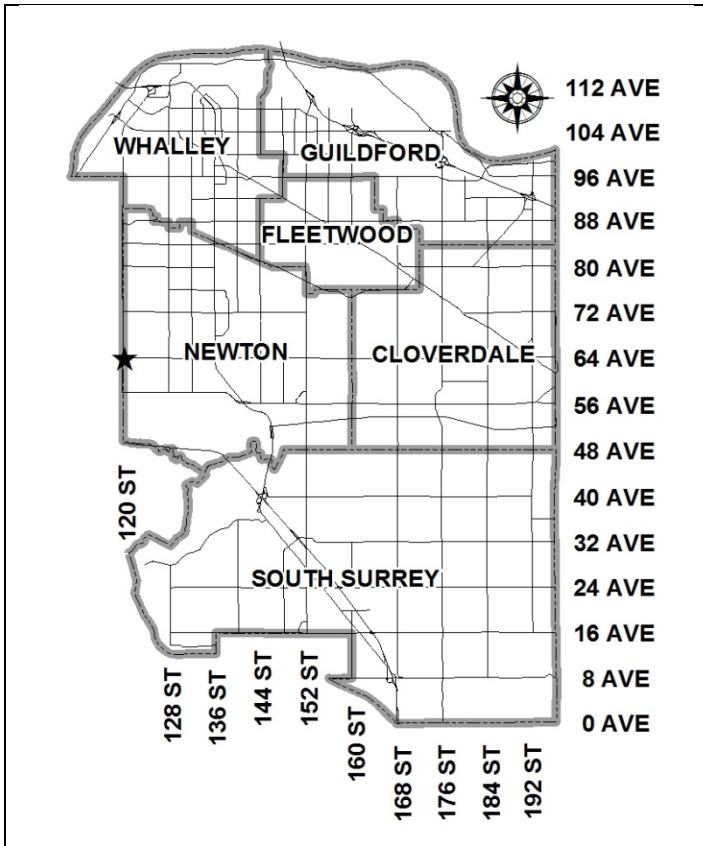


City of Surrey
PLANNING & DEVELOPMENT REPORT

File: 7914-0272-00

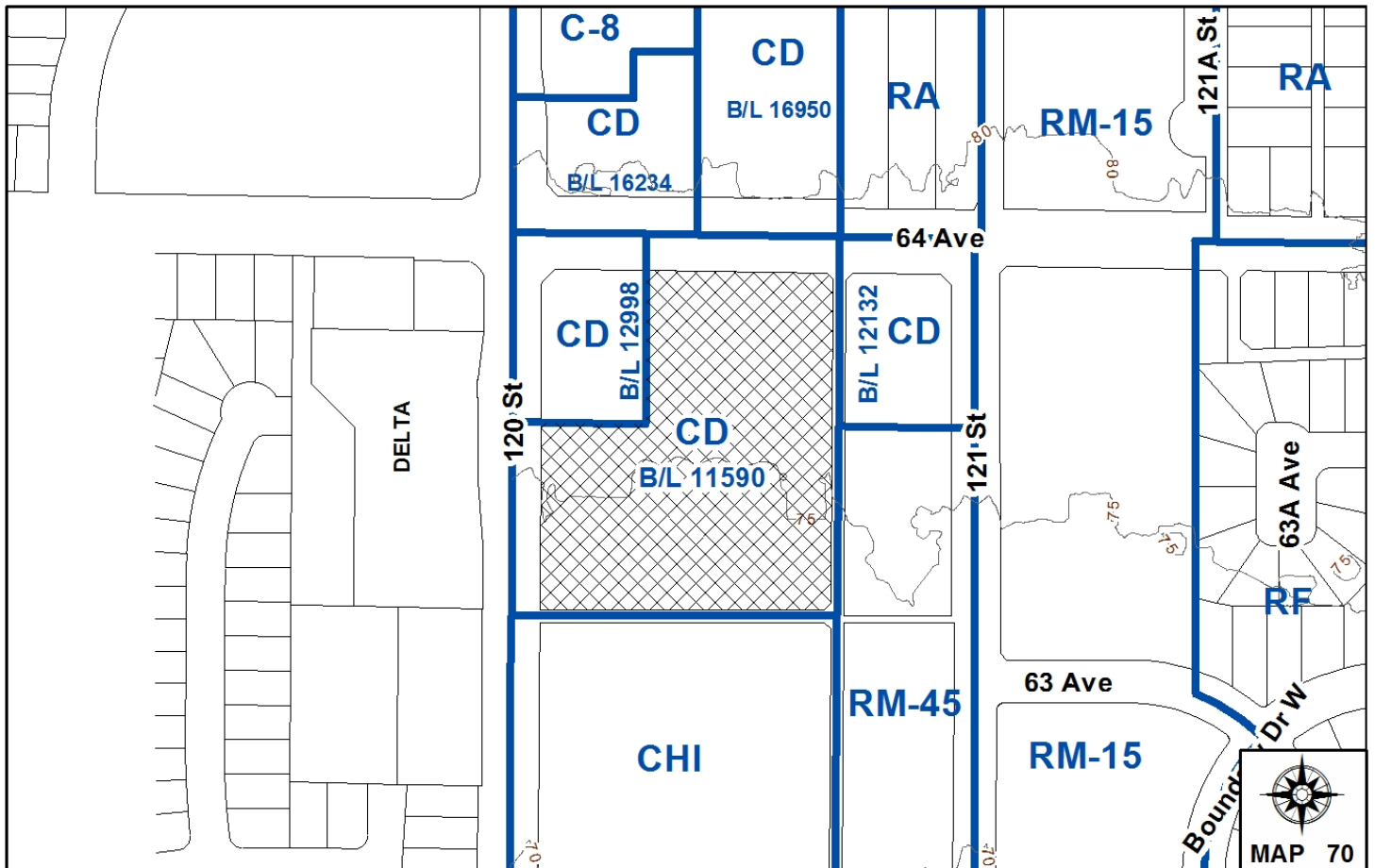
Planning Report Date: April 13 2015



PROPOSAL:

- **Development Variance Permit**
 in order to permit the construction of a 22 metre (72 ft.) telecommunication tower.

LOCATION: 6350 - 120 Street
OWNER: Surrey City Development Corporation
 City of Surrey
ZONING: CD (By-law No. 11590)
OCP DESIGNATION: Commercial



RECOMMENDATION SUMMARY

- Approval for Development Variance Permit to proceed to Public Notification.

DEVIATION FROM PLANS, POLICIES OR REGULATIONS

- A variance is required to the Zoning By-law to increase the maximum height of a free-standing telecommunications tower from 12 metres (40 ft.) to 22 metres (72 ft.).

RATIONALE OF RECOMMENDATION

- The applicant proposes a streamlined monopole installation, painted off-white, to blend in with the surroundings as much as possible.
- The proposal is generally compliant with the City's telecommunication policy (Policy O-49 Telecommunication Towers).
- The applicant has provided documentation detailing an exhaustive search for other siting options, including rooftop installations, within the vicinity of the subject site.
- The applicant has provided documentation which indicates that there is a demonstrated gap in cellular coverage in the area.

RECOMMENDATION

The Planning & Development Department recommends that Council approve Development Variance Permit No. 7914-0272-00 (Appendix VII) varying the following, to proceed to Public Notification:

- (a) to increase the maximum height of a freestanding telecommunication tower from 12 metres (40 ft.) to 22 metres (72 ft.).

REFERRALS

Engineering: The Engineering Department has no objection to the project.

SITE CHARACTERISTICS

Existing Land Use: Retail commercial shopping centre with surface parking.

Adjacent Area:

Direction	Existing Use	OCP/NCP Designation	Existing Zone
North (Across 64 Avenue):	Gas Station/Convenience Store	Commercial	CD (By-law No. 16234)
	Low-rise apartments.	Multiple Residential	CD (By-law No. 16950)
East:	Low-rise apartments	Multiple Residential	CD (By-law No. 12132) and RM-45
South:	Automobile dealership	Commercial	CHI
West (Across 120 Street):	Retail commercial	Corporation of Delta	Corporation of Delta

DEVELOPMENT CONSIDERATIONSBackground/Proposal

- The subject property, a 1.77 hectare (4.4 acre) parcel located at the south-east corner of 64 Avenue and 120 Street, is designated as "Commercial" in the Official Community Plan and is zoned "Comprehensive Development Zone (CD)" (By-law No. 11590).
- The site was initially developed and constructed in 1991. It is a well-established commercial centre characterized by a range of small retail and service businesses. Vehicle access is provided to the site from both 120 Street and 64 Avenue.

- The site is flanked to the east and partially to the north (across 64 Avenue) by apartment buildings. It is otherwise surrounded by commercial developments and major arterial roads. Immediately to the north-west, at the corner of 120 Street and 64 Avenue, is a separate parcel containing two retail commercial buildings. This parcel is not involved with the development application although it does utilize shared drive aisles and parking with the subject site.
- The property owner has authorized Cavalier Land, acting on behalf of Wind Mobile, to apply for a Development Variance Permit to increase the maximum permitted height of a telecommunications tower from 12 metres (40 ft.) to 22 metres (72 ft.) on the subject site.
- The applicant therefore proposes to construct a new 22 metre (72 ft) tall telecommunication tower, located as shown in Appendix II. The proposed tower will measure approximately 900mm (3 ft) at the base and will taper to approximately 600 mm (2 ft) at the top.
- The proposed tower will be circular, constructed of structural steel, and finished in a matte off-white powder coat. Three antenna are proposed to be located at the top of the tower and a north-east facing microwave dish, measuring approximately 0.6 metres (2 ft) in diameter, located below the antenna assembly. Technical drawings and photographic renders showing the proposed tower are included in Appendices III and IV, respectively. A photograph of a similar installation (located in another City and 30 metres tall) is included in Appendix V.
- A 2.4 metre (8 ft.) by 1.2 metre (4 ft.) concrete slab housing two equipment cabinets is proposed to be located at the base of the tower. The cabinetry will be largely obscured by existing landscaping. Details of the cabinetry are included in Appendix III.
- The current proposal is to accommodate improved telecommunications capacity for the area bound approximately by 68 Avenue to the north, 132 Street to the east, 58 Avenue to the south, and 116 Avenue to the west.

Telecommunication Policy O-49

- A City Policy on telecommunication towers was developed in conjunction with wireless providers and approved by Council on June 18, 2001 (Policy O-49 Telecommunication Towers). The policy provides parameters on how towers should be sited and designed.
- The following is an evaluation of the current tower proposal in relation to Policy O-49:

Location and Siting

- *When considering the siting of telecommunication tower facilities, every effort should be made to locate new equipment on existing structures such as Hydro transmission line towers, utility poles, rooftops, etc.*

The proposed tower is not located within proximity of any suitable transmission towers or utility poles. The rooftops in the area of the subject site are either inappropriate for the proposed cellular antenna installation, or a willing property owner is not available. The applicant has documented an unsuccessful and exhaustive search for alternative and existing structures within the vicinity of the subject site.

- *It is preferable that new free-standing telecommunication towers be sited in non-residential locations and preferably in industrial areas.*

The proposed tower is located within a commercial area and is partially obscured from view of neighbouring residences, which are located minimum of 95 metres (312 feet) away.

- *Towers on prominent natural and cultural features, environmentally sensitive areas, or areas with historically significant buildings are discouraged.*

The proposed location is not near any significant cultural, environmental, or historic areas.

- *New free-standing telecommunication towers should be located at a distance from the edge of an existing or future road allowance no less than the height of the tower.*

The proposed 22 metre (72 ft.) tower is located 50 metres (164 ft.) from the nearest road allowance.

- *Location of telecommunication towers on sites with mature trees is encouraged.*

The proposed tower is not located near any significant tree stands.

- *All applicants for free-standing telecommunications structures will be requested to identify any other structure (i.e. Hydro transmission line towers, existing telecommunication towers, etc.) within a radius of 500 metres (1,640 ft.) from the proposed location and to provide reasons why other existing structures within that radius are not acceptable for use (i.e. structural capabilities, safety, available space or failing to meet service coverage needs).*

As noted, there are no existing nearby structures that are suitable for use

Co-Location

- *Telecommunication carriers and other tower owners are encouraged to work cooperatively in reaching agreements which allow for sharing of tower structures so as to minimize the total number of towers within the City. This practice is typically referred to as 'co-location'.*

The proposed tower can accommodate an additional wireless carrier if/when required.

Tower Design

- *Towers and ancillary equipment shelters should be designed to fit their surroundings and to minimize their visual impact on surrounding properties. The use of monopoles is encouraged. Landscaping shall be appropriately placed around a telecommunication tower and ancillary facilities.*

The proposed tower is a sleek design, painted off-white, and incorporates minimalistic antenna. The related equipment cabinets will be located behind and obscured by existing landscaping on the site.

PRE-NOTIFICATION

Pre-notification letters were sent by the applicant on or about November 24, 2014. The applicant mailed letters to an area encompassing a radius of 6 times the height of proposed tower, as measured from the base of the tower (132 metres/433 feet).

As result of the mail-out the applicant received a total of 6 responses, one of which was a petition signed by 59 employees of the various businesses located at the subject site. A summary of the concerns and the applicants responses are summarized below.

- Concerns about health impacts of the proposed cellular tower:

Cellular tower installations are required to be designed, constructed, and operated in adherence with the minimum standards set by Health and Industry Canada.

- General opposition to the installation of cellular towers:

The installation of additional cellular towers achieves the business objectives of Wind Mobile to provide improved cellular coverage in response to growing industry demand (as result of new residential construction and additional usage) in the immediate area of the proposed tower.

- Concern over impact to businesses resulting from negative perceptions of cellular towers:

Most people view their cellular phones as essential for both work and personal uses, therefore there is a general understanding that infrastructure such as this is necessary to enjoy the cellular services available from mobile devices.

- Concerns over conflict of interest between the property owners (SCDC - Surrey City Development Corporation) and the City of Surrey throughout the development application process.

SCDC is an independent corporation wholly owned by the City of Surrey. SCDC, as the property owner, is required to engage in a Development Variance Permit application process the same as any other land owner. The relationship between SCDC and the City of Surrey does not impact the decisions made by the Planning & Development Department with respect to the Development Variance Permit process, and the property owner is subject to the same regulations and review process as would be enforced against any other site.

BY-LAW VARIANCE AND JUSTIFICATION

- (a) Requested Variance:

- To increase the maximum height of a free-standing telecommunication tower from 12 metres (40 ft.) to 22 metres (72 ft.).

Applicant's Reasons:

- The proposed telecommunication tower will improve service coverage in the area. The 22 metre (72 ft.) height is required to communicate with other cellular towers.

Staff Comments:

- The proposed telecommunication tower meets most of the criteria set out in the City of Surrey's Policy on telecommunication towers (Policy O-49 Telecommunication Towers).
- The proposed tower is located in a commercial area and is of a sleek, streamlined design.
- The applicant has advised staff that a monopole with hidden antenna is not feasible at this location due to equipment requirements to ensure adequate cellular coverage (particularly the need for a microwave dish and articulating antenna assemblies).
- Existing rooftop towers/antenna installations in the vicinity of the site were not able to accommodate another carrier.

INFORMATION ATTACHED TO THIS REPORT

The following information is attached to this Report:

Appendix I.	Lot Owners and Action Summary
Appendix II.	Site Plan & Tower Location
Appendix III.	Technical Drawings
Appendix IV	Photographic Renderings
Appendix V	Photograph of similar installation
Appendix VI	Development Variance Permit 7914-0272-00

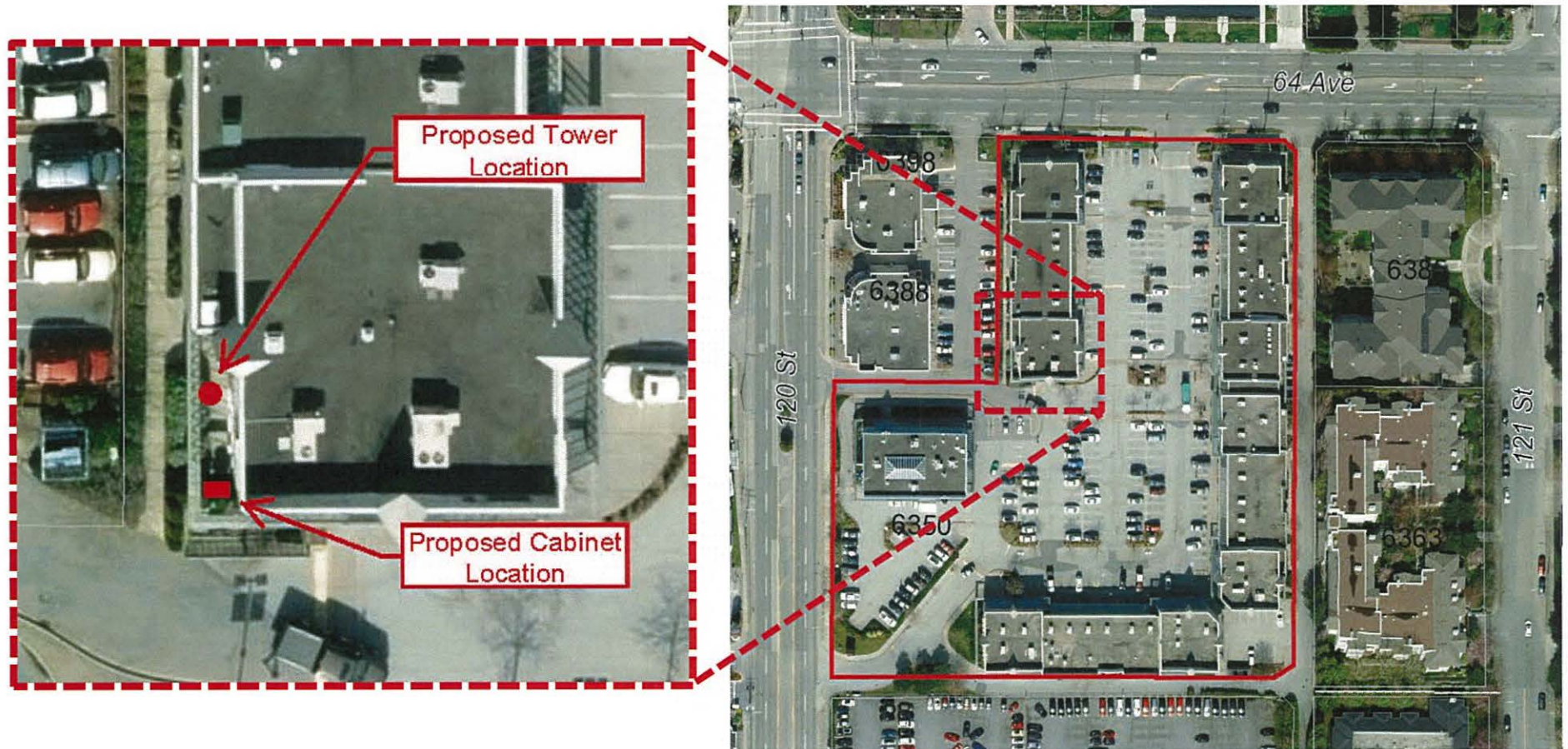
original signed by Nicholas Lai

Jean Lamontagne
General Manager
Planning and Development

DS/da

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SITE PLAN & PROPOSED TOWER LOCATION



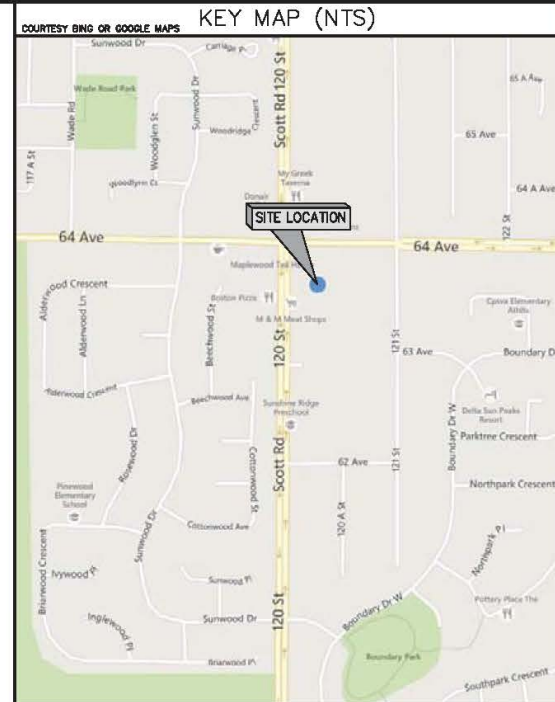


APPENDIX III

SITE NAME:	SUNSHINE RIDGE
PROJECT TYPE:	TOWER AND EQUIPMENT INSTALLATION
PROJECT SITE No.:	BVA0341
TOWER OWNER:	WIND MOBILE
ADDRESS:	6350 120 STREET SURREY, BC

DRAWING INDEX			
SHEET	DRAWING DESCRIPTION	NO.	DATE
COV.	TITLE SHEET & SITE KEY PLAN	1	11 MAR 15
A01	TOWER PROFILE	1	11 MAR 15
A02	SITE PLAN	0	17 NOV 14
A03	EQUIPMENT ICEGUARD ELEVATIONS & PLAN	0	17 NOV 14
N01	GENERAL NOTES	0	17 NOV 14
N02	EQUIPMENT DETAILS	0	17 NOV 14

ISSUE		
NO.	DESCRIPTION	DATE
0	PRELIMINARY	17 NOV 14
1	REVISED TOWER TYPE	11 MAR 15



GEOGRAPHIC COORDINATES

LATITUDE: N 49.118616°
 LONGITUDE: W 122.889498°

UTILITY – CONTACT

BRITISH COLUMBIA ONE CALL: (BEFORE YOU DIG) 1-800-474-6886

NOTES:

1. ENSURE ALL ASPECTS OF WORK CONFORM TO WIND MOBILE SPECIFICATIONS.
2. CONTRACTOR TO VERIFY NORTH DIRECTION AND REPORT ANY DISCREPANCIES.
3. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE.
4. READ THESE DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.
5. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON SITE. PROVIDE FABRICATION FOR EXACT FIT. NOTIFY CONSULTANT/ENGINEER REGARDING ANY DISCREPANCIES.
6. DO NOT SCALE DRAWINGS.



ROEHAMPTON COMMUNICATIONS
 744 WEST HASTINGS ST,
 SUITE 219
 VANCOUVER, BC V6C 1A5
 TEL. (778)300-1233
 TORONTO - CALGARY - VANCOUVER

APPENDIX III

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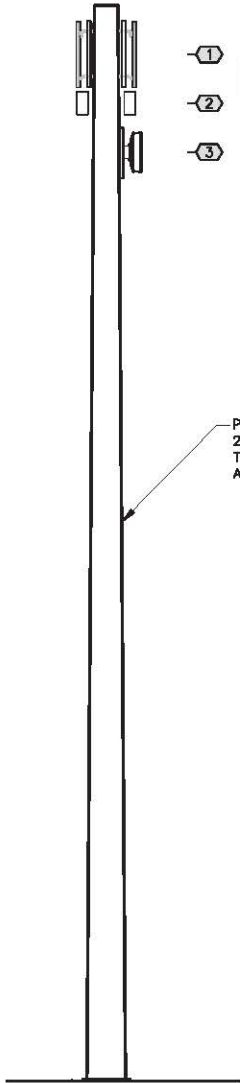
ELEV. 22.0m

ELEV. 20.0m

ELEV. 10.0m

ELEV. 5.0m

ELEV. 0.0m



1 TOWER PROFILE

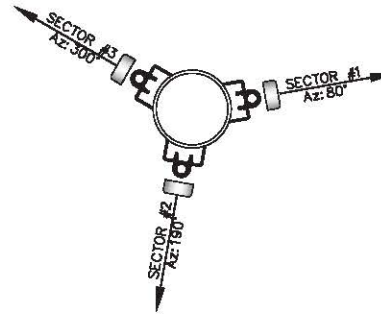
- 1 PROPOSED ANTENNA INSTALLATION
- 2 PROPOSED ANTENNA INSTALLATION
- 3 PROPOSED M/W INSTALLATION

PROPOSED WIND MOBILE
22m MONOPOLE (±900mmØ
TOWER BASE & ±600mmØ
AT THE TOP)

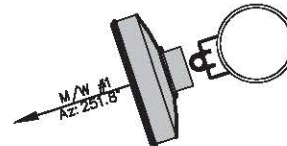
NOTES:
1. POLE SHALL BE PAINTED WHITE.

RADIO ANTENNA SCHEDULE								
#	ELEV. (m)	ANTENNA/EQUIPMENT			Tx LINE		OWNER	STATUS
		QTY.	MODEL	AZIMUTH(DEG.)	QTY.	MODEL		
1	21.0	3	APXV18-208516S	80°,190°,300°	-	-	WND	PROPOSED
2	20.0	3	9341 RRH40-AWS	-	-	-	WND	PROPOSED
3	19.0	1	2' M/W	251.8°	-	CAT6E	WND	PROPOSED

JUMPERS = LDF4 DC=1/2-3/4" FIBER = 3/8"-1/2"



2 ANTENNA LAYOUT @ 21.0m



3 ANTENNA LAYOUT @ 19.0m

- NOTES:
1. ALL WORK TO CONFORM TO LATEST WIND MOBILE SPECIFICATIONS.
 2. VERIFY ALL DIMENSIONS DURING INSTALLATION AND REPORT ANY DISCREPANCIES TO ENGINEER.
 3. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
 4. DRAWINGS ARE NOT TO BE SCALED.

CLIENT:

CARRIER:



5		
4		
3		
2		

1	HS	REVISED TOWER TYPE	11 MAR 15
0	MJ	PRELIMINARY	17 NOV 14

NO.	BY	DESCRIPTION	DATE
1	HS	REVISED TOWER TYPE	11 MAR 15
0	MJ	PRELIMINARY	17 NOV 14

ROEHAMPTON COMMUNICATIONS LTD.
 714 WEST HARTNUP ST., SUITE 210
 VANCOUVER, BC V6C 1A6
 TEL: (779) 900-1283
 TYPED AND SIGNED BY: VANCOUVER

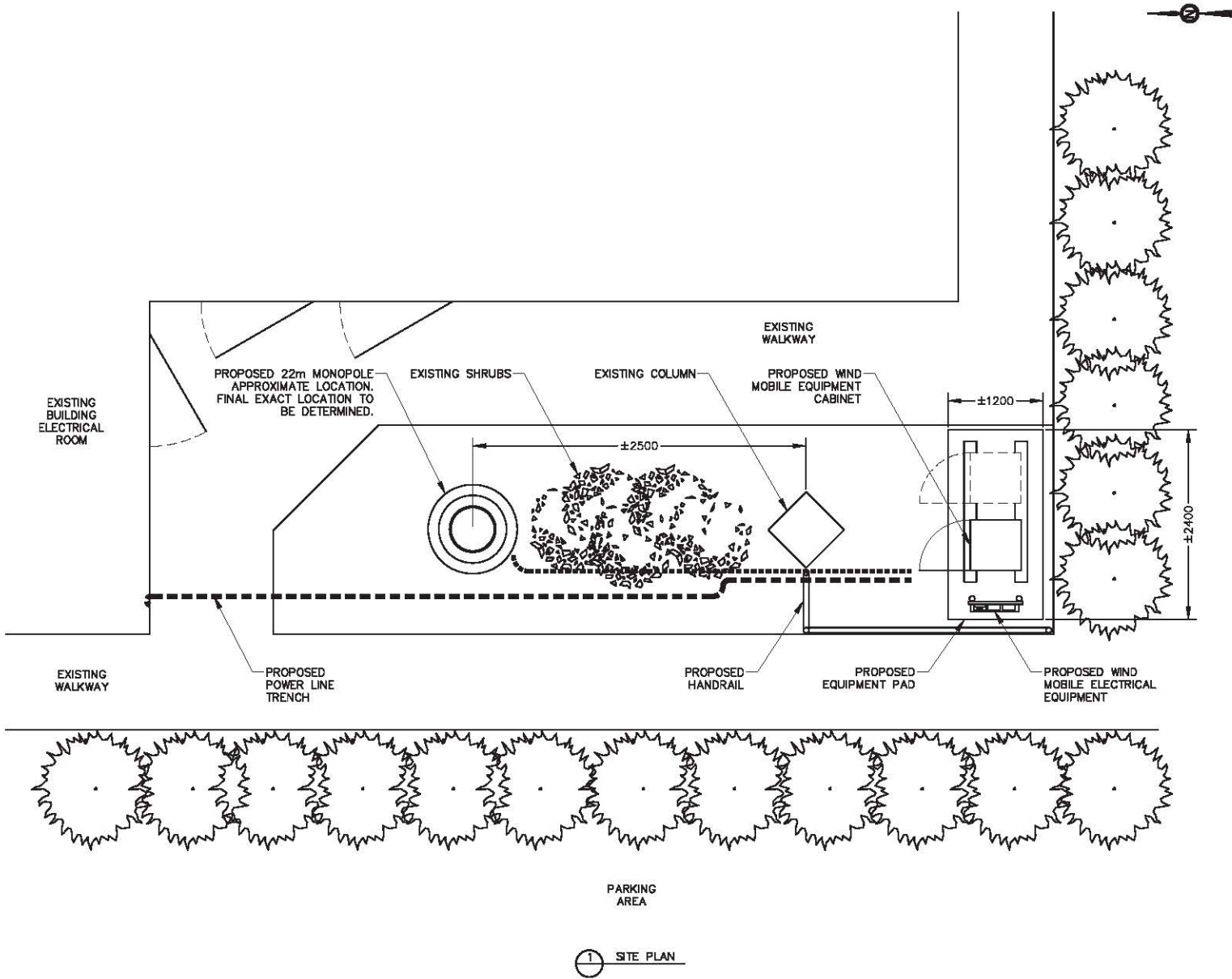
LOCATION:
6350 120 STREET SURREY, BC

TITLE:
TOWER PROFILE

PROJECT NAME: SUNSHINE RIDGE PROJECT NO: BVA0341 DWG. NO: A01

NOTES:

1. DO NOT SCALE DRAWINGS. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. ALL WORK TO CONFORM TO LATEST WIND MOBILE SPEC.



1 SITE PLAN

CLIENT:

CARRIER:



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4			
3			
2			
1			
0	MJ	PRELIMINARY	17 NOV 14
NO.	BY	DESCRIPTION	DATE

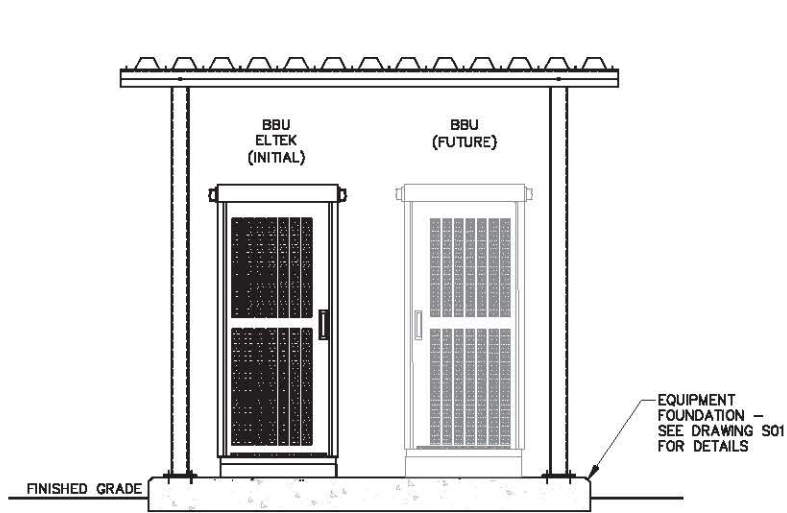
ROEHAMPTON COMMUNICATIONS LTD.
 744 WEST HASTINGS ST., SUITE 201
 VANCOUVER, BC V6C 1A6
 TEL: 078280-1280
 TOLL-FREE: 1-800-467-4674

LOCATION: 6350 120 STREET SURREY, BC

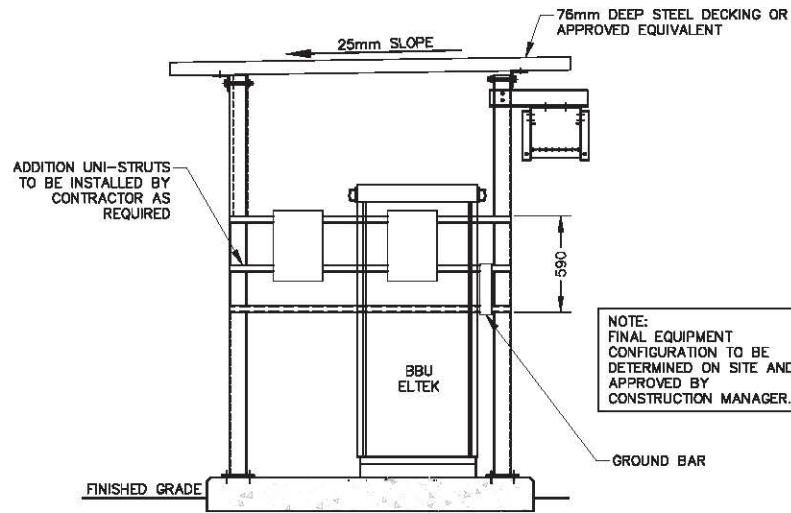
TITLE: SITE PLAN

PROJECT NAME: SUNSHINE RIDGE	PROJECT NO.: BVA0341	DWG. NO.: A02
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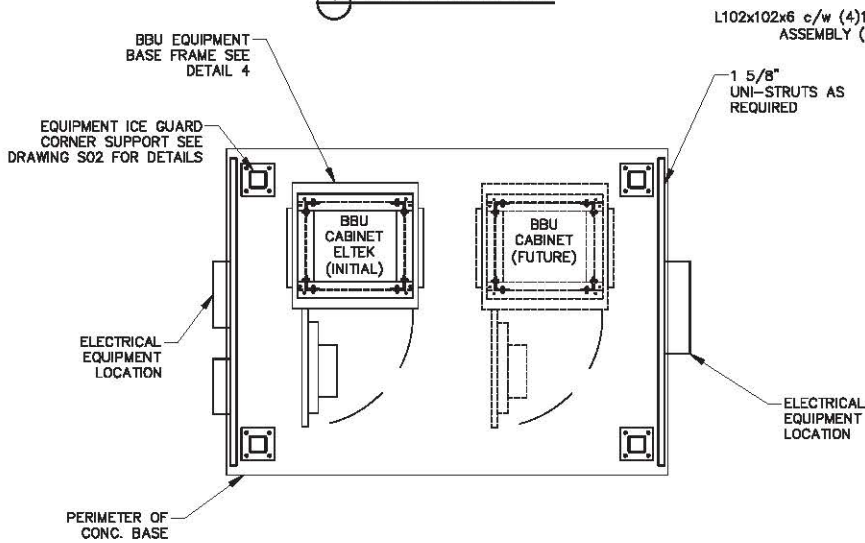
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1 ELEVATION VIEW - FRONT

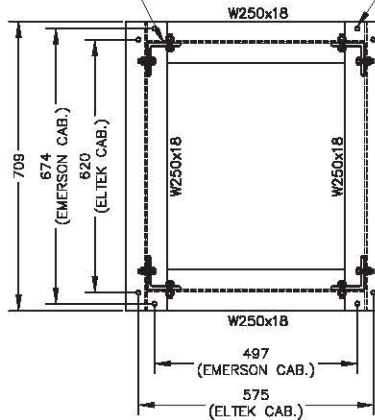


3 RIGHT SIDE ELEVATION VIEW



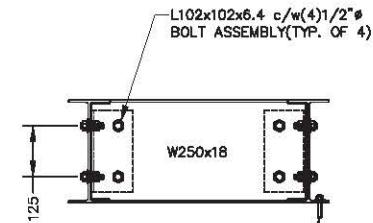
2 PLAN VIEW

L102x102x6 c/w (4) 1/2" BOLT ASSEMBLY (TYP. OF 4)



4 BBU BASE FRAME PLAN VIEW

BOLTING LAYOUT (VERIFY WITH ACTUAL BBU FRAME LAYOUT)



5 BBU BASE FRAME FRONT

NOTES:

1. DO NOT SCALE DRAWINGS. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. ALL WORK TO CONFORM TO LATEST WIND MOBILE SPEC.
3. CONTRACTOR TO VERIFY ALL DIMENSIONS.
4. ALL U-BOLTS 1/2" ASSY (4N,2W) UNLESS NOTED.
5. ALL BOLTS 5/8" A325 BOLT ASSY'S UNLESS NOTED.
6. ALL STRUCTURAL BOLTS TO BE GRADE A325 WITH FLAT WASHER UNLESS NOTED.
7. ALL OTHER BOLT AND THREADED ROD CONNECTIONS ARE TO USE FLAT WASHERS WITH EITHER DOUBLE NUT OR SINGLE NUT WITH LOCK WASHER.
8. ALL U-BOLTS TO BE AISI C1018, COLD ROLLED, GALVANIZED TENSILE STRENGTH TO BE 63 KSI

CLIENT

CADDER



5		
4		
3		
2		
1		
0	MJ	PRELIMINARY 17 NOV 14
NO. BY	DESCRIPTION	DATE

ROEHAMPTON COMMUNICATIONS LTD.
 744 WEST HASTINGS ST.
 SUITE 210
 VANCOUVER, BC V6C 1A6
 TEL: (778) 250-1233
 TORONTO - CALGARY - VANCOUVER

LOCATION:	6350 120 STREET SURREY, BC	
TITLE:	EQUIPMENT ICEGUARD ELEVATIONS & PLAN	
PROJECT NAME:	PROJECT NO.:	DWG. NO.:
SUNSHINE RIDGE	BVA0341	A03

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GENERAL NOTES:

- 1.) THE MOST RECENT ISSUES OF ANY STANDARDS, CODES OR REGULATIONS MENTIONED IN THE DRAWINGS PROVIDED MUST BE USED, UNLESS INDICATED OTHERWISE IN THE SPECIFICATIONS.
- 2.) ALL WORKMANSHIP MUST CONFORM TO THE REQUIREMENTS OF THE WIND MOBILE SPECIFICATION, PROVINCIAL BUILDING CODE, APPLICABLE LOCAL BUILDING CODES, AND CSA STANDARDS.
- 3.) THE CONTRACTOR RESPONSIBILITY INCLUDES:
 - OBTAINING APPROVALS FROM ALL REQUIRED LOCAL AUTHORITIES.
 - SAFEGUARD ALL EXIST. STRUCTURES AFFECTED BY THIS CONSTRUCTION.
 - OBTAINING ALL FIELD MEASUREMENTS REQUIRED FOR FABRICATION.
- 4.) PRESERVE FIRE RATING WHEN PENETRATING, CEILINGS, FLOORS AND WALLS.
- 5.) DRAWINGS ARE NOT TO BE SCALED.
- 6.) ADEQUATE PROTECTION (PLYWOOD SHEETS) MUST BE PROVIDED BY THE CONTRACTOR ON THE EXISTING ROOF FOR THE ENTIRE DURATION OF CONSTRUCTION, TO AVOID DAMAGE TO THE EXISTING ROOFING. CONSTRUCTION LOADS MUST NOT EXCEED A CONCENTRATED LOAD OF 1.3kN OR UNIFORM DISTRIBUTED LOAD OF 1.0 kPa.
- 7.) ALL SHOP AND INSTALLATION DRAWINGS MUST BE SUBMITTED TO ROEHAMPTON COMMUNICATIONS LTD. BY THE CONTRACTOR, FOR REVIEW PRIOR TO FABRICATION OF THE MATERIALS.
- 8.) CORE DRILLING IN AREAS OCCUPIED BY TENANTS SHALL BE COORDINATED WITH THE BUILDINGS OWNER/MANAGER, AND MAY BE REQUIRED TO BE COMPLETED OUTSIDE OF NORMAL WORKING HOURS. SERVICES DAMAGED MUST BE REPAIRED BY THE CONTRACTOR, AT HIS OWN EXPENSE.
- 9.) CORE DRILLING MUST NOT BE DONE UNTIL AN X-RAY INSPECTION PAID FOR BY THE CONTRACTOR, HAS BEEN COMPLETED TO DETERMINE THE PROPER LOCATION FOR THE PENETRATION. CORE DRILLING IS NOT ALLOWED IN COLUMN CAP AREAS.

CONCRETE NOTES:

- 1.) ALL WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WIND MOBILE SPECIFICATION, AND APPLICABLE STANDARDS.
- 2.) REINFORCING STEEL MUST BE GRADE 400 DEFORMED BARS TO CAN/CSA G30.18, UNLESS NOTED OTHERWISE. CONCRETE COVER TO BE 3" (MIN.)
- 3.) WELDED STEEL WIRE FABRIC MUST HAVE A MINIMUM YIELD STRENGTH OF 450 MPa AND CONFORM TO CSA G30.5. (PROVIDE IN FLAT SHEETS ONLY)
- 4.) BEND AND DETAIL REINFORCING STEEL AS INDICATED IN THE REINFORCING STEEL MANUAL OF STANDARD PRACTICE BY THE REINFORCING STEEL INSTITUTE OF CANADA.
- 5.) CAST IN PLACE CONCRETE TO HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 30 MPa UNLESS NOTED OTHERWISE.
- 6.) SLUMP AT POINT OF DISCHARGE TO BE 75mm.
- 7.) ALL CONCRETE EXPOSED TO FREEZING AND THAWING OR DE-ICING CHEMICALS MUST CONTAIN ENTRAINED AIR.
- 8.) ALL CONCRETE EXPOSED CORNER EDGES SHALL BE CHAMFERED 1" x 1".
- 9.) ALL GROUT USED SHALL BE NON-SHRINKING, INSTALLED TO MANUFACTURES INSTRUCTIONS, UNLESS SPECIFIED OTHERWISE.

STEEL STUDS AND JOISTS NOTES:

- 1.) ALL WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF PROVINCIAL THE BUILDING CODES, APPLICABLE BY-LAWS AND LOCAL CODES.
- 2.) MATERIAL TO CONFORM TO ASTM A446 STANDARD SPECIFICATION FOR STEEL SHEET, HOT DIP GALVANIZED.
- 3.) BRIDGING TO BE PROVIDED AT 5ft c/c FOR STUDS, UNLESS INDICATED OTHERWISE.
- 4.) BRIDGING TO BE PROVIDED @ 7ft c/c FOR JOISTS, UNLESS INDICATED OTHERWISE.
- 5.) INSTALLATION MUST MEET THE REQUIREMENTS SET OUT IN THE MANUFACTURERS SPECIFICATIONS AND REQUIREMENTS.

MASONRY NOTES:

- 1.) ALL WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WIND MOBILE SPECIFICATION, PROVINCIAL BUILDING CODES .
- 2.) UTILIZE TYPE 'S' MORTAR FOR ALL INTERIOR AND EXTERIOR LOAD BEARING WALLS, CONFORM TO CSA STANDARD A179.
- 3.) ALL METAL MATERIALS USED IN MASONRY TO BE HOT DIP GALVANIZED.
- 4.) VERTICAL MASONRY CONTROL JOINTS TO BE INSTALLED AT INTERVALS LESS THAN 3 TIMES THE WALL HEIGHT WITH MAXIMUM SPACING OF 39'-4".
- 5.) PROVIDE ALL REQUIRED TEMPORARY SHORING TO EXISTING MASONRY WALLS WHEN CUTTING NEW OPENINGS.

STRUCTURAL STEEL NOTES:

- 1.) ALL WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WIND MOBILE SPECIFICATION, AND APPLICABLE STANDARDS AS LISTED IN CORRESPONDING SECTION.
- 2.) ALL STRUCTURAL STEEL TO CONFORM TO CAN3-G40.21, GRADE 300W, RHSS TO MEET REQUIREMENTS OF G40.21, CLASS H, GRADE 350W.
- 3.) ALL WELDING SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE CSA STANDARDS AND PERFORMED BY A FABRICATOR CERTIFIED TO CSA W47.1 TO DIVISION 1 OR 2.1.
- 4.) ALL BOLTS TO CONFORM TO ASTM SPECIFICATION A325, PROPERLY SIZED FOR THE APPLICATION, AND THE THREADS TO BE EXCLUDED FROM THE SHEAR PLANE.
- 5.) HOLES ADDITIONAL TO THOSE SHOWN ON STRUCTURAL DRAWINGS ARE NOT PERMITTED IN ANY STRUCTURAL MEMBER.
- 6.) ALL STRUCTURAL STEEL TO BE HOT DIP GALVANIZED.
- 7.) APPLY (3) COATS OF ZINC RICH PAINT TO ALL DAMAGED GALVANIZED SURFACES.
- 8.) ALL CONCRETE EXPOSED TO FREEZING AND THAWING OR DE-ICING CHEMICALS MUST CONTAIN ENTRAINED AIR.
- 9.) FIELD MODIFICATIONS SUCH AS DRILLING OF HOLES AND WELDING TO BE AVOIDED, UNLESS SPECIFIED OTHERWISE.

ANTENNA AND WAVEGUIDE NOTES:

- 1.) ALL WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WIND MOBILE SPECIFICATION.
- 2.) INSTALL WAVEGUIDE TO MANUFACTURERS INSTRUCTIONS. (SUPPORT INTERVALS TO BE 1 METER MAXIMUM).
- 3.) ALL AREAS AFFECTED BY ROUTING OF WAVEGUIDE OR CONDUITS MUST BE REHABILITATED TO ORIGINAL CONDITION UPON COMPLETION.

ROOFING NOTES:

- 1.) BEFORE STARTING WORK ON ROOF, CONTRACTOR IS TO COMPLETE A "CUT TEST", TO DETERMINE THE CONDITION AND TYPE OF THE EXISTING ROOFING.
- 2.) REMOVE EXISTING ROOFING AS REQUIRED TO ALLOW FOR THE INSTALLATION OF RHSS AND BASE PLATE, KEEP OPENING TO A MINIMUM.
- 3.) ONCE INSTALLATION IS COMPLETE, MAKE GOOD THE EXISTING ROOFING & INSULATION.
- 4.) PROVIDE SUFFICIENT TEMPORARY PROTECTION OF ROOF PENETRATIONS, PRIOR TO ROOFING REINSTATEMENT, TO PREVENT WATER FROM ENTERING THE EXISTING BUILDING.
- 5.) ALL WORK SHALL CONFORM TO ALL AUTHORITIES HAVING JURISDICTION AND TO THE WIND MOBILE SPECIFICATION. WORKMANSHIP TO PROVIDE A CLEAN APPEARANCE OF THE FINISHED WORK.

INVERTED ROOF

- 1.) WHERE EXISTING ROOFING IS BITUMEN OR ASPHALTIC BASED, SUPPLY A NEW 3FT x 3FT RUBBERIZED MEMBRANE. TORCH DOWN TO EXISTING. AT UNDERSIDE OF BASE PLATE PROVIDE RUBBERIZED PLASTIC CEMENT, COMPATIBLE WITH MEMBRANE. WATERPROOF ANCHOR BOLT AREAS.

STANDARD BUILT UP ROOF

- 2.) CUT OPENING IN ROOF ADEQUATE TO ALLOW FOR THE INSTALLATION OF THE RHSS AND BASE PLATE. FOLLOWING INSTALLATION, PROVIDE 22 Gs. GALVANIZED SHEET METAL, PITCH POCKET, 18" SQUARE x 5" HIGH. FILL AFTER ASSEMBLY IS COMPLETE. FLASH INTO EXISTING WATERPROOFING ON ROOF.

FIRE STOPPING & SEALING NOTES:

- 1.) ALL EXISTING AND NEW OPENINGS LOCATED IN THE EQUIPMENT ROOM AND ALONG CABLE ROUTINGS, MUST BE SEALED AND FIRE STOPPED WITH ONE OR TWO HOUR FIRE RATINGS AS REQUIRED. USING TREMCO FIRESTOP SYSTEM.

WOOD FRAMING & STRUCTURAL TIMBER NOTES:

- 1.) ALL WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WIND MOBILE SPECIFICATION, PROVINCIAL BUILDING CODES AND APPLICABLE STANDARDS.
- 2.) NAILS TO CONFORM TO CSA B111-1974. GALVANIZED FOR EXTERIOR LOCATIONS AND TREATED LUMBER. NAILING OF FRAMING PER OBC TABLES 9.23.3A & B, UNLESS SPECIFIED OTHERWISE.

CLDR:

CADW:



5			
4			
3			
2			
1			
0	M/J	PRELIMINARY	17 NOV 14
NO. BY		DESCRIPTION	DATE



LOCATION:
6350 120 STREET SURREY, BC

TITLE:
GENERAL NOTES

PROJECT NAME: SUNSHINE RIDGE	PROJECT NO: BVA0341	DWG. NO: N01
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MECHANICAL CHARACTERISTICS

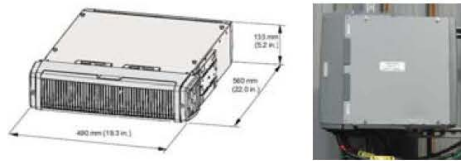
Net dimensions and net weights:

	Net dimensions	Net Weight kg
Basic Cabinet with plinth & AC/ground cable and 2 rectifiers	hxdwx: 1500x925x700 mm	156 kg

Gross dimensions & gross weights:

	Gross dimensions packed	Gross Weight kg
Basic Cabinet with plinth & AC/ground cable and 2 rectifiers	hxdwx: 1670x900x800 mm	174 kg

① ELTEK CABINET DETAIL
N.T.S.



FLEXI MULTIRADIO RF MODULE (RRU)

③ RRU
N.T.S.

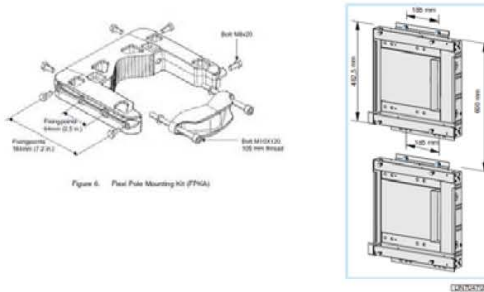
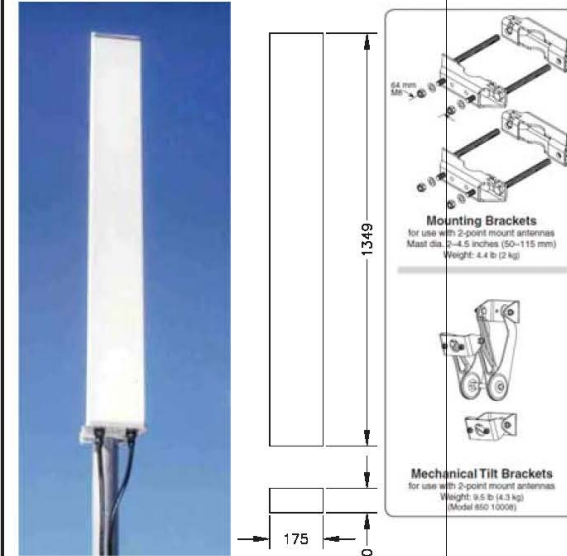


Figure 6. Rail Pole Mounting Kit (F710)

Figure 10. Mounting a second plinth on the wall

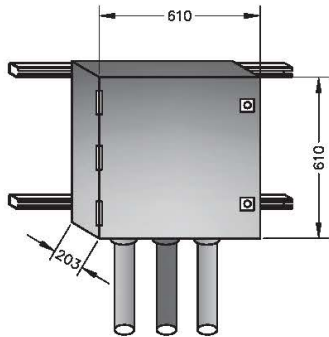
④ RRU MOUNTING KIT
N.T.S.



Mounting Brackets
for use with 2-point mount antennas
Max dia. 2-4.5 inches (50-115 mm)
Weight: 4.4 lb (2 kg)

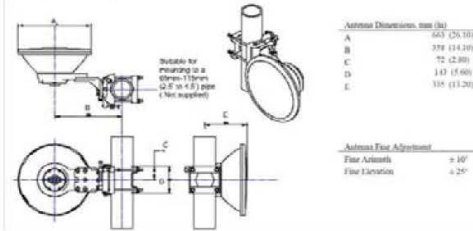
Mechanical Tilt Brackets
for use with 2-point mount antennas
Weight: 9.5 lb (4.3 kg)
Model: 602-10009

⑦ ANTENNA DETAIL
N.T.S.



② HOFFMAN BOX (24"x24"x8")
N.T.S.

OUTLINE DIMENSIONS



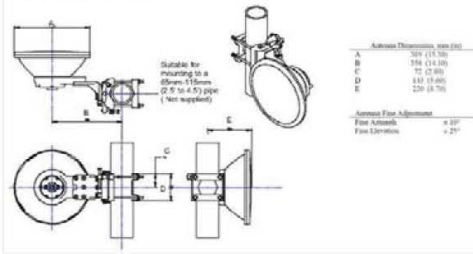
Antenna Dimensions, mm (in)

A	543 (21.34)
B	379 (14.92)
C	72 (2.83)
D	142 (5.59)
E	335 (13.20)

Antenna Flange Adjustment
Flange Axiality ± 10°
Flange Rotation ± 25°

⑤ 2' M/W DETAIL—DRAGONWAVE
N.T.S.

OUTLINE DIMENSIONS

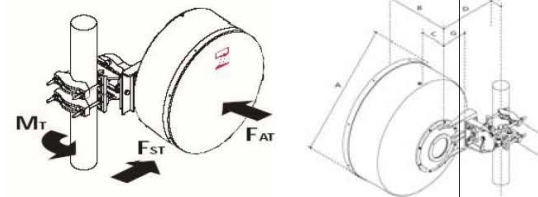


Antenna Dimensions, mm (in)

A	309 (12.13)
B	194 (7.64)
C	72 (2.83)
D	141 (5.55)
E	229 (9.01)

Antenna Flange Adjustment
Flange Axiality ± 10°
Flange Rotation ± 25°

⑥ 1' M/W DETAIL—DRAGONWAVE
N.T.S.



MODEL	ØA	B	C	ØD FOR MOUNTING PIPE DIA.					
				219 (8.5)	114 (4.5)	89 (3.5)	51 (2.0)	E	F
SC2-100A (CONT.)	Ø70 (28.4)	293 (11.5)	254 (10)	-	293 (11.4)	293 (11.4)	293 (11.4)	123 (4.8)	100 (3.9)
SB2-190CS (CONT.)	700 (28)	289 (11.5)	114 (4.5)	-	371 (14.6)	357 (14.0)	333 (13.1)	99 (3.9)	146 (5.7)
SB2-220CS (CONT.)	700 (28)	289 (11.5)	114 (4.5)	-	371 (14.6)	357 (14.0)	333 (13.1)	99 (3.9)	146 (5.7)
SB2-190AB (CONT.)	Ø70 (28.3)	500 (19.8)	170 (6.8)	-	317 (12.5)	299 (11.8)	299 (11.8)	100 (3.9)	365 (14.4)
SB2-220AB (CONT.)	Ø70 (28.3)	500 (19.8)	170 (6.8)	-	317 (12.5)	299 (11.8)	299 (11.8)	100 (3.9)	365 (14.4)
SB2A-190AB (CONT.)	1282(48.7)	831 (24.8)	248 (9.8)	-	365 (14.4)	-	-	115 (4.5)	365 (14.4)
UX2-190CS (CONT.)	700 (28)	388 (15.4)	114 (4.5)	-	371 (14.6)	357 (14.0)	333 (13.1)	99 (3.9)	146 (5.7)
UX2A-190CS (CONT.)	1313(51.7)	816 (32.1)	248 (9.8)	-	365 (14.4)	-	-	115 (4.5)	365 (14.4)
UX2A-220CS (CONT.)	1313(51.7)	248 (9.8)	248 (9.8)	-	365 (14.4)	-	-	115 (4.5)	365 (14.4)

⑧ M/W ANTENNA DIMENSIONS CHART
N.T.S.

CLIENT:

CARRIER:



5			
4			
3			
2			
1			
0	M/J	PRELIMINARY	17 NOV 14
NO. BY		DESCRIPTION	DATE



LOCATION:
6,350 120 STREET SURREY, BC

TITLE:
EQUIPMENT DETAILS

PROJECT NAME: SUNSHINE RIDGE	PROJECT NO: BVA0341	DWG. NO: N02
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Proposed Tower from North-West (Scott Rd.)



Proposed Tower from North (64 Avenue)



Proposed Tower from South-West (Scott Rd.)



Proposed Tower from West (Scott Rd.)

APPENDIX V: Example of similar installation - 30 metre (98 FT) tower (located in Calgary, Alberta).



Note: Example tower is 36% taller (8 metres/26 ft) than City of Surrey Proposal 14-0272-00.

CITY OF SURREY

(the "City")

DEVELOPMENT VARIANCE PERMIT

NO.: 7914-0272-00

Issued To: SURREY CITY DEVELOPMENT CORP

Address of Owner: C/O Kristina King / Edwin Lee
1870, 13450 - 102 Avenue
Surrey, BC V3T 5X3

Issued To: CITY OF SURREY

Address of Owner: 13450 - 104 Avenue
Surrey, BC V3T 1V8

(collectively referred to as "the Owner")

1. This development variance permit is issued subject to compliance by the Owner with all statutes, by-laws, orders, regulations or agreements, except as specifically varied by this development variance permit.
2. This development variance permit applies to that real property including land with or without improvements located within the City of Surrey, with the legal description and civic address as follows:

Parcel Identifier: 018-412-629
Lot C Section 7 Township 2 New Westminster District Plan LMP11974
6350 - 120 Street

(the "Land")

3. Surrey Zoning By-law, 1993, No. 12000, as amended is varied as follows:
 - (a) In Subsection A.1.(a)ii.b. of Part 4 General Provisions, the maximum height of a telecommunication tower is increased from 12 metres (40 ft.) to 22 metres (72 ft.).
4. The landscaping and the siting of buildings and structures shall be in accordance with the drawings numbered 7914-0272-00 (A) through to and including 7914-0272-00 (D) (the "Drawings") which are attached hereto and form part of this development variance permit.

5. The Land shall be developed strictly in accordance with the terms and conditions and provisions of this development variance permit.
6. This development variance permit shall lapse if the Owner does not substantially start any construction with respect to which this development variance permit is issued, within two (2) years after the date this development variance permit is issued.
7. The terms of this development variance permit or any amendment to it, are binding on all persons who acquire an interest in the Land.
8. This development variance permit is not a building permit.

AUTHORIZING RESOLUTION PASSED BY THE COUNCIL, THE DAY OF , 20 .
ISSUED THIS DAY OF , 20 .

Mayor – Linda Hepner

City Clerk – Jane Sullivan