Robinson+Cole

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July 21, 2017

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
55 Coogan Boulevard, Mystic (Stonington), Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains a small cell wireless facility at 55 Coogan Boulevard in Mystic, Connecticut (the "Property"). The facility consists of a single canister antenna and a remote radio head ("RRH") attached to the Mystic Aquarium building. Equipment associated with this small cell facility is located on the ground, adjacent to the building, within a fenced enclosure. The Council approved this installation on July 23, 2015 in Petition No. 1164. Cellco now intends to attach an additional RRH and two (2) coaxial cable diplexers to the tower mast, below the canister antenna. Included in Attachment 1 are specifications for Cellco's new RRH and diplexers.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Robert Ruhl Simmons, First Selectman of the Town of Stonington; Jason Vincent, Stonington's Director of Planning; and Sea Research Foundation Inc., the Property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco's new RRH and cable diplexers will be attached to the tower mast below the existing antenna.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The installation of a new RRH and two (2) cable diplexers on the pole will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A General Power Density table for Cellco's modified facility is included in Attachment 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The building façade can support Cellco's proposed modifications. (*See* Structural Letter included in Attachment 3).

7. A copy of the parcel map and property owner information is included in Attachment 4. A stamped Certificate of Mailing verifying that this filing was sent to municipal officials and the owner of the Property is included in Attachment 5.

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Robert Ruhl Simmons, Stonington First Selectman
Jason Vincent, Stonington Director of Planning
Sea Research Inc.
Tim Parks
Elizabeth Jamieson

ATTACHMENT 1

ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

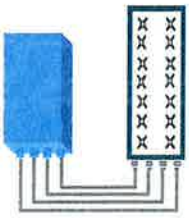
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options (Pole or Wall)



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2) **RX Diversity scheme**	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) **Volume (w/ solar shield) in L** **Weight (w/ solar shield) in kg (lb)**	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 4 RF Tx & 4 RF Rx monitor ports 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

Product Data Sheet **FDAP5002/2C-3L**

ShareLite AWS/PCS Low Loss Diplexer, DC pass in AWS path

Product Description

The FDAP Series of ShareLite diplexers are designed to enable feeder sharing between systems in the AWS and the PCS bands. The RFS innovative cavity filter design provides a very low insertion loss while keeping the product extremely compact and lightweight. The usage of highly selective filters also guarantees a high isolation level of 50dB between ports, ensuring an interference-free environment for any technology deployed. The filter design also has built-in lightning protection for additional reliability. Designed to withstand the most severe outdoor environments, it also features a IP67 class protection with a vented enclosure to avoid any possible effects of condensation and pressure instability, thus providing a long lasting, extremely reliable solution for any network.

Features/Benefits

- **Extremely low insertion loss**
- **High level of rejection between bands – Protects against interferences**
- **Compact design – Eases installation and reduces tower loading**
- **Exceptional reliability and environmental protection (IP67)**

Technical Specifications

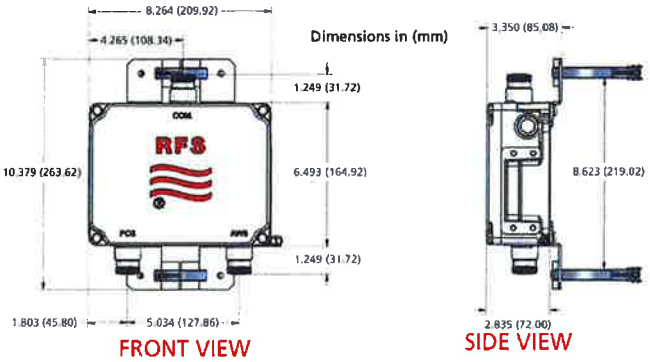
Product Type	Diplexer/Cross Band Coupler
Application	AWS, PCS
Frequency Range 1, MHz	1850-1910 & 1930-1990
Frequency Range 2, MHz	1710-1755 & 2110-2155
Configuration	Sharelite Single/Double diplexer, outdoor/indoor, DC pass in AWS path
Mounting	Wall Mounting: With 4 screws (maximum 6mm diameter); Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
Return Loss All Ports, Min, dB	20
Power Handling Continuous, Max, W	500
Impedance, Ohms	50
Insertion Loss, Path 1, dB	.20
Insertion Loss, Path 2, dB	.20
Rejection between Bands, Min, dB	50
IMP Level at the COM Port, Max, dBm	-112 @ 2x43
Temperature Range, °C (°F)	-40 to +60 (-40 to +140)
Environmental	ETSI 300-019-2-4 Class 4.1E
Ingress Protection	IP 67
Lightning Protection	IEC61000-4-5 Level 4 / 20kA, 8/20us
Connectors	In-line long-neck 7-16-Female
Weight, kg (lb)	2.9 (6.4)
Dimensions, H x W x D, mm (in)	165 x 210 x 85 (6.5 x 8.3 x 3.3)
Housing	Aluminum

Notes

Other Documentation

AWS/PCS Single or Dual Diplexer Installation Instructions: AWS-PCS_Diplexer_Installation_Rev5.pdf

ShareLite AWS/PCS Low Loss Diplexer, DC pass in AWS path



ATTACHMENT 2

Site Name: Mystic 3 Small Cell, CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	300	299.9724	45	0.0533	1.0	5.33%
VZW Cellular	869	0	339	0	45	0.0000	0.579333333	0.00%
VZW AWS	2145	1	551	551.0376	45	0.0979	1.0	9.79%
VZW 700	746	0	1867	0	45	0.0000	0.497333333	0.00%

Total Percentage of Maximum Permissible Exposure 15.11%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 3

ALL-POINTS
TECHNOLOGY CORPORATION

July 18, 2017

Verizon Wireless
99 East River Drive, 9th Floor
East Hartford, CT 06108

Attn: Mr. Aleksey Tyurin

Re: Structural Evaluation Letter – Wireless Communications Modification
Verizon Site Ref: Mystic 3 SC CT
55 Coogan Blvd.,
Mystic, CT 06355

Project/Location Code: 20161465715/302370

APT Filing No. CT141SC4150

Dear Mr. Tyurin,

All Points Technology Corporation, P.C. (APT), a professional engineering corporation licensed in the State of Connecticut, has been retained by Verizon Wireless to assess the structural adequacy of the existing Verizon antenna mount to support the proposed antenna and appurtenance modification at the above existing host building structure.

The proposed Verizon Wireless equipment modification consists of the installation of one (1) PCS Remote Radio Head (RRH) and two (2) diplexers to be located on an existing steel antenna pipe mount attached to the façade of the existing host building. Reference is made to drawing DE-1, prepared by APT, dated 05.31.17.

The structural review has been prepared in accordance with the following design standards:

ANSI/TIA-222-G-2009 - Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

ASCE/SEI 7-10 – Minimum Design Loads for Buildings and Other Structures

AISC - American Institute of Steel Construction Manual of Steel Construction, 14th Ed.

IBC 2012 - as amended by the 2016 Connecticut State Building Code.

Antenna, appurtenance and mount assembly loads were evaluated utilizing the ANSI TIA-222-G standard and Appendix N of the 2016 Connecticut State Building Code.

- Load Case 1: 105 mph (3-second gust,), 0" ice (Nominal Survival Wind)
- Load Case 2: 50 mph (3-second gust) with 1.0in ice thickness
- Load Case 3: 60 mph (3-second gust) (Service Load)
- Structure Class II
- Exposure Category C
- Topographic Category 1

The existing and proposed Verizon Wireless antenna/appurtenance and mount assembly loading consists of the following equipment (proposed equipment shown in **bold** text):

Antenna and Appurtenance Make/Model	Quantity	Status	Mount Type	Elevation
Commscope NH360QS-DG-F0M Omni Metro Cell Antenna	1	ETR	P3.0 STD pipe mount attached to facade of exist. building with SitePRO1 SBWM series wall mount brackets.	45.0-ft± AGL
Alcatel Lucent B4 RRH2x60W-4R AWS Remote Radio Head (RRH)	1	ETR		41.5-ft± AGL
Raycap RC2DC-1064-PF-48 OVP Distribution Box	1	ETR		40.5-ft± AGL
Alcatel Lucent B25 RRH2x60W PCS Remote Radio Head (RRH)	1	P		35-ft± AGL
RFS FDAP5002/2C-3L	2	P		
RFS Hybrid Fiber Cable	1	ETR	n/a	n/a

Notes:
1. ETR = Existing to Remain; P = Proposed.

In conclusion, we find that the existing Verizon Wireless antenna pipe mount and existing host building structure are structurally adequate to support the proposed antenna/appurtenance modification.

The findings of this certification letter are based upon a review of the physical characteristics of the existing mount assembly and field observations conducted by APT from grade, during April 2017. This letter assumes that the existing antenna mounts and host building structure were correctly designed and/or analyzed for the existing load conditions at the time of their respective original installations. Additionally, it is assumed that the existing mount structural components and connections are in good condition and have been properly maintained since erection.

Sincerely,
APT Engineering

Robert E. Adair, P.E.
Principal

STATE OF CONNECTICUT
ROBERT E. ADAIR
No. 20278
LICENSED PROFESSIONAL ENGINEER

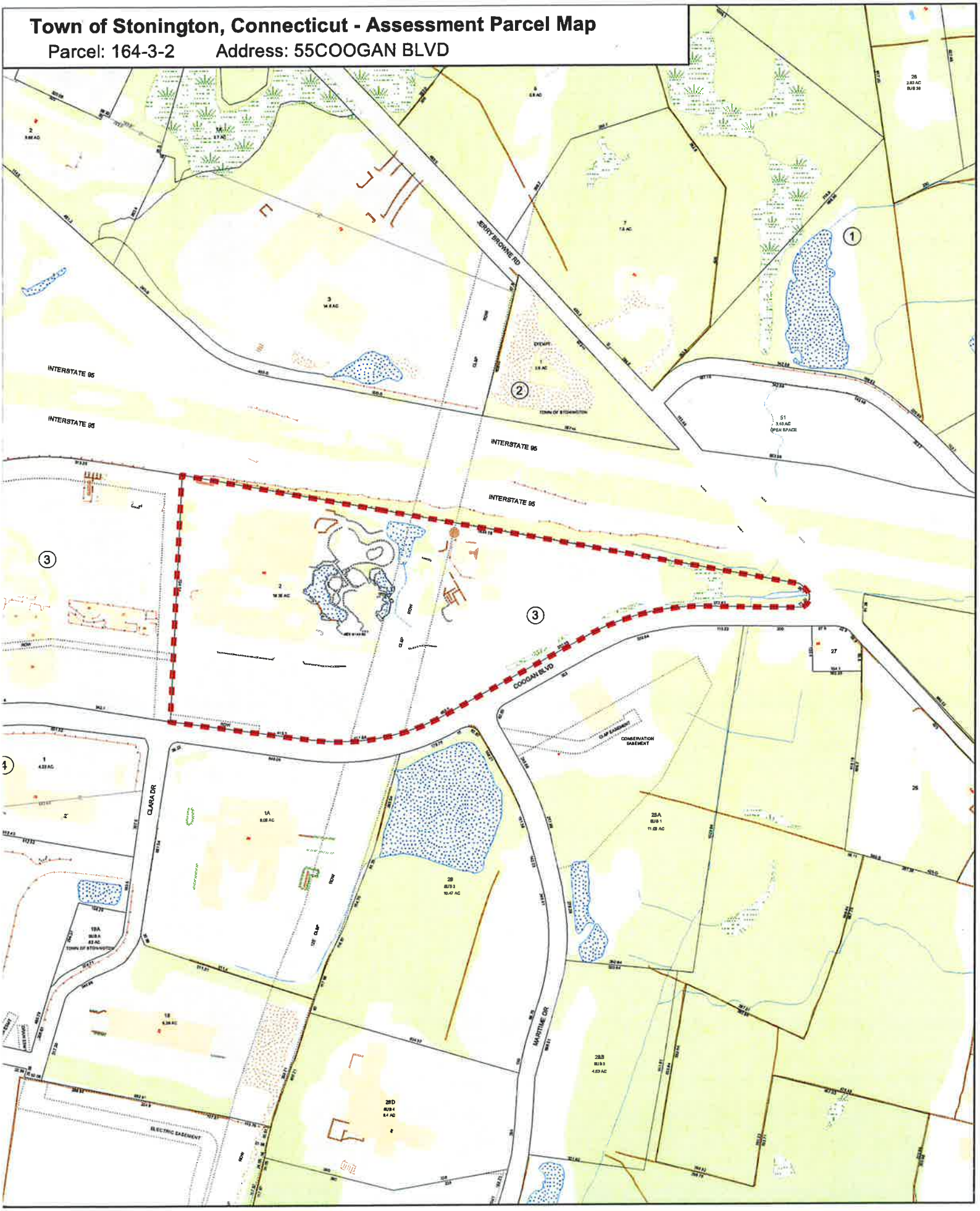
Prepared By:
APT Engineering

Jason R. Mead
Project Manager/
Structural Engineer

ATTACHMENT 4

Town of Stonington, Connecticut - Assessment Parcel Map

Parcel: 164-3-2 Address: 55COOGAN BLVD



Approximate Scale:

1 inch = 350 feet

0 210 420 630 840 Feet

Revised To: October 2016 **Map Produced: May 2017**

Town of Stonington, CT
Property Listing Report

Map Block Lot 164-3-2-1

Account 00740500

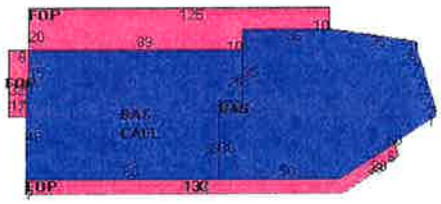
Property Information

Property Location	55 COOGAN BLVD
Owner	SEA RESEARCH FOUNDATION INC
Co-Owner	MYSTIC MARINELIFE AQUARIU
Mailing Address	55 COOGAN BLVD MYSTIC CT 06355
Land Use	3220 STORE/SHOP MDL-94
Land Class	C
Survey Map #	4281B
School District	

Fire District	Old Mystic
Census Tract	7053
Neighborhood	9500
Zoning Code	TC-80
Acreage	0.22
Utilities	
Lot Setting/Desc	Suburban Level
Trash Day	TH
Polling Place (District)	Mystic Fire Department 4

Photo

Sketch



Primary Construction Details

Year Built	1998
Stories	1
Building Style	Commercial
Building Use	Commercial
Building Condition	Very Good
Floors	Ceram Clay Til
Total Rooms	0

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Bath Style	NA
Kitchen Style	NA
Roof Style	Flat
Roof Cover	Tar & Gravel

Exterior Walls	Pre-finsh Metl
Interior Walls	Drywall/Sheet
Heating Type	Hot Air-no Duc
Heating Fuel	Electric
AC Type	Unit/AC
Gross Bldg Area	14077
Total Living Area	10596

Report Created On 7/18/2017

Town of Stonington, CT
Property Listing Report

Map Block Lot 164-3-2-1

Account 00740500

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	1602700	1121900
Extras	8200	5700
Outbuildings	29800	20900
Land	378500	265000
Total	2019200	1413500

Outbuilding and Extra Items

Type	Description
SPRINKLERS-WET	8209.00 S.F.
PATIO-GOOD	8500.00 S.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	10596	10596
Porch, Open	3481	0
Total Area	14077	10596

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
SEA RESEARCH FOUNDATION INC	222/ 732		0

Report Created On 7/18/2017

ATTACHMENT 5

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here ***Postmark with Date of Receipt.***
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 07/21/2017 US POSTAGE $002.38 ZIP 06103 041I 1220331
	Postmaster, per *(name of receiving employee)*		

ANN STREET STATION 06103 JUL 21 2017 U.S.P.S.

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Robert Ruhl Simmons, First Selectman Town of Stonington 152 Elm Street Stonington, CT 06378				
2.	Jason Vincent, Director of Planning Town of Stonington 152 Elm Street Stonington, CT 06378				
3.	Sea Research Inc. 55 Coogan Boulevard Mystic, CT 06355				
4.					
5.					
6.					