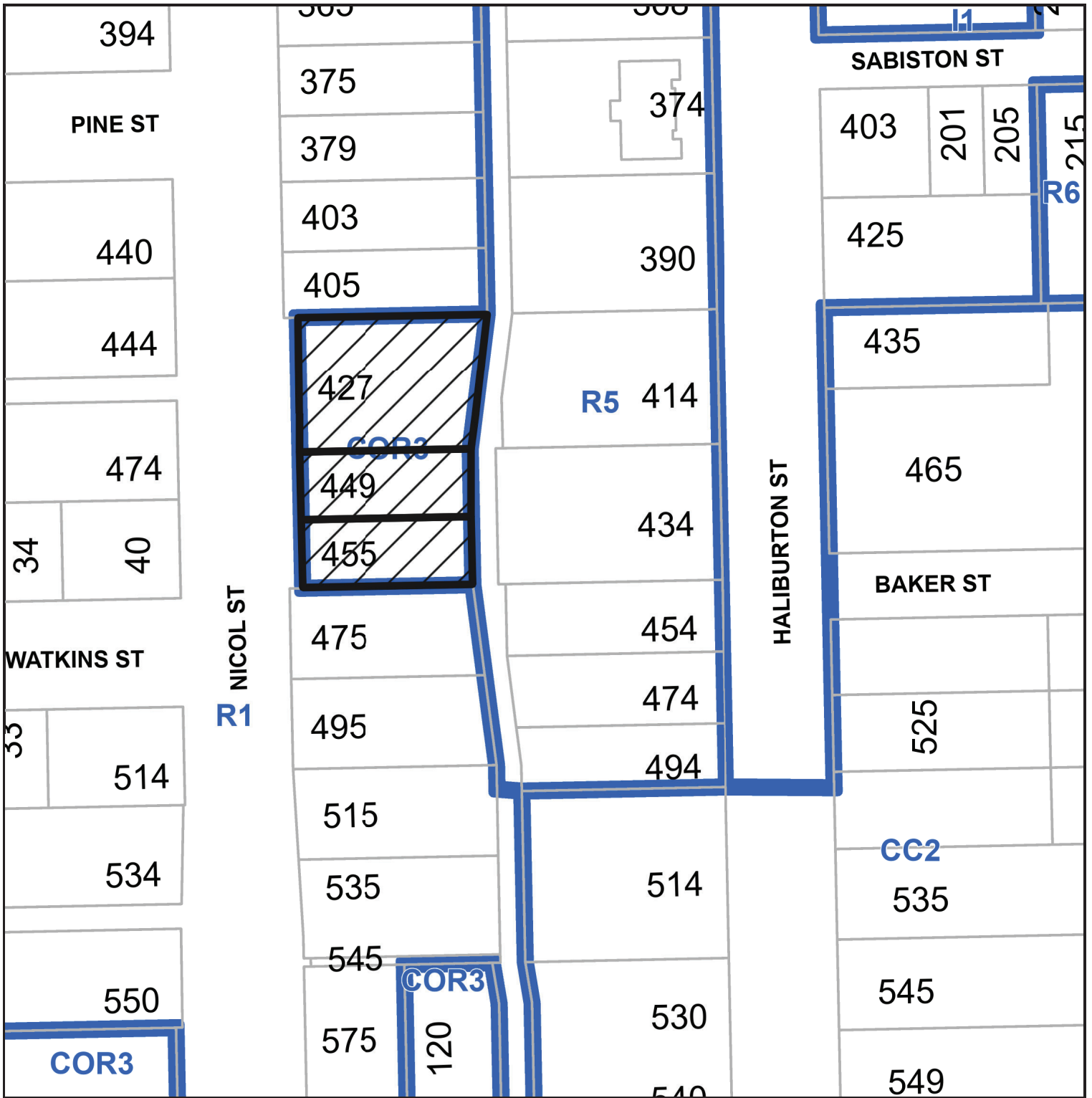



SUBJECT PROPERTY MAP



 427, 499 & 455 Nicol Street



August 10, 2023

**Mayor and Council
Development Services Department**

City of Nanaimo
455 Wallace St.
Nanaimo, BC V9R 5J6

RE: Multi Family Residential Proposal
427, 449 & 455 Nicol Street, Nanaimo, BC

Dear Mayor, Council & Staff

We are pleased to present a submission for a Development Permit for 427, 449 & 455 Nicol St. prepared by Stantec Architecture Ltd.

A former architecture firm created a design for these residential lots which was reviewed by the Nanaimo Development Services Department, after which it was abandoned by the applicant. The previous application has expired in April 2020. Stantec Architecture Ltd. has been retained by the current applicant to review and revise the project and execute the design as per the comments made by the city's staff, and any other updates required to meet the South End OCP, Nanaimo 4500 Zoning Bylaw, MOTI regulations and 2018 BC Building Code.

As described in the South End Neighborhood Plan (2010) Published by the City of Nanaimo, the Nicol St. corridor is an essential part of the local transit matrix, connecting the Trans-Canada Highway to the south of the Downtown Core. As stated, "Nicol Street to be developed as a vibrant, urban, pedestrian friendly, mixed-use street". As such the city has been seeking ways to improve upon the existing infrastructure and connectivity to revitalize the area.

This multi-family residential building proposed to the city closely follows the neighborhood plan to bring additional density and create new, diverse residential opportunities and to modernize the streetscape of a route that leads directly into the city's core. The site itself has been vacant for well over a decade has visibly deteriorated over the years.



The local FSR regulations and height limitation for this lot, outlined in the OCP allow to create a four-storey residential scheme with 35 modestly sized units, aimed for below-market rentals. This submission has met and surpassed the Tier 2 amenity requirements outlined in Schedule D for additional density.

Other carefully considered features in this proposed housing project include a façade that is respectful to its surrounding properties, rich street side landscaping, a communal open space with views towards Protection & Gabriola Island, covered off- street parking, ground-oriented units at the 1st floor, improved pedestrian accessibility from the street to the lane and plenty of additional “eyes” along Nicol St. and its laneway through multiple windows and patios. In addition, 10% of the units in the building are designed as accessible for individuals with mobility impairments, complete with handicap vehicle stalls for each unit and underground scooter parking.

We hope that with your support of this project our team would contribute to the bettering of Nanaimo's South End urban life to the benefit of its residents, local businesses, and daily users.

Respectfully,

Avishai Gilad

Architect AIBC

P (250) 389-2504

avishai.gilad@stantec.com

STANTEC ARCHITECTURE LTD.



ARCHITECTURAL DRAWING LIST	
NO.	DRAWING NAME
A000	COVER PAGE
A100	SURVEY
A101	PROJECT DATA & SITE PLAN
A200	PARKING & LEVEL 1 PLAN
A201	LEVEL 2 & 3 PLAN
A202	LEVEL 4 & ROOF PLAN
A303	UNIT LAYOUTS
A300	STREETSCAPE & MATERIAL BOARD
A301	BUILDING ELEVATIONS - NW
A302	BUILDING ELEVATIONS - SE
A400	BUILDING SECTIONS

CIVIL DRAWING LIST	
NO.	DRAWING NAME
C000	COVER
C010	GENERAL NOTES
C020	EXISTING CONTOUR PLAN
C050	KEY PLAN
C100	GRADING PLAN
C200	SERVICING PLAN
C300	DETAILS SHEET
C800	STORMWATER MANAGEMENT PLAN
C910	SANITARY CATCHMENT PLAN

LANDSCAPE DRAWING LIST	
NO.	DRAWING NAME
L0	Cover Page, Control, Rationale + Precedents
L1.01	Landscape Plan (L1)
L1.02	Landscape Plan (L2)
L1.03	Landscape Details
L1.04	Landscape Details
L2.01	Planting Plan (L1)
L2.02	Planting Plan (L2)
L2.03	Planting Notes + Plant List

PROJECT NAME: NICOL ST. RESIDENCE
 ISSUED FOR: DEVELOPMENT PERMIT
 DATE: AUGUST 10, 2023

STANTEC PROJECT NO: 144323045

ARCHITECT
 Stantec Architecture Ltd.

CIVIL
 Alpin & Martin
 Consultants Ltd.

LANDSCAPE
 Kinship
 Design Art Ecology

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 C. (250) 389-2504
 F. (250) 382-0514

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 C. (778) 289-3635

CONTACT:
 Scott Lewis, P. Eng.

1070 Nelson St.
 Nanaimo, BC - V9S 2K2
 T. (250) 753-8093

CONTACT:
 Chris Midgley



Roseate Development Associates

COVER PAGE
 Nicol St. Residence

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CONCEPT PRELIMINARY

10/08/23

Notes

Revision By Appd YYYY.MM.DD

Author: ADJ Date: 2023.08.15

Designer: ADJ Date: 2023.08.15

Checker: ADJ Date: 2023.08.15

Permit/Seal

Client/Project



Roseate Development Associates

Nicol St. Residence

427, 449, 455 Nicol St. Nanaimo

Title
BUILDING ELEVATIONS - NW

Project No.
144323045

Scale
1:100

Revision

Drawing No.

A301

MARK	MATERIAL
1	Concrete - Cast-in-Place - Smooth
2	Fibre Cement - Stone Gray - Planks
3	Fibre Cement - Baked Clay - Planks
4	Fibre Cement - Mountain Sage - Smooth
5	Fibre Cement - Night Gray - Smooth
6	Window Frame - Vinyl - Black
7	Aluminum - Powder Coated - Black



1 WEST ELEVATION
A301 1:100



2 NORTH ELEVATION
A301 1:100



3 NORTH WEST CORNER
A301 1:100

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Revision By App'd Date

Author: [] Designer: [] Checker: [] Date: []

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Client/Project



Roseate Development Associates

Nicol St. Residence

427, 449, 455 Nicol St. Nanaimo

Title
BUILDING ELEVATIONS - SE

Project No. 144323045 Scale 1:100
Revision Drawing No. **A302**

MARK	MATERIAL
1	Concrete - Cast-in-Place - Smooth
2	Fibre Cement - Stone Gray - Planks
3	Fibre Cement - Baked Clay - Planks
4	Fibre Cement - Mountain Sage - Smooth
5	Fibre Cement - Night Gray - Smooth
6	Window Frame - Vinyl - Black
7	Aluminum - Powder Coated - Black



1 EAST ELEVATION
A302 1:100



2 SOUTH ELEVATION
A302 1:100



3 SOUTH EAST CORNER
A302

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Author	Designer	Checker	Date

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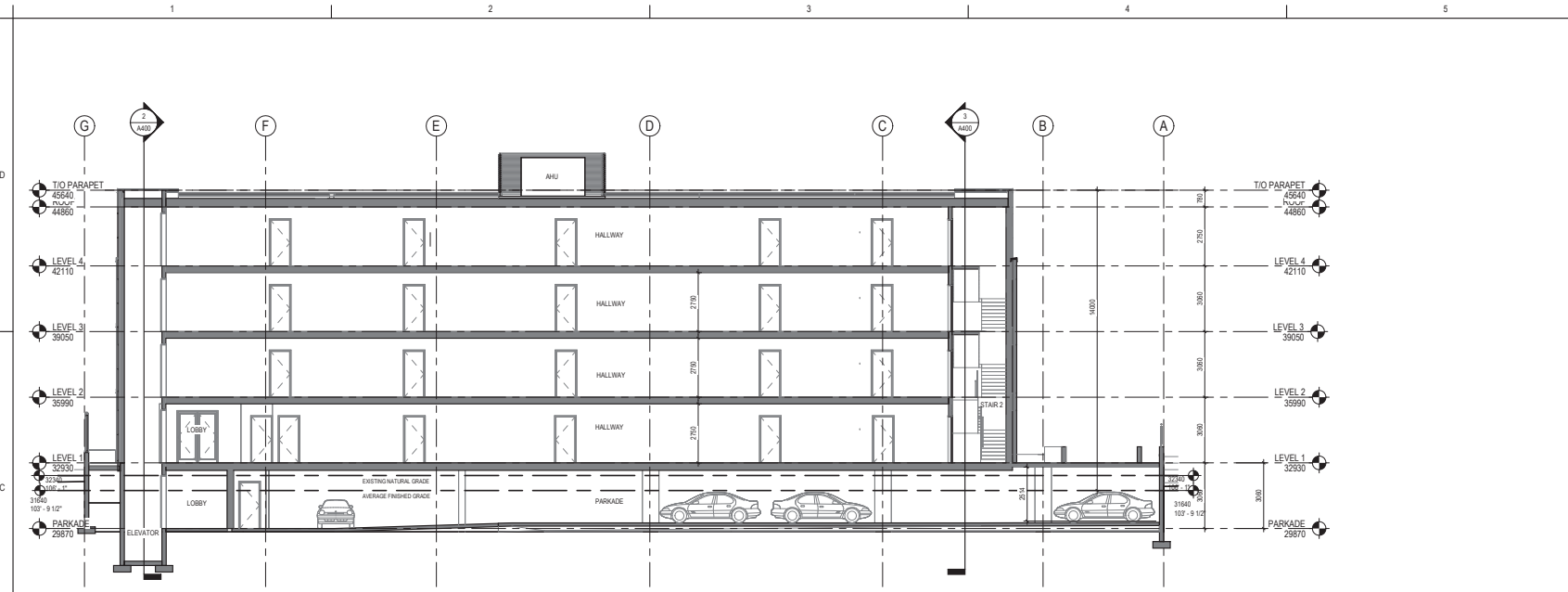
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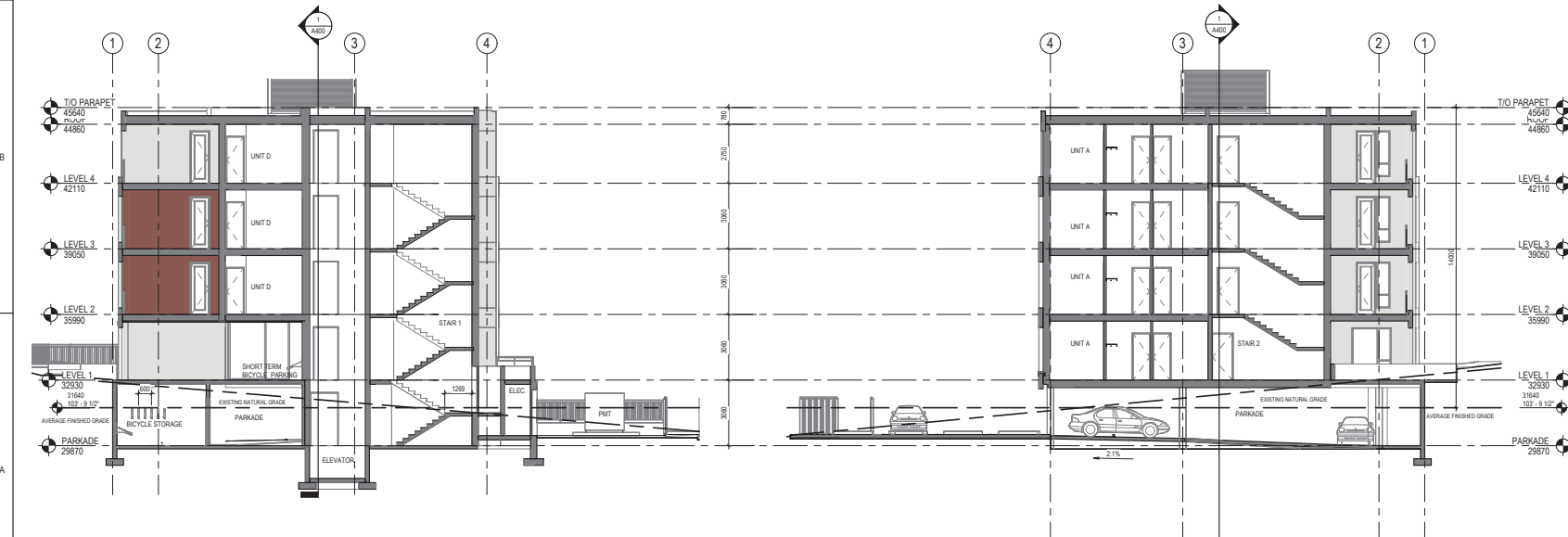
Nicol St. Residence
 427, 449, 455 Nicol St. Nanaimo

Title
 BUILDING SECTIONS

Project No.	Scale
144323045	1 : 100
Revision	Drawing No.
	A400



1 SECTION & ELEVATOR & HALLWAY
 A400 1:100



2 SECTION @ ELEVATOR & SOUTH STAIR
 A400 1:100

3 SECTION @ NORTH STAIR
 A400 1:100

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 2023-SEP-22

Notes

Revision	By	App'd	YYYY-MM-DD

Disciplined Project Issued By: AG/ADT 2023.08.15
The Name: N/A AG Designer Checker: 2023.08.15
Date: DM/ DJG/ CHT 2023.08.15

Permit/Seal

Client/Project

roseate
DEVELOPMENT ASSOCIATES
Roseate Development Associates

Nicol St. Residence
427, 449, 455 Nicol St. Nanaimo

Title
PARKADE & LEVEL 1 PLAN

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1 PARKADE PLAN
1:100

2 LEVEL 1 PLAN
1:100



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DESIGNER: JENNIFER BAY

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Roseate Development Associates

Nicol St. Residence

427, 449, 455 Nicol St. Nanaimo

Title
UNIT LAYOUTS

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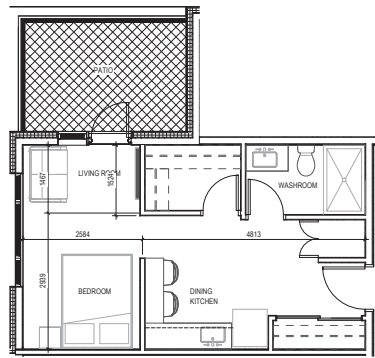
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144323045

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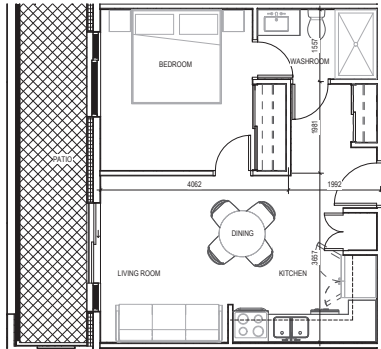
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Drawing No.

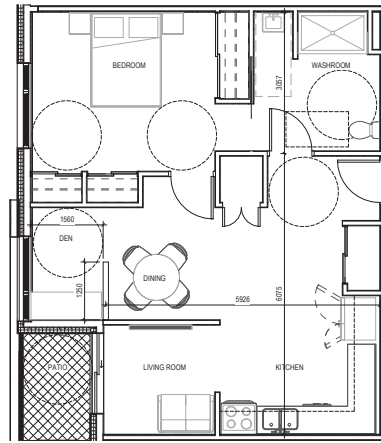
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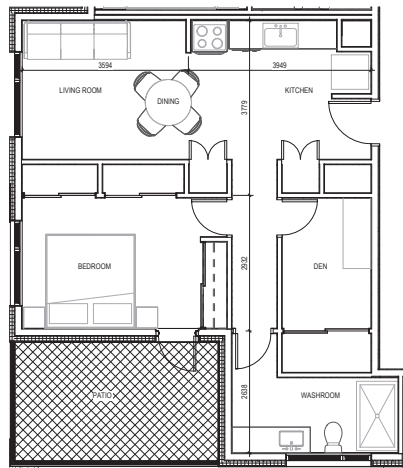
1 UNIT A
A203 1:50



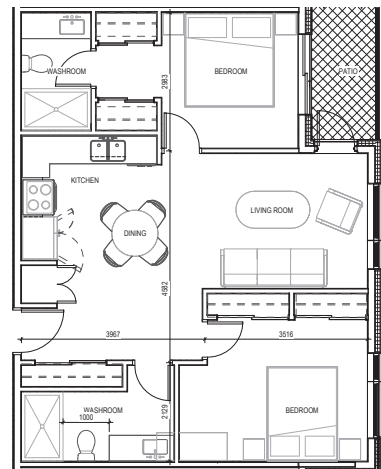
2 UNIT B
A203 1:50



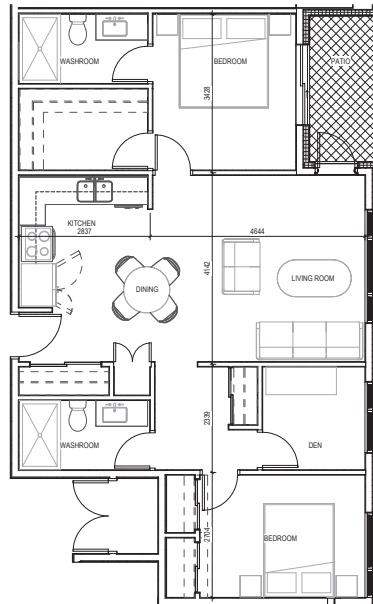
3 UNIT C
A203 1:50



4 UNIT D
A203 1:50



5 UNIT E
A203 1:50



6 UNIT F
A203 1:50

UNIT AREAS			
UNIT TYPE	UNIT NAME	COUNT	Area
UNIT A	Micro	8	33 m ²
UNIT B	1 Bed	8	43 m ²
UNIT C	1+Den (Accessible)	4	65 m ²
UNIT D	1+Den	3	59 m ²
UNIT E	2 Bed	8	68 m ²
UNIT F	2+Den	4	80 m ²

Nicol Street Residences

427, 449, 455 Nicol Street, Nanaimo, BC

LANDSCAPE ARCHITECTURAL DRAWINGS

ISSUED FOR DEVELOPMENT PERMIT - August 10, 2023

LANDSCAPE DRAWING SCHEDULE

L0.00 Cover Page, Context, Rationale + Precedents

L1.01 Landscape Plan (L1)

L1.02 Landscape Plan (L0)

L1.03 Landscape Details

L1.04 Landscape Details

L2.01 Planting Plan (L1)

L2.02 Planting Plan (L0)

L2.03 Planting Notes + Plant List

CONTEXT

The landscape at 427/449/455 Nicol Street serves two primary functions: It establishes an improved streetscape for a new, affordable, rental building on the east side of Nicol Street - a busy, four-lane road that acts as a gateway into the City of Nanaimo; and it provides comfortable private outdoor space for residents living in a compact urban development.

DESIGN RATIONALE HIGH STREET

The landscape design responds directly to the South End Neighbourhood Plan by contributing to the evolution of Nicol Street into a 'High Street' for south Nanaimo.

The high street concept is realized along Nicol Street with refined hardscaping and appropriately scaled street trees positioned against a permeable planted edge that accentuates the human scale; and defines public, private and semi-private spaces. A generous common area on the north side of the building provides a gathering space for residents and is oriented to capitalize on views to the ocean and Gabriola Island, while preserving the privacy of immediate neighbours.

Planter boxes level with the Nicol Street sidewalk frame sunken patios, allowing for 'eyes-on-the-street' from private outdoor spaces for residents, while embracing the development with lush, natural elements. Planters extend around the north edge of the development with cascading groundcovers that spill over and moderate the prominence of proposed parkade wall. Visually permeable metal rail fencing distinguishes the public from the private realm along Nicol Street without creating an imposing barrier, and provides for safety where grade changes are needed to access the building in the rear.

The landscape design anchors a new residential building in the local context with a strong indigenous planting palette, relying on native, drought tolerant and evergreen species inspired by the local ecology.

KEY FEATURES AND ELEMENTS

- A diverse, multi-layered planting scheme that includes street trees, drought tolerant native species and natural elements to enhance the streetscape along Nicol Street
- Clean, refined paving and hardscaping details emphasize the urban character of Nicol Street, and new site furnishing creates animation and vitality at street level
- Sidewalks and short-term bike parking accommodate active transportation alternatives
- Additional plantings and screening at the rear offer additional stormwater management benefits, and improve the appearance of off-street parking area and the parkade garage
- A large communal gathering area provides a common space for social interaction and offers views to the ocean and islands beyond Nanaimo

DESIGN PRECEDENTS



01 Lush, multi-layered mix of perennials + grasses for visual interest and to attract birds + pollinators



02 Acer palmatum 'Osakazuki' (Greenleaf Japanese Maple)



03 Evergreen indigenous groundcovers form foundations for planting



04 Styrax japonicus



05 Parrotia persica



06 Plantings in parking areas absorb rainwater



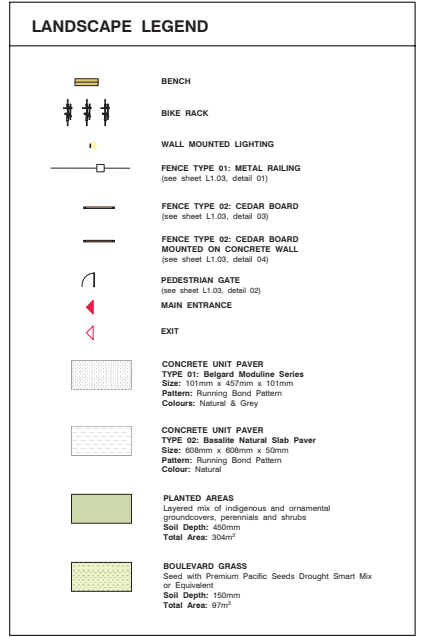
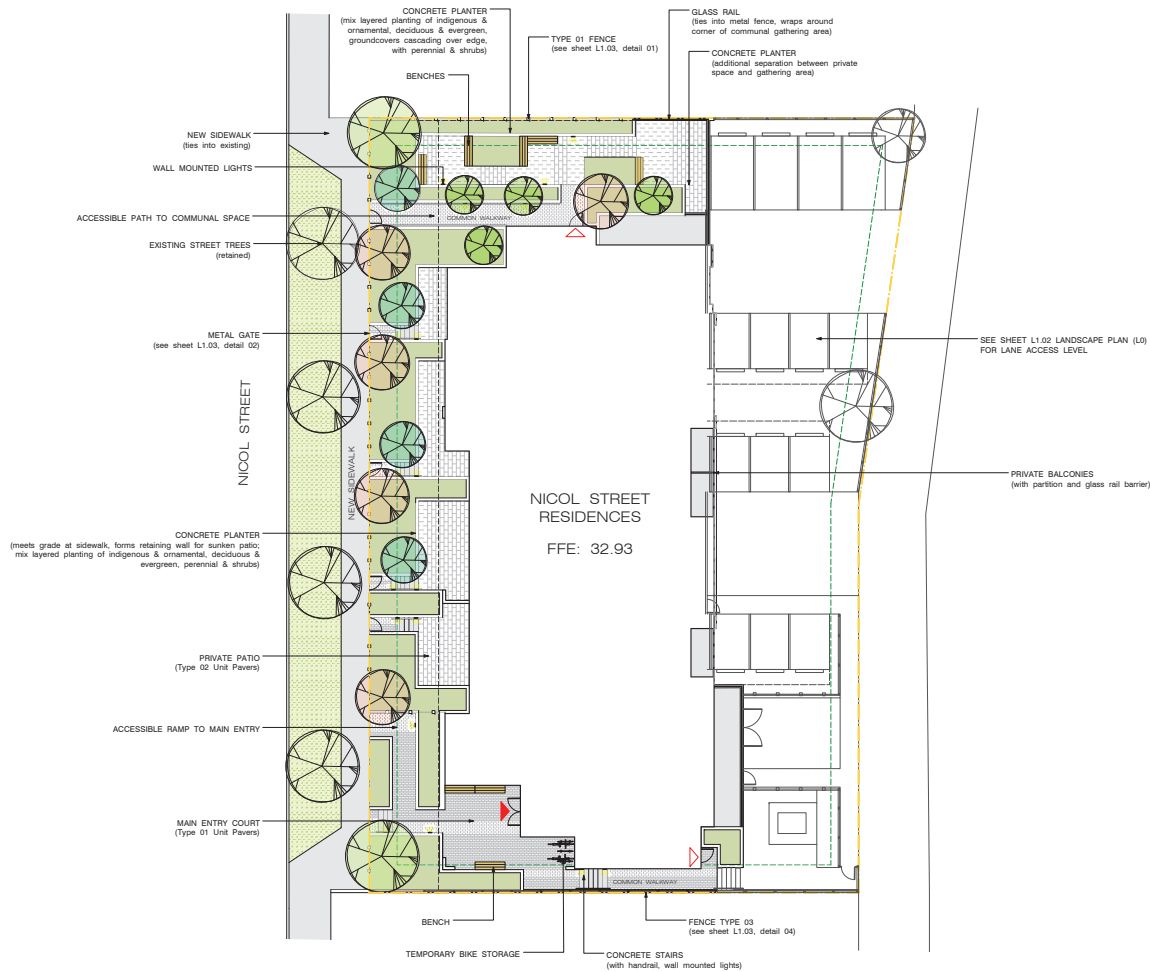
07 Timber benches



08 Paving patterns add character + differentiate spaces



09 Black metal picket fencing



Refer to Sheet L1.02 for Landscape Plan (L0)
Refer to Sheet L1.03 + L1.04 for Landscape Details

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PROJECT
NICOL STREET RESIDENCES
427, 449, 455 Nicol Street,
Nanaimo, BC

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PROJECT ID 23008
DB CM **CB** KS

SCALE 1:200
DATE May 11, 2023

LANDSCAPE PLAN (L1)

L1.01



LANDSCAPE LEGEND

- BENCH
- BIKE RACK
- WALL MOUNTED LIGHTING
- FENCE TYPE 01: METAL RAILING
(see sheet L1.03, detail 01)
- FENCE TYPE 02: CEDAR BOARD
(see sheet L1.03, detail 03)
- FENCE TYPE 02: CEDAR BOARD MOUNTED ON CONCRETE WALL
(see sheet L1.03, detail 04)
- PEDESTRIAN GATE
(see sheet L1.03, detail 02)
- MAIN ENTRANCE
- EXIT
- CONCRETE UNIT PAVER
TYPE 01: Belgard Moduline Series
Size: 101mm x 457mm x 101mm
Pattern: Running Bond Pattern
Colours: Natural & Grey
- CONCRETE UNIT PAVER
TYPE 02: Basaltic Natural Slab Paver
Size: 608mm x 608mm x 50mm
Pattern: Running Bond Pattern
Colour: Natural
- PLANTED AREAS
Layered mix of indigenous and ornamental groundcovers, perennials and shrubs
Soil Depth: 450mm
Total Area: 304m²
- BOULEVARD GRASS
Seed with Premium Pacific Seeds Drought Smart Mix or Equivalent
Soil Depth: 150mm
Total Area: 97m²

Refer to Sheet L1.01 for Landscape Plan (L1)
Refer to Sheet L1.03 + L1.04 for Landscape Details

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PROJECT
NICOL STREET RESIDENCES
427, 449, 455 Nicol Street,
Nanaimo, BC

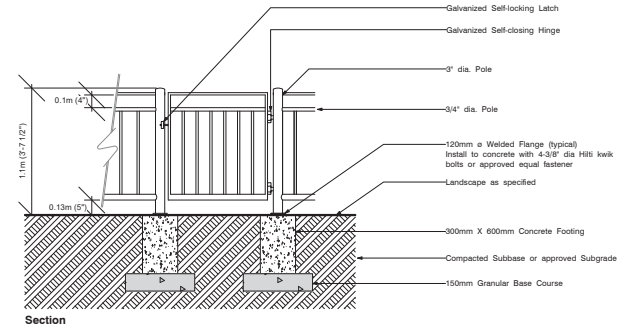
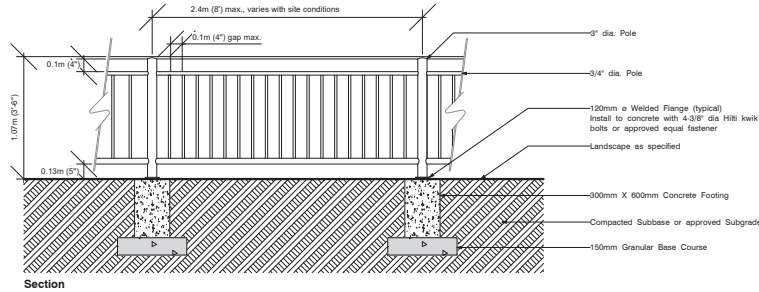
PROJECT ID 23008
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DATE May 11, 2023

LANDSCAPE PLAN (LO)

L1.02

Notes:
 All metal to be hot dipped galvanized after fabrication.
 All welds to be ground smooth.
 Black 700 Powder coat finish.
 Shop drawings required for all finishes, connections and hardware, submit to Landscape Architect for approval.
 Dimensions to be to code and noted on all shop drawings.

Notes:
 All metal to be hot dipped galvanized after fabrication.
 All welds to be ground smooth.
 Black 700 Powder coat finish.
 Shop drawings required for all finishes, connections and hardware, submit to Landscape Architect for approval.
 Dimensions to be to code and noted on all shop drawings.

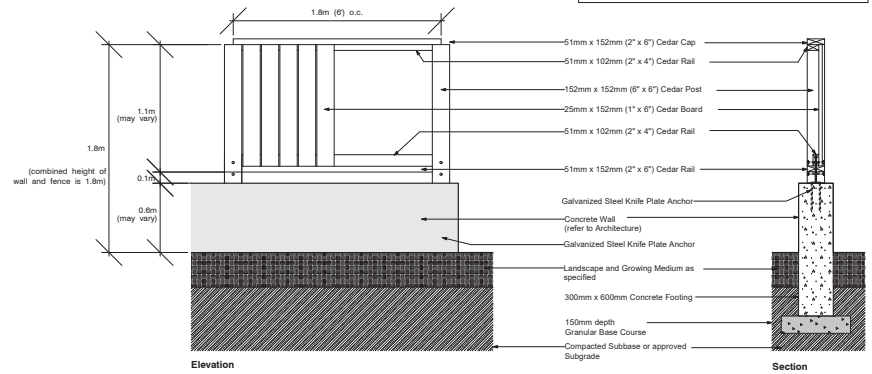
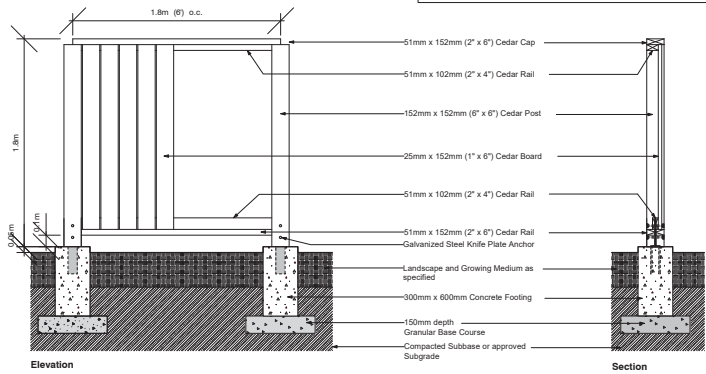


01
L1.03 Fence Type 01: Metal Picket
 Scale: 1:20

02
L1.03 Metal Fence Gate
 Scale: 1:20

Notes:
 All wood to be selected tight knot cedar. No checks, splits, warps or warms. All cut ends to be properly sealed.
 All metal fasteners to be hot dipped galvanized.
 Cedar to be finished with clear sealer as per manufacturers instructions. Contractor to confirm finish with Landscape Architect.

Notes:
 All wood to be selected tight knot cedar. No checks, splits, warps or warms. All cut ends to be properly sealed.
 All metal fasteners to be hot dipped galvanized.
 Cedar to be finished with clear sealer as per manufacturers instructions. Contractor to confirm finish with Landscape Architect.



03
L1.03 Fence Type 02: Cedar Board
 Scale: 1:20

04
L1.03 Fence Type 03: Cedar Board Mounted on Concrete Wall
 Scale: 1:20

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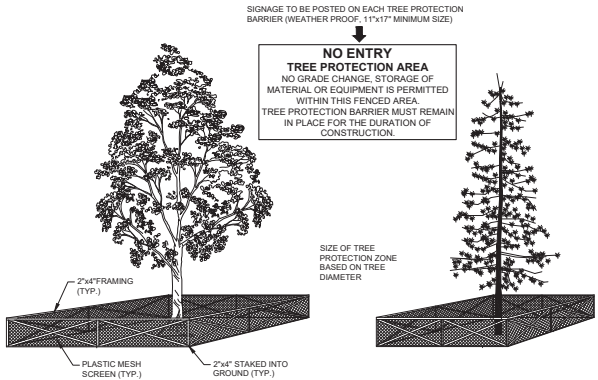


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TREE PROTECTION FENCING:

PRIOR TO CONSTRUCTION TAKING PLACE ON THE SITE A PROTECTION FENCE (SEE SPECIFICATIONS BELOW) SHALL BE INSTALLED ON THE SITE ACCORDING TO THE LAYOUT ON THE DRAWING ALONG THE EXISTING GRADE. PRIOR TO THE INSTALLATION OF THIS FENCE, THE LAYOUT SHOULD BE REVIEWED BY THE CITY ENGINEER. THE ENGINEER WILL INSTRUCT THE CONTRACTOR AND ALL SUBCONTRACTORS ON THE IMPORTANCE OF FOLLOWING THESE TREE PROTECTION MEASURES. THE CONTRACTOR AND ALL SUBCONTRACTORS WILL BE REQUIRED TO SIGN OFF THEIR CONCURRENCE OF THIS PLAN.

1. HEIGHT OF FENCE TO BE 1.2m (4').
2. 2"x4" S TO BE USED FOR VERTICAL POSTS, TOP AND BOTTOM RAILS AND CROSS BRACING (IN AN "X"); ROUND UN-TREATED VERTICAL POSTS MAY BE USED WITH A MINIMUM DIAMETER OF 9cm.
3. SPACING BETWEEN VERTICAL POSTS TO BE NO FURTHER APART THAN 3.7m (12') ON CENTRE.
4. STRUCTURE MUST BE STURDY WITH VERTICAL POSTS DRIVEN FIRMLY INTO THE GROUND.
5. CONTINUOUS PLASTIC MESH SCREENING (E.G. ORANGE SNOW FENCING).
6. SIGNS ENTITLED "TREE PROTECTION AREA" TO BE POSTED ON FENCE EVERY 15m.
7. LOCATION OF FENCE AS SHOWN ON PLAN.

MINIMUM PROTECTION REQUIRED AROUND TREE			
TRUNK DIAMETER (cm)	DISTANCE FROM TRUNK (m)	TRUNK DIAMETER (cm)	DISTANCE FROM TRUNK (m)
20	1.2	50	3.0
25	1.5	55	3.3
30	1.8	60	3.6
35	2.1	75	4.5
40	2.4	90	5.0
45	2.7	100	6.0

05 Tree Protection Fencing: City of Nanaimo Standard
 Scale: NTS

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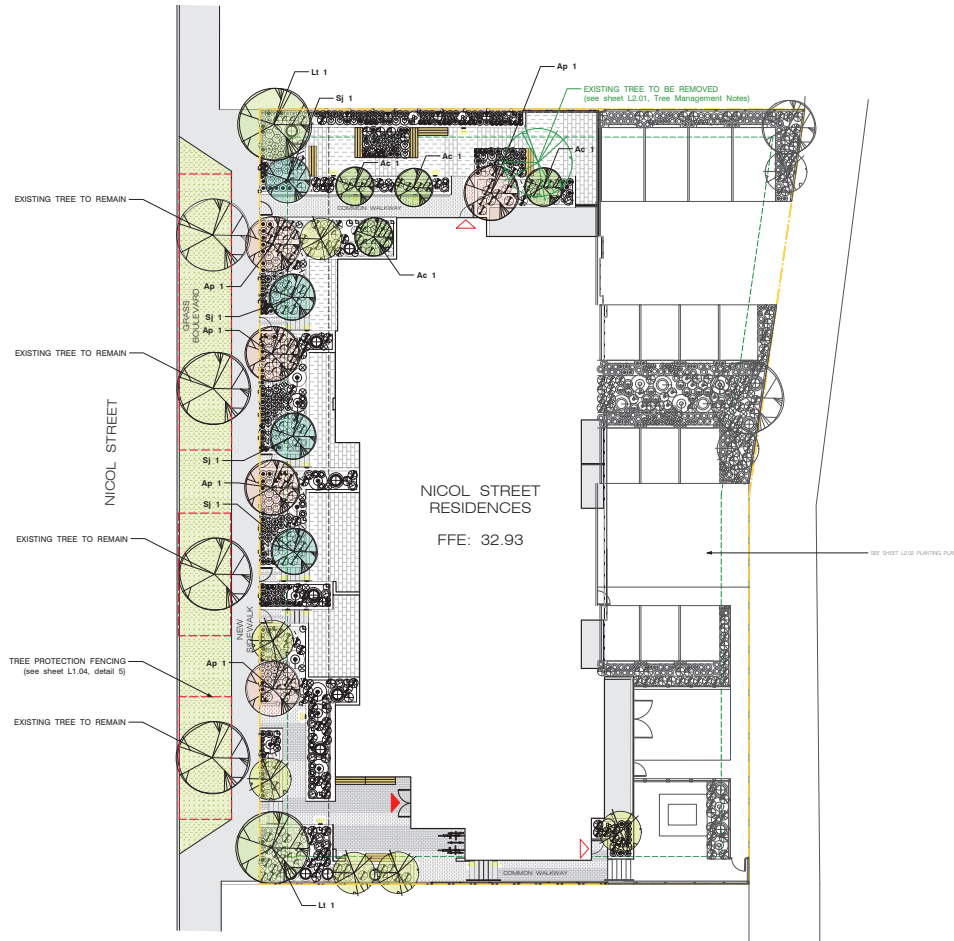
PROJECT
NICOL STREET RESIDENCES
 427, 449, 455 Nicol Street,
 Nanaimo, BC

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 DP 1248
 2023-SEP-22
 Current Planning

PROJECT ID 23008
DB CM **CB** KS
SCALE 1:200
DATE May 11, 2023

LANDSCAPE DETAILS

L1.04



PLANT + TREE LEGEND

	Aga Amelanchier grandiflora		Ac (3) Acer circinatum
	An Athyrium niponicum		Ap (5) Acer palmatum 'Osakazuki'
	Au Arctostaphylos uva-ursina		Li (2) Liriodendron tulipifera
	Ca Carex obovata		Pp (1) Parrotia persica
	Ca Clematis armandi		Sj (4) Stryx japonica
	Fc Fragaria chiloensis		Existing Street Tree (4)
	Fv Fragaria vesca		Existing Tree to be Removed (1) Prunus spp. (30cm DBH) (see L2.01, Tree Management Notes)
	Gt Gaura lindheimeri		
	Hm Hakonechloa macra		
	Im Iris missouriensis		
	Le Lonicera ciliosa		
	Mn Mahonia nervosa		
	Np Nepeta dropmore blue		
	Oo Oxalis oregana		
	Pm Polystichum munitum		
	Rb Ribes sanguineum		
	Sn Salvia nemorosa 'Cardinal'		
	Sa Sedum rupestre		
	Tg Tellima grandiflora		
	V Vaccinium (mix varieties)		
	Vo Vaccinium ovatum		

BOULEVARD GRASS
Seed with Premium Pacific Seeds
Drought Smart Mix or Equivalent
Soil Depth: 150mm
Total Area: 97m²

TREE PROTECTION FENCING
(see sheet L1.04, detail 05)

TREE MANAGEMENT NOTES

- EXISTING TREE TO BE REMOVED**
(1) Prunus spp., 30cm DBH (only existing tree on parcel)
See sheet L2.01 Planting Plan (L1) for location.
- REPLACEMENT TREES**
(17) Replacement Trees
(exceeds the required replacement trees)
See sheet L2.01 Planting Plan (L1) and L2.02 Planting Plan (L0) for locations of replacement trees. See sheet L2.03 for complete plant species & quantities list.

Refer to **Sheet L2.02** for Planting Plan (L0)
Refer to **Sheet L2.03** for Planting Notes + Plant List

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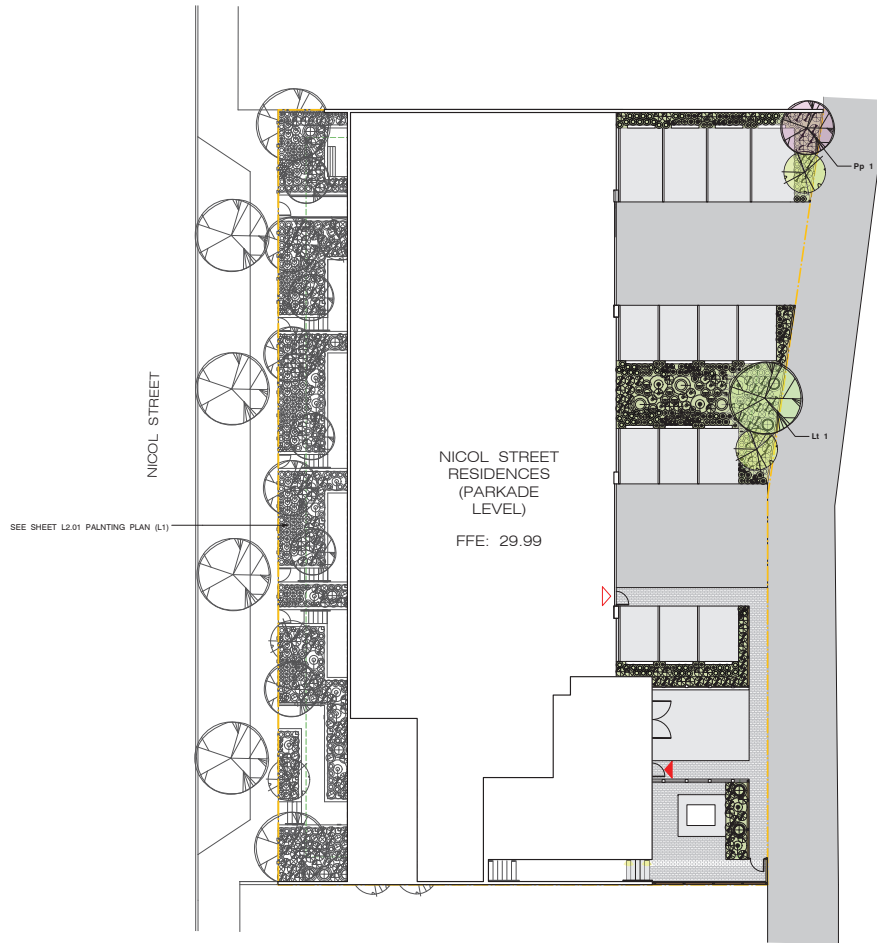
PROJECT
NICOL STREET RESIDENCES
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PLANTING PLAN (L1)

PROJECT ID 23008
DB CM **CB** KS
SCALE 1:150
DATE May 11, 2023

L2.01



PLANT + TREE LEGEND

	Aga Amelanchier grandiflora		Ac (3) Acer circinatum
	An Athyrium niponicum		Ap (5) Acer palmatum 'Osakazuki'
	Au Arctostaphylos uva-ursina		Li (2) Liriodendron tulipifera
	Co Carex obovata		Pp (1) Parrotia persica
	Ca Clematis armandi		Sj (4) Stryx japonica
	Fc Fragaria chiloensis		Existing Street Tree (4)
	Fv Fragaria vesca		Existing Tree to be Removed (1)
	Gt Gaura lindheimeri		Prunus spp. (30cm DBH) (see L2.01, Tree Management Notes)
	Hm Hakonechloa macra		
	Im Iris missouriensis		
	Le Lonicera ciliosa		
	Mn Mahonia nervosa		
	Np Nepeta dropmore blue		
	Oo Oxalis oregana		
	Pm Polystichum munitum		
	Rb Ribes sanguineum		
	Sn Salvia nemorosa 'Cardinal'		
	Sa Sedum rupestre		
	Tg Tellima grandiflora		
	V Vaccinium (mix varieties)		
	Vo Vaccinium ovatum		

	BOULEVARD GRASS Seed with Premium Pacific Seeds Drought Smart Mix or Equivalent Soil Depth: 150mm Total Area: 97m ²
	TREE PROTECTION FENCING (see sheet L1.04, detail 05)

TREE MANAGEMENT NOTES

- EXISTING TREE TO BE REMOVED**
(1) Prunus spp., 30cm DBH (only existing tree on parcel)
See sheet L2.01 Planting Plan (L1) for location.
- REPLACEMENT TREES**
(17) Replacement Trees
(exceeds the required replacement trees)
See sheet L2.01 Planting Plan (L1) and L2.02 Planting Plan (L0) for locations of replacement trees. See sheet L2.03 for complete plant species & quantities list.

Refer to **Sheet L2.02** for Planting Plan (L0)
Refer to **Sheet L2.03** for Planting Notes + Plant List

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CLIENT
STANTEC ARCHITECTURE LTD.

NO.	DATE	ISSUE
1	07-11-2023	DP SUBMISSION
2	08-10-2023	UPDATED DP SUBMISSION

NO. | DATE | REVISION

PROJECT
NICOL STREET RESIDENCES
427, 449, 455 Nicol Street,
Nanaimo, BC



PLANTING PLAN (L0)

PROJECT ID 23008
DB CM **CB** KS
SCALE 1:150
DATE May 11, 2023

L2.02

PLANT + TREE LEGEND

BOULEVARD GRASS
Seed with Premium Pacific Seeds
Drought Smart Mix or Equivalent
Soil Depth: 150mm
Total Area: 97m²

TREE PROTECTION FENCING
(see sheet L1.04, detail D5)

Existing Tree to be Removed (1)
Prunus spp. (60cm DBH)
(see L2.01, Tree Management Notes)

Existing Street Tree (4)

PLANT LIST

Key	Qty	Botanical Name	Common Name	Pot Size	Notes
Deciduous Trees					
Ac	4	Acer circinatum	Vine Maple	#7	Multistem
Ap	5	Acer palmatum 'Osakazuki'	Japanese Maple	#20	Multistem
Lt	3	Liriodendron tulipifera	Tulip Tree	6cm cal	1.8m branching ht
Pp	1	Parrotia persica 'Varessa'	Persian Ironwood	6cm cal	1.8m branching ht
Sj	4	Styrax japonicus	Snowbell Tree	5cm cal	1.8m branching ht
Deciduous Shrubs					
Ag	8	Amelanchier grandiflora 'Autumn Brilliance'	Service Berry	#7	Multistem
Rs	13	Ribes sanguineum	Red Flowering Currant	#2	1.2m o.c.
V	3	Vaccinium (mix varieties)	Blueberry	#2	1.2m o.c.
Evergreen Shrubs					
Vo	15	Vaccinium ovatum	Evergreen Huckleberry	#1	1m o.c.
Groundcovers & Ferns					
Au	136	Arctostaphylos uva-ursi	Kinnikinnick	10cm	45cm o.c.
An	30	Athyrium niponicum	Japanese Painted Fern	10cm	45cm o.c.
Co	14	Carex obovata	Slough Sedge	10cm	60cm o.c.
Fc	137	Fragaria chiloensis	Coastal Strawberry	10cm	45cm o.c.
Fv	120	Fragaria vesca	Woodland Strawberry	10cm	45cm o.c.
Im	10	Iris missouriensis	Western Blue Flag Iris	#1	60cm o.c.
Mn	122	Mahonia nervosa	Dull Oregon Grape	#1	60cm o.c.
Pm	226	Polystichum munitum	Sword fern	#1	60cm o.c.
Sr	118	Sedum rupestre 'Angelina'	Shorecrop	10cm	45cm o.c.
Ornamental Grasses & Perennials					
Hm	54	Hakonechloa macra	Japanese Forest Grass	#1	60cm o.c.
Gt	88	Gaura lindheimeri	Bee Blossom	#1	45cm o.c.
Np	62	Nepeta x faassenii 'Dropmore'	Catmint	#1	60cm o.c.
Co	59	Oxalis sregana	Redwood sorrel	10cm	45cm o.c.
Sn	17	Salvia nemorosa 'Cardonna'	Purple Wood Sage	#1	60cm o.c.
Tg	30	Tellima grandiflora	Fringecup	10cm	45cm o.c.
Vines					
Ca	4	Clematis armandii 'Snowflake'	Evergreen Clematis	#1	1.2m o.c.
Lc	5	Lonicera ciliosa	Western Trumpet Honeysuckle	#1	1.2m o.c.
Seeds					
Grass Seeding		Premium Pacific Seeds Drought Smart Mix or Equivalent			

- ### PLANTING NOTES
- All landscape construction to be in accordance with the **City of Nanaimo Engineering Standards and Specifications**.
 - All landscape installation and maintenance to meet or exceed the current edition of the **Canadian Landscape Standards** as a minimal acceptable standard.
 - Growing medium to meet or exceed the properties outlined in the Canadian Landscape Standard per Section 6 Growing Medium, Table T-6.3.5.3. Properties of Growing Media Level 2 'Groomed' - 2P.
 - Growing Medium Depths (unless otherwise specified):
Tree Planting Area: 1 cu. m. per tree
Shrub & Ground Cover Area: 450mm (18") depth
Seeded Area: 150mm (6") depth
 - Mulch to be Compost per Section 10 Mulching of the Canadian Landscape Standard. Mulch depth to be 75mm minimum depth over all tree, shrub, and groundcover planting areas.
 - Plant material quality, transport and handling shall comply with the CNLA standards for Nursery Stock.
 - All plant material shall match type and species as indicated on the planting plan. Contact the Landscape Architect for approval of substitutions. No substitutions will be accepted without prior written approval of the Landscape Architect.
 - Check for locations of water lines and other underground services prior to digging tree pits. Excavated plant pits shall have positive drainage. Plant pits when fully flooded with water shall drain within one hour after filling.
 - No plants requiring pruning or major branches due to disease, damage or poor form will be accepted.
 - All tree, shrub, groundcover and lawn areas shall be watered via an underground automatic irrigation system utilizing 'Smart' (ET/Weather-based) irrigation control. Irrigation emission devices to be high efficiency low volume rotary nozzles or drip irrigation equipment.

- ### TREE MANAGEMENT NOTES
- EXISTING TREE TO BE REMOVED**
(1) Prunus spp. 30cm DBH (only existing tree on parcel)
See sheet L2.01 Planting Plan (L1) for location.
 - REPLACEMENT TREES**
(17) Replacement Trees
(exceeds the required replacement trees)
See sheet L2.01 Planting Plan (L1) and L2.02 Planting Plan (L0) for locations of replacement trees. See sheet L2.03 for complete plant species & quantities list.

Refer to **Sheet L2.01** for Planting Plan (L1)
Refer to **Sheet L2.02** for Planting Plan (L0)

NOT FOR CONSTRUCTION

SITE GRADING NOTES:

1. REFER TO GENERAL NOTES SHEET FOR MINIMUM PIPE COVER, PIPE MATERIALS, AND TESTING PROCEDURES.
2. THE CONTRACTOR MUST CONTACT THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION TO SCHEDULE AN ON-SITE PRE-CONSTRUCTION MEETING DURING WHICH CONSTRUCTION METHODS, TIMING, AND INSPECTION WILL BE DISCUSSED.
3. ALL CONSTRUCTION WITHIN PRIVATE PROPERTY IS TO BE IN ACCORDANCE WITH BRITISH COLUMBIA BUILDING CODE 2018, BRITISH COLUMBIA PLUMBING CODE 2018, AND IS TO BE ACCEPTABLE TO THE MUNICIPAL BUILDING AND PERMITS DEPARTMENT.
4. ALL BUILDINGS AND ROADS ARE TO BE LOCATED BY CO-ORDINATES AS CALCULATED BY A B.C. LAND SURVEYOR.
5. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS AND TO GEODETIC DATUM, UNLESS OTHERWISE NOTED.
6. ALL EXCAVATION, FILL PLACEMENT AND COMPACTION TO BE IN ACCORDANCE WITH GEOTECHNICAL CONSULTANTS REPORT.
7. ALL ON-SITE ASPHALT PAVEMENT TO BE CONSTRUCTED AS PER PAVEMENT STRUCTURE DETAIL ON THE DETAIL SHEET.
8. CHANGES TO GRADE SHALL BE FORMED BY SMOOTH CURVES.
9. ALL BUILDINGS EXIT TO GRADE FROM THE LOWER FLOOR, UNLESS OTHERWISE NOTED.
10. CONTRACTOR TO EMPLOY GEOTECHNICAL CONSULTANT FOR PERFORMANCE OF IN PLACE TESTING DURING THE PREPARATION OF THE SUBGRADE AND CONSTRUCTION OF THE PAVEMENT STRUCTURE.
11. CONTRACTOR TO REVIEW DETAILS SHEET TO CONFIRM SITE SPECIFIC DESIGN REQUIREMENTS. REPORT ANY DISCREPANCIES TO THE ENGINEER OF RECORD PRIOR TO THE START OF CONSTRUCTION.



HALIBURTON STREET

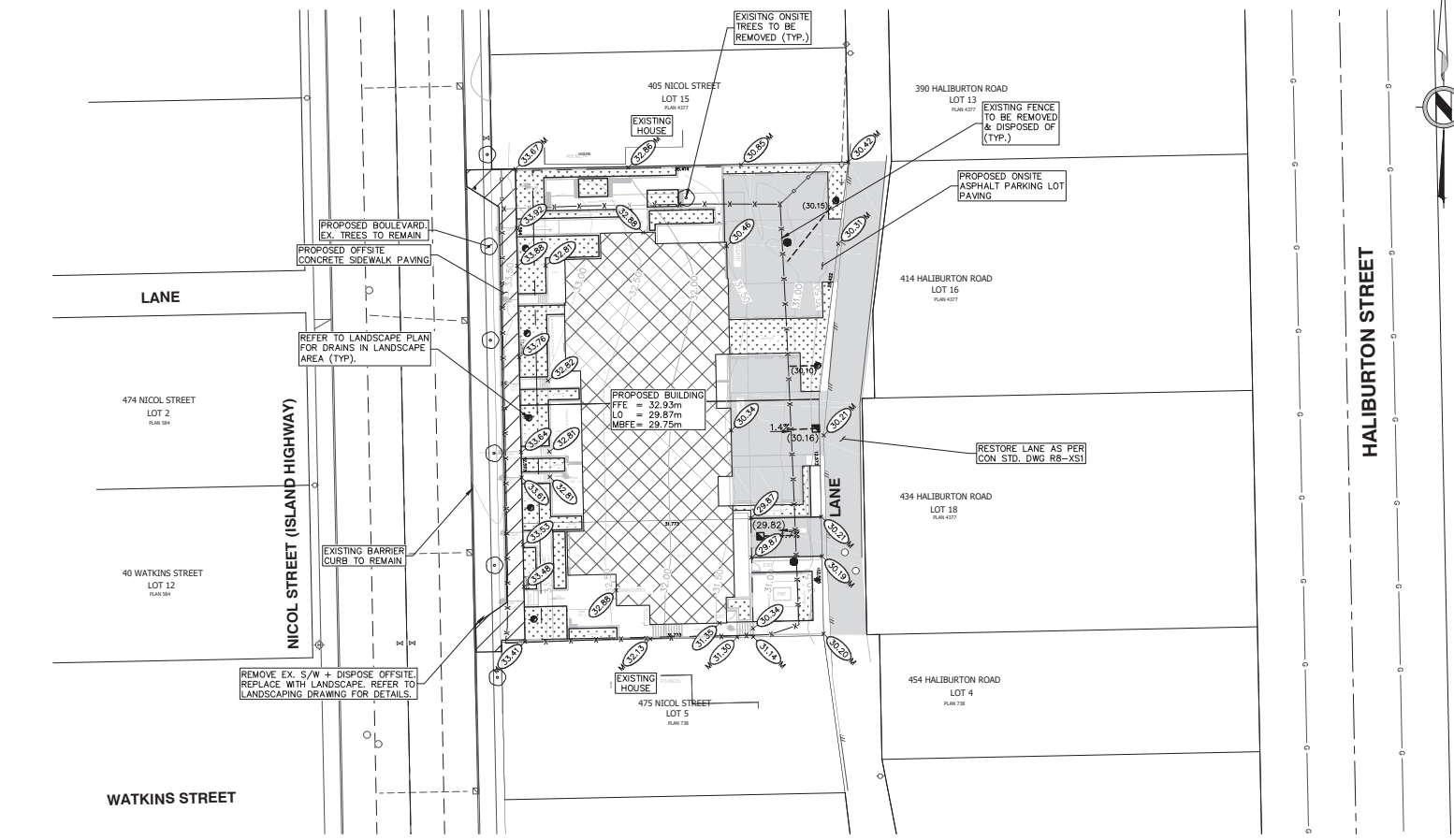
SITE GRADING LEGEND

EXISTING GROUND ELEVATION	+99.99
FINISHED GROUND ELEVATION	+99.99
FINISHED GROUND ELEVATION AT TOP OF WALL	+99.99/TW
FINISHED GROUND ELEVATION AT BOTTOM OF WALL	+99.99/BW
FINISHED GROUND ELEVATION TO MEET EXISTING ELEVATION	+99.99/M
GRADE	9.9%
EXISTING GROUND CONTOUR	99.5
MINIMUM BUILDING ELEVATION	MBE=95.99m
FINISHED FLOOR ELEVATION	FFE=99.99m
CURB & GUTTER - SEE DETAIL	-
EDGE OF ASPHALT PAVEMENT	-
RETAINING WALL - BY OTHERS	-
BUILDING FOUNDATION STEP	0.3m STEP
CATCH BASIN	CB
LAWN BASIN	LB
DRAINAGE SWALE	DS
RIM ELEVATION	(99.99)
ASPHALT PAVEMENT - SEE DETAIL	[Pattern]
CONCRETE PAVEMENT - SEE ARCH.	[Pattern]
LANDSCAPING AREA - SEE L.ARCH.	[Pattern]
GRAVEL AREA - SEE L.ARCH.	[Pattern]
PERMEABLE PAVERS - SEE L.ARCH.	[Pattern]
ROOF AREA - SEE ARCH.	[Pattern]

NOT FOR CONSTRUCTION

NOTICE TO CONTRACTOR

IT IS THE RESPONSIBILITY OF THE CONTRACTOR'S SURVEYOR TO VERIFY THAT ALL LEGAL SURVEY DIMENSIONS SHOWN ON THE ENGINEERS DRAWINGS AGREE WITH THOSE ON THE REGISTERED LEGAL SURVEY PLAN. SHOULD THERE BE ANY DISCREPANCIES, THEN IMMEDIATELY NOTIFY THE ENGINEER OF RECORD.



LEGAL DESCRIPTION: THE WHOLE OF 475 NICOL STREET, NANAIMO, B.C. (SEE PLAN FOR DETAILS)					
BENCHMARK MONUMENT: 90H9778, ELEVATION: 32.25m					
LOCATED AT: NICOL STREET & NEEDHAM STREET					
REV. NO.	DESCRIPTION	DR	CH	DATE	APP
0	ISSUED FOR DEVELOPMENT PERMIT	PAW	MB	2023/JUL/17	SAL
1					
2					
3					
4					

APLIN MARTIN
ENGINEERING ARCHITECTURE PLANNING SURVEYING

EGBC Permit to Practice Number #1001018
Aplin & Martin Consultants Ltd.
#104 - 6596 Applecross Road, Nanaimo, B.C. Canada V9V 0A4
Tel: (778) 841-0484, Fax: (604) 597-9061, Email: general@aplinmartin.com

CLIENT: ROSEATE DEVELOPMENT ASSOCIATES
120, 2481 McCALLUM ROAD, ABBOTSFORD, BC, V2S 3P8

PROJECT: NICOL STREET RESIDENCE
427, 449, 455 NICOL STREET, NANAIMO, BC

Permits to Practice #1001018
2023-07-18

The location of existing underground utilities are shown in an approximate way only & have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agree to be fully responsible for any and all damage which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

TITLE: GRADING PLAN

DESIGN: PW
CHECK: MB
DRAWN: PW
APPR: SL

A & M FILE: 21-8017

DRAWING DATE: JULY, 2021

PROJECT NO.: 21-8017- C100

SCALE: HORIZ: AS SHOWN
VERT: AS SHOWN

DRAWING NO.: A & M DRAWING NO. 21-8017- C100

SHEET NO.: 04 OF 08

REV.: 0

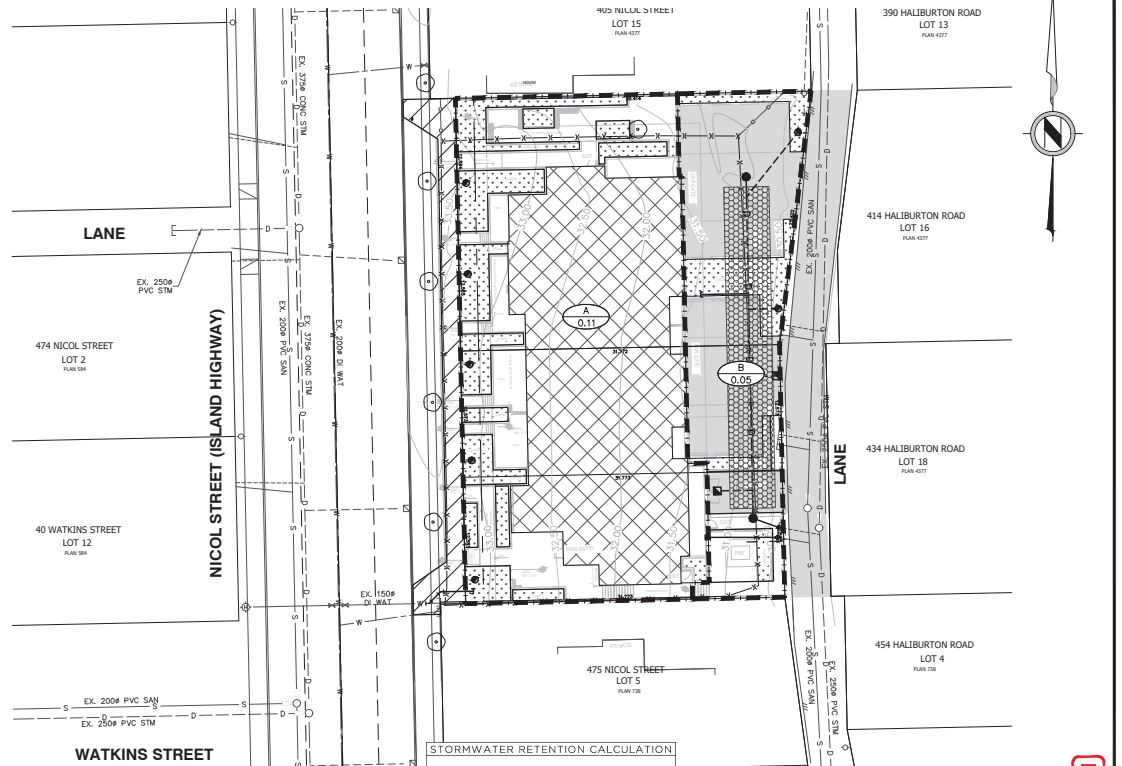
DRAWING DATE: JULY, 2021

0 2 1.250 12m

STORM FLOW ANALYSIS - CALCULATION SHEET																
Municipal Project: proj # Nicol Street Residents Project Title: 427,449,455 Nicol Street Project Location: Nanaimo, BC										RETURN PERIOD: 5 Years						
Consultants: Aplin & Martin Consultants Ltd. Engineer of Record: Scott Lewis, P.Eng.										DATE: 17-Jul-23 Manning's Formula A&M File: 21-8017 Design By: PAM Check By: SAL SHEET: 1 of 1						
Rational Formula: $Q = C \times I \times A \times 2.78$																
FROM MH	TO MH	Area #	Area A (Ha)	Runoff Coeff C	AxC	Accum. (AxC)	Time of Conc. Tc (min)	Rainfall Intensity I (mm/hr)	Design Flow Qs (L/s)	Diameter of Pipe D (mm)	Length of Pipe L (m)	Design Slope S (%)	Installed Slope (%)	Flow Capacity Qcap (L/s)	Velocity V (m/s)	Time of Flow (min)
ONSITE																
BLDG	Main	A	0.11	0.90	0.10	0.10	10.00	43.07	11.85	200	4.75	2.00		46.4	1.48	0.05
D2	D1	B	0.05	0.90	0.05	0.14	10.05	42.96	17.20	525	28.00	0.05		96.2	0.44	1.05
D1	Ex Cap		0.00	0.90	0.00	0.14	11.00	40.92	16.38	150	2.70	2.00		21.5	1.22	0.04

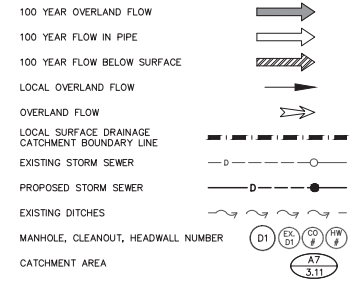
5 YEAR RATIONAL METHOD																
Municipal Project: proj # Nicol Street Residents Project Title: 427,449,455 Nicol Street Project Location: Nanaimo, BC										RETURN PERIOD: 100 Years						
Consultants: Aplin & Martin Consultants Ltd. Engineer of Record: Scott Lewis, P.Eng.										DATE: 17-Jul-23 Manning's Formula A&M File: 21-8017 Design By: PAM Check By: SAL SHEET: 1 of 1						
Rational Formula: $Q = C \times I \times A \times 2.78$																
FROM MH	TO MH	Area #	Area A (Ha)	Runoff Coeff C	AxC	Accum. (AxC)	Time of Conc. Tc (min)	Rainfall Intensity I (mm/hr)	Design Flow Qs (L/s)	Diameter of Pipe D (mm)	Length of Pipe L (m)	Design Slope S (%)	Installed Slope (%)	Flow Capacity Qcap (L/s)	Velocity V (m/s)	Time of Flow (min)
ONSITE																
BLDG	Main	A	0.11	0.90	0.10	0.10	10.00	128.78	35.44	200	4.75	2.00		46.4	1.48	0.05
D2	D1	B	0.05	0.90	0.05	0.14	10.05	128.58	51.59	525	28.00	0.05		96.2	0.44	1.05
D1	Ex Cap		0.00	0.90	0.00	0.14	11.00	120.61	48.28	150	2.70	2.00		21.5	1.22	0.04

100 YEAR RATIONAL METHOD																
Municipal Project: proj # Nicol Street Residents Project Title: 427,449,455 Nicol Street Project Location: Nanaimo, BC										RETURN PERIOD: 100 Years						
Consultants: Aplin & Martin Consultants Ltd. Engineer of Record: Scott Lewis, P.Eng.										DATE: 17-Jul-23 Manning's Formula A&M File: 21-8017 Design By: PAM Check By: SAL SHEET: 1 of 1						
Rational Formula: $Q = C \times I \times A \times 2.78$																
FROM MH	TO MH	Area #	Area A (Ha)	Runoff Coeff C	AxC	Accum. (AxC)	Time of Conc. Tc (min)	Rainfall Intensity I (mm/hr)	Design Flow Qs (L/s)	Diameter of Pipe D (mm)	Length of Pipe L (m)	Design Slope S (%)	Installed Slope (%)	Flow Capacity Qcap (L/s)	Velocity V (m/s)	Time of Flow (min)
ONSITE																
BLDG	Main	A	0.11	0.90	0.10	0.10	10.00	128.78	35.44	200	4.75	2.00		46.4	1.48	0.05
D2	D1	B	0.05	0.90	0.05	0.14	10.05	128.58	51.59	525	28.00	0.05		96.2	0.44	1.05
D1	Ex Cap		0.00	0.90	0.00	0.14	11.00	120.61	48.28	150	2.70	2.00		21.5	1.22	0.04



STORMWATER RETENTION CALCULATION

Target Retention Volume	
Total Site Area, A*	1647 m ²
Rainfall Depth, B*	31 mm
Target Retention Volume (A x B)	51.0 m ³
*Rainfall depth from the latest edition of City of Nanaimo Manual of Engineering Standards and Specifications	
Soil Storage Volume	
Total Landscaped Area, C	219 m ²
Installed Topsoil Depth, D	450 mm
Soil Water Storage Capacity, E**	200 mm/m
Volume Retained in Soil (C x D x E)	19.7 m ³
**BC Ministry of Agriculture: Soil Water Storage Capacity and Available Soil Moisture	
Rock Pit Storage Volume	
Rock Pit Area, T	144 m ²
Rock Pit Depth, U	7500 mm
Drain Rock Porosity, V	30%
Volume Retained in Rock Pit (T x U x V)	32.4 m ³
Summary	
Total Retained Volume, Y	521 m ³
Target Retention Volume, Z	51.0 m ³
Design Check (Y > Z)	OK



NOTICE TO CONTRACTOR

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STORMWATER DETENTION CALCULATION

2 YEAR RELEASE RATE FLOWS				
Time Tc	Runoff Coeff.	Area A	Intensity I	Flow Q
min	%	Ha	mm	m ³ /s
Q _{Peak}	10	0.30	0.16	28.2
Q _{Base}	10	0.85	0.16	28.2

Storage Volume Required (Modified Rational Method)

Storage = $T_c (Q_p - Q_{base}) + 0.5 \times T_c \times Q_{peak} (1/Q_p - 1/Q_{base})$

T_c = Time to concentration (seconds)

Q_p = Peak flow for storm at T = T_c (m³/s)

T_p = Time of storm duration (seconds)

Q_{base} = Peak flow for storm at T = T_p (m³/s)

Q_{base} = Maximum allowable release rate (m³/s)

Storage Required = **5.29 m³**

Rainfall Duration Td	Rainfall Intensity I	Release Rate Qrel	Peak Flow Qc	Peak Flow Qs	Storage
min	mm/hr	m ³ /s	m ³ /s	m ³ /s	m ³
25	19.8	0.004	0.001	0.007	5.23
30	17.4	0.004	0.001	0.007	5.29
35	16.2	0.004	0.001	0.006	5.27
40	15.3	0.004	0.001	0.006	5.19
45	14.5	0.004	0.001	0.005	5.04

2 YEAR DETENTION REQUIREMENTS

STORMWATER DETENTION CALCULATION

5 YEAR RELEASE RATE FLOWS				
Time Tc	Runoff Coeff.	Area A	Intensity I	Flow Q
min	%	Ha	mm	m ³ /s
Q _{Peak}	10	0.30	0.16	43.1
Q _{Base}	10	0.85	0.16	43.1

Storage Volume Required (Modified Rational Method)

Storage = $T_c (Q_p - Q_{base}) + 0.5 \times T_c \times Q_{peak} (1/Q_p - 1/Q_{base})$

T_c = Time to concentration (seconds)

Q_p = Peak flow for storm at T = T_c (m³/s)

T_p = Time of storm duration (seconds)

Q_{base} = Peak flow for storm at T = T_p (m³/s)

Q_{base} = Maximum allowable release rate (m³/s)

Storage Required = **7.31 m³**

Rainfall Duration Td	Rainfall Intensity I	Release Rate Qrel	Peak Flow Qc	Peak Flow Qs	Storage
min	mm/hr	m ³ /s	m ³ /s	m ³ /s	m ³
20	30.7	0.006	0.016	0.017	7.26
25	27.5	0.006	0.016	0.017	7.31
30	25.1	0.006	0.016	0.009	7.19
35	23.3	0.006	0.016	0.009	6.95
40	21.8	0.006	0.016	0.008	6.61

5 YEAR DETENTION REQUIREMENTS

RUNOFF COEFFICIENT CALCULATION

Area	Area %	Runoff Coeff.	Weighted Average Coeff.
Site Area	1646.50	100%	0.30
Softscape	1646.50	100%	0.30
Roof	0.00	0%	0.90
Hardscape	0.00	0%	0.90

Area	Area %	Runoff Coeff.	Weighted Average Coeff.
Site Area	1646.50	100%	0.85
Softscape	219.40	13%	0.50
Roof	623.30	38%	0.90
Pavers	0.00	0%	0.85
Hardscape	803.80	49%	0.90

DETENTION STORAGE CALCULATION

PIPE STORAGE			
Location	Length (m)	Diameter (m)	Volume (m ³)
D2 to D1	34.00	0.525	0.216
MANHOLE STORAGE			
Location	Depth (m)	Diameter (m)	Volume (m ³)
D2	0.53	1.20	1.13
D1	0.70	1.20	1.13
SUMMARY			
Total Volume Detained (m ³)	8.75		
Target Volume To Be Detained (m ³)	7.31		
Design Check	OK		

DETENTION PROVIDED

RETENTION PROVIDED

REV. NO.	DESCRIPTION	DR	CH	DATE	APP
0	ISSUED FOR DEVELOPMENT PERMIT	PAM	MB	2023/JUL/17	SAL
1					
2					
3					
4					

APLIN MARTIN
ENGINEERING ARCHITECTURE PLANNING SURVEYING

EGBC Permit to Practice Number: #1001018
Aplin & Martin Consultants Ltd.
#104 - 6596 Applecross Road, Nanaimo, B.C. Canada V9V 0A4
Tel: (778) 841-0484, Fax: (604) 597-9061, Email: general@aplinmartin.com

CLIENT: ROSEATE DEVELOPMENT ASSOCIATES
120, 2481 MCCALLUM ROAD, ABBOTSFORD, BC, V2S 3P8

PROJECT: NICOL STREET RESIDENCE
427, 449, 455 NICOL STREET, NANAIMO, BC

EGBC Permit to Practice #1001018
S.A. LEWIS
P.Eng.

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TITLE: STORMWATER MANAGEMENT PLAN

DESIGN: PW
DRAWN: PW
CHECK: MB
APPR: SL

A & M FILE: 21-8017
DRAWING DATE: JULY, 2021
SHEET NO. 07 OF 08
REV. 0

SCALE: HORIZ: AS SHOWN
VERT: AS SHOWN
A & M DRAWING NO. 21-8017- C800

PROJECT NO. *
DRAWING NO. *

0 2 1.250 12m

NOT FOR CONSTRUCTION