

Appendix 2 – Dare County 911 Resolution



#14-05-08

Dare County

RESOLUTION SUPPORTING THE APPLICATION FOR A GRANT FROM NORTH CAROLINA 911 BOARD

WHEREAS, the current Public Safety Answering Points or PSAP's providing service and answering 911 calls for Dare/Tyrrell Counties are handled through a system financed, in part, from 911 funds provided by the North Carolina 911 Board under G.S. 62A-46(c); and

WHEREAS, Dare County and Tyrrell County currently operate PSAP's; and

WHEREAS, Dare and Tyrrell County Governments, have recommended the consolidation of 911 communication services throughout Dare/Tyrrell County in an effort to establish an integrated management structure to better serve both County's populations; and

WHEREAS, the North Carolina 911 Board will soon commence a grant cycle which will include the E-911 Consolidation Program intended to provide funding for those jurisdictions seeking to consolidate 911 emergency services; and

WHEREAS, the Dare County Board of Commissioners, and the Tyrrell County Board of Commissioners support the consolidation of the existing PSAP's into an integrated management structure and by this Resolution intend to authorize and to support an application for grant funding under the E-911 Consolidation Program adopted by the North Carolina 911 Board.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Dare County and Tyrrell County, each being a government body located in North Carolina, that:

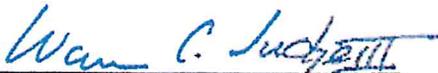
1. Individually and jointly each of the governmental bodies expresses its support for the consolidation of communication services (PSAP's) into a single PSAP as recommended, and
2. To facilitate and finance, or partially finance; the consolidation of communication services, the application for a grant under the E-911 Consolidation Program is authorized and may be submitted to the North Carolina 911 Board when the applications for funding become available, and
3. In order to facilitate the application and granting process, the application shall be submitted and any grant funds received shall be administered with Dare County acting as the lead agency for such purposes or as a joint effort by two (2) or more of the governmental bodies, as may be required by the E-911 Consolidation Program Guidelines, and

This Resolution is adopted by each of the governmental bodies set out below, but executed in counterparts pursuant to authority duly given by official action of the governing body on the date indicated below.

This the 5th day of May, 2014

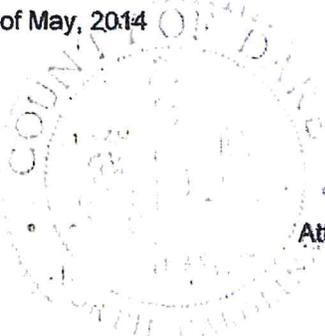
DARE COUNTY BOARD OF COMMISSIONERS

By: _____


Warren C. Judge, Chairman

Attest: _____


Gary Gross, Clerk to the Board



Appendix 3 – Tyrrell County 911 Resolution

Tyrrell County

RESOLUTION SUPPORTING THE
APPLICATION FOR A GRANT FROM
NORTH CAROLINA 911 BOARD

WHEREAS, the current Public Safety Answering Points or PSAP's providing service and answering 911 calls for Dare/Tyrrell Counties are handled through a system financed, in part, from 911 funds provided by the North Carolina 911 Board under G.S. 62A-46(c); and

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3. In order to facilitate the application and granting process, the application shall be submitted and any grant funds received shall be administered with Dare County acting as the lead agency for such purposes or as a joint effort by two (2) or more of the governmental bodies, as may be required by the E-911 Consolidation Program Guidelines, and

This Resolution is adopted by each of the governmental bodies set out below, but executed in counterparts pursuant to authority duly given by official action of the governing body on the date indicated below.

TYRRELL COUNTY BOARD OF COMMISSIONERS

By: Thomas Spruill
Thomas Spruill, Chairman

Attest:
Penny Rhodes Owens
Penny Rhodes Owens, Clerk to the Board



Appendix 4 – Conceptual Facility Design Narrative

CONCEPTUAL FACILITY DESIGN

THE CONCEPTUAL DESIGN PROCESS

In order to have a basis for preparing an estimate of construction cost for the Dare-Tyrrell RECC building and site, a conceptual level design plan was developed. This process consisted of two stages. The first stage, known as programming, involved identification of space and functional requirements for the building and site. The consultant team facilitated two half-day workshops in Manteo, NC, with Dare and Tyrrell County stakeholders, including key staff that will occupy and manage the emergency communications center (ECC) and emergency operations center (EOC). Using a program template developed by the consultant team that included the types and sizes of spaces typically found in similar facilities, workshop participants identified revisions and refinements necessary to customize the template to the specific requirements of Dare and Tyrrell Counties. The consultant team then revised the template accordingly and submitted it to the counties for review. Final refinements were then identified and incorporated. Refer to Dare-Tyrrell Programming Spreadsheet for the resulting final program document.

Based on the final program, a conceptual building floor plan was developed. The plan was reviewed with stakeholders of both counties and revised in response to their feedback, resulting in the proposed one-story, 17,784 square-foot plan to meet the requirements outlined in programming information indicated in the attached facility concept plan.

Two different site plan concepts for the property parcel selected by Dare County for this project were developed and evaluated with the county stakeholders. The first plan located the facility adjacent to Airport Road. The second plan, which locates it farther from the road, was preferred because it would be more remote from public traffic and would reserve the area adjacent to Airport Road for a future facility of a more public nature. Refer to the attached site plan.

BUILDING COMPONENTS AND SYSTEMS

Overall Building Design

The building will be one-story but the finished floor level will be elevated six feet above grade due to potential flooding considerations. The public entrance and associated secure lobby will be located on the southeast side of the building and the staff and service entrances will be located on the northwest side, accessible from the gated parking area. There will be a ten-foot wide, unroofed service deck along the northwest side of the building to facilitate staff and service access. It will be accessible by stairs and a ramp that complies with requirements of the Americans with Disabilities Act, as will the public entrance.

The building components and systems used as a basis for estimating costs are described below. These components and systems may be subject to change when more detailed planning and design of the facility is undertaken.

Building Structure

The building structure will consist of exterior load bearing walls and interior steel framing. The roof structure will be a steel deck supported on open web steel joists supported on the interior steel beams and columns and exterior ICF bearing walls.

Final determination of the foundation system is contingent upon completion of a geotechnical investigation, which is not part of the consultant team's services; however, it is anticipated that concrete pile foundations may be necessary due to soil conditions. A perimeter concrete grade beam spanning between pile caps would support the exterior bearing walls. Due to flooding considerations, the building floor level will be raised six feet above the existing grade over a crawl space. The floor will be supported by poured-in-place concrete columns which will in turn be supported by the pile caps. Poured-in-place concrete, precast concrete planks and beams, and concrete slab supported by steel deck and steel beams may all be considered for the floor structure. The elevation of the floor will vary by 18 inches where raised access flooring is installed in order to keep all finished floors in the building at the same level.

Primary wind force resistance will be provided by reinforced concrete and/or masonry shear walls. The building will be designed for a peak gust wind of 130 mph with an additional importance factor of 1.15 for an essential building. This is equivalent to the highest winds of Category 2, or lowest winds in Category 3 per the Saffir-Simpson Hurricane Wind Scale. Windows will also be designed for resistance against wind-borne debris.

Building Envelope

Typical exterior wall construction will consist of face brick veneer cavity walls with architectural precast concrete or cast stone accents. The veneer will be backed up with load bearing insulating concrete form (ICF) walls. The ICF walls provide superior thermal resistance and energy use performance, and will also provide superior acoustical performance to reduce the effects of noise associated with the adjacent Dare County Regional Airport. ICF walls are a more cost effective solution than concrete masonry for achieving the strength necessary to withstand 130 MPH peak wind loads.

Windows will consist of a combination of thermally broken aluminum storefront or curtain-wall window systems as determined by the sizes of the openings and the associated wind pressures. They will be glazed with a laminated and insulated, double pane, low-emissivity (low-e) glazing that will be rated to withstand the debris impacts associated with the 130 MPH peak wind loads.

Exterior doors to service spaces will be painted, galvanized, steel doors and frames. All other exterior doors will be aluminum doors with laminated glazing rated to withstand the debris impacts associated with the 130 MPH wind loads, set in a thermally broken aluminum storefront frame.

The roofing assembly will include a sloped standing seam metal roofing system. The roof will drain into fascia mounted gutters and discharge into vertical downspouts mounted to the exterior face of the building. There will be no rooftop mounted mechanical equipment.

Interior Construction

Interior partitions will primarily be constructed of gypsum wallboard (GWB) attached to cold formed steel framing (metal studs). Acoustical batt insulation will be provided where necessary at interior partitions to reduce sound transmission between adjacent spaces.

An 18-inch high access flooring system will be provided for the ECC and EOC to facilitate future modifications to power and technology systems.

Interior doors will be solid core wood doors with painted steel frames. Doors will typically be 3'-0" wide by 7'-0" high. The interior window at the public lobby will have ballistic-rated glazing set in a detention-type steel frame with a microphone and sliding package/paper pass.

Interior finishes will be durable and will include sustainable materials where practical and affordable. Where suitable, materials will be specified that contain recycled and regional content. Materials and installation methods will include the use of compounds which emit low amounts of volatile organic compounds (VOCs).

Private offices and open office area finishes will include carpet with rubber base, painted walls, and lay-in acoustical panel ceiling. Main circulation corridor finishes will include linoleum floors with rubber base and a water-based, high performance paint finish which has a low VOCs and a high scrub rating on the walls. Toilet rooms and wet areas will include porcelain pavers or ceramic tile and base on the floors and walls with paint above a tile wainscot.

Casework in wet areas including all areas with a sink shall have solid surface counters and cabinetry finished with plastic laminate. General casework in other areas shall have a plastic laminate finish on counters and cabinetry.

Acoustical treatments will be provided in the ECC facilitate the communicators' ability to clearly hear calls with minimal distraction. This will also facilitate the supervisors' ability to hear all dispatchers from the supervisor consoles. Similar acoustical treatment will be used at the EOC.

Heating, Ventilating, and Air-Conditioning (HVAC)

Heating and cooling will be provided by a geothermal system that will utilize a well field to be installed on the site as part of the project. This system will provide superior energy performance. The geothermal system will utilize water source heat pumps serving each heating/cooling zone. Outside air will be provided to each heat pump from a dedicated outside air unit located in the mechanical room. The dedicated outside air unit will have an energy recovery wheel to reduce energy required to condition the outside air. Building exhaust will be brought back through the dedicated outside air unit energy recovery wheel before exhausting to the outdoors. Each heating/cooling zone will have a temperature sensor with limited set-point adjustment for the zone. The amount of set-point adjustment allowed will be controlled by the building automation system with web based direct digital type controls. It is anticipated that all mechanical equipment except the geothermal well field will be located within the building. Redundant HVAC will be provided for 911 operations and equipment areas, including two stand-alone computer room cooling units in the equipment room.

Plumbing

Plumbing fixtures will be high efficiency, commercial grade units specified to reduce water consumption. Fixtures accessible to the physically handicapped shall be provided as required by applicable codes and regulations. Toilets shall be floor mounted 1.28 gallon per flush (GPF) units, toilet room lavatories shall be wall hung 0.5 gallon per minute (GPM) units and urinals shall be wall hung 0.125 GPF units. Counter top sinks will be stainless steel drop-in units.

A reduced pressure zone (RPZ) backflow preventer will be installed in the incoming water service line to prevent potential contamination of the public water supply. The need for domestic booster pumps will be determined when more detailed design takes place. Domestic cold water, hot water, and hot water recirculation piping will be copper. Electric water heaters will generate

the domestic hot water supply. The sanitary system will discharge by gravity to an on-site septic disposal system to be installed on the site as part of the project.

A new well will be installed with the project to provide a redundant water supply in case of loss of county water supply.

Fire Protection

A pre-action sprinkler system, possibly in conjunction with a water mist fire suppression system, will protect the ECC, EOC, and main equipment room. Other areas of the building will be protected by a wet type sprinkler system. Areas requiring protection and subject to freezing, if any, will be served by dry sprinklers, an antifreeze system, or dry pipe type system per NFPA-13. Preliminary flow data from Dare County suggests adequate water supply for fire protection systems may be a concern and further analysis and discussion with the local Fire Marshal are recommended.

Electrical

Power will be provided by the local electrical utility, Dominion North Carolina Power. Service to the building is expected to be run underground. The power system will be a 120/208 volt system rated at approximately 1,200 amperes.

Emergency power sufficient for the entire building in the event of loss of utility power will be supplied by two 300 kW diesel driven emergency generators which will be located within the building. The dual generators are recommended to provide redundancy should one of them fail. A day tank for diesel fuel will be located in the generator room but the primary fuel tank must be located outside of the building.

A complete system of artificial interior lighting will be provided for all spaces. Lighting will be installed in accordance with the recommended Illumination Engineering Society (IES) Standards. In general, all interior lighting will be fluorescent with the possible exception of certain areas where LED fixtures may be used for special lighting applications. As an energy-saving measure, spaces such as offices, conference rooms, sleeping rooms, and toilets will be provided with motion sensors to automatically turn lights off when not occupied.

The fire alarm system will be of the intelligent, electrically operated, supervised, and closed circuit type. The fire alarm system will allow for individually annunciated devices. The system will include fire alarm-programmed dry contacts for security electronics and building automation system monitoring of fire alarm status. An LCD text annunciator panel with full system operability will be provided in the entry lobby as part of the fire alarm system. Manual pull stations, smoke detectors, thermal detectors, and alarm horns with visual indication shall be located in accordance with applicable codes and standards.

Cable television outlets will be provided to serve televisions located in designated spaces.

A public address system will be provided for the facility.

The facility will be provided with a UL-Certified lightning protection system designed and installed in accordance with NFPA 780.

Electronic Security

The security system will consist of access control, video surveillance and recording, and miscellaneous monitoring devices (intrusion detectors, duress/panic devices, etc.). The access control and video surveillance subsystems will be computer based and programmable to meet the current and ongoing security and operational needs of the facility. The system will communicate via a secure network, which will limit the potential for outside unauthorized access to the system.

Site

The project will include a new access drive from Airport Road, approximately 7 visitor parking spaces, and a separate, gated parking lot with approximately 110 parking spaces for staff and other official vehicles. Vehicular paving will be asphalt over aggregate base. Pedestrian paving will be poured-in-place concrete. The visitor parking will be located 25 meters from the building to provide standoff distance from potential vehicle-borne explosives. An earth berm or swale will be utilized to limit the proximity to which unauthorized vehicles may approach the building.

Water for domestic use and fire protection will be provided via connection to the existing eight-inch water line in Airport Road. A new well will be installed as part of the project to serve as a redundant source of domestic water in case of the loss of county water supply. Preliminary flow data from the county suggests adequate supply for fire protection systems may be a concern and further analysis and discussion with the local fire marshal are recommended to determine necessary measures to provide adequate supply, which may include a fire pump and/or on-site water storage.

An on-site septic disposal system will be required for this site and will be installed as part of the project.

It is anticipated that the property parcel on which the RECC will be situated will be developed under a “Low Density” stormwater option, which will not require structural stormwater BMPs (such as ponds or constructed wetlands) but will require that a certain amount of open space be reserved to ensure that impervious surfaces comprise less than 24% of the entire parcel.

A new communications tower with an estimated height of 70 feet is indicated on the conceptual site plan. This tower will likely require review and approval by the Federal Aviation Administration before it can be constructed.

Appendix 5 – Dare County Site Evaluation



Dare County 911 Center

Site Evaluation

402 Airport Road
Manteo, NC

Draft
for Review and Consideration
May 5, 2014



Prepared by:
CLH Design, pa

Site Description

Address: 402 Airport Road
Manteo, Dare County, NC

City Limits: Outside Manteo Town Limits

PIN: 987011665299

Parcel No.: 025105000

Acreage: 40.38-ac

Owner: Dare County

Planning & Zoning

Planning Authority: Dare County

Contact: Donna Creef, Dare County Planning Director
252-475-5873

Parcel Zoning: I-1

Overlay Zoning: Airport District Overlay
County defers to Airport Authority
Contact: David Daniels, Interim Director, 252-475-5570

Allowed Use: Yes (County Uses allowed in all Districts)

Height Restriction: 35-ft

GFA Restriction: 20,000-sf

Coverage Restriction: 35% impervious limit, 60% building coverage limit

Min. Lot Size: 1-acre

Building Setbacks: F: 15-ft
R: 20-ft
S: 10-ft (15-ft at corner lot)

Other Setbacks: 75' from residential district boundary

Landscape Buffers: 10' from parking to R/W and buffer from adjacent residential

Parking: No standard for this use – differ to user
10' x 20' stall dimension

Narrative: A County-owned 911 center is allowable under the current zoning (County-owned facilities are allowed in all County zoning districts). Specific attention should be given to the building size and height limitations of the base and overlay zoning classifications noted above. The County Planning Department will submit the Site Plan to the Airport Authority for review. Setbacks and parking requirements should not pose problems with development on this site.

Stormwater

Authority: NCDENR

Regulation: Coastal SW Rules (15A NCAC 02H)
Site is within ½ mile of SA waters

Design Options: Low Density: 12% or less BUA, 50' buffers, diffuse flow.

High Density: Treat 1.5-in & Pre/Post 1-yr/24-hr with vegetative filter, 50' buffers, diffuse flow.

Buffers: None present on USGS Quad Map or Dare County Soil Map.

Narrative: The selected option for stormwater management on this site will depend on the tract area that will be reserved for this project and the resulting percent of the tract that will be covered by "Built Upon Area" (i.e. impervious surfaces such as roof, pavement, etc.).

If the percentage of BUA is kept below 12% of the "tract area" then low-density design approaches may be employed to avoid the construction of constructed stormwater BMPs (Best Management Practices). Vegetated conveyances must be used to the greatest extent possible in lieu of curbs and pipes in the low-density option. The BUA limits will apply to the proposed project and any future expansions within the "tract" limits.

If the percentage of BUA is greater than 12% then constructed stormwater BMPs, such as wet detention ponds, constructed wetlands, etc., will be required. Physical space and budget (both capital and maintenance) for these facilities should be considered during early phases of design.

CAMA

Authority: NCDENR Division of Coastal Management (Elizabeth City District)

Contact: Kelly Russell / Yvonne Carver
252-264-3901

Applicability: None. Site is greater than 75-ft from waterway, no CAMA permit required.

Narrative: CAMA permitting will not be required for development on this site.

FEMA

Authority: FEMA

Applicability: Site located within Area of Flood Hazard (0.2% Annual Chance Flood Hazard, Area of 1% Annual Chance Flood with average depth less than one foot)

Base Flood appears to be EL 7.

Per Dare County, the water level of a CAT 4 hurricane is EL 13-18 and the existing ground surface at the site is approximately EL 15.

Narrative: The Owner has requested the finished floor elevation of the building be set 3-ft above the CAT 4 water level resulting in a planned finished floor elevation of 21.0. It should be noted that existing roads accessing the site may be inundated during base flood conditions and the parking lots may be inundated during a CAT 4 storm.

Domestic Water

Source: Connection to existing public water main at site

Authority: Dare County Water Department

Contact: Ken Flatt, Director
252-475-5606

Ex. Infrastructure: 8-in water main in Airport Road

Ex. Flow & Pressure: 840-gpm @ 25-psi per County

Narrative: Public water is available along the frontage of the property. A fire hydrant flow test should be performed in the vicinity of the site to obtain accurate flow and pressure conditions for design of fire protection systems. Preliminary flow data from the County suggests adequate supply for fire protection systems may be a concern and further analysis and discussion with the local Fire Marshal are recommended. Water supply for normal domestic use appears adequate. The Owner desires a domestic well be drilled for back-up domestic water supply.

Sewage/Septic

Source: On-site septic required (no public or private utility available)

Authority: Dare County Health Department

Contact: Manteo Office
252-475-5092

Ex. Infrastructure: None

Procedure: Submit site plan and building data (including uses and occupancies)

Narrative: An on-site septic disposal system will be required for this site. The Dare County Health Department can evaluate and size a septic disposal system upon application and submittal of building and occupancy data. Physical space for a disposal field and reserve field (both in undisturbed areas) should be considered during the early design phase. Similar disposal systems in the area (including the adjacent Aquarium) have a history of proper functioning.

Electricity

Provider: Dominion North Carolina Power

Contact: 1-866-366-4357

Narrative: Infrastructure adequacy should be evaluated by the project's electrical engineer.

Natural Gas

Provider: Piedmont Natural Gas

Contact: Lauren Hill, Local Sales Representative
252-264-3759

Narrative: There are currently no natural gas distribution lines on Roanoke Island. Natural gas service to this site is not reasonably feasible.

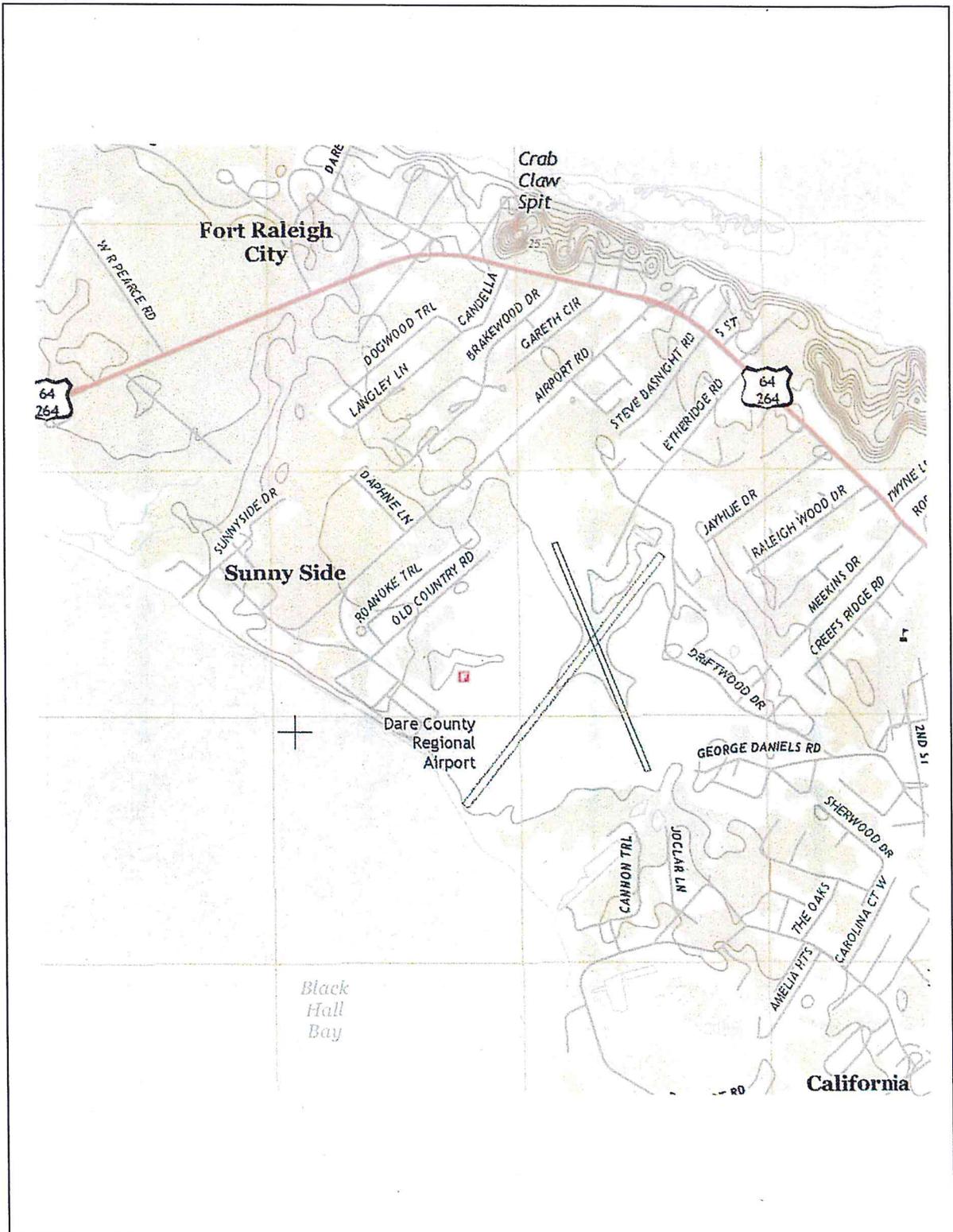
MAPS & FIGURES

Parcel Number: <input type="text" value="025105000"/>	Print Date: 3/21/2014
County of Dare, North Carolina	
*Owner and Parcel information is based on current data on file and was last updated on 2/14/2014	
Owner Information: DARE COUNTY P O BOX 1000 MANTEO NC 27954	
Parcel Information: Parcel: 025105000 PIN: 987011665299 District: 11 - MANTEO OUT Subdivision: SUBDIVISION - NONE LotBlkSect: LOT: BLK: SEC: Multiple Lots: D C REGIONAL AIRPORT PlatCabSlide: PL: SL: Units: 0 Deed Date: 07/16/1971 BkPg: 0178/0074	
Property Use: COUNTY OF DARE	402 AIRPORT RD
BUILDING USE and FEATURES	Current Building Value: \$245,300
Building Use: PREFAB WAREHOUSE	Actual Year Built: 2003
Exterior Walls:	
Full Baths:	Half Baths:
Bedrooms:	
Heat-Fuel:	
Heat-Type:	Finished sqft for building 1: 8200
Air Conditioning:	Total Finished SqFt for all bldgs: 8200
MISCELLANEOUS USE	Current Misc Value: \$0
LAND USE	Current Land Value: \$1,247,000
Land Description : 11-Commercial Vlg Undeveloped	
TOTAL LAND AREA: 40.38 acres	
Current Total Value: \$1,492,300	

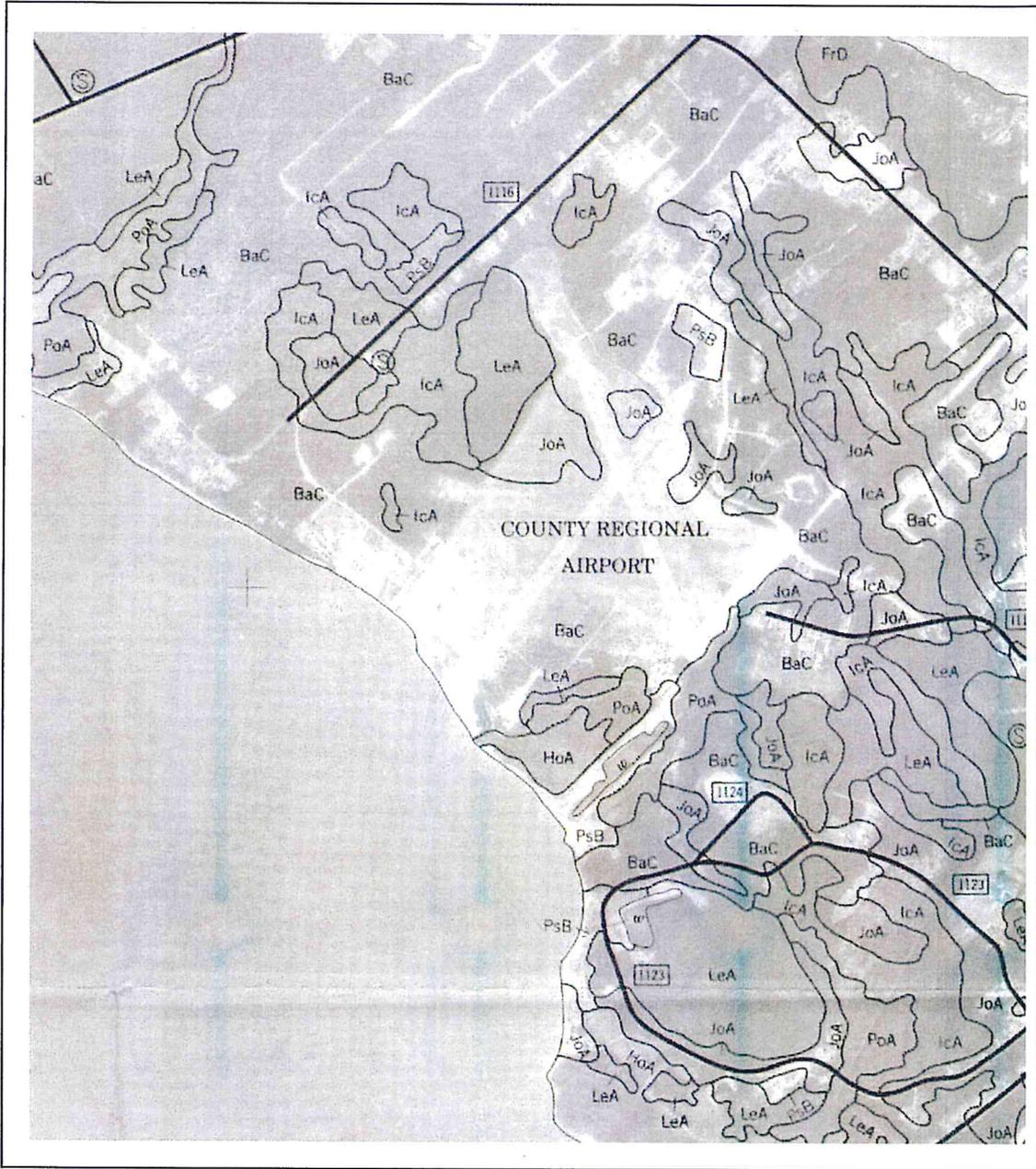
Parcel Information from Dare County GIS



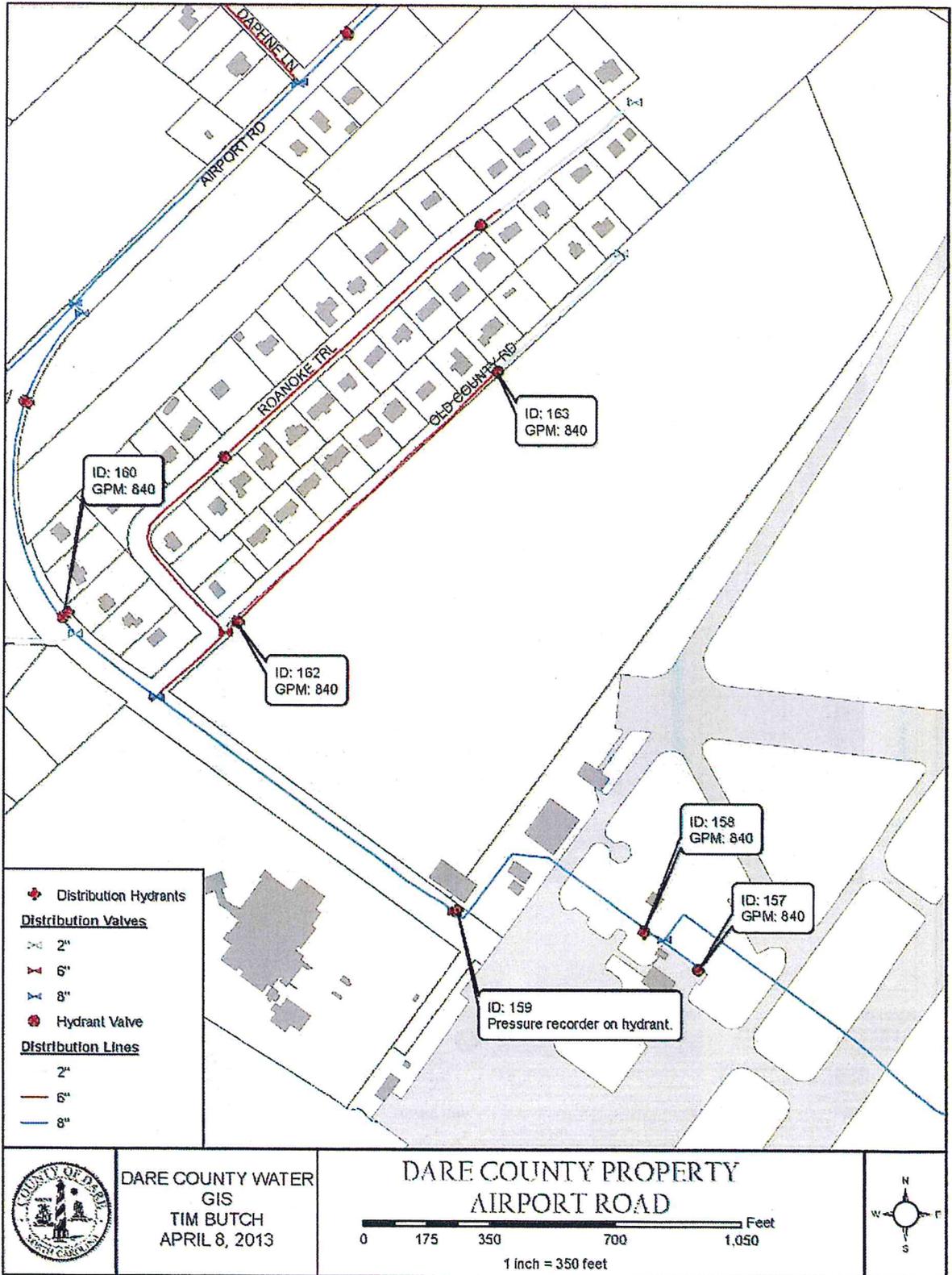
Aerial Photograph from Dare County GIS



USGS Quad Map "Manteo NC" 2013



Dare County Soil Survey (Map 6)



Dare County Water Department - Water System Map

Appendix 6 – Initial RECC Facility Programming

AREA SUMMARY: Dare & Tyrrell RECC

	NSF	Grossing Factor	GSF	Total
TOTALS				
1 FRONT OF HOUSE / BACK OF HOUSE / SUPPORT	5,374	31 %	1,271	6,645
2 AGENCY (DARE & TYRRELL 911) EMERGENCY COMMUNICATIONS	2,310	42 %	972	3,282
3 OFFICE OF EMERGENCY MANAGEMENT-EOC/JIC	4,782	42 %	1,294	6,076
Subtotal	12,466	38 %	3,537	16,003
BUILDING GSF @ 12%			1,920	
TOTAL EOC/AGENCY (DARE & TYRRELL 911) BUILDING AREA	12,466		5,457	17,923

1 FRONT OF HOUSE		Area	Space Code	Per Unit	Units	NSF	Grossing Factor	GSF	Total
1.1	FRONT OF HOUSE-AGENCY (DARE & TYRRELL) & EOC	BUILDING ADJACENCIES							
1.1.1A	Entry Vestibule	911 Operations Floor		42	1	42	10 %	4	46
1.1.1B	Staff/EOC Entry Vestibule	EOC, staff lockers		42	1	42	10 %	4	46
1.1.3	Waiting/Reception			80	1	80	30 %	24	104
1.1.9	Materials-Justice pass-through			8	1	8	25 %	2	10
1.2	SUPPORT-EQUIPMENT ROOMS	BUILDING ADJACENCIES							
1.2.1	Equipment/UPS Room			962	1	962	25 %	241	1,203
	Radio and Logger Equipment Room								
	Describe (Dare & Tyrrell)-Radio Vendor Workstation	SO/WS							
	Radio Repair Room								
	Telephony Equipment Room								
	CAD/EMA/Mapping/Database Room								
	UPS Room								
1.2.2	Vendor Workstations	WS		48	1	48	50 %	24	72
1.2.3	Main Power Distribution			300	1	300	10 %	30	330
1.2.6	Emergency Generator			200	1.5	300	10 %	30	330
1.2.7	Mechanical/Plumbing Room/Fire Protection			675	1	675	10 %	68	743
1.2.8	Maintenance Supervisor Office	Receiving area	CO/WS	80	1	80	30 %	24	104
1.2.9	Maintenance/Custodial Storage			100	1	100	25 %	25	125
1.2.11	Janitorial Closet / Mop Sink			25	1	25	10 %	3	28

			Space Code	Area Per Unit	Units	NSF	Grossing Factor	GSF	Total
1.3	BACK OF HOUSE	BUILDING ADJACENCIES							
1.3.1	Fire Resistive Storage Area	Equipment Room.		24	0.5	12	15%	2	14
1.3.3	Toilet Rooms-Male/Female	911 Operations Floor/EOC Support Room		96	4	384	15%	58	442
1.3.4	Toilet Rooms-Female	EOC		180	1	180	15%	27	207
1.3.4B	Toilet Rooms-Male	EOC		180	1	180	15%	27	207
1.3.5	Bulk Food/Water Storage			120	1	120	10%	12	132
1.3.6	Freezer/Fridge			80	1	80	10%	8	88
1.3.7A1	Lockers - 911/EOC; Male	EOC; next to 911 floor		6	34	204	35%	71	275
1.3.7A2	Lockers - 911/EOC; Female	EOC; next to 911 floor		6	20	120	35%	42	162
1.3.7B	Lockers - 911; Unisex (temporary use 911)	911 Operations Floor		6	8	48	35%	17	65
1.3.8A1	Sleeping Rooms - EOC; Male/Female	EOC		100	4	400	35%	140	540
1.3.8A2	Sleeping Rooms - EOC; Male/Female	EOC		80	4	320	35%	112	432
1.3.9	Full preparation kitchen	Shared by EMA/911		300	1	300	50%	150	450
1.3.9A	Eating Area Break Room - seat 20	Full preparation kitchen		15	20	300	35%	105	405
1.3.10	Receiving Area	Full prep kitchen and equipment room		64	1	64	35%	22	86
Subtotal FRONT OF HOUSE						5,374	31 %	1,271	6,645

			Space Code	Area Per Unit	Units	NSF	Grossing Factor	GSF	Total
2	Agency (Dare & Tyrrell 911)								
2.1	ADMINISTRATION	BUILDING ADJACENCIES							
2.1.1	Director-Agency (Dare & Tyrrell)		CO	180	1	180	30%	54	234
2.1.2	Agency (Dare & Tyrrell) Secretary/Admin	Work/file space.	SO	100	1	100	50%	50	150
2.1.3	Agency (Dare & Tyrrell) 911 Assistant Director (Dare & Tyrrell)		CO	120	1	120	30%	36	156
2.1.5	Agency (Dare & Tyrrell) Shift Supervisors	Visual support to Operations Floor.	CO	64	2	128	50%	64	192
2.1.6	Agency (Dare & Tyrrell) QA/Compliance		WS	64	1	64	30%	19	83
2.1.8	Agency (Dare & Tyrrell) CAD/IT/QA Staff	Systems upgrades-near Equipment Room	WS	64	1	64	30%	19	83
2.1.9	Mini-kitchen/Break Room	Operations floor		60	1	60	25%	15	75
2.1.10	Quiet Room	Operations floor	CO	75	1	75	25%	19	94
2.1.11	Quiet Room Lavatory	Operations floor		70	2	140	25%	35	175
2.1.13	Copy / Work Room		CO	90	1	90	25%	23	113
2.2	TRAINING	BUILDING ADJACENCIES							
2.2.1	Training Supervisor	Communications Floor/Training Room	WS	64	1	64	50%	32	96
2.2.2	Training Room-Non-Systems	Communications Floor/911 Work area	WS	30	4	120	50%	60	180
2.2.3	Training Supplies			25	1	25	25%	6	31
2.3	AGENCY (DARE & TYRRELL) EMERGENCY COMMUNICATIONS	BUILDING ADJACENCIES							
2.3.1	Floor Supervisors-Agency (Dare & Tyrrell)		WS	120	1	120	50%	60	180
2.3.4	Dispatchers-Call takers		WS	96	7	672	50%	336	1,008
2.3.5	Training Positions		WS	96	2	192	50%	96	288
2.3.7	Communications Work Area			96	1	96	50%	48	144
Subtotal AGENCY (DARE & TYRRELL)						2,310	42 %	972	3,282

			Space Code	Area Per Unit	Units	NSF	Grossing Factor	GSF	Total
3	EOC								
3.1	ADMINISTRATION	BUILDING ADJACENCIES							
3.1.1	Coordinator EM		CO	180	1	180	30%	54	234
3.1.5	EMA-Secretary/Admin		WS	64	1	64	50%	32	96
3.1.6	Command Room-Dare	Support Room-hardened EOC area		32	16	512	20%	102	614
3.1.7	Conference Room-Dare	All agencies' use		22	8	176	20%	35	211
3.1.12	Office Copy/Work/Mail	EMA Secretary		40	1	40	25%	10	50
3.1.14	File Area (Lateral Files)	EMA Secretary		20	1	20	30%	6	26
3.1.15	Supplies/Equipment Closet	EMA Secretary/Amateur radio		36	1	36	25%	9	45
3.1.20	Office for EMS Director		CO	180	1	180	30%	54	234
3.1.20	Office for EMS Deputy Director		CO	120	2	240	30%	72	312
3.1.20	Office for EMS Captains		WS	64	4	256	30%	77	333
3.1.20	Area for EMS Administrative support/billing		WS	96	2	192	40%	77	269
3.1.21	Office for Fire Marshall		CO	120	1	120	30%	36	156
3.1.22	Administrative Office-Future		WS	64	1	64	50%	32	96
3.2	EOC FLOOR	BUILDING ADJACENCIES							
3.2.1	Support Room/EOC-Dare		WS	34	46	1,564	10%	156	1,720
3.2.2	Support Room/EOC Executive Area		WS	11	36	396	65%	257	653
3.2.3	Communications/Watch Desk/Dispatch Area	Executive area	WS	26	2	52	65%	34	86
3.2.5	Library shelving			24	1	24	25%	6	30
3.2.6	EOC Storage			8	1	8	25%	2	10
3.2.8	EOC Copier/Work			24	1	24	25%	6	30
3.2.11	EOC Audio Visual Control Equipment	Executive area		30	1	30	30%	9	39
3.2.12	Amateur Radio Room	Support Room		30	2.5	75	50%	38	113
3.3	JIC/MEDIA	BUILDING ADJACENCIES							
3.3.1	JIC Manager/PIO	JIC Command	CO	80	1	80	30%	24	104
3.3.2	Command/JIC	PIO	WS	26	6	156	50%	78	234
3.3.3	Facility Conference Room	JIC Command/911 Administration/EOC Support Room	WS	23	8	184	30%	55	239
3.3.4	Telephone answering/Rumor Control		WS	23	1	23	30%	7	30
3.3.5	JIC Audio Visual Control			6	1	6	30%	2	8
3.3.6	Media Briefing/Studio Area		CO	80	1	80	30%	24	104
Subtotal EOC						4,782	42%	1,294	6,076
Subtotal AGENCY (DARE & TYRRELL)/EOC FACILITY						12,466	38%	3,537	16,003

Appendix 7 – Schematic Floor Plan

Appendix 8 – Schematic Floor Plan (2)

Appendix 9 – Dare County Staffing

METHODOLOGY

To determine space and staffing needs, call centers and 9-1-1 centers use calculations based on call volume and workload. The Association of Public-Safety Communications Officials (APCO) and the National Emergency Number Association (NENA), industry leaders in the emergency communications arena, have developed tools based on the Erlang C¹ calculator, coupled with calculations that take into consideration other PSAP data (e.g., leave usage). PSAP data is measured and used as a basis for projecting the number of call taker, dispatcher and supervisory staff required to adequately handle call and incident volumes.

In 2010, NENA implemented a Communications Center Staffing Tool in concert with the Center Manager Certification Program.² The staffing tool, partially based on NENA Standard 54-501A, is a formalized system that takes into account call volume and other PSAP-specific data, such as incident volume and leave, to calculate staffing needs. Mission Critical Partners, Inc. (MCP) uses the NENA staffing tool to project positions and staffing requirements.

The value of any resulting staff projections is dependent upon the accuracy of the data and statistics provided by the PSAP.

Dare and Tyrrell counties provided the data utilized in the staffing analysis. Data provided was cumulative, and not broken down by day or night shifts.

For Dare and Tyrrell counties, staffing calculations are based on the following information:

- Actual 2013 call volume provided by Dare and Tyrrell counties.

2013 Annual Call Volumes	
9-1-1 Call Volume	25,282
7/10-digit Call Volume	61,504
Outbound Call Volume	22,362
Total Call Volume	109,148

The majority of the call volume can be attributed to Dare County, with 107,191 calls – the equivalent of 98.2 percent of the volume.

¹ The Erlang C calculator is a standard tool in the public safety industry utilized to assist emergency communications centers in determining call taker staffing needs. This tool simplifies the complicated calculations required to predict and analyze performance. The calculator can be used to answer such questions as how many call taker positions are needed, how many calls can be handled, and how many trunks are needed. As the tool relates to recommending the number of positions needed, variables, such as the calls received per hour, average call duration, average answer delay and required answering performance goal, are needed for the calculation.

² The Communications Center Staffing Tool is also an 8-hour workshop sponsored by NENA.

- Actual 2013 incident volume provided by Dare and Tyrrell counties.

2013 Annual Incident Volumes	
Law Enforcement Incident Volume	103,570
Fire Incident Volume	6,263
EMS Incident Volume	8,310
Other Incident Volume	3,953
Total Incident Volume	122,096

The majority of the incident volume can again be attributed to Dare County, with 118,143 calls – the equivalent of 96.8 percent of the volume.

- Average of 84 seconds (1.4 minutes) used for processing 9-1-1 calls, while 120 seconds (2:00 minutes) used for processing administrative calls.

Dare County provided a range of 60 to 180 seconds for processing emergency and non-emergency calls. MCP used averages known from other centers to narrow the times.

- Leave usage provided by Dare County:
 - Annual and Holiday used in 2013 = 3,846 hours; average of 183.16 hours per employee (approximately 4½ weeks per person)
 - Sick used in 2013 = 1,396 hours; average of 66.47 hours per employee
 - Family Medical Leave Act and military time used in 2013 = 1,600 hours; average of 76.19 hours per employee

Again, Dare County provided a grand total for each of three call types: annual, holiday and sick. A break down for 2013 has not yet been provided. As such, MCP extrapolated the data based on a yearly average from the three. Tyrrell County did not provide leave data.

- No break period was used for calculations as Dare County advised that “Telecommunicators ... do not have required or voluntary breaks or Lunch [*sic*] times. Lunch is eaten at their work stations” [*sic*]
- U.S. Census 2010 Population for Dare and Tyrrell counties = 38,327, of which 4,407 are attributable to Tyrrell County
Estimated 2014 Population for Dare and Tyrrell counties = 39,138

Average Number of Calls Per Person	
Total Average Incoming Call Volume	86,786
Current Population	39,138
Average Number of Calls Per Person	2.22

STAFFING SUMMARY

Dare County, North Carolina, 9-1-1 Center, located within the Sheriff's Office, currently has a staff of 21 full-time employees (FTE), excluding administrative personnel. Tyrrell County, North Carolina, 9-1-1 Center is also located within the Sheriff's Office and has a staff of five FTEs.

Dare County staffs five dedicated positions 24 hours a day, 7 days a week (24/7): one call taker position, two law enforcement positions (Sheriff and Beach Law), one fire position and one emergency medical services (EMS) position. Dare County 9-1-1's normal staffing is five—one supervisor, one assistant supervisor, and three telecommunicators. As five positions are staffed 24/7, this means that the supervisor is a working position.

Annually, the two centers process approximately 109,000 calls (inbound and outbound), with an approximate incident volume of 122,000.

Currently, Dare County has four squads that each work 12-shifts. A squad will work two 12-hour day shifts and two 12-hour night shifts in a 4-day period, followed by four days off. During the 4-day off period, the other two squads are on duty. One call taker and four radio positions are staffed each shift. With a staffing contingent of only 21, each squad has only 5. With five positions to be staffed, if someone is on vacation or out sick, a person must be called in from their days off and paid overtime.

In 2013, 9-1-1 Communication Center staff used over 6,480 hours of paid leave, which equates to losing the work time of three people. This time away does not include time away for training or meetings.

Mission Critical Partners, Inc. (MCP) utilized NENA's staffing tool to project staffing needs. PSAP data is measured and used as a basis for projecting the number of call taker, dispatcher and supervisory staff required to adequately handle call and incident volumes.

Based *strictly* on the number of calls and incidents handled by the Dare County 9-1-1 Center (if all calls could be evenly spread across each day), the center has an adequate number of staff. However, based on the current configuration, i.e., the call taker and dispatcher positions that need to be staffed 24/7; the current schedule; the fact that calls are not evenly spread; and paid time off, staffing is inadequate.

Based on availability (which takes into account leave), utilization and attrition, **staffing one call taker and four radio positions 24/7 requires 25 people.** This is four more than current staffing.

Regardless of whether staffing is increased, Dare County 9-1-1 can take over call take and dispatch responsibilities for Tyrrell County with no change in personnel due to their low call and incident volumes.

A staff complement of 25 on the 4-squad 12-hour schedule, would provide 6 people per squad, including the supervisor. This staff complement will allow one person per squad to be off without the need to call in someone for overtime. The “extra” person could be assigned to a squad and work a power shift of sorts to cover peak times. When a squad has a full complement on duty, this will allow time for the supervisor to provide oversight to the squad, rather than be assigned a position.

The National Fire Protection Association (NFPA) has developed codes, standards, and recommended practices through a process approved by the American National Standards Institute (ANSI). The Technical Committee on Public Emergency Service Communication prepared the latest edition of NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems* (Edition 2013). Chapter 7 of sets forth the standards for PSAP operations; Section 1 of Chapter 7 addresses management.

NFPA 1221, 7.1.3 states, “Direct supervision shall be provided when more than two telecommunicators are on duty.”

NFPA 1221, 7.1.3.1 states, “The supervision shall be provided by personnel located within the communications center who are familiar with the operations and procedures of the communications center.”

NFPA 1221, 7.1.3.2 states, “The supervisor shall be allowed to provide short-term relief coverage for telecommunicators, provided that the telecommunicator does not leave the communications center and is available for immediate recall.”

Annex A of NFPA 1221 provides further explanation. A.7.1.3 states, “The supervisor position(s) in the communications center are provided in addition to the telecommunicators [*sic*] positions. Although supervisory personnel are intended to be available for problem solving, the supervisor position is permitted to be a working position.”

The *Standards for Public Safety Communications Agencies* (SPSCA), established jointly by CALEA and APCO, does not specifically address staffing or supervision in a PSAP. However, both sets of standards reference utilizing ‘Incident Command System’ (ICS) protocols. (CALEA Standard 46.1.2 and SPSCA Standard 7.1.2 are mandatory for accreditation.)

The Department of Homeland Security, coordinating with federal, state and local governments established the National Incident Management System (NIMS). ICS falls under the ‘Command and Management’ element of NIMS. ICS represents best practices and is the standard for emergency management across the country. ICS requires a supervisor when there are between three and seven persons performing similar functions. (The optimal span of control is five.) A manageable span of control allows supervisors to supervise and control their subordinates, while allowing for efficient communications between all parties.

While NFPA standards and ICS require dedicated supervisory personnel, there are in-house considerations as well. A dedicated supervisor assigned to each shift:

- Provides coordination and direction during major emergency incidents
- Is available for problem solving
- Is a single point of contact for subscriber agencies
- Is readily able to identify areas for growth among subordinates
- Has the ability to document employees' performance for annual/periodic reviews
- Provides a more narrow scope of supervision when implementing new policies and procedures
- Provides more supervision for diversified, complex tasks
- Is able to stay current with technological changes/advancements
- Provides guidance to new employees who have less training and experience
- Provides greater knowledge of laws, procedures, and administrative processes
- Is able to focus on the operations of the PSAP as a whole and not have split responsibilities with a dispatch position
- Is able to focus on customer service to public, subscriber agencies
- Allows for improved communications with management, subordinates, and subscriber agencies
- Spends more time with subordinates individually, on a daily basis
- Allows for operational efficiency
- Is able to identify areas for remedial training, counseling or discipline, when appropriate
- Is able to address issues upon occurrence, not after the fact
- Is able to set priorities
- Allows for delegation of tasks/responsibilities

Preference is for the shift supervisor to be available and not assigned to call taking or dispatching. Based on the information provided by Dare County, it appears the majority of a supervisor's time is spent working as a call taker or dispatcher, which does not allow for proper oversight of the center.

While a dedicated supervisory position is generally advisable, the call and incident volumes are low enough to not warrant the extra personnel costs to accomplish this. However, the Dare County 9-1-1 Center may be able to realize efficiencies and combine fire and EMS into a single dispatch position. This could offer relief from the supervisor being assigned a console position. MCP cautions that a thorough review be undertaken before any decisions are made in this regard as this is a suggestion based on the statistical data made available.

CONSOLE POSITIONS

The Dare County 9-1-1 Center has six console positions on the operations floor and one in the Assistant Director's office. Based on the Center's current configuration five console positions are generally staffed 24/7: one call take, one Sheriff dispatch, one Beach law dispatch, one fire dispatch, and one EMS dispatch. This provides one extra console on the operations floor, which

could be filled if a squad is fully staffed. This configuration does not provide for any overflow or training positions.

While Dare County's permanent resident population is less than 35,000, peak occupancy in the county can top 350,000. Dare County is also the easternmost county in North Carolina and is located on the Atlantic Ocean, and subject to hurricanes and tropical storms. The current 9-1-1 Center is not configured for surge capacity. On a normal work day, the center is operating at 83 percent capacity with five positions. If all six positions are staffed, the center is at 100 percent capacity.

MCP has recommended a staff increase of four, for average squad staffing of six; seven with a "power shift" of sorts. The current six consoles on the operations floor will not be sufficient, particularly during times of surge activity.

MCP recommends a *minimum* of 8 console positions on the operations floor, or if a new center is built, space considerations for 9–10 console positions on the operations floor.

During the summer months, with a ten-fold increase in population, there may be times when extra staff is needed. Eight positions could be used as follows:

- 1 – Supervisor position
- 2 – Law enforcement positions (Sheriff and Beach Law)
- 1 – Fire position
- 1 – EMS position
- 2 – Call taker positions
- 1 – Law enforcement (Tyrrell County)

Nine to ten positions would be ideal, as this would provide for Tyrrell County to be further split during a disaster, such as a hurricane. If this scenario were to occur, it would likely mean an "all-hands on deck" for several days. This means 10–12 people could be on duty at one time.

- 1 – Supervisor position
- 2 – Law enforcement positions (Dare County Sheriff and Beach Law)
- 1 – Fire position (Dare County)
- 1 – EMS position (Dare County)
- 3 – Call taker positions
- 1 – Law enforcement (Tyrrell County Sheriff)
- 1 – Fire/EMS (Tyrrell County)

During a scenario of this magnitude, staff not assigned to a console would be on down time, or serve as floaters.

With a console configuration of ten on the operations floor and a staff complement of 25, Dare County could staff six to seven consoles on a regular basis. The extra consoles would be used for minimal surge activity, training of new hires, and monitoring of staff.

Appendix 10 – Dare County Technology Assessment

Telecommunications and Call Processing Systems

SUBJECT: Dare County/Tyrrell County Regional Emergency Communications Center (RECC) Consolidation 911 Technology Purchases

In order to provide the highest quality of service to the citizens, emergency services providers, and the significant annual vacationers/visitors to Dare and Tyrrell counties, the primary goal is to consolidate the 911 Communications Centers within Tyrrell and Dare counties under the Dare County Sheriff's Office communications operation.

To accomplish this consolidation goal, a second goal is to relocate the Dare County Communications Center to a new facility on property identified in Dare County.

A critical third goal is to update or replace all end-of-life equipment. This end-of life update and software refresh includes equipment that has been identified as no longer being supported by the vendor or not compatible with future Next Generation 9-1-1 (NG9-1-1) requirements.

These goals are adopted in support of a 2–3 year grant-supported project to construct a new 911 facility and consolidate the Dare/Tyrrell counties' 911 centers as a Regional Emergency Communications Center (RECC). This will be achieved by constructing a multi-agency center supporting several emergency services departments (RECC, Emergency Management Agency [EMA], Fire Marshal, Emergency Medical Services [EMS], etc.) providing dedicated and secure space and infrastructure for the RECC, and completing the following objectives:

- **Objective A:** Replace all call processing and dispatch equipment that has reached end-of-life, and is either without vendor support or is technologically incompatible with new upgraded equipment.
- **Objective B:** Integrate NG9-1-1 technologies and networks that will allow the RECC to continually evolve with new technologies, processes and expectations, such as texting to 911 and crash-notification systems. Also, it affords the ability to communicate, transfer and share data across jurisdictional boundaries.
- **Objective C:** Provide a more secure facility by meeting proposed North Carolina 911 Board standards and industry best practices for the installation, performance, operation, support and maintenance of public safety answering points (PSAPs), thus protecting critical equipment, networks, personnel, and infrastructure.
- **Objective D:** Provide both counties with a state-of-the-art RECC facility that will accommodate the consolidation of Tyrrell County 911 operations within common operations in Dare County. This new facility will provide the space required for current consolidated dispatch configuration, as well as space for additional workstations

necessary to incorporate both counties' dispatch operations within the RECC. It will also provide additional space, as recommended by the assessment review, staffing study and design space requirements completed by Mission Critical Partners, Inc. (MCP) for future operations, allowing additional agencies to consolidate in the future and support best practices and training requirements.

- **Objective E:** The systems, technology, infrastructure and network costs must be cost estimated for the RECC grant application budget. Only primary and ancillary systems that support the RECC need to be estimated, as the grant application cannot fund EMA or other county agencies' technology.

MCP/Moseley Architects (MA) offers additional technology recommendations for the new facility. These recommendations are for the counties' consideration and use as future grant-supported consolidation activities are completed, including the replacement of end-of-life equipment and the procurement of technology systems and infrastructure for the RECC. Descriptions of the major technologies for call processing, additional and ancillary systems supporting the RECC, and infrastructure support systems recommended for the new facility can be found below. The costs presented are based on either quotations received by Dare County, or system cost estimates supported by MCP based on procurement of similar technologies.

MCP recognizes that these recommendations with budgetary information will be used to support the North Carolina 911 Board grant application and, with receipt of grant funds, support the requirements for procurement and installation of the needed systems for the RECC. It is noted that the anticipated grant program will be for a 30–36 month project, so budgetary information includes the escalation of costs anticipated for systems procurement in 1½ to 2 years (2015–2016) from grant award (expected 3rd quarter 2014). The recommendations expect that the RECC will receive grant funds to competitively procure the technology using requests for proposals (RFPs) or will use scopes of work (SOWs) to purchase the equipment and software using County/State-recognized procurement contracts.

Background and Methodologies

MCP completed a technology assessment of the current technologies used by both Dare and Tyrrell counties. The systems were then compared with the needs of consolidation and the RECC. End-of-life and NG9-1-1 considerations were reviewed. Finally, the systems were reviewed with an eye toward supporting consolidation, with an emphasis on determining the migration and cutover impacts in order to assure no interruption of critical 911 services.

During MCP's assessment, each system was reviewed to determine the following: end-of-life considerations, NG9-1-1 concerns, redundancy requirements, data-sharing capabilities, current/future user needs, the ability to support consolidation and staffing/training, and the ability of the system to be installed/supported in the new facility.

Additionally, each system must have a platform that supports the operational needs of both Dare County and Tyrrell County, be able to address surge or power operations caused by seasonal demands in this tourist-driven area, and be able to support an effective migration and cutover. Also, the Dare/Tyrrell counties consolidation looks to support possible future consolidation with Hyde County or another adjacent county for local dispatch. Therefore, the equipment must have a reasonable life expectancy and be able to support both hardware and software expansion.

For the review, MCP met several times with staff from both counties to address current equipment/system operations or limitations, and to discuss needs for future technology to support consolidation, data sharing and NG9-1-1 issues. Although it was understood that final detailed requirements for procurement and installation would come after grant award during Phase 2 of the MCP contract, the discussion focused on anticipating these requirements to allow for integration planning into the new facility, supporting consolidated staffing and operations, and budgeting for the grant application.

Recommendations offered for each system must consider security, hardening for anticipated weather-related events and other challenges, and redundancy. In addition, as future planning will focus on establishing a new back-up center, the review had to offer information to support not only migration to the RECC, but also possible geo-diversity for a future back-up center effort once the RECC is operational.

As a system platform is selected, each County had to review its use against current operations to assure that training and migration to cutover will further support uninterrupted operations. Although end-of-life and NG9-1-1 issues limit the use of legacy equipment, MCP reviewed each system to assure that any available equipment that could be migrated was factored, or that such equipment could be retained and upgraded/refreshed for future back-up center use.

The cost estimates presented below are specific to developing final procurement requirements during the construction of the new RECC facility, then procuring the applicable systems using RFPs or SOWs. The costs reflect anticipated vendor integration and engineering costs that will be managed by MCP in the Phase 2 contract.

Ancillary support systems and infrastructure were similarly reviewed. Finally, anticipating the procurement and installation in the RECC, integration needs were reviewed.

The descriptions below are summarized recommendations from this process compiled by MCP.

The major systems include: telephony, radio/paging, and computer aided dispatch (CAD).

911 telephone and logger/recorder: The current Dare County 911 Communications customer premise equipment (CPE) telephone solution, provisioned by CenturyLink and featuring the Intrado/Positron VIPER Enhanced 911 call-handling solution, was confirmed for NG9-1-1 operations. It will be able to support developing text-to-911 service and will remain at the current

center for migration to the new facility; some of this equipment will be refreshed and remain for future back-up PSAP operations, as developed by the RECC. MCP recommends procuring a redundant VIPER system that will support the nine call answering positions that are needed, as identified by the associated staffing study for the consolidation to the new facility, including migration of operations.

The current CenturyLink 911 network trunks/infrastructure will also be provisioned at the new center to facilitate cutover. The legacy five positions will not be decommissioned, as they are not at end-of-life and can be used for training and uninterrupted services during transition to the new facility, and then be maintained as part of a future back-up PSAP. The current CPE at Tyrrell County (two positions) is at end-of-life and will be decommissioned. The budgeted amount for the telephone solution is estimated at \$624,077.00.

The equipment will include the 911 trunked network terminated at the new facility and CPE with mapping support for future automatic vehicle location (AVL). An NG9-1-1-capable logger/recorder supporting text to 911 and a facsimile (fax) server, with application software and client licenses/software with National Crime Information Center (NCIC) integration, must be included with the new CPE. The NG9-1-1 services are for nine positions, with CenturyLink support, including computer, monitor, and phone, with warranty and maintenance. The system will support the addition of workstations and expansion to be geo-diverse. The fax server will be incorporated into the Dare County administrative network and be combined with other systems and functions (detailed below). The logger/recorder will be competitively bid or added to the VIPER procurement, and must support Motorola Project 25 (P25) trunked radio recording logic, as well as the recording of legacy analog/digital audio and the telephony system trunks/positions that are procured.

Administrative telephone: A new Voice over Internet Protocol (VoIP) digital telephone switch will be procured for the new facility. It must be in conformance with the Dare County Communications Information Technology (IT) Plan, and will be programmed to allow existing County extensions to migrate. It will be fully integrated into the VIPER system at the nine call answering positions, including migration of operations. The CenturyLink administrative lines/ring downs will also be provisioned at the new center to facilitate cutover. The legacy five positions will not be decommissioned at the current Dare County 911 Communications Center, as they are not at end-of-life and can be used for uninterrupted services during transition to the new facility, and then be re-used by Dare County. The current analog administrative phone system at Tyrrell County (two positions) is at end-of-life and will be decommissioned. The budgeted amount for the telephone solution is estimated at \$17,000.00.

This system will be IP telephone and includes desk sets, network equipment, and back room equipment. It will provide a redundant IP phone system, equipped with Q signaling (QSIG) or Session Initiation Protocol (SIP) trunking to allow Dare County four-digit dialing between systems. It will be equipped with a basic voice mail system, and appropriately specified with spider-type conference phones for administration. It is recommended that all network switches be full Power over Ethernet (PoE). It will support the requirements outlined in the Dare County

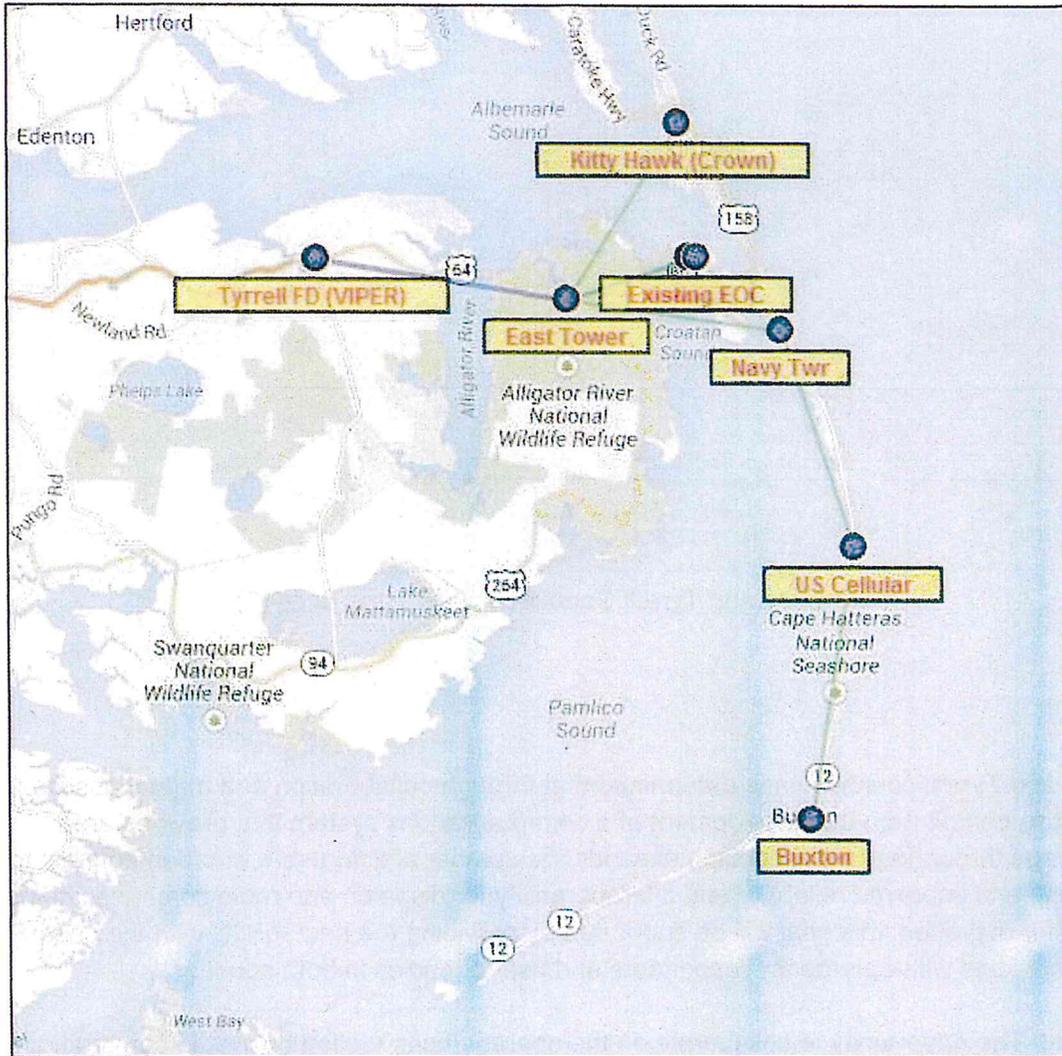
Communications IT Plan for security and data protections, including redundancy on the County network.

CAD system: The current Dare County Communications CAD system solution is through SunGard/OSSI. MCP recommends moving the currently upgraded servers and purchasing new workstations/licenses for the nine positions at the new center for a cost estimated at \$112,500.00. The budgeted amount for the CAD system solution includes hardware and software licenses and records management used by Dare County 911 Communications for the additional workstations at the new center and to support transition, including a technology contingency to allow for converting user information from this platform to that currently used by Tyrrell County 911 Communications so that user agency records can be transitioned to the common platform. The current Tyrrell County CAD system can be retired as an end-of-life issue.

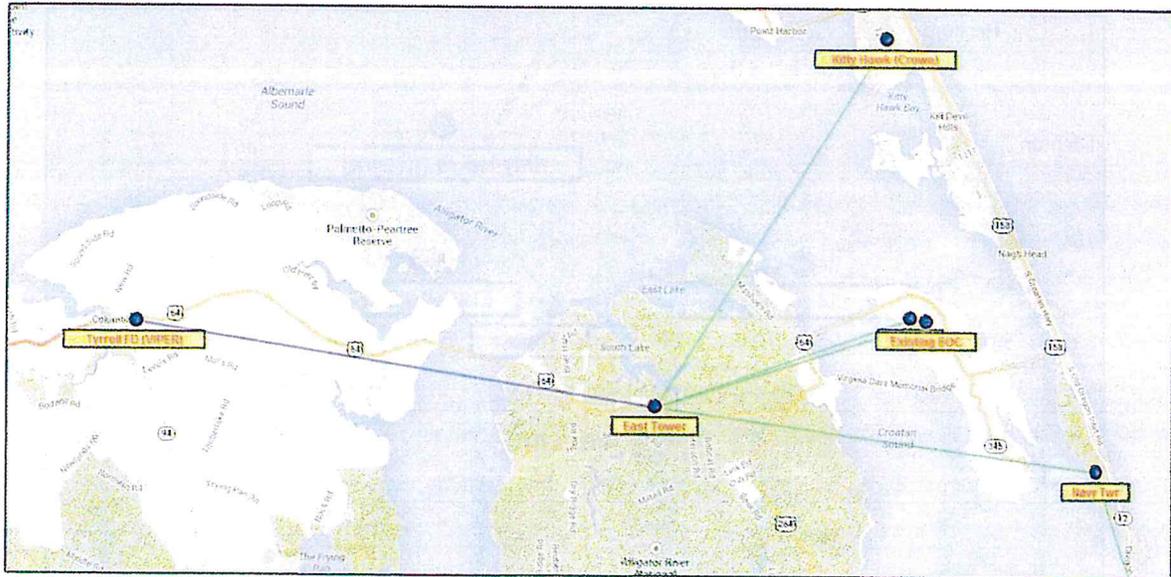
The CAD Tier 2 system upgrades existing seats, expands to nine positions, receives critical call-identifying information from the CPE, supports run recommendations, and legacy voice and future digital paging for consolidated/future dispatch operations.

Public Safety Communications – Radio Consoles, Radio, Paging, Towers and Infrastructure

Candidate sites are shown in the figures below.



Dare and Tyrrell Counties – Candidate Sites (1)



Dare and Tyrrell Counties – Candidate Sites (2)

Dare and Tyrrell counties have determined that through collaboration and mutual assistance they can benefit from the development of a communications system that provides area coverage throughout both counties, expands the number of field users who can connect to the system, and improves reliability and interoperability for dispatch and radio communications. To allow for migration, this goal will be supported by providing the new RECC with the capability to communicate with emergency responders and user agencies in both counties.

Radio: The opportunity to collaborate on the upgrade/construction of a radio communications system as a part of an opportunity to leverage existing County-owned infrastructure, along with the state's Voice Interoperability Plan for Emergency Responders (VIPER) radio system components, will offset the counties' costs and increase their investment opportunity for grant funding. Dispatch is conducted in Dare County at nine Motorola MCC7500 operator positions, while in Tyrrell County there are two legacy Motorola Gold Elite positions that will be retired for end-of-life concerns.

Paging: Currently, each County operates and dispatches first responder agencies in a similar fashion. Upon initial notification of an emergency situation, the counties collect event-specific data, select appropriate units to respond to the situation based on CAD system recommendations, and use their countywide paging system for notification. Initial contact with public safety agencies is initiated with first responders using each County's tone-and-voice paging system. This system is a one-way transmission conducted by dispatch operators to notify responders of an active emergency requiring response from select agencies within the county. Dare County's paging system is co-located at the US Cellular/Buxton Site (Latitude:

35°15'45.66" N, Longitude:75°31'45.32" W); the tower height of 320 feet provides sufficient coverage throughout Dare County. Tyrrell County pages on a legacy fire service tower located in the northwest part of the county.

To support the RECC and unified operations, the Dare County simulcast paging network will be extended into Tyrrell County via expansion of the Dare County microwave network.

Infrastructure: Dare County and Tyrrell County have both worked collaboratively with the State to improve communications through the use of both State and respective County infrastructure. Dare County users rely on a 6-site simulcast system. There is microwave infrastructure that connects six two-way land mobile radio (LMR) systems and nine tone-and-voice simulcast paging sites. This system is available to dispatch personnel and first responders who use it for communications during active emergencies and routine communications.

Tyrrell County fire services utilize a very high frequency (VHF) system and support two towers for coverage. The Dare County microwave network must be extended to control this legacy equipment. Detailed path surveys must be completed to verify preliminary coverage (conducted by MCP using a microwave path review program for budget verification, which determined a path exists.)

Recently, the Tyrrell County Sheriff's Office transitioned to using the VIPER statewide radio communications system that supports using one State tower for coverage. The Dare County microwave network must be extended to control this VIPER equipment for both day-to-day operations and statewide interoperability.

Subscribers: Dare County indicated that its P25 system currently serves approximately 1,800 field users within the county. This includes trunked mobile and portable radios that are currently supported and serviceable. The master site will be relocated to the new RECC to take advantage of increased security and infrastructure, and will be migrated in a way that will allow for minimal disruption. Should future back-up center plans be developed, this system can be expanded to allow for geo-diverse redundant operations. A 70-foot tower will be installed at the RECC to connect to the Dare County microwave network. Detailed path surveys must be completed to verify a preliminary coverage review conducted by MCP.

Tyrrell County indicated that its system supports approximately 70 mobile and portable users. The system supports interoperability with the VIPER system for law enforcement through the use of gateways, which are installed to bridge the County's radio system through a special connection that allows the two disparate systems to share first responder communications, which would otherwise not be possible.

No user equipment is supported by the grant application; therefore, the infrastructure described will allow control from the RECC for all legacy systems.

Conclusions: The demand for reliable communications and improvements to existing sites and infrastructure is justified due to the age of system components and the need to ensure that first responders have sufficient coverage contiguously throughout their jurisdiction. Improvements in infrastructure would allow for expansion of the number of simultaneous users who can operate on the system and site infrastructure reliability would be improved through redundant systems. The infrastructure improvements should include the following:

- Expansion of Dare County microwave Ethernet/T-1 system for connectivity
 - RECC to network tower
 - Network tower to Tyrrell County VIPER tower
 - Network tower to Tyrrell County fire tower
- 70-foot tower/pole at the RECC
 - Pending Federal Aviation Administration (FAA) clearance due to proximity to airport
- Hardware/software for nine consoles to control systems for users
 - Dare County trunked radio
 - VIPER
 - Tyrrell County fire services VHF radio
 - Dare/Tyrrell counties voice paging

The Dare County Motorola P25 trunked radio system will expand to:

- Motorola MCC7500 consoles - nine positions
- 6-site simulcast system
- Microwave backhaul at seven sites
- Possible fiber on airport road to proposed site
- 800 megahertz (MHz) system
- 9-site paging simulcast and Tyrrell County addition
- Master site at 911 Communications
- Prime site remains at East Lake site
- 95% portable in-street coverage
- Interoperable with North Carolina statewide VIPER system
- VIPER at six sites

As discussed, the Tyrrell County radio consoles are at end-of-life and will be decommissioned. The 3-site conventional system that Tyrrell County relies on has components that have been in place for upwards of 50 years.

The Tyrrell County Motorola conventional 3-site system to be retired includes:

- Motorola consoles - two positions
- Sheriff's Office ultra high frequency (UHF) system

The following equipment will be interconnected to the Dare County network:

- Interface equipment for transitioning to the VIPER statewide system for Tyrrell County use
- Legacy fire VHF equipment
- EMS statewide VIPER equipment

It should be noted that the interfaces to 911 will utilize the VIPER gateway for 3-site repeater control. Also, the VIPER system has only mobile coverage, with better coverage in the northern part of the county. The State may add an additional VIPER site, although it is not part of this grant application assessment; however, the system needs to be expanded to a second tower in southern Tyrrell County to increase coverage in that area.

Agencies using the radio/paging network after RECC include:

- 1,800 users on P25 system (Dare County)
 - Fire, police, sheriff, EMS, EMA, ocean rescue, public works
 - Lifeguard (supervisors only) in beach / tourist areas
- 70 on VIPER/VHF (Tyrrell County)
 - Sheriff, fire and EMS

The following separate budget categories must be included in the grant application to support radio infrastructure.

Radio consoles in RECC: The current radio consoles are Motorola MCC7500 digital consoles that are not at end-of-life and are supported by the manufacturer. It is recommended that additional consoles be procured as a sole source solution to Motorola to allow for the seamless interfacing to the P25 system, and the State's VIPER radio solution, which also is a Motorola system. This solution allows both Dare and Tyrrell counties to have the additional features on the P25/VIPER systems that cannot be offered through another radio console vendor. The cost to install the nine radio consoles at the new center was estimated at \$585,000.00, which includes integration to the legacy equipment in Dare and Tyrrell counties.

Microwave network: The current Dare County microwave network supports the P25 radio system and must be enhanced and reconfigured to add the RECC location, and to add connection to the Tyrrell County radio sites (VIPER and legacy towers) to allow for RECC radio contact to Tyrrell County field users and to page first responders in Tyrrell County. The cost to install the two additional microwave paths and related equipment was estimated at \$300,000.00, which includes integration to the legacy networks and master site equipment in Dare and Tyrrell counties.

Radio towers: The RECC will require radio antennas for back-up console operations and satellite telephone and microwave equipment to connect to the Dare County microwave network. Due to the proximity of the RECC site to the Dare County Airport, it is recommended that the tower or mast height be limited to 70 feet to help secure FAA approval. This solution will be competitively bid in conjunction with the facility contractor selection. This solution also includes microwave and radio/paging equipment/antennas to be added to the Dare County

network to allow full communications with Tyrrell County public safety responders. The cost to install the towers and appurtenances was estimated at \$70,000.00, which includes tower foundations, mounting hardware, and grounding equipment for integration to the legacy equipment in Dare and Tyrrell counties.

To support the call processing system infrastructure, the supporting infrastructure and ancillary systems needed to support the new RECC facility and consolidated operations are detailed below. They will also need to be competitively bid in conjunction with RECC facility construction to allow response by multiple vendors.

Fiber network (for radio, CAD system, telephony, County IT, migration): The current Dare County 911 Communications Center houses the Motorola P25 radio system master site. Both fiber and microwave will be used for a redundant connection to the new RECC to assist in migration/cutover and eliminate downtime of this critical network. This will require a fiber connection extending about 1½ miles from the current fiber termination to the RECC. The cost to install the fiber and additional interface equipment was estimated at \$97,000.00, which includes integration to the legacy master site equipment in Dare County.

Console workstation furniture: The RECC will require nine positions of 24 hours a day, 7 days a week (24/7) workstation stand-sit consoles with a laminate work surface in a 90-degree configuration, with the finish to be determined at procurement. Also included are 24/7 heavy-duty work chairs for each dispatch position. Additional integrated furniture for library storage carousels, and cabinets of varying widths with slide-out shelves are included, as provided for in a layout included with the facility concept plan. To allow for conferencing, interviews and some training, a conference table using the same finishes and wire/cable management is recommended with office-grade side chairs. The cost to procure the systems furniture, with delivery, assembly and installation was estimated at \$176,095.00.

Network clock: The RECC will require new hardware/software and installation for a network clock system to accurately time the various systems. It will be procured as necessary due to migration to the new RECC. A NetClock Master Clock/Time Server Kit with an Ethernet card, dual alternating current/direct current (AC/DC) power supply, and wired display clocks featuring 4-inch green light-emitting diode (LED) displays should be considered. MCP has estimated the costs of the system with needed displays and connectivity for multiple technology systems at \$12,500.00. This system could be procured along with telephony equipment from CenturyLink.

Network infrastructure: Consistent with the Dare County Communications IT Plan (as revised), the RECC will require new hardware/software and installation for an administrative network, supporting Internet access, County email, etc. It will be procured with current technology for installation at the new RECC, as necessary. New computers are included as legacy equipment will be required to be maintained for cutover. Desktop computers, laptop computers, core switch, edge switches with PoE, edge router/firewall and wireless access

points are to be included. This system will also provide for Internet access for the RECC. MCP has estimated the costs of the system with needed displays and connectivity at \$62,300.00.

Access control and closed circuit television (CCTV): Consistent with best practices, the RECC will require new hardware/software, control switches, card readers, access cards, and installation for an access control network to protect the 911 equipment areas dedicated to operations. The RECC also will require new hardware/software, cameras, and installation for a CCTV network. The system will include a network video recorder, CCTV master controller, and appropriate interior/exterior fixed and pan-tilt-zoom (PTZ) cameras. Programmable control will be provided through programming equipment/software. It will be procured with current technology for installation at the new RECC. The system will include an access master controller, with appropriate door controller, card reader, sensors, and door intercom/release with a 4-inch display monitor. Door intercom will also be supported with intercom station fixed interior/exterior cameras. An exterior driveway gate will include card reader stanchions/pedestals for secure release. Exterior gate card readers will also include cameras at the gate-release locations. Intrusion detection on exterior doors will be supported. MCP has estimated the costs of the system with needed displays and connectivity at \$62,150.00.

Audio-visual (A/V) system infrastructure: Consistent with final RECC requirements, the RECC will require new hardware/software, tuners, mixers, controllers, displays and remote-control equipment for both supervisors and administration to display critical information in the 911 Center. A/V equipment and systems, software and training with needed broadcast media connections and cable television (CATV) connections will be procured from vendors and service providers. CATV and CCTV connections will be part of the Internet connectivity needed, and Internet connectivity will be redundant to support the RECC. MCP has estimated the costs of the system with needed control, display and connectivity at 48,000.00.

Communications service provider infrastructure: The RECC will require new 911/administrative telephony network hardware communications and installation services to the facility. These include CATV and telephone trunks, services, and provisioning the 911 network. MCP has estimated the costs of the system with needed control, display and connectivity at \$55,500.00, but a CenturyLink quote is needed to support this work.

Distributed antenna system (DAS) infrastructure: DAS enhances the quality of indoor and outdoor communications and the performance of wireless data applications. User requirements for both P25 and cellular in-building coverage at the RECC will require new hardware/software, radios, amplifiers, antennas, cables and installation for a DAS to provide both 800 MHz radio and cellular frequency coverage to two cellular carriers. The radio/cell DAS is based on a vendor solution to provide two individual DASs: one for public safety radio and one for cell service. The DASs are comprised of donor antenna(s) to receive the signals from the cell carrier(s) and LMR systems, signal repeaters, master unit(s), remote units, optical fiber backbone cables, coaxial in-building antenna cables, and in-building antennas. From within the building, the systems both send and receive

cell and radio signals within the building and repeat them to the off-air cell and LMR systems outside the building. From outside the building, the donor antennas send and receive cell and radio signals and repeat them to portable devices within the building. This is a multi-band engineered solution for improving radio, specific to current/future cellular/personal communications system (PCS), Third Generation (3G) and Fourth Generation (4G) long-term evolution (LTE) coverage and P25 interoperable public safety radio. MCP has estimated the costs of the system with needed control, display and connectivity at \$145,000.00.

Satellite telephone infrastructure: RECC alert/notification requirements will require new hardware and installation for a satellite telephone back-up system to provide for alert of key users. New hardware and installation with interface to the nine 911 radio and dispatch positions are necessary, as are new desktop and control equipment and a single satellite antenna, due to the end-of-life status of current equipment and migration planning concerns. MCP has estimated the costs of the system with needed control, display and connectivity at \$4,800.00.

Amateur radio equipment for EMA: EMA will migrate current amateur radio equipment to the new facility. Antenna support and cabling infrastructure for public use can also be used to support this migration. MCP has not estimated the costs of the system as it is not in support of the RECC.

Fiber-optic outside plant (OSP): Connectivity to the existing County facility to extend services to the new RECC requires a fiber-optic connection. The RECC will connect via a cable installed around the airport. MCP has estimated the costs of the structured cabling system at \$97,000.00.

Structured cabling infrastructure: The RECC will require telecommunications cable distribution infrastructure for the building. The CATV and fiber builds are listed separately as the CATV connections will provide the redundant Internet connectivity needed, and fiber connectivity will be redundant to microwave to support the RECC. MCP has estimated the costs of the structured cabling system at \$67,800.00.

Grounding, lightning/surge suppression infrastructure: The RECC will require grounding, and lightning/surge suppression infrastructure for the building. This infrastructure will meet both industry standards/best practices such as Motorola R56 guidelines. The work estimated includes labor and clearing, grubbing and restoration for exterior work, trenching, backfill, ground rods, ground wire, grounding connections, ground bus bars, and ground test wells. Lightning and surge suppression for radio and technology systems is included in the system pricing described above. Testing upon readiness is included. MCP has estimated the costs of the system with needed testing at \$7,978.00.

Uninterruptible power supply (UPS): UPS and battery back-up, with software for control and monitoring to support facility and critical 911 systems, will be installed building-wide to support

all critical infrastructure and technology equipment. The cost of the facility UPS, based on building circuit needs estimates and generator capacity, has been reviewed by MCP/MA and is estimated at \$130,000.00.

System technology contingency: A 10 percent contingency fund is also included as part of the project for systems procurement. Since the project will span 2½ to 3 years, these funds would be used for additional engineering or unanticipated costs associated with any required changed/updated requirements in described systems, additional vendor migration and transition costs for transition/testing (that can only be determined as final migration plans are approved), and/or any items that result from building/technology integration or program over-runs caused by equipment inflation over the 30–36 months of the project.

Ancillary equipment contingency: A 10 percent contingency fund is also included as part of the project for ancillary equipment and infrastructure. These funds would be used for additional costs associated with any changed requirements in described systems, additional or unanticipated migration and transition costs, and inflationary pressures over the 30-month procurement cycle.

To support the technology procurement and integration, the counties must negotiate with MCP to assist the final project with needed technology procurements to keep costs within budget parameters as practical. Phase 2 of the MCP contract involves systems procurement and technology integration. Based on the anticipated systems described above, MCP has estimated its professional services anticipated over three years from grant award. MCP expects that the Phase 2 work will include work activity based on an update of the needs assessment for future procurements of technology equipment conducted for the grant application in Phase 1 of the MCP contract, and will include technology integration, migration planning, grant reporting, developing a detailed timeline, coordinating with other technical procurement/contractors and their subcontractors, and all other grant requirements. An estimated cost is \$360,000.00.

This cost is based on information provided to both counties during the MCP Phase 1 assessment, addressing the specific facility issues raised by the concept plan preparation and similar experience on past construction projects in both North Carolina and across the country.

Appendix 11 – Estimated Construction Pricing

MCP preformed a budgetary construction estimate of the required facility renovations to the existing spaces intended to be retrofitted for use as the RECC for Dare and Tyrrell counties. This estimate has been completed for use in the grant request submitted to the North Carolina State 911 Board.

MCP based this budgetary construction estimate on quoted and contracted pricing of similar project in North Carolina. The table below reflects the budgetary construction estimate amounts.

(*) The building construction costs and some building systems costs have been calculated at 53 percent of the total for dedicated usage by the RECC.

Construction	Estimate Price	Comments / Notes
Building Construction	Assigned to the RECC (53%)	Total Facility =17,900 square feet Assigned to the RECC = 9,487 square feet
Foundations and Floor Structure	\$459,510.00	
Superstructure	\$354,040.00	
Exterior Envelope	\$283,020.00	
Roofing	\$133,030.00	
Rooftop Antenna Support	\$1,590.00	
Interior Construction	\$300,510.00	
Elevated Service Deck, Ramp, and Stairs	\$44,520.00	
Plumbing	\$89,040.00	
HVAC	\$533,180.00	
Fire Suppression	\$67,310.00	
Emergency Power Generators	\$159,530.00	
Other Electrical	\$576,640.00	
Building Construction Subtotal	\$3,001,920.00	
Site Construction		
Earthwork	\$94,870.00	
Paving and Other Site Improvements	\$210,410.00	
Utilities	\$154,760.00	
Site Construction Subtotal	\$460,040.00	
Total Construction	\$3,461,960.00	
Other Costs		
Boundary and Topographic Survey	\$6,360.00	
Geotechnical Investigation and Report	\$5,300.00	
Quality Control Testing and Inspections	\$26,500.00 *	

Construction	Estimate Price	Comments / Notes
Architectural / Engineering / Interior Design Services	\$333,900.00	
Furniture (not including E-911 communications consoles)	\$212,000.00	
Moving Expenses Allowance	\$2,650.00	
Permitting and Utility Connection Fees Allowance	\$15,900.00	
Hazardous Materials Testing and Abatement	Not included	
Legal Expenses	Not included	
Financing Expenses	Not included	
Other Costs Total	\$602,610.00	
Sub-total	\$4,064,570.00	
Construction Contingency 10%	\$408,100.00	Based on total construction subtotal * 53%
Total	\$4,472,670.00	Total Facility Construction Cost = \$8,439,000

Appendix 12 – Estimated Technology Pricing

MCP performed a general assessment of the existing telecommunications systems and equipment to develop the criteria in support of facility programming efforts in Dare and Tyrrell counties. Conditions such as age, reliability and scalability of each system were considered with regard to potential renovation as well as overall operations' vulnerabilities and new construction.

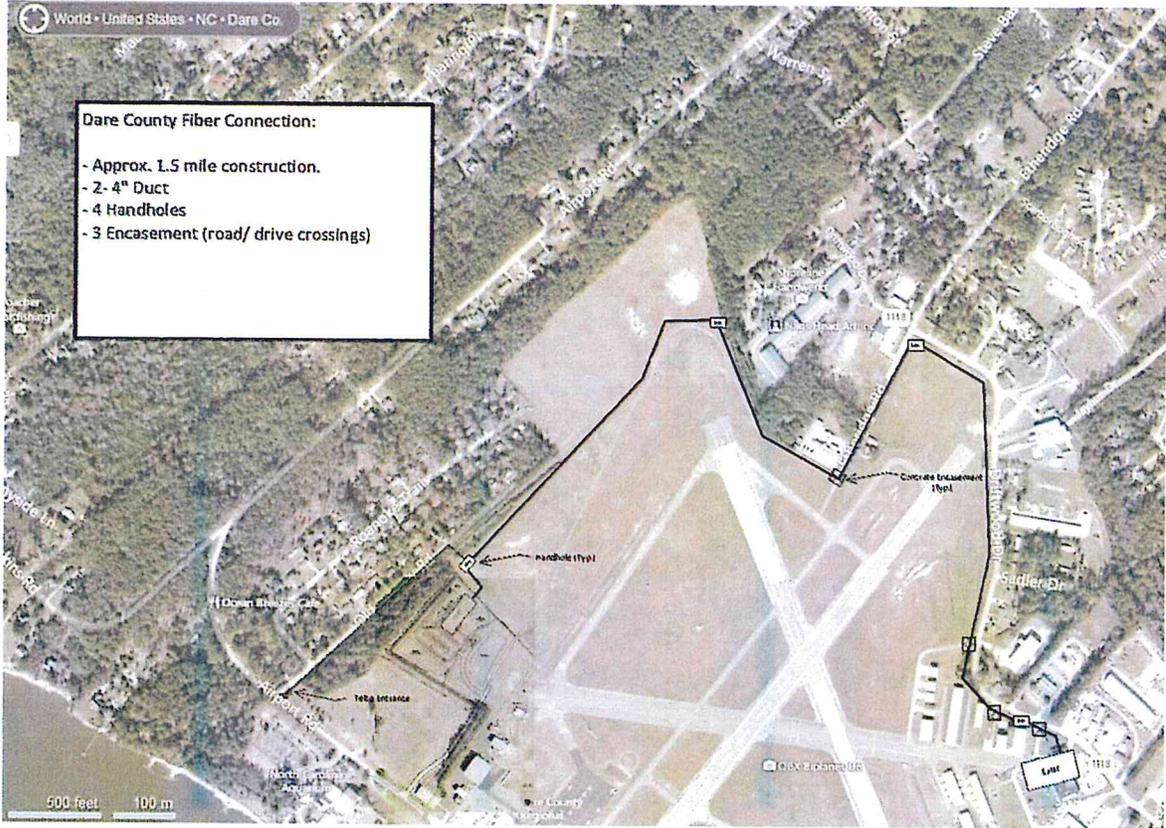
Estimates have been prepared by MCP to be utilized as the basis for technology estimate pricing in the grant application. The table below reflects those amounts.

(*) The building construction costs and some building systems costs have been calculated at 53 percent of the total for dedicated usage by the RECC.

Technology Systems	Estimate Price	Comments / Notes
Building Telephone System	\$9,010.00	New hardware/ software, phones and interfaces to 911 system
911 Telephone System	\$575,477.00	New hardware/software and installation
Satellite Phone	\$4,800.00	New hardware/software and installation
Radio Console Stations	\$585,000.00	New hardware/software and installation
CAD Hardware & Software	\$112,500.00	New hardware/software and installation
Microwave Radio Links	\$300,000.00	New hardware/software and installation
Tower/Pole	\$70,000.00	New hardware and installation
Logger-Recorder	\$48,600.00	New hardware/software and installation (supported by a preliminary CenturyLink quote)
Net Clock	\$6,625.00	New hardware/software and installation (supported by a preliminary CenturyLink quote)
Console Workstation, and Chairs	\$176,095.00	New hardware and installation
IT Equipment & Computers	\$33,019.00	New network hardware and installation
UPS	\$68,900.00	New 1250 KW hardware and installation
In-building Distributed Antenna System (DAS)	\$76,850.00	Estimate for two Cell and one 800 MHz with new hardware and installation
Grounding System	\$4,228.34	New hardware and installation
Structured Cabling System	\$35,934.00	Estimate for new hardware and installation
Fiber Optic OSP Plant	\$51,410.00	New hardware and installation
Audio/Video Systems / CATV	\$25,440.00	Estimate for new hardware and installation
Security Systems/CCTV/Access Control	\$32,939.50	New hardware/software and installation
Communications Service Provider Costs	\$52,523.00	New Telco, CATV, Internet hardware and installation (supported by a preliminary CenturyLink quote)
Professional Services (Implementation)	\$360,000.00	RFP Development, Transition planning, Vendor coordination
Sub-total	\$2,629,350.84	
Technology Contingency 10%	\$262,935.08	
Ancillary Equip. Contingency 10%	\$262,935.08	

Technology Systems	Estimate Price	Comments / Notes
Total	\$3,155,221.01	

Appendix 13 – Dare County Fiber Connection





National Park Service
U.S. Department of the Interior

Southeast Region
100 Alabama St. SW
Atlanta, GA 30303
404-507-5612 phone
404-562-3263 fax

National Park Service News Release

FOR IMMEDIATE RELEASE – July 2, 2014
CONTACT – Bill Reynolds - 404-507-5612

Kym Hall Selected as Acting Superintendent of Cape Hatteras National Seashore and the Outer Banks Group

ATLANTA – Regional Director Stan Austin announced that Kym Hall has been selected as the acting superintendent of Cape Hatteras National Seashore and the Outer Banks Group, effective August 4. Hall will temporarily replace Superintendent Barclay Trimble who is moving to Atlanta to take on the role of Deputy Regional Director of the Southeast Region.

“Kym is an experienced superintendent who has shown great skill in managing unique park issues. I know she will bring great leadership and energy to Cape Hatteras National Seashore and the Outer Banks Group, as we conduct the search for a permanent superintendent,” Austin said.

Hall currently serves as the Deputy Superintendent of Glacier National Park in Montana. A National Park Service (NPS) veteran of 27 years, she started her career at Olympic National Park as a dispatcher and paralegal. After 14 years in the northwest, she and her family moved to Washington, D.C., where she managed the regulations program for the NPS. In that role she worked on several national issues, including winter use management at Yellowstone National Park, personal watercraft regulations, and off-road vehicle (ORV) management. She later served as a special assistant for NPS issues to the Assistant Secretary of the Interior for Fish, Wildlife and Parks.

After five years in Washington, D.C., Hall moved to Arizona as superintendent of Coronado National Memorial. She later served as superintendent of the Southeast Arizona group of parks that include Coronado, Chiricahua National Monument and Fort Bowie National Historic Site. She later moved to Glacier National Park where she served as the acting superintendent from January 2013 through August 2013.

“I am excited about this opportunity to serve at Cape Hatteras National Seashore and the Outer Banks Group,” Hall said. “I look forward to learning about the wonderful communities surround the Seashore, and working with the park’s employees, volunteers and partners to continue serving the public.”

-NPS-

THE NATIONAL PARK SERVICE IS COMPOSED OF MORE THAN 20,000 RANGERS, BIOLOGISTS, HISTORIANS, GEOLOGISTS AND OTHER PROFESSIONALS WHO CARE FOR AMERICA’S 398 NATIONAL PARKS AND OTHER SPECIAL PLACES SO THAT EVERYONE TODAY AND IN THE FUTURE CAN EXPERIENCE AMERICA’S HISTORY AND BEAUTY.

EXPERIENCE YOUR AMERICA™

The National Park Service cares for special places saved by the American people so that all may experience our heritage.

Park Service names acting superintendent for Outer Banks

By [Rob Morris](#) on July 9, 2014



A deputy superintendent from Montana will move to the Outer Banks next month to temporarily head the area's national parks.

The National Park Service has named Kym Hall acting superintendent of Cape Hatteras National Seashore and the Outer Banks Group, starting Aug. 4.

Hall will temporarily replace Outer Banks Superintendent Barclay Trimble, who is moving to Atlanta as deputy regional director of the Southeast Region.

"Kym is an experienced superintendent who has shown great skill in managing unique park issues. I know she will bring great leadership and energy to Cape Hatteras National Seashore and the Outer Banks Group, as we conduct the search for a permanent superintendent," Regional Director Stan Austin said in a statement.

Hall is deputy superintendent of Glacier National Park in Montana. She started her career at Olympic National Park as a dispatcher and paralegal 27 years ago.

Fourteen years later, she and her family moved to Washington, D.C., where she managed the regulations program. Issues she worked on included winter use management at Yellowstone National Park, personal watercraft regulations, and off-road vehicle (ORV) management.

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“I am excited about this opportunity to serve at Cape Hatteras National Seashore and the Outer Banks Group,” Hall said in the statement. “I look forward to learning about the wonderful communities surround the Seashore, and working with the park’s employees, volunteers and partners to continue serving the public.”

Mattamuskeet

National Wildlife Refuge



Lake Level Management

The U.S. Fish and Wildlife Service has received over the years multiple requests to actively manage water control structures in order to hold lake levels at higher than normal depths throughout the year. The Service recently completed a careful review of current management and will continue its passive lake management approach to allow lake levels to naturally fluctuate across seasons until further information is available.

The Service's decision is based on its legal responsibilities to adjacent landowners; the mandate to fulfill the primary purpose for which Mattamuskeet National Wildlife Refuge was authorized; the refuge's management history; and input from interested stakeholder groups.

Some of the details considered by the Service include:

- Language in the 1934 property deed under which land was transferred to the Service prohibits the Service from taking any action that would impede the ability of adjacent landowners to drain their lands into Lake Mattamuskeet. The Service has a legal responsibility to adjacent landowners.
- Managing wetland habitats for migratory birds is the refuge's primary purpose and mission. Wintering waterfowl survey data shows that a passive lake water level management approach has provided environmental conditions that resulted in the production of highly suitable aquatic vegetation supporting record numbers of wintering waterfowl over the last decade.
- In 80 years as a national wildlife refuge, the Service has not actively managed lake levels at Mattamuskeet Lake, which is naturally shallow that rises and falls with the rain.



Lake Mattamuskeet at Mattamuskeet National Wildlife Refuge, credit Garry Tucker/USFWS

Next Steps

A Technical Working Group established in 2013, made up of state and federal biologists and hydrologists, will continue to develop research, monitoring and management recommendations that address current lake water quality and quantity issues as the refuge works towards developing a long-term Lake Mattamuskeet Management Plan.

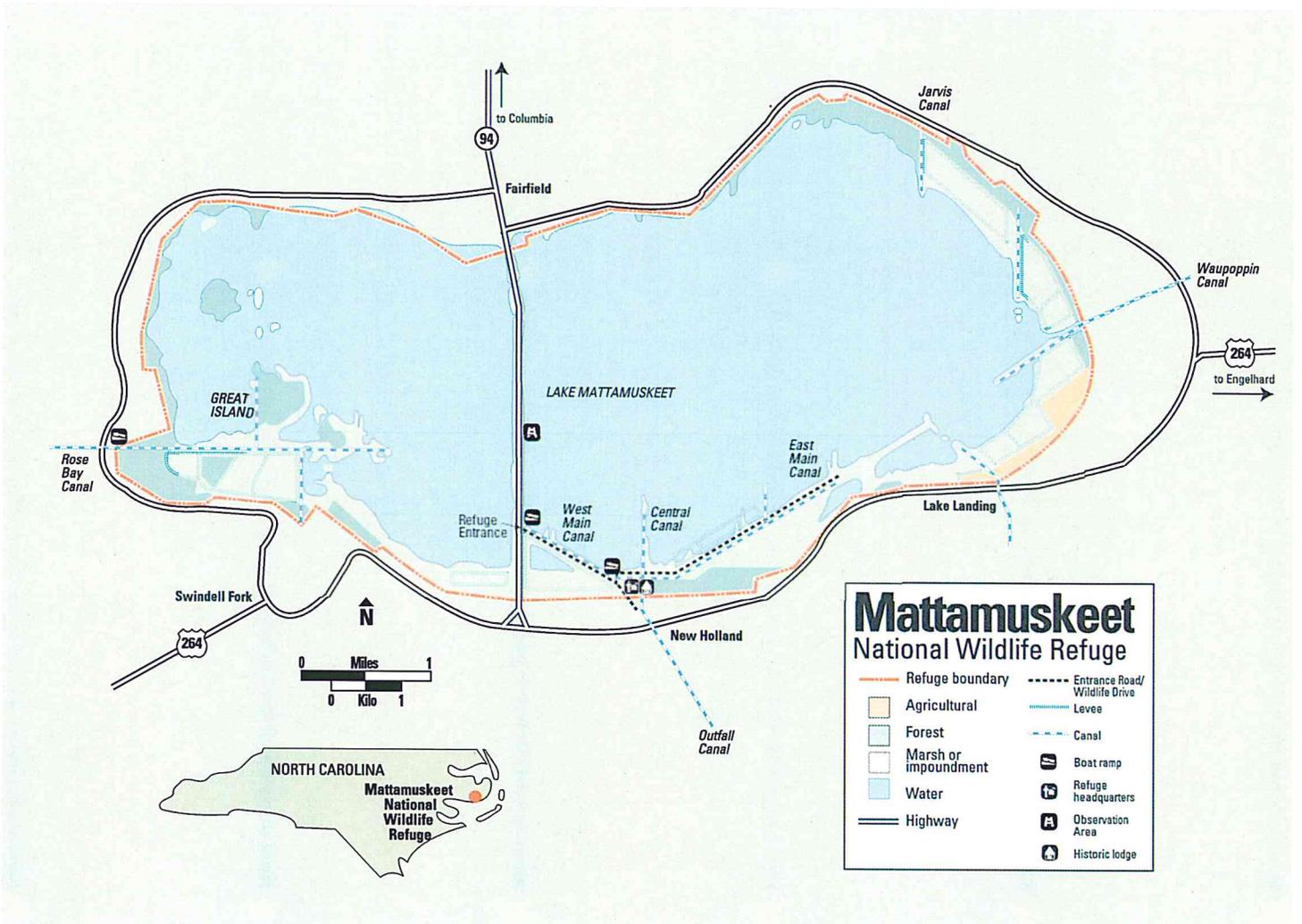
The Service looks forward to working in close partnership with North Carolina Commission staff to implement several fishery and public access enhancement projects, along with other projects sponsored by the Service, on the refuge, including:

- Construction of a new boat ramp and parking area to access Rose Bay Canal. Expected completion date: July 2014.
- Construction of a new Fishing Trail around Mattamuskeet Lodge. Expected completion date: Fall 2014.

- Herbicide and mechanical treatment to reduce phragmites on the Lake Road to increase shoreline fishing areas. Start date: June 2014.
- Construction of a new Rose Bay Water Control Structure to prevent saltwater intrusion into the western side of the lake. Expected completion date: September 2014.
- Canal maintenance dredging to improve fishery habitat and boating access to the lake from the Central Canal Boat Ramp. Start date: July 2014.
- Renovation of the existing fishing bridge across from the Visitor Center. This has become a very popular fishing and crabbing location for the public. Expected completion date: Spring 2015.

For More Information

www.fws.gov/mattamuskeet or contact
Pete Campbell, Refuge Manager
pete_campbell@fws.gov
252/926 4021





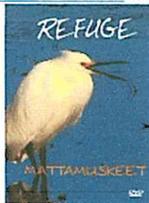
Mattamuskeet National Wildlife Refuge

Southeast Region

- [Refuge Finder](#)
- [Office Finder](#)

- [Refuge Home](#)
- [Map and Directions](#)
- [Wildlife and Habitats](#)
- [Lake Mattamuskeet Updates](#)
- [Opportunities for our Visitors](#)
- [Fishing](#)
- [Hunting](#)
- [Calendar of Events](#)
- [News](#)
- [Frequently Asked Questions](#)
- [Brochures and Maps](#)
 - [Fact Sheet and FAQs \(PDF 1.1mb\)](#)
 - [Mattamuskeet Waterfowl Hunting Blinds Map \(PDF 1.36mb\)](#)
 - [Swanquarter Refuge Map \(PDF 658kb\)](#)
 - [Mattamuskeet Refuge Map / Tearsheet \(PDF 922kb\)](#)
 - [Fishing Regulations](#)
 - [Hunting Regulations](#)
 - [Endangered Red Wolf \(PDF 2.84mb\)](#)
 - [North Carolina Wildlife Refuges and National Fish Hatcheries \(PDF 240kb\)](#)
 - [National Wildlife Refuge System Coloring Book \(PDF 3.70mb\)](#)
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 - [Alligator River](#)
 - [Back Bay](#)
 - [Cedar Island](#)
 - [Currituck](#)
 - [Edenton Fish Hatchery](#)
 - [Great Dismal Swamp](#)
 - [Mackay Island](#)
 - [Mattamuskeet](#)
 - [Pea Island](#)
 - [Pocosin Lakes](#)
 - [Roanoke River](#)
 - [Swanquarter](#)
- [Refuge Videos](#)
 - [Refuge - Mattamuskeet](#)



The new video release "REFUGE - Mattamuskeet" is the first to be released of the series of films that will be covering 5 beautiful National Wildlife Refuges in eastern North Carolina. The video is narrated by award winner Denise Kelly.

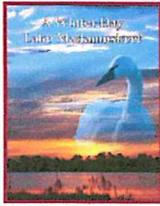
- [A Winter Day - Lake Mattamuskeet](#)

Updates on the Management of Lake Mattamuskeet

Welcome to the Lake Mattamuskeet Update page. Here you will find information about the historic and current status of Lake Mattamuskeet's ecosystem and the wildlife it supports, breeding and wintering waterfowl, migratory fish and recreational fish populations. We will also be posting news about our ongoing collaborative research, monitoring and management activities and summaries from our quarterly public informational meetings. For more detailed information about annual wintering waterfowl numbers, please select the "Hunting" tab on the main page.

For assistance in finding the information you need and identifying new information as it is posted, postings will be in chronological order, with the most recent information posted at the TOP.

Date Posted	Link	Description
June 27, 2014	June 2014 Fact Sheet	Fact Sheet explaining management plans for the immediate future, as well as actions recently taken to improve fishing access and fish studies.
June 17, 2014	Press Release for Open House	Notice inviting public to an Open House to update on fishery management, surveys, lake management plans, and construction.
05/02/14	March 5, 2014 Lake Mattamuskeet Technical Working Group Meeting Notes	Purpose for the meeting: 1) Frame the issues, formulate and prioritize appropriate questions to meet objectives. 2) Discuss currently available data describing current and optimal ecological condition of Lake Mattamuskeet necessary to support its biota; emergent vegetation and SAV, migratory birds, anadromous/catadromous species, blue crabs and recreational fishery. Identify critical information/data gaps. 3) Identify next steps and timeline that will lead to the development of a lake management plan. This plan will address short and long term priority wildlife and fishery objectives and appropriate management actions.
2/11/2014	Lake Mattamuskeet Management Fact Sheet	Fact Sheet produced 2/11/2014 with Q & A's about Management of Lake Mattamuskeet
2/2/2014	Waterfowl Survey Summary	Summary of USFWS Aerial Waterfowl Survey flown on 1/24/2014
1/23/2014	Lakes Mattamuskeet and Pungo are havens for birds	Sun Journal Article dated January 16, 2014 by Bill Hand
1/23/2014	Waterfowl Survey Summary	Summary of USFWS Aerial Waterfowl Survey flown on 12/17/2013
1/21/2014	Mattamuskeet NWR Waterfowl populations & wetland habitats	Technical Presentation at Meeting November 18, 2013 by John Stanton, Migratory Birds Biologist, USFWS
1/21/2014	Fish Passage into North Carolina's Largest Natural Lake: Mattamuskeet	Technical Presentation at Meeting November 18, 2013 by Roger A. Rulifson Professor and Senior Scientist Department of Biology, and Institute for Coastal Science and Policy East Carolina University
1/21/2014	Mattamuskeet National Wildlife Refuge Authorization and Purpose Lake Mattamuskeet Information	Technical Presentation at Meeting November 18, 2013 by Pete Campbell, Refuge Manager Mattamuskeet NWR
1/21/2014	USGS continuous water-quality monitoring at Lake Mattamuskeet National Wildlife Refuge	Technical Presentation at November 18, 2013 Meeting by Michelle Mooman USGS NC Water Science Center
1/21/2014	Lake Mattamuskeet Fisheries Management Update	Technical Presentation at November 18, 2013 Meeting by Jeremy McCargo District 1 Fisheries Biologist, NC Wildlife Resources Commission
1/21/2014	Hyde County Commission Resolution	RESOLUTION EXPRESSING SUPPORT FOR THE US FISH AND WILDLIFE SERVICE'S (FWS) PROPOSED PLAN TO COOPERATIVELY ADDRESS LAKE MATTAMUSKEET WATER ISSUES
1/21/2014	Lake Mattamuskeet historic fish species composition	
1/21/2014	Water Quality Monitoring Fact Sheet	Produced in December, 2012
1/21/2014	Invitation List for the November 18, 2013 meeting (below)	Lake Mattamuskeet "Engagement Group"
1/21/2014	Lake Mattamuskeet Informational Meeting November 18, 2013 Mattamuskeet National Wildlife Refuge	Purpose for the meeting: 1) Report on results from research and monitoring projects designed to evaluate the ecological condition of Lake Mattamuskeet 2) Initiate a dialogue to share perspectives about the lake's current ecological status 3) Provide an update on refuge projects to improve water management capabilities 3) Discuss next steps towards developing a lake management plan and improving the flow of information between the refuge, user communities and the general public



1/21/2014	Results of the Annual Mid-winter Waterfowl Survey on Lake Mattamuskeet and Surrounding Farm Fields (1961-2014)	Prepared by Doug L. Howell Waterfowl Biologist, Division of Wildlife Management North Carolina Wildlife Resources Commission January 15, 2014
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[Lake Mattamuskeet is one of the most beautiful places on earth and the winter home for thousands of migratory birds since before the beginning of recorded history. This video production has no dialog, only the natural sounds of wildlife and appropriate music to underscore the beautiful cinematography.](#)

- [Resources for Kids](#)
- [National Wildlife Refuges](#)
- [Southeast Region Homepage](#)
- [National Recreation Database](#)
- [National Wildlife Refuge Association](#)
- [Greater Outdoor Recreation](#)

Mattamuskeet National Wildlife Refuge
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 Swan Quarter, NC 27885
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Last Updated: 5/2/14