

WA Architects Ltd.

| PRINCIPALS

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David Echaiz-McGrath ARCHITECT AIBC, AAA, SAA

| STUDIOS

VAN

301 — 1444 Alberni Street Vancouver, BC V6G 2Z4 604.685.3529

VIC

104 — 3212 Jacklin Road Victoria, BC V9B 0J5 250.391.4933

wa-arch.ca

Design Rationale Nicol Street Residential Development – Project #18085

This proposed entry-level purpose-built rental residential development will be located on a consolidated site comprising of single family lots addressed 427, 449 and 455 Nicol Street in Nanaimo. The site is in the South End Neighbourhood in the "Corridor" designation area. All three single family lots are zoned as COR3 and thus a residential development is permitted outright.

In accordance with the OCP Bylaw 2008 No. 6500 - South End Neighbourhood Plan, this development is proposing a four-story residential building with vehicular access from the rear lane to a basement parkade.

It is our intent to provide a modern, cost-conscious affordable rental product that provides large apartment units for lower income families and individuals. The Proposed development will create a total of 35 units of which 20% will be dedicated as "affordable housing" in accordance with CMHC guidelines. To ensure its perpetuity, the affordable housing criteria will be secured by covenant placed on title.

The increased density of this proposed development will hopefully provide the impetus for similar developments within this neighbourhood. As per CMHC's Rental Market Report on British Columbia (as of October 2018), City of Nanaimo's vacancy rate is at approximately 2.5%. Although higher than the national average of 1.4%, we feel that a rental development is still greatly needed to address this demand.

As we are all aware, the cost of constructing a rental residential apartment building has been one of the more significant challenges in making this project feasible. In order for the Pro Forma to pencil out, the design team has had to look for every possible method to increase density, reduce costs and provide the largest scale project on this site as possible. We've provided very efficient space planning, stacked units (and plumbing) and looked at standardizing as many elements within the design. In addition to this, we have also sought to maximize our FSR density and have taken advantage of COR3 Tier 1 and 2 density bonusing as well as the underground parking bonus. (please refer to our Project Stats Sheet (PSS) and our Tier 1 and 2 Density Bonus document.

The design intent is for a modern clean structure that utilizes economical materials that require minimal amount of maintenance. Balconies have been emphasized by a bold, extruded rectilinear form that provides relief to an otherwise flat façade. The exit stairs are located outside of the building



envelope at both ends of the building, not only to maximize the efficiency of the building, but also to create interest and shadow relief along those elevations. Generous landscaping has been included along both side setbacks to soften the transition from single family home scale to the multistory residential proposal.

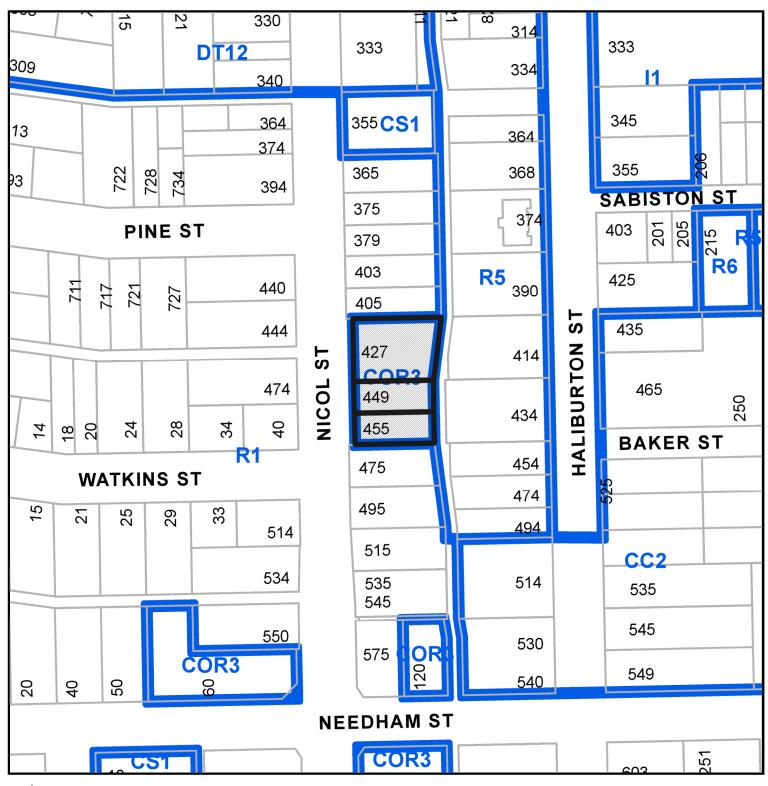
The front elevation is generously set back from the property line thus allowing for a significant amount of landscape buffer and very large outdoor terrace area for the ground floor units. Each one of these units has been provided with a private entrance into their space to animate and provide interest along Nicol Street. All units have access to a private outdoor space directly off their unit as well as a significant communal outdoor amenity space, including a children's play area, at grade at the north end of the site.

We are asking for a parking variance. The target demographics for this development are lower income individuals and families. We have provided a parking study as well as a parking variance rationale for your reference.

Nicol Street Residential provides City of Nanaimo residents an affordable well though-out rental housing option. It provides studios, one-bedroom and two-bedroom units that can accommodate a wide range of demand and can focus on a lower income demographics. This project will be a significant positive addition to this neighbourhood and City of Nanaimo as a whole.

END

LOCATION PLAN





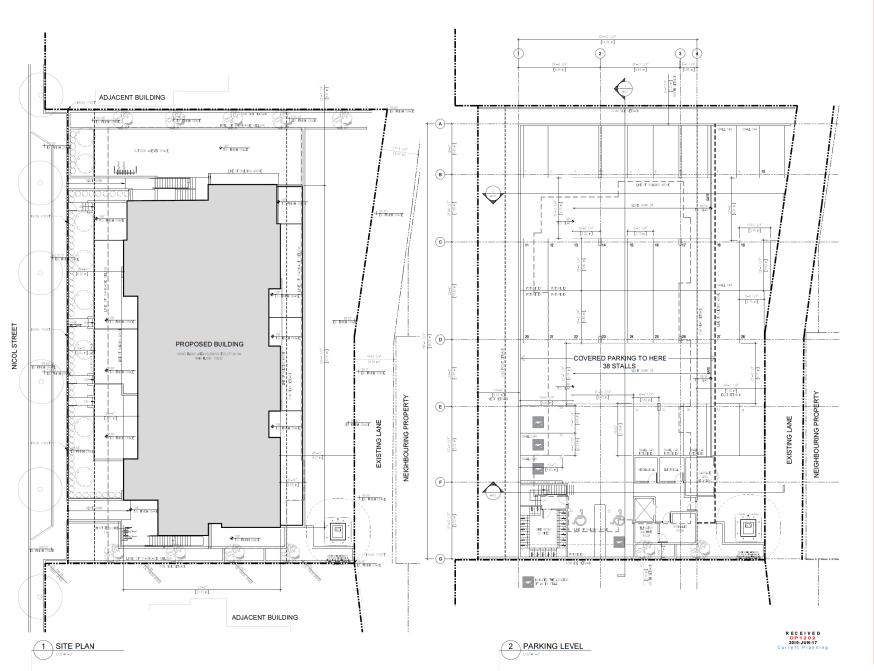
DEVELOPMENT PERMIT NO. DP001202

Subject Property

CIVIC: 427, 449, & 455 NICOL STREET

LEGAL: LOT 1 & 19, SECTION 1, NANAIMO DISTRICT, PLANS 4377, 48224

AND VIP51613





GENERAL NOTES:



CONSULTANT:



NICOL STREET PROPOSED RESIDENTIAL

BUILDING PROJECT ADDRESS: 427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE:

SITE PLAN & PARKING LEVEL PLAN

PROJECT NO: 18085 SCALE: AS NOTED REVIEW BY: DWG NO:

A2.0

PROPOSED RESIDENTIAL PROJECT

DEVELOPMENT PERMIT APPLICATION

NICOL STREET, NANAIMO, B.C.

PROJECT NUMBER: 18085

APRIL 17, 2020

ARCHITECTS: WA ARCHITECTS LTD. DRAWING LIST	LANDSCA LANDSCA	PE ARCHITECT: VICTORIA DRAKEFORD PE
A0.0 COVER PAGE	DRAWING	LIST
A1.0 EXISTING SURVEY A2.0 SITE & PARKING LEVEL PLAN A2.1 LEVEL 1 & LEVEL 2 FLOOR PLANS		DSCAPE CONCEPT PLAN VATIONS DESIGN ELEMENTS
A2.2 LEVEL 3 & LEVEL 4 FLOOR PLANS A2.3 ROOF PLAN	CIVIL: API	IN MARTIN
A2.4 UNIT PLANS A3.0 NORTH & SOUTH ELEVATIONS	DRAWING	LIST
A3.1 EAST & WEST ELEVATIONS A4.0 BUILDING SECTIONS A4.1 BUILDING SECTIONS A5.0 PERSPECTIVES A5.1 MATERIAL BOARD A6.0 RENDER	01 OF 06 02 OF 06 03 OF 06 04 OF 06 05 OF 06 06 OF 06	KEY PLAN GRADING PLAN SERVICING PLAN

PROJECT STATISTICS NICOL STREET

REVISION NO.	ONE		DATE:		28-Oct-19
SITE INFORMATION					
	LOT 5, PLAN 738, LOT 19, PLAN 4377 AND LO	T 1, PLAN 48224, ALL OF SECT	ION 1, NANAIMO DISTRICT		
LEGAL DESCRIPTION					
CIMC ADDRESS	427, 449 & 455 NICOL STREET, NANAIMO, B.O.				
ZONING	EXISTING		REQUIRED		PROPOSED
	COR3 (COMMUNITY CO	RRIDOR)			COR 3
SITE AREA (ft²)	17,702 S.F.				17,702 S.F.
	BASE 0.75 FSR, TIER 1 BONUS FSR - +0.25,				
FSR	PARKING UNDERGROUND (29)	38 * 0.25) - +0.19	0.75 + 0.25 + 0.25 + 0.19 = 1.44		1.43
SITE COVERAGE			60%		54%
BUILDING HEIGHT			14M		13.70M
SETBACKS	FRONT (NICOL STR	EET)	MIN 3.0/MAX 6.0M		4.50M
	REAR (LANE) 7.5M			7.5M	
	SIDE (SOUTH PROPER	TY LINE)	OM		0.1M
	SIDE (NORTH PROPER	TY LINE)	OM		2.01M
BUILDING DATA					
MULTIFAMILY UNITS	DESCRIPTION	AREA (SF)	# OF UNITS	UNIT DISTRIBUTION (%)	TOTAL AREA (SF)
JNIT A	ONE BED + DEN	772	4	11%	3,088
JNIT B	ONE BED	497	8	23%	3,976
JNIT C	MICRO UNIT	312	8	23%	2.496
*Unit area to inside face of walls. See A2.4					
JNIT D	TWO BED	834	8	23%	6,672
JNIT E	TWO BED + DEN	908	4	11%	3,632
JNIT F	ONE BED + DEN	602	3	9%	1,806
		TOTAL	35	100%	21.670

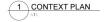
FLOOR AREA FOR F.S.R.

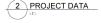
	GROSS FLOOR AREA (SF)	GROSS FLOOR EXCLUDING		
		LOBBY AREA		
LEVEL 1	6,376.74	6,030.45		
LEVEL 2	6,403.95	6,403.95		
LEVEL 3	6,403.95	6,403.95		
LEVEL 4	6,403.95	6,403.95		
TOTAL	25,588.59	25,242.30		
BIKE STORAGE/GARBAGE FLOOR AREA				
BULDING FOOTPRINT AREA (ft²)				
PARKING DATA*				
PROPOSED PARKING				
Based on City of Nanaimo Proposed Parking Rates for Multi-Family Dwelling in "Area 2"				
		NUMBER OF UNITS	RATE	STALLS REQUIRED
UNIT A	ONE BED + DEN	4	1.26	5
UNIT B	ONE BED	8	1.26	10
UNIT C	MICRO UNIT	8	1.05	8
UNIT D	TWO BED	8	1.62	13
UNIT E	TWO BED + DEN	4	1.62	6
LINIT F	ONE BED + DEN	3	1.26	4

CDOSS ELOOD ADEA (SE)

UNIT B	ONE BED	8	1.26	10
UNIT C	MICRO UNIT	8	1.05	8
UNIT D	TWO BED	8	1.62	13
UNIT E	TWO BED + DEN	4	1.62	6
UNIT F	ONE BED + DEN	3	1.26	4
VISITOR PARKING			1 STALL PER 22 UNITS	2
	TOTAL			48**
TOTAL PROPOSED PARKING				38
ACCESSIBLE PARKING			REQUIRED	PROPOSED
			2	2
SMALL CAR			REQUIRED	PROPOSED
			40% OF TOTAL REQUIRED STALLS (16 STALLS)	21% (8 STALLS)

REQUIRED BICYLE PARKING	TOTAL REQUIRED BICYCLE PARKING	NUMBER OF UNITS	REQUIRED	PROVIDED
REQUIRED BIGTLE PARKING	PER UNIT NULTIPLIER	NUMBER OF UNITS	REQUIRED	PROVIDED
SHORT TERM	0.1	35	3.5	4
LONG TERM***	0.5	35	17.5	20
TOTAL REQUIRED			21	24







OWNER/CLIENT





PROPOSED RESIDENTIAL

PROJECT

PROJECT ADDRESS:

427, 449 & 738 NICOL STREET, NANAIMO, B.C.

COVER SHEET

PROJECT NO: 18085 SCALE: N/A DWG NO-

NOTES

- 10% of parking stalls must be fitted with level 2 EV charging stations. An additional 20% will be provided with an electrical outlet box wired with a separate brance circuit capable of supplying electricity to support the installation of level 2 EV charge receptacle **- Parking count variance required*

**- Parking count variance required*

**- Every long term be stall must have an electrical outlet for electricibicycle charging



NORTH ARROW:

O'MNER/CLIENT: ISLAND WEST COAST DEVELOPMENTS LTD. 2214 MCCULLOUGH ROAD NANANO, B.C. V9S 4MB

GENERAL NOTES:



CONSULTANT:



VAN 301 - 1444 Alberni Street Vancouver, V6G 2Z4 VIC 104 - 3212 Jackin Road Victoria, V9B 0J5 604.685.3529 | office@wa-arch.ca | wa-arch.ca PROJECT NAME:

NICOL STREET PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS:

427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE:

NORTH & SOUTH **ELEVATIONS**

PROJECT NO: 18085 DRAWN BY: SCALE: AS NOTED

REVIEW BY: A3.0 DWG NO:



NORTH ARROW:

OWNER/CLIENT: ISLAND WEST COAST DEVELOPMENTS LTD. 2214 MCGULLOUGH ROAD NAVAND, B.C. VBS 4MB

GENERAL NOTES:



CONSULTANT:



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NICOL STREET PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS: 427, 449 & 738 NICOL STREET, NANAIMO, B.C.

EAST & WEST

ELEVATIONS PROJECT NO: 18085

DRAWN BY: A3.1 SCALE: AS NOTED REVIEW BY: DWG NO:



1 BUILDING RENDER

NOTE: STREET TREES HAVE BEEN REMOVED FROM THIS RENDER TO SHOWCASE THE BUILDING. PLEASE REFER TO A 6.1 TO SEE BUILDING WITH STREET TREES INCLUDED.



O'MNER/CLIENT:
ISLAND WEST COAST DEVELOPMENTS LTD.
2214 MCOULLOUGH ROAD
NANAINO, B.C.
195 4MB

GENERAL NOTES:





CONSULTANT:



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NICOL STREET PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS: 427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE:

BUILDING RENDER

PROJECT NO: 18085 SCALE: N/A A6.0 DWG NO:



1 BUILDING RENDER WITH STREET TREES

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DP1202
2020-JUN-17
Current Planning

O'MNER/CLIENT:
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2214 MCOULLOUGH ROAD
NANAINO, B.C.
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GENERAL NOTES:



CONSULTANT:



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NICOL STREET PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS: 427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE: BUILDING RENDER WITH STREET TREES

PROJECT NO: 18085 REVIEW BY: AS A6.1 SCALE: N/A

DWG NO:



CEMENTITIOUS PANEL - CHARCOAL GREY



(2) VINYL HORIZONTAL SIDING - LIGHT GREY



(3) FLASHING - BLACK



(4) VINYL WINDOW FRAME - BLACK



METAL RAILINGS - BLACK



GLASS RAILINGS



(7) VINYL SIDING - BRICK RED



(8) WOOD STAIRCASE AND RAILING - CHARCOAL GREY



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GENERAL NOTES:



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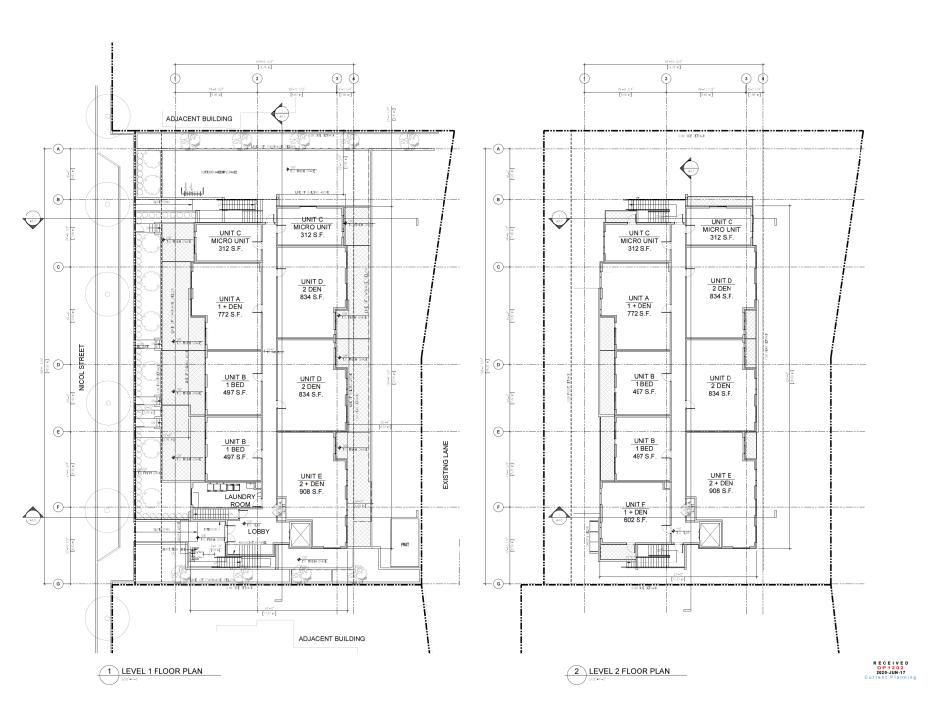
NICOL STREET PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS:

427, 449 & 738 NICOL STREET, NANAIMO, B.C.

MATERIAL BOARD

PROJECT NO: 18085	DRAWN BY:
SCALE: N/A	REVIEW BY:
DIMO NO.	Δ5



NORTH ARROW

GENERAL NOTES:



CONSULTANT:

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PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS:

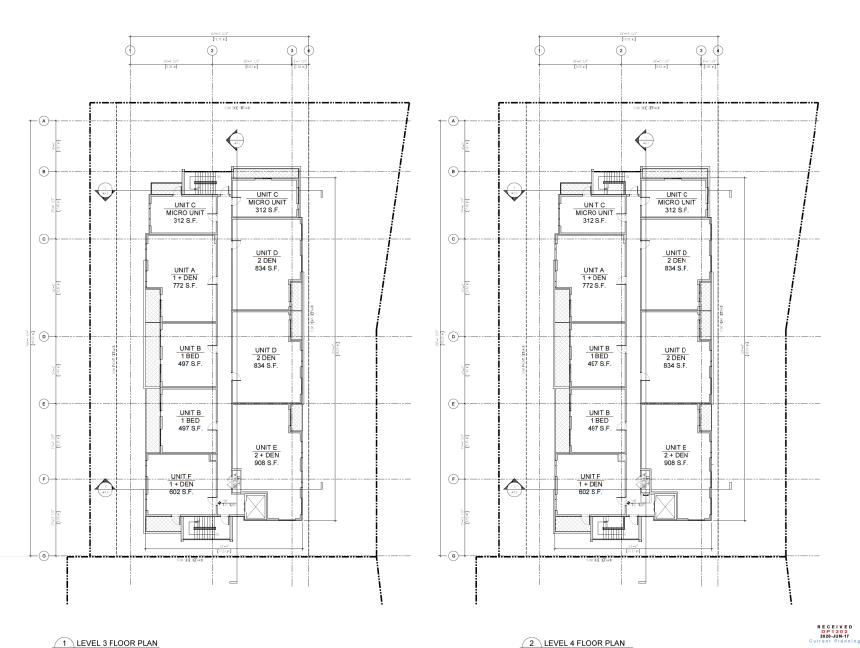
427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE:

LEVEL 1 & LEVEL 2 FLOOR PLANS

PROJECT NO: 18085

SCALE: AS NOTED REVIEW BY: A2.1 DWG NO:



NORTH ARROW:

GENERAL NOTES:

 ISSUED FOR INTERNAL REVIEW
NO. ISSUE SEAL:

CONSULTANT:



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NICOL STREET PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS:

427, 449 & 738 NICOL STREET, NANAIMO, B.C.

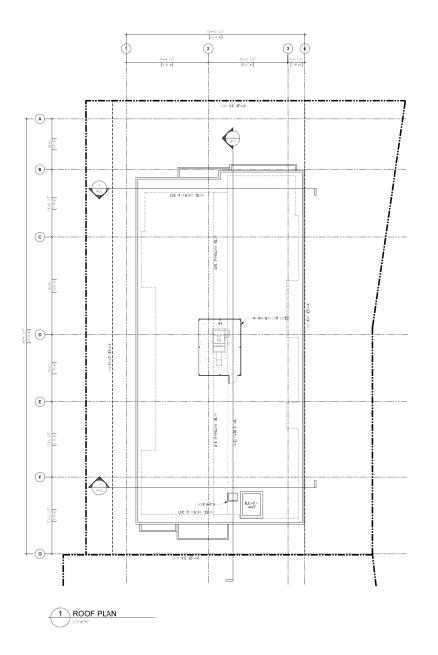
DRAWING TITLE:

LEVELS 3 & LEVEL 4 FLOOR PLANS

PROJECT NO: 18085

A2.2 SCALE: AS NOTED REVIEW BY: DWG NO:

2 LEVEL 4 FLOOR PLAN



GENERAL NOTES:



CONSULTANT:



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NICOL STREET PROPOSED RESIDENTIAL BUILDING

PROJECT ADDRESS: 427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE:

ROOF PLAN

PROJECT NO: 18085

DRAWN BY: A2.3 SCALE: AS NOTED REVIEW BY: DWG NO:

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MASTER BEDROOM



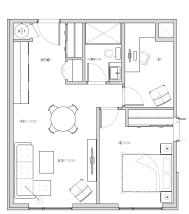


TO INSIDE FACE OF WALLS

1 UNIT A

2 UNIT B 1 883 (497 S.F.)





4 UNIT D

5 UNIT E 2 + IEI (908 S.F.)



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DP1202
2020-JUN-17
Current Planning



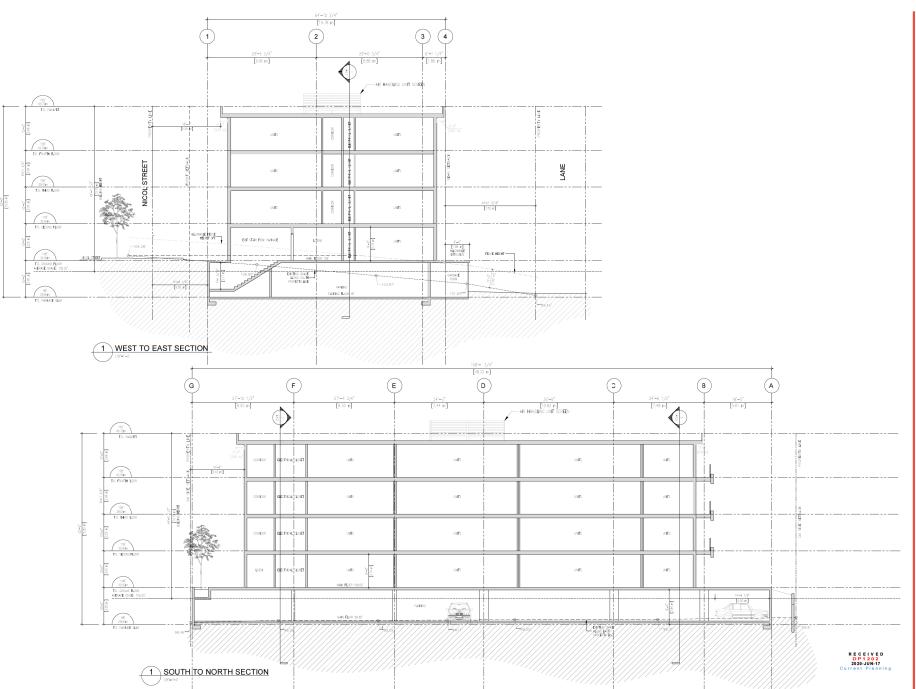
BUILDING

PROJECT ADDRESS: 427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE: **UNIT PLANS**

PROJECT NO: 18085 SCALE: 1/4"=1'-0" DWG NO:

DRAWN BY: REVIEW BY: A2.4



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NORTH ARROW:

O'MNER/CLIENT: ISLAND WEST COAST DEVELOPMENTS LTD. 2214 MCCULLOUGH ROAD NANANO, B.C. V9S 4MB

GENERAL NOTES:



CONSULTANT:



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NICOL STREET PROPOSED RESIDENTIAL BUILDING

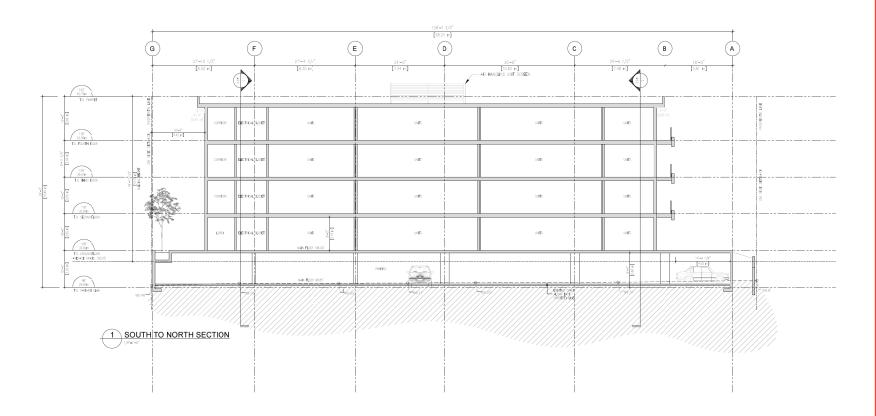
PROJECT ADDRESS:

427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE:

BUILDING SECTIONS

PROJECT NO: 18085 DRAWN BY: OC SCALE: AS NOTED REVIEW BY: AS DWG NO: A4.0



O'MNER/CLIENT:
ISLAND WEST COAST DEVELOPMENTS LTD.
2214 MCOULLOUGH ROAD
NANAINO, B.C.
195 4MB

GENERAL NOTES:





CONSULTANT:



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NICOL STREET PROPOSED RESIDENTIAL BUILDING

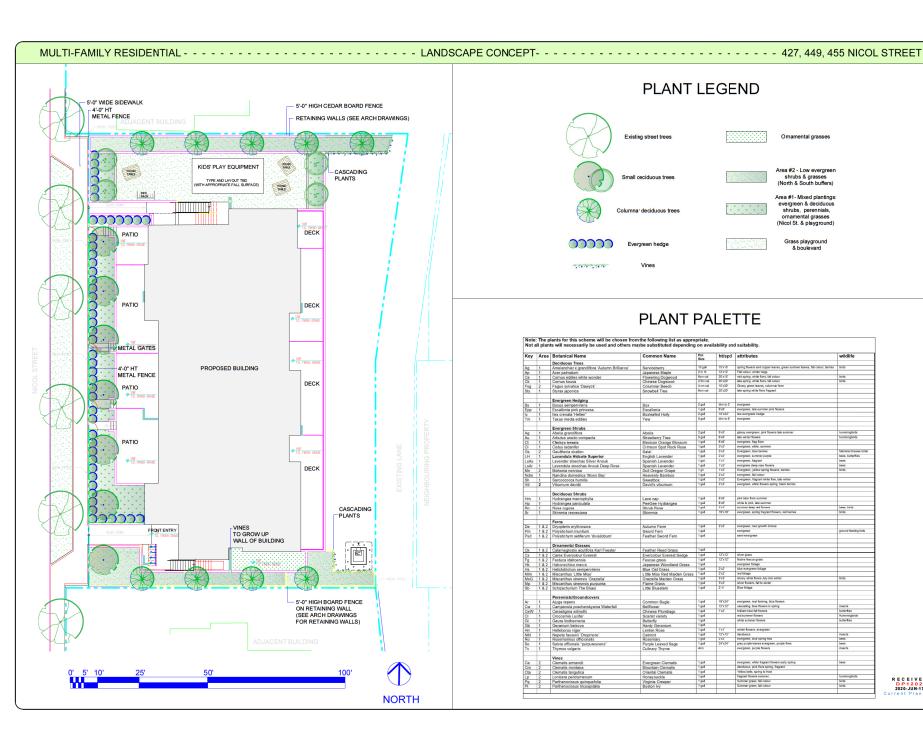
PROJECT ADDRESS: 427, 449 & 738 NICOL STREET, NANAIMO, B.C.

DRAWING TITLE:

BUILDING SECTIONS

PROJECT NO: 18085 DRAWN BY: SCALE: AS NOTED REVIEW BY: AS DWG NO: A4.1

DWG NO:



PLANT LEGEND



Existing street trees

Omamental grasses



Small reciduous trees

Area #2 - Low evergreen shrubs & grasses (North & South buffers)



Area #1- Mixed plantings: evergreen & deciduous shrubs, perennials, omamental grasses (Nicol St. & playground)



Grass playground & boulevard

-e-transmina.

PLANT PALETTE

Key	Area	Botanical Name	Common Name	Pot Size	ht/sp:	attributes	wildlife
		Deciduous Trees					
g		Amelanchier x grandiflora 'Autumn Brilliance'	Serviceberry	10 gall 2 m ht	15×15 12×12	spring flowers and copper leaves, green summer leaves, fall colour, berries Fall colour, winter twice	birds
P	1	Acer palmatum	Japanese Maple	6cm cal	12×12 20×15	Fall colour, writer twigs mid spring, white flurs, fall colour	birds
Ze Sk	1	Cornus eddies white wonder	Flowering Dogwood Chinese Dogwood	2.5m cal	20 x 15 20 x 20	late spring, white flurs, fall colour	birds
	2	Cornus kousa Fagus sylvatica 'Dawyck'	Columnar Beech	4 cm cal	10'x30'	Glossy ones leaves columnar form	Ulus
sg Sty	1	Styrax japonica	Snowbell Tree	Som cal	20'x20'	late spring white flyin fragrant	
oty	-	осутах јаропка	Sllowbei free	3110			
		Evergreen Hedging					
Bs	1	Buxus sempervirens	Box	2 gall	trim to 2'	evergreen	
Ерр	1	Escallonia pink princess	Escallonia	1 gal	6'x6'	evergreen, late summer pink flowers	
lc	1	llex crenata 'Hellen'	Boxleafed Holly	2 gal	10'x24"	low evergreen hedge	
Tm	1	Taxus media eddies	Yew	5 gall	trim to 6"	evergreen	
		Evergreen Shrubs			5×5		
Ag	1	Abelia grandiflora	Abelia	2 gal	6.xe.	glossy evergreen, pink flowers late summer	hummingbirds
Au	1	Arbutus unedo compacta	Strawberry Tree	5 gall 1 gall	6 x 6	late winter fowers evergreen, frag flwrs	hummingbirds
Ct Cl	1	Cholsya ternata Cistus ladanifer	Mexican Orange Blossom Crimson Spot Rock Rose	1 gall	2.42.	evergreen, riag twis evergreen, white, summer	
Gs	2	Cistus ladanifer Gaultheria shallon	Salai	1 gal	3.x3.	Evergreen, blue berries	Marrynal brouse birds
LH	1	Lavandula Hidcote Superior	English Lavender	1 gal	212	everpreen, summer surple	bees, butterfies
LsAs	1	Lavender stoechas Silver Anouk	Spanish Lavender	1 gat	1xt	evergreen, fragrant	bees
LsAr	1	Lavendula stoechas Anouk Deep Rose	Spanish Lavender	1 gal	132	evergreen deep rose flowers	bees
Mn	2	Mahonia nervosa	Dull Oregon Grape	1 gil	132	Evergreen, yellow spring flowers, berries	birds
Ndm	1	Nandina domestica 'Moon Bay'	Heavenly Bamboo	1 gall	2'x2'	evergreen, fall colour	
Sh	1	Sarcoccocca humilis	Sweetbox	1 gall	21/2	Evergreen, fragrant white flws, late winter	
Vd	2	Vibumum davidii	David's vibumum	1 gall	2'x3'	evergreen, white flowers spring, black berries	
		Deciduous Shrubs					
Hm	1	Hydrangea macrophylla	Lace cap	1 gall	6'x6'	pink blue flws summer	
Hp	1	Hydrangea paniculata	PeeGee Hydrangea	1 gall	8'x6'	white to pink, late summer	
Rn	1	Rosa rugosa	Shrub Rose	1 gal	4'x1'	evergreen, spring fragrant flowers, red berries	bees, birds
Sr	1	Skimmia reevesiana	Skimmia	1 gall	10 X 10	evergreen, spring tragrant nowers, red barries	oras
		Ferns					
De	102	Dryopteris erythrosora	Autumn Ferm	1 gall	2×2	evergreen, new growth bronze	_
Pm		Polystichum munitum	Sword Fern	1 gal		evergreen	ground feeding birds
Psd		Polystichym setiferum 'divisilobum'	Feather Sword Fern	1 gal		semi-evergreen	
30	102	1 Olyanonyin activitati divianobatii	T GUIDET ONOTO T GITT				
		Ornamental Grasses					
Ck	1 & 2	Calamagrostis acutifolia Karl Foester	Feather Reed Grass	1 gall			
Сx	1 & 2	Carex Evercolour Everest	Evercolour Everest Sedge	1 gall	12'X12'	silver grass	
Fg	1 & 2	Festuca idahoensis	Fescue grass	1 gall	12'x12"	Native fescue grass	
Hk		Hakonechioa macra	Japanese Woodland Grass	1 gall		evergreen foliage	
Hs		Helictotrichon sempervirens	Blue Oat Grass	1 gal	2×2	blue evergreen foliage	
	1 & 2	Miscanthus 'Little Miss'	Little Miss Red Maiden Grass	1 gall	2×2	red foliage	
MsG	1 & 2	Miscanthus sinensis 'Graziella'	Graziella Maiden Grass	1 gall	3.x3.	silvery white flowrs July into winter	birds
Mp	1 & 2	Miscanthus sinesnsis purpurea	Flame Grass	1 gall	3'x3'	silver fowers, fall to winter Blue foliage	
Sb	1 & 2	Schizachyrium The Blues	Little Bluestem	- gas	5-4	sine range	
		Perennials/Groundcovers	1		-		
Ar	1	Aiuga repens	Common Bugle	1 gall	18'524"	evergreen, mat forming, blue flowers	
Ow	1	Campanula poscharskyania Waterfall	Beliflower	1 gal	12'x12"	cascading, blue flowers in spring	insects
CeW	1	Cerastigma wilmottii	Chinese Plumbago	1 gall	132	brilliant blue fall flowers	butterfies
CI	1	Crocosmia Lucifer	Scarlet variety	1 gall		red summer flowers	Hummingbirds
GI	1	Gaura Indheimeria	Butterfly	1 gall		white summer flowers	butterflies
Gb	1	Geranium biokova	Hardy Geranium	1 gall			
Hn	1	Helleborus niger	Lenten Rose	1 gall	1'x1'	Winter Sowers, evergreen	
Nfd	1	Nepeta fassenii 'Dropmore'	Catmint	1 gall	12'x12"	deciduous	insects
Ro	1	Rosemarinus officionats	Rosemary	1 gal	ZXZ	evergreen, blue spring thus	bees
So	1	Salvia offiionale "purpurescens"	Purple Leaved Sage	1 gall	24'524"	grey purple leaves evergreen, purple flws	bees
Tν	1	Thymus vulgaris	Culinary Thyme	4cm		evergreen, purple flowers	insects
		Warra			-		
٠-	2	Vines	Francisco Classical	1 gall	-	evergreen, white fragrant flowers early spring	hees
Ca	2	Clematis armandii	Evergreen Clematis Mountain Clematis	1 gall	-	deciduous, pink flws spring, fragrant	1000
Cm Cta	2	Clematis montana Clematis tangutica	Oriental Clematis	1 gall	-	Yellow bells, spring to frost	
		Lonicera periclymenum	Honevsuckle	1 gal	-	fragrant flowers summer.	hummingbirds
l n							
Lp Pg	2	Parthenocissus quinquefolia	Virginia Creeper	1 gall		Summer green, fall colour	birds

REVISIONS:

NOTES:

For grading information, see Civil

DRAWING LIST:

L0.1 LANDSCAPE CONCEPT PLAN L0.2 ELEVATIONS /

Issued for DP - 2019Oct28

Re-Issued for DP - 2020Apr6 Revised for DP - 2020Apr8

CONSULTANT:

PROJECT:

NICOL STREET MULTI-FAMILY RESIDENTIAL

427, 449, 455 NICOL STREET, NANAIMO BC

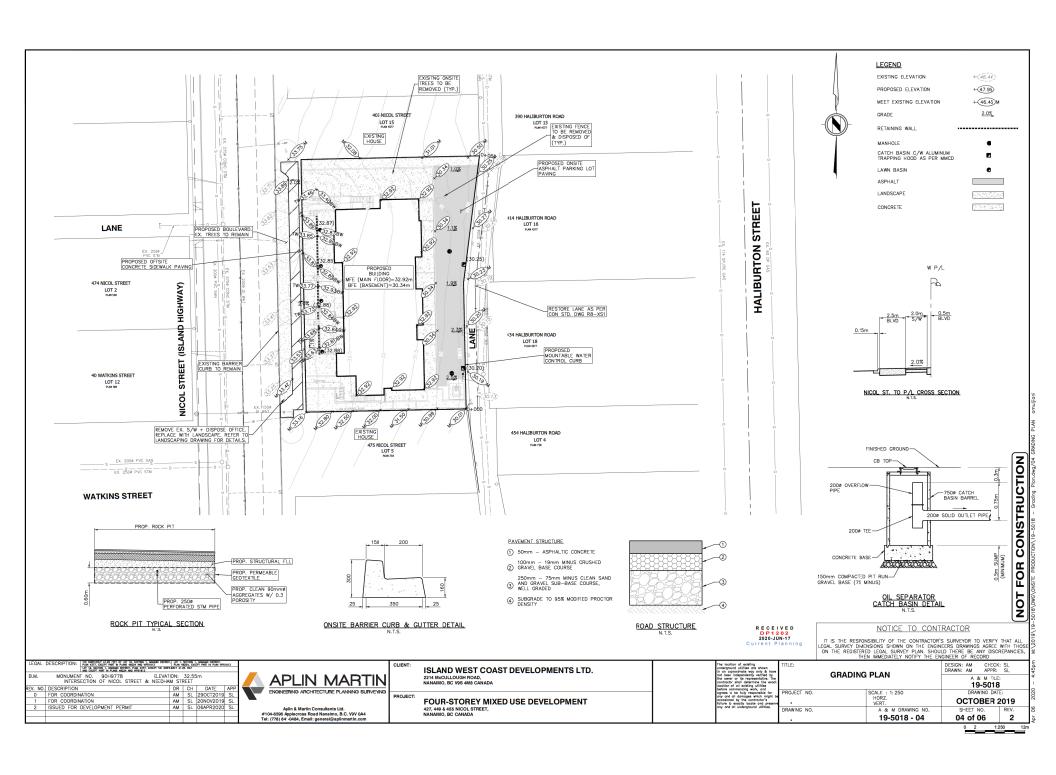
SITE LEGAL DESCRIPTION: LOT 5, PLAN 738, LOT 19, PLAN 4377, and LOT 1, PLAN 48224, all of SECTION 1, NANAIMO DISTRICT

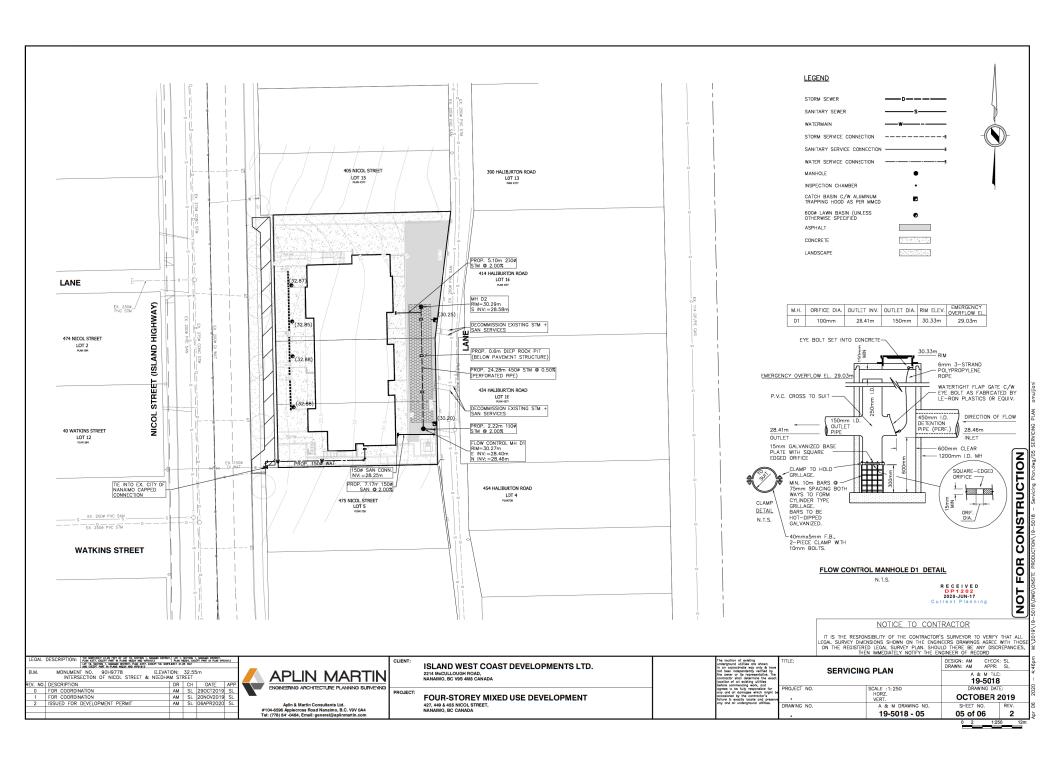
SHEET TITLE:

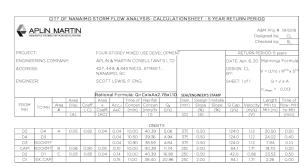
LANDSCAPE CONCEPT **PLAN**

I	SCALE:	DATE:
	37"= 1'-0"	Oct. 24, 2019
	DRAWN:	CHECKED:
	DR	VJD
	PROJECT NU	
	NICOL STR	REET RENTAL 2019
	DRAWING N	UMBER:

L0.1-DP



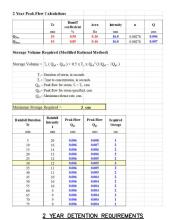




5 YEAR RATIONAL METHOD

	PLIN	MAF	RTIN											De	&M Proj# signed by: secked by:	CL
PROJEC	T:				FOUR-	STORE	/ MIXED I	JSE DEVE	LOPME	NT			RE	TURN PER	RIOD: 100	years
ENGINEERING CONPANY:					APLIN	& MAR	TIN CON	SULTAN	TS LTD				DATE: A	pr. 6, 20	Manning	s Formula
ADDRESS:						449, & 445 NICOL STREET, AIMO, BC					DESIGN CL BY:		V = (1/n) x R ^{2/3} x S ^{1/}			
ENGINEER:				SCOT	LEWI	S, P. ENG						SHEET: 1 of 1		Q=V×A		
					Rationa	al Form	ula: Q=	CxIxAx2	78x1.20	SEAL/E	NGINEER'S	STAMP			n _(Pipe) =	0.013
			Area		Area		Time of			Diam.	Design	Installe			Length	Time of
FROM	TO MH	Area	(Ha)	Coeff.	×	Accu	Concen		Q ₁₀₀	(mn)	Slope	Slope	Q Cap.	Velocity	MH to	flow-Mi-
MH	101111	W		(C)	Coeff.	AxC	(min)	(mm/hr	(Vs)		(%)	(%)	(l/s)	(m/s)	MH (m)	to MH
			(A)		(AC)			(1)		(D)	(S)			(V)		(min)
								ONSIT				_				
D5	D4	A	0.05	0.82	0.04	0.04	10.00	77.56	10.61	375	0.50		124.0	1.12	30.50	0.500
D4	D3		_	-	_	0.04	10.50	75.36	10.31	375	0.50		124.0	1.12	24.02	0.400
D3	ROCKPIT			_		0.04	10.90	73.71	10.08	375	0.50		124.0	1.12	7.84	0.100
CAP1	ROCKPIT	В	0.06	0.90	0.05	0.10	10.00	77.56	24.58	250	2.00		84.1	1.71	19.70	0.200

100 YEAR RATIONAL METHOD



5 Year Peak Flov	Сакцын	OIIS				
	Te	Runoff coeffecient	Area	Intensity	n	Q
	min	96	Ha	mm		cm
Q _{Pro}	10	0.50	0.16	40.4	0.00278	0.00
Q _{Pest}	10	0.85	0.16	40.4	0.00278	0.01
Storage Volume	Required (Modified Rat	ional Metho	d)		
Storage Volume =	T _r (Q _{p2} - 0	Q _{cl}) + 0.5 x T	x Q _{rd} ² (1/Q _p	2 - 1/Q _{p1})		
Т,-	Duration of	stam, in second				
T	Time to con	centration, in sec	onds			
Out =	Peak flow fo	er storm, T, = T,	cms			
		er storm specifie				
		lesse rate, cuis				
Maximum Storage	Required -	. 5	cm			
Rainfall Duration Tr	Rainfall Intensity I	Peak Flow Qp1	Peak Flow Q _{p2}	Required Storage		
min	mm	ems	csus	cm		
5	58	0.016	0.025	4		
10	40	0.016	0.017	5		
15	33	0.016	0.014	4		
20	28	0.016	0.012	4		

	28	0.016	0.012	4	
5	YEAR	DETENTION	REOU	IREMENTS	

PIPE STORAGE				
LOCATION	LENGTH (m)	DIAMETER (m)	AREA (m2)	VOLUME (m3
D1 TO D2	24.28	0.45	0.159	3.86
MANHOLE STORAGE				
LOCATION	DIAMETER (AREA (m ²)	DEPTH (m	VOLUME (m ³
D1	1.05	0.87	0.45	0.39
D2	1.2	1.13	0.62	0.70
SUMMARY				
TOTAL VOLUME DETAINED				5.0
TARGET VOLUME TO BE DETA	NED			5.0
DESIGN CHECK				ОК

EX. 250¢ PVC STM **WATKINS STREET**

LANE

474 NICOL STREET

40 WATKINS STREET LOT 12 PLIN 584

EX. 250ø_ PVC STM

(ISLAND HIGHWAY)

NICOL STREET

ON PROVIDED	. RETENTION	PROVIDED

Total Site Area, A	1,645	m ²
Rainfall Depth, B*	31	mm
Volume to be Retained (A xB)	51.0	m³
*Rainfall depth from CoN Manual of Engineering Standa 11 Section 7.02.1 (e)	nds and Specification	s Edition No.
Soi Volume Stora	ige	
Total Landscaped Area, C	363	m ²
Soil Water Storage Capacity, D**:	200	mm/m
Installed Topsoil Depth, E	450	mm
Volume Retained in Soil (Cx D x E)	32.7	m ^a
**BC Maistry of Agriculture: Soil Witer Storage Capac	ity and Available Soil	Moisture
Rock Pit		
Total Rock Pit Area, Q	103	m²
Rock Pit Depth, R	600.0	mm
Storage Gravel Porosity, S	0.3	
Volume Retained in Rock Pt		

LOT 15 PLAN 4977

B 0.06

PROP. 250ø STM

475 NICOL STREET LOT 5 PAN 738

(CAP1)-

C 0.05

D2

0.05

(32.85)

Volume Retained in Rock Pt (QxRxS)	18.5 m²	
Summary		
Total Volume Retained	51.2 m³	
Target Volume to be retained,	51.0 m²	
Design Check (G > H)	OK	

RETENTION PROVIDED

100 YEAR OVERLAND FLOW	$\qquad \Longrightarrow \qquad$
100 YEAR FLOW IN PIPE	\Longrightarrow
100 YEAR FLOW BELOW SURFACE	
LOCAL OVERLAND FLOW	
OVERLAND FLOW	\Longrightarrow
LOCAL SURFACE DRAINAGE CATCHMENT BOUNDARY LINE	
EXISTING STORM SEWER	-0
PROPOSED STORM SEWER	——D————
EXISTING DITCHES	~ ~ ~ ~ ~ ~ -
MANHOLE, CLEANOUT, HEADWALL NU	MBER D1 EX CO HW #
CATCHMENT AREA	A7
	9

390 HALIBURTON ROAD

414 HALIBURTON ROAD

434 HALIBURTON ROAD LOT 18

> 454 HALIBURTON ROAD LOT 4 PLAN 738

PROP. 450ø STM

LOT 13 PLAN 4377

NOTICE TO CONTRACTOR

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

LEGAL	LEGAL DESCRIPTION: The Notice for a 1.50 TET OF 107 18, SECTION 1, NAMED DEFINED, 107 1, SECTION 1, SECTION 1, NAMED DEFINED, 107 1, SECTION 1,			1613	
B.M. MONUMENT NO. 90H9778 ELEVATION: 32.55m INTERSECTION OF NICOL STREET & NIEDHAM STREET			im		
REV. NO.	DESCRIPTION	DR	СН	DATE	APP
0	FOR COORDINATION	AM	SL	290CT2019	SL
1	FOR COORDINATION	AM	SL	20NOV2019	SL
2	ISSUED FOR DEVELOPMENT PERMIT	AM	SL	06APR2020	SL

APLIN MARTIN ENGNESSING ARCHITECTURE PLANNING SURVIVING

CLIENT:

Aşlin & Martin Consultants Ltd. #104-6596 Applecross Road Nanaimo, B.C. V9V 0A4 Tel: (778) 84'-0484, Email: general@aplinmartin.com

ISLAND WEST COAST DEVELOPMENTS LTD. 2214 McCULLOUGH ROAD, NANAIMO, BC V9S 4M8 CANADA

FOUR-STOREY MIXED USE DEVELOPMENT 427, 449 & 455 NICOL STREET, NANAIMO, BC CANADA

RECEIVED
2020-JUN-17
Current Plannin

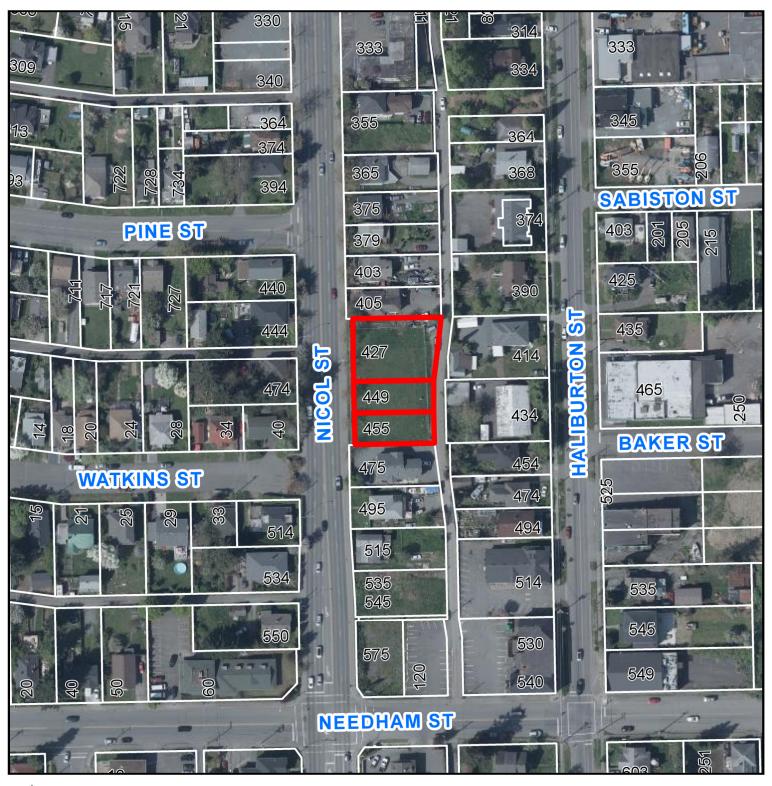
The location of existing swedgepund utilities are shown in an approximate way only & lin house in an approximate way only & lin house in one of the representative. I contain a superior of the representative in contain of all existing utilities before commencing work, and opened to be fully responsible for opened to be fully responsible or occasioned by the contractor's

-	TITLE: STORMWATER MAN		CHECK: SL APPR: SL		
	STORMWATER MANAGEMENT PLA			M TILE: 5018	
	PROJECT NO.	SCALE : 1: 250	DRAWIN	G DATE:	
*		HORZ. VERT.	OCTOBER 2019		
	DRAWING NO.	A & M DRAWING NO.	SHEET NO.	REV.	
	_	19-5018 - 06	06 of 06	2	



NOT FOR CONSTRUCTION

AERIAL PHOTO





DEVELOPMENT PERMIT NO. DP001202



427, 449, & 455 NICOL STREET