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**CITY OF KELOWNA**

**MEMORANDUM**

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**Date:** April 5, 2024 *revised April 4, 2024*  
**File No.:** Z22-0043  
**To:** Suburban and Rural Planning (TC)  
**From:** Development Engineering Manager (NC)  
**Subject:** 394-396 Moubray Rd



MF1 to MF2

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The Development Engineering Department has the following comments associated with this Application to rezone the subject property from the MF1 – Infill Housing zone to the MF2 – Townhouse Housing zone. The following Works and Services will be required of this development.

The Development Engineering Technologist for this file is Cindal McCabe (cmccabe@kelowna.ca).

**1. GENERAL**

- a. The following comments and requirements are valid for a period of two (2) years from the reference date of this memo, or until the application has been closed, whichever occurs first. The City of Kelowna reserves the rights to modify some or all items in this memo if an application for Building Permit is not made within this time.
- b. This proposed development may require the installation or modification of centralized mail delivery equipment. Please contact Arif Bhatia, Delivery Planning Officer, Canada Post Corporation, 530 Gaston Avenue, Kelowna, BC, V1Y 2K0, (250) 859-0198, arif.bhatia@canadapost.ca to obtain further information and determine requirements.

**2. SITE-SPECIFIC REQUIREMENTS**

- a. Only one driveway, of maximum 6.0m width, will be permitted. Driveway must access from Moubray Rd. Letdown to be constructed to SS-C7.
- b. The proposed driveway configuration appears consistent with this requirement.
- c. Indicate, on the site, the locations of the garbage and recycle bins. Provide turning movements for an HSU vehicle to confirm maneuverability on site without requiring a reverse movement onto public roads.

**3. DOMESTIC WATER AND FIRE PROTECTION**

- a. The subject property is located within the Glenmore-Ellison Irrigation District (GEID) Water Supply Area. The Developer's Consulting Engineer will determine the servicing and fire protection requirements of this proposed development. The Developer is required to make satisfactory arrangements with GEID for all water servicing and fire protection requirements.


- b. All fire flow calculations are to be provided to the City's Development Engineering Department upon submittal of Building Permit application or off-site civil engineering drawings, as the case may be. Confirmation of adequate servicing and fire protection from GEID must be provided to the City Engineer prior to issuance of Building Permit.

#### 4. **SANITARY SEWER SYSTEM**

- a. Our records indicate that this property is currently serviced with two 100 mm diameter sanitary services off Moubray Rd. Only one service connection will be permitted per lot.
- b. The Developer's Consulting Engineer will determine the sanitary sewer servicing requirements for this development. If upgrades are determined to be necessary to achieve adequate servicing, the Developer must complete any such upgrades at their cost.
- c. Service connections are to be completed as per SS-S7 with an inspection chamber and Brooks Box, with consideration given to SS-S50 for connections to mains. Any obsolete services must be fully decommissioned at the main.

#### 5. **STORM DRAINAGE**

- a. The subject property is located within the City of Kelowna drainage service area. Only one service connection will be permitted per lot.
- b. The Applicant must engage a Consulting Engineer to provide the following drawings for the site, in accordance with Bylaw 7900 requirements:
  - i. A detailed Lot Grading Plan;
    - a. Indicate on the Lot Grading Plan the building slab elevations, finished grade elevations throughout the site, any slopes that are steeper than 30%, areas that have greater than 1.0 m of fill, finished grade slopes, and perimeter grades to match existing grades;
    - b. Grading directly to a natural drainage path must include adequate erosion control and water quality improvement measures;
  - ii. A detailed Stormwater Management Plan;
    - a. Surface runoff during a storm event of 1:100 year return period from this development must not discharge from the site in excess of the 1:5 year pre-development rate;
    - b. On-site detention systems are to be compliant with Bylaw 7900, Schedule 4, Section 3.11.1 *Detention Storage*;
    - c. As per Bylaw 7900, Schedule 4, Section 3.1.3 *Climate Change*, the capacity of storm works will include an additional 15 percent (15%) upward adjustment, applied to post-development rainfall intensity curve stage (IDF) in Section 3.7.2;
  - iii. An Erosion and Sediment Control (ESC) Plan;
    - a. Prepare as per section 3.14 of Schedule 4 of Bylaw 7900 and best practices;

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- b. If a line item for ESC is not included in the Engineer's cost estimate for off-site work, then an additional 3% will be added to the performance security based on the total off-site construction estimate.
- c. Register statutory right of ways on site for all storm water infrastructure or flow paths carrying, conveying, detaining and/or retaining storm water that is generated from the public properties or public road right of ways. Show details of dedications, rights-of-way, setbacks and non-disturbance areas.
- d. Where structures are designed or constructed below the proven high groundwater table, permanent groundwater pumping will not be permitted to discharge to the storm system. Intermittent pumping of groundwater for structures within seasonal range of the groundwater table may be permitted with some conditions. The City will approve designs that include provisions for eliminating groundwater penetration into the structure, while addressing buoyancy concerns. These design aspects must be reviewed and approved by the City Engineer.

## 6. ROADWAY AND STREETScape

- a. Moubray Rd is classified in the 2040 OCP as a Core Area Collector and must be upgraded to an urban XS-R51 standard along the full frontage of the subject property (connecting to the existing sidewalk at Ballou Park) to facilitate additional corridor density associated with this development. Required upgrades to include sidewalk, curb and gutter, landscaped and irrigated boulevard, pavement removal and replacement and re-location or adjustment of utility appurtenances if required to accommodate the upgrading construction. The cross section is permitted to be modified to locate the sidewalk against the curb, instead of the property line, due to conflict with the location of the existing sanitary main.
- b. All Landscape and Irrigation plans require design and inspection by a Qualified Professional registered with the BCSLA and the IIABC, are to be included as a line item in the estimate for the Servicing Agreement performance security. Landscape and irrigation plans require approval by the Development Engineering Branch at the same time as other "issued for construction" drawings.

## 7. POWER AND TELECOMMUNICATION SERVICES

- a. All proposed service connections are to be installed underground. It is the Developer's responsibility to make a servicing application with the respective electric power, telephone, and cable transmission companies to arrange for these services. Utility companies are required to obtain the City's approval before commencing construction.
- b. Provide all necessary Statutory Rights-of-Ways for any utility corridors as may be required.

## 8. GEOTECHNICAL STUDY

- a. Provide a Geotechnical Report prepared by a Professional Engineer competent in the field of geotechnical or hydrogeological engineering as applicable. The Geotechnical Report must be submitted to the Development Services Department as part of the Building Permit

submission and prior to the City's review of Engineering drawings. Geotechnical Report to address, at a minimum, any of the applicable items below:

- i. Site suitability for development;
  - ii. Area ground water characteristics, including any springs and overland surface drainage courses traversing the property, as well as any monitoring required;
  - iii. Site soil characteristics (i.e., soil types and depths, fill areas, infiltration rate, sulphate content, unsuitable soils such as organic material, etc);
  - iv. Any special requirements for construction of roads, utilities, and building structures;
  - v. Slope stability, rock fall hazard and slippage including the effects of drainage and septic tank effluent on the site;
  - vi. Identify slopes greater than 30%;
  - vii. Top of bank assessment and location including recommendations for property line locations, septic field locations, building setbacks, and ground water disposal locations;
  - viii. Any special requirements that the proposed development should undertake so that it will not impact the banks(s), including erosion and structural requirements;
  - ix. Recommendations for items that should be included in a Restrictive Covenant;
  - x. Recommendations for erosion and sedimentation controls for water and wind;
  - xi. Any items required in other sections of this memo;
  - xii. Recommendations for roof drains, perimeter drains, and septic tank effluent on the site;
- b. Should any on-site retaining walls surpass the following limits, an Over Height Retaining Wall Permit will be required:
- i. Retaining walls on all lots, except those required as a condition of subdivision approval, must not exceed a height of 1.2 m measured from natural grade on the lower side, and must be constructed so that any retaining walls are spaced to provide a 1.2 m horizontal separation between tiers. The maximum number of tiers is two with a maximum total height of 2.4 m. Any multi-tier structure more than 2 tiers must be designed and constructed under the direction of a qualified professional engineer.
  - ii. The design of all retaining walls is to conform with Engineer & Geoscientists British Columbia's *Professional Practice Guidelines for Retaining Wall Design*. Submission requirements for the Over Height Retaining Wall Permit include Engineer of Record documents (Appendix A of *Retaining Wall Design Guideline*) and any necessary independent reviews (as per EGBC's *Documented Independent Review of Structural Designs*).
  - iii. Where walls are on the high side of a municipal road and retaining private property, the City's preference is that the walls are situated on private property. Where the walls are retaining a municipal road, the City's preference is that the wall be located within the ROW, with additional dedication provided for maintenance and equipment access. Geogrids or tie-backs for private walls must not encroach into municipal ROW.
- c. Any modified slopes having a finished slope greater than 2H:V1 (50%) and an elevation change greater than 1.2 m must be installed under the direction of a qualified professional engineer.

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- d. If any blasting is proposed as part of this subdivision, a Soil Removal and Deposit Application must be made to the City for such works. The proposed blasting work is to comply with Soil Removal and Deposit Regulation Bylaw No. 9612, specifically Section 6 PERMIT REQUIREMENTS.
- e. Any exposed natural rock surface or constructed rock cut that has the potential for materials to displace, causing a hazardous condition, must be reviewed by a qualified professional engineer, with appropriate measures undertaken as prescribed by the engineer for rockfall hazard mitigation. For adequate Rockfall Protection adjacent to walls and rock cuts, refer to BC MoTI Supplement to TAC Geometric Design Guide Figure 440-H, which outlines a ditch bottom width depending on wall height. Additional ROW may be required to accommodate catchment ditches adjacent to municipal roads. Sidewalks and utilities should be kept out of rockfall catchment area.

## 9. DESIGN AND CONSTRUCTION OF OFFSITE WORKS

- a. Offsite Works and Services are required of this development as outlined above. The Developer must Design and enter into a Servicing Agreement and provide security for the Construction of the Works prior to issuance of Building Permit.
- b. Design of all offsite works and site servicing must be completed in accordance with Subdivision, Development, and Servicing Bylaw No. 7900 and is subject to the approval of the City Engineer prior to construction or execution of a Servicing Agreement.
  - i. See Bylaw 7900 Sections 6.0, 7.0, and 9.0, as well as Schedule 4 for procedural guidance, approval requirements, and design standards.
  - ii. Design must be completed by a suitably qualified and experience Consulting Engineer.
  - iii. Engineering drawing submissions are to be in accordance with *Council Policy 265 – Engineering Drawing Submission Requirements*. Drawings must be submitted digitally in PDF format and sealed in accordance with EGBC Guidelines.
- c. A Servicing Agreement is required for all Works and Services on City lands (Offsite Works).
  - i. The Servicing Agreement must be in the form of Schedule 2 of Bylaw 7900.
  - ii. The Developer's Consulting Engineer, prior to preparation of a Servicing Agreement, must provide adequate drawings and estimates for the Works to the City Engineer.
  - iii. Bylaw 7900, Part 3 – Security for Works and Services, Sections 7.1 - 7.2, describes the Security requirements of an Owner for entering into Servicing Agreements. Security must be in the form of an irrevocable letter-of-credit, bank draft, or certified cheque.
- d. Construction of the required Works and Services must be completed in accordance with Bylaw 7900 requirements and is subject to several approvals prior to work commencing. These include, but are not necessarily limited to, the following:
  - i. Before any construction of the Works commences, design drawings must be reviewed and approved for construction by the City Engineer.
  - ii. A "Consulting Engineering Confirmation Letter" (City template provided upon request) must be executed by the Owner and Consulting Engineer and provided to the City.

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- iii. The Developer's Consulting Engineer must undertake adequate inspections during construction of the Work, as outlined in EGBC's *Guide to the Standard for Documented Field Reviews During Implementation or Construction*. A Quality Control and Assurance Plan acceptable to the City Engineer must be submitted prior to construction approval. Refer to Bylaw 7900, Schedule 3.
- iv. Insurance requirements are outlined in Bylaw 7900, Section 7.3. A compliant Certificate of Insurance must be provided prior to construction approval.
- v. Contractor must provide a current WorkSafe BC Clearance Letter.
- e. Construction completion, maintenance period, and return of Performance Security requirements are outlined in Bylaw 7900, Sections 9.5 - 9.7 and Sections 10.0 - 10.4.


**10. CHARGES, FEES, AND SECURITIES**

- a. Engineering and Inspection Fee: 3.5% of the total cost of the off-site work (plus GST)

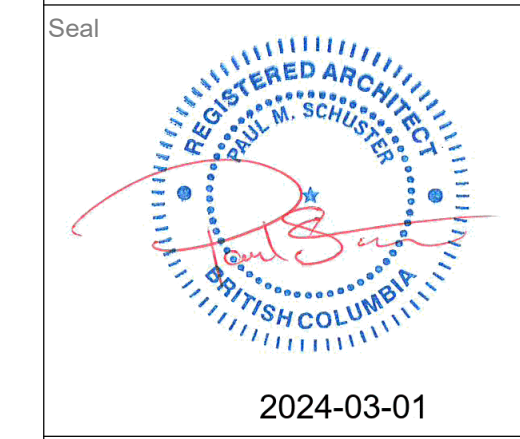
*Cindal McCabe*

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FOR:  
Nelson Chapman, P.Eng.  
Development Engineering Manager  
CM

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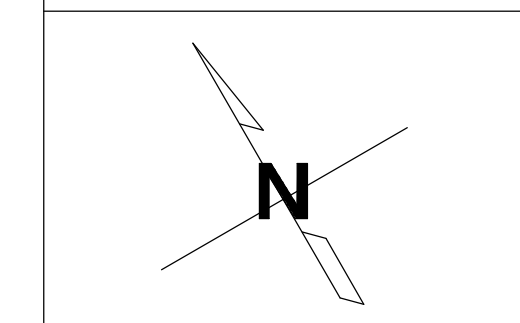
Notes:  
 © Copyright Reserved. This drawing and design is, and at all times remains, the property of Novation Architecture LTD, and can be reproduced only with written consent.  
 All drawings shall be read in conjunction with specifications and consultant details.  
 All work shall be carried out in accordance with Canadian standards, specifications, BC Building Code (2018 edition) and local authority by-laws and regulations.  
 Tabulated scales refer to Arch D size drawings sheet.  
 This drawing must not be scaled.  
 Contractors shall verify all dimensions prior to commencement of work.  
 Any omissions or discrepancies shall be reported to the architect.



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NOT FOR CONSTRUCTION

No.	Date	Description
2	20230301	ISSUED FOR DEVELOPMENT PERMIT
1	20230106	RE-ISSUED FOR DEVELOPMENT PERMIT

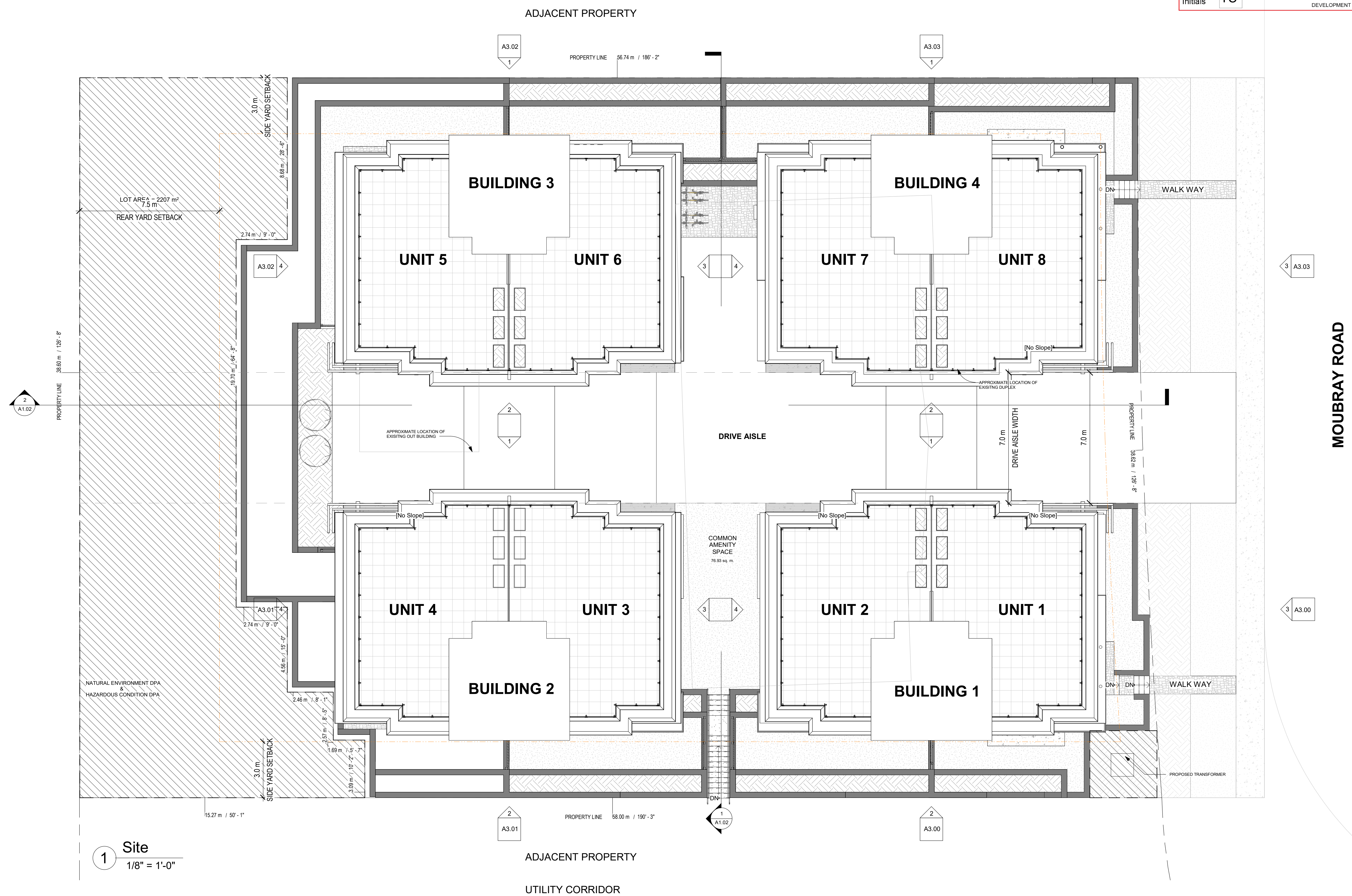


**NOVATION**  
 ARCHITECTURE LTD.  
 302 - 2237 LECKIE ROAD  
 KELOWNA BC V1X 6Y5

project title  
**MOUBRAY ESTATES**  
 394 / 396 MOUBRAY ROAD, KELOWNA,  
 BRITISH COLUMBIA  
 project no. 21116

drawing title  
**SITE PLAN - OVERALL**  
 designed PS scale 1/8" = 1'-0"  
 drawn KA  
 checked PS  
 drawing no.

**A1.01**  
 plotted 2024-03-01 3:29:50 PM



**1 Site**  
 1/8" = 1'-0"