

## Design Rationale

Project address -1020 Graham Rd. City of Kelowna

Client Name - BC 1039634 BC LTD. (Inderjit Chhokar and Sandeep Kaur Chhokar)

### Context response

1020 Graham road is currently zoned under MF1 as 4 to 6 plexus Residential with all family residences in the area. As per 2040 Official Community Plan of Kelowna, it is one of the fastest growing cities of Canada and will be home to another 45,000 people in coming years. Therefore, densification of land is proposed in OCP with focus on more multifamily houses. As per OCP, the future land use of area is Core Area Neighborhood (C-NHD). The Core Area Neighborhoods will accommodate much of the city's growth through sensitive residential infill, some low rise buildings permitted in strategically located properties. Single and Four family dwelling, secondary suites and carriage houses and Ground-oriented multi-unit housing are supported in core area neighborhoods. The property is MF-1 zone for 4 to 6 plexus housing with maximum Site Covered of 0.55.

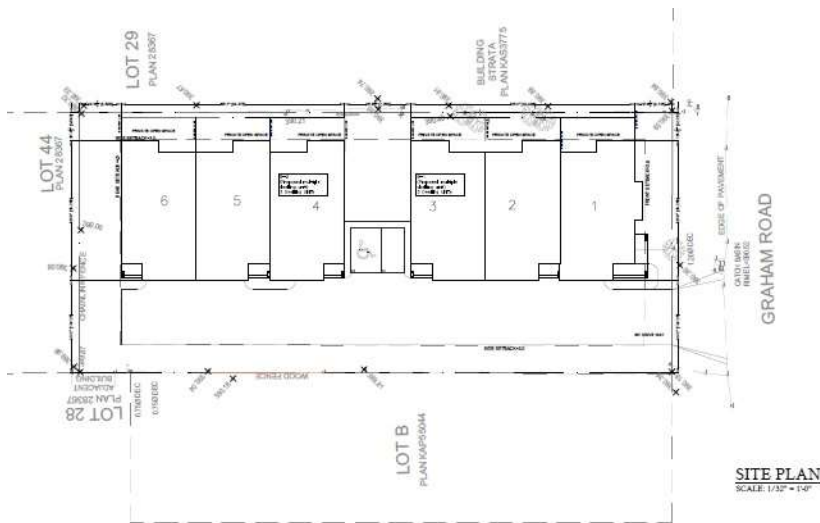
Moreover, this lot is 1821 Square meter compared to other 900 square meter lots in the area and therefore has more potential for redevelopment.





## Site Organization

The site is divided into 2 parts with 3 and 3 units on either side. Each unit have its own separate entrance and two car garage. The site is accessed from Graham road with 6m driveway from side with common landscaping area on rear side of the lot. The private open space is for each 6 units is on one of the side setback. The site also have accessible and visitor car parking spaces.



## Basic Building Form

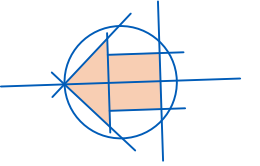
Responding to basic two-storey character of Graham road, the townhouse is 2 storeys above grade. The overall massing of site is simple with first floor is dark with chestnut brown hardie and second floor with grey hardie wall to reduce the visual height of building. The recessed balconies with glass railing on rear side of building are above private open spaces for each townhouse.



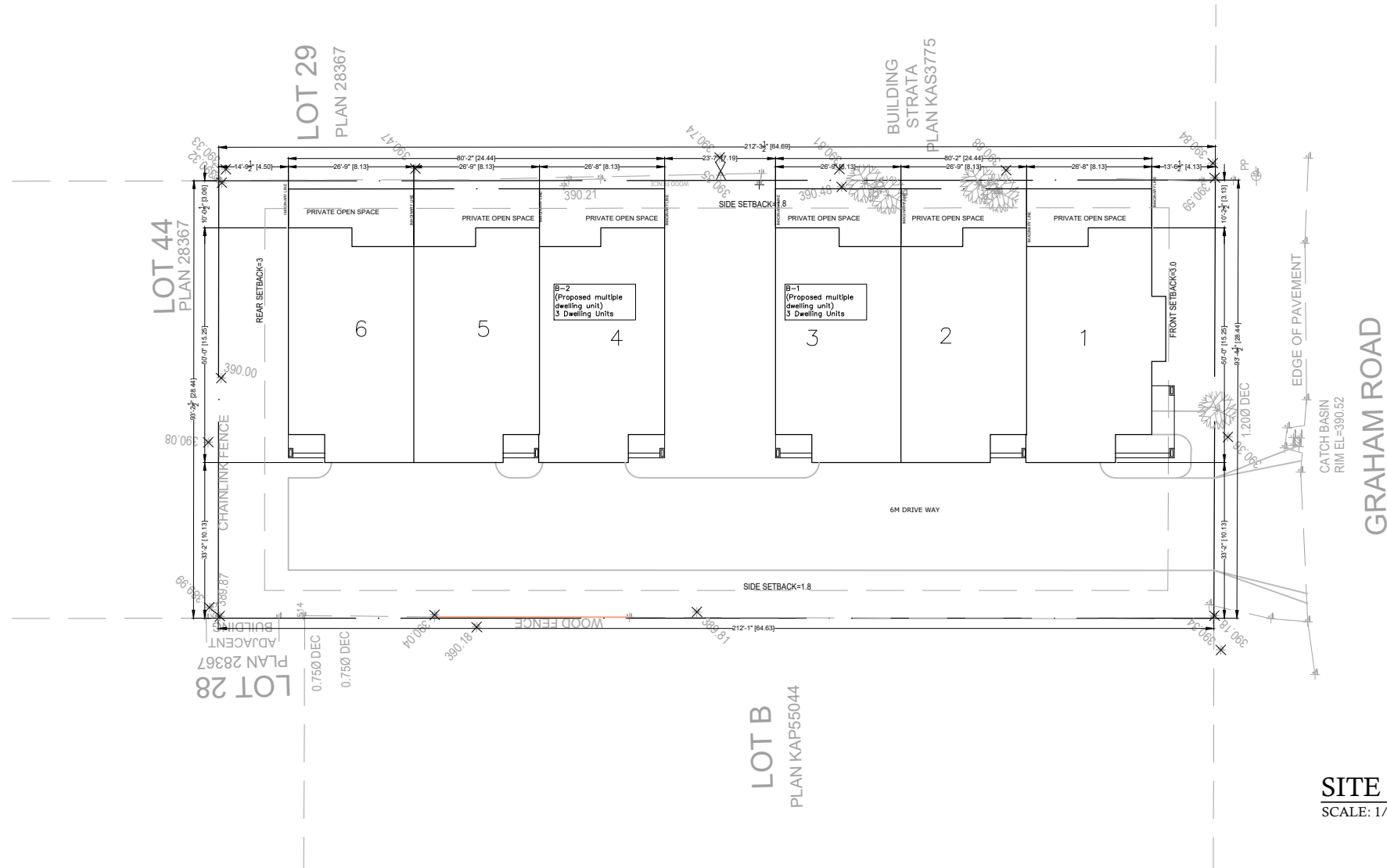
# PROPOSED MULTIPLE DWELLING

1020 GRAHAM RD.  
KELOWNA (BC)

NOTES:



<b>PROJECT DATA</b>	
CIVIC ADDRESS:	1020 GRAHAM ROAD, CITY OF KELOWNA
LEGAL:	:PLAN KAP28367
PID:	LOT 43 SECTION 22 TOWNSHIP 26 003-458-539
CURRENT ZONING:	MF1
<b>LOT AREA:</b> 1839.98 SQM (19805.37 SQFT)	
<b>SITE COVERAGE</b>	
ALLOWED	55% SITE COVERAGE OF ALL BUILDING 75% SITE COVERAGE OF ALL BUILDING, STRUCTURE AND PERMEABLE SURFACES. 1011.98 SQM (10892.95 SQFT) 1379.98 SQM (14854.02 SQFT)
<b>FAR</b>	
ALLOWED	1.0 1839.98 (19805.37 SQFT)
<b>PROPOSED AREA:</b>	
MAIN FLOOR	5200.23 SQFT (483.11 SQM)
FIRST FLOOR	6697.79 SQFT (622.24 SQM)
GARAGE AREA	2268.0 SQFT (210.70 SQM)
<b>TOTAL AREA:</b>	<b>14166.02 SQFT (1,316.06 SQM)</b>
<b>SITE COVERAGE PROPOSED</b>	
PROPOSED MAIN FLOOR	7468.23 SQFT (693.82 SQM)
PORCH	224.11 SQFT (20.82 SQM)
<b>TOTAL:</b>	<b>7692.34 SQFT (714.64 SQM) 38.83%</b>
DRIVEWAY + WALKWAY=3983.71 SQFT(351.51 SQM) 20.11%	
TOTAL SITE COVERAGE=3983.71 SQFT + 7692.34 SQFT =11,676.05 SQFT (1084.74 SQM) 58.95%	
<b>HEIGHT</b>	
ALLOWED	9.0m
PROVIDED	7.63M



**SITE PLAN**  
SCALE: 1/32" = 1'-0"

THE CONTRACTOR IS TO CONFIRM ALL MEASUREMENTS AND REPORT ANY ERRORS OR OMISSIONS BACK TO MARWAHA DESIGNS INC. BEFORE COMMENCING WRK. MARWAHA DESIGNS INC WILL NOT BE LIABLE FOR ANY ERRORS OR OMISSIONS. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE CURRENT PART 9 OF THE BCBC. LOADS NOT COVERED IN THE BUILDING CODE WILL REQUIRE AN ENGINEER AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE. THIS PLAN IS EXCLUSIVE PROPERTY OF MARWAHA DESIGNS INC. AND MAY NOT BE REPRODUCED WITH OUT WRITTEN CONSENT.

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REVISION	

**MARWAHA  
DESIGN INC.**

778-318-4874

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info@marwahadesigns.com

www.marwahadesigns.com

PROJECT:  
**PROPOSED MULTIPLE  
DWELLING  
1020 GRAHAM ROAD  
KELOWNA, BC**

CLIENT:

**INDERJIT SINGH**

DRAWN:	BS
CHECKED:	HS
SCALE:	1/32" = 1'-0"
JOB No.:	KEI-IND-380(B)
DATE:	24/03/2024
SHEET TITLE:	

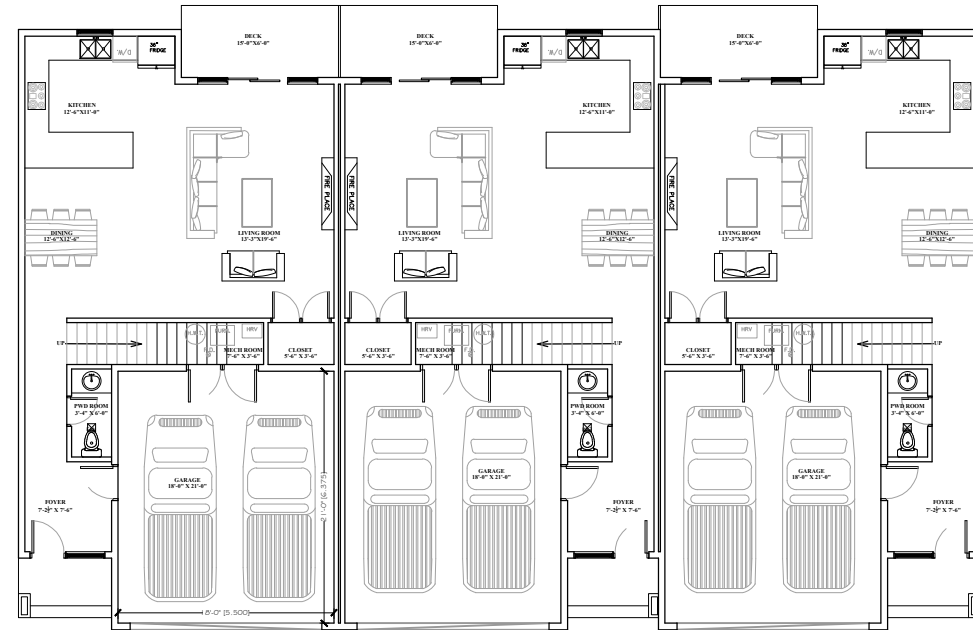
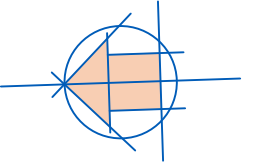
SITE PLAN

DRAWING NO.:	A-101	1 OF 4
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1020 GRAHAM RD.  
KELOWNA (BC)

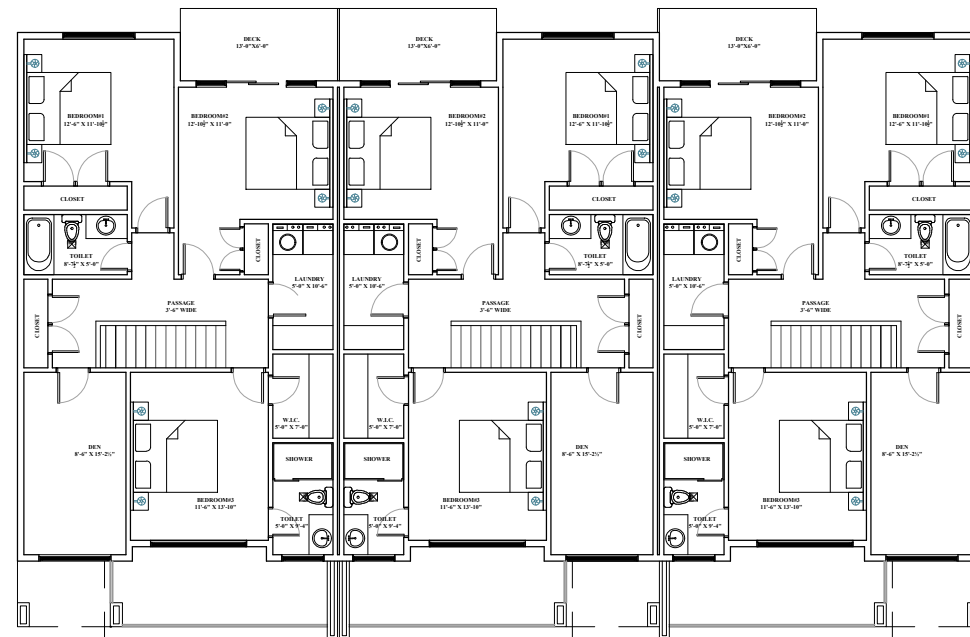
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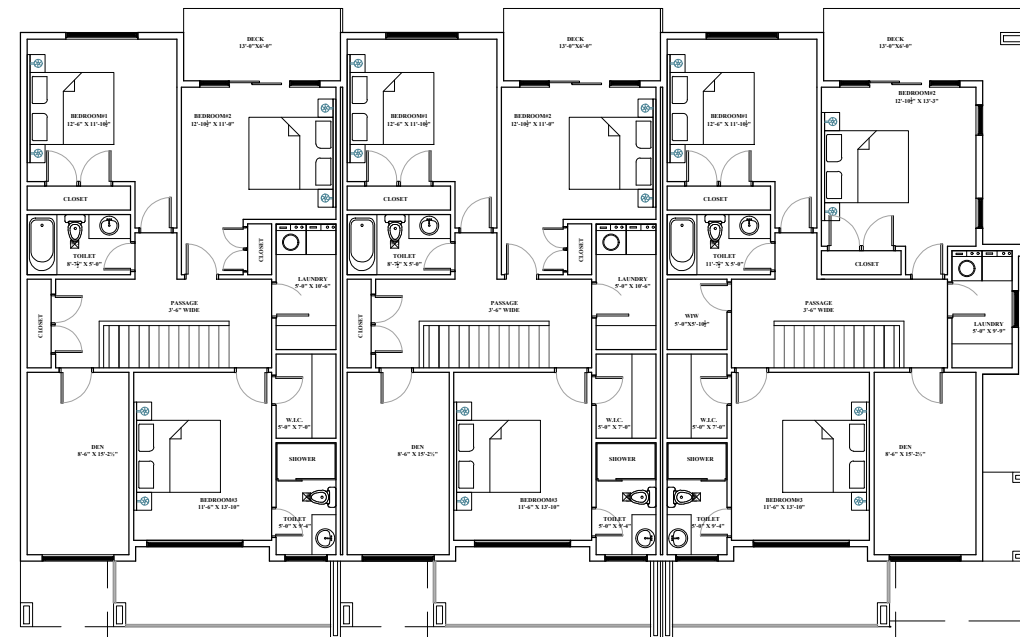
**MAIN FLOOR PLAN B-2**  
SCALE: 1/16" = 1'-0"  
PROPOSED FLOOR : 860.74 SQ. FT. PER DU  
GARAGE: 378 SQ. FT. EACH



**MAIN FLOOR PLAN B-1**  
SCALE: 1/16" = 1'-0"  
PROPOSED FLOOR : 860.74 SQ. FT. PER DU  
GARAGE: 378 SQ. FT. EACH



**FIRST FLOOR PLAN B-2**  
SCALE: 1/16" = 1'-0"  
PROPOSED FLOOR : 1111.99 SQ. FT. PER DU



**FIRST FLOOR PLAN B-1**  
SCALE: 1/16" = 1'-0"  
PROPOSED FLOOR : 1111.99 SQ. FT. PER DU

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A	BP APPLICATION
REVISION	

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**PROPOSED MULTIPLE  
DWELLING  
1020 GRAHAM ROAD  
KELOWNA, BC**

CLIENT:

**INDERJIT SINGH**

DRAWN: IS

CHECKED: IS

SCALE: 1/16" = 1'-0"

JOB NO.: KEL-IND-380(N)

DATE: 24/03/2024

SHEET TITLE:

FLOOR PLANS

DRAWING NO.:

A-102

2 OF 4





NOTES:

- MATERIAL SPECIFICATIONS:**
1. Grey Hardie Siding.
  2. Chestnut Brown Hardie Siding.
  3. Vinyl Window with 2x5 Trim.
  4. Fibre Glass Door.
  5. Asphalt Shingles.
  6. 36" High Wooden Railing
  7. 36" High MS Railing

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**PROPOSED MULTIPLE DWELLING**  
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 KELOWNA, BC

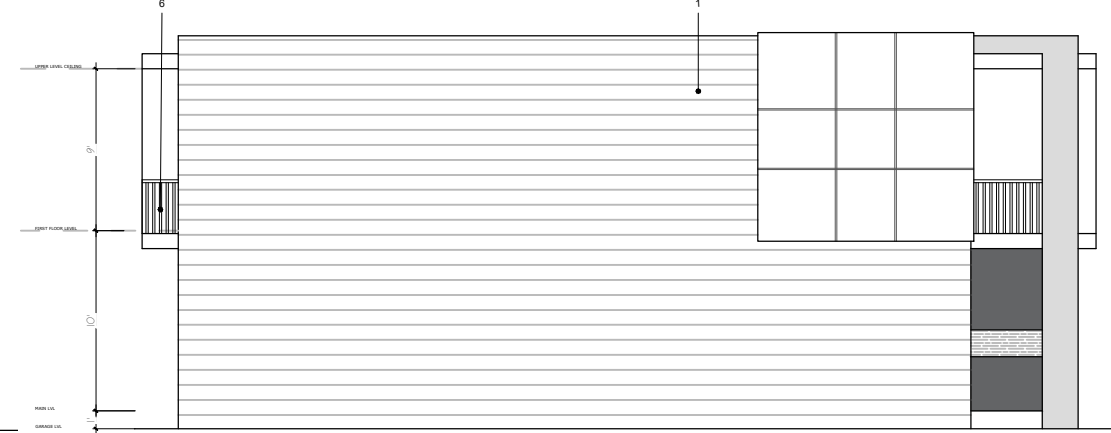
CLIENT:  
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DRAWN:	BS
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SCALE:	3/32" = 1'-0"
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**ELEVATIONS**



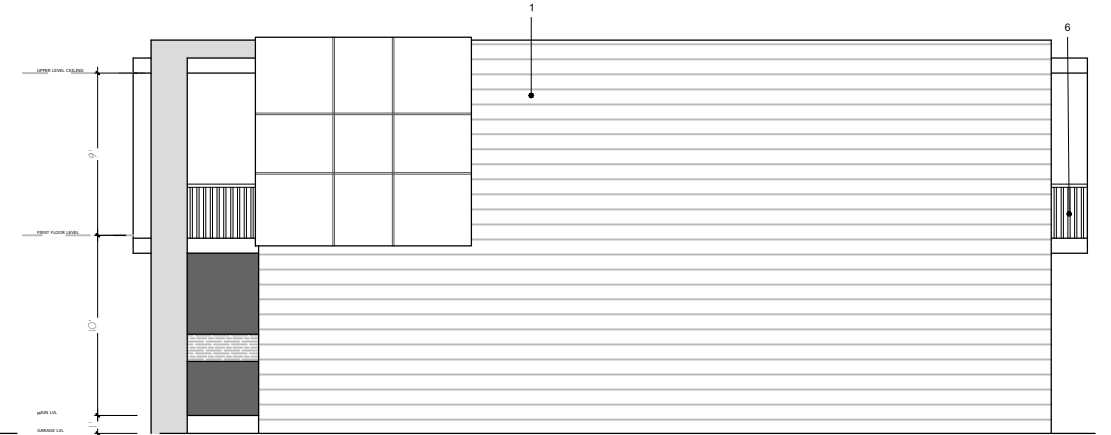
**WEST ELEVATION B-2**  
 SCALE: 3/32" = 1'-0"



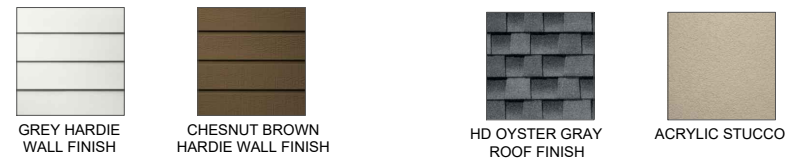
**NORTH ELEVATION B-2**  
 SCALE: 3/32" = 1'-0"



**EAST ELEVATION B-2**  
 SCALE: 3/32" = 1'-0"

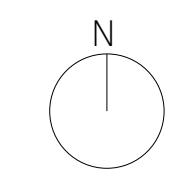
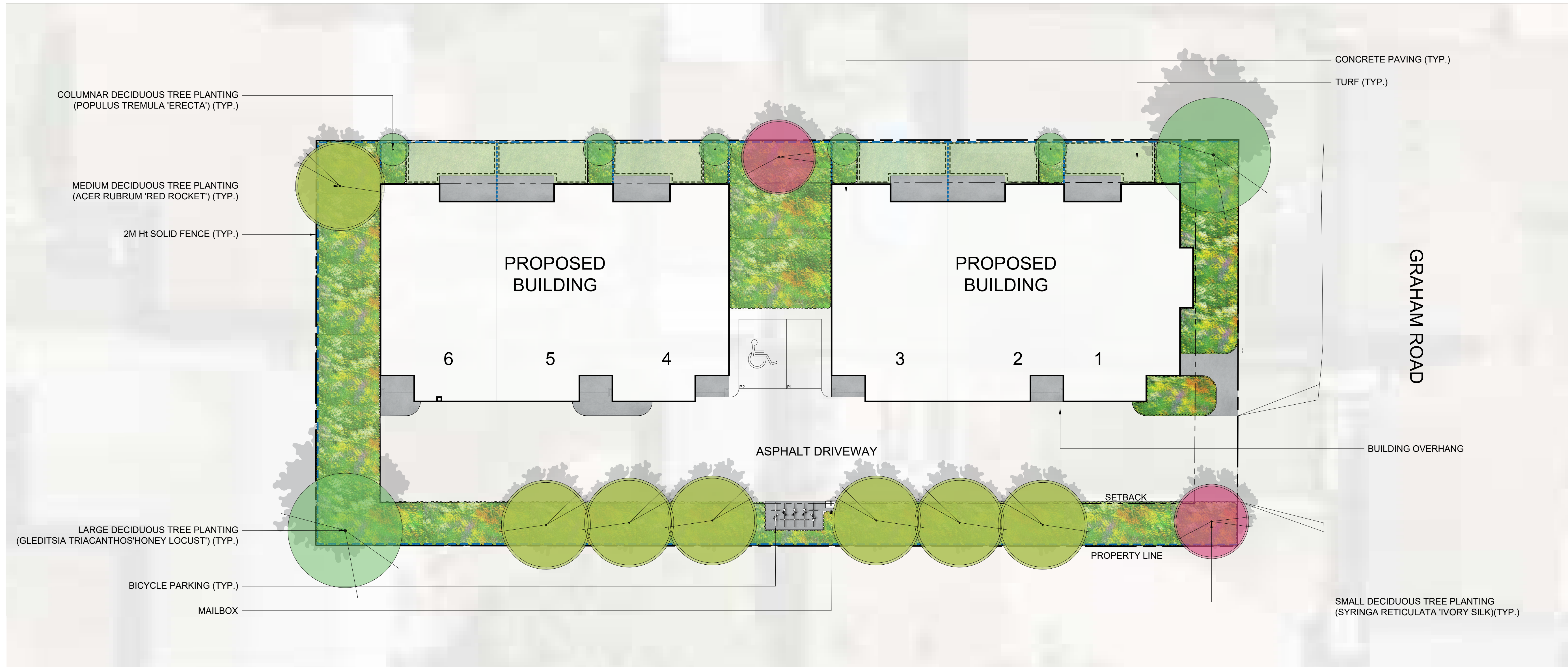


**SOUTH ELEVATION B-2**  
 SCALE: 3/32" = 1'-0"



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PROJECT TITLE  
**1020 GRAHAM ROAD**

Kelowna, BC

DRAWING TITLE  
**CONCEPTUAL LANDSCAPE PLAN**

ISSUED FOR / REVISION		
1	22.08.22	Review
2	23.08.23	Review
3	23.10.11	Review
4	23.10.17	DP
5		

PROJECT NO	22-0790
DESIGN BY	GS
DRAWN BY	GS
CHECKED BY	FB
DATE	Aug. 23th, 2023
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PAGE SIZE	24" x 36"

SEAL



DRAWING NUMBER

**LP-101**

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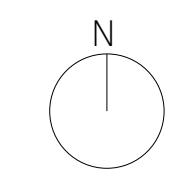
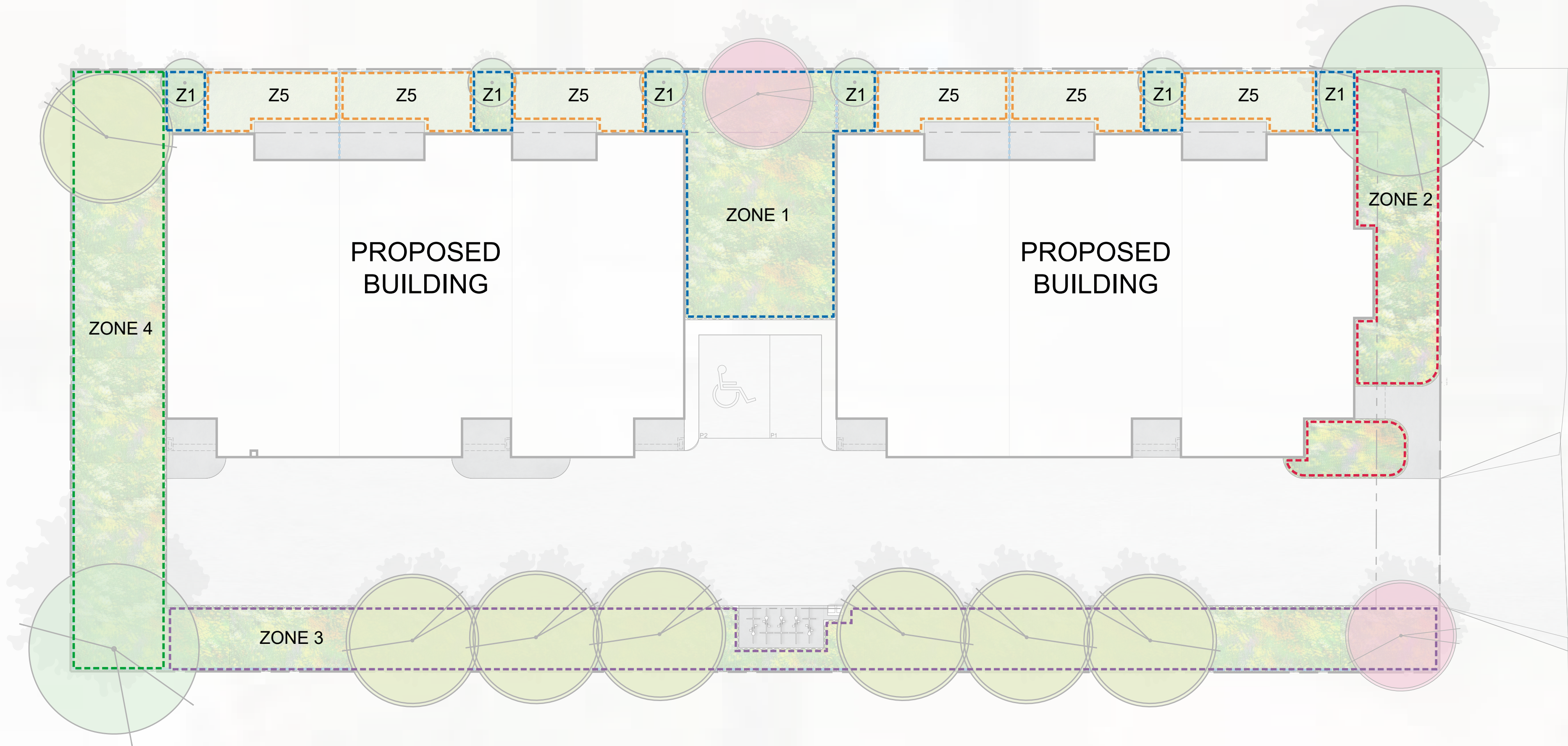
**NOTES**

1. PLANT MATERIAL AND CONSTRUCTION METHODS SHALL MEET OR EXCEED CSLA STANDARDS. ALL OFFSITE LANDSCAPE WORKS TO MEET CITY OF KELOWNA BYLAW 7900 STANDARDS.
2. ALL SOFT LANDSCAPE AREAS SHALL BE WATERED BY A FULLY AUTOMATIC TIMED UNDERGROUND IRRIGATION SYSTEM.
3. TREE AND SHRUB BEDS TO BE DRESSED IN A MINIMUM 75mm NATURAL WOOD MULCH AS SHOWN IN PLANS. DO NOT PLACE WEED MAT UNDERNEATH TREE AND SHRUB BEDS.
4. TREE AND SHRUB BEDS TO RECEIVE A MINIMUM 300mm DEPTH TOPSOIL PLACEMENT.
5. TURF AREA FROM SOD SHALL BE NO. 1 GRADE GROWN FROM CERTIFIED SEED OF IMPROVED CULTIVARS REGISTERED FOR SALE IN B.C. AND SHALL BE TOLERANT OF DROUGHT CONDITIONS. A MINIMUM OF 150mm DEPTH OF GROWING MEDIUM IS REQUIRED BENEATH TURF AREAS. TURF AREAS SHALL MEET EXISTING GRADES AND HARD SURFACES FLUSH.
6. SITE GRADING AND DRAINAGE WILL ENSURE THAT ALL STRUCTURES HAVE POSITIVE DRAINAGE AND THAT NO WATER OR LOOSE IMPEDIMENTS WILL BE DISCHARGED FROM THE LOT ONTO ADJACENT PUBLIC, COMMON, OR PRIVATE PROPERTIES.

**PLANT LIST** \*PLANT LIST ESTIMATED ONLY. NOT FOR PRICING\*

BOTANICAL NAME	COMMON NAME	QTY*	SIZE/SPACING & REMARKS
<b>TREES</b>			
ACER RUBRUM 'RED ROCKET'	RED ROCKET MAPLE	7	6cm CAL.
GLEDITSIA TRIACANTHOS	HONEY LOCUST	2	6cm CAL.
SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK LILAC TREE	2	6cm CAL.
POPULUS TREMULA 'ERECTA'	SWEDISH COLUMNAR ASPEN	5	6cm CAL.
<b>SHRUBS</b>			
BERBERIS THUNBERGII 'GENTRY'	ROYAL BURGUNDY BARBERRY	13	#02 CONT. /1.2M O.C. SPACING
BUXUS 'GREEN VELVET'	GREEN VELVET BOXWOOD	23	#02 CONT. /0.9M O.C. SPACING
PICEA ABIES 'LITTLE GEM'	LITTLE GEM NORWAY SPRUCE	19	#02 CONT. /1.0M O.C. SPACING
SPIRAEA JAPONICA 'GOLDMOUND'	GOLDMOUND SPIREA	34	#02 CONT. /0.75M O.C. SPACING
TAXUS X MEDIA 'HICKSII'	HICKS YEW	23	#02 CONT. /0.9M O.C. SPACING
<b>PERENNIALS &amp; GRASSES</b>			
ASTILBE JAPONICA 'PEACH BLOSSOM'	PEACH BLOSSOM ASTILBE	8	#01 CONT. /0.9M O.C. SPACING
CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	7	#01 CONT. /1.0M O.C. SPACING
HOSTIA 'STRIPEASE'	STRIPEASE HOSTA	8	#01 CONT. /0.9M O.C. SPACING
LAVANDULA ANGSTIFOLIA 'HIDCOTE'	HIDCOTE ENGLISH LAVENDER	12	#01 CONT. /0.75M O.C. SPACING
PENNISETUM ORIENTALE 'KARLEY ROSE'	KARLEY ROSE FOUNTAIN GRASS	5	#01 CONT. /1.2M O.C. SPACING
RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM CONEFLOWER	12	#01 CONT. /0.75M O.C. SPACING
SEDUM SPECTABILE 'AUTUMN FIRE'	AUTUMN FIRE STONECROP	12	#01 CONT. /0.75M O.C. SPACING





PROJECT TITLE  
**1020 GRAHAM ROAD**  
 Kelowna, BC  
 DRAWING TITLE  
**WATER CONSERVATION PLAN**

ISSUED FOR / REVISION		
1	22.08.22	Review
2	23.08.23	Review
3	23.10.11	Review
4	23.10.17	DP
5		

PROJECT NO	22-0790
DESIGN BY	GS
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**LP-102**

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**WATER CONSERVATION CALCULATIONS**

LANDSCAPE MAXIMUM WATER BUDGET (WB) = 233 cu.m./year  
 ESTIMATED LANDSCAPE WATER USE (WU) = 232 cu.m./year  
 WATER BALANCE = 1 cu.m./year  
 \*REFER ATTACHED IRRIGATION APPLICATION FOR DETAILED CALCULATIONS

- IRRIGATION NOTES**
- IRRIGATION PRODUCTS AND INSTALLATION METHODS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE WATER USE REGULATION BYLAW NO. 10480 AND THE SUPPLEMENTARY SPECIFICATIONS IN THE CITY OF KELOWNA BYLAW 7900 (PART 6, SCHEDULE 5).
  - THE IRRIGATION SYSTEM SHALL MEET THE REQUIREMENTS, REGULATIONS, AND BYLAWS OF THE WATER PURVEYOR.
  - THE IRRIGATION SYSTEM SHALL BE EQUIPPED WITH AN APPROVED BACKFLOW PREVENTION DEVICE, WATER METER, AND SHUT OFF VALVE LOCATED OUTSIDE THE BUILDING ACCESSIBLE TO THE CITY.
  - AN APPROVED SMART CONTROLLER SHALL BE INSTALLED. THE IRRIGATION SCHEDULING TIMES SHALL UTILIZE A MAXIMUM ET VALUE OF 7" / MONTH (KELOWNA JULY ET), TAKING INTO CONSIDERATION SOIL TYPE, SLOPE, AND MICROCLIMATE.
  - DRIP LINE AND EMITTERS SHALL INCORPORATE TECHNOLOGY TO LIMIT ROOT INTRUSION.
  - IRRIGATION SLEEVES SHALL BE INSTALLED TO ROUTE IRRIGATION LINES UNDER HARD SURFACES AND FEATURES.
  - IRRIGATION PIPE SHALL BE SIZED TO ALLOW FOR A MAXIMUM FLOW OF 1.5m /SEC.
  - A FLOW SENSOR AND MASTER VALVE SHALL BE CONNECTED TO THE CONTROLLER AND PROGRAMMED TO STOP FLOW TO THE SYSTEM IN CASE OF AN IRRIGATION WATER LEAK.

- IRRIGATION LEGEND**
- ZONE #1:** HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 110sq.m.  
 MICROCLIMATE: SOUTH EASTWEST EXPOSURE, PARTIALLY SHADED BY TREES  
 ESTIMATED ANNUAL WATER USE: 28 cu.m.
  - ZONE #2:** HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 63sq.m.  
 MICROCLIMATE: SOUTHEASTWEST EXPOSURE, PARTIALLY SHADED BY TREES  
 ESTIMATED ANNUAL WATER USE: 22cu.m.
  - ZONE #3:** HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 161sq.m.  
 MICROCLIMATE: SOUTH EAST EXPOSURE, PARTIALLY SHADED BY BUILDING AND TREES  
 ESTIMATED ANNUAL WATER USE: 55 cu.m.
  - ZONE #4:** HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 119sq.m.  
 MICROCLIMATE: SOUTH WEST EXPOSURE, PARTIALLY SHADED BY BUILDING AND TREES  
 ESTIMATED ANNUAL WATER USE: 41cu.m.
  - ZONE #5:** LOW VOLUME POP-UP SPRAYHEADS FOR TURF AREAS TOTAL AREA: 90sq.m.  
 MICROCLIMATE: SOUTH WEST EXPOSURE, PARTIALLY SHADED BY BUILDING AND TREES  
 ESTIMATED ANNUAL WATER USE: 70cu.m.





**1020 Graham Road - Zoning Bylaw 12375 Landscape Summary**

Landscaping Standards (7.2)	Zone (MF1)		Proposed
Min. tree amount	4		4
Min. deciduous tree caliper	L: 5cm M: 4cm S: 3cm		L: 5cm M: 4cm S: N/A
Min. coniferous tree height	250cm		N/A
Min. ratio between tree size	L: 50% minimum (min.) M: no min. or max. S: 25% maximum (max.)		L: 50% M: 25% S: 25%
Min. growing medium area	75% soil based landscaping		75% soil based landscaping
Min. growing medium volumes per tree	L: 30 cu.m or 25 cu.m if connected trench/cluster M: 20 cu.m or 18 cu.m if connected trench/cluster S: 15 cu.m or 12 cu.m if connected trench/cluster		L: 25 cu.m where connected trench/cluster M: 18 cu.m where connected trench/cluster
Landscape graded area (7.2.7)	Max. 1:3 (33%) lawn areas, Max. 1:2 (50%) planting areas, Min. 1:50 (2%) cross slopes		Max. 1:3 (33%) lawn areas, Max. 1:2 (50%) planting areas, Min. 1:50 (2%) cross slopes
Fence Height	2.0m		1.8m
Riparian management area?	N	y/n	N
Retention of existing trees on site?	N	y/n	N
Surface parking lot (7.2.10)?	N	y/n	N
Refuse & recycle bins screened?	N	y/n	N
Other:			