

**CITY COUNCIL - BOROUGH ASSEMBLY
JOINT WORK SESSION AGENDA**

Wednesday, February 13, 2019
SCHOOL DISTRICT CONFERENCE ROOM
7:30 p.m.
(Borough Chairing)

Joint work sessions are informal meetings of the Borough Assembly and City Council where elected officials discuss issues that affect both Borough and City governments and residents. Although additional items not listed on the joint work session agenda are sometimes discussed when introduced by elected officials, staff, or members of the public, no formal action is taken at joint work sessions and items that require formal action are placed on a regular Borough Assembly and/or City Council meeting agenda. Public comments at work sessions are NOT considered part of the official record. Public comments intended for the "official record" should be made at a regular Borough Assembly or City Council meeting.

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 - B. SWAMC Comprehensive Economic Development Strategies (CEDS) Update
 - C. Status and Direction of the Consolidation Committee
 3. Next Meeting Schedule
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 - A. Marijuana Industry Update
 - B. Community Coalition Update



City of Kodiak
KODIAK POLICE DEPARTMENT
Office of the Chief of Police



MEMORANDUM

To: Mike Tvenge, City Manager
From: Timothy Putney, Chief of Police
Date: January 16, 2019
Subject: Siren Alert and Warning System (SAWS)

Introduction

The City of Kodiak's Siren Alert and Warning System (SAWS) is comprised of Plectron sirens, Alerting Communicators of America (ACA) RDT/TTS sirens, and American Signal Corporation sirens. The Plectron and ACA sirens were acquired between 1984 and 1986, and the American Signal Corporation sirens were acquired sometime in the 1990's.

The sirens are activated through radio consoles at the Kodiak Police Department's Public Safety Answering Point (PSAP). The activation or cancellation signal is sent to Pillar Mountain where it is transmitted and received by the individual sirens. The activation or cancellation signal can be sent to Pillar Mountain through a radio signal or hard line which offers some redundancy. The Kodiak Fire Department also has the ability to activate the alarms if necessary.

The City owns 12 sirens and the Kodiak Island Borough owns an additional 9 sirens along the road system. City and Borough sirens are all part of the same system activated through the PSAP, and maintenance is the responsibility of their respective municipal body.

Maintenance and Inspections

The City and Borough both utilize Aksala Electronics for siren maintenance. The City had an annual contract with Aksala to inspect the individual sirens between 2004 and 2014. Aksala produced a report each year describing the general condition of the speaker array, electronics box, and battery box at each location and recommended repairs. The speaker arrays, electronics enclosures, and battery boxes were originally manufactured using sheet metal. As the metal rusts away, Aksala replaces the speaker arrays with aluminum boxes and the electronics enclosures and battery boxes are replaced with fiberglass. The City continues to use Aksala to inspect and repair faulty

sirens. Aksala has recently finished extensive repairs on the siren erected outside the Harbor Master's Office, and the siren in the 700 block of Mission Road is being repaired now.

In 2009 the City of Kodiak received \$34,609 in grant money to hire a communications consultant who subsequently completed a comprehensive assessment of the City and Borough SAWS.

The result of the study was that at least another 6 years of service could be expected from the current SAWS. The recommendation was to continue annual inspections and regular maintenance until the sirens were replaced. This study recommended relocating 5 of the City sirens; however, the current inundation zone could not have been considered, nor did the study address acoustical effectiveness of the current or suggested locations.

Individual Siren Evaluations

The sirens owned by the City consist of the following: 2 Alerting Communicators of America (ACA) RDT/TTS, 5 Plectron, and 2 American Signal Corporation, and 3 American Signal Corporation Compulert computer programmable sirens. I reviewed Aksala Electronics' 2012, 2013, and 2014 annual inspections of the City's sirens. The inference from the reports is critical repairs were prioritized, most of the battery banks were 10 years old but still functioning well, and moisture and rust were a regular concern. The following is a summary of the current inventory with notes on each siren.

Siren at Gibson Cove is an ACA RDT/TTS

- Speaker array rusting through and was recommended for replacement in 2014
- Replaced gel cell batteries in 2017
- Inspected again in late 2017
- This siren is not operational today.

Siren at Pier III is an American Signal Corporation

- Electronics enclosure and speaker array were rusting through in 2014
- Repairs were made in 2016 to keep the siren functioning

Siren on Jack Hinkle is a Plectron

- Electronics enclosure was rebuilt in 2004
- Speaker array was replaced in 2010
- Inspected in 2016 and 2018

Siren at Harbor Master's Office is an American Signal Corporation Compulert

- Siren battery replaced in 2018
- Speaker array and electronics enclosure were rebuilt in January 2019

Siren behind the Fire Department is an ACA RDT/TTS

- Surface rust on the speaker array

Siren on Hemlock Street is a Plectron

- Speaker array showing signs of rust
- Repairs made in 2016 and 2018

Siren in the 700 block of Mission Road is a Plectron

- Gel cell batteries replaced in 2017
- Another inspection made in late 2017
- Siren is not operational today and is scheduled for repairs now

Siren in Dog Bay is a Plectron

- Speaker array is rusting
- Repairs were made in 2016 to keep it functional

Siren in the alley behind 1300 block of Rezanof Drive is a Plectron

- Repairs were made in 2016
- Speaker array has rust holes
- Siren output is muffled by Spruce trees growing around it (tree branches are in contact with speaker array). They should be trimmed back at least 10 feet.
- This siren is not in the inundation zone. There is potential to slightly relocate this siren to a more strategic location, depending on available property access and nearby utilities.

Siren at the Dairy Barn (Signal Hill) is an American Signal Corporation Compulert

- Siren speaker array appears rusted
- This siren is not functioning today
- This siren is far from the inundation zone and may not serve any notification purpose for a tsunami

Siren at the National Guard Armory is an American Signal Corporation Compulert

- This siren is not functioning today
- This siren is far from the inundation zone and may not serve any notification purpose for a tsunami

Siren at the Civil Air Patrol (CAP) Hangar is an American Signal Corporation

- Speaker array has a large rust hole
- Electronics box shows signs of rust and should be replaced
- This siren is far from the inundation zone and serves no notification purpose for a tsunami

Note: In each annual report I reviewed, Aksala recommended removing or relocating the sirens at the Civil Air Patrol Hangar, National Guard Armory, and the Dairy Barn.

Conclusion

The units making up the current SAWS are 25 to 35 years old with some individual units having newer enclosures or electrical components. The software used in the three “new” computer programmable Compulert sirens is from the 1990’s and requires the almost obsolete DOS (disk operating system) to run.

New sirens come in different sizes which are capable of broadcasting signals that reach about 1,200 feet to 4,200 feet. The further a siren’s signal reaches the bigger and more expensive it is. A good starting point for budgetary considerations would be approximately \$57,000 per siren. This includes a new mounting pole, shipping to Kodiak, and installation. If a new siren can be integrated into the existing SAWS it will sound different.

The inundation zones and communication methods have all changed since the current SAWS was designed and installed. Further evaluation of the current site locations and any potential relocation site is being conducted.

Speaker Array

Original speaker
arrays were made
from sheet metal

An array should
have 16 100 watt
speakers



Electronics Enclosure

This is one of the American Signal Corporation sirens



Battery Box

Sirens operate on a DC power supply which is connected to traditional AC



Jack Hinkle

Style: Plectron

- Electronics enclosure was rebuilt in 2004
- Speaker array was replaced in 2010
- Inspected in 2016 and 2018





▶ Model MOD Series

Modulator High-Powered Omni Speaker



Shown with optional side-light kit¹

Federal Signal’s Modulator High-Powered Speaker Array offers the same proven technology as the original Modulator with the exception of a smaller compact chassis. Modulator provides a flat frequency response up to 2000Hz producing intense warning signals and digital voice messaging over a large area. The Modulator design enables the siren to produce a high sound level and intelligible voice communications.

The innovative omni-directional electronic Modulator speaker array consists of modules that utilize four 100 watt drivers. It also provides clear voice communication and offers warning signals which are produced by Federal Signal’s UltraVoice™ electronic controller and amplifier system. Custom tones and professionally recorded voice messages for the UltraVoice controller are available and can be purchased upon request.

The Modulator High-Powered Speaker Array combined with the UltraVoice controller is ideal for community/municipal, industrial and military applications where immediate instruction is necessary. The MOD6032 and MOD6048 have been replaced by the MOD8032B, which is shorter, lighter and more compact.

The Modulator and UltraVoice controller can be networked via radio, IP, landline, cellular and/or satellite communications. Powering is available in AC, DC, or solar. The system typically operates from batteries which are charged from either AC or Solar. Federal Signal can also provide customized solutions to fit your special applications.

¹ Modulator models purchased after September, 2017, are pre-configured to support top and side lights kits for visual signaling options.

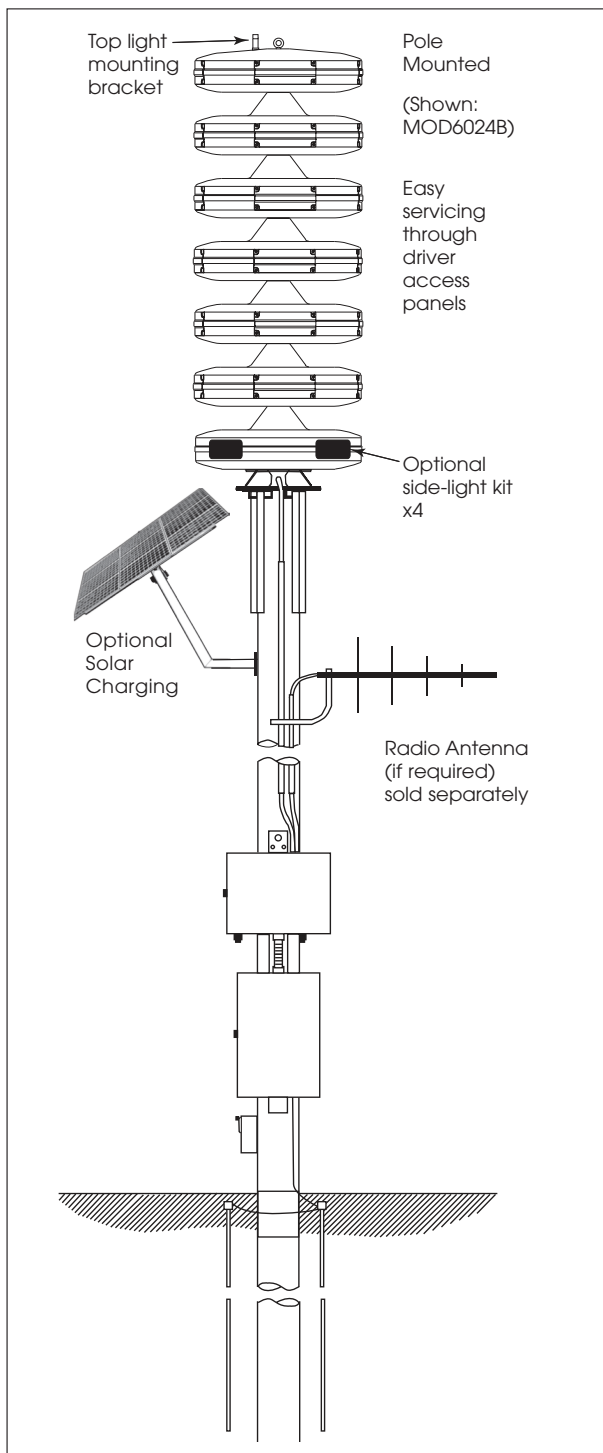
F E A T U R E S

- Light-weight, compact design
- Utilizes Federal Signal UltraVoice™ for control and amplification
- Excellent frequency response for clear voice reproduction
- 360° coverage without sound variation in horizontal planes
- Easy servicing through convenient access panels
- Anechoic chamber-certified
- Optional visual signaling accessories available
- Optional steel/concrete pole mounting

MODEL	ACTIVE MODULES	TOTAL WATT	DECIBELS @ 100'	EFFECTIVE RANGE @ 70 dBc	HEIGHT		NET WEIGHT		SHIPPING WT	
					IN	MM	LBS	KG	LBS	KG
MOD1004B¹	1	400	106 dBc	1,200'	28"	71	125	56.8	264	120
MOD2008B¹	2	800	112 dBc	1,800'	43"	109.2	190	86.4	294	133.6
MOD3012B¹	3	1200	115 dBc	2,200'	57"	144.7	255	115.9	444	201.8
MOD4016B¹	4	1600	118 dBc	2,800'	72"	182.8	320	145.5	544	247.3
MOD5020B¹	5	2000	120 dBc	3,100'	86"	218.4	385	175	744	338.2
MOD6024B¹	6	2400	121 dBc	3,400'	101"	256.5	450	204.5	960	436.4
MOD8032B¹	8	3200	124 dBc	4,200'	130"	330.2	580	263.6	1392	632.7

¹Add the letter C to the Modulator model name for steel/concrete pole mount model

Modulator® High-Powered Omni Speaker (MOD)



SPECIFICATIONS

Frequency Response:	200-2000Hz
Color	Off-White
Paint Type	TGIC-polyester powder coat
Modulator Horn Type	Hyperbolic flare
Horizontal Coverage	360° +/- 1 dBc
Diameter	35" /88.9cm
Wind Loading @ 110mph wind velocity ¹ :	
MOD1004B	251 lbs
MOD2008B	377 lbs
MOD3012B	503 lbs
MOD4016B	629 lbs
MOD5020B	755 lbs
MOD6024B	881 lbs
MOD8032B	1133 lbs

¹ Wind loading is the calculated force of wind at 110mph (shoreline), exposure D (flat, unobstructed coastal areas) on frontal area 4.64 ft. per American National Standards Institute A58.1 "Minimum design loads for buildings and other structures."

HOW TO ORDER

Contact our Federal Signal Sales Engineers to design a system that meets your specific requirements.

Specify speaker array model number – each speaker array model must be ordered with a specific corresponding UV and Amplifier.

Speaker	Controller ²
MOD1004B ¹	UV + 1 UV400
MOD2008B ¹	UV + 2 UV400
MOD3012B ¹	UV + 3 UV400
MOD4016B ¹	UV + 4 UV400
MOD5020B ¹	UV + 5 UV400
MOD6024B ¹	UV + 6 UV400
MOD8032B ¹	UV + 8 UV400

¹ Add the letter C to the Modulator model for Steel/Concrete pole mount (i.e. MOD1004BC)

² Controllers available in Radio, IP, and Landline.

Note: 40 feet of cable is supplied with siren. Extension cable in 10 foot increments is also available. Mounting the UV controller further than 100 feet is not recommended (further mounting may decrease power output).

See page 50 for the Solar Panel option.

OPTIONAL ACCESSORIES

Description	Part Number
Hazardous Location LED Light	191XL-024*
Side-light Kit	MOD-QF-KIT

*Indicate color: (A) Amber, (B) Blue, (C) Clear, (G) Green or (R) Red

REPLACEMENT PARTS

Description	Part Number
Driver, 100 watt	K8570063A



**KODIAK ISLAND
BOROUGH**
Engineering & Facilities Department
Projects Office

DATE: UPDATED 2/6/2019
TO: Kodiak Island Borough Assembly, Michael Powers
FROM: David Conrad
SUBJECT: Kodiak Island Borough Tsunami Siren Update

The Kodiak Island Borough (KIB) currently operates and maintains 9 sirens located at various locations throughout the KIB.

These locations are:

Metrokin Way, Chiniak (Near School), Bayview Drive, Sargent Creek Road (Womens Bay Fire Station), Carroll Way, Three Sisters, Seabreeze Circle, Rezanof Drive (Bayside Fire Station), South Russian Creek Road.

With the recent seismic event which led to the Tsunami Warning on November 30, 2018, residents contacted staff with several observations regarding the function of the KIB tsunami sirens. This prompted a request to verify the functionality of the sirens.

Staff was assigned to travel to the siren sites and verify the function. Three sites were identified as questionable and investigated for function.

Carroll Way - The Carroll Way siren was found to have moisture inside the siren and battery boxes. Repairs have been made to alleviate this condition and the function verified.

Three Sisters – Three Sisters was found to have a low voltage situation on one of the two batteries at this site. Both batteries have been replaced and the function verified.

Three Sisters Siren has been repaired in January 2019. The radio receiver has been replaced and a directional antenna for reception gain has been added. This siren location monitoring has been increased to ensure function.

Rezanof Drive (Bayside Fire Department) – The Bayside location was found to have a bad fuse. This was replaced, and the siren function verified.

Since January 2015 through the present, approximately \$89,416.08 has been expended for materials. Estimated KIB labor costs are approximately \$2500.00

If you require additional information regarding this change order please contact me at your convenience.

David Conrad
Kodiak Island Borough
Assistant Engineering and Facilities Director