf
Indoor, provided		887.33 sq m	9,551 sf
Outdoor, required		1,389.00 sq m	14,946 sf
Outdoor, provided		1,392.24 sq m	14,980 sf
			100%
			100%

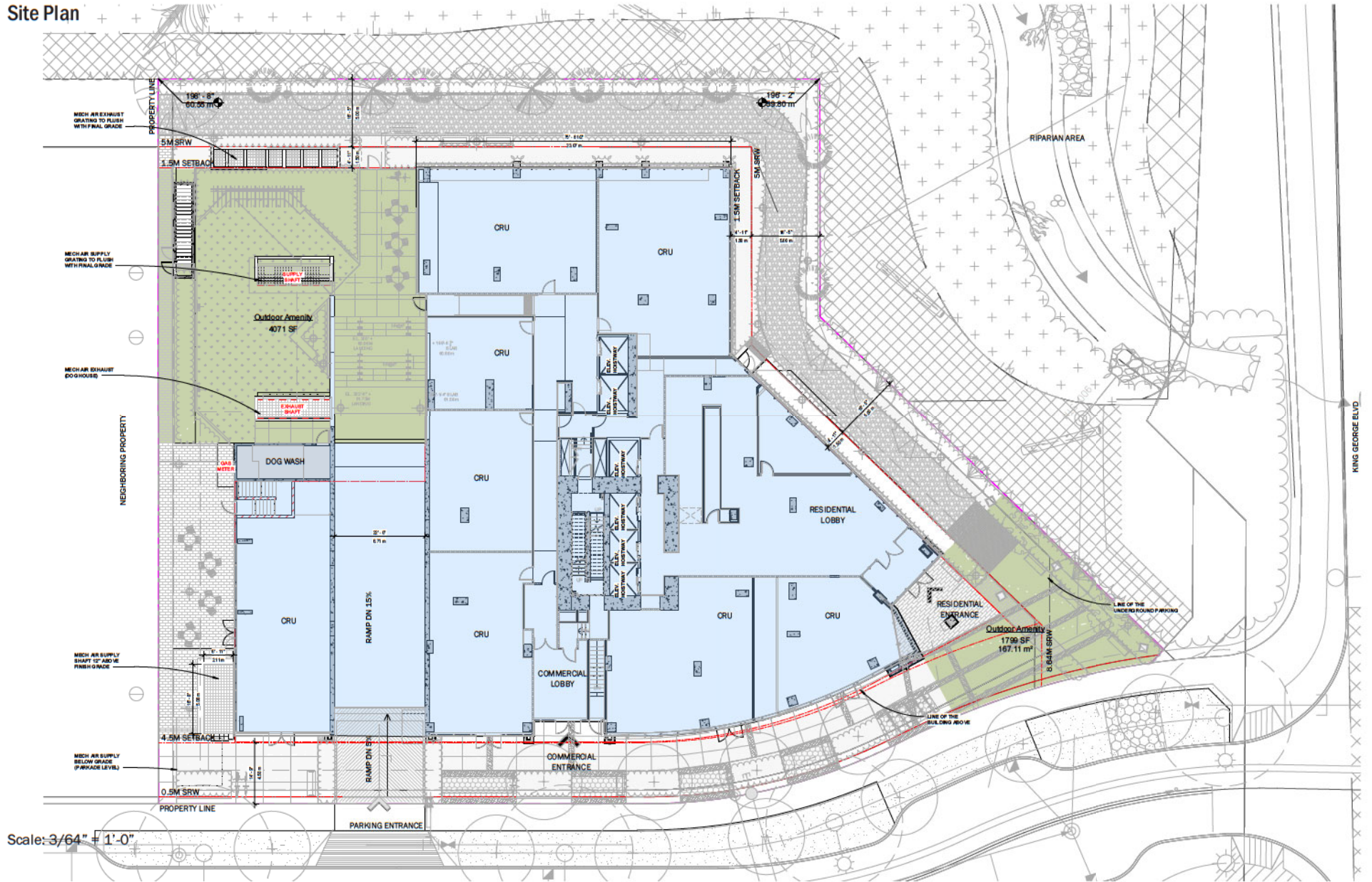
Perspective View



Base Plan

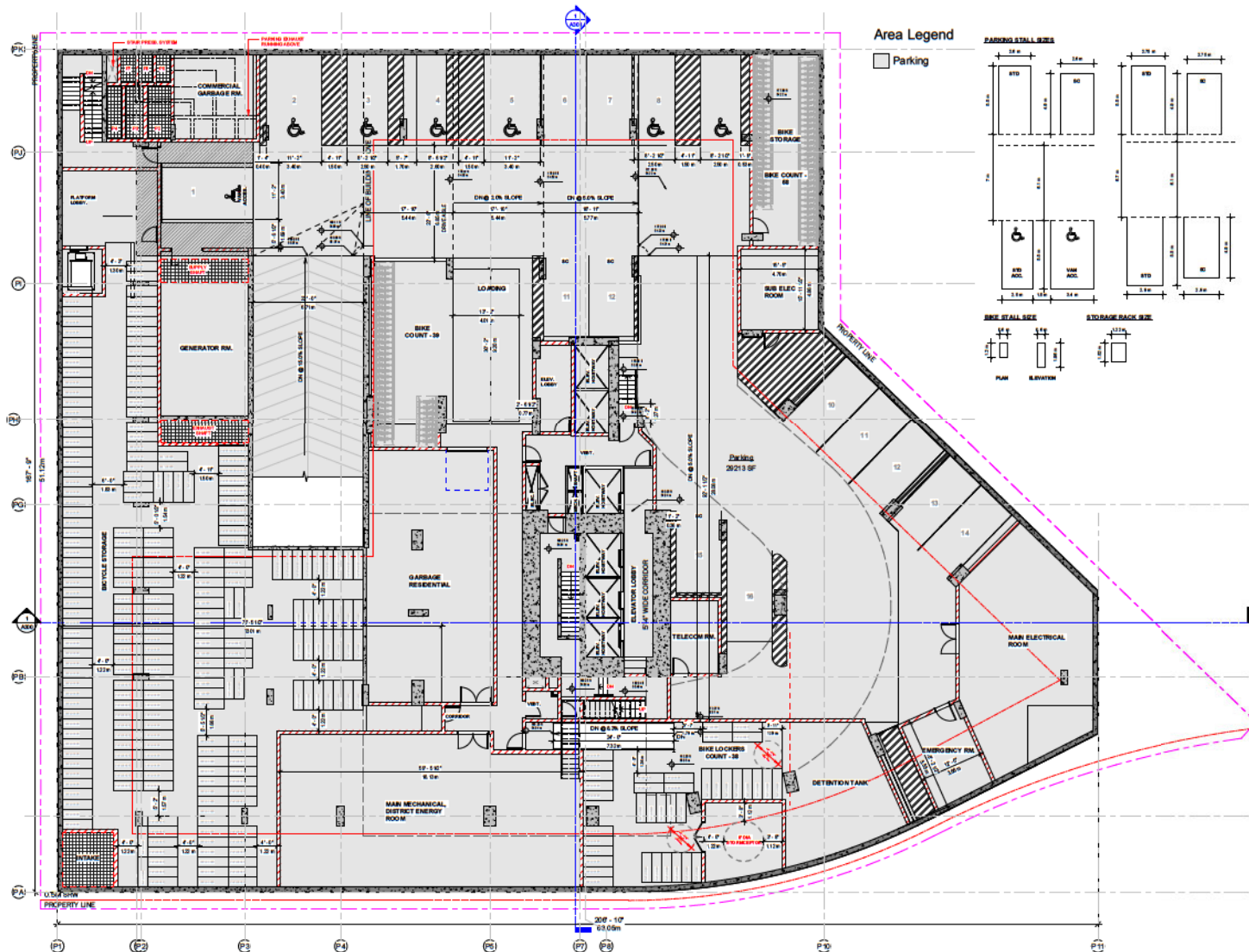


Site Plan



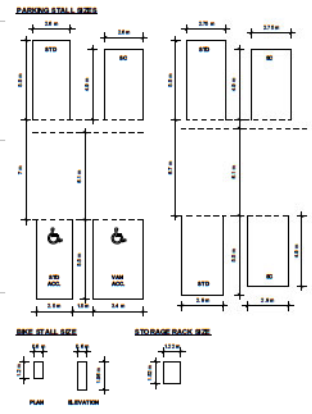
KING GEORGE BLVD

Parking Plan P1



Area Legend

□ Parking

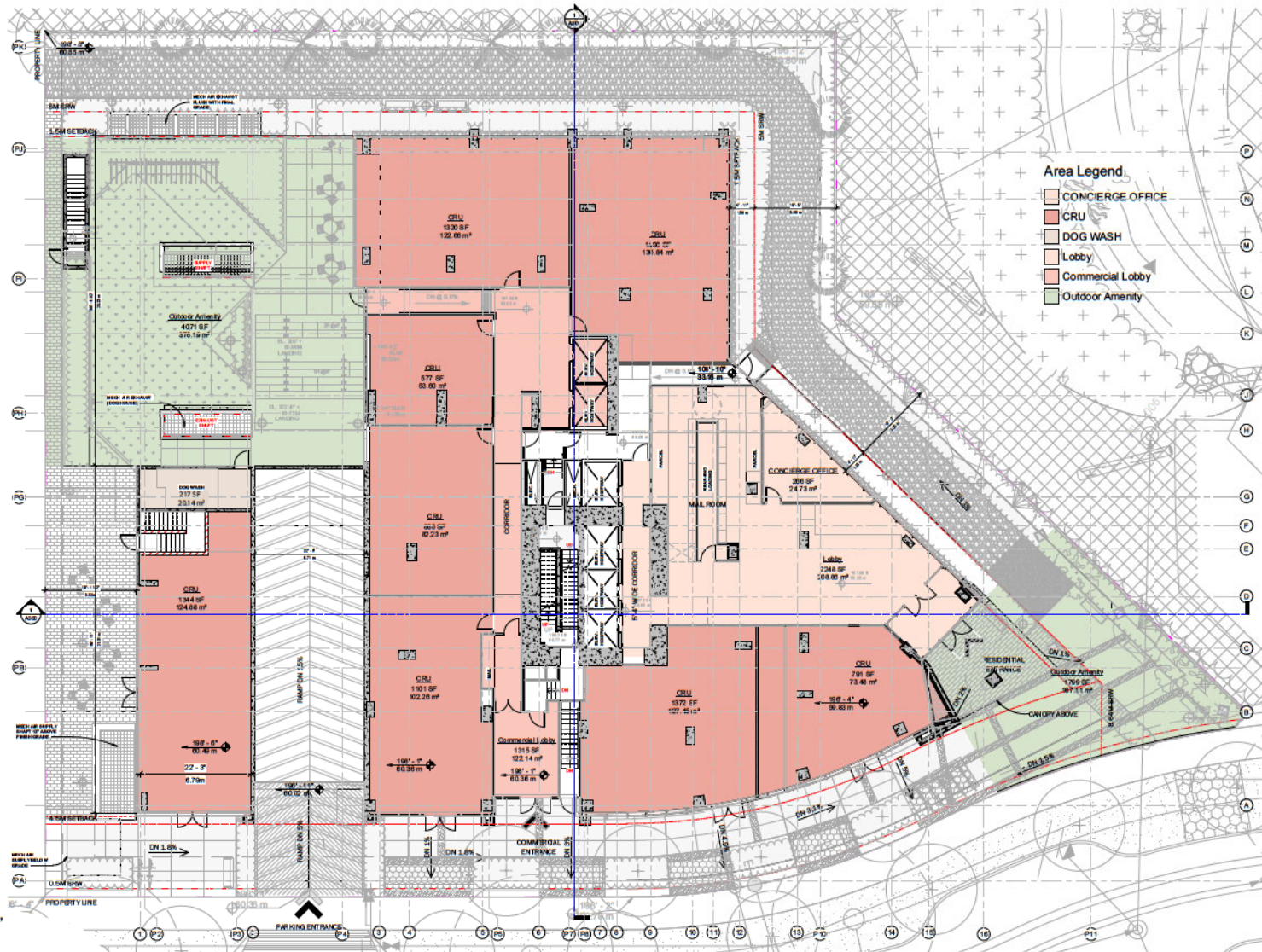


100% of residential parking spaces and 50% of visitor parking spaces must be equipped with an energized outlet, per the Zoning By-Law.

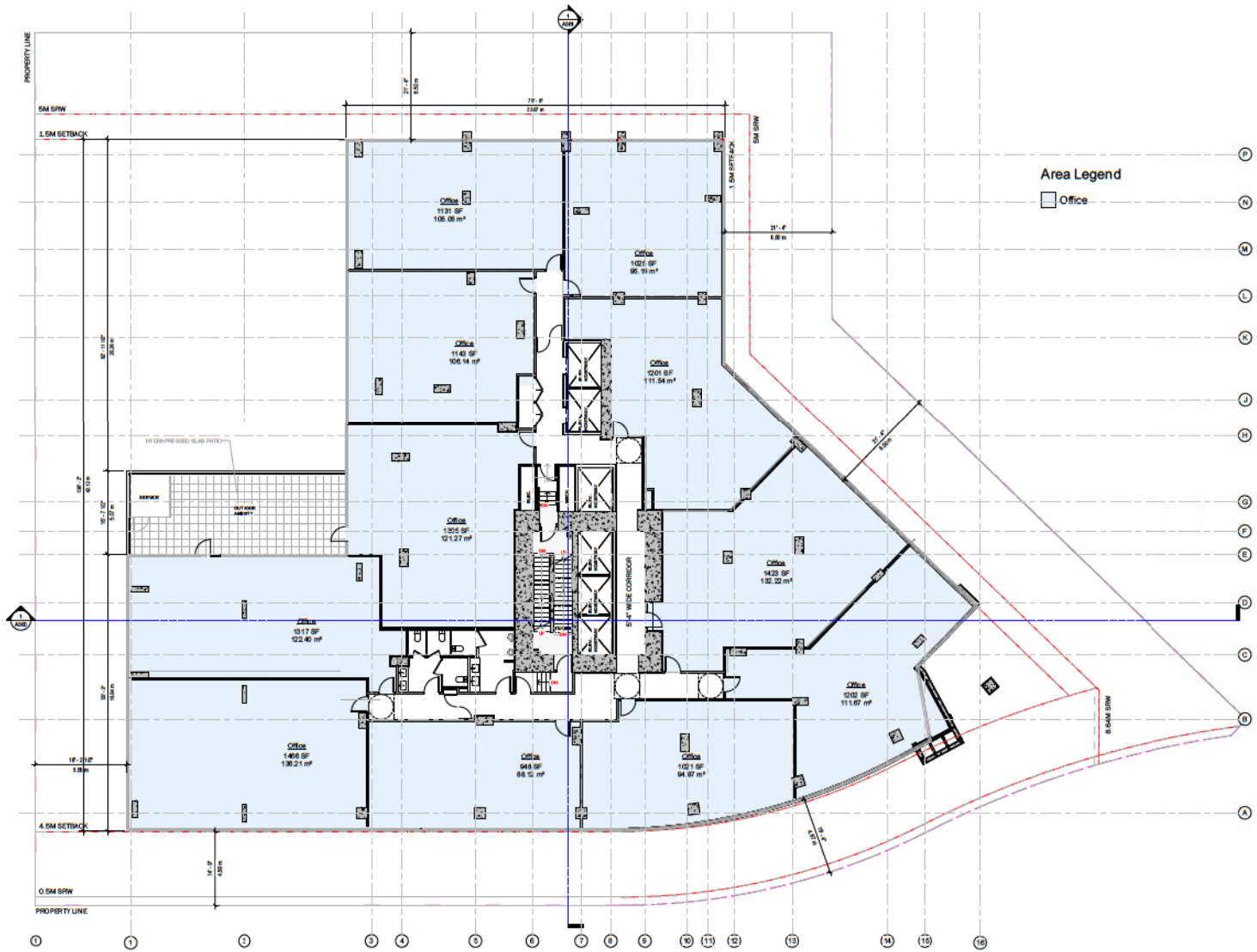
All parking spaces comply with the minimum standards and dimensions, per the Zoning By-Law.

Scale: 3/64" = 1'-0"

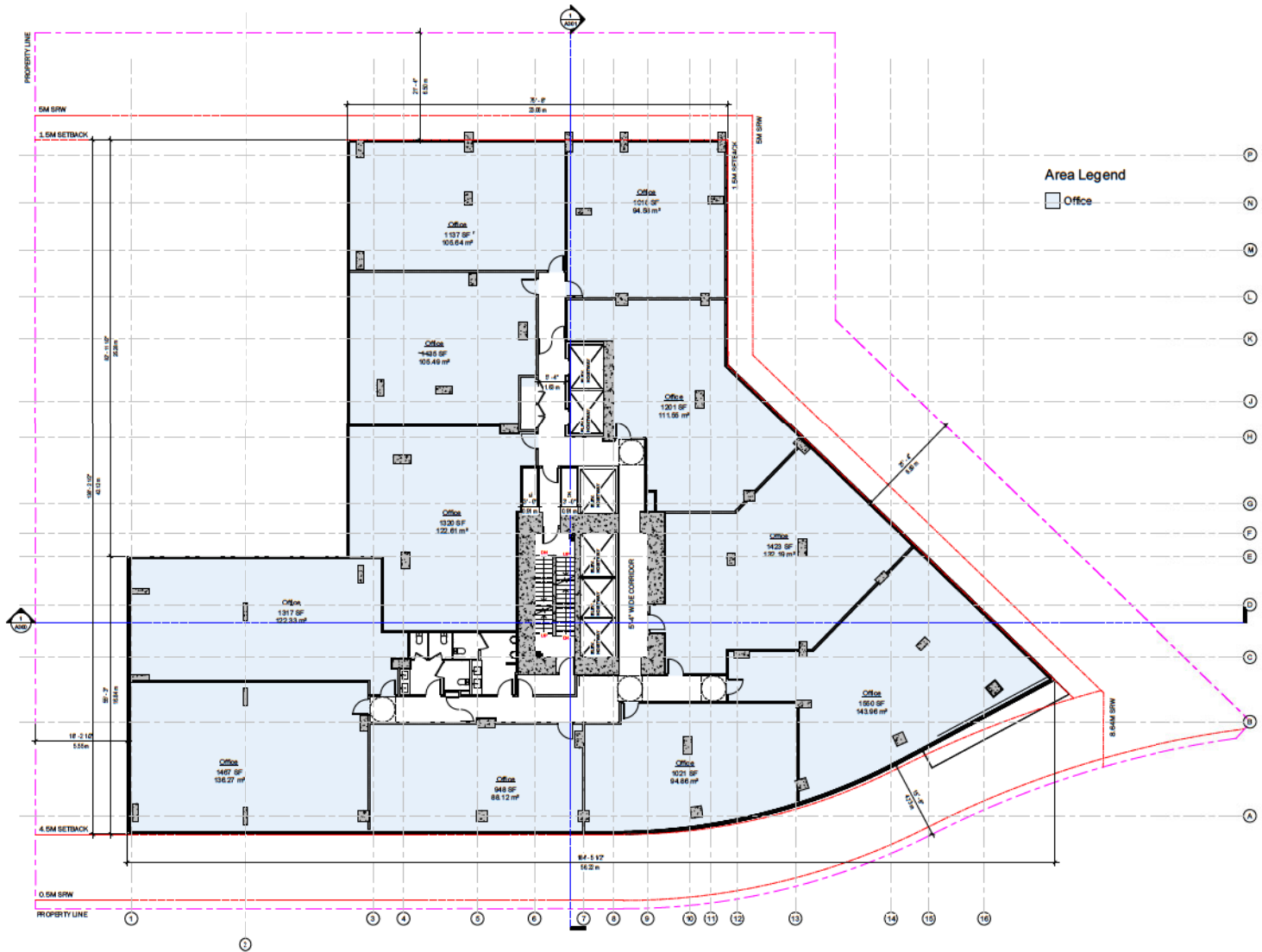
Ground Level Plan



Level 2 Plan

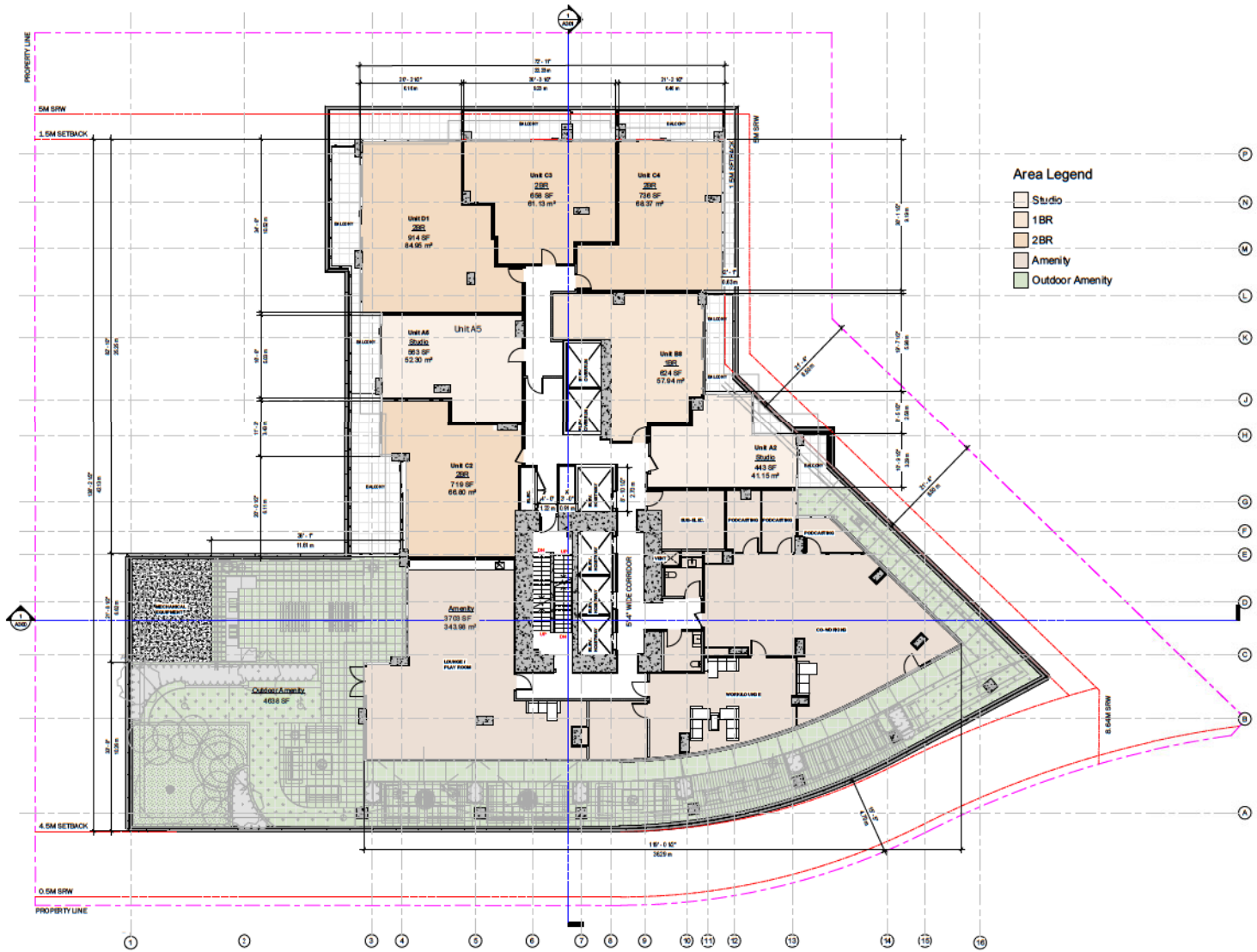


Level 3...5 Plan



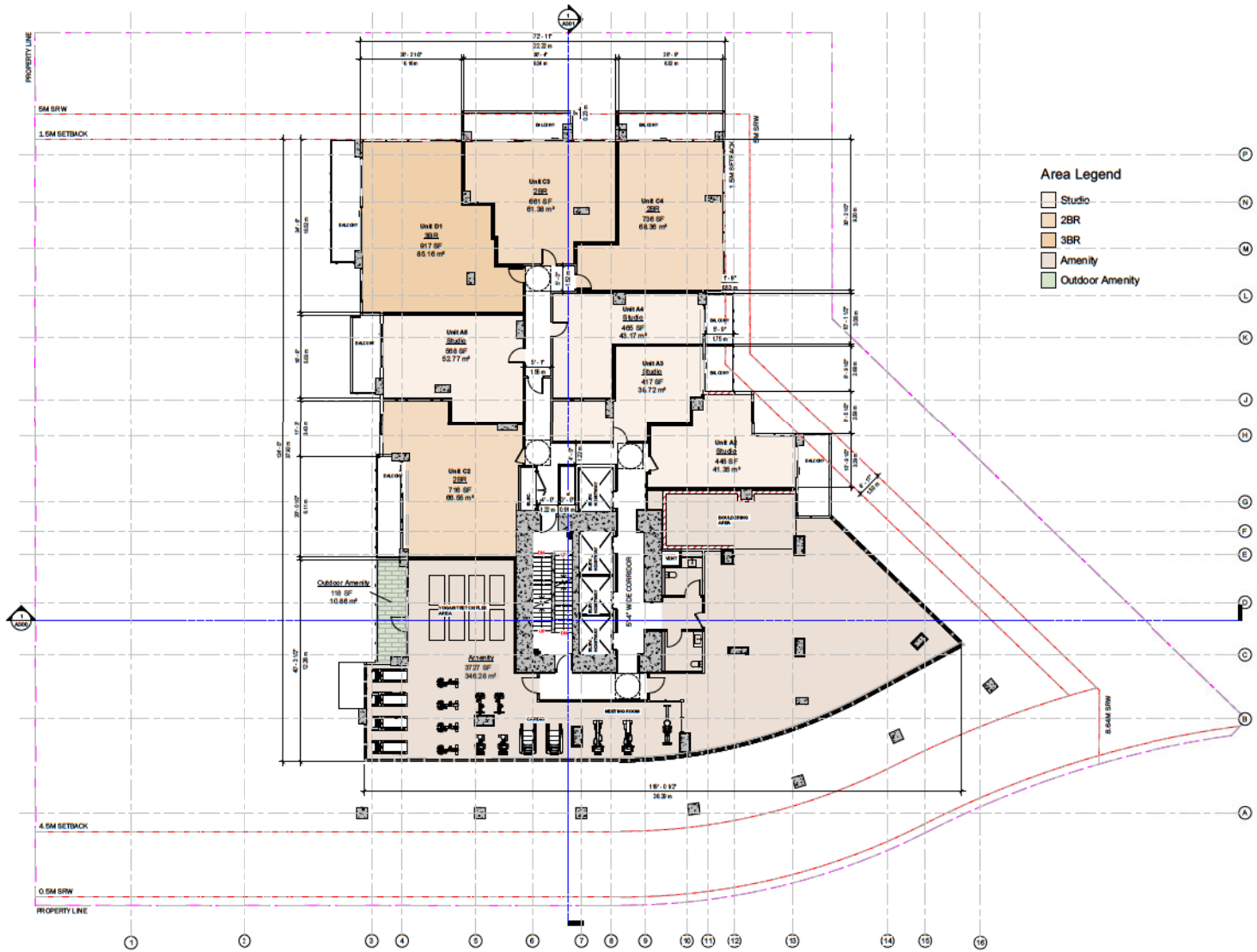
Scale: 3/64" = 1'-0"

Level 6 Amenity Plan



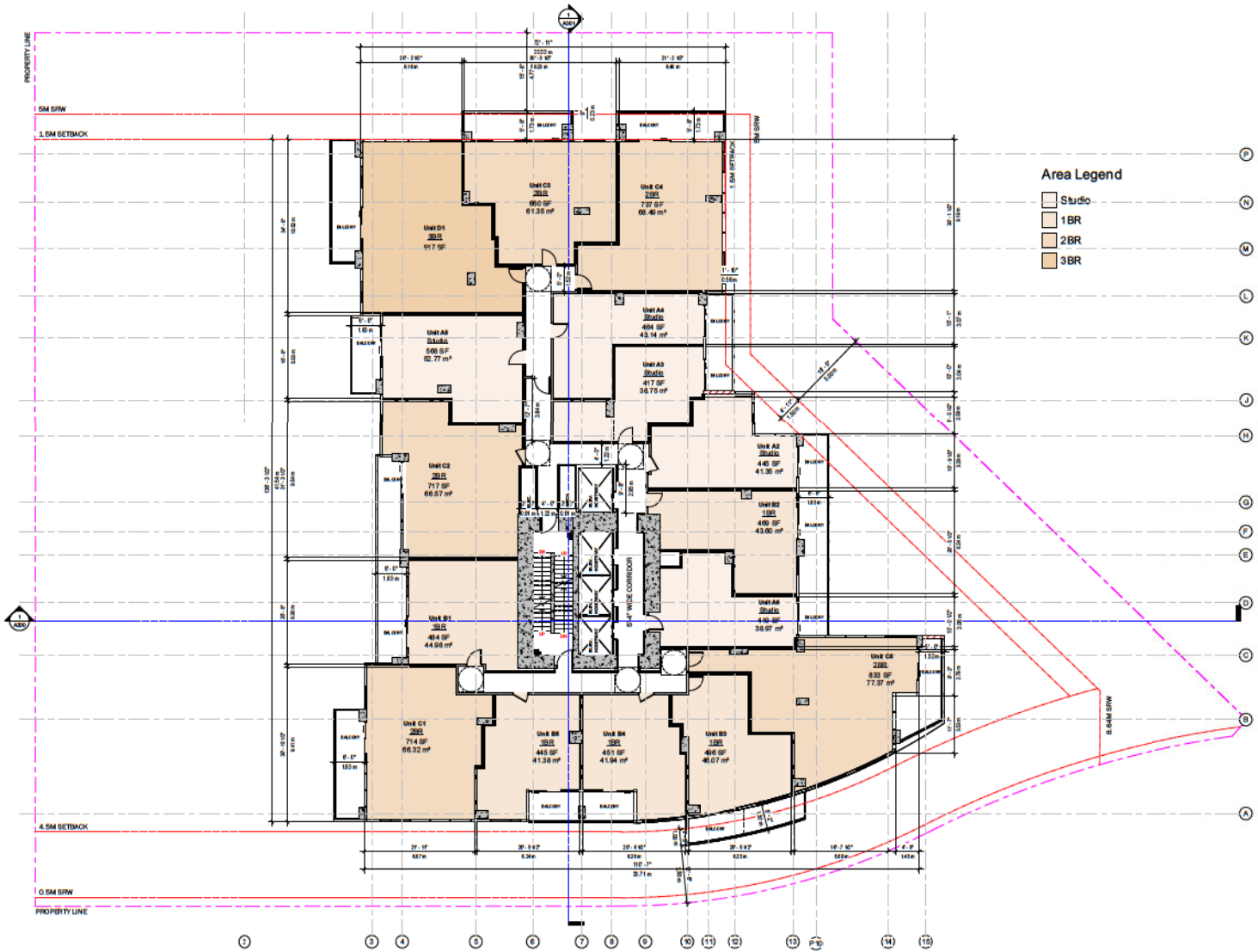
Scale: 3/64" = 1'-0"

Level 7 Amenity Plan



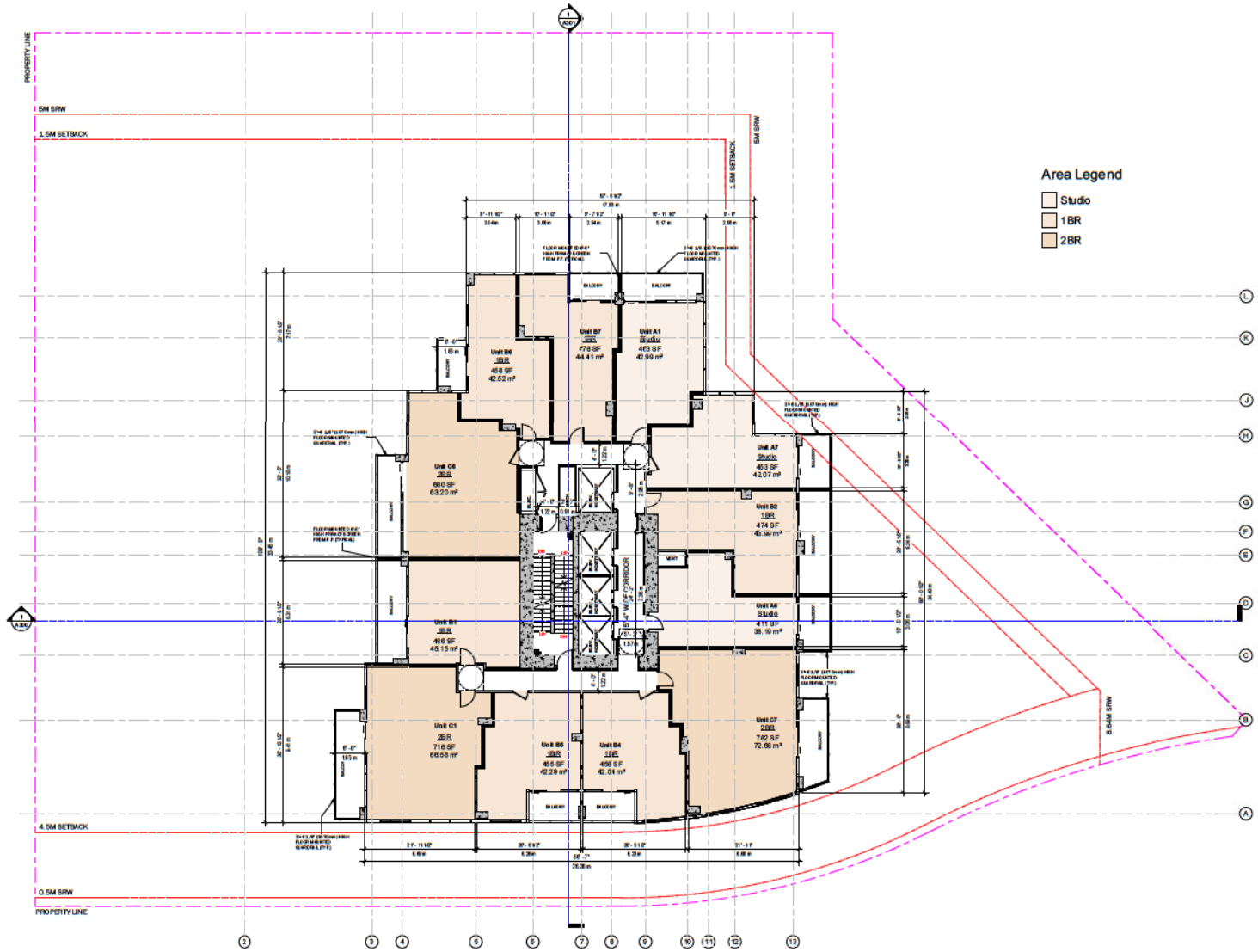
Scale: 3/64" = 1'-0"

Level 8...17 Plan



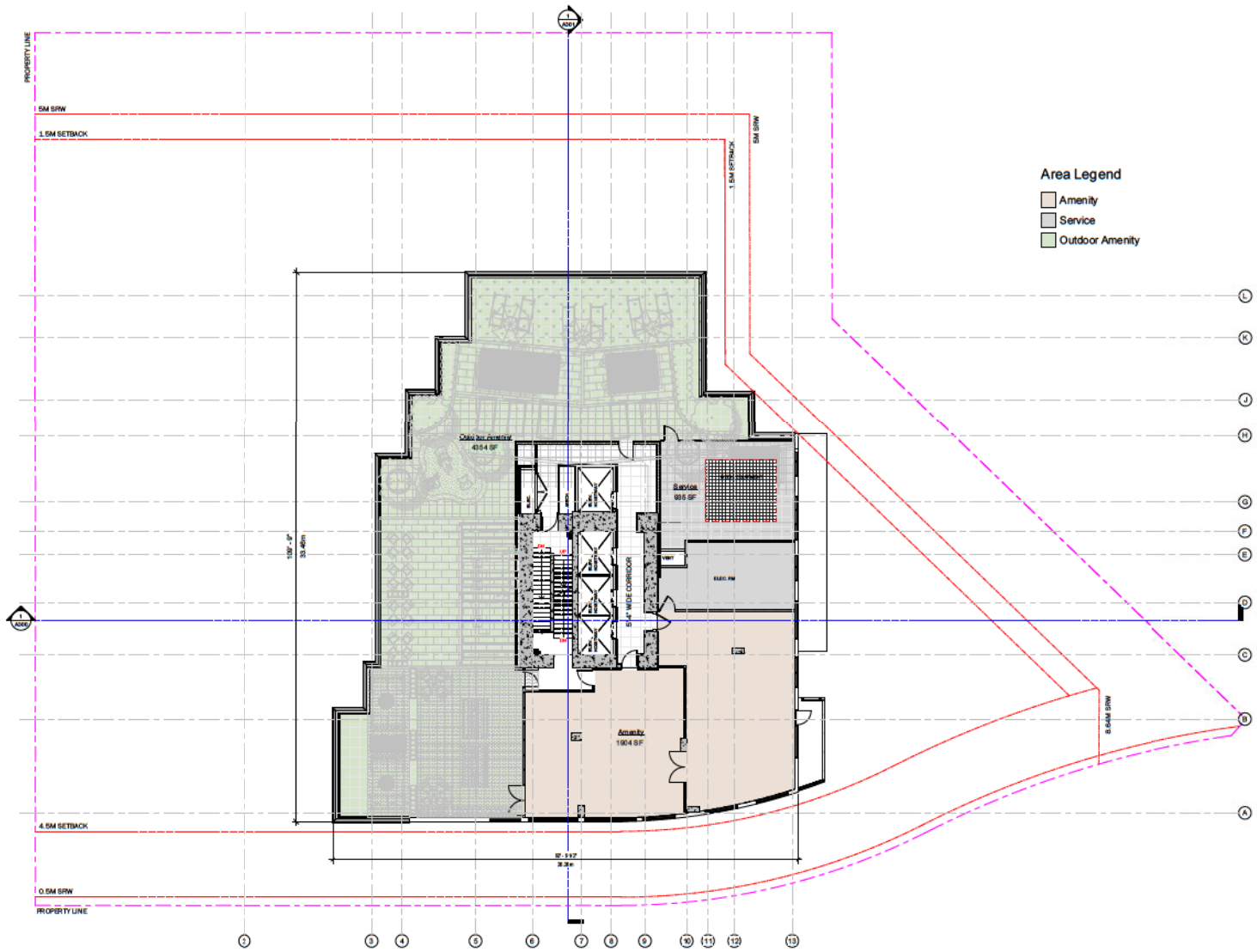
Scale: 3/64" = 1'-0"

Level 18...41 Plan



Scale: 3/64" = 1'-0"

Roof Plan

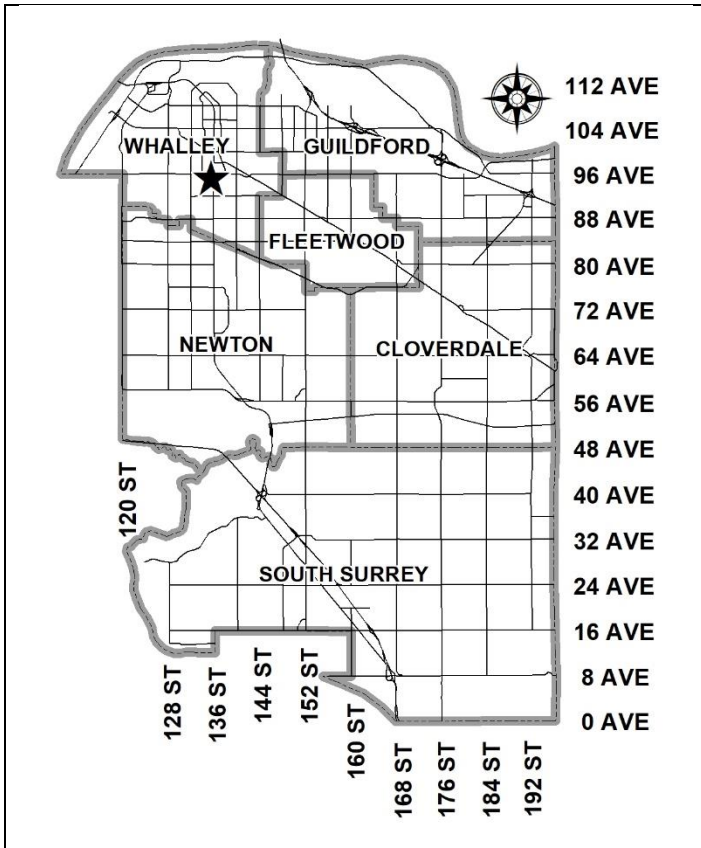


Scale: 3/64" = 1'-0"

City of Surrey
PLANNING & DEVELOPMENT REPORT

Application No.: 7923-0227-00

Planning Report Date: May 6, 2024



PROPOSAL:

- **Rezoning** from CD (Bylaw No. 20416) to CD
- **Development Permit**
- **Development Variance Permit**
- **Housing Agreement**

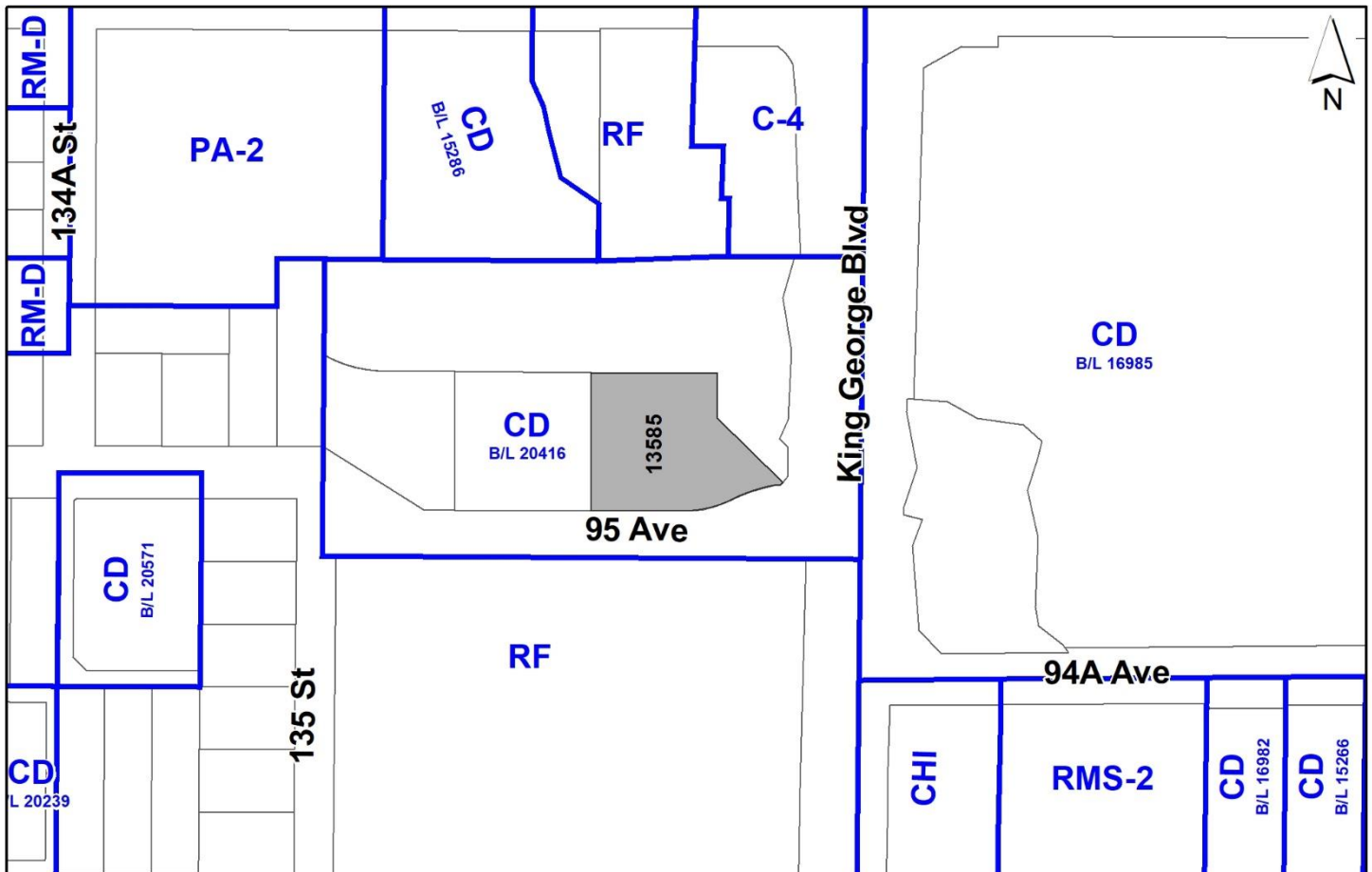
to permit the development of a 41-storey mixed-use tower comprised of 463 market rental residential dwelling units, 991 sq.m. of ground floor commercial and 5,890 sq.m. of medical offices within the 5-storey podium.

LOCATION: 13585 95 Avenue

ZONING: CD Bylaw No. 20416

OCP DESIGNATION: Downtown

CCP DESIGNATION: Mid to High Rise Mixed-Use



RECOMMENDATION SUMMARY

- Rezoning By-law to proceed to Public Notification. If supported the Bylaw will be brought forward for First, Second and Third Reading.
- Approval for Development Variance Permit to proceed to Public Notification.
- Repeal Housing Agreement Authorization Bylaw, 2021, No. 20550.
- By-law Introduction, First, Second and Third Reading for a Housing Agreement.

DEVIATION FROM PLANS, POLICIES OR REGULATIONS

- The applicant is proposing to reduce off-street parking requirements for multiple unit residential rental dwellings in City Centre.

RATIONALE OF RECOMMENDATION

- The proposal complies with the Downtown designation in the Official Community Plan (OCP).
- The proposal complies with the Mid to High Rise Mixed-Use designation in the City Centre Plan.
- In accordance with changes to the Local Government Act, Section 464, under Bill 44 (2023) a Public Hearing is not permitted for the subject rezoning application as the proposed rezoning is consistent with the Official Community Plan (OCP). As such, Council is requested to endorse the Public Notification to proceed for the proposed Rezoning By-law. The Rezoning By-law will be presented to Council for consideration of First, Second, and Third Reading, after the required Public Notification is complete, with all comments received from the Public Notification presented to Council prior to consideration of the By-law readings.
- The applicant is proposing to reduce their off-street parking, in accordance with Provincial Bill 47.
- The proposal will support the City's "Innovation Boulevard" initiative, a partnership of health, business, higher education, and government creating new health technologies to improve peoples' lives. The focus is on three technology areas: medical devices, independent living, and digital health.
- The proposed density and building form are appropriate for this part of Surrey City Centre, and forms part of an emerging high-density mixed-use hub that will be complementary to the evolving City Centre Medical District.
- The proposed development conforms to the goal of achieving high-rise, high density, and mixed-use development around the three SkyTrain Stations. The King George SkyTrain Station is within walking distance and less than 800 metres from the subject site.

-
- The proposed setbacks and built form achieve a more urban, pedestrian streetscape in compliance with the Surrey City Centre Plan and in accordance with the Development Permit (Form and Character) design guidelines in the OCP.
 - The proposed building achieves an attractive architectural built form, which utilizes high quality materials and contemporary massing. The street interface has been designed to a high quality to achieve a positive urban experience between the proposed building and the public realm.
 - The proposal will deliver much-needed rental housing units in City Centre.

RECOMMENDATION

The Planning & Development Department recommends that:

1. Council endorse the Public Notification to proceed for a Bylaw to rezone the subject site from “Comprehensive Development (CD Bylaw No. 20416)” to “Comprehensive Development Zone (CD)”.
2. A Bylaw be introduced to enter into a Housing Agreement and be given First, Second and Third Reading (Appendix V), and Council repeal Housing Agreement, “The Weststone – King George Developments Housing Agreement, Authorization Bylaw, 2021, No. 20550.
3. Council approve Development Variance Permit No. 7923-0227-00 (Appendix VII) to reduce the number of off-street parking spaces for multiple unit residential rental dwellings in City Centre from 0.65 parking spaces per rental dwelling unit to 0.48 spaces per rental dwelling unit, and from 0.1 visitor parking spaces per rental dwelling unit to 0.09 visitor parking spaces per rental dwelling unit on the subject site to proceed to Public Notification.
4. Council authorize staff to draft Development Permit No. 7923-0227-00 generally in accordance with the attached drawings (Appendix I)
5. Council instruct staff to resolve the following issues prior to final adoption:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;
 - (b) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
 - (c) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
 - (d) the applicant enter into a Housing Agreement with the City to secure 461 market rental residential dwelling units for a period of 40 years;
 - (e) provision of cash-in-lieu contribution to satisfy the indoor amenity space requirement of the RM-135 Zone, at the rate in effect at the time of Final Adoption
 - (f) registration of a volumetric right-of-way for public rights-of-passage for the area between the building face and the street edges;
 - (g) registration of a 5.0-metre right-of-way for public rights-of-passage for drainage access; and

- (h) registration of a Section 219 Restrictive Covenant to adequately address the City's needs with respect to public art, to the satisfaction of the General Manager Parks, Recreation and Culture and with respect to the City's Affordable Housing Strategy and Tier 1 Capital Project CACs, to the satisfaction of the General Manager, Planning & Development Services.

SITE CONTEXT & BACKGROUND

Direction	Existing Use	CCP Designation	Existing Zone
Subject Site	Vacant site	Mid to High Rise Mixed-Use	CD (Bylaw No. 20416)
North:	Park containing Quibble Creek	Creek Buffer	CD (Bylaw No. 20416)
East (Across King George Boulevard):	Surrey Memorial Hospital and park containing Quibble Creek	High Density Employment and Creek Buffer	CD (Bylaw No. 16985)
South (Across 95 Avenue):	Queen Elizabeth Secondary School	School	RF
West:	Vacant site	Mid to High Rise Mixed-Use	CD (Bylaw No. 20416)

Context & Background

- The subject site is a 2,987 square metre site, consisting of 1 property, located on the north side of 95 Avenue and west of King George Boulevard in the Medical District of Surrey City Centre.
- The subject site is designated "Downtown" in the Official Community Plan (OCP), "Mid to High Rise Mixed-Use" in the City Centre Plan and is zoned "Comprehensive Development Zone (CD)" Bylaw No. 20416.
- The subject site was previously rezoned as part of WestStone Group's phased mixed-use development called "Innovation Village", under Development Application No. 7920-0244-00, which received Final Adoption on April 25, 2022. Development Application 7920-0244-00 rezoned the parent property to a CD Zone (Bylaw No. 20416) and subdivided into three lots (Lots A, B & C) to accommodate future development.
- General Development Permit No. 7920-0244-00 was also issued on April 25, 2022, to guide the general design of the entire development site, with subsequent Detailed Development Permit applications required for each phase.
- Under General Development Permit No. 7920-0244-00, the subject site (Lot A) was envisioned as a 37-storey mixed-use tower comprised of 370 residential dwelling units (100% market rental, secured by a 20-year Housing Agreement), 370 square metres of ground floor commercial and 5,898 square metres of medical offices within the 5-storey podium.
- The subject site (Lot A) was subsequently sold to Centurion Appelt (the current applicant/owner).

DEVELOPMENT PROPOSAL

Planning Considerations

- The owner has submitted a new development application to permit the development of a 41-storey mixed-use tower comprised of 463 market rental residential dwelling units, 991 sq.m. of ground floor commercial and 5,890 sq.m. of medical offices within the 5-storey podium.
- The proposal will require the following:
 - Rezoning the site from CD (Bylaw No. 20416) to CD (based on RM-135 and C-8);
 - Development Variance Permit to reduce the off-street residential parking requirements;
 - Detailed Development Permit for Form and Character; and
 - Housing Agreement to secure 461 rental units for a period of 40 years.

	Proposed
Lot Area	
Gross Site Area:	2,987 square metres
Net Site Area:	2,987 square metres
Number of Lots:	1
Building Height:	41 storeys / 140 metres
Floor Area Ratio (FAR):	11.9 (net)
Floor Area	
Residential:	28,538 square metres
Commercial:	991 square metres
Office:	5,890 square metres
Total:	35,418 square metres
Residential Units:	
Micro Studio:	24
Studio:	104
1-Bedroom:	195
2-Bedroom:	128
3-Bedroom:	12
Total:	463

Referrals

Engineering: The Engineering Department has no objection to the project subject to the completion of Engineering servicing requirements under Development Application No. 7920-0244-00.

School District: **The School District has advised that there will be approximately 38 school-age children generated by this development, of which the School District has provided the following expected student enrollment.**

23 Elementary students at Cindrigh Elementary School
9 Secondary students at Queen Elizabeth School

(Appendix III)

Note that the number of school-age children is greater than the expected enrollment due to students attending private schools, home school or different school districts.

The applicant has advised that the dwelling units in this project are expected to be constructed and ready for occupancy by 2028.

Parks, Recreation & Culture:

All works, including improvements to Quibble Creek, and the delivery of 95 Avenue are being coordinated with Parks under Application No. 7920-0244-00.

Queen Elizabeth Meadows Park is the closest active park with amenities including a community garden and open space, and is 175 metres walking distance from the development. There is natural area parkland adjacent to the proposed development.

Surrey Fire Department:

The Fire Department has no concerns with the proposed development application. However, there are some items which will be required to be addressed as part of the Building Permit application.

Transportation Considerations

- Under the original application, Application No. 7920-0244-00, the applicant provided a Transportation Impact Study (TIS), as well as satisfied all road dedication requirements.
- Parking for the subject development is proposed to be located in a seven-level underground parkade which will be accessed from 95 Avenue at the south side of the site.

Parking

- The Zoning Bylaw requires a minimum of 575 parking spaces to be provided on-site.
- The applicant is proposing to provide a total of 497 spaces on-site, which requires a Development Variance Permit. Refer to Parking Variance section in Policy & By-law Considerations.

Parkland and/or Natural Area Considerations

- All works, including improvements to Quibble Creek, and the delivery of 95 Avenue are being coordinated with Parks staff under Application No. 7920-0244-00.

Sustainability Considerations

- The applicant has met all of the typical sustainable development criteria, as indicated in the Sustainable Development Checklist.

Housing Agreement

- Housing Agreement Bylaw No. 20550 was previously adopted as part of the original Development Application No. 7920-0244-00 to secure the 386 market rental dwelling units for a term of 20 years.
- The applicant has proposed to increase the number of units to 463 and to extend the term in the Housing Agreement from 20 to 40 years.
- In order to facilitate this extended term, the existing Housing Agreement Bylaw is proposed to be repealed and replaced with a new Housing Agreement that includes the 463 units and a 40 year term (Appendix V).

POLICY & BY-LAW CONSIDERATIONS

Regional Growth Strategy

- The subject site is located within, and complies with, the Urban Centres (Surrey Metro Centre) Land Use Designation of Metro Vancouver's Regional Growth Strategy.

Official Community Plan

Land Use Designation

- The subject site is designated Downtown in the Official Community Plan, with a permitted maximum density of 3.5 FAR, as noted in Figure 16 of the OCP.
- The proposal complies with the Downtown designation in the OCP within the context of Development Application 7920-0244-00.

Themes/Policies

- The proposed development is consistent with the following OCP Themes and Policies:
 - Growth Management
 - Accommodating Higher Density: Direct higher-density development into Surrey's City Centre.
 - Centres, Corridors and Neighbourhoods:

- Dynamic City Centre: Strengthen Surrey's City Centre as a dynamic, attractive, and complete Metropolitan Core.
- Transit Corridors: Support Transit Oriented Development along major corridors linking urban centres and employment areas.
- Healthy Neighbourhood: Build complete, walkable, and green neighbourhoods.
- Urban Design: Encourage beautiful and sustainable urban design.
- Ecosystems
 - Energy, Emissions and Climate Resiliency: Design a community that is energy-efficient, reduces carbon emissions and adapts to a changing environment through a design that meets typical sustainable development criteria.
- Economy
 - Employment Lands: Ensure sufficient supply and efficient use of employment lands.
 - Employment, Investment and Innovation: Ensure high-quality, business innovation and diversified employment and investment opportunities.

Secondary Plans

Land Use Designation

- The subject site is designated "Mid to High Rise Mixed-Use" in the City Centre Plan, with a permitted maximum density of 3.5 FAR.
- The proposal complies with the "Mid to High Rise Mixed-Use" in the City Centre Plan within the context of Development Application 7920-0244-00.

Themes/Objectives

- The proposed development is consistent with the following guiding principles:
 - Build Density and Mixed Use, by providing a mix of commercial, office and residential space.
 - Encourage Housing Diversity, with a mix of rental and condominium units and a variety of unit types and sizes.
 - Encourage Office and Employment, by providing approximately 6,268 m² of office space and ground floor commercial retail units.
 - Promote Identity and Sense of Place, with a unique blend of interconnected commercial, amenity and residential spaces.

CD By-law

- The applicant is proposing to rezone the subject site from CD Bylaw No. 20416 to "Comprehensive Development Zone (CD)".
- The applicant is proposing a "Comprehensive Development Zone (CD)" to accommodate a proposed mixed-use high-rise tower on the subject site. The proposed CD By-law for the proposed development site identifies the uses, densities and setbacks proposed. The CD By-law will have provisions based on CD Bylaw No. 20416.

- A comparison of the density, lot coverage, setbacks, building height and permitted uses in Block A of CD Bylaw No. 20416 and the proposed CD By-law is illustrated in the following table:

Zoning	CD Bylaw No. 20416 (Block A)	Proposed CD Zone
Unit Density:	N/A	N/A
Floor Area Ratio:	10.4	11.9
Lot Coverage:	45%	54%
Yards and Setbacks	North: 6.50 metres South: 4.5 metres East: 6.5 metres West: 7.0 metres	North: 6.5 metres South: 4.5 metres East: 6.5 metres West: 5.5 metres
Principal Building Height:	120 metres	140 metres
Permitted Uses:	<ul style="list-style-type: none"> • Retail stores; • Personal service uses; • General service uses; • Eating establishments; • Neighbourhood pubs; • Liquor stores; • Office uses; • Indoor recreational facilities; • Entertainment uses; • Community services; and • Child care facilities. 	<ul style="list-style-type: none"> • Retail stores; • Personal service uses; • General service uses; • Eating establishments; • Neighbourhood pubs; • Liquor stores; • Office uses; • Indoor recreational facilities; • Entertainment uses; • Community services; and • Child care facilities.
Amenity Space:		
Indoor Amenity:	907 square metres	The proposed 896 square metres + CIL meets the Zoning Bylaw requirement.
Outdoor Amenity:	1,413 square metres	The proposed 1,502 square metres exceeds the Zoning Bylaw requirement.
Parking (Part 5)		Required
Number of Stalls		Proposed (Block II)
Residential:	301	225
Residential Visitor:	46	44
Retail:	24	24
Office:	204	204
Total:	575	497
Accessible:	12	12
Bicycle Spaces		
Residential Secure Parking:	556	557
Residential Visitor:	6	6

- The proposed CD Bylaw is based upon the existing Block A of CD Bylaw No. 20416 with modifications to the permitted density, lot coverage and minimum building setbacks.

- The net FAR is proposed to be increased from 10.4 to 11.9.
- The maximum lot coverage has been increased from 45% to a maximum of 54% in the CD Bylaw.
- The proposed density and building height are supportable at this location and in the Medical District of City Centre. The proposed building height and overall massing of the project are generally consistent with City Centre Goals.

Parking Variance

- In accordance with changes to the Local Government Act, Section 525, under Bill 47 (2023) a local government must not require an applicant within a transit-oriented area to provide off-street parking spaces for the residential use of the land, other than accessible spaces. The legislation gives local governments until June 30, 2024 to update their zoning bylaws to remove the minimum residential parking requirements.
- The applicant is proposing to reduce the number of off-street parking spaces for multiple unit residential rental dwellings in City Centre from 0.65 parking spaces per rental dwelling unit to 0.48 spaces per rental dwelling unit, and from 0.1 visitor parking spaces per rental dwelling unit to 0.09 visitor parking spaces per rental dwelling unit, resulting in a total parking requirement of 222 resident parking spaces and 42 visitor parking spaces.
- The applicant has advised that the proposed parking supply will be adequate to serve future residents and visitors of the proposed 41-storey development.
- The applicant will be required to meet all parking requirements for the retail and medical office uses.
- A Development Variance Permit is required to permit the parking reduction prior to the forthcoming amendments to the Zoning Bylaw. Based on Bill 47 and the subject site location within a transit-oriented area, staff support the proposed variance.

Capital Projects Community Amenity Contributions (CACs)

- On December 16, 2019, Council approved the City's Community Amenity Contribution and Density Bonus Program Update (Corporate Report No. R224; 2019). The intent of that report was to introduce a new City-wide Community Amenity Contribution (CAC) and updated Density Bonus Policy to offset the impacts of growth from development and to provide additional funding for community capital projects identified in the City's Annual Five-Year Capital Financial Plan. A fee update has been approved in April 2024, under Corporate Report No. Ro46; 2024.
- The proposed development will not be subject to the Tier 1 or Tier 2 Capital Plan Project CACs, as the proposal includes 100% market rental residential units. A Restrictive Covenant will be registered making CAC payable if there is a future change in tenure.

Affordable Housing Strategy

- On April 9, 2018, Council approved the City's Affordable Housing Strategy (Corporate Report No. Ro66; 2018) requiring that all new rezoning applications for residential development contribute \$1,000 per new unit to support the development of new affordable housing. The funds collected through the Affordable Housing Contribution will be used to purchase land for new affordable rental housing projects. A fee update has been approved in April 2024, under Corporate Report No. Ro46; 2024.
- As a rental project, the subject proposal is exempt from the provision of this policy. The applicant registered a Section 219 Restrictive Covenant, making the fees payable if there is a future change in tenure from the market rental, to address the City's needs with respect to the City's Affordable Housing Strategy under the original application 7920-244-00.

Public Art Policy

- The requirements for public art have been addressed under the original application 7920-0244-00. The applicant registered a Restrictive Covenant to adequately address the City's needs with respect to public art, in accordance with the City's Public Art Policy requirements.

PUBLIC ENGAGEMENT

- Pre-notification letters were sent on December 14, 2023, and the Development Proposal Signs were installed on December 18, 2023. Staff received responses from 4 neighbours (*staff comments in italics*):
 - Two respondents sought more information regarding the proposal and had no concerns.
(Staff provided the requested information to the respondents.)
 - One respondent expressed concern that the delivery of infrastructure, such as schools, transportation and recreation centres is not keeping up with the pace of development.
(City staff continue to liaise with the School District and provide regular updates on new development proposals in order to assist with school capacity planning. The expansion of the Chuck Bailey Recreation Centre is in its pre-construction stage.)

DEVELOPMENT PERMITS

Form and Character Development Permit Requirement

- The proposed development is subject to a Development Permit for Form and Character and is also subject to the urban design guidelines in the Surrey City Centre Plan.
- The proposed development generally complies with the Form and Character Development Permit guidelines in the OCP and many of the design guidelines in the Surrey City Centre Plan.

- General Development Permit No. 7920-0244-00 was issued on April 25, 2022, to guide the general design of a phased mixed-use development called "Innovation Village", with subsequent Detailed Development Permit applications required for each phase.
- The subject development application will address the detailed design of Phase 1 on the subject site.
- The applicant has worked with staff to:
 - enhance the Commercial Retail Units;
 - to improve the indoor and outdoor amenity spaces and quality;
 - improve unit outlook and privacy;
 - improve the north façade;
 - improve the transition between the office and residential areas;
 - improve the unit mix to incorporate more 3-bedroom units; and
 - improve the design of the vehicle ramp entry.
- The applicant is proposing dark grey as the predominant colour for the proposed tower. Staff have some concerns that the colour is overly dark and will negatively contribute to the urban heat island effect. Staff will continue to work with the applicant to determine a more appropriate colour scheme prior to the issuance of the Development Permit.
- The proposal consists of a 41-storey high-rise residential tower with a 6-storey podium consisting of medical offices and at-grade retail facing 95 Avenue.
- Commercial units along the street are designed with individual entries off 95 Avenue which enhance the public realm and, along with a landscaped boulevard with a double row of trees create a human-scaled space.
- Multiple lobbies are located at the ground level to support the mixed-use functions within the building, including ground floor commercial, offices, and rental dwelling units.
- The residential and commercial lobby canopies create visual interest and cues to the buildings' entries along 95 Avenue and King George Boulevard.

Proposed Signage

- At this time, no signage is proposed on the subject site. If required in the future, the proposed signage will be considered as part of a separate development permit application and will be expected to comply with the Sign Bylaw.
- The signage included on the drawing package is conceptual and for illustrative purposes to demonstrate how the tenant signage could be incorporated into the current building design.

Landscaping

- The ground floor commercial interface along 95 Avenue consists of a landscaped boulevard with a double row of trees create a human-scaled space.
- A walkway was secured as part of Development Application 7920-244-00 which runs along the west, north and east of the site and adjacent to the riparian protection area. The walkway is

secured by a statutory right-of-way for public passage. The pathway area will be planted with native species in order to provide a seamless transition between the development site and the riparian area.

- See the Outdoor Amenity section below regarding landscaping for the outdoor amenity areas.

Indoor Amenity

- Per the required Indoor Amenity Space requirements, high-rise towers that are 25 storeys or higher must meet a base requirement of 3 square metres per unit and 4 square metres per micro unit up to 557 square metres per tower, which equates to 186 units, plus 1 square metre per unit above 557 square metres.
- Based upon the City's revised Zoning Bylaw requirement, the proposed development must provide 907 square metres of indoor amenity space to serve the residents of the proposed 463 units.
- The applicant is proposing 896 square metres of indoor amenity space on Levels 6 and 7. The shortfall of 11 square metres of indoor amenity space will be addressed through cash-in-lieu in accordance with City policy.
- The indoor amenity area on Level 6 consists of a gym, lounge areas, office space and a kitchen, while the amenity area on Level 7 consists of a gym, meeting room, office space and co-working areas.

Outdoor Amenity

- Based upon the City's Zoning Bylaw requirement of 3.0 square metres per dwelling unit and 4 square metres per micro unit for amenity space, 1,413 square metres of outdoor amenity space is required for the proposed development.
- The applicant proposes 1,502 square metres of outdoor amenity space located throughout the development.
- The outdoor amenity programming consists of seating areas and a large lawn at the ground level; a putting green, children's play area, outdoor gym, seating areas and outdoor kitchen on Level 6, and; urban agriculture boxes and a variety of seating areas on the rooftop.

Outstanding Items

- There are a limited number of Urban Design items that remain outstanding, and which do not affect the overall character or quality of the project. These generally include:

- Resolve the dark colour scheme;
 - Design refinement to enhance the public plazas at the southeast and southwest corners of the site;
 - Design refinement to ensure an appropriate transition between the proposed tower and the future development to the west;
 - Relocate the exhaust vents outside of the of public realm adjacent to the 5-metre right-of-way; and
 - Design refinement to the public realm interface.
- The applicant has been provided a detailed list identifying these requirements and has agreed to resolve these prior to Final Approval of the Development Permit, should the application be supported by Council.

TREES

- An arborist report for the overall development site, prepared by Max Rathburn and Maddy MacDonald, ISA Certified Arborists of Diamond Head Consulting Ltd. was approved under the original Development Application No. 7920-0244-00.
- There are no trees located on the subject site.

CITY ENERGY

- The subject site is located within Service Area A, as defined in the "City Centre District Energy System By-law" (see Appendix VI for location). The District Energy System consists of three primary components:
 - community energy centres, City-operated facilities that generate thermal energy for distribution through a piped hot water network;
 - distribution piping that links the community energy centres with buildings connected to the system; and
 - City-owned energy transfer stations (ETS) located within the building connected to the system. The ETS transfers heat energy from the distribution system to the building's mechanical system, and is used to meter the amount of energy used.
- All new developments within Service Area A with a build-out density equal to or greater than a floor area ratio (FAR) of 1.0 will be required to provide hydronic thermal energy systems in support of the City's District Energy (DE) system including domestic hot water, make-up air units and in-suite hydronic space heating. The City is committed to having the DE system operational within the timeframe of this project. Therefore, the subject application will be required to connect to the City's DE system prior to occupancy.
- In order to avoid conflicts between the District Energy System and other utilities, the location of the ETS and related service connections are confirmed by Engineering and the applicant at the servicing agreement stage. The Engineering Department also requires the applicant to register a statutory right-of-way and Section 219 Restrictive Covenant over the subject site for the following purposes:

- City access to, and maintenance and operation of, the ETS within the building and any infrastructure between the building and the property line; and
 - to prevent conflicts with other utilities.
- Prior to the issuance of a building permit, the Engineering Department will confirm that the applicant has met the requirements of the "City Centre District Energy System By-law".

INFORMATION ATTACHED TO THIS REPORT

The following information is attached to this Report:

Appendix I.	Site Plan, Building Elevations, Landscape Plans and Perspective
Appendix II.	School District Comments
Appendix III.	ADP Comments and Response
Appendix IV.	Proposed Housing Agreement
Appendix V.	District Energy Map
Appendix VI.	Development Variance Permit 7923-0227-00

approved by Ron Gill

Don Luymes
General Manager
Planning and Development

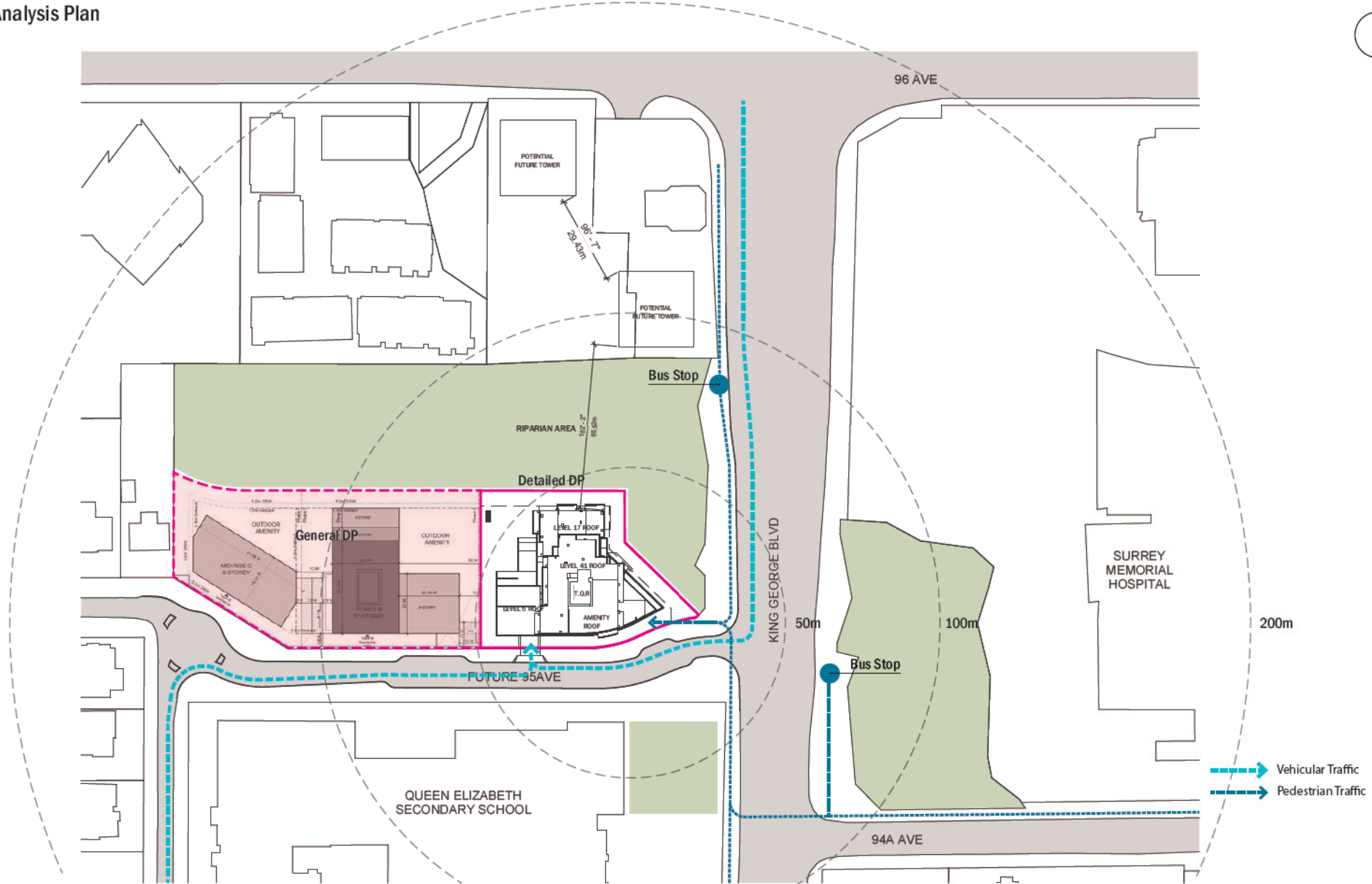
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APPENDIX I

Context Plan



Site Analysis Plan



Perspective View



Perspective View



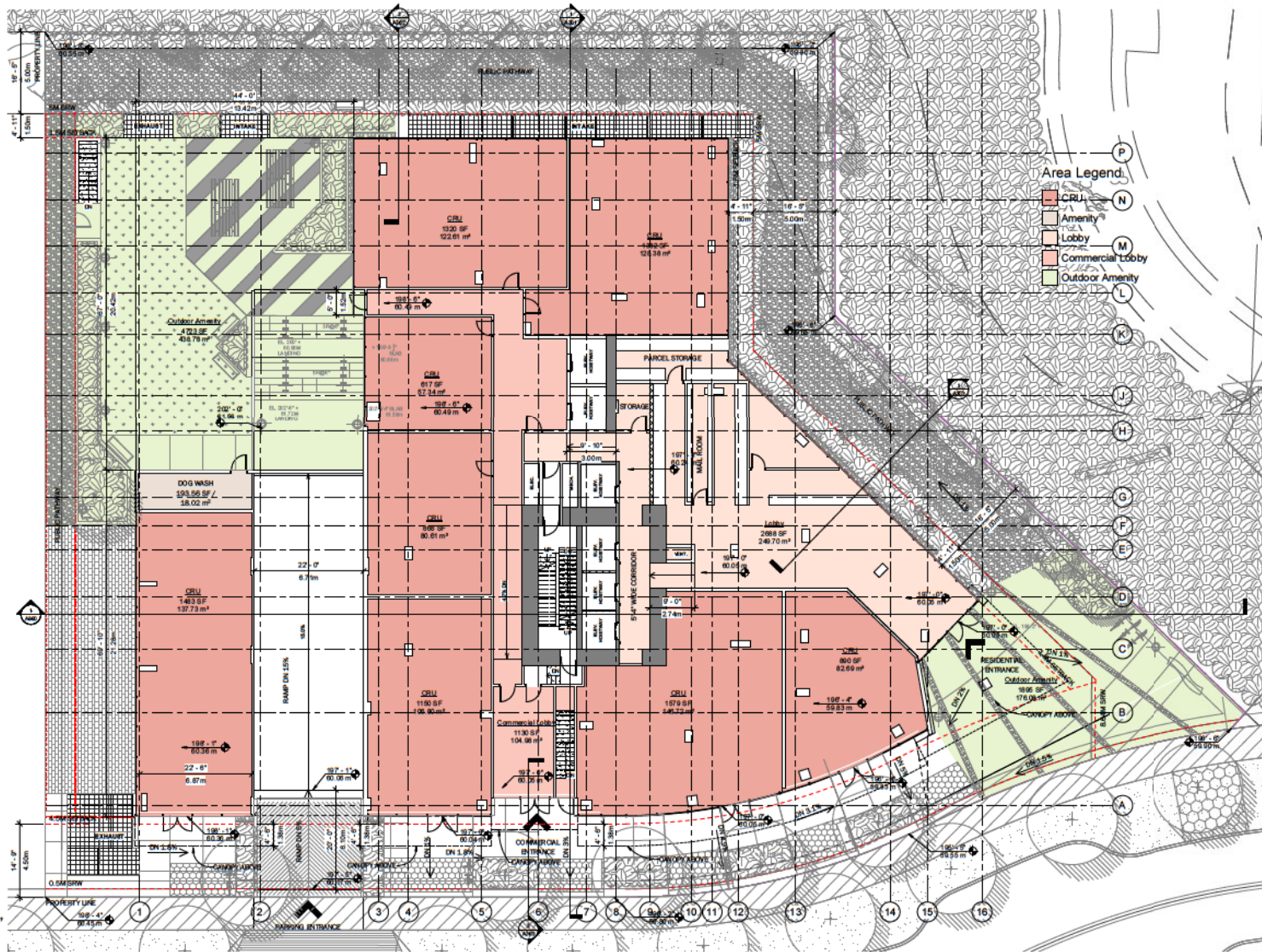
Perspective View



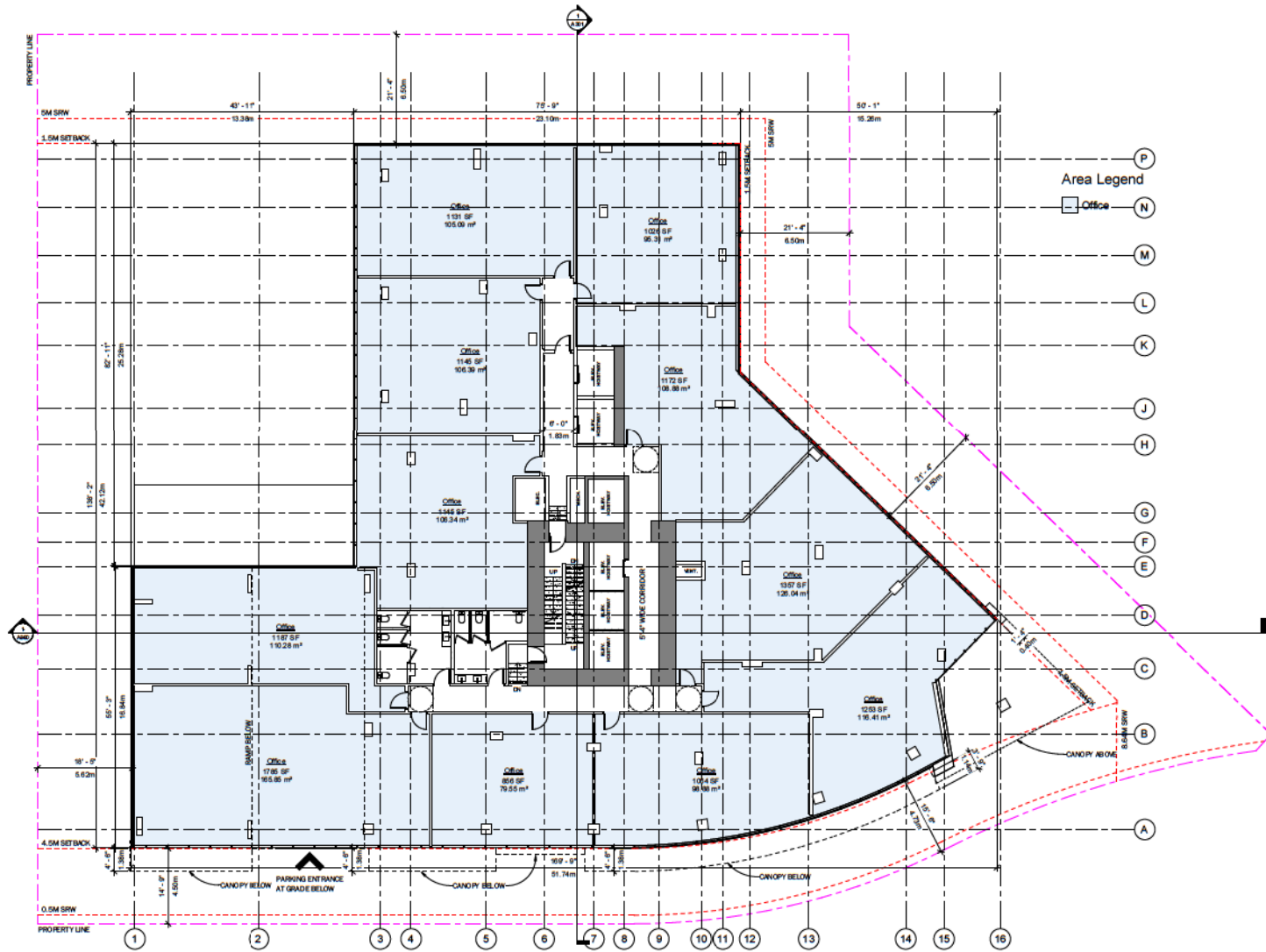
Perspective View



Ground Level Plan

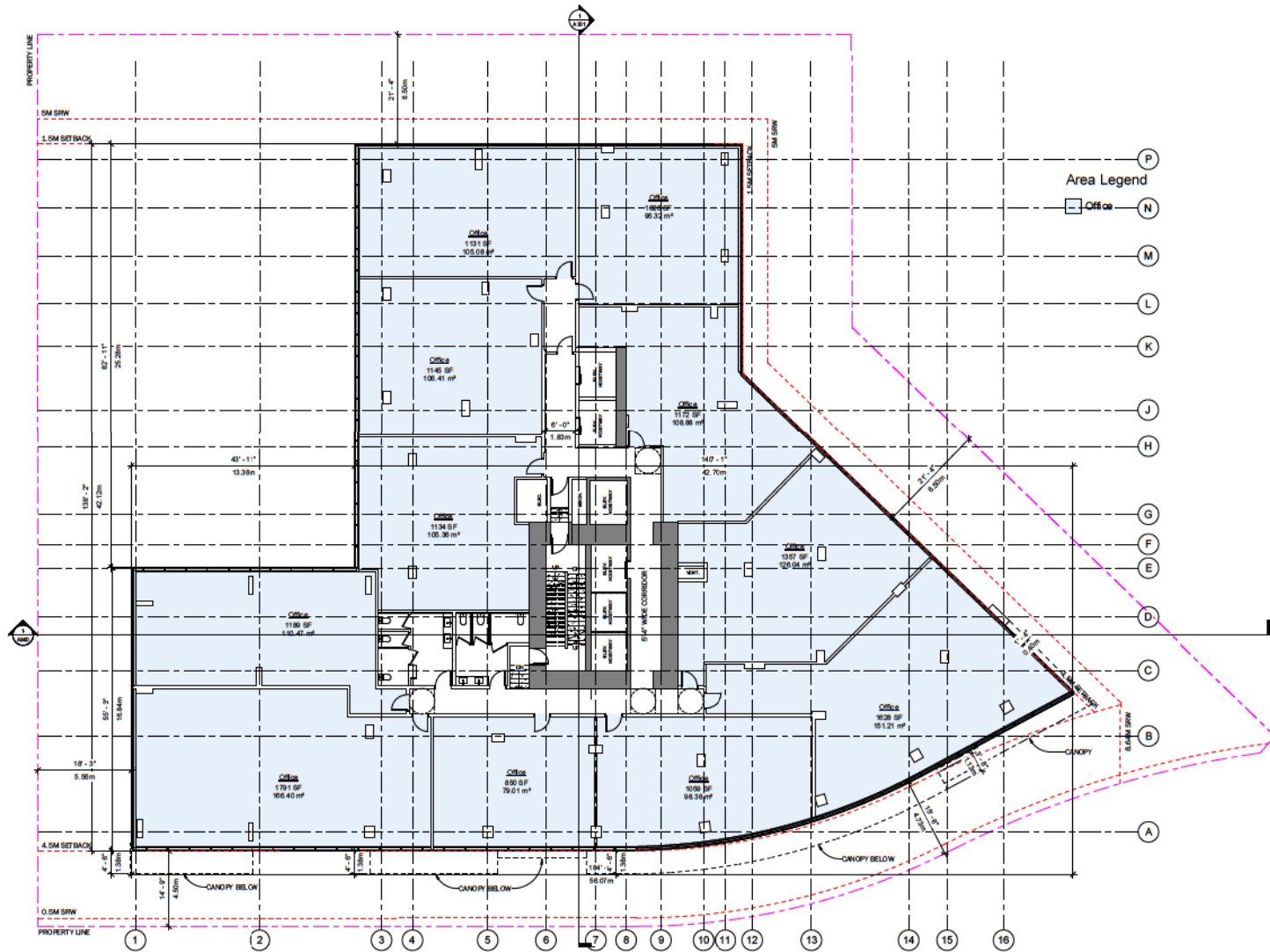


Level 2 Plan



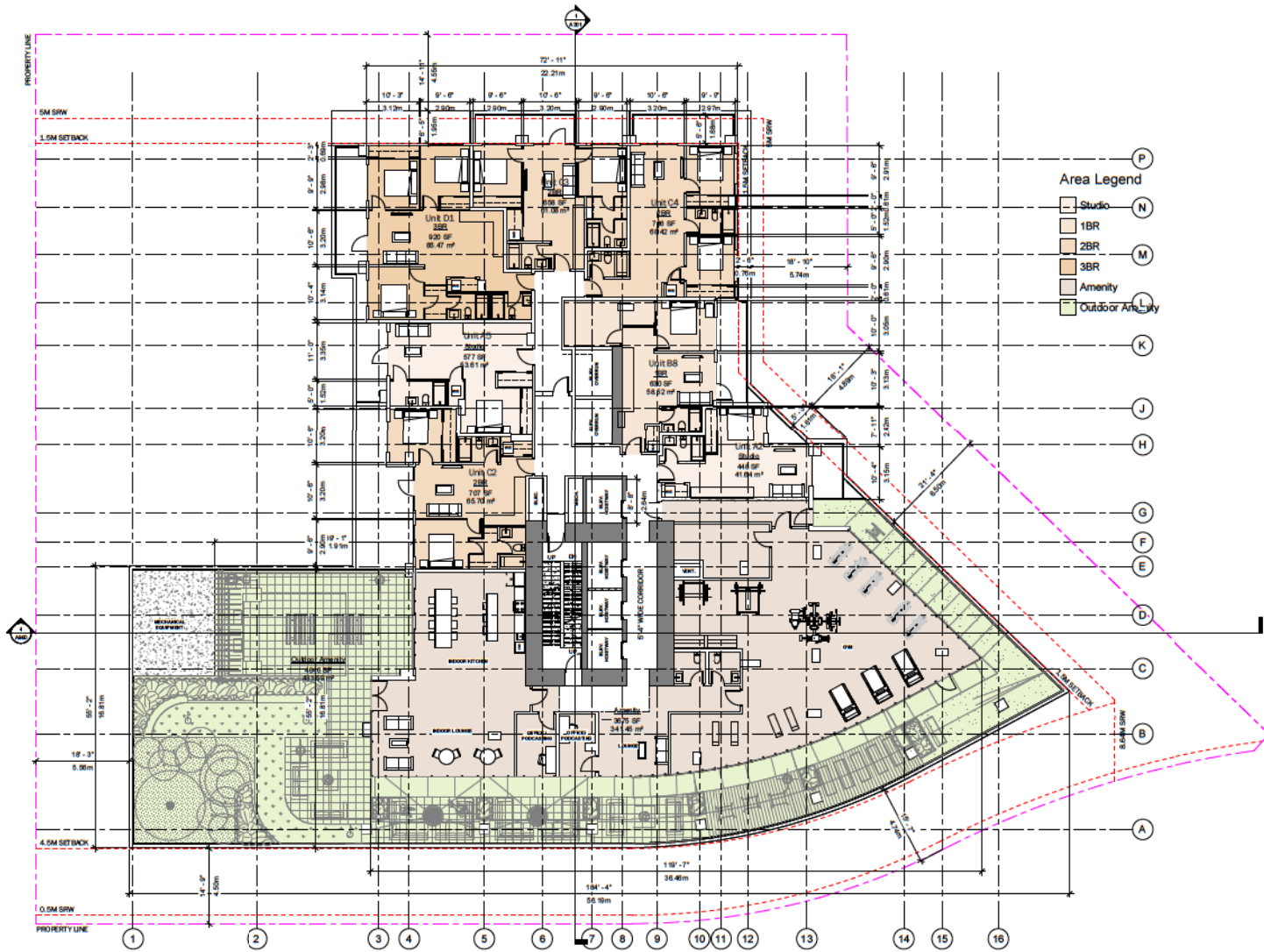
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Level 3...5 Plan



Scale: 3/64" = 1'-0"

Level 6 Amenity Plan

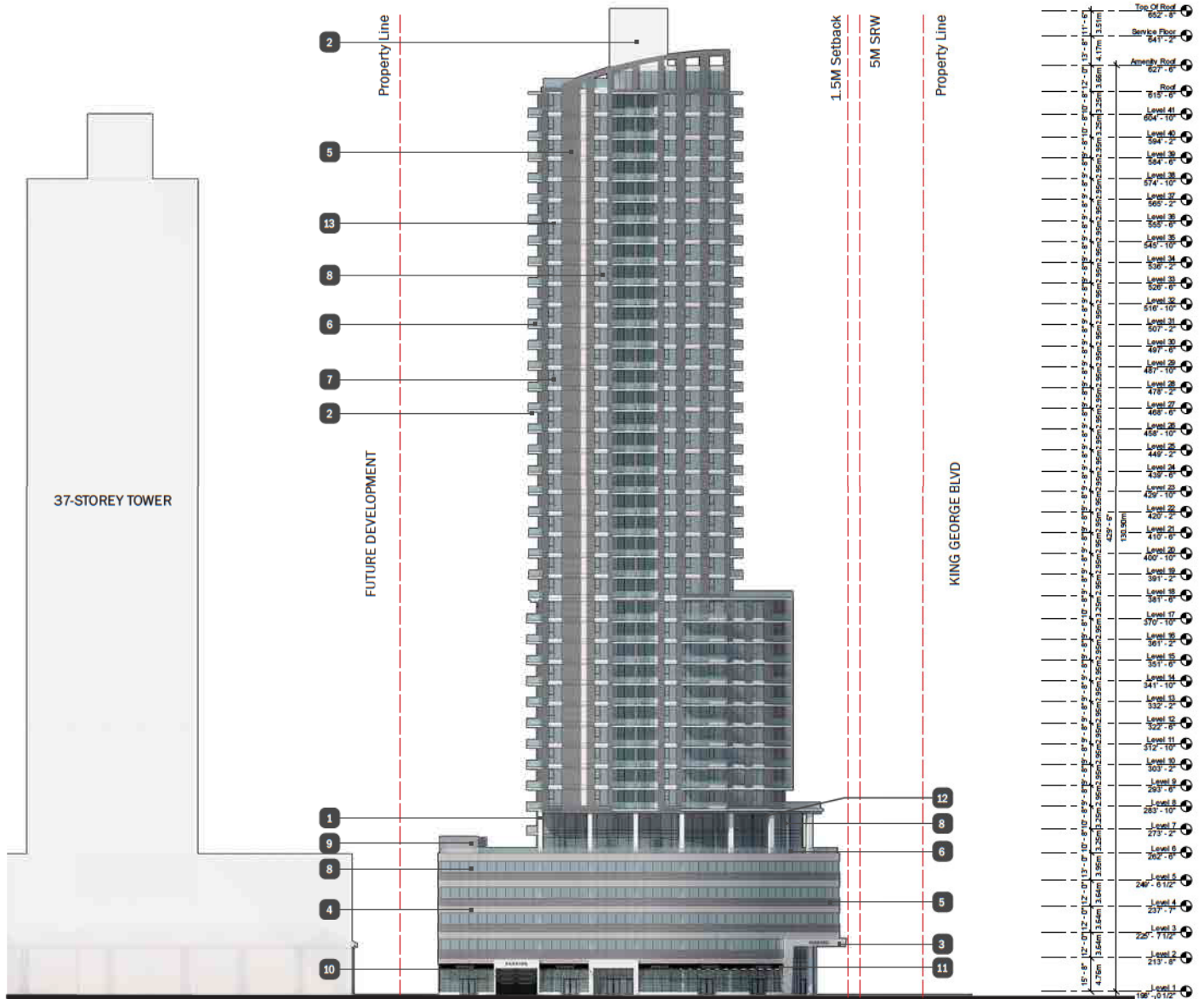


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South Elevation

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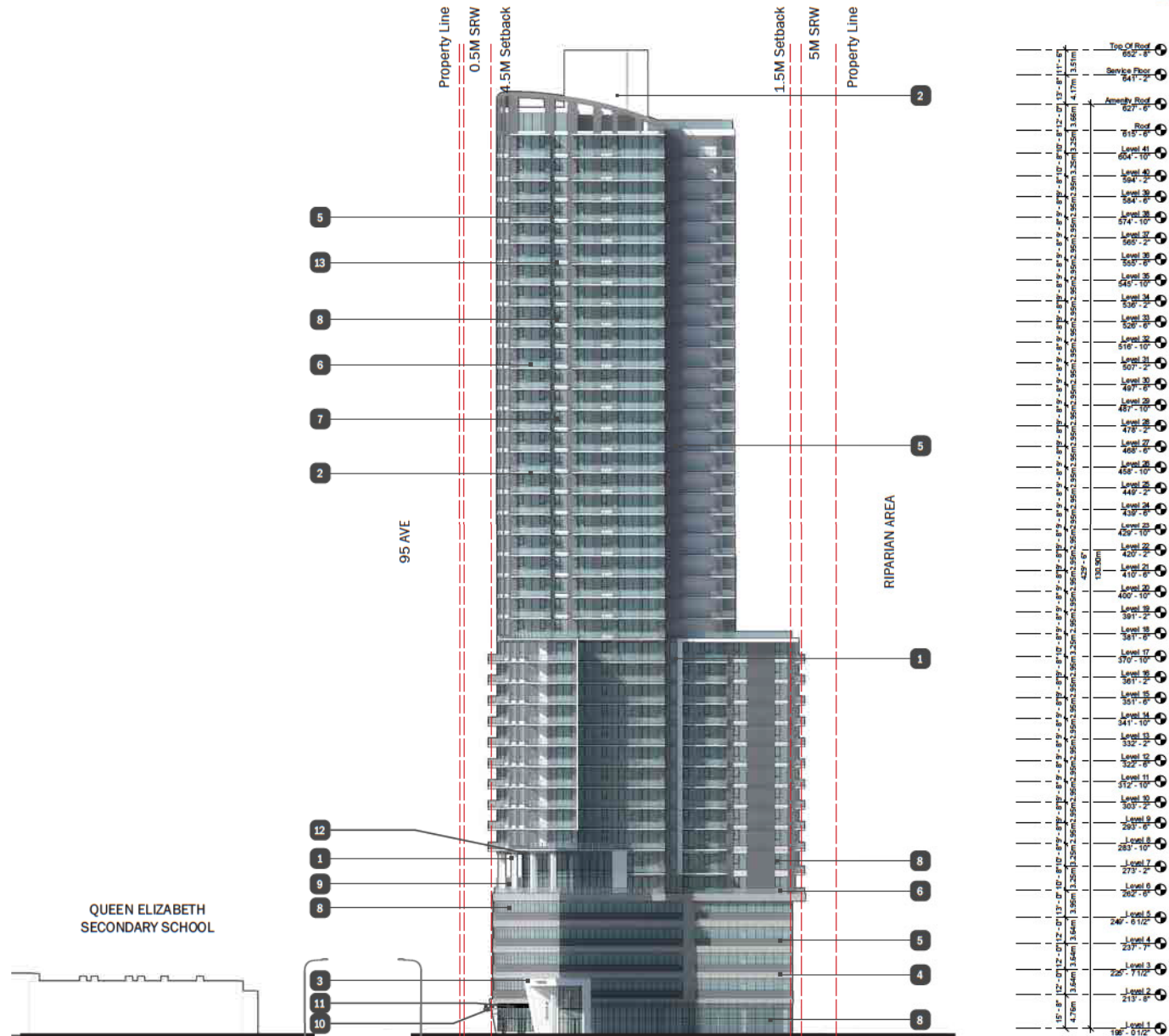
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5. Opaque Panel - Color Reference: Alucobond Dusty Charcoal II
6. Clear Glass Guardrail
7. Aluminium Frame - Dark Gray
8. Clear Glass - Window Wall
9. Metal Screen - White
10. Laminated Glass Canopy with Steel Frame
11. Ventilation Grill - Black
12. Soffit Panel - Color Reference: Alucobond Hazelnut Mica
13. Opaque Panel - Color Reference: Alucobond Pearl White Mica



East Elevation

Material Legend

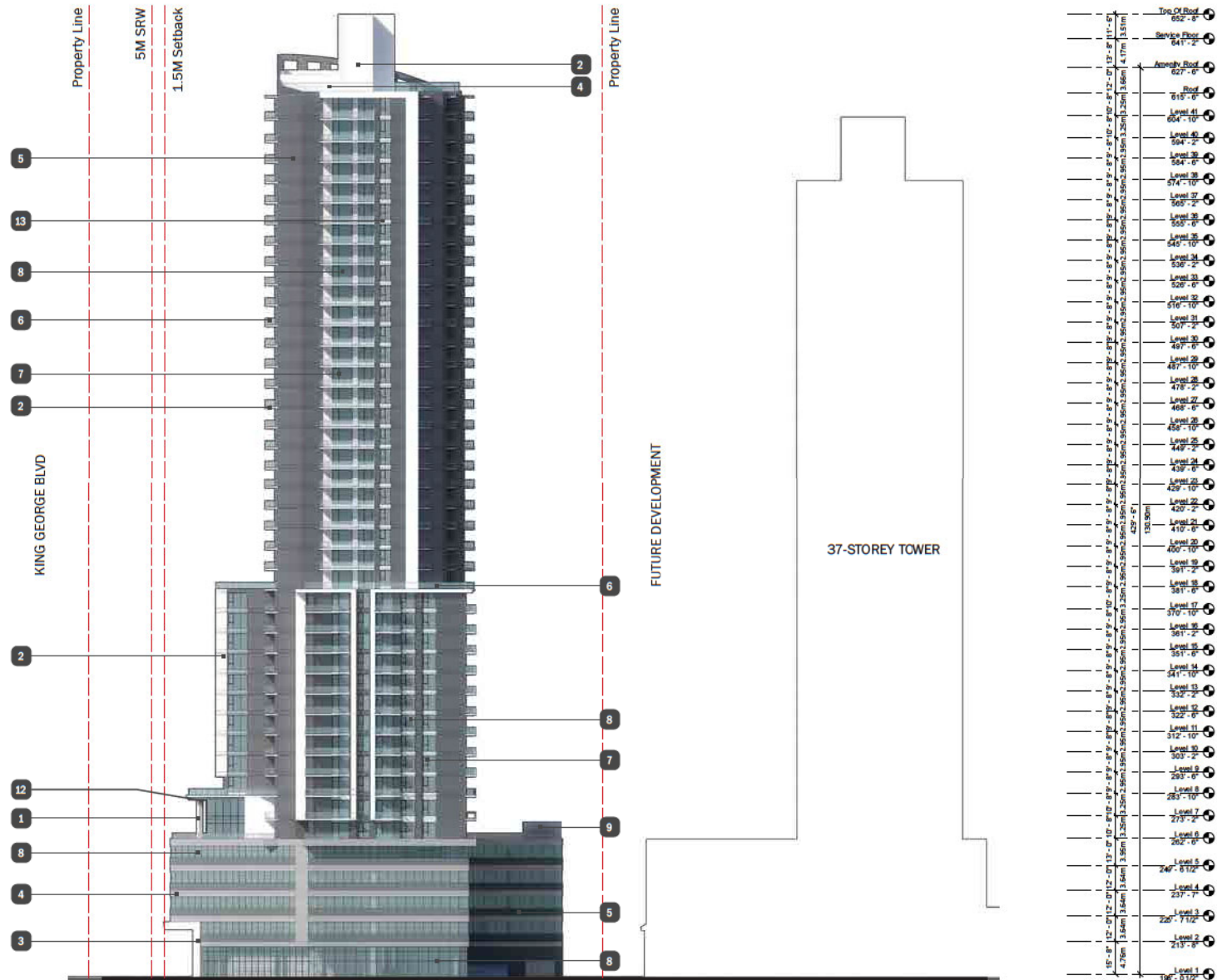
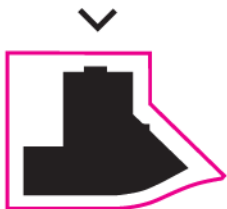
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5. Opaque Panel - Color Reference: Alucobond Dusty Charcoal II
6. Clear Glass Guardrail
7. Aluminium Frame - Dark Gray
8. Clear Glass - Window Wall
9. Metal Screen - White
10. Laminated Glass Canopy with Steel Frame
11. Ventilation Grill - Black
12. Soffit Panel - Color Reference: Alucobond Hazelnut Mica
13. Opaque Panel - Color Reference: Alucobond Pearl White Mica



North Elevation

Material Legend

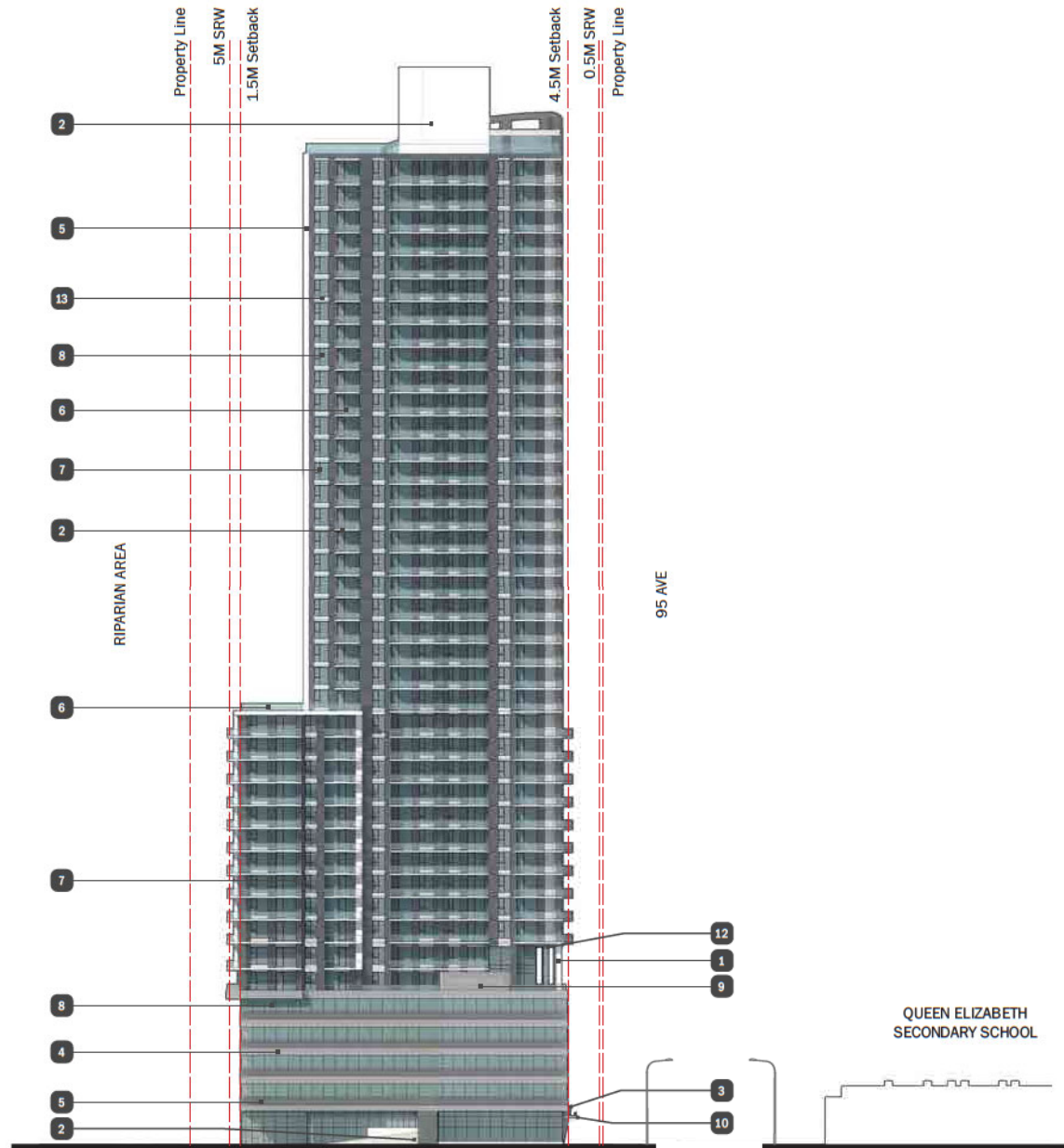
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5. Opaque Panel - Color Reference: Alucobond Dusty Charcoal II
6. Clear Glass Guardrail
7. Aluminium Frame - Dark Gray
8. Clear Glass - Window Wall
9. Metal Screen - White
10. Laminated Glass Canopy with Steel Frame
11. Ventilation Grill - Black
12. Soffit Panel - Color Reference: Alucobond Hazelnut Mica
13. Opaque Panel - Color Reference: Alucobond Pearl White Mica



West Elevation

Material Legend

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5. Opaque Panel - Color Reference: Alucobond Dusty Charcoal II
6. Clear Glass Guardrail
7. Aluminium Frame - Dark Gray
8. Clear Glass - Window Wall
9. Metal Screen - White
10. Laminated Glass Canopy with Steel Frame
11. Ventilation Grill - Black
12. Soffit Panel - Color Reference: Alucobond Hazelnut Mica
13. Opaque Panel - Color Reference: Alucobond Pearl White Mica



Level	Height (m)	Height (ft)
Level 1	196	642
Level 2	213	699
Level 3	225	738
Level 4	237	778
Level 5	249	817
Level 6	262	861
Level 7	273	896
Level 8	283	928
Level 9	293	961
Level 10	303	994
Level 11	312	1020
Level 12	322	1058
Level 13	332	1091
Level 14	341	1117
Level 15	351	1148
Level 16	351	1148
Level 17	370	1214
Level 18	381	1250
Level 19	391	1283
Level 20	400	1312
Level 21	410	1345
Level 22	420	1378
Level 23	429	1405
Level 24	439	1438
Level 25	449	1471
Level 26	458	1504
Level 27	468	1537
Level 28	478	1570
Level 29	487	1603
Level 30	497	1636
Level 31	507	1669
Level 32	516	1702
Level 33	526	1735
Level 34	536	1768
Level 35	545	1801
Level 36	555	1834
Level 37	565	1867
Level 38	574	1900
Level 39	584	1933
Level 40	594	1966
Level 41	604	2000
Level 42	615	2033
Roof	627	2057
Apex Roof	627	2057
Service Floor	641	2101
Top Of Roof	652	2138

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SCALE:



7	24 MAR 23	CLIENT APPROVAL	SA
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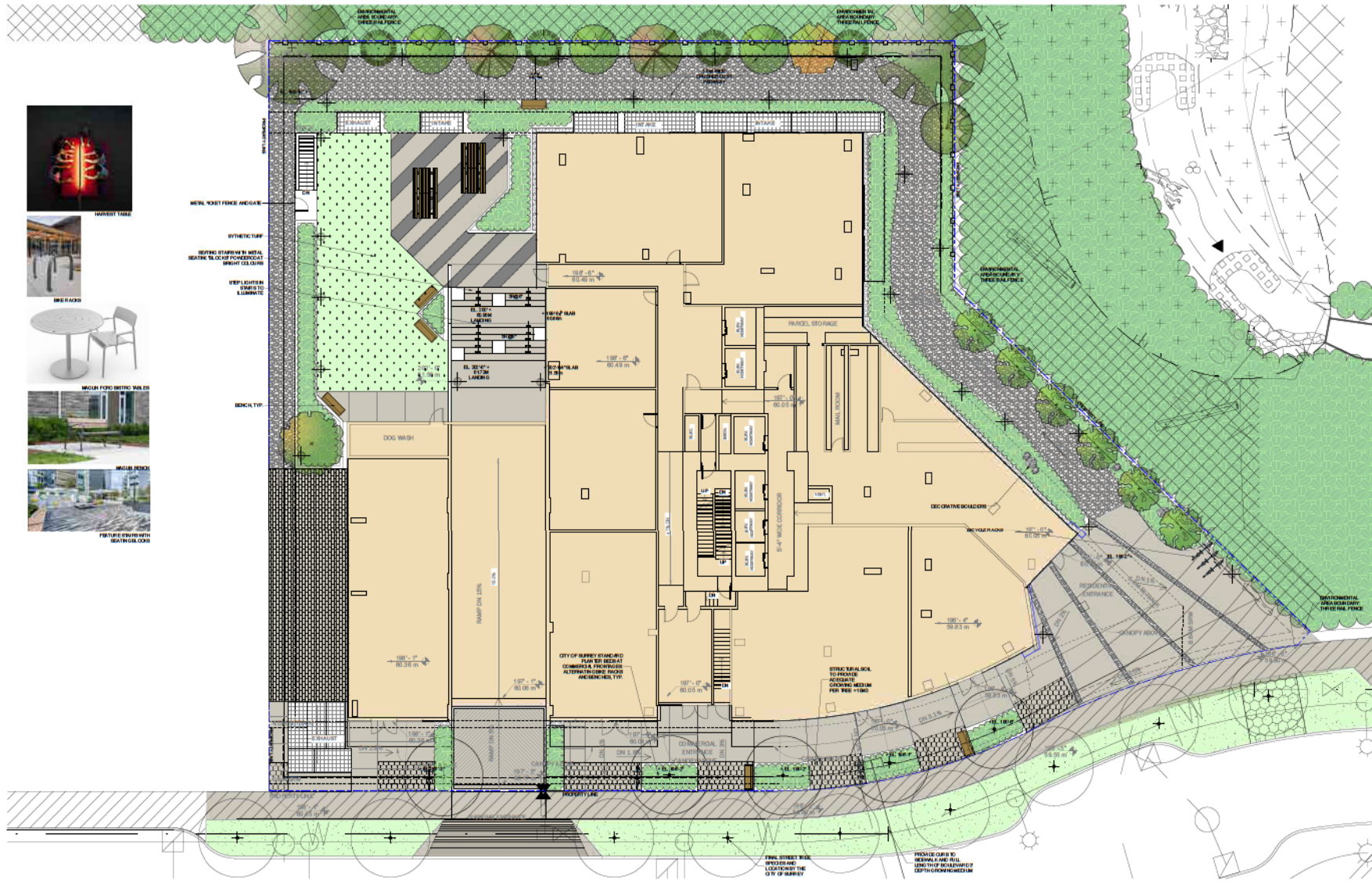
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PROJECT:
**RESIDENTIAL TOWER
9525 KING GEORGE**
9525 KING GEORGE BLVD
SURREY

DRAWING TITLE:
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PLAN**

DATE: 23.JUL.20
SCALE: 3/32" = 1'-0"
DRAWN: CLG
DESIGN: CLG
CHK'D: OW
OF 6

PMG PROJECT NUMBER: 23-120



OUTDOOR AMENITY AREA

MAN FLOOR	391.95m²
LEVEL 6	423.29m²
LEVEL 7	12.69m²
ROOF	402.99m²
TOTAL	1314.92m²

Lighting Legend

	Lighting Bollard, Dark Sky Certified
	Step Light, Dark Sky Certified

TREE SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS
	1	ACER GLABRUM VAR. DOUGLASSII	DOUGLAS MAPLE	80M CAL, 2.5M HT, BAR, BLIST
	3	BETULA PAPPYRIFERA 'REINARS SANCE REFLECTION'	PAPER BIRCH TREND*	80M CAL, 1.5M STD, BAR, CLIMATE RESILIENT; BR BORKER RESIST
	34	CHAMAECYPARIS HOOBATRENIS 'PINDOLA'	WEISSING YELLOW CEDAR	3.0M HT, BAR, NATIVE
	2	CRATAEGUS OULMANS	BLACK HAWTHORN	80M CAL, 1.5M STD, BAR, NATIVE, CLIMATE RESILIENT
	2	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY MAQUINAIR	80M CAL, 2M STD, BAR, CLIMATE RESILIENT
	9	POPULUS TREMULOIDES 'SUNSHINE'	COLUARIAN TREMULING ASPEN	80M CAL, 2M STD, BAR, CLIMATE RESILIENT; NATIVE
	6	TAXODIUM DISTICHUM 'SHAWANEE BRAVE'	NARROW BALD CYPRESS	2.5M HT, BAR, CLIMATE RESILIENT
	2	ZELKOVA SERPATA 'GREEN VASE'	GREEN VASE ZELKOVA	80M CAL, 1.5M STD, BAR, CLIMATE RESILIENT

NOTES: * PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER CANA STANDARD. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. * REFER TO SPECIFICATIONS FOR DEFINED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. * SEARCH AND REVIEW WAVE PLANT MATERIAL AVAILABLE FOR OPTIONAL REVIEW BY LANDSCAPE ARCHITECT FOR SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. * SUBSTITUTIONS OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS TO THE SPECIFIED MATERIAL. UNAPPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD - DEFINITION OF CONDITIONS OF AVAILABILITY. ALL LANDSCAPE MATERIAL AND WORKMANSHIP MUST MEET OR EXCEED BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD LATEST EDITION. * ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE-FREE NURSERY. * SO-SOILS NOT PERMITTED IN GROWING MEDIUM UNLESS AUTHORIZED BY LANDSCAPE ARCHITECT.



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CLIENT:

PROJECT:
RESIDENTIAL TOWER
9525 KING GEORGE
9525 KING GEORGE BLVD
SURREY

DRAWING TITLE:
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LANDSCAPE PLAN

DATE: 23 JUL 20
SCALE: 3/32" = 1'-0"
DRAWN: CLG
DESIGN: CLG
CHK'D: CW
PROJECT NUMBER: 23-120

L3

OF 6



PLANT SCHEDULE - LEVEL 6				
KEY	QTY	BOTANICAL NAME	COMMON NAME	PMG PROJECT NUMBER: 23-120 PLANT SIZE/REMARKS
SHRUB	18	BUXUS SEMPERVIRENS 'SUFFRUTICOSA'	DWARF ENGLISH BOXWOOD	#2 POT, 25CM, CLIMATE RESILIENT, 80CM OC.
	13	ILEX CRDNATA 'CONNEXA'	JAPANESE HOLLY	#2 POT, 30CM
GRASS	31	CAREX OSHIMENSI 'EVER GOLD'	EVER GOLD JAPANESE SEDGE	#1 POT, 45CM OC.
	1	SCHIZOPHRAGMA HYDRANGEAECIDES 'MOONLIGHT'	MOONLIGHT HYDRANGEA VINE	#3 POT, 75CM, STAKED
PERENNIAL	12	ACHELLIA MILLEFOLIUM 'RED VELVET'	RED VELVET YARROW	#1 POT, NATIVE, BUTTERFLY FRIENDLY, 80CM OC.
	12	SEDUM CAUTICOLA 'BETRAM ANDERSON'	BETRAM ANDERSON STONECROP	5CM POT, SHD-BEE FRIENDLY, 45CM OC.

NOTES: * PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER CNA STANDARD. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. * REFER TO SPECIFICATIONS FOR DERIVED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. * SEARCH AND RESERVE PLANT MATERIAL AVAILABLE FOR OPTIONAL REVIEW BY LANDSCAPE ARCHITECT AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. * SUBSTITUTIONS: OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS TO THE SPECIFIED MATERIAL. UNAPPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD - DEFINITION OF CONDITIONS OF AVAILABILITY. * ALL LANDSCAPE MATERIAL AND WORKMANSHIP MUST MEET OR EXCEED BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD LATEST EDITION. * ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE FREE NURSERY. * BIO-SOLIDS NOT PERMITTED IN GROWING MEDIUM UNLESS AUTHORIZED BY LANDSCAPE ARCHITECT.



SCALE:



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NO. DATE REVISION DESCRIPTION DR.

CLIENT:

PROJECT:
RESIDENTIAL TOWER
9525 KING GEORGE
9525 KING GEORGE BLVD
SURREY

DRAWING TITLE:
ROOF LEVEL
LANDSCAPE PLAN

DATE: 23 JUL 20 DRAWING NUMBER:
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CHK'D: CW OF 6

PLANT SCHEDULE - ROOFTOP AMENITY SPACE

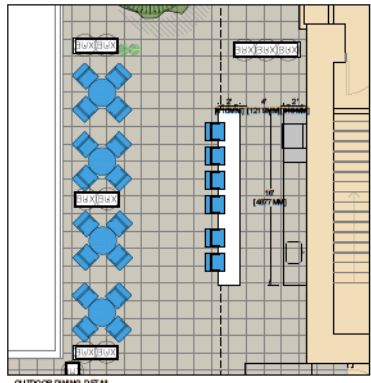
PMG PROJECT NUMBER: 23-120

KEY	QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS
TR	2	RHUS TYPHINATA 'TIGER EYES'	GUTLEAF STAGHORN SUMAC	2M HT; 6AS; 3 STEM OR MORE; CLIMATE RESILIENT
SR	21	BUXUS SEMPERVIRENS 'SUFFRUTICOSA'	BNARF ENGLISH BOXWOOD	#2 POT; 25CM; CLIMATE RESILIENT; 80CM OC
GR	1	CRYPTOMERIA JAPONICA 'TANISHU'	BNARF JAPANESE CEDAR	#8 POT; 120CM OC
GR	2	CALAMAGROSTIS ACUTIFLORA 'HARL FOSTER'	LEATHER REED GRASS	#1 POT; CLIMATE RESILIENT; 75CM OC
GR	58	CAREX OBOVATUS 'EVERSCOLD'	EVERGOLD JAPANESE SEDGE	#1 POT; 45CM OC
GR	3	HELICTOTRICHON SEMPERVIRENS	BLUE CAT GRASS	#1 POT; CLIMATE RESILIENT
GR	5	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILY TURF	#1 POT; 80CM OC
GR	8	OPHIOPOGON JAPONICUS	BNARF MONDO GRASS	#1 POT; 45CM OC
GR	20	OPHIOPOGON PLANISCAPUS 'INGRESCENS'	BLACK MONDO GRASS	#1 POT; 30CM OC
PER	2	ALLIUM SCIROCARPUM	OSMONN CHIVES	#1 POT; 45CM OC
PER	2	ALLIUM TUBEROSUM	SHALLOT CHIVES	#1 POT; 45CM OC
PER	2	ECHINACEA PURPUREA 'ADOBE ORANGE'	ORANGE CONEFLOWER	15CM POT; BRD; BEE FRIENDLY; NATIVE; 60CM CC
PER	3	MENTHA PIPERITA	PEPPERMINT	#1 POT; 30CM OC
PER	2	OSMONN VULGARIS	OSMONN OREGANO	#1 POT; 80CM OC
PER	1	PASADENA ROCK	ROCKS TREE PEONY	#1 POT; 120CM OC
PER	2	ROSMARINUS OFFICINALIS	OSMONN ROSEMARY	#2 POT; 75CM OC
PER	2	SALVIA OFFICINALIS	OSMONN SAGE	#1 POT; 80CM OC
PER	2	SEDUM CAUCASICA 'NITRA MANDERSON'	NETRAM ANDERSON STONECROP	50M POT; BRD; BEE FRIENDLY; 40CM OC
PER	6	THYMUS VULGARIS	OSMONN THYME	#1 POT; 80CM OC

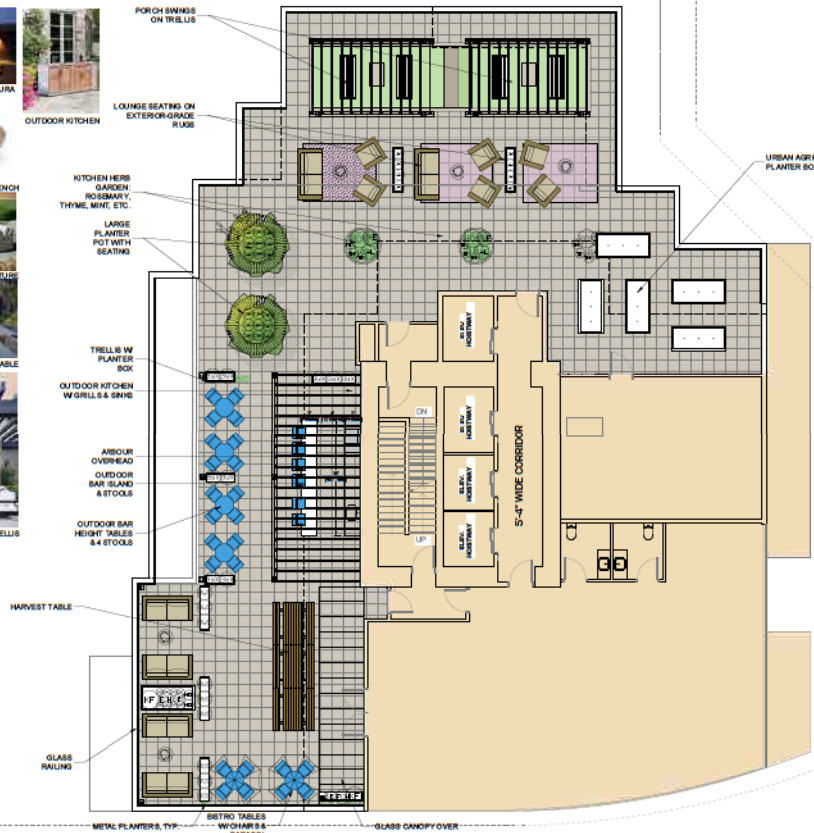
NOTES: * PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER ONA STANDARD. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZE. * REFER TO SPECIFICATIONS FOR DEFINED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. * SEARCH AND REVIEW WASTE PLANT MATERIAL AVAILABLE FOR OPTIONS. REVIEW BY LANDSCAPE ARCHITECT AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. * SUBSTITUTIONS: OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS TO THE SPECIFIED MATERIAL. UNIMPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD. DEFINITION OF CONDITIONS OF AVAILABILITY. * ALL LANDSCAPE MATERIAL AND WORKMANSHIP MUST MEET OR EXCEED BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD LATEST EDITION. * ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE FREE NURSERY. * BC SOLIDS NOT PERMITTED IN GROWING MEDIUM UNLESS AUTHORIZED BY LANDSCAPE ARCHITECT.



LEVEL 7 SHARED PATIO



OUTDOOR DINING DETAIL



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pmg
LANDSCAPE ARCHITECTS
Suite C100 - 4185 88th Street Drive
Burnaby, British Columbia, V5C 0G9
P: 604.294-0011 F: 604.294-0022

SCALE:



NO.	DATE	REVISION DESCRIPTION	DR.
7	24 MAR 18	CLIENT APPROVALS	SA
6	23 DEC 18	ISSUE FOR REVIEW - CITY PLAN	CT
5	23 DEC 18	ISSUE FOR SUBMISSION	CLG
4	23 DEC 15	ISSUE FOR SUBMISSION	CLG
3	23 DEC 15	URGENT DRAWING FOR NEW TREE PLANT	CLG
2	23 DEC 15	NEGATIVE LANDSCAPE GRADING	CLG
1	20 JUL 15	BLUE PRINT SP	CLG

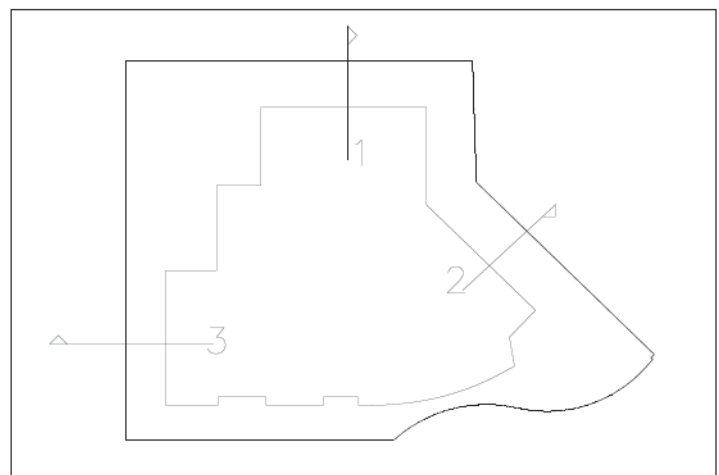
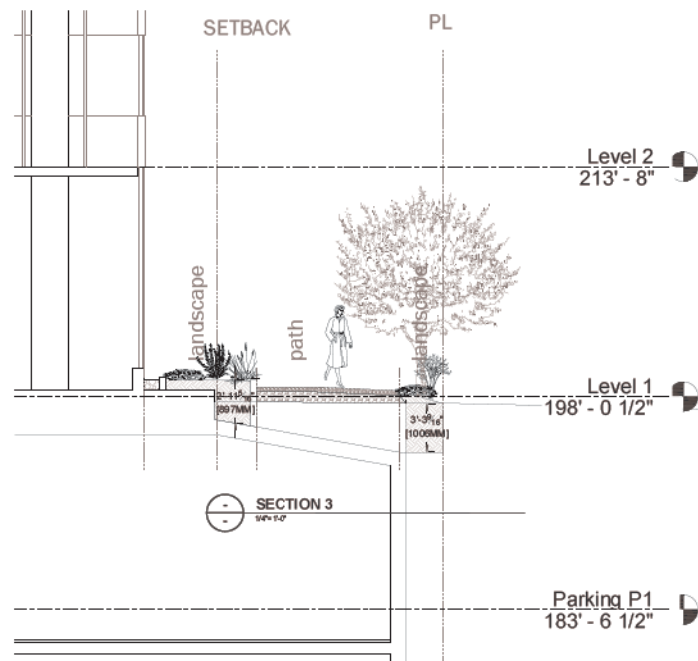
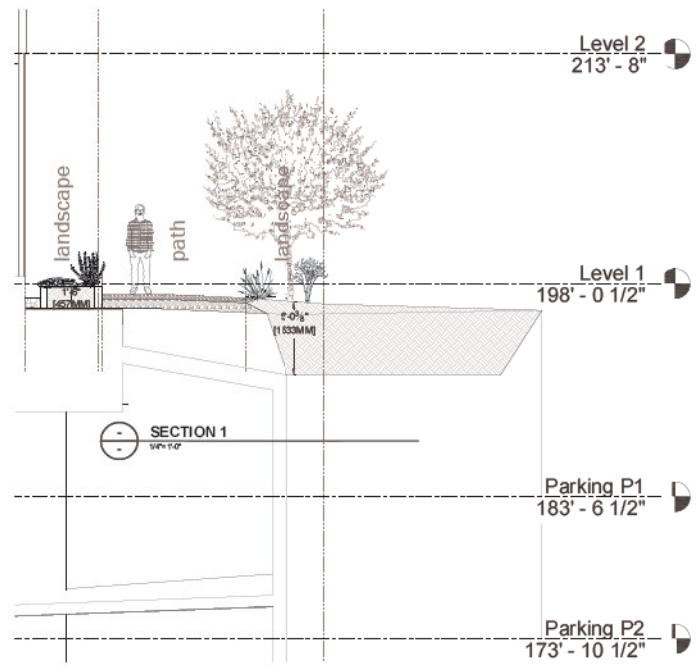
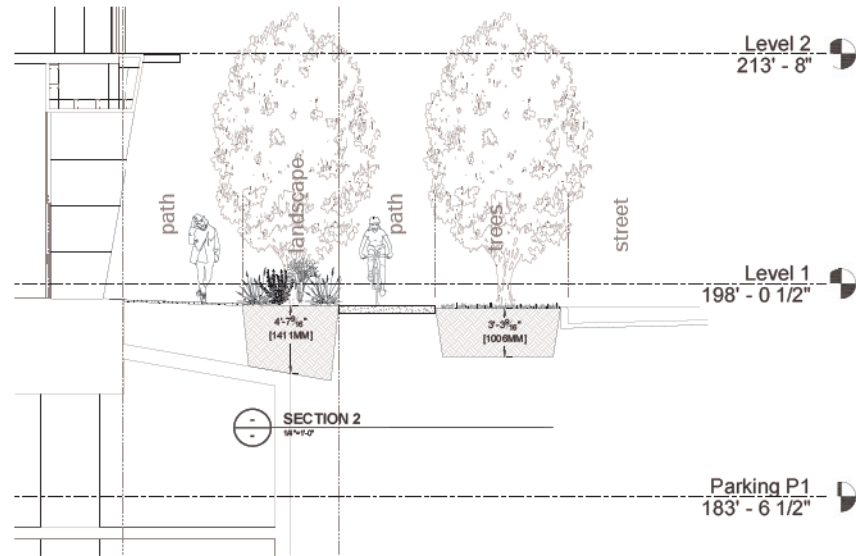
CLIENT:

PROJECT:
RESIDENTIAL TOWER
9525 KING GEORGE
9265 KING GEORGE BLVD
SURREY

DRAWING TITLE:
LANDSCAPE SECTIONS

DATE: 23 JUL 18 DRAWING NUMBER:
SCALE: AS NOTED **L5**
DRAWN: CLG
DESIGN: CLG
CHK'D: CW **OF 6**

20120-9-1p PMG PROJECT NUMBER: 23-320



KEY PLAN
NO SCALE

Department: **Planning and Demographics**
Date: **April 30, 2024**
Report For: **City of Surrey**

Development Impact Analysis on Schools For:

Application #: **23-0227**

The proposed development of **463** High Rise Apartment units are estimated to have the following impact on elementary and secondary schools within the school regions.

School-aged children population projection	38
---	----

Projected Number of Students From This Development In:	
Elementary School =	23
Secondary School =	9
Total Students =	32

Current Enrolment and Capacities:	
Cindrich Elementary	
Enrolment	438
Operating Capacity	481
# of Portables	0
Queen Elizabeth Secondary	
Enrolment	1472
Operating Capacity	1600
# of Portables	4

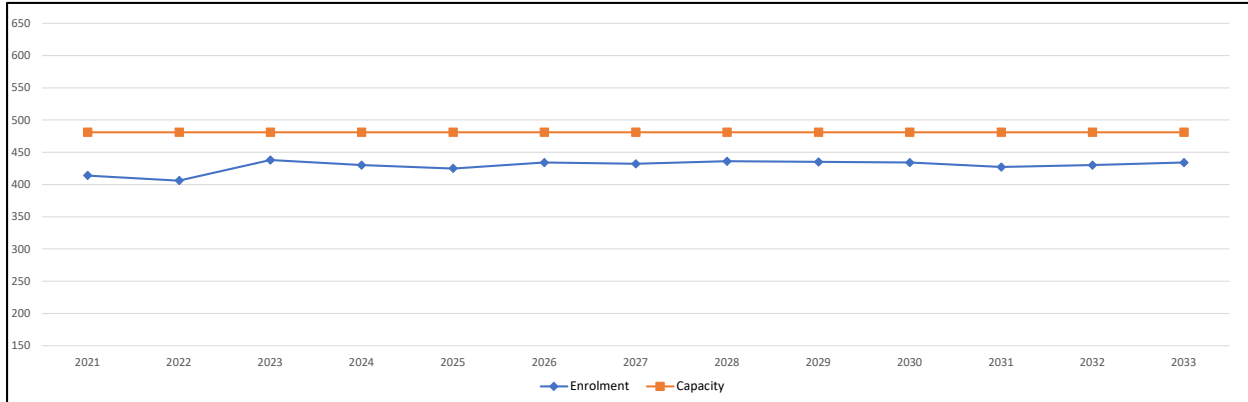
Summary of Impact and Commentary

The following tables illustrate the historical, current and future enrolment projections including current/approved ministry operating capacity for the elementary and secondary schools serving the proposed development.

Cindrich Elementary serves a primarily established neighbourhood. The 10 year projection is relatively stable with some growth when including development in the lower City Centre area. There are no current plans to expand this existing school; and based on this projection, any future growth can be accommodated with 4 portables or less.

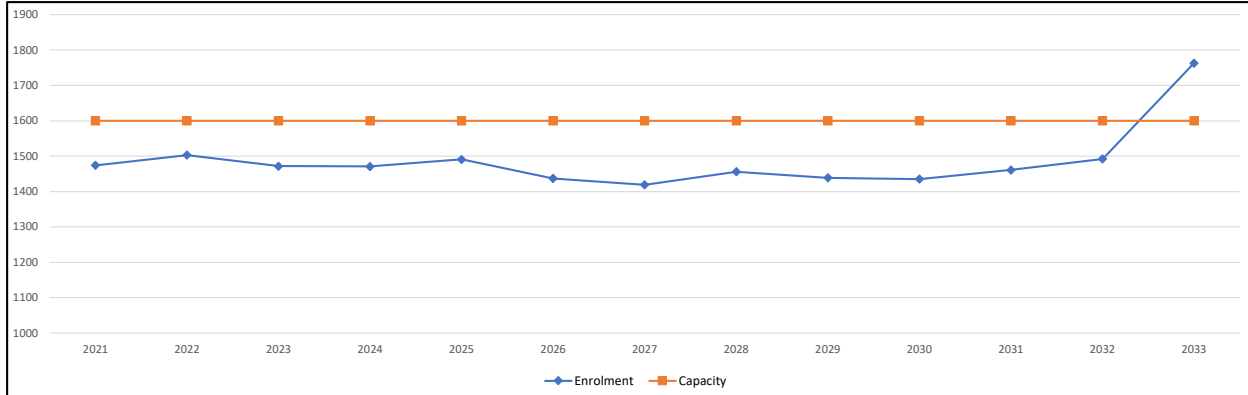
Queen Elizabeth Secondary operates below existing school capacity. Over the next 10 years, the enrolment growth trend will take on a stronger upwards trend line post 2023. Like the elementary school, the proposed new higher density development anticipated around King George Boulevard and 96th Avenue will also fuel secondary growth in the catchment. There are no current plans to expand the existing secondary school, but enrolment will be monitored over the next several years.

Cindrich Elementary



Note: If this report is provided in the months of October, November and December, the 10-year projections are out of date and they will be updated in January of next year.

Queen Elizabeth Secondary



Note: If this report is provided in the months of October, November and December, the 10-year projections are out of date and they will be updated in January of next year.

Population: The projected population of children aged 0-17 impacted by the development.

Enrolment: The number of students projected to attend the Surrey School District ONLY.



Advisory Design Panel Minutes

Location: Virtual
THURSDAY, JANUARY 11, 2024
Time: 3:00 p.m.

Present:

Panel Members:
N. Couttie, Chair
R. Amies
C. Cuthbert
D. Dilts
Y. Popovska
R. Salcido

Guests:

James Smith, Appelt Properties
Jessie Arora, DF Architecture Inc.
Zubin Billimoria, DF Architecture Inc.
Caelen Griffiths, PMG Landscape Architects
Chris Atkins, First Capital
Adam Gruchala, Formosis Architecture
Tom Bunting, Formosis Architecture Inc.
Michael Patterson, Perry + Associates Inc.

Staff Present:

A. McLean, City Architect
S. Maleknia, Sr. Urban Design Planner
N. Chow, Urban Design Planner
A. Yahav, Clerk 3

A. ELECTION OF THE CHAIR

The City Architect asked for candidate nominations for Chair and Vice Chair from the Advisory Design Panel members and announced the following appointments:

M. Cheung was appointed as Chair.
N. Couttie was appointed as Alternate Chair.

D. Dilts Joined the meeting at 3:01pm

B. RECEIPT OF MINUTES

It was Moved by R. Amies
Seconded by R. Salcido
That the minutes of the Advisory Design Panel
meeting of December 14, 2023, be received.
Carried

C. NEW SUBMISSIONS**1. 3:05 p.m.**

File No.:	7923-0227-00
New or Resubmit:	New
Last Submission Date:	N/A
Description:	An OCP amendment to allow for a an FAR of 9.65 in the Proposed CD Bylaw amendment and Detailed Development Permit for a 41-storey mixed-use tower consisting of ground floor commercial, 4 levels of medical offices, 461 rental dwelling units and 7 levels of underground parking.
Address:	13585 -95 Avenue
Developer:	James Smith, Appelt Properties
Architect:	Jessie Arora, DF Architecture Inc.

Landscape Architect: Caelen Griffiths, PMG Landscape Architects
Planner: Leita Martin
Urban Design Planner: Sam Maleknia

The Urban Design Planner described the project concept and previously approved General DP for the whole site. He further explained that this is a separate detailed DP application, and the western portion of the site will be reviewed independently in the future. He advised that staff generally support the project.

The Panel was asked to comment on the overall site planning, pedestrian and vehicular movement, architectural expression, overall landscape concept, and public realm interfaces.

The Project Architect presented an overview of the site planning, streetscapes, building concept, and 3D Views.

The Landscape Architect presented an overview of the general concept for the Landscape design.

ADVISORY DESIGN PANEL STATEMENT OF REVIEW

It was Moved by R. Amies
Seconded by D. Dilts
That the Advisory Design Panel (ADP) is in
CONDITIONAL SUPPORT of the project and recommends that the applicant address the following issues to the satisfaction of the Planning & Development Department and, at the discretion of Planning staff, resubmit the project to the ADP for review.
Defeated
Opposed by: Y. Popovska, R. Salcido, C. Cuthbert, and N. Couttie

It was then Moved by Y. Popovska
Seconded by R. Salcido
That the Advisory Design Panel (ADP)
SUPPORT the project and recommends that the applicant address the following issues to the satisfaction of the Planning & Development Department.
Carried
Opposed by: R. Amies and D. Dilts

Key Points

- Review Level 6 - Consider locating a kids/family indoor amenity space adjacent to the outdoor play area.
Kids play area is relocated to L6 outdoor amenity adjacent the outdoor and indoor lounge and dining areas.
- Consider increasing the percentage of three-bedroom residential units.
The updated DP application is proposing 12 three-bedroom units in the lower portion of the tower.

- Consider opportunities to develop a more child-friendly landscape.
Kids play area is relocated to L6 outdoor amenity adjacent the outdoor and indoor lounge and dining areas.
- Consider measures relating to sustainability within the project design and development.
Project is pursuing Step Code 3 and is planned to be connected to city's district energy.
- Consider further developing the ground level paving to increase coherence or rationale for the design.
Ground level landscape and paving programming has been refined in consideration off ADP and city staff comments.
- Consider further design development for the medical office spaces, related to the access, waiting area, and lobby.
Please see below for detailed response.

Site

- Further consider the design of the vehicle ramp entry in respect to
 - lighting elements;
 - landscape elements, such as planters;
 - design elements and establishing a clear design intent; and
 - signage, notably to identify the parkade entry.*Parking entry has been redesigned, and now includes a framing design element that continues overarching design concept of identifying major building entrances with slanted frames. A sequence of linear lights inside will illuminate the ramp and signage at the top of the frame will assist with vehicles' navigation. Landscape elements on both sides of the ramp within pedestrian realm will properly direct the public and create a safe boundary. Additional wayfinding will be provided to clearly identify all routes.*

Form and Character

- Plan drawings should represent the programming for the indoor amenity spaces.
Provided
- Consider adding a textured material or a warm-tone colour to soften the grey and white colour palette.
Proposed development has most of its façade surface at grade as glazing to provide visibility to the commercial and common residential areas and therefore very limited opportunities for application of textured surfaces and materials. The building above employs warm-grey color palette of different shades and reflective glazing.
- Consider augmenting the number of three-bedroom residential units (currently only one per cent of the entire development).
The updated DP application is proposing 12 three-bedroom units in the lower portion of the tower.
- Consider additional design development for the medical offices, including
 - implementing better wayfinding plans for people entering from the main lobby,
A complete wayfinding design and signage will be provided within the

- *building to clearly identify all routes etc;*
 - adding an end-of-trip bike facility for medical office employees, *Universal end-of-trip facilities for the medical office employees will be considered;*
 - creating seating spaces in front of the commercial elevators, *Programming for commercial elevator fronts won't require seating,* and
 - developing accessibility measures for wheelchair users and other people with limited or restricted mobility. *All pathways through the site leading into the medical offices and the ground floor are accessible.*

Landscape

- Recommend providing additional seating and overlook opportunities to engage with the riparian zone.
 - The ground level outdoor amenity programming has been updated to provide seating, picnicking plaza near the public pathway, riparian zone.*
 - The level 6 outdoor amenity programming has been updated to provide seating and decorative trellis on the north side overlooking the riparian zone.*
 - The rooftop outdoor amenity programming will provide and selection of seating, lounging around the perimeter overlooking the riparian zone.*
- Consider loosening up the rows and boxes of planting with no relationship to communicate a less formal feel to the landscape and to blur the boundary of the riparian zone.
 - The pedestrian path to the west of the building meanders up to the north of the property.*
 - Landscape planning adjacent the pedestrian path will provide rounded planning on corners.*
 - Ground level landscape planting schedule will provide a variety or native species to complement pedestrian path and riparian zone.*
- Provide additional planting on the west side of the Level 6 exterior amenity space.
 - Provided.*
- Consider ways to integrate winter storage into the roof-level exterior amenity space.
 - A storage space will be provided within the building for winter storage for items generally susceptible to poor weather wear and tear (for example lighting fixtures, fabric seating, etc).*
- Recommend providing additional opportunities for urban agriculture on the roof-level exterior amenity space.
 - Some urban agriculture will be provided on the roof level*
- Consider adding some covered outdoor space.
 - Covered outdoor space provided at:*
 - Level 6 outdoor amenity:*
 - *East side of the building (building overhangs providing cover).*
 - *South side adjacent the building (building overhangs providing cover).*
 - *Cover will be provided at all entries.*
 - Rooftop outdoor amenity:*
 - *The trellis adjacent the stair core is proposed to be a cover trellis.*
 - *Cover will be provided at all entries.*

- Consider providing seating made from warmer materials, such as wood, on the ground-level social stairs.
Wood composite style seating material will be specified in a variety of locations on the ground floor, warm and durable material.
- Appreciate thoughtful approach to selecting native planting species.
Noted.

CPTED

- No specific issues were identified. – *Noted.*

Sustainability

- Consider energy modeling to future climate data (2050 – 2080) to anticipate shock events (hot and cold).
Energy modelling uses design temperatures and weather files dictated by the BC Building Code and is compared against performance targets that were established using the same. Demonstrating compliance with energy performance limits using future climate data against targets established using current data does not align with required energy modelling methodology, as dictated by the BC Energy Step Code.
- Consider establishing specific targets for project performance goals which exceed BC Step Code minimums for aspects like insulation values and/or air tightness.
The performance targets for the project are established based on the relevant BC Energy Step Code requirements adopted by the City. The Step Code sets whole-building targets that factor in various design elements, including insulation values and air tightness. It does not set targets in any specific area. The resulting design is one which balances individual design elements to realize overall performance goals.
- Consider including slag or fly ash into the structural concrete to reduce embodied carbon due to cement content.
Concrete mix design are selected based on structural acceptance, availability and economics at the construction stage of the project.
- Consider addition of end of trip facilities for medical office occupants.
Universal end-of-trip facilities for the medical office employees will be considered;

Accessibility

- Consider adapting some of the residential units to be more accessible to individuals of varying abilities.
Detailed DP does not propose adaptive or accessible units.

2. 4:15 p.m.

File No.:	7919-0285-00
New or Resubmit:	New
Last Submission Date:	N/A
Description:	Proposed Rezoning to allow for the construction of 3 mixed-use buildings with amenity space, ground floor commercial uses and underground parking. Proposed Detailed Development Permit for Tower 1 (12 storeys) and General Development Permit for Towers 2 and 3 (20 storeys). Proposed Master Plan for full mall site for Council

	endorsement. 554 residential units and 4,325 sq.m. of commercial floor space are proposed.
Address:	1711 – 152 Street, 15150 – 18 Avenue and 1797 – 152 Street
Developer:	Chris Atkins, First Capital
Architect:	Adam Gruchala, Formosis Architecture Tom Bunting, Formosis Architecture Inc.
Landscape Architect:	Michael Patterson
Planner:	Keith Broersma
Urban Design Planner:	Nathan Chow

The Urban Design Planner outlined the town centre policy and the application process for the current proposal, which includes both a General and Detailed development permit. The remaining southern portion of the mall is illustrated as a future concept. He advised that staff generally support the project.

The Panel was asked to comment on the overall site planning, pedestrian and vehicular movement, architectural expression, overall landscape concept, and public realm interfaces.

The Project Architect presented an overview of the site planning, streetscapes, building concept, and 3D Views.

The Landscape Architect presented an overview of the general concept for the Landscape design.

ADVISORY DESIGN PANEL STATEMENT OF REVIEW

It was Moved by D. Dilts
Seconded by Y. Popovska
That the Advisory Design Panel (ADP)
SUPPORT the project and recommends that the applicant address the following issues to the satisfaction of the Planning & Development Department.
Carried

Key Points

- Consider developing a more distinct project vision for the property.
- Consider measures relating to sustainability within the project design and development.
- Consider further design development on the ground floor retail areas.
- Consider augmenting the number of family-oriented units.
- Consider the addition of adaptable units to accommodate people of varying abilities.
- Consider measures relating to sustainability within the project design and development.

Site

- Consider providing more direct access to the amenity rooftop area, such as

through a common corridor.

- Recommend providing larger areas of family-oriented amenity areas.
- Consider increasing the amount of outdoor amenity space at grade.
- Consider providing outdoor space for each residential unit.
- Consider increasing the percentage of two-bedroom and three-bedroom family-friendly units.
- Consider opportunities for childcare spaces within the larger development.
- Appreciate the consideration of public art displays.

Form and Character

- Consider increasing the percentage of two-bedroom and three-bedroom family-friendly units.
- Consider design opportunities to create a stronger masterplan vision of the development, paying specific attention to the relationship of building two and building three within the overall plan.
- Consider strategies to better relate the podium architecture with the architectural clarity of the tower architecture.

- Consider strategies to maintain the sharpness of colour contrast on each elevation; in other words, do not combine the colours, but instead, emphasize the difference between materials and finishes.
- Concur with using perforated metal panels along the wall facing *McDonalds*.
- Consider design opportunities to create a stronger masterplan vision of the development, paying specific attention to the relationship of building two and three within the overall plan.

Landscape

- Appreciate the poetic concept.
- Paving is simple and appropriate.
- Consider including some covered outdoor space to be used in different weather.
- Consider opportunities for stormwater management within the larger masterplan.
- Ensure that sufficient localized soil depth is provided to allow for some significant trees, given that that most of the outdoor amenity area is over structure.

CPTED

- No specific issues were identified.

Sustainability

- Consider energy modeling to future climate data (years 2050 – 2080) has been included to anticipate shock events (hot and cold).
- Consider establishing specific targets for project performance goals which exceed BC Step Code minimums for aspects like insulation values and/or air tightness.

- Consider including slag or fly ash into the structural concrete to reduce embodied carbon due to cement content.
- Encourage team to continue looking for opportunities to develop master plan scale systems for water collection, re-use, and waste treatment.
- Consider opportunities to provide renewable energy for public art and water feature loads.

Accessibility

- Consider implementing safety features and paving changes at the vehicle access point to parking, especially for people with visual impairments.

D. OTHER BUSINESS

1. Roundtable

A roundtable of discussion was held.

E. NEXT MEETING

The next Advisory Design Panel is scheduled for Thursday, January 25, 2024.

F. ADJOURNMENT

The Advisory Design Panel meeting adjourned at 6:17 p.m.

Jennifer Ficocelli, City Clerk

Norm Couttie, Chairperson

APPENDIX IV

CITY OF SURREY

HOUSING AGREEMENT
Mixed-Use

THIS HOUSING AGREEMENT made the ____ day of _____, 2024.

BETWEEN:

CITY OF SURREY, a municipal corporation having its offices at 13450 – 104 Avenue, Surrey, B.C. V3T 1V8

(the “**City**”)

OF THE FIRST PART

AND:

CENTURION APPELT (9525 KING GEORGE) HOLDINGS INC. a corporation having its offices at 218 – 3477 Lakeshore Road, Kelowna, BC V1W 0A7

(the “**Owner**”)

OF THE SECOND PART

WHEREAS:

- A. The Owner is the legal and beneficial owner of those certain lands and premises located in the City of Surrey, in the Province of British Columbia, legally described as:

Parcel Identifier: 031-716-105
Lot A Section 32 Township 2 New Westminster District Plan EPP65742

(the “**Lands**”);

- B. The Owner proposes to use the Lands to develop and construct a 41-storey, mixed-use building containing, *inter alia*, approximately 463 private dwelling units that are to be operated exclusively as rental units (the “**Development**”);
- C. The Owner has voluntarily agreed to enter into a housing agreement pursuant to Section 483 of the *Local Government Act*, R.S.B.C. 2015, Chapter 1, as amended, to ensure that the Rental Units are rented in accordance with this Agreement.

NOW THEREFORE in consideration of the premises herein and of the mutual covenants and agreements hereinafter set forth and contained herein and \$1.00 now paid by the City to the Owner (the receipt of which is hereby acknowledged), the parties hereto covenant and agree each with the other as follows:

1. **DEFINED TERMS**

1.1 In and for the purpose of this Agreement, in addition to the definitions on the first page of this document, the following terms shall have the following meanings:

- (a) “**Agreement**” means this housing agreement and any amendments to or modifications of the same;
- (b) “**City**” means the City of Surrey and any person authorized by the City of Surrey, including assigns of whole or partial interest in this Agreement or of any of the rights conferred upon the City of Surrey by this Agreement;
- (c) “**City Personnel**” means all of the City’s elected and appointed officials, officers, employees, agents, nominees, delegates, permittees, contractors, subcontractors, invitees and the Approving Officer;
- (d) “**Claims and Expenses**” means all actions, causes of actions, suits, judgments, proceedings, demands, and claims, whether at law or in equity, losses, damages, expenses and costs (including legal fees and disbursements on an indemnity basis) of any kind or nature whatsoever, at law or in equity, for any damages, losses, injuries or death;
- (e) “**Development**” means as defined in Recital B;
- (f) “**Dwelling Unit**” means each of the 463 dwelling units to be constructed within the Development;
- (g) “**Lands**” means the parcel of land situated in the City of Surrey, British Columbia and legally described in Recital A, and includes any parcel into which such land is consolidated or further subdivided (including a subdivision pursuant to the *Land Title Act* and a subdivision pursuant to the *Strata Property Act* of British Columbia);
- (h) “**Owner**” means the person named on the first page of this Agreement and the legal and beneficial owner at any given time and any successors in title of the Lands and, without limitation, if the Lands are subdivided by way of a strata plan under the *Strata Property Act* of British Columbia, then “Owner” includes the strata corporation thereby created;
- (i) “**Rental Units**” means 463 Dwelling Units which must be made available by the Owner to the general public at arms’ length for use as residential rental accommodation on a month-to-month or longer basis in accordance with all applicable laws including, without limitation, the *Residential Tenancy Act*, S.B.C. 2002, Chapter 78, as amended, and any regulations pursuant thereto; and
- (j) “**Term**” means 40 years, commencing on the first day of the month after the City issues an occupancy permit for the Development.

2. RESTRICTION ON OCCUPANCY OF DWELLING UNITS

- 2.1 During the Term the Rental Units must be made available for rent in accordance with this Agreement.
- 2.2 The City may, from time to time, during the Term request the Owner to provide written proof of compliance with section 2.1 and the Owner agrees to provide, or cause an operator of the Lands to provide, the City with such proof in a form reasonably satisfactory to the City.
- 2.3 All of the Rental Units must be owned by the same Owner(s).
- 2.4 Throughout the Term, the Owner shall not sell or transfer the beneficial or registered title or any interest in and to the Rental Units, unless the Owner obtains from the transferee an agreement in writing from the transferee to assume and perform all of the obligations of the Owner arising under this Agreement.

3. LIABILITY

- 3.1 **Indemnity.** The Owner shall indemnify and save harmless the City and City Personnel from all Claims and Expenses which the City and City Personnel may suffer, or incur, or be put to, arising out of or in connection with any breach or default of any covenants or agreements on the part of the Owner contained in this Agreement, or arising out of, or in connection with the Development or arising out of the fact that the Lands are encumbered by and affected by this Agreement.
- 3.2 **Release.** The Owner does hereby remise, release and forever discharge the City and City Personnel from all Claims and Expenses which the Owner may have against the City and City Personnel, which the Owner now has or hereafter may have with respect to or by reasons of or arising out of the fact that the Lands are encumbered by and affected by this Agreement.
- 3.3 **Obligations Continue.** The Owner covenants and agrees that the indemnity and release in Sections 3.1 and 3.2 will remain effective and survive the expiration or termination of this Agreement whether by fulfilment of the covenants contained in this Agreement or otherwise.

4. NOTICE

- 4.1 Any notices or other documents to be given or delivered pursuant to this Agreement will be addressed to the proper party as follows:

(a) As to the City:

City of Surrey
13450 – 104 Avenue
Surrey, BC V3T 1V8

Attention: General Manager, Planning and Development Department

(b) As to the Owner:

Centurion Appelt (9525 King George) Holdings Inc.
218 – 3477 Lakeshore Road

Kelowna, BC V1W 0A7

Attention: Greg Appelt - Treasurer

or such other address as such party may direct. Any notice or other documents to be given or delivered pursuant to this Agreement will be sufficiently given or delivered if delivered to the particular party as its address set out or determined in accordance with this section and shall be deemed complete two (2) days after the day of delivery.

4.2 It is specifically agreed that for any notice or document to be validly given or delivered pursuant to this Agreement, such notice or document must be delivered and not mailed.

5. **GENERAL**

5.1 **Joint and Several.** Where the Owner consists of more than one person, each such person will be jointly and severally liable to perform the Owner's obligations under this Agreement.

5.2 **Assignment by City.** This Agreement or any of the rights conferred by this Agreement upon the City may be assigned in whole or in part by the City without the consent of the Owner.

5.3 **City's Other Rights Unaffected.** Nothing contained or implied herein will derogate from the obligations of the Owner under any other agreement with the City or, if the City so elects, prejudice or affect the City's rights, powers, duties or obligations in the exercise of its functions pursuant to the *Local Government Act* and the *Community Charter*, as amended from time to time and the rights, powers, duties and obligations of the City under all public and private statutes, by-laws, orders and regulations, which may be, if the City so elects, as fully and effectively exercised in relation to the Lands as if this Agreement had not been executed and delivered by the Owner and the City.

5.4 **Agreement for Benefit of City.** The Owner and the City hereby acknowledge, agree and declare that this Agreement is entered into for the sole purpose of benefitting the City and, in particular, acknowledge, agree and declare that this Agreement is not designed to protect or promote the interests of the Owner or any mortgagee of the Owner, or any future owner or occupier of the Lands and any improvements on the Lands or any other person and the City may, at its sole option, execute a release of this Agreement at any time without liability to any person for so doing.

- 5.5 **No Waiver.** The Owner acknowledges and agrees that no failure on the part of the City to exercise and no delay in exercising any right under this Agreement will operate as a waiver thereof, nor will any single or partial exercise by the City of any right under this Agreement preclude any other or future exercise thereof of the exercise of any other right.
- 5.6 **City Not Required to Prosecute.** The Owner agrees that the City is not required or is under no obligation in law or equity to prosecute or enforce this Agreement in any way whatsoever.
- 5.7 **Remedies.** The remedies provided for in this Agreement will be cumulative and not exclusive of any other remedies provided by law or in equity. In addition to any remedies which are available under this Agreement or at law, the City will be entitled to all equitable remedies, including, without limitation, specific performance, injunction and declaratory relief, or any combination thereof, to enforce its rights under this Agreement. The Owner acknowledges that specific performance, injunctive relief (mandatory or otherwise) or other equitable relief may be the only adequate remedy for a default by the Owner under this Agreement.
- 5.8 **Severability.** All the obligations and covenants in this Agreement are severable, so that if any one or more of the obligations or covenants are declared by a court of competent jurisdiction to be void and unenforceable, the balance of the obligations and covenants will remain and be binding.
- 5.9 **City Court Costs.** In an action to enforce this Agreement in respect of which the court determines that the position of the City will prevail, the City will be entitled to court costs on a solicitor-client basis.
- 5.10 **Subdivision/Consolidation.** If the Lands are subdivided or consolidated at any time hereafter either under the provisions of the *Land Title Act* or under the *Strata Property Act*, then upon the deposit of a plan of subdivision, strata plan, consolidation plan or similar plan or application as the case may be the rights, benefits, burdens, obligations, and covenants contained in this Agreement will continue to charge each of the new parcels, lots, or other subdivided or consolidated parcels and areas so created.
- 5.11 **Subdivision by Strata Plan.** If the Lands, or any portion thereof, are subdivided by a strata plan, this Agreement will charge title to the strata lots and the common property comprising such strata plan and:
- (a) this Agreement will be registered against each individual strata lot and noted on the common property sheet;
 - (b) the strata corporation or the strata corporations created will perform and observe the Owner's covenants in this Agreement, solely at the expense of the strata lot owners; and
 - (c) the liability of each strata lot owner for the performance and observance of the Owner's covenants herein will be in proportion to the unit entitlement of his, her or its strata lot as established by the strata plan.

- 5.12 **Personal Representatives and Successors.** This Agreement shall enure to the benefit of and be binding upon the parties hereto and their personal representatives, respective heirs, executors, administrators, successors, and assigns.
- 5.13 **Governing Law.** This Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the laws of Canada applicable in British Columbia.
- 5.14 **Priority.** The Owner shall at the sole expense of the Owner, do or cause to be done all acts reasonably necessary to grant priority to this Agreement over all charges and encumbrances which may have been registered against the title to the Lands at the Land Title Office save and except those specifically approved in writing by the City.
- 5.15 **Further Assurances.** The Owner shall do, or cause to be done, all things and execute or cause to be executed all documents and give such further and other assurances which may be reasonably necessary to give proper effect to the intent of this Agreement.
- 5.16 **Counterparts.** This Agreement may be executed in any number of counterparts and delivered via facsimile or e-mail, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same instrument, provided that any party delivering this Agreement via facsimile or e-mail will deliver to the other party any originally executed copy of this Agreement forthwith upon request by the other party.

5.17 **Entire Agreement.** This Agreement represents the entire agreement between the City and the Owner regarding the matters set out in this Agreement and supersedes all prior agreements, letters of intent or understandings about these matters.

IN WITNESS WHEREOF the City of Surrey and the Owner have executed this Agreement under seal of their duly authorized officers as of the references of this Agreement.

CITY OF SURREY

By: _____
Authorized Signatory
Brenda Locke,
Mayor
City of Surrey

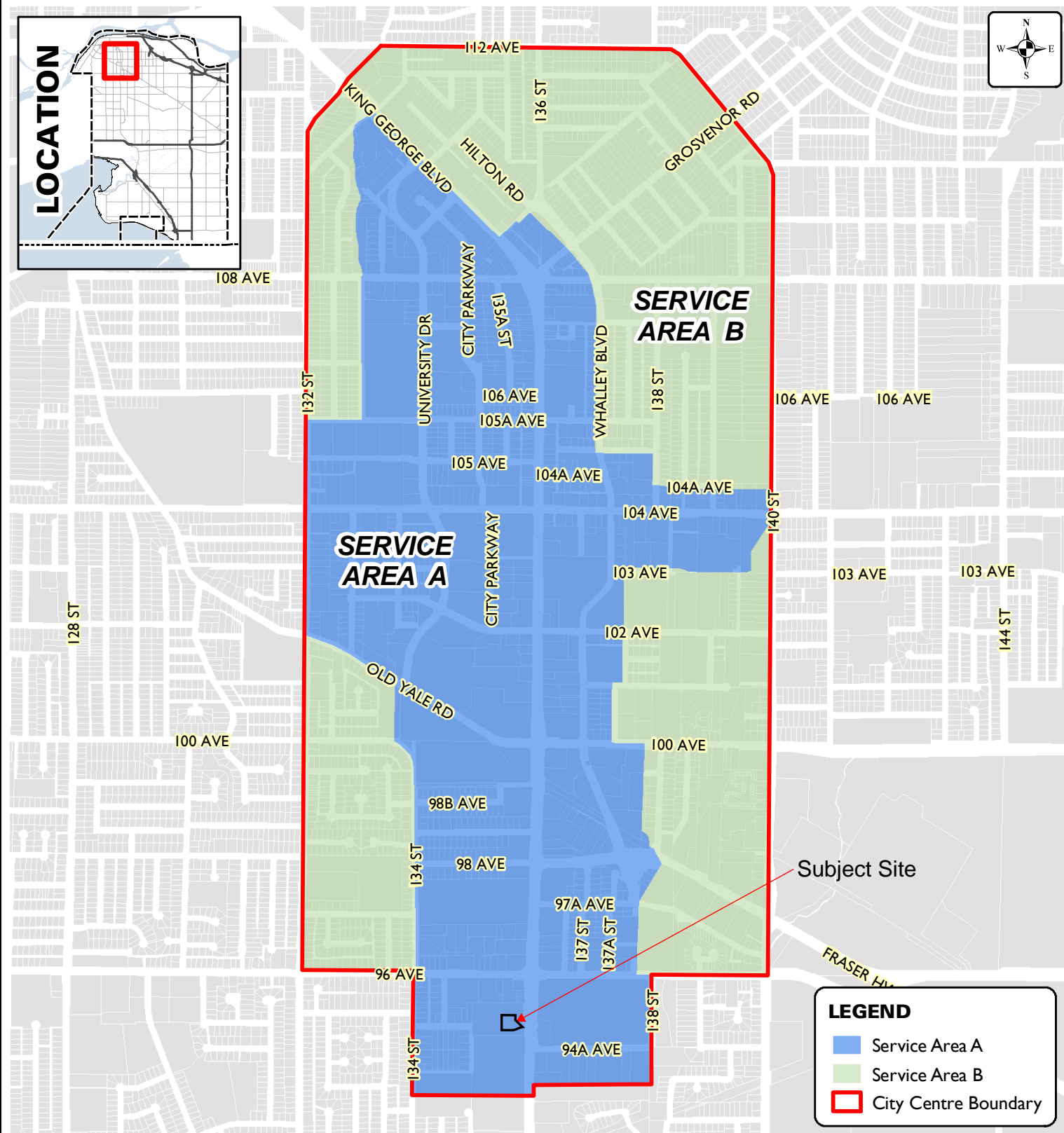
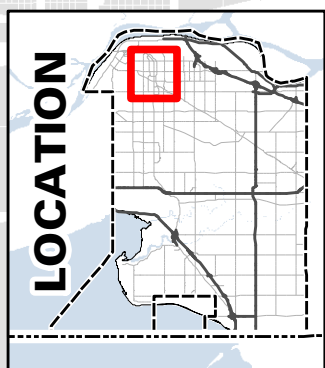
By: _____
Authorized Signatory
Jennifer Ficocelli,
City Clerk
City of Surrey

CENTURION APPELT (9525 KING GEORGE) HOLDINGS INC.

By: _____
Authorized Signatory

Name: Greg Appelt
Title: Treasurer

APPENDIX V



LEGEND

- Service Area A
- Service Area B
- City Centre Boundary

Produced by GIS Section: May 31, 2012, CS/AW8



**DISTRICT ENERGY SERVICE AREA
(SERVICE AREA A & SERVICE AREA B)**

**ENGINEERING
DEPARTMENT**

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey. This information is provided for information and convenience purposes only. Lot sizes, Legal descriptions and encumbrances must be confirmed at the Land Title Office.

APPENDIX VI
CITY OF SURREY

(the "City")

DEVELOPMENT VARIANCE PERMIT

NO.: 7923-0227-00

Issued To:

(the "Owner")

Address of Owner:

1. This development variance permit is issued subject to compliance by the Owner with all statutes, by-laws, orders, regulations or agreements, except as specifically varied by this development variance permit.
2. This development variance permit applies to that real property including land with or without improvements located within the City of Surrey, with the legal description and civic address as follows:

Parcel Identifier: 031-716-105
Lot A Section 32 Township 2 New Westminster District Plan EPP65742

13585 - 95 Ave

(the "Land")

3. Surrey Zoning By-law, 1993, No. 12000, as amended is varied as follows:
 - (a) In Table D.1 of Part 5 "Off-Street Parking and Loading/Unloading", to reduce the minimum number of off-street parking spaces for multiple unit residential rental dwellings in City Centre from 0.65 parking spaces per rental dwelling unit to 0.48 parking spaces per rental dwelling unit, and from 0.1 visitor parking spaces per rental dwelling unit to 0.09 visitor parking spaces per rental dwelling unit.
4. The Land shall be developed strictly in accordance with the terms and conditions and provisions of this development variance permit.
5. This development variance permit shall lapse if the Owner does not substantially start any construction with respect to which this development variance permit is issued, within two (2) years after the date this development variance permit is issued.

6. The terms of this development variance permit or any amendment to it, are binding on all persons who acquire an interest in the Land.

7. This development variance permit is not a building permit.

AUTHORIZING RESOLUTION PASSED BY THE COUNCIL/DELEGATED OFFICIAL, THE
DAY OF , 20 .

ISSUED THIS DAY OF , 20 .

Mayor – Brenda Locke

City Clerk – Jennifer Ficocelli

CITY OF SURREY

BYLAW NO. 21257

A Comprehensive Development bylaw to amend Surrey Zoning By-law, 1993, No. 12000, as amended
.....

THE COUNCIL of the City of Surrey ENACTS AS FOLLOWS:

1. Surrey Zoning By-law, 1993, No. 12000, as amended, is hereby further amended, pursuant to the provisions of Section 479 of the *Local Government Act*, R.S.B.C. 2015 c. 1, as amended, for the following lands:

Address: As described in Appendix "A".
Legal: As described in Appendix "A".
PID: As described in Appendix "A".

as follows:

- (a) by creating a new Comprehensive Development Zone 212 (CD 212), attached as Appendix "A" and forming part of this bylaw;
- (b) by changing the zoning classification shown in Schedule A, Zoning Maps, as follows:
FROM: COMPREHENSIVE DEVELOPMENT ZONE (CD Bylaw No. 20416)
TO: COMPREHENSIVE DEVELOPMENT ZONE (CD); and
- (c) by amending Part 52, Comprehensive Development Zone, Section C. Comprehensive Development Zones, by adding a new CD Zone "CD 212" as follows:

CD Zone ID	Civic Address	Legal Description	CD Bylaw No.	Replaces Bylaw No.
"CD 212	13585 - 95 Avenue	Lot A, Plan EPP65742	21257	20416"

2. This By-law shall be cited for all purposes as "Surrey Comprehensive Development Zone 212 (CD 212), Bylaw, 2024, No. 21257".
3. "Surrey Zoning By-law, 1993, No. 12000, Amendment By-law, 1993, No. 20416" and all amendments thereto are hereby repealed.

PASSED FIRST READING on the 27th day of May, 2024.

PASSED SECOND READING on the 27th day of May, 2024.

PASSED THIRD READING on the 27th day of May, 2024.

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of, 20 .

_____MAYOR

_____CLERK

COMPREHENSIVE DEVELOPMENT ZONE 212 (CD 212)

This Comprehensive Development Zone 212 (CD 212) as well as all other applicable regulations of Surrey Zoning By-law, 1993, No. 12000, as amended, (the "Zoning By-law") apply to the following lands:

Address	Legal Descriptions	PID
13585 - 95 Avenue	Lot A Section 32 Township 2 NWD Plan EPP65742	031-716-105

(collectively the "Lands")

A. Intent

This Comprehensive Development Zone is intended to accommodate and regulate the development of high *density*, high-rise *multiple unit residential buildings* and related *amenity spaces*, and commercial and office uses, which are to be developed in accordance with a *comprehensive design*.

B. Permitted Uses

Lands, buildings and structures shall only be used for the following uses, or a combination thereof:

Principal Uses:

1. *Multiple unit residential buildings.*
2. Office uses excluding *social escort services, methadone clinics* and marijuana dispensaries.

Accessory Uses:

3. The following *accessory uses*, provided that such uses form an integral part of a *multiple unit residential building* on the *Lands*:
 - (a) *Retail stores* excluding *adult entertainment stores*, auction houses, and *secondhand stores and pawnshops*;
 - (b) *Personal service uses* excluding *body rub parlours*;
 - (c) *General service uses* excluding funeral parlours and *drive through banks*;
 - (d) *Eating establishments* excluding *drive-through restaurants*;
 - (e) *Neighbourhood pubs*;
 - (f) *Liquor store*, permitted only in conjunction with a "liquor-primary" licensed establishment, with a valid license issued under the regulation of the Liquor Control and Licensing Act, R.S.B.C 1996, chapter 267, s.84, as amended;
 - (g) *Indoor recreational facilities*;
 - (h) *Entertainment uses* excluding *arcades* and *adult entertainment stores*;
 - (i) *Community services*; and
 - (j) *Child care centres*.

C. Lot Area

Not applicable to this Zone.

D. Density

1. Maximum Density:
Maximum *density* shall be as follows:
 - (a) 1 *dwelling unit*; and
 - (b) The lesser of *floor area ratio* of 0.1 or *building area* of 300 sq. m.

2. Permitted Density Increases:
If amenity contributions are provided in accordance with Schedule G, *density* may be increased as follows:
 - (a) Maximum *floor area ratio* of 11.9, provided that *multiple unit residential building* does not exceed a *floor area ratio* of 9.56, excluding:
 - i. The indoor *amenity space* requirement (pursuant to Section J.1. of this Zone); and
 - ii. Up to a maximum of 170 sq. m of the *secure bicycle parking area* requirement (pursuant to Section H.4. of this Zone);
3. Notwithstanding the definition of *floor area ratio*, for an air space subdivision, the air space parcels, and the remainder *lot* of the air space subdivision shall be considered as one *lot* for the purpose of application of Section D. of this Zone, and further provided that the *floor area ratio* calculated from the cumulative floor areas of the *buildings* within all of the air space parcels and the remainder *lot* of the air space

E. Lot Coverage

1. The maximum *lot coverage* for all *buildings* and *structures* shall be 54%.
2. Notwithstanding the definition of *lot coverage*, for an air space subdivision, the air space parcels and the remainder *lot* of the air space subdivision shall be considered as one *lot* for the purpose of application of Section E. of this Zone, and further provided that the *lot coverage* within all of the air space parcels and the remainder *lot* of the air space subdivision shall not exceed the maximum specified in Section E.1. of this Zone.

F. Yards and Setbacks

Buildings and *structures* shall be sited in accordance with the following minimum *setbacks*:

USES:	SETBACKS:			
	North Yard	South Yard	West Yard	East Yard
<i>Principal Building and Accessory Buildings and Structures</i>	6.5 m	4.5 m	5.5 m	6.5 m

- 1 Notwithstanding Section A.3.(d) of Part 5, Off-Street Parking and Loading/Unloading, *parking - underground* may be located up to 0.5 m of any *lot line*.
- 2 Notwithstanding the definition of *setback* in Part 1, Definitions, canopies, *balconies* and roof overhangs may encroach up to 1.95 m into the required *setbacks*.
- 3 Notwithstanding Section F. of this Zone, the minimum *setbacks* of *principal buildings* and *accessory buildings* and *structures* for interior *lot lines* for *lots* created by an air space subdivision may be 0.0 m.

G. Height of Buildings

1. Principal Buildings:
Principal building height shall not exceed 140 m.
2. Accessory Buildings and Structures:
Accessory building height and *structure height* shall not exceed 4.5 m.

H. Off-Street Parking and Loading/Unloading

1. Parking Calculations:
Refer to Table D.1. of Part 5 Off-Street Parking and Loading/Unloading.
2. Tandem Parking:
Tandem parking is not permitted.
3. Underground Parking:
All required resident *parking spaces* shall be provided as *parking - underground*.
4. Bicycle Parking:
A *secure bicycle parking area* shall be provided in a separate bicycle room located within a *building*, whether located at or above *finished grade*, with convenient access to the outside of the *building*.

I. Landscaping and Screening

1. General Landscaping:

- (a) All developed portions of the *lot* not covered by *buildings, structures* or paved areas shall be landscaped including the retention of mature trees. This *landscaping* shall be maintained; and
- (b) *Highway* boulevards abutting a *lot* shall be seeded or sodded with grass; except at *driveways*, or as directed by the City.

2. Refuse:

Garbage containers and *passive recycling containers* shall be located within the *parking -underground* or within a *building*.

J. Special Regulations

1. Amenity Spaces:

Amenity space, subject to Section B.6. of Part 4, General Provisions, shall be provided on the *lot* as follows:

- (a) Outdoor *amenity space* in the amount of:
 - i. 3.0 sq. m per *dwelling unit*; and
 - ii. 1.0 sq. m per *lock-off suite*; and
 - iii. 4.0 sq. m per *micro unit*;
- (b) Indoor *amenity space* in the amount of:
 - i. 3.0 sq. m per *dwelling unit* up to 557 sq. m of *amenity space* (equivalent to 186 *dwelling units*);
 - ii. 1.0 sq. m per *dwelling unit* for that portion greater than 557 sq. m of *amenity space*;
 - iii. 1.0 sq. m per *lock-off suite*; and
 - iv. 4.0 sq. m per *micro unit*; and
- (c) Indoor *amenity space* devoted to a *childcare centre* shall be a maximum of 1.5 sq. m per *dwelling unit*.

2. Child Care Centres:

Childcare centres shall be located on the *lot* such that these centres have direct access to an *open space* and play area within the *lot*.

3. Balconies:

Balconies are required for all *dwelling units* which are not *ground-oriented* and shall be a minimum of 5% of the *dwelling unit* size or 4.2 sq. m per *dwelling unit*, whichever is greater.

K. Subdivision

1. Minimum Lot Sizes:

Lots created through subdivision, except *strata lots*, shall conform to the following minimum standards:

- (a) *Lot Area*: Minimum 3,000 sq. m;
- (b) *Lot Width*: Minimum 35 m; and
- (c) *Lot Depth*: Minimum 70 m.

2. Air space parcels and the remainder *lot* created through an air space subdivision in this Zone are not subject to Section K.1.

L. Other Regulations

Additional land use regulations may apply as follows:

1. Prior to any use, the *Lands* must be serviced as set out in Part 2 Uses Limited, of the Zoning Bylaw and in accordance with the servicing requirements for the RM-135 Zone as set forth in the Surrey Subdivision and Development By-law, 1986, No. 8830, as amended.
2. *Building* permits shall be subject to Surrey Development Cost Charge Bylaw, 2021, No. 20291, as may be amended or replaced from time to time, and the development cost charges shall be based on the RM-135 Zone for the residential portion and the C-8 Zone for the commercial portion.
3. Development permits, pursuant to the *OCP*.
4. Trees and vegetation, pursuant to Surrey Tree Preservation Bylaw, as amended.
5. Sign regulations, pursuant to Surrey Sign By-law, as amended.

CITY OF SURREY

BYLAW NO. 21436

A Comprehensive Development bylaw to amend Surrey Zoning By-law, 1993, No. 12000, as amended
.....

THE COUNCIL of the City of Surrey ENACTS AS FOLLOWS:

1. Surrey Zoning By-law, 1993, No. 12000, as amended, is hereby further amended, pursuant to the provisions of Section 479 of the *Local Government Act*, R.S.B.C. 2015 c. 1, as amended, for the following lands:

Address: As described in Appendix "A".
Legal: As described in Appendix "A".
PID: As described in Appendix "A".

as follows:

- (a) by creating a new Comprehensive Development Zone 212 (CD 260), attached as Appendix "A" and forming part of this bylaw;
- (b) by changing the zoning classification shown in Schedule A, Zoning Maps, as follows:
FROM: COMPREHENSIVE DEVELOPMENT ZONE (CD Bylaw No. 20416)
TO: COMPREHENSIVE DEVELOPMENT ZONE (CD); and
- (c) by amending Part 52, Comprehensive Development Zone, Section C. Comprehensive Development Zones, by adding a new CD Zone "CD 260" as follows:

CD Zone ID	Civic Address	Legal Description	CD Bylaw No.	Replaces Bylaw No.
"CD 260	13585 - 95 Avenue	Lot A, Plan EPP65742	21436	20416"

2. This By-law shall be cited for all purposes as "Surrey Comprehensive Development Zone 260 (CD 260), Bylaw, 2024, No. 21436".
3. "Surrey Zoning By-law, 1993, No. 12000, Amendment By-law, 1993, No. 20416" and all amendments thereto are hereby repealed.

PASSED FIRST READING on the th day of , 20 .

PASSED SECOND READING on the th day of , 20 .

PASSED THIRD READING on the th day of , 20 .

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of , 20 .

_____MAYOR

_____CLERK

APPENDIX "A"

COMPREHENSIVE DEVELOPMENT ZONE 212 (CD 212)

This Comprehensive Development Zone 260 (CD 260) as well as all other applicable regulations of Surrey Zoning By-law, 1993, No. 12000, as amended, (the "Zoning By-law") apply to the following lands:

Address	Legal Descriptions	PID
13585 - 95 Avenue	Lot A Section 32 Township 2 NWD Plan EPP65742	031-716-105

(collectively the "Lands")

A. Intent

This Comprehensive Development Zone is intended to accommodate and regulate the development of high *density*, high-rise *multiple unit residential buildings* and related *amenity spaces*, and commercial and office uses, which are to be developed in accordance with a *comprehensive design*.

B. Permitted Uses

Lands, buildings and structures shall only be used for the following uses, or a combination thereof:

Principal Uses:

1. *Multiple unit residential buildings.*
2. Office uses excluding *social escort services, methadone clinics* and marijuana dispensaries.

Accessory Uses:

3. The following *accessory uses*, provided that such uses form an integral part of a *multiple unit residential building* on the *Lands*:
 - (a) *Retail stores* excluding *adult entertainment stores*, auction houses, and *secondhand stores and pawnshops*;
 - (b) *Personal service uses* excluding *body rub parlours*;
 - (c) *General service uses* excluding funeral parlours and *drive through banks*;
 - (d) *Eating establishments* excluding *drive-through restaurants*;
 - (e) *Neighbourhood pubs*;
 - (f) *Liquor store*, permitted only in conjunction with a "liquor-primary" licensed establishment, with a valid license issued under the regulation of the Liquor Control and Licensing Act, R.S.B.C 1996, chapter 267, s.84, as amended;
 - (g) *Indoor recreational facilities*;
 - (h) *Entertainment uses* excluding *arcades* and *adult entertainment stores*;
 - (i) *Community services*; and
 - (j) *Child care centres*.

C. Lot Area

Not applicable to this Zone.

D. Density

1. Maximum Density:
Maximum *density* shall be as follows:
 - (a) 1 *dwelling unit*; and
 - (b) The lesser of *floor area ratio* of 0.1 or *building area* of 300 sq. m.

2. Permitted Density Increases:
If amenity contributions are provided in accordance with Schedule G, *density* may be increased as follows:
 - (a) Maximum *floor area ratio* of 12.3, provided that *multiple unit residential building* does not exceed a *floor area ratio* of 9.9, excluding:
 - i. The indoor *amenity space* requirement (pursuant to Section J.1. of this Zone); and
 - ii. Up to a maximum of 170 sq. m of the *secure bicycle parking area* requirement (pursuant to Section H.5. of this Zone);
3. Notwithstanding the definition of *floor area ratio*, for an air space subdivision, the air space parcels, and the remainder *lot* of the air space subdivision shall be considered as one *lot* for the purpose of application of Section D. of this Zone, and further provided that the *floor area ratio* calculated from the cumulative floor areas of the *buildings* within all of the air space parcels and the remainder *lot* of the air space

E. Lot Coverage

1. The maximum *lot coverage* for all *buildings* and *structures* shall be 54%.
2. Notwithstanding the definition of *lot coverage*, for an air space subdivision, the air space parcels and the remainder *lot* of the air space subdivision shall be considered as one *lot* for the purpose of application of Section E. of this Zone, and further provided that the *lot coverage* within all of the air space parcels and the remainder *lot* of the air space subdivision shall not exceed the maximum specified in Section E.1. of this Zone.

F. Yards and Setbacks

Buildings and *structures* shall be sited in accordance with the following minimum *setbacks*:

USES:	SETBACKS:			
	North Yard	South Yard	West Yard	East Yard
<i>Principal Building and Accessory Buildings and Structures</i>	6.5 m	4.5 m	5.5 m	6.5 m

- 1 Notwithstanding Section A.3.(d) of Part 5, Off-Street Parking and Loading/Unloading, *parking - underground* may be located up to 0.5 m of any *lot line*.
- 2 Notwithstanding the definition of *setback* in Part 1, Definitions, canopies, *balconies* and roof overhangs may encroach up to 1.95 m into the required *setbacks*.
- 3 Notwithstanding Section F. of this Zone, the minimum *setbacks* of *principal buildings* and *accessory buildings* and *structures* for interior *lot lines* for *lots* created by an air space subdivision may be 0.0 m.

G. Height of Buildings

1. Principal Buildings:
Principal building height shall not exceed 143 m.
2. Accessory Buildings and Structures:
Accessory building height and *structure height* shall not exceed 4.5 m.

H. Off-Street Parking and Loading/Unloading

1. Parking Calculations:
Refer to Table D.1. of Part 5 Off-Street Parking and Loading/Unloading.
2. Accessible Parking:
Notwithstanding Sub-section D.3.(f) of Part 5 Off-Street Parking and Loading/Unloading, 0.02 accessible parking spaces per dwelling unit are required.
3. Tandem Parking:
Tandem parking is not permitted.
4. Underground Parking:
All required resident *parking spaces* shall be provided as *parking - underground*.

5. Bicycle Parking:
A secure bicycle parking area shall be provided in a separate bicycle room located within a building, whether located at or above finished grade, with convenient access to the outside of the building.

I. Landscaping and Screening

1. General Landscaping:
 - (a) All developed portions of the *lot* not covered by *buildings, structures* or paved areas shall be landscaped including the retention of mature trees. This *landscaping* shall be maintained; and
 - (b) *Highway* boulevards abutting a *lot* shall be seeded or sodded with grass; except at *driveways*, or as directed by the City.
2. Refuse:
Garbage containers and *passive recycling containers* shall be located within the *parking -underground* or within a *building*.

J. Special Regulations

1. Amenity Spaces:
Amenity space, subject to Section B.6. of Part 4, General Provisions, shall be provided on the *lot* as follows:
 - (a) Outdoor *amenity space* in the amount of:
 - i. 3.0 sq. m per *dwelling unit*; and
 - ii. 1.0 sq. m per *lock-off suite*; and
 - iii. 4.0 sq. m per *micro unit*;
 - (b) Indoor *amenity space* in the amount of:
 - i. 3.0 sq. m per *dwelling unit* up to 557 sq. m of *amenity space* (equivalent to 186 *dwelling units*);
 - ii. 1.0 sq. m per *dwelling unit* for that portion greater than 557 sq. m of *amenity space*;
 - iii. 1.0 sq. m per *lock-off suite*; and
 - iv. 4.0 sq. m per *micro unit*; and
 - (c) Indoor *amenity space* devoted to a *childcare centre* shall be a maximum of 1.5 sq. m per *dwelling unit*.
2. Child Care Centres:
Childcare centres shall be located on the *lot* such that these centres have direct access to an *open space* and play area within the *lot*.
3. Balconies:
Balconies are required for all *dwelling units* which are not *ground-oriented* and shall be a minimum of 5% of the *dwelling unit* size or 4.2 sq. m per *dwelling unit*, whichever is greater.

K. Subdivision

1. Minimum Lot Sizes:
Lots created through subdivision, except *strata lots*, shall conform to the following minimum standards:
 - (a) *Lot Area*: Minimum 3,000 sq. m;
 - (b) *Lot Width*: Minimum 35 m; and
 - (c) *Lot Depth*: Minimum 70 m.
2. Air space parcels and the remainder *lot* created through an air space subdivision in this Zone are not subject to Section K.1.

L. Other Regulations

Additional land use regulations may apply as follows:

1. Prior to any use, the *Lands* must be serviced as set out in Part 2 Uses Limited, of the Zoning Bylaw and in accordance with the servicing requirements for the RM-135 Zone as set forth in the Surrey Subdivision and Development By-law, 1986, No. 8830, as amended.
2. *Building* permits shall be subject to Surrey Development Cost Charge Bylaw, 2021, No. 20291, as may be amended or replaced from time to time, and the development cost charges shall be based on the RM-135 Zone for the residential portion and the C-8 Zone for the commercial portion.
3. Development permits, pursuant to the *OCP*.
4. Trees and vegetation, pursuant to Surrey Tree Preservation Bylaw, as amended.
5. Sign regulations, pursuant to Surrey Sign By-law, as amended.

City of Surrey
PLANNING & DEVELOPMENT REPORT

Application No.: 7924-0129-00

Planning Report Date: October 21, 2024

PROPOSAL:

- **Rezoning** a portion of the subject site 17850 - 56 Avenue) from C-8 to CD (based on IL)
- **Development Permit** for a portion of the subject site (17850 - 56 Avenue)
- **Major Development Permit Amendment** for a portion of the subject site (17899 - 55 Avenue).

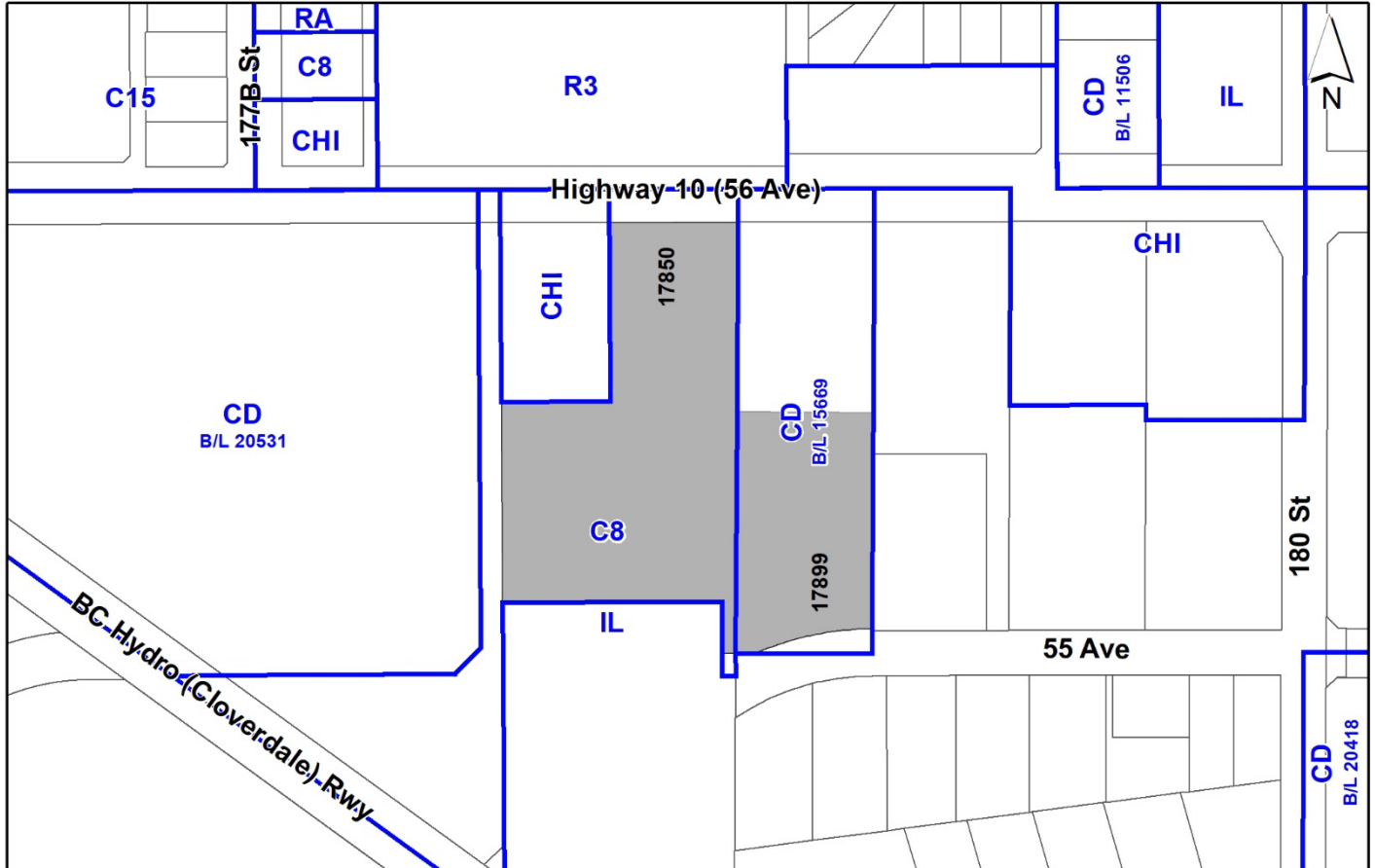
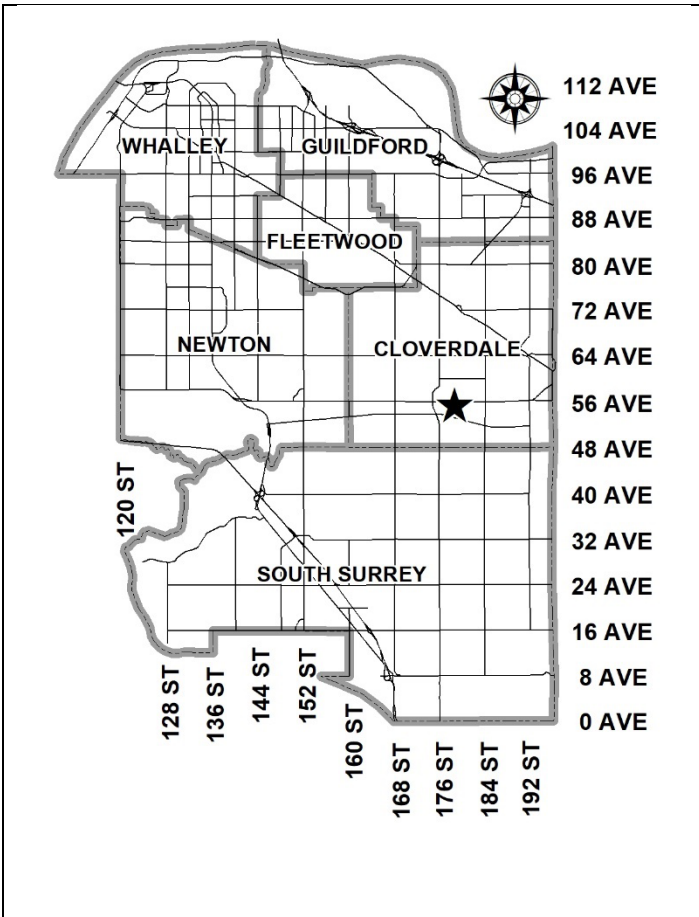
to permit the development of a three-storey light industrial building (17850 - 56 Avenue) as well as to permit an amendment to an approved Development Permit (17899 - 55 Avenue) to facilitate a shared access driveway.

LOCATION: 17899 - 55 Avenue
 17850 - 56 Avenue

ZONING: C8 and CD (Bylaw No. 15669)

OCP DESIGNATION: Industrial and Commercial

TCP DESIGNATION: Industrial/Business Park and Commercial



RECOMMENDATION SUMMARY

- By-law Introduction and set date for Public Hearing for Rezoning for the property at 17850 – 56 Avenue.
- Approval to draft Development Permit for both Form and Character as well as Hazard Lands (Flood Prone Area) for the property at 17850 – 56 Avenue.
- Approval to draft Development Permit Amendment for Development Permit No. 7904-0188-00 for the property at 17899 – 55 Avenue.

DEVIATION FROM PLANS, POLICIES OR REGULATIONS

- None

RATIONALE OF RECOMMENDATION

- The proposal complies with the Industrial designation in the Metro Vancouver Regional Growth Strategy (RGS) over the southern portion of 17850 – 56 Avenue.
- The proposal complies with the Industrial designation in the Official Community Plan (OCP) as well as over Industrial/Business Park designation in the Cloverdale Town Centre Plan (TCP) over the southern portion of 17850 – 56 Avenue .
- As the entirety of the proposed light industrial use on 17850 – 56 Avenue is contained within that portion of the lot that is currently designated as "Industrial" under the RGS and OCP as well as "Industrial/Business Park" under the Cloverdale TCP, no amendments are required as part of the subject development application. Staff have confirmed that, in order to eliminate the split-designation on 17850 – 56 Avenue, RGS, OCP, and TCP amendments will be considered by Council as part of the forthcoming Cloverdale Town Centre Plan update.
- The proposal complies with the Development Permit requirements in the OCP for Form and Character as well as the design guidelines under the Cloverdale Town Centre Plan (TCP).
- The proposal complies with the Development Permit requirements in the OCP for Hazard Lands (Flood Prone Areas).
- The proposed three-storey industrial building on 17850 56 Avenue, which will replace the existing two-storey industrial building to be demolished, achieves an attractive architectural built form, which utilizes high quality materials and contemporary lines. The proposed building will include extensive glazing throughout, especially along the entirety of the third storey.

- The proposed redevelopment of 17850 – 56 Avenue will require changes to the at-grade parking associated with an existing 2-storey light industrial building at 17899 – 55 Avenue, approved under Development Permit No. 7904-0188-00, in order to support an enlargement of the existing shared driveway access connection from 55 Avenue to 17850 – 56 Avenue. The proposed changes are meant primarily to facilitate the turning movements of tractor-trailers accessing the proposed loading area at the south-east corner of the proposed 3-storey industrial building at 17850 – 56 Avenue.
- Both properties are owned and operated by Delta Controls Inc. who have confirmed that the revised at-grade parking on 17899 – 55 Avenue will meet the off-street parking demands of the associated 2-storey industrial building. In addition, an amended reciprocal access easement will be registered over the two properties.

RECOMMENDATION

The Planning & Development Department recommends that:

1. A By-law be introduced to rezone a portion of the subject site at 17850 56 Avenue from "Community Commercial Zone (C-8)" to "Comprehensive Development Zone (CD)" and a date be set for Public Hearing.
2. Council authorize staff to draft Development Permit No. 7924-0129-00, including a comprehensive sign package, over 17850 – 56 Avenue generally in accordance with the attached drawings (Appendix I).
3. Council authorize staff to draft Development Permit No. 7904-0188-01 over 17899 – 55 Avenue generally in accordance with the attached drawings (Appendix I).
4. Council instruct staff to resolve the following issues prior to Final Adoption:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;
 - (b) submission of a subdivision layout to the satisfaction of the Approving Officer;
 - (c) approval from the Ministry of Transportation & Infrastructure;
 - (d) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
 - (e) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
 - (f) submission of a finalized tree survey and a statement regarding tree preservation to the satisfaction of the City Landscape Architect;
 - (g) the applicant satisfy the deficiency in tree replacement on the site, to the satisfaction of the Planning and Development Department;
 - (h) demolition of existing buildings and structures on a portion of the subject site (17850 – 56 Avenue) to the satisfaction of the Planning and Development Department;
 - (i) registration of a Section 219 Restrictive Covenant to prohibit habitable floor area below the Flood Construction Level (FCL) and to inform current and future owners that the subject property is located within a floodplain area and that any buildings or structures constructed upon the lot may be damaged by flooding or erosion;
 - (j) registration of a Section 219 Restrictive Covenant to adequately satisfy the City's needs with respect to public art, to the satisfaction of the General Managers, Parks, Recreation and Culture; and

- (k) registration of an amended easement for reciprocal access between 17899 – 55 Avenue and 17850 – 56 Avenue.

SITE CONTEXT & BACKGROUND

Direction	Existing Use	TCP Designation	Existing Zone
Subject Site	Two-storey light industrial and office building (17899 – 55 Avenue and one-storey light industrial and office building (17850 – 56 Avenue)	Commercial (North) and Industrial/Business Park (South)	C8 and CD (Bylaw No. 15669)
North (Across 56 Avenue):	Cloverdale Traditional Elementary School and one-storey eating establishment	Institutional and Commercial	R3 and CHI
East:	Two-storey, multi-tenant light industrial building.	Commercial (North) and Industrial/Business Park (South)	IL
South:	WesTower Telecommunications work yard.	Industrial/Business Park	IL
West:	Truck parking facility and Shopping Centre	Commercial	CD (Bylaw No. 20531) and CHI

Context & Background

- The subject site in Cloverdale Town Centre consists of two (2) developed properties. The western 1.4-hectare lot at 17850 – 56 Avenue contains a two-storey light industrial building and surface parking. The eastern lot at 17899 55 Avenue contains a portion of a commercial and industrial strata lot with a two-storey light industrial building with surface parking.
- As the subject site is located in the 200-year floodplain of both the Serpentine and Nicomekl Rivers a Hazard Lands (Flood Prone Areas) Development Permit is required (*see Development Permit section for details*).
- The north portion of 17850 – 56 Avenue is designated as "General Urban" under the Metro Vancouver *Metro 2050: Regional Growth Strategy* (RGS), "Commercial" under the Official Community Plan (OCP) and "Commercial" under the Cloverdale Town Centre Plan (TCP). The south portion of 17850 – 56 Avenue is designated "Industrial" under the RGS and OCP and "Industrial/Business Park" under the Cloverdale TCP. The entirety of 17850 – 56 Avenue is currently zoned "Community Commercial (C8) Zone".

- As the entirety of the proposed light industrial use on 17850 – 56 Avenue is contained within that portion of the lot that is currently designated as "Industrial" under the RGS and OCP as well as "Industrial/Business Park" under the Cloverdale TCP, no amendments are required as part of the subject development application. Staff have confirmed that, in order to eliminate the split-designation on 17850 – 56 Avenue, RGS, OCP, and TCP amendments will be considered by Council as part of the forthcoming Cloverdale Town Centre Plan update.
- That portion of the adjacent commercial and industrial strata lot (17899 – 56 Avenue) associated with the subject development application is designated as "Industrial" in the RGS and OCP as well as "Industrial/Business Park" in the Cloverdale TCP and is currently zoned "Comprehensive Development (CD) Zone (Bylaw No. 15669)".
- The applicant, Delta Controls Inc., a building automation systems manufacturer in the commercial, healthcare, hospitality, education and leisure markets, have been operating a light industrial and office building on 17850 – 56 Avenue since 1994 as well as an additional light industrial manufacturing facility at 17899 – 55 Avenue since 2008. The intent of the subject application is to: (1) retain the existing facilities at 17899 – 55 Avenue; (2) demolish the existing two-storey industrial building at 17850 – 56 Avenue; and (3) construct a new three-storey industrial building at 17850 – 56 Avenue with expanded warehouse, light industrial (research and development) and office facilities in order to create a campus-like layout.

DEVELOPMENT PROPOSAL

Planning Considerations

- In order to permit the development of a 3- storey light industrial and office building, containing approximately 13,165 square metres of floor area with both at-grade and underground parking facilities, on the western portion of the subject site (17850 – 56 Avenue) in Cloverdale Town Centre the following is required:
 - **Rezoning** from C-8 to CD (based on IL); and
 - **Development Permit** for Form and Character.

	Proposed (17850 – 56 Avenue Only)
Lot Area	
Gross Site Area:	14,203.5 sq.m.
Road Dedication:	72.6 sq.m.
Net Site Area:	14,130.9 sq.m.
Building Height:	21.2 metres
Floor Area Ratio (FAR):	0.93 (Net)
Floor Area	
Industrial:	6,175 sq.m.
Office:	4,372 sq.m.
Total:	10,547 sq.m.

- In order to allow changes to the configuration of existing, abutting at-grade parking facilities on a portion of the subject site (17899 – 55 Avenue) to permit an expanded shared access condition between the two above-noted properties the following is required:

- **Development Permit Amendment** to Development Permit No. 7904-0188-00.

Referrals

- Engineering: The Engineering Department has no objection to the project subject to the completion of Engineering servicing requirements as outlined in Appendix II.
- Ministry of Transportation & Infrastructure (MOTI): Preliminary approval of the subject Rezoning Bylaw has been granted for a period of one (1) year.
- Completion and acceptance of a site-specific Transportation Impact Analysis (TIA) as well as additional revisions to the proposed 56 Avenue (Highway 10) access to be a condition of Final Adoption of the Rezoning Bylaw and MOTI execution of the Plan of Subdivision.
- Surrey Fire Department: No concerns.
- Advisory Design Panel: The application was not subject to review by the ADP as review of this building type is not required by the ADP Terms of Reference but was reviewed by staff and found satisfactory.
- Ministry of Environment: No concerns.

Transportation Considerations

Road Network and Infrastructure:

- As part of the subject development application, the applicant will be required to provide the following road dedication and construction requirements:
 - Dedicate 12.0 metres in width for the south-most extent of 17850 – 56 Avenue and construct the north side of 55 Avenue. In addition, remove the existing driveway access and letdown from 55 Avenue for 17850 – 56 Avenue.
 - Register a 0.5-metre wide Statutory Right-of-Way (SRW) along all development frontages for sidewalk maintenance.
 - Registration of a Section 219 Restrictive Covenant on 17850 – 56 Avenue for Right-In/Right-Out access only from 56 Avenue (Highway 10).
 - Registration of an amended Reciprocal Access Easement between 17899 – 55 Avenue and 17850 – 56 Avenue.

Transportation Impact Analysis:

- The applicant is required to provide a site-specific Transportation Impact Analysis (TIA) report to both the City of Surrey and the Ministry of Transportation & Infrastructure as per Section 505 of the Local Government Act. Submission and acceptance of the TIA will be a

condition of Final Adoption of the subject Rezoning By-law as well as issuance and execution of the subject Development Permit.

Access and Parking:

- The applicant is proposing approximately 266 parking spaces on 17850 – 56 Avenue, 161 within an at-grading parking lot and 105 within an underground parkade, which exceeds the requirements of the Zoning Bylaw for the proposed industrial and office uses.
- The subject site will be accessed via two driveways, one from 55 Avenue and one from 56 Avenue (Highway 10) with cross access between 17899 – 55 Avenue and 17850 – 56 Avenue addressed through the registration of an amended reciprocal access easement.

Transit and/or Active Transportation Routes:

- The subject site is located approximately 600 metres from bus stops served by TransLink Route No. 342 (Langley Centre / Newton Exchange) and No. 370 (Cloverdale/Willowbrook).

Sustainability Considerations

- The applicant has met all of the typical sustainable development criteria, as indicated in the Sustainable Development Checklist.

POLICY & BY-LAW CONSIDERATIONS

Regional Growth Strategy

- The proposal complies with the current "Industrial" designation over the southern portion of 17850 – 56 Avenue under the Metro Vancouver 2050 *Regional Growth Strategy*.

Official Community Plan

Land Use Designation

- The proposal complies with the current "Industrial" designation over the southern portion of 17850 – 56 Avenue under the Official Community Plan (OCP).

Secondary Plans

Land Use Designation

- The proposal complies with the current "Industrial/Business Park" designation over the southern portion of 17850 – 56 Avenue under the Cloverdale Town Centre Plan (TCP).

CD By-law

- A comparison of the density, lot coverage, setbacks, building height and permitted uses in the IL Zone and the proposed CD By-law is illustrated in the following table:

Zoning	IL Zone (Part 48)	Proposed CD Zone
Floor Area Ratio (FAR):	1.0 FAR (Net)	1.0 FAR (Net)
Lot Coverage:	60%	60%
Yards and Setbacks	7.5 metres from all lot lines	7.5 metres from all lot lines.
Principal Building Height:	18.0 metres	21.5 metres
Permitted Uses:	<p><u>Principal Uses:</u></p> <ul style="list-style-type: none"> • Light Impact Industrial • Recycling Depots • Transportation Industry • Automotive Service Uses • Vehicle Storage, including Recreational Vehicle storage • Industrial Equipment Rentals • General Service Uses, limited to: <ul style="list-style-type: none"> ○ Driving Schools ○ Fleet Dispatch Office ○ Industrial First Aid Training ○ Trade Schools • Warehouse Uses • Distribution Uses • Office Uses, limited to: <ul style="list-style-type: none"> ○ Architectural Firms ○ Landscape Architectural Firms ○ Engineering and Surveying ○ General Contractor ○ General Government ○ Utility Company. • Self-Storage Warehouse • Liquor Manufacturing <p><u>Accessory Uses:</u></p> <ul style="list-style-type: none"> • Coffee Shops. • Recreation Facilities. • Community Services. • Assembly Halls • Child Care Centres • Caretaker Unit • Sales of rebuilt vehicles under < 5,000 kg G.V.W. 	<p><u>Principal Uses:</u></p> <ul style="list-style-type: none"> • Light Impact Industrial • Warehouse Uses • Distribution Uses • Transportation Industry except Truck Parking Facilities <p><u>Accessory Uses:</u></p> <ul style="list-style-type: none"> • Office Uses
Parking (Part 5)	Required	Proposed
Number of Stalls		
Industrial:	62 parking spaces	133 parking spaces
Office:	109 parking spaces	133 parking spaces
Total:	<u>171 parking spaces</u>	<u>266 parking spaces</u>
Small Car (Max. %):	60 parking spaces (35%)	13 parking spaces (4.8%)
Accessible (Min. %):	8 parking spaces (5%)	8 parking spaces (5%)

- Based on the visibility of the subject site from Highway 10 as well as its proximity to existing and future commercial/retail uses within Cloverdale Town Centre, the number of permitted uses under the proposed CD By-law has been reduced from those permitted under the IL zone to those considered most compatible with the existing and future urban interface.
- The maximum building height permitted has been increased from 18.0 metres under the IL Zone to 21.5 metres under the proposed CD By-law in order to permit the proposed development.

Public Art Policy

- The applicant will be required to provide public art, or register a Restrictive Covenant agreeing to provide cash-in-lieu, at a rate of 0.5% of construction value, to adequately address the City's needs with respect to public art, in accordance with the City's Public Art Policy requirements. As a condition of Final Adoption of the subject Rezoning By-law the applicant will be required to register a Section 219 Restrictive Covenant to satisfy the needs of the General Manager, Parks, Recreation and Culture, with respect to the City's Public Art Policy.

PUBLIC ENGAGEMENT

- Pre-notification letters were sent on August 15, 2024, and the Development Proposal Signs were installed on August 16, 2024. To date, staff have received no responses from neighbouring residents or businesses.

DEVELOPMENT PERMITS

Form and Character Development Permit Requirement (17850 – 56 Avenue)

- The proposed development generally complies with the Form and Character Development Permit guidelines in the OCP and the design guidelines in the Cloverdale Town Centre Plan (TCP).

Proposed Building

- The proposed building has a modern, linear appearance achieved through the use of extensive vertical and horizontal glazing in both dark and light gray throughout, especially along the entirety of the upper building storey (office use).
- In addition to the proposed glazing, the remainder of the building will be clad with insulated metal panels in a combination of dark grey and wood-line tones. The one-storey entrance lobby, facing 56 Avenue, has been further delineated by the use of a rectangular extrusion clad in white coloured metal panel or white exterior-grade porcelain tile.
- Rooftop mechanical units will be screened with perforated metal screening in dark grey.
- There are six (6) loading bays at the south-east corner of the proposed building that are to be accessed by WB-20 tractor-trailer combinations entering 17850 – 56 Avenue from 55 Avenue via the shared access easement with 17899 – 55 Avenue.

Landscaping

- The landscape plans include a variety of deciduous and coniferous trees in addition to a number of low-lying shrubs, grasses and other groundcover planted throughout.
- Landscaped tree islands, containing either a deciduous or coniferous tree as well as low-lying shrubs and ground cover, are proposed throughout the surface parking areas on 17850 – 56 Avenue spaced approximately every six (6) parking spaces as per OCP DP1.1 guidelines.
- A shared outdoor amenity space for employees of both 17850 – 56 Avenue and 17899 – 55 Avenue is proposed along the east side of the proposed building, within both existing lots. The proposed amenity space contains picnic tables and other informal seating areas and is extensively planted with trees, low-lying shrubs, grasses and groundcover.
- A 1.8-metre high black-clad metal security fence is proposed along the north, west and south lot lines and along a that portion of the east lot line which is not shared with 17899 – 55 Avenue.

Signage

- One (1) free-standing identification sign is proposed along the 56 Avenue (Highway 10) frontage, which will be incorporated into the proposed 1.8-metre high black-clad security fencing and 2.1-metre high black-clad rolling security gate. The proposed sign will consist of individual illuminated metal channel letters as well as the Delta Controls Inc. logo in light blue affixed to a 2.2-metre high concrete wall that is incorporated into the 56 Avenue landscape buffer.
- An upper storey fascia sign is proposed along the 56 Avenue (Highway 10) building frontage and will consist of individual illuminated metal channel letters as well as the Delta Controls Inc. logo in light blue with a maximum height of 1.2 metres.
- Final signage details will be addressed through a future Sign Permit in association with the future Building Permit application.

Development Permit (Major) Amendment (17899 – 55 Avenue)

- As part of the subject land development application, the applicant is seeking a major amendment to Development Permit No. 7904-0188-00 in order to reconfigure the existing at-grade parking lot on 17899 – 55 Avenue, associated with an existing two-storey light industrial building, as well as the shared access conditions between 17899 – 55 Avenue and 17850 – 56 Avenue.
- The proposed changes include:
 - Removal of the southern-most parking island, containing approximately eight (8) parking spaces to accommodate a widened shared two-way internal driveway for truck-trailer access to 17850 – 56 Avenue from 55 Avenue via 17899 – 55 Avenue.

- Removal of the northern most parking island, containing approximately eight (8) parking spaces to accommodate: a shared outdoor amenity island for Delta Controls Inc. employees, a shared two-way drive aisle between 17899 – 55 Avenue and 17850 – 56 Avenue as well as eight (8) new parking spaces.
- No changes are proposed to the existing two-storey light industrial building or the eastern portion of the parking lot containing 23 parking spaces, 1.5-metre wide on-site sidewalk and 5.0-metre wide landscape buffering containing trees, low-lying shrubs and groundcover.
- The applicant has confirmed that the 48 proposed parking spaces on 17899 – 55 Avenue complies with the minimum off-street parking rate for light industrial uses under Part 5 of the Zoning Bylaw.

Hazard Lands (Flood Prone) Development Permit Requirement

- The subject property falls within the Hazard Lands (Flood Prone) Development Permit Area (DPA) in the OCP, given that the site is within the 200-year floodplain of both the Nicomekl River and Serpentine River. The Hazard Land (Flood Prone) Development Permit is required to protect developments from hazardous conditions.
- A minimum flood plain elevation of approximately 2.4 metres geodetic is required. The applicant is proposing a main floor elevation of 4.5 metres geodetic elevation, which is approximately 2.1 metres above the minimum flood plain level.
- Registration of a Section 219 Restrictive Covenant to restrict habitable floor area below the Flood Construction Level (FCL) and to inform current and future owners that the subject property is located within a floodplain area and that any buildings or structures constructed upon the lot may be damaged by flooding or erosion is required as a condition of final adoption.

TREES

- Glenn Murray, ISA Certified Arborist of Froggers Creek Tree Consultants Ltd., prepared an Arborist Assessment for the subject site. The table below provides a summary of the proposed tree retention and removal. A detailed list of the proposed tree retention and removal by tree species can be found in (Appendix III):
- All trees identified for removal, retention and/or replacement are subject to change prior to final approval of the arborist report.

Table 1: Summary of Proposed Onsite Tree Preservation by Tree Species:

	Existing	Remove	Retain
Alder/Cottonwood (outside riparian area)	3	3	0
Deciduous Trees	64	39	25
Coniferous Trees	35	24	11
Onsite Tree Totals	102	66	36
Onsite Replacement Trees Proposed	78		
Total Onsite Retained and Replacement Trees	114		

- The Arborist Assessment states that there are a total of 102 bylaw protected trees on the site. Additionally, there are three (3) bylaw protected offsite trees and six (6) bylaw protected City trees within proximity of the proposed development. The applicant proposes to retain 36 onsite trees as part of this development proposal. The proposed tree retention was assessed taking into consideration the location of services, building footprints, road dedication and proposed lot grading. All of the identified offsite trees and City trees in proximity to the subject site are proposed to be retained.
- For those trees that cannot be retained, the applicant will be required to plant trees on a 1 to 1 replacement ratio for Alder and Cottonwood trees, and a 2 to 1 replacement ratio for all other trees. This will require a proposed total of 129 replacement trees on the site. As the subject site can only accommodate 78 replacement trees the proposed deficit of 51 replacement trees will require an estimated cash-in-lieu payment of \$28,050, representing \$550 per tree, to the Green City Program, in accordance with the City's Tree Protection By-law.
- The new trees on the site will consist of a variety of trees including Pink Lobner Magnolia, Sourwood, Sugar Maple, Japanese Zelkova and Serbian Spruce.
- In summary, a total of 114 trees are proposed to be retained or replaced on the site with an estimated contribution of \$28,050 to the Green City Program.

INFORMATION ATTACHED TO THIS REPORT

The following information is attached to this Report:

Appendix I.	Site Plan, Building Elevations, Landscape Plans and Perspective
Appendix II.	Engineering Summary
Appendix III.	Summary of Tree Survey, Tree Preservation and Tree Plans
Appendix IV.	Cloverdale Town Centre Plan Land Use Map

approved by Shawn Low

Ron Gill
Acting General Manager
Planning and Development

CRL/cb



VICINITY PLAN, NTS



CONTEXT MAP, NTS



DELTA ELECTRONICS HEADQUARTERS

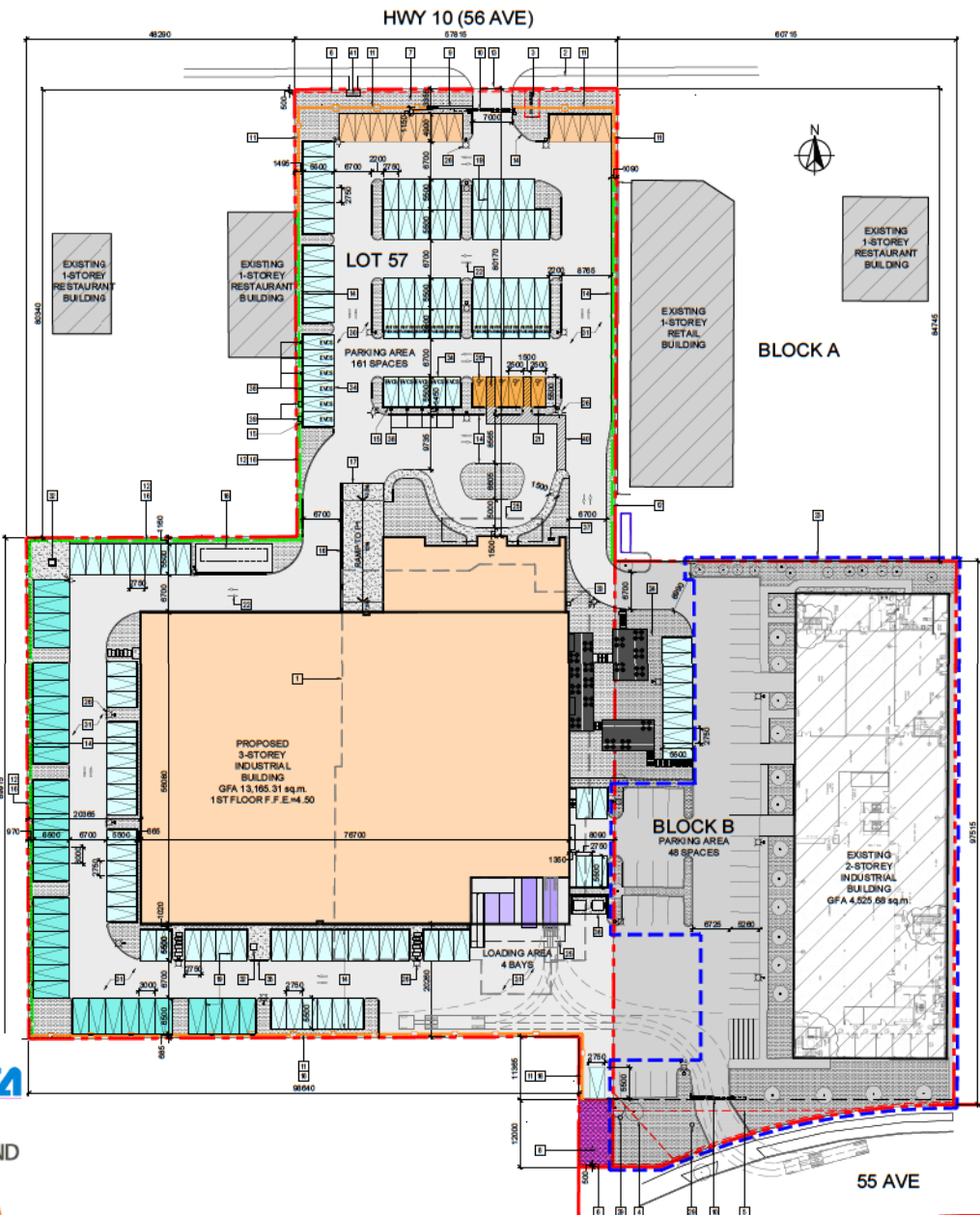
17850 - 56 AVENUE, SURREY, BC



SITE CONTEXT

26 JUN 2024

A0.1



LEGEND

- PROPERTY LINE
- EXTENT OF EXISTING LANDSCAPE AND PARKING TO REMAIN
- PROPOSED METAL SECURITY FENCE
- PROPOSED CHAINLINK FENCE
- STATUTORY RIGHT-OF-WAY
- FUTURE ROAD DECK/BOX
- CONCRETE PAVING
- MEDIUM DUTY ASPHALT
- EXISTING PAVING TO REMAIN
- LANDSCAPE AREA
- EXISTING TREE TO REMAIN
- PAVING LIGHT STANDARD

- KEY NOTES**
- 1 OUTLINE OF EXISTING BUILDING TO BE DEMOLISHED
 - 2 EXISTING CITY CONCRETE SIDEWALK
 - 3 SRW PLAN A81651
 - 4 SRW PLAN BCP1983
 - 5 SRW PLAN 84282
 - 6 0.5m SRW ALONG STREET
 - 7 MIN. 3m WIDE LANDSCAPED STRIP WITHIN FRONT LOT LINE
 - 8 FUTURE ROAD DEDICATION
 - 9 LOGO WALL, REFER TO DETAIL
 - 10 BUILDING SECURITY GATE, BLACK, REMOVE OPERATOR, REFER TO DWG.
 - 11 1830mm (8') HIGH METAL SECURITY FENCE, BLACK, REFER TO DETAIL
 - 12 1830mm (8') HIGH CHAINLINK FENCE, BLACK, REFER TO DETAIL
 - 13 PROPOSED BICYCLAR ACCESS / EXIT TO SITE, REFER TO CIVIL
 - 14 CONCRETE CURB - REFER TO DETAIL
 - 15 CONCRETE BOLLARD, GALVANIZED STEEL, PAINTED YELLOW, REFER TO DWG.
 - 16 CONCRETE RETAINING WALL, REFER TO CIVIL & STRUCTURAL
 - 17 CONCRETE RAMP TO PARKADE, REFER TO CIVIL & STRUCTURAL
 - 18 CONTAINER-BASED LFP BATTERY DOCK ON CONCRETE PAD, SUPPLIED BY DE
 - 19 PAINTED PARKING LINE 100mm WIDE, PAINTED WHITE AS PER MPI STANDARD EXT 2.1A
 - 20 HANDICAP PARKING STALL, c/w 45° WALKWAY STRIPE & HVC LOGO PAINTED WHITE, REFER TO DWG.
 - 21 HVC PARKING SIGN, SIGN TO BE CENTERED ON STALL, TYPICAL
 - 22 DIRECTIONAL ARROW, REFER TO DWG.
 - 23 BLUE DASHED LINES DENOTE EXISTING LANDSCAPE AND PARKING TO REMAIN
 - 24 LANDSCAPE OUTDOOR AREA, REFER TO LANDSCAPE
 - 25 FACE OF CANDY ABOVE
 - 26 PROPOSED POLE MOUNTED LIGHT STANDARD, REFER TO ELECTRICAL
 - 27 CONCRETE PAVER
 - 28 PROPOSED CATCH BASIN, REFER TO CIVIL
 - 29 EXISTING FIRE HYDRANT TO REMAIN
 - 30 MEDIUM DUTY ASPHALT, MIN. 75mm, REFER TO CIVIL & GEOTECHNICAL
 - 31 HEAVY DUTY ASPHALT, MIN. 100mm, REFER TO CIVIL & GEOTECHNICAL
 - 32 PROPOSED BC HYDRO PULL BOX, REFER TO ELECTRICAL
 - 33 GAS METER LOCATION, REFER TO MECHANICAL
 - 34 ELECTRICAL VEHICLE CHARGING STATION (EVCS), REFER TO ELECTRICAL
 - 35 LET DOWN AT CURB
 - 36 GARBAGE AND RECYCLING ENCLOSURE, STEEL POSTS AND GATE FRAMES TO BE HD GALVANIZED, REFER TO DRAWING
 - 37 SHORT-TERM BICYCLE STORAGE - OUTDOOR BICYCLE RACK, POWDER COATED, 8 SPACES PROVIDED
 - 38 LEVEL 2 EV CHARGER C/W STAND, REFER TO ELECTRICAL
 - 39 LEVEL 3 EV CHARGER - REFER TO ELECTRICAL
 - 40 1500mm PAINTED ACCESSIBLE PATHWAY
 - 41 NEW BENCH ON CONCRETE PAD - ACCESSIBLE AMENITY AREA, REFER TO LANDSCAPE

PROJECT STATISTICS

SITE ADDRESS: 17850-56 AVENUE, SURREY, BC, V5S 1C7
 LEGAL DESCRIPTION: LOT 57, NW SEC 5, T19, NEW WESTMINSTER DISTRICT PLAN 91700
 EXISTING ZONING: C4 - COMMUNITY COMMERCIAL ZONE
 PROPOSED ZONING: CD - COMPREHENSIVE DEVELOPMENT ZONE (BASED ON IBI-1 - BUSINESS PARK 1 ZONE)
 EXISTING USE: OFFICE
 PROPOSED USE:
 LIGHT MANUFACTURING - WAREHOUSE: 1,646 sq.m.
 OFFICE (BDO) / FACTORY: 1678 sq.m.
 SUB-TOTAL AREA: 5,324 sq.m. 6.9%
 OFFICE: 5,042 sq.m. 6.7%
 TOTAL AREA: 8,398 sq.m. 10.6%

EXISTING SITE AREA: 14,203.5 sq.m. (152,283 sq. ft.)
 GROUND FLOOR: 4,561.22 sq.m. (49,087 sq. ft.)
 SECOND FLOOR: 4,202.27 sq.m. (45,309 sq. ft.)
 THIRD FLOOR: 4,202.27 sq.m. (45,309 sq. ft.)
 TOTAL AREA: 13,165.76 sq.m. (142,705 sq. ft.)

ALLOWABLE FSR (C-4): 0.1 to 0.2 (max. net coverage as per section 13.165.31 / 14,203.5 = 0.98)
 ALLOWABLE SITE COVERAGE (C-4) 50%
 PROPOSED BUILDING COVERAGE: 4,641.1 / 14,203.5 = 34.2%

ALLOWABLE HEIGHT (C-4): 13 m
 PROPOSED HEIGHT (C-4): 21.2 m

FRONT YARD SETBACK (8 BAYS): ALLOWED (C-4): 7.50 m, PROPOSED (C-2): 8.017 m
 REAR YARD SETBACK: ALLOWED (C-4): 7.50 m, PROPOSED (C-2): 302.6 m
 SIDE YARD SETBACK (EAST / WEST): ALLOWED (C-4): 7.50 m, PROPOSED (C-2): 8.09 m @ EAST, 253.7m @ WEST

PARKING SPACE REQUIREMENTS (See Detail Tables A & B Section 6)

INDUSTRIAL TRANSPORTATION PARKING REQUIREMENTS	REQUIRED	PROVIDED
WAREHOUSE - 1,646 sq.m. - MIN. 1 SPACE PER 100 sq.m. - 1,646 sq.m. / 100 sq.m.	16	19
OFFICE (BDO)/FACTORY - 3,678 sq.m. - MIN. 2.5 SPACES PER 100 sq.m. - 9,195 sq.m. x 2.5	92	105
OFFICE - 3,042 sq.m. - MIN. 2.5 SPACES PER 100 sq.m. - 7,605 sq.m. / 100 sq.m. x 2.5	77	88
TOTAL PARKING SPACES REQUIRED	185	
PICK-UP TRUCK		32
SMALL CAR - 2% (MAX. 30%)		19
ACCESSIBLE - 2% (MAX. 4%) (MINIMUM 2 SPACES) - 2% OF REQUIRED PARKING SPACES - 2% x 185 SPACES	4	6
VAN ACCESSIBLE - 2% (MAXIMUM 4%) (MINIMUM 2 SPACES) - 2% OF REQUIRED ACCESSIBLE PARKING SPACES - 2% x 4 SPACES	2	2
TOTAL PARKING SPACES PROVIDED		266

PARKING SPACE DIMENSIONS (See Detail Tables A & B Section 6)

TYPE	WIDTH	LENGTH	DRIVE AISLE WIDTH	SHARED AISLE WIDTH
90 DEGREE	2.9m	5.9m	6.1m	-
90 DEGREE	2.7m	5.9m	6.7m	-
PICK-UP TRUCK	3.0m	6.5m	6.7m	-
PARALLEL	2.9m	6.7m	6.0m	-
SMALL CAR	2.75m/2.9m	4.2m	6.7m/6.1m	-
ACCESSIBLE	2.5m	5.9m	6.1m	1.5m
VAN ACCESSIBLE	3.4m	5.9m	6.1m	1.5m

BICYCLE SPACE REQUIREMENTS (See Detail Tables A & B Section 6)

INDUSTRIAL & OFFICE BICYCLE REQUIREMENTS	REQUIRED	PROVIDED
- NOT APPLICABLE & NOT REQUIRED	0	32
TOTAL CLASS B BICYCLE SPACE PROVIDED		32

LOADING SPACE REQUIREMENTS (See Detail Tables A & B Section 6)

INDUSTRIAL & OFFICE BICYCLE REQUIREMENTS	REQUIRED	PROVIDED
- ALL INDUSTRIAL BUILDINGS TO PROVIDE AN ON-STREET LOADING UNLOADING SPACE ADJACENT TO EACH OPENING DOOR OF THE BUILDING	4	4
TOTAL LOADING SPACE PROVIDED		4

LOADING SPACE DIMENSIONS (See Detail Tables A & B Section 6)

TYPE	WIDTH	LENGTH	MINIMUM DRIVING AISLE WIDTH
90 DEGREE	4.0m	9.2m	7.5m

PARKING TYPE	LOT 57		BLOCK B	
	PARKING PROVIDED	C.O.S. REQ'D	PARKING PROVIDED	C.O.S. REQ'D
STANDARD - W 2.9m x L 5.5m	99			
STANDARD - W 2.75m x L 5.5m	113			
PICK-UP TRUCK - W 3.0m x L 6.5m	1	185	48	39
PARALLEL - W 2.9m x L 6.7m	1			
SMALL CAR - W 2.75m/2.9m x L 4.8m	33			
ACCESSIBLE - W 2.5m x L 5.5m	6	4		1
VAN ACCESSIBLE - W 3.4m x L 5.5m	2	2		
TOTAL PARKING SPACES	266	195	48	40
HIGH DOCK	2		4	0
LOW DOCK	2		4	0

TOTAL PARKING PROVIDED AT LOT 57: 266 SPACES
 TOTAL PARKING PROVIDED AT BLOCK B: 48 SPACES



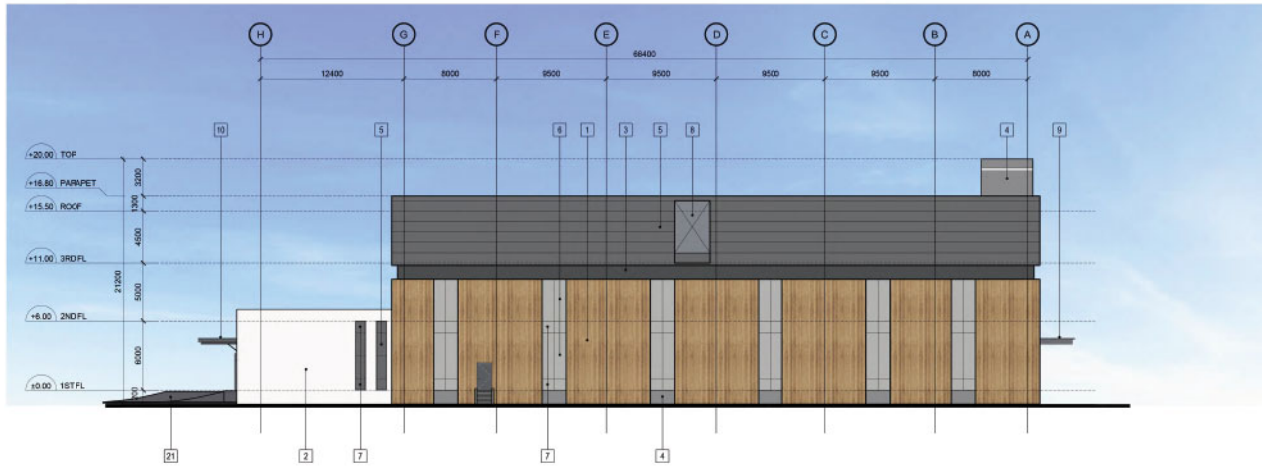
DELTA ELECTRONICS HEADQUARTERS

17850 - 56 AVENUE, SURREY, BC

SCALE 1:400 19 SEP 2024

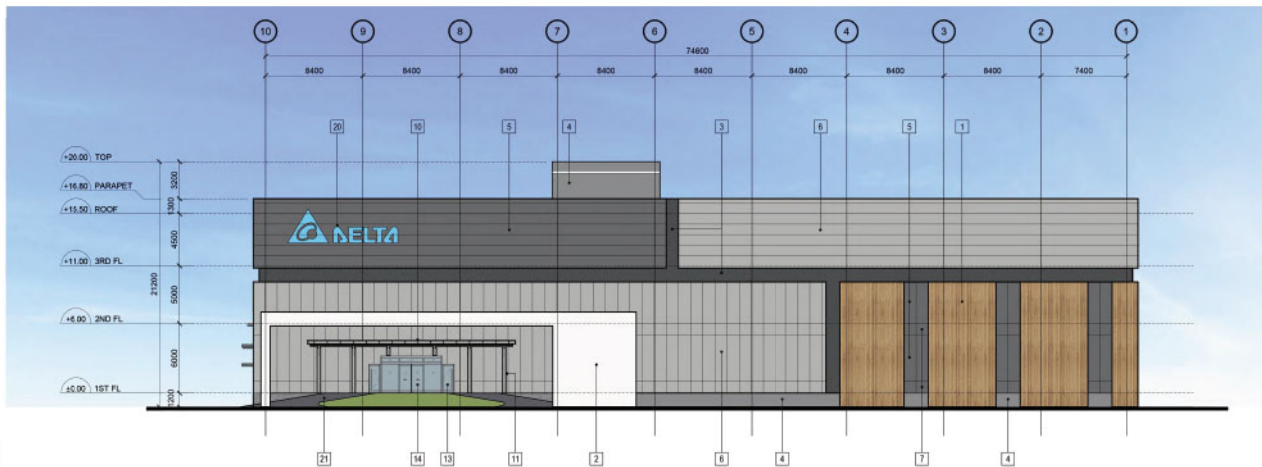
SITE PLAN A1.1





WEST ELEVATION

MATERIAL LEGEND	
1	INSULATED METAL PANEL (WOOD-LOOK FINISH)
2	INSULATED METAL PANEL (WHITE) OR PORCELAIN TILE (WHITE)
3	METAL PANEL (DARK GREY)
4	PRE-FINISHED CEMENT BOARD (MEDIUM GREY)
5	DOUBLE LOW-E GLASS (DARK GREY)
6	DOUBLE LOW-E GLASS (SILVER)
7	SPANDREL GLASS (DARK GREY)
8	CURTAIN WALL OPENING
9	METAL CANDOPY (DARK GREY)
10	GLASS CANDOPY C/W METAL SUPPORTS (DARK GREY)
11	METAL COLUMN C/W PRE-FINISHED COLUMN COVER (SILVER)
12	METAL COLUMN C/W PRE-FINISHED COLUMN COVER (DARK GREY)
13	ALUMINUM DOOR (CLEAR ANODIZED)
14	ALUMINUM SLIDING DOOR (CLEAR ANODIZED)
15	PAINTED HOLLOW METAL INSULATED DOOR (CHARCOAL)
16	SECTIONAL OVERHEAD DOOR (MEDIUM GREY)
17	SECTIONAL FROSTED GLASS OVERHEAD DOOR
18	CONCRETE LOADING LP
19	CONCRETE LOADING PLATFORM
20	ILLUMINATED DELTA SIGNAGE
21	ASPHALT DRIVEWAY
22	CONCRETE DOCK RAMP



NORTH ELEVATION (56 AVENUE)



DELTA ELECTRONICS HEADQUARTERS

17850 - 56 AVENUE, SURREY, BC



BUILDING ELEVATIONS

SCALE 1:200

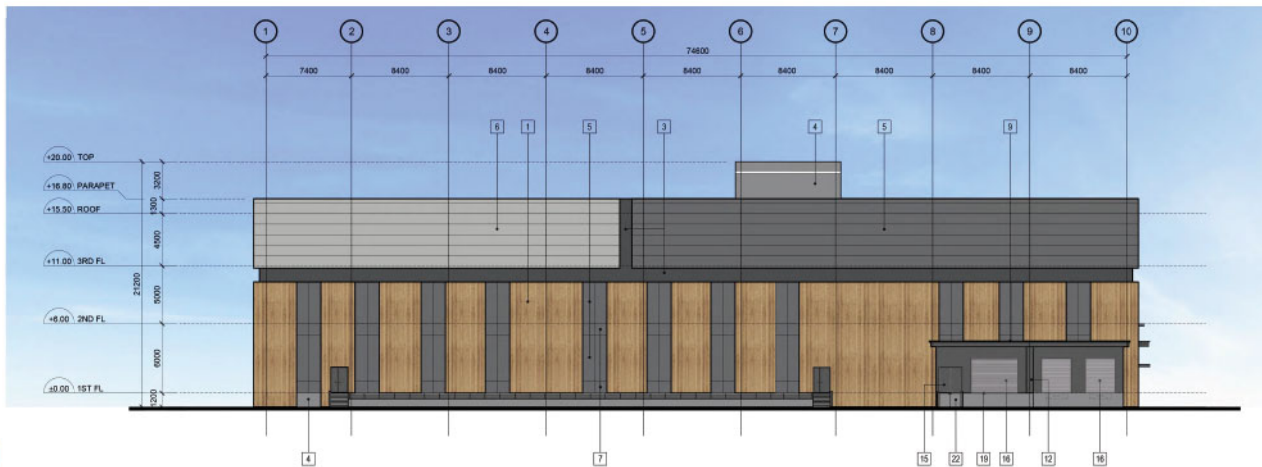
26 JUN 2024

A3.0



EAST ELEVATION

MATERIAL LEGEND	
1	INSULATED METAL PANEL (WOOD-LOOK FINISH)
2	INSULATED METAL PANEL (WHITE) OR PORCELAIN TILE (WHITE)
3	METAL PANEL (DARK GREY)
4	PRE-FINISHED CEMENT BOARD (MEDIUM GREY)
5	DOUBLE LOW-E GLASS (DARK GREY)
6	DOUBLE LOW-E GLASS (SILVER)
7	SPANDREL GLASS (DARK GREY)
8	CURTAIN WALL OPENING
9	METAL CANDOPY (DARK GREY)
10	GLASS CANDOPY C/W METAL SUPPORTS (DARK GREY)
11	METAL COLUMN C/W PRE-FINISHED COLUMN COVER (SILVER)
12	METAL COLUMN C/W PRE-FINISHED COLUMN COVER (DARK GREY)
13	ALUMINUM DOOR (CLEAR ANODIZED)
14	ALUMINUM SLIDING DOOR (CLEAR ANODIZED)
15	PAINTED HOLLOW METAL INSULATED DOOR (CHARCOAL)
16	SECTIONAL OVERHEAD DOOR (MEDIUM GREY)
17	SECTIONAL FROSTED-GLASS OVERHEAD DOOR
18	CONCRETE LOADING LP
19	CONCRETE LOADING PLATFORM
20	ILLUMINATED DELTA SIGNAGE
21	ASPHALT DRIVEWAY
22	CONCRETE DOCK RAMP



SOUTH ELEVATION (55 AVENUE)



DELTA ELECTRONICS HEADQUARTERS

17850 - 56 AVENUE, SURREY, BC



BUILDING ELEVATIONS

SCALE 1:200

26 JUN 2024

A3.1



56 AVENUE LOOKING AT SOUTH



56 AVENUE LOOKING AT NORTH



55 AVENUE LOOKING AT NORTH



DELTA ELECTRONICS HEADQUARTERS

17850 - 56 AVENUE, SURREY, BC



STREET VIEWS

A3.2

26 JUN 2024



NORTH-WEST PERSPECTIVE LOOKING FRONT



SOUTH-EAST PERSPECTIVE LOOKING REAR



DELTA ELECTRONICS HEADQUARTERS

17850 - 56 AVENUE, SURREY, BC



RENDERINGS

A5.0

26 JUN 2024

LEGEND

- PROPERTY LINE
- BOD
- RUBBER ROCK
- PLANTING MEDIUM
- EXISTING TREES TO REMAIN
- PATIO PAVING
- RETAINING WALL REDFILL
- CONCRETE SIDEWALK
- BOLLARD
- PROPOSED CEDAR FENCE
- CHAIN LINK FENCE
- METAL FENCE

3	2024/01/18	ISSUED FOR DP
2	2024/09/28	ISSUED FOR DP
1	2024/09/25	ISSUED FOR REVIEW

NO. DATE (MM/DD) DESCRIPTION
 DRAWN & APPROVED



PROJECT NAME:
 DELTA CONTROLS

PROJECT ADDRESS:
 17850 56 AVENUE
 SURREY, BC

DRAWING TITLE:
 OVERALL
 LANDSCAPE PLAN

SCALE:
 1:400

DRAWN:
 AT

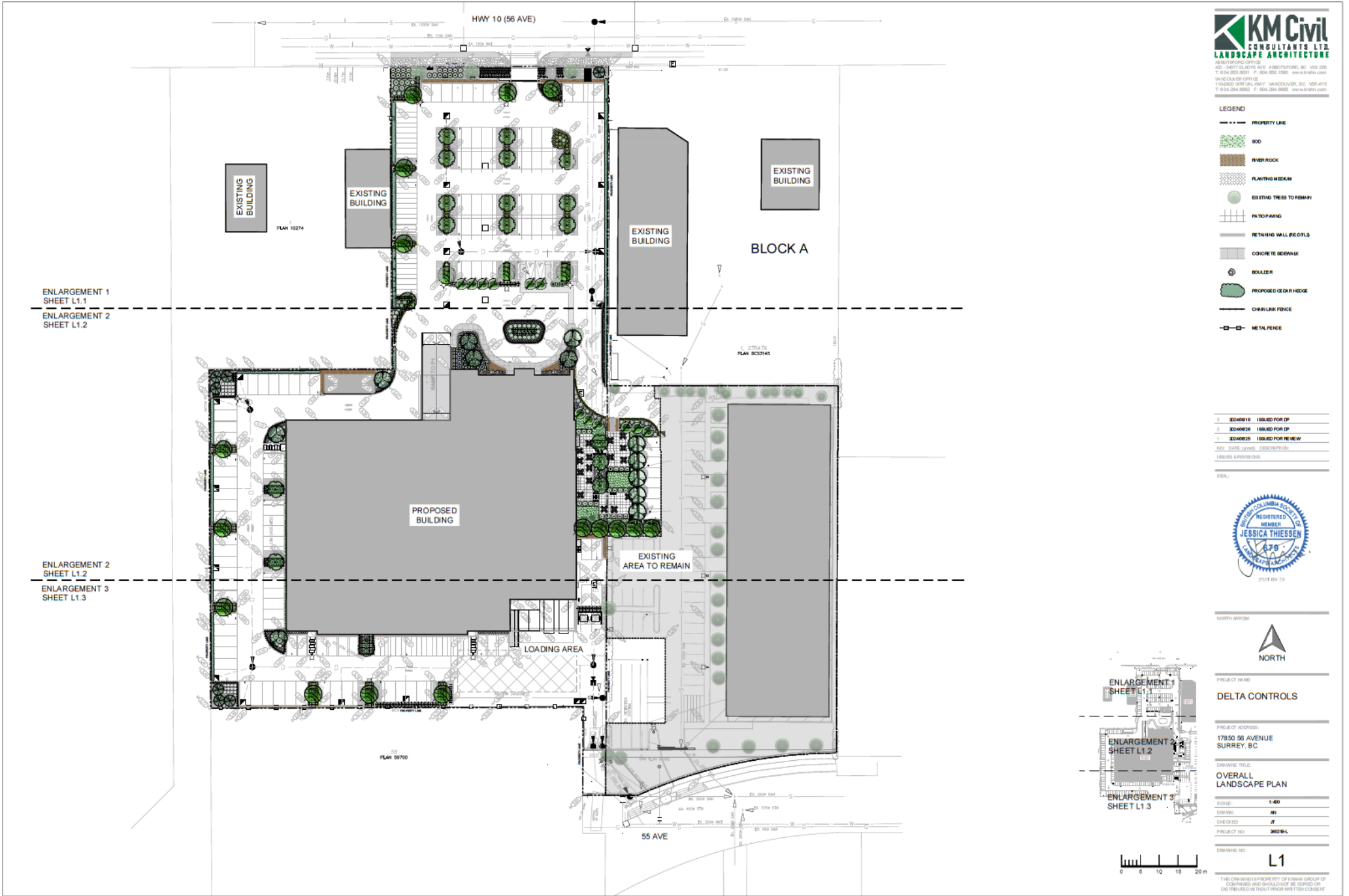
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PROJECT NO.:
 2024-L

DRAWING NO.:
 L1



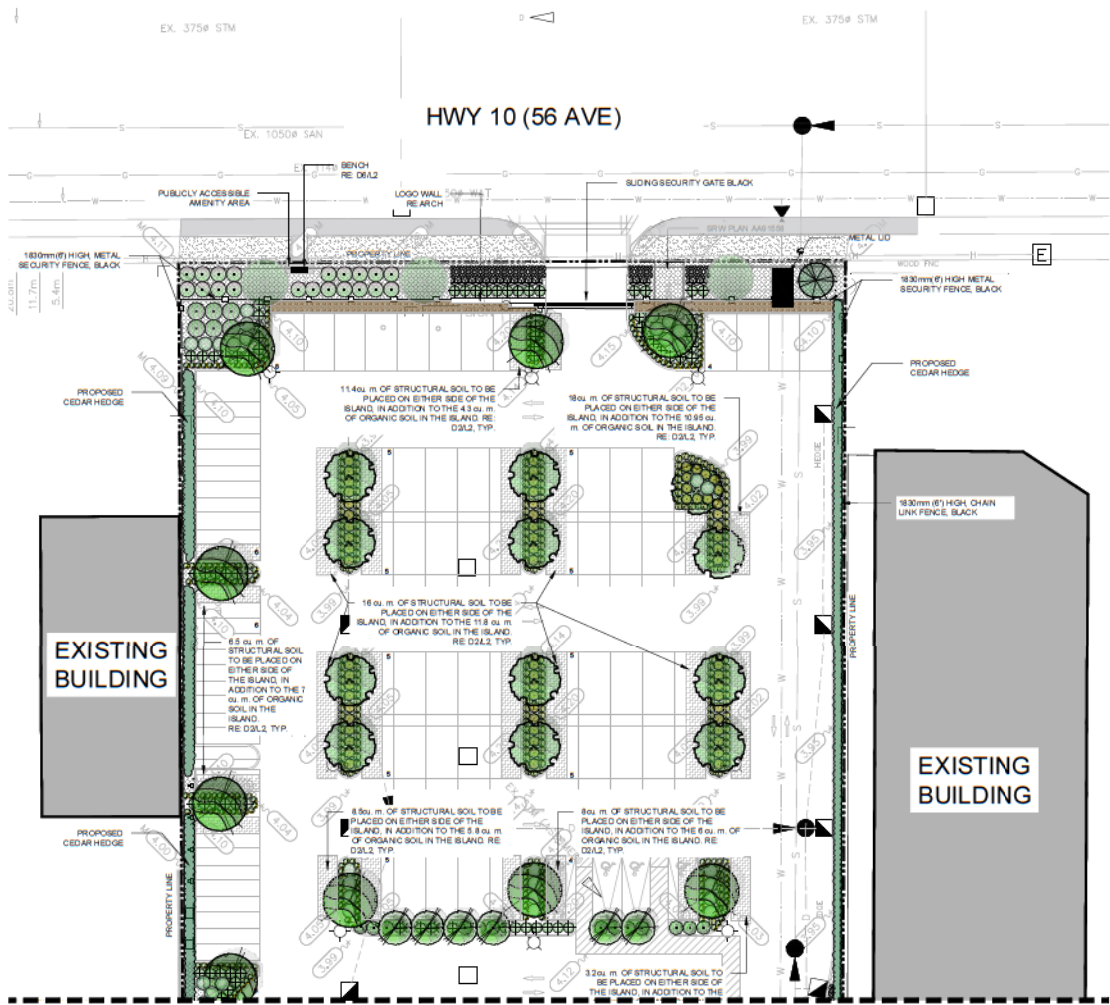
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ENLARGEMENT 1
 SHEET L1.1
 ENLARGEMENT 2
 SHEET L1.2

ENLARGEMENT 2
 SHEET L1.2
 ENLARGEMENT 3
 SHEET L1.3





ENLARGEMENT 2
SHEET L1.2

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION
DECIDUOUS TREES						
12		Magnolia 'Imperial Lacinated Mound'	Pink Flower Magnolia	6cm Cal.	As/Shan	W.B.
18		Ostrya/humiliorum	Burrowed	6cm Cal.	As/Shan	W.B.
12		Acer saccharum 'Barrett Oak' APOLLO	Sugar Maple	6cm Cal.	As/Shan	W.B.
20		Zelkova serrata	Japanese Zelkova	6cm Cal.	As/Shan	W.B.
CONIFEROUS TREES						
7		Pinus contorta	Balton Spruce	3m H	As/Shan	W.B.
SHRUBS						
67		Spirea japonica 'Viburnum' PERIMAC CARET	Magi Carpet Japanese Spirea	400mm HL	As/Shan	#5 Pot
41		Camellia 'Vivian'	CalWink Lilac	400mm HL	As/Shan	#5 Pot
15		Hydrangea 'Paeonia'	Magical Hydrangea	400mm HL	As/Shan	#5 Pot
68		Berberis thunbergii f. atropurpurea 'Concord'	Dwarf Pufferball Japanese Barberry	400mm HL	As/Shan	#5 Pot
118		Physocarpus opulifolius 'Diana May' LITTLE GEM	Little Gem Diabol	400mm HL	As/Shan	#5 Pot
54		Caryophyllus hirsutus 'Auror' SUPERHE BLUE	Golden Broomrape	400mm HL	As/Shan	#5 Pot
177		Sieracocera hookeriana var. humilis	Dwarf Sweet Birch	400mm Spread	As/Shan	#5 Pot
35		Thuja occidentalis 'Smokey'	EMERALD GREEN CEDAR	1.5m H	O.C. 600mm	#5 Pot
124		Yucca glauca 'Tuff'	Dwarf Mexican Laurel	400mm Spread	As/Shan	#5 Pot
73		Sedum japonica 'Hana'	Dwarf Purple Cedar	400mm HL	As/Shan	#5 Pot
10		Cakile nigella 'Spring Trail'	Heather	400mm HL	As/Shan	#5 Pot
16		Spirea helioides 'Tuff'	Barkleaf Spirea	400mm HL	As/Shan	#5 Pot
25		Spirea japonica 'Smokeyball'	Smokeyball Spirea	400mm HL	As/Shan	#5 Pot
PERENNIALS, GROUND COVERS, AND GRASSES						
44		Aster 'Herald Mound'	Fiber's Aster	1 Galton	As/Shan	Potted
28		Rudbeckia hirta var. subsericea 'Vindictum'	Black-eyed Susan	1 Galton	As/Shan	Potted
192		Lonicera caerulea 'Magical Beauty'	Staini Chely	1 Galton	As/Shan	Potted
163		Bergenia cordifolia 'Viergolff'	White Glow Bergenia	1 Galton	As/Shan	Potted
45		Hosta 'Lemon Lime'	Dwarf Hosta	1 Galton	As/Shan	Potted
40		Heuchera 'Violet'	Coral Bell	1 Galton	As/Shan	Potted

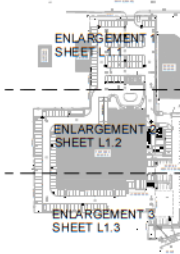


- LEGEND**
- PROPERTY LINE
 - SOIL
 - RIVER ROCK
 - PLANTING MEDIUM
 - EXISTING TREES TO REMAIN
 - PATIO PAVING
 - RETAINING WALL BE. D3L3
 - CONCRETE SIDEWALK
 - BOLLARD
 - PROPOSED CEDAR HEDGE
 - CHAIN LINK FENCE
 - METAL FENCE

- 3 20240918 ISSUED FOR DP
 - 1 20240918 ISSUED FOR DP
 - 1 20240925 ISSUED FOR REVIEW
- NO. DATE (REVISED) DESCRIPTION
ISSUED BY PREVIOUS



NORTH ARROW



PROJECT NAME
DELTA CONTROLS

PROJECT ADDRESS
17850 56 AVENUE
SURREY, BC

DRAWING TITLE
ENLARGEMENT 1

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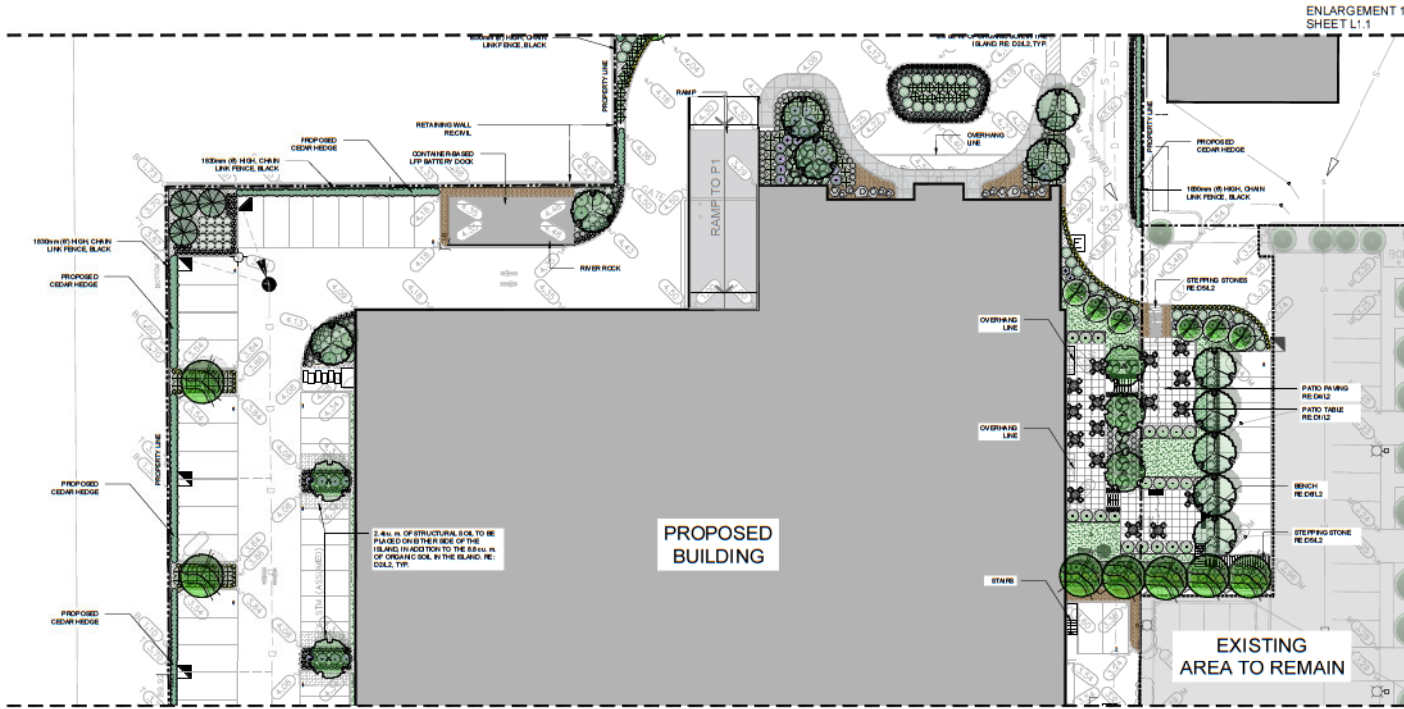
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PROJECT NO.
2024-L

DRAWING NO.
L1.1



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ENLARGEMENT 1
 SHEET L1.1

ENLARGEMENT 3
 SHEET L1.3

LEGEND

- PROPERTY LINE
- B.O.D.
- RIVER ROCK
- PLANTING MEDIUM
- EXISTING TREES TO REMAIN
- PATIO PAVING
- RETAINING WALL RE. E.C.L.
- CONCRETE SIDEWALK
- ROOLLER
- PROPOSED CEDAR HEDGE
- CHAIN LINK FENCE
- METAL FENCE

3. 20240118 ISSUED FOR DP
 2. 20240918 ISSUED FOR DP
 1. 20240928 ISSUED FOR REVIEW

NO. DATE (YYYY) DESCRIPTION
 DRAWN & APPROVED BY



PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION
DECIDUOUS TREES						
12	12	Magnolia x hybrid 'Leonard Mease'	Pink Lemon Magnolia	6m Cal.	As Shown	WB.
18	18	Corydonanthus arboreus	Sourwood	6m Cal.	As Shown	WB.
19	19	Acer saccharum 'Varriet Oak' APOLLON	Sugar Maple	6m Cal.	As Shown	WB.
20	20	Zakura serrata	Japanese Zakura	6m Cal.	As Shown	WB.
CONIFEROUS TREES						
7	7	Picea canadica	Scrub Spruce	3m Ht.	As Shown	WB.
SHRUBS						
67	67	Spiraea japonica 'Waldner' FERNBAG CARPET	Magi Carpet Japanese Spirea	400mm Ht.	As Shown	85 Pkt
41	41	Camellia 'Victoria'	Callifolia Camellia	400mm Ht.	As Shown	85 Pkt
15	15	Hidrangea 'Tredonia'	Hydrangea Highspire	400mm Ht.	As Shown	85 Pkt
69	69	Berberis 'Barthelmy' #Impatiens 'Concord'	Decor/Purple/Impatiens Berberis	400mm Ht.	As Shown	85 Pkt
118	118	Physocarpus opulifolius 'Diana May' LITTLE GOLD	Little Gold Physocarpus	400mm Ht.	As Shown	85 Pkt
54	54	Caryophyllus 'Jesse' / SUNDRIE BLUE	Golden Bluebird	400mm Ht.	As Shown	85 Pkt
177	177	Sarcococca 'Leckwiese' var. 'humb.	Decor/Red Box	400mm Spread	As Shown	85 Pkt
276	276	Thuja occidentalis 'Smaragd'	EMERALD GREEN CEDAR	1.5m Ht. O.C. 600mm	As Shown	85 Pkt
124	124	Kalmia latifolia 'SP'	Decor/Carolina Laurel	400mm Spread	As Shown	85 Pkt
73	73	Salep purpurea 'Yona'	Decor/Purple Cider	400mm Ht.	As Shown	85 Pkt
8	8	Calluna vulgaris 'Spring Tonic'	Heather	400mm Ht.	As Shown	85 Pkt
6	6	Spiraea 'Spiraea 'T' or'	Bicoloral Spirea	400mm Ht.	As Shown	85 Pkt
28	28	Spiraea japonica 'Smaragd'	Emeraldal Spirea	400mm Ht.	As Shown	85 Pkt
PERENNIALS, GROUND COVERS, AND GRASSES						
64	64	Aster 'Haze' 'Haze'	Fiber's Aster	1 Gal. in.	As Shown	Planted
289	289	Rudbeckia hirta var. culta 'Goldstruck'	Black-eyed Susan	1 Gal. in.	As Shown	Planted
190	190	Laciniatum - suspirans 'Sally'	Shasta Daisy	1 Gal. in.	As Shown	Planted
163	163	Bergenia cordifolia 'Venezia'	Winter Glow Bergenia	1 Gal. in.	As Shown	Planted
45	45	Helleborus 'Lime Green'	Decor/Helleborus	1 Gal. in.	As Shown	Planted
40	40	Helleborus 'Sally'	Coral Bells	1 Gal. in.	As Shown	Planted

NORTH ARROW

PROJECT NAME
DELTA CONTROLS

PROJECT ADDRESS
 17850 56 AVENUE
 SURREY, BC

DRAWING TITLE
ENLARGEMENT 2

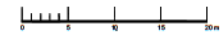
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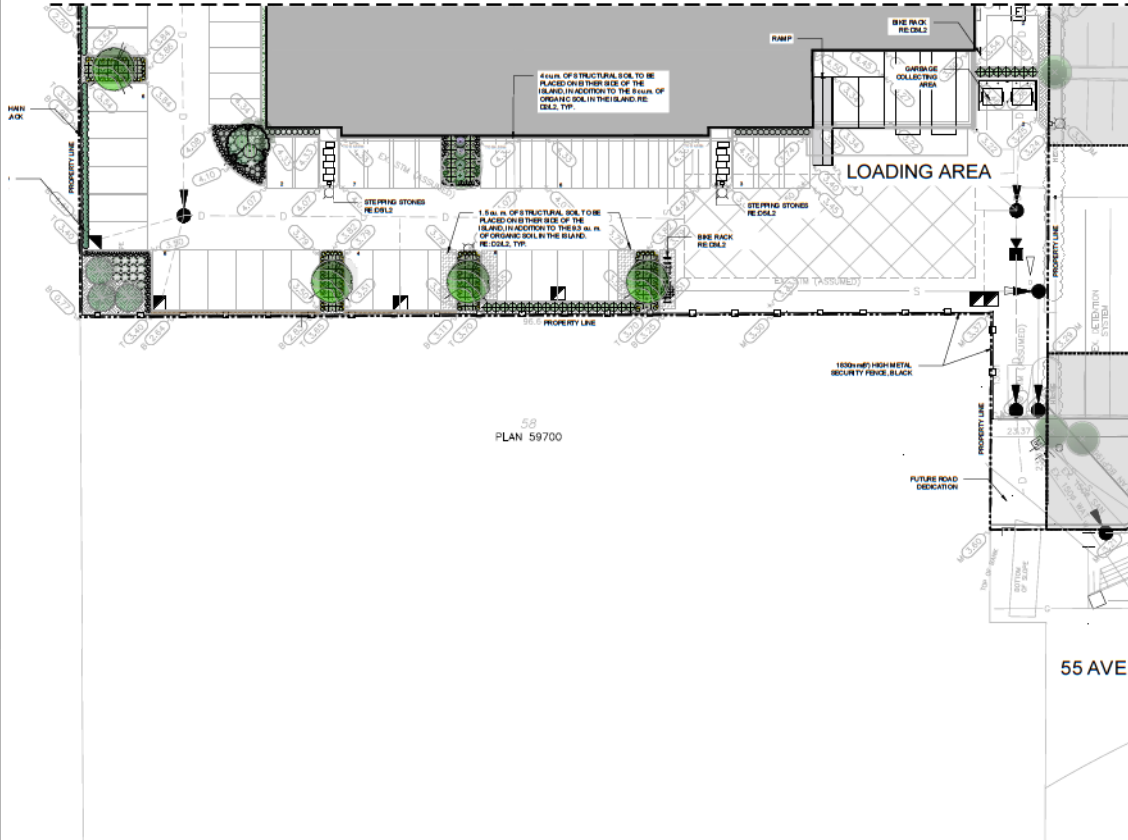
PROJECT NO.
 2024-L

DRAWING NO.
L1.2



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ENLARGEMENT 2
SHEET L1.2



KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION
DECIDUOUS TREES						
12		Magnolia - hybrid Leonard Messel	Pink Laurel Magnolia	6m Cal.	As Shown	WB
16		Ostrya virginiana	Scoutwood	6m Cal.	As Shown	WB
12		Araucarioxylum laevis 'AFCOLOR'	Sage Maple	6m Cal.	As Shown	WB
20		Zelkova serrata	Japanese Zelkova	6m Cal.	As Shown	WB
CONIFEROUS TREES						
7		Pinus strobus	Scotch Spruce	2m H.	As Shown	WB
SHRUBS						
87		Spiraea japonica 'Yellow PIRAMIDAL CARPET'	High Carpet Japanese Spirea	400mm H.	As Shown	85 Pot
41		Geonoma 'Vittoria'	Callitriche-like	400mm H.	As Shown	85 Pot
15		Hydrangea 'Prunella'	Hydrangea Prunella	400mm H.	As Shown	85 Pot
80		Stachys heterophylla 'Tussocks'	Deaf Purpleleaf Japanese Balmberg	400mm H.	As Shown	85 Pot
18		Phlox paniculata 'Dance May LITTLE DANCE'	Little Dance Phlox	400mm H.	As Shown	85 Pot
54		Ornithoglossum 'Violet' SUNSHINE BLUE	Golden Bluebell	400mm H.	As Shown	85 Pot
17		Saxifraga hibernica var. Juncea	Deaf Saxifrage	400mm H.	As Shown	85 Pot
370		Thymus serpyllifolius 'Orange'	EMERALD GREEN HICEDAR	1.5m H.	C/D 800mm	85 Pot
124		Kalmia latifolia 'EF'	Deaf Kalmia Leaf	400mm H.	As Shown	85 Pot
73		Sedum spectabile 'Var.'	Deaf Purple Ox-eye	400mm H.	As Shown	85 Pot
10		Cakile vernalis 'Spring Toss'	Heather	400mm H.	As Shown	85 Pot
16		Spiraea latifolia 'Tus'	Black Leaf Spirea	400mm H.	As Shown	85 Pot
25		Spiraea japonica 'Tussockwood'	Scotch Spruce	400mm H.	As Shown	85 Pot
PERENNIALS, GROUND COVERS, AND GRASSES						
404		Aster - French 'Misty'	French Aster	1 Galton	As Shown	Potential
269		Rudbeckia hirta var. subvar. 'Goldstruck'	Black-eyed Susan	1 Galton	As Shown	Potential
180		Luzula sibirica - 'Spartan Beauty'	Spartan Daisy	1 Galton	As Shown	Potential
180		Begonia cordata 'Winged'	Winged Begonia	1 Galton	As Shown	Potential
40		Hesperis matronalis	Deaf Night	1 Galton	As Shown	Potential
40		Heuchera 'Santitas'	Deaf Heuchera	1 Galton	As Shown	Potential



405 - 34077 CLAYTON AVE. #200 WESTFORD, BC V0B 2B0
 T: 604.983.8901 F: 604.983.7882 www.kmcivil.com
 VANCOUVER OFFICE
 1500 WEST 4TH AVE. VANCOUVER, BC V6L 4Y3
 T: 604.264.8882 F: 604.264.8888 www.kmcivil.com

- LEGEND**
- PROPERTY LINE
 - ROAD
 - RIVER ROCK
 - PLANTING MEDIUM
 - EXISTING TREES TO REMAIN
 - PATIO/PAVING
 - RETAINING WALL BE CDLS
 - CONCRETE SIDEWALK
 - ROOLLER
 - PROPOSED CEDAR HEDGE
 - CHAIN LINK FENCE
 - METAL FENCE

3	2024/01/15	ISSUED FOR DP
2	2024/01/15	ISSUED FOR DP
1	2024/01/15	ISSUED FOR REVIEW

NO. DATE (Y/M/D) DESCRIPTION
 ISSUED BY PREVIOUS



NORTH ARROW

PROJECT NAME
DELTA CONTROLS

PROJECT ADDRESS
17850 56 AVENUE
SURREY, BC

DRAWING TITLE
ENLARGEMENT 3

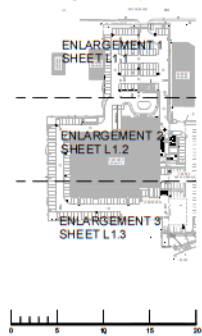
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CHECKED: JT

PROJECT NO: 2024-L

DRAWING NO: **L1.3**



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INTER-OFFICE MEMO

TO: **Director, Development Planning, Planning and Development Department**

FROM: **Manager, Development Services, Engineering Department**

DATE: **September 26, 2024**

PROJECT FILE: **7824-0129-00**

RE: **Engineering Requirements (Commercial/Industrial)**
Location: 17850 No 10 (56 Ave) Hwy

REZONE/SUBDIVISION

Property and Right-of-Way Requirements

- Dedicate 12.0m from the south-most extent of 17850 56 Avenue for future east-west alignment of 55 Avenue.
- Register 0.5m SRW along development frontages.

Works and Services

- Construct the north half of 55 Avenue.
- Register receptacle access easement with 17899 55 Avenue.
- Remove existing driveway at 17850 56 Avenue.
- Extend 250mm watermain along 56 Avenue or extend 300mm watermain along 55 Avenue.
- Extend 250mm sanitary main along 56 Ave.
- Extend 250mm sanitary main along 55 Ave.
- Provide on-lot sustainable drainage features as per Cloverdale McLellan ISMP.
- Applicant to register restrictive covenant for on-site storm water detention and mitigation features, and
- Provide adequate sized storm, sanitary and water services connection to each lot.

DEVELOPMENT PERMIT

The following issues are to be addressed as a condition of issuance of the Development Permit:

- Provide a survey of existing lot grades. Ensure that development does not reduce floodplain storage, and that all construction occurs outside the floodplain, in compliance with Corporate Policy O-55.



Jeff Pang, P.Eng.
Manager, Development Services

RH

TREE PRESERVATION BY LOCATION

Surrey File Number:

24-0129

Address:

17580 56th Avenue

Arborist:

Glenn Murray

Date of Report/Revision:

September 12, 2024

*All trees identified for removal, retention and/or replacement are subject to change prior to final approval of the arborist report

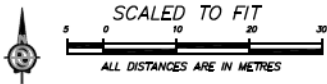
<u>Alder & Cottonwood Trees</u>			
	Existing	Remove	Retain
Alder/Cottonwood (outside riparian area)	3	3	
Alder/Cottonwood (within riparian area)			
Total	3	3	0
<u>Deciduous Trees</u>			
(excluding Alder & Cottonwood Trees)			
Tree Species	Existing	Remove	Retain
<i>Aspen</i>	10	10	
<i>Cherry</i>	15		15
<i>Dogwood</i>	2	2	
<i>Hornbeam</i>	12	6	6
<i>Norway Maple</i>	2	2	
<i>Red Oak</i>	4		4
<i>Serviceberry</i>	19	19	
Deciduous Subtotal	64	39	25
<u>Coniferous Trees</u>			
Tree Species	Existing	Remove	Retain
<i>Black Pine</i>	4		4
<i>Deodar Cedar</i>	11	4	7
<i>Lawson Cypress</i>	1	1	
<i>Western Red Cedar</i>	19	19	
Coniferous Subtotal	35	24	11
Deciduous & Coniferous Total	99	63	36
Onsite Tree Totals	<u>102</u>	<u>66</u>	<u>36</u>
Onsite Replacement Trees Proposed		0	
*insert "0" if TBD or unknown			
Total Onsite Retained and Replacement Trees		36	

ONSITE

		Alder & Cottonwood Trees			
		Existing	Remove	Retain	
OFFSITE	Alder/Cottonwood (outside riparian area)	0			
	Alder/Cottonwood (within riparian area)	0			
	Total	0	0	0	
			Deciduous & Coniferous (excluding Alder & Cottonwood Trees)		
			Existing	Remove	Retain
	Tree Species				
	<i>London Plane</i>	2	0	2	
	<i>Black Pine</i>	1	0	1	
	Deciduous & Coniferous Total	3	0	3	
Offsite Tree Totals		3	0	3	
Total Offsite Retained Trees		3			
		Existing	Remove	Retain	
CITY	Park/City Lot Trees				
	Boulevard Trees	6	0	6	
	Total	6	0	6	

APPENDIX 3

56 Avenue



EXISTING 1-STORY RESTAURANT BUILDING

EXISTING 1-STORY RETAIL BUILDING

BLOCK A

LOT 57

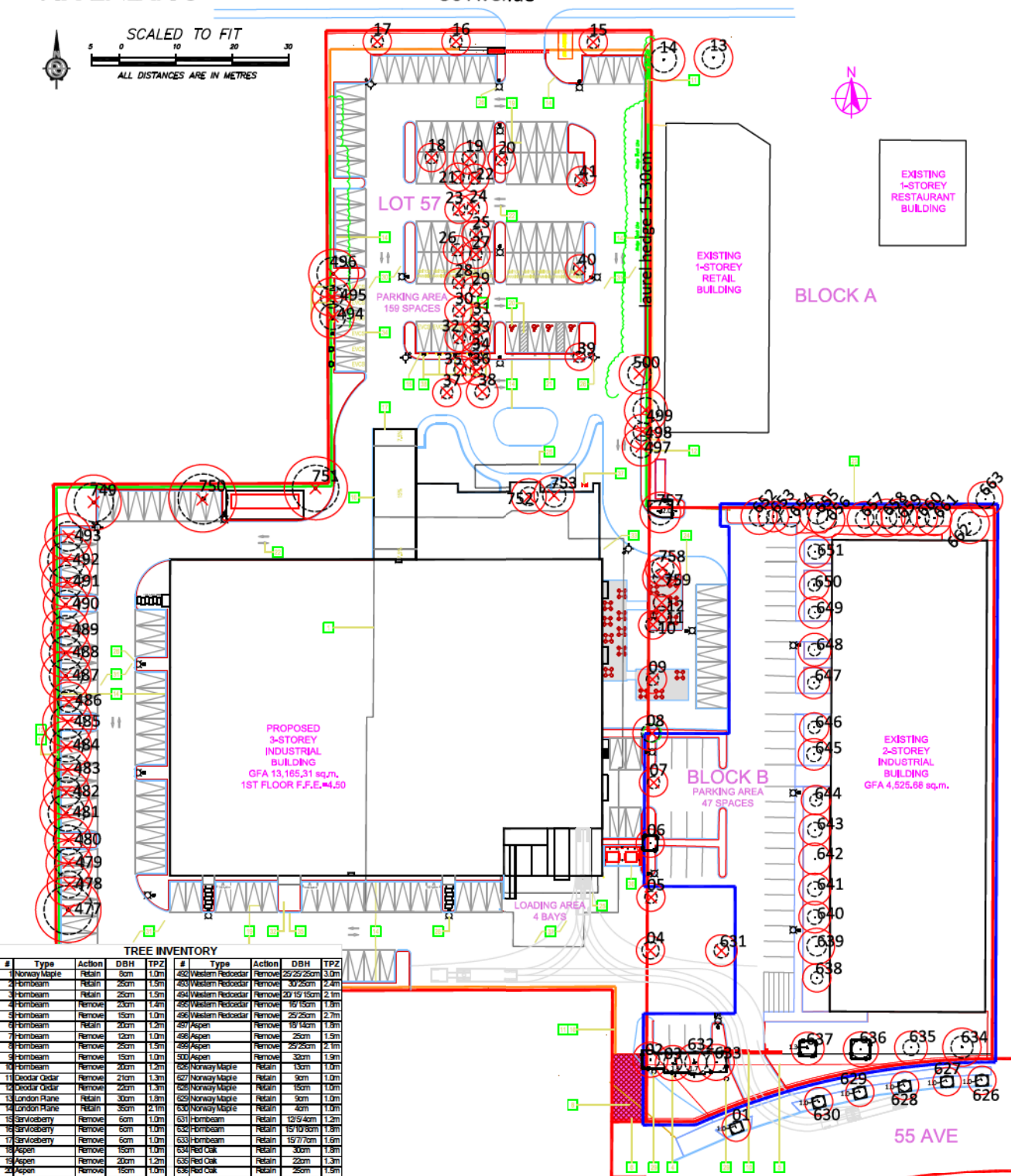
PARKING AREA 159 SPACES

PROPOSED 3-STORY INDUSTRIAL BUILDING
GFA 13,165.31 sq.m.
1ST FLOOR F.F.E. 44.50

BLOCK B
PARKING AREA 47 SPACES

EXISTING 2-STORY INDUSTRIAL BUILDING
GFA 4,525.68 sq.m.

LOADING AREA 4 BAYS



TREE INVENTORY

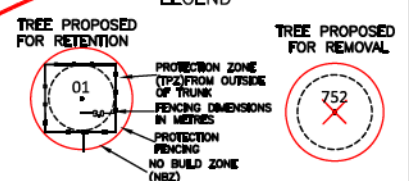
#	Type	Action	DBH	TPZ	#	Type	Action	DBH	TPZ
1	Norway Maple	Retain	8cm	1.0m	482	Western Redcedar	Remove	25/25/25cm	3.0m
2	Hornbeam	Retain	25cm	1.5m	483	Western Redcedar	Remove	30/25cm	2.4m
3	Hornbeam	Retain	25cm	1.5m	484	Western Redcedar	Remove	20/15/15cm	2.1m
4	Hornbeam	Remove	25cm	1.4m	485	Western Redcedar	Remove	18/15cm	1.8m
5	Hornbeam	Remove	15cm	1.0m	486	Western Redcedar	Remove	25/25cm	2.1m
6	Hornbeam	Retain	20cm	1.5m	487	Aspen	Remove	18/14cm	1.8m
7	Hornbeam	Remove	12cm	1.0m	488	Aspen	Remove	25cm	1.5m
8	Hornbeam	Remove	25cm	1.5m	489	Aspen	Remove	25/25cm	2.1m
9	Hornbeam	Remove	15cm	1.0m	500	Aspen	Remove	30cm	1.9m
10	Hornbeam	Remove	20cm	1.2m	625	Norway Maple	Retain	13cm	1.0m
11	Docosider Odard	Remove	21cm	1.3m	627	Norway Maple	Retain	15cm	1.0m
12	Docosider Odard	Remove	22cm	1.3m	628	Norway Maple	Retain	15cm	1.0m
13	London Plane	Retain	30cm	1.9m	629	Norway Maple	Retain	9cm	1.0m
14	London Plane	Retain	35cm	2.1m	630	Norway Maple	Retain	4cm	1.0m
15	Serviceberry	Remove	6cm	1.0m	631	Hornbeam	Retain	12/5/4cm	1.2m
16	Serviceberry	Remove	6cm	1.0m	632	Hornbeam	Retain	15/10/8cm	1.8m
17	Serviceberry	Remove	6cm	1.0m	633	Hornbeam	Retain	15/7/7cm	1.6m
18	Aspen	Remove	6cm	1.0m	634	Red Oak	Retain	20cm	1.8m
19	Aspen	Remove	20cm	1.2m	635	Red Oak	Retain	25cm	1.3m
20	Aspen	Remove	15cm	1.0m	636	Red Oak	Retain	25cm	1.5m
21	Serviceberry	Remove	5cm	1.0m	637	Red Oak	Retain	21cm	1.3m
22	Serviceberry	Remove	5cm	1.0m	638	Cherry	Retain	8/6cm	1.0m
23	Serviceberry	Remove	5cm	1.0m	639	Cherry	Retain	14/13/13cm	1.5m
24	Serviceberry	Remove	5cm	1.0m	640	Cherry	Retain	13/10cm	1.5m
25	Serviceberry	Remove	5cm	1.0m	641	Cherry	Retain	13/11cm	1.2m
26	Serviceberry	Remove	5cm	1.0m	642	Cherry	Retain	19cm	1.1m
27	Serviceberry	Remove	5cm	1.0m	643	Cherry	Retain	16/14cm	1.2m
28	Serviceberry	Remove	5cm	1.0m	644	Cherry	Retain	8/9/7cm	1.0m
29	Serviceberry	Remove	5cm	1.0m	645	Cherry	Retain	14/14cm	1.2m
30	Serviceberry	Remove	5cm	1.0m	646	Cherry	Retain	14/13/13cm	1.5m
31	Serviceberry	Remove	5cm	1.0m	647	Cherry	Retain	10/10/5cm	1.0m
32	Serviceberry	Remove	5cm	1.0m	648	Cherry	Retain	10/8/5cm	1.0m
33	Serviceberry	Remove	5cm	1.0m	649	Cherry	Retain	10/9cm	1.0m
34	Serviceberry	Remove	5cm	1.0m	650	Cherry	Retain	11/7/8cm	1.5m
35	Serviceberry	Remove	5cm	1.0m	651	Cherry	Retain	19/12cm	1.2m
36	Serviceberry	Remove	5cm	1.0m	652	Cherry	Retain	25cm	1.8m
37	Aspen	Remove	15cm	1.0m	653	Docosider Odard	Retain	15cm	1.1m
38	Aspen	Remove	20cm	1.5m	654	Docosider Odard	Retain	27cm	1.6m
39	Aspen	Remove	8/8cm	1.0m	655	Docosider Odard	Retain	28cm	1.7m
40	Dogwood	Remove	6cm	1.0m	656	Docosider Odard	Retain	27cm	1.6m
41	Dogwood	Remove	6cm	1.0m	657	Black Pine	Retain	25cm	1.9m
42	Western Redcedar	Remove	30/20cm	1.0m	658	Black Pine	Retain	25cm	1.9m
43	Western Redcedar	Remove	30/15cm	2.2m	659	Black Pine	Retain	25cm	1.6m
44	Western Redcedar	Remove	27/27cm	2.4m	660	Black Pine	Retain	25cm	1.6m
45	Western Redcedar	Remove	25/25/25cm	3.0m	661	Black Pine	Retain	25cm	1.9m
46	Western Redcedar	Remove	27/22cm	2.4m	662	Black Pine	Retain	31cm	1.9m
47	Western Redcedar	Remove	27/22cm	2.4m	663	Black Pine	Retain	25cm	1.9m
48	Western Redcedar	Remove	25/25/25cm	2.5m	664	Black Pine	Remove	53cm	3.2m
49	Western Redcedar	Remove	25/22/15cm	2.7m	665	Black Pine	Remove	65cm	3.8m
50	Western Redcedar	Remove	25/22/15cm	2.7m	666	Red Alder	Remove	20cm	1.8m
51	Western Redcedar	Remove	25/22/15cm	2.7m	667	Red Alder	Remove	32/28/25	3.8m
52	Western Redcedar	Remove	25/22/15cm	2.7m	668	Norway Maple	Remove	25cm	1.5m
53	Western Redcedar	Remove	25/22/15cm	2.7m	669	Norway Maple	Remove	25cm	1.9m
54	Western Redcedar	Remove	25/22/15cm	2.7m	670	Docosider Odard	Retain	33cm	2.0m
55	Western Redcedar	Remove	25/22/15cm	2.7m	671	Docosider Odard	Remove	30cm	1.9m
56	Western Redcedar	Remove	25/22/15cm	2.7m	672	Docosider Odard	Remove	24cm	1.4m

TREE PROTECTION FENCING

Minimum Radial Distance from trunk

#	Type	DBH	Metres	Feet
1	Norway Maple	8cm	1.0m	3.3ft
2	Hornbeam	25cm	1.5m	4.9ft
3	Hornbeam	25cm	1.5m	4.9ft
6	Hornbeam	20cm	1.2m	3.9ft
626	Norway Maple	13cm	1.0m	3.3ft
627	Norway Maple	9cm	1.0m	3.3ft
628	Norway Maple	15cm	1.0m	3.3ft
629	Norway Maple	9cm	1.0m	3.3ft
630	Norway Maple	4cm	1.0m	3.3ft
631	Hornbeam	12/5/4cm	1.2m	3.9ft
632	Hornbeam	15/10/8cm	1.8m	5.9ft
633	Hornbeam	15/7/7cm	1.6m	5.2ft
636	Red Oak	25cm	1.5m	4.9ft
637	Red Oak	21cm	1.3m	4.1ft

LEGEND



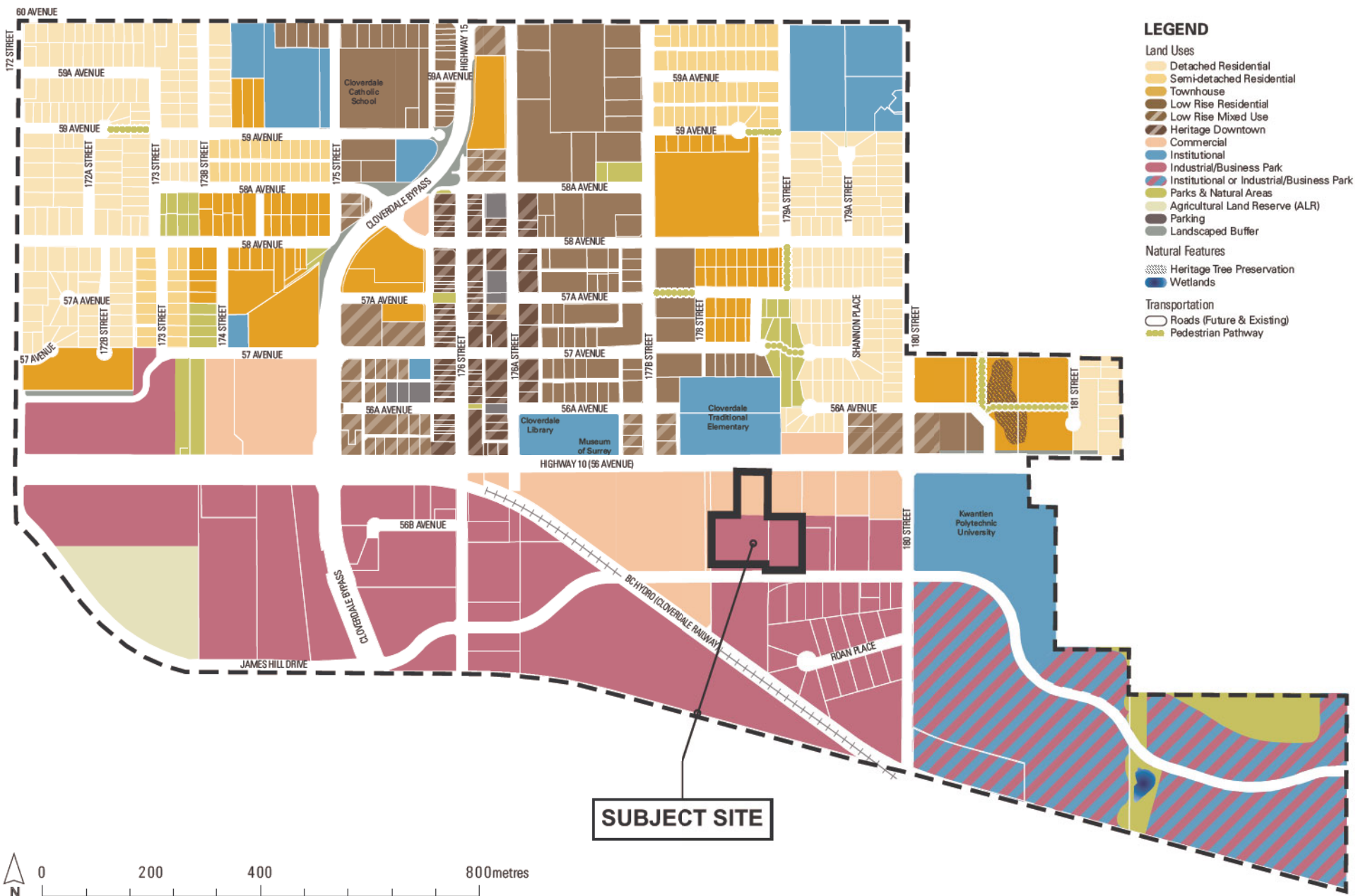
**Froggers Creek
Tree Consultants Ltd**

7763 McGregor Avenue Burnaby BC V5J 4H4
Telephone: 604-721-8002 Fax: 604-437-0970
17850 56th Ave and 17899 55th Ave SURREY, BC

TREE REMOVAL AND RETENTION PLAN
THE DRAWING PLOTS ALL TREES, PROPOSED FOR RETENTION, REMOVAL, THEIR PROTECTION ZONES AND PROTECTION FENCING IN RELATION TO PROPOSED LAYOUT

SEPTEMBER 12, 2024

Figure 3.1: Land Use Map



LEGEND

Land Uses

- Detached Residential
- Semi-detached Residential
- Townhouse
- Low Rise Residential
- Low Rise Mixed Use
- Heritage Downtown
- Commercial
- Institutional
- Industrial/Business Park
- Institutional or Industrial/Business Park
- Parks & Natural Areas
- Agricultural Land Reserve (ALR)
- Parking
- Landscaped Buffer

Natural Features

- Heritage Tree Preservation
- Wetlands

Transportation

- Roads (Future & Existing)
- Pedestrian Pathway

CITY OF SURREY

BYLAW NO. 21441

A Comprehensive Development bylaw to amend Surrey Zoning By-law, 1993, No. 12000, as amended

.....

THE COUNCIL of the City of Surrey ENACTS AS FOLLOWS:

- 1. Surrey Zoning By-law, 1993, No. 12000, as amended, is hereby further amended, pursuant to the provisions of Section 479 of the *Local Government Act*, R.S.B.C. 2015 c. 1, as amended, for the following lands:

Address: As described in Appendix "A".
Legal: As described in Appendix "A".
PID: As described in Appendix "A".

as follows:

- (a) by creating a new Comprehensive Development Zone 259 (CD 259), attached as Appendix "A" and forming part of this bylaw;
- (b) by changing the zoning classification shown in Schedule A, Zoning Maps, as follows:
 FROM: COMMUNITY COMMERCIAL ZONE (C-8)
 TO: COMPREHENSIVE DEVELOPMENT ZONE (CD); and
- (c) by amending Part 52, Comprehensive Development Zone, Section C. Comprehensive Development Zones, by adding a new CD Zone "CD 259" as follows:

CD Zone ID	Civic Address	Legal Description	CD Bylaw No.	Replaces Bylaw No.
"CD 259	17850 - 56 Avenue	Lot 57, Plan 59700	21441	N/A"

- 2. This Bylaw shall be cited for all purposes as "Surrey Comprehensive Development Zone 259 (CD 259), Bylaw, 2024, No. 21441".

PASSED FIRST READING on the th day of , 20 .

PASSED SECOND READING on the th day of , 20 .

PUBLIC HEARING HELD thereon on the th day of , 20 .

PASSED THIRD READING on the th day of , 20 .

RECEIVED APPROVAL FROM THE MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE on the day of , 20 .

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of , 20 .

_____MAYOR

_____CLERK

APPENDIX "A"

COMPREHENSIVE DEVELOPMENT ZONE 259 (CD 259)

In this Comprehensive Development Zone 259 (CD 259), **Part 48, Light Impact Industrial Zone (IL)**, as well as all other applicable regulations of Surrey Zoning By-law, 1993, No. 12000, as amended, (the "Zoning By-law") apply to the following lands:

Address	Legal Descriptions	PID
17850 - 56 Avenue	Lot 57 North West Quarter Section 5 Township 8 NWD Plan 59700	000-464-970

(collectively the "*Lands*")

except as follows:

1. Permitted Uses

Delete Section "B. Permitted Uses" and replace it with a new Section "B. Permitted Uses" as follows:

"B. Permitted Uses

Lands, buildings and structures shall only be used for the following uses, or a combination thereof:

Principal Uses:

1. *Light impact industry.*
2. *Warehouse uses.*
3. *Distribution centres.*
4. *Transportation industry, except truck parking facilities.*

Accessory Uses:

5. *Office uses."*

2. Density

Delete Section "D. Density" and replace it with a new Section "D. Density" as follows:

"D. Density

1. Building Construction:

For the purposes of building construction:

(a) Maximum Density:

Maximum *density* shall be the lesser of a *floor area ratio* of 0.1 or a *building floor area* of 300 sq. m.; and

(b) Permitted Density Increases:

If amenity contributions are provided in accordance with Schedule G, maximum *density* may be increased to a floor area ratio of 1.00."

3. Height of Buildings

Delete Section "G. Height of Buildings" and replace it with a new Section "G. Height of Buildings" as follows:

"G. Height of Buildings

1. Principal Buildings:

Principal building height shall not exceed 21.5 m.

2. Accessory Buildings:

Accessory building height shall not exceed 6 m.

3. Structures:

Structure height shall not exceed 6 m."

4. Landscaping and Screening

Delete Section "I. Landscaping and Screening" and replace it with a new Section "I. Landscaping and Screening" as follows:

"I. Landscaping and Screening

1. General Landscaping:

- (a) All developed portions of the *lot* not covered by *buildings, structures* or paved areas shall be landscaped including the retention of mature trees. This *landscaping* shall be maintained;
- (b) Along the developed portions of the *lot* which abut a *highway*, a continuous *landscaping* strip a minimum of 1.5 m wide shall be provided within the *lot*; and
- (c) *Highway* boulevards abutting a *lot* shall be seeded or sodded with grass, except at *driveways*.

2. Loading and Refuse:

Garbage containers and *passive recycling containers* shall be located within the *parking - underground* or within a *building*.

3. Outdoor Storage and Display:

- (a) Outdoor storage and display shall be completely screened by a *landscaping* strip a minimum of 2.5 m high by 1.5 m wide, or a minimum of a 2.5 m high *building*, solid decorative fencing or combination thereof; and
- (b) No storage or display of material shall be piled higher than 2.5 m within 5 m of the screening fence and no higher than 3.5 m anywhere on the *lot*."

5. Special Regulations

Delete Section "J. Special Regulations" and replace it with a new Section "J. Special Regulations" as follows:

"J. Special Regulations

1. Safety, Noise and Nuisance:

Lands and *structures* shall be used for the uses permitted in this Zone only if such uses:

- (a) Constitutes an unusual fire, explosion or safety hazard;
- (b) Emits noise, measured at any point on any boundary of the *lot* on which the use is located that is:
 - i. In excess of 70 decibels where the *lot* abuts a *lot* designated Industrial in the *OCP*; and
 - ii. In excess of 60 decibels where the *lot* abuts a *lot* designated anything other than Industrial in the *OCP*; and
- (c) Produces heat or glare perceptible for any *lot line* of that *lot* on which the use is located.

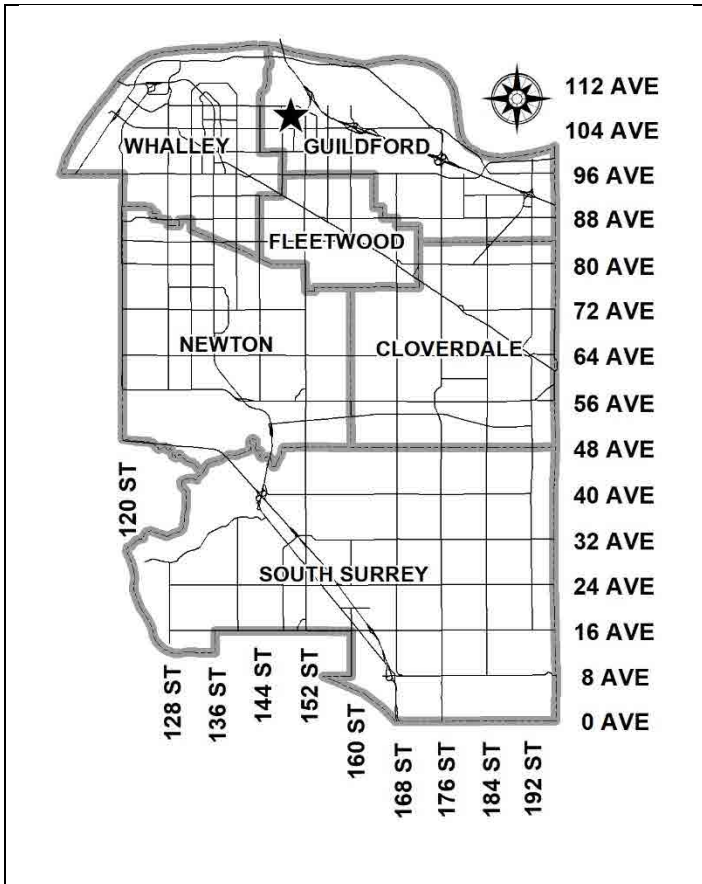
2. Outdoor Storage and Display:

Outdoor storage and display of any containers, goods, materials or supplies is specifically prohibited between the front of the *principal building* and the north *lot line* along 56 Avenue (Highway No. 10))."

**City of Surrey
PLANNING & DEVELOPMENT REPORT**

Application No.: 7924-0186-00

Planning Report Date: October 21, 2024



PROPOSAL:

- **OCP Text Amendment** to allow for a density of 3.8 FAR within the Multiple Residential designation
- **Guildford Plan Amendment** from Low-Rise Transition Residential to High-Rise Residential
- **Rezoning** from RM-45 to CD
- **Development Permit**
- **Housing Agreement**

to permit the development of a 36-storey residential building with 217 market rental and 48 below-market rental residential dwelling units secured with a Housing Agreement.

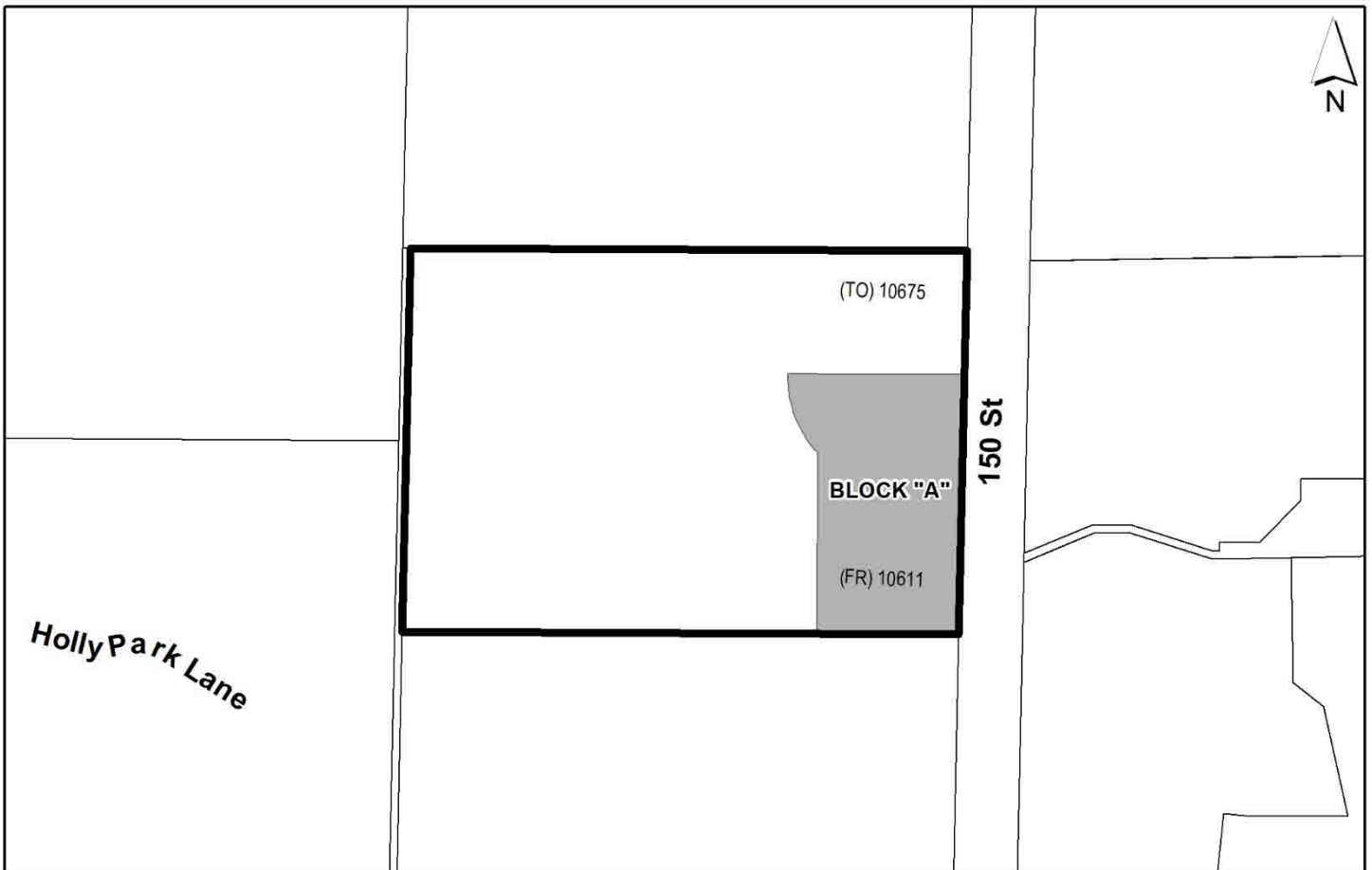
LOCATION: (A portion of) 10611 - 150 Street

ZONING: RM-45

OCP DESIGNATION: Multiple Residential

GUILDFORD DESIGNATION: Low-Rise Transition Residential

DESIGNATION:



RECOMMENDATION SUMMARY

- By-law Introduction and set date for Public Hearing for:
 - OCP Text Amendment and;
 - Rezoning;
- Approval to draft Development Permit for Form and Character.
- By-law Introduction, First, Second and Third Reading for a Housing Agreement.

DEVIATION FROM PLANS, POLICIES OR REGULATIONS

- Proposing a text amendment to the Official Community Plan (OCP) to allow for a density of 3.8 FAR within the Multiple Residential designation.
- Proposing an amendment to the Guildford Plan from Low-Rise Transition to High-Rise Residential.

RATIONALE OF RECOMMENDATION

- The proposal does not comply with the Multiple Residential designation in the Official Community Plan (OCP).
- The proposal does not comply with the Low-Rise Transition designation in the Guildford Plan.
- The applicant is proposing increased density and a taller building form in order to support the rental tenure of the project and to facilitate additional rental units.
- The proposed development is within close proximity to, but outside of, the Guildford Mall Bus Exchange Transit Oriented Area (TOA).
- The proposal partially complies with the Development Permit requirements in the OCP for Form and Character.
- The development application is proposing 48 below-market rental and 217 market rental dwelling units secured with a Housing Agreement.
- The proposed building achieves a simple architectural built form, which utilizes high quality, durable materials and contemporary lines. North of the proposed building, a large public plaza is proposed to contribute to the public realm.

RECOMMENDATION

The Planning & Development Department recommends that:

1. A Bylaw be introduced for a text amendment to OCP, 'Table 7A: Land Use Designation Exceptions', by adding the following site specific notation

Bylaw No.	Land Use Designation	Site Specific Property	Site Specific Permission
"Bylaw # xxxxx	Multiple Residential	Portion of 10611 – 150 Street	Density permitted up to 3.8 FAR"

and a date for Public Hearing be set.

2. Council determine the opportunities for consultation with persons, organizations and authorities that are considered to be affected by the proposed amendment to the Official Community Plan, as described in the Report, to be appropriate to meet the requirement of Section 475 of the Local Government Act.
3. A By-law be introduced to rezone a portion of the subject site as shown as Block A on the attached Survey Plan (Appendix I) from "Multiple Residential 45 (RM-45)" to "Comprehensive Development (CD)", and a date be set for Public Hearing.
4. A By-law be introduced to enter into a Housing Agreement and be given First, Second and Third Reading.
5. Council authorize staff to draft Development Permit No. 7924-0186-00 in accordance with the attached drawings (Appendix III).
6. Council instruct staff to resolve the following issues prior to final adoption:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;
 - (b) submission of a subdivision layout to the satisfaction of the Approving Officer;
 - (c) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
 - (d) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
 - (e) submission of a finalized tree survey and a statement regarding tree preservation to the satisfaction of the City Landscape Architect;
 - (f) the applicant enter into a Housing Agreement with the City to secure the 48 non-market and 217 market rental residential dwelling units;

- (g) the applicant provide a density bonus amenity contribution consistent with the Tier 2 Capital Projects CACs in support of the requested increased density, to the satisfaction of the General Manager, Planning and Development Department, in effect at the time of Final Adoption if applicable;
 - (h) provision of cash-in-lieu contribution to satisfy the indoor amenity space requirement of the RM-135 Zone, at the rate in effect at the time of Final Adoption;
 - (i) demolition of existing buildings and structures to the satisfaction of the Planning and Development Department;
 - (j) registration of access easements to ensure access to the proposed shared parking and amenity facilities within the development;
 - (k) registration of a Section 219 Restrictive Covenants to adequately address the City's needs with respect to public art, to the satisfaction of the General Manager Parks, Recreation and Culture and with respect to the City's Affordable Housing Strategy and Tier 1 Capital Project CACs, and deferred contributions for rental housing, to the satisfaction of the General Manager, Planning & Development Services;
 - (l) registration of a volumetric statutory right-of-way for the public plaza fronting 150 Street;
 - (m) approval and input from the Ministry of Transportation & Infrastructure; and
 - (n) construction of the additional off-site parking as a condition of occupancy of the proposed building.
7. Council pass a resolution to amend the Guildford Plan from Low Rise Transition Residential to High Rise Residential and allow for a building height of 36-storeys when the project is considered for Final Adoption.

SITE CONTEXT & BACKGROUND

Direction	Existing Use	Guildford Designation	Existing Zone
Subject Site	The subject portion of the site consists of a two-storey rental apartment under demolition with existing three-storey rental apartments on the remainder of the site.	Low Rise Transition Residential	RM-45
North:	Holly Elementary School	School	RA

Direction	Existing Use	Guildford Designation	Existing Zone
East (Across 150 Street):	Two-storey townhouse complex	Low Rise Transition Residential	RM-45
South:	Three-storey rental apartment complex	Low Rise Transition Residential	RM-45
West:	Two-storey townhouses and Holly Park	Low Rise Transition Residential	RM-15

Context & Background

- The subject property is located at 10611 – 150 Street and is approximately 5,776 square meters in area.
- The subject site for the proposed development consists only of the southeast portion of the property. The remaining portion of the property is not included in the development application.
- The site is designated "Multiple Residential" in the Official Community Plan (OCP), "Low Rise Transition Residential" in the Guildford Plan (TCP) and zoned "Multiple Residential 45 (RM-45)".
- The entire subject property currently consists of five low-rise residential rental apartment buildings, with one vacant building under demolition. The subject development application on the southeast portion of the site is the location of the nearly demolished rental apartment building.
- The property owner worked with former tenants, in the nearly demolished building, to sign Mutual Agreements to End Tenancy or to relocate tenants to another building on the site prior to the submission of the development application.
- The applicant is not subject to City Policy O-61: Rental Housing Redevelopment: Rental Replacement and Tenancy Relocation Policy as this policy applies to sites with applications for redevelopment. The Mutual Agreements to End Tenancy, tenant relocation and demolition permit issuance was completed prior to the submission of the subject development application.
- Notwithstanding the above, the application is generally in compliance with Policy O-61 as 48 of some of the units are proposed to be "affordable rental" and rented at a maximum of 10% below CMHC rates and secured with a Housing Agreement. Additional details are included under the Housing Agreement section later in this report.

DEVELOPMENT PROPOSAL

Planning Considerations

- The applicant is proposing the following:
 - OCP text Amendment to allow for a density of 3.8 FAR within the Multiple Residential designation;
 - Guildford Plan Amendment from Low-Rise Transition Residential to High-Rise Residential;
 - Rezoning from RM-45 to CD;
 - Development Permit; and
 - Housing Agreement

to allow for the development of a 36-storey residential building consisting of 48 below market rental and 217 market rental units on a portion of the site.

- Development details are provided in the table below:

	Proposed
Lot Area	
Gross Site Area:	5,776 square metres
Road Dedication:	882 square metres
Net Site Area:	4,894 square metres
Number of Lots:	1
Building Height:	110 metres (36-storeys)
Floor Area Ratio (FAR):	4.5 FAR (net) 3.8 FAR (gross)
Floor Area	
Residential:	16,039 square metres
Residential Units:	
Studio:	N/A
1-Bedroom:	136
2-Bedroom:	64
3-Bedroom:	65
Total:	265

Referrals

Engineering:

The Engineering Department has no objection to the project subject to the completion of Engineering servicing requirements as outlined in Appendix II.

School District:	<p>The School District has advised that there will be approximately 22 of school-age children generated by this development, of which the School District has provided the following expected student enrollment.</p> <p>13 Elementary students at Holly Elementary School 5 Secondary students at Guildford Park Secondary School</p> <p>(Appendix III)</p> <p>Note that the number of school-age children is greater than the expected enrollment due to students attending private schools, home school or different school districts.</p> <p>The applicant has advised that the dwelling units in this project are expected to be constructed and ready for occupancy by 2026.</p>
Parks, Recreation & Culture:	<p>Holly Park is the closest active park with amenities including, outdoor sport courts, an outdoor pool, playgrounds and is 15 metres walking distance from the development. Hawthorne Rotary Park is the closest park with natural area and is 1,750 metres walking distance from the development.</p>
Ministry of Transportation & Infrastructure (MOTI):	<p>Preliminary approval granted</p>
Surrey Fire Department:	<p>No concerns subject to additional details to be addressed prior to final adoption.</p>
Advisory Design Panel:	<p>The proposal was considered at the ADP meeting on October 10, 2024 and was conditionally supported. The applicant has agreed to resolve the key items from the ADP review. Any additional revisions will be completed prior to Council's consideration of Final Adoption of the rezoning by-law, to the satisfaction of the Planning and Development Department.</p>

Transportation Considerations

Road Network & Infrastructure

- The applicant will provide the following road dedication, as part of the current rezoning application:
 - Dedication and construction of the west side of 150 Street; and
 - Dedication and construction of a new road (106 Avenue) along the south property line, which is 11.5 metres to provide for the half-road standard. Ultimately, 106 Avenue is planned to be 20 metres, which will be fully achieved as part of future development.

Traffic Impacts

- According to the preliminary transportation analysis, using industry standard rates, the subject proposal is anticipated to generate approximately one to two vehicles per minute during the peak hour. The total number of anticipated site-generated trips is below the City's threshold for triggering a site-specific transportation impact analysis.

Transit

- The subject site is within 400 metres of a bus stop along the Frequent Transit Network on 104 Avenue, which is served by the R1 Rapid Bus route.

Access

- Access to the building is proposed from an internal private road via 150 Street, which is along the east property line of the subject site.

Sustainability Considerations

- The applicant has met all of the typical sustainable development criteria, as indicated in the Sustainable Development Checklist.
- In addition, the applicant has highlighted the following additional sustainable features:
 - high performance building envelope;
 - elimination of gas fired equipment;
 - optimization of the massing to reduce materials and transfer volumes; and
 - low carbon building materials.

POLICY & BY-LAW CONSIDERATIONS

Regional Growth Strategy

- The subject property is designated General Urban in the Regional Growth Strategy (RGS).
- The proposed development complies with the General Urban RGS designation.

Official Community Plan

Land Use Designation

- The subject property is designated Multiple Residential in the Official Community Plan (OCP).
- Under the OCP, the Multiple Residential designation is intended to support a maximum floor area ratio (FAR) of 1.5. As noted in the OCP, the intent of this land-use designation is to support higher density residential development in suitable locations.

- As the gross density exceeds the maximum 1.5 FAR permitted in the OCP for Multiple Residential designated properties, the proposed high-rise building requires an OCP Amendment to allow a higher density than currently permitted in the Multiple Residential designation.

Amendment Rationale

- The subject site is located within proximity (400 metres) to the Guildford Mall Bus Exchange Transit Oriented Area (TOA), which is served by the R1 Rapid Bus route.
- Given that the subject site is located near an Urban Centre, within proximity to a Frequent Transit Development Area, existing Frequent Transit Network (FTN) and within 400 metres of a Rapid Bus route, a higher-density rental development is supportable as it will promote walkability and allows for greater housing choice.

Public Consultation for Proposed OCP Amendment

- Pursuant to Section 475 of the Local Government Act, it was determined that it was not necessary to consult with any persons, organizations or authorities with respect to the proposed OCP amendment, other than those contacted as part of the pre-notification process.

Themes/Policies

- The proposal will support various policies, outlined in the OCP, including the following:
 - The proposal supports transit-oriented development, focused growth and increased density within proximity to frequent transit corridors, which supports transit service expansion as well as rapid transit infrastructure investment; and
 - The proposal supports directing higher-density land-uses to locations within walking distance of neighbourhood centres, along main roads, near transit routes and adjacent to major parks or civic amenities.

Secondary Plans

Land Use Designation

- The subject property is designated "Low Rise Transition Residential" in the Guildford Plan.
- In order to accommodate the proposed development, the applicant is proposing to amend the Guildford Plan in order to redesignate the site from "Low Rise Transition Residential" to "High Rise Residential".

Amendment Rationale

- The proposed density and building form are appropriate for this part of Guildford given that the subject site is located within proximity to a Frequent Transit Network and Frequent Transit Development Area as well as within proximity to existing bus routes. The project is also delivering purpose-built rental units.

- A total of 265 secured rental units are proposed as part of the development including 48 below market rental units.

Themes/Objectives

- The Guildford Plan identifies several family-oriented policies that include requiring a minimum percentage of family-oriented dwelling units within multi-family and mixed-use proposals (i.e. two or more bedroom and three or more bedroom units) which provides a broader range of housing choice for a variety of family sizes, types as well as compositions.
- The proposal addresses these family-oriented housing policies in the Plan by providing approximately forty-seven (47%) of the total dwelling units as two or more bedrooms and ten percent (10%) of the dwelling units as three bedrooms.

CD By-law

- The applicant is proposing a "Comprehensive Development Zone (CD)" to accommodate a proposed 36-storey building on the subject site. The proposed CD By-law for the development site identifies the uses, densities and setbacks proposed. The CD By-law will have provisions based on the "Multiple Residential 135 Zone (RM-135)".
- A comparison of the density, lot coverage, setbacks, building height and permitted uses in the RM-135 Zone, and the proposed CD By-law is illustrated in the following table:

Zoning	RM-135 Zone (Part 25)	Proposed CD Zone
Floor Area Ratio (net):	2.5	4.5
Lot Coverage:	33%	33%
Yards and Setbacks	50% of the height of the building	North: 40 metres South: 5.5 metres East: 5.5 metres West: 7.5 metres
Principal Building Height:	n/a	110 metres (36-storeys)
Permitted Uses:	<ul style="list-style-type: none"> • Multiple unit residential buildings. • Ground-oriented multiple residential buildings. • Child Care Centres. • Short term rental. 	<ul style="list-style-type: none"> • Multiple unit residential buildings. • Ground-oriented multiple residential buildings. • Child Care Centres.
Amenity Space		
Indoor Amenity:	636 square metres	The proposed area 384 sq.m does not meet the Zoning Bylaw requirement.
Outdoor Amenity:	636 square metres	The proposed area 2,192 sq.m exceeds the Zoning Bylaw requirement.
Parking (Part 5)	Required	Proposed

Zoning	RM-135 Zone (Part 25)	Proposed CD Zone
Number of Stalls		
Residential:	265	200
Residential Visitor:	27	27
Total:	292	227
Bicycle Spaces		
Residential Secure Parking:	324	328

- The proposed CD Bylaw will incorporate similar uses as the RM-135 Zone but will now allow short term rentals.
- The proposed net floor area ratio (FAR) of the development will be maximum 4.5, which will exceed the maximum 2.5 FAR permitted under the RM-135 Zone.
- The RM-135 Zone requires the setbacks to be 7.5 metres or a minimum of 50% of the building height, whichever is greater. Reduced or increased setbacks are proposed in the CD Bylaw. The reduction in building setbacks is supportable as they allow for more active engagement of the streets, which is desirable. The increased setbacks are proposed by the applicant to allow for greater outdoor space.
- The CD Bylaw permits up to 10 units (4%) to be exempt from the balcony requirement that applies to all multiple residential zones. The applicant is proposing to “pilot” a small number of units without traditional balconies for renters that may not prefer a balcony.
- The required parking rate for rental units secured with a Housing Agreement is 1.0 parking spaces per unit and 0.1 residential visitor spaces per unit. The total number of required parking spaces is 292.
- Bunt and Associates prepared a parking study to propose reduced parking rates that has been supported by staff. The CD Bylaw proposes parking rates of 0.55 spaces per unit for the below-market rental units and 0.8 spaces for the market rental units and 0.1 residential visitor spaces per unit. This results in a total of 227 required parking spaces. The applicant is proposing to provide 230.
- There are 159 parking spaces proposed on-site and underground. There are an additional 71 spaces proposed “off-site” on the remaining subject property in an undeveloped area of the site.
- This parking will be required to be constructed prior to occupancy of the proposed building and an easement will be required to secure access to this parking.

Capital Projects Community Amenity Contributions (CACs)

- On December 16, 2019, Council approved the City's Community Amenity Contribution and Density Bonus Program Update (Corporate Report No. R224; 2019). The intent of that report was to introduce a new City-wide Community Amenity Contribution (CAC) and updated Density Bonus Policy to offset the impacts of growth from development and to provide additional funding for community capital projects identified in the City's Annual Five-Year Capital Financial Plan. A fee update has been approved in April 2023, under Corporate Report No.R037;2023.
- At this time the proposed development is not subject to the Tier 1 or Tier 2 Capital Plan Project CACs, as the proposal consists of entirely rental residential units secured with a Housing Agreement which are exempt from CACs. A Restrictive Covenant will be registered making CAC fees payable if there is a future change in tenure.

Affordable Housing Strategy

- On April 9, 2018, Council approved the City's Affordable Housing Strategy (Corporate Report No. Ro66; 2018) requiring that all new rezoning applications for residential development contribute \$1,068 per new unit to support the development of new affordable housing. The funds collected through the Affordable Housing Contribution will be used by the City to purchase land for new affordable rental housing projects.
- As all units are proposed to be rental and secured with a Housing Agreement, the subject proposal is exempt from the provision of this policy. The applicant will be required to register a Section 219 Restrictive Covenant, making the fees payable if there is a future change in tenure from the market rental, to address the City's needs with respect to the City's Affordable Housing Strategy.

Public Art Policy

- As all the units are proposed to be rental and secured with a Housing Agreement, the Public Art contribution will not be required and will be applicable to the residential portion only if there is a future change in tenure from the rental residential units.

City Policy O-61 (Rental Housing Redevelopment: Rental Replacement and Tenant Relocation Assistance)

- On April 9, 2018, Council approved Corporate Report No. Ro66; 2018 which outlined City Policy O-61 - Rental Housing Redevelopment: Rental Replacement and Tenant Relocation Assistance Policy as part of Surrey's Affordable Housing Strategy: A Focus on Rental Housing.
- The Surrey Affordable Housing Strategy includes specific strategies to prevent the loss of purpose-built rental housing and strengthen protection for tenants. The Rental Housing Redevelopment Policy (City Policy O-61) sets out requirements for redevelopment of purpose-built rental housing and provision of assistance to tenants when redevelopment occurs.

- The applicant is not subject to City Policy O-61: Rental Housing Redevelopment: Rental Replacement and Tenance Relocation Policy as this policy applies to sites with applications for redevelopment. The Mutual Agreements to End Tenancy, tenant relocation and demolition permit issuance was completed prior to the submission of the subject development application.
- Although the proposed development is not subject to Policy O-61, the applicant is generally in compliance with the policy and is proposing to replace the original 48 rental units with the same number of units and total number of bedrooms.
- These 48 replacement units are proposed to be below-market rental and rented at a maximum of 10% below current Canadian Market and Housing Corporation (CMHC) average rents for the applicable unit size in the City of Surrey.

Housing Agreement

- Section 483 of the Local Government Act authorizes local governments to enter into Housing Agreements, for terms and conditions agreed to by the owner and the local government that pertain to the occupancy of the housing units.
- The proposed Housing Agreement will regulate the 48 below-market rental and 217 market rental dwelling units, restricting them to rental tenure for a period of 20 years. The City may from time to time require that the owner of the building provide written proof of compliance with the Housing Agreement. The attached Housing Agreement (Appendix VI) will be adopted by Bylaw and registered on title of the property.
- The term proposed in the Housing Agreement is 20 years, which is less than other Housing Agreements recently brought forward for Council consideration which have been between 40 and 60 years. The applicant considers the 20 year term reasonable considering that all 265 units are secured rental.
- The Housing Agreement Bylaw will be brought forward for final adoption concurrently with final adoption of the associated OCP Amendment and Rezoning Bylaws and the issuance of the Development Permit, once all of the outstanding conditions associated with the application are fulfilled.

PUBLIC ENGAGEMENT

- Pre-notification letters were sent on September 19, 2024 and the Development Proposal Signs were installed on September 19, 2024. Staff received four responses (*staff comments in italics*):
- A representative from a rental advocacy group called to inquire into process questions related to the application, City policies, timing of the application and redevelopment of the entire site.
 - (*Staff provided general information regarding the proposed development, information on City Policy O-61, the timing of the demolition permit issuance, and the public hearing. No formal comments were submitted to staff.*)

- Staff received an email requesting information related to the need for family units and affordable units.
 - *(Staff provided information that approximately 47% of the units are family units (2 or more bedrooms) and that all units are rental secured with a Housing Agreement).*
- Staff received two phone calls asking general questions regarding the proposed development and on the timing of development on the remainder of the site.
 - *(Staff provided information on the subject development and advised that the timing and phasing of future development on the remainder of the site has not been confirmed by the property owner).*

DEVELOPMENT PERMITS

Form and Character Development Permit Requirement

- The proposed development is subject to a Development Permit for Form and Character and is subject to the urban design guidelines outlined within the OCP and the Guildford Plan.
- The proposal partially complies with the Form and Character Development Permit guidelines in the OCP and Guildford Plan.

Building Design

- The proposed development includes a 36-storey tower that consists of 265 residential rental dwelling units.
- The proposed tower reflects a contemporary and elegant built form but does not include a podium as is required in the OCP and Guildford Plan design guidelines. Podiums of four- to six-storeys are encouraged at the base of towers to provide enclosure, massing transition to adjacent areas of lower built form and a more human scale along streets. Podiums also support Crime Prevention Through Environmental Design (CPTED) principles and placing buildings along streets provide oversight and help foster connections among neighbours.
- The applicant has provided design rationale for the proposed tower without a podium, that includes reduced building costs and materials, to support the proposed rental tenure of the building, and increased opportunities for ground level outdoor area designs and programming.
- The building is sited beyond the recommended 5.5 metre street-fronting setback. The setback for residential developments is expected to include landscaping and a comfortable patio for dwelling units. It also allows compliant fire fighter access. The proposed building siting and form limits the number of dwelling units at grade and physically disconnects the street frontage from the public realm, however, the larger setback matches the applicant's desire to create larger, programmable open spaces along the street. The applicant will be required to address fire access requirements as a condition of Final Adoption.

- The proposed tower has a floorplate that is consistent with the Guildford Plan guidelines, creating a slim profile. The design, which includes vertical stacks of offset balconies in a feature glazing colour, is simple and elegant. The tower top is distinguished by stepping back the upper levels to create a tapered effect. The building, above the podium level, meets the design character expectations for towers in the Guildford Centre district.
- The proposed building materials include white porcelain panel cladding, dark grey spandrel panels in a window wall system and aluminum framed balconies with clear or feature tinted glazing. Entry canopies with slim columns extend toward both 150 Street and the private road.
- North of the proposed building, a significant public plaza is proposed. The plaza is centered on a water-spray feature, and around the fountains features a variety of seating, play equipment, lawn areas, and a mix of trees and other planting.

Indoor Amenity Space

- The proposed indoor amenity spaces are centrally located on levels 2 and 35. These locations provides for some connectivity between the indoor and adjacent outdoor amenity spaces.
- The indoor amenity spaces consist of a dining facility, lounge area, gym and study areas.
- According to the Zoning By-law, the proposed development on the subject site is required to provide the following minimum indoor amenity space:
 - 3 square metres per dwelling unit up to 557 square metres (equivalent to 186 dwelling units);
 - 1 square metre per dwelling unit for that portion greater than 557 square metres; and
 - 4 square metres per dwelling unit for micro units.
- Based upon the Zoning Bylaw requirement, the proposed development is required to provide 636 square metres of indoor amenity space. The proposed indoor amenity space is 384 square metres in total physical area, which is 252 square metres less than the Zoning Bylaw requirement.
- Overall, the applicant is proposing to provide 60% of the required indoor amenity space on site and has agreed to a cash-in-lieu monetary contribution, in accordance with City Policy, to address the shortfall.
- The cash-in-lieu of indoor amenity space must be provided at the rate in effect at the time of Final Adoption of the Rezoning By-law.

Outdoor Amenity Space and Proposed Landscaping

- The outdoor amenity spaces are all located at ground level and partially connected to indoor amenity space along the west portion of the building.

- The applicant is proposing to provide 2,192 square metres of outdoor amenity space which exceeds the minimum outdoor amenity space requirement, per the Zoning By-law, based upon a total of 3 square metres per dwelling unit and 4 square metres per micro unit.
- The outdoor amenity space will consist of a ball court, open lawn area, natural seating areas, two kids play area, a water feature and other formal and information landscaping.
- The proposed landscaping has been designed to respond to the urban nature of Guildford Town Centre as an active, pedestrian-friendly space. The overall design considers site circulation and grade change and incorporates an inclusive interface between the public and private realm.
- The applicant proposes to provide a publicly accessible plaza, secured with a statutory right of way, near the crescent drive aisle.

Advisory Design Panel

ADP date: October 10, 2024

The applicant has agreed to resolve the remaining outstanding items noted below, to the satisfaction of the Planning and Development Department, before Final Adoption.

Outstanding Items

- The applicant is required to resolve all outstanding urban design and landscaping issues and staff comments, as follows:
 - Significant design improvement to the building to create a human scale and create positive integration with the public realm;
 - Design improvement to the building and landscape to meet CPTED principles;
 - Ensure livability of bedrooms by including a window to the exterior;
 - Clarify proposed building materials and features;
 - Develop the public realm design to support a human-scaled street interface, improve the southeast public plaza and coordinate landscape and walkways; and
 - Refine the landscape design of the north plaza to ensure functional and welcoming year-round enjoyment.
- The applicant has been provided with a list identifying these requirements and has agreed to resolve these issues prior to Final Approval of the Development Permit, should the application be supported by Council.

TREES

- Max Rathburn, ISA Certified Arborist of Diamond Head Consulting Ltd, prepared an Arborist Assessment for the subject site. The table below provides a summary of the proposed tree retention and removal. A detailed list of the proposed tree retention and removal by tree species can be found in (Appendix V):
- All trees identified for removal, retention and/or replacement are subject to change prior to final approval of the arborist report.

Table 1: Summary of Proposed Onsite Tree Preservation by Tree Species:

	Existing	Remove	Retain
Alder/Cottonwood (outside riparian area)	2	2	0
Deciduous Trees	18	18	0
Coniferous Trees	6	2	4
Onsite Tree Totals	26	22	4
Onsite Replacement Trees Proposed	53		
Total Onsite Retained and Replacement Trees	57		

- The Arborist Assessment states that there are a total of 26 bylaw protected trees on the site. Additionally, there are 10 bylaw protected offsite trees and 2 bylaw protected City trees within proximity of the proposed development. The applicant proposes to retain 4 onsite trees as part of this development proposal. The proposed tree retention was assessed taking into consideration the location of services, building footprints, road dedication and proposed lot grading. Additionally, 1 offsite tree is proposed for removal due to a conflict because of the construction of 106 Avenue along the southern property line.
- For those trees that cannot be retained, the applicant will be required to plant trees on a 1 to 1 replacement ratio for Alder and Cottonwood trees, and a 2 to 1 replacement ratio for all other trees. This will require a proposed total of 42 replacement trees on the site. The applicant is proposing 53 replacement trees, exceeding City requirements.
- In addition to the replacement trees, new boulevard street trees will be planted on 150 Street. This will be determined by the Engineering Department during the servicing design review process.
- In summary, a total of 57 trees are proposed to be retained or replaced on the site with no estimated contribution to the Green City Program.

INFORMATION ATTACHED TO THIS REPORT

The following information is attached to this Report:

- Appendix I. Block Plan
- Appendix II. Engineering Summary
- Appendix III. Draft Development Permit Drawings
- Appendix IV. School District Comments
- Appendix V. Summary of Tree Survey, Tree Preservation and Tree Plans
- Appendix VI. Proposed Housing Agreement By-law and Housing Agreement

approved by Shawn Low

Ron Gill
Acting General Manager
Planning and Development

IM/cb

**SURVEY PLAN TO ACCOMPANY CITY OF SURREY ZONING BYLAW _____
OF PART OF LOT 59 SECTION 20 BLOCK 5 NORTH RANGE 1 WEST
NEW WESTMINSTER DISTRICT PLAN 41907**

BCGS 92G.026



THE INTENDED PLOT SIZE OF THIS PLAN
IS 432mm IN WIDTH BY 280mm IN HEIGHT (B SIZE)
WHEN PLOTTED AT A SCALE OF 1:1000



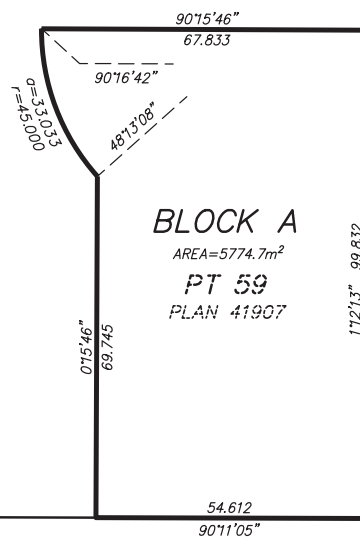
105
PLAN 35954

STRATA
PLAN NWS1018

WALKWAY

REM 59
PLAN 41907

58
PLAN 35554



BLOCK A
AREA=5774.7m²
PT 59
PLAN 41907

ROAD
PLAN 35554

E 33'
(BYLAW PLAN 30923) OF
PART (REF. PLAN 3373)
W 1/2 SECTION 20

150 STREET

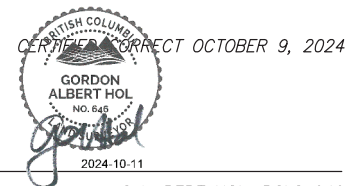
ROAD
PLAN 41907

61
PLAN 38455

PART 37
(REF PLAN 36449)
PLAN 10284

NOTE:
LEGAL BOUNDARIES ARE BASED ON
LAND TITLE OFFICE RECORDS AND
FIELD SURVEY

APLIN & MARTIN
GEOMATICS LAND SURVEYING LTD.
201, 12448 82nd AVENUE
SURREY, BC V3W3E9 604-597-9189



G.A. BERT HOL, BCLS 646
FILE: 21-632-08 zoning



INTER-OFFICE MEMO

TO: **Director, Development Planning, Planning and Development Department**

FROM: **Manager, Development Services, Engineering Department**

DATE: **October 15, 2024** PROJECT FILE: **7824-0186-00**

RE: **Engineering Requirements**
Location: 10611 150 St

REZONE/SUBDIVISION***Property and Right-of-Way Requirements***

- Dedicate 2.808 m along 150 Street;
- Dedicate 11.50 m along 106 Avenue;
- Dedicate 3.0-metre x 3.0-metre corner cut at 106 Avenue and 150 Street;
- Dedicate as road (without compensation), Provincial Jurisdiction (PID 024-482-501) on a road dedication or subdivision plan; and
- Register required 0.50 statutory right-of-way (SRW) along road frontages for ICs and sidewalk maintenance.

Works and Services

- Construct the west side of 150 Street;
- Construct the north side of 106 Avenue;
- Construct adequately-sized service connections for water, sanitary and drainage, complete with inspection chambers & water meters, to the proposed lot(s);
- Upgrade any downstream storm and sanitary sewers with insufficient capacity as determined through detailed design

A Servicing Agreement is required prior to Rezone/Subdivision.

OCP AMENDMENT/NCP AMENDMENT/DEVELOPMENT PERMIT

There are no engineering requirements associated with the OCP and NCP Amendments, and the issuance of the Development Permit.

Jeff Pang, P.Eng.
 Manager, Development Services

MS



1 RENDERING - WALL CENTRE SURREY - PHASE 1 - VIEW FROM NORTH
1/2" = 1'-0"



608 PAVANOR STREET
COQUITLAM, BRITISH COLUMBIA V2Q 4J8
jdg.arch@outlook.com

WALL FINANCIAL CORPORATION
1910 BURRARD STREET
VANCOUVER
BRITISH COLUMBIA
V6Z 2P9



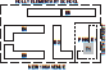
LDP APPLICATION
RE-SUBMISSION
OCTOBER 15TH, 2024



ISSUED

LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-08-25
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 150TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7524-0106-00

TITLE

RENDERING - WALL
CENTRE SURREY - PHASE 1

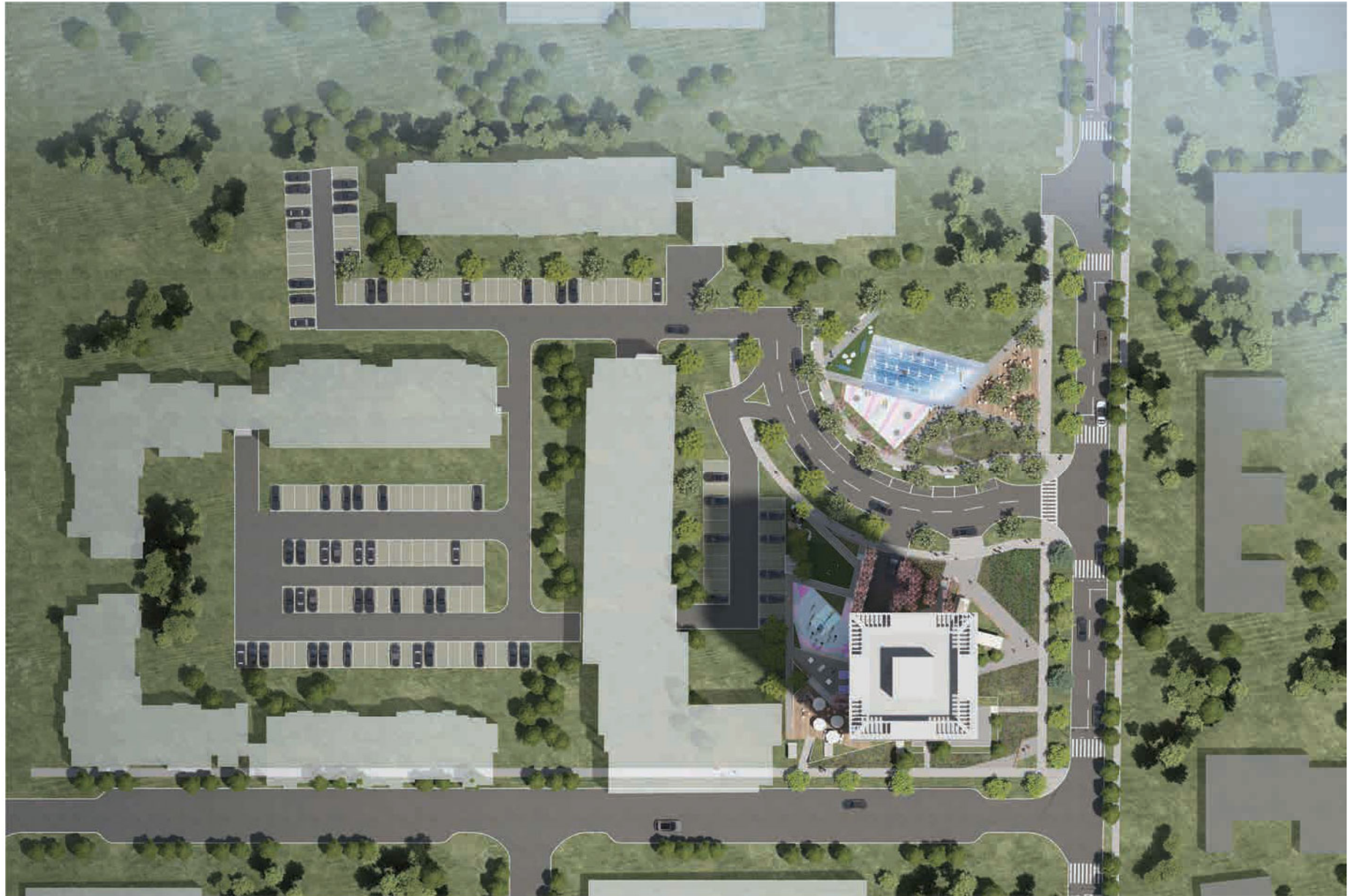
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2201 / WALL CENTRE SURREY - TOWER 1



1 RENDERING - WALL CENTRE SURREY - PHASE 1 - ROOF PLAN
12" = 1'-0"



108 PAVOR STREET
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VANCOUVER
BRITISH COLUMBIA
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LDP APPLICATION
RE-SUBMISSION
OCTOBER 15TH, 2024



ISSUED	
LDP APPLICATION - DRAFT	2024-04-20
LDP APPLICATION	2024-07-16
LDP APPLICATION RE-SUBMISSION	2024-08-25
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 150TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7524-0106-00

TITLE
RENDERING - WALL
CENTRE SURREY - PHASE 1

SHEET NUMBER
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- SITE PLAN LEGEND**
- EXISTING BUILDINGS
 - EXISTING PROPERTY LINE
 - NEW PROPERTY LINE
 - PHASING LINE
 - SETBACK LINE
 - STATUTORY RIGHT-OF-WAY
 - BUILDING OVERHEAD
 - FIRE DEPARTMENT ACCESS ROUTE
 - PROPOSED FIRE HYDRANT
 - FIRE DEPARTMENT CONNECTION
 - DESIGNATED FIRE TRACK ACCESS ROUTE
 - PRIMARY ENTRANCE
 - SECONDARY ENTRANCE
 - VEHICULAR ENTRANCE
 - EXIT
 - OUTDOOR AMENITY



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LDP APPLICATION
RE-SUBMISSION
OCTOBER 15TH, 2024



ISSUED

LDP APPLICATION - DRAFT 2024-06-20
LDP APPLICATION 2024-07-15
LDP APPLICATION RE-SUBMISSION 2024-08-25
LDP APPLICATION RE-SUBMISSION 2024-10-15

NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 150TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7524-0106-00

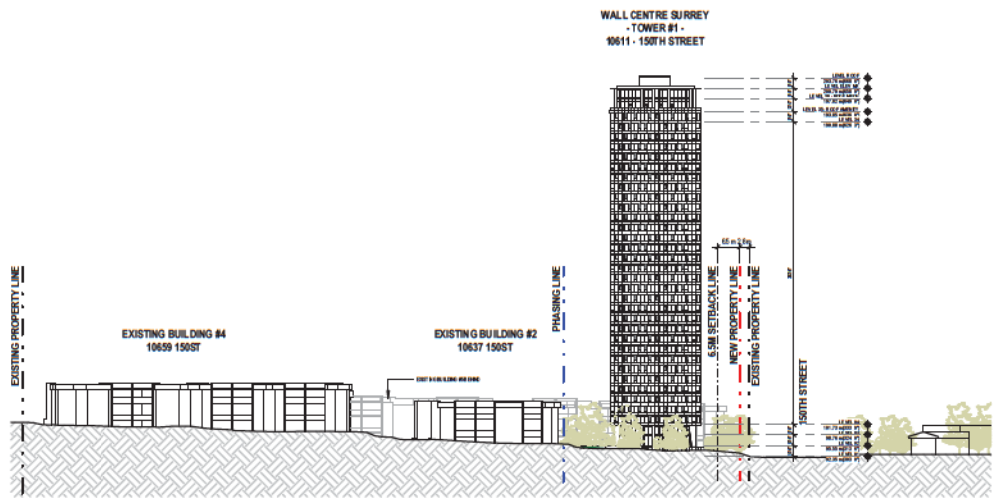
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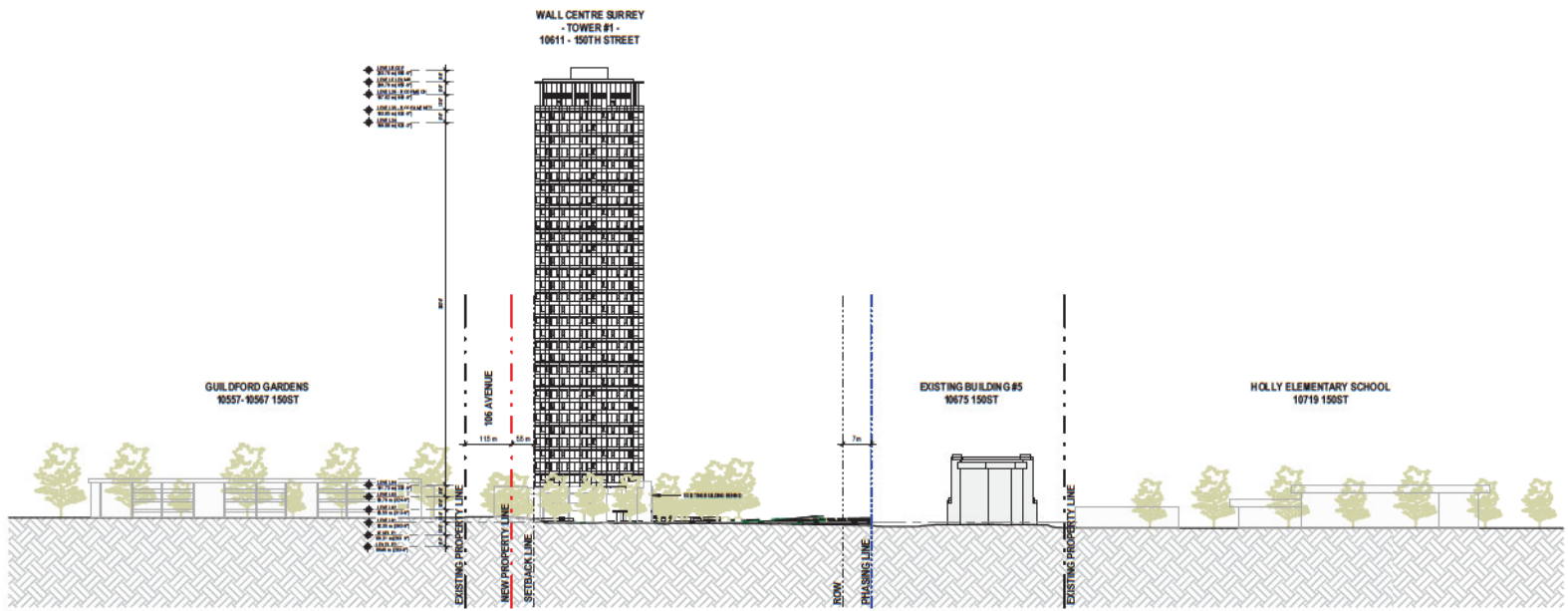
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1 SITE CONTEXT - PLAN
1" = 80'-0"



2 SITE CONTEXT - 106 AVE STREETSCAPE ELEVATION
1" = 60'-0"



1 SITE CONTEXT - 150TH STREET STREETSCAPE ELEVATION
1" = 50'-0"



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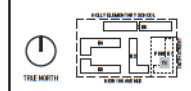
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RE-SUBMISSION
OCTOBER 16TH, 2024



ISSUED

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LDP APPLICATION RE-SUBMISSION	2024-08-05
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 150TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7924-0186-00

TITLE
SITE CONTEXT -
STREETSCAPE ELEVATIONS

SHEET NUMBER

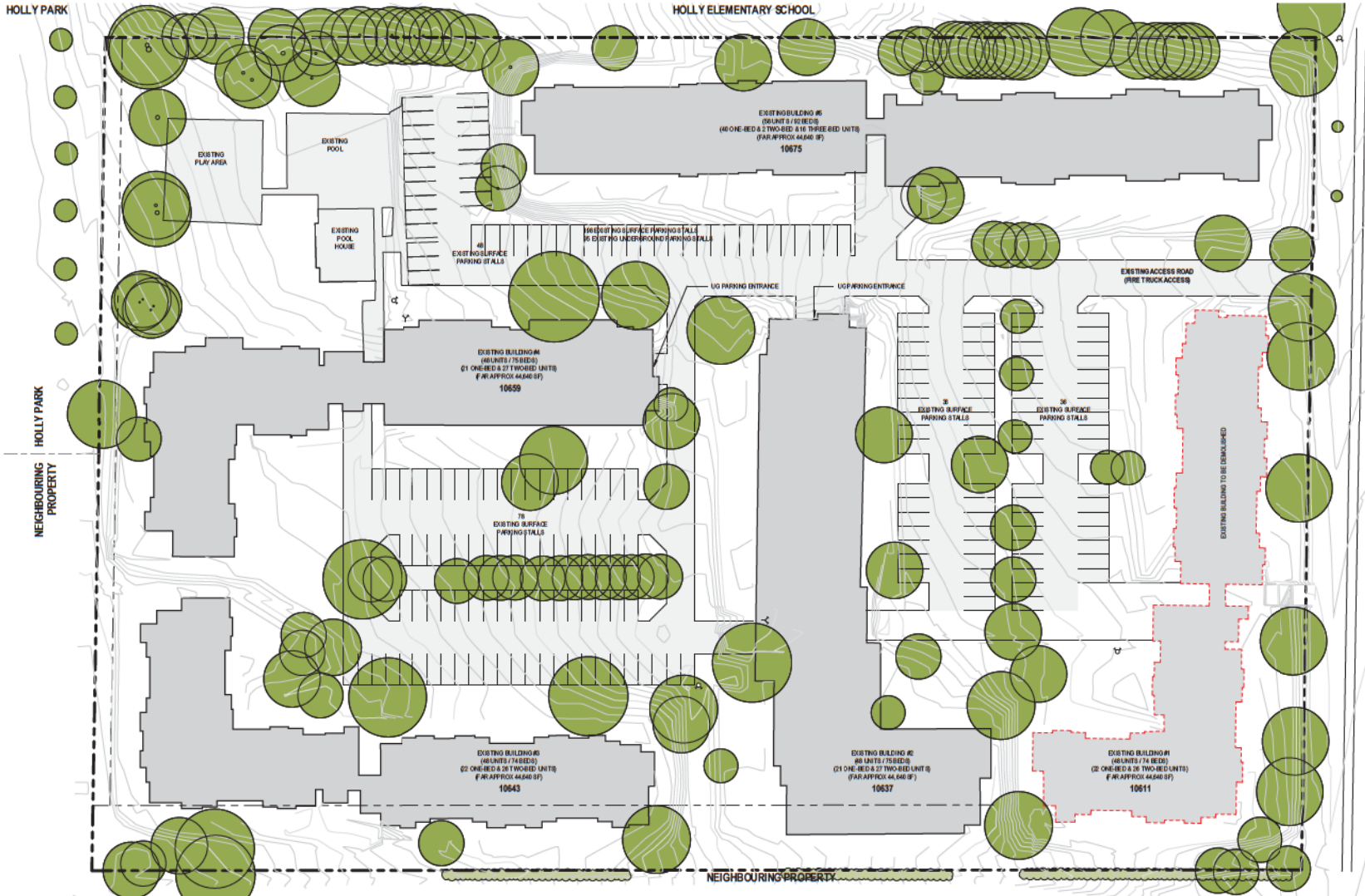
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2201 / WALL CENTRE SURREY - TOWER 1



- SITE PLAN LEGEND**
- EXISTING BUILDINGS
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 - NEW PROPERTY LINE
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 - SECONDARY ENTRANCE
 - VEHICULAR ENTRANCE
 - EXIT
 - OUTDOOR AMENITY



LDP APPLICATION RE-SUBMISSION
 OCTOBER 15TH, 2024



ISSUED

LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-08-25
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
 10611 - 150TH STREET - SURREY,
 BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
 7524-0166-00

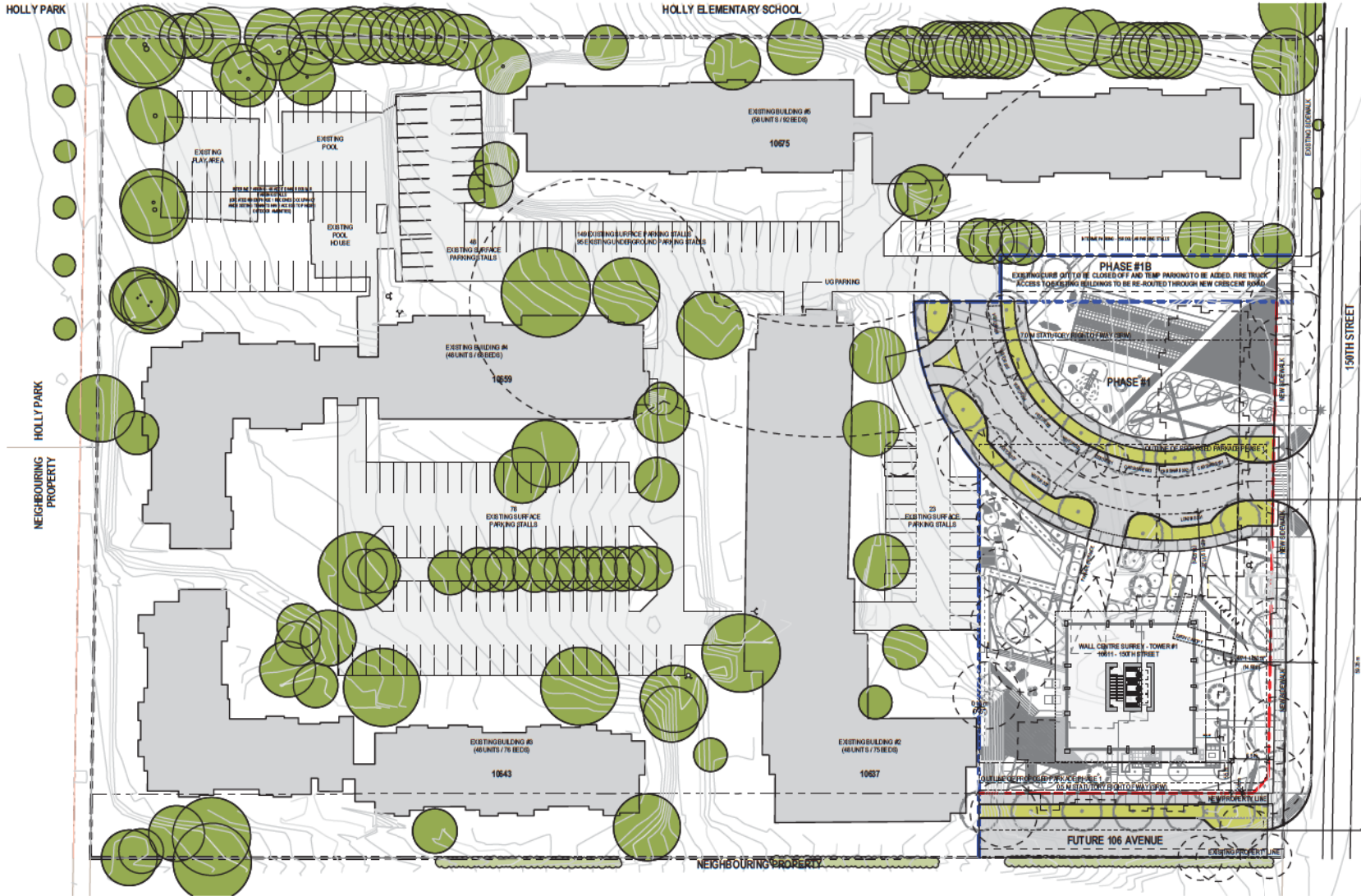
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LDPa1.14

PROJECT # 2201
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1 OVERALL MASTER PLAN - EXISTING
 1" = 30'-0"



- SITE PLAN LEGEND**
- EXISTING BUILDINGS
 - EXISTING PROPERTY LINE
 - NEW PROPERTY LINE
 - PHASING LINE
 - SETBACK LINE
 - STATUTORY RIGHT-OF-WAY
 - BUILDING OVERHEAD
 - FIRE DEPARTMENT ACCESS ROUTE
 - PROPOSED FIRE HYDRANT
 - FIRE DEPARTMENT CONNECTION
 - DESIGNATED FIRE TRUCK ACCESS ROUTE
 - PRIMARY ENTRANCE
 - SECONDARY ENTRANCE
 - VEHICULAR ENTRANCE
 - EXIT
 - OUTDOOR ORNAMENT



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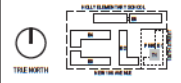
**LDP APPLICATION
 RE-SUBMISSION
 OCTOBER 16TH, 2024**



ISSUED

LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-09-26
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
 10611 - 190TH STREET - SURREY,
 BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
 7524-0186-00

TITLE
 OVERALL MASTER PLAN -
 PHASE 1

SHEET NUMBER

PROJECT #	2201	LDPa1.15
DRAWN	Ashley	

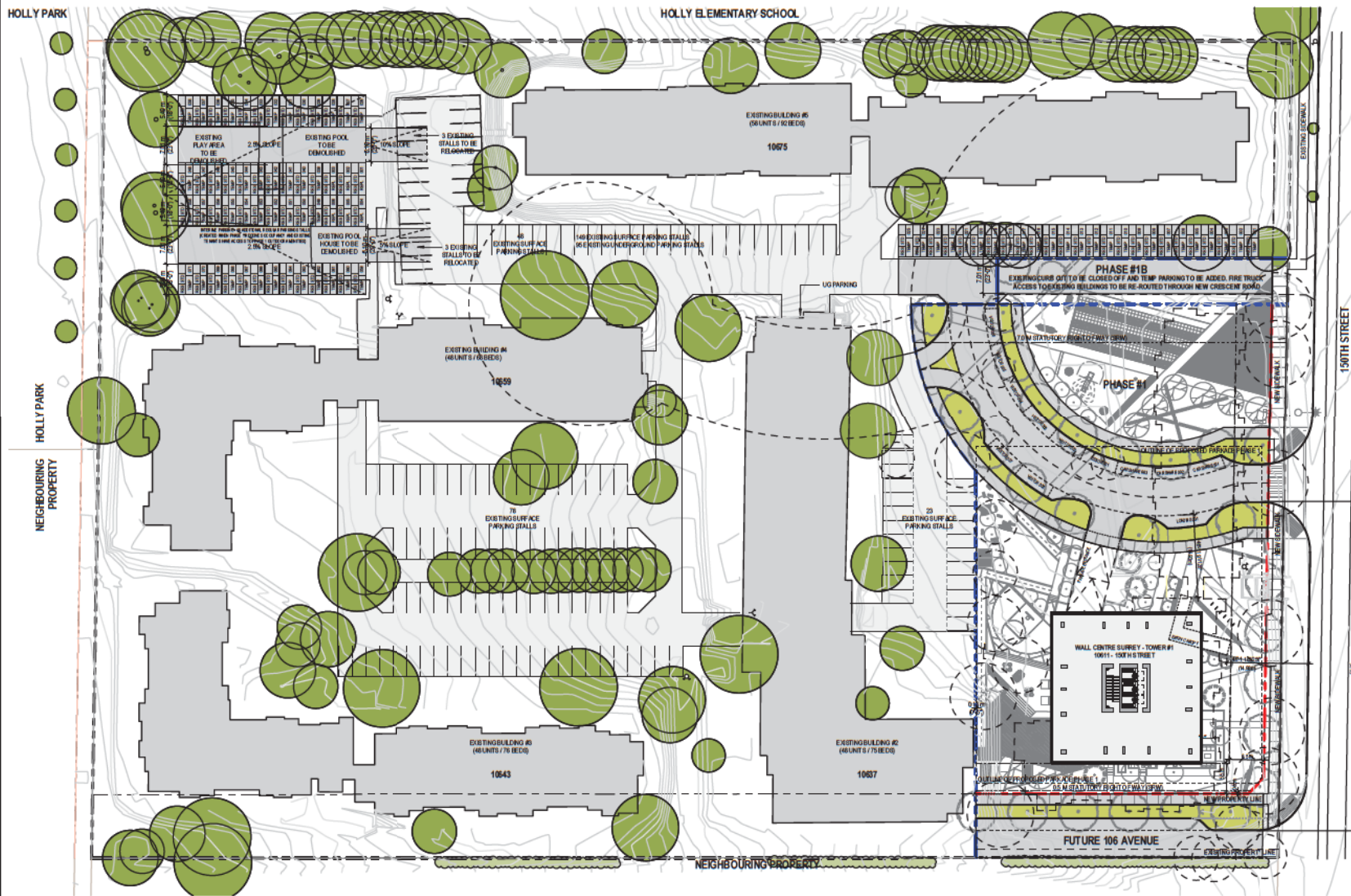
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1 OVERALL MASTER PLAN - PHASE 1
 1" = 30' 0"

2201 / WALL CENTRE SURREY - TOWER 1 2024-10-15 10:28:24 AM

2024/10/15 10:27:51 AM
2201 / WALL CENTRE SURREY - TOWER 1



1 OVERALL MASTER PLAN - PHASE 1 INTERIM PARKING
1" = 30' 0"

- SITE PLAN LEGEND**
- EXISTING BUILDINGS
 - EXISTING PROPERTY LINE
 - NEW PROPERTY LINE
 - PHASING LINE
 - SETBACK LINE
 - STATUTORY RIGHT-OF-WAY
 - BUILDING OVERHEAD
 - BUILDING ACCESS ROUTE
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LDP APPLICATION
RE-SUBMISSION
OCTOBER 16TH, 2024

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LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEY PLAN

PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 107TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

NO.	DESCRIPTION	DATE

CITY OF SURREY PROJECT NUMBER

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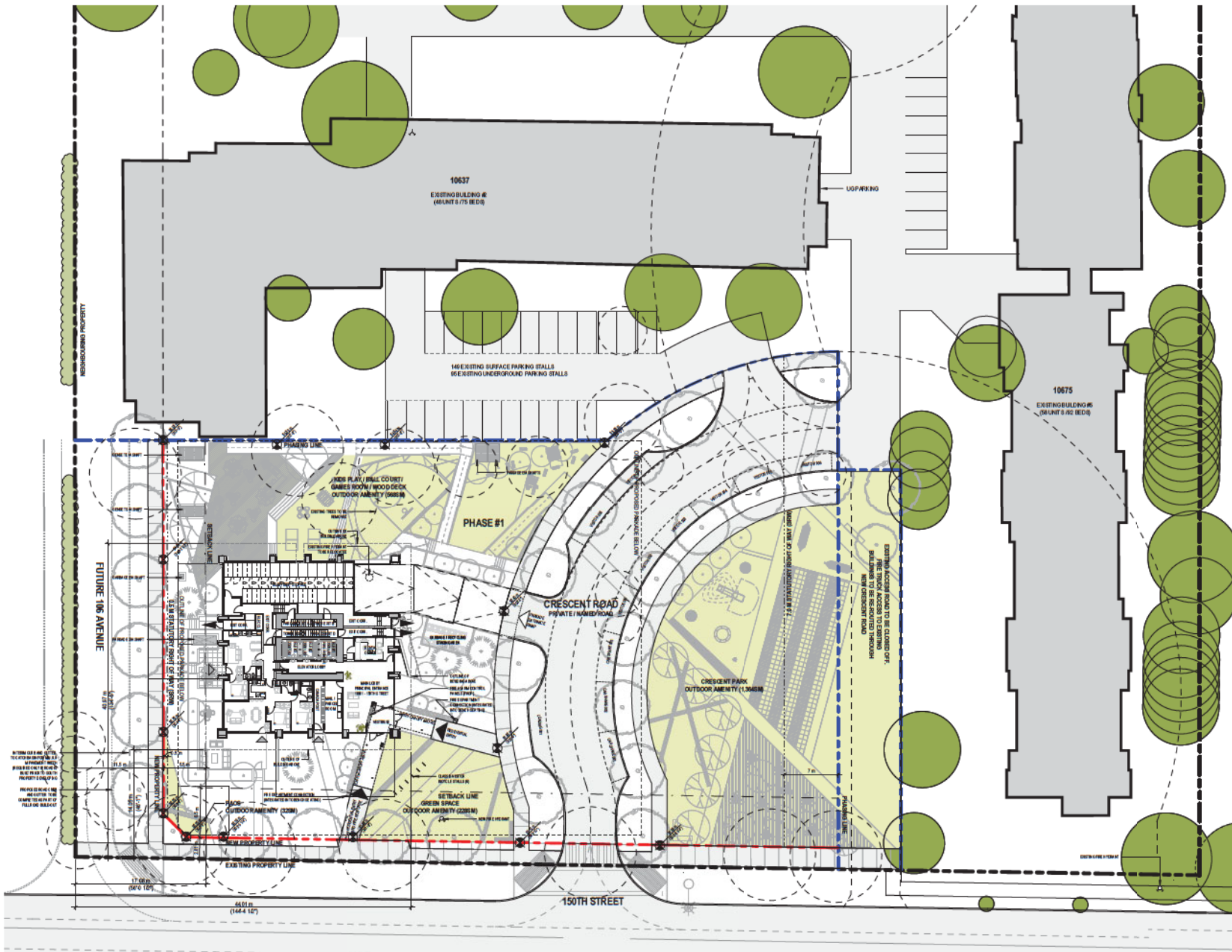
TITLE

OVERALL MASTER PLAN -
PHASE 1 INTERIM PARKING

SHEET NUMBER

PROJECT #	2201	LDPa1.17
DRAWN	Ashley	
CHECKED	Chloe	

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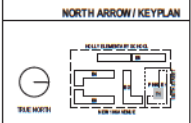
- SITE PLAN LEGEND**
- EXISTING BUILDINGS
 - EXISTING PROPERTY LINE
 - NEW PROPERTY LINE
 - PHASING LINE
 - SETBACK LINE
 - STATUTORY RIGHT-OF-WAY
 - BUILDING OVERHEAD
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 - SECONDARY ENTRANCE
 - VEHICULAR ENTRANCE
 - EXIT
 - OUTDOOR AMENITY



LDP APPLICATION
 RE-SUBMISSION
 OCTOBER 15TH, 2024



ISSUED
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 LDP APPLICATION 2024-07-15
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PROJECT
 WALL CENTRE SURREY - TOWER 1
 10411 - 150TH STREET - SURREY,
 BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
 7524-0106-00

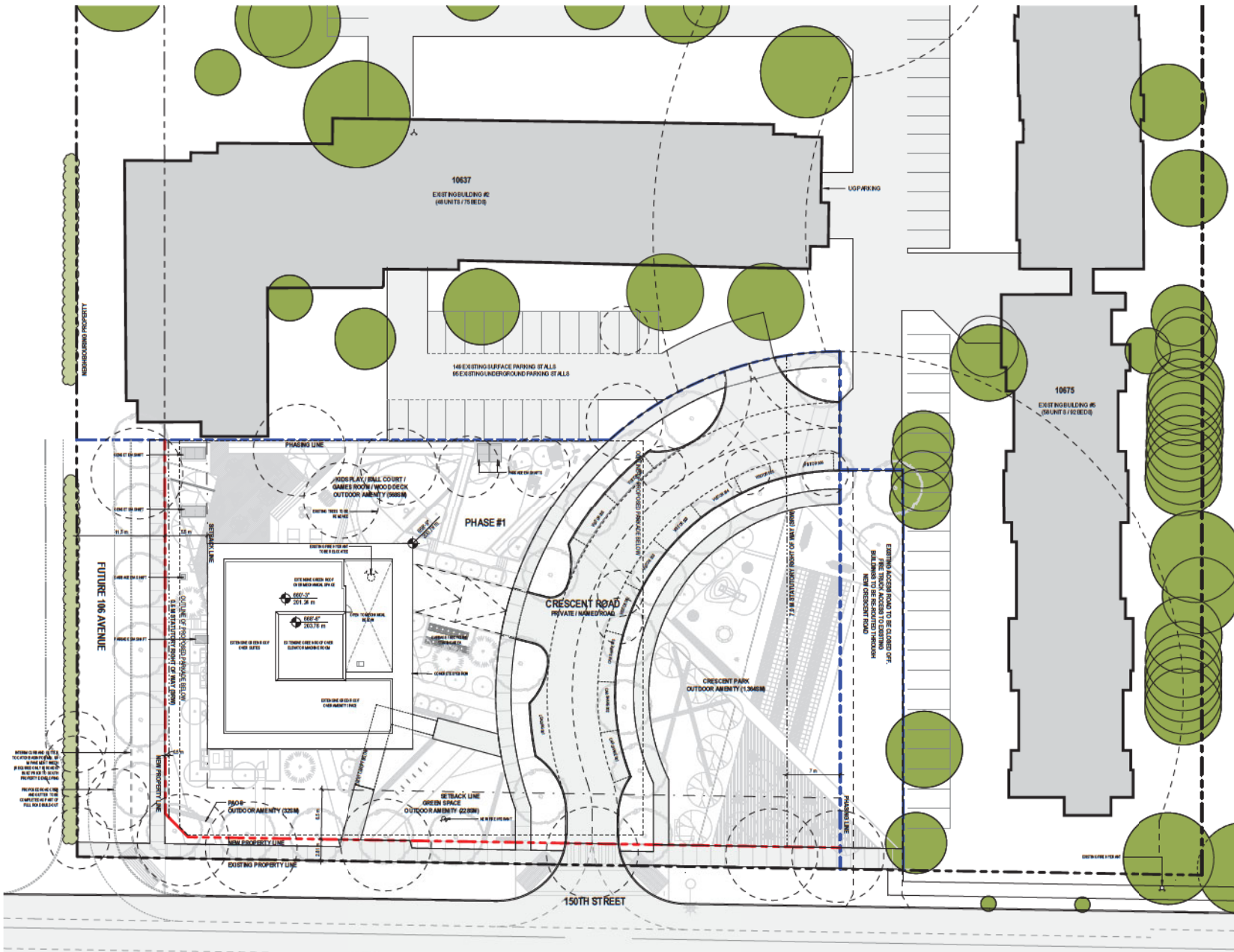
TITLE
 SITE PLAN - GRADE

SHEET NUMBER
 PROJECT # 2201
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1 SITE PLAN - GRADE LEVEL
 1" = 20'-0"

2201 / WALL CENTRE SURREY - TOWER 1
 2024-10-15 12:20 PM




SITE PLAN LEGEND

- EXISTING BUILDINGS
- EXISTING PROPERTY LINE
- NEW PROPERTY LINE
- PHASING LINE
- SETBACK LINE
- STATUTORY RIGHT-OF-WAY
- BUILDING OVERHEAD
- FIRE DEPARTMENT ACCESS ROUTE
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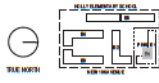
LDP APPLICATION RE-SUBMISSION
OCTOBER 15TH, 2024



ISSUED

LDP APPLICATION - DRAFT	2024-08-02
LDP APPLICATION	2024-07-15
LDP APPLICATION - RE-SUBMISSION	2024-08-05
LDP APPLICATION - RE-SUBMISSION	2024-10-15

NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
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NO.	DESCRIPTION	DATE

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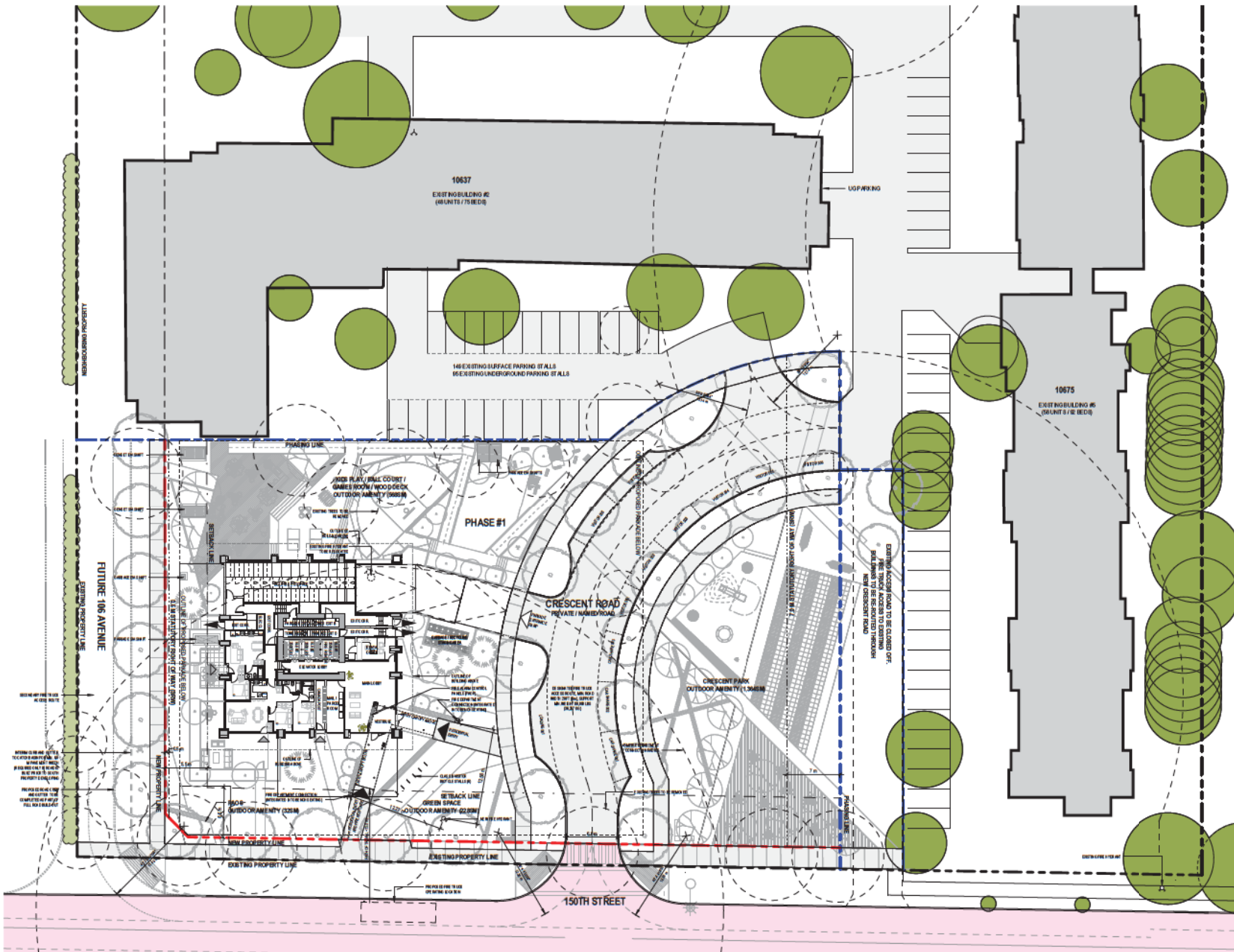
TITLE
SITE PLAN - ROOF

SHEET NUMBER
LDPa1.21

PROJECT #	2201
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1 SITE PLAN - ROOF LEVEL
1" = 20'-0"



1 LEVEL_01_LDP_FIRE FIGHTER PLAN
1" = 20'-0"

SITE PLAN LEGEND

- EXISTING BUILDINGS
- EXISTING PROPERTY LINE
- NEW PROPERTY LINE
- PHASING LINE
- SETBACK LINE
- STATUTORY RIGHT-OF-WAY
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**LDP APPLICATION
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LDP APPLICATION - DRAFT	2024-08-02
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NORTH ARROW / KEY PLAN

PROJECT

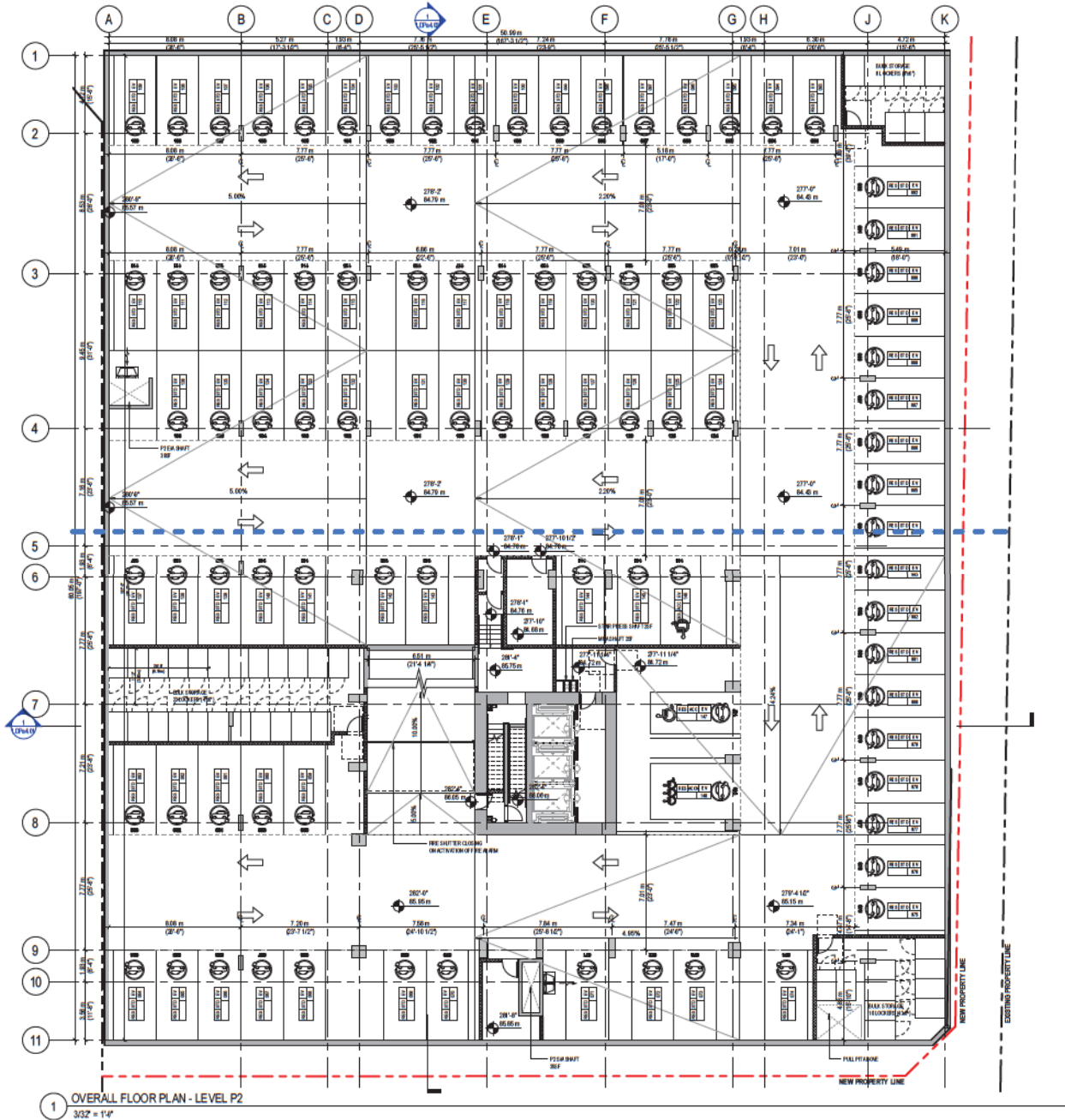
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REVISIONS

CITY OF SURREY PROJECT NUMBER	7524-0106-00
TITLE	SITE PLAN - FIRE FIGHTING PLAN
SHEET NUMBER	LDPa1.22

PROJECT # 2201
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1 OVERALL FLOOR PLAN - LEVEL P2
3/22" = 1/4"

STATISTICS - PARKING LEVEL P2

PARKING SUMMARY P2

RES	JACC	2
RES	MOOV	1
RES	STD	90
TOTAL SPALLS		93

BIKE/BULK STORAGE SUMMARY P2

BIKE STORAGE	41
--------------	----

STATISTICS - TOTAL PARKING

PARKING SUMMARY TOTALS

LEVEL P2		90
LEVEL P1		90
LEVEL P1	VISITOR	19
LEVEL 01	LOADING	3
LEVEL 01	MOVO	3
LEVEL 01	VISITOR	8
TOTAL SPALLS		190

BIKE/BULK STORAGE SUMMARY TOTALS

LEVEL P2	BIKE STNG	41
LEVEL P1	BIKE STNG	140
LEVEL 01	BIKE STNG	11
LEVEL 01	BIKE STNG	13
LEVEL 01	BIKE VISITOR	2
TOTAL STORAGE UNITS		215



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LDP APPLICATION
OCTOBER 15TH, 2024



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NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10411 - 150TH STREET - SURREY,
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REVISIONS

CITY OF SURREY PROJECT NUMBER
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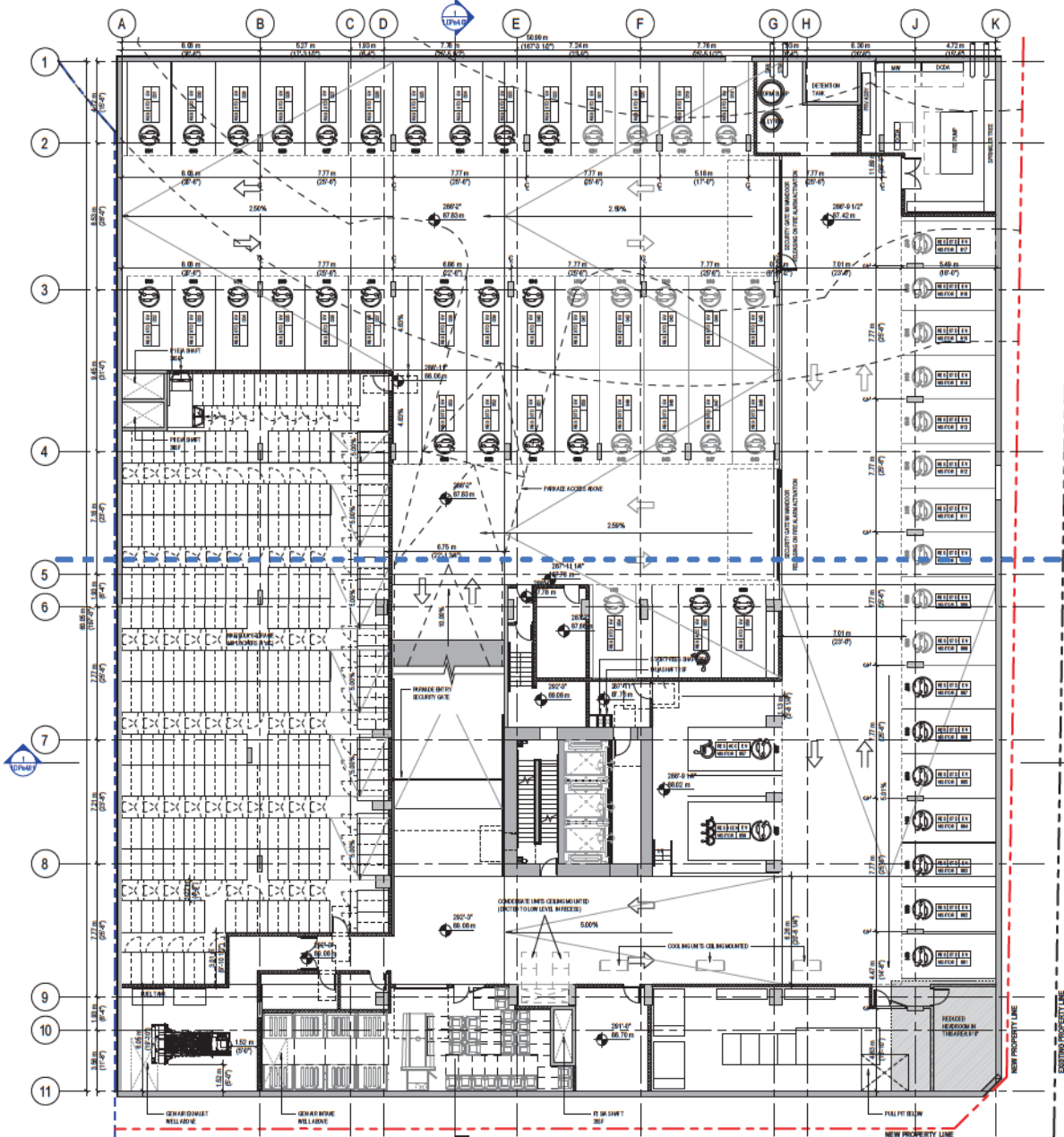
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OVERALL FLOOR PLAN -
LEVEL P2

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1 OVERALL FLOOR PLAN - LEVEL P1
3/32" = 1/4"

STATISTICS - PARKING LEVEL P1

PARKING SUMMARY P1

RES	JACO	2
RES	MOOD	1
RES	STD	76
TOTAL PARKING		79

BIKE/BULK STORAGE SUMMARY P1

		180
--	--	-----

STATISTICS - TOTAL PARKING

PARKING SUMMARY TOTALS

LEVEL P2		90
LEVEL P1		90
LEVEL P1	VISITOR	19
LEVEL 01	LOADING	1
LEVEL 01	MOOD	3
LEVEL 01	VISITOR	8
TOTAL SPALLS		100

BIKE/BULK STORAGE SUMMARY TOTALS

LEVEL P2	BIKE STRING	41
LEVEL P1	BIKE STRING	140
LEVEL 01	BIKE STRING	11
LEVEL 01	BIK BULK STRING	15
LEVEL 01	BIK VISITOR	2
TOTAL STORAGE UNITS		210

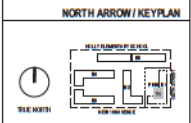


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RE-SUBMISSION
OCTOBER 15TH, 2024



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LDP APPLICATION - DRAFT	2024-09-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-09-25
LDP APPLICATION RE-SUBMISSION	2024-10-15



PROJECT

WALL CENTRE SURREY - TOWER 1
10411 - 150TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7524-0106-00

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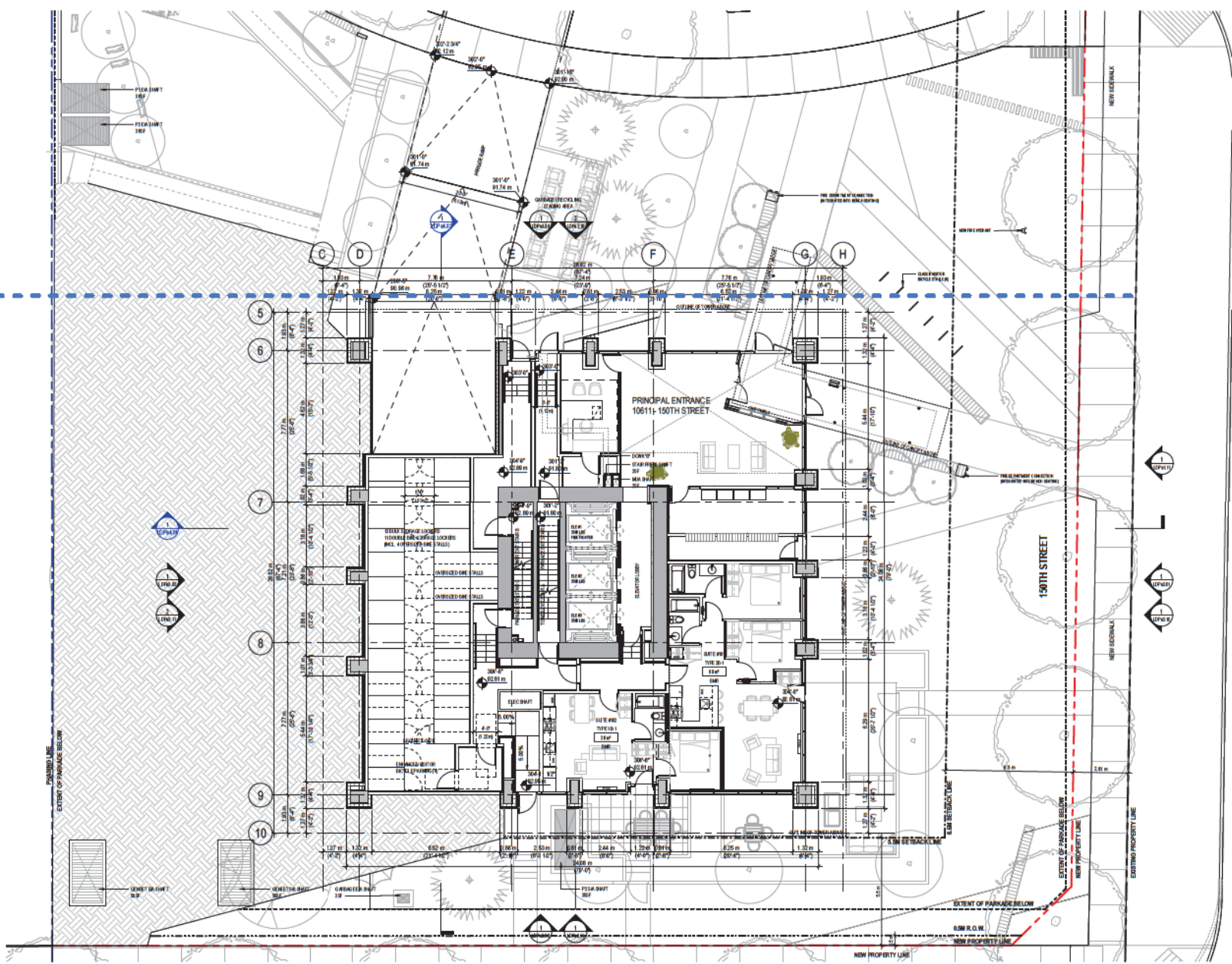
OVERALL FLOOR PLAN -
LEVEL P1

SHEET NUMBER

PROJECT #	2201	LDPa2.02
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1 OVERALL FLOOR PLAN - LEVEL 01
1/8" = 1'-0"

STATISTICS - UNIT SUMMARY BY LEVEL	
RESIDENTIAL UNIT SUMMARY LEVEL 01	
1 BED UNIT	TYPE 1B-1 30 sq' 1
2 BED UNIT	TYPE 2B-1 60 sq' 1
TOTAL RESIDENTIAL UNITS (BMP)	
2	
STATISTICS - UNIT SUMMARY OVERALL	
RESIDENTIAL UNIT TYPES LEVELS 01-05	
1 BED UNIT	TYPE 1B-1 30 sq' 136
2 BED UNIT	TYPE 2B-1 60 sq' 64
3 BED UNIT	TYPE 3B-1 90 sq' 45
TOTAL RESIDENTIAL UNITS (BMP)	
245	
STATISTICS - BIKE / BULK STORAGE	
BIKE/BULK STORAGE SUMMARY L1	
BIKE STORAGE	11
BULK STORAGE	13
ENHANCED VISITOR	2
BIKE/BULK STORAGE SUMMARY TO ALL	
LEVEL P2	BULK STRO 41
LEVEL P1	BIKE STRO 148
LEVEL 01	BIKE STRO 11
LEVEL 01	BULK STRO 13
LEVEL 01	ENH VISITOR 2
TOTAL STORAGE UNITS	
215	




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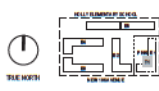
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LDP APPLICATION - DRAFT 2024-04-20
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LDP APPLICATION RE-SUBMISSION 2024-10-15

NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 150TH STREET - SURREY,
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REVISIONS

CITY OF SURREY PROJECT NUMBER
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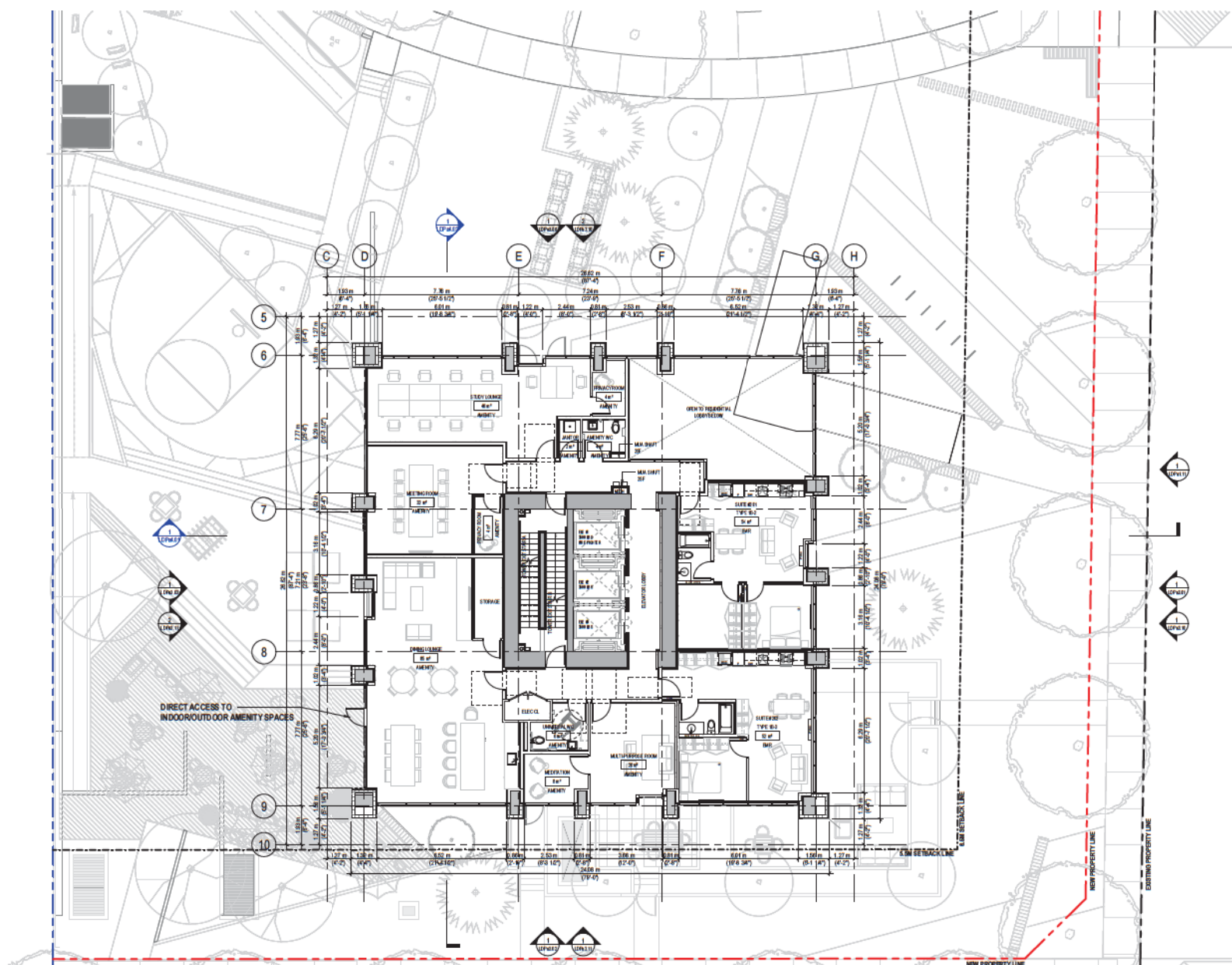
OVERALL FLOOR PLAN -
LEVEL 01

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1 OVERALL FLOOR PLAN - LEVEL 02
1/8" = 1'-0"

STATISTICS - UNIT SUMMARY BY LEVEL	
RESIDENTIAL UNIT SUMMARY LEVEL 02	
1 BED UNIT	TYPE 1B-2 54 SF 1
1 BED UNIT	TYPE 1B-3 52 SF 1
TOTAL RESIDENTIAL UNITS (BMP) 2	
STATISTICS - UNIT SUMMARY OVERALL	
RESIDENTIAL UNIT TYPES LEVELS 01-05	
1 BED UNIT	1270.0 SF 681 26 SF 138
2 BED UNIT	332.2 SF 741.57 SF 64
3 BED UNIT	460.7 SF 736.21 SF 65
TOTAL RESIDENTIAL UNITS (BMP) 267	
STATISTICS - UNIT TYPES	
RESIDENTIAL UNIT TYPES LEVELS 01-05	
TYPE 1B-1	414 SF 1
TYPE 1B-2	505 SF 3
TYPE 1B-3	556 SF 3
TYPE 1B-4	375 SF 2
TYPE 1B-5	400 SF 2
TYPE 1B-6	480 SF 62
TYPE 1B-7	601 SF 62
TYPE 1B-8	300 SF 1
1 BED UNIT	136
TYPE 2B-1	742 SF 1
TYPE 2B-2	736 SF 63
TYPE 2B-3	333 SF 1
2 BED UNIT	64
TYPE 3B-1	736 SF 62
TYPE 3B-2	461 SF 1
TYPE 3B-3	476 SF 1
TYPE 3B-4	604 SF 1
3 BED UNIT	65
TOTAL RESIDENTIAL UNITS (BMP) 267	
STATISTICS - ROOF AMENITY	
AMENITY SUMMARY LEVEL 02	
AMENITY WC	42 SF
DINING LOUNGE	603 SF
JANITOR	22 SF
MEDITATION	81 SF
MEETING ROOM	146 SF
MULTI-PURPOSE ROOM	220 SF
STUDY LOUNGE	89 SF
STUDY LOUNGE	462 SF
UNIVERSAL WC	63 SF
TOTAL AMENITY AREA 2275 SF	

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LDP APPLICATION
RE-SUBMISSION
OCTOBER 15TH, 2024

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LDP APPLICATION - DRAFT	2024-04-02
LDP APPLICATION	2024-07-15
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NORTH ARROW / KEY PLAN

PROJECT

WALL CENTRE SURREY - TOWER 1
10411 - 150TH STREET - SURREY,
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REVISIONS

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TITLE

OVERALL FLOOR PLAN -
LEVEL 02

SHEET NUMBER

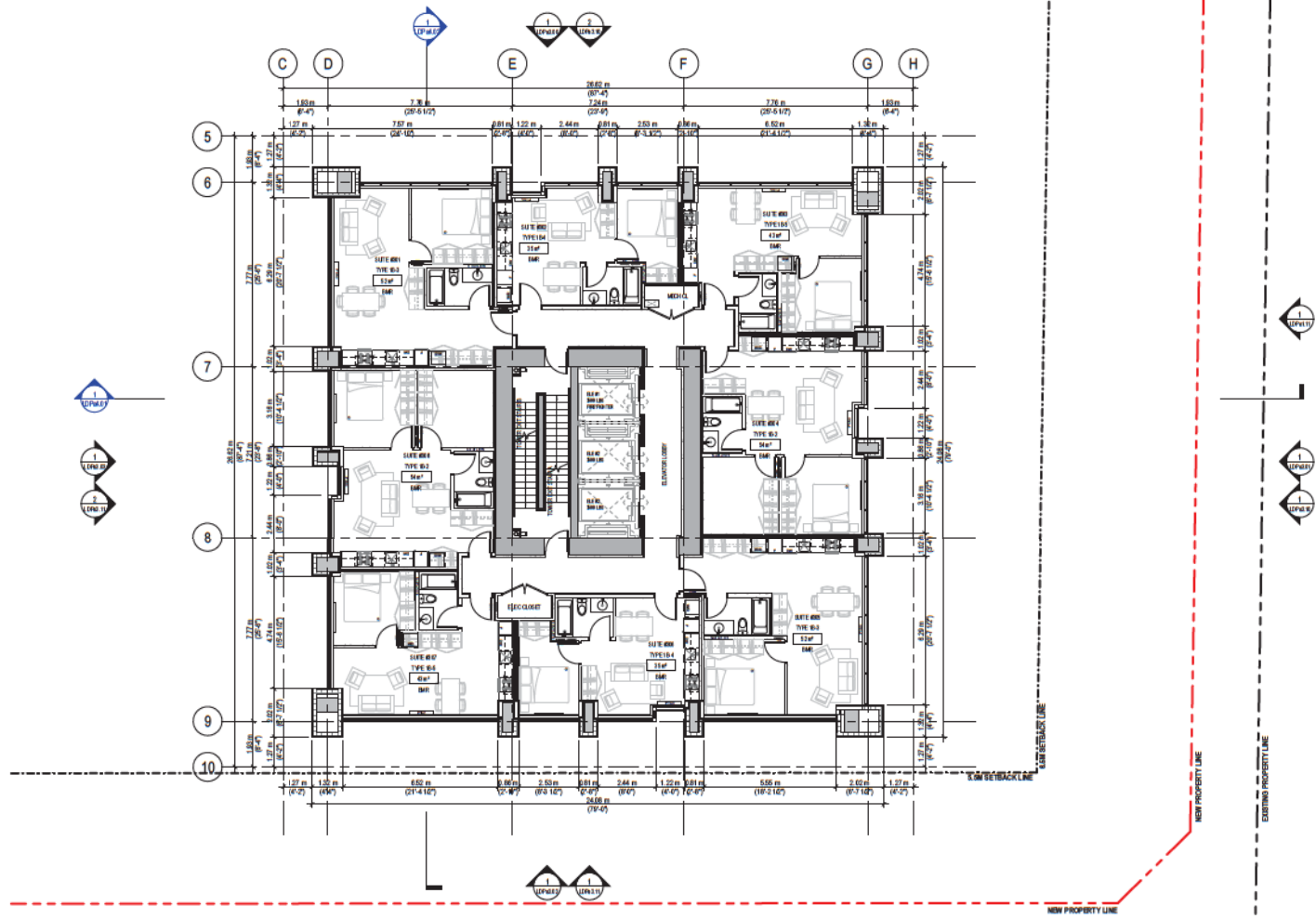
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2024-10-05 12:01 PM


1 OVERALL FLOOR PLAN - LEVEL 03
1/8" = 1'-0"



STATISTICS - UNIT SUMMARY BY LEVEL	
RESIDENTIAL UNIT SUMMARY LEVEL 03	
1 BED UNIT TYPE 1B-2	54
1 BED UNIT TYPE 1B-3	52
1 BED UNIT TYPE 1B-4	26
1 BED UNIT TYPE 1B-5	45
TOTAL RESIDENTIAL UNITS (BMP)	177


STATISTICS - UNIT SUMMARY OVERALL	
RESIDENTIAL UNIT SUMMARY LEVELS 01-06	
1 BED UNIT	1770.31 SF
2 BED UNIT	3022.21 SF
3 BED UNIT	4807.81 SF
TOTAL RESIDENTIAL UNITS (BMP)	285

STATISTICS - UNIT TYPES	
RESIDENTIAL UNIT TYPES LEVELS 01-05	
TYPE 1B-1	414
TYPE 1B-2	505
TYPE 1B-3	556
TYPE 1B-4	375
TYPE 1B-5	400
TYPE 1B-6	485
TYPE 1B-7	601
TYPE 1B-8	300
1 BED UNIT	136
TYPE 2B-1	742
TYPE 2B-2	738
TYPE 2B-3	333
2 BED UNIT	64
TYPE 3B-1	726
TYPE 3B-2	461
TYPE 3B-3	476
TYPE 3B-4	604
3 BED UNIT	65
TOTAL RESIDENTIAL UNITS (BMP)	285




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**LDP APPLICATION
RE-SUBMISSION**
OCTOBER 15TH, 2024



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LDP APPLICATION 2024-07-15
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NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10411 - 150TH STREET - SURREY,
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REVISIONS

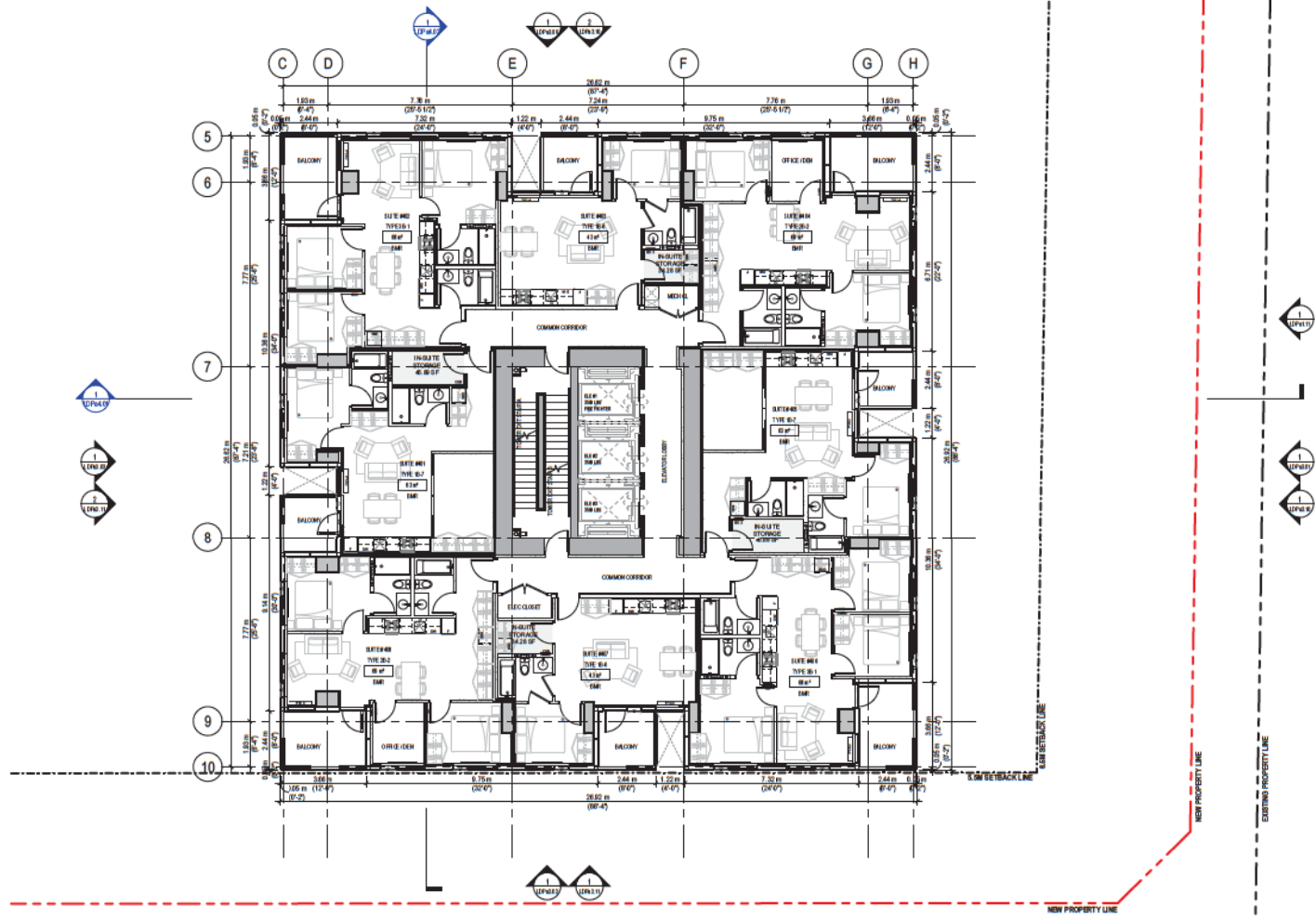
CITY OF SURREY PROJECT NUMBER
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TITLE
OVERALL FLOOR PLAN -
LEVEL 03

SHEET NUMBER
PROJECT # 2201
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2201 / WALL CENTRE SURREY - TOWER 1
2024-10-15 12:32 PM



1 OVERALL FLOOR PLAN - LEVELS 04&06 - BMR PLAN TYPE #1
1/8" = 1'-0"

STATISTICS - UNIT SUMMARY BY LEVEL			
RESIDENTIAL UNIT SUMMARY LEVEL 04			
1 BED UNIT TYPE 1B-4	43 #		
1 BED UNIT TYPE 1B-7	63 #		
2 BED UNIT TYPE 2B-2	68 #		
3 BED UNIT TYPE 3B-1	98 #		
TOTAL RESIDENTIAL UNITS (BMR)	272		
STATISTICS - UNIT SUMMARY OVERALL			
RESIDENTIAL UNIT SUMMARY LEVELS 04-10			
1 BED UNIT	1273.01 SF	681.26 #	138
2 BED UNIT	3202.21 SF	741.57 #	64
3 BED UNIT	4807.81 SF	738.21 #	65
TOTAL RESIDENTIAL UNITS (BMR)			267
STATISTICS - UNIT TYPES			
RESIDENTIAL UNIT TYPES LEVELS 04-10			
TYPE 1B-1	414 #	1	
TYPE 1B-2	508 #	3	
TYPE 1B-3	556 #	3	
TYPE 1B-4	379 #	2	
TYPE 1B-5	400 #	2	
TYPE 1B-6	488 #	62	
TYPE 1B-7	601 #	62	
TYPE 1B-8	300 #	1	
1 BED UNIT	138		
TYPE 2B-1	742 #	1	
TYPE 2B-2	738 #	62	
TYPE 2B-3	333 #	1	
2 BED UNIT	64		
TYPE 3B-1	738 #	62	
TYPE 3B-2	481 #	1	
TYPE 3B-3	476 #	1	
TYPE 3B-4	604 #	1	
3 BED UNIT	65		
TOTAL RESIDENTIAL UNITS (BMR)			267

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VANCOUVER
B97 1S5 COLUMBIA
V6Z 2P0

LDP APPLICATION RE-SUBMISSION
OCTOBER 15TH, 2024

ISSUED

LDP APPLICATION - DRAFT 2024-04-02
LDP APPLICATION 2024-07-15
LDP APPLICATION RE-SUBMISSION 2024-08-05
LDP APPLICATION RE-SUBMISSION 2024-10-15

NORTH ARROW / KEY PLAN

PROJECT

WALL CENTRE SURREY - TOWER 1
10411 - 150TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7524-0106-00

TITLE

OVERALL FLOOR PLAN - LEVELS 04-10 (EVEN NUMBERS) - BMR PLAN TYPE #1

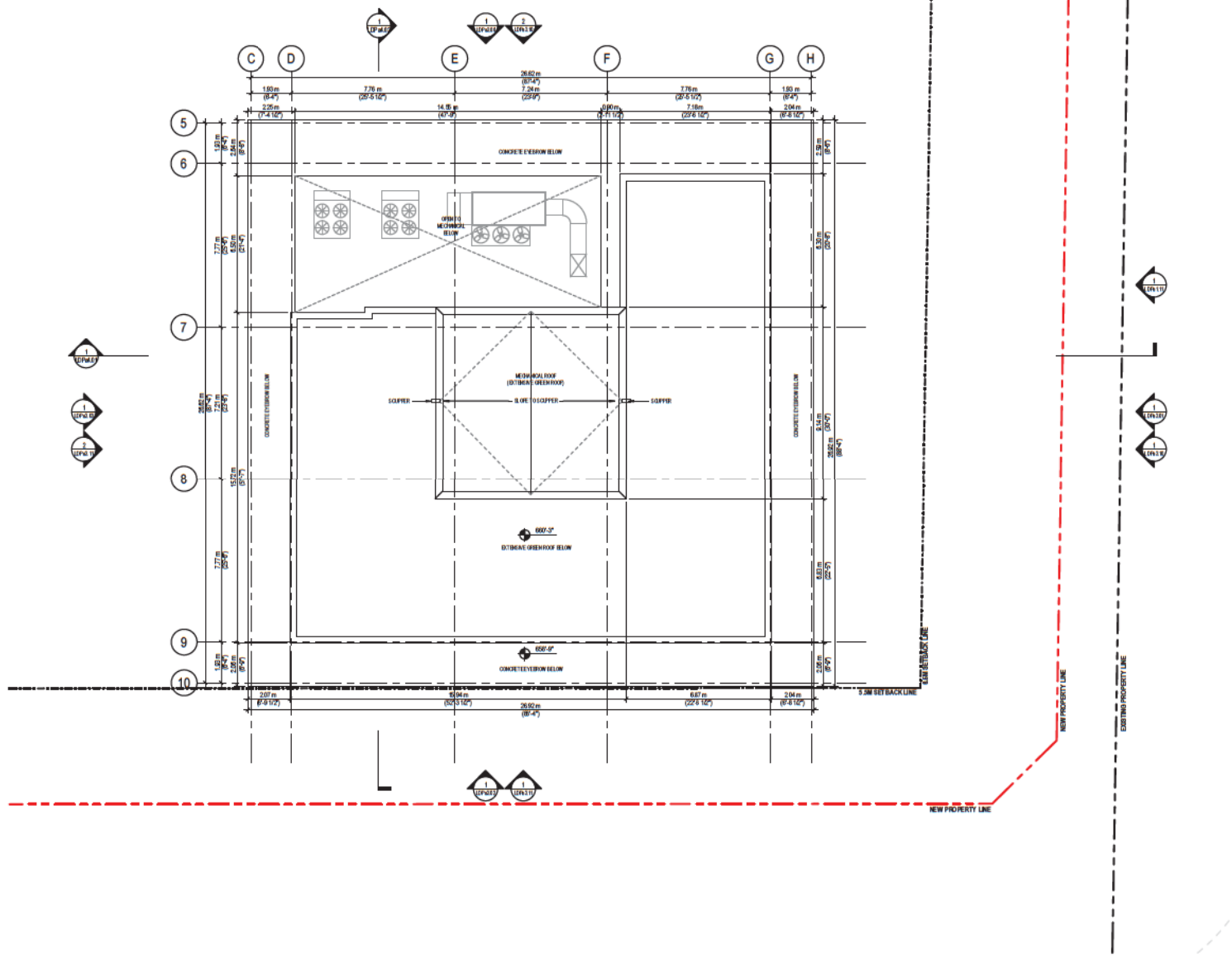
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PROJECT # 2201
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1 OVERALL FLOOR PLAN - LEVEL ROOF
1/8" = 1'-0"




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BRITISH COLUMBIA
V6C 2W9



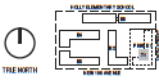
LDP APPLICATION
RE-SUBMISSION
OCTOBER 16TH, 2024



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LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-09-05
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



TRUE NORTH

PROJECT

WALL CENTRE SURREY - TOWER 1
906 H1 - 10TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

NO.	DESCRIPTION	DATE

CITY OF SURREY PROJECT NUMBER

7924-0186-00

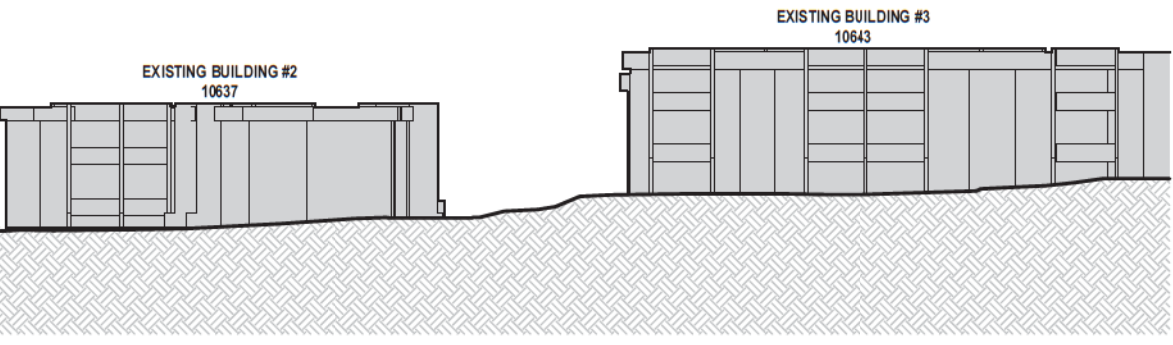
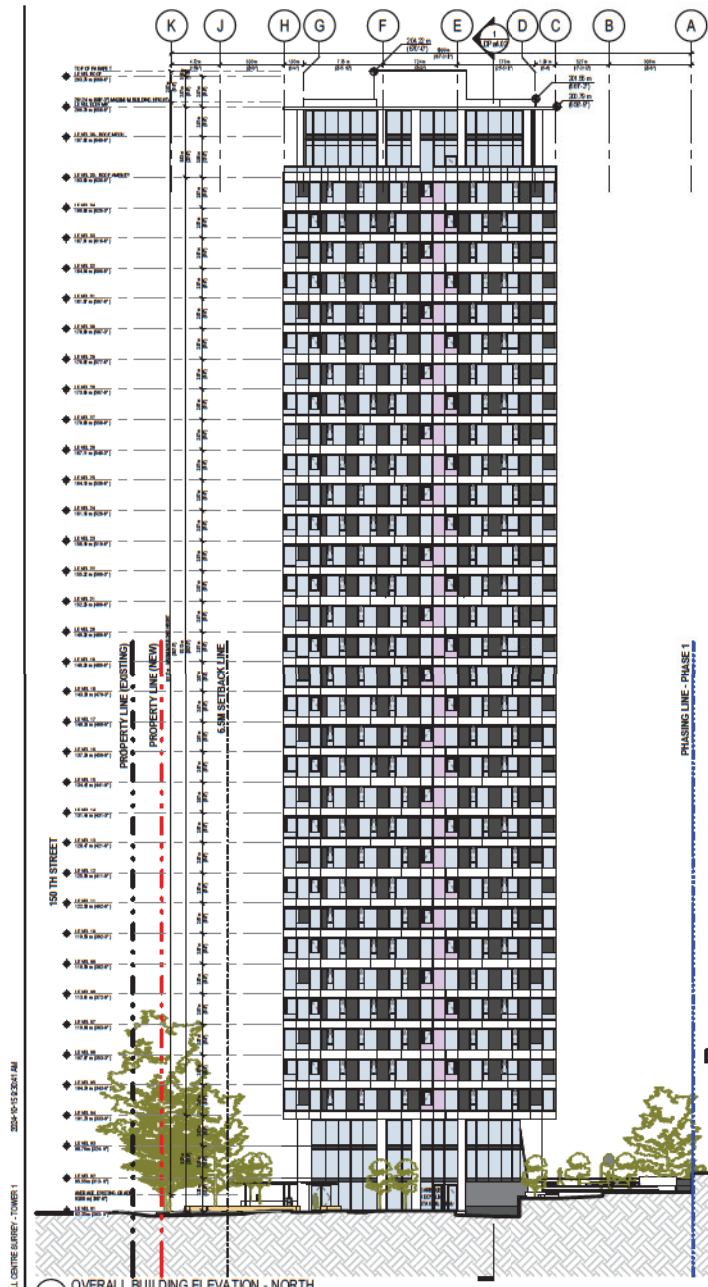
TITLE

OVERALL FLOOR PLAN -
LEVEL ROOF


SHEET NUMBER

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DATE		

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1 OVERALL BUILDING ELEVATION - NORTH
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LDP APPLICATION
RE-SUBMISSION
OCTOBER 16TH, 2024



ISSUED	
LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-09-05
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 107TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

NO.	DESCRIPTION	DATE

CITY OF SURREY PROJECT NUMBER
7524-0186-00

TITLE

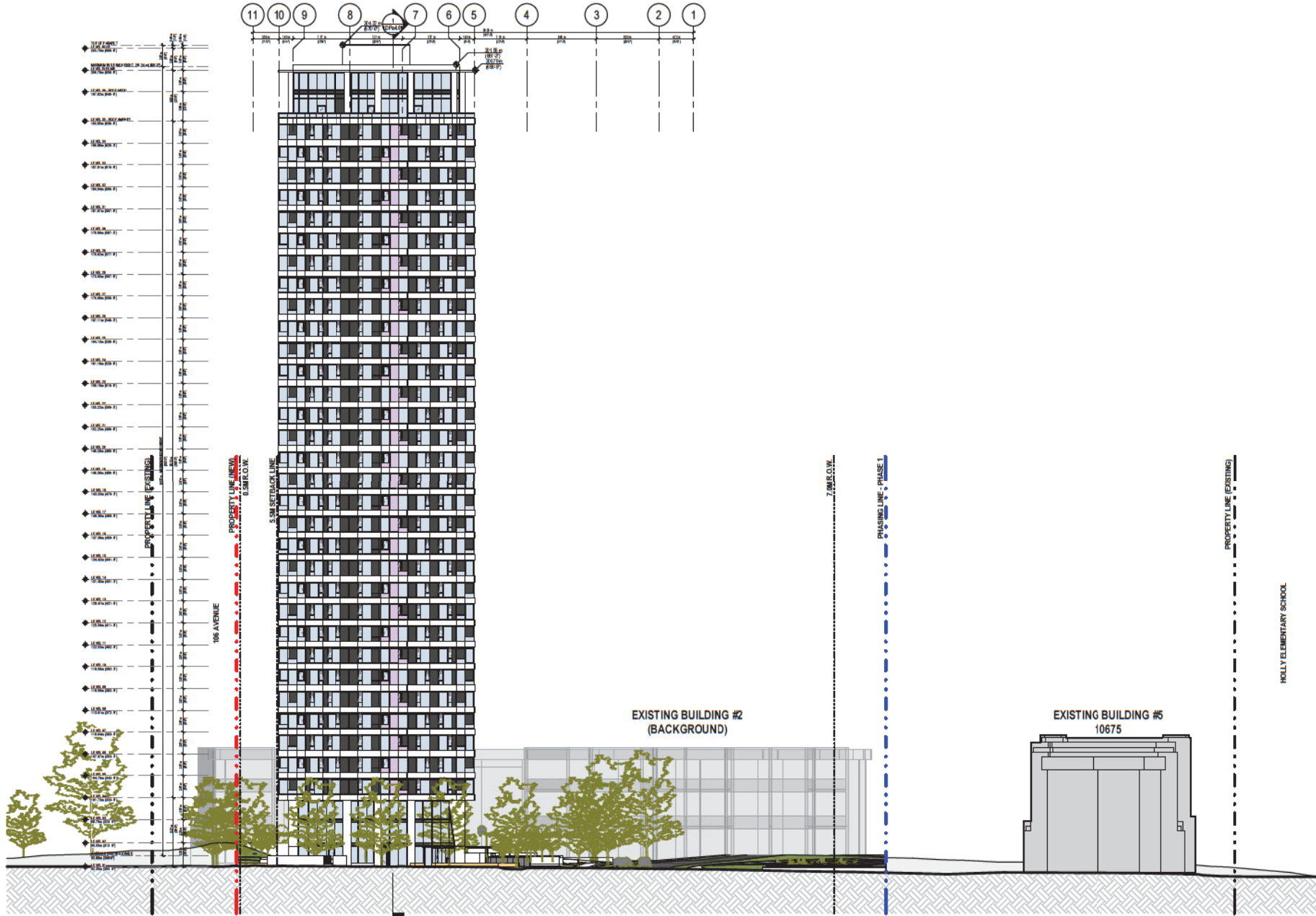
OVERALL ELEVATION WITH
SITE PROFILE - NORTH

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1 OVERALL BUILDING ELEVATION - EAST
1" = 20'-0"



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LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
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LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 107TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

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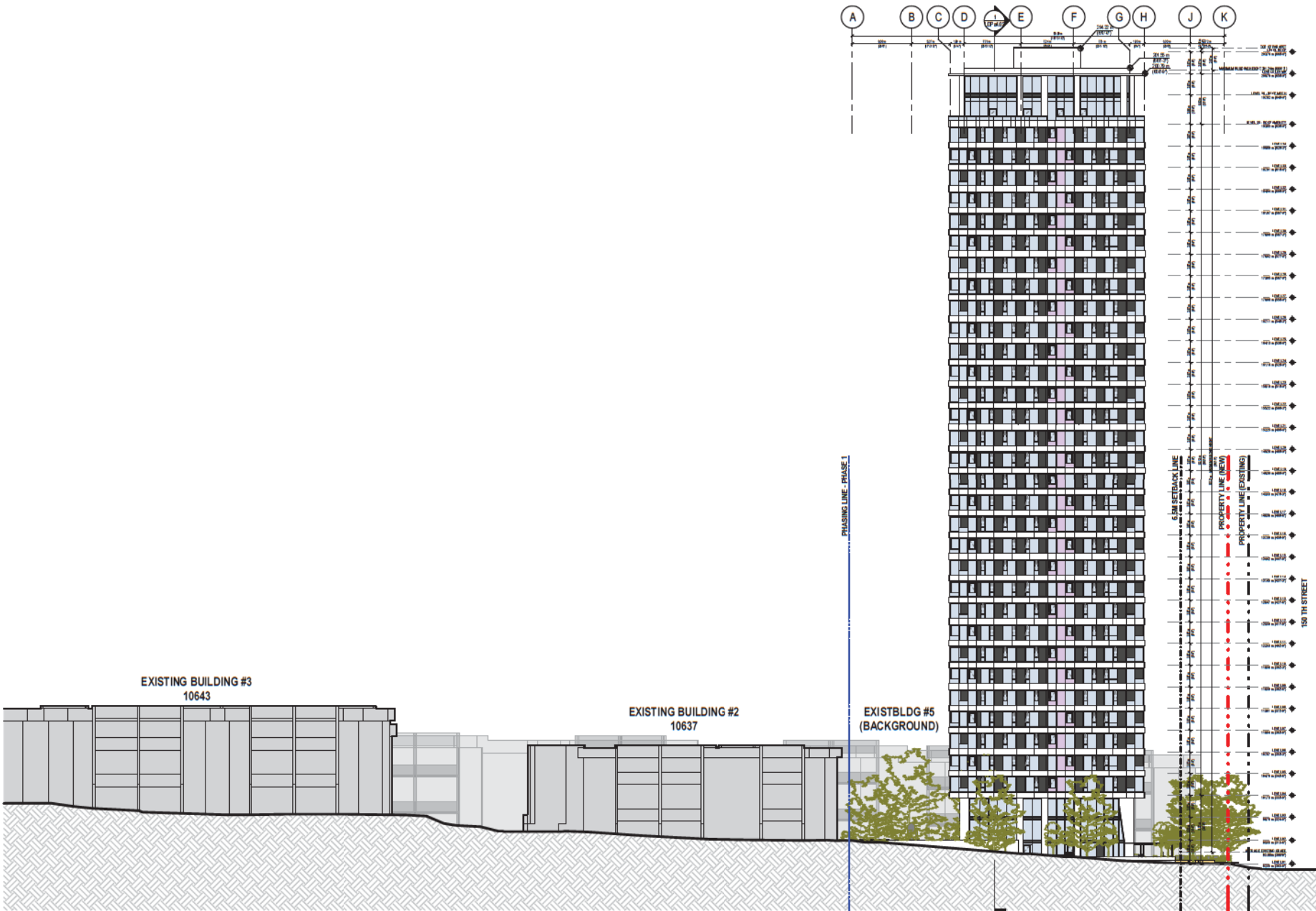
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SITE PROFILE - EAST

SHEET NUMBER
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1 OVERALL BUILDING ELEVATION - SOUTH
1" = 20'-0"




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LDP APPLICATION
RE-SUBMISSION
OCTOBER 16TH, 2024



ISSUED	
LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-09-05
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 10TH STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

NO.	DESCRIPTION	DATE

CITY OF SURREY PROJECT NUMBER

7524-0186-00

TITLE

OVERALL ELEVATION WITH
SITE PROFILE - SOUTH

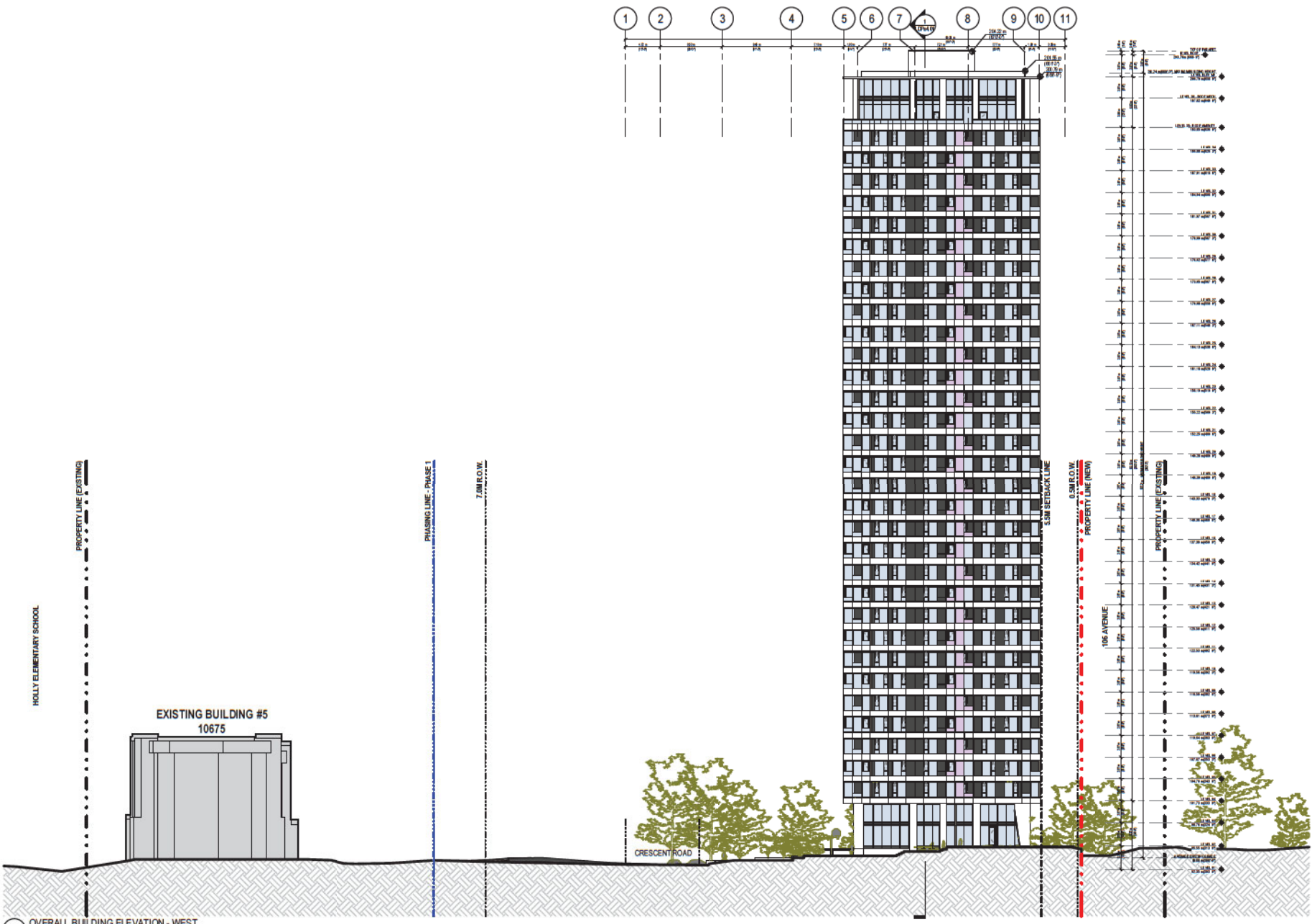
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PROJECT # 2201
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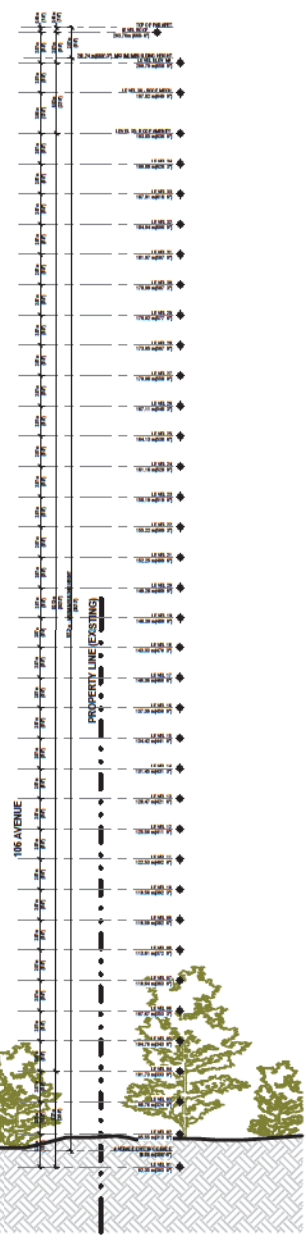
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1 OVERALL BUILDING ELEVATION - WEST
1" = 20'-0"

1 2 3 4 5 6 7 8 9 10 11



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LDP APPLICATION
RE-SUBMISSION
OCTOBER 16TH, 2024



ISSUED

LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
LDP APPLICATION RE-SUBMISSION	2024-09-26
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 107th STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7524-0186-00

TITLE
OVERALL ELEVATION WITH
SITE PROFILE - WEST

PROJECT #	2201
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2 ENLARGED ELEVATION - NORTH
1/8" = 1'-0"



1 ENLARGED ELEVATION - EAST
1/8" = 1'-0"

- MATERIAL LEGEND**
- G1 PORCELAN/PANEL CLADDING (HIGH GLOSS WHITE)
 - G2 GLAZING SYSTEM - WINDOW WALL (CLEAR)
 - G3 GLAZING SYSTEM - IGI
 - G4 SPANDREL GLAZING (CHROMIUM)
 - G5 DOOR - ALUM. FRAMED GLASS PANEL
 - G6 RAILING - ALUM. FRAME WITH GLASS PANEL (CLEAR)



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OCTOBER 16TH, 2024



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LDP APPLICATION - DRAFT	2024-06-20
LDP APPLICATION	2024-07-15
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NORTH ARROW / KEY PLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 107th STREET - SURREY,
BRITISH COLUMBIA

REVISIONS

CITY OF SURREY PROJECT NUMBER
7924-0186-00

TITLE
ENLARGED ELEVATIONS -
NORTH / EAST

SHEET NUMBER
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2 ENLARGED ELEVATION - WEST
1/8" = 1'-0"



1 ENLARGED ELEVATION - SOUTH
1/8" = 1'-0"

- MATERIAL LEGEND**
- G1 PORCELAIN PANEL CLADDING (HIGH GLOSS WHITE)
 - G2 GLAZING SYSTEM - WINDOW WALL (CLEAR)
 - G3 GLAZING SYSTEM - IIGU
 - G4 SPANDREL GLAZING (CHROME/AL)
 - G5 DOOR - ALUM. FRAMED GLASS PANEL
 - G6 RAILING - ALUM. FRAME WITH GLASS PANEL (CLEAR)



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LDP APPLICATION - DRAFT	2024-06-20
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LDP APPLICATION RE-SUBMISSION	2024-09-05
LDP APPLICATION RE-SUBMISSION	2024-10-15

PROJECT

WALL CENTRE SURREY - TOWER 1
90611 - 10TH STREET - SURREY,
BRITISH COLUMBIA



REVISIONS

NO.	DESCRIPTION	DATE

CITY OF SURREY PROJECT NUMBER
7524-0186-00

TITLE

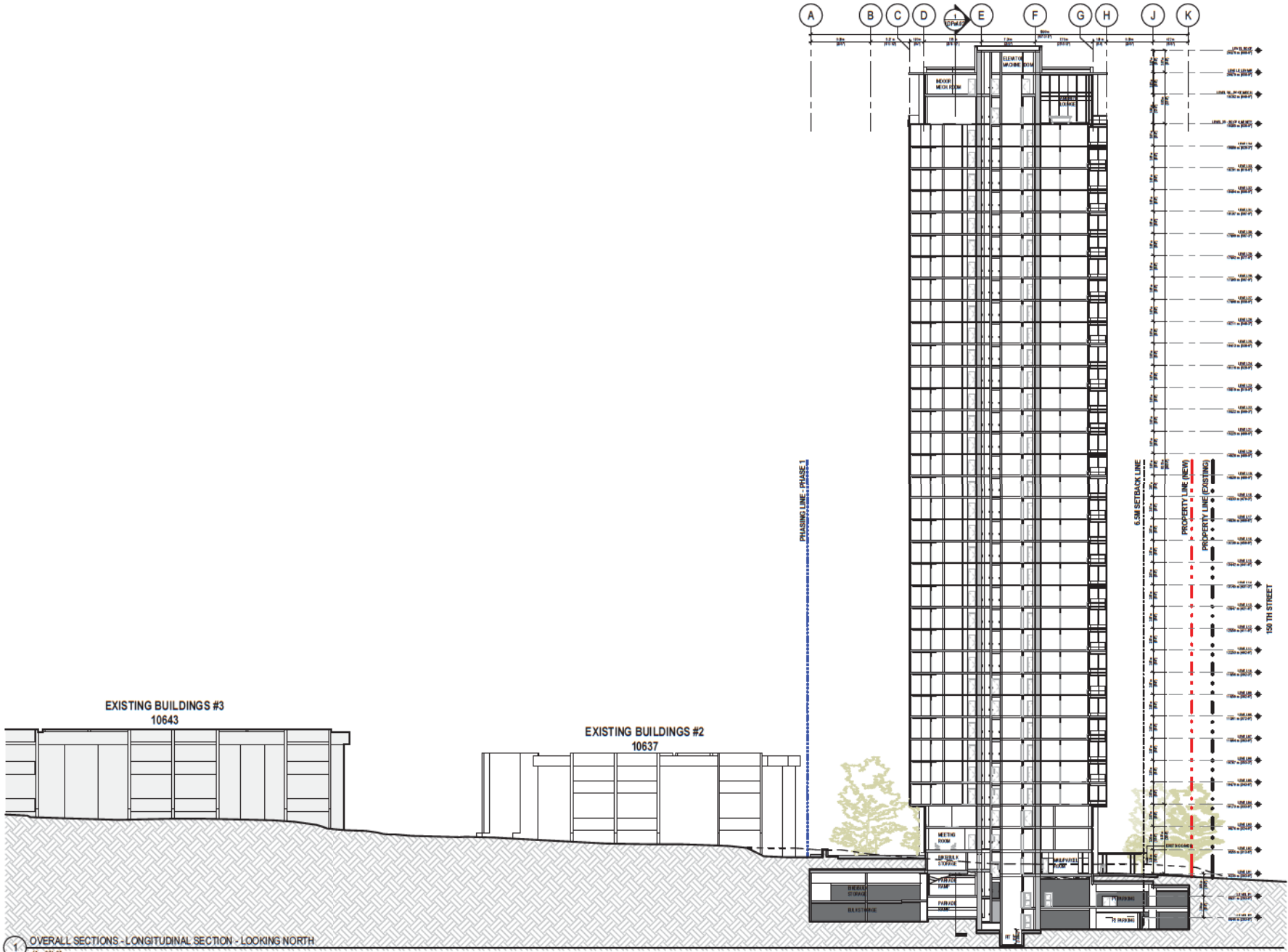
ENLARGED ELEVATIONS -
SOUTH / WEST

SHEET NUMBER	
PROJECT #	2201
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1 OVERALL SECTIONS - LONGITUDINAL SECTION - LOOKING NORTH
1" = 20'-0"



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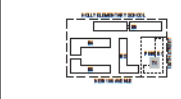
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LDP APPLICATION
RE-SUBMISSION
OCTOBER 16TH, 2024

ISSUED
LDP APPLICATION - DRAFT 2024-06-20
LDP APPLICATION 2024-07-15
LDP APPLICATION RE-SUBMISSION 2024-09-26
LDP APPLICATION RE-SUBMISSION 2024-10-15

NORTH ARROW / KEYPLAN



PROJECT

WALL CENTRE SURREY - TOWER 1
10611 - 107TH STREET - SURREY,
BRITISH COLUMBIA

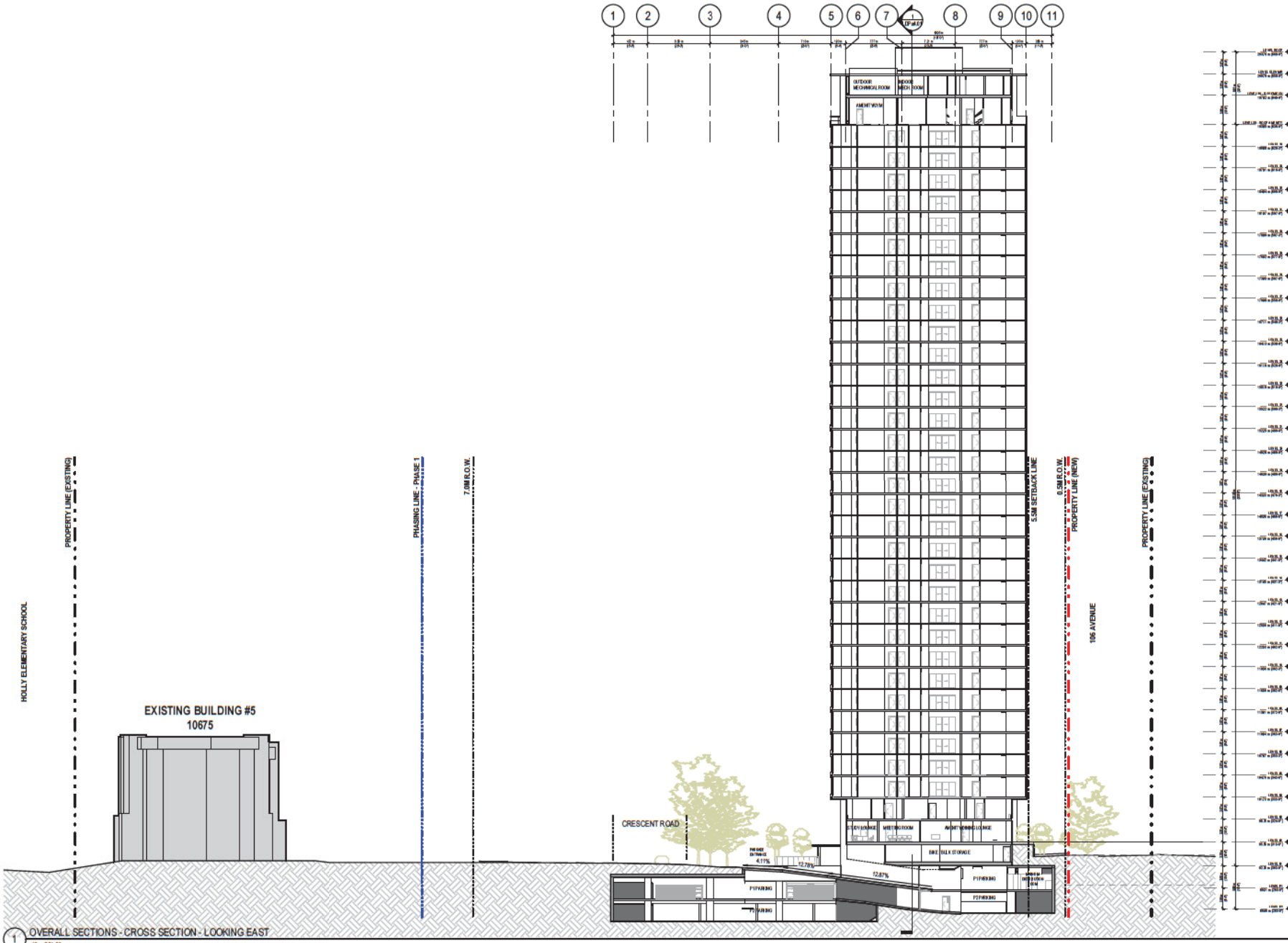
REVISIONS

CITY OF SURREY PROJECT NUMBER
7524-0186-00

TITLE
OVERALL SECTIONS -
LONGITUDINAL SECTION -
LOOKING NORTH

SHEET NUMBER
PROJECT # 2201
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1 OVERALL SECTIONS - CROSS SECTION - LOOKING EAST
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OCTOBER 16TH, 2024

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LDP APPLICATION	2024-05-15
LDP APPLICATION RE-SUBMISSION	2024-06-26
LDP APPLICATION RE-SUBMISSION	2024-10-15

NORTH ARROW / KEYPLAN



PROJECT
WALL CENTRE SURREY - TOWER 1
106 H - 10TH STREET - SURREY,
BRITISH COLUMBIA

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CITY OF SURREY PROJECT NUMBER
7924-0186-00

TITLE
OVERALL SECTIONS -
CROSS SECTION - LOOKING
EAST

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Phase One Phasing Line

Community Spaces

- 1 Community Plaza with seating and shade trees
- 2 Interactive water feature with surface jets for play
- 3 Feature Signage
- 4 Community garden
- 5 Entry Plaza for Building One
- 6 Feature seating with address signage
- 7 Community Corner
- 8 Amenity outdoor lounge for residents
- 9 Open Lawn for play
- 10 Games room with options for pingpong, bocce, horseshoe
- 11 Sport court
- 12 Private patio
- 13 Entry to underground parking
- 14 Vehicle drop off zone



Issue:
01 June 2024 Review



By:

 www.bearmarkdesign.com
 t: 404.319.9346

Project:
**WALL CENTRE SURREY -
 PILOT PROJECT - PHASE 1**

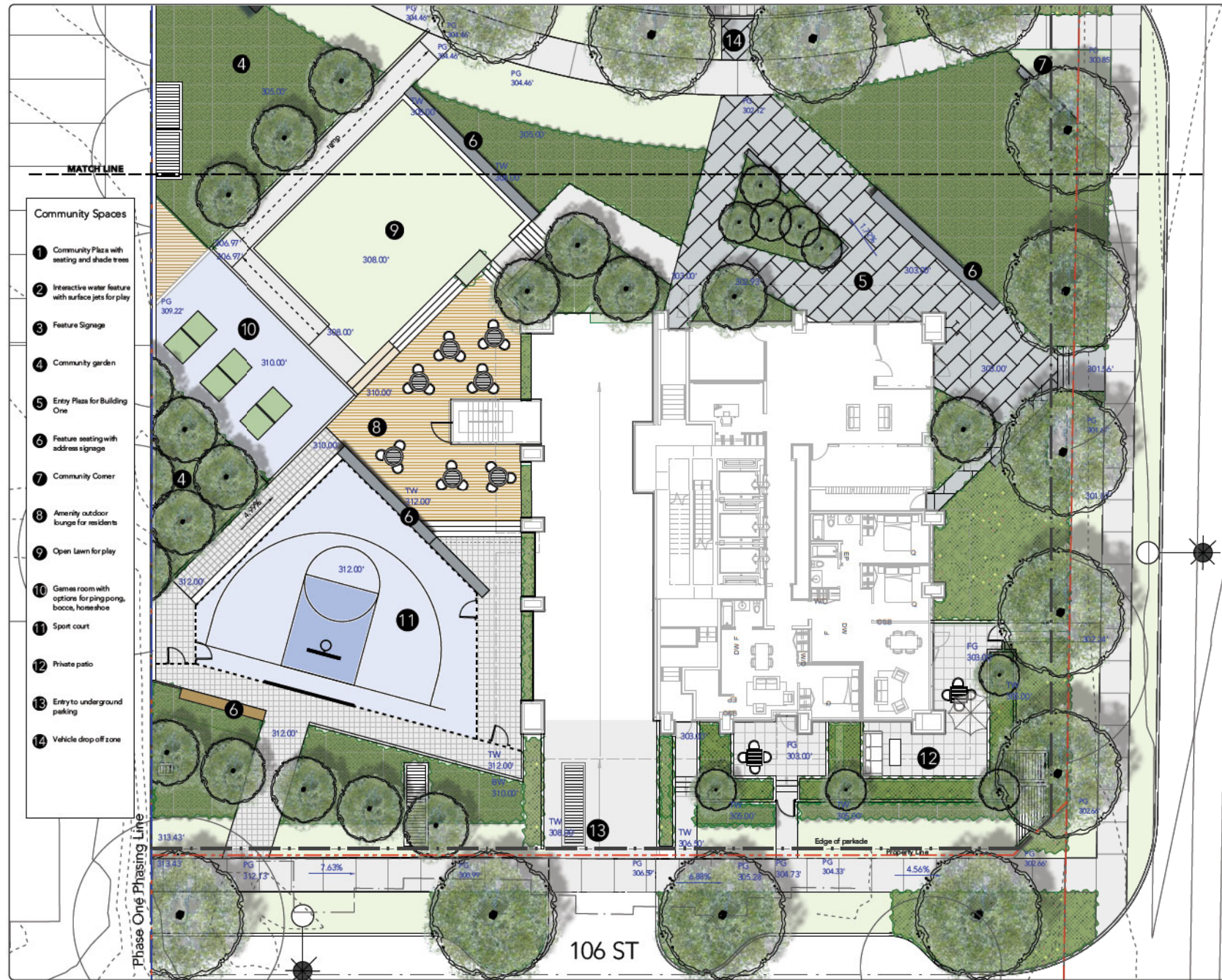
Scale: 1/8" = 1'-0" Date: April 2024

Drawn By: BB/ AP

Project No: 24016

Drawing Title:
**Phase One North
 Landscape Plan**

Drawing No: L1.102 Drawing Size: Arch D



- Community Spaces**
- 1 Community Plaza with seating and shade trees
 - 2 Interactive water feature with surface jets for play
 - 3 Feature Signage
 - 4 Community garden
 - 5 Entry Plaza for Building One
 - 6 Feature seating with address signage
 - 7 Community Corner
 - 8 Amenity outdoor lounge for residents
 - 9 Open Lawn for play
 - 10 Games room with options for ping pong, bocce, horseshoe
 - 11 Sport court
 - 12 Private patio
 - 13 Entry to underground parking
 - 14 Vehicle drop off zone

150TH STREET

106 ST

Issue:
01 June 2024 Review



By:
bearmark
design & landscape ltd.
www.bearmarkdesign.com
t: 604.319.9346

Project:
WALL CENTRE SURREY -
PILOT PROJECT - PHASE 1

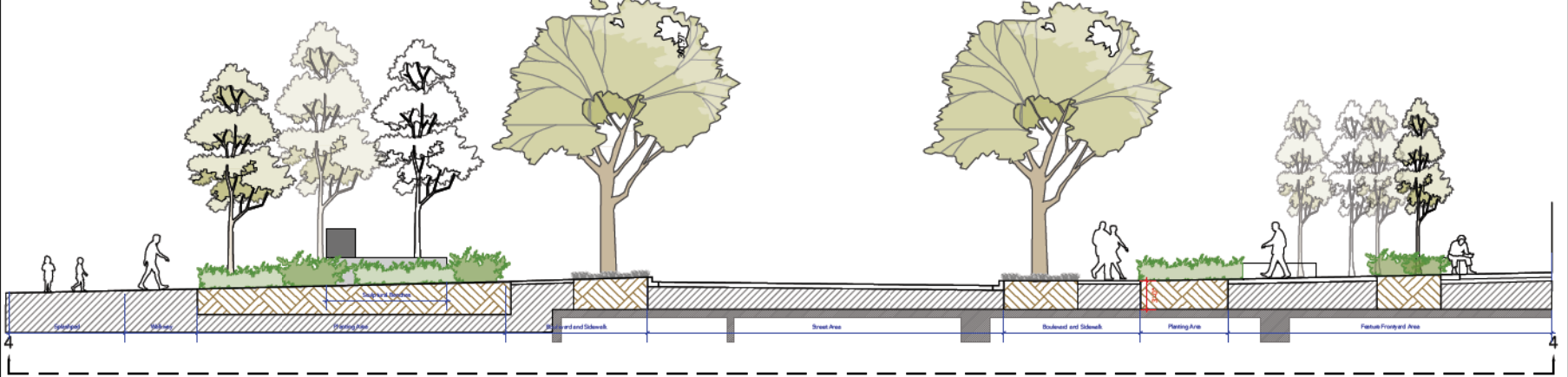
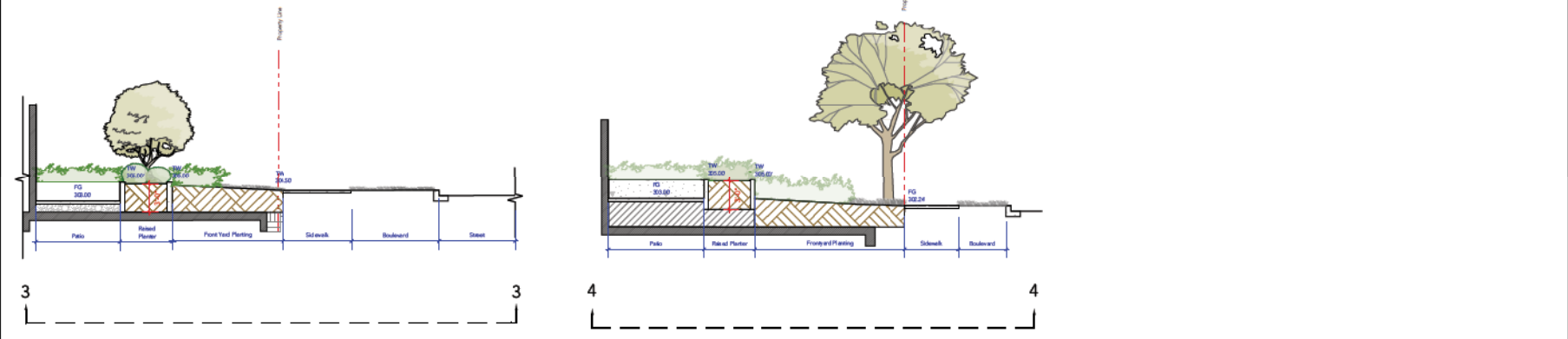
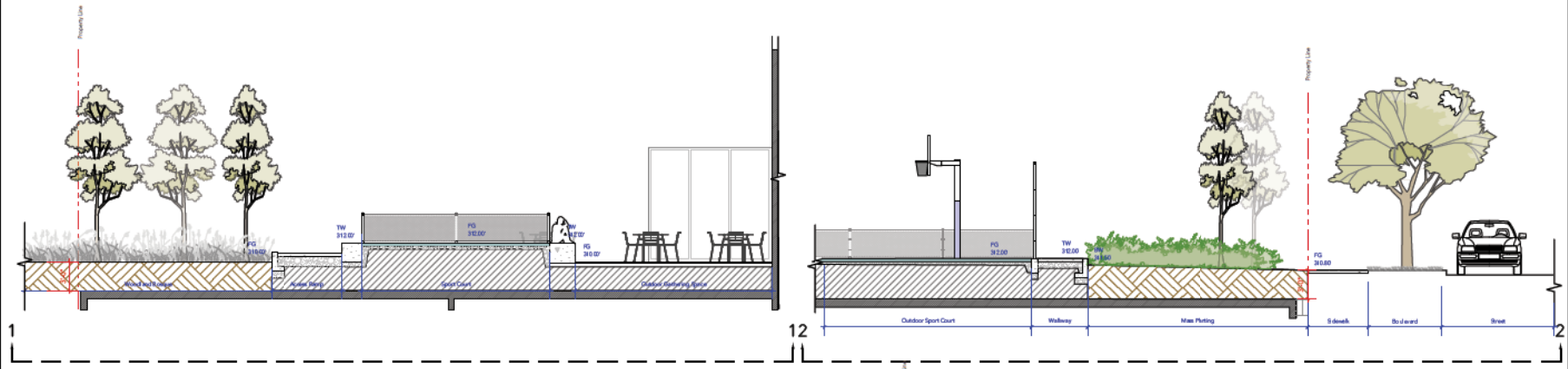
Scale: _____ Date: April 2024

Drawn By: BB/ AP


Project No: 24016

Drawing Title:
Phase One South
Landscape Plan

Drawing No: _____ Drawing Size:
L1.103 Arch D



Date: 01 June 2024 Review



By: **bearmark**
design & landscape ltd.
www.bearmarkdesign.com
t: 014 319-9246

Project:
WALL CENTRE SURREY - PILOT PROJECT - PHASE 1

Scale: 3/16" = 1'-0" Date: April 2024

Drawn By: BB/AP

Project No.: 24016

Drawing Title:
Phase One - Landscape Sections

Drawing No.: L3.000 Drawing Size: Arch D

Department: **Planning and Demographics**
Date: **October 17, 2024**
Report For: **City of Surrey**

Development Impact Analysis on Schools For:

Application #: **24-0186**

The proposed development of **265** High Rise Apartment units are estimated to have the following impact on elementary and secondary schools within the school regions.

School-aged children population projection	22
---	----

Projected Number of Students From This Development In:	
Elementary School =	13
Secondary School =	5
Total Students =	18

Current Enrolment and Capacities:	
Holly Elementary	
Enrolment	497
Operating Capacity	527
# of Portables	2
Guildford Park Secondary	
Enrolment	1411
Operating Capacity	1050
# of Portables	11

Summary of Impact and Commentary

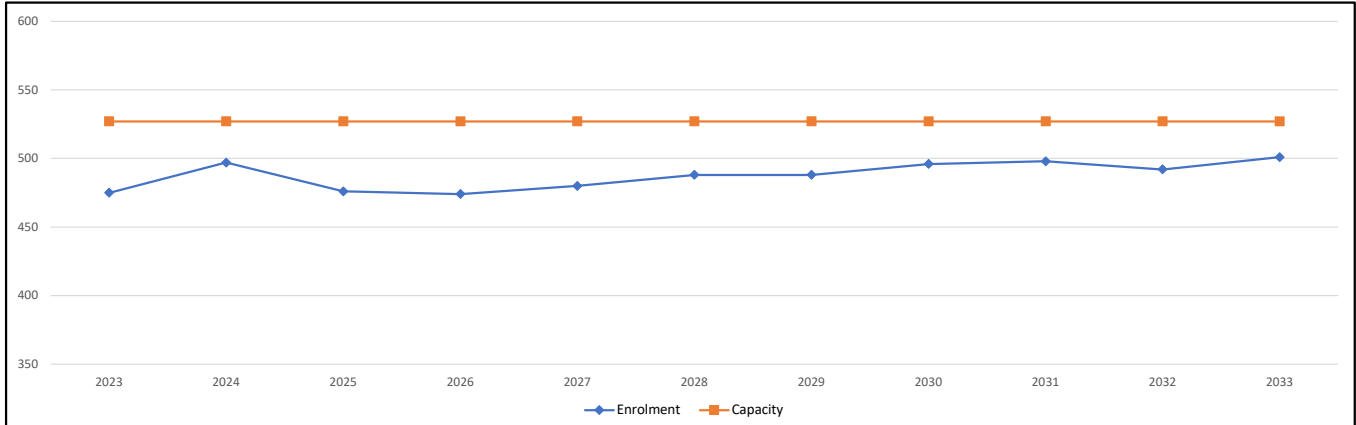
The following tables illustrate the historical, current and future enrolment projections including current/approved ministry operating capacity for the elementary and secondary schools serving the proposed development.

As of September 2024, Holly Elementary is at 94% capacity. While current projections (as of April 2023) show modest growth in the area, the updated projections incorporating planned growth through the Guildford plan will increase student population significantly.

The Guildford plan designates this property, and surrounding properties as low-mid rise transition. This application is proposing a significant amendment to high rise residential. Should this be approved, the remainder of this property and likely surrounding properties would also amend the plan to high rise residential. This significant, unplanned growth in the catchment can not be accommodated by Holly Elementary as is. Should this application proceed, the District requests a meeting with the applicant to discuss ways to accommodate this unplanned growth including funding portables or other means.

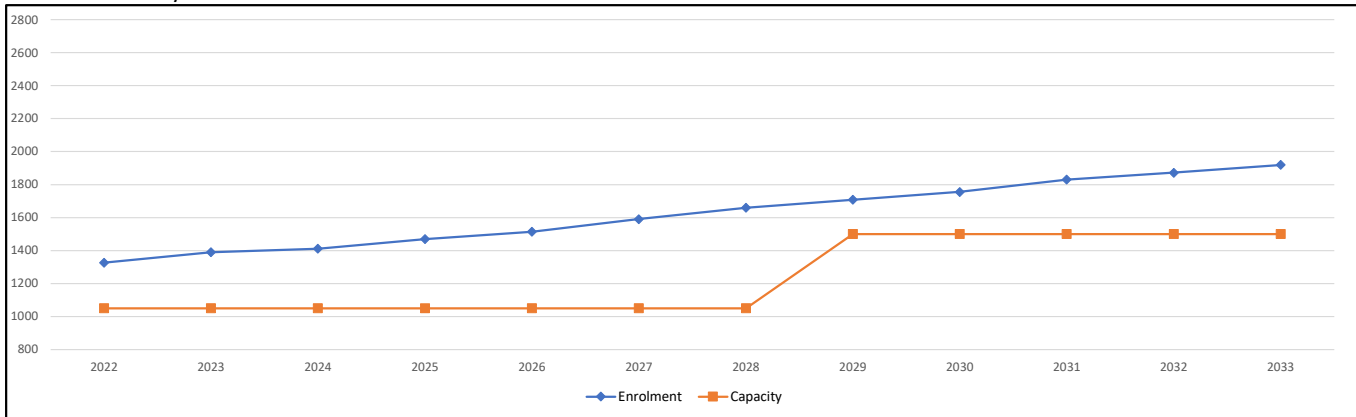
As of September 2023, Guildford Park is operating at 133% and is projected to rapidly grow. The adoption of the Guildford Plan in the area will significantly increase density moving forward. In May 2023, the District received capital funding approval from the Ministry to build a 450-capacity addition, targeted to open in the spring of 2028.

Holly Elementary



Note: If this report is provided in the months of October, November and December, the 10-year projections are out of date and they will be updated in January of next year.

Guildford Park Secondary



Note: If this report is provided in the months of October, November and December, the 10-year projections are out of date and they will be updated in January of next year.

Population: The projected population of children aged 0-17 impacted by the development.

Enrolment: The number of students projected to attend the Surrey School District ONLY.

4.0 Tree Preservation Summary

Table 2: City of Surrey tree preservation summary table for on-site and off-site trees, Including the number of replacement trees proposed.

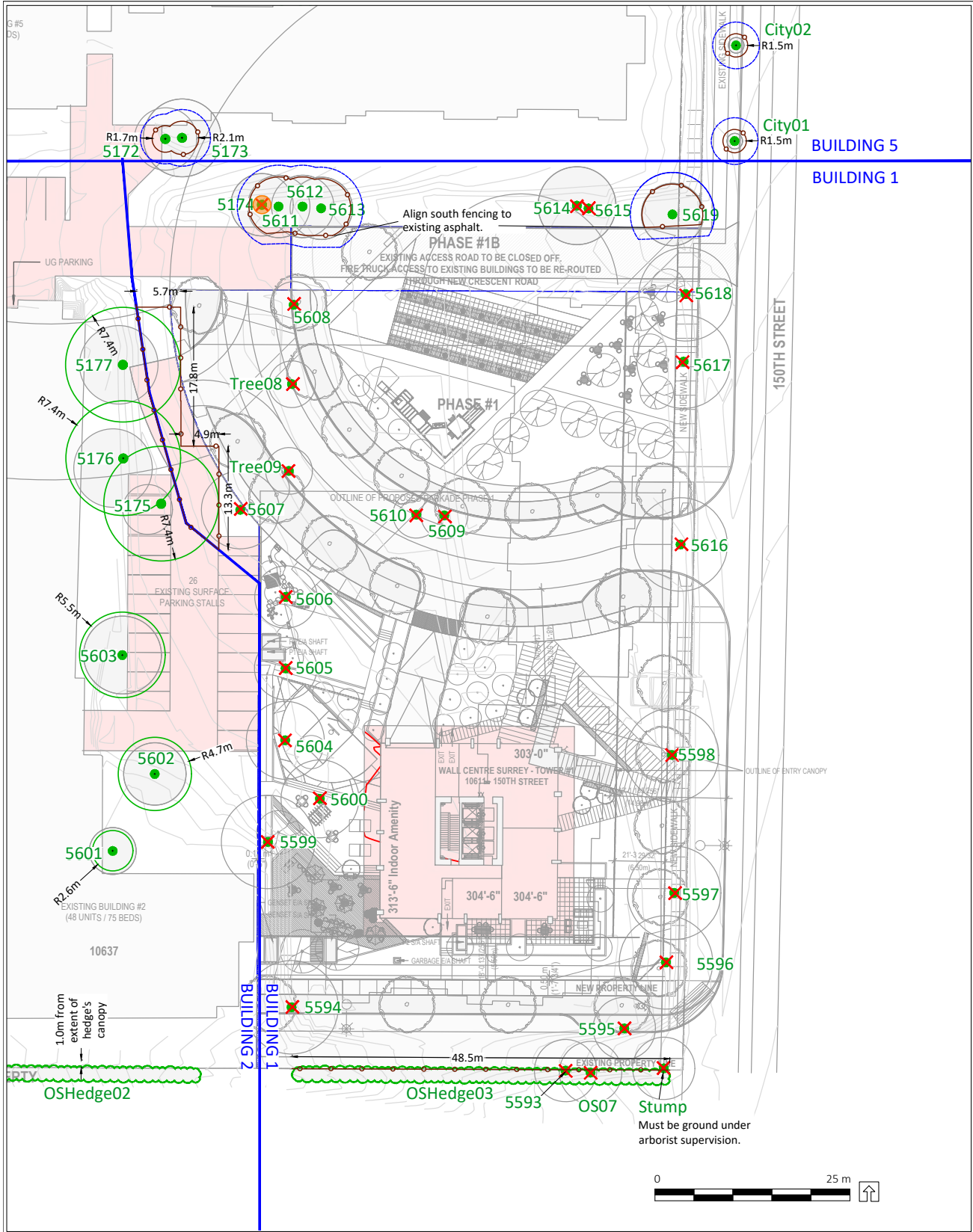
Surrey Project Number Unknown
 Site Address PHASE 1 - 10611 150 Street
 Registered Arborist Joey Banh, ISA Certified Arborist (PN-9035A)

On-Site Trees	Number of Trees
Protected Trees Identified PHASE 1 (On-site and shared trees, including trees within boulevards and proposed streets and lanes, but excluding trees in proposed open space or riparian areas)	26
Protected Trees to be Removed	22
Protected Trees to be Retained (excluding trees within proposed open space or riparian areas)	4
Total Replacement Trees Required: - Alder & Cottonwood Trees Requiring 1 to 1 Replacement Ratio 2 X one (1) = 2 - All other Trees Requiring 2 to 1 Replacement Ratio 20 X two (2) = 30	42
Replacement Trees Proposed	53
Replacement Trees in Deficit	11 Surplus
Protected Trees to be Retained in Proposed Open Space / Riparian Areas	-
Off-Site Trees	Number of Trees
Protected Off-Site Trees to be Removed	1
Total Replacement Trees Required: - Alder & Cottonwood Trees Requiring 1 to 1 Replacement Ratio 0 X one (1) = 0 - All other Trees Requiring 2 to 1 Replacement Ratio 1 X two (2) = 2	2
Replacement Trees Proposed	4
Replacement Trees in Deficit	0

Summary, report and plan prepared and submitted by



June 20 2024



LEGEND	REFERENCE DRAWINGS
<ul style="list-style-type: none"> — CRITICAL ROOT ZONE ○ TREE PROTECTION ZONE AND FENCING — NO BUILD ZONE ● SURVEYED TREE TO BE RETAINED ○ UN-SURVEYED TREE TO BE RETAINED (MUST BE SURVEYED) ✖ SURVEYED TREE TO BE REMOVED ✖ UN-SURVEYED TREE TO BE REMOVED (MUST BE SURVEYED) 	<p>1. Base Survey by: Geoverra</p>

- NOTES
- The location of un-surveyed trees on this plan is approximate. Their location and ownership cannot be confirmed without being surveyed by a Registered BC Land Surveyor.
 - All tree protection fencing must be built to the relevant municipal bylaw specifications. The dimensions shown are from the outer edge of the stem of the tree.
 - The tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. ($\frac{1}{2}$ the trees diameter was added to the graphical tree protection circles to accommodate the survey point being in the center of the tree)
 - No work is permitted within the Tree Protection Zone with the exception of swales. Swale construction is only permitted under the direct supervision of an arborist.
 - The 1.5m area No Build Zone does not allow for any building foundation wall encroachment. Excavation is permitted within this area under the direct supervision of an arborist.
 - Drainage works such as lawn basins, associated piping or services are permitted within the No Build Zone under the direct supervision of an arborist.
 - This plan is based on a topographic and tree location survey provided by the owners' Registered British Columbia Land Surveyor (BCLS) and layout drawings provide by the owners' Engineer (P Eng).
 - This plan is provided for context only, and is not certified as to the accuracy of the location of features or dimensions that are shown on this plan. Please refer to the original survey plan and engineering plans.

CITY OF SURREY
HOUSING AGREEMENT
Mixed-Use

THIS HOUSING AGREEMENT made this ____ day of _____, 2024.

BETWEEN:

CITY OF SURREY, a municipal corporation having its
Offices at 13450-104th Avenue, Surrey, B.C. V3T 1V8

(the “City”)

OF THE FIRST PART

AND:

WALL FINANCIAL CORPORATION, a corporation having its offices at
1010 Burrard Street, Vancouver, B.C. V6Z 2R9

(the “Owner”)

OF THE SECOND PART

WHEREAS:

- A. The Owner is the legal and beneficial owner of those certain lands and premises
Located in the City of Surrey, in the Province of British Columbia, legally described
as:

Parcel Identifier:

Legal Description: PROPOSED LOT 59 SEC 20 RGE1 PL NWP41907 NWD

Street Address:

(the “**Lands**”)

- B. The Owner proposes to use the Lands for a high-rise rental building with 265 Dwelling Units
(the “**Development**”);
- C. The Owner has voluntarily agreed to enter into a housing agreement pursuant to Section
483 of the *Local Government Act*, R.S.B.C. 2015, Chapter 1, as amended, to ensure that the
Rental Units and Below Market Rental Units are rented in accordance with this Agreement
with respect to 265 suites.

NOW THEREFORE in consideration of the premises herein and of the mutual covenants and
agreements hereinafter set forth and contained herein and \$1.00 now paid by the City to the
Owner (the receipt of which is hereby acknowledged), the parties hereto covenant and agree
each with the other as follows:

1. **DEFINED TERMS**

1.1 In and for the purpose of this Agreement, in addition to the definitions on the first page of this document, the following terms shall have the following meanings:

- (a) **“Agreement”** means this housing agreement and any amendments to or Modifications of the same;
- (b) **“City”** means the City of Surrey and any person authorized by the City of Surrey, including assigns of whole or partial interest in this Agreement or of any of the Rights conferred upon the City of Surrey by this Agreement;
- (c) **“City Personnel”** means all of the City’s elected and appointed officials, officers, Employees, agents, nominees, delegates, permittees, contractors, subcontractors, Invitees and the Approving Officer.
- (d) **“Claims and Expenses”** means all actions, causes of actions, suits, judgments, proceedings, demands, and claims, whether at law or in equity, losses, damages, expenses and costs (including legal fees and disbursements on an indemnity basis) of any kind or nature whatsoever, at law or in equity for any damages, losses, injuries or death;
- (e) **“Development”** means as defined in Recital B;
- (f) **“Dwelling Unit”** means each of the 265 dwelling units constructed within the Development;
- (g) **“Lands”** means the parcel of land situated in the City of Surrey, British Columbia and legally described in Recital A, and includes any parcel into which such land is consolidated or further subdivided (including a subdivision pursuant to the *Land Title Act* and a subdivision pursuant to the *Strata Property Act of British Columbia*);
- (h) **“Owner”** means the person named on the first page of this Agreement and the legal and beneficial owner at any given time and any successors in title of the Lands and, without limitation, if the Lands are subdivided by way of a strata plan under the *Strata Property Act* of British Columbia, then “Owner” includes the strata corporation thereby created;
- (i) **“Rental Units”** means 217 Dwelling Units which must be made available by the Owner to the General Public at arms’ length for use as residential rental accommodation on a month-to-month or longer basis in accordance with all applicable laws including without limitation the *Residential Tenancy Act*, S.B.C. 2992, Chapter 78, as amended, and any regulations pursuant thereto; and
- (j) **“Below Market Rental Units”** means 48 dwelling units constructed within the development with secured rental rates 10% below CMHC which must be made available by the Owner to the General Public at arms’ length for use as residential rental accommodation on a month to month or longer basis in accordance with applicable as amended, and any regulations pursuant thereto; and

(k) “**Term**” means 20 years, commencing on the first day of the month after the City issues an occupancy permit for the Development.

2. **RESTRICTION ON OCCUPANCY OF DWELLING UNITS**

- 2.1 During the Term the Rental Units must be made available for rent in accordance with this Agreement.
- 2.2 The City may, from time to time, during the Term request the Owner to provide written proof of compliance with section 2.1 and the Owner agrees to provide, or cause an operator of the Lands to provide, the City with such proof in a form reasonable satisfactory to the City.
- 2.3 All the Rental Units must be owned by the Owner(s).
- 2.4 Throughout the Term, the Owner shall not sell or transfer the beneficial or registered title or any interest in and to the Rental Units unless the Owner obtains from the transferee an agreement in writing from the transferee to assume and perform all of the obligations of the Owner arising under this Agreement.

3. **LIABILITY**

- 3.1 **Indemnity.** The Owner shall indemnify and save harmless the City and City Personnel from all Claims and Expenses which the City and City Personnel may suffer, or incur, or be put to, arising out of or in connection with any breach or default of any covenants or agreements on the part of the Owner contained in this Agreement, or arising out of, or in connection with the Development or arising out of the fact that the Lands are encumbered by and affected by this Agreement.
- 3.2 **Release.** The Owner does hereby remise, release and forever discharge the City and City Personnel from all Claims and Expenses which the Owner may have against the City and City Personnel, which the Owner now has or hereafter may have with respect to or by reasons of or arising out of the fact that the Lands are encumbered by and affected by this Agreement.
- 3.3 **Obligations Continue.** The Owner covenants and agrees that the indemnity and release in Sections 3.1 and 3.2 will remain effective and survive the expiration or termination of this Agreement whether by fulfilment of the covenants contained in this Agreement or otherwise.

4. **NOTICE**

- 4.1 Any notices or other documents to be given or delivered pursuant to this Agreement will be Addressed to the proper part as follows:
- (a) As to the City:

City of Surrey
13450-104 Avenue

Attention: General Manager, Planning and Development Department

(b) As to the Owner:

Wall Financial Corporation
1010 Burrard Street
Vancouver, B.C. V6SZ 2R9

Attention: Darcee Wise, President – PWME

or such other address as such party may direct. Any notice or other documents to be given or delivered pursuant to the particular party as its address set out or determined in accordance with this section and shall be deemed complete two (2) days after the day of delivery

4.2 It is specifically agreed that for any notice or document to be validly given or delivered pursuant to this Agreement, such notice or document must be delivered and not mailed.

5. **GENERAL**

5.1 **Joint and Several.** Where the Owner consists of more than one person, each such person will be jointly and severally liable to perform the Owner's obligations under this Agreement.

5.2 **Assignment by City.** This Agreement or any of the rights conferred by this Agreement upon the City may be assigned in whole or in part by the City without consent of the Owner.

5.3 **City's Other Rights Unaffected.** Nothing contained or implied herein will derogate from the obligations of the Owner under any other agreement with the City or, if the City so elects, prejudice or affect the City's rights, powers, duties or obligations in the exercise of its functions pursuant to the *Local Government Act* and the *Community Charter*, as amended from time to time and the rights, powers, duties and obligations of the City under all public and private statutes, by-laws, orders and regulations, which may be, if the City so elects, as fully and effectively exercised in relation to the Lands as if this Agreement had not been executed and delivered by the Owner and the City.

5.4 **Agreement for Benefit of City.** The Owner and the City hereby acknowledge, agree and declare that this Agreement is entered into for the sole purpose of benefitting the City and in particular, acknowledge, agree and declare that this Agreement is not designed to protect or promote the interests of the Owner or any mortgagee of the Owner, or any future owner or occupier of the Lands and any improvements on the Lands or any other person and the City may, at its sole option, execute a release of this Agreement at any time without liability to any person for so doing.

- 5.5 **No Waiver.** The Owner acknowledges and agrees that no failure on the part of the City to exercise and no delay in exercising any right under this Agreement will operate as a waiver thereof nor will any single or partial exercise by the City of any right under this Agreement preclude any other or future exercise thereof of the exercise of any other right.
- 5.6 **City not Required to Prosecute.** The Owner agrees that the City is not required or is under no obligation in law or equity to prosecute or enforce this Agreement in any way whatsoever.
- 5.7 **Remedies.** The remedies provided for in this Agreement will be cumulative and not exclusive of any other remedies provided by law or in equity. In addition to any remedies which are available under this Agreement or at law, the City will be entitled to all equitable remedies, including, without limitation, specific performance, injunction and declaratory relief, or any combination thereof, to enforce its rights under this Agreement. The Owner acknowledges that specific performance, injunctive relief (mandatory or otherwise) or other equitable relief may be the only adequate remedy for a default by the Owner under this Agreement.
- 5.8 **Severability.** All the obligations and covenants in this Agreement are severable, so that if any one or more of the obligations or covenants are declared by a court of competent jurisdiction to be void and unenforceable, the balance of the obligations and covenants will remain and be binding.
- 5.9 **City Court Costs.** In an action to enforce this Agreement in respect of which the court determines that the position of the City will prevail, the City will be entitled to court costs on a solicitor-client basis.
- 5.10 **Subdivision/Consolidation.** If the Lands are subdivided or consolidated at any time Hereafter either under the provisions of the *Land Title Act* or under the *Strata Property Act*, Then upon the deposit of a plan of subdivision, strata plan, consolidation plan or similar plan or application as the case may be, the rights, benefits, burdens, obligations, and covenants contained in this Agreement will continue to charge each of the new parcels, lots, or other subdivided or consolidated parcels and areas so create.
- 5.11 **Subdivision by Strata Plan.** Subject to Section 2.3, if the Lands, or any portion thereof, are subdivided by a Strata plan, this Agreement will charge title to the strata lots and the common property Comprising such strata plan and:
- (a) This Agreement will be registered against each individual strata lot and noted on the common property sheet;
 - (b) The strata corporation or the strata corporations created will perform and observe the Owner's covenants in this Agreement, solely at the expense of the strata lot owners; and
 - (c) The liability of each strata lot owner for the performance and observance of the Owner's covenants herein will be in proportion to the unit entitlement of his, her or its strata lot as established by the strata plan.

- 5.12 **Personal Representatives and Successors.** This Agreement shall ensure to the benefit of and be binding upon the parties hereto and their personal representatives, respective heirs, executors, administrators, successors and assigns.
- 5.13 **Governing Law.** This Agreement will be governed by and construed in accordance with the Laws of the Province of British Columbia and the laws of Canada applicable in British Columbia.
- 5.14 **Priority.** The Owner shall at the sole expense of the Owner, do or cause to be done all acts Reasonably necessary to grant priority to this Agreement over all charges and encumbrances which may have been registered against the title to the Lands at the Land Title Office save and except those specifically approved in writing by the City.
- 5.15 **Further Assurances.** The Owner shall do, or cause to be done, all things and execute or cause to be executed all documents and give such further and other assurances which may be reasonable necessary to give proper effect to the intent of this Agreement.
- 5.16 **Counterparts.** This Agreement may be executed in any number of counterparts and delivered via facsimile or email, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same instrument, provided that any party delivering this Agreement via facsimile or email will deliver to the other party any originally executed copy of this Agreement forthwith upon request by the other party.
- 5.17 **Entire Agreement.** This Agreement represents the entire agreement between the City and The Owner regarding the matters set out in this Agreement and supersedes all prior Agreements, letters of intent or understandings about these matters.

IN WITNESS WHEREOF the City of Surrey and the Owner have executed this Agreement under seal of their duly authorized officers as of the references of this Agreement.

CITY OF SURREY

By: _____
Authorized Signatory

Brenda Locke
Mayor
City of Surrey

By: _____
Authorized Signatory

Jennifer Ficocelli
City Clerk and Director Legislative Services
City of Surrey

WALL FINANCIAL CORPORATION

By: _____
Authorized Signatory

Darcee Wise
President – Peter Wall Mansion & Estates (Div. of Wall Financial Corp.)
Director
Wall Financial Corporation

CITY OF SURREY

BYLAW NO. 21444

A bylaw to amend the provisions of Surrey Official
Community Plan Bylaw, 2013, No. 18020, as amended.

.....

The Council of the City of Surrey ENACTS AS FOLLOWS:

1. Surrey Official Community Plan Bylaw, 2013, No. 18020, as amended, is hereby further amended by modifying "Table 7A: Land Use Designation Exceptions" to include portion of 10611 – 150 Street, as shown below:

Bylaw No.	Land Use Designation	Site Specific Property	Site Specific Permission
"Bylaw # 21444	Multiple Residential	Portion of 10611 – 150 Street (006-266-843, Lot 59 Section 20 Block 5 North Range 1 West NWD Plan 41907), within Block A as outlined on the Survey Plan attached hereto as Schedule A, certified correct by Gordon Albert Hol B.C.L.S. on the 11th day of October, 2024 containing 5774.7 square metres.	Density permitted up to 3.8 FAR (gross density)"

2. This Bylaw shall be cited for all purposes as "Surrey Official Community Plan Bylaw, 2013, No. 18020, Amendment Bylaw, 2024, No. 21444".

PASSED FIRST READING on the th day of , 20 .

PASSED SECOND READING on the th day of , 20 .

PUBLIC HEARING HELD thereon on the th day of , 20 .

PASSED THIRD READING on the th day of , 20 .

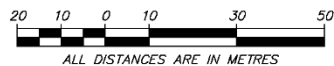
RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of , 20 .

_____MAYOR

_____CLERK

**SURVEY PLAN TO ACCOMPANY CITY OF SURREY ZONING BYLAW 21444
OF PART OF LOT 59 SECTION 20 BLOCK 5 NORTH RANGE 1 WEST
NEW WESTMINSTER DISTRICT PLAN 41907**

BCGS 92G.026



THE INTENDED PLOT SIZE OF THIS PLAN
IS 432mm IN WIDTH BY 280mm IN HEIGHT (B SIZE)
WHEN PLOTTED AT A SCALE OF 1:1000



105
PLAN 35954

STRATA
PLAN NWS1018

WALKWAY

REM 59
PLAN 41907

58
PLAN 35554

61
PLAN 38455

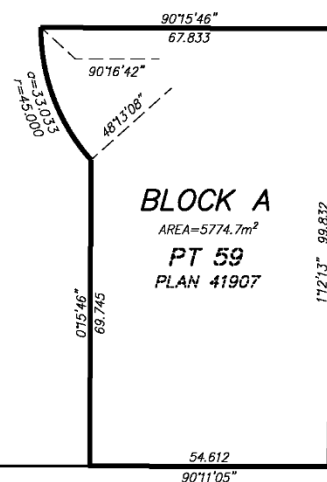
PART 37
(REF PLAN 36449)
PLAN 10284

ROAD
PLAN 35554

E 33'
(BYLAW PLAN 30923) OF
PART (REF. PLAN 3373)
W 1/2 SECTION 20

150 STREET

ROAD
PLAN 41907



NOTE:
LEGAL BOUNDARIES ARE BASED ON
LAND TITLE OFFICE RECORDS AND
FIELD SURVEY

APLIN & MARTIN
GEOMATICS LAND SURVEYING LTD.
201, 12448 82nd AVENUE
SURREY, BC V3W3E9 604-597-9189



CERTIFIED CORRECT OCTOBER 9, 2024

G.A. BERT HOL, BCLS 646
FILE: 21-632-08 zoning

CITY OF SURREY

BYLAW NO. 21445

A Comprehensive Development bylaw to amend Surrey Zoning By-law, 1993, No. 12000, as amended
.....

THE COUNCIL of the City of Surrey ENACTS AS FOLLOWS:

1. Surrey Zoning By-law, 1993, No. 12000, as amended, is hereby further amended, pursuant to the provisions of Section 479 of the *Local Government Act*, R.S.B.C. 2015 c. 1, as amended, for the following lands:

Address: As described in Appendix "A".
Legal: As described in Appendix "A".
PID: As described in Appendix "A".

as follows:

- (a) by creating a new Comprehensive Development Zone 257 (CD 257), attached as Appendix "A" and forming part of this bylaw;
- (b) by changing the zoning classification shown in Schedule A, Zoning Maps, as follows:
FROM: MULTIPLE RESIDENTIAL 45 ZONE (RM-45)
TO: COMPREHENSIVE DEVELOPMENT ZONE (CD); and
- (c) by amending Part 52, Comprehensive Development Zone, Section C. Comprehensive Development Zones, by adding a new CD Zone "CD 257" as follows:

CD Zone ID	Civic Address	Legal Description	CD Bylaw No.	Replaces Bylaw No.
"CD 257"	10611 – 150 Street (Portion of)	Lot 59, Plan 41907	21445	N/A"

2. This By-law shall be cited for all purposes as "Surrey Comprehensive Development Zone 257 (CD 257), Bylaw, 2024, No. 21445".

PASSED FIRST READING on the th day of , 20 .

PASSED SECOND READING on the th day of , 20 .

PUBLIC HEARING HELD thereon on the th day of , 20 .

PASSED THIRD READING on the th day of , 20 .

RECEIVED APPROVAL FROM THE MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE on the th day of , 20 .

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of , 20 .

_____MAYOR

_____CLERK

APPENDIX "A"

COMPREHENSIVE DEVELOPMENT ZONE 257 (CD 257)

In this Comprehensive Development Zone 257 (CD 257), **Part 25, Multiple Residential 135 Zone (RM-135)**, as well as all other applicable regulations of Surrey Zoning By-law, 1993, No. 12000, as amended, (the "Zoning By-law") apply to the following lands:

Address	Legal Descriptions	PID
10611 – 150 Street (Portion of)	Lot 59 Section 20 Block 5 North Range 1 West NWD Plan 41907 as shown outlined in bold, labelled as Block A on the Survey Plan, attached hereto as Schedule A, certified correct by Gordon Alber Hol, B.C.L.S on the 11th day of October, 2024, containing 5,774.7 sq. m	006-266-843

(collectively the "Lands")

except as follows:

1. Permitted Uses

Delete Section "B. Permitted Uses" and replace it with a new Section "B. Permitted Uses" as follows:

"B. Permitted Uses

Lands, buildings and structures shall only be used for the following uses, or a combination thereof, provided such combined uses are part of a comprehensive design:

Principal Uses:

1. *Multiple unit residential buildings and ground-oriented multiple unit residential buildings.*

Accessory Uses:

2. *Child care centres, provided that such centres:*
 - (a) Do not constitute a singular use on the lot; and
 - (b) Are regulated by the Community Care and Assisted Living Act, as amended, and the Child Care Licensing Regulation, as amended."

2. Density

Delete Section "D. Density" and replace it with a new Section "D. Density" as follows:

"D. Density

1. Maximum Density:

Maximum *density* shall be as follows:

- (a) 1 *dwelling unit*; and
- (b) The lesser of *floor area ratio* of 0.1 or *building area* of 300 sq. m.

2. Permitted Density Increases:

If amenity contributions are provided in accordance with Schedule G, *density* may be increased as follows:

- (a) Maximum *floor area ratio* of 4.5, excluding:
 - i. The indoor *amenity space* requirement (pursuant to Section J.1. of this Zone); and
 - ii. Up to a maximum of 170 sq. m of *the secure bicycle parking area* requirement (pursuant to Section H.5. of this Zone)."

3. Yards and Setbacks

Delete Section "F. Yards and Setbacks" and replace it with a new Section "F. Yards and Setbacks" as follows:

"F. Yards and Setbacks

Buildings and structures shall be sited in accordance with the following minimum setbacks:

USES:	SETBACKS:			
	North Yard	South Yard	West Yard	East Yard
<i>Buildings and Structures</i> ^{1,2,3}	40 m	5.5 m	7.5 m	5.5 m

- 1 Notwithstanding Section A.3.(d) of Part 5, Off-Street Parking and Loading/Unloading, *parking - underground* may be located up to 0.5 m of the south, west and east *lot lines*.
- 2 Notwithstanding the definition of *setback* in Part 1, Definitions, roof overhangs and *balconies* may encroach up to 1.0 m into the required setbacks.
- 3 Notwithstanding Section B.26(b) of Part 4, General Provisions, stairs with more than three risers may encroach into the setbacks."

4. Height of Buildings

Delete Section "G. Height of Buildings" and replace it with a new Section "G. Height of Buildings" as follows:

"G. Height of Buildings

Principal building height shall not exceed 110 m."

5. Off-Street Parking and Loading/Unloading

Delete Section "H. Off-Street Parking and Loading/Unloading" and replace it with a new Section "H. Off-Street Parking and Loading/Unloading" as follows:

"H. Off-Street Parking and Loading/Unloading

1. Parking Calculations:
Refer to Table D.1. of Part 5 Off-Street Parking and Loading/Unloading.
2. Notwithstanding Table D.1 of Part 5 of Off-Street Parking and Loading/Unloading, below market rental residential *parking spaces* shall be provided at a rate of 0.55 per unit and market rental residential *parking spaces* shall be provided at a rate of 0.80 per unit.
3. Tandem Parking:
Tandem parking is not permitted.
4. Underground Parking:
All required resident *parking spaces* shall be provided as *parking – underground* or as *parking within building envelope*.
5. Parking Areas:
 - (a) Parking within the required setbacks is not permitted; and
 - (b) Parking is not permitted in front of the main entrance of a *non-ground-oriented multiple unit residential building*, except for the purpose of short-term drop-off or pick-up and for accessible parking.
6. Bicycle Parking:
A secure bicycle parking area shall be provided in a separate bicycle room located within a *building*, whether located at or above *finished grade*, with convenient access to the outside of the *building*."

6. Special Regulations

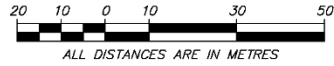
Delete Sub-section J.3. in Section J. Special Regulations and replace it with a new Sub-section J.3. as follows:

"3. Balconies:

- a. *Balconies* are required for all *dwelling units* which are not *ground-oriented* and shall be a minimum of 5% of the *dwelling unit* size or 4.6 sq. m per *dwelling unit*, whichever is greater; and
- b. Notwithstanding the above, *balconies* are not required for a maximum of 10 *dwelling units*."

**SURVEY PLAN TO ACCOMPANY CITY OF SURREY ZONING BYLAW 21445
OF PART OF LOT 59 SECTION 20 BLOCK 5 NORTH RANGE 1 WEST
NEW WESTMINSTER DISTRICT PLAN 41907**

BCGS 92G.026



THE INTENDED PLOT SIZE OF THIS PLAN
IS 432mm IN WIDTH BY 280mm IN HEIGHT (B SIZE)
WHEN PLOTTED AT A SCALE OF 1:1000



105
PLAN 35954

STRATA
PLAN NWS1018

WALKWAY

REM 59
PLAN 41907

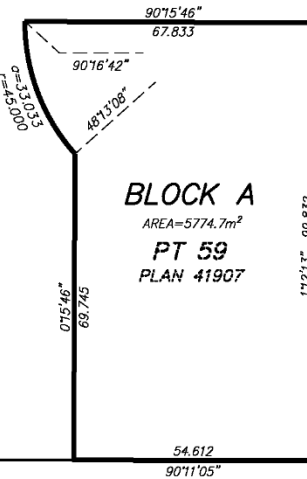
58
PLAN 35554

ROAD
PLAN 35554

E 33'
(BYLAW PLAN 30923) OF
PART (REF. PLAN 3373)
W 1/2 SECTION 20

150 STREET

ROAD
PLAN 41907



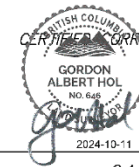
BLOCK A
AREA=5774.7m²
PT 59
PLAN 41907

61
PLAN 38455

PART 37
(REF PLAN 36449)
PLAN 10284

NOTE:
LEGAL BOUNDARIES ARE BASED ON
LAND TITLE OFFICE RECORDS AND
FIELD SURVEY

APLIN & MARTIN
GEOMATICS LAND SURVEYING LTD.
201, 12448 82nd AVENUE
SURREY, BC V3W3E9 604-597-9189



CERTIFIED CORRECT OCTOBER 9, 2024

2024-10-11

G.A. BERT HOL, BCLS 646
FILE: 21-632-08 zoning

CITY OF SURREY

BYLAW NO. 21446

A bylaw to authorize the City of Surrey to enter into a Housing Agreement
.....

WHEREAS the City of Surrey has received an application to enter into a housing agreement;

AND WHEREAS Section 483 of the Local Government Act, R.S.B.C. 2015 c.1, as amended (the "*Local Government Act*"), empowers the Council or the City of Surrey to enter into a housing agreement.

NOW, THEREFORE, the Council of the City of Surrey, enacts as follows:

1. The City of Surrey is hereby authorized to enter into a housing agreement in the form attached as Schedule A and forming part of this Bylaw (the "Housing Agreement") with the following party:

Wall Financial Corporation.
1010 Burrard Street
Vancouver, BC V6Z 2R9

and with respect to that certain parcel of lands and premises, in the City of Surrey, more particularly known and described as:

Parcel Identifier: 006-266-843
Lot 59 Section 20 Block 5 North Range 1 West NWD Plan 41907

(10611 – 150 Street)

(the "Lands");

2. The Mayor and Clerk are hereby empowered to execute the Housing Agreement on behalf of the City of Surrey.
3. The City of Surrey shall file in the Land Title Office a notice against the Lands in accordance with Section 483 of the *Local Government Act*, that the Lands are subject to the Housing Agreement.
4. This Bylaw shall be cited for all purposes as "The Wall Financial Corporation Housing Agreement, Authorization Bylaw, 2024, No. 21446".

PASSED FIRST READING on the th day of , 20 .

PASSED SECOND READING on the th day of , 20 .

PASSED THIRD READING on the th day of , 20 .

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of , 20 .

_____ MAYOR

_____ CLERK

CITY OF SURREY
HOUSING AGREEMENT
Mixed-Use

THIS HOUSING AGREEMENT made this ____ day of _____, 2024.

BETWEEN:

CITY OF SURREY, a municipal corporation having its
Offices at 13450-104th Avenue, Surrey, B.C. V3T 1V8

(the “City”)

OF THE FIRST PART

AND:

WALL FINANCIAL CORPORATION, a corporation having its offices at
1010 Burrard Street, Vancouver, B.C. V6Z 2R9

(the “Owner”)

OF THE SECOND PART

WHEREAS:

- A. The Owner is the legal and beneficial owner of those certain lands and premises Located in the City of Surrey, in the Province of British Columbia, legally described as:
 - Parcel Identifier:
 - Legal Description: PROPOSED LOT 59 SEC 20 RGE1 PL NWP41907 NWD
 - Street Address:(the “Lands”)
- B. The Owner proposes to use the Lands for a high-rise rental building with 265 Dwelling Units (the “Development”);
- C. The Owner has voluntarily agreed to enter into a housing agreement pursuant to Section 483 of the Local.Government.Act?R.S.B.C. 2015, Chapter 1, as amended, to ensure that the Rental Units and Below Market Rental Units are rented in accordance with this Agreement with respect to 265 suites.

NOW THEREFORE in consideration of the premises herein and of the mutual covenants and agreements hereinafter set forth and contained herein and \$1.00 now paid by the City to the Owner (the receipt of which is hereby acknowledged), the parties hereto covenant and agree each with the other as follows:

1. DEFINED TERMS

1.1 In and for the purpose of this Agreement, in addition to the definitions on the first page of this document, the following terms shall have the following meanings:

- (a) “Agreement” means this housing agreement and any amendments to or Modifications of the same;
- (b) “City” means the City of Surrey and any person authorized by the City of Surrey, including assigns of whole or partial interest in this Agreement or of any of the Rights conferred upon the City of Surrey by this Agreement;
- (c) “City Personnel” means all of the City’s elected and appointed officials, officers, Employees, agents, nominees, delegates, permittees, contractors, subcontractors, Invitees and the Approving Officer.
- (d) “Claims and Expenses” means all actions, causes of actions, suits, judgments, proceedings, demands, and claims, whether at law or in equity, losses, damages, expenses and costs (including legal fees and disbursements on an indemnity basis) of any kind or nature whatsoever, at law or in equity for any damages, losses, injuries or death;
- (e) “Development” means as defined in Recital B;
- (f) “Dwelling Unit” means each of the 265 dwelling units constructed within the Development;
- (g) “Lands” means the parcel of land situated in the City of Surrey, British Columbia and legally described in Recital A, and includes any parcel into which such land is consolidated or further subdivided (including a subdivision pursuant to the Land.Title Act and a subdivision pursuant to the Strata.Property.Act.of.British.Columbia);
- (h) “Owner” means the person named on the first page of this Agreement and the legal and beneficial owner at any given time and any successors in title of the Lands and, without limitation, if the Lands are subdivided by way of a strata plan under the Strata.Property.Act.of British Columbia, then “Owner” includes the strata corporation thereby created;
- (i) “Rental Units” means 217 Dwelling Units which must be made available by the Owner to the General Public at arms’ length for use as residential rental accommodation on a month-to-month or longer basis in accordance with all applicable laws including without limitation the Residential.Tenancy.Act?S.B.C. 2992, Chapter 78, as amended, and any regulations pursuant thereto; and
- (j) “Below Market Rental Units” means 48 dwelling units constructed within the development with secured rental rates 10% below CMHC which must be made available by the Owner to the General Public at arms’ length for use as residential rental accommodation on a month to month or longer basis in accordance with applicable as amended, and any regulations pursuant thereto; and

(k) "Term" means 20 years, commencing on the first day of the month after the City issues an occupancy permit for the Development.

2. RESTRICTION ON OCCUPANCY OF DWELLING UNITS

- 2.1 During the Term the Rental Units must be made available for rent in accordance with this Agreement.
- 2.2 The City may, from time to time, during the Term request the Owner to provide written proof of compliance with section 2.1 and the Owner agrees to provide, or cause an operator of the Lands to provide, the City with such proof in a form reasonable satisfactory to the City.
- 2.3 All the Rental Units must be owned by the Owner(s).
- 2.4 Throughout the Term, the Owner shall not sell or transfer the beneficial or registered title or any interest in and to the Rental Units unless the Owner obtains from the transferee an agreement in writing from the transferee to assume and perform all of the obligations of the Owner arising under this Agreement.

3. LIABILITY

- 3.1 Indemnity. The Owner shall indemnify and save harmless the City and City Personnel from all Claims and Expenses which the City and City Personnel may suffer, or incur, or be put to, arising out of or in connection with any breach or default of any covenants or agreements on the part of the Owner contained in this Agreement, or arising out of, or in connection with the Development or arising out of the fact that the Lands are encumbered by and affected by this Agreement.
- 3.2 Release. The Owner does hereby remise, release and forever discharge the City and City Personnel from all Claims and Expenses which the Owner may have against the City and City Personnel, which the Owner now has or hereafter may have with respect to or by reasons of or arising out of the fact that the Lands are encumbered by and affected by this Agreement.
- 3.3 Obligations Continue. The Owner covenants and agrees that the indemnity and release in Sections 3.1 and 3.2 will remain effective and survive the expiration or termination of this Agreement whether by fulfilment of the covenants contained in this Agreement or otherwise.

4. NOTICE

- 4.1 Any notices or other documents to be given or delivered pursuant to this Agreement will be Addressed to the proper part as follows:
 - (a) As to the City:

City of Surrey
13450-104 Avenue

Attention: General Manager, Planning and Development Department

(b) As to the Owner:

Wall Financial Corporation
1010 Burrard Street
Vancouver, B.C. V6SZ 2R9

Attention: Darcee Wise, President – PWME

or such other address as such party may direct. Any notice or other documents to be given or delivered pursuant to the particular party as its address set out or determined in accordance with this section and shall be deemed complete two (2) days after the day of delivery

4.2 It is specifically agreed that for any notice or document to be validly given or delivered pursuant to this Agreement, such notice or document must be delivered and not mailed.

5. GENERAL

5.1 Joint and Several. Where the Owner consists of more than one person, each such person will be jointly and severally liable to perform the Owner's obligations under this Agreement.

5.2 Assignment by City. This Agreement or any of the rights conferred by this Agreement upon the City may be assigned in whole or in part by the City without consent of the Owner.

5.3 City's Other Rights Unaffected. Nothing contained or implied herein will derogate from the obligations of the Owner under any other agreement with the City or, if the City so elects, prejudice or affect the City's rights, powers, duties or obligations in the exercise of its functions pursuant to the Local Government Act and the Community Charter, as amended from time to time and the rights, powers, duties and obligations of the City under all public and private statutes, by-laws, orders and regulations, which may be, if the City so elects, as fully and effectively exercised in relation to the Lands as if this Agreement had not been executed and delivered by the Owner and the City.

5.4 Agreement for Benefit of City. The Owner and the City hereby acknowledge, agree and declare that this Agreement is entered into for the sole purpose of benefitting the City and in particular, acknowledge, agree and declare that this Agreement is not designed to protect or promote the interests of the Owner or any mortgagee of the Owner, or any future owner or occupier of the Lands and any improvements on the Lands or any other person and the City may, at its sole option, execute a release of this Agreement at any time without liability to any person for so doing.

- 5.5 No Waiver. The Owner acknowledges and agrees that no failure on the part of the City to exercise and no delay in exercising any right under this Agreement will operate as a waiver thereof nor will any single or partial exercise by the City of any right under this Agreement preclude any other or future exercise thereof of the exercise of any other right.
- 5.6 City not Required to Prosecute. The Owner agrees that the City is not required or is under no obligation in law or equity to prosecute or enforce this Agreement in any way whatsoever.
- 5.7 Remedies. The remedies provided for in this Agreement will be cumulative and not exclusive of any other remedies provided by law or in equity. In addition to any remedies which are available under this Agreement or at law, the City will be entitled to all equitable remedies, including, without limitation, specific performance, injunction and declaratory relief, or any combination thereof, to enforce its rights under this Agreement. The Owner acknowledges that specific performance, injunctive relief (mandatory or otherwise) or other equitable relief may be the only adequate remedy for a default by the Owner under this Agreement.
- 5.8 Severability. All the obligations and covenants in this Agreement are severable, so that if any one or more of the obligations or covenants are declared by a court of competent jurisdiction to be void and unenforceable, the balance of the obligations and covenants will remain and be binding.
- 5.9 City Court Costs. In an action to enforce this Agreement in respect of which the court determines that the position of the City will prevail, the City will be entitled to court costs on a solicitor-client basis.
- 5.10 Subdivision/Consolidation. If the Lands are subdivided or consolidated at any time Hereafter either under the provisions of the Land.Title.Act.or under the.Strata.Property.Act? Then upon the deposit of a plan of subdivision, strata plan, consolidation plan or similar plan or application as the case may be, the rights, benefits, burdens, obligations, and covenants contained in this Agreement will continue to charge each of the new parcels, lots, or other subdivided or consolidated parcels and areas so create.
- 5.11 Subdivision by Strata Plan. Subject to Section 2.3, if the Lands, or any portion thereof, are subdivided by a Strata plan, this Agreement will charge title to the strata lots and the common property Comprising such strata plan and:
- (a) This Agreement will be registered against each individual strata lot and noted on the common property sheet;
 - (b) The strata corporation or the strata corporations created will perform and observe the Owner's covenants in this Agreement, solely at the expense of the strata lot owners; and
 - (c) The liability of each strata lot owner for the performance and observance of the Owner's covenants herein will be in proportion to the unit entitlement of his, her or its strata lot as established by the strata plan.

- 5.12 Personal Representatives and Successors. This Agreement shall ensure to the benefit of and be binding upon the parties hereto and their personal representatives, respective heirs, executors, administrators, successors and assigns.
- 5.13 Governing Law. This Agreement will be governed by and construed in accordance with the Laws of the Province of British Columbia and the laws of Canada applicable in British Columbia.
- 5.14 Priority. The Owner shall at the sole expense of the Owner, do or cause to be done all acts Reasonably necessary to grant priority to this Agreement over all charges and encumbrances which may have been registered against the title to the Lands at the Land Title Office save and except those specifically approved in writing by the City.
- 5.15 Further Assurances. The Owner shall do, or cause to be done, all things and execute or cause to be executed all documents and give such further and other assurances which may be reasonable necessary to give proper effect to the intent of this Agreement.
- 5.16 Counterparts. This Agreement may be executed in any number of counterparts and delivered via facsimile or email, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same instrument, provided that any party delivering this Agreement via facsimile or email will deliver to the other party any originally executed copy of this Agreement forthwith upon request by the other party.
- 5.17 Entire Agreement. This Agreement represents the entire agreement between the City and The Owner regarding the matters set out in this Agreement and supersedes all prior Agreements, letters of intent or understandings about these matters.

IN WITNESS WHEREOF the City of Surrey and the Owner have executed this Agreement under seal of their duly authorized officers as of the references of this Agreement.

CITY OF SURREY

By: _____
Authorized Signatory

Brenda Locke
Mayor
City of Surrey

By: _____
Authorized Signatory

Jennifer Ficocelli
City Clerk and Director Legislative Services
City of Surrey

WALL FINANCIAL CORPORATION

By: _____
Authorized Signatory

Darcee Wise
President – Peter Wall Mansion & Estates (Div. of Wall Financial Corp.)
Director
Wall Financial Corporation

**Regular Council - Land Use
E.4 7924-0003-00
Monday October 21, 2024**

TO: City Clerk, Legislative Services Division

FROM: Director, Development Planning, Planning & Development Department

DATE: October 21, 2024 FILE: 7924-0003-00

RE: **Agenda Item E.4, October 21, 2024, Regular Council – Land Use Meeting
Development Application No. 7924-0003-00
Replacement Pages for the Planning Report**

Development Application No. 7924-0003-00 is on the agenda for consideration by Council at the October 21, 2024, Regular Council – Land Use Meeting under Item E.4.

After finalizing the Planning Report, staff identified that Development Permit No. 7917-0146-01 has expired and, as such, does not require it to be filed, i.e., no action is required by Council in regards to Development Permit No. 7917-0146-01.

Pages 2 and 3 of the Planning Report have been updated to reflect this change.

The replacement page for the Planning Report detailing this change is attached to this memorandum.



Shawn Low
Director, Development Planning
Planning & Development Department

Attachment - 7924-0003-00 – Page 2 and 3 Replacement Pages

c.c. - City Manager

RECOMMENDATION SUMMARY

~~• File Development Permit No. 7917-0146-01.~~

- Approval to draft Development Permit No. 7924-0003-00 for Form and Character.
- Approval for Development Variance Permit No. 7924-0003-00 to proceed to Public Notification.

DEVIATION FROM PLANS, POLICIES OR REGULATIONS

- Proposing to vary Part 5, Off-Street Parking and Loading/Unloading to permit required parking spaces in front of overhead doors.

RATIONALE OF RECOMMENDATION

- The proposal complies with the Mixed Employment designation in the Official Community Plan (OCP).
- The proposal complies with the Mixed Employment designation in the Metro Vancouver Regional Growth Strategy (RGS).
- A previous application to construct two self-storage buildings was previously considered and approved under Development Application Nos. 7915-0328-00 and 7917-0146-00.
- The proposal generally complies with the Development Permit requirements in the OCP for Form and Character.
- A previous proposal to construct two self-storage buildings was reviewed and approved under Development Application No. 7917-0146-00, resulting in the subject property being rezoned to the Business Park 3 Zone (IB-3) and the site being prepared for development through the issuance and completion of a general Development Permit.
- The proposed building achieves an attractive architectural built form, which utilizes high quality, natural materials and contemporary lines. The street interface has been designed to a high quality to achieve a positive urban experience between the proposed building and the public realm.

RECOMMENDATION

The Planning & Development Department recommends that:

~~1. Council File Development Permit No. 7917-0146-01.~~

1. Council authorize staff to draft Development Permit No. 7924-0003-00 generally in accordance with the attached drawings (Appendix I).
2. Council approve Development Variance Permit No. 7924-0003-00 (Appendix III) to allow standard parking spaces in front of overhead loading doors and for these to be considered towards the calculation of required off-street parking spaces, to proceed to Public Notification.
3. Council instruct staff to resolve the following issues prior to final approval:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;
 - (b) Approval from the Ministry of Transportation & Infrastructure;
 - (c) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
 - (d) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
 - (e) submission of a finalized tree survey and a statement regarding tree preservation to the satisfaction of the City Landscape Architect;
 - (f) the applicant satisfy the deficiency in tree replacement on the site, to the satisfaction of the Planning and Development Department;
 - (g) registration of a Section 219 Restrictive Covenant prohibiting the construction of additional mezzanine space; and
 - (h) submission of an acceptable fire access plan to the satisfaction of the Planning and Development Department.

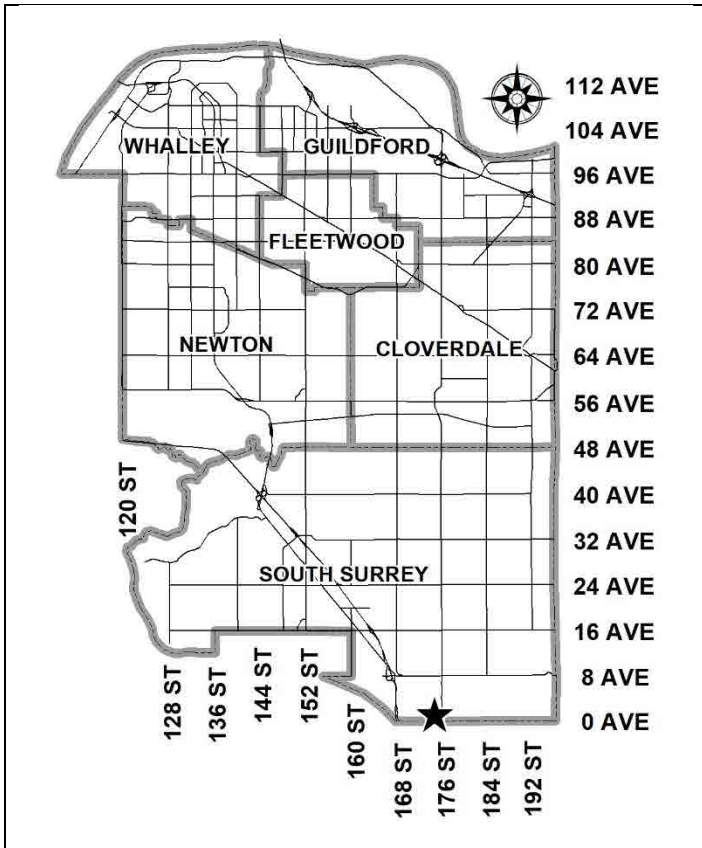
SITE CONTEXT & BACKGROUND

Direction	Existing Use	OCP Designation	Existing Zone
Subject Site	Vacant (graded and cleared)	Mixed Employment	IB-3

City of Surrey
PLANNING & DEVELOPMENT REPORT

Application No.: 7924-0003-00

Planning Report Date: October 21, 2024



PROPOSAL:

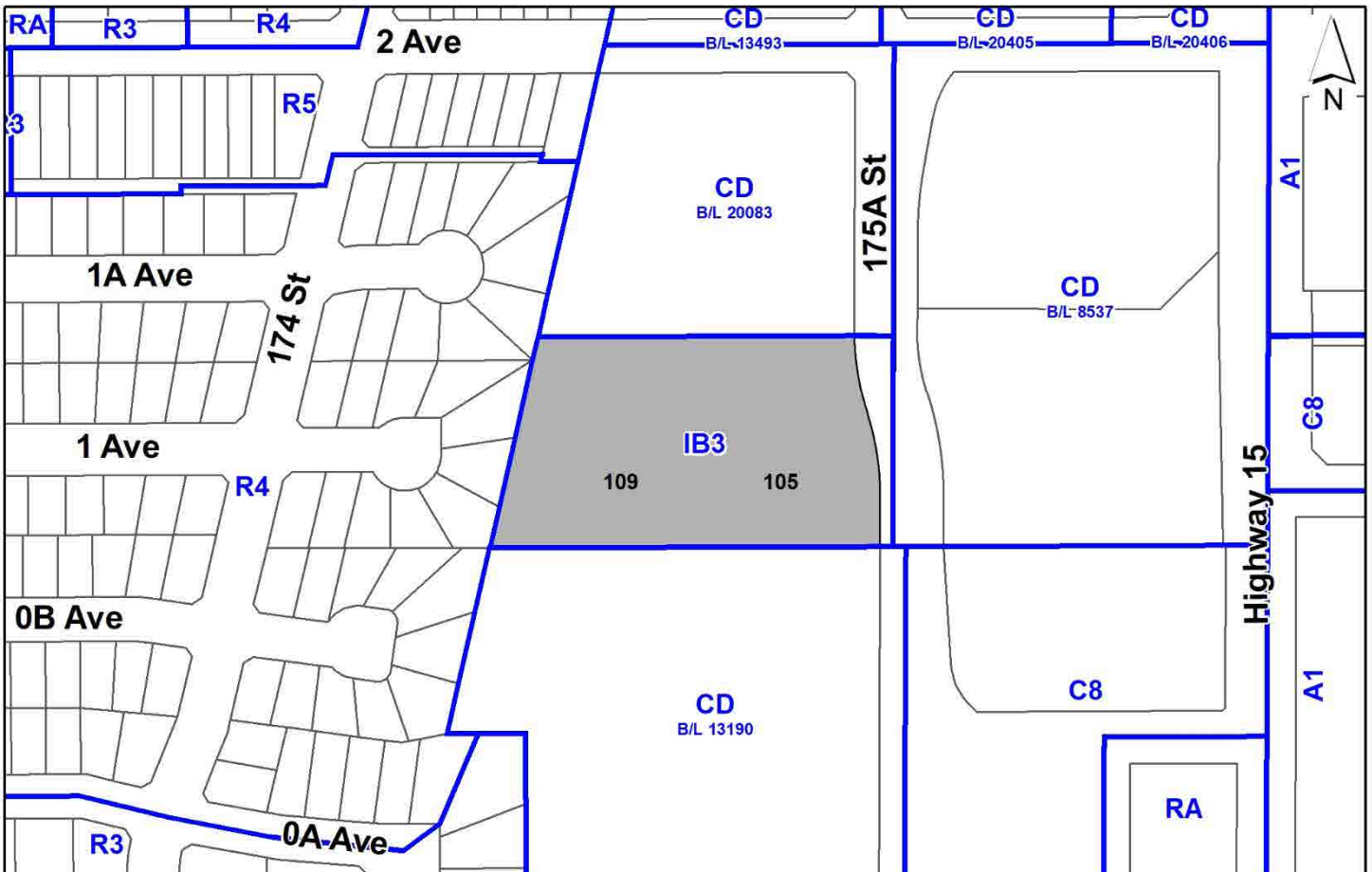
- Development Permit
- Development Variance Permit

to permit the development of a 6,725 square metre mixed employment building.

LOCATION: 105 - 175A Street
 109 - 175A Street

ZONING: IB-3

OCP DESIGNATION: Mixed Employment



RECOMMENDATION SUMMARY

- File Development Permit No. 7917-0146-01.
- Approval to draft Development Permit No. 7924-0003-00 for Form and Character.
- Approval for Development Variance Permit No. 7924-0003-00 to proceed to Public Notification.

DEVIATION FROM PLANS, POLICIES OR REGULATIONS

- Proposing to vary Part 5, Off-Street Parking and Loading/Unloading to permit required parking spaces in front of overhead doors.

RATIONALE OF RECOMMENDATION

- The proposal complies with the Mixed Employment designation in the Official Community Plan (OCP).
- The proposal complies with the Mixed Employment designation in the Metro Vancouver Regional Growth Strategy (RGS).
- A previous application to construct two self-storage buildings was previously considered and approved under Development Application Nos. 7915-0328-00 and 7917-0146-00.
- The proposal generally complies with the Development Permit requirements in the OCP for Form and Character.
- A previous proposal to construct two self-storage buildings was reviewed and approved under Development Application No. 7917-0146-00, resulting in the subject property being rezoned to the Business Park 3 Zone (IB-3) and the site being prepared for development through the issuance and completion of a general Development Permit.
- The proposed building achieves an attractive architectural built form, which utilizes high quality, natural materials and contemporary lines. The street interface has been designed to a high quality to achieve a positive urban experience between the proposed building and the public realm.

RECOMMENDATION

The Planning & Development Department recommends that:

1. Council File Development Permit No. 7917-0146-01.
2. Council authorize staff to draft Development Permit No. 7924-0003-00 generally in accordance with the attached drawings (Appendix I).
3. Council approve Development Variance Permit No. 7924-0003-00 (Appendix III) to allow standard parking spaces in front of overhead loading doors and for these to be considered towards the calculation of required off-street parking spaces, to proceed to Public Notification.
4. Council instruct staff to resolve the following issues prior to final approval:
 - (a) ensure that all engineering requirements and issues including restrictive covenants, dedications, and rights-of-way where necessary, are addressed to the satisfaction of the General Manager, Engineering;
 - (b) Approval from the Ministry of Transportation & Infrastructure;
 - (c) resolution of all urban design issues to the satisfaction of the Planning and Development Department;
 - (d) submission of a finalized landscaping plan and landscaping cost estimate to the specifications and satisfaction of the Planning and Development Department;
 - (e) submission of a finalized tree survey and a statement regarding tree preservation to the satisfaction of the City Landscape Architect;
 - (f) the applicant satisfy the deficiency in tree replacement on the site, to the satisfaction of the Planning and Development Department;
 - (g) registration of a Section 219 Restrictive Covenant prohibiting the construction of additional mezzanine space; and
 - (h) submission of an acceptable fire access plan to the satisfaction of the Planning and Development Department.

SITE CONTEXT & BACKGROUND

Direction	Existing Use	OCP Designation	Existing Zone
Subject Site	Vacant (graded and cleared)	Mixed Employment	IB-3

Direction	Existing Use	OCP Designation	Existing Zone
North:	Townhouse and Apartments (under construction)	Multiple Residential	CD (By-law No. 20083)
East (Across 175A Street):	Commercial	Commercial	CD (By-law No. 8537)
South:	Pacific Border RV Park	Mixed Employment	CD (By-law No. 13190)
West:	Single Family	Urban, Single Family Flex (Douglas Neighbourhood Plan)	R4

Context & Background

- The subject site is approximately 1.11 hectares and located near the Pacific Highway (176 Street) border crossing. The site is currently vacant, graded and does not contain any trees.
- A proposal to construct two self-storage buildings on the subject property was previously considered and approved under Development Application No. 7917-0146-00, which included the property to the north at 163, 177, and 185 – 175A Street and resulted in the following:
 - At 163, 177, and 185 – 175A Street; OCP Amendment, Rezoning, Development Permit for Form & Character and Development Variance Permit to construct 28 townhouse units and two 5-storey apartment building with ground floor commercial;
 - Subject Property at 105 and 109 – 175A Street:
 - Rezoning from "One-Acre Residential Zone (RA)" to "Business Park 3 Zone (IB-3)" consistent with the Mixed Employment land use designation in the Official Community Plan (OCP);
 - General Development Permit to prepare the site;
 - Detailed Development Permit for Form & Character; and
 - Development Variance Permit to increase the maximum building height.
- The subject application proposes a 6,725 square metre industrial building in place of the previously approved two self-storage buildings in order to respond to market demand.

DEVELOPMENT PROPOSAL

Planning Considerations

- The applicant is proposing a Development Permit for Form & Character for an industrial building and a Development Variance Permit to allow required parking to located in front of overhead loading doors.

- The 6,725 square metre building is primarily industrial space, with supplementary office/mezzanine space.

	Proposed
Lot Area	
Gross Site Area:	1.11 Hectares
Road Dedication:	N/A
Undevelopable Area:	N/A
Net Site Area:	1.11 Hectares
Number of Lots:	1
Building Height:	10.4 metres
Floor Area Ratio (FAR):	0.60 (6,725.3 sq. m.)
Floor Area	
Industrial:	4,586.9 square metres
Office/Mezzanine:	2,138.4 square metres
Total:	6,725.3 square metres

Referrals

- Engineering: The Engineering Department has no objection to the project. Engineering servicing requirements were addressed under previous Development Application No. 7917-0146-00 and will be reviewed in conjunction with a future Building Permit.
- Ministry of Transportation & Infrastructure (MOTI): Rezoning of the subject property was approved by MOTI under Development Application No. 7917-0146-00. Approval of the subject Development Permit is a condition of Final Approval.
- Surrey Fire Department: Based on a preliminary review, there are no concerns at this time. A more detailed review and approval of the fire access plan is a condition of Final Approval.

Transportation Considerations

- The applicant is proposing two vehicular accesses to the site, one each on the north and south sides of the building, both from 175A Street which is a local road. Both accesses were constructed under the General Development Permit.
- The current proposal includes a parking surplus of one parking space which is based on the industrial parking rate with office/mezzanine in each unit. As such, the applicant will be required to register a Restrictive Covenant capping mezzanine space buildout in order to prevent future parking shortfall. All stalls are provided as surface parking.
- The applicant proposes a variance to allow required parking spaces to locate in front of overhead loading doors. Refer to the Zoning Bylaw Variance section below for further information.

POLICY & BY-LAW CONSIDERATIONS

Regional Growth Strategy

- The proposal complies with the “Mixed Employment” land use designation in the Regional Growth Strategy (RGS).

Official Community Plan

Land Use Designation

- The proposal complies with the “Mixed Employment” land use designation in the Official Community Plan (OCP) by providing opportunities for light industrial uses with ancillary office needs.

Themes/Policies

- Policy E1.6 – Support the infill and redevelopment of under-utilized properties within Commercial, Mixed Employment and Industrial land designations.

The proposed development is an efficient industrial development on under-utilized land.

- Policy E1.20 – Encourage the continued expansion of high-tech, research and development and light manufacturing to locate within Mixed Employment areas that are accessible to major transportation corridors and/or frequent transit services.

The proposed development is compatible with the Mixed Employment designation and adds employment opportunities to South Surrey. The subject site is also located near Highway 15 (176 Street).

Zoning By-law

- The applicant has proposed a Development Permit utilizing the existing "Business Park 3 Zone (IB-3)", with a request for a Development Variance Permit to accommodate parking.

Variances

- The applicant is requesting the following variance:
 - To allow parking spaces located in front of overhead loading doors to be utilized as both standard and loading spaces and counted towards the calculation of required off-street parking spaces.
- The proposed “park/load” stalls will be primarily used for parking as these are smaller industrial units and the loading is intended to happen at the bylaw compliant loading stall located on the West side of the development.
- Staff support the requested variance to proceed for consideration.

Public Art Policy

- A Restrictive Covenant agreeing to provide cash-in-lieu, at a rate of 0.25% of construction value, to adequately address the City's needs with respect to public art, in accordance with the City's Public Art Policy requirements was registered to the property's title as a condition of Final Adoption under Development Application No. 7917-0146-00.

PUBLIC ENGAGEMENT

- A Development Proposal Sign was installed on August 27, 2024. Staff received no responses regarding the proposed development.

DEVELOPMENT PERMITS

Form and Character Development Permit Requirement

- The proposed development is subject to a Development Permit for Form and Character.
- The proposed development generally complies with the Form and Character Development Permit guidelines in the OCP.
- The proposed multi-tenant industrial development is designed utilizing modern design features and materials, including painted concrete, faux wood, architectural steel and an aluminum curtainwall with neutral colours.
- The site is designed with a strong pedestrian interface, with three pedestrian access points along 175A, bench seating, attractive landscaping and parking setback to minimize visual impact.
- Specific details of fascia signage have not been provided at this time; however, the general location and scale identified on the submitted drawings appears to be appropriate for the proposed development. A small freestanding address sign is proposed along 175A Street which is consistent with the design of the building and sensitive to the pedestrian interface.

Landscaping

- Sufficient landscaping areas have been provided in accordance with the minimum requirements of the Zoning Bylaw, including 6 metres along the west, north and east lot lines, and 3 metres along the south.
- Emphasis has been placed on providing a robust landscape buffer between the subject site and the residential uses to the west and north, with a variety of shrubs and trees. The parking area along the west lot line also includes landscape islands every five spaces.
- Decorative paving is provided at vehicular site entrances.
- Site amenities include bike racks and bench seating along the 176A Street.

Outstanding Items

- There are a limited number of Urban Design items that remain outstanding, and which do not affect the overall character or quality of the project. These generally include enhanced pedestrian circulation and connectivity, landscape planting and lighting details.
- The applicant has been provided a detailed list identifying these requirements and has agreed to resolve these prior to Final Approval of the Development Permit, should the application be supported by Council.

TREES

- Elvis Truong, ISA Certified Arborist of Mike Fadum and Associates Ltd. prepared an Arborist Assessment confirming that the subject site has been cleared, in accordance with the tree retention and removal approved under Development Application No. 7917-0146-00 which proposed a total of 234 replacement trees, meeting City requirements. The current application proposes 63 replacement trees. Since the proposed 234 replacement trees can no longer be accommodated on the site, the new deficit of 171 replacement trees will require an estimated cash-in-lieu payment of \$94,050 representing \$550 per tree to the Green City Program, in accordance with the City's Tree Protection By-law. Further consideration may be given to additional replacement trees through continued review of the proposed landscaping plan.
- The Arborist Assessment includes an updated tree protection and preservation plan to ensure the retention of four bylaw protected trees and hedging cedars located offsite and one bylaw protected City tree that are within proximity of the proposed development.
- In summary, a total of 63 trees are proposed to be replaced on the site with an estimated contribution of \$94,050 to the Green City Program.

INFORMATION ATTACHED TO THIS REPORT

The following information is attached to this Report:

Appendix I.	Proposed Site Plan, Building Elevations, Landscape Plans and Perspective
Appendix II.	Summary of Tree Survey and Tree Preservation
Appendix III.	Development Variance Permit No. 7924-0003-00

approved by Shawn Low

Ron Gill
Acting General Manager
Planning and Development

SA/ar



LITCO INDUSTRIAL

105 + 109 - 175A STREET, SURREY, BC



KPA PROJECT No. 240181-A
PROJECT TEAM

ARCHITECT OF RECORD

KP ARCHITECTURE LTD.
406 • 3477 GLADYS AVENUE
ABBOTSFORD, BC V3G 1E8
EMAIL: LARRY@KPAARCH.COM
PRINCIPAL IN CHARGE: LARRY PODICHA, ARCHITECT ABC, MWAC

BUILDING DESIGN

KP ARCHITECTURE LTD.
406 • 3477 GLADYS AVENUE
ABBOTSFORD, BC V3G 1E8
PHONE: 664.63.8011
EMAIL: STU@KPAARCH.COM
PROJECT MANAGER: MARK BRONSEMA
TECH LEAD: STU (BNU)

CIVIL

CENTRAS ENGINEERING LTD.
356 • 203 CROFTON DRIVE
SURREY, BC V3Z 6T3
PHONE: 844.77.1387
EMAIL: GURPREET@CENTRAS.CA
PROJECT MANAGER: GURPREET PARMAR

SURVEY

SOUTH PRAIRIE LAND SURVEYING
202 • 15322 96th AVENUE
SURREY, BC V3V 3G9
PHONE: 664.64.1856

LANDSCAPE

KD PLANNING & DESIGN LTD.
406 • 3477 GLADYS AVENUE
ABBOTSFORD, BC V3G 1E8
PHONE: 664.63.8011
EMAIL: JIM@KPAARCH.COM
PROJECT MANAGER: JIM (EIA 1)-BESSE

ISSUE DATE: JUNE 26, 1984

SHEET LIST

ARCHITECTURE

- A01 COVER
- A02 PERSPECTIVES
- A10 SITE PLAN
- A10.1 FIRE DEPARTMENT SITE PLAN
- A11 SITE DETAILS
- A12 FIRE DEPARTMENT SITE PLAN
- A21 MAIN FLOOR
- A22 SECOND FLOOR
- A23 ROOF PLAN
- A24 ENLARGED PLANS
- A41 BUILDING ELEVATIONS
- A42 STREETSCAPES
- A51 BUILDING SECTIONS

CIVIL

- SITE GRADING PLAN

LANDSCAPING

- L1 OVERALL LANDSCAPE PLAN
- L1.1 ENLARGEMENT 1
- L1.2 ENLARGEMENT 2
- L1.3 ENLARGEMENT 3
- L1.4 ENLARGEMENT 4
- L2 DETAILS
- L3 NOTES



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3 2024/07 REQUIRED FOR DP
1 2024/06 ISSUED FOR DEVELOPMENT PERMIT
NO. DATE YMMO DESCRIPTION
ISSUES AND REVISIONS
SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 109 - 175A STREET, SURREY, BC

DRAWING TITLE
COVER

SCALE
DRAWN MB
REVIEWED LP, MB
PROJECT NO. 240181-A
DRAWING NO.

A01



175A STREET STREETSCAPE RENDER



NORTH / SOUTH TYPICAL DESIGN NIGHT RENDER



NORTH / SOUTH TYPICAL DESIGN RENDER



175A STREET FACADE DESIGN NIGHT RENDER



175A STREET FACADE DESIGN RENDER

NO.	DATE	BY	DESCRIPTION
3	2024/01/17	MB	REQUIRED FOR CP
1	2024/01/16	MB	ISSUED FOR DEVELOPMENT PERMIT

ISSUES AND REVISIONS

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

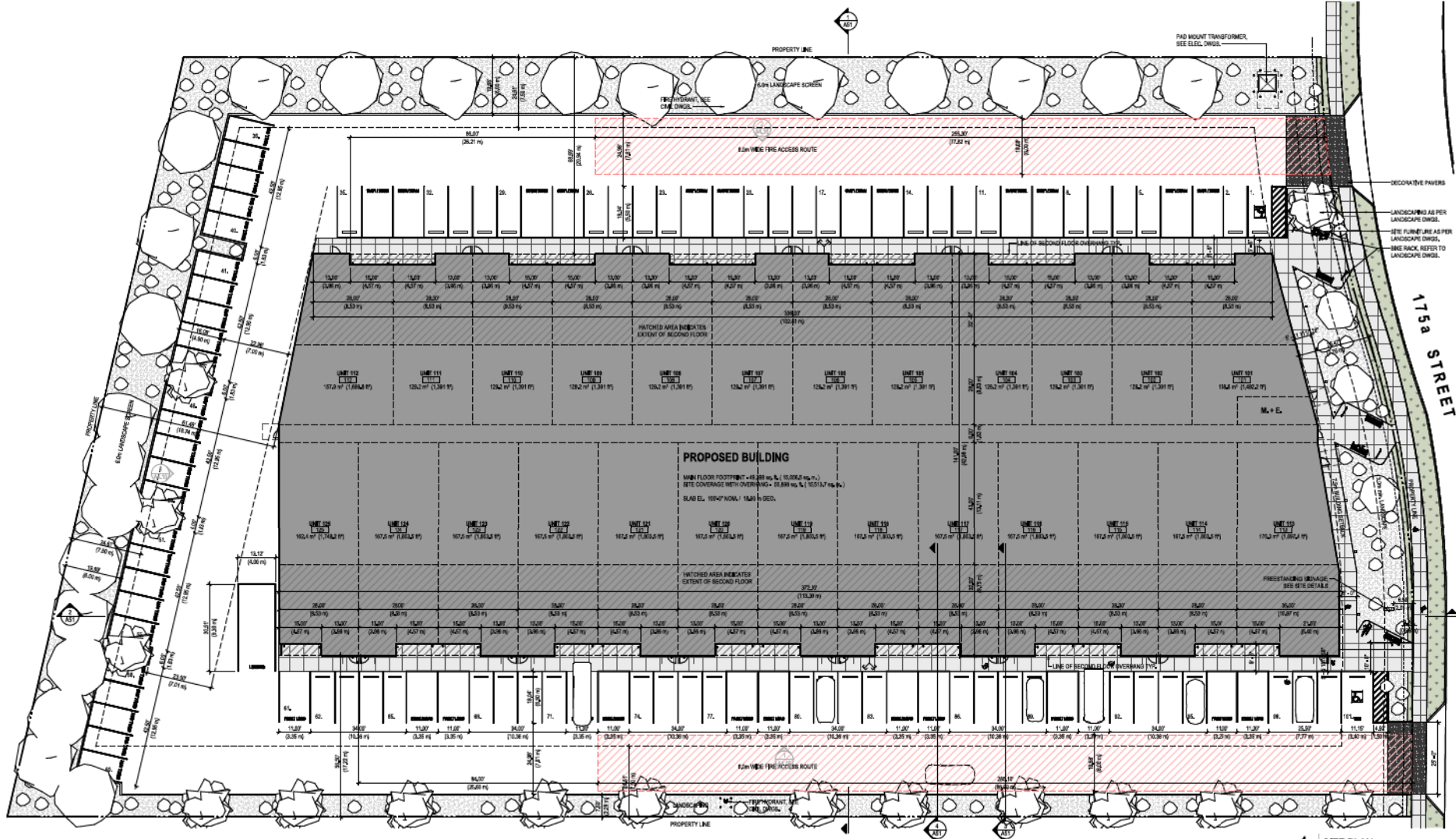
PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 100 + 175A STREET, SURREY, BC

DRAWING TITLE
PERSPECTIVES

SCALE	
DRAWN	MB
REVIEWED	LP, MB
PROJECT NO.	24091-A
DRAWING NO.	

A02



ZONING BY-LAW ANALYSIS

PROJECT DATA

CITY ADDRESS: 105 + 100 - 175A AVENUE, SURREY, BC
 LEGAL ADDRESS: LOT 2, SECTION 28, RANGE 1E PLAN EP192885 MVD
 BUILDING USE: INDUSTRIAL

BUILDING AREA: 4,982.4 sq ft / 49,372.7 sq ft

GROSS FLOOR AREA: 6,726.24 sq ft

ZONING: B10 - BUSINESS PARK 3 ZONE

SITE AREA: 11,124.79 sq ft / 121 hectares / 118,746.11 sq ft / 2.76 hectares

BUILDING HEIGHT: 14.60 m (48.23)
 MAXIMUM HEIGHT: 14.60 m (48.23)
 PROPOSED HEIGHT: 14.60 m (48.23)

REQUIRED SETBACKS:
 FRONT YARD (EAST): 7.26 m (24.17) PROVIDED: 7.26 m (24.17)
 SIDE YARD (NORTH): 7.26 m (24.17) PROVIDED: 7.26 m (24.17)
 SIDE YARD (SOUTH): 7.26 m (24.17) PROVIDED: 11.27 m (37.15)
 REAR YARD (WEST): 7.26 m (24.17) PROVIDED: 14.74 m (48.37)

ZONING BYLAW ANALYSIS (CITY OF SURREY)

LANDSCAPING REQUIREMENTS:
 LANDSCAPING AREA, LANDSCAPING EXTENSIVE, AND FENCING SHALL COMPLY WITH CITY OF SURREY BY-LAW REQUIREMENTS.

SITE COVERAGE + BUILDING AREAS

TYPE AREA	PROV. SET	REQ. BUILDING AREA	MAXIMUM SITE COVERAGE
SGM	15.00	11.82	15.00
TOTAL	11,124.79 sq ft	118,746.14 sq ft	16.83%

GROSS FLOOR AREA CALCULATIONS

LEVEL	OCCUPANCY	FLOOR AREA	SGM	REQ. FLOOR AREA	MAXIMUM FLOOR AREA
GROUND FLOOR	IND	4,982.40 sq ft	15.00	2,188.46 sq ft	29,817.35 sq ft
MEZZANINE FLOOR	IND	1,743.84 sq ft	15.00	4,888.04 sq ft	48,372.37 sq ft
TOTAL		6,726.24 sq ft		7,076.50 sq ft	78,189.72 sq ft

FAR CALCULATIONS

SGM	REQ. FAR	PROPOSED FAR	ALLOWABLE FAR
15.00	0.41	0.61	1.20

VEHICLE PARKING AND LOADING:
 REFER TO LOCAL ZONING REQUIREMENTS FOR USE CLASSIFICATION AND PARKING REQUIREMENTS. ALL AREAS ARE BASED ON GROSS AREA CALCULATIONS UNLESS NOTED OTHERWISE.

VEHICLE PARKING REQUIREMENT CALCULATIONS

LEVEL	PARKING CLASSIFICATION	LOCAL BY-LAW REQUIREMENTS	PERCENTAGE OF SPACE	AREA (SQ M)	SPACES REQUIRED
MINOR FLOOR	STANDARD	100.00%	1.00	100.00	46.87
SECOND FLOOR	STANDARD	100.00%	2.5	100.00	18.43
TOTAL					65.30

VEHICLE PARKING SPACES PROVIDED: 67.24 (10.94 SPACES EXCESS)

LOADING SPACES PROVIDED: 2

STANDARD PARKING: 65.30

SMALL CAR: 25

STANDARD PARKING: 40

TOTAL PARKING SPACES PROVIDED: 85

STALL DIMENSIONS:

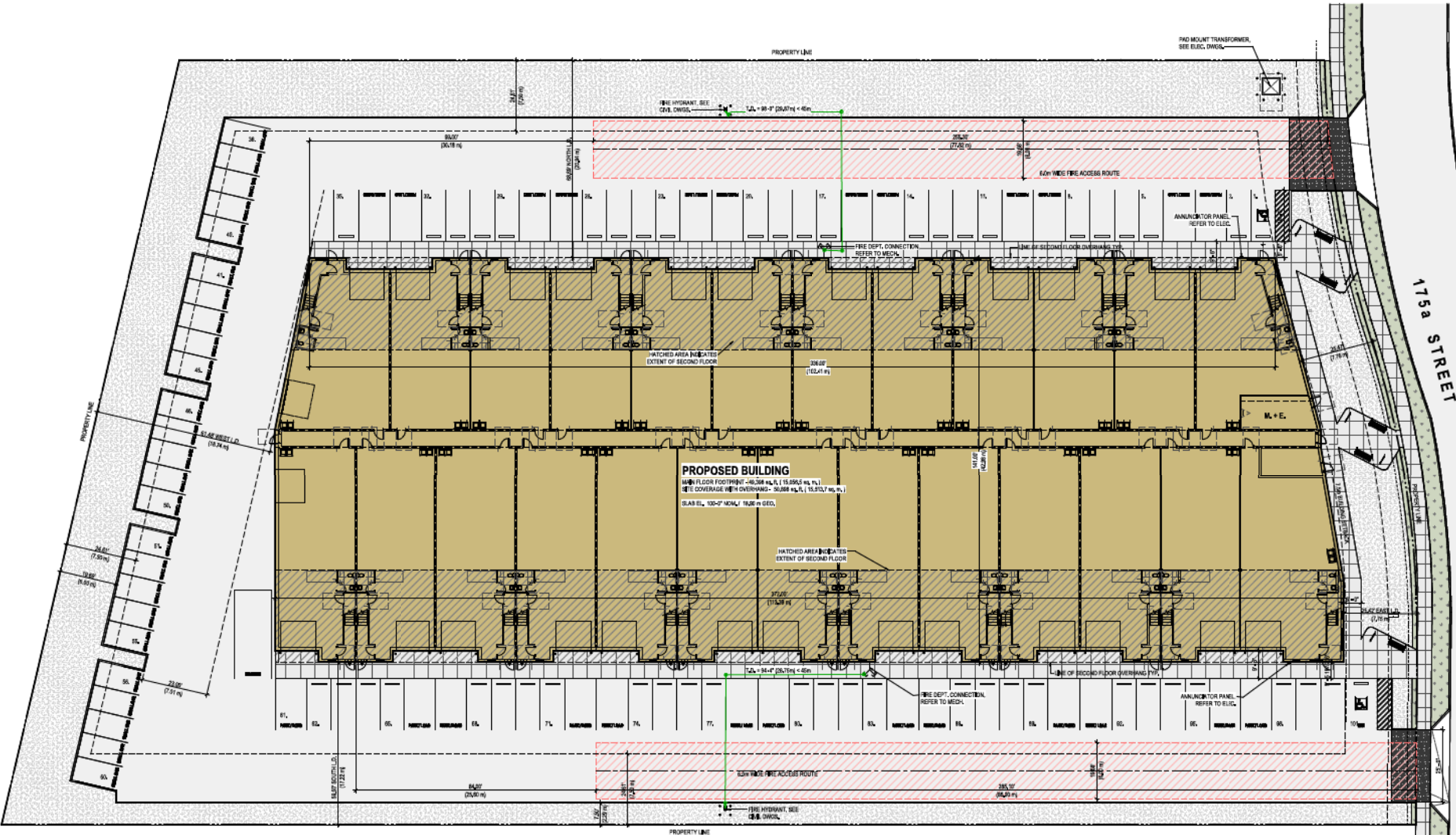
STANDARD STALL	STANDARD STALL ADJACENT STRUCTURE	PARALLEL STANDARD STALL	ACCESSIBLE STALL	VAN ACCESSIBLE STALL	SMALL CAR STALL (MAX. 2.00m)	LOADING STALL
2.86 m (9.39) W	5.83 m (18.94) L	5.83 m (18.94) L	2.29 m (7.51) W	5.83 m (18.94) L	2.29 m (7.51) W	4.27 m (13.84) L

DRIVEABLE WIDTH: 7.68 m (25.19) @ 90° (7.00) WAYS

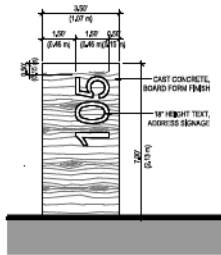
LOADING CALCULATION:
 TOTAL LOADING SPACES REQUIRED: 2

BIKE PARKING:
 BIKING ESTABLISHMENT / GENERAL SERVICE USE: 6.08 BIKE CYCLE SPACES PER 100 SQ M OF THE G.V.A.
 TOTAL G.V.A.: 6,726.24 SQ M
 TOTAL BIKE CYCLE SPACES PROVIDED: 45.24
 TOTAL BIKE CYCLE SPACES REQUIRED: 40.58
 TOTAL BIKE CYCLE SPACES PROVIDED: 4.66



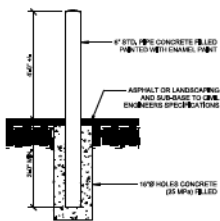


1 FIRE DEPARTMENT-SITE PLAN
SCALE: 1/8" = 1'-0"



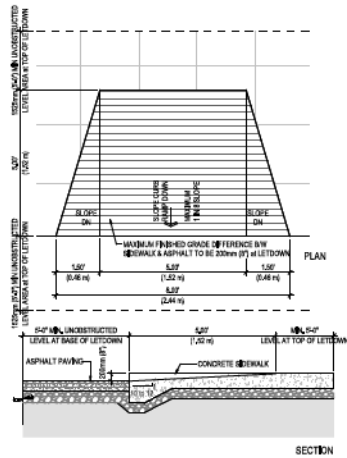
1 ADDRESS SIGN

SCALE: 3/4" = 1'-0"



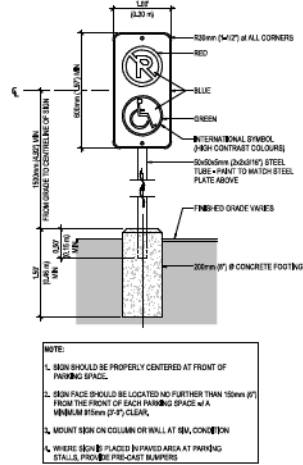
2 BOLLARD DETAIL

SCALE: 1" = 1'-0"



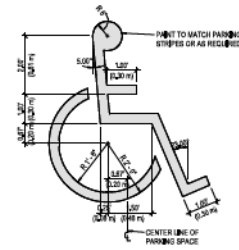
3 ACCESSIBLE LETDOWN

SCALE: 1/2" = 1'-0"



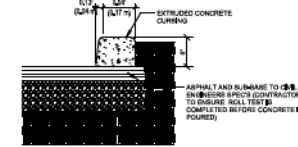
4 ACCESSIBLE POST MOUNTED SIGN

SCALE: 1" = 1'-0"



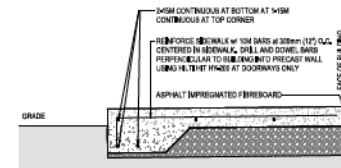
5 ACCESSIBLE PAINTED SYMBOL

SCALE: 1/2" = 1'-0"



6 EXTRUDED CURB DETAIL

SCALE: 1" = 1'-0"



NOTE:
 1. PROVIDE 100mm (4") SIDEWALK ON 4" COMPACTED CLEAN GRANULAR FILL, PROVIDE CONTROL JOINTS EVERY 2286mm (9'-0") - REFER TO SITE PLAN.
 2. PROVIDE 50mm (2") INSULATION BENEATH SIDEWALK AT ALL DOORS, EXTENDING 1220mm (5'-0") BEYOND DOOR AT OTHER SIDE.

7 SIDEWALK DETAIL

SCALE: 1" = 1'-0"

NO.	DATE	BY	DESCRIPTION
1	2024.04.10	ISSUED FOR DEVELOPMENT PERMIT	
ISSUES AND REVISIONS			
SEAL			

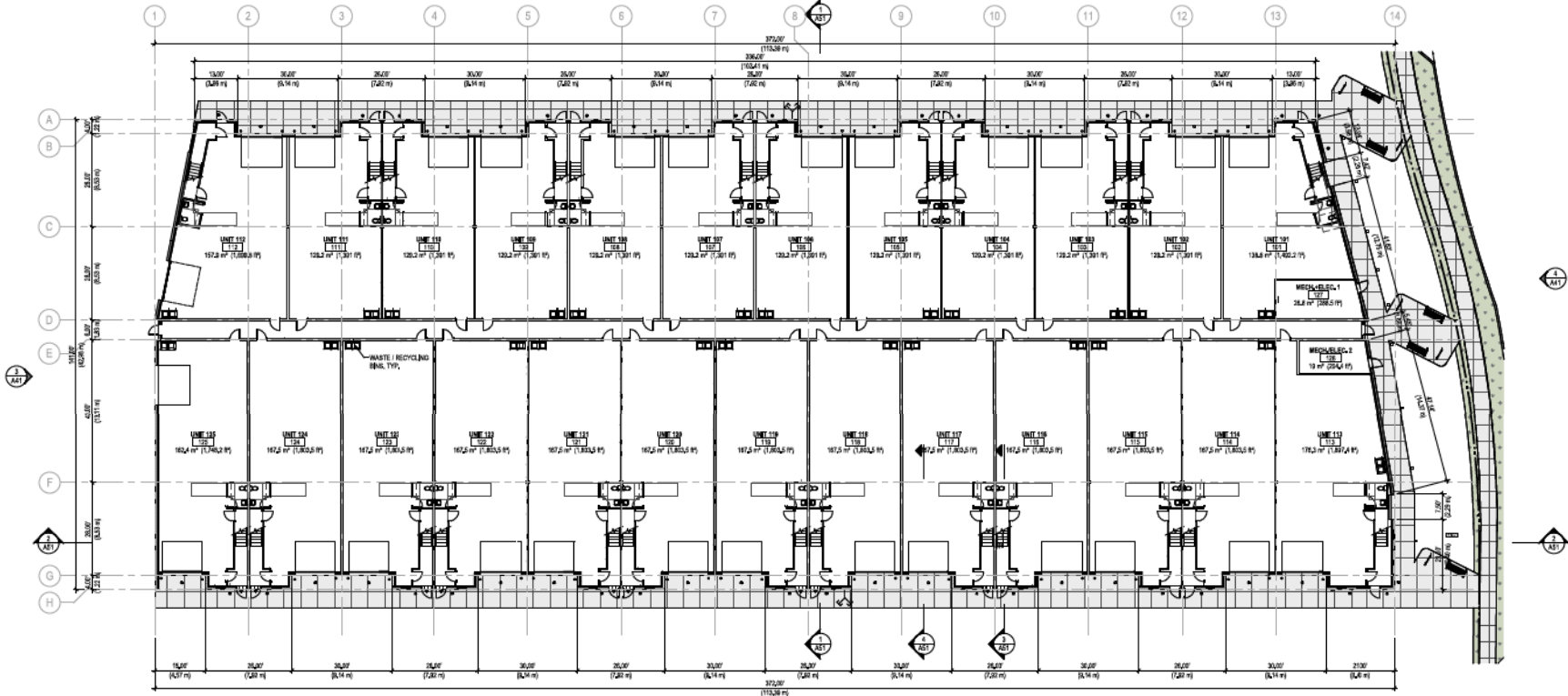
PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 109 + 175A STREET, SURREY, BC

DRAWING TITLE
SITE DETAILS

SCALE	As Indicated
DRAWN	MB
REVIEWED	J.P. MB
PROJECT NO.	24191-A
DRAWING NO.	



1 MAIN FLOOR PLAN
SCALE: 1/8" = 1'-0"



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3	2024/10/17	REVISED FOR DP	
2	2024/10/16	REVISED FOR REVIEW	
1	2024/10/16	ISSUED FOR DEVELOPMENT PERMIT	
NO.	DATE	YMO	DESCRIPTION
ISSUES AND REVISIONS			
SEAL			

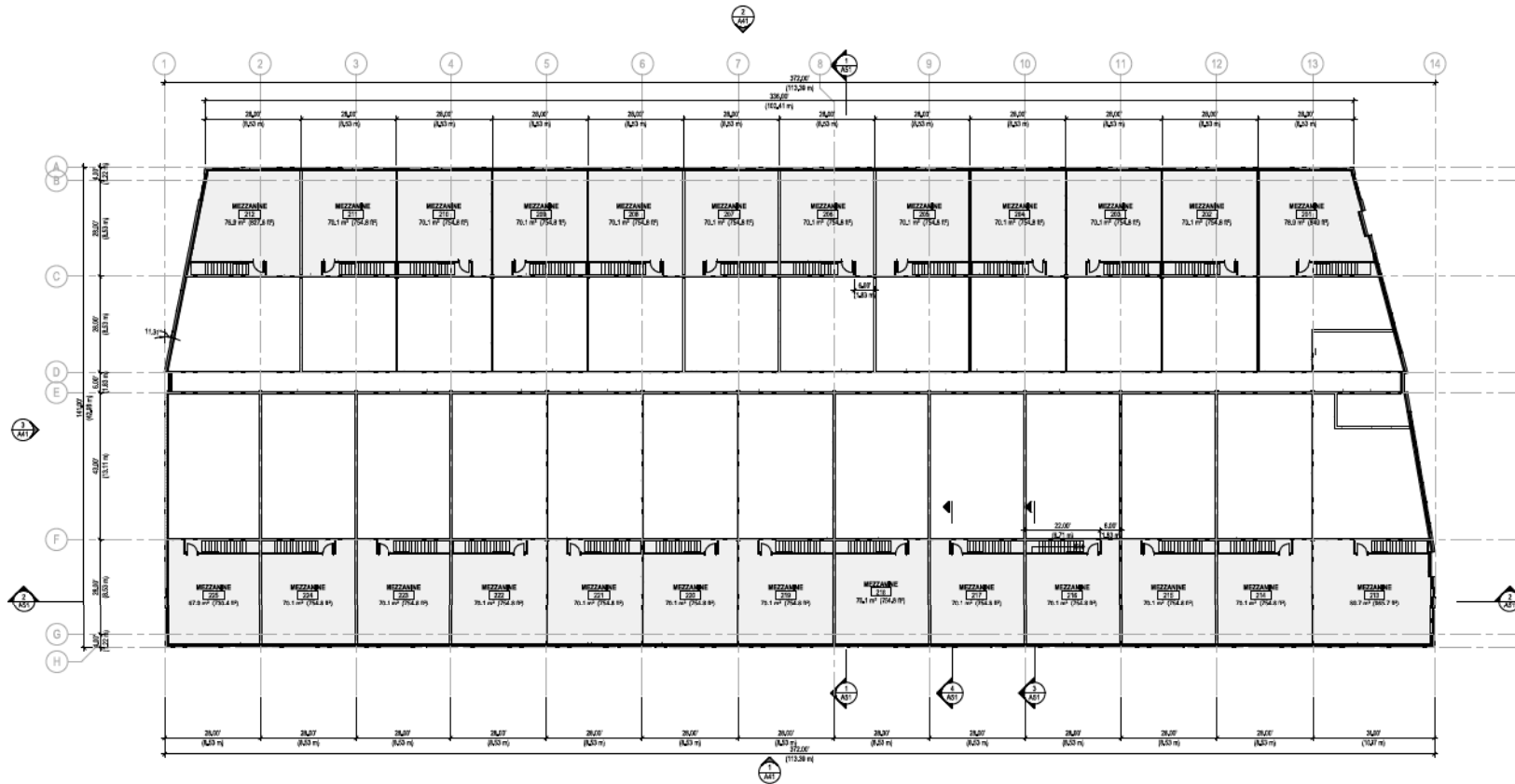
PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 109 + 175A STREET, SURREY, BC

DRAWING TITLE
MAIN FLOOR

SCALE	1/8" = 1'-0"
DRAWN	MB
REVIEWED	LP, MB
PROJECT NO.	2491-A
DRAWING NO.	



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



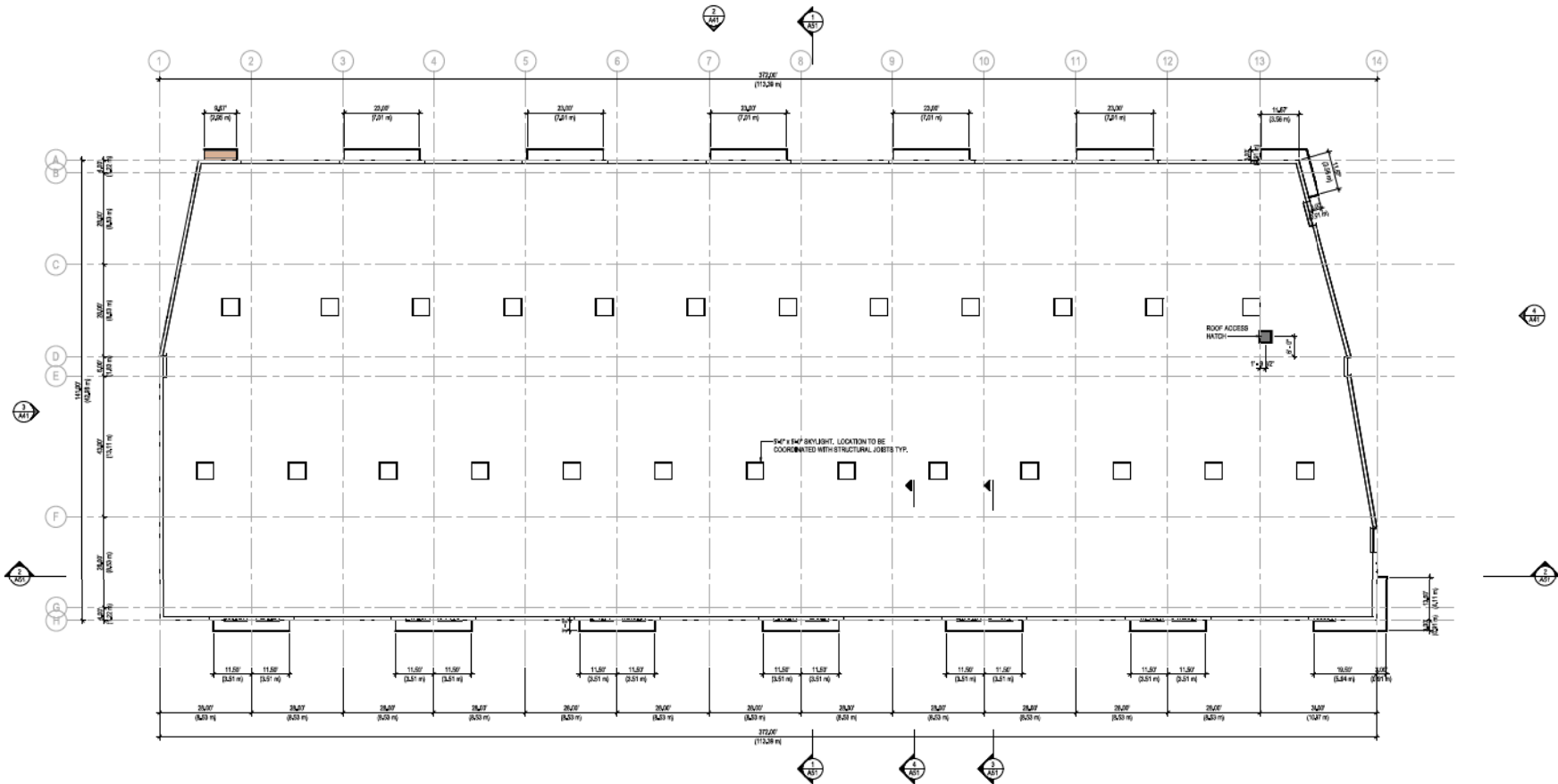
PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 109 + 175A STREET, SURREY, BC

DRAWING TITLE
SECOND FLOOR

SCALE 1/16" = 1'-0"
DRAWN MB
REVIEWED LP, MB
PROJECT NO. 2491-A
DRAWING NO.



1 ROOF PLAN
SCALE: 1/8" = 1'-0"



PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 109 + 175A STREET, SURREY, BC

DRAWING TITLE
ROOF PLAN

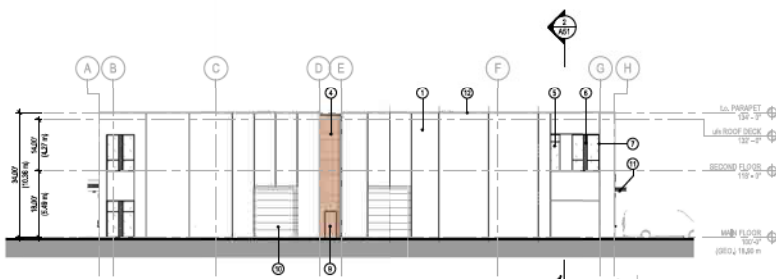
SCALE	1/8" = 1'-0"
DRAWN	MB
REVIEWED	JP, MB
PROJECT NO.	2491-A
DRAWING NO.	



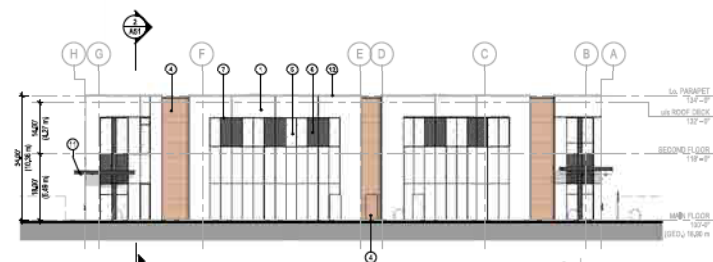
1 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



2 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



3 WEST ELEVATION
SCALE: 1/8" = 1'-0"



4 EAST ELEVATION
SCALE: 1/8" = 1'-0"



5 ENLARGED ELEVATION 1
SCALE: 1/8" = 1'-0"

TYPE	DESCRIPTION
1	CONCRETE PAINTED - C1
2	CONCRETE PAINTED - C2
3	INSULATED METAL PANELS
4	FAUX WOOD - CYPRESS
5	TINTED GLASS - LIGHT GRAY
6	METAL-COLOURED INSULATED SPANREL PANEL (COLOUR TO MATCH ALUM MULLIONS (M))
7	CURTAINWALL MULLIONS: PRE-ANODIZED ALUMINUM (COLOUR BLACK)
8	ARCHITECTURAL STEEL - PAINTED
9	HOLLOW METAL DOOR - PAINTED
10	OVERHEAD DOOR - WHITE
11	OVERHEAD DOOR - BLACK
12	PARAPET CAP FLASHING (PAINTED TO MATCH WALLS)

PROJECT COLOURS

C1 BENJAMIN MOORE
00-25 - CLOUD COVER



C2 BENJAMIN MOORE
983 - GRAPHITE



C3 KINGS PAN PANELS
REGAL WHITE

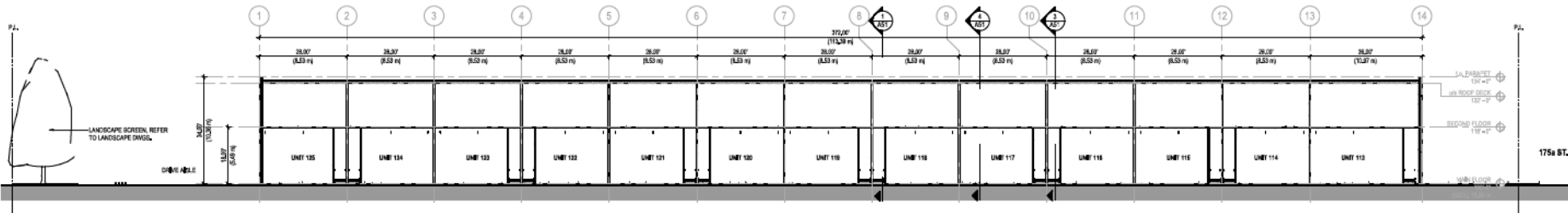


C4 LIX ARCHITECTURAL
CYPRESS (OR LIMBARK)

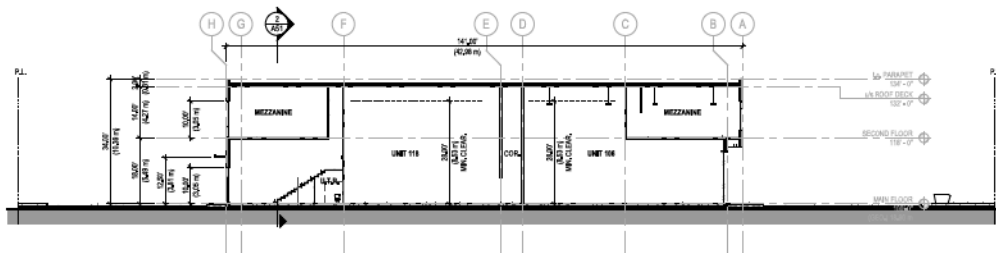


C5 BENJAMIN MOORE
AF-081 - COASTAL PATH

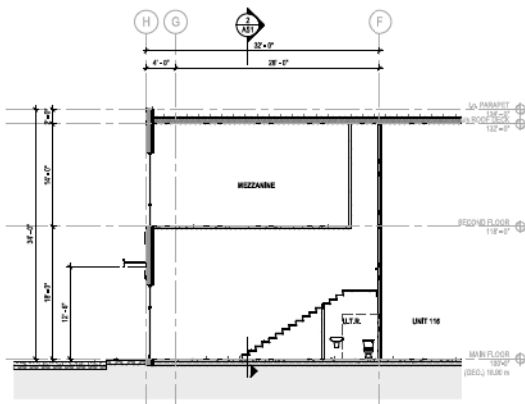




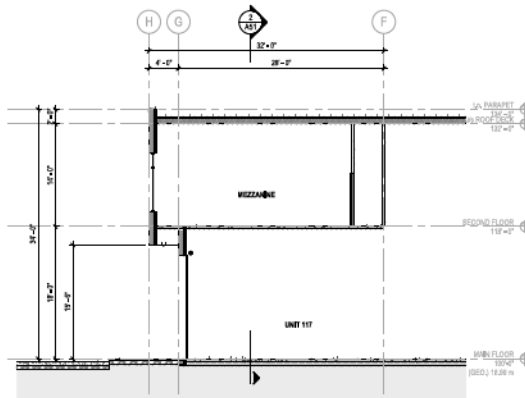
2 Section 2
SCALE: 1/8" = 1'-0"



1 Section 1
SCALE: 1/8" = 1'-0"



3 Section 7
SCALE: 1/8" = 1'-0"



4 Section 9
SCALE: 1/8" = 1'-0"

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NO.	DATE	BY	DESCRIPTION
3	2024/07/17	REDA	REQUIRED FOR DP
1	2024/04/26	REDA	ISSUED FOR DEVELOPMENT PERMIT

ISSUES AND REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 109 + 175A STREET, SURREY, BC

DRAWING TITLE
BUILDING SECTIONS

SCALE	As Indicated
DRAWN	MB
REVIEWED	JP, MB
PROJECT NO.	24191-A
DRAWING NO.	



LITCO INDUSTRIAL DEVELOPMENT

105-175A STREET | SURREY | BC

LANDSCAPE PLANS

LEGEND

- PROPERTY LINE
- - - SETBACK LINE
- SOB
- CONCRETE PAVING
- RIVER ROCK
- BENCH
- BIKE RACK
- STRUCTURAL SOB
- SAW CUT CONCRETE

1	DESIGN BY	RELEASED FOR OP
2	DESIGN BY	RELEASED FOR DEVELOPMENT PERMIT
3	DESIGN BY	RELEASED FOR REVIEW
REV.	DATE	DESCRIPTION
		ISSUES & REVISIONS

SCALE:

NORTH ARROW



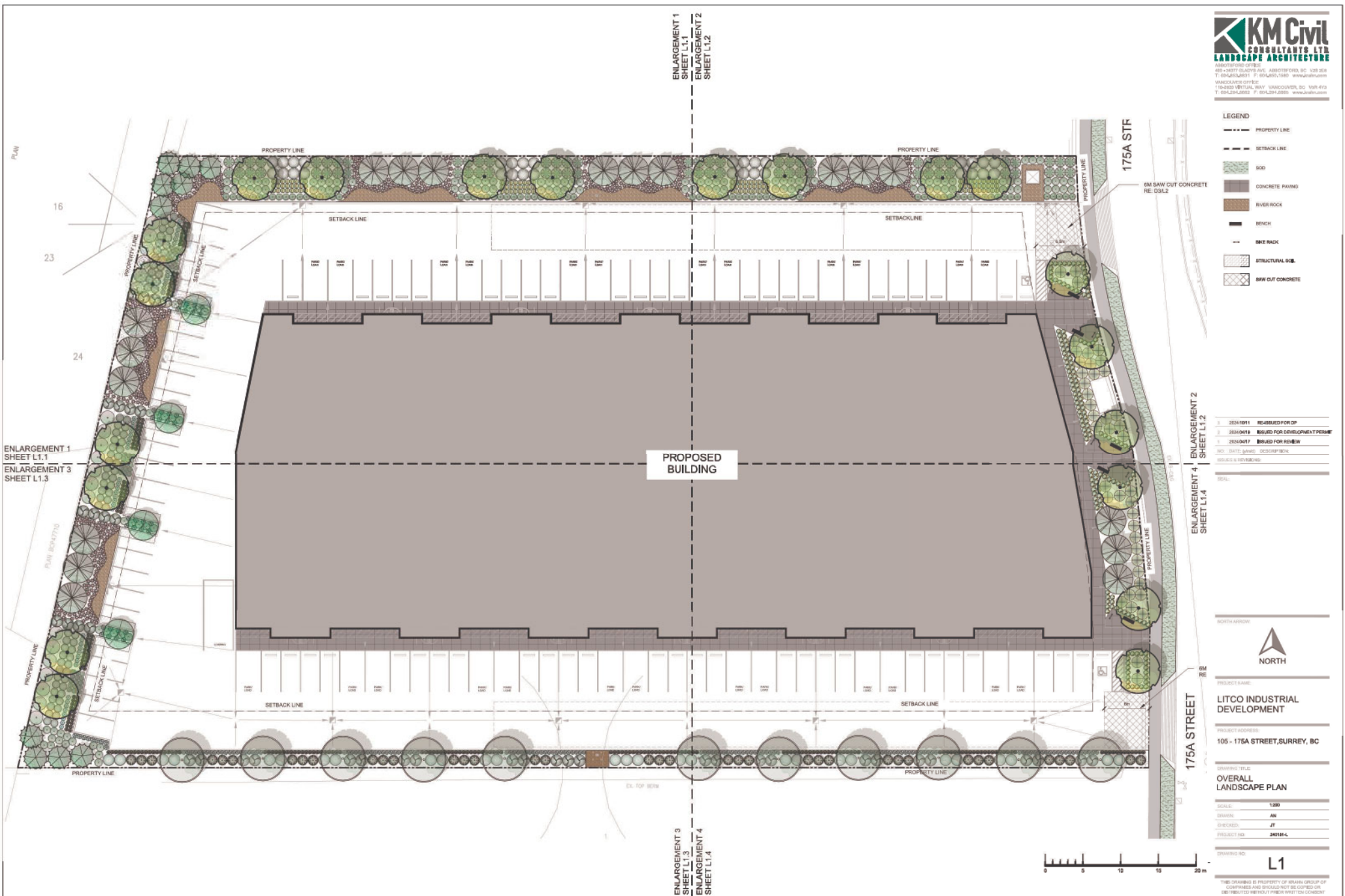
PROJECT NAME:
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS:
105 - 175A STREET, SURREY, BC

DRAWING TITLE:
OVERALL LANDSCAPE PLAN

SCALE: 1:200
DRAWN: AN
CHECKED: JT
PROJECT NO: 24018-L
DRAWING NO: L1

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ENLARGEMENT 1
SHEET L1.1
ENLARGEMENT 3
SHEET L1.3

ENLARGEMENT 1
SHEET L1.1
ENLARGEMENT 2
SHEET L1.2

PROPOSED BUILDING

ENLARGEMENT 3
SHEET L1.3
ENLARGEMENT 4
SHEET L1.4

ENLARGEMENT 2
SHEET L1.2
ENLARGEMENT 4
SHEET L1.4

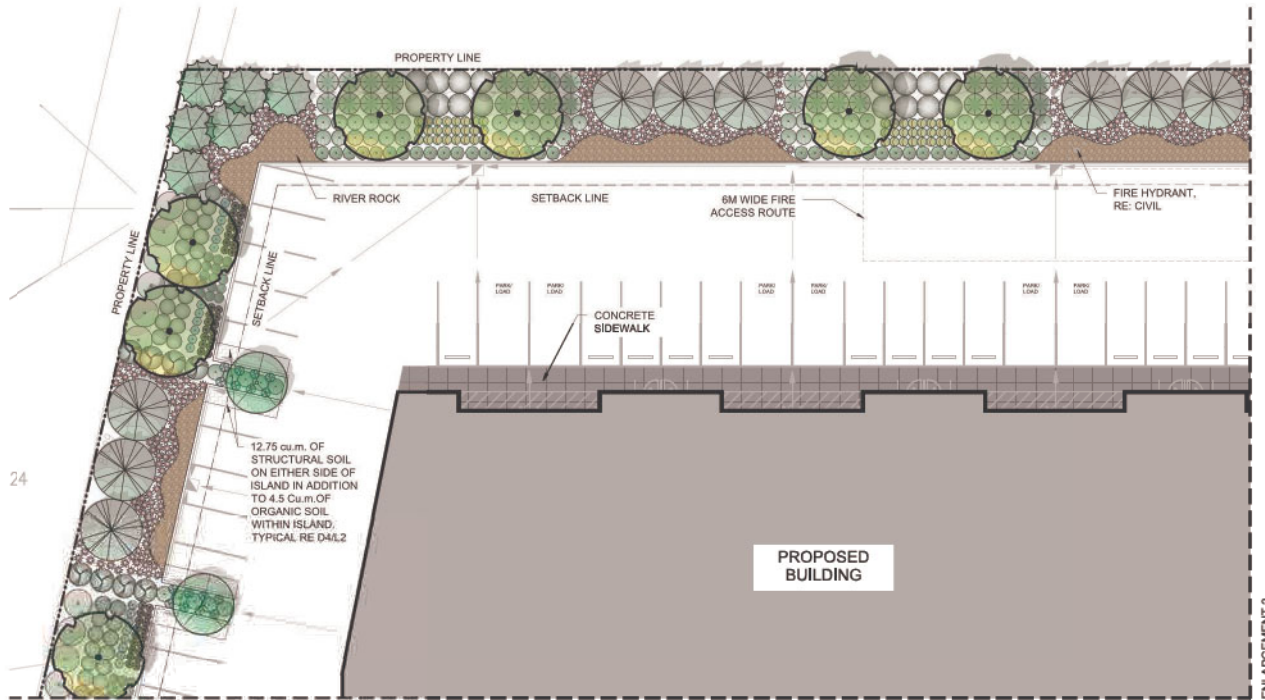
175A STREET
175A STF



PLAN

16
23
24

DL TOP VIEW



J	2024/01/11	RELEASED FOR CP
J	2024/01/11	RELEASED FOR DEVELOPMENT PERMIT
I	2024/01/11	RELEASED FOR REVIEW
NO.	DATE (MM/DD)	DESCRIPTION
		REVISED / REVISIONS
SCALE:		

ENLARGEMENT 3
SHEET L1.3

PLANT LIST

QTY	OFF	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION
DECIDUOUS TREES						
6		Acer rubrum 'Sun Valley'	Sun Valley Red Maple	60cm CxH	As Shown	W/L
20		Fraxinus excelsior 'Hagevoet'	Raywood Ash	60cm CxH	As Shown	W/L
11		Zakura serrata	Japanese Zakura	60cm CxH	As Shown	W/L
CONIFEROUS TREES						
18		Picea canadica	White Spruce	20cm Hx	As Shown	W/L (Bender caught form only, no weaving top)
18		Picea canadica	White Spruce	20cm Hx	As Shown	W/L
SHRUBS						
20		Strawfordia 'Sunburst'	Strawfordia	50cm Hx	1.2m	#3 pot
40		Physocarpus opulifolius	Orange Wonder Ninebark	50cm Hx	1.2m	#3 pot
20		Prunus nigra var. purshii	Dwarf Nigra Plum	40cm Hx	1.2m	#3 Pot
60		Cornus sericea 'Yellow'	Dwarf Kalmia Dogwood	60cm Hx	0.8m	#3 Pot
60		Viburnum doerfleri	Dwarf Viburnum	30cm Hx	0.8m	#3 pot
100		Potentilla fruticosa	Shrubby Cineraria	30cm Hx	1m	#3 pot
20		Ceanothus 'Purpl' Blue'	California Blue	50 cm Hx	As Shown	#3 Pot
44		Calluna vulgaris 'Spring Tonic'	Heather	30cm Hx	0.75m	#3 Pot
40		Hydrangea macrophylla 'Pav'	Compact Mophead Hydrangea	40cm Hx	1m	#3 Pot
72		Sorbus domestica 'L. elongata' 'Japanese Spindle'	Dwarf Pyracantha Japanese Spindle	40cm Hx	1m	#3 Pot
27		Thuja occidentalis 'Smaragd'	Emerald Green Cedar	100cm Hx	1m	B & S
PERENNIALS, GROUND COVERS, AND GRASSES						
100		Rudbeckia hirta	Black Eyed Susan	1 CxH	As Shown	Planted
240		Levinia de Agrippina	English Lavender	1 CxH	As Shown	Planted
110		Hemerocallis filifera	Day Lily	1 CxH	As Shown	Planted
200		Echinacea purpurea 'Strawberry Sundae'	Purple Coneflower	1 CxH	As Shown	Planted
40		Peperomia sp.	Blue Peperomia	1 CxH	As Shown	Planted
100		Laciniatum x asperum 'Sassy'	Shasta Daisy	1 CxH	As Shown	Planted



PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 - 175A STREET, SURREY, BC

DRAWING TITLE
ENLARGEMENT 1

SCALE: 1:50

DRAWN: AM

CHECKED: JT

PROJECT NO: 24014-L

DRAWING NO: **L1.1**

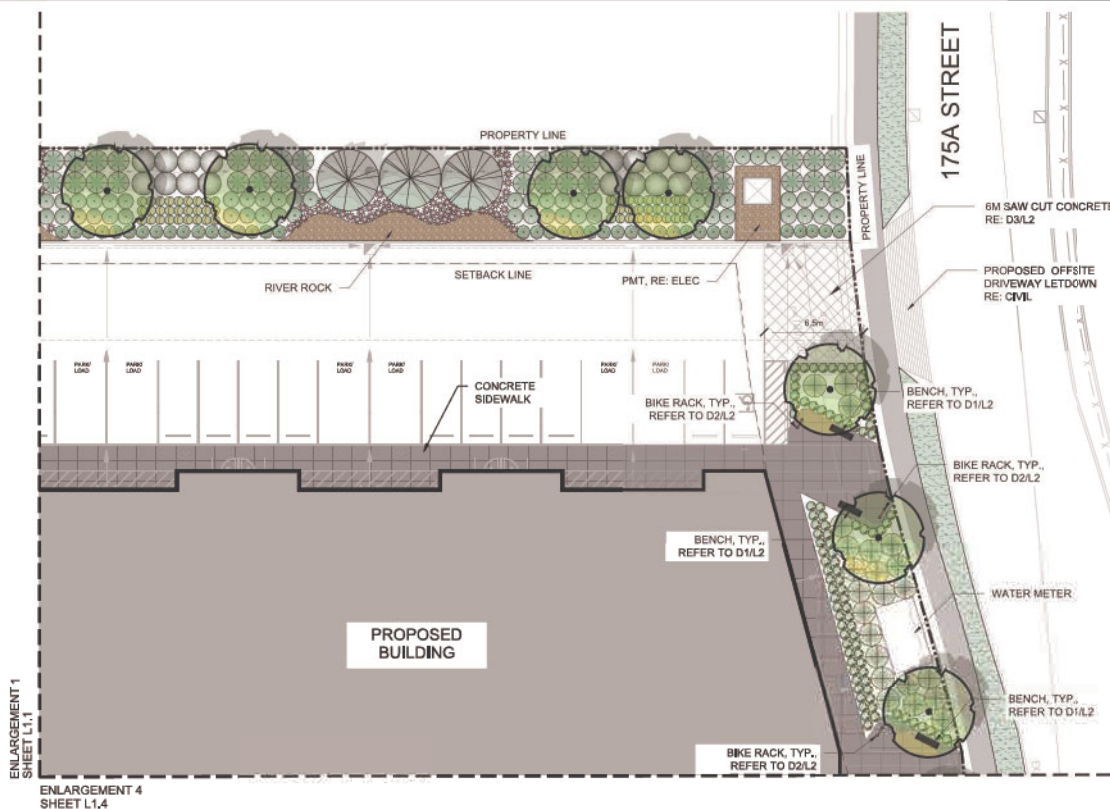


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LEGEND

- PROPERTY LINE
- - - SETBACK LINE
- SOG
- ▨ CONCRETE PAVING
- ▩ RIVER ROCK
- BENCH
- ◆ BMS RACK
- ▧ STRUCTURAL SOE.
- ▩ SAW CUT CONCRETE

J	2024/01/11	RELEASED FOR CP
K	2024/01/18	RELEASED FOR DEVELOPMENT PERMIT
L	2024/01/17	RELEASED FOR REVIEW
NO.	DATE (MM/DD)	DESCRIPTION
REVISED & REVISIONS		
SCALE		



KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION
DECIDUOUS TREES						
14	4	<i>Acer laburnum 'Sun Valley'</i>	Sun Valley Red Maple	80cm Cal	As Shown	W.D.
20	20	<i>Fraxinus excelsior 'Raywood'</i>	Raywood Ash	80cm Cal	As Shown	W.D.
41	1	<i>Quercus serrata</i>	Japanese CorkOak	80cm Cal	As Shown	W.D.
CONIFER TREES						
17	1	<i>Thuja occidentalis</i>	Eastern Spruce	3m H.	As Shown	W.D. (Order upright form site, no reworking 191)
22	1	<i>Picea glauca</i>	White Spruce	3m H.	As Shown	W.D.
SHRUBS						
27	1	<i>Stachytarpheta jamaicensis</i>	Stachytarpheta	50cm H.	1.2m	80 pot
31	1	<i>Zingiber officinale 'Mandarin'</i>	Ginger Mandarin	50cm H.	1.5m	80 pot
32	1	<i>Pinus strobus 'Blue Prince'</i>	Blue Prince Pine	45cm H.	1.5m	80 Pot
33	1	<i>Conium maculatum 'Yakuzai'</i>	Yakuzai Conium	60cm H.	50m	80 Pot
34	1	<i>Hamamelis mollis</i>	Hamamelis	30cm H.	50m	80 pot
35	1	<i>Philadelphus 'Autumn Song'</i>	Autumn Song Philadelphus	30cm H.	1m	80 pot
36	1	<i>Chimonanthes 'Peach Blossom'</i>	Peach Blossom Chimonanthes	30cm H.	1m	80 Pot
37	1	<i>Colonia virginiana 'Spring Tassel'</i>	Spring Tassel Colonia	30cm H.	5.75m	80 Pot
38	1	<i>Hydrangea macrophylla 'Pink Diamond'</i>	Pink Diamond Hydrangea	40cm H.	1m	80 Pot
39	1	<i>Hydrangea macrophylla 'Lilac White'</i>	Lilac White Hydrangea	40cm H.	1m	80 Pot
40	1	<i>Thalictrum 'Blackberry'</i>	Blackberry Thalictrum	150cm H.	1m	8 & 8
PERENNIALS, GROUND COVERS, AND GRASSES						
41	1	<i>Hosta 'Blue Heaven'</i>	Blue Heaven Hosta	1 Galton	As Shown	Plant
42	1	<i>Liriodendron 'Yellow Heart'</i>	Yellow Heart Liriodendron	1 Galton	As Shown	Plant
43	1	<i>Delphinium 'Blue Bird'</i>	Blue Bird Delphinium	1 Galton	As Shown	Plant
44	1	<i>Delphinium 'Purple Cloud'</i>	Purple Cloud Delphinium	1 Galton	As Shown	Plant
45	1	<i>Delphinium 'White Cloud'</i>	White Cloud Delphinium	1 Galton	As Shown	Plant
46	1	<i>Delphinium 'Blue Bird'</i>	Blue Bird Delphinium	1 Galton	As Shown	Plant

NORTH ARROW



PROJECT NAME

LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS

105 - 175A STREET, SURREY, BC

DRAWING TITLE

ENLARGEMENT 2

SCALE

1/50

DRAWN

AM

CHECKED

JT

PROJECT NO.

2024-L

DRAWING NO.

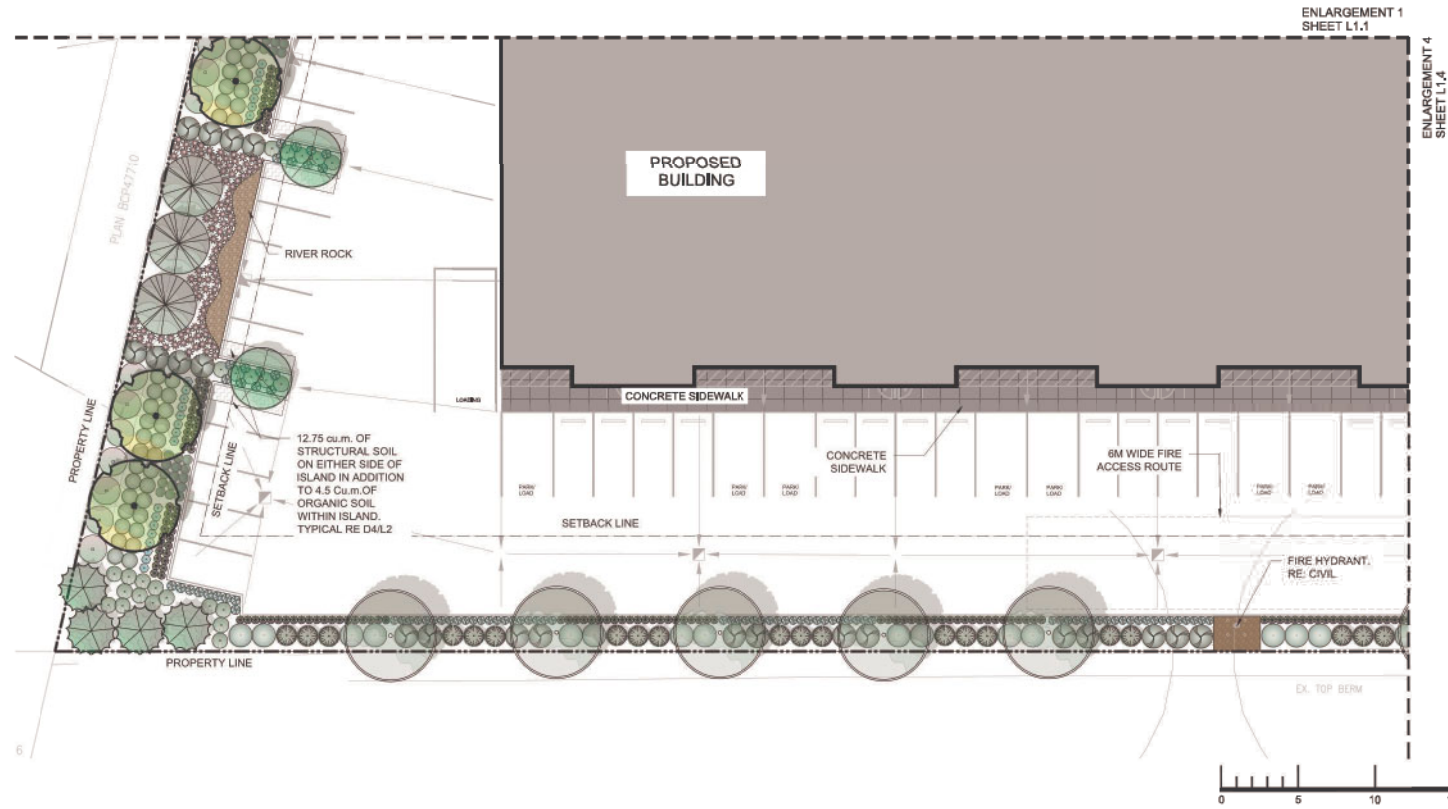
L1.2



THIS DRAWING IS PROPERTY OF KM CIVIL GROUP OF COMPANIES AND SHOULD NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN CONSENT

- LEGEND**
- PROPERTY LINE
 - SETBACK LINE
 - SOIL
 - CONCRETE PAVING
 - RIVER ROCK
 - BENCH
 - BMC BACK
 - STRUCTURAL SOIL
 - SAW CUT CONCRETE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION
DECIDUOUS TREES						
4	1	Acer japonicum 'Sun Valley'	Sun Valley Red Maple	8cm Cal.	As Shown	W/L
20	1	Fraxinus excelsior 'Raywood'	Raywood Ash	8cm Cal.	As Shown	W/L
11	1	Zelkova serrata	Japanese Zelkova	8cm Cal.	As Shown	W/L
LAWN PLANT SPECIES						
16	1	Plant species	Grass Species	3m H.	As Shown	W/L, 10cm height 5m only, no weeping law
10	1	Plant species	White Spruce	3m H.	As Shown	W/L
SHRUBS						
27	1	Wisteria tubulosa	Wisteria	80cm H.	1.2m	#2 pot
41	1	Philadelphus occidentalis	Ginger White Nivea	80cm H.	1.2m	#2 pot
66	1	Pinus mugo var. mugo	Dwarf Mugo Pine	40cm H.	1.2m	#2 Pot
13	1	Quercus serrata 'Staryk'	Dwarf Kelsey Oak	80cm H.	0.8m	#2 Pot
60	1	Viburnum pendula	Dwarf Viburnum	30cm H.	0.8m	#2 pot
113	1	Waxillia japonica	Shrubby Dogwood	30cm H.	1m	#2 pot
20	1	Calluna vulgaris	Calluna	67cm H.	As Shown	#2 Pot
44	1	Quercus nigra 'Spring Dawn'	Heather	30cm H.	0.75m	#2 Pot
43	1	Hydrangea anomala 'Red'	Compact Mophead Hydrangea	40cm H.	1m	#2 Pot
53	1	Betula nana 'Spectabilis'	Dwarf Pumkin Japanese Betula	40cm H.	1m	#2 Pot
22	1	Thalictrum aquilegifolium	Dwarf Green Cedar	100cm H.	1m	S & B
PERENNIALS, GROUND COVERS, AND GRASSES						
163	1	Black-eyed Susan	Black-eyed Susan	1 Galton	As Shown	Perpet
249	1	English Lavender	English Lavender	1 Galton	As Shown	Perpet
112	1	Blue Hydrangea	Blue Hydrangea	1 Galton	As Shown	Perpet
337	1	Purple Coneflower	Purple Coneflower	1 Galton	As Shown	Perpet
49	1	Blue Fescue	Blue Fescue	1 Galton	As Shown	Perpet
110	1	Drumstick	Drumstick	1 Galton	As Shown	Perpet



ENLARGEMENT 1
SHEET L1.1

ENLARGEMENT 4
SHEET L1.4

J	2024/01/11	ISSUED FOR O.P.
K	2024/01/18	ISSUED FOR DEVELOPMENT PERMIT
L	2024/01/17	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION
REVISED AND REVISIONS		
SCALE		



PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 - 175A STREET, SURREY, BC

DRAWING TITLE
ENLARGEMENT 3

SCALE:	1:50
DRAWN:	AM
CHECKED:	JT
PROJECT NO.:	24014-L
DRAWING NO.:	L1.3



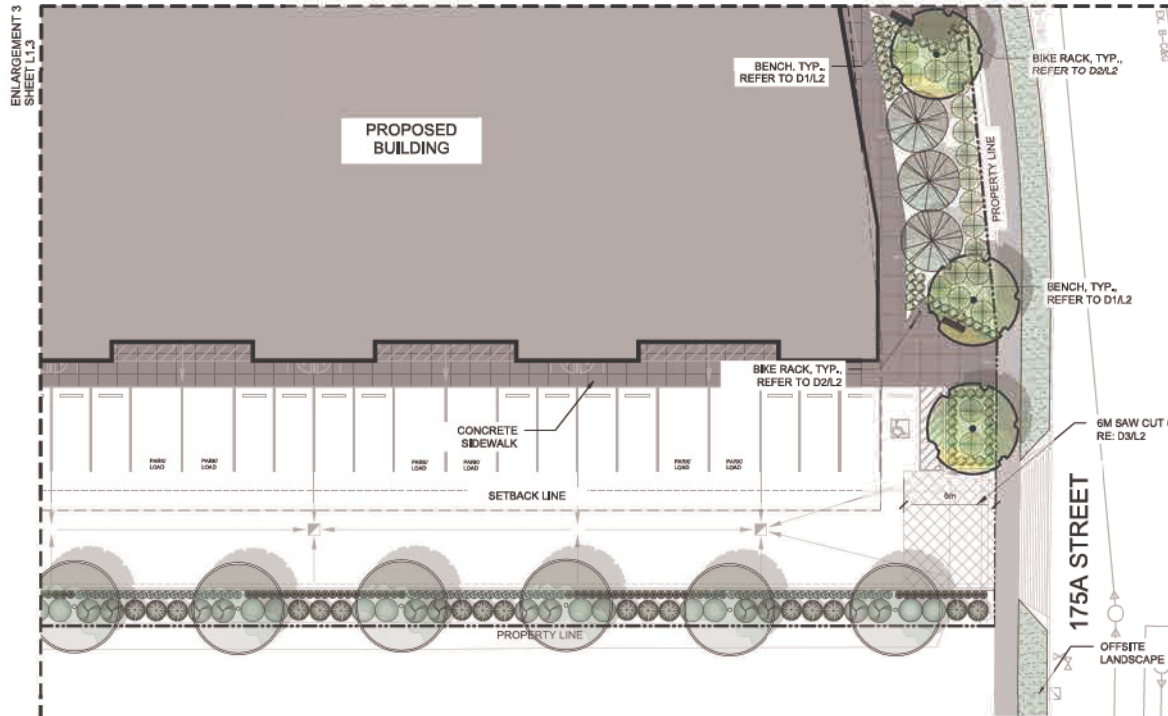
THIS DRAWING IS PROPERTY OF KEVIN GROUP OF COMPANIES AND SHOULD NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN CONSENT.

KEY	SPY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION
DECIDUOUS TREES						
4		<i>Astragalus</i> 'Sun Valley'	Sun Valley Red Maple	60m CxL	As Shown	W.L.
20		<i>Fraxinus excelsior</i> 'Raywood'	Raywood Ash	60m CxL	As Shown	W.L.
21		<i>Quercus</i> 'Zakura'	Japanese Zelkova	60m CxL	As Shown	W.L.
CONIFEROUS TREES						
16		<i>Picea canadensis</i>	Banker Spruce	3m H.	As Shown	W.L. (Slender upright form with no weeping habit)
18		<i>Picea glauca</i>	White Spruce	3m H.	As Shown	W.L.
SHRUBS						
27		<i>Berberis thunbergii</i>	Dooryakiba	50m Hx	1.5m	#3 pot
41		<i>Physocarpus opulifolius</i>	Orange Birch Leafed	30m Hx	1.2m	#3 pot
32		<i>Pinus nigra</i> 'Laez'	Dark Hedge Pine	40m Hx	1.5m	#3 Pot
13		<i>Carissa spinosa</i> 'Blackberry'	Dark Redbay Dogwood	90m Hx	0.2m	#3 Pot
89		<i>Yucca glauca</i>	Dark Yucca	30m Hx	0.2m	#2 pot
133		<i>Passiflora foetida</i>	Shrubby Chrysanthemum	30m Hx	1m	#3 pot
20		<i>Carolinian Pigeon</i>	California Lily	80 cm H	As Shown	#6 Pot
44		<i>Salix caprea</i> 'Flamingo'	Flamingo	30m Hx	0.2m	#2 Pot
42		<i>Hydrangea macrophylla</i> 'Polaris'	Compact Mophead Hydrangea	40m Hx	1m	#3 Pot
78		<i>Berberis thunbergii</i> 'Lutescens'	Dark Redbay Japanese Barberry	40m Hx	1m	#3 Pot
27		<i>Thuja occidentalis</i> 'Smaragd'	Emerald Green Cedar	180cm Hx	1m	8 B & B
PERENNIALS, BIENNIALS, CROPPERS AND GRASSES						
	100	<i>Hydrangea</i>	Black Eye Susan	1.0m Hx	As Shown	Plant
	101	<i>Salvia</i>	English Lavender	1.0m Hx	As Shown	Plant
	112	<i>Hydrangea</i>	Day Lily	1.0m Hx	As Shown	Plant
	102	<i>Hydrangea</i>	Purple Columbine	1.0m Hx	As Shown	Plant
	43	<i>Phlox</i>	Phlox	1.0m Hx	As Shown	Plant
	103	<i>Lythrum</i>	Shade Daisy	1.0m Hx	As Shown	Plant

LEGEND

- PROPERTY LINE
- SETBACK LINE
- SOIL
- CONCRETE PAVING
- RIVER ROCK
- BENCH
- BIKE RACK
- STRUCTURAL SOIL
- RAW CUT CONCRETE

ENLARGEMENT 2
 SHEET L1.2



J	2024/01/11	RELEASED FOR CP
J	2024/01/11	RELEASED FOR DEVELOPMENT PERMIT
J	2024/01/11	RELEASED FOR REVIEW
NO.	DATE (YYYY)	DESCRIPTION
REVISED / REVISIONS		
SCALE:		



PROJECT NAME:
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS:
 105 - 175A STREET, SURREY, BC

DRAWING TITLE:
ENLARGEMENT 4

SCALE:	1:50
DRAWN:	AN
CHECKED:	JT
PROJECT NO.:	24014-L
DRAWING NO.:	L1.4



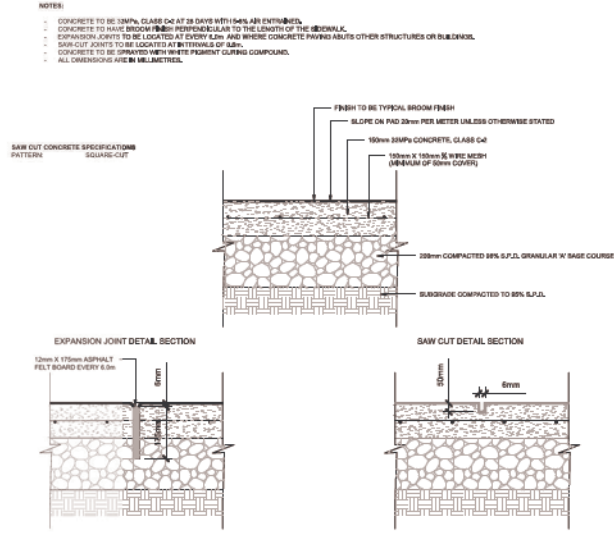
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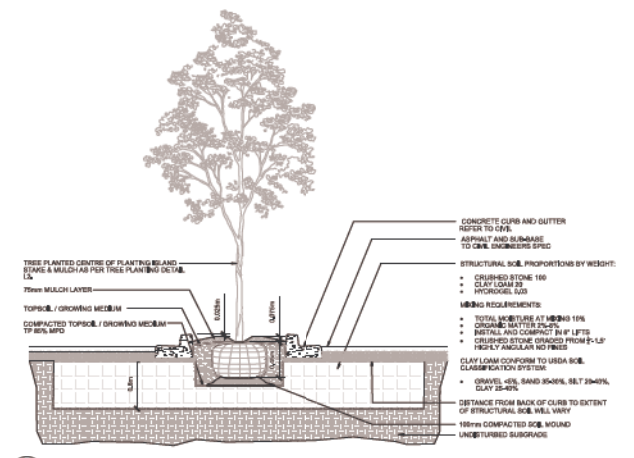
D1 BENCH N.T.S.
 MANUFACTURER: MAGLIN
 MODEL: 2300 SERIES (CONCRETE BACKED)
 COLOUR: WHITE FRAME AND PINE WOOD
 QUANTITY: 1
 OR APPROVED EQUAL



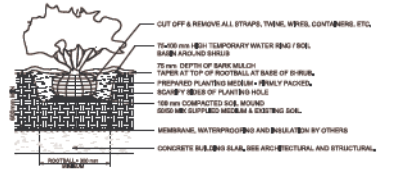
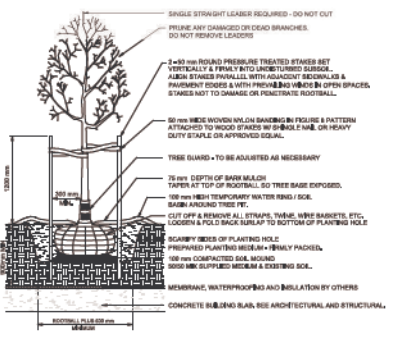
D2 BIKE RACK N.T.S.
 MANUFACTURER: DENO
 MODEL: ROUND
 COLOUR: ORANGE/BLUE
 QUANTITY: 5
 OR APPROVED EQUAL



D3 SAW CUT CONCRETE N.T.S.



D4 STRUCTURAL SOIL 1:30



J	2024/11/11	RE-DESIGNED FOR CP
J	2024/11/11	REVISED FOR DEVELOPMENT PERMIT
J	2024/11/11	REVISED FOR REVIEW
NO.	DATE (MM/DD)	DESCRIPTION
REVISED & REVISIONS		
SCALE:		

PROJECT NAME:
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS:
105 - 175A STREET, SURREY, BC

DRAWING TITLE:
DETAILS

SCALE:
AS NOTED

DRAWN:
AN

CHECKED:
JT

PROJECT NO:
24014-L

DRAWING NO:
L2

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TREE PRESERVATION SUMMARY

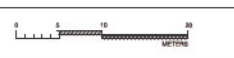
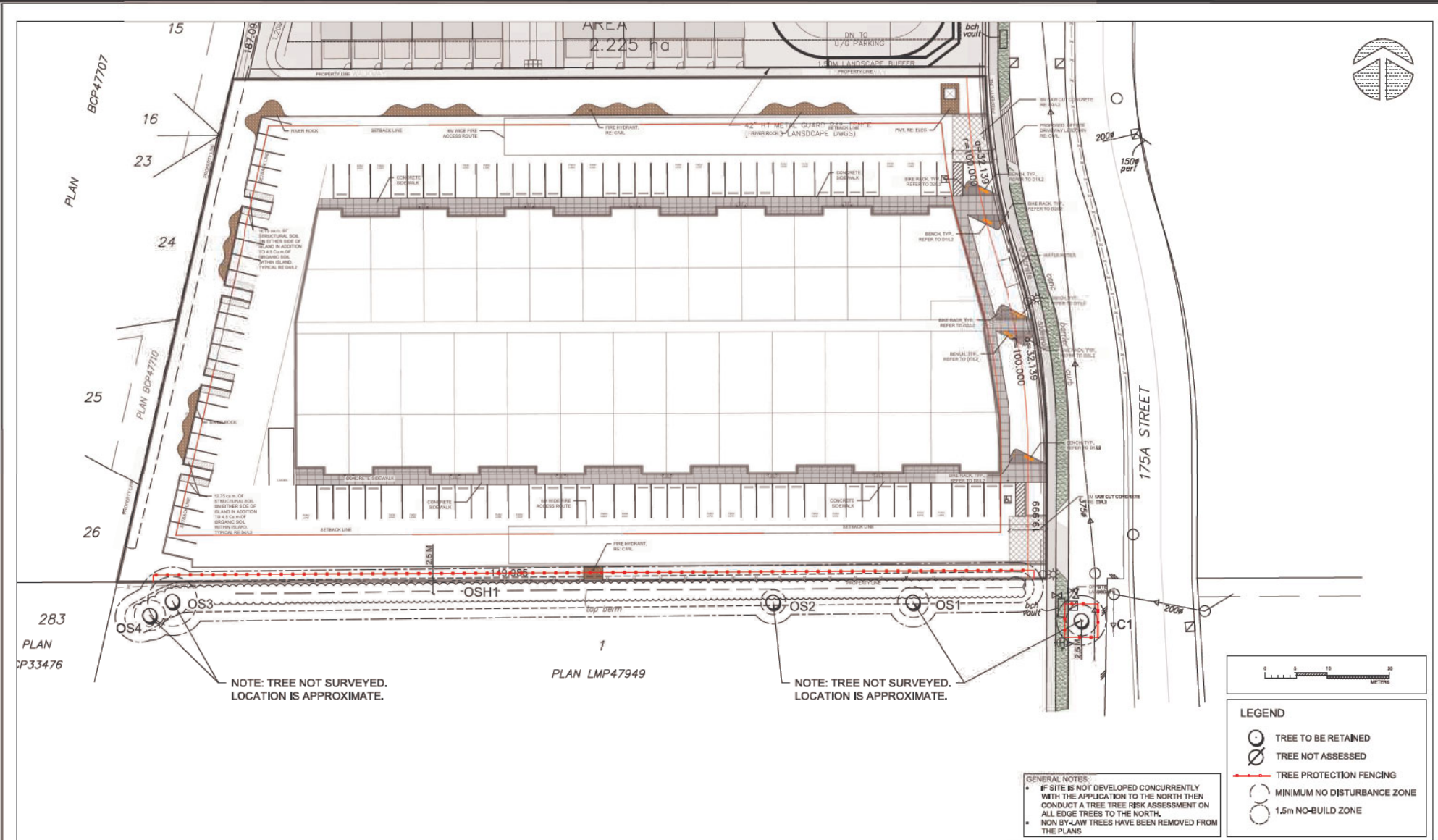
Surrey File Number: 24-0003-00
 Address: 109/105 175A Street
 Arborist: Elvis Truong PN-9567A
 Date of Report/Revision: October 16, 2024

Arborist Signature

*All trees identified for removal, retention and/or replacement are subject to change prior to final approval of the arborist report

<u>ONSITE TREES</u>				<u># of Trees</u>
Existing Bylaw Trees				<u>0</u>
Proposed Removed Bylaw Trees				<u>0</u>
Proposed Retained Bylaw Trees				<u>0</u>
Total Replacement Trees Required				
Alder & Cottonwood Trees Requiring 1 to 1 Replacement Ratio				
Removed			Subtotal	
0	x	1		0
Alder & Cottonwood Trees Requiring 2 to 1 Replacement Ratio				
Removed			Subtotal	
0	x	2		0
Deciduous/Coniferous Trees Requiring 2 to 1 Replacement Ratio				
Removed			Subtotal	
0	x	2		0
Required Replacement Trees				<u>0</u>
Proposed Replacement Trees				<u>63</u>
Deficit of Replacement Trees				<u>0</u>
Total Onsite Retained and Replacement Trees				<u>63</u>
<u>OFFSITE TREES</u>				<u># of Trees</u>
Existing Bylaw Trees				<u>12</u>
Proposed Removed Bylaw Trees				<u>0</u>
Proposed Retained Bylaw Trees				<u>12</u>
Total Replacement Trees Required				
Alder & Cottonwood Trees Requiring 1 to 1 Replacement Ratio				
Removed				
0	x	1		0
Alder & Cottonwood Trees Requiring 2 to 1 Replacement Ratio				
Removed				
0	x	2		0
Deciduous/Coniferous Trees Requiring 2 to 1 Replacement Ratio				
Removed				
0	x	2		0
*To be taken as cash-in-lieu				<u>0</u>
Total Offsite Retained Trees				<u>12</u>
<u>CITY TREES</u>		<u>Existing</u>	<u>Removed</u>	<u>Retained</u>
Park/City Lot Trees		0	0	0
Boulevard Trees		1	0	1
Total		1	0	1



LEGEND

	TREE TO BE RETAINED
	TREE NOT ASSESSED
	TREE PROTECTION FENCING
	MINIMUM NO DISTURBANCE ZONE
	1.5m NO-BUILD ZONE

GENERAL NOTES:

- IF SITE IS NOT DEVELOPED CONCURRENTLY WITH THE APPLICATION TO THE NORTH THEN CONDUCT A TREE TREE RISK ASSESSMENT ON ALL EDGE TREES TO THE NORTH.
- NON BY-LAW TREES HAVE BEEN REMOVED FROM THE PLANS

NO.	DATE	BY	REVISION	NO.	DATE	BY	REVISION
2	MAY0921	MK	SITE PLAN				
2	OCT1524	MK	CURRENT SITE CONDITIONS & COMMERCIAL SITE PLAN				

MIKE FADUM AND ASSOCIATES LTD.
VEGETATION CONSULTANTS

#105, 8277 129 St.
 Surrey, British Columbia
 V3W 0A6
 Ph: (778) 593-0300
 Fax: (778) 593-0302
 Email: mfadum@fadum.ca

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PROJECT TITLE
 109/105 - 175A STREET
 (SOUTH)
 SURREY, B.C.

SHEET TITLE
 T2 - TREE PROTECTION AND
 PRESERVATION PLAN

CLIENT

DRAWN MK
SCALE AS SHOWN
DATE SEPTEMBER 22, 2016

T-2
 SHEET 2 OF 2

CITY OF SURREY

(the "City")

DEVELOPMENT VARIANCE PERMIT

NO.: 7924-0003-00

Issued To:

Address of Owner:

1. This development variance permit is issued subject to compliance by the Owner with all statutes, by-laws, orders, regulations or agreements, except as specifically varied by this development variance permit.

2. This development variance permit applies to that real property including land with or without improvements located within the City of Surrey, with the legal description and civic address as follows:

Parcel Identifier: 031-632-289

Lot 2 Section 32 Block 1 north Range 1 East New Westminster District Plan EPP102805

105 – 175A Street

109 – 175A Street

(the "Land")

3. (a) As the legal description of the Land is to change, the City Clerk is directed to insert the new legal description for the Land once title(s) has/have been issued, as follows:

Parcel Identifier:

-
- (b) If the civic address(es) change(s), the City Clerk is directed to insert the new civic address(es) for the Land, as follows:

4. Surrey Zoning By-law, 1993, No. 12000, as amended is varied as follows:

- (a) Section F.1 of Part 5, Off-Street Parking and Loading/Unloading – to permit standard parking spaces in front of overhead loading doors and that these be considered towards the calculation of required off-street parking spaces.

5. This development variance permit applies to only the portion of the Land shown on Schedule A which is attached hereto and forms part of this development variance permit. This development variance permit does not apply to additions to, or replacement of, any of the existing buildings shown on attached Schedule A, which is attached hereto and forms part of this development variance permit.
6. The Land shall be developed strictly in accordance with the terms and conditions and provisions of this development variance permit.
7. This development variance permit shall lapse if the Owner does not substantially start any construction with respect to which this development variance permit is issued, within two (2) years after the date this development variance permit is issued.
8. The terms of this development variance permit or any amendment to it, are binding on all persons who acquire an interest in the Land.
9. This development variance permit is not a building permit.

AUTHORIZING RESOLUTION PASSED BY THE COUNCIL, THE DAY OF , 20 .

ISSUED THIS DAY OF , 20 .

Mayor – Brenda Locke

City Clerk and
Director Legislative Services
Jennifer Ficocelli

Schedule A

3	2024/01/17	REBUILT FOR DP	
7	2024/04/16	REVISED FOR REVIEW	
1	2024/04/16	ISSUED FOR DEVELOPMENT PERMIT	
NO.	DATE	Y/M/D	DESCRIPTION
ISSUES AND REVISIONS			
SEAL			

PRELIMINARY
NOT FOR CONSTRUCTION

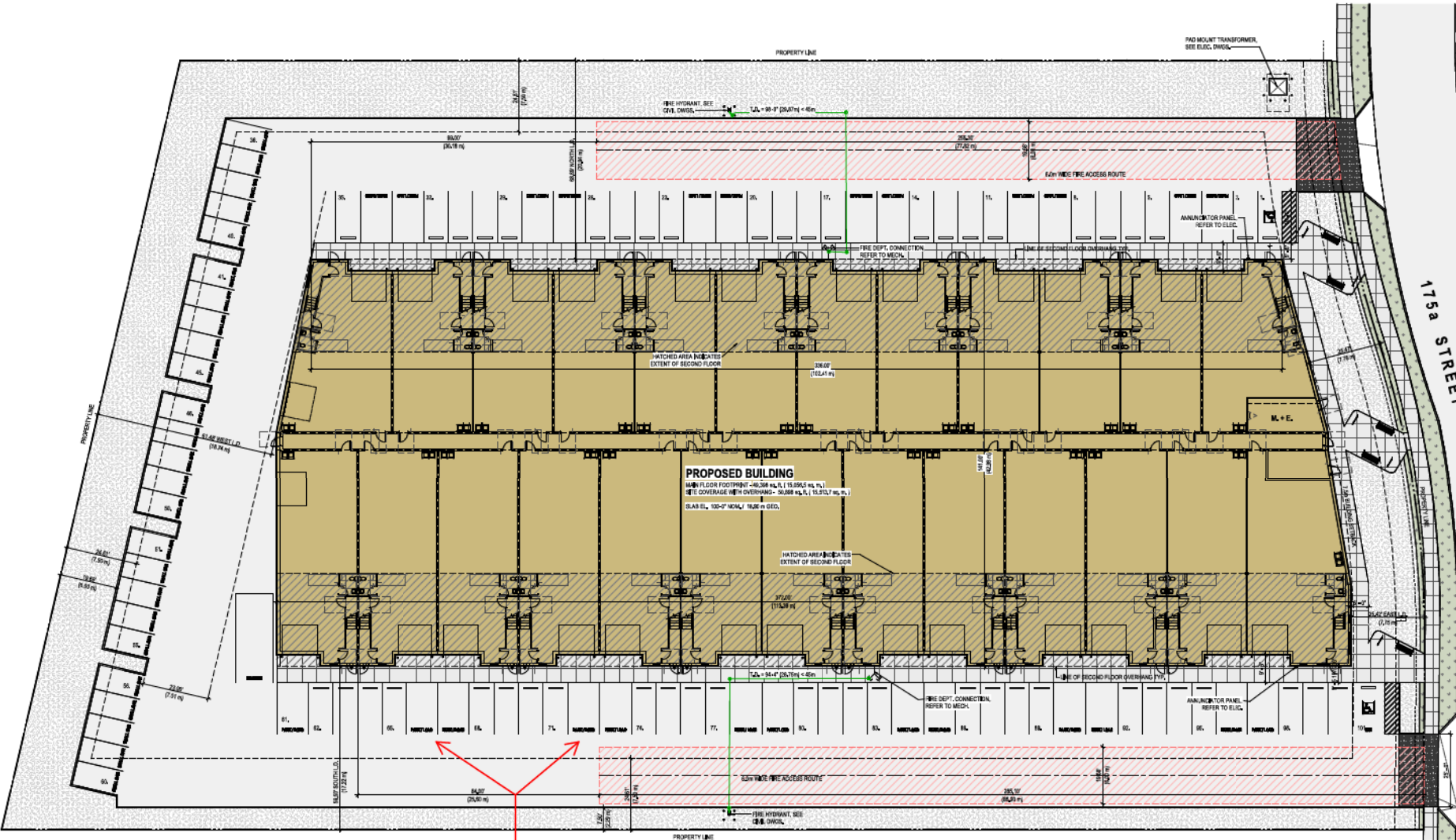
PROJECT NAME
LITCO INDUSTRIAL DEVELOPMENT

PROJECT ADDRESS
105 + 100 + 175A STREET, SURREY, BC

DRAWING TITLE
FIRE DEPARTMENT SITE PLAN

SCALE	1/8" = 1'-0"
DRAWN	MB
REVIEWED	LP, MB
PROJECT NO.	24091-A
DRAWING NO.	

A10.1



1 FIRE DEPARTMENT-SITE PLAN
SCALE: 1/8" = 1'-0"

Part 5, Section F.1 - to permit standard parking spaces in front of overhead loading doors, and that these be considered towards the calculation of required off-street parking spaces (typical).

TO: **City Clerk, Legislative Services Division**

FROM: **Director of Development Planning
Planning & Development Department**

DATE: **October 18, 2024**

FILE: **7922-0231-00, 7922-0231-02**

RE: **By-law No. 21335
Development Application No. 7922-0231-00, 7922-0231-02**

ADDRESS: 17077 - 92 Avenue
17121 - 92 Avenue

OWNER: Anniedale Bothwell (GP) Inc.
Director Information:
G. S. Gill

No Officer Information filed as at June 13, 2024.

AGENT: M. Kompter
Hub Engineering Inc.
12992 - 76 Avenue, Suite 212
Surrey, BC V3W 2V6

PROPOSAL: Rezoning from “Acreage Residential Zone (RA)” to “Small Lot Residential Zone (R4)”.

Development Permit No. 7922-0231-00.

Development Variance Permit No. 7922-0231-02.

To allow subdivision into twenty-nine (29) R4 residential lots and one (1) lot for park and riparian protection purposes.

Rezoning By-law No. 21335 received Third Reading on September 09, 2024.

All conditions of approval with respect to this By-law have been met.

It is in order for Council to grant Final Adoption to this By-law.

Staff was authorized to draft Development Permit No. 7922-0231-00 on September 23, 2024.

At this Regular Council – Land Use meeting, Council requested that a Restrictive Covenant be registered on title through the subdivision for the purposes of Farm Protection, and that triple paned windows be used where the site interfaces with farmland to mitigate farm related noises

and activities. The applicant has agreed to provide these as part of the finalization of the subdivision associated with this Development Application..

Development Permit No. 7922-0231-00 is running in conjunction with Development Variance Permit No. 7922-0231-02 which, after Public Notification, was supported by Council on October 7, 2024. It is now in order for Council to issue Development Variance Permit No. 7922-0231-00 and to authorize the Mayor and Clerk to execute the Development Variance Permit.

If Council issues Development Variance Permit No. 7922-0231-02, it is in order for Council to issue Development Permit No. 7922-0231-00 and to authorize the Mayor and Clerk to execute the Development Permit.

Note: If the Development Permit, as presented, is not acceptable to Council in relation to the appropriateness of the proposed development of Hazard Lands, the protection of Sensitive Ecosystems, and the protection of Agriculture and Farming operations, Council may refer the Development Permit application back to staff with direction regarding these matters.

Legislative Services is requested to hold registration of the Notice on Title with respect to this Development Permit at Land Title Office, pending a new legal description for the property.



Shawn Low
Director of Development Planning

RO

CITY OF SURREY

BYLAW NO. 21335

A bylaw to amend Surrey Zoning By-law, 1993, No. 12000, as amended.
.....

The Council of the City of Surrey ENACTS AS FOLLOWS:

1. Surrey Zoning By-law, 1993, No. 12000, as amended, is hereby further amended pursuant to the provisions of Section 479 of the *Local Government Act*, R.S.B.C. 2015, c.1, as amended, by changing the classification of the following parcels of land, presently shown upon the maps designated as the Zoning Maps and marked as Schedule A under Part 3 of Surrey Zoning By-law, 1993, No. 12000, as amended, as follows:

FROM: ACREAGE RESIDENTIAL ZONE (RA)
TO: SMALL LOT RESIDENTIAL ZONE (R4)

PID: 018-991-769
Lot 1 Section 31 Township 8 New Westminster District Plan LMP19397
(17077 – 92 Avenue)

PID: 018-991-777
Lot 2 Section 31 Township 8 New Westminster District Plan LMP19397
(17121 – 92 Avenue)

2. This Bylaw shall be cited for all purposes as "Surrey Zoning By-law, 1993, No. 12000, Amendment Bylaw, 2024, No. 21335".

PASSED FIRST READING on the 9th day of September, 2024.

PASSED SECOND READING on the 9th day of September, 2024.

PASSED THIRD READING on the 9th day of September, 2024.

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of , 20 .

_____MAYOR

_____CLERK

CITY OF SURREY

(the "City")

DEVELOPMENT VARIANCE PERMIT

NO.: 7922-0231-02

Issued To:

("the Owner")

Address of Owner:

1. This development variance permit is issued subject to compliance by the Owner with all statutes, by-laws, orders, regulations or agreements, except as specifically varied by this development variance permit.

2. This development variance permit applies to that real property including land with or without improvements located within the City of Surrey, with the legal description and civic address as follows:

Parcel Identifier: 018-991-769

Lot 1 Section 31 Township 8 New Westminster District Plan LMP19397

17077 - 92 Avenue

Parcel Identifier: 018-991-777

Lot 2 Section 31 Township 8 New Westminster District Plan LMP19397

17121 - 92 Avenue

(the "Land")

3. (a) As the legal description of the Land is to change, the City Clerk is directed to insert the new legal description for the Land once title(s) has/have been issued, as follows:

Parcel Identifier:

(b) If the civic address(es) change(s), the City Clerk is directed to insert the new civic address(es) for the Land, as follows:

4. Surrey Zoning By-law, 1993, No. 12000, as amended is varied as follows:
 - (a) In Section C.2 of Part 16 “Small Lot Residential Zone (R4)” the minimum lot width for a Type II Interior Lot created through subdivision is reduced from 13.4 metres to 13.1 metres for proposed Lots 1, 13, and 16;
 - (b) In Section C.2 of Part 16 “Small Lot Residential Zone (R4)” the minimum lot width for a Type II Corner Lot created through subdivision is reduced from 15.4 metres to 15.2 metres for proposed Lots 2, 14, and 15; and
 - (c) In Section H.4 of Part 16 “Small Lot Residential Zone (R4)” a front access, side-by-side double garage shall be permitted on a lot less than 13.4 metres wide for proposed Lots 1, 3-13, and 16-27.
5. This development variance permit applies to only the portion of the Land shown on Schedule A which is attached hereto and forms part of this development variance permit.
6. The Land shall be developed strictly in accordance with the terms and conditions and provisions of this development variance permit.
7. This development variance permit shall lapse unless the subdivision, as conceptually shown on Schedule A which is attached hereto and forms part of this development variance permit, is registered in the New Westminster Land Title Office within three (3) years after the date this development variance permit is issued.
8. The terms of this development variance permit or any amendment to it, are binding on all persons who acquire an interest in the Land.
9. This development variance permit is not a building permit.

AUTHORIZING RESOLUTION PASSED BY THE COUNCIL/DELEGATED OFFICIAL, THE
DAY OF , 20 .

ISSUED THIS DAY OF , 20 .

Mayor – Brenda Locke

City Clerk and

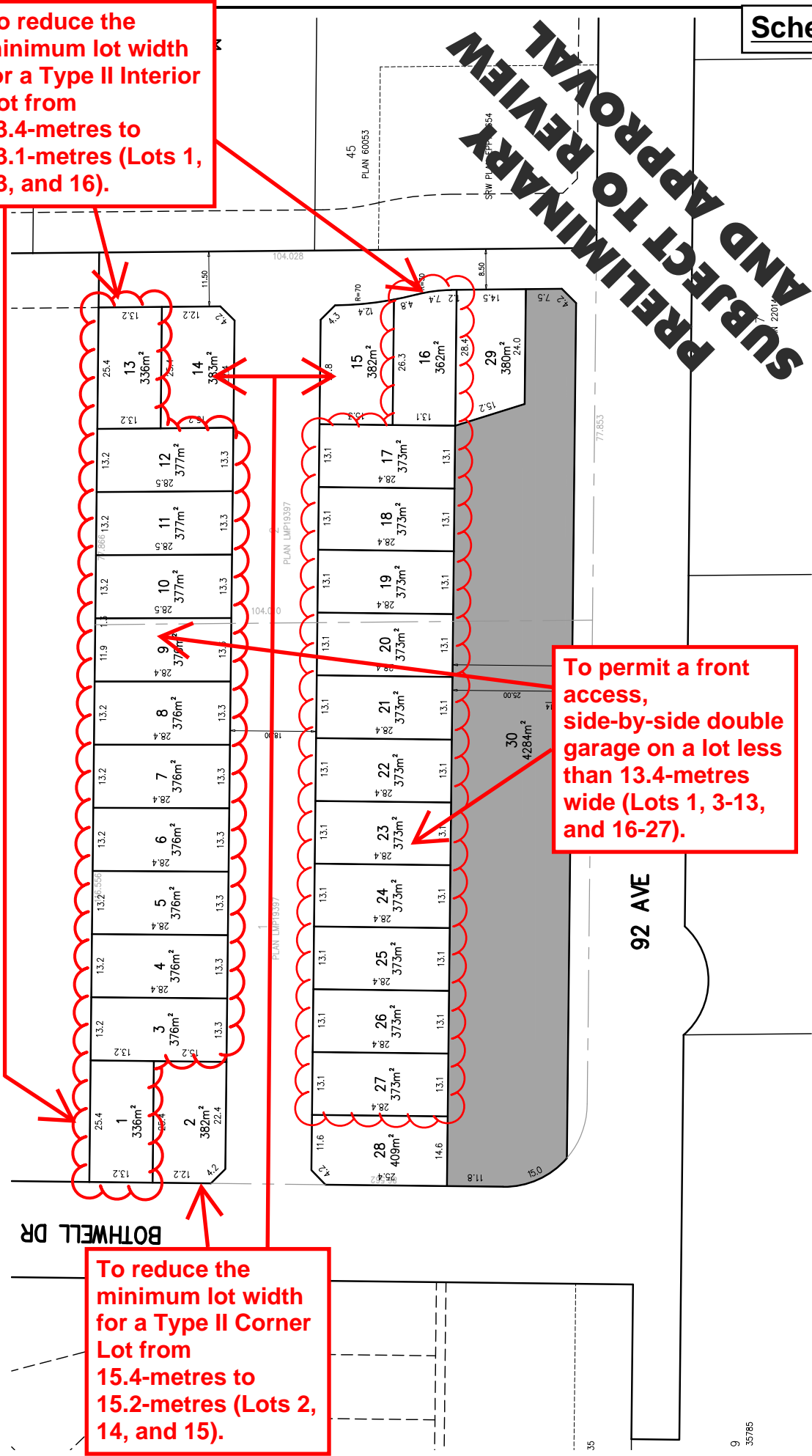
Director Legislative Services
Jennifer Ficocelli

**PRELIMINARY
SUBJECT TO APPROVAL**

To reduce the minimum lot width for a Type II Interior Lot from 13.4-metres to 13.1-metres (Lots 1, 13, and 16).

To permit a front access, side-by-side double garage on a lot less than 13.4-metres wide (Lots 1, 3-13, and 16-27).

To reduce the minimum lot width for a Type II Corner Lot from 15.4-metres to 15.2-metres (Lots 2, 14, and 15).



Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permit to Practice Number: 1003404
Suite 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6
tel: 604-572-4328 | fax: 604-501-1625 | mail@hub-inc.com | www.hub-inc.com

CLIENT: 17077 & 17121 92 AVE & 9265 BOTHWELL DR

DRAWING TITLE: RESIDENTIAL SUBDIVISION
PROJECT No.: 22037
DATE: SEP 2024
SCALE: 1:750
MUNICIPAL PROJECT No.:
LEGAL: PRELIMINARY PLAN - SUBJECT TO APPROVAL(S) FROM FEDERAL, PROVINCIAL AND LOCAL AUTHORITIES

92 AVE

BOTHWELL DR

CITY OF SURREY

(the "City")

DEVELOPMENT PERMIT

No.: 7922-0231-00

Issued To: *[Faint, illegible text]*

("the Owner")

Address of Owner: *[Faint, illegible text]*

A. General Provisions

1. This development permit is issued subject to compliance by the Owner with all statutes, by-laws, orders, regulations or agreements, except as specifically varied by this development permit.
2. This development permit applies to that real property including land with or without improvements located within the City of Surrey, with the legal description and civic address as follows:

Parcel Identifier: 018-991-769
 Lot 1 Section 31 Township 8 New Westminster District Plan LMP19397
 17077 - 92 Avenue

Parcel Identifier: 018-991-777
 Lot 2 Section 31 Township 8 New Westminster District Plan LMP19397
 17121 - 92 Avenue

(the "Land")

3. As the legal description of the Land will change, the City Clerk is directed to insert the new legal description for the Land once title(s) has/have been issued, as follows:

Parcel Identifier: _____
 _____ **LEGAL**

4. If the civic address(es) of the Land change(s), the City Clerk is directed to insert the new civic address(es) for the Land, as follows:

5. This development permit applies to the portion of the Land shown on Schedule A which is attached to and forms part of this development permit.
6. The Land has been designated as a development permit area in Surrey Official Community Plan, 2013, No. 18020, as amended.

B. Hazard Lands

1. Development shall occur strictly in accordance with the Geotechnical Report prepared by Bobby Sandhu E.I.T. and Kevin Bodnar P.Eng. of Geopacific Consultants, dated September 12, 2024, and attached as Schedule B (the "Geotechnical Report").
2. Geotechnical specifications, including erosion, slope stability, and soil detention shall be implemented, monitored and inspected in accordance with the approved grading lot plan attached as Schedule C (the "Lot Grading Plan").
3. Erosion and Sediment Control shall be installed, monitored and inspected in conformance with the City's Erosion and Sediment Control By-law, as may be amended or replaced from time to time.
4. Lot site grading shall occur only in accordance with the grading plan and the geotechnical recommendations contained within the Geotechnical Report prepared by Bobby Sandhu E.I.T. and Kevin Bodnar P.Eng. of Geopacific Consultants, dated September 12, 2024, and attached as Schedule B.

C. Sensitive Ecosystem

1. Development shall occur strictly in accordance with the Ecosystem Development Plan prepared by Rolf Sickmuller R.P.Bio. attached as Schedule D (the "Ecosystem Development Plan").
2. The Riparian Protection Area identified on plan as Lot 30, including the Riparian Setback Area as defined in Surrey Zoning By-law, as may be amended or replaced from time to time, shall be established, inspected and maintained in accordance with the approved Ecosystem Development Plan attached as Schedule D.
3. Tree removal and vegetation disturbance shall be undertaken, monitored, inspected and maintained in accordance with the reports attached. Tree removal and protective fencing

shall be undertaken in accordance with the Arborist Report dated October 15, 2024, and prepared by Terry Thrale, ISA Certified Arborist of Woodridge Tree Consulting Arborists Ltd., attached as Schedule E (the "Arborist Report").

4. Riparian Protection Areas and Green Infrastructure Protection Areas shall remain free of development and left undisturbed.
5. Habitat protection, mitigation, compensation, and rehabilitation works shall be completed in accordance with Schedule D.
6. Minor changes to the Drawings that do not affect the Riparian Protection Area or Green Infrastructure Protection Area, as identified and forming part of this development permit, site grading, soil stability, building placement, runoff or vegetation on the Land, may be permitted subject to the approval of the City.

D. Farm Protection

1. The Farm Protection Landscape Buffer Area is shown as Lot 30 in Schedule A and will be conveyed to the City as a riparian protection area subject to a P-15 agreement, as per the Ecosystem Development Plan prepared by Rolf Sickmuller *R.P.Bio.* attached as Schedule D.

E. Landscaping Installation and Maintenance

1. The fencing shall be constructed, installed, and maintained in good order in accordance with Schedule D.
2. For Hazard Land, Sensitive Ecosystem and Farm Protection development permits, or for that portion of a development permit pertaining to a Hazard Land, Sensitive Ecosystem or Farm Protection, the Landscaping shall be completed PRIOR TO the issuance of a building permit, as identified in Development Permit Procedures and Delegation Bylaw, as may be amended or replaced from time to time.

F. Security and Inspections

1. Security must be submitted to the City prior to the installation of any fencing.
2. For Hazard Land, Sensitive Ecosystem and Farm Protection development permits, security must be submitted prior to the issuance of any Development Permit, Building Permit or Tree-cutting Permit.

3. The security for fencing is to be submitted as an Irrevocable Letter of Credit, in a form acceptable to the City (the "Security").
4. For Hazard Land, Sensitive Ecosystem or Farm Protection development permits, or that portion of the development pertaining to the Hazard Land, Sensitive Ecosystem or Farm Protection component, the Security amount is for: \$24,723.83.
5. Security release will only be considered once installation of the fencing has been completed, after final approval of the installation has been given by the City, and after the completion by the Owner of any required maintenance periods identified in this development permit, to the satisfaction of the City.
6. If final approval of the fencing installation and maintenance is not given by the City, the City has the option of using the Security to complete the Landscaping (or to hire a contractor to complete the work on the City's behalf) with any remaining money returned to the Owner. The Owner authorizes the City or its agent to enter upon the Land to complete the Landscaping.
7. If the City elects not to enter upon the Land to complete the fencing and the Owner does not complete the Landscaping, the Security is forfeited to the City five (5) years after the date of the provisional or final inspection of the buildings and structures referred to in the Drawings.

G. Variances

The issuance of a development permit limits activity on the Land to that of strict compliance with all City bylaws, unless specific variances have been authorized by the development permit. No implied variances from bylaw provisions shall be granted by virtue of drawing notations or within reports which are inconsistent with City bylaw provisions and which have not been identified as variances below:

1. Surrey Zoning By-law, 1993 No. 12000, as amended, is varied as follows:
 - (a) In Section C.2 of Part 16 "Small Lot Residential Zone (R4)" the minimum lot width for a Type II Interior Lot created through subdivision is reduced from 13.4 metres to 13.1 metres for proposed Lots 1, 13, and 16;
 - (b) In Section C.2 of Part 16 "Small Lot Residential Zone (R4)" the minimum lot width for a Type II Corner Lot created through subdivision is reduced from 15.4 metres to 15.2 metres for proposed Lots 2, 14, and 15; and

- (c) In Section H.4 of Part 16 "Small Lot Residential Zone (R4)" a front access, side-by-side double garage shall be permitted on a lot less than 13.4 metres wide for proposed Lots 1, 3-13, and 16-27.

H. Monitoring

1. A Geotechnical Engineering and a Qualified Environmental Professional must be retained by the Owner to ensure completion of the works in accordance with this Development Permit and shall submit monitoring reports and a completion report to the City.
2. Upon completion of the development, the Owner shall provide the City with confirmation from the Qualified Professional(s) that the development is complete in accordance with the terms of this development permit.

J. Administration

1. The Land shall be developed strictly in accordance with the terms and conditions and provisions of this development permit.
2. This development permit shall lapse if the Owner does not substantially start any construction with respect to which this development permit is issued within two (2) years after the date this development permit is issued. The terms and conditions of this development permit, and any amendment to it, are binding on any and all persons who acquire an interest in the Land.
3. This development permit is only valid for the development that is described in this development permit. If a change to development is considered, a new development permit or an amendment to this permit is required before any work is started.
4. All reports, documents and drawings referenced in this development permit shall be attached to and form part of this development permit.
5. In addition to this development permit, and in accordance with the Surrey Building Bylaw, as may be amended or replaced from time to time, a restrictive covenant has been registered as a charge on the Land for Hazard Lands – Steep Slopes.
6. This development permit is issued subject to compliance by the Owner and the Owner's employees, contractors and agents with all applicable City bylaws, including the Tree

Protection Bylaw, Erosion and Sediment Control Bylaw and the Soil Removal and Deposition Bylaw, all as may be amended or replaced from time to time.

7. This development permit is NOT A BUILDING PERMIT.

AUTHORIZING RESOLUTION PASSED BY THE COUNCIL/DELEGATED OFFICIAL, THE DAY OF , 20 .

ISSUED THIS DAY OF , 20 .

Mayor

City Clerk

IN CONSIDERATION OF COUNCIL APPROVAL OF THIS DEVELOPMENT PERMIT AND OTHER GOOD AND VALUABLE CONSIDERATION, I/WE THE UNDERSIGNED AGREE TO THE TERMS AND CONDITIONS OF THIS DEVELOPMENT PERMIT AND ACKNOWLEDGE THAT WE HAVE READ AND UNDERSTOOD IT.


Owner: (Signature)

G. S. 22(1) [REDACTED] GILL
Name: (Please Print)

Beech Westgard Development
201 – 15272 Croyden Drive
Surrey, BC
V3Z 0Z5

September 12, 2024
File: 21099
R4

Attention: Jamie Ogden

**Re: Geotechnical Investigation Report – Proposed Residential Subdivision
17077 and 17121 92 Avenue, Surrey, BC**

1.0 INTRODUCTION

We understand that a new residential subdivision has been proposed for the above referenced site. Based on the preliminary Lot Grading Plan (attached for reference in Appendix D of this report) prepared by Hub Engineering Inc., dated September 11th, 2024, the development will consist of 29 single-family, three storey homes complete with on-site roads and utilities. We understand that the proposed development area will be constructed above 5.2 m geodetic, which is the floodplain elevation noted on the Lot Grading Plan. To facilitate grading across the site and along the property lines, we expect that the homes will have partial basement levels that would daylight to the south. We understand wood framed construction so that loading is expected to be light with floor loads of about 5 kPa and superstructure loads of 200 kN and 30 kN/m for columns and walls, respectively.

This report summarizes the results of the field investigations conducted on the site and provides geotechnical recommendations for the design and construction of the proposed development. This report was prepared exclusively for Beech Westgard Inc., for their use and for the use of others on their development team. We also expect that the City of Surrey will also employ this report in the development and permitting process.

2.0 SITE DESCRIPTION

The proposed development site consists of 2 contiguous lots with addresses of 17077 and 17121 92 Avenue. The site is bound by residential properties to the north and east, 92 Avenue to the south, and Bothwell Drive to the west. The individual lots are currently improved with homes, sheds, and paved driveways. Densely vegetated areas are dispersed across both lots. Based on COSMOS, the overall site covers an area of approximately 4.1 hectares and slopes from northeast to southwest with existing elevations varying between approximately 18 m and 5 m geodetic, respectively, for an average approximate gradient of 8%. Localized increased gradients of up to approximately 40% are present on 17077 92 Avenue.

The location of the proposed development site is shown on our Drawing No. 21099-01 following the text of this report.

3.0 FIELD INVESTIGATION

GeoPacific investigated the site on April 19th, 2022. At that time a total of 3 auger test holes, complete with two Dynamic Cone Penetration Test (DCPT) soundings, were conducted using a track mounted auger drill rig supplied and operated by Uniwide Drilling Ltd. of Prince George, BC. The test holes were terminated between approximately 4.6 and 13.7 m below existing site grades. The DCPT soundings were advanced to refusal, which was encountered from approximately 4.6 to 11.0 m below existing grade.

Prior to our investigations, a BC one call was placed, and the test hole locations were cleared of buried services. All test holes were backfilled and sealed in accordance with provincial abandonment requirements following classification, sampling, and logging of the soils in the field by our geotechnical staff.

The test hole logs are presented in Figures A.01 to A.03 in Appendix A. The approximate locations of the test holes are shown on our Drawing No. 21099-01

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

The general geology of the region under investigation, according to the Geological Survey of Canada (GSC) Map 1484A, is described as Vashon Drift which is overlain with Capilano Sediments increasing in thickness from northeast to southwest. As per the GSC map, the surficial geology is characterized as follows:

- Capilano Sediments – mainly marine silt loam to clay loam with minor sand, silt, and stony glaciomarine material up to 60 m thick.
- Vashon – lodgement till (with sandy loam matrix) and minor flow till containing lenses and interbeds of glaciolacustrine laminated stony silt.

In general, the soil profile noted from the surface downwards at our test hole locations generally agrees with the geology described on the GSC map and was determined to consist of topsoil underlain by Capilano Sediments consisting of clayey silt transitioning to clay at depth, and then glacial till.

A general description of the soils encountered is given below. For specific subsurface soil descriptions at the test hole locations TH22-01 to TH22-03, refer to the soil logs provided in Appendix A.

TOPSOIL

Topsoil was encountered at all test hole locations. The topsoil was noted to be up to 0.3 m thick and consisted of loose sand and silt.

CLAYEY SILT

Stiff clayey silt was encountered below the topsoil at TH22-02 and TH22-03 and extended to depths of approximately 3.7 to 11.6 m below existing grades. The thickness of the clayey silt was noted to generally increase from northeast to southwest based on the test holes. The clayey silt becomes soft below approximately 2.4 to 3.0 m. The moisture content of the clayey silt ranges between 31.6 and 100.6% and appears to generally increase with depth.

Based on our experience immediately west of the site, the clayey silt has an undrained shear strength in the range of 30 to 150 kPa and Over-Consolidation Ration (OCR) in excess of 5 within the upper 2.5 to 3.0 m, recuing to slightly over 1 by about 10 m below existing grades. This indicates that the clayey silt is heavily consolidated near the surface and lightly over consolidated at depth.

GLACIAL TILL

Glacial till was encountered directly below the topsoil at TH22-08 and below the clayey silt at TH22-09 and TH22-10. The glacial till appears to extend beyond the maximum depth of our test holes. The glacial till is grey, dense to very dense, and consists of silty sand and gravel to sand with some silt and trace to some gravel. The moisture content of the glacial till ranges between 12.6 and 27.8%

4.2 Groundwater Conditions

Based on our experience in the area, the groundwater table is anticipated to be present at approximately – 1 m geodetic. However, the transition of the clayey silt to soft with an increased moisture content at approximately 3.0 m below grade at TH22-02, completed at an elevation of approximately 5.0 m geodetic, may indicate that the groundwater table may fluctuate to as high as +2 m geodetic in the area.

Perched groundwater was observed in TH22-01 at a depth of approximately 3.0 m below grade. Perched groundwater should be expected to form during the wetter months of the year in permeable zones of natural soils or fill material overlying relatively low permeability deposits of clayey silt or glacial till.

5.0 DISCUSSION

5.1 General comments

As noted in Section 1.0, we understand that a new residential subdivision has been proposed for the above referenced site. Based on the preliminary Lot Grading Plan (attached for reference in Appendix D of this report) prepared by Hub Engineering Inc., dated September 11th, 2024, the development will consist of 29 single-family, three storey homes complete with on-site roads and utilities. We understand that the proposed development area will be constructed above 5.2 m geodetic, which is the floodplain elevation noted on the Lot Grading Plan. To facilitate grading across the site and along the property lines, we expect that the homes will have partial basement levels that would daylight to the south. We understand wood framed construction so that loading is expected to be light with floor loads of about 5 kPa and superstructure loads of 200 kN and 30 kN/m for columns and walls, respectively.

The majority of the site is generally underlain by topsoil then Capilano clayey silt, over glacial till. The clayey silt is over consolidated at the upper contact approaching normally consolidated below about 10 m depth. Based on our analyses, the clayey silt is not expected to consolidate under the anticipated stress increases expected for this development provided that site grading fills are limited to less than 2 m where existing grades are below an elevation of 6 m geodetic. *GeoPacific must be provided with the grading plan and proposed building loads for our review well in advance of construction.*

Based on the preliminary Lot Grading Plan, we expect that the single-family homes will be founded on glacial till or engineered fill. We expect that conventional strip and pad footings can be supported directly on the undisturbed glacial till or engineered fill.

Following our review, we are of the opinion that the proposed development is feasible from a geotechnical standpoint provided that our recommendations are adhered to during design and construction. GeoPacific should be provided development plans well in advance of construction to confirm the recommendations are feasible from a geotechnical perspective.

5.2 Seismic Considerations

The subsurface soils beneath the founding level are not expected to be prone to liquefaction or other forms of ground softening under the design earthquake which is presently defined by the BCBC 2018 for projects submitted for building permit prior to March 9th, 2025, as per Ministerial Order No. BA 2023 10.

5.2 Natural Exfiltration of Storm Water

We understand the City of Surrey is advocating the use of natural storm water infiltration where possible on new projects. Our review of the geology at this site indicates that granular soil deposits capable of supporting a storm water infiltration system are not present. The soils encountered on-site were observed to contain significant amounts of fines (clay/silt particles) and are expected to have relatively low permeability and therefore, would not be conducive to natural infiltration of storm water.

5.3 Slope Review

5.3.1 General

We understand that the proposed development site is located within the Hazard Lands Development Permit Area for Steep Slopes (DP2 Steep Slopes), as identified by the City of Surrey's Hazard Lands Development Permit Guidelines due to the presence of localized gradients exceeding 20% at the southeast corner of the site. As per the City of Surrey's Hazard Lands Development Permit Guidelines, DP2 Steep Slopes is designated as all parcels of property containing land with steep slopes a minimum gradient of 20% or more, or which are either within 10 m of the bottom or 30 m of the top of a slope that is a minimum of 20% gradient.

Based on COSMOS, the site slopes from northeast to southwest with existing elevations varying between approximately 18 m and 5 m geodetic, respectively, for an average approximate gradient of 8%. Localized increased gradients of up to approximately 40% are present at the southeast corner of the site. The slopes are well vegetated based on our observations and COSMOS aerial photos. Review of COSMOS aerial photos from 2001 to 2021 would indicate that no significant slope instabilities have occurred given the consistent presence of the dense tree canopy.

5.3.2 Slope Stability Analyses

We have reviewed the slope stability of the proposed development in accordance with the 2018 BC Building Code (BCBC), which requires that slopes be evaluated under the 2475 year return period design earthquake. We have addressed the 2018 BCBC seismic requirements using the guidelines recommended by the "Landslide Assessments in British Columbia" professional practice guidelines by EGBC (March 1st, 2023). Our stability assessment was completed for both static and seismic (pseudo-static) conditions.

Based on the Lot Grading Plan, we understand that finished grades will be less than 2H:1V through the use of grading cuts and fills and partially below grade basements which daylight on the south face. Therefore, we have assessed the impact of the proposed development adjacent to the existing slopes to determine a suitable setback for the proposed structures that would not adversely impact the stability of the slope. Our stability assessment was completed for both static and seismic (pseudo-static) conditions.

The approximate location of the representative cross section used for the stability analyses is shown on our Drawing No. 21099-01. A 3 m building setback from the top of the slope was considered.

The stratigraphy for our analysis is based on the soil conditions encountered at TH22-03, located at the toe of the existing slope. Based on TH22-01 and our testing at 9306 Bothwell Drive, immediately to the north of the proposed site, we inferred glacial till to be present near the ground surface at the top of the existing slope. Given the subsurface data presented in our test hole logs and our experience in the area, we have considered the following material strength properties for the slope stability models as listed in **Table 1**.

Table 1: Material Properties Considered in the Slope Stability Analyses

Material	Unit Weight (kN/m ³)	Cohesion (kPa)		Friction angle (°)	
		Static	Seismic	Static	Seismic
Clayey Silt	17.0	5	50	28	0
Glacial Till	20.5	20	100	40	0

We recommend that the developer review our restrictions of disturbance on and around the slope, as noted in Sections 5.3.5 and 5.3.6. In particular, drainage, grade alterations, and retaining wall construction should only be completed on the advice and recommendations of a geotechnical engineer with experience in slope stability evaluations. It will be the responsibility of the geotechnical engineer-of-record for the individual residential home builders to assess the individual lot designs and ensure that those designs do not compromise the stability of the slope.

GeoPacific must be provided with a grading plan well in advance of construction to provide further slope stability related recommendations if necessary.

5.3.3 Static Slope Stability

We carried out a static limit equilibrium analysis of the slope stability for the aforementioned slope conditions using the computer program SLOPE/W developed by Geo-Slope International Ltd. The results of the analyses are graphically shown in Appendix F. Numerous iterations were completed with varying input parameters as part of our sensitivity analysis of interpreted input values. Review of the results indicates that the defined slope and development setback has a factor of safety of 3.6 for the static condition. The minimum acceptable factor of safety for static slope stability is 1.5. Therefore, the slope is stable under static conditions given the proposed setback. Our experience indicates that locally lower factors of safety may exist in the near surface fills and weathered soils. However, localized sloughing would not impact the proposed development located at least 3 m from the top of slope.

5.3.4 Seismic Slope Stability

The site is located in a seismically active zone and therefore a seismic slope analysis is warranted. We have carried out our analysis in consideration of the 2018 BCBC seismic requirements using the guidelines recommended by the “Landslide Assessments in British Columbia” professional practice guidelines by EGBC (March 1st, 2023).

A seismic slope stability analyses was completed for both of the proposed slope conditions using Slope/W. As recommended by Natural Resources Canada, a peak ground acceleration of 0.32g was used for this location. The analysis results are graphically shown in Appendix F. Numerous iterations were completed with varying input parameters as part of our sensitivity analysis of interpreted input values. Review of the results indicates that the

defined slope and development setback has a factor of safety 1.2 the seismic condition. The minimum acceptable factor of safety for seismic slope stability is 1.0. Therefore, the slope meets the “Landslide Assessments in British Columbia” professional practice guidelines by EGBC (March 1st, 2023) under seismic conditions.

5.3.5 Geotechnical Slope and Development Setback Recommendations

Based on our analyses, we recommend a minimum 3 m setback from the top of slope for all construction and related activity, including buildings, roads, parking stalls, construction traffic and stockpiles. We recommend that finished grades do not exceed 2H:1V in glacial till or engineered fill (through the use of grading fills, partially below grade basements which daylight on the south face) and that slopes cut within the clayey silt do not exceed 3H:1V. Based on our review of the Lot Grading Plan, the existing slope will be replaced by the proposed grading which meets the geotechnical requirements for hillside developments as stated in the DP2 Steep Slope Guidelines provided by the City of Surrey and our recommendations above. Therefore, the minimum 3 m setback will not come into effect.

GeoPacific can complete an engineered retaining wall design package if required.

Provided that all of our recommendations are followed, the site may be used safely for the intended use from a geotechnical perspective.

The Landslide Assessment Assurance Statement is included in Appendix C of this report.

5.3.6 Additional Slope Stability Commentary and Recommendations

- Following our review of the ground conditions a deep-seated soil failure under static conditions is highly unlikely with no net decrease in overall slope stability resulting from the proposed development and recommended setback. However, ongoing weathering and freeze/thaw erosion are likely to continue. The loosened, weathered soils will be susceptible to both creep and erosion. We note that no evidence of any significant weathering or freeze/thaw erosion was observed at the time of our investigation.
- The development should take place in a manner which maximizes the retention of existing vegetation and retains all vegetation outside the developed building area and slope. If it is necessary to remove any trees along the slope below the property, we recommend that the stumps and root systems be left in place and replacement vegetation is planted in accordance with recommendations from an arborist. Regardless, a geotechnical engineer should be consulted before removing any trees or vegetation.
- If future erosion is observed a geotechnical engineer should be consulted and the vegetative ground cover should be enhanced.
- Storm water collected from the proposed structures, hard landscaping, and lawn basins should not be discharged down slope.
- During construction excavated materials should not be stockpiled within 3 metres of the crest of the slope.
- We strongly recommended against any disposal of debris and/or organic wastes on the slopes. The debris increases the loading on the slope while also reducing the drainage capacity of the soil.

- Vegetation plays an important role in increasing the stability of the slope and protecting it against shallow instabilities and erosion. The vegetation lowers water infiltration rates into the surficial soils and adds cohesion through their root systems. The addition of large trees to the slope is not recommended as the increased weight would be far more detrimental than any benefit gained by the presence of the root structure. We recommend that any denuded portion of slope be re-vegetated with the assistance of an experienced landscaper or slope bio-remediation expert.

5.4 Flood Construction Level

We understand that the southwest corner of the overall site is located within the 1 in 200 year flood plain of the Serpentine River. As per the City of Surrey's Hazard Lands Development Permit Area Guidelines for Flood Prone (DP2 Flood Prone), DP2 Flood Prone areas are those determined to fall within the 200 year Flood Plain as defined by the province of British Columbia. Based on the Lot Grading Plan, the proposed development area will be constructed at a minimum elevation of 5.87 m geodetic, and we confirm that this elevation is above the floodplain elevation (Provincial Flood Construction Level) specified on the Lot Grading Plan of 5.2 m geodetic.

6.0 RECOMMENDATIONS

6.1 Site Preparation

Prior to placement of fill, construction of foundations, floor slabs and new on-site roads and services, all vegetation, topsoil, construction debris, organics, and loose or otherwise unsuitable/disturbed soils must be removed from the construction areas to expose a subgrade of stiff clayey silt or very dense glacial till. Based on the available test hole data, we estimate stripping depths across to be within 0.3 m. Increased stripping may be required in localized areas where fills are present. Frequent test pits should be carried out on site during stripping to confirm the absence of organic silt beneath the stripped subgrade. Any organics encountered below the clayey silt subgrade should be removed prior to the placement of any fills.

Any grade reinstatement beneath the site should be done using should be done with "engineered fill". In the context of this report, "engineered fill" is generally defined as *clean sand to sand and gravel containing silt and clay less than 5% by weight*, compacted in 300 mm loose lifts to a minimum of 95% of the ASTM D1557 (Modified Proctor) maximum dry density at a moisture content that is within 2% of optimum for compaction. The sandy silt subgrade may be sensitive to changes in moisture content. Therefore, the excavation subgrade should be graded to prevent the ponding of water at footing locations.

Stripping should extend out beyond the roadway or building envelope at a distance equal to the thickness of proposed engineered fill beneath the road or building. For example, if 1 m of engineered fill is placed below a structure then stripping should extend a minimum distance of 1 metre beyond the outer edge of that structure.

At footing elevations, the site should be graded to direct water away from the subgrade to facilitate the preservation of undisturbed bearing soils at the footing locations. All disturbed subgrade soils must be removed, and foundations will need to be lowered to suitable bearing soil. Alternatively, grade reinstatement below foundations may be completed with engineered fill, following removal of disturbed material. We recommend blinding all foundation subgrades with 50 mm of 19 mm clear crushed gravel immediately after review and approval.

Stripping is not required in landscaped areas unless the criteria stated in the previous paragraph requires the removal of that material.

The geotechnical engineer shall be contacted for the review of stripping, proof rolling activities, and engineered fill placement and compaction.

6.2 Building Foundations

Provided the site is prepared as described in Section 6.1, conventional foundations can be used to support the proposed buildings. Pad and strip footings founded on stiff clayey silt, very dense glacial till, or engineered fill can be designed for a Service Limit State bearing pressure of 120 kPa and Ultimate Limit State of 180 kPa.

Irrespective of the allowable bearing pressures given, pad footings should not be less than 600 mm by 600 mm and strip footings should not be less than 450 mm in width. Footings should also be buried a minimum of 450 mm below the surface for frost protection.

Adjacent foundations constructed at differing elevations should be offset from each other by a minimum distance of twice the difference in elevation (2H:1V). For example, two foundations separated by 1.0 m in elevation should be offset horizontally from each other by a minimum distance of 2.0 m as measured from the inside edges of those foundations. Foundations constructed within 2H:1V of each other may impose additional vertical and horizontal forces on lower foundations, columns, and/or foundation walls. GeoPacific should review foundation layouts which do not achieve the minimum 2H:1V offset.

All footing subgrades must be reviewed by GeoPacific to confirm the recommended bearing capacities for the site.

6.3 Seismic Considerations

As stated by Ministerial Order No. BA 2023 10, seismic design is to conform with Subsection 4.1.8. of the 2018 BCBC until March 9, 2025, at which point seismic design as per the 2024 BCBC will become mandatory. Therefore, the subgrade conditions underlying the site may be classified as Site Class “E” according to the British Columbia Building Code 2018 (BCBC 2018) Table 4.1.8.4.A. Peak ground accelerations on firm ground for the approximate site location is 0.32g for this site (National Resource Canada, Site Coordinates: 49.170 degrees North, 122.751 West.)

The subsurface soils beneath the proposed founding level of the buildings are not expected to be prone to liquefaction or other forms of ground softening under the design earthquake defined within the 2018 BCBC.

The seismic design contained in this report will need to be substantially updated if the building permit application is made after March 9th, 2025.

6.4 Slab-On-Grade Floors

In order to provide suitable support and drainage, floor slabs should be directly underlain by a minimum of 150 mm of a free draining 19 mm clear crushed gravel, and hydraulically connected to perimeter drainage. A moisture barrier should underlie the slab directly above the free draining granular material. The free draining granular material should be placed and compacted in 300 mm loose lifts to a minimum of 95% Modified Proctor dry density (ASTM D1557), at a moisture content that is within 2% of its optimum for compaction.

Compaction of the slab-on-grade fill must be reviewed by the geotechnical engineer.

6.5 Methane Gas Generation

As the topsoil and organic material will be removed from beneath the development area, we do not expect methane generation. Thus, a methane ventilation system is not required.

6.6 Foundation Drainage

We expect that the building slabs will be above exterior grades. From a geotechnical perspective, buildings do not require perimeter drains if exterior grades are sloping away from the building and the slab is at least 150 mm above exterior grades. Any below grade construction or foundation walls that retain soil will require perimeter drainage.

6.7 Temporary Excavations

We expect that temporary excavations would be sloped where possible since it is more economical to do so. We expect that slopes may be cut to 1 horizontal to 1 vertical (1H:1V) in the topsoil, stiff clayey silt, and dense to very dense glacial till.

All excavations and trenches must conform to the latest Occupational Health and Safety Regulations supplied by Work Safe BC. Any excavation in excess of 1.2 metres in depth requiring worker entry must be reviewed by a professional geotechnical engineer. All slopes should be covered with poly sheeting.

Temporary cut slopes in excess of 1.2 m in height must be covered in polyethylene sheeting and require review by a professional engineer in accordance with WorkSafe BC guidelines, prior to worker entry.

GeoPacific can provide excavation designs for temporary excavations completed within the soft clayey silt soils located approximately 2.4 to 3.0 m below grade if required.

6.8 Utility Installation

Utility excavations should be sloped in accordance with Section 6.7 of this report or shored in accordance with the latest Work Safe BC regulations. Any excavations in excess of 1.2 m in height requiring worker entry must be reviewed by a professional engineer prior to entry.

Some light to moderate perched groundwater seepage may be encountered during excavations, which we expect can be controlled using conventional sumps and sump pumps.

Pipe bedding, backfill materials and compaction requirements should conform to the specifications outlined in the Master Municipal Construction Documents (MMCD).

Temporary cut slopes in excess of 1.2 m in height must be covered in polyethylene sheeting and require review by a professional engineer in accordance with WorkSafe BC guidelines, prior to worker entry.

6.9 On-Site Pavement Structures

Following the recommended site preparation noted in Section 6.1, the stripped road subgrade should be proof rolled to locate any loose zones. Any areas which have become loosened and can not be recompacted to a minimum of 95% Modified Procter (ASTM D1557) maximum dry density must be excavated and replace with engineered fill.

Provided that the subgrade consists of stiff clayey silt, glacial till, or engineered fill, it is our opinion that our recommended pavement section, given in **Table 2**, is sufficient to carry the anticipated vehicle loads in on-site parking areas and drive aisles.

Table 2: Recommended Minimum Pavement Structure for On-Site Parking and Drive Aisles

Material	Thickness (mm)	CBR
Asphaltic Concrete	75	-
19 mm minus crushed gravel base course	150	80
75 mm minus, well graded, clean, sand and gravel subbase course	200	20

The asphalt thickness may be decreased to 65 mm in parking areas to be occupied solely by automobiles and light trucks. All base and subbase fills should be compacted to a minimum of 95% Modified Procter (ASTM D1557) maximum dry density.

Density testing should be conducted on these materials and the results forwarded to the geotechnical engineer for review. The geotechnical engineer shall be contacted for review of placement, compaction, and proof rolling of the on-site road sub-structure.

6.10 New Municipal Pavement Structures

We expect the development would include construction of new municipal local roads within the current site boundaries. For proposed new municipal Local roads the City of Surrey’s minimum pavement structure requirements, as indicated in **Table 3** hereafter, are acceptable following the site preparation noted in Section 6.1.

Table 3: Minimum Pavement Structure for Urban Local Municipal Roads

Material	Thickness (mm)	CBR
Asphaltic Concrete	85	-
19 mm minus crushed gravel base course	100	80
75 mm minus, well graded, clean, sand and gravel subbase course	200	20

All base and subbase fills should be compacted to a minimum of 95% Modified Procter (ASTM D1557) maximum dry density.

Density testing should be conducted on these materials and the results forwarded to the geotechnical engineer for review.

6.11 Radon

The new BCBC 2024 requires that all buildings in BC be designed with a radon ventilation system. The underslab fill materials specified in Section 6.4 could be utilized as part of the system. We expect that the single family homes will be designed under Part 9 of the building code and Part 9 provides a detail of a radon ventilation system that can be utilized by the house designer.

7.0 FIELD REVIEWS

As required for Municipal and Provincial “Letters of Assurance”, GeoPacific Consultants Ltd. will carry out sufficient field reviews during construction to ensure that the Geotechnical Design recommendations contained within this report have been adequately communicated to the design team and to the contractors implementing the design. These field reviews are not carried out for the benefit of the contractors and therefore do not in any way effect the contractors’ obligations to perform under the terms of his/her contract.

It is the contractors’ responsibility to advise GeoPacific Consultants Ltd. (a minimum of 48 hours in advance) that a field review is required. In summary, reviews are required for the following construction activities.

- | | | |
|----|-----------------|--|
| 1. | Stripping | Review of stripping. |
| 2. | Excavation | Review of temporary cut slopes. |
| 3. | Engineered Fill | Review of fill materials and compaction. |
| 4. | Proof Rolling | Review of proof rolling of on-site road sub-structure. |
| 5. | Foundation | Review of foundation subgrade. |
| 6. | Slab-on-grade | Review of subgrade and under slab fill materials and compaction. |

It is important that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also important that any contractors working on the site review this document prior to commencing their work.

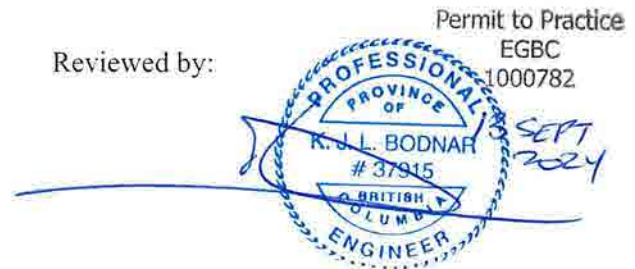
8.0 CLOSURE

This report has been prepared exclusively for our client for the purpose of providing geotechnical recommendations for the design and construction of the proposed development. The report remains the property of GeoPacific Consultants Ltd. and unauthorized use of, or duplication of, this report is prohibited.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please do not hesitate to call.

For:
GeoPacific Consultants Ltd.

Reviewed by:



Bobby S. Sandhu, B.Eng., E.I.T.
Geotechnical Engineer-In-Training

Kevin Bodnar, M.Eng., P.Eng.
Principal



LEGEND:

- ⊕ SPT#-# - SEISMIC CONE PENETRATION TEST (SCPT) LOCATION
- ⊕ CPT#-# - CONE PENETRATION TEST (CPT) LOCATION
- △ TH#-# - TEST HOLE (TH) LOCATION
- ▭ - APPROXIMATE SITE BOUNDARY
- A A' - APPROXIMATE LOCATION OF SECTION A-A'

SITE PLAN
*TEST LOCATIONS ARE APPROXIMATE

REFERENCE:
COSMOS - 2022-11-30

DRAWN FROM SITE 0.5:1"



P (604) 439 0922
F (604) 439 3189
geopacific.ca
1775 West 75th Avenue
Vancouver, BC V6P 6P2

DATE:	2022-04-19	
DRAWN BY:	BE	REVIEWED BY:
	BS	BS
SCALE:	AS SHOWN	

BEECH WESTGARD DEVELOPMENTS LTD
17077 AND 17121 92 AVENUE, SURREY, BC
TEST HOLE SITE PLAN

FILE NO.: 21099
DWG. NO.: 21099-01

REVISIONS:
A.
B.
C.

APPENDIX A – TEST HOLE LOGS

Test Hole Log: TH22-01

File: 21099

Project: Townhouse Development

Client: Beech Westgard Developments Ltd.

Site Location: 17077, 17121 92nd Ave, Surrey BC



GEOPACIFIC
CONSULTANTS

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot)	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0		Ground Surface	0.0				
0-1		TOPSOIL					
1-4.6		GLACIAL TILL Grey, SILTY SAND and GRAVEL; dense to very dense		13.8			
4.0		Very difficult drilling at 4.0 m					Groundwater seepage into test hole @ 3 m
4.6		End of Borehole	4.6	12.6			Auger refusal @ 4.6 m
0-51							

Logged: BE
Method: Solid stem auger
Date: 2022-04-19

Datum: Ground elevation
Figure Number: A.01
Page: 1 of 1

Test Hole Log: TH22-03

File: 21099

Project: Townhouse Development

Client: Beech Westgard Developments Ltd.

Site Location: 17077, 17121 92nd Ave, Surrey BC

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
 Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot)	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0		Ground Surface	0.0				
0-1		TOPSOIL Sand and silt with trace roots, brown, moist, loose, soft		50.5	0, 1, 4, 4, 8		
1-3.7		CLAYEY SILT Mottled brown and light grey, stiff CLAYEY SILT; mostly dry.		80.7	3, 5, 6, 10		
3.7		Becomes soft and wet @ 2.4 m	3.7		11		
3.7-4.6		GLACIAL TILL Beige-grey, very dense SILTY SAND and rounded GRAVEL; dry	4.6	15.7	6, 16		
4.6		End of Borehole			>50		

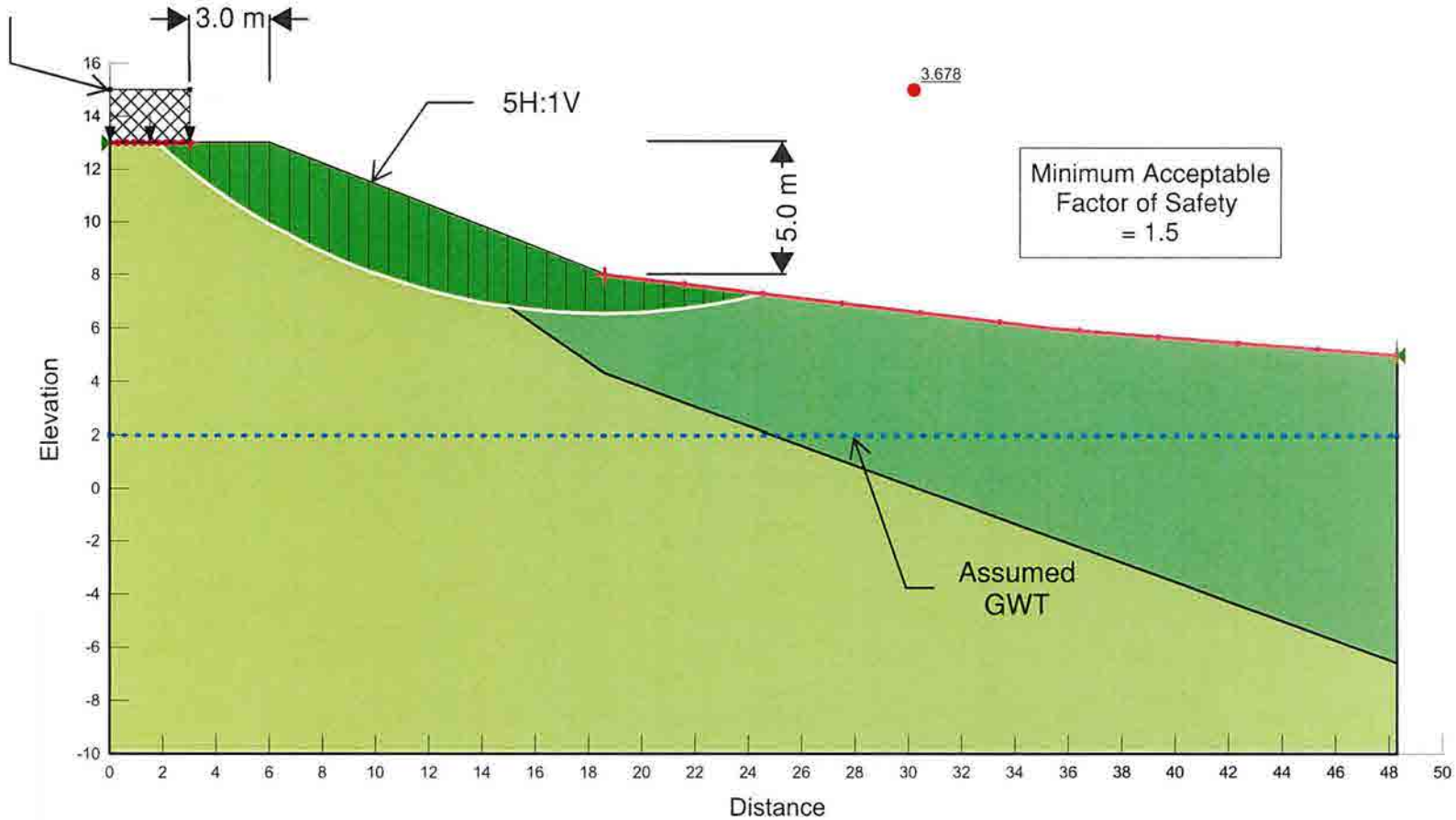
Logged: BE
 Method: Solid stem auger
 Date: 2022-04-19


Datum: Ground elevation
 Figure Number: A.03
 Page: 1 of 1

APPENDIX B – SLOPE STABILITY ANALYSES

Color	Name	Material Model	Unit Weight (kN/m ³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Phi-B (°)	Piezometric Line
Green	Clayey Silt	Mohr-Coulomb	17	5	28	0	1
Light Green	Glacial Till	Mohr-Coulomb	20.5	20	40	0	1

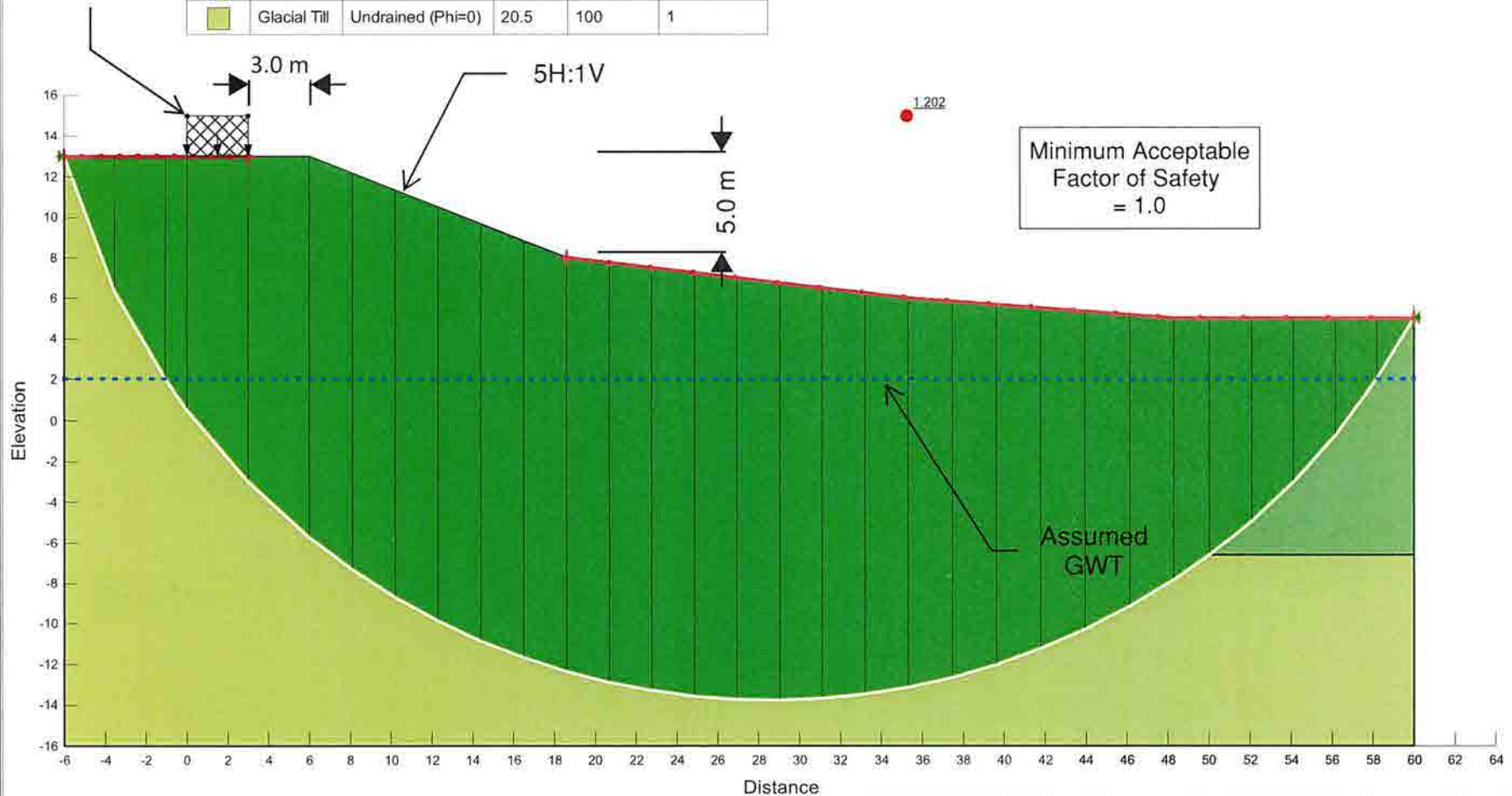
Proposed Surcharge
10 kPa



Project: 17077 and 17121 92 Avenue, Surrey, BC	Job No.: 21099	 GEOPACIFIC CONSULTANTS <small>P (604) 439 0922 F (604) 439 9189 geopacific.ca 1779 West 75th Avenue Vancouver, BC V6P 6P2</small>	
Model: Slope Stability - Section A-A' - Existing Slope - Seismic	Date: Oct. 10, 2023		
Method: Morgenstern-Price	Horz Seismic Coef.: 0		Scale : 1:250
Site Address : 17077 and 17121 92 Avenue, Surrey, BC	Analysis by: BSS		

Proposed
Surcharge
10 kPa

Color	Name	Material Model	Unit Weight (kN/m ³)	Cohesion (kPa)	Piezometric Line
Green	Clayey Silt	Undrained (Phi=0)	17	50	1
Light Green	Glacial Till	Undrained (Phi=0)	20.5	100	1



Project: 17077 and 17121 92 Avenue, Surrey, BC

Job No.: 21099

Model: Slope Stability - Section A-A' - Existing Slope

Date: Oct. 10, 2023

Method: Morgenstern-Price

Horz Seismic Coef.: 0.32

Scale : 1:300

Site Address : 17077 and 17121 92 Avenue, Surrey, BC

Analysis by: BSS



GEO PACIFIC
CONSULTANTS

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Vancouver, BC V6P 6P2

**APPENDIX C – LEGISLATED LANDSLIDE ASSESSMENT ASSURANCE
STATEMENT**

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Notes: This statement is to be read and completed in conjunction with the Engineers and Geoscientists BC *Professional Practice Guidelines – Landslide Assessments in British Columbia* ("the guidelines") and the current *BC Building Code (BCBC)*, and is to be provided for Landslide Assessments (not floods or flood controls), particularly those produced for the purposes of the *Land Title Act*, *Community Charter*, or *Local Government Act*. Some jurisdictions (e.g., the Fraser Valley Regional District or the Cowichan Valley Regional District) have developed more comprehensive assurance statements in collaboration with Engineers and Geoscientists BC. Where those exist, the Qualified Professional is to fill out the local version only. Defined terms are capitalized; see the Defined Terms section of the guidelines for definitions.

To: The Approving Authority (or Client)

Date: SEPT. 12, 2024

CITY OF SURREY
13450 - 104 AVENUE, SURREY, BC, V3T 1V8
Jurisdiction/name and address

With reference to (CHECK ONE):

- A. *Land Title Act* (Section 86) – Subdivision Approval
- B. *Local Government Act* (Sections 919.1 and 920) – Development Permit
- C. *Community Charter* (Section 56) – Building Permit
- D. Non-legislated assessment

For the following property (the "Property"):

17077 AND 17121 92ND AVENUE, SURREY, BC
Civic address of the Property

The undersigned hereby gives assurance that they are a Qualified Professional and a professional engineer or professional geoscientist who fulfils the education, training, and experience requirements as outlined in the guidelines.

I have signed, authenticated, and dated, and thereby certified, the attached Landslide Assessment Report on the Property in accordance with the guidelines. That report must be read in conjunction this statement.

In preparing that report I have:

[CHECK TO THE LEFT OF APPLICABLE ITEMS]

- 1. Collected and reviewed appropriate background information
- 2. Reviewed the proposed Residential Development or other development on the Property
- 3. Conducted field work on and, if required, beyond the Property
- 4. Reported on the results of the field work on and, if required, beyond the Property
- 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a Landslide Hazard analysis or Landslide Risk analysis, I have:
 - 6.1 reviewed and characterized, if appropriate, any Landslide that may affect the Property
 - 6.2 estimated the Landslide Hazard
 - 6.3 identified existing and anticipated future Elements at Risk on and, if required, beyond the Property
 - 6.4 estimated the potential Consequences to those Elements at Risk
- 7. Where the Approving Authority has adopted a Level of Landslide Safety, I have:
 - 7.1 compared the Level of Landslide Safety adopted by the Approving Authority with the findings of my investigation
 - 7.2 made a finding on the Level of Landslide Safety on the Property based on the comparison
 - 7.3 made recommendations to reduce Landslide Hazards and/or Landslide Risks

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

8. Where the Approving Authority has **not** adopted a Level of Landslide Safety, or where the Landslide Assessment is not produced in response to a legislated requirement, I have:
- 8.1 described the method of Landslide Hazard analysis or Landslide Risk analysis used
 - 8.2 referred to an appropriate and identified provincial, national, or international guideline for Level of Landslide Safety
 - 8.3 compared those guidelines (per item 8.2) with the findings of my investigation
 - 8.4 made a finding on the Level of Landslide Safety on the Property based on the comparison
 - 8.5 made recommendations to reduce Landslide Hazards and/or Landslide Risks
9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections

Based on my comparison between:

[CHECK ONE]

- the findings from the investigation and the adopted Level of Landslide Safety (item 7.2 above)
- the appropriate and identified provincial, national, or international guideline for Level of Landslide Safety (item 8.4 above)

Where the Landslide Assessment is not produced in response to a legislated requirement, I hereby give my assurance that, based on the conditions¹ contained in the attached Landslide Assessment Report:

A. SUBDIVISION APPROVAL

- For subdivision approval, as required by the *Land Title Act* (Section 86), "the land may be used safely for the use intended"

[CHECK ONE]

- with one or more recommended additional registered Covenants
- without an additional registered Covenant(s)

B. DEVELOPMENT PERMIT

- For a development permit, as required by the *Local Government Act* (Sections 488 and 491), my report will "assist the local government in determining what conditions or requirements it will impose under subsection (2) of [Section 491]"

[CHECK ONE]

- with one or more recommended additional registered Covenants
- without an additional registered Covenant(s)

C. BUILDING PERMIT

- For a building permit, as required by the *Community Charter* (Section 56), "the land may be used safely for the use intended"

[CHECK ONE]

- with one or more recommended additional registered Covenants
- without any additional registered Covenant(s)

¹ When seismic slope stability assessments are involved, Level of Landslide Safety is considered to be a "life safety" criteria, as described in Commentary JJJ of the *National Building Code of Canada (NBC) 2015*, Structural Commentaries (User's Guide – NBC 2015; part 4 of division B). This states:

"The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion; in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DGM (design ground motion), there is a reasonable degree of confidence that the building will not collapse, nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse."

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

K. s. 22(1) BODNAR
Name (print)

SEPT. 12, 2024
Date

s. 22(1)
Address

s. 22(1)

s. 22(1)
Telephone

s. 22(1)
Email

Permit to Practice
EGBC
1000782



(Affix PROFESSIONAL SEAL and signature here)

The Qualified Professional, as a registrant on the roster of a registrant firm, must complete the following:

I am a member of the firm GEO PACIFIC CONSULTANTS LTD.
(Print name of firm)

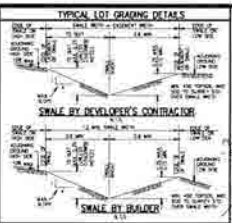
with Permit to Practice Number 1000782
(Print permit to practice number)

and I sign this letter on behalf of the firm.

APPENDIX D – REFERENCE DRAWING

LOT GRADING LEGEND

(1) NUMBER AND MINIMUM BUILDING ELEVATION	(10) NUMBER AND MINIMUM BUILDING ELEVATION
SECTED SHALE BY BUILDER DIRECTION OF FLOW FOR SURFACE RUNOFF AND SIDEYARD DRALES	SECTED SHALE BY DEVELOPER'S CONTRACTOR HAITING DIRECTION OF FLOW FOR SURFACE RUNOFF FOR TREES, CONSTRUCTED IN 10.0'S AND EASEMENTS
DIRECTION OF SURFACE FLOW	MIN. FINISH TOPSOIL AND SOIL TO SURVEY STD (TYP)
EXISTING GROUND SURFACE ELEVATION	FINISHED GRADE ELEVATION (WHERE DIFFERS FROM EX. GRADE ELEVATION)
NEET EXISTING GROUND SURFACE ELEVATION	PROPOSED FINISH TOP OF RETAINING WALL ELEVATION AND BOTTOM OF RETAINING WALL ELEVATION
100.00 FLOOD FLOW IN RITE	100.00 FLOOD FLOW BEHIND GROUND SURFACE
100.00 FLOOD FLOW OVERLAND	EXISTING GROUND SURFACE ELEVATION
EXISTING SHALE	MIN. FINISH LAWN SLOPEBACK TO SURVEY STD
CUT IN EXCESS OF 0.50'	CUT IN EXCESS OF 1.00'
EXISTING TREE TO BE REMOVED	EXISTING TREE TO BE RETAINED
TREE PROTECTION BARRIER FENCE	ROOFLINE



BUILDER SHALL NOT ALLOW ANY DIRT OR TOPSOIL TO BE TRACKED, DEPOSITED OR STORED ON ANY ROAD, DRIVEWAY, SIDEWALK OR BOULEVARD. IF ANY DIRT OR TOPSOIL IS TRACKED, DEPOSITED OR STORED ON ANY ROAD, DRIVEWAY, SIDEWALK OR BOULEVARD, IT SHALL BE REMOVED IMMEDIATELY AND SHALL NOT BE WASHED INTO ANY CATCHBASINS, LAWN BASINS, MANHOLES, DITCHES OR SEWER, ETC. ALL PENALTIES OR CLEAN UP COSTS SHALL BE PAID BY BUILDER.

- ### LOT GRADING NOTES
- ALL WORK SHOWN TO BE PERFORMED BY DEVELOPER'S SERVING CONTRACTOR
 - MIN. FINISH BUILDING ELEVATION AND IS THE LOWEST LEVEL TO WHICH THE CHAIR SPACE FROM COAT BASEMENT SLAB AND/OR SLAB ON GRADE SHALL BE SET AND SHALL NOT BE LOWER THAN ELEVATION SHOWN
 - IF THE MBE MAY BE ADJUSTED IF IT CAN BE SHOWN THAT LOCAL STORM IMPROVEMENTS BRING THE TOP OF THE MBE BELOW GRADE OR BUILDING LOCATION IS ADJUSTED WITH THE WRITTEN CONFIRMATION OF A REGISTERED ENGINEER AND THE SURVEYING DEPARTMENT
 - DISCHARGE RAIN WATER LEADERS TO SPREAD PADS
 - DEVELOPER'S CONTRACTOR TO VERIFY VERTICAL LOT GRADING PRIOR TO BUILDING PERMIT APPLICATION
 - A SECTION 205 RESERVATION CONTRACT FOR SURFACE DRAINAGE SHALL BE SUBMITTED BY DEVELOPER
 - ALL DRALES IN R.O.W.'S AND EASEMENTS SHALL BE CONSTRUCTED BY CONTRACTOR AND SHALL BE GRADED, TOPSOILED AND SOILED FOR THE FULL EXTENT TO PROPERTY LINE. ALL DRALES NOT IN R.O.W.'S OR EASEMENTS SHALL BE CONSTRUCTED BY BUILDER
 - CONTRACTOR SHALL NOT DISTURB ANY VEGETATION IN SETBACK AREAS (14 AREAS BEHIND SETBACK FENCE LINE)
 - ALL LAWNMASS LEADS SHALL BE 150MM DIAMETER
 - DEVELOPER'S CONTRACTOR SHALL CONTACT THE TPA POWER AT 604-501-5888 TO INQUIRE INTO THE TREE PROTECTION REQUIREMENTS AND REMOVAL OF HAZARDOUS TREES AT THE TIME OF SITE CLEARING
 - MAX. SLOPES SHALL BE 3:4 V
 - NO LOT SPOTS OR DEPRESSIONS SHALL BE CREATED UNLESS UNIFORM GRADE 3:1 AND FURN TO CREATE A GROUND CONTROL FOR SURFACE WATER TO RUNOFF TO STORM SYSTEM
 - ALL EXCAVATOR SOIL MATERIAL SHALL BE DEPOSITED OFF-SITE AT PERMITTED DUMP SITE
 - CONTRACTOR SHALL COMPLY WITH CITY ETC BY-LAW
 - THE BUILDER AND OR OWNER SHALL NOT AT ANY TIME CONDUCT ANY CONSTRUCTION OR MAINTENANCE ANY BUILDING OR STRUCTURES OR IMPROVEMENTS (IN WHOL OR PART) ANY SERVICE RIGHT-OF-WAY (SRW)

TABLE 1

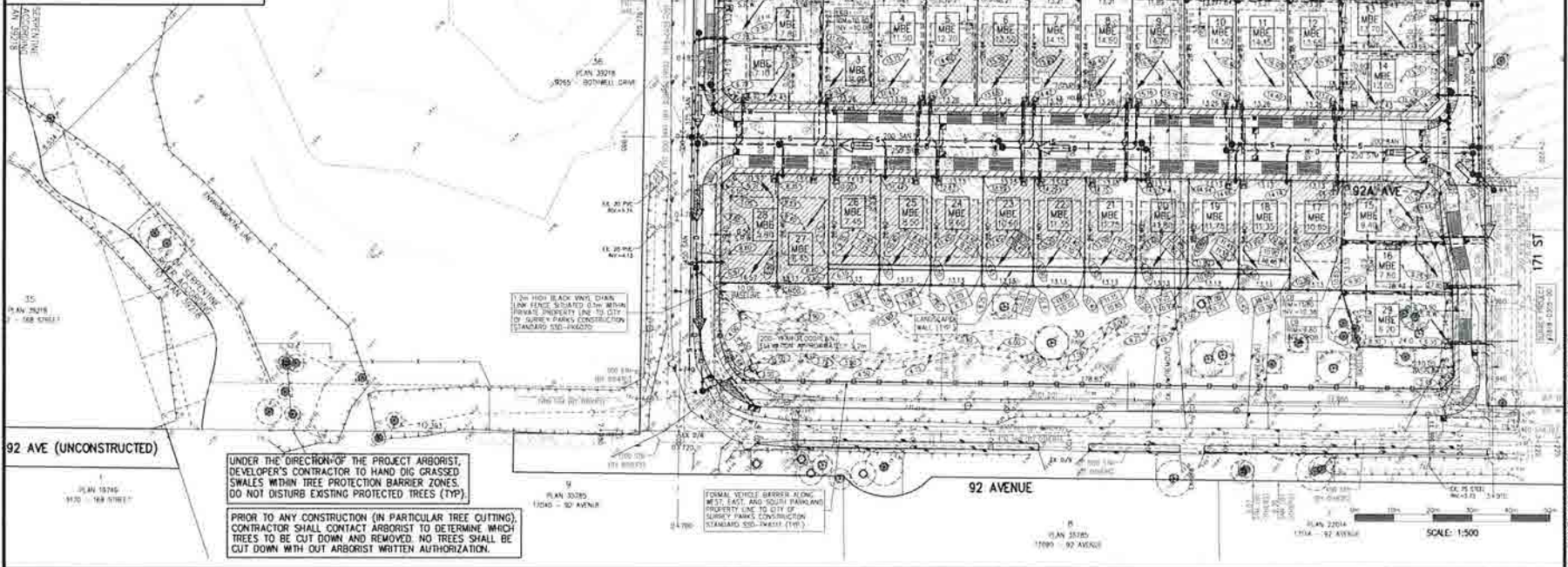
NO.	DESCRIPTION	AREA (SQ. METERS)	PERCENTAGE
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TEMPORARY TREE PROTECTION BARRIER

CONTRACTOR SHALL PROVIDE CERTIFICATION FROM LANDSCAPE ARCHITECT USE INSTANTATION OF TOPSOIL, SEEDS AND SOILS QUALITY MEETING THE REQUIREMENTS OF THE CITY OF SURREY LANDSCAPE SPECIFICATIONS FOR SPOKES

CONTRACTOR SHALL PROVIDE CERTIFICATION FROM LANDSCAPE ARCHITECT USE INSTANTATION OF TOPSOIL, SEEDS AND SOILS QUALITY MEETING THE REQUIREMENTS OF THE CITY OF SURREY LANDSCAPE SPECIFICATIONS FOR SPOKES

CONTRACTOR SHALL PROVIDE CERTIFICATION FROM LANDSCAPE ARCHITECT USE INSTANTATION OF TOPSOIL, SEEDS AND SOILS QUALITY MEETING THE REQUIREMENTS OF THE CITY OF SURREY LANDSCAPE SPECIFICATIONS FOR SPOKES



UNDER THE DIRECTION OF THE PROJECT ARBORIST, DEVELOPER'S CONTRACTOR TO HAND DIG GRASSSED SHALES WITHIN TREE PROTECTION BARRIER ZONES. DO NOT DISTURB EXISTING PROTECTED TREES (TYP).

PRIOR TO ANY CONSTRUCTION (IN PARTICULAR TREE CUTTING), CONTRACTOR SHALL CONTACT ARBORIST TO DETERMINE WHICH TREES TO BE CUT DOWN AND REMOVED. NO TREES SHALL BE CUT DOWN WITH OUT ARBORIST WRITTEN AUTHORIZATION.

<p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p> <p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p> <p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p>	<p>FOR COORDINATION ONLY</p> <p>NOT FOR CONSTRUCTION</p>	<p>CONSULTANT</p> <p>Hub Engineering Inc.</p> <p>Engineering and Development Consultants</p> <p>EGBC Permit Reference Number: 1003404</p> <p>Suite 210, 12992 76 Avenue, Surrey, B.C. V3W 2Y8</p> <p>tel: 604-972-4328 fax: 604-551-1675 email: info@hubeng.com</p> <p>www.hubeng.com © 2022</p>	<p>CITY OF SURREY</p> <p>CLIENT</p> <p>BEECH WESTGARD DEVELOPMENTS LTD.</p> <p>#201 - 15272 CROYDON DRIVE, SURREY, BC</p> <p>604-538-3525</p> <p>TITLE</p> <p>LOT GRADING PLAN</p> <p>17077 & 17121 92 AVE</p> <p>DATE: Sep 11, 2024</p>	<p>SCALE: 1:500</p> <p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p> <p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p> <p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p>	<p>CLIENT PROJECT NUMBER</p> <p>7822-0231-00</p> <p>CONSULTANT PROJECT NUMBER</p> <p>22037</p> <p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p> <p>DATE: 2022-08-30</p> <p>SCALE: 1:500</p>
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October 3, 2024

City of Surrey
Planning & Development Department
13450 – 104 Avenue
Surrey, BC V3T 1V8

City of Surrey File No. 7922-0231-00

Attention: Robert Ordelleide
Planner

**RE: 17077 & 17121 – 92 AVENUE, SURREY
ECOSYSTEM DEVELOPMENT PLAN IN SUPPORT OF A SENSITIVE ECOSYSTEM
DEVELOPMENT PERMIT – Revision 6**

Subdivision and development works are proposed at the civic addresses 17077 & 17121 - 92 Avenue (Properties) by Anniedale Bothwell GP Inc. (the Proponent). The Properties are legally identified as Lots 1 and 2 (respectively), Section 31, Township 8 Plan, LMP19397, New Westminster District. The Properties are further identified by PID Nos. 018-991-769 and 018-991-777, respectively.

Envirowest Consultants Inc. (Envirowest) carried out reconnaissance-level site assessments of the Properties on December 13, 2022 and June 6, 2023. The Properties are bounded by 92 Avenue to the south, Bothwell Drive to the west, and residential properties to the north and east. Future use of the east neighbouring property will include a municipal sanitary pump station. Lands south of 92 Avenue are within the Agricultural Land Reserve (ALR).

The Properties occur within 50 metres (m) of two (2) roadside ditches, a stream, a swale, and a Green Infrastructure Network (GIN) corridor. As such, the Properties are subject to provisions of the Development Permit Guidelines for Sensitive Ecosystems. The following Ecosystem Development Plan (EDP) has been prepared in support of a Sensitive Ecosystems Development Permit (SEDP).

Figure 1 presents the location of the Properties in relation to the surrounding area and is included as Attachment A. Site photographs are included as Attachment B. Drawings prepared by Envirowest and referenced herein are included as Attachment C. Correspondence prepared by Ecologic is included as Attachment D. The geotechnical report prepared by GeoPacific is included as Attachment E. The arborist report prepared by Woodridge is included as Attachment F. The storm flow memorandum prepared by Hub Engineering is included as Attachment G. The Letter of Advice provided by Fisheries and Oceans Canada is included as Attachment H. A set of drawings of the proposed development prepared by Hub is included as Attachment I. A cost estimate of riparian plantings is included as Attachment J.

ECOSYSTEM DEVELOPMENT PLAN

D) CONSULTANT QUALIFICATIONS

Streamside and Green Infrastructure Network

- 23. All registered professionals who will be involved in the development proposal, whether a Biologist, Geoscientist, Engineer, Forester, and/or Agrologist, shall have demonstrated education, expertise, accreditation, and knowledge relevant to sensitive environments, ecosystems and/or streamside management.**

The registered professionals involved in this development proposal are qualified with the education, expertise, accreditations, and knowledge relevant to their respective roles for this application. Individuals and their qualifications are listed in Table 1, Section 25 of this report.

- 24. All Arborists who will be involved in the development proposal shall be registered and certified with the International Society of Arboriculture (ISA).**

Terry Thrale of Woodridge Tree Consulting Arborists Ltd. have been retained by the Proponent and are certified with the International Society of Arboriculture (ISA). The arborist ISA registration numbers are provided in Table 1.

- 25. Supply a list and written statement, including all documentation, verifying the qualifications of all QEP’s and/or ISA Certified Arborists responsible for preparing report submissions or involved in monitoring site conditions for Sensitive Ecosystems Development Permit applications.**

A list of QEPs and the ISA Certified Arborist involved in the following SEDP are included in Table 1 of this section.

Table 1: Qualified Environmental Professionals			
Consultant Name	Qualification	Registration No.	Company
Rolf Sickmuller	R. P. Bio.	826	Envirowest Consultants Inc.
Mike Kompter	P. Eng	18798	Hub Engineering Inc.
Terry Thrale	ISA Certified Arborist Tree Risk Assessor	PN 6766A	Woodridge Tree Consulting Arborists Ltd.
Kevin Bodnar	M.Eng, P.Eng	1000782	GeoPacific Consultants Ltd.
Daniel McAllister	M.Sc., P.Ag.	200	Director and Soil Scientist, EcoLogic

- 26. Where more than one QEP is needed, submit a written statement identifying the primary QEP for the entire development and acknowledge their role to ensure all required reports are prepared by qualified professionals and are coordinated both in content and execution; and that all relevant Development Permit Guidelines and requirements have been met and/or addressed in the application submission.**

The primary QEP for the proposed subdivision has been reassigned from Mr. Ian Whyte, P.Ag. to Mr. Rolf Sickmuller, R.P.Bio., of Envirowest. Mr. Sickmuller has ensured all reports have been prepared by qualified professionals and are coordinated in both content and execution. Furthermore, Mr. Sickmuller has ensured all relevant DP guidelines and requirements have been met and/or addressed in this submission.

II) PROTECTED AREAS

Streamside

27a. **Zoning Bylaw: Part 7A, Streamside Protection of Surrey’s Zoning Bylaw is to be used to determine Area of Protection required for development adjacent to a stream.**

The Property occurs within 50 m of a watercourse and is therefore subject to Part 7A, Streamside Protection of the City’s Zoning Bylaw, 1993, No. 12000 (Bylaw). Drainage features on and adjacent to the Properties are presented in Envirowest Drawing No. 2072-07-01, included in Attachment C.

Drainage features on and abutting the Properties include two roadside ditches (east Bothwell Drive ditch and north 92 Avenue ditch); a swale in the lowlands of the western property (17077 – 92 Avenue); and a channelized stream abutting the southeast corner of the property (17121 – 92 Avenue).

Historical aerial photographs were obtained from University of British Columbia to further assess the origins of the aforementioned drainage features. Historical photographs encompassed years 1940 to 2016. Years 1940, 1949, 1954, 1963, 1969, 1974, 1980, and 2004 are presented on Envirowest Drawing No. 2072-07-09, included as Attachment C.

A description of the drainage features and their origins are described further below.

Roadside Ditches

Physical Characteristics

Two seasonal, low-gradient roadside ditches occur parallel to the west and south boundaries of the western property within municipally owned rights-of-way: east Bothwell Drive ditch; and, north 92 Avenue ditch. Substrates are characterized by organics and predominated by a dense assemblage of non-native reed canary grass (*Phalaris arundinacea* var. *arundinacea*).

The Bothwell Drive east shoulder ditch is approximately 41 metres (m) in length and is poorly defined at the northern (upstream) extent. The 92 Avenue north shoulder ditch is approximately 82 m in length and commences at the driveway of the western property. There is no natural source of water at the upstream extents of both ditches. Intermittent / ephemeral hydrology is likely sustained by the capture and conveyance of overland flow from proximal road surfaces and adjacent Property. Flows continue south and west (respectively) towards the northeast intersection of Bothwell Drive and 92 Avenue.

Flows from the ditches are conveyed southwest (downstream) under 92 Avenue via pipe to a linear man-made drainage ditch that is confluent with the Serpentine River at the western (downstream) extent. A top-mounted flap gate is present at the confluence of the drainage ditch and Serpentine River to prevent river water from flooding into the drainage ditch. The top-mounted flap gate appears poorly serviced and was open at the time of the site surveys.

Origins

Historical aerial photographs were obtained from University of British Columbia to further assess the origins of the roadside ditches. Historical photographs encompassed years 1940 to 2016; relevant years are presented on Envirowest Drawing No. 2072-07-09, included as Attachment C.

The area in and around the Properties appeared to be in an undisturbed state in 1940. With exception of the Serpentine River, there are no apparent drainage features on or near (within 50 m) the Properties in 1940. A linear feature (suspected to be a constructed channel or berm) is constructed sometime before 1949 in alignment with the future 92 Avenue; as well, a farm road is constructed in general alignment with the future Bothwell Drive. The constructed feature in alignment with 92 Avenue is replaced by a road sometime before 1954, and continued to be present in 1963. Note the amount of tree removal within this time period. Removal of vegetation within the upper catchment area would have decreased uptake of surface water by vegetation, and likely compounded surface runoff. Subsequently, in 1963 and 1969 constructed ditches can be seen in and around the 92 Avenue alignment, as well as along the farm road (future Bothwell Drive). A channel begins to form in the eastern floodplain of the Serpentine River, and can be seen draining the ditch along the 92 Avenue alignment.

Construction of the modern alignment of Bothwell Drive and 92 Avenue was completed in 1974. The east Bothwell Drive ditch and north 92 Avenue ditch were constructed and/or deepened sometime between 1974 and 1980. The modern stormwater infrastructure that conveys drainage southwest under Bothwell Drive appears to be constructed in 2001 (aerial photograph; COSMOS), and remains unchanged since 2004 (Drawing No. 2072-07-09; Attachment C). The roadside ditches are not natural features.

Fish Presence

Fish inventory surveys were undertaken by Envirowest during the overwintering period of 2019 - 2020 in drainages in and around Bothwell Drive and 92 Avenue. The surveys were carried out in accordance with provincial permit No. SU19-599317 and federal permit No. XR-346-2019. Gee-style traps were set and retrieved monthly in the drainages west of Bothwell Drive from January - April 2020.

No fish were caught in the Bothwell Drive west shoulder ditch. Traps were unable to be set in the Bothwell Drive east shoulder ditch and 92 Avenue north shoulder ditch due to insufficient water depth (< 10 cm) at the time of the surveys.

Three-spine stickleback (*Gasterosteus aculeatus*), juvenile coho salmon (*Oncorhynchus kisutch*), juvenile chinook salmon (*O. tshawytscha*), and non-native pumpkinseed (*Lepomis gibbosus*) were present in the drainage ditch extending west from Bothwell Drive to the Serpentine River. The drainage ditch is low gradient; substates are characterized by fine sediments and a dense mat of reed canary grass. Fish presence is likely the result of the open flap gate, allowing water from the Serpentine River to back-flood into the drainage ditch to Bothwell Drive.

The Bothwell Drive east shoulder ditch and 92 Avenue north shoulder ditch are seasonal; water depths observed in the 2019-2020 wet season are likely insufficient and/or are not sustained long enough to support overwintering fish. The ditches are considered to be non-fish bearing.

Classification

The east Bothwell Drive ditch and north 92 Avenue ditch fulfill the criteria of a ‘corridor drainage’, defined by the Water Sustainability Regulation, BC Reg 36/2016 (WSR) as the following:

“a ditch constructed alongside a road or a railway line, for the purpose of drainage surface runoff from the road surface or railway bed or to divert water from an aquifer to lower the water table, to protect the road or railway line”¹

As such, they are exempt¹ from provisions of the *Water Sustainability Act*, SBC 2014, ch 15 (WSA).

The Bothwell Drive east shoulder ditch and 92 Avenue north shoulder ditch discharge seasonally to a fish-bearing ditch; as such, they fulfill the criteria of a ‘stream’ as defined by the Riparian Areas Protection Regulation, BC Reg 178/2019 (RAPR).

A municipal Class B ditch designation and 7 m setback is assigned to the roadside ditches in accordance with municipal bylaws and guidance text. Setbacks are measured perpendicular from the ditch top-of-bank.

Lowlands and Swale

Physical Characteristics

The southwest corner of the Properties is relatively flat. Ponding waters were observed in tree wells at the time of the December 2022 site assessment, as was a poorly defined swale near the western property margin. This area likely receives, and detains surface runoff from the adjacent sloped surfaces. At the time of the site assessments, it was recommended for the lowlands to receive further assessment for wetland features.

EcoLogic Environmental Consultants Inc. (Ecologic) was retained by the Proponent to carry out an assessment of the lowlands in the southwest corner of the Properties for the presence of wetland features (i.e., wetland plants, hydric soils, and hydrology). A wetland investigation of the western property was carried out by EcoLogic in February 23, and June 11, 2023. The memorandum prepared by EcoLogic, dated June 26, 2023 is included as Attachment D. Results of the investigation concluded that there are no wetlands on the Properties. The report will be subject to further peer review as part of the SEDP process.

¹ Government of British Columbia. 2022. A User’s Guide for Changes In and About a Stream in British Columbia. Version 2022.01. 34 p.

The swale is poorly defined and has been disturbed in recent years, confounding the delineation of a previously surveyed top-of-bank. The swale as it was historically surveyed is presented by Envirowest Drawing No. 2072-07-01 (Attachment C). At the time of the December 2023 site visit, a depression in alignment with the swale was observed discharging minimal flows to the 92 Avenue north shoulder ditch. There are no apparent headwaters for the swale (i.e. natural channel, spring). Likely, an ephemeral flow regime is maintained through the capture and conveyance of overland flow from adjacent surfaces during prolonged periods of precipitation. The swale, and lowlands, were dry at the time of the June 2023 site visit. Vegetation in alignment with the swale is predominated by reed canary grass, common rush (*Juncus effusus*), sawbeak sedge (*Carex stipata*), and creeping buttercup (*Ranunculus repens*).

Origins

Historical aerial photographs were obtained from University of British Columbia to further assess the origins of the swale. Historical photographs encompassed years 1940 to 2016; pertinent years are presented on Envirowest Drawing No. 2072-07-09, included as Attachment C.

The Properties were well vegetated in 1940 and relatively undisturbed; naturally occurring drainage features are not apparent. A historic farm road in approximate alignment with the future Bothwell Drive, apparent in years 1949, is evidenced by tire marks. As noted above, a high amount of tree removal occurred during this time period within the upper catchment area, decreasing uptake of surface water by vegetation which likely compounded surface runoff. Subsequently, a ditch appears to be constructed along the farm road sometime between 1949 and 1954. Construction of 94A Avenue was completed sometime between 1954 and 1963 at the upper extent of the historic farm road. Remnant features of the farm road and ditch are apparent from years 1963 to 1969.

The current alignment of Bothwell Drive was constructed sometime between 1969 and 1974. The swale occurs in approximate alignment with the historic farm road, just east of the current Bothwell Drive alignment, and is likely a remnant section of the farm road ditch. The swale is not considered a natural feature.

Classification

The swale does not originate from a natural drainage feature (i.e. spring, stream) and is likely a remnant section of the historic farm road ditch. The swale, at the time of construction, would have fulfilled the criteria of a ‘corridor drainage’ as defined by the WSR. The swale is exempt from provisions of the WSA. As the swale seasonally discharges overland flows to the north 92 Avenue ditch, the swale fulfills the criteria of a ‘stream’ as defined by the RAPR. A municipal Class B ditch designation and 7 m setback is recommended for the swale in accordance with municipal bylaws and guidance text. Setbacks are measured perpendicular from the historically surveyed top-of-bank.

Channelized Stream

Physical Characteristics

A fish-bearing, channelized watercourse fronts the southeast corner of the eastern property (17121 – 92 Avenue) along 92 Avenue. This channelized section is not contiguous with the 92 Avenue north shoulder ditch fronting the western property.

Flows from an unnamed stream on the east neighbouring property (17141 – 92 Avenue) become channelized at 92 Avenue. Flows continue west along the north shoulder of 92 Avenue for approximately 62 m before being conveyed south and under 92 Avenue via a 600-millimetre (mm) diameter concrete culvert. Flows continue east along the south shoulder of 92 Avenue for approximately 150 m before being directed south to enter a series of agricultural ditches. Flows within the agricultural drainage network drain generally southwest to the Serpentine River.

Channel substrates are characterized by fines and organics. A dense assemblage of reed canary grass is present in the spring/summer months.

Fish Presence

As part of proposed development works on the east neighbouring property, fish inventory surveys were carried out within the channelized stream by Envirowest during the 2018/2019 and 2019/2020 overwintering period to determine fish presence. Surveys were carried out in compliance with federal permit Nos.XHAB-130-2019 and XR-346-2019, and provincial permit Nos. SU18-356999 and SU19-599317. Three-spine stickleback were captured in the 92 Avenue north and shoulder ditches, and coho and chinook salmon were captured in the agricultural ditches south of 92 Avenue.

Classification

The channelized stream fulfills the definition of a “stream” as defined by the WSA and RAPR. A municipal Class A and/or A/O designation is recommended in accordance with municipal bylaws and guidance text. A setback of 25 m measured from top-of-bank in accordance with a Class A or A/O channelized stream.

Setbacks are not shown at this time as the section of channelized stream fronting the Properties is scheduled to be infilled by others as part of 92 Avenue widening works in accordance with terms and conditions of a WSA Approval (Water File No. 100354542) and Fisheries Act Authorization (File No. FAA 24-HPAC-00006).

Green Infrastructure Network

27b. Biodiversity Conservation Strategy: The Biodiversity Management Areas, Green Infrastructure Network and Appendix J of the Biodiversity Conservation Strategy are to be used to determine the Area of Protection required for development within a Green Infrastructure Area.

The Properties occur within the Tynehead Biodiversity Management Area of the City of Surrey's Biodiversity Conservation Strategy (BCS).² The Green Infrastructure Network (GIN) objectives of the Tynehead Management Area are to:

- preserve natural and semi-natural habitat on private land during re-development;
- establish movement corridors connecting Tynehead Park to the ALR;
- increase tree cover adjacent to the ALR; and,
- increase the number of wetlands and ponds.

Approximately 22 m of GIN corridor No. 119 engages the southern margin of the Properties, in alignment with 92 Avenue. GIN corridor No. 119 is identified as having a moderate risk of development, a moderate ecological value, and a target width of 50 m. The existing environmental setting within the GIN corridor is characterized by semi-open canopy mixed tree stand, with manicured vegetation assemblages and anthropogenic structures in the understory; as well as an open field bordered by a thicket of non-native Himalayan blackberry (*Rubus armeniacus*).

Objectives of GIN corridor No. 119 include acting as an edge buffer to ALR lands and field habitat to the south, establish forested corridor along 92 Avenue, and introduce traffic calming and signage along the roadway.

The location of GIN corridor No. 119 relative to the Properties is presented on Envirowest Drawing No. 2072-07-02, included in Attachment C.

² City of Surrey. 2014. *Biodiversity Conservation Strategy*. Prepared for: City of Surrey. Prepared by Diamond Head Consulting, Surrey. 130 pp.

III) SAFEGUARDING OF PROTECTED AREAS

Streamside

- 28. Maximum Safeguarding: Conveyance of the Protection Area to the City of Surrey. Where conveyance is chosen, the application is not responsible for the additional ecological restoration or on-going maintenance of the Protected Area as detailed and described below under the Minimum Safeguarding option.**

The Proponent will be seeking the Maximum Safeguarding approach and will convey identified Protected Areas to the City.

The widening and improvement of utilities within Bothwell Drive and 92 Avenue is required by the municipality as a component of proposed subdivision and development works. Infilling the east Bothwell Drive ditch and north 92 Avenue ditch will be required to facilitate the road widening. Mitigation is proposed within the future Protected Area which will include construction of an ephemeral ditch, isolated shallow basin, and riparian enhancements. Further details are provided in Section 39 to follow. Proposed instream works are subject to review by Fisheries and Oceans Canada (DFO).

- 29. Minimum Safeguarding: Registration of a combined covenant or Right-of-Way (RoW) against the Properties to ensure safeguarding and maintenance of the Protected Areas in perpetuity.**

Not applicable.

IV) PRE-DEVELOPMENT SITE CONDITIONS

Streamside

30. Identify all existing on-site buildings, structures, and developed areas; including, paved and landscaped areas, and any other areas disturbed beyond its original condition.

The Properties have been disturbed beyond their original condition for the majority. Land use within the boundaries of the Properties is generally characterized as rural-residential and agriculture. Agricultural practices are predominantly small-scale gardens and penned live-stock (e.g. goats).

The Properties are well vegetated, with impermeable surfaces limited to residential dwellings, outbuildings, and driveways. The majority of the understory on the eastern property is characterized by manicured and curated vegetation assemblages; constructed pathways, gazebo, and arches are throughout.

31. Perform a slope analysis and identify existing topography features including geological and hydrogeological soil conditions, particularly areas of unstable or sensitive soils.

The western property (17077 – 92 Avenue) is identified on the City of Surrey Mapping Online System (COSMOS) as occurring within the Hazard Lands Development Permit Area. Steep slopes and flood prone areas are present on the western property, as mapped on COSMOS. Envirowest Drawing No. 2072-07-03 presents a steep slope analysis of the Properties, and is included in Attachment C. The western property slopes down towards the southwest. A natural slope >25% occurs near the centre and divides the property into higher ground (northwest) and the lowlands (southwest). The eastern property (17121 – 92 Avenue) gently slopes down to the southeast.

A Geotechnical Investigation Report, dated September 12, 2024 was prepared by GeoPacific Consultants (GeoPacific) and included as Attachment E. Soils are generally described in the report as topsoil within the upper 0.3 m, underlain by Capilano clayey silt, over glacial till. GeoPacific note in their report that the slope is stable under static conditions.

Further slope and soil analysis is presented in the geotechnical investigation report prepared by GeoPacific.

32. Identify and detail existing vegetation and trees (including trees defined in the Surrey Tree Protection Bylaw, as amended) and submit in an arborists assessment report.

The upland area and slopes of the Properties are well vegetated, and are predominantly characterized by a mixed coniferous-deciduous semi-open and open canopy, with a manicured understory of both native and non-native plant species.

Canopy vegetation is characterized by western redcedar (*Thuja plicata*), Sitka spruce (*Picea sitchensis*), bigleaf maple (*Acer macrophyllum*), red alder (*Alnus rubra*), Douglas fir (*Pseudotsuga menziesii*), black cottonwood (*Populus balsamifera* spp. *trichocarpa*), cherry (*Prunus* sp.), and birch (*Betula papyrifera*). Several trees measuring greater than 70 centimetres

(cm) diameter breast height (DBH) occur on the Properties. Dead and dying tree snags are occasional throughout. An arborist report and tree plan of the properties has been prepared by Woodridge Tree Consulting Arborists Ltd. (Woodridge) and is included as Attachment F.

Understory vegetation is characterized by a mixed assemblage of native and exotic species, including vine maple (*Acer circinatum*), beaked hazelnut (*Corylus cornuta*), rhododendron varieties (*Rhododendron* spp.), cedar hedge (*Thuja occidentalis*), osoberry (*Oemleria cerasiformis*), salmonberry (*Rubus spectabilis*), thimbleberry (*R. parviflorus*), hardhack (*Spiraea douglasii*), red-osier dogwood (*Cornus sericea*), wisteria (*Wisteria* sp.), Japanese rose (*Kerria japonica*), sword fern (*Polystichum munitum*), stinging nettle (*Urtica dioica*), wall lettuce (*Mycelis muralis*), grape vine (*Vitis* sp.), hops (*Humulus lupulus*), and trailing blackberry (*R. ursinus*). Manicured grasses and garden beds are present around the residential dwellings.

Non-native species of regional (Metro Vancouver) management concern are present within the understory and include cherry laurel (*P. laurocerasus*), lamium (*Lamium galeobdolon*), English ivy (*Hedera helix*), orange hawkweed (*Pilosella aurantiaca*), spurge laurel (*Daphne laureola*), field bindweed (*Convolvulus arvensis*), herb Robert (*Geranium robertianum*), periwinkle (*Vinca minor*), small flower touch-me-not (*Impatiens parviflora*), bachelor buttons (*Centaurea cyanus*), and Himalayan balsam (*I. glandulifera*). Non-native Himalayan blackberry (*R. armeniacus*) occurs in dense assemblages in open areas and sparsely along the outer property. Caution should be used during land clearing activities so as to not contribute to the further distribution of these species; disposal of these species is to follow local and regional Best Management Practices. Where these species occur within the proposed Protected Area, they will be manually removed and replaced with a natural assemblage of native species.

Listed noxious species under the provincial *Weed Control Act*, RSBC 1996, Ch. 487 were not observed during the December 2022, June 2023, and June 2024 site visits.

The southwest corner of the Properties is low-lying relative to the eastern half of the Properties. The dominant vegetation assemblage is characterized by non-native reed canary grass (*Phalaris arundinacea*), creeping buttercup (*Ranunculus repens*), and common rush (*Juncus effusus*). Occasional species include common horsetail (*Equisetum* sp.), sawbeak sedge, small flowering bulrush (*Scirpus microcarpus*), lady fern (*Athyrium filix-femina*), willow herb (*Epilobium* sp.), dock (*Rumex* sp.), American brooklime (*Veronica beccabunga*), cottonwood saplings, and Himalayan balsam. Reed canary grass and creeping buttercup are also a non-native species of regional management concern.

Red alder, cottonwood and western redcedar trees are occasional in the low-lying area, but are in poor health and are dead or dying.

33. Identify Schedule 1, federally protected Species-at-Risk or Provincial Red- or Blue- Listed plant or animal species and their critical habitats, including shrub and ground cover communities and any species or habitat feature identified as requiring year-round protection as identified in the Provincial *Wildlife Act*.

The B.C. Conservation Data Centers (CDC) Species and Ecosystems Explorer was queried for a list of federally protected Species-at-Risk (SAR) and provincially listed red or blue species that

are expected to occur within Surrey (BC CDC, 2023³). The CDC online mapping service (iMap⁴) was queried to assess for species occurrences and mapped critical habitat within 2.5 kilometres (km) of the Properties. A literature review was conducted to assess species distribution and critical habitat needs in relation to the Properties and adjacent land uses.

Species identified to occur and/or whose critical habitat is mapped within 2.5 km of the Properties include barn owl (*Tyto alba*), Vancouver Island Beggar ticks (*Bidens amplissima*), great blue heron (*Ardea herodias*), pacific water shrew (*Sorex bendirii*), and Oregon forest snail (*Allogona townsendiana*).

Of the species identified for consideration, and within 2.5 km of the Properties, the biophysical attributes of the Properties were identified as having the potential to support the critical life history function of the following species (should they be present): little brown myotis (*Myotis lucifugus*), olive-sided flycatcher (*Contopus cooperi*), and Oregon forestsnail (*Allogona townsendiana*). Species and recommended mitigation measures, where applicable, are described further below.

- Little Brown Myotis

Little Brown Myotis is a provincially blue-listed species and listed as Endangered on Schedule 1 of the SARA. In Canada, Little Brown Myotis occurs in every province and territory, with exception of Nunavut (Environment and Climate Change Canada, 2018⁵).

Habitat needs of the Little Brown Myotis varies seasonally, and is composed of overwintering habitat used for hibernation and overwinter survival, swarming habitat (late summer to early fall), and summering habitat that includes roosting and foraging habitat (Environment and Climate Change Canada⁶). Additional characteristics of each habitat type as described by Environment and Climate Change Canada⁶ are provided below:

Overwintering and Swarming habitat: Little Brown Myotis may overwinter in buildings in western Canada where winter temperatures are relatively high; however, little is known regarding the overwintering habitat preferences of Little Brown Myotis in western Canada. In the remainder of Canada, hibernacula generally include underground openings (e.g. caves, abandoned mines, wells, tunnels) with stable temperatures ranging between 2 degrees Celsius (°C) and 10 °C, and relative humidity levels > 80%. Swarming behaviour often occurs in and around entrances or openings of hibernacula.

Summering habitat: Little Brown Myotis is one of the few bat species that uses buildings and other anthropogenic structures (e.g., bat boxes, bridges, and barns) to roost (particularly for maternity roosting), but it will also use cavities of canopy trees, foliage, tree bark, crevices on cliffs, and other structures. Roosting sites are generally used

³ BC Conservation Data Centre. 2023. *BC Species and Ecosystem Explorer*. BC Ministry of Environment, Victoria, BC. Retrieved from: <http://a100.gov.bc.ca/pub/eswp/search.do>. Accessed January 31, 2023.

⁴ BC Conservation Data Centre: CDC iMap [web application]. 2023. Victoria, British Columbia, Canada. Retrieved from: <http://maps.gov.bc.ca/ess/hm/cdc/>. Accessed January 31, 2023.

⁵ Environment and Climate Change Canada. 2018. *Recovery Strategy for Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) in Canada*. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. ix + 172 pp.

annually, and Little Brown Myotis can be particularly loyal to anthropogenic structures. Notwithstanding, Little Brown Myotis have been documented to switching anthropogenic sites between and within years to meet their needs (e.g. thermoregulation).

Occurrences of Little Brown Myotis are not mapped on the CDC iMap within 2.5 km of the Properties. The residential dwelling and outbuilds may provide suitable roosting habitats for this species. Envirowest recommends that a presence/absence bat survey be carried out by a QEP prior to demolition of anthropogenic structures. Should Little Brown Myotis, or other bat species be present (all are protected under the *Wildlife Act*), an eviction plan is to be prepared by a QEP outside of the maternity season (May 1 – September 1); ideally between September 1 – November 1 (Craig, J., 2016⁶).

- Olive-sided flycatcher

The Olive-sided flycatcher is yellow-listed and designated Schedule 1, Special Concern under the SARA. The flycatcher is widely distributed in British Columbia, with breeding populations most common in the Georgia Depression and Sub-Boreal Interior ecoprovinces (Campbell *et al.*, 1997).⁷

Breeding habitat for the flycatcher includes the edges of semi-open mature coniferous forests and mixed woodlands, usually near water (Campbell *et al.*, 1997).⁸ The species requires suitable perch sites in tall, mature trees from which they'll sally and forage.

On the coast, breeding and nesting periods range from May 20 to August 19 (Campbell *et al.*, 1997).⁸ Most nests were situated in coniferous trees, including Douglas fir, and all nests (n=17) were attached to the upper surface of a horizontal branch, generally well out on the branch, but occasionally near the trunk (Campbell *et al.*, 1997).⁸

Element occurrences are not mapped by the CDC for olive-sided flycatcher within 2.5 km of the Properties. Critical Habitat is not mapped for this species.

Olive-sided flycatcher was detected aurally at the time of the June 2023 site visit. The Properties are within 140 m of the Serpentine River. The existing mature conifer trees at the outer margin of the mixed tree stands are suitable to support the critical life history functions (i.e., breeding, rearing) of the Olive-sided flycatcher.

It is recommended for mature coniferous trees to be preserved where they are not in conflict with the proposed development to the greatest extent feasible. Douglas-fir will be planted within the future Protected Area, and at a sufficient density to allow for the trees to reach maturity.

⁶ Craig, J. 2016. *Community bat programs of BC. Got Bats? 7 Steps for Excluding Bats from Buildings in BC*. Prepared by BC Community Bat Project. 16 pp. Retrieved from www.bcbats.ca (accessed March 2, 2023).

⁷ Campell, R.W., Dawe, N.K., McTaggart-Cowan, I., Cooper, J.M., Kaiser, G.W., McNall, M.C.E., and Smith, G.E.J. 1997. *The Birds of British Columbia - v. 3: Passerines, flycatchers through vireos*. Canadian Wildlife Service. British Columbia, Wildlife Branch. ISBN 0-7748-0572-2.

Should mature coniferous trees be schedule for removal during the active breeding period (May 20 to August 19), tree removal is to be preceded by an active bird nest survey. Active bird nest surveys are to be carried out by a QEP. If active nests are detected, a nest management plan will be developed by the QEP. A copy of the active bird nest survey result, and any follow-up monitoring reports will be submitted to the City of Surrey.

- Oregon forestsnail

Oregon forestsnail is red-listed and designated Schedule 1, Endangered under the SARA.⁸ Oregon forestsnail typically occurs in mixed-wood and deciduous forests that are dominated by bigleaf maple with dense herbaceous cover (e.g. stinging nettle) and high moisture content.^{9,10} Oregon forestsnail associate with soils that are typically rich, mesic and moist with a deep leaf litter layer and coarse woody debris for mating and ovipositing sites.¹¹

One (1) element occurrence is mapped by the CDC for Oregon forestsnail 2.4 km away from the project location. The last noted occurrence was on October 24, 2017 (Shape ID 130310). Critical Habitat is mapped for this species on Mar 28, 2024¹² at the project location (Critical habitat ID 141793). The Property is not federal land. An order to protect critical habitat on non-federal land specifically for this species has yet to be provided by the competent federal minister.

A sweep of the Property will be carried out immediately prior to site clearing to ascertain presence and or absence of the species. Individuals located during the sweep are to be relocated to an area within the property not engaged by clearing activities.

34. Identify the Streamside Protection Area and stream locations, including top-of-bank and stream classifications (as defined in Surrey’s Zoning Bylaw, as amended).

Envirowest Drawing No. 2703-01-01 (Attachment C) presents the location the Streamside Protection Areas as prescribed by municipal bylaws and guidance text.

35. Identify existing site drainage conditions in accordance with the ISMP relevant to the site location.

The Property occurs within Zone 1B Developed Uplands section of the Upper Serpentine ISMP (ISMP). From the ISMP, existing stormwater systems in this area are “predominantly serviced by

⁸ B.C. Conservation Data Centre. 2010. Species Summary: *Allogona townsendiana*. B.C. Minist. of Environment. Available: <https://a100.gov.bc.ca/pub/eswp/> (accessed Aug 30, 2024).

⁹ COSEWIC. 2013. COSEWIC. Assessment and Status Report on the Oregon Forestsnail *Allogona townsendiana*. Committee on the Status of Endangered Wildlife in Canada. Ottawa. 87 pp.

¹⁰ Forsyth, R.G. 2004. Land Snails of British Columbia. Royal British Columbia Museum. 188 pp.

¹¹ Steensma, K.M.M., L.P. Lilley, and H.M. Zandberg. 2009. Life history and habitat requirements of the Oregon forestsnail, *Allogona townsendiana* (Mollusca, Gastropoda, Pulmonata, Polygyridae), in a British Columbia population. *Invertebrate Biology* 128:232-242.

¹² Environment and Climate Change Canada. 2024. Amended Recovery Strategy for the Oregon Forestsnail (*Allogona townsendiana*) in Canada. Species At Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. vii + 62 pp.

an open ditch network, with culverts to convey flows beneath roadways and driveways. Stormwater typically flows overland and/or via shallow groundwater pathways for a distance prior to reaching the ditch systems” (Shkurhan and Rice, 2015¹³).

The existing site drainage conditions on the Properties meet this description. The Properties are well vegetated outside the footprint of the existing residential dwelling. The site currently drains via overland run-off southwest to the perimeter roadside drainages and, to a lesser amount, the channelized stream abutting the southeast corner of the Properties.

36. Detail existing site drainage conditions including depth to groundwater table, stormwater conveyance, infiltration and storage features, and stormwater channels and overland flow paths.

The site in its current condition primarily drains via overland run-off to the roadside ditches abutting the southwest corner of the Properties. Flows from the ditches are conveyed under Bothwell Drive via a pipe, and discharge to a drainage ditch that extends west from Bothwell Drive to the Serpentine River, in alignment with 92 Avenue. A top-mounted flap gate is present at the confluence of the drainage ditch and Serpentine River to mitigate back flooding of the river into the drainage ditch.

Flows in the channelized stream abutting the southeast corner are direct under 92 Avenue via pipe, and travel east along the roadside then south into a series of agricultural ditches.

Groundwater conditions are presented in the geotechnical report prepared by GeoPacific,. In their report, GeoPacific identifies the static groundwater to be at approximately -1.0 m geodetic elevation. They further identify that “perched groundwater should be expected to form during the wetter months of the year in permeable zones of natural soils or fill material overlaying relatively low permeability deposits of clayey silt or glacial till”.

¹³ Shkurhan, G. and Rice, J. 2015. *Upper Serpentine Integrated Stormwater Management Plan (ISMP)*. City Project #4813-0706. Prepared for the City of Surrey. Prepared by Urban Systems Ltd. May 2015. 78 pp. + Appendices

V) **PROPOSED DEVELOPMENT CONDITIONS AND SPECIFICATIONS**

37a. Identify the Streamside Protection Area and where it is situated with the development.

The location of the existing and proposed Streamside Protection Area is presented on Envirowest Drawing 2072-07-04A, included as Attachment C.

37b. Identify the Green Infrastructure Protection Area and where it is situated with the development.

The location of the existing and proposed GIN is presented on Envirowest Drawing 2072-07-04A, included as Attachment C.

38. Locate development where it is most sensitive to the objectives of the Biodiversity Management Areas, Green Infrastructure Network and corresponding conditions and recommendations required for management as identified in Surrey’s ‘Biodiversity Conservation Strategy’.

As depicted on COSMOS, the existing GIN width on the Properties is 22 m will be protected and the width increased to 25 m. Proposed Lot 29 will engage the GIN corridor by 191 m². The remaining 25 m corridor will be dedicated to the City of Surrey to be protected in perpetuity. Qualitative enhancements are proposed in addition to quantitative gains. Enhancements will include removal of non-native species, installation of an ephemeral shallow basin and channel habitat, and installation of an assemblage of native vegetation.

The BCS objectives will be achieved through installation of additional ephemeral shallow basin habitat, preservation and enhancement of a vegetated corridor to act as an ALR buffer and provide cover for species movement. Please see the following section for further details.

39. Detail construction specifications including materials, timing, technologies and techniques proposed as a means to mitigate and reduce the ecological impacts of development on the identified Stream Protection Area.

Improvements to Bothwell Drive and 92 Avenue, as well as the utilities within, are required by the municipality as a component of proposed subdivision and development works. Upgrades to municipal roads and utilities will engage the east Bothwell Drive ditch and the north 92 Avenue ditch. As well, the proposed development plan will engage the northern extent of the swale.

An ephemeral flow regime of these features is maintained through the capture and conveyance of surface flow from adjacent surfaces during prolonged periods of precipitation. Existing instream and overhanging vegetation are anticipated to provide an indirect source of nutrients to downstream fish habitat.

To mitigate potential and perceived impacts to local wildlife and downstream fish habitat, a constructed channel (Channel) is proposed within the Protected Area. The Channel will receive overland flows from adjacent surfaces and baseflow from future stormwater infrastructure within Bothwell Drive. A drainage memo prepared by Hub presents the 2-yr (0.024 m³/s), 5-yr (0.033

m³/s), and 100-yr (0.072 m³/s) post-development flow rates anticipated to enter the Channel from stormwater infrastructure in Bothwell Drive. The drainage memo is included as Attachment G for reference.

The flow regime will be intermittent and will reflect seasonal variations. Flows are anticipated to be present from November to February, but will be dependent on the frequency and duration of realized precipitation events. The mitigation channel will be lined with cobble and will not exceed 0.5 m depth. The riparian area associated with the Channel will be planted with native vegetation species to continue the supply of nutrients to downstream fish habitat during surficial flow events.

The greater terrestrial environment of the future Protected Area will receive habitat complexing through removal and/or treatment of non-native plant species, installation of a natural assemblage of native plants, installation of large woody debris, and creation of an ephemeral shallow basin. Detailed landscape plans are presented on Envirowest Drawing No. 2072-07-07 (Attachment C). Native species were selected for their suitability.

The proposed development plan and habitat concept is presented in Envirowest Drawing Nos. 2072-07-04A, -05, and -06 included in Attachment C. A habitat summary is presented by Envirowest Drawing 2072-07-04A (Attachment C).

Proposed mitigation and enhancement works are proposed provide a net gain 101 m² of wetted habitat and 837 m² of riparian habitat.

Proposed infill and mitigation works are subject to review by DFO. A Letter of Advice (DFO File No. 24-HPAC-00207) from DFO has been received on August 7, 2024 and is included in Attachment H

Proposed instream works (i.e. infilling of the roadside ditches and construction of the mitigation channel) will be carried out in accordance with provincial, federal, and local instream works Best Management Practices, as well as in accordance with any terms and conditions stipulated by DFO. To mitigate the risk of releasing sediments to downstream fish habitat, instream work BMP's will include, but are not limited to the following:

- instream works are to take place in absence of flows and during seasonally favourable weather (i.e. dry);
- instream works are to take place with full-time monitoring by a QEP or designate;
- machinery will be in favourable working condition, free of leaks;
- refueling of machines will take place 30 m away from a watercourse, and a fuel spill kit will be kept onsite at all times; and,
- any disturbed ground will be planted and stabilized prior to removal of any downstream flow barriers.

A detailed and comprehensive mitigation and management plan will be presented within the Construction Environmental Management Plan (CEMP), submitted separately.

As well, an Erosion and Sediment Control (ESC) plan will be developed in accordance with the City's Erosion and Sediment Control Bylaw No. 16138 and will focus on the prevention sediment release to downstream fish habitat and/or stormwater infrastructure. The ESC plan will be submitted separately.

40. Explain how the proposed development conforms to Surrey's Drainage Regulation and Charges Bylaw (as amended), as well as policies in Secondary Plans, Integrated Stormwater Management Plans, and the Zoning Bylaw (as amended).

An analysis of pre-and post- development flows is presented in a memo prepared by Hub included in Attachment G. Pre- and post-development flows are expected to be similar. A stormwater management plan is to be provided separately by Hub Engineering Inc.

41. Detail the locations of all proposed buildings, structures and impervious surfaces.

Please refer to preliminary Key Plan and Lot Grading plans prepared by Hub Engineering Inc. (Hub), Attachment I, for the location of building footprints and impervious surfaces.

42. Detail the timing and scheduling of all proposed development activities.

Preliminary details regarding timing and scheduling of proposed development activities have yet to be finalized pending receipt of project permits from the City of Surrey. The following development Best Management Practices will be implemented should works conflict with ecologically sensitive timing windows:

- an active bird nest survey is to be completed prior to commencement of clearing should works be scheduled within the active bird nesting window (generally March 1 through August 31);
- a pileated woodpecker (*Dryocopus pileatus*) nest survey is to be completed prior to commencement of tree removals. Environment Canada requires that any nesting cavities identified in a property be monitored for 3 years to ascertain use by other migratory birds;
- the great horned owl nest is to be monitored for nesting activity prior to commencement of construction, should construction activities be planned to occur in the breeding/nesting period between February 15 and September 10; should the nest be determined to be active, a nest management plan will be established to determine allowable construction activities and timing;
- a raptor nest survey is required prior to works (any given time of the year); should an active nest be discovered, a nest management plan will be developed by a Qualified Environmental Professional (QEP) to outline allowable construction activities and timing;
- efforts will be made to schedule building demolition outside of the summer bat roosting/maternity window (May 1 through September 1), if demolition must occur within this window, a bat survey is recommended prior to demolition works; and,
- instream works associated with all instream enhancement works will be undertaken in accordance with the 2022 "Requirements and Best Management Practices for Making Changes In and About A Stream in British Columbia" upon issuance of a DFO response.

- 43. Provide site grading plans illustrating the area and extent of proposed soil disturbance including slope grades and any proposed retaining wall heights, locations and materials used. Detail how slope or soil stability will be ensured and how erosion and increased sedimentation risks will be reduced.**

Preliminary grading plans have been prepared by Hub and are submitted separately. Placement of fill will be required, and is generally limited to the western half of the Properties, south of the future road. The fill slope will modestly encroach into the future protected by 4 m (maximum) at the western extent. The fill slope will receive an application of growing medium and native plants to blend into the surrounding area.

A 3 m development setback from the top of slope is recommended by the geotechnical engineer (GeoPacific), and is to include buildings, roads, parking stalls, construction traffic, and stockpiles. Within the development footprint, the geotechnical report identifies minor grading take place prior to placement of fill and/or building slabs including, removal of topsoil, organics and loose or otherwise unsuitable/disturbed soils to expose a subgrade of stiff clayey silt or very dense glacial till. Stripping depth is estimated by GeoPacific to be 0.3 m. The geotechnical report further recommends that the development should take place in a manner which maximizes the retention of existing vegetation, and/or retain stumps and roots to the greatest extent possible on retained slopes.

Terraforming will be required for construction of a mitigation channel and ephemeral shallow basin. Mitigation features were designed in consideration of the greatest amount of tree retention possible. Soils excavated during these works will be sorted and stockpiled for re-used where suitable. Disturbed areas will be replanted with a natural assemblage of native vegetation.

An Erosion and Sediment Control plan has been developed by Hub Engineering in accordance with City's Erosion and Sediment Control Bylaw No. 16138 and is included in Attachment I.

- 44. Identify how existing trees, shrubs and groundcover will be retained and protected including details and specification on the replanting, restoration and management of vegetated areas and maintenance of short and long-term hydraulic regime.**

Please refer to the Arborist Report prepared by Woodridge Tree Consulting Arborists Ltd., (Attachment F) for details about tree management.

With exception of proposed mitigation works, construction activities are prohibited from the Protected Area. Temporary tree protection fencing will be installed where trees are scheduled to remain to preclude disturbance during construction activities at the recommendation of the project arborist. The 23 hazard trees are recommended to be modified under direction of the project arborist, and will remain as wildlife snags. The removed tops will be retained and placed within the SPEA a large organic debris. Please refer to the Arborist report prepared by Woodridge for further details on tree protection and retention.

Clearing works will be preceded by an Active Bird Nest Survey should tree removal or clearing works be scheduled to take place during the active bird nesting window (approximately March 1 to August 31).

Proposed mitigation works within the Protected Area will involve the use of machinery to construct the drainage features (channel and shallow basin). Tree protection fence will be installed around trees proposed for retention. Works involving the use of machinery will be restricted to within the Channel and shallow basin alignments. Invasive species removal and plant of native species will be carried out manually.

Long term protection of the Streamside Area will include the installation of a permanent fence along the proposed setback to protect against potential future disturbances. The northern perimeter of the Protected Area, along the lots, will be delineated by a chain link fence (City of Surrey detail SSD-PK 6112)¹⁴ to protect the Streamside Setback Area against future development activities. East, south, and west perimeters of the Protected Area will be delineated using three-split rail fencing.

45. Identify individual tree retention and removal, and areas of structured landscaping, including plant species, size, and location.

Please refer to the arborist report prepared by Woodridge (Attachment F) for tree retention and removal details.

46. Provide details as to how the Streamside management or protection objectives will be met and monitored following the official completion of all construction activity. Where restorative work IS NOT required, maintenance and monitoring shall be for a minimum of ONE year; and, where restorative work IS required, maintenance and monitoring shall be for a minimum of FIVE years.

Habitat compensation and enhancements works are proposed within the Protected Area and will include construction of a habitat mitigation channel, an isolated ephemeral shallow basin (Autumnal Pool), and terrestrial vegetation enhancements.

Channel and the Autumnal Pool designs are presented on Envirowest Drawing Nos. 2072-07-05 and -06 (Attachment C). Detailed landscape plans are presented on Envirowest Drawing No. 2072-07-07 (Attachment C). Native vegetation species selected are based on their suitability to local site conditions. Ideally, planting and seeding should occur in the early fall. Any disturbed ground associated with works is to receive an application of the City of Surrey's "Reclamation Mix"¹⁵ once works are complete. The seed mix must not contain invasive species such as white sweet clover (*Melilotus albus*) and/or reed canary grass. The specified seed mix is to be applied by a broadcast method (i.e. no hydroseeding).

¹⁴ City of Surrey. 2011. Parks Standard Construction Documents. Details - SSD-PK 6000 Site Fixtures (p.238)

¹⁵ Ibid. Appendix D - Seed Mixes for Park Development (p.174)

All trees planted within the Protected Area will be a minimum of 3 m apart and shrubs a maximum of 1 m apart. The planted trees will be a minimum of 3 m and shrubs a minimum of 1 m from any roads, sidewalks, mowed grass, fencing, and private property. Any changes to the planting plan will be sent to City staff for approval.

A five-year post-construction monitoring plan is proposed following completion of the habitat compensation and enhancement works. The post-construction monitoring plan includes bi-annually assessment of the riparian vegetation for survivorship and vigor, and monitoring of the Channel hydrology during winter months to ensure the Channel is conveying flow for the majority of the year, and that the flows are contained within the Channel.

Regular maintenance of the planting area will be required for the duration of the 5-year maintenance and monitoring period. Maintenance activities are to include, but may not be limited to: removal of non-native invasive species; selective weeding from around the immediate vicinity of installed plants; removal of garbage/debris; watering; fertilizing; selective pruning of trees to prevent the development of codominant leaders; and, replacement of dead plant material as required. Removal of non-native invasive plants is to be conducted a minimum of four times per year, during the growing season, in consultation with the City of Surrey. Removal of non-native invasive plants is to include root material and the removed plant material is to be disposed of appropriately offsite. Powered equipment, such as line trimmers, brush cutters, or hedge trimmers, should not be used in the planting area as damage or destruction of installed native plant material is likely to occur. Removal of non-native invasive material and selective weeding is to be completed by hand.

Envirowest will complete a minimum of two monitoring visits per year: one visit in spring to determine if remedial work is required, and at least one follow-up visit in fall. Should any areas not meeting design criteria, remedial work will be prescribed. Remedial works will be adaptive in nature. If a particular plant species does not thrive in the Protected Area and experiences die off, replacement plants prescribed will be of a different species that has demonstrated strong growth in the area. An annual monitoring report will be submitted to Parks Department at the City of Surrey for 5 years.

The Channel will function as a source of nutrients and cool water to downstream fish populations. During the bi-annually site inspections, the Channel and the Autumnal Pool will be assessed for any deficiencies (i.e., bank stability and/or erosion issues). If any are identified, adaptive management strategies will be developed by identifying the source of the deficiency and prescribing remedial works to address the source of the deficiency and return the Channel and the Autumnal Pool to a functioning state.

47. **Provide a restoration, maintenance and cost estimate plan consistent with the development requirements identified in the Ecosystem Management Plan and/or Impact Mitigation Plan to be used to determine landscape bonding and security requirements for installation, monitoring and maintenance purposes.**

The Protected Area restoration and enhancement works cost estimate is prepared by Envirowest and is provided as Attachment J. A total of 4,283 m² area will be restored and enhanced. Please

refer to Envirowest Drawings included as Attachment C for details on the habitat enhancement and restoration works.

48. Articulate how the proposed development meets the Objectives of the Biodiversity Management Areas and Green Infrastructure Network of the ‘Biodiversity Conservation Strategy’.

Please refer to Section 38 above.

49. Detail how wildlife habitat will be protected and enhanced while taking into consideration wildlife movement and connectivity to adjacent sites. Focus on Schedule 1, Federally protected Species-at-Risk or Provincial Red- or Blue- Listed plant or animal species and their critical habitats and how they may be affected by the proposed development and indicate how proposed Best Management Practices may be used for the protection and preservation of that habitat.

During the June 6, 2023 site assessment a great horned owl (*Bubo virginianus*) nest was discovered on the eastern margin of the Properties within a mature bigleaf maple (Tree No. 518). During a follow-up assessment on May 8, 2024, it was discovered that the nest is no longer active. The tree is scheduled for removal as it falls within the alignment of the future 173A Street. Breeding and nesting periods for the species ranges from February 15 to September 10 (Campbell *et al.*, 1990).¹⁶ A raptor nest survey will be required prior to clearing works (any given time of the year). Should any nests be discovered during the survey, a nest management plan will be developed by a QEP.

Should vegetation on the Properties require modification or removal during the active bird nest window (generally March 1 to August 30), works are required to be preceded by an Active Bird Nest Survey. The Active Bird Nest Survey will be carried out by a QEP and reports submitted to the City of Surrey for their records.

A 25 metre GIN corridor will be protected along the southern margin of the Properties and will receive terrestrial and wetted enhancements to provide diverse habitat. Species movement will be protected within this corridor.

An Oregon forestsnail presence absence survey will be carried out and if the species is detected a management plan will be developed by the QEP. A sweep of the area will be carried out prior to clearing. Clearing activities will be monitored as a mitigation measure; any found Oregon forestsnail will be documented and relocated to a nearby forested area with similar characteristics. Bigleaf maple will be planted withing the restoration area to promote future Oregon forestsnail habitat.

¹⁶ Campbell, R.W., Dawe, N.K., McTaggart-Cowan, I., Cooper, J.M., Kaiser, G.W., McNall, M.C.E. 1990. *The Birds of British Columbia. v.2. Nonpasserines, diurnal birds of prey through woodpeckers*. Published by the Royal Columbia Museum in association with Environment Canada, Canadian Wildlife Service. p.636

50. Identify post-development drainage site conditions in accordance with the ISMP relevant to the site location.

The Properties occur within Zone 1B Developed Uplands section of the Upper Serpentine ISMP. Drainage plans will be prepared in accordance with engineering specifications and any requirements as specified by the City of Surrey. Please refer to engineering drawings prepared by Hub Engineering Inc., submitted separately, for details on stormwater servicing.

Post-development drainage for Lots 1 to 14 will consist of overland drainage to be captured by storm infrastructure and directed east and west to the public road dedication. East flows will drain to South 92 Avenue Ditch and west flows will drain to the Drainage Ditch west of site. Post-development drainage for Lots 15 to 29 will consist of overland and disconnected roof leaders draining onto the lawn area of each lot and south into the Protected Area providing overland baseflows for the proposed Channel and Autumnal Pool.

51. Detail how flooding risk and water quality degradation will be mitigated including specific measure that will be taken to prevent channel erosion and prevent the fouling of streams, wetlands or drainage conveyance corridors.

Please refer to the stormwater management plan prepared by Hub Engineering Inc., submitted separately, for details on flooding risk and stormwater management.

VI) IMPACT MITIGATION PLAN (if required – applies to streamside only)

52. An Impact Mitigation Plan is required to determine the appropriateness of requests to reduce the Streamside Protection Area (through the use of a Development Variance Permit) as defined in Surrey's Zoning Bylaw, Part 7A. The Impact Mitigation Plan, where relevant to the site (determined by the City of Surrey).

Please refer to Section 39 of this report for further details on the proposed mitigation and enhancement plans. The proposed development plan and habitat concept is presented in Envirowest Drawing Nos. 2072-07-04A, -05, and -06 (Attachment C) and the DFO Letter of Advice (Attachment H).

SUMMARY

Anniedale Bothwell GP Inc. (the Proponent) is proposing to subdivide the Properties 17077 and 17121 – 92 Avenue, Surrey (Properties) to create twenty-nine (29) single-family lots. Widening of Bothwell Drive and 92 Avenue and improvements to municipal infrastructure is required as a condition of proposed development works.

The GIN Corridor No. 119 occurs along the southern margin of the Properties, and will be protected in its entirety within a 25 m wide linear corridor (i.e. the Protected Area). The objectives of the GIN will be achieved through enhancement works which will include the removal of non-native plant species, the installation of a natural assemblage of native plants, installation of large woody debris, and creation of an autumnal shallow basin and Channel.

Proposed development works will engage two roadside ditches and a swale (relic roadside ditch). To mitigate anticipated and perceived impacts related to proposed development activities, an ephemeral Channel is proposed within the future Protected Area. Infill and mitigation works are subject to review by DFO.

The 25 m corridor will be dedicated to the City of Surrey to create approximately 4,283 m² of Protected Area. Further mitigation and enhancement works will result in a net gain of 101 m² of wetted and 837 m² of terrestrial/riparian habitat.

To mitigate potential impacts to local wildlife, the following mitigation measures are recommended to be undertaken at the time, and/or prior to proposed development activities:

- efforts will be made to schedule building demolition outside of the summer bat roosting/maternity window (May 1 through September 1), if demolition must occur within this window, a bat survey is recommended prior to demolition works;
- an active bird nest survey is to be completed prior to commencement of clearing should works be scheduled within the active bird nesting window (generally March 1 through August 31);
- a raptor nest survey is required prior to works (any given time of the year); should an active nest be discovered, a nest management plan will be developed by a QEP to outline allowable construction activities and timing;
- a pileated woodpecker nest survey is to be undertaken prior to site clearing;
- installation of Douglas fir trees within the Protected Area to replace mature coniferous trees that may be used by the olive-sided fly catcher;
- installation of tree protection fence at the direction of the project arborist prior to commencing works; and,
- development of an ESC plan that will prescribe measures to preclude turbid discharge to downstream fish habitat and/or municipal infrastructure in accordance with the City's ESC Bylaw.



Please contact the undersigned at 604-209-4825 or sickmuller@envirowest.ca should you have any comments or questions regarding this submission.

Sincerely,

ENVIROWEST CONSULTANTS INC.



Anastasia Lashkova
Environmental Technician



Rolf Sickmuller, R.P.Bio
Senior Project Manager

JL/AL/IWW

Attachments	A	Figure 1 – Project Location
	B	Site Photographs
	C	Envirowest Design Drawings
	D	EcoLogic Wetland Investigation Memorandum
	E	GeoPacific Geotechnical Correspondence
	F	Woodridge Correspondence
	G	Storm Flow Memorandum, Hub Engineering
	H	Fisheries and Oceans Canada Correspondence
	I	Development Drawing Set, Hub Engineering
	J	Riparian Planting Cost Estimate

ATTACHMENT A
Figure 1 – Project Location



LOCATION OF PROPERTIES

17077

17121

92 AVENUE

BOTHWELL DRIVE

172 STREET



- REFERENCE DRAWINGS
1. 2020 Legal Base from City of Surrey.
 2. 2021 Ortho Photograph from City of Surrey.

DATE: 2023-01-05 - 9:11am
 PATH: \\EN\F\B\Alpha\envirowest_files\2023\Surrey-White_Road\2072-07\AutoCAD\Final\Figure 1 - Location of Properties.dwg
 LAYOUT: FIGURE 1 - LOCATION

BEECH WESTGARD DEVELOPMENTS LTD.

17077 AND 17121 - 92 AVENUE
 Surrey, BC



www.envirowest.ca



2000 Harley Avenue
 Coquitlam, British Columbia
 Canada V3K 6W5

office: 604-944-0502
 facsimile: 604-944-0507
 aspa@vedere@envirowest.ca

LOCATION OF PROPERTIES

DESIGN:	DRAWN:	CHECKED:	REVISION:	REVISION DATE:
	CEV	JL	00	
SCALE:	PROJECT NUMBER:		DRAWING NUMBER:	
1:2500	2072-07			
DATE:	January 05, 2023			
			FIGURE 1	

ATTACHMENT B
Site Photographs



Photograph B1. West view of 92 Avenue, taken from the eastern property margin; note no ditch Present west of the driveway (December 13, 2022).



Photograph B2. Southeast view of the driveway and general understory vegetation on the eastern property (December 13, 2022).



Photograph B3. Northwest view of the residential dwelling and lawn on the eastern property (December 13, 2022).



Photograph B4. General understory vegetation south of the dwelling on the eastern property (December 13, 2022).



Photograph B5. East view of the cedar hedge and rear yard north of the residential dwelling on the eastern property (December 13, 2022).



Photograph B6. Northview of the open area used as pasture for goats, west of the residential dwelling on the eastern property (December 13, 2022).



Photograph B7. General picture of the manicured understory and pedestrian structures present on the eastern property (December 13, 2022).



Photograph B8. South view of the secondary access on the eastern property, taken near the west perimeter (December 13, 2022).



Photograph B9. West view of 92 Avenue, taken from the driveway of the western property (December 13, 2022).



Photograph B10. East view of 92 Avenue, taken from the driveway of the western property; note no ditch is present (December 13, 2022).



Photograph B11. North view of the driveway and general vegetation composition of the western property at 92 Avenue (December 13, 2022).



Photograph B12. West view of the 92 Avenue ditch and southwest corner of the western property, taken near Bothwell Drive (December 13, 2022).



Photograph B13. East (upstream) view of the 92 Avenue ditch parallel to the south property margin, taken near Bothwell Drive (December 13, 2022).



Photograph B14. North view of the southwest corner of the Property at the approximately location of discharge from the swale to the 92 Avenue ditch (December 13, 2022).



Photograph B15. South (downstream) view of the Bothwell Drive ditch, taken near a vehicle crossing for the western property (December 13, 2022).



Photograph B16. North view of Bothwell Drive, taken near a vehicle access point to the western property; note there is no defined ditch (December 13, 2022).



Photograph B17. Southwest view of saturated lands in the southwest corner of the property, taken near the toe of slope (December 13, 2022).



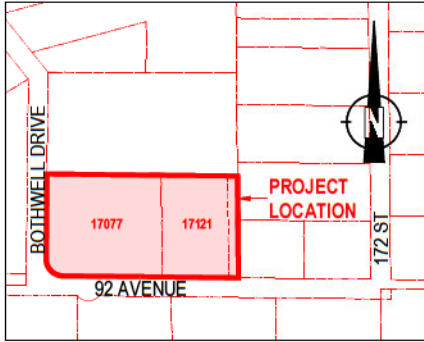
Photograph B18. North view of the southwest corner of the west property, taken near the west property margin (December 13, 2022).



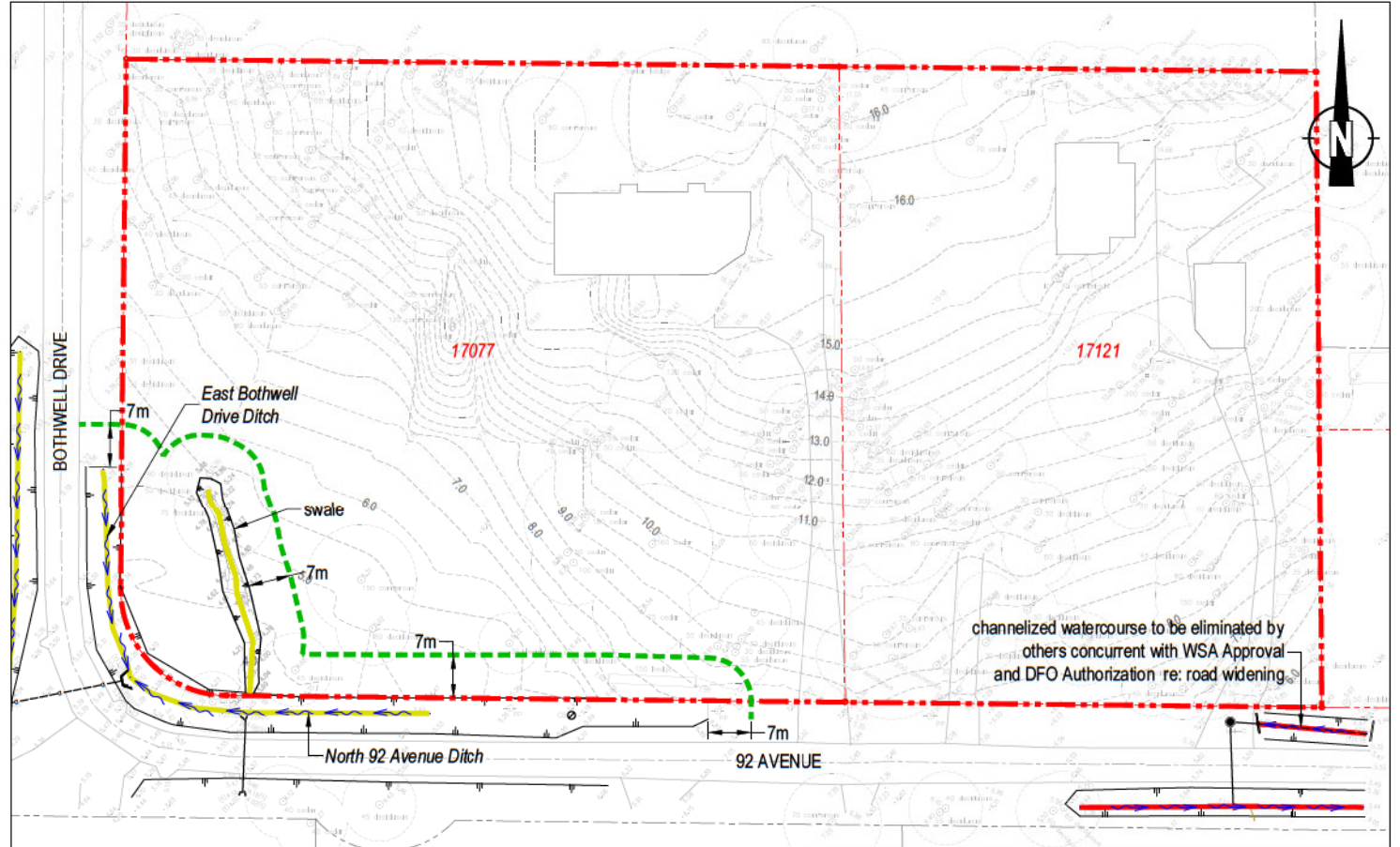
Photograph B19. Northeast view of the upslope vegetation and residential dwelling on the western property (December 13, 2022).

ATTACHMENT C
Envirowest Design Drawings

LOCATION
SCALE 1:5000



PLAN
SCALE 1:750



LEGEND	
	Property Line
	Bylaw Setback
	Class A/A0 Watercourse
	Class B Watercourse
	Top-of-Bank

channelized watercourse to be eliminated by others concurrent with WSA Approval and DFO Authorization re: road widening

DATE: 2023-03-15 - 4:12pm
PATH: \\ENV-FS-R\High\Envirowest Files\2023\Surrey-White Rock\2072-07\ACAD\Final\2072-07-01 Setbacks.dwg
LAYOUT: 2072-07-01

REFERENCE DRAWINGS

1. Email: 10322-TOPO.dwg - Received December 19, 2022; Beech Westgard Developments Ltd.
2. Email: ACAD-bee-base.dwg - Received December 20, 2022; Hub Engineering Inc.
3. 2020 Legal Base from City of Surrey.

BEECH WESTGARD DEVELOPMENTS LTD.

17077 AND 17121 - 92 AVENUE
Surrey, BC



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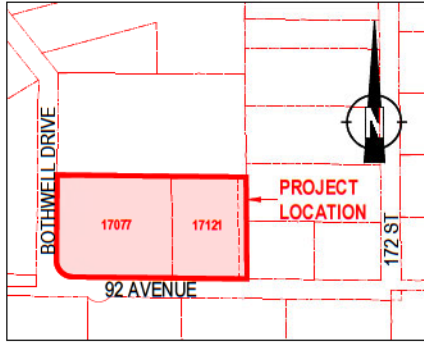


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SETBACKS

DESIGNER	DRAWN	CHECKED	REVISION	REVISION DATE
JL	CEV	IWW	00	
SCALE: As Shown		PROJECT NUMBER: 2072-07		DRAWING NUMBER:
DATE: March 15, 2023		2072-07-01		

LOCATION
SCALE 1:5000



PLAN
SCALE 1:750



LEGEND	
	Property Line
	Existing GIN Alignment as shown on COSMOS
	Top-of-Bank

DATE: 2023-03-15 - 12:41 pm
 PATH: \\ENV-FS-R\Alpha-Envirowest Files\2023\Surrey-White Rock\2072-07-AutoCAD\Final\2072-07-02_GIN.dwg
 LAYOUT: 2072-07-02

REFERENCE DRAWINGS

1. Email: 10322-TOPO.dwg, Received December 19, 2022; Beech Westgard Developments Ltd.
2. 2022 Green Infrastructure Network from City of Surrey.
3. 2020 Legal Base from City of Surrey.
4. 2021 Ortho Photograph from City of Surrey.

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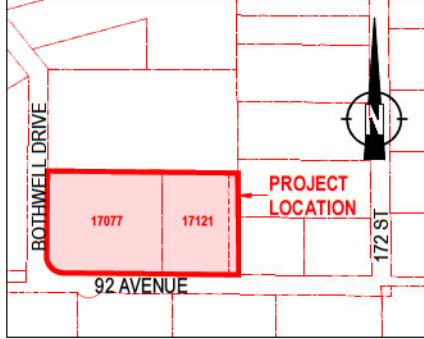
2000 Hartley Avenue
Coquitlam, British Columbia
Canada V3K 6W5

office: 604-944-0502
facsimile: 604-944-0507
sasper-veders@envirowest.ca

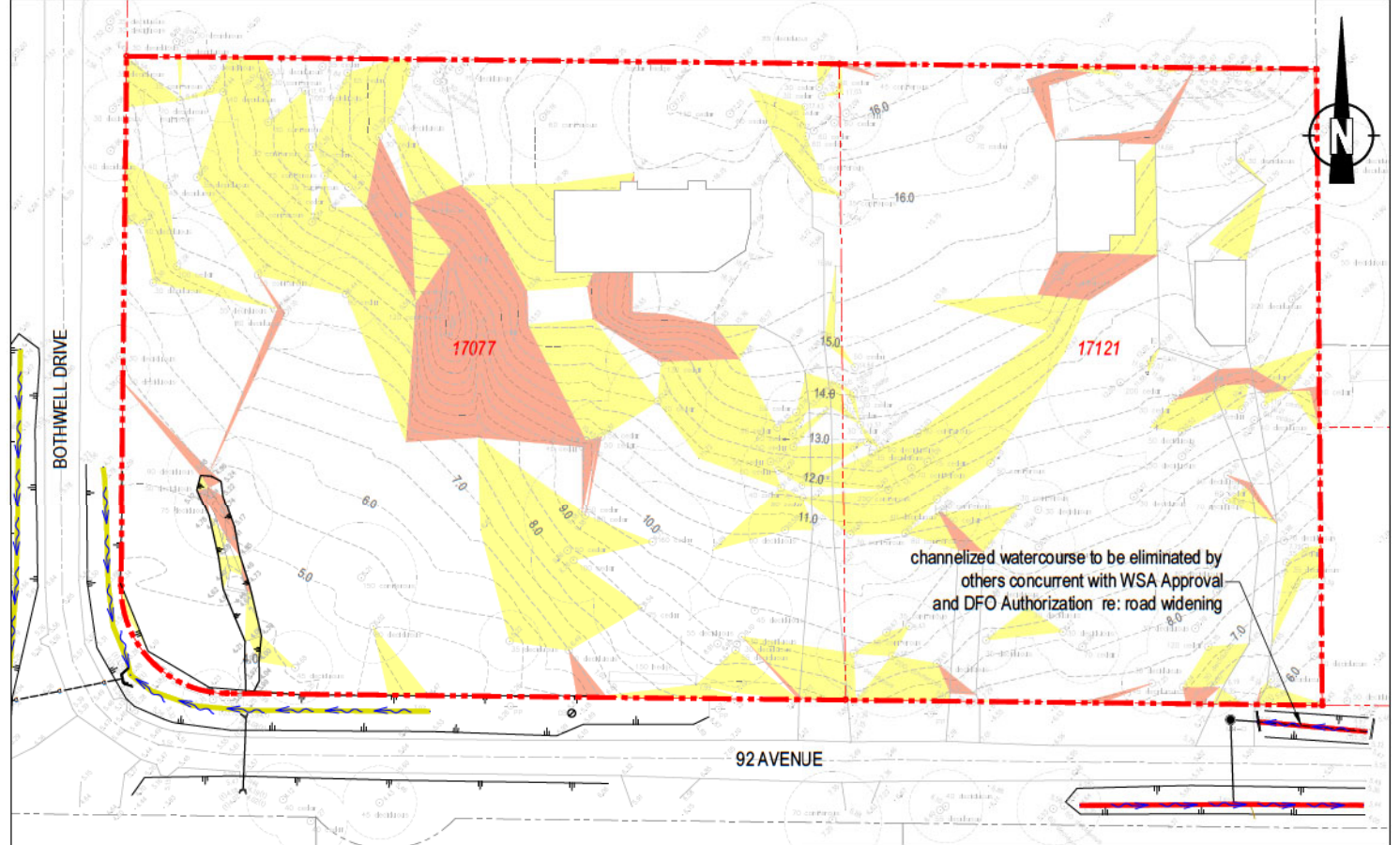
GIN

DESIGN:	DRAWN:	CHECKED:	REVISION:	REVISION DATE:
JL	CEV	IWW	00	
SCALE: As Shown		PROJECT NUMBER: 2072-07		DRAWING NUMBER:
DATE: March 15, 2023		2072-07-02		

LOCATION
SCALE 1:5000



PLAN
SCALE 1:750



LEGEND	
	Property Line
	Class A/A0 Watercourse
	Class B Watercourse
	Top-of-Bank
	Natural Slope 15% - 25%
	Natural Slope > 25%

channelized watercourse to be eliminated by others concurrent with WSA Approval and DFO Authorization re: road widening

DATE: 2023-03-15 - 12:46pm
PATH: I:\ENV\F5-R\Alpha-Envirowest Files\2023\Surrey-White Rock\2072-07-AutoCAD\Final\2072-07-03 Slope Analysis.dwg
LAYOUT: 2072-07-03

REFERENCE DRAWINGS

1. Email: 10322-TOPO.dwg, Received December 19, 2022; Beech Westgard Developments Ltd.
2. Email: ACAD-bee-base.dwg, Received December 20, 2022; Hub Engineering Inc.
3. 2020 Legal Base from City of Surrey.

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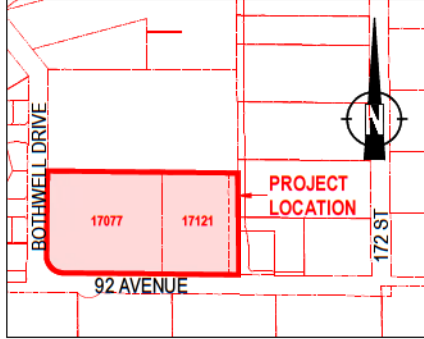
envirowest consultants inc.
2000 Hartley Avenue
Coquitlam, British Columbia
Canada V3K 6W5

office: 604-944-0502
facsimile: 604-944-0507
spat-vedera@envirowest.ca

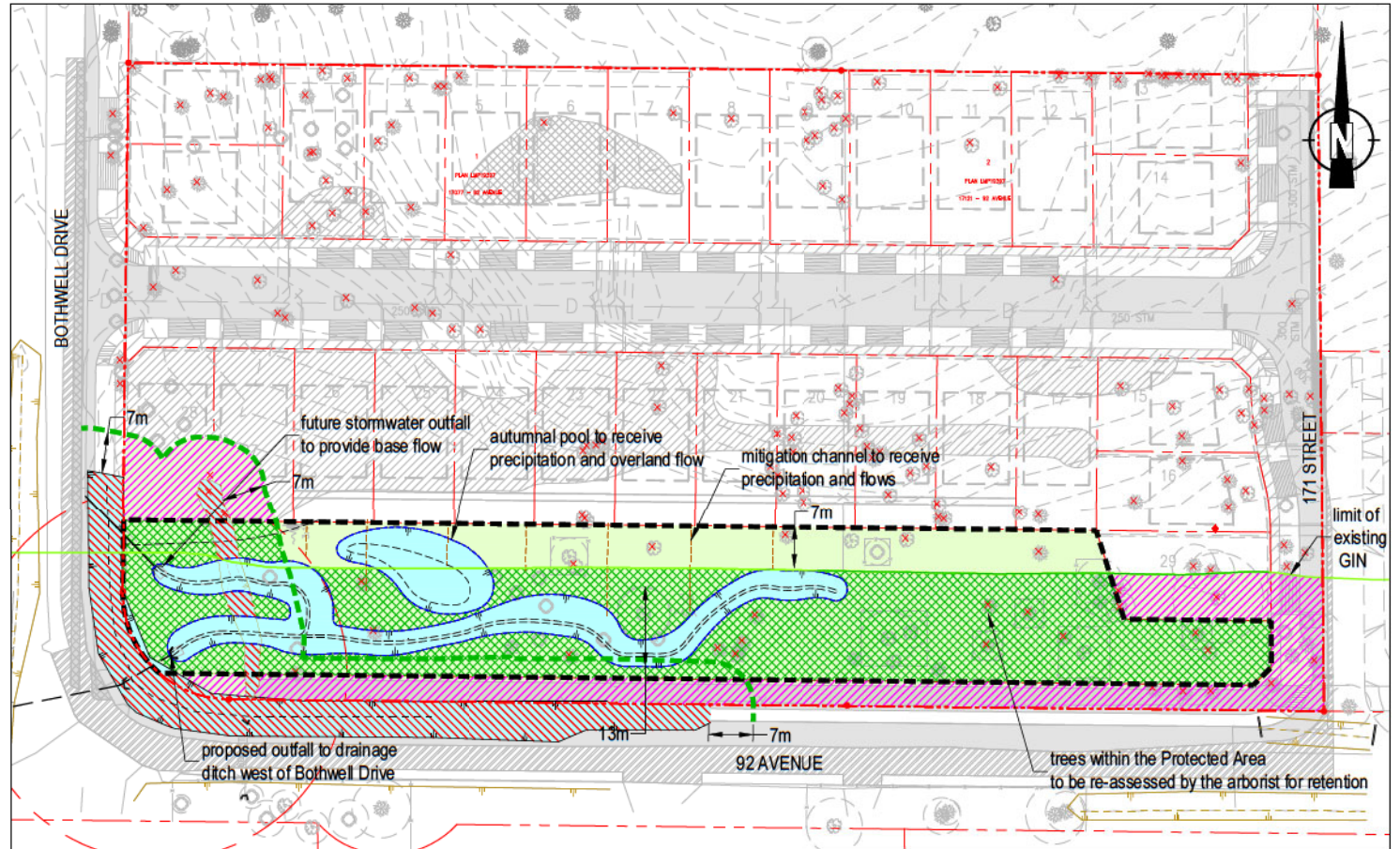
SLOPE ANALYSIS

DESIGN	DRAWN	CHECKED	REVISION	REVISION DATE
JL	CEV	IWW	00	
SCALE: As Shown		PROJECT NUMBER: 2072-07	DRAWING NUMBER:	
DATE: March 15, 2023		2072-07-03		

LOCATION SCALE 1:5000 0 100 200 300



PLAN SCALE 1:750 0 10 20 30 40 50



LEGEND	
	Property Line
	Bylaw Setback
	Existing GIN
	Proposed Wetted Habitat
	Top-of-Bank
	Proposed Protected Area (4,283m ²)
	Wetted Habitat Loss (845m ²)
	Wetted Habitat Gain (946m ²)
	Riparian Habitat Loss (1,359m ²)
	Riparian Habitat Enhanced (2,412m ²)
	Riparian Habitat Gain (837m ²)
	Existing Tree Remove
	Existing Tree Retained

DATE: 2024-09-13 - 11:25am
 PATH: \\ENV-FS-R\Projects\Environment\Files\2024\Surrey-White_Rock\2024\SURVEY\2024-07-04\02_Habitat_Concept_A.dwg
 LAYOUT: 2024-07-04A

REFERENCE DRAWINGS

- Surrey Project Number 7822-0231-00. Drawing No. 19. Revision 10. "Lot Grading". September 11, 2024.
- File: 10322-TOPO. "Topographic Site Plan of Lot 36 Section 31 Township 8 New Westminster District Plan 39218 and Lots 1 and 2 Section 31 Township 8 New Westminster District Plan LMP19397." April 05, 2022. Target Land Surveying Ltd.
- 2020 Legal Base from City of Surrey.

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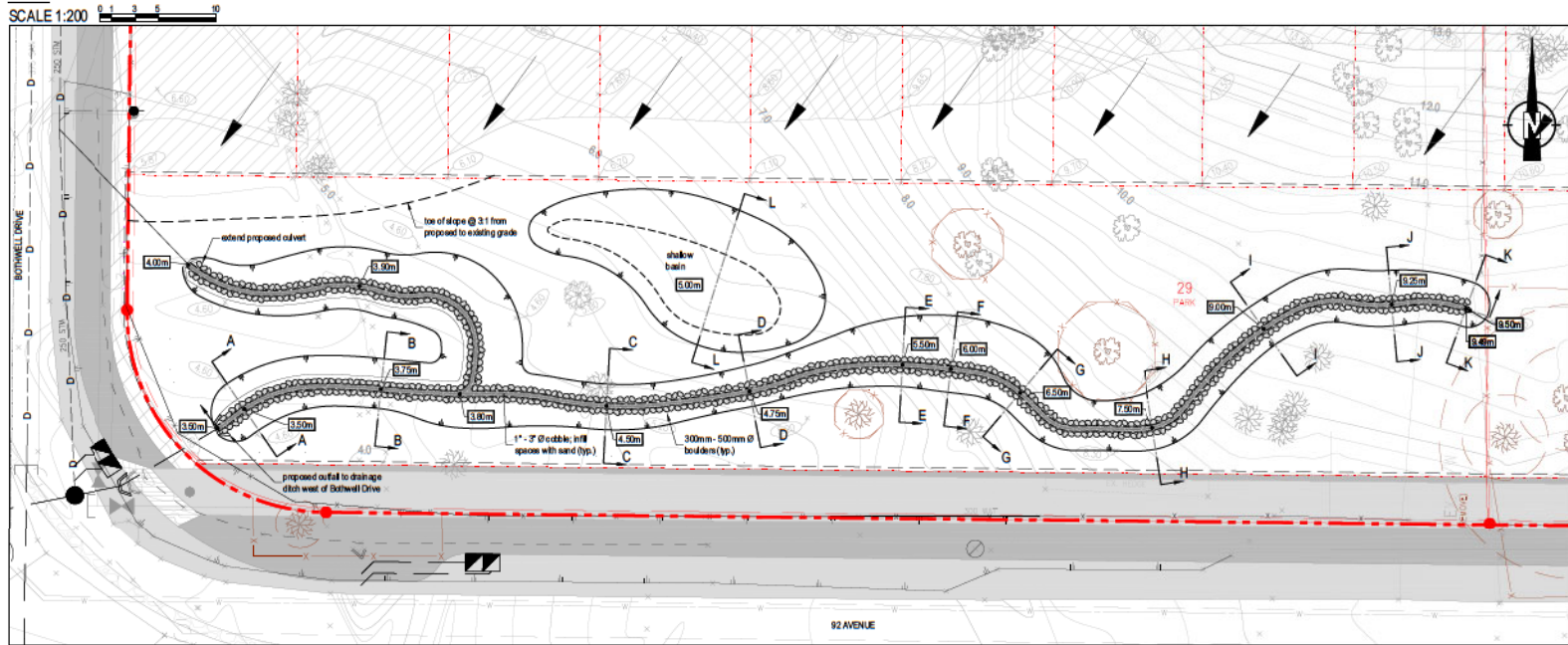
envirowest consultants inc.
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office: 604-944-0502
 facsimile: 604-944-0507
 saper-vedera@envirowest.ca

HABITAT CONCEPT A

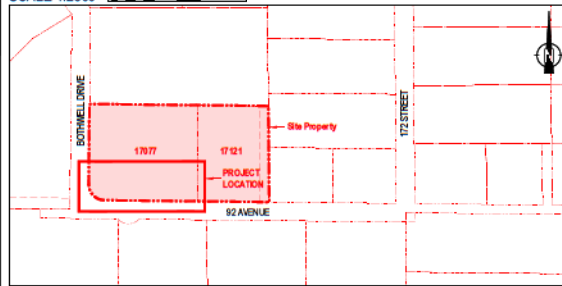
DESIGN: JL/AL	DRAWN: CEVRK	CHECKED: IWW/RWS	REVISION: 02	REVISION DATE: September 13, 2024
SCALE: As Shown	PROJECT NUMBER: 2072-07	DRAWING NUMBER: 2072-07-04A		
DWG: March 15, 2023				

PLAN
SCALE 1:200



LOCATION

SCALE 1:2500



REFERENCE DRAWINGS

1. Project No. 7822-0231-00, Rev. 3, "Key Plan", May 18, 2023, Hub Engineering Inc.
2. Project No. 7822-0231-00, Rev. 3, "Lot Grading", May 18, 2023, Hub Engineering Inc.
3. File: 9322-TOP-D, "Topographic Site Plan of Lot 38 Section 31 Township 9 New Westminster District Plan 30219 and Lots 1 and 2 Section 31 Township 9 New Westminster District Plan LMP 9397", April 05, 2022, Target Land Surveying Ltd.
4. 2020 Legal Base from City of Surrey.

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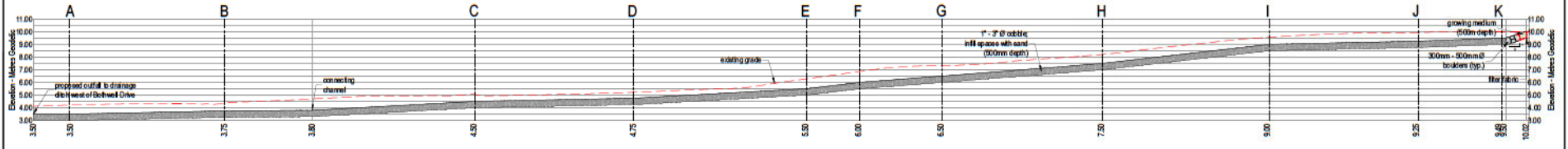
office: 604-644-0502
facsimile: 604-644-0507
saper-veders@enviowest.ca

HABITAT AREA

DESIGNER: JLR/RS	DRAWN: CEW/SJM/RK	CHECKED: INW/RWS	REVISION: 02	REVISION DATE: September 13, 2024
SCALE: As Shown	PROJECT NUMBER: 2072-07	DRAWING NUMBER:	2072-07-05	
DATE: June 30, 2023	SHEET 1 OF 2			

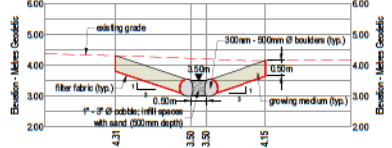
CHANNEL CENTRELINE PROFILE

SCALE 1:150



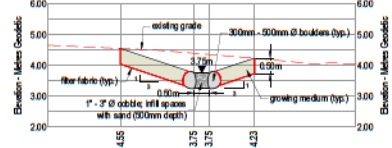
SECTION A

SCALE 1:75



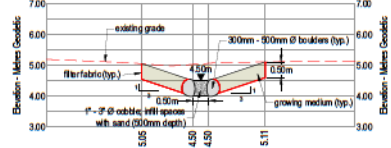
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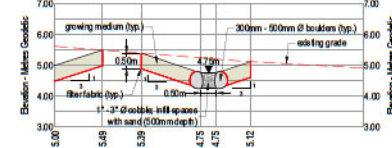
SECTION C

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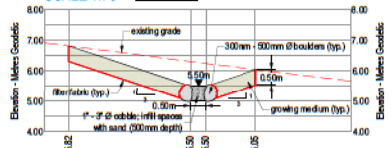
SECTION D

SCALE 1:75



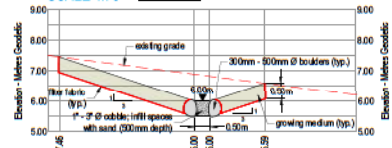
SECTION E

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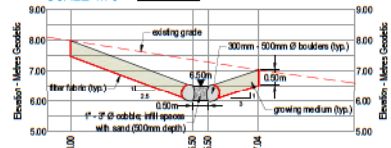
SECTION F

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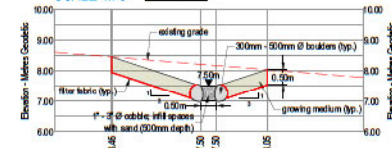
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SCALE 1:75



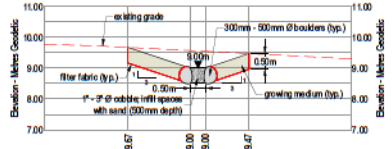
SECTION H

SCALE 1:75



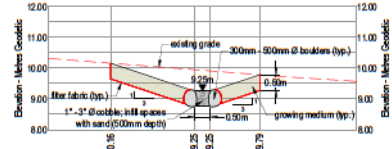
SECTION I

SCALE 1:75



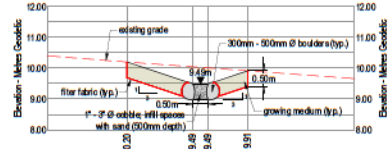
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SCALE 1:75



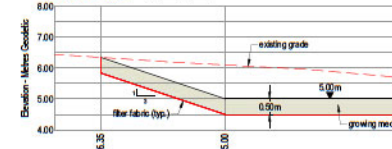
SECTION K

SCALE 1:75



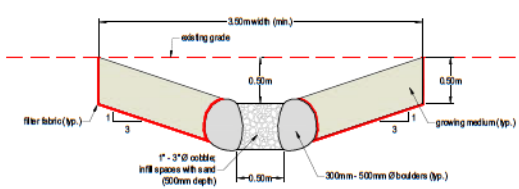
SECTION L

SCALE 1:75



TYPICAL CHANNEL SECTION DETAIL

SCALE 1:25



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HABITAT AREA
PROFILE & SECTIONS

DESIGN: JLI/WW/RWS	DRAWN: SDJ/RK	CHECKED: IW/RWS	REVISION: 02	REVISION DATE: September 13, 2024
SCALE: As Shown	PROJECT NUMBER: 2072-07	DRAWING NUMBER:		
DATE: June 30, 2023			2072-07-06	SHEET 2 OF 2

PLAN

SCALE 1:250



GENERAL LANDSCAPE SPECIFICATIONS

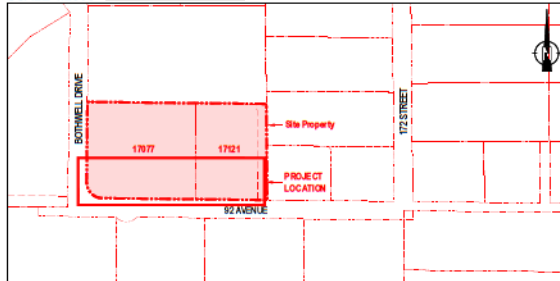
- Plant materials and the planting of such materials are to be in accordance with the Canadian Nursery Landscape Association Canadian Nursery Stock Standard (CNLS), and Section 4, Plants & Planting from the Canadian Landscape Standard (latest edition) jointly published by the Canadian Society of Landscape Architects and the Canadian Nursery Landscape Association.
- All works are to be conducted in accordance with the sediment control provisions of the "Requirements and Best Management Practices for Making Changes to and About a Stream in British Columbia" (Version 2022-01 - Government of British Columbia).
- All plant material is to be inspected and approved by Environment prior to installation.
- Growing medium is to be free of any sediments, rocks, noxious grass, weeds, toxic materials, stone over 30 mm diameter, foreign objects, and possesses an acidity range (pH) of 5.5 to 7.5. Growing medium specification sheet is to be provided to Environment for approval prior to placement.
- All provincially listed noxious plant species and/or non-native, invasive species of management concern identified by the regional government are to be removed in their entirety and disposed of off site in accordance with regional best management practices.
- All debris and/or excess material from landscape operations are to be collected and disposed of off site in accordance with all regulatory requirements.
- Disturbed areas to be seeded with City of Surrey recommended Natural Area - Rockmelon Mix, as per the Parks Standard Construction Documents (latest edition).
- All plants must be of native stock; any cultivars are not to be planted.
- The developer is to provide a minimum of five (5) years of plant maintenance. Plant maintenance is to include watering, selective pruning and clearing of herbivory. Species survivorship is to equal one-hundred (100) percent five (5) years from planting. Replacement of dead stock may be required to fulfill this specification. Replacement stock is also subject to one-hundred (100) percent survivorship five (5) years from planting.

LEGEND

- Trees scheduled for retention and tree protection zone per the project arborist; no machines or stock piles permitted within the TPZ without arborist supervision
- Trees scheduled for removal within habitat area; roots to remain in place and "wildified" to a safe height in consultation with the arborist. Removed tops to be retained and placed within SPEA as large organic debris
- Chainlink Fence
- Three Rail Split Fence
- Temporarily Disturbed Area to be seeded with native grass blend

LOCATION

SCALE 1:2500



REFERENCE DRAWINGS

- Surrey Project Number 7822-0231-00, Drawing No. 19, Revision 10, "Lot Grading", September 11, 2024, Hub Engineering Inc.
- File #322-TOPO, "Topographic Site Plan of Lot 38, Section 31, Township 9, New Westminster District Plan 56216 and Lots 1 and 2, Section 31 Township 9, New Westminster District Plan LMP19367," April 05, 2022, Target Land Surveying Ltd.
- 2020 Legal Base from City of Surrey.

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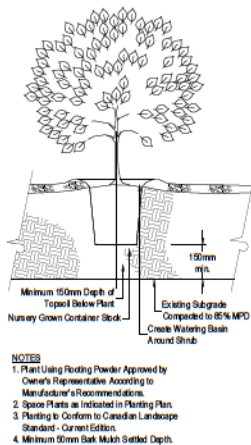
LANDSCAPE PLAN

DESIGN JULIAL	DRAWN CEVRK/SDJ	CHECKED RWS	REVISION: 04	REVISION DATE: October 01, 2024
SCALE: As Shown	PROJECT NUMBER: 2072-07	DRAWING NUMBER: 2072-07-07		
DATE: February 27, 2024		SHEET 1 OF 2		

PLANT SPECIES LIST AND SPECIFICATIONS

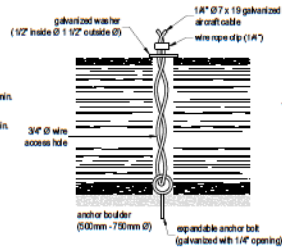
SYMBOL	COMMON NAME	LATIN NAME	NUMBER	COMMENTS
	broadleaf maple	<i>Acer macrophyllum</i>	9	6cm caliper, densely branched, well established
	broadleaf maple	<i>Acer macrophyllum</i>	27	1.5m container grown (min. no. 5 pot); densely branched; well established
	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	1.5m container grown (min. no. 5 pot); densely branched; well established
	Sitka spruce	<i>Picea sitchensis</i>	27	1.5m container grown (min. no. 5 pot); densely branched; well established
	grand fir	<i>Abies grandis</i>	31	1.5m container grown (min. no. 5 pot); densely branched; well established
	western redcedar	<i>Thuja plicata</i>	33	1.5m container grown (min. no. 5 pot); densely branched; well established
	black cottonwood	<i>Populus trichocarpa</i>	17	no. 2 pot, densely branched; well established
	bitter cherry	<i>Prunus emarginata</i>	78	no. 2 pot, densely branched; well established
	Nootka rose	<i>Rosa nutkana</i>	259	no. 2 pot, multi-stemmed; densely branched; well established
	red elderberry	<i>Sambucus racemosa</i>	139	no. 2 pot, densely branched; well established
	red-osier dogwood	<i>Cornus sericea</i>	90	no. 2 pot, densely branched; well established
	salmonberry	<i>Rubus spectabilis</i>	509	no. 2 pot, multi-stemmed; densely branched; well established
	snowberry	<i>Symphoricarpos albus</i>	339	no. 2 pot, densely branched; well established
	Indian plum	<i>Oenothera caesalpinia</i>	129	no. 2 pot, densely branched; well established
	thimbleberry	<i>Rubus parviflorus</i>	699	no. 2 pot, multi-stemmed; densely branched; well established
	Pacific ribesnap	<i>Physocarpus opulifolius</i>	25	no. 2 pot, densely branched; well established
	non-flowering currant	<i>Ribes sanguineum</i>	24	no. 2 pot, densely branched; well established
	vine maple	<i>Acer circinatum</i>	105	no. 2 pot, densely branched; well established
	Sitka willow	<i>Salix sitchensis</i>	138	no. 1 pot; well established
	Pacific willow	<i>Salix lasiolepis</i>	99	no. 1 pot; well established
	red alder	<i>Alnus rubra</i>	111	no. 1 pot; well established
	sweet fern	<i>Polydium viviparum</i>	80	no. 1 pot; well established
	small-fruited bulrush	<i>Scirpus microcarpus</i>	85	plug
	common rush	<i>Juncus effusus</i>	123	plug
	sawback sedge	<i>Carex stipata</i>	149	plug
	rootwad	Min. 15% composition of the following: <i>Taxus heterophylla</i> <i>Pseudotsuga menziesii</i> <i>Acer macrophyllum</i>	18	min. trunk Ø 400mm; min. root Ø 3.0m
	woody debris	<i>Pseudotsuga menziesii</i> <i>Acer macrophyllum</i>	37	3.0m - 5.0m in length; 300mm Ø min.
	large organic debris		25	5.0m - 100m length; 500mm Ø min. topped ends

**CITY OF SURREY
SHRUB PLANTING DETAIL
N.T.S.**

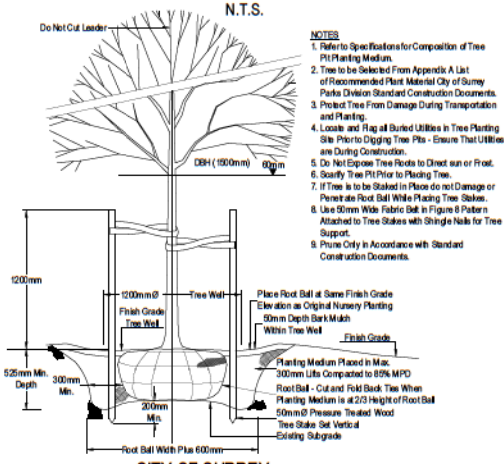


- NOTES**
1. Plant Using Rooting Powder Approved by Owner's Representative According to Manufacturer's Recommendations.
 2. Space Plants as Indicated in Planting Plans.
 3. Planting to Conform to Canadian Landscape Standard - Current Edition.
 4. Minimum 50mm Bark Mulch Saturated Depth.

**ROOTWAD ANCHOR DETAIL
N.T.S.**

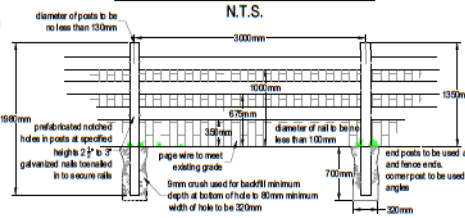


**CITY OF SURREY
TREE PLANTING DETAIL
N.T.S.**

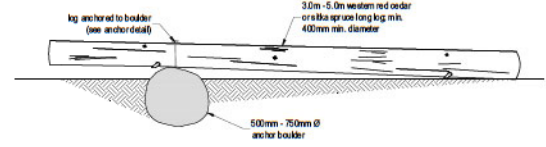


- NOTES**
1. Refer to Specifications for Composition of Tree Planting Medium.
 2. Tree to be Selected From Appendix A List of Recommended Plant Material City of Surrey Parks Division Standard Construction Documents.
 3. Protect Tree From Damage During Transportation and Planting.
 4. Locate and Flag all Buried Utilities in Tree Planting Site Prior to Digging Tree Pit - Ensure That Utilities are During Construction.
 5. Do Not Expose Tree Roots to Direct sun or Frost.
 6. Scarify Tree Pit Prior to Planting Tree.
 7. If Tree is to be Staked in Place do not Damage or Penetrate Root Ball While Placing Tree Stake.
 8. Use 50mm Wide Fabric Bark in Figure 8 Pattern Attached to Tree Stake with Shingle Nails for Tree Support.
 9. Place Only in Accordance with Standard Construction Documents.

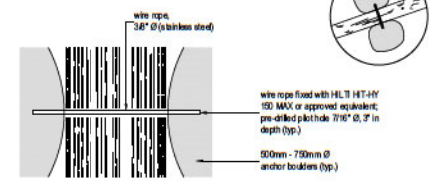
**CITY OF SURREY
THREE RAIL SPLIT FENCE DETAIL
N.T.S.**



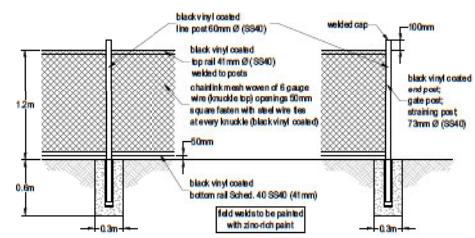
**LOG ON GROUND WITH ANCHOR DETAIL
N.T.S.**



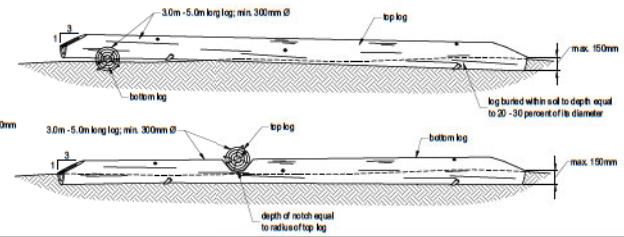
**LOG ANCHOR DETAIL
N.T.S.**



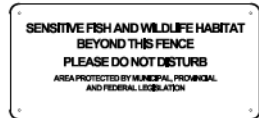
**CITY OF SURREY
CHAINLINK FENCE DETAIL
N.T.S.**



**TYPICAL LOG ON LOG DETAIL
N.T.S.**

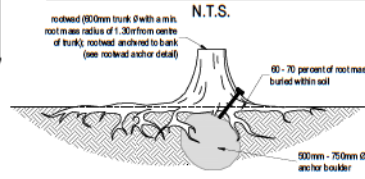


**TYPICAL SENSITIVE HABITAT SIGNAGE
N.T.S.**

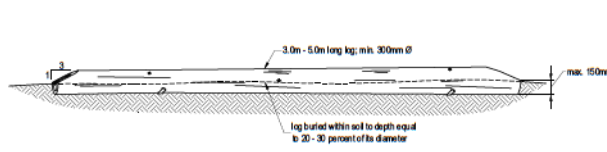


- Signage:**
1. Sign is 300mm x 150mm.
 2. Sign on grade above area with white reflective background.
 3. Four sides and top, as noted.
 4. Black lettering.
 5. Screen panel for small runs of 6 or fewer, pre-pen 7 year 2 mil vinyl.
 6. Ten radius out corner, and all steep corner eliminated.
 7. Finish hole shall be covered or to suit so that the sign can be secured to the fence.
 8. On private property, install one (1) sign every 14-15m or install one (1) sign at the end of each lot/lotline, choose the lesser distance between signs.
 9. On public property, install one (1) sign every 14-15m.
 10. Install five signs for every 50m of the property and/or to the park.

**TYPICAL ROOTWAD WITH ANCHOR DETAIL
N.T.S.**



**TYPICAL LOG ON GROUND DETAIL
N.T.S.**



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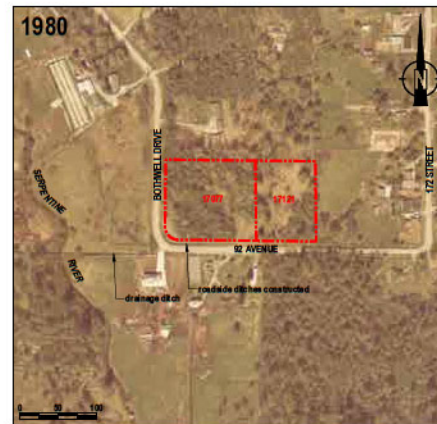
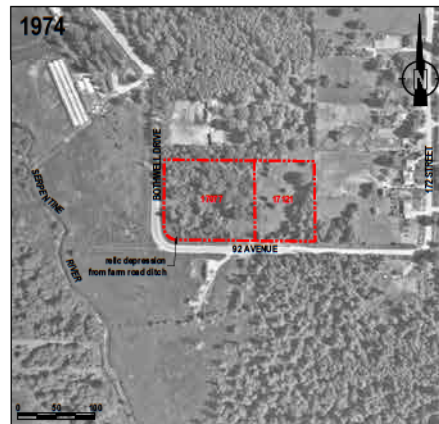
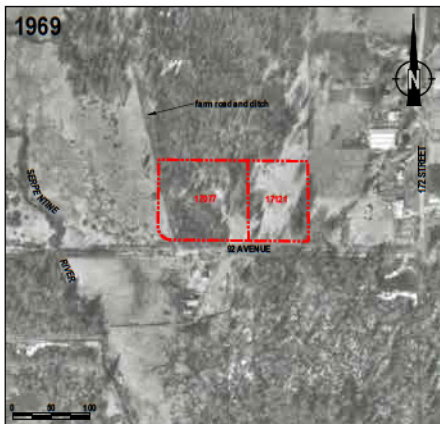
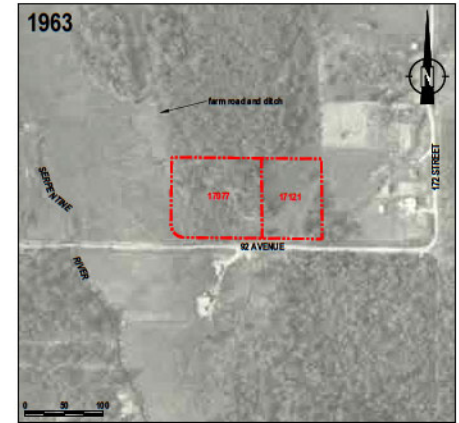
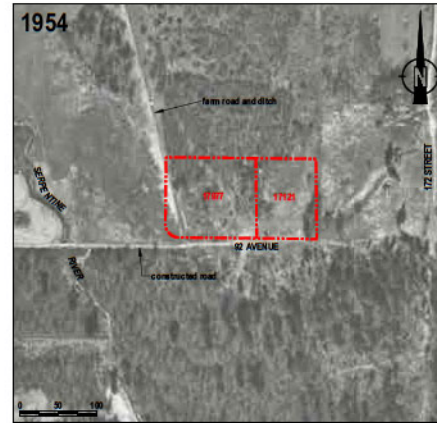
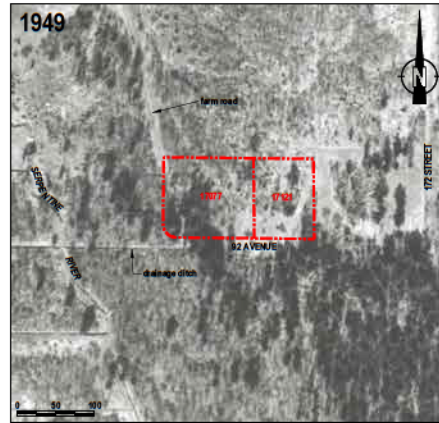
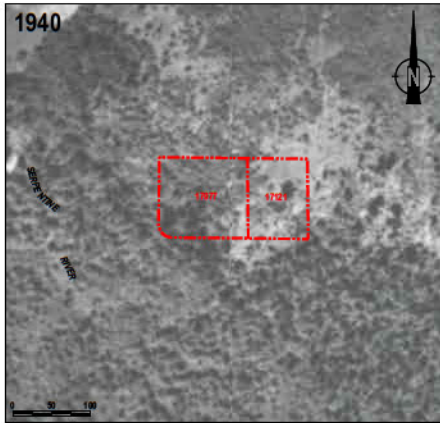
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LANDSCAPE DETAILS AND SPECIFICATIONS

DESIGN: J.L.J.	DRAWN: CEV/RK/SJU	CHECKED: RWS	REVISION: 04	REVISION DATE: October 01, 2024
SCALE: As Shown	PROJECT NUMBER: 2072.07	DRAWING NUMBER: 2072-07-08		
DATE: February 27, 2024	SHEET 2 OF 2			



REFERENCES

1. 1940 Aerial Photograph from Crown Registry and Geographic Base Branch - GeoBC. Film Roll Number BC 204-42.
2. 1949 Aerial Photograph from Crown Registry and Geographic Base Branch - GeoBC. Film Roll Number BC 782-7.
3. 1954 Aerial Photograph from Crown Registry and Geographic Base Branch - GeoBC. Film Roll Number BC 1677-90.
4. 1963 Aerial Photograph from Crown Registry and Geographic Base Branch - GeoBC. Film Roll Number BC 5063-254.
5. 1969 Aerial Photograph from Crown Registry and Geographic Base Branch - GeoBC. Film Roll Number BC 5320-049.
6. 1974 Aerial Photograph from Crown Registry and Geographic Base Branch - GeoBC. Film Roll Number BC 5589-239.
7. 1980 Aerial Photograph from Crown Registry and Geographic Base Branch - GeoBC. Film Roll Number 30 BCC 242-047.
8. 2004 Aerial Photograph from Satlink Remote Sensing. Film Roll Number SRS6912-370.
9. 2020 Legal Base from City of Surrey.

BEECH WESTGARD DEVELOPMENTS LTD.

17077 AND 17121 - 92 AVENUE
Surrey, BC



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HISTORICAL AERIAL PHOTOGRAPHS

DESIGN	DRAWN	CHECKED	REVISION	REVISION DATE
JL	SDJ	IWW	00	
SCALE		PROJECT NUMBER		DRAWING NUMBER
1:3000		2072-07		
DATE			2072-07-09	
June 30, 2023				

ATTACHMENT D
EcoLogic Wetland Investigation Memorandum

MEMORANDUM

DATE: June 26, 2023
TO: Jamie Ogden, Beech Westgard Developments Inc.
FROM: Daniel McAllister, M.Sc. P.Ag., Director and Soil Scientist, EcoLogic Consultants Ltd.
SUBJECT: Wetland Investigation at 17121 & 17077 92 Avenue, Surrey BC

WETLAND CLASSIFICATION IN URBAN ENVIRONMENTS

Wetland classification in British Columbia (BC) is often carried out in accordance with Wetlands of British Columbia (MacKenzie and Moran 2004¹). This guidebook was published to provide a framework for wetland classification based on natural characteristics, to promote a better understanding of wetlands and related ecosystems, to provide a common language for discussion, and to aid in wetland management.

The guidebook describes common wetlands throughout BC and focuses on vegetation assemblages that are either mature or locked into an edaphic climax so that vegetation communities are relatively stable under the current hydrologic regime. The guidebook clearly states that an understanding of ecological factors is required to understand whether a community is in transition, represents an undescribed ecological community, or is a variant of a described community. In order to aid in classification, a definition of wetlands is provided (MacKenzie and Moran 2004):

Wetlands are:

areas where soils are water-saturated for a sufficient length of time such that excess water and resulting low soil oxygen levels are principal determinates of vegetation and soil development. Wetlands will have a relative abundance of hydrophytes in the vegetation community and/or soils featuring “hydric” characters.

Hydric characters include indications of processes that only occur in areas where the soils pore space is occupied by water for a significant portion of the growing season. Characteristics include the following:

1. **Accumulations of peaty material** – this occurs as saturation results in a demobilization of soil faunal activity, especially with respect to soil macrofauna and bacterial decomposition. As a result,

¹ MacKenzie, W.H. and J.R. Moran. 2004. Wetlands of British Columbia. Ministry of Forests. Forest Science Program.

the general trajectory is of organic accumulation, as deposition is greater than decomposition. Water saturation results in the removal of oxygen from the soil environment, which precludes the participation of any organisms that carry out aerobic respiration. Decomposition in such environments is dominated by fungi.

2. **Presence of mottling or gleying** – these are features primarily identified by colours that indicate anoxic soil conditions. Both mottling and gleying develop if the part of the solum demonstrating these features is saturated for extended periods of time. Gleying is the result of the transformation of metals such as iron and manganese under anoxic conditions; reducing conditions dominate which results in the creation of mobile ions of these metals, which are predominately grey and grey-green in colour. Mottling is a sign of a fluctuating water table, where a re-oxygenated soil tends towards oxidation reactions. Metal ions formed in aerated conditions precipitate out of solution and are commonly identified by rust-coloured spots (essentially, rust-type properties).

To use hydric indicators to identify wetland boundaries and presence requires an understanding of how these characteristics develop in order to determine if the hydric character present necessarily means that “excess water and resulting low soil oxygen levels are principal determinates of vegetation and soil development”, as per MacKenzie and Moran 2004. Presence alone is not sufficient to classify the soils as hydric. Soils may have some hydric properties, but those properties may not be the principal determinants of ecosystem and soil development.

The Canadian System of Soil Classification (Soil Classification Working Group 1998²) allows for the existence of gleyed subgroups outside of the Gleysol soil order. For example, both Humo-ferric Podzols and Ferro-humic Podzols can have prominent mottling within 50 cm of the mineral surface; however, the process that leads to the mottling (fluctuating water table) is not strong enough to be the “principal determination of vegetation and soil development”.

With respect to gleyed features, these features are often present but are not well-developed, indicated by low colour contrast between gleyed features and the rest of the soil matrix. Both gleying and mottling need to meet certain colour requirements to qualify the soil as meeting gleysolic order requirements. This contrast is assessed using Munsell colour contrast, and horizons that do not meet the criteria are assigned a j suffix in addition to the g (e.g., Bgj, Aegj).

3. **Presence of rotten-egg smell** – this is related to the presence of gleyed soil horizons. In the absence of oxygen, reduced chemical forms predominate. In recently flooded soils, denitrification results in the presence of nitrous oxide (N₂O). In soils where saturation extends for month, hydrogen sulphide (H₂S) is present, which has the distinctive rotten-egg smell. Thus, this hydric characteristic is not a feature of weakly anaerobic soils (where mottling may well occur) but rather, associated with soils that are likely of the Gleysol order.

Wetland classification in BC relies on both hydric soil indicators and hydrophytic vegetation. Wetland classification is often feasible in undisturbed (or less disturbed) ecosystems where vegetation

² Soil Classification Working Group 1998. The Canadian System of Soil Classification. Third Edition. Research Branch Agriculture and Agri-Food Canada.

communities are either mature (and thus reflective of edaphic conditions), or where an ecological trajectory that will result in formation of a wetland floristic community is evident. In urban environments, wetland ecology is often highly disrupted due to a myriad of disturbance types, including disruptions to natural hydrology (e.g., channelizing of drainage, creation of hard surfaces), invasive plant establishment, and soil degradation. As such, it can be challenging to classify wetlands according to wetland classification systems derived from and for undisturbed environments. In order to classify wetlands, an emphasis is placed on soil characteristics and physiographic position, rather than vegetation assemblages. Even in altered states, soils often retain a history that can tell of existing and past ecological conditions, thus allowing the scientist to carry out some degree of classification. However, the person carrying out the classification must not only look for hydric indicators but understand both soil-forming and ecosystem-forming factors. For example, soils that display some amount of mottling but support coniferous species such as Douglas fir (*Pseudotsuga menziesii*) are not wetlands; Douglas fir are intolerant of saturated conditions and would not be present if “excess water and resulting low soil oxygen levels are principal determinates of vegetation and soil development” (MacKenzie and Moran 2004). In this case, hydric soil indicators are likely present in a soil layer that is of finer texture; thus, lower hydraulic conductivity than that of the dominant texture. If this layer is within 40 cm of the mineral surface, then one could mistakenly classify the site as a wetland, as that type of feature aligns with the prescriptive text found in MacKenzie and Moran (2004).

METHODS

DESKTOP INVESTIGATIONS

Desktop investigations involved accessing the City of Surrey Mapping Online System (COSMOS) to assess current and historical imagery, LiDAR, presence of special management zones, and stream attributes. Historical imagery is very helpful for wetland identification as it can provide a history of land clearing, land use, soil and fill removal and deposition, invasive species establishment, drainage activity, and other disturbance types. The BC Soil Information Finder Tool (SIFT) was used to access existing soils mapping and soil survey reports. Any existing information regarding the Property, including past Ecosystem Development Plans, were assessed for relevant information.

In addition, Beech Westgard provided a geotechnical investigation report prepared by Geopacific Consultants Ltd. (May 30, 2022) that contained drill data for several sites adjacent to the property (shown in Figure 1).

FIELD METHODS

On, February 23, 2023, Daniel McAllister completed a site investigation of the proposed development property to determine the presence or absence of wetlands. Soils were investigated for physical (i.e., soil type and soil texture) and morphological (i.e., colour) characteristics that readily distinguish wetland soils from upland soils, including evidence of any of the following:

- ◆ subhygric, hygric, subhydric (i.e., wet) or hydric (i.e., very wet) soils;

- ◆ mineral soils with gleyed horizons (dull blue-grey colouration) or predominant mottles (red, yellow, or brown spots) within 30 cm of the surface;
- ◆ organic soils greater than 40 cm thick;
- ◆ hydrogen sulphide smell within the upper 30 cm; and
- ◆ restricting layer that prevents water drainage.

Vegetation was investigated for the presence of facultative (occur in both wetlands and non-wetlands) or obligate (almost always occur in wetlands under natural conditions) species. Site investigation placemarks were logged and georeferenced photos were taken using the Solocator App. At each inspection point, a soil auger was used to collect soils data such as drainage, texture, soil moisture, and nutrient regimes. Soils were described according to the Canadian System of Soil Classification. Vegetation characteristics were recorded for the purpose of identifying potential wetland vegetation species and communities, according to *Wetlands of British Columbia: A Guide to Identification* (MacKenzie and Moran 2004). Terrestrial sites were classified according to the provincial biogeoclimatic ecosystem classification (BEC) system using the *Vancouver Forest Region Field Guide*³.

The site was visited again on June 11, 2023, in order to carry out a more comprehensive survey of vegetation present.

³ Green, R.N. and K. Klinka. 1994. *A Field Guide to Site Identification and Interpretation for the Vancouver Forest Region*. LMH 28. Ministry of Forests Research Program.

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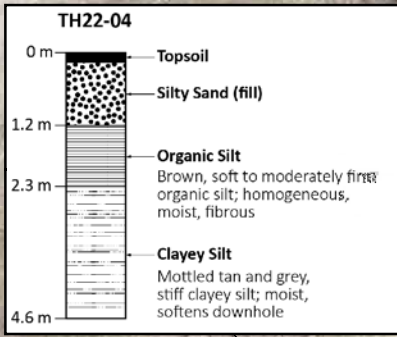
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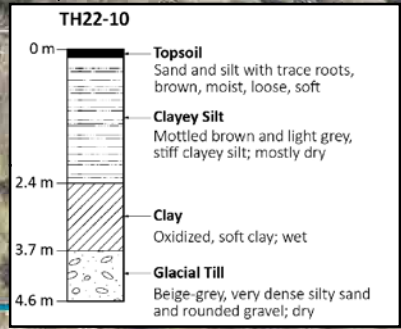
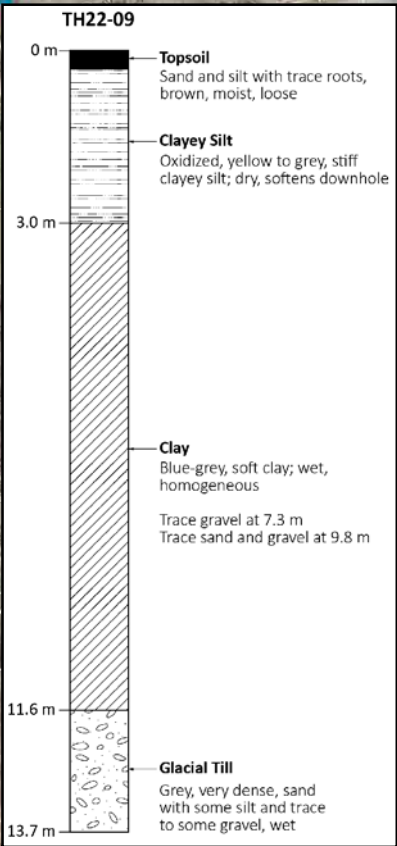
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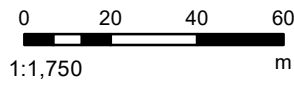


River



17121 and 17077 92nd Ave

Soil Cross Sections Figure 1



- Legend**
- Borehole
 - Study Area
 - Stream
 - Lot Boundary

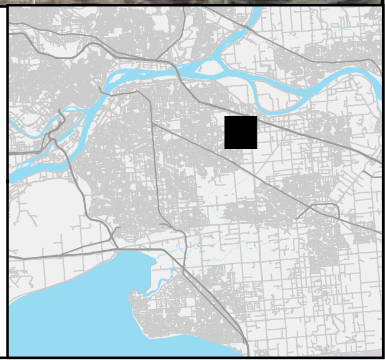
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Map Number: SUR-070

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RESULTS AND DISCUSSION

Figure 2 shows the location of the inspection points visited on February 23, 2023. These inspection points targeted areas that could potentially be classified as wetlands according to vegetation or soil characteristics. Six inspections were carried out (inspection point details presented in Table 1). Photos from both field visits are presented in Appendix 1.

SIFT shows a distinct soil delineation between the upslope area of the property and the level area. Soils in the upper area are classified as sandy clay loam Cloverdale soils. These are soils derived from marine sediments, which can be imperfectly to poorly drained. They tend to be associated with hygric and subhygric forests in coastal BC. The lower areas are classified as Lumbum soils which are organic mesisols derived from the accumulation of organic matter in slow-moving eutrophic (mineral rich) waters. The mapped soils in these lower areas were probably associated with the floodwaters of the Serpentine River.

Field investigations confirm the presence of the Cloverdale soils on the sloped area of the property. These are hygric soils conducive to the formation of rich, wet coastal forests. Mottling and gleying is present below 35 cm on average, with one soil pit having mottling at 31 cm. Earthworms were also present at this depth. This indicates that the area experiences enough saturation to develop hydric indicators, but that the site drains relatively quickly to allow air back into the interstitial spaces; earthworms are an indicator of soil aeration. The site is likely a receiving site for soil water coming from an extensive upslope catchment area. One of the most consistent indicators of hydric soils is the presence of hydrogen sulphide gas, as indicated by a distinct “rotten egg” smell. Multiple pits were excavated throughout the site, with none of them having hydrogen sulphide gas detectable.

Lumbum soils, which are mapped at the level section of the property adjacent to the 92 Avenue, are not present at the property, at least not at surface. The area classified as Lumbum soils contains poorly developed soils with gravelly sand and loam textures. It appears that if organic soils were present, they have long ago been removed and replaced with mineral fill or buried. Evidence for this is present in the geotechnical report produced by Geopacific. As shown in Figure 1, cross-sections of drill holes on the property to the west show the presence of 1.2 m of topsoil and fill overtop of organic silt (which occurs when decaying organic material is constantly inundated by silt-laden floodwaters).

Figure 3 reproduces a cross section of forest in an undisturbed state that would likely exist at this location. Mature ecosystems at this site would likely be classified as CWHdm – 07 (Coastal Western Hemlock dry maritime Cedar Foamflower).

On June 11, 2023, an herb vegetation community was present throughout much of the site. In the upper area associated with Cloverdale soils, many plants present were rich site indicators and were consistent with the site series CHWdm - 07. In addition, a few wet indicators were present, including common Canadian bluejoint (*Calamagrostis canadensis*) and lesser amounts of common horsetail (*Equisitum arvense*), and sawbeak sedge (*Carex stipata*). There was also an observation of a single plant of skunk cabbage (*Lysichiton americanus*), which appeared to be growing in a drainage swale associated with roof drainage from the house immediately upslope of the subject property.

Vegetation in the area of former Lumbum soils is a scattering of rich and wet indicator plants, including sawbeak sedge. The dispersed and varied community is a result of disturbance, including fill material and compaction. The current soils show signs of compaction at the surface, which impedes drainage. This results in certain hydrophytes such as sawbeak sedge occupying area that are water saturated at the surface due to compaction, giving the appearance of the presence of a wetland-type ecosystem. However, the plants are present due to the disturbance regime, and are not indicative of a wetland ecosystem present due to hydric soil conditions. Soil pits excavated to 50 cm at multiple locations in this area showed no consistent evidence of hydric indicators.

Overall, the property ranges from mesic to hydric with respect to soil moisture. While there are a few hydric soil indicators present, the associated cover is insufficient to classify the site as having the potential to develop a wetland. Given the landscape position of the sloped area associated with Cloverdale soils, the possible candidates would be limited to Ws53 (Western redcedar – Sword fern – Skunk cabbage) Ws54 (Western redcedar – Western hemlock – Skunk cabbage), as these are the two swamp wetlands that can be found in toe slope positions (MacKenzie and Moran 2004). However, both of these sites are typically associated with a mound and hollow type topography, with trees such as red cedar occupying the mounds and skunk cabbage dominating the hollows. The sloped topography at the subject property is not mounded, but rather level, indicating that, historically, mounding associated with high water tables has not developed. This is much more indicative of a hydric forest landscape position than wetland.

The level area associated with past Lumbum soils is not readily classified, as it has been subject to extensive disturbance. However, prior to fill, the area was likely some type of wetland or riparian area associated with the Serpentine River. Many of these former natural systems have been drained and filled to promote agriculture.

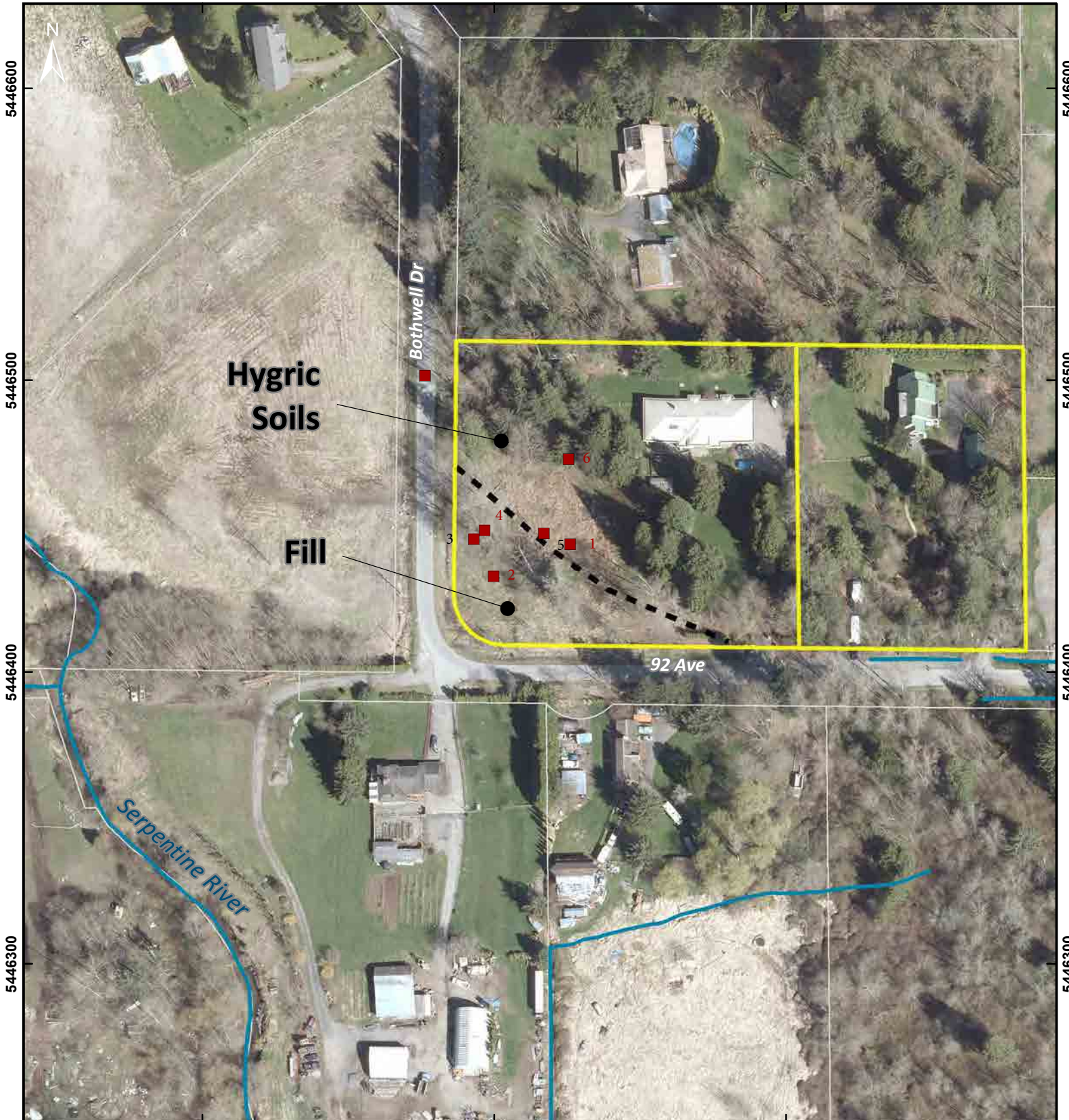
Table 1. Inspection Points

Inspection Point	Vegetation Wetland Indicators	Type	Drainage	Soil Texture	Soil Moisture Regime	Mottling	Rotten egg smell	Water Table	Soil Wetland Indicators	Classification
IP01	No	n/a	Imperfect	Gravelly silt to clay loam	Hygric	Distinct at 40 cm	No	43 cm	No	Hygric forest
IP02	No	n/a	Imperfect	Gravelly Sandy Loam to Silt	Hygric	Faint at 37cm	No	45 cm	No	Fill material area
IP03	no	n/a	Imperfect	Gravelly Sandy Loam to Silt	Hygric	Faint at 40 cm	No	50 cm	No	Fill material area
IP04	no	n/a	Imperfect	Gravelly Sandy Loam to Silt	Hygric	Faint at 40 cm	No	40 cm	No	Fill material area
IP05	no	n/a	Imperfect	Gravelly silt to clay loam	Hygric	Distinct at 35 cm	No	0 cm	Yes	Hygric forest
IP06	no	n/a	Imperfect	Gravelly silt loam	Subhygric	none	No	none	No	Subhygric to hygric forest

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17121 and 17077 92nd Ave

Soil Boundary Figure 2

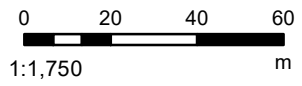
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Map Number: SUR-069

Coordinate System: NAD 1983 UTM Zone 10N

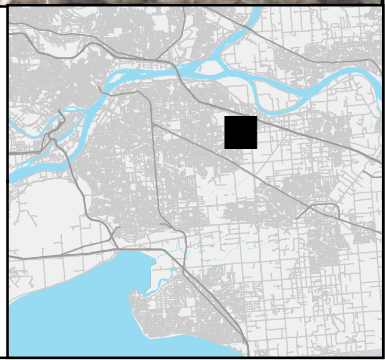
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Datum: North American 1983



Legend

- Field Plot
- Soil Boundary
- Stream
- Lot Boundary



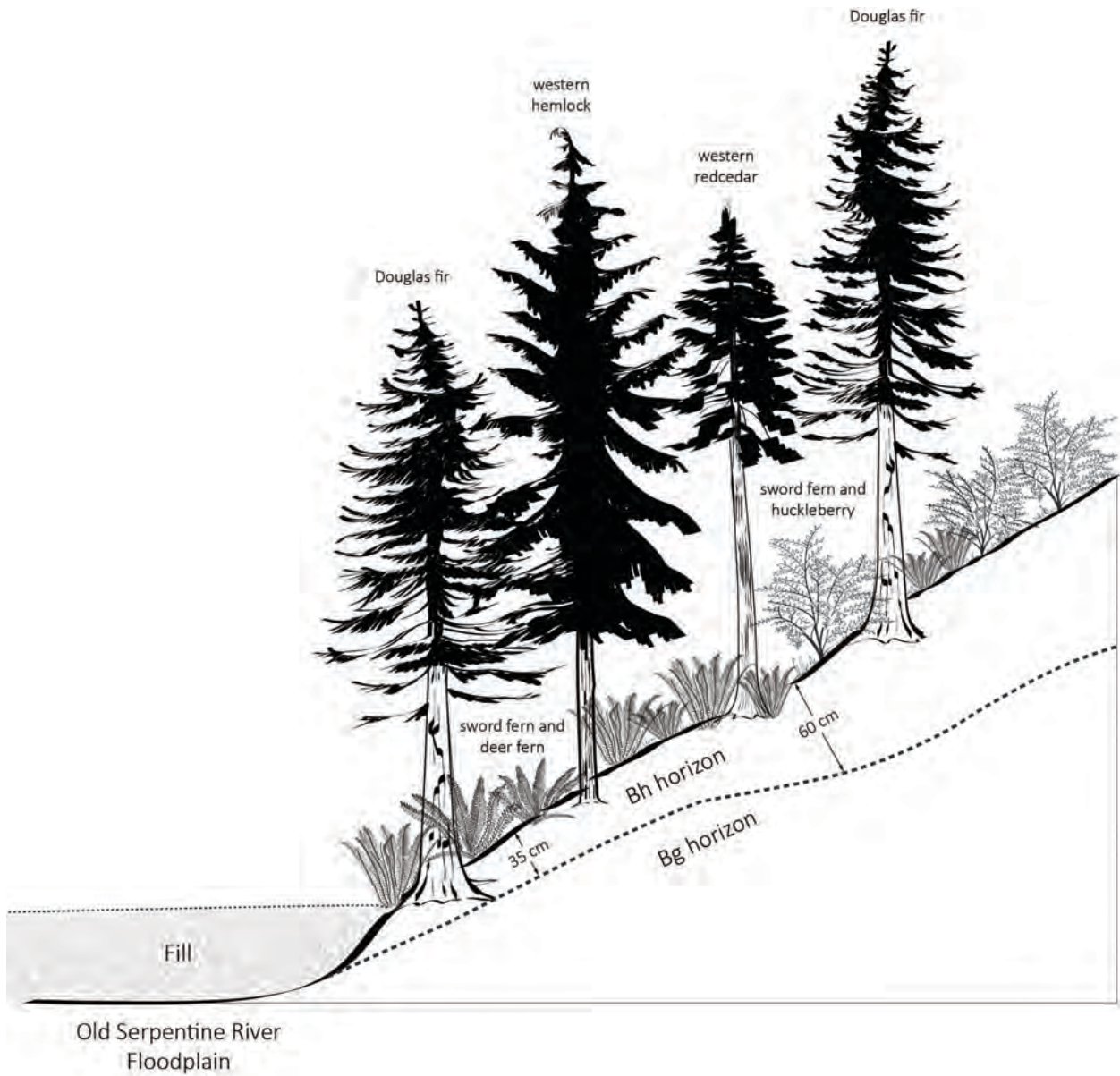


Figure 3. Reconstruction of Likely Natural State Ecosystems

CONCLUSION

It is EcoLogic's conclusion that there are no wetlands on the property based on the six inspection points established on February 23, 2023 and the follow-up site visit on June 11, 2023. The ecosystems present are the result of past and ongoing disturbance and are not in a natural state. Although there are some wetland soil indicators within the profiles, they are not expressed in a dominant matter. The site, in a natural condition, would likely be subhygric to hygric forest, dominated by western redcedar (*Thuja plicata*) and western hemlock (*Tsuga heterophylla*), with a component of big leaf maple and red alder. A wetland or riparian ecosystem was likely present in the area mapped as Lumbum soils, but the area has been filled and no longer contains wetland soils.

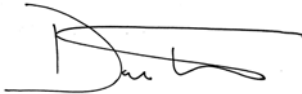
LIMITATIONS

EcoLogic is acting in the capacity of the Technical Qualified Environmental Professional (T.QEP) in this investigation. The establishment of development mitigation strategies for wetlands, with respect to this proposed development, are the responsibility of the Prime QEP and regulatory agencies.

CLOSING

I trust that the information provided sufficiently characterizes with respect to wetland presence, the property at 17121 & 17077 92 Avenue, Surrey, BC. Please contact me if you require additional information or clarification.

Best regards,

A handwritten signature in black ink, appearing to read "Dan McAllister", with a long horizontal stroke extending to the right.

Daniel McAllister, M.Sc., P.Ag.
Director and Soil Scientist, EcoLogic

APPENDIX 1. SITE PHOTOS



Photo 1. Typical vegetation at the area of the property classified as Cloverdale soils.



Photo 2. Level area of the property surrounded by ditches running along 92 Ave (east west) and Bothwell Drive (north south). This area is classified as Lumbum soils but is actually a fill deposit.



Photo 3. Soils in fill area showing some mottling at 37 cm (IP01).



Photo 4. Upslope areas show some mottling at 40 cm, with earthworms present at same depth (IP01).



Photo 5. Soils on slope area showing some mottling below 30 cm (IP05).



Photo 6. Vegetation at IP06.



Photo 7. Lower area associated with Lumbum soils that has been filled.



Photo 4. Investigation of soils underneath *Carex stipata* shows compaction of surface tiers, but no hydric indicators.



Photo 5. Rich vegetation community in upper areas of the property.



Photo 6. View of vegetation and soil compaction along 92 Avenue.

ATTACHMENT E
GeoPacific Geotechnical Correspondence

Beech Westgard Development
201 – 15272 Croyden Drive
Surrey, BC
V3Z 0Z5

September 12, 2024
File: 21099
R4

Attention: Jamie Ogden

**Re: Geotechnical Investigation Report – Proposed Residential Subdivision
17077 and 17121 92 Avenue, Surrey, BC**

1.0 INTRODUCTION

We understand that a new residential subdivision has been proposed for the above referenced site. Based on the preliminary Lot Grading Plan (attached for reference in Appendix D of this report) prepared by Hub Engineering Inc., dated September 11th, 2024, the development will consist of 29 single-family, three storey homes complete with on-site roads and utilities. We understand that the proposed development area will be constructed above 5.2 m geodetic, which is the floodplain elevation noted on the Lot Grading Plan. To facilitate grading across the site and along the property lines, we expect that the homes will have partial basement levels that would daylight to the south. We understand wood framed construction so that loading is expected to be light with floor loads of about 5 kPa and superstructure loads of 200 kN and 30 kN/m for columns and walls, respectively.

This report summarizes the results of the field investigations conducted on the site and provides geotechnical recommendations for the design and construction of the proposed development. This report was prepared exclusively for Beech Westgard Inc., for their use and for the use of others on their development team. We also expect that the City of Surrey will also employ this report in the development and permitting process.

2.0 SITE DESCRIPTION

The proposed development site consists of 2 contiguous lots with addresses of 17077 and 17121 92 Avenue. The site is bound by residential properties to the north and east, 92 Avenue to the south, and Bothwell Drive to the west. The individual lots are currently improved with homes, sheds, and paved driveways. Densely vegetated areas are dispersed across both lots. Based on COSMOS, the overall site covers an area of approximately 4.1 hectares and slopes from northeast to southwest with existing elevations varying between approximately 18 m and 5 m geodetic, respectively, for an average approximate gradient of 8%. Localized increased gradients of up to approximately 40% are present on 17077 92 Avenue.

The location of the proposed development site is shown on our Drawing No. 21099-01 following the text of this report.

3.0 FIELD INVESTIGATION

GeoPacific investigated the site on April 19th, 2022. At that time a total of 3 auger test holes, complete with two Dynamic Cone Penetration Test (DCPT) soundings, were conducted using a track mounted auger drill rig supplied and operated by Uniwide Drilling Ltd. of Prince George, BC. The test holes were terminated between approximately 4.6 and 13.7 m below existing site grades. The DCPT soundings were advanced to refusal, which was encountered from approximately 4.6 to 11.0 m below existing grade.

Prior to our investigations, a BC one call was placed, and the test hole locations were cleared of buried services. All test holes were backfilled and sealed in accordance with provincial abandonment requirements following classification, sampling, and logging of the soils in the field by our geotechnical staff.

The test hole logs are presented in Figures A.01 to A.03 in Appendix A. The approximate locations of the test holes are shown on our Drawing No. 21099-01

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

The general geology of the region under investigation, according to the Geological Survey of Canada (GSC) Map 1484A, is described as Vashon Drift which is overlain with Capilano Sediments increasing in thickness from northeast to southwest. As per the GSC map, the surficial geology is characterized as follows:

- Capilano Sediments – mainly marine silt loam to clay loam with minor sand, silt, and stony glaciomarine material up to 60 m thick.
- Vashon – lodgement till (with sandy loam matrix) and minor flow till containing lenses and interbeds of glaciolacustrine laminated stony silt.

In general, the soil profile noted from the surface downwards at our test hole locations generally agrees with the geology described on the GSC map and was determined to consist of topsoil underlain by Capilano Sediments consisting of clayey silt transitioning to clay at depth, and then glacial till.

A general description of the soils encountered is given below. For specific subsurface soil descriptions at the test hole locations TH22-01 to TH22-03, refer to the soil logs provided in Appendix A.

TOPSOIL

Topsoil was encountered at all test hole locations. The topsoil was noted to be up to 0.3 m thick and consisted of loose sand and silt.

CLAYEY SILT

Stiff clayey silt was encountered below the topsoil at TH22-02 and TH22-03 and extended to depths of approximately 3.7 to 11.6 m below existing grades. The thickness of the clayey silt was noted to generally increase from northeast to southwest based on the test holes. The clayey silt becomes soft below approximately 2.4 to 3.0 m. The moisture content of the clayey silt ranges between 31.6 and 100.6% and appears to generally increase with depth.

Based on our experience immediately west of the site, the clayey silt has an undrained shear strength in the range of 30 to 150 kPa and Over-Consolidation Ratio (OCR) in excess of 5 within the upper 2.5 to 3.0 m, recuing to slightly over 1 by about 10 m below existing grades. This indicates that the clayey silt is heavily consolidated near the surface and lightly over consolidated at depth.

GLACIAL TILL

Glacial till was encountered directly below the topsoil at TH22-08 and below the clayey silt at TH22-09 and TH22-10. The glacial till appears to extend beyond the maximum depth of our test holes. The glacial till is grey, dense to very dense, and consists of silty sand and gravel to sand with some silt and trace to some gravel. The moisture content of the glacial till ranges between 12.6 and 27.8%

4.2 Groundwater Conditions

Based on our experience in the area, the groundwater table is anticipated to be present at approximately – 1 m geodetic. However, the transition of the clayey silt to soft with an increased moisture content at approximately 3.0 m below grade at TH22-02, completed at an elevation of approximately 5.0 m geodetic, may indicate that the groundwater table may fluctuate to as high as +2 m geodetic in the area.

Perched groundwater was observed in TH22-01 at a depth of approximately 3.0 m below grade. Perched groundwater should be expected to form during the wetter months of the year in permeable zones of natural soils or fill material overlying relatively low permeability deposits of clayey silt or glacial till.

5.0 DISCUSSION

5.1 General comments

As noted in Section 1.0, we understand that a new residential subdivision has been proposed for the above referenced site. Based on the preliminary Lot Grading Plan (attached for reference in Appendix D of this report) prepared by Hub Engineering Inc., dated September 11th, 2024, the development will consist of 29 single-family, three storey homes complete with on-site roads and utilities. We understand that the proposed development area will be constructed above 5.2 m geodetic, which is the floodplain elevation noted on the Lot Grading Plan. To facilitate grading across the site and along the property lines, we expect that the homes will have partial basement levels that would daylight to the south. We understand wood framed construction so that loading is expected to be light with floor loads of about 5 kPa and superstructure loads of 200 kN and 30 kN/m for columns and walls, respectively.

The majority of the site is generally underlain by topsoil then Capilano clayey silt, over glacial till. The clayey silt is over consolidated at the upper contact approaching normally consolidated below about 10 m depth. Based on our analyses, the clayey silt is not expected to consolidate under the anticipated stress increases expected for this development provided that site grading fills are limited to less than 2 m where existing grades are below an elevation of 6 m geodetic. *GeoPacific must be provided with the grading plan and proposed building loads for our review well in advance of construction.*

Based on the preliminary Lot Grading Plan, we expect that the single-family homes will be founded on glacial till or engineered fill. We expect that conventional strip and pad footings can be supported directly on the undisturbed glacial till or engineered fill.

Following our review, we are of the opinion that the proposed development is feasible from a geotechnical standpoint provided that our recommendations are adhered to during design and construction. GeoPacific should be provided development plans well in advance of construction to confirm the recommendations are feasible from a geotechnical perspective.

5.2 Seismic Considerations

The subsurface soils beneath the founding level are not expected to be prone to liquefaction or other forms of ground softening under the design earthquake which is presently defined by the BCBC 2018 for projects submitted for building permit prior to March 9th, 2025, as per Ministerial Order No. BA 2023 10.

5.2 Natural Exfiltration of Storm Water

We understand the City of Surrey is advocating the use of natural storm water infiltration where possible on new projects. Our review of the geology at this site indicates that granular soil deposits capable of supporting a storm water infiltration system are not present. The soils encountered on-site were observed to contain significant amounts of fines (clay/silt particles) and are expected to have relatively low permeability and therefore, would not be conducive to natural infiltration of storm water.

5.3 Slope Review

5.3.1 General

We understand that the proposed development site is located within the Hazard Lands Development Permit Area for Steep Slopes (DP2 Steep Slopes), as identified by the City of Surrey's Hazard Lands Development Permit Guidelines due to the presence of localized gradients exceeding 20% at the southeast corner of the site. As per the City of Surrey's Hazard Lands Development Permit Guidelines, DP2 Steep Slopes is designated as all parcels of property containing land with steep slopes a minimum gradient of 20% or more, or which are either within 10 m of the bottom or 30 m of the top of a slope that is a minimum of 20% gradient.

Based on COSMOS, the site slopes from northeast to southwest with existing elevations varying between approximately 18 m and 5 m geodetic, respectively, for an average approximate gradient of 8%. Localized increased gradients of up to approximately 40% are present at the southeast corner of the site. The slopes are well vegetated based on our observations and COSMOS aerial photos. Review of COSMOS aerial photos from 2001 to 2021 would indicate that no significant slope instabilities have occurred given the consistent presence of the dense tree canopy.

5.3.2 Slope Stability Analyses

We have reviewed the slope stability of the proposed development in accordance with the 2018 BC Building Code (BCBC), which requires that slopes be evaluated under the 2475 year return period design earthquake. We have addressed the 2018 BCBC seismic requirements using the guidelines recommended by the "Landslide Assessments in British Columbia" professional practice guidelines by EGBC (March 1st, 2023). Our stability assessment was completed for both static and seismic (pseudo-static) conditions.

Based on the Lot Grading Plan, we understand that finished grades will be less than 2H:1V through the use of grading cuts and fills and partially below grade basements which daylight on the south face. Therefore, we have assessed the impact of the proposed development adjacent to the existing slopes to determine a suitable setback for the proposed structures that would not adversely impact the stability of the slope. Our stability assessment was completed for both static and seismic (pseudo-static) conditions.

The approximate location of the representative cross section used for the stability analyses is shown on our Drawing No. 21099-01. A 3 m building setback from the top of the slope was considered.

The stratigraphy for our analysis is based on the soil conditions encountered at TH22-03, located at the toe of the existing slope. Based on TH22-01 and our testing at 9306 Bothwell Drive, immediately to the north of the proposed site, we inferred glacial till to be present near the ground surface at the top of the existing slope. Given the subsurface data presented in our test hole logs and our experience in the area, we have considered the following material strength properties for the slope stability models as listed in **Table 1**.

Table 1: Material Properties Considered in the Slope Stability Analyses

Material	Unit Weight (kN/m ³)	Cohesion (kPa)		Friction angle (°)	
		Static	Seismic	Static	Seismic
Clayey Silt	17.0	5	50	28	0
Glacial Till	20.5	20	100	40	0

We recommend that the developer review our restrictions of disturbance on and around the slope, as noted in Sections 5.3.5 and 5.3.6. In particular, drainage, grade alterations, and retaining wall construction should only be completed on the advice and recommendations of a geotechnical engineer with experience in slope stability evaluations. It will be the responsibility of the geotechnical engineer-of-record for the individual residential home builders to assess the individual lot designs and ensure that those designs do not compromise the stability of the slope.

GeoPacific must be provided with a grading plan well in advance of construction to provide further slope stability related recommendations if necessary.

5.3.3 Static Slope Stability

We carried out a static limit equilibrium analysis of the slope stability for the aforementioned slope conditions using the computer program SLOPE/W developed by Geo-Slope International Ltd. The results of the analyses are graphically shown in Appendix F. Numerous iterations were completed with varying input parameters as part of our sensitivity analysis of interpreted input values. Review of the results indicates that the defined slope and development setback has a factor of safety of 3.6 for the static condition. The minimum acceptable factor of safety for static slope stability is 1.5. Therefore, the slope is stable under static conditions given the proposed setback. Our experience indicates that locally lower factors of safety may exist in the near surface fills and weathered soils. However, localized sloughing would not impact the proposed development located at least 3 m from the top of slope.

5.3.4 Seismic Slope Stability

The site is located in a seismically active zone and therefore a seismic slope analysis is warranted. We have carried out our analysis in consideration of the 2018 BCBC seismic requirements using the guidelines recommended by the “Landslide Assessments in British Columbia” professional practice guidelines by EGBC (March 1st, 2023).

A seismic slope stability analyses was completed for both of the proposed slope conditions using Slope/W. As recommended by Natural Resources Canada, a peak ground acceleration of 0.32g was used for this location. The analysis results are graphically shown in Appendix F. Numerous iterations were completed with varying input parameters as part of our sensitivity analysis of interpreted input values. Review of the results indicates that the

- Vegetation plays an important role in increasing the stability of the slope and protecting it against shallow instabilities and erosion. The vegetation lowers water infiltration rates into the surficial soils and adds cohesion through their root systems. The addition of large trees to the slope is not recommended as the increased weight would be far more detrimental than any benefit gained by the presence of the root structure. We recommend that any denuded portion of slope be re-vegetated with the assistance of an experienced landscaper or slope bio-remediation expert.

5.4 Flood Construction Level

We understand that the southwest corner of the overall site is located within the 1 in 200 year flood plain of the Serpentine River. As per the City of Surrey's Hazard Lands Development Permit Area Guidelines for Flood Prone (DP2 Flood Prone), DP2 Flood Prone areas are those determined to fall within the 200 year Flood Plain as defined by the province of British Columbia. Based on the Lot Grading Plan, the proposed development area will be constructed at a minimum elevation of 5.87 m geodetic, and we confirm that this elevation is above the floodplain elevation (Provincial Flood Construction Level) specified on the Lot Grading Plan of 5.2 m geodetic.

6.0 RECOMMENDATIONS

6.1 Site Preparation

Prior to placement of fill, construction of foundations, floor slabs and new on-site roads and services, all vegetation, topsoil, construction debris, organics, and loose or otherwise unsuitable/disturbed soils must be removed from the construction areas to expose a subgrade of stiff clayey silt or very dense glacial till. Based on the available test hole data, we estimate stripping depths across to be within 0.3 m. Increased stripping may be required in localized areas where fills are present. Frequent test pits should be carried out on site during stripping to confirm the absence of organic silt beneath the stripped subgrade. Any organics encountered below the clayey silt subgrade should be removed prior to the placement of any fills.

Any grade reinstatement beneath the site should be done using should be done with "engineered fill". In the context of this report, "engineered fill" is generally defined as *clean sand to sand and gravel containing silt and clay less than 5% by weight*, compacted in 300 mm loose lifts to a minimum of 95% of the ASTM D1557 (Modified Proctor) maximum dry density at a moisture content that is within 2% of optimum for compaction. The sandy silt subgrade may be sensitive to changes in moisture content. Therefore, the excavation subgrade should be graded to prevent the ponding of water at footing locations.

Stripping should extend out beyond the roadway or building envelope at a distance equal to the thickness of proposed engineered fill beneath the road or building. For example, if 1 m of engineered fill is placed below a structure then stripping should extend a minimum distance of 1 metre beyond the outer edge of that structure.

At footing elevations, the site should be graded to direct water away from the subgrade to facilitate the preservation of undisturbed bearing soils at the footing locations. All disturbed subgrade soils must be removed, and foundations will need to be lowered to suitable bearing soil. Alternatively, grade reinstatement below foundations may be completed with engineered fill, following removal of disturbed material. We recommend blinding all foundation subgrades with 50 mm of 19 mm clear crushed gravel immediately after review and approval.

Stripping is not required in landscaped areas unless the criteria stated in the previous paragraph requires the removal of that material.

The geotechnical engineer shall be contacted for the review of stripping, proof rolling activities, and engineered fill placement and compaction.

6.2 Building Foundations

Provided the site is prepared as described in Section 6.1, conventional foundations can be used to support the proposed buildings. Pad and strip footings founded on stiff clayey silt, very dense glacial till, or engineered fill can be designed for a Service Limit State bearing pressure of 120 kPa and Ultimate Limit State of 180 kPa.

Irrespective of the allowable bearing pressures given, pad footings should not be less than 600 mm by 600 mm and strip footings should not be less than 450 mm in width. Footings should also be buried a minimum of 450 mm below the surface for frost protection.

Adjacent foundations constructed at differing elevations should be offset from each other by a minimum distance of twice the difference in elevation (2H:1V). For example, two foundations separated by 1.0 m in elevation should be offset horizontally from each other by a minimum distance of 2.0 m as measured from the inside edges of those foundations. Foundations constructed within 2H:1V of each other may impose additional vertical and horizontal forces on lower foundations, columns, and/or foundation walls. GeoPacific should review foundation layouts which do not achieve the minimum 2H:1V offset.

All footing subgrades must be reviewed by GeoPacific to confirm the recommended bearing capacities for the site.

6.3 Seismic Considerations

As stated by Ministerial Order No. BA 2023 10, seismic design is to conform with Subsection 4.1.8. of the 2018 BCBC until March 9, 2025, at which point seismic design as per the 2024 BCBC will become mandatory. Therefore, the subgrade conditions underlying the site may be classified as Site Class "E" according to the British Columbia Building Code 2018 (BCBC 2018) Table 4.1.8.4.A. Peak ground accelerations on firm ground for the approximate site location is 0.32g for this site (National Resource Canada, Site Coordinates: 49.170 degrees North, 122.751 West.)

The subsurface soils beneath the proposed founding level of the buildings are not expected to be prone to liquefaction or other forms of ground softening under the design earthquake defined within the 2018 BCBC.

The seismic design contained in this report will need to be substantially updated if the building permit application is made after March 9th, 2025.

6.4 Slab-On-Grade Floors

In order to provide suitable support and drainage, floor slabs should be directly underlain by a minimum of 150 mm of a free draining 19 mm clear crushed gravel, and hydraulically connected to perimeter drainage. A moisture barrier should underlie the slab directly above the free draining granular material. The free draining granular material should be placed and compacted in 300 mm loose lifts to a minimum of 95% Modified Proctor dry density (ASTM D1557), at a moisture content that is within 2% of its optimum for compaction.

Compaction of the slab-on-grade fill must be reviewed by the geotechnical engineer.

6.5 Methane Gas Generation

As the topsoil and organic material will be removed from beneath the development area, we do not expect methane generation. Thus, a methane ventilation system is not required.

6.6 Foundation Drainage

We expect that the building slabs will be above exterior grades. From a geotechnical perspective, buildings do not require perimeter drains if exterior grades are sloping away from the building and the slab is at least 150 mm above exterior grades. Any below grade construction or foundation walls that retain soil will require perimeter drainage.

6.7 Temporary Excavations

We expect that temporary excavations would be sloped where possible since it is more economical to do so. We expect that slopes may be cut to 1 horizontal to 1 vertical (1H:1V) in the topsoil, stiff clayey silt, and dense to very dense glacial till.

All excavations and trenches must conform to the latest Occupational Health and Safety Regulations supplied by Work Safe BC. Any excavation in excess of 1.2 metres in depth requiring worker entry must be reviewed by a professional geotechnical engineer. All slopes should be covered with poly sheeting.

Temporary cut slopes in excess of 1.2 m in height must be covered in polyethylene sheeting and require review by a professional engineer in accordance with WorkSafe BC guidelines, prior to worker entry.

GeoPacific can provide excavation designs for temporary excavations completed within the soft clayey silt soils located approximately 2.4 to 3.0 m below grade if required.

6.8 Utility Installation

Utility excavations should be sloped in accordance with Section 6.7 of this report or shored in accordance with the latest Work Safe BC regulations. Any excavations in excess of 1.2 m in height requiring worker entry must be reviewed by a professional engineer prior to entry.

Some light to moderate perched groundwater seepage may be encountered during excavations, which we expect can be controlled using conventional sumps and sump pumps.

Pipe bedding, backfill materials and compaction requirements should conform to the specifications outlined in the Master Municipal Construction Documents (MMCD).

Temporary cut slopes in excess of 1.2 m in height must be covered in polyethylene sheeting and require review by a professional engineer in accordance with WorkSafe BC guidelines, prior to worker entry.

6.9 On-Site Pavement Structures

Following the recommended site preparation noted in Section 6.1, the stripped road subgrade should be proof rolled to locate any loose zones. Any areas which have become loosened and can not be recompacted to a minimum of 95% Modified Procter (ASTM D1557) maximum dry density must be excavated and replace with engineered fill.

Provided that the subgrade consists of stiff clayey silt, glacial till, or engineered fill, it is our opinion that our recommended pavement section, given in **Table 2**, is sufficient to carry the anticipated vehicle loads in on-site parking areas and drive aisles.

Table 2: Recommended Minimum Pavement Structure for On-Site Parking and Drive Aisles

Material	Thickness (mm)	CBR
Asphaltic Concrete	75	-
19 mm minus crushed gravel base course	150	80
75 mm minus, well graded, clean, sand and gravel subbase course	200	20

The asphalt thickness may be decreased to 65 mm in parking areas to be occupied solely by automobiles and light trucks. All base and subbase fills should be compacted to a minimum of 95% Modified Procter (ASTM D1557) maximum dry density.

Density testing should be conducted on these materials and the results forwarded to the geotechnical engineer for review. The geotechnical engineer shall be contacted for review of placement, compaction, and proof rolling of the on-site road sub-structure.

6.10 New Municipal Pavement Structures

We expect the development would include construction of new municipal local roads within the current site boundaries. For proposed new municipal Local roads the City of Surrey’s minimum pavement structure requirements, as indicated in **Table 3** hereafter, are acceptable following the site preparation noted in Section 6.1.

Table 3: Minimum Pavement Structure for Urban Local Municipal Roads

Material	Thickness (mm)	CBR
Asphaltic Concrete	85	-
19 mm minus crushed gravel base course	100	80
75 mm minus, well graded, clean, sand and gravel subbase course	200	20

All base and subbase fills should be compacted to a minimum of 95% Modified Procter (ASTM D1557) maximum dry density.

Density testing should be conducted on these materials and the results forwarded to the geotechnical engineer for review.

6.11 Radon

The new BCBC 2024 requires that all buildings in BC be designed with a radon ventilation system. The underslab fill materials specified in Section 6.4 could be utilized as part of the system. We expect that the single family homes will be designed under Part 9 of the building code and Part 9 provides a detail of a radon ventilation system that can be utilized by the house designer.

7.0 FIELD REVIEWS

As required for Municipal and Provincial “Letters of Assurance”, GeoPacific Consultants Ltd. will carry out sufficient field reviews during construction to ensure that the Geotechnical Design recommendations contained within this report have been adequately communicated to the design team and to the contractors implementing the design. These field reviews are not carried out for the benefit of the contractors and therefore do not in any way effect the contractors’ obligations to perform under the terms of his/her contract.

It is the contractors’ responsibility to advise GeoPacific Consultants Ltd. (a minimum of 48 hours in advance) that a field review is required. In summary, reviews are required for the following construction activities.

- | | | |
|----|-----------------|--|
| 1. | Stripping | Review of stripping. |
| 2. | Excavation | Review of temporary cut slopes. |
| 3. | Engineered Fill | Review of fill materials and compaction. |
| 4. | Proof Rolling | Review of proof rolling of on-site road sub-structure. |
| 5. | Foundation | Review of foundation subgrade. |
| 6. | Slab-on-grade | Review of subgrade and under slab fill materials and compaction. |

It is important that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also important that any contractors working on the site review this document prior to commencing their work.

8.0 CLOSURE

This report has been prepared exclusively for our client for the purpose of providing geotechnical recommendations for the design and construction of the proposed development. The report remains the property of GeoPacific Consultants Ltd. and unauthorized use of, or duplication of, this report is prohibited.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please do not hesitate to call.

For:
GeoPacific Consultants Ltd.

Reviewed by:



Bobby S. Sandhu, B.Eng., E.I.T.
Geotechnical Engineer-In-Training

Kevin Bodnar, M.Eng., P.Eng.
Principal



LEGEND:

- SCPT#-# - SEISMIC CONE PENETRATION TEST (SCPT) LOCATION
- CPT#-# - CONE PENETRATION TEST (CPT) LOCATION
- TH#-# - TEST HOLE (TH) LOCATION
- APPROXIMATE SITE BOUNDARY
- A A' - APPROXIMATE LOCATION OF SECTION A-A'

SITE PLAN

*TEST LOCATIONS ARE APPROXIMATE

REFERENCE:
COSMOS - 2022-11-30

ORIGINAL PAPER SIZE: 8.5x11"



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F (604) 439 9189
gpc@kacific.ca
1779 West 75th Avenue
Vancouver, BC V6P 6P2

DATE: 2022-04-19		
DRAWN BY: BE	APPROVED BY: BS	REVIEWED BY: BS
SCALE: AS SHOWN		

BEECH WESTGARD DEVELOPMENTS LTD
17077 AND 17121 92 AVENUE, SURREY, BC
TEST HOLE SITE PLAN

FILE NO.: 21099
DWG. NO.: 21099-01

REVISIONS:
A.
B.
C.

APPENDIX A – TEST HOLE LOGS

Test Hole Log: TH22-01

File: 21099

Project: Townhouse Development

Client: Beech Westgard Developments Ltd.

Site Location: 17077, 17121 92nd Ave, Surrey BC



GEOPACIFIC
CONSULTANTS

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot)	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0		Ground Surface	0.0				
0 to 1		TOPSOIL					
1 to 4.6		GLACIAL TILL Grey, SILTY SAND and GRAVEL; dense to very dense		13.8			
4.0		Very difficult drilling at 4.0 m					Groundwater seepage into test hole @ 3 m
4.6		End of Borehole	4.6	12.6			Auger refusal @ 4.6 m
0 to 51							

Logged: BE
Method: Solid stem auger
Date: 2022-04-19

Datum: Ground elevation
Figure Number: A.01
Page: 1 of 1

Test Hole Log: TH22-02

File: 21099

Project: Townhouse Development

Client: Beech Westgard Developments Ltd.

Site Location: 17077, 17121 92nd Ave, Surrey BC

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 Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot)	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0		Ground Surface	0.0				
0-1		TOPSOIL Sand and silt with trace roots, brown, moist, loose		31.6	1, 6, 7, 11, 14		
1-3		CLAYEY SILT Oxidized, yellow to grey, stiff CLAYEY SILT; dry.					
3-4		Becomes soft and wet @ 3.0 m		100.6			
4-7		Trace gravel @ 7.3 m					
7-10		Trace sand and gravel @ 9.8 m		46.8			
10-11.6			11.6				
11.6-13.7		GLACIAL TILL Grey, very dense, SAND with some SILT and trace to some GRAVEL; wet		27.8			
13.7-14		End of Borehole					

Logged: BE
 Method: Solid stem auger
 Date: 2022-04-19

Datum: Ground elevation
 Figure Number: A.02
 Page: 1 of 1

Test Hole Log: TH22-03

File: 21099

Project: Townhouse Development

Client: Beech Westgard Developments Ltd.

Site Location: 17077, 17121 92nd Ave, Surrey BC

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot)	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0		Ground Surface	0.0				
0 to 1		TOPSOIL Sand and silt with trace roots, brown, moist, loose, soft		50.5	0, 1, 4, 4, 8		
1 to 3.7		CLAYEY SILT Mottled brown and light grey, stiff CLAYEY SILT; mostly dry. Becomes soft and wet @ 2.4 m	3.7	80.7	8, 7, 5, 3, 0		
3.7 to 4.6		GLACIAL TILL Beige-grey, very dense SILTY SAND and rounded GRAVEL; dry	4.6	15.7	1, 6, 16		
4.6 to 51		End of Borehole			>50		

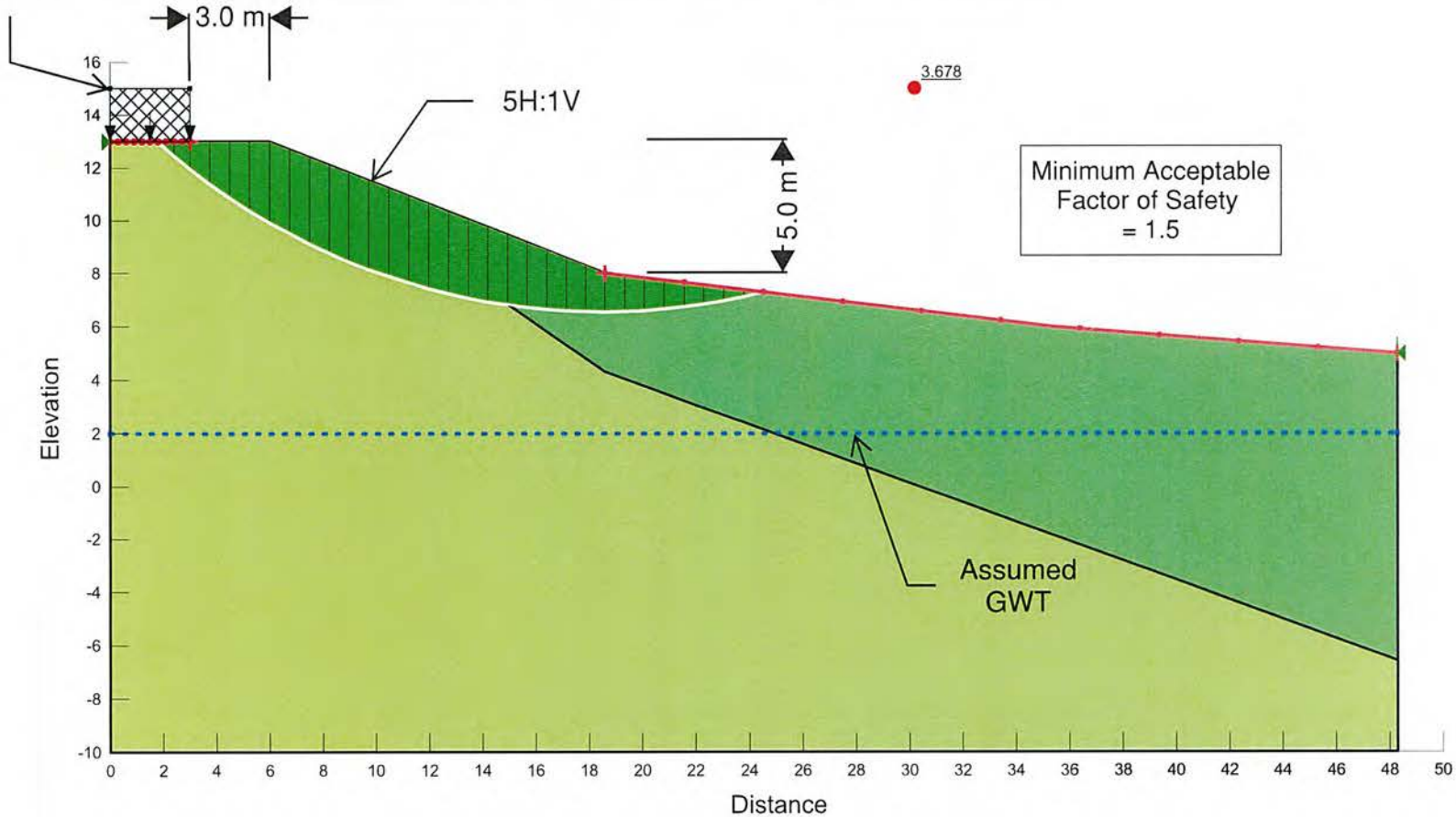
Logged: BE
Method: Solid stem auger
Date: 2022-04-19

Datum: Ground elevation
Figure Number: A.03
Page: 1 of 1

APPENDIX B – SLOPE STABILITY ANALYSES

Color	Name	Material Model	Unit Weight (kN/m ³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Phi-B (°)	Piezometric Line
■	Clayey Silt	Mohr-Coulomb	17	5	28	0	1
■	Glacial Till	Mohr-Coulomb	20.5	20	40	0	1

Proposed Surcharge
10 kPa



Project: 17077 and 17121 92 Avenue, Surrey, BC

Job No.: 21099

Model: Slope Stability - Section A-A' - Existing Slope - Seismic

Date: Oct. 10, 2023

Method: Morgenstern-Price

Horz Seismic Coef.: 0

Scale : 1:250

Site Address : 17077 and 17121 92 Avenue, Surrey, BC

Analysis by: BSS

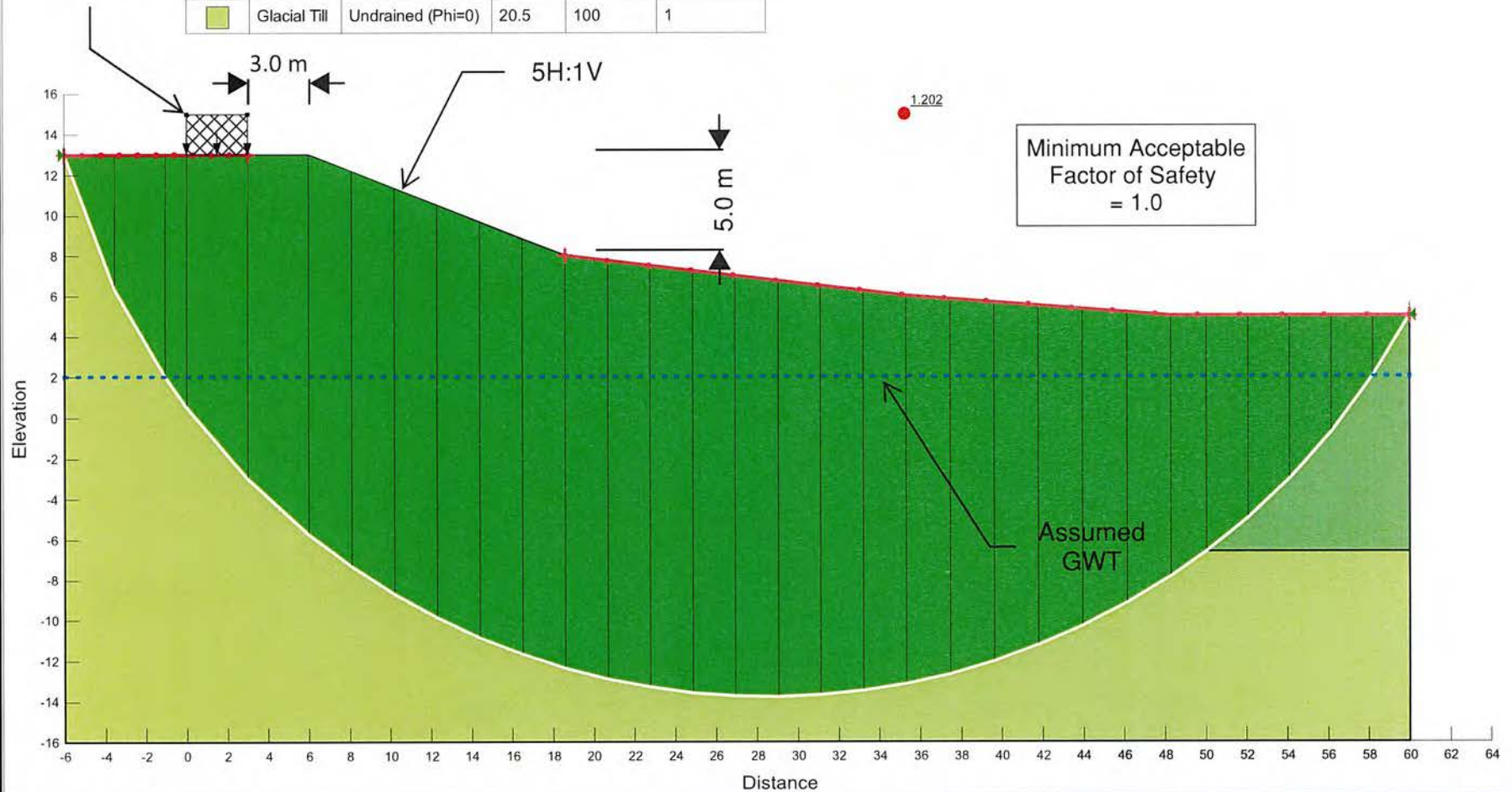


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Proposed
Surcharge
10 kPa

Color	Name	Material Model	Unit Weight (kN/m ³)	Cohesion (kPa)	Piezometric Line
Green	Clayey Silt	Undrained (Phi=0)	17	50	1
Light Green	Glacial Till	Undrained (Phi=0)	20.5	100	1



Project: 17077 and 17121 92 Avenue, Surrey, BC

Model: Slope Stability - Section A-A' - Existing Slope

Method: Morgenstern-Price

Site Address : 17077 and 17121 92 Avenue, Surrey, BC

Job No.: 21099

Date: Oct. 10, 2023

Scale : 1:300

Analysis by: BSS

Horz Seismic Coef.: 0.32



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**APPENDIX C – LEGISLATED LANDSLIDE ASSESSMENT ASSURANCE
STATEMENT**

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Notes: This statement is to be read and completed in conjunction with the Engineers and Geoscientists BC *Professional Practice Guidelines – Landslide Assessments in British Columbia* ("the guidelines") and the current *BC Building Code (BCBC)*, and is to be provided for Landslide Assessments (not floods or flood controls), particularly those produced for the purposes of the *Land Title Act*, *Community Charter*, or *Local Government Act*. Some jurisdictions (e.g., the Fraser Valley Regional District or the Cowichan Valley Regional District) have developed more comprehensive assurance statements in collaboration with Engineers and Geoscientists BC. Where those exist, the Qualified Professional is to fill out the local version only. Defined terms are capitalized; see the Defined Terms section of the guidelines for definitions.

To: The Approving Authority (or Client)

Date: SEPT. 12, 2024

CITY OF SURREY
13450 - 104 AVENUE, SURREY, BC, V3T 1V8
Jurisdiction/name and address

With reference to (CHECK ONE):

- A. *Land Title Act* (Section 86) – Subdivision Approval
- B. *Local Government Act* (Sections 919.1 and 920) – Development Permit
- C. *Community Charter* (Section 56) – Building Permit
- D. Non-legislated assessment

For the following property (the "Property"):

17077 AND 17121 92ND AVENUE, SURREY, BC
Civic address of the Property

The undersigned hereby gives assurance that they are a Qualified Professional and a professional engineer or professional geoscientist who fulfils the education, training, and experience requirements as outlined in the guidelines.

I have signed, authenticated, and dated, and thereby certified, the attached Landslide Assessment Report on the Property in accordance with the guidelines. That report must be read in conjunction this statement.

In preparing that report I have:

[CHECK TO THE LEFT OF APPLICABLE ITEMS]

- 1. Collected and reviewed appropriate background information
- 2. Reviewed the proposed Residential Development or other development on the Property
- 3. Conducted field work on and, if required, beyond the Property
- 4. Reported on the results of the field work on and, if required, beyond the Property
- 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a Landslide Hazard analysis or Landslide Risk analysis, I have:
 - 6.1 reviewed and characterized, if appropriate, any Landslide that may affect the Property
 - 6.2 estimated the Landslide Hazard
 - 6.3 identified existing and anticipated future Elements at Risk on and, if required, beyond the Property
 - 6.4 estimated the potential Consequences to those Elements at Risk
- 7. Where the Approving Authority has adopted a Level of Landslide Safety, I have:
 - 7.1 compared the Level of Landslide Safety adopted by the Approving Authority with the findings of my investigation
 - 7.2 made a finding on the Level of Landslide Safety on the Property based on the comparison
 - 7.3 made recommendations to reduce Landslide Hazards and/or Landslide Risks

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

8. Where the Approving Authority has **not** adopted a Level of Landslide Safety, or where the Landslide Assessment is not produced in response to a legislated requirement, I have:

- 8.1 described the method of Landslide Hazard analysis or Landslide Risk analysis used
- 8.2 referred to an appropriate and identified provincial, national, or international guideline for Level of Landslide Safety
- 8.3 compared those guidelines (per item 8.2) with the findings of my investigation
- 8.4 made a finding on the Level of Landslide Safety on the Property based on the comparison
- 8.5 made recommendations to reduce Landslide Hazards and/or Landslide Risks

9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections

Based on my comparison between:

[CHECK ONE]

- the findings from the investigation and the adopted Level of Landslide Safety (item 7.2 above)
- the appropriate and identified provincial, national, or international guideline for Level of Landslide Safety (item 8.4 above)

Where the Landslide Assessment is not produced in response to a legislated requirement, I hereby give my assurance that, based on the conditions¹ contained in the attached Landslide Assessment Report:

A. SUBDIVISION APPROVAL

For subdivision approval, as required by the *Land Title Act* (Section 86), "the land may be used safely for the use intended"

[CHECK ONE]

- with one or more recommended additional registered Covenants
- without an additional registered Covenant(s)

B. DEVELOPMENT PERMIT

For a development permit, as required by the *Local Government Act* (Sections 488 and 491), my report will "assist the local government in determining what conditions or requirements it will impose under subsection (2) of [Section 491]"

[CHECK ONE]

- with one or more recommended additional registered Covenants
- without an additional registered Covenant(s)

C. BUILDING PERMIT

For a building permit, as required by the *Community Charter* (Section 56), "the land may be used safely for the use intended"

[CHECK ONE]

- with one or more recommended additional registered Covenants
- without any additional registered Covenant(s)

¹ When seismic slope stability assessments are involved, Level of Landslide Safety is considered to be a "life safety" criteria, as described in Commentary JJJ of the *National Building Code of Canada (NBC) 2015, Structural Commentaries (User's Guide – NBC 2015: part 4 of division B)*. This states:

"The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion, in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DGM (design ground motion), there is a reasonable degree of confidence that the building will not collapse, nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse."

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

K.s. 22(1) BODNAR
Name (print)

SEPT. 12, 2024
Date

s. 22(1)
Address

s. 22(1)

s. 22(1)
Telephone

s. 22(1)
Email

Permit to Practice
EGBC
1000782



(Affix PROFESSIONAL SEAL and signature here)

The Qualified Professional, as a registrant on the roster of a registrant firm, must complete the following:

I am a member of the firm GEO PACIFIC CONSULTANTS LTD.
(Print name of firm)

with Permit to Practice Number 1000782
(Print permit to practice number)

and I sign this letter on behalf of the firm.

APPENDIX D – REFERENCE DRAWING

ATTACHMENT F
Woodridge Correspondence



Arborist Report

Inventory and Assessment of Trees Associated to Development at
17077, 17121 92 Avenue, Surrey

October 1, 2024

Revision #6

Adrian Szabunio, Diploma in Civil Engineering Technology
ISA Certified Arborist and Tree Risk Assessor PR 5079A

Terry Thrale PN 6766A

On Sep 27, 2024, at 12:37 PM, Regnier, Jane <Jane.Regnier@surrey.ca> wrote:

Hi Terry,

Tree and Landscape does not support retention of trees 55-58 due to condition and proximity to construction.

Please update the report, tree preservation summary and tree management plan to show these 4 alders as "to be removed".

There must also be coordination with the QEP to reflect this change throughout.

[<image001.png> 22-0231 Arborist Report - v6 \(2024-09-13\).pdf](#)

[<image001.png> 22-0231 Lot Layout Plan - v4 \(2024-09-12\).pdf](#)

Kind regards,

Jane

JANE REGNIER, B.Sc | Arboriculture Development Technician
ISA Certified Arborist PN-6764A
ISA Tree Risk Assessment Qualified

Arborist Update Summary October 1, 2024

- The report, tree management plan and summary tables are updated to reflect trees 55-58 as removed.

Updated by:

Terry Thrall

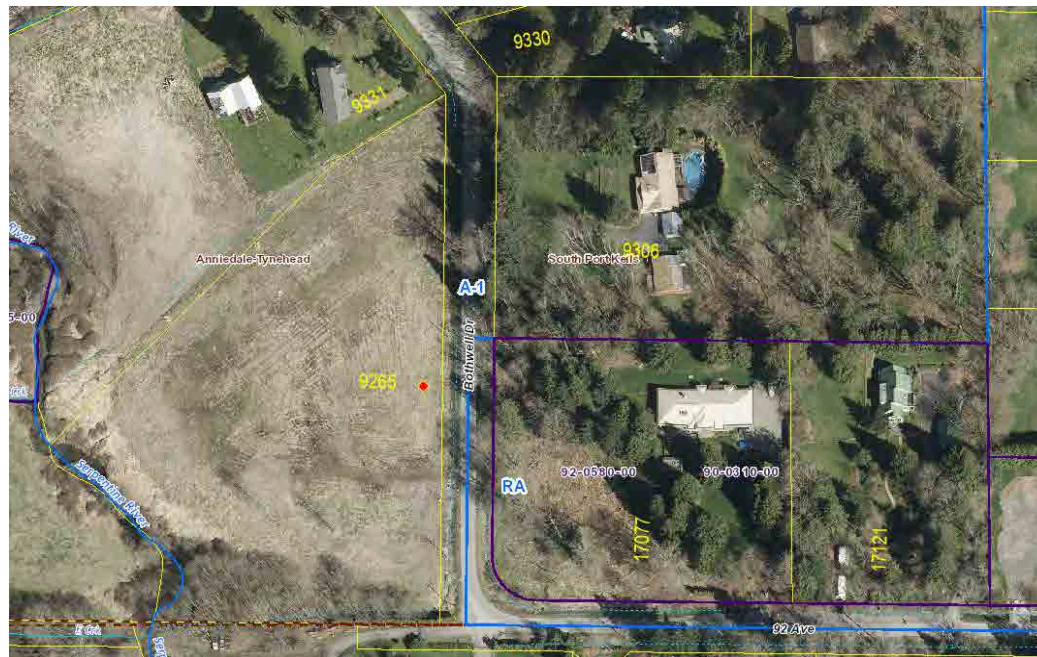
PN 6766A

Assignment and Methodology

Woodridge Tree has been retained to undertake an inventory and assessment of trees associated with development of at 17077 and 17121 92 Avenue, Surrey. The objective is to make tree preservation and protection recommendations in the context of municipal permits, rules and regulations for development.

Associated trees were visually assessed to determine species, diameter at breast height (dbh) and characteristic description. Tree diameters were measured at 1.4 meters height with a diameter tape. Protection areas were calculated for all trees within range of the property. Tree hazards were assessed according to International Society of Arboriculture standards using the TRAQ (Tree Risk Assessment Qualification) method. Recommendations for removal or retention are based on assessment outcome and proximity of trees to structure and infrastructure. Soil testing, root exploration and internal probing of tissue have not been incorporated in the findings.

The observations recorded are based on inspections performed on April 19, 2022. The weather at that time was partly cloudy and approximately 10 degrees Celsius.



Source: COSMOS

aerial image of property before redevelopment

Findings

The properties at 17077 and 17121 92 Ave, Surrey are located on the North side of 92 Avenue, and the West side of Bothwell Drive near the intersection of Bothwell Drive and 92 Avenue. At the time of observation, a house stood on the properties on 92 Avenue. 9265 Bothwell Drive had no structures.. Associated trees were comprised of native conifers and ornamental deciduous species. Trees located on the subject property, and neighbors' trees close to the property lines are considered in the findings of this report.



17707 92 Avenue



17121 92 Avenue

image of property from street at time of field data collection

Tree Inventory and Assessment

- **DBH** - Diameter at 1.4m height measured in centimeters
 - on trees with multiple stems the 3 largest sections measured at 1.4m are combined to make up the total.
- **critical root zone (TPZ)** = dbh x 6 unless otherwise specified
- **LCR** = live crown ratio, percentage of live crown remaining
D=Dormant
- **ci** - City owned tree
- **os** - off site tree
- **CR**- Crown Radius
- **S** - Surveyed, y=yes, n=no

Retention Suitability Definition of Terms

Good- Tree is void of major defects and in the absence of other factors and can be retained.

Moderate- Tree exhibits defects but mitigative actions are possible that can increase its duration of existence. Retention is possible.

Poor- Tree is dead, dying, hazardous or a short lived species not likely to succeed. Permit would likely be issued for removal regardless of other factors.

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
1-501	Y	Red Alder	<i>Alnus rubra</i>	66	40	3	15	Large decay at base. Small hangers in the crown. Dead branches in the lower crown. Ivy growing up the base.	Poor	Remove	3.96
2-502	Y	Red Alder	<i>Alnus rubra</i>	65	50	3	10	Leaning south. Large ivy vines girdling the trunk into the upper crown.	Poor	Remove	3.90
3-503	Y	Red Alder	<i>Alnus rubra</i>	35	10	2	9	Sounding indicates hollow portions of the trunk. Low live crown ratio. Pockets of decay visible on the upper trunk.	Poor	Remove	2.10

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
4-504	Y	Red Alder	<i>Alnus rubra</i>	60	20	3	10	Ivy girdling trunk into the upper crown. Dead top. Low live crown ratio.	Poor	Remove	3.60
5-505	Y	Western Red Cedar	<i>Thuja plicata</i>	44	100	3	12	Straight, single stem. Ivy is beginning to grow up the base. Healthy foliage colour and density.	Moderate	Remove	2.64
6-506	Y	Red Alder	<i>Alnus rubra</i>	40	30	2	14	Pockets of decay throughout the trunk. Ivy vines girdling the trunk. Many dead lower branches. Dead top.	Poor	Remove	2.40
7-507	Y	Red Alder	<i>Alnus rubra</i>	40+60=100	40	3	15	Dual stem at base, leaning opposite directions. Small hangers in the crown.	Poor	Remove	6.00
8-508	N	Red Alder	<i>Alnus rubra</i>	45	20	3	15	Large pockets of decay on the trunk. Dead top.	Poor	Remove	2.70
9-509	Y	Red Alder	<i>Alnus rubra</i>	42	50	3	15	Very decayed trunk with large woodpecker holes at the base and throughout the trunk into the mid crown.	Poor	Remove	2.52
10-510	Y	Western Red Cedar	<i>Thuja plicata</i>	93	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	5.58
11-511	Y	Red Alder	<i>Alnus rubra</i>	34	20	2	20	Decurrent, natural crown form. Pockets of decay at the base.	Poor	Remove	2.04
12-512	Y	Western Red Cedar	<i>Thuja plicata</i>	63	80	2	20	Dual stem at 15m with included bark in the union. Healthy foliage colour and density.	Moderate	Remove	3.78

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
13-513	Y	Western Red Cedar	<i>Thuja plicata</i>	110+ 21=1 31	70	3	20	Dual stem at base, multiple stems at 3m with included bark in the union. Healthy foliage colour and density.	Moderate	Remove	7.86
14-514	Y	Red Alder	<i>Alnus rubra</i>	40	25	3	20	Leaning west. Pockets of decay throughout the trunk.	Poor	Remove	2.40
15-515	Y	Western Red Cedar	<i>Thuja plicata</i>	60	70	3	20	Base kinks south and self corrects in the crown. Dual stem at 2m with included bark. Overall poor structure.	Poor	Remove	3.60
16-516	Y	Western Red Cedar	<i>Thuja plicata</i>	74	60	3	20	Base sweeps west and self corrects in the crown. Healthy foliage colour and density.	Moderate	Remove	4.44
17-517	Y	Western Red Cedar	<i>Thuja plicata</i>	35	60	2	15	Straight, single stem. Healthy foliage colour and density. No major defects. Crown growing into the above powerlines.	Moderate	Remove	2.10
18-518	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	151	70	8	25	Mature. Some pockets of decay on the trunk, no basal rot detected. Full crown.	Moderate	Remove	9.06
19-519	Y	Japanese Maple	<i>Acer palmatum</i>	11+1 1+20 =42	60	2	4	Multiple stems at base. Good buds. No major defects.	Moderate	Remove	2.52
20-520	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	55	50	3	20	Decurrent, natural crown form. Hangers in the crown. Full crown.	Moderate	Remove	3.30
21-521	Y	Western Red Cedar	<i>Thuja plicata</i>	37	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.22

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
22-522	y	Western Red Cedar	<i>Thuja plicata</i>	45	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.70
23-523	Y	Western Red Cedar	<i>Thuja plicata</i>	37+20=57	90	3	15	In a row of trees. Dual stem at base. Healthy foliage colour and density.	Moderate	Remove	3.42
24-524	Y	Western Red Cedar	<i>Thuja plicata</i>	35	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.10
25-525	Y	Western Red Cedar	<i>Thuja plicata</i>	49	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.94
26-526	Y	Western Red Cedar	<i>Thuja plicata</i>	32+10=42	90	3	15	In a row of trees. Dual stem at base. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.52
27-527	Y	Western Red Cedar	<i>Thuja plicata</i>	40+37=77	90	3	15	In a row of trees. Dual stem at base. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.62
28-528	Y	Western Red Cedar	<i>Thuja plicata</i>	40	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.40
29-529	Y	Western Red Cedar	<i>Thuja plicata</i>	45	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.70
30-530	Y	Western Red Cedar	<i>Thuja plicata</i>	48	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.88

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
31-531	N	Western Red Cedar	<i>Thuja plicata</i>	31	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	1.86
32-532	N	Western Red Cedar	<i>Thuja plicata</i>	36	90	3	15	Straight, single stem. Top down dieback.	Poor	Remove	2.16
33-533	Y	Western Red Cedar	<i>Thuja plicata</i>	60	80	2	15	Straight, single stem. Exposed cambium on the south side. Sparse inner crown. In decline.	Poor	Remove	3.60
34-534	Y	Western Red Cedar	<i>Thuja plicata</i>	102	90	4	20	Dual stem at 3m with included bark in the union. Healthy foliage color and density.	Moderate	Remove	6.12
35-535	Y	Western Red Cedar	<i>Thuja plicata</i>	75	80	3	20	Dual stem at 3m with included bark in the union. Exposed cambium on the trunks.	Moderate	Remove	4.50
36-536	Y	Western Red Cedar	<i>Thuja plicata</i>	33	-	-	-	Dead tree standing.	Poor	Remove Dead	1.98
37-537	Y	Western Red Cedar	<i>Thuja plicata</i>	63	80	3	15	Lopped leader on the south side. Dead lower branches. Exposed cambium on the trunk.	Poor	Remove	3.78
38-538	Y	Amabilis Fir	<i>Abies amabilis</i>	55	50	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
39-539	Y	Western Red Cedar	<i>Thuja plicata</i>	151	70	4	20	Dual stem at 2m, multiple stems at 4m. Healthy foliage colour and density.	Moderate	Remove	9.06

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
40-540	Y	Hemlock	<i>Tsuga heterophylla</i>	36	50	3	15	Straight, single stem. Healthy foliage colour and density. No major defects. Crown growing into the overhead powerlines.	Moderate	Remove	2.16
41-541	Y	Red Alder	<i>Alnus rubra</i>	62	20	3	20	Decurrent, natural crown form. Large girdling vines throughout the trunk. Low live crown ratio.	Poor	Remove	3.72
42-542	Y	Red Alder	<i>Alnus rubra</i>	58	20	3	20	Decurrent, natural crown form. Large girdling vines throughout the trunk. Low live crown ratio.	Poor	Remove	3.48
43-543	Y	Red Alder	<i>Alnus rubra</i>	50	40	3	20	Decurrent, natural crown form. Leaning west. Full crown.	Poor	Remove	3.00
44-544	Y	Western Red Cedar	<i>Thuja plicata</i>	85	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	5.10
45-545	Y	Red Alder	<i>Alnus rubra</i>	50+5 2=10 2	40	3	20	Dual stem at 1m with included bark in the union. Woodpecker holes along the trunk indicate decay.	Poor	Remove	6.12
46-546	Y	Western Red Cedar	<i>Thuja plicata</i>	60	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects. The location conflicts with Lot 29.	Good	Remove	3.60
47-547	Y	Red Alder	<i>Alnus rubra</i>	60	30	4	20	Dual stem at 2m with included bark in the union. Dead branches throughout the crown. Epicormic shoots throughout the trunk. The location conflicts with Lot 29.	Poor	Remove	3.60
48-548	Y	Western Red Cedar	<i>Thuja plicata</i>	123	70	3	25	Straight, single stem. Healthy foliage colour and density. No major defects. The location conflicts with Lot 29.	Moderate	Retain	7.38

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
49-549	Y	Red Alder	<i>Alnus rubra</i>	40	20	3	15	Crown bows east. Low live crown ratio. The location conflicts with Lot 29.	Poor	Remove	2.40
50-550	Y	Western Red Cedar	<i>Thuja plicata</i>	143	80	4	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Reduce to safe wildlife tree	8.58
51-551	Y	Paper Birch	<i>Betula papyrifera</i>	35	30	3	15	Pockets of decay throughout the trunk. Dead top.	Poor	remove	2.10
52-552	Y	Red Alder	<i>Alnus rubra</i>	48	40	3	20	Decurrent, natural crown form. Large dead lower branches. Pockets of decay through the trunk.	Poor	Remove	2.88
53-553	Y	Red Alder	<i>Alnus rubra</i>	37	40	3	15	Decurrent, natural crown form. Full crown.	Poor	Remove	2.22
54-554	Y	Western Red Cedar	<i>Thuja plicata</i>	70	70	3	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Good	Retain	4.20
55-555	Y	Red Alder	<i>Alnus rubra</i>	63	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	3.78
56-556	Y	Red Alder	<i>Alnus rubra</i>	38	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	2.28
57-557	Y	Red Alder	<i>Alnus rubra</i>	33	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	1.98

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
58-558	Y	Red Alder	<i>Alnus rubra</i>	40	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	2.40
59-559	Y	Cherry	<i>Prunus spp.</i>	39	50	3	15	Weeping form. In full bloom. No major defects detected.	Moderate	Remove	2.34
60-560	Y	Red Alder	<i>Alnus rubra</i>	40	50	2	20	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Retain	2.40
61-561	Y	Red Alder	<i>Alnus rubra</i>	40	30	2	20	Upheaving roots. Rot in the base and throughout the trunk.	Poor	Retain	2.40
62-562	Y	Red Alder	<i>Alnus rubra</i>	25+20+5=50	40	3	15	Multiple stems at base. Pockets of decay throughout each trunk.	Poor	Remove	3.00
63-563	Y	Red Alder	<i>Alnus rubra</i>	25+10+15=50	60	2	15	Multiple stems at base. Pockets of decay throughout each trunk. Full crowns.	Poor	Reduce to safe wildlife tree	3.00
64-564	Y	Douglas Fir	<i>Pseudotsuga menziesii</i>	200	50	3	25	Four trees growing on a nurse stump. Share a root ball and crown. Some inner crown dieback throughout.	Moderate	Reduce to safe wildlife tree	12.00
65-565	Y	Black Cottonwood	<i>Populus trichocarpa</i>	62	40	4	20	Decurrent, natural form. Full crown.	Poor	Reduce to safe wildlife tree	3.72
66-566	Y	Sitka Spruce	<i>Picea sitchensis</i>	75	50	2	25	Growing on a nurse stump at about 2m. Large roots extending into the soil. Some lower crown dieback.	Moderate	Retain	4.50

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
67-567	Y	Western Red Cedar	<i>Thuja plicata</i>	44	70	2	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Good	Retain	2.64
68-568	Y	Red Alder	<i>Alnus rubra</i>	52	20	3	20	Vines girdling the trunk into the mid crown. Low live crown ratio.	Poor	Reduce to safe wildlife tree	3.12
69-569	Y	Cherry	<i>Prunus spp.</i>	32+1 7=54	20	3	15	Dual stem at 1m with included bark in the union. Pockets of decay throughout the trunk. Large exposed roots around the base.	Poor	Remove	3.24
70-570	Y	Hemlock	<i>Tsuga heterophylla</i>	39	50	3	15	Single stem leaning west. Large exposed roots have been cleanly pruned. Inner crown dieback.	Moderate	Remove	2.34
71-571	Y	Grand Fir	<i>Abies grandis</i>	65	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.90
72-572	Y	Western Red Cedar	<i>Thuja plicata</i>	58	60	2	20	Straight, single stem. Top down dieback in the crown.	Poor	Remove	3.48
73-573	Y	Western Red Cedar	<i>Thuja plicata</i>	80	80	5	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.80
74-574	Y	Western Red Cedar	<i>Thuja plicata</i>	35	60	2	20	Straight, single stem. Top down dieback in the crown.	Poor	Remove	2.10
75-575	Y	Western Red Cedar	<i>Thuja plicata</i>	53	-	-	-	Dead tree standing.	Poor	Remove Dead	3.18

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
76-576	Y	Western Red Cedar	<i>Thuja plicata</i>	32	-	-	-	Dead tree standing.	Poor	Remove Dead	1.92
77-577	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	25+2 5+72 =122	50	6	20	Triple stem at base. Dead branches throughout the crown. Shares a root ball with trees #578 and #579.	Poor	Remove	7.32
78-578	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	77+4 7=12 4	50	6	20	Dual stem at base. Dead branches throughout the crown. Shares a root ball with trees #577 and #579.	Poor	Remove	7.44
79-579	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	30	50	6	20	Decurrent, natural crown form. Dead branches throughout the crown. Shares a root ball with trees #577 and #578.	Poor	Remove	1.80
80-580	Y	Sitka Spruce	<i>Picea sitchensis</i>	45	70	2	20	Straight, single stem. Some inner crown dieback.	Poor	Remove	2.70
81-581	Y	Western Red Cedar	<i>Thuja plicata</i>	25+4 2=67	70	3	20	Dual stem at base. Healthy foliage colour and density.	Moderate	Remove	4.02
82-582	Y	Western Red Cedar	<i>Thuja plicata</i>	80	60	4	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.80
83-583	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	200	30	5	25	Multiple stems at base. Some dead stems at the base. Sounding of the trunk indicates hollow portions.	Poor	Remove	12.00
84-584	Y	Western Red Cedar	<i>Thuja plicata</i>	39	10	2	15	Straight, single stem. Very sparse inner crown, In decline.	Poor	Remove	2.34

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
85-585	Y	Western Red Cedar	<i>Thuja plicata</i>	35+1 20=1 55	60	3	20	Dual stem at base. Large girdling roots are exposed around the base. Sparse inner crown.	Poor	Remove	9.30
86-586	Y	Western Red Cedar	<i>Thuja plicata</i>	65	40	2	20	Dual stem at base. Sparse inner crown.	Poor	Reduce to safe wildlife tree	3.90
87-587	Y	Western Red Cedar	<i>Thuja plicata</i>	94	40	3	20	Multiple stems at 2m with included bark in the union. Sparse inner crown.	Poor	Reduce to safe wildlife tree	5.64
88-588	N	Bigleaf Maple	<i>Acer macrophyllum</i>	35	40	4	15	Dual stem at 3m. Crown weighted south. Full crown.	Moderate	Retain	2.10
89-589	N	Bigleaf Maple	<i>Acer macrophyllum</i>	50	50	4	15	Decurrent, natural form. No decay detected on the base or trunk. Full crown.	Moderate	Reduce to safe wildlife tree	3.00
90-590	Y	Red Alder	<i>Alnus rubra</i>	50	30	3	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	3.00
91-591	Y	Red Alder	<i>Alnus rubra</i>	33	30	2	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	1.98
92-592	Y	Red Alder	<i>Alnus rubra</i>	32	30	2	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	1.92
93-593	Y	Red Alder	<i>Alnus rubra</i>	35+2 9=74	30	2	20	Dual stem at base. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	4.44

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
94-594	Y	Red Alder	<i>Alnus rubra</i>	45	30	2	20	Dual stem at 10m with included bark in the union. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	2.70
95-595	N	Red Alder	<i>Alnus rubra</i>	52	30	2	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Remove	3.12
96-596	Y	Western Red Cedar	<i>Thuja plicata</i>	71	90	4	15	Single stem sweeping west. Self corrects in the crown. Healthy foliage colour and density.	Moderate	Retain	4.26
97-597	N	Paper Birch	<i>Betula papyrifera</i>	52	-	-	-	Dead tree standing.	Poor	Remove Dead	3.12
98-598	Y	Western Red Cedar	<i>Thuja plicata</i>	200	80	4	20	Growing on a nurse stump. Recently windthrown top.	Poor	Reduce to safe wildlife tree	12.00
99-599	Y	Western Red Cedar	<i>Thuja plicata</i>	51	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Good	Retain	3.06
100-600	Y	Western Red Cedar	<i>Thuja plicata</i>	250	80	3	20	Multiple stems connected at the base. All straight single stem with healthy foliage colour and density.	Moderate	Remove	15.00
101-601	Y	Western Red Cedar	<i>Thuja plicata</i>	165	80	5	25	Dual stem at 2.5m. Healthy foliage colour and density. Large exposed roots near the base.	Moderate	Reduce to safe wildlife tree	9.90
102-602	Y	Western Red Cedar	<i>Thuja plicata</i>	42	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.52

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
103-603	Y	Western Red Cedar	<i>Thuja plicata</i>	45	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.70
104-604	Y	Western Red Cedar	<i>Thuja plicata</i>	47	60	3	16	Recently windthrown top with no regeneration since.	Poor	Remove	2.82
105-605	Y	Western Red Cedar	<i>Thuja plicata</i>	53	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.18
106-606	Y	Western Red Cedar	<i>Thuja plicata</i>	74	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.44
107-607	Y	Western Red Cedar	<i>Thuja plicata</i>	72+4 5=11 7	80	4	25	Dual stem at base. Healthy foliage colour and density.	Moderate	Remove	7.02
108-608	Y	Apple	<i>Malus floribunda</i>	33+2 2=55	80	3	6	Mature. Multiple stems at base. Multiple lopped leaders at the base. Decay throughout the trunks	Poor	Reduce to safe wildlife tree	3.30
109-609	Y	Western Red Cedar	<i>Thuja plicata</i>	90+4 0+20 =150	70	3	20	Multiple stems at base. All straight single stem with healthy foliage colour and density.	Moderate	Remove	9.00
110-610	Y	Western Red Cedar	<i>Thuja plicata</i>	52	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.12
111-611	Y	Western Red Cedar	<i>Thuja plicata</i>	62	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.72

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
112-612	Y	Western Red Cedar	<i>Thuja plicata</i>	65	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.90
113-613	Y	Western Red Cedar	<i>Thuja plicata</i>	55	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
114-614	Y	Western Red Cedar	<i>Thuja plicata</i>	60	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.60
115-615	Y	Western Red Cedar	<i>Thuja plicata</i>	68	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.08
116-616	Y	Western Red Cedar	<i>Thuja plicata</i>	55	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
117-617	Y	Western Red Cedar	<i>Thuja plicata</i>	64	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.84
118-618	Y	Western Red Cedar	<i>Thuja plicata</i>	76	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.56
119-619	Y	Sitka Spruce	<i>Picea sitchensis</i>	65	30	3	15	Straight, single stem. Inner crown dieback.	Moderate	Remove	3.90
120-620	Y	Sitka Spruce	<i>Picea sitchensis</i>	64	30	3	15	Straight, single stem. Inner crown dieback.	Moderate	Remove	3.84

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
121-621	Y	Western Red Cedar	<i>Thuja plicata</i>	70	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.20
122-622	Y	Western Red Cedar	<i>Thuja plicata</i>	51	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.06
123-623	Y	Western Red Cedar	<i>Thuja plicata</i>	37	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.22
124-624	Y	Western Red Cedar	<i>Thuja plicata</i>	41	50	3	20	Straight, single stem. Exposed cambium to 2m. Sparse inner crown.	Moderate	Remove	2.46
125-625	Y	Western Red Cedar	<i>Thuja plicata</i>	55	30	3	20	Straight, single stem. Girdled by chain at 2. Sparse inner crown,	Moderate	Remove	3.30
126-626	Y	Western Red Cedar	<i>Thuja plicata</i>	43	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.58
127-627	Y	Western Red Cedar	<i>Thuja plicata</i>	55	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
128-628	Y	Western Red Cedar	<i>Thuja plicata</i>	89	50	3	20	Straight, single stem. Some chlorosis through the crown. Sparse inner crown.	Moderate	Remove	5.34
129-629	Y	Western Red Cedar	<i>Thuja plicata</i>	104+ 60=1 64	60	3	20	Dual stem at base. Large exposed roots around the base. Healthy foliage colour and density.	Moderate	Remove	3.84

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
130-630	Y	Sitka Spruce	<i>Picea sitchensis</i>	60	70	3	25	Straight, single stem. Sparse inner crown.	Moderate	Remove	3.60
131-631	Y	Sitka Spruce	<i>Picea sitchensis</i>	40+10=50	40	4	13	Dual stem at base. Sparse inner crown. Pockets of decay throughout the trunks.	Moderate	Remove	3.00
132-632	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	34	40	5	12	Decurrent, natural form. No decay detected on the base or trunk. Full crown.	Moderate	Remove	2.04
133-633	Y	Western Red Cedar	<i>Thuja plicata</i>	40	60	2	15	UNIDENTIFIABLE BIRDS NEST IN THE LOWER CROWN. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.40
134-634	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	35+30=65=70	50	5	25	Multiple stems at base. Large pockets of decay at the base and throughout the trunks. Large exposed roots near the base.	Poor	Remove	4.20
135-635	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	105	50	7	20	Decurrent, natural form. Some included bark in the crown. Full crown.	Poor	Remove	6.30
136-636	Y	Western Red Cedar	<i>Thuja plicata</i>	32	80	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	1.92
137-637	Y	Western Red Cedar	<i>Thuja plicata</i>	31	80	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	1.86
138-638	Y	Sitka Spruce	<i>Picea sitchensis</i>	50	50	3	20	Straight, single stem. Sparse inner crown. Growing on a slight slope.	Moderate	Remove	3.00

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
139-639	Y	Western Red Cedar	<i>Thuja plicata</i>	65+2 5=90	80	3	20	Dual stem at base. Larger stem lost its top long ago with multiple regenerated dogleg leaders.	Poor	Remove	5.40
140-640	Y	Western Red Cedar	<i>Thuja plicata</i>	50+5 5=10 5	80	3	20	Multiple stems at base. One stem lost its top long ago with multiple regenerated dogleg leaders.	Poor	Remove	6.30
141-641	Y	Western Red Cedar	<i>Thuja plicata</i>	52	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.12
142-642	Y	Hemlock	<i>Tsuga heterophylla</i>	15+5 5+80 =150	70	3	20	Multiple stems growing on a nurse stump. Healthy foliage colour and density throughout.	Moderate	Remove	9.00
143-643	Y	Western Red Cedar	<i>Thuja plicata</i>	80	60	4	25	Adjacent to farm structure. Demolition of the adjacent structure would be difficult unless the tree is removed. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.80
144-644	Y	Red Alder	<i>Alnus rubra</i>	32	30	2	15	Decurrent, natural crown form. Growing in the farm structure. Demolition of the structure would be difficult unless the tree is removed.	Poor	Remove	1.92
145-645	Y	Western Red Cedar	<i>Thuja plicata</i>	39	60	4	25	Adjacent to farm structure. Demolition of the adjacent structure would be difficult unless the tree is removed. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.34
146-646	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	115	30	6	20	Mature. Large cavities extending from the base to the mid crown. Poor structure.	Moderate	Remove	6.90
147-647	Y	Sitka Spruce	<i>Picea sitchensis</i>	45+3 5=80	50	3	20	Dual stem at base. Sparse inner crown.	Moderate	Remove	4.80

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
148-648	Y	Red Alder	<i>Alnus rubra</i>	32	40	2	30	Decurrent, natural crown form. Full crown.	Poor	Remove	1.92
149-649	Y	Red Alder	<i>Alnus rubra</i>	47	30	3	20	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Remove	2.82
150-650	Y	Sitka Spruce	<i>Picea sitchensis</i>	41	60	2	20	Straight, single stem. Sparse inner crown.	Moderate	Remove	2.46
151-651	Y	Red Alder	<i>Alnus rubra</i>	35+3 6=71	50	2	20	Dual stem at base with included bark in the union. Pockets of decay throughout the trunk.	Poor	Remove	4.26
152-652	Y	Red Alder	<i>Alnus rubra</i>	45	30	4	20	Leaning south. Hangers throughout the crown. Dead top.	Poor	Remove	2.70
153-653	Y	Sitka Spruce	<i>Picea sitchensis</i>	34	40	3	18	Straight, single stem. Sparse inner crown.	Moderate	Remove	2.04
154-654	N	Western Red Cedar	<i>Thuja plicata</i>	37	70	2	18	Exposed cambium at the base. Base kinks south and self corrects in the crown. Sparse inner crown.	Moderate	Remove	2.22
155-655	N	Red Alder	<i>Alnus rubra</i>	90	30	4	20	Leaning south. Pockets of decay throughout the trunk.	Poor	Remove	5.40
156-656	N	Sitka Spruce	<i>Picea sitchensis</i>	40	50	2	20	Straight, single stem. Lopped leader at the base. Some dead lower branches.	Moderate	Remove	2.40

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
157-657	N	Bigleaf Maple	<i>Acer macrophyllum</i>	70	20	5	20	Significant decay at the base and through the trunk. Large hanger in the crown.	Poor	Remove	4.20
158-658	N	Western Red Cedar	<i>Thuja plicata</i>	33	60	2	15	Straight, single stem. Exposed cambium throughout the trunk. Sparse inner crown.	Moderate	Remove	1.98
159-659	Y	Sitka Spruce	<i>Picea sitchensis</i>	34	30	3	20	Straight, single stem. Many dead lower branches. Large taper with many exposed roots near the base.	Moderate	Remove	2.04
160-660	N	Western Red Cedar	<i>Thuja plicata</i>	10+20+30=60	50	2	15	Triple stem at base. Smallest stem is dead. All have exposed cambium into the mid crown.	Moderate	Remove	3.60
161-661	Y	Western Red Cedar	<i>Thuja plicata</i>	70+40=110	50	4	20	Smaller stem has top down dieback. Exposed cambium from the base to the mid crown. Sparse inner crown throughout.	Moderate	Remove	6.60
162-662	N	Sitka Spruce	<i>Picea sitchensis</i>	45	20	3	15	Straight, single stem. Sparse inner crown.	Moderate	Remove	2.70
163-663	Y	Hemlock	<i>Tsuga heterophylla</i>	90	70	2	15	Growing on a nurse stump. Woodpecker holes throughout the trunk indicate decay.	Moderate	Remove	5.40
164-664	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	50+80=130	40	4	20	Dual stem at base. Significant decay at the base and through the trunks.	Moderate	Remove	7.80
165-665	Y	Sitka Spruce	<i>Picea sitchensis</i>	57	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.42

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
166-666	Y	Western Red Cedar	<i>Thuja plicata</i>	100	90	3	25	Straight, single stem. Exposed cambium at base. Large exposed roots near the trunk.	Moderate	Remove	6.00
167-667	Y	Red Alder	<i>Alnus rubra</i>	35	30	2	15	Dual stem at 2m. Pockets of decay on the trunks.	Poor	Remove	2.10
168-668	Y	Red Alder	<i>Alnus rubra</i>	40	30	2	15	Leaning south. Pockets of decay on the trunk.	Poor	Remove	2.40
169-669	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	40+1 10=1 50	50	5	20	Dual stem at base. Significant decay at the base and through the trunks.	Moderate	Remove	3.00
170-670	Y	Red Alder	<i>Alnus rubra</i>	50	50	30	2	Decurrent, natural crown form. Pockets of decay on the trunk.	Poor	Remove	3.00
171-671	N	Red Alder	<i>Alnus rubra</i>	43	50	30	2	Decurrent, natural crown form. Pockets of decay on the trunk.	Poor	Remove	2.58
172-672	Y	Black Cottonwood	<i>Populus trichocarpa</i>	80	30	4	20	Decurrent, natural crown form. Pockets of decay on the trunk. Many dead branches.	Poor	Reduce to safe wildlife tree	4.80
173-673	N	Red Alder	<i>Alnus rubra</i>	55	-	-	-	Dead tree standing.	Poor	Reduce to safe wildlife tree	3.30
174-674	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	35	50	3	15	Decurrent, natural crown form. Full crown.	Good	Remove	2.10

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
175-675	N	Red Alder	<i>Alnus rubra</i>	30	10	2	20	Decurrent, natural form. Low LCR. Large wound at 10m.	Poor	Remove	1.80
176-676	N	Red Alder	<i>Alnus rubra</i>	39	10	3	20	Decurrent, natural form. Low LCR. Extensive decay in the trunk.	Poor	Remove	2.34
177-677	N	Red Alder	<i>Alnus rubra</i>	34	10	3	20	Leaning south. Low LCR. Extensive decay in the trunk.	Poor	Remove	2.04
178-678	Y	Red Alder	<i>Alnus rubra</i>	41	10	3	20	Decurrent, natural form. Low LCR. Extensive decay in the trunk.	Poor	Remove	2.46
179-679	Y	Black Cottonwood	<i>Populus trichocarpa</i>	85	70	5	20	Decurrent, natural form. Many dead lower branches.	Poor	Remove	5.10
180-680	Y	Sitka Spruce	<i>Picea sitchensis</i>	187	60	3	20	Growing on a nurse stump. Multiple stems at 2m. Sparse inner crown throughout.	Poor	Reduce to safe wildlife tree	11.22
181-681	Y	Red Alder	<i>Alnus rubra</i>	35	10	2	12	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Remove	2.10
182-682	N	Red Alder	<i>Alnus rubra</i>	30	10	2	12	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Remove	1.80
183-683	N	Apple	<i>Malus floribunda</i>	20+20+15=55	40	2	5	Multiple stems at the base. Decay throughout the trunks. Hangers in the crown.	Poor	Remove	3.30

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
184-684	Y	Black Cottonwood	<i>Populus trichocarpa</i>	90	-	-	-	Dead tree standing.	Poor	Remove Dead	5.40
185-685	Y	Black Cottonwood	<i>Populus trichocarpa</i>	90	70	4	20	Decurrent, natural form. Adjacent to the bank.	Poor	Remove	5.40
186-686	Y	Black Cottonwood	<i>Populus trichocarpa</i>	92	70	4	20	Decurrent, natural form. Adjacent to the bank.	Poor	Remove	5.52
187-687	N	Black Cottonwood	<i>Populus trichocarpa</i>	74	40	4	20	Leaning south. Decurrent, natural form. Growing in the bank.	Poor	Remove	4.44
188-688	Y	Red Alder	<i>Alnus rubra</i>	35	-	-	-	Dead tree standing.	Poor	Remove Dead	2.10
189-689	N	Red Alder	<i>Alnus rubra</i>	31	40	3	15	Decurrent, natural form. Full crown.	Poor	Remove	1.86
190-690	N	Black Cottonwood	<i>Populus trichocarpa</i>	30	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	1.80
191-691	N	Black Cottonwood	<i>Populus trichocarpa</i>	39	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	2.34
os1	Y	Cherry	<i>Prunus avium</i>	25+2 5+10 =60	80	3	3	Multiple stems at base. Ivy into the lower crown. Some pockets of decay throughout the trunks.	Moderate	Retain	3.60

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
os2	Y	Red Alder	<i>Alnus rubra</i>	55	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	3.30
os3	Y	Red Alder	<i>Alnus rubra</i>	30	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	1.80
os4		Red Alder	<i>Alnus rubra</i>	90	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	5.40
os5		Red Alder	<i>Alnus rubra</i>	34	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	2.04
os6		Red Alder	<i>Alnus rubra</i>	42	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	2.52
os7		Red Alder	<i>Alnus rubra</i>	40	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	2.40
os8	Y	Red Alder	<i>Alnus rubra</i>	30	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	1.80
os9	Y	Western Red Cedar	<i>Thuja plicata</i>	46	100	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Retain	2.76
os10	Y	Red Alder	<i>Alnus rubra</i>	45	50	3	15	Decurrent, natural crown form. Full crown.	Poor	Retain	2.70

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci1	Y	Black Cottonwood	<i>Populus trichocarpa</i>	55	70	4	15	Decurrent, natural form. Full crown. Adjacent to the bank.	Poor	Retain	3.30
ci2	Y	Black Cottonwood	<i>Populus trichocarpa</i>	48+2 0=68	70	3	15	Dual stem at base. Full crown. Adjacent to the bank.	Poor	Retain	4.08
ci3	Y	Poplar	<i>Populus alba</i>	34	50	2	13	Leaning south. Small hangers in the crown.	Poor	Retain	2.04
ci4	Y	Birch	<i>Betula papyrifera</i>	50	40	3	15	Decurrent, natural form. Full crown.	Moderate	Retain	3.00
ci5	Y	Douglas Fir	<i>Pseudotsuga menziesii</i>	76	70	5	2	Straight, single stem. Healthy foliage colour and density.	Good	Retain	4.56
ci6	Y	Black Cottonwood	<i>Populus trichocarpa</i>	40+4 0=80	70	2	15	Dual stem at base with included bark in the union. Blackberry growing into the lower crown.	Poor	Retain	4.80
ci7	N	Red Alder	<i>Alnus rubra</i>	30+2 3=53	70	2	15	Dual stem at base with included bark in the union. Blackberry growing into the lower crown.	Poor	Retain	3.18
ci8	Y	Western Red Cedar	<i>Thuja plicata</i>	42	100	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Retain	2.52
ci9	N	Western Red Cedar	<i>Thuja plicata</i>	50	100	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Retain	3.00

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci10	N	Red Alder	<i>Alnus rubra</i>	32	30	2	15	Decurrent, natural form. Blackberry growing into the lower crown.	Poor	Retain	1.92
ci11	N	Red Alder	<i>Alnus rubra</i>	25	30	2	15	Decurrent, natural form. Blackberry growing into the lower crown.	Poor	Retain	1.50
ci12	N	Red Alder	<i>Alnus rubra</i>	20	30	2	10	Decurrent, natural form. Decay at the base. Crown growing into the above powerline.	Poor	Remove	1.50
ci13	Y	Red Alder	<i>Alnus rubra</i>	10+3 0+15 =35	30	2	10	Multiple stems at base. Decay at the base. Crown growing into the above powerline.	Poor	Remove	2.10
ci14	Y	Red Alder	<i>Alnus rubra</i>	23	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci15	Y	Red Alder	<i>Alnus rubra</i>	25+2 5+15 =65	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	3.90
ci16	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.80
ci17	N	Red Alder	<i>Alnus rubra</i>	22+1 33	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	1.98
ci18	Y	Red Alder	<i>Alnus rubra</i>	8	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci19	Y	Red Alder	<i>Alnus rubra</i>	27	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.62
ci20	Y	Red Alder	<i>Alnus rubra</i>	32+4 0=72	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	4.32
ci21	Y	Red Alder	<i>Alnus rubra</i>	20	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci22	N	Red Alder	<i>Alnus rubra</i>	40	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	2.40
ci23	Y	Red Alder	<i>Alnus rubra</i>	25	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci24	Y	Red Alder	<i>Alnus rubra</i>	25	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci25	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.80
ci26	Y	Red Alder	<i>Alnus rubra</i>	40	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	2.40
ci27	Y	Red Alder	<i>Alnus rubra</i>	48	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	2.88

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci28	Y	Red Alder	<i>Alnus rubra</i>	100	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	6.00
ci29	Y	Red Alder	<i>Alnus rubra</i>	35+30=65	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	3.90
ci30	Y	Red Alder	<i>Alnus rubra</i>	30+30+35=95	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	5.70
ci31	Y	Red Alder	<i>Alnus rubra</i>	37	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.22
ci32	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.80
ci33	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.80
ci34	Y	Red Alder	<i>Alnus rubra</i>	34	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.04
ci35	Y	Red Alder	<i>Alnus rubra</i>	40	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.40
ci36	Y	Red Alder	<i>Alnus rubra</i>	33	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.98

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci37	Y	Red Alder	<i>Alnus rubra</i>	31+3 5=66	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Retain	3.96
ci38	Y	Red Alder	<i>Alnus rubra</i>	25+2 5=50	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Retain	3.00
ci39	Y	Red Alder	<i>Alnus rubra</i>	25	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.50
ci40	Y	Red Alder	<i>Alnus rubra</i>	33	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.98
ci41	Y	Red Alder	<i>Alnus rubra</i>	50	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	3.00
ci42	Y	Red Alder	<i>Alnus rubra</i>	37	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.22
ci43	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.80

IMAGES



IMAGE 1- Front yard of 17121 92 Ave, facing south



IMAGE 2- Backyard of 17121 92 Ave, facing east



IMAGE 3- Front yard of 17121 92 Ave, facing north



IMAGE 4- Front yard of 17077 92 Avenue, facing east



IMAGE 5- Front yard of 17077 92 Ave, facing south



IMAGE 6- West side of 9265 Bothwell Drive

Summary of Tree Preservation by Tree Species:

Tree Species	Existing	Remove	Retain
Alder and Cottonwood Trees			
Alder	50 & 2 Dead	49 & 2 Dead	1
Cottonwood	8 & 1 Dead	8 & 1 dead	0
Deciduous Trees (excluding Alder and Cottonwood Trees)			
Bigleaf Maple	16	15	1
Cherry	2	2	0
Japanese Maple	1	1	0
Birch	1 & 1 dead	1 & 1 dead	0
Apple	2	2	0
Coniferous Trees			
Western Red Cedar	82 & 3 dead	78 & 3 dead	4
Grand Fir	1	1	0
Amabilis Fir	1	1	0
Hemlock	4	4	0
Sitka Spruce	15	14	1
Douglas Fir	1	1	0
Total (excluding Alder and Cottonwood Trees)	126 & 4 Dead	120 & 4 dead	6
Total Replacement Trees Proposed (excluding Boulevard Street Trees)	54		
Total Retained and Replacement Trees	62		

Tree Preservation Summary

Surrey Project No:

Address: 17077, 17121 92 Avenue, Surrey

Registered Arborist: Woodridge Tree Consulting Arborists Ltd., Terry Thrale PN 6766A

On-Site Trees	Number of Trees	Off-Site Trees	Number of Trees
Protected Trees Identified *	184 & 7 dead	Protected Trees Identified	53
Protected Trees to be Removed	177 & 7 Dead	Protected Trees to be Removed	22
Protected Trees to be Retained (excluding trees within proposed open space or riparian areas)	7	Protected Trees to be Retained	31
Total Replacement Trees Required:		Total Replacement Trees Required:	
<ul style="list-style-type: none"> - Alder & Cottonwoods to be removed (1:1) 57 X one (1) = 57 - All other species to be removed (2:1) 120 X two (2) = 240 	297	<ul style="list-style-type: none"> - Alder & Cottonwoods to be removed (1:1) 22 X one (1) = 22 - All other species to be removed (2:1) 0 X two (2) = 0 	22
Replacement Trees Proposed	58	Replacement Trees Proposed	0
Replacement Trees in Deficit	239	Replacement Trees in Deficit	22
Protected Trees to be Retained in Proposed Open Space or Riparian Areas			

*on-site and shared trees, including trees within boulevards and proposed streets and lanes, but excluding trees in proposed open space or riparian areas

Summary, report and plan prepared and submitted by:



(Signature of Arborist)

October 1, 2024

Date

Limitations and Assumptions

- This report was prepared for and on behalf of the client and it is intended solely for their use. Woodridge Tree Consulting Arborists Ltd. shall not accept any liability derived from the partial, unintended, unauthorized or improper use of this report.
- This report is restricted to the subject trees as detailed in the report. No other trees were inspected or assessed as part of the work related to the preparation of this report.
- The accuracy and ownership of the locations of trees, property lines and other site features were not verified by Woodridge Tree. Third party information to the consultant may have been relied upon in the formation of the opinion of the consultant in the preparation of this report, and that information is assumed to be true and correct.
- The use of maps, sketches, photographs and diagrams are intended only as a reference for the reader's use in understanding the contents and findings of this report, and are not intended as a representation of fact.
- Approvals from a municipal or senior government agency may be required in relation to certain recommendations and treatments provided in this report. The owner is responsible to make an application for, pay related fees and meet all requirements and conditions for the issuance of such permits, approvals or authorizations.
- **The client must provide Woodridge Tree with a minimum of 3 business days prior to the request of required site supervision services.**

I certify to the best of my knowledge or belief that:

- staff from this firm have performed site inspections on the dates as stated herein.
- the findings are based on information known to the consultant at that time.
- the statements of fact determined by the consultant are true and correct.

If there are questions regarding the contents of this report please contact our office.

 Adrian Szabunio Diploma in Civil Engineering Technology ISA Certified Arborist ISA Tree Risk Assessment Qualified PR 5079 Woodridge Tree Consulting Arborists Ltd. adrian@woodridgetree.com	 Terry Thrale ISA Certified Arborist and Tree Risk Assessor PN 6766A Woodridge Tree Consulting Arborists Ltd. terry@woodridgetree.com
---	--



Tree Plan for Development at
17077, 17121 92 Ave
Surrey

Date: October 1, 2024

REGULATING ROAD DEDICATION AND CORNER LOTS:
ON LOTS FOR DRAINAGE.
ON LOTS FOR BUILDING SCHEME GUIDELINES.
ON LOTS FOR UTILITY AND SEWERAGE MAINTENANCE.
ON LOTS FOR ENGINEER FOUNDATIONS.



TECHNICAL PLAN FOR DETAILS

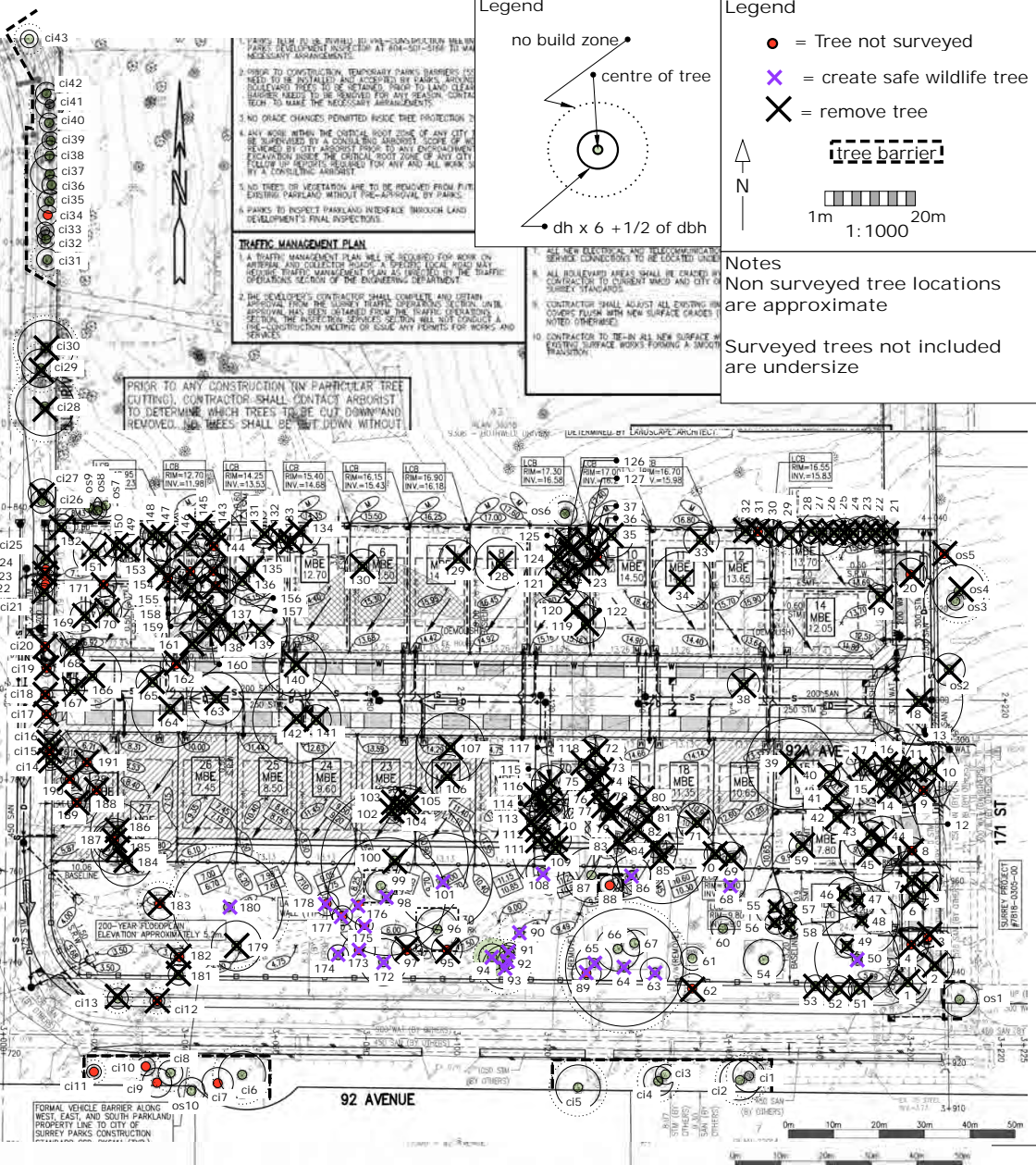
CITY OF SURREY TO
ADJUST EXISTING WATER
SERVICE CONNECTION AT
THE DEVELOPER'S COST

1.2m HIGH BLACK VINYL CHAIN
LINK FENCE SITUATED 0.1m WITHIN
PRIVATE PROPERTY LINE TO CITY
OF SURREY PARKS CONSTRUCTION
STANDARD SSD-FK6070.

92 AVE (UNCONSTRUCTED)

PLAN 1018B
SCALE = 1:600 STREET

PLAN 3078P
17040 - 92 AVENUE



REGULATING ROAD DEDICATION AND CORNER LOTS:
ON LOTS FOR DRAINAGE
ON LOTS FOR BUILDING SCHEME GUIDELINES
ON LOTS FOR UTILITY AND SEWERAGE MAINTENANCE
ON LOTS FOR ENGINEER FOUNDATIONS

1. PARKS TO PROTECT AND MAINTAIN EXISTING TREES AND TO PROTECT AND MAINTAIN EXISTING PARKS. DEVELOPMENT PROVISION AT RM-500-SH8 TO MAINTAIN EXISTING TREES AND TO PROTECT AND MAINTAIN EXISTING PARKS.

2. PRIOR TO CONSTRUCTION, TEMPORARY SAFETY BARRIERS (SS) NEED TO BE INSTALLED AND MONITORED BY PARKS. ARRIVING AT THE SITE, TREES TO BE CUT DOWN TO LAND CLEARING HEIGHTS NEED TO BE IDENTIFIED FOR APPROVAL BY CITY TECH TO MAKE THE NECESSARY ARRANGEMENTS.

3. NO GRADE CHANGES PERMITTED INSIDE TREE PROTECTION ZONE.

4. ANY WORK WITHIN THE CRITICAL ROOT ZONE OF ANY TREE OR SURROUNDED BY A CONTINUOUS SAFETY ZONE, SCOPE OF WORK REVEALED BY CITY ARBORIST PRIOR TO ANY CONSTRUCTION. LOCATION INSIDE THE CRITICAL ROOT ZONE OF ANY TREE TO FOLLOW BY ARBORIST REQUIRED FOR ANY AND ALL WORK BY CITY TECH TO MAKE THE NECESSARY ARRANGEMENTS.

5. NO TREES OR VEGETATION ARE TO BE REMOVED FROM EXISTING PARCEL AND WITHOUT THE APPROVAL OF PARKS.

6. PARKS TO RESPECT PARCEL AND INTERFACE THROUGH LAND DEVELOPMENT'S FINAL INSPECTIONS.

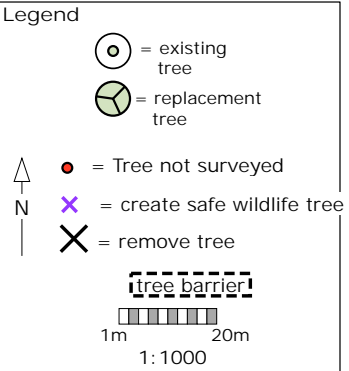
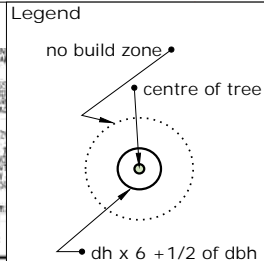
TRAFFIC MANAGEMENT PLAN

1. A TRAFFIC MANAGEMENT PLAN WILL BE REQUIRED FOR WORK ON ARTERIAL AND COLLECTOR ROADS. A LOCAL ROAD WILL REQUIRE TRAFFIC MANAGEMENT PLAN AS ISSUED BY THE TRAFFIC OPERATIONS SECTION OF THE ENGINEERING DEPARTMENT.

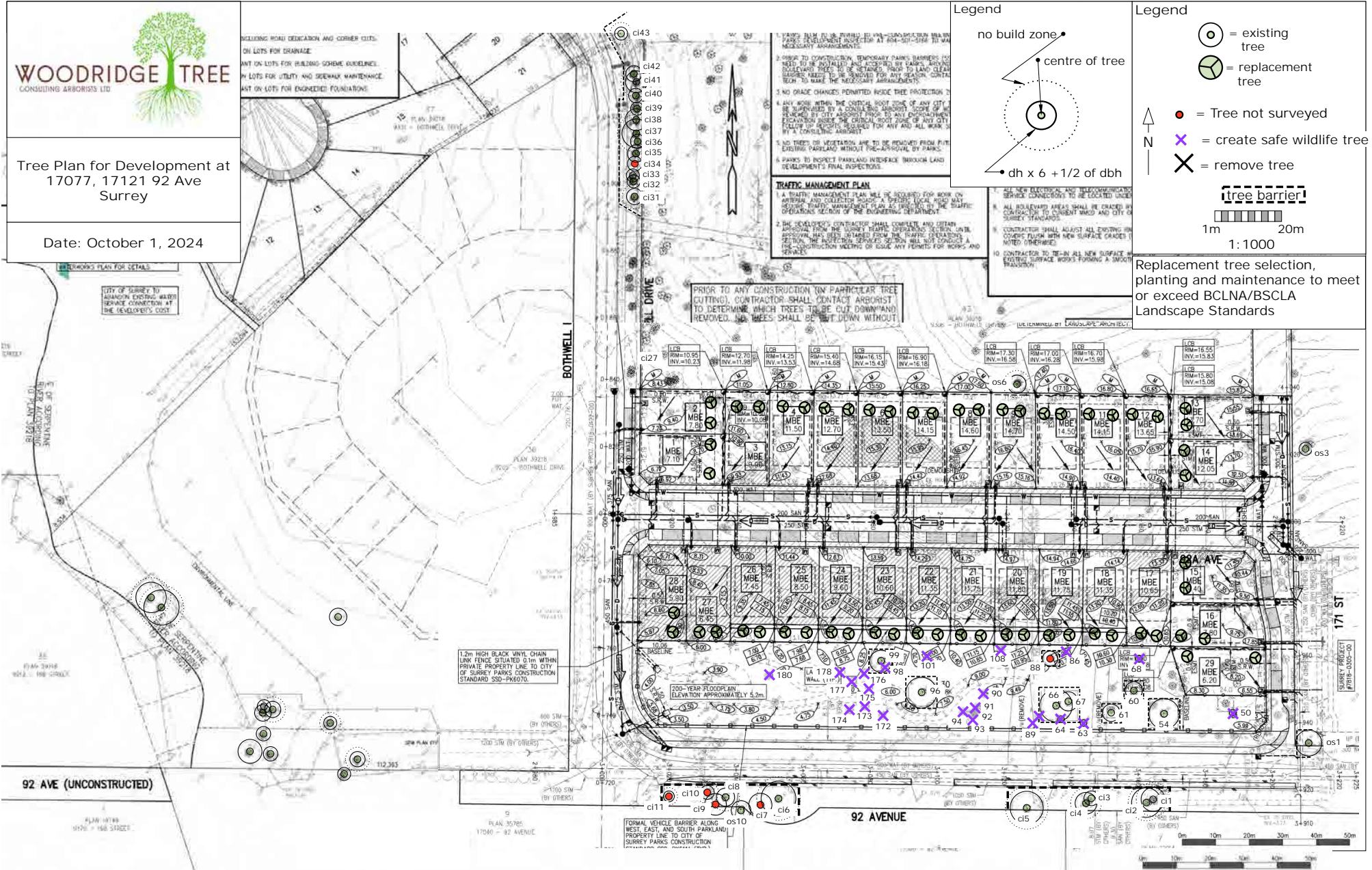
2. THE DEVELOPER'S CONTRACTOR SHALL COMPLETE AND OBTAIN APPROVAL FROM THE TRAFFIC OPERATIONS SECTION. APPROVAL HAS BEEN OBTAINED FROM THE TRAFFIC OPERATIONS SECTION AND THE DEVELOPER'S CONTRACTOR SHALL OBTAIN A TRAFFIC MANAGEMENT PLAN AS ISSUED BY THE TRAFFIC OPERATIONS SECTION OF THE ENGINEERING DEPARTMENT.

3. THE DEVELOPER'S CONTRACTOR SHALL COMPLETE AND OBTAIN APPROVAL FROM THE TRAFFIC OPERATIONS SECTION. APPROVAL HAS BEEN OBTAINED FROM THE TRAFFIC OPERATIONS SECTION AND THE DEVELOPER'S CONTRACTOR SHALL OBTAIN A TRAFFIC MANAGEMENT PLAN AS ISSUED BY THE TRAFFIC OPERATIONS SECTION OF THE ENGINEERING DEPARTMENT.

4. THE DEVELOPER'S CONTRACTOR SHALL COMPLETE AND OBTAIN APPROVAL FROM THE TRAFFIC OPERATIONS SECTION. APPROVAL HAS BEEN OBTAINED FROM THE TRAFFIC OPERATIONS SECTION AND THE DEVELOPER'S CONTRACTOR SHALL OBTAIN A TRAFFIC MANAGEMENT PLAN AS ISSUED BY THE TRAFFIC OPERATIONS SECTION OF THE ENGINEERING DEPARTMENT.



PRIOR TO ANY CONSTRUCTION (IN PARTICULAR TREE CUTTING), CONTRACTOR SHALL CONTACT ARBORIST TO DETERMINE WHICH TREES TO BE CUT DOWN AND REMOVED. NO TREES SHALL BE CUT DOWN WITHOUT APPROVAL FROM THE TRAFFIC OPERATIONS SECTION.



92 AVE (UNCONSTRUCTED)

92 AVENUE

FORMAL VEHICLE BARRIER ALONG WEST, EAST, AND SOUTH PARCEL PROPERTY LINE TO CITY OF SURREY PARKS CONSTRUCTION

Replacement tree selection, planting and maintenance to meet or exceed BCLNA/BSCLA Landscape Standards

ATTACHMENT G
Storm Flow Memorandum, Hub Engineering

October 3, 2024

Hub File: 22037-B1
 Surrey Project No: 7822-0231-00

Beech Westgard Developments Ltd.
 #201 – 15272 Croydon Drive
 Surrey, B.C., V3Z 0Z5

Attention: Jamie Ogden

Re: Pre and Post-Development Flows of Residential Subdivision at 9265 Bothwell Drive & 17077/17121 92 Avenue, Surrey B.C.

In response to the City's email of June 8, 2023 and to support the Ecosystem Development Plan (EDP), this memo outlines the 2-yr, 5-yr, and 100-yr flows into the proposed habitat at the south portion of the subject site along 92 Avenue.

According to the existing and proposed topography of the site, the habitat is analyzed in two halves as a ridgeline between proposed lots 9 & 10 and 19& 20 divides flows east and west. The attached sketch outlines four catchment areas; area contributing flows to the habitat under pre-development conditions (Area #1W and Area #1E) and under post-development conditions (Area #2W and Area #2E).

Time of concentration for the existing site condition is calculated using the Airport Method formula as follows and shown in the table below.

$$T_c = \frac{3.26(1.1 - C) * L^{0.5}}{S^{0.33}}$$

Where,

- T_c = Time of Concentration (min)
- C = Runoff Coefficient
- L = Travel Distance (m)
- S = Slope of Travel Path (%)

Time of Concentration

	West	East
Travel Distance (m)	153	139
Slope of Travel Path (%)	10.3	9.4
2-yr Time of Concentration (min)	15.9	15.6
5-yr Time of Concentration (min)	15.9	15.6
100-yr Time of Concentration (min)	14.9* (15)	14.7* (15)

*Time of Concentration calculated based on Airport Method is less than 15 minutes. 15min used instead to calculate peak flows.

Based on the defined catchment areas, runoff coefficients (Table 5.3.15) and IDF Data for Kwantlen Park (Table 5.3.1) in the City of Surrey Engineering Design Criteria Manual, pre-development and post-development peak flows are calculated using the Rational Method and summarized in the tables below.

Habitat - West

	Pre-development	Post-development
Catchment area (m ²)	8896	3393
Runoff Coefficient (2 & 5-yr)	0.25	0.70
Runoff Coefficient (100-yr)	0.30	0.84
Time of Concentration (2 & 5-yr) (min)	15.9	15
Time of Concentration (100-yr) (min)	15	15
2-yr Flow Rate (m ³ /s)	0.015	0.017
5-yr Flow Rate (m ³ /s)	0.021	0.023
100-yr Flow Rate (m ³ /s)	0.047	0.050

*Time of concentration for 2 & 5-yr calculated using the Airport Method

Habitat - East

	Pre-development	Post-development
Catchment area (m ²)	4762	1464
Runoff Coefficient (2 & 5-yr)	0.25	0.70
Runoff Coefficient (100-yr)	0.30	0.84
Time of Concentration (2 & 5-yr) (min)	15.6	15
Time of Concentration (100-yr) (min)	15	15
2-yr Flow Rate (m ³ /s)	0.008	0.007
5-yr Flow Rate (m ³ /s)	0.012	0.010
100-yr Flow Rate (m ³ /s)	0.025	0.022

*Time of concentration for 2 & 5-yr calculated using the Airport Method

Total flows entering the habitat area are summarized in the table shown below which combines the east and west sections. It is noted under pre and post-development conditions the peak flows are similar.

Habitat - Total

	Pre-development	Post-development
Catchment area (m ²)	13658	4857
2-yr Flow Rate (m ³ /s)	0.023	0.024
5-yr Flow Rate (m ³ /s)	0.033	0.034
100-yr Flow Rate (m ³ /s)	0.072	0.072

It is understood the City of Surrey is requesting baseflows to the habitat along 92 Avenue. Based on the winter baseflow unit rate of 0.69 L/s/Ha as provided in the Anniedale-Tynehead Neighbourhood Concept Plan Amendment Stormwater Management Plan – West of 176 Street prepared by Aplin Marin dated November 11, 2021, a baseflow of 0.0006 m³/s is required to maintain base flows into the habitat area.

We trust the above is the information required by the City. Please contact the undersigned if you have any questions.

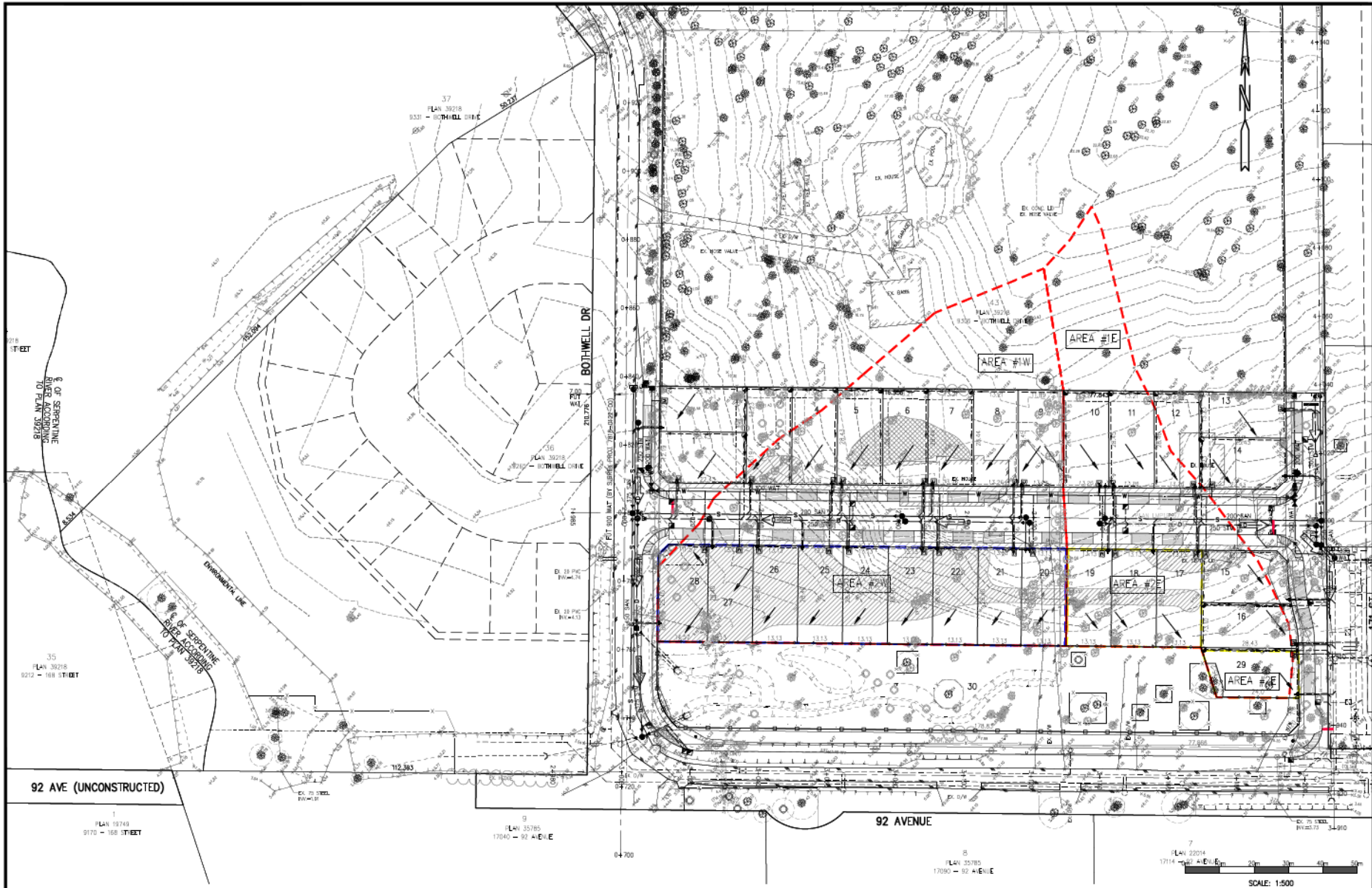
Yours truly,

Hub Engineering Inc.



Enya Yu, EIT
Design Engineer

Mike G. Kompter, P.Eng.
Principal



LOCAL DESCRIPTION: LOT 30, SEC 31 TP 8 N RD PLAN 39218 & LOTS 1 & 2 SEC 31 TP 8 N RD PLAN LRP19397

SURVEY BENCHMARK: MON. BENCH - LOC 98 - AVE E & 168 STREET

SCALE FACTOR: 1:12.327m (0.011E)

NO.	DATE	DESCRIPTION	BY

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION

CONSULTANT
Hub Engineering Inc.
 Engineering and Development Consultants
 EGBC (Permit to Practice Number: 1003404)

Suite 212, 12992, 76 Avenue, Surrey & C. V3W 2V6
 Tel: 604-572-4328 | Fax: 604-501-1625 | mail@hub-inc.com
 www.hub-inc.com



CLIENT
BEECH WESTGARD DEVELOPMENTS LTD.
 #201 - 15272 CROYDON DRIVE, SURREY, BC
 604-538-3525

TITLE
SKETCH
 9265 BOTHWELL DR & 17077/17121 92 AVE

SCALE: 1:500

SCALE: HOR. 1:500
 VERT. 1:100

DATE (YYYY-MM-DD)
 2022-06-30

CONSULTANT PROJ. NO.
 22037

DRAWN: AKG
 CHECKED: -/MOK

REV. 3

SURVEY PROJECT NUMBER
7822-0231-00

DRAWING TYPE
SKETCH

Oct 3, 2024

DESTROY ALL PRINTS BEARING PREVIOUS NUMBER

ATTACHMENT H
Fisheries and Oceans Canada Correspondence



Fisheries and Oceans
Canada

Pacific Region
Ecosystem Management Branch
200 – 401 Burrard Street
Vancouver, BC
V6C 3S4

Pêches et Océans
Canada

Région du Pacifique
Direction de la gestion des écosystèmes
Pièce 200 – 401 rue Burrard
Vancouver (C.-B.)
V6C 3S4

August 7, 2024

Our file *Notre référence*
24-HPAC-00207

Beech Westgard Developments Ltd.
ATTENTION: Jamie Ogden
#201 – 15272 Croydon Drive,
Surrey, British Columbia, V3Z 0Z5

Via email: jamie@beechwestgard.ca

Subject: Ditch Infill at 92 Avenue, Drainages to Serpentine River, Surrey – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat

Dear Jamie Ogden:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on March 1, 2024. We understand that you propose to infill two roadside drainages (East Bothwell Drive Ditch, North 92 Avenue Ditch), a swale and associated riparian habitat to enable widening of 92 Avenue and Bothwell Drive adjacent to 17077 and 17121 92 Avenue, Surrey.

The Program previously provided a letter of response dated May 2, 2024 that indicated the works, undertakings or activities associated with your proposal should be incorporated into the application for a *Fisheries Act* authorization that is in progress under DFO file 24-HPAC-00006. Following review of additional information provided on June 24, 2024 and July 9, 2024 the Program has prepared this letter of response. The previous letter of response is no longer applicable to your proposal.

Our review considered the following information:

- The Request for Review package prepared by Anastasia Lashkova (Envirowest), dated March 1, 2024;
- Additional property ownership information provided in email from Anastasia Lashkova, dated June 24, 2024; and
- Additional fish accessibility information provided in email from Ian Whyte (Envirowest), dated July 9, 2024.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*.

The aforementioned outcomes are prohibited unless authorized under their respective legislation and regulations.

Provided that your plans are implemented in the manner, and during the timeframe, described in the Request for Review package, and you incorporate all applicable mitigation measures including those outlined in Standards and Codes of Practices relevant to your project, available on the Projects Near Water website located at <https://www.dfo-mpo.gc.ca/pnw-ppe/practice-pratique-eng.html> into your plans, the Program is of the view that your proposal is not likely to result in the contravention of the above mentioned prohibitions and requirements.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, the *Species at Risk Act* and the *Aquatic Invasive Species Regulations*.

It is also your Duty to Notify DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to the DFO-Pacific Observe, Record and Report phone line at 1-800-465-4336 or by email at DFO.ORR-ONS.MPO@dfo-mpo.gc.ca.

Please notify the Program by email at (Cheryl.Kee@dfo-mpo.gc.ca) at least 10 days before starting your project, ensuring your file number and appropriate on-site contact information is included. We recommend that a copy of this letter be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

Please note that the advice provided in this letter will remain valid for a period of 1 year from the date of issuance. If you plan to execute your proposal after the expiry of this letter, we recommend that you contact the Program to ensure that the advice remains up-to-date and accurate. Furthermore, the validity of the advice is also subject to there being no change in the relevant aquatic environment, including any legal protection orders or designations, during the 1 year period.

If you have any questions with the content of this letter, please contact Cheryl Kee at our Vancouver office at (778) 838-5515 or by email at Cheryl.Kee@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Arainn McKenzie
Senior Biologist, Lower Mainland Watershed Operations
Fish and Fish Habitat Protection Program

c.c.: Anastasia Lashkova, lashkova@envirowest.ca, Envirowest
Ian Whyte, whyte@envirowest.ca, Envirowest

ATTACHMENT I
Development Drawing Set, Hub Engineering

CLIENT : BEECH WESTGARD DEVELOPMENTS LTD.
 #201 – 15272 CROYDON DRIVE, SURREY, BC
 604-538-3525

PROJECT : RESIDENTIAL SUBDIVISION
 17077 & 17121 92 AVE
 SURREY, B.C.

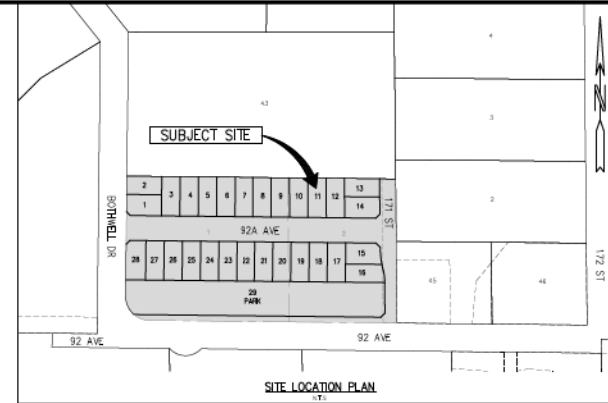
LEGAL DESCRIPTION : LOT 36 SEC 31 TP 8 NWD PLAN
 39218 & LOTS 1 & 2 SEC 31
 TP 8 NWD PLAN LMP19397

Hub Engineering Inc.

Engineering and Development Consultants

EGBC Permit to Practice Number: 1003404

Suite 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6
 tel: 604-572-4328 | fax: 604-501-1625 | mail@hub-inc.com
 www.hub-inc.com



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ROADWORKS – 92A AVENUE	5
ROADWORKS – 92 AVENUE	6
ROADWORKS – 171 STREET	7
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Hub No. 22037
Mun. No. 7822-0231-00
Sheet No. 1

CONSULTANT	DATE (YYYYMMDD)	2022-06-30
	FORWARD PROJECT NO.	22037
PROJECT NUMBER	7822-0231-00	7822-0231-00
	REVISED BY	ET
DRAWN	MHW	MHW
	REVISIONS	JB/AJCK
TITLE		1
BEECH WESTGARD DEVELOPMENTS LTD.		
#201 – 15272 CROYDON DRIVE, SURREY, BC		
604-538-3525		
CITY OF SURREY		
Hub Engineering Inc.		
Engineering and Development Consultants		
EGBC Permit to Practice Number: 1003404		
Suite 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6		
tel: 604-572-4328 fax: 604-501-1625 mail@hub-inc.com		
www.hub-inc.com		

CITY OF SURREY NOTES

- A. CITY GENERAL NOTES**
- Construction is to be in accordance with the Subdivider and Development Bylaws, 1988, No. 8830, as amended, Highway and Traffic Bylaws, 1997, No. 15007, as amended, Zoning Bylaws of the City of Surrey Design Criteria Manual, the Supplementary Specifications, the Supplementary Standard Drawings and the Master Municipal Construction Documents (MMCD).
 - Traffic control is the responsibility of the Subdivider and the Developer's contractor, and both shall comply with the instructions outlined in the City Road and Right-of-Way Permit and Traffic Control Permit.
 - The Developer and the Developer's contractor shall be responsible for obtaining all City permits for work within the City road allowances and statutory rights of way.
 - Surrey's EA requirements are to be protected and should they require raising or relocating, the Developer will notify the City Inspector at least three working days in advance of scheduling work.
 - (1) Lowers the grade of the road at the location of an EA monument(s).
 - (2) Raises the grade of the road at the location of an EA monument(s), or
 - (3) Installs any additional markers within 1.5 metre radius of the EA monument(s).

The City will invoice the Developer a non-refundable fee for the EA monument(s) distributed.
 - All street, traffic, advisory signs, pavement markings and re-post guardrails required but not necessarily shown in the drawings, shall be installed at the Developer's cost.
 - All temporary signs, including site signs and site bars, required to maintain safe vehicular and pedestrian access are the responsibility of the Developer to install and maintain.
 - Residents and businesses affected by construction of this project must be provided written notice of the proposed start of construction within 2-10 business days.
 - The Developer shall obtain written authorization from a private property owner, with a copy to the City, prior to any work on private property. A copy of a signed letter of release shall be provided to the City indicating the private property has been restored to the owner's satisfaction.
 - The Developer shall facilitate and supply all necessary safety equipment as required by the City and Workers Compensation Act & OHS Regulations for the City to inspect the proposed work and services.
 - The Developer shall confirm that the works and services are not in conflict with existing underground utilities and above ground infrastructure prior to construction and shall notify the Engineer of record of any conflicts.
 - The Developer shall abide by the Drainage and Sediment Control Bylaws, No. 16135, as amended.
 - The Developer shall abide by the Surrey Tree Protection Bylaws, No. 26006, as amended.

- B. CITY ROAD WORK NOTES**
- The Developer shall employ a Professional Engineer with experience in Geotechnical Engineering for performance of in-place testing during the preparation of the sub-grade and construction of the proposed road structure to verify the existing support, road structure and sub-grade is adequate to be built upon.
 - Existing City and external Utility Company infrastructure (i.e. utility boxes, manholes, kiosks, etc.) must be adjusted to suit the proposed finished grade.
 - All uncompacted, organic and/or otherwise deleterious materials are to be excavated and removed from the roadway and utility trenches in the roadway as per the Geotechnical Engineer's report as directed by the City.

- C. CITY SANITARY SEWER AND STORM SEWER NOTES**
- All sanitary sewer service connections are to be a minimum 100 mm diameter, and all storm sewer service connections are to be a minimum 150 mm diameter.

- D. CITY WATER WORKS NOTES**
- All new water mains, at 300 mm depths, are to be capped 2.0 m from the existing water main. The proposed water main is to be set on the line and grade to meet the existing water main. The Developer is to verify that there are no conflicts by exposing the zone between the proposed and existing main.
 - Pre-pressure testing and flushing shall be performed by the Developer. Plans to existing water mains and final testing and observation of new mains to be performed by the City at the Developer's cost.
 - All Residential domestic service connections will be 18 mm diameter unless otherwise specified.
 - Where 100 mm diameter pipe is used, it will be Ductile Iron (D1).

- E. CITY STREET LIGHT NOTES**
- All luminaires shall have 7-pin receptacles and be approved per the Approved Materials List in the Supplementary Master Municipal Construction Documents.
 - All street light poles and service boxes are to be hot-dipped galvanized and powder coated color RAL 7002 grey unless noted otherwise.
 - See BC Hydro regulations for service connection details. The Developer is to arrange for all required service location(s) with BC Hydro prior to commencing construction.
 - It is the responsibility of the Developer to confirm the adequacy of the existing street light service, service boxes, conductors and conductors and make all necessary repairs to adequately complete all connections into the existing street light system.
 - The Developer is to install pole identification numbers as per Surrey standards as shown on the drawings.
 - The Developer to ensure that all street light poles are a minimum 3.0m clear of all B.C. Hydro poles and overhead primary wires and 1.0m clear of all overhead secondary wires prior to installing bases.
 - All street lights are to be minimum 3.0m clear of all driveways.
 - Conductors inside street light poles shall be:
 - No.12 RW90 3-Phase (3C)
 - No.12 RW90 Ground (1C)

PARK/CITY TREE NOTES

- Parks to be retained to pre-construction meeting, contact parks development Inspector at PARKS@cityofsurrey.ca to make the necessary arrangements.
- No weeping, city trees or parts of trees are to be removed from lanes or existing city lots without pre-approval by Parks - City trees are protected regardless of their location.
- Encore all city trees that are near the project site are requested during construction to storage of equipment, loading, materials, fuel, vehicles etc. are permitted within the curbed zone of a city tree (3.0m minimum setback required).
- Separation by a curbing barrier will be required during any activities in proximity of the T12 of any protected trees. Follow an approved layout as set required for any proposed activities are to be set to suit and layout Engineers for review and approval. Curbing barriers are coordinated with current engineering drawings including T12's.
- Parks to inspect parkland and/or city trees in conjunction with final development's final inspection.
- Encore subject reports are coordinated with Engineering (Plan, Parks) requirements including tree retention/removed plan in any Plan for alternative purposes.
- Any tree canopy pruning required in order to retain trees to open sightlines, provide clearance, to enhance or improve removal of hazardous limbs etc. will be done at the Developer's expense and conducted by a certified ISA arborist. Please contact Surrey Parks if a list of Surrey approved tree pruning contractors is required.
- The applicant should seek to maintain the number of boulevard trees that can be retained on the site boulevard by designing driveway lot shares, parking spaces, driveways, and other boulevard infrastructure and confirm in a written report that supports the goal of retaining trees per the City's goal for T12 trees. Please contact Surrey Parks if a list of T12 recommended distances from utilities.
- Consult Parks at Parks@cityofsurrey.ca to discuss any issues, concerns, or conflicts with city trees.
- Contact Trees and Landscape section @ 604-591-6675 to discuss any issues, permit requirements, concerns, or conflicts that may impact private trees.
- Prior to construction, Tree Protection Forms (TSP-005/2020) to be submitted and accepted by Parks around all boulevard and park trees to be retained. If the location of the trees is not shown on the drawings, please contact Surrey Parks at Parks@cityofsurrey.ca for final inspection prior to removal of trees.

- STORM SEWER NOTES**
- Storm sewer pipe shall conform to specs. detailed in the Master Municipal Construction Documents (MMCD) applicable at time of construction. Where pipe is installed in gravel it shall meet Surrey Spec for 75mm and 100mm concrete pipe shall be ASTM C-74 Class II reinforced or ASTM C-78 Class II reinforced for sizes 40 to 100 and include 15mm diameter. For sizes larger than 100mm concrete pipe shall be ASTM C-78 Class II reinforced. P.V.C. pipe & manholes are 300mm diameter may be used & shall have min. S.D.R. 24 for services and S.D.R. 35 for main lines when tested in accordance with ASTM D3242. Pipe joints shall be 100% gasketed. All storm sewer pipe with less than 0.3m cover shall be installed in accordance with ASTM 2412. P.V.C. pipe shall be double jacketed. All storm sewer pipe with less than 0.3m cover shall be installed in accordance with ASTM C-78-74 Class II and all pipe with less than 0.45m cover to finished grade shall be reinforced concrete ASTM C-78-74 Class II.
 - Unless otherwise noted, a construction (C) leads to be 200mm dia. for single and 300mm dia. for double curb lanes.
 - Where storm services are to be installed in same trench as water and/or services which are to be installed by City of Surrey, Contractor shall coordinate installation of these services in consultation with conditions of water and/or services by City of Surrey forces.

- SANITARY SEWER NOTES**
- Sanitary sewer pipe to conform with specifications detailed in the Master Municipal Construction Documents (MMCD) applicable at the time of construction.
 - The contractor shall install and secure a red painted cap at the end of the sanitary connection into or private property.
 - The contractor shall paint a red strip around the top area of the sanitary inspection chamber inner pipe.

- WATERWORKS NOTES**
- Prior to any construction, existing watermains at 300 mm depths to be exposed by Developer's Contractor who shall verify dimensions and location and in event of any discrepancies shall notify the Engineer. Any changes required must be approved by the Municipality.
 - Materials shall have 3.0m offset from property line unless otherwise noted or specified in Surrey specifications. Large the contractor and in event of any discrepancies shall notify the Engineer. Any changes required must be approved by the Municipality.
 - Minimum cover over watermain to be 1.0 metre unless concrete surround used.
 - Drastic bus (D1) watermain shall be AMCA C101, Pressure Class 350, cement mortar lined to AMCA C104. Polypropylene (P.V.C.) watermain can only be used with written permission from the City of Surrey and B.C. Engineering, and shall meet AMCA Spec 3000 (2005).
 - All fittings shall be ductile iron type joint with closed lips unless noted otherwise.
 - Catch traps to be fitted with 100mm telescopic service boxes or approved.
 - Minimum grade on watermain to be 0.1%.
 - Pipe joints shall not be deflected more than the following amounts, which correspond to half the manufacturer's recommended maximum deflection:

PIPE MATERIAL	PIPE SIZE(mm)	MAX. DEFLECTION
PVC	100-250	1.5' (2.6%)
	300	1.25' (2.1%)
Ductile Iron	100-300	2.5' (4.3%)
	350-400	2.0' (3.5%)
	500-900	1.5' (2.6%)
 - All deflections shown above require appropriate check restraint.

ENGINEER'S CERTIFICATION

I, Mike G. Knapton, Professional Engineer, in good standing in and for the Province of British Columbia, hereby certify that the works herein set out on the attached drawings have been designed to good engineering standards and in accordance with the latest edition of the City of Surrey Design Criteria Manual, the Supplementary Specifications, the Supplementary Standard Drawings and the Master Municipal Construction Documents (MMCD).

Except(s) to the City Design Criteria Manual and Specifications:

SANITARY MAIN EXCEEDS DEPTH OF 3.0m (MAX. DEPTH OF 4.5m AT 50% ALONG R24 AVENUE AND 4.0m AT THE 4. POINT ON T12 STREET)

STORM SEWER EXCEEDS DEPTH OF 3.0m (MAX. DEPTH OF 4.0m AT 50% ALONG R24 AVENUE AND 3.5m AT THE 4. POINT ON T12 STREET)

WATERMAIN SIZE ALONG BORNHILL DRIVE AND T12 STREET EXCEEDS FROM HCP PER CITY SPEC

DATE: Oct 3, 2024

DATE: _____ SIGNATURE: _____

The Engineer/Contractor acknowledges the receipt of the attached plans which may proceed to construction provided appropriate working agreement and 10-15-day requirements are processed to the satisfaction of the General Manager, Engineering.

DATE: _____ SIGNATURE: _____

CONSULTANT SUPPLEMENTARY NOTES

- GENERAL NOTES**
- All elevations are spot elevations and are referred to Surrey Monument No. 382690, Elevation 12.325m located at 86 AVENUE & 168 STREET. Surrey's survey monuments and boundary locations are to be protected and should they require to be removed or relocated, the Developer's Contractor shall notify Surrey's Survey Department at least 72 hours in advance of scheduling work affecting them.
 - All existing pavement, boulevard, driveways, etc. which are disturbed during construction shall be shaped across width of boulevard to form smooth concrete or asphalt pavement. Pavement pavement surfaces over 100mm excavation shall blend in smoothly with existing pavement.
 - Driveway boulevard crossing location to be determined by the H&M prior to construction of sidewalk and boulevard. In roads where kerbside curb is used, driveway shall be located prior to construction of curb.
 - Fixed dimensions shall govern over scaled dimensions.
 - Service connections shall be installed in accordance with Surrey Standard Drawing No. SS2-021 unless otherwise noted.
 - Sanitary line services shall be maintained operational during construction.
 - Upon completion, Contractor shall provide as-built survey certified by a BCLS, P.E. or A.S.I. as per H&M standard.

- ROAD WORK NOTES**
- Changes of grade and alignment shall be formed by smooth curves.
 - All subgrade and granular base materials to be compacted to 95% modified proctor maximum dry density.
 - Arrows on pavement indicate direction of drainage.
 - Positive grade indicates rise in the direction of increasing drainage.
 - Asphalt pavement shall be laid to 2 lifts, second lift shall be 30mm thick and shall otherwise required by Surrey Municipality, shall be performed later by others.
 - Curb returns shall have min. 10m radius unless otherwise noted.
- The conditions for placing asphalt pavement and P.C. concrete shall conform with specifications in Surrey Municipal Construction Documents (MMCD) applicable at the time of construction. Should distances be allowed from these specifications, the contractor is to assume all responsibility for these products.

- INDIVIDUAL LOT GRAVEL DRIVEWAY ACCESS PAD**
- N.T.S.
-

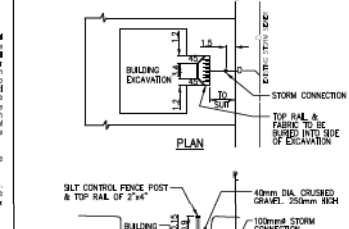
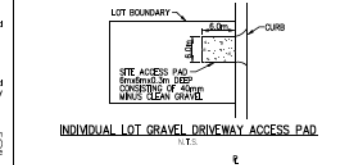
- INDIVIDUAL LOT SILT CONTROL FOR BUILDING EXCAVATIONS**
- N.T.S.
-

WORK AROUND TREES

- The Contractor shall not perform any excavation near any tree without first determining whether the excavation will have an impact on the trees. If unsure, the Contractor shall retain an arborist to determine impact.
- Should the Contractor need to excavate near any trees or encounter tree roots, the Contractor shall retain and pay for an arborist to review the excavation and shall determine the necessary action (i.e. use cut tree roots, planting, hand excavation, etc.).
- The Contractor shall have the arborist provide a written sign off that the work is to be done and that any trees are protected to the satisfaction of the arborist.
- Where tree protection barriers are required, the Contractor shall install wood frame and show fencing around the tree to the extent of the tree drip line, roots or otherwise directed by the arborist.

DRIVEWAY NOTES

- Contractor and/or Builder to maintain 1.0 metre clearance from street lighting, powerlines and hydrants for all driveway installations.
- The Contractor and/or Builder shall provide a concrete box with steel lid suitable for H2O loading (or equivalent) for protection of such services where a driveway is located over a curbside or Street Inspection Chamber or Storm Valve.



EROSION & SEDIMENT CONTROL

- The contractor shall ensure that:
 - All soil is undisturbed and completed in such a manner as to prevent the release of sediment into any water course or storm sewer system and comply with the City of Surrey's ESC By-Law.
 - The builder will construct a sediment control system per detail prior to commencing the storm connection or allowing any materials to discharge from the lot.
 - All construction and excavation activities, including soil or other substances discharged to adjacent lots shall be disposed of in such a manner as to prevent their entry into any watercourses, rivers or storm sewer disposal system.
 - B.C. Ministry of Environment Water Wastewater, 10334 - 1524 St. Surrey, B.C. Telephone 604-585-5500, shall be contacted a minimum of 5 working days prior to the start of any work at any detention pond or in any creek channel.
 - All work within the wetted perimeter and distance to the streambed and banks shall be undertaken and completed during the period between August 1 to September 15 of any given year. A Stream Flow shall be indicated from all work with the wetted perimeter of the stream in a manner satisfactory to the Federal and Provincial Fisheries authorities.
- 50% fines to be "banned" off fence post or equivalent as specified and approved by the regulator. Fines to have maximum clear water flow rate of 0.0025 cm/s/m (0.10 cm/s/ft). Fines to be installed at 150mm o/c to 100mm dia. spaced posts spaced at 1m o/c. Bottom of fines to be anchored as per detail.
- The Contractor to install and maintain the sediment and erosion control system in the development in order to prevent silt discharges to the storm drainage system and watercourses.

GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	EDGE OF PAVEMENT
---	---	CURB & GUTTER
---	---	BENCH MARK - GEODESIC DATUM
---	---	TEMPORARY BENCH MARK - GEODESIC DATUM
---	---	SANITARY SERVICE
---	---	SANITARY CONNECTION & INSPECTION CHAMBER
---	---	STORM SERVICE
---	---	STORM CONNECTION & INSPECTION CHAMBER
---	---	STORM SERVICE
---	---	FRENCH DRAIN
---	---	SMALLE
---	---	OTTH
---	---	SIDEWALK (ASPHALT)
---	---	SIDEWALK (CONCRETE)
---	---	WATERMAIN
---	---	WATER SERVICE CONNECTION
---	---	HYDRANT AND VALVE ASSEMBLY
---	---	CAFFED BID
---	---	WATER VALVE
---	---	AIR VALVE
---	---	WATER METER
---	---	BLOW-OFF
---	---	UNDERGROUND TELEPHONE & MANHOLE
---	---	UNDERGROUND ELECTRICAL & MANHOLE
---	---	GAS MAIN
---	---	THREE SIGNAL & STREET LIGHT U/G DUCTS
---	---	CATCH BASIN - TOP INLET & SIDE INLET
---	---	LAWN DRAIN
---	---	JUNCTION BOX
---	---	ORNAMENTAL STREET LIGHT - DAWN
---	---	ORNAMENTAL STREET LIGHT - POST TOP
---	---	UTILITY POLE
---	---	UTILITY POLE W/HAUT
---	---	UNDERGROUND HYDRO/TEL SERVICE
---	---	SILTATION CONTROL FACILITY

PROTECTION OF FISH HABITAT

- All work to be undertaken in accordance with section 32(2) of the Fisheries Act and completed in such a manner as to prevent release of silt-fallen water into any fish, watercourse or storm sewer. A sediment control facility acceptable to the B.C. Ministry of Environment shall be developed and implemented prior to site preparation and construction. This facility shall be maintained regularly by a designated responsible member of the contractor's forces to ensure that it is working satisfactorily at all times including weekends and holidays and shall be properly maintained to ensure it operates satisfactorily throughout the development process.
- Major land clearing operations or disruption of natural vegetation or soil near any flowing creek system shall not be undertaken during the wet season from November 15th to April 15th of any calendar year.
- No machinery work, placement of fill or any other disruptive activity is to take place in any creek corridor, i.e. within 12 metres of the corridor of any creek, or within 5 metres of the top of any creek bank covered by a construction corridor.
- All work in drainage right-of-ways and all diversion basins shall be established as soon as possible by installing or working or both other suitable surface treatment to be called for in this contract, to prevent release of silt.
- All construction and excavation works, overburden, soil or other substances discharged to adjacent lots shall be disposed of in such a manner as to prevent their entry into any watercourses, rivers or storm sewer disposal system.
- B.C. Ministry of Environment Water Wastewater, 10334 - 1524 St. Surrey, B.C. Telephone 604-585-5500, shall be contacted a minimum of 5 working days prior to the start of any work at any detention pond or in any creek channel.
- All work within the wetted perimeter and distance to the streambed and banks shall be undertaken and completed during the period between August 1 to September 15 of any given year. A Stream Flow shall be indicated from all work with the wetted perimeter of the stream in a manner satisfactory to the Federal and Provincial Fisheries authorities.

LOCAL INSPECTION LIST NO. 882-91 (P) AND PLAN 8829-A
LITS 1 & 2 REC. 31 (P) AND PLAN 16193-07

NO.	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR R2-3	EV
2	SEP 19/24	ISSUED FOR R2-3	EV
3	JUL 03/24	ISSUED FOR R2-3	EV
4	MAY 07/24	ISSUED FOR TENDER	EV
5	MAY 02/24	ISSUED FOR R2-3	EV

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGC Parent/Proctor No. 1000404

2024-09-03

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION

CITY OF SURREY

Hub Engineering Inc.
Engineering and Development Consultants
EGC Parent/Proctor No. 1000404

2024-09-03

CLIENT

BEECH WESTGARD DEVELOPMENTS LTD.
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE

GENERAL NOTES AND LEGEND

2024-09-03

SCALE: H&M VERT.

DATE: 2022-08-30

CONSULTANT PROJ. NO.: 22037

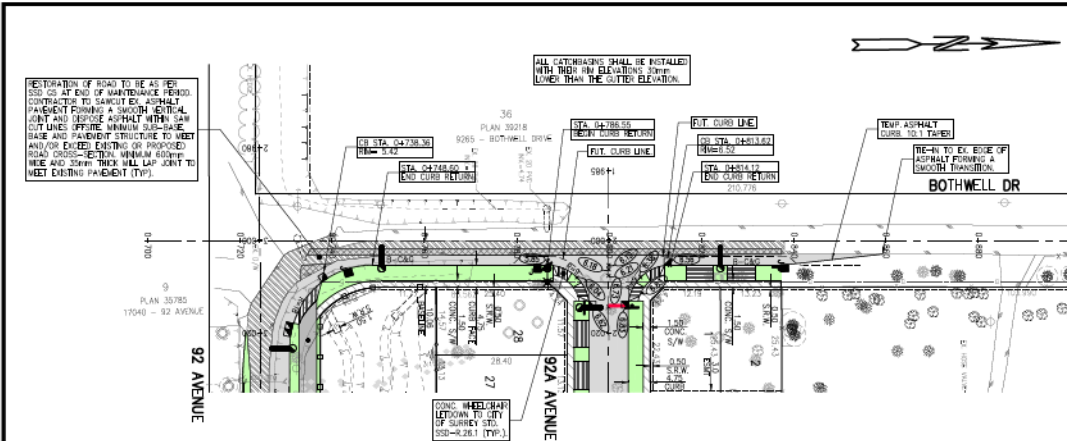
SURREY PROJECT NUMBER: 7822-0231-00

DRAWING TYPE

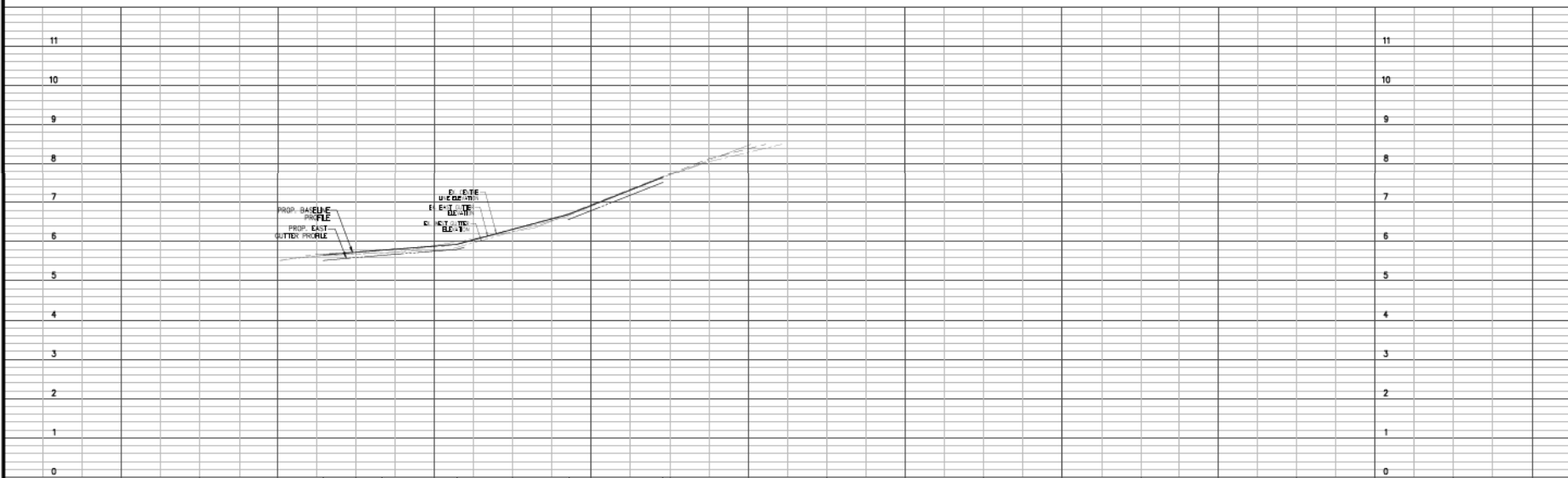
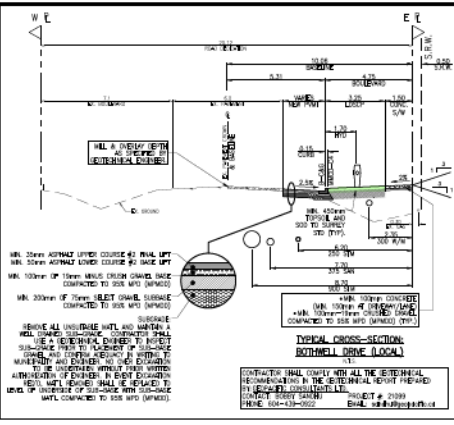
NOTES

2

2024-09-03



- LEGEND**
- NEW ASPHALT PAVEMENT AS PER (GEOTECHNICAL ENGINEER) RECOMMENDATIONS (BY DEVELOPER'S CONTRACTOR)
 - MILL AND REPAVE EXISTING PAVEMENT AS REQUIRED (BY DEVELOPER'S CONTRACTOR)
 - PAVEMENT RESTORATION TO CITY OF SURREY STD SSD-0.2 TO G5 (TYP)
 - MIN 450mm TOPSOIL AND 500 TO SURETY STD (TYP.)
 - REINSTATE RESTORED BOLLIVARD WITH MIN 450mm TOPSOIL AND 500 (TYP.)
 - EXISTING TREE TO BE REMOVED
 - EXISTING TREE TO BE RETAINED w/ TREE ZONE
 - TREE PROTECTION BARRIER FENCE



FINISHED LENGTH & GRADE AT BASELINE		18.09m @ 0.7%	19.12m @ 0.8%	28.63m @ 2.7%	23.91m @ 3.9%										
FINISHED PAVEMENT ELEV. AT BASELINE		5.66 5.52 E	5.76 5.60 E	7.80 7.64 E	7.64 7.48 E										
ORIGINAL GROUND ELEV. AT BASELINE		5.52 E	5.76 5.60 E	7.80 7.64 E	7.64 7.48 E										
CHAINAGE	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500

LEGAL DESCRIPTION: LOT 30 SEC 31 TP 8 R40 PLAN 30218 & LOTS 1 & 2 SEC 31 TP 8 R40 PLAN L416387

SURVEY BENCHMARK: MON 362850 LOC 98 AVENUE & 188 STREET SCALE FACTOR: 12.325mm (2025/12/21)

REV	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR PD-1	EV
2	SEP 13/24	ISSUED FOR PD-4	EV
3	JUL 03/24	ISSUED FOR PD-3	EV
4	MAY 07/24	ISSUED FOR TENDER	EV
5	MAY 07/24	ADD S.R.N. PER MUNICIPAL REQUIREMENTS	EV

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGRC Permit to Practice Number: 1003404

3416 212, 12999 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION



CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: **BOTHWELL DRIVE**
PLAN/PROFILE

SCALE: HORIZ. 1:500 VERT. 1:50

DATE: (YYYY-MM-DD) 2022-09-30

CONSULTANT PROJECT NO: 22037

DESIGNED: EY

DRAWN: AKG

REVIEWED: JB/MCK

DATE: 4

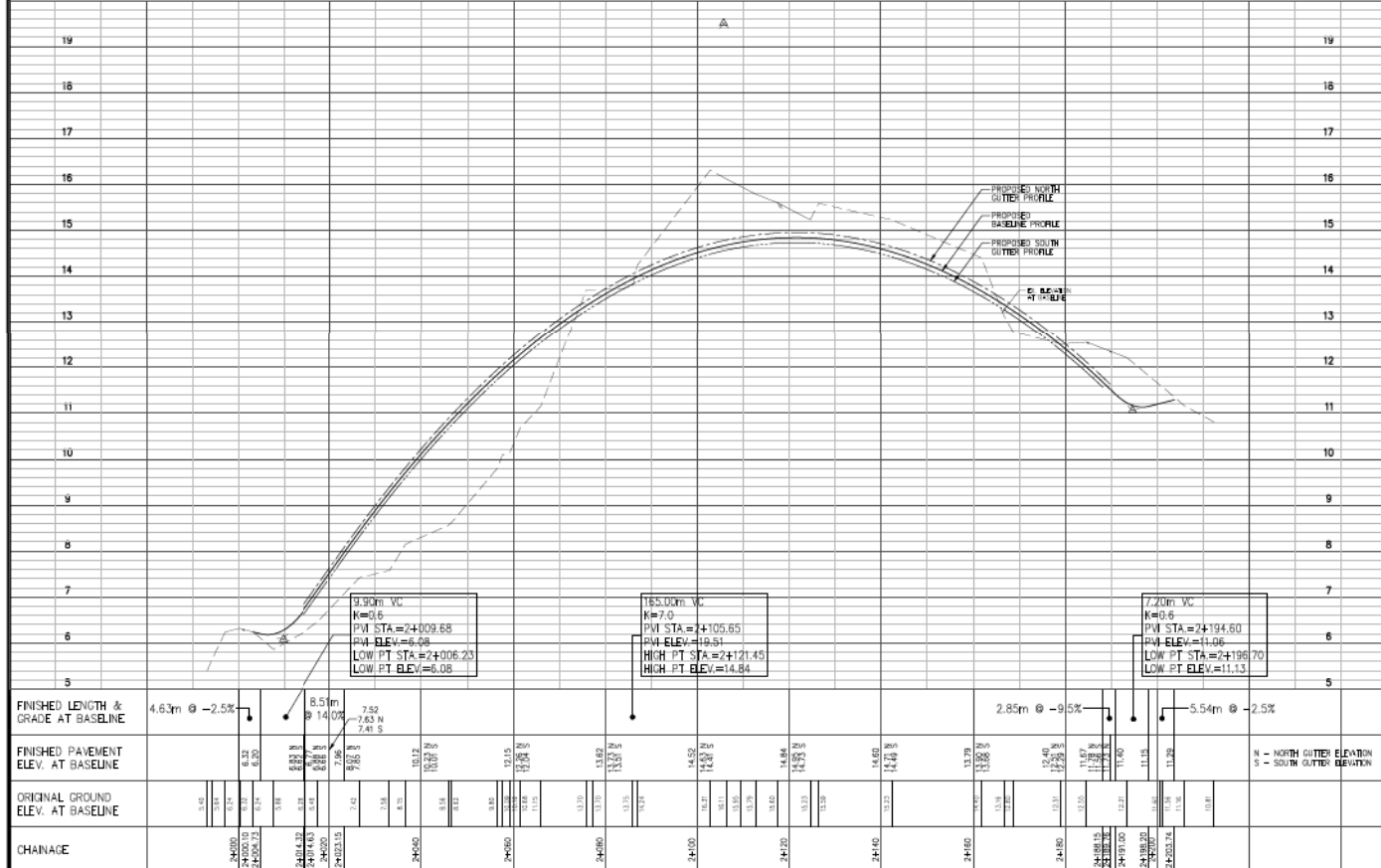
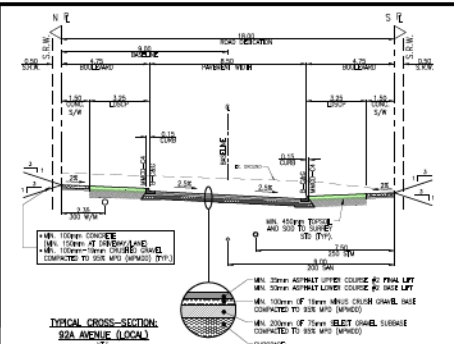
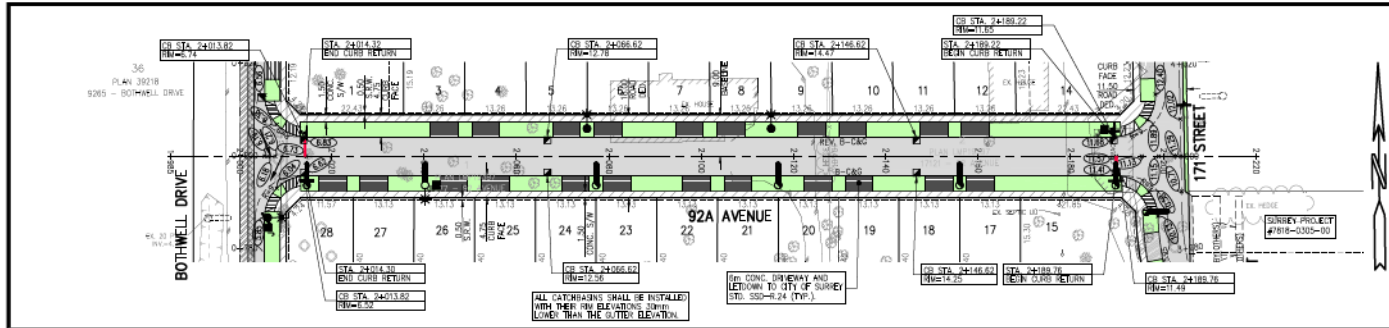
REV: 4

SURVEY PROJECT NUMBER: **7822-0231-00**

DRAWING TYPE: **ROADWORKS**

Oct 3, 2024

RESTRY ALL PRINTS BEARING PREVIOUS NUMBER ->



FINISHED LENGTH & GRADE AT BASELINE	4.63m @ -2.5%	8.5m @ 1.4%	7.52 @ 7.65 N	7.45 S	2.85m @ -9.5%	5.54m @ -2.5%
FINISHED PAVEMENT ELEV. AT BASELINE	6.32	6.30	6.88	7.06	10.17	10.24
ORIGINAL GROUND ELEV. AT BASELINE	5.42	5.74	6.32	6.88	10.17	10.24
CHAINAGE	24000.00	24000.75	24001.50	24002.25	24003.00	24003.75

CONTRACTOR SHALL CONSULT WITH ALL THE TECHNICAL RECOMMENDATIONS IN THE TECHNICAL REPORT PREPARED BY ENGINEER CONSULTANTS LTD. PROJECT # 21008 DATE: 05-15-2022

LEGEND

- NEW ASPHALT PAVEMENT AS PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS (BY DEVELOPER'S CONTRACTOR)
- MILL AND RETAIN EXISTING PAVEMENT AS REQUIRED (BY DEVELOPER'S CONTRACTOR)
- PAVEMENT RESTORATION TO CITY OF SURREY STD. S50-0.2 TO G.5 (TYP.)
- MIN. 45mm TOPSOIL AND SOD TO SURREY STD. (TYP.)
- REINSTATE DISTURBED BOLLIVARDS WITH MIN. 45mm TOPSOIL AND SOD (TYP.)
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE RETAINED w/ TREE ROOT ZONE
- TREE PROTECTION BARRIER FENCE

LEGAL DESCRIPTION: LOT 36 (SEC. 31 TP. 9 NWD PLAN 39278 & LOTS 1 & 2 (SEC. 31 TP. 9 NWD PLAN L491387)

SURVEY BENCHMARK: MON. 262550

SCALE FACTOR: 1:12.50mm (250:1)

REV.	DATE	ISSUED FOR	BY
-	SEP 20/24	ISSUED FOR PD-3	EY
-	SEP 13/24	ISSUED FOR PD-4	EY
-	JUL 03/24	ISSUED FOR PD-5	EY
-	MAY 07/24	ISSUED FOR REVISED	EY
-	MAY 02/24	ISSUED FOR PD-2	EY

FOR COORDINATION ONLY

Hub Engineering Inc.
Engineering and Development Consultants
EGC Permitto Fracture Number: 1003404

NOT FOR CONSTRUCTION

Suite 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com

CONSULTANT: **CITY OF SURREY**

CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **92A AVENUE
PLAN/PROFILE**

DATE: **Oct 3, 2024**

SCALE: HORIZ. 1:500
VERT. 1:50

DATE (YYYY.MM.DD): 2022-09-30

CONSULTANT PROJECT NO.: 22037

DESIGNED: EY

DRAWN: ANG

REVIEWED: JB/MCK

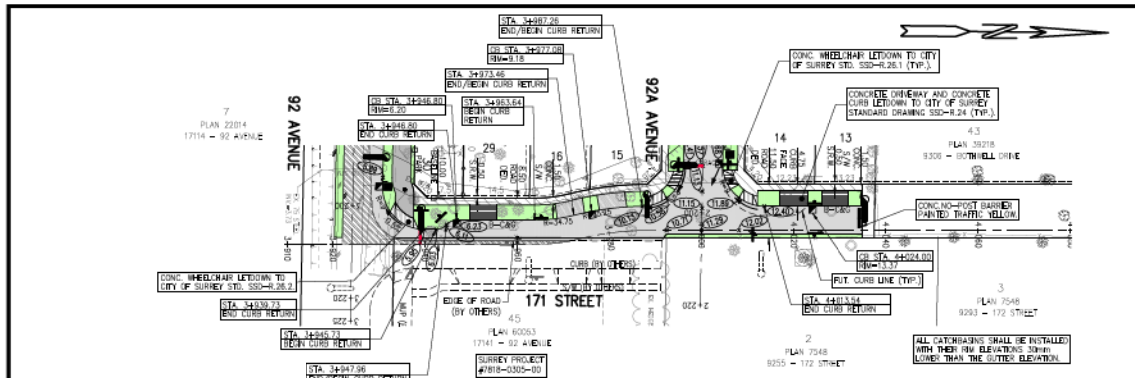
DWG. NO.: 5

REV. 1

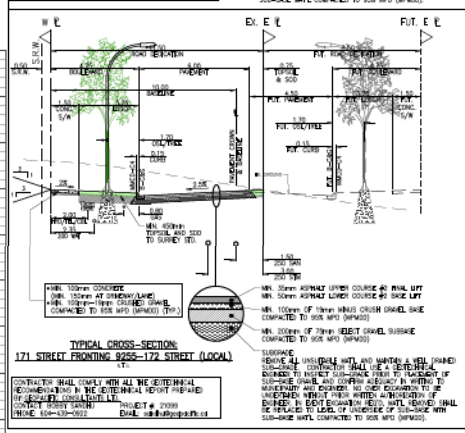
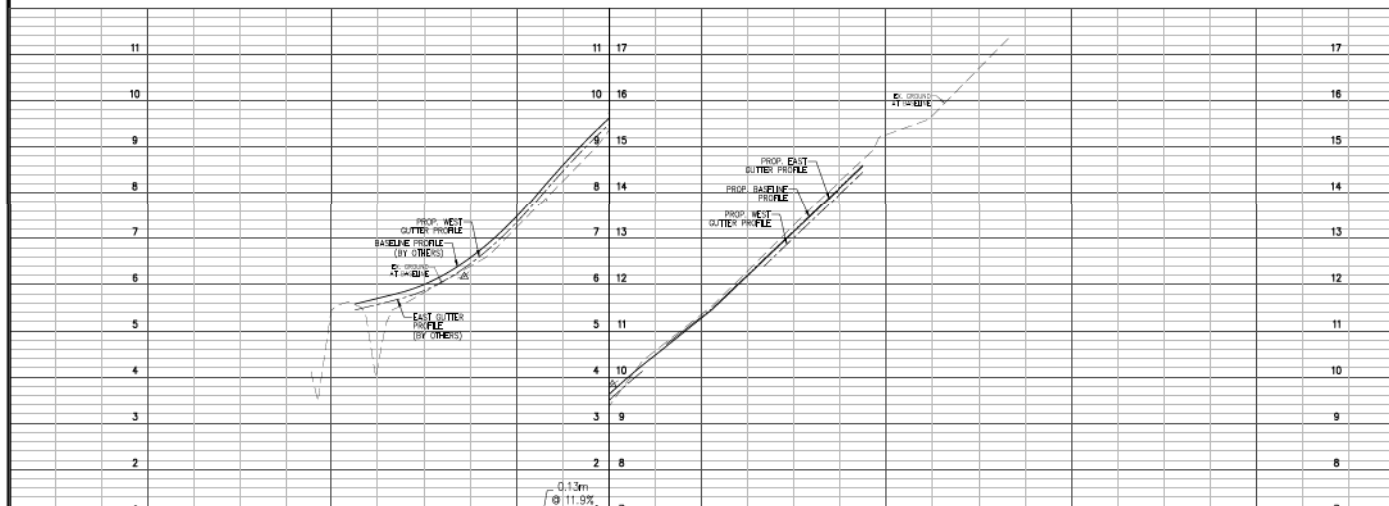
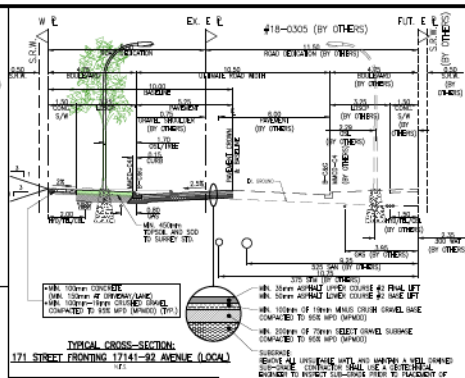
SURVEY PROJECT NUMBER: **7822-0231-00**

DRAWING TYPE: **ROADWORKS**

DESTROY ALL PRINTS BEARING PREVIOUS NUMBER



- LEGEND**
- NEW ASPHALT PAVEMENT AS PER GEOTECHNICAL ENGINEER RECOMMENDATIONS (BY DEVELOPER'S CONTRACTOR)
 - MILL AND REGRADE EXISTING PAVEMENT AS REQUIRED (BY DEVELOPER'S CONTRACTOR)
 - PAVEMENT RESTRICTION TO CITY OF SURREY STD S50-G2 TO 6.5 (TYP.)
 - MIN. 450mm TOPSOIL AND 500 TO SURREY STD (TYP.)
 - REINFORCED BOULEVARD WITH MIN. 450mm TOPSOIL AND 500 (TYP.)
 - EXISTING TREE TO BE RETAINED
 - EXISTING TREE TO BE RETAINED w/ TREE ROOT ZONE
 - EXISTING TREE NOT SURVEYED
 - TREE PROTECTION BARRIER FENCE



FINISHED LENGTH & GRADE AT BASELINE		9.30m @ 2.5%	30.00m VC PM STA= 34049.46 PM ELEV= 6.19 K= 3.2	25.80m VC PM STA= 34077.49 PM ELEV= 6.52 K= 6.0	12.00m @ 7.6%	32.59m @ 9.5%		
FINISHED PAVEMENT ELEV. AT BASELINE		5.58	5.81	6.00	6.76	7.47	8.02	8.58
PROPOSED PAVEMENT ELEVATION AT BASELINE BY OTHERS (18-0305)		5.58	5.81	6.00	6.76	7.47	8.02	8.58
ORIGINAL GROUND ELEV. AT BASELINE		5.17	5.33	5.51	5.73	5.92	6.13	6.36
CHAINAGE	34000	34050	34100	34150	34200	34250	34300	34350

LEGAL DESCRIPTION: LOT 50 SEC 31 TP 8 NMO PLAN 30218 & LOTS 1 & 2 SEC 31 TP 8 NMO PLAN 4414387

SURVEY BENCHMARK: MON 342650 LOC 95 AVENUE & 168 STREET SCALE FACTOR: 12.325m (2022/07/27)

REV.	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR PD-3	EV
2	SEP 20/24	ISSUED FOR PD-4	EV
3	SEP 13/24	ISSUED FOR PD-5	EV
4	SEP 03/24	ISSUED FOR PD-6	EV
5	MAY 07/24	ISSUED FOR REVISE	EV
6	MAY 02/24	ISSUED FOR PD-2	EV

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permit to Practice Number: 1003404

Suite 212, 12999 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
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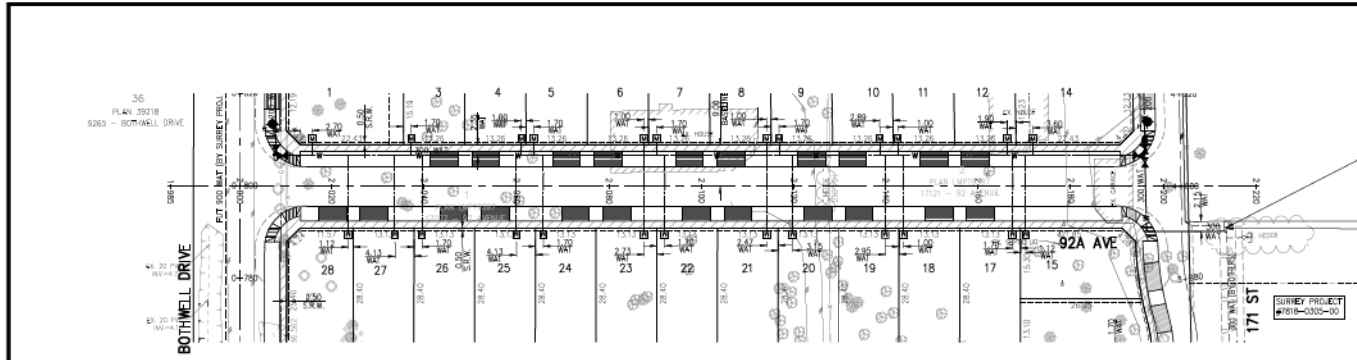
CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **171 STREET PLAN/PROFILE**

SCALE: HORIZ. 1:500 VERT. 1:50	DATE: (YYYY.MM.DD) 2022-09-30	SURVEY PROJECT NUMBER 7822-0231-00
DESIGNED: EY	CONSULTANT PROJECT NO. 22037	DRAWING TYPE ROADWORKS
DRAWN: AKG	DATE: 7	REV. 4
REVIEWED: JB/MCK	DATE: 7	REV. 4

Oct 3, 2024

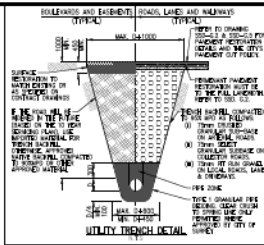
DESTROY ALL PRINTS BEARING PREVIOUS NUMBER



BEFORE TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATION, SIZE, MATERIAL, TYPE AND INVERT OF EX. WATERMAIN AND REPORT ANY DISCREPANCY TO HIS SUPERVISOR IMMEDIATELY.

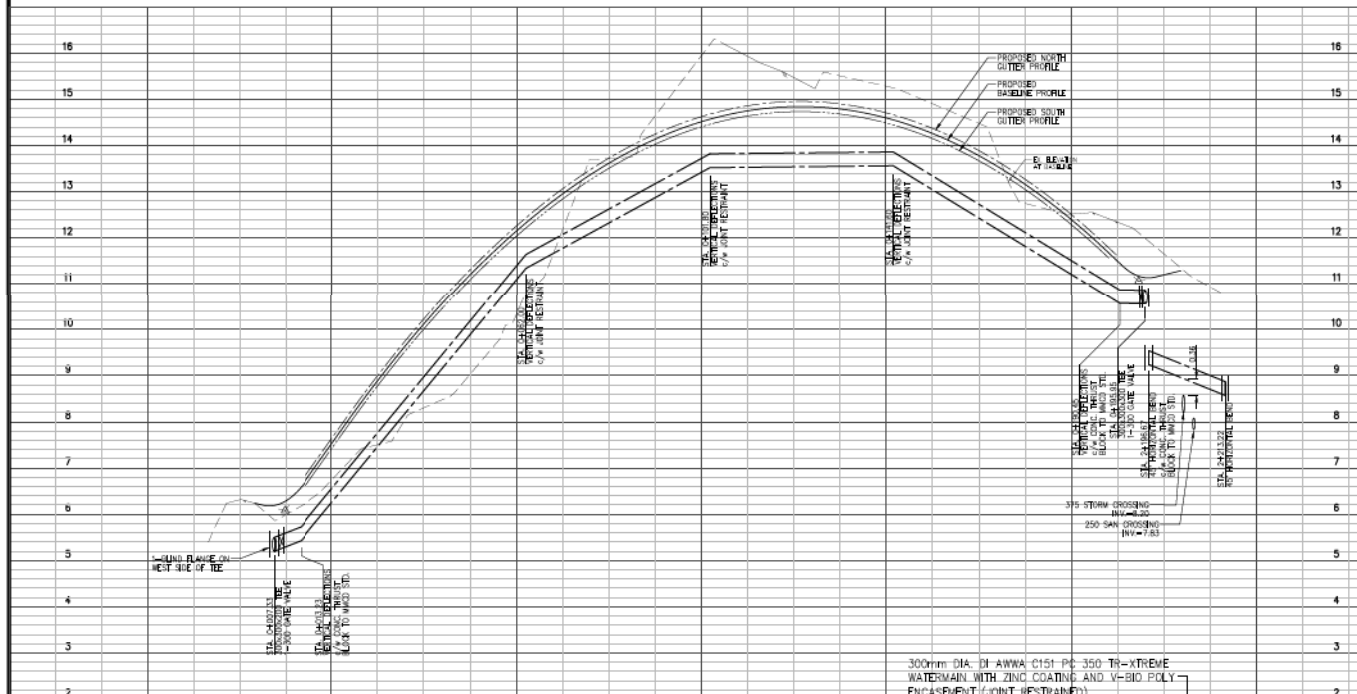
TE-IN TO EXISTING W/M BY CITY OF SURREY AT THE DEVELOPER'S COST. CONTRACTOR TO COORDINATE WITH CITY OF SURREY AND THE CONTRACTOR TO SUPPLY MATERIALS AND ULTIMATE SURFACE RESTORATION. REFER TO WATER TE-IN DETAIL THIS SHEET.

ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAY OR WITHIN 2.0m OF DRIVEWAYS TO BE CAST IRON MR10 STYLE COVER (OR EQUIVALENT) CAPABLE OF H20 LOADING AS PER CITY OF SURREY STANDARDS.

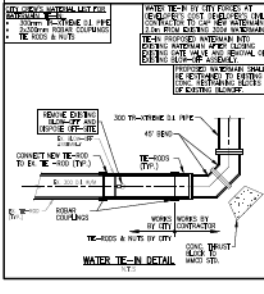


WATER NOTES:

1. ALL WORKS TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS).
2. BEDDING SHALL BE 150mm GRANULAR BEDDING AND SURROUNDING MATERIAL AS PER MAND CL-2.7 SECTION 350017 - TYPE "1".
3. TRENCH SANDFILL UNDER LANES, LOCAL AND COLLECTOR ROADWAYS SHALL BE 100mm IMPROVED GRANULAR MATERIAL AS PER MAND CL-2.5 SECTION 350017.
4. CONTRACTOR TO EXPOSE AND VERIFY EXISTING W/M AT ALL POINTS OF TE-IN PRIOR TO START OF CONSTRUCTION AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
5. DI WATERMAIN PIPES SHALL BE IN ACCORDANCE WITH AWWA C101 PRESSURE CLASS 350 WITH STANDARD MORTAR LINING TO AWWA C104.
6. INSTALL ASPHALT APRONS AROUND ALL NEW GATE VALVES WITHIN BOULEVARD AREAS.
7. "CERTAIN-TYPE" COUPLINGS TO BE USED FOR VERTICAL DEFLECTIONS.
8. THURST BLOCKS SHALL BE PROVIDED AS PER MAND DWD 86.
9. ALL WATER CONNECTIONS TO BE METICULOUS.
10. DEVELOPER'S CONTRACTOR TO INSTALL SERVICE CONNECTIONS FROM MAIN TO PRIVATE PROPERTY SIDE OF CURB STOP AS PER 350-W-10. CONTRACTOR TO SUPPLY AND INSTALL METER BOX AND METER SETTING ON PRIVATE PROPERTY 300mm CLEAR OF PROPERTY LINE TO SURREY STANDARDS. METERS TO BE SUPPLIED AND INSTALLED BY CITY OF SURREY AT BUILDER'S COST. METER INSTALLATION BY CITY ENGINEER TO FOLLOW REGISTRY FROM HOUSE BUILDER.
11. FITTINGS SHALL BE TRIPLE-FLANGE RESTRAINED JOINT FITTINGS UNLESS NOTED OTHERWISE.
12. WATERMAIN JOINTS WITHIN 3.0m HORIZONTAL SEPARATION OF SANITARY OR STORM SERVICES SHALL BE WRAPPED TO CITY OF SURREY STANDARDS.
13. WATER METERS IN BIRKENHEAD SHALL BE BUILT COMPLETE WITH CONCRETE METER BOX WITH METAL LID TO CITY OF SURREY STANDARDS.



DIAMETER & CLASSIFICATION	5.10m @ 4.5%	300mm DIA. DI AWWA C151 PC 350 TR-XTRUe WATERMAIN WITH ZINC COATING AND V-BIO POLY ENCASEMENT (JOINT RESTRAINED)	5.50m @ -0.2%
WATERMAIN LENGTH, INVERT, & GRADE	60.77m @ 9.7%	39.80m @ 5.5%	48.85m @ -6.3%
CHAINAGE	24000 to 24100	24100 to 24200	24200 to 24250



I, **Mike G. Kropfner**, Professional Engineer, in good standing in and for the Province of British Columbia, hereby certify that the water main design on this drawing has been done in accordance with the Ministry of Health design criteria and that no construction will occur unless a permit has been issued by the Ministry of Health.

DATE: Oct 3, 2024 SIGNATURE: _____

LEGAL DESCRIPTION: LOT 36 (SEC 31 TP 8 RND PLAN 30218 & LOTS 1 & 2 (SEC 31 TP 8 RND PLAN 1411637)

SURVEY BENCHMARK: MON 342850

SCALE FACTOR: 1:25.00m (2025/10/1)

REV.	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR PD-3	EV
2	SEP 13/24	ISSUED FOR PD-4	EV
3	JUL 03/24	ISSUED FOR PD-5	EV
4	MAY 07/24	ISSUED FOR REVISES	EV
5	MAY 02/24	ISSUED FOR PD-2	EV

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permit/Fraction Number: 1003404

Site 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com

CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: **92A AVENUE PLAN/PROFILE**

DATE: **Oct 3, 2024**

SCALE: HORIZ. 1:500 VERT. 1:50

DATE: (YYYYMMDD) 2024-10-03

CONTRACT/FRACTION NO. 22037

DRAWING TYPE: **WATER**

DESIGNED: EY

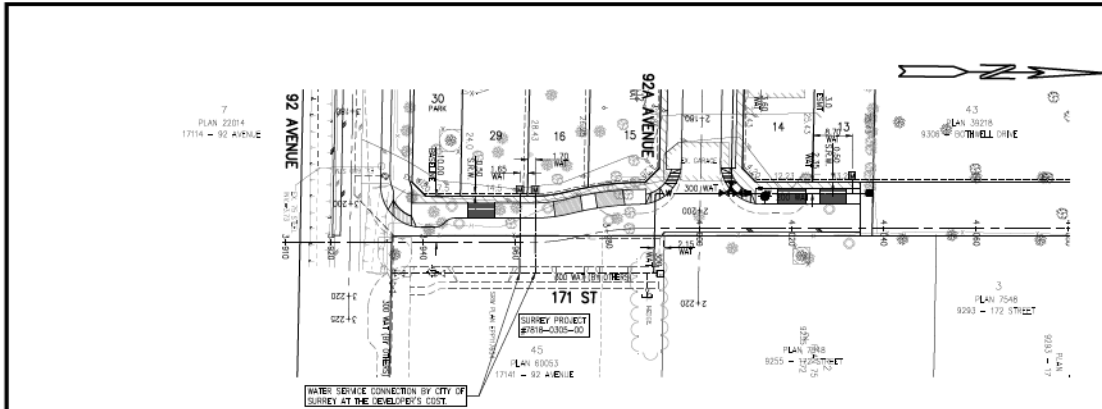
DRAWN: ANG

REVIEWED: JB/MCK

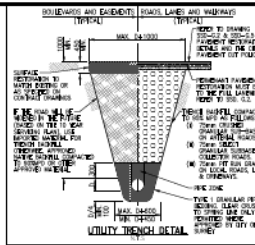
DATE: 9

REV. 2

SURREY PROJECT NUMBER: **7822-0231-00**



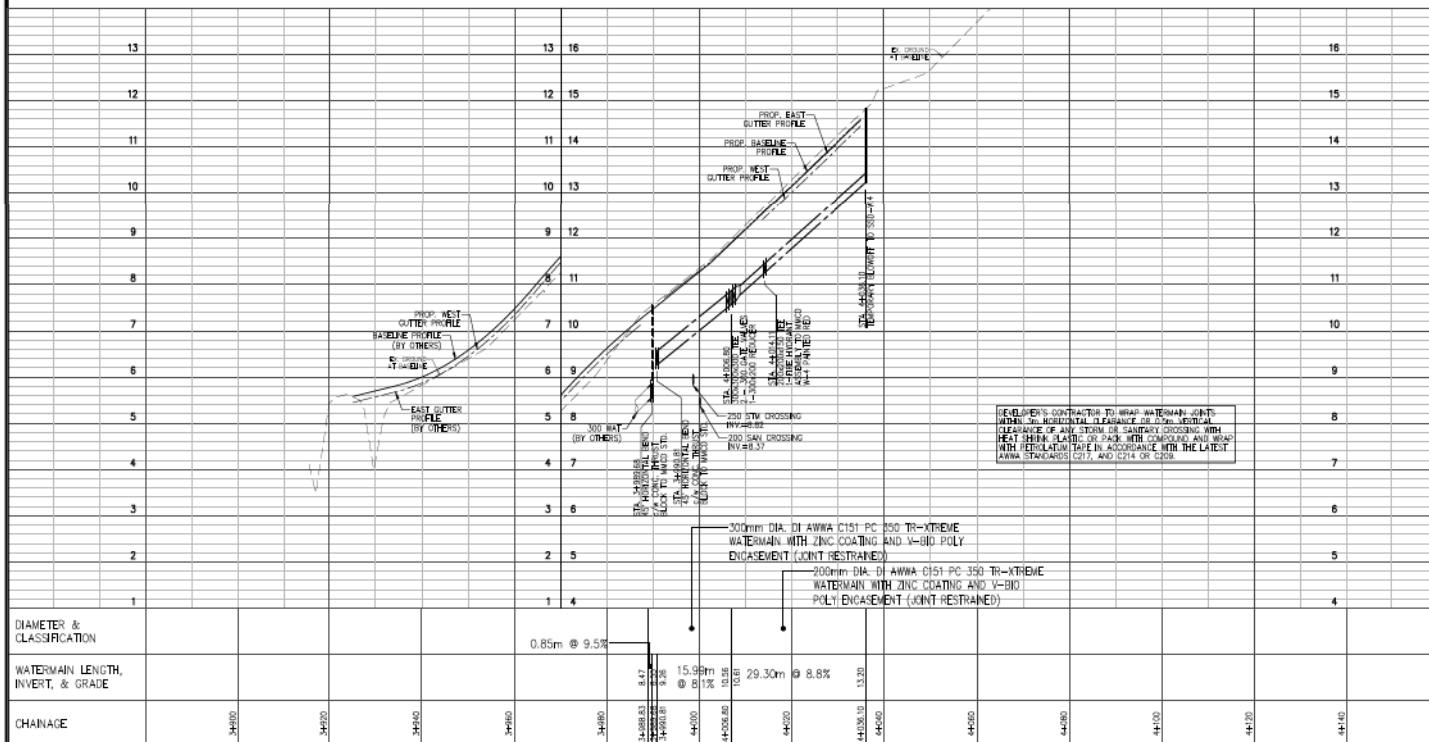
ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAYS OR WITHIN 2.0m OF DRIVEWAYS TO BE CAST IRON MR10 STYLE COVER (OR EQUIVALENT) CAPABLE OF H20 LOADING AS PER CITY OF SURREY STANDARDS



- WATER NOTES:**
- ALL WORKS TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS).
 - BEDDING SHALL BE 19.0mm GRANULAR BEDDING AND SURROUNDING MATERIAL AS PER MUCD CL-2.7 SECTION 310517-1 TYPE "C".
 - TRENCH BACKFILL UNDER LANES, LOCAL AND COLLECTOR MAINS SHALL BE 19.0mm IMPROVED GRANULAR MATERIAL AS PER MUCD CL-2.7 SECTION 310517-1 TYPE "C".
 - CONTRACTOR TO EXPOSE AND VERIFY EXISTING MAIN AT ALL POINTS OF TRENCH PRIOR TO START OF CONSTRUCTION AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
 - DI WATERMAIN PIPES SHALL BE IN ACCORDANCE WITH AWWA C151 PRESSURE CLASS 350 WITH STANDARD MORTAR LINING TO AWWA C104.
 - INSTALL ASPHALT APRONS AROUND ALL NEW GATE VALVES WITHIN BOULEVARD AREAS.
 - "CERTAIN-TIE" COUPLINGS TO BE USED FOR VERTICAL DEFLECTIONS.
 - THURST BLOCKS SHALL BE PROVIDED AS PER MUCD DWG. 01.
 - ALL WATER CONNECTIONS TO BE NOTED.
 - DEVELOPER'S CONTRACTOR TO INSTALL SERVICE CONNECTIONS FROM MAIN TO PRIVATE PROPERTY SIDE OF CURB STOP AS PER S50-W1, UNLESS NOTED OTHERWISE.
 - BUILDER TO SUPPLY AND INSTALL WATER BOX AND WATER METER ON PRIVATE PROPERTY 300mm CLEAR OF PROPERTY LINE TO SURREY STANDARD.
 - METERS TO BE SUPPLIED AND INSTALLED BY CITY OF SURREY AT BUILDER'S COST. METER INSTALLATION BY CITY FORCES TO FOLLOW REQUEST FROM HOUSE BUILDER.
 - FITTINGS SHALL BE TI-FLEX RESTRAINED JOINT FITTINGS UNLESS NOTED OTHERWISE.
 - WATERMAIN JOINTS WITHIN 3.0m HORIZONTAL SEPARATION OF SANITARY OR STORM MAINS SHALL BE WARRIRED TO CITY OF SURREY STANDARD.
 - WATER METERS IN DRIVEWAYS SHALL BE BUILT COMPLETE WITH CONCRETE WATER BOX WITH METAL UP TO CITY OF SURREY STANDARD.

I, Mike G. Koenig, Professional Engineer, in good standing in and for the Province of British Columbia, hereby certify that the water main design on this drawing has been done in accordance with the Ministry of Health design criteria and that no construction will occur unless a permit has been issued by the Ministry of Health.

Oct 3, 2024
DATE _____ SIGNATURE _____



LEGAL DESCRIPTION: LOT 70 SEC 31 TP 8 MND PLAN 30278 & LOTS 1 & 2 SEC 31 TP 8 MND PLAN 4416387	SCALE FACTOR: 1:100 (VERTICAL)	
SURVEY BENCHMARK: MON 342650	DATE: 12.2024 (ESTIMATED)	
DATE: 03/24	ISSUED FOR: PD-1	BY: EY
DATE: 11/24	ISSUED FOR: PD-4	BY: EY
DATE: 03/24	ISSUED FOR: PD-3	BY: EY
DATE: 07/24	ISSUED FOR: REVISE	BY: EY
DATE: 02/24	ISSUED FOR: PD-2	BY: EY

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CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permit to Practice Number: 1003404

Site 212, 12092 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com



CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **171 STREET PLAN/PROFILE**

SEAL

DATE: 2022-08-30

CONTRACT PRICE NO: 22037

DESIGNED: EY

DRAWN: AKG

REVIEWED: JB/MCK

DATE: Oct 3, 2024

SCALE: HORIZ. 1:500 VERT. 1:50

DATE: 2022-08-30

CONTRACT PRICE NO: 22037

DESIGNED: EY

DRAWN: AKG

REVIEWED: JB/MCK

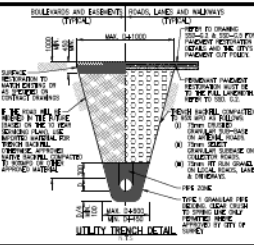
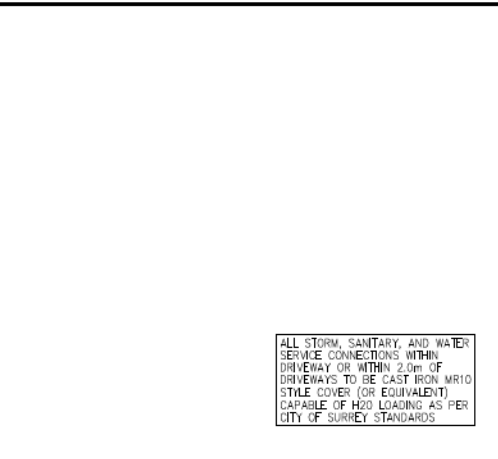
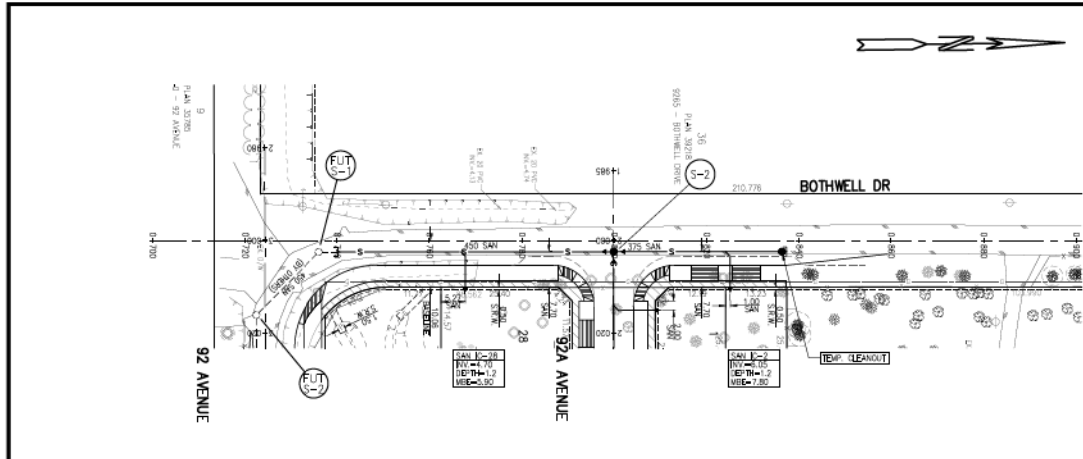
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REV: 3

SURVEY PROJECT NUMBER: **7822-0231-00**

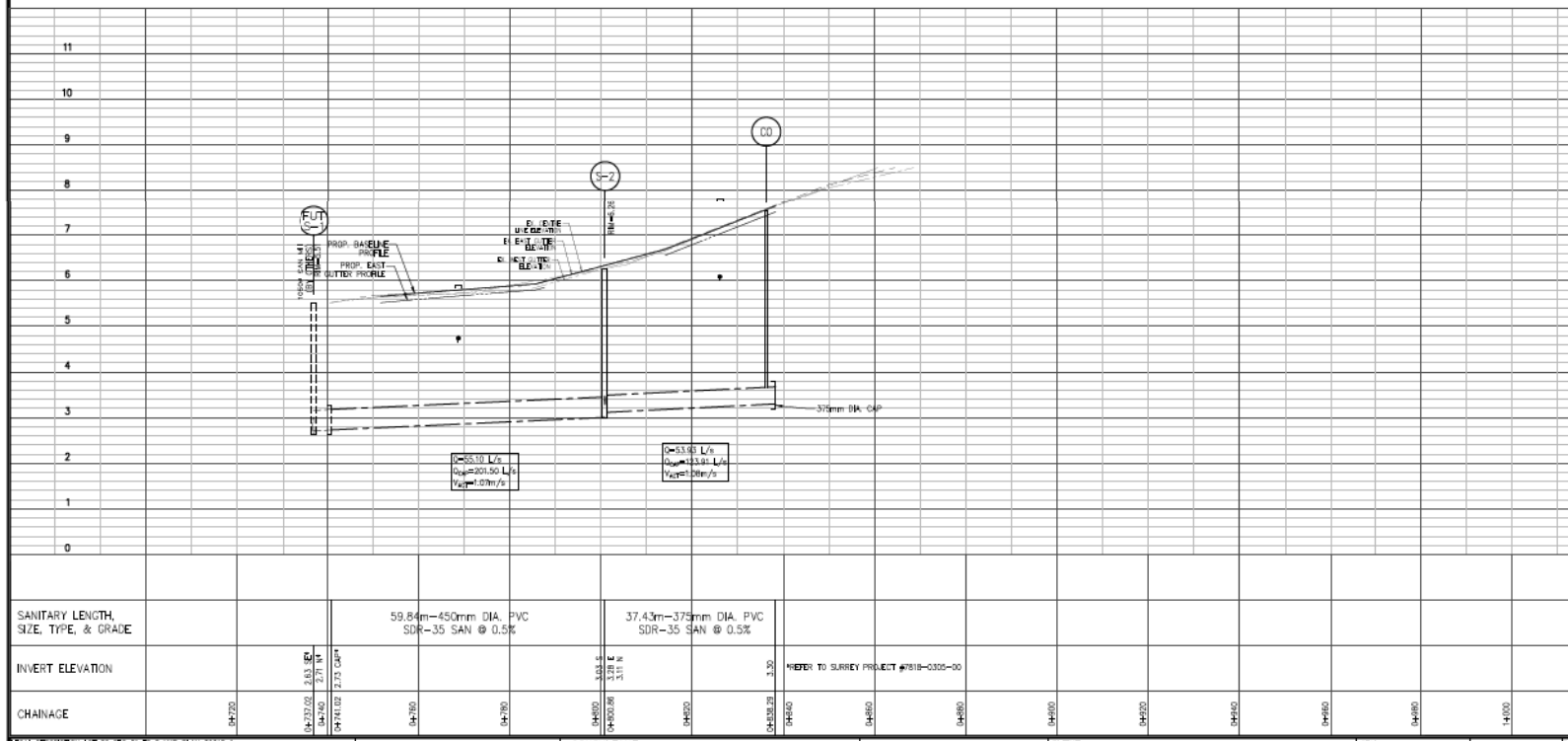
DRAWING TYPE: **WATER**

DESTROY ALL PRINTS BEARING PREVIOUS NUMBER



- SANITARY NOTES:**
1. ALL WORKS TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS)
 2. BEDDING SHALL BE 150mm GRANULAR BEDDING AND SURROUNDING MATERIAL AS PER M302 CL-2-7 SECTION 010501 - TYPE 1
 3. TRENCH BACKFILL UNDER LANES, LOCAL AND COLLECTOR ROADWAYS SHALL BE 300mm IMPROVED GRANULAR BACKFILL AS PER M302 CL-2-3 SECTION 010501
 4. ALL M.H.'S ARE 1050mm ϕ UNLESS OTHERWISE NOTED.
 5. ALL JOINTS TO BE CLOSED JOINTS.
 6. ALL MAINLINES SHALL BE PVC (SDR-35) UNLESS OTHERWISE NOTED.
 7. ALL TRENCH ϕ SERVICE CONNECTIONS SHALL BE PVC (SDR-26) UNLESS OTHERWISE NOTED.
 8. INSPECTION CHAMBERS IN TRAVELED AREAS OR WITHIN 2m OF TRAVELED AREAS SHALL BE BUILT COMPLETE WITH CAST IRON SOX AND LID TO CITY OF SURREY STANDARD

ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAYS OR WITHIN 2.0m OF DRIVEWAYS TO BE CAST IRON MR10 STYLE COVER (OR EQUIVALENT) CAPABLE OF H2O LOADINGS AS PER CITY OF SURREY STANDARDS



LEGAL DESCRIPTION: LOT 90 SEC. 31 TP. 9 N.W. 1/4 R20218 & LOTS 1 & 2 SEC. 31 TP. 9 N.W. 1/4 R201637

SURVEY BECHMARK: MON. 202550

SCALE FACTOR: 12.325m (40:1)

REV.	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR PD-3	EY
2	SEP 13/24	ISSUED FOR PD-4	EY
3	JUL 03/24	ISSUED FOR PD-5	EY
4	MAY 07/24	ISSUED FOR TRENDS	EY
2	MAY 07/24	ADD S.R.W. PER MUNICIPAL REQUIREMENTS	EY

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Engineering and Development Consultants
EGRC Permitto Practice Number: 1003404

3111 16th Street, Surrey, BC V4A 4L1
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com



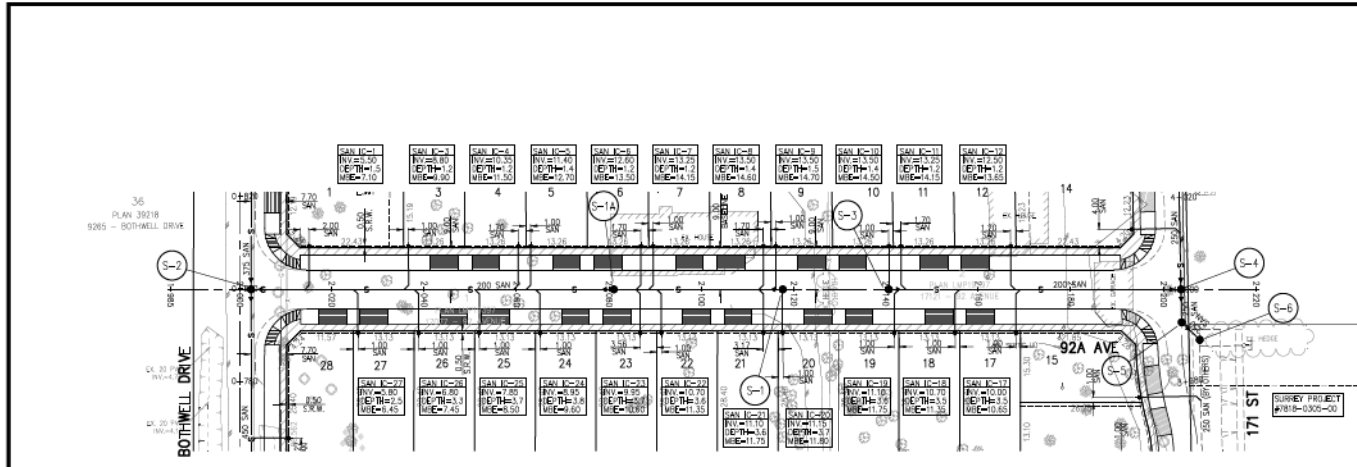
CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **BOTHWELL DRIVE**
PLAN/PROFILE

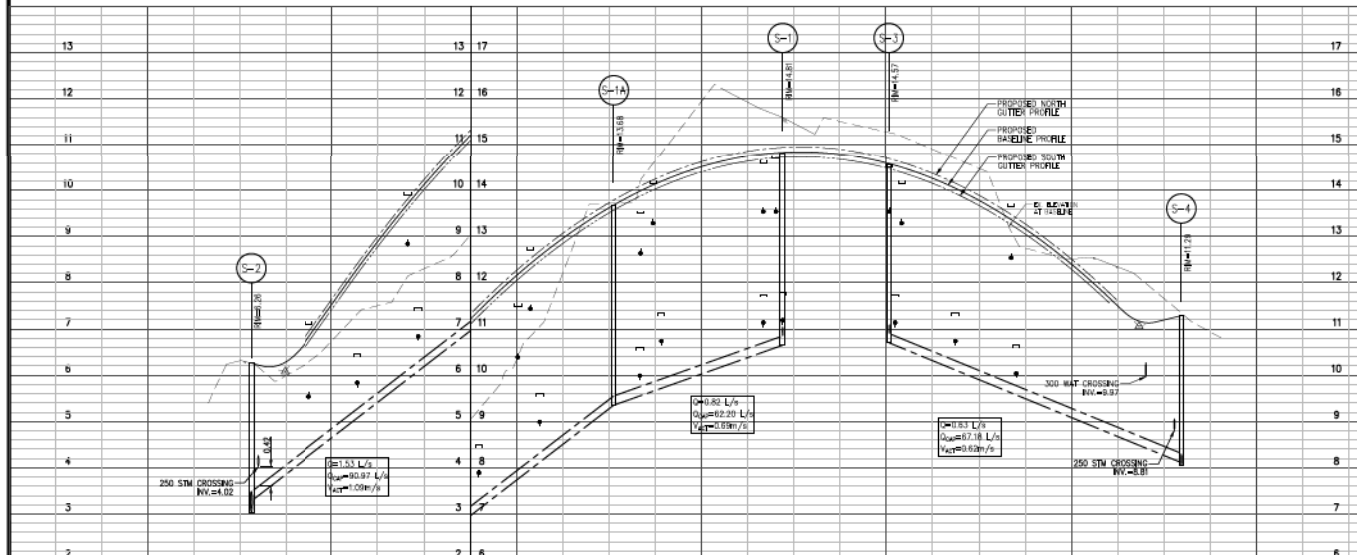
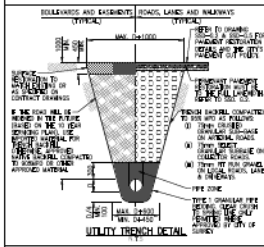
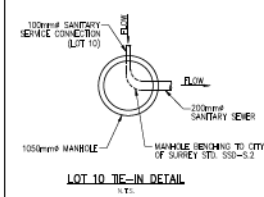
DATE: **Oct 3, 2024**

SCALE: HORIZ. 1:500 VERT. 1:50	DATE: (YYYY.MM.DD) 2022-09-30	SURVEY PROJECT NUMBER 7822-0231-00
DRAWN: EY	CONSULTANT PROJECT NO. 22037	DRAWING TITLE SANITARY
DESIGNED: EY	DATE: 11	REV. 4
REVIEWED: JB/MCK		

REPRODUCTION OF THIS PLAN IS PROHIBITED WITHOUT THE WRITTEN PERMISSION OF HUB ENGINEERING INC.



ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAY OR WITHIN 2.0m OF DRIVEWAYS TO BE CAST IRON MR10 STYLE COVER (OR EQUIVALENT) CAPABLE OF H2O LOADING AS PER CITY OF SURREY STANDARDS



SANITARY LENGTH, SIZE, TYPE, & GRADE	INVERT ELEVATION	CHAINAGE
78.64m-200mm DIA. PVC SDR-35 SAN @ 7.7%	3.03 S 3.11 F 3.28 E	24+00.36 to 24+00.00
36.51m-200mm DIA. PVC SDR-35 SAN @ 3.6%	4.00 S 4.15 F 4.30 E	24+00.00 to 24+17.54
63.3m-200mm DIA. PVC SDR-35 SAN @ 4.1%	8.11 M 8.08 N/S	24+17.54 to 24+20.274

- SANITARY NOTES:**
- ALL WORK TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS)
 - BEDDING SHALL BE 100mm GRANULAR BEDDING AND SURROUND MATERIAL AS PER MACH (CL-2) SECTION 310517 - TYPE 1
 - TRENCH BACKFILL UNDER LOCAL AND COLLECTOR ROADWAYS SHALL BE 100mm IMPORTED GRANULAR BACKFILL AS PER MACH (CL-2) SECTION 310517 - TYPE 1
 - ALL M.H.'S ARE 100mm # UNLESS OTHERWISE NOTED.
 - ALL JOINTS TO BE GLESED JOINTS.
 - ALL MANHOLES SHALL BE PVC (SDR-35) UNLESS OTHERWISE NOTED.
 - ALL 100mm # SERVICE CONNECTIONS SHALL BE PVC (SDR-26) UNLESS OTHERWISE NOTED.
 - INSPECTION CHAMBERS IN TRAVELED AREAS OR WITHIN 2m OF TRAVELED AREAS SHALL BE BUILT COMPLETE WITH CAST IRON BOX AND LID TO CITY OF SURREY STANDARD

LEGAL DESCRIPTION LOT 10 SEC 31 TP 8 RNO PLAN 30218 & LOTS 1 & 2 SEC 31 TP 8 RNO PLAN 30218

SURVEY BENCHMARK MON 342850

SCALE FACTOR 1:12,325m (SDS/ST)

NO.	DATE	REVISION	BY
1	SEP 20/24	ISSUED FOR PD-1	EL
2	SEP 13/24	ISSUED FOR PD-4	EL
3	JUL 03/24	ISSUED FOR PD-3	EL
4	MAY 07/24	ISSUED FOR REVISE	EL
1	MAY 02/24	ISSUED FOR PD-2	EL

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGRC Permit to Practice Number: 1003404

3412 129th St, Surrey, BC V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com

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CLIENT

BEECH WESTGARD DEVELOPMENTS LTD.
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE

92A AVENUE
PLAN/PROFILE

SEAL

SCALE: HORIZ. 1:500
VERT. 1:50

DATE (YYYY.MM.DD)
2022-09-30

CONSULTANT PROJECT NO.
22037

DRAWN
EY

DESIGNED
AKG

REVIEWED
JB/MCK

DWG. NO.
12

REV. 3

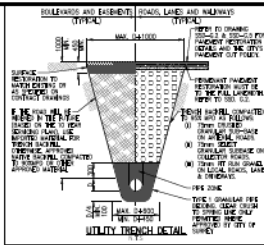
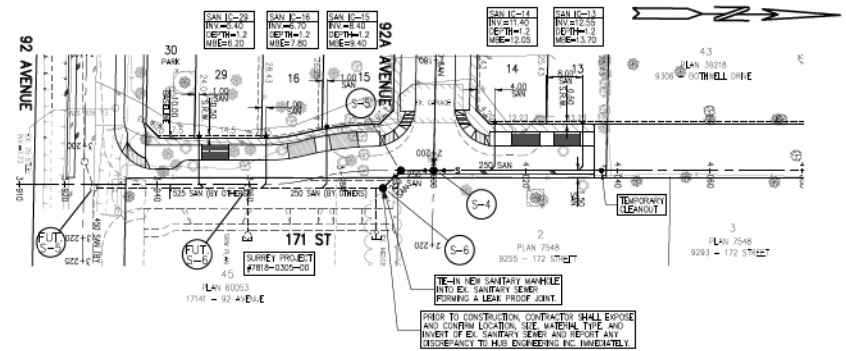
Oct 3, 2024

SURVEY PROJECT NUMBER
7822-0231-00

DRAWING TYPE
SANITARY

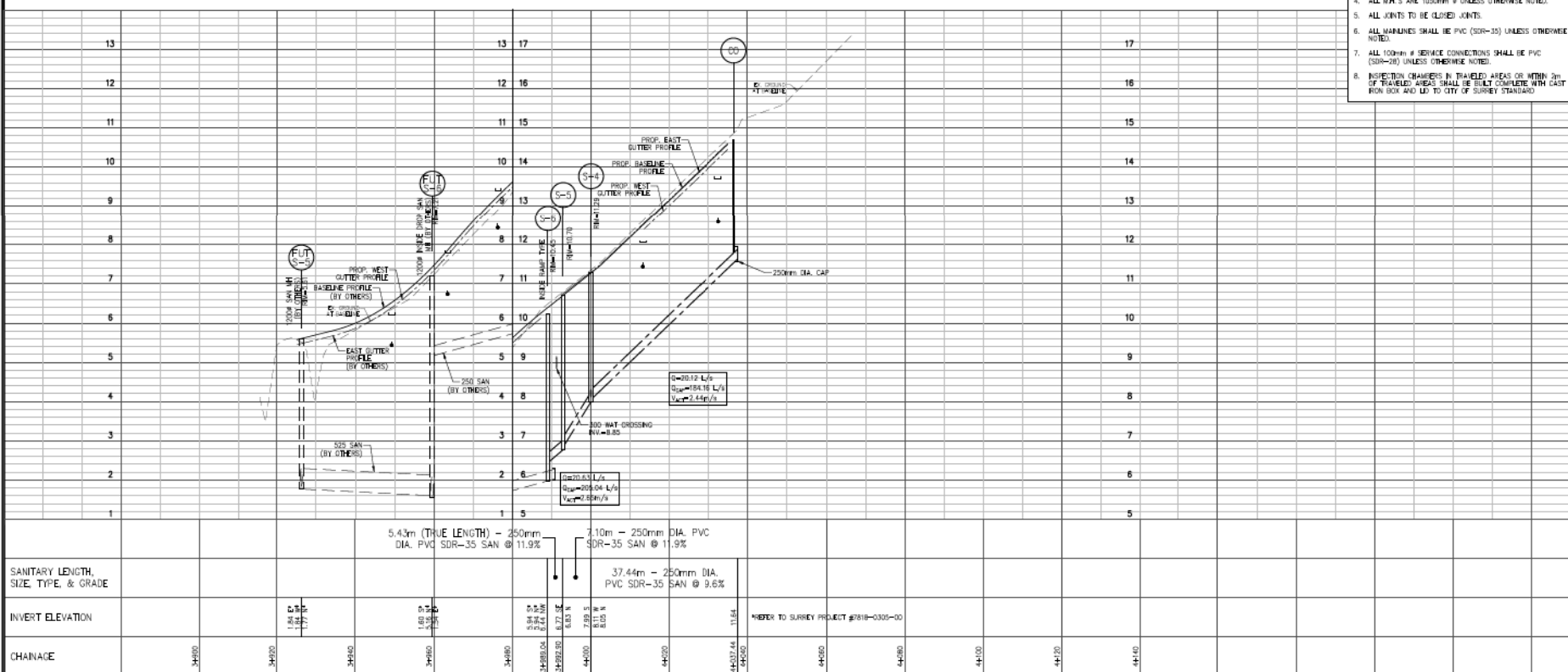
DESTROY ALL PRINTS BEARING PREVIOUS NUMBER

7
PLAN 22014
1714 - 92 AVENUE



ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAYS OR WITHIN 2.0m OF DRIVEWAY TO BE CAST IRON MR10 STILE COVER (OR EQUIVALENT) CAPABLE OF H2O LOADING AS PER CITY OF SURREY STANDARDS

- SANITARY NOTES:**
- ALL WORKS TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS)
 - BEDDING SHALL BE 150mm GRANULAR BEDDING AND SURROUNDING MATERIAL AS PER MNCDC CL-2.7 SECTION 300017 - TYPE 11
 - THICK BACKFILL UNDER LANES, LOCAL AND COLLECTOR ROADWAYS SHALL BE 300mm IMPROVED GRANULAR BACKFILL AS PER MNCDC CL-2.3 SECTION 300017
 - ALL MH'S ARE 1050mm ϕ UNLESS OTHERWISE NOTED.
 - ALL JOINTS TO BE CLOSED JOINTS.
 - ALL MAINLINES SHALL BE PVC (SDR-35) UNLESS OTHERWISE NOTED.
 - ALL 100mm ϕ SERVICE CONNECTIONS SHALL BE PVC (SDR-20) UNLESS OTHERWISE NOTED.
 - INSPECTION CHAMBERS IN TRAVELED AREAS OR WITHIN 2m OF TRAVELED AREAS SHALL BE BUILT COMPLETE WITH CAST IRON BOX AND LID TO CITY OF SURREY STANDARDS



		5.43m (TRUE LENGTH) - 250mm DIA. PVC SDR-35 SAN @ 11.9%	7.10m - 250mm DIA. PVC SDR-35 SAN @ 1.9%
SANITARY LENGTH, SIZE, TYPE, & GRADE			37.44m - 250mm DIA. PVC SDR-35 SAN @ 9.6%
INVERT ELEVATION	1.84 @ 34400 1.74 @ 34500 1.60 @ 34600 1.50 @ 34700 1.40 @ 34800 1.30 @ 34900 1.20 @ 35000 1.10 @ 35100 1.00 @ 35200 0.90 @ 35300 0.80 @ 35400 0.70 @ 35500 0.60 @ 35600 0.50 @ 35700 0.40 @ 35800 0.30 @ 35900 0.20 @ 36000 0.10 @ 36100 0.00 @ 36200		11.64 @ 44200 REFER TO SURREY PROJECT #7810-0305-00
CHAINAGE	34400 34500 34600 34700 34800 34900 35000 35100 35200 35300 35400 35500 35600 35700 35800 35900 36000 36100 36200		44200 44300 44400 44500 44600 44700 44800 44900 45000

LEGAL DESCRIPTION: LOT 30 (SEC. 31 TP. 9 N30 PLAN 30218 & LOTS 1 & 2 (SEC. 31 TP. 9 N30 PLAN 4416387)

SURVEY BENCHMARK: MON 342850

SCALE FACTOR: 1:25.00m (82:00ft)

REV.	DATE	DESCRIPTION	BY
4	SEP 20/24	ISSUED FOR PD-3	EY
3	SEP 13/24	ISSUED FOR PD-4	EY
2	JUL 03/24	ISSUED FOR PD-3	EY
-	MAY 07/24	ISSUED FOR TENDER	EY
1	MAY 02/24	ISSUED FOR PD-2	EY

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGRC Permitto Practice Number: 1003404

Suite 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com



CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: **171 STREET PLAN/PROFILE**

SEAL

SCALE: HORIZ. 1:500
VERT. 1:50

DATE: (YYYY.MM.DD) 2022-09-30

CONTRACT/FIELD NO. 22037

DRAWN: EY

DESIGNED: EY

REVIEWED: JGK

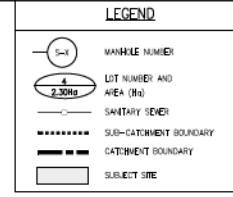
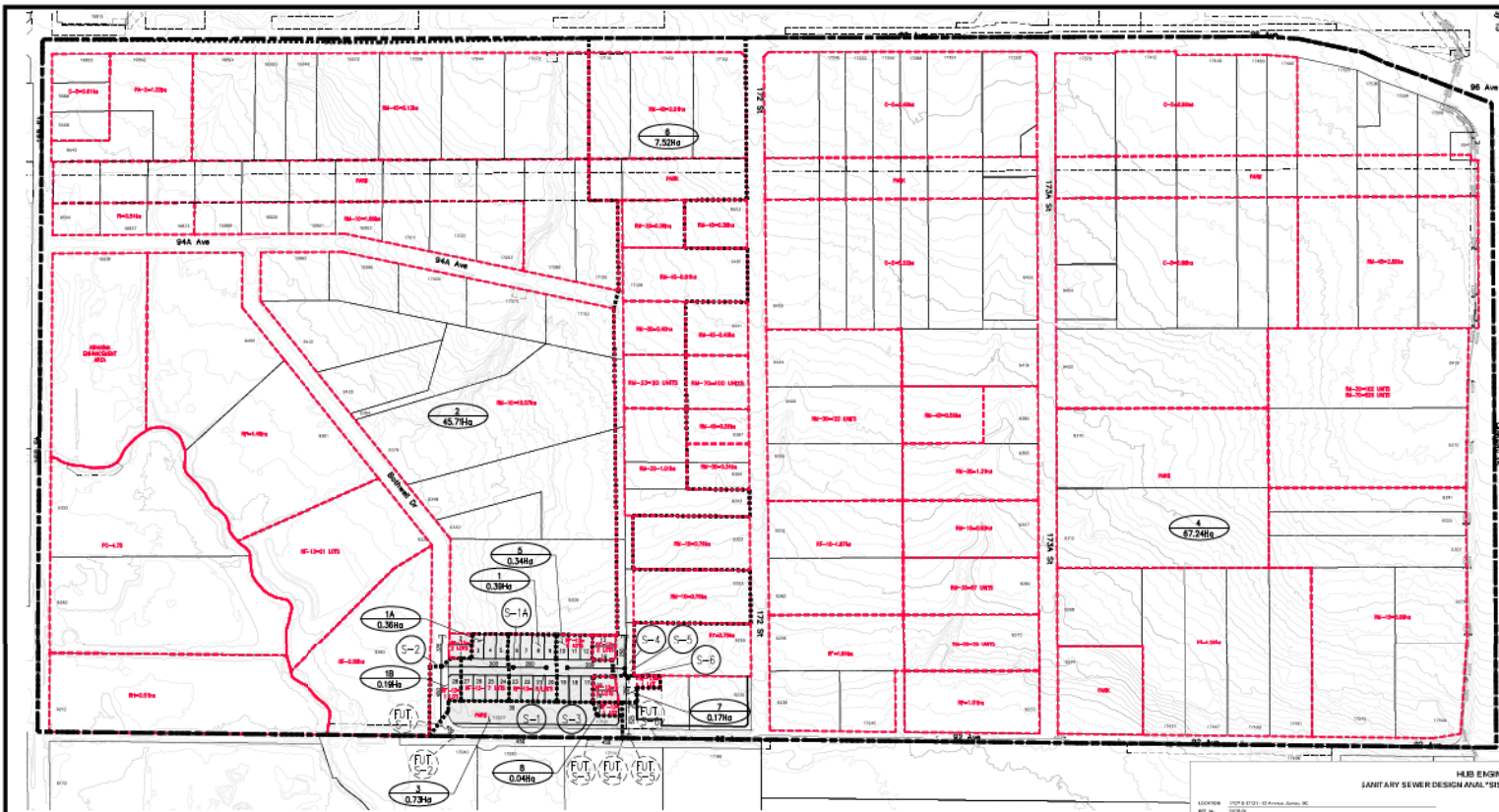
DATE: 13

REV. 4

Oct 3, 2024

SURVEY PROJECT NUMBER: **7822-0231-00**

DRAWING TITLE: **SANITARY**



HUB ENGINEERING INC.
SANITARY SEWER DESIGN ANALYSIS - ULTIMATE DEVELOPED CONDITION

LOCATION: 15272 152nd Ave, Surrey, BC
 MAP No: 2202-05-30

DATE: September 15, 2024
 Drawn by: JKB Engineering Inc.
 Scale: 1:1

UNIT: 300 Gallons/day
 FRICTION: 1500 ft/mile/hr
 SLOPE: 0.005
 MINIMUM COVER: 1.50 m
 MINIMUM DEPTH: 0.75 m
 MINIMUM VELOCITY: 0.75 m/s
 MINIMUM FLOW: 0.05 m³/s
 MINIMUM DRAINAGE AREA: 0.1 ha
 MINIMUM SLOPE: 0.005
 MINIMUM COVER: 1.50 m
 MINIMUM DEPTH: 0.75 m
 MINIMUM VELOCITY: 0.75 m/s
 MINIMUM FLOW: 0.05 m³/s
 MINIMUM DRAINAGE AREA: 0.1 ha

Line No.	Start Station	End Station	Length (m)	Flow (L/s)	Velocity (m/s)	Depth (m)	Width (m)	Material
1	0+00	0+10	10	0.1	0.75	0.75	1.0	1500
2	0+10	0+20	10	0.2	0.75	0.75	1.0	1500
3	0+20	0+30	10	0.3	0.75	0.75	1.0	1500
4	0+30	0+40	10	0.4	0.75	0.75	1.0	1500
5	0+40	0+50	10	0.5	0.75	0.75	1.0	1500
6	0+50	0+60	10	0.6	0.75	0.75	1.0	1500
7	0+60	0+70	10	0.7	0.75	0.75	1.0	1500
8	0+70	0+80	10	0.8	0.75	0.75	1.0	1500
9	0+80	0+90	10	0.9	0.75	0.75	1.0	1500
10	0+90	1+00	10	1.0	0.75	0.75	1.0	1500

HUB ENGINEERING INC.
SANITARY SEWER DESIGN ANALYSIS - ULTIMATE DEVELOPED CONDITION

LOCATION: 15272 152nd Ave, Surrey, BC
 MAP No: 2202-05-30

DATE: September 15, 2024
 Drawn by: JKB Engineering Inc.
 Scale: 1:1

Line No.	Start Station	End Station	Length (m)	Flow (L/s)	Velocity (m/s)	Depth (m)	Width (m)	Material
11	1+00	1+10	10	1.1	0.75	0.75	1.0	1500
12	1+10	1+20	10	1.2	0.75	0.75	1.0	1500
13	1+20	1+30	10	1.3	0.75	0.75	1.0	1500
14	1+30	1+40	10	1.4	0.75	0.75	1.0	1500
15	1+40	1+50	10	1.5	0.75	0.75	1.0	1500
16	1+50	1+60	10	1.6	0.75	0.75	1.0	1500
17	1+60	1+70	10	1.7	0.75	0.75	1.0	1500
18	1+70	1+80	10	1.8	0.75	0.75	1.0	1500
19	1+80	1+90	10	1.9	0.75	0.75	1.0	1500
20	1+90	2+00	10	2.0	0.75	0.75	1.0	1500

LOCAL DESCRIPTION: LOT 20, SEC 31, TR 8, WMD PLAN 20018 B, LOTS 1 & 2, SEC 31, TR 8, WMD PLAN LXP19397

SCALE FACTOR: 1:12.50 (0.010157)

NO.	DATE	ISSUED FOR	BY
2	SEP 20/24	ISSUED FOR PD-5	EY
1	SEP 13/24	ISSUED FOR PD-4	EY
1	AUG 07/24	ISSUED FOR PD-3	EY
1	MAY 07/24	ISSUED FOR TENDER	EY
1	MAY 02/24	ISSUED FOR PD-2	EY

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permit to Practice Number: 1003404

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 www.hub-inc.com



CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
 #201 - 15272 CROYDON DRIVE, SURREY, BC
 B04-538-3525

TITLE: **SANITARY CATCHMENT PLAN**

DATE: **Oct 3, 2024**

SCALE: 1:2000
 DATE: 2022-05-30
 CONSULTANT PROJECT NO: 22037
 PROJECT NUMBER: 7822-0231-00
 DRAWING TYPE: SANITARY

REVISIONS:
 NO. DATE BY/CHK
 14 14 JKB

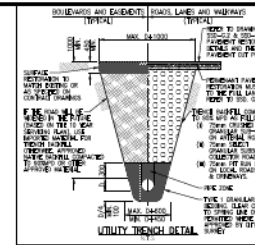
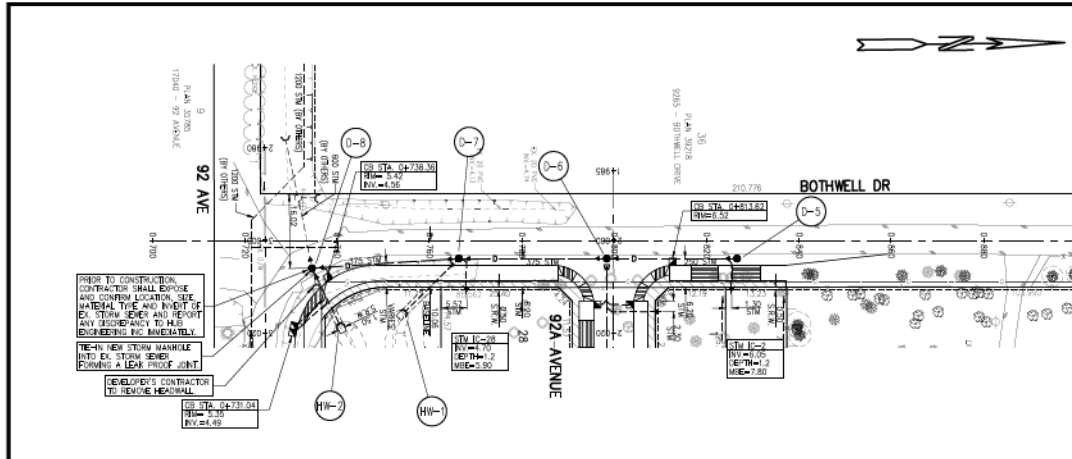
REVIEWED: JKB/MOK

DATE: 14

REVISION: 2

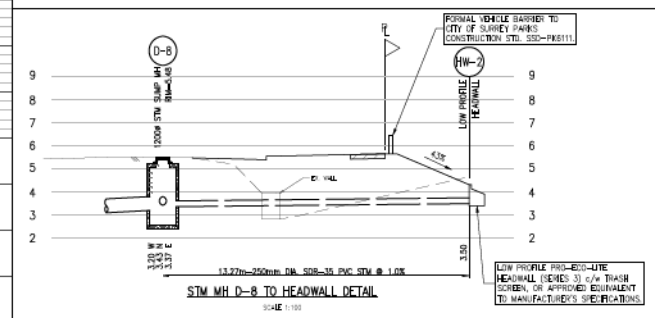
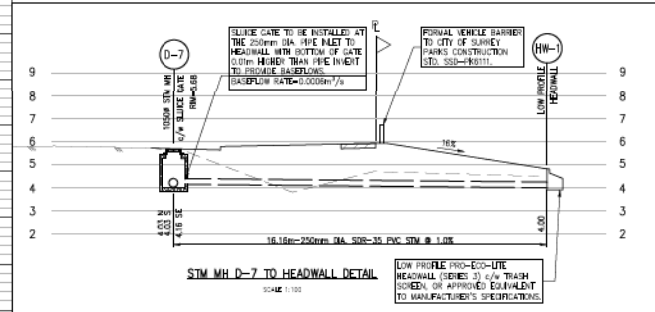
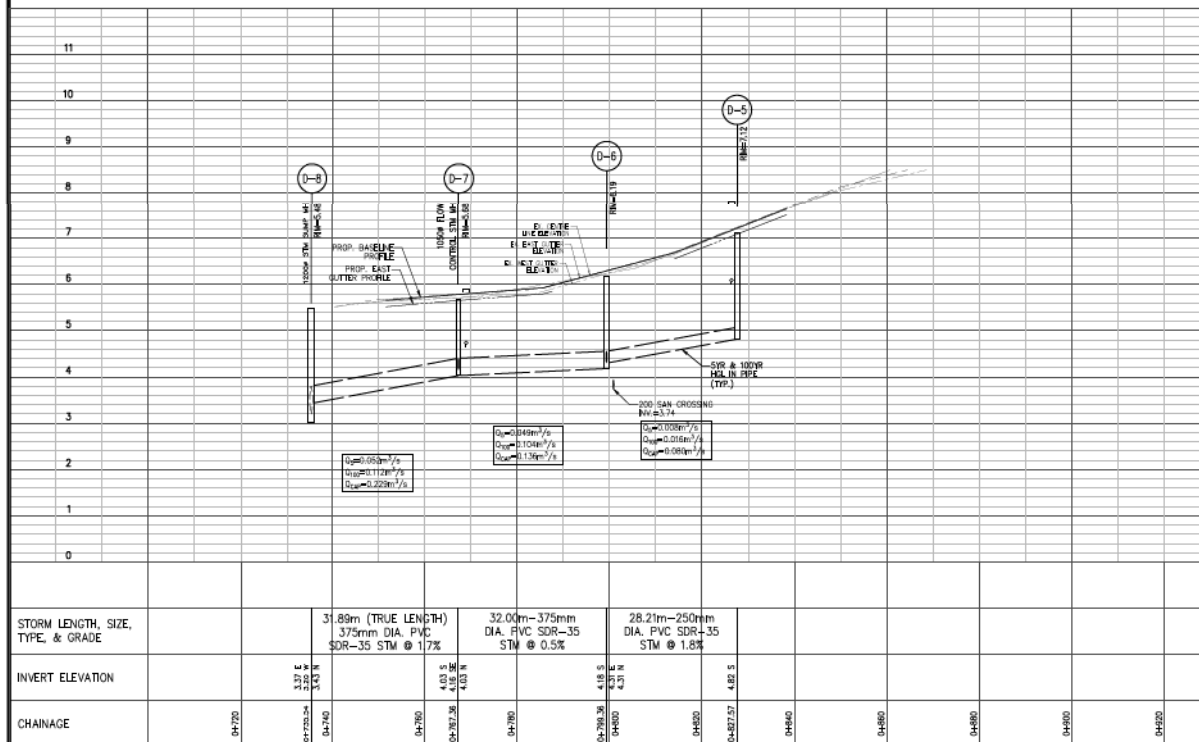
REVISION: 2

REVISION: 2



- STORM NOTES:**
1. ALL WORKS TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS).
 2. BEDDING SHALL BE 150mm GRANULAR BEDDING AND SURROUNDING MATERIAL AS PER MWD (L-2-7) SECTION 350007-1 TYPE 1.
 3. TRENCH BACKFILL UNDER LATERAL AND COLLECTOR ROADWAYS SHALL BE 300mm IMPROVED GRANULAR BACKFILL AS PER MWD (L-2-5) SECTION 350007-1 COMPACTED TO 95% MOISTURE PROCTOR DENSITY UNLESS OTHERWISE NOTED.
 4. ALL CATCHBASINS SHALL BE INSTALLED WITH THEIR FIN ELEVATIONS 30mm LOWER THAN THE CUTTER ELEVATION.
 5. ALL MH'S ARE 1050mm UNLESS OTHERWISE NOTED.
 6. ALL JOINTS TO BE OPEN JOINTS.
 7. ALL 150mm SERVICE CONNECTIONS SHALL BE PVC (SDR-28) UNLESS OTHERWISE NOTED.
 8. 200mm # TO 375mm # PIPES SHALL BE PVC (SDR-35) UNLESS OTHERWISE NOTED.
 9. INSPECTION CHAMBERS IN TRAVELED AREAS OR WITHIN 2m OF TRAVELED AREAS SHALL BE BUILT COMPLETE WITH CAST IRON BOX AND LID TO CITY OF SURREY STANDARD.

ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAYS OR WITHIN 2.0m OF DRIVEWAYS TO BE CAST IRON MR10 STYLE COVER (OR EQUIVALENT) CAPABLE OF H2O LOADING AS PER CITY OF SURREY STANDARDS



LEGAL DESCRIPTION: LOTS 1 & 2 SEC. 31 T. 9 N.W. 1/4 R. 20E 21S
 SURVEY BECHWAH: MON. 362550
 LOTS 96 AVENUE & 188 STREET
 SCALE FACTOR: 1:12,325mm (200:1)
 DATE: 2022-09-30
 DRAWING TITLE: DRAINAGE
 DRAWN: EY
 CHECKED: AKG
 REVISIONS: 15

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NOT FOR CONSTRUCTION

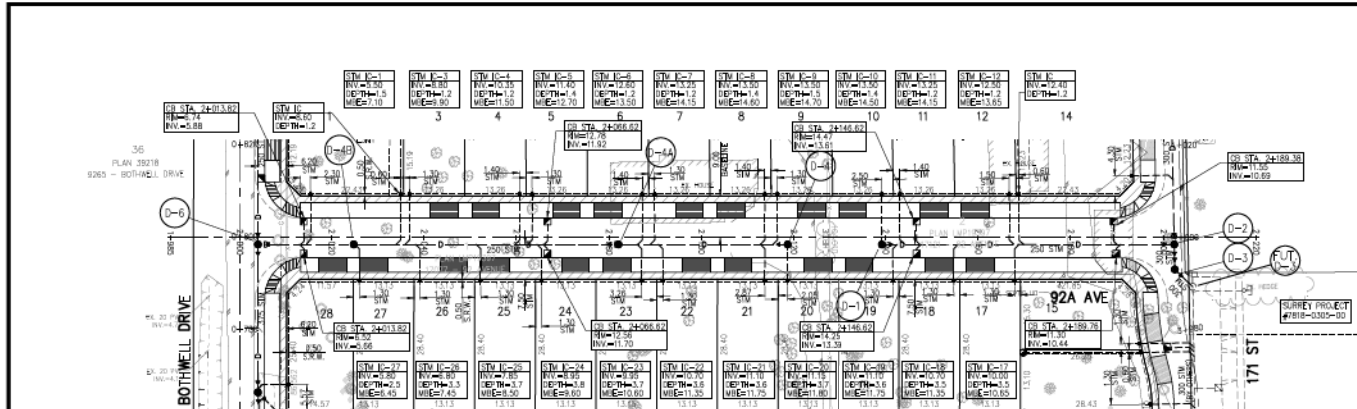
Hub Engineering Inc.
 Engineering and Development Consultants
 EGR: Permit to Practice Number: 1003404
 Suite 212, 12999 - 76 Avenue, Surrey, B.C. V3W 2V6
 Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
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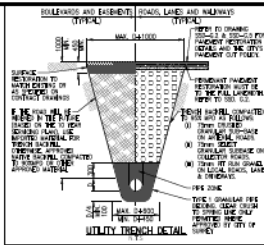
CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
 #201 - 15272 CROYDON DRIVE, SURREY, BC
 604-538-3525
 TITLE: **BOTHWELL DRIVE**
 PLAN/PROFILE

SCALE: HORIZ. 1:500
 VERT. 1:50
 DATE: 2022-09-30
 CONSULTANT PROJECT NO.: 22037
 DRAWING TITLE: DRAINAGE
 DATE: 15
 REV. 4
 OCT 3, 2024

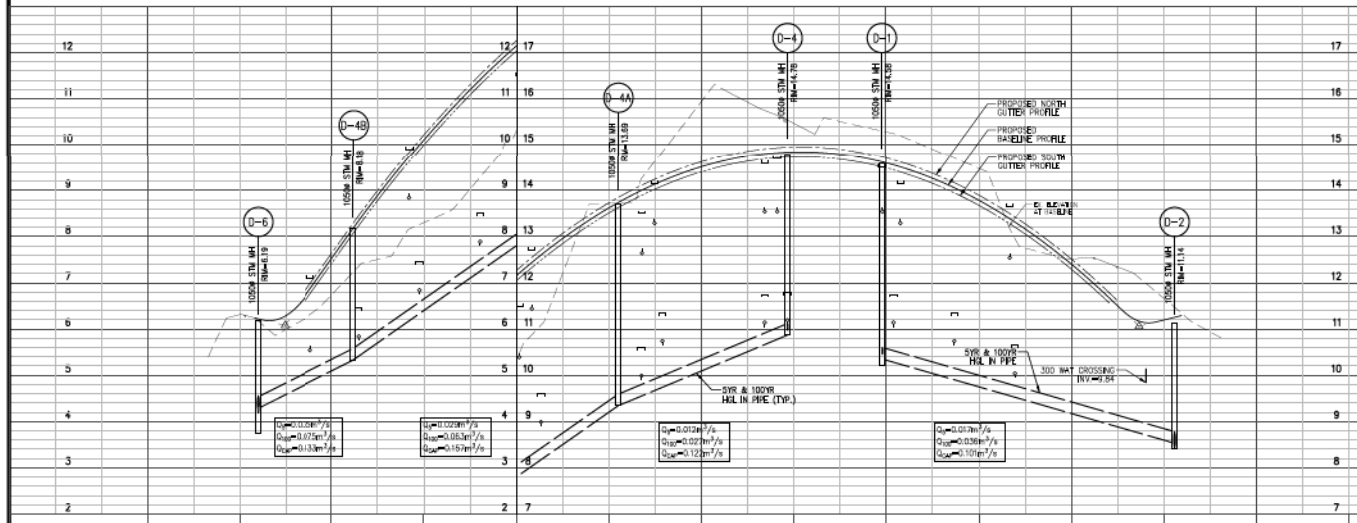
SURVEY PROJECT NUMBER: **7822-0231-00**
 DRAWING TITLE: **DRAINAGE**



ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAY OR WITHIN 2.0m OF DRIVEWAYS TO BE CAST IRON MR10 STYLE COVER (OR EQUIVALENT) CAPABLE OF H20 LOADING AS PER CITY OF SURREY STANDARDS



- STORM NOTES:**
1. ALL WORKS TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS).
 2. BEDDING SHALL BE 150mm GRANULAR BEDDING AND SURROUNDING MATERIAL AS PER MCD CL-2.7 SECTION 30001 - TYPE 1.
 3. TRENCH BACKFILL UNDER LANES, LOCAL AND COLLECTOR ROADWAYS SHALL BE 300mm IMPROVED GRANULAR BACKFILL AS PER MCD CL-2.3 SECTION 30001, COMPACTED TO 95% MODIFIED PROCTOR DENSITY UNLESS OTHERWISE NOTED.
 4. ALL CATCHBASINS SHALL BE INSTALLED WITH THEIR FIN ELEVATIONS 30mm LOWER THAN THE GUTTER ELEVATION.
 5. ALL MH'S ARE 1050mm Ø UNLESS OTHERWISE NOTED.
 6. ALL JOINTS TO BE OPEN JOINTS.
 7. ALL 150mm Ø SERVICE CONNECTIONS SHALL BE PVC (SDR=26) UNLESS OTHERWISE NOTED.
 8. 200mm Ø TO 375mm Ø PIPES SHALL BE PVC (SDR=35) UNLESS OTHERWISE NOTED.
 9. INSPECTION CHAMBERS IN TRAVELED AREAS OR WITHIN 5m OF TRAVELED AREAS SHALL BE FULLY COMPLETE WITH CAST IRON BOX AND LID TO CITY OF SURREY STANDARD.



STORM LENGTH, SIZE, TYPE, & GRADE	20.86m-250mm DIA. PVC SDR-35 STM @ 4.9%	57.28m-250mm DIA. PVC SDR-35 STM @ 7.0%	36.60m-250mm DIA. PVC SDR-35 STM @ 4.2%	63.15m-250mm DIA. PVC SDR-35 STM @ 2.9%
INVERT ELEVATION	4.31 m 4.31 m	5.33 m 5.33 m	9.34 m 9.34 m	10.87 m 10.87 m
CHANAGE	24+000 24+000.86	24+000 24+004.72	24+000 24+000.00	24+100 24+118.60

LEGAL DESCRIPTION LOT 50 SEC 31 TP 8 NMO PLAN 30218 & LOTS 1 & 2 SEC 31 TP 8 NMO PLAN 4416387

SURVEY BENCHMARK MON 342850

SCALE FACTOR 1:250

DATE: 2022-09-30

CONTRACTOR: 22037

DESIGNED: EY

DRAWN: AKG

REVIEWED: JB/MCK

DATE: 16

REV: 3

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CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permit to Practice Number: 1003404

Suite 212, 12999 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com



CLIENT

BEECH WESTGARD DEVELOPMENTS LTD.
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE

92A AVENUE
PLAN/PROFILE

SEAL

DATE: 2022-09-30

CONTRACTOR: 22037

DESIGNED: EY

DRAWN: AKG

REVIEWED: JB/MCK

DATE: 16

REV: 3

SURVEY PROJECT NUMBER

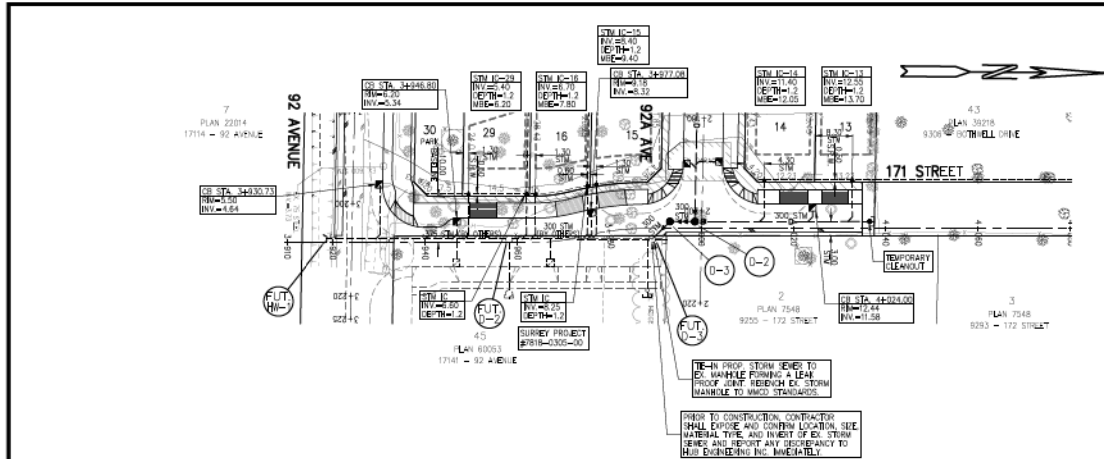
7822-0231-00

DRAWING TYPE

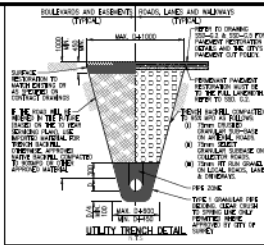
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DATE: 16

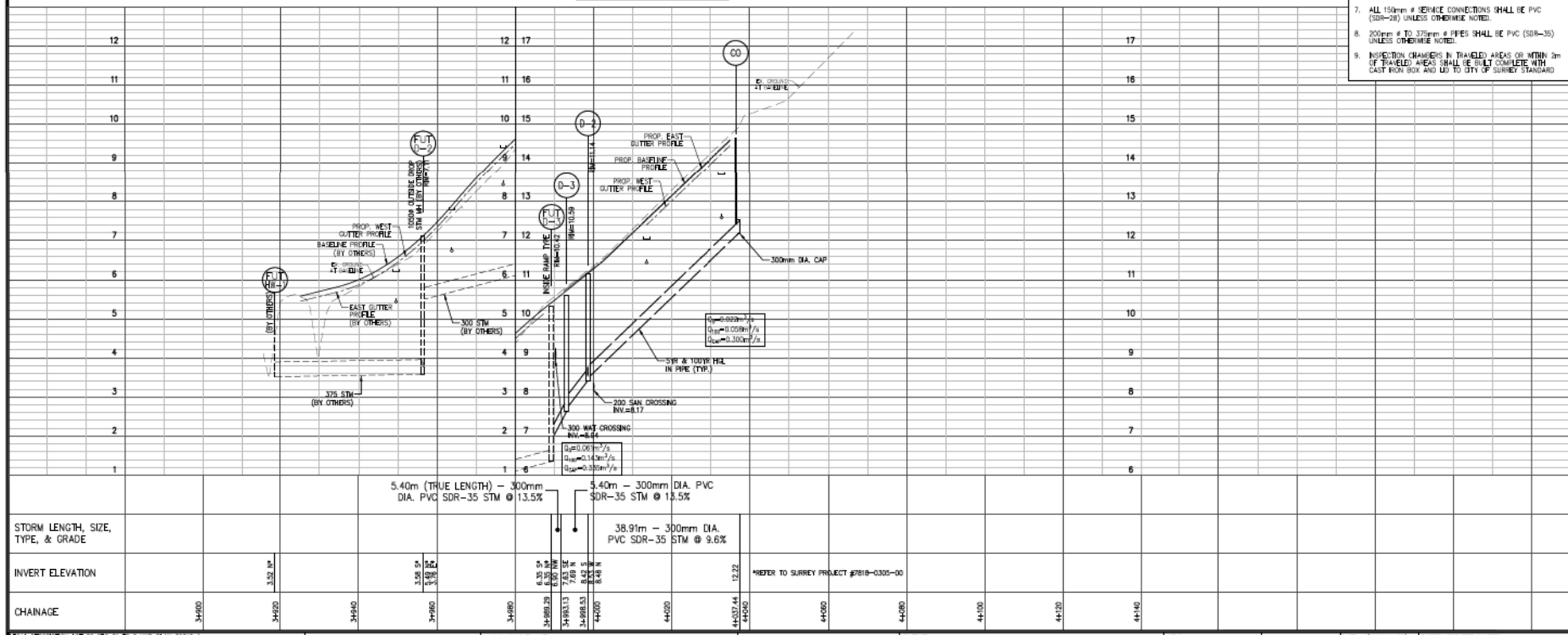
REV: 3



ALL STORM, SANITARY, AND WATER SERVICE CONNECTIONS WITHIN DRIVEWAYS OR WITHIN 2.0m OF DRIVEWAYS TO BE CAST FROM MR10 STYLE COVER (OR EQUIVALENT) CAPABLE OF H20 LOADING AS PER CITY OF SURREY STANDARDS



- STORM NOTES:**
1. ALL WORKS TO BE DONE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (LATEST EDITIONS).
 2. BEDDING SHALL BE 150mm GRANULAR BEDDING AND SURROUNDING MATERIAL AS PER MNCO CL-2.7 SECTION 305017 - TYPE 1.
 3. THICK BACKFILL UNDER LANES, LOCAL AND COLLECTOR ROADWAYS SHALL BE 300mm IMPROVED GRANULAR BACKFILL AS PER MNCO CL-2.3 SECTION 305017.
 4. ALL CATCHBASINS SHALL BE INSTALLED WITH THEIR FIN ELEVATIONS 30mm LOWER THAN THE GUTTER ELEVATION.
 5. ALL JUNCTIONS TO BE OPEN JOINTS.
 6. ALL 150mm Ø SERVICE CONNECTIONS SHALL BE PVC (SDR-26) UNLESS OTHERWISE NOTED.
 7. ALL 200mm Ø TO 375mm Ø PIPES SHALL BE PVC (SDR-35) UNLESS OTHERWISE NOTED.
 8. INSPECTION CHAMBERS IN TRAVELED AREAS OR WITHIN 5m OF TRAVELED AREAS SHALL BE BUILT COMPLETE WITH CAST IRON BOX AND LID TO CITY OF SURREY STANDARD.



STATION	CHANGING	INVERT ELEVATION	STORM LENGTH, SIZE, TYPE, & GRADE
3+490.00	3+490.00	3.52	
3+495.00	3+495.00	3.48	5.40m (TRUE LENGTH) - 300mm DIA. PVC SDR-35 STM @ 13.5%
3+497.50	3+497.50	3.48	
3+498.00	3+498.00	3.48	
3+498.50	3+498.50	3.48	
3+499.00	3+499.00	3.48	
3+499.50	3+499.50	3.48	
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3+599.00	3+599.00	3.48	
3+599.50	3+599.50	3.48	
3+600.00	3+600.00	3.48	

LEGAL DESCRIPTION: LOT 50 (SEC. 31 TP. 9 N30 PLAN 30218 & LOTS 1 & 2 (SEC. 31 TP. 9 N30 PLAN 4416367)

SURVEY BENCHMARK: MON 342650

SCALE FACTOR: 12.326m (40:1)

DATE: 2022-09-30

CONTRACTOR PROJECT NO: 22037

DRAWING TITLE: DRAINAGE

CLIENT: BEECH WESTGARD DEVELOPMENTS LTD.

PROJECT: #201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: 171 STREET PLAN/PROFILE

DATE: Oct 3, 2024

SCALE: HORIZ. 1:500 VERT. 1:50

DATE: (YYYY.MM.DD) 2022-09-30

CONTRACTOR PROJECT NO: 22037

DRAWING TITLE: DRAINAGE

CLIENT: BEECH WESTGARD DEVELOPMENTS LTD.

PROJECT: #201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: 171 STREET PLAN/PROFILE

DATE: Oct 3, 2024

SCALE: HORIZ. 1:500 VERT. 1:50

DATE: (YYYY.MM.DD) 2022-09-30

CONTRACTOR PROJECT NO: 22037

DRAWING TITLE: DRAINAGE

CLIENT: BEECH WESTGARD DEVELOPMENTS LTD.

PROJECT: #201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: 171 STREET PLAN/PROFILE

DATE: Oct 3, 2024

SCALE: HORIZ. 1:500 VERT. 1:50

DATE: (YYYY.MM.DD) 2022-09-30

CONTRACTOR PROJECT NO: 22037

DRAWING TITLE: DRAINAGE

CLIENT: BEECH WESTGARD DEVELOPMENTS LTD.

PROJECT: #201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: 171 STREET PLAN/PROFILE

DATE: Oct 3, 2024

SCALE: HORIZ. 1:500 VERT. 1:50

DATE: (YYYY.MM.DD) 2022-09-30

CONTRACTOR PROJECT NO: 22037

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CLIENT: BEECH WESTGARD DEVELOPMENTS LTD.

PROJECT: #201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: 171 STREET PLAN/PROFILE

DATE: Oct 3, 2024

SCALE: HORIZ. 1:500 VERT. 1:50

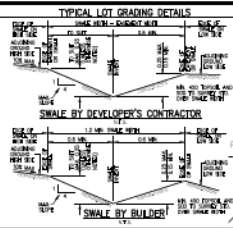
DATE: (YYYY.MM.DD) 2022-09-30

CONTRACTOR PROJECT NO: 22037

DRAWING TITLE: DRAINAGE

LOT GRADING LEGEND

- LOT NUMBER AND MINIMUM BUILDING ELEVATION
- SOLID LINE BY BUILDER DENOTES DIRECTION OF FLOW FOR SURFACE RUNOFF AND SIDEWALK SWALES
- DOTTED LINE BY DEVELOPER'S CONTRACTOR DENOTES DIRECTION OF FLOW FOR SWALES CONSTRUCTED IN ROW'S AND EXEMPTIONS
- DIRECTION OF SURFACE FLOW
- MIN. 450mm TOPSOIL AND 500 TO SURREY STD. (TYP.)
- EXISTING GROUND SURFACE ELEVATION
- FINISHED GRADE ELEVATION (MBE OFFERS FROM EX. GRADE ELEVATION)
- MEET EXISTING GROUND SURFACE ELEVATION
- PROPOSED FINISHED TOP OF RETAINING WALL ELEVATION AND BOTTOM OF RETAINING WALL ELEVATION
- 100 YR. FLOOD PATH IN PIPE
- 100 YR. FLOOD PATH BELOW GROUND SURFACE
- 100 YR. FLOOD PATH OVERLAND
- EXISTING GROUND SURFACE CONTOUR
- EXISTING SWALE
- MIN. 600mm LAWN CATCHBASIN TO SURREY STD.
- FILL IN EXCESS OF 0.1m
- CUT IN EXCESS OF 1.0m
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE RETAINED
- TREE PROTECTION BARRIER FENCE
- REGULINE



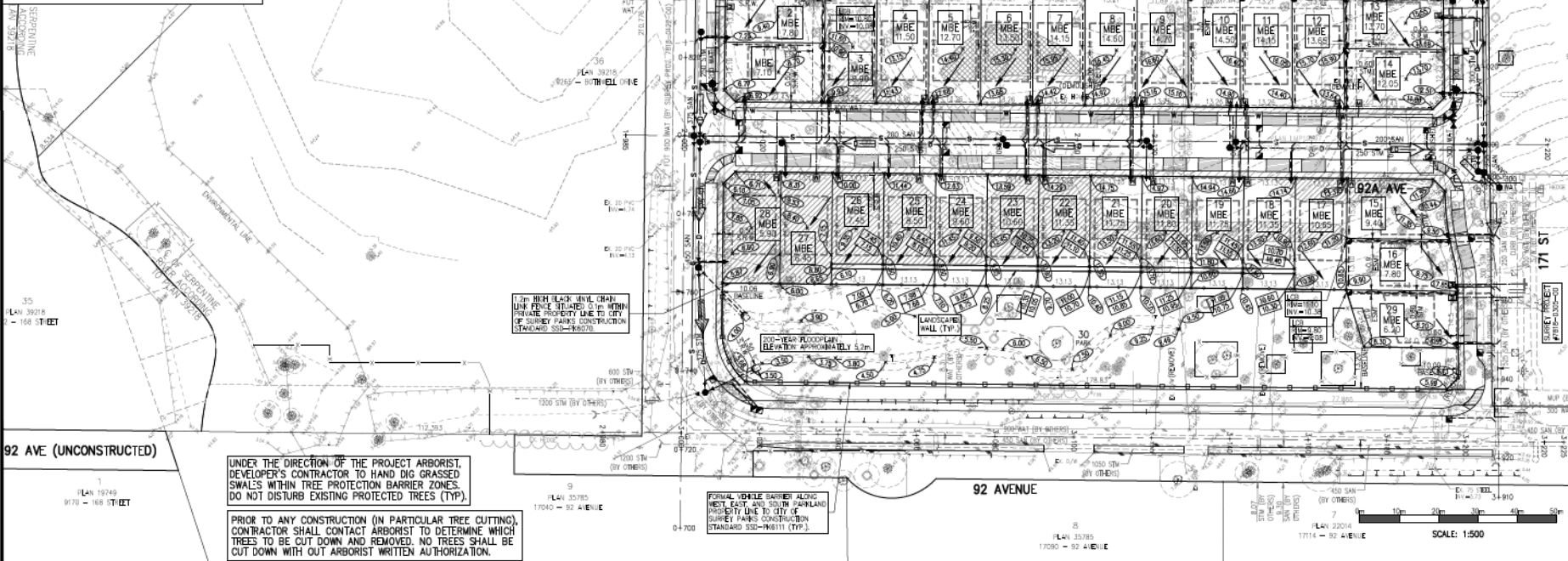
BUILDER SHALL NOT ALLOW ANY DIRT OR TOPSOIL TO BE TRACKED, DEPOSITED OR STORED ON ANY ROAD, DRIVEWAY, SIDEWALK OR BOULEVARD. IF ANY DIRT OR TOPSOIL IS TRACKED, DEPOSITED OR STORED ON ANY ROAD, DRIVEWAY, SIDEWALK OR BOULEVARD, IT SHALL BE REMOVED IMMEDIATELY AND SHALL NOT BE WASHED INTO ANY CATCHBASINS, LAWN BASINS, MAN-HOLES, DITCHES OR SEWERS, ETC. ALL PENALTIES OR CLEAN UP COSTS SHALL BE PAID BY BUILDER.

- ### LOT GRADING NOTES:
- ALL WORK SHOWN TO BE PERFORMED BY DEVELOPER SHALL BE PERFORMED BY DEVELOPER'S SERVING CONTRACTOR.
 - MBE IS MINIMUM BUILDING ELEVATION AND IS THE LOWEST LEVEL TO WHICH THE GRASS SPACE SWIM COAT, BASEMENT SLAB AND/OR SLAB ON GRADE SHALL BE SET AND SHALL NOT BE LOWER THAN ELEVATION SHOWN.
 - THE MBE MAY BE ADJUSTED IF IT CAN BE SHOWN THAT LOCAL STORM INFLOWS ARE USING THE 100 YR. FLOOD BELOW GRADE OF BUILDING LOCATION IN CLOSE TO POINT OF LOT. THE MBE MAY ONLY BE ADJUSTED WITH THE WRITTEN CONSENT OF A PROFESSIONAL ENGINEER AND THE SURVEY DESIGN DEPARTMENT.
 - DISCHARGE RAIN WATER LEADERS TO SPLASH PADS.
 - DEVELOPER'S ENGINEER TO CERTIFY ROUGH LOT GRADING PRIOR TO BUILDING PERMIT ISSUANCE.
 - A SETBACK 215 RESTRICTIVE COVENANT FOR BUT CONTROL SHALL BE REVERTED BY DEVELOPER.
 - ALL SWALES IN ROW'S AND EXEMPTIONS SHALL BE CONSTRUCTED BY CONTRACTOR AND SHALL BE GRADED, TOPSOILED AND SOILED FOR THE FULL EXTENT TO PROPERTY LINE. ALL SWALES IN ROW'S OR EXEMPTIONS SHALL BE CONSTRUCTED BY BUILDER.
 - CONTRACTOR SHALL NOT STORE ANY VEGETATION IN SETBACK AREAS (i.e. AREAS BEYOND SETBACK FENCE LINE).
 - ALL LAWNBASIN LEAVES SHALL BE 150mm DIAMETER.
 - DEVELOPER'S CONTRACTOR SHALL CONTACT SHERA PINEY AT 604-572-4328 TO INQUIRE HOW TO ATTEND PRE-CONSTRUCTION MEETING AND TO DISCUSS TREE PROTECTION REQUIREMENTS AND REMOVAL OF HAZARDOUS TREES AT TIME OF SITE CLEARING.
 - MAX SLOPES SHALL BE 3H:1V.
 - NO LOW SPOTS OR DEPRESSIONS SHALL BE CREATED. UNFORMALLY GRADE SITE AND PARK TO CREATE A GRADING CONTROL FOR SURFACE WATER TO RUNOFF TO STORM SYSTEM.
 - ALL EXCAVATION SOIL MATERIAL SHALL BE REPILED OFF-SITE AT PERMITTED SOUP SITE.
 - CONTRACTOR SHALL COMPLY WITH CITY EDC BY-LAW.
 - THE BUILDER AND/OR OWNER WILL NOT AT ANY TIME CONTRACT, INSTALL OR OTHERWISE PUT IN PLACE ANY BUILDING OR STRUCTURES OR IMPROVEMENTS ON, OVER, OR UNDER ANY SERVICE SHORT-OF-WAY (SOW).

TEMPORARY TREE PROTECTION BARRIER

TABLE 1

ROW	MINIMUM ROW WIDTH	MINIMUM ROW WIDTH
1	1.0m	1.0m
2	1.5m	1.5m
3	2.0m	2.0m
4	2.5m	2.5m
5	3.0m	3.0m
6	3.5m	3.5m
7	4.0m	4.0m
8	4.5m	4.5m
9	5.0m	5.0m
10	5.5m	5.5m
11	6.0m	6.0m
12	6.5m	6.5m
13	7.0m	7.0m
14	7.5m	7.5m
15	8.0m	8.0m
16	8.5m	8.5m
17	9.0m	9.0m
18	9.5m	9.5m
19	10.0m	10.0m
20	10.5m	10.5m
21	11.0m	11.0m
22	11.5m	11.5m
23	12.0m	12.0m
24	12.5m	12.5m
25	13.0m	13.0m
26	13.5m	13.5m
27	14.0m	14.0m
28	14.5m	14.5m
29	15.0m	15.0m
30	15.5m	15.5m
31	16.0m	16.0m
32	16.5m	16.5m
33	17.0m	17.0m
34	17.5m	17.5m
35	18.0m	18.0m
36	18.5m	18.5m
37	19.0m	19.0m
38	19.5m	19.5m
39	20.0m	20.0m
40	20.5m	20.5m
41	21.0m	21.0m
42	21.5m	21.5m
43	22.0m	22.0m
44	22.5m	22.5m
45	23.0m	23.0m
46	23.5m	23.5m
47	24.0m	24.0m
48	24.5m	24.5m
49	25.0m	25.0m
50	25.5m	25.5m
51	26.0m	26.0m
52	26.5m	26.5m
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92	46.5m	46.5m
93	47.0m	47.0m
94	47.5m	47.5m
95	48.0m	48.0m
96	48.5m	48.5m
97	49.0m	49.0m
98	49.5m	49.5m
99	50.0m	50.0m
100	50.5m	50.5m



UNDER THE DIRECTION OF THE PROJECT ARBORIST, DEVELOPER'S CONTRACTOR TO HAND DIG GRASSED SWALES WITHIN TREE PROTECTION BARRIER ZONES. DO NOT DISTURB EXISTING PROTECTED TREES (TYP.).

PRIOR TO ANY CONSTRUCTION (IN PARTICULAR TREE CUTTING), CONTRACTOR SHALL CONTACT ARBORIST TO DETERMINE WHICH TREES TO BE CUT DOWN AND REMOVED. NO TREES SHALL BE CUT DOWN WITH OUT ARBORIST WRITTEN AUTHORIZATION.

LEGAL DESCRIPTION: LOT 50, SEC 31 TP 9 RND PLAN 39218 & LOTS 1 & 2, SEC 31 TP 9 RND PLAN 14916387

SURVEY BEHAVIOUR: MON 362550

SCALE FACTOR: 1:12,325m (EQUATED)

REV	DATE	DESCRIPTION	BY
11	SEP 20/24	ISSUED FOR PD-3	EL
-	SEP 13/24	ISSUED FOR PD-4	EL
10	JUL 03/24	ISSUED FOR PD-2	EL
-	MAY 07/24	ISSUED FOR REVIEW	EL
9	MAY 07/24	ADD S.R.M. PER MUNICIPAL REQUIREMENTS	EL

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permit to Practice Number: 1003404

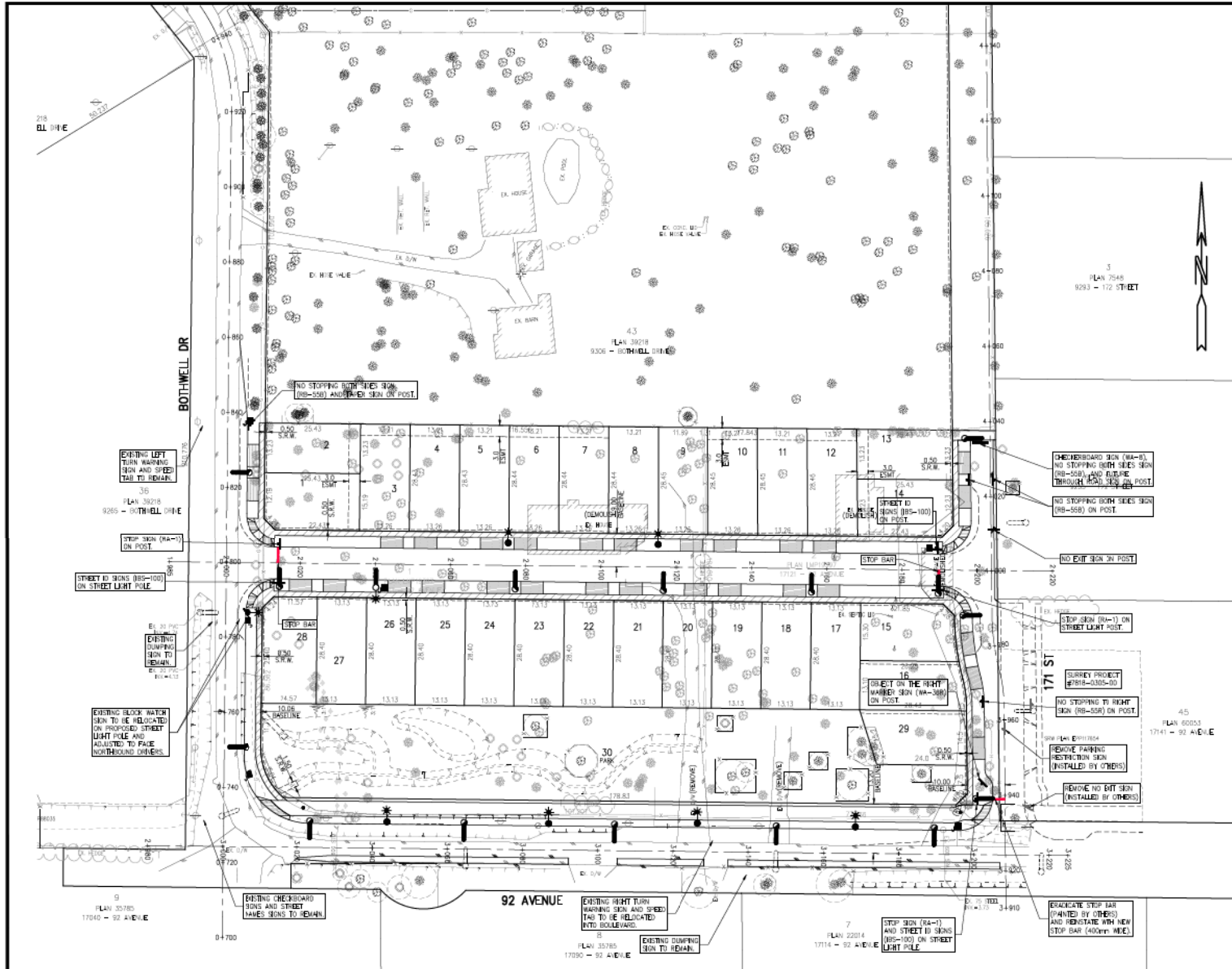
Site 212, 12999 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4328 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com

CITY OF SURREY

CLIENT: BEECH WESTGARD DEVELOPMENTS LTD.
#201 - 15272 CROYDON DRIVE, SURREY, BC 604-538-3525

TITLE: LOT GRADING PLAN
17077 & 17121 92 AVE

SCALE: HORIZ. 1:500
DATE: (YYYY.MM.DD) 2022-08-30
DESIGNED: EY
DRAWN: ANG
REVIEWED: JB/MCK
CONTRACT PRICE NO: 22037
SURREY PROJECT NUMBER: 7822-0231-00
DRAWING TYPE: LOT GRADING
DATE: 19 REV: 11
OCT 3, 2024



- STREET SIGNAGE NOTES:**
- DEVELOPER TO VERIFY SECURITY WITH THE CITY OF SURREY FOR THE PROPOSED STREET SIGNS.
 - SIGNAGE SHALL BE IN ACCORDANCE WITH THE TRANSPORTATION ASSOCIATION OF CANADA (TRAFIC) HANDBOOK: HANDBOOK FOR CANADIAN ROADS, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA, UNLESS OTHERWISE NOTED.

ROAD MARKINGS	
TYPE	QUANTITY
STOP BAR (400mm WIDE)	3

ALL PAINT LINE MARKINGS AND THERMO PLASTIC ROAD MARKINGS BY DEVELOPER'S CONTRACTOR AT DEVELOPER'S COST AND TO CITY OF SURREY'S PAVEMENT MARKING MANUAL (UNLESS SPECIFIED OTHERWISE).

STREET SIGNAGE		
TYPE	REFERENCE #	QUANTITY
STREET ID SIGN	RS-100	6
STOP SIGN	RS-1	3
NO STOPPING BOTH SIDES SIGN	RS-50B	2
NO STOPPING TO LEFT SIGN	RS-50L	1
NO STOPPING TO RIGHT SIGN	RS-50R	2
CHEWBREAD SIGN	WA-8	1
SUBJECT ON THE RIGHT WARNING SIGN	WA-30R	1
NO EXIT SIGN		1
TRUCK SIGN		1

LEGAL DESCRIPTION: LOT 30 SEC 31 TP 8 R40 PLAN 30218 & LOTS 1 & 2 SEC 31 TP 8 R40 PLAN 1411367

SURVEY BENCHMARK: MON 342550

SCALE FACTOR: 12.325m (40:1)

REV.	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR PD-1	EL
2	SEP 13/24	ISSUED FOR PD-4	EL
3	JUL 03/24	ISSUED FOR PD-3	EL
4	MAY 07/24	ISSUED FOR REVISE	EL
2	MAY 07/24	ADD S.R.N. PER MUNICIPAL REQUIREMENTS	EL

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NOT FOR CONSTRUCTION

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permitto Practice Number: 1003404

Site 212, 12909 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
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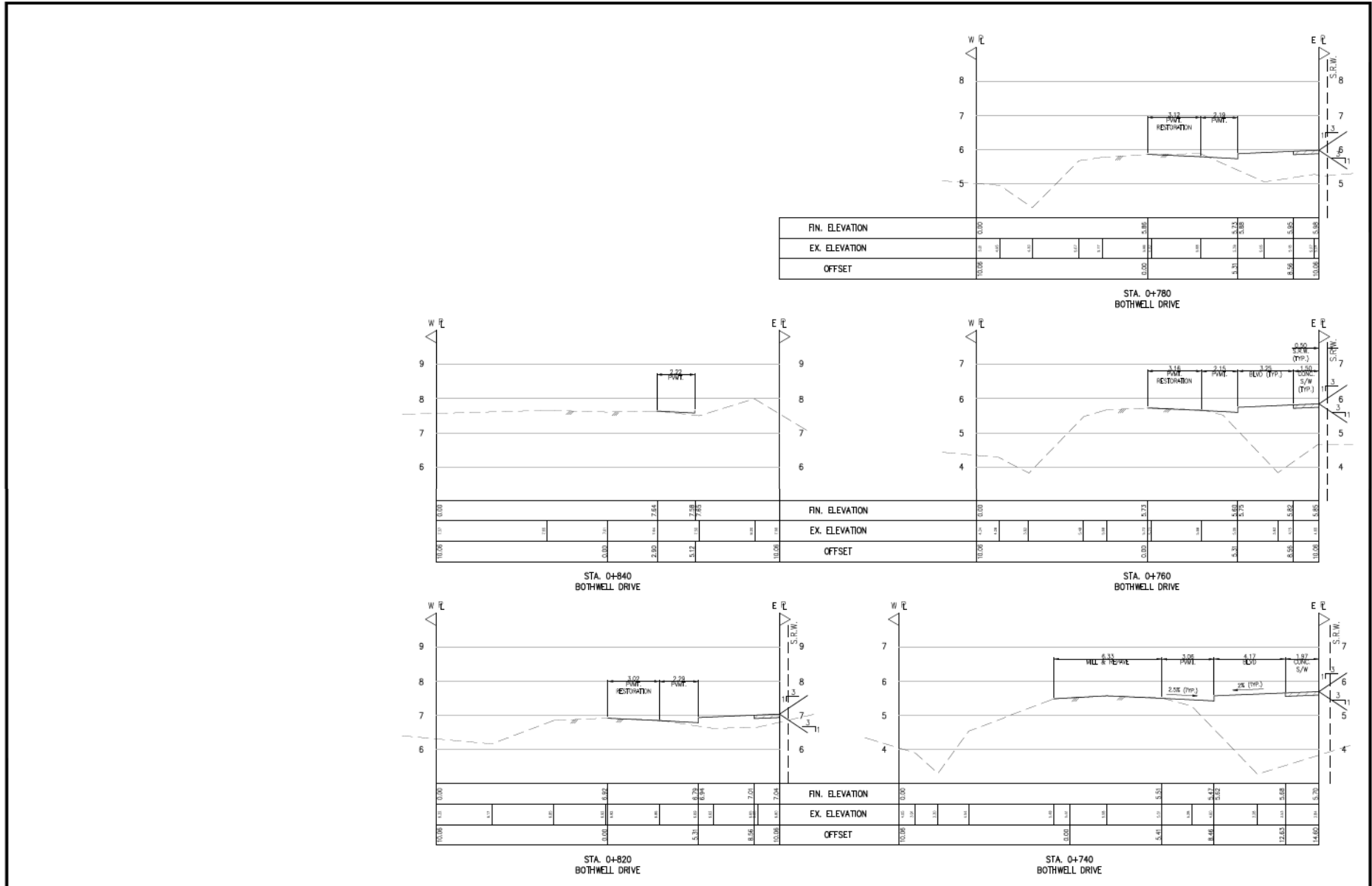


CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **PAVEMENT MARKINGS & SIGNAGE PLAN**

SCALE: HORIZ. 1:500 VERT.	DATE (YYYY.MM.DD) 2022-09-30	SURVEY PROJECT NUMBER 7822-0231-00
DESIGNED: EY	CONTRACTANT PROJECT NO. 22037	DRAWING TYPE MARKING & SIGNAGE
DRAWN: ANG	DWG. NO. 20	REV. 4
REVIEWED: JB/MCK	DATE Oct 3, 2024	

DESTROY ALL PRINTS BEARING PREVIOUS NUMBER ->



LEGAL DESCRIPTION: LOT 50 SEC 31 TP 8 RNO PLAN 30219 & LOTS 1 & 2 SEC 31 TP 8 RNO PLAN 1416387

SURVEY BENCHMARK: MON 362550 LOC: 95 AVENUE & 188 STREET SCALE FACTOR: 12.326m (40:1) DATE: 02/21/20

REV.	DATE	DESCRIPTION	BY
-	SEP 20/24	ISSUED FOR PD-3	EY
-	SEP 13/24	ISSUED FOR PD-4	EY
-	JUL 03/24	ISSUED FOR PD-5	EY
-	MAY 07/24	ISSUED FOR REVIEW	EY
-	MAY 02/24	ISSUED FOR PD-2	EY

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NOT FOR CONSTRUCTION

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permitto Practice Number: 1003404

Suite 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4328 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com



CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **BOTHWELL DR - CROSS-SECTIONS**
SECTION: STA. 0+740 to STA. 0+820

SEAL

DATE: 2022-08-30
CONSULTANT PROJECT NO: 22037
DESIGNED: EY
DRAWN: AKG
REVIEWED: JB/MCK
NO: 21

Oct 3, 2024

SCALE: HORIZ. 1:100
VERT. 1:50

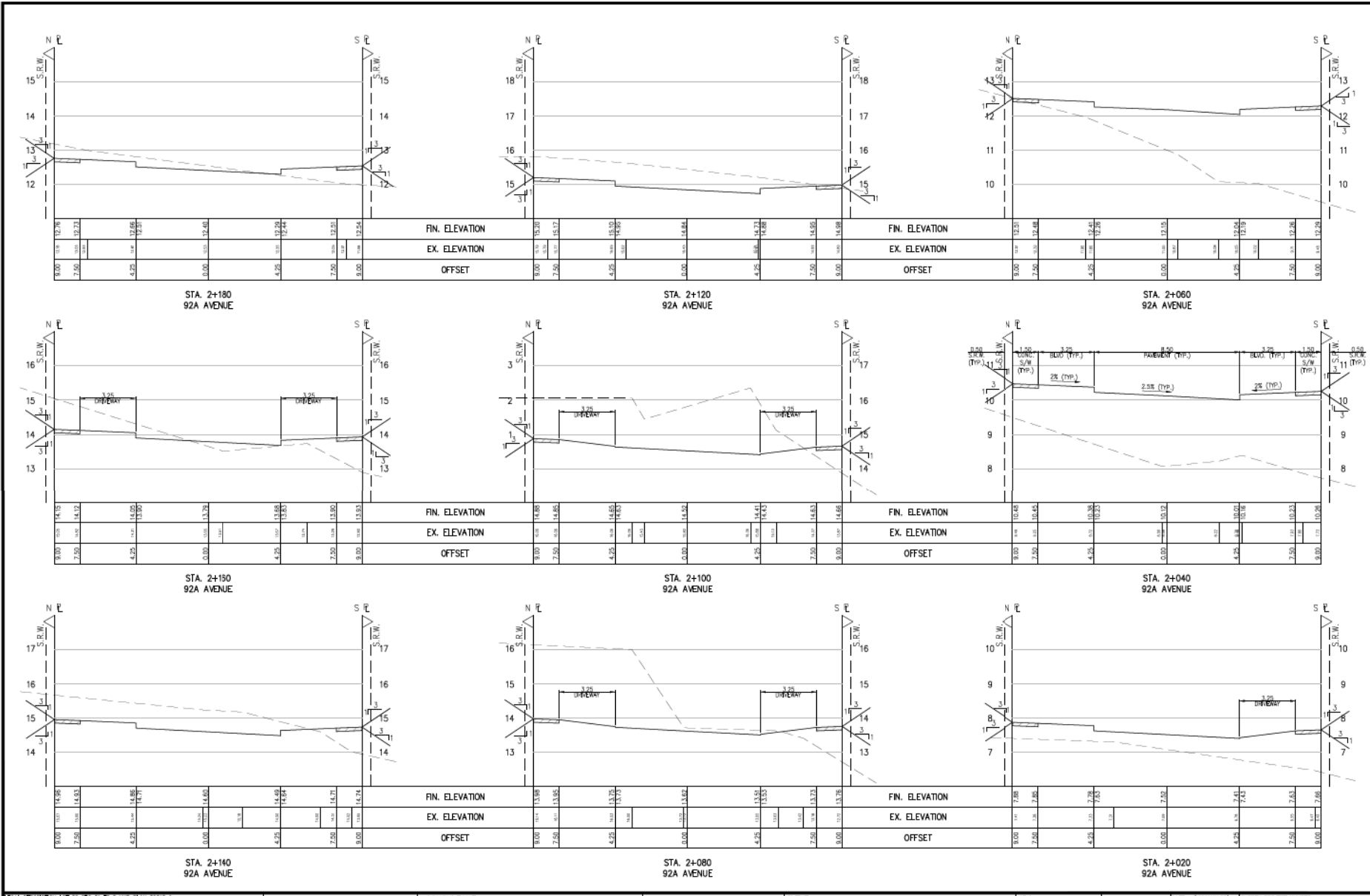
DATE: (YYYY-MM-DD)
2022-08-30

SURVEY PROJECT NUMBER: **7822-0231-00**

DRAWING TYPE: **ROADWORKS**

REVISION: 1

ESTD BY ALL PRINTS BEARING PREVIOUS NUMBER



LEGAL DESCRIPTION: LOT 50 SEC 31 TP 8 M40 PLAN 20210 & LOTS 1 & 2 SEC 31 TP 8 M40 PLAN 1416387

SURVEY BENCHMARK: MON 362550

SCALE FACTOR: 12.325m (2021/2022)

REV.	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR PD-3	EV
2	SEP 13/24	ISSUED FOR PD-4	EV
3	JUL 03/24	ISSUED FOR PD-5	EV
4	MAY 07/24	ISSUED FOR REVISED	EV
5	MAY 02/24	ISSUED FOR PD-2	EV

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NOT FOR CONSTRUCTION

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permitto Fracture Number: 1003404

Site 212, 12992 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | mail@hub-inc.com
www.hub-inc.com



CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **92A AVE - CROSS SECTIONS**
STA. 2+020 to STA. 2+180
SECTION

SCALE: HORIZ. 1:100
VERT. 1:50

DATE: (YYYY-MM-DD)
2022-09-30

CONSULTANT PROJECT NO.: 22037

DRAWN: EY

DESIGNED: ANG

REVIEWED: JB/MCK

NO. 22

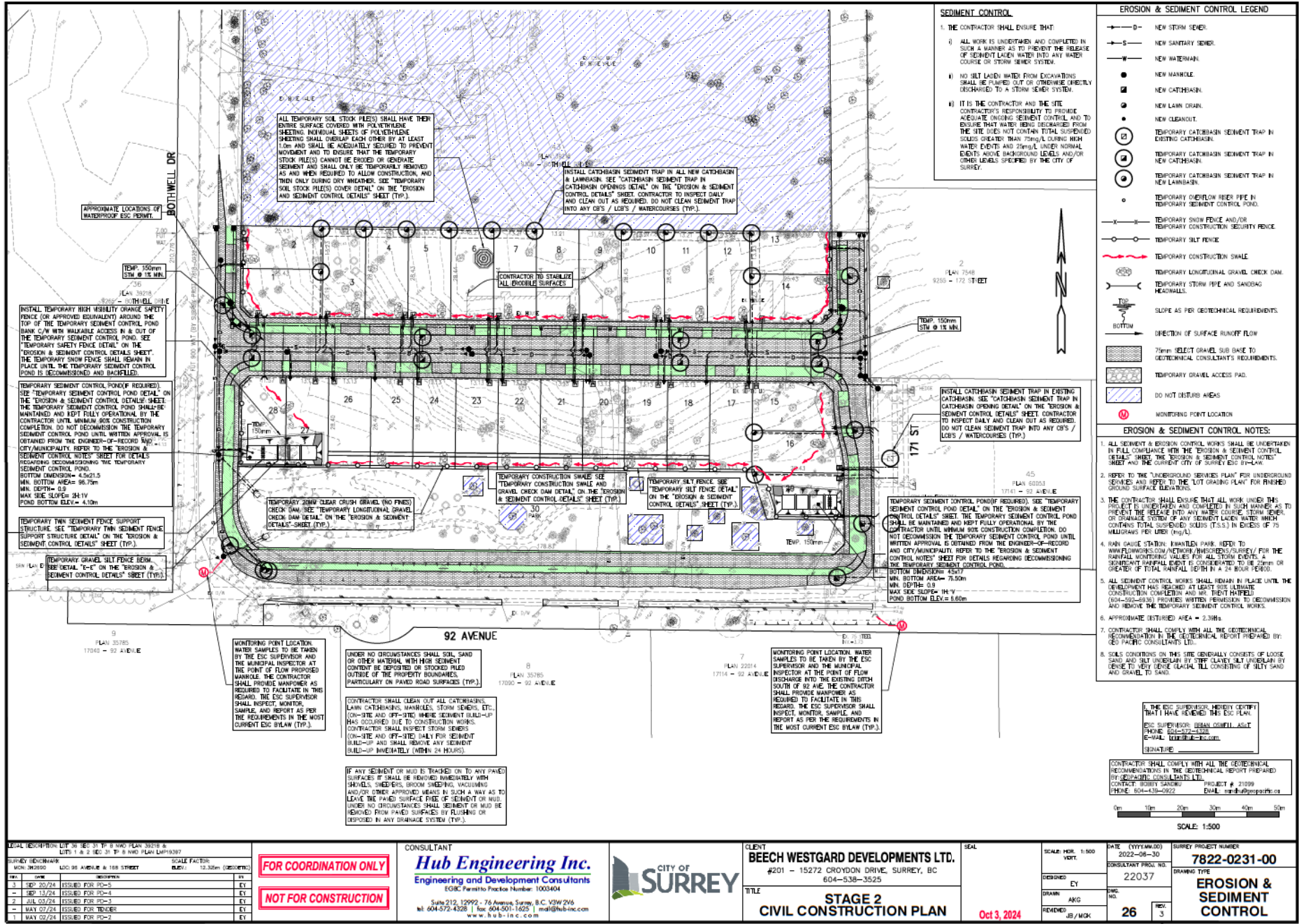
REV. 1

Oct 3, 2024

SURVEY PROJECT NUMBER: **7822-0231-00**

DRAWING TYPE: **ROADWORKS**

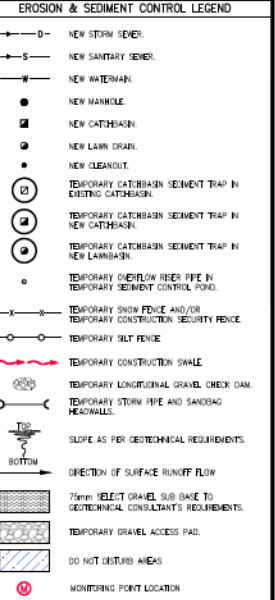
ESTD BY ALL PRINTS BEARING PREVIOUS NUMBER



SEDIMENT CONTROL

1. THE CONTRACTOR SHALL ENSURE THAT:

- ALL WORK IS UNDERTAKEN AND COMPLETED IN SUCH A MANNER AS TO PREVENT THE RELEASE OF SEDIMENT LADEN WATER INTO ANY WATER COURSE OR STORM SEWER SYSTEM.
- NO SILT LADEN WATER FROM EXCAVATIONS SHALL BE PAVED, CUT OR OTHERWISE INSTANTLY DISCHARGED TO A STORM SEWER SYSTEM.
- IT IS THE CONTRACTOR AND THE SITE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE UNDOING, SEDIMENT CONTROL AND TO ENSURE THAT WATER BEING DISCHARGED FROM THE SITE DOES NOT CONTAIN TOTAL SUSPENDED SOLIDS GREATER THAN 75mg/L UNDER NORMAL WATER EVENTS AND 25mg/L UNDER NORMAL EVENTS ABOVE BACKGROUND LEVELS AND/OR OTHER LEVELS SPECIFIED BY THE CITY OF SURREY.



EROSION & SEDIMENT CONTROL NOTES:

- ALL SEDIMENT & EROSION CONTROL WORKS SHALL BE UNDERTAKEN IN FULL COMPLIANCE WITH THE "EROSION & SEDIMENT CONTROL DETAILS" SHEET AND THE CURRENT CITY OF SURREY ESD 91-04W.
- REFER TO THE UNDERGROUND SERVICES PLAN FOR UNDERGROUND SERVICES AND REFER TO THE LOT GRADING PLAN FOR FINISHED GROUND SURFACE ELEVATIONS.
- THE CONTRACTOR SHALL ENSURE THAT ALL WORK INVOLVED IN THE INSTALLATION AND MAINTENANCE OF EROSION & SEDIMENT CONTROL DETAILS SHALL BE MAINTAINED AND KEPT FULLY OPERATIONAL BY THE CONTRACTOR UNTIL MINIMUM ROSE CONSTRUCTION COMPLETION. DO NOT DECOMMISSION THE TEMPORARY SEDIMENT CONTROL POND UNTIL WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER-OF-RECORD AND CITY/MUNICIPALITY. REFER TO THE "EROSION & SEDIMENT CONTROL NOTES" SHEET FOR DETAILS REGARDING DECOMMISSIONING THE TEMPORARY SEDIMENT CONTROL POND.
- RAIN GAUGE STATION: HAVILLAN PARK. REFER TO: WWW.FORMOS.COM/ACTIVATION/FILES/ FOR THE RAINFALL MONITORING VALUES FOR ALL STORM EVENTS. A SIGNIFICANT RAINFALL EVENT IS CONSIDERED TO BE 20mm OR GREATER OF TOTAL RAINFALL DEPTH IN A 24 HOUR PERIOD.
- ALL SEDIMENT CONTROL WORKS SHALL REMAIN IN PLACE UNTIL THE DEVELOPMENT HAS REACHED AT LEAST 50% ULTIMATE CONSTRUCTION COMPLETION AND MIN. TREE HEIGHT (50%-50%-50%) PROMISES WRITTEN PERMISSION TO DECOMMISSION AND REMOVE THE TEMPORARY SEDIMENT CONTROL WORKS.
- APPROXIMATE DISTURBED AREA = 2,396m².
- CONTRACTOR SHALL COMPLY WITH ALL THE GEOTECHNICAL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT PREPARED BY (SEE PACIFIC CONSULTANTS LTD.).
- SOILS CONTIGUOUS ON THIS SITE GENERALLY CONSIST OF LOOSE SAND AND SILT UNDERLAIN BY TOP CLAYEY SILT UNDERLAIN BY HEAVY TO VERY HEAVY CLAYEY SILT CONSISTING OF SILTY SAND AND GRAVEL TO SAND.

THE ESC SUPERVISOR HEREBY CERTIFY THAT I HAVE REVIEWED THIS ESC PLAN.
 ESC SUPERVISOR: DEBBI GRIFFIN, ASST. PROJECT ENGINEER
 E-MAIL: debbi.g@pacific.ca
 SIGNATURE: _____

CONTRACTOR SHALL COMPLY WITH ALL THE GEOTECHNICAL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT PREPARED BY PACIFIC CONSULTANTS LTD.
 CONTRACTOR: ROBBY GARDNER
 PROJECT #: 21099
 PHONE: 604-436-0922
 E-MAIL: r.gardner@pacific.ca

SCALE: 1:500

LEGAL DESCRIPTION: LRP 90 SEC 31 TP 9 RNO PLAN 20218-8 LOTS 1 & 2 SEC 31 TP 9 RNO PLAN LRP14367

SURVEY BENCHMARK: MON 362550 SCALE FACTOR: 12.326m (CURRENT)

REV.	DATE	ISSUED FOR	BY
1	SEP 20/24	ISSUED FOR P0-4	EV
2	JUL 03/24	ISSUED FOR P0-3	EV
3	MAY 02/24	ISSUED FOR P0-2	EV
4	MAY 02/24	ISSUED FOR P0-2	EV

FOR COORDINATION ONLY

Hub Engineering Inc.
 Engineering and Development Consultants
 EGC Permitto Fracture Number: 1003404

NOT FOR CONSTRUCTION

Site 212, 12999 - 76 Avenue, Surrey, B.C. V3W 2V6
 Tel: 604-572-4328 | Fax: 604-501-1625 | Email: info@hub-inc.com
 www.hub-inc.com



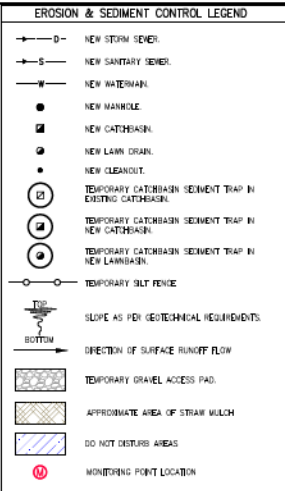
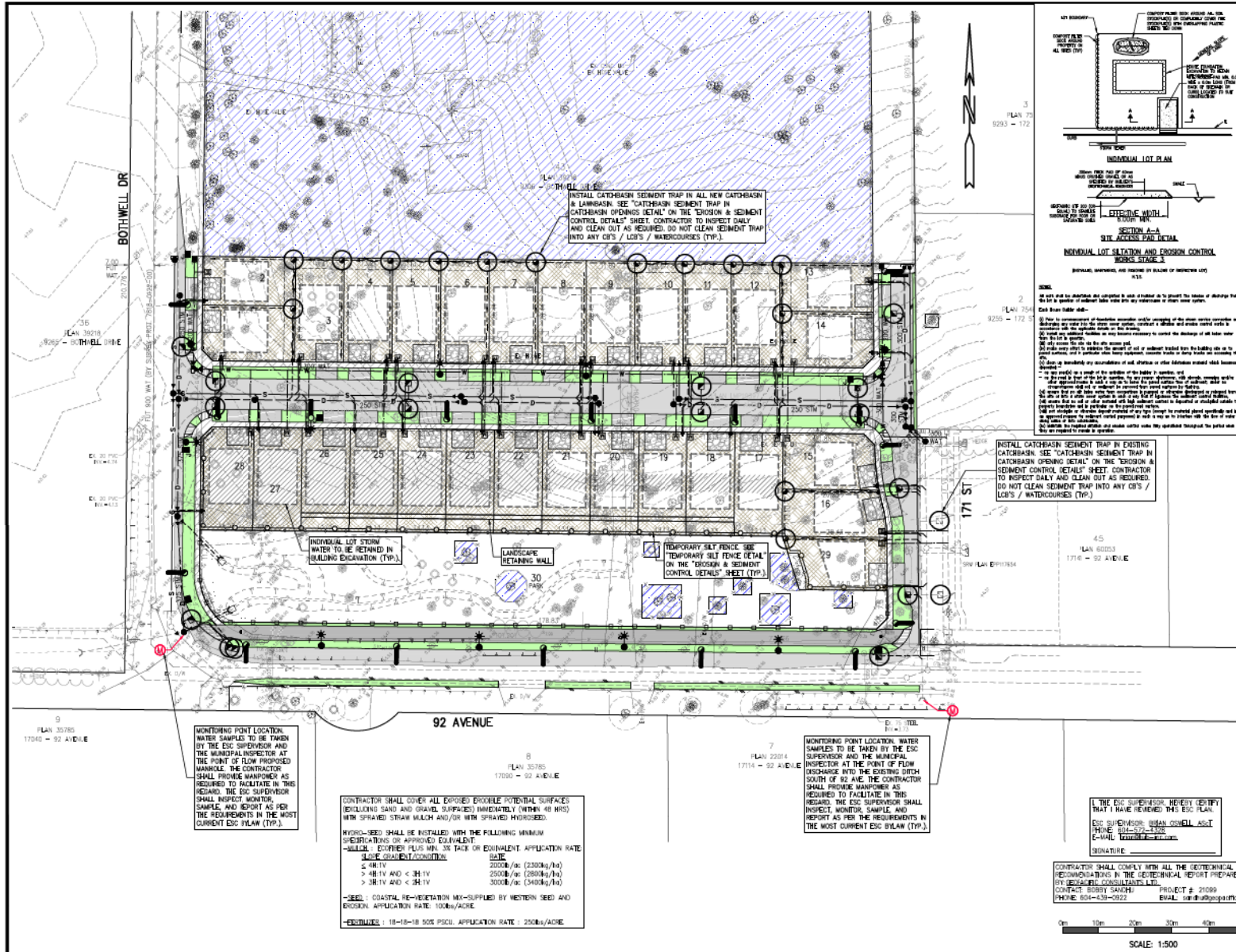
CLIENT: BEECH WESTGARD DEVELOPMENTS LTD.
 #201 - 15272 CROYDON DRIVE, SURREY, BC
 604-538-3525

TITLE: **STAGE 2 CIVIL CONSTRUCTION PLAN**

DATE: **Oct 3, 2024**

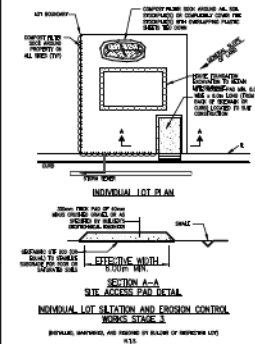
SCALE:	DATE:	SURVEY PROJECT NUMBER:
1:500 VERT.	2022-08-30	7822-0231-00
DESIGNED: EY	22037	EROSION & SEDIMENT CONTROL
DRAWN: ANG	26	
REVIEWED: JB/MCK	REV. 3	

DESTROY ALL PRINTS BEARING PREVIOUS NUMBER



- ### EROSION & SEDIMENT CONTROL NOTES:
1. ALL SEDIMENT & EROSION CONTROL WORKS SHALL BE UNDERTAKEN IN FULL COMPLIANCE WITH THE "EROSION & SEDIMENT CONTROL DETAILS" SHEET, THE "EROSION & SEDIMENT CONTROL NOTES" SHEET AND THE CURRENT CITY OF SURREY ESC PLAN.
 2. REFER TO THE "UNDERGROUND SERVICES PLAN" FOR UNDERGROUND SERVICES AND REFER TO THE "LOT DRAINING PLAN" FOR FINISHED GROUND SURFACE ELEVATIONS.
 3. THE CONTRACTOR SHALL ENSURE THAT ALL WORK UNDER THIS PROJECT IS UNDERTAKEN AND COMPLETED BY SUCH MEANS AS TO PREVENT THE RELEASE INTO ANY WATER COURSE, STORM SEWER, OR DRAINAGE SYSTEM OF ANY SEDIMENT LADEN WATER WHICH CONTAINS TOTAL SUSPENDED SOLIDS (TSS) IN EXCESS OF 75 MILLIGRAMS PER LITER (mg/L).
 4. RAIN GAUGE STATIONS (MANHOLE PARK REFER TO WWW.FLOWMETERS.COM/NETWORK/INSTRUMENTS/CLIMATE/) FOR THE RAINFALL MONITORING VALUES FOR ALL STORM EVENTS. A SEDIMENT RAINFALL EVENT IS CONSIDERED TO BE 15 MIN OR GREATER OF TOTAL RAINFALL DEPTH IN A 24 HOUR PERIOD.
 5. ALL SEDIMENT CONTROL WORKS SHALL BEHIND IN PLACE UNTIL THE CONSTRUCTION COMPLETION AND THE "EROSION & SEDIMENT CONTROL DETAILS" SHEET PROVIDES WRITTEN PERMISSION TO DISMANTLE AND REMOVE THE TEMPORARY SEDIMENT CONTROL WORKS.
 6. APPROXIMATE DISTURBED AREA = 2.30HA.
 7. CONTRACTOR SHALL COMPLY WITH ALL THE GEOTECHNICAL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT PREPARED BY SEE PAUL CONSULTANTS LTD.
 8. SOIL CONDITIONS ON THIS SITE (ESPECIALLY CONSISTS OF LOOSE SAND AND SILT UNDERLAY) MUST BE LAYER SILT UNDERLAY BY DEGREE TO VERY DEGREE GLACIAL TILL CONSISTING OF SILTY SAND AND GRAVEL TO SAND.

- ### SEDIMENT CONTROL
1. THE CONTRACTOR SHALL ENSURE THAT:
 - (a) ALL WORK IS UNDERTAKEN AND COMPLETED IN SUCH A MANNER AS TO PREVENT THE RELEASE OF SEDIMENT LADEN WATER INTO ANY WATER COURSE OR STORM SEWER SYSTEM.
 - (b) NO SILT LADEN WATER FROM EXCAVATIONS SHALL BE PUMPED OUT OR OTHERWISE DIRECTLY DISCHARGED TO A STORM SEWER SYSTEM.
 - (c) IF IT IS THE CONTRACTOR AND THE SITE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A SUFFICIENT EROSION SEDIMENT CONTROL AND TO ENSURE THAT WATER BEING DISCHARGED FROM THE SITE DOES NOT CONTAIN TOTAL SUSPENDED SOLIDS GREATER THAN 75mg/L DURING HIGH WATER EVENTS AND 25mg/L UNDER NORMAL EVENTS ABOVE BACKGROUND LEVELS AND/OR OTHER LEVELS SPECIFIED BY THE CITY OF SURREY.



3 PLAN 70 5293 - 172

2 PLAN 704 9250 - 172 S

45 PLAN 60003 1716 - 92 AVENUE

9 PLAN 30785 17000 - 92 AVENUE

7 PLAN 22014 17714 - 92 AVENUE

INSTALL CATCHBASIN SEDIMENT TRAP IN ALL NEW CATCHBASIN & LAWBASIN. SEE "CATCHBASIN SEDIMENT TRAP IN CATCHBASIN OPENINGS DETAIL" ON THE "EROSION & SEDIMENT CONTROL DETAILS" SHEET. CONTRACTOR TO INSPECT DAILY AND CLEAN OUT AS REQUIRED. DO NOT CLEAN SEDIMENT TRAP INTO ANY C/S / L/D'S / WATERCOURSES (TYP.).

INSTALL CATCHBASIN SEDIMENT TRAP IN EXISTING CATCHBASIN. SEE "CATCHBASIN SEDIMENT TRAP IN CATCHBASIN OPENINGS DETAIL" ON THE "EROSION & SEDIMENT CONTROL DETAILS" SHEET. CONTRACTOR TO INSPECT DAILY AND CLEAN OUT AS REQUIRED. DO NOT CLEAN SEDIMENT TRAP INTO ANY C/S / L/D'S / WATERCOURSES (TYP.).

MONITORING POINT LOCATION. WATER SAMPLES TO BE TAKEN BY THE ESC SUPERVISOR AND THE MUNICIPAL INSPECTOR AT THE POINT OF FLOW PROPOSED MANHOLE. THE CONTRACTOR SHALL PROVIDE MANPOWER AS REQUIRED TO FACILITATE THIS WORK. THE ESC SUPERVISOR SHALL INSPECT, MONITOR, SAMPLE, AND REPORT AS PER THE REQUIREMENTS IN THE MOST CURRENT ESC BYLAW (TYP.).

MONITORING POINT LOCATION. WATER SAMPLES TO BE TAKEN BY THE ESC SUPERVISOR AND THE MUNICIPAL INSPECTOR AT THE POINT OF FLOW DISCHARGE INTO THE EXISTING DITCH SOUTH OF 92 AVE. THE CONTRACTOR SHALL PROVIDE MANPOWER AS REQUIRED TO FACILITATE THIS WORK. THE ESC SUPERVISOR SHALL INSPECT, MONITOR, SAMPLE, AND REPORT AS PER THE REQUIREMENTS IN THE MOST CURRENT ESC BYLAW (TYP.).

CONTRACTOR SHALL COVER ALL EXPOSED ERODIBLE POTENTIAL SURFACES (EXCLUDING SAND AND GRAVEL SURFACES) IMMEDIATELY (WITHIN 48 HRS) WITH SPRAYED STRAW MULCH AND/OR WITH SPRAYED HYDROSEED.

HYDRO-SEED SHALL BE INSTALLED WITH THE FOLLOWING MINIMUM SPECIFICATIONS OR APPROVED EQUIVALENT:

MULCH - EQUIPMENT PLUS MIN. 3% TACKER OR EQUIVALENT APPLICATION RATE	SEED
> 4% IV	2500g/ha (2300kg/ha)
> 4% IV AND < 3% IV	2500g/ha (2800kg/ha)
> 3% IV AND < 3% IV	3000g/ha (3400kg/ha)

SEED - COASTAL RE-VEGETATION MIX - SUPPLIED BY WESTERN SEED AND ORIGINAL APPLICATION RATE: 1000g/ACRE

EQUIVALENTS - 18-16-16 50% POCU APPLICATION RATE: 2500g/ACRE

I, THE ESC SUPERVISOR, HEREBY CERTIFY THAT I HAVE REVIEWED THIS ESC PLAN.

ESC SUPERVISOR: GREG ORRILL, ASST. ENV. MGR. (S) - ESC

C-MAIL: greg.orrill@cityofsurrey.ca

SIGNATURE: _____

CONTRACTOR SHALL COMPLY WITH ALL THE GEOTECHNICAL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT PREPARED BY SEE PAUL CONSULTANTS LTD.

CONTACT: BARRY SANCHEZ PROJECT # 21099

PHONE: 604-639-0922 EMAIL: sml@seeconsultants.com

LEGAL DESCRIPTION: LOT 30, SEC 31 TP 8 N30 PLAN 30218 & LOTS 1 & 2, SEC 31 TP 8 N30 PLAN L4416367

SCALE FACTOR: 1:250 (25.00m (DECI)M)

REV.	DATE	DESCRIPTION	BY
1	SEP 20/24	ISSUED FOR PD-1	EL
2	SEP 13/24	ISSUED FOR PD-4	EL
3	JUL 03/24	ISSUED FOR PD-3	EL
4	MAY 07/24	ISSUED FOR REVISES	EL
5	MAY 02/24	ISSUED FOR PD-2	EL

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGBC Permitto Practice Number: 1003404

Site 212, 12909 - 76 Avenue, Surrey, B.C. V3W 2V6
Tel: 604-572-4528 | Fax: 604-501-1625 | info@hub-inc.com
www.hub-inc.com



CLIENT: **BEECH WESTGARD DEVELOPMENTS LTD.**

#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE: **STAGE 3 MAINTENANCE PLAN**

SCALE: 1:500

DATE: 2022-10-30

CONTRACTANT PROJECT NO: 22037

DRAWING NO: 27

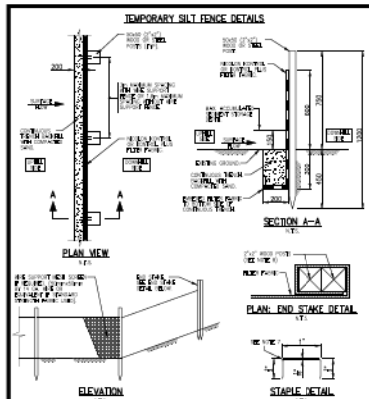
REV. 3

DATE: Oct 3, 2024

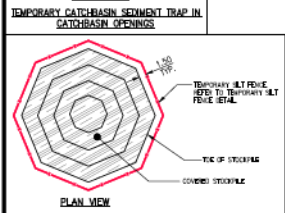
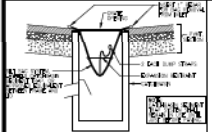
SURVEY PROJECT NUMBER: **7822-0231-00**

DRAWING TITLE: **EROSION & SEDIMENT CONTROL**

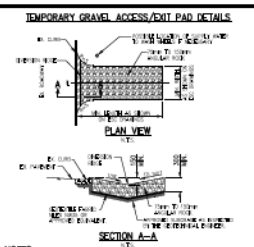
ESTD ALL PRINTS BEARING PREVIOUS NUMBER



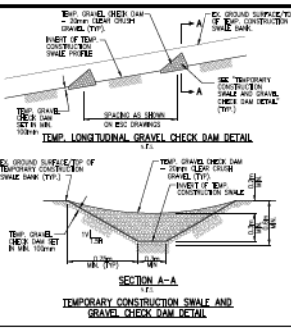
- NOTES:**
1. THE SILT FENCE SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.
 2. THE SILT FENCE SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.
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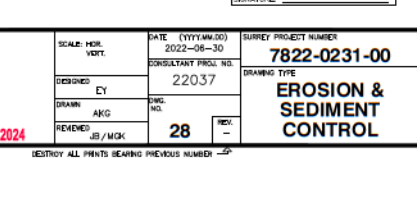
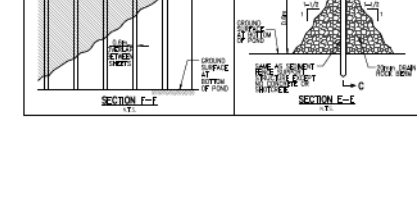
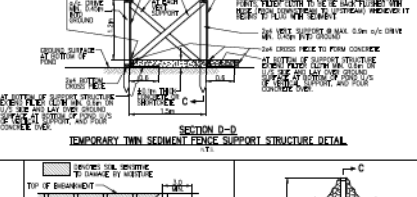
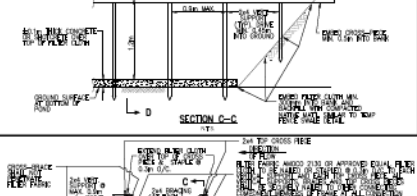
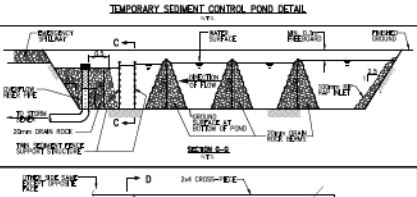
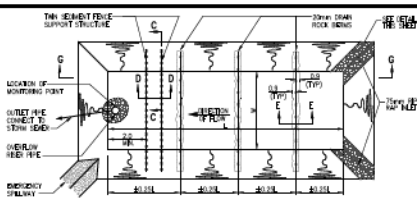
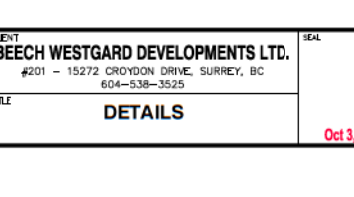
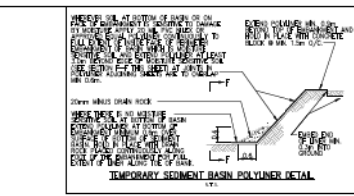
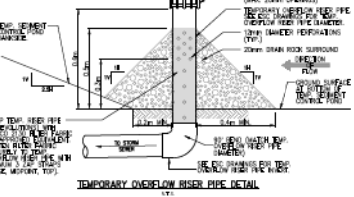
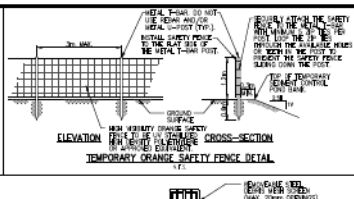
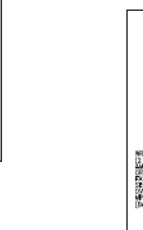
- NOTES:**
1. PLACE STOCKPILES ON THE HIGH END OF THE CONSTRUCTION SITE WHERE PROBLEMS ARE NOT NEAR ANY FROM OTHER AREAS SUCH AS STREAMS AND DRAINAGE INLETS.
 2. TEMPORARY SOIL STOCKPILES SHALL HAVE THEIR ENTIRE SURFACES COMPLETELY COVERED BY EITHER WOOD DECK OR POLYETHYLENE SHEETS.
 3. IF STAKES ARE TO BE USED, THEY SHALL BE SECURELY ANCHORED TO THE STOCKPILE SO AS TO PREVENT THE COVER FROM BEING UNCOVERED. THE COVER SHALL REMAIN EXPOSED BY LOW WINDS.
 4. STAKES SHALL ONLY BE REMOVED FROM SOIL STOCKPILES DURING DRY WEATHER CONDITIONS.
 5. INSTALL COMPLETELY AROUND THE PERIMETER A TEMPORARY SILT FENCE 1.0m AWAY FROM THE TIE OF THE TEMPORARY SOIL STOCKPILE.



- NOTES:**
1. THE GRAVEL SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.
 2. THE GRAVEL SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.
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 10. THE GRAVEL SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.



- NOTES:**
1. THE SWALE SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.
 2. THE SWALE SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.
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 9. THE SWALE SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.
 10. THE SWALE SHALL BE INSTALLED AT THE DOWN DRIFT POINT OF THE CONSTRUCTION SITE.



LEGAL DESCRIPTION: LOT 50 SEC 31 TP 8 R40 PLAN 20218 & LOTS 1 & 2 SEC 31 TP 8 R40 PLAN L416387

SURVEY BECHENBAK MON 382850 LOC 98 AVENUE & 188 STREET SCALE FACTOR 1:1000 (1:2000)

REV.	DATE	ISSUED FOR	BY
1	SEP 20/24	ISSUED FOR PD-3	EV
2	SEP 13/24	ISSUED FOR PD-4	EV
3	JUL 03/24	ISSUED FOR PD-5	EV
4	MAY 07/24	ISSUED FOR REVISED	EV
5	MAY 02/24	ISSUED FOR PD-2	EV

FOR COORDINATION ONLY

NOT FOR CONSTRUCTION

CONSULTANT

Hub Engineering Inc.
Engineering and Development Consultants
EGRC Permitto Practice Number: 1003404

Suite 212, 12999 - 76 Avenue, Surrey, B.C. V3W 2V6
tel 604-572-4528 | fax 604-501-1625 | mail@hub-inc.com
www.hub-inc.com

CITY OF SURREY

CLIENT

BEECH WESTGARD DEVELOPMENTS LTD.
#201 - 15272 CROYDON DRIVE, SURREY, BC
604-538-3525

TITLE

DETAILS

SCALE: HORIZ. VERT.

DATE (YYYY-MM-DD) 2022-08-30

DESIGNED BY EY

DRAWN BY ANG

REVIEWED BY JB/MCK

DATE 28

REV. -

Oct 3, 2024

SURVEY PROJECT NUMBER

7822-0231-00

DRAWING TYPE

EROSION & SEDIMENT CONTROL

EGC SUPERVISOR: BRIAN DEARD, ASST. PHONE: 604-572-3320. E-MAIL: bdeard@hub-inc.com

SIGNATURE:

1.0 GENERAL

- The Contractor shall ensure that all work under this project is undertaken and completed in such a manner as to prevent the release of any storm water runoff or drainage system or any sediment laden water which contains total suspended solids (TSS) in excess of 75 milligrams per litre (mg/L).
- Prior to commencing any construction on the site and prior to installing any storm collection or drainage system, the Contractor shall construct the complete sediment control works as shown on these drawings under the applicable stage.
- No sediment laden water from the construction site shall be pumped out, or otherwise discharged directly to a storm sewer system, water course, or other drainage system in such a manner as to bypass the sediment control system.
- Existing ground cover shall be left in place as far as possible and shall only be removed immediately prior to and then only to the extent necessary to install structures which have to be constructed in the particular area covered by the ground cover in question. Each part of the subsurface shall be exposed for as short a time as possible and over as small an area as possible. Exposed subsurface shall, as soon as possible, be covered with at least the top layer of the finished surface with which it is ultimately to be covered (e.g. concrete, or the top 150mm of sub-base gravel or sand, or gravel and sand as approved).
- Hard roads shall be constructed as and where necessary to provide adequate access and circulation for heavy equipment and/or vehicles to any part of the site which they may be required to reach on the site. Such hard roads shall have a sufficient structure to ensure that when they are traversed by heavy equipment and/or vehicles, that sediment is not generated on the contractor between the road structure and the subsurface by the passage of such heavy vehicles and/or equipment over such hard roads. Where passage of heavy vehicles and/or equipment under prevailing soil conditions and/or weather conditions on any part of the site could generate sediment and heavy equipment and/or vehicles shall not traverse any such part of the site except by adequate hard roads as defined above.
- Wherever possible, work should be undertaken in dry weather. Work undertaken during periods during wet weather shall be carried out in such a manner as to minimise any disturbance to the ground surface which could result in sediment generation.
- All soil retention and exposed banks which could potentially generate sediment shall be protected with seeding, sprigged mats, jute/straw mats, or other approved methods as per the specified sediment control plan, where polyethylene sheeting is used it shall be tied down or otherwise anchored so as to prevent movement and it shall only be temporarily removed if and when required to allow construction, and then only during dry weather.
- Temporary roads shall be constructed in erodible unsealed soil. As required, all temporary roads which are intended to carry sediment laden water shall be lined with woven grass matting or other approved means and shall have gravel check dams located at intervals not greater than 20 metres throughout their length as shown in the appropriate detail.
- Where heavy equipment or vehicles need to cross temporary roads, a minimum 300mm diameter pipe shall be placed across the road surface and covered with a sufficient depth of cover to protect the pipe from damage by such heavy equipment or vehicles.
- In ground sediment basins shall be excavated into undisturbed soil. Unless otherwise specified, all material shall be used to create any banks for sediment basins.
- A temporary storage safety fence (shown on the "EROSION & SEDIMENT CONTROL DETAILS" sheet) complete with access door or other like barrier as required by the City shall be installed around the temporary sediment ponds(s) and shall remain in place for the duration of the project. The Owner shall be responsible for the installation, maintenance and removal of the sediment control works.
- All pipe outlets shall be tied into ditches and/or watercourses at not more than 45° to the direction of the flow in the ditch or watercourse.
- The contractor shall, on these plans, be shown from topographic survey. Prior to construction, the contractor shall verify all elevations which are critical to the design and shall notify the Engineer immediately in the event of any discrepancy.
- Unless otherwise specified, all dimensions, sizes and elevations shown on the drawings herein are metric.
- The Contractor shall install all of the sediment control works, perform all of his operations under this project, and shall ensure that the TSS levels and any other applicable criteria for sediment control works contained in the plans being discharged from the site meet the minimum standards specified by the Land Development Guidelines for the Protection of Aquatic Habitat, issued by the Minister Management Division of the Department of Fisheries & Oceans Canada (DFO), the City of Surrey, the City of Vancouver (MCE), and the City of Surrey Municipal Drain and Sediment Control (ESC) By-law No. 16138 (the By-law).
- All works required to be performed by the Contractor in respect to constructing, maintaining, inspecting, decommissioning and final clean-up of the sediment control works shall be performed by the Contractor at the Contractor's expense.
- The Contractor shall supply and install all sediment control works shown in the Sediment Control Drawings in accordance with the provisions of the drawings, any applicable details shown on drawings and any applicable clause in the specifications.
- Wherever the Sediment Control Drawings includes a detail which describes any of the work called for herein, such works shall be constructed in accordance with the applicable detail. The contractor sediment control works shall remain in place and shall be maintained by the Contractor until approval for their removal has been granted by the ESC Supervisor, Engineer-in-Charge, and all the government agencies having jurisdiction.

2.0 CLEARING, ROAD STRIPPING, GRAVELLING AND ROUGH GRADING STAGE

- Developer and/or Contractor shall notify both the Engineer of Record and the ESC Supervisor prior to the commencement of the clearing and grubbing stage. The Developer will be responsible to provide the clearing and grubbing contractor with a copy of the ESC permit, approved ESC drawings and the new cutting permit prior to commencement of clearing and grubbing stages. The site clearing and grubbing Contractor to confirm the ESC permit has been issued, that to leaving the site, the clearing and grubbing Contractor to obtain sign-off from the ESC Supervisor. The ESC supervisor shall provide sign-off documentation to the Engineer-in-Charge.
- Should the site contain any or be adjacent to a park, the clearing and grubbing Contractor shall contact their VICS (at 604) 591-5088 to discuss the removal of backlogs trees. Perimeter ESC measures to be installed after meeting with City Parks Department as applicable and prior to entering the on-site clearing and grubbing.
- Upon the commencement of the works, the ESC Supervisor shall conduct inspections, sampling and reporting as per the City's ESC By-law requirements.
- As soon as they have been set to finished subgrade level, all exposed surfaces of landscape areas shall be immediately top soiled and seeded and/or sprayed with mulch.
- Install protective measures at or within soil and existing concrete/lean bases as applicable and such works shall be constructed in accordance with the applicable detail.
- Prior to leaving the site, re-seeding clearing and grubbing contractor to obtain sign-off by the ESC supervisor.
- Developer will be responsible to provide a copy of the ESC plan and permit to the general contractor.
- Contractor to have a copy of the approved ESC plans and ESC permit on-site at all times, and ensure ESC signage is in place.
- If any sediment is tracked on to any paved surface, it shall be removed immediately with shovels, sweeps and/or other approved means in such a way as to leave the paved surface free of sediment, under no circumstances shall sediment be removed from paved surfaces by hosing with water.

3.0 MAINTENANCE

- The Contractor and ESC supervisor shall, at all times while construction is proceeding, ensure that the sediment control works are properly maintained and working adequately to control the levels of sediment in water discharging from the site of the work to within the limits set forth herein.
- The Contractor shall be responsible for the maintenance of the sediment control facilities from the commencement of the work up to the decommissioning of the work. Maintenance by the Contractor shall include that the pond is functioning and cleaned as directed by the ESC Supervisor, Engineer-in-Charge, City and/or the Owner. Final maintenance shall include, but is not limited to the following:
 - Cleaning out accumulated sediment from pond bottom and pond outlet structures including replacement of silt fences and gravel as required.
 - Repairing all features of sediment control facility such as fencing, slope, and control structures.
 - Vacuuming accumulated sediment in the inlet and outlet storm mains.
- Should any part of the sediment control works become damaged or blocked, or in any other way not functioning properly, then the Contractor shall immediately take all steps necessary to repair and/or remove such damage. Malfunction, or other cause of malfunction and shall perform any other necessary remedial measures as follows:
 - When the deficiency has been identified by the Contractor and where the Contractor reasonably considers that it is in the appropriate course of action, the Contractor shall rectify, by its own effort or by hire, that part of the sediment control works which is not functioning properly.
 - Where the Contractor does not consider rectifying the deficient part of the sediment control works to be the optimal condition or better to be the appropriate course of action, or where remedial works performed under the above clause do not result in the deficient part of the sediment control works functioning properly, the Contractor shall refer the matter to the Engineer-in-Charge and ESC Supervisor for direction.
 - Where the Engineer-in-Charge and/or ESC Supervisor directs that remedial measures be undertaken under the above clause, or in the event of any other deficiency in any part of the sediment control works identified or noted during these periodic inspections, or otherwise brought to their attention, the Contractor shall immediately undertake such remedial measures in strict accordance with the direction of the ESC Supervisor.
- Gravel access/ped paths are to be inspected daily by the Contractor to ensure functionality and the Contractor shall add additional rock as required.
- The Contractor shall remove all settled sediment from all sediment basins after each storm event or whenever the level of settled sediment has exceeded 30% of the design sediment storage capacity, whenever occurs first.
- All catch basin sediment traps shall be inspected daily and prior to any expected storm events and cleaned as required. Sediment traps may be cleaned at other intervals as required.
- Sediment accumulations to be inspected and repaired prior to any expected storm events and following all storm events or periods of extended rain. Sediment greater than 30% of the full trap capacity or otherwise shall be dealt with immediately.
- Accumulated sediment deposits behind gravel check dams are to be removed at 50% sediment capacity.
- Any track wheel marks and all ruts shall be checked daily and shall be cleaned out when the depth of rut accumulated at the bottom exceeds 75mm.
- Accumulated sediment removed from sediment basin inlets, and sediment removed from any track wheel mark or rut or any other part of the sediment control works, shall be disposed of in such a manner as to prevent its re-entry into the site drainage system, and/or into any other drainage system and/or into any watercourse and where necessary it shall be hauled away and disposed of in an approved manner or at an approved clean location at the Contractor's expense.
- On lots under 2000 sq. m, upon the issuance of a building permit the Developer/Owner/Contractor shall be held accountable for maintaining individual lot ESC measures, not requiring the ESC Supervisor's responsibilities under the active permit.
- All sediment removed from ESC control facilities to be disposed of in a manner as to not compound or compromise the sediment loading of other control measures.

4.0 INSPECTING, MONITORING & REPORTING

- The approved ESC Supervisor is responsible for inspecting and monitoring the ESC Facilities on the approved ESC plan including reporting to ensure sediment and sediment-borne loads will not reach the City's storm system. The ESC Supervisor shall keep detailed notes for each storm event in a logbook, which shall contain the following minimum information:
 - Date
 - TSS concentrations (samples measured as per the City's sediment control policy)
 - Weather conditions
 - Details of any remedial measures undertaken or recommendations made.
 - The highest rain to be made available to the City or Engineer upon request.
- The ESC Supervisor is responsible for immediately notifying the City, Engineer of Record, Contractor and Owner/Developer of what an instructure closure or non-compliance pursuant to the ESC Permit No. 16138 or ESC Permit.
- A watershed copy of any issued ESC Permit must be posted in a location visible from outside the construction on the land and for the duration of the construction. In addition, the sign shall clearly state the name and sediment control works have been completed, and before the start of any other work on the site, the Contractor shall notify the Engineer and ESC Supervisor and they will inspect the sediment control works and the downstream drainage system to ensure that these systems are installed and constructed in accordance with the approved ESC drawings. The Engineer and/or ESC Supervisor will notify the Contractor of any deficiencies in the sediment control works, and the Contractor shall, before proceeding with any other on-site construction and to the satisfaction of the Engineer and ESC Supervisor, that rectify all such deficiencies in the sediment control works which are identified by the Engineer and/or ESC Supervisor.
- The ESC Supervisor shall, throughout the duration of this project, perform weekly inspections and other such significant rainfall events (defined as any precipitation event which meets or exceeds the frequency of 25 mm of total rainfall depth in a 24-hour period) of all completed parts of the sediment control works to verify that all components parts of the sediment control works are functioning properly and to provide adequate written reports. During extended periods of dry weather (i.e. summer months), the ESC Supervisor may perform less-frequent inspections with written approval from the City.
- Throughout the duration of this project, the Contractor shall inspect all components of the sediment control works at least once a week (except that the total allowed work shall be inspected daily if applicable), and during periods of significant rainfall at least daily to verify that all components of the sediment control system are functioning properly. In order to adequately fulfill this provision, this may require inspections to be performed during the night or on weekends.

5.0 SAMPLING

- Samples of storm water runoff shall be taken at the location as directed by the ESC Supervisor which must include one of all of the outlets from the sediment basin as shown on the approved ESC Plan. The discharge point for discharge from the site into the receiving drainage facility, and within the receiving drainage facility both upstream and downstream of the point where it receives flow from the site.
- When the most significant rainfall event following construction of the sediment control system commences, the Contractor shall immediately notify the ESC Supervisor and they shall take water samples during or immediately after this rainfall event.
- The ESC Supervisor shall take water samples during a dry weather period shortly after construction of the sediment control system and when there is a flow discharging from the sediment basins.
- The ESC Supervisor shall take water samples whenever any discharge are noted leaving the site during dry weather periods and during immediately after each such event and every significant rainfall event.
- Spotcheck Sampling Error to develop any program or procedure which meets or exceeds the intensity of storm of total rainfall depth in a 24 hour period. Refer to: WWW.PLANWEST.COM/ACTIVITIES/MSDCR/SURVEY/SURVEYMAN.ASPX for all the rainfall monitoring forms for all storm events using the applicable rate gauge station.
- The total suspended solids (TSS) levels in storm water flows leaving the site must not be greater than 75 milligrams per litre (mg/L).
- If the measured TSS levels exceed the limits set forth above, the Contractor shall either reduce or if necessary completely discontinue any construction activity which might generate sediment so as to bring the TSS levels to within the above limits. The Contractor shall not resume the full level of construction activity until appropriate remedial measures have been undertaken and the TSS levels have been brought down to and remain within the above limits.
- If the allowable TSS levels are exceeded, the Contractor shall immediately consult with the ESC Supervisor and the ESC Supervisor shall formulate appropriate corrective measures which shall be implemented immediately by the Contractor in strict accordance with the direction of the Engineer-in-Charge and the ESC Supervisor.
- If sampling for other specified criteria for contamination is required, the laboratory shall provide testing appropriate to the contamination. Any contamination exceeding permitted levels, or otherwise identified, shall be immediately reported to the Developer/Contractor and the Environment Canada staff to initiate appropriate corrective measures which shall be implemented immediately by the Contractor in strict accordance with the direction of the Environment Canada.
- All storm water samples shall be collected in approved sample bottles provided by the approved laboratory which bottles are to be clean and properly capped and shall be sent to Northwest Labs (or approved equal) for total suspended solids determination.
- Whenever any other clean water samples and laboratory facilities used to sample and analyze the purity of the water being discharged from the site shall be acceptable to EPC and MFC.

6.0 UTILITY AND ROADWORKS INSTALLATION STAGE

- Contractor to install temporary sediment containment and control measures as specified in the approved ESC plan and as directed by the ESC Supervisor.
- Contractor to install additional sediment fencing as indicated on the ESC plan and as directed by the ESC Supervisor or Engineer-in-Charge.
- All access to and from sites to be from the restricted entry-point points.
- ESC supervisor to conduct monitoring as per the City of Surrey monitoring and reporting requirements.
- Contractor to ensure that ESC measures are well maintained, cleaned, repaired, or replaced as required.
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- Contractor to coordinate the elimination of temporary ESC facilities if they are no longer required or to maintain sites operations with the Engineer-in-Charge and/or ESC Supervisor. Additional ESC facilities may need to be installed as per the direction of the Engineer-in-Charge and/or ESC Supervisor.

7.0 FINAL GRADING STAGE THROUGH TO SUBSTANTIAL COMPLETION

- General contractor to ensure that stormwater conveyance channels and discharge points to adjacent streams, ditches, or other points to be protected, are adequately protected.
- Contractor to ensure that ESC facilities specified in the ESC plan or any additions are implemented accordingly.
- After final grading is completed, all disturbed areas are to be protected as per the ESC plan or Landscape Plan (as applicable).
- Contractor to coordinate the elimination of temporary ESC facilities if they are no longer required with the Engineer-in-Charge and/or the ESC Supervisor. Additional ESC facilities may need to be installed as per the direction of the Engineer-in-Charge and/or the ESC Supervisor.
- At least one inspection prior to the site going into production (if applicable), the Engineer-in-Charge and the ESC Supervisor shall verify that the site going into production.
- Developer to ensure that the lot owner and/or builder are notified of existing ESC facilities and they responsibility to ensure that indicated provisions continue sediment control measures are kept in place and perform to the standard of the ESC By-law.
- Developer to retain the services of the ESC Supervisor until 100% of building construction including landscaping of the lots) has been completed. The ESC permit will be in full force and effect until this time period.

8.0 DECOMMISSIONING

- The Contractor shall make a request for decommissioning the sediment control works once the site has reached substantial completion, which means a minimum 50% of all house construction is complete and the lot is ready for use, or is being used for the purpose intended.
- Once written approval is granted to decommission the sediment control works, the Contractor shall remove all sediment control works which are required to be removed to complete the project and, unless otherwise directed, all debris of any nature, materials, objects or an approved material or at an approved off-site location, and shall be completely removed from the construction site. Sediment and soil, these works shall only be completed during dry weather.
- Following decommissioning of the sediment control works, the Contractor shall notify the ESC Supervisor, Engineer-in-Charge, and City of Surrey in respect to verify that there are no unacceptable residual sediment levels in the downstream drainage system. The Contractor shall take any and all steps necessary to remove any such residual sediment levels in the downstream drainage system.
- Where confirmed by the ESC supervisor, the Contractor shall remove the sediment pond and fill it with crushed 10 millimetre sand. During building construction, the Contractor shall retain and pay for a designated Engineer certifying the fill material is compacted and suitable for building construction.
- Where intended by the ESC supervisor, the Contractor shall remove temporary plan(s), install plan(s) on temporary plan(s) into the sediment pond, beach machines to NMSD standards and clean the storm system.

9.0 RESPONSIBILITIES

- Under this plan, all persons (including but not limited to the Developer, Owner of the land, the Engineer of Record, ESC Supervisor, the Contractor, Sub-Contractor, Submittal and Building Sub-Trade have referred to as the Owner/Developer/Person(s)) shall comply with all their applicable regulatory requirements applicable by Federal, provincial, and municipal authorities, pertaining to on-site sediment control and discharge associated with drainage control installations.
- In accordance with City of Surrey Municipal and Sediment Control (ESC) By-law No. 16138 (the By-law), the ESC permit (the permit) which this plan forms part thereof, deems the permit holder responsible for the site activities that result in a breach of compliance with the By-law for the duration of the permit.
- The Developer/Owner/Person(s) responsible shall ensure that all construction activities are undertaken in a manner that ensures best management practices are implemented to prevent and contain on-site sediment laden discharges associated with drainage control installations.
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ATTACHMENT J
Riparian Planting Cost Estimate

2023 SEDPA Cost Estimate Table for Securities

Date	13-Sep-24				
City of Surrey Project No.	7922-0231-00 (onsite)				
Site Address	17077 & 17121 - 92 Avenue, Surrey				
Landscape Firm					
Environmental Consultant (& Company)	Envirowest Consultants Inc.				
Area to be Remediated (m2)	N/A				
	Item	Quantity	Unit Cost¹	Unit	Totals
1	Fencing (Vinyl-coated chain link)	199.0	\$106.09	l.m.	\$21,111.91
1a	Signage	14.0	\$21.00	each	\$294.00
				SUBTOTAL	\$21,405.91
				10% Contingency	\$2,140.59
				SUBTOTAL	\$23,546.50
				5% GST	\$1,177.33
				GRAND TOTAL FOR 5 YEAR RESTORATION PLAN	\$24,723.83

1. Based on costs incurred by the City, should these works not be properly undertaken. 3% inflation increase is required annually.

2. All vegetation species must be 100% native, and selected based on shade, moisture and soil requirements. QEPs are expected to select species that naturally occur within the subject area. Climax species are not usually appropriate for disturbance areas.

5. 24 watering periods are required during drought months for the first two years of establishment.

3. Required if the City needs to take on the works due to inaction or poor maintenance.

4. Imported topsoil is not a requirement unless substrate has been completely denuded of all topsoil, and the QEP thinks that addition of topsoil amendment would be required. Topsoil must be tested and meet planting and safety requirements for invasive species, heavy metals, organic content and salinity.

2023 SEDPA Cost Estimate Table for Securities

Date	3-Oct-24				
City of Surrey Project No.	7922-0231-00				
Site Address	17077 & 17121 - 92 Avenue, Surrey				
Landscape Firm					
Environmental Consultant (& Company)	Envirowest Consultants Inc.				
Area to be Remediated (m2)	4,283				
	Item	Quantity	Unit Cost ¹	Unit	Totals
1	Fencing (Split rail)	218.0	\$86.50	l.m.	\$18,857.00
1a	Signage	15.0	\$21.00	each	\$315.00
2	Invasive Removal (mechanical – initial prep) ^A	3337.0	\$13.00	m ²	\$43,381.00
3	Invasive Removal (maintenance)	4283.0	\$5.40	m ² / year x 5	\$115,641.00
4	Mulching - ≥#5 pot trees only (154 x 4.52m ²)	696.0	\$7.04	m ²	\$4,899.84
5	1, 2, and 3 gal shrub ²	2636.0	\$10.82	shrub (per 1m ²)	\$28,521.52
6	2, 3, and 5 gal tree ²	249.0	\$21.65	tree (per 3m ²)	\$5,390.85
7	Plugs/Perennials (10 cm pot) ²	357.0	\$2.16	forb (per 0.25 m ²)	\$771.12
8	Riparian grass seed blend (broadcast) ²	33.0	\$0.22	m ²	\$7.26
9	Watering	4283.0	\$0.53	(m ² / year) x 24	\$54,479.76
10	Planting Installation (labour)	4283.0	\$10.82	m ²	\$46,342.06
10a	Initial supervision of plant installation	1.0	\$4,000.00	year	\$4,000.00
10b	Annual general maintenance	5.0	\$10,000.00	year	\$50,000.00
11	Administration (City of Surrey) ³	1.0	\$2,500.00		\$2,500.00
12	Other: Soil amendment (400mm) ⁴	2142.0	\$32.46	m ³	\$69,529.32
12a	Other: snags and wood debris	55.0	\$50.00	each	\$2,750.00
13	Other: Monitoring and Reports Costs (QEP)	5.0	\$3,000.00	year	\$15,000.00
14	New channel and autumnal pool construction	1.0	\$30,000.00	year	\$30,000.00
				SUBTOTAL	\$492,385.73
				10% Contingency	\$49,238.57
				SUBTOTAL	\$541,624.30
				5% GST	\$27,081.22
				GRAND TOTAL FOR 5 YEAR RESTORATION PLAN	\$568,705.52

1. Based on costs incurred by the City, should these works not be properly undertaken. 3% inflation increase is required annually.

2. All vegetation species must be 100% native, and selected based on shade, moisture and soil requirements. QEPs are expected to select species that naturally occur within the subject area. Climax species are not usually appropriate for disturbance areas.

5. 24 watering periods are required during drought months for the first two years of establishment.

3. Required if the City needs to take on the works due to inaction or poor maintenance.

4. Imported topsoil is not a requirement unless substrate has been completely denuded of all topsoil, and the QEP thinks that addition of topsoil amendment would be required. Topsoil must be tested and meet planting and safety requirements for invasive species, heavy metals, organic content and salinity.

A excludes channel excavation (946m²)



Arborist Report

Inventory and Assessment of Trees Associated to Development at
17077, 17121 92 Avenue, Surrey

October 15, 2024

Revision #8

Adrian Szabunio, Diploma in Civil Engineering Technology
ISA Certified Arborist and Tree Risk Assessor PR 5079A

Terry Thrale PN 6766A

Prepared in the office of Woodridge Tree Consulting Arborists Ltd. at 2513, 141 Street, Surrey. Business License 148843
Prepared for Jamie Ogden, Beech Westgard Developments Ltd., 604-657-1057, jamie@beechwestgard.ca

SCHEDULE "E"

From: Wiessler, Alexis <Alexis.Wiessler@surrey.ca>
Sent: October 11, 2024 3:32 PM
Subject: FW: Edited 22-0231 AR 17077 92 Ave Oct 3_24.pdf

Hi Robert,

Parks is interested in retaining trees 101 and 64. The arborist report does not provide adequate justification for removal, and after reviewing the trees in the field, Parks would like the consulting arborist to provide a more thorough assessment of their conditions.

Parks is supportive of the file proceeding to Council as-is, however Parks would like to note some conditions which can be resolved through Detailed Design. At worst, the final outcomes can be confirmed during pre-construction meeting and/or land-clearing; Parks would collect compensation directly if the trees need to be removed, therefore not impacting the fee calculations for T&L as it relates to Final Adoption.

Park Comments:

1. Future park trees 101 and 64 (Woodridge Tree, 1 Oct 2024) should be shown as retained. The justification for removal in the arborist report does not provide adequate detail. I have field-reviewed the trees and do not think they should be included in the onsite permit fees, nor Green City Program monies in order to move the application forward to Council.
2. Parks supports the application proceeding to Council for Final Adoption with these two trees shown as retained.
3. Trees 101 and 64 to be reassessed prior to the Pre-construction Meeting. A Level 2 Tree Risk Assessment, including a TRAQ matrix and risk rating, should be completed by the consulting arborist and provided to Parks in advance of the pre-construction meeting. I will reiterate that the risk assessment shall not delay the application proceeding to Council.
4. If Parks agrees the trees should be removed, Parks may seek the appraised value of the trees, or typical 2:1 compensation to be determined after review of the tree risk assessment findings. The compensation will be paid to Parks directly as is typical for trees removed post-Council.
5. Engineering Land Development is awaiting Final SA drawings. These shall include tree protection barriers added to trees 101 and 64, and the arborist report should reflect same. If the report cannot be updated before the Council deadline, please include a caveat that it be updated with the Final SA drawings submission, and prior to SA issuance and reviewed by Parks for sign-off.

Please let me know if you have further questions.
Kind regards,
Alexis Wiessler | Park Technician – Land Development

Arborist Report Update Note: October 15, 2024:

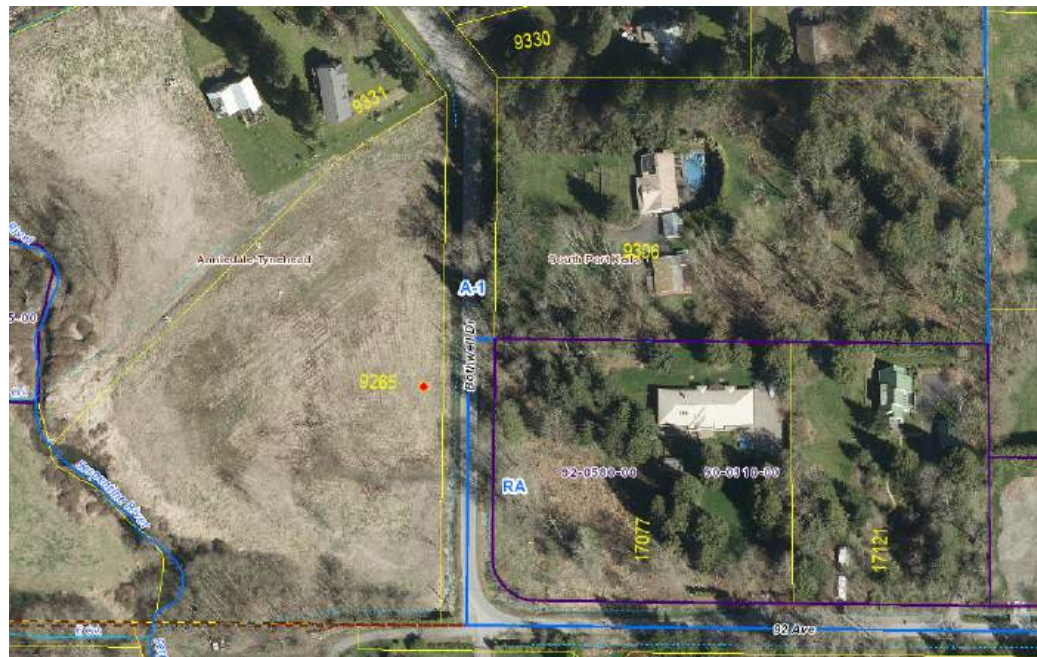
- The arborist report is updated with level 2 TRAQ assessment for future Park trees 64-564 and 101-601. The two trees are both indicated for retention in this revised edition.

Assignment and Methodology

Woodridge Tree has been retained to undertake an inventory and assessment of trees associated with development at 17077 and 17121 92 Avenue, Surrey. The objective is to make tree preservation and protection recommendations in the context of municipal permits, rules and regulations for development.

Associated trees were visually assessed to determine species, diameter at breast height (dbh) and characteristic description. Tree diameters were measured at 1.4 meters height with a diameter tape. Protection areas were calculated for all trees within range of the property. Tree hazards were assessed according to International Society of Arboriculture standards using the TRAQ (Tree Risk Assessment Qualification) method. Recommendations for removal or retention are based on assessment outcome and proximity of trees to structure and infrastructure. Soil testing, root exploration and internal probing of tissue have not been incorporated in the findings.

The observations recorded are based on inspections performed on April 19, 2022. The weather at that time was partly cloudy and approximately 10 degrees Celsius.



Source: COSMOS

aerial image of property before redevelopment

Findings

The properties at 17077 and 17121 92 Ave, Surrey are located on the North side of 92 Avenue, and the West side of Bothwell Drive near the intersection of Bothwell Drive and 92 Avenue. At the time of observation, a house stood on the properties on 92 Avenue. 9265 Bothwell Drive had no structures.. Associated trees were comprised of native conifers and ornamental deciduous species. Trees located on the subject property, and neighbors' trees close to the property lines are considered in the findings of this report.



17707 92 Avenue



17121 92 Avenue

image of property from street at time of field data collection

Tree Inventory and Assessment

- **DBH** - Diameter at 1.4m height measured in centimeters
 - on trees with multiple stems the 3 largest sections measured at 1.4m are combined to make up the total.
- **critical root zone (TPZ)** = dbh x 6 unless otherwise specified
- **LCR** = live crown ratio, percentage of live crown remaining
D=Dormant
- **ci** - City owned tree
- **os** - off site tree
- **CR**- Crown Radius
- **S** - Surveyed, y=yes, n=no

Retention Suitability Definition of Terms

Good- Tree is void of major defects and in the absence of other factors and can be retained.

Moderate- Tree exhibits defects but mitigative actions are possible that can increase its duration of existence. Retention is possible.

Poor- Tree is dead, dying, hazardous or a short lived species not likely to succeed. Permit would likely be issued for removal regardless of other factors.

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
1-501	Y	Red Alder	<i>Alnus rubra</i>	66	40	3	15	Large decay at base. Small hangers in the crown. Dead branches in the lower crown. Ivy growing up the base.	Poor	Remove	3.96
2-502	Y	Red Alder	<i>Alnus rubra</i>	65	50	3	10	Leaning south. Large ivy vines girdling the trunk into the upper crown.	Poor	Remove	3.90
3-503	Y	Red Alder	<i>Alnus rubra</i>	35	10	2	9	Sounding indicates hollow portions of the trunk. Low live crown ratio. Pockets of decay visible on the upper trunk.	Poor	Remove	2.10

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
4-504	Y	Red Alder	<i>Alnus rubra</i>	60	20	3	10	Ivy girdling trunk into the upper crown. Dead top. Low live crown ratio.	Poor	Remove	3.60
5-505	Y	Western Red Cedar	<i>Thuja plicata</i>	44	100	3	12	Straight, single stem. Ivy is beginning to grow up the base. Healthy foliage colour and density.	Moderate	Remove	2.64
6-506	Y	Red Alder	<i>Alnus rubra</i>	40	30	2	14	Pockets of decay throughout the trunk. Ivy vines girdling the trunk. Many dead lower branches. Dead top.	Poor	Remove	2.40
7-507	Y	Red Alder	<i>Alnus rubra</i>	40+60=100	40	3	15	Dual stem at base, leaning opposite directions. Small hangers in the crown.	Poor	Remove	6.00
8-508	N	Red Alder	<i>Alnus rubra</i>	45	20	3	15	Large pockets of decay on the trunk. Dead top.	Poor	Remove	2.70
9-509	Y	Red Alder	<i>Alnus rubra</i>	42	50	3	15	Very decayed trunk with large woodpecker holes at the base and throughout the trunk into the mid crown.	Poor	Remove	2.52
10-510	Y	Western Red Cedar	<i>Thuja plicata</i>	93	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	5.58
11-511	Y	Red Alder	<i>Alnus rubra</i>	34	20	2	20	Decurrent, natural crown form. Pockets of decay at the base.	Poor	Remove	2.04
12-512	Y	Western Red Cedar	<i>Thuja plicata</i>	63	80	2	20	Dual stem at 15m with included bark in the union. Healthy foliage colour and density.	Moderate	Remove	3.78

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
13-513	Y	Western Red Cedar	<i>Thuja plicata</i>	110+ 21=1 31	70	3	20	Dual stem at base, multiple stems at 3m with included bark in the union. Healthy foliage colour and density.	Moderate	Remove	7.86
14-514	Y	Red Alder	<i>Alnus rubra</i>	40	25	3	20	Leaning west. Pockets of decay throughout the trunk.	Poor	Remove	2.40
15-515	Y	Western Red Cedar	<i>Thuja plicata</i>	60	70	3	20	Base kinks south and self corrects in the crown. Dual stem at 2m with included bark. Overall poor structure.	Poor	Remove	3.60
16-516	Y	Western Red Cedar	<i>Thuja plicata</i>	74	60	3	20	Base sweeps west and self corrects in the crown. Healthy foliage colour and density.	Moderate	Remove	4.44
17-517	Y	Western Red Cedar	<i>Thuja plicata</i>	35	60	2	15	Straight, single stem. Healthy foliage colour and density. No major defects. Crown growing into the above powerlines.	Moderate	Remove	2.10
18-518	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	151	70	8	25	Mature. Some pockets of decay on the trunk, no basal rot detected. Full crown.	Moderate	Remove	9.06
19-519	Y	Japanese Maple	<i>Acer palmatum</i>	11+1 1+20 =42	60	2	4	Multiple stems at base. Good buds. No major defects.	Moderate	Remove	2.52
20-520	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	55	50	3	20	Decurrent, natural crown form. Hangers in the crown. Full crown.	Moderate	Remove	3.30
21-521	Y	Western Red Cedar	<i>Thuja plicata</i>	37	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.22

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
22-522	y	Western Red Cedar	<i>Thuja plicata</i>	45	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.70
23-523	Y	Western Red Cedar	<i>Thuja plicata</i>	37+20=57	90	3	15	In a row of trees. Dual stem at base. Healthy foliage colour and density.	Moderate	Remove	3.42
24-524	Y	Western Red Cedar	<i>Thuja plicata</i>	35	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.10
25-525	Y	Western Red Cedar	<i>Thuja plicata</i>	49	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.94
26-526	Y	Western Red Cedar	<i>Thuja plicata</i>	32+10=42	90	3	15	In a row of trees. Dual stem at base. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.52
27-527	Y	Western Red Cedar	<i>Thuja plicata</i>	40+37=77	90	3	15	In a row of trees. Dual stem at base. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.62
28-528	Y	Western Red Cedar	<i>Thuja plicata</i>	40	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.40
29-529	Y	Western Red Cedar	<i>Thuja plicata</i>	45	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.70
30-530	Y	Western Red Cedar	<i>Thuja plicata</i>	48	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.88

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
31-531	N	Western Red Cedar	<i>Thuja plicata</i>	31	90	3	15	In a row of trees. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	1.86
32-532	N	Western Red Cedar	<i>Thuja plicata</i>	36	90	3	15	Straight, single stem. Top down dieback.	Poor	Remove	2.16
33-533	Y	Western Red Cedar	<i>Thuja plicata</i>	60	80	2	15	Straight, single stem. Exposed cambium on the south side. Sparse inner crown. In decline.	Poor	Remove	3.60
34-534	Y	Western Red Cedar	<i>Thuja plicata</i>	102	90	4	20	Dual stem at 3m with included bark in the union. Healthy foliage color and density.	Moderate	Remove	6.12
35-535	Y	Western Red Cedar	<i>Thuja plicata</i>	75	80	3	20	Dual stem at 3m with included bark in the union. Exposed cambium on the trunks.	Moderate	Remove	4.50
36-536	Y	Western Red Cedar	<i>Thuja plicata</i>	33	-	-	-	Dead tree standing.	Poor	Remove Dead	1.98
37-537	Y	Western Red Cedar	<i>Thuja plicata</i>	63	80	3	15	Lopped leader on the south side. Dead lower branches. Exposed cambium on the trunk.	Poor	Remove	3.78
38-538	Y	Amabilis Fir	<i>Abies amabilis</i>	55	50	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
39-539	Y	Western Red Cedar	<i>Thuja plicata</i>	151	70	4	20	Dual stem at 2m, multiple stems at 4m. Healthy foliage colour and density.	Moderate	Remove	9.06

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
40-540	Y	Hemlock	<i>Tsuga heterophylla</i>	36	50	3	15	Straight, single stem. Healthy foliage colour and density. No major defects. Crown growing into the overhead powerlines.	Moderate	Remove	2.16
41-541	Y	Red Alder	<i>Alnus rubra</i>	62	20	3	20	Decurrent, natural crown form. Large girdling vines throughout the trunk. Low live crown ratio.	Poor	Remove	3.72
42-542	Y	Red Alder	<i>Alnus rubra</i>	58	20	3	20	Decurrent, natural crown form. Large girdling vines throughout the trunk. Low live crown ratio.	Poor	Remove	3.48
43-543	Y	Red Alder	<i>Alnus rubra</i>	50	40	3	20	Decurrent, natural crown form. Leaning west. Full crown.	Poor	Remove	3.00
44-544	Y	Western Red Cedar	<i>Thuja plicata</i>	85	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	5.10
45-545	Y	Red Alder	<i>Alnus rubra</i>	50+5 2=10 2	40	3	20	Dual stem at 1m with included bark in the union. Woodpecker holes along the trunk indicate decay.	Poor	Remove	6.12
46-546	Y	Western Red Cedar	<i>Thuja plicata</i>	60	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects. The location conflicts with Lot 29.	Good	Remove	3.60
47-547	Y	Red Alder	<i>Alnus rubra</i>	60	30	4	20	Dual stem at 2m with included bark in the union. Dead branches throughout the crown. Epicormic shoots throughout the trunk. The location conflicts with Lot 29.	Poor	Remove	3.60
48-548	Y	Western Red Cedar	<i>Thuja plicata</i>	123	70	3	25	Straight, single stem. Healthy foliage colour and density. No major defects. The location conflicts with Lot 29.	Moderate	Retain	7.38

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
49-549	Y	Red Alder	<i>Alnus rubra</i>	40	20	3	15	Crown bows east. Low live crown ratio. The location conflicts with Lot 29.	Poor	Remove	2.40
50-550	Y	Western Red Cedar	<i>Thuja plicata</i>	143	80	4	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Reduce to safe wildlife tree	8.58
51-551	Y	Paper Birch	<i>Betula papyrifera</i>	35	30	3	15	Pockets of decay throughout the trunk. Dead top.	Poor	remove	2.10
52-552	Y	Red Alder	<i>Alnus rubra</i>	48	40	3	20	Decurrent, natural crown form. Large dead lower branches. Pockets of decay through the trunk.	Poor	Remove	2.88
53-553	Y	Red Alder	<i>Alnus rubra</i>	37	40	3	15	Decurrent, natural crown form. Full crown.	Poor	Remove	2.22
54-554	Y	Western Red Cedar	<i>Thuja plicata</i>	70	70	3	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Good	Retain	4.20
55-555	Y	Red Alder	<i>Alnus rubra</i>	63	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	3.78
56-556	Y	Red Alder	<i>Alnus rubra</i>	38	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	2.28
57-557	Y	Red Alder	<i>Alnus rubra</i>	33	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	1.98

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
58-558	Y	Red Alder	<i>Alnus rubra</i>	40	20	2	15	Windthrown top. Girdled by vines. Low live crown ratio.	Poor	Remove	2.40
59-559	Y	Cherry	<i>Prunus spp.</i>	39	50	3	15	Weeping form. In full bloom. No major defects detected.	Moderate	Remove	2.34
60-560	Y	Red Alder	<i>Alnus rubra</i>	40	50	2	20	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Retain	2.40
61-561	Y	Red Alder	<i>Alnus rubra</i>	40	30	2	20	Upheaving roots. Rot in the base and throughout the trunk.	Poor	Retain	2.40
62-562	Y	Red Alder	<i>Alnus rubra</i>	25+2 0+5= 50	40	3	15	Multiple stems at base. Pockets of decay throughout each trunk.	Poor	Remove	3.00
63-563	Y	Red Alder	<i>Alnus rubra</i>	25+1 0+15 =50	60	2	15	Multiple stems at base. Pockets of decay throughout each trunk. Full crowns.	Poor	Reduce to safe wildlife tree	3.00
64-564	Y	Douglas Fir	<i>Pseudotsuga menziesii</i>	200	50	3	25	<p>Four stems (Fir, Hemlock and 2x Cedar growing on a nurse stump. Share a root ball and crown. Full crown from top to bottom.</p> <p>Time Frame: 5 years</p> <p>Target Assessment: full height is within 1x distance of the road (92 Ave)</p> <p>Crown and Branches: As these are in fact separate trees from a common base the crown forms vary. WRC crown exists from bottom to top, the Hemlock is thin, the Fir exists in the upper 25%.</p> <p>Trunks: the trunks do not present areas which appear likely to fail</p> <p>Roots and Base: The roots of the trees originate from a common nurse stump and grown intertwined with each other.</p>	Moderate	Retain	6.60

								Main Concern: The main concern is the variation and abnormal form of the roots at the base of the clump. Likelihood of Failure- Possible Likelihood of Impact- medium Likelihood of Failure and Impact- somewhat likely Consequences of Failure- Significant Risk Rating- Moderate			
65-565	Y	Black Cottonwood	<i>Populus trichocarpa</i>	62	40	4	20	Decurrent, natural form. Full crown.	Poor	Reduce to safe wildlife tree	3.72
66-566	Y	Sitka Spruce	<i>Picea sitchensis</i>	75	50	2	25	Growing on a nurse stump at about 2m. Large roots extending into the soil. Some lower crown dieback.	Moderate	Retain	4.50
67-567	Y	Western Red Cedar	<i>Thuja plicata</i>	44	70	2	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Good	Retain	2.64
68-568	Y	Red Alder	<i>Alnus rubra</i>	52	20	3	20	Vines girdling the trunk into the mid crown. Low live crown ratio.	Poor	Reduce to safe wildlife tree	3.12
69-569	Y	Cherry	Prunus spp.	32+1 7=54	20	3	15	Dual stem at 1m with included bark in the union. Pockets of decay throughout the trunk. Large exposed roots around the base.	Poor	Remove	3.24
70-570	Y	Hemlock	<i>Tsuga heterophylla</i>	39	50	3	15	Single stem leaning west. Large exposed roots have been cleanly pruned. Inner crown dieback.	Moderate	Remove	2.34
71-571	Y	Grand Fir	<i>Abies grandis</i>	65	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.90
72-572	Y	Western Red Cedar	<i>Thuja plicata</i>	58	60	2	20	Straight, single stem. Top down dieback in the crown.	Poor	Remove	3.48

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
73-573	Y	Western Red Cedar	<i>Thuja plicata</i>	80	80	5	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.80
74-574	Y	Western Red Cedar	<i>Thuja plicata</i>	35	60	2	20	Straight, single stem. Top down dieback in the crown.	Poor	Remove	2.10
75-575	Y	Western Red Cedar	<i>Thuja plicata</i>	53	-	-	-	Dead tree standing.	Poor	Remove Dead	3.18
76-576	Y	Western Red Cedar	<i>Thuja plicata</i>	32	-	-	-	Dead tree standing.	Poor	Remove Dead	1.92
77-577	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	25+2 5+72 =122	50	6	20	Triple stem at base. Dead branches throughout the crown. Shares a root ball with trees #578 and #579.	Poor	Remove	7.32
78-578	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	77+4 7=12 4	50	6	20	Dual stem at base. Dead branches throughout the crown. Shares a root ball with trees #577 and #579.	Poor	Remove	7.44
79-579	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	30	50	6	20	Decurrent, natural crown form. Dead branches throughout the crown. Shares a root ball with trees #577 and #578.	Poor	Remove	1.80
80-580	Y	Sitka Spruce	<i>Picea sitchensis</i>	45	70	2	20	Straight, single stem. Some inner crown dieback.	Poor	Remove	2.70
81-581	Y	Western Red Cedar	<i>Thuja plicata</i>	25+4 2=67	70	3	20	Dual stem at base. Healthy foliage colour and density.	Moderate	Remove	4.02

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
82-582	Y	Western Red Cedar	<i>Thuja plicata</i>	80	60	4	25	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.80
83-583	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	200	30	5	25	Multiple stems at base. Some dead stems at the base. Sounding of the trunk indicates hollow portions.	Poor	Remove	12.00
84-584	Y	Western Red Cedar	<i>Thuja plicata</i>	39	10	2	15	Straight, single stem. Very sparse inner crown, In decline.	Poor	Remove	2.34
85-585	Y	Western Red Cedar	<i>Thuja plicata</i>	35+1 20=1 55	60	3	20	Dual stem at base. Large girdling roots are exposed around the base. Sparse inner crown.	Poor	Remove	9.30
86-586	Y	Western Red Cedar	<i>Thuja plicata</i>	65	40	2	20	Dual stem at base. Sparse inner crown.	Poor	Reduce to safe wildlife tree	3.90
87-587	Y	Western Red Cedar	<i>Thuja plicata</i>	94	40	3	20	Multiple stems at 2m with included bark in the union. Sparse inner crown.	Poor	Reduce to safe wildlife tree	5.64
88-588	N	Bigleaf Maple	<i>Acer macrophyllum</i>	35	40	4	15	Dual stem at 3m. Crown weighted south. Full crown.	Moderate	Retain	2.10
89-589	N	Bigleaf Maple	<i>Acer macrophyllum</i>	50	50	4	15	Decurrent, natural form. No decay detected on the base or trunk. Full crown.	Moderate	Reduce to safe wildlife tree	3.00

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
90-590	Y	Red Alder	<i>Alnus rubra</i>	50	30	3	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	3.00
91-591	Y	Red Alder	<i>Alnus rubra</i>	33	30	2	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	1.98
92-592	Y	Red Alder	<i>Alnus rubra</i>	32	30	2	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	1.92
93-593	Y	Red Alder	<i>Alnus rubra</i>	35+2 9=74	30	2	20	Dual stem at base. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	4.44
94-594	Y	Red Alder	<i>Alnus rubra</i>	45	30	2	20	Dual stem at 10m with included bark in the union. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Reduce to safe wildlife tree	2.70
95-595	N	Red Alder	<i>Alnus rubra</i>	52	30	2	20	Decurrent, natural form. Dead lower branches. Pockets of decay throughout the trunk.	Poor	Remove	3.12
96-596	Y	Western Red Cedar	<i>Thuja plicata</i>	71	90	4	15	Single stem sweeping west. Self corrects in the crown. Healthy foliage colour and density.	Moderate	Retain	4.26
97-597	N	Paper Birch	<i>Betula papyrifera</i>	52	-	-	-	Dead tree standing.	Poor	Remove Dead	3.12
98-598	Y	Western Red Cedar	<i>Thuja plicata</i>	200	80	4	20	Growing on a nurse stump. Recently windthrown top.	Poor	Reduce to safe wildlife tree	12.00

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
99-599	Y	Western Red Cedar	<i>Thuja plicata</i>	51	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Good	Retain	3.06
100-600	Y	Western Red Cedar	<i>Thuja plicata</i>	250	80	3	20	Multiple stems connected at the base. All straight single stem with healthy foliage colour and density.	Moderate	Remove	15.00
101-601	Y	Western Red Cedar	<i>Thuja plicata</i>	165	80	5	25	<p>Dual stem at 2.5m. Healthy foliage colour and density. Well developed buttress taper at the base. Minor bark inclusion at the union of the two main leaders.</p> <p>The proposed development will impart impact to the outer area of the tree protection zone. Expect impact to feeder roots, not to supportive roots.</p> <p>Time Frame: 5 years. Target Assessment: the two main leaders are within 1x range of building lots. Tree Health and Species Profile: established trees can succeed with impact to feeder roots if/when hydration is maintained and compaction is avoided. Dual stemmed trees tend to yield larger TPZ than necessary for retention. Crown and Branches: natural crown form from top to bottom, good density and colour, minor seasonal flagging. Trunk: dual trunks, the East leaning trunk leans more than the West leaning trunk, these appear well connected at their union. Roots and Base: Well tapered buttress. Fibrous roots expected at the outer areas of the TPZ. Main Concern: the main concern is the leverage on the base due to the lean of the East stem. Likelihood of Failure- Possible Likelihood of Impact- high Likelihood of Failure and Impact- somewhat likely, Consequences of Failure- Significant Moderate</p>	Moderate	Retain Arborist to supervise excavation of building footprint.	9.90

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
102-602	Y	Western Red Cedar	<i>Thuja plicata</i>	42	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.52
103-603	Y	Western Red Cedar	<i>Thuja plicata</i>	45	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.70
104-604	Y	Western Red Cedar	<i>Thuja plicata</i>	47	60	3	16	Recently windthrown top with no regeneration since.	Poor	Remove	2.82
105-605	Y	Western Red Cedar	<i>Thuja plicata</i>	53	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.18
106-606	Y	Western Red Cedar	<i>Thuja plicata</i>	74	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.44
107-607	Y	Western Red Cedar	<i>Thuja plicata</i>	72+4 5=11 7	80	4	25	Dual stem at base. Healthy foliage colour and density.	Moderate	Remove	7.02
108-608	Y	Apple	<i>Malus floribunda</i>	33+2 2=55	80	3	6	Mature. Multiple stems at base. Multiple lopped leaders at the base. Decay throughout the trunks	Poor	Reduce to safe wildlife tree	3.30
109-609	Y	Western Red Cedar	<i>Thuja plicata</i>	90+4 0+20 =150	70	3	20	Multiple stems at base. All straight single stem with healthy foliage colour and density.	Moderate	Remove	9.00
110-610	Y	Western Red Cedar	<i>Thuja plicata</i>	52	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.12

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
111-611	Y	Western Red Cedar	<i>Thuja plicata</i>	62	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.72
112-612	Y	Western Red Cedar	<i>Thuja plicata</i>	65	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.90
113-613	Y	Western Red Cedar	<i>Thuja plicata</i>	55	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
114-614	Y	Western Red Cedar	<i>Thuja plicata</i>	60	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.60
115-615	Y	Western Red Cedar	<i>Thuja plicata</i>	68	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.08
116-616	Y	Western Red Cedar	<i>Thuja plicata</i>	55	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
117-617	Y	Western Red Cedar	<i>Thuja plicata</i>	64	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.84
118-618	Y	Western Red Cedar	<i>Thuja plicata</i>	76	70	3	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.56
119-619	Y	Sitka Spruce	<i>Picea sitchensis</i>	65	30	3	15	Straight, single stem. Inner crown dieback.	Moderate	Remove	3.90

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
120-620	Y	Sitka Spruce	<i>Picea sitchensis</i>	64	30	3	15	Straight, single stem. Inner crown dieback.	Moderate	Remove	3.84
121-621	Y	Western Red Cedar	<i>Thuja plicata</i>	70	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.20
122-622	Y	Western Red Cedar	<i>Thuja plicata</i>	51	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.06
123-623	Y	Western Red Cedar	<i>Thuja plicata</i>	37	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.22
124-624	Y	Western Red Cedar	<i>Thuja plicata</i>	41	50	3	20	Straight, single stem. Exposed cambium to 2m. Sparse inner crown.	Moderate	Remove	2.46
125-625	Y	Western Red Cedar	<i>Thuja plicata</i>	55	30	3	20	Straight, single stem. Girdled by chain at 2. Sparse inner crown,	Moderate	Remove	3.30
126-626	Y	Western Red Cedar	<i>Thuja plicata</i>	43	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.58
127-627	Y	Western Red Cedar	<i>Thuja plicata</i>	55	70	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.30
128-628	Y	Western Red Cedar	<i>Thuja plicata</i>	89	50	3	20	Straight, single stem. Some chlorosis through the crown. Sparse inner crown.	Moderate	Remove	5.34

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
129-629	Y	Western Red Cedar	<i>Thuja plicata</i>	104+ 60=1 64	60	3	20	Dual stem at base. Large exposed roots around the base. Healthy foliage colour and density.	Moderate	Remove	3.84
130-630	Y	Sitka Spruce	<i>Picea sitchensis</i>	60	70	3	25	Straight, single stem. Sparse inner crown.	Moderate	Remove	3.60
131-631	Y	Sitka Spruce	<i>Picea sitchensis</i>	40+1 0=50	40	4	13	Dual stem at base. Sparse inner crown. Pockets of decay throughout the trunks.	Moderate	Remove	3.00
132-632	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	34	40	5	12	Decurrent, natural form. No decay detected on the base or trunk. Full crown.	Moderate	Remove	2.04
133-633	Y	Western Red Cedar	<i>Thuja plicata</i>	40	60	2	15	UNIDENTIFIABLE BIRDS NEST IN THE LOWER CROWN. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.40
134-634	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	35+3 0+55 =70	50	5	25	Multiple stems at base. Large pockets of decay at the base and throughout the trunks. Large exposed roots near the base.	Poor	Remove	4.20
135-635	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	105	50	7	20	Decurrent, natural form. Some included bark in the crown. Full crown.	Poor	Remove	6.30
136-636	Y	Western Red Cedar	<i>Thuja plicata</i>	32	80	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	1.92
137-637	Y	Western Red Cedar	<i>Thuja plicata</i>	31	80	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	1.86

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
138-638	Y	Sitka Spruce	<i>Picea sitchensis</i>	50	50	3	20	Straight, single stem. Sparse inner crown. Growing on a slight slope.	Moderate	Remove	3.00
139-639	Y	Western Red Cedar	<i>Thuja plicata</i>	65+2 5=90	80	3	20	Dual stem at base. Larger stem lost its top long ago with multiple regenerated dogleg leaders.	Poor	Remove	5.40
140-640	Y	Western Red Cedar	<i>Thuja plicata</i>	50+5 5=10 5	80	3	20	Multiple stems at base. One stem lost its top long ago with multiple regenerated dogleg leaders.	Poor	Remove	6.30
141-641	Y	Western Red Cedar	<i>Thuja plicata</i>	52	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.12
142-642	Y	Hemlock	<i>Tsuga heterophylla</i>	15+5 5+80 =150	70	3	20	Multiple stems growing on a nurse stump. Healthy foliage colour and density throughout.	Moderate	Remove	9.00
143-643	Y	Western Red Cedar	<i>Thuja plicata</i>	80	60	4	25	Adjacent to farm structure. Demolition of the adjacent structure would be difficult unless the tree is removed. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	4.80
144-644	Y	Red Alder	<i>Alnus rubra</i>	32	30	2	15	Decurrent, natural crown form. Growing in the farm structure. Demolition of the structure would be difficult unless the tree is removed.	Poor	Remove	1.92
145-645	Y	Western Red Cedar	<i>Thuja plicata</i>	39	60	4	25	Adjacent to farm structure. Demolition of the adjacent structure would be difficult unless the tree is removed. Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	2.34

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
146-646	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	115	30	6	20	Mature. Large cavities extending from the base to the mid crown. Poor structure.	Moderate	Remove	6.90
147-647	Y	Sitka Spruce	<i>Picea sitchensis</i>	45+3 5=80	50	3	20	Dual stem at base. Sparse inner crown.	Moderate	Remove	4.80
148-648	Y	Red Alder	<i>Alnus rubra</i>	32	40	2	30	Decurrent, natural crown form. Full crown.	Poor	Remove	1.92
149-649	Y	Red Alder	<i>Alnus rubra</i>	47	30	3	20	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Remove	2.82
150-650	Y	Sitka Spruce	<i>Picea sitchensis</i>	41	60	2	20	Straight, single stem. Sparse inner crown.	Moderate	Remove	2.46
151-651	Y	Red Alder	<i>Alnus rubra</i>	35+3 6=71	50	2	20	Dual stem at base with included bark in the union. Pockets of decay throughout the trunk.	Poor	Remove	4.26
152-652	Y	Red Alder	<i>Alnus rubra</i>	45	30	4	20	Leaning south. Hangers throughout the crown. Dead top.	Poor	Remove	2.70
153-653	Y	Sitka Spruce	<i>Picea sitchensis</i>	34	40	3	18	Straight, single stem. Sparse inner crown.	Moderate	Remove	2.04
154-654	N	Western Red Cedar	<i>Thuja plicata</i>	37	70	2	18	Exposed cambium at the base. Base kinks south and self corrects in the crown. Sparse inner crown.	Moderate	Remove	2.22

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
155-655	N	Red Alder	<i>Alnus rubra</i>	90	30	4	20	Leaning south. Pockets of decay throughout the trunk.	Poor	Remove	5.40
156-656	N	Sitka Spruce	<i>Picea sitchensis</i>	40	50	2	20	Straight, single stem. Lopped leader at the base. Some dead lower branches.	Moderate	Remove	2.40
157-657	N	Bigleaf Maple	<i>Acer macrophyllum</i>	70	20	5	20	Significant decay at the base and through the trunk. Large hanger in the crown.	Poor	Remove	4.20
158-658	N	Western Red Cedar	<i>Thuja plicata</i>	33	60	2	15	Straight, single stem. Exposed cambium throughout the trunk. Sparse inner crown.	Moderate	Remove	1.98
159-659	Y	Sitka Spruce	<i>Picea sitchensis</i>	34	30	3	20	Straight, single stem. Many dead lower branches. Large taper with many exposed roots near the base.	Moderate	Remove	2.04
160-660	N	Western Red Cedar	<i>Thuja plicata</i>	10+20+30=60	50	2	15	Triple stem at base. Smallest stem is dead. All have exposed cambium into the mid crown.	Moderate	Remove	3.60
161-661	Y	Western Red Cedar	<i>Thuja plicata</i>	70+40=110	50	4	20	Smaller stem has top down dieback. Exposed cambium from the base to the mid crown. Sparse inner crown throughout.	Moderate	Remove	6.60
162-662	N	Sitka Spruce	<i>Picea sitchensis</i>	45	20	3	15	Straight, single stem. Sparse inner crown.	Moderate	Remove	2.70
163-663	Y	Hemlock	<i>Tsuga heterophylla</i>	90	70	2	15	Growing on a nurse stump. Woodpecker holes throughout the trunk indicate decay.	Moderate	Remove	5.40

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
164-664	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	50+8 0=13 0	40	4	20	Dual stem at base. Significant decay at the base and through the trunks.	Moderate	Remove	7.80
165-665	Y	Sitka Spruce	<i>Picea sitchensis</i>	57	80	4	20	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Remove	3.42
166-666	Y	Western Red Cedar	<i>Thuja plicata</i>	100	90	3	25	Straight, single stem. Exposed cambium at base. Large exposed roots near the trunk.	Moderate	Remove	6.00
167-667	Y	Red Alder	<i>Alnus rubra</i>	35	30	2	15	Dual stem at 2m. Pockets of decay on the trunks.	Poor	Remove	2.10
168-668	Y	Red Alder	<i>Alnus rubra</i>	40	30	2	15	Leaning south. Pockets of decay on the trunk.	Poor	Remove	2.40
169-669	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	40+1 10=1 50	50	5	20	Dual stem at base. Significant decay at the base and through the trunks.	Moderate	Remove	3.00
170-670	Y	Red Alder	<i>Alnus rubra</i>	50	50	30	2	Decurrent, natural crown form. Pockets of decay on the trunk.	Poor	Remove	3.00
171-671	N	Red Alder	<i>Alnus rubra</i>	43	50	30	2	Decurrent, natural crown form. Pockets of decay on the trunk.	Poor	Remove	2.58
172-672	Y	Black Cottonwood	<i>Populus trichocarpa</i>	80	30	4	20	Decurrent, natural crown form. Pockets of decay on the trunk. Many dead branches.	Poor	Reduce to safe wildlife tree	4.80

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
173-673	N	Red Alder	<i>Alnus rubra</i>	55	-	-	-	Dead tree standing.	Poor	Reduce to safe wildlife tree	3.30
174-674	Y	Bigleaf Maple	<i>Acer macrophyllum</i>	35	50	3	15	Decurrent, natural crown form. Full crown.	Good	Remove	2.10
175-675	N	Red Alder	<i>Alnus rubra</i>	30	10	2	20	Decurrent, natural form. Low LCR. Large wound at 10m.	Poor	Remove	1.80
176-676	N	Red Alder	<i>Alnus rubra</i>	39	10	3	20	Decurrent, natural form. Low LCR. Extensive decay in the trunk.	Poor	Remove	2.34
177-677	N	Red Alder	<i>Alnus rubra</i>	34	10	3	20	Leaning south. Low LCR. Extensive decay in the trunk.	Poor	Remove	2.04
178-678	Y	Red Alder	<i>Alnus rubra</i>	41	10	3	20	Decurrent, natural form. Low LCR. Extensive decay in the trunk.	Poor	Remove	2.46
179-679	Y	Black Cottonwood	<i>Populus trichocarpa</i>	85	70	5	20	Decurrent, natural form. Many dead lower branches.	Poor	Remove	5.10
180-680	Y	Sitka Spruce	<i>Picea sitchensis</i>	187	60	3	20	Growing on a nurse stump. Multiple stems at 2m. Sparse inner crown throughout.	Poor	Reduce to safe wildlife tree	11.22
181-681	Y	Red Alder	<i>Alnus rubra</i>	35	10	2	12	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Remove	2.10

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
182-682	N	Red Alder	<i>Alnus rubra</i>	30	10	2	12	Decurrent, natural crown form. Pockets of decay throughout the trunk.	Poor	Remove	1.80
183-683	N	Apple	<i>Malus floribunda</i>	20+20+15=55	40	2	5	Multiple stems at the base. Decay throughout the trunks. Hangers in the crown.	Poor	Remove	3.30
184-684	Y	Black Cottonwood	<i>Populus trichocarpa</i>	90	-	-	-	Dead tree standing.	Poor	Remove Dead	5.40
185-685	Y	Black Cottonwood	<i>Populus trichocarpa</i>	90	70	4	20	Decurrent, natural form. Adjacent to the bank.	Poor	Remove	5.40
186-686	Y	Black Cottonwood	<i>Populus trichocarpa</i>	92	70	4	20	Decurrent, natural form. Adjacent to the bank.	Poor	Remove	5.52
187-687	N	Black Cottonwood	<i>Populus trichocarpa</i>	74	40	4	20	Leaning south. Decurrent, natural form. Growing in the bank.	Poor	Remove	4.44
188-688	Y	Red Alder	<i>Alnus rubra</i>	35	-	-	-	Dead tree standing.	Poor	Remove Dead	2.10
189-689	N	Red Alder	<i>Alnus rubra</i>	31	40	3	15	Decurrent, natural form. Full crown.	Poor	Remove	1.86
190-690	N	Black Cottonwood	<i>Populus trichocarpa</i>	30	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	1.80

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
191-691	N	Black Cottonwood	<i>Populus trichocarpa</i>	39	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	2.34
os1	Y	Cherry	<i>Prunus avium</i>	25+2 5+10 =60	80	3	3	Multiple stems at base. Ivy into the lower crown. Some pockets of decay throughout the trunks.	Moderate	Retain	3.60
os2	Y	Red Alder	<i>Alnus rubra</i>	55	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	3.30
os3	Y	Red Alder	<i>Alnus rubra</i>	30	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	1.80
os4		Red Alder	<i>Alnus rubra</i>	90	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	5.40
os5		Red Alder	<i>Alnus rubra</i>	34	50	3	15	Decurrent, natural form. Full crown.	Poor	Remove	2.04
os6		Red Alder	<i>Alnus rubra</i>	42	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	2.52
os7		Red Alder	<i>Alnus rubra</i>	40	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	2.40
os8	Y	Red Alder	<i>Alnus rubra</i>	30	50	3	15	Decurrent, natural form. Full crown.	Poor	Retain	1.80

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
os9	Y	Western Red Cedar	<i>Thuja plicata</i>	46	100	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Retain	2.76
os10	Y	Red Alder	<i>Alnus rubra</i>	45	50	3	15	Decurrent, natural crown form. Full crown.	Poor	Retain	2.70
ci1	Y	Black Cottonwood	<i>Populus trichocarpa</i>	55	70	4	15	Decurrent, natural form. Full crown. Adjacent to the bank.	Poor	Retain	3.30
ci2	Y	Black Cottonwood	<i>Populus trichocarpa</i>	48+2 0=68	70	3	15	Dual stem at base. Full crown. Adjacent to the bank.	Poor	Retain	4.08
ci3	Y	Poplar	<i>Populus alba</i>	34	50	2	13	Leaning south. Small hangers in the crown.	Poor	Retain	2.04
ci4	Y	Birch	<i>Betula papyrifera</i>	50	40	3	15	Decurrent, natural form. Full crown.	Moderate	Retain	3.00
ci5	Y	Douglas Fir	<i>Pseudotsuga menziesii</i>	76	70	5	2	Straight, single stem. Healthy foliage colour and density.	Good	Retain	4.56
ci6	Y	Black Cottonwood	<i>Populus trichocarpa</i>	40+4 0=80	70	2	15	Dual stem at base with included bark in the union. Blackberry growing into the lower crown.	Poor	Retain	4.80
ci7	N	Red Alder	<i>Alnus rubra</i>	30+2 3=53	70	2	15	Dual stem at base with included bark in the union. Blackberry growing into the lower crown.	Poor	Retain	3.18

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci8	Y	Western Red Cedar	<i>Thuja plicata</i>	42	100	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Retain	2.52
ci9	N	Western Red Cedar	<i>Thuja plicata</i>	50	100	3	15	Straight, single stem. Healthy foliage colour and density. No major defects.	Moderate	Retain	3.00
ci10	N	Red Alder	<i>Alnus rubra</i>	32	30	2	15	Decurrent, natural form. Blackberry growing into the lower crown.	Poor	Retain	1.92
ci11	N	Red Alder	<i>Alnus rubra</i>	25	30	2	15	Decurrent, natural form. Blackberry growing into the lower crown.	Poor	Retain	1.50
ci12	N	Red Alder	<i>Alnus rubra</i>	20	30	2	10	Decurrent, natural form. Decay at the base. Crown growing into the above powerline.	Poor	Remove	1.50
ci13	Y	Red Alder	<i>Alnus rubra</i>	10+30+15=35	30	2	10	Multiple stems at base. Decay at the base. Crown growing into the above powerline.	Poor	Remove	2.10
ci14	Y	Red Alder	<i>Alnus rubra</i>	23	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci15	Y	Red Alder	<i>Alnus rubra</i>	25+25+15=65	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	3.90
ci16	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.80

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci17	N	Red Alder	<i>Alnus rubra</i>	22+1 33	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	1.98
ci18	Y	Red Alder	<i>Alnus rubra</i>	8	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci19	Y	Red Alder	<i>Alnus rubra</i>	27	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.62
ci20	Y	Red Alder	<i>Alnus rubra</i>	32+4 0=72	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	4.32
ci21	Y	Red Alder	<i>Alnus rubra</i>	20	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci22	N	Red Alder	<i>Alnus rubra</i>	40	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	2.40
ci23	Y	Red Alder	<i>Alnus rubra</i>	25	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci24	Y	Red Alder	<i>Alnus rubra</i>	25	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.50
ci25	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	1.80

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci26	Y	Red Alder	<i>Alnus rubra</i>	40	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	2.40
ci27	Y	Red Alder	<i>Alnus rubra</i>	48	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	2.88
ci28	Y	Red Alder	<i>Alnus rubra</i>	100	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Remove	6.00
ci29	Y	Red Alder	<i>Alnus rubra</i>	35+30=65	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	3.90
ci30	Y	Red Alder	<i>Alnus rubra</i>	30+30+35=95	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Remove	5.70
ci31	Y	Red Alder	<i>Alnus rubra</i>	37	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.22
ci32	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.80
ci33	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.80
ci34	Y	Red Alder	<i>Alnus rubra</i>	34	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.04

ID#	S	Common Name	Botanical Name	DBH (cm)	LCR (%)	CR (m)	Height (m)	Condition & Comments	Retention Suitability	Action	TPZ (m)
ci35	Y	Red Alder	<i>Alnus rubra</i>	40	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.40
ci36	Y	Red Alder	<i>Alnus rubra</i>	33	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.98
ci37	Y	Red Alder	<i>Alnus rubra</i>	31+3 5=66	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Retain	3.96
ci38	Y	Red Alder	<i>Alnus rubra</i>	25+2 5=50	50	2	10	Multiple stems at base. Decay throughout the trunk.	Poor	Retain	3.00
ci39	Y	Red Alder	<i>Alnus rubra</i>	25	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.50
ci40	Y	Red Alder	<i>Alnus rubra</i>	33	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.98
ci41	Y	Red Alder	<i>Alnus rubra</i>	50	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	3.00
ci42	Y	Red Alder	<i>Alnus rubra</i>	37	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	2.22
ci43	Y	Red Alder	<i>Alnus rubra</i>	30	50	2	10	Decurrent, natural form. Decay throughout the trunk.	Poor	Retain	1.80



IMAGE 1- Front yard of 17121 92 Ave, facing south



IMAGE 2- Backyard of 17121 92 Ave, facing east



IMAGE 3- Front yard of 17121 92 Ave, facing north



IMAGE 4- Front yard of 17077 92 Avenue, facing east

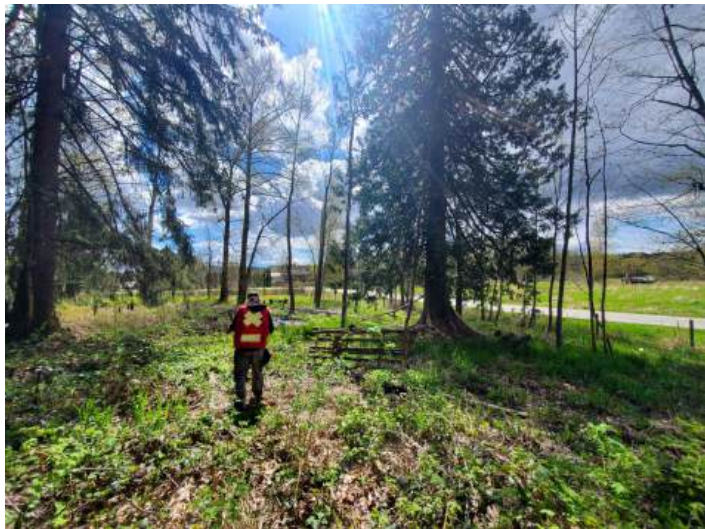


IMAGE 5- Front yard of 17077 92 Ave, facing south



IMAGE 6- West side of 9265 Bothwell Drive



IMAGE 7- Tree 101-601



IMAGE 8- Tree 101-601, union at the base.

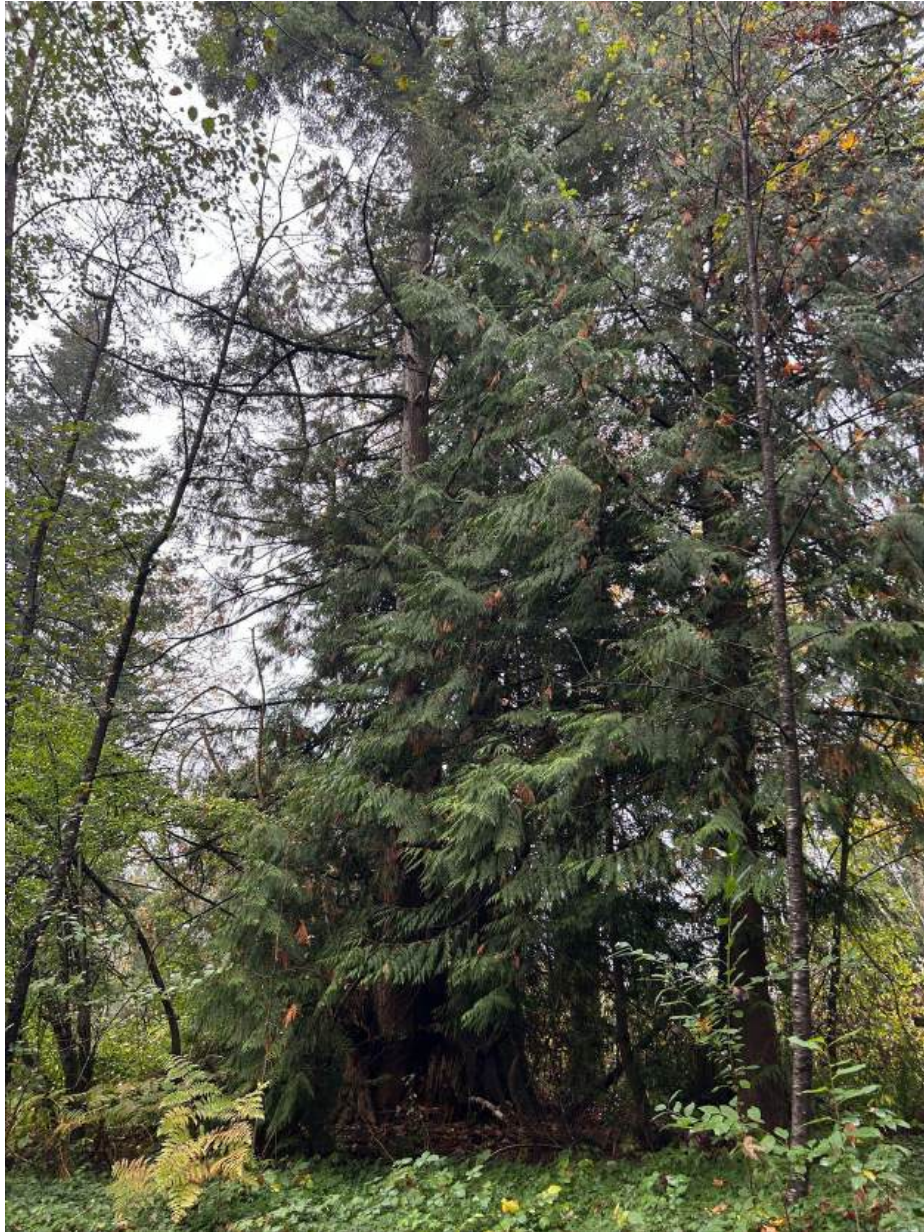


IMAGE 9- Clump 64-564



IMAGE 10- origin of clump 64-564

Limitations and Assumptions

- This report was prepared for and on behalf of the client and it is intended solely for their use. Woodridge Tree Consulting Arborists Ltd. shall not accept any liability derived from the partial, unintended, unauthorized or improper use of this report.
- This report is restricted to the subject trees as detailed in the report. No other trees were inspected or assessed as part of the work related to the preparation of this report.
- The accuracy and ownership of the locations of trees, property lines and other site features were not verified by Woodridge Tree. Third party information to the consultant may have been relied upon in the formation of the opinion of the consultant in the preparation of this report, and that information is assumed to be true and correct.
- The use of maps, sketches, photographs and diagrams are intended only as a reference for the reader's use in understanding the contents and findings of this report, and are not intended as a representation of fact.
- Approvals from a municipal or senior government agency may be required in relation to certain recommendations and treatments provided in this report. The owner is responsible to make an application for, pay related fees and meet all requirements and conditions for the issuance of such permits, approvals or authorizations.
- **The client must provide Woodridge Tree with a minimum of 3 business days prior to the request of required site supervision services.**

I certify to the best of my knowledge or belief that:

- staff from this firm have performed site inspections on the dates as stated herein.
- the findings are based on information known to the consultant at that time.
- the statements of fact determined by the consultant are true and correct.

If there are questions regarding the contents of this report please contact our office.

 Adrian Szabunio Diploma in Civil Engineering Technology ISA Certified Arborist ISA Tree Risk Assessment Qualified PR 5079 Woodridge Tree Consulting Arborists Ltd. adrian@woodridgetree.com	 Terry Thrale ISA Certified Arborist and Tree Risk Assessor PN 6766A Woodridge Tree Consulting Arborists Ltd. terry@woodridgetree.com
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TREE PRESERVATION BY LOCATION

Surrey File Number: 22-0231
 Address: 17077 & 17121 92 Ave
 Arborist: Terry Thrale
 Date of Report/Revision: October 15, 2024

*All trees identified for removal, retention and/or replacement are subject to change prior to final approval of the arborist report

Alder & Cottonwood Trees			
	Existing	Remove	Retain
Alder/Cottonwood (outside riparian area)	27	27	
Alder/Cottonwood (within riparian area)			
Total	27	27	0
Deciduous Trees (excluding Alder & Cottonwood Trees)			
Tree Species	Existing	Remove	Retain
<i>Bigleaf Maple</i>	13	13	0
<i>Cherry</i>	2	2	0
<i>Japanese Maple</i>	1	1	0
Deciduous Subtotal	16	16	0
Coniferous Trees			
Tree Species	Existing	Remove	Retain
<i>Amabilis Fir</i>	1	1	0
<i>Grand Fir</i>	1	1	0
<i>Hemlock</i>	4	4	0
<i>Sitka Spruce</i>	13	13	0
<i>Western Red Cedar</i>	73	72	1
Coniferous Subtotal	92	91	0
Deciduous & Coniferous Total	108	107	1
Onsite Tree Totals	135	134	1
Onsite Replacement Trees Proposed *insert "0" if TBD or unknown		58	
Total Onsite Retained and Replacement Trees		59	
Alder & Cottonwood Trees			
	Existing	Remove	Retain
Alder/Cottonwood (outside riparian area)	8	3	5
Alder/Cottonwood (within riparian area)			
Total	8	3	5
Deciduous & Coniferous (excluding Alder & Cottonwood Trees)			
Tree Species	Existing	Remove	Retain
<i>Cherry</i>	1	0	1
<i>Western Red Cedar</i>	1	0	1
Deciduous & Coniferous Total	2	0	2
Offsite Tree Totals	10	3	7
Total Offsite Retained Trees		7	
CITY			
	Existing	Remove	Retain
Park/City Lot Trees	50	40	10
Boulevard Trees	43	19	24

	Total	93	59	34

TREE PRESERVATION SUMMARY				Plans checked by:	
Surrey File Number: 22-0231				J8D	Trees & Landscaping
Address: 17077 and 17121 92 Ave				Planning & Development	
Arborist: Terry Thrale				Date: Oct 15, 2024	<input checked="" type="checkbox"/> Acceptable
Date of Report/Revision: October 15, 2024					<input type="checkbox"/> Not Acceptable
Arborist Signature	<i>Terry Thrale</i>				
*All trees identified for removal, retention and/or replacement are subject to change prior to final approval of the arborist report					
ONSITE TREES				# of Trees	
Existing Bylaw Trees				<u>135</u>	
Proposed Removed Bylaw Trees				<u>134</u>	
Proposed Retained Bylaw Trees				<u>1</u>	
Total Replacement Trees Required					
Alder & Cottonwood Trees Requiring 1 to 1 Replacement Ratio					
	Removed			Subtotal	
	27	x	1	27	
Alder & Cottonwood Trees Requiring 2 to 1 Replacement Ratio					
	Removed			Subtotal	
	0	x	2	0	
Deciduous/Coniferous Trees Requiring 2 to 1 Replacement Ratio					
	Removed			Subtotal	
	107	x	2	214	
Required Replacement Trees				<u>241</u>	
Proposed Replacement Trees				<u>58</u>	
Deficit of Replacement Trees				-183	
Total Onsite Retained and Replacement Trees				<u>59</u>	
OFFSITE TREES				# of Trees	
Existing Bylaw Trees				<u>10</u>	
Proposed Removed Bylaw Trees				<u>3</u>	
Proposed Retained Bylaw Trees				<u>7</u>	
Total Replacement Trees Required					
Alder & Cottonwood Trees Requiring 1 to 1 Replacement Ratio					
	Removed			Subtotal	
	3	x	1	3	
Alder & Cottonwood Trees Requiring 2 to 1 Replacement Ratio					
	Removed			Subtotal	
	0	x	2	0	
Deciduous/Coniferous Trees Requiring 2 to 1 Replacement Ratio					
	Removed			Subtotal	
	0	x	2	0	
Required Replacement Trees				<u>3</u>	
*To be taken as cash-in-lieu					
Total Offsite Retained Trees				<u>7</u>	
CITY TREES		Existing	Removed	Retained	
Park/City Lot Trees		50	40	10	
Boulevard Trees		43	19	24	
Total		93	59	34	

+ 118 for parks removals = 359
359 - 58 = 301 deficit



Tree Plan for Development at
17077, 17121 92 Ave
Surrey

Date: October 15, 2024

INCLUDING ROAD DEDICATION AND CORNER CUTS
ON LOTS FOR DRAINAGE
ON LOTS FOR BUILDING SCHEME GUIDELINES
IN LOTS FOR UTILITY AND SIDEWALK MAINTENANCE
ON LOTS FOR ENGINEERED FOUNDATIONS



TRAFFIC MANAGEMENT PLAN FOR DETAILS

CITY OF SURREY TO
ABANDON EXISTING WATER
SERVICE CONNECTION AT
THE DEVELOPER'S COST



1.2m HIGH BLACK VINYL CHAIN
LINK FENCE SITUATED 0.1m WITHIN
PRIVATE PROPERTY LINE TO CITY
OF SURREY PARKS CONSTRUCTION
STANDARD S50-PK6073



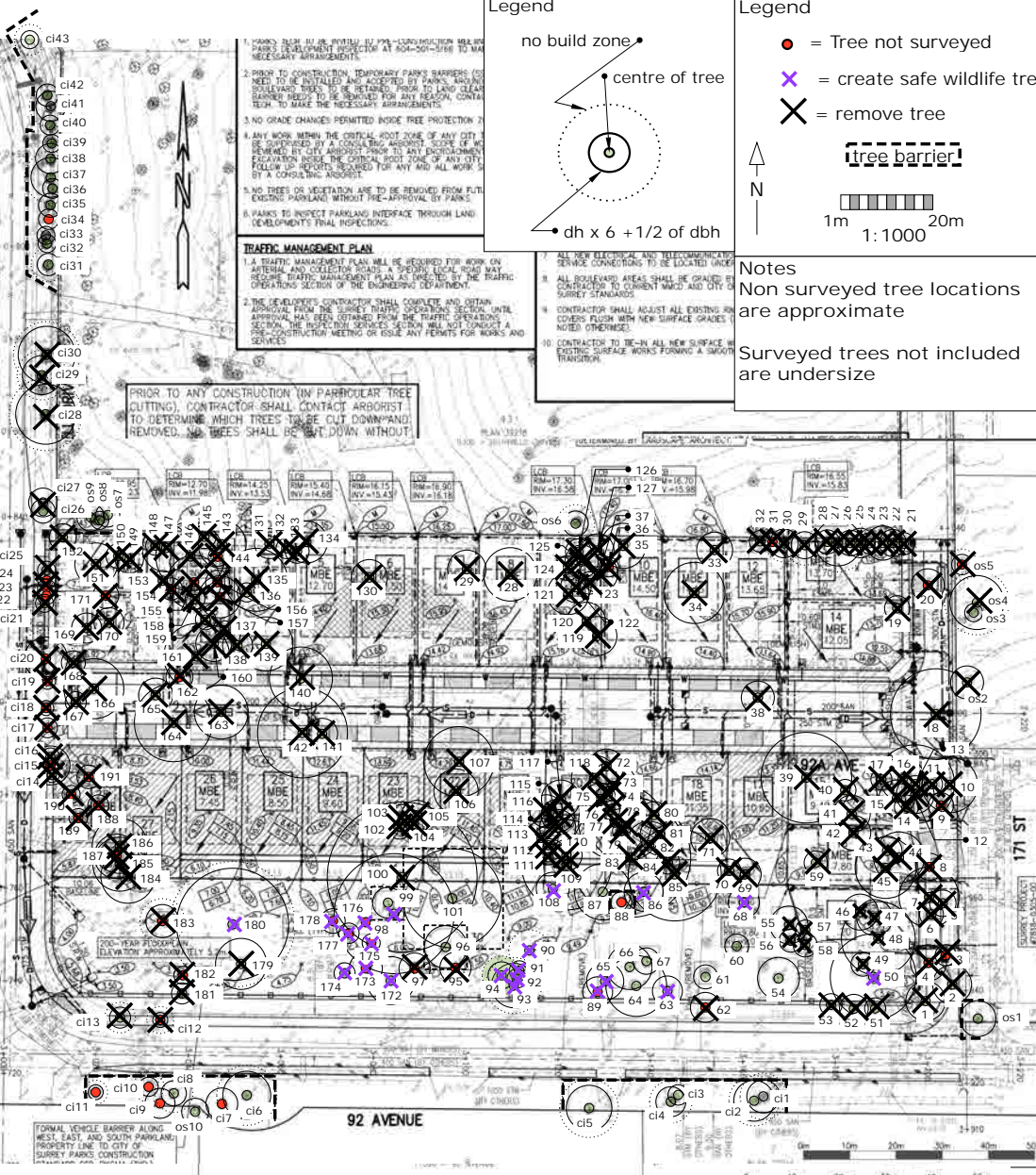
92 AVE (UNCONSTRUCTED)



171 ST



92 AVENUE





Tree Plan for Development at
17077, 17121 92 Ave
Surrey

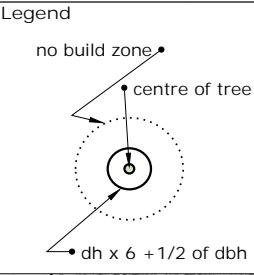
Date: October 15, 2024

INCLUDING ROAD DEDICATION AND CORNER CUTS
ON LOTS FOR DRAINAGE
ON LOTS FOR BUILDING SCHEME GUIDELINES
ON LOTS FOR UTILITY AND SIDEWALK MAINTENANCE
ON LOTS FOR ENGINEERED FOUNDATIONS

1. PARKS SHALL BE IN FULL COMPLIANCE WITH THE SURREY PARKS DEVELOPMENT PROVISIONS AT 804-501-5185 TO MEET THE SURREY STANDARDS.
2. PRIOR TO CONSTRUCTION, TEMPORARY PARKS BARRIERS (S) NEED TO BE INSTALLED AND ACCEPTED BY PARKS. AROUND BOLLIVARD TREES, A CLEARANCE ZONE SHALL BE MAINTAINED TO BE SAVED FOR ANY DESIGN, CONSULT WITH PARKS TO MAKE THE NECESSARY ARRANGEMENTS.
3. NO GRADE CHANGES PERMITTED INSIDE TREE PROTECTION ZONE.
4. ANY WORK WITHIN THE CRITICAL ROOT ZONE OF ANY TREE SHALL BE SUPERVISED BY A CONSULTING ARBORIST. SCOPE OF WORK REMOVED BY CITY ARBORIST PRIOR TO ANY ENCROACHMENT. A CLEARANCE ZONE INSIDE THE CRITICAL ROOT ZONE OF ANY TREE SHALL FOLLOW UP REPORTS REQUIRED FOR ANY AND ALL WORK BY A CONSULTING ARBORIST.
5. NO TREES OR VEGETATION ARE TO BE REMOVED FROM PLAT EXISTING PARKLAND WITHOUT PRE-APPROVAL BY PARKS.
6. PARKS TO INSPECT PARKLAND INTERFACE THROUGH LAND DEVELOPMENT'S FINAL INSPECTIONS.

TRAFFIC MANAGEMENT PLAN

1. A TRAFFIC MANAGEMENT PLAN WILL BE REQUIRED FOR WORK ON ARTERIAL AND COLLECTION ROADS. A SPECIFIC LOCAL ROAD MAY REQUIRE TRAFFIC MANAGEMENT PLAN AS DIRECTED BY THE TRAFFIC OPERATIONS SECTION OF THE ENGINEERING DEPARTMENT.
2. THE DEVELOPER'S CONTRACTOR SHALL COMPLETE AND OBTAIN APPROVAL FROM THE SURREY TRAFFIC OPERATIONS SECTION. UNTIL APPROVAL HAS BEEN OBTAINED FROM THE TRAFFIC OPERATIONS SECTION, THE CONTRACTOR SHALL NOT BE ALLOWED TO CONDUCT A POLE-CONSTRUCTION MEETING OR ISSUE ANY PERMITS FOR WORKS AND SERVICES.



Legend

- ⊙ = existing tree
- ⊗ = replacement tree
- = Tree not surveyed
- ✕ = create safe wildlife tree
- ✕ = remove tree

tree barrier

1:1000

Replacement tree selection,
planting and maintenance to meet
or exceed BCLNA/BSCLA
Landscape Standards

SEE WORKBOOKS PLAN FOR DETAILS

CITY OF SURREY TO
ABANDON EXISTING WATER
SERVICE CONNECTION AT
THE DEVELOPER'S COST

PRIOR TO ANY CONSTRUCTION (IN PARTICULAR TREE
CLIPPING), CONTRACTOR SHALL CONTACT ARBORIST
TO DETERMINE WHICH TREES TO BE CUT DOWN AND
REMOVED. NO BRANCHES SHALL BE LEFT DOWN WITHOUT

1.2m HIGH BLACK VINYL CHAIN
LINK FENCE SITUATED 0.1m WITHIN
PRIVATE PROPERTY LINE TO CITY
OF SURREY PARKS CONSTRUCTION
STANDARD S50-P60703

100-YEAR FLOODPLAIN
ELEVATION APPROXIMATELY 5.2m

92 AVE (UNCONSTRUCTED)

PRELIMINARY

FORMAL VEHICLE BARRIER ALONG
WEST, EAST AND SOUTH PARALLEL
PROPERTY LINE TO CITY OF
SURREY PARKS CONSTRUCTION
STANDARD S50-P60703

92 AVENUE

