

**Agency: Commerce, Community and Economic Development****Grants to Municipalities (AS 37.05.315)****Grant Recipient: Matanuska-Susitna Borough****Federal Tax ID: 92-0030816****Project Title:****Project Type: Planning and Research**

# Matanuska-Susitna Borough - Permanent Emergency Operations Center Planning

**State Funding Requested: \$500,000****House District: Mat-Su Areawide (7-11)**

Future Funding May Be Requested

**Brief Project Description:**

A permanent Emergency Operations Center is needed in the Matanuska-Susitna Borough and funds would help facilitate the planning of this facility.

**Funding Plan:**

Total Project Cost:	\$500,000
Funding Already Secured:	(\$0)
FY2014 State Funding Request:	<u>(\$500,000)</u>
Project Deficit:	\$0

*Funding Details:*

N/A

**Detailed Project Description and Justification:**

The Mat-Su Borough is in need of a permanent Emergency Operations Center (EOC), from which to manage the disaster events in the Borough.

The common functions of all EOCs is to collect, gather, and analyze data; make decisions that protect life and property; maintain continuity of the organization, within the scope of applicable laws; and disseminate decisions to all concerned agencies and individuals.

The Mat-Su Borough serves as the primary EOC for all major disaster events in the Borough. While the cities have their own respective non-dedicated EOCs for incidents within their municipalities, when multi-jurisdictional events happen, their agency representatives participate in the Borough EOC.

The borough's current EOC does not meet the majority of the requirements of a contemporary EOC facility: survivability, redundancy, communications, flexibility and open architecture, and security. Although it may appear to be a very "flexible" facility now, when the "temporary" EOC is activated, the room requires set-up and reconfiguration to transform it into a functioning space, which is a time-consuming process (up to two hours), and takes up valuable time that should be concentrated on the disaster event.

With the construction of a new EOC facility, the borough has the opportunity to partner with and perform as a back-up for the SOA's DHS&EM's State EOC to either augment, with a flexible and distributive system combining EOCs from around the

State to respond to emergencies with local, State and/or Federal resources, or to serve as a redundant replacement should the State EOC become incapacitated.

Contracting with an experienced consultant to determine the overall feasibility of a permanent EOC facility in the Borough will be a prudent first step to ensure, should a new EOC facility be built, that it will meet present and future disaster management needs.

Initial estimates for a 15,960-square-foot facility that includes support facilities and parking is \$4,546,500.00.

**Project Timeline:**

Funds would be used for planning purposes for a permanent Emergency Operations Center by the end of 2013.

**Entity Responsible for the Ongoing Operation and Maintenance of this Project:**

Matanuska-Susitna Borough

**Grant Recipient Contact Information:**

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Has this project been through a public review process at the local level and is it a community priority?  Yes  No

# **PERMANENT EMERGENCY OPERATIONS CENTER FACILITY PLAN**

**FOR  
THE MATANUSKA-SUSITNA  
BOROUGH**



**JANUARY 2013**

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## EXECUTIVE SUMMARY

### Introduction

An emergency operations center, or EOC, is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level in an emergency situation, and ensuring the continuity of operation of a company, political subdivision or other organization.

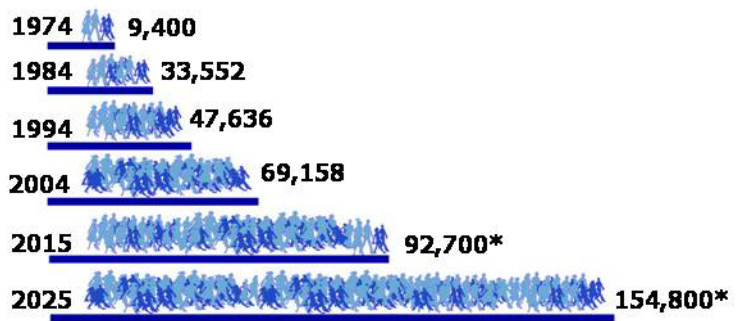
An EOC is responsible for the strategic overview, or "big picture", of the disaster, and does not normally directly control field assets, instead making operational decisions and leaving tactical decisions to lower commands. The common functions of all EOC's is to collect, gather and analyze data; make decisions that protect life and property, maintain continuity of the organization, within the scope of applicable laws, and disseminate those decisions to all concerned agencies and individuals. In most EOC's there is one individual in charge, and that is the Emergency Manager.

The Matanuska-Susitna Borough is in need of a permanent (EOC) facility in which to manage the disaster events in the Borough.

The Matanuska-Susitna Borough seat is in the City of Palmer, and the largest city in the borough is Wasilla. The Borough is part of the Anchorage Metropolitan Statistical Area.

Mat-Su Borough Population

The Mat-Su Borough is approximately the same size as the State of West Virginia or the country of Ireland, 25,000 square miles. As of 2010, the population was 88,995, and the Mat-Su Borough has been, and continues to be, the fastest growing area in the State of Alaska for the past two decades.



\*Projected population based on ISER figures

Like most of Alaska, the Borough has many potential hazards from natural incidents such as floods, high winds, wildfire, volcanic activity and earthquake; as well as man-made incidents such as liquid natural gas explosions, hazard materials spills, passenger rail accidents, etc.

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### **Background Information**

The Matanuska-Susitna Borough serves as the primary emergency operations center (EOC) for all major disaster events in the Borough. The Cities have their own respective non-dedicated EOC's for incidents exclusive to their municipalities, but when multi-jurisdictional events happen their agency representative's participate in the Borough EOC.

Currently, the Matanuska-Susitna Borough's EOC is located in the adjoining training rooms of Central Mat-Su Fire Department's Station 6-1 at 101 West Swanson Avenue, Wasilla. The training rooms serve as the primary training and meeting rooms for all fire, EMS and rescue training conducted in the Central Mat-Su Fire Department, and also made available to other Borough-related meetings/training. These rooms are also rented for a nominal rental fee to other agencies outside the Borough for meetings/training/special events.

Naturally, these rooms were constructed with the intent to utilize the space for training and meetings and were not "purpose-built" for the mission of managing a disaster event. The current EOC does not meet the majority of the requirements of a contemporary EOC facility: Survivability, Redundancy, Communications, Flexibility and Open Architecture, and Security. Although it may appear to be a very "flexible" facility now, when the "temporary" EOC is activated, the room requires set-up and reconfiguration to transform it to a functioning EOC; this is a time-consuming process (up to two hours), and takes up valuable time that should be concentrated on the disaster event.

With the construction of a new EOC facility we have the opportunity to partner with and perform as a back-up for the State of Alaska DHS&EM's State Emergency Operations Center (SEOC) to either augment, with a flexible and distributive system combining EOC's from around the State to respond to emergencies with local, State and/or Federal resources, or to serve as a redundant replacement should the SEOC become incapacitated. We may also have the opportunity to combine the existing E-911 Communications Center and a new EOC in the same facility to dramatically improve the EOC's functionality and to realize some economies-of-scale.



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A permanent EOC facility also has the advantage to be utilized year-round as the Emergency Management's Division office in which we can better prepare for disaster events, mitigate the effects of disasters, manage and respond to the disaster events, can serve as the recovery center for local, State and Federal agencies; and, having a permanent facility will enable us to conduct more training and disaster excises throughout each year to better prepare our incident management team.

The purpose of this planning document is to outline the steps necessary to ensure that the Borough has the proper facility resources to cost-effectively and efficiently manage all aspects of a major disaster event.

### **Approach**

In an effort to ensure that we create the most efficient and cost-effective emergency operations center, we believe that a comprehensive and methodical approach be utilized to establish a permanent EOC facility.

First, it is imperative that all stakeholders (State and local government/agencies) are involved and actively participate in this project; it is desirable to have as many agencies as possible have input into the location, design, and functionality of the new EOC. We would be well-served by contracting with a consultant firm that has subject-matter expertise in the design and operations of an EOC conduct a feasibility study/design of a new EOC facility. We require funding assistance to design and build a new EOC, and must depend on State and/or Federal grant monies to fund the major portion of the costs.

## **EOC FEASIBILITY**

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Contracting with an experienced consultant to determine the overall feasibility of a permanent EOC facility in the Matanuska-Susitna Borough will be a prudent first step to ensure that, should a new EOC facility be built, that it will meet our present and future disaster management needs.

### **Scope of the Feasibility Study**

- Identify (confirm) the stakeholder agencies that will participate and receive benefits from a permanent EOC facility in the Matanuska-Susitna Borough.
- Identify potential physical locations for the EOC facility.

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- Identify all local, State, and Federal requirements and standards for an EOC facility, including FEMA and Department of Homeland Security (DHS). Provide preliminary building layout options.
- Develop a current and future space needs as well as typical space standards for the EOC facility, related out-buildings and the property.
- Identify special systems including but not limited to facility and surrounding area security, IT and telecommunications, emergency power, 24 hour operations for extended periods and seismic and wind resistance in excess of code requirements. Determine any additional structural requirements for facilities of this nature to survive natural or man-made disasters.
- Identify preliminary list and budget for furniture, fixtures and equipment (FF&E), including but not limited to communications systems, audio/video systems, video display equipment, office furniture, EOC furniture, etc.
- Provide master plans/site plans that would allow for potential future expansion of the proposed facility/building.
- Analyze existing available infrastructure to ensure adequate utility service to the proposed facilities.
- Plan for optimum use of the proposed sites as applicable. Analyze sites and test fit program on proposed sites as applicable.
- Plan for achieving LEED (Leadership in Energy and Environmental Design) Silver Level as governed by the US Green building Council and/or Certification.
- Provide a detailed comparative physical and financial analysis of any Building Development Options or approaches to provide new state of the art facilities for the Emergency Operations Center. The analyses of the different Options should indicate the pros and cons of the different sites including all hard and soft costs, and result in illustrating the most viable solution.
- Provide estimated budgets including both hard construction costs and also soft costs for the specific approaches. Provide budget projections escalated to projected construction start date.



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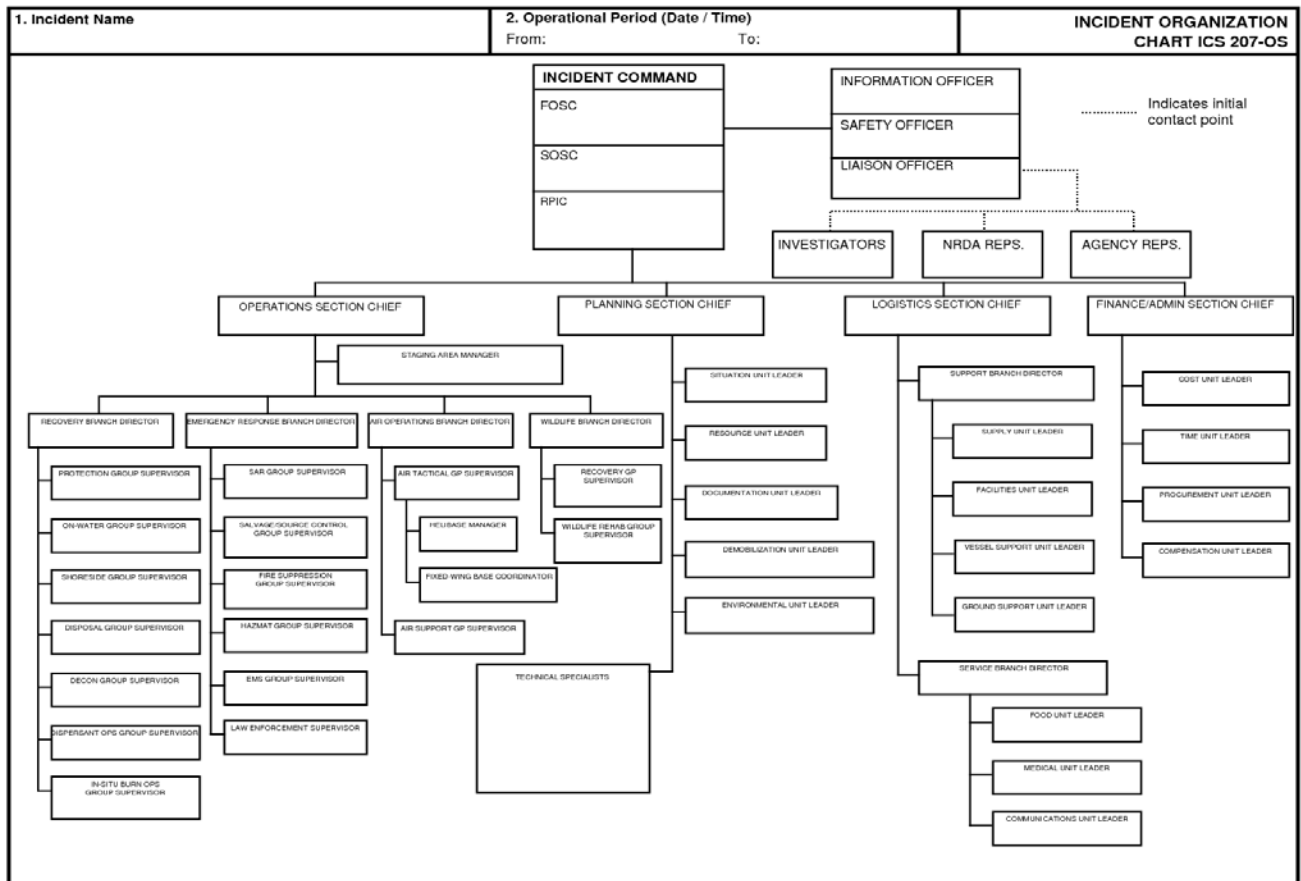
- Provide a preliminary timetable for design and construction of the project.

## EOC OPERATIONS OVERVIEW

### Existing EOC Operations

#### Staffing

The staffing for a major event being managed in the EOC can be quite large depending on the complexity of the event; a typical EOC staffing structure is as follows:



Electronic version: NOAA 1.0 June 1, 2000

Each one of the boxes on the chart above represents one person; most boxes represent more than one person. In the recent September 2012 flooding event

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in the Borough we had as many as 60 incident management team members in the EOC working the multitude of issues involved in the response to multiple geographical areas throughout the Borough. Needless to say, the noise levels, the cramped space, and the overall intrinsic inefficiencies of a “temporary” EOC added additional challenges to an already chaotic event.

## TECHNOLOGY

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The Command Center is ultimately a center for information management and decision-making. Its primary purpose is to gather and process all of the information required to plan for and respond – quickly and effectively – to potential emergency incidents.

Having the most appropriate technology within the EOC will be invaluable before, during and after any major disaster event.

Communications: Telephone (land-line {digital and analog}, and cellular), Internet, Radio (VHF and HAM), Satellite, Interoperability, Emergency Alert System, etc.

Information Technology: EOC Software, GIS mapping, computer hardware and servers.

Visual Displays: Event Status, incoming messages, relevant map displays, current weather information, current disaster photos, TV news stations, etc.

The ability to rapidly gather, and process incoming messages and to communicate and display this incoming information is critical to sound decision-making. As the myriad of information is processed and our incident management team responds to the event the timely sharing of the information, and on-going recordkeeping of the event activities is crucial.

## FACILITY FLOOR PLAN AND COST ESTIMATES

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### **Facility Layout**

We developed an illustrative layout and estimated the construction costs for a new EOC facility and site complex (see Exhibit 1). Local and State building codes will dictate minimum space and site plan requirements.

The costs estimates were based primarily on construction cost data provided by our Public Works Department.

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### Support Facilities

In addition to the main EOC facility, other much smaller facilities would enhance the effectiveness and efficiencies of the EOC during disaster event operations; these suggested facilities would include:

- A warm storage building to stage the mobile communications vehicle, FieldComm 1, and the mobile sandbagging trailer; both of these mobile units play a major role in any event that may occur:
  - FieldComm1 is designed as a mobile incident command post that may be deployed in a remote location with full communications and incident management capabilities. The minimum required space to house FieldComm1 is 1,300 sq. feet.
  - The mobile sandbagging trailer is deployed throughout the year to manufacture and place sandbags at strategic flood-prone locations throughout the Borough; it is also deployed during flood events to remote locations. The minimum space required for the mobile sandbagging trailer is 200 sq.ft.

A small out-building to house the back-up generator for the EOC facility. 100 sq.ft. required.

## ESTIMATED EOC SPACE REQUIREMENTS

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### Square Footage estimate:

Space Description	Square Feet
Office Space- 5 offices	800
Conference Room	1,000
EOC Operations area	5,000
Communications	500
Equipment Room	
Restroom/Showers	1,000
Kitchen	180
Reception	150
EM Admin/Storage	600
Computer Server Room	300
Mechanical Room	300

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<b>Copier/Printer Room</b>	200
<b>Central Receiving</b>	150
<b>Office Supplies Room</b>	50
<b>EOC training</b>	150
<b>Janitorial Storage Room</b>	80
<b>Break Area</b>	400
<b>Audio/Visual Storage</b>	100
<b>Parking/Landscaping</b>	3,500
<b>FieldComm1/Sand</b>	1,500
<b>Bagger storage</b>	

<u>Space Description</u>	<u>Square Footage</u>	<u>Cost/Sq.Ft. Estimate</u>	<u>Total Cost</u>
EOC Operations Space	10,960	\$400	\$4,384,000
Vehicle Storage	1,500	\$175	\$262,500
Vehicle Parking, exterior	3,500	n/a	n/a
TOTALS:	15,960		\$4,546,500

## POTENTIAL EOC FACILITY LOCATIONS

We have researched potential locations on which to construct new and/or to renovate an existing building for an EOC facility:

LOCATION	NEW/ RENOVATE	COMMENTS
<b>Central Mat-Su Fire Department Station 6-2 – 4500 S. Mainsail Avenue – Mile 6.9 Knik-Goose Bay Road</b>	New	This 76-acre parcel will provide an excellent location. This would be new construction. No land purchase cost; the Borough already owns the property.
<b>Iditarod Elementary School – Wasilla-Fishhook Road, Wasilla</b>	Renovate	Iditarod Elementary School should be available in the next two to three years. No land or facility purchase cost; the Borough already owns the property and the building.
<b>Alcantra National Guard Facility – Bogard Road</b>	Renovate	The concept is to renovate the existing facility to meet the needs of a contemporary EOC. The advantage of this site is security, survivability, existing utilities infrastructure and redundancy, and large interior space for

## Permanent Emergency Operations Center Facility

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		flexible design. Unknown cost to purchase the land and facility.
<b>City of Palmer</b>	New/ Renovate?	The City of Palmer may have land or an existing facility that can accommodate an EOC. Unknown cost.
<b>City of Wasilla</b>	New/ Renovate?	The City of Wasilla may have land or an existing facility that can accommodate an EOC. Unknown cost.

## SUMMARY

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The advantages of a permanent facility versus a temporary facility are many, and we believe that the citizens will be better served in times of disaster if the Matanuska-Susitna Borough has a permanent, contemporary facility with the essential technology to rapidly and efficiently manage disaster events of all types.

## **EXHIBIT 1 – EOC DESIGN CRITERIA**

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Authored by: Eric Holdeman, Former King County, Washington Emergency Manager<sup>1</sup>

An Emergency Operations Center (EOC) is a complex facility that serves as a nerve center during both small emergencies and large disasters. There are five primary considerations for the design and construction of a new Emergency Operations Center: Survivability, Redundancy, Communications, Flexibility and Open Architecture, and Security. These design considerations are important even if you are remodeling a building to become your EOC, or modifying and improving an existing EOC.

### ***Survivability***

It is critical that your EOC remains operational during an emergency. If you must relocate your operations to another facility without the same capacity and technology as your EOC, it can put you and your response operation at a severe disadvantage, and fighting to regain control of an event. The New York City Office of Emergency Management (OEM) experienced just such a scenario when their EOC was impacted by the attacks on the World Trade Center buildings and they had to relocate to another site.

The EOC should be located away from high hazard areas and in a survivable building. In our modern culture this may be difficult, since there are hazards - natural or technological - almost everywhere. There should be separation from highways, railroads, pipelines, hazardous material sites, and the like. Your facility should not be in a flood plain, in an area subject to liquefaction in an earthquake, or subject to ocean storm surge from hurricanes.

Location of the facility is driven by many factors including space availability, political decisions, accessibility, and proximity to potential hazards. You may not have a choice of locations. You are assigned a building and space based on its availability. In this case you must take every action possible to harden the facility to survive a disaster. Examine all mitigation measures available to you. If your region is at risk from earthquakes, consider seismic retrofits to the

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<sup>1</sup> Eric Holdeman, former director of the King County Office of Emergency Management, is a principal with ICF International Consulting, which provides services in emergency management, homeland security, climate change, energy, transportation and other markets. He can be reached at [EHoldeman@icfi.com](mailto:EHoldeman@icfi.com).

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structure. If your building is in a flood zone, store sandbags, and have high capacity water pumps on site to remove water from basements and other critical areas. Consider measures to protect staff from airborne vapor hazards by having systems in place to either filter air intakes, or to shut air handling systems down to allow for sheltering in place.

King County, Washington had their EOC in a liquefaction area. It was only because the facility had a seismic retrofit to the building that it remained functional following the Nisqually Earthquake in 2001. It is an excellent example of \$250K in mitigation funding paying big dividends to protect an EOC and allow for disaster response because of what “didn’t” happen.

### ***Redundancy***

Redundancy is closely allied with survivability. Your facility survivability is linked to the number of redundant systems that support it. The challenge is that when designing, building and modifying a facility, redundancy is not valued. In this era of tight budgets, you can expect considerable opposition to having multiple systems backing up existing systems. It is not that hard to convince a budget person that a generator is needed for an EOC. Convincing the budget office that you need a second generator to back up the emergency generator can be another issue. Experience tells us that one thing you can count on in a power outage is that generators will fail.

Other redundant systems to consider include heating, cooling, and water supplies. We have become more technology dependent in our need to keep electronic systems cooled and functioning. In 1994, Washington State had an extremely destructive fire season. With outside temperatures over 90 degrees, the air conditioning unit in the EOC failed, causing uncomfortable working conditions for those inside. Worse than human discomfort, communications systems were almost lost, even though a new air conditioning unit was installed within 24 hours. What would happen today with the heavier technology loads?

How much fuel and other supplies do you need on site in order to be self-contained and functional following a disaster? The national level message of three days for individuals and families is not adequate for EOCs. With a catastrophic event that includes transportation challenges it would be appropriate to plan for 7-10 days of fuel and other supplies.

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### ***Communications***

The EOC exists to gain and maintain situational awareness and to coordinate the use of resources to restore operations and to recover from the impact of a disaster. To do this requires multiple communications systems.

Having communications system redundancy is extremely important. Hard line phones, cellular communications, satellite phones, and multiple radio systems are all necessary to ensure continuous operations and linkage with the rest of the world. Amateur radio groups have provided communications links for decades during disasters and are still used today as backup communications to highly sophisticated radio systems. Every EOC should have amateur radio equipment and operators available to help during times when other methods of communications fail or need augmentation.

Consider having multiple communications paths for your T1 lines and other ground cable based systems. You don't want one errant backhoe to take out your entire operation. The move to Voice over Internet Protocol (VoIP) phone systems are wonderful for generating day to day cost savings. However, it exposes you to another vulnerability of having an internet outage. And, in this era of Private Branch Exchange (PBX) phone systems, it is still a good idea to have a few POTs (Plain Old Telephone) lines that run from your facility straight to the telephone company's main switch.

Even the President of the United States will turn on the television to find out what is happening. A functioning television can help you obtain and maintain situational awareness. Television systems can be made redundant. The King County EOC has cable television, backed up by a satellite system and then an antenna on the roof if the other higher technology systems fail.

### ***Flexibility and Open Architecture***

What are the new technology systems that will be employed in the next 20-40 years? If you are building a new EOC, flexibility is one of the things that you need to consider. Design flexibility for scalable operations and also for new technology and mission requirements.

During this author's tours of many EOCs, several issues of flexibility occur frequently. Examples are:

Space needs already exceed space availability by the time the facility is constructed and occupied



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Not planning for adequate space for technology systems and pathways has limited improvements in this area

As much as possible, factor in future growth in staffing and technology in your design; you will need to make your case to budget staff whose only role is keeping a lid on your expenditures for the facility.

While technology systems of today are much smaller than their ancestors of 20 years ago, they still require space and cabling. No matter where the computer room is, wires must run from that location to your various work locations; always plan for expansion when determining the diameter of your communications pipes running from the server room to administrative and operational areas.

Raised flooring is another consideration for allowing the maximum flexibility for the routing and distribution of your various communications and IT systems. The balancing aspect will once again be the cost of raised flooring over other less expensive alternatives that don't provide the same level of flexibility.

You should plan ahead for the use of all available spaces. For instance, you might have an area designated as storage. During the design phase have this space configured with systems such as electrical power and communications so that it can serve as future office space. This will allow for additional staff growth even when you are not able to get dedicated funding for it in your existing administrative spaces.

Many times EOCs are not dedicated spaces, but serve as conference or training rooms during non-emergency times. Consider the use of flexible wall systems so that you can configure your space based upon needs. In some cases you will have minor emergencies and in others you may need to "grow" the facility to handle a catastrophe.

Wide hallways allow for the movement of people quickly and efficiently. It also allows for the natural ad hoc meetings to occur as people walk through the building without blocking the operations of the facility as a whole.

### **Security**

If you had asked people about the threat of terrorism here in the United States before the 9/11 attacks, most would have rated it significantly lower than it would be rated today. You should be considering what types of threats are emerging worldwide and not discount the fact that those types of attacks might be employed here in North America during the lifetime of the facility.

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Layered levels of security are always a good route to take. You might have one level for day to day operations when the threat is lower and then increasing measures as the threat escalates.

Access control in the form of card readers, fencing, gates, security checkpoints and biometric devices might be appropriate. Cameras are cost effective measures for access control and as a deterrent to surveillance operations against your facility.

Designing the driving approach to your facility is easily done for new construction. Eliminating “running starts” and having barriers in place to stop cars and trucks from getting close to your facility are appropriate measures. EOCs located in urban areas may not have this luxury.

Protecting staff by putting blast film over windows is another consideration. Just remember that these films, while minimizing glass shattering, also block radio waves from entering your building, so some form of repeater system may be needed for your communications systems.

EOCs are probably not primary targets for terrorists, but they would make excellent secondary targets for follow-on attacks, since they will be activated and full of people responding to the situation.

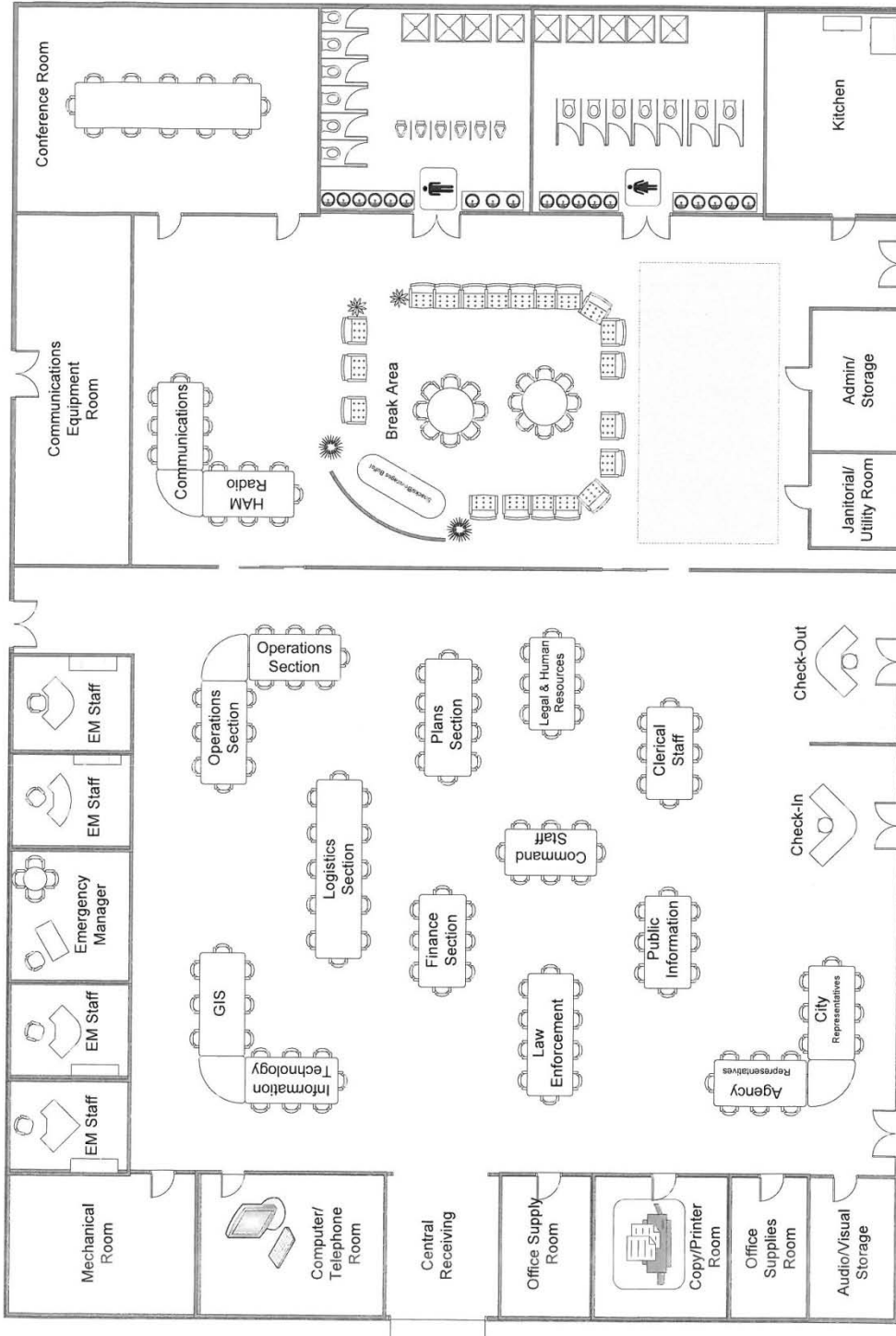
### ***Summary***

EOCs are complex facilities that now rival hospitals in the complexity of systems that need support and the diversity of the functions that occur within their walls. When it comes to designing a facility it would be wise to use an architectural firm that is experienced specifically in EOC design. There are many pitfalls that can be eliminated by having a team of experts working to advise you and also help you make the case for survivability, redundancy, communications, flexibility and security.

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## EXHIBIT 2 - EOC FACILITY – FLOOR PLAN CONCEPT



**EXHIBIT 3 - FIELDCOMM1 & SANDBAGGING TRAILER**

