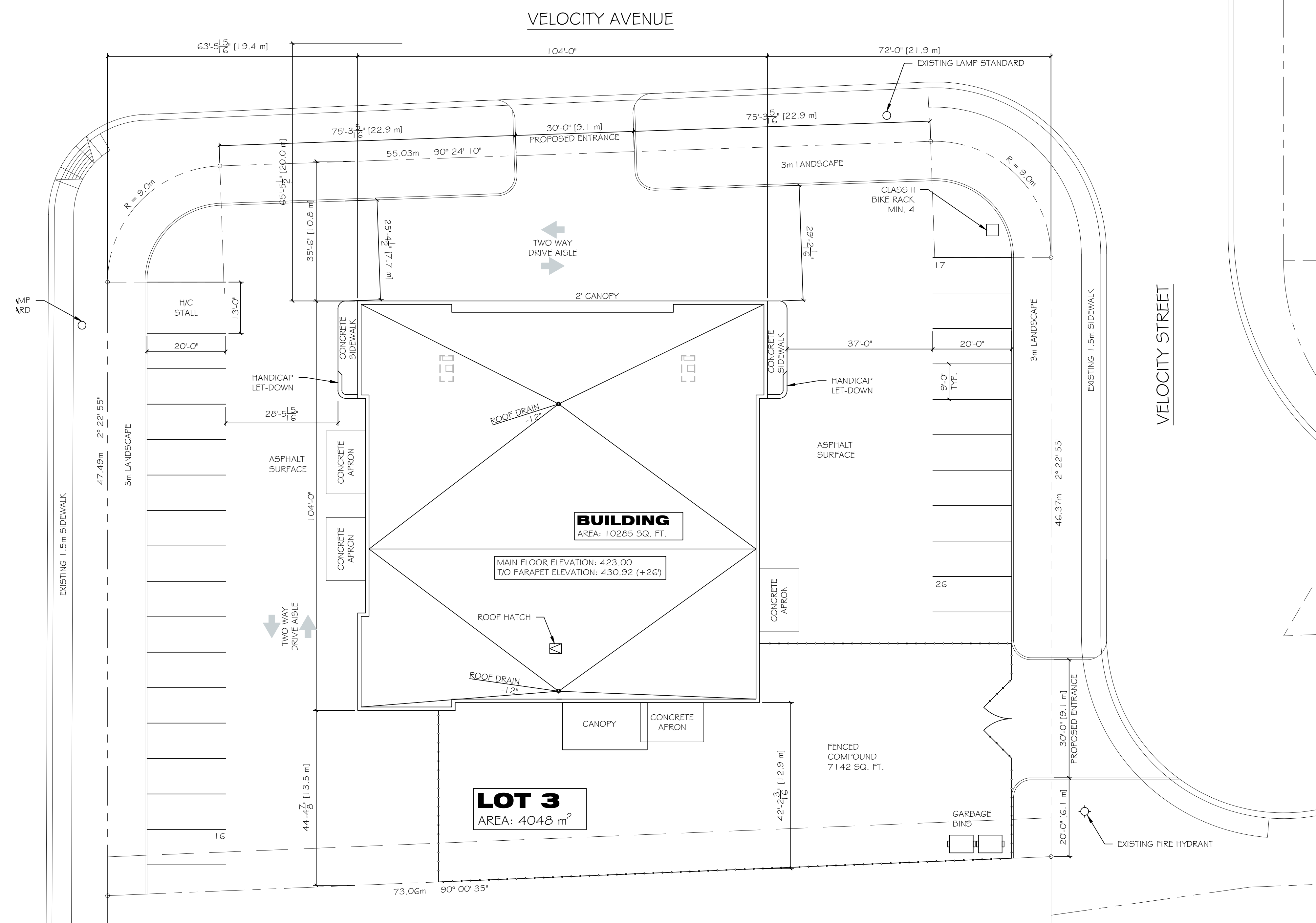


CONTRACTOR IS RESPONSIBLE TO CHECK AND CONFIRM ALL DIMENSIONS AND ELEVATIONS ON DRAWINGS.



No.	Issued for	Date
1	DEVELOPMENT PERMIT	APR. 21, '17

ISSUES / REVISIONS

CLIENT:  
**LAING ROOFING**  
 5 - 3308 Appaloosa Rd  
 Kelowna, BC V1V 2W5  
 Ph: (250)-765-3866  
 darran@laingroofing.com

SEAL:  
 DATE:

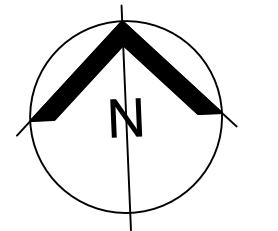
PROJECT:  
**INDUSTRIAL BUILDING:  
 LAING ROOFING**  
 3485 Velocity Ave. (Lot 3)  
 Airport Business Park  
 Kelowna, BC

TITLE:  
**DEVELOPMENT PERMIT  
 SITE PLAN**

CHECKED BY	SCALE
DESIGNED BY	AS NOTED
DWG BY	PROJECT No. 5135
Q.L.	SHEET No. <b>DP1</b>

CITY OF KELOWNA ZONING BYLAW			
LEGAL ADDRESS		LOT 3, PLAN EPP12718, O.D.Y.D.	
CIVIC ADDRESS		3485 VELOCITY AVE.	
ZONING		CD15 - AIRPORT BUSINESS PARK	
LOT AREA		43,595 SQ. FT. (4,050 m <sup>2</sup> )	
BUILDING AREA		10,285 SQ. FT. (956 m <sup>2</sup> )	
GROSS FLOOR AREA		10,285 + 2,200 = 12,485 SQ. FT. (1,160 m <sup>2</sup> )	
MAX. FLOOR AREA RATIO	15.2.5	PROPOSED 0.29	REQUIRED / PERMITTED 1.5
MAX. SITE COVERAGE	15.2.5	23%	N/A (INDUSTRIAL-1.5.3)
MAX. HEIGHT	15.2.5	26'-0" (7.9m)	18.0m
MIN. FRONT YARD	15.2.5	19'-8" (6.0m)	6.0m
MIN. YARD FLANKING STREET	15.2.5	65'-6" (20.0m)	4.5m
MIN. SIDE YARD	15.2.5	N/A	0m
MIN. REAR YARD	15.2.5	58'-0" (17.7m)	0m
PARKING STALLS	8.1	26	2 PER 100m <sup>2</sup> GFA = 24
LOADING STALLS	8.2	1	1 PER 1900m <sup>2</sup> GFA = 1
BICYCLE STALLS	8.3	6	0.3 PER 100m <sup>2</sup> GFA = 4

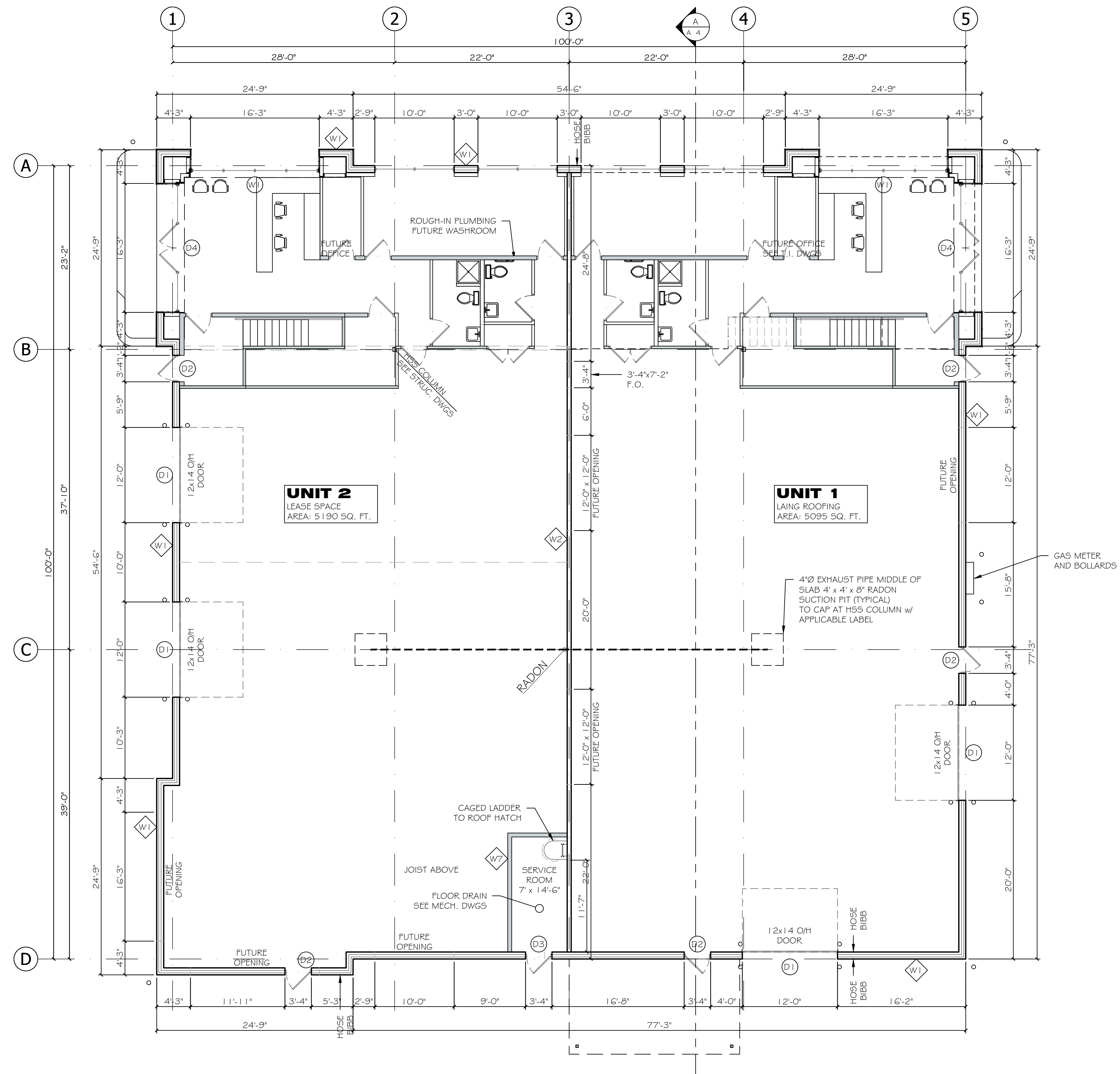
SITE PLAN  
 SCALE: 1/16" = 1'-0"



CONTRACTOR IS RESPONSIBLE TO CHECK AND CONFIRM ALL DIMENSIONS AND ELEVATIONS ON DRAWINGS.

EXTERIOR WALL SCHEDULE					
MARK	LOCATION	TYPE	R-VALUE	F.R.R.	NOTES
W1	EXTERIOR	10 1/2" CONCRETE PRE-CAST INSULATED PANEL PAINTED INTERIOR AND EXTERIOR (COLOUR BY OWNER)	23	N/A	

INTERIOR WALL SCHEDULE					
MARK	LOCATION	TYPE	R-VALUE	F.R.R.	NOTES
W2	INTERIOR	6" CONCRETE PRE-CAST PANEL LOAD BEARING	N/A	1 HR	
W3	INTERIOR	2x6 LOAD BEARING WALL 3/4" TYPE X GYPSUM EACH SIDE BATT INSULATION FOR SOUND	N/A	45 MIN.	(LOAD-BEARING OR FIRE SEPARATION)
W4	INTERIOR	2x4 LOAD BEARING WALL 3/4" TYPE X GYPSUM EACH SIDE BATT INSULATION FOR SOUND	N/A	45 MIN.	(LOAD-BEARING OR FIRE SEPARATION)
W5	INTERIOR	2x6 NON-LOAD BEARING WALL 1/2" GYPSUM EACH SIDE BATT INSULATION FOR SOUND	N/A	-	GYPSUM ONE SIDE AT FURRING WALLS
W6	INTERIOR	2x4 NON-LOAD BEARING WALL 1/2" GYPSUM EACH SIDE BATT INSULATION FOR SOUND	N/A	-	GYPSUM ONE SIDE AT FURRING WALLS
W7	SERVICE ROOM	6" STEEL STUDS @ 16" o/c 1/2" TYPE X GYPSUM ONE SIDE, TWO LAYERS OTHER SIDE (OPTIONAL BATT INSULATION FOR SOUND)	N/A	1 HR	



MAIN FLOOR PLAN  
SCALE: 1/8" = 1'-0"

No.	Issued for	Date
1	DEVELOPMENT PERMIT	APR. 21, '17

ISSUES / REVISIONS

CLIENT:  
**LAING ROOFING**  
5 - 3308 Appaloosa Rd  
Kelowna, BC V1V 2W5  
Ph: (250)-765-3866  
darran@laingroofing.com

SEAL:  
DATE:

PROJECT:  
**INDUSTRIAL BUILDING:  
LAING ROOFING**  
3485 Velocity Ave. (Lot 3)  
Airport Business Park  
Kelowna, BC

TITLE:  
**DEVELOPMENT PERMIT  
BUILDING PLAN**

CHECKED BY	SCALE
DESIGNED BY	PROJECT No.
DWG BY	SHEET No.

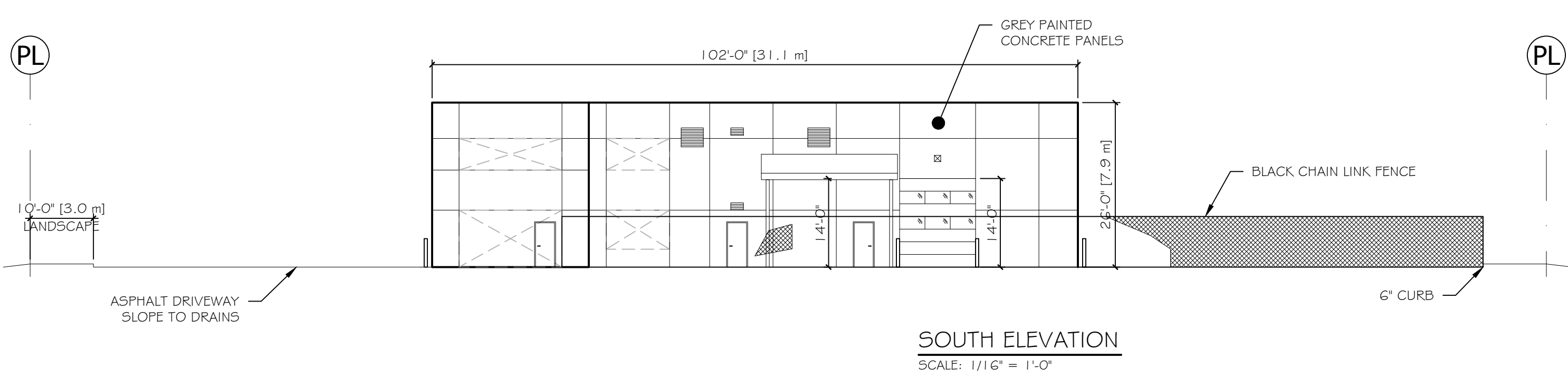
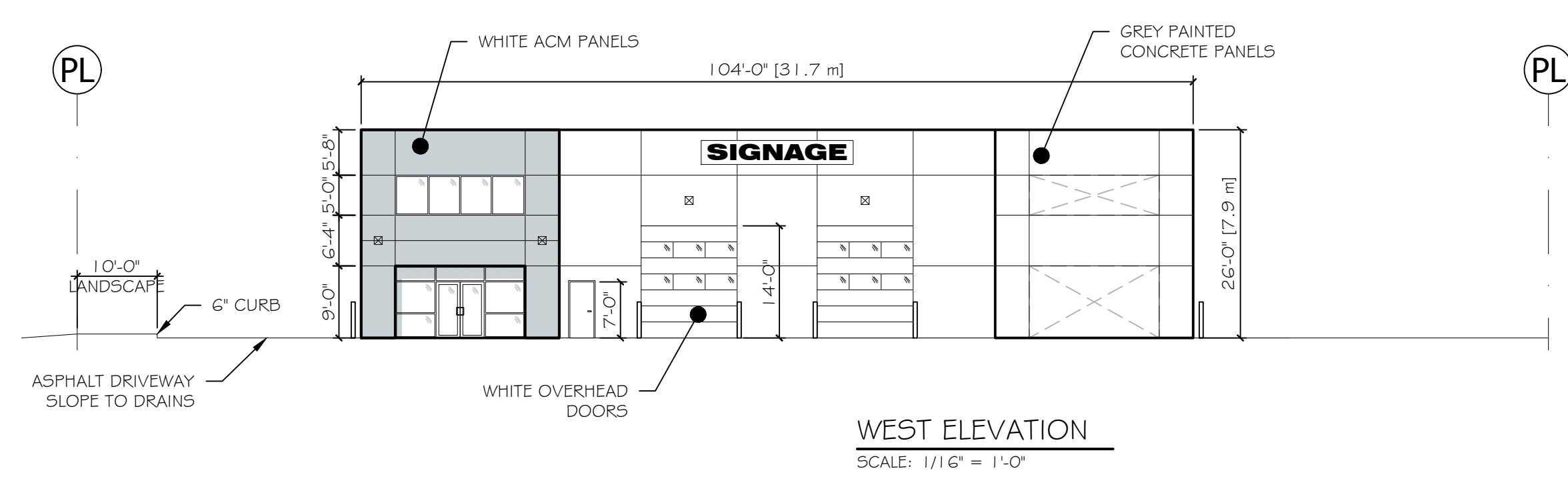
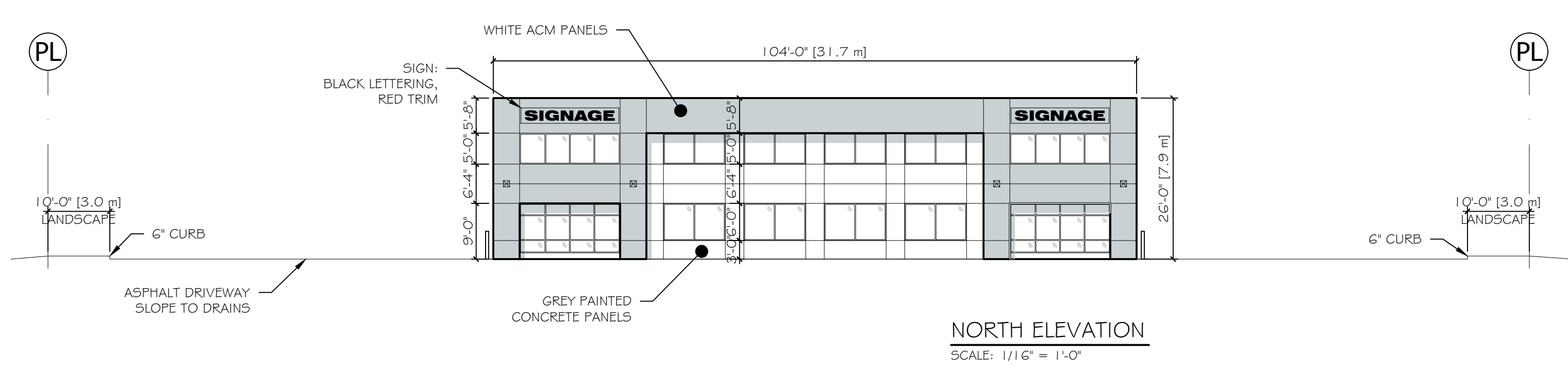
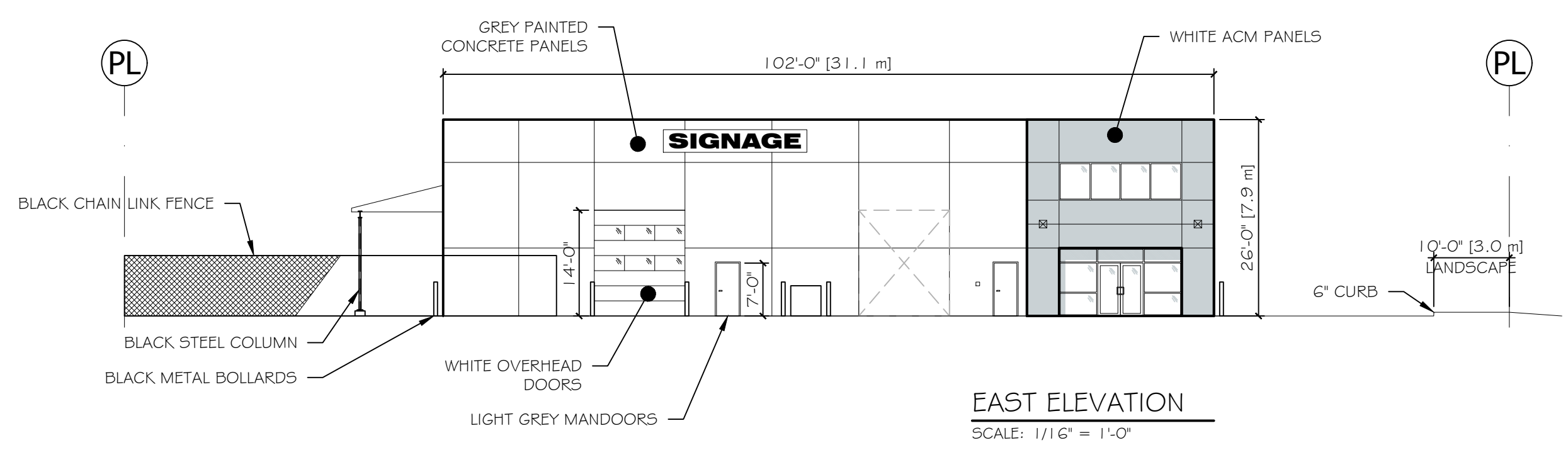
AS NOTED  
5135  
Q.L. **DP2**

CONTRACTOR IS RESPONSIBLE TO CHECK AND CONFIRM ALL DIMENSIONS AND ELEVATIONS ON DRAWINGS.

COLOUR BOARD			
	COLOUR	DULUX COLOUR CODE	OBJECT
	WHITE	ALLCABOND ALABASTER GLOSS 30	EXTERIOR ACM PANEL
	MEDIUM GREY	GRAPHITE GREY OONN 37/000	EXTERIOR CONCRETE PANEL
	WHITE		OVERHEAD DOOR
	LIGHT GREY	VEIL OONN 53/000	MANDOOR
	CLEAR ANODIZED ALUMINUM		WINDOW / STOREFRONT FRAME
	BLACK		METAL BOLLARDS AND COLUMNS
	BLACK		CHAINLINK FENCE



NORTHWEST RENDERING  
SCALE: N.T.S.



No.	Issued for	Date
1	DEVELOPMENT PERMIT	APR. 21, '17

ISSUES / REVISIONS

CLIENT:  
**LAING ROOFING**  
5 - 3308 Appaloosa Rd  
Kelowna, BC V1V 2W5  
Ph: (250)-765-3866  
darran@laingroofing.com

SEAL:  
DATE:

PROJECT:  
**INDUSTRIAL BUILDING:  
LAING ROOFING  
3485 Velocity Ave. (Lot 3)  
Airport Business Park  
Kelowna, BC**

TITLE:  
**DEVELOPMENT PERMIT  
BUILDING PLAN**

CHECKED BY	SCALE
DESIGNED BY	PROJECT No.
DWG BY	SHEET No.
	AS NOTED
	5135
	DP3



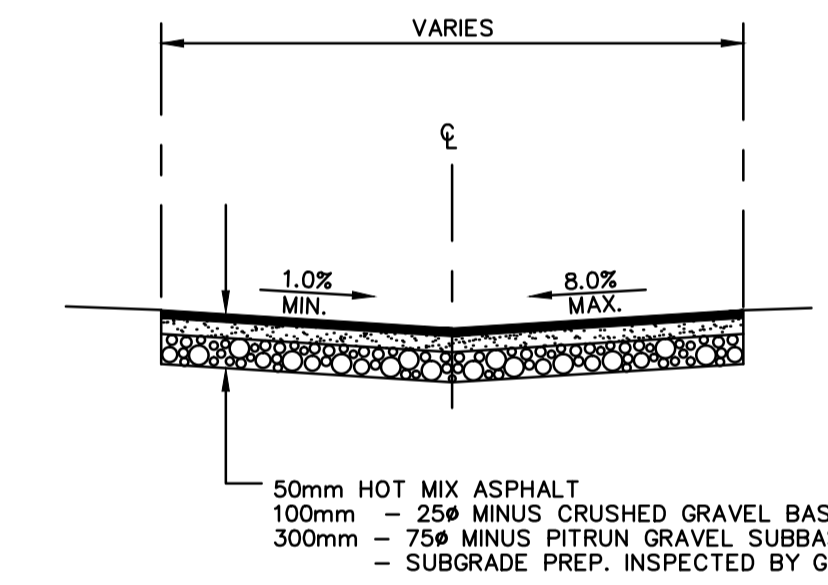
**LEGAL DESCRIPTION**

PROPOSED DEVELOPMENT OF LOT 3, PLAN EPP12718, SEC. 11, TP 23, O.D.Y.D.

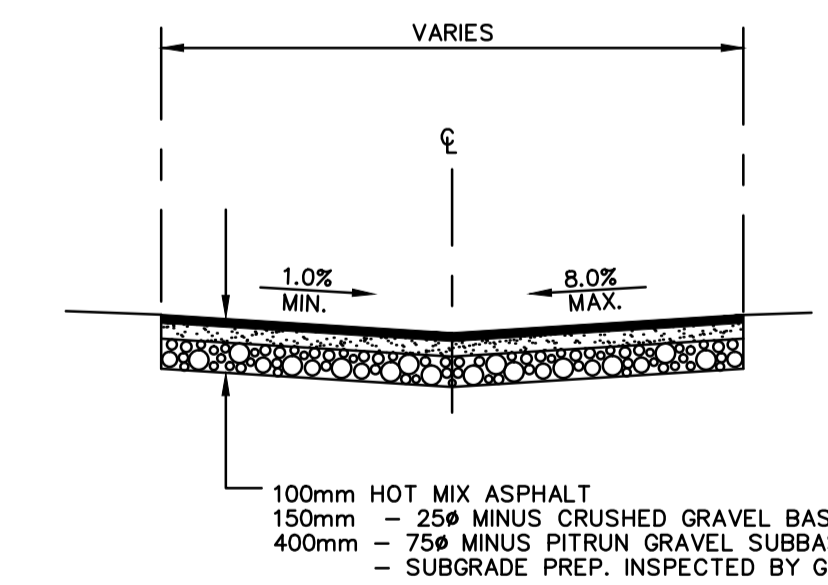
CIVIC ADDRESS: 3485 VELOCITY AVENUE

**LIST OF DRAWINGS**

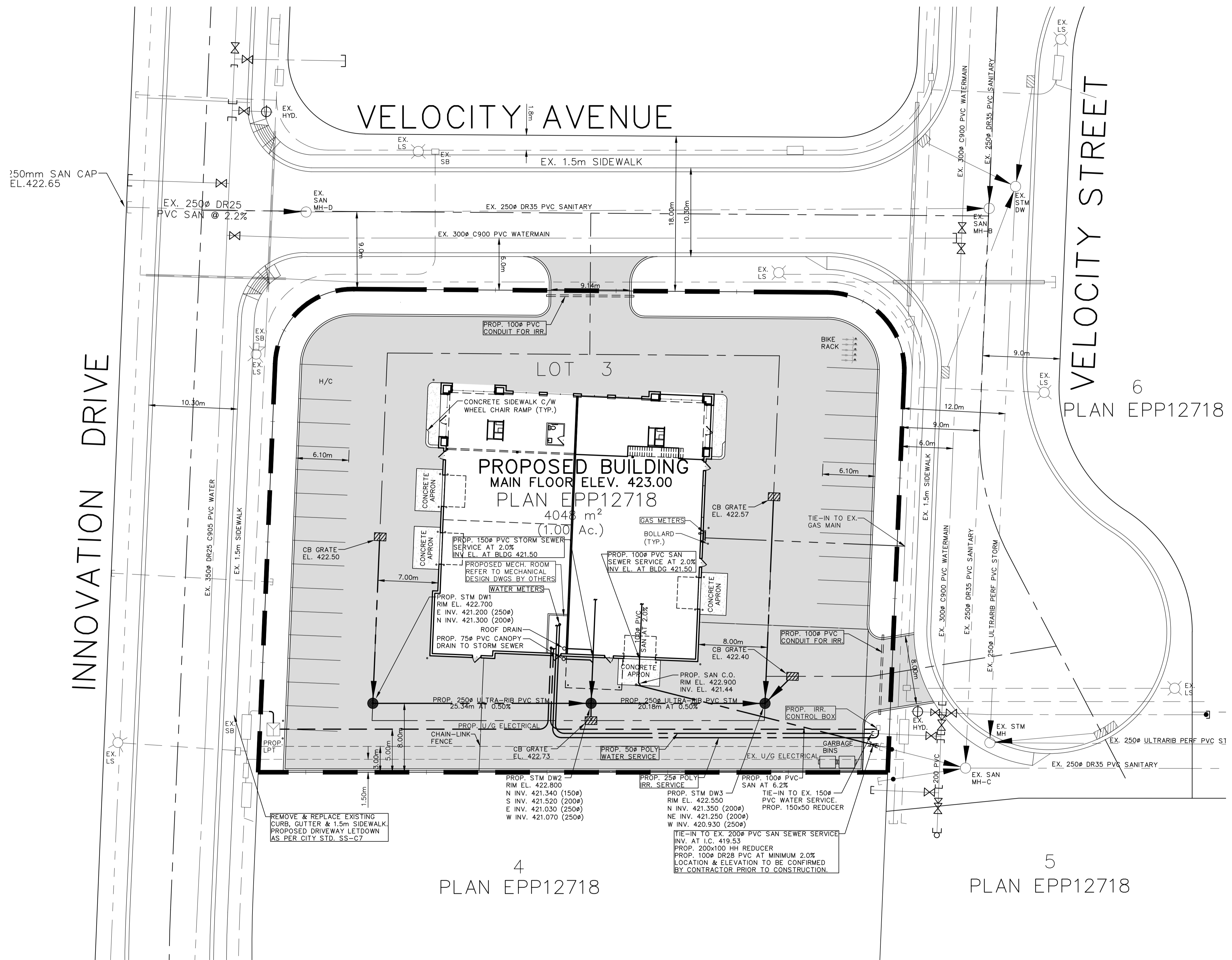
DWG. No.	DESCRIPTION
1254.C1	COMPOSITE UTILITY PLAN
1254.D1	LOT GRADING PLAN



**TYPICAL PARKING AREA CROSS-SECTION ON-SITE**  
N.T.S.



**TYPICAL ACCESS LANE CROSS-SECTION ON-SITE**  
N.T.S.



**4 PLAN EPP12718**

**5 PLAN EPP12718**

**LEGEND**

—○—	CAP	○ SAN	SANITARY MH (EXISTING)
—■—	CATCH BASIN	● SAN	SANITARY MH (PROPOSED)
—□—	ELECTRICAL BOX	○ STM	STORM MH (EXISTING)
—◇—	HYDRANT	● STM	STORM MH (PROPOSED)
—⊕—	VALVE	—	TRANSFORMER
—X—	LAMP STANDARD	—	UTILITY JUNCTION BOX

No.	MM/DD/YY	DATE	BY	REVISION
4	04/25/17	G.E.R.		REVISED BLDG LOCATION -- FOR BP SUBMISSION
3	03/13/17	G.E.R.		GENERAL REVISIONS -- FOR BP SUBMISSION
2	02/02/17	G.E.R.		GENERAL REVISIONS
1	02/01/17	G.E.R.		GENERAL REVISIONS



DAVID R. PAULS, P. ENG.

DRAWN	G.E.R.
DESIGN	G.E.R.
APPROVED	
DATE	DEC., 2016
SCALE	1:250

**Arda Consultants Ltd.**  
#7-3304 APPALOOSA ROAD, KELOWNA, BC, V1V 2W5  
TEL: 250.807.7903  
EMAIL: info@ardaconsultants.com

**THE CITY OF KELOWNA**  
ENGINEERING DEPARTMENT

**LAING HOLDINGS LTD.**  
3485 VELOCITY AVENUE  
COMPOSITE UTILITY PLAN

DRAWING NO. **1254.C1**  
CITY FILE No. —  
DIVISION — REV. NO. **4**  
PLOT DATE: —

**LEGAL DESCRIPTION**  
 PROPOSED DEVELOPMENT OF LOT 3, PLAN  
 EPP12718, SEC. 11, TP 23, O.D.Y.D.

CIVIC ADDRESS: 3485 VELOCITY AVENUE

**LEGEND**

- PROPOSED SWALE OR DITCH
- POST-DEVELOPMENT DRAINAGE VECTOR (& GRADE)
- SPOT ELEVATIONS
- ROCK PIT LOCATION AND ELEVATION OF EX. GROUND
- 100 YR. FLOOD ROUTE ( SURFACE )
- 100 YR. FLOOD ROUTE ( IN PIPE )

**DRAINAGE NOTES**

1. ROOF LEADERS TO DISCHARGE ON SPLASH PADS OR IN SPECIFIC SITUATIONS, MAY BE CONNECTED TO STORM MAINS AS SHOWN.
2. TOE OF FILL OR CUT TO MEET EXISTING GROUND ELEVATIONS AT PROPERTY LINES OF ADJUTING PROPERTIES.
3. GENERAL CONTRACTOR IS RESPONSIBLE FOR FINE LOT GRADING WHICH MAY INCLUDE DRAINAGE SWALES, LANDSCAPING AND IRRIGATED BOULEVARDS.
4. FOUNDATION DRAINS BY OTHERS (BASED ON GEOTECHNICAL RECOMMENDATIONS) TO BE CONNECTED TO ROCK PITS INDEPENDENT OF SURFACE DRAIN ROCK PITS.

**STORM DRAINAGE CALCULATIONS:**

TOTAL AREA OF SITE ..... 4048m<sup>2</sup>  
 TOTAL ROADS & SIDEWALKS..... 2633m<sup>2</sup>  
 TOTAL ROOF AREA..... 956m<sup>2</sup>  
 IMPERVIOUS AREA..... 3589m<sup>2</sup>  
 PERVIOUS AREA..... 459m<sup>2</sup>  
 RAINFALL DEPTH (D) 100 yr, 1 Hour Storm = 18.9mm/hr  
 I<sub>s</sub>, 1 Hour Storm = 11mm/hr

**PRE-DEVELOPMENT RELEASE RATE FROM 5 YEAR, 1 HOUR STORM:**

$Q(m^3/s) = CIA/360$   
 $= 0.15 \times 11mm/hr \times 0.4048 \text{ ha.} \times 1/360$   
 $= 1.9 \text{ l/s}$

**PRE-DEVELOPMENT RUN-OFF VOLUME FROM 5 YEAR, 1 HOUR STORM:**

$= 1.9 \text{ l/s} \times 60\text{sec/min} \times 60\text{min/hr}$   
 $= 6.8m^3$

**POST-DEVELOPMENT RUN-OFF COEFFICIENT:**

$R = (0.9 \times 3589) + (0.15 \times 459) / 4048m^2$   
 $= 0.81$

**POST-DEVELOPMENT RELEASE RATE FROM 100 YEAR, 1 HOUR STORM:**

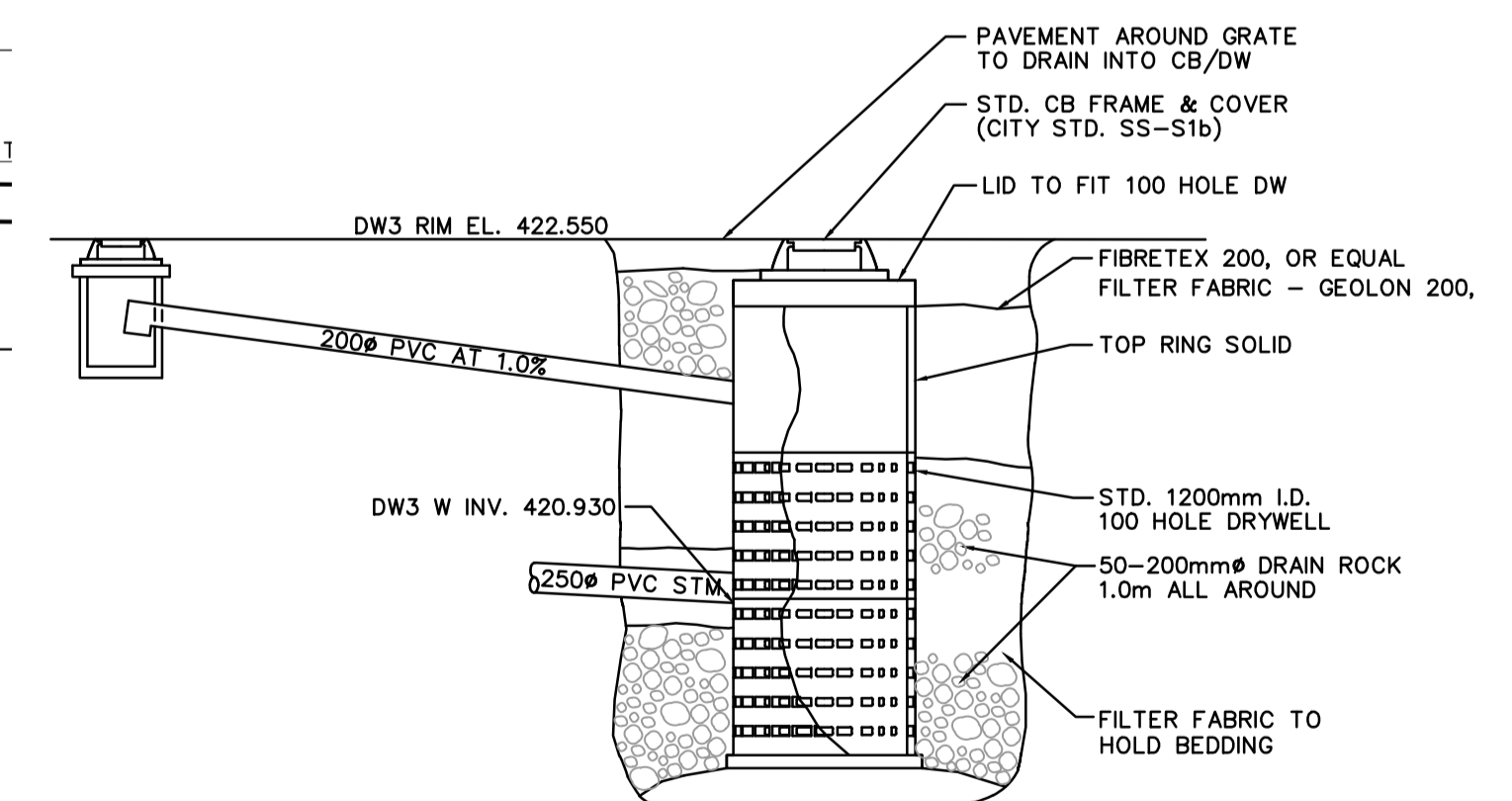
$Q(m^3/s) = CIA/360$   
 $= 0.81 \times 18.9mm/hr \times 0.4048 \text{ ha.} \times 1/360$   
 $= 17.2 \text{ l/s}$

**POST-DEVELOPMENT RUN-OFF VOLUME FROM 100 YEAR, 1 HOUR STORM:**

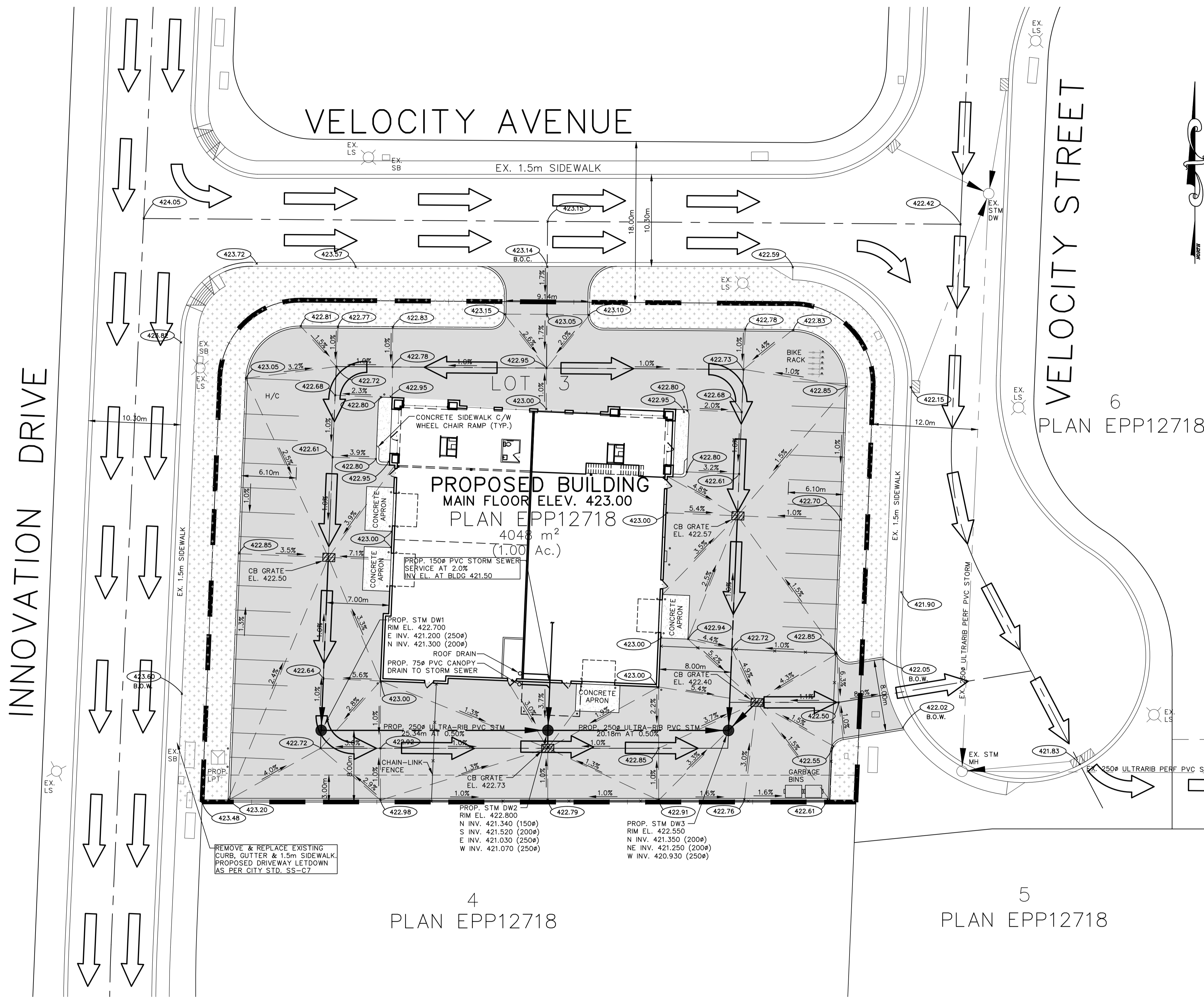
$= 17.2 \text{ l/s} \times 60\text{sec/min} \times 60\text{min/hr}$   
 $= 61.9m^3$

**ON-SITE STORAGE VOLUME PROVIDED:**

UNDERGROUND STORAGE VOLUME FROM PIPES, CATCH BASINS & MANHOLES = 35.2m<sup>3</sup>  
 SURFACE PONDING AVAILABLE = 6.3m<sup>3</sup>  
 TOTAL AVAILABLE = 41.5m<sup>3</sup>  
 \* GROUND RECHARGE TO EXCEED DEFICIT \*  
 (SEE GEOTECHNICAL REPORT BY OTHERS)



**DRAINAGE DRYWELL TYPICAL SECTION**  
 N.T.S.



**4 PLAN EPP12718**

**5 PLAN EPP12718**

CABLE TV	CATCH BASIN	SANITARY MH (EXISTING)
SAN. SEWER	ELECTRICAL BOX	SANITARY MH (PROPOSED)
STORM SEWER	HYDRANT	STORM MH (EXISTING)
U.G. ELECTRICAL	VALVE	STORM MH (PROPOSED)
U.G. TELEPHONE	LAMP STANDARD	TRANSFORMER
WATER		UTILITY JUNCTION BOX

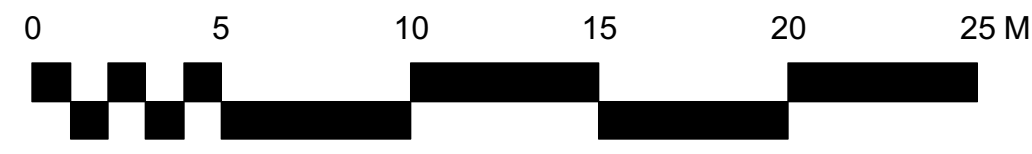
No.	MM/DD/YY	DATE	BY	REVISION
4	04/25/17	G.E.R.		REVISED BLDG LOCATION -- FOR BP SUBMISSION
3	03/13/17	G.E.R.		GENERAL REVISIONS -- FOR BP SUBMISSION
2	02/02/17	G.E.R.		GENERAL REVISIONS
1	02/01/17	G.E.R.		GENERAL REVISIONS



DAVID R. PAULS, P. ENG.  
 DRAWN G.E.R.  
 DESIGN G.E.R.  
 APPROVED  
 DATE DEC., 2016  
 SCALE 1:250

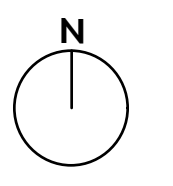
THE CITY OF KELOWNA ENGINEERING DEPARTMENT	LAING HOLDINGS LTD. 3485 VELOCITY AVENUE LOT GRADING PLAN
---	---

Arda Consultants Ltd. #7-3304 APPALOOSA ROAD, KELOWNA, BC, V1V 2W5 TEL: 250.807.7903 EMAIL: info@ardaconsultants.com	DRAWING NO. <b>1254.D1</b>
CITY FILE No. -	DIVISION -
REV. NO. <b>4</b>	PLOT DATE: -



**OUTLAND DESIGN**  
LANDSCAPE ARCHITECTURE

206 - 1889 Spall Road  
Kelowna, BC V1Y 4R2  
T (250) 868-9270  
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PROJECT TITLE  
**3485 VELOCITY AVE**

KELOWNA, BC

DRAWING TITLE  
**CONCEPTUAL PLAN**

ISSUED FOR / REVISION	DATE	REVISION
1	17.05.03	Review
2		
3		
4		
5		

PROJECT NO	17050
DESIGN BY	CS
DRAWN BY	CS
CHECKED BY	KG
DATE	MAY 03, 2017
SCALE	1:200

SEAL



DRAWING NUMBER

**L1/2**

**PLANT LIST**

BOTANICAL NAME	COMMON NAME	QTY	SIZE / SPACING & REMARKS
<b>TREES</b>			
ACER GRISEUM	PAPERBARK MAPLE	15	6cm CAL
PINUS PONDEROSA	PONDEROSAPINE	9	6cm CAL
PINUS ARISTATA	ROCKY MOUNTAIN BRISTLECONE PINE	10	6cm CAL
<b>SHRUBS, PERENNIALS &amp; GRASSES</b>			
CORNUS STOLONIFERA 'FARROW'	ARCTIC FIRE DOGWOOD	15	#01 CONT. / 1.00 O.C. SPACING
EUONYMUS ALATUS 'COMPACTA'	DWARF BURNING BUSH	4	#01 CONT. / 1.50 O.C. SPACING
ROSA NUTKANA	NOOTKA ROSE	7	#01 CONT. / 1.25 O.C. SPACING
ARCTOSTAPHYLOS LIVA-URSI	KNNIKINNICK	59	#01 CONT. / 1.25 O.C. SPACING
MAHONIA REPENS	CREEPING OREGON GRAPE	15	#01 CONT. / 0.50 O.C. SPACING
BERBERIS THUNBERGI 'ROSE GLOW'	ROSE GLOW BARBERRY	15	#01 CONT. / 1.00 O.C. SPACING

**NOTES**

1. PLANT MATERIAL AND CONSTRUCTION METHODS SHALL MEET OR EXCEED B.C.L.N.A. 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 50mm WOOD MULCH. DO NOT PLACE WEED MAT UNDERNEATH TREE AND SHRUB BEDS.
4. TREE AND SHRUB BEDS TO RECEIVE A MINIMUM 300mm DEPTH TOPSOIL PLACEMENT.

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**IRRIGATION LEGEND**

- ZONE #1: HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 198.75 sq.m.  
 MICROCLIMATE: SOUTHWEST EXPOSURE, PARTIALLY SHADED BY TREES  
 ESTIMATED ANNUAL WATER USE: 110 cu.m.
- ZONE #2: HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 196 sq.m.  
 MICROCLIMATE: WEST EXPOSURE, PARTIALLY SHADED BY TREES  
 ESTIMATED ANNUAL WATER USE: 109 cu.m.
- ZONE #3: HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 198 sq.m.  
 MICROCLIMATE: SOUTH EXPOSURE, PARTIALLY SHADED BY TREES  
 ESTIMATED ANNUAL WATER USE: 110 cu.m.
- ZONE #4: HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 199.5 sq.m.  
 MICROCLIMATE: EAST EXPOSURE, PARTIALLY SHADED BY TREES  
 ESTIMATED ANNUAL WATER USE: 111 cu.m.
- ZONE #5: HIGH EFFICIENCY SUBSURFACE DRIP IRRIGATION FOR MODERATE WATER USE PLANTING AREAS  
 TOTAL AREA: 168 sq.m.  
 MICROCLIMATE: SOUTHEAST EXPOSURE, PARTIALLY SHADED BY BUILDING  
 ESTIMATED ANNUAL WATER USE: 93 cu.m.

**WATER CONSERVATION CALCULATIONS**

LANDSCAPE MAXIMUM WATER BUDGET (WB) = 960 cu.m. / year  
 ESTIMATED LANDSCAPE WATER USE (WU) = 533 cu.m. / year  
 WATER BALANCE = 427 cu.m. / year  
 \*REFER ATTACHED IRRIGATION APPLICATION FOR DETAILED CALCULATIONS

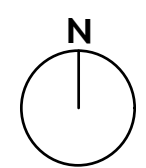
**IRRIGATION NOTES**

1. 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).
2. THE IRRIGATION SYSTEM SHALL MEET THE REQUIREMENTS, REGULATIONS, AND BYLAWS OF THE WATER PURVEYOR.
3. 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.
4. 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.
5. DRIP LINE AND EMITTERS SHALL INCORPORATE TECHNOLOGY TO LIMIT ROOT INTRUSION.
6. IRRIGATION SLEEVES SHALL BE INSTALLED TO ROUTE IRRIGATION LINES UNDER HARD SURFACES AND FEATURES.
7. IRRIGATION PIPE SHALL BE SIZED TO ALLOW FOR A MAXIMUM FLOW OF 1.5m /SEC.
8. 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.



**OUTLAND DESIGN**  
 LANDSCAPE ARCHITECTURE

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PROJECT TITLE

**3485 VELOCITY AVE**

KELOWNA, BC

DRAWING TITLE

**WATER CONSERVATION PLAN**

ISSUED FOR / REVISION

1	17.05.03	Review
2		
3		
4		
5		

PROJECT NO	17050
DESIGN BY	FB
DRAWN BY	CS
CHECKED BY	KG
DATE	MAY 03, 2017
SCALE	1:200

SEAL



DRAWING NUMBER

**L2/2**

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